



## Pumps with peripheral impeller

 Clean water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **90 l/min** (5.4 m<sup>3</sup>/h)
- Head up to **100 m**

### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+60 °C**
- Ambient temperature up to **+40 °C** (**+50 °C** for PK 60)
- Max. working pressure:
  - **6 bar** for PK 60, PK 60-MD, PK 65,
  - **7 bar** for PK 70, PK 80
  - **10 bar** for PK 90, PK 100, PK 200, PK 300
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made.

Because of their reliability and the fact that they are easy to use and are economical, they are ideal for domestic use and in particular for distributing water in combination with small pressure tanks and for the irrigation of gardens and orchards.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

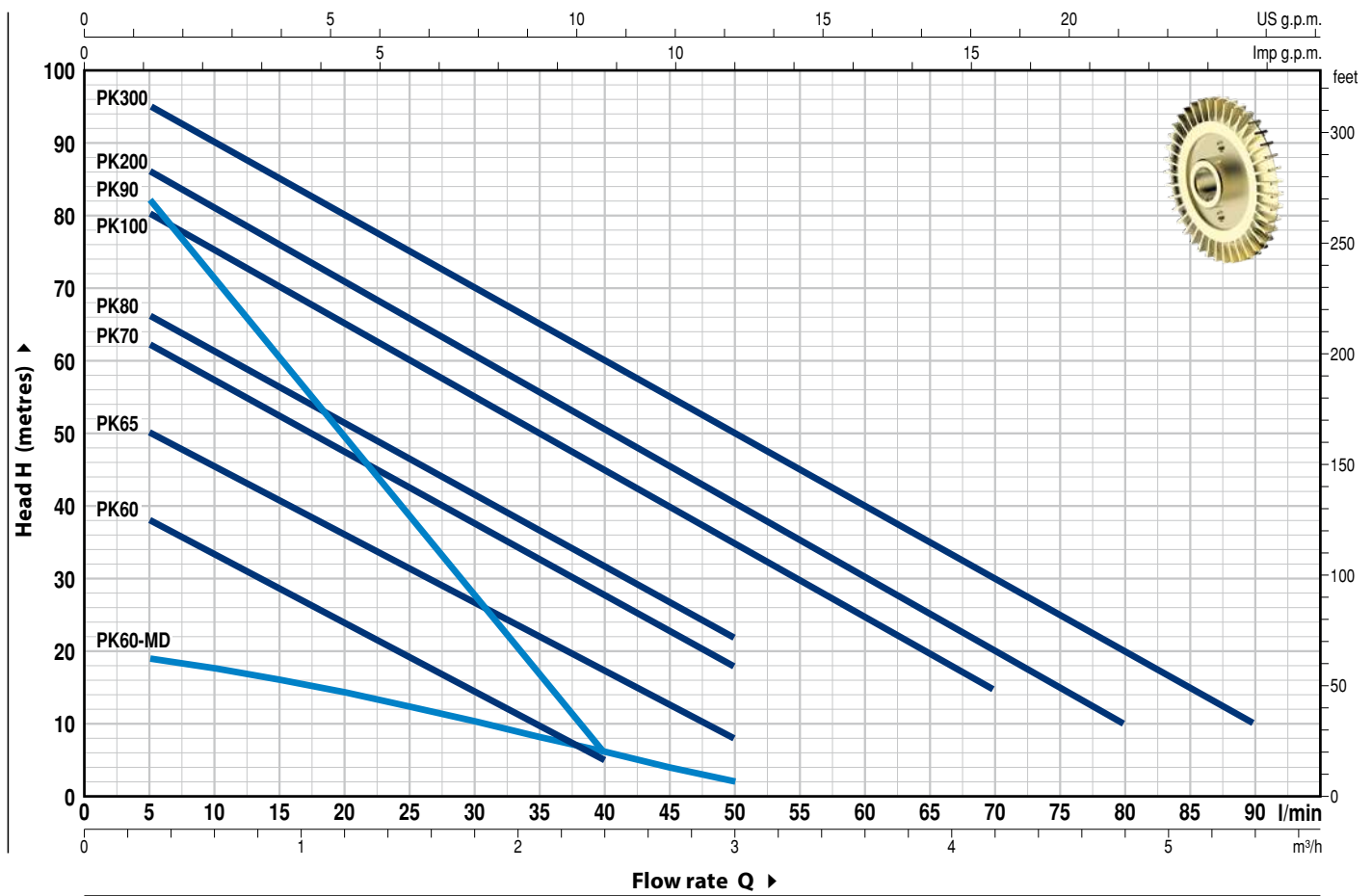
- Motor bracket: patent n. IT1243605
- Pump body: patent n. 0000275946 (PK60, PK65)
- Registered EU Design n. 008802466
- **PKm 60**<sup>®</sup> Registered Trade Mark n. 009875394

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IP X5 class protection for PK 70-80-90-100-200-300

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m





MODEL		POWER (P <sub>2</sub> )			Q	Flow rate																		
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0	3.6	4.2	4.8	5.4				
					l/min	0	5	10	15	20	25	30	35	40	50	60	70	80	90					
PKm 60	PK 60	0.37	0.50	IE2	H metres	40	38	33.5	29	24	19.5	15	10	5										
PKm 60-MD	PK 60-MD	0.37	0.50			20	19	17.5	16	14.3	12.3	10.3	8.2	6	2									
PKm 65	PK 65	0.55	0.75	55		50	45.5	40.5	36	31	27	22	17	8										
PKm 70	PK 70	0.60	0.85	65		62	57	52	47	42	37	32	27	18										
PKm 80	PK 80	0.75	1	70		66	61	56	51	46	41	36.5	31	22										
PKm 90	PK 90	0.75	1	IE3		90	82	71	60	49	38	27	17	5										
PKm 100	PK 100	1.1	1.5			85	80	75	70	65	60	55	50	45	35	24.5	15							
PKm 200	PK 200	1.5	2			90	86	81	76	71	65.5	60	55	50	40	30	20	10						
PKm 300	PK 300	2.2	3			100	95	90	85	80	75	70	65	60	50	40	30	20	10					

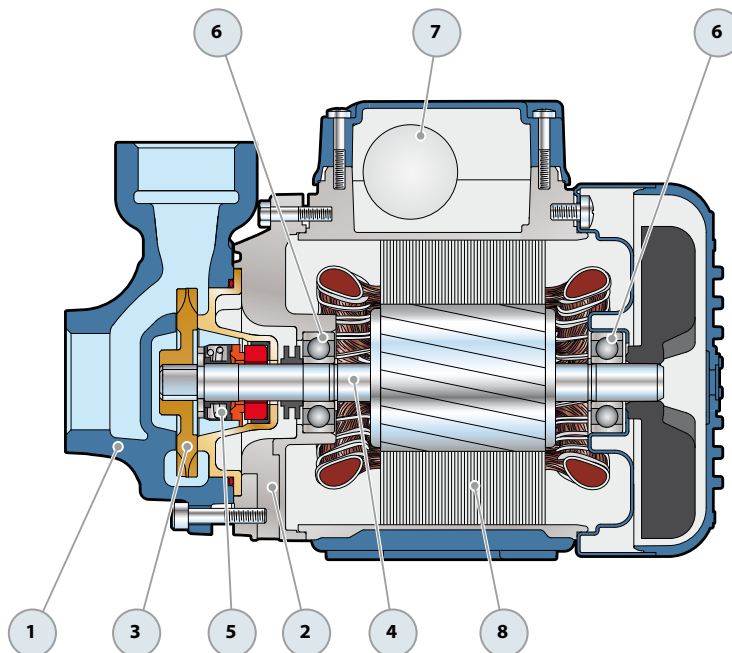
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

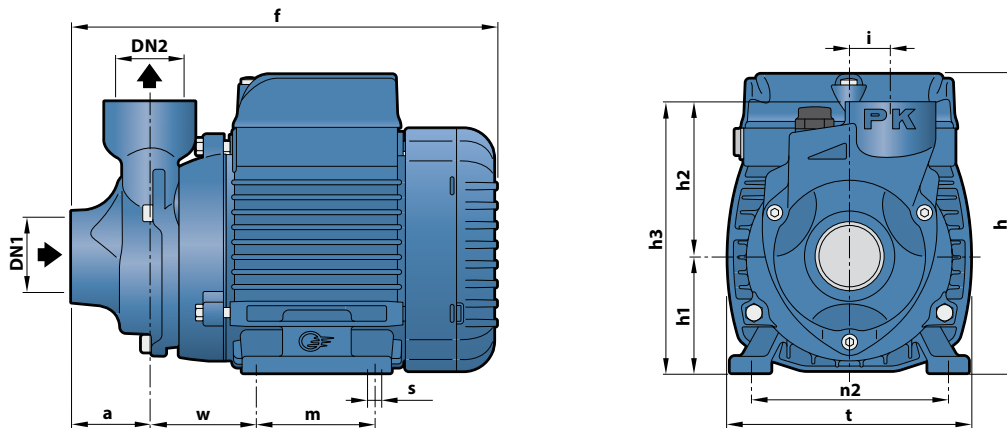
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron, with threaded ports in compliance with ISO 228/1 (PK 60, PK 60-MD with an Epoxy Electro Coating treatment)				
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
3	<b>IMPELLER</b>	Brass with peripheral radial vanes				
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (EN 10088-3 - 1.4104 for PK 60, PK 60-MD, PK 65)				
5	<b>MECHANICAL SEAL</b>	<i>Pump Model</i>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials</i> <i>Rotational ring</i> <i>Elastomer</i>
		PK 60-65-70-80 PK 60-MD	AR-12	Ø 12 mm	Ceramic	Graphite      NBR
		PK 90	ST1-12	Ø 12 mm	Silicon carbide	Graphite      NBR
		PK 100-200-300	FN-14	Ø 14 mm	Graphite	Ceramic      NBR
6	<b>BEARINGS</b>	<i>Pump Model</i>	<i>Model</i>			
		PK 60-65 PK 60-MD	6201 ZZ / 6201 ZZ			
		PK 70-80-90	6203 ZZ / 6203 ZZ			
		PK 100-200-300	6204 ZZ / 6204 ZZ			
7	<b>CAPACITOR</b>	EN 60252-1/A1				
8	<b>ELECTRIC MOTOR</b>	<p><b>PKm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>PK:</b> three-phase 230/400 V - 50 Hz.</p> <p>➔ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.60 kW in class IE3 (IEC 60034-30-1)</b></p> <p>– Insulation: class F          – Protection: IP X4</p>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	i	m	t	n2	w	s	1~	3~
PKm 60°	PK 60°	1"	1"	38	208	145	56	75	131	20	55	118	94-100	53	7	5.2	5.2
PKm 60°-MD	PK 60°-MD				237	153	63									80	120
PKm 65	PK 65			55	285	179 *	71	85	156		90	140	112	62		10.0	10.0
PKm 70	PK 70			46	278											84	155
PKm 80	PK 80	¾"	¾"	62	356	212	80	88	168	19	100	152	125	95	9	15.0	14.9
PKm 90	PK 90	1"	1"	376												15.9	15.9
PKm 100	PK 100																
PKm 200	PK 200																
PKm 300	PK 300																18.6

(\*) h=199 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
PKm 60°	2.5 A	2.4 A	5.5 A
PKm 60°-MD	2.0 A	1.9 A	4.0 A
PKm 65	3.7 A	3.4 A	7.4 A
PKm 70	5.2 A	4.8 A	10.4 A
PKm 80	5.2 A	4.8 A	10.4 A
PKm 90	5.6 A	5.1 A	11.5 A
PKm 100	9.0 A	8.2 A	18.0 A
PKm 200	11.5 A	11.0 A	23.0 A
PKm 300	-	-	-

MODEL	TENSIONE				
Trifase	230 V	400 V	690 V	240 V	415 V
PK 60°	2.0 A	1.15 A	0.7 A	1.9 A	1.1 A
PK 60°-MD	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A
PK 65	3.0 A	1.7 A	1.0 A	2.8 A	1.6 A
PK 70	3.8 A	2.2 A	1.3 A	3.3 A	1.9 A
PK 80	3.8 A	2.2 A	1.3 A	3.3 A	1.9 A
PK 90	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A
PK 100	6.2 A	3.6 A	2.1 A	5.9 A	3.4 A
PK 200	8.3 A	4.8 A	2.8 A	8.0 A	4.6 A
PK 300	9.0 A	5.2 A	3.0 A	8.7 A	5.0 A

## CAPACITORS

MODEL	CAPACITANCE	
Single-phase	230 V or 240 V	110 V
PKm 60°	10 µF - 450 VL	25 µF - 250 VL
PKm 60°-MD	10 µF - 450 VL	25 µF - 250 VL
PKm 65	14 µF - 450 VL	60 µF - 300 VL
PKm 70	16 µF - 450 VL	60 µF - 300 VL
PKm 80	20 µF - 450 VL	60 µF - 300 VL
PKm 90	20 µF - 450 VL	60 µF - 250 VL
PKm 100	31.5 µF - 450 VL	80 µF - 250 VL
PKm 200	45 µF - 450 VL	-
PKm 300	50 µF - 450 VL	-

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
PKm 60°	PK 60°	240	330
PKm 60°-MD	PK 60°-MD	240	330
PKm 65	PK 65	189	243
PKm 70	PK 70	102	170
PKm 80	PK 80	102	170
PKm 90	PK 90	102	170
PKm 100	PK 100	72	96
PKm 200	PK 200	72	96
PKm 300	PK 300	72	96



## PERFORMANCE RANGE

- Flow rate up to **90 l/min** (5.4 m<sup>3</sup>/h)
- Head up to **100 m**

## APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**  
(**+50 °C** for PQ 60 and PQ61)
- Max. working pressure:
  - **6 bar** for PQ 60, PQ 61, PQ 65
  - **7 bar** for PQ 70, PQ 80
  - **10 bar** for PQ 90, PQ 100, PQ 200, PQ 300
- Continuous service **S1**

## CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



## CERTIFICATIONS

Company with management system  
certified DNV  
ISO 9001: QUALITY



## INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made.

The hydraulic characteristics of these pumps, coupled with their compactness, makes them suitable for use in both domestic and industrial applications.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

## PATENTS - TRADE MARKS - MODELS

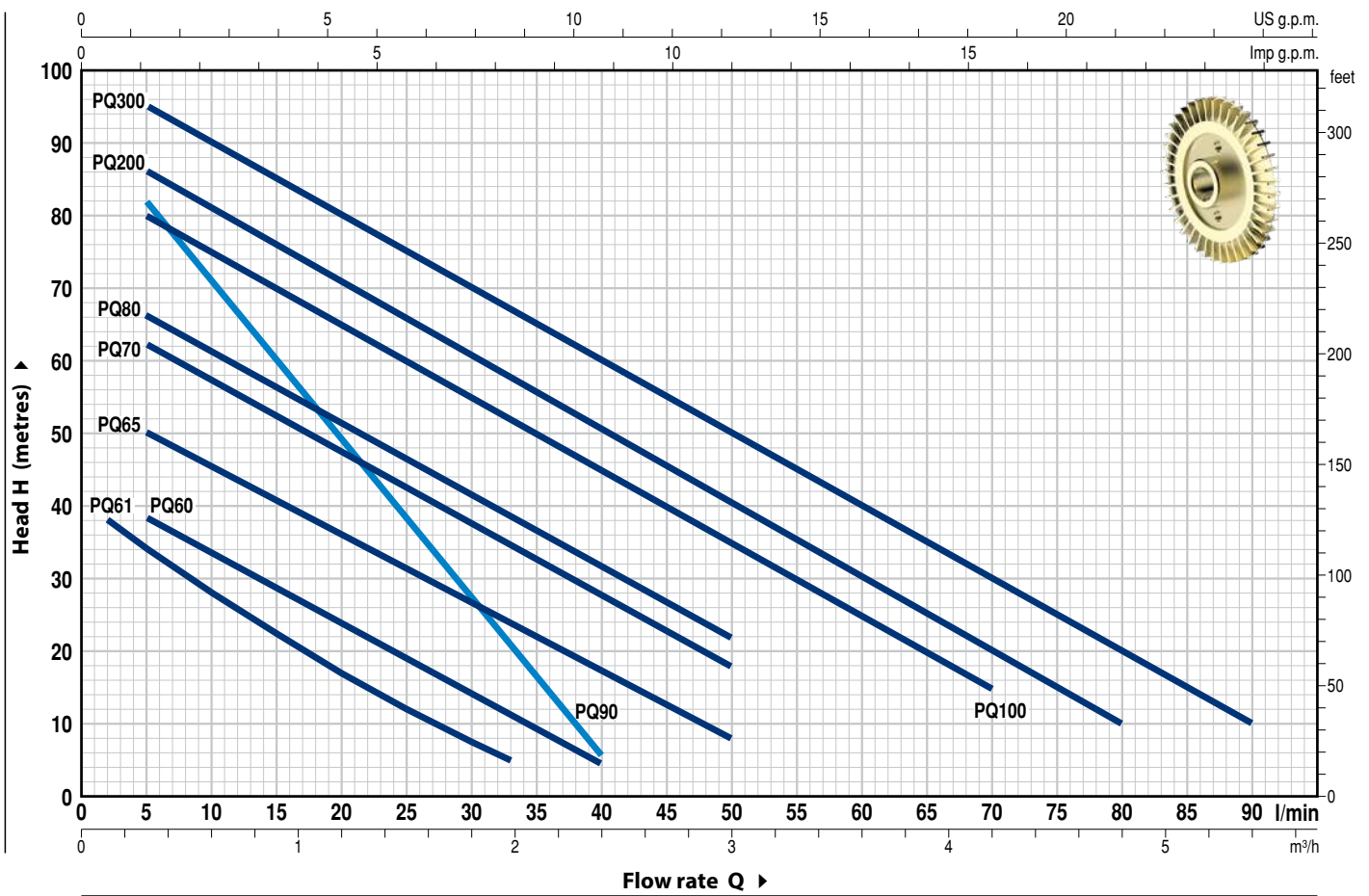
- Motor bracket: patent n. IT1243605
- Shaft: patent n 0000275945 (PQ60, PQ61, PQ65)
- Registered EU Design n. 002146548
- **PQm 60**® Registered Trade Mark n. 0001520591

## OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft for PQ61
- IP X5 class protection for PQ 70-80-90-100-200-300

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate																		
Single-phase	Three-phase	kW	HP	▲		0	0.12	0.3	0.6	0.9	1.2	1.5	1.8	1.98	2.1	2.4	3.0	3.6	4.2	4.8	5.4			
						0	2	5	10	15	20	25	30	33	35	40	50	60	70	80	90			
PQm 60	PQ 60	0.37	0.50	IE2	H metres	40	-	38	33.5	29	24	19.5	15	11	10	5								
PQm 61	PQ 61	0.37	0.50			40.5	38	34	28	22.3	17	12.1	7.5	5										
PQm 65	PQ 65	0.55	0.75			55	-	50	45.5	40.5	36	31	27	24	22	17	8							
PQm 70	PQ 70	0.60	0.85	65		-	62	57	52	47	42	37	35	32	27	18								
PQm 80	PQ 80	0.75	1	70		-	66	61	56	51	46	41	38.5	36.5	31	22								
PQm 90	PQ 90	0.75	1	IE3		90	-	82	71	60	49	38	27	21	17	5								
PQm 100	PQ 100	1.1	1.5			85	-	80	75	70	65	60	55	52	50	45	35	25	15					
PQm 200	PQ 200	1.5	2			90	-	86	81	76	71	65.5	60	58	55	50	40	30	20	10				
PQm 300	PQ 300	2.2	3			100	-	95	90	85	80	75	70	67	65	60	50	40	30	20	10			

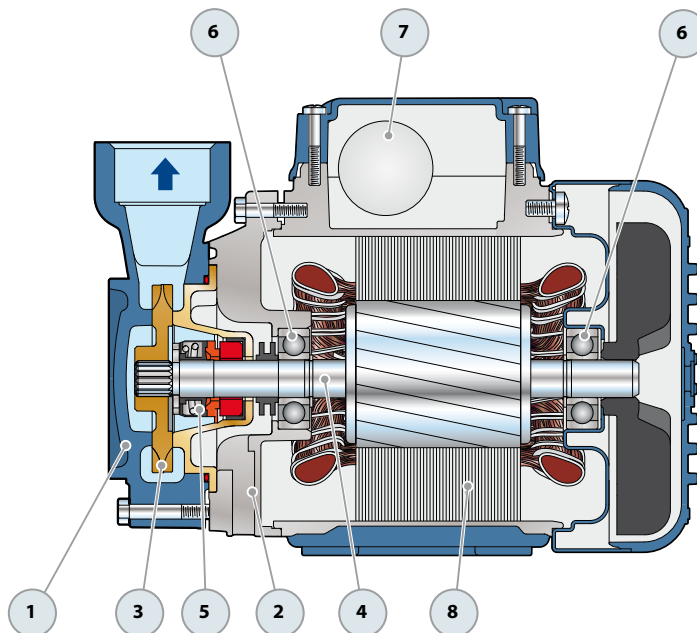
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

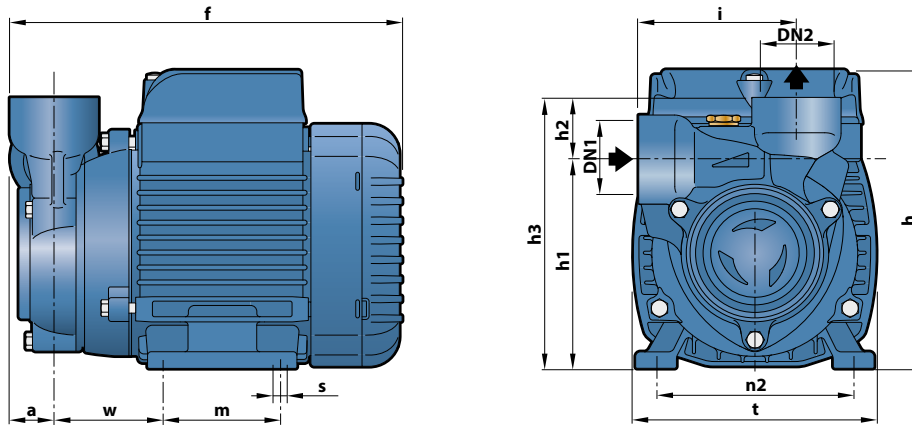
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with threaded ports in compliance with ISO 228/1 Cast iron with threaded ports in compliance with ISO 228/1 for PQ 61				
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
3	<b>IMPELLER</b>	Brass with peripheral radial vanes				
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (EN 10088-3 - 1.4104 for PQ 60, PQ 61, PQ 65)				
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>	
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>
		PQ 60-61-65-70-80	AR-12	Ø 12 mm	Ceramic	Graphite
		PQ 90	ST1-12	Ø 12 mm	Silicon carbide	Graphite
		PQ 100-200-300	FN-14	Ø 14 mm	Graphite	Ceramic
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		PQ 60-61-65	6201 ZZ / 6201 ZZ			
		PQ 70-80-90	6203 ZZ / 6203 ZZ			
		PQ 100-200-300	6204 ZZ / 6204 ZZ			
7	<b>CAPACITOR</b>					
8	<b>ELECTRIC MOTOR</b>	<p><b>PQm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>PQ:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.60 kW in class IE3 (IEC 60034-30-1)</b></p> <p>– Insulation: class F          – Protection: IP X4</p>				





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm													kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	i	m	t	n2	w	s	1~	3~	
PQm 60	PQ 60	1"	1"	22	192	145	101	30	131	76	55	118	94-100	53	7	4.8	4.8	
PQm 61	PQ 61	½"	½"	21	191			32.5	133.5	75.5						4.9	4.9	
PQm 65	PQ 65	1"	1"	22	220	152	113	30	143	78	80	120	100	62.5	7	6.9	6.2	
PQm 70	PQ 70				256	181 *	121		151	83	90	142	112			9.7	9.8	
PQm 80	PQ 80	¾"	¾"	22	256	181 *	126	27	153	84	90	142	112	62.5	7	9.7	9.7	
PQm 90	PQ 90															9.9	8.9	
PQm 100	PQ 100	1"	1"	29	322.5	211	140	28	168	88	100	164	125	95	9	14.1	14.0	
PQm 200	PQ 200				342.5											15.2	15.2	
PQm 300	PQ 300				—											17.8		

(\*) h=199 mm for single-phase versions at 110 V

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE			CAPACITANCE	
	230 V	240 V	110 V	(230 V or 240 V)	(110 V)
PQm 60	2.6 A	2.4 A	5.2 A	10 µF - 450 VL	25 µF - 250 VL
PQm 61	2.3 A	2.2 A	4.6 A	10 µF - 450 VL	25 µF - 250 VL
PQm 65	3.7 A	3.5 A	7.4 A	14 µF - 450 VL	25 µF - 250 VL
PQm 70	5.2 A	4.8 A	10.4 A	16 µF - 450 VL	60 µF - 300 VL
PQm 80	5.2 A	5.0 A	10.5 A	20 µF - 450 VL	60 µF - 300 VL
PQm 90	5.6 A	5.1 A	11.5 A	20 µF - 450 VL	60 µF - 300 VL
PQm 100	9.0 A	8.6 A	18.0 A	31.5 µF - 450 VL	60 µF - 250 VL
PQm 200	12.0 A	11.5 A	24.0 A	45 µF - 450 VL	80 µF - 250 VL
PQm 300	13.0 A	12.5 A	—	50 µF - 450 VL	—

MODEL	VOLTAGE				
	230 V	400 V	690 V	240 V	415 V
PQ 60	2.0 A	1.15 A	0.7 A	1.9 A	1.1 A
PQ 61	2.0 A	1.15 A	0.7 A	1.9 A	1.1 A
PQ 65	3.0 A	1.7 A	1.0 A	2.8 A	1.6 A
PQ 70	3.8 A	2.2 A	1.3 A	3.3 A	1.9 A
PQ 80	3.8 A	2.2 A	1.3 A	3.6 A	2.1 A
PQ 90	4.2 A	2.4 A	1.4 A	3.8 A	2.2 A
PQ 100	6.2 A	3.6 A	2.1 A	5.9 A	3.4 A
PQ 200	8.3 A	4.8 A	2.8 A	7.9 A	4.6 A
PQ 300	9.0 A	5.2 A	3.0 A	8.7 A	5.0 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
PQm 60	PQ 60	256	352
PQm 61	PQ 61	238	306
PQm 65	PQ 65	210	270
PQm 70	PQ 70	102	170
PQm 80	PQ 80	102	170
PQm 90	PQ 90	102	170
PQm 100	PQ 100	72	96
PQm 200	PQ 200	72	96
PQm 300	PQ 300	72	270



### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m<sup>3</sup>/h)
- Head up to **70 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+60 °C**
- Ambient temperature up to **+40 °C** (**+50 °C** for PKS 60)
- Max. working pressure:
  - **6 bar** for PKS 60, PKS 65
  - **7 bar** for PKS 70, PKS 80
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made.

Because of their compactness, reliability and the fact that they are easy to use, they are suitable for use in domestic applications such as the distribution of water in combination with small pressure tanks, for the irrigation of gardens and orchards, for drawing water from tanks and for all those other situations where air or gas may be present in the water to be pumped. The pump comes complete with a flap-check valve.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

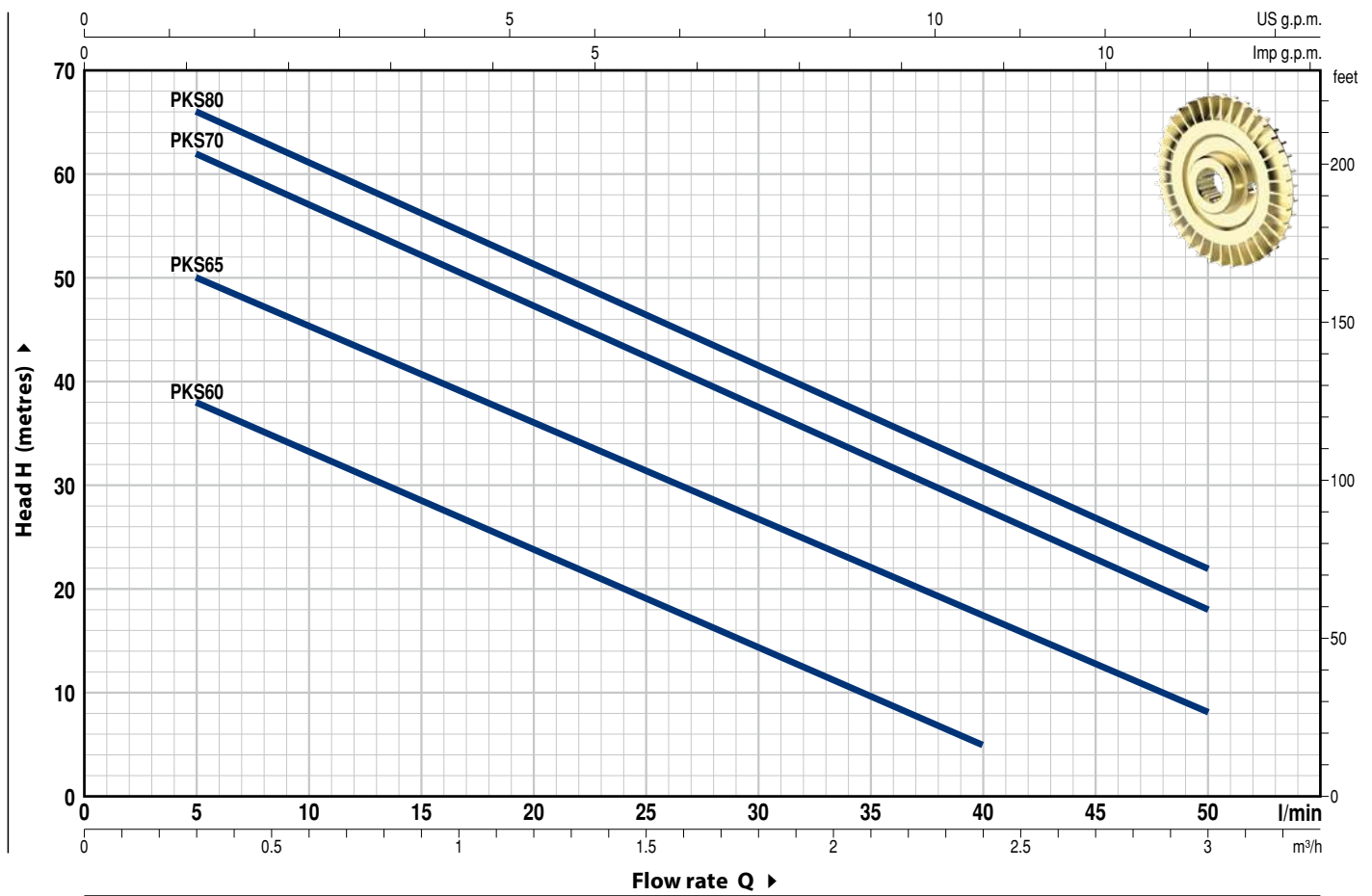
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PKS60, PKS65)

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IP X5 class protection for PKS 70, PKS 80

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



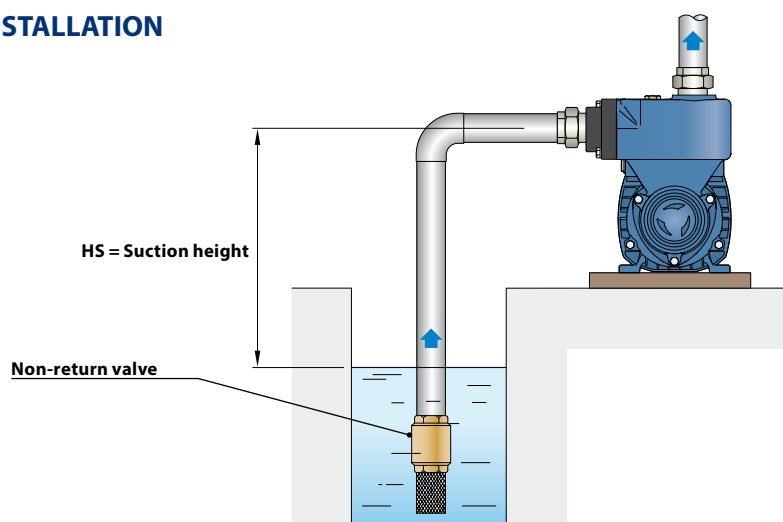
MODEL		POWER (P <sub>2</sub> )			Q	Flow rate												
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	
						l/min	0	5	10	15	20	25	30	35	40	45	50	
PKSm 60	PKS 60	0.37	0.50	IE2	H metres	40	38	33.5	29	24	19.5	15	10	5				
PKSm 65	PKS 65	0.55	0.75			55	50	45.5	40.5	36	31	27	22	17	12.5	8		
PKSm 70	PKS 70	0.60	0.85	IE3		65	62	57	52	47	42	37	32	27	22	18		
PKSm 80	PKS 80	0.75	1			70	66	61	56	51	46	41	36.5	31	27	22		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

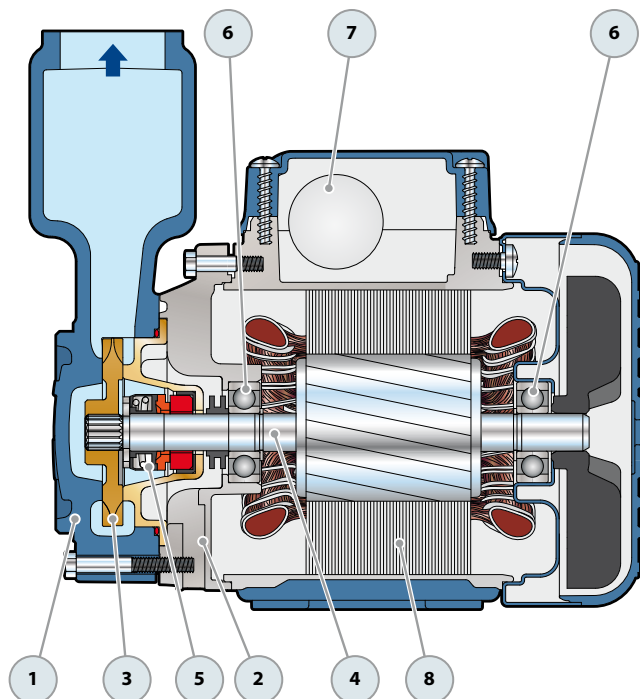
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## STANDARD INSTALLATION

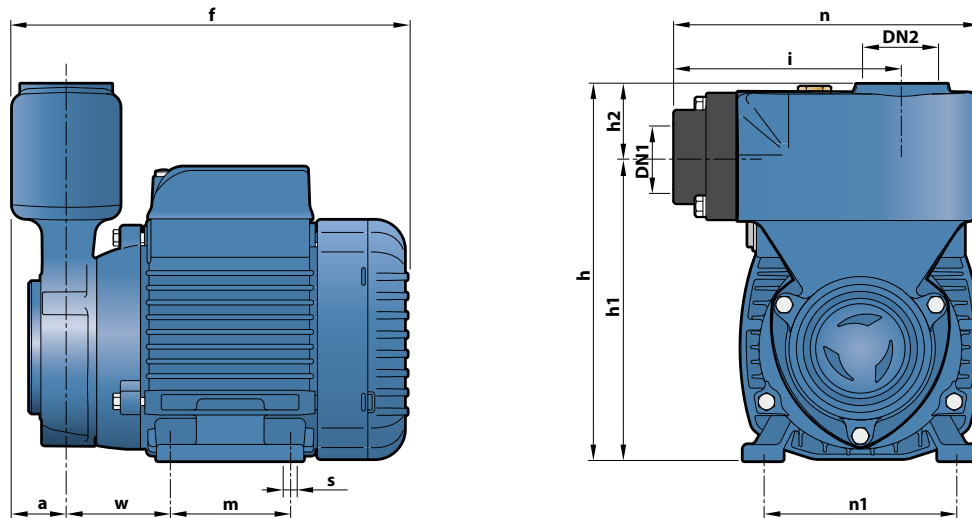


## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with threaded ports in compliance with ISO 228/1 and a built-in flap-check valve in the suction port				
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
3	<b>IMPELLER</b>	Brass with peripheral radial vanes				
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (EN 10088-3 - 1.4104 for PKS 60, PKS 65)				
5	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		PKS 60-65	6201 ZZ / 6201 ZZ			
		PKS 70-80	6203 ZZ / 6203 ZZ			
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		PKSm 60	10 µF - 450 VL	25 µF - 250 VL		
		PKSm 65	14 µF - 450 VL	25 µF - 250 VL		
		PKSm 70	16 µF - 450 VL	60 µF - 300 VL		
		PKSm 80	20 µF - 450 VL	60 µF - 300 VL		
8	<b>ELECTRIC MOTOR</b>	<p><b>PKSm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>PKS:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.60 kW in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm											kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	i	m	n	n1	w	s	1~	3~
PKSm 60	PKS 60	1"	1"	28	196	183	149	34	110	55	148	93-100	53	7	5.6	5.6
PKSm 65	PKS 65				227	190	156			80		100			7.6	6.9
PKSm 70	PKS 70				263	198	164			90	160	112	62		10.5	10.5
PKSm 80	PKS 80				263	198	164			90	160	112	62		10.5	10.5

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
PKSm 60	2.6 A	2.5 A	5.2 A
PKSm 65	3.7 A	3.5 A	7.4 A
PKSm 70	5.2 A	4.8 A	10.4 A
PKSm 80	5.2 A	4.8 A	10.4 A

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase	230 V	400 V	240 V	415 V
PKS 60	2.0 A	1.15 A	1.9 A	1.1 A
PKS 65	3.0 A	1.7 A	2.8 A	1.6 A
PKS 70	3.8 A	2.2 A	3.6 A	2.1 A
PKS 80	3.8 A	2.2 A	3.8 A	2.2 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
PKSm 60	PKS 60	224	288
PKSm 65	PKS 65	168	216
PKSm 70	PKS 70	96	144
PKSm 80	PKS 80	96	144

## Self-priming liquid ring pumps

► With double anti-seize frontal inserts

 Clean water

 Civil use

 Industrial use

 Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m<sup>3</sup>/h)
- Head up to **51 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made.

Because of a specific principle of their operating performance these pumps are an excellent solution in every case where a compact self-priming pump is required or when the fluid flow is irregular or contains air.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

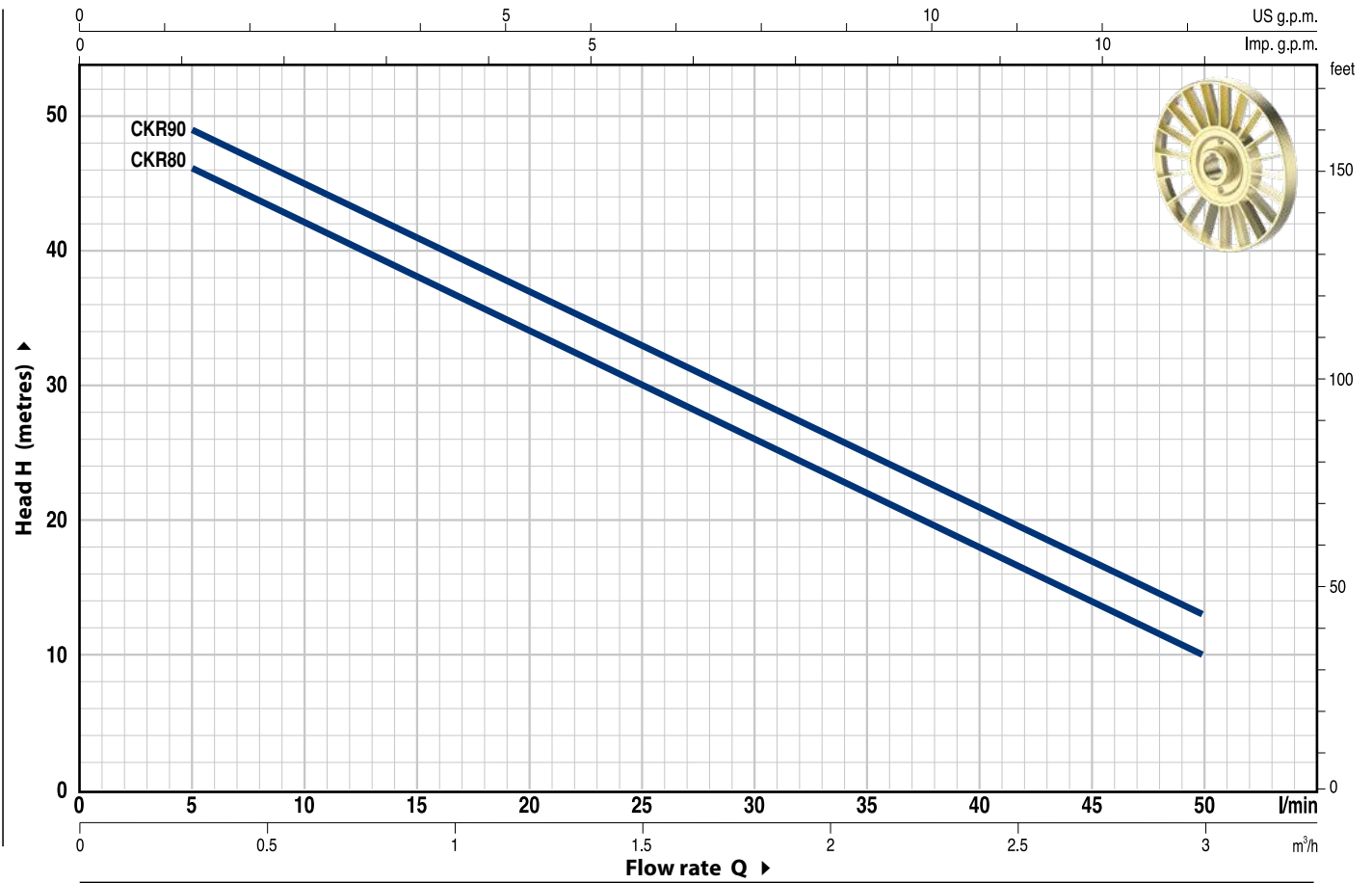
- Motor bracket: patent n. IT1243605
- Registered EU Design n. 342159-0008

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages
- IP X5 class protection

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



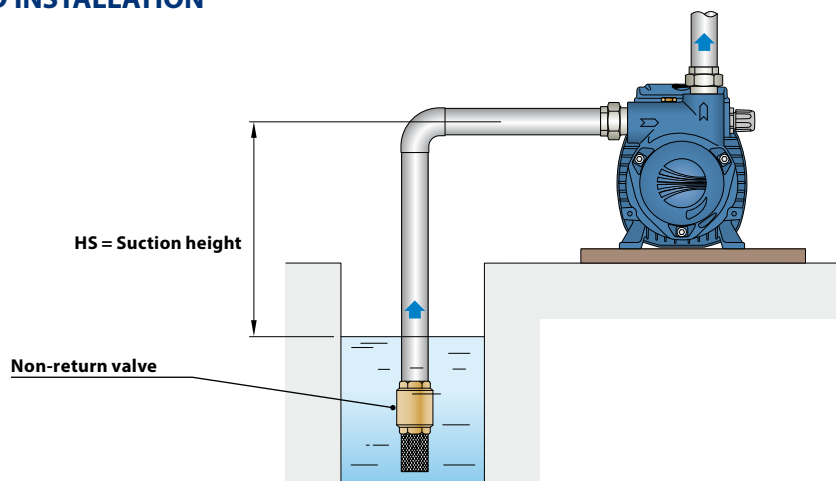
MODEL		POWER (P <sub>2</sub> )			Q											
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0
					l/min	0	5	10	15	20	25	30	35	40	50	
CKRm 80	CKR 80	0.55	0.75	IE3	H metres	48	46	42	38	34	30	26	22	18	10	
CKRm 90	CKR 90	0.75	1			51	49	45	41	37	33	29	25	21	13	

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

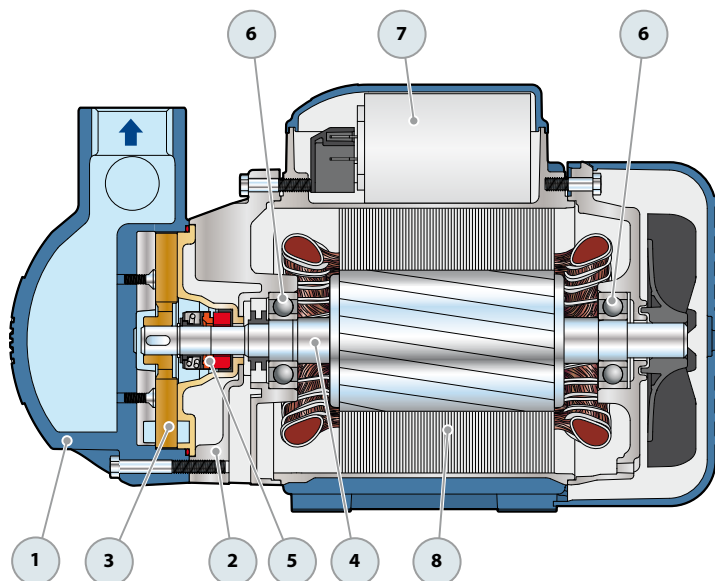
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## STANDARD INSTALLATION



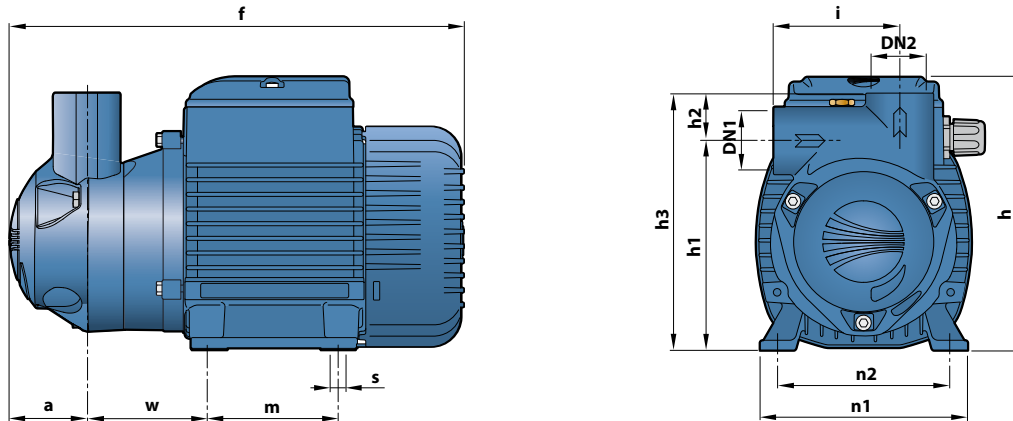
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with stainless steel insert to prevent impeller seizure due to the formation of rust . The pump body is complete with threaded ports in compliance with ISO 228/1			
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure			
3	<b>IMPELLER</b>	Brass star type with open radial vanes			
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431			
5	<b>MECHANICAL SEAL</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>	
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>
		AR-12V	Ø 12 mm	Ceramic	Graphite
					Elastomer
					Viton
6	<b>BEARINGS</b>	<b>6203 ZZ / 6203 ZZ</b>			
7	<b>CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>		
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>	
		CKRm 80	16 µF - 450 VL	60 µF - 300 VL	
		CKRm 90	20 µF - 450 VL	60 µF - 300 VL	
8	<b>ELECTRIC MOTOR</b>	<p><b>CKRm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>CKR:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>			





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	i	m	n1	n2	w	s	1~	3~
CKRm 80	CKR 80	1"	1"	50	296	180	136	31	167	81	90	140	112	77	7	10.9	10.9
CKRm 90	CKR 90															10.8	10.8

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
CKRm 80	5.0 A	4.8 A	10.0 A
CKRm 90	5.1 A	4.9 A	10.2 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CKR 80	3.5 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
CKR 90	3.6 A	2.1 A	1.2 A	3.5 A	2.0 A	1.2 A



### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m<sup>3</sup>/h)
- Head up to **51 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+90 °C**
- Temperature of diesel up to **+55 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with diesel, clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made. Because of a specific principle of their operating performance these pumps are an excellent solution in every case where a compact self-priming pump is required or when the fluid flow is irregular or contains air.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

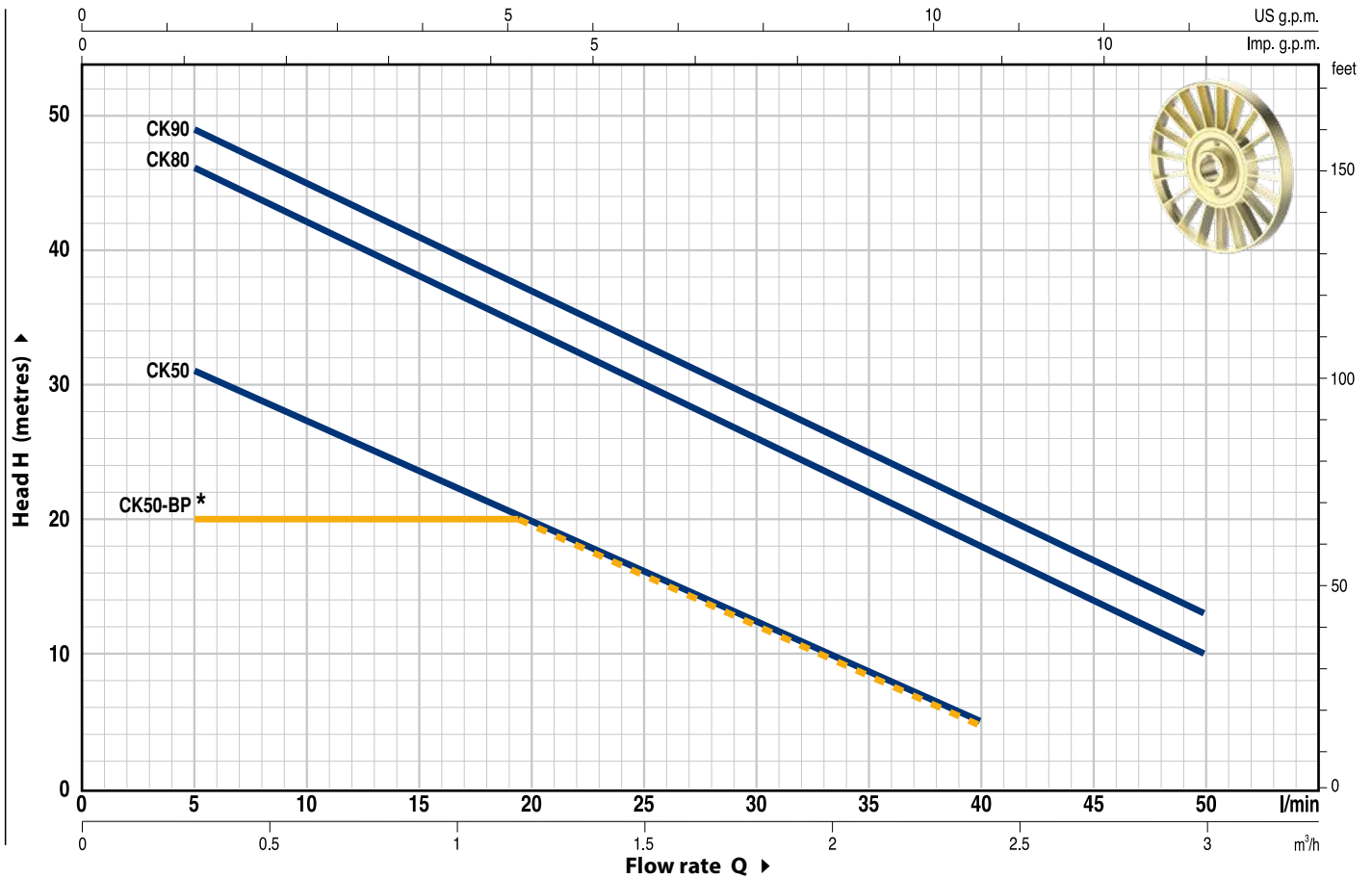
- Motor bracket: patent n. IT1243605
- CK 80/90 Registered EU Design n. 342159-0008

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency for CK 80, CK 90
- IP X5 class protection for CK 80, CK 90

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate									
Single-phase	Three-phase	kW	HP	▲		0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0
CKm 50	CK 50	0.37	0.50	IE2	H metres	0	5	10	15	20	25	30	35	40	50
CKm 50-BP	CK 50-BP	0.25	0.33			35	31	27	24	20	16	13	9	5	
CKm 80	CK 80	0.55	0.75	IE3		20	20	20	20	20	16	13	9	5	
CKm 90	CK 90	0.75	1		48	46	42	38	34	30	26	22	18	10	
						51	49	45	41	37	33	29	25	21	13

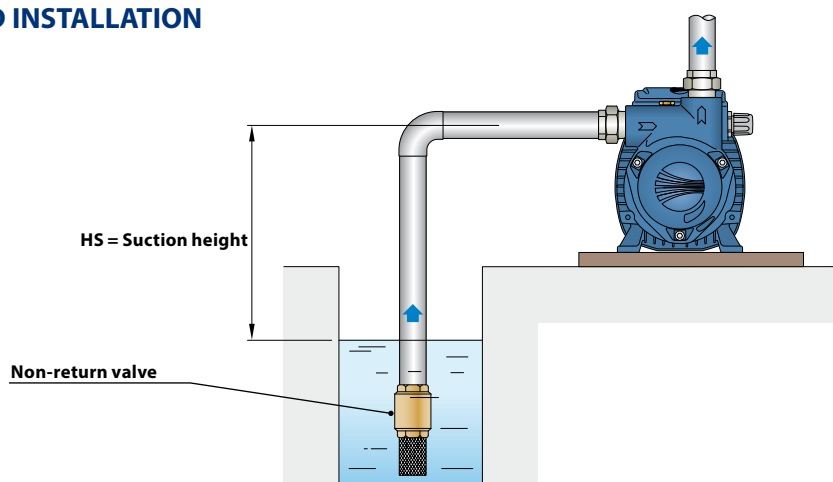
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

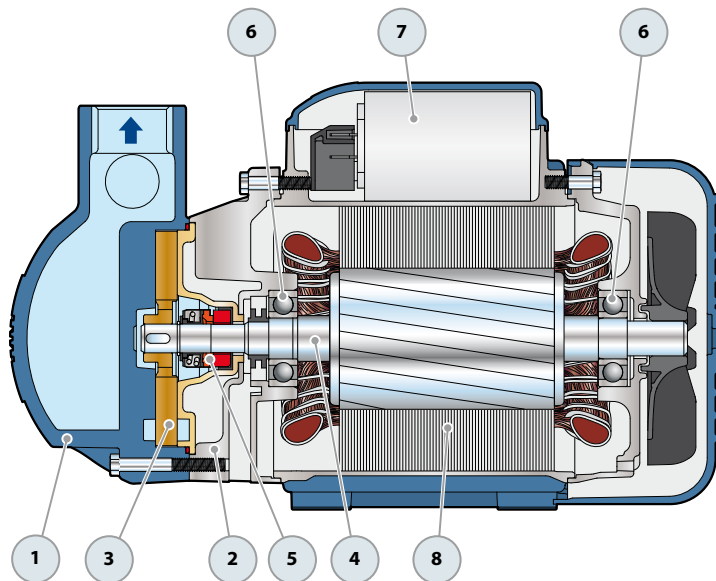
(\*) CK 50-BP = performance curve with by-pass

## STANDARD INSTALLATION

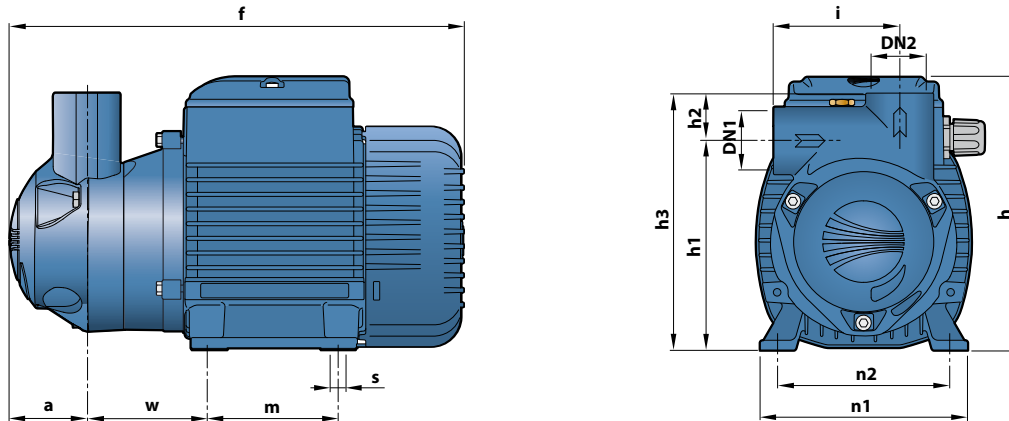


## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron complete with threaded ports in compliance with ISO 228/1				
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
3	<b>IMPELLER</b>	Brass star type with open radial vanes				
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
5	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>AR-12V</b>	<b>Ø 12 mm</b>	Ceramic	Graphite	Viton
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		<b>CK 50</b>	<b>6201 ZZ / 6201 ZZ</b>			
		<b>CK 50-BP</b>	<b>6201 ZZ / 6201 ZZ</b>			
		<b>CK 80</b>	<b>6203 ZZ / 6203 ZZ</b>			
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		<b>CKm 50</b>	<b>12.5 µF - 450 VL</b>	<b>25 µF - 250 VL</b>		
		<b>CKm 50-BP</b>	<b>12.5 µF - 450 VL</b>	<b>25 µF - 250 VL</b>		
		<b>CKm 80</b>	<b>16 µF - 450 VL</b>	<b>60 µF - 250 VL</b>		
<b>CKm 90</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 250 VL</b>				
8	<b>ELECTRIC MOTOR</b>	<p><b>CKm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>CK:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.37 kW in class IE2 and from P<sub>2</sub>=0.55 kW in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	i	m	n1	n2	w	s	1~	3~
CKm 50	CK 50	¾"	¾"	41	260	152	128	24	152	75	80	120	100	70	7	<b>7.3</b>	<b>7.3</b>
CKm 50-BP	CK 50-BP			43	261											<b>7.2</b>	<b>7.3</b>
CKm 80	CK 80	1"	1"	50	297	181	136	31	167	81	90	134	112	76		<b>10.8</b>	<b>10.8</b>
CKm 90	CK 90															<b>10.8</b>	<b>10.8</b>

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
CKm 50	<b>3.0 A</b>	<b>2.9 A</b>	<b>6.2 A</b>
CKm 50-BP	<b>2.7 A</b>	<b>2.9 A</b>	<b>5.4 A</b>
CKm 80	<b>5.0 A</b>	<b>4.8 A</b>	<b>9.8 A</b>
CKm 90	<b>5.1 A</b>	<b>4.9 A</b>	<b>9.4 A</b>

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase						
CK 50	<b>2.1 A</b>	<b>1.2 A</b>	<b>0.7 A</b>	<b>2.1 A</b>	<b>1.2 A</b>	<b>0.7 A</b>
CK 50-BP	<b>1.8 A</b>	<b>1.0 A</b>	<b>0.6 A</b>	<b>1.7 A</b>	<b>1.0 A</b>	<b>0.6 A</b>
CK 80	<b>3.5 A</b>	<b>2.0 A</b>	<b>1.2 A</b>	<b>3.3 A</b>	<b>1.9 A</b>	<b>1.1 A</b>
CK 90	<b>3.6 A</b>	<b>2.1 A</b>	<b>1.2 A</b>	<b>3.5 A</b>	<b>2.0 A</b>	<b>1.2 A</b>

### Pumps with peripheral impeller

 Clean water

 Industrial use



#### PERFORMANCE RANGE

- Flow rate up to **17 l/min** (1.02 m<sup>3</sup>/h)
- Head up to **80.5 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITÀ



#### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made. The hydraulic characteristics of these pump, coupled with their compactness, makes them suitable for use in industrial applications. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

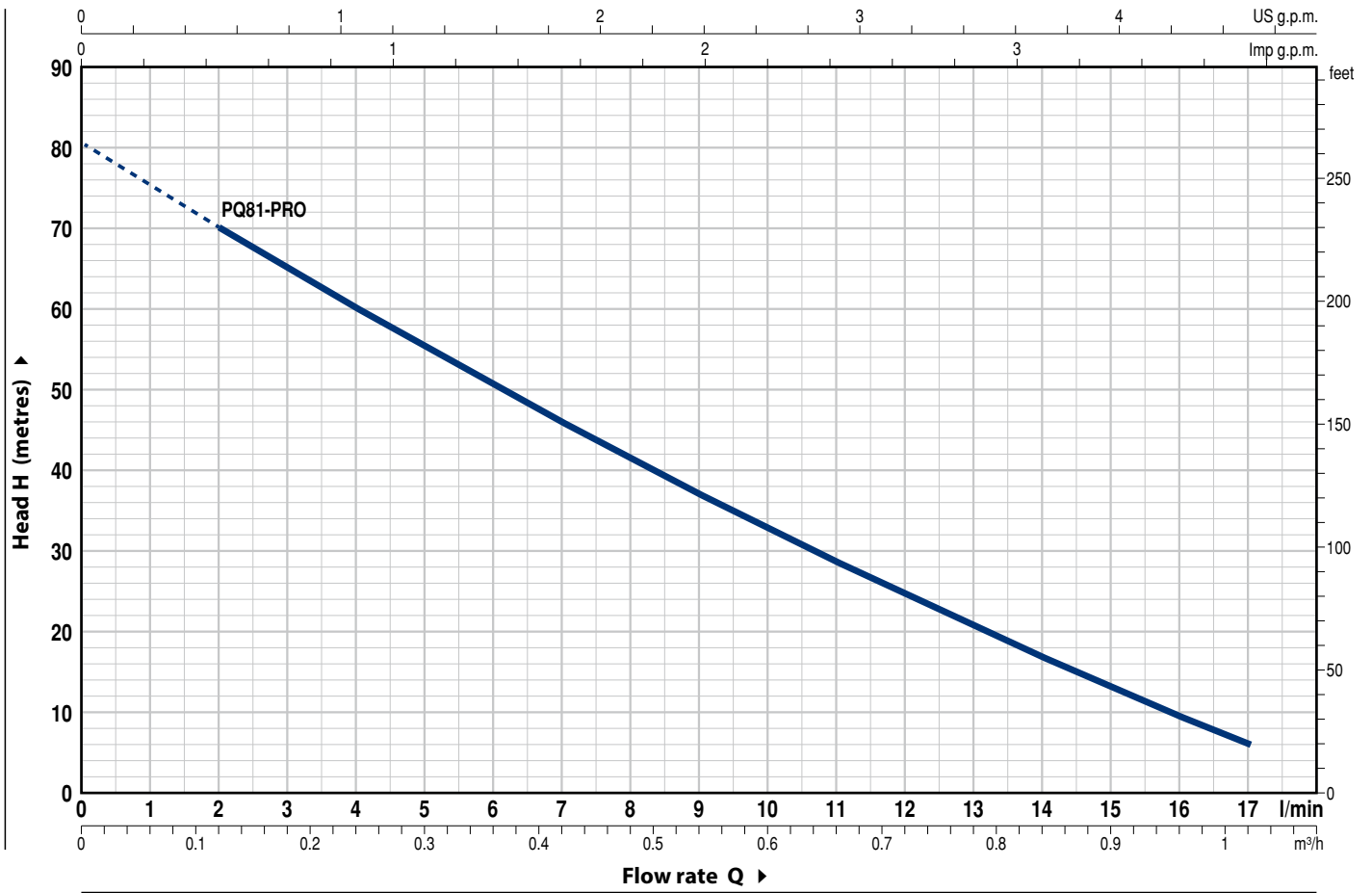
- Motor bracket: patent n. IT1243605

#### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft
- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup> HS= 0 m**





MODEL		POWER (P <sub>2</sub> )			Q	Flow rate										
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.12	0.18	0.3	0.42	0.54	0.66	0.78	0.9	1.02
					l/min	0	2	3	5	7	9	11	13	15	17	
PQm 81-PRO	PQ 81-PRO	0.45	0.60	IE3	H metres	80.5	70	65	55	46	37	28.5	20.6	13.1	6	

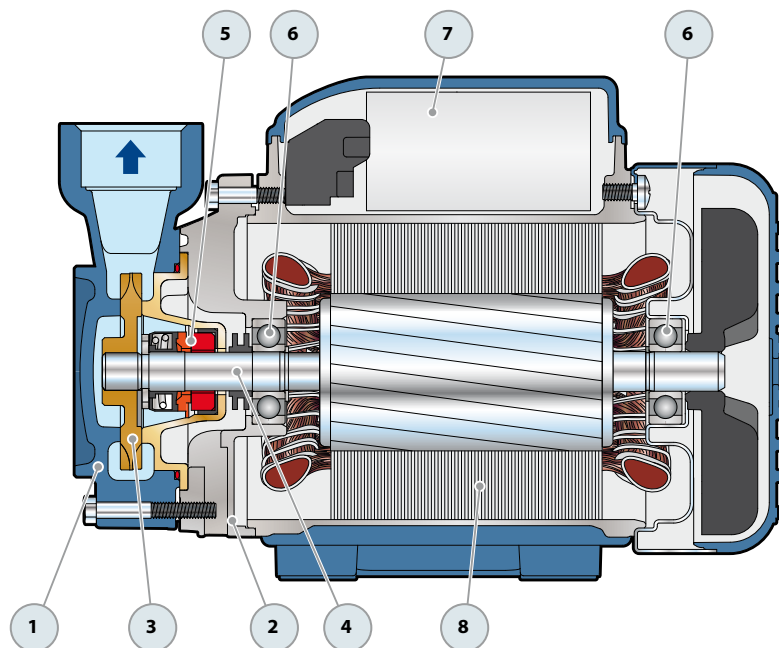
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

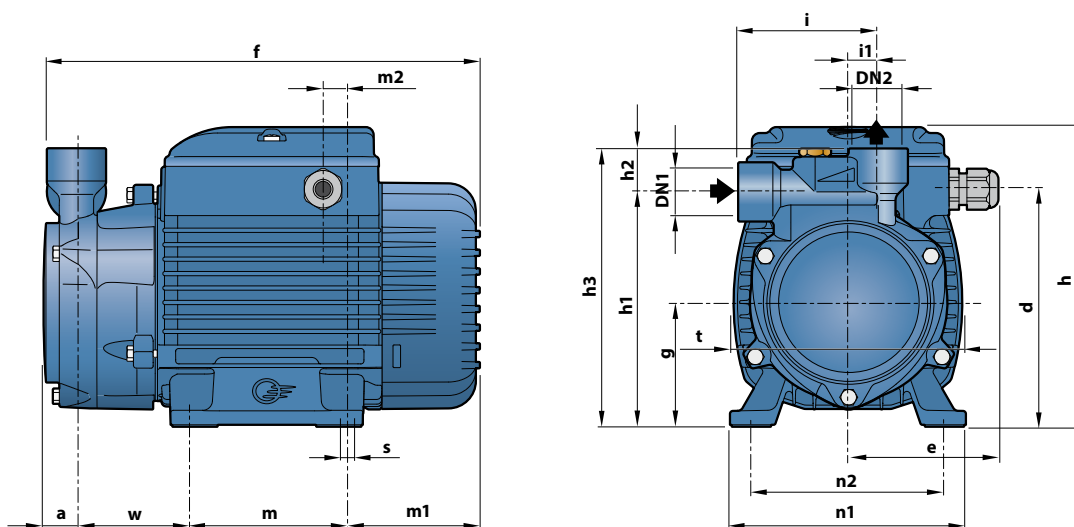
# PQ 81-PRO

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS															
1	PUMP BODY	Cast iron with an anti-block treatment and threaded ports in compliance with ISO 228/1															
2	MOTOR BRACKET	Aluminium with brass insert (patented), reduces the risk of impeller seizure															
3	IMPELLER	Brass with peripheral radial vanes															
4	MOTOR SHAFT	Stainless steel AISI 431															
5	MECHANICAL SEAL	<table border="1"> <thead> <tr> <th>Seal</th> <th>Shaft</th> <th colspan="3">Materials</th> </tr> <tr> <th>Model</th> <th>Diameter</th> <th>Stationary ring</th> <th>Rotational ring</th> <th>Elastomer</th> </tr> </thead> <tbody> <tr> <td>ST1-12</td> <td>Ø 12 mm</td> <td>Silicon carbide</td> <td>Graphite</td> <td>NBR</td> </tr> </tbody> </table>	Seal	Shaft	Materials			Model	Diameter	Stationary ring	Rotational ring	Elastomer	ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR
Seal	Shaft	Materials															
Model	Diameter	Stationary ring	Rotational ring	Elastomer													
ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR													
6	BEARINGS	6201 ZZ / 6201 ZZ															
7	CAPACITOR	EN 60252-1/A1  															
8	ELECTRIC MOTOR	<p><b>PQm-PRO:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>PQ-PRO:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>– Insulation: class F</li> <li>– Protection: IP X4</li> </ul>															





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm																		kg		
Single-phase	Three-phase	DN1	DN2	a	d	e	f	g	h	h1	h2	h3	i	i1	m	m1	m2	n1	n2	t	w	s	1~	3~
PQm 81-PRO	PQ 81-PRO	½"	½"	19	120.5	77	224	63	153	119	22	141	71	15	80	69	11.5	120	100	117	55	7	6.9	6.2

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
PQm 81-PRO	2.7 A	5.4 A

MODEL	VOLTAGE	
Three-phase	230 V	400 V
PQ 81-PRO	1.8 A	1.0 A

## CAPACITORS

MODEL	CAPACITANCE	
Single-phase	230 V or 240 V	110 V
PQm 81-PRO	12.5 µF - 450 VL	25 µF - 250 VL

# PQ 81-Bs

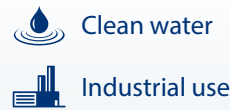
## INDUSTRIAL USE

### Pumps with peripheral impeller



Pump body in **BRASS**

The PQ-BS electric pump is supplied fully painted



#### PERFORMANCE RANGE

- Flow rate up to **20 l/min** (1.2 m<sup>3</sup>/h)
- Head up to **95 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



#### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made. The hydraulic characteristics of these pump, coupled with their compactness, makes them suitable for use in industrial applications. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

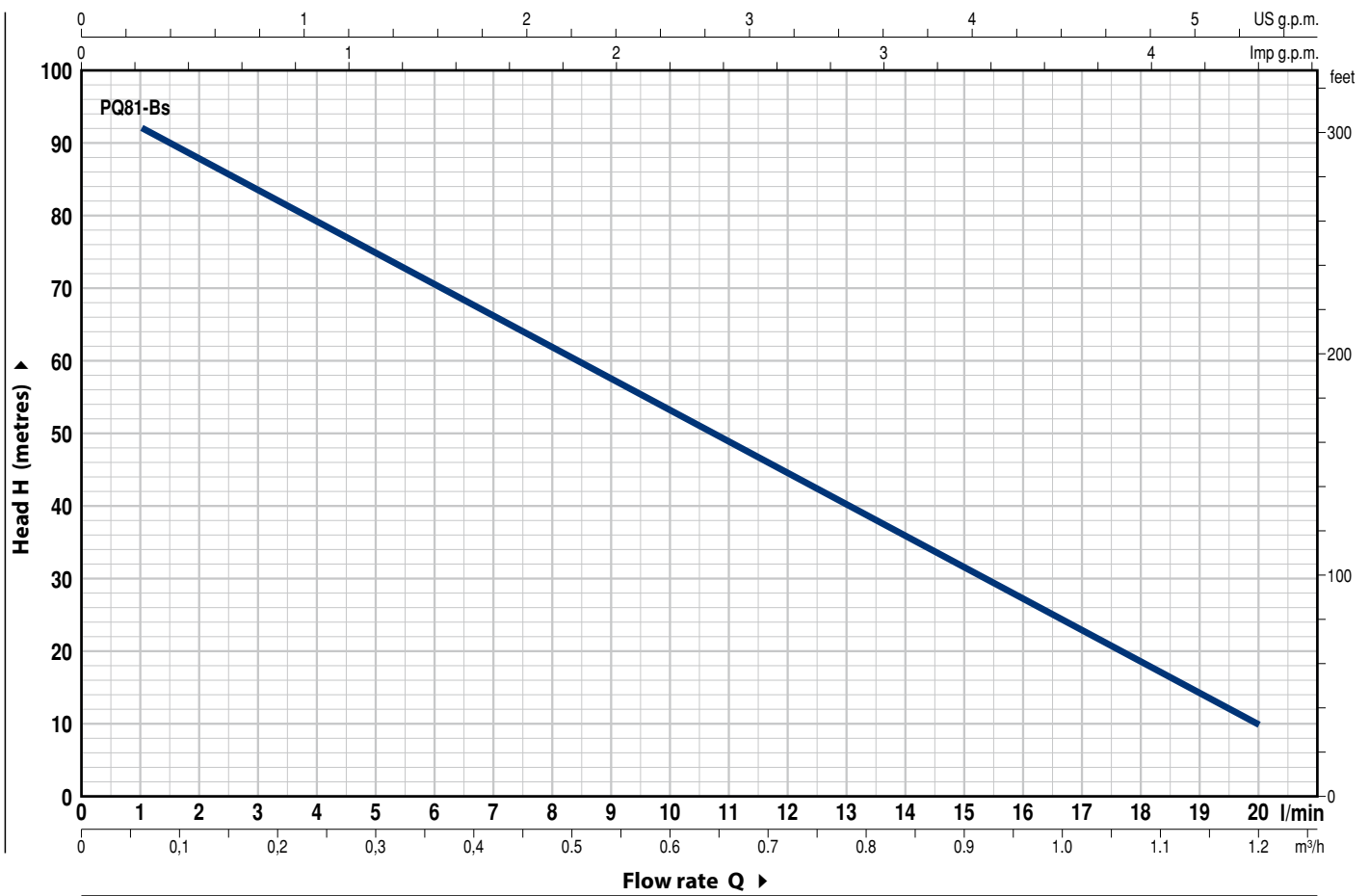
- Motor bracket n° IT1243605
- Registered model

#### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft
- Other voltages or 60 Hz frequency
- IP X5 protection

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate (l/min)															
Single-phase	Three-phase	kW	HP	▲		0	0.06	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.2				
PQm 81-Bs	PQ 81-Bs	0.55	0.75	IE3	H metres	95	92	87.5	79	70.5	62	53	44.5	36	27.5	18.5	10				

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# PQ 81-Bs

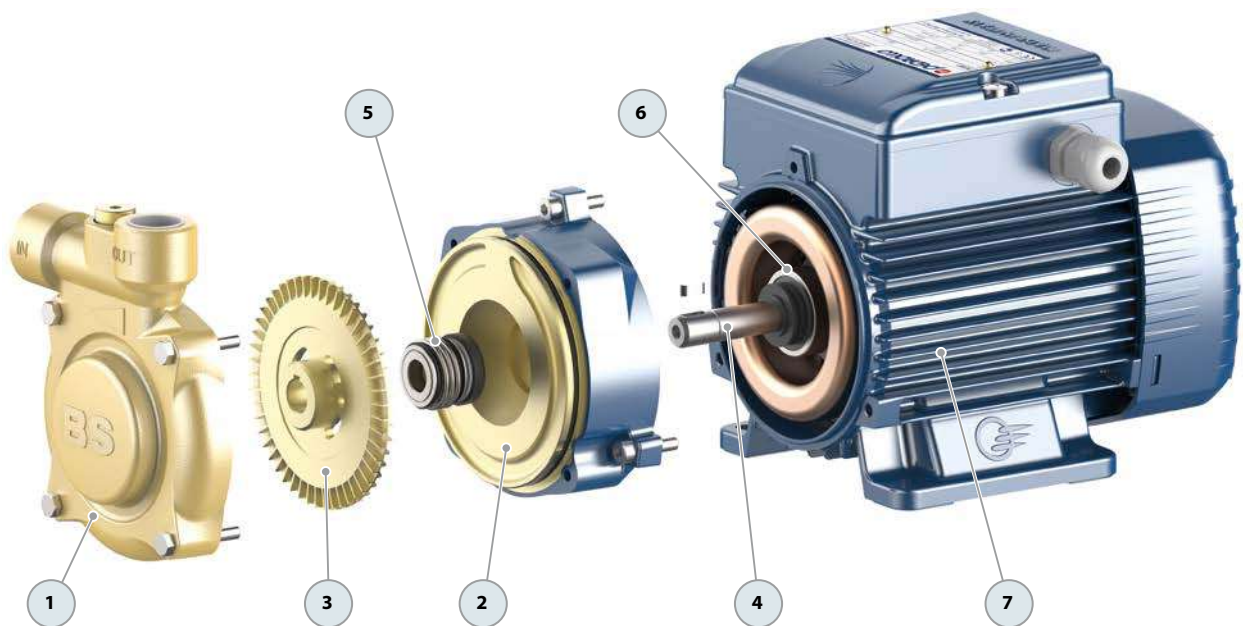
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Brass complete with threaded ports in compliance with ISO 228/1
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure
3	<b>IMPELLER</b>	Brass with peripheral radial vanes
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

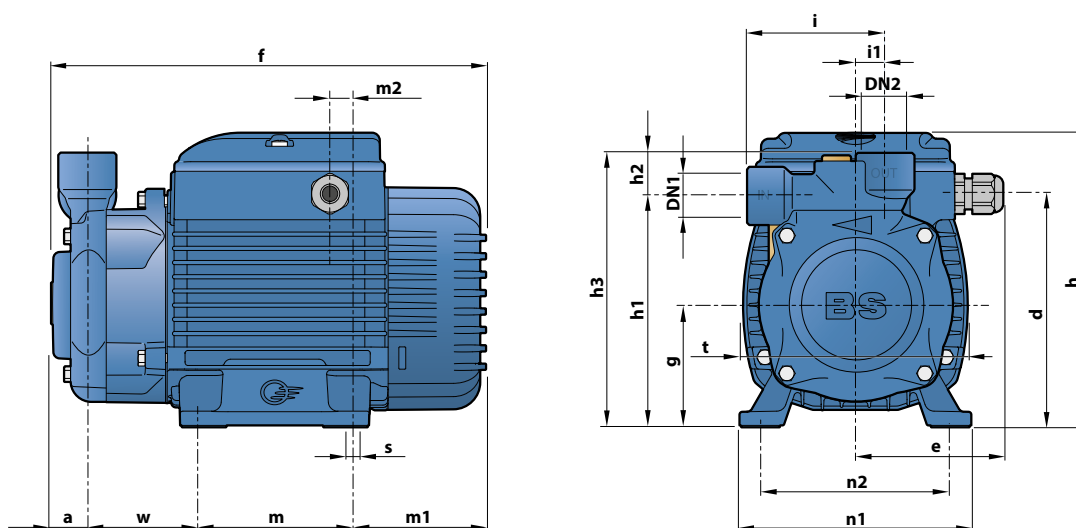
5	<b>MECHANICAL SEAL</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
		<b>Model</b>	<b>Diameter</b>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>ST1-12</b>	<b>Ø 12 mm</b>	Silicon carbide	Graphite	NBR

6	<b>BEARINGS</b>	<b>6201 ZZ / 6201 ZZ</b>
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7	<b>ELECTRIC MOTOR</b>	<p><b>PQm-Bs:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>PQ-Bs:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>
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## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm																	kg			
Single-phase	Three-phase	DN1	DN2	a	d	e	f	g	h	h1	h2	h3	i	i1	m	m1	m2	n1	n2	t	w	s	1~	3~
PQm 81-Bs	PQ 81-Bs	½"	½"	18	119.5	76.5	223	63	153	119	22	141	71	15	80	69	8.5	120	100	117	55	7	7.0	7.0

## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
PQm 81-Bs	3.5 A

MODEL	VOLTAGE	
Three-phase	230 V	400 V
PQ 81-Bs	2.4 A	1.4 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V o 240 V)
PQm 81-Bs	14 µF - 450 VL

## Peripheral pumps with brass pump body

 Clean water

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m<sup>3</sup>/h)
- Head up to **56.5 m**

### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C** (+50 °C for PQ 60-Bs)
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made. The hydraulic characteristics of these pumps, coupled with their compactness, makes them suitable for use in industrial applications. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

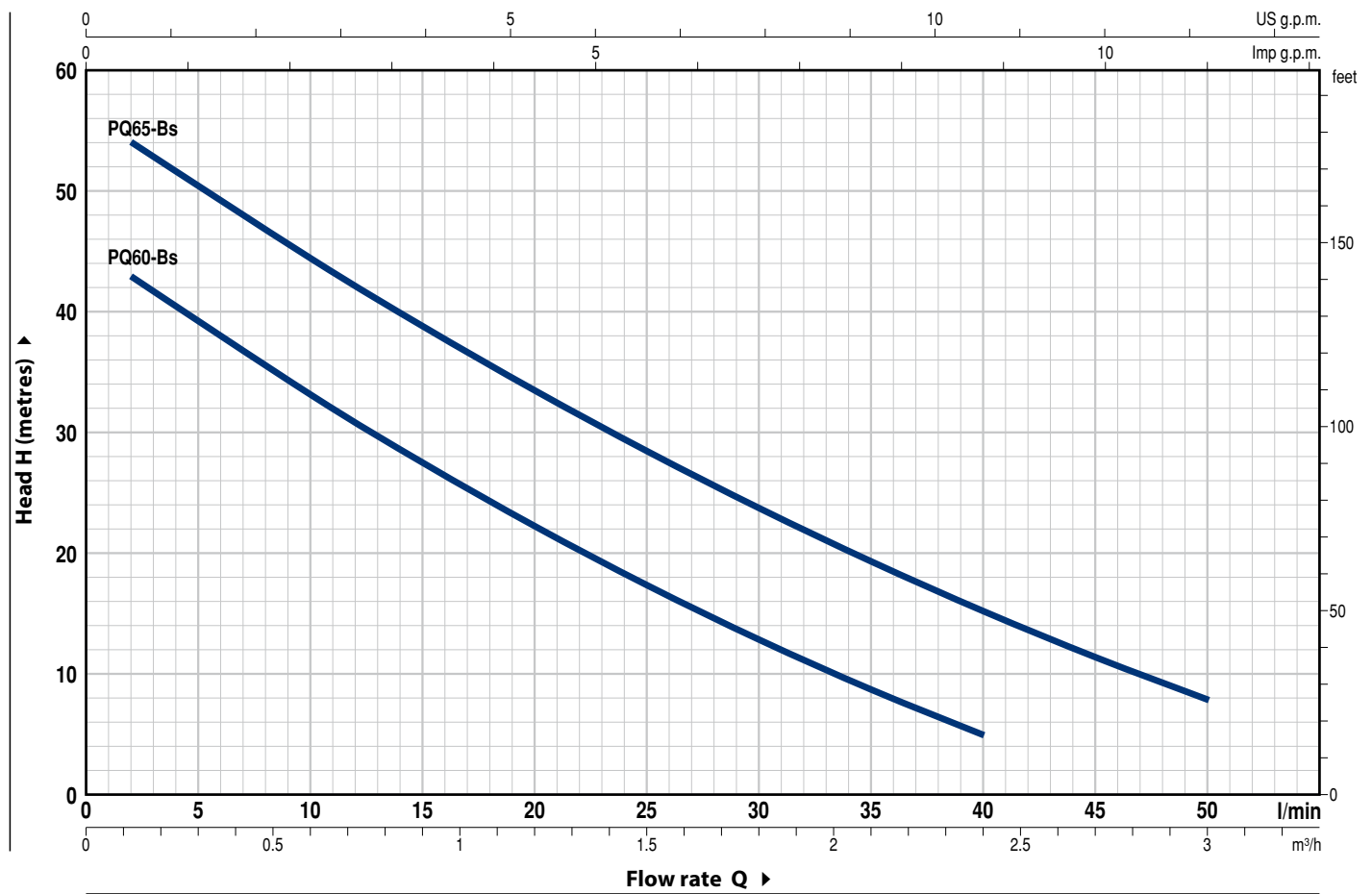
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945
- Registered EU Design n. 002146548

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m





MODEL		POWER (P <sub>2</sub> )			Q	Flow rate														
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.12	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0			
					l/min	0	2	10	15	20	25	30	35	40	45	50				
PQm 60-Bs	PQ 60-Bs	0.37	0.50	IE3	H metres	45.5	43	33	27.5	22.3	17.4	12.9	8.8	5						
PQm 65-Bs	PQ 65-Bs	0.55	0.75			56.5	54	44.5	39	33.5	28.5	23.8	19.4	15.3	11.5	8				

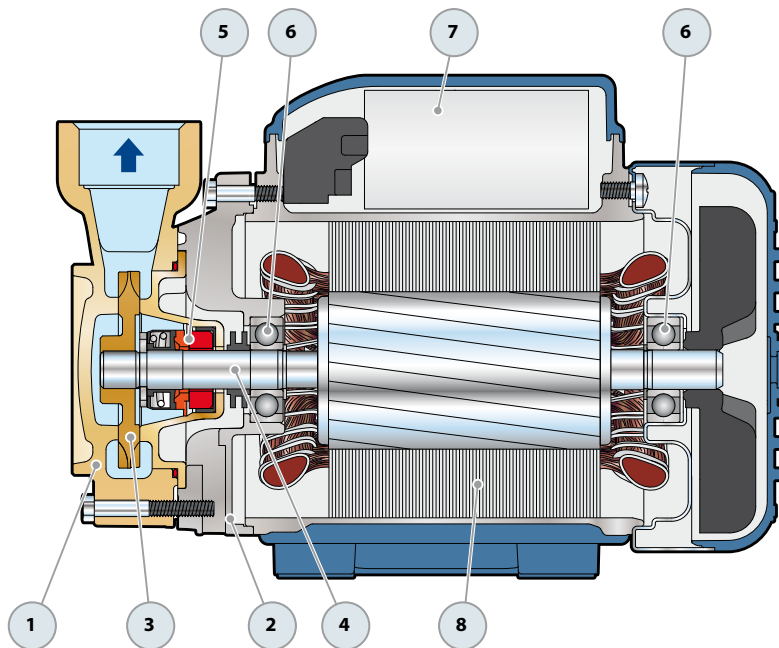
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

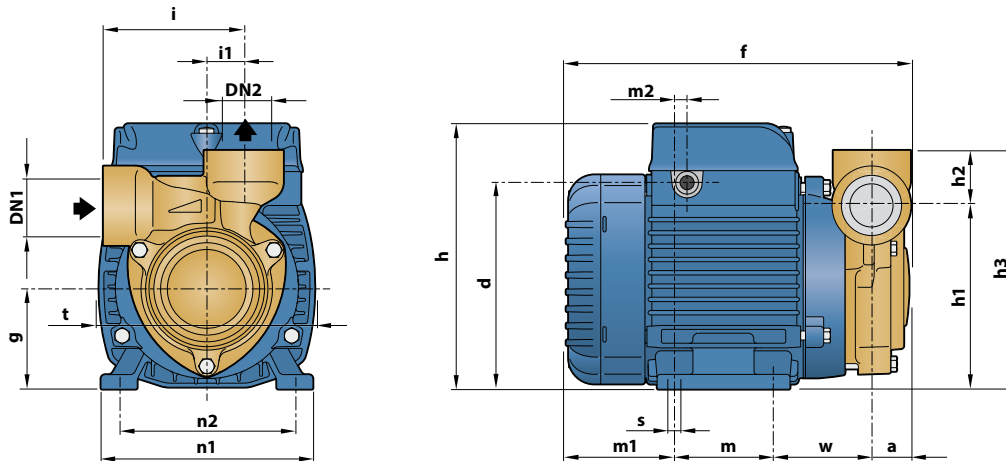
1	<b>PUMP BODY</b>	Brass complete with threaded ports in compliance with ISO 228/1			
2	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure			
3	<b>IMPELLER</b>	Brass with peripheral radial vanes			
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431			
5	<b>MECHANICAL SEAL</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>	
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>
		ST1-12	Ø 12 mm	Silicon carbide	Graphite
					<i>Elastomer</i>
					NBR
6	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ			
7	<b>CAPACITOR</b>	EN 60252-1/A1			
8	<b>ELECTRIC MOTOR</b>	<p><b>PQm-Bs:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>PQ-Bs:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>– Insulation: class F</li> <li>– Protection: IP X4</li> </ul>			



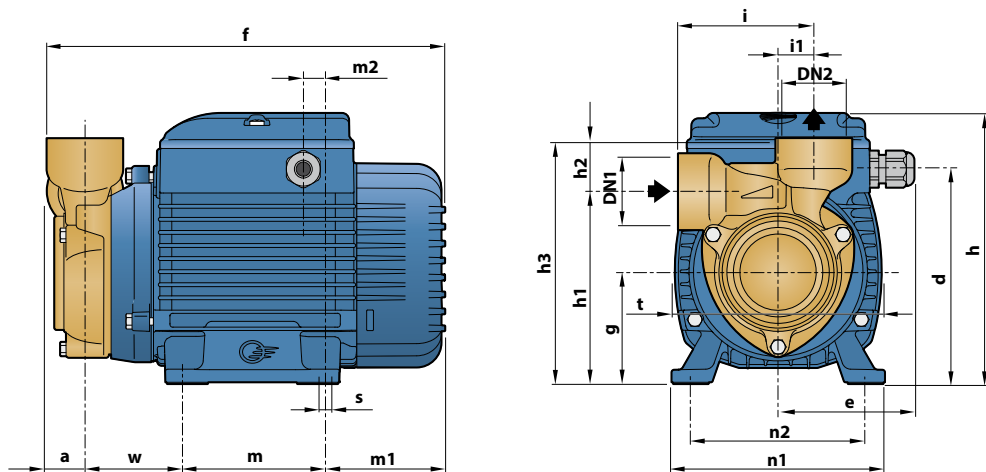


## DIMENSIONS AND WEIGHT

### PQ 60-Bs



### PQ 65-Bs



MODEL		PORTS		DIMENSIONS mm																		kg		
Single-phase	Three-phase	DN1	DN2	a	d	e	f	g	h	h1	h2	h3	i	i1	m	m1	m2	n1	n2	t	w	s	1~	3~
PQm 60-Bs	PQ 60-Bs	1"	1"	22	112	55.5	192	56	145	101	30	131	76	20	55	62	8	116	94/100	118	53	7	5.0	5.0
PQm 65-Bs	PQ 65-Bs			22	120.5	76.5	225	63	155	108		138			80	70	11.5	119	100	117			7.0	6.9

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	CAPACITANCE
Single-phase	230 V	230 V or 240 V
PQm 60-Bs	2.6 A	10 $\mu$ F - 450 VL
PQm 65-Bs	3.7 A	14 $\mu$ F - 450 VL

MODEL	VOLTAGE	
Three-phase	230 V	400 V
PQ 60-Bs	2.0 A	1.15 A
PQ 65-Bs	3.0 A	1.7 A

## Pumps with peripheral impeller

 Clean water

 Industrial use



PQA 50 - PQA 60



PQA 70 - PQA 72 - PQA 70 - PQA 90

### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m<sup>3</sup>/h)
- Head up to **90 m**

### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C** (+50 °C for PQA 50-60)
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **PQA** pumps are recommended for pumping clean water without abrasive particles and with liquids which are not chemically aggressive towards the materials with which the pump is made. The PPS and brass pump body construction guarantees against the formation of rust and oxidation. Because of these characteristics these pumps are suitable for use in industrial applications such as cooling, air conditioning, laundries, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

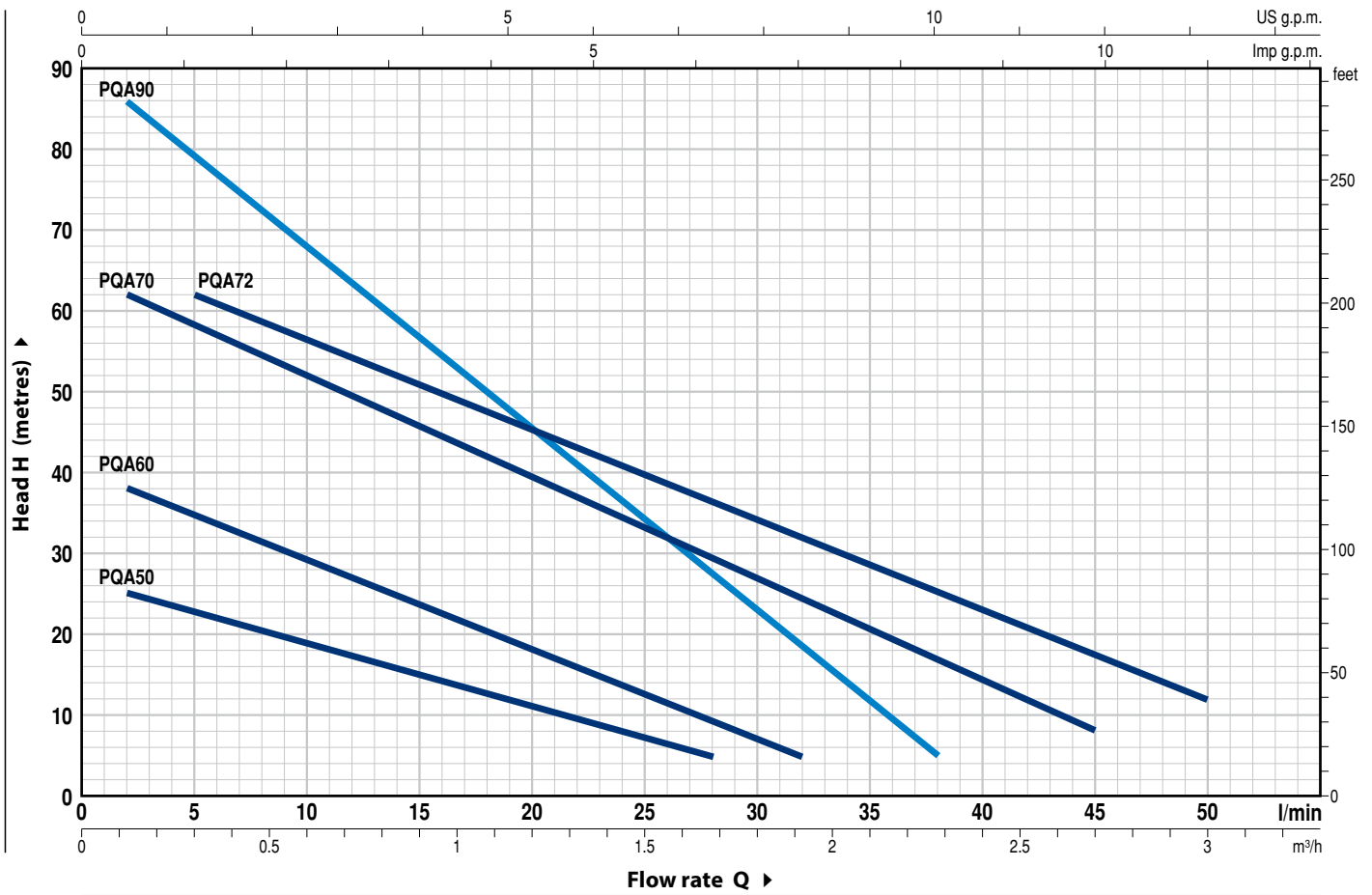
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PQA 50-60)

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft
- Other voltages or 60 Hz frequency
- IP X5 class protection for PQA70-90

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	Flow rate															
Single-phase	Three-phase	kW	HP			m <sup>3</sup> /h	0	0.1	0.3	0.6	0.9	1.2	1.5	1.7	1.8	1.9	2.3	2.7	3.0		
					l/min	0	2	5	10	15	20	25	28	30	32	38	45	50			
PQAm 50	PQA 50	0.18	0.25	IE3	H metres	26	25	22	19	15	11	8	5								
PQAm 60	PQA 60	0.37	0.50			40	38	35	29	23.5	18	12.5	9	7	5						
PQAm 70	PQA 70	0.55	0.75			65	62	58	52	45.5	39.5	33	30	27	24	17	8				
PQAm 72	PQA 72	0.55	0.75			65	-	62	56	51	45	40	36	34	32	25	17	12			
PQAm 90	PQA 90	0.75	1			90	86	79	68	57	45	34	27	23	18	5					

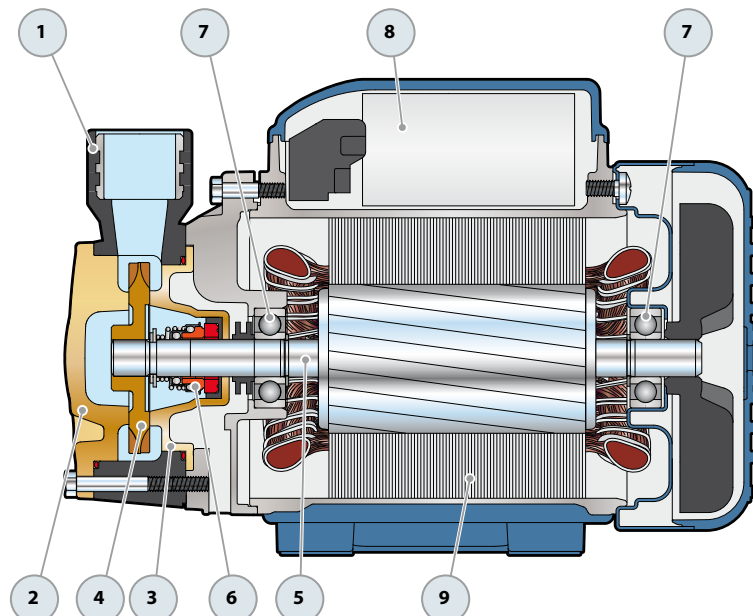
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

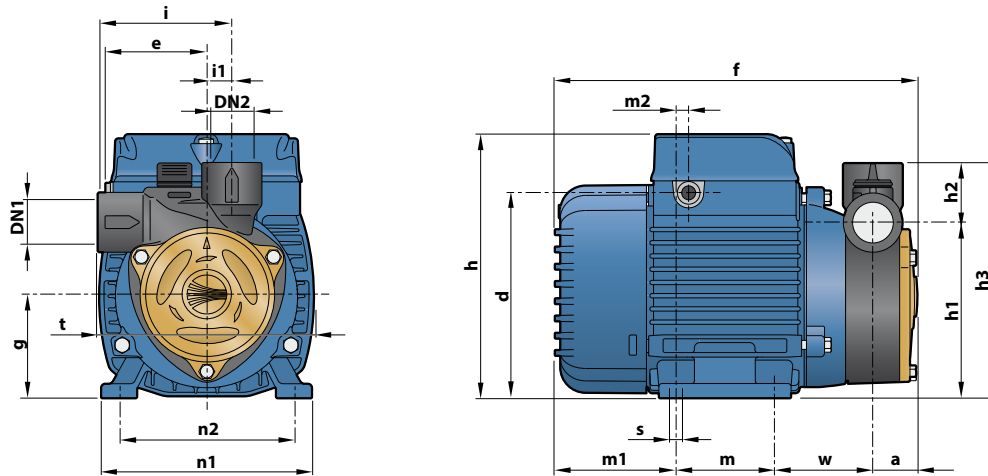
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	PPS complete with threaded metallic port inserts in compliance with ISO 228/1				
2	<b>BODY PLATE</b>	Brass				
3	<b>MOTOR BRACKET</b>	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
4	<b>IMPELLER</b>	Brass with peripheral radial vanes				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR
7	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		PQA 50-60	6201 ZZ / 6201 ZZ			
		PQA 70-72-90	6203 ZZ / 6203 ZZ			
8	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		PQAm 50-60	10 µF - 450 VL	25 µF - 250 VL		
		PQAm 70-72	16 µF - 450 VL	60 µF - 300 VL		
		PQAm 90	20 µF - 450 VL	60 µF - 300 VL		
9	<b>ELECTRIC MOTOR</b>	<p><b>PQAm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>PQA:</b> three-phase 230/400 V - 50 Hz.</p> <p>➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				

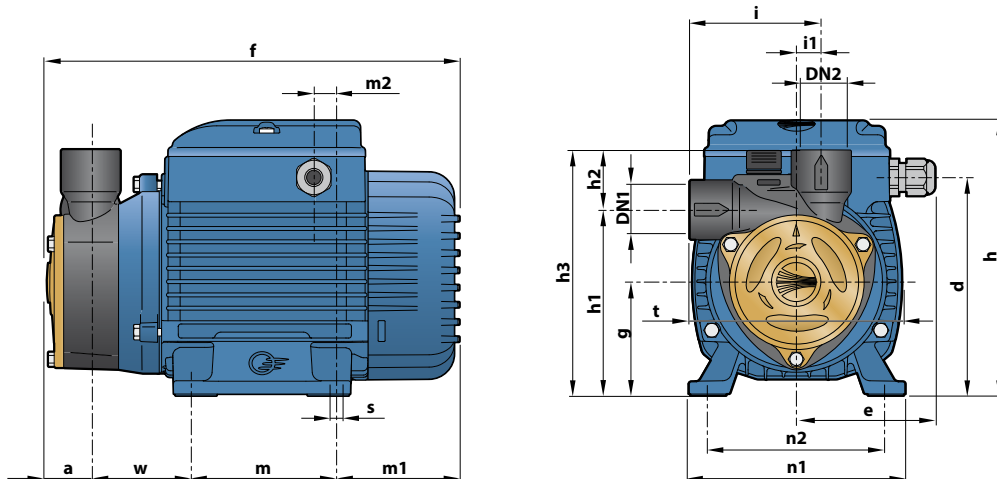


## DIMENSIONS AND WEIGHT

### PQA 50-60



### PQA 70-72-90



MODEL		PORTS		DIMENSIONS mm																			kg	
Single-phase	Three-phase	DN1	DN2	a	d	e	f	g	h	h1	h2	h3	i	i1	m	m1	m2	n1	n2	t	w	s	1~	3~
PQAm 50	PQA 50	½"	½"	25	112	55.5	198	56	145	96	33	129	72.5	13.5	55	65	8	116	97	117	53	7	4.7	4.7
PQAm 60	PQA 60			28	139	79	261	71	179	116.5	32.5	149											30	151
PQAm 70	PQA 70	1"	1"	28	139	79	261	71	179	121	30	151	83	20	90	80.5	22	134	112	142	62	7	9.3	9.3
PQAm 72	PQA 72																						26.5	260
PQAm 90	PQA 90	½"	½"	26.5			260																9.4	9.4

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
PQAm 50	2.1 A	2.0 A	4.2 A
PQAm 60	2.5 A	2.4 A	5.2 A
PQAm 70	6.2 A	5.5 A	12.4 A
PQAm 72	6.2 A	5.5 A	12.4 A
PQAm 90	5.6 A	5.1 A	11.2 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
PQA 50	2.0 A	1.15 A	1.9 A	1.1 A
PQA 60	2.0 A	1.15 A	1.9 A	1.1 A
PQA 70	4.2 A	2.4 A	3.7 A	2.2 A
PQA 72	3.8 A	2.2 A	3.4 A	2.0 A
PQA 90	4.2 A	2.4 A	3.7 A	2.2 A

## Pumps with peripheral impeller

 Clean water

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **45 l/min** (2.7 m<sup>3</sup>/h)
- Head up to **107 m**

### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+50 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water that does not contain abrasive particles and with liquids that are not chemically aggressive towards the materials from which the pump is made.

The design features of these particularly compact brass pumps provide a guarantee against rust and oxidation; they are therefore recommended for industrial applications such as **cooling** and **air conditioning**.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

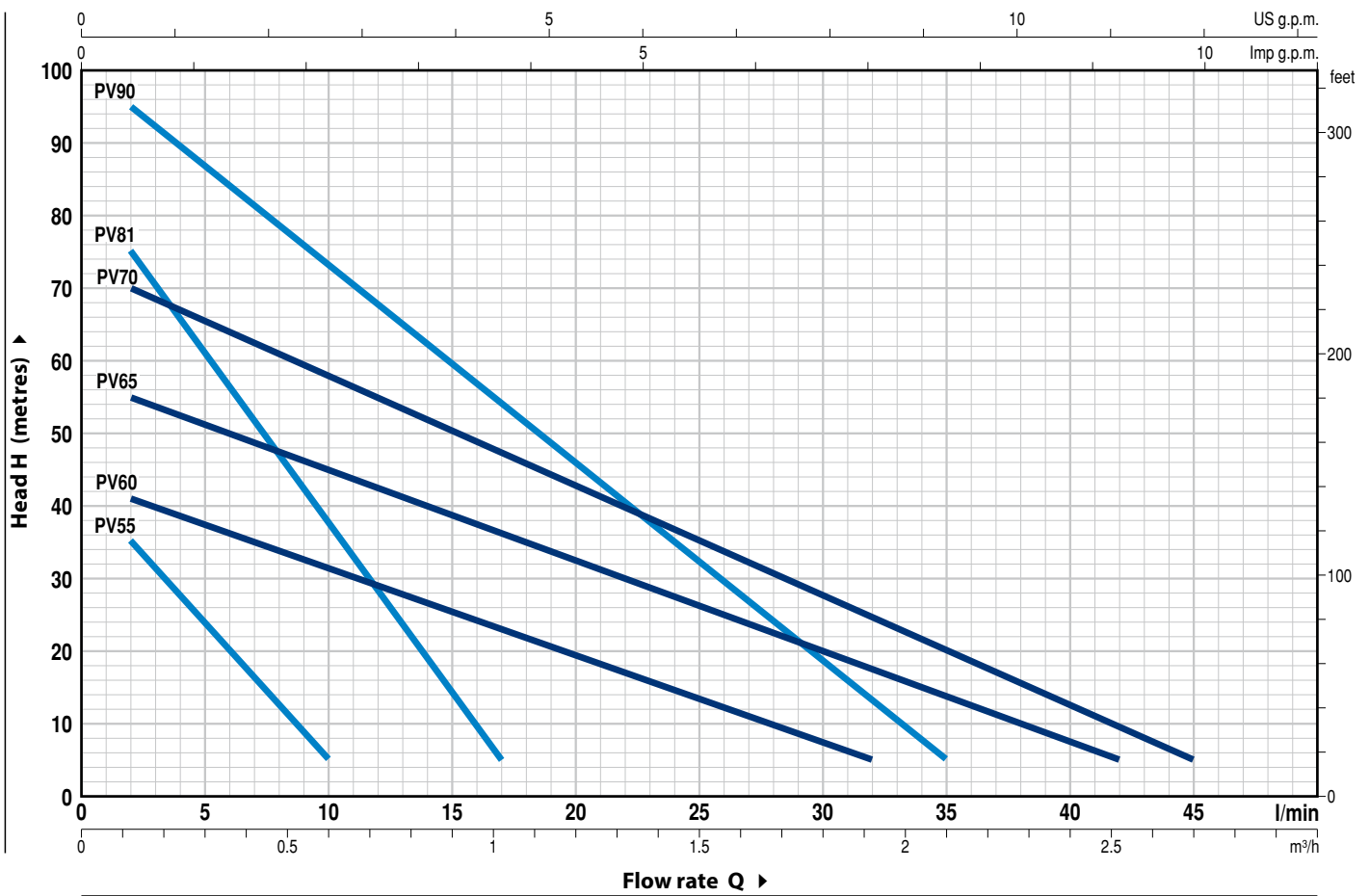
- Shaft: patent n. 0000275945 (PV55)

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IP X5 class protection for PV70-90

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Q										
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60
					l/min	0	2	3	4	5	6	7	8	9	10	
PVM 55	PV 55	0.18	0.25	IE3	H metres	50 Hz	42	35	31	27.5	24	20	16	12.5	9	5
						60 Hz	55	46	41.5	37	32.5	28	23.5	19	14.5	10

➡ The PVM55 and PV55 pumps are designed to work also at 60 Hz

MODEL		POWER (P <sub>2</sub> )			Q	Q														
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.12	0.30	0.60	0.90	1.02	1.2	1.5	1.8	1.9	2.1	2.5	2.7	
					l/min	0	2	5	10	15	17	20	25	30	32	35	42	45		
PVM 60	PV 60	0.37	0.50	IE3	H metres	43	41	37.5	31.5	25.5	23	19.5	13	7.5	5					
PVM 81	PV 81	0.37	0.50			85	75	61	38	15	5									
PVM 65	PV 65	0.60	0.85			58	55	51	45	39	36	32.5	26	20	17.5	14	5			
PVM 70	PV 70	0.90	1.20			74	70	65.5	58	50	47	43	35	28	25	20	9.5	5		
PVM 90	PV 90	0.90	1.20			100	95	87	73	59.5	54	46	32	19	13	5				

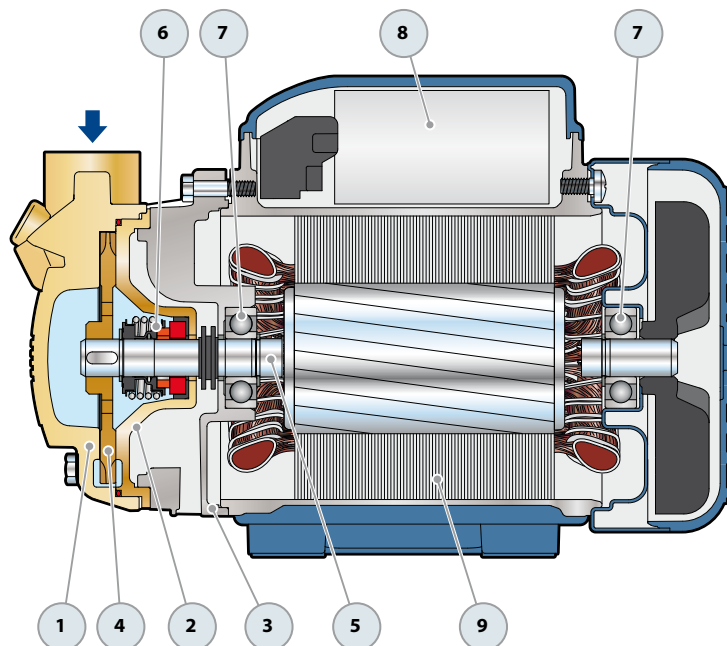
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

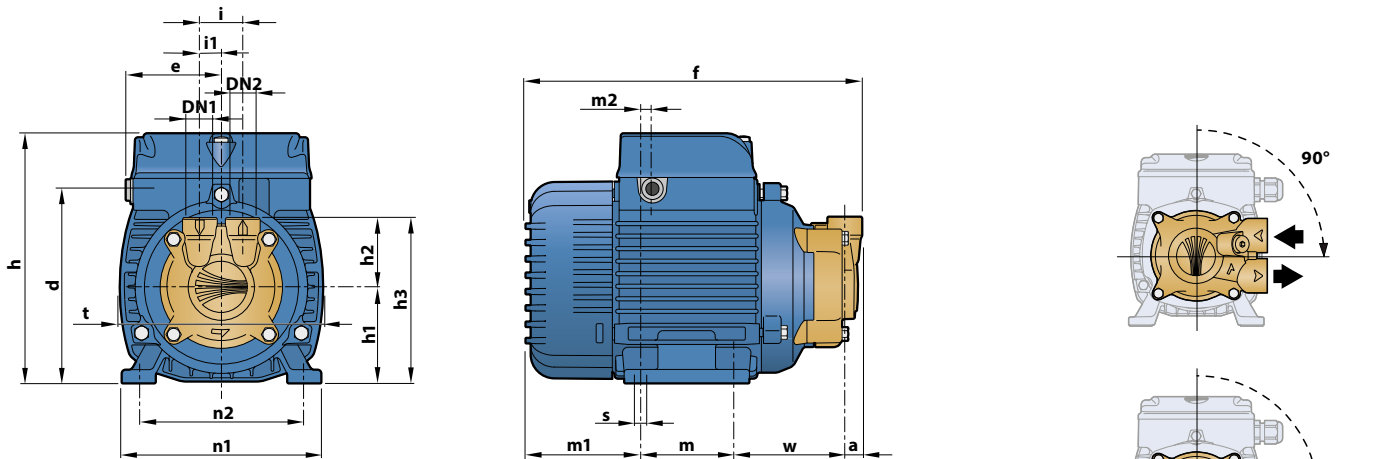
1	<b>PUMP BODY</b>	Brass complete with threaded ports in compliance with ISO 228/1				
2	<b>PUMP BODY BACK-PLATE</b>	Brass				
3	<b>MOTOR BRACKET</b>	Aluminium				
4	<b>IMPELLER</b>	Brass with peripheral radial vanes				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR
7	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		PV 55-60-65-81	6201 ZZ / 6201 ZZ			
		PV 70-90	6203 ZZ / 6203 ZZ			
8	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		PVm 55	10 µF - 450 VL	25 µF - 250 VL		
		PVm 60	10 µF - 450 VL	25 µF - 250 VL		
		PVm 81	14 µF - 450 VL	25 µF - 250 VL		
		PVm 65	14 µF - 450 VL	25 µF - 250 VL		
		PVm 70	25 µF - 450 VL	60 µF - 300 VL		
		PVm 90	25 µF - 450 VL	60 µF - 300 VL		
9	<b>ELECTRIC MOTOR</b>	<b>PVm:</b> single-phase 230 V - 50 Hz (50/60 Hz for PVm55) with thermal overload protector incorporated into the winding.				
		<b>PV:</b> three-phase 230/400 V - 50 Hz (50/60 Hz for PV55).				
		<p>➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



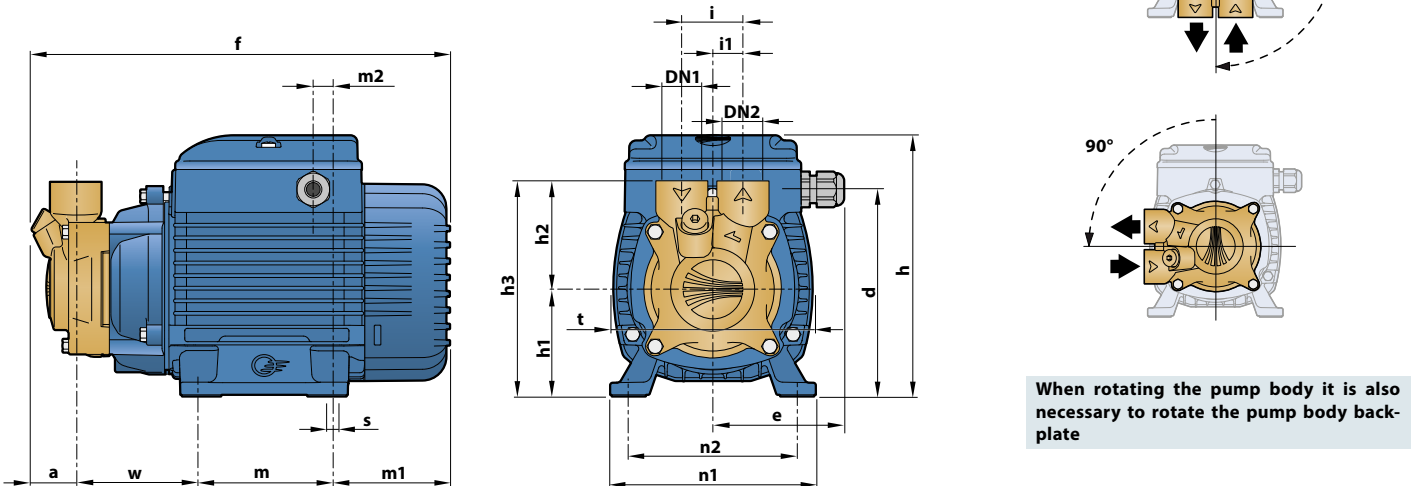


## DIMENSIONS AND WEIGHT

### PV 55



### PV 60-81-65-70-90



When rotating the pump body it is also necessary to rotate the pump body back-plate

MODEL		PORTS		DIMENSIONS mm																	kg		
Single-phase	Three-phase	DN1	DN2	a	d	e	f	h	h1	h2	h3	i	i1	m	m1	m2	n1	n2	t	w	s	1~	3~
PVm 55	PV 55	1/4"	1/4"	10.5	112	55.5	194	145	56	40	96	25	12.5	55	65.5	8	116	94/100	116	63	7	4.4	4.4
PVm 60	PV 60	1/2"	1/2"	26	120.5	76	243.5	152	63	62	125	35	17.5	80	69.5	11.5	120	98/102	116	68	7	5.5	5.5
PVm 81	PV 81			26.5			241			65	128									65		65	6.8
PVm 65	PV 65	3/4"	3/4"	27	139	79	243.5	180	71	66	129	45	22.5	90	80.5	22	134	110/114	141	67	7	6.8	6.8
PVm 70	PV 70			26.5			276			66	137									79		10.2	9.5
PVm 90	PV 90			28			275			66	137									76.5		10.0	9.3

(\*) h=196 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE	
<b>Single-phase</b>	230 V	230 V
PVm 55 (50 Hz)	1.6 A	3.2 A
PVm 55 (60 Hz)	2.0 A	4.0 A
PVm 60	2.3 A	4.6 A
PVm 81	2.8 A	5.6 A
PVm 65	4.4 A	8.8 A
PVm 70	6.3 A	12.6 A
PVm 90	6.3 A	12.6 A

MODEL	VOLTAGE	
<b>Three-phase</b>	230 V	400 V
PV 55 (50 Hz)	1.7 A	1.0 A
PV 55 (60 Hz)		
PV 60	2.1 A	1.2 A
PV 81	2.1 A	1.2 A
PV 65	2.6 A	1.5 A
PV 70	4.2 A	2.4 A
PV 90	4.2 A	2.4 A

# PQ 3000

## INDUSTRIAL USE

### Pump with peripheral impeller

 Clean water

 Industrial use



PQ 3000



PQ 3000-MF

#### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m<sup>3</sup>/h)
- Head up to **180 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure **18 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

- **PQ 3000**: pump body in cast iron with anti-block treatment.
- **PQ 3000-MF**: pump body and protective cover in AISI 316 cast stainless steel

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made.

The hydraulic characteristics of this pump make it suitable for use in industrial applications.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 002714469

#### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft
- Other voltages or 60 Hz frequency

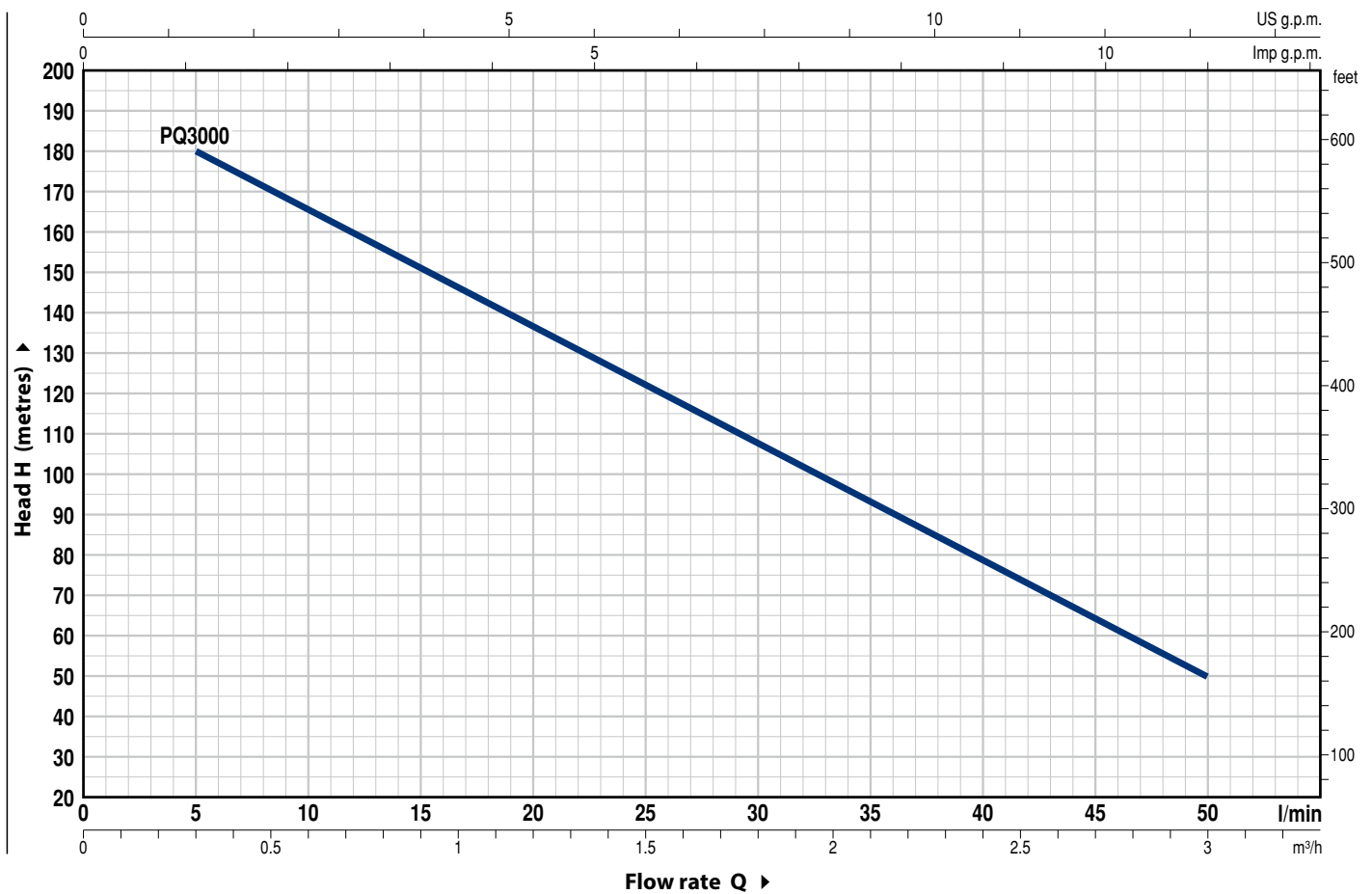
#### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL	POWER (P <sub>2</sub> )			Q	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
	kW	HP	▲		5	10	15	20	25	30	35	40	45	50
PQ 3000	2.2	3			180	165	151	136.5	122	107.5	93	78.5	64	50
PQ 3000-MF	2.2	3	IE3	H metres	180	165	151	136.5	122	107.5	93	78.5	64	50

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# PQ 3000

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

**1 PUMP BODY** **PQ 3000:** cast iron with anti-block treatment complete with threaded ports in compliance with ISO 228/1  
**PQ 3000-MF:** AISI 316 cast stainless steel complete with threaded ports in compliance with ISO 228/1

**2 PUMP BODY BACK PLATE** Stainless steel AISI 316

**3 MOTOR BRACKET** Aluminium

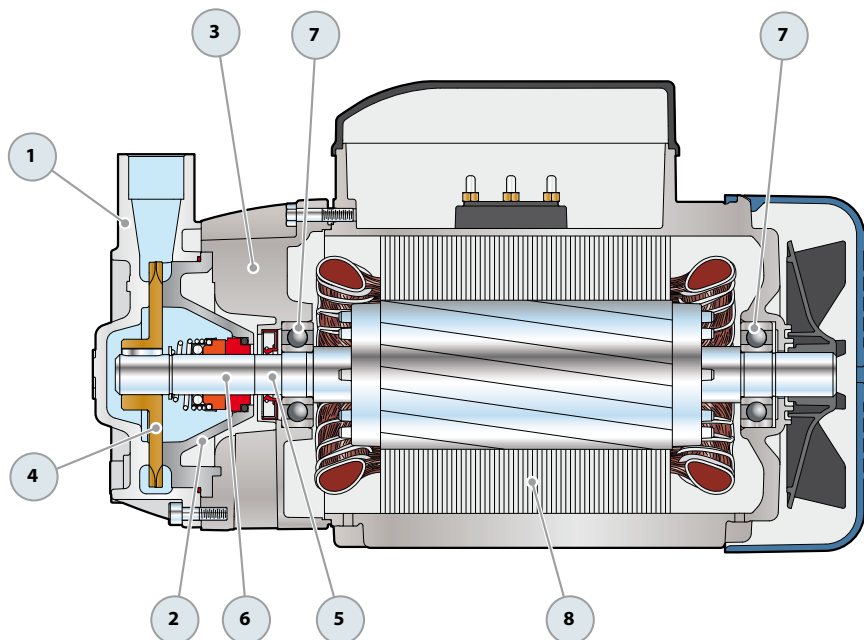
**4 IMPELLER** Bronze with peripheral radial vanes

**5 MOTOR SHAFT** Stainless steel AISI 431

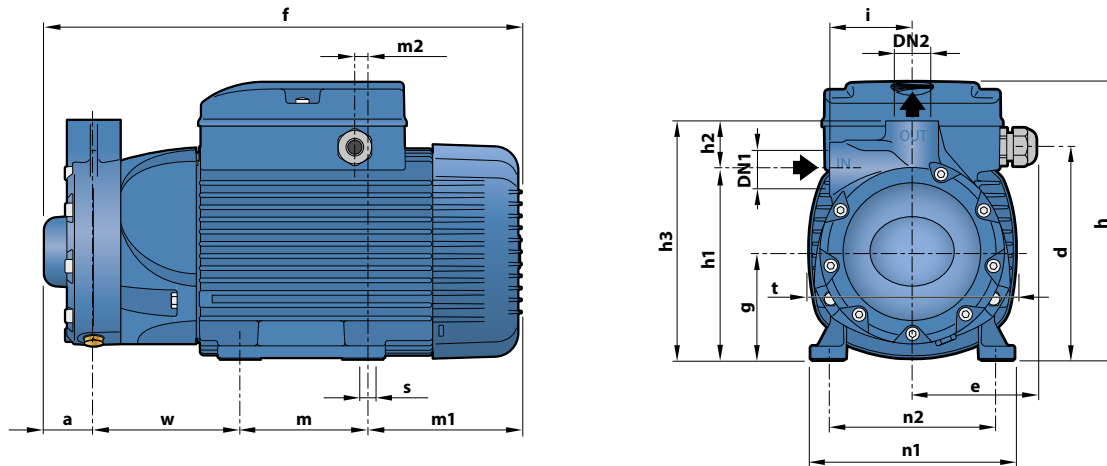
6 MECHANICAL SEAL	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
	<b>FN-18 NU</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR

**7 BEARINGS** **6204 ZZ - C3 / 6204 ZZ - C3**

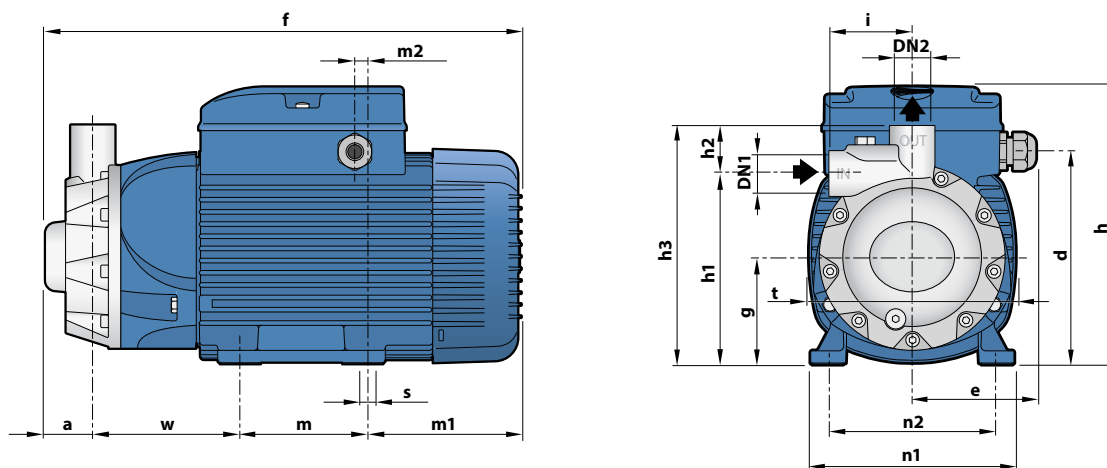
**8 ELECTRIC MOTOR** **PQ 3000:** three-phase 230/400 V - 50 Hz.  
 ⇒ **The pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)**  
 – Insulation: class H  
 – Protection: IP X5



## DIMENSIONS AND WEIGHT



MODEL	PORTS		DIMENSIONS mm																		kg	
	DN1	DN2	a	d	e	f	g	h	h1	h2	h3	i	m	m1	m2	n1	n2	t	w	s		3~
Three-phase																						
<b>PQ 3000</b>	<b>¾"</b>	<b>¾"</b>	37	157.5	92	356	80	211	142	36	178	62	100	114	11	151	125	155	105	9	<b>19.6</b>	



MODEL	PORTS		DIMENSIONS mm																		kg	
	DN1	DN2	a	d	e	f	g	h	h1	h2	h3	i	m	m1	m2	n1	n2	t	w	s		3~
Three-phase																						
<b>PQ 3000-MF</b>	<b>¾"</b>	<b>¾"</b>	28	157.5	92	347	80	211	142	36	178	62	100	114	11	151	125	155	105	9	<b>18.8</b>	

## ABSORPTION

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
<b>PQ 3000</b>	<b>12.9 A</b>	<b>7.5 A</b>	<b>12.5 A</b>	<b>7.3 A</b>
<b>PQ 3000-MF</b>	<b>12.9 A</b>	<b>7.5 A</b>	<b>12.5 A</b>	<b>7.3 A</b>

# CP-ST

## Stainless steel centrifugal pumps

### CP-ST4

Pump body: **stainless steel AISI 304**  
Impeller: **stainless steel AISI 304**  
Shaft: **stainless steel AISI 431**

### CP-ST6

Pump body: **stainless steel AISI 316L**  
Impeller: **stainless steel AISI 316L**  
Shaft: **stainless steel AISI 316L**



 Clean water

 Domestic use

 Agricultural use

 Industrial use

### PERFORMANCE RANGE

- Maximum flow rate **270 l/min** (16.2 m<sup>3</sup>/h)
- Maximum head **45 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure:
  - **6 bar** for CP 100-130-132-150-158 ST4  
CP 100-130-132-150-158 ST6
  - **8 bar** for CP 170-170M ST4  
CP 170-170M ST6  
CP 180-190-200 ST4  
CP 180-190-200 ST6
- Continuous service **S1**

### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. Because of its design features these centrifugal pumps are recommended for use in domestic, agricultural and industrial applications. All the components in contact with the pumped liquid are in stainless steel AISI 304 or AISI 316L thus guaranteeing complete hygiene and maximum resistance against corrosion. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IP X5 class protection for CP 170-170M-180-190-200 ST

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

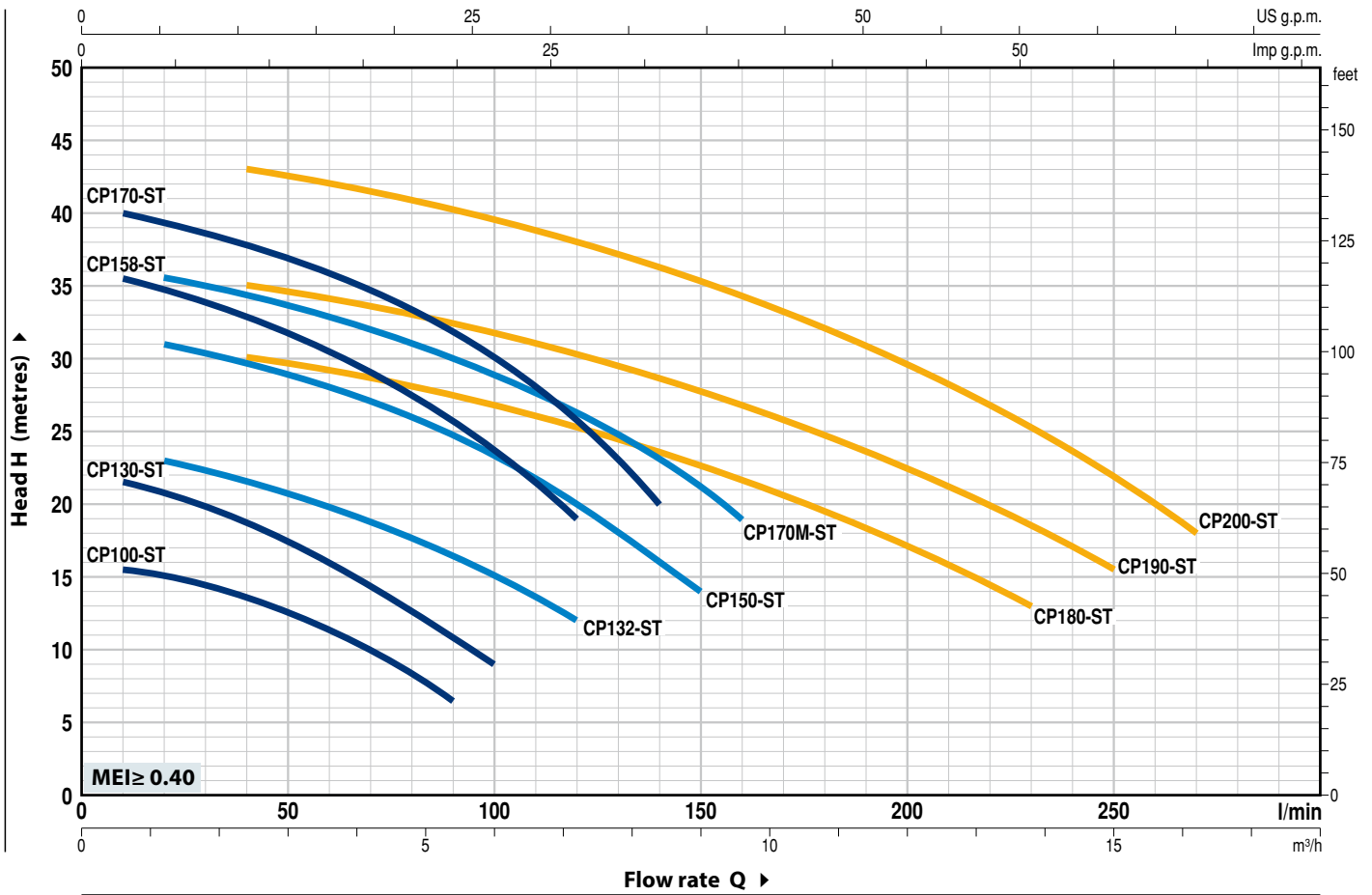
### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



**PERFORMANCE RANGE**

**50 Hz n = 2900 min<sup>-1</sup> HS = 0 m**



MODEL		POWER (P <sub>2</sub> )			Q	H metres																
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.6	1.2	2.4	3.6	5.4	6.0	7.2	8.4	9.0	9.6	12	13.8	15	16.2	
					l/min	0	10	20	40	60	90	100	120	140	150	160	200	230	250	270		
CPm 100-ST4	CP 100-ST4	0.25	0.33	IE2	H metres	16	15.5	15	13.5	11.2	6.5											
CPm 100-ST6	CP 100-ST6																					
CPm 130-ST4	CP 130-ST4	0.37	0.50	IE3		22.5	21.5	20.8	18.8	16	10.8	9										
CPm 130-ST6	CP 130-ST6																					
CPm 132-ST4	CP 132-ST4	0.55	0.75	IE3		24	-	23	21.5	19.8	16.5	15	12									
CPm 132-ST6	CP 132-ST6																					
CPm 150-ST4	CP 150-ST4	0.75	1	IE3		32	-	31	29.8	28	24.8	23.2	20	16	14							
CPm 150-ST6	CP 150-ST6																					
CPm 158-ST4	CP 158-ST4	0.75	1	IE3		36.5	35.5	34.5	33	31	26.2	24	19									
CPm 158-ST6	CP 158-ST6																					
CPm 170-ST4	CP 170-ST4	1.1	1.5	IE3		41	40	39.2	37.8	36	32	30	25.8	20								
CPm 170-ST6	CP 170-ST6																					
CPm 170M-ST4	CP 170M-ST4	1.1	1.5	IE3		36.5	-	35.5	34.3	33	30	29	26.4	23	21	19						
CPm 170M-ST6	CP 170M-ST6																					
CPm 180-ST4	CP 180-ST4	1.1	1.5	IE3		31.5	-	-	30	29.2	27.5	26.8	25.2	23.5	22.5	21.5	17	13				
CPm 180-ST6	CP 180-ST6																					
CPm 190-ST4	CP 190-ST4	1.5	2	IE3		37	-	-	35	34	32.2	31.5	30.2	28.7	27.8	27	22.7	18.5	15.5			
CPm 190-ST6	CP 190-ST6																					
CPm 200-ST4	CP 200-ST4	2.2	3	IE3	45	-	-	43	42	40.2	39.5	38	36.5	35.5	34.5	29.8	25.5	22	18			
CPm 200-ST6	CP 200-ST6																					

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

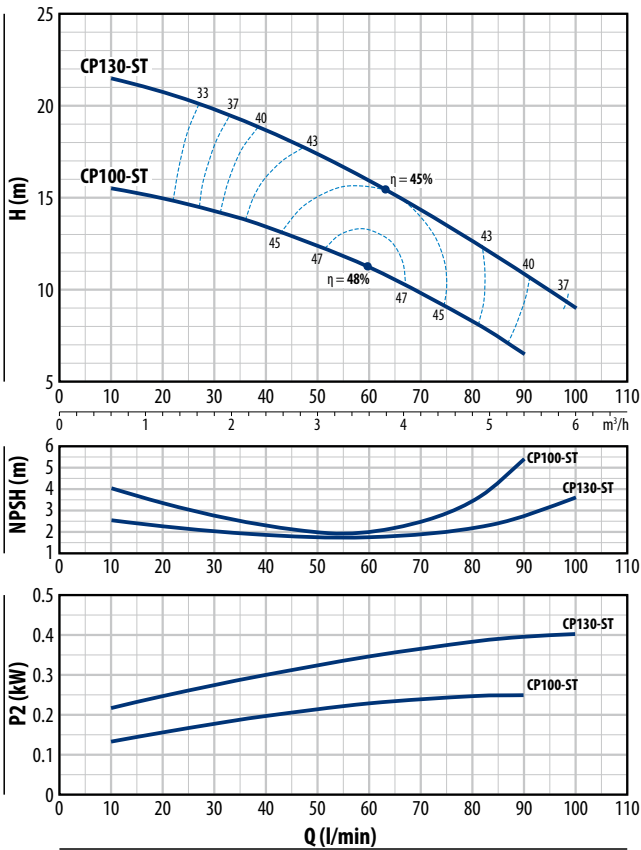
▲ Three-phase motor efficiency class (IEC 60034-30-1)

# CP-ST

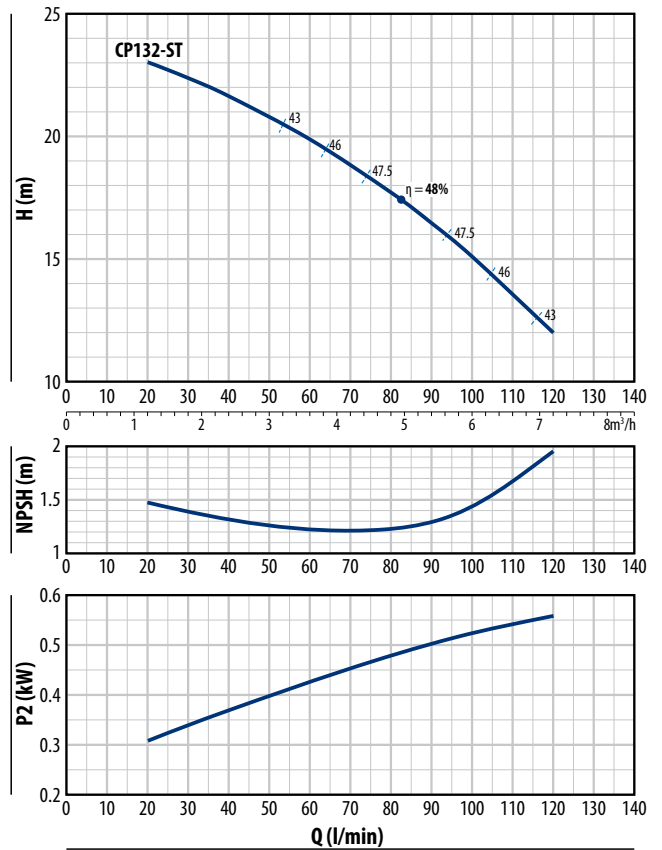
## CHARACTERISTIC CURVES

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m

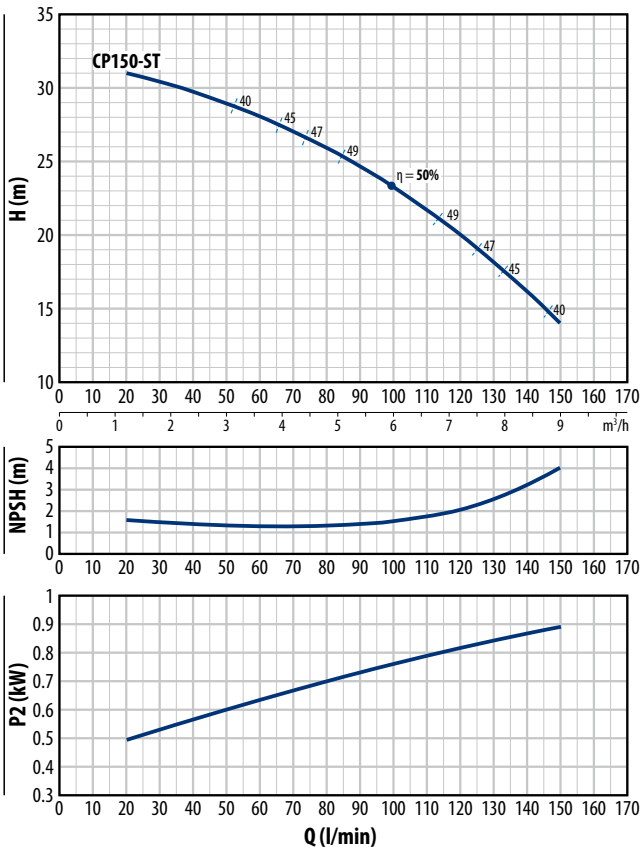
### CP 100-ST CP130-ST



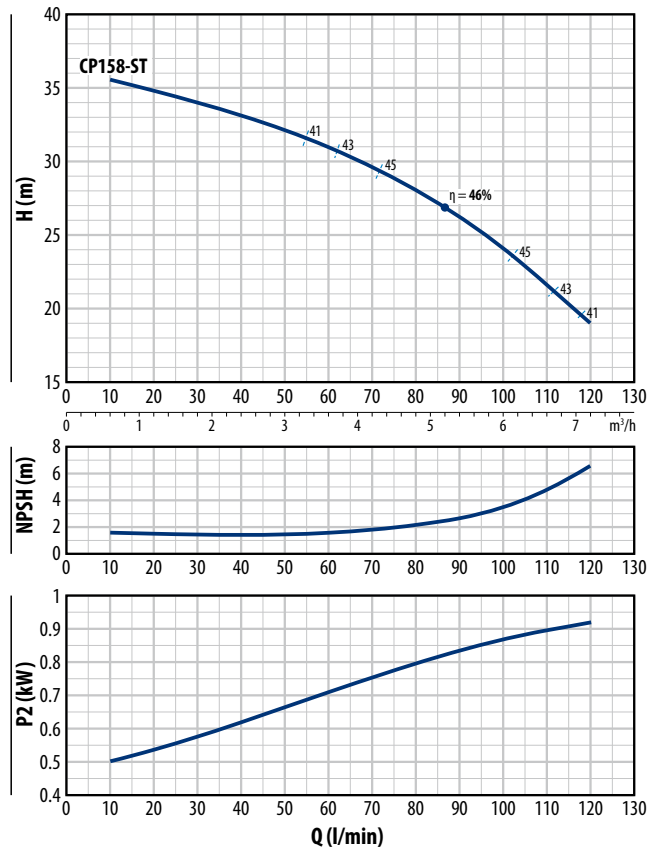
### CP 132-ST



### CP 150-ST



### CP 158-ST

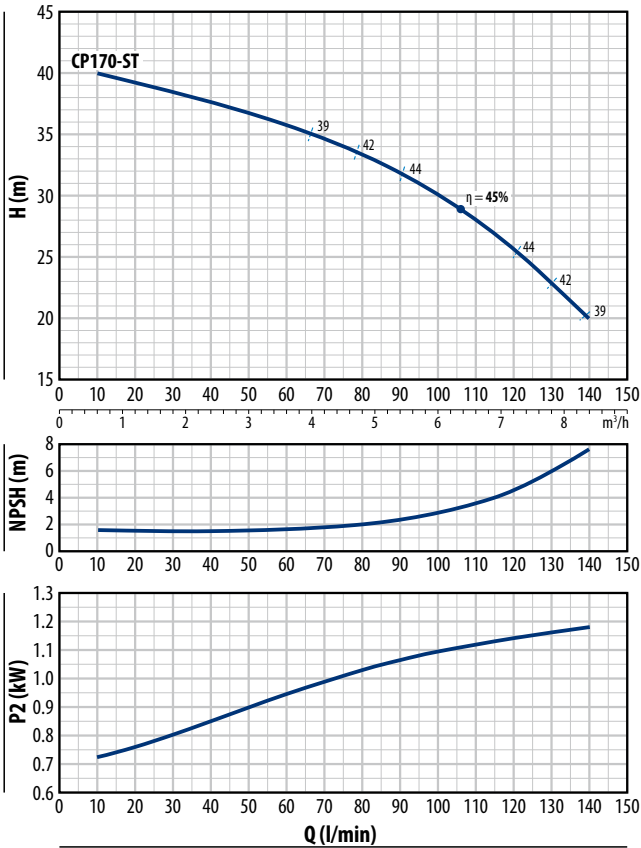




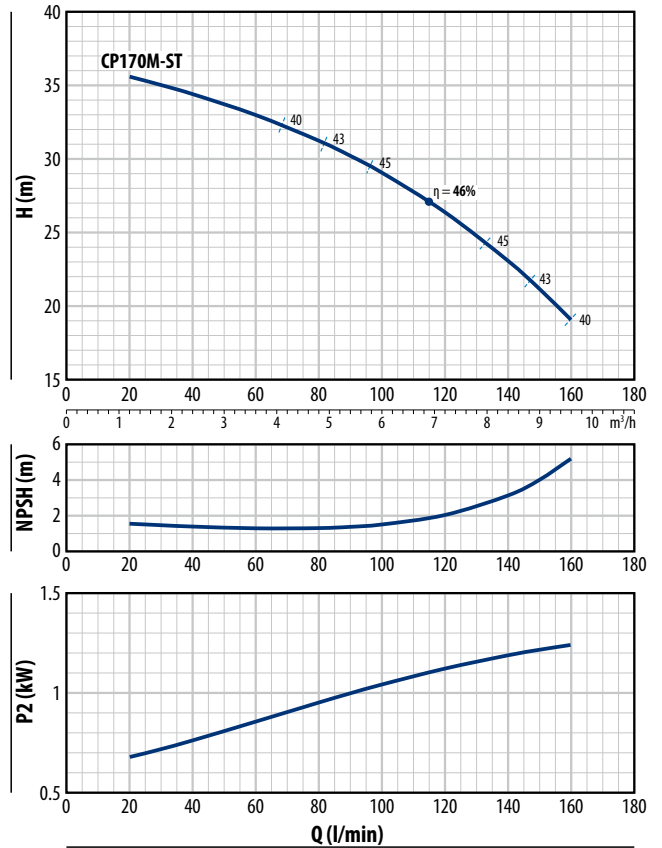
## CHARACTERISTIC CURVES

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m

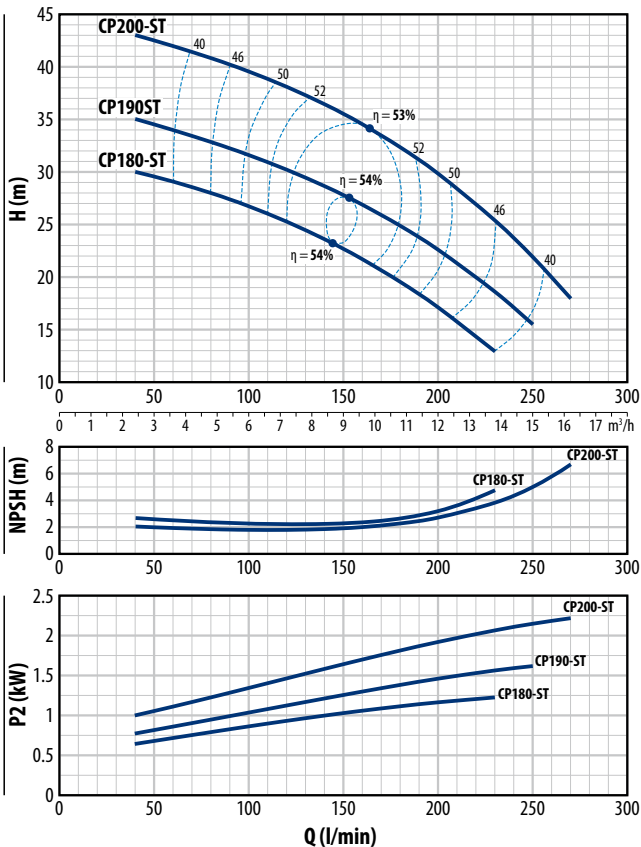
### CP 170-ST



### CP 170M-ST



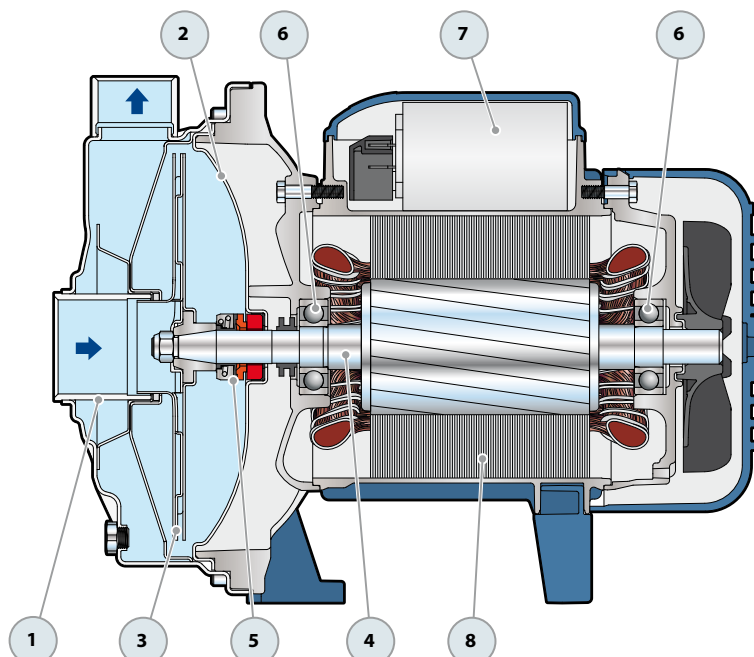
### CP 180-190-200-ST



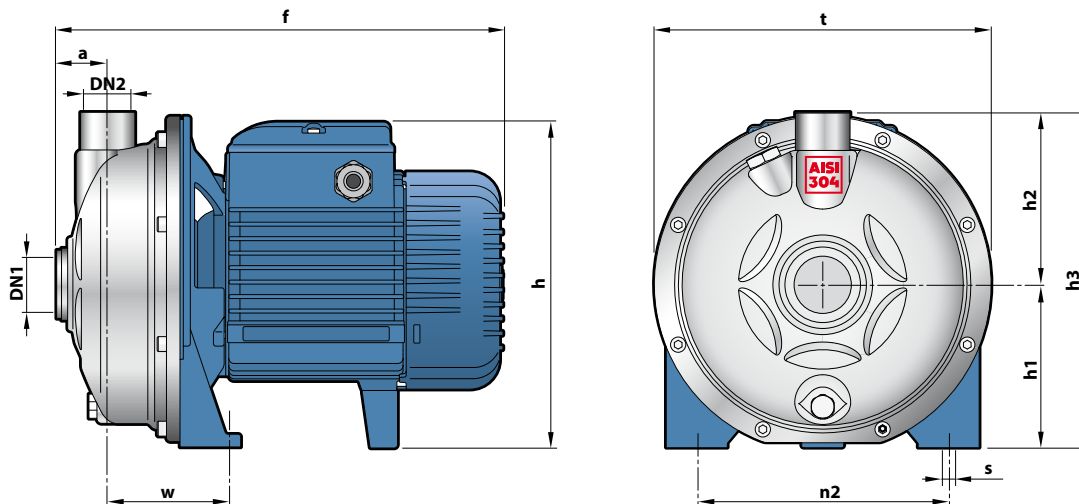
# CP-ST4

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304						
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304						
3	<b>IMPELLER</b>	Stainless steel AISI 304						
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431						
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>			
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Spring</i>
		CP 100-ST4, CP 130-ST4 CP 132-ST4	AR-12	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
		CP 150-ST4, CP 158-ST4	AR-14	Ø 14 mm	Ceramic	Graphite	NBR	AISI 304
		CP 170-ST4, CP 170M-ST4 CP 180-ST4, CP 190-ST4 CP 200-ST4	FN-18	Ø 18 mm	Graphite	Ceramic	NBR	AISI 316
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>					
		CP 100-ST4, CP 130-ST4 CP 132-ST4	6201 ZZ / 6201 ZZ					
		CP 150-ST4, CP 158-ST4	6203 ZZ / 6203 ZZ					
		CP 170-ST4, CP 170M-ST4 CP 180-ST4, CP 190-ST4 CP 200-ST4	6204 ZZ / 6204 ZZ					
		7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
<i>Single-phase</i>	<i>(230 V or 240 V)</i>			<i>(110 V)</i>				
CPm 100-ST4	10 µF - 450 VL			25 µF - 250 VL				
CPm 130-ST4	10 µF - 450 VL			25 µF - 250 VL				
CPm 132-ST4	14 µF - 450 VL			25 µF - 250 VL				
CPm 150-ST4, CPm 158-ST4	20 µF - 450 VL			60 µF - 300 VL				
CPm 170-ST4, CPm 170M-ST4	25 µF - 450 VL			60 µF - 250 VL				
CPm 180-ST4	31.5 µF - 450 VL			60 µF - 250 VL				
CPm 190-ST4	45 µF - 450 VL			80 µF - 250 VL				
CPm 200-ST4	50 µF - 450 VL			-				
8	<b>ELECTRIC MOTOR</b>	CPm-ST4: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.						
		CP-ST4: three-phase 230/400 V - 50 Hz.						
<p>⇒ The three-phase pumps are fitted with high performance motors for  <math>P_2=0.25</math> kW in class IE2 and from <math>P_2=0.37</math> kW in class IE3 (IEC 60034-30-1)</p> <p>- Insulation: class F            - Protection: IP X4</p>								



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n2	t	w	s	1~	3~
CPm 100-ST4	CP 100-ST4	1 1/4"	1"	31.5	266	181	92	93.5	185.5	120	181	68.5	9	5.7	5.7
CPm 130-ST4	CP 130-ST4													6.5	6.5
CPm 132-ST4	CP 132-ST4													7.2	7.2
CPm 150-ST4	CP 150-ST4			34	296	219 *	107	112	219	165	221	80.5	9.5	10.8	10.7
CPm 158-ST4	CP 158-ST4													10.8	10.8
CPm 170-ST4	CP 170-ST4			33.5	368	251	120	117.5	237.5	180	244	86.5	11	14.5	14.6
CPm 170M-ST4	CP 170M-ST4													14.4	14.5
CPm 180-ST4	CP 180-ST4			33.5	368	250	120	117.5	237.5	180	244	86.5	11	15.8	15.8
CPm 190-ST4	CP 190-ST4													16.2	16.9
CPm 200-ST4	CP 200-ST4													19.4	19.5

(\*) h=233 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
CPm 100-ST4	2.0 A	4.0 A
CPm 130-ST4	3.0 A	6.0 A
CPm 132-ST4	3.7 A	7.4 A
CPm 150-ST4	6.0 A	12.0 A
CPm 158-ST4	6.0 A	12.0 A
CPm 170-ST4	7.8 A	15.6 A
CPm 170M-ST4	7.8 A	15.6 A
CPm 180-ST4	8.5 A	17.0 A
CPm 190-ST4	10.5 A	21.0 A
CPm 200-ST4	12.8 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CP 100-ST4	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
CP 130-ST4	1.9 A	1.1 A	0.6 A	1.9 A	1.1 A	0.6 A
CP 132-ST4	2.3 A	1.3 A	0.8 A	2.1 A	1.2 A	0.7 A
CP 150-ST4	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
CP 158-ST4	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
CP 170-ST4	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 170M-ST4	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 180-ST4	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 190-ST4	6.6 A	3.8 A	2.2 A	6.2 A	3.6 A	2.1 A
CP 200-ST4	8.8 A	5.1 A	2.9 A	8.5 A	4.9 A	2.8 A

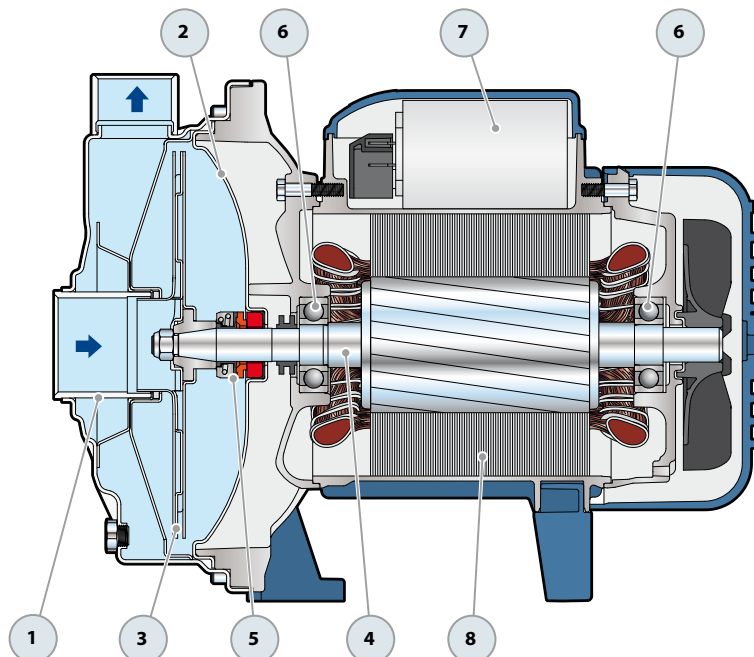
## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
CPm 100-ST4	CP 100-ST4	96	144
CPm 130-ST4	CP 130-ST4		
CPm 132-ST4	CP 132-ST4		
CPm 150-ST4	CP 150-ST4	50	80
CPm 158-ST4	CP 158-ST4	45	63
CPm 170-ST4	CP 170-ST4		
CPm 170M-ST4	CP 170M-ST4	45	63
CPm 180-ST4	CP 180-ST4		
CPm 190-ST4	CP 190-ST4		
CPm 200-ST4	CP 200-ST4		

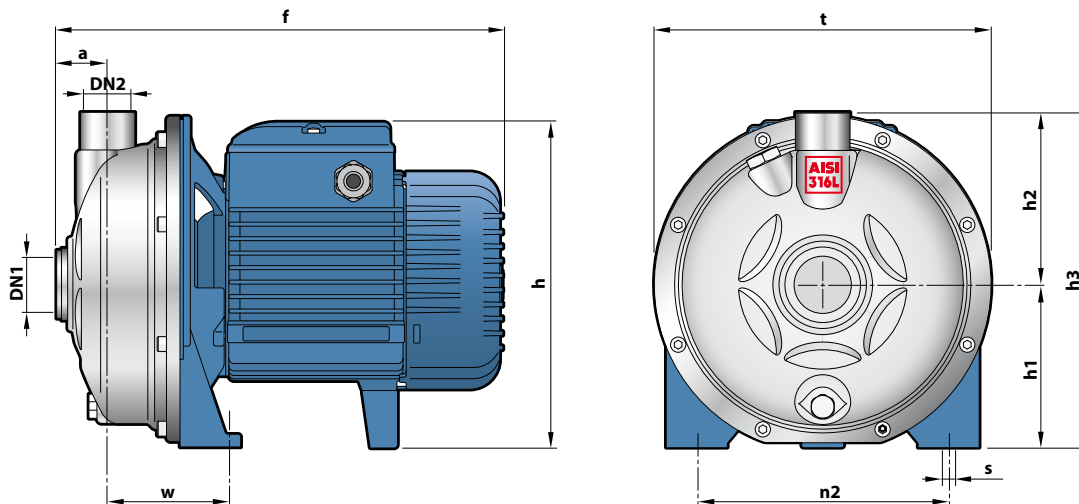
# CP-ST6

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 316L						
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 316L						
3	<b>IMPELLER</b>	Stainless steel AISI 316L						
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 316L						
5	<b>MECHANICAL SEAL</b>	<b>Pump</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>			
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Spring</i>
		CP 100-ST6, CP 130-ST6 CP 132-ST6	AR-12ST6	Ø 12 mm	Ceramic	Graphite	NBR	AISI 316
		CP 150-ST6, CP 158-ST6 CP 170-ST6, CP 170M-ST6	AR-14ST6	Ø 14 mm	Ceramic	Graphite	NBR	AISI 316
		CP 180-ST6, CP 190-ST6 CP 200-ST6	FN-18ST6	Ø 18 mm	Graphite	Ceramic	NBR	AISI 316
6	<b>BEARINGS</b>	<b>Pump</b>	<b>Model</b>					
		CP 100-ST6, CP 130-ST6 CP 132-ST6	6201 ZZ / 6201 ZZ					
		CP 150-ST6, CP 158-ST6	6203 ZZ / 6203 ZZ					
		CP 170-ST6, CP 170M-ST6 CP 180-ST6, CP 190-ST6 CP 200-ST6	6204 ZZ / 6204 ZZ					
		7	<b>CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>			
<i>Single-phase</i>	<i>(230 V or 240 V)</i>			<i>(110 V)</i>				
CPm 100-ST6	10 µF - 450 VL			25 µF - 250 VL				
CPm 130-ST6	10 µF - 450 VL			25 µF - 250 VL				
CPm 132-ST6	14 µF - 450 VL			25 µF - 250 VL				
CPm 150-ST6, CPm 158-ST6	20 µF - 450 VL			60 µF - 300 VL				
CPm 170-ST6, CPm 170M-ST6	25 µF - 450 VL			60 µF - 250 VL				
CPm 180-ST6	31.5 µF - 450 VL			60 µF - 250 VL				
CPm 190-ST6	45 µF - 450 VL			80 µF - 250 VL				
CPm 200-ST6	50 µF - 450 VL			-				
8	<b>ELECTRIC MOTOR</b>	CPm-ST6: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.						
		CP-ST6: three-phase 230/400 V - 50 Hz.						
		<p>⇒ <b>The three-phase pumps are fitted with high performance motors for</b>  <b>P<sub>2</sub>=0.25 kW in class IE2 and from P<sub>2</sub>=0.37 kW in class IE3 (IEC 60034-30-1)</b></p> <p>- Insulation: class F                      - Protection: IP X4</p>						



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n2	t	w	s	1~	3~
CPm 100-ST6	CP 100-ST6	1¼"	1"	31.5	266	181	92	93.5	185.5	120	181	68.5	9	5.7	5.7
CPm 130-ST6	CP 130-ST6													6.6	6.6
CPm 132-ST6	CP 132-ST6													7.2	6.5
CPm 150-ST6	CP 150-ST6			34	296	219 *	107	112	219	165	221	80.5	9.5	10.8	10.7
CPm 158-ST6	CP 158-ST6													10.8	10.8
CPm 170-ST6	CP 170-ST6													14.6	14.7
CPm 170M-ST6	CP 170M-ST6			33.5	368	251	120	117.5	237.5	180	244	86.5	11	14.5	14.6
CPm 180-ST6	CP 180-ST6													15.8	15.7
CPm 190-ST6	CP 190-ST6													17.0	17.0
CPm 200-ST6	CP 200-ST6			33.5	368	250	120	117.5	237.5	180	244	86.5	11	19.6	19.7
		390													

(\*) h=233 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
CPm 100-ST6	2.0 A	4.0 A
CPm 130-ST6	3.0 A	6.0 A
CPm 132-ST6	3.7 A	7.4 A
CPm 150-ST6	6.0 A	12.0 A
CPm 158-ST6	6.0 A	12.0 A
CPm 170-ST6	7.8 A	15.6 A
CPm 170M-ST6	7.8 A	15.6 A
CPm 180-ST6	8.5 A	17.0 A
CPm 190-ST6	10.5 A	21.0 A
CPm 200-ST6	12.8 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CP 100-ST6	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
CP 130-ST6	1.9 A	1.1 A	0.6 A	1.9 A	1.1 A	0.6 A
CP 132-ST6	2.3 A	1.3 A	0.8 A	2.1 A	1.2 A	0.7 A
CP 150-ST6	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
CP 158-ST6	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
CP 170-ST6	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 170M-ST6	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 180-ST6	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 190-ST6	6.6 A	3.8 A	2.2 A	6.2 A	3.6 A	2.1 A
CP 200-ST6	8.8 A	5.1 A	2.9 A	8.5 A	4.9 A	2.8 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
CPm 100-ST6	CP 100-ST6	96	114
CPm 130-ST6	CP 130-ST6		
CPm 132-ST6	CP 132-ST6		
CPm 150-ST6	CP 150-ST6	50	80
CPm 158-ST6	CP 158-ST6	45	63
CPm 170-ST6	CP 170-ST6		
CPm 170M-ST6	CP 170M-ST6		
CPm 180-ST6	CP 180-ST6	45	63
CPm 190-ST6	CP 190-ST6		
CPm 200-ST6	CP 200-ST6		

# AL-RED

## Stainless steel centrifugal pumps

### AL-RED -4

Pump body: **stainless steel AISI 304**  
Impeller: **stainless steel AISI 304**  
Shaft: **stainless steel AISI 431**

### AL-RED -6

Pump body: **stainless steel AISI 316L**  
Impeller: **stainless steel AISI 316L**  
Shaft: **stainless steel AISI 316L**

 Clean water

 Domestic use

 Agricultural use

 Industrial use



### PERFORMANCE RANGE

- Maximum flow rate **280 l/min** (16.8 m<sup>3</sup>/h)
- Maximum head **60 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure:
  - **6 bar** for AL-RED 600-610-620
  - **8 bar** for AL-RED 650-660-670-650M-660M-670M  
AL-RED 650L-660L-670L
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

**EN 60335-1**  
**IEC 60335-1**  
**CEI 61-150**

**EN 60034-1**  
**IEC 60034-1**  
**CEI 2-3**



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY

### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. Because of its design features these centrifugal pumps are recommended for use in domestic, agricultural and industrial applications. All the components in contact with the pumped liquid are in stainless steel AISI 304 or AISI 316L thus guaranteeing complete hygiene and maximum resistance against corrosion. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

- AL-RED® Registered Trade Mark n. 0001575587

### OPTIONS AVAILABLE ON REQUEST

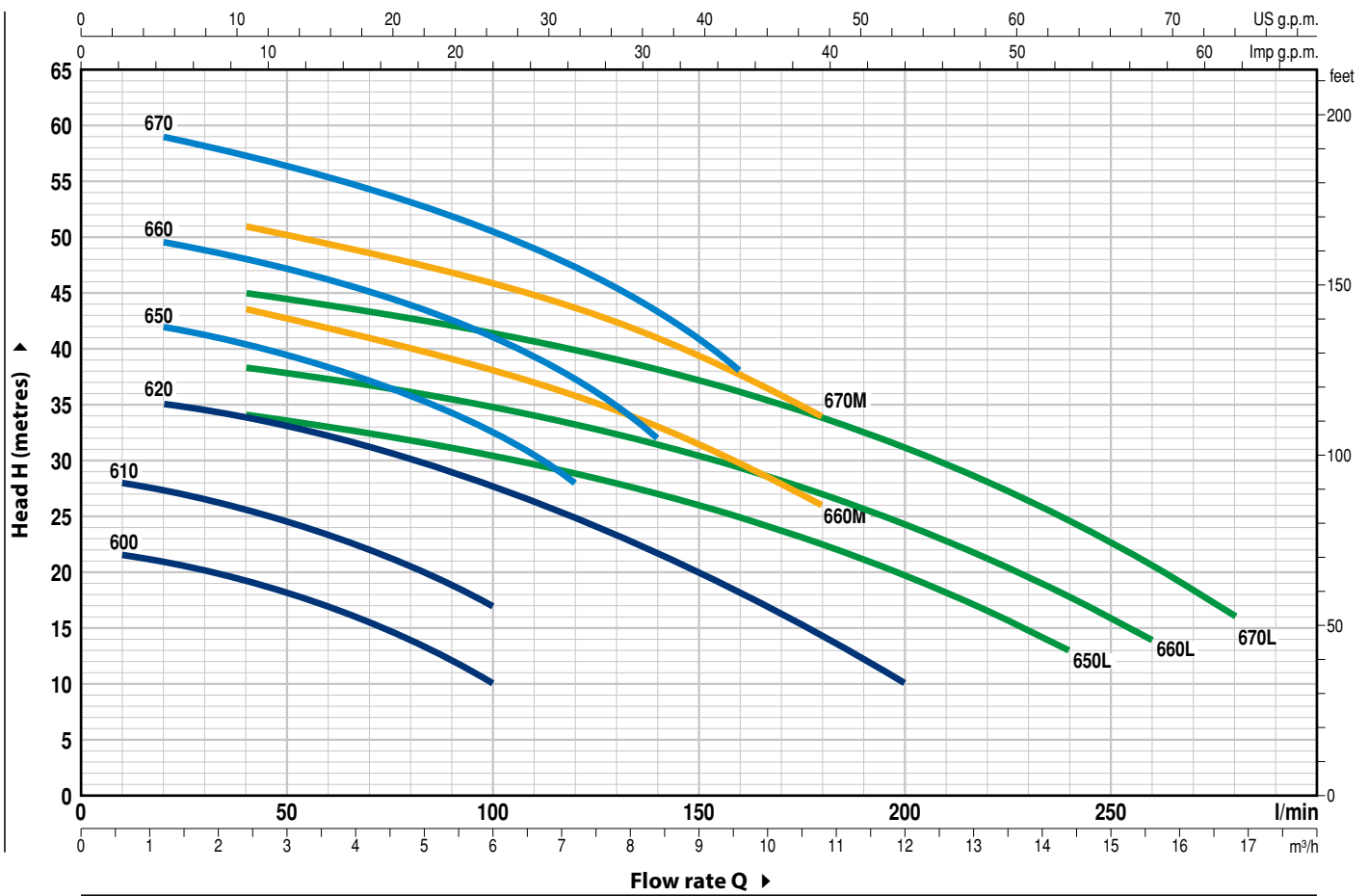
- Pump body with NPT ANSI B 1.20.1 threaded ports
- Special mechanical seal
- Other voltages
- IP X5 class protection for  
AL-RED 650-660-670-650M-660M-670M  
AL-RED 650L-660L-670L

### GUARANTEE

2 years subject to terms and conditions

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

60 Hz n = 3450 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate																			
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.6	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12.0	14.4	15.6	16.8				
					H metres	l/min	0	10	20	40	60	80	100	120	140	160	180	200	240	260	280				
AL-REDm 600-4	AL-RED 600-4	0.37	0.50	IE3		H metres	0	22	21.5	21	19.5	17	14	10											
AL-REDm 600-6	AL-RED 600-6				10		28.5	28	27.5	25.5	23.5	20.5	17												
AL-REDm 610-4	AL-RED 610-4	0.60	0.85	IE3	0		36	-	35	33.5	32	30	27.5	24.5	21.5	18	14	10							
AL-REDm 610-6	AL-RED 610-6				10		43.5	-	42	40.5	38.5	36	32.5	28											
AL-REDm 620-4	AL-RED 620-4	0.75	1	IE3	0		51	-	49.5	48	46	44	41	37	32										
AL-REDm 620-6	AL-RED 620-6				10		60	-	59	57	55	53	50.5	47	43	38									
AL-REDm 650-4	AL-RED 650-4	1.1	1.5	IE3	0		46	-	-	43.5	42	40	38	36	33	30	26								
AL-REDm 650-6	AL-RED 650-6				10		53	-	-	51	49.5	48	46	43.5	41	37.5	34								
AL-REDm 660-4	AL-RED 660-4	1.5	2	IE3	0		36	-	-	34	33	31.5	30.5	29	27	25	22.5	19.5	13						
AL-REDm 660-6	AL-RED 660-6				10		40	-	-	38.5	37.5	36	35	33	31.5	29.5	27	24.5	18	14					
AL-REDm 670-4	AL-RED 670-4	2.2	3	IE3	0		47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16				
AL-REDm 670-6	AL-RED 670-6				10		47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16				
AL-REDm 660M-4	AL-RED 660M-4	1.5	2	IE3	0		46	-	-	43.5	42	40	38	36	33	30	26								
AL-REDm 660M-6	AL-RED 660M-6				10		53	-	-	51	49.5	48	46	43.5	41	37.5	34								
AL-REDm 670M-4	AL-RED 670M-4	2.2	3	IE3	0		36	-	-	34	33	31.5	30.5	29	27	25	22.5	19.5	13						
AL-REDm 670M-6	AL-RED 670M-6				10		40	-	-	38.5	37.5	36	35	33	31.5	29.5	27	24.5	18	14					
AL-REDm 650L-4	AL-RED 650L-4	1.1	1.5	IE3	0	47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16					
AL-REDm 650L-6	AL-RED 650L-6				10	47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16					
AL-REDm 660L-4	AL-RED 660L-4	1.5	2	IE3	0	47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16					
AL-REDm 660L-6	AL-RED 660L-6				10	47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16					
AL-REDm 670L-4	AL-RED 670L-4	2.2	3	IE3	0	47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16					
AL-REDm 670L-6	AL-RED 670L-6				10	47	-	-	45	44	42.5	41.5	40	38	36	34	31	24.5	20.5	16					

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

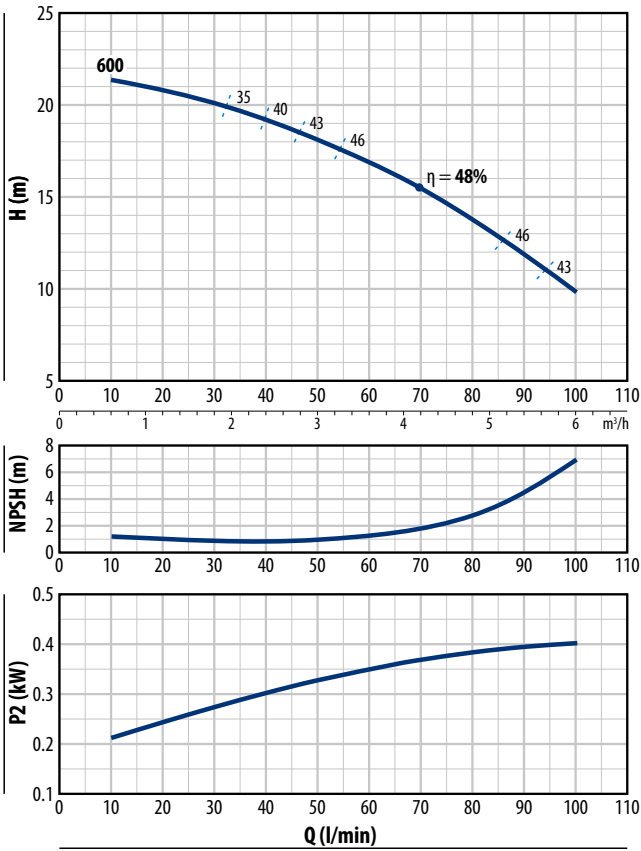
▲ Three-phase motor efficiency class (IEC 60034-30-1)

# AL-RED

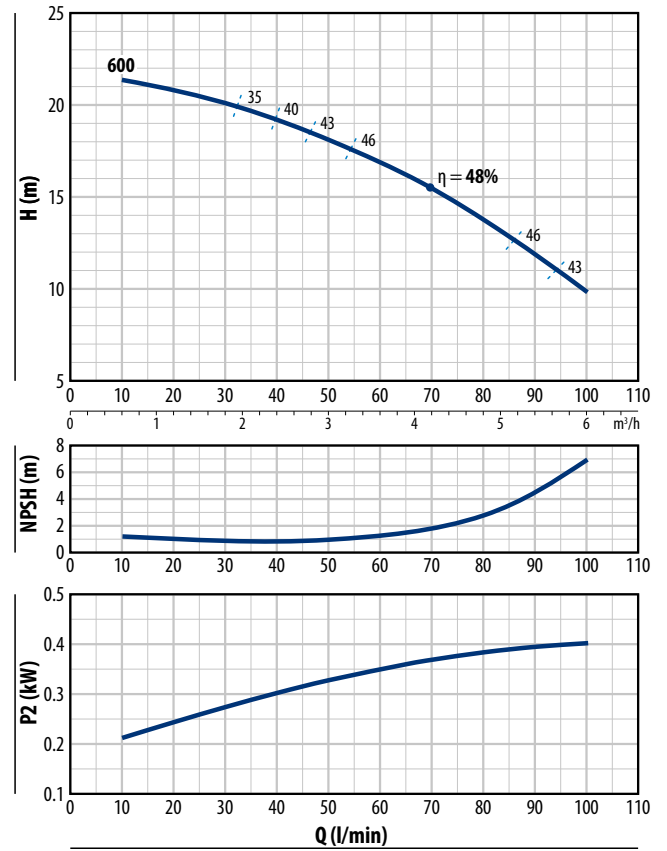
PERFORMANCE RANGE

60 Hz n= 3450 min<sup>-1</sup> HS= 0 m

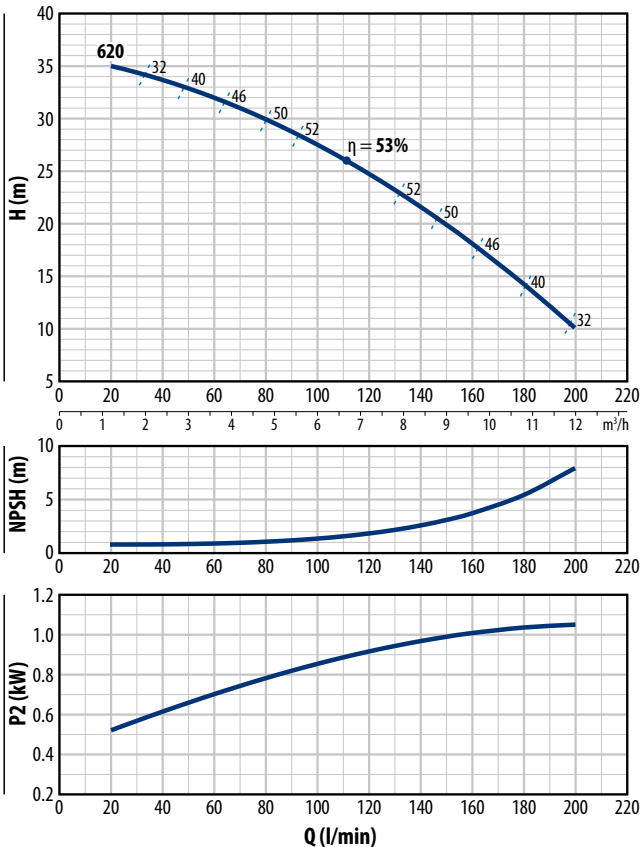
## AL RED 600



## AL RED 610



## AL RED 620

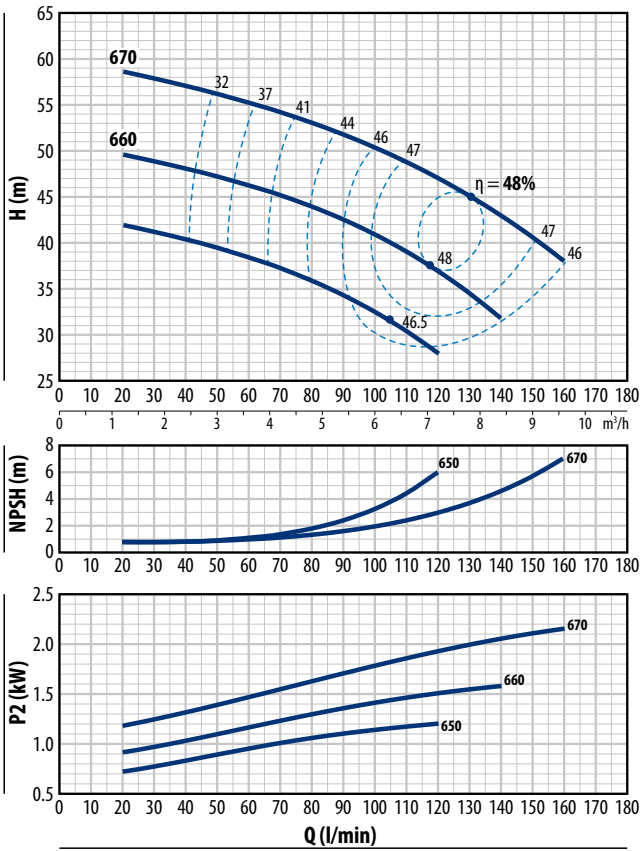




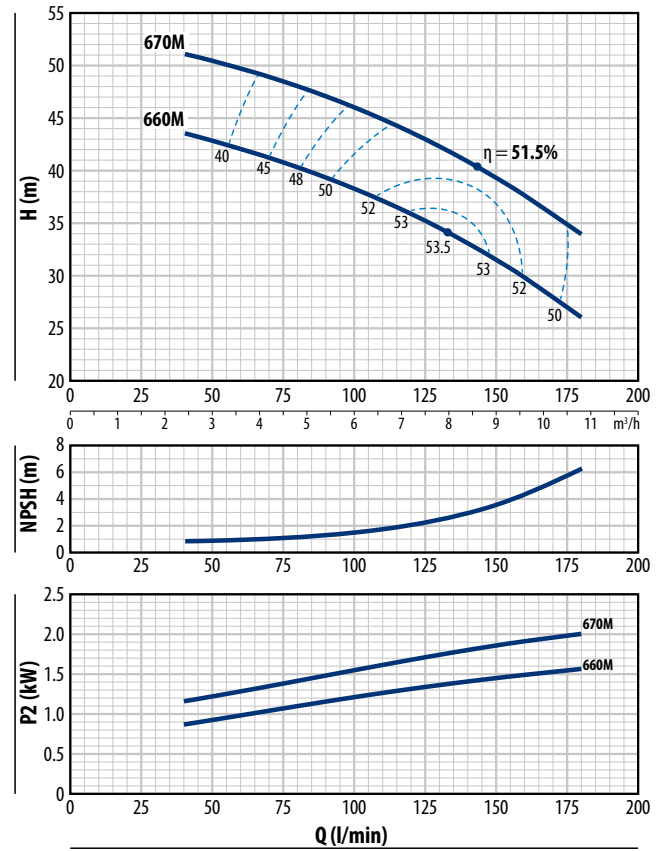
**PERFORMANCE RANGE**

60 Hz n = 3450 min<sup>-1</sup> HS = 0 m

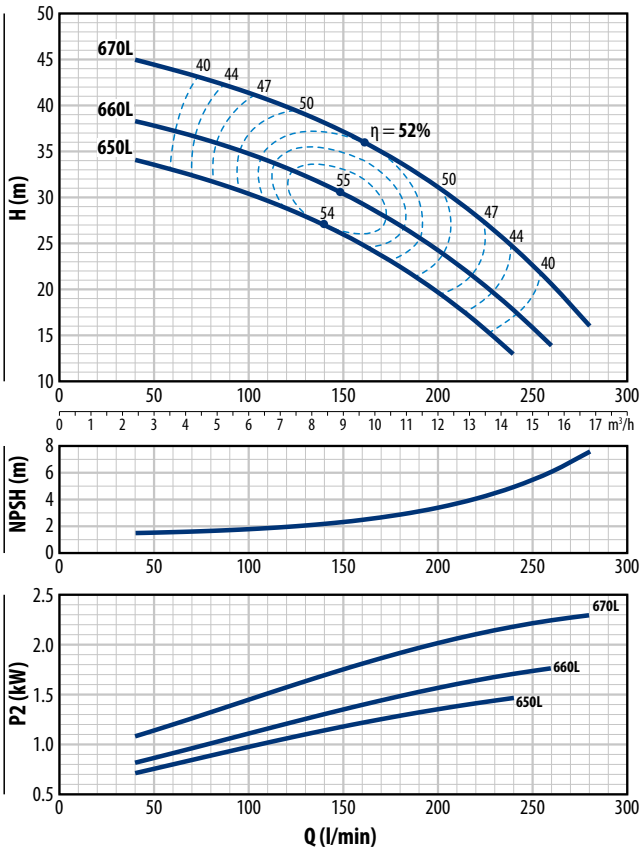
**AL RED 650-660-670**



**AL RED 660M-670M**



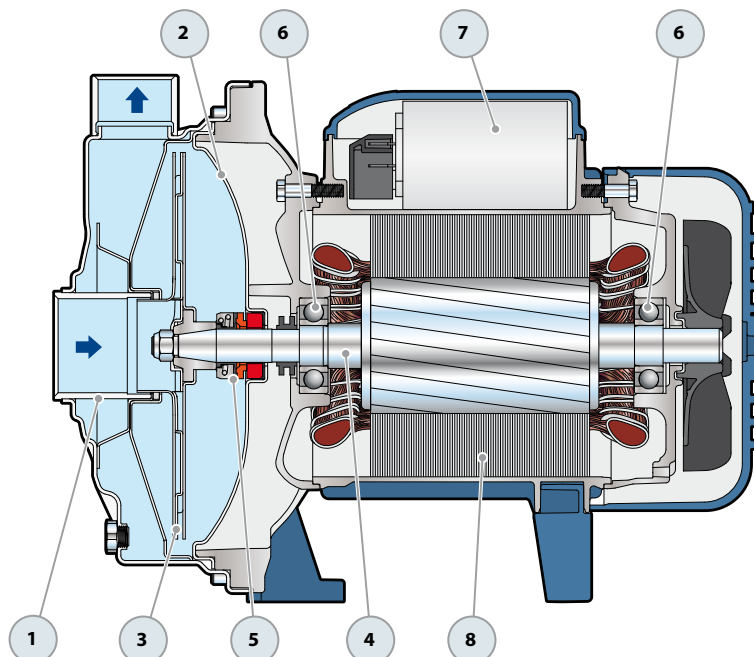
**AL RED 650L-660L-670L**



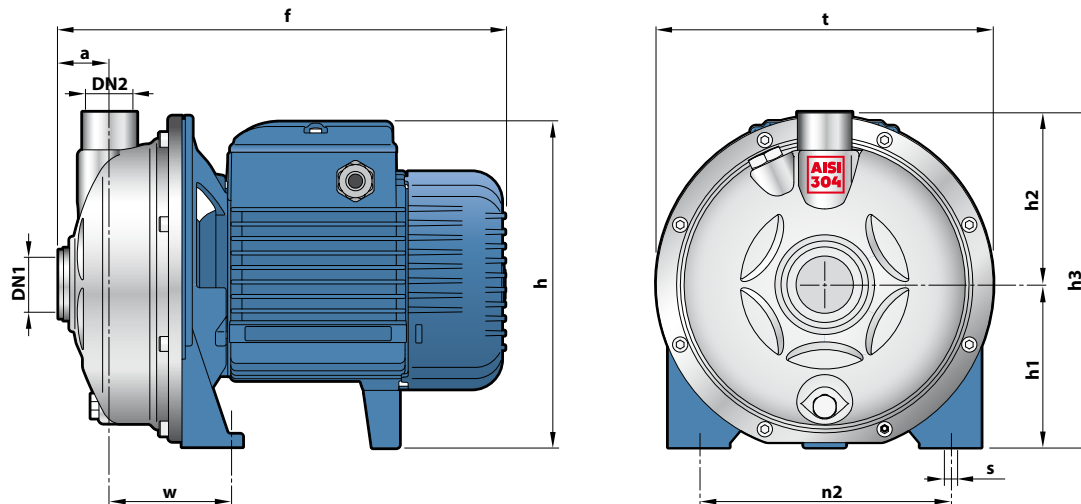
# AL-RED -4

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1						
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304						
3	<b>IMPELLER</b>	Stainless steel AISI 304						
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431						
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>			
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Spring</i>
		AL-RED 600	AR-12	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
		AL-RED 610						
		AL-RED 620	AR-14	Ø 14 mm	Ceramic	Graphite	NBR	AISI 304
		AL-RED 650						
AL-RED 660	FN-18	Ø 18 mm	Graphite	Ceramic	NBR	AISI 316		
AL-RED 670								
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>					
		AL-RED 600	6201 ZZ / 6201 ZZ					
		AL-RED 610						
		AL-RED 620	6203 ZZ / 6203 ZZ					
		AL-RED 650						
		AL-RED 660	6204 ZZ / 6204 ZZ					
AL-RED 670								
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>					
		<i>Single-phase</i>	<i>(220 V)</i>		<i>(110 V or 127 V)</i>			
		AL-REDm 600	10	µF - 450 VL	25	µF - 250 VL		
		AL-REDm 610	14	µF - 450 VL	25	µF - 250 VL		
		AL-REDm 620	25	µF - 450 VL	60	µF - 300 VL		
		AL-REDm 650	25	µF - 450 VL	60	µF - 250 VL		
		AL-REDm 650L	31.5 µF - 450 VL		60 µF - 250 VL			
		AL-REDm 660						
		AL-REDm 660M/L	50 µF - 450 VL		80 µF - 250 VL			
		AL-REDm 670						
		AL-REDm 670M/L						
8	<b>ELECTRIC MOTOR</b>	AL-REDm -4: single-phase 220 V - 60 Hz with thermal overload protector incorporated into the winding.						
		AL-RED -4: three-phase 220/380 V - 60 Hz or 220/440 V - 60 Hz.						
		<p>➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>						



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg			
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n2	t	w	s	1~	3~		
AL-REDm 600-4	AL-RED 600-4	1 1/4"	1"	31.5	266	181	92	93.5	185.5	120	181	68.5	9	5.7	6.6		
AL-REDm 610-4	AL-RED 610-4				296	219 *	107	112	219	165	221	80.5	9.5	11.5	11.5		
AL-REDm 620-4	AL-RED 620-4				370											14.6	14.6
AL-REDm 650-4	AL-RED 650-4			33.5	370/390	251	120	117.5	237.5	180	244	86.5	11			15.8	15.8
AL-REDm 660-4	AL-RED 660-4															17.6	19.6
AL-REDm 670-4	AL-RED 670-4															15.7	15.7
AL-REDm 660M-4	AL-RED 660M-4															17.5	19.4
AL-REDm 670M-4	AL-RED 670M-4															15.7	15.7
AL-REDm 650L-4	AL-RED 650L-4															15.7	15.7
AL-REDm 660L-4	AL-RED 660L-4			17.5	19.5												
AL-REDm 670L-4	AL-RED 670L-4																

(\*) h=233 mm for single-phase versions at 110 V or 127 V

## ABSORPTION

MODEL	VOLTAGE		
	220 V	110 V	127 V
Single-phase			
AL-REDm 600-4	2.7 A	6.2 A	4.7 A
AL-REDm 610-4	4.2 A	8.5 A	7.3 A
AL-REDm 620-4	6.5 A	13.0 A	12.0 A
AL-REDm 650-4	7.8 A	15.6 A	13.5 A
AL-REDm 660-4	9.4 A	18.8 A	16.3 A
AL-REDm 670-4	12.8 A	25.6 A	22.2 A
AL-REDm 660M-4	9.8 A	19.6 A	17.0 A
AL-REDm 670M-4	12.2 A	24.4 A	21.1 A
AL-REDm 650L-4	9.0 A	18.0 A	15.6 A
AL-REDm 660L-4	10.5 A	21.0 A	18.2 A
AL-REDm 670L-4	13.5 A	27.0 A	23.4 A

MODEL	VOLTAGE			
	220 V	380 V	220 V	440 V
Three-phase				
AL-RED 600-4	2.4 A	1.4 A	2.0 A	1.2 A
AL-RED 610-4	2.8 A	1.6 A	2.3 A	1.3 A
AL-RED 620-4	6.0 A	3.5 A	4.2 A	2.5 A
AL-RED 650-4	6.6 A	3.8 A	5.5 A	3.2 A
AL-RED 660-4	7.5 A	4.3 A	6.0 A	3.5 A
AL-RED 670-4	8.8 A	5.1 A	7.0 A	4.0 A
AL-RED 660M-4	7.8 A	4.5 A	6.1 A	3.5 A
AL-RED 670M-4	8.3 A	4.8 A	8.1 A	4.2 A
AL-RED 650L-4	5.1 A	2.9 A	4.0 A	2.2 A
AL-RED 660L-4	6.0 A	3.5 A	4.5 A	2.6 A
AL-RED 670L-4	9.0 A	5.2 A	7.2 A	4.1 A

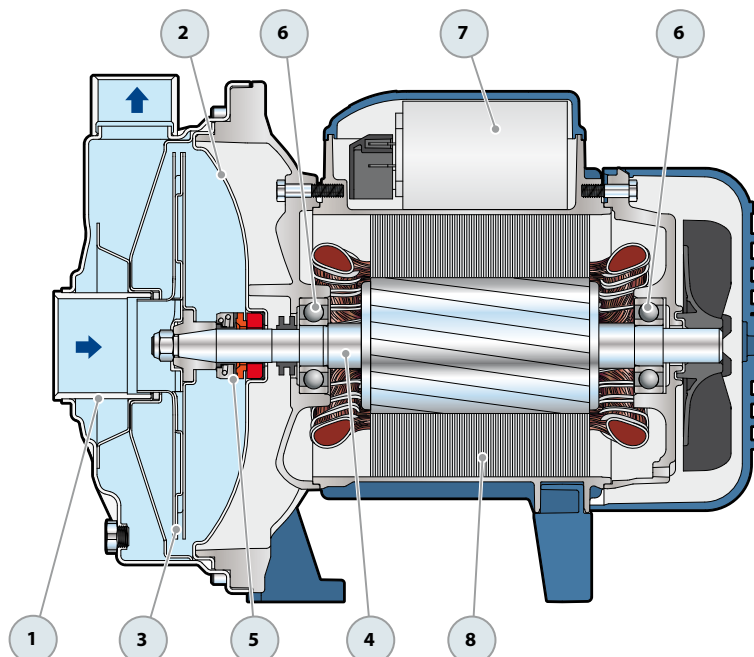
## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
AL-REDm 600-4	AL-RED 600-4	96	144
AL-REDm 610-4	AL-RED 610-4	96	144
AL-REDm 620-4	AL-RED 620-4	50	80
AL-REDm 650-4, 650L-4	AL-RED 650-4, 650L-4	45	63
AL-REDm 660-4, 660M-4, 660L-4	AL-RED 660-4, 660M-4, 660L-4	45	63
AL-REDm 670-4, 670M-4, 670L-4	AL-RED 670-4, 670M-4, 670L-4	45	63

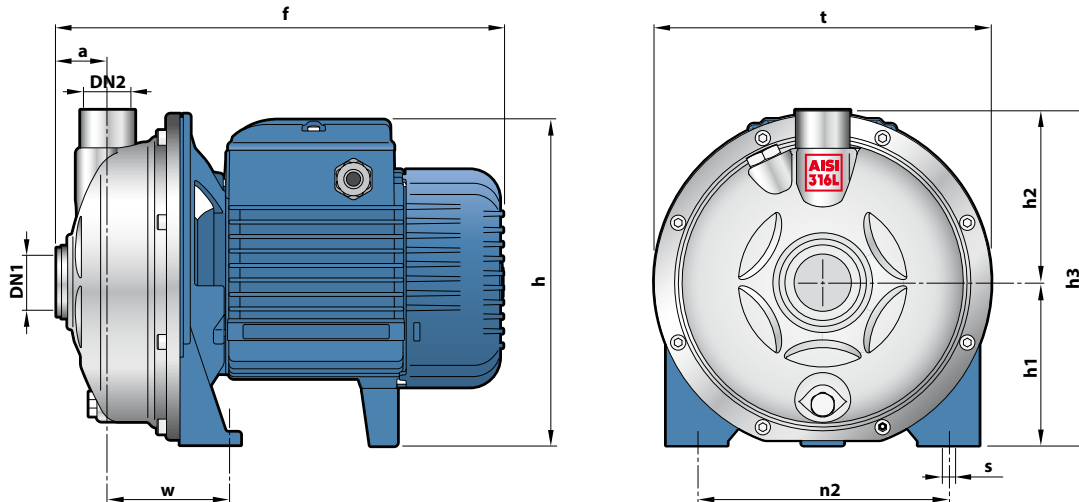
# AL-RED -6

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Stainless steel AISI 316L complete with threaded ports in compliance with ISO 228/1						
<b>2 BODY BACKPLATE</b>	Stainless steel AISI 316L						
<b>3 IMPELLER</b>	Stainless steel AISI 316L						
<b>4 MOTOR SHAFT</b>	Stainless steel AISI 316L						
<b>5 MECHANICAL SEAL</b>	<b>Pump</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>			
	<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Spring</i>
	AL-RED 600 AL-RED 610	AR-12ST6	Ø 12 mm	Ceramic	Graphite	NBR	AISI 316
	AL-RED 620 AL-RED 650 AL-RED 660 AL-RED 670	AR-14ST6	Ø 14 mm	Ceramic	Graphite	NBR	AISI 316
		FN-18ST6	Ø 18 mm	Graphite	Ceramic	NBR	AISI 316
<b>6 BEARINGS</b>	<b>Pump</b>	<b>Model</b>					
	AL-RED 600 AL-RED 610	6201 ZZ / 6201 ZZ					
	AL-RED 620	6203 ZZ / 6203 ZZ					
	AL-RED 650 AL-RED 660 AL-RED 670	6204 ZZ / 6204 ZZ					
<b>7 CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>					
	<i>Single-phase</i>	<i>(220 V)</i>		<i>(110 V or 127 V)</i>			
	AL-REDm 600	10	µF - 450 VL	25	µF - 250 VL		
	AL-REDm 610	14	µF - 450 VL	25	µF - 250 VL		
	AL-REDm 620	25	µF - 450 VL	60	µF - 300 VL		
	AL-REDm 650	25	µF - 450 VL	60	µF - 250 VL		
	AL-REDm 650L AL-REDm 660 AL-REDm 660M/L AL-REDm 670	31.5	µF - 450 VL	60	µF - 250 VL		
	AL-REDm 670M/L	50	µF - 450 VL	80	µF - 250 VL		
<b>8 ELECTRIC MOTOR</b>	AL-REDm -6: single-phase 220 V - 60 Hz with thermal overload protector incorporated into the winding.						
	AL-RED -6: three-phase 220/380 V - 60 Hz or 220/440 V - 60 Hz.						
	<p>➡ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>						



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg					
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n2	t	w	s	1~	3~				
AL-REDm 600-6	AL-RED 600-6	1 1/4"	1"	31.5	266	181	92	93.5	185.5	120	181	68.5	9	5.7	6.6				
AL-REDm 610-6	AL-RED 610-6				296	219 *	107	112	219	165	221	80.5	9.5	11.5	11.5				
AL-REDm 620-6	AL-RED 620-6				370											14.6	14.6		
AL-REDm 650-6	AL-RED 650-6			33.5		370/390	251	120	117.5	237.5	180	244	86.5	11		17.6	19.6		
AL-REDm 660-6	AL-RED 660-6															15.7	15.7		
AL-REDm 670-6	AL-RED 670-6															17.5	19.4		
AL-REDm 660M-6	AL-RED 660M-6					370		370/390										15.7	15.7
AL-REDm 670M-6	AL-RED 670M-6																	15.7	15.7
AL-REDm 650L-6	AL-RED 650L-6																	17.5	19.4
AL-REDm 660L-6	AL-RED 660L-6			370/390												15.7	15.7		
AL-REDm 670L-6	AL-RED 670L-6															17.5	19.5		

(\*) h=233 mm for single-phase versions at 110 V or 127 V

## ABSORPTION

MODEL	VOLTAGE		
	220 V	110 V	127 V
Single-phase			
AL-REDm 600-6	2.7 A	6.2 A	4.7 A
AL-REDm 610-6	4.2 A	8.5 A	7.3 A
AL-REDm 620-6	6.5 A	13.0 A	12.0 A
AL-REDm 650-6	7.8 A	15.6 A	13.5 A
AL-REDm 660-6	9.4 A	18.8 A	16.3 A
AL-REDm 670-6	12.8 A	25.6 A	22.2 A
AL-REDm 660M-6	9.8 A	19.6 A	17.0 A
AL-REDm 670M-6	12.2 A	24.4 A	21.1 A
AL-REDm 650L-6	9.0 A	18.0 A	15.6 A
AL-REDm 660L-6	10.5 A	21.0 A	18.2 A
AL-REDm 670L-6	13.5 A	27.0 A	23.4 A

MODEL	VOLTAGE			
	220 V	380 V	220 V	440 V
Three-phase				
AL-RED 600-6	2.4 A	1.4 A	2.0 A	1.2 A
AL-RED 610-6	2.8 A	1.6 A	2.3 A	1.3 A
AL-RED 620-6	6.0 A	3.5 A	4.2 A	2.5 A
AL-RED 650-6	6.6 A	3.8 A	5.5 A	3.2 A
AL-RED 660-6	7.5 A	4.3 A	6.0 A	3.5 A
AL-RED 670-6	8.8 A	5.1 A	7.0 A	4.0 A
AL-RED 660M-6	7.8 A	4.5 A	6.1 A	3.5 A
AL-RED 670M-6	8.3 A	4.8 A	8.1 A	4.2 A
AL-RED 650L-6	5.1 A	2.9 A	4.0 A	2.2 A
AL-RED 660L-6	6.0 A	3.5 A	4.5 A	2.6 A
AL-RED 670L-6	9.0 A	5.2 A	7.2 A	4.1 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
AL-REDm 600-6	AL-RED 600-6	96	144
AL-REDm 610-6	AL-RED 610-6	96	144
AL-REDm 620-6	AL-RED 620-6	50	80
AL-REDm 650-6, 650L-6	AL-RED 650-6, 650L-6	45	63
AL-REDm 660-6, 660M-6, 660L-6	AL-RED 660-6, 660M-6, 660L-6	45	63
AL-REDm 670-6, 670M-6, 670L-6	AL-RED 670-6, 670M-6, 670L-6	45	63

-  Clean water
-  Domestic use
-  Civil use



## PERFORMANCE RANGE

- Flow rate up to **160 l/min** (9.6 m<sup>3</sup>/h)
- Head up to **56 m**

## APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure:
  - **6 bar** for CP 100-130-132-150-158
  - **10 bar** for CP 170-190-200
- Continuous service **S1**

## CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

## CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



## INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made.

Because they are reliable and easy to use these pumps are widely used in domestic and civil applications such as the distribution of water in combination with small and medium sized pressure tanks, for transferring liquids and for the irrigation of gardens and orchards.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

## PATENTS - TRADE MARKS - MODELS

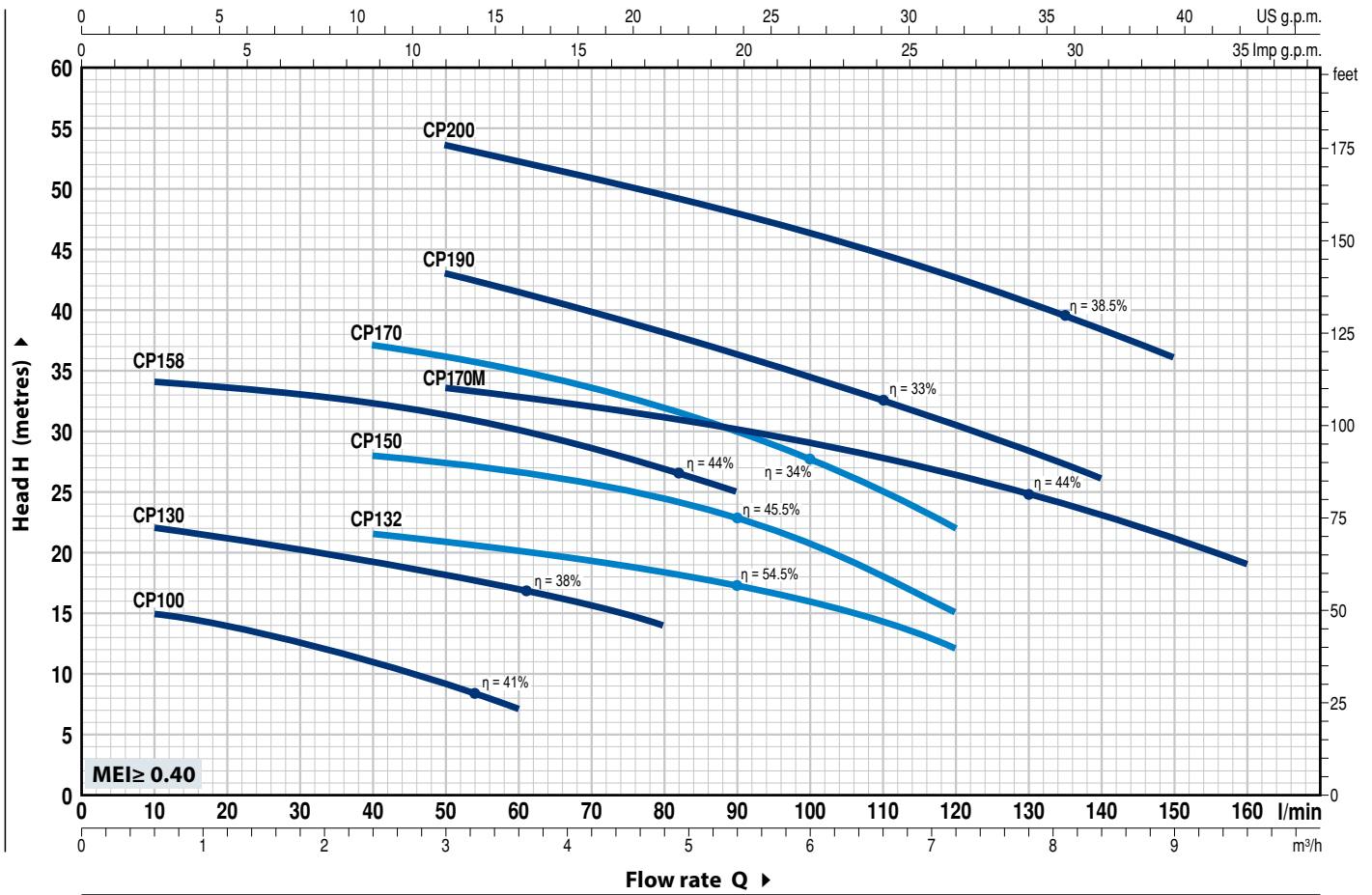
- Registered Trade Mark n. 0001516350 CPm158
- Registered EU Design n. 002098434

## OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IP X5 class protection for CP 170, CP 170M

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate																		
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6	
					l/min	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160		
CPm 100	CP 100	0.25	0.33	IE2	H metres	16	15	14	12.5	11	9	7												
CPm 130	CP 130	0.37	0.50	IE3		23	22	21	20	19	18	17	15.5	14										
CPm 132	CP 132	0.55	0.75			23	-	22.5	22	21.5	21	20.5	19.5	18.5	17.5	16	14	12						
CPm 150	CP 150	0.75	1			29.5	-	29	28.5	28	27.5	26.5	26	24.5	23	21	18	15						
CPm 158	CP 158	0.75	1			36	34	33.5	33	32.5	31.5	30	28.5	27	25									
CPm 170	CP 170	1.1	1.5			41	-	-	38	37	36	35	33.5	32	30	27.5	25	22						
CPm 170M	CP 170M	1.1	1.5			36	-	-	35	34.5	33.5	33	32	31	30	29	28	26.5	25	23	21	19		
CPm 190	CP 190	1.5	2			48	-	-	46	44.5	43	41.5	40	38	36	34.5	32.5	30.5	28	26				
CPm 200	CP 200	2.2	3			56	-	-	55	54.5	53.5	52	51	49.5	48	46	44.5	42.5	40.5	38.5	36			

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304 (cast iron for CP 170-170M-190-200)
3	<b>IMPELLER</b>	Stainless steel AISI 304
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

5	MECHANICAL SEAL	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		CP 100-130-132	AR-12	Ø 12 mm	Ceramic	Graphite	NBR
		CP 150-158	AR-14	Ø 14 mm	Ceramic	Graphite	NBR
		CP 170-170M-190-200	FN-18	Ø 18 mm	Graphite	Ceramic	NBR

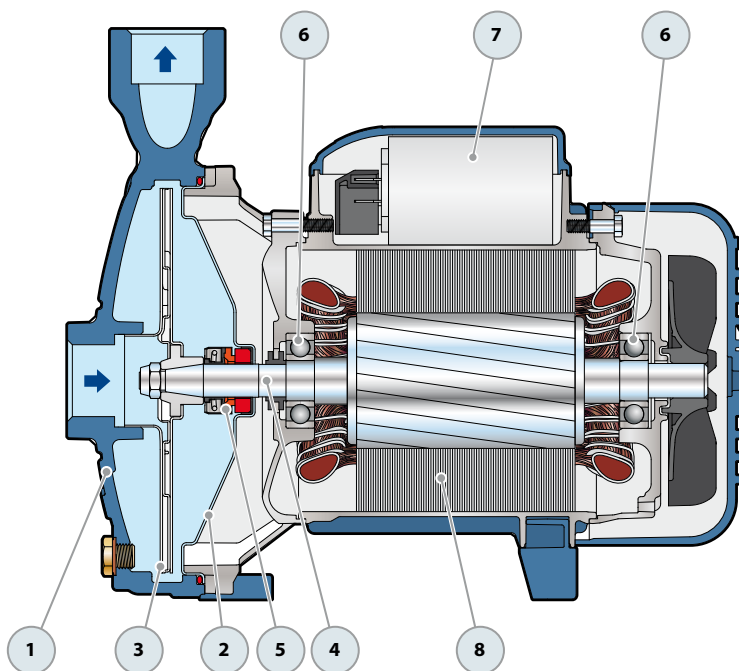
6	BEARINGS	<i>Pump</i>	<i>Model</i>
		CP 100-130-132	6201 ZZ / 6201 ZZ
CP 150-158	6203 ZZ / 6203 ZZ		
CP 170-170M	6204 ZZ / 6204 ZZ		
CP 190-200	6304 ZZ / 6204 ZZ		

7	<b>CAPACITOR</b>	EN 60252-1/A1		
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8 **ELECTRIC MOTOR** CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 CP: three-phase 230/400 V - 50 Hz.

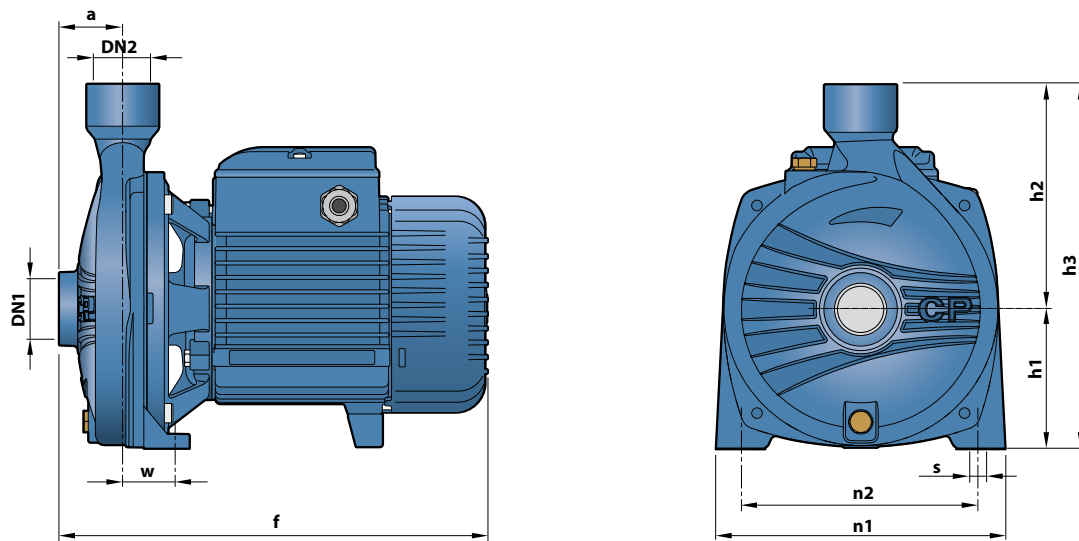
➔ **The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.25 kW in class IE2 and from P<sub>2</sub>=0.37 kW in class IE3 (IEC 60034-30-1)**

- Insulation: class F
- Protection: IP X4





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h3	h1	h2	n1	n2	w	s	1~	3~
CPm 100	CP 100	1"	1"	42	257	205	82	123	165	135	38	11	6.8	6.9
CPm 130	CP 130												7.7	7.7
CPm 132	CP 132												8.4	8.4
CPm 150	CP 150												12.0	12.0
CPm 158	CP 158			12.1	12.0									
CPm 170 - 170M	CP 170 - 170M	1 1/4"	1"	51	367	260	110	150	206	165	44.5	11	17.8	17.2
CPm 190	CP 190			47.5	364	290	115	175	242	206	36.5		21.5	21.5
CPm 200	CP 200			384	24.2								24.2	

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
CPm 100	1.9 A	1.55 A	3.8 A
CPm 130	3.2 A	2.9 A	6.4 A
CPm 132	3.9 A	3.7 A	7.8 A
CPm 150	5.7 A	5.4 A	11.4 A
CPm 158	6.0 A	5.8 A	12.0 A
CPm 170 - 170M	7.8 A	7.2 A	15.6 A
CPm 190	11.0 A	10.0 A	22.0 A
CPm 200	12.8 A	11.7 A	-

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
CP 100	1.7 A	0.95 A	1.6 A	0.9 A
CP 130	2.0 A	1.15 A	1.8 A	1.05 A
CP 132	2.3 A	1.3 A	2.3 A	1.3 A
CP 150	4.15 A	2.4 A	4.0 A	2.3 A
CP 158	4.35 A	2.5 A	4.25 A	2.45 A
CP 170 - 170M	5.2 A	3.0 A	5.1 A	2.9 A
CP 190	7.5 A	4.3 A	6.9 A	4.0 A
CP 200	9.3 A	5.4 A	9.0 A	5.2 A

## CAPACITORS

MODEL	CAPACITANCE	
Single-phase	230 V or 240 V	110 V
CPm 100	10 µF - 450 VL	25 µF - 250 VL
CPm 130	10 µF - 450 VL	25 µF - 250 VL
CPm 132	14 µF - 450 VL	25 µF - 250 VL
CPm 150	20 µF - 450 VL	60 µF - 300 VL
CPm 158	20 µF - 450 VL	60 µF - 250 VL
CPm 170 - 170M	25 µF - 450 VL	60 µF - 250 VL
CPm 190	45 µF - 450 VL	80 µF - 250 VL
CPm 200	50 µF - 450 VL	-

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
CPm 100	CP 100	96	144
CPm 130	CP 130	96	144
CPm 132	CP 132	96	144
CPm 150	CP 150	70	112
CPm 158	CP 158	70	112
CPm 170	CP 170	50	70
CPm 170M	CP 170M	50	70
CPm 190	CP 190	36	54
CPm 200	CP 200	36	54

-  Clean water
-  Civil use
-  Agricultural use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **900 l/min** (54 m<sup>3</sup>/h)
- Head up to **76 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1      EN 60034-1  
IEC 60335-1      IEC 60034-1  
CEI 61-150      CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their reliability and the fact that they are easy to use, these pumps are widely used in civil, agricultural and industrial applications such as for supplying water, in air conditioning and cooling systems, for irrigation, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

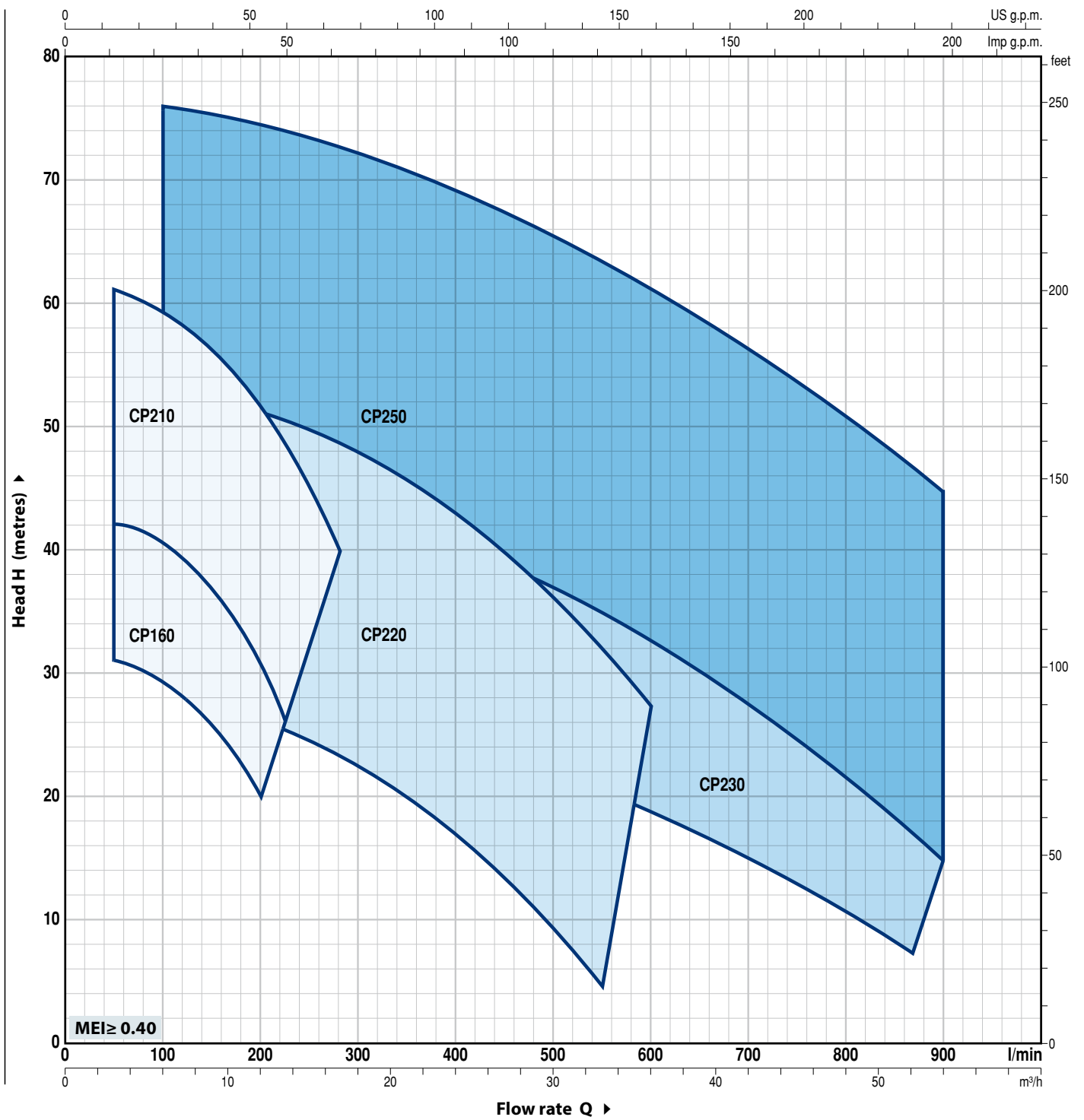
- Registered EU Design n. 002098434 for CP 160, CP210, CP250
- Registered Italian model n. 72753 for CP 220, CP 230

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- EN 10088-3 - 1.4401 (AISI 316) stainless steel pump shaft for CP 220, CP 230, CP250
- Other voltages or 60 Hz frequency
- IP X5 class protection for CP 160

**PERFORMANCE RANGE**

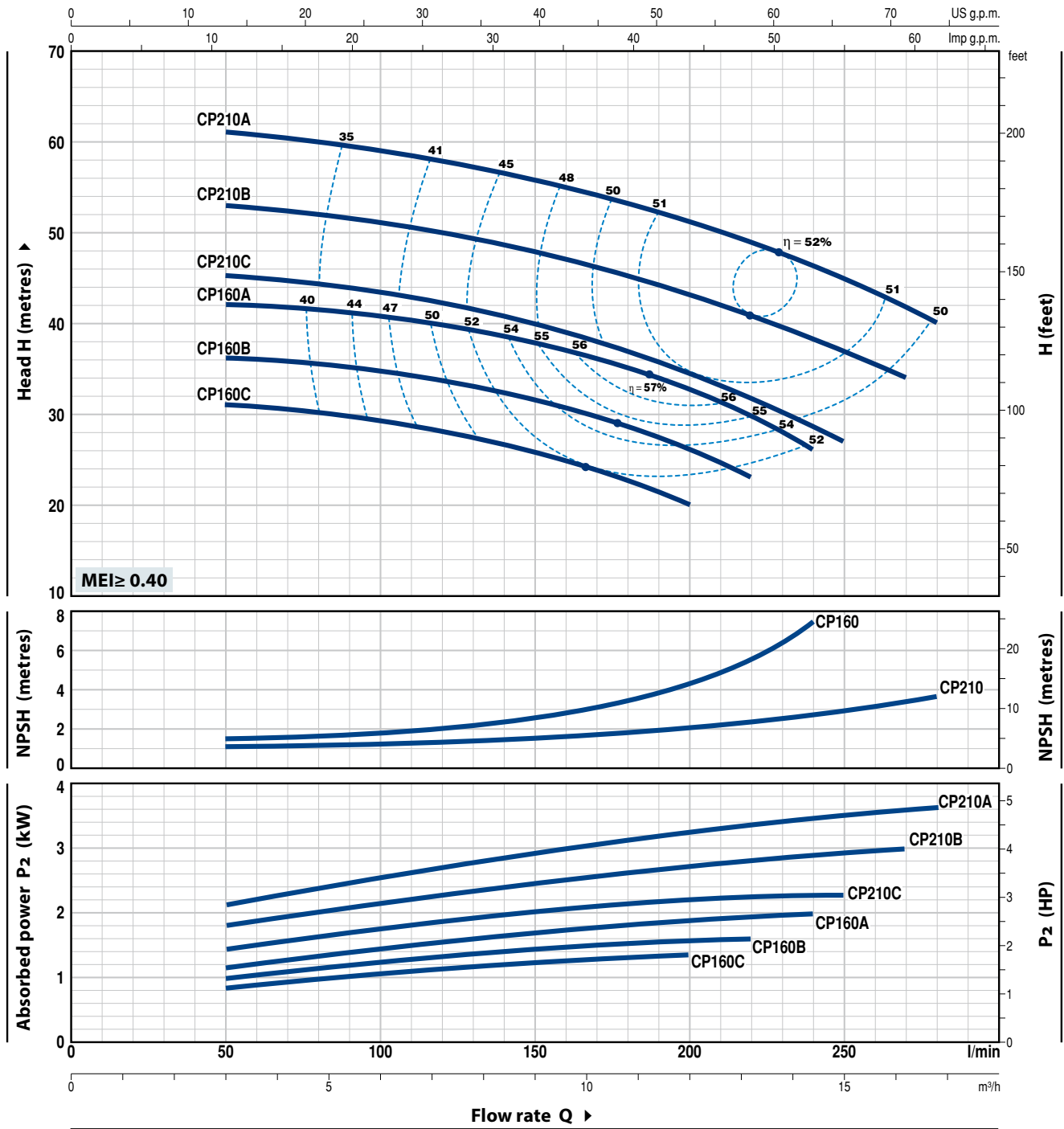
**50 Hz n= 2900 min<sup>-1</sup> HS= 0 m**



# CP 160-210

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	Flow rate (l/min)															
Single-phase	Three-phase	kW	HP			0	3	4.5	6	7.5	9	10.5	12	13.2	14.4	15	16.2	16.8			
CPm 160C	CP 160C	1.1	1.5	IE3	H metres	32	31	30.5	29.5	28	26	23	20								
CPm 160B	CP 160B	1.5	2			37	36	35.5	34.5	33.5	31.5	29	26.5	23							
-	CP 160A	2.2	3			43	42	41.5	40.5	39.5	38	35.5	33	30	26						
CPm 210C	CP 210C	2.2	3			46	45.5	44.5	43.5	42	40	37.5	34.5	32	28.5	27					
-	CP 210B	3	4			54	53	52	51	49.5	48	45.5	43	40	38.5	37	34				
-	CP 210A	4	5.5			61	61	60	59	57.5	56	53.5	51	49	46.5	45	42	40			

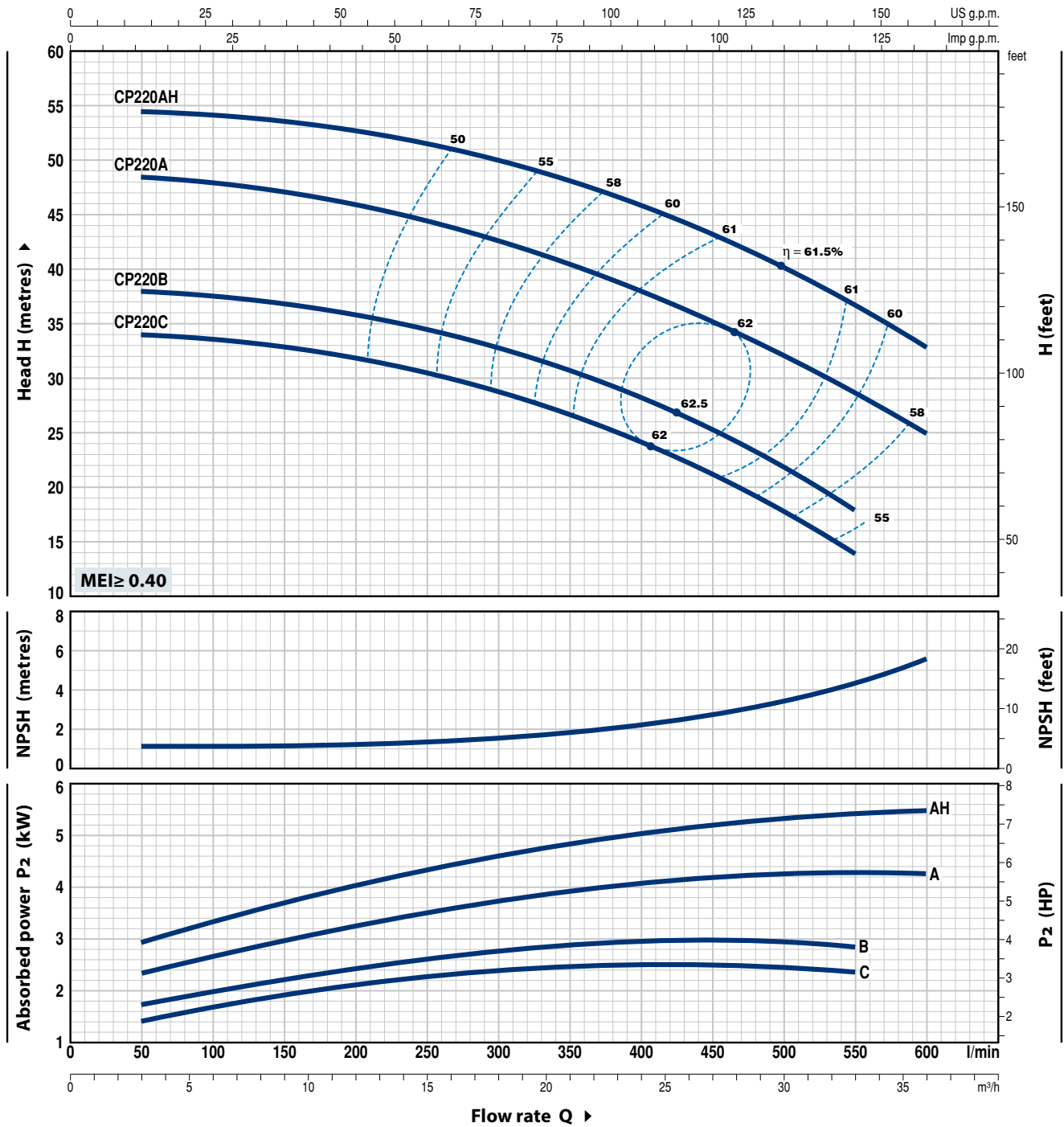
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	Flow rate Q									
Single-phase	Three-phase	kW	HP		0	3	6	12	18	24	30	33	36	
CPm 220C	CP 220C	2.2	3	IE3 H metres	0	50	100	200	300	400	500	550	600	
-	CP 220B	3	4		34	34	33.5	32	29	24.3	17.9	14		
-	CP 220A	4	5.5		38	38	37.5	36	33	28.5	22	18		
-	CP 220AH	5.5	7.5		49	48.5	48	46	42.5	38	32	29	25	
					54.5	54.5	54	52.5	50	46	40.5	37	33	

Q = Flow rate H = Total manometric head HS = Suction height

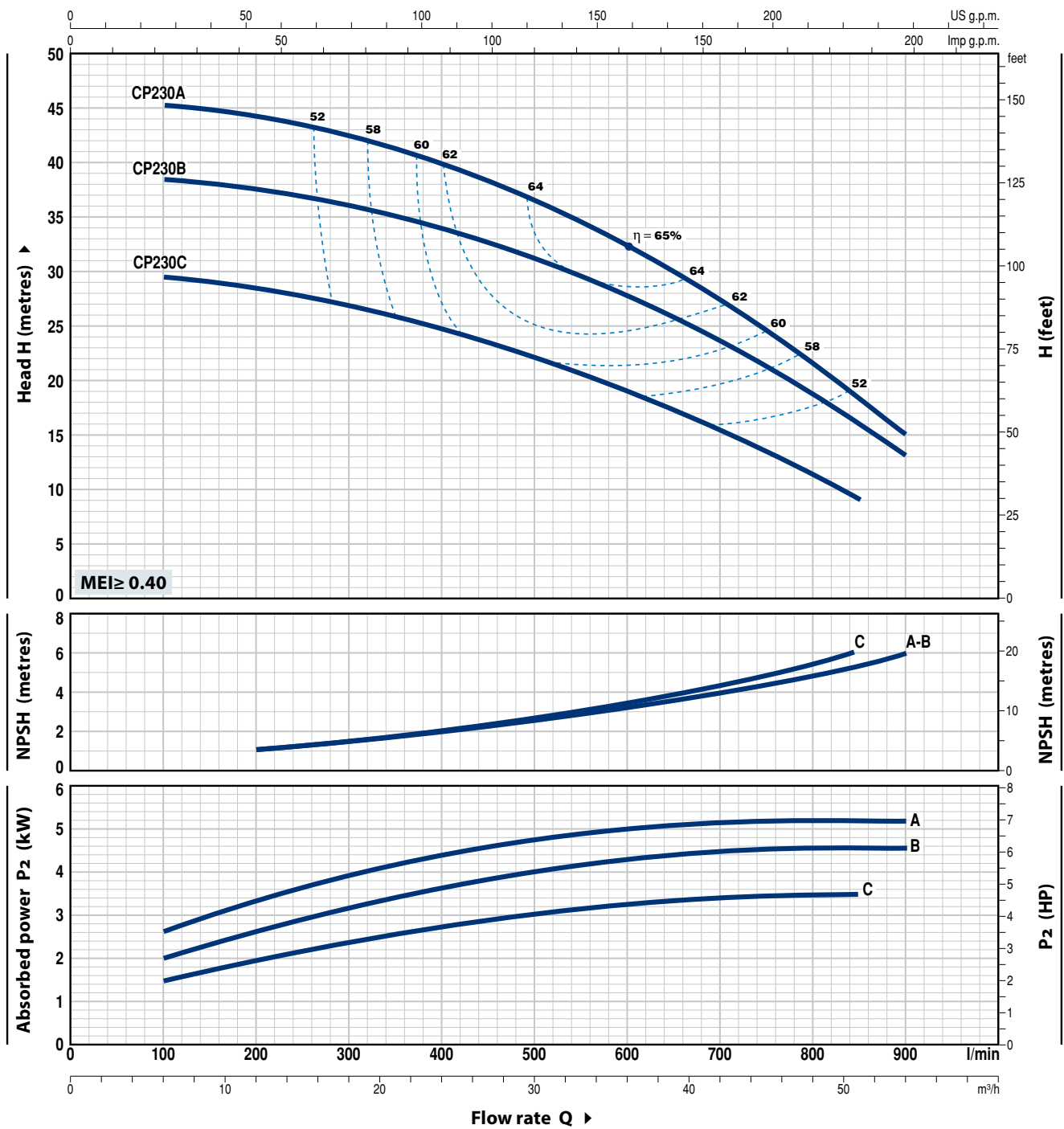
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# CP 230

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL	POWER (P <sub>2</sub> )		▲	Q	Flow rate												
	kW	HP			0	6	12	18	24	30	36	42	48	51	54		
Three-phase				l/min	0	100	200	300	400	500	600	700	800	850	900		
CP 230C	3	4	IE3	H metres	30	29.5	28.5	27	25	22	19.5	15.5	11.5	9			
CP 230B	4	5.5		39	38.5	38	36	34	31	28	24	18.5	15	13			
CP 230A	5.5	7.5		46	45.5	44.5	42	40	37	32.5	27.5	21.5	18	15			

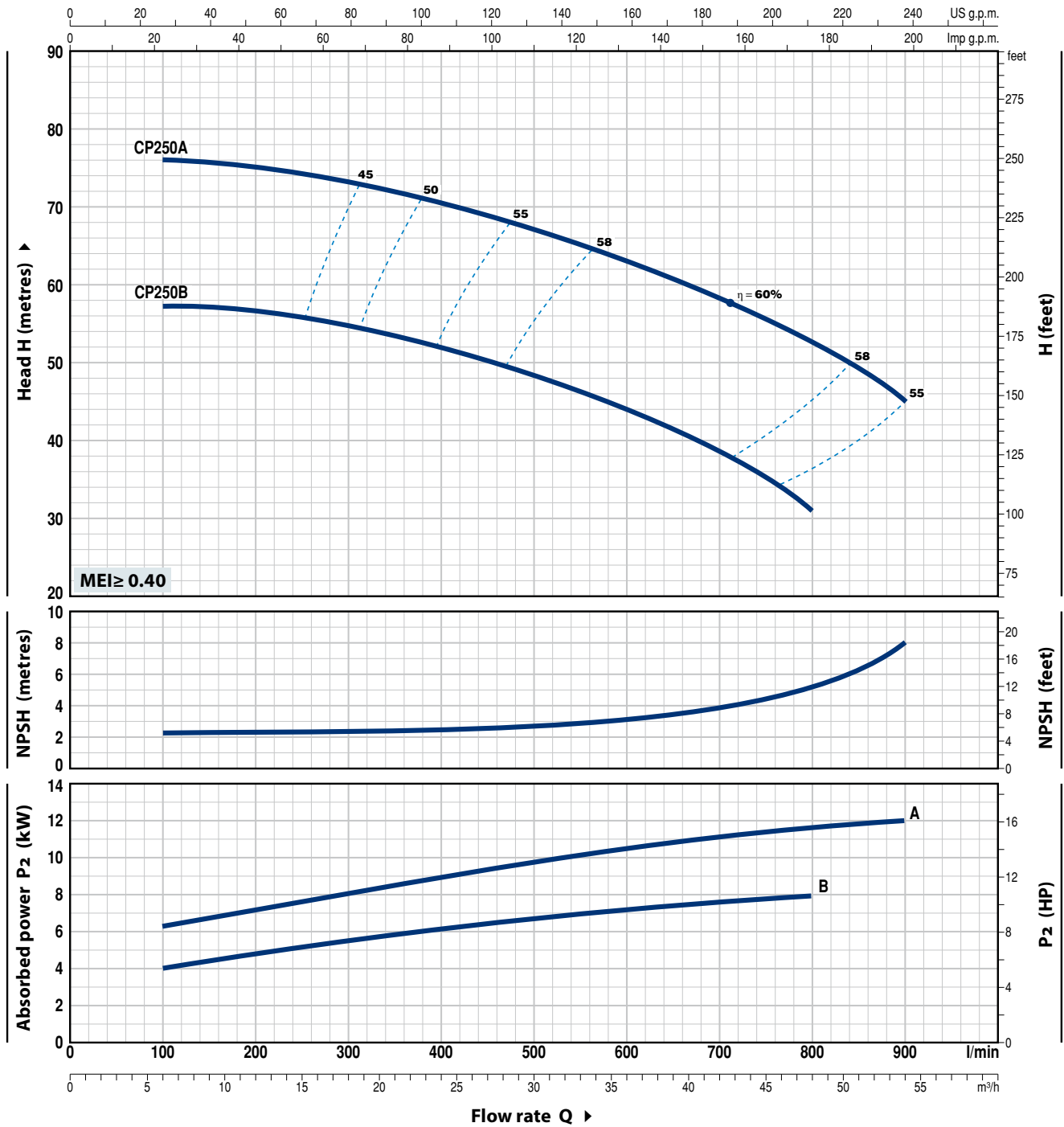
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		▲	Q	Flow rate Q									
	kW	HP			0	6	12	18	24	30	36	42	48	54
Three-phase					0	100	200	300	400	500	600	700	800	900
CP 250B	7.5	10	IE3	H metres	57	57	56.5	54.5	52	48.5	44	38	31	
CP 250A	11	15				76	76	75	73.5	71	67.5	63	58	52

Q = Flow rate H = Total manometric head HS = Suction height

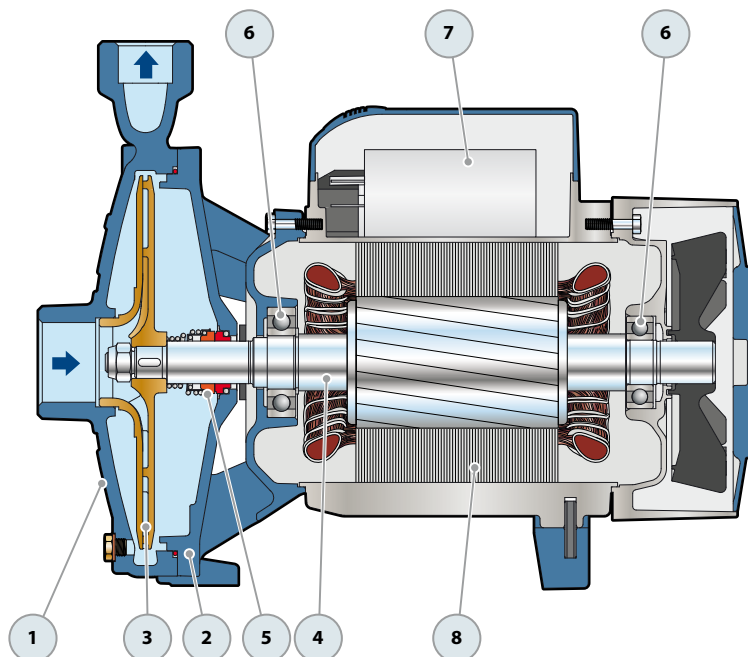
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# CP 160-210

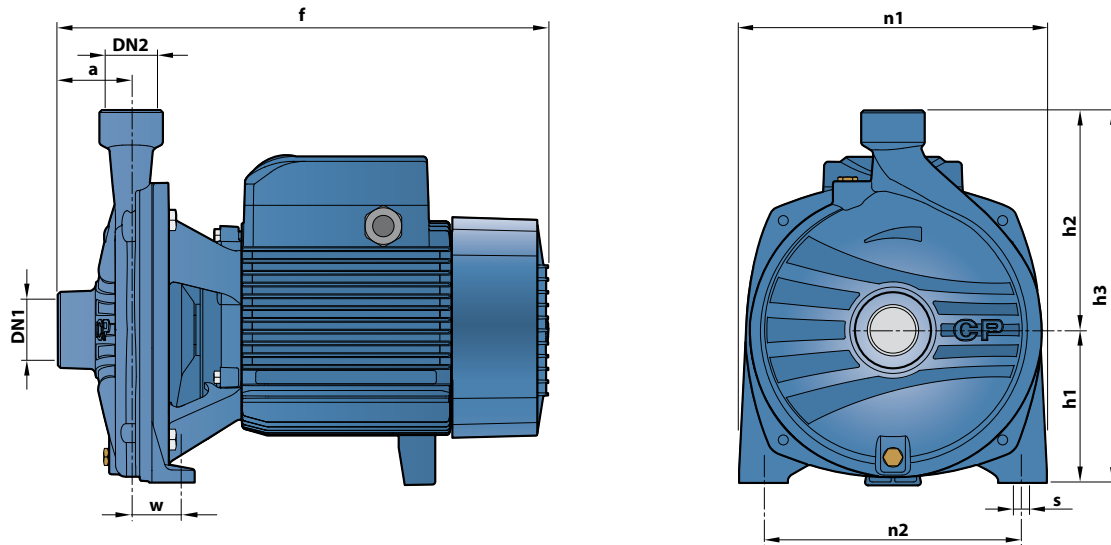
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	<b>BODY BACKPLATE</b>	Cast iron					
3	<b>IMPELLER</b>	Stainless steel for CP160 Brass for CP 210					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		CP 160	FN-18	Ø 18 mm	Graphite	Ceramic	NBR
CP 210	FN-24	Ø 24 mm	Graphite	Ceramic	NBR		
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		CP 160	6204 ZZ / 6204 ZZ				
		CP 210	6206 ZZ - C3 / 6205 ZZ				
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>				
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>			
		CPm 160C	31.5 µF - 450 VL	60 µF - 250 VL			
		CPm 160B	45 µF - 450 VL	80 µF - 250 VL			
		CPm 210C	70 µF - 450 VL	-			
8	<b>ELECTRIC MOTOR</b>	<p>CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding (up to 1.5 kW).</p> <p>CP: three-phase 230/400 V - 50 Hz.</p> <p>➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <p>- Insulation: class F - Protection: IP X4</p>					





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	n1	n2	w	s	1~	3~
CPm 160C	CP 160C	1½"	1"	54	370	110	150	260	206	165	44.5	11	19.3	18.8
CPm 160B	CP 160B												20.0	20.5
-	CP 160A												-	23.5
CPm 210C	CP 210C			60	402	125	180	305	252	210	39.5	11	29.0	29.2
-	CP 210B												-	31.0
-	CP 210A												-	31.2

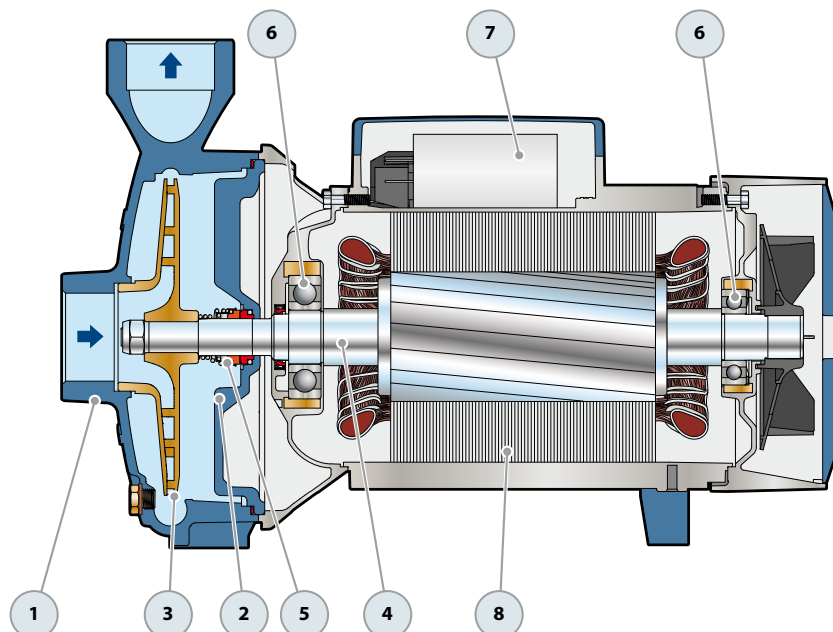
## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
CPm 160C	8.5 A	8.2 A	17.0 A
CPm 160B	10.3 A	10.0 A	20.6 A
CPm 210C	14.5 A	12.7 A	29.0 A

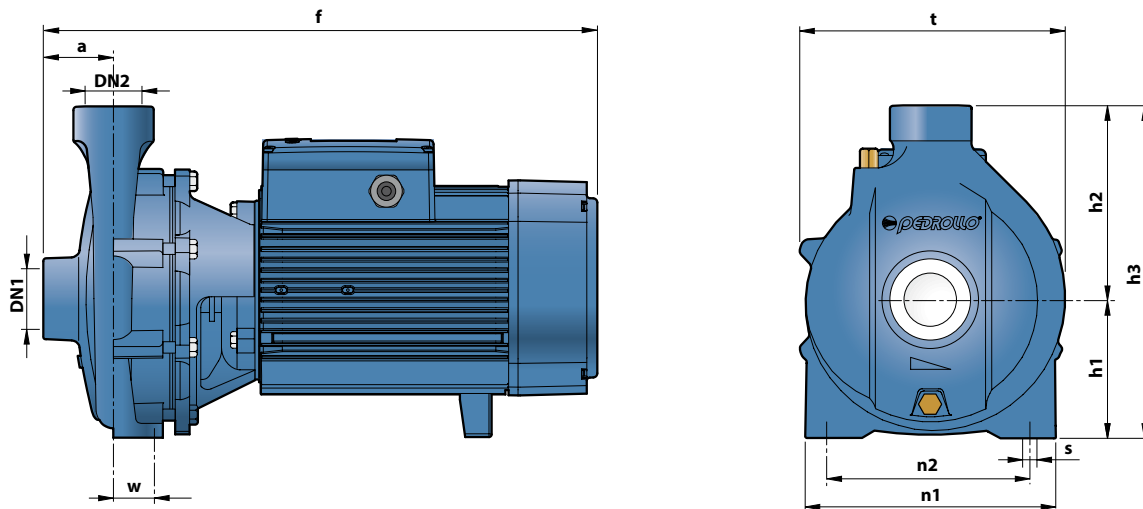
MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
CP 160C	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 160B	6.9 A	4.0 A	2.3 A	6.7 A	3.8 A	2.2 A
CP 160A	8.9 A	5.1 A	2.9 A	8.3 A	4.8 A	2.8 A
CP 210C	9.2 A	5.3 A	3.1 A	8.8 A	5.1 A	2.9 A
CP 210B	11.2 A	6.5 A	3.8 A	10.8 A	6.2 A	3.6 A
CP 210A	14.8 A	8.5 A	4.9 A	14.2 A	8.2 A	4.7 A

# CP 220-230-250

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	<b>PUMP BODY</b>	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	<b>BODY BACKPLATE</b>	Cast iron					
3	<b>IMPELLER</b>	Brass for CP 220, CP 230 Cast iron for CP 250					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		CP 220C-B CP 230C	FN-20	Ø 20 mm	Graphite	Ceramic	NBR
		CP 220A-AH CP 230B-A CP 250B	FN-24	Ø 24 mm	Graphite	Ceramic	NBR
		CP 250A	FN-32 NU	Ø 32 mm	Graphite	Ceramic	NBR
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		CP 220C	6206 ZZ - C3 / 6204 ZZ				
		CPm 220C					
		CP 220B	6206 ZZ - C3 / 6205 ZZ				
		CP 230C					
		CP 220A-AH CP 230B-A	6307 ZZ - C3 / 6206 ZZ - C3				
		CP 250B CP 250A	6310 ZZ - C3 / 6308 ZZ - C3				
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>				
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>				
		CPm 220C	70 µF - 450 VL				
8	<b>ELECTRIC MOTOR</b>	<b>CPm:</b> single-phase 230 V - 50 Hz. <b>CP:</b> three-phase 230/400 V - 50 Hz up to 4 kW. 400/690 V - 50 Hz from 5.5 to 11 kW.					
➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP X5							



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg			
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	t	n1	n2	w	s	1~	3~		
CPm 220C	CP 220C	2"	2"	70	440/429	132	183	315	243	230	170	40	14	34.1	32.8		
-	CP 220B				441											-	36.2
-	CP 220A				459	136	192	328	273	250	190			-	41.0		
-	CP 220AH				505									-	47.8		
-	CP 230C				440	132	183	315	243	230	170			-	31.9		
-	CP 230B				460	136	192	328	273	250	190			-	41.0		
-	CP 230A				505									-	46.0		
-	CP 250B				65	506	160	232	392	317	294			230	45	-	74.0
-	CP 250A					570										-	103.0

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
CPm 220C	15.8 A	15.0 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CP 220C	11.4 A	6.6 A	3.8 A	10.7 A	6.2 A	3.6 A
CP 220B	12.6 A	7.3 A	4.2 A	12.0 A	7.0 A	4.0 A
CP 220A	17.0 A	9.8 A	5.7 A	16.5 A	9.5 A	5.5 A
CP 220AH	20.0 A	11.5 A	6.7 A	19.2 A	11.0 A	6.4 A
CP 230C	13.2 A	7.6 A	4.4 A	12.8 A	7.4 A	4.2 A
CP 230B	16.8 A	9.7 A	5.6 A	16.2 A	9.4 A	5.4 A
CP 230A	20.0 A	11.5 A	6.7 A	19.2 A	11.0 A	6.4 A
CP 250B	25.9 A	15.0 A	8.7 A	25.0 A	14.5 A	8.4 A
CP 250A	39.0 A	22.5 A	13.0 A	38.9 A	22.5 A	13.0 A

# 2CP

## Centrifugal twin-impeller pumps

-  Clean water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **450 l/min** (27 m<sup>3</sup>/h)
- Head up to **112 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure **10 bar**  
(**6 bar** for 2CP25/130)
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The high performance and adaptability to a wide range of applications make them the ideal choice in domestic, civil and industrial applications, in particular for the distribution of water in combination with pressure tanks for boosting pressure in the network and for firefighting sets.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IPX5 class protection for:
  - 2CP32/200                      – 2CP40/180
  - 2CP32/210                      – 2CP40/200

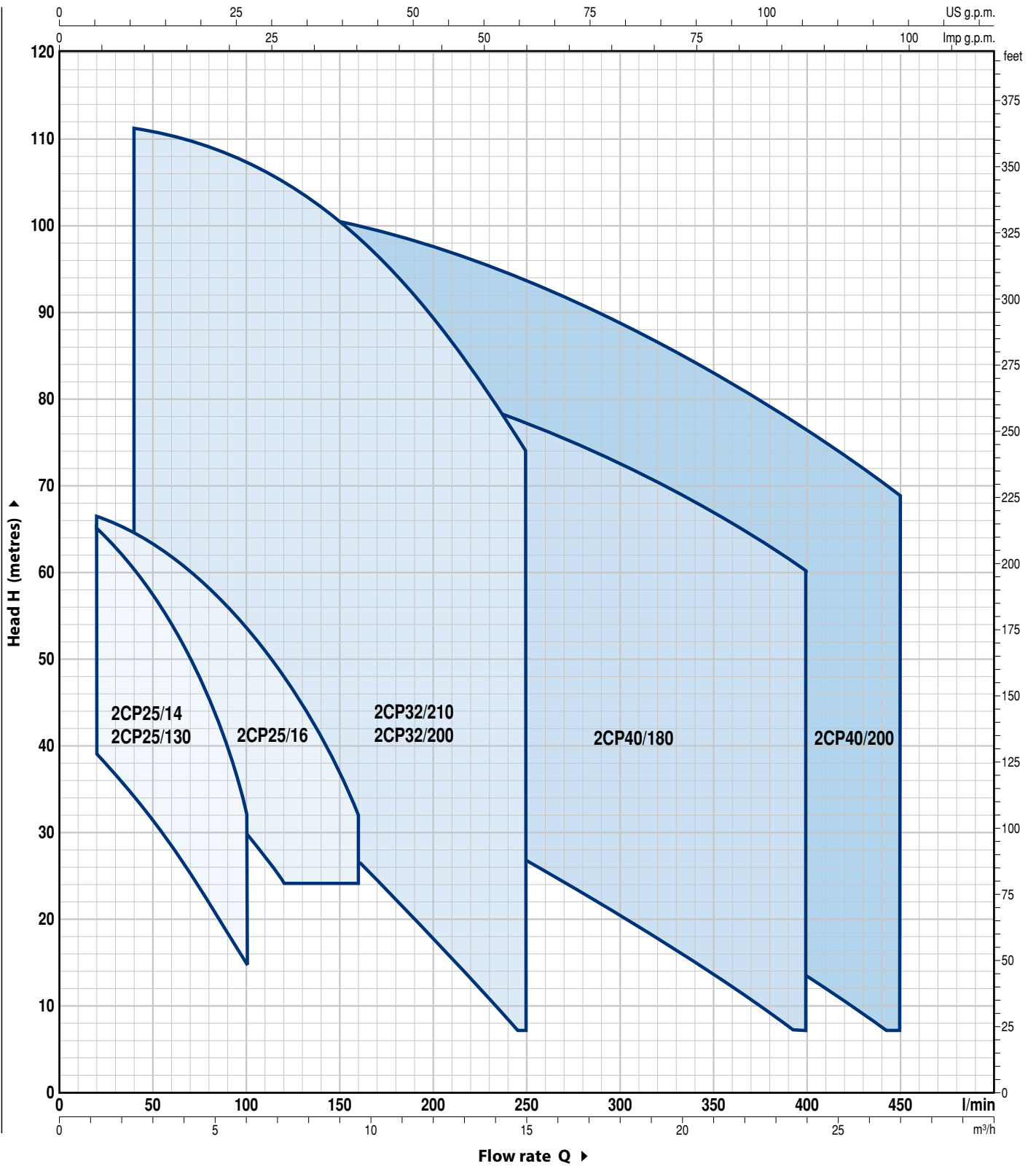
### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



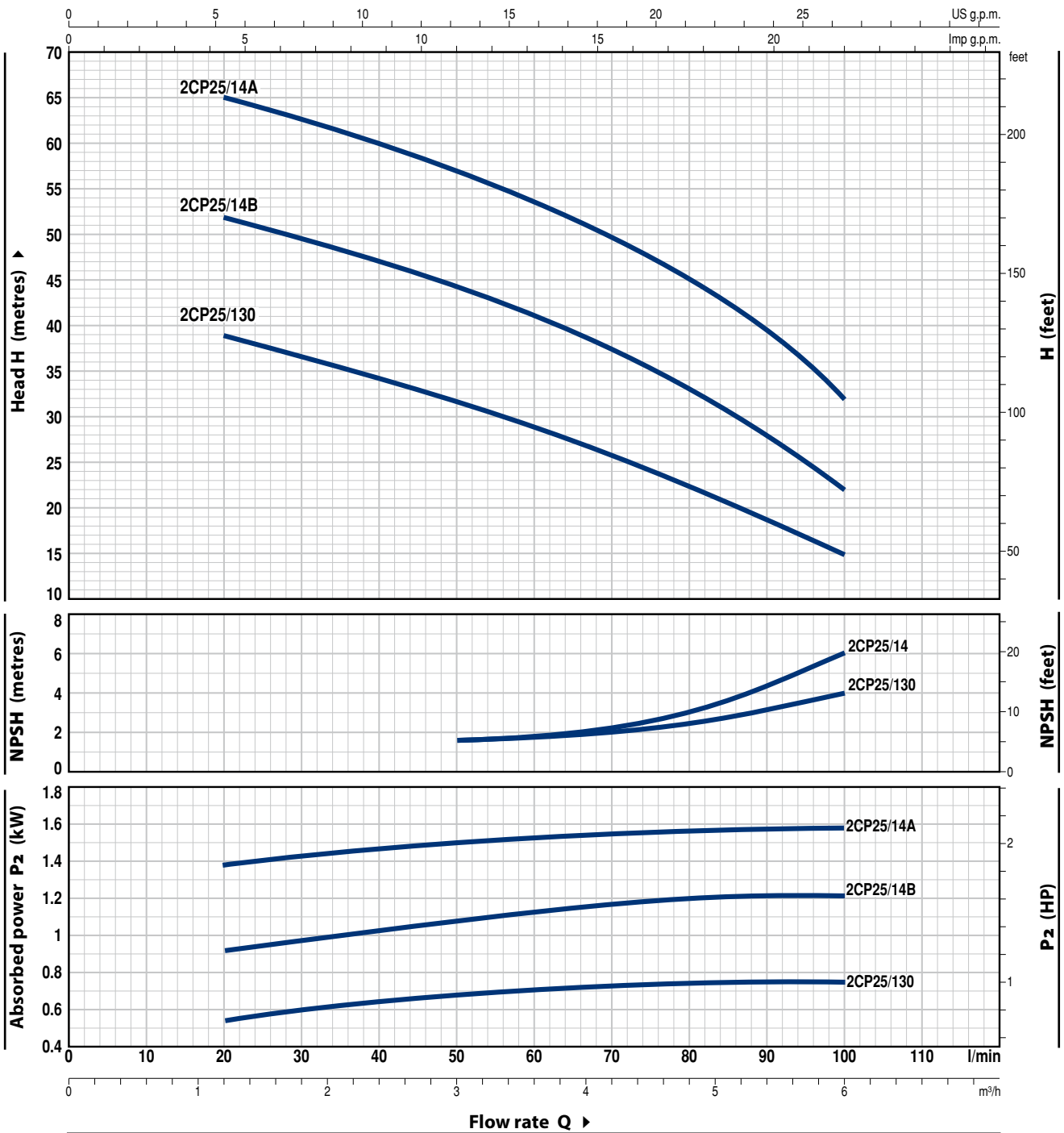
**PERFORMANCE RANGE**

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate									
Single-phase	Three-phase	kW	HP	▲		0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
					0	20	30	40	50	60	70	80	90	100	
2CPm 25/130	2CP 25/130	0.75	1	IE3	H metres	42	39	37	34	31	28.5	25.5	22	18	15
2CPm 25/14B	2CP 25/14B	1.1	1.5			54	52	50	47.5	44.5	41	37	33	28	22
2CPm 25/14A	2CP 25/14A	1.5	2			67	65	62	60	57	54	50	45	40	32

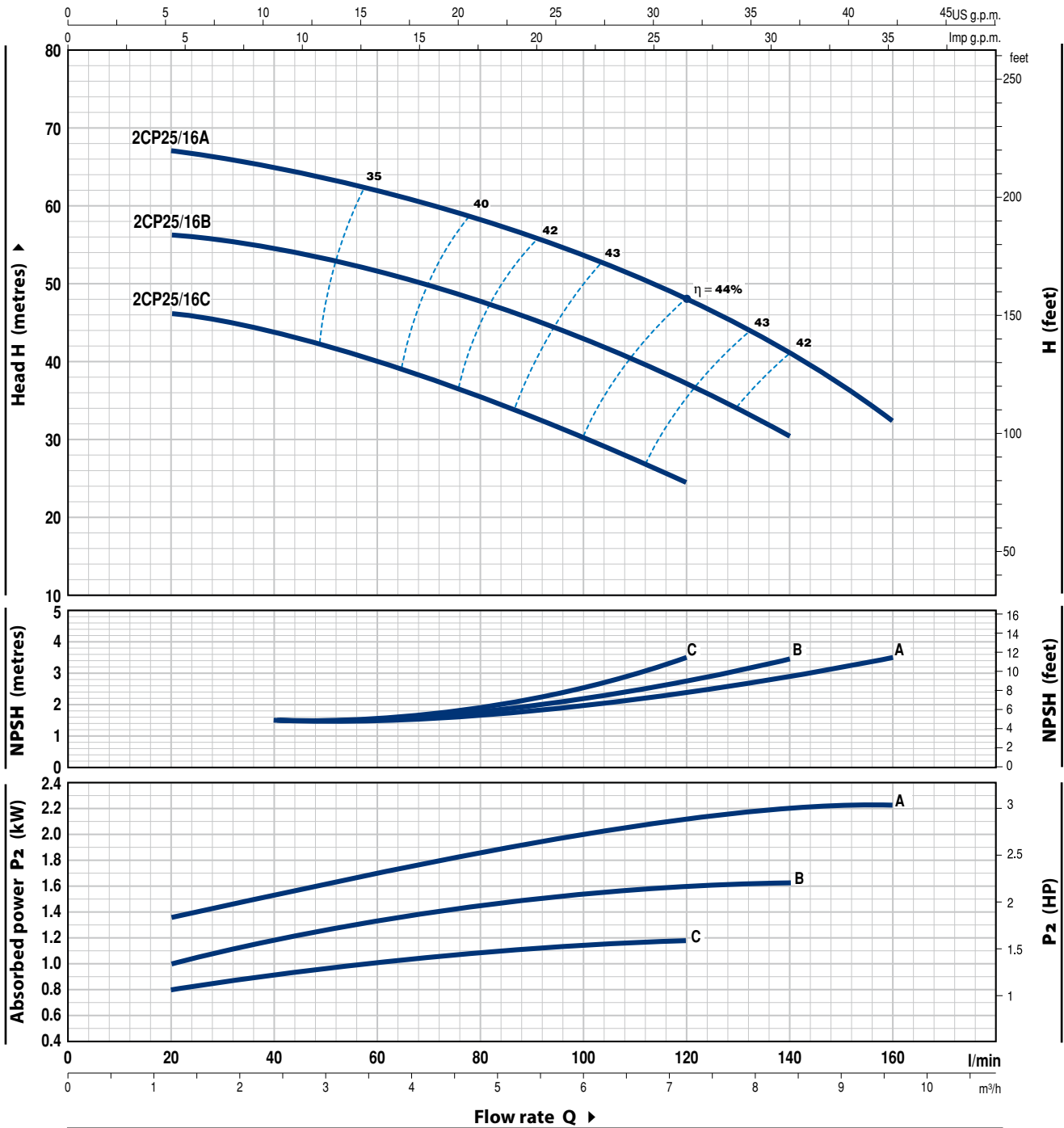
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate															
Single-phase	Three-phase	kW	HP	▲		0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	8.4	9.6		
2CPm 25/16C	2CP 25/16C	1.1	1.5		0	20	30	40	50	60	70	80	90	100	110	120	140	160			
				IE3	H metres	47	46	45	44	42	40	38	35	33	30	27	24				
		1.5	2			58	56	55	54	53	51	49	47	45	43	40	37	30			
		2.2	3			68	67	65.5	64.5	63	62	60	58	56	54	51	48	41	32		

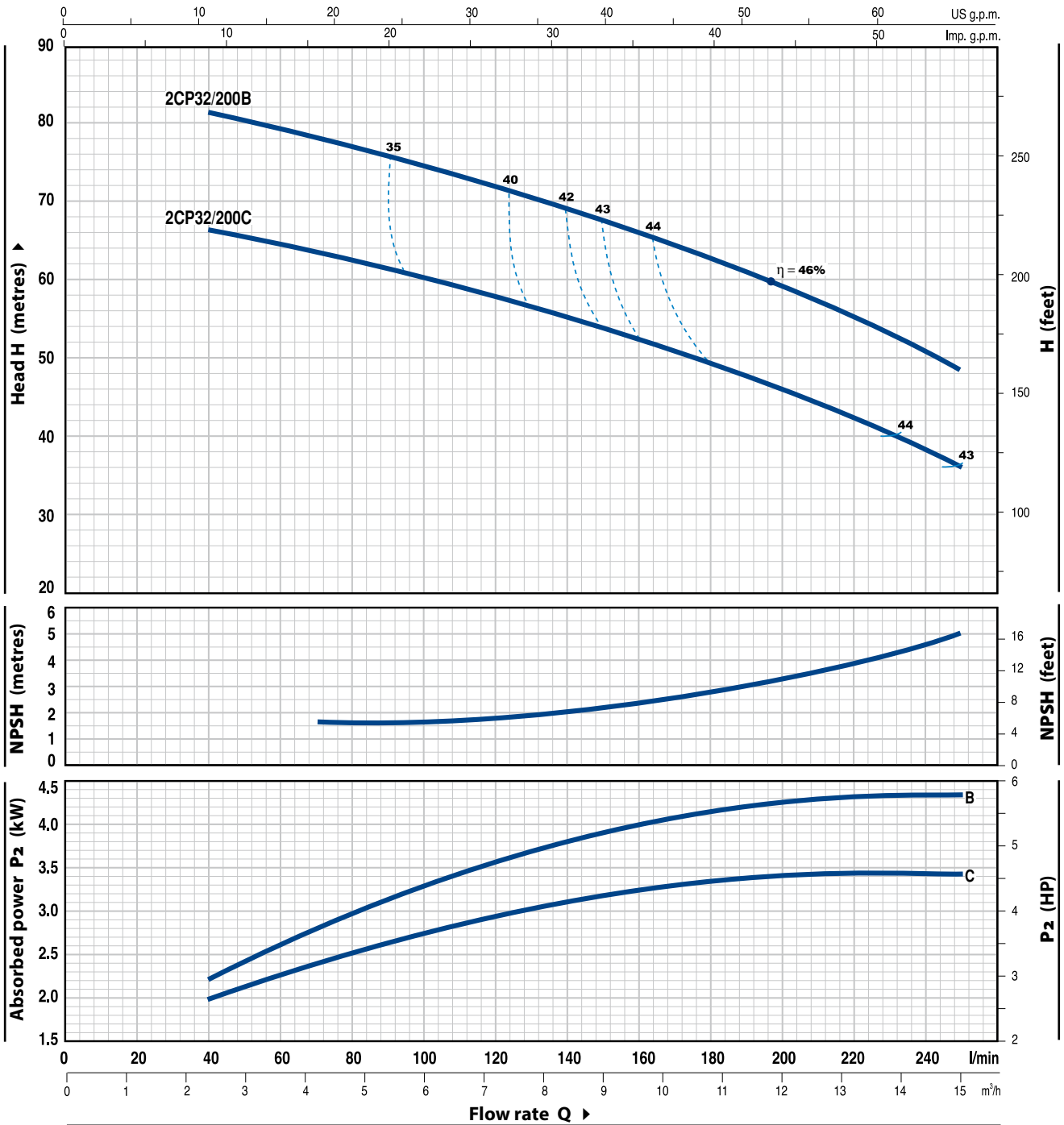
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL	POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h																
	kW	HP			0	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.5	8.4	9.6	10.8	12.0	15.0		
Three-phase				l/min	0	40	50	60	70	80	90	100	110	125	140	160	180	200	250		
2CP 32/200C	3	4	IE3	H metres	70	66.5	65.5	65	64	63	62	60.5	59	57	55	52	49.5	46.5	36		
2CP 32/200B	4	5.5		85	81	80	79	78	77	76	75	74	72	69	66	62	58	49			

Q = Flow rate H = Total manometric head HS = Suction height

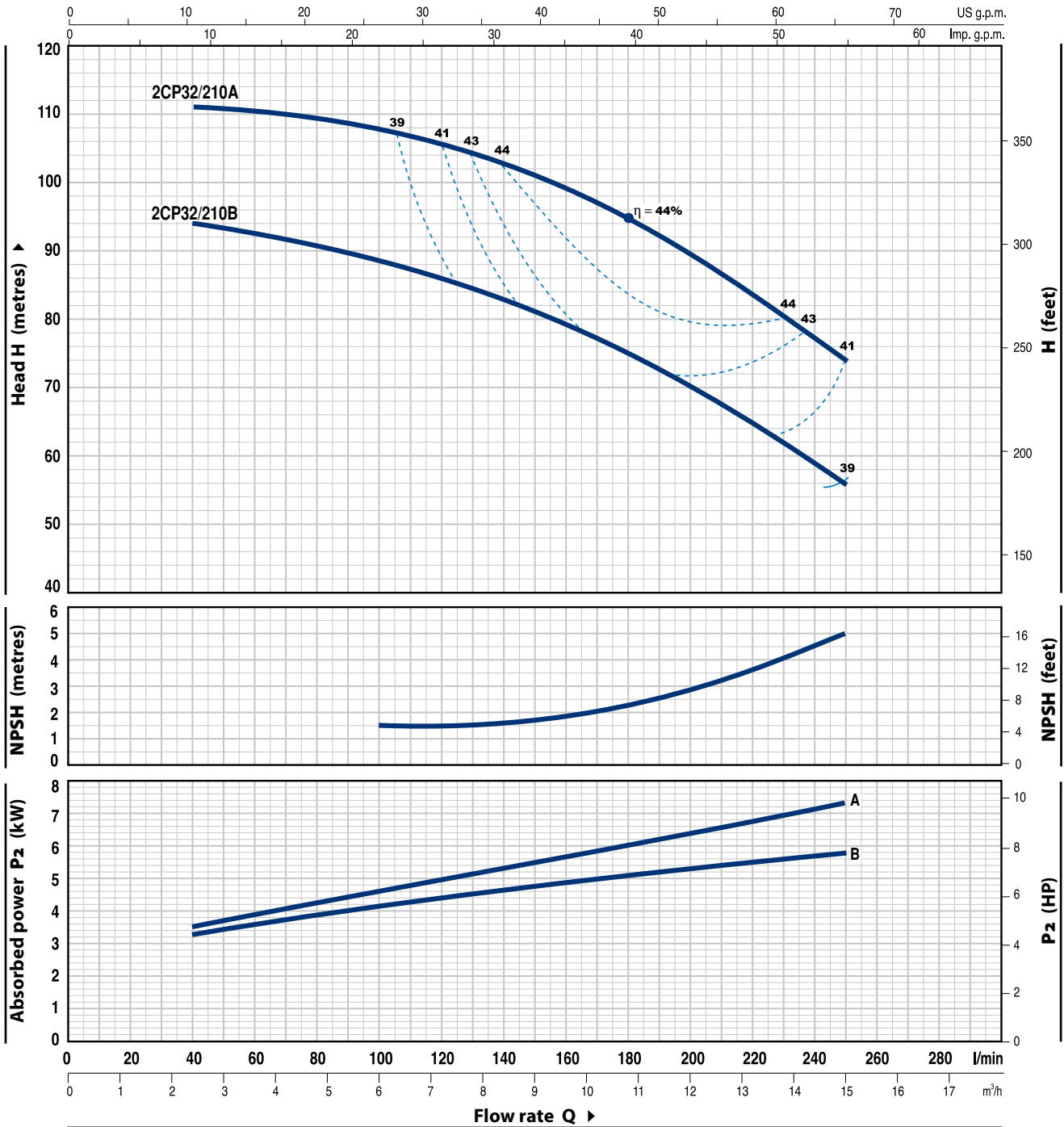
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h																
	kW	HP			0	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.5	8.4	9.6	10.8	12.0	15.0		
Three-phase				l/min	0	40	50	60	70	80	90	100	110	125	140	160	180	200	250		
2CP 32/210B	5.5	7.5	IE3	H metres	94	94	93.5	93	92	91	90	89	87	85	83	79	75	70	56		
2CP 32/210A	7.5	10		112	111	110.8	110.5	110.3	110	109	108	107	105	102	99	94	89	74			

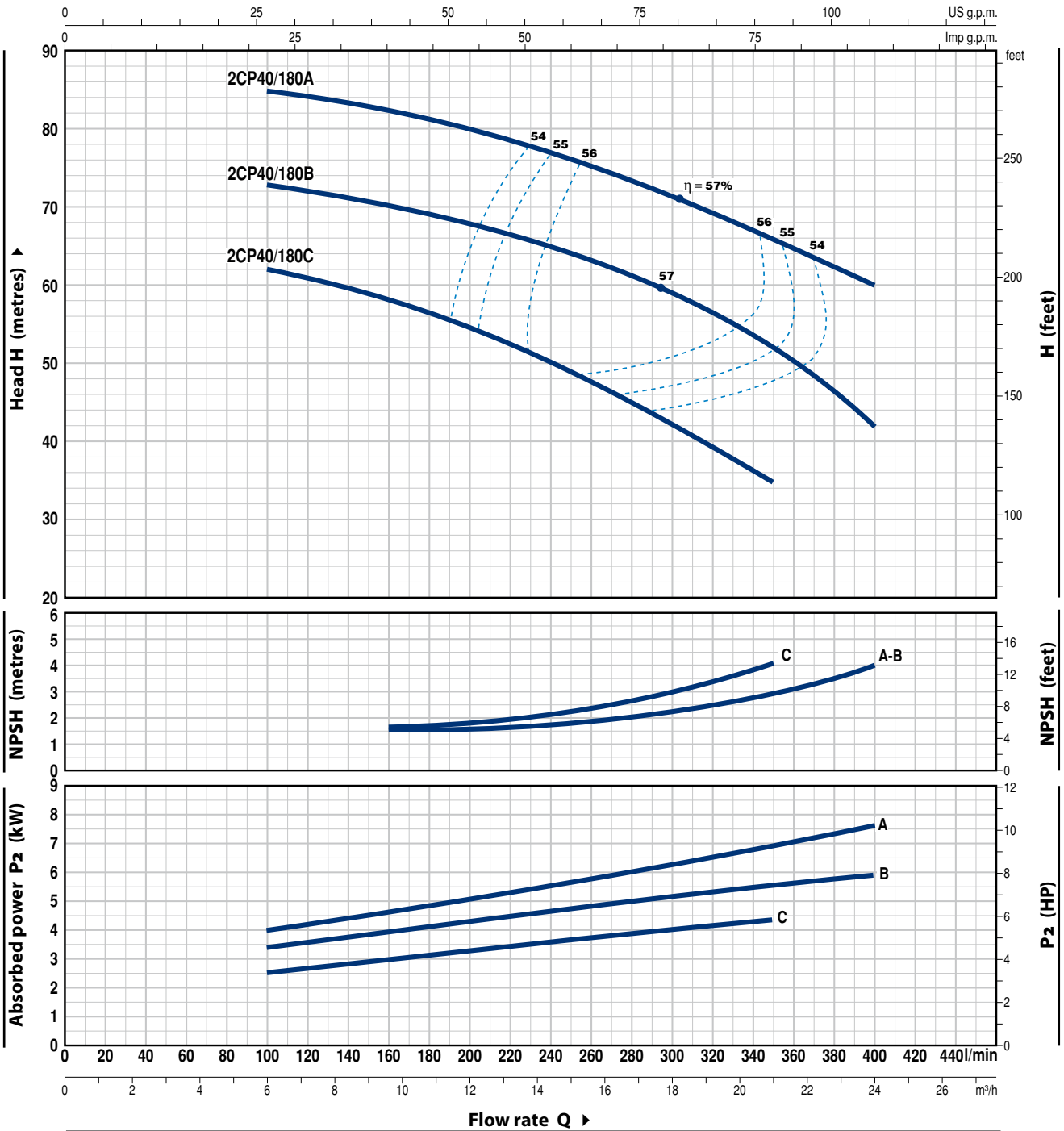
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h															
	kW	HP			0	6.0	6.6	7.5	8.4	9.6	10.8	12.0	15.0	18.0	21.0	24.0				
Three-phase				Q	0	100	110	125	140	160	180	200	250	300	350	400				
2CP 40/180C	4	5.5	IE3	H metres	64	62	61	60	59	58	56	54.5	49	43	35					
2CP 40/180B	5.5	7.5		76	73	72.5	72	71	70	69	67.5	64	59	52	42					
2CP 40/180A	7.5	10		88	85	84.5	84	83	82	81	79.5	76	72	67	60					

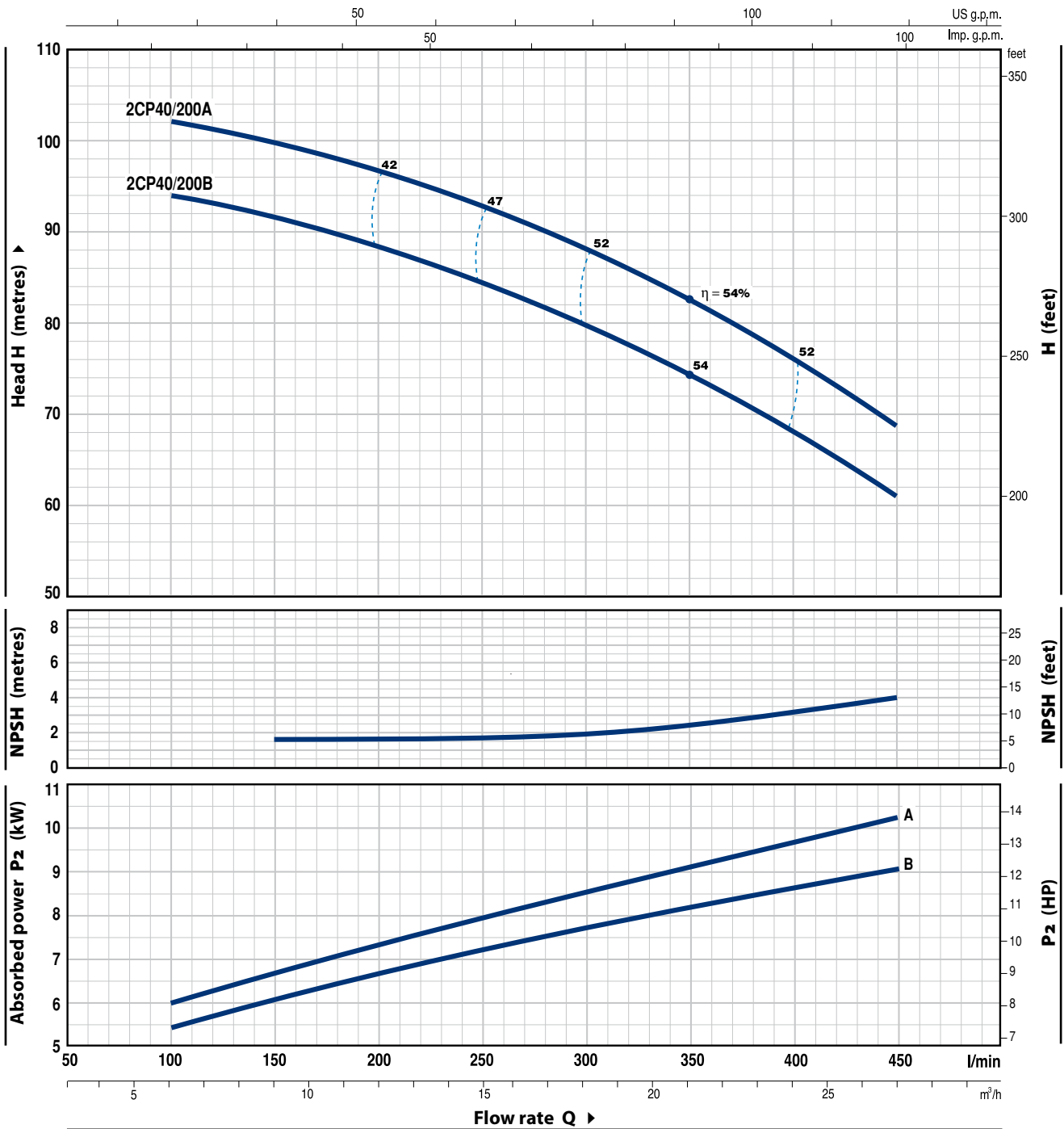
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		▲	Q	Flow rate												
	kW	HP			0	6.0	9	10.8	12.0	15.0	18.0	21.0	24.0	27.0			
Three-phase					0	100	150	180	200	250	300	350	400	450			
2CP 40/200B	9.2	12.5	IE3	H metres	97	94	92	90	88	85	80	74	68	61			
2CP 40/200A	11	15			105	102	100	98	97	93	88	83	76	69			

Q = Flow rate H = Total manometric head HS = Suction height

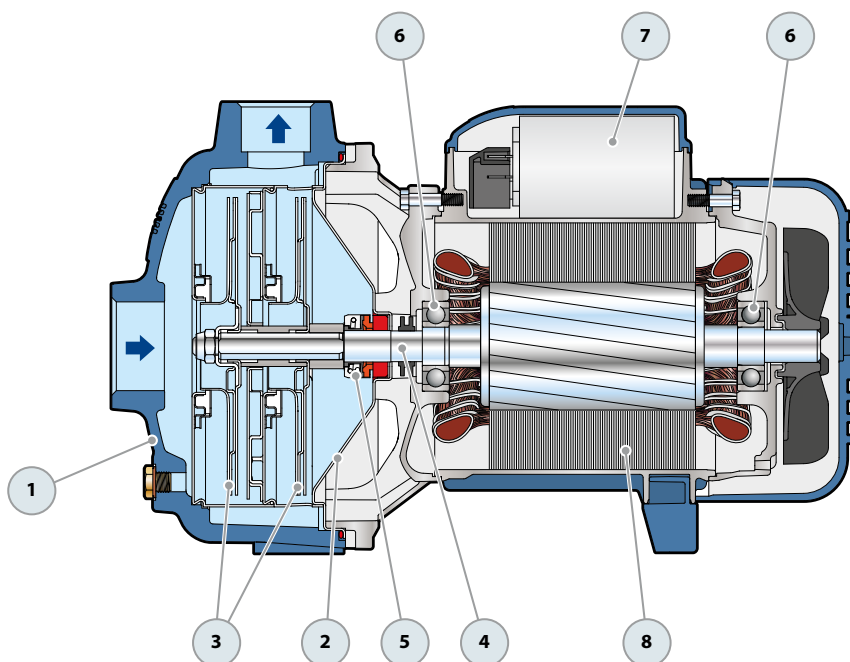
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

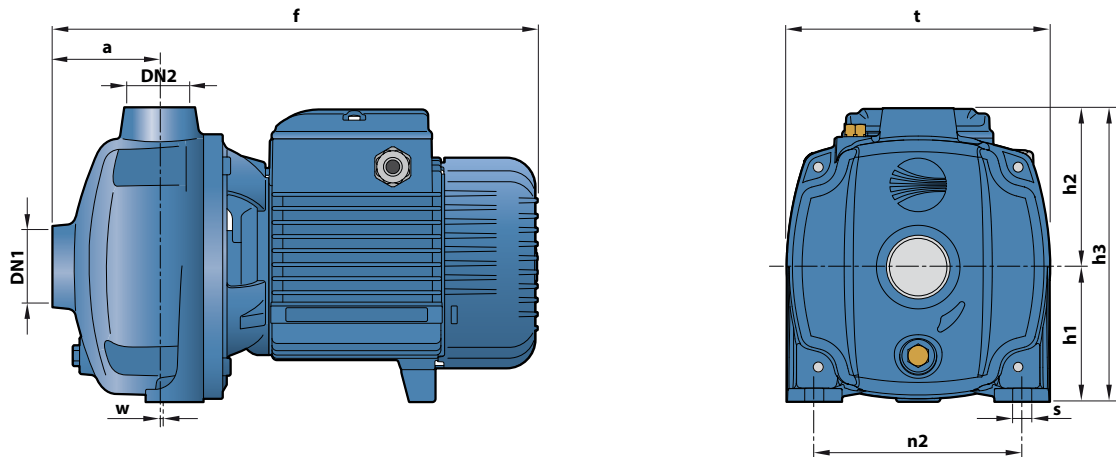
# 2CP 25/130

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Stainless steel AISI 304				
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
5	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR
6	<b>BEARINGS</b>	<b>6203 ZZ / 6203 ZZ</b>				
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		<b>2CPm 25/130</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>		
8	<b>ELECTRIC MOTOR</b>	<b>2CPm 25/130:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. <b>2CP 25/130:</b> three-phase 230/400 V - 50 Hz. <b>⇒ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP X4				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	t	n2	w	s	1~	3~
2CPm 25/130	2CP 25/130	1¼"	1"	73	332	92	109	201	180	142	2.5	10	14.6	14.7

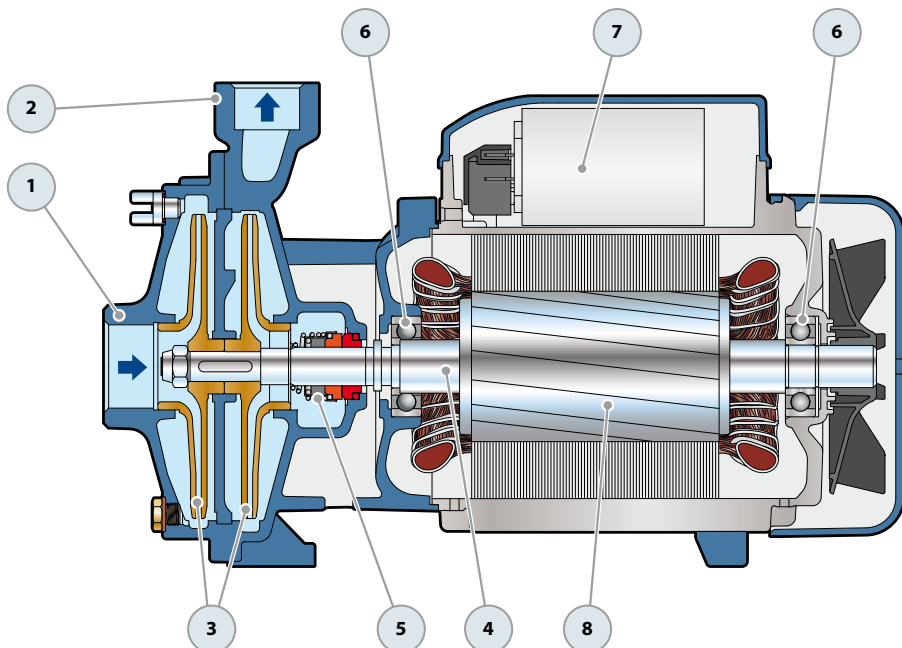
## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CPm 25/130	6.3 A	6.0 A	12.6 A

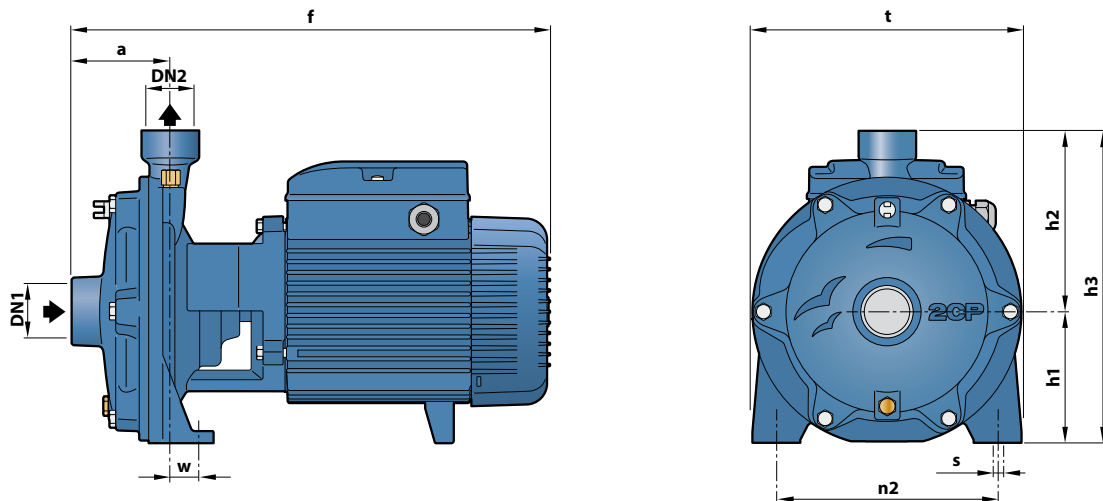
MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
2CP 25/130	4.6 A	2.6 A	1.5 A	4.3 A	2.5 A	1.4 A

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 SUCTION BODY</b>	Cast iron complete with threaded suction port in compliance with ISO 228/1					
<b>2 DELIVERY BODY</b>	Cast iron complete with threaded suction port in compliance with ISO 228/1					
<b>3 IMPELLERS</b>	Brass					
<b>4 MOTOR SHAFT</b>	Stainless steel AISI 431					
<b>5 MECHANICAL SEAL</b>	<b>Pump</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
	<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
	2CP 25/14	FN-18	Ø 18 mm	Graphite	Ceramic	NBR
	2CP 25/16					
	2CP 32/200	FN-20	Ø 20 mm	Graphite	Ceramic	NBR
	2CP 32/210					
	2CP 40/180	FN-24	Ø 24 mm	Graphite	Ceramic	NBR
2CP 40/200						
2CP 40/200	FN-32 NU	Ø 32 mm	Graphite	Ceramic	NBR	
<b>6 BEARINGS</b>	<b>Pump</b>	<b>Model</b>				
	2CP 25/14	6204 ZZ - C3 / 6204 ZZ - C3				
	2CP 25/16					
	2CP 32/200	6206 ZZ - C3 / 6206 ZZ - C3				
	2CP 32/210	6306 ZZ - C3 / 6206 ZZ - C3				
	2CP 40/180					
	2CP 40/200	6308 ZZ - C3 / 6308 ZZ - C3				
<b>7 CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>				
	<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>			
	2CPm 25/14B	25 µF - 450 VL	60 µF - 250 VL			
	2CPm 25/16C	45 µF - 450 VL	80 µF - 250 VL			
	2CPm 25/14A					
	2CPm 25/16B	50 µF - 450 VL	-			
2CPm 25/16A						
<b>8 ELECTRIC MOTOR</b>	<b>2CPm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.					
	<b>2CP:</b> three-phase 230/400 V - 50 Hz up to 4 kW 400/690 V - 50 Hz from 5.5 to 11 kW					
<p>➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>						



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	t	n2	w	s	1~	3~
2CPm 25/14B	2CP 25/14B	1 1/4"	1"	82	404	93	130	223	200	162	17	10	19.7	20.6
2CPm 25/14A	2CP 25/14A					110	151	261	225	185	26	11	24.6	24.6
2CPm 25/16C	2CP 25/16C					93	130	223	200	162	17	10	19.3	20.4
2CPm 25/16B	2CP 25/16B					110	151	261	226	185	26	11	24.3	24.4
2CPm 25/16A	2CP 25/16A					424	110	151	261	226	185	26	11	27.1
-	2CP 32/200C	1 1/2"	1 1/4"	95	464	132	172	304	266	206	19	14	-	39.4
-	2CP 32/200B												-	43.1
-	2CP 32/210B												-	54.7
-	2CP 32/210A	2"	1 1/2"	108	541	139	195	334	292	232	21	14	-	60.5
-	2CP 40/180C												-	48.6
-	2CP 40/180B												-	54.2
-	2CP 40/180A												-	59.7
-	2CP 40/200B												-	93.5
-	2CP 40/200A	110	566	160	195	355	298	-	93.2					

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CPm 25/14B	7.7 A	7.4 A	15.4 A
2CPm 25/14A	10.5 A	10.0 A	21.0 A
2CPm 25/16C	7.7 A	7.4 A	15.4 A
2CPm 25/16B	10.0 A	9.6 A	-
2CPm 25/16A	13.8 A	13.2 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
2CP 25/14B	5.4 A	3.1 A	1.8 A	5.2 A	3.0 A	1.7 A
2CP 25/14A	6.9 A	4.0 A	2.3 A	6.7 A	3.9 A	2.2 A
2CP 25/16C	5.4 A	3.1 A	1.8 A	5.2 A	3.0 A	1.7 A
2CP 25/16B	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
2CP 25/16A	9.2 A	5.3 A	3.1 A	8.7 A	5.0 A	2.9 A
2CP 32/200C	12.8 A	7.4 A	4.3 A	12.3 A	7.1 A	4.1 A
2CP 32/200B	18.2 A	10.5 A	6.1 A	17.7 A	10.2 A	5.7 A
2CP 32/210B	21.7 A	12.5 A	7.2 A	19.9 A	11.5 A	6.9 A
2CP 32/210A	27.7 A	16.0 A	9.2 A	26.0 A	15.0 A	8.9 A
2CP 40/180C	17.0 A	9.8 A	5.7 A	16.5 A	9.5 A	5.6 A
2CP 40/180B	21.3 A	12.3 A	7.1 A	20.8 A	12.0 A	6.9 A
2CP 40/180A	26.7 A	15.4 A	8.9 A	26.0 A	15.0 A	8.7 A
2CP 40/200B	30.3 A	17.5 A	10.1 A	29.1 A	16.8 A	9.7 A
2CP 40/200A	34.6 A	20.0 A	11.6 A	33.2 A	19.2 A	11.1 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
2CPm 25/14B	2CP 25/14B	50	70
2CPm 25/14A	2CP 25/14A	50	70
2CPm 25/16C	2CP 25/16C	50	70
2CPm 25/16B	2CP 25/16B	50	70
2CPm 25/16A	2CP 25/16A	35	49
-	2CP 32/200C	18	24
-	2CP 32/200B	18	24
-	2CP 32/210B	12	16
-	2CP 32/210A	12	16
-	2CP 40/180C	12	16
-	2CP 40/180B	12	16
-	2CP 40/180A	12	16
-	2CP 40/200B	6	9
-	2CP 40/200A	6	9

# 2-5CP

## Multi-stage centrifugal pumps

 Clean water

 Domestic use



### 2-4CP

Impeller: **Noryl**



### 2-5CP -I

Impeller: **stainless steel** AISI 304



### PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m<sup>3</sup>/h)
- Head up to **67 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature:
  - between **-10 °C** and **+40 °C** for 2-5CP
  - between **-10 °C** and **+60 °C** for 2-5CP-I
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness, these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 002073635-0001

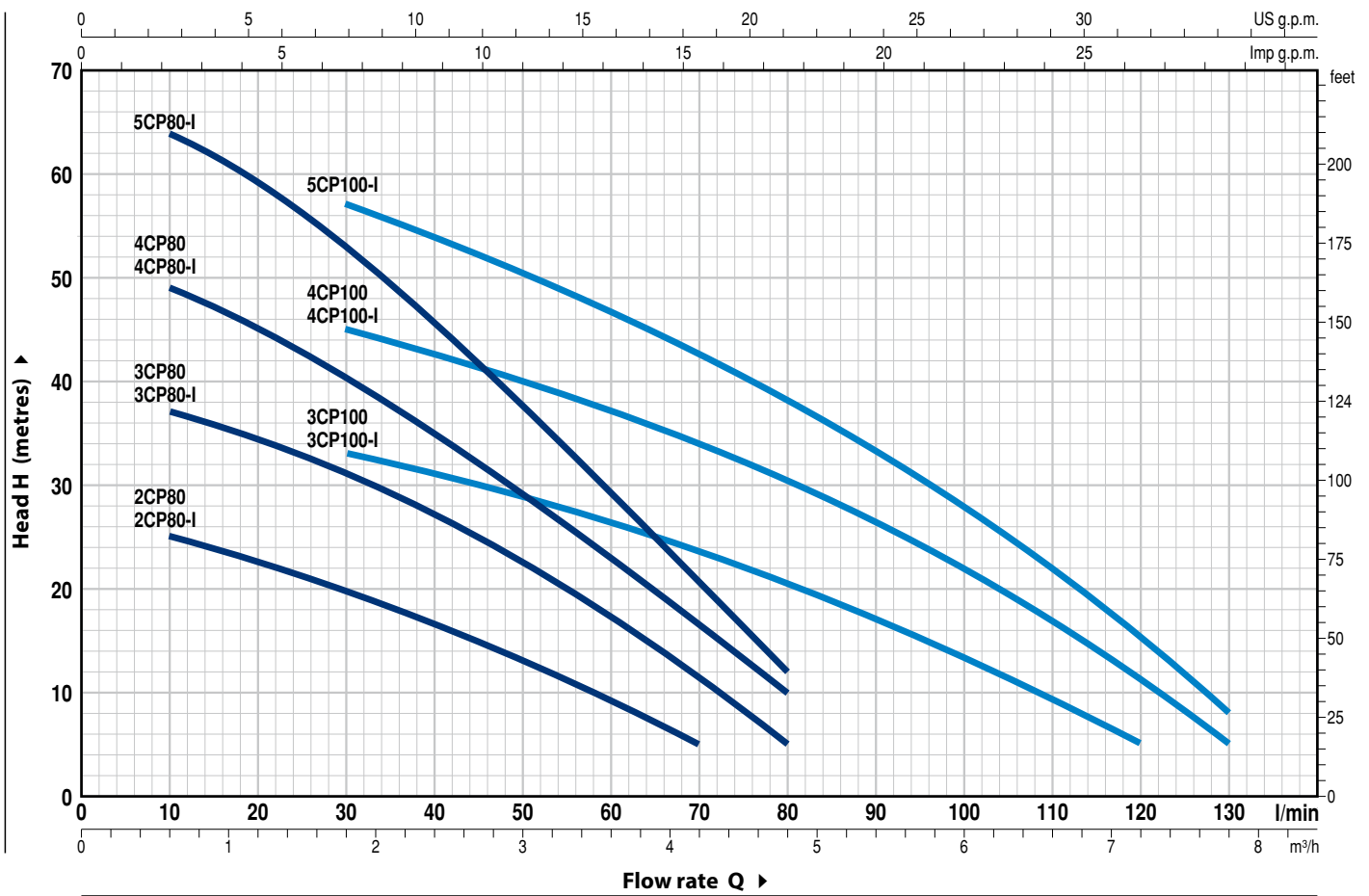
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



TIPO		POTENZA (P <sub>2</sub> )			Q	Flow rate (l/min)																		
Monofase	Trifase	kW	HP	▲		0	0.3	0.6	0.9	1.2	1.5	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8		
2CPm 80 2CPm 80-I	2CP 80 2CP 80-I	0.37	0.50		0	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130			
3CPm 80 3CPm 80-I	3CP 80 3CP 80-I	0.45	0.60	IE2	27	26	25	24	22.5	21	20	16.5	13	9	5									
4CPm 80 4CPm 80-I	4CP 80 4CP 80-I	0.55	0.75		40	38	37	36	34.5	33	31	27	22.5	17	11	5								
5CPm 80-I	5CP 80-I	0.75	1	IE3	52	50	49	47	44.5	42	40	34	28.5	22.5	16	10								
3CPm 100 3CPm 100-I	3CP 100 3CP 100-I	0.55	0.75	IE2	67	66	64	62	59	56	53	45.5	37.5	29.5	20.5	12								
4CPm 100 4CPm 100-I	4CP 100 4CP 100-I	0.75	1		38	37	36	35	34.5	33.5	33	31	28	26	23	20	17	13.5	10	5				
5CPm 100-I	5CP 100-I	1.1	1.5	IE3	50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5			
					63	62	61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8			

Q = Flow rate H = Total manometric head HS = Suction height

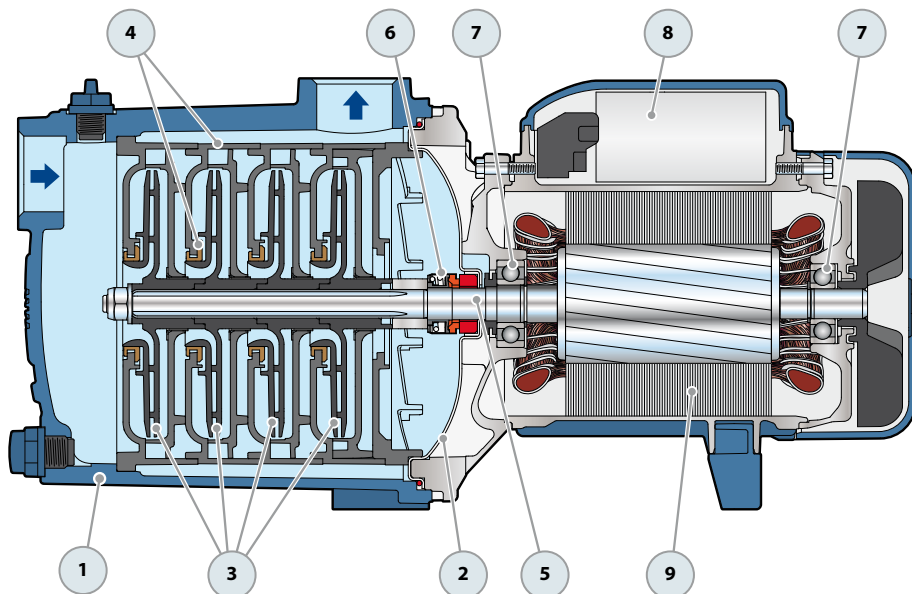
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

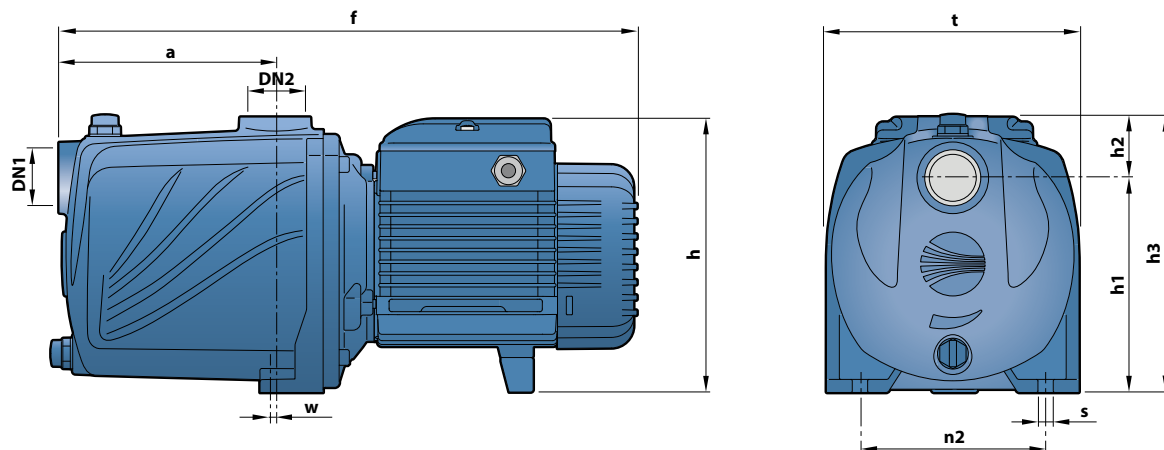
# 2-5CP

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Noryl				
4	<b>DIFFUSERS</b>	Noryl complete with anti-wear ring				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		2CP 80 3CP 80 4CP 80 3CP 100 4CP 100	6202 ZZ - C3 / 6201 ZZ			
			6203 ZZ / 6203 ZZ			
8	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		2CPm 80	10 µF - 450 VL	25 µF - 250 VL		
		3CPm 80	12.5 µF - 450 VL	25 µF - 250 VL		
		4CPm 80	14 µF - 450 VL	25 µF - 250 VL		
		3CPm 100 4CPm 100	20 µF - 450 VL	60 µF - 300 VL		
9	<b>ELECTRIC MOTOR</b>	<p>2-5CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.                  2-5CP: three-phase 230/400 V - 50 Hz.</p> <p>→ The three-phase pumps are fitted with high performance motors up to P2=0.55 kW in class IE2 and from P2=0.75 kW in class IE3 (IEC 60034-30-1)</p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
2CPm 80	2CP 80	1"	1"	110	338	172	134	38	172	158	118	1	10	9.4	9.4
3CPm 80	3CP 80													10.3	10.3
4CPm 80	4CP 80			11.6	11.1										
3CPm 100	3CP 100			11.0	10.5										
4CPm 100	4CP 100			135	382	192 *								14.2	14.2

(\*) h=210 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
2CPm 80	2.4 A	2.3 A	4.4 A
3CPm 80	3.3 A	3.3 A	6.4 A
4CPm 80	4.0 A	3.8 A	7.8 A
3CPm 100	3.9 A	3.7 A	7.8 A
4CPm 100	6.0 A	6.0 A	12.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
2CP 80	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
3CP 80	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
4CP 80	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
3CP 100	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
4CP 100	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A

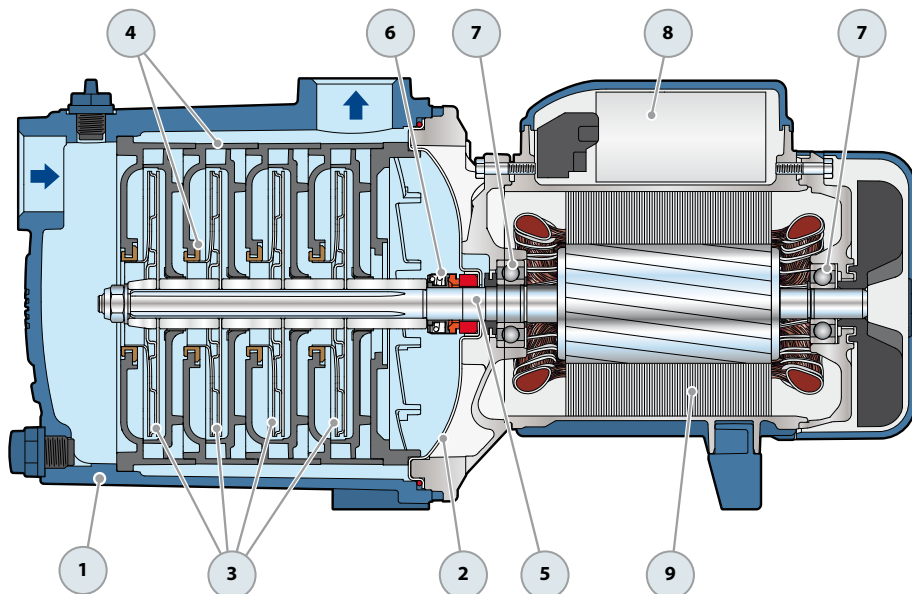
## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
2CPm 80	2CP 80	84	120
3CPm 80	3CP 80	84	120
4CPm 80	4CP 80	72	108
3CPm 100	3CP 100	84	120
4CPm 100	4CP 100	72	108

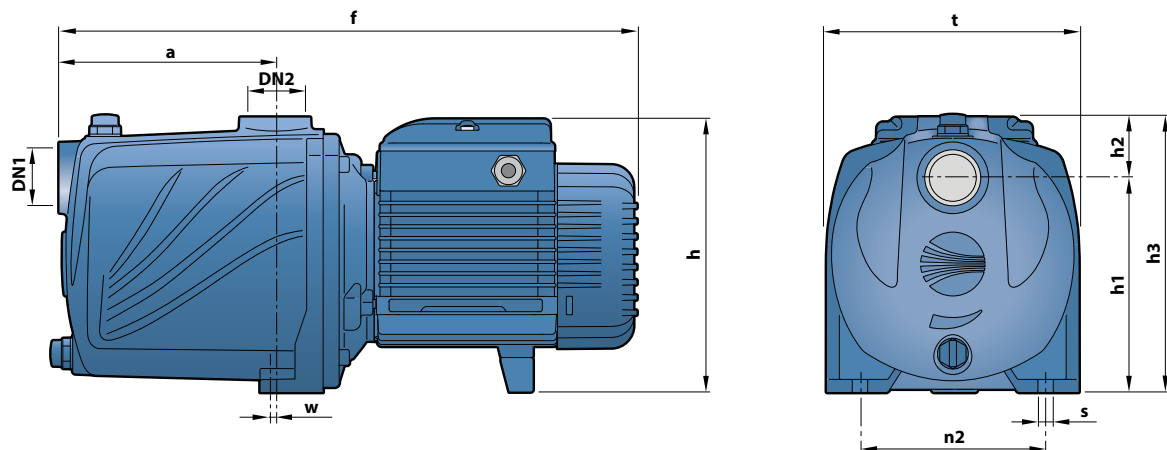
# 2-5CP -I

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Stainless steel AISI 304				
4	<b>DIFFUSERS</b>	Noryl complete with anti-wear ring				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		2CP 80-I	6202 ZZ - C3 / 6201 ZZ			
		3CP 80-I				
		4CP 80-I				
		3CP 100-I				
		4CP 100-I	6203 ZZ / 6203 ZZ			
5CP 80-I						
5CP 100-I						
8	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>		<i>(110 V)</i>	
		2CPm 80-I	10 µF - 450 VL	25 µF - 250 VL		
		3CPm 80-I	12.5 µF - 450 VL	25 µF - 250 VL		
		4CPm 80-I	14 µF - 450 VL	25 µF - 250 VL		
		3CPm 100-I				
		4CPm 100-I				
		5CPm 80-I	20 µF - 450 VL	60 µF - 300 VL		
		5CPm 100-I	25 µF - 450 VL	60 µF - 300 VL		
9	<b>ELECTRIC MOTOR</b>	2-5CPm -I: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.				
		2-5CP -I: three-phase 230/400 V - 50 Hz.				
		<p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P2=0.55 kW in class IE2 and from P2=0.75 kW in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg										
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~									
2CPm 80-I	2CP 80-I	1"	1"	110	338	172	134	38	172	158	118	1	10	9.7	9.7									
3CPm 80-I	3CP 80-I													10.7	10.7									
4CPm 80-I	4CP 80-I			12.2	11.7																			
5CPm 80-I	5CP 80-I			15.1	15.1																			
3CPm 100-I	3CP 100-I			11.5	11.0																			
4CPm 100-I	4CP 100-I			14.9	14.9																			
5CPm 100-I	5CP 100-I			15.8	15.8																			
				135	363																			
				135	382	192 *																		
				110	338	172																		
		135	382	192 *																				

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CPm 80-I	2.4 A	2.3 A	4.4 A
3CPm 80-I	3.3 A	3.3 A	6.4 A
4CPm 80-I	4.0 A	3.8 A	7.8 A
5CPm 80-I	5.5 A	5.2 A	11.0 A
3CPm 100-I	3.9 A	3.7 A	7.8 A
4CPm 100-I	6.0 A	6.0 A	12.0 A
5CPm 100-I	6.6 A	6.4 A	13.2 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
2CP 80-I	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
3CP 80-I	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
4CP 80-I	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
5CP 80-I	4.3 A	2.5 A	1.4 A	4.1 A	2.4 A	1.3 A
3CP 100-I	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
4CP 100-I	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A
5CP 100-I	4.3 A	2.5 A	1.4 A	4.2 A	2.4 A	1.4 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
2CPm 80-I	2CP 80-I	84	120
3CPm 80-I	3CP 80-I	84	120
4CPm 80-I	4CP 80-I	84	120
5CPm 80-I	5CP 80-I	72	108
3CPm 100-I	3CP 100-I	84	120
4CPm 100-I	4CP 100-I	72	108
5CPm 100-I	5CP 100-I	72	108

# 2-5CR

## Multi-stage centrifugal pumps



### 2-5CR

Impeller: **stainless steel** AISI 304



### 2-5CR X

Impeller: **Noryl**

 Clean water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m<sup>3</sup>/h)
- Head up to **67 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature:
  - between **-10 °C** and **+60 °C** for 2-5CR
  - between **-10 °C** and **+40 °C** for 2-5CR X
- Ambient temperature up to **+40 °C**
- Max. working pressure **7 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

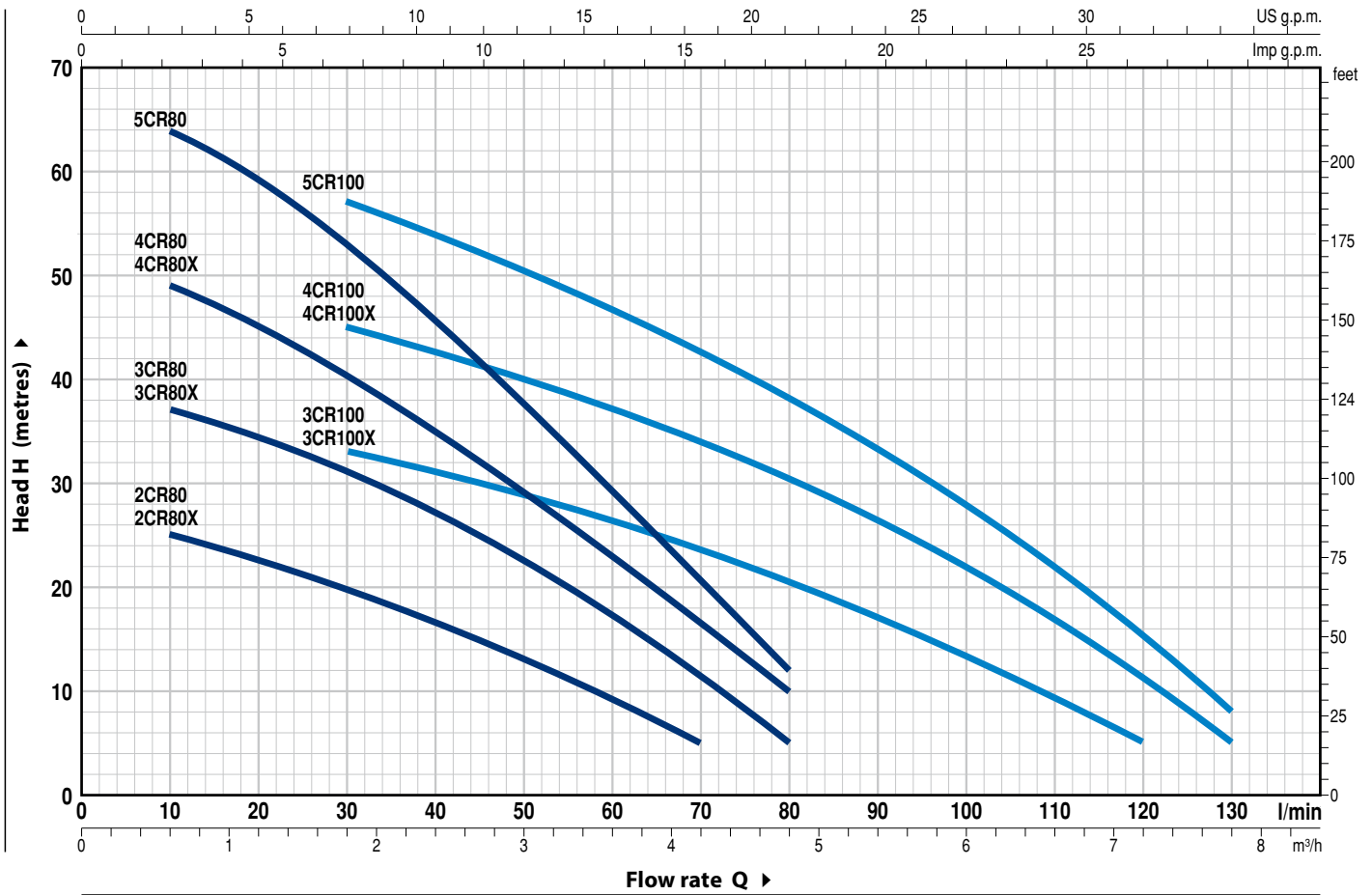
Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate																		
Single-phase	Three-phase	kW	HP	▲		0	0.3	0.6	0.9	1.2	1.5	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8		
						0	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130		
2CRm 80	2CR 80	0.37	0.50	IE2	H metres	27	26	25	24	22.5	21	20	16.5	13	9	5								
2CRm 80X	2CR 80X					40	38	37	36	34.5	33	31	27	22.5	17	11	5							
3CRm 80	3CR 80	0.45	0.60			52	50	49	47	44.5	42	40	34	28.5	22.5	16	10							
3CRm 80X	3CR 80X					67	66	64	62	59	56	53	45.5	37.5	29.5	20.5	12							
4CRm 80	4CR 80	0.55	0.75			38	37	36	35	34.5	33.5	33	31	28	26	23	20	17	13.5	10	5			
4CRm 80X	4CR 80X					50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5		
5CRm 80	5CR 80	0.75	1			63	62	61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8		
3CRm 100	3CR 100					0.55	0.75	50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5
3CRm 100X	3CR 100X	0.75	1	63	62			61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8		
4CRm 100	4CR 100			1.1	1.5	63	62	61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8		
4CRm 100X	4CR 100X																							
5CRm 100	5CR 100																							

Q = Flow rate H = Total manometric head HS = Suction height

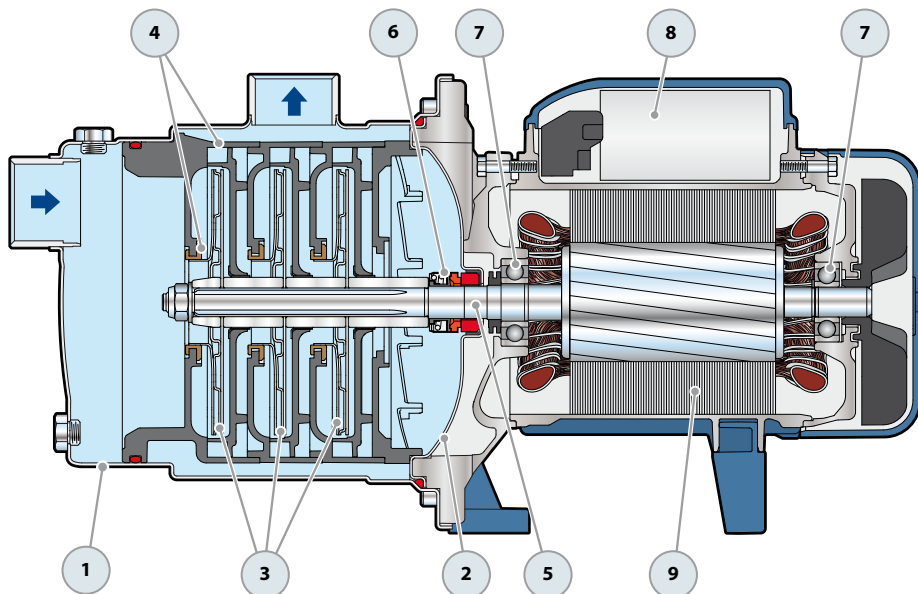
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# 2-5CR

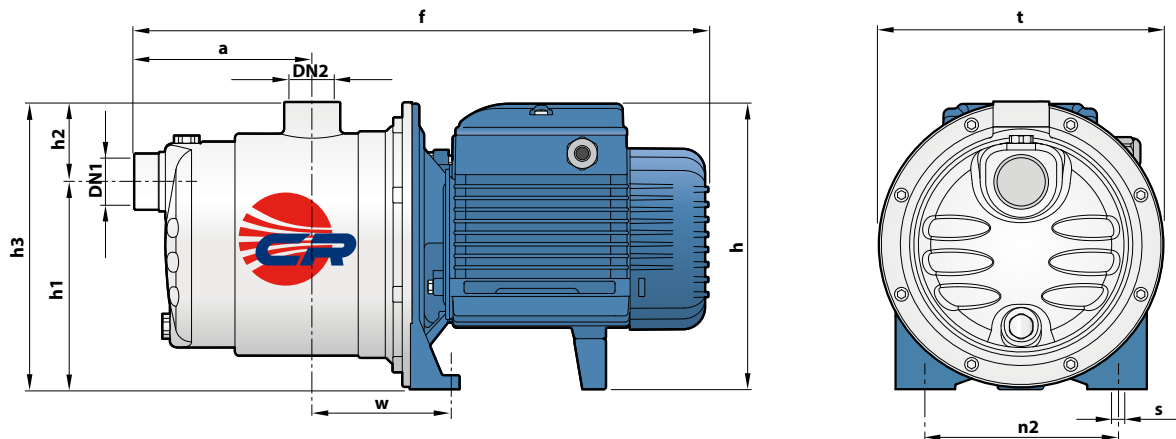
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Stainless steel AISI 304				
4	<b>DIFFUSERS</b>	Noryl complete with anti-wear ring				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>			
		2CR 80 3CR 80 4CR 80 3CR 100 4CR 100 5CR 80 5CR 100	6202 ZZ - C3 / 6201 ZZ    6203 ZZ / 6203 ZZ			
8	<b>CAPACITOR</b>	<i>Pump Single-phase</i>	<i>Capacitance (230 V or 240 V)</i>	<i>(110 V)</i>		
		2CRm 80	10 µF - 450 VL	25 µF - 250 VL		
		3CRm 80	12.5 µF - 450 VL	25 µF - 250 VL		
		4CRm 80 3CRm 100	14 µF - 450 VL	25 µF - 250 VL		
		4CRm 100 5CRm 80	20 µF - 450 VL	60 µF - 300 VL		
		5CRm 100	25 µF - 450 VL	60 µF - 300 VL		
9	<b>ELECTRIC MOTOR</b>	<p>2-5CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.                      2-5CR: three-phase 230/400 V - 50 Hz.</p> <p>→ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b></p> <p>- Insulation: class F                      - Protection: IP X4</p>				





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg						
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~					
2CRm 80	2CR 80	1"	1"	113	367	182	132	51	183	182	120	87	9	6.6	6.6					
3CRm 80	3CR 80																			
4CRm 80	4CR 80			138	410	202 *							9	9.1	8.6					
5CRm 80	5CR 80																			
3CRm 100	3CR 100			1"	1"	113							367	182	10	11.8	11.8			
4CRm 100	4CR 100																			
5CRm 100	5CR 100					138							410	202 *				9	8.4	7.9

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CRm 80	2.2 A	2.1 A	4.4 A
3CRm 80	3.2 A	3.1 A	6.4 A
4CRm 80	3.9 A	3.7 A	7.8 A
5CRm 80	5.5 A	5.3 A	11.0 A
3CRm 100	3.9 A	3.7 A	7.8 A
4CRm 100	6.0 A	5.8 A	12.0 A
5CRm 100	6.6 A	6.3 A	13.2 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
2CR 80	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
3CR 80	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
4CR 80	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
5CR 80	4.3 A	2.5 A	1.4 A	4.1 A	2.4 A	1.3 A
3CR 100	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
4CR 100	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A
5CR 100	4.3 A	2.5 A	1.4 A	4.2 A	2.4 A	1.4 A

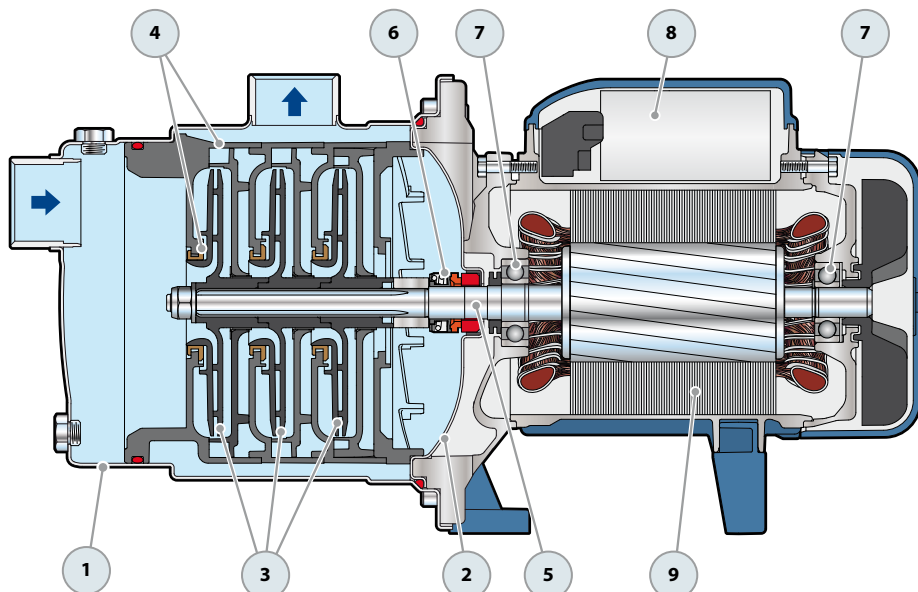
## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
2CRm 80	2CR 80	84	108
3CRm 80	3CR 80	84	108
4CRm 80	4CR 80	72	108
5CRm 80	5CR 80	72	108
3CRm 100	3CR 100	84	108
4CRm 100	4CR 100	72	108
5CRm 100	5CR 100	72	108

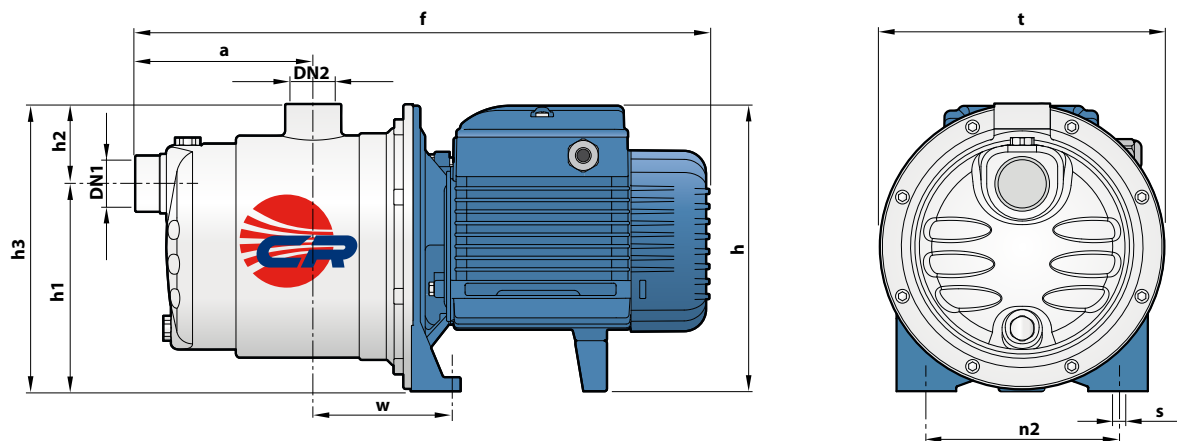
# 2-5CR X

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Noryl				
4	<b>DIFFUSERS</b>	Noryl complete with anti-wear ring				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<b>Seal Model</b>	<b>Shaft Diameter</b>	<b>Stationary ring</b>	<b>Rotational ring</b>	<b>Materials</b> <i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<b>Pump Model</b>	<b>Model</b>			
		2CR 80X 3CR 80X 4CR 80X 3CR 100X 4CR 100X	6202 ZZ - C3 / 6201 ZZ  6203 ZZ / 6203 ZZ			
8	<b>CAPACITOR</b>	<b>Pump Single-phase</b>	<b>Capacitance (230 V or 240 V)</b>		<b>(110 V)</b>	
		2CRm 80X	10 µF - 450 VL	25 µF - 250 VL		
		3CRm 80X	12.5 µF - 450 VL	25 µF - 250 VL		
		4CRm 80X	14 µF - 450 VL	25 µF - 250 VL		
		3CRm 100X	20 µF - 450 VL	60 µF - 300 VL		
		4CRm 100X	20 µF - 450 VL	60 µF - 300 VL		
9	<b>ELECTRIC MOTOR</b>	<p>2-5CRm X: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p>2-5CR X: three-phase 230/400 V - 50 Hz.</p> <p>→ The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</p> <p>- Insulation: class F - Protection: IP X4</p>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONES mm										kg		
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~	
2CRm 80X	2CR 80X	1"	1"	113	367	182	132	51	183	182	120	87	9	6.3	6.3	
3CRm 80X	3CR 80X													7.2	7.2	
4CRm 80X	4CR 80X			138	392	8.5								8.0		
3CRm 100X	3CR 100X			113	367	182								9	7.9	7.4
4CRm 100X	4CR 100X			138	410	202 *								10	10.9	10.9

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
	Single-phase	230 V	240 V
2CRm 80X	2.2 A	2.1 A	4.4 A
3CRm 80X	3.3 A	3.3 A	6.4 A
4CRm 80X	3.8 A	3.6 A	7.8 A
3CRm 100X	3.9 A	3.7 A	7.8 A
4CRm 100X	6.0 A	6.0 A	12.0 A

MODEL	VOLTAGE					
	Three-phase	230 V	400 V	690 V	240 V	415 V
2CR 80X	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
3CR 80X	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
4CR 80X	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
3CR 100X	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
4CR 100X	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
2CRm 80X	2CR 80X	84	108
3CRm 80X	3CR 80X	84	108
4CRm 80X	4CR 80X	72	108
3CRm 100X	3CR 100X	84	108
4CRm 100X	4CR 100X	72	108

# FCR 80-100

Multi-stage centrifugal electric pumps



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**MADE IN ITALY**

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 **PEDROLLO**<sup>®</sup>  
*the spring of life*

# FCR 80-100

## Multi-stage centrifugal electric pumps

 Clean water

 Domestic use

 Civic use



### ※ INSTALLATION AND USE

Thanks to quiet running and low power consumption these pumps are recommended for water supply and booster sets, for industrial applications, irrigation systems, etc.

### ※ EFFICIENT

Thanks to their high hydraulic performance and the low costs of investment and maintenance, the FCR pumps reduce the electricity consumption.

### ※ SILENT OPERATION

With the multi-stage construction, the operating noise is particularly reduced. The new electric motor, designed to operate with an inverter, has a silent operation.

### ※ COMPACT

The FCR pumps have small dimensions thus facilitating an easy installation even in small spaces.

### PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m<sup>3</sup>/h)
- Head up to **67 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10°C** and **+60°C**
- Ambient temperature up to **+40°C**
- Max. working pressure **7 bar**
- Continuous service **S1**

### INSTALLATION AND USE

Suitable for pumping clean water and liquids which are not chemically aggressive towards the materials from which the pump is made. Because of their reliability and extremely silent operation, these

pumps are recommended for domestic applications, in particular for pressuring and distributing water in combination with small or medium pressure tanks, for gardening and irrigating systems, etc.

### OPTIONS AVAILABLE ON REQUEST

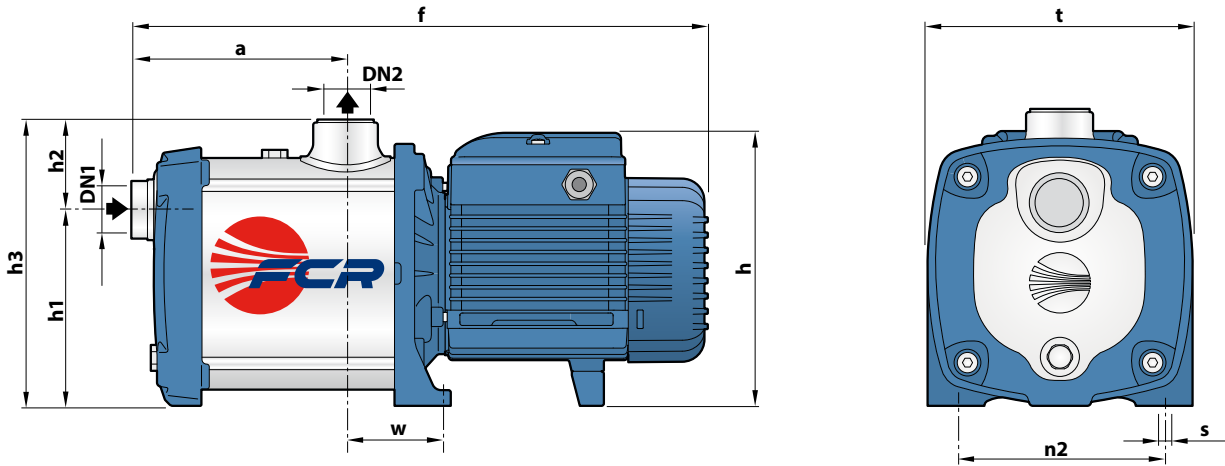
- Special mechanical seal
- Other voltages or 60 Hz frequency
- WRAS certified electric pumps



### WARRANTY

2 years as per our general terms and conditions of sale

## DIMENSIONS AND WEIGHTS



MODEL		PORTS		DIMENSIONS mm										kg	
Single phase	Three phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
FCRm 80/2	FCR 80/2	1"	1"	107	333	171	122	56	178	160	125	56.5	9	7.3	7.3
FCRm 80/3	FCR 80/3													8.5	8.5
FCRm 80/4	FCR 80/4			132	358	189								8.6	8.6
FCRm 80/5	FCR 80/5													9.7	9.8
FCRm 100/3	FCR 100/3			107	333	171								9.1	8.4
FCRm 100/4	FCR 100/4			132	377	189								12.2	10.6
FCRm 100/5	FCR 100/5													11.4	10.7

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE	
Single phase	230 V	240 V
FCRm 80/2	2.2 A	2.2 A
FCRm 80/3	3.2 A	3.2 A
FCRm 80/4	3.9 A	3.7 A
FCRm 80/5	5.5 A	5.3 A
FCRm 100/3	4.1 A	3.9 A
FCRm 100/4	5.8 A	5.6 A
FCRm 100/5	6.8 A	6.5 A

MODEL	VOLTAGE					
Three phase	230 V	400 V	690 V	240 V	415 V	720 V
FCR 80/2	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
FCR 80/3	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
FCR 80/4	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
FCR 80/5	4.3 A	2.5 A	1.4 A	4.2 A	2.4 A	1.4 A
FCR 100/3	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
FCR 100/4	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A
FCR 100/5	4.3 A	2.5 A	1.4 A	4.2 A	2.4 A	1.4 A

## CAPACITOR

MODEL	CAPACITY
Single phase	(230 V or 240 V)
FCRm 80/2	10 μF - 450 VL
FCRm 80/3	12.5 μF - 450 VL
FCRm 80/4	14 μF - 450 VL
FCRm 80/5	20 μF - 450 VL
FCRm 100/3	14 μF - 450 VL
FCRm 100/4	20 μF - 450 VL
FCRm 100/5	25 μF - 450 VL

CAPACITORS EN 60252-1/A1

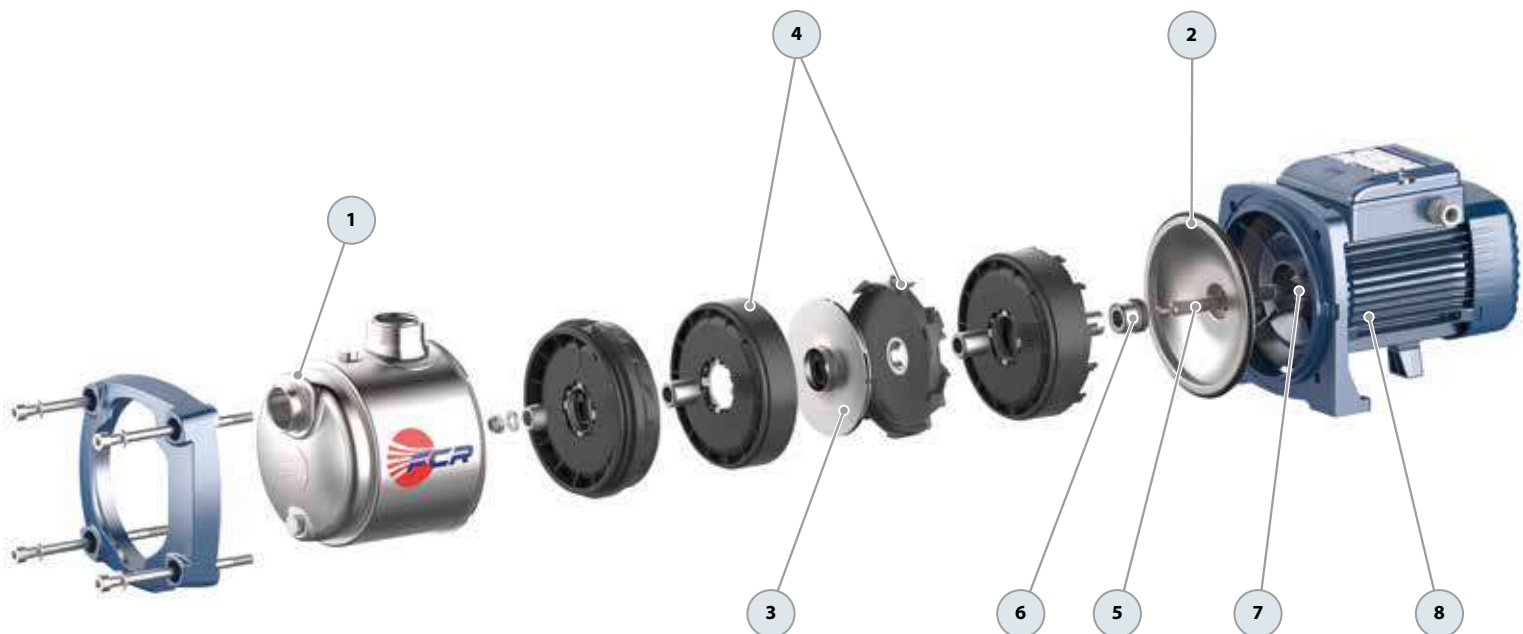


# FCR 80-100

## Multi-stage centrifugal electric pumps

### POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	AISI 304 stainless steel with threaded ports in compliance with ISO 228/1				
2	<b>COVER</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Stainless steel AISI 304				
4	<b>DIFFUSERS</b>	Noryl complete with anti-wear rings				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<i>Electric pump Model</i>				
		FCR 80/2 FCR 80/3 FCR 80/4 FCR 100/3	6202 ZZ - C3 / 6201 ZZ			
		FCR 100/4 FCR 80/5 FCR 100/5	6203 ZZ / 6203 ZZ			
8	<b>ELECTRIC MOTOR</b>	<p><b>FCRm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>FCR:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <p>– Insulation: class F          – Protection: IP X4</p>				



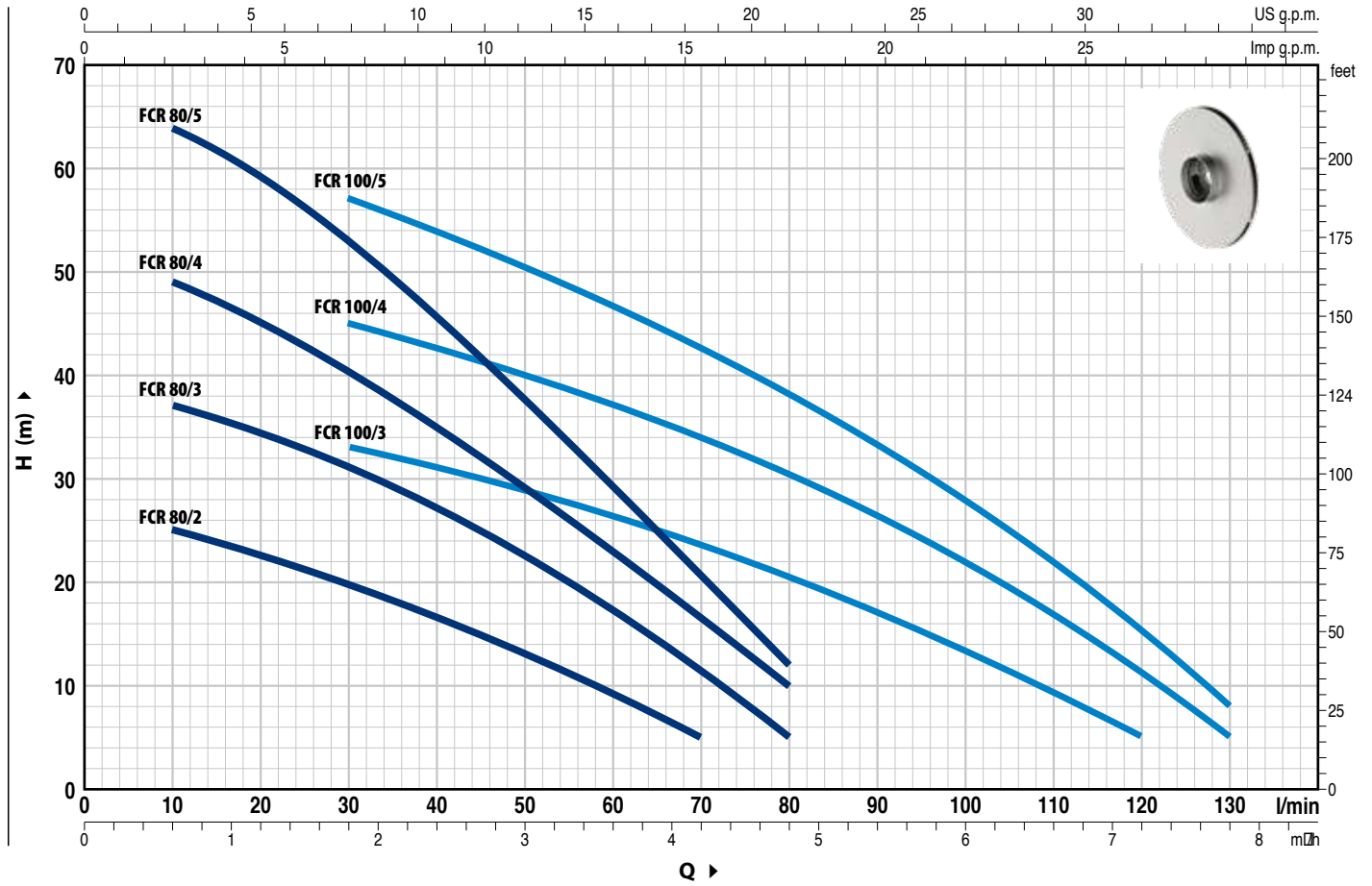
# FCR 80-100

## Multi-stage centrifugal electric pumps



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h																		
Single phase	Three phase	kW	HP			l/min	0	0.3	0.6	0.9	1.2	1.5	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	
					0	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130			
FCRm 80/2	FCR 80/2	0.37	0.50	IE3	H metres	27	26	25	24	22.5	21	20	16.5	13	9	5								
FCRm 80/3	FCR 80/3	0.45	0.60			40	38	37	36	34.5	33	31	27	22.5	17	11	5							
FCRm 80/4	FCR 80/4	0.55	0.75			52	50	49	47	44.5	42	40	34	28.5	22.5	16	10							
FCRm 80/5	FCR 80/5	0.75	1			67	66	64	62	59	56	53	45.5	37.5	29.5	20.5	12							
FCRm 100/3	FCR 100/3	0.55	0.75			38	37	36	35	34.5	33.5	33	31	28	26	23	20	17	13.5	10	5			
FCRm 100/4	FCR 100/4	0.75	1			50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5		
FCRm 100/5	FCR 100/5	1.1	1.5			63	62	61.5	60.5	59.5	58	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001 =





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**MADE IN ITALY**

Z-DPL90086UK

# FCR 90-130-200

## STAINLESS STEEL IMPELLERS

### Multi-stage centrifugal pumps

 Clean water

 Domestic use

 Civil use



#### PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m<sup>3</sup>/h)
- Head up to **111 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **11 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



#### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

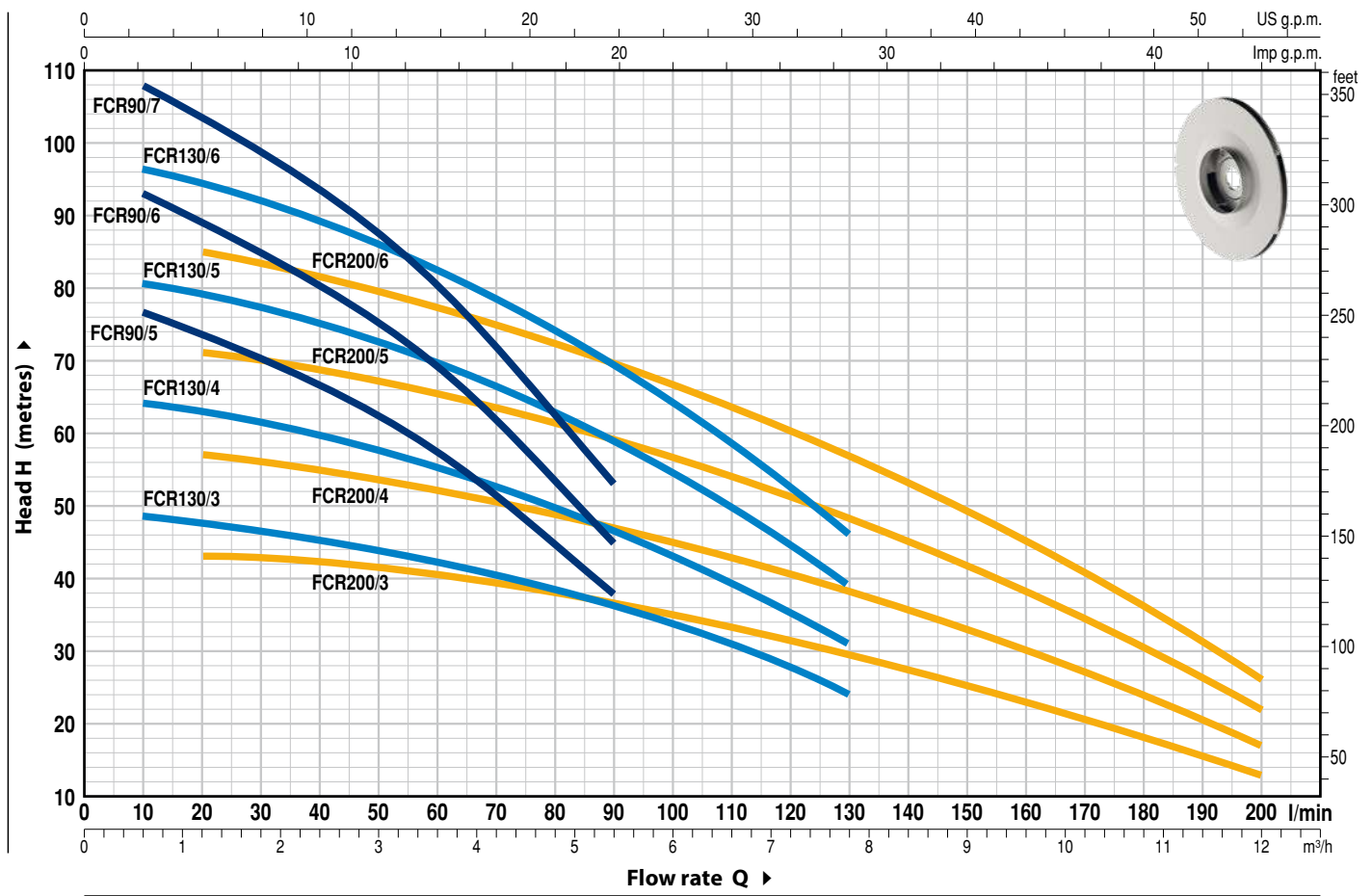
- Patent n. EP14755156.8

#### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IPX5 class protection

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h														
Single-phase	Three-phase	kW	HP			0	0.3	0.6	1.2	2.4	3.6	4.8	5.4	6.0	7.8	8.4	9.6	10.8	12.0	
					l/min	0	5	10	20	40	60	80	90	100	130	140	160	180	200	
FCRm 90/5	FCR 90/5	1.1	1.5	IE3	H metres	80	78	77	74	67	57	45	38							
FCRm 90/6	FCR 90/6	1.5	2			96	94	92	88	80	69	53	45							
FCRm 90/7	FCR 90/7	1.8	2.5			111	110	108	103	93	80	63	53							
FCRm 130/3	FCR 130/3	1.1	1.5			49	49	48.5	47.5	45	42.5	38.5	36	33.5	24					
FCRm 130/4	FCR 130/4	1.5	2			65	65	64	63	60	56	50	47	43	31					
FCRm 130/5	FCR 130/5	1.8	2.5			81	81	80.5	79	75	70	62.5	59	54	39					
-	FCR 130/6	2.2	3			97	97	96.5	94.5	90	83	74.5	69	64	46					
FCRm 200/3	FCR 200/3	1.1	1.5			44	43.5	43.5	43	42	40.5	38	36.5	35	29	27.5	23	18	13	
FCRm 200/4	FCR 200/4	1.5	2			58	57.5	57.5	57	55	52.5	49.5	47	45	38	35.5	30	24	17	
FCRm 200/5	FCR 200/5	1.8	2.5			73	72	71.5	71	69	65.5	62	59	56.5	48	44.5	38	30	22	
-	FCR 200/6	2.2	3	87	86	85.5	85	82	78	73	69	67	57	53	45	36	26			

Q = Flow rate H = Total manometric head HS = Suction height

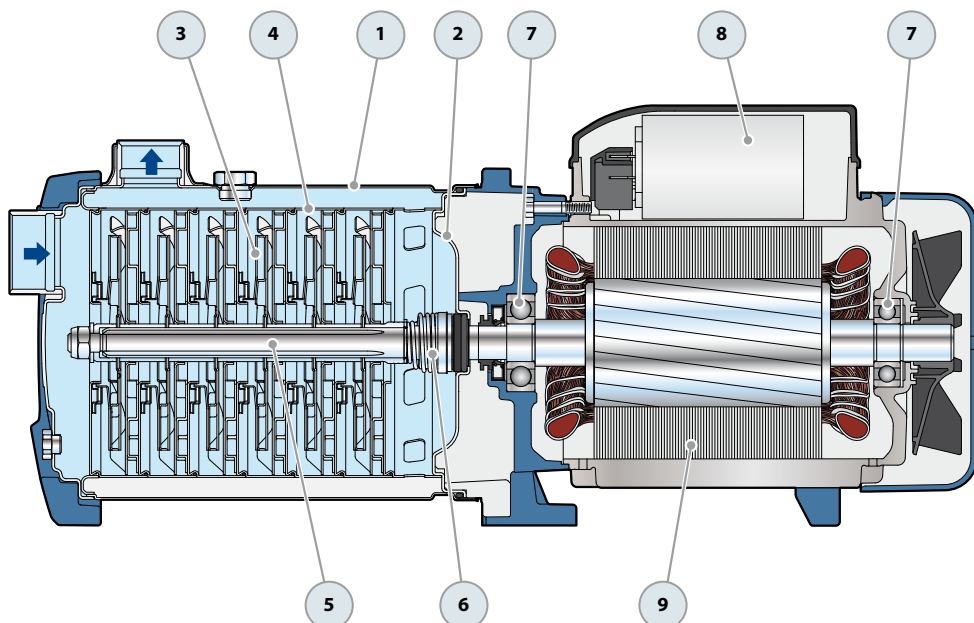
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

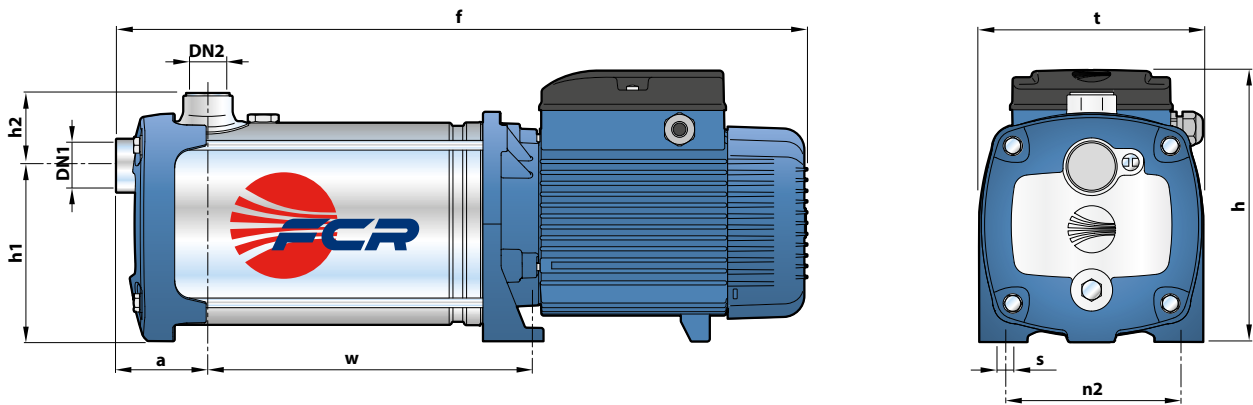
# FCR 90-130-200

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1			
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304			
3	<b>IMPELLERS</b>	Stainless steel AISI 304			
4	<b>DIFFUSERS</b>	Stainless steel AISI 304			
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431			
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>	
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>
		<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic NBR
7	<b>BEARINGS</b>	<b>6304 2RS - C3 / 6204 ZZ - C3E</b>			
8	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>		
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>	
		<b>FCRm 90/5</b>	<b>31.5 µF - 450 VL</b>	<b>60 µF - 250 VL</b>	
		<b>FCRm 130/3</b>			
		<b>FCRm 200/3</b>			
<b>FCRm 90/6</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>			
<b>FCRm 130/4</b>					
<b>FCRm 200/4</b>					
		<b>FCRm 90/7</b>	<b>50 µF - 450 VL</b>	-	
		<b>FCRm 130/5</b>			
		<b>FCRm 200/5</b>			
9	<b>ELECTRIC MOTOR</b>	<b>FCRm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. <b>FCR:</b> three-phase 230/400 V - 50 Hz. <b>⇒ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b> - Insulation: class F - Protection: IP X4			



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
FCRm 90/5	FCR 90/5	1 1/4"	1"	75	497	228	145	59	185	145	191	11	20.3	19.8
FCRm 90/6	FCR 90/6				523						217		21.0	21.9
FCRm 90/7	FCR 90/7				569						243		26.0	26.0
FCRm 130/3	FCR 130/3				445						139		18.1	18.1
FCRm 130/4	FCR 130/4				471						165		20.0	20.1
FCRm 130/5	FCR 130/5				517						191		23.7	23.8
-	FCR 130/6				543						217		-	24.8
FCRm 200/3	FCR 200/3				445						139		18.1	18.1
FCRm 200/4	FCR 200/4				471						165		20.0	20.1
FCRm 200/5	FCR 200/5				518						191		23.7	23.6
-	FCR 200/6				543						217		-	24.4

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
FCRm 90/5	9.0 A	8.6 A	18.0 A
FCRm 90/6	10.5 A	10.1 A	21.0 A
FCRm 90/7	12.5 A	12.0 A	-
FCRm 130/3	8.5 A	8.1 A	17.0 A
FCRm 130/4	10.3 A	9.9 A	26.0 A
FCRm 130/5	12.5 A	12.0 A	-
FCRm 200/3	8.7 A	8.3 A	17.4 A
FCRm 200/4	10.5 A	10.1 A	21.0 A
FCRm 200/5	12.5 A	12.0 A	-

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
FCR 90/5	6.1 A	3.5 A	2.0 A	5.9 A	3.4 A	1.9 A
FCR 90/6	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
FCR 90/7	8.3 A	4.8 A	2.8 A	8.0 A	4.6 A	2.7 A
FCR 130/3	5.6 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
FCR 130/4	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
FCR 130/5	8.7 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A
FCR 130/6	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
FCR 200/3	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
FCR 200/4	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
FCR 200/5	8.7 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A
FCR 200/6	9.5 A	5.5 A	3.2 A	9.2 A	5.3 A	3.0 A

# FCR 15-30

## Multi-stage centrifugal pumps

 Clean water

 Civil use

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **800 l/min** (48 m<sup>3</sup>/h)
- Head up to **120 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-15 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **12 bar**
- Continuous service **S1**

### INSTALLATION AND USE

For quiet running and low power consumption these pumps are recommended for water supply and water pressurisation with booster sets, for industrial applications, irrigation systems, etc.

Very high performance thanks to an accurate fluid dynamic design. All the components of the pump are made of stainless steel with smooth surfaces which reduce friction losses and increase the efficiency.

With the multi-stage construction the operating noise is particularly reduced. The new concept electric motor, designed to also operate with an inverter, has a balanced low noise operation. Efficiency Class IE3, Insulation Class F and Protection Class IP 55.

The pump components are made of high-thickness stamped stainless steel.

The mechanical seal in GRAPHITE-CERAMIC-NBR allows reliable and regular operation for a long period of time.

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150


EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

### OPTIONS AVAILABLE ON REQUEST

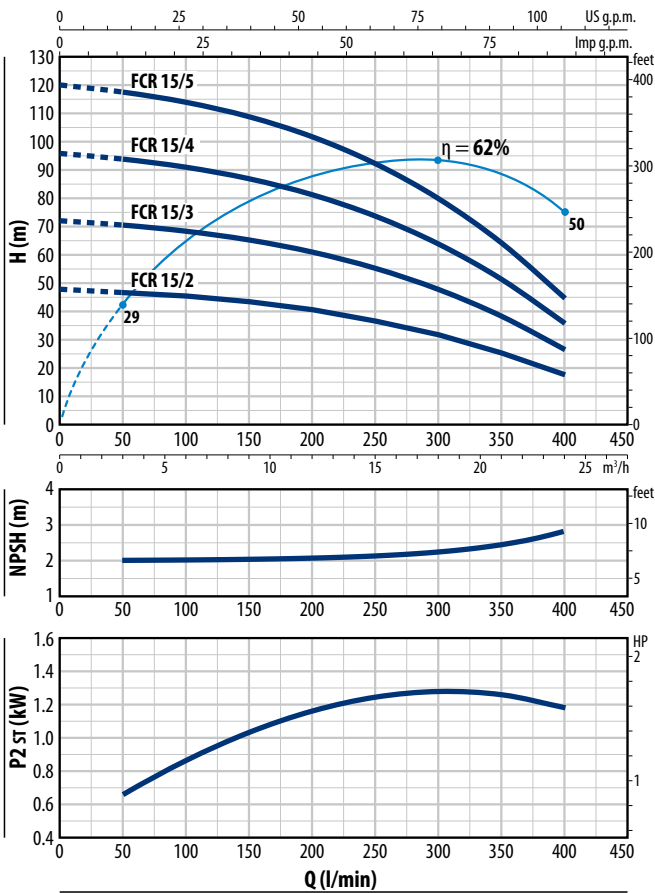
- Other voltages or 60 Hz frequency.
- Pump in AISI 316 stainless steel.
- For liquids with higher or lower temperatures.
- Pump body with NPT ANSI B 1.20.1 threaded ports
- WRAS certified electric waterpump 
- Supply of ISO 228/1 flanges for the suction and delivery ports in AISI 304 stainless steel.



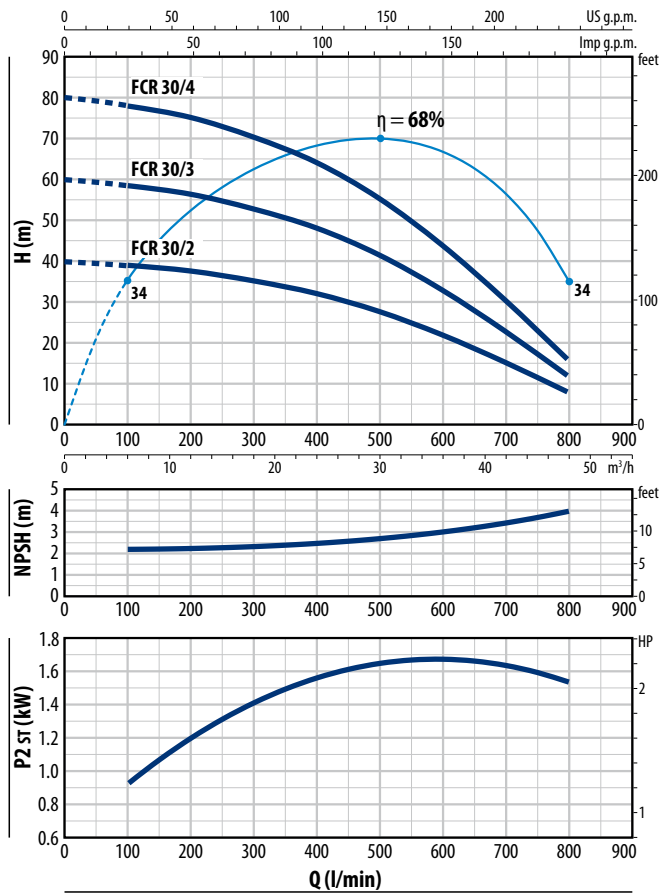
## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m

### FCR 15



### FCR 30



### FCR 15

MODEL	POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h					
	kW	HP			0	3	6	12	18	24
Three-phase				Q	0	50	100	200	300	400
FCR 15/2	3	4	IE3	H metres	48	47	45.5	40.5	32	18
FCR 15/3	4	5.5			72	70	68.5	61	48	27
FCR 15/4	5.5	7.5			96	94	91	81	64	36
FCR 15/5	7.5	10			120	117	114	102	80	45

### FCR 30

MODEL	POWER (P <sub>2</sub> )		▲	Q	m <sup>3</sup> /h						
	kW	HP			0	6	12	18	24	36	48
Three-phase				Q	0	100	200	300	400	600	800
FCR 30/2	4	5.5	IE3	H metres	40	39	37.5	35	31.5	22	8
FCR 30/3	5.5	7.5			60	58.5	56	52.5	47.5	33	12
FCR 30/4	7.5	10			80	78	75	70	63	44	16

Q = Flow rate H = Total manometric head HS = Suction height

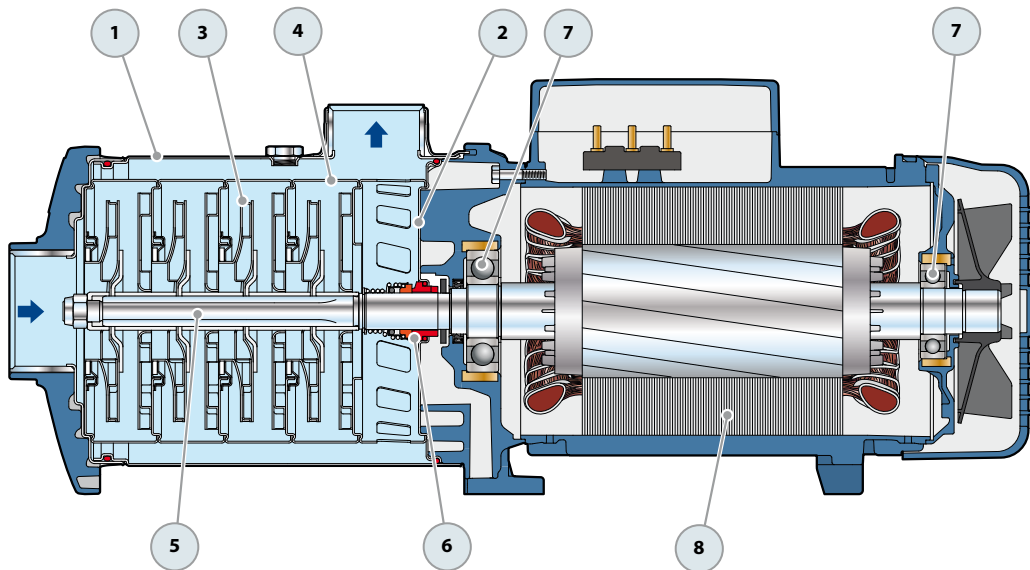
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# FCR 15-30

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

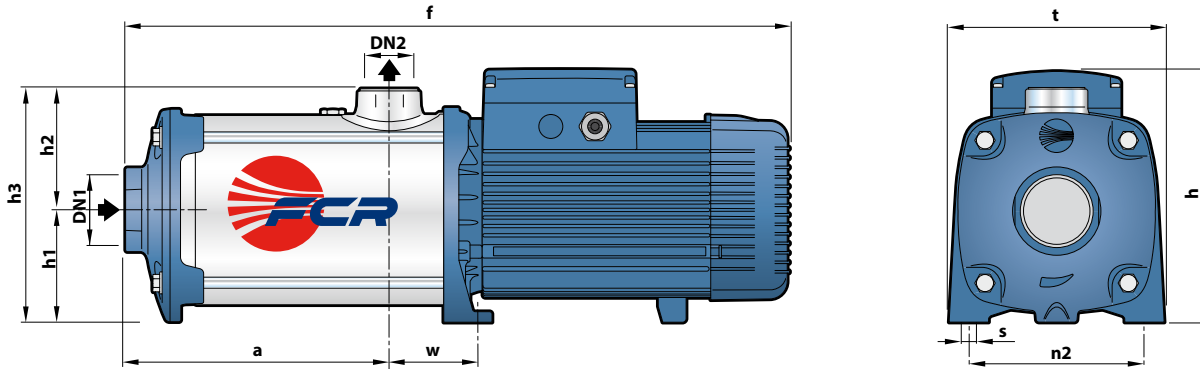
1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1			
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304			
3	<b>IMPELLERS</b>	Stainless steel AISI 304			
4	<b>DIFFUSERS</b>	Stainless steel AISI 304			
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 316L			
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>	
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>
		<b>FN-KU-24</b> <b>ISO 3069</b> <b>EN 12756</b>	<b>Ø 24 mm</b>	Graphite	Ceramic
					Elastomer
					NBR
7	<b>BEARINGS</b>	<b>6307 ZZ - C3 / 6206 ZZ - C3</b>			
8	<b>ELECTRIC MOTOR</b>	Three-phase 230/400 V - 50 Hz. ➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP 55			





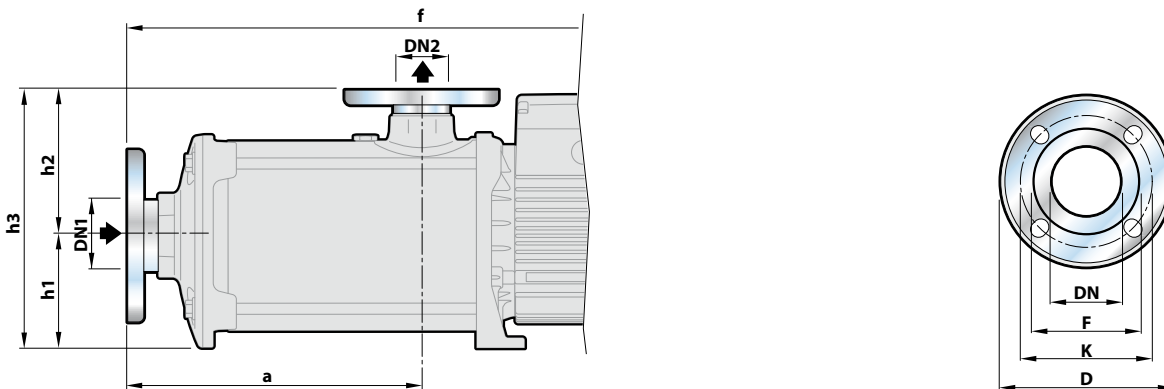
## DIMENSIONS AND WEIGHT

### WITH THREADED PORTS



MODEL	PORTS		DIMENSIONS mm										kg
	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	
<b>Three-phase</b>													3~
FCR 15/2	2½"	2"	155	533	271	120	132	252	234	190	96	12	34.0
FCR 15/3			199	577									39.5
FCR 15/4			243	621									49.4
FCR 15/5			286	715									56.8
FCR 30/2			155	533									36.6
FCR 30/3	199	577	44.3										
FCR 30/4	243	671	54.4										

### WITH FLANGED PORTS



MODEL	PORTS		DIMENSIONS mm				
	DN1	DN2	a	f	h1	h2	h3
<b>Three-phase</b>							
FCR 15/2	65	50	189	566	120	165	285
FCR 15/3			233	610			
FCR 15/4			277	654			
FCR 15/5			320	748			
FCR 30/2			189	566			
FCR 30/3	233	610	120	165	285		
FCR 30/4	276	704					

FLANGES	D	K	F	HOLES	
				N°	Ø (mm)
50	165	125	99	4	18
65	185	145	118	4	18

## ABSORPTION

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
<b>Three-phase</b>						
FCR 15/2	11.4 A	6.6 A	3.8 A	10.9 A	6.3 A	3.7 A
FCR 15/3	15.2 A	8.8 A	5.1 A	14.6 A	8.4 A	4.9 A
FCR 15/4	19.4 A	11.2 A	6.5 A	18.6 A	10.7 A	6.2 A
FCR 15/5	24.4 A	14.1 A	8.2 A	23.4 A	13.5 A	7.8 A
FCR 30/2	15.2 A	8.8 A	5.1 A	14.6 A	8.4 A	4.9 A
FCR 30/3	19.4 A	11.2 A	6.5 A	18.6 A	10.7 A	6.2 A
FCR 30/4	24.4 A	14.1 A	8.2 A	23.4 A	13.5 A	7.8 A

## Vertical multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m<sup>3</sup>/h)
- Head up to **114 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+60 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **11 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1      EN 60034-1  
IEC 60335-1      IEC 60034-1  
CEI 61-150      CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management  
system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made.

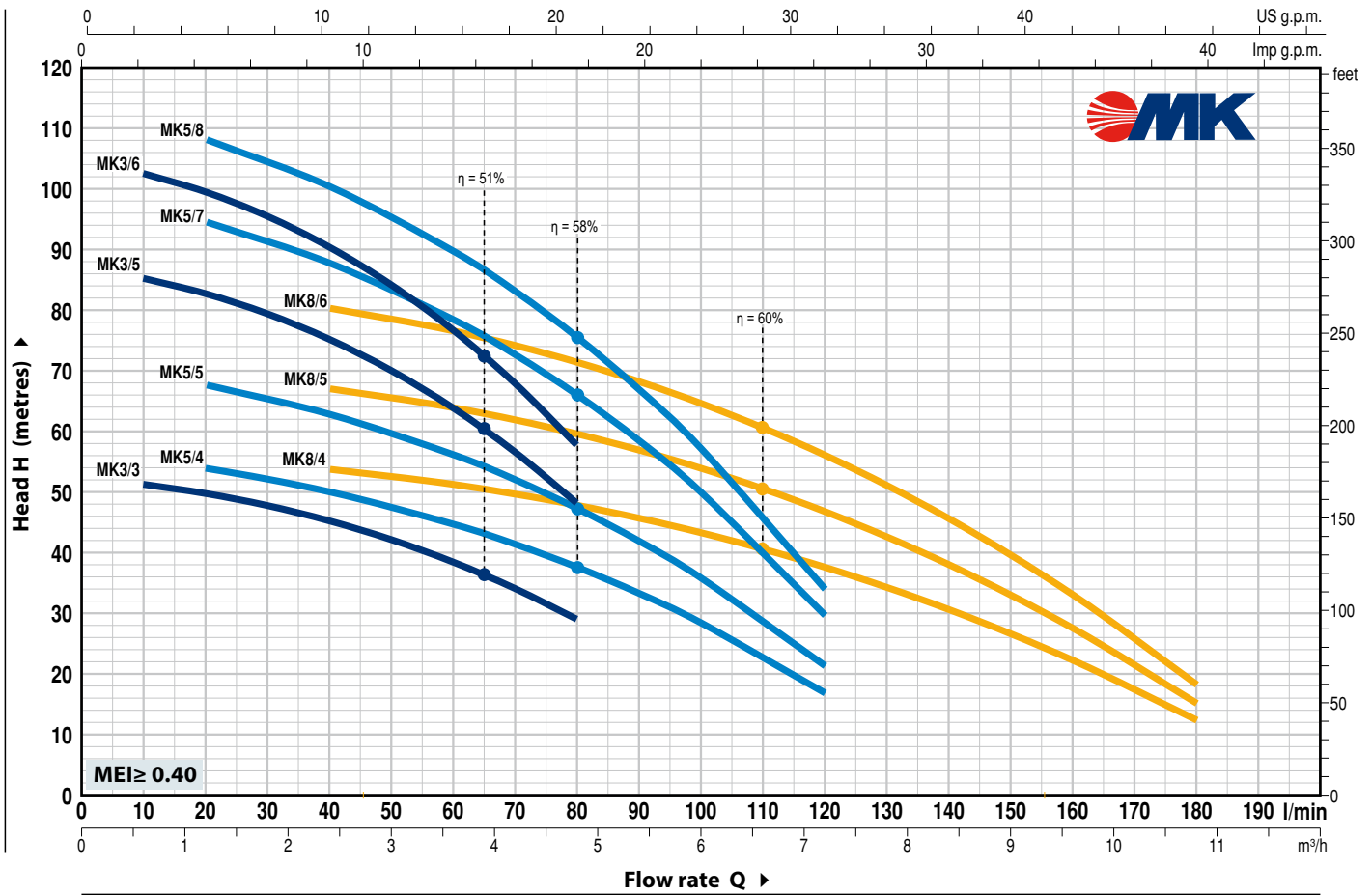
The high performance and adaptability to a wide range of applications make them an ideal choice in domestic, civil and industrial applications, in particular for the distribution of water in combination with pressure tanks and for boosting pressure in the network. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

# CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	Flow rate															
Single-phase	Three-phase	kW	HP			m <sup>3</sup> /h	0	0.6	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8				
					l/min	0	10	20	40	60	80	100	120	140	160	180					
MK <sub>m</sub> 3/3	MK 3/3	0.75	1	IE3	H metri	52.5	51.5	50	45	38.5	29										
MK <sub>m</sub> 3/5	MK 3/5	1.1	1.5			87	85	83	75	64	48										
MK <sub>m</sub> 3/6	MK 3/6	1.5	2			105	103	100	90	77	58										
MK <sub>m</sub> 5/4	MK 5/4	0.75	1	IE3		57	-	54	50	45	37.5	28.5	17								
MK <sub>m</sub> 5/5	MK 5/5	1.1	1.5			71	-	67.5	62.5	56	47	35.5	21.5								
MK <sub>m</sub> 5/7	MK 5/7	1.5	2			99	-	95	88	78	66	50	30								
MK <sub>m</sub> 5/8	MK 5/8	2.2	3	IE3		114	-	108	100	90	75	57	34								
MK <sub>m</sub> 8/4	MK 8/4	1.1	1.5			56	-	-	53.5	51	47.5	43	37.5	30.5	22.1	12					
MK <sub>m</sub> 8/5	MK 8/5	1.5	2			70	-	-	67	64	59.5	54	47	38	27.5	15.5					
MK <sub>m</sub> 8/6	MK 8/6	2.2	3	84		-	-	80	77	72	64.5	56	45.5	33	18.5						

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY</b>	Cast iron with an Epoxy Electro Coating complete with threaded suction port ISO 228/1				
2	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304				
3	<b>DELIVERY BODY</b>	Cast iron with an Epoxy Electro Coating complete with threaded delivery port ISO 228/1				
4	<b>IMPELLERS AND DIFFUSERS</b>	Noryl®				
5	<b>DIAPHRAGMS</b>	Stainless steel AISI 304 complete with anti-wear rings				
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
7	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
8	<b>BEARINGS</b>	6304 ZZ / 6204 ZZ				

## 9 CAPACITOR

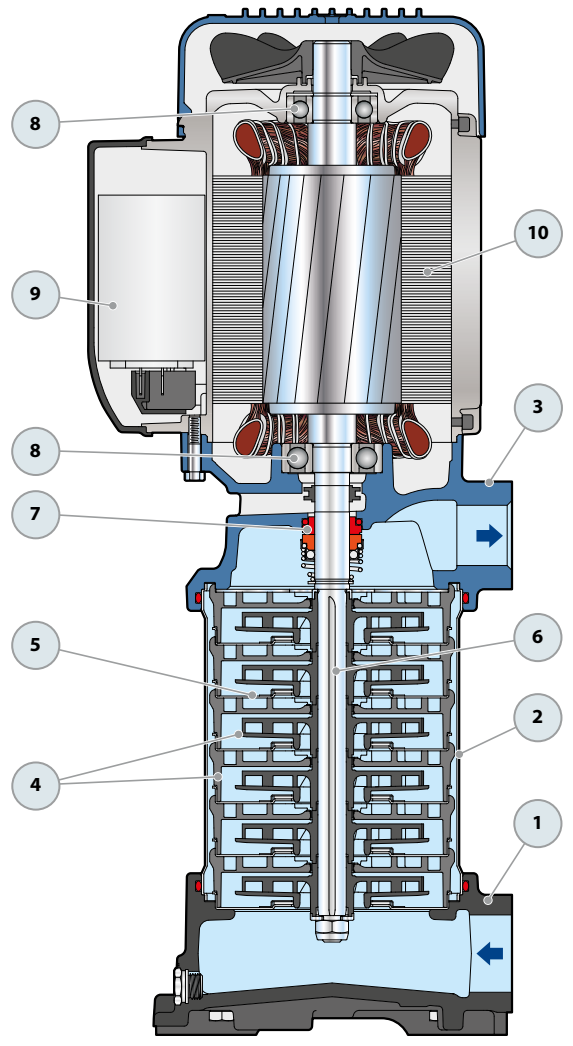
**10 ELECTRIC MOTOR**

**MKm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

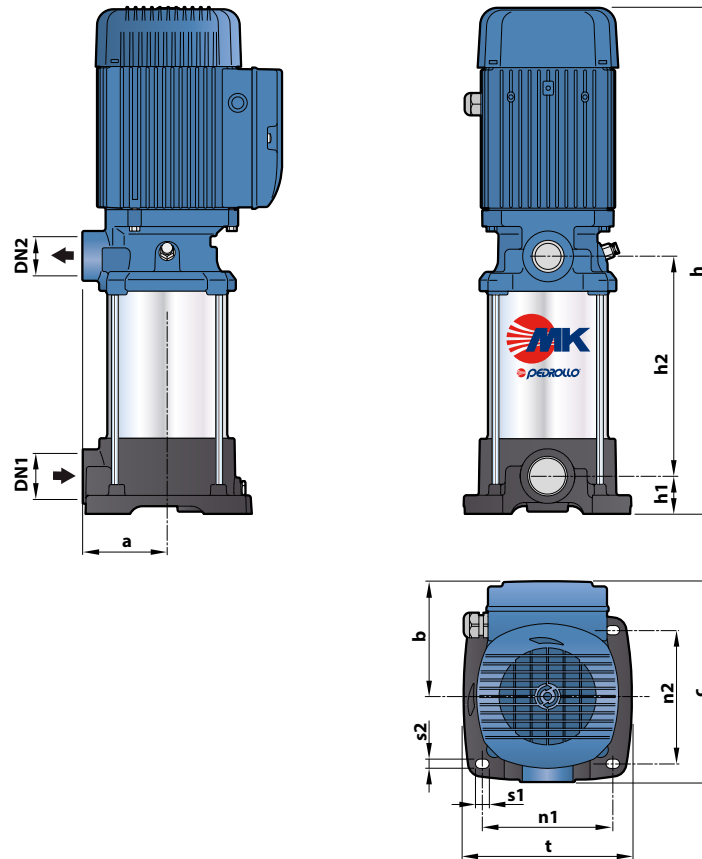
**MK:** three-phase 230/400 V - 50 Hz

⇒ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

- Insulation: class F
- Protection: IP X4



## DIMENSIONS AND WEIGHT



MODEL		PORTS		N. STAGES	DIMENSIONS mm												kg	
Single-phase	Three-phase	DN1	DN2		a	h	h1	h2	n1	n2	t	b	c	s1	s2	1~	3~	
MKm 3/3	MK 3/3	1 1/4"	1"	3	93	447	41.5	132.5	143	146	185	127	220	14.5	10	20.0	20.1	
MKm 3/5	MK 3/5			5		501		186.5								22.0	22.0	
MKm 3/6	MK 3/6			6		528		213.5								23.9	24.0	
MKm 5/4	MK 5/4			4		474		159.5								20.5	20.6	
MKm 5/5	MK 5/5			5		501		186.5								21.9	22.0	
MKm 5/7	MK 5/7			7		555		240.5								24.6	24.1	
MKm 5/8	MK 5/8			8		602		267.5								27.6	27.2	
MKm 8/4	MK 8/4			4		474		159.5								21.6	21.6	
MKm 8/5	MK 8/5			5		501		186.5								23.3	23.1	
MKm 8/6	MK 8/6			6		548		213.5								26.7	26.6	

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE		CAPACITANCE (230 V or 240 V)
	230 V	240 V	
Single-phase	230 V	240 V	(230 V or 240 V)
MKm 3/3	6.0 A	5.8 A	25 µF - 450 VL
MKm 3/5	7.8 A	7.5 A	31.5 µF - 450 VL
MKm 3/6	9.5 A	9.1 A	45 µF - 450 VL
MKm 5/4	5.7 A	5.5 A	25 µF - 450 VL
MKm 5/5	7.1 A	6.8 A	31.5 µF - 450 VL
MKm 5/7	9.3 A	8.9 A	45 µF - 450 VL
MKm 5/8	10.0 A	9.6 A	50 µF - 450 VL
MKm 8/4	7.8 A	7.5 A	31.5 µF - 450 VL
MKm 8/5	9.7 A	9.3 A	45 µF - 450 VL
MKm 8/6	11.1 A	10.6 A	50 µF - 450 VL

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
MK 3/3	4.3 A	2.5 A	1.4 A	4.1 A	2.4 A	1.3 A
MK 3/5	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.6 A
MK 3/6	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
MK 5/4	4.3 A	2.5 A	1.4 A	4.1 A	2.4 A	1.3 A
MK 5/5	4.7 A	2.7 A	1.6 A	4.5 A	2.6 A	1.5 A
MK 5/7	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
MK 5/8	7.4 A	4.3 A	2.5 A	7.1 A	4.1 A	2.4 A
MK 8/4	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.6 A
MK 8/5	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
MK 8/6	7.8 A	4.5 A	2.6 A	7.5 A	4.3 A	2.5 A

# **FUTURE JET<sup>®</sup>**

Self-priming "JET" pumps

**INTERNATIONAL  
PATENT**

**ENERGY SAVING  
UP TO 50%**



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**MADE IN ITALY**

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 **PEDROLLO<sup>®</sup>**  
*the spring of life*



-  Clean water
-  Civil use
-  Domestic use

## From an evolution of the classic JET concept a SUPER JET was born. The self-priming pump of the future!

Our Research and Development department has accomplished the evolution of the classic self-priming pump and designing the **FUTURE JET**.

**FUTURE JET**, which has an internationally filed patent, is able to obtain the same pressure as a classic JET whilst at the same time doubling its capacity and achieving a reduction in energy consumption of up to 50%.

- ※ High hydraulic efficiency
- ※ Energy savings up to 50%
- ※ Reduction of turbulence for a very stable operation of the pump
- ※ A better power/flow ratio



### A BRIEF HISTORY

Self-priming ejector pumps were designed about 60 years ago. These types of pumps were a great success, mainly for two reasons:

1. self-priming up to 9 metres in depth
2. an increase in pressure because of the internal recirculation of a part of the water already under pressure thanks to the impeller

On the other hand the greatest limit of this pump is the low flow rate, actually a half of what can be reached with a classic centrifugal pump of the same power. A classic JET pump will take twice the time of a centrifugal pump to process the same amount of water, thus doubling the energy consumption.

※ ***This limitation no longer applies with the new FUTURE JET.***

### PERFORMANCE RANGE

Flow rate up to **120 l/min (7.2 m<sup>3</sup>/h)**  
Head up to **58 m**

### APPLICATION LIMITS

Manometric suction lift up to **9 m (HS)**  
Liquid temperature between **-10 °C** and **+40 °C**  
Ambient temperature up to **+40 °C**  
Max. working pressure in pump body **6 bar**  
Continuous service **S1**

### INSTALLATION AND USE

Suitable for pumping clean water and liquids which are not chemically aggressive for the materials of the pump.

The self-priming **FUTURE JET** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to use, they are recommended for use in do-

mestic applications such as the distribution of water coupled with small or medium-sized pressure tanks for irrigating vegetable gardens or gardens, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

- ※ **FUTURE JET® Registered Trade Mark n° 018198453**
- ※ **Registered EU design n° 002218610**
- ※ **Patent n° PCT/IT2019/050168**

### OPTIONS AVAILABLE ON REQUEST

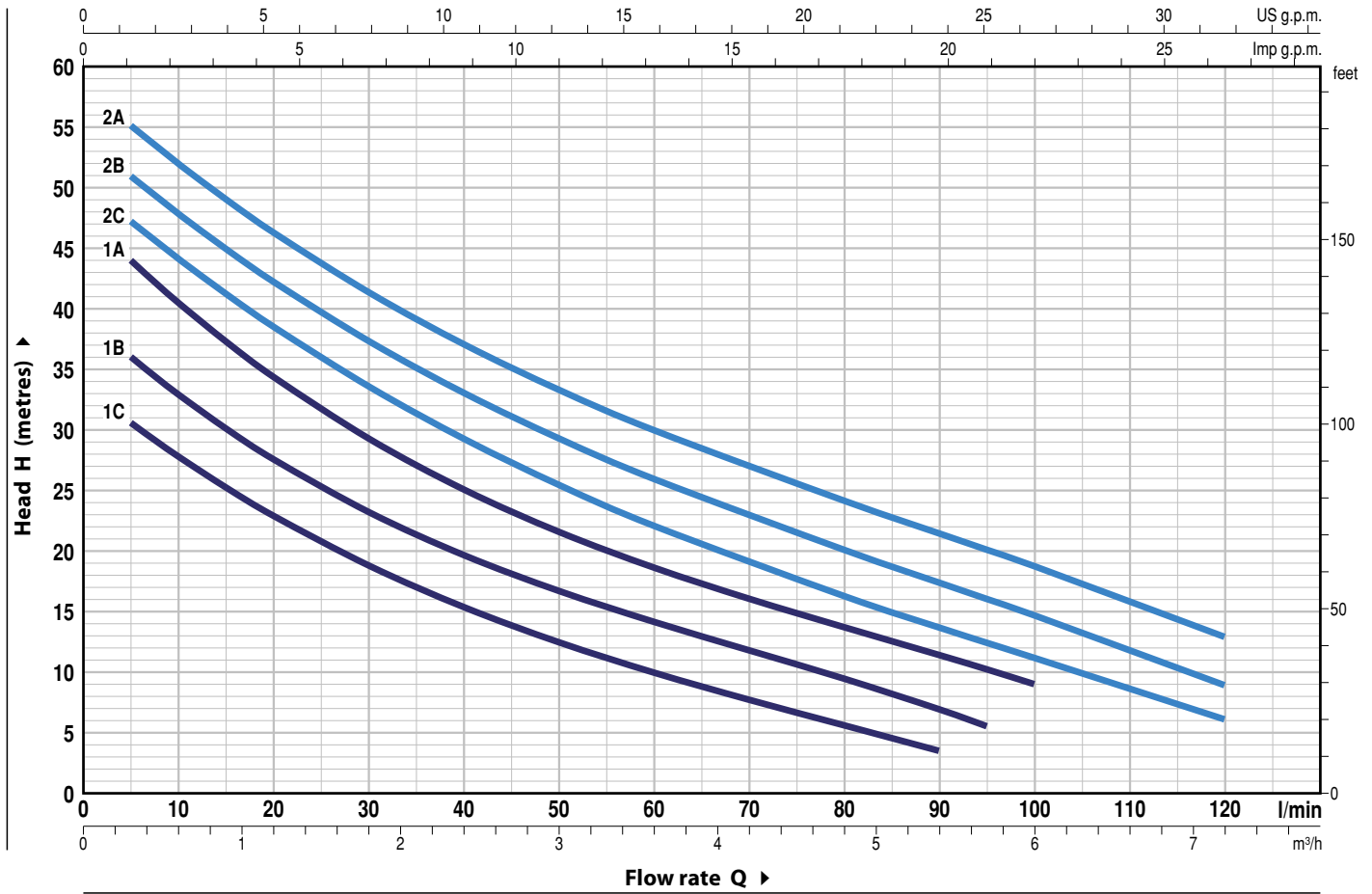
- Other voltages or 60 Hz frequency
- Pumps with impeller in technopolymer

### WARRANTY

2 years in accordance with our general conditions of sale

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup> HS= 0 m**

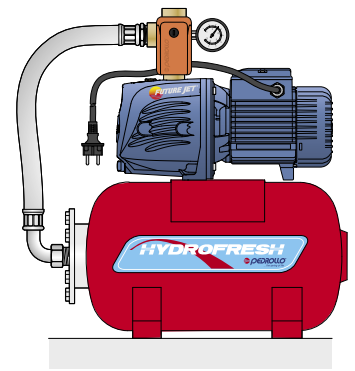
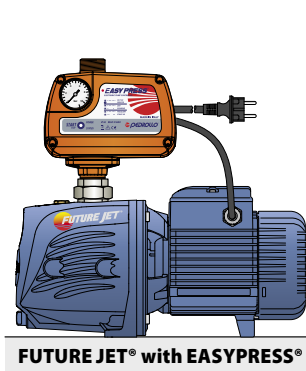
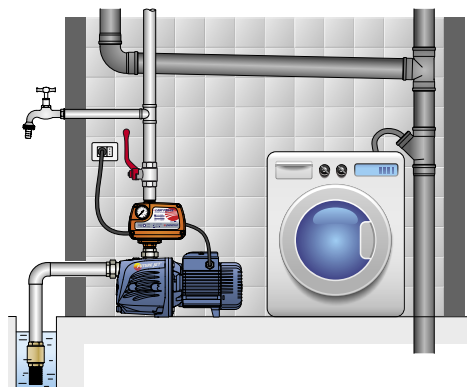


MODEL		POWER (P <sub>2</sub> )		Q	H metres												
Single-phase	Three-phase	kW	HP ▲		0	0.3	0.6	1.2	2.4	3.6	4.8	5.4	5.7	6	7.2		
				l/min	0	5	10	20	40	60	80	90	95	100	120		
FUTURE JETm 1C	FUTURE JET 1C	0.37	0.50	H metres	33.5	30.5	27.7	22.9	15.4	10	6	3.5					
FUTURE JETm 1B	FUTURE JET 1B	0.48	0.65		39.5	36	33	27.6	19.7	14.2	9.5	7	5.5				
FUTURE JETm 1A	FUTURE JET 1A	0.55	0.75		48	44	40.6	34.5	25.2	18.7	13.7	11.4	10.2	9			
FUTURE JETm 2C	FUTURE JET 2C	0.75	1		50	47	43.8	38.3	29	22	16.2	13.5	12.3	11	6		
FUTURE JETm 2B	FUTURE JET 2B	0.90	1.25		54	51	47.8	42.2	33	26	20.2	17.5	16	14.7	9		
FUTURE JETm 2A	FUTURE JET 2A	1.1	1.5		58	55	51.8	46.2	37	30	24.2	21.5	20	18.8	13		

Q = Flow rate H = Total manometric head HS = Suction height  
 ▲ Three-phase motor efficiency class (IEC 60034-30-1)

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**STANDARD INSTALLATION**



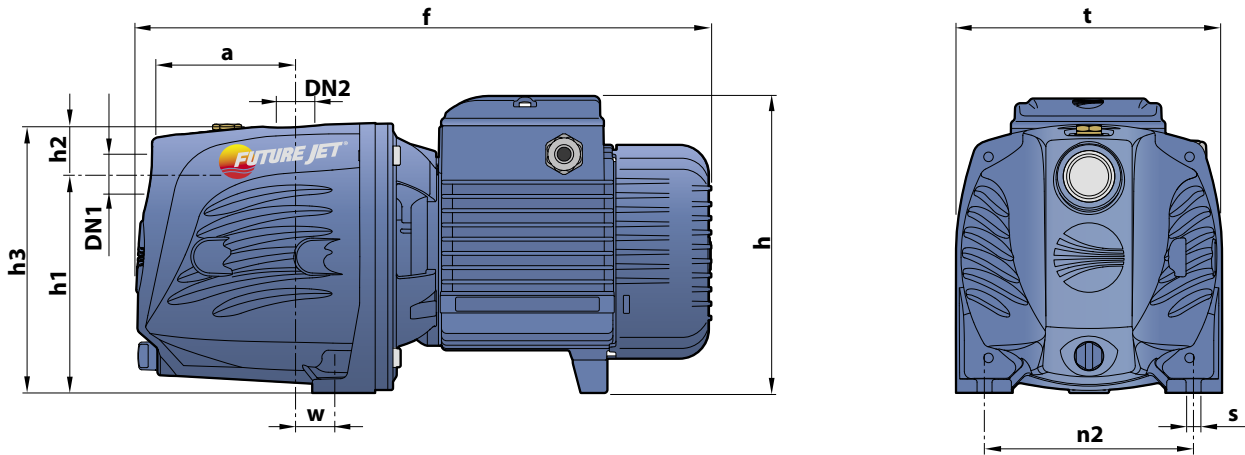


# Self-priming "JET" pumps

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1 (for <b>FUTURE JET 1</b> ) Cast iron, with threaded ports in compliance with ISO 228/1 (for <b>FUTURE JET 2</b> )					
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304					
3	<b>NOZZLE ASSEMBLY</b>	Noryl					
4	<b>IMPELLER</b>	Stainless steel AISI 304					
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
6	<b>MECHANICAL SEAL</b>	<b>Pump</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotating ring</i>	<i>Elastomer</i>
		<b>FUTURE JET 1</b>	<b>AR-12</b>	<b>Ø 12 mm</b>	Ceramic	Graphite	NBR
		<b>FUTURE JET 2</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<b>Pump</b>	<b>Model</b>				
		<b>FUTURE JET 1</b>	<b>6201 ZZ / 6201 ZZ</b>				
		<b>FUTURE JET 2</b>	<b>6203 ZZ / 6203 ZZ</b>				
8	<b>CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>				
		<i>Single-phase</i>	<i>(230 V o 240 V)</i>				
		<b>FUTURE JETm 1C</b>	<b>10 µF - 450 VL</b>				
		<b>FUTURE JETm 1B</b>	<b>12.5 µF - 450 VL</b>				
		<b>FUTURE JETm 1A</b>	<b>14 µF - 450 VL</b>				
		<b>FUTURE JETm 2C</b>	<b>20 µF - 450 VL</b>				
		<b>FUTURE JETm 2B</b>	<b>25 µF - 450 VL</b>				
<b>FUTURE JETm 2A</b>	<b>25 µF - 450 VL</b>						
9	<b>ELECTRIC MOTOR</b>	<b>FUTURE JETm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. <b>FUTURE JET:</b> three-phase 230/400 V - 50 Hz. <b>→ the three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP X4					



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
FUTURE JETm 1C	FUTURE JET 1C	1"	1"	94	357	171	127	35	162	158	124	24	10	9.7	9.7
FUTURE JETm 1B	FUTURE JET 1B													9.8	9.8
FUTURE JETm 1A	FUTURE JET 1A													10.7	9.8
FUTURE JETm 2C	FUTURE JET 2C			96	389	200*	147	33	180	180	142	22	10	13.4	13.4
FUTURE JETm 2B	FUTURE JET 2B													14.0	14.0
FUTURE JETm 2A	FUTURE JET 2A													15.0	14.0

(\*) h=220 mm for single-phase version at 110 V

## ELECTRICAL INPUTS

MODEL	VOLTAGE	
Single-phase	230 V	240 V
FUTURE JETm 1C	2.6 A	2.5 A
FUTURE JETm 1B	3.2 A	3.1 A
FUTURE JETm 1A	4.0 A	3.9 A
FUTURE JETm 2C	5.0 A	4.8 A
FUTURE JETm 2B	5.8 A	5.7 A
FUTURE JETm 2A	6.6 A	6.5 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
FUTURE JET 1C	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
FUTURE JET 1B	2.1 A	1.2 A	0.7 A	2.1 A	1.2 A	0.7 A
FUTURE JET 1A	2.8 A	1.6 A	0.9 A	2.8 A	1.6 A	0.9 A
FUTURE JET 2C	3.5 A	2.0 A	1.2 A	3.4 A	1.9 A	1.1 A
FUTURE JET 2B	4.6 A	2.7 A	1.6 A	4.5 A	2.6 A	1.5 A
FUTURE JET 2A	5.1 A	3.0 A	1.7 A	4.9 A	2.8 A	1.7 A

## PALLETIZATION

MODEL		GROUPAGE
Single-phase	Three-phase	n° pumps
FUTURE JETm 1C	FUTURE JET 1C	98
FUTURE JETm 1B	FUTURE JET 1B	98
FUTURE JETm 1A	FUTURE JET 1A	98
FUTURE JETm 2C	FUTURE JET 2C	72
FUTURE JETm 2B	FUTURE JET 2B	72
FUTURE JETm 2A	FUTURE JET 2A	72

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**MADE IN ITALY**

Z-DPL20010UK



### PERFORMANCE RANGE

- Flow rate up to **60 l/min** (3.6 m<sup>3</sup>/h)
- Head up to **48 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS


Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **JSW** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to use, they are recommended for use in domestic applications such as the distribution of water in combination with small or medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

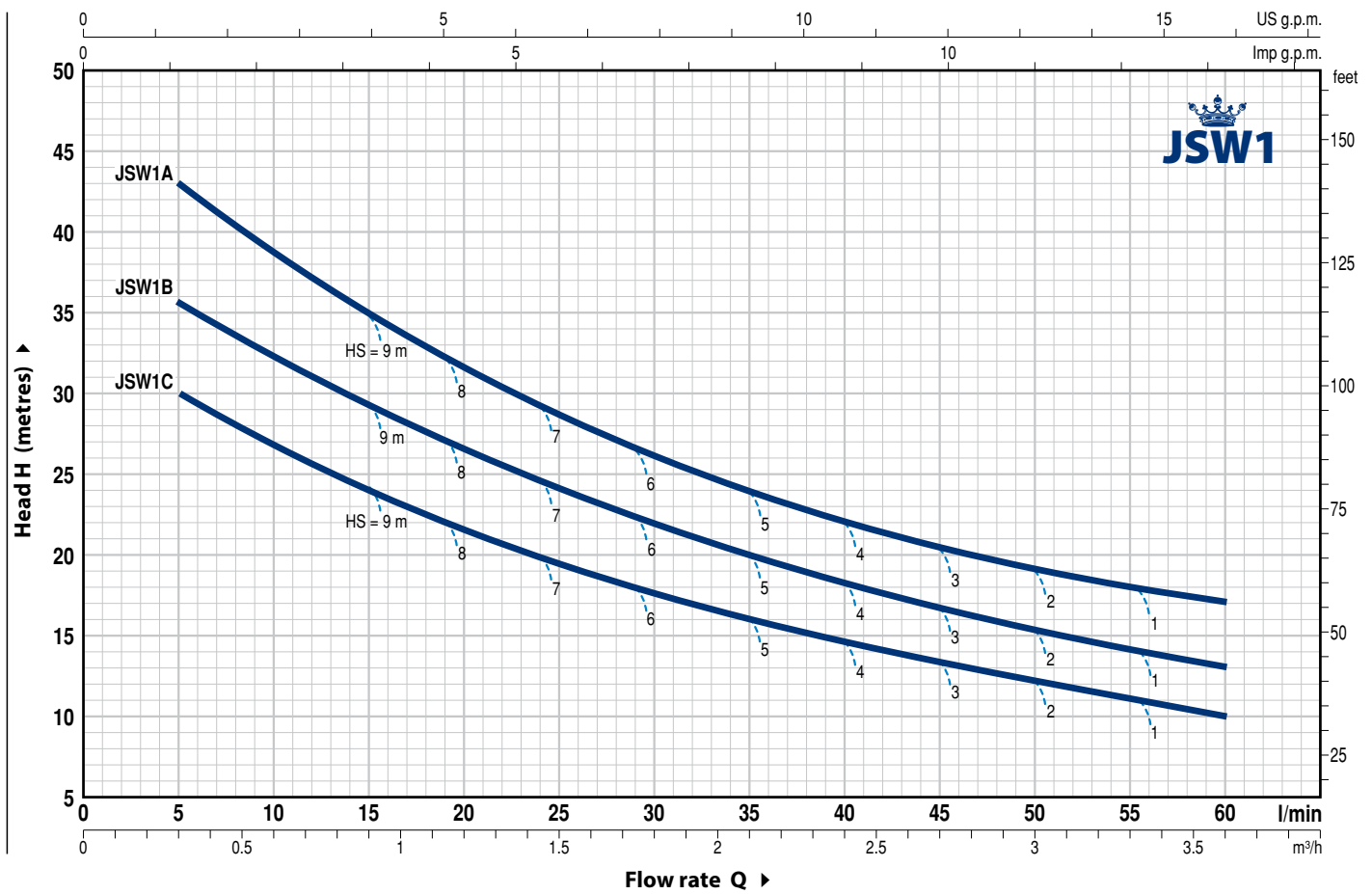
-  JSW® Registered Trade Mark n. 013073135
- Registered EU Design n. 002218610
- European Patent n. 1 510 696

### OPTIONS AVAILABLE ON REQUEST

- Pumps with technopolymer impeller
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



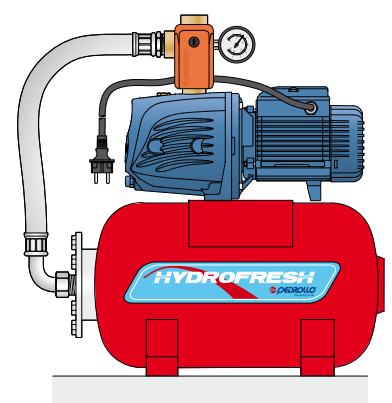
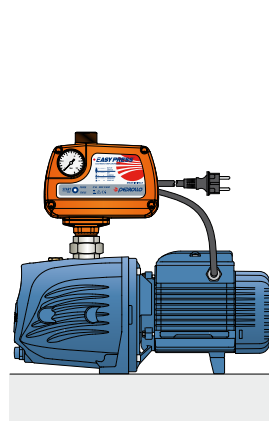
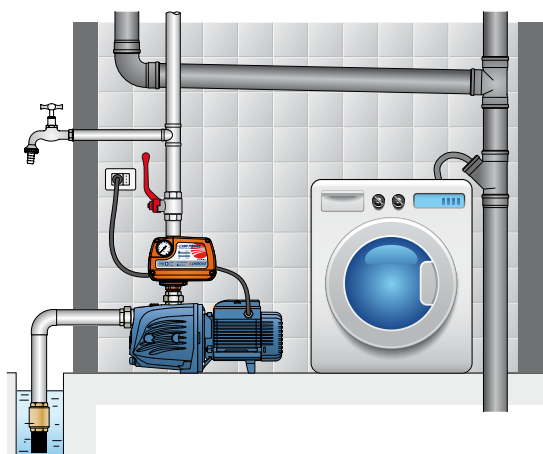
MODEL		POWER (P <sub>2</sub> )		Q	Flow rate										
Single-phase	Three-phase	kW	HP ▲		m <sup>3</sup> /h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6
JSWm 1C	JSW 1C	0.37	0.50	H metres	0	5	10	20	25	30	40	45	50	60	
JSWm 1B	JSW 1B	0.48	0.65		IE2	34	30	27	21.7	19.5	17.7	14.7	13.4	12.2	10
JSWm 1A	JSW 1A	0.55	0.75		IE3	39.5	35.5	32.4	26.6	24.2	22	18.3	16.7	15.3	13
					48	43	39	31.5	28.5	26	22	20.5	19	17	

Q = Flow rate H = Total manometric head HS = Suction height



Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

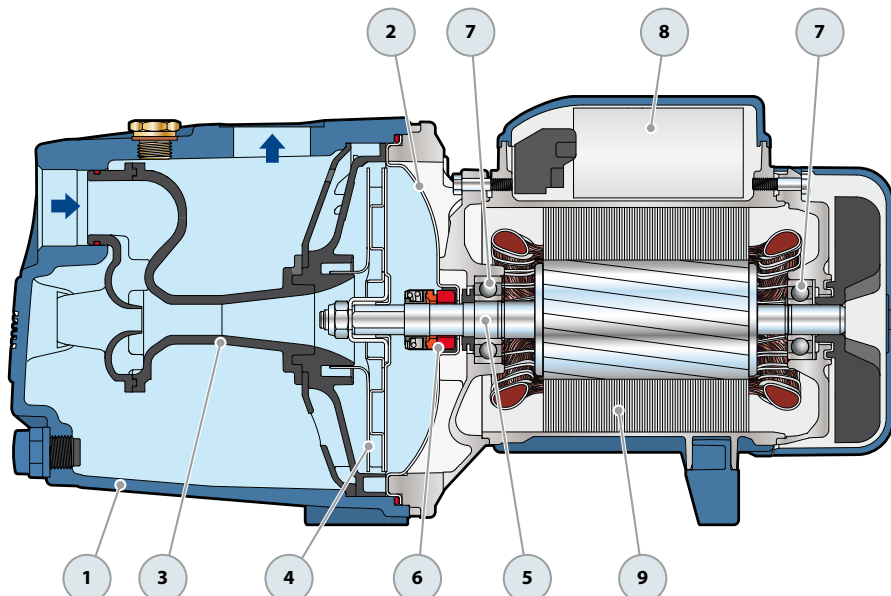
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## TYPICAL INSTALLATION

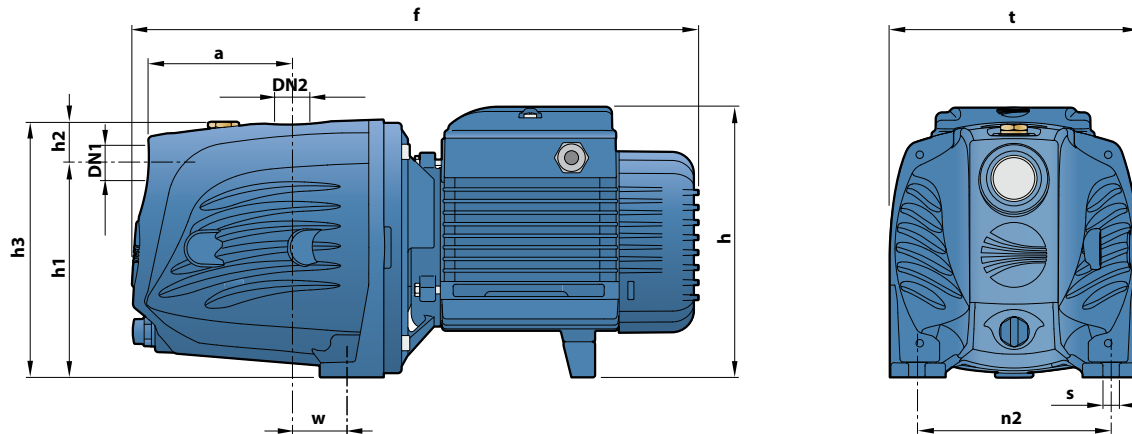


## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>NOZZLE ASSEMBLY</b>	Noryl				
4	<b>IMPELLER</b>	Stainless steel AISI 304				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ				
8	<b>CAPACITOR</b>	EN 60252-1/A1  				
9	<b>ELECTRIC MOTOR</b>	<p><b>JSWm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>JSW:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P2=0.48 kW in class IE2 and from P2=0.55 kW in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
JSWm 1C	JSW 1C	1"	1"	94	357	171	127	35	162	158	124	24	10	9.7	9.7
JSWm 1B	JSW 1B													9.8	9.8
JSWm 1A	JSW 1A													10.7	9.8

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
JSWm 1C	2.5 A	2.4 A	5.0 A
JSWm 1B	3.0 A	3.0 A	6.0 A
JSWm 1A	3.6 A	3.3 A	7.2 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
JSW 1C	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
JSW 1B	2.3 A	1.3 A	0.8 A	2.1 A	1.2 A	0.7 A
JSW 1A	2.8 A	1.6 A	0.9 A	2.6 A	1.5 A	0.9 A

## CAPACITORS

MODEL	CAPACITANCE	
	230 V or 240 V	110 V
Single-phase	230 V or 240 V	110 V
JSWm 1C	12.5 $\mu$ F - 450 VL	25 $\mu$ F - 450 VL
JSWm 1B	12.5 $\mu$ F - 450 VL	25 $\mu$ F - 450 VL
JSWm 1A	14 $\mu$ F - 450 VL	25 $\mu$ F - 450 VL

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
JSWm 1C	JSW 1C	98	140
JSWm 1B	JSW 1B	98	140
JSWm 1A	JSW 1A	98	140

## Self-priming "JET" pumps

-  Clean water
-  Domestic use
-  Civil use



### PERFORMANCE RANGE

- Flow rate up to **70 l/min** (4.2 m<sup>3</sup>/h)
- Head up to **70 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **7 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS


Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **JSW** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to use, they are recommended for use in domestic applications such as the distribution of water in combination with small or medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

-  JSW® Registered Trade Mark n. 013073135
- Registered EU Design n. 002218610
- European Patent n. 1 510 696

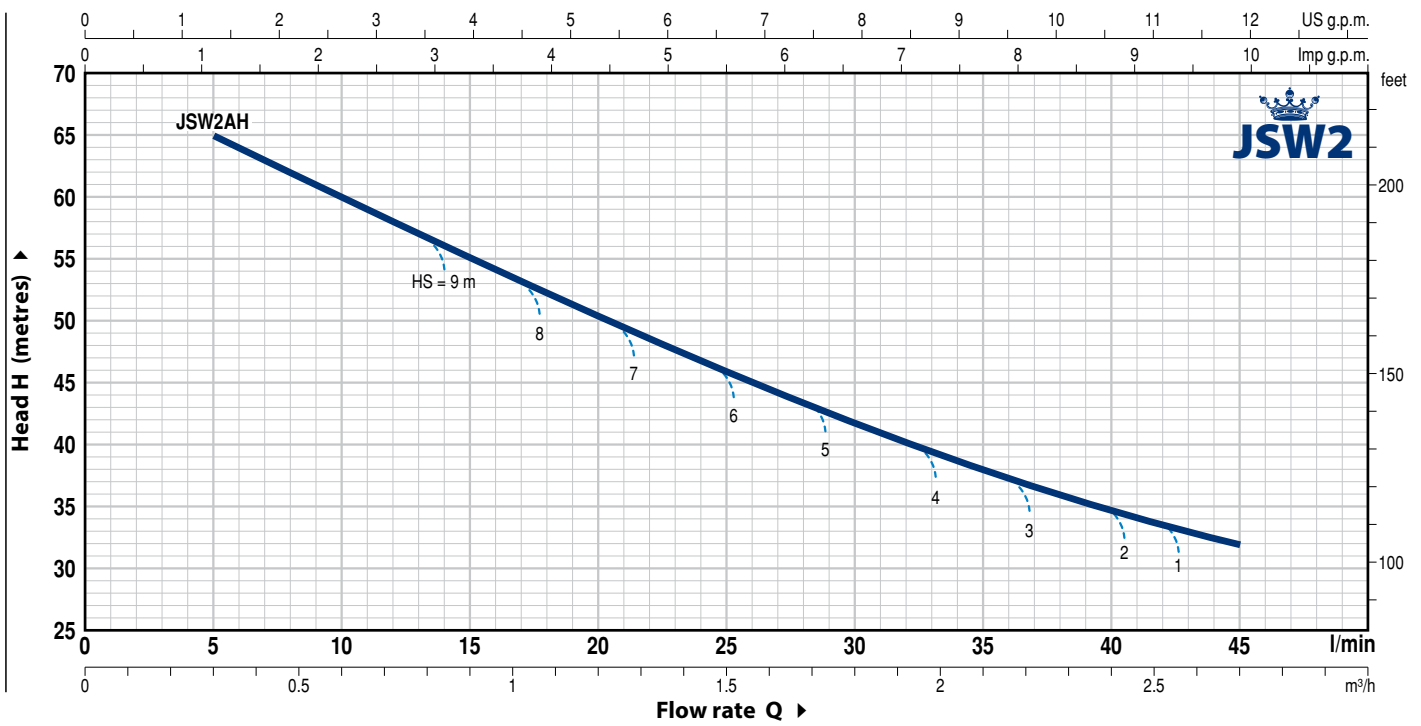
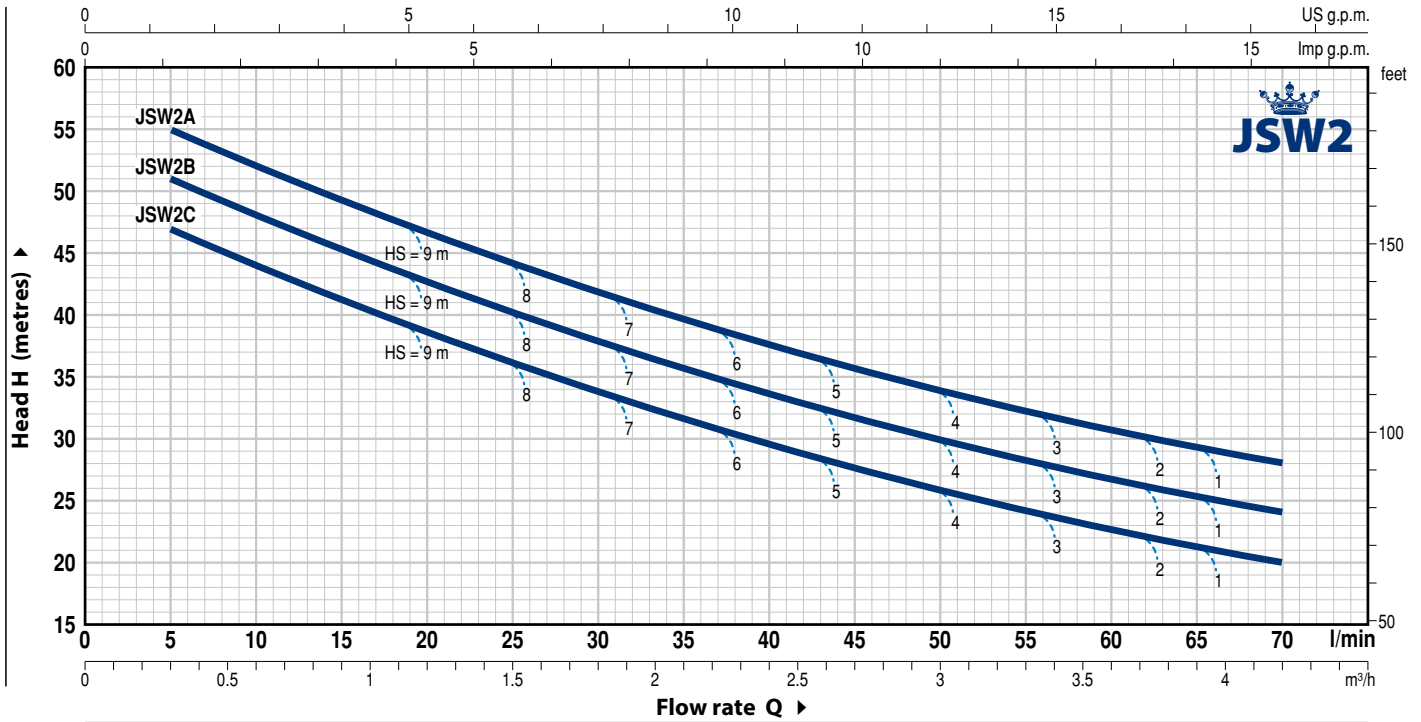
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	Flow rate									
Single-phase	Three-phase	kW	HP			m <sup>3</sup> /h	0	0.3	0.6	1.2	1.8	2.4	2.7	3.0	3.6
					l/min	0	5	10	20	30	40	45	50	60	70
JSWm 2C	JSW 2C	0.75	1	IE3	H metres	50	47	44	38.5	34	29.5	27.5	26	22.5	20
JSWm 2B	JSW 2B	0.90	1.25			54	51	48	42.5	38	33.5	31.5	30	26.5	24
JSWm 2A	JSW 2A	1.1	1.5			58	55	52	46.5	42	37.5	35.5	34	31	28
JSWm 2AH	JSW 2AH	1.1	1.5			70	65	60	50.5	41.5	34.5	32			



Q = Flow rate H = Total manometric head HS = Suction height

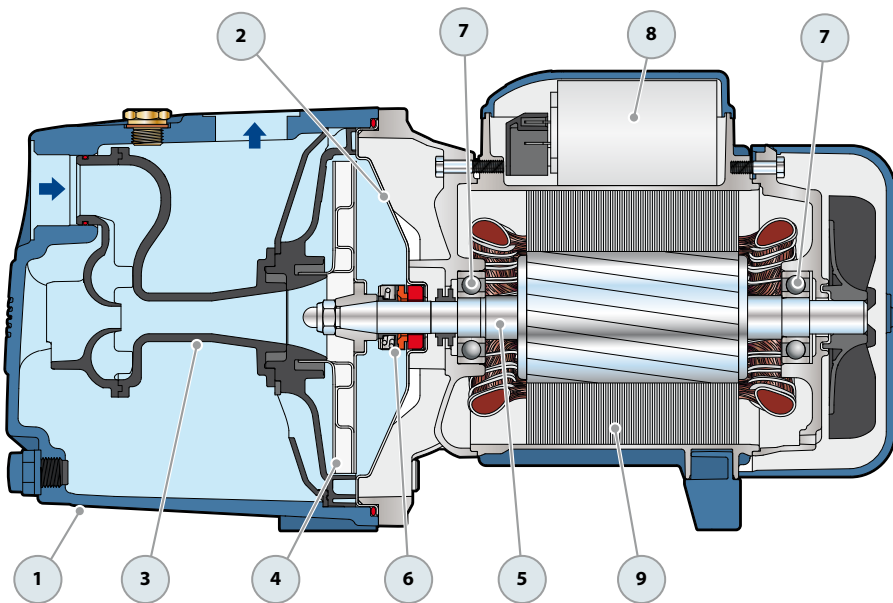
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

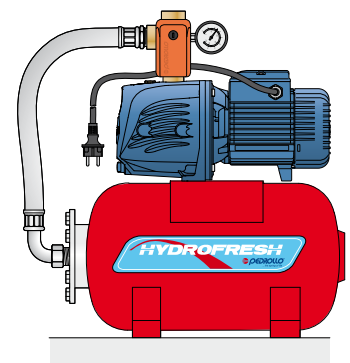
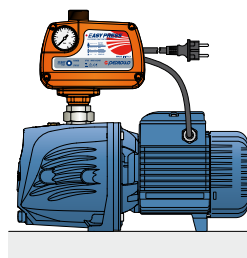
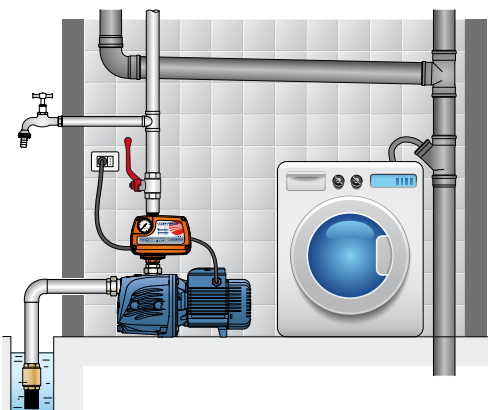
## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

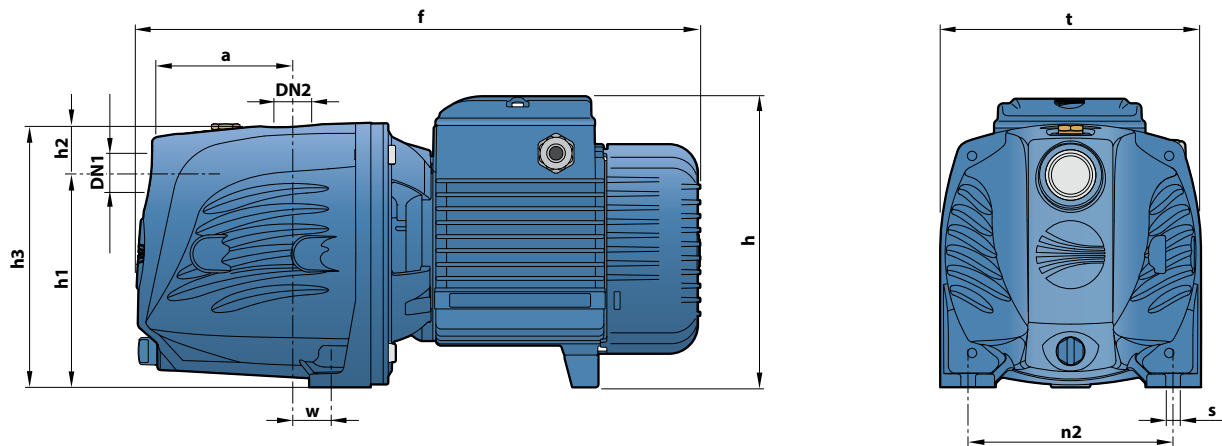
1	<b>PUMP BODY</b>	Cast iron, complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>NOZZLE ASSEMBLY</b>	Noryl				
4	<b>IMPELLER</b>	Stainless steel AISI 304 (Technopolymer for JSW X)				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		AR-14	Ø 14 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	6203 ZZ / 6203 ZZ				
8	<b>CAPACITOR</b>	EN 60252-1/A1				
9	<b>ELECTRIC MOTOR</b>	<p><b>JSWm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>JSW:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## TYPICAL INSTALLATION



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
JSWm 2C	JSW 2C	1"	1"	96	389	200 *	147	33	180	180	142	22	10	13.4	13.4
JSWm 2B	JSW 2B													14.0	14.0
JSWm 2A	JSW 2A													15.0	14.0
JSWm 2AH	JSW 2AH													14.2	14.3
JSWm 2CX	JSW 2CX	1"	1"	96	389	200 *	147	33	180	180	142	22	10	13.1	12.9
JSWm 2BX	JSW 2BX													14.0	13.6
JSWm 2AX	JSW 2AX													14.6	15.0

(\*) h=220 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
JSWm 2C	4.7 A	4.5 A	9.4 A
JSWm 2B	5.8 A	5.3 A	11.6 A
JSWm 2A	6.0 A	5.5 A	12.0 A
JSWm 2AH	6.0 A	5.8 A	12.0 A
JSWm 2CX	4.7 A	4.5 A	9.4 A
JSWm 2BX	5.8 A	5.3 A	11.6 A
JSWm 2AX	6.0 A	5.5 A	12.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
JSW 2C	3.5 A	2.0 A	1.2 A	3.4 A	1.9 A	1.1 A
JSW 2B	4.6 A	2.7 A	1.6 A	4.5 A	2.6 A	1.5 A
JSW 2A	5.1 A	3.0 A	1.7 A	4.9 A	2.8 A	1.7 A
JSW 2AH	5.1 A	3.0 A	1.7 A	4.9 A	2.8 A	1.7 A
JSW 2CX	3.5 A	2.0 A	1.2 A	3.4 A	1.9 A	1.1 A
JSW 2BX	4.6 A	2.7 A	1.6 A	4.5 A	2.6 A	1.5 A
JSW 2AX	5.1 A	3.0 A	1.7 A	4.9 A	2.8 A	1.7 A

## CAPACITORS

MODEL	CAPACITANCE	
	230 V or 240 V	110 V
Single-phase	230 V or 240 V	110 V
JSWm 2C	20 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL
JSWm 2B	25 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL
JSWm 2A	25 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL
JSWm 2AH	25 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL
JSWm 2CX	20 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL
JSWm 2BX	25 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL
JSWm 2AX	25 $\mu$ F - 450 VL	60 $\mu$ F - 300 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
JSWm 2C	JSW 2C	72	96
JSWm 2B	JSW 2B	72	96
JSWm 2A	JSW 2A	72	96
JSWm 2AH	JSW 2AH	72	96
JSWm 2CX	JSW 2CX	72	96
JSWm 2BX	JSW 2BX	72	96
JSWm 2AX	JSW 2AX	72	96

## Self-priming "JET" pumps

-  Clean water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **160 l/min** (9.6 m<sup>3</sup>/h)
- Head up to **97 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **JSW** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to use, they are recommended for use in domestic, civil and industrial applications such as the distribution of water in combination with pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

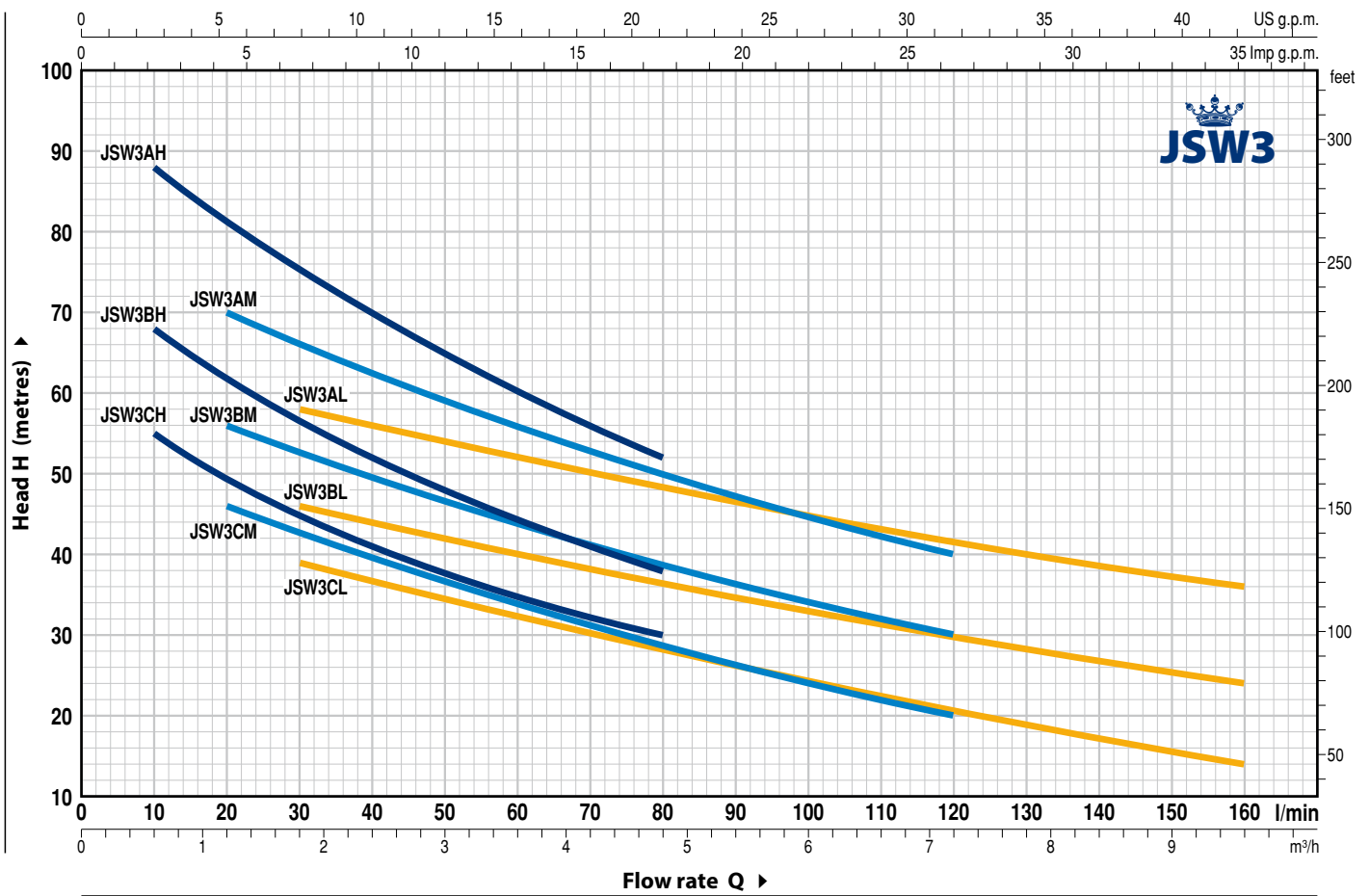
- Registered Trade Mark n. 013073135 JSW<sup>®</sup>
- Registered EU Design n. 002218610

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 protection

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



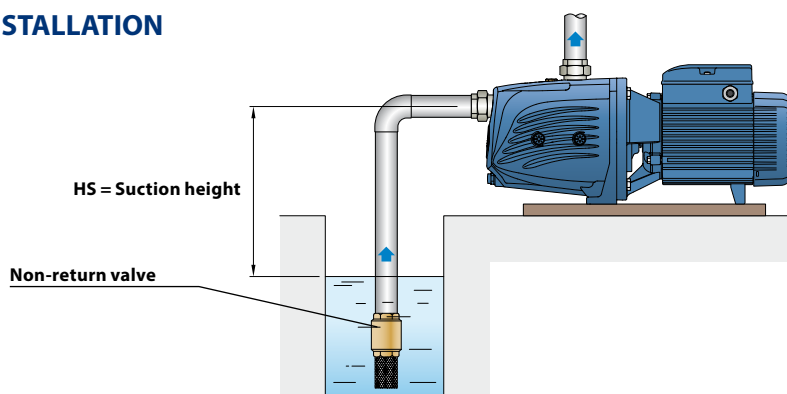
MODEL		POWER (P <sub>2</sub> )		▲	Q	Flow rate															
Single-phase	Three-phase	kW	HP			m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	6.0	7.2	8.4	9.6		
					l/min	0	10	20	30	40	50	60	70	80	100	120	140	160			
JSWm 3CH	JSW 3CH	1.1	1.5	IE3	H metres	62	55	49	45	41	38	35	32	30							
JSWm 3BH	JSW 3BH	1.5	2			73	68	62	56.5	52	48	44	41	38							
JSWm 3AH	JSW 3AH	2.2	3			97	88	81	75	70	65	60.5	56	52							
JSWm 3CM	JSW 3CM	1.1	1.5			54	-	46	43	39.5	36.5	34	31	28.5	24	20					
JSWm 3BM	JSW 3BM	1.5	2			63	-	56	53	49.5	47.5	44	41	39	34	30					
JSWm 3AM	JSW 3AM	2.2	3			78	-	70	66	62	59	56	53	50	45	40					
JSWm 3CL	JSW 3CL	1.1	1.5			44	-	-	39	37	34	32	30	28	24	21	17	14			
JSWm 3BL	JSW 3BL	1.5	2			51	-	-	46	44	42	40	38	36	33	30	27	24			
JSWm 3AL	JSW 3AL	2.2	3			64	-	-	58	56	54	52	50	48	45	41.5	38.5	36			

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

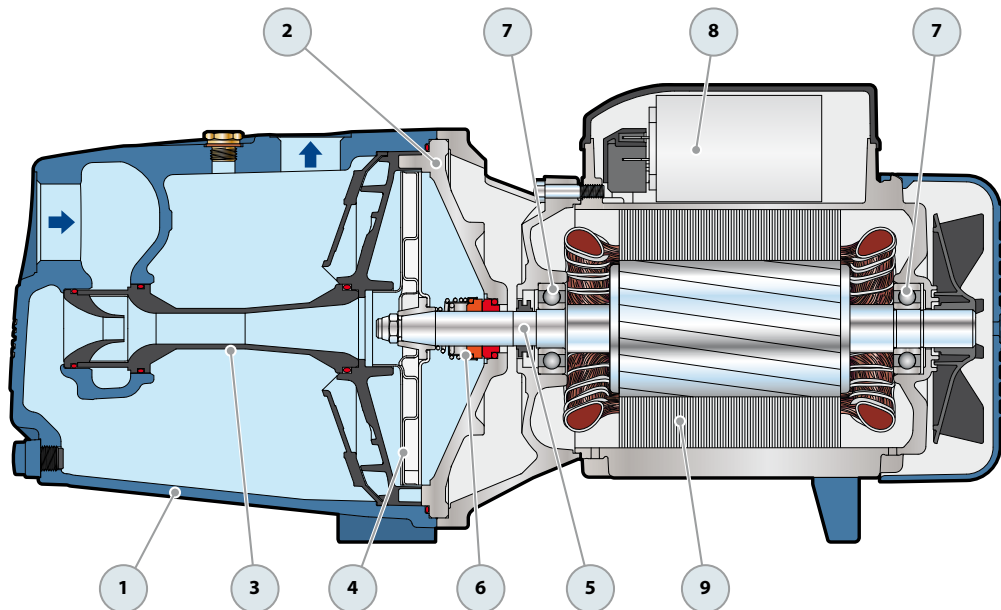
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## STANDARD INSTALLATION

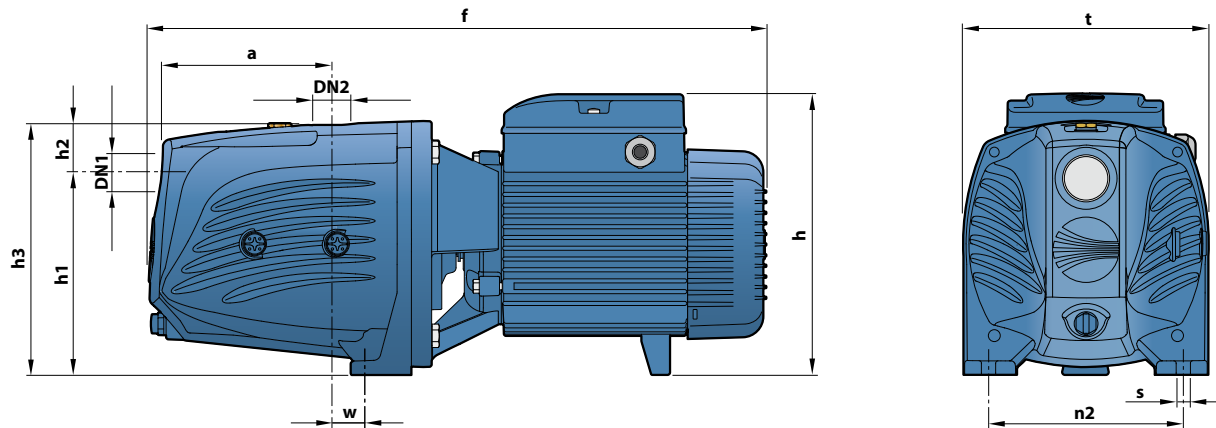


## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Cast iron				
3	<b>NOZZLE ASSEMBLY</b>	Noryl FE1520PW				
4	<b>IMPELLER</b>	Stainless steel AISI 304				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
		<b>Model</b>	<b>Diameter</b>	<b>Stationary ring</b>	<b>Rotational ring</b>	<b>Elastomer</b>
		<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR
7	<b>BEARINGS</b>	<b>6204 ZZ / 6204 ZZ</b>				
8	<b>CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		<b>JSWm 3C</b>	<b>31.5 µF - 450 VL</b>	<b>60 µF - 250 VL</b>		
		<b>JSWm 3B</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>		
		<b>JSWm 3A</b>	<b>50 µF - 450 VL</b>	<b>-</b>		
9	<b>ELECTRIC MOTOR</b>	<b>JSWm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. <b>JSW:</b> three-phase 230/400 V - 50 Hz. <b>⇒ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP X4				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
JSWm 3CH	JSW 3CH	1¼"	1"	143	522	240	165	39	204	206	164	30	11	24.2	28.2
JSWm 3BH	JSW 3BH				25.5									25.4	
JSWm 3AH	JSW 3AH				28.2									28.0	
JSWm 3CM	JSW 3CM				24.4									24.4	
JSWm 3BM	JSW 3BM				25.6									25.5	
JSWm 3AM	JSW 3AM				28.0									28.2	
JSWm 3CL	JSW 3CL				24.4									24.3	
JSWm 3BL	JSW 3BL				25.6									25.5	
JSWm 3AL	JSW 3AL				28.2									28.2	

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
JSWm 3CH	8.1 A	7.8 A	16.2 A
JSWm 3BH	9.5 A	9.2 A	19.0 A
JSWm 3AH	12.7 A	12.4 A	-
JSWm 3CM	8.1 A	7.8 A	16.2 A
JSWm 3BM	9.7 A	9.4 A	19.4 A
JSWm 3AM	13.0 A	12.5 A	-
JSWm 3CL	8.1 A	7.8 A	16.2 A
JSWm 3BL	10.1 A	9.8 A	20.2 A
JSWm 3AL	13.6 A	13.1 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
JSW 3CH	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.7 A
JSW 3BH	6.0 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
JSW 3AH	8.8 A	5.1 A	2.9 A	8.5 A	4.9 A	2.8 A
JSW 3CM	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.7 A
JSW 3BM	6.0 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
JSW 3AM	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
JSW 3CL	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.7 A
JSW 3BL	6.4 A	3.7 A	2.1 A	6.1 A	3.6 A	2.0 A
JSW 3AL	9.3 A	5.4 A	3.1 A	9.0 A	5.2 A	3.0 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
JSWm 3CH	JSW 3CH	35	49
JSWm 3BH	JSW 3BH	35	49
JSWm 3AH	JSW 3AH	35	49
JSWm 3CM	JSW 3CM	35	49
JSWm 3BM	JSW 3BM	35	49
JSWm 3AM	JSW 3AM	35	49
JSWm 3CL	JSW 3CL	35	49
JSWm 3BL	JSW 3BL	35	49
JSWm 3AL	JSW 3AL	35	49

-  Clean water
-  Domestic use
-  Civil use



## PERFORMANCE RANGE

- Flow rate up to **120 l/min (7.2 m<sup>3</sup>/h)**
- Head up to **58 m**

## APPLICATION LIMITS

- Manometric suction lift up to **9 m (HS)**
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

## CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



## CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



## INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made.

The self-priming **FUTURE JET-ST** pumps are designed to pump water even in cases where air is present. As a result of their reliability and the fact that they are easy to use, they are recommended for use in domestic applications such as the distribution of water in combination with small or medium sized pressure tanks, and for the irrigation of gardens and orchards, etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

## PATENTS - TRADE MARKS - MODELS

- FUTURE JET<sup>®</sup> Registered Trade Mark n. 018198453
- Patent Pending n. PCT/IT2019/050168

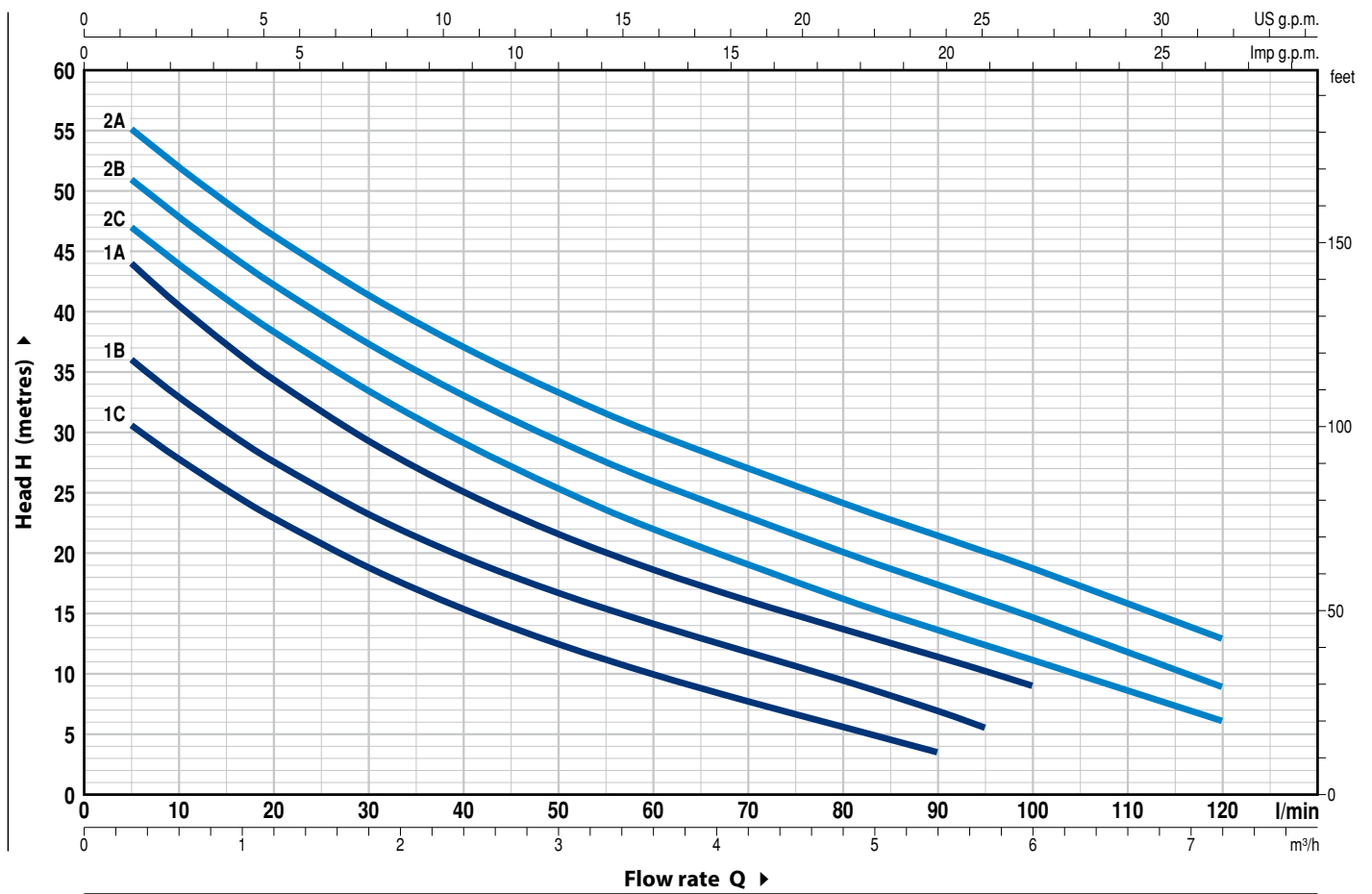
## OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



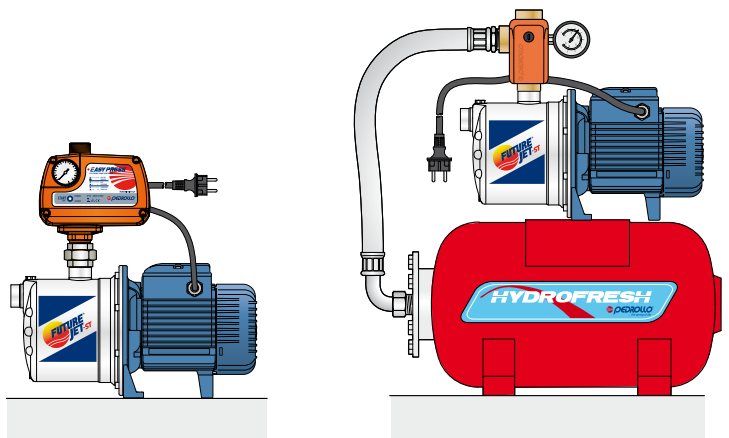
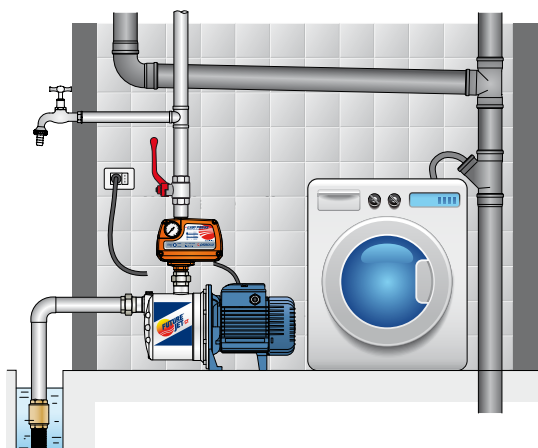
MODEL		POWER (P <sub>2</sub> )		Q	H metres												
Single-phase	Three-phase	kW	HP ▲		0	0.3	0.6	1.2	2.4	3.6	4.8	5.4	5.7	6	7.2		
				l/min	0	5	10	20	40	60	80	90	95	100	120		
FUTURE JETm 1C-ST	FUTURE JET 1C-ST	0.37	0.50	H metres	33.5	30.5	27.7	22.9	15.4	10	6	3.5					
FUTURE JETm 1B-ST	FUTURE JET 1B-ST	0.48	0.65		39.5	36	33	27.6	19.7	14.2	9.5	7	5.5				
FUTURE JETm 1A-ST	FUTURE JET 1A-ST	0.55	0.75		48	44	40.6	34.5	25.2	18.7	13.7	11.4	10.2	9			
FUTURE JETm 2C-ST	FUTURE JET 2C-ST	0.75	1		50	47	43.8	38.3	29	22	16.2	13.5	12.3	11	6		
FUTURE JETm 2B-ST	FUTURE JET 2B-ST	0.90	1.25		54	51	47.8	42.2	33	26	20.2	17.5	16	14.7	9		
FUTURE JETm 2A-ST	FUTURE JET 2A-ST	1.1	1.5		58	55	51.8	46.2	37	30	24.2	21.5	20	18.8	13		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)



## TYPICAL INSTALLATION



# FUTURE JET-ST

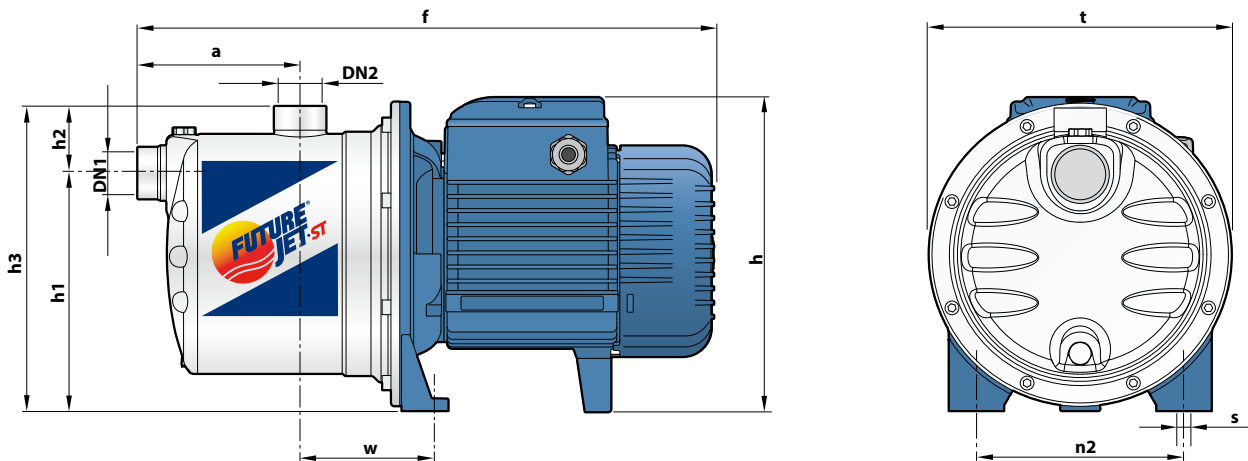
## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1					
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304					
3	<b>NOZZLE ASSEMBLY</b>	Noryl					
4	<b>IMPELLER</b>	Stainless steel AISI 304					
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
6	<b>MECHANICAL SEAL</b>	<i>Pump Model</i>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		<b>FUTURE JET 1-ST</b>	<b>AR-12</b>	<b>Ø 12 mm</b>	Ceramica	Grafite	NBR
		<b>FUTURE JET 2-ST</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramica	Grafite	NBR
7	<b>BEARINGS</b>	<i>Pump Model</i>	<i>Model</i>				
		<b>FUTURE JET 1-ST</b>	<b>6201 ZZ / 6201 ZZ</b>				
		<b>FUTURE JET 2-ST</b>	<b>6203 ZZ / 6203 ZZ</b>				
8	<b>CAPACITOR</b>	EN 60252-1/A1					
9	<b>ELECTRIC MOTOR</b>	<p><b>FUTURE JETm-ST:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>FUTURE JET-ST:</b> three-phase 230/400 V - 50 Hz.</p> <p>➔ <b>The three-phase pumps are fitted with high performance motors up to P2=0.55 kW in class IE2 and from P2=0.75 kW in class IE3 (IEC 60034-30-1)</b></p> <p>– Isolamento: classe F – Protezione: IP X4</p>					



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
FUTURE JETm 1C-ST	FUTURE JET 1C-ST	1"	1"	113	367	183	132	51	183	182	120	87	9	6.9	7.0
FUTURE JETm 1B-ST	FUTURE JET 1B-ST													6.9	6.9
FUTURE JETm 1A-ST	FUTURE JET 1A-ST													7.6	6.9
FUTURE JETm 2C-ST	FUTURE JET 2C-ST	1"	1"	111	393	217 *	162	46	208	208	142	91	10	10.2	10.0
FUTURE JETm 2B-ST	FUTURE JET 2B-ST													11.1	11.0
FUTURE JETm 2A-ST	FUTURE JET 2A-ST													11.8	11.1

(\*) h=236 mm per versioni monofase a 110 V

## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
Single-phase	230 V	240 V
FUTURE JETm 1C-ST	2.6 A	2.5 A
FUTURE JETm 1B-ST	3.2 A	3.1 A
FUTURE JETm 1A-ST	4.0 A	3.9 A
FUTURE JETm 2C-ST	5.0 A	4.8 A
FUTURE JETm 2B-ST	5.8 A	5.7 A
FUTURE JETm 2A-ST	6.6 A	6.5 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
FUTURE JET 1C-ST	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
FUTURE JET 1B-ST	2.1 A	1.2 A	0.7 A	2.1 A	1.2 A	0.7 A
FUTURE JET 1A-ST	2.8 A	1.6 A	0.9 A	2.8 A	1.6 A	0.9 A
FUTURE JET 2C-ST	3.5 A	2.0 A	1.2 A	3.4 A	1.9 A	1.1 A
FUTURE JET 2B-ST	4.6 A	2.7 A	1.6 A	4.5 A	2.6 A	1.5 A
FUTURE JET 2A-ST	5.1 A	3.0 A	1.7 A	4.9 A	2.8 A	1.7 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
FUTURE JETm 1C-ST	10 μF - 450 VL
FUTURE JETm 1B-ST	12.5 μF - 450 VL
FUTURE JETm 1A-ST	14 μF - 450 VL
FUTURE JETm 2C-ST	20 μF - 450 VL
FUTURE JETm 2B-ST	25 μF - 450 VL
FUTURE JETm 2A-ST	25 μF - 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
FUTURE JETm 1C-ST	FUTURE JET 1C-ST	84	108
FUTURE JETm 1B-ST	FUTURE JET 1B-ST	84	108
FUTURE JETm 1A-ST	FUTURE JET 1A-ST	84	108
FUTURE JETm 2C-ST	FUTURE JET 2C-ST	60	80
FUTURE JETm 2B-ST	FUTURE JET 2B-ST	60	80
FUTURE JETm 2A-ST	FUTURE JET 2A-ST	60	80

# JCR1

## Self-priming "JET" pumps

 Clean water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **60 l/min** (3.6 m<sup>3</sup>/h)
- Head up to **48 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **JCR** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to use, they are recommended for use in domestic applications such as the distribution of water in combination with small or medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

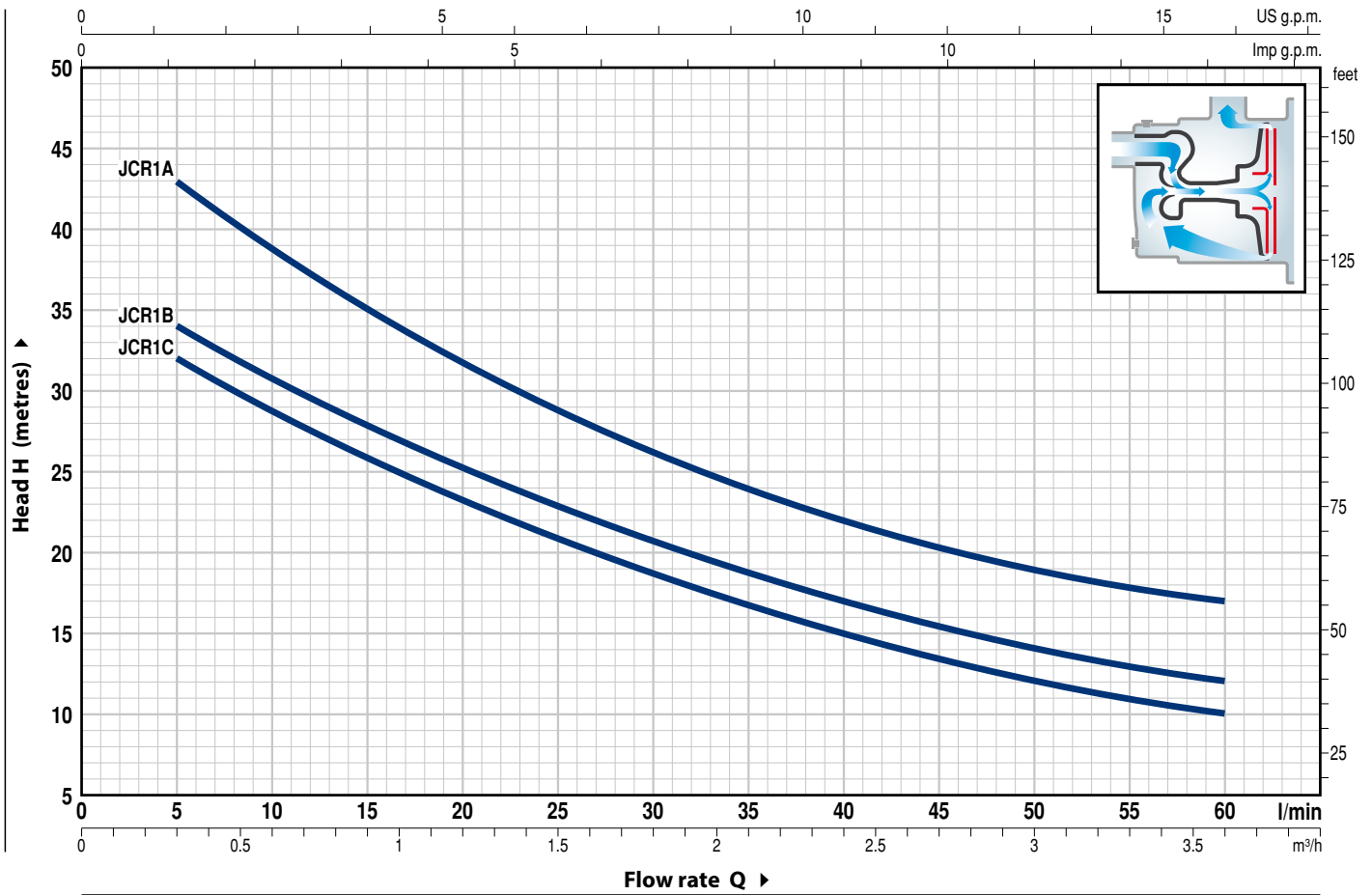
- European Patent n. 1 510 696

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



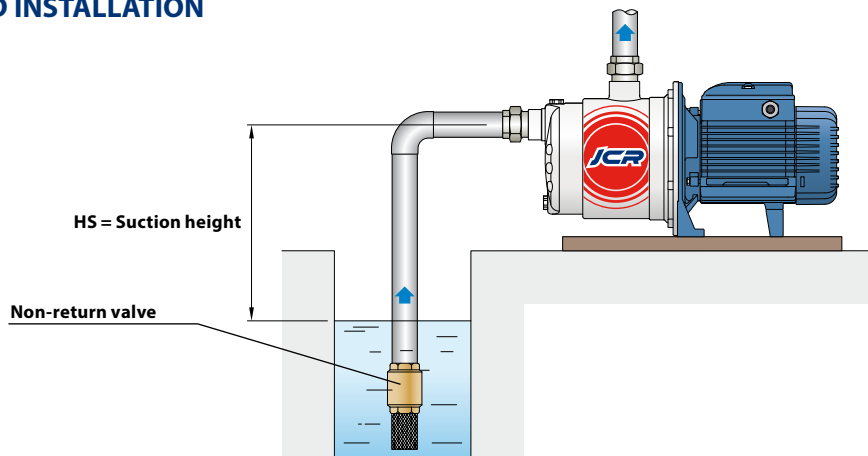
MODEL		POWER (P <sub>2</sub> )			Q	Flow rate													
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6			
					l/min	0	5	10	20	25	30	40	45	50	60				
JCRm 1C	JCR 1C	0.37	0.50	IE2	H metres	35	32	28.5	23.5	21	18.5	15	13.5	12	10				
JCRm 1B	JCR 1B	0.48	0.65			37	34	30.5	25.5	23	20.5	17	15.5	14	12				
JCRm 1A	JCR 1A	0.55	0.75	IE3		48	43	39	31.5	28.5	26	22	20.5	19	17				

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

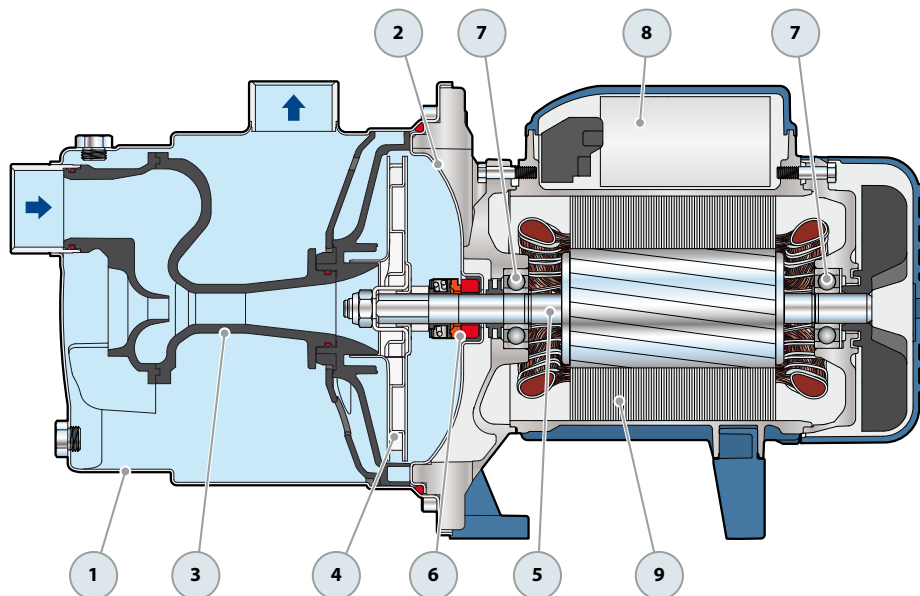
## STANDARD INSTALLATION



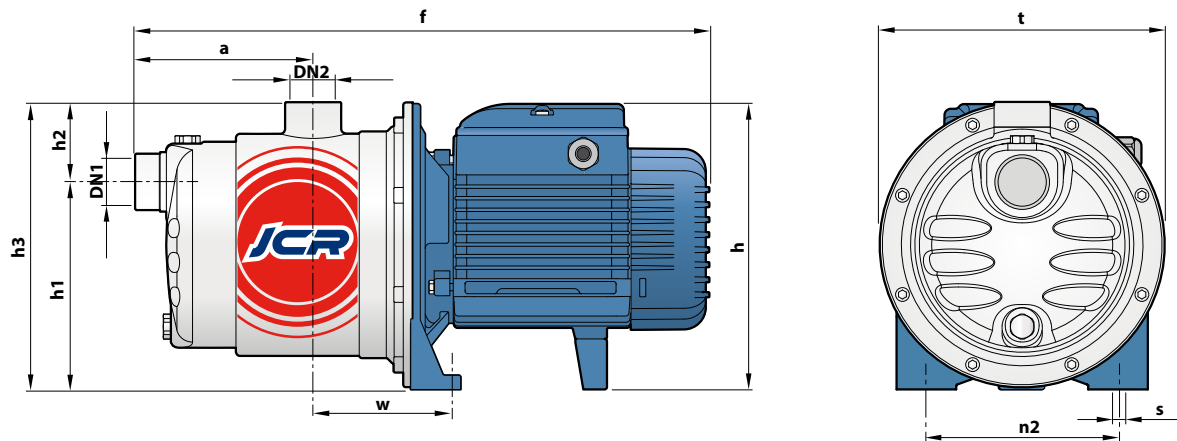
## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>NOZZLE ASSEMBLY</b>	Noryl FE1520PW				
4	<b>IMPELLER</b>	Stainless steel AISI 304				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ				
8	<b>CAPACITOR</b>	<i>Pump Single-phase</i>	<i>Capacitance (230 V or 240 V)</i>	<i>(110 V)</i>		
		JCRm 1C	10 µF - 450 VL	25 µF - 250 VL		
		JCRm 1B	10 µF - 450 VL	25 µF - 250 VL		
		JCRm 1A	14 µF - 450 VL	25 µF - 250 VL		

- 9 **ELECTRIC MOTOR**      JCRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 JCR: three-phase 230/400 V - 50 Hz.
- ⇒ **The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.48 kW in class IE2 and from P<sub>2</sub>=0.55 kW in class IE3 (IEC 60034-30-1)**
- Insulation: class F
  - Protection: IP X4



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
JCRm 1C	JCR 1C	1"	1"	113	367	183	132	51	183	182	120	87	9	6.9	7.0
JCRm 1B	JCR 1B													6.9	6.9
JCRm 1A	JCR 1A													7.6	6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
JCRm 1C	2.5 A	2.4 A	5.0 A
JCRm 1B	3.0 A	2.9 A	6.0 A
JCRm 1A	3.6 A	3.3 A	7.3 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
JCR 1C	1.7 A	1.0 A	0.6 A	1.7 A	1.0 A	0.6 A
JCR 1B	2.1 A	1.2 A	0.7 A	2.1 A	1.2 A	0.7 A
JCR 1A	2.8 A	1.6 A	0.9 A	2.8 A	1.6 A	0.9 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
JCRm 1C	JCR 1C	84	108
JCRm 1B	JCR 1B	84	108
JCRm 1A	JCR 1A	84	108

# JCR2

## Self-priming "JET" pumps

 Clean water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **85 l/min** (5.1 m<sup>3</sup>/h)
- Head up to **60 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **JCR** pumps are designed to pump water even in cases where air is present. As a result of their reliability and the fact that they are easy to use, they are recommended for use in domestic applications such as the distribution of water in combination with small or medium sized pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

- European Patent n. 1 510 696

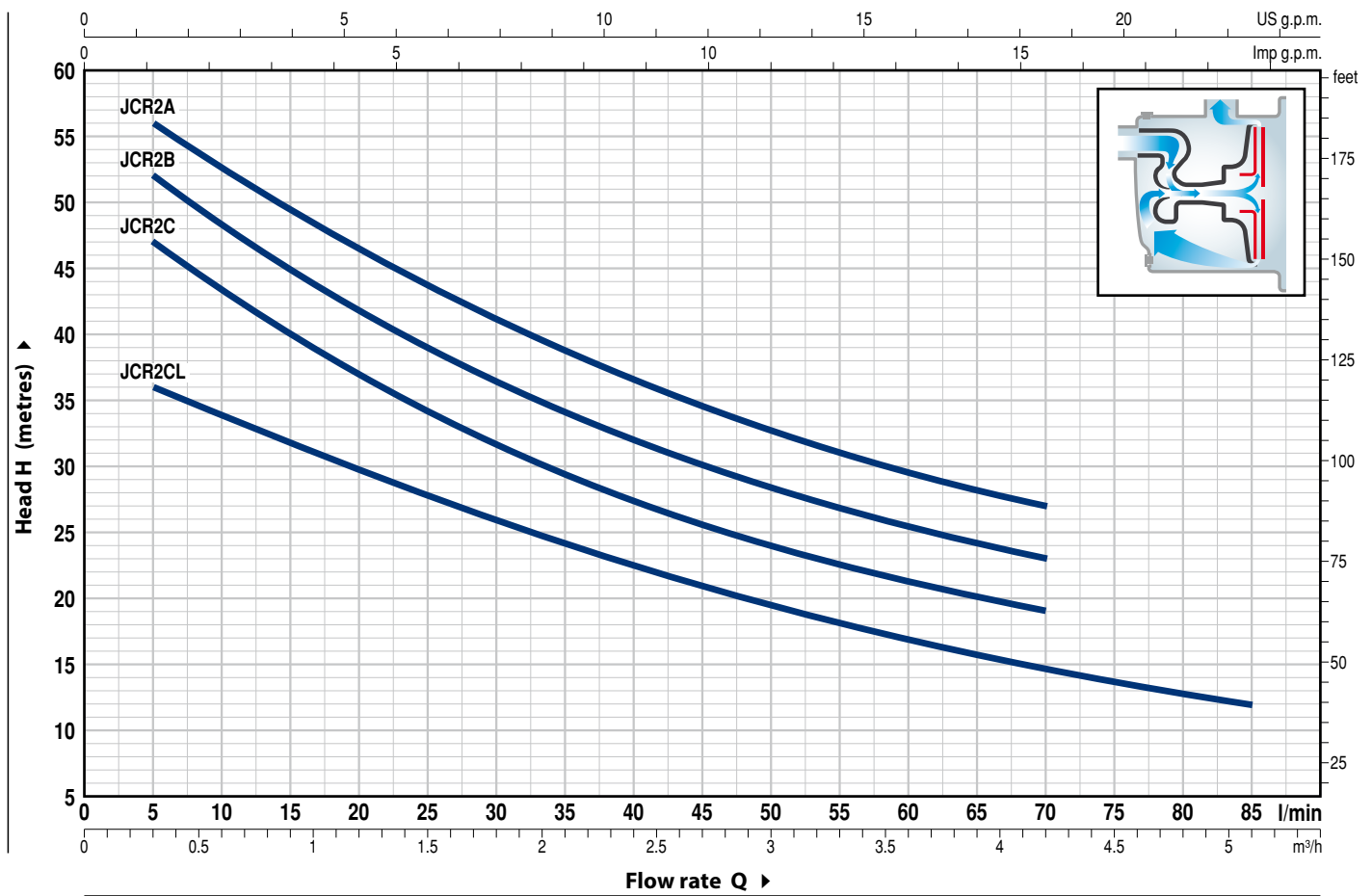
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



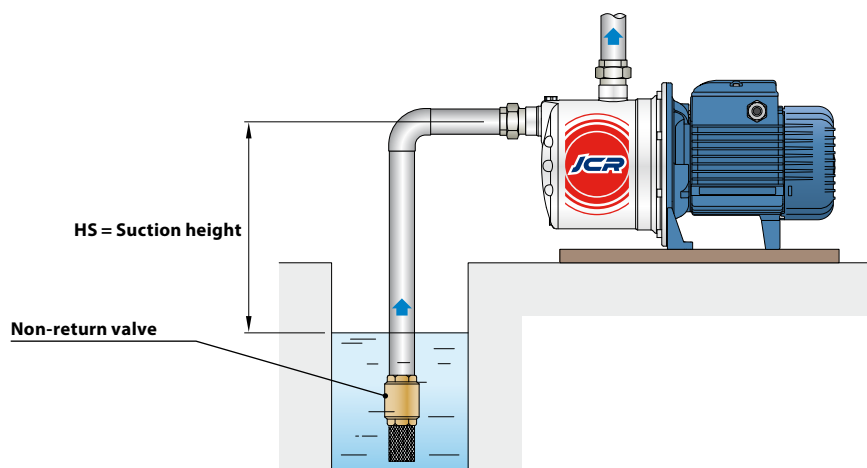
MODEL		POWER (P <sub>2</sub> )			Q	Flow rate														
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6	4.2	4.8	5.1	
					l/min	0	5	10	20	25	30	40	45	50	60	70	80	85		
JCRm 2C	JCR 2C	0.75	1	IE3	H metres	50	47	43	37	34	31.5	27.5	25.5	24	21	19				
JCRm 2B	JCR 2B	0.90	1.25			55	52	48	42	39	36	32	30	28.5	25.5	23				
JCRm 2A	JCR 2A	1.1	1.5			60	56	53	46.5	43.5	41	36.5	34.5	32.5	29.5	27				
JCRm 2CL	JCR 2CL	0.75	1			38	36	34	29.5	28	26	22.5	21	19.5	17	14.5	12.5	12		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

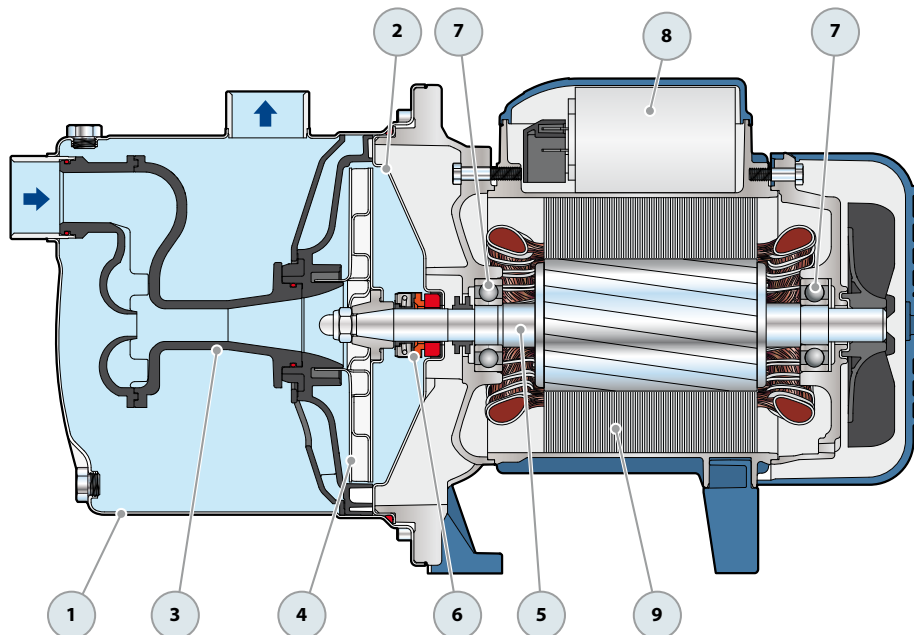
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## STANDARD INSTALLATION

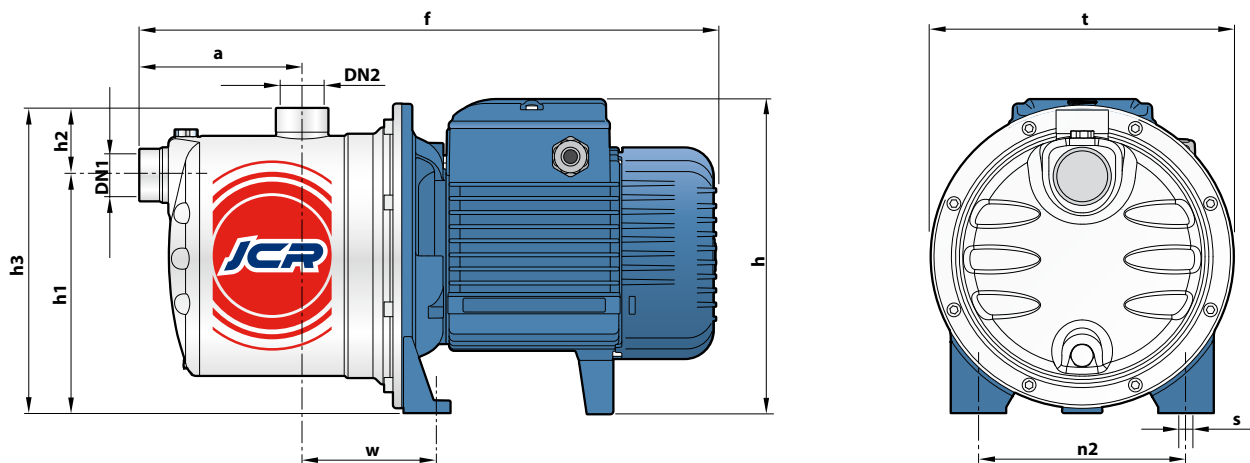


## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>NOZZLE ASSEMBLY</b>	Noryl FE1520PW				
4	<b>IMPELLER</b>	Stainless steel AISI 304				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials</i> <i>Rotational ring</i>	<i>Elastomer</i>
		AR-14	Ø 14 mm	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<b>6203 ZZ / 6203 ZZ</b>				
8	<b>CAPACITOR</b>	<i>Pump Single-phase</i>	<i>Capacitance (230 V or 240 V)</i>	<i>(110 V)</i>		
		JCRm 2C	20 µF - 450 VL	60 µF - 300 VL		
		JCRm 2CL	20 µF - 450 VL	60 µF - 300 VL		
		JCRm 2B	25 µF - 450 VL	60 µF - 300 VL		
		JCRm 2A	25 µF - 450 VL	60 µF - 350 VL		
9	<b>ELECTRIC MOTOR</b>	<p>JCRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.                      JCR: three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
JCRm 2C	JCR 2C	1"	1"	111	393	217 *	162	46	208	208	142	91	10	10.2	10.0
JCRm 2B	JCR 2B													11.1	11.0
JCRm 2A	JCR 2A													11.8	11.1
JCRm 2CL	JCR 2CL													10.1	10.1

(\*) h=236 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
	Single-phase	230 V	240 V
JCRm 2C	4.7 A	4.5 A	9.4 A
JCRm 2B	5.8 A	5.6 A	11.6 A
JCRm 2A	6.2 A	5.7 A	12.0 A
JCRm 2CL	3.8 A	3.6 A	7.6 A

MODEL	VOLTAGE					
	Three-phase	230 V	400 V	690 V	240 V	415 V
JCR 2C	3.5 A	2.0 A	1.2 A	3.4 A	1.9 A	1.1 A
JCR 2B	4.6 A	2.7 A	1.6 A	4.5 A	2.6 A	1.5 A
JCR 2A	5.1 A	3.0 A	1.7 A	4.9 A	2.8 A	1.7 A
JCR 2CL	3.3 A	1.9 A	1.1 A	3.1 A	1.8 A	1.1 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
JCRm 2C	JCR 2C	60	80
JCRm 2B	JCR 2B	60	80
JCRm 2A	JCR 2A	60	80
JCRm 2CL	JCR 2CL	60	80

# MAGNIFICA

## Self-priming pumps for swimming pools



Residential  
Swimming Pools



Public  
Swimming Pools



### PERFORMANCE RANGE

- Flow rate up to **700 l/min** (42 m<sup>3</sup>/h)
- Head up to **23 m**

### APPLICATION LIMITS

- Manometric suction lift up to **4 m** (HS)
- Liquid temperature up to **+45 °C**
- Ambient temperature up to **+50 °C**
- Max. working pressure **2.5 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management  
system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Waters for use in swimming pools (pH 6.5 – 8.4).  
Self-Priming Electric Pumps with built-in prefilter in the pump body. They are recommended for recirculation of water in small and medium sized swimming pool up to 180m<sup>3</sup>.  
Installation needs to be undertaken in ventilated areas and protected from bad weather with adequate space for maintenance.

### PATENTS - TRADE MARKS - MODELS

- **MAGNIFICA**® Registered Trade Mark n. 018159079
- Registered EU Design n. 007671839

### OPTIONS AVAILABLE ON REQUEST

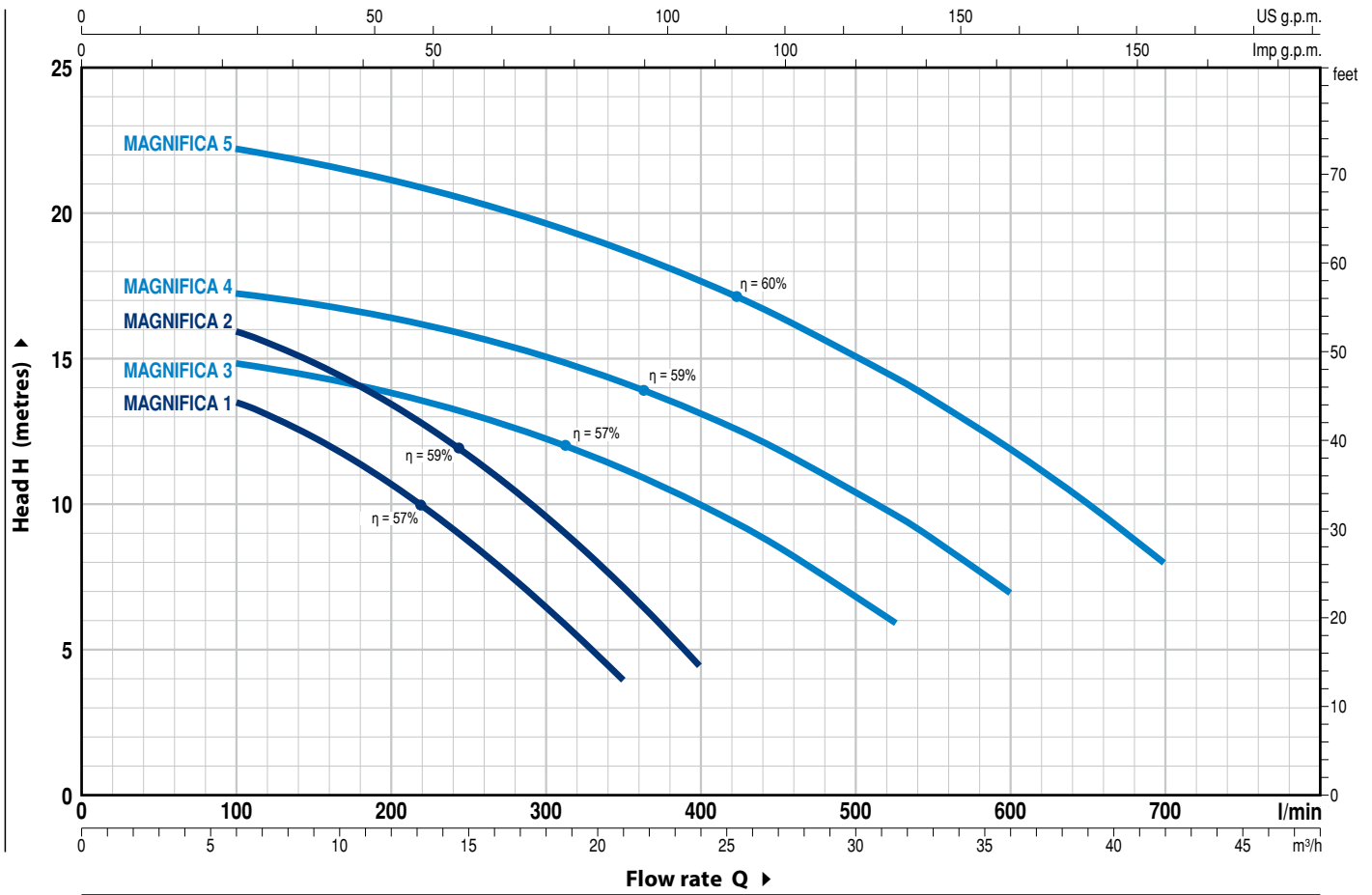
- Other voltages or **60 Hz** frequency
- Smooth connection **63 mm**
- Smooth connection **2" BS**
- Threaded connection **2" NPT**

- ✘ Particularly sturdy and corrosion resistant electric pumps, made with high quality and thick components, ensuring a long life and quiet operation.
- ✘ High flow rate with low energy consumption.
- ✘ Pre-filter complete with transparent lid to facilitate visual inspection, wing nuts for quick opening without additional tools, extra-large filter basket to reduce the frequency of cleaning operations.

- ✘ Special anti-corrosion plastic base that provides stable support for the pump and piping.
- ✘ Double insulation between hydraulic parts and the electric motor. The pump/motor shaft is never in contact with water to ensure maximum safety.
- ✘ High resistance to heat and to chemical and salt corrosion.
- ✘ Connection fittings with 2" GAS ISO 228/1 threaded ports. Screws in AISI 316.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	H metres													
Single-phase	Three-phase	kW	HP	▲		0	6.0	9.0	12	15	18	21	24	30	36	42			
						0	100	150	200	250	300	350	400	525	600	700			
MAGNIFICA 1m	MAGNIFICA 1	0.55	0.75			14.5	13.5	12.3	10.7	8.8	6.5	4							
MAGNIFICA 2m	MAGNIFICA 2	0.75	1			17	16	14.9	13.5	11.8	9.7	7.3	4.5						
MAGNIFICA 3m	MAGNIFICA 3	1.1	1.5	IE3		15.5	14.9	14.4	13.9	13.2	12.3	11.3	10	6					
MAGNIFICA 4m	MAGNIFICA 4	1.5	2			17.7	17.3	16.9	16.4	15.8	15.1	14.2	13.1	9.6	7				
MAGNIFICA 5m	MAGNIFICA 5	2.2	3			23	22.2	21.8	21.2	20.5	19.7	18.8	17.7	14.4	11.9	8			



Q = Flow rate H = Total manometric head HS = Suction height

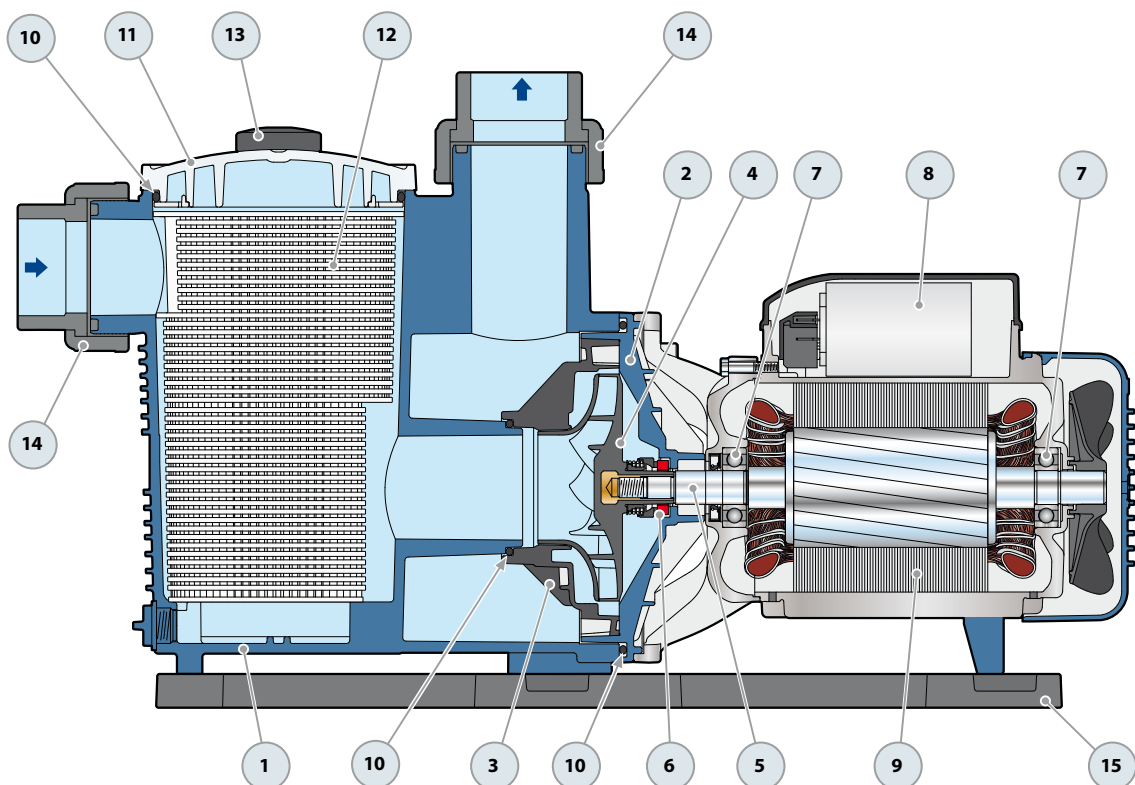
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

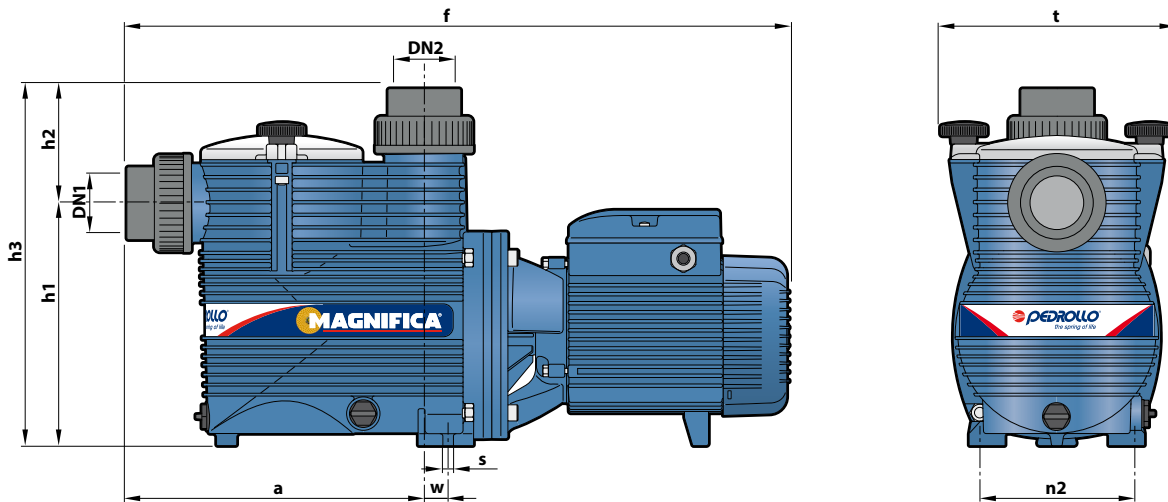
# MAGNIFICA

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Glass fibre reinforced polypropylene with threaded ports in compliance with ISO 228/1					
2	<b>DOOR SEAL INSERT</b>	Glass fibre reinforced polypropylene					
3	<b>DIFFUSER</b>	Noryl					
4	<b>IMPELLER</b>	Noryl					
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
6	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>MAGNIFICA 1-2</b>	<b>AR-17</b>	<b>Ø 17</b>	Ceramic	Graphite	NBR
		<b>MAGNIFICA 3-4-5</b>	<b>AR-20R</b>	<b>Ø 20</b>	Ceramic	Graphite	NBR
7	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		<b>MAGNIFICA 1-2</b>	<b>6203 2RS / 6203 2RS</b>				
		<b>MAGNIFICA 3-4-5</b>	<b>6204 2RS / 6204 2RS</b>				
8	<b>CAPACITOR</b>	EN 60252-1/A1					
9	<b>ELECTRIC MOTOR</b>	<b>MAGNIFICA m:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.					
		<b>MAGNIFICA:</b> three-phase 230/400 V - 50 Hz.					
		<p>➔ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>					
10	<b>OR</b>	NBR					
11	<b>BODY BACKPLATE</b>	Polycarbonate					
12	<b>PRE-FILTER</b>	Polypropylene					
13	<b>CLOSURE KNOB</b>	Nylon					
14	<b>CONNECTIONS</b>	PVC-U					
15	<b>BASE</b>	Polypropylene					



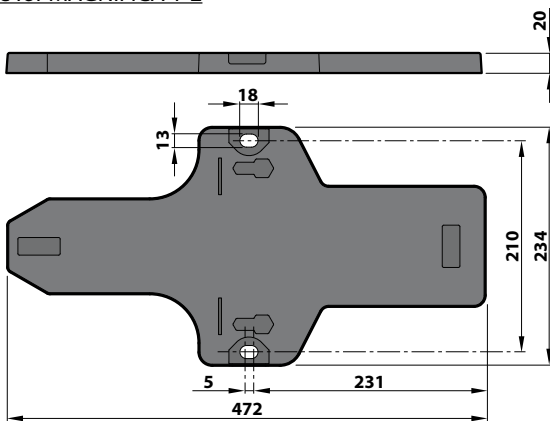
## DIMENSIONS AND WEIGHT



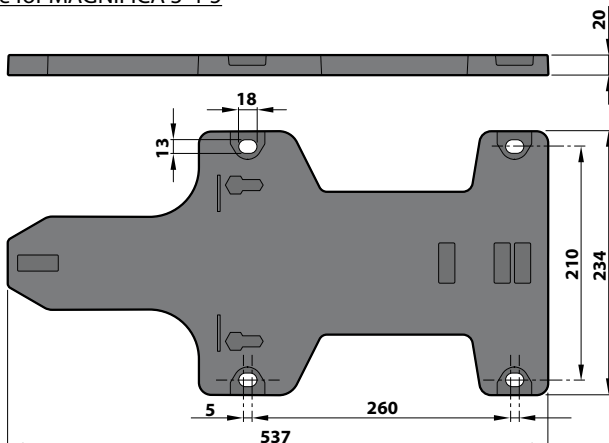
MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	n2	w	s	t	1~	3~
MAGNIFICA 1m	MAGNIFICA 1	2"	2"	294	583	240	113	353	155	4.3	10.5	235	14.1	14.1
MAGNIFICA 2m	MAGNIFICA 2			294	657	240	113	353	155	15.8	10.5	235	15.0	15.0
MAGNIFICA 3m	MAGNIFICA 3			294	677	240	113	353	155	15.8	10.5	235	19.4	19.4
MAGNIFICA 4m	MAGNIFICA 4			294	677	240	113	353	155	15.8	10.5	235	20.6	20.6
MAGNIFICA 5m	MAGNIFICA 5			294	677	240	113	353	155	15.8	10.5	235	23.3	23.3

## BASE (mm)

Base for MAGNIFICA 1-2



Base for MAGNIFICA 3-4-5



## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
MAGNIFICA 1m	4.2 A	4.0 A
MAGNIFICA 2m	5.6 A	5.4 A
MAGNIFICA 3m	8.2 A	7.9 A
MAGNIFICA 4m	9.7 A	9.3 A
MAGNIFICA 5m	13.0 A	12.5 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
MAGNIFICA 1	2.8 A	1.6 A	0.9 A	2.7 A	1.5 A	0.9 A
MAGNIFICA 2	3.6 A	2.1 A	1.2 A	3.5 A	2.0 A	1.2 A
MAGNIFICA 3	5.4 A	3.1 A	1.8 A	5.2 A	3.0 A	1.7 A
MAGNIFICA 4	7.3 A	4.2 A	2.4 A	7.0 A	4.0 A	2.3 A
MAGNIFICA 5	8.6 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
MAGNIFICA 1m	20 $\mu$ F - 450 VL
MAGNIFICA 2m	20 $\mu$ F - 450 VL
MAGNIFICA 3m	31.5 $\mu$ F - 450 VL
MAGNIFICA 4m	45 $\mu$ F - 450 VL
MAGNIFICA 5m	50 $\mu$ F - 450 VL

# SPRINKLER

## Self-priming centrifugal pumps

-  Clean water
-  Domestic use
-  Civil use



### PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18.0 m<sup>3</sup>/h)
- Head up to **25.5 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **SPRINKLER** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to use, they are recommended for use in domestic and civil applications such as the distribution of water in combination with pressure tanks, and for the irrigation of gardens and orchards, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

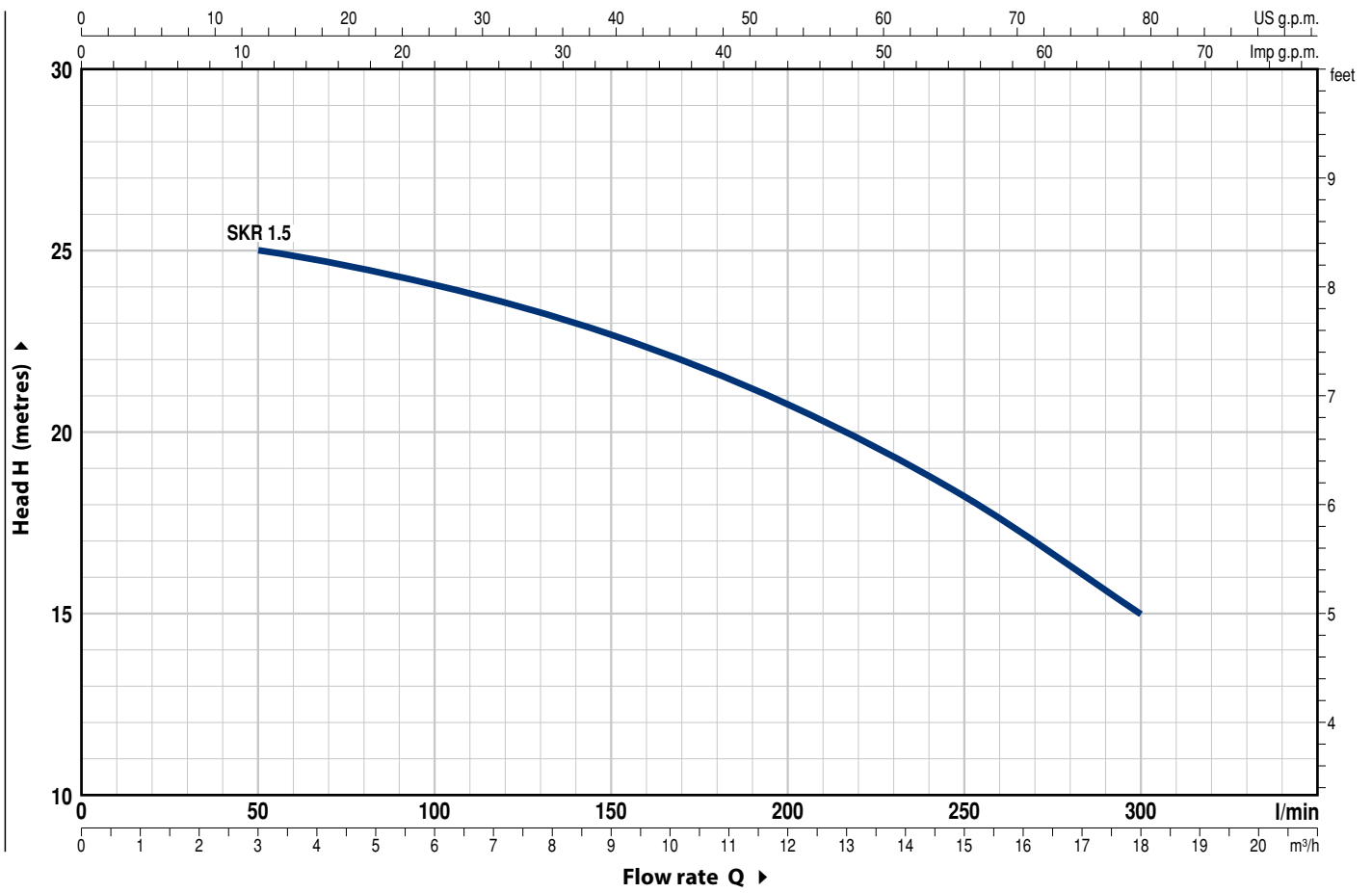
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 protection



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



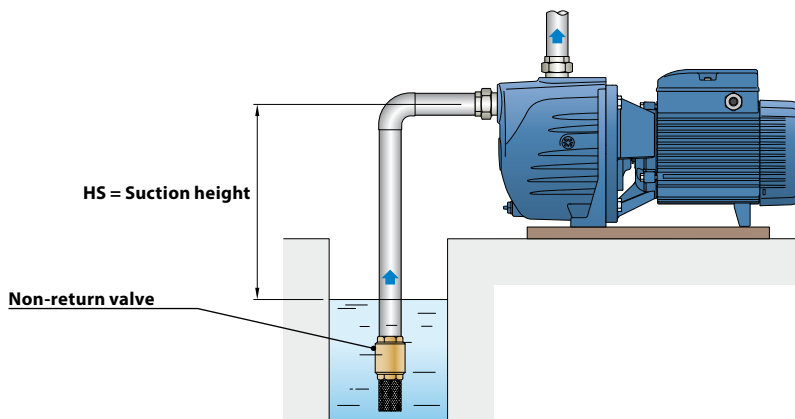
MODEL		POWER (P <sub>2</sub> )			Q	0	3.0	6.0	9.0	12.0	15.0	18.0
Single-phase	Three-phase	kW	HP	▲		0	50	100	150	200	250	300
SKRm 1.5	SKR 1.5	1.5	2	IE3	H metres	25.5	25	24	22.7	20.8	18.2	15

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

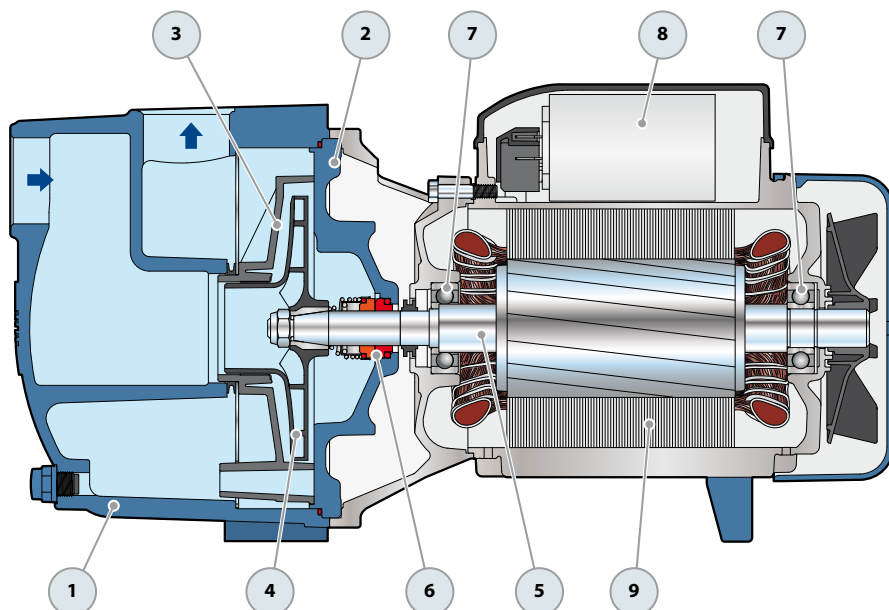
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## STANDARD INSTALLATION

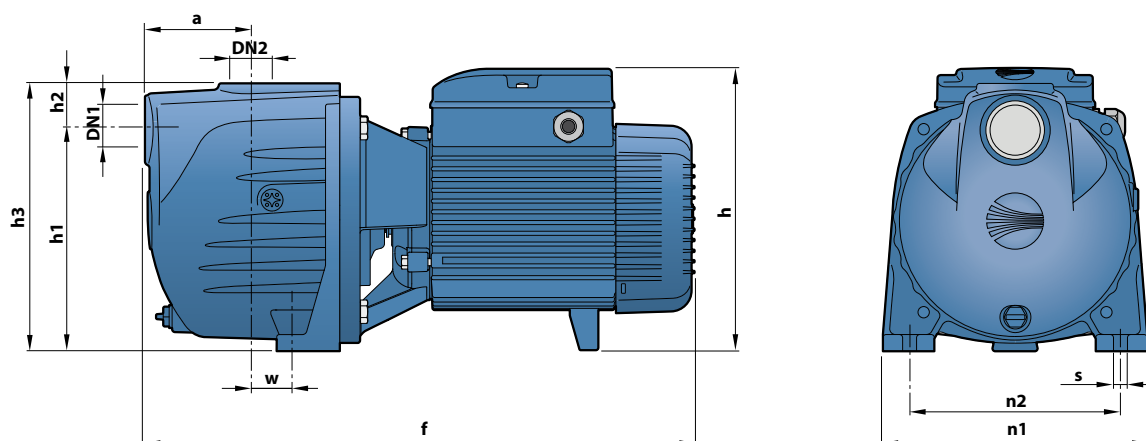


# SPRINKLER

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Cast iron with an Epoxy Electro Coating treatment				
3	DIFFUSER	Noryl FE1520PW				
4	IMPELLER	Noryl FE1520PW				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6204 ZZ / 6204 ZZ				
8	CAPACITOR	<b>Pump</b>	<b>Capacitance</b>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		SKRm 1.5	45 µF - 450 VL	80 µF - 250 VL		
9	ELECTRIC MOTOR	<p>SKRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.            SKR: three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n1	n2	w	s	1~	3~
SKRm 1.5	SKR 1.5	1½"	1½"	91	465	241	186	39	225	223	178	37.5	11	26.9	26.9

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
SKRm 1.5	10.3 A	20.6 A

MODEL	VOLTAGE		
Three-phase	230 V	400 V	690 V
SKR 1.5	6.7 A	3.9 A	2.3 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
SKRm 1.5	SKR 1.5	35	49

# PLURIJET 80-100

## Self-priming multi-stage pumps



### PLURIJET 80-100

Impeller: **stainless steel AISI 304**



### PLURIJET 80X-100X

Impeller: **Noryl**



Clean water



Domestic use



Civil use



### PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m<sup>3</sup>/h)
- Head up to **52 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature:
  - between **-10 °C** and **+60 °C** for PLURIJET 80-100
  - between **-10 °C** and **+40 °C** for PLURIJET 80X-100X
- Ambient temperature up to **+40 °C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The self-priming **PLURIJET** pumps are recommended for pumping clean water even in cases where air is present and for liquids which are not chemically aggressive towards the materials from which the pump is made.

Because of their silence, reliability and low energy consumption they are recommended for domestic and civil applications, in particular for pressurising and distributing water in combination with pressure tanks, for the recovery of rain water, for irrigation systems, etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### PATENTS - TRADE MARKS - MODELS

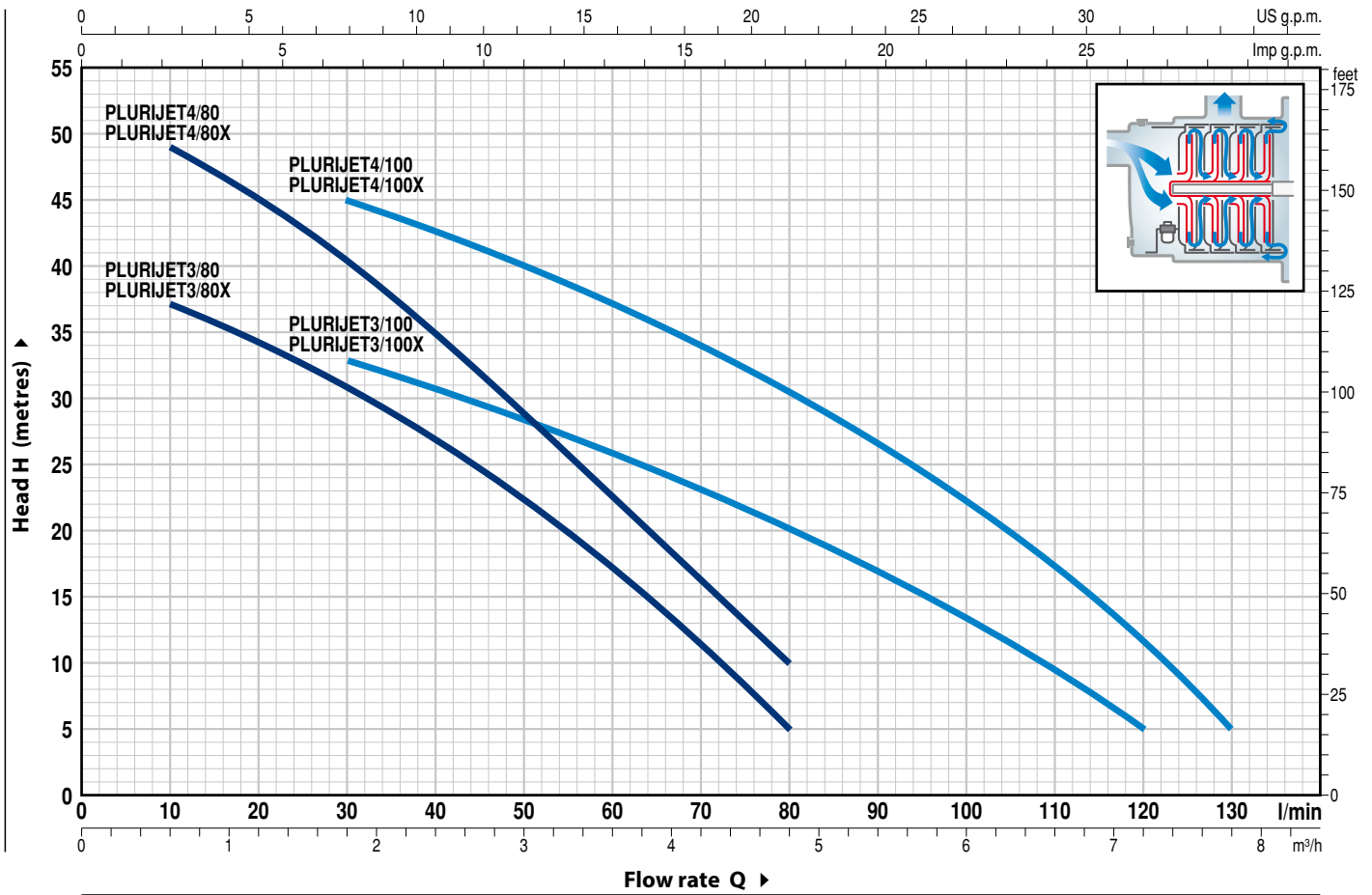
- PLURIJET® Registered Trade Mark n. 3974301

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



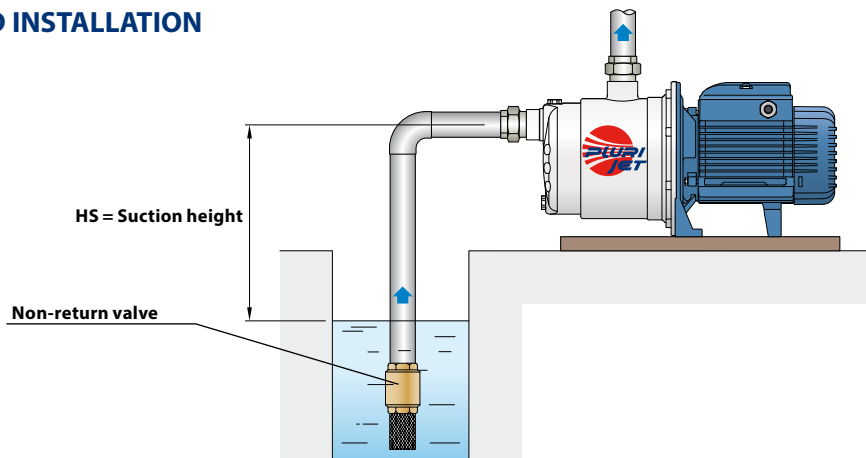
TIPO		POTENZA (P <sub>2</sub> )			Q	Flow rate																
Monofase	Trifase	kW	HP	▲		0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8		
					l/min	0	5	10	20	30	40	50	60	70	80	90	100	110	120	130		
PLURIJETm 3/80 PLURIJETm 3/80X	PLURIJET 3/80 PLURIJET 3/80X	0.48	0.65	IE2	H metri	40	38	37	34.5	31	27	22.5	17	11	5							
PLURIJETm 4/80 PLURIJETm 4/80X	PLURIJET 4/80 PLURIJET 4/80X	0.55	0.75			52	50	49	44.5	40	34	28.5	22.5	16	10							
PLURIJETm 3/100 PLURIJETm 3/100X	PLURIJET 3/100 PLURIJET 3/100X	0.55	0.75	38		37	36	34.5	33	31	28	26	23	20	17	13.5	10	5				
PLURIJETm 4/100 PLURIJETm 4/100X	PLURIJET 4/100 PLURIJET 4/100X	0.75	1	IE3		50	50	49	47	45	42	39.5	37	34	30.5	26.5	22	17	11	5		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

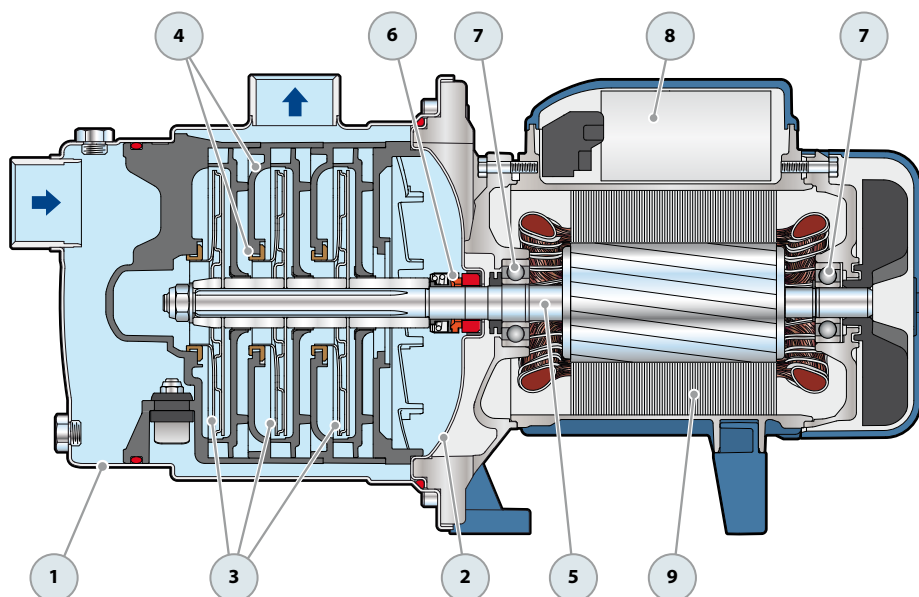
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## STANDARD INSTALLATION

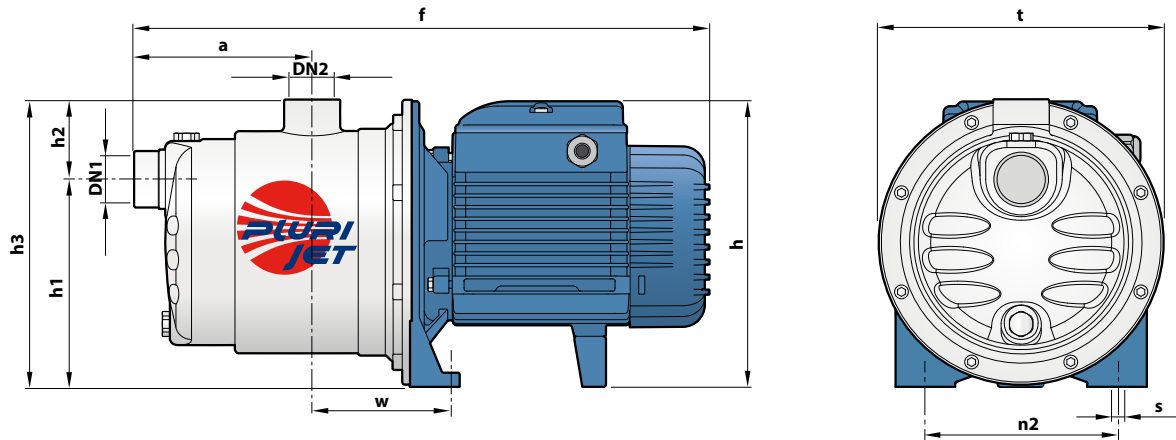


# PLURIJET 80-100

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLERS	Stainless steel AISI 304				
4	DIFFUSERS	Noryl complete with anti-wear ring				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	BEARINGS	<i>Pump</i>	<i>Model</i>			
		PLURIJET 3/80	6202 ZZ - C3 / 6201 ZZ			
		PLURIJET 3/100	6202 ZZ - C3 / 6201 ZZ			
		PLURIJET 4/80	6203 ZZ / 6203 ZZ			
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		PLURIJETm 3/80	12.5 µF - 450 VL	25 µF - 250 VL		
		PLURIJETm 4/80	14 µF - 450 VL	25 µF - 250 VL		
8	CAPACITOR	PLURIJETm 3/100	14 µF - 450 VL	25 µF - 250 VL		
		PLURIJETm 4/100	20 µF - 450 VL	60 µF - 300 VL		
		PLURIJETm 4/100	20 µF - 450 VL	60 µF - 300 VL		
9	ELECTRIC MOTOR	<p><b>PLURIJETm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>PLURIJET:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
PLURIJETm 3/80	PLURIJET 3/80	1"	1"	113	367	182	132	51	183	182	120	87	9	7.8	7.8
PLURIJETm 4/80	PLURIJET 4/80			138	392									9.2	8.7
PLURIJETm 3/100	PLURIJET 3/100			113	367									8.5	7.9
PLURIJETm 4/100	PLURIJET 4/100			138	410	202 *								10	11.7

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

TIPO	TENSIONE		
	230 V	240 V	110 V
Monofase			
PLURIJETm 3/80	3.3 A	3.1 A	6.4 A
PLURIJETm 4/80	3.9 A	3.8 A	7.8 A
PLURIJETm 3/100	3.9 A	3.8 A	7.8 A
PLURIJETm 4/100	6.0 A	5.8 A	12.0 A

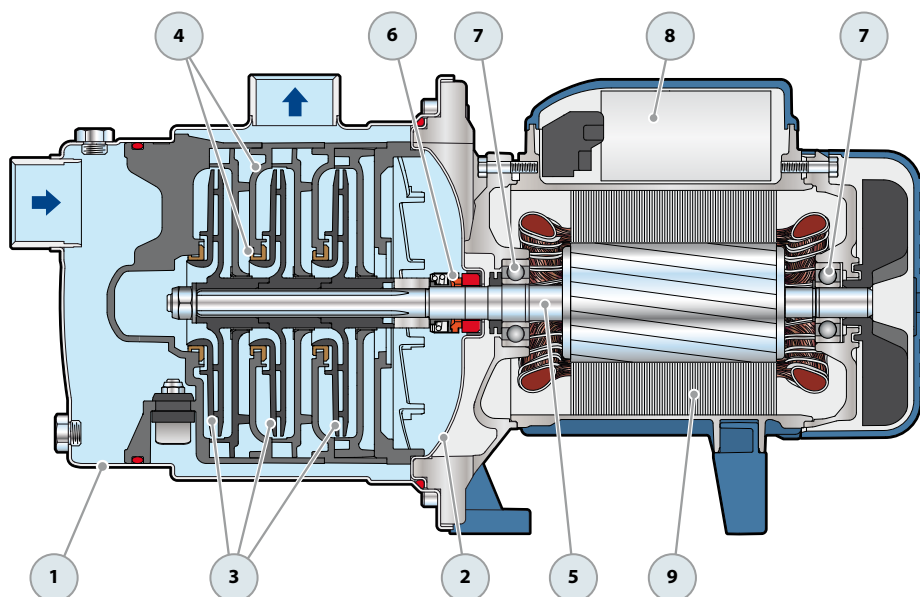
TIPO	TENSIONE					
	230 V	400 V	690 V	240 V	415 V	720 V
Trifase						
PLURIJET 3/80	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
PLURIJET 4/80	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
PLURIJET 3/100	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
PLURIJET 4/100	4.5 A	2.6 A	1.5 A	4.3 A	2.5 A	1.4 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
PLURIJETm 3/80	PLURIJET 3/80	84	108
PLURIJETm 4/80	PLURIJET 4/80	72	108
PLURIJETm 3/100	PLURIJET 3/100	84	108
PLURIJETm 4/100	PLURIJET 4/100	72	108

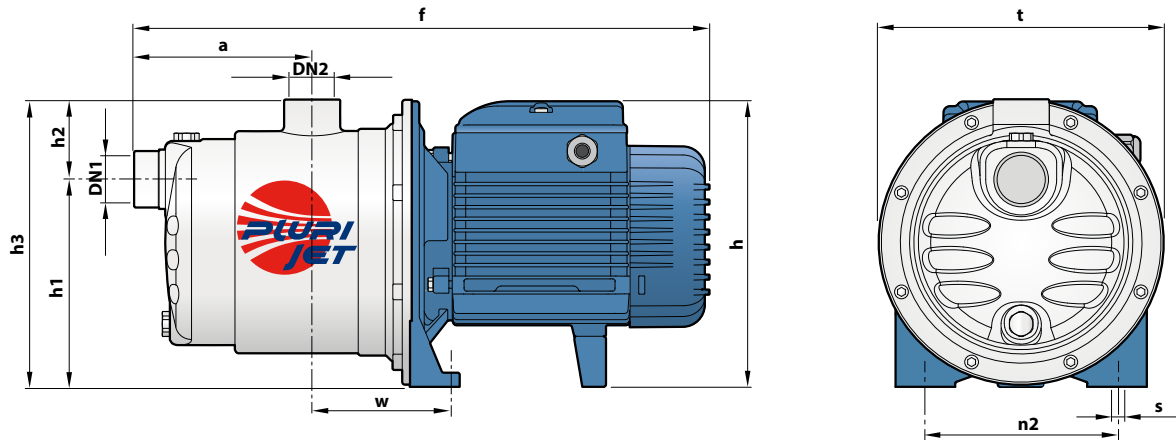
# PLURIJET 80X-100X

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLERS	Noryl				
4	DIFFUSERS	Noryl complete with anti-wear ring				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	BEARINGS	<i>Pump</i>	<i>Model</i>			
		PLURIJET 3/80X	6202 ZZ - C3 / 6201 ZZ			
		PLURIJET 3/100X				
		PLURIJET 4/80X	6203 ZZ / 6203 ZZ			
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		PLURIJETm 3/80X	12.5 µF - 450 VL	25 µF - 250 VL		
		PLURIJETm 4/80X	14 µF - 450 VL	25 µF - 250 VL		
	PLURIJETm 3/100X	14 µF - 450 VL	25 µF - 250 VL			
	PLURIJETm 4/100X	20 µF - 450 VL	60 µF - 300 VL			
9	ELECTRIC MOTOR	<p><b>PLURIJETm X:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>PLURIJET X:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b></p> <p>– Insulation: class F</p> <p>– Protection: IP X4</p>				





## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm										kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
PLURIJETm 3/80X	PLURIJET 3/80X	1"	1"	113	367	182	132	51	183	182	120	87	9	7.3	7.3
PLURIJETm 4/80X	PLURIJET 4/80X			138	392									8.6	8.0
PLURIJETm 3/100X	PLURIJET 3/100X			113	367									8.0	7.5
PLURIJETm 4/100X	PLURIJET 4/100X			138	410	202 *								10	11.1

(\*) h=221 mm for single-phase versions at 110 V

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
PLURIJETm 3/80X	3.3 A	3.1 A	6.4 A
PLURIJETm 4/80X	3.9 A	3.8 A	7.8 A
PLURIJETm 3/100X	3.9 A	3.8 A	7.8 A
PLURIJETm 4/100X	6.0 A	5.8 A	12.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
PLURIJET 3/80X	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
PLURIJET 4/80X	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
PLURIJET 3/100X	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
PLURIJET 4/100X	4.5 A	2.6 A	1.5 A	4.3 A	2.5 A	1.4 A

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
PLURIJETm 3/80X	PLURIJET 3/80X	84	108
PLURIJETm 4/80X	PLURIJET 4/80X	72	108
PLURIJETm 3/100X	PLURIJET 3/100X	84	108
PLURIJETm 4/100X	PLURIJET 4/100X	72	108

# **PLURIJET 90-120**

**Self-priming multi-stage electric pumps**



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**MADE IN ITALY**

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 **PEDROLLO**<sup>®</sup>  
*the spring of life*

# PLURIJET 90-120

## Self-priming multi-stage electric pumps

-  Clean water
-  Domestic use
-  Civic use



### ※ VERSATILE

**PLURIJET** pumps are the ideal solution to every need.

Thanks to their excellent suction capacity they are able to guarantee priming up to 9 metres depth.

### ※ QUIET OPERATION

These self-priming pumps are characterized by multi-stage hydraulics which ensures the maximum pressure with the minimum power consumption. Besides their design reduces turbulence, thus the noise level becomes extremely low.

### ※ EFFICIENT

Compared to the classic JET self-priming pumps, the **PLURIJET** pumps reduce the electricity consumption and provide all the water necessary at the same. Thanks to their unique design, the top class performance and low costs of investment and maintenance are guaranteed.

### ※ COMPACT

The **PLURIJET** pumps have small dimensions, and this makes them perfect for an easy installation even in small spaces.

### PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m<sup>3</sup>/h)
- Head up to **52 m**

### APPLICATION LIMITS

- Manometric suction lift up to **9 m**
- Liquid temperature between **-10°C** and **+60°C**
- Ambient temperature up to **+40°C**
- Max. working pressure **6 bar**
- Continuous service **S1**

### INSTALLATION AND USE

Suitable for pumping clean water and liquids which are not chemically aggressive towards the materials from which the pump is made. Because of their reliability and extremely silent operation, these

pumps are recommended for domestic applications, in particular for pressuring and distributing water in combination with small or medium pressure tanks, for gardening and irrigating systems, etc. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- WRAS certified electric pumps

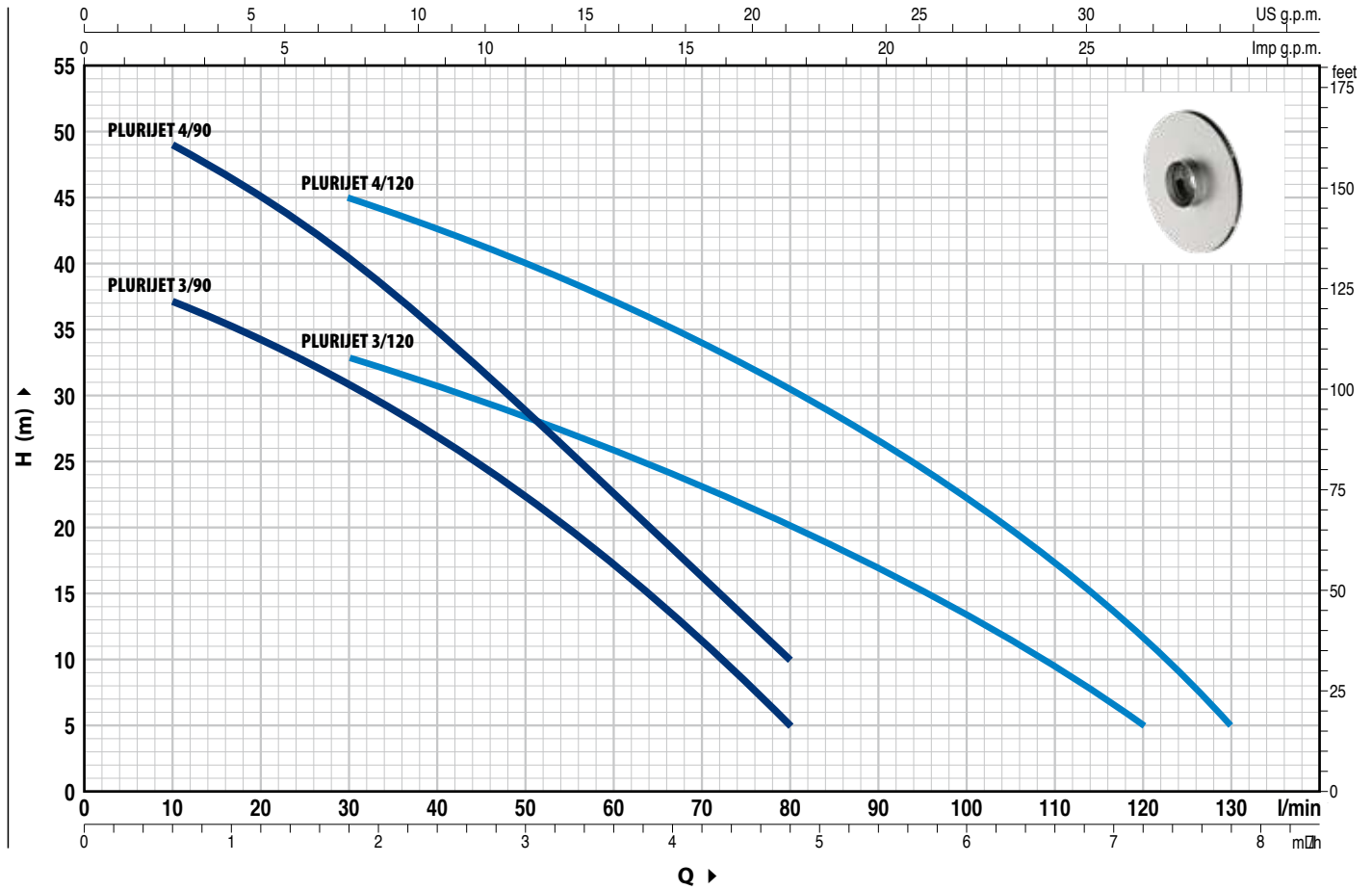


### WARRANTY

2 years as per our general terms and conditions of sale

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate (l/min)																
Single phase	Three phase	kW	HP	▲		0	5	10	20	30	40	50	60	70	80	90	100	110	120	130		
PLURIJETm 3/90	PLURIJET 3/90	0.48	0.65	IE3	H metres	40	38	37	34.5	31	27	22.5	17	11	5							
PLURIJETm 4/90	PLURIJET 4/90	0.55	0.75			52	50	49	44.5	40	34	28.5	22.5	16	10							
PLURIJETm 3/120	PLURIJET 3/120	0.55	0.75			38	37	36	34.5	33	31	28	26	23	20	17	13.5	10	5			
PLURIJETm 4/120	PLURIJET 4/120	0.75	1			50	50	49	47	45	42	39.5	37	34	30.5	26.5	22	17	11	5		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
<b>2 COVER</b>	Stainless steel AISI 304				
<b>3 IMPELLERS</b>	Stainless steel AISI 304				
<b>4 DIFFUSERS</b>	Noryl complete with anti-wear ring				
<b>5 MOTOR SHAFT</b>	Stainless steel AISI 431				
<b>6 MECHANICAL SEAL</b>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
	<b>AR-13</b>	<b>Ø 13 mm</b>	Ceramic	Graphite	NBR
<b>7 BEARINGS</b>	<i>Electric pump</i>	<i>Model</i>			
	<b>PLURIJET 3/90</b>				
	<b>PLURIJET 3/120</b>	<b>6202 ZZ - C3 / 6201 ZZ</b>			
	<b>PLURIJET 4/90</b>				
<b>PLURIJET 4/120</b>	<b>6203 ZZ / 6203 ZZ</b>				
<b>8 ELECTRIC MOTOR</b>	<p><b>PLURIJETm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>PLURIJET:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				

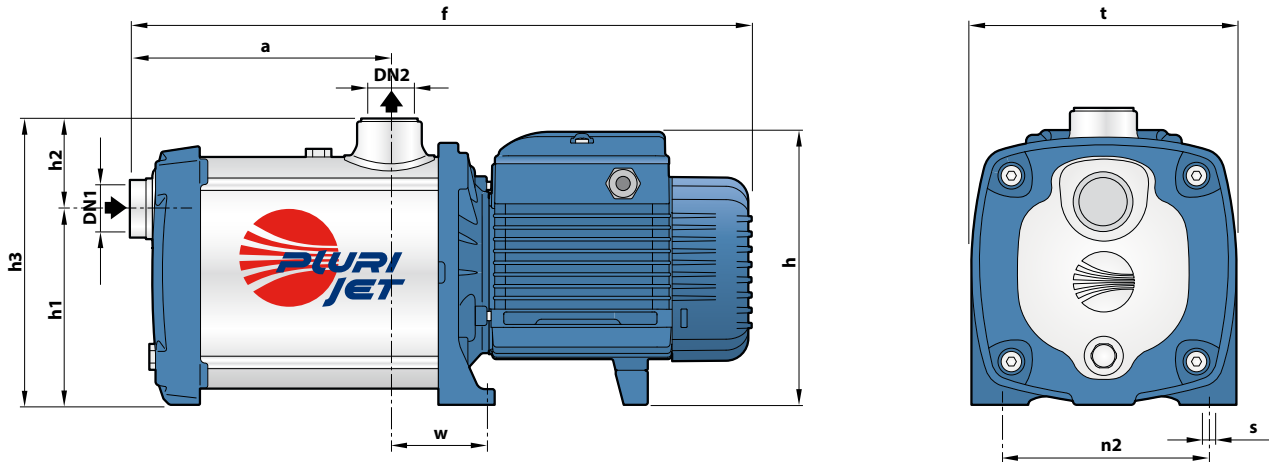


# PLURIJET 90-120



## Self-priming multi-stage electric pumps

### DIMENSIONS AND WEIGHTS



MODEL		PORTS		DIMENSIONS mm										kg	
Single phase	Three phase	DN1	DN2	a	f	h	h1	h2	h3	t	n2	w	s	1~	3~
PLURIJETm 3/90	PLURIJET 3/90	1"	1"	132	358	171	122	56	178	160	125	56.5	9	8.6	8.6
PLURIJETm 4/90	PLURIJET 4/90			157	383									9.8	9.1
PLURIJETm 3/120	PLURIJET 3/120			132	358	9.2								8.5	
PLURIJETm 4/120	PLURIJET 4/120			157	402	189								12.3	12.3

(\*) h=221 mm for single-phase versions at 110 V

### ABSORPTION

MODEL	VOLTAGE	
Single phase	230 V	240 V
PLURIJETm 3/90	3.2 A	3.1 A
PLURIJETm 4/90	3.9 A	3.7 A
PLURIJETm 3/120	4.1 A	3.9 A
PLURIJETm 4/120	5.8 A	5.6 A

MODEL	VOLTAGE					
Three phase	230 V	400 V	690 V	240 V	415 V	720 V
PLURIJET 3/90	2.5 A	1.5 A	0.9 A	2.4 A	1.4 A	0.8 A
PLURIJET 4/90	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
PLURIJET 3/120	3.4 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
PLURIJET 4/120	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A

### CAPACITOR

MODEL	CAPACITY
Single phase	(230 V or 240 V)
PLURIJETm 3/90	12.5 µF - 450 VL
PLURIJETm 4/90	14 µF - 450 VL
PLURIJETm 3/120	14 µF - 450 VL
PLURIJETm 4/120	20 µF - 450 VL

CAPACITORS EN 60252-1/A1



*The data contained in this publication are not to be considered binding.  
Pedrollo S.p.A. reserves the right to make any changes it deems appropriate to improve its production.*

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**MADE IN ITALY**

Z-DPL90085UK\_01

# PLURIJET 90-130-200

## STAINLESS STEEL IMPELLERS

### Self-priming multi-stage pumps

 Clean water

 Domestic use

 Civil use



#### PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m<sup>3</sup>/h)
- Head up to **97 m**

#### APPLICATION LIMITS

- Manometric suction lift up to **9 m** (HS)
- Liquid temperature between **-10 °C** and **+40 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**

#### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



#### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



#### INSTALLATION AND USE

The self-priming **PLURIJET** pumps are recommended for pumping clean water even in cases where air is present and for liquids which are not chemically aggressive towards the materials from which the pump is made.

Because of their silence, reliability and low energy consumption they are recommended for domestic and civil applications, in particular for pressurising and distributing water in combination with pressure tanks, for the recovery of rain water, for irrigation systems, etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

#### PATENTS - TRADE MARKS - MODELS

- PLURIJET® Registered Trade Mark n. 3974301
- Patent Pending n. EP14755156.8

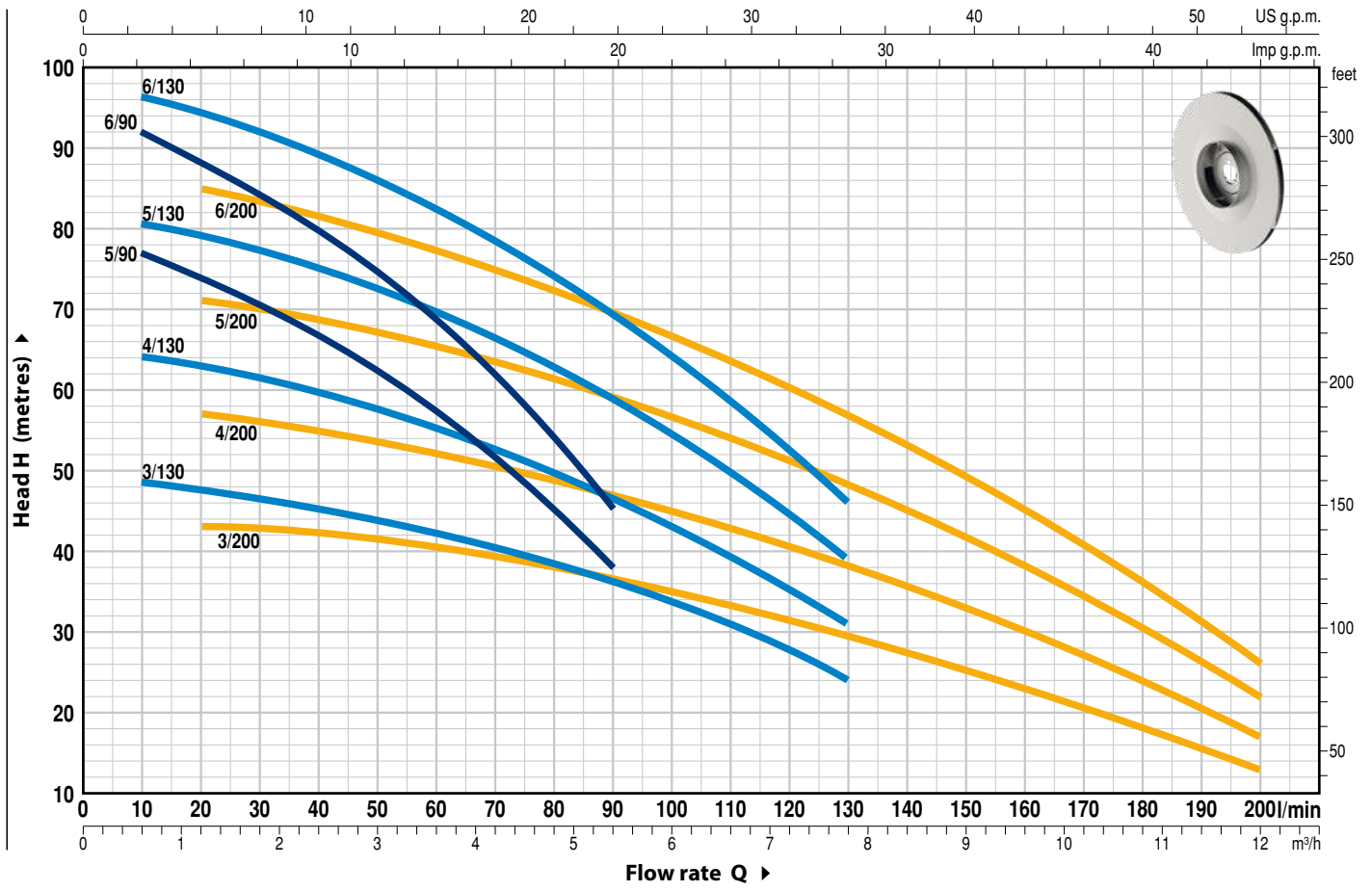
#### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 class protection



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



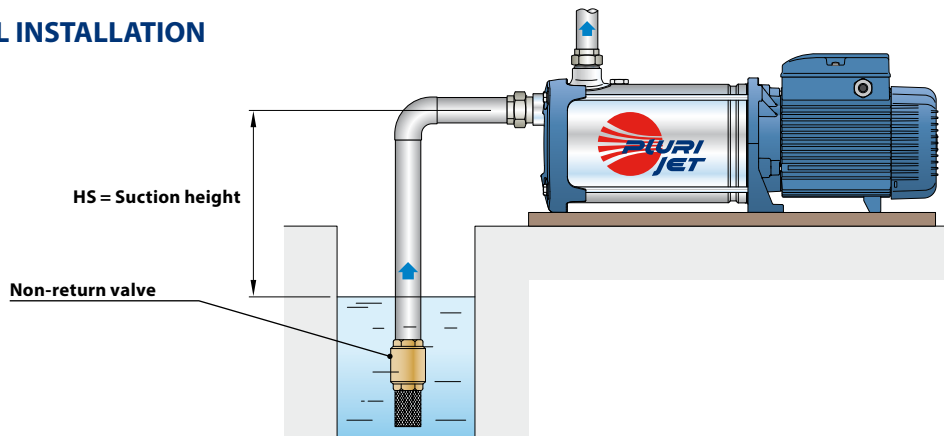
MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (m³/h)													
Single-phase	Three-phase	kW	HP		0	0.3	0.6	1.2	2.4	3.6	5.4	6.0	7.8	8.4	9.6	10.8	12.0	
PLURIJETm 5/90	PLURIJET 5/90	1.1	1.5	IE3	0	5	10	20	40	60	90	100	130	140	160	180	200	
PLURIJETm 6/90	PLURIJET 6/90	1.5	2		80	78	77	74	67	57	38							
PLURIJETm 3/130	PLURIJET 3/130	1.1	1.5		96	94	92	88	80	69	45							
PLURIJETm 4/130	PLURIJET 4/130	1.5	2		49	49	48.5	47.5	45	42.5	36	33.5	24					
PLURIJETm 5/130	PLURIJET 5/130	1.8	2.5		65	65	64	63	60	56	46	43	31					
-	PLURIJET 6/130	2.2	3		81	81	80.5	79	75	70	59	54	39					
PLURIJETm 3/200	PLURIJET 3/200	1.1	1.5		97	97	96.5	94.5	90	83	69	64	46					
PLURIJETm 4/200	PLURIJET 4/200	1.5	2		44	43.5	43.5	43	42	40.5	37	35	29	27.5	23	18	13	
PLURIJETm 5/200	PLURIJET 5/200	1.8	2.5		58	57.5	57.5	57	55	52.5	47	45	38	35.5	30	24	17	
-	PLURIJET 6/200	2.2	3		73	72	71.5	71	69	65.5	59	56.5	48	44.5	38	30	22	
					87	86	85.5	85	82	78	69	67	57	53	45	36	26	

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

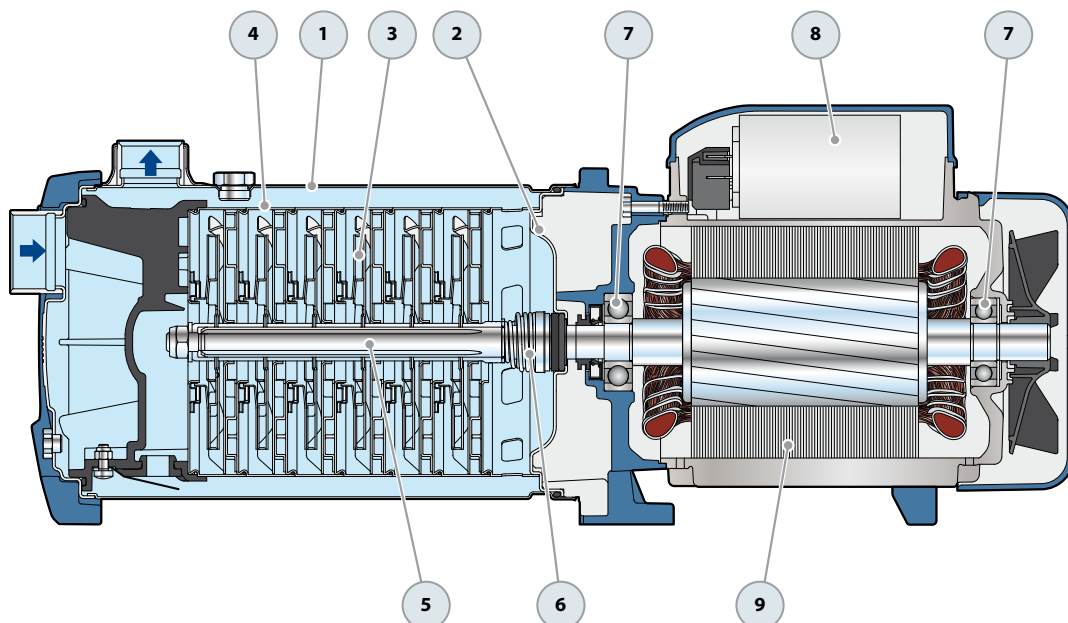
## TYPICAL INSTALLATION



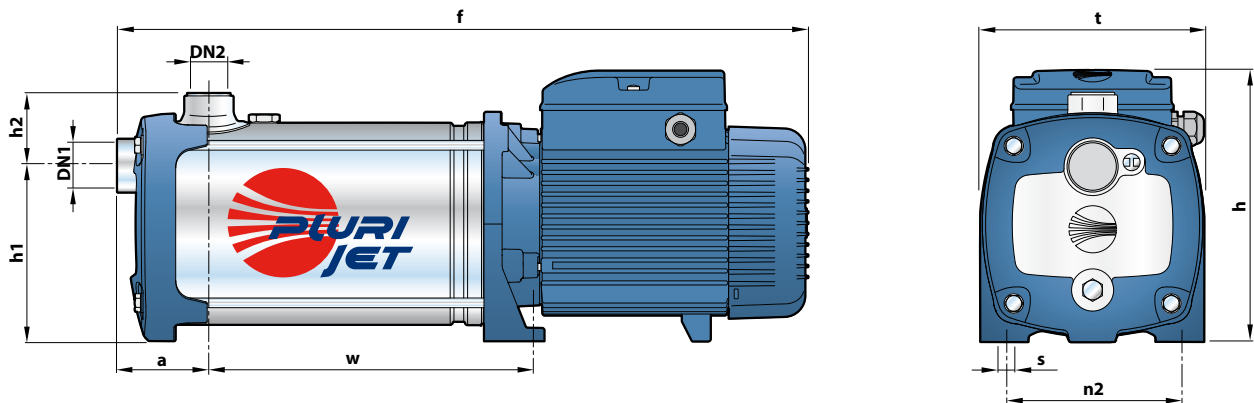
# PLURIJET 90-130-200

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304				
3	<b>IMPELLERS</b>	Stainless steel AISI 304				
4	<b>DIFFUSERS</b>	Stainless steel AISI 304				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>MECHANICAL SEAL</b>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR
7	<b>BEARINGS</b>	<b>6304 2RS - C3 / 6204 ZZ - C3E</b>				
8	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		<b>PLURIJETm 5/90</b>	<b>31.5 µF - 450 VL</b>	<b>60 µF - 250 VL</b>		
		<b>PLURIJETm 3/130</b>				
		<b>PLURIJETm 3/200</b>				
		<b>PLURIJETm 6/90</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>		
<b>PLURIJETm 4/130</b>						
<b>PLURIJETm 4/200</b>						
<b>PLURIJETm 5/130</b>	<b>50 µF - 450 VL</b>	-				
<b>PLURIJETm 5/200</b>						
9	<b>ELECTRIC MOTOR</b>	<p><b>PLURIJETm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>PLURIJET:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>				



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
PLURIJETm 5/90	PLURIJET 5/90	1 1/4"	1"	75	549	228	145	59	185	145	243	11	20.4	20.5
PLURIJETm 6/90	PLURIJET 6/90				573						269		22.7	22.5
PLURIJETm 3/130	PLURIJET 3/130				497						191		18.5	18.6
PLURIJETm 4/130	PLURIJET 4/130				523						217		20.5	20.6
PLURIJETm 5/130	PLURIJET 5/130				569						243		23.7	24.2
-	PLURIJET 6/130				595						269		-	25.3
PLURIJETm 3/200	PLURIJET 3/200				497						191		18.5	18.6
PLURIJETm 4/200	PLURIJET 4/200				523						217		20.6	20.6
PLURIJETm 5/200	PLURIJET 5/200				569						243		24.7	24.0
-	PLURIJET 6/200				595						269		-	25.0

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
PLURIJETm 5/90	9.3 A	9.0 A	18.6 A
PLURIJETm 6/90	11.0 A	10.7 A	22.0 A
PLURIJETm 3/130	8.5 A	8.1 A	17.0 A
PLURIJETm 4/130	10.3 A	9.9 A	20.6 A
PLURIJETm 5/130	12.5 A	12.0 A	-
PLURIJETm 3/200	8.7 A	8.3 A	17.4 A
PLURIJETm 4/200	10.5 A	10.1 A	21.0 A
PLURIJETm 5/200	12.5 A	12.2 A	-

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
PLURIJET 5/90	6.1 A	3.5 A	2.0 A	5.9 A	3.4 A	1.9 A
PLURIJET 6/90	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
PLURIJET 3/130	5.6 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
PLURIJET 4/130	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
PLURIJET 5/130	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
PLURIJET 6/130	9.9 A	5.7 A	3.3 A	9.5 A	5.5 A	3.2 A
PLURIJET 3/200	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
PLURIJET 4/200	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
PLURIJET 5/200	9.4 A	5.4 A	3.1 A	9.0 A	5.2 A	3.0 A
PLURIJET 6/200	10.2 A	5.9 A	3.4 A	9.8 A	5.7 A	3.3 A

## Centrifugal pumps with open impeller

WITH CAST IRON PUMP BODY

 Clean water

 Domestic use

 Civil use

 Agricultural use

 Industrial use



NGA 2

NGA 3

### PERFORMANCE RANGE

- Flow rate up to **900 l/min** (54 m<sup>3</sup>/h)
- Head up to **20.5 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure:
  - **6 bar** for NGA1 and NGA2
  - **10 bar** for NGA3
- Passage of suspended solids up to:
  - **Ø 12 mm** for NGA1 and NGA2
  - **Ø 20 mm** for NGA3
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with liquids that are not chemically aggressive towards the materials from which the pump is made.

The open impeller design allows **liquids containing relatively high levels of impurities** to be pumped without the risk of the impeller clogging.

**NGA** pumps are particularly suitable for pumping liquids that are not completely clean, guaranteeing the passage of solids up to 20 mm and therefore applications such as: transfers from canals, rivers, reservoirs, tanks, etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

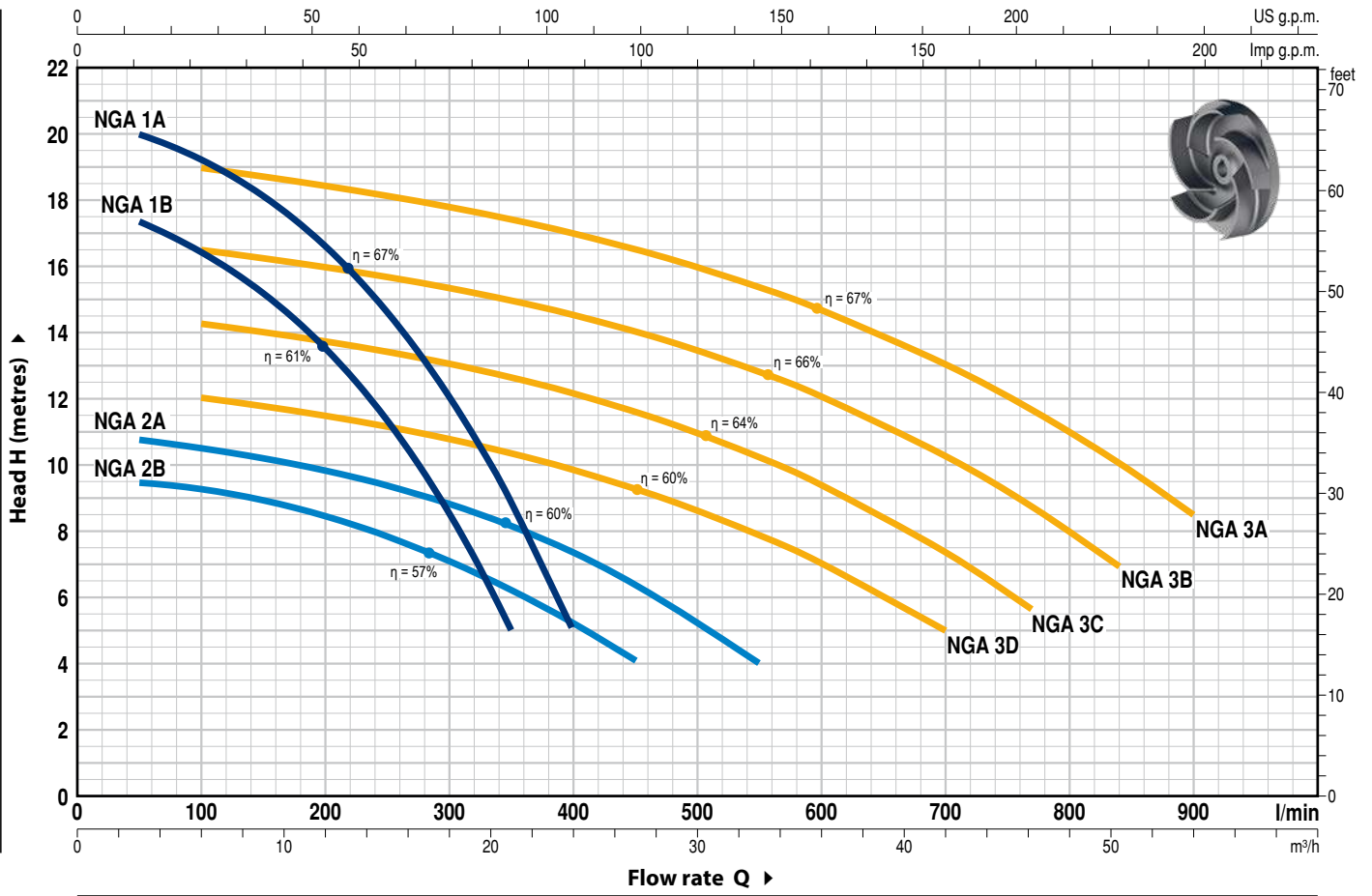
### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Pump body with threaded ports NPT ANSI B 1.20.1
- Other voltages or 60 Hz frequency
- On request up to **110 °C**
- **IP X5 Protection for NGA 3**
- Supply of ISO 228/1 flanges for intake and delivery ports in AISI 316 stainless steel



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate (l/min)													
Single-phase	Three-phase	kW	HP	▲		0	3	6	9	12	15	18	21	24					
NGAm 1B	NGA 1B	0.55	0.75	IE3	H metres	18	17.4	16.4	15.2	13.5	11.3	8.7	5						
NGAm 1A	NGA 1A	0.75	1			20.5	20	19.3	18.1	16.6	14.7	12.1	9	5					

MODEL		POWER (P <sub>2</sub> )			Q	Flow rate (l/min)														
Single-phase	Three-phase	kW	HP	▲		0	3	6	12	18	24	27	33	42	46.2	50.4	54			
NGAm 2B	NGA 2B	0.55	0.75	IE3	H metres	9.5	9.4	9.3	8.4	7	5.2	4								
NGAm 2A	NGA 2A	0.75	1			11	10.8	10.5	9.8	8.8	7.4	6.4	4							
NGAm 3D	NGA 3D	1.1	1.5			12.5	-	12	11.5	10.8	9.8	9.3	7.8	5						
NGAm 3C	NGA 3C	1.5	2			14.8	-	14.4	13.8	13.1	12.2	11.7	10.3	7.4	5.7					
NGAm 3B	NGA 3B	1.8	2.5			17	-	16.5	16	15.3	14.5	14	12.8	10.3	8.8	7				
NGAm 3A	NGA 3A	2.2	3			19.5	-	19	18.4	17.8	17	16.5	15.4	13	11.5	10	8.5			

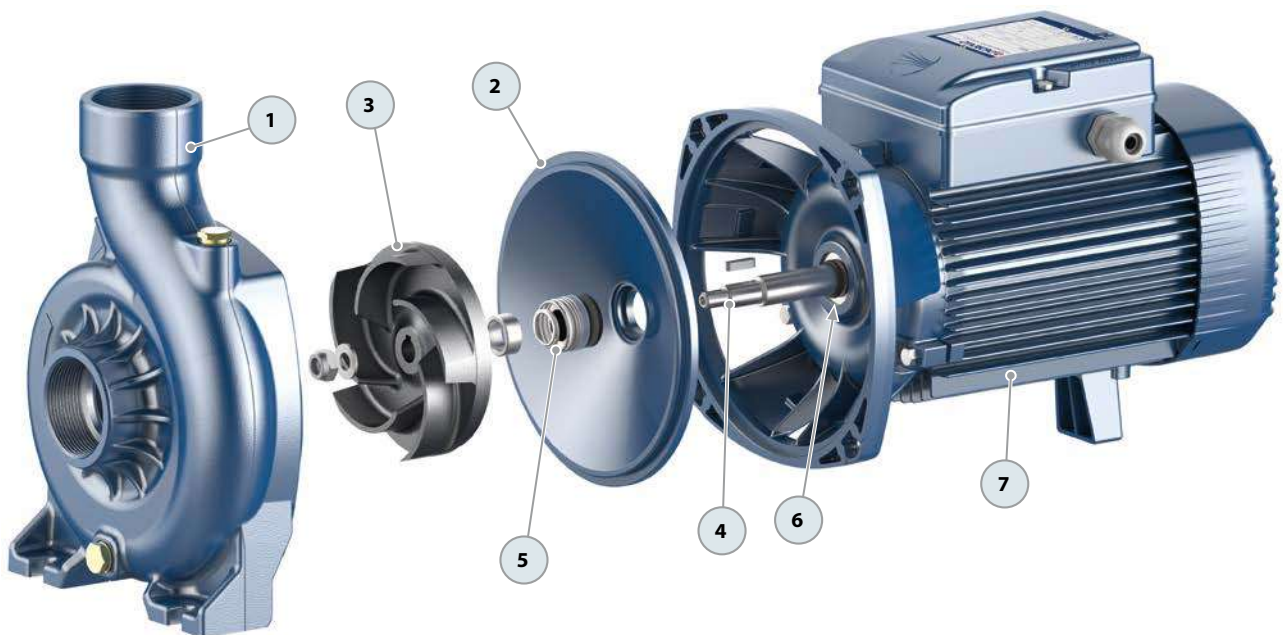
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

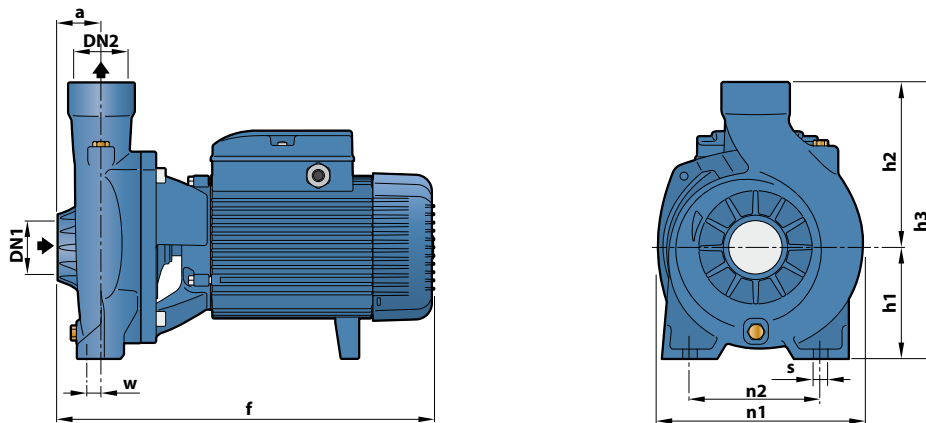
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron JL 250 with an Epoxy Electro Coating treatment, with threaded ports in compliance wit ISO 228/1						
2	<b>BODY BACKPLATE</b>	Cast iron JL 200 for <b>NGA3</b> Stainless steel AISI 304 for <b>NGA1</b> and <b>NGA2</b>						
3	<b>IMPELLER</b>	Open impeller in Cast iron JL 250 with an Epoxy Electro Coating treatment						
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431						
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>			
		<i>Model</i>	<i>Model</i>	<i>Diametro</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Spring</i>
		<b>NGA1</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR	AISI 304
		<b>NGA2</b>						
		<b>NGA3</b>	<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR	AISI 316
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>					
		<b>NGA1</b>	<b>6203 ZZ / 6203 ZZ</b>					
		<b>NGA2</b>	<b>6203 ZZ / 6203 ZZ</b>					
		<b>NGA3</b>	<b>6204 ZZ / 6204 ZZ</b>					
7	<b>ELECTRIC MOTOR</b>	<b>NGAm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. <b>NGA:</b> three-phase 230/400 V - 50 Hz. <b>⇒ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP X4						



## DIMENSIONS AND WEIGHT

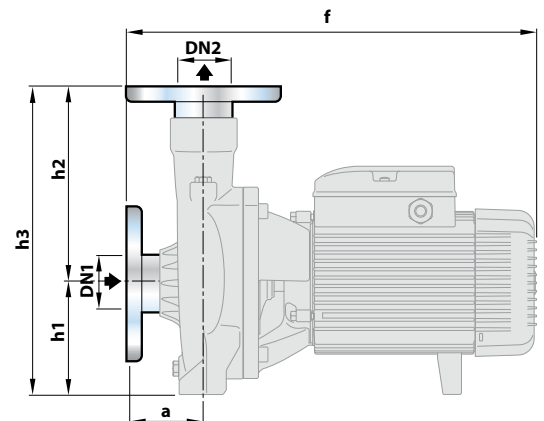


### WITH THREADED PORTS

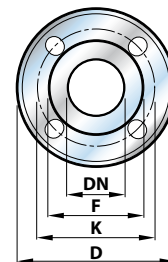
MODEL		PORTS		DIMENSIONS mm								kg		
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	n1	n2	w	s	1~	3~
NGAm 1B	NGA 1B	1½"	1½"	40	299	92	135	227	190	160	6	11	12.5	12.5
NGAm 1A	NGA 1A			32									12.7	12.7
NGAm 2B	NGA 2B			32									12.9	12.9
NGAm 2A	NGA 2A			32									13.1	13.1
NGAm 3D	NGA 3D	2"	2"	48	387	120	178	298	217	140	18	11.5	21.4	22.2
NGAm 3C	NGA 3C			407									23.1	23.1
NGAm 3B	NGA 3B			407									25.7	25.7
NGAm 3A	NGA 3A			407									25.7	25.7

### WITH FLANGED PORTS

MODEL		PORTS		DIMENSIONS mm				
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3
NGAm 1B	NGA 1B	40	40	60	334	92	156	248
NGAm 1A	NGA 1A			52				
NGAm 2B	NGA 2B			52				
NGAm 2A	NGA 2A			52				
NGAm 3D	NGA 3D	50	50	70	408	120	200	320
NGAm 3C	NGA 3C			428				
NGAm 3B	NGA 3B			428				
NGAm 3A	NGA 3A			428				



FLANGES	D	K	F	HOLES	
DN	mm	mm	mm	N°	Ø (mm)
40	150	110	78	4	18
50	165	125	99	4	18



## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE		CAPACITANCE
	230 V	240 V	
Single-phase	230 V	240 V	(230 V or 240 V)
NGAm 1B	5.5 A	5.3 A	20 µF - 450 VL
NGAm 1A	6.0 A	5.8 A	20 µF - 450 VL
NGAm 2B	5.0 A	4.8 A	20 µF - 450 VL
NGAm 2A	5.7 A	5.5 A	20 µF - 450 VL
NGAm 3D	7.5 A	7.2 A	31.5 µF - 450 VL
NGAm 3C	9.5 A	9.1 A	45 µF - 450 VL
NGAm 3B	10.5 A	10.1 A	50 µF - 450 VL
NGAm 3A	12.5 A	12.0 A	50 µF - 450 VL

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
NGA 1B	3.8 A	2.2 A	1.3 A	3.6 A	2.1 A	1.2 A
NGA 1A	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
NGA 2B	3.5 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
NGA 2A	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A
NGA 3D	5.0 A	2.9 A	1.7 A	4.8 A	2.8 A	1.6 A
NGA 3C	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
NGA 3B	7.8 A	4.5 A	2.6 A	7.5 A	4.3 A	2.5 A
NGA 3A	8.3 A	4.8 A	2.8 A	8.0 A	4.6 A	2.7 A

# NGA-PRO

## Stainless steel pumps with open impeller


WITH STAINLESS STEEL AISI 316 PUMP BODY

 Clean water

 Domestic use

 Civil use

 Agricultural use

 Industrial use



NGA 2 - PRO

NGA 3 - PRO

### PERFORMANCE RANGE

- Flow rate up to **900 l/min** (54 m<sup>3</sup>/h)
- Head up to **20.5 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. working pressure:
  - **6 bar** for NGA1-PRO e NGA2-PRO
  - **10 bar** for NGA3-PRO
- Passage of suspended solids up to:
  - **Ø 12 mm** for NGA1-PRO e NGA2-PRO
  - **Ø 20 mm** for NGA3-PRO
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with liquids that are not chemically aggressive towards the materials from which the pump is made.

The open impeller design allows **liquids containing relatively high levels of impurities** to be pumped without the risk of the impeller clogging.

All of the components in contact with the pumped liquid are constructed in **stainless steel AISI 316**.

**NGA-PRO** pumps are particularly suitable for pumping liquids that are not completely clean, guaranteeing the passage of solids up to 20 mm and therefore applications such as: washing, circulation of cooling liquids, tanks etc.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

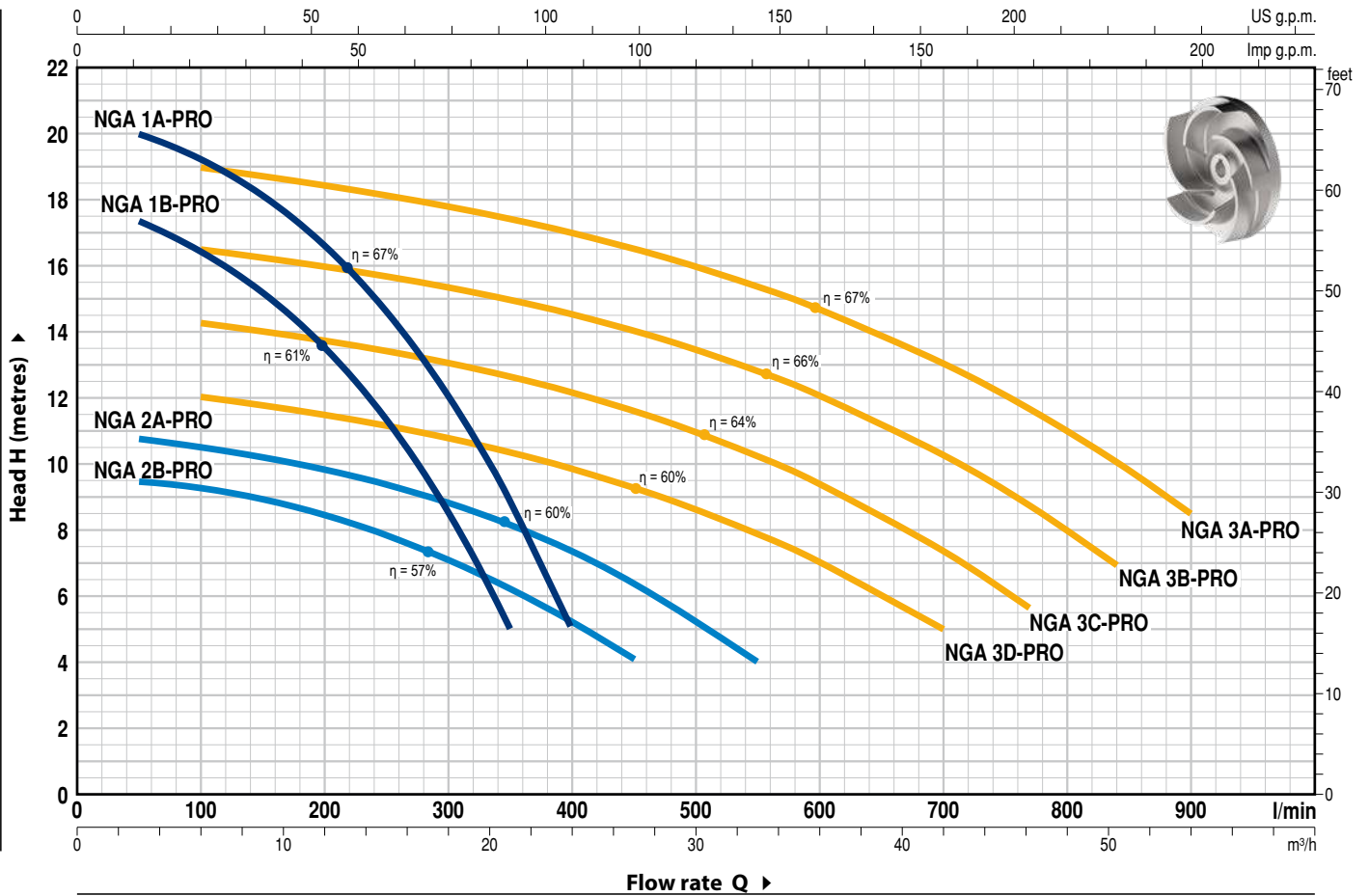
- Special mechanical seal
- Standardised mechanical seal with anti-rotation (NGA3-PRO)
- Pump body with threaded ports NPT ANSI B 1.20.1
- On request up to **110 °C**
- Protection **IP X5** for **NGA 3-PRO**
- Other voltages or 60 Hz frequency
- Supply of ISO 228/1 flanges for intake and delivery ports in AISI 316 stainless steel





### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )			Q	Flow rate											
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	3	6	9	12	15	18	21	24		
NGAm 1B - PRO	NGA 1B - PRO	0.55	0.75	IE3	H metres	0	50	100	150	200	250	300	350	400			
NGAm 1A - PRO	NGA 1A - PRO	0.75	1			18	17.4	16.4	15.2	13.5	11.3	8.7	5				
						20.5	20	19.3	18.1	16.6	14.7	12.1	9	5			

TIPO		POWER (P <sub>2</sub> )			Q	Flow rate													
Single-phase	Three-phase	kW	HP	▲		m <sup>3</sup> /h	0	3	6	12	18	24	27	33	42	46.2	50.4	54	
NGAm 2B - PRO	NGA 2B - PRO	0.55	0.75	IE3	H metres	0	50	100	200	300	400	450	550	700	770	840	900		
NGAm 2A - PRO	NGA 2A - PRO	0.75	1			9.5	9.4	9.3	8.4	7	5.2	4							
NGAm 3D - PRO	NGA 3D - PRO	1.1	1.5			11	10.8	10.5	9.8	8.8	7.4	6.4	4						
NGAm 3C - PRO	NGA 3C - PRO	1.5	2			12.5	-	12	11.5	10.8	9.8	9.3	7.8	5					
NGAm 3B - PRO	NGA 3B - PRO	1.8	2.5			14.8	-	14.4	13.8	13.1	12.2	11.7	10.3	7.4	5.7				
NGAm 3A - PRO	NGA 3A - PRO	2.2	3			17	-	16.5	16	15.3	14.5	14	12.8	10.3	8.8	7			
								19.5	-	19	18.4	17.8	17	16.5	15.4	13	11.5	10	8.5

Q = Flow rate H = Total manometric head HS = Suction height

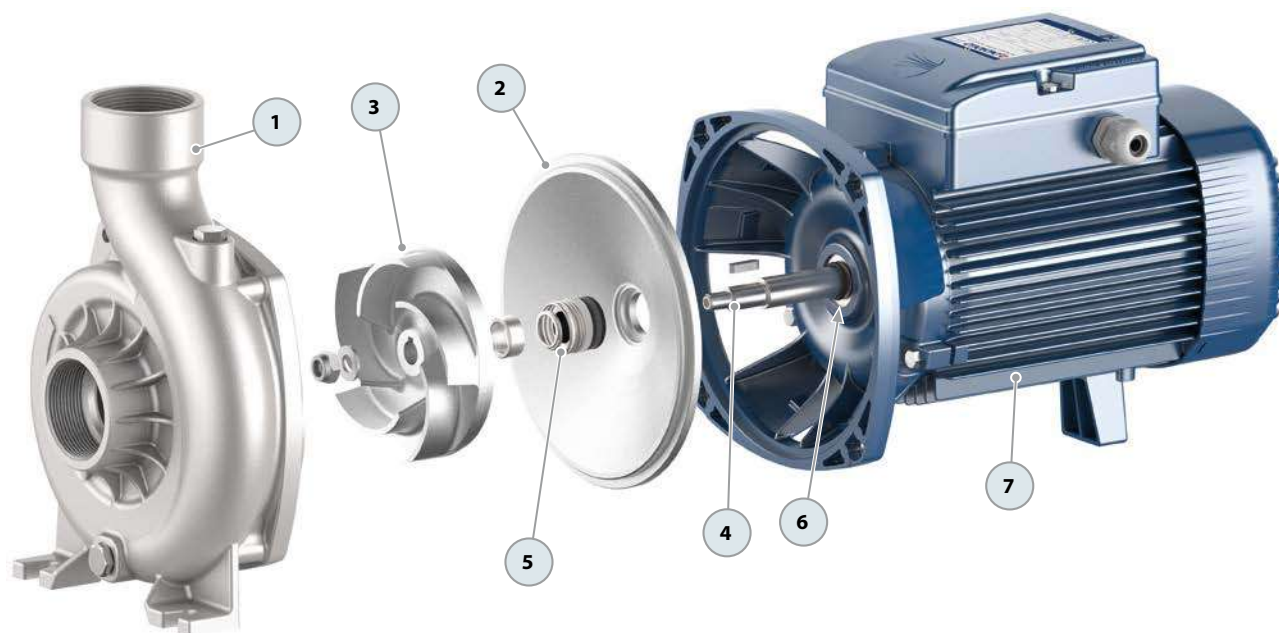
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

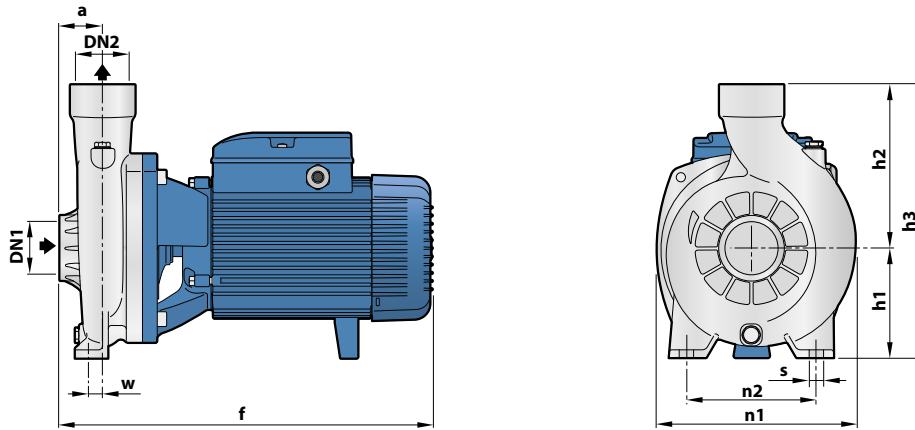
# NGA-PRO

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 316 complete with threaded ports in compliance with ISO 228/1						
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 316						
3	<b>IMPELLER</b>	Open impeller in stainless steel AISI 316						
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 316L						
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Tenuta</i>	<i>Shaft</i>	<i>Materials</i>			
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Spring</i>
		<b>NGA1-PRO</b>	<b>AR-14S</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	Viton	AISI 316
		<b>NGA2-PRO</b>						
<b>NGA3-PRO</b>	<b>FN-18 V6</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	Viton	AISI 316		
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>					
		<b>NGA1-PRO</b>	<b>6203 ZZ / 6203 ZZ</b>					
		<b>NGA2-PRO</b>						
		<b>NGA3-PRO</b>						
7	<b>ELECTRIC MOTOR</b>	<p><b>NGAm-PRO:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>NGA-PRO:</b> three-phase 230/400 V - 50 Hz.</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>						



## DIMENSIONS AND WEIGHT

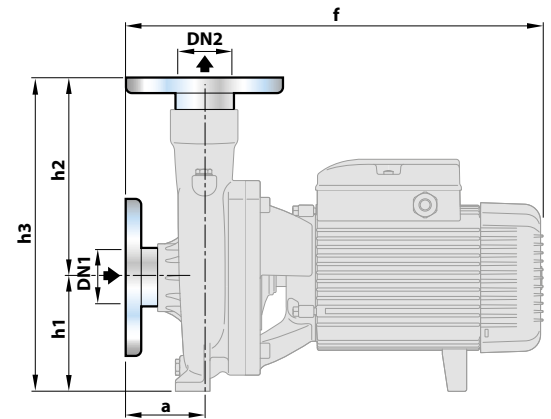


### WITH THREADED PORTS

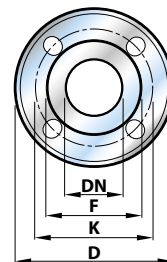
MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	n1	n2	w	s	1~	3~
NGAm 1B - PRO	NGA 1B - PRO	1½"	1½"	40	299	92	135	227	190	160	6	11	12.9	12.7
NGAm 1A - PRO	NGA 1A - PRO			32									13.1	13.0
NGAm 2B - PRO	NGA 2B - PRO			32									13.2	13.0
NGAm 2A - PRO	NGA 2A - PRO			32									13.4	13.3
NGAm 3D - PRO	NGA 3D - PRO	2"	2"	48	387	120	178	298	217	140	18	11.5	20.9	21.0
NGAm 3C - PRO	NGA 3C - PRO			407									22.1	22.1
NGAm 3B - PRO	NGA 3B - PRO			407									24.5	24.8
NGAm 3A - PRO	NGA 3A - PRO			407									24.5	24.8

### WITH FLANGED PORTS

MODEL		PORTS		DIMENSIONS mm						
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3		
NGAm 1B - PRO	NGA 1B - PRO	40	40	60	334	92	156	248		
NGAm 1A - PRO	NGA 1A - PRO			52	342					
NGAm 2B - PRO	NGA 2B - PRO			50	50	70	408	120	200	320
NGAm 2A - PRO	NGA 2A - PRO									
NGAm 3D - PRO	NGA 3D - PRO	428								
NGAm 3C - PRO	NGA 3C - PRO	428								
NGAm 3B - PRO	NGA 3B - PRO	428								
NGAm 3A - PRO	NGA 3A - PRO	428								



FLANGES	D	K	F	HOLES	
DN	mm	mm	mm	N°	Ø (mm)
40	150	110	78	4	18
50	165	125	99	4	18



## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE		CAPACITANCE
	230 V	240 V	
Single-phase	230 V	240 V	(230 V or 240 V)
NGAm 1B - PRO	5.5 A	5.3 A	20 µF - 450 VL
NGAm 1A - PRO	6.0 A	5.8 A	20 µF - 450 VL
NGAm 2B - PRO	5.0 A	4.8 A	20 µF - 450 VL
NGAm 2A - PRO	5.7 A	5.5 A	20 µF - 450 VL
NGAm 3D - PRO	7.5 A	7.2 A	31.5 µF - 450 VL
NGAm 3C - PRO	9.5 A	9.1 A	45 µF - 450 VL
NGAm 3B - PRO	10.5 A	10.1 A	50 µF - 450 VL
NGAm 3A - PRO	12.5 A	12.0 A	50 µF - 450 VL

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
NGA 1B - PRO	3.8 A	2.2 A	1.3 A	3.6 A	2.1 A	1.2 A
NGA 1A - PRO	4.2 A	2.4 A	1.4 A	4.0 A	2.3 A	1.3 A
NGA 2B - PRO	3.5 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
NGA 2A - PRO	4.0 A	2.3 A	1.3 A	3.8 A	2.2 A	1.3 A
NGA 3D - PRO	5.0 A	2.9 A	1.7 A	4.8 A	2.8 A	1.6 A
NGA 3C - PRO	6.1 A	3.5 A	2.0 A	5.8 A	3.4 A	1.9 A
NGA 3B - PRO	7.8 A	4.5 A	2.6 A	7.5 A	4.3 A	2.5 A
NGA 3A - PRO	8.3 A	4.8 A	2.8 A	8.0 A	4.6 A	2.7 A

# HF

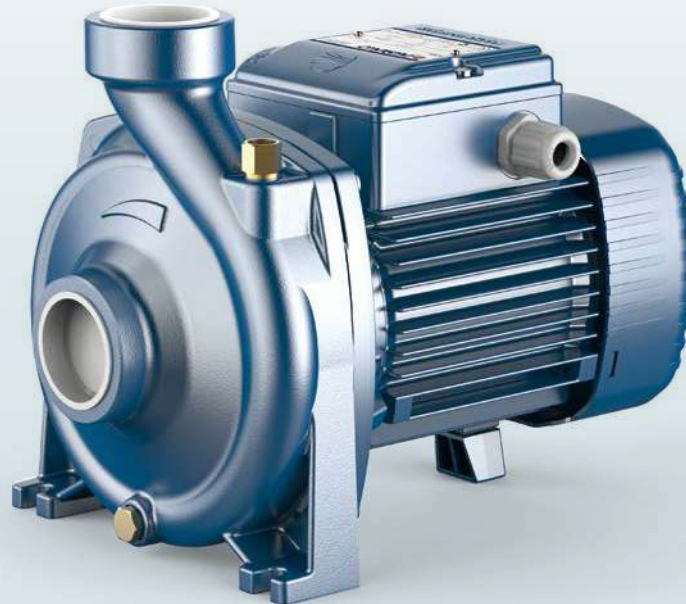
## Centrifugal pumps

▣▣▣ Medium flow

 Clean water

 Agricultural use

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **600 l/min** (36 m<sup>3</sup>/h)
- Head up to **39 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure:
  - **6 bar** for HF 5-50-51
  - **10 bar** for HF 5M-70
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### INSTALLATION AND USE

Suitable for use in civil and agricultural applications. The high efficiency and continuous duty capabilities makes these pumps ideal for use in applications such as flood and spray irrigation, drawing water from lakes, rivers and wells, or for any number of different industrial applications where the characteristics of high flow rates and mid to low head are required.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- IP X5 class protection for HF 5M-70

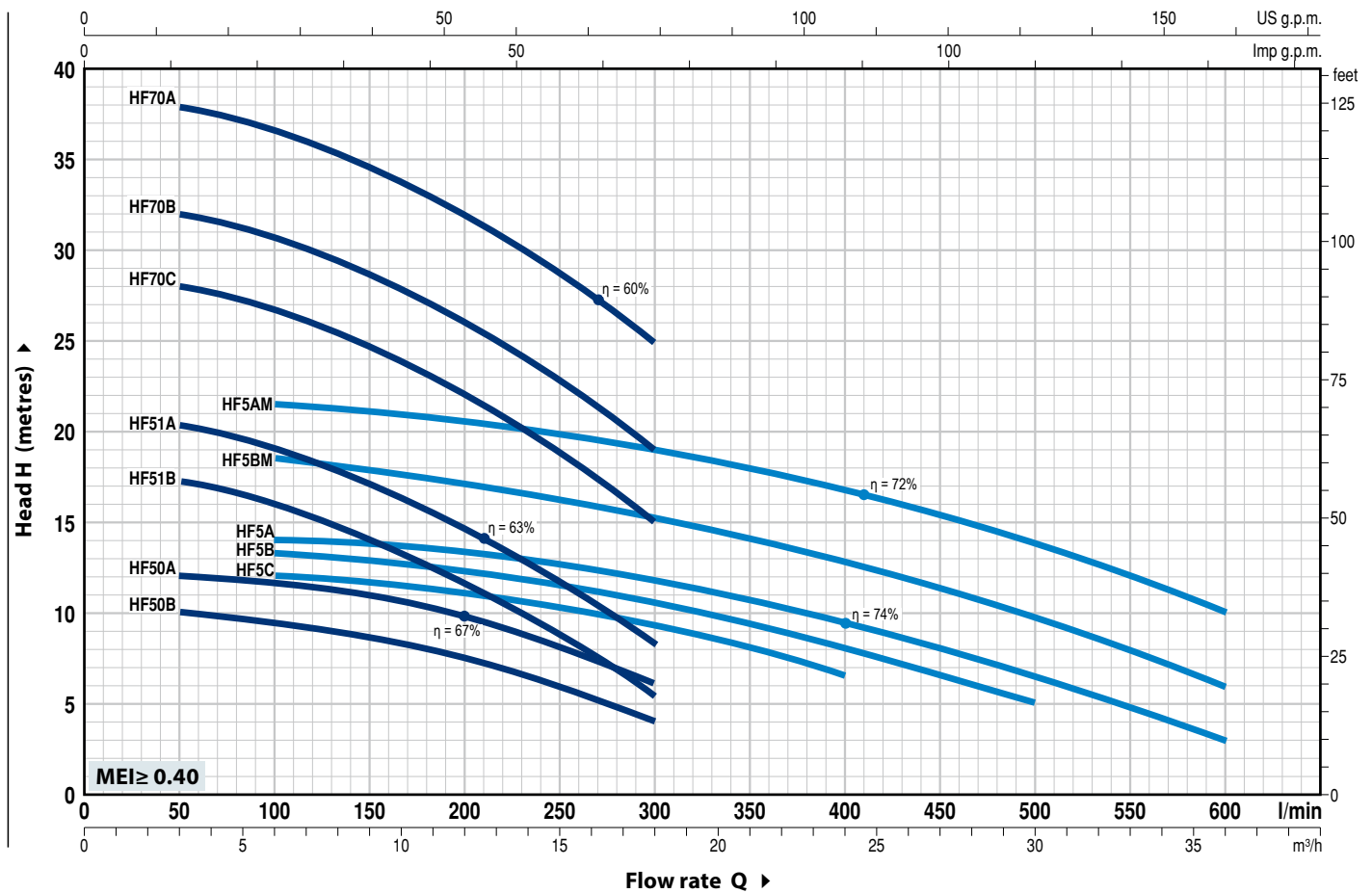
### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



MODEL		POWER (P <sub>2</sub> )		Q	H metres												
Single-phase	Three-phase	kW	HP		▲	0	3	6	9	12	15	18	21	24	30	36	
					0	50	100	150	200	250	300	350	400	500	600		
HFm 50B	HF 50B	0.37	0.50	IE2	10	10	9.5	8.5	7.5	6	4						
HFm 50A	HF 50A	0.55	0.75		12	12	11.5	11	9.6	8	6						
HFm 51B	HF 51B	0.55	0.75	IE3	18.2	17.2	16	14	11.5	9	5.4						
HFm 51A	HF 51A	0.75	1		21.2	20.2	19	17	14.5	11.6	8.4						
HFm 70C	HF 70C	1.1	1.5	IE3	29	28	26.5	24.5	22	18.5	15						
HFm 70B	HF 70B	1.5	2		33	32	30.5	28.5	26	22.5	19						
-	HF 70A	2.2	3		39	38	36.5	34.5	32	28.5	25						
HFm 5C	HF 5C	0.55	0.75	IE2	12.5	-	12	11.7	11	10.2	9.2	8	6.5				
HFm 5B	HF 5B	0.75	1	IE3	13.7	-	13.2	13	12.5	11.6	10.5	9.2	8	5			
HFm 5A	HF 5A	1.1	1.5		14.5	-	13.8	13.5	13.2	12.6	11.8	10.5	9.2	6.5	3		
HFm 5BM	HF 5BM	1.1	1.5		19	-	18.5	18	17	16	15.2	14	12.8	9.7	6		
HFm 5AM	HF 5AM	1.5	2		22	-	21.5	21	20.5	19.8	19	18	16.8	13.8	10		

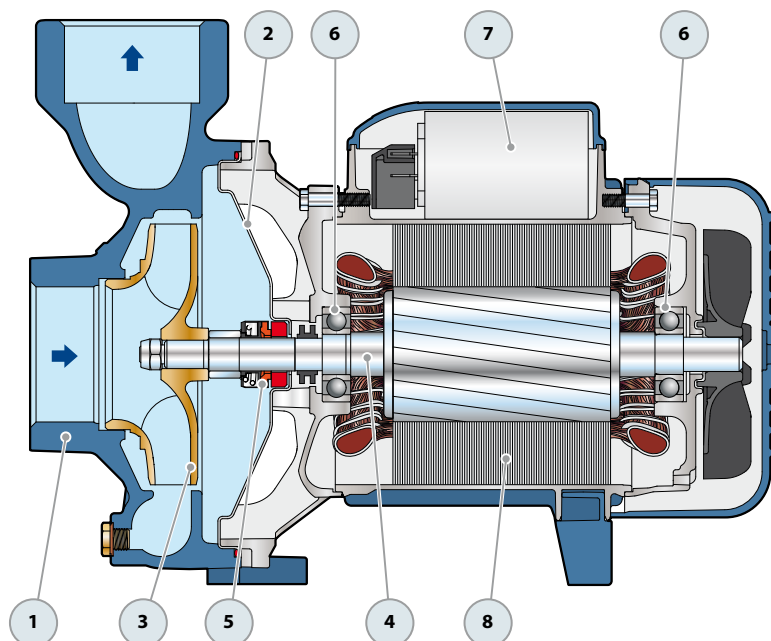
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

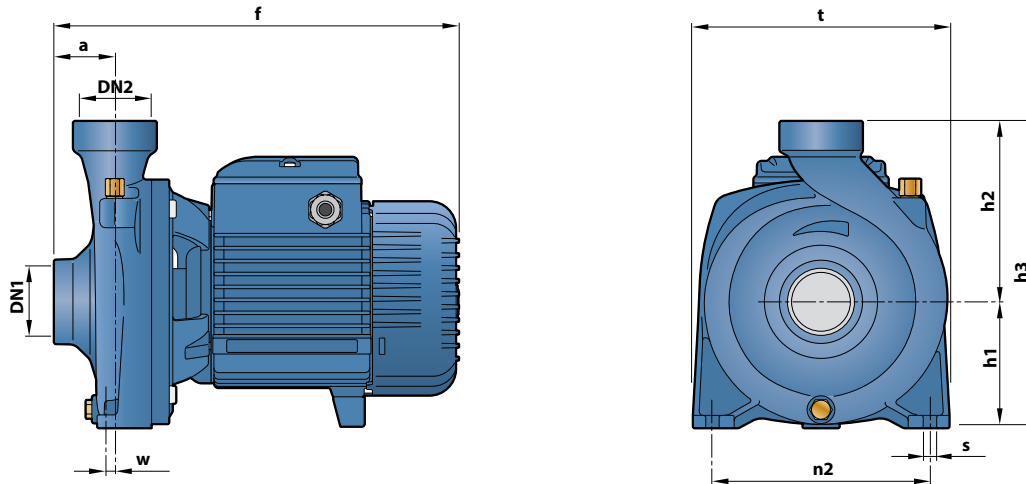
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 304 (cast iron for HF 5M-70)					
3	<b>IMPELLER</b>	Brass					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>HF 50</b>	<b>AR-12</b>	<b>Ø 12 mm</b>	Ceramic	Graphite	NBR
		<b>HF 5-51</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR
	<b>HF 5M-70</b>	<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR	
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		<b>HF 50</b>	<b>6201 ZZ / 6201 ZZ</b>				
		<b>HF 5-51</b>	<b>6203 ZZ / 6203 ZZ</b>				
		<b>HF 5M-70</b>	<b>6204 ZZ / 6204 ZZ</b>				
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>				
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>			
		<b>HFm 50B</b>	<b>10 µF - 450 VL</b>	<b>25 µF - 250 VL</b>			
		<b>HFm 50A</b>	<b>14 µF - 450 VL</b>	<b>25 µF - 250 VL</b>			
		<b>HFm 51B</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 51A</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 70C</b>	<b>25 µF - 450 VL</b>	<b>60 µF - 250 VL</b>			
		<b>HFm 70B</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>			
		<b>HFm 5C</b>	<b>16 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 5B</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 5A</b>	<b>25 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 5BM</b>	<b>25 µF - 450 VL</b>	<b>60 µF - 250 VL</b>			
		<b>HFm 5AM</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>			
8	<b>ELECTRIC MOTOR</b>	<b>HFm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.					
		<b>HF:</b> three-phase 230/400 V - 50 Hz.					
		⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b>					
		- Insulation: class F - Protection: IP X4					



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg		
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	t	n2	w	s	1~	3~	
HFm 50B	HF 50B	1½"	1½"	42	270	82	118	200	166	135	-8	10	8.0	8.1	
HFm 50A	HF 50A												8.9	8.2	
HFm 51B	HF 51B			45	303	92	133	225	190	160	2		12.9	12.7	
HFm 51A	HF 51A												13.0	13.0	
HFm 70C	HF 70C			48.5	373	114	155	269	216	171	12		12	18.8	20.1
HFm 70B	HF 70B													21.4	21.5
-	HF 70A													-	24.2
HFm 5C	HF 5C	2"	2"	43	316	97	141	238	192	160	-68	10	14.3	14.2	
HFm 5B	HF 5B												14.3	14.3	
HFm 5A	HF 5A			59	386	110	150	260	208	12.5	11	14.6	14.7		
HFm 5BM	HF 5BM											19.2	20.3		
HFm 5AM	HF 5AM											21.6	21.6		

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
HFm 50B	2.8 A	2.6 A	5.6 A
HFm 50A	3.8 A	3.6 A	7.6 A
HFm 51B	4.7 A	4.5 A	9.4 A
HFm 51A	5.6 A	5.3 A	11.2 A
HFm 70C	8.0 A	7.6 A	16.0 A
HFm 70B	10.0 A	9.0 A	20.0 A
HFm 5C	4.2 A	3.8 A	8.4 A
HFm 5B	4.9 A	4.5 A	9.8 A
HFm 5A	6.2 A	5.7 A	12.4 A
HFm 5BM	7.7 A	7.1 A	15.4 A
HFm 5AM	10.1 A	9.7 A	20.2 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
HF 50B	2.1 A	1.2 A	0.7 A	2.1 A	1.2 A	0.7 A
HF 50A	3.0 A	1.7 A	1.0 A	2.8 A	1.6 A	0.9 A
HF 51B	3.6 A	2.1 A	1.2 A	3.5 A	2.0 A	1.2 A
HF 51A	4.4 A	2.5 A	1.2 A	4.0 A	2.3 A	1.4 A
HF 70C	6.1 A	3.3 A	2.0 A	5.5 A	3.2 A	1.9 A
HF 70B	7.4 A	4.3 A	2.5 A	7.1 A	4.1 A	2.4 A
HF 70A	9.5 A	5.5 A	3.2 A	9.1 A	5.3 A	3.0 A
HF 5C	3.5 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
HF 5B	3.6 A	2.1 A	1.2 A	3.5 A	2.0 A	1.2 A
HF 5A	5.0 A	2.9 A	1.7 A	3.6 A	2.1 A	1.6 A
HF 5BM	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
HF 5AM	7.1 A	4.1 A	2.4 A	6.5 A	3.7 A	2.3 A

# HF

## Centrifugal pumps

High flow

 Clean water

 Agricultural use

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **2400 l/min** (144 m<sup>3</sup>/h)
- Head up to **24.5 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature up to **+40 °C**
- Max. working pressure:
  - **6 bar** for HF 4
  - **10 bar** for HF 6-8-20-30
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### INSTALLATION AND USE

Suitable for use in civil and agricultural applications. The high efficiency and continuous duty capabilities makes these pumps ideal for use in activities such as flood and spray irrigation, drawing water from lakes, rivers and wells, or for any number of different industrial applications where the characteristics of high flow rates and mid to low head are required.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

### CERTIFICATIONS

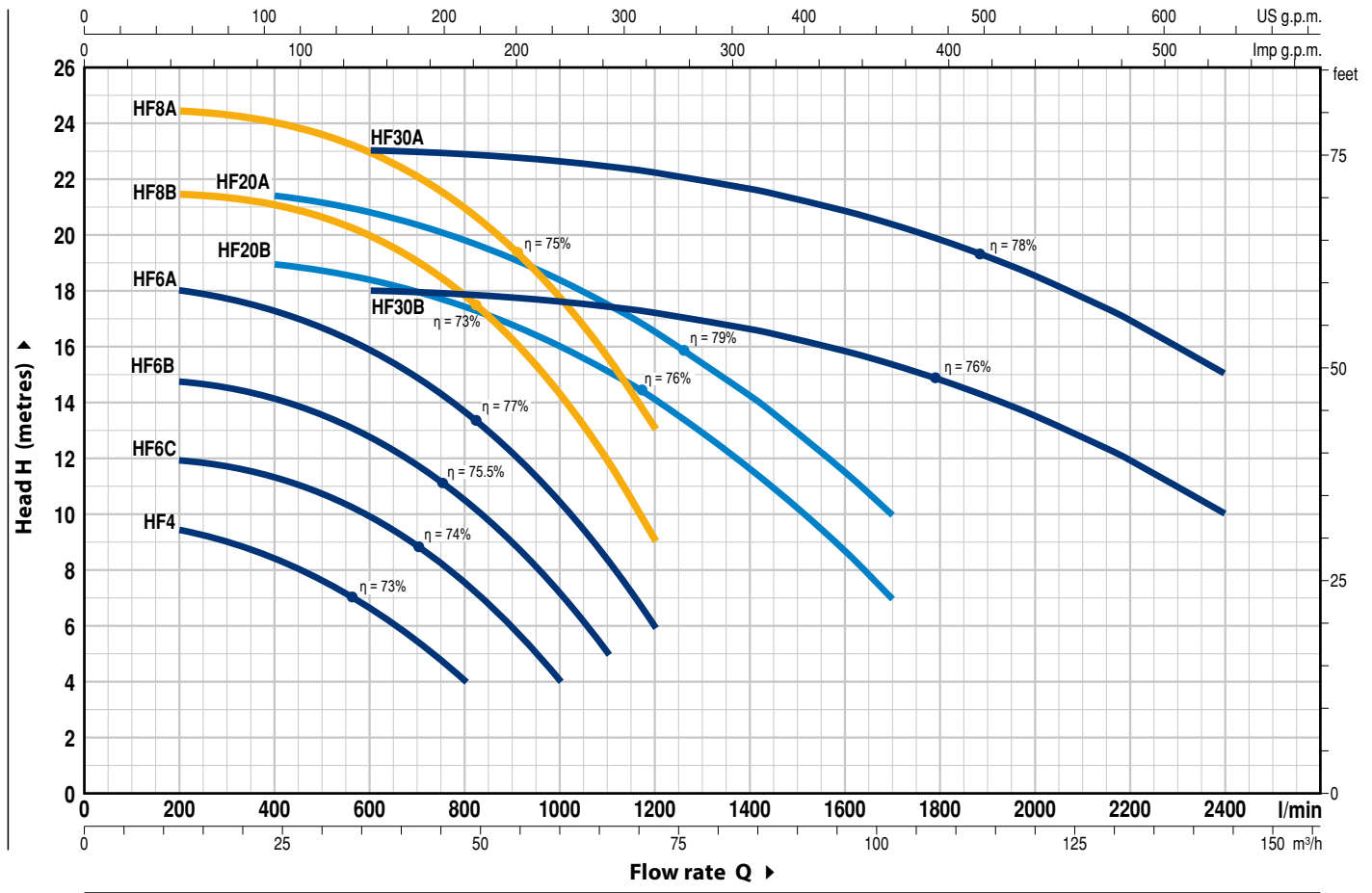
Company with management system certified DNV  
ISO 9001: QUALITY





### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		Q	H metres																		
Single-ph.	Three-ph.	kW	HP		m <sup>3</sup> /h	0	12	18	24	30	36	42	48	54	60	66	72	87	102	114	129	144	
				l/min	0	200	300	400	500	600	700	800	900	1000	1100	1200	1450	1700	1900	2150	2400		
HFm 4	HF 4	0.75	1	IE3	9.8	9.5	9.1	8.5	7.6	6.6	5.4	4											
HFm 6C	HF 6C	1.1	1.5		12	12	11.8	11.4	10.8	10	8.9	7.6	6	4									
HFm 6B	HF 6B	1.5	2		14.8	14.8	14.6	14.2	13.6	12.8	11.8	10.5	9	7.2	5								
HFm 6A	HF 6A	2.2	3		18.5	18.1	17.8	17.4	16.8	16	14.9	13.7	12.2	10.4	8.4	6							
-	HF 8B	3	4		21.5	21.5	21.4	21.1	20.7	20	19.1	17.8	16.2	14.3	11.9	9							
-	HF 8A	4	5.5		24.5	24.5	24.4	24.1	23.6	23	22.1	21	19.5	17.7	15.6	13							
-	HF 20B	3	4		19	-	-	19	18.8	18.4	18	17.5	16.8	16.1	15.2	14.2	11	7					
-	HF 20A	4	5.5		21.5	-	-	21.5	21.3	20.9	20.5	19.9	19.2	18.5	17.6	16.6	13.7	10					
-	HF 30B	5.5	7.5		18	-	-	-	-	18	17.9	17.9	17.8	17.6	17.4	17.2	16.4	15.3	14.2	12.3	10		
-	HF 30A	7.5	10		23	-	-	-	-	23	22.9	22.9	22.8	22.6	22.4	22.2	21.4	20.4	19.2	17.3	15		

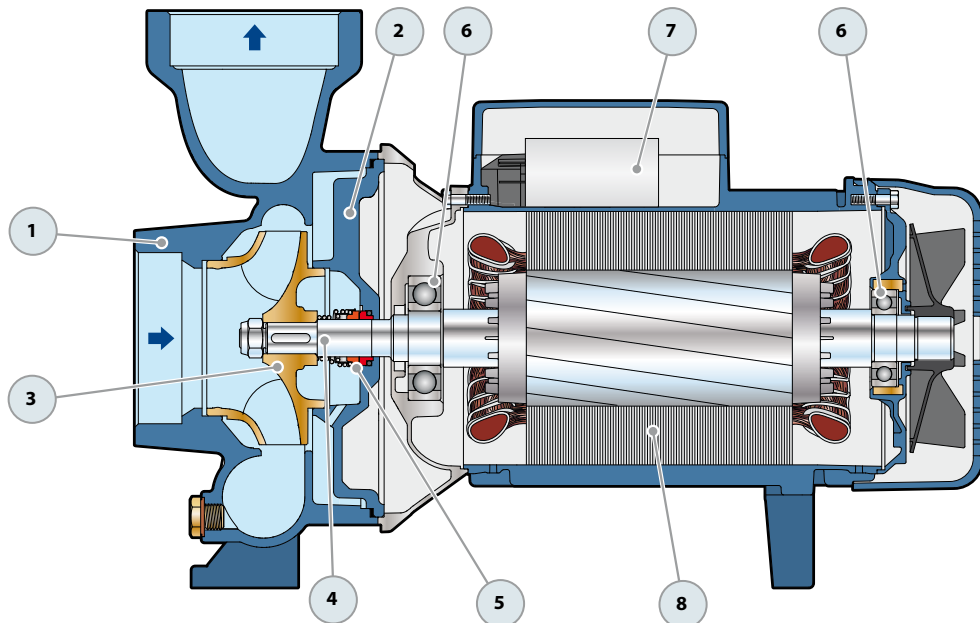
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

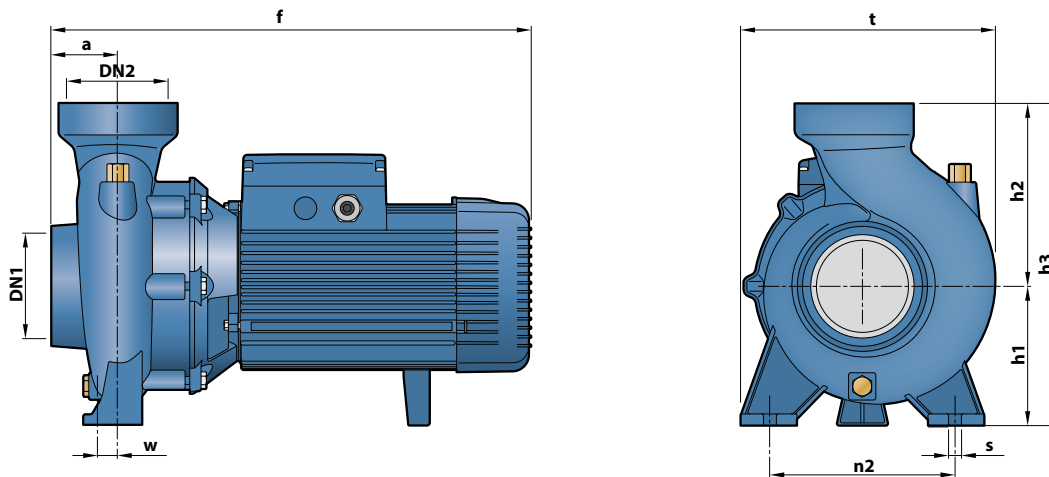
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron complete with threaded ports in compliance with ISO 228/1					
<b>2 BODY BACKPLATE</b>	Cast iron (stainless steel AISI 304 for HF 4)					
<b>3 IMPELLER</b>	Brass for HF 4, HF 6, HF 8 Cast iron for HF 20, HF 30					
<b>4 MOTOR SHAFT</b>	Stainless steel AISI 431					
<b>5 MECHANICAL SEAL</b>	<b>Pump</b>	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
	<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
	<b>HF 4</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR
	<b>HF 6</b>	<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR
	<b>HF 8, HF 20</b>	<b>FN-20</b>	<b>Ø 20 mm</b>	Graphite	Ceramic	NBR
<b>HF 30</b>	<b>FN-24</b>	<b>Ø 24 mm</b>	Graphite	Ceramic	NBR	
<b>6 BEARINGS</b>	<b>Pump</b>	<b>Model</b>				
	<b>HF 4</b>	<b>6203 ZZ / 6203 ZZ</b>				
	<b>HF 6</b>	<b>6304 ZZ / 6204 ZZ</b>				
	<b>HF 8B, HF 20B</b>	<b>6206 ZZ - C3 / 6205 ZZ</b>				
	<b>HF 8A, HF 20A</b>	<b>6306 ZZ - C3 / 6206 ZZ - C3</b>				
<b>HF 30</b>	<b>6307 ZZ - C3 / 6206 ZZ - C3</b>					
<b>7 CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>				
	<i>Single-phase</i>	<i>(230 V or 240 V)</i>		<i>(110 V)</i>		
	<b>HFm 4</b>	<b>20 µF - 450 VL</b>		<b>60 µF - 300 VL</b>		
	<b>HFm 6C</b>	<b>31.5 µF - 450 VL</b>		<b>60 µF - 250 VL</b>		
	<b>HFm 6B</b>	<b>45 µF - 450 VL</b>		<b>80 µF - 250 VL</b>		
<b>HFm 6A</b>	<b>50 µF - 450 VL</b>		-			
<b>8 ELECTRIC MOTOR</b>	<p><b>HFm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  <b>HF:</b> three-phase 230/400 V - 50 Hz up to 4 kW            400/690 V - 50 Hz from 5.5 to 7.5 kW.</p> <p>⇒ <b>The three-phase pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>					



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	t	n2	w	s	1~	3~
HFm 4	HF 4	2½"	2½"	47	317	97	143	240	198	155	-63	10	14.3	14.3
HFm 6C	HF 6C	3"	3"	68	411	120	193	312	240	190	5	12.5	25.5	25.4
HFm 6B	HF 6B				429								26.8	26.8
HFm 6A	HF 6A				445								29.3	29.3
-	HF 8B				474								-	35.6
-	HF 8A	4"	4"	71	453	132	180	312	245	190	27	14	-	37.1
-	HF 20B				453								-	37.2
-	HF 20A				479								-	37.1
-	HF 30B				497								-	46.8
-	HF 30A				547								-	53.2
-	-	76.5	-	160	210	370	292	212	-	-	-	-	-	53.2

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
HFm 4	5.9 A	5.3 A	11.8 A
HFm 6C	8.8 A	8.0 A	17.6 A
HFm 6B	10.4 A	9.4 A	21.0 A
HFm 6A	13.5 A	13.5 A	27.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
HF 4	4.3 A	2.5 A	1.4 A	4.0 A	2.3 A	1.3 A
HF 6C	6.2 A	3.6 A	2.1 A	5.7 A	3.3 A	2.0 A
HF 6B	7.8 A	4.5 A	2.6 A	7.4 A	4.3 A	2.5 A
HF 6A	9.0 A	5.2 A	3.1 A	8.6 A	5.0 A	2.9 A
HF 8B	12.1 A	7.0 A	4.0 A	11.8 A	6.8 A	3.9 A
HF 8A	15.8 A	9.1 A	5.3 A	15.2 A	8.8 A	5.1 A
HF 20B	12.8 A	7.5 A	4.3 A	12.2 A	7.2 A	4.2 A
HF 20A	15.2 A	8.8 A	5.1 A	14.7 A	8.5 A	4.9 A
HF 30B	21.3 A	12.3 A	7.1 A	20.4 A	11.8 A	6.8 A
HF 30A	28.6 A	16.5 A	9.5 A	27.5 A	15.9 A	9.2 A

## Standardised "EN 733" centrifugal pumps

 Clean water

 Industrial use


## PERFORMANCE RANGE

- Flow rate up to **6000 l/min** (360 m<sup>3</sup>/h)
- Head up to **98 m**

## APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. pressure in pump body **10 bar** (PN10)
- Continuous service **S1**

## CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



Pump body dimensions in compliance with **EN 733**

**EU REGULATION N. 547/2012**

## INSTALLATION AND USE

- Water supply
- Pressure boosting
- Irrigation
- Water circulation in air-conditioning units
- Cleaning sets
- Firefighting sets
- Industrial applications
- Agricultural applications

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

## OPTIONS AVAILABLE ON REQUEST

- Counter flange KIT complete with bolts, nuts and washers
- Special mechanical seal
- Other voltages or 60 Hz frequency
- Compatibility with hotter or colder liquids
- Compatibility with hotter or colder environments

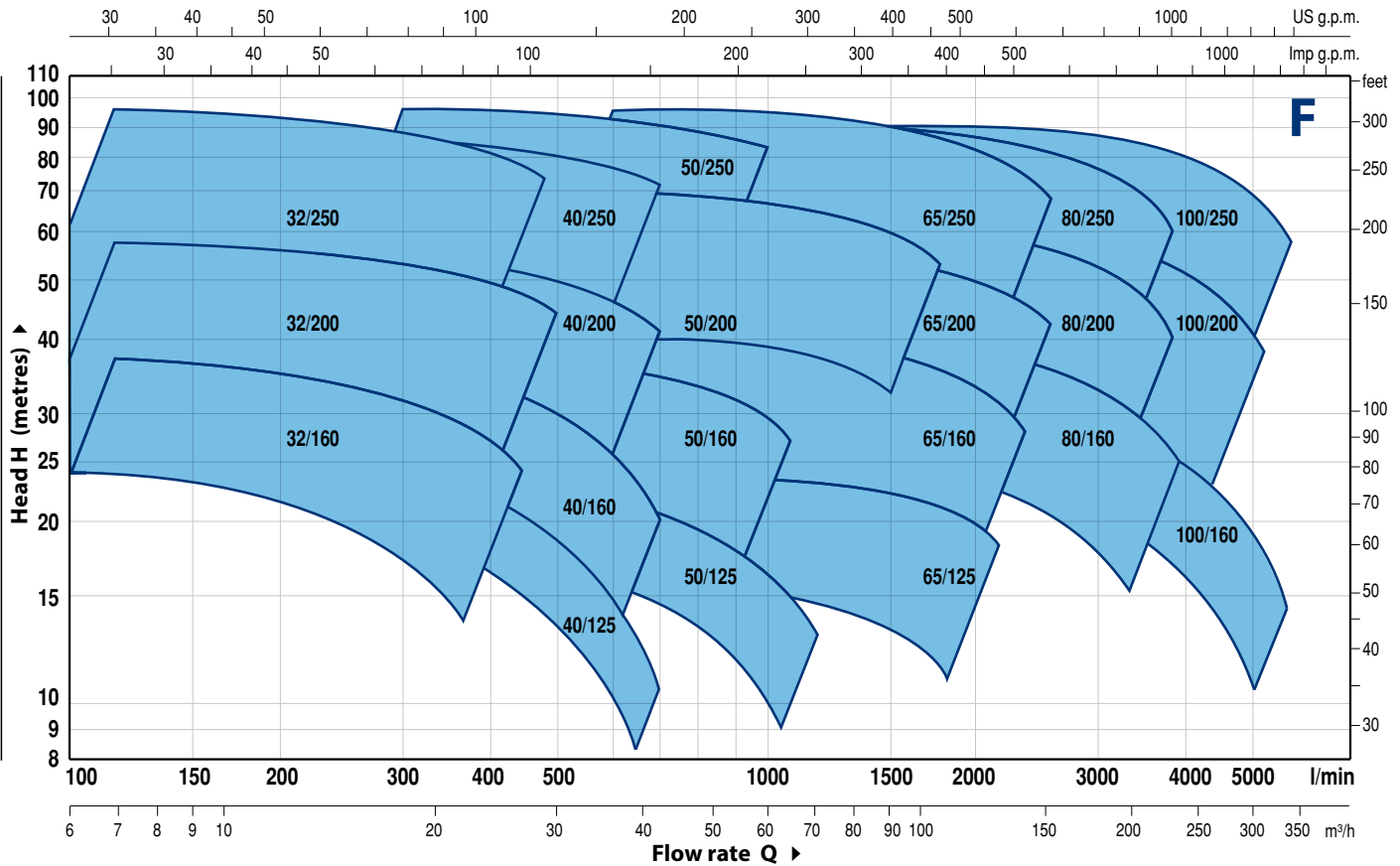
## CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



## PERFORMANCE RANGE

50 Hz n= 2900 min<sup>-1</sup>



## PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>

MODEL	POWER (P <sub>2</sub> )		▲	PERFORMANCE	
	kW	HP		Q l/min	H metres
F 32/160C	1.5	2	IE3	100 – 350	24 – 14
F 32/160B	2.2	3		100 – 400	30 – 17
F 32/160A	3	4		100 – 450	37 – 24
F 32/200C	4	5.5		100 – 450	44 – 31.5
F 32/200B	5.5	7.5		100 – 500	51 – 36
F 32/200A	7.5	10		100 – 500	57 – 44
F 32/200BH	3	4		100 – 300	45 – 37
F 32/200AH	4	5.5		100 – 320	55 – 44
F 32/250C	9.2	12.5		100 – 450	75 – 60
F 32/250B	11	15		100 – 500	87 – 70
F 32/250A	15	20	100 – 500	97 – 80	
F 40/125C	1.1	1.5	IE3	100 – 550	16 – 6
F 40/125B	1.5	2		100 – 600	20.5 – 9
F 40/125A	2.2	3		100 – 700	26 – 10
F 40/160C	2.2	3		100 – 600	27 – 14
F 40/160B	3	4		100 – 600	32 – 20
F 40/160A	4	5.5		100 – 700	38 – 20
F 40/200B	5.5	7.5		100 – 700	47 – 28
F 40/200A	7.5	10		100 – 700	55 – 41
F 40/250C	9.2	12.5		100 – 700	64 – 47
F 40/250B	11	15		100 – 700	71 – 55
F 40/250A	15	20	100 – 700	88 – 72	
F 50/125C	2.2	3	IE3	300 – 1200	17.5 – 6
F 50/125B	3	4		300 – 1200	20.7 – 9
F 50/125A	4	5.5		300 – 1200	23.5 – 13
F 50/160C	4	5.5		300 – 1000	27 – 16
F 50/160B	5.5	7.5		300 – 1100	32 – 21
F 50/160A	7.5	10		300 – 1100	37 – 27
F 50/200C	11	15		400 – 1700	44 – 30
F 50/200B	15	20		400 – 1700	52 – 38
F 50/200A	18.5	25		400 – 1800	61 – 45
F 50/200AR	22	30		400 – 1800	69 – 53
F 50/250D	9.2	12.5	300 – 900	51 – 32	
F 50/250C	11	15	300 – 900	59 – 42	
F 50/250B	15	20	300 – 1000	72 – 59	
F 50/250A	18.5	25	300 – 1000	85 – 73	
F 50/250AR	22	30	300 – 1000	95 – 83	

MODEL	POWER (P <sub>2</sub> )		▲	PERFORMANCE	
	kW	HP		Q l/min	H metres
F 65/125C	4	5.5	IE3	600 – 1800	16 – 11
F 65/125B	5.5	7.5		600 – 2000	18 – 13
F 65/125A	7.5	10		600 – 2200	23 – 18
F 65/160C	9.2	12.5		600 – 2200	32 – 22
F 65/160B	11	15		600 – 2400	36.5 – 23
F 65/160A	15	20		600 – 2400	40.5 – 28
F 65/200B	15	20		200 – 2400	44 – 30.5
F 65/200A	18.5	25		200 – 2500	50 – 36.5
F 65/200AR	22	30		200 – 2600	57 – 42
F 65/250C	30	40		400 – 2350	76 – 53
F 65/250B	37	50	400 – 2500	87 – 62	
F 65/250A	45	60	400 – 2600	95 – 68	
F 80/160D	11	15	IE3	500 – 4000	25 – 10
F 80/160C	15	20		500 – 4000	30 – 15
F 80/160B	18.5	25		500 – 4000	35 – 20
F 80/160A	22	30		500 – 4000	40 – 25
F 80/200B	30	40		500 – 3650	56 – 34.5
F 80/200A	37	50		500 – 3900	62 – 40
F 80/250B	45	60		600 – 3600	77 – 54
F 80/250A	55	75		600 – 3900	88.5 – 60
F 100/160C	15	20		1000 – 5000	30 – 12
F 100/160B	18.5	25		1000 – 5200	34 – 14.5
F 100/160A	22	30	1000 – 5500	38 – 17.5	
F 100/200C	30	40	IE3	833 – 4650	51 – 28
F 100/200B	37	50		833 – 4900	57 – 33
F 100/200A	45	60		833 – 5250	63 – 38
F 100/250B	55	75		800 – 5150	75 – 48
F 100/250A	75	100		800 – 5750	89 – 58

Q = Flow rate

H = Total manometric head

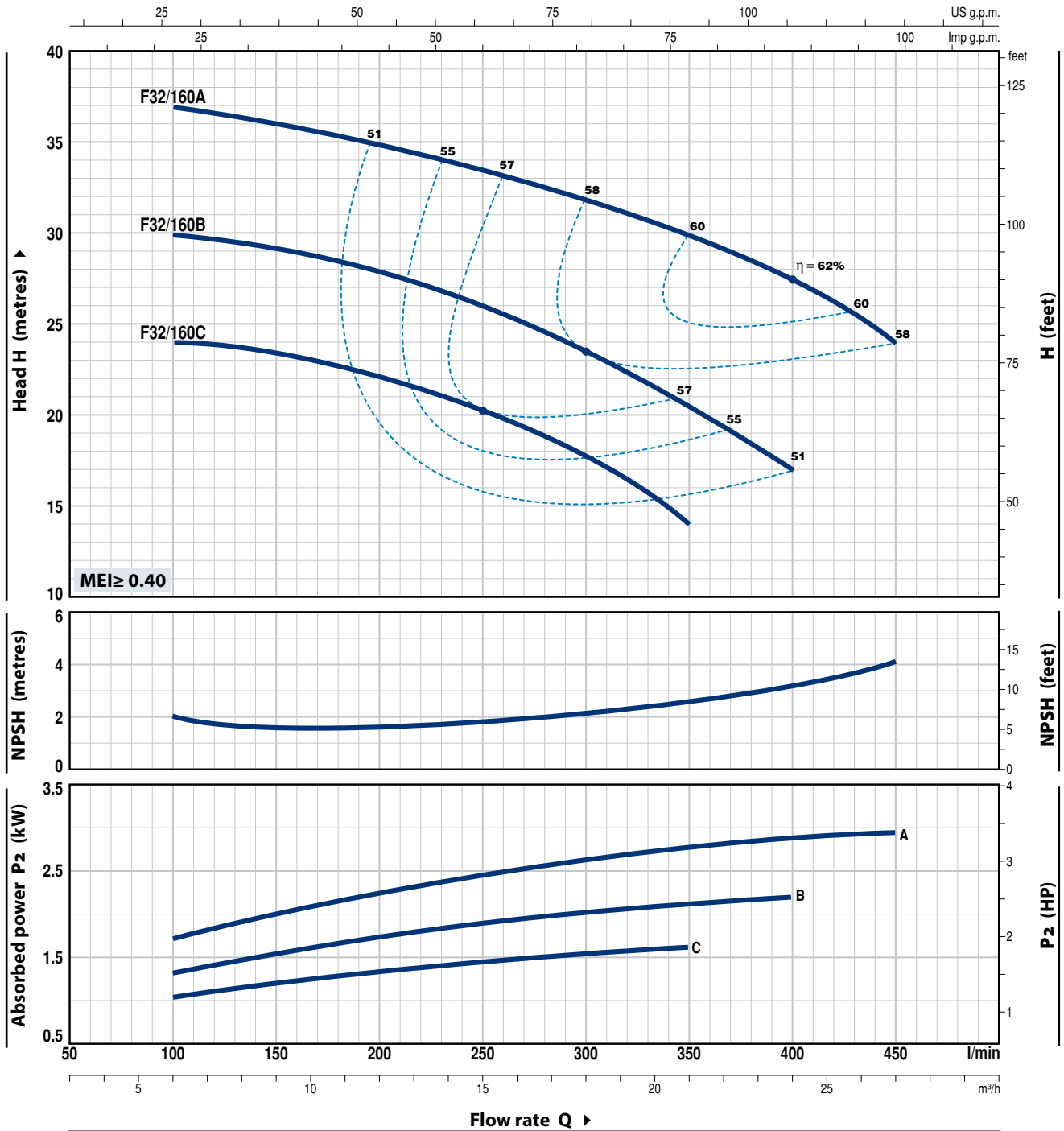
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# F32/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



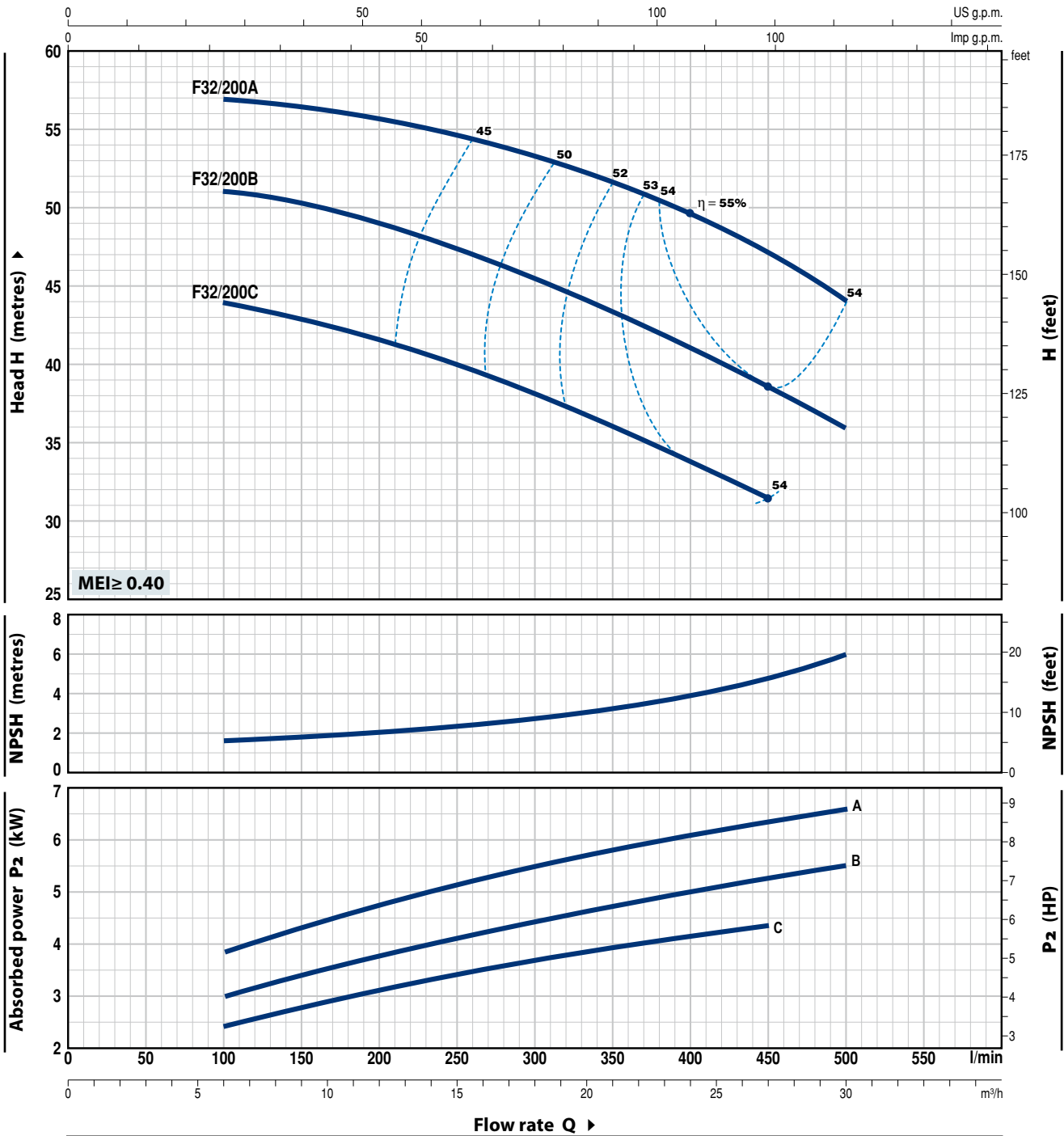
MODEL		POWER (P <sub>2</sub> )		Q	Flow rate									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	6	9	12	15	18	21	24	27
Fm 32/160C	F 32/160C	1.5	2	l/min	0	100	150	200	250	300	350	400	450	
	Fm 32/160B	2.2	3	H metres	25	24	23.5	22	20.5	18	14			
-	F 32/160A	3	4		31	30	29	28	26	23.5	20.5	17		
					38	37	36	35	33.5	31.5	30	27.5	24	

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	6	9	12	15	18	21	24	27	30		
Three-phase				0	100	150	200	250	300	350	400	450	500			
F 32/200C	4	5.5	H metres	46	44	43	41.5	40	38	36	34	31.5				
F 32/200B	5.5	7.5		52	51	50.5	49	47	45	43	41	38.5	36			
F 32/200A	7.5	10		60	57	56.5	56	55	53.5	52	50	47	44			

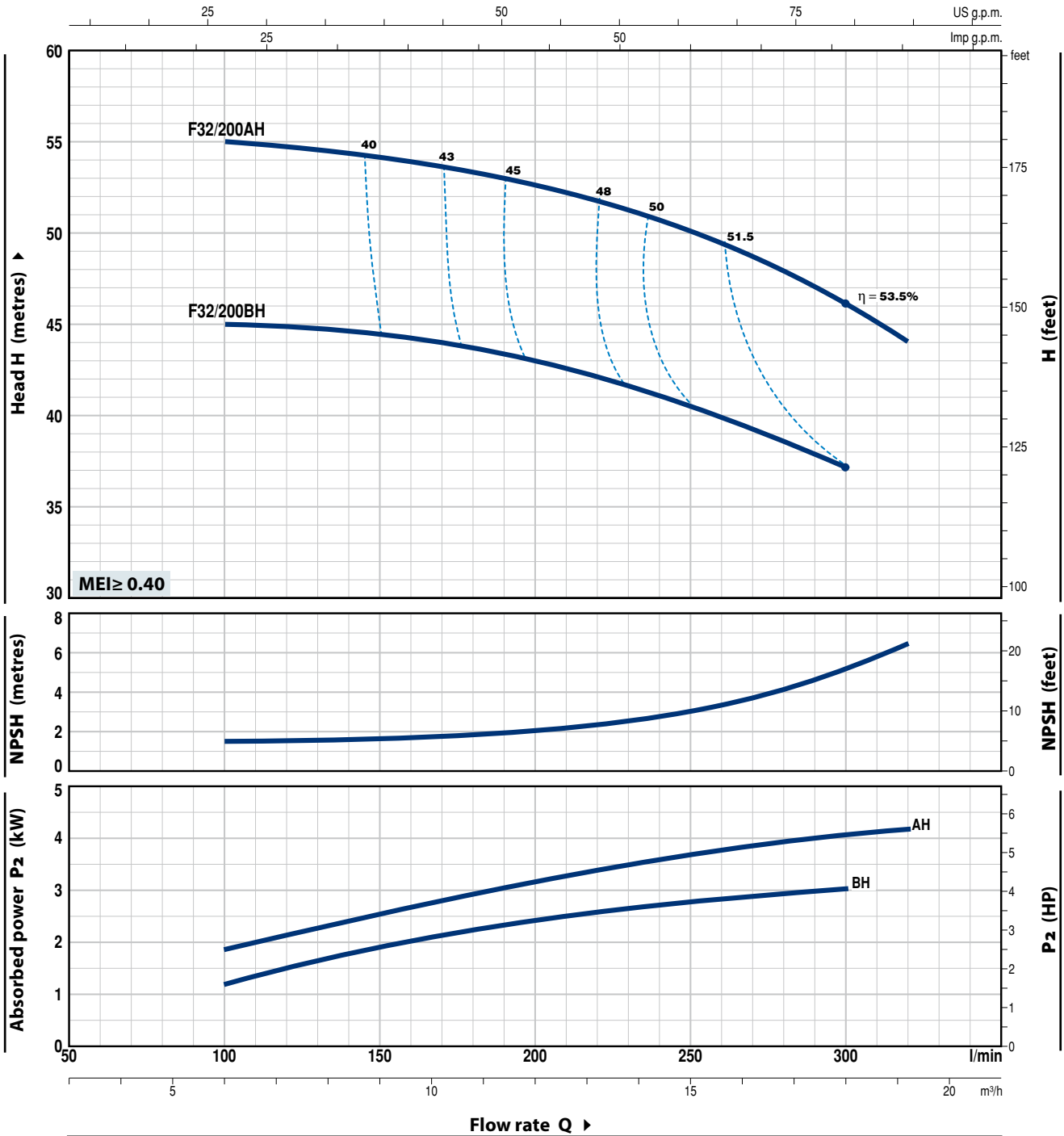
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F32/200H

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate Q						
	kW	HP		m <sup>3</sup> /h	l/min	l/min	l/min	l/min	l/min	l/min
Three-phase				0	6	9	12	15	18	19.2
				0	100	150	200	250	300	320
F 32/200BH	3	4	H metres	47	45	44.5	43	40.5	37	
F 32/200AH	4	5.5		57	55	54	52.5	50	46	44

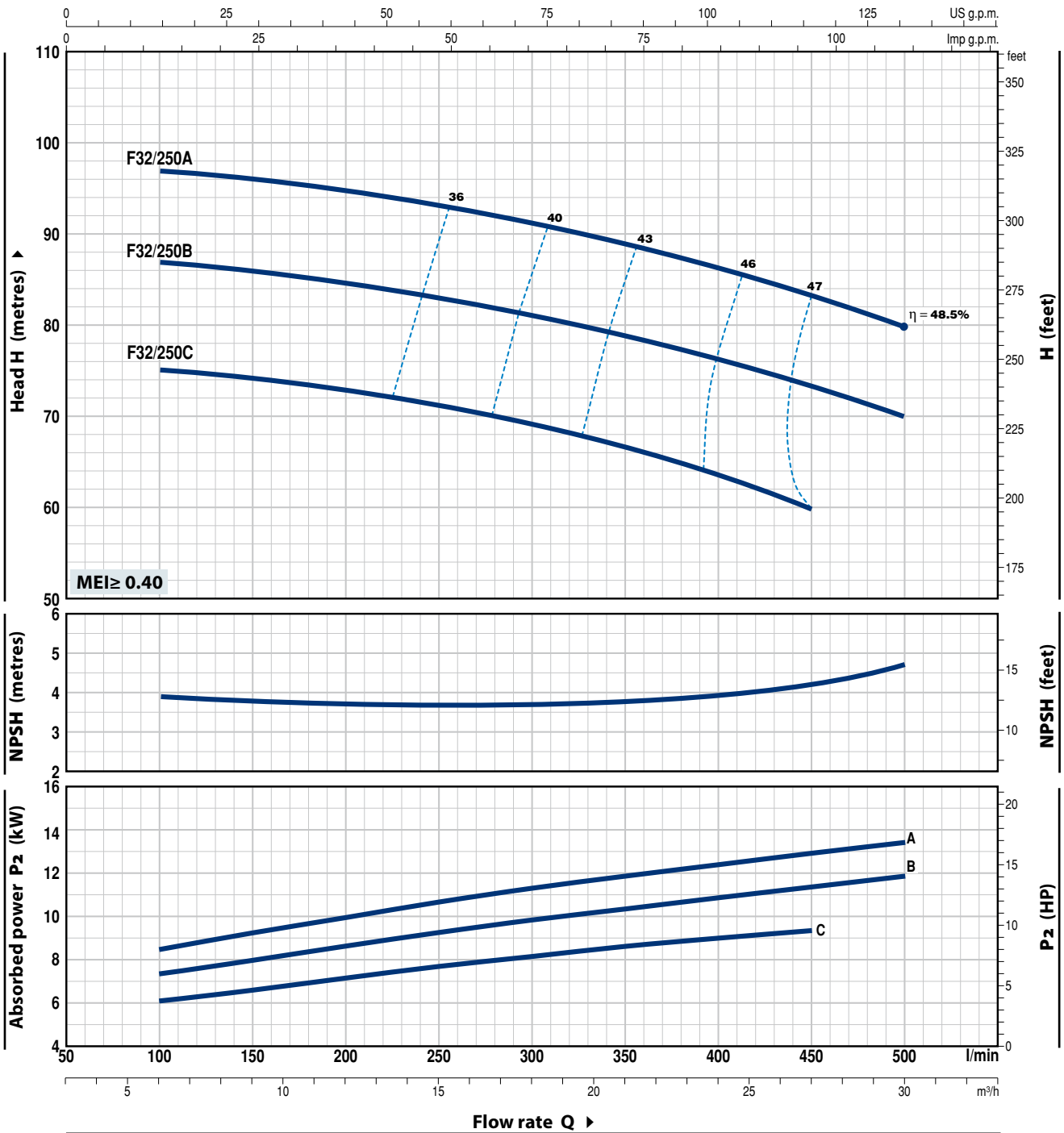
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	6	9	12	15	18	21	24	27	30		
Three-phase			l/min	0	100	150	200	250	300	350	400	450	500			
F 32/250C	9.2	12.5	H metres	76	75	74.5	73	71.5	69.5	67	64	60				
F 32/250B	11	15		88	87	86	85	83	81	79	76.5	73.5	70			
F 32/250A	15	20		98	97	96	95	93	91	89	86.5	83.5	80			

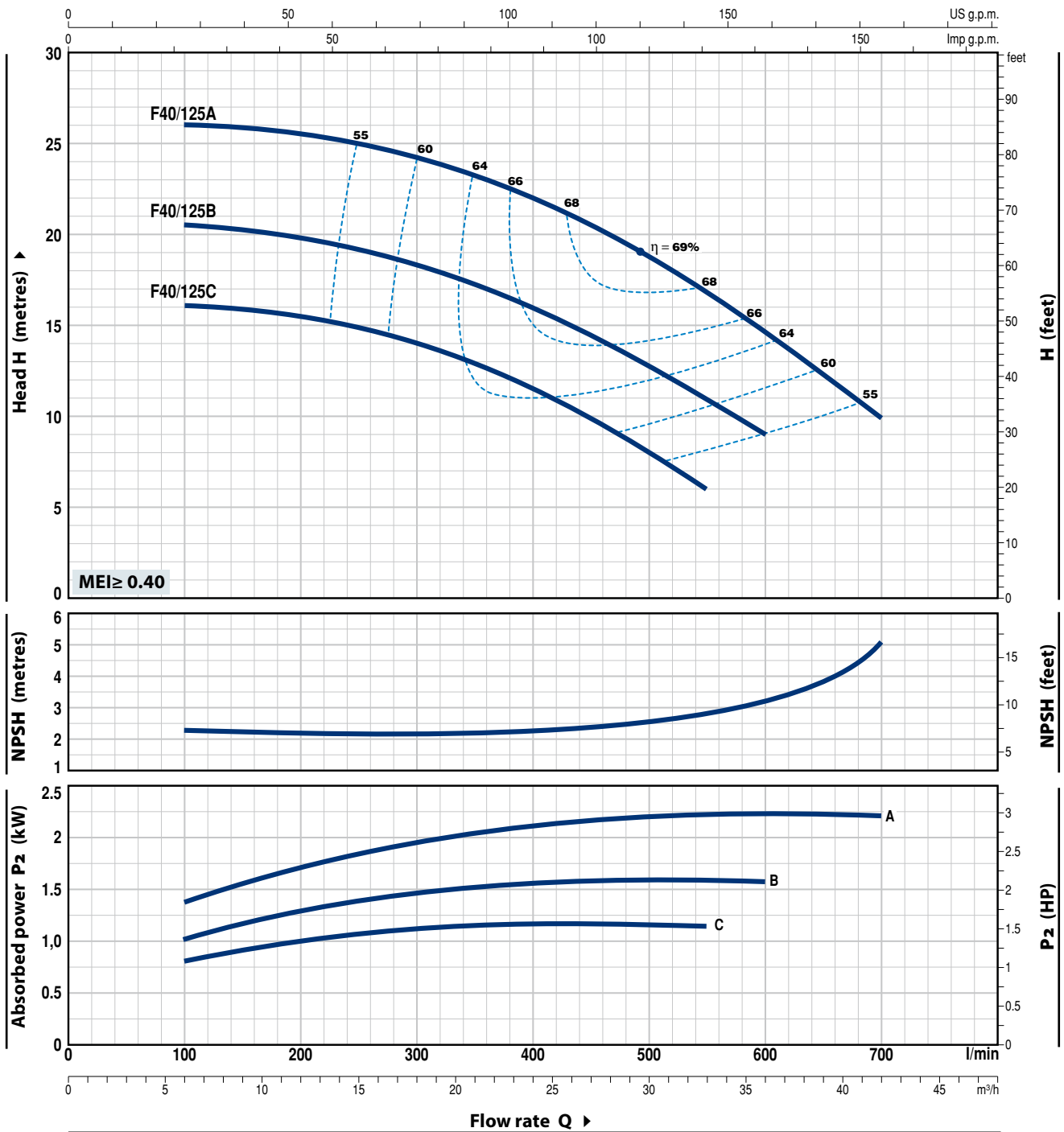
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F40/125

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



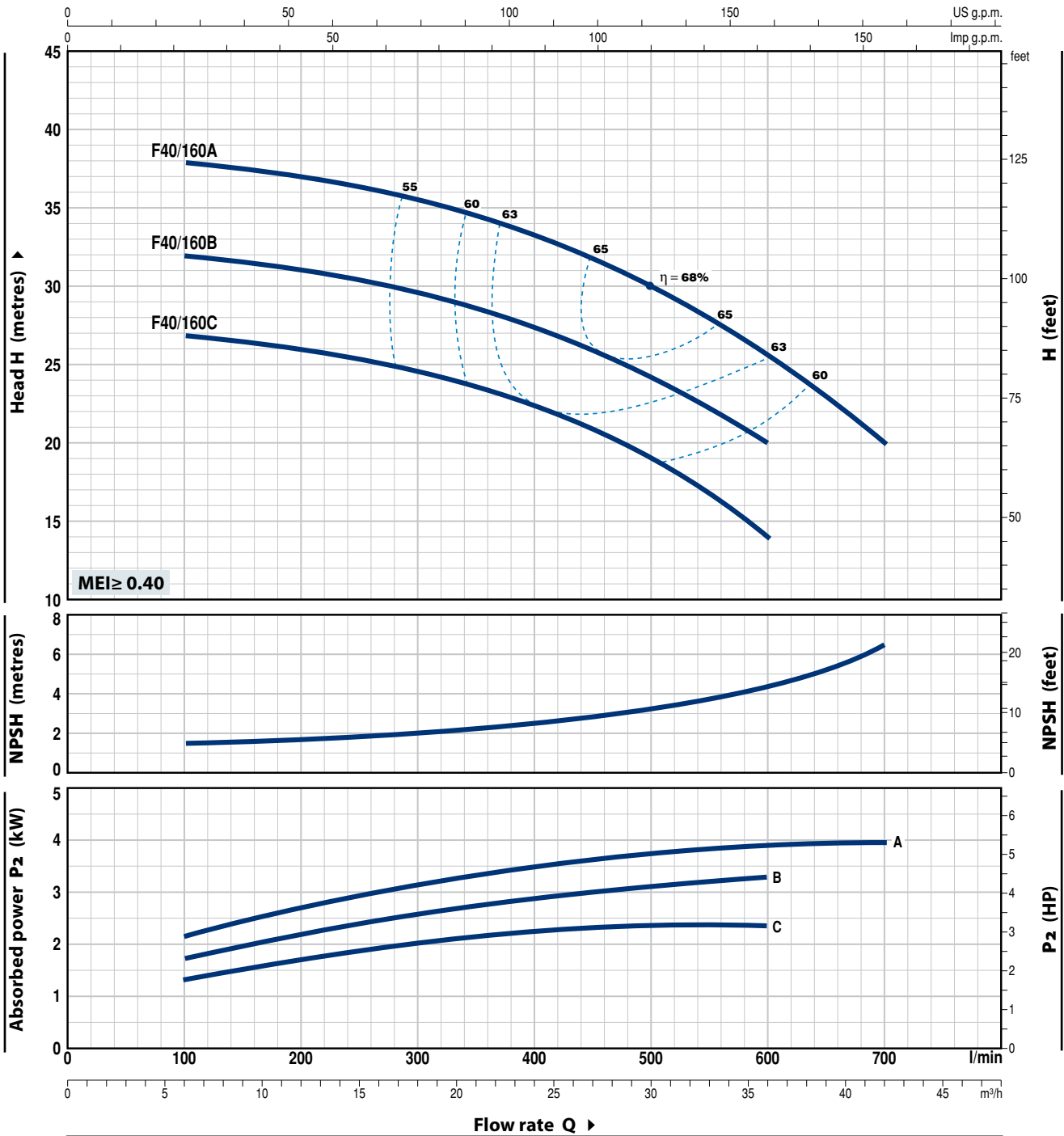
MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (l/min)									
Single-phase	Three-phase	kW	HP		0	6	12	18	24	30	33	36	39	42
Fm 40/125C	F 40/125C	1.1	1.5	H metres	0	100	200	300	400	500	550	600	650	700
Fm 40/125B	F 40/125B	1.5	2		16	16	15.5	14	11.5	8	6			
-	F 40/125A	2.2	3		20.5	20.5	19.8	18.5	16	12.8	11	9		
					26	26	25.5	24	22	18.5	17	14.5	12.5	10

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	0	6	9	12	15	18	24	30	36	42
Single-phase	Three-phase	kW	HP		0	100	150	200	250	300	400	500	600	700
Fm 40/160C	F 40/160C	2.2	3	H metres	27	27	26.5	26	25.5	25	22.5	19	14	
-	F 40/160B	3	4		32	32	31.5	31	30.5	30	27.5	24	20	
-	F 40/160A	4	5.5		38	38	37.8	37	36.5	36	33.5	30	26	20

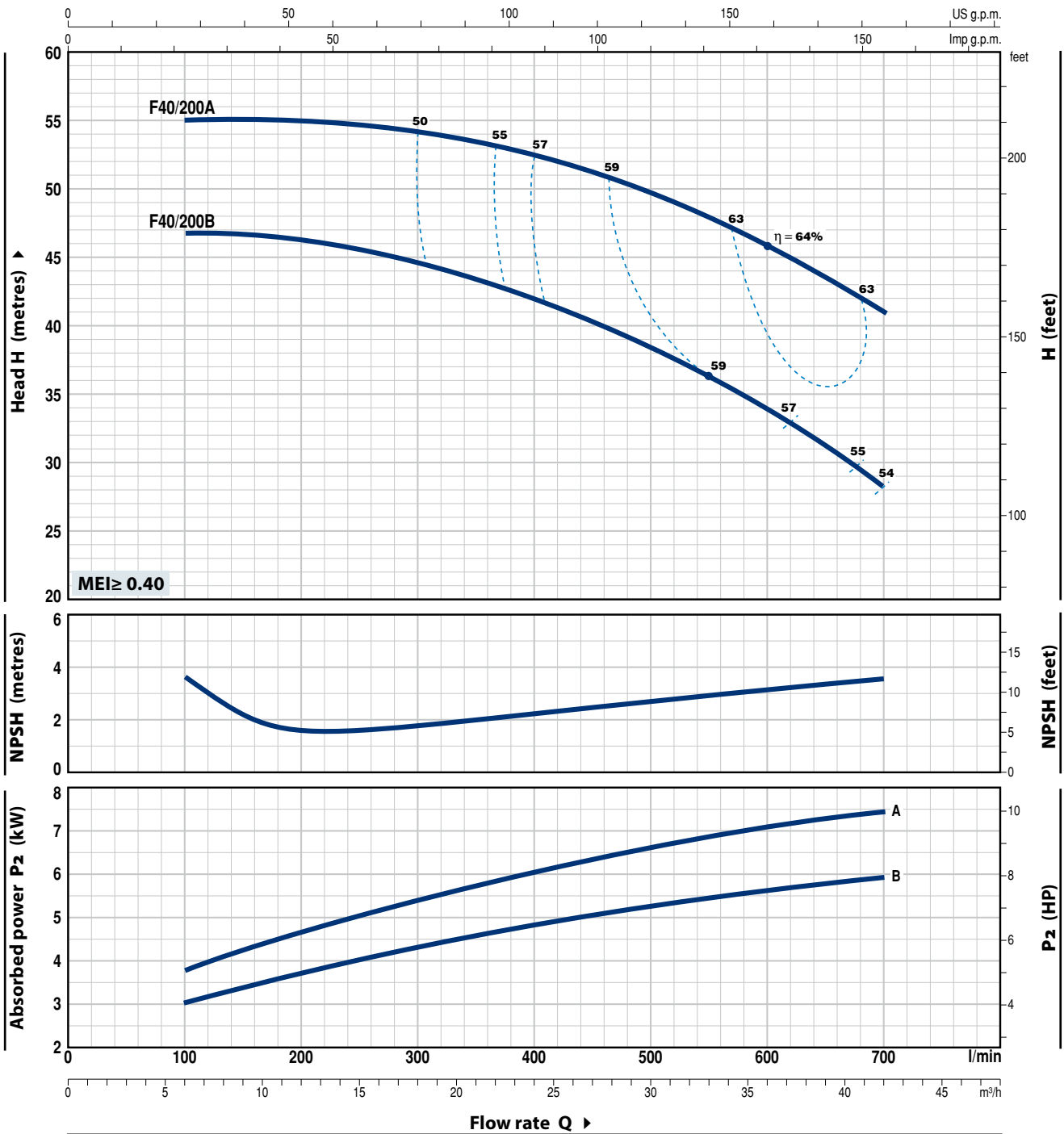
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F40/200

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



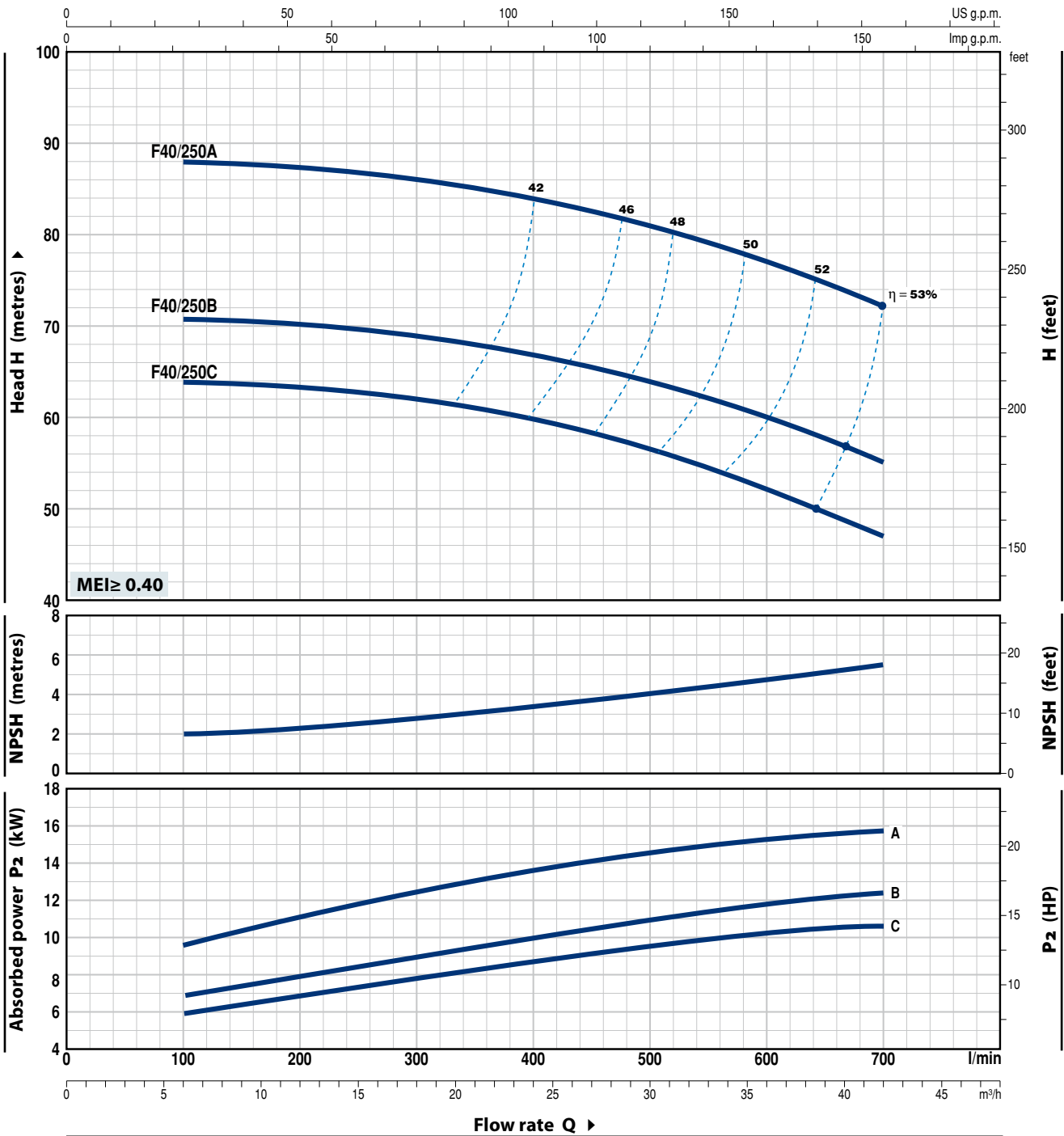
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	6	9	12	15	18	24	30	36	42	
Three-phase			l/min	0	100	150	200	250	300	400	500	600	700		
F 40/200B	5.5	7.5	H metres	48	47	46.5	46	45.5	44.5	42	38	34	28		
F 40/200A	7.5	10		56	55	55	55	54.5	54	52.5	49.5	46	41		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	6	9	12	15	18	24	30	36	42		
Three-phase			l/min	0	100	150	200	250	300	400	500	600	700			
F 40/250C	9.2	12.5	H metres	64	64	63.5	63	62.5	62	60	56.5	52.5	47			
F 40/250B	11	15		71	71	70.5	70	69.5	69	67	64	60	55			
F 40/250A	15	20		88	88	87.5	87	86.5	86	84	81	77	72			

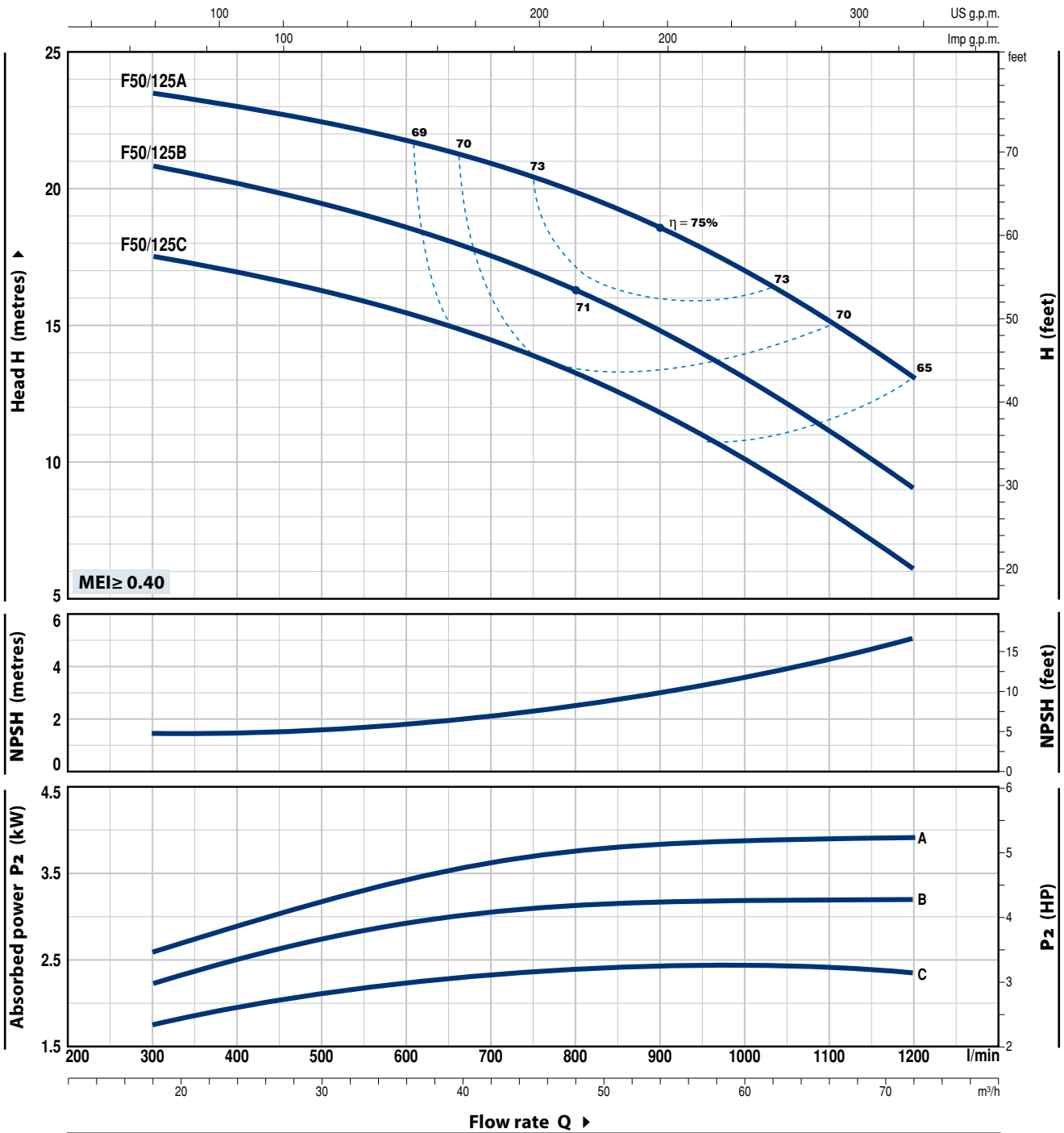
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F50/125

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



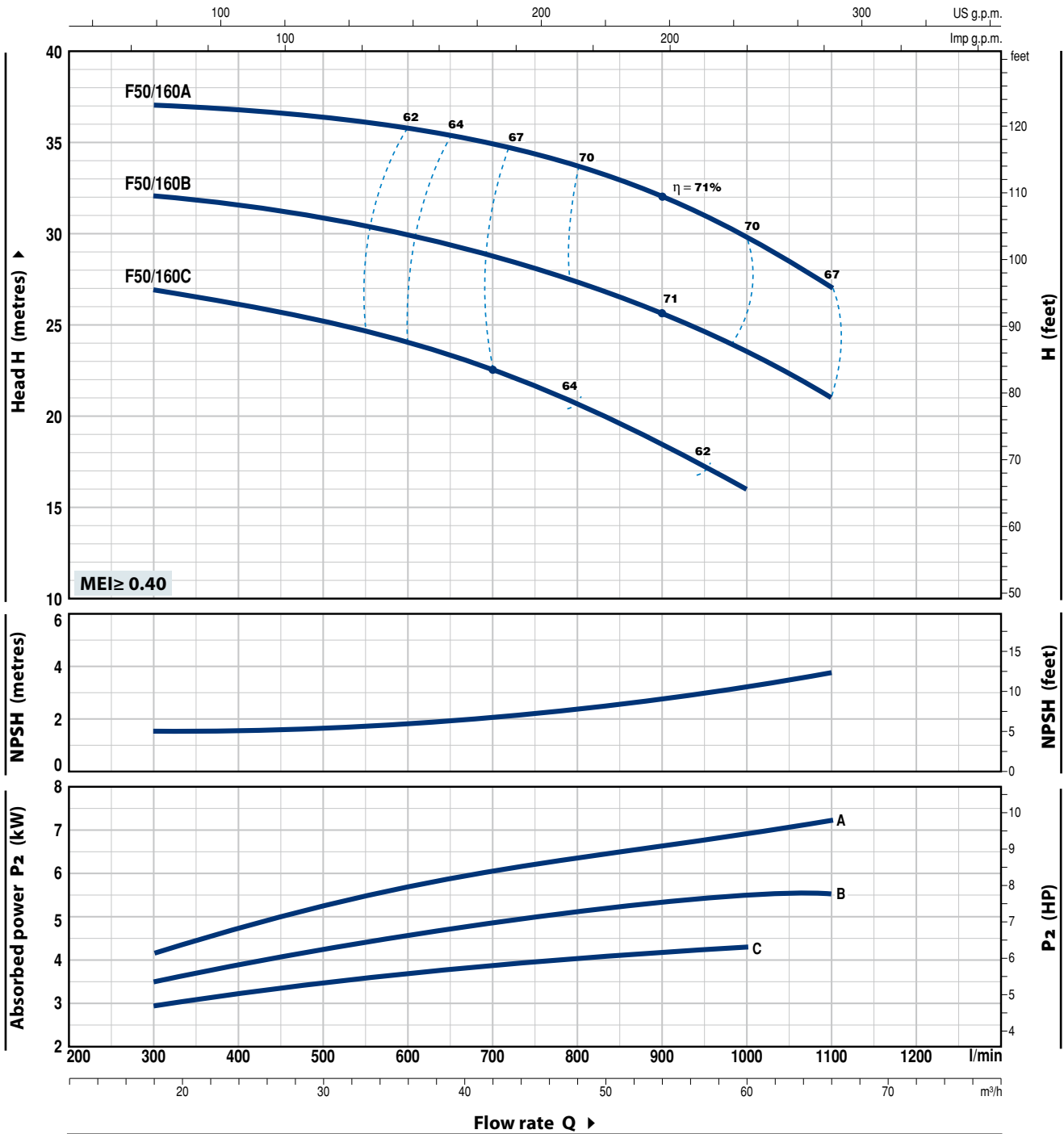
MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (l/min)												
Single-phase	Three-phase	kW	HP		0	18	24	30	36	42	48	54	60	66	72		
Fm 50/125C	F 50/125C	2.2	3	H metres	18.5	17.5	17	16.5	15.5	14.8	13.5	12	10.5	8.2	6		
-	F 50/125B	3	4		21.5	20.7	20	19.5	18.8	17.8	16.5	15	13.5	11.2	9		
-	F 50/125A	4	5.5		24.5	23.5	23	22.5	21.8	20.8	19.5	18.3	16.8	15	13		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	18	24	30	36	42	48	54	60	66	
Three-phase			l/min	0	300	400	500	600	700	800	900	1000	1100		
F 50/160C	4	5.5	H metres	27	27	26.5	25	24.5	23	20	18.5	16			
F 50/160B	5.5	7.5		33	32	31.7	31	30	29	27	26	24	21		
F 50/160A	7.5	10		38	37	36.8	36.5	36	34	33	32	30	27		

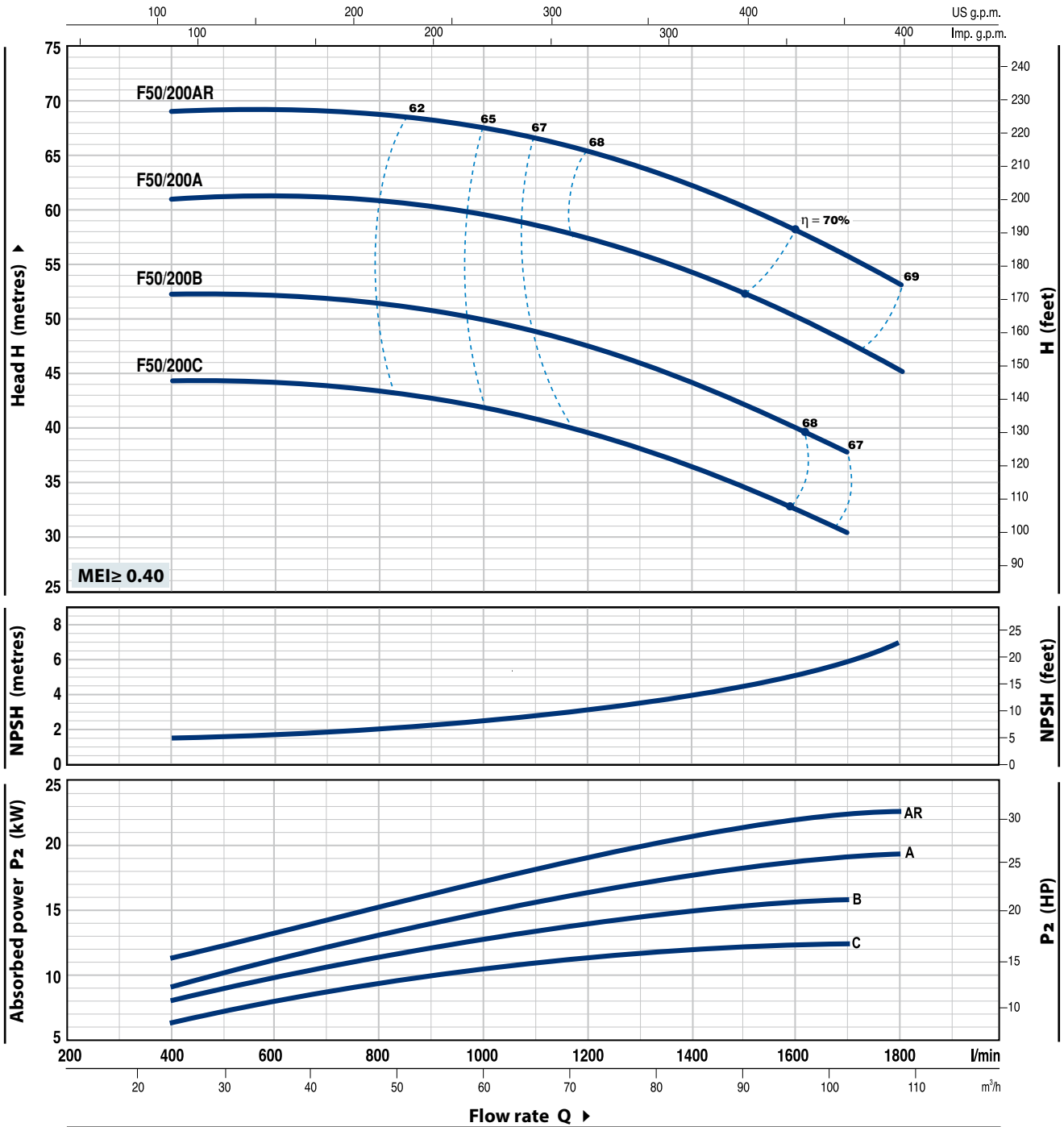
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F50/200

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	H metres										
	kW	HP		24	36	48	60	72	84	96	102	108		
Three-phase				400	600	800	1000	1200	1400	1600	1700	1800		
F 50/200C	11	15		44	44	44	42	39	36	33	30			
F 50/200B	15	20		52	52	52	50	47	44	40	38			
F 50/200A	18.5	25		61	61	60.5	60	57	54	50	48	45		
F 50/200AR	22	30		69	69	68.5	68	65	62	58	56	53		

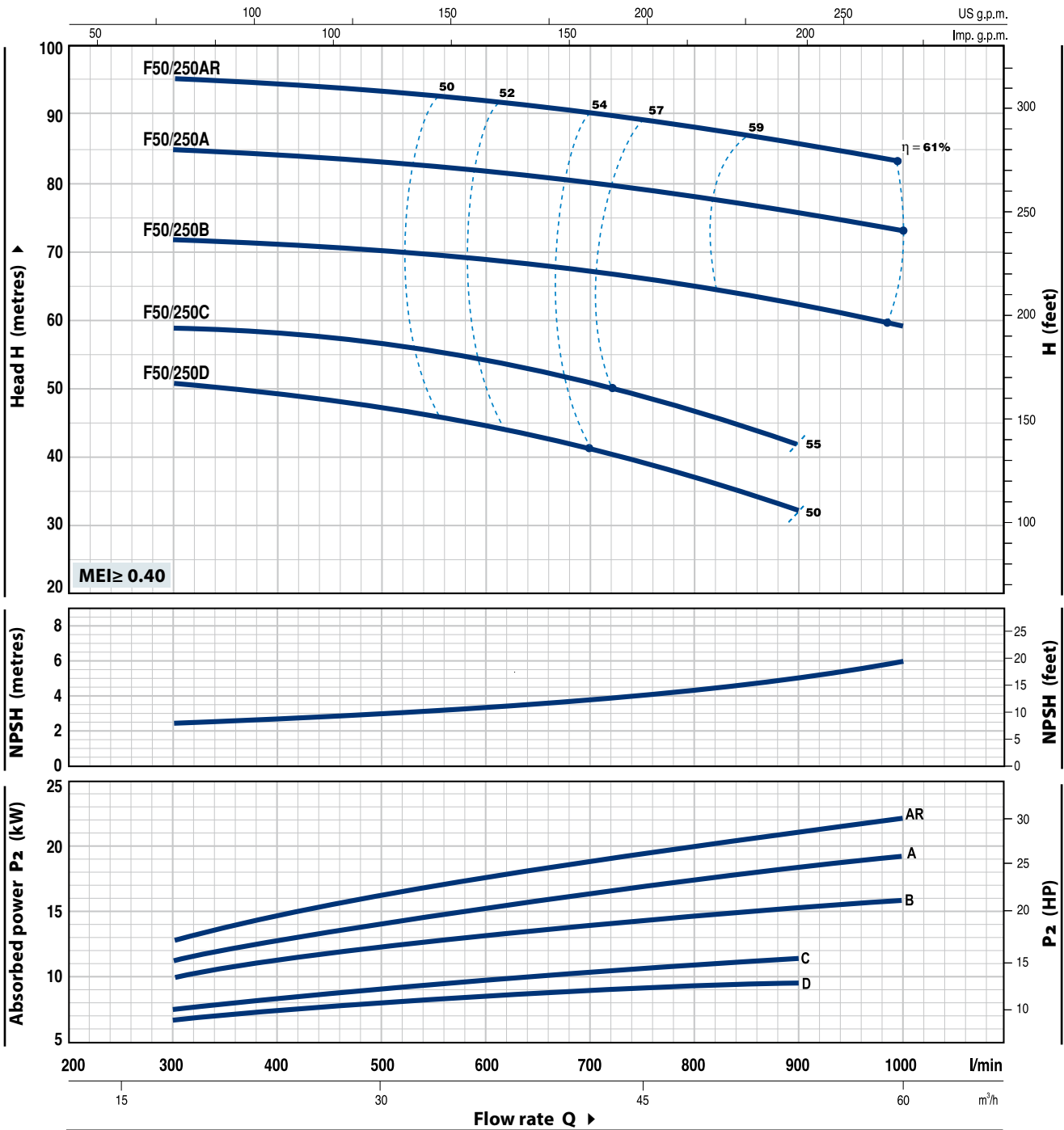
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		0	18	24	30	36	42	48	54	60			
Three-phase			l/min	0	300	400	500	600	700	800	900	1000			
F 50/250D	9.2	12.5	H metres	51	51	49	47	44	41	37	32				
F 50/250C	11	15		59	59	58	57	54	51	47	42				
F 50/250B	15	20		72	72	71	70	69	67	65	62	59			
F 50/250A	18.5	25		85	85	84	83	82	80	78	76	73			
F 50/250AR	22	30		95	95	94	93	92	90	88	86	83			

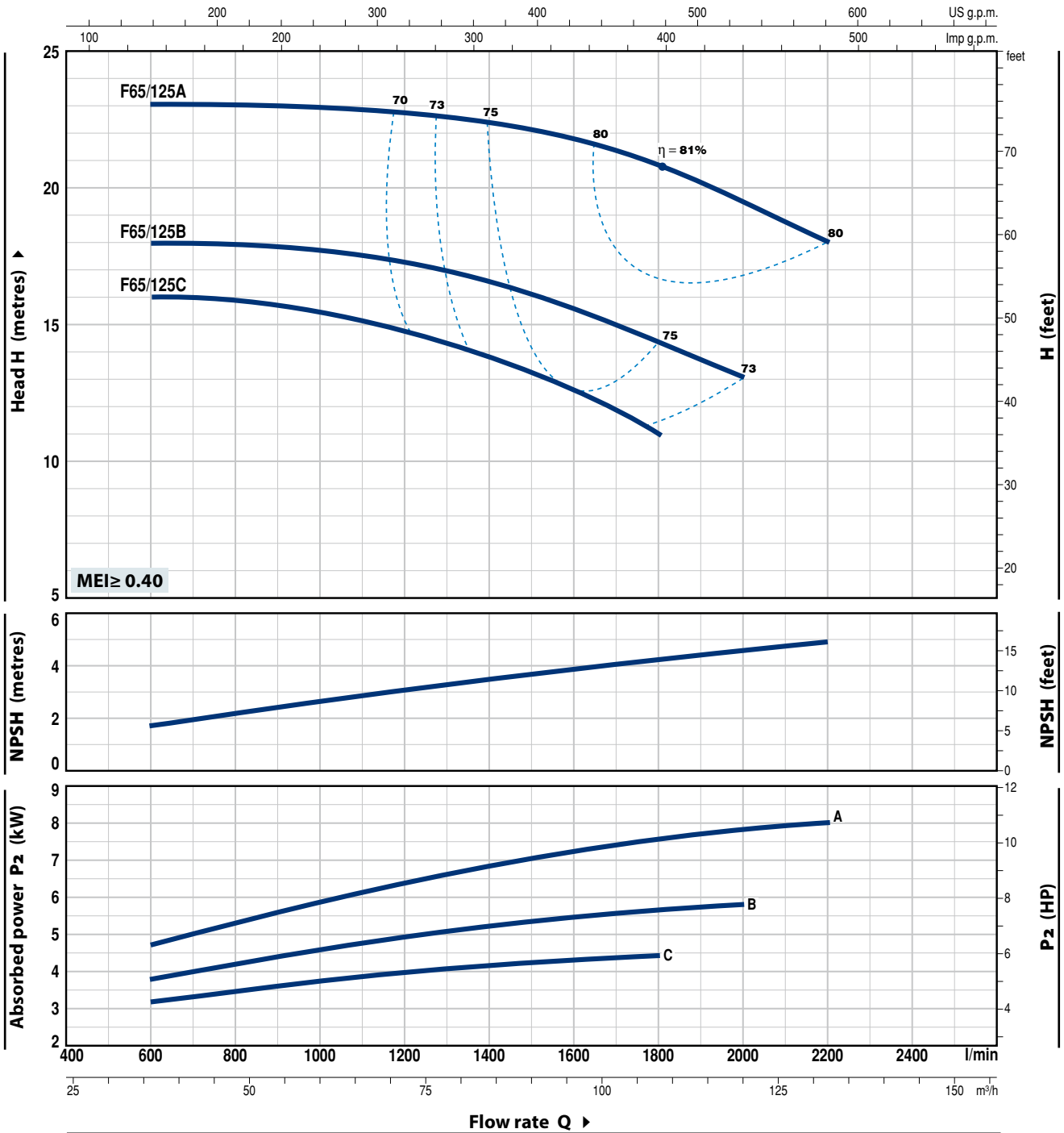
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F65/125

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



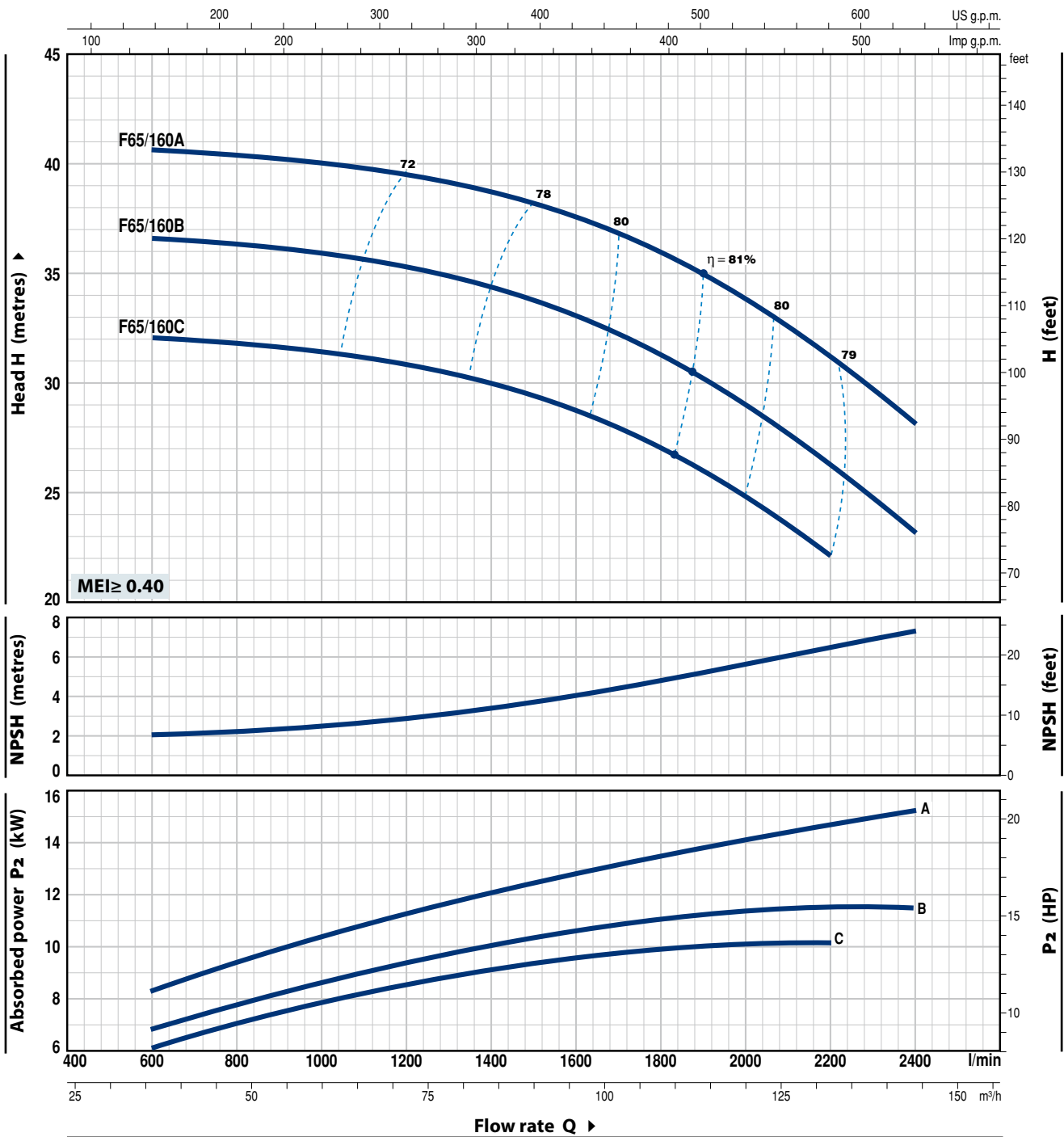
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	36	48	60	72	84	96	108	120	132		
Three-phase			l/min	0	600	800	1000	1200	1400	1600	1800	2000	2200			
F 65/125C	4	5.5	H metres	16	16	16	15.5	14.5	13.5	12.5	11					
F 65/125B	5.5	7.5		18	18	18	18	17	16.5	15.5	14.5	13				
F 65/125A	7.5	10		23	23	23	23	22.5	22.5	22	21	19.5	18			

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	0	36	48	60	72	84	96	108	120	132	144
	kW	HP		0	600	800	1000	1200	1400	1600	1800	2000	2200	2400
F 65/160C	9.2	12.5	H metres	32	32	32	32	32	30	29	27	25	22	
F 65/160B	11	15		37	36.5	36.5	36	35.5	34	33	31	29	26	23
F 65/160A	15	20		41	40.5	40.5	40	39.5	39	37.5	36	34	31	28

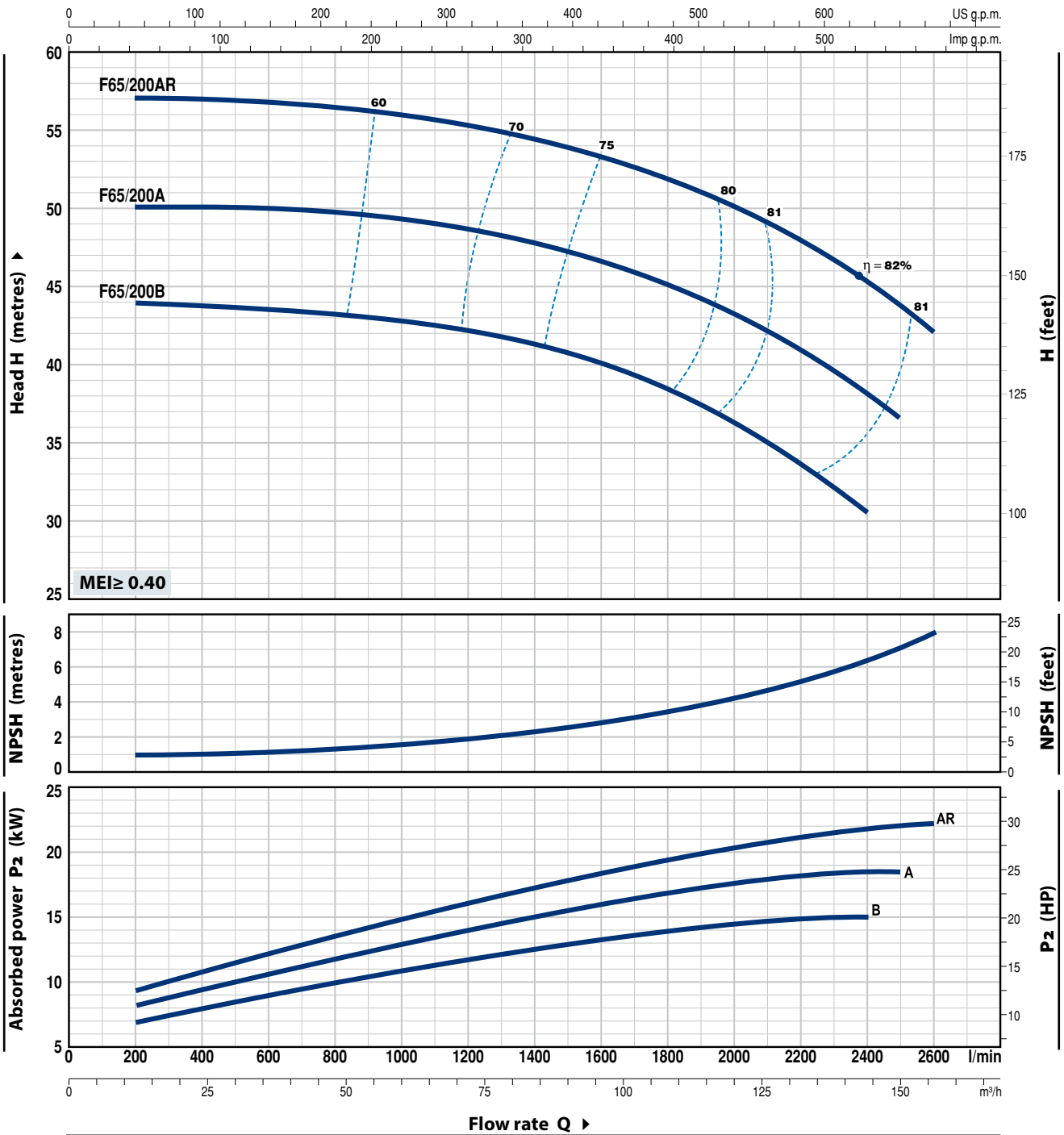
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F65/200

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



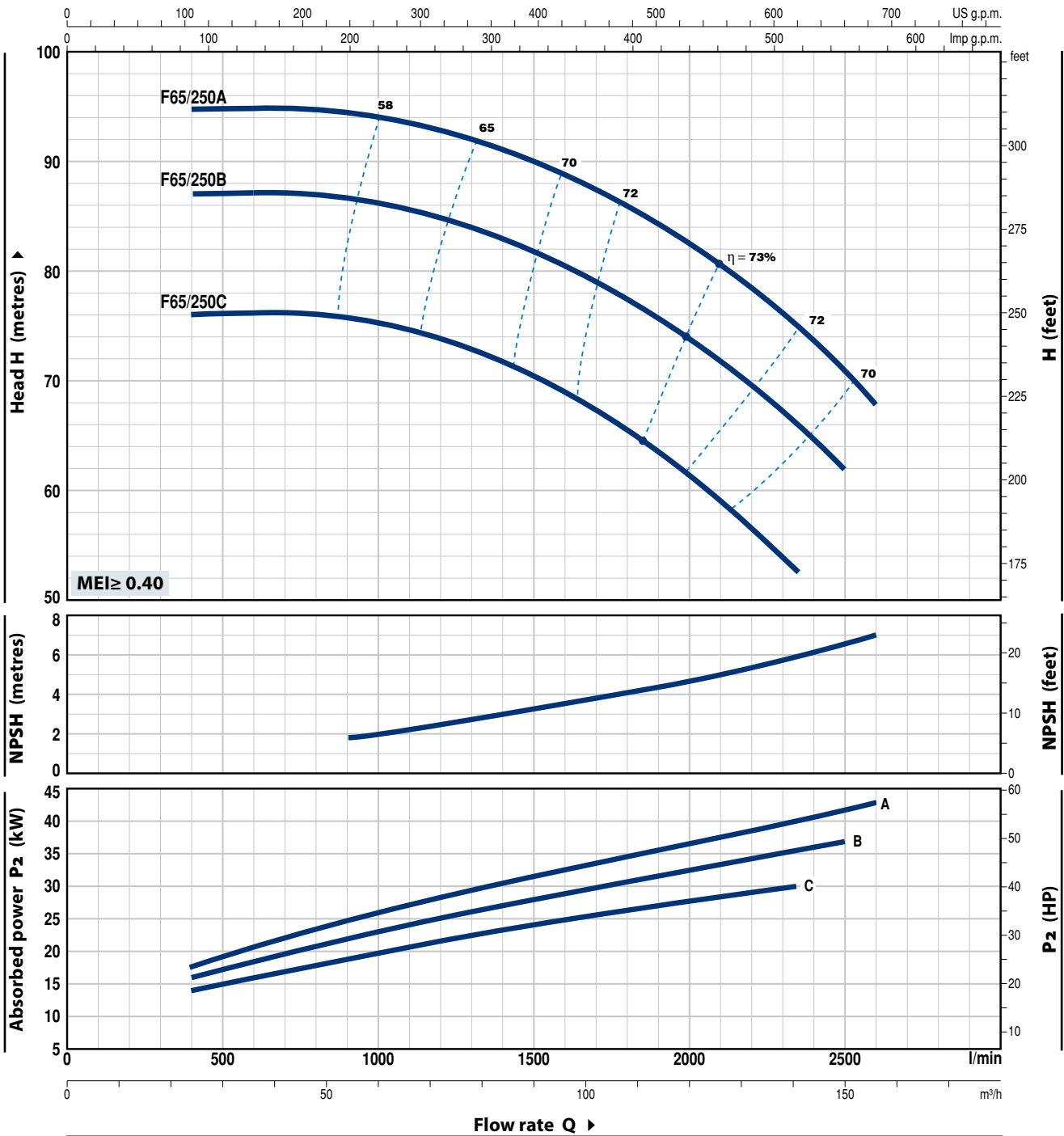
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate														
	kW	HP		m <sup>3</sup> /h	12	36	48	60	72	84	96	108	120	132	144	150	156	
Three-phase			l/min	200	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2500	2600		
F 65/200B	15	20	H metres	44	43.5	43.3	43	42.5	41.5	40	38.5	36.5	34	30.5				
F 65/200A	18.5	25		50	50	50	49.5	49	48	46.5	45	43	41	38	36.5			
F 65/200AR	22	30		57	57	57	56	55.5	54.5	53.5	52	50	48	45.5	43.5	42		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	24	40	60	80	100	120	141	150	156		
Three-phase			l/min	400	667	1000	1333	1667	2000	2350	2500	2600			
F 65/250C	30	40	H metres	76	76	75.5	72.5	68	61.5	53					
F 65/250B	37	50		87	87	86	84	80	74	66.5	62				
F 65/250A	45	60		95	95	94	92	88	82.5	75	71	68			

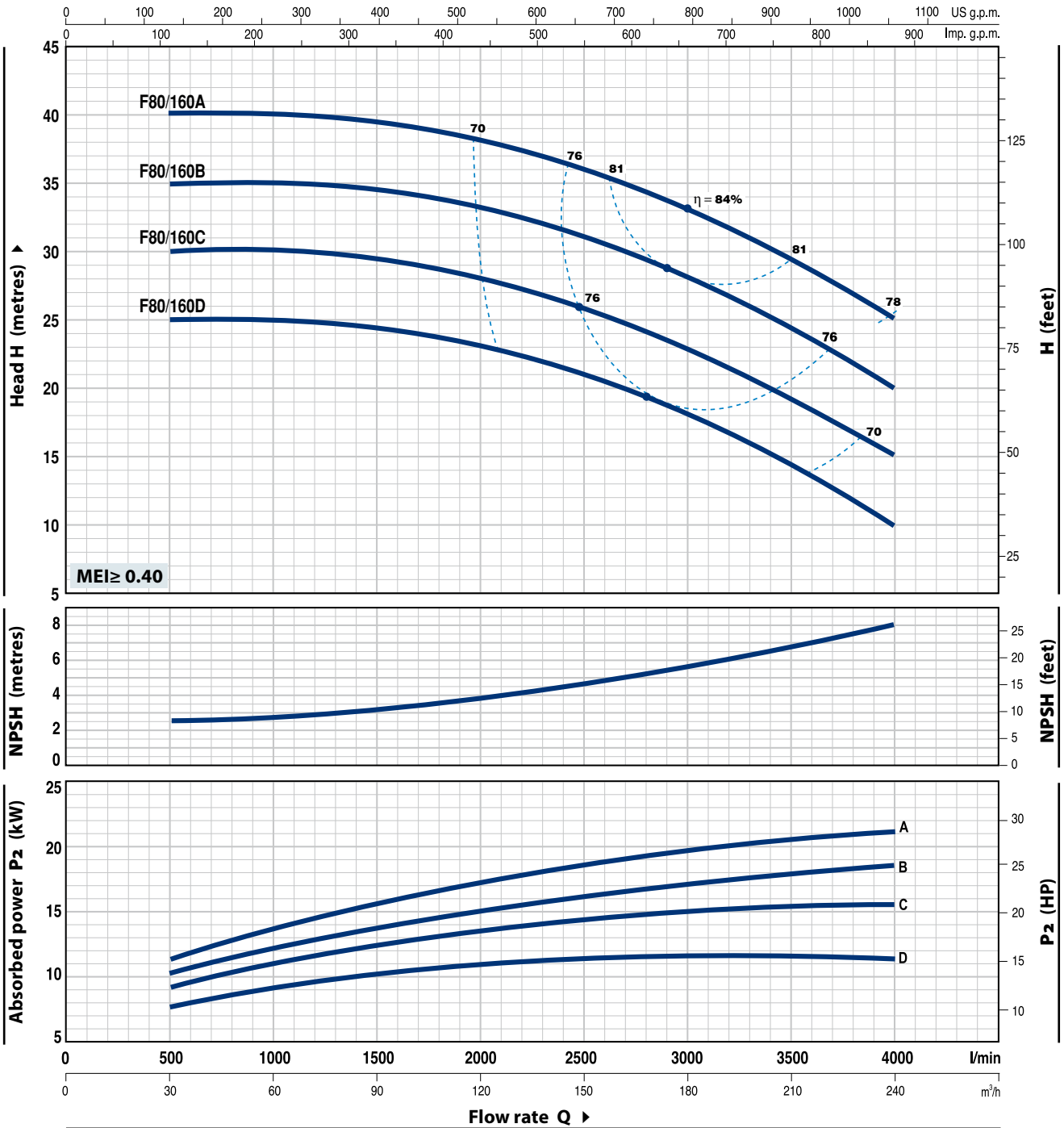
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F80/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



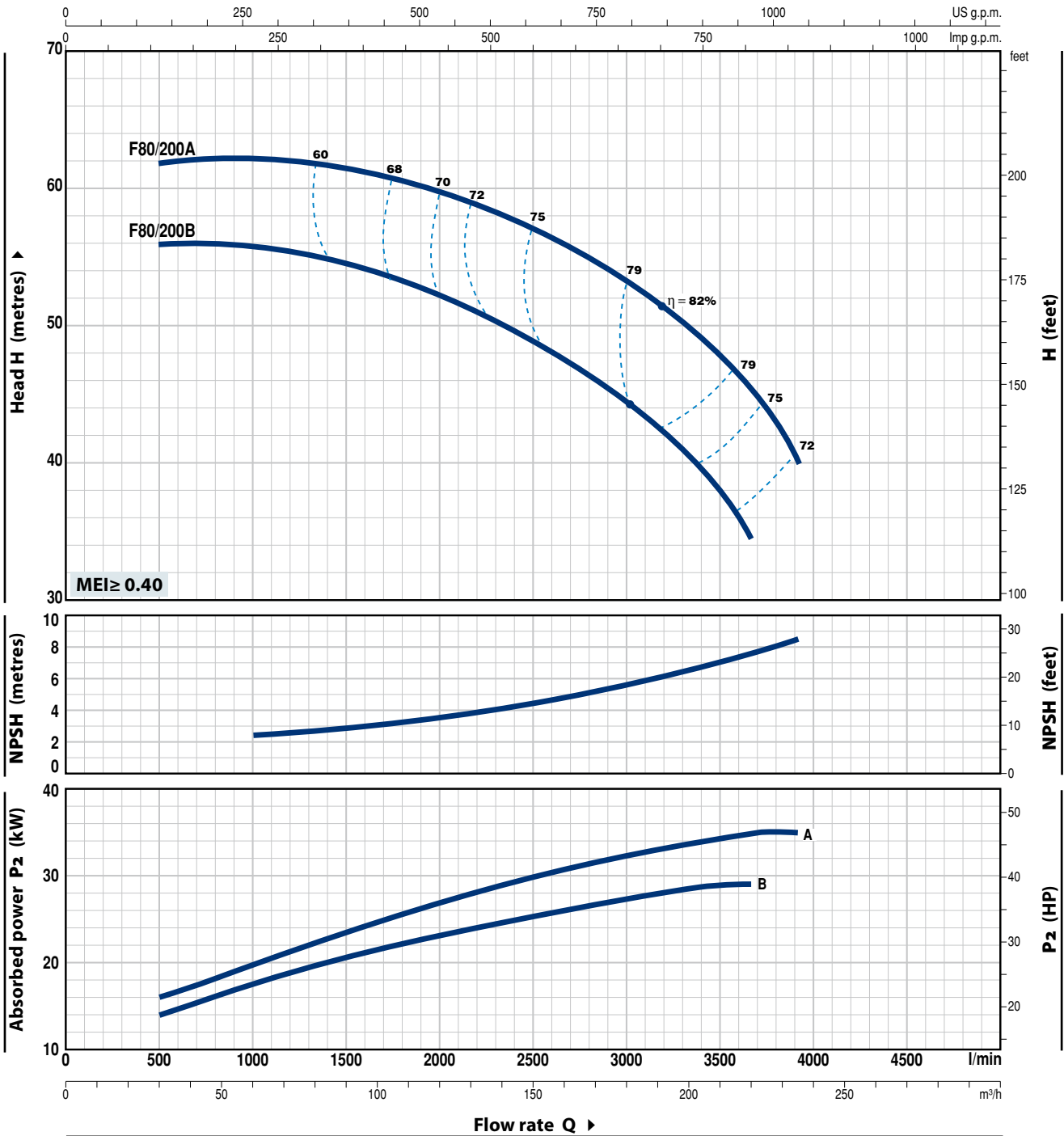
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate Q											
	kW	HP		m <sup>3</sup> /h	0	30	60	90	120	150	180	210	240		
Three-phase			l/min	0	500	1000	1500	2000	2500	3000	3500	4000			
F 80/160D	11	15	H metres	25	25	25	24.5	23.5	21	18	14.5	10			
F 80/160C	15	20		30	30	30	29.5	28.5	26	23	19.5	15			
F 80/160B	18.5	25		35	35	35	34.5	33.5	31	28.5	24.5	20			
F 80/160A	22	30		40	40	40	39.5	38.5	36	33	29.5	25			

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate (m³/h)						
	kW	HP		30	50	100	150	200	219	234
Three-phase			l/min	500	833	1667	2500	3333	3650	3900
F 80/200B	30	40	H metres	56	56	54	49	41	34.5	
F 80/200A	37	50		62	62	61	57	50	45.5	40

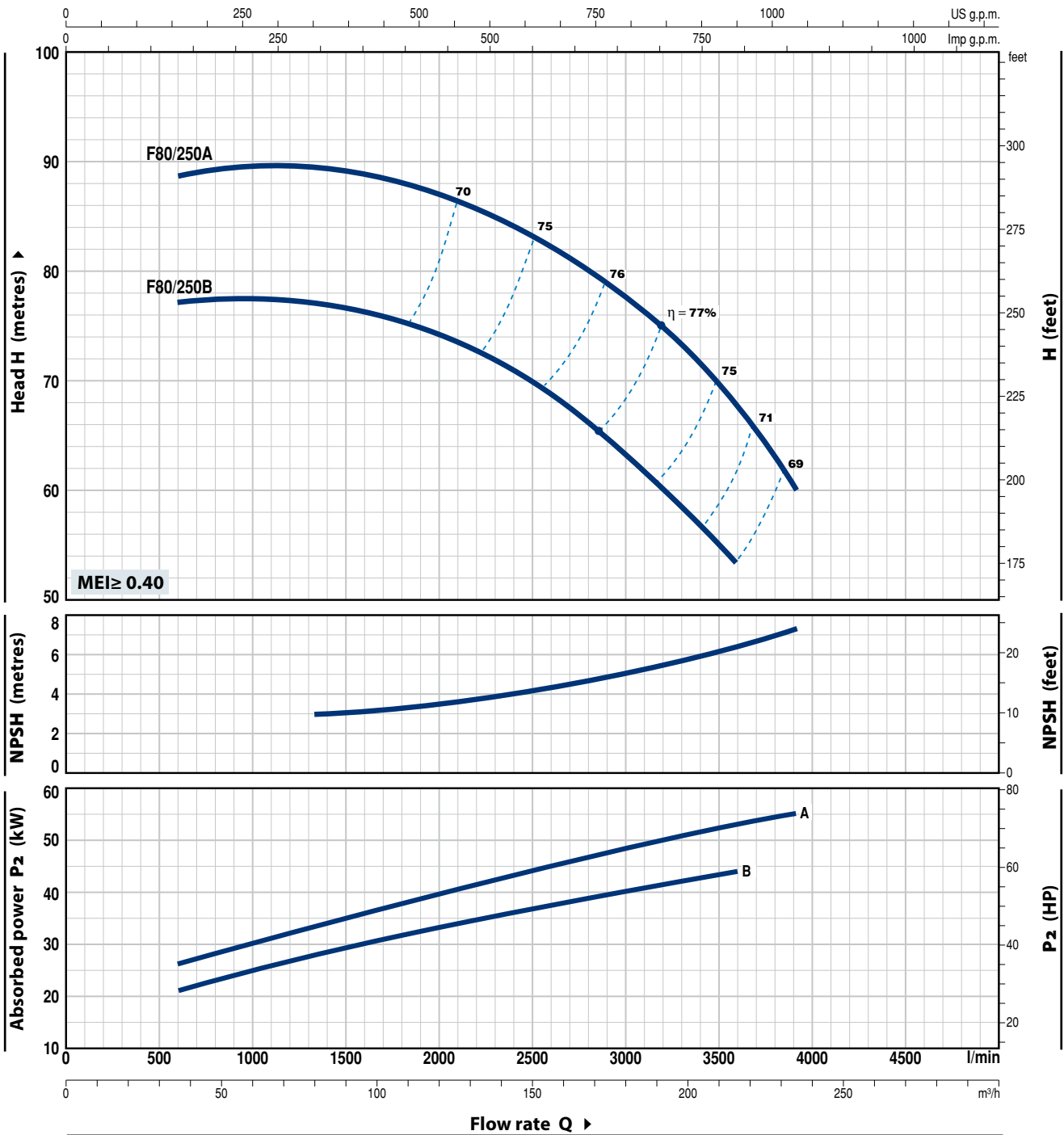
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F80/250

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate						
	kW	HP		m <sup>3</sup> /h	l/min	m <sup>3</sup> /h	l/min	m <sup>3</sup> /h	l/min	
Three-phase				36	50	100	150	200	216	234
F 80/250B	45	60	H metres	77	77.5	76	70.5	58.5	54	
F 80/250A	55	75	H metres	88.5	89.5	89	83	72	68	60

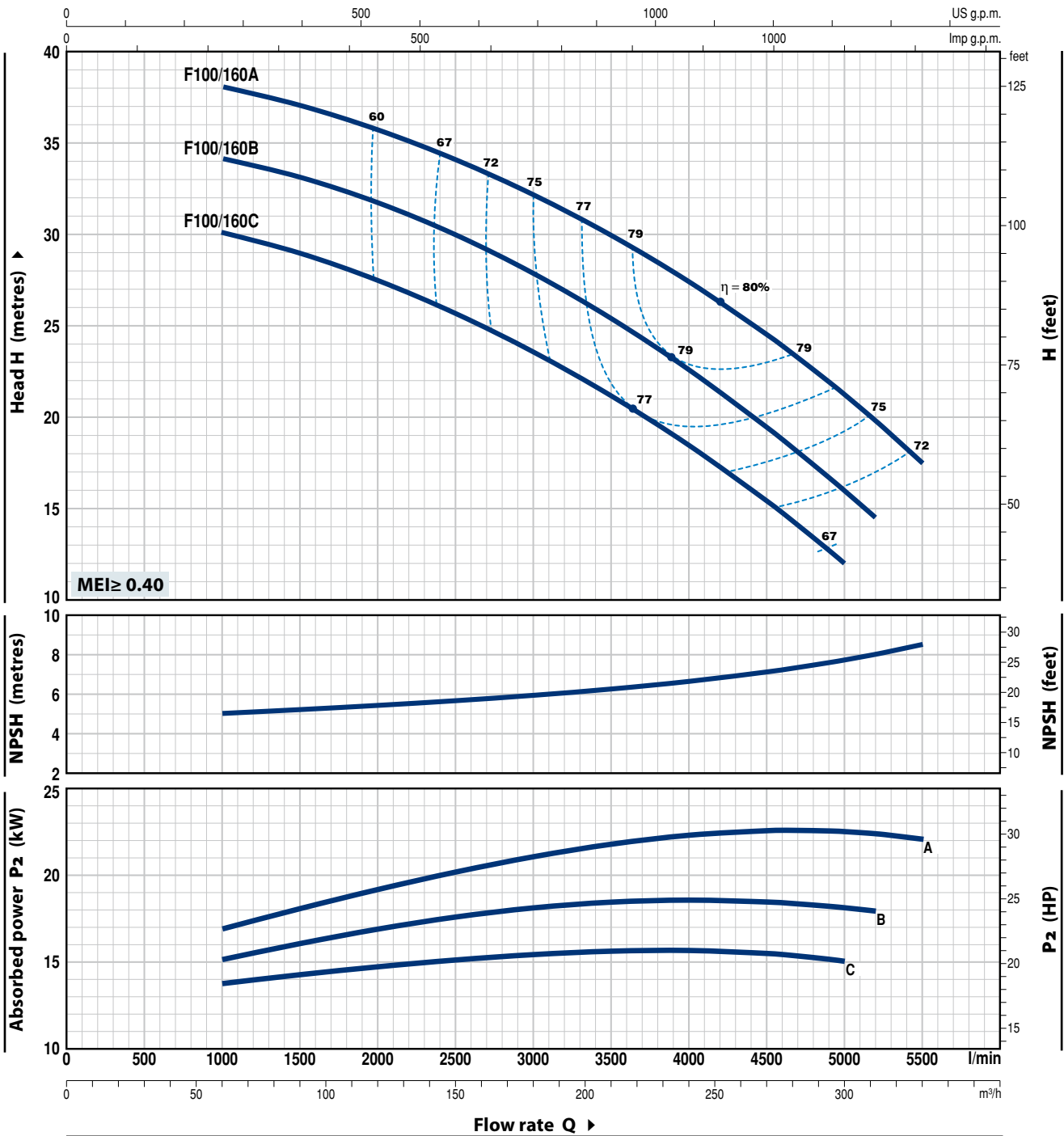
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	60	90	120	150	180	210	240	270	300	312	330
	kW	HP		1000	1500	2000	2500	3000	3500	4000	4500	5000	5200	5500
F 100/160C	15	20	H metres	30	29	27.5	25.5	23.5	21	18.5	15.5	12		
F 100/160B	18.5	25		34	33	31.5	30	28	25.5	22.5	19.5	16	14.5	
F 100/160A	22	30		38	37	36	34	32	30	27.5	24.5	21	20	17.5

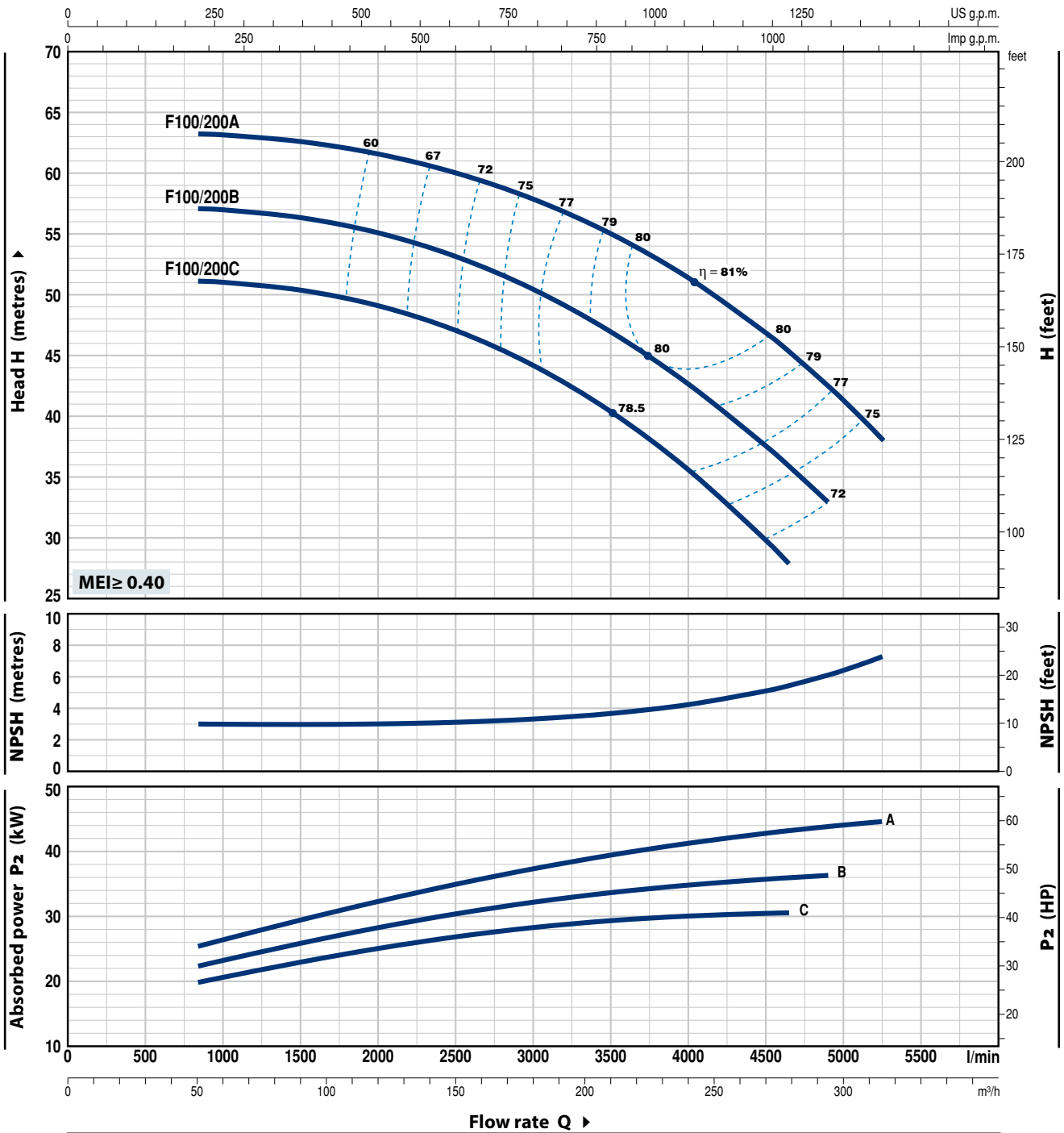
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F100/200

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



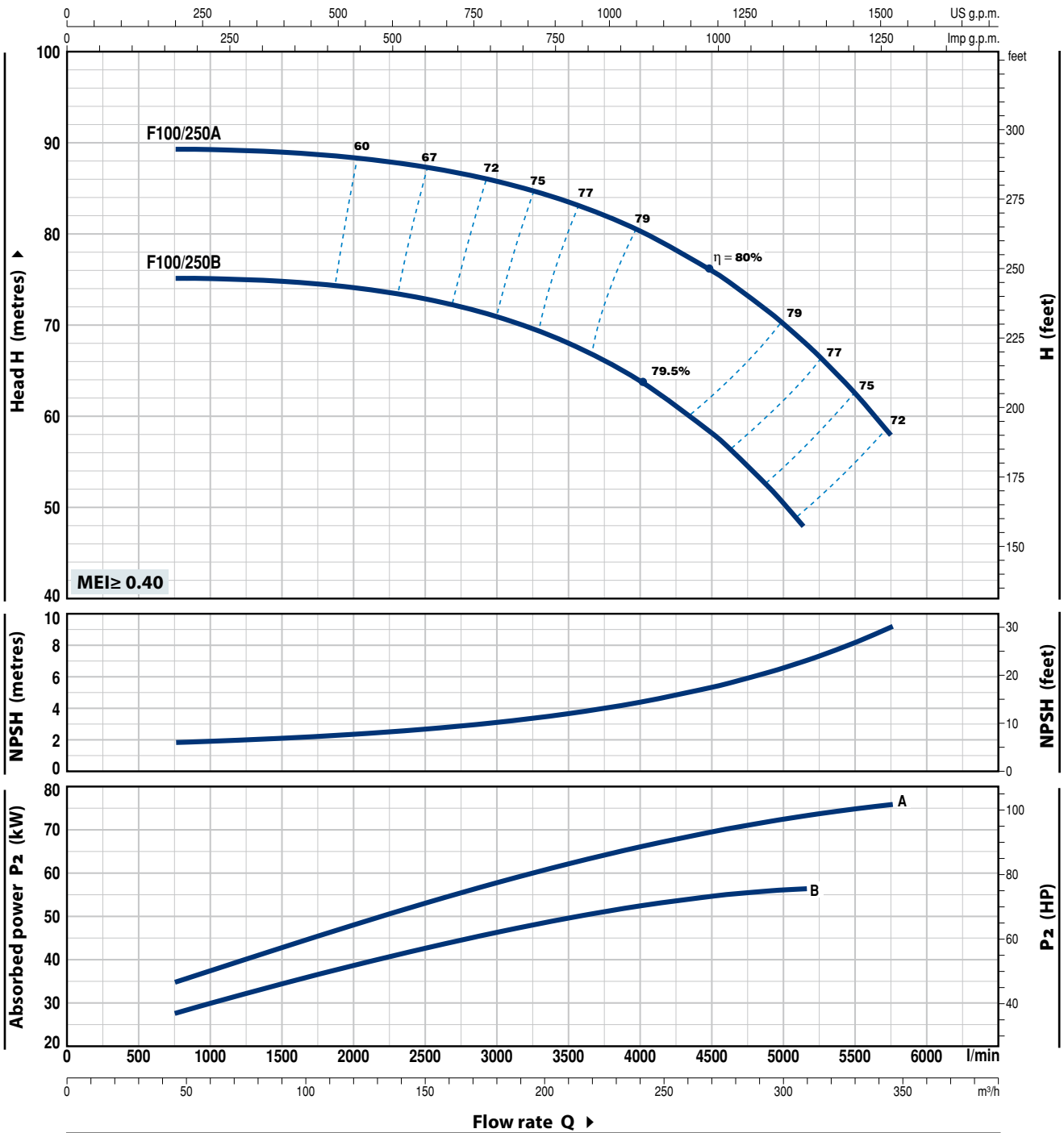
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		0	50	96	150	180	210	240	279	294	300	315		
Three-phase			l/min	0	833	1600	2500	3000	3500	4000	4650	4900	5000	5250		
F 100/200C	30	40	H metres	51	51	50	47	44	40.5	35.5	28					
F 100/200B	37	50		57	57	56	53	50.5	47	42.5	36	33				
F 100/200A	45	60		63	63	62.5	60	58	55	51.5	45	42.5	41.5	38		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



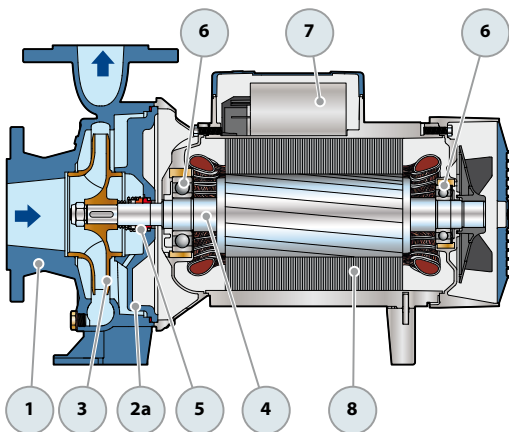
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate										
	kW	HP		m <sup>3</sup> /h	48	96	150	180	210	240	300	309	345	
Three-phase			l/min	800	1600	2500	3000	3500	4000	5000	5150	5750		
F 100/250B	55	75	H metres	75	75	73	71	68	64	50.5	48			
F 100/250A	75	100		89	89	87.5	86	83.5	80.5	70	68	58		

Q = Flow rate H = Total manometric head HS = Suction height

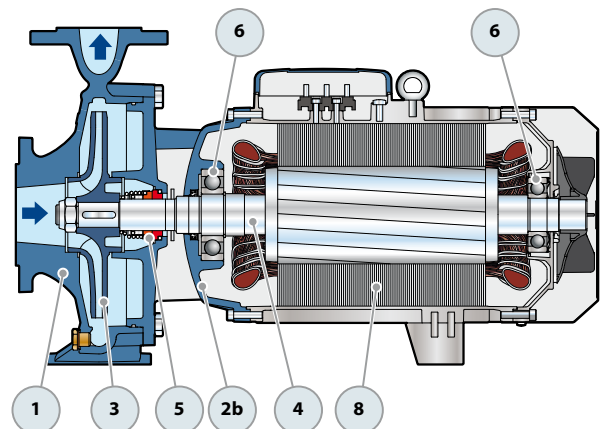
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron complete with flanged suction and delivery ports				
<b>2a BODY BACKPLATE</b>	Cast iron for F32/160, F32/200, F40/125, F40/160, F40/200, F50/125, F50/160, F65/125				
<b>2b MOTOR BRACKET</b>	Cast iron for F32/250, F40/250, F50/200, F50/250, F65/160, F65/200, F65/250, F80/160, F80/200, F80/250, F100/160, F100/200, F100/250				
<b>3 IMPELLER</b>	Brass for F32/160, F32/200, F40/125, F40/160, F40/200, F50/125, F50/160 Cast iron for F32/250, F40/250, F50/200, F50/250, F65/125, F65/160, F65/200, F65/250, F80/160, F80/200, F80/250, F100/160, F100/200, F100/250				
<b>4 MOTOR SHAFT</b>	Stainless steel AISI 431				
<b>5 MECHANICAL SEAL</b>	<b>Pump Model</b>	<b>Seal Model</b>	<b>Shaft Diameter</b>	<b>Materials</b> Stationary ring    Rotational ring    Elastomer	
	F32/160, F40/125, F40/160, F50/125	<b>FN-20</b>	<b>Ø 20 mm</b>	Graphite	Ceramic    NBR
	F32/200, F40/200, F50/160, F65/125	<b>FN-24</b>	<b>Ø 24 mm</b>	Graphite	Ceramic    NBR
	F50/200, F65/160, F65/200, F80/160, F100/160	<b>FN-32 NU</b>	<b>Ø 32 mm</b>	Graphite	Ceramic    NBR
	F32/250, F40/250, F50/250	<b>FN-38</b>	<b>Ø 38 mm</b>	Graphite	Ceramic    NBR
	F65/250, F80/200, F80/250B, F100/200	<b>FN-40 NU</b>	<b>Ø 40 mm</b>	Graphite	Ceramic    NBR
	F80/250A, F100/250	<b>FH-45 NU</b>	<b>Ø 45 mm</b>	Graphite	Ceramic    NBR
<b>6 BEARINGS</b>	<b>Pump Model</b>	<b>Model</b>	<b>Pump Model</b>	<b>Model</b>	
	F32/160C    F40/160C	<b>6206 ZZ-C3 / 6204 ZZ</b>	F32/250    F50/200	<b>6310 ZZ-C3 / 6308 ZZ-C3</b>	
	F32/160B    F50/125C		F40/250    F65/160		
	F40/125		F50/250    F80/160		
	Fm32/160B    F32/160A	<b>6206 ZZ-C3 / 6205 ZZ</b>	F65/200    F100/160	<b>6312 ZZ-C3 / 6212 ZZ-C3</b>	
	Fm40/160C    F40/160B		F65/250    F80/200		
	Fm50/125C    F50/125B		F80/250B    F100/200		
	F40/160A	<b>6306 ZZ-C3 / 6206 ZZ-C3</b>	F80/250A	<b>6314 ZZ-C3 / 6313 ZZ-C3</b>	
	F50/125A		F100/250		
	F32/200    F40/200	<b>6307 ZZ-C3 / 6206 ZZ-C3</b>			
	F50/160    F65/125				
<b>7 CAPACITOR</b>	<b>Pump</b>	<b>Capacitance</b>			
	<b>Single-phase</b>	<b>(230 V or 240 V)</b>			
	Fm32/160C	<b>45</b> µF - 450 VL			
	Fm32/160B	<b>70</b> µF - 450 VL			
	Fm40/125C	<b>31.5</b> µF - 450 VL			
	Fm40/125B	<b>45</b> µF - 450 VL			
	Fm40/160C	<b>70</b> µF - 450 VL			
	Fm50/125C	<b>70</b> µF - 450 VL			
<b>8 ELECTRIC MOTOR</b>	<b>Fm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding (up to 1.5 kW) <b>F:</b> <b>three-phase 230/400 V - 50 Hz up to 4 kW</b> <b>400/690 V - 50 Hz from 5.5 to 75 kW</b> <ul style="list-style-type: none"> <li>➡ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></li> <li>- Insulation: class F    - Protection: IP 55</li> </ul>				



Single-phase version



Three-phase version

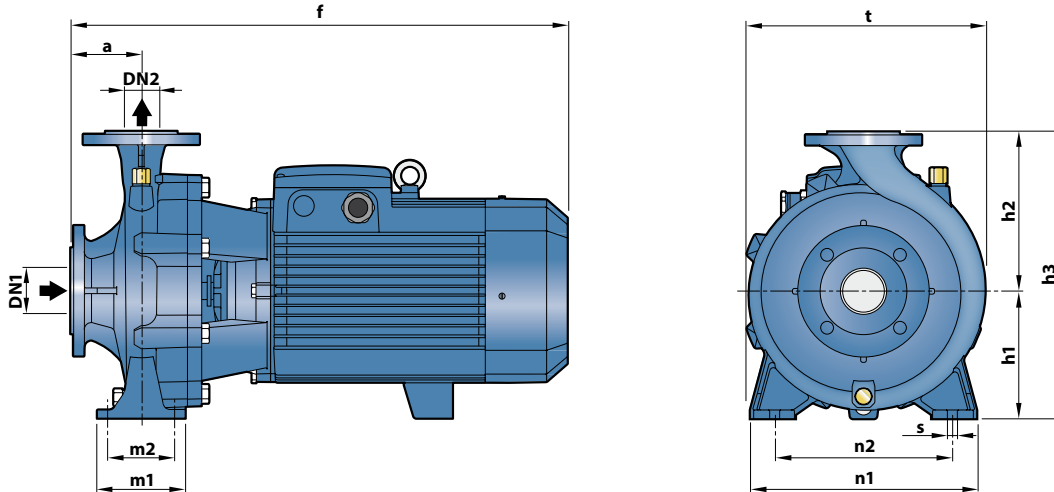
## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
Single-phase		
Fm 32/160C	11.0 A	10.0 A
Fm 32/160B	15.0 A	13.8 A
Fm 40/160C	15.0 A	14.4 A
Fm 50/125C	15.0 A	14.4 A

MODEL	VOLTAGE		
	230–240 V	400–415 V	690–720 V
Three-phase			
F 32/160C	7.5 A	4.3 A	2.5 A
F 32/160B	8.65 A	5.0 A	2.9 A
F 32/160A	12.6 A	7.3 A	4.1 A
F 32/200C	17.9 A	10.3 A	6.0 A
F 32/200B	–	11.7 A	6.8 A
F 32/200A	–	14.9 A	8.6 A
F 32/200BH	12.6 A	7.3 A	4.2 A
F 32/200AH	15.4 A	8.9 A	5.1 A
F 32/250C	–	18.5 A	10.7 A
F 32/250B	–	22.0 A	12.7 A
F 32/250A	–	25.0 A	14.5 A
F 40/125C	5.2 A	3.0 A	1.7 A
F 40/125B	7.7 A	4.5 A	2.6 A
F 40/125A	9.0 A	5.2 A	3.0 A
F 40/160C	9.9 A	5.7 A	3.3 A
F 40/160B	12.0 A	6.9 A	4.0 A
F 40/160A	17.2 A	9.9 A	5.6 A
F 40/200B	–	12.6 A	7.3 A
F 40/200A	–	15.6 A	9.0 A
F 40/250C	–	21.0 A	12.1 A
F 40/250B	–	23.5 A	13.6 A
F 40/250A	–	30.5 A	17.6 A
F 50/125C	9.4 A	5.4 A	3.2 A
F 50/125B	12.0 A	6.9 A	4.0 A
F 50/125A	16.3 A	9.4 A	5.4 A
F 50/160C	15.8 A	9.1 A	5.3 A
F 50/160B	–	12.3 A	7.1 A
F 50/160A	–	15.5 A	8.9 A
F 50/200C	–	23.0 A	13.3 A
F 50/200B	–	29.5 A	17.0 A
F 50/200A	–	34.5 A	20.0 A
F 50/200AR	–	41.5 A	24.0 A

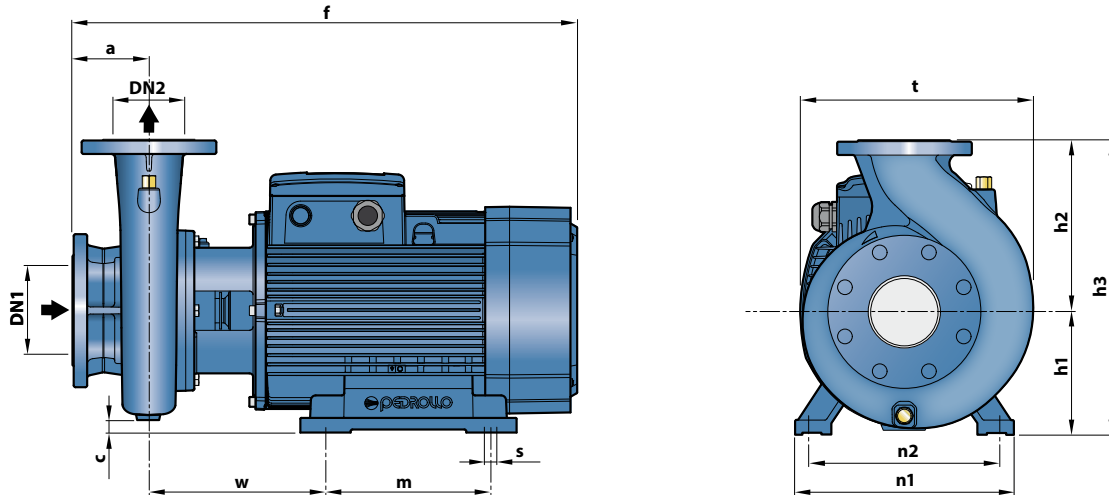
MODEL	VOLTAGE		
	230–240 V	400–415 V	690–720 V
Three-phase			
F 50/250D	–	19.0 A	11.0 A
F 50/250C	–	21.0 A	12.0 A
F 50/250B	–	27.0 A	15.6 A
F 50/250A	–	34.0 A	19.6 A
F 50/250AR	–	41.0 A	24.0 A
F 65/125C	17.5 A	10.0 A	5.8 A
F 65/125B	–	12.0 A	7.0 A
F 65/125A	–	16.5 A	9.5 A
F 65/160C	–	19.0 A	11.0 A
F 65/160B	–	23.0 A	13.5 A
F 65/160A	–	27.5 A	16.0 A
F 65/200B	–	30.0 A	17.3 A
F 65/200A	–	34.0 A	19.5 A
F 65/200AR	–	41.0 A	24.0 A
F 65/250C	–	53.0 A	31.0 A
F 65/250B	–	65.0 A	38.0 A
F 65/250A	–	79.0 A	46.0 A
F 80/160D	–	22.0 A	13.0 A
F 80/160C	–	29.0 A	17.0 A
F 80/160B	–	34.5 A	20.0 A
F 80/160A	–	39.0 A	22.5 A
F 80/200B	–	53.0 A	31.0 A
F 80/200A	–	65.0 A	38.0 A
F 80/250B	–	79.0 A	46.0 A
F 80/250A	–	98.0 A	57.0 A
F 100/160C	–	27.5 A	16.0 A
F 100/160B	–	32.5 A	18.8 A
F 100/160A	–	39.8 A	23.0 A
F 100/200C	–	53.0 A	31.0 A
F 100/200B	–	65.0 A	38.0 A
F 100/200A	–	79.0 A	46.0 A
F 100/250B	–	98.0 A	57.0 A
F 100/250A	–	126.0 A	73.0 A

## DIMENSIONS AND WEIGHT



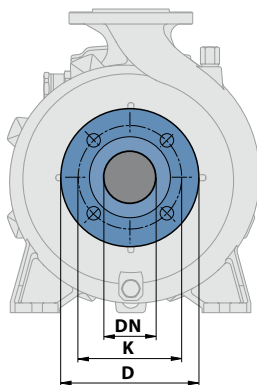
MODEL		DIMENSIONS mm													kg				
Single-phase	Three-phase	DN1	DN2	a	f	h1	h2	h3	t	n1	n2	m1	m2	s	1~	3~			
Fm 32/160C	F 32/160C	50	32	80	419	160	160	292	240	245	190	100	70	14	32.6	32.3			
Fm 32/160B	F 32/160B				448/432										42.3	35.2			
-	F 32/160A				448										-	38.7			
-	F 32/200C				469										-	46.3			
-	F 32/200B				515										-	51.8			
-	F 32/200A			160	180	340	273	95	-	56.9									
-	F 32/200BH			469	-	42.0													
-	F 32/200AH			-	-	45.8													
-	F 32/250C			-	-	105.5													
-	F 32/250B			100	606	180	225	405	325	320	250	125	95		-	103.2			
-	F 32/250A	701	-	121.0															
Fm 40/125C	F 40/125C	65	40	80	421	132	160	292	241	240	190	100	70	14	31.5	29.9			
Fm 40/125B	F 40/125B				441										33.0	32.4			
-	F 40/125A				439										-	32.6			
Fm 40/160C	F 40/160C				448										-	38.3	33.4		
-	F 40/160B				465										-	38.9			
-	F 40/160A			535	160	180	340	277	265	212	-	53.0							
-	F 40/200B			606	180	225	405	329	320	250	125	95	-		104.0				
-	F 40/200A			701	-	120.0													
-	F 40/250C			465/451	132	160	292	242	240	190	-	36.8	35.1						
-	F 40/250B			465	-	38.5													
-	F 40/250A	484	-	42.8															
Fm 50/125C	F 50/125C	65	50	100	489	160	180	340	273	265	212	100	70	14	47.3	42.8			
-	F 50/160B				535										-	52.8			
-	F 50/160A				616										160	-	57.6		
-	F 50/200C				711										200	360	316.5	-	100.0
-	F 50/200B				711										-	115.0			
-	F 50/200A			743	-	127.2													
-	F 50/200AR			743	-	141.0													
-	F 50/250D			605	-	104.2													
-	F 50/250C			605	-	105.0													
-	F 50/250B			701	180	225	405	333	320	250	-	121.0							
-	F 50/250A	733	-	134.2															
-	F 50/250AR	733	-	147.0															
-	F 65/125C	511	-	53.2															
-	F 65/125B	557	160	180	340	292	280	212	-	58.3									
-	F 65/125A	620	200	360	295	-	125	95	-	63.0									
-	F 65/160C	620	-	98.5															
-	F 65/160B	716	-	100.2															
-	F 65/160A	716	-	114.0															
-	F 65/200B	718	-	119.3															
-	F 65/200A	718	-	132.1															
-	F 65/200AR	751	-	145.3															
-	F 80/160D	652	180	225	405	-	320	250	-	103.1									
-	F 80/160C	747	-	120.0															
-	F 80/160B	747	-	133.8															
-	F 80/160A	779	-	144.0															
-	F 100/160C	760	200	280	480	-	360	280	160	120	18	-	141.2						
-	F 100/160B	790	-	150.3															
-	F 100/160A	790	-	164.0															

## DIMENSIONS AND WEIGHT



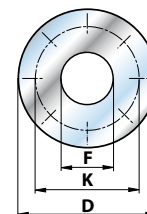
MODEL	DIMENSIONS mm														kg
	Three-phase	DN1	DN2	a	f	h1	h2	h3	c	t	n1	n2	w	m	
F 65/250C	80	65	100	796	201	250	451	16	363	360	318	269.5	305	18.5	208.0
F 65/250B				847											226.0
F 65/250A				847											246.2
F 80/200B	100	80	125	824	280	280	450	26	360	490	400	294	350	24	197.4
F 80/200A				875											223.0
F 80/250B				872											240.0
F 80/250A	125	100	140	1015	250	280	620	55	490	485	406	313	350	24	547.0
F 100/200C				826											214.4
F 100/200B				875											234.2
F 100/200A	125	100	140	877	201	280	481	0	391	360	318	271	305	18.5	232.8
F 100/250B				877											551.2
F 100/250A															544.3

## FLANGED PORTS



## COUNTER FLANGES

(CAN BE ORDERED SEPARATELY)

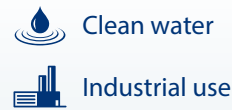


DN FLANGES	D	K	HOLES	
			N°	Ø (mm)
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160		
100	220	180	8	
125	250	210		

DN FLANGES	F	D	K	HOLES	
				N°	Ø (mm)
32	1¼"	140	100	4	18
40	1½"	150	110		
50	2"	165	125		
65	2½"	185	145		
80	3"	200	160		
100	4"	220	180	8	
125	5"	250	210		

# F-I

## Standardised “EN 733” stainless steel pumps



### PERFORMANCE RANGE

- Flow rate up to **2200 l/min** (132 m<sup>3</sup>/h)
- Head up to **38 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. pressure in pump body **10 bar** (PN10)
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



Pump body dimensions in compliance with **EN 733**  
**EU REGULATION N. 547/2012**

### INSTALLATION AND USE

- Water supply
- Pressure boosting
- Irrigation
- Water circulation in air-conditioning units
- Cleaning sets
- Firefighting sets
- Industrial applications
- Agricultural applications

Suitable for use with clean, aggressive liquids that are chemically compatible with the materials from which the pump is made. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency
- Compatibility with hotter or colder liquids
- Compatibility with hotter or colder environments

### CERTIFICATIONS

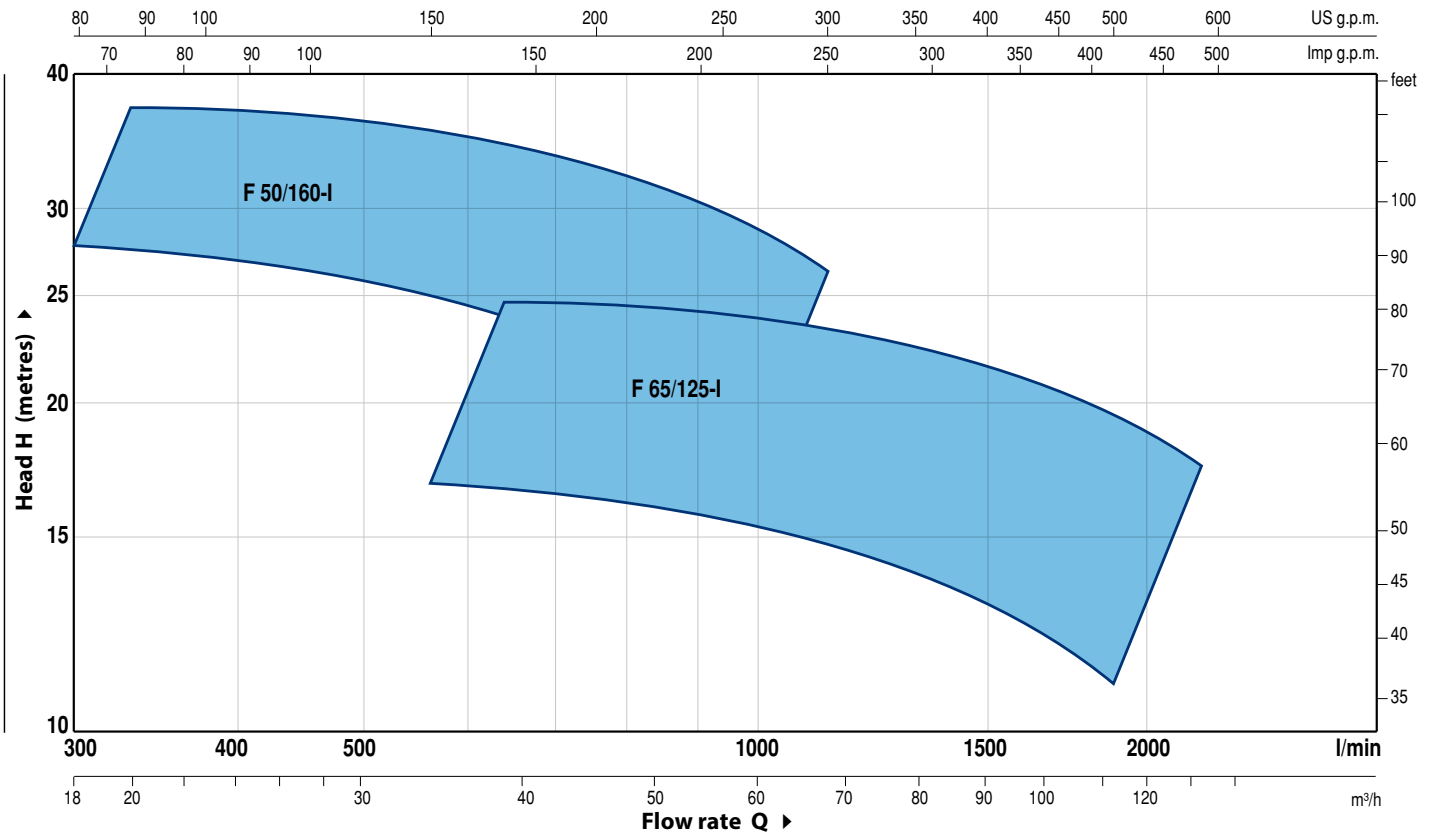
Company with management system certified DNV  
ISO 9001: QUALITY





## PERFORMANCE RANGE

50 Hz n= 2900 min<sup>-1</sup>



## PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>

MODEL	POWER (P <sub>2</sub> )			PERFORMANCE		
	Three-phase	kW	HP	▲	Q l/min	H metres
F 50/160C-I	4	5.5	IE3	▲	300 – 1000	27 – 16
F 50/160B-I	5.5	7.5			300 – 1100	32 – 21
F 50/160A-I	7.5	10			300 – 1100	37 – 27
F 65/125C-I	4	5.5	IE3	▲	600 – 1800	16 – 11
F 65/125B-I	5.5	7.5			600 – 2000	18 – 13
F 65/125A-I	7.5	10			600 – 2200	23 – 18

Q =Flow rate

H =Total manometric head

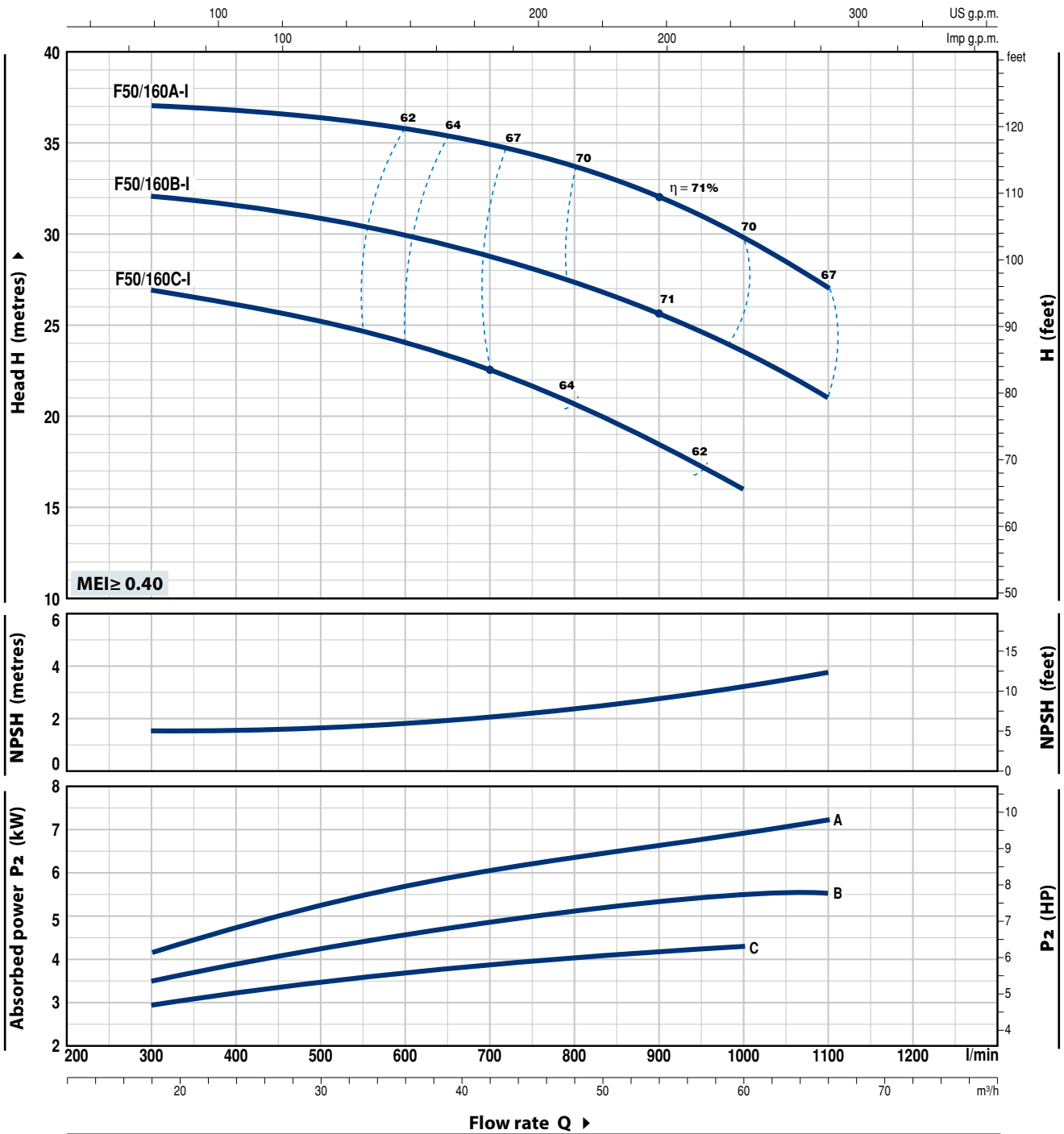
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# F50/160-I

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m



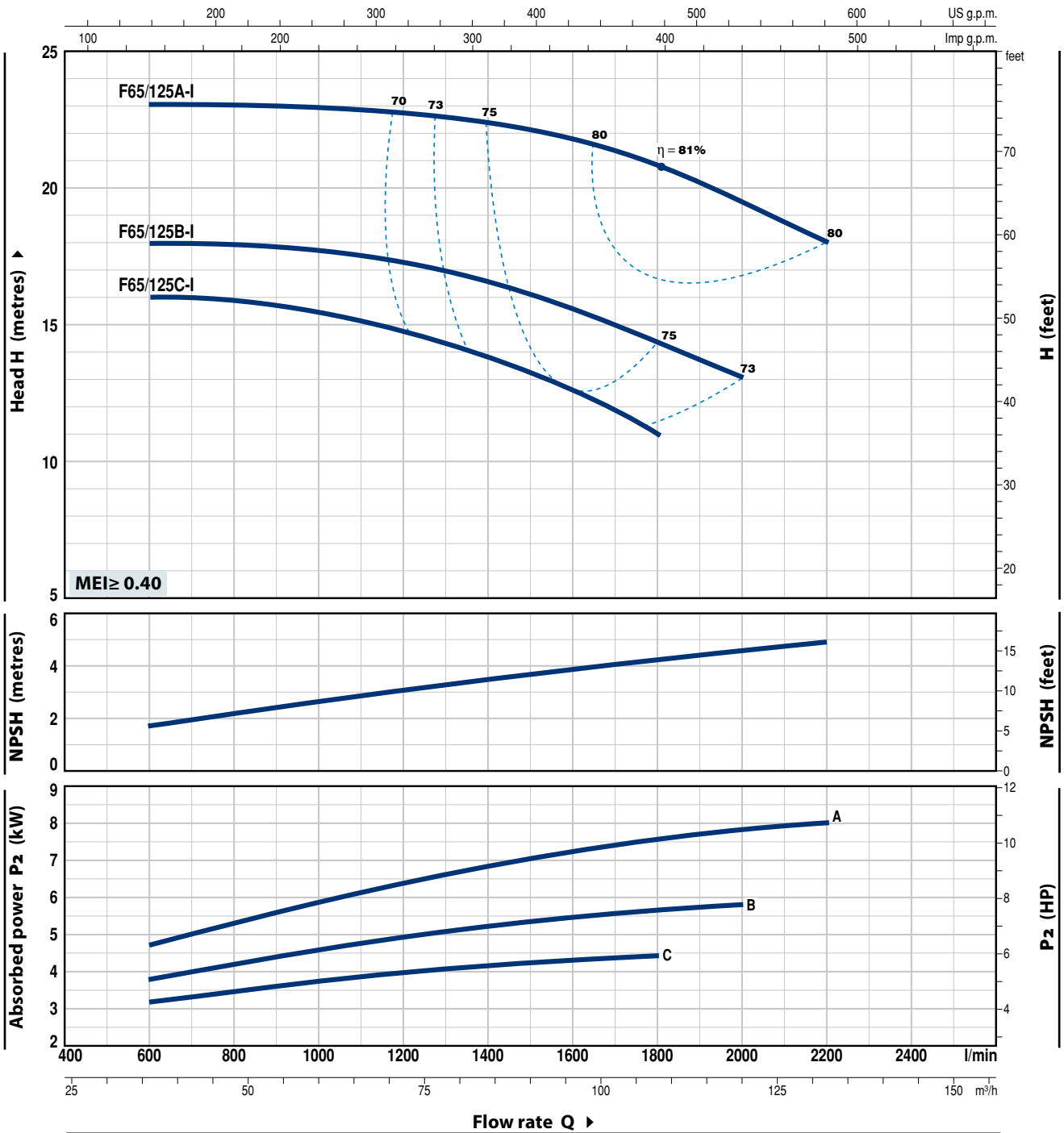
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		0	18	24	30	36	42	48	54	60	66		
Three-phase			l/min	0	300	400	500	600	700	800	900	1000	1100		
F 50/160C-I	4	5.5	H metres	27	27	26.5	25	24.5	23	20	18.5	16			
F 50/160B-I	5.5	7.5		33	32	31.7	31	30	29	27	26	24	21		
F 50/160A-I	7.5	10		38	37	36.8	36.5	36	34	33	32	30	27		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup> HS = 0 m



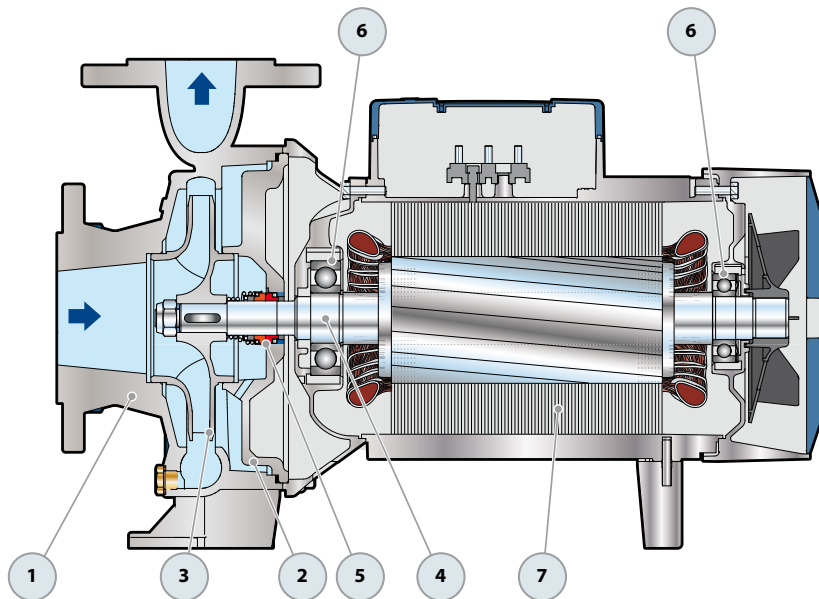
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		0	36	48	60	72	84	96	108	120	132		
Three-phase			l/min	0	600	800	1000	1200	1400	1600	1800	2000	2200		
F 65/125C-I	4	5.5	H metres	16	16	16	15.5	14.5	13.5	12.5	11				
F 65/125B-I	5.5	7.5		18	18	18	18	17	16.5	15.5	14.5	13			
F 65/125A-I	7.5	10		23	23	23	23	22.5	22.5	22	21	19.5	18		

Q = Flow rate H = Total manometric head HS = Suction height

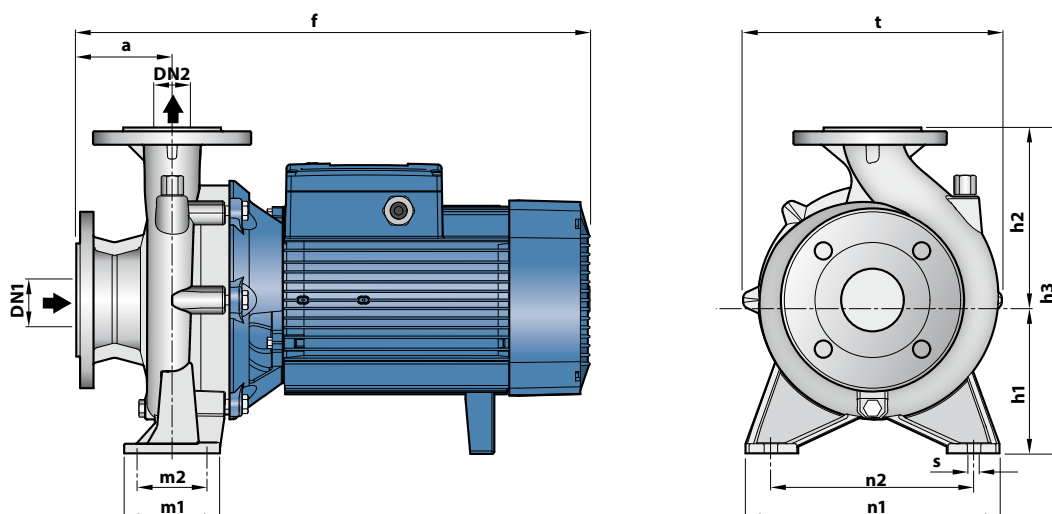
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 316 complete with flanged suction and delivery ports					
2	<b>BODY BACKPLATE</b>	Stainless steel AISI 316					
3	<b>IMPELLER</b>	Stainless steel AISI 316					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 316L					
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		F50/160-I F65/125-I	FN-24SV	Ø 24 mm	Silicon carbide	Silicon carbide	Viton
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		F50/160-I F65/125-I	6307 ZZ-C3 / 6206 ZZ-C3				
7	<b>ELECTRIC MOTOR</b>	<p>F: three-phase 230/400 V - 50 Hz for 4 kW 400/690 V - 50 Hz from 5.5 to 7.5 kW</p> <p>⇒ <b>The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)</b></p> <p>– Insulation: class F – Protection: IP 55</p>					



## DIMENSIONS AND WEIGHT





MODEL	DIMENSIONS mm												kg 3~	
	DN1	DN2	a	f	h3	h1	h2	t	n2	n1	m1	m2		s
F 50/160C-I	65	50	100	489	340	160	180	269	212	265	100	70	14	50.2
F 50/160B-I				535										62.6
F 50/160A-I				511										65.5
F 65/125C-I	80	65	100	511	340	160	180	291	212	280	125	95	14	62.6
F 65/125B-I				557										67.7
F 65/125A-I				557										72.9

## ABSORPTION

MODEL	VOLTAGE		
	230-240 V	400-415 V	690-720 V
F 50/160C-I	15.8 A	9.1 A	5.3 A
F 50/160B-I	-	12.3 A	7.1 A
F 50/160A-I	-	15.5 A	8.9 A
F 65/125C-I	17.3 A	10.0 A	5.8 A
F 65/125B-I	-	12.0 A	7.0 A
F 65/125A-I	-	16.5 A	9.5 A

## Standardised “EN 733” centrifugal pumps

-  Clean water
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **6000 l/min** (360 m<sup>3</sup>/h)
- Head up to **98 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Max. pressure in pump body **10 bar** (PN10)

### CONSTRUCTION AND SAFETY STANDARDS

EN 733



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

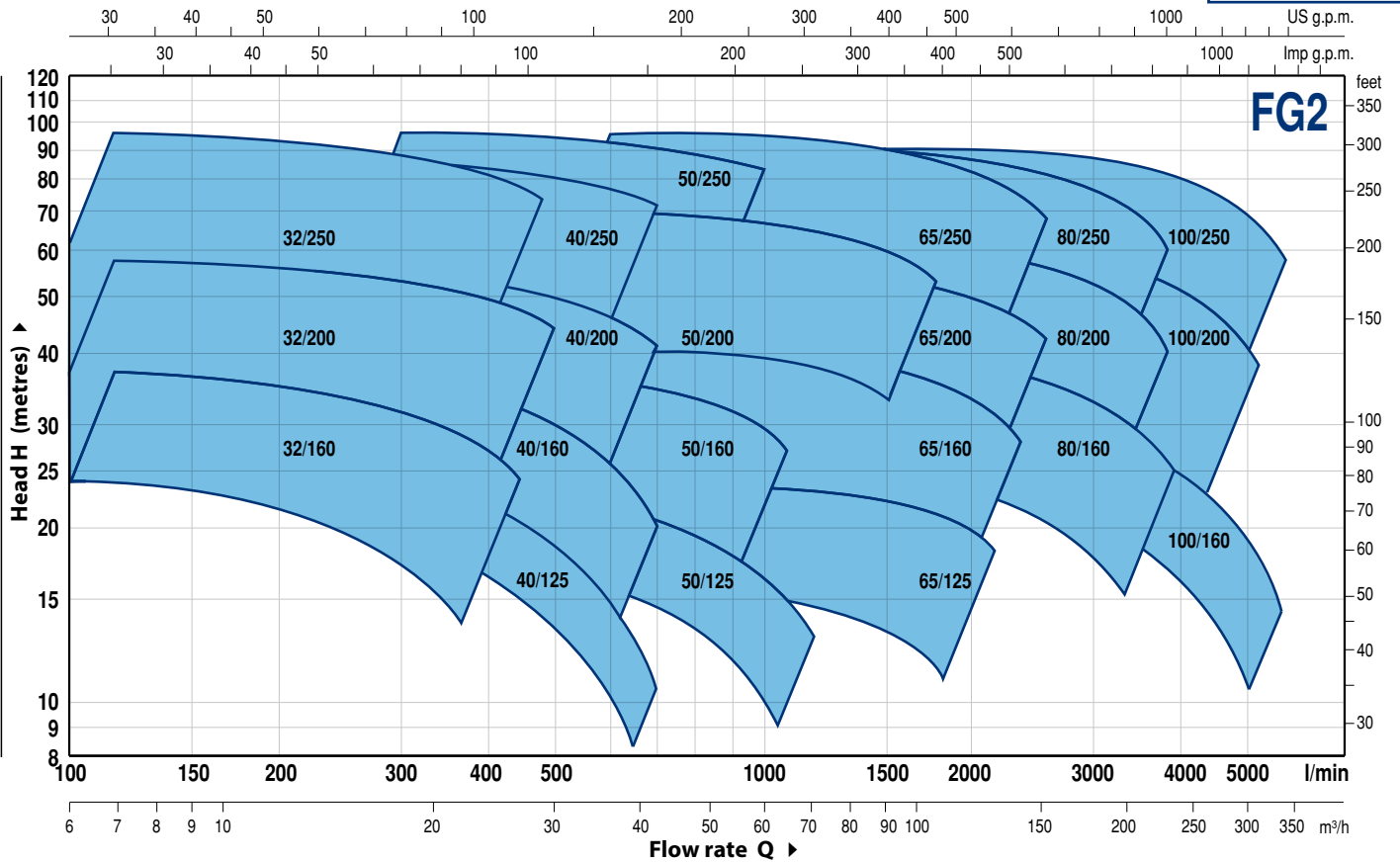
- Water supply
- Pressure boosting
- Irrigation
- Water circulation in air-conditioning units
- Cleaning sets
- Firefighting sets
- Industrial applications
- Agricultural applications

### OPTIONS AVAILABLE ON REQUEST

- Counter flange KIT complete with bolts, nuts and washers
- Special mechanical seal
- Pumps compatible with 60 Hz motors
- Compatibility with hotter or colder liquids
- Compatibility with hotter or colder environments

## PERFORMANCE RANGE

n= 2900 min<sup>-1</sup>



## PERFORMANCE DATA

MODEL	MOTOR PAIRING		PERFORMANCE n= 2900 min <sup>-1</sup>	
	kW	HP	Q m <sup>3</sup> /h	H metres
FG2-32/160C	1.5	2	6 – 21	24 – 14
FG2-32/160B	2.2	3	6 – 24	30 – 17
FG2-32/160A	3	4	6 – 27	37 – 24
FG2-32/200C	4	5.5	6 – 27	44 – 31.5
FG2-32/200B	5.5	7.5	6 – 30	51 – 36
FG2-32/200A	7.5	10	6 – 30	57 – 44
FG2-32/200BH	3	4	6 – 18	45 – 37
FG2-32/200AH	4	5.5	6 – 19.2	55 – 44
FG2-32/250C	9.2	12.5	6 – 27	75 – 60
FG2-32/250B	11	15	6 – 30	87 – 70
FG2-32/250A	15	20	6 – 30	97 – 80
FG2-40/125C	1.1	1.5	6 – 33	16 – 6
FG2-40/125B	1.5	2	6 – 36	20.5 – 9
FG2-40/125A	2.2	3	6 – 42	26 – 10
FG2-40/160C	2.2	3	6 – 36	27 – 14
FG2-40/160B	3	4	6 – 36	32 – 20
FG2-40/160A	4	5.5	6 – 42	38 – 20
FG2-40/200B	5.5	7.5	6 – 42	47 – 28
FG2-40/200A	7.5	10	6 – 42	55 – 41
FG2-40/250C	9.2	12.5	6 – 42	64 – 47
FG2-40/250B	11	15	6 – 42	71 – 55
FG2-40/250A	15	20	6 – 42	88 – 72
FG2-50/125C	2.2	3	18 – 72	17.5 – 6
FG2-50/125B	3	4	18 – 72	20.7 – 9
FG2-50/125A	4	5.5	18 – 72	23.5 – 13
FG2-50/160C	4	5.5	18 – 60	27 – 16
FG2-50/160B	5.5	7.5	18 – 66	32 – 21
FG2-50/160A	7.5	10	18 – 66	37 – 27
FG2-50/200C	11	15	24 – 102	44 – 30
FG2-50/200B	15	20	24 – 102	52 – 38
FG2-50/200A	18.5	25	24 – 108	61 – 45
FG2-50/200AR	22	30	24 – 108	69 – 53
FG2-50/250D	9.2	12.5	18 – 54	51 – 32
FG2-50/250C	11	15	18 – 54	59 – 42
FG2-50/250B	15	20	18 – 60	72 – 59
FG2-50/250A	18.5	25	18 – 60	85 – 73
FG2-50/250AR	22	30	18 – 60	95 – 83

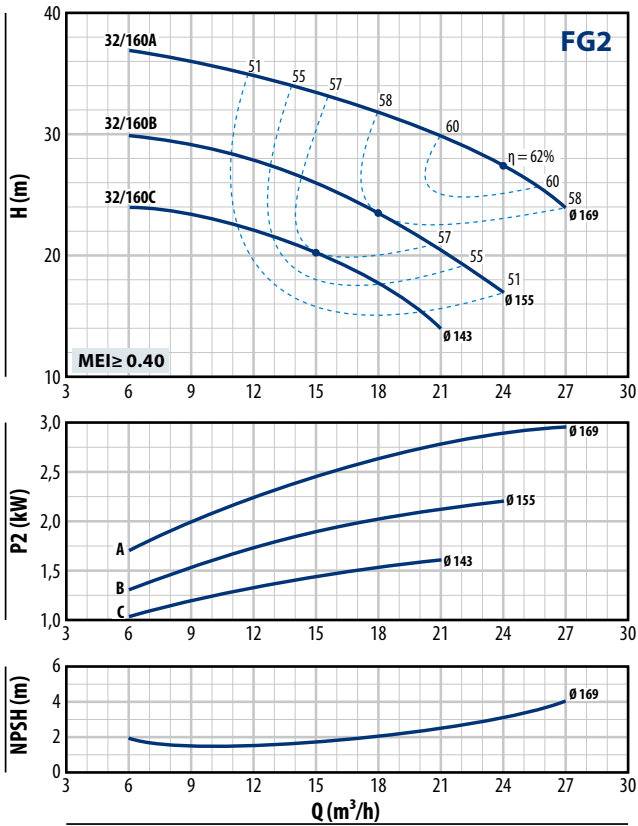
MODEL	MOTOR PAIRING		PERFORMANCE n= 2900 min <sup>-1</sup>	
	kW	HP	Q m <sup>3</sup> /h	H metres
FG2-65/125C	4	5.5	36 – 108	16 – 11
FG2-65/125B	5.5	7.5	36 – 120	18 – 13
FG2-65/125A	7.5	10	36 – 132	23 – 18
FG2-65/160C	9.2	12.5	36 – 132	32 – 22
FG2-65/160B	11	15	36 – 144	36.5 – 23
FG2-65/160A	15	20	36 – 144	40.5 – 28
FG2-65/200B	15	20	12 – 144	44 – 30.5
FG2-65/200A	18.5	25	12 – 150	50 – 36.5
FG2-65/200AR	22	30	12 – 156	57 – 42
FG2-65/250C	30	40	24 – 141	76 – 53
FG2-65/250B	37	50	24 – 150	87 – 62
FG2-65/250A	45	60	24 – 156	95 – 68
FG2-80/160D	11	15	30 – 240	25 – 10
FG2-80/160C	15	20	30 – 240	30 – 15
FG2-80/160B	18.5	25	30 – 240	35 – 20
FG2-80/160A	22	30	30 – 240	40 – 25
FG2-80/200B	30	40	30 – 219	56 – 34.5
FG2-80/200A	37	50	30 – 234	62 – 40
FG2-80/250B	45	60	36 – 216	77 – 54
FG2-80/250A	55	75	36 – 234	88.5 – 60
FG2-100/160C	15	20	60 – 300	30 – 12
FG2-100/160B	18.5	25	60 – 312	34 – 14.5
FG2-100/160A	22	30	60 – 330	38 – 17.5
FG2-100/200C	30	40	48 – 279	51 – 28
FG2-100/200B	37	50	48 – 294	57 – 33
FG2-100/200A	45	60	48 – 315	63 – 38
FG2-100/250B	55	75	48 – 309	75 – 48
FG2-100/250A	75	100	48 – 345	89 – 58

Q = Flow rate

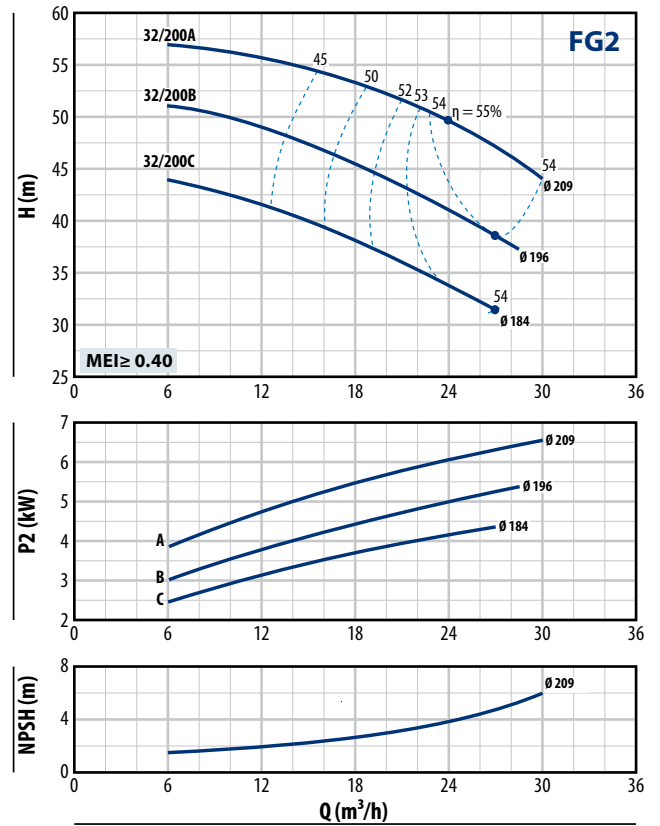
H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

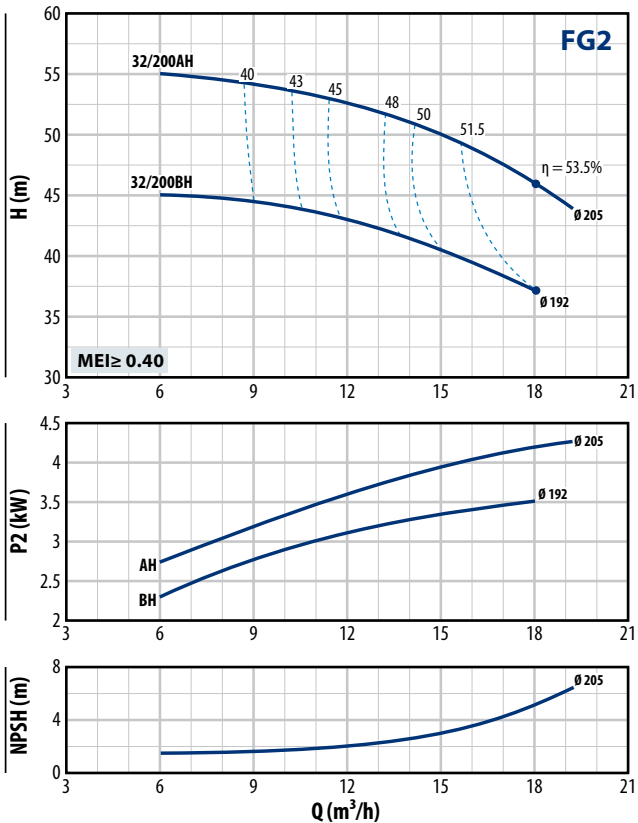
### FG2-32/160



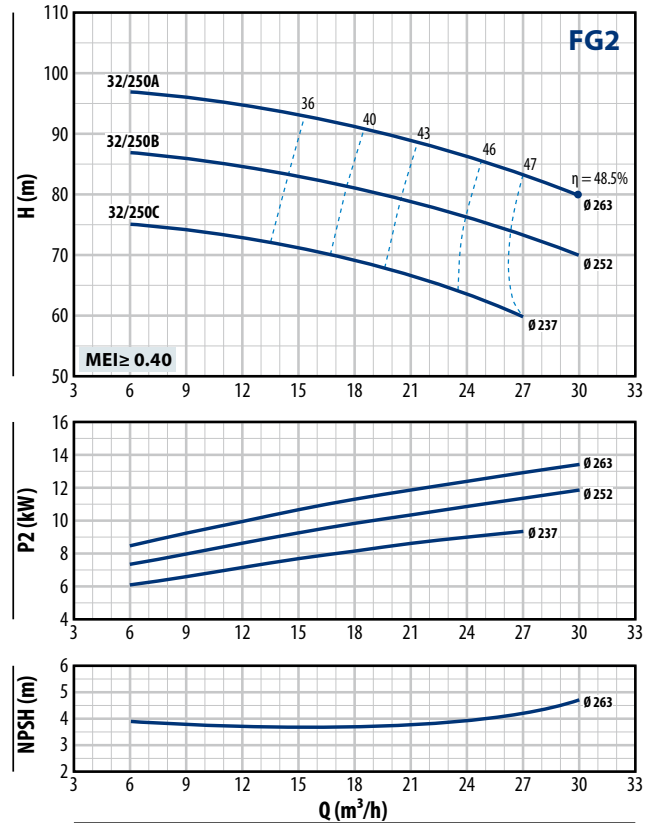
### FG2-32/200



### FG2-32/200H



### FG2-32/250

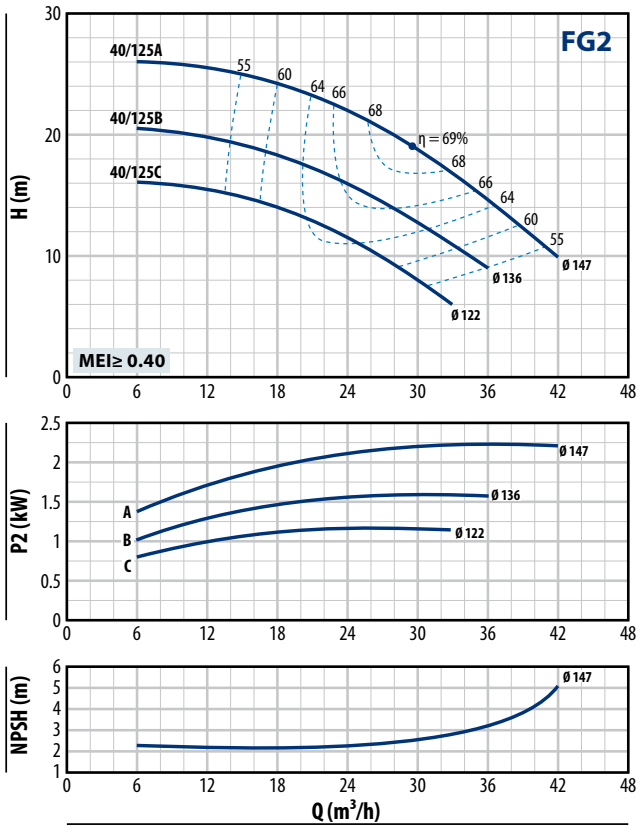




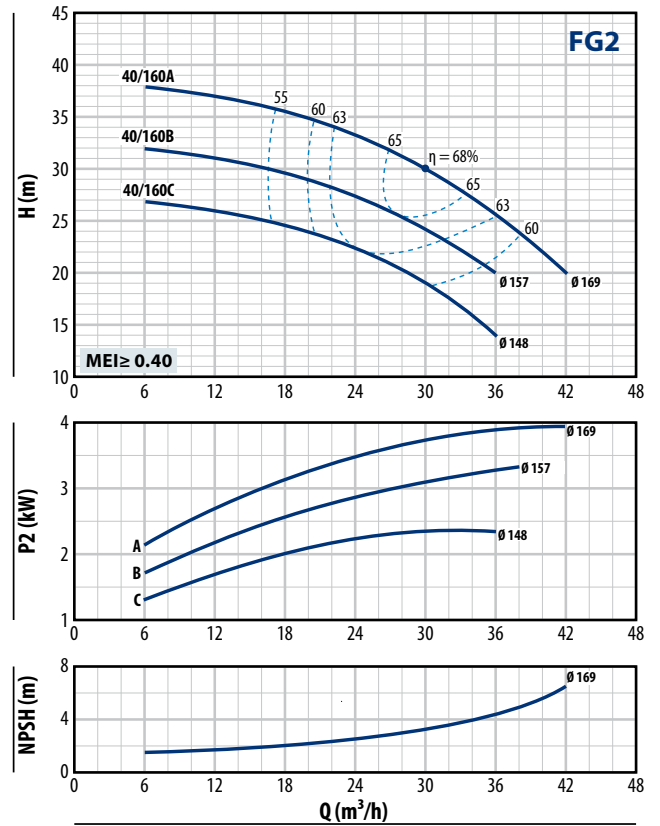
## CHARACTERISTIC CURVES

**n = 2900 min<sup>-1</sup>**

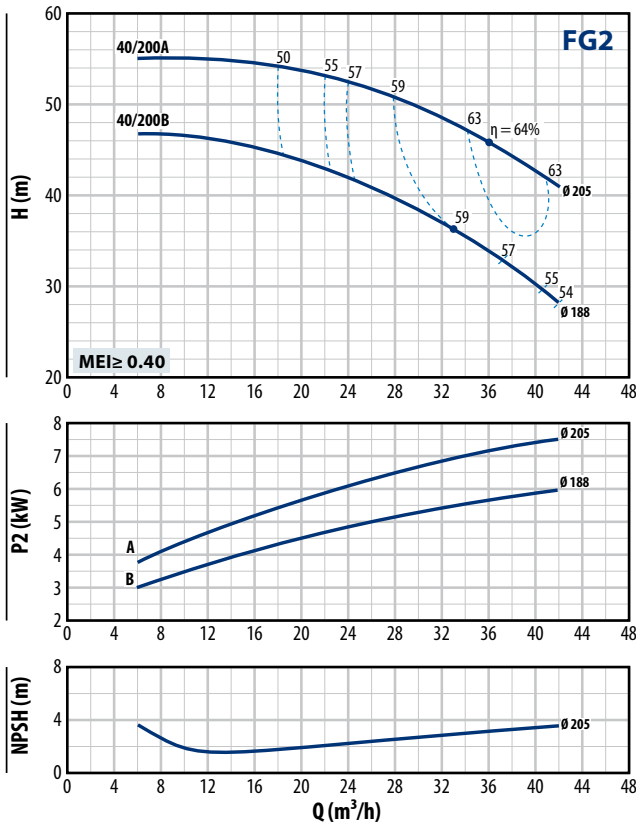
### FG2-40/125



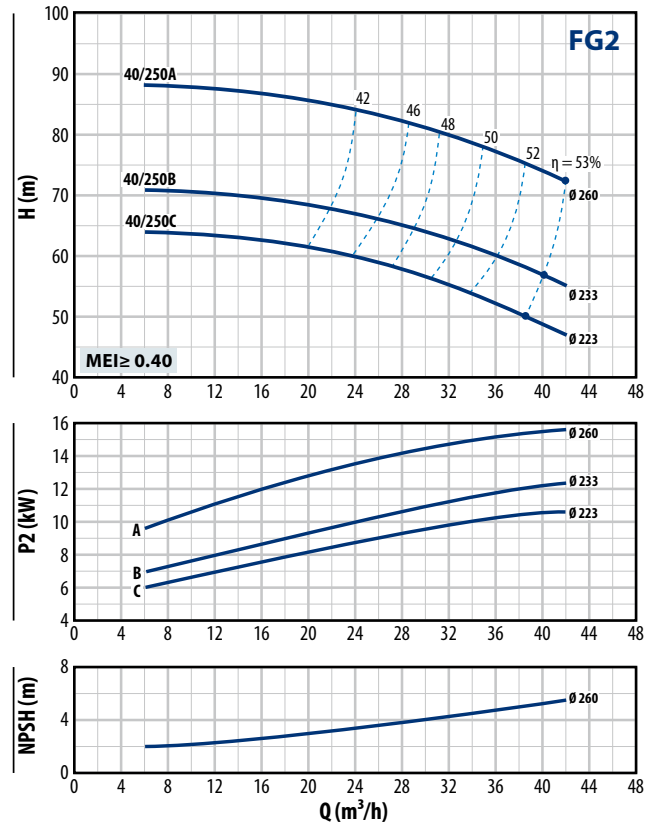
### FG2-40/160



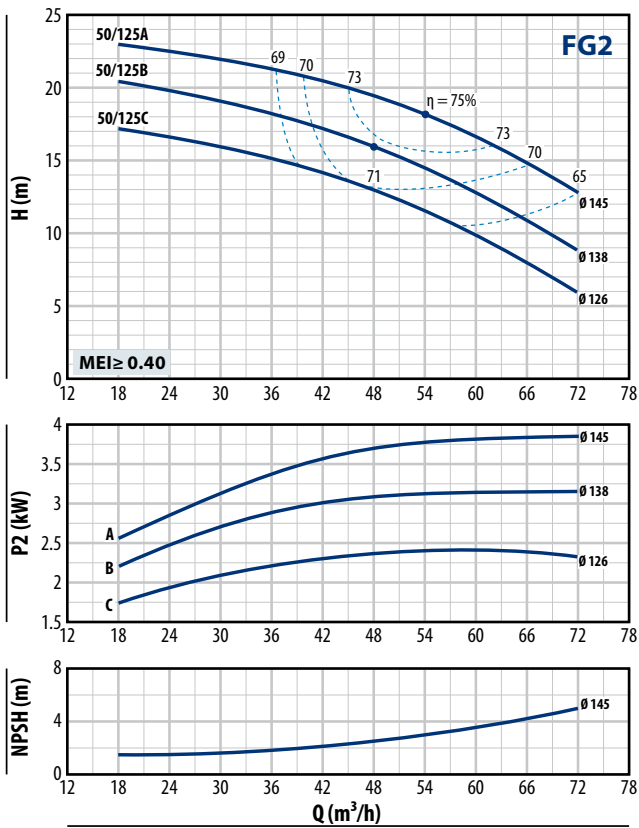
### FG2-40/200



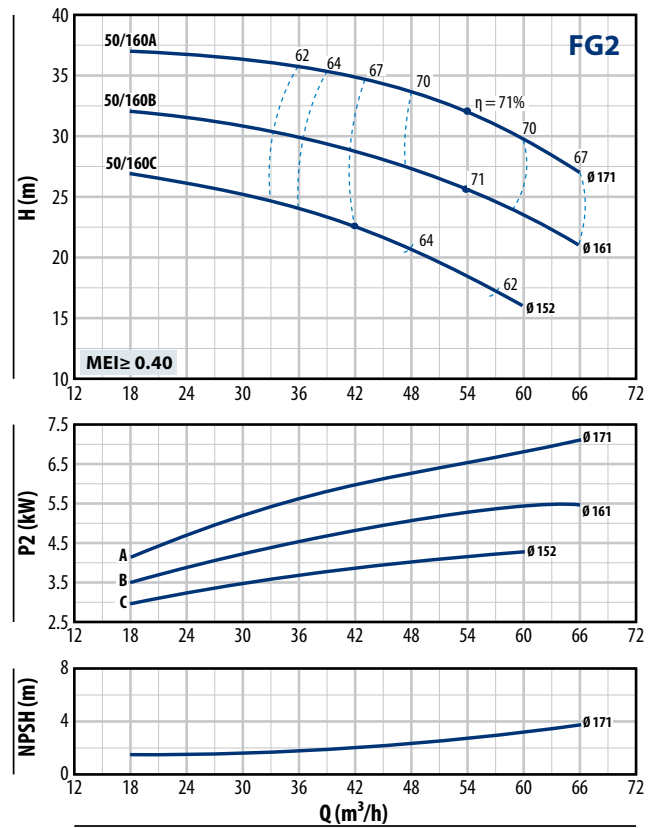
### FG2-40/250



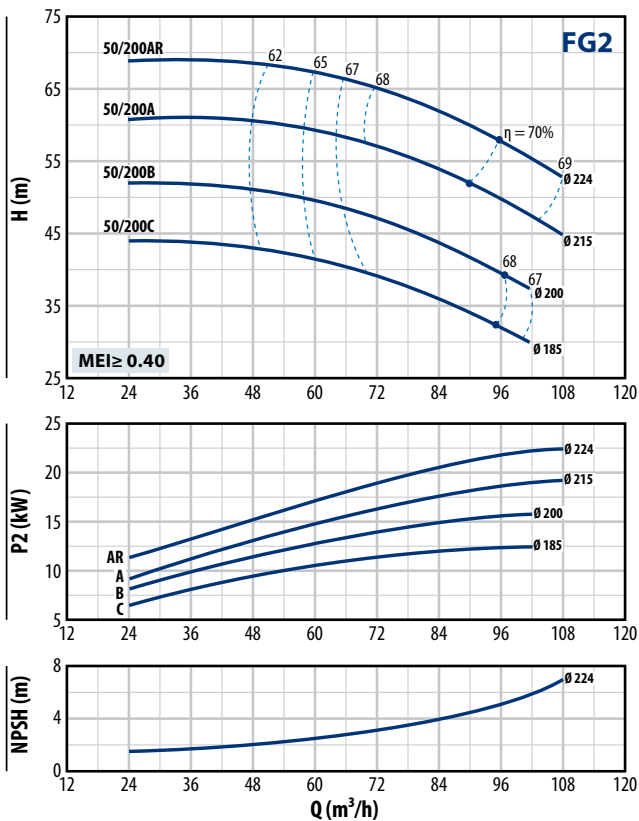
### FG2-50/125



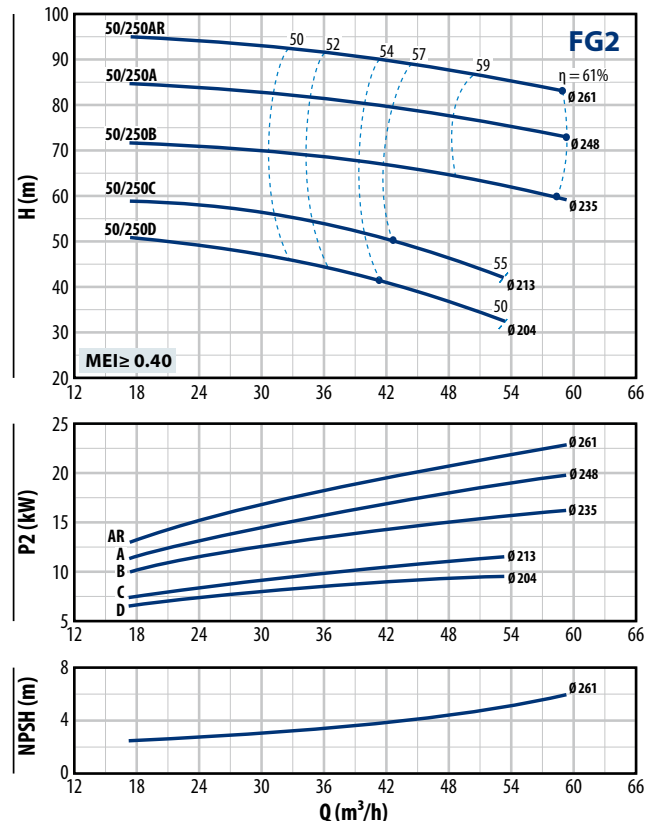
### FG2-50/160



### FG2-50/200



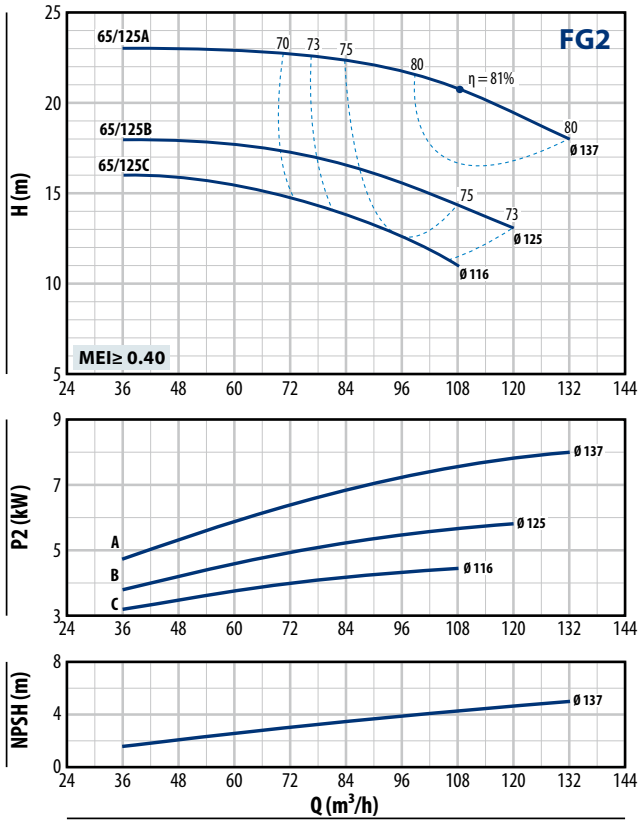
### FG2-50/250



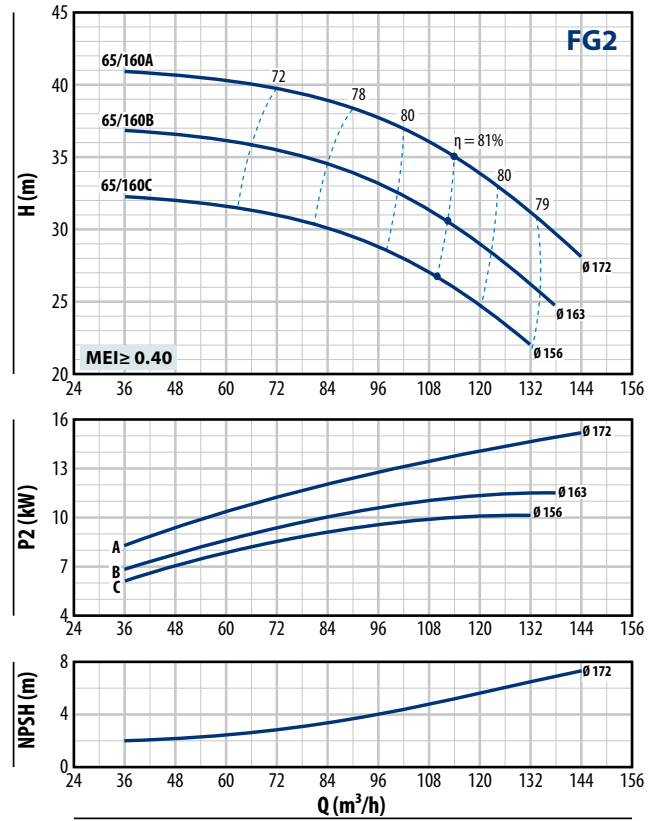
## CHARACTERISTIC CURVES

**n = 2900 min<sup>-1</sup>**

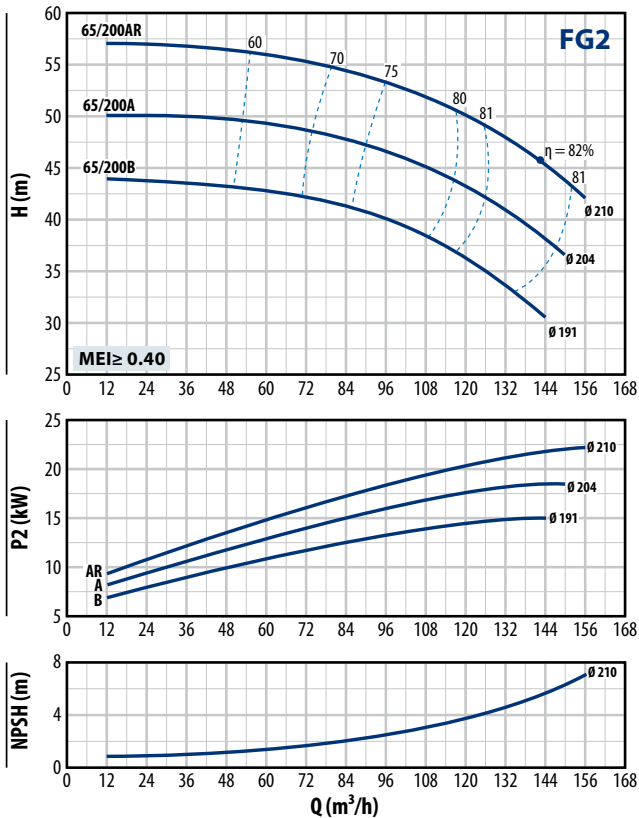
### FG2-65/125



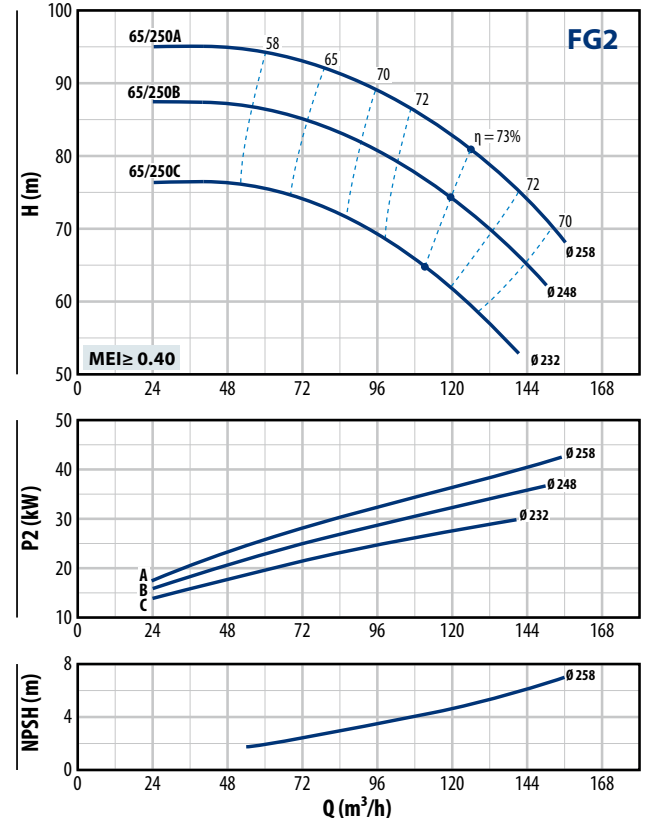
### FG2-65/160



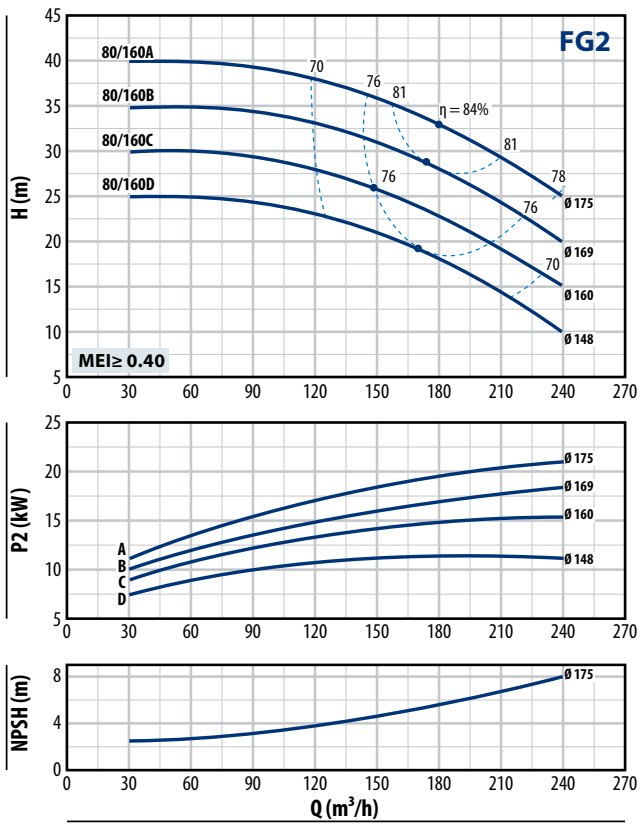
### FG2-65/200



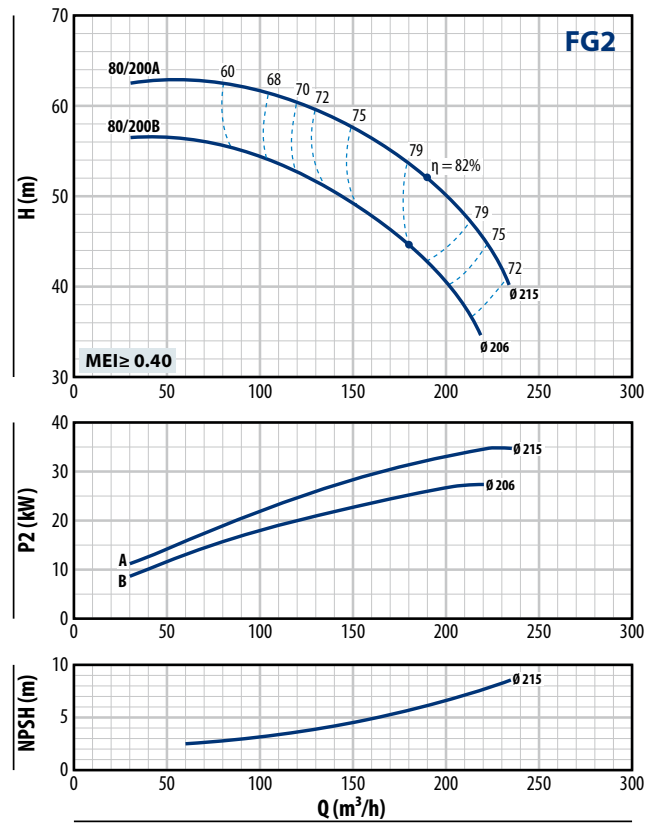
### FG2-65/250



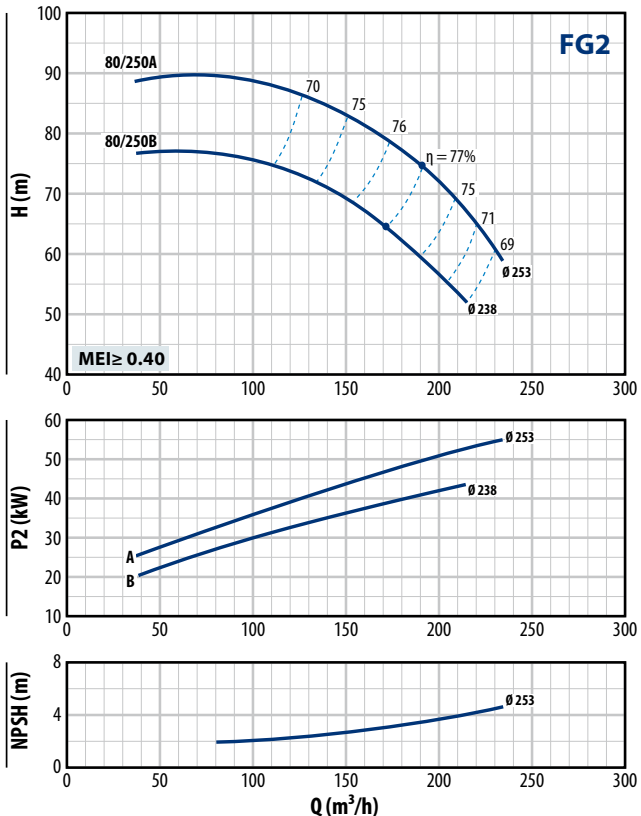
### FG2-80/160



### FG2-80/200



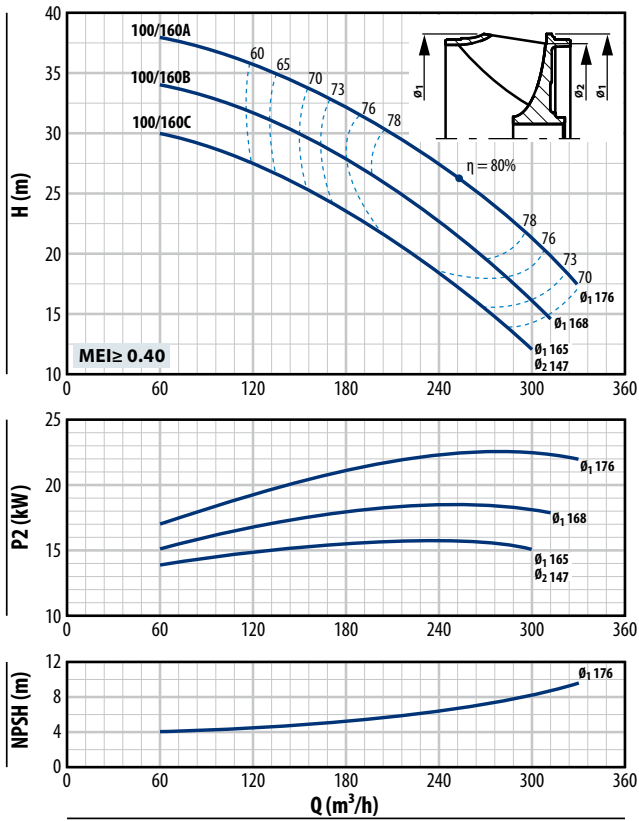
### FG2-80/250



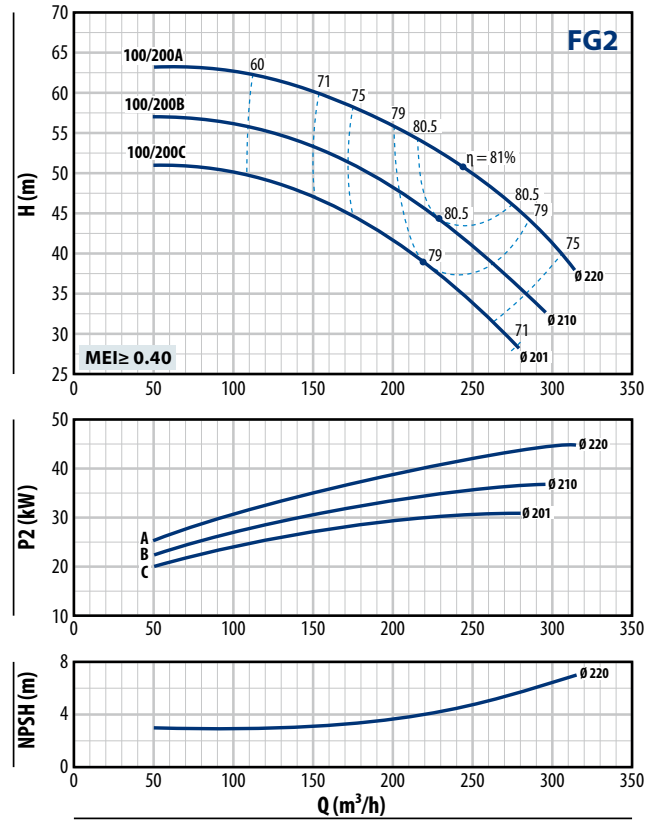
## CHARACTERISTIC CURVES

**n = 2900 min<sup>-1</sup>**

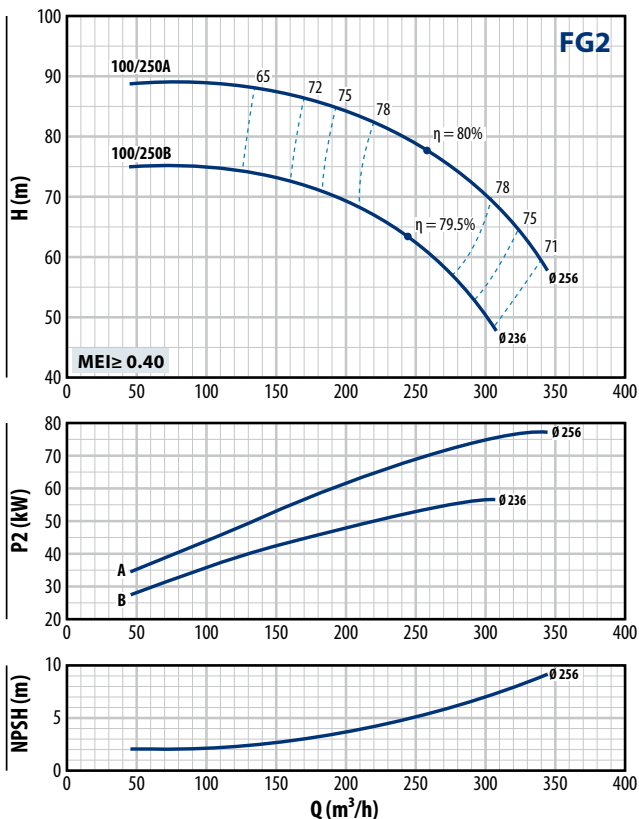
### FG2-100/160



### FG2-100/200

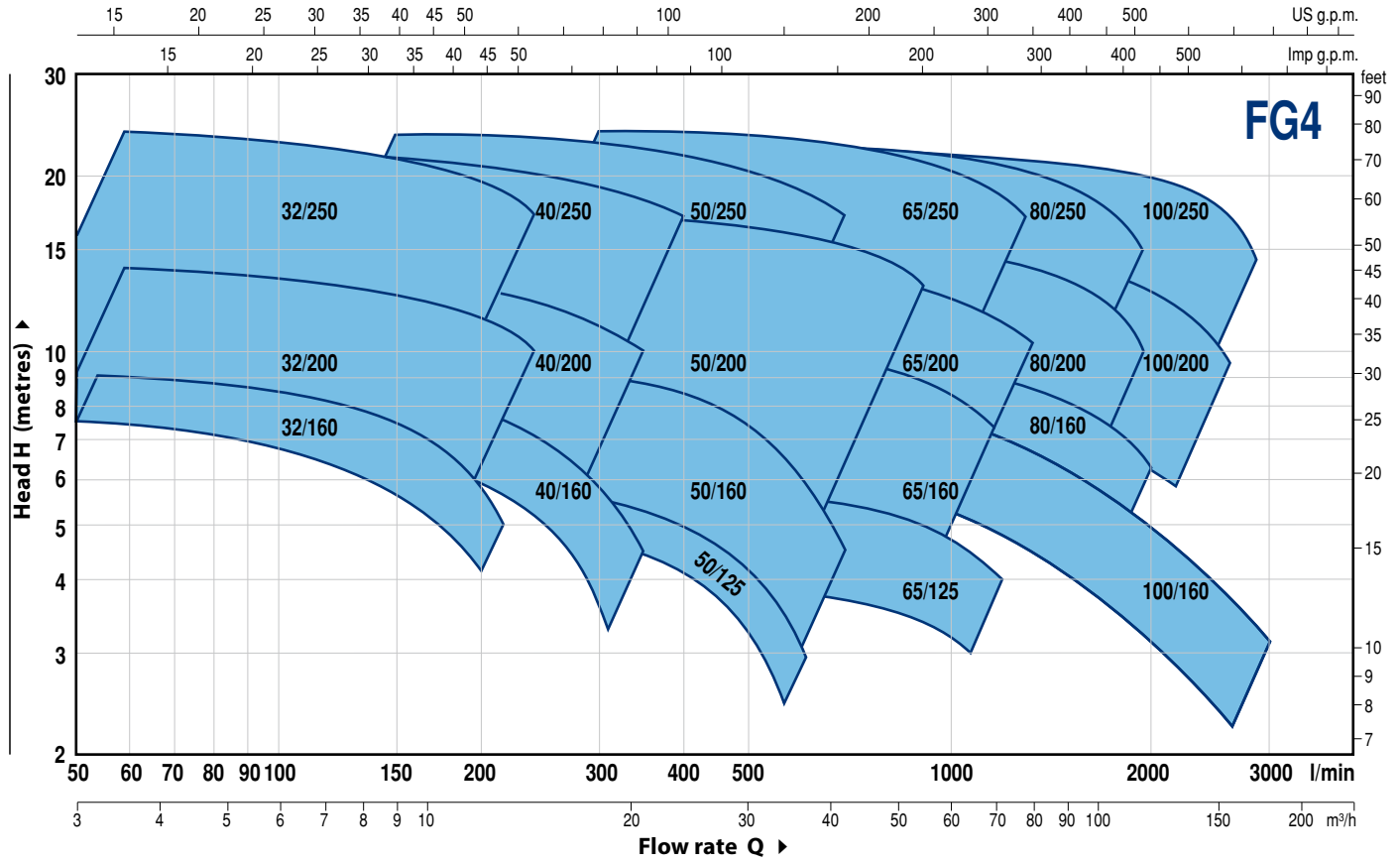


### FG2-100/250



## PERFORMANCE RANGE

n = 1450 min<sup>-1</sup>



## PERFORMANCE DATA

MODEL	MOTOR PAIRING		PERFORMANCE n = 1450 min <sup>-1</sup>	
	kW	HP	Q m <sup>3</sup> /h	H metres
FG4-32/160C	0.25	0.33	3 – 10.5	6 – 3.5
FG4-32/160B	0.37	0.5	3 – 12	7.5 – 4
FG4-32/160A	0.37	0.5	3 – 13.5	9 – 6
FG4-32/200C	0.55	0.75	3 – 13.5	11 – 8
FG4-32/200B	0.75	1	3 – 15	12.5 – 9
FG4-32/200A	1.1	1.5	3 – 15	14 – 11
FG4-32/200BH	0.55	0.75	3 – 9	11 – 9
FG4-32/200AH	0.55	0.75	3 – 9.6	13.8 – 11
FG4-32/250C	1.1	1.5	3 – 13.2	18.4 – 15
FG4-32/250B	1.5	2	3 – 15	21.7 – 17.4
FG4-32/250A	2.2	3	3 – 16.2	23.8 – 18.7
FG4-40/160C	0.37	0.5	3 – 18	6.5 – 3.5
FG4-40/160B	0.37	0.5	3 – 18	8 – 5
FG4-40/160A	0.55	0.75	3 – 21	9.5 – 5
FG4-40/200B	0.75	1	3 – 21	11.5 – 7
FG4-40/200A	1.1	1.5	3 – 21	13.5 – 10
FG4-40/250C	1.1	1.5	3 – 21	16 – 11.5
FG4-40/250B	1.5	2	3 – 21	17.5 – 13.5
FG4-40/250A	2.2	3	3 – 21	22 – 18
FG4-50/125C	0.37	0.5	9 – 36	4.3 – 1.5
FG4-50/125B	0.55	0.75	9 – 36	5.1 – 2.3
FG4-50/125A	0.55	0.75	9 – 36	5.8 – 3.2
FG4-50/160C	0.55	0.75	9 – 30	7 – 4
FG4-50/160B	0.75	1	9 – 33	8 – 5
FG4-50/160A	1.1	1.5	9 – 33	9 – 7
FG4-50/200C	1.5	2	12 – 51	11 – 7.5
FG4-50/200B	2.2	3	12 – 51	13 – 9.5
FG4-50/200A	2.2	3	12 – 54	15 – 11
FG4-50/200AR	3	4	12 – 54	17 – 13
FG4-50/250D	1.1	1.5	9 – 27	12.5 – 8
FG4-50/250C	1.5	2	9 – 27	14.5 – 10.5
FG4-50/250B	2.2	3	9 – 30	18 – 14.5
FG4-50/250A	2.2	3	9 – 30	21 – 18
FG4-50/250AR	3	4	9 – 30	24 – 21

MODEL	MOTOR PAIRING		PERFORMANCE n = 1450 min <sup>-1</sup>	
	kW	HP	Q m <sup>3</sup> /h	H metres
FG4-65/125C	0.55	0.75	18 – 54	4 – 2.7
FG4-65/125B	0.75	1	18 – 60	4.5 – 3.2
FG4-65/125A	1.1	1.5	18 – 66	5.8 – 4.5
FG4-65/160C	1.1	1.5	18 – 66	8 – 5.5
FG4-65/160B	1.5	2	18 – 72	9 – 5.5
FG4-65/160A	2.2	3	18 – 72	10 – 7
FG4-65/200B	2.2	3	6 – 72	10.5 – 7.3
FG4-65/200A	2.2	3	6 – 75	12 – 8.5
FG4-65/200AR	3	4	6 – 78	14 – 10
FG4-65/250C	3	4	12 – 70.5	19 – 13
FG4-65/250B	4	5.5	12 – 75	21.5 – 15.5
FG4-65/250A	5.5	7.5	12 – 78	23.5 – 17
FG4-80/160D	1.5	2	15 – 120	6 – 2.5
FG4-80/160C	2.2	3	15 – 120	7.5 – 3.5
FG4-80/160B	2.2	3	15 – 120	8.5 – 5
FG4-80/160A	3	4	15 – 120	10 – 6
FG4-80/200B	4	5.5	15 – 109.5	14 – 8.5
FG4-80/200A	5.5	7.5	15 – 117	15.5 – 10
FG4-80/250B	5.5	7.5	18 – 108	19 – 13.5
FG4-80/250A	7.5	10	18 – 117	22 – 15
FG4-100/160C	2.2	3	24 – 144	7.5 – 3
FG4-100/160B	2.2	3	24 – 156	8.3 – 3.5
FG4-100/160A	3	4	24 – 168	9.5 – 3.8
FG4-100/200C	4	5.5	24 – 139.5	12.5 – 7
FG4-100/200B	5.5	7.5	24 – 147	14 – 8
FG4-100/200A	5.5	7.5	24 – 157.5	15.5 – 9.5
FG4-100/250B	7.5	10	24 – 154.5	18.5 – 12
FG4-100/250A	9.2	12.5	24 – 172.5	22 – 14.5

Q = Flow rate

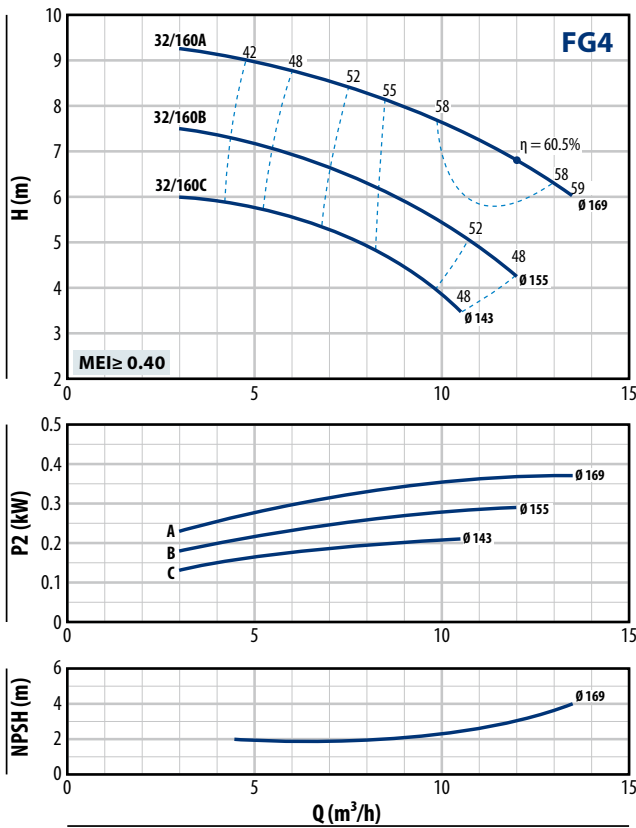
H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

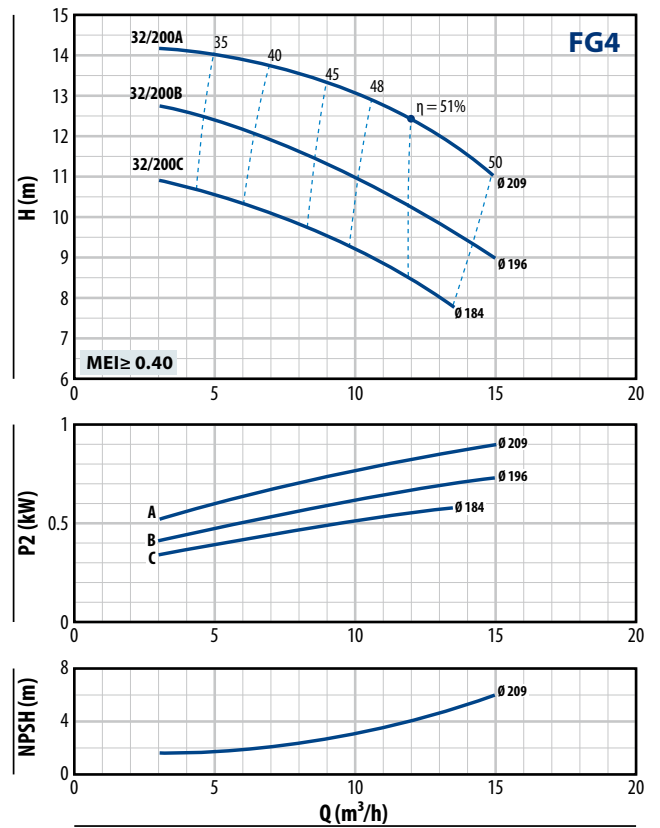
## CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

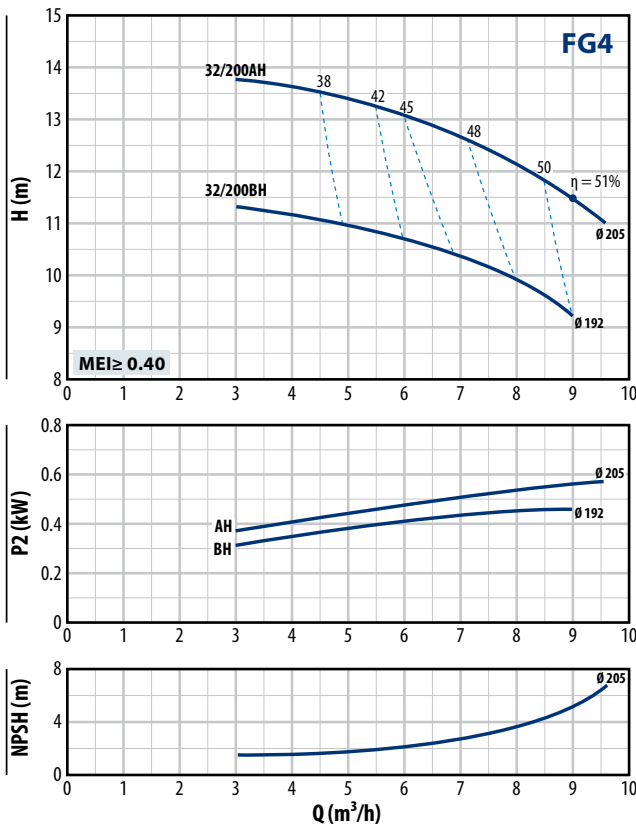
### FG4-32/160



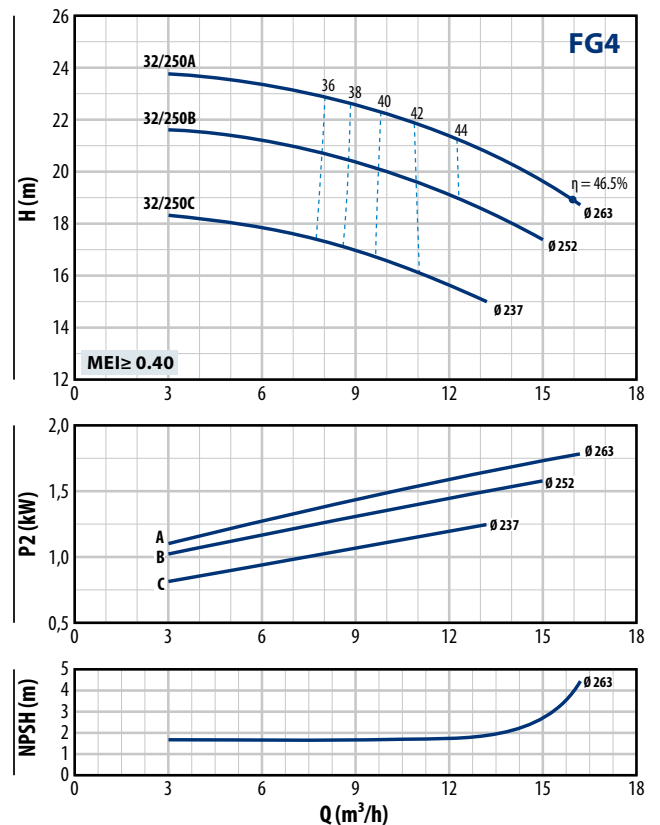
### FG4-32/200



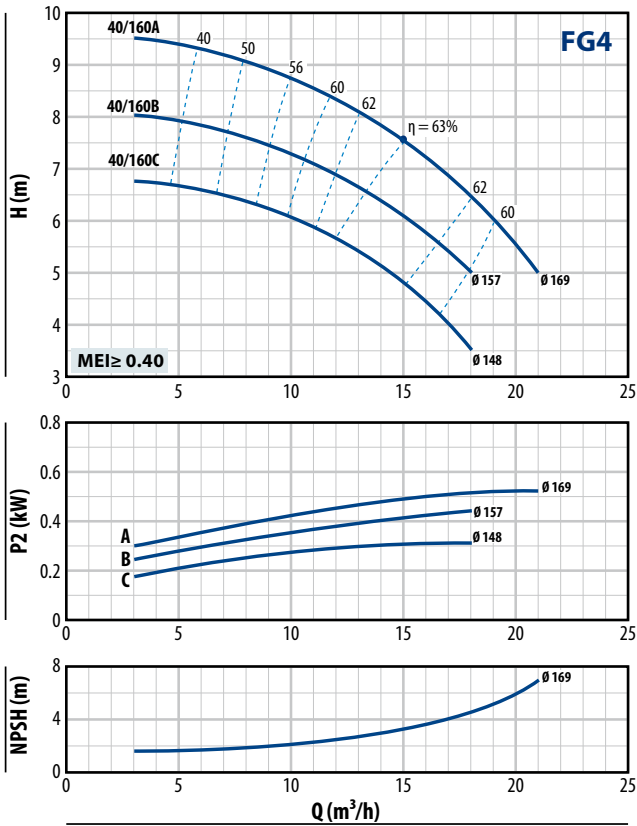
### FG4-32/200H



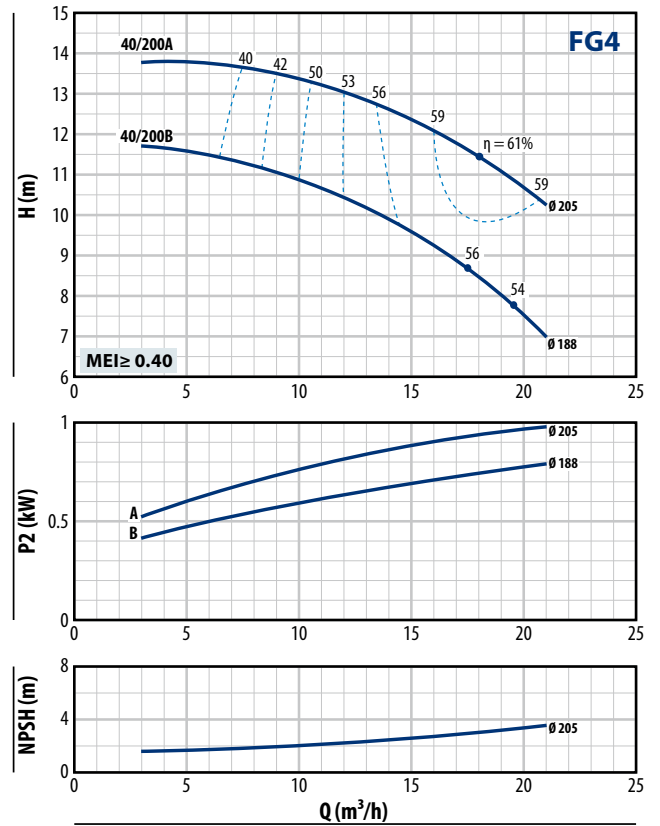
### FG4-32/250



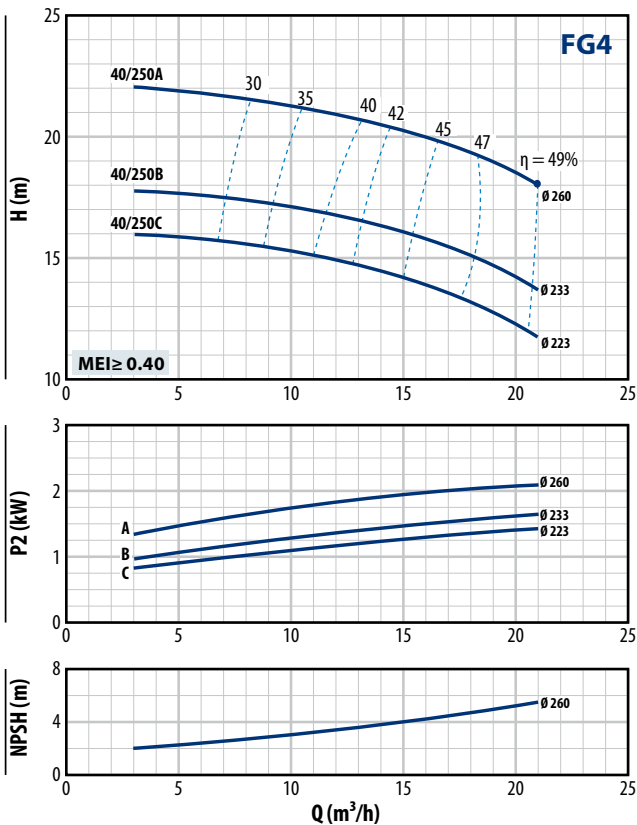
### FG4-40/160



### FG4-40/200



### FG4-40/250

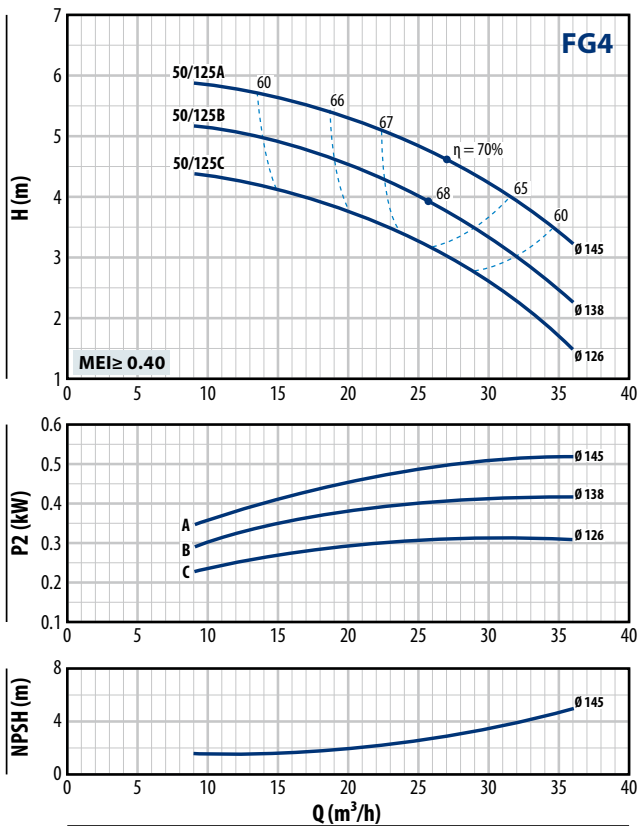




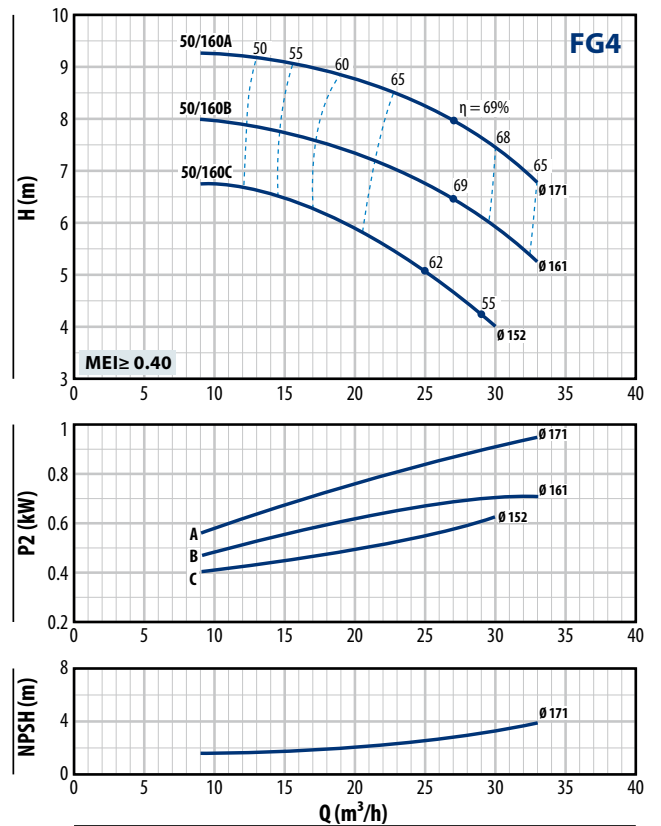
## CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

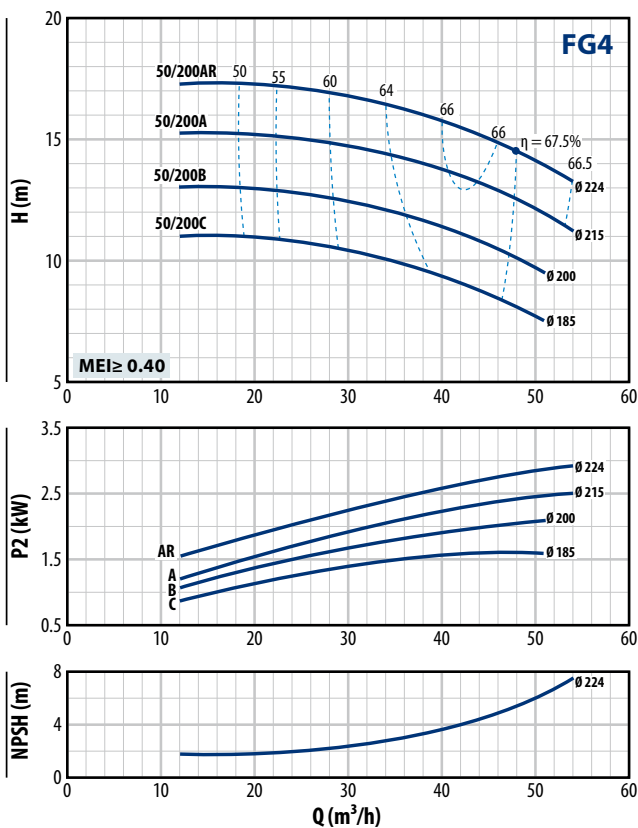
### FG4-50/125



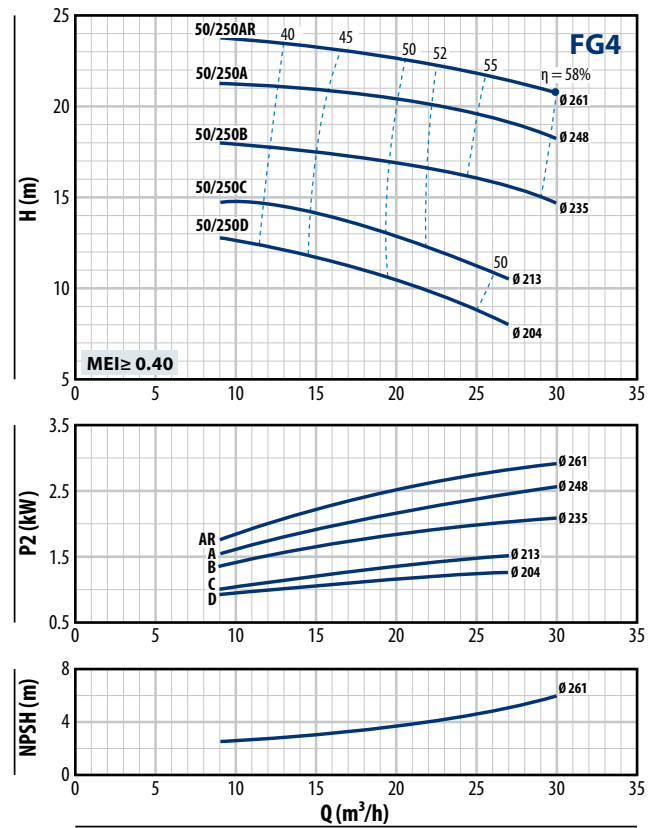
### FG4-50/160



### FG4-50/200



### FG4-50/250

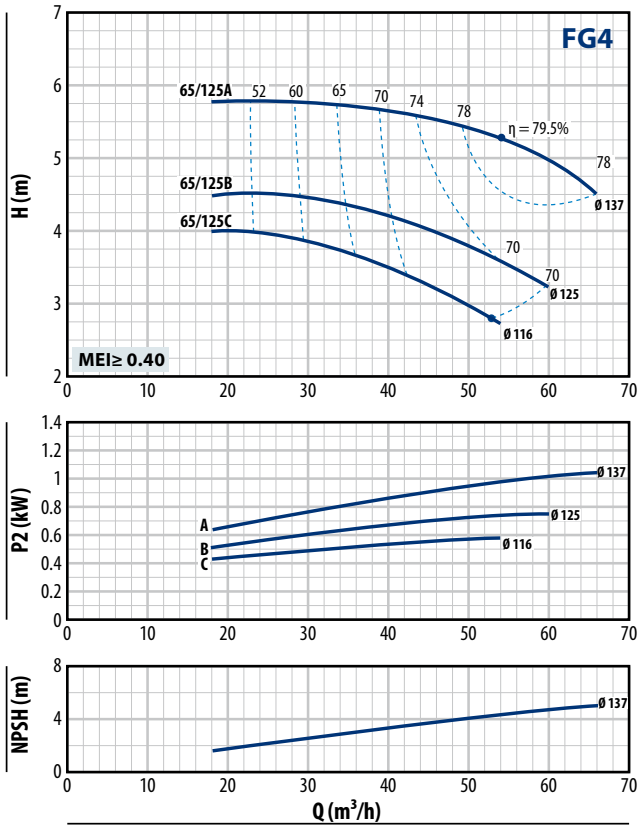


# FG4

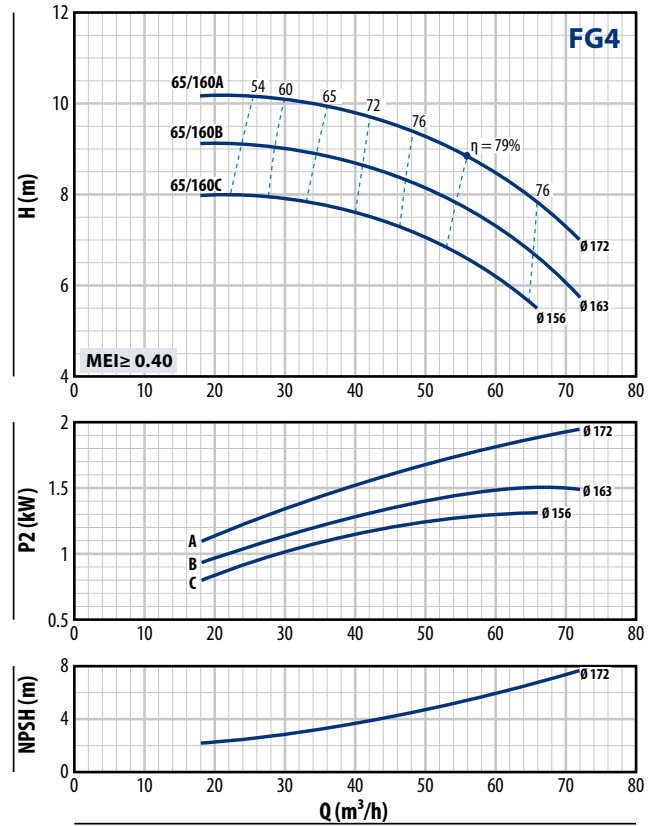
## CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

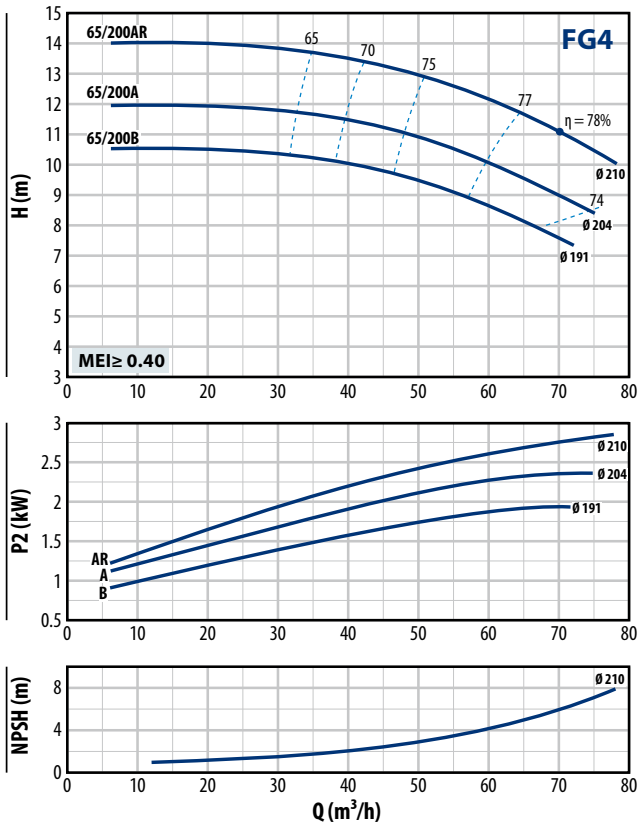
### FG4-65/125



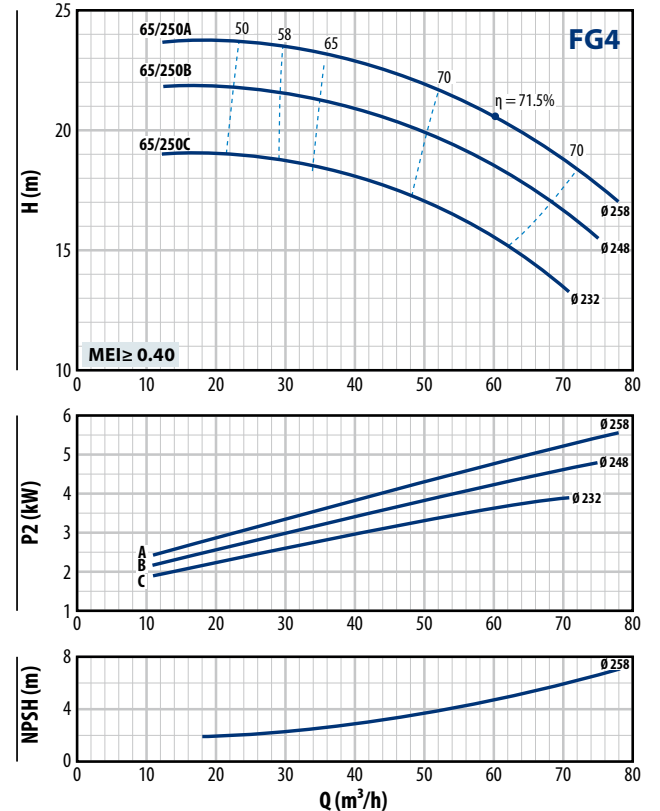
### FG4-65/160



### FG4-65/200



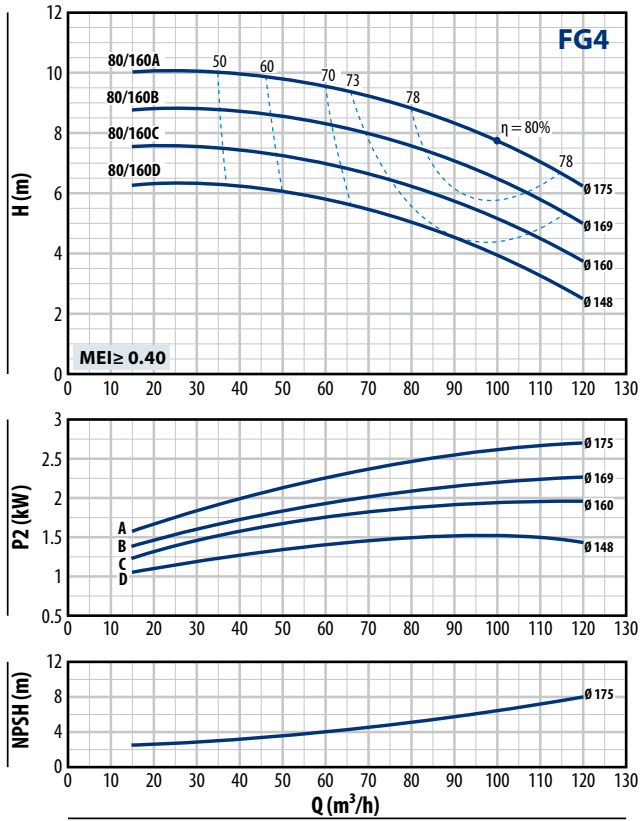
### FG4-65/250



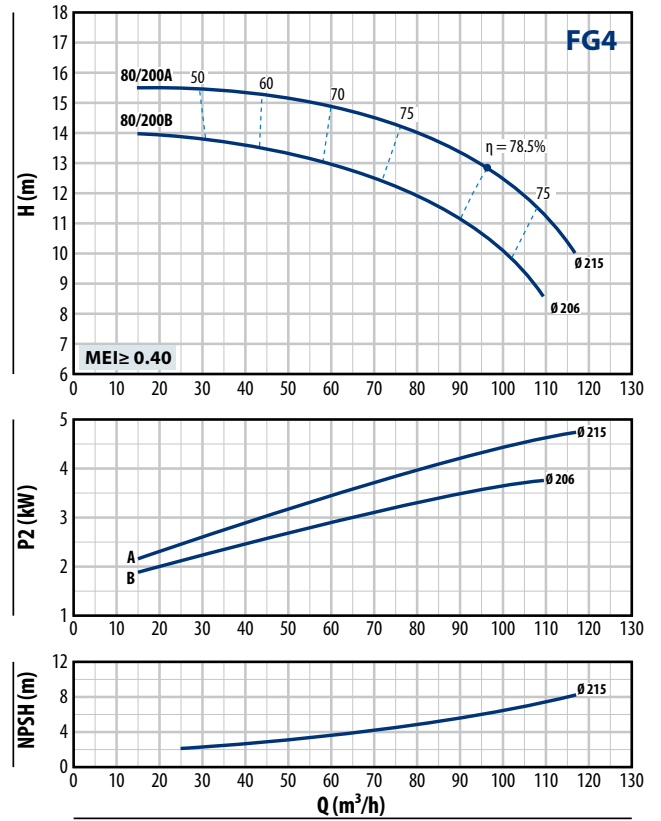
## CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

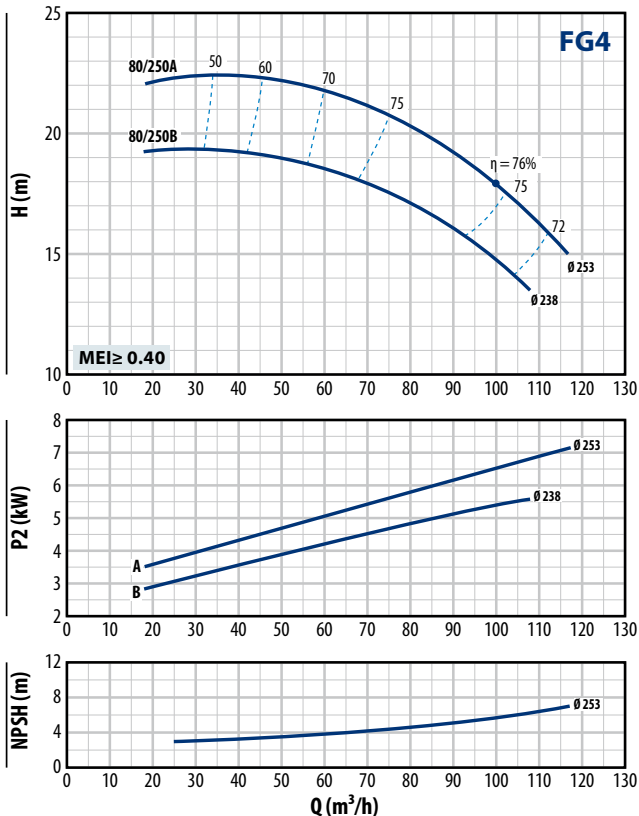
### FG4-80/160



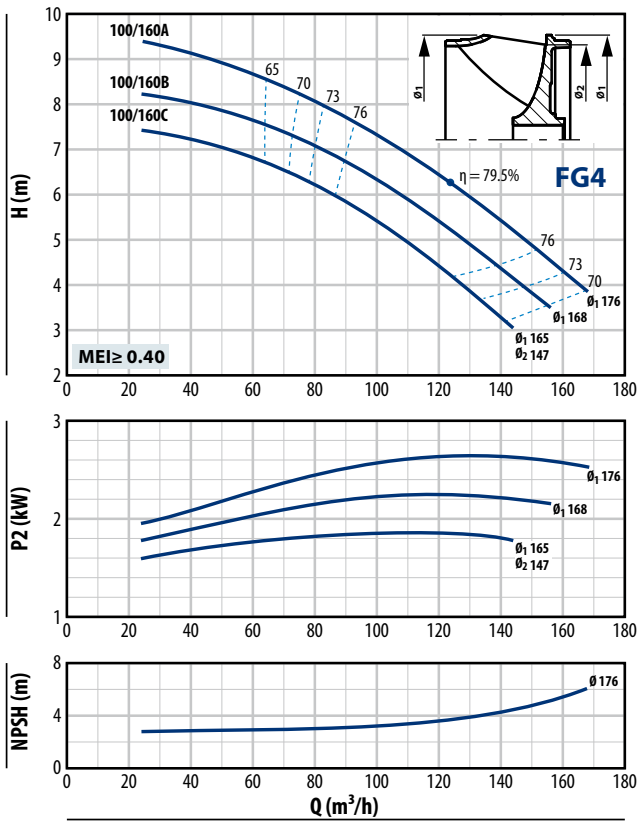
### FG4-80/200



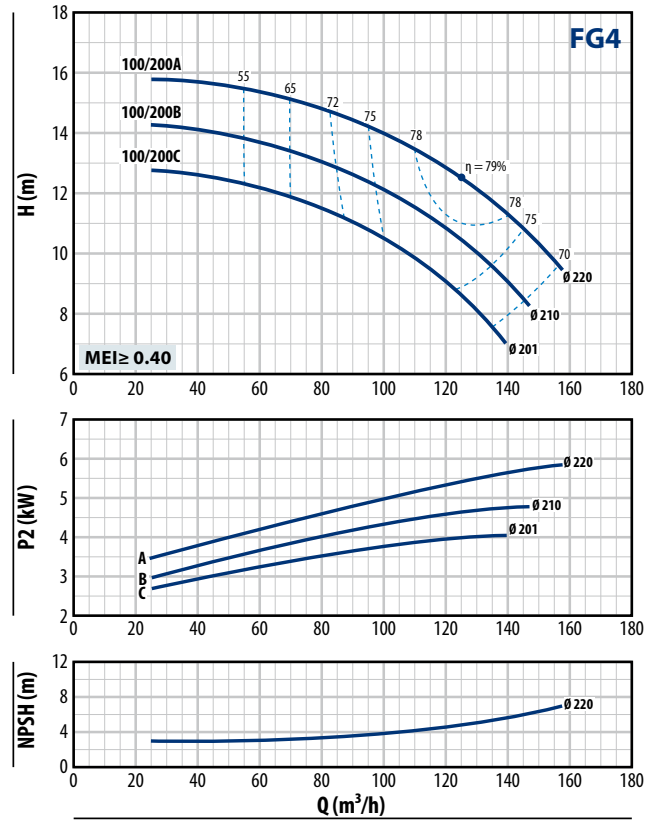
### FG4-80/250



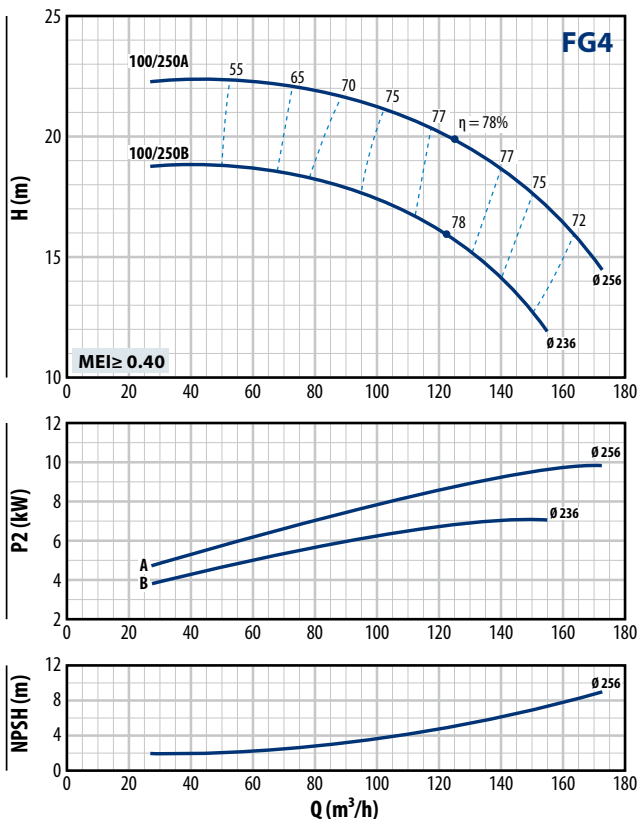
### FG4-100/160



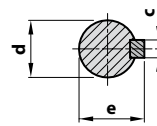
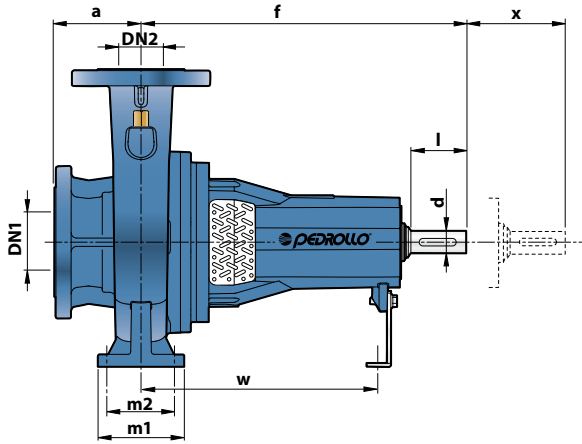
### FG4-100/200



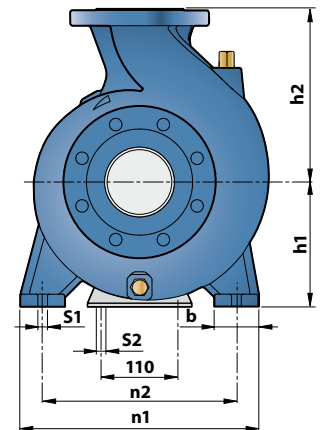
### FG4-100/250



## DIMENSIONS AND WEIGHT

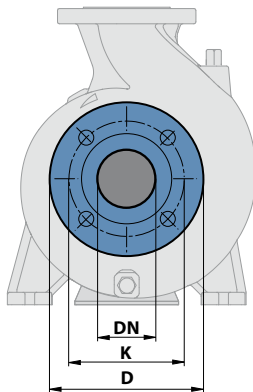


SHAFT mm		
d	c	e
24 k6	8	27
32 k6	10	35



MODEL	DIMENSIONS mm																kg							
	DN1	DN2	a	f	h1	h2	b	m1	m2	n1	n2	s1	s2	w	x	d		l						
FG 32/160	50	32	80	360	132	160	55	96	71	240	190	14	14	260	100	24	50	33.0						
FG 32/200					160	180	55	95											320	250	59.0			
FG 32/200H					160	180	55	125											95	320	250	36.8		
FG 32/250	65	40	80	360	180	225	65	125	95	320	250	14	14	260	100	24	50	53.0						
FG 40/125					112	140	50	100	70	210	160								34.0					
FG 40/160					132	160	55	100	70	240	190								35.0					
FG 40/200	65	40	80	360	160	180	55	125	95	320	250	14	14	260	100	24	50	40.0						
FG 40/250					180	225	65	100	70	240	190								59.0					
FG 50/125					132	160	50	100	70	240	190								33.0					
FG 50/160	65	50	100	360	160	180	55	100	70	265	212	14	14	260	100	24	50	38.3						
FG 50/200					160	200	50	100	70	265	212								50.3					
FG 50/250					180	225	65	125	95	320	250								57.0					
FG 65/125	80	65	100	360	160	180	65	125	95	280	212	14	14	260	100	24	50	45.0						
FG 65/160					160	200	65	125	95	320	250								48.0					
FG 65/200					180	225	65	125	95	320	250								55.0					
FG 65/250	100	80	125	360	470	200	250	80	160	120	360	280	18	340	140	32	80	83.0						
FG 80/160					360	180	225	65	125	95	320	250	14						260	24	50	53.0		
FG 80/200					470	180	250	65	125	95	345	280	14						340	32	80	75.0		
FG 80/250	100	80	125	360	200	280	80	160	120	400	315	18	18	260	140	24	50	93.0						
FG 100/160					360	200	280	80	160	120	360								280	18	340	24	50	94.0
FG 100/200					200	280	80	160	120	360	280								18	340	32	80	87.0	
FG 100/250	125	100	140	470	225	280	80	160	120	400	315	18	18	340	140	32	80	104.0						

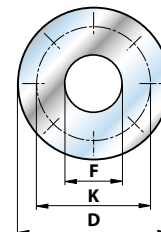
## FLANGED PORTS



DN FLANGES mm	D mm	K mm	HOLES	
			N°	Ø (mm)
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160		
100	220	180	8	18
125	250	210		

## COUNTER FLANGES

(CAN BE ORDERED SEPARATELY)



DN FLANGES mm	F COUNTERFLANGES	D mm	K mm	HOLES	
				N°	Ø (mm)
32	1 1/4"	140	100	4	18
40	1 1/2"	150	110		
50	2"	165	125		
65	2 1/2"	185	145		
80	3"	200	160		
100	4"	220	180	8	18
125	5"	250	210		

## Standardised “EN 733” centrifugal pumps

 Clean water

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **3000 l/min** (180 m<sup>3</sup>/h)
- Head up to **24 m**

### APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+90 °C**
- Ambient temperature between **-10 °C** and **+40 °C**
- Max. pressure in pump body **10 bar** (PN10)
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



Pump body dimensions in compliance with **EN 733**

**EU REGULATION N. 547/2012**

### INSTALLATION AND USE

- Water supply
- Pressure boosting
- Irrigation
- Water circulation in air-conditioning units
- Cleaning sets
- Firefighting sets
- Industrial applications
- Agricultural applications

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### OPTIONS AVAILABLE ON REQUEST

- Counter flange KIT complete with bolts, nuts and washers
- Other voltages or 60 Hz frequency
- Compatibility with hotter or colder liquids
- Compatibility with hotter or colder environments

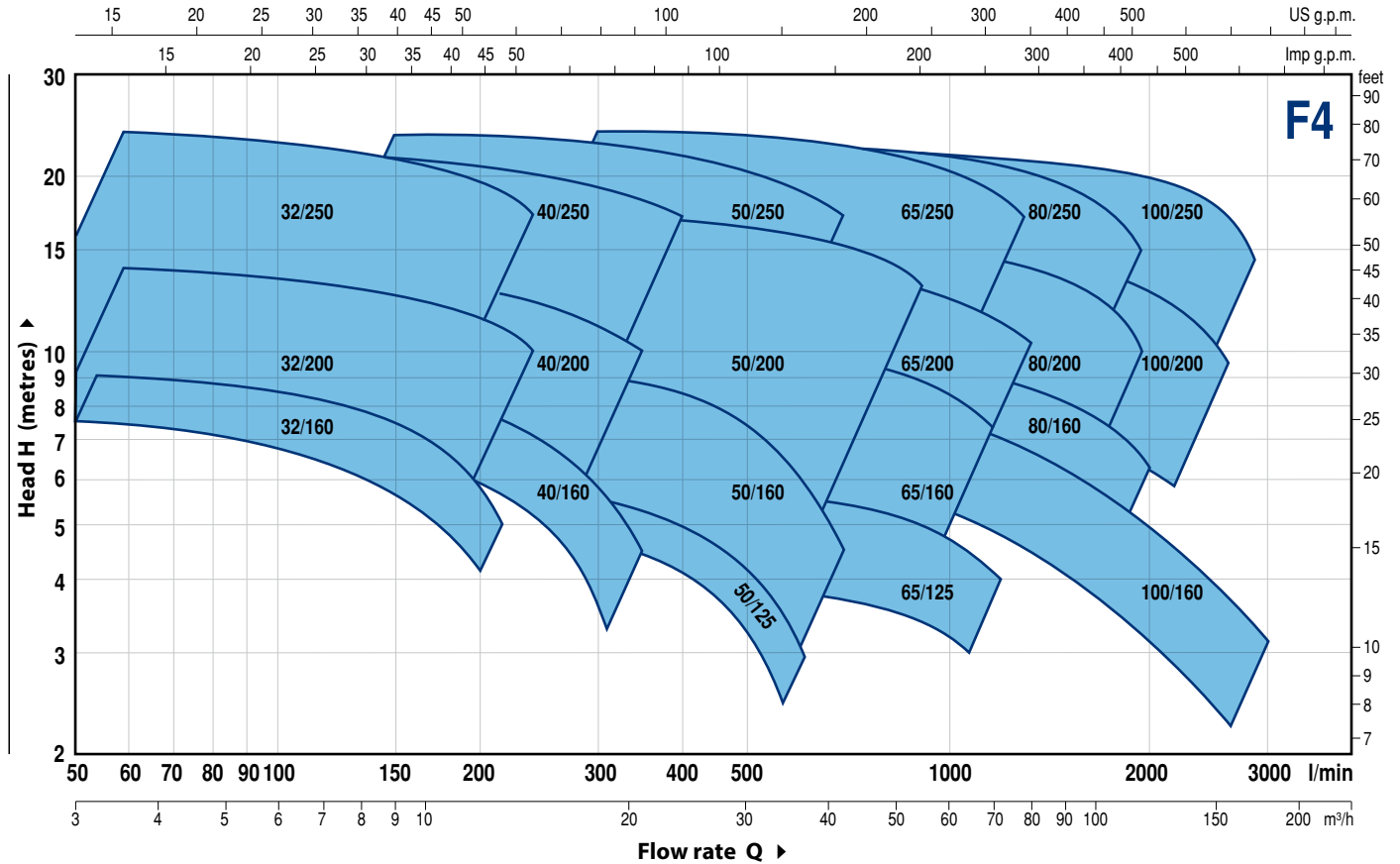
### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



## PERFORMANCE RANGE

50 Hz n = 1450 min<sup>-1</sup>



## PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup>

MODEL	POWER (P <sub>2</sub> )			PERFORMANCE	
	Three-phase	kW	HP ▲	Q l/min	H metres
F4-32/160B	0.37	0.5	IE2	50 – 200	7.5 – 4.5
F4-32/160A	0.37	0.5		50 – 225	9 – 5
F4-32/200B	0.75	1	IE3	50 – 250	12.5 – 9
F4-32/200A	1.1	1.5		50 – 250	14 – 10.5
F4-32/200BH	0.75	1	IE3	50 – 150	11.3 – 9.2
F4-32/200AH	0.75	1		50 – 160	13.8 – 11
F4-32/250C	1.1	1.5	IE3	50 – 220	18.4 – 15
F4-32/250B	1.5	2		50 – 250	21.7 – 17.4
F4-32/250A	2.2	3		50 – 270	23.8 – 18.7
F4-40/160B	0.37	0.5	IE2	50 – 320	7.5 – 3.5
F4-40/160A	0.55	0.75		50 – 350	9 – 4.5
F4-40/200B	0.75	1	IE3	50 – 350	11.5 – 7
F4-40/200A	1.1	1.5		50 – 350	13.8 – 10
F4-40/250C	1.1	1.5	IE3	50 – 400	15.5 – 10
F4-40/250B	1.5	2		50 – 400	17.5 – 12
F4-40/250A	2.2	3		50 – 400	22 – 17
F4-50/125B	0.55	0.75	IE2	150 – 600	5 – 2
F4-50/125A	0.55	0.75		150 – 600	6 – 3
F4-50/160B	0.75	1	IE3	150 – 650	8 – 3.8
F4-50/160A	1.1	1.5		150 – 700	9.3 – 4.5
F4-50/200C	1.5	2	IE3	200 – 850	11 – 7.5
F4-50/200B	2.2	3		200 – 850	13 – 9.5
F4-50/200A	2.2	3		200 – 900	15 – 11.2
F4-50/200AR	3	4	IE3	200 – 900	17 – 13.2
F4-50/250D	1.1	1.5		150 – 650	12.5 – 5
F4-50/250C	1.5	2		150 – 700	14 – 5
F4-50/250B	2.2	3	IE3	150 – 700	18 – 10.5
F4-50/250A	2.2	3		150 – 700	20 – 13
F4-50/250AR	3	4		150 – 700	23.5 – 17

MODEL	POWER (P <sub>2</sub> )			PERFORMANCE	
	Three-phase	kW	HP ▲	Q l/min	H metres
F4-65/125B	0.75	1	IE3	300 – 1100	4.7 – 3
F4-65/125A	1.1	1.5		300 – 1200	5.7 – 4
F4-65/160C	1.1	1.5	IE3	300 – 1100	7.5 – 5.5
F4-65/160B	1.5	2		300 – 1200	9.1 – 5.7
F4-65/160A	2.2	3	IE3	300 – 1200	10.1 – 7
F4-65/200A	2.2	3		300 – 1250	12 – 8.5
F4-65/200AR	3	4	IE3	300 – 1300	14 – 10
F4-65/250B	4	5.5		200 – 1250	21.8 – 15.5
F4-65/250A	5.5	7.5	IE3	200 – 1300	23.5 – 17
F4-80/160D	1.5	2		300 – 2000	6.3 – 2.5
F4-80/160C	2.2	3	IE3	300 – 2000	7.5 – 3.8
F4-80/160B	2.2	3		300 – 2000	8.8 – 5
F4-80/160A	3	4	IE3	300 – 2000	10 – 6.2
F4-80/200B	4	5.5		300 – 1800	14 – 9
F4-80/200A	5.5	7.5	IE3	300 – 1900	15.5 – 10.5
F4-80/250B	5.5	7.5		300 – 1800	19.5 – 13.5
F4-80/250A	7.5	10	IE3	300 – 1950	22 – 15
F4-100/160B	2.2	3		400 – 2600	8.3 – 3.5
F4-100/160A	3	4	IE3	400 – 2800	10 – 4.7
F4-100/200C	4	5.5		400 – 2300	12.7 – 7
F4-100/200B	5.5	7.5	IE3	400 – 2400	14.2 – 8.5
F4-100/200A	5.5	7.5		400 – 2600	15.8 – 9.5
F4-100/250B	7.5	10	IE3	400 – 2600	18.5 – 11.5
F4-100/250A	9.2	12.5		400 – 2900	22 – 13.5

Q = Flow rate

H = Total manometric head

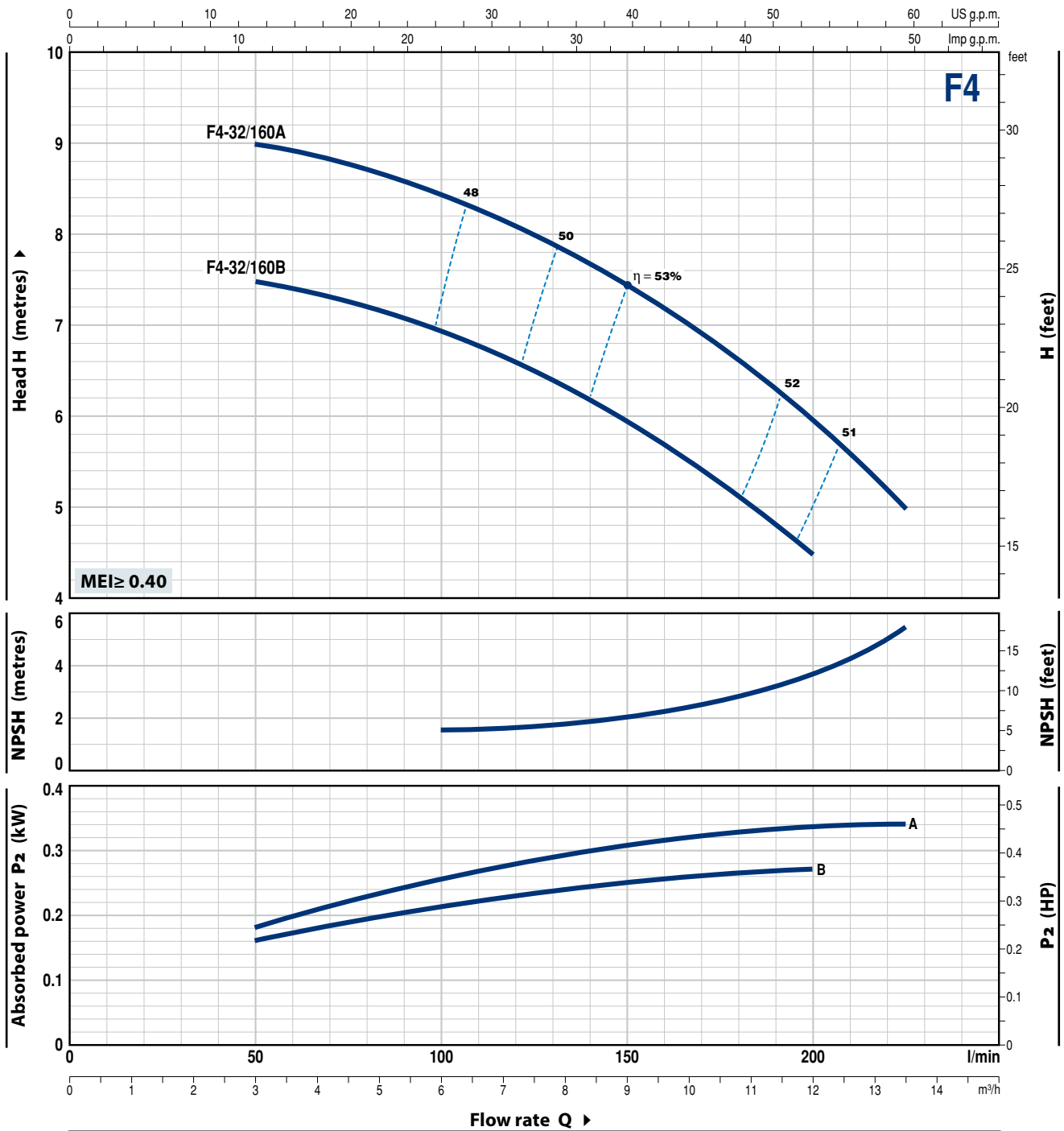
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

▲ Three-phase motor efficiency class (IEC 60034-30-1)

# F4-32/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER ( $P_2$ )		Q	Flow rate Q										
	kW	HP		m <sup>3</sup> /h	3	4.5	6	7.5	9	10.8	12	13.5		
Three-phase			l/min	50	75	100	125	150	180	200	225			
F4-32/160B	0.37	0.5	H metres	7.5	7.3	6.9	6.5	6	5.1	4.5				
F4-32/160A	0.37	0.5		9	8.8	8.4	8	7.5	6.6	6	5			

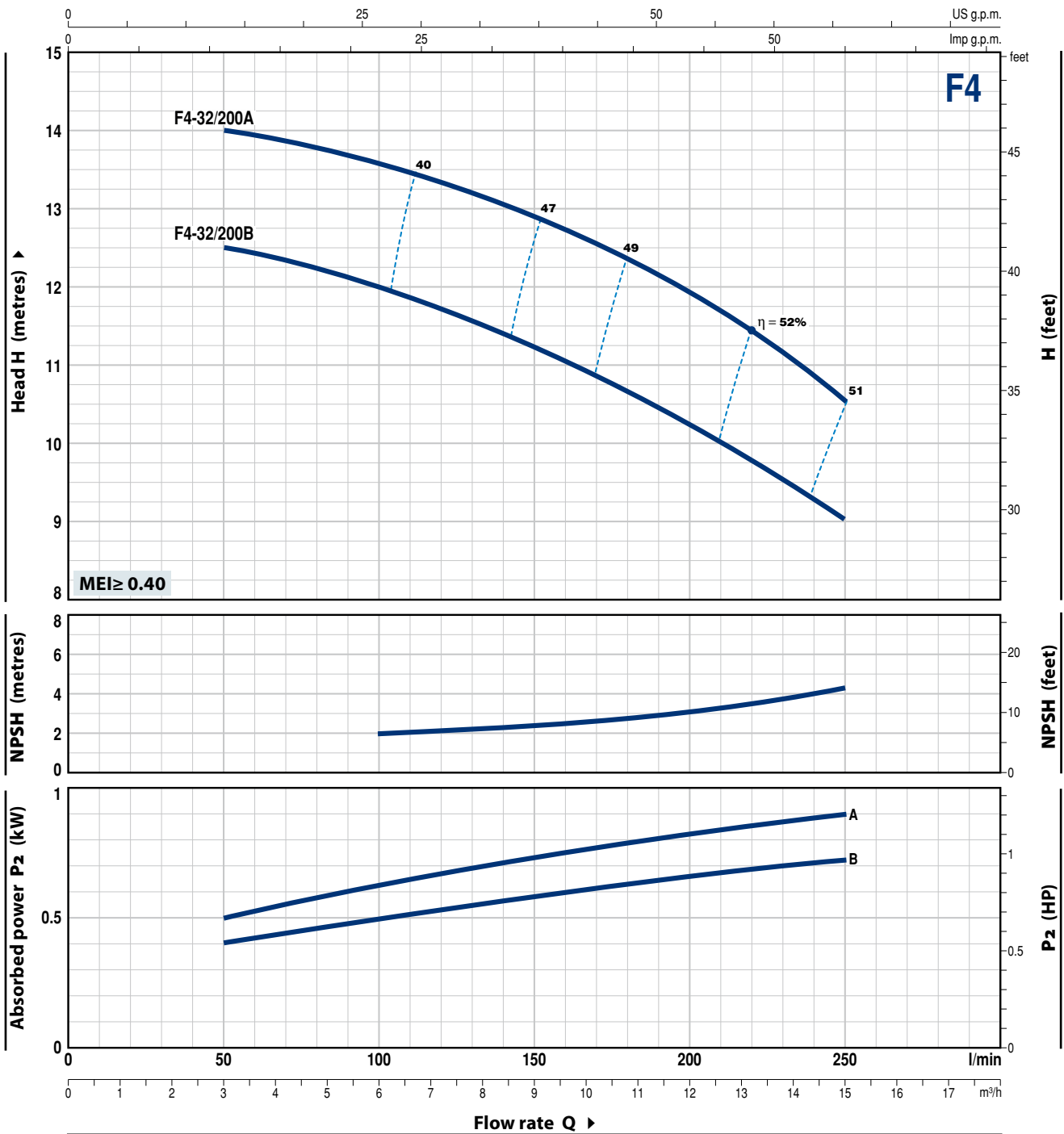
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate				
	kW	HP		m <sup>3</sup> /h	l/min	l/min	l/min	l/min
Three-phase				3	6	9	12	15
				50	100	150	200	250
F4-32/200B	0.75	1	H metres	12.5	12	11.2	10.3	9
F4-32/200A	1.1	1.5		14	13.6	12.8	11.9	10.5

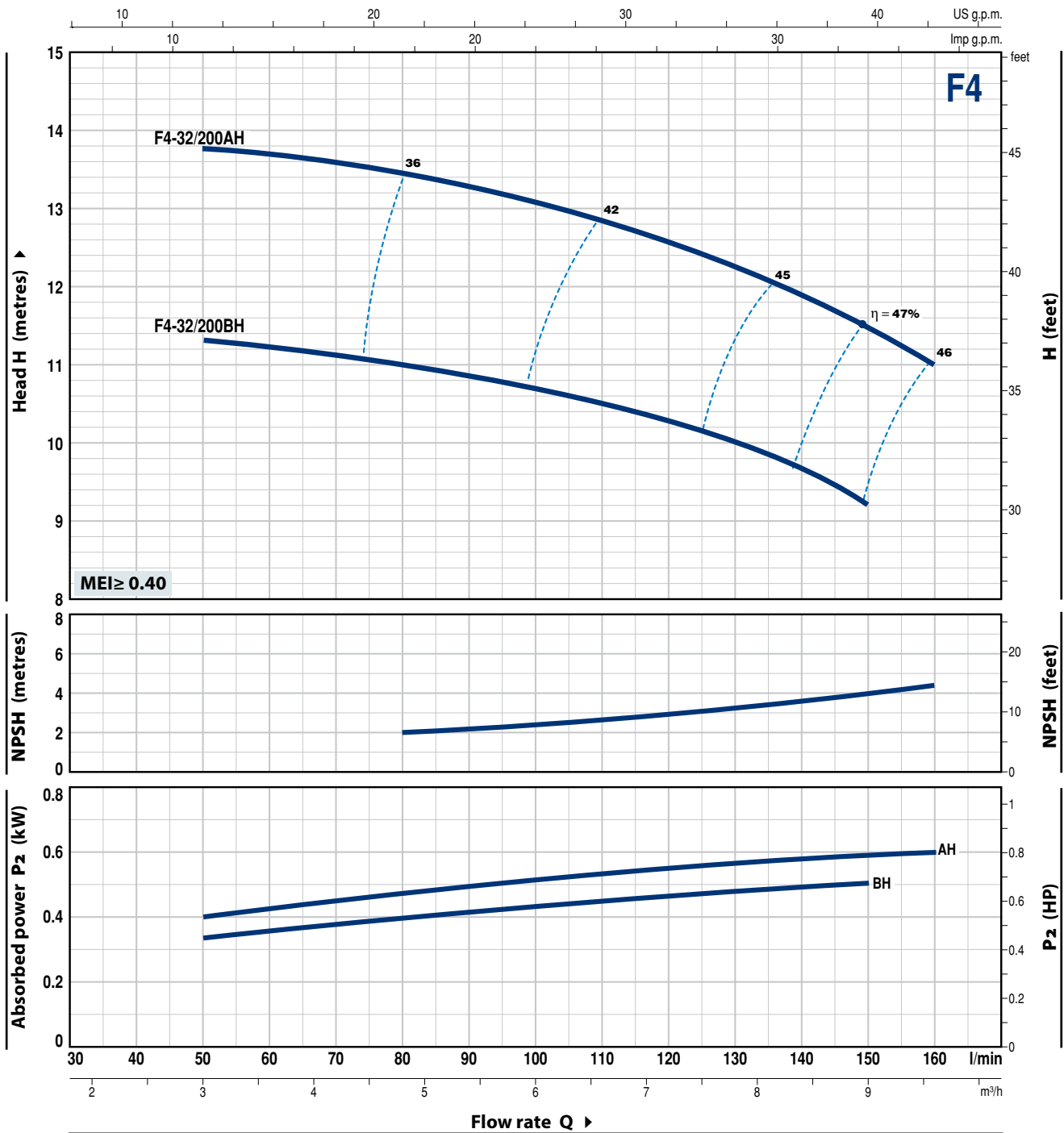
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-32/200H

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



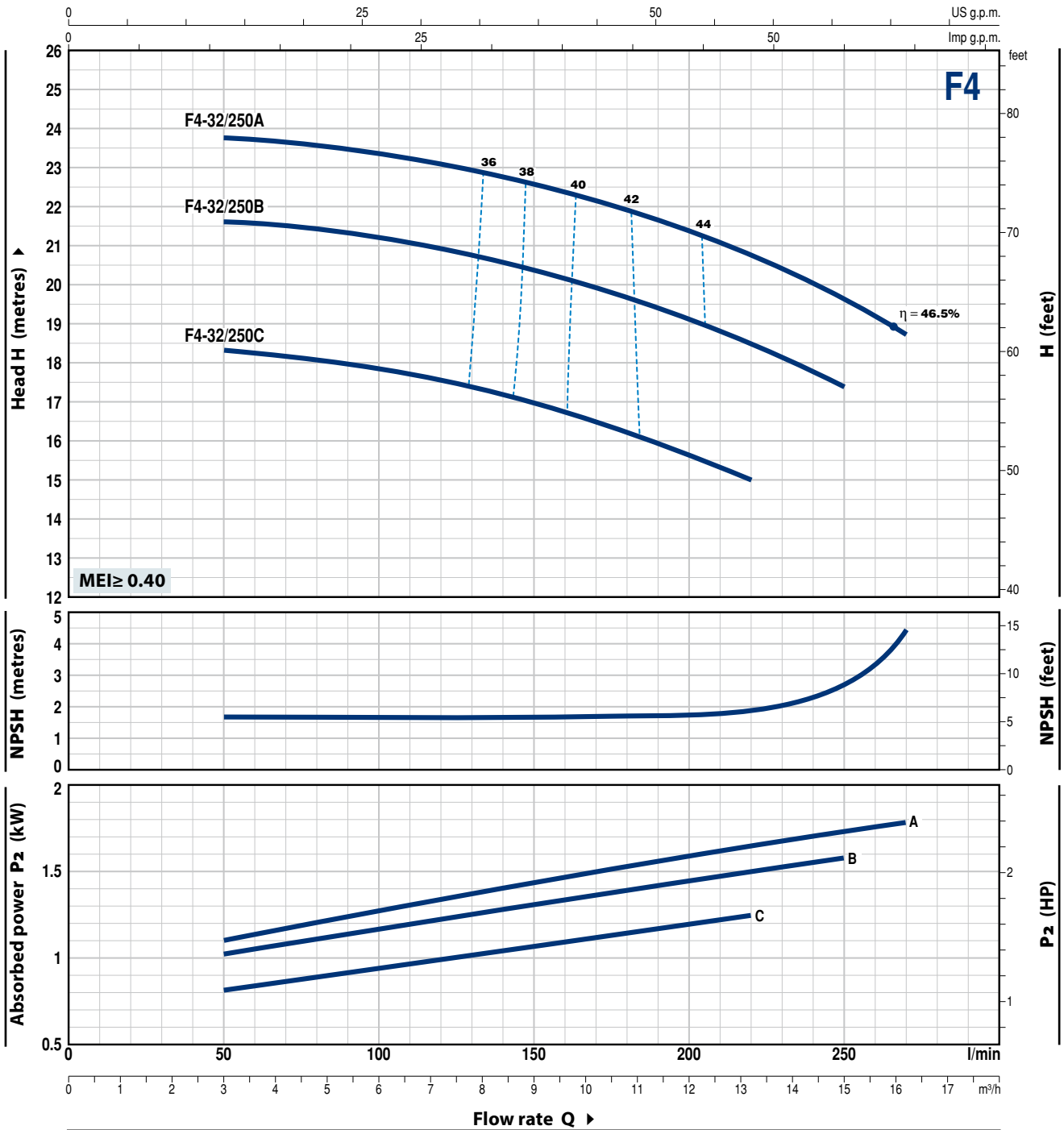
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate							
	kW	HP		m <sup>3</sup> /h	3	4.2	5.4	6.6	7.8	9	9.6
Three-phase			l/min	50	70	90	110	130	150	160	
F4-32/200BH	0.75	1	H metres	11.3	11.1	10.8	10.5	10	9.2		
F4-32/200AH	0.75	1		13.8	13.6	13.3	12.8	12.2	11.5	11	

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	3	4.5	6	7.5	9	10.5	13.2	15	16.2		
Three-phase			l/min	50	75	100	125	150	175	220	250	270			
F4-32/250C	1.1	1.5	H metres	18.4	18.1	17.8	17.5	17	16.4	15					
F4-32/250B	1.5	2		21.7	21.5	21.2	20.9	20.4	19.8	18.5	17.4				
F4-32/250A	2.2	3		23.8	23.6	23.4	23	22.6	22.1	20.8	19.6	18.7			

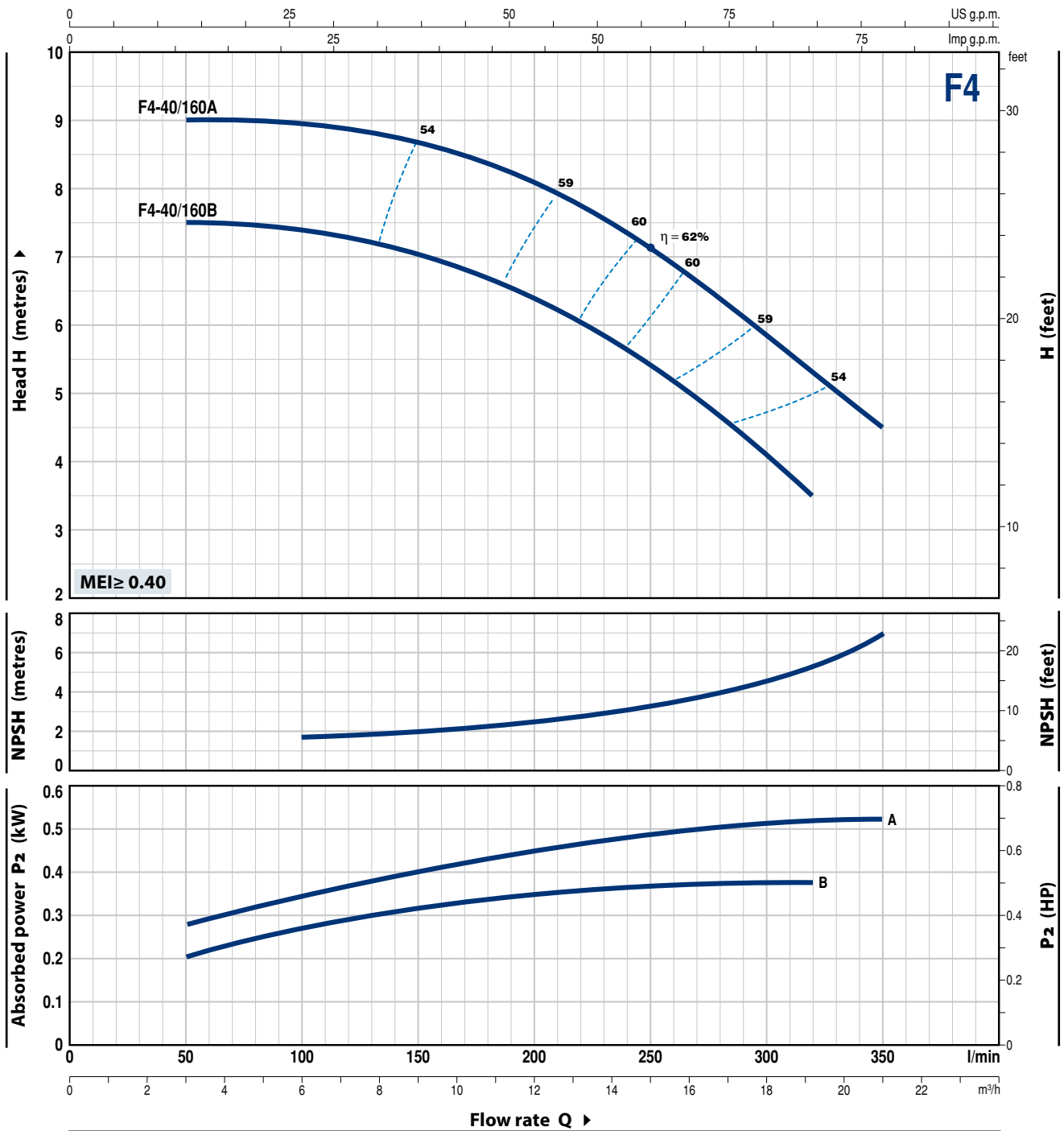
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-40/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



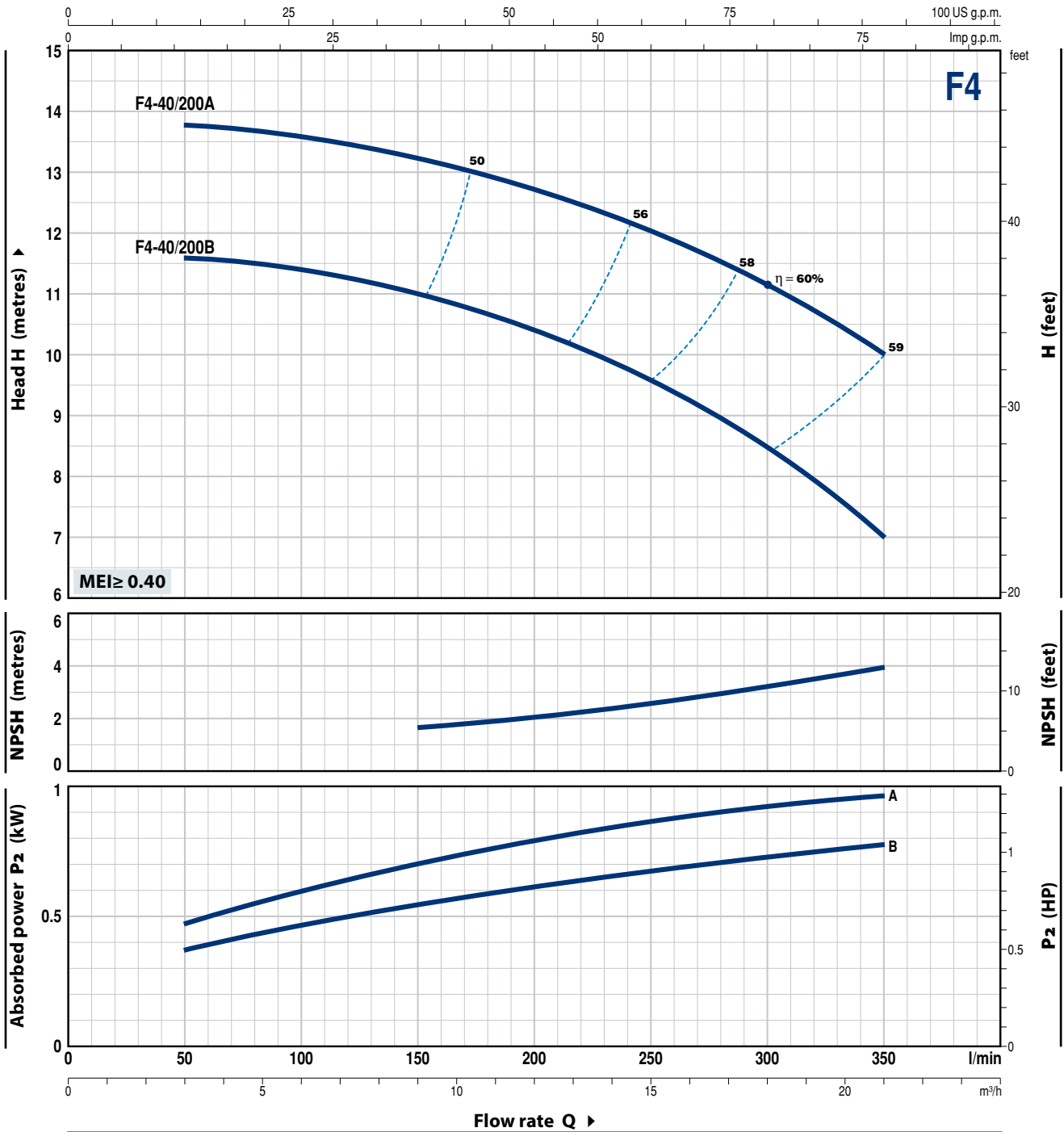
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate								
	kW	HP		m <sup>3</sup> /h	3	6	9	12	15	18	19.2	21
Three-phase			l/min	50	100	150	200	250	300	320	350	
F4-40/160B	0.37	0.5	H metres	7.5	7.4	7	6.4	5.4	4.1	3.5		
F4-40/160A	0.55	0.75		9	8.9	8.7	8.1	7.1	5.8	5.3	4.5	

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	3	6	9	12	15	18	21
	kW	HP		l/min	50	100	150	200	250	300
F4-40/200B	0.75	1	H metres	11.5	11.4	11	10.4	9.5	8.5	7
F4-40/200A	1.1	1.5		13.8	13.6	13.2	12.7	12	11.1	10

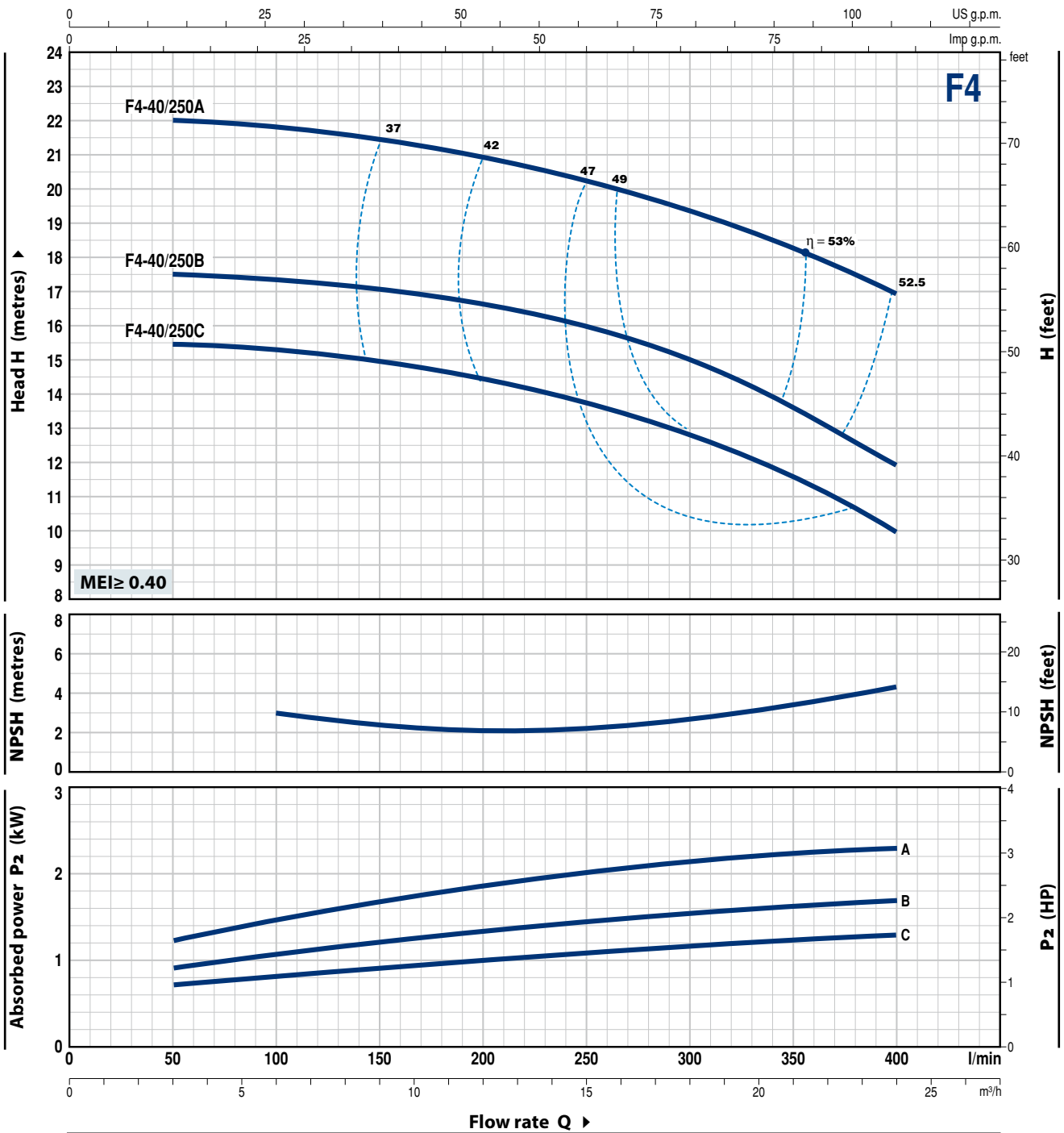
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-40/250

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



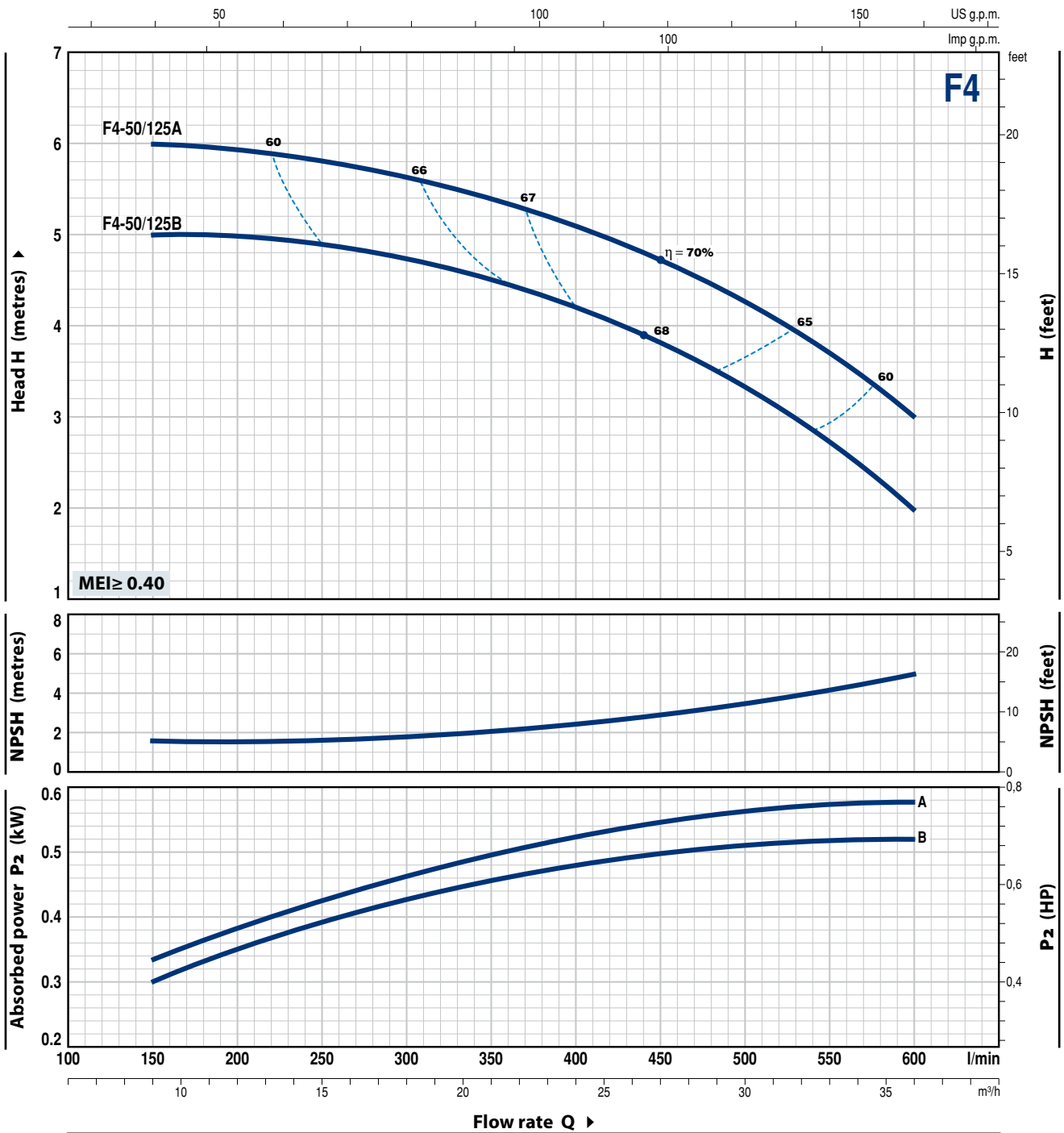
MODEL	POWER (P <sub>2</sub> )		Q	3	6	9	12	15	18	21	24
	kW	HP		m <sup>3</sup> /h	l/min	l/min	l/min	l/min	l/min	l/min	l/min
Three-phase				50	100	150	200	250	300	350	400
F4-40/250C	1.1	1.5	H metres	15.5	15.2	15	14.5	13.6	12.9	11.5	10
F4-40/250B	1.5	2		17.5	17.2	17	16.5	16	15	13.5	12
F4-40/250A	2.2	3		22	21.9	21.5	21	20.2	19.2	18.2	17

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	9	12	15	17	21	24	27	30	33	36	
Three-phase			l/min	150	200	250	300	350	400	450	500	550	600		
F4-50/125B	0.55	0.75	H metres	5	5	4.9	4.7	4.5	4.2	3.8	3.3	2.7	2		
F4-50/125A	0.55	0.75		6	5.9	5.8	5.6	5.4	5.1	4.7	4.2	3.7	3		

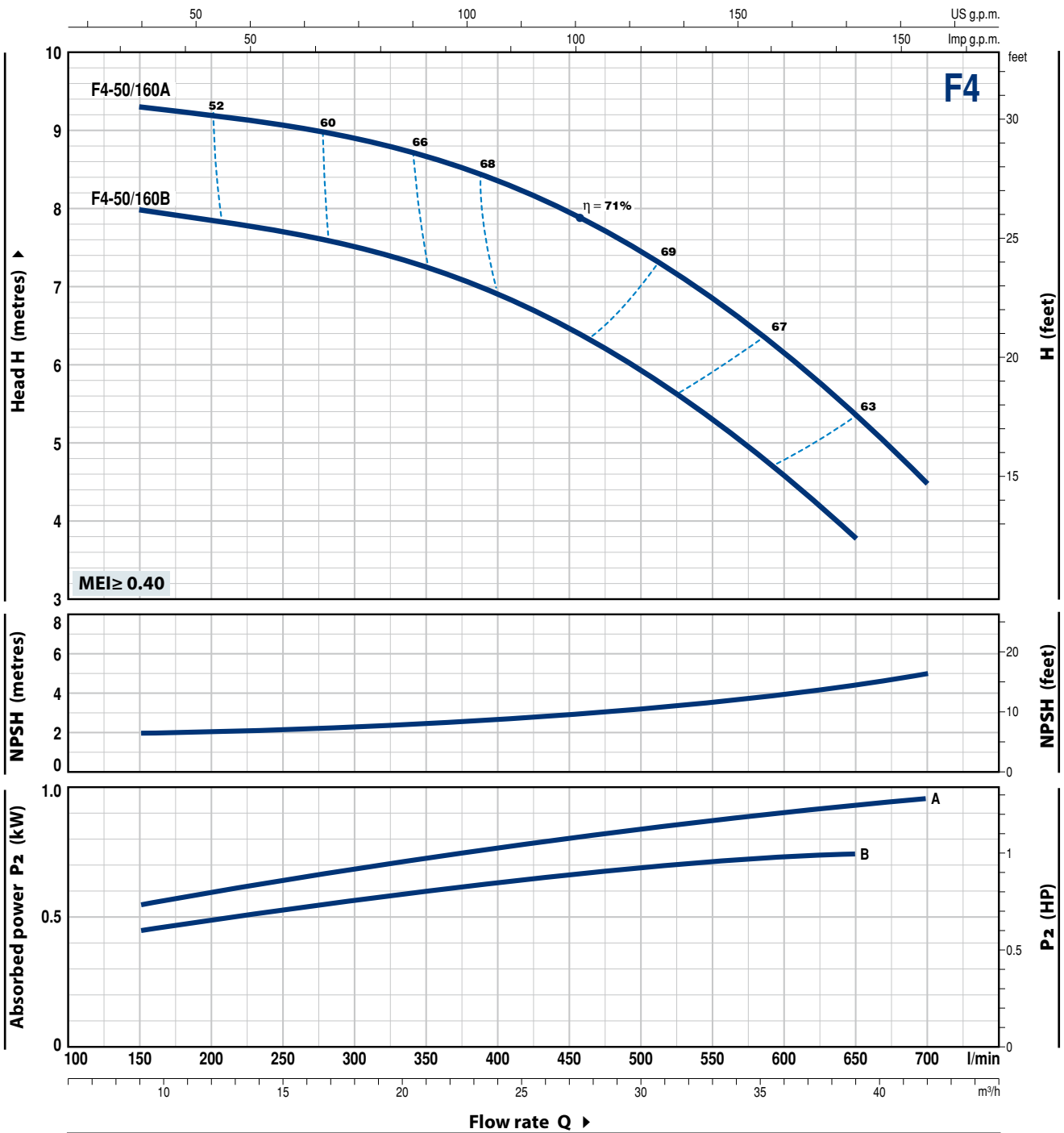
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-50/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	9	12	15	17	21	24	27	30	33	36	39	42	
Three-phase			l/min	150	200	250	300	350	400	450	500	550	600	650	700		
F4-50/160B	0.75	1	H metres	8	7.8	7.7	7.5	7.2	6.9	6.5	5.9	5.3	4.6	3.8			
F4-50/160A	1.1	1.5		9.3	9.2	9.1	8.9	8.7	8.4	8	7.4	6.8	6.2	5.4	4.5		

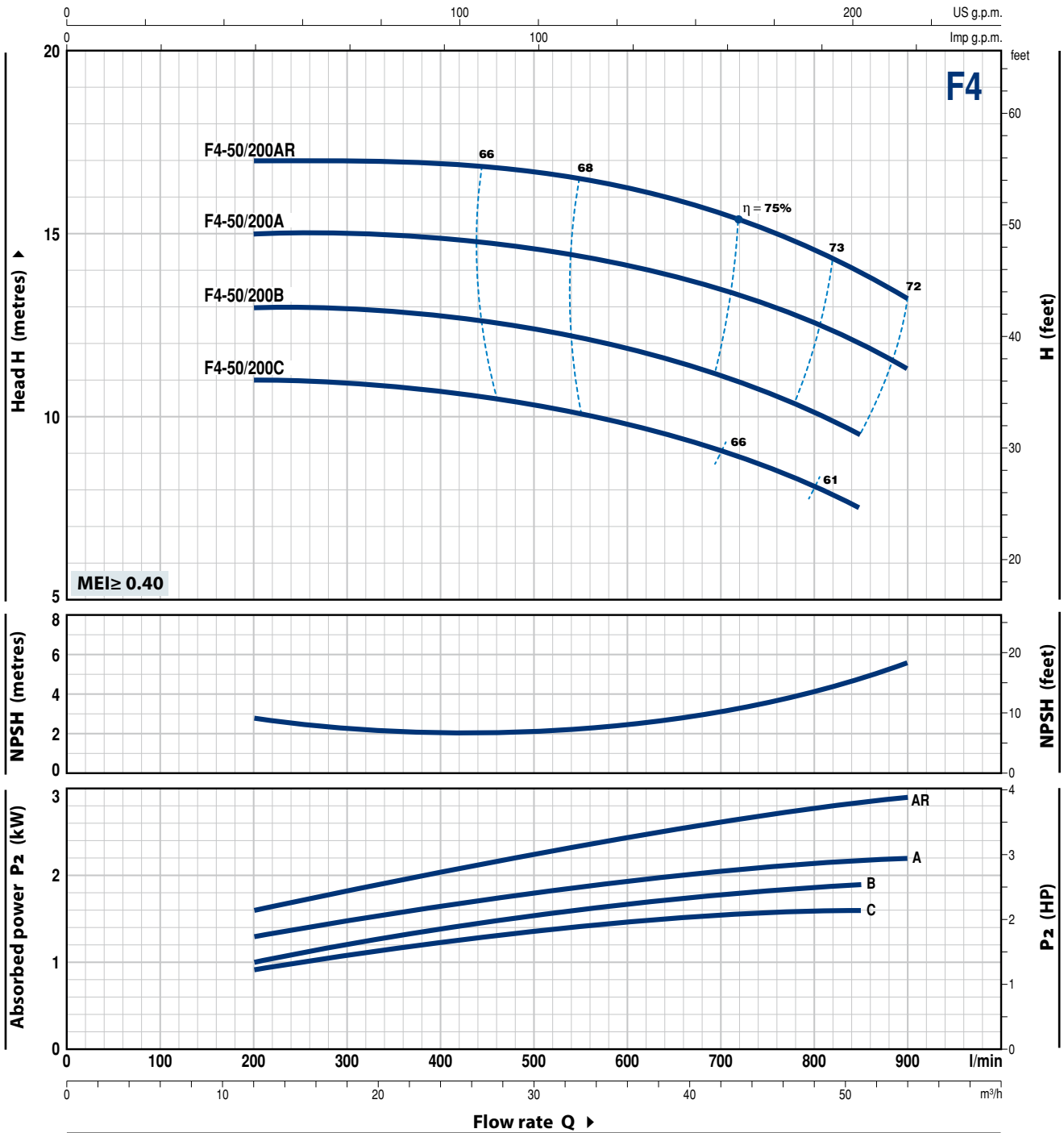
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	12	17	24	30	36	42	48	51	54		
Three-phase			l/min	200	300	400	500	600	700	800	850	900			
F4-50/200C	1.5	2	H metres	11	11	10.8	10.3	9.8	9	8	7.5				
F4-50/200B	2.2	3		13	13	12.8	12.4	11.9	11.1	10.1	9.5				
F4-50/200A	2.2	3		15	15	14.9	14.6	14.1	13.5	12.5	12	11.2			
F4-50/200AR	3	4		17	17	16.9	16.7	16.2	15.5	14.5	14	13.2			

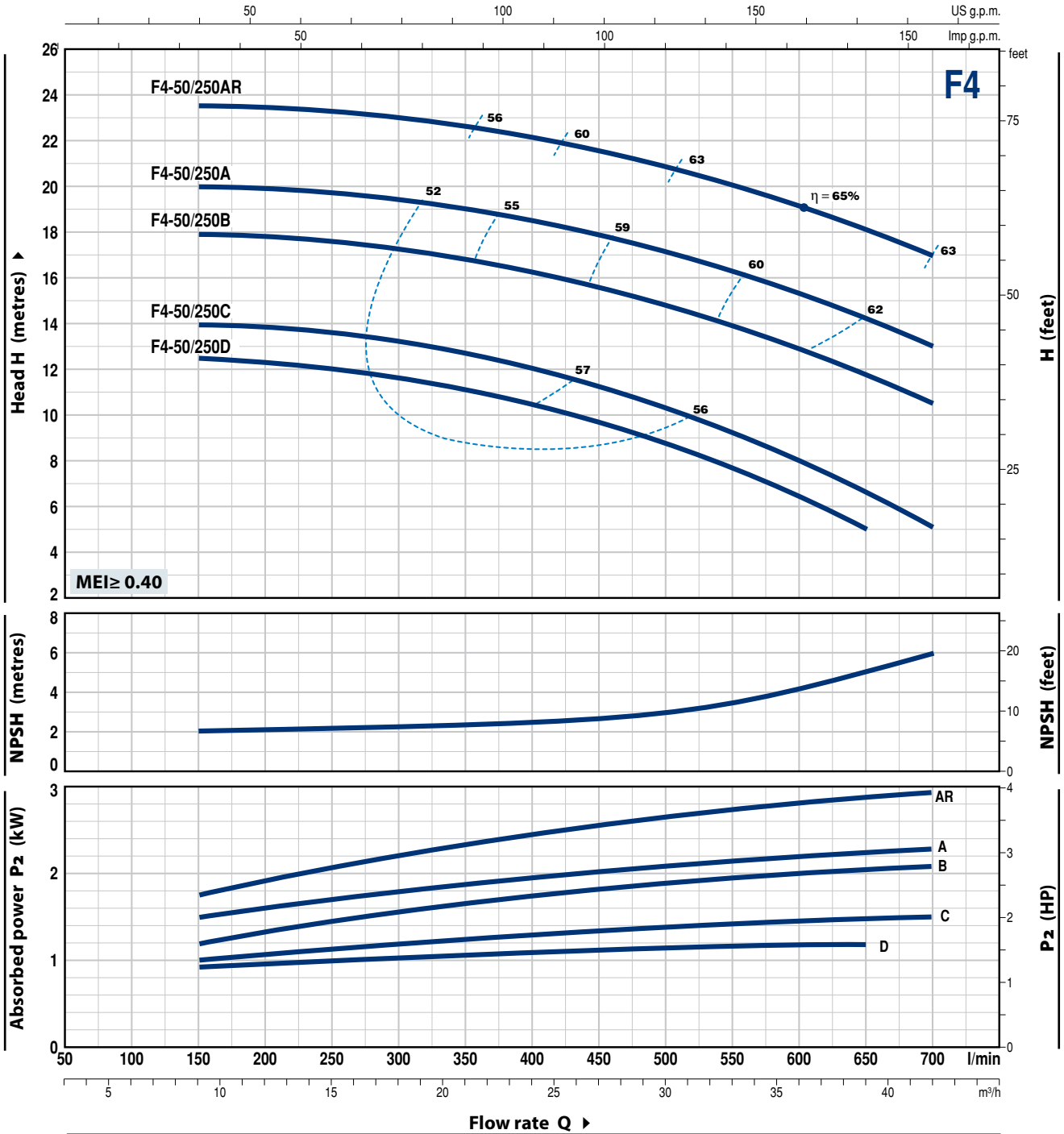
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-50/250

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



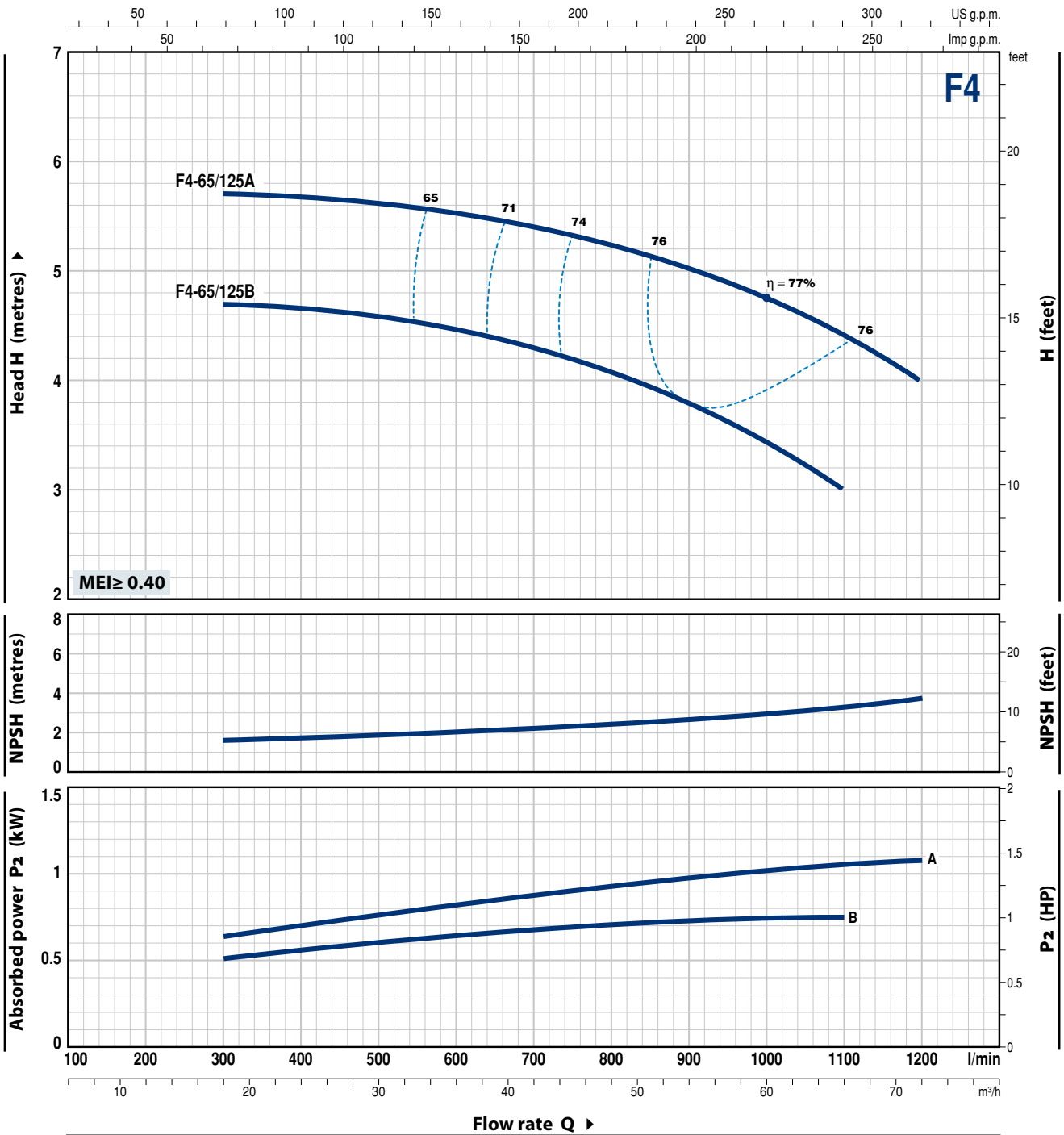
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	9	12	15	18	21	24	27	30	33	36	39	42	
Three-phase			l/min	150	200	250	300	350	400	450	500	550	600	650	700		
F4-50/250D	1.1	1.5	H metres	12.5	12.3	12	11.5	11.1	10.5	9.8	8.8	7.8	6.5	5			
F4-50/250C	1.5	2		14	13.9	13.6	13.2	12.8	12	11.2	10.2	9.2	8	6.6	5		
F4-50/250B	2.2	3		18	17.9	17.6	17.2	16.8	16.2	15.5	14.8	14	13	11.8	10.5		
F4-50/250A	2.2	3		20	19.9	19.7	19.5	19	18.5	18	17.2	16.2	15.3	14.2	13		
F4-50/250AR	3	4		23.5	23.4	23.2	23	22.6	22.1	21.6	21	20	19	18	17		

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	18	24	30	36	42	48	54	60	66	72
	kW	HP		l/min	300	400	500	600	700	800	900	1000	1100
F4-65/125B	0.75	1	H metres	4.7	4.7	4.6	4.5	4.3	4.1	3.8	3.4	3	
F4-65/125A				5.7	5.7	5.6	5.5	5.4	5.2	5	4.7	4.4	4

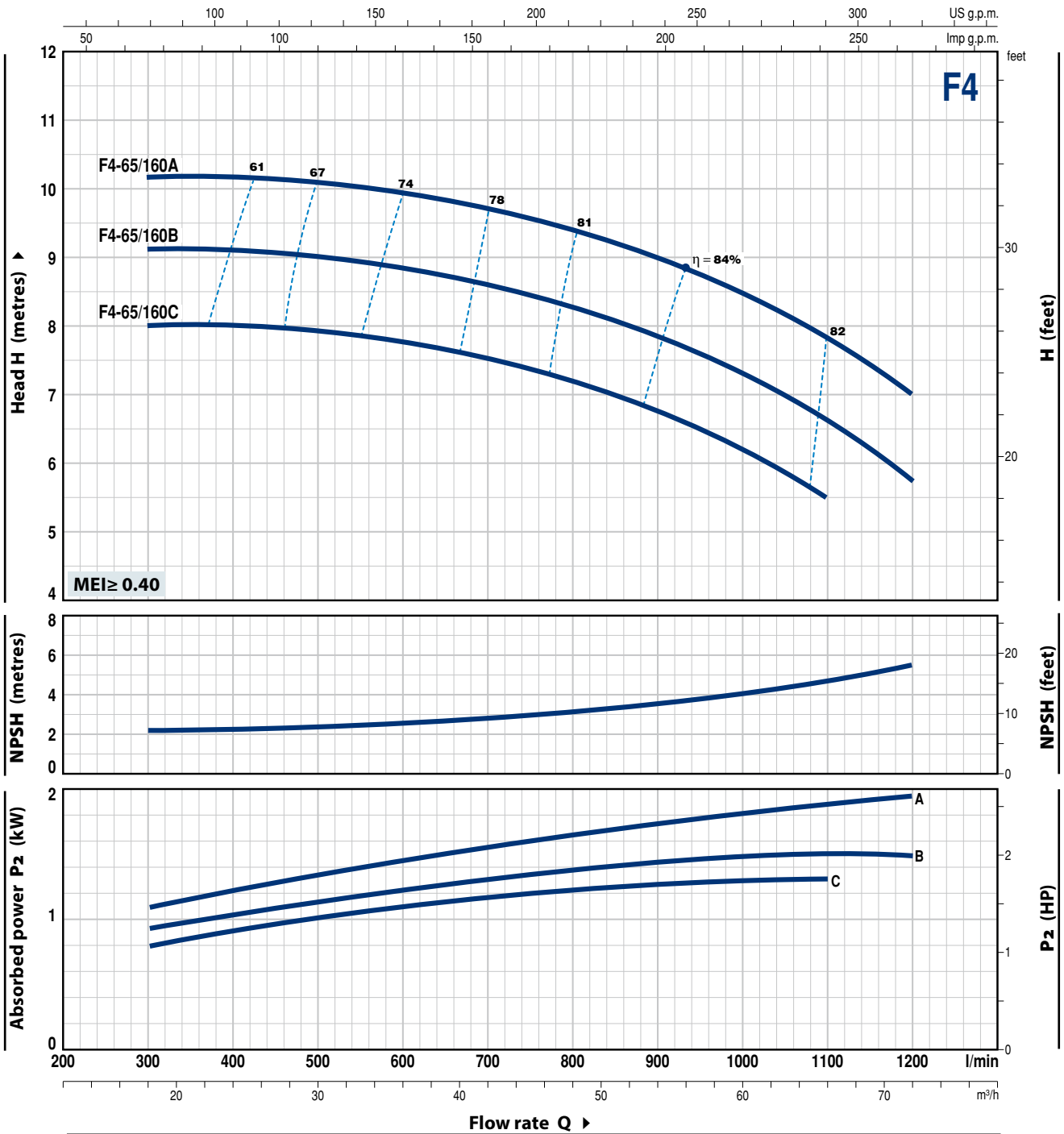
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-65/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



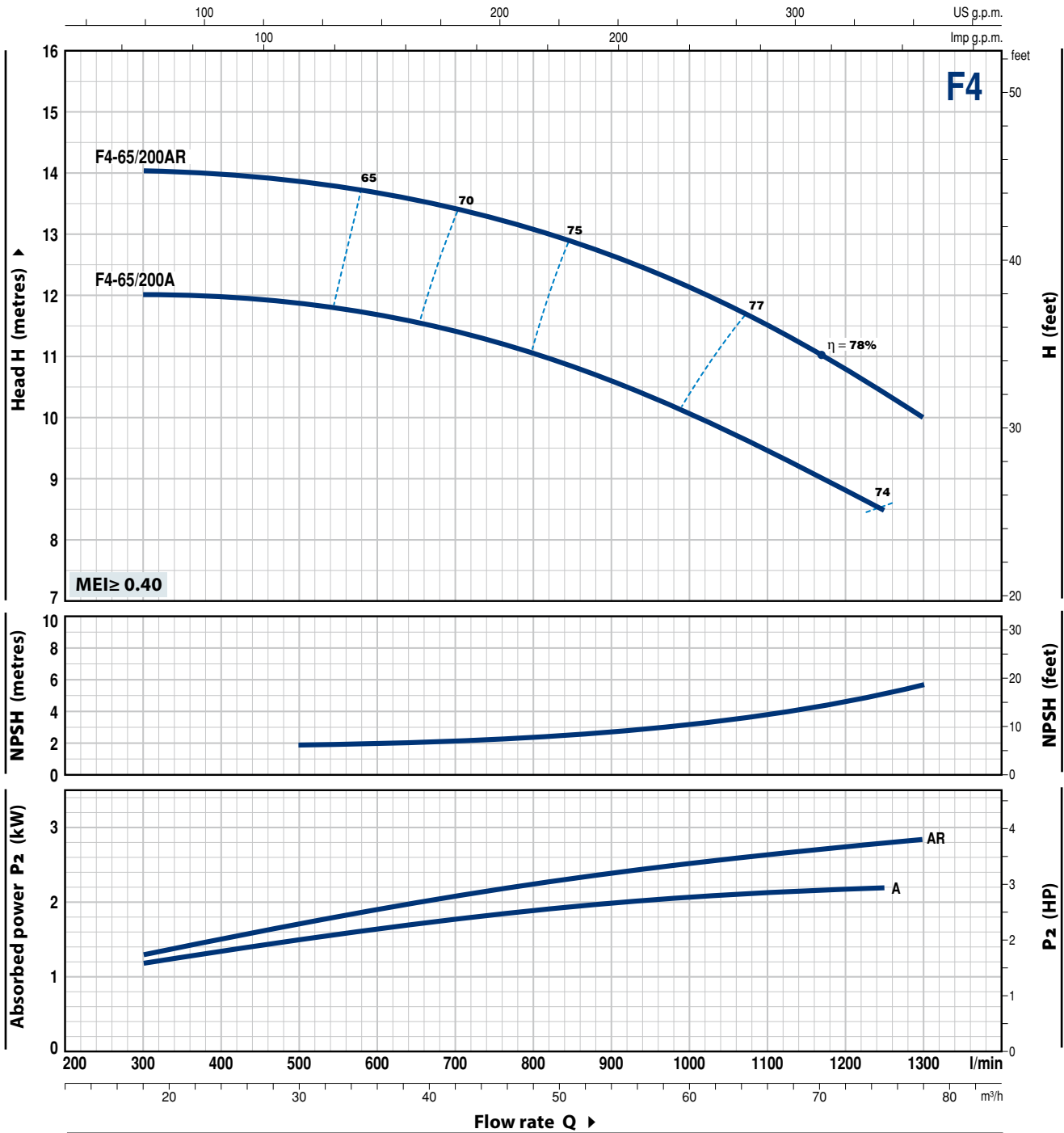
MODEL	POWER (P <sub>2</sub> )		Q	18	24	30	36	42	48	54	60	66	72
	kW	HP		l/min	300	400	500	600	700	800	900	1000	1100
F4-65/160C	1.1	1.5	H metres	8	8	7.9	7.7	7.5	7.2	6.7	6.2	5.5	
F4-65/160B	1.5	2		9.1	9.1	9	8.8	8.6	8.3	7.8	7.3	6.6	5.7
F4-65/160A	2.2	3		10.1	10.1	10.1	9.9	9.7	9.4	9	8.5	7.8	7

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate														
	kW	HP		m <sup>3</sup> /h	18	24	30	36	42	48	54	60	66	72	75	78		
Three-phase				l/min	300	400	500	600	700	800	900	1000	1100	1200	1250	1300		
F4-65/200A	2.2	3	H metres		12	12	11.9	11.6	11.4	11	10.6	10.1	9.5	8.8	8.5			
F4-65/200AR	3	4			14	13.9	13.8	13.6	13.4	13.1	12.7	12.1	11.5	10.8	10.3	10		

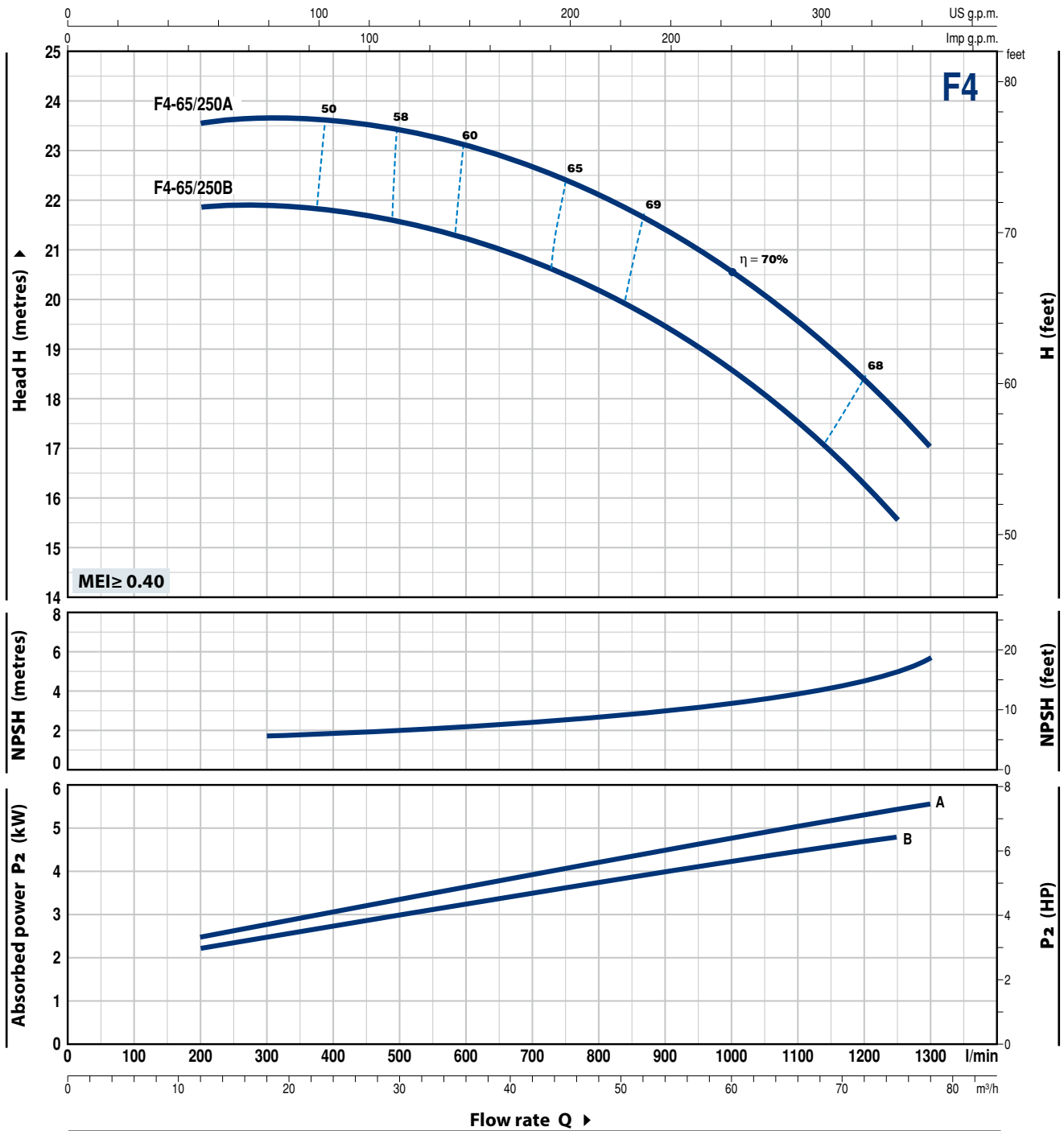
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-65/250

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



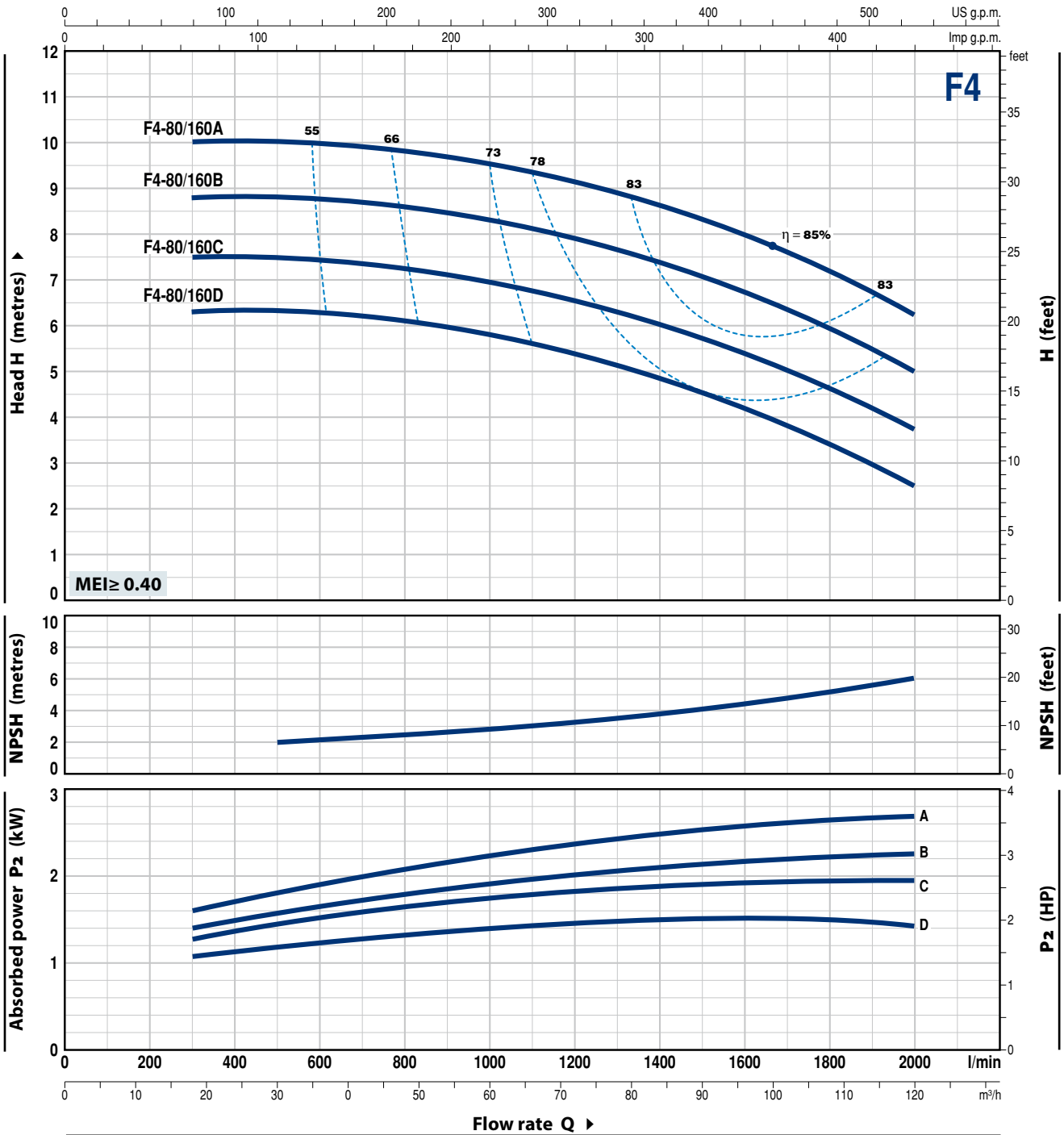
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	12	18	24	30	36	42	48	54	60	66	72	75	78
Three-phase			l/min	200	300	400	500	600	700	800	900	1000	1100	1200	1250	1300	
F4-65/250B	4	5.5	H metres	21.8	21.8	21.7	21.5	21.2	20.7	20.2	19.5	18.6	17.5	16.2	15.5		
F4-65/250A	5.5	7.5		23.5	23.5	23.5	23.4	23.1	22.6	22.1	21.5	20.5	19.6	18.5	17.8	17	

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	H metres											
	kW	HP		m <sup>3</sup> /h	18	24	36	48	60	72	84	96	108	120	
Three-phase			l/min	300	400	600	800	1000	1200	1400	1600	1800	2000		
F4-80/160D	1.5	2		6.3	6.3	6.3	6.1	5.8	5.4	4.8	4.2	3.4	2.5		
F4-80/160C	2.2	3		7.5	7.5	7.4	7.3	6.9	6.5	6	5.4	4.6	3.8		
F4-80/160B	2.2	3		8.8	8.8	8.8	8.6	8.3	7.9	7.4	6.7	5.9	5		
F4-80/160A	3	4		10	10	10	9.8	9.5	9.1	8.6	8	7.2	6.2		

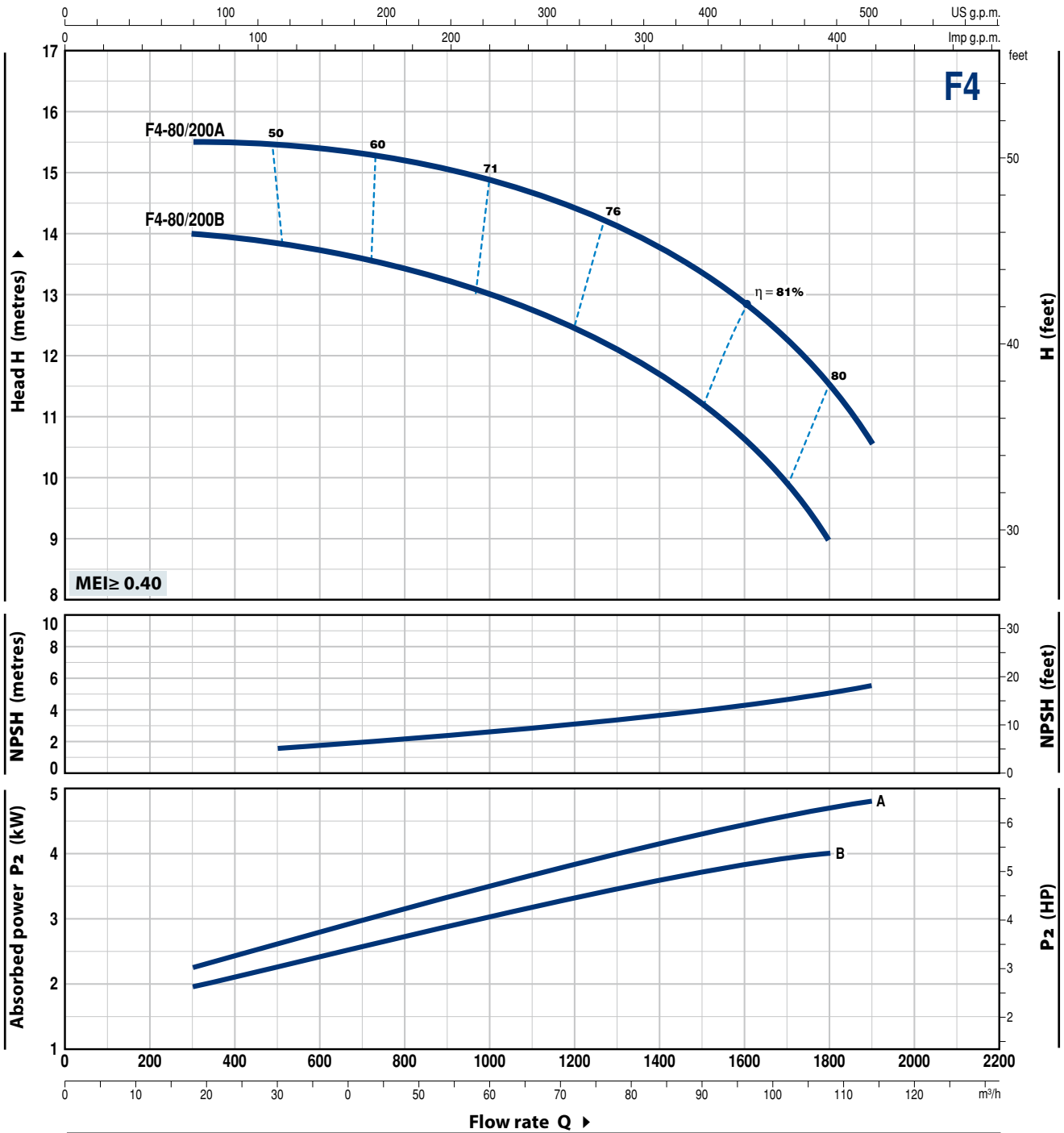
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-80/200

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	18	24	36	48	60	72	84	96	108	114
	kW	HP		m <sup>3</sup> /h	l/min	300	400	600	800	1000	1200	1400	1600
F4-80/200B	4	5.5	H metres	14	13.9	13.7	13.4	13	12.5	11.7	10.6	9	
F4-80/200A	5.5	7.5		15.5	15.5	15.4	15.2	14.8	14.5	13.7	12.8	11.5	10.5

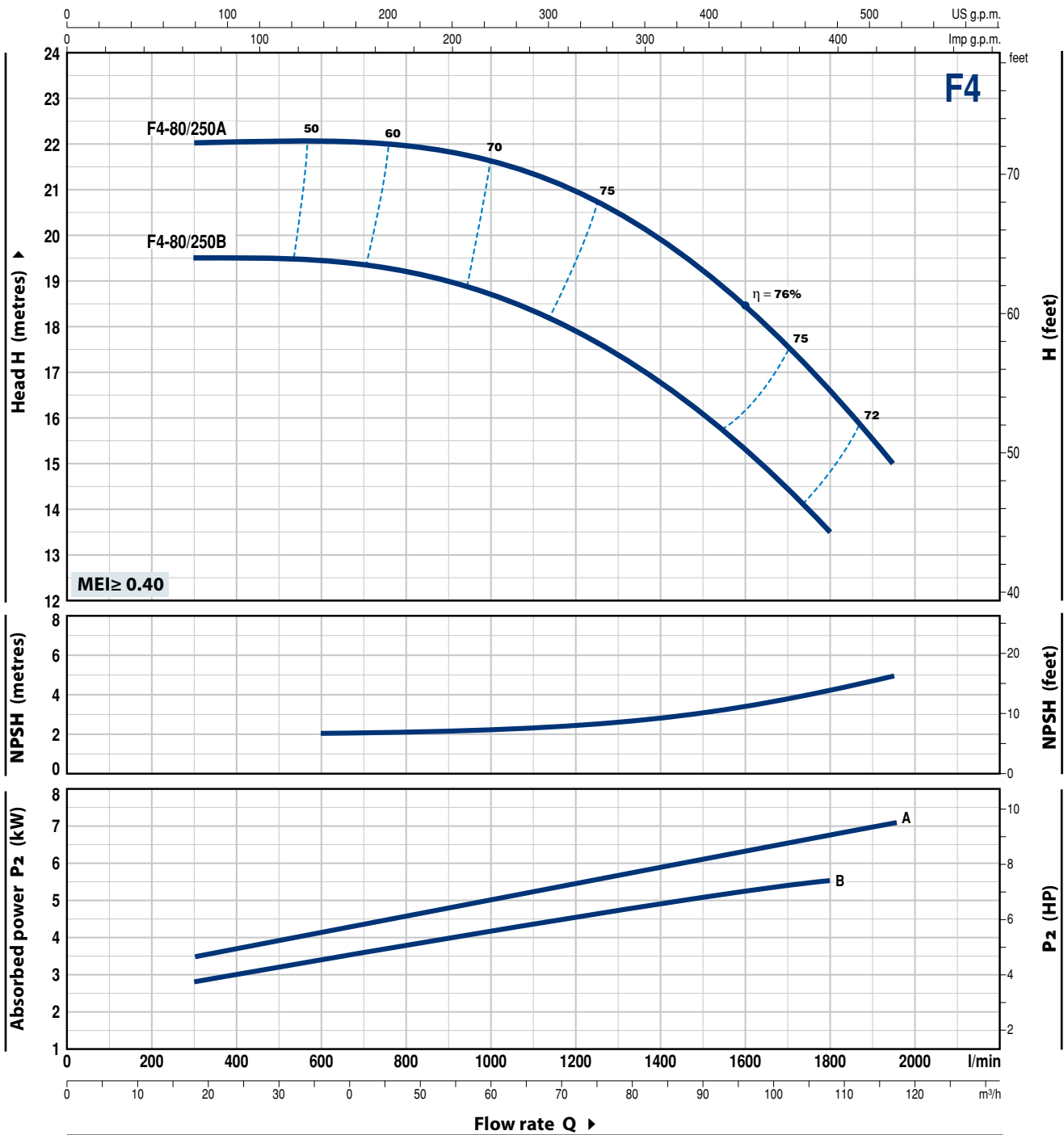
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	18	24	36	48	60	72	84	96	108	117	
Three-phase			l/min	300	400	600	800	1000	1200	1400	1600	1800	1950		
F4-80/250B	5.5	7.5	H metres	19.5	19.5	19.5	19.2	18.7	17.9	16.7	15.3	13.5			
F4-80/250A	7.5	10		22	22	22	21.9	21.6	21	20	18.5	16.5	15		

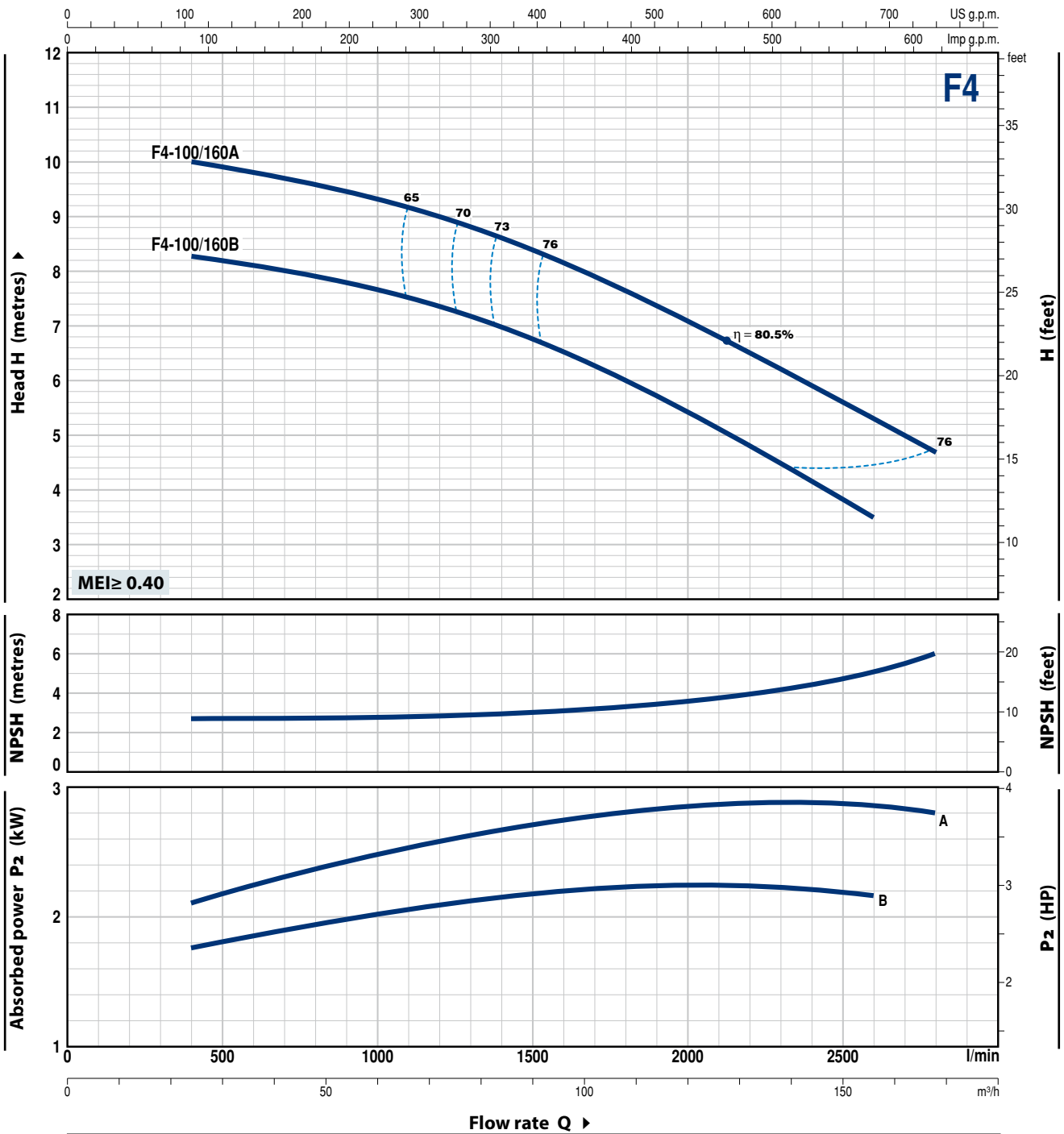
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-100/160

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



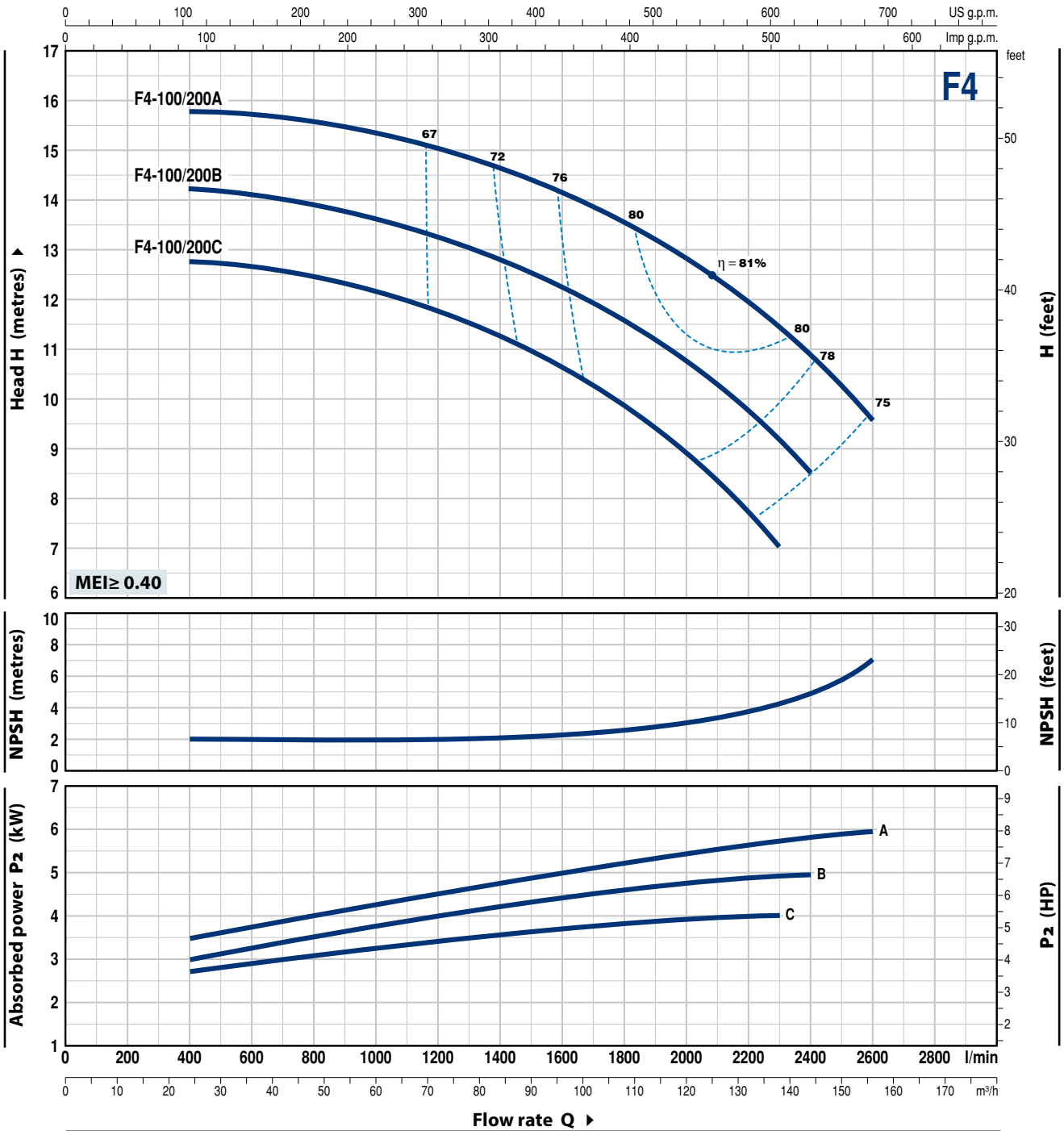
MODEL	POWER (P <sub>2</sub> )		Q	Flow rate										
	kW	HP		m <sup>3</sup> /h	24	48	72	96	120	144	156	168		
Three-phase			l/min	400	800	1200	1600	2000	2400	2600	2800			
F4-100/160B	2.2	3	H metres	8.3	8	7.5	6.5	5.5	4.2	3.5				
F4-100/160A	3	4		10	9.5	9	8	7	6	5.2	4.7			

Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	24	36	48	60	72	84	96	108	120	138	144	156	
Three-phase			l/min	400	600	800	1000	1200	1400	1600	1800	2000	2300	2400	2600		
F4-100/200C	4	5.5	H metres	12.7	12.6	12.5	12.2	11.8	11.3	10.6	9.9	8.9	7				
F4-100/200B	5.5	7.5		14.2	14.1	13.9	13.6	13.3	12.8	12.2	11.6	10.7	9.2	8.5			
F4-100/200A	5.5	7.5		15.8	15.7	15.6	15.4	15	14.6	14.2	13.5	12.8	12	11.4	9.5		

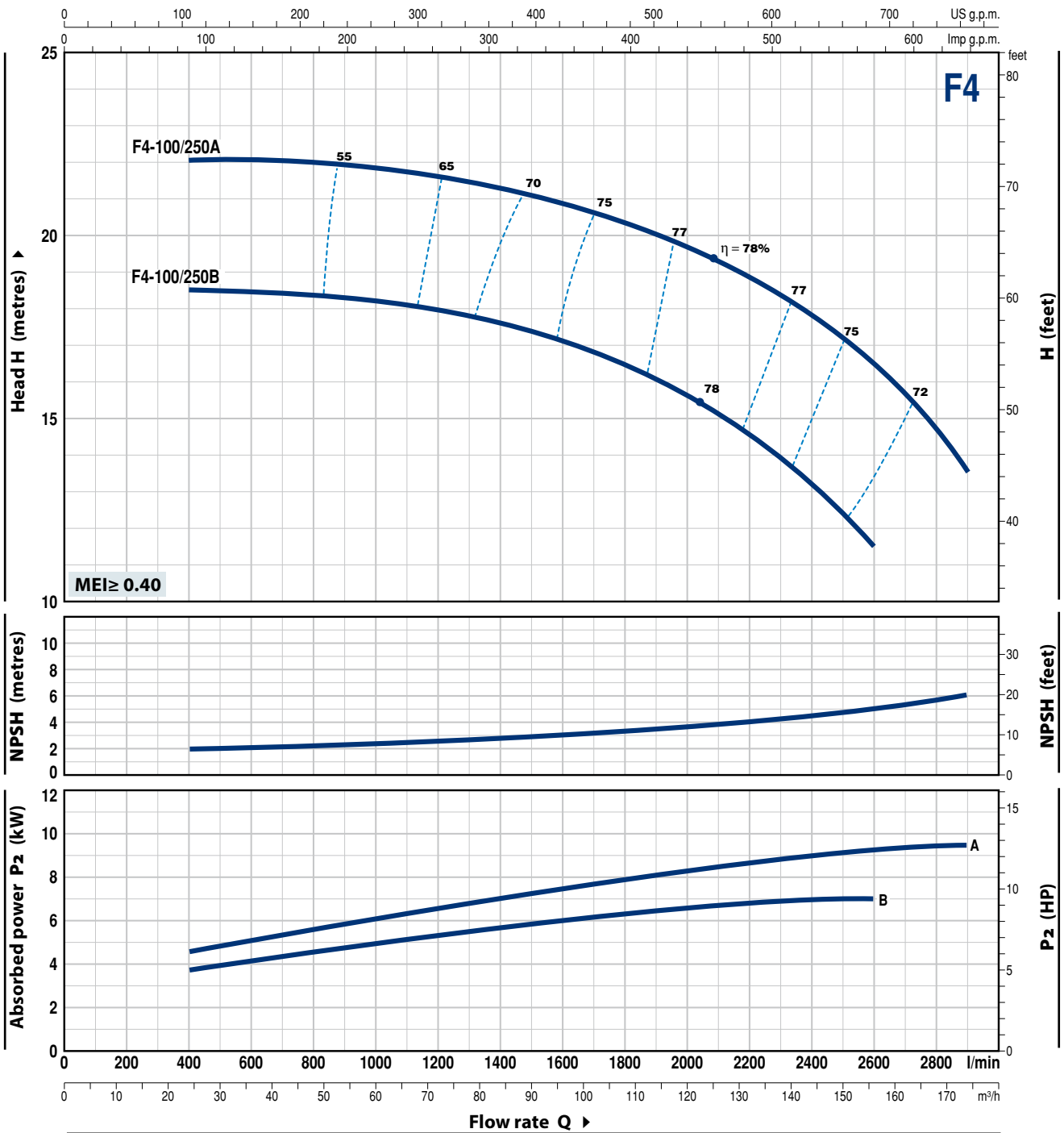
Q = Flow rate H = Total manometric head HS = Suction height

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# F4-100/250

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 1450 min<sup>-1</sup> HS = 0 m



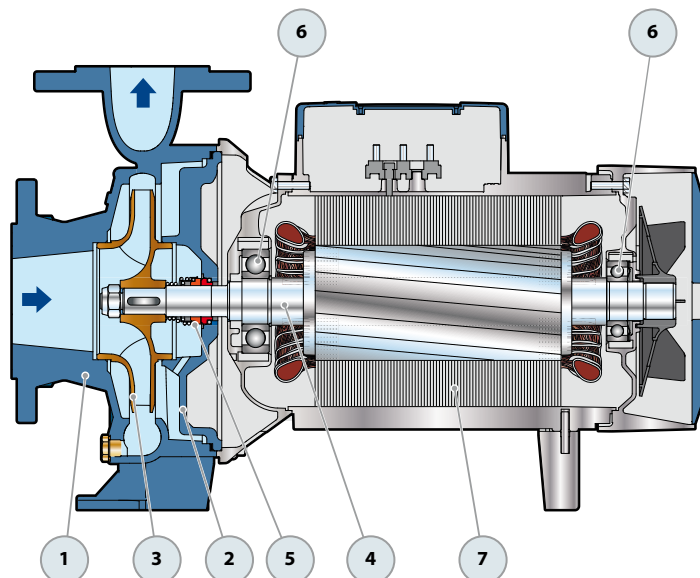
MODEL	POWER (P <sub>2</sub> )		Q	24	36	48	60	72	84	96	108	120	132	144	156	174
	kW	HP		l/min	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600
F4-100/250B	7.5	10	H metres	18.5	18.5	18.3	18.2	18	17.5	17.1	16.5	15.7	14.5	13.2	11.5	
F4-100/250A	9.2	12.5		22	22	22	21.8	21.6	21.2	20.9	20.3	19.7	18.9	17.9	16.5	13.5

Q = Flow rate H = Total manometric head HS = Suction height

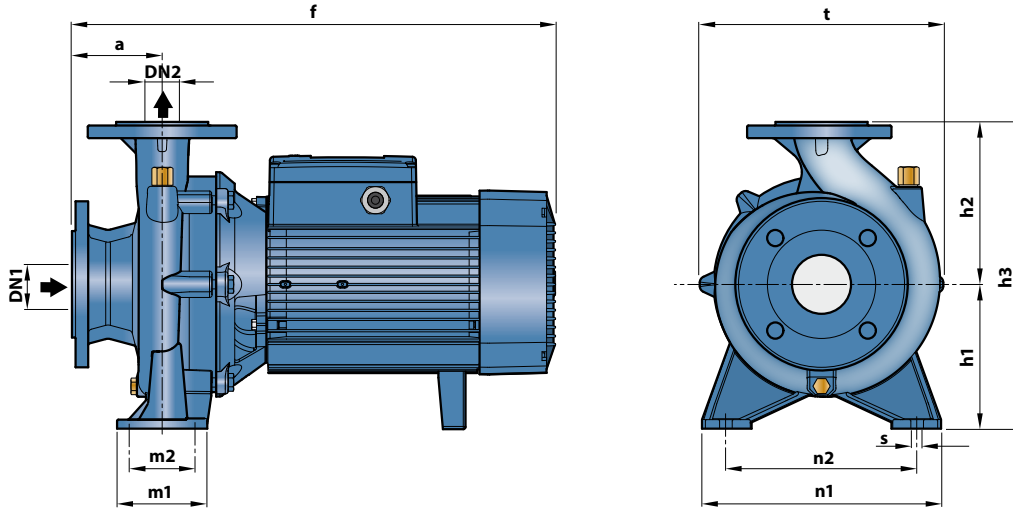
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron, complete with flanged suction and delivery ports					
<b>2 BODY BACKPLATE</b>	Cast iron					
<b>3 IMPELLER</b>	Brass for F4-32/160, 32/200, 40/160, 40/200, 50/125, 50/160					
<b>4 MOTOR SHAFT</b>	Stainless steel AISI 431					
<b>5 MECHANICAL SEAL</b>	<b>Pump Model</b>	<b>Seal Model</b>	<b>Shaft Diameter</b>	<b>Stationary ring</b>	<b>Rotational ring</b>	<b>Elastomer</b>
	F4-32/160 F4-40/160	F4-50/125	<b>FN-20</b>	<b>Ø 20 mm</b>	Graphite	Ceramic NBR
	F4-32/200 F4-40/200	F4-50/160 F4-65/125	<b>FN-24</b>	<b>Ø 24 mm</b>	Graphite	Ceramic NBR
	F4-50/200 F4-65/200 F4-65/160	F4-80/160 F4-100/160	<b>FN-32 NU</b>	<b>Ø 32 mm</b>	Graphite	Ceramic NBR
	F4-32/250 F4-40/250	F4-50/250	<b>FN-38</b>	<b>Ø 38 mm</b>	Graphite	Ceramic NBR
	F4-65/250 F4-80/200	F4-100/200	<b>FN-40 NU</b>	<b>Ø 40 mm</b>	Graphite	Ceramic NBR
	F4-80/250	F4-100/250	<b>FH-45 NU</b>	<b>Ø 45 mm</b>	Graphite	Ceramic NBR
<b>6 BEARINGS</b>	<b>Pump Model</b>	<b>Pump Model</b>	<b>Pump Model</b>	<b>Pump Model</b>	<b>Pump Model</b>	<b>Pump Model</b>
	F4-32/160 F4-40/160 F4-50/125	<b>6206 ZZ-C3 / 6204 ZZ</b>	F4-32/250 F4-40/250 F4-50/200 F4-50/250 F4-65/160 F4-65/200 F4-80/160 F4-100/160	<b>6208 ZZ-C3 / 6206 ZZ-C3</b>		
	F4-32/200 F4-40/200 F4-50/160 F4-65/125	<b>6307 ZZ-C3 / 6206 ZZ-C3</b>	F4-65/250 F4-80/200 F4-80/250 F4-100/200 F4-100/250	<b>6310 ZZ-C3 / 6308 ZZ-C3</b>		
<b>7 ELECTRIC MOTOR</b>	<b>F4:</b> with 4 poles three-phase 230/400 V - 50 Hz ➔ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.37 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</b> – Insulation: class F – Protection: IP 55					

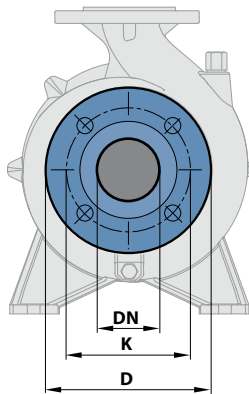


## DIMENSIONS AND WEIGHT



MODEL	DIMENSIONS mm											kg		
	DN1	DN2	a	f	h3	h1	h2	t	n2	n1	m1		m2	s
<b>Three-phase</b>														
F4-32/160B	50	32	80	412	292	132	160	242	190	240	100	70	14	31.2
F4-32/160A				31.2										
F4-32/200B				43.4										
F4-32/200A				43.5										
F4-32/200BH			42.3											
F4-32/200AH			42.4											
F4-32/250C			100	522	405	180	225	330	250	320	125	95		64.1
F4-32/250B				63.1										
F4-32/250A	568	68.7												
F4-40/160B	65	40	80	412	292	132	160	240	190	240	100	70	14	32.5
F4-40/160A				32.9										
F4-40/200B			100	489	340	160	180	275	212	265	59.7			
F4-40/200A				46.2										
F4-40/250C				522	405	180	225	328	250	320	125	95		60.1
F4-40/250B				60.1										
F4-40/250A	568	72.4												
F4-50/125B	65	50	100	431	292	132	160	242	190	240	100	70	14	32.2
F4-50/125A				32.2										
F4-50/160B				489	340	160	180	269	212	265				59.2
F4-50/160A														
F4-50/200C			529	360	200	316	212	265	68.3					
F4-50/200B			68.3											
F4-50/200A			576	360	200	316	212	265	68.5					
F4-50/200AR			68.8											
F4-50/250D			522	405	180	225	337	250	320	125	95	59.9		
F4-50/250C			63.3											
F4-50/250B			68.7											
F4-50/250A			568	69.1										
F4-50/250AR			78.0											
F4-65/125B			80	65	100	511	340	160	180	291	212	280		125
F4-65/125A	50.4													
F4-65/160C	533	360				200	300	55.0						
F4-65/160B	57.9	405				180	225	340	250	320	58.7			
F4-65/160A	65.0													
F4-65/200A	582	405				180	225	340	250	320	72.0			
F4-65/200AR	78.4													
F4-65/250B	627	450				200	250	373	280	360	160	120	18	
F4-65/250A	139.6													
F4-80/160D	100	80	125	565	405	180	225	330	250	320	125	95	14	65.8
F4-80/160C				67.3										
F4-80/160B				611	405	180	225	330	250	320	70.0			
F4-80/160A				76.4										
F4-80/200B				655	430	200	280	360	280	345	100.0			
F4-80/200A				130.2										
F4-80/250B	673	480	200	280	405	315	400	160	120	18	149.5			
F4-80/250A	137.6													
F4-100/160B	125	100	125	622	480	200	280	362	280	360	160	120	18	91.0
F4-100/160A				97.0										
F4-100/200C				657	480	200	280	391	280	360				122.0
F4-100/200B				116.0										
F4-100/200A				694	505	225	422	315	400	124.1				
F4-100/250B				143.0										
F4-100/250A	789	159.3												

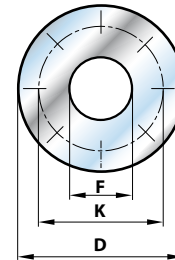
## FLANGED PORTS



DN FLANGES mm	D mm	K mm	HOLES	
			N°	Ø (mm)
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160	8	
100	220	180		
125	250	210		

## COUNTER FLANGES

(CAN BE ORDERED SEPARATELY)



DN FLANGES mm	F COUNTERFLANGES	D mm	K mm	HOLES	
				N°	Ø (mm)
32	1¼"	140	100	4	18
40	1½"	150	110		
50	2"	165	125		
65	2½"	185	145		
80	3"	200	160	8	
100	4"	220	180		
125	5"	250	210		

## ABSORPTION

MODEL	VOLTAGE	
	230–240 V	400–415 V
<b>Three-phase</b>		
F4-32/160B	1.9 A	1.1 A
F4-32/160A	1.9 A	1.3 A
F4-32/200B	3.6 A	2.1 A
F4-32/200A	4.0 A	2.3 A
F4-32/200BH	3.3 A	1.9 A
F4-32/200AH	3.5 A	2.0 A
F4-32/250C	5.7 A	2.6 A
F4-32/250B	7.3 A	3.3 A
F4-32/250A	7.8 A	5.2 A
F4-40/160B	2.1 A	1.2 A
F4-40/160A	2.8 A	1.6 A
F4-40/200B	3.6 A	2.1 A
F4-40/200A	4.2 A	2.4 A
F4-40/250C	5.5 A	2.6 A
F4-40/250B	6.1 A	3.5 A
F4-40/250A	8.5 A	5.2 A
F4-50/125B	2.3 A	1.4 A
F4-50/125A	2.6 A	1.5 A
F4-50/160B	3.3 A	2.1 A
F4-50/160A	4.2 A	2.4 A
F4-50/200C	6.1 A	3.5 A
F4-50/200B	8.0 A	4.6 A
F4-50/200A	9.0 A	5.2 A
F4-50/200AR	10.6 A	6.8 A
F4-50/250D	4.9 A	2.8 A
F4-50/250C	5.9 A	3.4 A
F4-50/250B	8.5 A	4.9 A
F4-50/250A	9.9 A	5.7 A
F4-50/250AR	11.8 A	6.8 A

MODEL	VOLTAGE	
	230–240 V	400–415 V
<b>Three-phase</b>		
F4-65/125B	3.6 A	2.1 A
F4-65/125A	4.5 A	2.6 A
F4-65/160C	5.2 A	2.7 A
F4-65/160B	5.9 A	3.4 A
F4-65/160A	7.8 A	4.5 A
F4-65/200A	9.0 A	5.2 A
F4-65/200AR	11.8 A	6.8 A
F4-65/250B	17.3 A	9.5 A
F4-65/250A	21.7 A	13.5 A
F4-80/160D	5.9 A	3.4 A
F4-80/160C	8.1 A	4.7 A
F4-80/160B	9.2 A	5.3 A
F4-80/160A	10.6 A	6.8 A
F4-80/200B	13.8 A	9.5 A
F4-80/200A	18.2 A	12.8 A
F4-80/250B	20.8 A	13.5 A
F4-80/250A	25.6 A	14.8 A
F4-100/160B	9.0 A	5.2 A
F4-100/160A	11.2 A	6.5 A
F4-100/200C	14.2 A	9.5 A
F4-100/200B	17.8 A	12.1 A
F4-100/200A	20.8 A	13.5 A
F4-100/250B	26.8 A	15.9 A
F4-100/250A	34.1 A	19.7 A

# FLUID SOLAR

## 4" high efficiency submersible solar pumps

 Clean water  
(Maximum sand content 150 g/m<sup>3</sup>)

 Domestic use

 Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m<sup>3</sup>/h)
- Head up to **180 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- Maximum immersion depth of **40 m** with a sufficiently long power cable
- Installation:
  - vertical
  - horizontal

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### TECHNICAL CHARACTERISTICS

- 4" multi-stage submersible solar pumps
- High performance motor with permanent magnets
- High efficiency photovoltaic panels  
**PANASONIC** mod. VBHN240SJ25
- Electronic control incorporated in the motor

### INSTALLATION AND USE

The **FLUID SOLAR** pumps have been developed to pump clean water from a well utilising energy obtained from photovoltaic panels. The electronic control incorporated into the high performance motor converts the exit voltage from the panels and regulates the velocity of rotation of the motor in order to utilise the available energy most efficiently at any one time: **on a sunny day there will be a high velocity of rotation with a raised performance of the pump, and on a cloudy day the velocity and the performance will be reduced.**

### PATENTS - TRADE MARKS

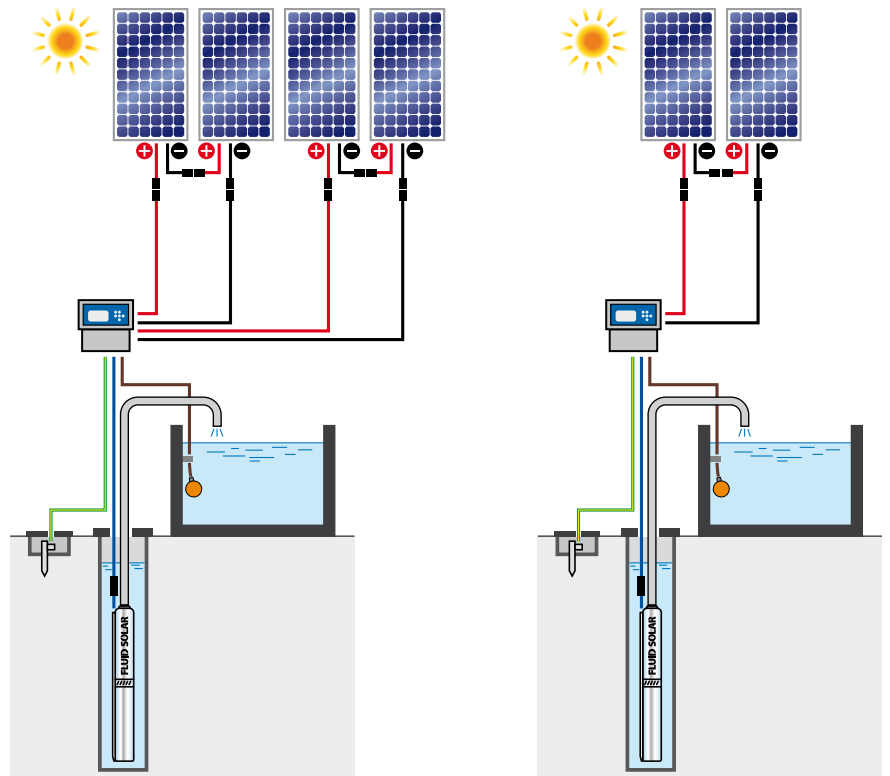
- Patent n. 0001413386, EP2419642
- Patent n. EP2300717
- FLUID SOLAR® Registered Trade Mark n. 0001516301



## Installation examples for electric water pump as $P_1=750\text{ W}$

### FLUID SOLAR 1/10 - 2/6 - 4/4 - 6/3

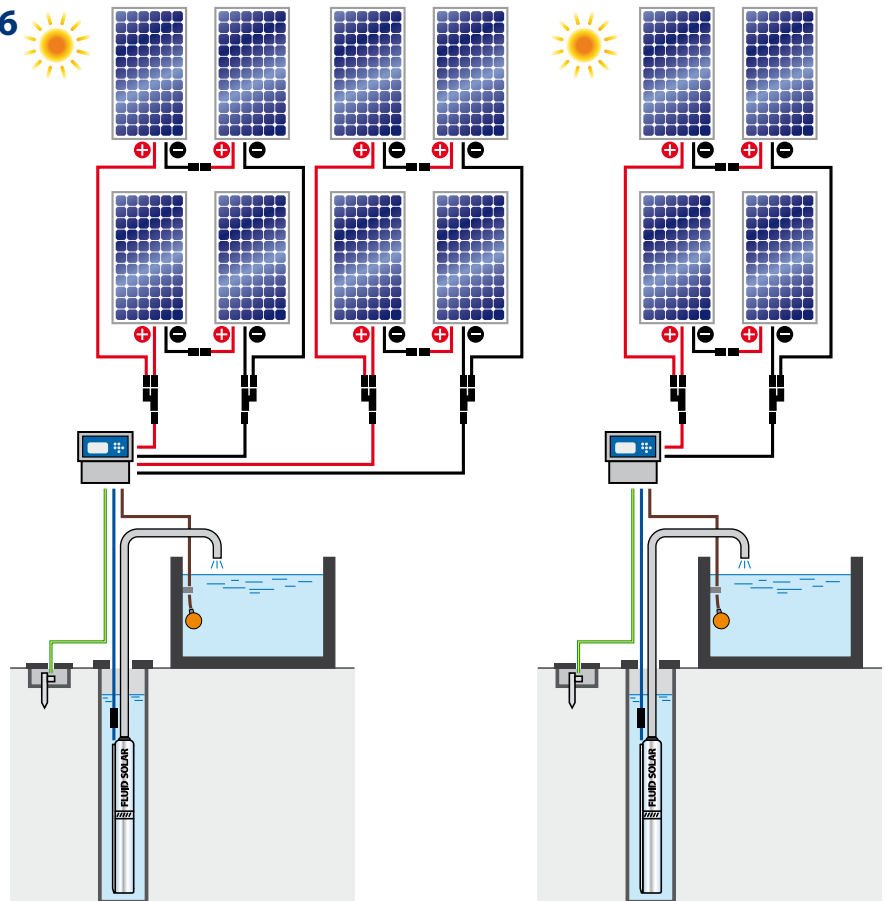
- To get the nominal maximum performances waterpump has to be powered by **n. 4 photovoltaic modules** with a nominal total power of **980 Wp** at least.
- Waterpump can be powered even by only **2 photovoltaic modules**: in this case performances are lower than maximum nominal performances that can be achieved with 4 modules.
- Empty tension for any single module has to range between **35 to 50 V<sub>DC</sub>**.



## Installation examples for electric water pump as $P_1=1500\text{ W}$

### FLUID SOLAR 1/20 - 2/14 - 4/8 - 6/6

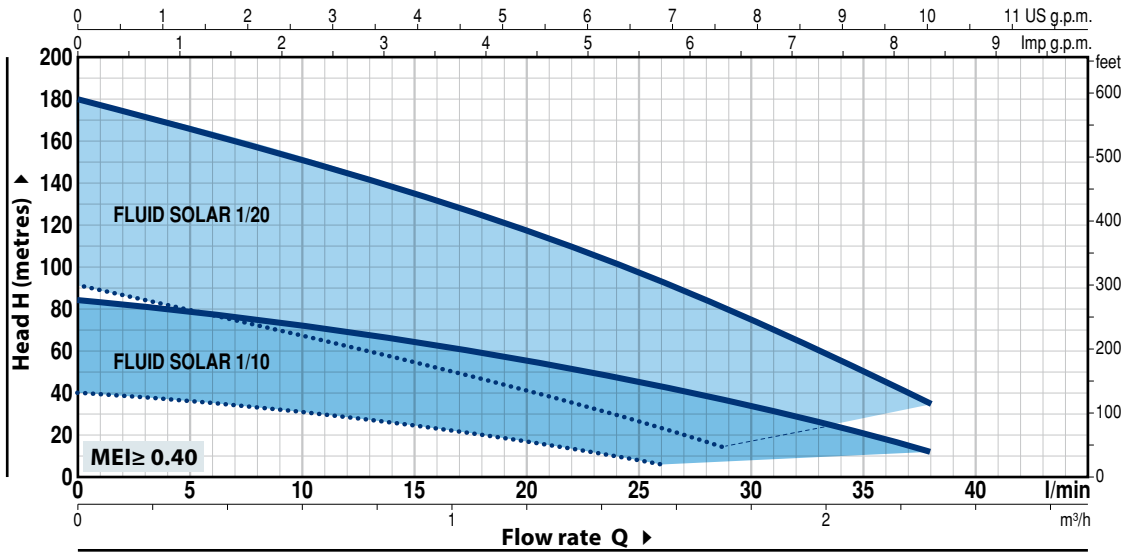
- To get the nominal maximum performances waterpump has to be powered by **n. 8 photovoltaic modules** with a nominal total power of **1960 Wp** at least.
- Waterpump can be powered even by only **4 photovoltaic modules**: in this case performances are lower than maximum nominal performances that can be achieved with 8 modules.
- Empty tension for any single module has to range between **35 to 50 V<sub>DC</sub>**.



# FLUID SOLAR

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B



### FLUID SOLAR 1/10

ABSORBED POWER P<sub>1</sub> **750 W**

Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

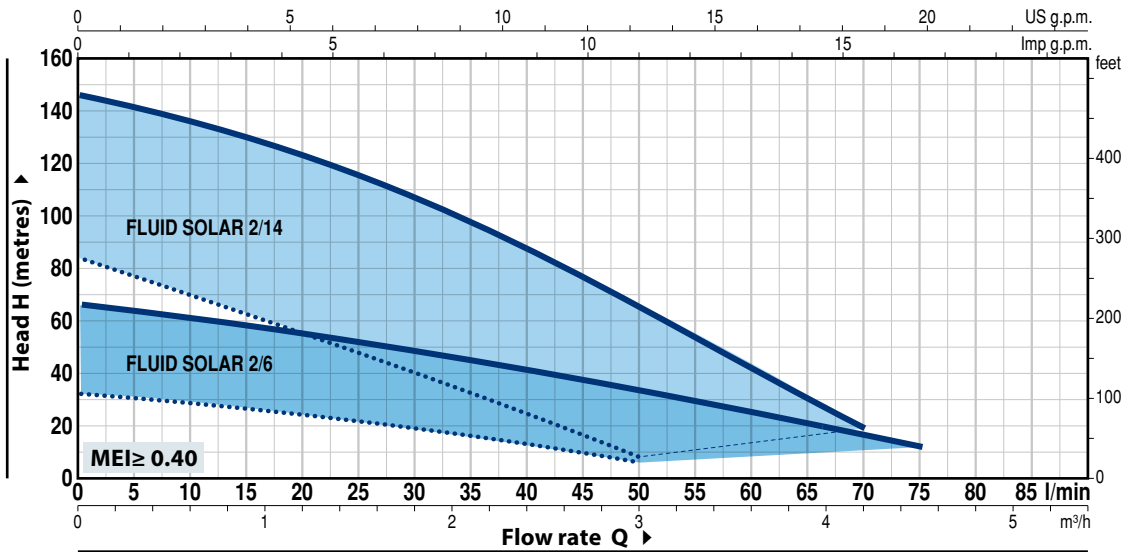
Q	m <sup>3</sup> /h							
	0	0.3	0.6	1.2	1.6	1.8	2.3	
l/min	0	5	10	20	26	30	38	
H metres	—	84	79	72	56	42	33	12
	....	40	36	31	17	6		

### FLUID SOLAR 1/20

ABSORBED POWER P<sub>1</sub> **1500 W**

Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q	m <sup>3</sup> /h								
	0	0.3	0.6	1.2	1.6	1.74	1.8	2.3	
l/min	0	5	10	20	26	29	30	38	
H metres	—	180	165	150	118	92	79	75	35
	....	90	80	67	41	22	13		



### FLUID SOLAR 2/6

ABSORBED POWER P<sub>1</sub> **750 W**

Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

Q	m <sup>3</sup> /h										
	0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.5	
l/min	0	5	10	20	30	40	50	60	70	75	
H metres	—	66	64	61	55	48	41	33	25	16	12
	....	32	31	28	24	19	13	6			

### FLUID SOLAR 2/14

ABSORBED POWER P<sub>1</sub> **1500 W**

Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q	m <sup>3</sup> /h									
	0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	
l/min	0	5	10	20	30	40	50	60	70	
H metres	—	146	140	136	123	107	87	65	42	20
	....	82	77	70	55	40	24	8		

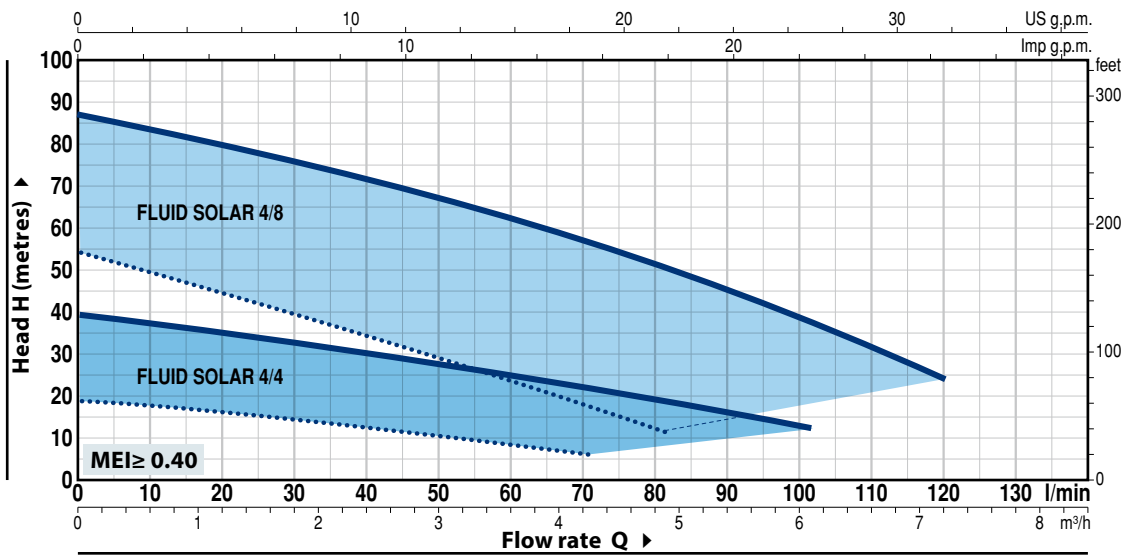
— Performance with a solar radiation of 1000 W/m<sup>2</sup> and with an available voltage of the photovoltaic panels of 100 Vdc

.... Performance with a solar radiation of 300 W/m<sup>2</sup> and with an available voltage of the photovoltaic panels of 70 Vdc

The performance curves illustrated above are obtained with the photovoltaic panels facing SOUTH (facing NORTH for installations in the southern hemisphere) and optimising the angle of inclination in relation to the horizon in compliance with the latitude of the installation site

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B



### FLUID SOLAR 4/4

ABSORBED POWER P<sub>1</sub> **750 W**

Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

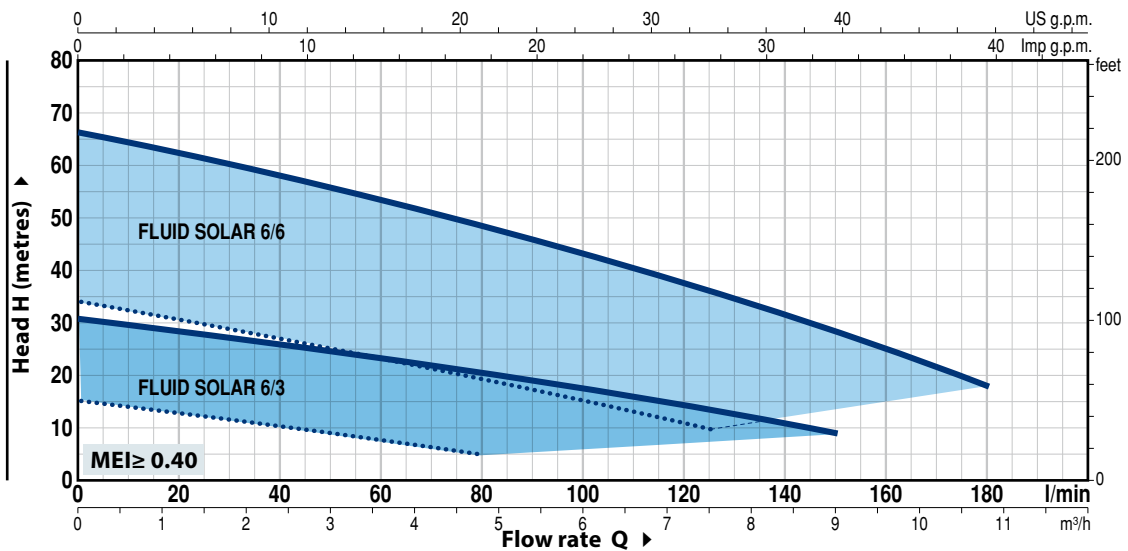
Q	m <sup>3</sup> /h												
	0	0.3	0.6	1.2	1.8	3.0	3.6	4.3	4.5	4.8	5.7	6.1	
l/min	0	5	10	20	30	50	60	71	75	80	95	102	
H metres	—	39	38.5	37	35	32.5	27	25	22	21	18	14	12
	....	19	18.5	17.5	16	14	10	8	6				

### FLUID SOLAR 4/8

ABSORBED POWER P<sub>1</sub> **1500 W**

Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q	m <sup>3</sup> /h									
	0	0.3	0.6	1.2	2.4	3.6	4.9	6.0	7.2	
l/min	0	5	10	20	40	60	82	100	120	
H metres	—	87	85	83	80	71	62	50	39	24
	....	54	52	49	45	34	23	11		



### FLUID SOLAR 6/3

ABSORBED POWER P<sub>1</sub> **750 W**

Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

Q	m <sup>3</sup> /h								
	0	0.3	1.8	3.6	4.8	5.4	7.2	9.0	
l/min	0	5	30	60	80	90	120	150	
H metres	—	31	30	27	23	20	19	14	9
	....	15	14	11	8	5			

### FLUID SOLAR 6/6

ABSORBED POWER P<sub>1</sub> **1500 W**

Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q	m <sup>3</sup> /h									
	0	0.3	1.8	3.6	5.4	7.2	7.5	9.0	10.8	
l/min	0	5	30	60	90	120	125	150	180	
H metres	—	66	65	60	53	46	37	36	28	18
	....	34	33	29	23	17	11	10		

— Performance with a solar radiation of 1000 W/m<sup>2</sup> and with an available voltage of the photovoltaic panels of 100 Vdc

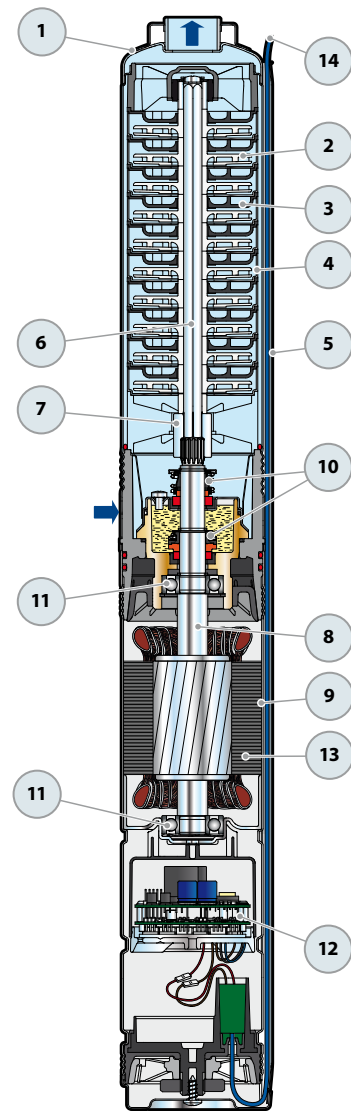
.... Performance with a solar radiation of 300 W/m<sup>2</sup> and with an available voltage of the photovoltaic panels of 70 Vdc

The performance curves illustrated above are obtained with the photovoltaic panels facing SOUTH (facing NORTH for installations in the southern hemisphere) and optimising the angle of inclination in relation to the horizon in compliance with the latitude of the installation site

# FLUID SOLAR $P_1 = 750\text{ W}$

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 DELIVERY BODY AND EXTERNAL SLEEVE</b>	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1.				
<b>2 IMPELLERS</b>	Lexan 141-R for FLUID SOLAR 1/10, 4/4, 6/3 Delrin for FLUID SOLAR 2/6				
<b>3 DIFFUSERS</b>	Noryl FE1520PW				
<b>4 STAGE BOXES / STAGE LIDS</b>	Stainless steel AISI 304				
<b>5 CABLE COVER</b>	Stainless steel AISI 304				
<b>6 PUMP SHAFT</b>	Stainless steel AISI 304 for FLUID SOLAR 1/10, 4/4, 4/8, 6/3				
<b>7 DRIVE COUPLING</b>	Stainless steel AISI 316L for FLUID SOLAR 1/10, 4/4, 4/8, 6/3				
<b>8 MOTOR SHAFT</b>	Stainless steel AISI 431				
<b>9 MOTOR SLEEVE</b>	Stainless steel AISI 304				
<b>10 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER</b>					
<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Materials</i>		
			<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
STA-17	Ø 17 mm	Motor side	Silicon carbide	Graphite	NBR
ST1-16	Ø 16 mm	Pump side	Silicon carbide	Graphite	NBR
<b>11 BEARINGS</b>	<b>6203 2RS - C3E / 6203 ZZ - C3E</b>				
<b>12 INVERTER</b>					
<b>13 ELECTRIC MOTOR</b>	<ul style="list-style-type: none"> <li>– Submersible motor, suitable for continuous duty (with dry, rewindable stator).</li> <li>– High performance motor with permanent magnets</li> <li>– Insulation: class F</li> <li>– Protection: IP X8</li> </ul>				



<b>14 POWER CABLE</b>	<p>⇒ <b>PBS-P type approved for use in drinking water by "ACS" in compliance with BS 6920, approval n. 04 ACCLI 201 Standard length 2 metres</b></p> <p>Equipment supplied: connection kit for RPS2 cables</p>
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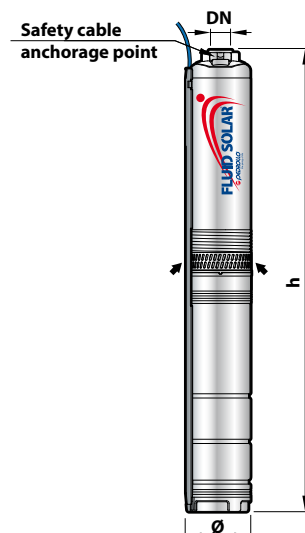
<b>15 CONTROL BOX</b>	
<b>16 CONNECTORS</b>	<ul style="list-style-type: none"> <li>– 2 SMK male connectors</li> <li>– 2 SMK female connectors</li> </ul>



## DIMENSIONS AND WEIGHT

MODEL	PORT DN	N. STAGES	DIMENSIONS mm		kg *
			Ø	h	
FLUID SOLAR 1/10	1"	10	100	710	12.3
FLUID SOLAR 2/6		6		587	11.4
FLUID SOLAR 4/4		4		614	11.0
FLUID SOLAR 6/3	1 1/4"	3		616	11.0

(\* weight of the pump with control box)



## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY AND EXTERNAL SLEEVE</b>	Stainless steel AISI 304, complete with threaded delivery port in compliance with ISO 228/1.
2	<b>IMPELLERS</b>	Lexan 141-R
3	<b>DIFFUSERS</b>	Noryl FE1520PW
4	<b>STAGE BOXES / STAGE LIDS</b>	Stainless steel AISI 304
5	<b>CABLE COVER</b>	Stainless steel AISI 304
6	<b>PUMP SHAFT</b>	Stainless steel AISI 304
7	<b>DRIVE COUPLING</b>	Stainless steel AISI 316L
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
9	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304

### 10 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-17	Ø 17 mm	Motor side	Silicon carbide	Graphite	NBR
ST1-16	Ø 16 mm	Pump side	Silicon carbide	Graphite	NBR

### 11 BEARINGS 3203 B 2RS - C3E / 6203 ZZ - C3E

### 12 INVERTER

### 13 ELECTRIC MOTOR

- Submersible motor, suitable for continuous duty (with dry, rewindable stator).
- High performance motor with permanent magnets
- Insulation: class F
- Protection: IP X8

### 14 POWER CABLE

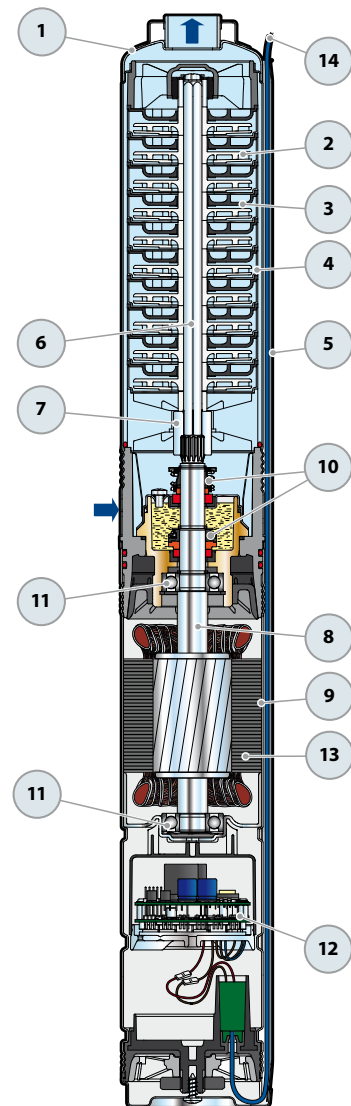
- ⇒ **PBS-P type approved for use in drinking water by "ACS" in compliance with BS 6920, approval n. 04 ACCLI 201 Standard length 2 metres**

Equipment supplied: connection kit for RPS2 cables

### 15 CONTROL BOX

### 16 CONNECTORS

- N. 2 SMK male connectors
- N. 2 SMK female connectors
- N. 2 Y female/male-male connectors type MC4
- N. 2 Y male/female-female connectors type MC4



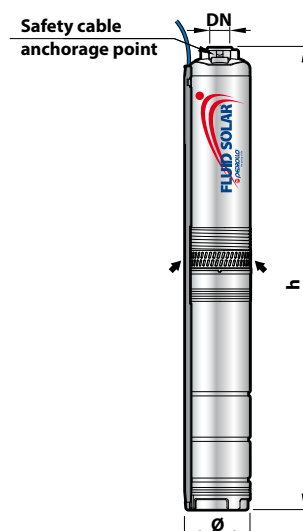
### Equipment supplied



## DIMENSIONS AND WEIGHT

MODEL	PORT DN	N. STAGES	DIMENSIONS mm		kg *
			Ø	h	
FLUID SOLAR 1/20	1"	20	100	990	13.9
FLUID SOLAR 2/14		14		855	13.8
FLUID SOLAR 4/8		8		772	13.7
FLUID SOLAR 6/6	1 1/4"	6		776	13.7

(\* weight of the pump with control box)





## 3" submersible pumps



### PERFORMANCE RANGE

- Flow rate up to **90 l/min** (5.4 m<sup>3</sup>/h)
- Head up to **267 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- Maximum immersion depth of 60 m with a sufficiently long power cable
- Installation:
  - vertical
  - horizontal up to 0.37 kW
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### INSTALLATION AND USE

3" submersible pumps suitable for pumping clean water for many applications such as domestic supply, irrigation and water systems for small communities.

### ELECTRIC MOTOR

- Oil filled rewindable motors (non-toxic oil for use with food) a 2 pole, 50 Hz
- Voltage:
  - single-phase **230 V**
  - three-phase **400 V**
- Insulation: class F
- Protection: IP 68
- Shaft and jacket: **AISI 304** stainless steel
- Dimensions of the flange connection in compliance with **NEMA** standards
- **1.5 m** long power cable

### PATENTES

- Patent n° EP3123031, EP2419642

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



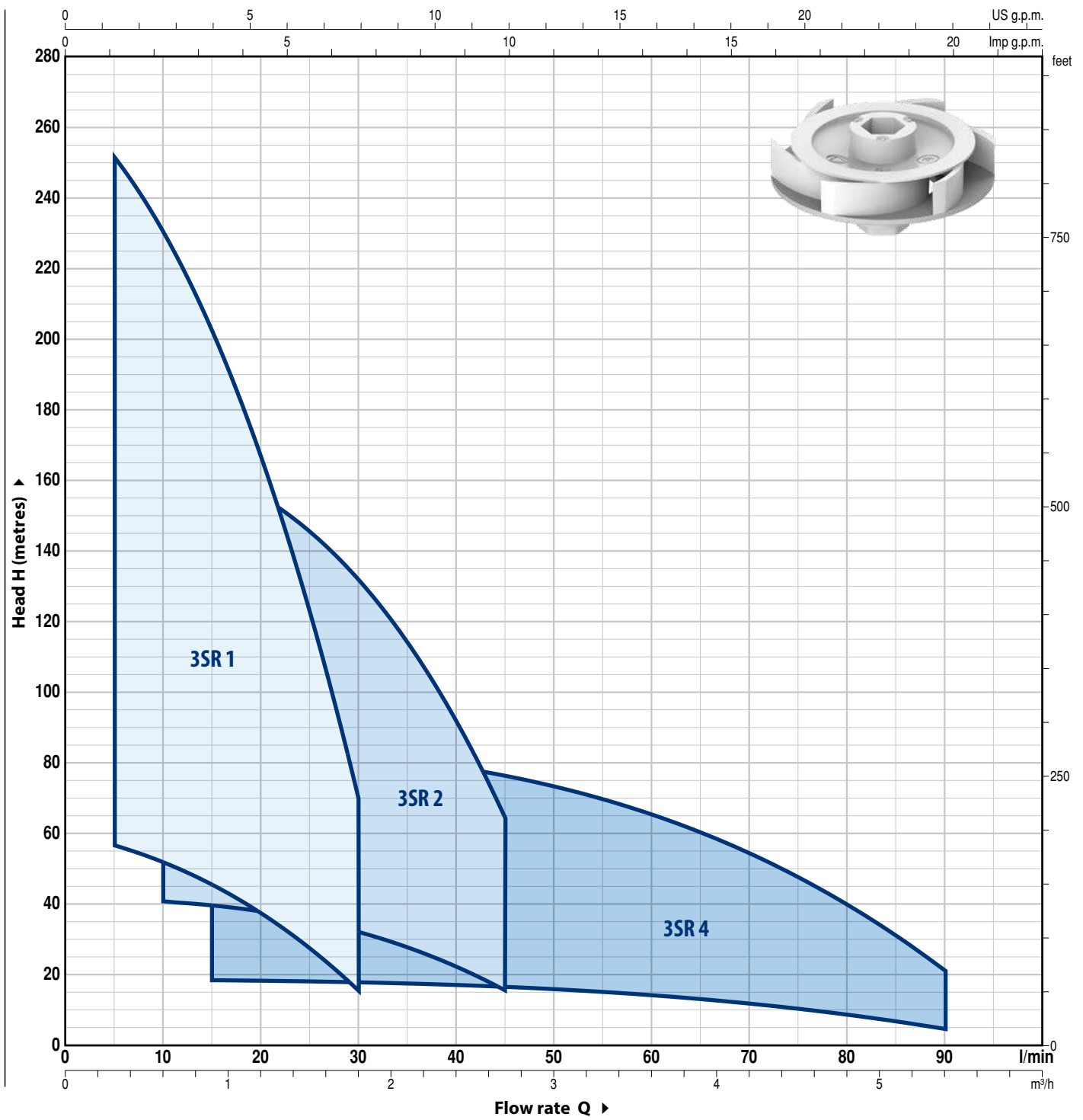
### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



**PERFORMANCE RANGE**

**50 Hz n= 2900 min<sup>-1</sup>**



● **THE ADVANTAGES FOR THE USER**

Economic savings on the use of water thanks to the high efficiency and the consequent reduced electricity consumption. With a diameter of only 3 inches, the costs of drilling a new well and the installation are greatly reduced.

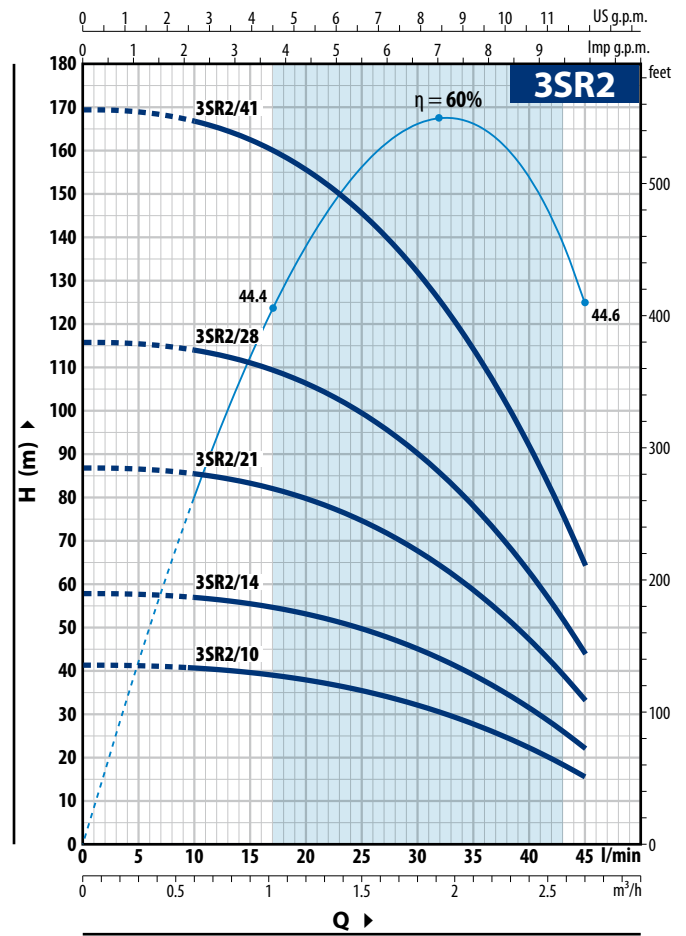
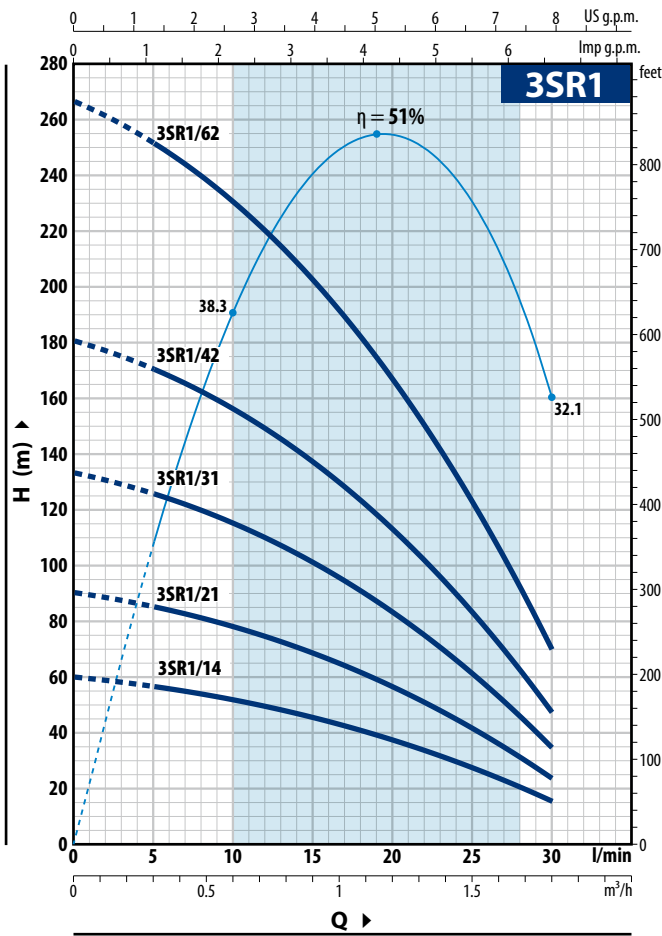
The construction with floating impellers allows the pumping of water with sand content of up to **150 g/m<sup>3</sup>**.

● **HIGH PERFORMANCE**

The hydraulic components, coupled to a high performance electric motor, make the 3SR pump extremely efficient in 3" category.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 3SR1

MODEL		POWER (P <sub>2</sub> )		Q	H metres							
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.3	0.6	0.9	1.2	1.5	1.8
				l/min	0	5	10	15	20	25	30	
3SRm 1/14	3SR 1/14	0.25	0.33	H metres	60	57	52	45.5	37.5	28	16	
3SRm 1/21	3SR 1/21	0.37	0.50		90	85	78	68.5	56.5	41.5	24	
3SRm 1/31	3SR 1/31	0.55	0.75		133	126	115	101	83	61.5	35	
3SRm 1/42	3SR 1/42	0.75	1		181	170	156	137	113	83	47.5	
3SRm 1/62	3SR 1/62	1.1	1.5		267	252	230	203	167	123	70	

### 3SR2

MODEL		POWER (P <sub>2</sub> )		Q	H metres								
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.6	0.9	1.2	1.5	1.8	2.1	2.4
				l/min	0	10	15	20	25	30	35	40	45
3SRm 2/10	3SR 2/10	0.25	0.33	H metres	41.5	40.5	39.5	38	35.5	32	28	22.3	15.5
3SRm 2/14	3SR 2/14	0.37	0.50		58	57	55.5	53	49.5	45	39	31	22
3SRm 2/21	3SR 2/21	0.55	0.75		87	85	83	80	74	67.5	58.5	47	33
3SRm 2/28	3SR 2/28	0.75	1		116	114	111	106	99	90	78	62.5	44
3SRm 2/41	3SR 2/41	1.1	1.5		169	166	162	155	145	132	114	92	64

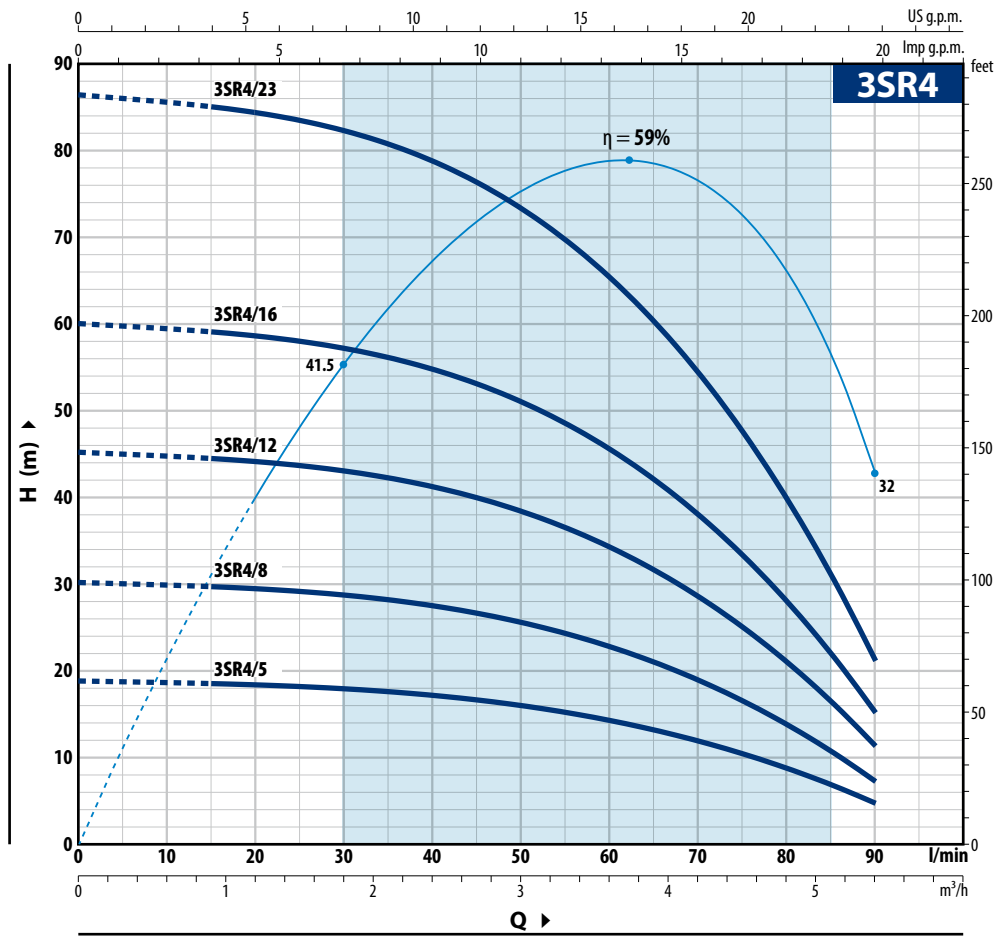
Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



# CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



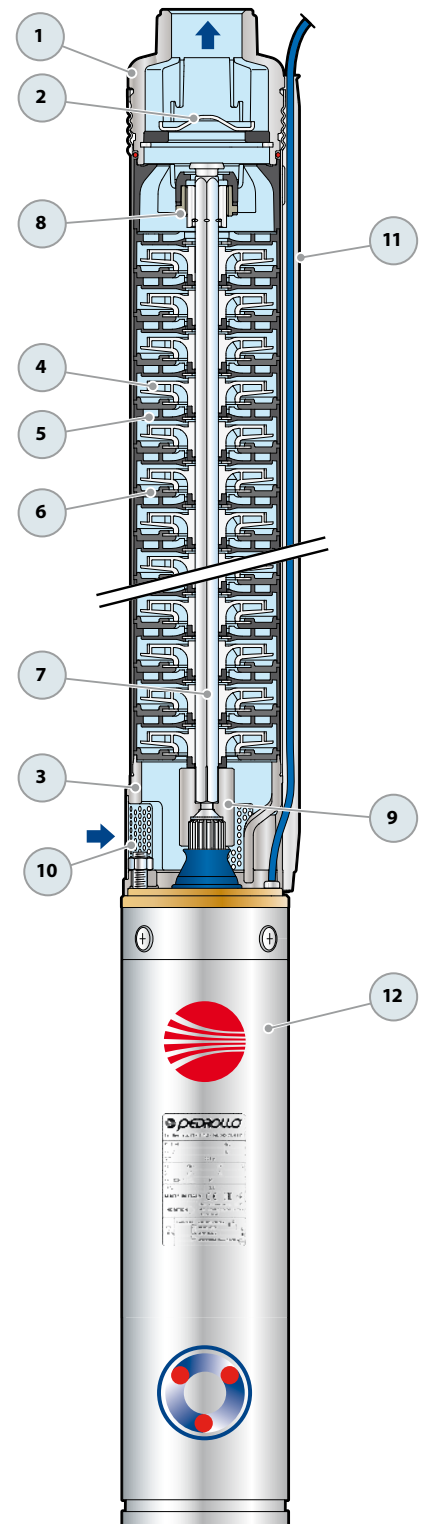
## 3SR4

MODEL		POWER (P <sub>2</sub> )		Q										
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.9	1.2	1.8	2.4	3	3.6	4.2	4.8
				l/min	0	15	20	30	40	50	60	70	80	90
3SRm 4/5	3SR 4/5	0.25	0.33	H metres	19	18.5	18.3	17.9	17.1	16	14.2	11.9	8.7	4.5
3SRm 4/8	3SR 4/8	0.37	0.50		30	29.5	29.5	28.5	27.5	25.5	22.8	19	14	7.5
3SRm 4/12	3SR 4/12	0.55	0.75		45	44.5	44	43	41	38.5	34	28.5	21	11.5
3SRm 4/16	3SR 4/16	0.75	1		60	59	58.5	57.5	55	51	45.5	38	28	15
3SRm 4/23	3SR 4/23	1.1	1.5		86	85	84	82	79	73	65.5	54.5	40	21.5

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

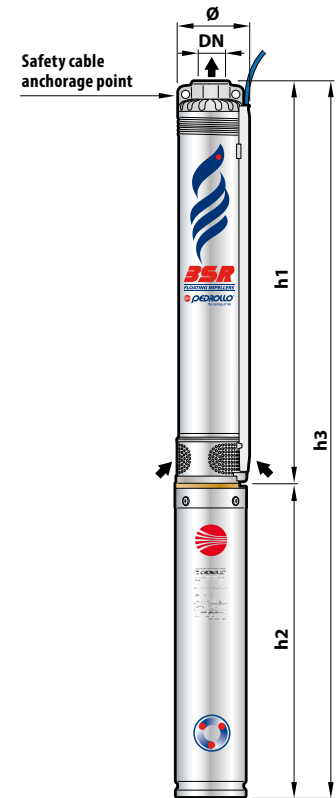
POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Stainless steel AISI 304, in compliance with NEMA standards
4 IMPELLERS	Delrin
5 DIFFUSER	Noryl - Stainless steel AISI 304
6 DIFFUSER PLATE	Noryl - Stainless steel AISI 304
7 PUMP SHAFT	Stainless steel AISI 304
8 PUMP BEARINGS	Special technopolymer housing with stainless steel AISI 316L, chrome oxide coated, sand resistant shaft bushing.
9 DRIVE COUPLING	Stainless steel AISI 316L
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 3"	<ul style="list-style-type: none"> <li>- Oil filled rewindable motors (non-toxic oil for use with food)</li> <li>- 2 pole,, 50 Hz (n ~ 2900 min<sup>-1</sup>)</li> <li>- Voltage:               <ul style="list-style-type: none"> <li>Single-phase 230 V</li> <li>Three-phase 400 V</li> </ul> </li> <li>- Insulation:: class F</li> <li>- Protection:: IP 68</li> <li>- Shaft and jacket: AISI 304 stainless steel</li> <li>- Dimensions of the flange connection in compliance with NEMA standards</li> <li>- 1.5 m long power cable</li> </ul>



## DIMENSIONS AND WEIGHT

MODEL	PORT	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
<b>Single-phase</b>	<b>DN</b>					1~
3SRm 1/14	1"	76	415	378	793	9.1
3SRm 1/21			547	378	925	9.6
3SRm 1/31			736	398	1134	11.0
3SRm 1/42			973	438	1411	13.1
3SRm 1/62			1380	478	1858	16.0
3SRm 2/10	1"	76	376	378	754	8.9
3SRm 2/14			466	378	844	9.3
3SRm 2/21			624	398	1022	10.6
3SRm 2/28			781	438	1219	12.3
3SRm 2/41			1104	478	1582	14.8
3SRm 4/5	1"	76	311	378	689	8.6
3SRm 4/8			407	378	785	8.9
3SRm 4/12			534	398	932	10.0
3SRm 4/16			662	438	1100	11.6
3SRm 4/23			915	478	1393	13.7

Three-phase	DN					3~
		Ø	h1	h2	h3	
3SR 1/14	1"	76	415	358	773	8.6
3SR 1/21			547	358	905	9.2
3SR 1/31			736	378	1114	10.5
3SR 1/42			973	398	1371	12.1
3SR 1/62			1380	438	1818	14.9
3SR 2/10	1"	76	376	358	734	8.4
3SR 2/14			466	358	824	8.9
3SR 2/21			624	378	1002	10
3SR 2/28			781	398	1179	11.3
3SR 2/41			1104	438	1542	13.7
3SR 4/5	1"	76	311	358	669	8.1
3SR 4/8			407	358	765	8.5
3SR 4/12			534	378	912	9.4
3SR 4/16			662	398	1060	10.6
3SR 4/23			915	438	1353	12.6



## ABSORPTION

Single-phase versions					
MODEL	Rated power P <sub>2</sub>		Axial load N	Capacitor (VL=450V) µF	ABSORPTION
	kW	HP			
<b>230 V / 50 Hz</b>					
3SRm 1/14	0.25	0.33	800	12.5	3.2 A
3SRm 1/21	0.37	0.50		12.5	3.4 A
3SRm 1/31	0.55	0.75		16	4.5 A
3SRm 1/42	0.75	1		20	6.0 A
3SRm 1/62	1.1	1.5		30	8.0 A
3SRm 2/10	0.25	0.33	800	12.5	3.2 A
3SRm 2/14	0.37	0.50		12.5	3.4 A
3SRm 2/21	0.55	0.75		16	4.5 A
3SRm 2/28	0.75	1		20	6.0 A
3SRm 2/41	1.1	1.5		30	8.0 A
3SRm 4/5	0.25	0.33	800	12.5	3.2 A
3SRm 4/8	0.37	0.50		12.5	3.4 A
3SRm 4/12	0.55	0.75		16	4.5 A
3SRm 4/16	0.75	1		20	6.0 A
3SRm 4/23	1.1	1.5		30	8.0 A

Three-phase versions					
MODEL	Rated power P <sub>2</sub>		Axial load N		ABSORPTION
	kW	HP			
<b>400 V / 50 Hz</b>					
3SR 1/14	0.25	0.33	800		1.4 A
3SR 1/21	0.37	0.50			1.5 A
3SR 1/31	0.55	0.75			1.9 A
3SR 1/42	0.75	1			2.6 A
3SR 1/62	1.1	1.5			3.5 A
3SR 2/10	0.25	0.33	800		1.4 A
3SR 2/14	0.37	0.50			1.5 A
3SR 2/21	0.55	0.75			1.9 A
3SR 2/28	0.75	1			2.6 A
3SR 2/41	1.1	1.5			3.5 A
3SR 4/5	0.25	0.33	800		1.4 A
3SR 4/8	0.37	0.50			1.5 A
3SR 4/12	0.55	0.75			1.9 A
3SR 4/16	0.75	1			2.6 A
3SR 4/23	1.1	1.5			3.5 A

# DAVIS

## 4" submersible pump with peripheral impeller

 Clean water

 Domestic use

 Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m<sup>3</sup>/h)
- Head up to **75 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum immersion depth of **40 m** with a sufficiently long power cable
- Vertical and horizontal installation
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with **clean water that does not contain abrasive particles** and with liquids that are not chemically aggressive towards the materials from which the pump is made.

Because of their compact design and economy, they are suitable for domestic applications such as the distribution of water in combination with small pressure tanks and for irrigation, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2300717 - EP2419642
- DAVIS® Trade Mark n. 0001552668

### OPTIONS AVAILABLE ON REQUEST

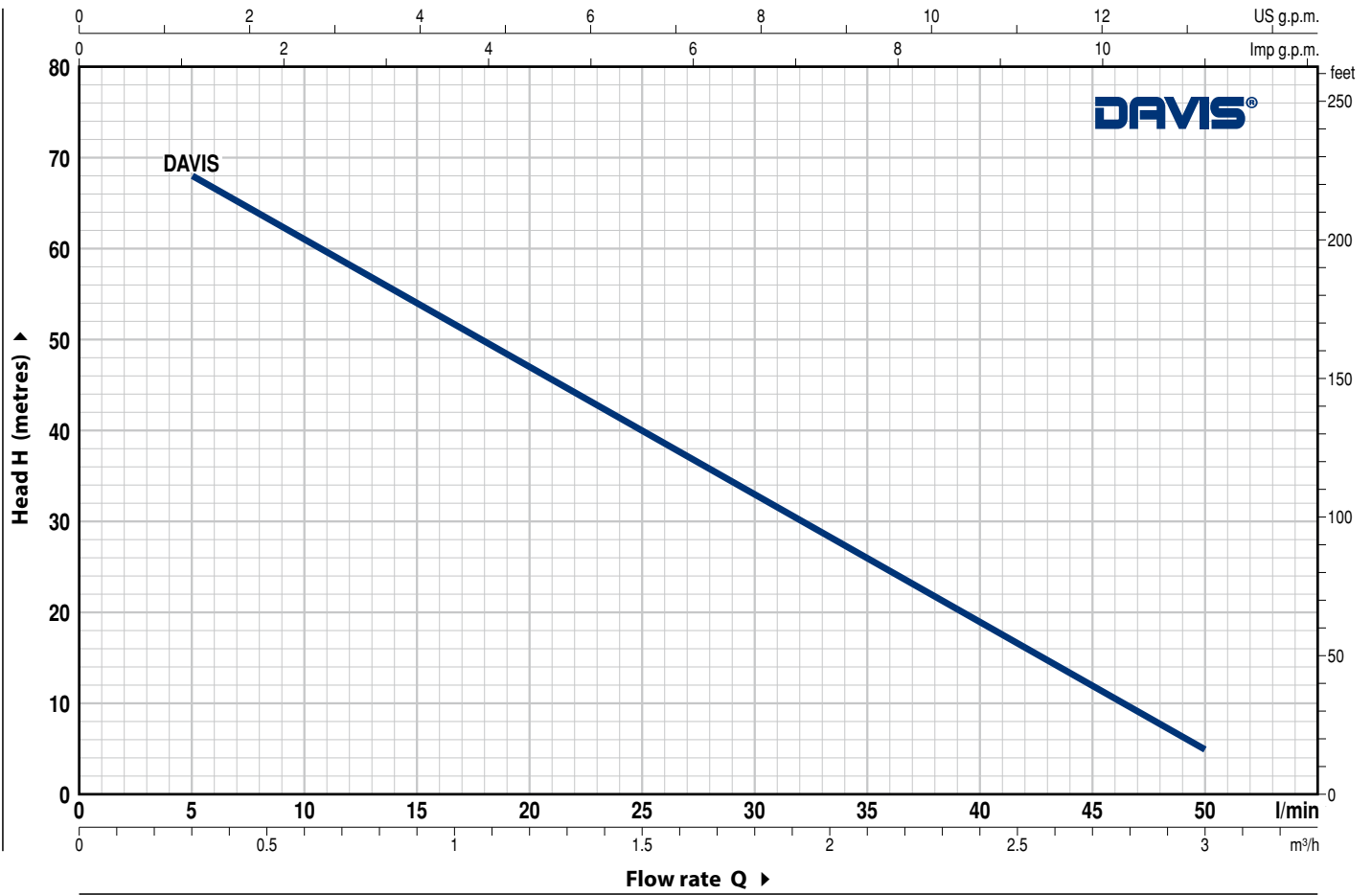
- **30 metres long power cable**
- Other voltages or 60 Hz frequency

➡ **Ready to install, stainless steel monoblock submersible pump.**

**Complete with: – motor with built-in capacitor and thermal overload protector  
– 20 m long power cable.**

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
	kW	HP		0	5	10	15	20	25	30	35	40	45	50
DAVIS®	0.75	1	H metres	75	68	61	54	47	40	33	26	19	12	5

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>PUMP BODY BACK PLATE</b>	Brass
3	<b>IMPELLER</b>	Brass with peripheral radial vanes
4	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
AR-14	Ø 14 mm	Motor side	Ceramic	Graphite	NBR
ST1-14 SIC	Ø 14 mm	Pump side	Ceramic	Silicon carbide	NBR

### 7 BEARINGS 6203 ZZ - C3E / 6203 ZZ - C3E

### 8 CAPACITOR

#### Capacitance

(230 V or 240 V)	(110 V)
31.5 µF - 500 VL	70 µF - 250 VL

### 9 ELECTRIC MOTOR

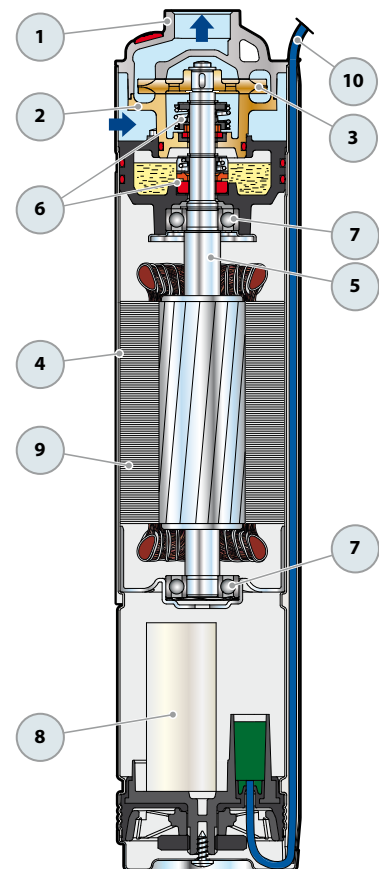
Submersible PEDROLLO motor, suitable for continuous duty (with dry, rewindable stator).

**DAVIS®:** single-phase 230 V - 50 Hz  
 Motor with built-in capacitor.  
 Thermal overload protector incorporated into the winding.

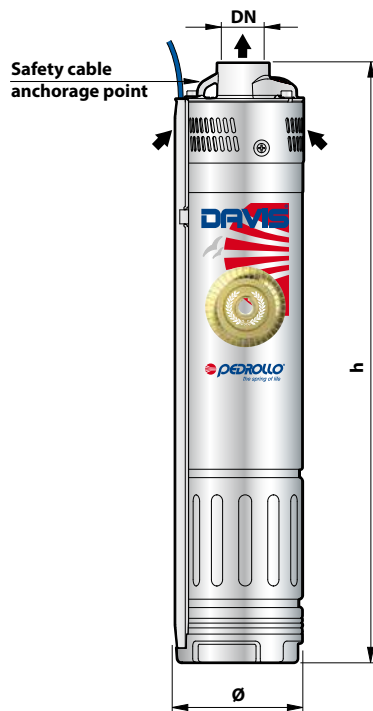
- Insulation: class F
- Protection: IP X8

### 10 POWER CABLE

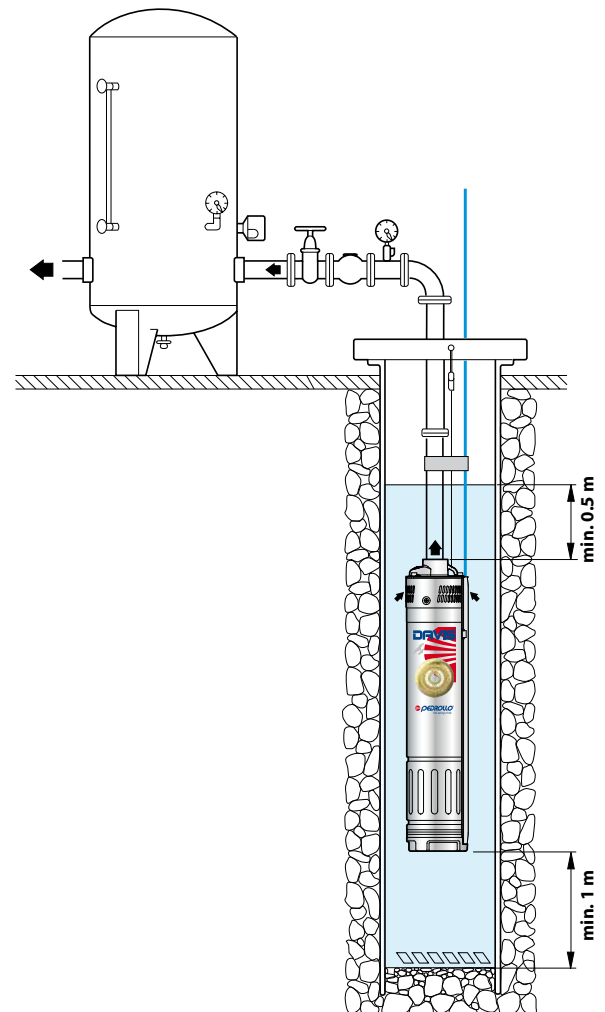
- ⇒ **PBS-P type approved for use in drinking water by "ACS" in compliance with BS 6920, approval . 04 ACCLI 201 Standard length 20 metres**



## DIMENSIONS AND WEIGHT



Standard installation



MODEL	PORT	DIMENSIONS mm		kg
		Ø	h	
Single-phase	DN			
DAVIS®	1"	101	470	12.6

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
DAVIS®	5.7 A	5.5 A	11.4 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
DAVIS®	60	60

 Clean water  
(Maximum sand content 200 g/m<sup>3</sup>)

 Domestic use

 Civil use

 Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m<sup>3</sup>/h)
- Head up to **140 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **200 g/m<sup>3</sup>**
- Maximum immersion depth of **60 m** with a sufficiently long power cable
- Vertical and horizontal installation
- Starts/hour: **20** at regular intervals
- Continuous service **S1**

### INSTALLATION AND USE

Suitable for pumping clean water from boreholes that contain sand (up to 200 g/m<sup>3</sup>).

Because of their high efficiency and reliability they are suitable for use in domestic applications such as domestic water supply as part of a pressure supply and for irrigation, etc.

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### PATENTS - TRADE MARKS - MODELS

- European Patents n. n° EP3123031, EP2419642

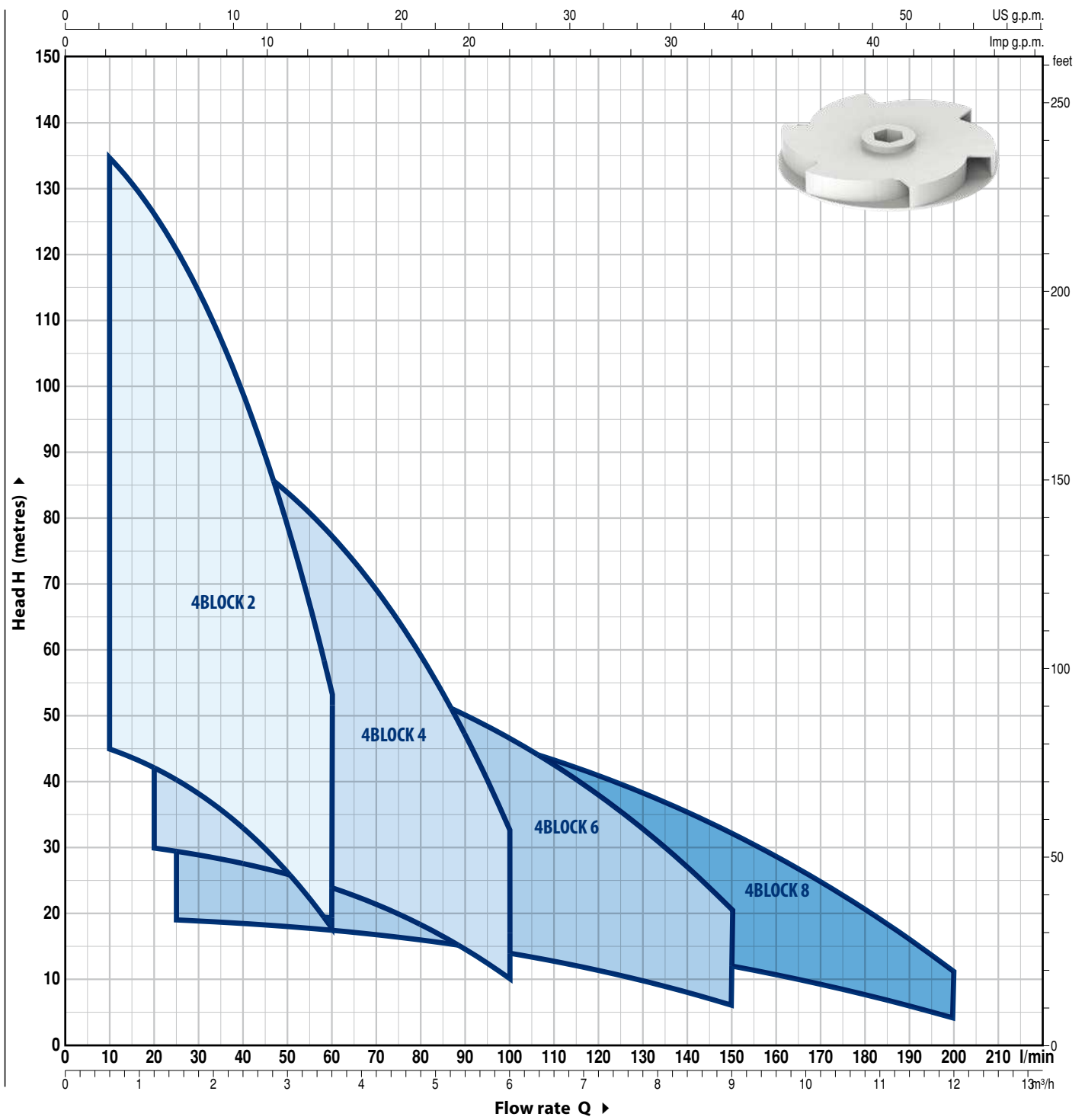
### OPTIONS AVAILABLE ON REQUEST

- **30 metres** long power cable
- Other voltages or 60 Hz frequency



**PERFORMANCE RANGE**

**50 Hz n= 2900 min<sup>-1</sup>**

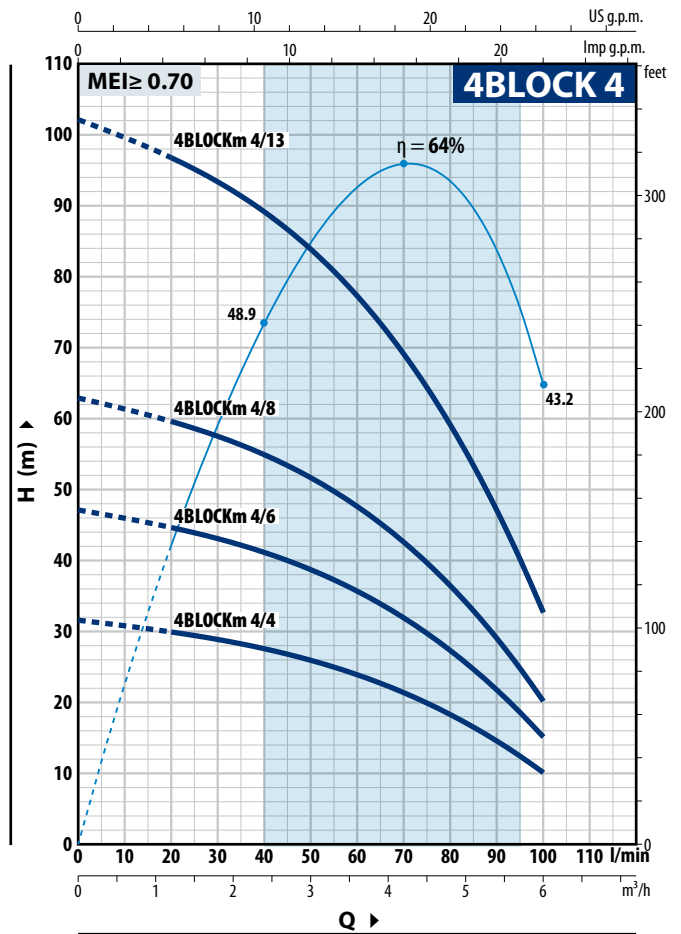
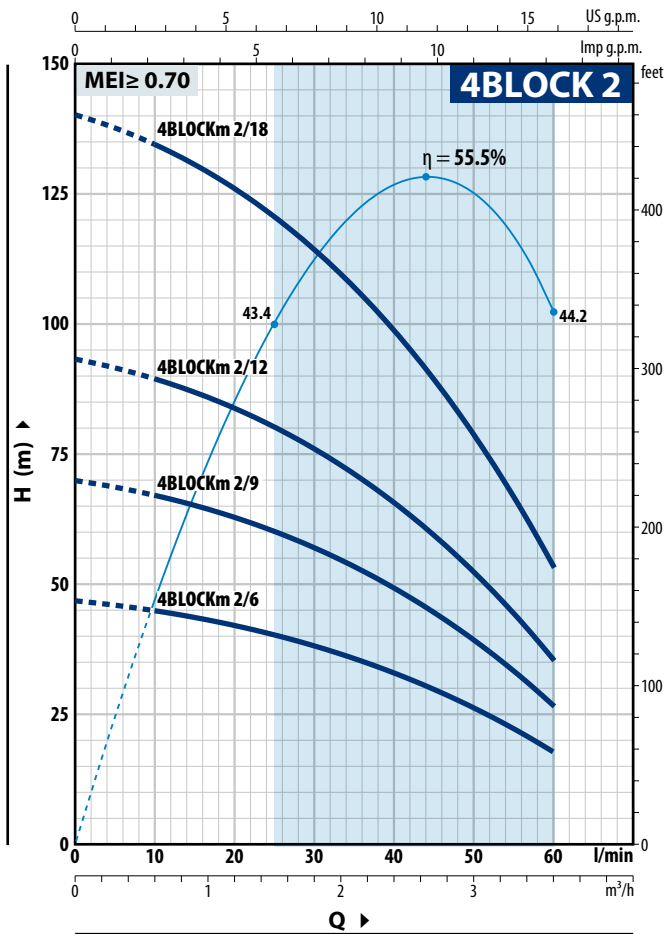


► Ready to install, stainless steel monoblock submersible pump.

Complete with: – motor with built-in capacitor and thermal overload protector  
– 20 m long power cable.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



#### 4BLOCK 2

MODEL	POWER (P <sub>2</sub> )		Q	H metres							
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3.0	3.6
Single-phase			l/min	0	10	20	30	40	50	60	
4BLOCKm 2/6	0.37	0.50		47	45	42	38	33	26.3	18	
4BLOCKm 2/9	0.55	0.75		70	67.5	63	57	49.5	39.5	26.5	
4BLOCKm 2/12	0.75	1		94	90	84	76	66	52.5	35.5	
4BLOCKm 2/18	1.1	1.5		140	135	126	114	99	79	53.5	

#### 4BLOCK 4

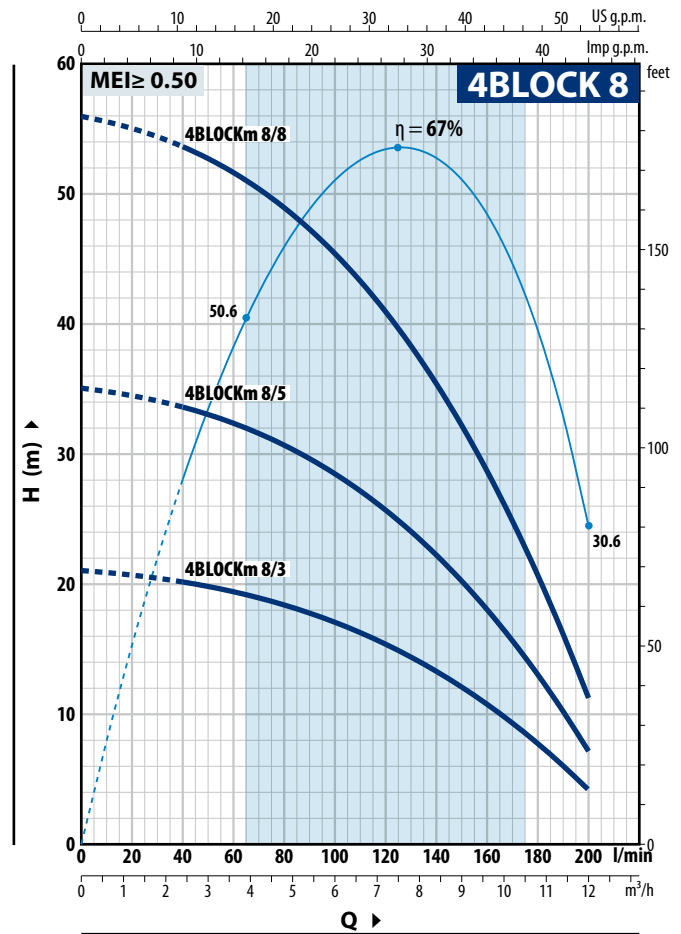
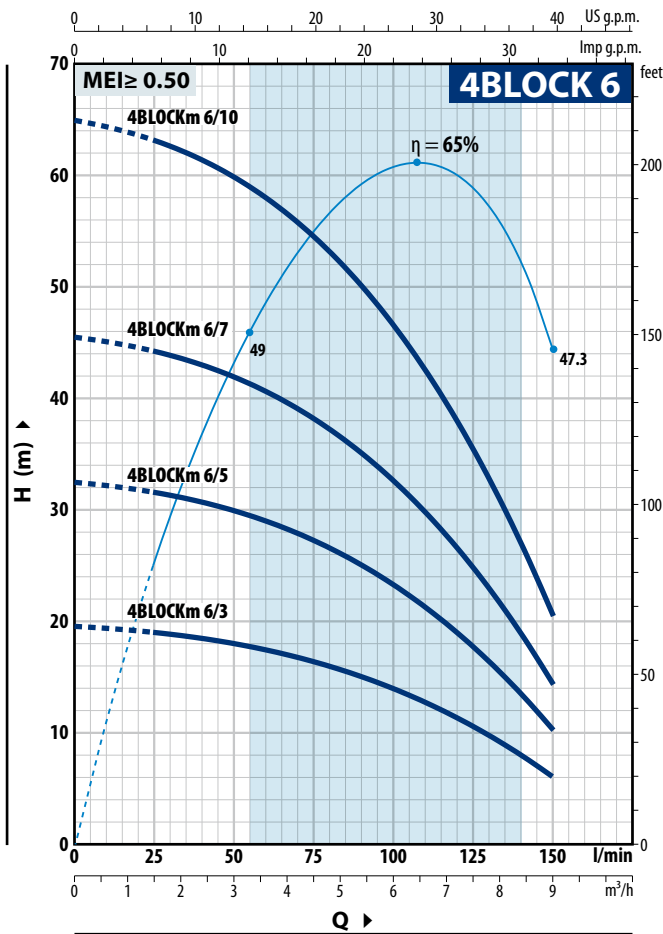
MODEL	POWER (P <sub>2</sub> )		Q	H metres							
	kW	HP		m <sup>3</sup> /h	0	1.2	1.5	2.4	3.6	4.5	6.0
Single-phase			l/min	0	20	25	40	60	75	100	
4BLOCKm 4/4	0.37	0.50		31.5	30	29.5	27.5	23.8	19.8	10	
4BLOCKm 4/6	0.55	0.75		47	44.5	44	41	35.5	29.5	15	
4BLOCKm 4/8	0.75	1		63	59.5	58.5	55	47.5	39.5	20	
4BLOCKm 4/13	1.1	1.5		102	97	95	89	77	64.5	32.5	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 4BLOCK 6

MODEL	POWER (P <sub>2</sub> )		Q													
	kW	HP		m <sup>3</sup> /h	0	1.5	2.4	3.6	4.5	6.0	7.5	9.0				
Single-phase			l/min	0	25	40	60	75	100	125	150					
4BLOCKm 6/3	0.37	0.50	H metres		19.5	19	18.4	17.4	16.4	14	10.6	6				
4BLOCKm 6/5	0.55	0.75			32.5	31.5	30.5	29	27.5	23.3	17.7	10				
4BLOCKm 6/7	0.75	1			45.5	44	43	40.5	38	32.5	24.8	14.5				
4BLOCKm 6/10	1.1	1.5			65	63	61.5	58	54.5	46.5	35.5	20.5				

### 4BLOCK 8

MODEL	POWER (P <sub>2</sub> )		Q												
	kW	HP		m <sup>3</sup> /h	0	2.4	3.6	4.5	6.0	7.5	9.0	10.5	12		
Single-phase			l/min	0	40	60	75	100	125	150	175	200			
4BLOCKm 8/3	0.55	0.75	H metres		21	20	19.4	18.7	17.1	14.9	12.1	8.6	4		
4BLOCKm 8/5	0.75	1			35	33.5	32.5	31	28.5	24.8	20.2	14.3	7		
4BLOCKm 8/8	1.1	1.5			56	53.5	51.5	50	45.5	39.5	32.5	22.9	11.5		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### POS. COMPONENT CONSTRUCTION CHARACTERISTICS

**1 DELIVERY BODY AND EXTERNAL SLEEVE** Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1.

**2 PUMP BEARING** Fixed part in EPDM

**3 IMPELLERS** Delrin

**4 DIFFUSERS** Noryl

**5 STAGE CASING** Stainless steel AISI 304

**6 PUMP SHAFT** Stainless steel AISI 304

**7 CABLE COVER** Stainless steel AISI 304

**8 FILTER** Stainless steel AISI 304

**9 MOTOR BRACKET** Tecnopolymer and brass

**10 MOTOR SHAFT** Stainless steel AISI 431

**11 MOTOR SLEEVE** Stainless steel AISI 304

**12 MECHANICAL SEAL**

Seal Model	Shaft Diameter	Materials		
		Stationary ring	Rotational ring	Elastomer
ST1-16	Ø 16 mm	Ceramic	Graphite	NBR

**13 BEARINGS** 6203 / 6203

**14 CAPACITOR** EN 60252-1/A1  

**15 ELECTRIC MOTOR**  
Submersible PEDROLLO motor, suitable for continuous duty, rewindable in oil bath (non-toxic oil for food use).

**4BLOCKm:** single-phase 220-230 V - 50 Hz  
Motor with built-in capacitor.  
Thermal overload protector incorporated into the winding.

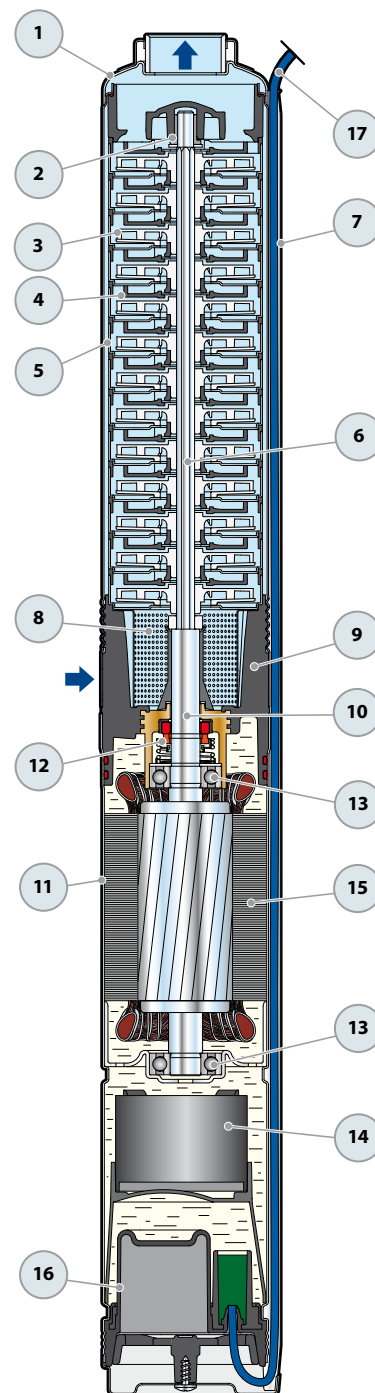
- Insulation: class F
- Protection: IP X8

**16 MEMBRANE BALANCER**

**17 POWER CABLE**

⇒ Di tipo DRINCABLE® HRC approved for use in drinking water by "ACS" in compliance with XP P 41-250, approval n. 18 MAT NY 156

**Standard length 20 metres**



## DIMENSIONS AND WEIGHT

MODEL	PORT DN	DIMENSIONS mm			kg
		N.STAGES	Ø	h	
Single-phase					1~
4BLOCKm 2/6	1¼"	6	100	597	11.2
4BLOCKm 2/9		9		657	12.4
4BLOCKm 2/12		12		737	14.3
4BLOCKm 2/18		18		907	17.2
4BLOCKm 4/4		4		577	10.8
4BLOCKm 4/6		6		627	11.8
4BLOCKm 4/8		8		697	12.8
4BLOCKm 4/13		13		872	16.6
4BLOCKm 6/3		3		572	10.6
4BLOCKm 6/5		5		635	11.8
4BLOCKm 6/7		7		718	13.1
4BLOCKm 6/10		10		862	16.4
4BLOCKm 8/3		3		572	10.6
4BLOCKm 8/5		5		655	12.5
4BLOCKm 8/8		8		799	15.4



## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
Single-phase		
4BLOCKm – 0.37 kW	3.2 A	3.1 A
4BLOCKm – 0.55 kW	4.0 A	3.8 A
4BLOCKm – 0.75 kW	6.0 A	5.8 A
4BLOCKm – 1.1 kW	8.0 A	7.7 A

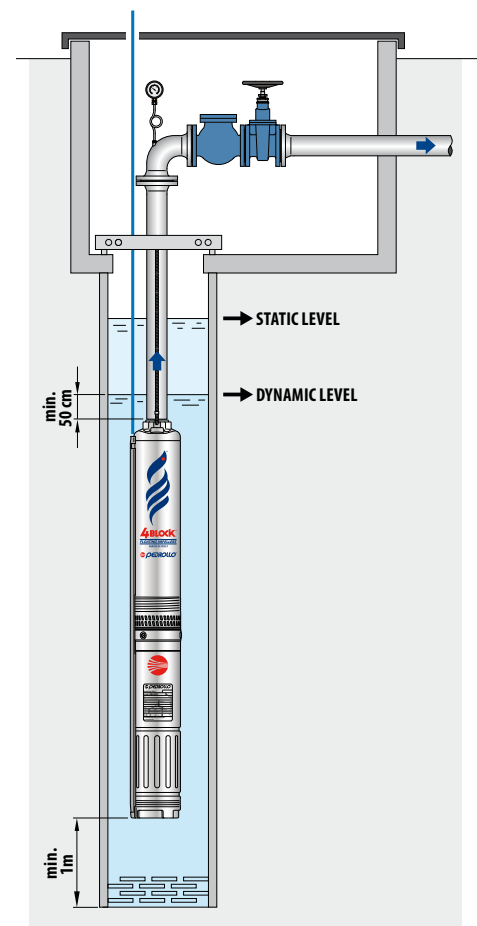
## CAPACITORS

MODEL	CAPACITANCE
Single-phase	230 V or 240 V
4BLOCKm – 0.37 kW	20 µF - 450 VL
4BLOCKm – 0.55 kW	20 µF - 450 VL
4BLOCKm – 0.75 kW	35 µF - 450 VL
4BLOCKm – 1.1 kW	35 µF - 450 VL

## PALLETIZATION

MODEL	GROUPAGE
Single-phase	n. pumps
4BLOCKm 2	55
4BLOCKm 4	55
4BLOCKm 6	55
4BLOCKm 8	55

### Typical installation



# 4SR-F<sup>®</sup>

## FLOATING IMPELLERS (Patented)



## 4" submersible pumps



Clean water  
(Maximum  
sand content 200 g/m<sup>3</sup>)



Domestic use



Civil use



Agricultural use

### PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12.0 m<sup>3</sup>/h)
- Head up to **432 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **200 g/m<sup>3</sup>**
- Immersion limit:
  - **200 m** with 4PD motor
  - **100 m** with 4PS motor
- Installation:
  - vertical
  - horizontal, with the following limits:
    - 4SR1 - 4SR1.5 - 4SR2 - 4SR4 up to **23 stages**
    - 4SR6 - 4SR8 up to **17 stages**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **200 g/m<sup>3</sup>**. Because of their high efficiency and reliability, they are suitable for use in domestic, civil and industrial applications such as for the distribution of water in combination with pressure tanks, for irrigation, for washing plants etc.

### PATENTS

- **European Patents n. EP3123031, EP2419642**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

- Three-phase 400 V - 50 Hz
- Single-phase 230 V - 50 Hz
- **Capacitor included in the packaging**

Length of power cable:

- **2 m** powers from 0.37 to 2.2 kW
- **3.6 m** powers from 3 to 7.5 kW.

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### OPTIONS AVAILABLE ON REQUEST

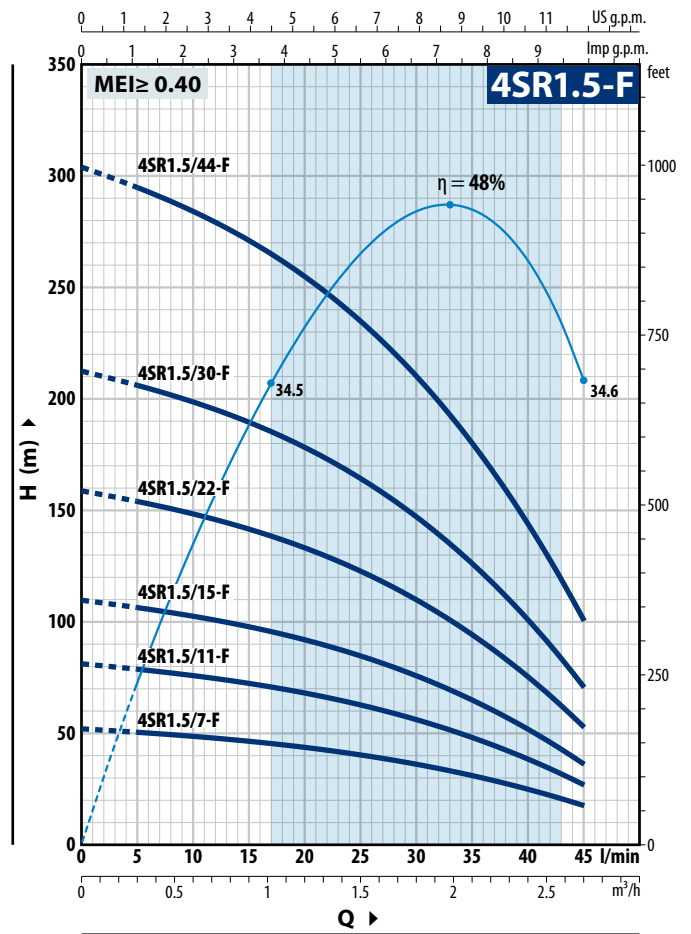
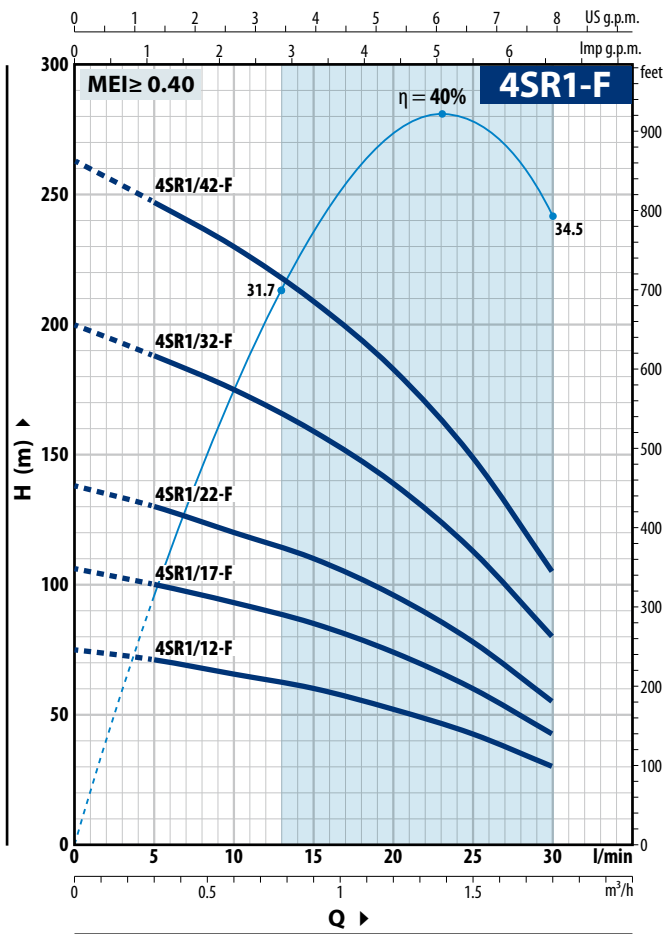
- Other voltages or 60 Hz frequency
- Kit of cooling jacket complete with filter and supports; recommended for powers from 2.2 kW to 7.5 kW



COOLING JACKET

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 4SR1-F

MODEL		POWER (P <sub>2</sub> )		Q	H metres							
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.3	0.6	0.9	1.2	1.5	1.8
				l/min	0	5	10	15	20	25	30	
4SRm 1/12-F	4SR 1/12-F	0.37	0.50	H metres	75	71	65.5	60	52	42.5	30	
4SRm 1/17-F	4SR 1/17-F	0.55	0.75		106	100	93	85	74	60	42.5	
4SRm 1/22-F	4SR 1/22-F	0.75	1		138	130	120	110	96	78	55	
4SRm 1/32-F	4SR 1/32-F	1.1	1.5		200	188	175	159	139	113	80	
4SRm 1/42-F	4SR 1/42-F	1.5	2		263	247	230	209	183	149	105	

### 4SR1.5-F

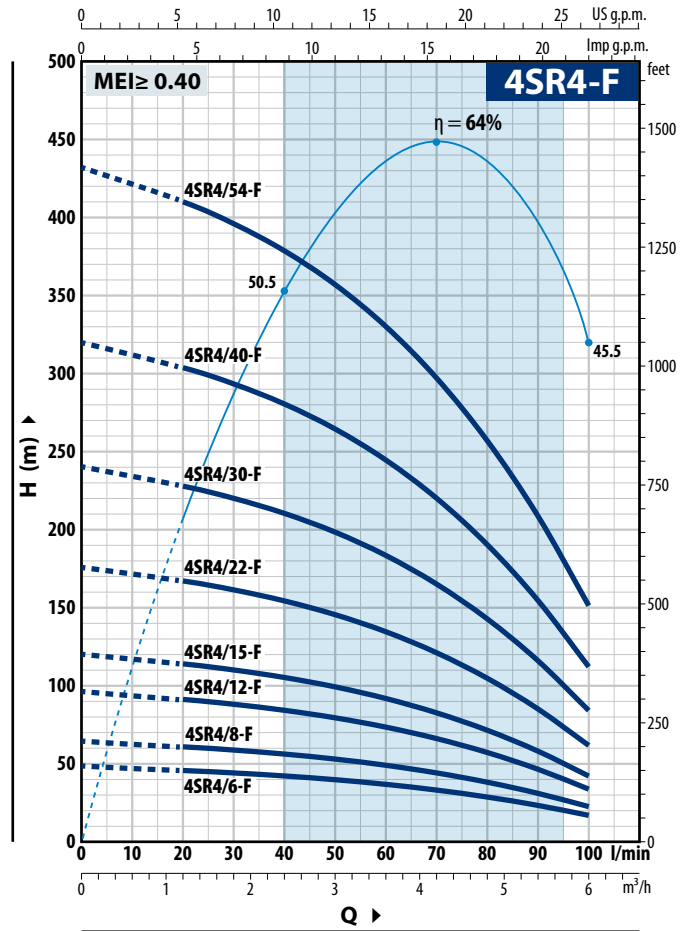
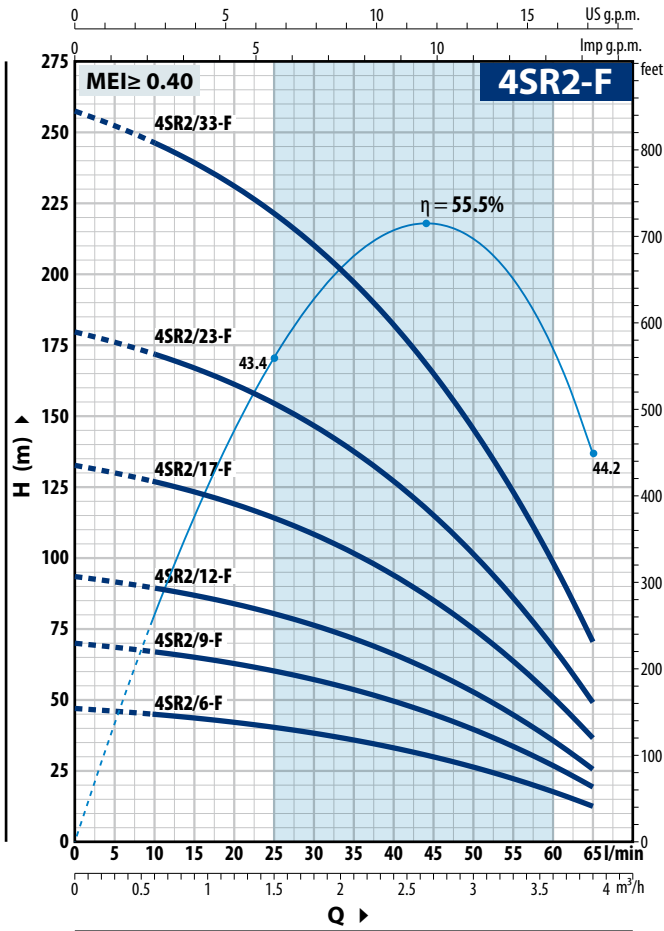
MODEL		POWER (P <sub>2</sub> )		Q	H metres									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4
				l/min	0	5	10	15	20	25	30	35	40	45
4SRm 1.5/7 -F	4SR 1.5/7 -F	0.37	0.50	H metres	51.5	50	48.5	46	43.5	40	36	30.5	24.5	17
4SRm 1.5/11 -F	4SR 1.5/11 -F	0.55	0.75		81	78	75	72	67.5	62.5	55.5	48	38	26.5
4SRm 1.5/15 -F	4SR 1.5/15 -F	0.75	1		109	106	102	97	92	84	76	64.5	51.5	36
4SRm 1.5/22 -F	4SR 1.5/22 -F	1.1	1.5		158	154	148	141	133	122	109	94	75	52.5
4SRm 1.5/30 -F	4SR 1.5/30 -F	1.5	2		213	206	199	190	178	164	147	126	100	70
4SRm 1.5/44 -F	4SR 1.5/44 -F	2.2	3		304	295	284	271	255	235	210	180	144	100

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



#### 4SR2-F

MODEL		POWER (P <sub>2</sub> )		Q	H metres								
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3.0	3.6	3.9
				l/min	0	10	20	30	40	50	60	65	
4SRm 2/6 -F	4SR 2/6 -F	0.37	0.50	H metres	47	45	42	38	33	26.4	17.9	13	
4SRm 2/9 -F	4SR 2/9 -F	0.55	0.75		70	67	63	57.5	49.5	39.5	26.8	19.5	
4SRm 2/12 -F	4SR 2/12 -F	0.75	1		94	90	84	76	66	53	36	25.5	
4SRm 2/17 -F	4SR 2/17 -F	1.1	1.5		133	127	119	108	94	75	50.5	36.5	
4SRm 2/23 -F	4SR 2/23 -F	1.5	2		179	172	161	146	127	101	68.5	49	
4SRm 2/33 -F	4SR 2/33 -F	2.2	3		257	246	231	210	182	145	98	71	

#### 4SR4-F

MODEL		POWER (P <sub>2</sub> )		Q	H metres									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4
				l/min	0	20	30	40	50	60	70	80	90	100
4SRm 4/6 -F	4SR 4/6 -F	0.55	0.75	H metres	48	45.5	44	42	39.5	36.5	33	28.5	23.2	17
4SRm 4/8 -F	4SR 4/8 -F	0.75	1		64	60.5	58.5	56	53	49	44	38	31	22.5
4SRm 4/12 -F	4SR 4/12 -F	1.1	1.5		96	91	88	84	79	73	66	57	46.5	33.5
4SRm 4/15 -F	4SR 4/15 -F	1.5	2		120	114	110	105	99	92	83	71	58	42
4SRm 4/22 -F	4SR 4/22 -F	2.2	3		176	167	161	154	145	134	121	105	85	61.5
-	4SR 4/30 -F	3	4		240	228	220	210	198	183	165	143	116	84
-	4SR 4/40 -F	4	5.5		320	304	293	280	264	244	220	190	154	112
-	4SR 4/54 -F	5.5	7.5		432	410	396	379	357	330	297	257	209	151

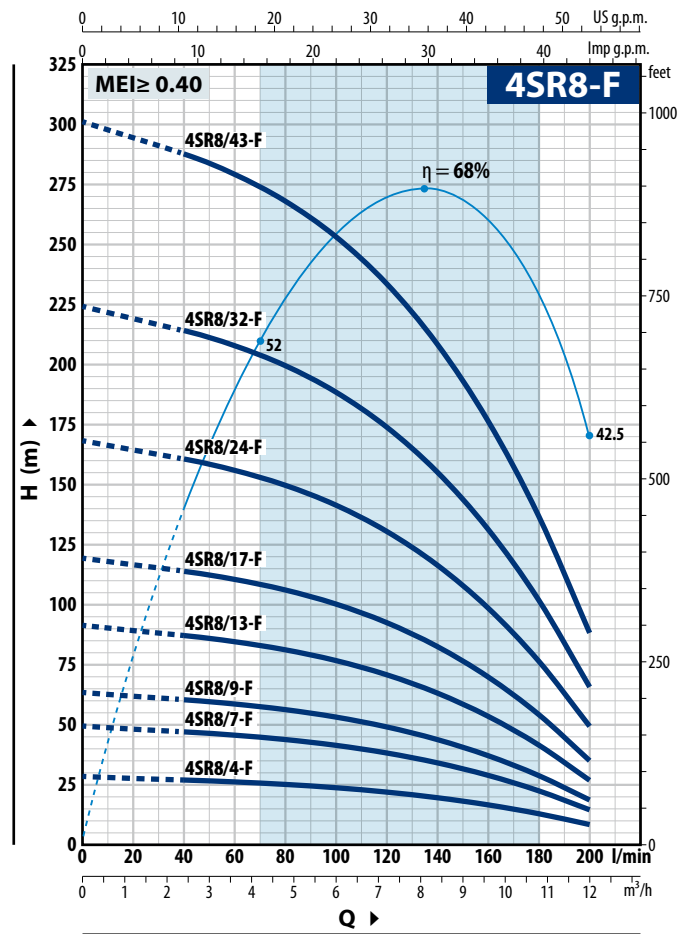
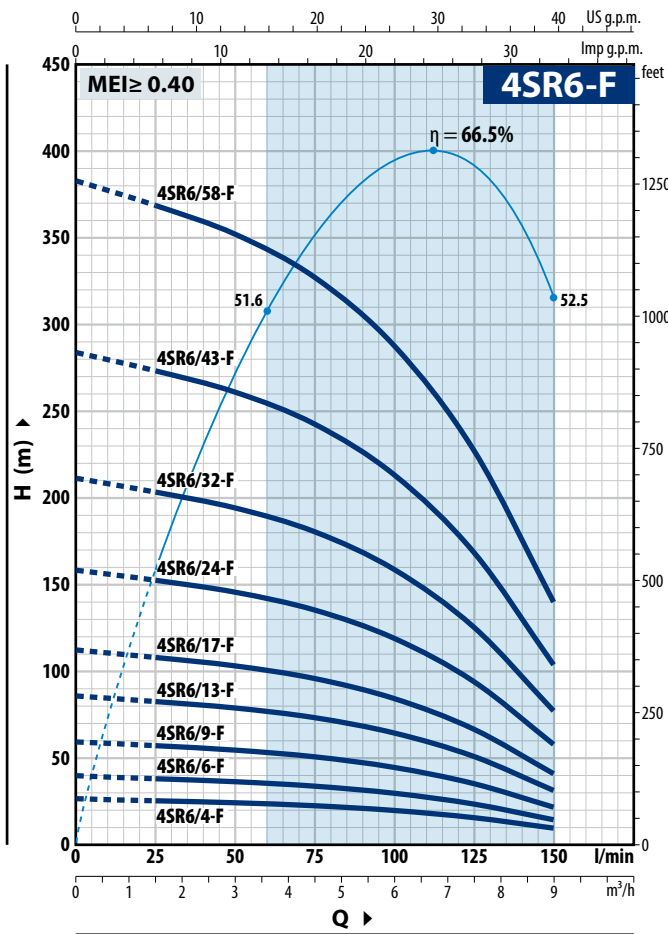
Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 4SR6-F

MODEL		POWER (P <sub>2</sub> )		Q	H metres						
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.5	3.0	4.5	6.0	7.5
4SRm 6/4 -F	4SR 6/4 -F	0.55	0.75	0	0	25	50	75	100	125	150
4SRm 6/6 -F	4SR 6/6 -F	0.75	1	0	26.5	25.5	24.3	22.5	19.8	15.7	9.5
4SRm 6/9 -F	4SR 6/9 -F	1.1	1.5	0	39.5	38	36.5	34	29.5	23.5	14.5
4SRm 6/13-F	4SR 6/13-F	1.5	2	0	59.5	57	54.5	50.5	44.5	35.5	21.5
4SRm 6/17-F	4SR 6/17-F	2.2	3	0	86	83	79	73	64.5	51	31.5
-	4SR 6/24-F	3	4	0	112	108	103	96	84	66.5	41
-	4SR 6/32-F	4	5.5	0	158	152	146	135	119	94	58
-	4SR 6/43-F	5.5	7.5	0	211	203	194	180	159	125	77
-	4SR 6/58-F	7.5	10	0	284	273	261	242	213	168	104
				0	383	368	352	327	287	227	140

### 4SR8-F

MODEL		POWER (P <sub>2</sub> )		Q	H metres											
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	
4SRm 8/4 -F	4SR 8/4 -F	0.75	1	0	0	40	60	80	100	120	140	160	180	200		
4SRm 8/7 -F	4SR 8/7 -F	1.1	1.5	0	28	27	26	25	23.6	21.8	19.4	16.4	12.7	8		
4SRm 8/9 -F	4SR 8/9 -F	1.5	2	0	49	47	45.5	43.5	41.5	38	34	28.5	22.3	14.5		
4SRm 8/13-F	4SR 8/13-F	2.2	3	0	63	60.5	58.5	56	53	49	43.5	37	28.5	18.5		
-	4SR 8/17-F	3	4	0	91	87	85	81	77	71	63	53.5	41.5	26.5		
-	4SR 8/24-F	4	5.5	0	119	114	111	106	100	92	82	70	54	35		
-	4SR 8/32-F	5.5	7.5	0	168	161	156	150	141	131	116	99	76	49		
-	4SR 8/43-F	7.5	10	0	224	214	208	200	189	174	155	131	102	65.5		
				0	301	288	280	268	253	234	209	177	137	88		

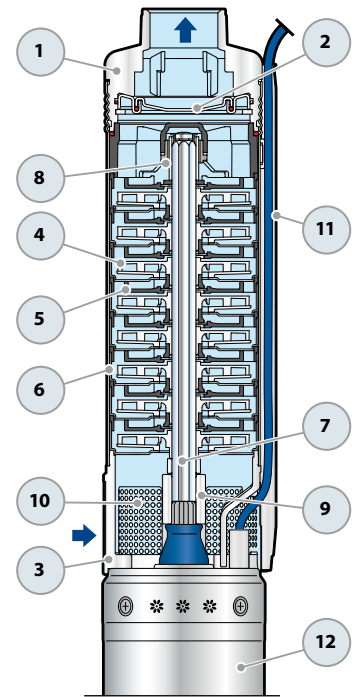
Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT

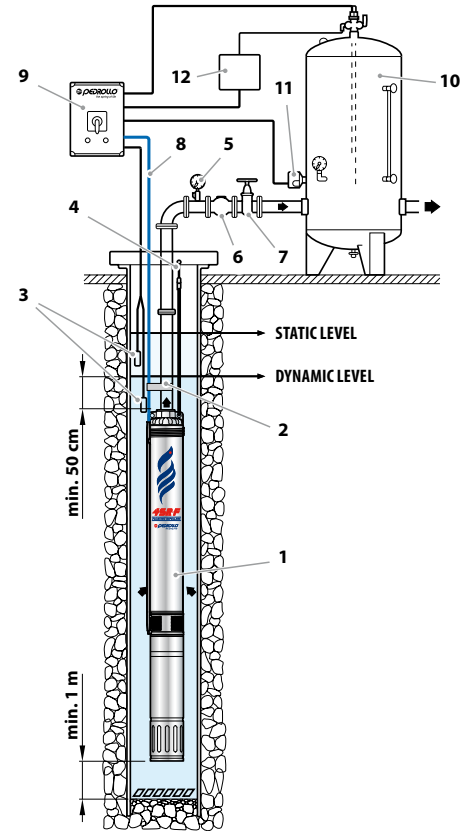
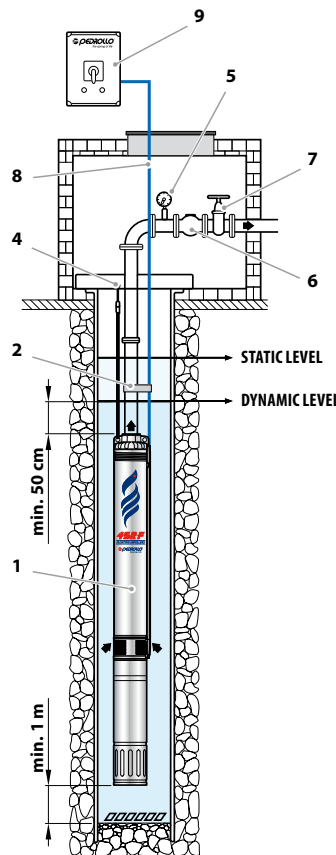
## CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>NON-RETURN VALVE</b>	Stainless steel AISI 304
3	<b>MOTOR BRACKET</b>	Stainless steel AISI 304, in compliance with NEMA standards
4	<b>IMPELLER</b>	Delrin
5	<b>DIFFUSER</b>	Noryl FE1520PW
6	<b>STAGE CASING</b>	Stainless steel AISI 304
7	<b>PUMP SHAFT</b>	Stainless steel AISI 304
8	<b>PUMP BEARINGS</b>	Special technopolymer housing with stainless steel AISI 316, chrome oxide coated, sand resistant shaft bushing
9	<b>DRIVE COUPLING</b>	Stainless steel AISI 316L up to 2.2 kW; stainless steel AISI 304 for higher powers
10	<b>FILTER</b>	Stainless steel AISI 304
11	<b>CABLE COVER</b>	Stainless steel AISI 304
12	<b>MOTOR 4"</b>	<b>4PD</b> = rewindable oil filled submersible motor <b>4PS</b> = incapsulated water cooled submersible motor



## STANDARD INSTALLATION

- 1) Submersible pump
- 2) Power cable clamps
- 3) Level probes; prevent dry running
- 4) Bracket and anchorage cable
- 5) Pressure gauge
- 6) Non-return valve
- 7) Gate valve; for flow rate regulation
- 8) Power cable
- 9) Control box
- 10) Pressure vessel
- 11) Pressure switch
- 12) Electro valve/electro-compressor



➔ The **4SR** series pumps should be installed in boreholes of at least 4" (100 mm) in diameter. The pump should be lowered into the borehole, by means of the delivery pipe, to such a depth (min. 50 cm and at least one metre from the bottom) that it is completely immersed during operation when the level of water in the borehole may reduce. It is good practice to secure the pump by attaching a stainless steel cable to the anchorage points present on the delivery body.

## DIMENSIONS AND WEIGHT (PUMP ONLY)

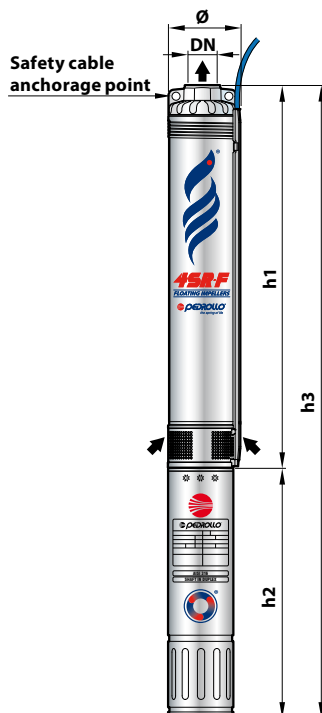
MODEL Pump	DN	DIMENSIONS mm			kg
		Ø	h1	h	
4SR 1/12 - F - HYD	1¼"	98	402	405	4.5
4SR 1/17 - F - HYD			528	531	6.2
4SR 1/22 - F - HYD			628	631	7.7
4SR 1/32 - F - HYD			853	856	10.2
4SR 1/42 - F - HYD			1052	1055	12.5
4SR 1.5/7 - F - HYD			303	306	3.6
4SR 1.5/11 - F - HYD			382	385	4.3
4SR 1.5/15 - F - HYD			488	491	5.8
4SR 1.5/22 - F - HYD			627	630	7.6
4SR 1.5/30 - F - HYD			787	790	9.2
4SR 1.5/44 - F - HYD			1163	1166	14.6
4SR 2/6 - F - HYD			283	286	3.4
4SR 2/9 - F - HYD			343	346	3.9
4SR 2/12 - F - HYD			402	405	4.6
4SR 2/17 - F - HYD			528	531	6.2
4SR 2/23 - F - HYD			647	650	7.8
4SR 2/33 - F - HYD			873	876	10.6
4SR 4/6 - F - HYD			313	316	3.6
4SR 4/8 - F - HYD			363	366	4.1
4SR 4/12 - F - HYD			462	465	5.3
4SR 4/15 - F - HYD	563	566	6.1		
4SR 4/22 - F - HYD	737	740	8.5		
4SR 4/30 - F - HYD	963	966	10.7		
4SR 4/40 - F - HYD	1284	1287	15.9		
4SR 4/54 - F - HYD	1684	1687	19.2		
4SR 6/4 - F - HYD	2"	98	289	292	3.2
4SR 6/6 - F - HYD			352	355	3.8
4SR 6/9 - F - HYD			446	449	4.9
4SR 6/13 - F - HYD			598	601	6.1
4SR 6/17 - F - HYD			723	726	7.8
4SR 6/24 - F - HYD			969	972	10.3
4SR 6/32 - F - HYD			1247	1250	13.1
4SR 6/43 - F - HYD			1618	1621	17.1
4SR 6/58 - F - HYD			2161	2164	23.4
4SR 8/4 - F - HYD			240	243	3.2
4SR 8/7 - F - HYD			382	385	4.2
4SR 8/9 - F - HYD			446	449	4.9
4SR 8/13 - F - HYD			598	601	6.0
4SR 8/17 - F - HYD			723	726	7.8
4SR 8/24 - F - HYD			969	972	10.3
4SR 8/32 - F - HYD			1247	1250	13.1
4SR 8/43 - F - HYD			1618	1621	16.8



## DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
<b>Single-phase</b>						
4SRm 1/12 - F - PD	1¼"	98	402	311	713	<b>11.0</b>
4SRm 1/17 - F - PD			528	331	859	<b>13.4</b>
4SRm 1/22 - F - PD			628	356	984	<b>16.2</b>
4SRm 1/32 - F - PD			853	396	1249	<b>20.4</b>
4SRm 1/42 - F - PD			1052	437	1489	<b>24.2</b>
4SRm 1.5/7 - F - PD			303	311	614	<b>10.1</b>
4SRm 1.5/11 - F - PD			382	331	713	<b>11.5</b>
4SRm 1.5/15 - F - PD			488	356	844	<b>14.3</b>
4SRm 1.5/22 - F - PD			627	396	1023	<b>17.8</b>
4SRm 1.5/30 - F - PD			787	437	1224	<b>20.9</b>
4SRm 1.5/44 - F - PD			1163	492	1655	<b>29.5</b>
4SRm 2/6 - F - PD			283	311	594	<b>9.9</b>
4SRm 2/9 - F - PD			343	331	674	<b>11.1</b>
4SRm 2/12 - F - PD			402	356	758	<b>13.1</b>
4SRm 2/17 - F - PD			528	396	924	<b>16.4</b>
4SRm 2/23 - F - PD			647	437	1084	<b>19.5</b>
4SRm 2/33 - F - PD			873	492	1365	<b>25.5</b>
4SRm 4/6 - F - PD			313	331	644	<b>10.8</b>
4SRm 4/8 - F - PD			363	356	719	<b>12.6</b>
4SRm 4/12 - F - PD			462	396	858	<b>15.5</b>
4SRm 4/15 - F - PD	563	437	1000	<b>17.8</b>		
4SRm 4/22 - F - PD	737	492	1229	<b>23.4</b>		
4SRm 6/4 - F - PD	2"	98	289	331	620	<b>10.4</b>
4SRm 6/6 - F - PD			352	356	708	<b>12.3</b>
4SRm 6/9 - F - PD			446	396	842	<b>15.1</b>
4SRm 6/13 - F - PD			598	437	1035	<b>17.8</b>
4SRm 6/17 - F - PD			723	492	1215	<b>22.7</b>
4SRm 8/4 - F - PD			240	356	596	<b>11.7</b>
4SRm 8/7 - F - PD			382	396	778	<b>14.4</b>
4SRm 8/9 - F - PD			446	437	883	<b>16.6</b>
4SRm 8/13 - F - PD			598	492	1090	<b>20.9</b>

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
<b>Three-phase</b>						
4SR 1/12 - F - PD	1¼"	98	402	311	713	<b>11.0</b>
4SR 1/17 - F - PD			528	331	859	<b>13.4</b>
4SR 1/22 - F - PD			628	356	984	<b>16.2</b>
4SR 1/32 - F - PD			853	371	1224	<b>19.6</b>
4SR 1/42 - F - PD			1052	396	1448	<b>22.7</b>
4SR 1.5/7 - F - PD			303	311	614	<b>10.1</b>
4SR 1.5/11 - F - PD			382	331	713	<b>11.5</b>
4SR 1.5/15 - F - PD			488	356	844	<b>14.3</b>
4SR 1.5/22 - F - PD			627	371	998	<b>17.0</b>
4SR 1.5/30 - F - PD			787	396	1183	<b>19.4</b>
4SR 1.5/44 - F - PD			1163	437	1600	<b>26.3</b>
4SR 2/6 - F - PD			283	311	594	<b>9.9</b>
4SR 2/9 - F - PD			343	331	674	<b>11.1</b>
4SR 2/12 - F - PD			402	356	758	<b>13.1</b>
4SR 2/17 - F - PD			528	371	899	<b>15.6</b>
4SR 2/23 - F - PD			647	396	1043	<b>18.0</b>
4SR 2/33 - F - PD			873	437	1310	<b>22.3</b>
4SR 4/6 - F - PD			313	331	644	<b>10.8</b>
4SR 4/8 - F - PD			363	356	719	<b>12.6</b>
4SR 4/12 - F - PD			462	371	833	<b>14.7</b>
4SR 4/15 - F - PD	563	396	959	<b>16.3</b>		
4SR 4/22 - F - PD	737	437	1174	<b>20.2</b>		
4SR 4/30 - F - PD	963	450	1413	<b>23.9</b>		
4SR 4/40 - F - PD	1284	505	1789	<b>32.0</b>		
4SR 4/54 - F - PD	1684	590	2274	<b>39.0</b>		
4SR 6/4 - F - PD	2"	98	289	331	620	<b>10.4</b>
4SR 6/6 - F - PD			352	356	708	<b>12.3</b>
4SR 6/9 - F - PD			446	371	817	<b>14.3</b>
4SR 6/13 - F - PD			598	396	994	<b>16.3</b>
4SR 6/17 - F - PD			723	437	1160	<b>19.5</b>
4SR 6/24 - F - PD			969	450	1419	<b>23.5</b>
4SR 6/32 - F - PD			1247	505	1752	<b>29.2</b>
4SR 6/43 - F - PD			1618	590	2208	<b>36.9</b>
4SR 6/58 - F - PD			2161	800	2961	<b>52.4</b>
4SR 8/4 - F - PD			240	356	596	<b>11.7</b>
4SR 8/7 - F - PD			382	371	753	<b>13.6</b>
4SR 8/9 - F - PD			446	396	842	<b>15.1</b>
4SR 8/13 - F - PD			598	437	1035	<b>17.7</b>
4SR 8/17 - F - PD	723	450	1173	<b>21.0</b>		
4SR 8/24 - F - PD	969	505	1474	<b>26.4</b>		
4SR 8/32 - F - PD	1247	590	1837	<b>32.9</b>		
4SR 8/43 - F - PD	1618	800	2418	<b>45.8</b>		

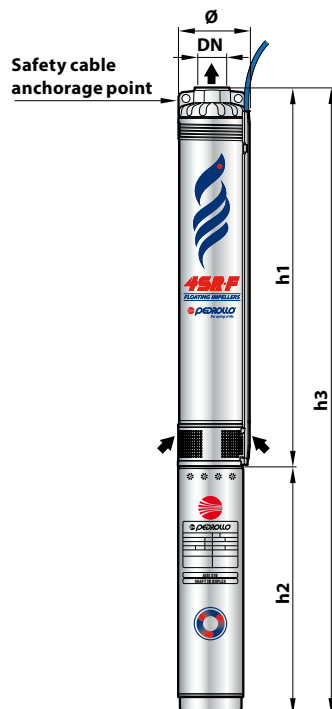


**4PD = rewindable oil filled submersible motor**

## DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
<b>Single-phase</b>						
4SRm 1/12 - F - PS	1¼"	98	402	237	639	11.3
4SRm 1/17 - F - PS			528	257	785	14.1
4SRm 1/22 - F - PS			628	272	900	16.8
4SRm 1/32 - F - PS			853	312	1165	21.4
4SRm 1/42 - F - PS			1052	352	1404	25.9
4SRm 1.5/7 - F - PS			303	237	540	10.4
4SRm 1.5/11 - F - PS			382	257	639	12.2
4SRm 1.5/15 - F - PS			488	272	760	14.9
4SRm 1.5/22 - F - PS			627	312	939	18.8
4SRm 1.5/30 - F - PS			787	352	1139	22.6
4SRm 1.5/44 - F - PS			1163	402	1565	28.8
4SRm 2/6 - F - PS			283	237	520	10.2
4SRm 2/9 - F - PS			343	257	600	11.8
4SRm 2/12 - F - PS			402	272	674	13.7
4SRm 2/17 - F - PS			528	312	840	17.4
4SRm 2/23 - F - PS			647	352	999	21.2
4SRm 2/33 - F - PS			873	402	1275	24.8
4SRm 4/6 - F - PS			313	257	570	11.5
4SRm 4/8 - F - PS			363	272	635	13.2
4SRm 4/12 - F - PS			462	312	774	16.5
4SRm 4/15 - F - PS	563	352	915	19.5		
4SRm 4/22 - F - PS	737	402	1139	22.7		
4SRm 6/4 - F - PS	2"	98	289	257	546	11.1
4SRm 6/6 - F - PS			352	272	624	12.9
4SRm 6/9 - F - PS			446	312	758	16.1
4SRm 6/13 - F - PS			598	352	950	19.5
4SRm 6/17 - F - PS			723	402	1125	22.0
4SRm 8/4 - F - PS			240	272	512	12.3
4SRm 8/7 - F - PS			382	312	694	15.4
4SRm 8/9 - F - PS			446	352	798	18.3
4SRm 8/13 - F - PS			598	402	1000	20.2

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
<b>Three-phase</b>						
4SR 1/12 - F - PS	1¼"	98	402	237	639	11.3
4SR 1/17 - F - PS			528	237	765	13.0
4SR 1/22 - F - PS			628	257	885	15.6
4SR 1/32 - F - PS			853	272	1125	19.3
4SR 1/42 - F - PS			1052	297	1349	23.7
4SR 1.5/7 - F - PS			303	237	540	10.4
4SR 1.5/11 - F - PS			382	237	619	11.1
4SR 1.5/15 - F - PS			488	257	745	13.7
4SR 1.5/22 - F - PS			627	272	899	16.7
4SR 1.5/30 - F - PS			787	297	1084	20.4
4SR 1.5/44 - F - PS			1163	352	1515	28.0
4SR 2/6 - F - PS			283	237	520	10.2
4SR 2/9 - F - PS			343	237	580	10.7
4SR 2/12 - F - PS			402	257	659	12.5
4SR 2/17 - F - PS			528	272	800	15.3
4SR 2/23 - F - PS			647	297	944	19.0
4SR 2/33 - F - PS			873	352	1225	24.0
4SR 4/6 - F - PS			313	237	550	10.4
4SR 4/8 - F - PS			363	257	620	12.0
4SR 4/12 - F - PS			462	272	734	14.4
4SR 4/15 - F - PS	563	297	860	17.3		
4SR 4/22 - F - PS	737	352	1089	21.9		
4SR 4/30 - F - PS	963	484	1447	27.7		
4SR 4/40 - F - PS	1284	574	1858	39.3		
4SR 4/54 - F - PS	1684	664	2348	47.0		
4SR 6/4 - F - PS	2"	98	289	237	526	10.0
4SR 6/6 - F - PS			352	257	609	11.7
4SR 6/9 - F - PS			446	272	718	14.0
4SR 6/13 - F - PS			598	297	895	17.3
4SR 6/17 - F - PS			723	352	1075	21.2
4SR 6/24 - F - PS			969	484	1453	27.3
4SR 6/32 - F - PS			1247	574	1821	36.5
4SR 6/43 - F - PS			1618	664	2282	44.9
4SR 6/58 - F - PS			2161	764	2925	54.8
4SR 8/4 - F - PS			240	257	497	11.1
4SR 8/7 - F - PS			382	272	654	13.3
4SR 8/9 - F - PS			446	297	743	16.1
4SR 8/13 - F - PS			598	352	950	19.4
4SR 8/17 - F - PS	723	484	1207	24.8		
4SR 8/24 - F - PS	969	574	1543	33.7		
4SR 8/32 - F - PS	1247	664	1911	40.9		
4SR 8/43 - F - PS	1618	764	2382	48.2		



4PS = encapsulated water cooled submersible motor

# 4SR-N<sup>®</sup>

## SEMI-AXIAL IMPELLERS



## 4" submersible pumps

 Clean water  
(Maximum sand content 150 g/m<sup>3</sup>)

 Domestic use

 Civil use

 Agricultural use

### PERFORMANCE RANGE

- Flow rate up to **350 l/min** (21 m<sup>3</sup>/h)
- Head up to **271 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- Immersion limit:
  - **200 m** with 4PD motor
  - **100 m** with 4PS motor
- Installation:
  - vertical
  - horizontal, with the following limits:  
4SR10 - 4SR12 - 4SR15 up to **13 stages**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **150 g/m<sup>3</sup>**. Because of their high efficiency and reliability, they are suitable for use in domestic, civil and industrial applications such as for the distribution of water in combination with pressure tanks, for irrigation, for washing plants etc.

### PATENTS

- Patent n. EP2419642

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

- Three-phase 400 V - 50 Hz
- Single-phase 230 V - 50 Hz
- **Capacitor included in the packaging**

Length of power cable:

- **2 m** powers from 0.75 to 2.2 kW
- **3.6 m** powers from 3 to 7.5 kW.

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### OPTIONS AVAILABLE ON REQUEST

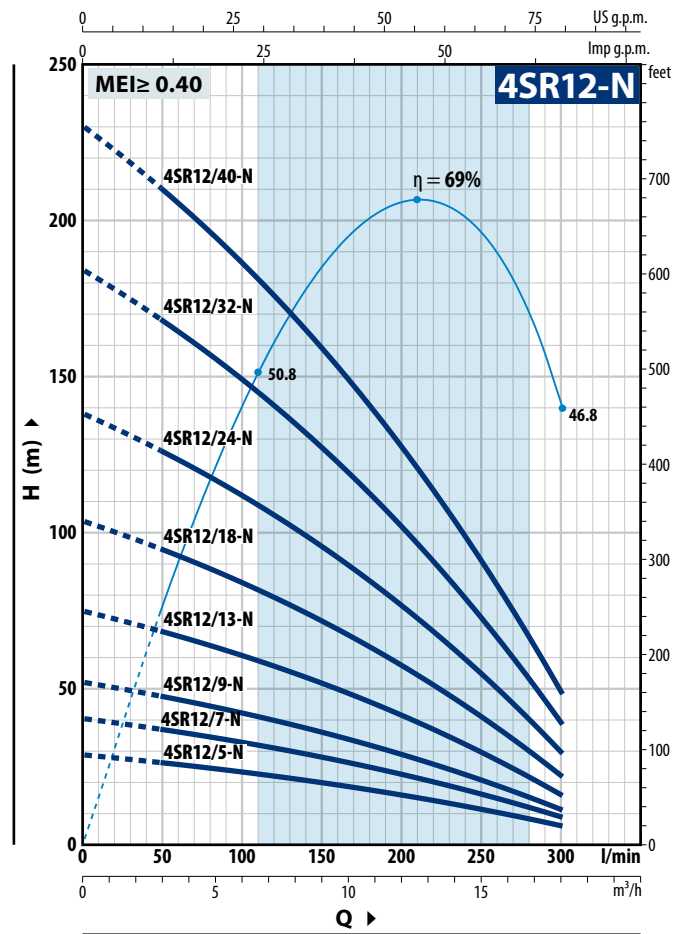
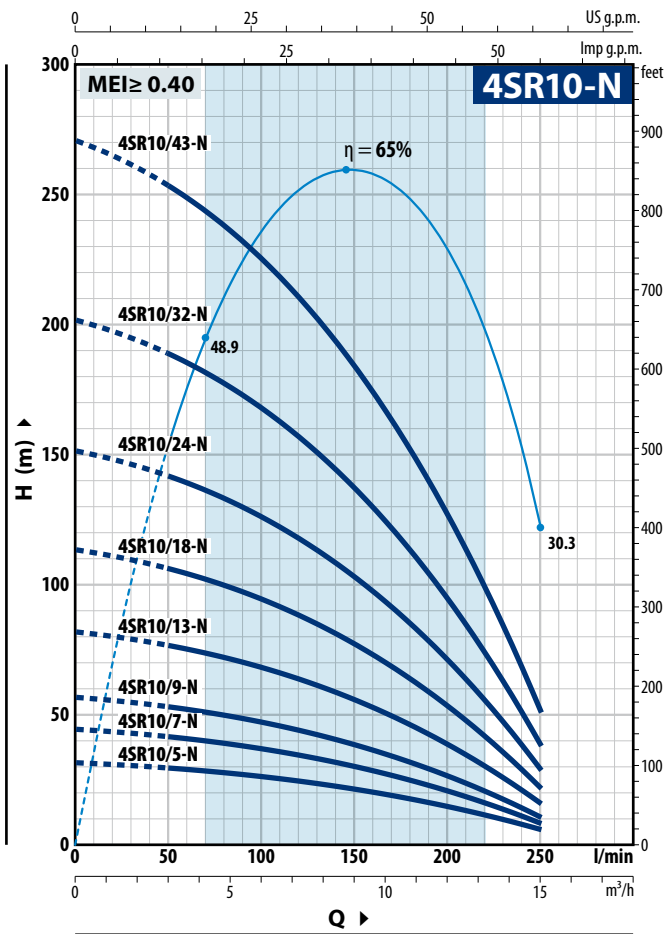
- Other voltages or 60 Hz frequency
- Kit of cooling jacket complete with filter and supports; recommended for powers from 2.2 kW to 7.5 kW



COOLING JACKET

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 4SR10-N

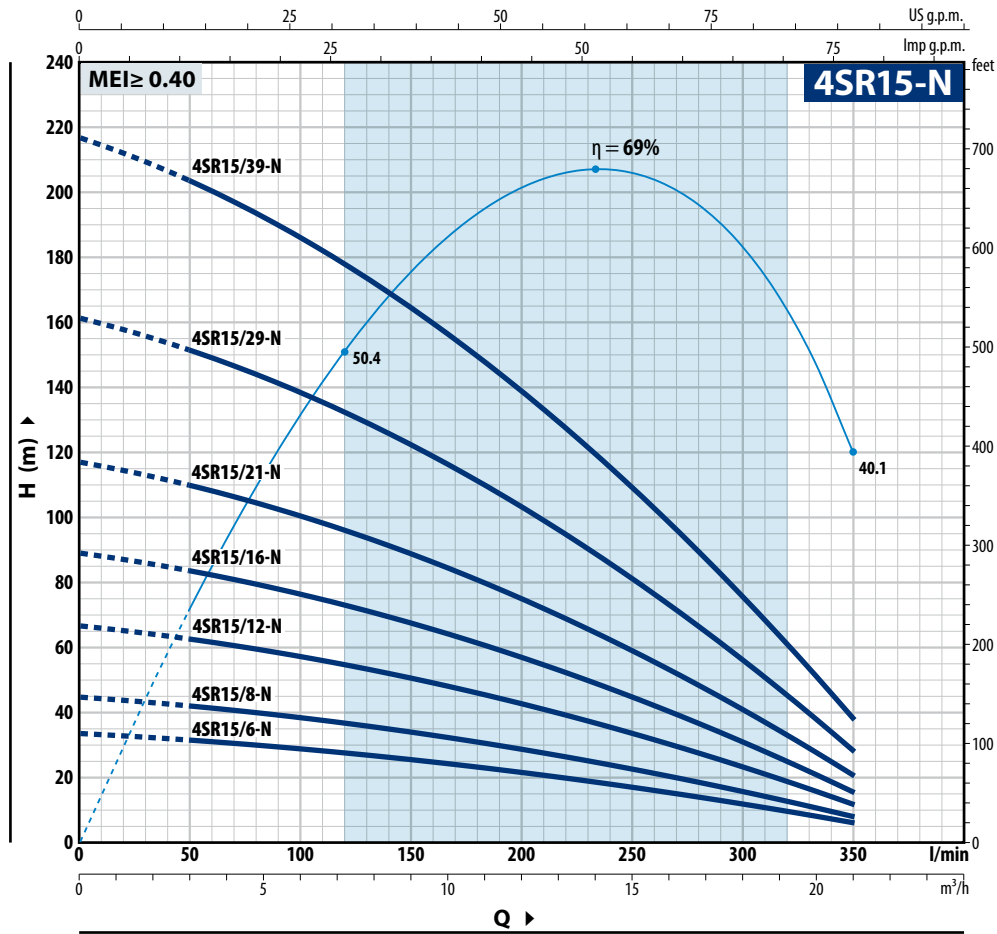
MODEL		POWER (P <sub>2</sub> )		Q	H metres									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	7.5	9.0	10.5	12.0	13.5	15.0
				l/min	0	50	100	125	150	175	200	225	250	
4SRm 10/5 -N	4SR 10/5 -N	0.75	1	H metres	31.5	29.5	26.2	24	21.4	18.3	14.7	10.6	6	
4SRm 10/7 -N	4SR 10/7 -N	1.1	1.5		44	41.5	36.5	33.5	30	25.6	20.6	14.8	8.5	
4SRm 10/9 -N	4SR 10/9 -N	1.5	2		56.5	53	47	43	38.5	33	26.5	19.1	10.5	
4SRm 10/13 -N	4SR 10/13 -N	2.2	3		82	77	68	62.5	55.5	47.5	38	27.5	15.5	
-	4SR 10/18 -N	3	4		113	106	94	86	77	66	53	38	21	
-	4SR 10/24 -N	4	5.5		151	141	126	115	103	88	71	51	28.5	
-	4SR 10/32 -N	5.5	7.5		202	189	168	154	137	117	94	68	38	
-	4SR 10/43 -N	7.5	10		271	254	226	206	184	157	126	91	51	

### 4SR12-N

MODEL		POWER (P <sub>2</sub> )		Q	H metres							
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3	6	9	12	15	18
				l/min	0	50	100	150	200	250	300	
4SRm 12/5 -N	4SR 12/5 -N	0.75	1	H metres	29	26	23.2	19.8	15.9	11.3	6	
4SRm 12/7 -N	4SR 12/7 -N	1.1	1.5		40.5	36.5	32.5	27.5	22.2	15.8	8.5	
4SRm 12/9 -N	4SR 12/9 -N	1.5	2		52	47	42	35.5	28.5	20.3	11	
4SRm 12/13 -N	4SR 12/13 -N	2.2	3		75	68	60.5	51.5	41	29.5	15.5	
-	4SR 12/18 -N	3	4		104	94	84	71	57	40.5	21.5	
-	4SR 12/24 -N	4	5.5		138	126	112	95	76	54	29	
-	4SR 12/32 -N	5.5	7.5		184	168	149	127	101	72	38.5	
-	4SR 12/40 -N	7.5	10		230	210	186	159	127	90	48	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



### 4SR15-N

MODEL		POWER (P <sub>2</sub> )		Q	Flow Rate (Q)								
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	9.0	12	15	18	21.0
				l/min	0	50	100	150	200	250	300	350	
4SRm 15/6 -N	4SR 15/6 -N	1.1	1.5	H metres	33.5	31.5	28.5	25.3	21.3	16.7	11.6	6	
4SRm 15/8 -N	4SR 15/8 -N	1.5	2		44.5	41.5	38	33.5	28.5	22.3	15.4	7.5	
4SRm 15/12 -N	4SR 15/12 -N	2.2	3		66.5	62.5	57	50.5	42.5	33.5	23.1	11.5	
-	4SR 15/16 -N	3	4		89	83	76	67.5	57	44.5	31	15.5	
-	4SR 15/21 -N	4	5.5		117	110	100	88	75	58.5	40.5	20	
-	4SR 15/29 -N	5.5	7.5		161	151	138	122	103	81	56	28	
-	4SR 15/39 -N	7.5	10		217	203	186	164	139	109	75	37.5	

Q = Flow rate H = Total manometric head

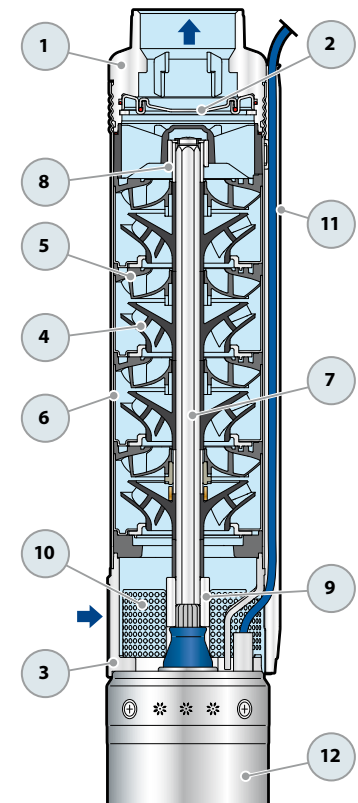
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>NON-RETURN VALVE</b>	Stainless steel AISI 304
3	<b>MOTOR BRACKET</b>	Stainless steel AISI 304, compliance with NEMA standards
4	<b>IMPELLER</b>	Noryl FE1520PW
5	<b>DIFFUSER</b>	Noryl FE1520PW
6	<b>STAGE CASING</b>	Stainless steel AISI 304
7	<b>PUMP SHAFT</b>	Stainless steel AISI 304
8	<b>PUMP BEARINGS</b>	Special technopolymer housing with stainless steel AISI 316, chrome oxide coated, sand resistant shaft bushing
9	<b>DRIVE COUPLING</b>	Stainless steel AISI 316L up to 2.2 kW; stainless steel AISI 304 for higher powers
10	<b>FILTER</b>	Stainless steel AISI 304
11	<b>CABLE COVER</b>	Stainless steel AISI 304
12	<b>MOTOR 4"</b>	<b>4PD</b> = rewindable oil filled submersible motor <b>4PS</b> = encapsulated water cooled submersible motor



## DIMENSIONS AND WEIGHT (PUMP ONLY)

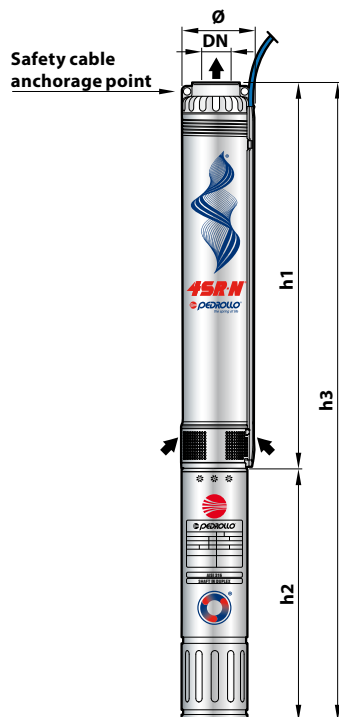
MODEL	DN	DIMENSIONS mm			kg
		Ø	h1	h	
4SR 10/5 - N - HYD	2"	98	430	433	4.2
4SR 10/7 - N - HYD			532	535	5.1
4SR 10/9 - N - HYD			633	636	5.9
4SR 10/13 - N - HYD			837	840	7.7
4SR 10/18 - N - HYD			1092	1095	9.9
4SR 10/24 - N - HYD			1398	1401	12.6
4SR 10/32 - N - HYD			1805	1808	16.1
4SR 10/43 - N - HYD			2366	2369	21.0
4SR 12/5 - N - HYD			488	491	4.5
4SR 12/7 - N - HYD			613	616	5.0
4SR 12/9 - N - HYD			738	741	6.5
4SR 12/13 - N - HYD			989	992	9.0
4SR 12/18 - N - HYD			1302	1305	11.5
4SR 12/24 - N - HYD			1677	1680	14.5
4SR 12/32 - N - HYD			2178	2181	18.5
4SR 12/40 - N - HYD			2679	2682	23.0
4SR 15/6 - N - HYD			550	553	4.5
4SR 15/8 - N - HYD			676	679	6.0
4SR 15/12 - N - HYD			926	929	8.5
4SR 15/16 - N - HYD			1176	1179	10.5
4SR 15/21 - N - HYD	1489	1492	13.0		
4SR 15/29 - N - HYD	1990	1993	17.0		
4SR 15/39 - N - HYD	2616	2619	22.5		



### DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Single-phase						
4SRm 10/5 - N - PD	2"	98	430	357	787	12.5
4SRm 10/7 - N - PD			532	397	929	15.5
4SRm 10/9 - N - PD			633	437	1070	17.5
4SRm 10/13 - N - PD			837	492	1329	22.5
4SRm 12/5 - N - PD			488	357	845	13.0
4SRm 12/7 - N - PD			613	397	1010	15.5
4SRm 12/9 - N - PD			738	437	1175	18.5
4SRm 12/13 - N - PD			989	492	1481	23.5
4SRm 15/6 - N - PD			550	397	947	15.0
4SRm 15/8 - N - PD			676	437	1113	18.0
4SRm 15/12 - N - PD			926	492	1418	23.0

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Three-phase						
4SR 10/5 - N - PD	2"	98	430	357	787	12.5
4SR 10/7 - N - PD			532	372	904	14.5
4SR 10/9 - N - PD			633	397	1030	16.0
4SR 10/13 - N - PD			837	437	1274	19.5
4SR 10/18 - N - PD			1092	450	1542	23.0
4SR 10/24 - N - PD			1398	505	1903	28.5
4SR 10/32 - N - PD			1805	589	2394	36.0
4SR 10/43 - N - PD			2366	800	3166	50.0
4SR 12/5 - N - PD			488	357	845	13.0
4SR 12/7 - N - PD			613	372	985	14.5
4SR 12/9 - N - PD			738	397	1135	17.0
4SR 12/13 - N - PD			989	437	1426	20.5
4SR 12/18 - N - PD			1302	450	1752	24.5
4SR 12/24 - N - PD			1677	505	2182	30.5
4SR 12/32 - N - PD			2178	589	2767	38.5
4SR 12/40 - N - PD			2679	800	3479	52.0
4SR 15/6 - N - PD			550	372	922	14.0
4SR 15/8 - N - PD			676	397	1073	16.5
4SR 15/12 - N - PD			926	437	1363	20.0
4SR 15/16 - N - PD			1176	450	1626	23.5
4SR 15/21 - N - PD			1489	505	1994	29.0
4SR 15/29 - N - PD			1990	589	2579	37.0
4SR 15/39 - N - PD			2616	800	3416	51.5

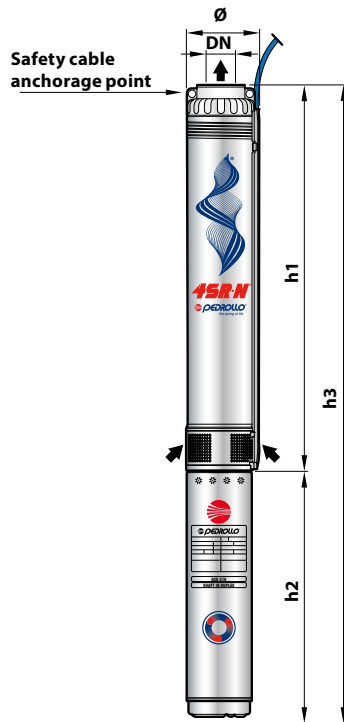


4PD = rewindable oil filled submersible motor

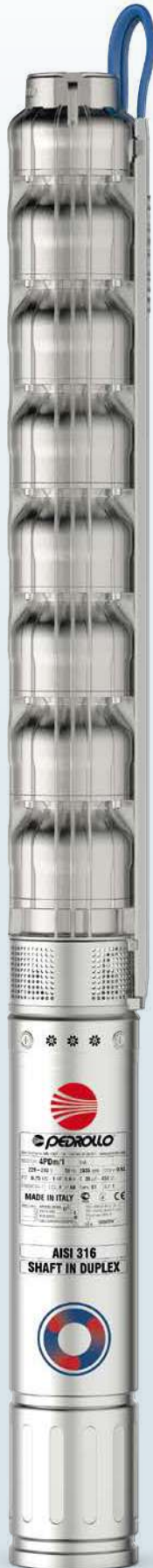
### DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Single-phase						1~
4SRm 10/5 - N - PS	2"	98	430	272	702	13.5
4SRm 10/7 - N - PS			532	312	844	16.5
4SRm 10/9 - N - PS			633	352	985	19.5
4SRm 10/13 - N - PS			837	402	1239	22
4SRm 12/5 - N - PS			488	272	760	13.5
4SRm 12/7 - N - PS			613	312	925	16.5
4SRm 12/9 - N - PS			738	352	1090	20.0
4SRm 12/13 - N - PS			989	402	1391	23.0
4SRm 15/6 - N - PS			550	312	862	16.0
4SRm 15/8 - N - PS			676	352	1028	19.5
4SRm 15/12 - N - PS			926	402	1328	22.5

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Three-phase						3~
4SR 10/5 - N - PS	2"	98	430	257	687	12.0
4SR 10/7 - N - PS			532	272	804	14.0
4SR 10/9 - N - PS			633	297	930	17.0
4SR 10/13 - N - PS			837	352	1189	21.0
4SR 10/18 - N - PS			1092	484	1576	27.0
4SR 10/24 - N - PS			1398	574	1972	36.0
4SR 10/32 - N - PS			1805	664	2469	44.0
4SR 10/43 - N - PS			2366	764	3130	52.5
4SR 12/5 - N - PS			488	257	745	12.0
4SR 12/7 - N - PS			613	272	885	14.5
4SR 12/9 - N - PS			738	297	1035	18.0
4SR 12/13 - N - PS			989	352	1341	22.0
4SR 12/18 - N - PS			1302	484	1786	28.5
4SR 12/24 - N - PS			1677	574	2251	38.0
4SR 12/32 - N - PS			2178	664	2842	46.5
4SR 12/40 - N - PS			2679	764	3443	54.0
4SR 15/6 - N - PS			550	272	822	14.0
4SR 15/8 - N - PS			676	297	973	17.5
4SR 15/12 - N - PS			926	352	1278	21.5
4SR 15/16 - N - PS			1176	484	1660	27.5
4SR 15/21 - N - PS			1489	574	2063	36.5
4SR 15/29 - N - PS			1990	664	2654	45.0
4SR 15/39 - N - PS			2616	764	3380	53.5



4PS = encapsulated water cooled submersible motor



 Clean water  
(Maximum sand content 100 g/m<sup>3</sup>)

 Domestic use

 Civil use

 Industrial use

### PERFORMANCE RANGE

- Flow rate up to **420 l/min** (25.2 m<sup>3</sup>/h)
- Head up to **176 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m<sup>3</sup>**
- Immersion limit:
  - **200 m** with 4PD motor
  - **100 m** with 4PS motor
- Installation:
  - vertical
  - horizontal up to **12 stages**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

- Single-phase 230 V - 50 Hz
- Three-phase 400 V - 50 Hz

#### Length of power cable:

- **2 m** powers from 0.37 to 2.2 kW
- **3.6 m** powers from 3 to 7.5 kW.

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **100 g/m<sup>3</sup>**. Because of their high efficiency and reliability, they are suitable for use in domestic, civil and industrial applications such as for the distribution of water in combination with pressure tanks, for irrigation, for washing plants and for pressure boosting in fire-fighting sets, etc.

### PATENTS - TRADE MARKS - MODELS

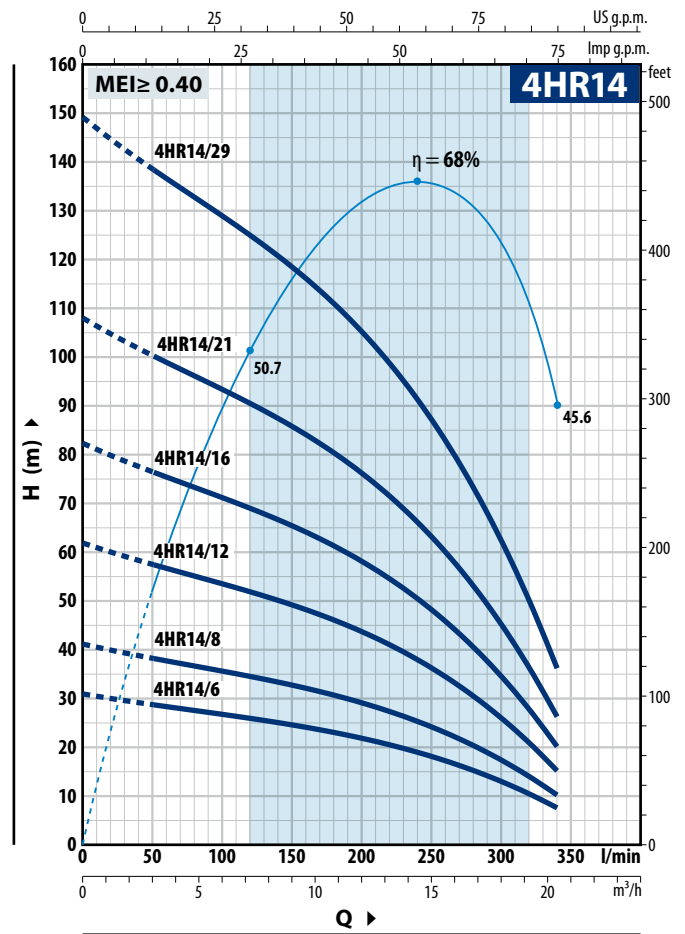
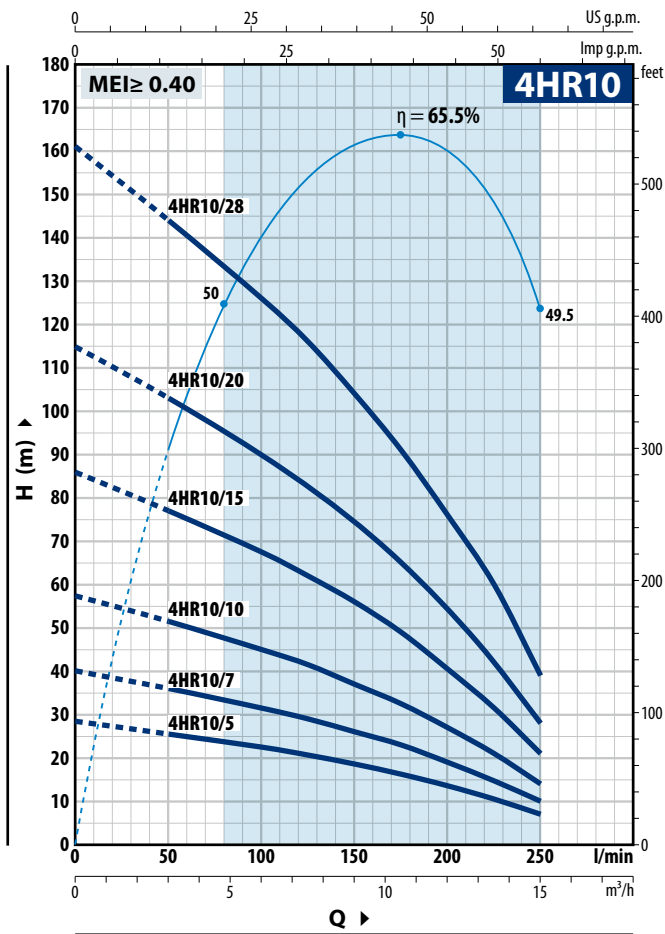
- Registered EU Design n. 004128619

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 4HR10

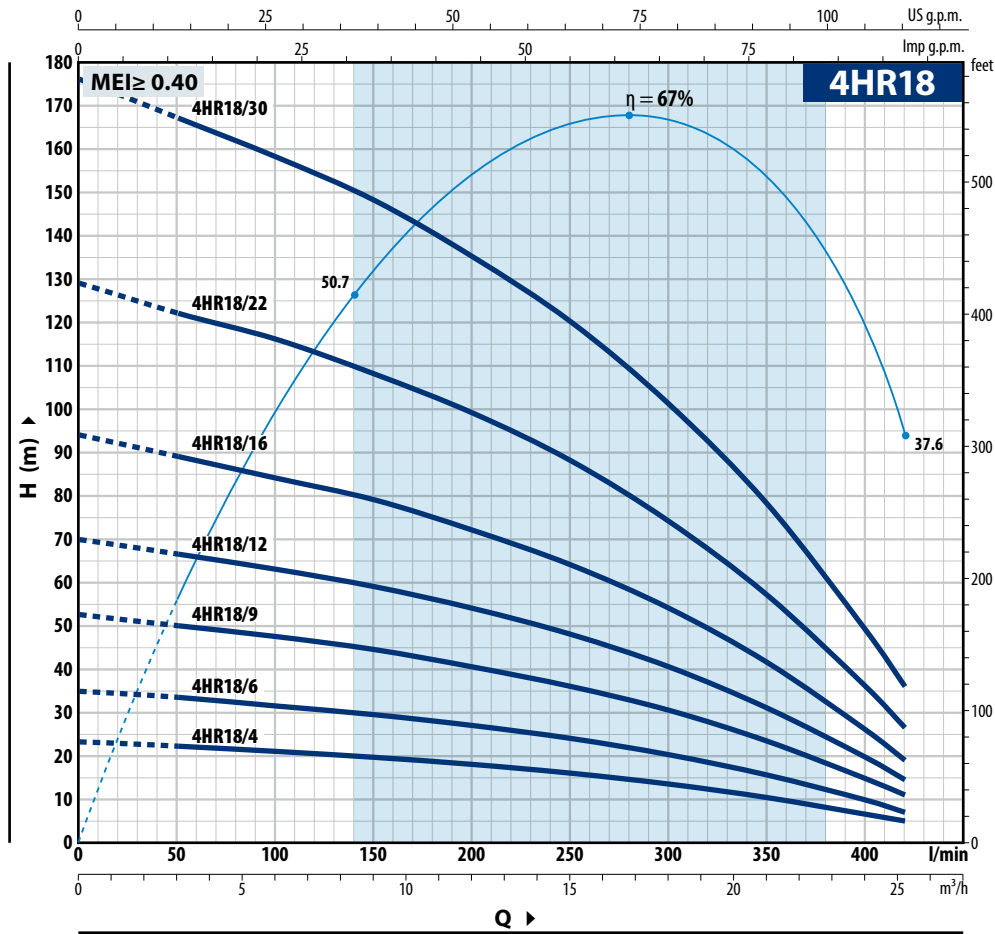
MODEL		POWER (P <sub>2</sub> )		Q	H metres									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	7.5	9.0	10.5	12.0	13.5	15.0
				l/min	0	50	100	125	150	175	200	225	250	
4HRm 10/5	4HR 10/5	0.75	1	H metres	28.5	25.5	22.5	20.7	18.6	16.3	13.6	10.5	7	
4HRm 10/7	4HR 10/7	1.1	1.5		40	36	31.5	29	26	23	19	14.7	10	
4HRm 10/10	4HR 10/10	1.5	2		57.5	51.5	45	41.5	37	32.5	27	21	14	
4HRm 10/15	4HR 10/15	2.2	3		86	77	67.5	62	56	49	40.5	31.5	21	
-	4HR 10/20	3	4		115	103	90	83	74	65	54.5	42	28	
-	4HR 10/28	4	5.5		161	144	126	116	104	91	76	60	39	

### 4HR14

MODEL		POWER (P <sub>2</sub> )		Q	H metres									
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	9.0	12.0	15.0	18.0	19.2	20.4
				l/min	0	50	100	150	200	250	300	320	340	
4HRm 14/6	4HR 14/6	1.1	1.5	H metres	31	28.5	26.7	24.5	21.8	18.1	12.9	10.4	7.5	
4HRm 14/8	4HR 14/8	1.5	2		41	38.5	35.5	32.5	29	24.1	17.2	13.8	10	
4HRm 14/12	4HR 14/12	2.2	3		62	57.5	53.5	49	43.5	36	25.8	20.7	15	
-	4HR 14/16	3	4		82	77	71	65.5	58	48	34.5	27.5	20	
-	4HR 14/21	4	5.5		108	100	93	86	76	63	45	36.5	26.5	
-	4HR 14/29	5.5	7.5		149	139	129	119	105	87	62.5	50	36.5	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.



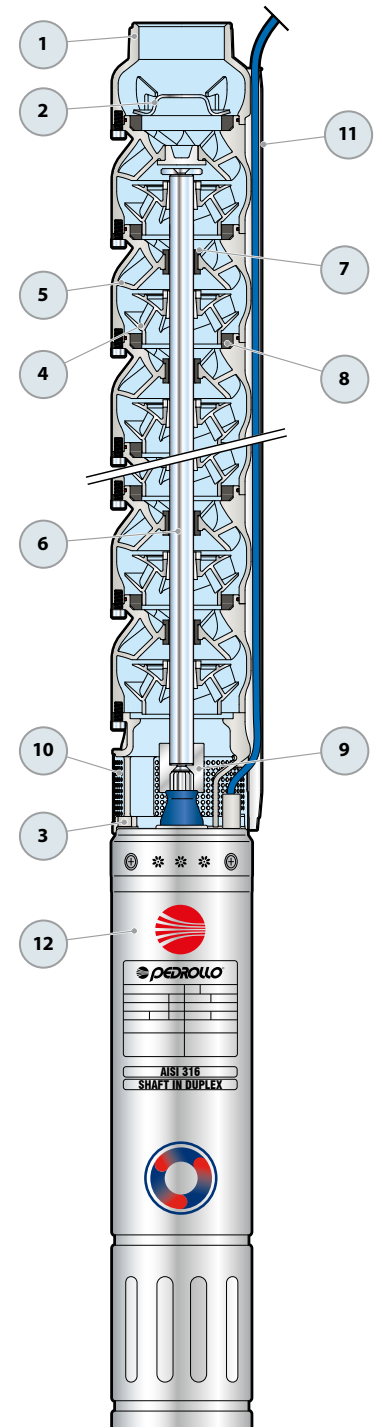
### 4HR18

MODEL		POWER (P <sub>2</sub> )		Q	H metres												
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	25.2		
				l/min	0	50	100	150	200	250	300	350	400	420			
4HRm 18/4	4HR 18/4	1.1	1.5		23.4	22	21	19.7	18	16	13.5	10.4	6.6	5			
4HRm 18/6	4HR 18/6	1.5	2		35	33.5	31.5	29.5	27	24	20.3	15.6	9.8	7			
4HRm 18/9	4HR 18/9	2.2	3		52.5	50	47.5	44.5	40.5	36	30.5	23.4	14.8	11			
-	4HR 18/12	3	4		70	66.5	63	59	54	48	40.5	31	19.7	14.5			
-	4HR 18/16	4	5.5		94	89	84	79	72	64	54	41.5	26	19			
-	4HR 18/22	5.5	7.5		129	122	116	108	99	88	74	57	36	26.5			
-	4HR 18/30	7.5	10		176	167	158	148	135	120	101	78	49	36			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

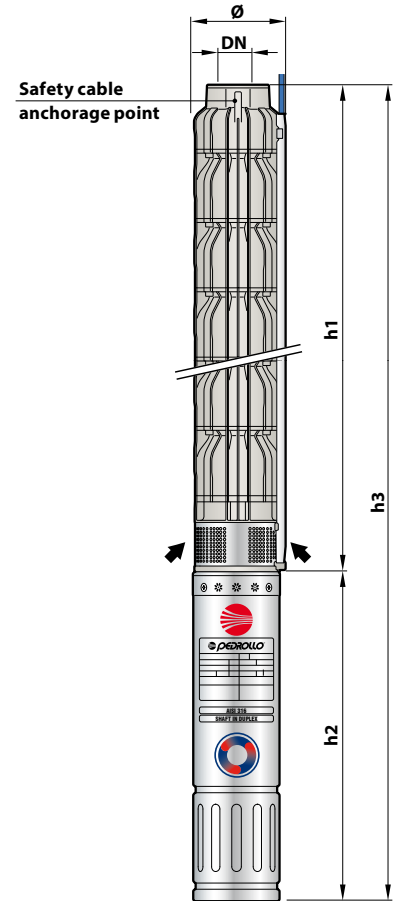
POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Precision cast stainless steel AISI 304 in compliance with NEMA standards
4 IMPELLERS	Precision cast stainless steel AISI 304
5 DIFFUSERS	Precision cast stainless steel AISI 304
6 PUMP SHAFT	Stainless steel AISI 304
7 PUMP BEARINGS	Special elastomer
8 WEAR RINGS	Special elastomer
9 DRIVE COUPLING	Stainless steel AISI 304
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 4"	<b>4PD</b> = rewindable oil filled submersible motor <b>4PS</b> = encapsulated water cooled submersible motor



## DIMENSIONS AND WEIGHT

MODEL	4HRm - PD (with 4PD motor)						4HRm - PS (with 4PS motor)						
	DN	DIMENSIONS mm				kg	DN	DIMENSIONS mm				kg	
		Ø	h1	h2	h3			Ø	h1	h2	h3		
Single-phase													
4HRm 10/5	2"	100	511	356	867	19.7	2"	100	511	272	783	20.3	
4HRm 10/7			657	396	1053	23.8			657	312	969	24.8	
4HRm 10/10			876	437	1313	31.0			876	352	1228	32.7	
4HRm 10/15			1241	492	1733	38.7			1241	402	1643	38.0	
4HRm 14/6			584	396	980	21.0			584	312	896	22.0	
4HRm 14/8			730	437	1167	25.2			730	352	1082	26.9	
4HRm 14/12			1022	492	1514	33.7			1022	402	1424	33.0	
4HRm 18/4			438	396	834	18.4			438	312	750	19.4	
4HRm 18/6			584	437	1021	22.6			584	352	936	24.3	
4HRm 18/9			803	492	1295	29.8			803	402	1205	29.1	

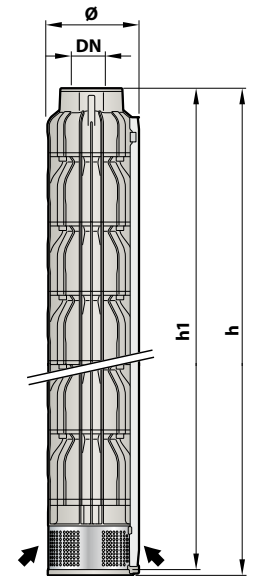
MODEL	4HR - PD (with 4PD motor)						4HR - PS (with 4PS motor)						
	DN	DIMENSIONS mm				kg	DN	DIMENSIONS mm				kg	
		Ø	h1	h2	h3			Ø	h1	h2	h3		
Three-phase													
4HR 10/5	2"	100	511	356	867	18.9	2"	100	511	257	768	18.3	
4HR 10/7			657	371	1028	22.3			657	272	929	22.0	
4HR 10/10			876	396	1272	27.8			876	297	1173	28.8	
4HR 10/15			1241	437	1678	35.9			1241	352	1593	37.6	
4HR 10/20			1606	450	2056	45.4			1606	484	2090	49.2	
4HR 10/28			2190	505	2695	59.6			2190	574	2764	66.9	
4HR 14/6			584	371	955	20.2			584	272	856	19.9	
4HR 14/8			730	396	1126	23.6			730	297	1027	24.6	
4HR 14/12			1022	437	1459	30.4			1022	352	1374	32.1	
4HR 14/16			1314	450	1764	37.2			1314	484	1798	41.0	
4HR 14/21			1679	505	2184	46.7			1679	574	2253	54.0	
4HR 14/29			2263	590	2853	61.1			2263	664	2927	69.1	
4HR 18/4			438	371	809	17.6			438	272	710	17.3	
4HR 18/6			584	396	980	21.0			584	297	881	22.0	
4HR 18/9			803	437	1240	26.5			803	352	1155	28.2	
4HR 18/12			1022	450	1472	32.0			1022	484	1506	35.8	
4HR 18/16			1314	505	1819	40.2			1314	574	1888	47.5	
4HR 18/22			1752	590	2342	51.9			1752	664	2416	59.9	
4HR 18/30			2336	800	3136	70.8			2336	764	3100	63.2	



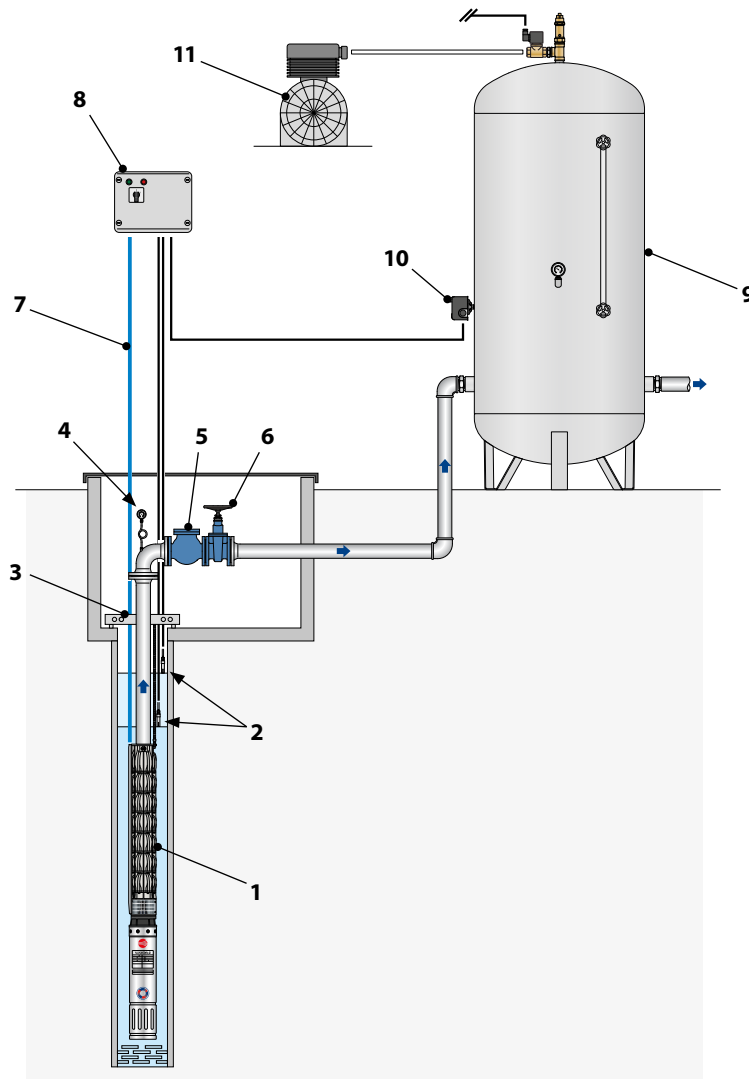


## DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	PORT DN	Ø	DIMENSIONS mm		kg
			h1	h	
<b>Pump</b>					
4HR 10/5 - HYD	2"	100	511	514	<b>8.8</b>
4HR 10/7 - HYD			657	660	<b>11.5</b>
4HR 10/10 - HYD			876	879	<b>15.4</b>
4HR 10/15 - HYD			1241	1244	<b>22.0</b>
4HR 10/20 - HYD			1606	1609	<b>28.5</b>
4HR 10/28 - HYD			2190	2193	<b>39.0</b>
4HR 14/6 - HYD			584	587	<b>10.2</b>
4HR 14/8 - HYD			730	733	<b>12.8</b>
4HR 14/12 - HYD			1022	1025	<b>18.0</b>
4HR 14/16 - HYD			1314	1317	<b>23.3</b>
4HR 14/21 - HYD			1679	1682	<b>29.9</b>
4HR 14/29 - HYD			2263	2266	<b>40.4</b>
4HR 18/4 - HYD			438	441	<b>7.5</b>
4HR 18/6 - HYD			584	587	<b>10.2</b>
4HR 18/9 - HYD			803	806	<b>14.1</b>
4HR 18/12 - HYD			1022	1025	<b>18.0</b>
4HR 18/16 - HYD			1314	1317	<b>23.3</b>
4HR 18/22 - HYD			1752	1755	<b>31.2</b>
4HR 18/30 - HYD			2336	2339	<b>41.7</b>



## STANDARD INSTALLATION



### COMPONENTS

- 1) Submersible pump
- 2) Level probes
- 3) Pump anchorage
- 4) Pressure gauge
- 5) Non-return valve
- 6) Gate valve; for flow rate regulation
- 7) Power cable
- 8) Control box
- 9) Pressure tank
- 10) Pressure switch
- 11) Electro valve/electro-compressor

## 6" submersible pump



Clean water  
(Maximum sand content 100 g/m<sup>3</sup>)



Civil use



Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **1000 l/min** (60 m<sup>3</sup>/h)
- Head up to **390 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m<sup>3</sup>**
- **200 m** immersion limit
- Installation:
  - vertical
  - horizontal, with the following limits: up to **12 stages** or **11 kW**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **16 cm/s** (50 cm/s for 30 kW)
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

– Three-phase 400 V - 50 Hz

**4 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **100 g/m<sup>3</sup>**. Because of their high efficiency and reliability, they are suitable for use in civil, agricultural and industrial applications such as the distribution of water in combination with pressure tanks, for irrigation and for pressure boosting in fire-fighting sets, etc.

### OPTIONS AVAILABLE ON REQUEST

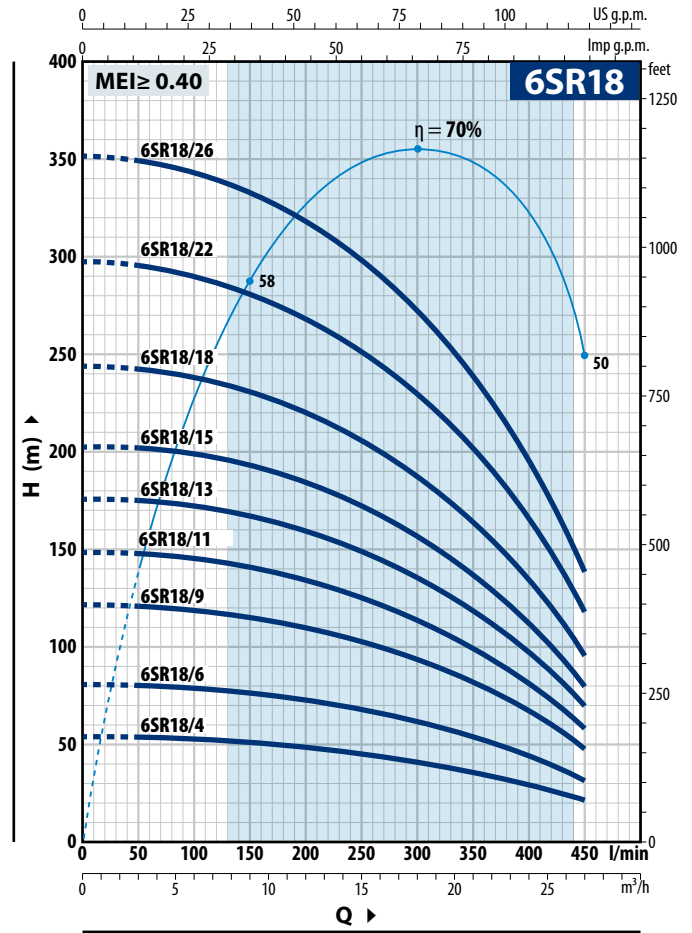
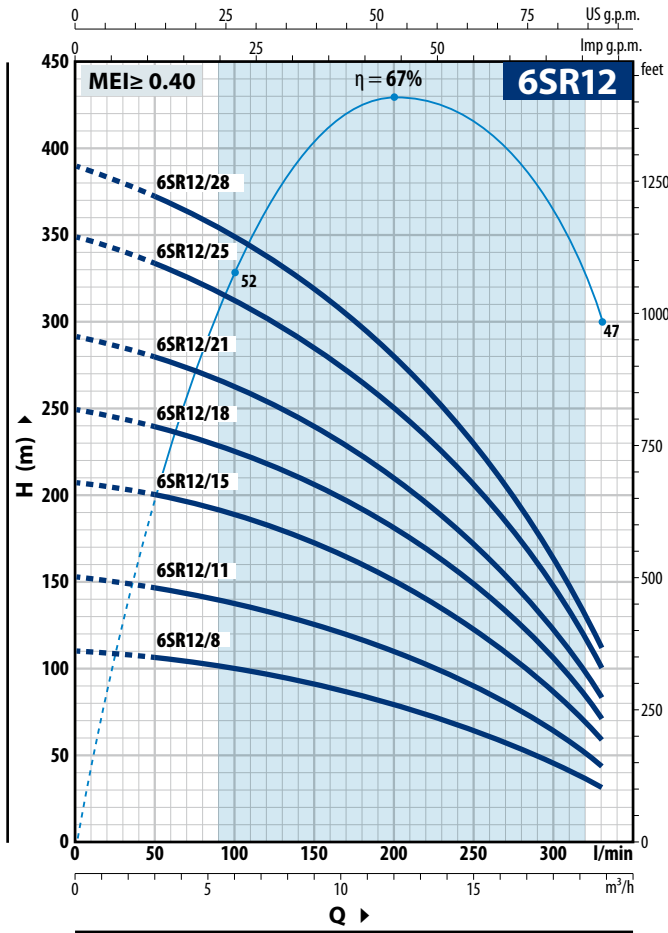
- Kit of cooling jacket complete with filter and supports
- 6SR-HYD pumps with double cable cover suitable for dual voltage 400/690 V (star/delta) motors from 11 kW to 30 kW
- Other voltages or 60 Hz frequency
- **Kit of cooling jacket complete with filter and supports**



COOLING JACKET

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



### 6SR12

MODEL	POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h									
	kW	HP		0	3.0	6.0	9.0	12.0	15.0	18.0	19.8		
<b>Three-phase</b>				<b>0</b>	<b>50</b>	<b>100</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>300</b>	<b>330</b>		
6SR 12/8	4	5.5	H metres	111	106	100	91	80	66	47	32		
6SR 12/11	5.5	7.5		153	146	138	125	110	91	65	44		
6SR 12/15	7.5	10		208	199	189	171	150	124	88	60		
6SR 12/18	9.2	12.5		250	239	225	205	180	149	106	72		
6SR 12/21	11	15		292	279	263	239	210	174	124	84		
6SR 12/25	13	17.5		349	331	313	285	250	206	147	100		
6SR 12/28	15	20		390	371	350	319	280	231	165	112		

### 6SR18

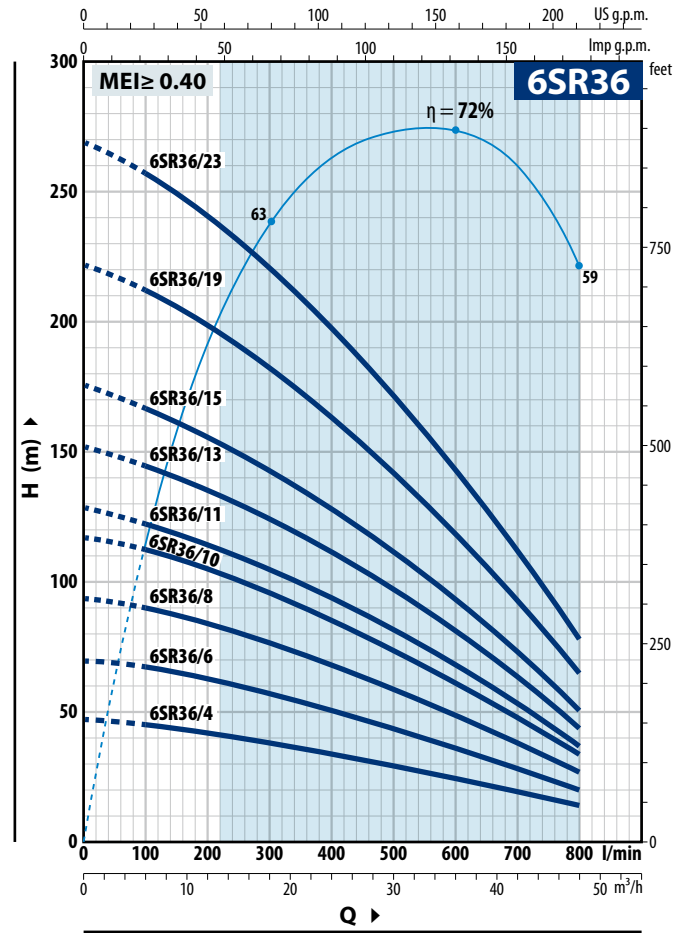
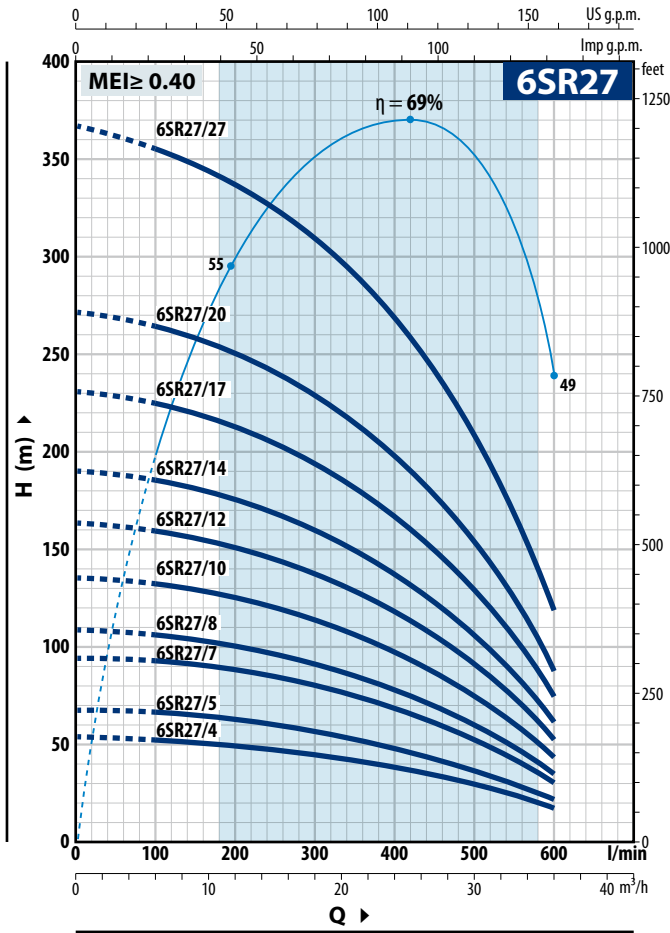
MODEL	POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h											
	kW	HP		0	3	6	9	12	15	18	21	24	27		
<b>Three-phase</b>				<b>0</b>	<b>50</b>	<b>100</b>	<b>150</b>	<b>200</b>	<b>250</b>	<b>300</b>	<b>350</b>	<b>400</b>	<b>450</b>		
6SR 18/4	4	5.5	H metres	54	53.8	53	51	49	46	42	37	30	22		
6SR 18/6	5.5	7.5		81	80.5	79	77	74	69	63	55	45	32		
6SR 18/9	7.5	10		122	121	119	116	111	103	94	83	68	48		
6SR 18/11	9.2	12.5		149	148	145.5	141	135	126	115	101	83	59		
6SR 18/13	11	15		176	175	172	167	160	149	136	120	98	70		
6SR 18/15	13	17.5		203	202	199	193	185	172	157	138	113	80		
6SR 18/18	15	20		244	242	238	231	221	206	188	165	135	96		
6SR 18/22	18.5	25		298	296	291	282	270	252	230	202	165	118		
6SR 18/26	22	30		352	350	344	334	320	298	272	239	195	139		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



#### 6SR27

MODEL	POWER (P <sub>2</sub> )		Q	H metres								
	kW	HP		0	6	12	18	24	30	36		
Three-phase			l/min	0	100	200	300	400	500	600		
6SR 27/4	4	5.5		54	53	49	45	40	30	18		
6SR 27/5	5.5	7.5		68	66	62	57	50	37	22		
6SR 27/7	7.5	10		95	92	87	80	70	52	31		
6SR 27/8	9.2	12.5		109	106	99	91	80	59	35		
6SR 27/10	11	15		136	132	124	114	100	74	44		
6SR 27/12	13	17.5		164	159	149	137	120	89	53		
6SR 27/14	15	20		191	185	174	160	140	104	62		
6SR 27/17	18.5	25		231	224	211	194	170	126	75		
6SR 27/20	22	30		272	264	248	228	200	148	88		
6SR 27/27	30	40		367	356	335	308	270	205	119		

#### 6SR36

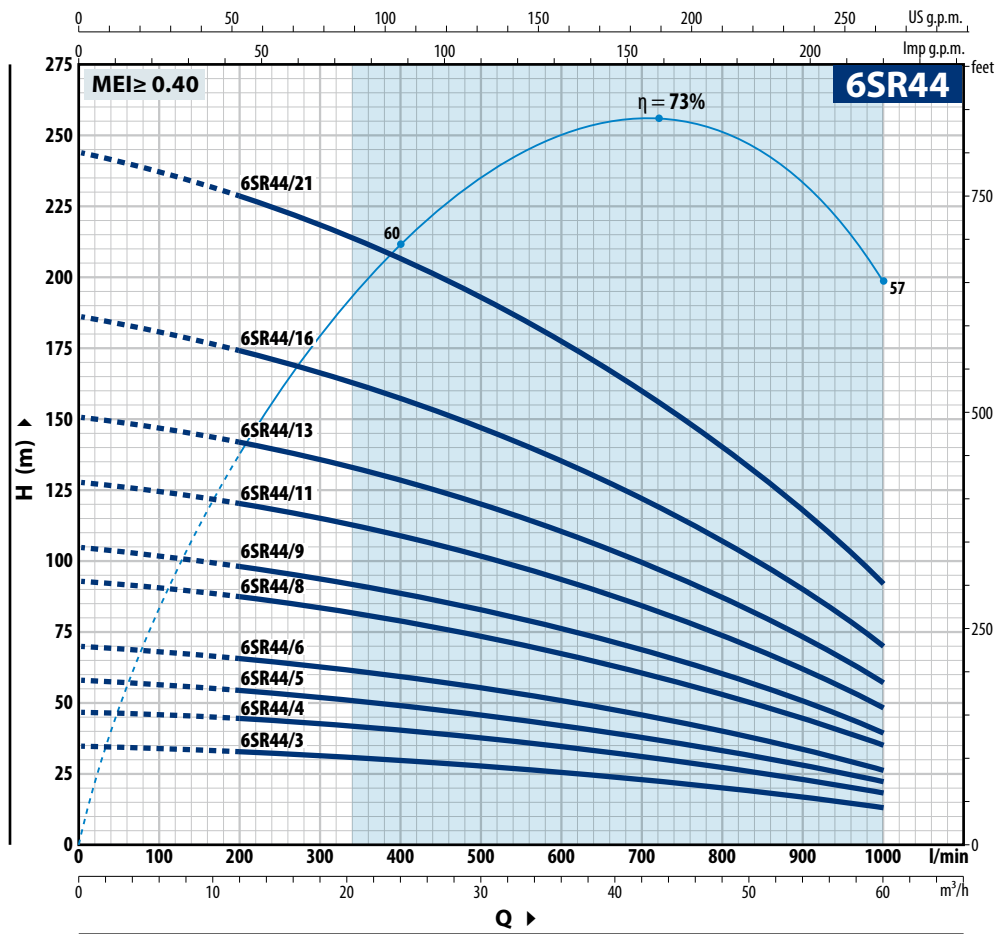
MODEL	POWER (P <sub>2</sub> )		Q	H metres								
	kW	HP		0	6	12	18	24	30	36	42	48
Three-phase			l/min	0	100	200	300	400	500	600	700	800
6SR 36/4	4	5.5		47	45	42	38	34	29	25	19	14
6SR 36/6	5.5	7.5		70	67	63	57	51	44	37	29	20
6SR 36/8	7.5	10		94	89	84	76	68	59	50	39	27
6SR 36/10	9.2	12.5		117	111	105	95	85	74	62	48	34
6SR 36/11	11	15		129	123	115	105	93	81	68	53	37
6SR 36/13	13	17.5		152	145	136	124	110	96	81	63	44
6SR 36/15	15	20		176	167	157	143	127	110	93	72	51
6SR 36/19	18.5	25		222	212	199	181	161	140	118	92	65
6SR 36/23	22	30		269	256	241	219	195	169	143	111	78

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



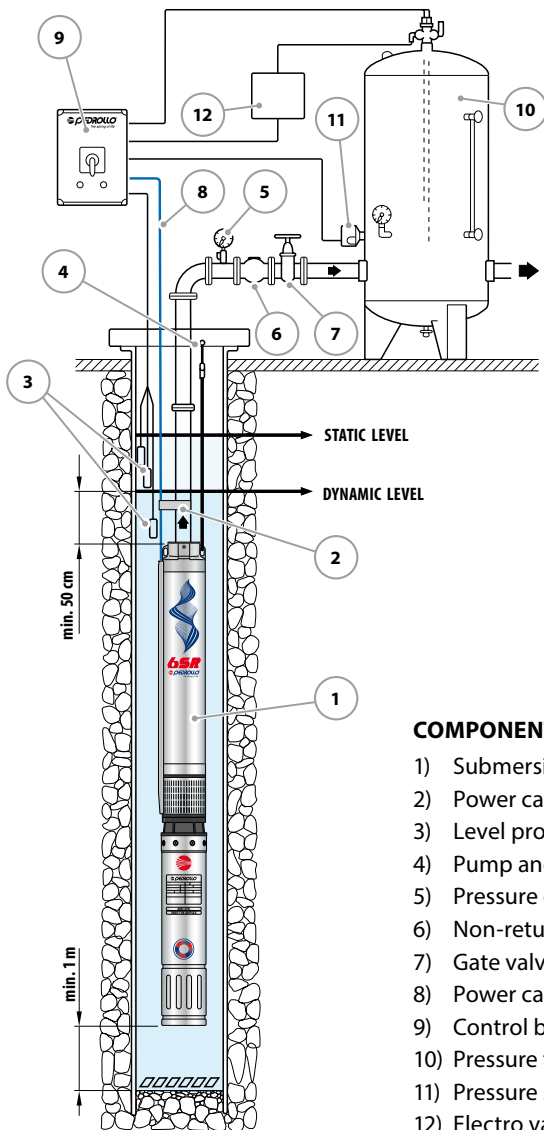
## 6SR44

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate (Q)											
	kW	HP		0	12	18	24	30	36	42	48	54	60		
Three-phase			l/min	0	200	300	400	500	600	700	800	900	1000		
6SR 44/3	4	5.5	H metres	35	33	31	30	28	26	23	20	17	13		
6SR 44/4	5.5	7.5		47	44	42	40	37	34	31	27	23	18		
6SR 44/5	7.5	10		58	54	52	49	46	43	38	33	28	22		
6SR 44/6	9.2	12.5		70	65	62	59	56	51	46	40	34	26		
6SR 44/8	11	15		93	87	83	79	74	68	61	53	45	35		
6SR 44/9	13	17.5		105	98	93	89	83	77	69	60	51	39		
6SR 44/11	15	20		128	120	114	109	102	94	84	73	62	48		
6SR 44/13	18.5	25		151	141	135	128	120	111	99	86	73	57		
6SR 44/16	22	30		186	174	166	158	148	136	122	106	90	70		
6SR 44/21	30	40		244	228	218	207	194	179	160	139	118	92		

Q = Flow rate H = Total manometric head

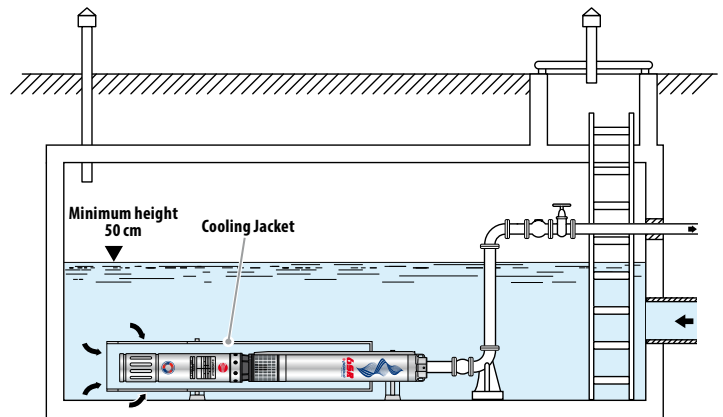
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### TYPICAL INSTALLATION



#### COMPONENTS

- 1) Submersible pump
- 2) Power cable clamps
- 3) Level probes
- 4) Pump anchorage
- 5) Pressure gauge
- 6) Non-return valve
- 7) Gate valve; for flow rate regulation
- 8) Power cable
- 9) Control box
- 10) Pressure tank
- 11) Pressure switch
- 12) Electro valve/electro-compressor



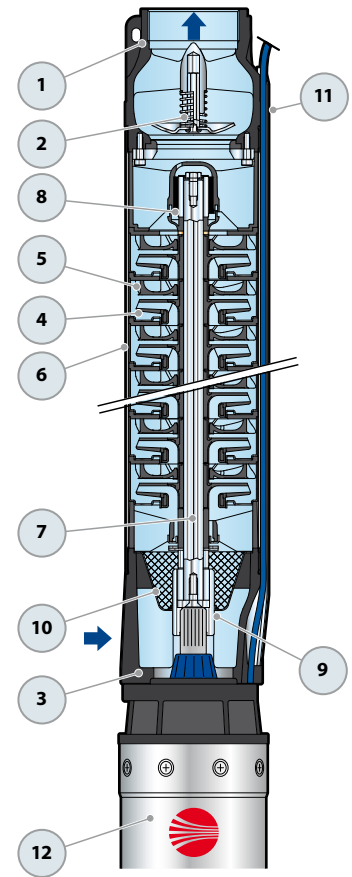
#### Cooling jacket

When the pump is installed in storage tanks, rivers or lakes an external jacket must be fitted to establish a flow of cooling water to prevent overheating of the motor.

➡ The **6SR** series pumps should be installed in boreholes of at least 6" (150 mm) in diameter. The pump should be lowered into the borehole, by means of the delivery pipe, to such a depth (min. 50 cm and at least one metre from the bottom) that it is completely immersed during operation when the level of water in the borehole may reduce. It is good practice to secure the pump by attaching a stainless steel cable to the anchorage points present on the delivery body.

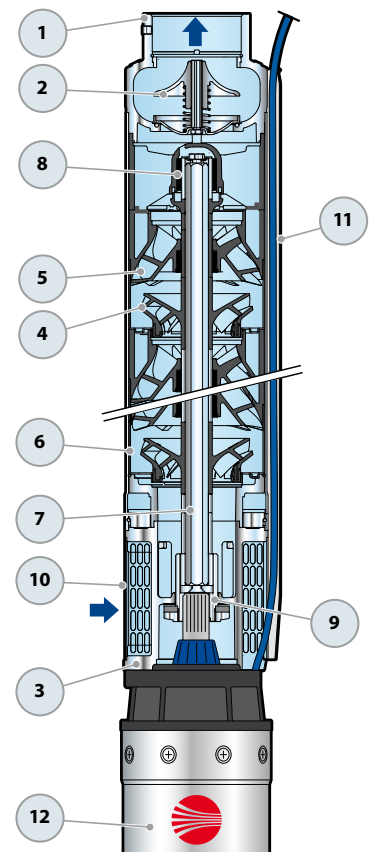
## 6SR12-18-27 (Radial impellers)

POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Cast iron with an Epoxy Electro Coating treatment complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Cast iron with an Epoxy Electro Coating treatment in compliance with NEMA standards
4 IMPELLERS	Special-rubber coated Noryl
5 DIFFUSERS	Noryl
6 DIFFUSER CASING	Stainless steel AISI 304
7 PUMP SHAFT	Stainless steel AISI 304
8 PUMP BEARINGS	Elastomer housing with stainless steel AISI 316, chrome oxide coated, sand resistant shaft bushing
9 DRIVE COUPLING	Stainless steel AISI 420
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 6"	<b>6PD</b> = rewindable oil filled submersible motor

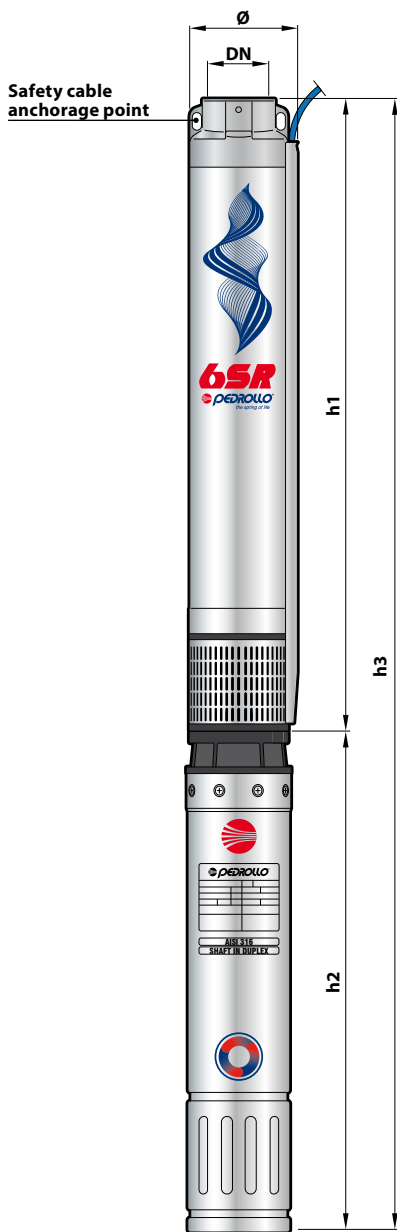


## 6SR36-44 (Semi-axial impellers)

POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Cast iron with an Epoxy Electro Coating treatment in compliance with NEMA standards
4 IMPELLERS	Noryl e ricoperte in gomma speciale
5 DIFFUSERS	Noryl
6 DIFFUSER CASING	Stainless steel AISI 304
7 PUMP SHAFT	Stainless steel AISI 304
8 PUMP BEARINGS	Special technopolymer housing with stainless steel AISI 316, chrome oxide coated, sand resistant shaft bushing
9 DRIVE COUPLING	Stainless steel AISI 420
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 6"	<b>6PD</b> = rewindable oil filled submersible motor



### DIMENSIONS AND WEIGHT



MODEL	PORT DN	Ø	DIMENSIONS mm			kg 3~
			h1	h2	h3	
6SR 12/8 - PD	3"	149.5	719	595	1314	53.8
6SR 12/11 - PD			849	625	1474	60.9
6SR 12/15 - PD			1068	660	1728	66.8
6SR 12/18 - PD			1198	700	1898	73.0
6SR 12/21 - PD			1328	765	2093	83.9
6SR 12/25 - PD			1502	820	2322	96.0
6SR 12/28 - PD			1632	820	2452	98.1
6SR 18/4 - PD			545	595	1140	49.6
6SR 18/6 - PD			632	625	1257	53.6
6SR 18/9 - PD			762	660	1422	60.3
6SR 18/11 - PD			849	700	1549	67.0
6SR 18/13 - PD			981	765	1746	76.9
6SR 18/15 - PD			1068	820	1888	84.6
6SR 18/18 - PD			1198	820	2018	87.6
6SR 18/22 - PD			1371	883	2254	99.7
6SR 18/26 - PD			1545	953	2498	125.7
6SR 27/4 - PD			583	595	1178	47.9
6SR 27/5 - PD			636	625	1261	53.5
6SR 27/7 - PD			742	660	1402	58.8
6SR 27/8 - PD			795	700	1495	63.0
6SR 27/10 - PD			901	765	1666	74.1
6SR 27/12 - PD			1051	820	1871	83.6
6SR 27/14 - PD			1157	820	1977	85.9
6SR 27/17 - PD			1316	883	2199	97.5
6SR 27/20 - PD			1474	953	2427	123.0
6SR 27/27 - PD			1845	1098	2943	135.8
6SR 36/4 - PD			823	595	1418	55.4
6SR 36/6 - PD			1049	625	1674	64.0
6SR 36/8 - PD			1275	660	1935	71.0
6SR 36/10 - PD			1501	700	2201	76.2
6SR 36/11 - PD			1613	765	2378	90.0
6SR 36/13 - PD			1839	820	2659	102.0
6SR 36/15 - PD			2065	820	2885	107.0
6SR 36/19 - PD			2517	883	3400	121.0
6SR 36/23 - PD			2969	953	3922	154.0
6SR 44/3 - PD			710	595	1305	54.0
6SR 44/4 - PD			823	625	1448	57.5
6SR 44/5 - PD			936	660	1596	63.1
6SR 44/6 - PD			1049	700	1749	70.0
6SR 44/8 - PD			1275	765	2040	82.2
6SR 44/9 - PD	1388	820	2208	92.0		
6SR 44/11 - PD	1613	820	2433	97.0		
6SR 44/13 - PD	1839	883	2722	110.0		
6SR 44/16 - PD	2178	953	3131	141.0		
6SR 44/21 - PD	2743	1098	3841	154.3		

6PD = rewindable oil filled submersible motor



## DIMENSIONS AND WEIGHT (PUMP ONLY)



MODEL Pump	PORT DN	DIMENSIONS mm		kg
		Ø	h1	
6SR 12/8 - HYD	3"	149.5	719	19.8
6SR 12/11 - HYD			849	24.9
6SR 12/15 - HYD			1068	27.8
6SR 12/18 - HYD			1198	31.0
6SR 12/21 - HYD			1328	33.9
6SR 12/25 - HYD			1502	39.0
6SR 12/28 - HYD			1632	41.1
6SR 18/4 - HYD			545	15.6
6SR 18/6 - HYD			632	17.6
6SR 18/9 - HYD			762	21.3
6SR 18/11 - HYD			849	25.0
6SR 18/13 - HYD			981	26.9
6SR 18/15 - HYD			1068	27.6
6SR 18/18 - HYD			1198	30.6
6SR 18/22 - HYD			1371	34.7
6SR 18/26 - HYD			1545	38.7
6SR 27/4 - HYD			583	13.9
6SR 27/5 - HYD			636	17.5
6SR 27/7 - HYD			742	19.8
6SR 27/8 - HYD			795	21.0
6SR 27/10 - HYD			901	24.1
6SR 27/12 - HYD			1051	26.6
6SR 27/14 - HYD			1157	28.9
6SR 27/17 - HYD			1316	32.5
6SR 27/20 - HYD			1474	36.0
6SR 27/27 - HYD			1845	44.8
6SR 36/4 - HYD			823	21.4
6SR 36/6 - HYD			1049	28.0
6SR 36/8 - HYD			1275	32.0
6SR 36/10 - HYD			1501	34.2
6SR 36/11 - HYD			1613	40.0
6SR 36/13 - HYD			1839	45.0
6SR 36/15 - HYD			2065	50.0
6SR 36/19 - HYD			2517	56.0
6SR 36/23 - HYD			2969	67.0
6SR 44/3 - HYD			710	20.0
6SR 44/4 - HYD			823	21.5
6SR 44/5 - HYD			936	24.1
6SR 44/6 - HYD			1049	28.0
6SR 44/8 - HYD			1275	32.2
6SR 44/9 - HYD			1388	35.0
6SR 44/11 - HYD			1613	40.0
6SR 44/13 - HYD	1839	45.0		
6SR 44/16 - HYD	2178	54.0		
6SR 44/21 - HYD	2743	63.3		

# RX

## Submersible DRAINAGE pumps

 Clear water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+50 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for RX 1-2-3
  - **25 mm** above ground level for RX 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for RX 1-2-3
- **10 m** long power cable for RX 4-5
- float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **RX** series pumps are suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in fixed installations and applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

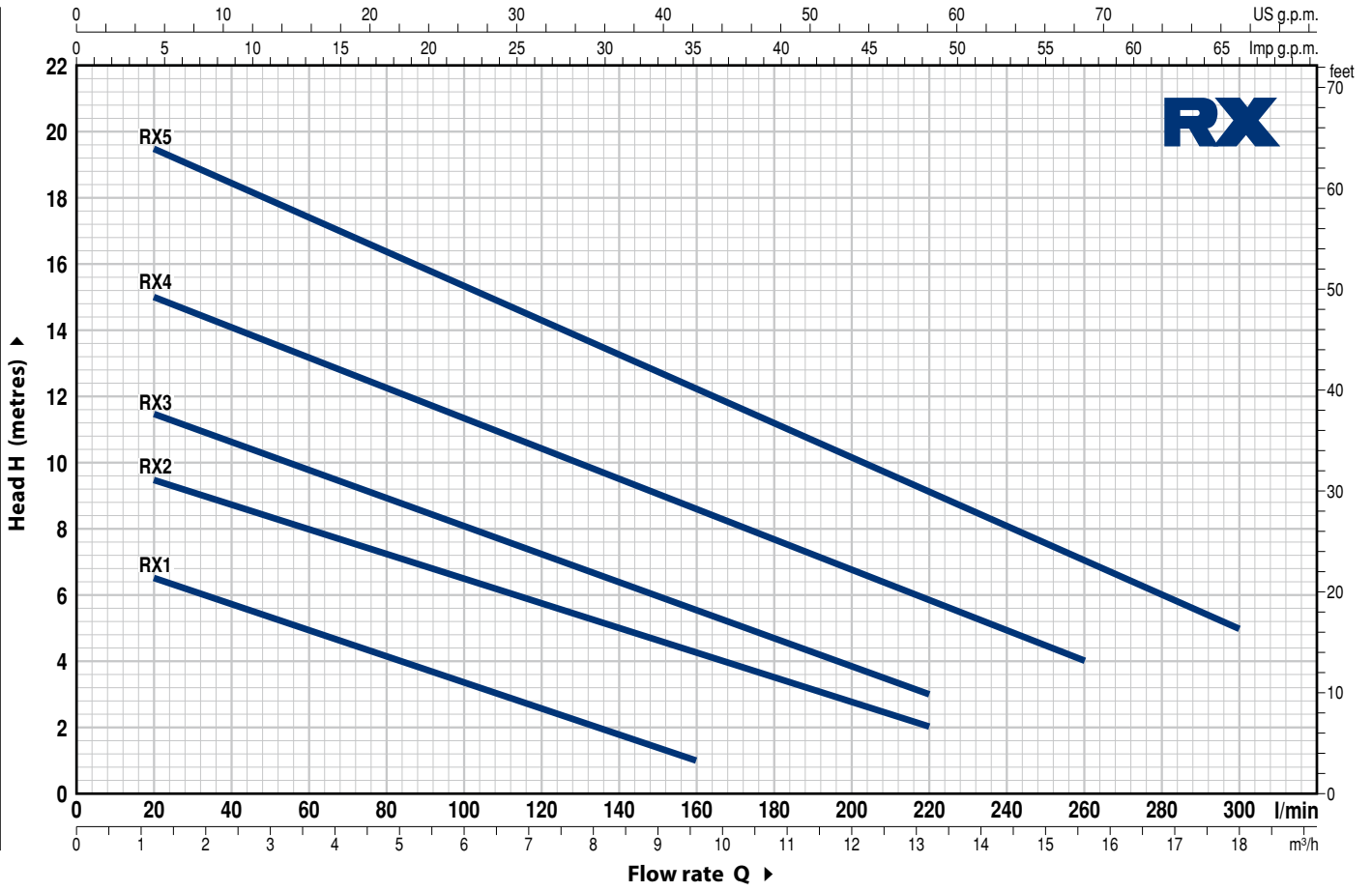
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- “**RX-GM**” pumps with a vertical float switch (suitable for particularly small wells)
- Special mechanical seal
- RX 1-2-3 pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate													
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	3.6	6.0	8.4	9.6	12.0	13.2	15.6	18.0			
				l/min	0	20	60	100	140	160	200	220	260	300				
RXm 1	RX 1	0.25	0.33	H metres	7.5	6.5	5	3.5	2	1								
RXm 2	RX 2	0.37	0.50		10	9.5	8	6.5	5	4.5	2.5	2						
RXm 3	RX 3	0.55	0.75		12	11.5	9.5	8	6.5	5.5	3.5	3						
RXm 4	RX 4	0.75	1		16	15	13	11.5	9.5	8.5	6.5	5.5	4					
RXm 5	RX 5	1.1	1.5		20	19.5	17.5	15.5	13.5	12.5	10	9	7	5				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# RX 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Materials		
		Stationary ring	Rotational ring	Elastomer
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

9 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

10 **BEARINGS** 6201 ZZ / 6201 ZZ

### 11 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
<b>RXm 1</b>	<b>10 µF</b> 450 VL	<b>16 µF</b> - 250 VL
<b>RXm 2</b>	<b>10 µF</b> 450 VL	<b>16 µF</b> - 250 VL
<b>RXm 3</b>	<b>14 µF</b> 450 VL	<b>16 µF</b> - 250 VL

### 12 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

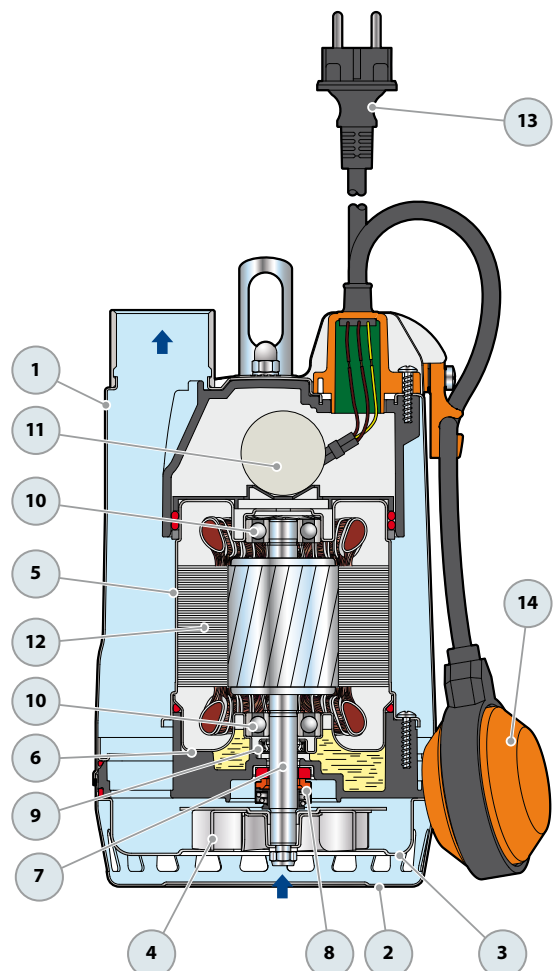
### 13 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

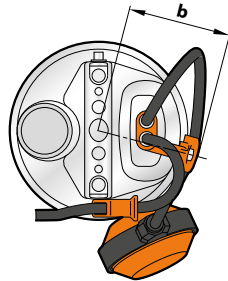
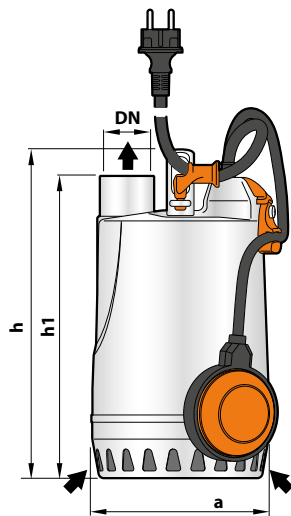
**Standard length 5 metres**

### 14 FLOAT SWITCH

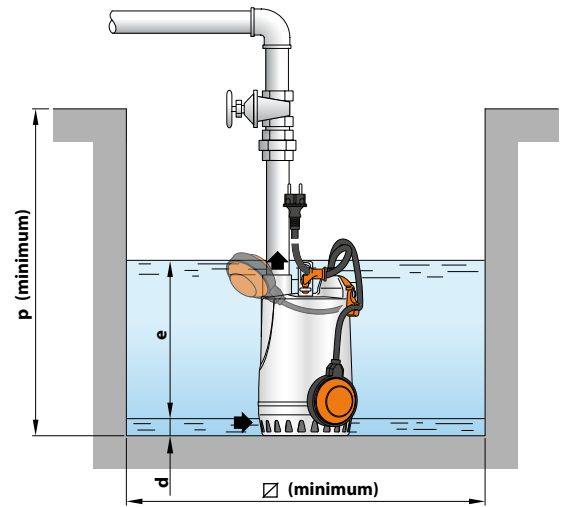
(Only for single-phase versions)



## DIMENSIONS AND WEIGHT

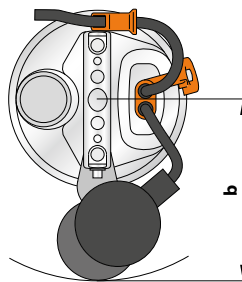
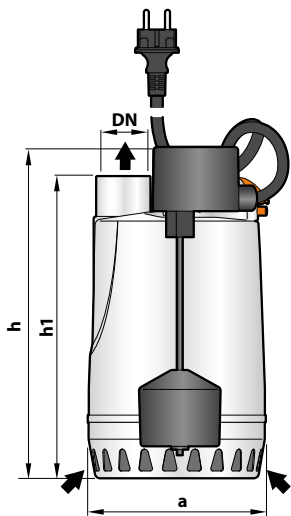


Standard installation

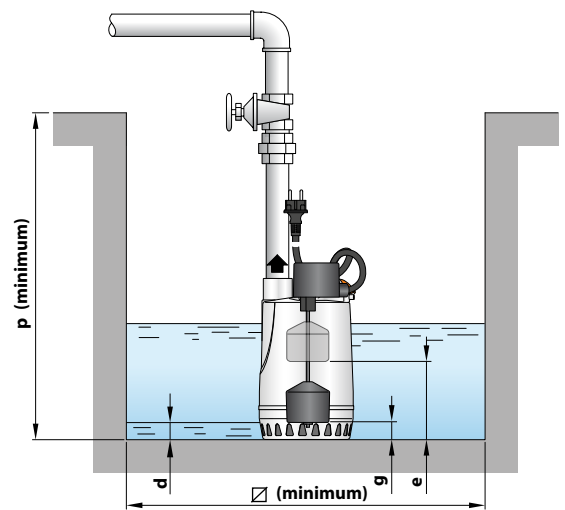


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1	RX 1	1 1/4"	147	24	269	246	14	variable	350	350	6.1	5.5	96	144
RXm 2	RX 2				298	277					6.1	5.6	96	144
RXm 3	RX 3				7.6	7.0					96	144		

Version with vertical float switch



Standard installation



MODEL		PORT	DIMENSIONS mm								kg	PALLETIZATION		
Single-phase		DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1-GM		1 1/4"	147	150	270	247	14	145	40	350	240	6.2	80	120
RXm 2-GM					300	277		175	45			6.2	80	120
RXm 3-GM					7.5	80		120						

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
RXm 1	1.5 A	1.4 A	3.0 A
RXm 2	2.0 A	2.0 A	4.0 A
RXm 3	3.6 A	3.4 A	7.2 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 1	1.6 A	0.9 A	1.6 A	0.9 A
RX 2	1.7 A	1.0 A	1.7 A	1.0 A
RX 3	2.8 A	1.6 A	2.6 A	1.5 A

# RX 4-5

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 9 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

### 10 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
RXm 4	20 µF 450 VL	30 µF - 250 VL
RXm 5	25 µF 450 VL	30 µF - 250 VL

### 11 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

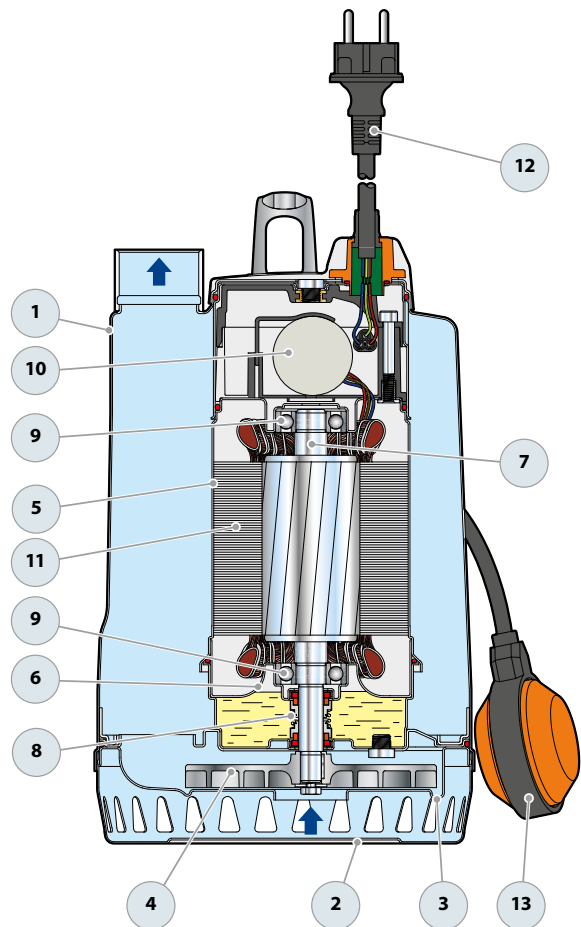
### 12 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

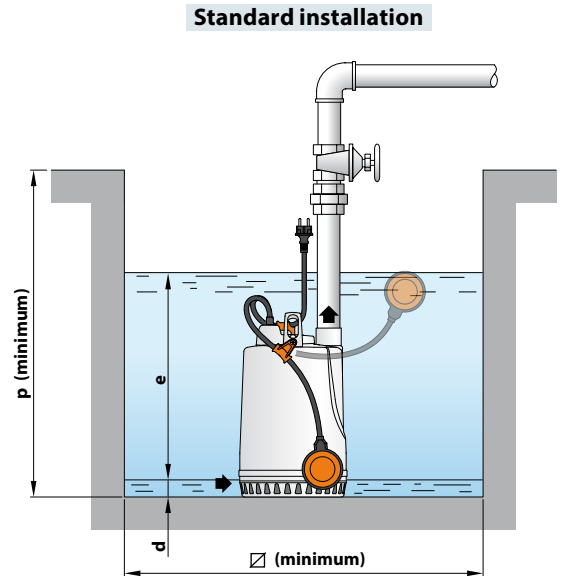
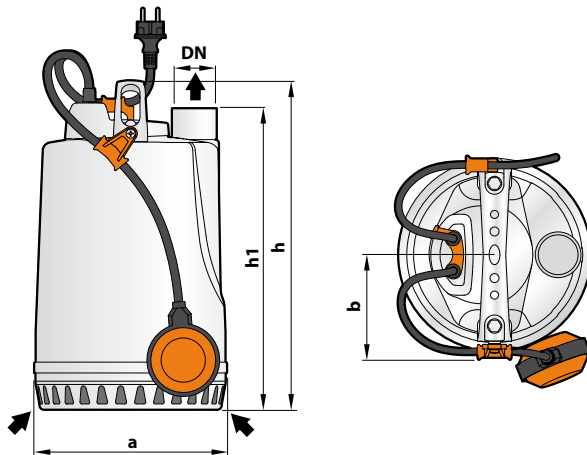
**Standard length 10 metres**

### 13 FLOAT SWITCH

Only for single-phase versions  
(Vertical float switch in the GM versions).

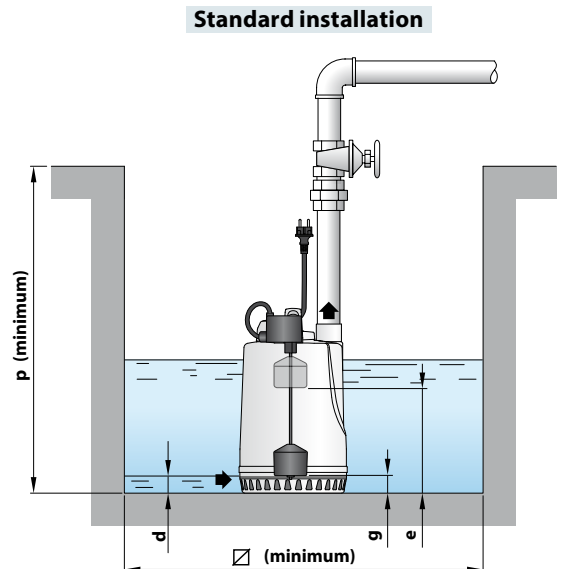
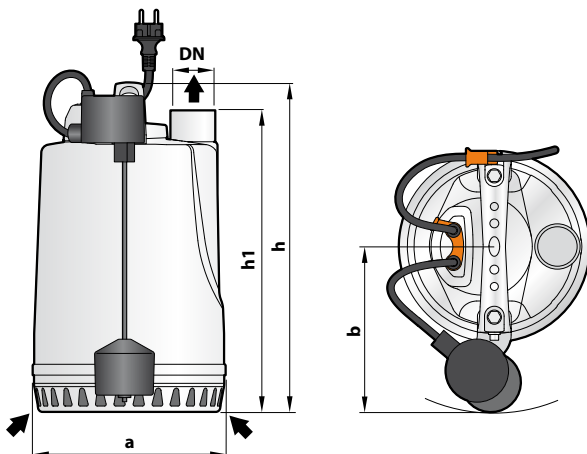


## DIMENSIONS AND WEIGHT



MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4	RX 4	1½"	220	118.5	370	336	25	variable	500	500	14.4	13.3	45	60
RXm 5	RX 5										15.4	14.4	45	60

### Version with vertical float switch



MODEL	PORT	DIMENSIONS mm								kg	PALLETIZATION		
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4 - GM	1½"	220	186.5	370	336	25	250	50	500	300	16.7	45	60
RXm 5 - GM											15.8	45	60

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
RXm 4	5.9 A	5.9 A
RXm 5	7.5 A	7.5 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 4	3.6 A	2.1 A	3.5 A	2.0 A
RX 5	6.1 A	3.5 A	5.9 A	3.4 A



Clean water  
(Maximum  
sand content 100 g/m<sup>3</sup>)



Civil use



Agricultural use



Industrial use

### PERFORMANCE RANGE

- Flow rate up to **1500 l/min** (90 m<sup>3</sup>/h)
- Head up to **375 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m<sup>3</sup>**
- **200 m** immersion limit
- Installation:
  - vertical
  - horizontal, with the following limits:
    - 6HR34 up to **11 stages**
    - 6HR44 up to **10 stages**
    - 6HR54 up to **9 stages**
    - 6HR64 up to **7 stages**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **10 cm/s**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

– Three-phase 400 V - 50 Hz

**4 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **100 g/m<sup>3</sup>**. Because of their high efficiency and reliability, they are suitable for use in civil, agricultural and industrial applications such as the distribution of water in combination with pressure tanks, for irrigation and for pressure boosting in fire-fighting sets, etc.

### PATENTS - TRADE MARKS - MODELS

Registered EU Design n. 004675106-0002

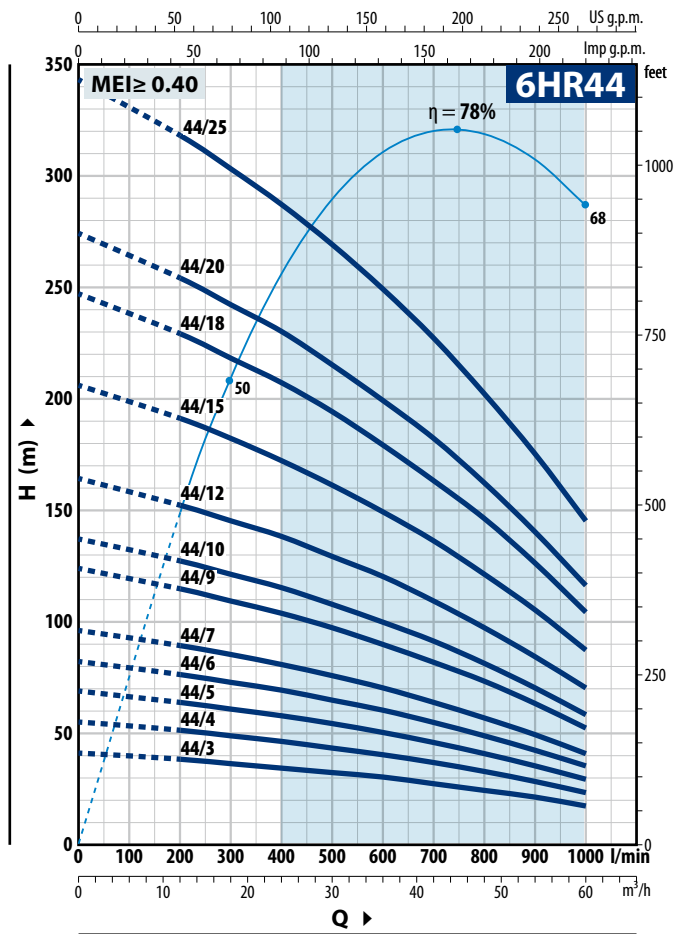
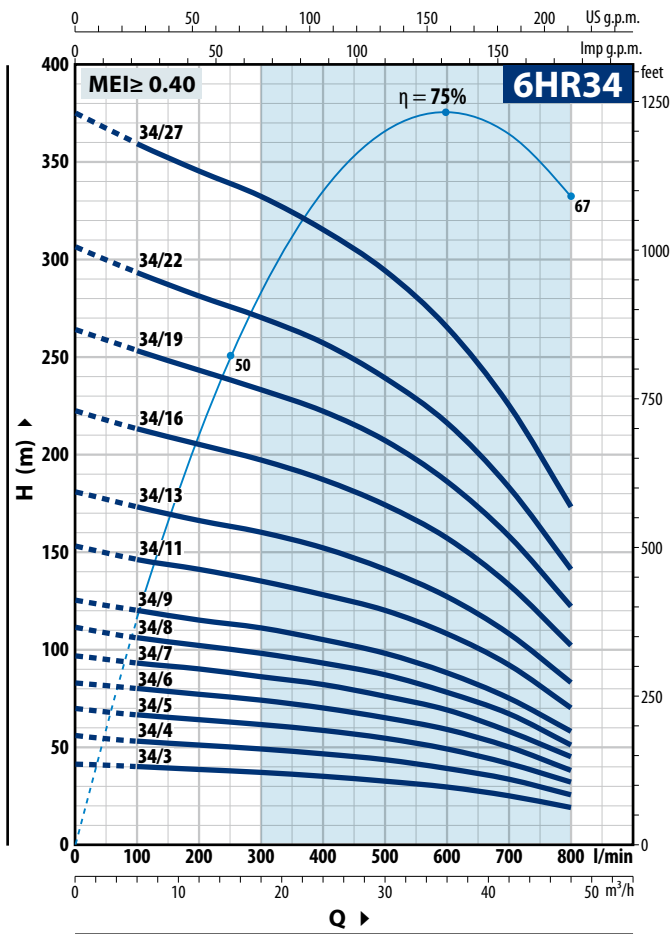
### OPTIONS AVAILABLE ON REQUEST

- 6HR-HYD pumps with double cable cover suitable for dual voltage 400/690 V (star/delta)
- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### 6HR34

MODEL	POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h											
	kW	HP		0	6	12	18	24	30	36	42	48			
<b>Three-phase</b>				<b>0</b>	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>			
6HR 34/3	4	5.5	H metres	41.5	40	38.5	37	35	32.5	29.5	25	19			
6HR 34/4	5.5	7.5		55.5	53	51	49	46.5	43.5	39	33.5	25.5			
6HR 34/5	7.5	10		69.5	66.5	64	61.5	58.5	54.5	49	41.5	32			
6HR 34/6	9.2	12.5		83	80	77	74	70	65	59	50	38			
6HR 34/7	11	15		97	93	90	86	82	76	69	58	45			
6HR 34/8	11	15		111	106	102	98	93	87	78	67	51			
6HR 34/9	13	17.5 <sup>(1)</sup>		125	120	115	111	105	98	88	75	58			
6HR 34/11	15	20		153	146	141	135	128	120	108	92	70			
6HR 34/13	18.5	25		181	173	166	160	152	141	127	108	83			
6HR 34/16	22	30		222	213	205	197	187	174	157	133	102			
6HR 34/19	26	35 <sup>(2)</sup>		264	253	243	233	222	207	186	158	122			
6HR 34/22	30	40		306	293	281	270	257	239	216	183	141			
6HR 34/27	37	50	375	359	345	332	315	294	265	225	173				

### 6HR44

MODEL	POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h											
	kW	HP		0	12	18	24	30	36	42	48	54	60		
<b>Three-phase</b>				<b>0</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>	<b>900</b>	<b>1000</b>		
6HR 44/3	5.5	7.5	H metres	41	38	36	34	32	30	27	24	21	17		
6HR 44/4	7.5	10		55	51	48.5	46	43	40	36.5	32.5	28	23		
6HR 44/5	7.5	10		68.5	63.5	60.5	57.5	54	50	45.5	40.5	35	29		
6HR 44/6	9.2	12.5		82	76	72.5	69	64.5	60	54.5	48.5	42	35		
6HR 44/7	11	15		96	89	85	80.5	75.5	70	63.5	56.5	49	40.5		
6HR 44/9	13	17.5 <sup>(1)</sup>		123.5	114.5	109	103.5	97	89.5	81.5	73	63	52		
6HR 44/10	15	20		137	127	121	115	107.5	99.5	91	81	70	58		
6HR 44/12	18.5	25		164	152	145	138	129	120	109	97	84	70		
6HR 44/15	22	30		206	191	182	172	161	149	136	121	105	87		
6HR 44/18	26	35 <sup>(2)</sup>		247	229	218	207	194	179	163	146	126	104		
6HR 44/20	30	40		274	254	242	230	215	199	182	162	140	116		
6HR 44/25	37	50		343	318	303	287	269	249	227	202	175	145		

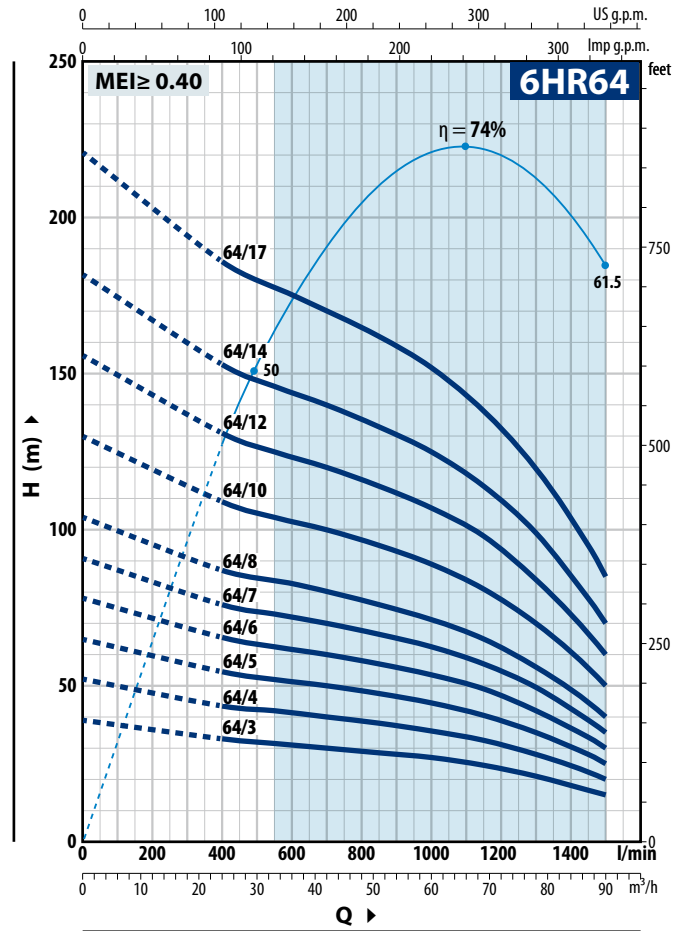
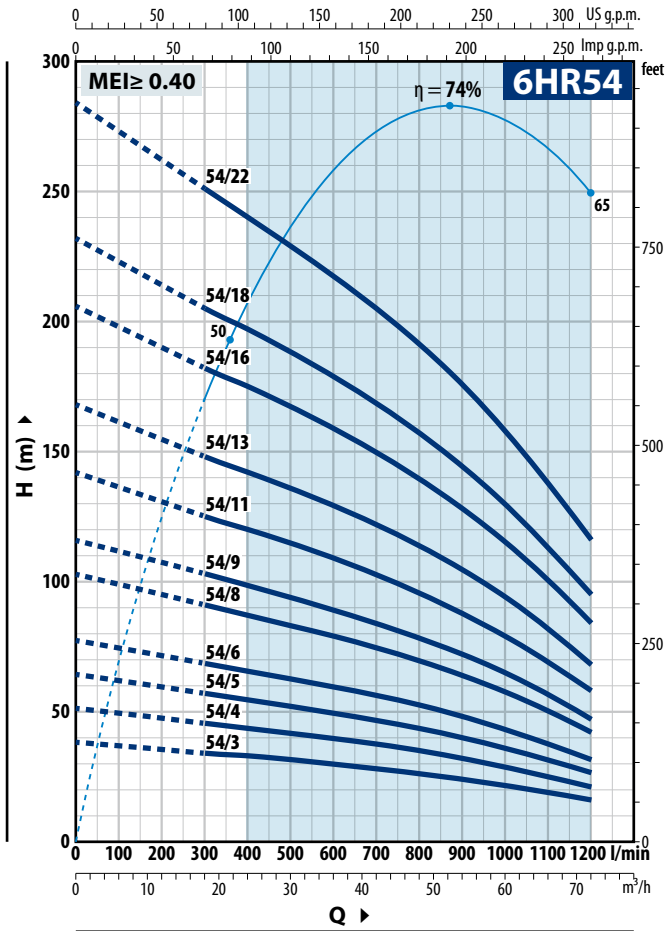
Q = Flow rate H = Total manometric head

- (1) Pump fitted with a 20 HP motor
- (2) Pump fitted with a 40 HP motor

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



#### 6HR54

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	18	24	30	36	42	48	54	60	66	72	
<b>Three-phase</b>				<b>0</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>	<b>900</b>	<b>1000</b>	<b>1100</b>	<b>1200</b>		
6HR 54/3	5.5	7.5	H metres	38.5	34	33	31.5	29.5	28	26	24	21.5	19	16		
6HR 54/4	7.5	10		51.5	45.5	43.5	41.5	39.5	37.5	35	32	29	25	21		
6HR 54/5	9.2	12.5		64.5	57	54.5	52	49.5	46.5	43.5	40	36	31.5	26.5		
6HR 54/6	11	15		77.5	68.5	65.5	62.5	59.5	56	52.5	48	43	37.5	31.5		
6HR 54/8	13	17.5 <sup>(1)</sup>		103	91	87	83	79	74.5	69.5	64	57.5	50.5	42		
6HR 54/9	15	20		116	103	98	94	89	84	78	72	65	57	47		
6HR 54/11	18.5	25		142	125	120	115	109	103	96	88	79	69	58		
6HR 54/13	22	30		168	148	142	136	129	121	113	104	94	82	68		
6HR 54/16	26	35 <sup>(2)</sup>		206	182	175	167	159	149	139	128	115	101	84		
6HR 54/18	30	40		232	205	197	188	178	168	157	144	130	113	95		
6HR 54/22	37	50		284	251	240	229	218	205	192	176	158	138	116		

#### 6HR64

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate										
	kW	HP		m <sup>3</sup> /h	0	24	33	42	51	60	69	78	87	90
<b>Three-phase</b>				<b>0</b>	<b>400</b>	<b>550</b>	<b>700</b>	<b>850</b>	<b>1000</b>	<b>1150</b>	<b>1300</b>	<b>1450</b>	<b>1500</b>	
6HR 64/3	7.5	10	H metres	39	33	31.5	30	28.5	27	24.5	21	16.5	15	
6HR 64/4	9.2	12.5		52	43.5	42	40	38	35.5	32.5	28	22.5	20	
6HR 64/5	11	15		65	54.5	52	50	47.5	44.5	40.5	35	28	25	
6HR 64/6	13	17.5 <sup>(1)</sup>		78	65.5	62.5	60	57	53.5	49	42	33.5	30	
6HR 64/7	15	20		91	76	73	70	66.5	62.5	57	49.5	39	35	
6HR 64/8	18.5	25		104	87	84	80	76	71	65	56	45	40	
6HR 64/10	22	30		130	109	104	100	95	89	81	70	56	50	
6HR 64/12	26	35 <sup>(2)</sup>		156	131	125	120	114	107	98	84	67	60	
6HR 64/14	30	40		182	153	146	140	133	125	114	99	78	70	
6HR 64/17	37	50		221	186	178	170	162	152	138	120	95	85	

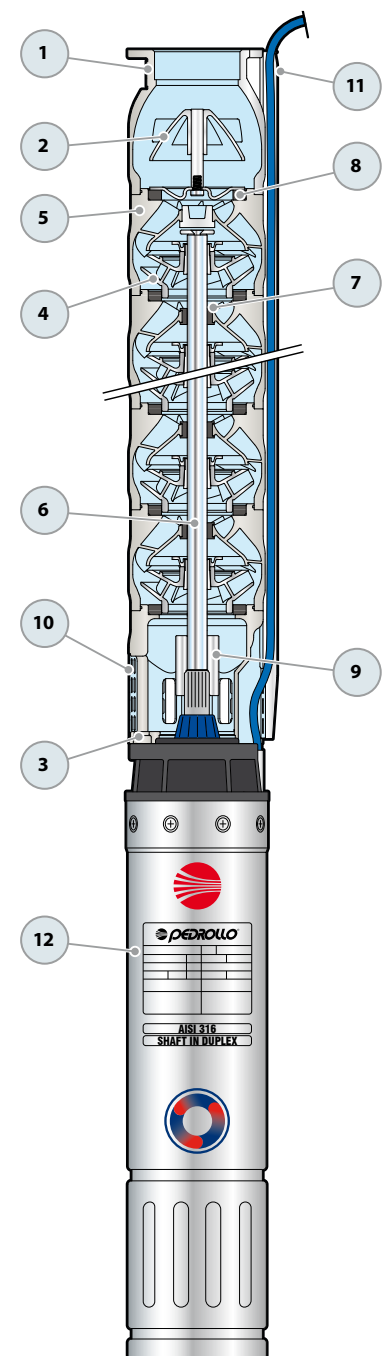
Q = Flow rate H = Total manometric head

(1) Pump fitted with a 20 HP motor

(2) Pump fitted with a 40 HP motor

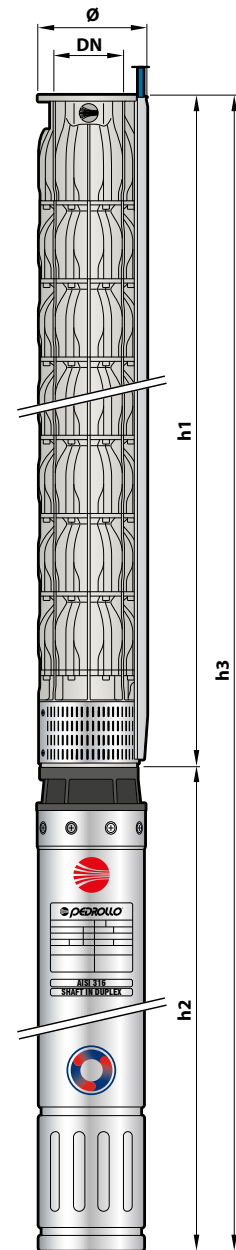
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Precision cast stainless steel AISI 304 in compliance with NEMA standards
4 IMPELLERS	Precision cast stainless steel AISI 304
5 DIFFUSERS	Precision cast stainless steel AISI 304
6 PUMP SHAFT	Stainless steel AISI 304
7 PUMP BEARINGS	Special elastomer
8 WEAR RINGS	Special elastomer
9 DRIVE COUPLING	Stainless steel AISI 304
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 6"	6PD = "PEDROLLO" oil filled motor

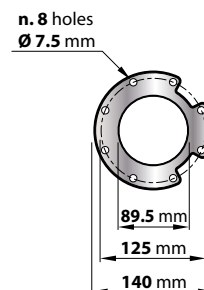


## DIMENSIONS AND WEIGHT

MODEL	PORT DN	Ø	DIMENSIONS mm			kg 3~				
			h1	h2	h3					
6HR 34/3 - PD	3"	150	581	595	1176	55.4				
6HR 34/4 - PD			682	625	1307	61.1				
6HR 34/5 - PD			783	660	1443	67.5				
6HR 34/6 - PD			884	700	1584	72.9				
6HR 34/7 - PD			985	765	1750	83.2				
6HR 34/8 - PD			1086	765	1851	86.6				
6HR 34/9 - PD			1187	820	2007	98.0				
6HR 34/11 - PD			1389	820	2209	105.7				
6HR 34/13 - PD			1591	883	2474	122.4				
6HR 34/16 - PD			1894	953	2847	138.5				
6HR 34/19 - PD			2197	1098	3295	166.6				
6HR 34/22 - PD			2500	1098	3598	176.7				
6HR 34/27 - PD			3005	1233	4238	203.5				
6HR 44/3 - PD			3"	150	581	625	1206	57.4		
6HR 44/4 - PD					682	660	1342	64.1		
6HR 44/5 - PD					783	660	1443	67.5		
6HR 44/6 - PD					884	700	1584	72.9		
6HR 44/7 - PD					985	765	1750	83.2		
6HR 44/9 - PD					1187	820	2007	98.0		
6HR 44/10 - PD					1288	820	2108	102.3		
6HR 44/12 - PD					1490	883	2373	119.0		
6HR 44/15 - PD					1793	953	2746	135.1		
6HR 44/18 - PD					2096	1098	3194	163.2		
6HR 44/20 - PD					2298	1098	3396	169.9		
6HR 44/25 - PD					2803	1233	4036	196.8		
6HR 54/3 - PD					3"	150	599	625	1224	57.5
6HR 54/4 - PD							706	660	1366	64.3
6HR 54/5 - PD							813	700	1513	69.7
6HR 54/6 - PD							920	765	1685	80.2
6HR 54/8 - PD							1134	820	1954	95.0
6HR 54/9 - PD							1241	820	2061	99.4
6HR 54/11 - PD							1455	883	2338	116.2
6HR 54/13 - PD	1669	953					2622	129.1		
6HR 54/16 - PD	1990	1098					3088	156.3		
6HR 54/18 - PD	2204	1098					3302	164.1		
6HR 54/22 - PD	2632	1233					3865	187.8		
6HR 64/3 - PD	3"	150					599	660	1259	57.2
6HR 64/4 - PD							706	700	1406	63.9
6HR 64/5 - PD							813	765	1578	69.2
6HR 64/6 - PD							920	820	1740	79.6
6HR 64/7 - PD							1027	820	1847	90.9
6HR 64/8 - PD							1134	883	2017	94.2
6HR 64/10 - PD							1348	953	2301	111.8
6HR 64/12 - PD							1562	1098	2660	124.4
6HR 64/14 - PD							1776	1098	2874	147.1
6HR 64/17 - PD			2097	1233			3330	159.0		



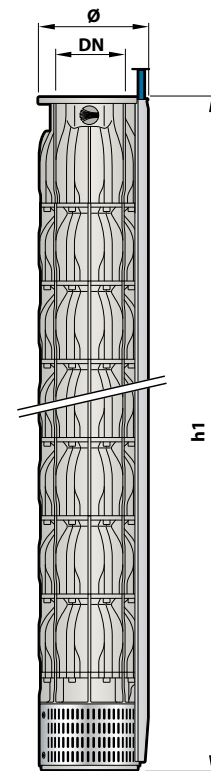
### COUNTERFLANGE KIT (TO BE ORDERED SEPARATELY)



Kit consisting of:  
counterflange, seal, screws and nuts

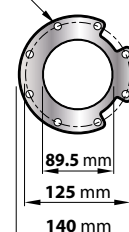
## DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL Pump	PORT DN	DIMENSIONS mm		kg 3~		
		Ø	h1			
6HR 34/3 - HYD	3"	150	581	21.8		
6HR 34/4 - HYD			682	25.1		
6HR 34/5 - HYD			783	28.5		
6HR 34/6 - HYD			884	32.5		
6HR 34/7 - HYD			985	35.8		
6HR 34/8 - HYD			1086	39.2		
6HR 34/9 - HYD			1187	42.6		
6HR 34/11 - HYD			1389	49.7		
6HR 34/13 - HYD			1591	56.4		
6HR 34/16 - HYD			1894	69.5		
6HR 34/19 - HYD			2197	80.6		
6HR 34/22 - HYD			2500	90.7		
6HR 34/27 - HYD			3005	108.5		
6HR 44/3 - HYD					581	21.8
6HR 44/4 - HYD					682	25.1
6HR 44/5 - HYD					783	28.5
6HR 44/6 - HYD					884	32.5
6HR 44/7 - HYD					985	35.8
6HR 44/9 - HYD					1187	42.6
6HR 44/10 - HYD					1288	46.3
6HR 44/12 - HYD					1490	53.0
6HR 44/15 - HYD					1793	66.1
6HR 44/18 - HYD					2096	77.2
6HR 44/20 - HYD					2298	83.9
6HR 44/25 - HYD					2803	101.8
6HR 54/3 - HYD					599	21.9
6HR 54/4 - HYD					706	25.3
6HR 54/5 - HYD					813	28.7
6HR 54/6 - HYD					920	32.8
6HR 54/8 - HYD					1134	39.6
6HR 54/9 - HYD					1241	43.0
6HR 54/11 - HYD					1455	50.2
6HR 54/13 - HYD					1669	57.1
6HR 54/16 - HYD					1990	70.3
6HR 54/18 - HYD					2204	78.1
6HR 54/22 - HYD			2632	92.8		
6HR 64/3 - HYD			599	21.6		
6HR 64/4 - HYD			706	24.9		
6HR 64/5 - HYD			813	28.2		
6HR 64/6 - HYD			920	32.2		
6HR 64/7 - HYD			1027	35.5		
6HR 64/8 - HYD			1134	38.8		
6HR 64/10 - HYD			1348	45.8		
6HR 64/12 - HYD			1562	52.4		
6HR 64/14 - HYD			1776	62.1		
6HR 64/17 - HYD			2097	73.0		



### COUNTERFLANGE KIT (TO BE ORDERED SEPARATELY)

n. 8 fori  
Ø 7.5 mm



Kit consisting of:  
counterflange, seal, screws and nuts

# 4PD

## 4" PEDROLLO submersible motors

 Domestic use

 Civil use

 Industrial use



### PERFORMANCE

- Power from **0.37 to 7.5 kW**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **200 m** immersion limit
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz ( $n \sim 2900 \text{ min}^{-1}$ )
- Voltage:
  - single-phase **230 V**
  - three-phase **400 V**
- Insulation: class F
- Protection: IP 68

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CONSTRUCTION AND SAFETY STANDARDS

- Oil filled **rewindable** motors (non-toxic oil for use with food)
- **Jacket: AISI 316 stainless steel**
- **Shaft: "DUPLEX" stainless steel**
- Dimensions of the flange connection in compliance with **NEMA** standards.
- Complete with power cable of the following length:
  - **2 m** powers from 0.37 to 2.2 kW
  - **3.6 m** powers from 3 to 7.5 kW.

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

### SACRIFICIAL ANODE

(Supplied on request - code ASS4PDA01)

- Manufactured with a special zinc-aluminium cadmium-free alloy, suitable for contact with drinking water.
- It is easily fitted to the lower extremity of 4PD motors to protect them from corrosion in the presence of irregular currents or particularly aggressive waters, greatly increasing the life of the motor component.



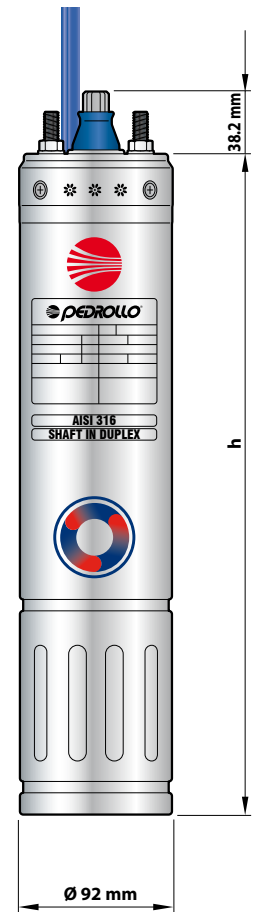
## PERFORMANCE DATA

### Single-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	Capacitor (VL=450V) μF	h mm	Weight kg
	kW	HP							
<b>230 V / 50 Hz</b>									
4PDm / 0.50	0.37	0.50	2000	2800	3.3	0.86	20	311	6.8
4PDm / 0.75	0.55	0.75		2810	3.5	0.89	25	331	7.7
4PDm / 1	0.75	1		2825	3.2	0.91	35	356	8.9
4PDm / 1.5	1.1	1.5		2840	3.2	0.93	40	396	10.6
4PDm / 2	1.5	2		2845	3.3	0.93	60	437	12.6
4PDm / 3	2.2	3		2820	3.1	0.94	75	492	14.9

### Three-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	h mm	Weight kg
	kW	HP						
<b>400 V / 50 Hz</b>								
4PD / 0.50	0.37	0.50	2000	2855	3.2	0.52	311	7.0
4PD / 0.75	0.55	0.75		2835	4	0.63	331	7.7
4PD / 1	0.75	1		2825	3.8	0.71	356	8.8
4PD / 1.5	1.1	1.5		2825	4.6	0.79	371	9.4
4PD / 2	1.5	2		2835	3.8	0.66	396	10.6
4PD / 3	2.2	3		2810	6.5	0.73	437	12.5
4PD / 4	3	4	3000	2840	5.6	0.79	450	13.7
4PD / 5.5	4	5.5	5000	2835	5.4	0.77	505	16.3
4PD / 7.5	5.5	7.5		2820	5.4	0.82	590	20.1
4PD / 10	7.5	10		2840	5.4	0.76	800	29.5



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
4PDm / 0.50	3.6 A
4PDm / 0.75	4.7 A
4PDm / 1	5.9 A
4PDm / 1.5	8.3 A
4PDm / 2	10.7 A
4PDm / 3	15.2 A

MODEL	VOLTAGE	
Three-phase	230 V	400 V
4PD / 0.50	3.1 A	1.8 A
4PD / 0.75	3.5 A	2.0 A
4PD / 1	4.3 A	2.5 A
4PD / 1.5	5.9 A	3.4 A
4PD / 2	8.3 A	4.8 A
4PD / 3	10.6 A	6.1 A
4PD / 4	12.3 A	7.1 A
4PD / 5.5	15.9 A	9.2 A
4PD / 7.5	21.3 A	12.3 A
4PD / 10	-	16.4 A

# 4PS

## 4" encapsulated PEDROLLO submersible motors

 Domestic use

 Civil use

 Industrial use



### PERFORMANCE

- Power from **0.37** to **7.5 kW**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **100 m** immersion limit
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz ( $n \sim 2900 \text{ min}^{-1}$ )
- Voltage:
  - single-phase **230 V** up to 2.2 kW
  - three-phase **400 V**
- Insulation: class F
- Protection: IP 68

### CONSTRUCTION AND SAFETY STANDARDS

- **Encapsulated** water filled submersible motors
- **Jacket: AISI 316 stainless steel**
- **Shaft: "DUPLEX" stainless steel**
- Dimensions of the flange connection in accordance **NEMA** standards.

Complete with power cable of the following length:

- **2 m** powers from 0.37 to 2.2 kW
- **3.6 m** powers from 3 to 7.5 kW.

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



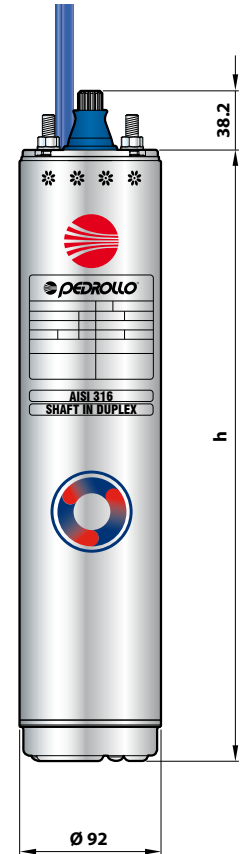
## PERFORMANCE DATA

### Single-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	Capacitor (VL=450V) μF	h mm	Weight kg
	kW	HP							
<b>230 V / 50 Hz</b>									
4PSm / 0.50	0.37	0.50	2000	2845	3.4	0.88	20	237	8.2
4PSm / 0.75	0.55	0.75		2840	3.8	0.93	25	257	9.0
4PSm / 1	0.75	1		2835	3.8	0.92	35	272	9.6
4PSm / 1.5	1.1	1.5		2820	3.3	0.91	40	312	11.2
4PSm / 2	1.5	2	3000	2830	3.2	0.94	60	352	13.1
4PSm / 3	2.2	3		2810	3.6	0.94	75	402	15.5

### Three-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	h mm	Weight kg
	kW	HP						
<b>400 V / 50 Hz</b>								
4PS / 0.50	0.37	0.50	2000	2855	4.2	0.64	237	8.1
4PS / 0.75	0.55	0.75		2835	4.1	0.70	237	8.1
4PS / 1	0.75	1		2830	4.4	0.68	257	8.9
4PS / 1.5	1.1	1.5		2825	4.6	0.69	272	9.6
4PS / 2	1.5	2	3000	2820	4.7	0.73	297	10.7
4PS / 3	2.2	3		2805	5.2	0.74	352	13.1
4PS / 4	3	4		2845	5.7	0.82	484	18.3
4PS / 5.5	4	5.5	6500	2850	5.9	0.78	574	22.6
4PS / 7.5	5.5	7.5		2845	5.9	0.84	664	27.1
4PS / 10	7.5	10		2830	5.8	0.84	764	31.6



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
4PSm / 0.50	3.5 A
4PSm / 0.75	4.4 A
4PSm / 1	5.9 A
4PSm / 1.5	8.1 A
4PSm / 2	10.7 A
4PSm / 3	16.2 A

MODEL	VOLTAGE
Three-phase	400 V
4PS / 0.50	1.6 A
4PS / 0.75	1.8 A
4PS / 1	2.5 A
4PS / 1.5	3.4 A
4PS / 2	4.3 A
4PS / 3	6.0 A
4PS / 4	6.9 A
4PS / 5.5	9.6 A
4PS / 7.5	12.4 A
4PS / 10	16.9 A

# 6PD

## 6" PEDROLLO submersible motors

-  Civil use
-  Agricultural use
-  Industrial use



### PERFORMANCE

- Power from **4 to 37 kW**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **200 m** immersion limit
- Starts/hour: **30** at regular intervals
- Minimum flow rate for motor cooling **10 cm/s**
- Continuous service **S1**

### ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz ( $n \sim 2900 \text{ min}^{-1}$ )
- Three-phase voltage **400 V**
- Insulation: class F
- Protection: IP 68

### CONSTRUCTION AND SAFETY STANDARDS

- Oil filled **rewindable** motors (non-toxic oil for use with food)
- **Jacket: AISI 316 stainless steel**
- **Shaft: "DUPLEX" stainless steel**
- Flange coupling dimensions in compliance with **NEMA** standards.
- Complete with power cable of the following length:
  - **3 m** powers up to 15 kW
  - **4 m** powers from 18.5 to 37 kW.

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## PERFORMANCE DATA

MODEL	Rated power		Axial load	Revs	Starting current	Efficiency	Power factor	Rated torque	Starting torque	h	Weight
	P <sub>2</sub>				Rated current				Rated torque		
Three-phase 400 V / 50 Hz	kW	HP	N	min <sup>-1</sup>		η	cos φ	Nm		mm	kg
<b>6PD / 5.5</b>	4	5.5	10000	2840	5.1	74%	0.86	13.5	1.65	595	33.4
<b>6PD / 7.5</b>	5.5	7.5		2840	5.1	74%	0.84	18.5	1.60	625	36.5
<b>6PD / 10</b>	7.5	10		2850	4.7	78%	0.83	25.1	1.55	660	37.8
<b>6PD / 12.5</b>	9.2	12.5		2880	4.5	81%	0.77	30.5	1.60	700	42.6
<b>6PD / 15</b>	11	15		2850	5.2	85%	0.82	36.9	2.20	765	51.8
<b>6PD / 20</b>	15	20		2840	5.0	82%	0.86	50.5	2.60	820	58.0
<b>6PD / 25</b>	18.5	25	20000	2850	5.9	84%	0.84	62.0	2.30	883	62.8
<b>6PD / 30</b>	22	30		2850	5.5	84%	0.83	73.8	2.45	953	79.4
<b>6PD / 40</b>	30	40		2860	5.5	85%	0.83	100.2	1.90	1098	92.1
<b>6PD / 50</b>	37	50		2840	5.1	84%	0.83	124.5	2.10	1233	92.0



## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
<b>6PD / 5.5</b>	<b>9.3 A</b>
<b>6PD / 7.5</b>	<b>12.9 A</b>
<b>6PD / 10</b>	<b>17.1 A</b>
<b>6PD / 12.5</b>	<b>21.8 A</b>
<b>6PD / 15</b>	<b>23.8 A</b>
<b>6PD / 20</b>	<b>31.6 A</b>
<b>6PD / 25</b>	<b>39.0 A</b>
<b>6PD / 30</b>	<b>46.5 A</b>
<b>6PD / 40</b>	<b>63.5 A</b>
<b>6PD / 50</b>	<b>78.0 A</b>

## Multi-stage submersible pumps

-  Clean water  
(Maximum sand content 150 g/m<sup>3</sup>)
-  Domestic use
-  Civil use
-  Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m<sup>3</sup>/h)
- Head up to **95 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- **20 m** maximum immersion depth (with a sufficiently long power cable)
- Vertical and horizontal installation
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### PATENTS - TRADE MARKS - MODELS

- Patent n. EP14755156.8
- Patent n. IT0001428923
- Patent n. EP2419642.2

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

A new concept range of submersible multi-stage pumps designed guarantee even greater reliability, thanks to patented innovative technical solutions which prevent blockage of the pumps even after prolonged periods of inactivity.

Because of their high efficiency and reliability they are suitable for use with clean water in domestic, civil and agricultural applications such as the distribution of water in combination with pressure tanks, for the irrigation of gardens and orchards and for pressure boosting, etc.

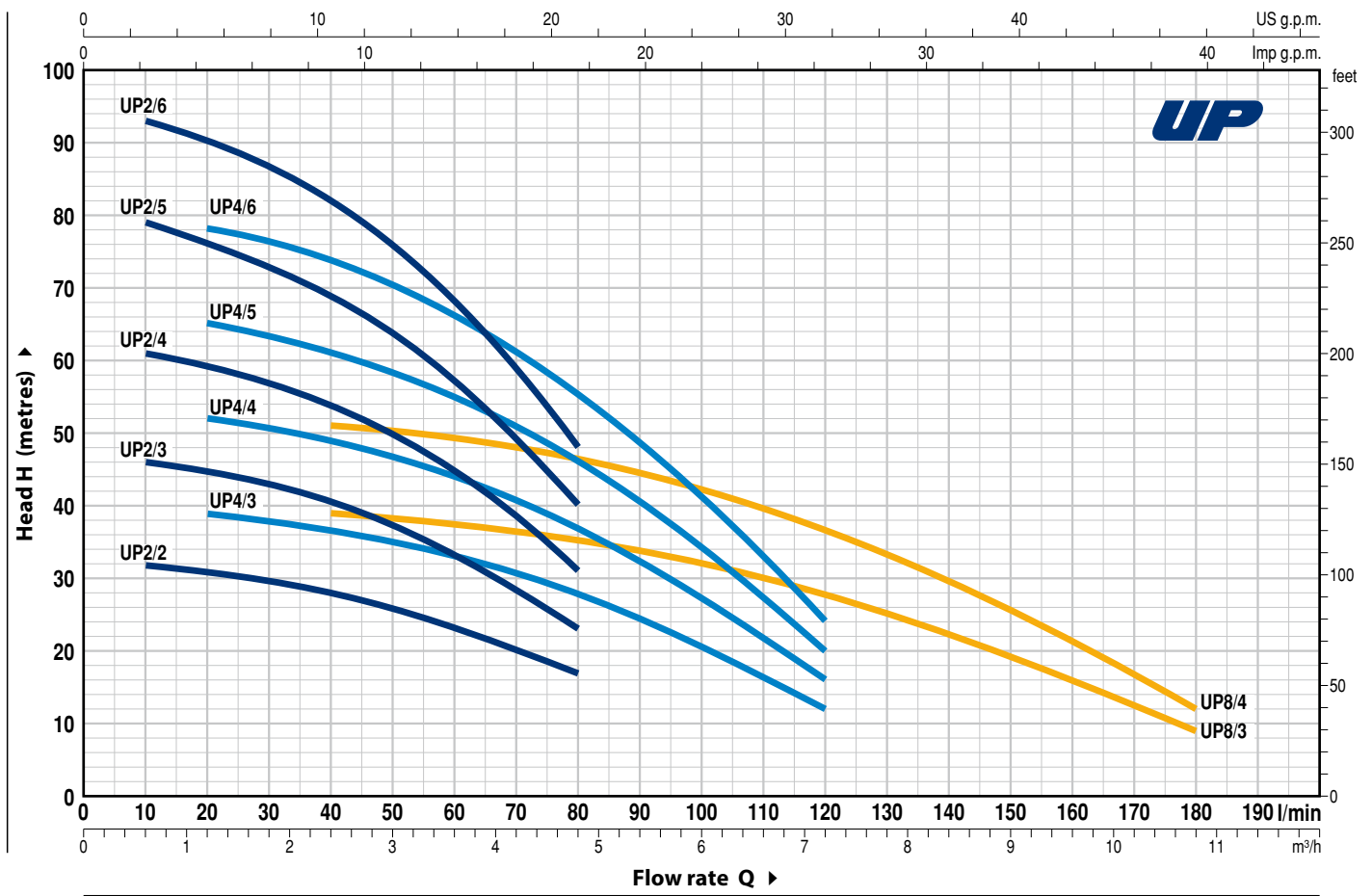
### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Pumps fitted with power cables of other lengths
- Other voltages or 60 Hz frequency
- **Support kit for horizontal operation**



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (m³/h)													
Single-phase	Three-phase	kW	HP		0	0.6	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8			
				l/min	0	10	20	40	60	80	100	120	140	160	180			
UPm 2/2-GE	UP 2/2	0.37	0.5	H metres	33	32	31	28	23.5	17								
UPm 2/3-GE	UP 2/3	0.55	0.75		48	46	44.5	40.5	33.5	23								
UPm 2/4-GE	UP 2/4	0.75	1		63	61	59	54	45	31								
UPm 2/5-GE	UP 2/5	1.1	1.5		81	79	75.5	68.5	57.5	40								
UPm 2/6-GE	UP 2/6	1.5	2		95	93	90	82	68.5	48								
UPm 4/3-GE	UP 4/3	0.55	0.75		40	-	39	37	33	28	20.5	12						
UPm 4/4-GE	UP 4/4	0.75	1		53	-	52	49	44	37	27.5	16						
UPm 4/5-GE	UP 4/5	1.1	1.5		67	-	65	61.5	55	46.5	34	20						
UPm 4/6-GE	UP 4/6	1.5	2		80	-	78	74	66	56	41	24						
UPm 8/3-GE	UP 8/3	1.1	1.5		40	-	-	39	37.5	35.2	32	27.8	22.2	16	9			
UPm 8/4-GE	UP 8/4	1.5	2	52	-	-	51	49.2	46.5	42	36.5	29.5	21.2	12				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

➡ Single-phase pumps without float switch on request

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304
3	<b>IMPELLERS AND DIFFUSERS</b>	Noryl FE1520PW
4	<b>DIAPHRAGMS</b>	Stainless steel AISI 304
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
6	<b>TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER</b>	

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-17	Ø 17 mm	Motor side	Ceramic	Graphite	NBR
ST1-16	Ø 16 mm	Pump side	Silicon carbide	Graphite	NBR

7	<b>BEARINGS</b>	6303 2RS - C3 / 6203 ZZ - C3E
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8	<b>CAPACITOR</b>	
<b>Pump</b>	<b>Capacitance</b>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
UPm 2/2-GE		
UPm 2/3-GE	16 µF - 500 VL	30 µF - 250 VL
UPm 4/3-GE		
UPm 2/4-GE	20 µF - 450 VL	-
UPm 4/4-GE		
UPm 2/5-GE		
UPm 4/5-GE	25 µF - 450 VL	-
UPm 8/3-GE		
UPm 2/6-GE		
UPm 4/6-GE	35 µF - 450 VL	-
UPm 8/4-GE		

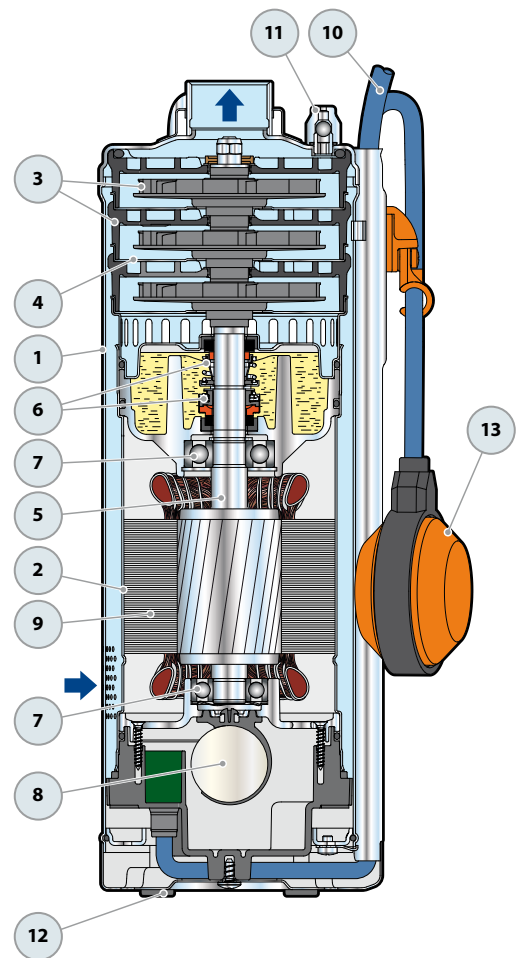
9	<b>ELECTRIC MOTOR</b>
<p><b>UPm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>UP:</b> three-phase 400 V - 50 Hz.</p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X8</li> </ul>	

10	<b>POWER CABLE</b>
<p>⇒ <b>DRINCABLE® type</b> approved for use in drinking water by "WRAS" in compliance with BS 6920, approval n. 7513 Standard length 10 metres</p>	

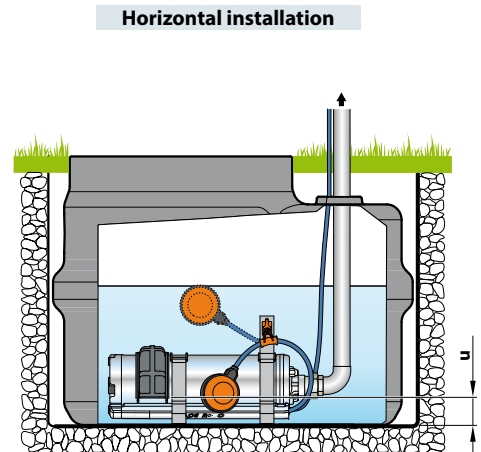
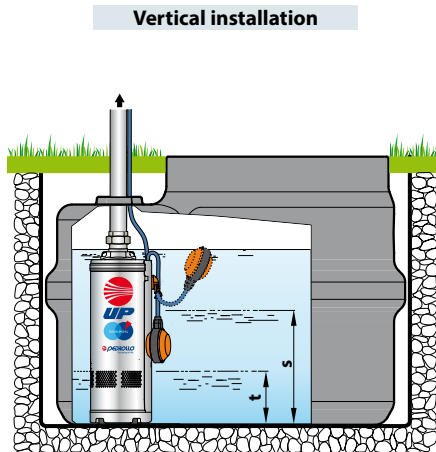
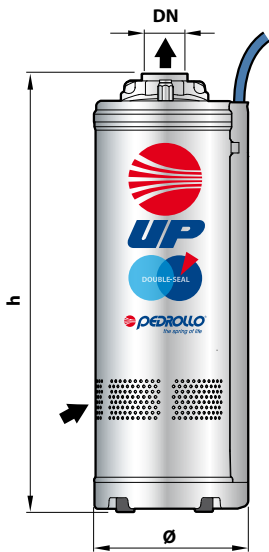
11	<b>AUTOMATIC VENT VALVE</b>
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12	<b>ANTI-VIBRATION SUPPORTS</b>
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13	<b>FLOAT SWITCH</b> (only for single-phase versions)
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## DIMENSIONS AND WEIGHT



MODEL		PORT DN	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase			Ø	h	1~	3~
UPm 2/2-GE	UP 2/2	1 1/4"	2	150	398	12.8	12.5
UPm 2/3-GE	UP 2/3		3		425	13.1	13.1
UPm 2/4-GE	UP 2/4		4		482	14.8	13.7
UPm 2/5-GE	UP 2/5		5		509	16.4	15.1
UPm 2/6-GE	UP 2/6		6		556	18.0	16.6
UPm 4/3-GE	UP 4/3		3		425	12.9	12.9
UPm 4/4-GE	UP 4/4	4	482	14.6	13.5		
UPm 4/5-GE	UP 4/5	5	509	16.2	15.3		
UPm 4/6-GE	UP 4/6	6	556	18.1	16.9		
UPm 8/3-GE	UP 8/3	3	455	15.2	13.8		
UPm 8/4-GE	UP 8/4	4	502	17.0	15.5		

MODEL	LEVELS mm		
	s	t	u
UP 2/2 UP 2/3 UP 4/3	320	135	55
UP 2/4 UP 2/5 UP 4/4 UP 4/5 UP 8/3	350		
UP 2/6 UP 4/6 UP 8/4	370		

s = Minimum restarting level  
t = Emptying level  
u = Minimum operational level

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
UPm 2/2-GE	4.4 A	4.2 A	8.8 A
UPm 2/3-GE	5.4 A	5.2 A	10.8 A
UPm 2/4-GE	6.2 A	6.0 A	-
UPm 2/5-GE	7.6 A	7.3 A	-
UPm 2/6-GE	8.8 A	8.5 A	-
UPm 4/3-GE	5.0 A	4.8 A	10.0 A
UPm 4/4-GE	6.2 A	5.9 A	-
UPm 4/5-GE	7.2 A	6.9 A	-
UPm 4/6-GE	8.7 A	8.4 A	-
UPm 8/3-GE	6.8 A	6.5 A	-
UPm 8/4-GE	8.5 A	8.4 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
UP 2/2	2.8 A	1.6 A	2.7 A	1.5 A
UP 2/3	3.3 A	1.9 A	3.2 A	1.8 A
UP 2/4	4.0 A	2.3 A	3.9 A	2.2 A
UP 2/5	5.0 A	2.9 A	4.9 A	2.8 A
UP 2/6	5.7 A	3.3 A	5.5 A	3.2 A
UP 4/3	3.2 A	1.8 A	3.1 A	1.7 A
UP 4/4	3.8 A	2.2 A	3.7 A	2.1 A
UP 4/5	4.9 A	2.8 A	4.7 A	2.7 A
UP 4/6	5.6 A	3.2 A	5.4 A	3.1 A
UP 8/3	5.0 A	2.9 A	4.9 A	2.8 A
UP 8/4	5.7 A	3.3 A	5.5 A	3.2 A

## PALLETIZATION

MODEL		GROUPAGE/CONTAINER n. pumps
Single-phase	Three-phase	
UPm 2/2-GE	UP 2/2	30
UPm 2/3-GE	UP 2/3	30
UPm 2/4-GE	UP 2/4	30
UPm 2/5-GE	UP 2/5	25
UPm 2/6-GE	UP 2/6	25

MODEL		GROUPAGE/CONTAINER n. pumps
Single-phase	Three-phase	
UPm 4/3-GE	UP 4/3	30
UPm 4/4-GE	UP 4/4	30
UPm 4/5-GE	UP 4/5	25
UPm 4/6-GE	UP 4/6	25
UPm 8/3-GE	UP 8/3	30
UPm 8/4-GE	UP 8/4	30

## Multi-stage submersible pumps



-  Clean water  
(Maximum sand content 150 g/m<sup>3</sup>)
-  Domestic use
-  Civil use
-  Agricultural use

### PERFORMANCE RANGE

- Flow rate up to **160 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **95 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- **20 m** maximum immersion depth (with a sufficiently long power cable)
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### INSTALLATION AND USE

Because of their high efficiency and reliability they are suitable for use with clean water in domestic, civil and agricultural applications such as the distribution of water in combination with pressure tanks, for the irrigation of gardens and orchards and for pressure boosting, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP14755156.8
- Patent n. EP2313658

### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Pumps fitted with power cables of other lengths
- Other voltages or 60 Hz frequency

### CERTIFICATIONS

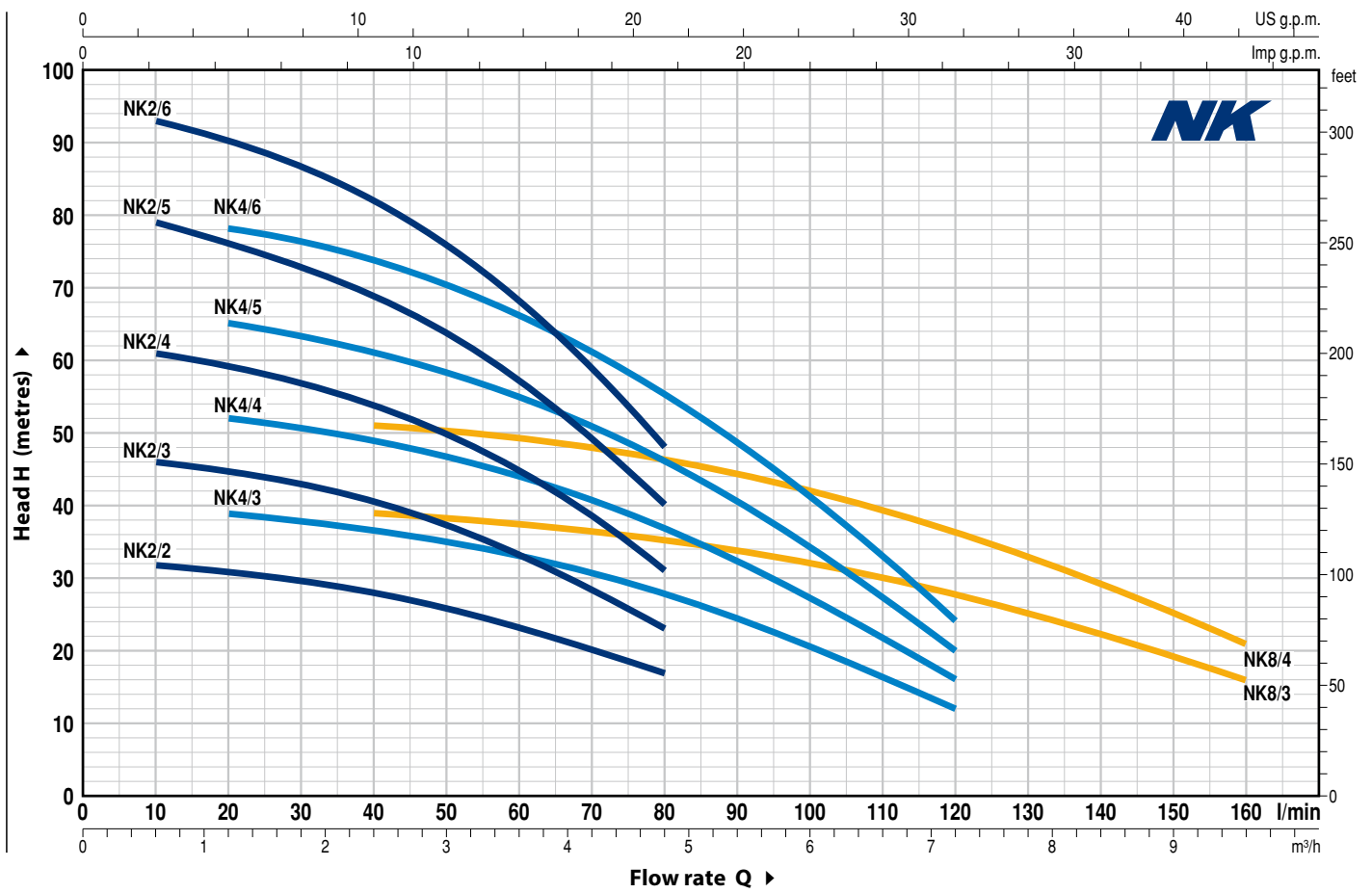
Company with management system certified DNV  
ISO 9001: QUALITY





### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	H metres															
Single-phase	Three-phase	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	6.0	6.6	7.2	8.4	9.6		
				l/min	0	10	20	30	40	50	60	70	80	100	110	120	140	160		
NKm 2/2 GE	NK 2/2	0.37	0.5		33	32	31	29.5	28	26	23.5	20.5	17							
NKm 2/3 GE	NK 2/3	0.55	0.75		48	46	44.5	42.8	40.5	37.5	33.5	29	23							
NKm 2/4 GE	NK 2/4	0.75	1		63	61	59	57	54	50	45	39	31							
NKm 2/5 GE	NK 2/5	1.1	1.5		81	79	75.5	73	68.5	63.5	57.5	49.5	40							
NKm 2/6 GE	NK 2/6	1.5	2		95	93	90	87	82	76	68.5	59.5	48							
NKm 4/3 GE	NK 4/3	0.55	0.75	H metres	40	-	39	38	37	35	33	30.5	28	20.5	16.5	12				
NKm 4/4 GE	NK 4/4	0.75	1		53	-	52	50.5	49	46.5	44	40.5	37	27.5	22	16				
NKm 4/5 GE	NK 4/5	1.1	1.5		67	-	65	63.5	61.5	58	55	50.5	46.5	34	27.5	20				
NKm 4/6 GE	NK 4/6	1.5	2		80	-	78	76	74	70	66	61	56	41	33	24				
NKm 8/3 GE	NK 8/3	1.1	1.5		40	-	-	-	39	38	37.5	36.5	35	32	30	28	22.5	16		
NKm 8/4 GE	NK 8/4	1.5	2		52	-	-	-	51	50	49	48	46	42	39	36	29	21		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

➡ Single-phase pumps without float switch on request

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304 complete with anti-vibration supports
3	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304
4	<b>IMPELLERS AND DIFFUSERS</b>	Noryl FE1520PW
5	<b>DIAPHRAGMS</b>	Stainless steel AISI 304
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
7	<b>TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER</b>	

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-17	Ø 17 mm	Motor side	Ceramic	Graphite	NBR
ST1-16	Ø 16 mm	Pump side	Silicon carbide	Graphite	NBR

8 **BEARINGS** 6303 2RS - C3 / 6203 ZZ - C3E

## 9 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
NKm 2/2 GE		
NKm 2/3 GE	16 µF - 500 VL	30 µF - 250 VL
NKm 4/3 GE		
NKm 2/4 GE	20 µF - 450 VL	-
NKm 4/4 GE		
NKm 2/5 GE		
NKm 4/5 GE	25 µF - 450 VL	-
NKm 8/3 GE		
NKm 2/6 GE		
NKm 4/6 GE	35 µF - 450 VL	-
NKm 8/4 GE		

## 10 ELECTRIC MOTOR

**NKm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding.  
**NK:** three-phase 400 V - 50 Hz.  
– Insulation: class F  
– Protection: IP X8

## 11 POWER CABLE

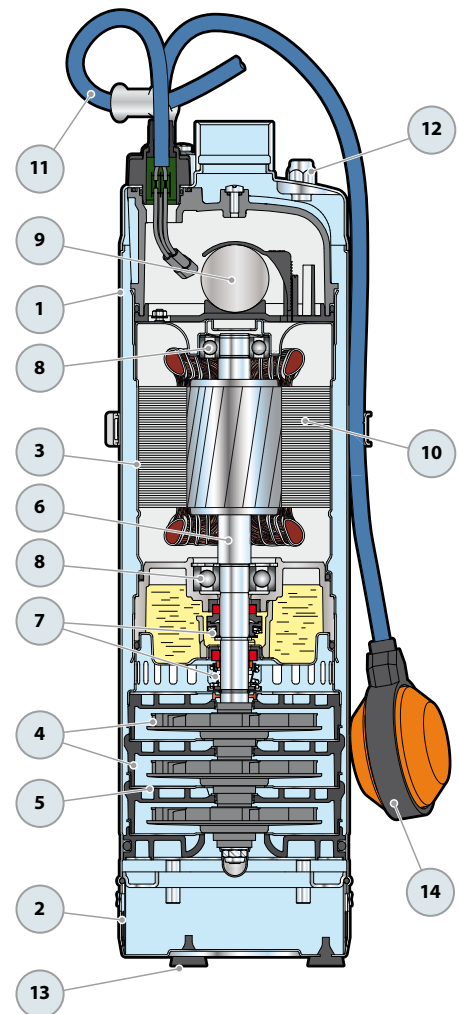
⇒ **DRINCABLE® type**  
approved for use in drinking water by "WRAS"  
in compliance with BS 6920, approval n. 7513  
**Standard length 10 metres**

## 12 AUTOMATIC VENT VALVE

## 13 ANTI-VIBRATION SUPPORTS

## 14 FLOAT SWITCH

(only for single-phase versions)



## DIMENSIONS AND WEIGHT

MODEL		PORT DN	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase			∅	h	1~	3~
NKm 2/2 GE	NK 2/2	1 1/4"	2	135	459	13.0	13.0
NKm 2/3 GE	NK 2/3		3		486	13.4	13.4
NKm 2/4 GE	NK 2/4		4		543	15.6	14.2
NKm 2/5 GE	NK 2/5		5		570	15.6	15.4
NKm 2/6 GE	NK 2/6		6		617	18.6	17.2
NKm 4/3 GE	NK 4/3		3		486	13.4	13.4
NKm 4/4 GE	NK 4/4		4		543	15.2	14.0
NKm 4/5 GE	NK 4/5		5		570	16.5	15.5
NKm 4/6 GE	NK 4/6		6		617	18.4	17.0
NKm 8/3 GE	NK 8/3		3		516	15.5	14.4
NKm 8/4 GE	NK 8/4		4		563	17.6	15.9



## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
<b>Single-phase</b>			
NKm 2/2 GE	4.3 A	3.9 A	8.6 A
NKm 2/3 GE	5.5 A	4.8 A	11.0 A
NKm 2/4 GE	6.2 A	5.9 A	-
NKm 2/5 GE	7.6 A	7.6 A	-
NKm 2/6 GE	9.2 A	9.0 A	-
NKm 4/3 GE	5.0 A	4.8 A	10.0 A
NKm 4/4 GE	6.2 A	5.9 A	-
NKm 4/5 GE	7.5 A	6.9 A	-
NKm 4/6 GE	8.7 A	8.4 A	-
NKm 8/3 GE	7.1 A	6.8 A	-
NKm 8/4 GE	9.2 A	9.0 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
<b>Three-phase</b>				
NK 2/2	2.8 A	1.6 A	2.7 A	1.5 A
NK 2/3	3.3 A	1.9 A	3.2 A	1.8 A
NK 2/4	4.0 A	2.3 A	3.9 A	2.2 A
NK 2/5	5.2 A	3.0 A	4.9 A	2.8 A
NK 2/6	5.9 A	3.4 A	5.5 A	3.2 A
NK 4/3	3.2 A	1.8 A	3.1 A	1.7 A
NK 4/4	3.8 A	2.2 A	3.7 A	2.1 A
NK 4/5	4.8 A	2.8 A	4.7 A	2.7 A
NK 4/6	5.5 A	3.2 A	5.4 A	3.1 A
NK 8/3	5.0 A	2.9 A	4.7 A	2.7 A
NK 8/4	5.9 A	3.4 A	5.4 A	3.1 A

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
NKm 2/2 GE	NK 2/2	30	54
NKm 2/3 GE	NK 2/3	30	54
NKm 2/4 GE	NK 2/4	25	45
NKm 2/5 GE	NK 2/5	25	45
NKm 2/6 GE	NK 2/6	25	45
NKm 4/3 GE	NK 4/3	30	54
NKm 4/4 GE	NK 4/4	25	45
NKm 4/5 GE	NK 4/5	25	45
NKm 4/6 GE	NK 4/6	25	45
NKm 8/3 GE	NK 8/3	30	-
NKm 8/4 GE	NK 8/4	25	45

# TOP MULTI

## Submersible multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use



TOP MULTI 1



TOP MULTI 2-3-4-5

### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP MULTI 1
  - up to **10 m** for TOP MULTI 2-3-4-5 (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction level:
  - **25 mm** above ground level for TOP MULTI 1
  - **35 mm** above ground level for TOP MULTI 2-3-4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with:

- **10 m** long power cable
- float switch
- hose connector Ø 35 mm
- complete connector with flap-check valve

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**TOP MULTI**® pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made.

Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

### PATENTS - TRADE MARKS - MODELS

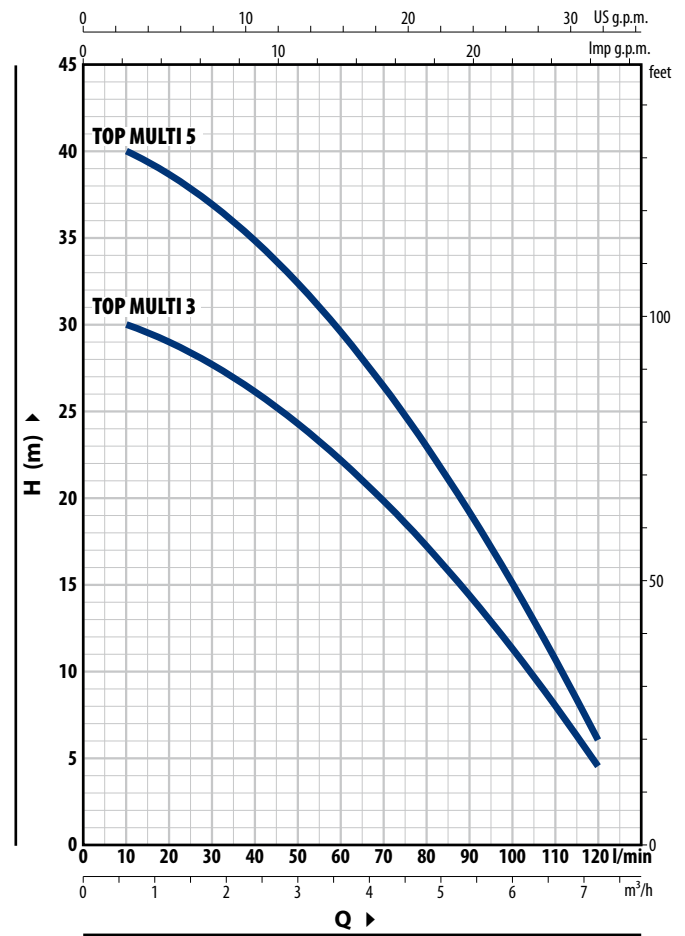
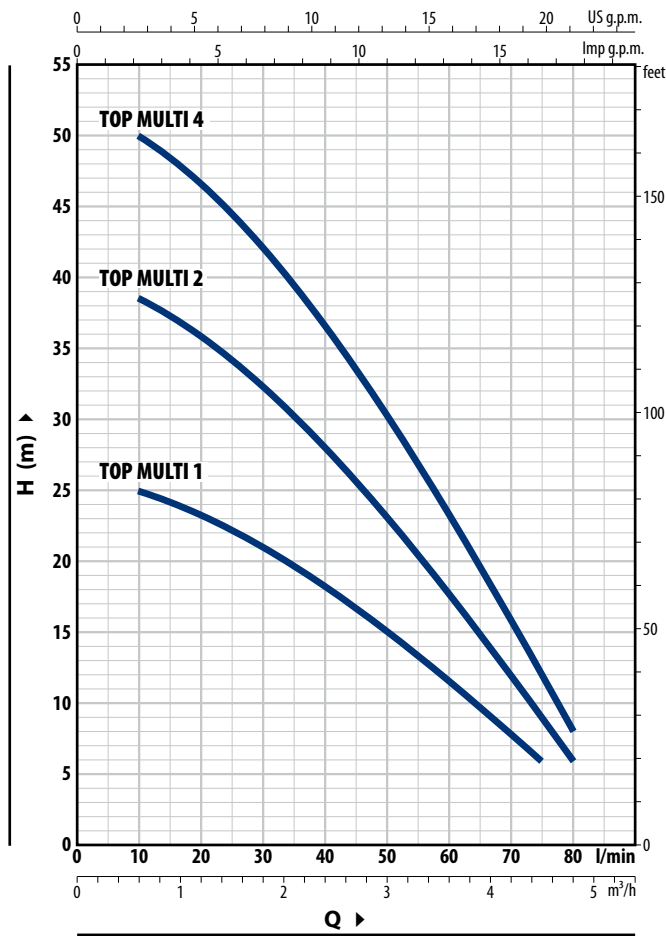
- Registered EU Design n. 000885587 for TOP MULTI 2-3-4-5
- TOP MULTI® Registered Trade Mark n. 0001334477

### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI 1 - 2 - 4

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres											
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.5	4.8		
			l/min	0	10	20	30	40	50	60	70	75	80		
TOP MULTI 1	0.37	0.50		26	25	23.3	21.1	18.3	15.1	11.6	7.9	6			
TOP MULTI 2	0.55	0.75		40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI 4	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI 3 - 5

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres													
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	
			l/min	0	10	20	30	40	50	60	70	80	90	100	110	120	
TOP MULTI 3	0.55	0.75		30.5	30	29	27.5	26	24.3	22.2	19.8	17.2	14.4	11.3	8	4.5	
TOP MULTI 5	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	22.9	19.2	15.1	10.7	6	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI 1

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>STAGE CASING</b>	Glass fibre reinforced technopolymer
4	<b>IMPELLERS</b>	Noryl
5	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
6	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
7	<b>MOTOR CASING</b>	Stainless steel AISI 304
8	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
9	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 10 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Materials			
		Stationary ring	Rotational ring	Elastomer	Metals
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304

11 **LIP SEAL**                      **Ø 12 x Ø 19 x H 5 mm**

12 **BEARINGS**                      **6201 ZZ - C3E / 6201 ZZ - C3E**

### 13 CAPACITOR

Capacitance (230 V or 240 V)	(110 V)
10 µF 450 VL	16 µF 250 VL

### 14 ELECTRIC MOTOR

**TOP MULTI 1:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

### 15 HANDLE ASSEMBLY (resin sealed)

- Complete with:
- **10 metres** long "H07 RN-F" power cable with Schuko plug
  - Float switch

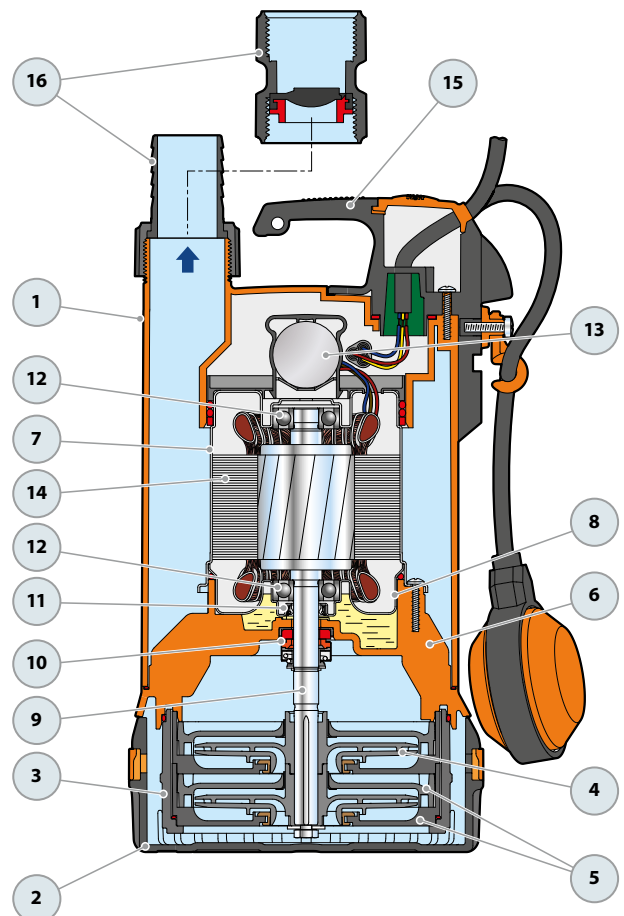
### 16 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

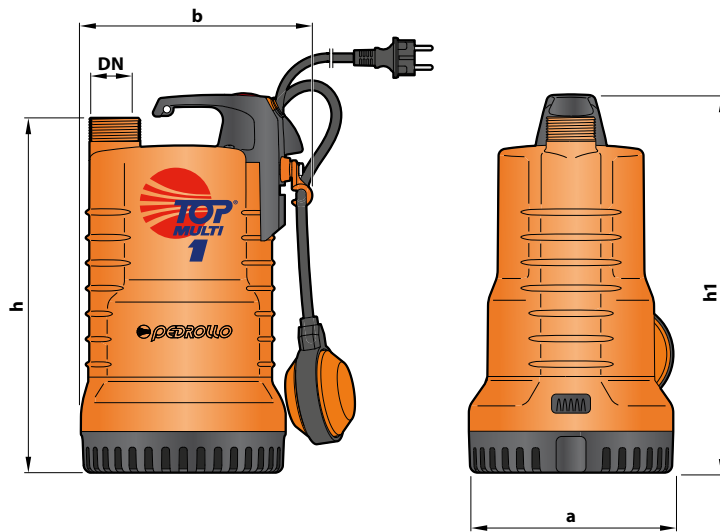
#### PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

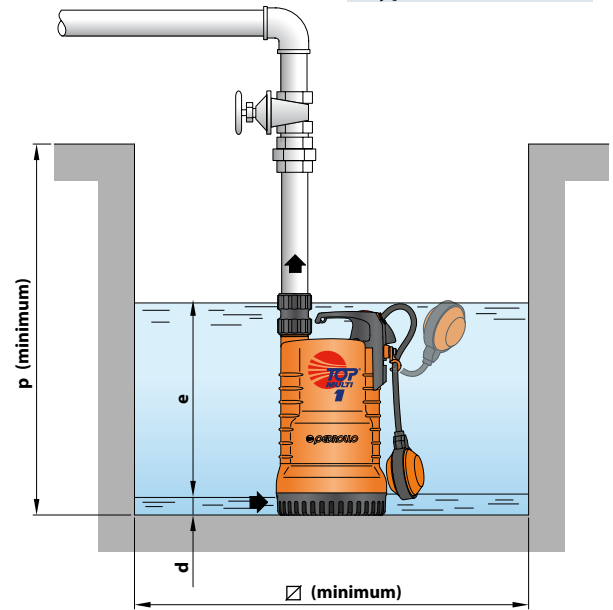
(Included in the equipment)



## DIMENSIONS AND WEIGHT



## Typical installation



MODEL	PORT DN	N. STAGES	DIMENSIONS mm								kg	
			a	b	h	h1	d	e	p	Ø		
Single-phase	DN											
TOP MULTI 1	1¼"	2	170	192	295	315	25	variable	350	350	6.8	

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI 1	2.0 A	2.0 A	4.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 1	60	100

# TOP MULTI 2-3-4-5

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	<b>DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	<b>PUMP BODY AND SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING AND MOTOR CASING PLATE</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSERS</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

## 8 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 9 BEARINGS

Elettropompa	Tipo
TOP MUTI 2-3	6202 ZZ - C3 / 6201 ZZ
TOP MUTI 4-5	6202 ZZ - EA3 / 6201 ZZ

## 10 CAPACITOR

Elettropompa	Capacità	
Monofase	(230 V o 240 V)	(110 V)
TOP MUTI 2-3	12.5 µF 450 VL	30 µF 250 VL
TOP MUTI 4-5	14 µF 450 VL	30 µF 250 VL

## 11 ELECTRIC MOTOR

**TOP MULTI:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 12 POWER CABLE

"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

## 13 FLOAT SWITCH

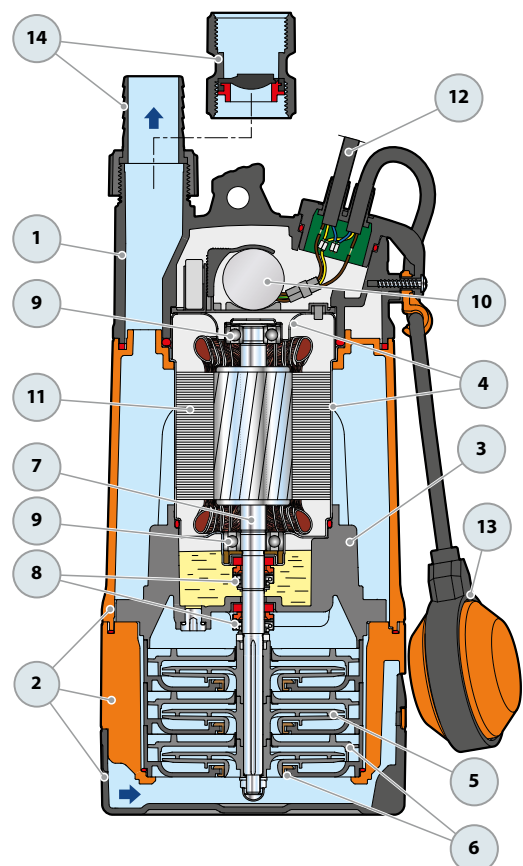
## 14 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

### PIPE COUPLING

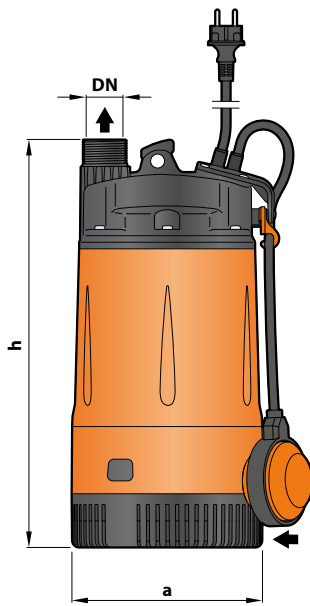
Threaded 1/4" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)





## DIMENSIONS AND WEIGHT



### Typical installation



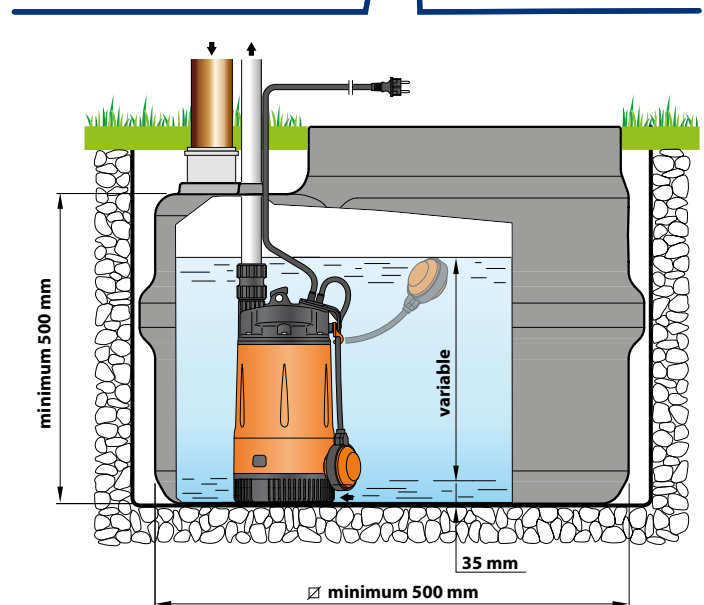
MODEL	PORT	N. STAGES	DIMENSIONS mm		kg
			a	h	
Single-phase	DN				
TOP MULTI 2	1 1/4"	3	178	380	9.2
TOP MULTI 3				415	9.3
TOP MULTI 4				415	9.9
TOP MULTI 5		4			9.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI 2	3.4 A	3.3 A	6.6 A
TOP MULTI 3	3.6 A	3.5 A	7.2 A
TOP MULTI 4	3.9 A	3.7 A	8.0 A
TOP MULTI 5	3.9 A	3.7 A	8.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP MULTI 2	60	80
TOP MULTI 3	60	80
TOP MULTI 4	60	80
TOP MULTI 5	60	80



# TOP MULTI-EVO

## Submersible multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use



TOP MULTI 1-EVO



TOP MULTI 2-3-4-5 EVO

### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP MULTI 1-EVO
  - up to **10 m** for TOP MULTI 2-3-4-5 EVO (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction level:
  - **25 mm** above ground level for TOP MULTI 1-EVO
  - **35 mm** above ground level for TOP MULTI 2-3-4-5 EVO
- Manometric suction lift up to **7 m**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

- Complete with:
- **10 m** long power cable
  - float switch
  - hose connector Ø 35 mm
  - complete connector with flap-check valve

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### PATENTS - TRADE MARKS - MODELS

- TOP MULTI® Registered Trade Mark n. 0001334477

### INSTALLATION AND USE

**TOP MULTI-EVO** pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made. Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Other voltages or 60 Hz frequency
- **KGE - Floating suction kit**



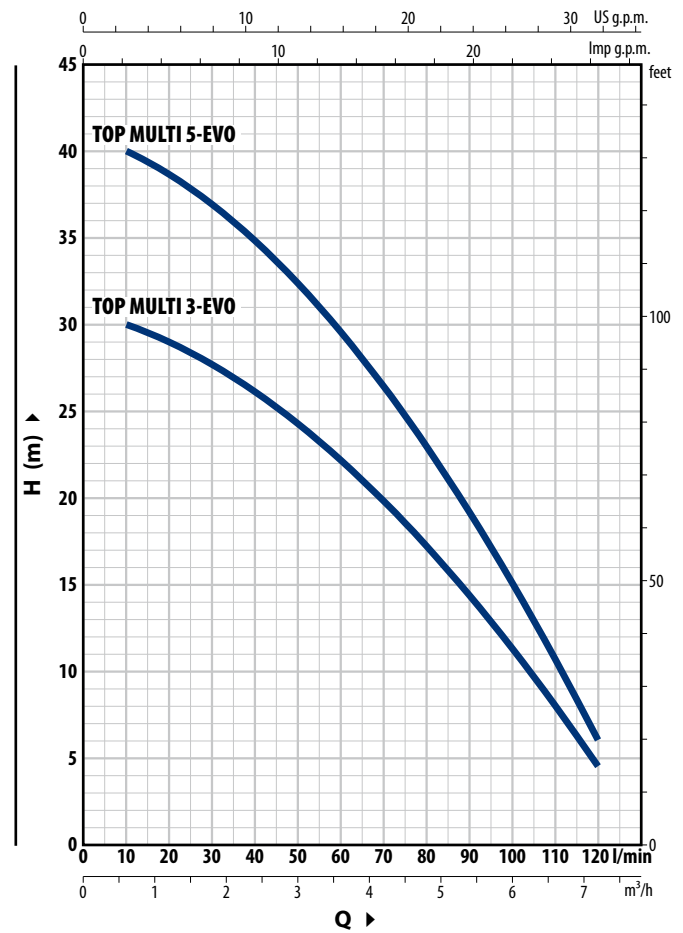
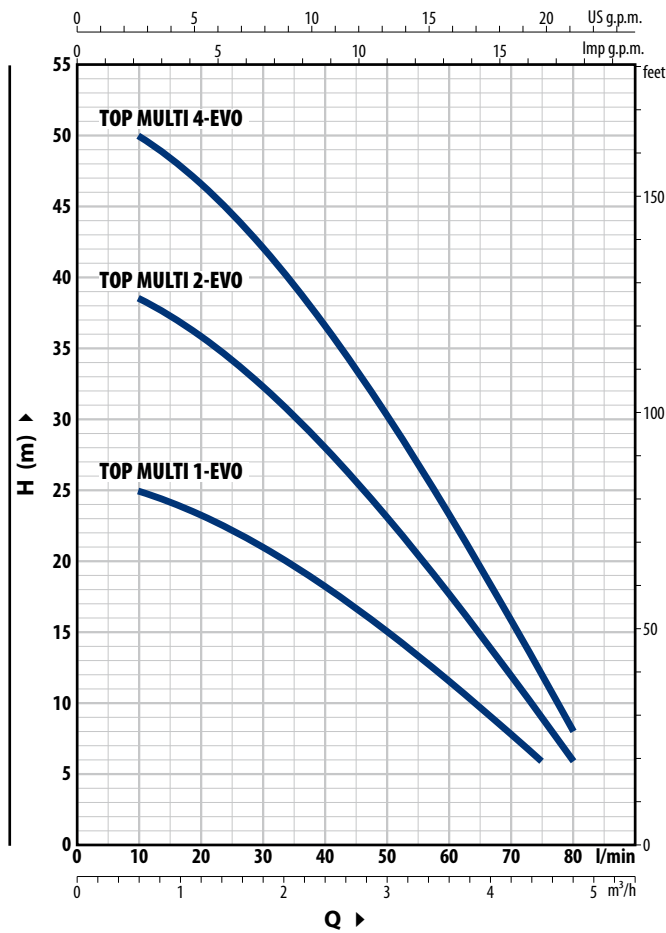
Kit includes:

- 1.5 metre long PVC hose (Ø 30 mm)
- stainless steel suction filter
- polyethylene spherical float
- flexible hose fittings Ø 30 mm

TOP MULTI-EVO with KGE kit for aspiration at about 10 cm below the water surface, preventing the suction of any floating waste or sediment on the bottom of the tank thus avoiding any damage to the pump.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI-EVO 1 - 2 - 4

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres											
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.5	4.8		
			l/min	0	10	20	30	40	50	60	70	75	80		
TOP MULTI 1-EVO	0.37	0.50		26	25	23.3	21.1	18.3	15.1	11.6	7.9	6			
TOP MULTI 2-EVO	0.55	0.75		40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI 4-EVO	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI-EVO 3 - 5

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres												
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
			l/min	0	10	20	30	40	50	60	70	80	90	100	110	120
TOP MULTI 3-EVO	0.55	0.75		30.5	30	29	27.5	26	24.3	22.2	19.8	17.2	14.4	11.3	8	4.5
TOP MULTI 5-EVO	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	22.9	19.2	15.1	10.7	6

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI 1-EVO

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY AND DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1				
2	<b>BASE</b>	Glass fibre reinforced technopolymer				
3	<b>STAGE CASING</b>	Glass fibre reinforced technopolymer				
4	<b>IMPELLERS</b>	Noryl				
5	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring				
6	<b>MOTOR CASING</b>	Stainless steel AISI 304				
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304				
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
9	<b>SHAFT WITH DOUBLE SEAL AND OIL CHAMBER</b>					
	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>			
	<b>Model</b>	<b>Diameter</b>	<b>Stationary ring</b>	<b>Rotational ring</b>	<b>Elastomer</b>	<b>Metals</b>
	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304

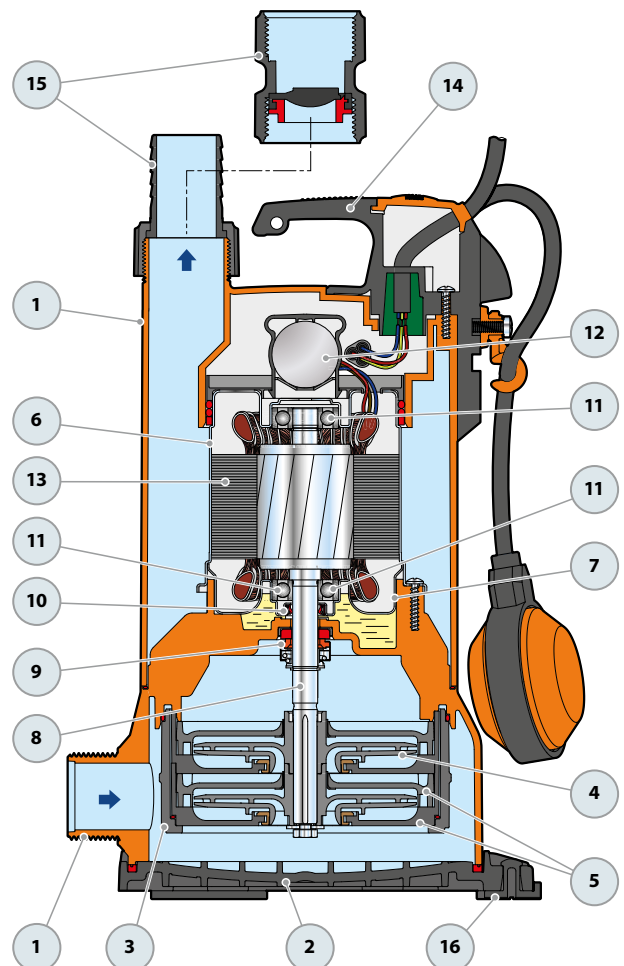
10	<b>LIP SEAL</b>	Ø 12 x Ø 19 x H 5 mm
11	<b>BEARINGS</b>	6201 ZZ - C3E / 6201 ZZ - C3E
12	<b>CAPACITOR</b>	
	<b>Capacitance</b>	
	(230 V or 240 V)	(110 V)
	10 µF 450 VL	16 µF 250 VL

13	<b>ELECTRIC MOTOR</b>	<p><b>TOP MULTI 1-EVO:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <ul style="list-style-type: none"> <li>– Insulation: class F</li> <li>– Protection: IP X8</li> </ul>
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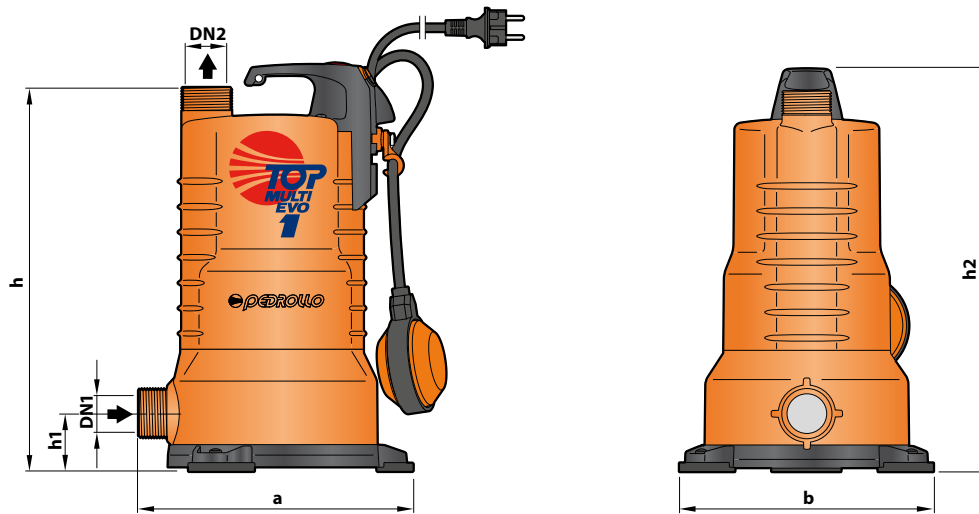
14	<b>HANDLE ASSEMBLY</b> (resin sealed)	<p>Complete with:</p> <ul style="list-style-type: none"> <li>– 10 metres long "H07 RN-F" power cable with Schuko plug</li> <li>– Float switch</li> </ul>
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15	<b>HOSE CONNECTOR WITH RING NUT</b>	Ø 35 mm hose connection
	<b>PIPE COUPLING</b>	Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve
		(Included in the equipment)

16	<b>ANTI-VIBRATION FEET</b>	
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## DIMENSIONS AND WEIGHT



MODEL	PORTS		N. STAGES	DIMENSIONS mm					kg
	DN1	DN2		a	b	h	h1	h2	
Single-phase									
<b>TOP MULTI 1-EVO</b>	<b>1¼"</b>	<b>1¼"</b>	<b>2</b>	227	210	317	49	337	<b>7.1</b>

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
<b>TOP MULTI 1-EVO</b>	<b>2.0 A</b>	<b>1.9 A</b>	<b>4.0 A</b>

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase		
<b>TOP MULTI 1-EVO</b>	<b>45</b>	<b>60</b>

# TOP MULTI 2-3-4-5 EVO

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY AND DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1
2	<b>PUMP BODY AND BASE</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

## 8 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 9 BEARINGS

Pump	Model
TOP MUTI 2-3 EVO	6202 ZZ - C3 / 6201 ZZ
TOP MUTI 4-5 EVO	6202 ZZ - EA3 / 6201 ZZ

## 10 CAPACITOR

Pump Single-phase	Capacitance	
	(230 V or 240 V)	(110 V)
TOP MUTI 2-3 EVO	12.5 µF 450 VL	30 µF 250 VL
TOP MUTI 4-5 EVO	14 µF 450 VL	30 µF 250 VL

## 11 ELECTRIC MOTOR

**TOP MULTI-EVO:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 12 POWER CABLE

"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

## 13 FLOAT SWITCH

## 14 HOSE CONNECTOR WITH RING NUT

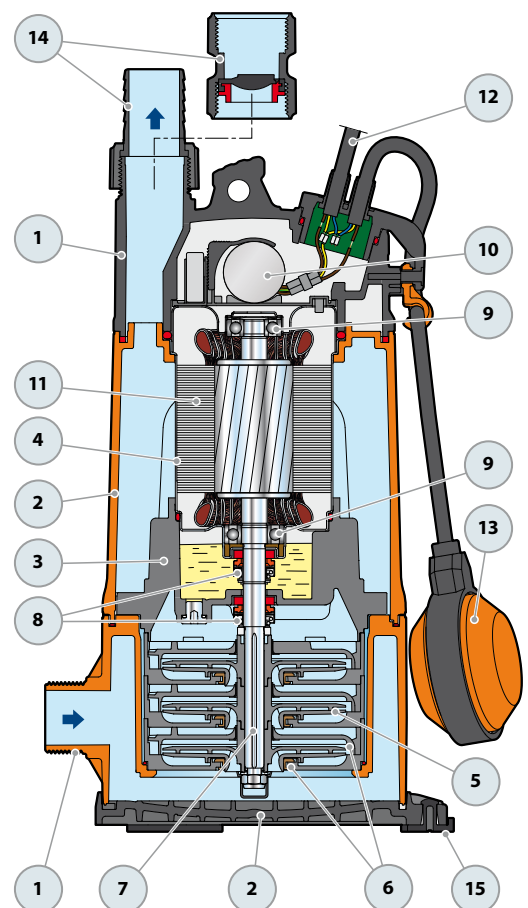
Ø 35 mm hose connection

## PIPE COUPLING

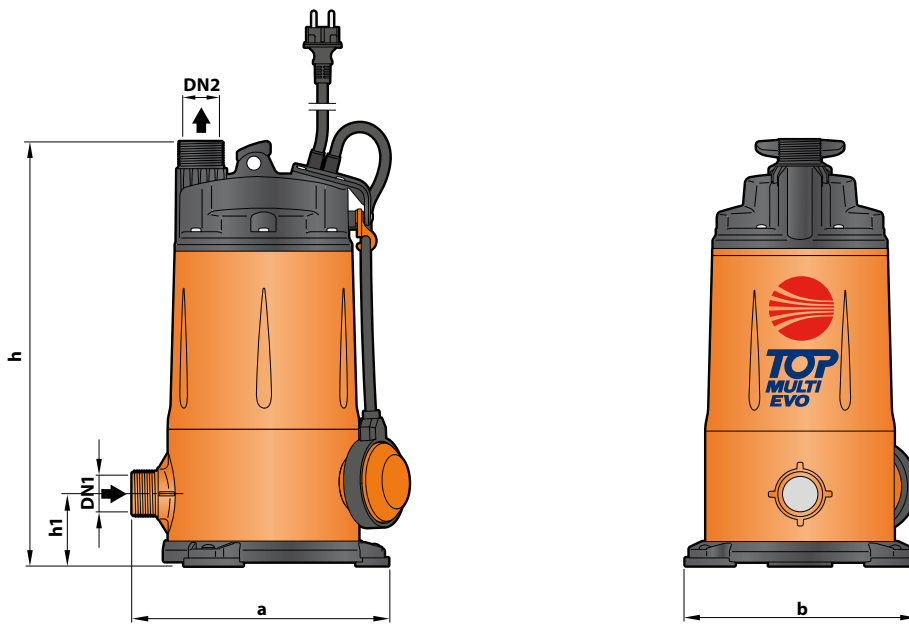
Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)

## 15 ANTI-VIBRATION SUPPORTS



## DIMENSIONS AND WEIGHT



MODEL	PORTS		N. STAGES	DIMENSIONS mm				kg
	DN1	DN2		a	b	h	h1	
Single-phase								
TOP MULTI 2-EVO	1¼"	1¼"	3	239	216	394	68	9.9
TOP MULTI 3-EVO			9.9					
TOP MULTI 4-EVO			10.4					
TOP MULTI 5-EVO			10.4					

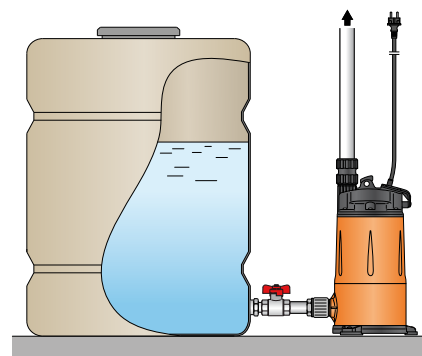
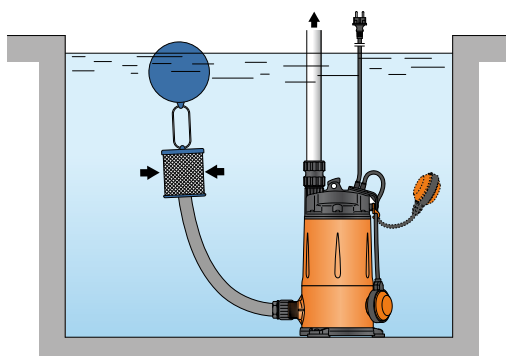
## ABSORPTION

MODEL	TENSIONE		
	230 V	240 V	110V
Single-phase			
TOP MULTI 2-EVO	3.4 A	3.3 A	6.8 A
TOP MULTI 3-EVO	3.6 A	3.4 A	7.2 A
TOP MULTI 4-EVO	3.9 A	3.7 A	8.0 A
TOP MULTI 5-EVO	3.9 A	3.7 A	8.0 A

## PALLETIZATION

MODEL	PER GROUPAGE	CONTAINER
	n° pompe	n. pumps
Single-phase		
TOP MULTI 2-EVO	45	60
TOP MULTI 3-EVO	45	60
TOP MULTI 4-EVO	45	60
TOP MULTI 5-EVO	45	60

## STANDARD INSTALLATION



# TOP MULTI-TECH

## Multi-stage automatic submersible pumps

-  Clean water
-  Domestic use
-  Civil use

**AUTOMATIC  
START & STOP**



### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**
- Restart pressure: **1.5 bar**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum height between pump and point of use **10 m**
- Maximum liquid temperature **+40 °C**
- Suction down to **35 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with:

- **10 m** long power cable
- internal electronic device for pump starting (when tap opened) and stopping (when tap closed)
- threaded connector 1¼" (delivery)
- hose connector Ø 35 mm

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**TOP-MULTI-TECH** pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made.

Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

**An internal electronic device starts or stops the pump automatically when the tap is opened or closed.**

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2990653
- TOP MULTI® Registered Trade Mark n. 0001334477

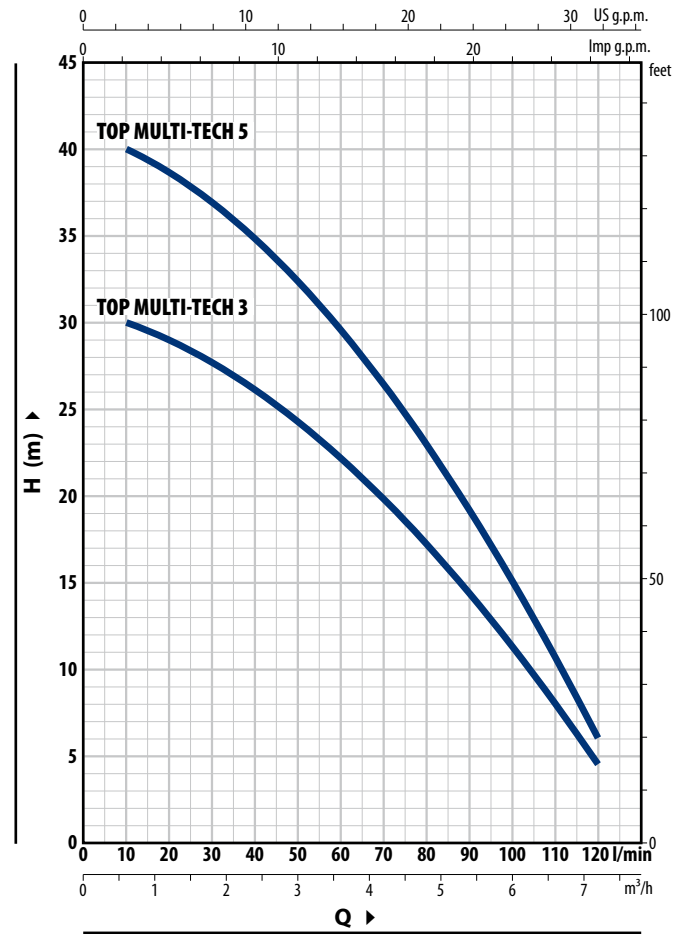
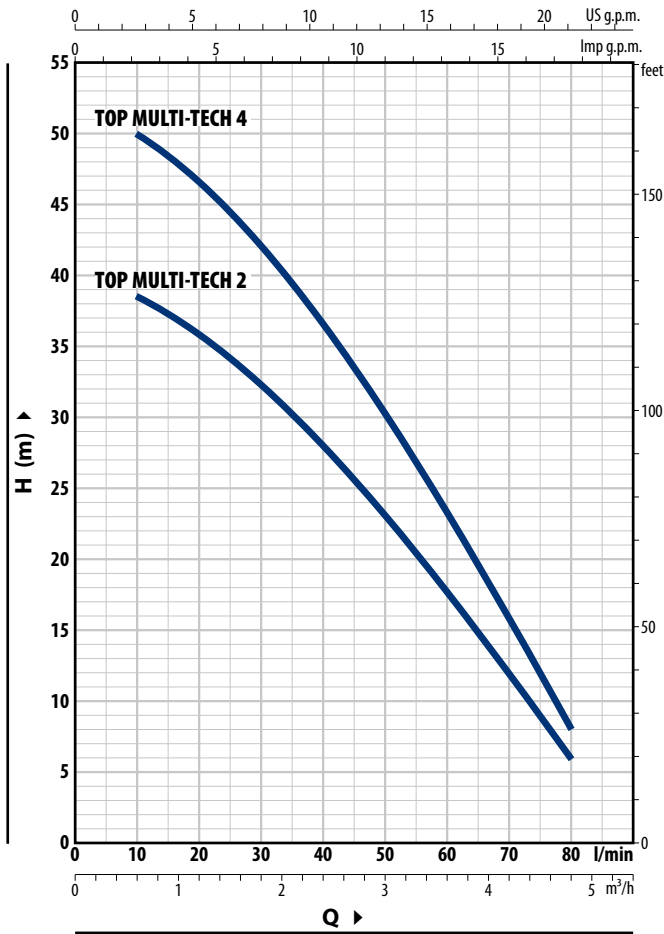
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI-TECH 2 - 4

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	
Single-phase				0	10	20	30	40	50	60	70	75	80		
TOP MULTI-TECH 2	0.55	0.75	H metres	40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI-TECH 4	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI-TECH 3 - 5

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate														
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	5.4	6	6.6	7.2
Single-phase				0	10	20	30	40	50	60	70	75	80	90	100	110	120	
TOP MULTI-TECH 3	0.55	0.75	H metres	30.5	30	29	27.5	26	24.3	22.2	19.8	18.5	17.2	14.4	11.3	8	4.5	
TOP MULTI-TECH 5	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	24.7	22.9	19.2	15.1	10.7	6	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI-TECH

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Glass fibre reinforced technopolymer
2	<b>PUMP BODY E SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
8	<b>ELECTRONIC DEVICE</b>	<p><b>TOP MULTI-TECH pumps are fitted with an internal electronic device which starts the pump when the pressure of the system falls below 1.5 bar (eg. when opening a tap) and stops it when the flow falls below 3 litre per minute.</b></p> <p><b>It protects the pump:</b></p> <ul style="list-style-type: none"> <li>– against dry running;</li> <li>– against blockage: after long periods of pump inactivity the electronic device starts the pump every 48 hours for 10 seconds.</li> </ul>

## 9 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 10 BEARINGS

Pump	Model
TOP MULTI-TECH 2-3	6202 ZZ - C3 / 6201 ZZ
TOP MULTI-TECH 4-5	6202 ZZ - EA3 / 6201 ZZ

## 11 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP MULTI-TECH 2-3	12.5 µF 450 VL	30 µF 250 VL
TOP MULTI-TECH 4-5	14 µF 450 VL	30 µF 250 VL

## 12 ELECTRIC MOTOR

**TOP MULTI-TECH:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 13 POWER CABLE

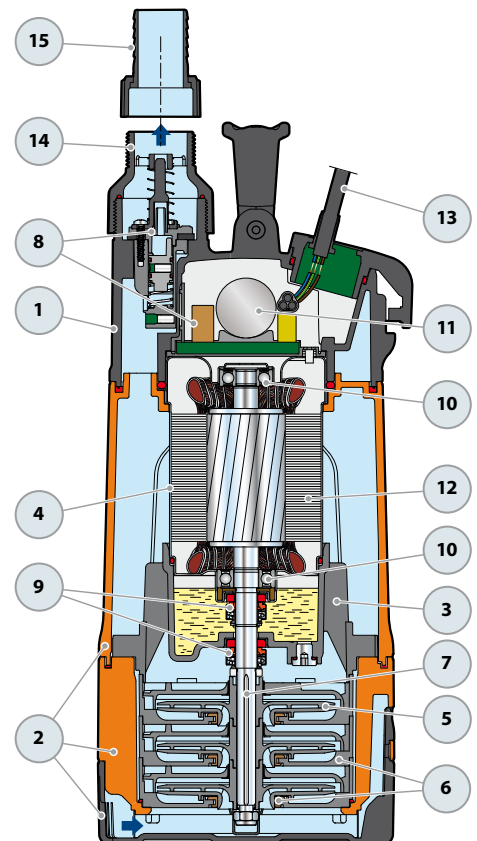
"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

## 14 THREADED CONNECTOR

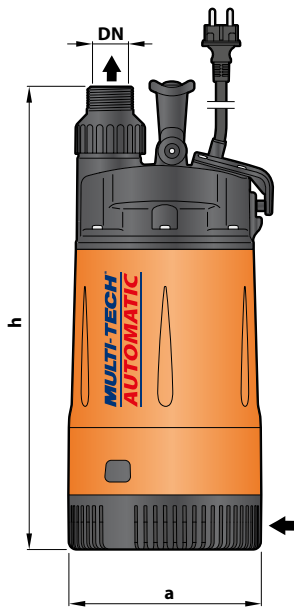
Threaded connector 1¼"

## 15 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection



## DIMENSIONS AND WEIGHT



MODEL	PORT	N. STAGES	DIMENSIONS mm		kg	
Single-phase	DN		a	h		
TOP MULTI-TECH 2	1 1/4"	3	178	428	9.3	
TOP MULTI-TECH 3		4		463		10.0
TOP MULTI-TECH 4						
TOP MULTI-TECH 5						



## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
TOP MULTI-TECH 2	3.4 A	3.3 A	6.6 A
TOP MULTI-TECH 3	3.6 A	3.5 A	7.2 A
TOP MULTI-TECH 4	3.9 A	3.7 A	8.0 A
TOP MULTI-TECH 5	3.9 A	3.7 A	8.0 A

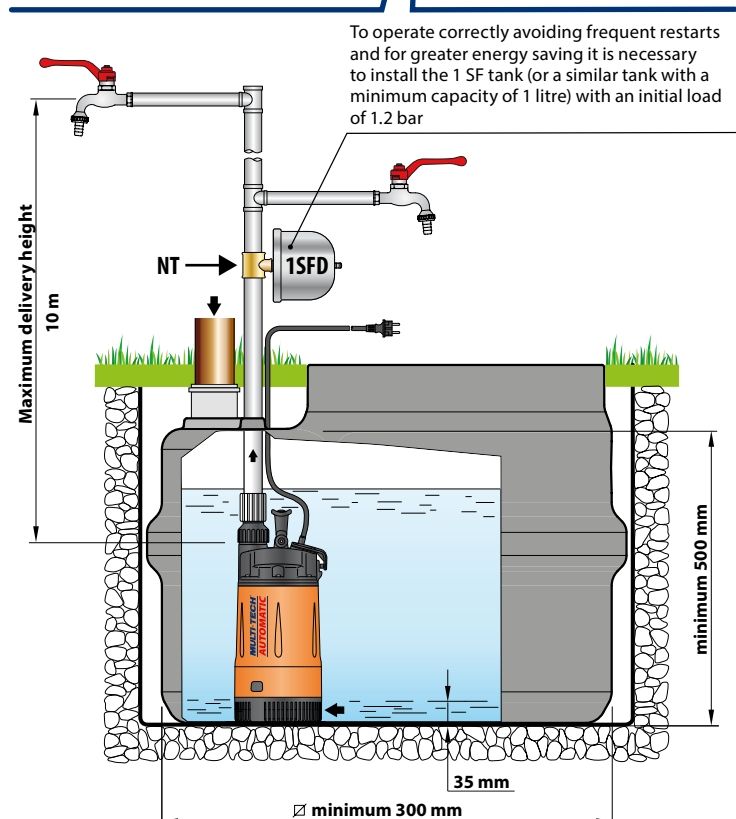
## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI-TECH 2	60	80
TOP MULTI-TECH 3	60	80
TOP MULTI-TECH 4	60	80
TOP MULTI-TECH 5	60	80

## ACCESSORIES (CAN BE ORDERED SEPARATELY)

MODEL	Code	FITTING	CAPACITY	PRE-SET	MAXIMUM WORKING PRESSURE
Tank 1 SFD 	500667	1/2" (male)	1 litro	1.2 bar	10 bar
3-way fitting NT 1.25 	500160001	1 1/4" - 1 1/4" - 1/2" gas	-	-	-

## Typical installation



# TOP MULTI-EVOTECH

## Multi-stage automatic submersible pumps

-  Clean water
-  Domestic use
-  Civil use

**AUTOMATIC  
START & STOP**



### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**
- Restart pressure: **1.5 bar**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum height between pump and point of use **10 m**
- Maximum liquid temperature **+40 °C**
- Suction down to **35 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with:

- **10 m** long power cable
- internal electronic device for pump starting (when tap opened) and stopping (when tap closed)
- threaded connector 1¼" (delivery)
- hose connector Ø 35 mm

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2990653
- TOP MULTI® Registered Trade Mark n. 0001334477

### INSTALLATION AND USE

**TOP-MULTI-EVOTECH** pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made.

Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

**An internal electronic device starts or stops the pump automatically when the tap is opened or closed.**

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- **KGE - Floating suction kit**



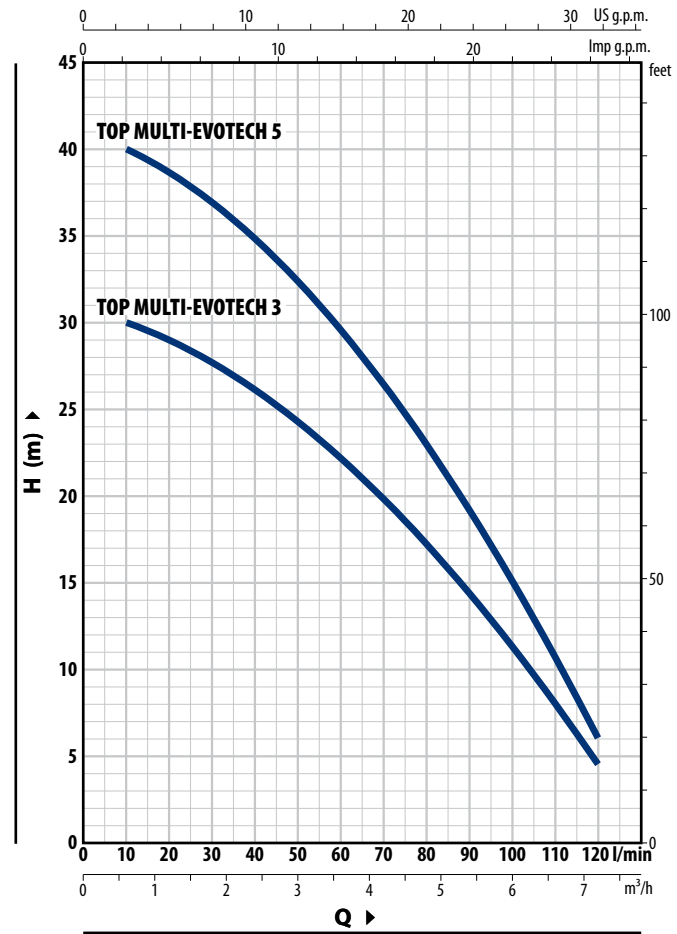
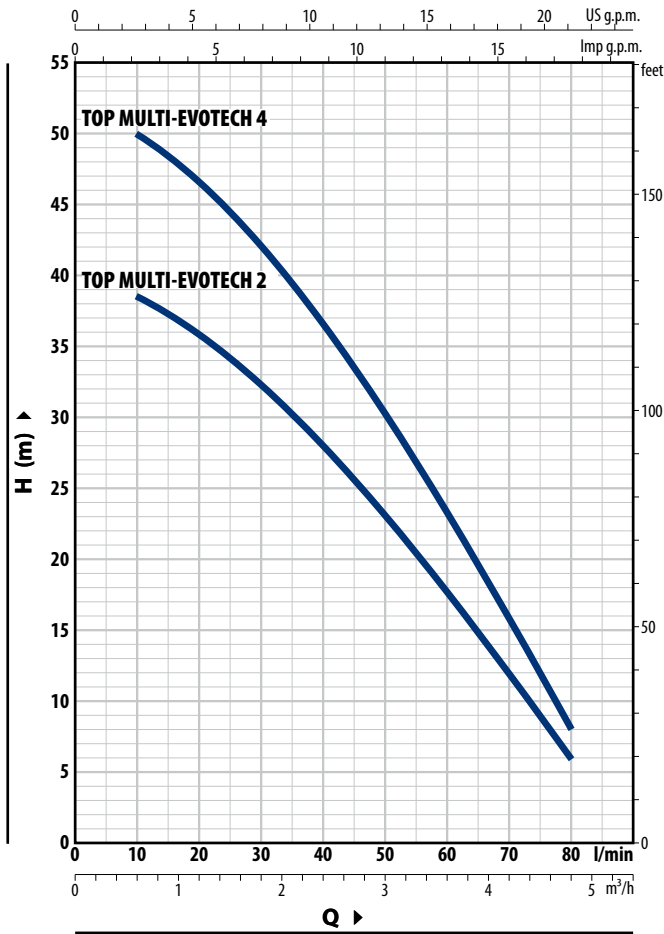
Kit includes:

- 1.5 metre long PVC hose (Ø 30 mm)
- stainless steel suction filter
- polyethylene spherical float
- flexible hose fittings Ø 30 mm

TOP MULTI-EVOTECH with KGE kit for aspiration at about 10 cm below the water surface, preventing the suction of any floating waste or sediment on the bottom of the tank thus avoiding any damage to the pump.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI-EVOTECH 2 - 4

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	
Single-phase			l/min	0	10	20	30	40	50	60	70	75	80		
TOP MULTI-EVOTECH 2	0.55	0.75	H metres	40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI-EVOTECH 4	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI-EVOTECH 3 - 5

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	5.4	6	6.6
Single-phase			l/min	0	10	20	30	40	50	60	70	75	80	90	100	110	120
TOP MULTI-EVOTECH 3	0.55	0.75	H metres	30.5	30	29	27.5	26	24.3	22.2	19.8	18.5	17.2	14.4	11.3	8	4.5
TOP MULTI-EVOTECH 5	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	24.7	22.9	19.2	15.1	10.7	6

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI-EVOTECH

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY AND DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1
2	<b>PUMP BODY AND BASE</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
8	<b>ELECTRONIC DEVICE</b>	<p><b>TOP MULTI-EVOTECH pumps are fitted with an internal electronic device which starts the pump when the pressure of the system falls below 1.5 bar (eg. when opening a tap) and stops it when the flow falls below 3 litre per minute.</b></p> <p><b>It protects the pump:</b></p> <ul style="list-style-type: none"> <li>– against dry running;</li> <li>– against blockage: after long periods of pump inactivity the electronic device starts the pump every 48 hours for 10 seconds.</li> </ul>

## 9 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 10 BEARINGS

Pump	Model
TOP MUTI-EVOTECH 2-3	6202 ZZ - C3 / 6201 ZZ
TOP MUTI-EVOTECH 4-5	6202 ZZ - EA3 / 6201 ZZ

## 11 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP MUTI-EVOTECH 2-3	12.5 µF 450 VL	30 µF 250 VL
TOP MUTI-EVOTECH 4-5	14 µF 450 VL	30 µF 250 VL

## 12 ELECTRIC MOTOR

**TOP MULTI-EVOTECH:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 13 POWER CABLE

"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

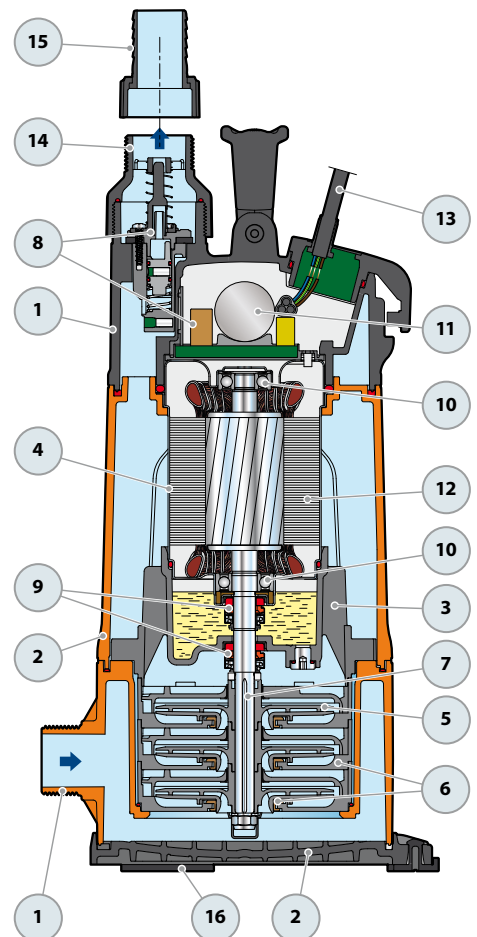
## 14 THREADED CONNECTOR

Threaded connector 1¼"

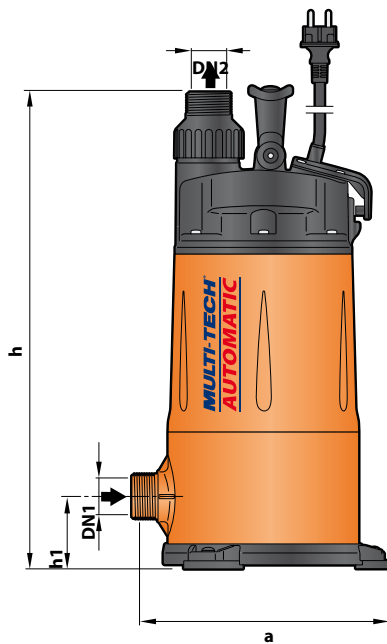
## 15 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

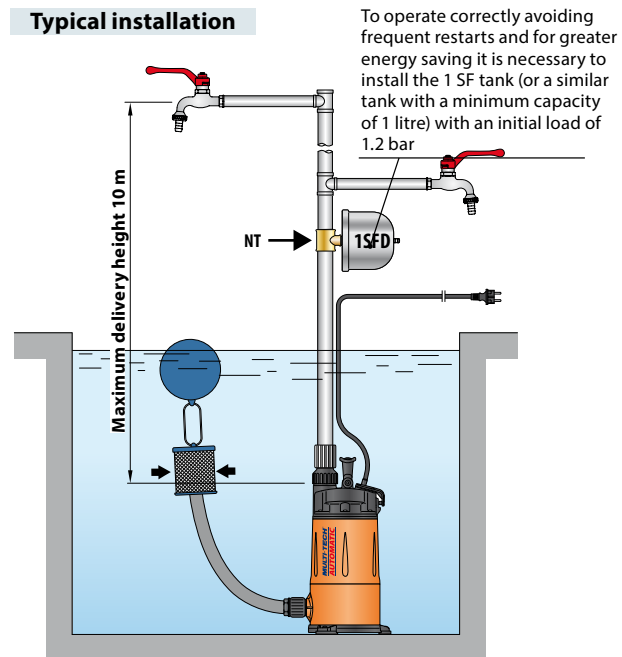
## 16 ANTI-VIBRATION SUPPORTS



## DIMENSIONS AND WEIGHT



### Typical installation



MODEL	PORTS		N. STAGES	DIMENSIONS mm			kg
	DN1	DN2		a	h	h1	
Single-phase							
TOP MULTI-EVOTECH 2	1 1/4"	1 1/4"	3	239	442	68	9.9
TOP MULTI-EVOTECH 3					9.9		
TOP MULTI-EVOTECH 4			4		10.5		
TOP MULTI-EVOTECH 5					10.5		



## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI-EVOTECH 2	3.4 A	3.3 A	6.6 A
TOP MULTI-EVOTECH 3	3.6 A	3.5 A	7.2 A
TOP MULTI-EVOTECH 4	3.9 A	3.7 A	8.0 A
TOP MULTI-EVOTECH 5	3.9 A	3.7 A	8.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP MULTI-EVOTECH 2	45	60
TOP MULTI-EVOTECH 3	45	60
TOP MULTI-EVOTECH 4	45	60
TOP MULTI-EVOTECH 5	45	60

## ACCESSORIES (CAN BE ORDERED SEPARATELY)

MODEL	Code	FITTING	CAPACITY	PRE-SET	MAXIMUM WORKING PRESSURE
Tank 1 SFD 	500667	1/2" (male)	1 litre	1.2 bar	10 bar
Raccordo 3 vie NT 1.25 	500160001	1 1/4" - 1/4" - 1/2" gas	-	-	-



### PERFORMANCE RANGE

- Flow rate up to **360 l/min** (21.6 m<sup>3</sup>/h)
- Head up to **15.5 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP 1-2-3
  - up to **5 m** for TOP 4-5(with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**  
(Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for TOP 1-2-3
  - **30 mm** above ground level for TOP 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for TOP 1-2-3
- **10 m** long power cable for TOP 4-5
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP** series is suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

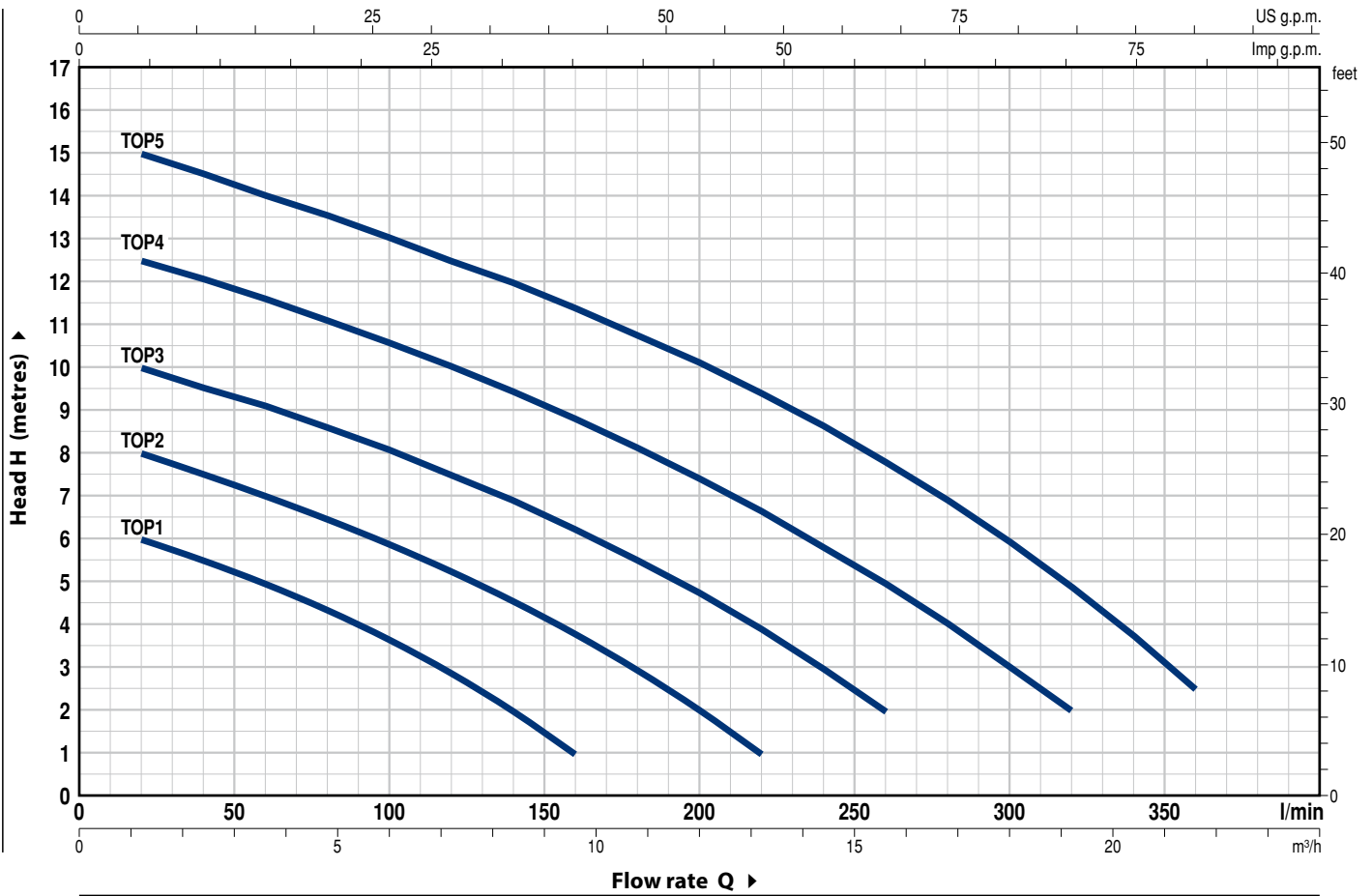
### OPTIONS AVAILABLE ON REQUEST

- **"TOP-GM"** pumps with vertical float switch (suitable for particularly small wells)
- **"TOP 2-3 LA"** pumps intended for use with aggressive liquids
- Special mechanical seal
- TOP 1-2-3 pumps with **10 m** long power cable
  - ➔ N.B. Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres																							
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	15.6	16.8	18.0	19.2	20.4	21.6					
			l/min	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360					
TOP 1	0.25	0.33		6.5	6	5.5	5	4.4	3.7	2.9	2	1															
TOP 2	0.37	0.50		8.5	8	7.5	7	6.5	5.9	5.3	4.6	3.8	3	2	1												
TOP 3	0.55	0.75	H metres	10.4	10	9.6	9.1	8.6	8.1	7.5	6.9	6.3	5.5	4.8	3.9	3	2										
TOP 4	0.75	1		12.9	12.5	12.1	11.6	11.1	10.6	10.1	9.5	8.8	8.2	7.4	6.7	5.9	5	4	3.1	2							
TOP 5	0.92	1.25		15.5	15	14.5	14	13.6	13.1	12.6	12	11.4	10.8	10.1	9.4	8.7	7.8	6.9	6	4.9	3.7	2.5					

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (AISI 316L for LA versions)

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Pump Model	Seal Model	Shaft Diameter	Materials			
			Stationary ring	Rotational ring	Elastomer	Metals
TOP 1-2-3	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
TOP 1-2-3 GM						
TOP 2-3 LA	AR-12R LA	Ø 12 mm	Ceramic	Graphite	NBR	AISI 316

10 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

11 **BEARINGS** 6201 ZZ / 6201 ZZ

### 12 CAPACITOR

Pump Model	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP 1	10 µF 450 VL	16 µF - 250 VL
TOP 2	10 µF 450 VL	16 µF - 250 VL
TOP 3	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

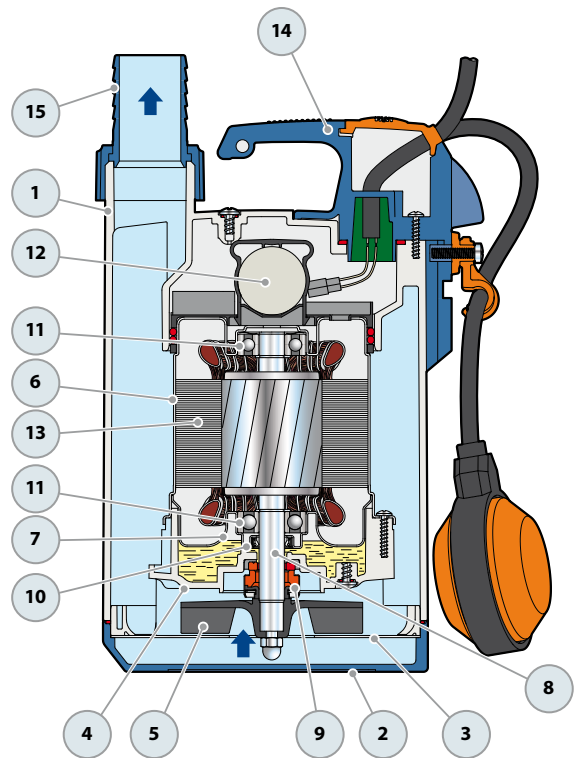
**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

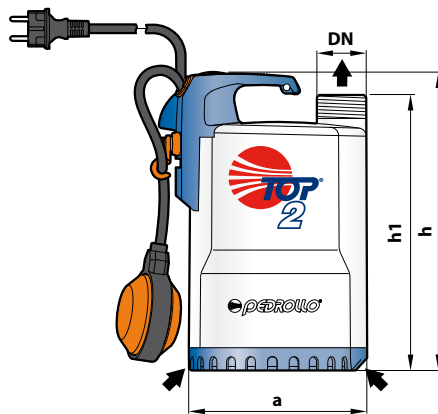
Complete with:  
 – 5 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 15 HOSE CONNECTOR WITH RING NUT

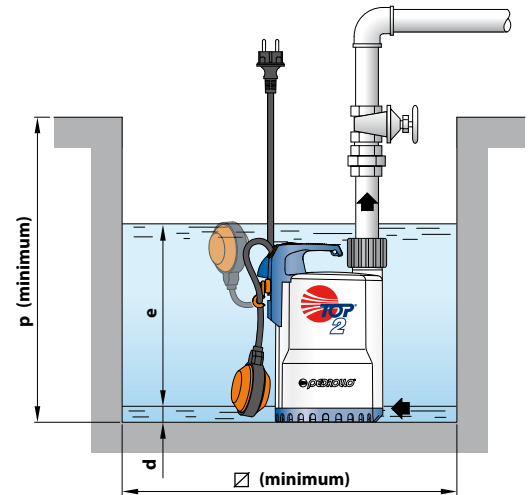
Ø 25 mm hose connection for TOP 1  
 Ø 35 mm for TOP 2-3



## DIMENSIONS AND WEIGHT

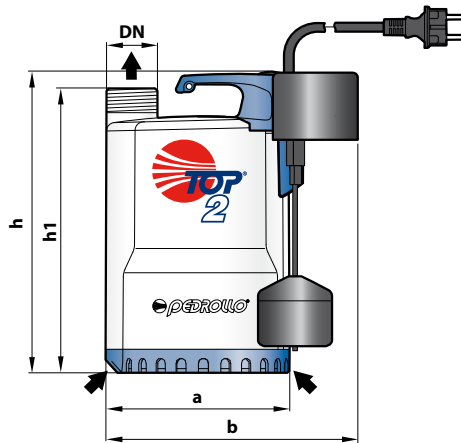


Typical installation

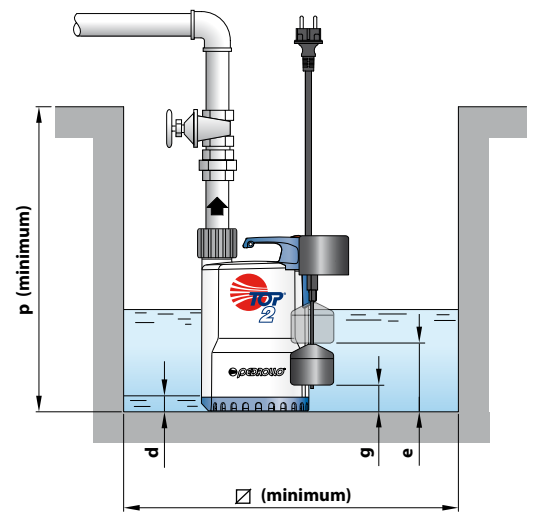


MODEL	PORT DN	DIMENSIONS mm							kg
		a	h	h1	d	e	p	Ø	
Single-phase									
TOP 1	1¼"	152	260	240	14	regolabile	350	350	5.3
TOP 2			290	270					6.7
TOP 3									

Version with vertical float switch



Typical installation



MODEL	PORT DN	DIMENSIONS mm									kg
		a	b	h	h1	d	e	g	p	Ø	
Single-phase											
TOP 1-GM	1¼"	152	200	260	240	14	140	35	350	220	5.4
TOP 2-GM				290	270		170	40			5.4
TOP 3-GM											

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1	1.5 A	1.4 A	3.0 A
TOP 2	2.0 A	2.0 A	4.0 A
TOP 3	3.2 A	3.2 A	6.4 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1	96	144
TOP 2	96	144
TOP 3	96	144

# TOP 4-5

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

10 **BEARINGS** 6203 ZZ / 6203 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
TOP 4	16 µF 450 VL	30 µF - 250 VL
TOP 5	20 µF 450 VL	30 µF - 250 VL

### 12 ELECTRIC MOTOR

**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 13 HANDLE ASSEMBLY (resin sealed)

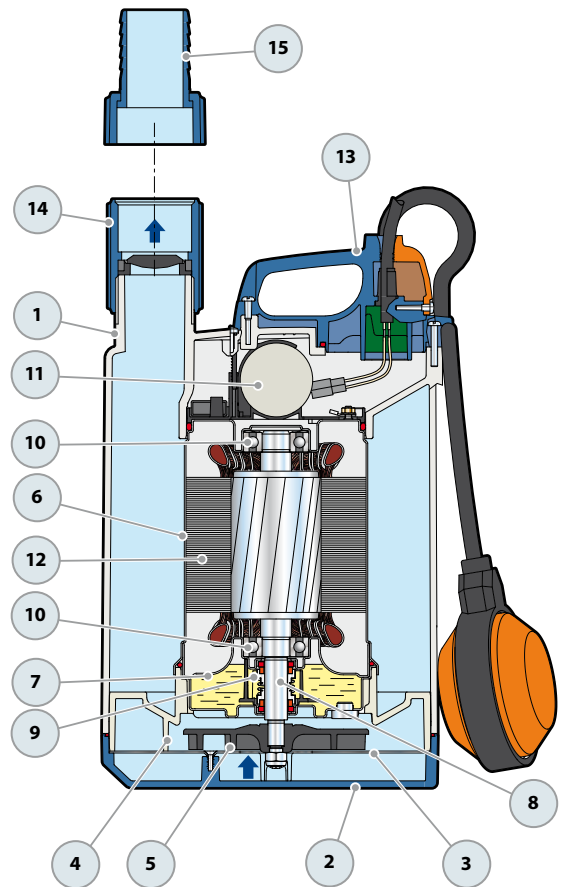
Complete with:  
 – **10 metres** long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 14 PIPE COUPLING

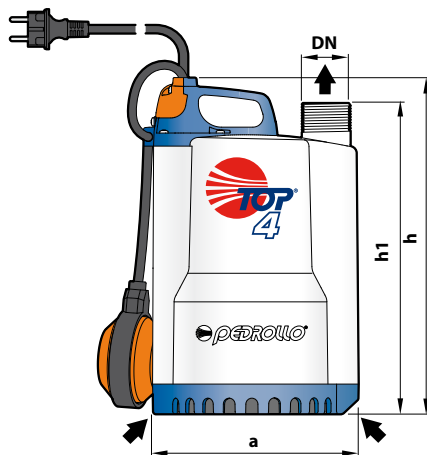
In technopolymer with 1½" thread and non-return valve

### 15 HOSE CONNECTOR WITH RING NUT

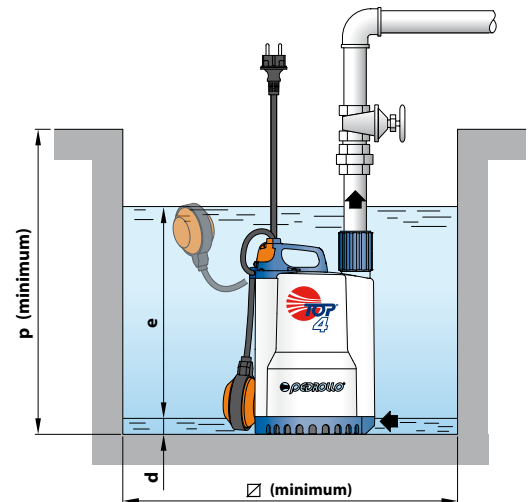
Hose connection Ø 41 mm



## DIMENSIONS AND WEIGHT

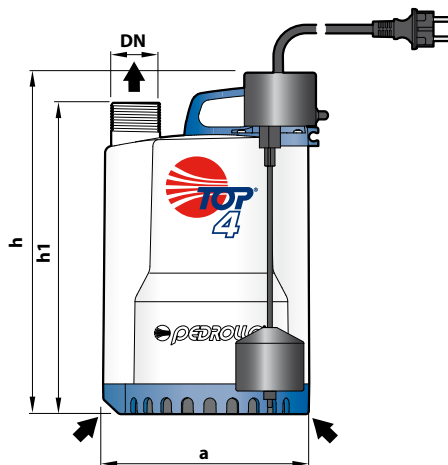


Typical installation

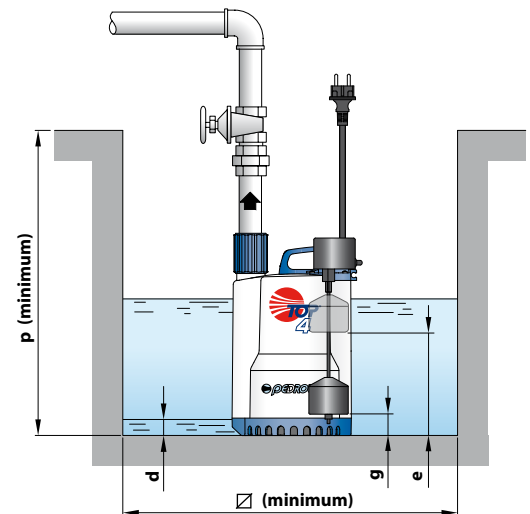


MODEL	PORT	DIMENSIONS mm							kg
		DN	a	h	h1	d	e	p	
Single-phase	1½"	204	337	313	30	variable	450	450	
TOP 4									10.3
TOP 5									11.3

Version with vertical float switch



Typical installation



MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	g		p
Single-phase	1½"	204	337	313	30	220	65	450	300	
TOP 4 - GM										10.4
TOP 5 - GM										11.4

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 4	4.5 A	4.4 A	9.0 A
TOP 5	5.5 A	5.5 A	11.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP 4	60	100
TOP 5	60	100



### PERFORMANCE RANGE

- Flow rate up to **360 l/min** (21.6 m<sup>3</sup>/h)
- Head up to **15.5 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP 1-2-3
  - up to **5 m** for TOP 4-5(with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**  
(Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for TOP 1-2-3
  - **30 mm** above ground level for TOP 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for TOP 1-2-3
- **10 m** long power cable for TOP 4-5
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP** series is suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

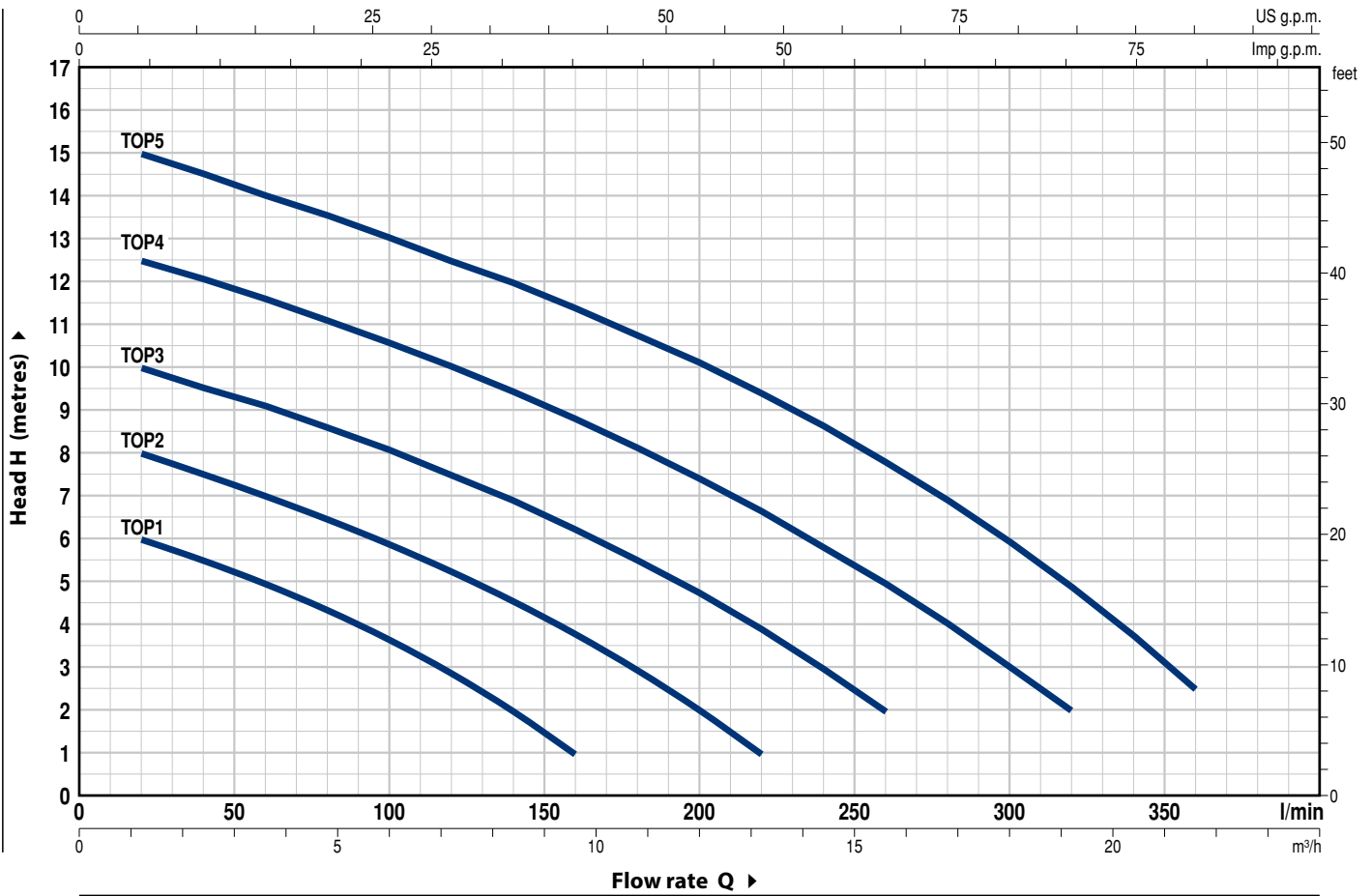
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- **"TOP-GM"** pumps with vertical float switch (suitable for particularly small wells)
- **"TOP 2-3 LA"** pumps intended for use with aggressive liquids
- Special mechanical seal
- TOP 1-2-3 pumps with **10 m** long power cable
  - ➔ N.B. Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres																							
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	15.6	16.8	18.0	19.2	20.4	21.6					
			l/min	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360					
TOP 1	0.25	0.33		6.5	6	5.5	5	4.4	3.7	2.9	2	1															
TOP 2	0.37	0.50		8.5	8	7.5	7	6.5	5.9	5.3	4.6	3.8	3	2	1												
TOP 3	0.55	0.75		10.4	10	9.6	9.1	8.6	8.1	7.5	6.9	6.3	5.5	4.8	3.9	3	2										
TOP 4	0.75	1		12.9	12.5	12.1	11.6	11.1	10.6	10.1	9.5	8.8	8.2	7.4	6.7	5.9	5	4	3.1	2							
TOP 5	0.92	1.25		15.5	15	14.5	14	13.6	13.1	12.6	12	11.4	10.8	10.1	9.4	8.7	7.8	6.9	6	4.9	3.7	2.5					

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (AISI 316L for LA versions)

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Pump Model	Seal Model	Shaft Diameter	Materials			
			Stationary ring	Rotational ring	Elastomer	Metals
TOP 1-2-3	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
TOP 1-2-3 GM						
TOP 2-3 LA	AR-12R LA	Ø 12 mm	Ceramic	Graphite	NBR	AISI 316

10 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

11 **BEARINGS** 6201 ZZ / 6201 ZZ

### 12 CAPACITOR

Pump Model	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP 1	10 µF 450 VL	16 µF - 250 VL
TOP 2	10 µF 450 VL	16 µF - 250 VL
TOP 3	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

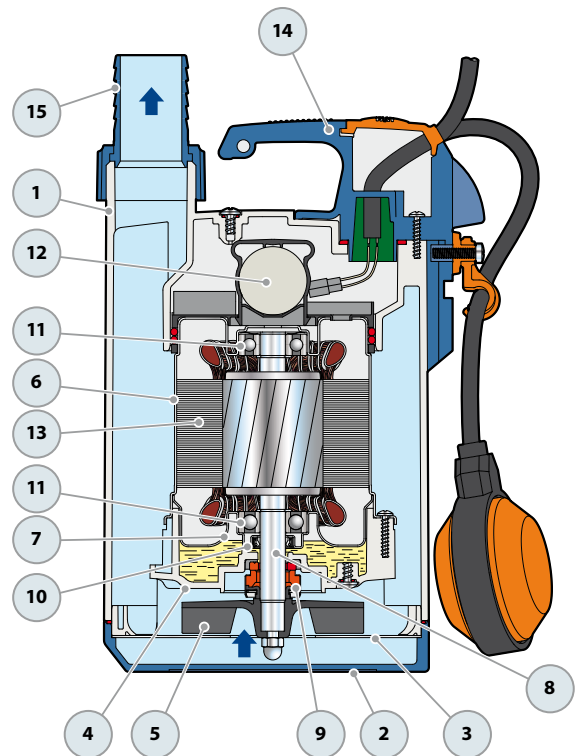
**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

Complete with:  
 – 5 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

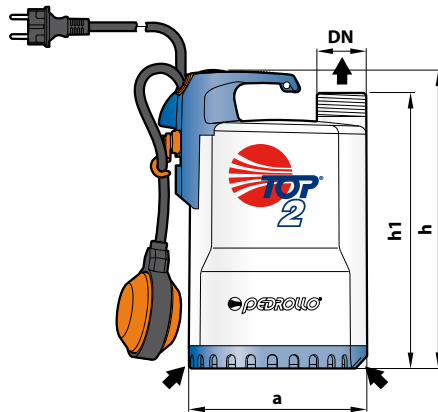
### 15 HOSE CONNECTOR WITH RING NUT

Ø 25 mm hose connection for TOP 1  
 Ø 35 mm for TOP 2-3

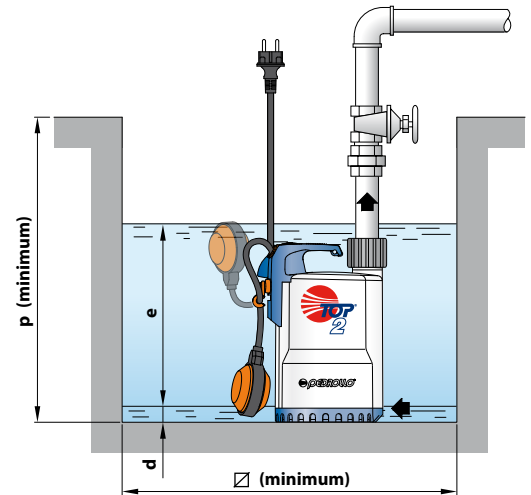




## DIMENSIONS AND WEIGHT

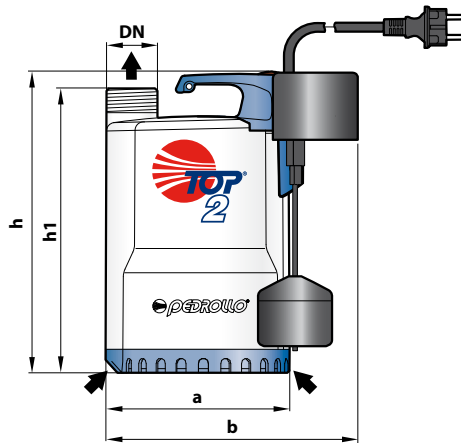


Typical installation

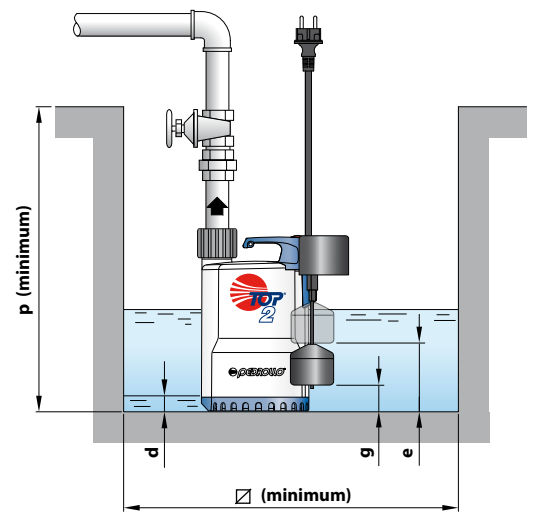


MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	p		Ø
Single-phase										
TOP 1	1¼"	152	260	240	14	regolabile	350	350	5.3	
TOP 2			290	270					5.3	
TOP 3										6.7

Version with vertical float switch



Typical installation



MODEL	PORT	DIMENSIONS mm									kg
		DN	a	b	h	h1	d	e	g	p	
Single-phase											
TOP 1-GM	1¼"	152	200	260	240	14	140	35	350	220	5.4
TOP 2-GM				290	270		170	40			5.4
TOP 3-GM											6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1	1.5 A	1.4 A	3.0 A
TOP 2	2.0 A	2.0 A	4.0 A
TOP 3	3.2 A	3.2 A	6.4 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1	96	144
TOP 2	96	144
TOP 3	96	144

# TOP 4-5

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

10 BEARINGS 6203 ZZ / 6203 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
TOP 4	16 µF 450 VL	30 µF - 250 VL
TOP 5	20 µF 450 VL	30 µF - 250 VL

### 12 ELECTRIC MOTOR

**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 13 HANDLE ASSEMBLY (resin sealed)

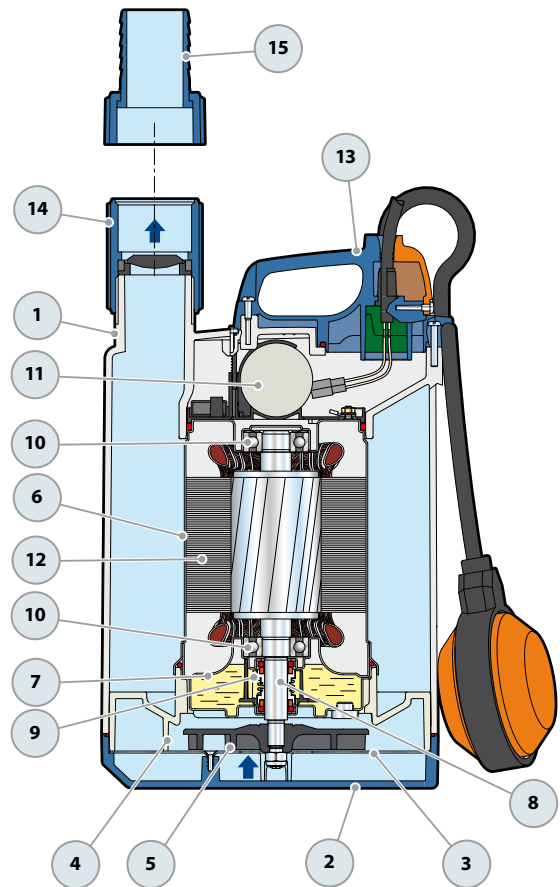
Complete with:  
 – 10 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 14 PIPE COUPLING

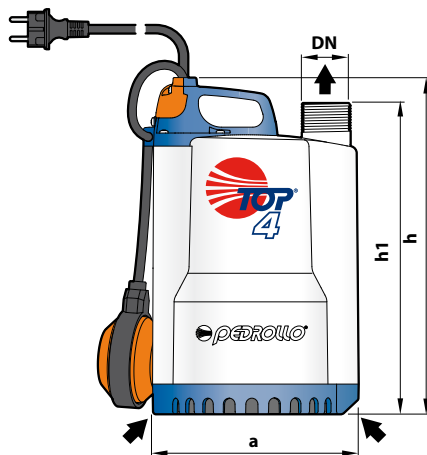
In technopolymer with 1½" thread and non-return valve

### 15 HOSE CONNECTOR WITH RING NUT

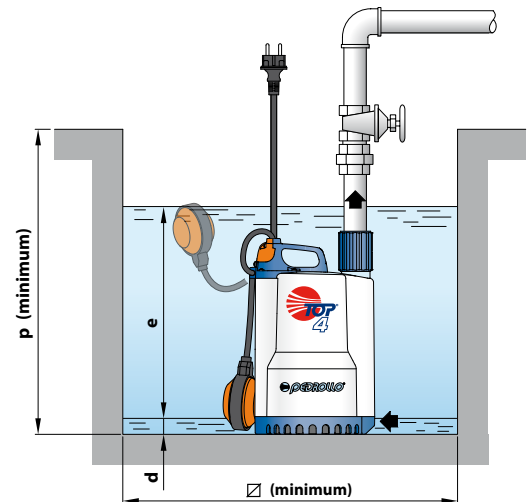
Hose connection Ø 41 mm



## DIMENSIONS AND WEIGHT

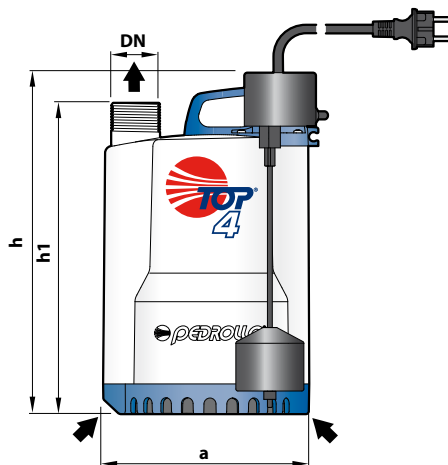


Typical installation

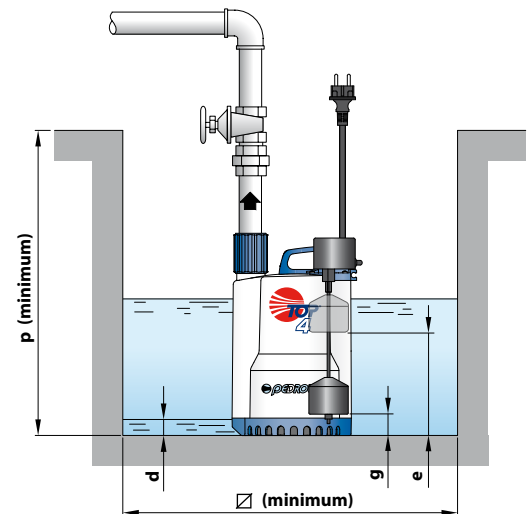


MODEL	PORT DN	DIMENSIONS mm							kg
		a	h	h1	d	e	p	Ø	
Single-phase									
TOP 4	1½"	204	337	313	30	variable	450	450	10.3
TOP 5	11.3								

Version with vertical float switch



Typical installation



MODEL	PORT DN	DIMENSIONS mm							kg	
		a	h	h1	d	e	g	p		Ø
Single-phase										
TOP 4 - GM	1½"	204	337	313	30	220	65	450	300	10.4
TOP 5 - GM	11.4									

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 4	4.5 A	4.4 A	9.0 A
TOP 5	5.5 A	5.5 A	11.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP 4	60	100
TOP 5	60	100

# TOP-FLOOR

## Submersible DRAINAGE pumps

 Clear water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **160 l/min** (9.6 m<sup>3</sup>/h)
- Head up to **9 m**

### APPLICATION LIMITS

- **3 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 2 mm**
- Suction down to **2 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with a **5 m** power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP-FLOOR** series is suitable for use with **clear water** that does not contain abrasive particles.

Because of their ability to drain water to a level of 2 millimetres above ground level, they are suitable for use in domestic emergencies where a small area must be drained to the lowest possible level.

### PATENTS - TRADE MARKS - MODELS

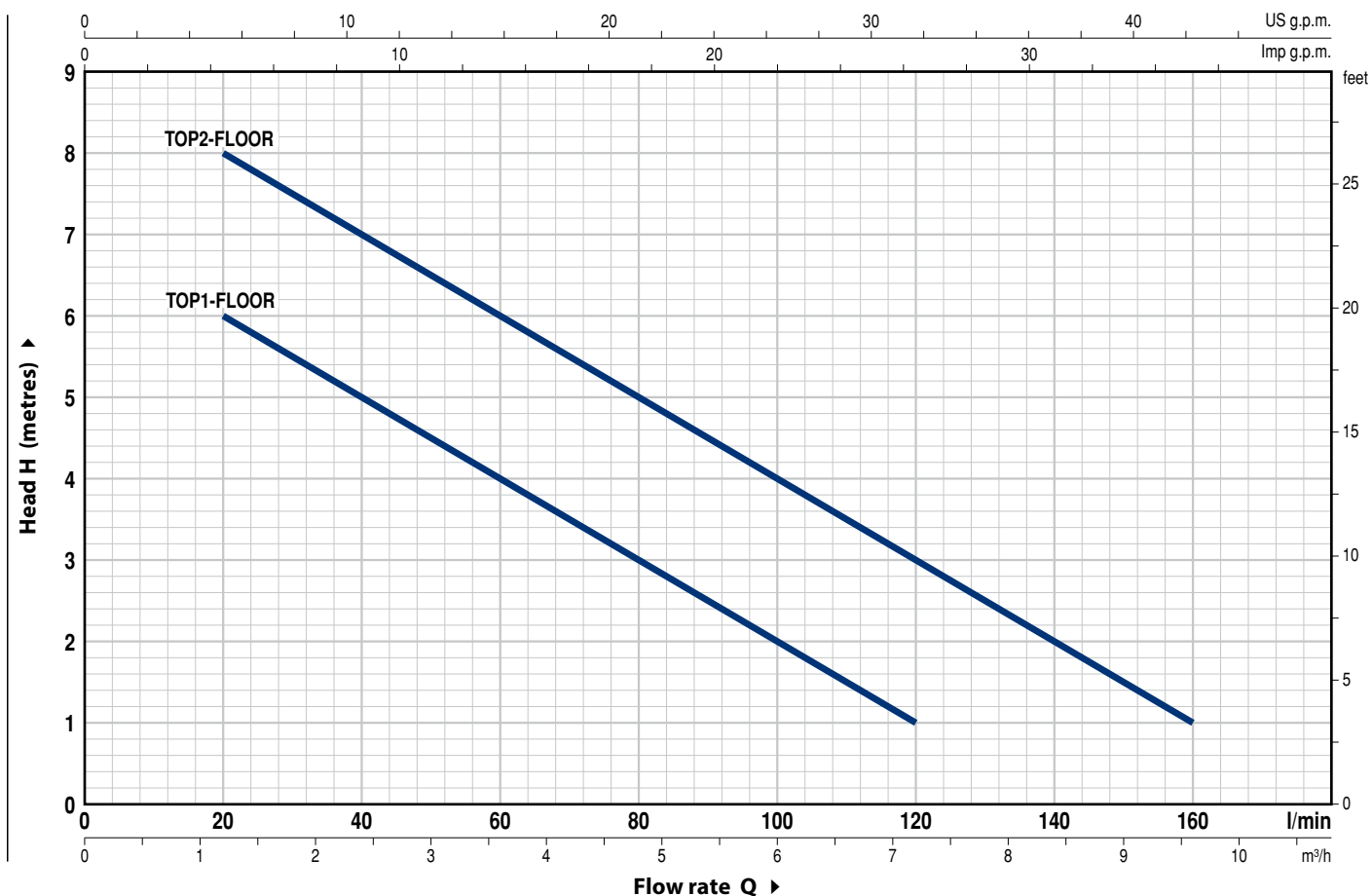
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- Pumps with float switch
- Pumps intended for use with aggressive liquids:
  - **TOP 1-FLOOR/LA**
  - **TOP 2-FLOOR/LA**
- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6			
Single-phase			l/min	0	20	40	60	80	100	120	140	160			
TOP 1-FLOOR	0.25	0.33	H metres	7	6	5	4	3	2	1					
TOP 2-FLOOR	0.37	0.50		9	8	7	6	5	4	3	2	1			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP-FLOOR

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer	
2	<b>SUCTION FILTER</b>	Technopolymer	
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304 (AISI 316L for LA versions)	
4	<b>DIFFUSER</b>	Technopolymer	
5	<b>IMPELLER</b>	Noryl FE1520PW	
6	<b>MOTOR CASING</b>	Stainless steel AISI 304 (AISI 316L for LA versions)	
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304	
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (AISI 316L for LA versions)	
9	<b>SHAFT WITH DOUBLE SEAL AND OIL CHAMBER</b>		
	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>
	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i> <i>Rotational ring</i> <i>Elastomer</i>
	<b>STA-12R</b>	<b>Ø 12 mm</b>	Ceramic   Graphite   NBR
10	<b>LIP SEAL</b>	<b>Ø 12 x Ø 19 x H 5 mm</b>	

11	<b>BEARINGS</b>	<b>6201 ZZ / 6201 ZZ</b>
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12	<b>CAPACITOR</b>		
	<i>Pump</i>	<i>Capacitance</i>	
	<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
	<b>TOP 1-FLOOR</b>	<b>10 µF 450 VL</b>	<b>16 µF - 250 VL</b>
	<b>TOP 2-FLOOR</b>	<b>10 µF 450 VL</b>	<b>16 µF - 250 VL</b>

**13 ELECTRIC MOTOR**

**TOP-FLOOR:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

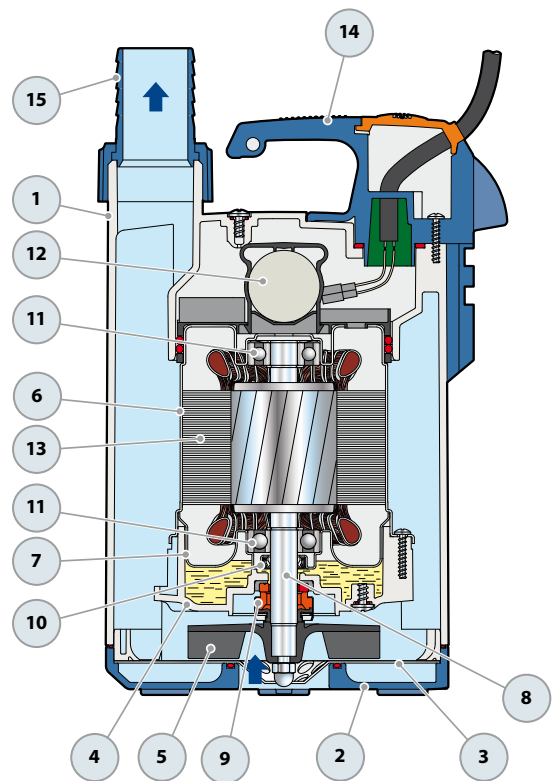
- Insulation: class F
- Protection: IP X8

**14 HANDLE ASSEMBLY** (resin sealed)

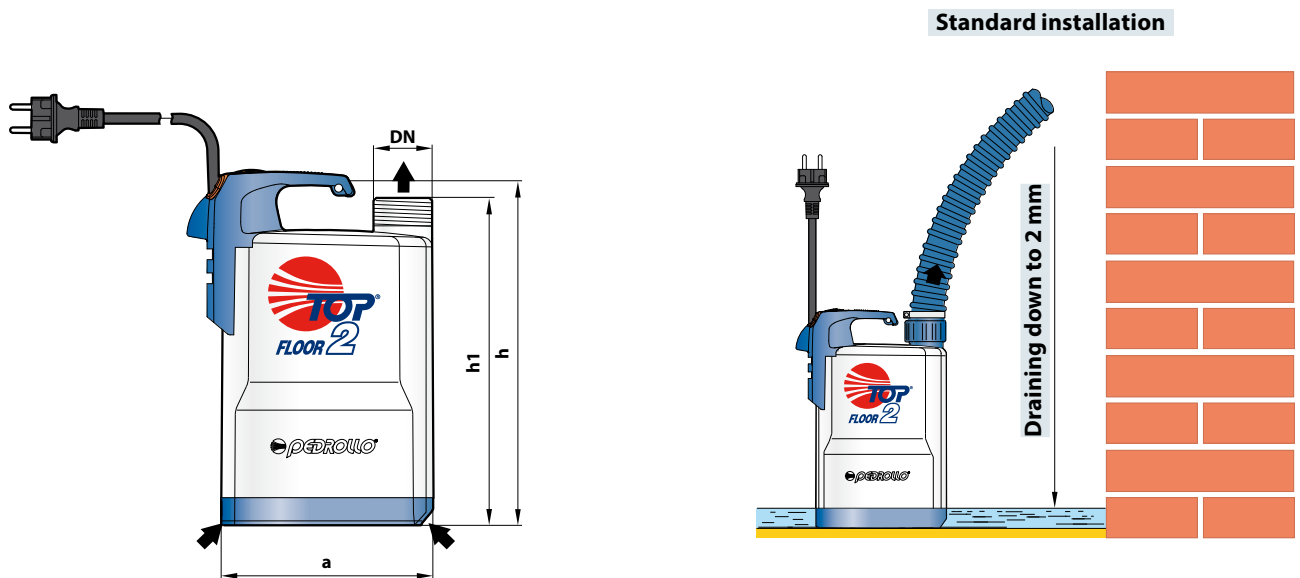
Complete with 5 metres long "H07 RN-F" **power cable** with Schuko plug

**15 HOSE CONNECTOR WITH RING NUT**

**Ø 25 mm** hose connection for TOP1 - FLOOR  
**Ø 35 mm** hose connection for TOP2 - FLOOR



## DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm			Minimum drying level	kg
		DN	a	h		
Single-phase	1 1/4"	152	257	237	2 mm	5.1
TOP 1-FLOOR						5.2
TOP 2-FLOOR						

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	1.5 A	1.4 A	3.0 A
TOP 1-FLOOR	2.0 A	1.9 A	4.0 A
TOP 2-FLOOR			

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP 1-FLOOR	96	144
TOP 2-FLOOR	96	144

# TOP-VORTEX

## Submersible pumps

 Dirty water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **170 l/min** (10.2 m<sup>3</sup>/h)
- Head up to **8.7 m**

### APPLICATION LIMITS

- **3 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 25 mm**
- Suction down to **25 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP-VORTEX** pump is suitable for use with **dirty water** that is not chemically aggressive towards the materials from which the pump is made.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as clearing dirty water, emptying tanks, discharging domestic waste water, and for emptying collection traps containing suspended solids up to a maximum of Ø 25 mm.

### PATENTS - TRADE MARKS - MODELS

- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

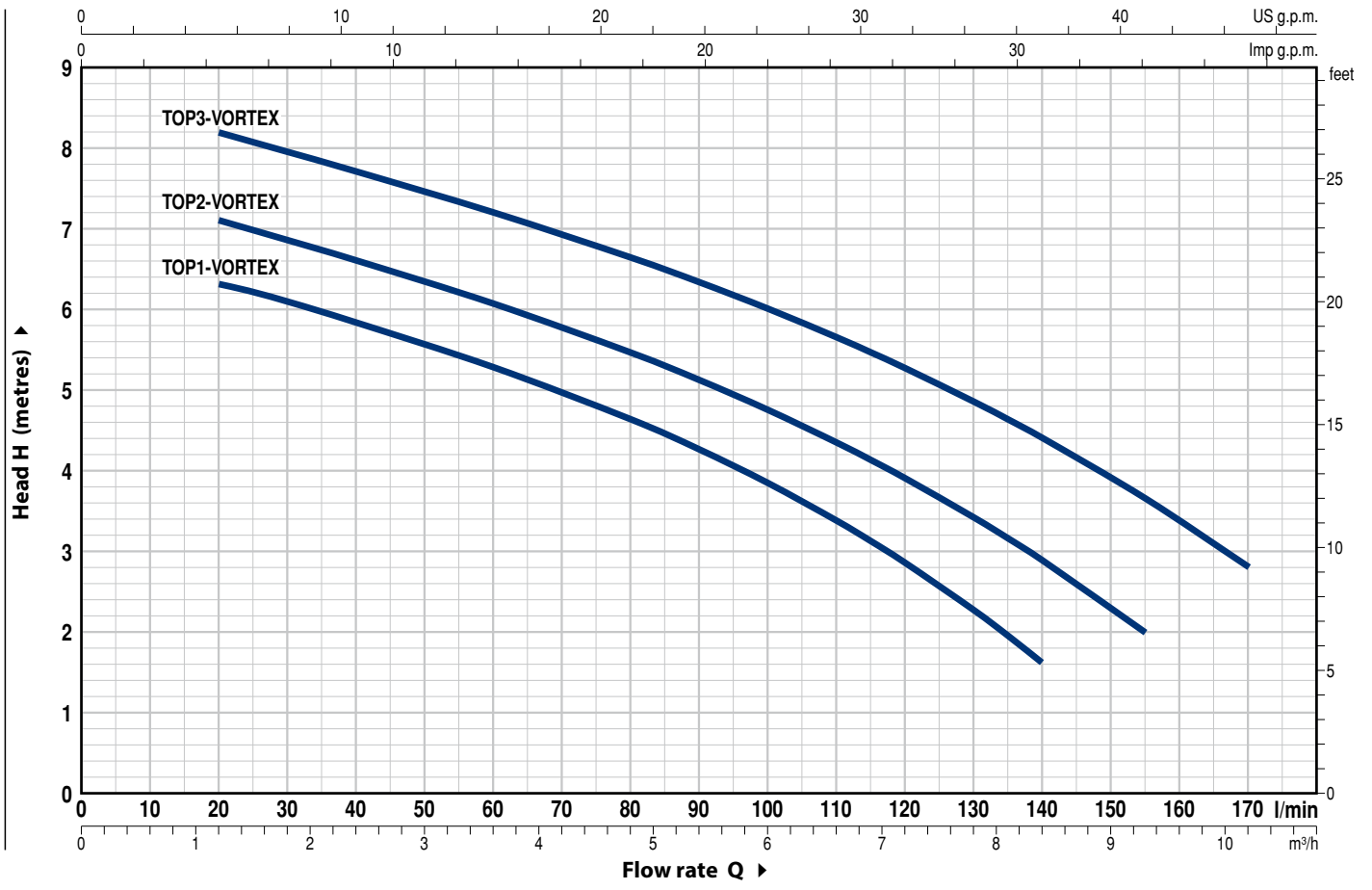
### OPTIONS AVAILABLE ON REQUEST

- “**TOP-VORTEX/GM**” pumps with vertical switch (suitable for particularly small wells)
- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.3	10.2		
			l/min	0	20	40	60	80	100	120	140	155	170		
TOP 1 - VORTEX	0.25	0.33	H metres	6.9	6.3	5.8	5.3	4.6	3.8	2.8	1.6				
TOP 2 - VORTEX	0.37	0.50		7.6	7.1	6.6	6.1	5.5	4.8	3.9	2.9	2			
TOP 3 - VORTEX	0.55	0.75		8.7	8.2	7.7	7.2	6.7	6	5.3	4.4	3.7	2.8		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP-VORTEX

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Technopolymer
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Technopolymer VORTEX type
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

10	<b>LIP SEAL</b>	Ø 12 x Ø 19 x H 5 mm
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11	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ
----	-----------------	-------------------

### 12 CAPACITOR

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
TOP 1 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 2 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 3 - VORTEX	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

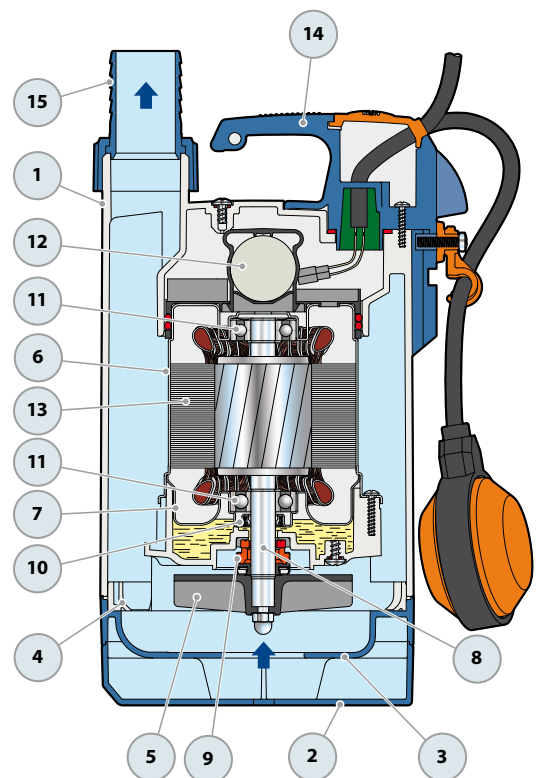
**TOP-VORTEX:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

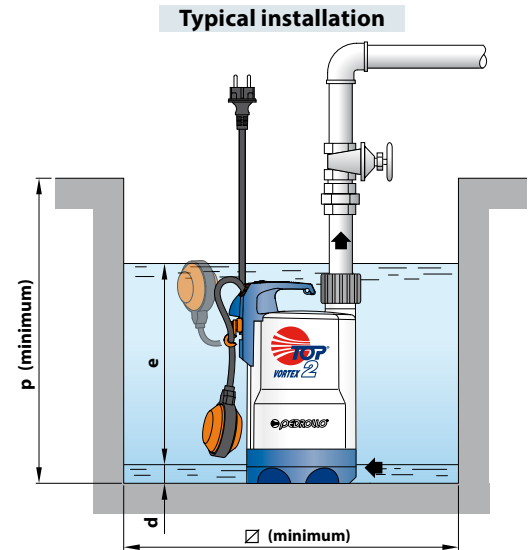
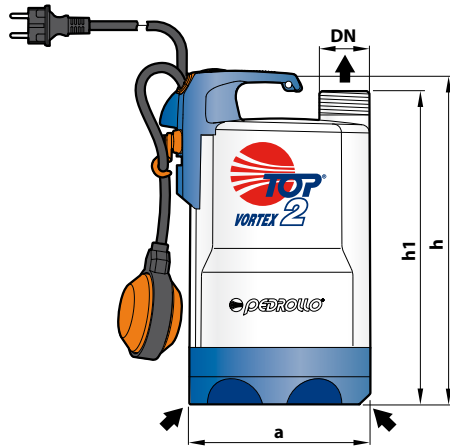
Complete with:  
 – 5 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 15 HOSE CONNECTOR WITH RING NUT

Hose connection Ø 35 mm

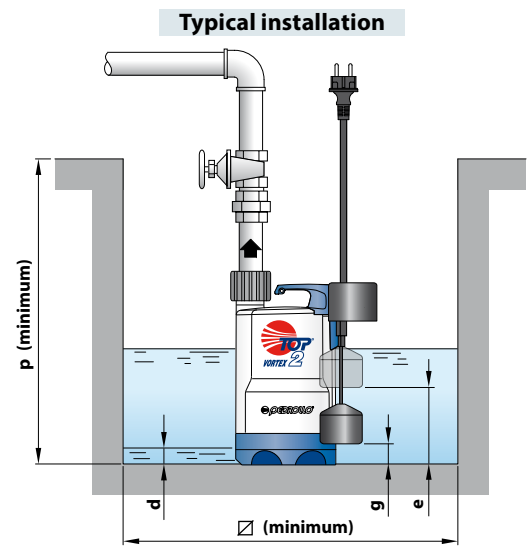
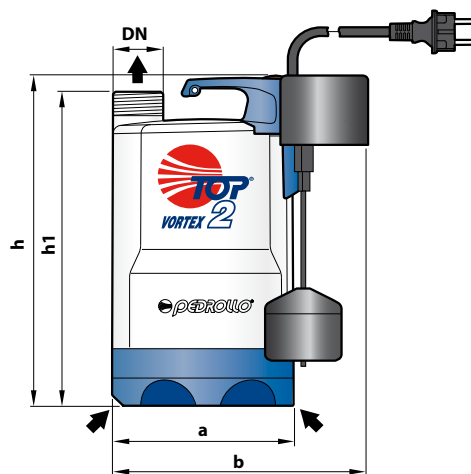


## DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm							kg
		a	h	h1	d	e	p	Ø	
Single-phase	DN								
TOP 1 - VORTEX	1 1/4"	152	288	268	25	variable	350	350	5.3
TOP 2 - VORTEX			318	298					5.3
TOP 3 - VORTEX									6.7

### Version with vertical float switch



MODEL	PORT	DIMENSIONS mm									kg
		a	b	h	h1	d	e	g	p	Ø	
Single-phase	DN										
TOP 1 - VORTEX/GM	1 1/4"	152	200	288	268	25	170	40	350	220	5.4
TOP 2 - VORTEX/GM				318	298		200	65			5.4
TOP 3 - VORTEX/GM											6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1 - VORTEX	1.5 A	1.4 A	3.0 A
TOP 2 - VORTEX	2.0 A	1.9 A	4.0 A
TOP 3 - VORTEX	2.9 A	2.8 A	7.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1 - VORTEX	96	120
TOP 2 - VORTEX	96	120
TOP 3 - VORTEX	96	120

# TOP-VORTEX

## Submersible pumps

 Dirty water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **170 l/min** (10.2 m<sup>3</sup>/h)
- Head up to **8.7 m**

### APPLICATION LIMITS

- **3 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 25 mm**
- Suction down to **25 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP-VORTEX** pump is suitable for use with **dirty water** that is not chemically aggressive towards the materials from which the pump is made.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as clearing dirty water, emptying tanks, discharging domestic waste water, and for emptying collection traps containing suspended solids up to a maximum of Ø 25 mm.

### PATENTS - TRADE MARKS - MODELS

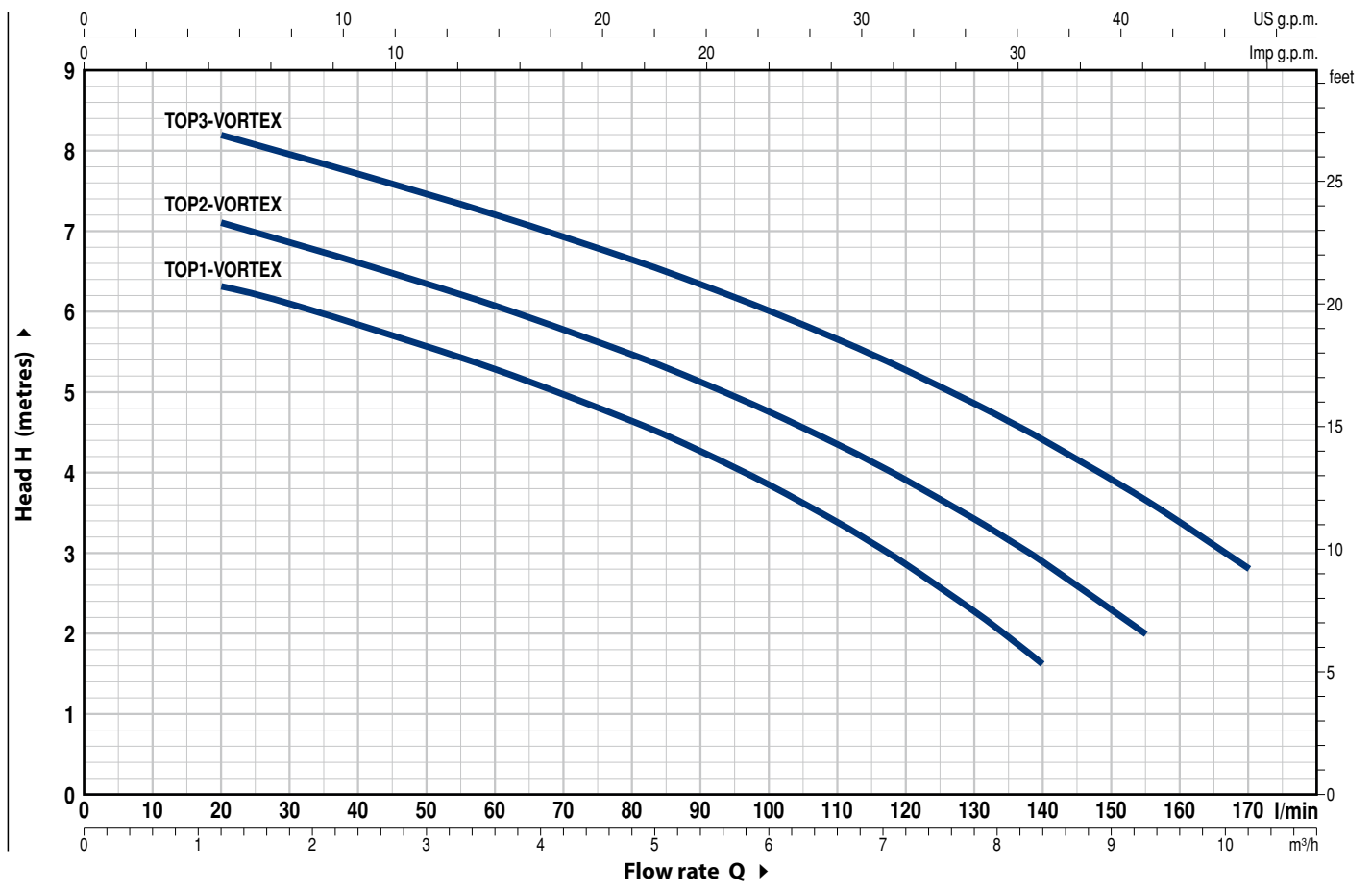
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- “**TOP-VORTEX/GM**” pumps with vertical switch (suitable for particularly small wells)
- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.3	10.2
	kW	HP		0	20	40	60	80	100	120	140	155	170
TOP 1 - VORTEX	0.25	0.33	H metres	6.9	6.3	5.8	5.3	4.6	3.8	2.8	1.6		
TOP 2 - VORTEX	0.37	0.50		7.6	7.1	6.6	6.1	5.5	4.8	3.9	2.9	2	
TOP 3 - VORTEX	0.55	0.75		8.7	8.2	7.7	7.2	6.7	6	5.3	4.4	3.7	2.8

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP-VORTEX

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Technopolymer
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Technopolymer VORTEX type
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Materials</i>		
		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

10 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

11 **BEARINGS** 6201 ZZ / 6201 ZZ

### 12 CAPACITOR

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
TOP 1 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 2 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 3 - VORTEX	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

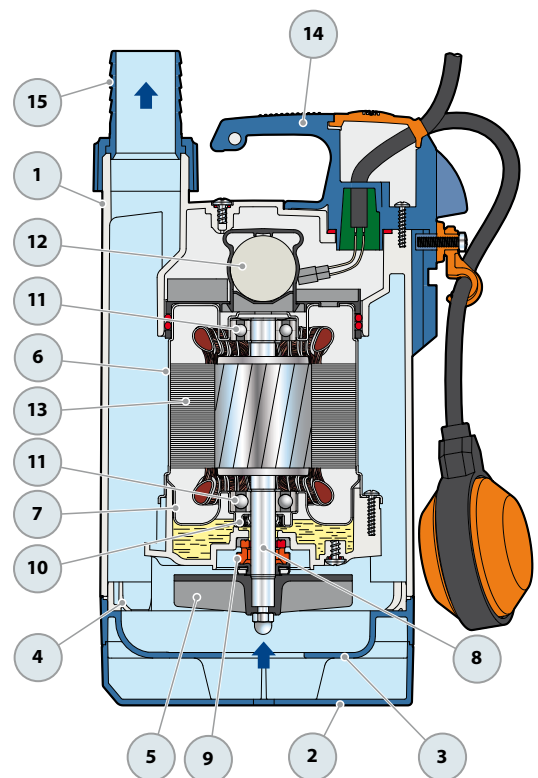
**TOP-VORTEX:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

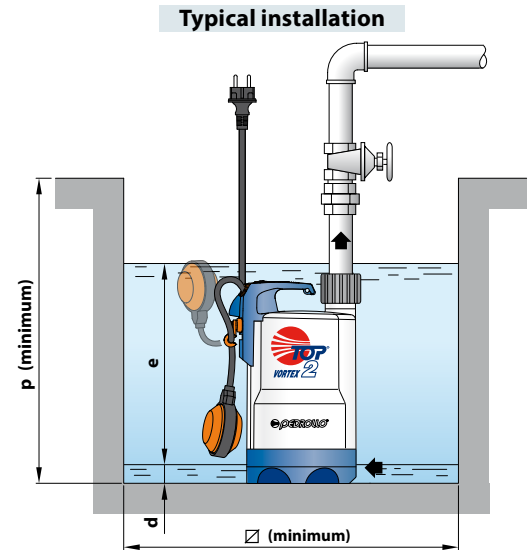
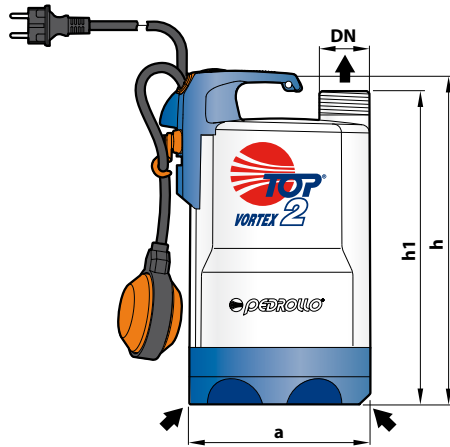
Complete with:  
 – 5 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 15 HOSE CONNECTOR WITH RING NUT

Hose connection Ø 35 mm

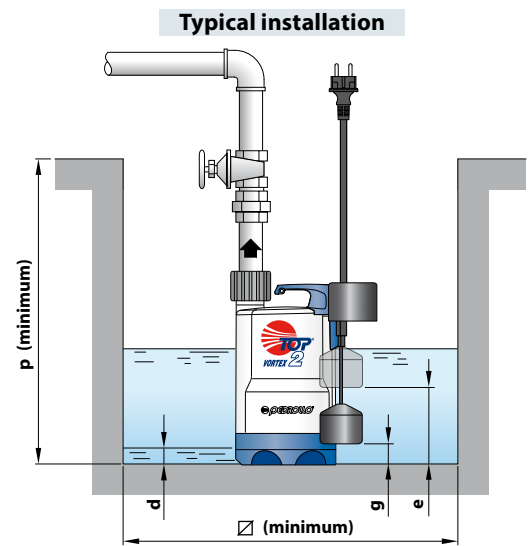
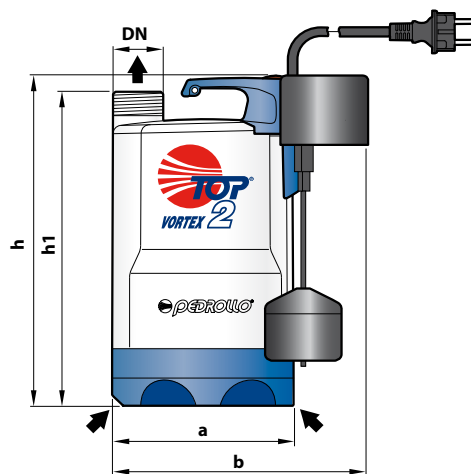


## DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm							kg
		a	h	h1	d	e	p	Ø	
Single-phase	DN								
TOP 1 - VORTEX	1 1/4"	152	288	268	25	variable	350	350	5.3
TOP 2 - VORTEX			318	298					5.3
TOP 3 - VORTEX									6.7

### Version with vertical float switch



MODEL	PORT	DIMENSIONS mm									kg
		a	b	h	h1	d	e	g	p	Ø	
Single-phase	DN										
TOP 1 - VORTEX/GM	1 1/4"	152	200	288	268	25	170	40	350	220	5.4
TOP 2 - VORTEX/GM				318	298		200	65			5.4
TOP 3 - VORTEX/GM											6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1 - VORTEX	1.5 A	1.4 A	3.0 A
TOP 2 - VORTEX	2.0 A	1.9 A	4.0 A
TOP 3 - VORTEX	2.9 A	2.8 A	7.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1 - VORTEX	96	120
TOP 2 - VORTEX	96	120
TOP 3 - VORTEX	96	120

## Submersible pumps

 Sewage water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **240 l/min** (14.4 m<sup>3</sup>/h)
- Head up to **10 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 30 mm**
- Suction down to **35 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- Liquid level vertical sliding magnetic float switch (adjustable)

**EN 60335-1**  
**IEC 60335-1**  
**CEI 61-150**

**EN 60034-1**  
**IEC 60034-1**  
**CEI 2-3**



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TEX** pump is suitable for use with dirty water that is not chemically aggressive towards the materials from which the pump is made.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as clearing dirty water, emptying tanks, discharging domestic waste water, and for emptying collection traps containing suspended solids up to a maximum of Ø 30 mm.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 005205556
- **TEX<sup>®</sup>** Registered Trade Mark n. 017884160

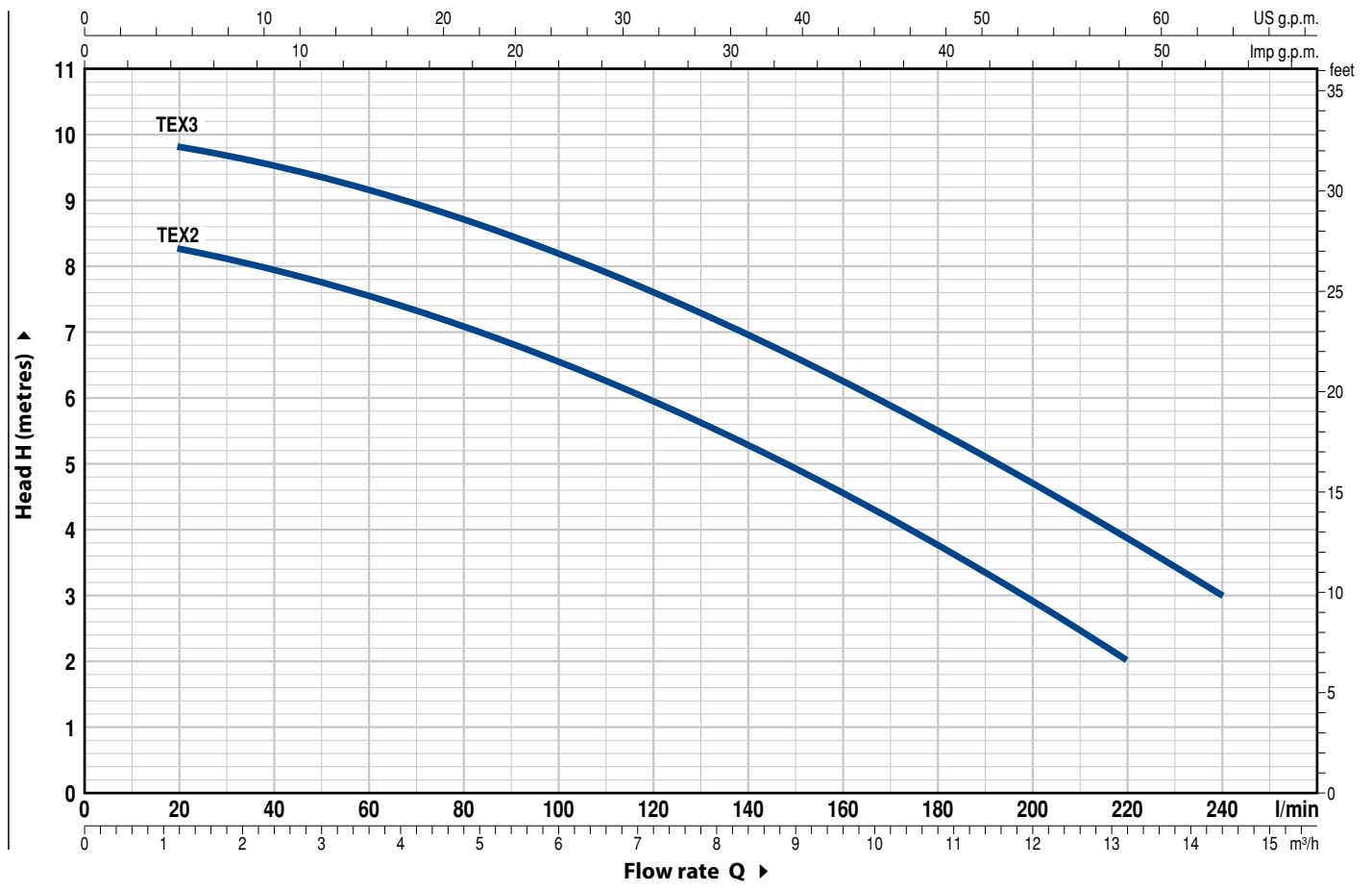
### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency



**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

50 Hz n= 2900 min<sup>-1</sup>

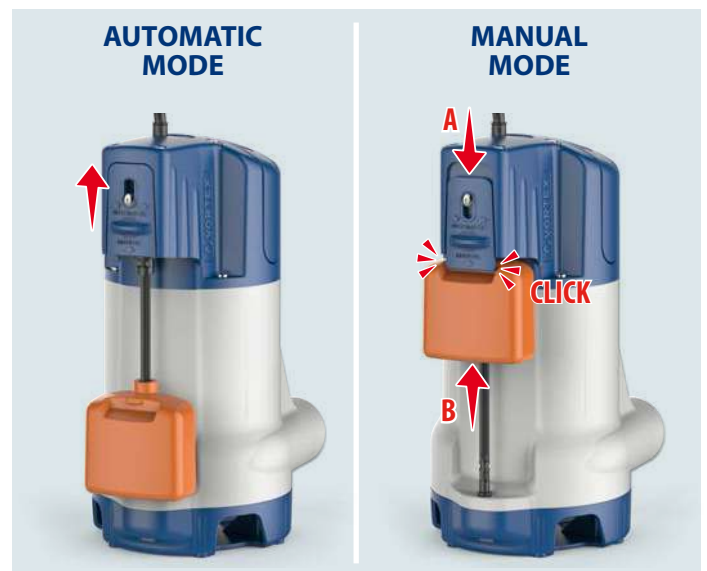


MODEL Single-phase	POWER (P <sub>2</sub> )		Q	Flow rate															
	kW	HP		m <sup>3</sup> /h	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12	13.2	14.4		
			l/min	0	20	40	60	80	100	120	140	160	180	200	220	240			
TEX 2	0.37	0.50	H metres	8.5	8.3	7.9	7.6	7.1	6.6	6	5.3	4.6	3.8	2.9	2				
TEX 3	0.55	0.75	H metres	10	9.8	9.5	9.2	8.7	8.2	7.6	7	6.3	5.5	4.7	3.9	3			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**RETRACTABLE HANDLE**



**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 HANDLE</b>	Glass fibre reinforced technopolymer
<b>2 PUMP BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
<b>3 SUCTION FILTER</b>	Technopolymer
<b>4 SUCTION PLATE</b>	Technopolymer
<b>5 IMPELLER</b>	Glass fibre reinforced technopolymer VORTEX type impeller
<b>6 MOTOR CASING</b>	Stainless steel AISI 304
<b>7 MOTOR CASING PLATE</b>	Stainless steel AISI 304
<b>8 MOTOR SHAFT</b>	Stainless steel AISI 431

**9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER**

<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
<b>Model</b>	<b>Diameter</b>			
<b>STA-12R</b>	<b>Ø 12 mm</b>	Ceramic	Graphite	NBR

**10 LIP SEAL**      **Ø 12 x Ø 19 x H 5 mm**

**11 BEARINGS**      **6201 ZZ / 6201 ZZ**

**12 CAPACITOR**

<i>Pump</i>	<i>Capacitance</i>
<i>Single-phase</i>	<i>(230 V or 240 V)</i>
<b>TEX 2</b>	<b>12.5 µF 450 VL</b>
<b>TEX 3</b>	<b>14 µF 450 VL</b>

**13 ELECTRIC MOTOR**

**TEX:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

**14 POWER CABLE**

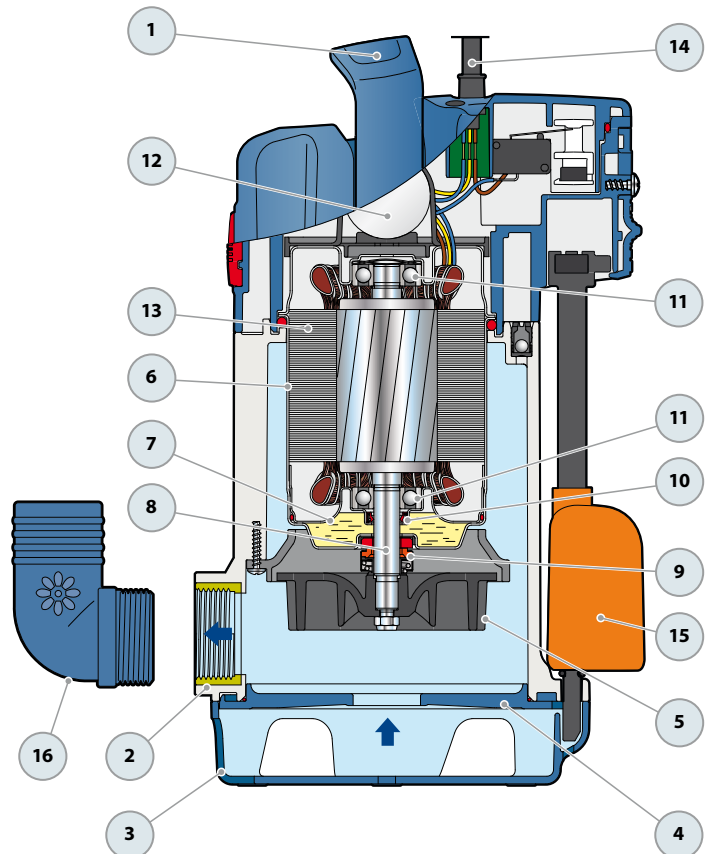
"H07 RN-F" type with Schuko plug  
**Standard length 5 metres**

**15 LEVEL FLOAT SWITCH**

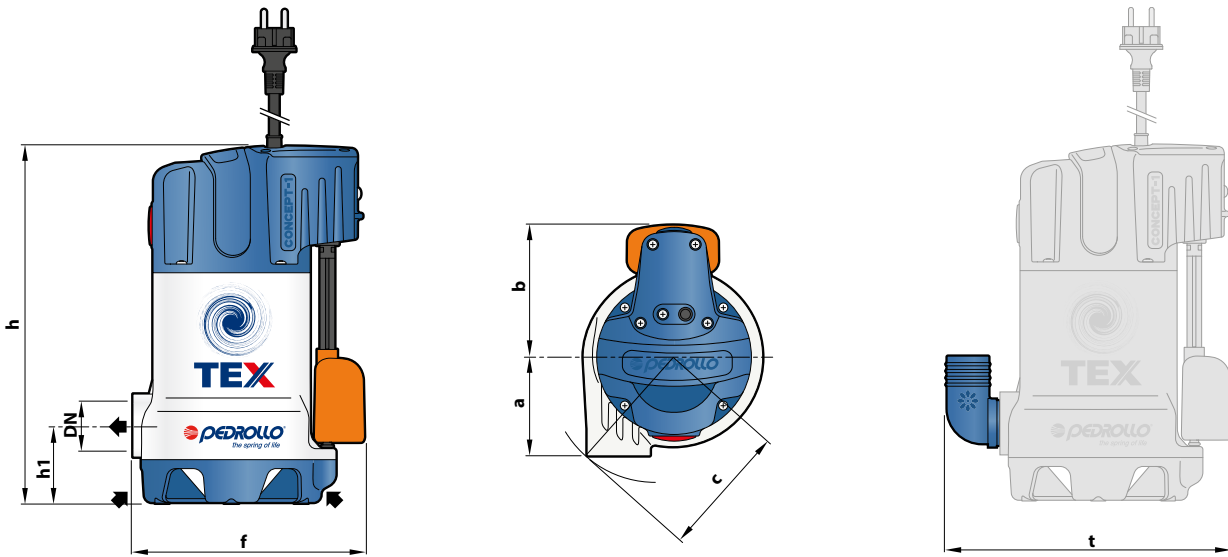
Liquid level vertical sliding magnetic float switch (adjustable)

**16 HOSE CONNECTION**

**Ø 40 mm**



## DIMENSIONS AND WEIGHT



MODEL	PORT DN	Passage of solids	DIMENSIONS mm											kg	
			a	b	c	f	h1	h	d	e	g	t	p		∅
Single-phase															1~
TEX 2	1 1/4"	∅ 30 mm	88	117	118	205	69.5	318	35	100	80 o 100	251	350	220	6.5
TEX 3															6.8

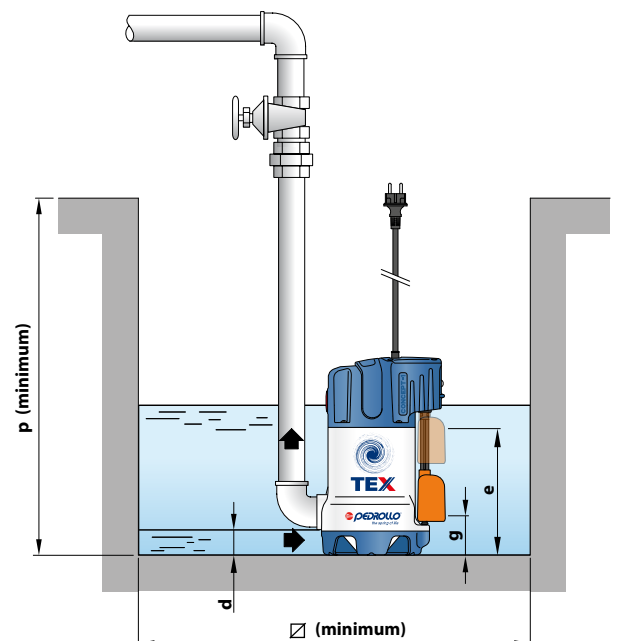
## ABSORPTION

MODEL	VOLTAGE	
	Single-phase	230 V
TEX 2	2.7 A	2.6 A
TEX 3	3.3 A	3.2 A

## PALLETIZATION

MODEL	GROUPAGE
TEX 2	60
TEX 3	60

### Typical installation



Submersible multi-stage pumps designed to pump AdBlue®



### PERFORMANCE RANGE

- Flow rate up to **70 l/min** (4.2 m<sup>3</sup>/h)
- Head up to **27 m**

### APPLICATION LIMITS

- **3 metres** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction down to **25 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pump is complete with:

- **5 metres** long power cable with H07BN4-F coating
- complete connector with flap-check valve

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Multistage submersible pumps **TOP MULTI 1-AD** are designed to pump clean liquid, which is defined according to standard ISO 22241 as AUS 32 (Aqueous Urea Solution 32.5%).

This liquid is equivalent to other commercial trademarks known as:

- **AdBlue®** (trademark registered by Verband der Automobilindustrie VDA);
- **DEF** (Diesel Exhaust Fluid);
- **Arla 32** (Agente Redutor Liquido de Óxido de Nitrogênio Automotivo).

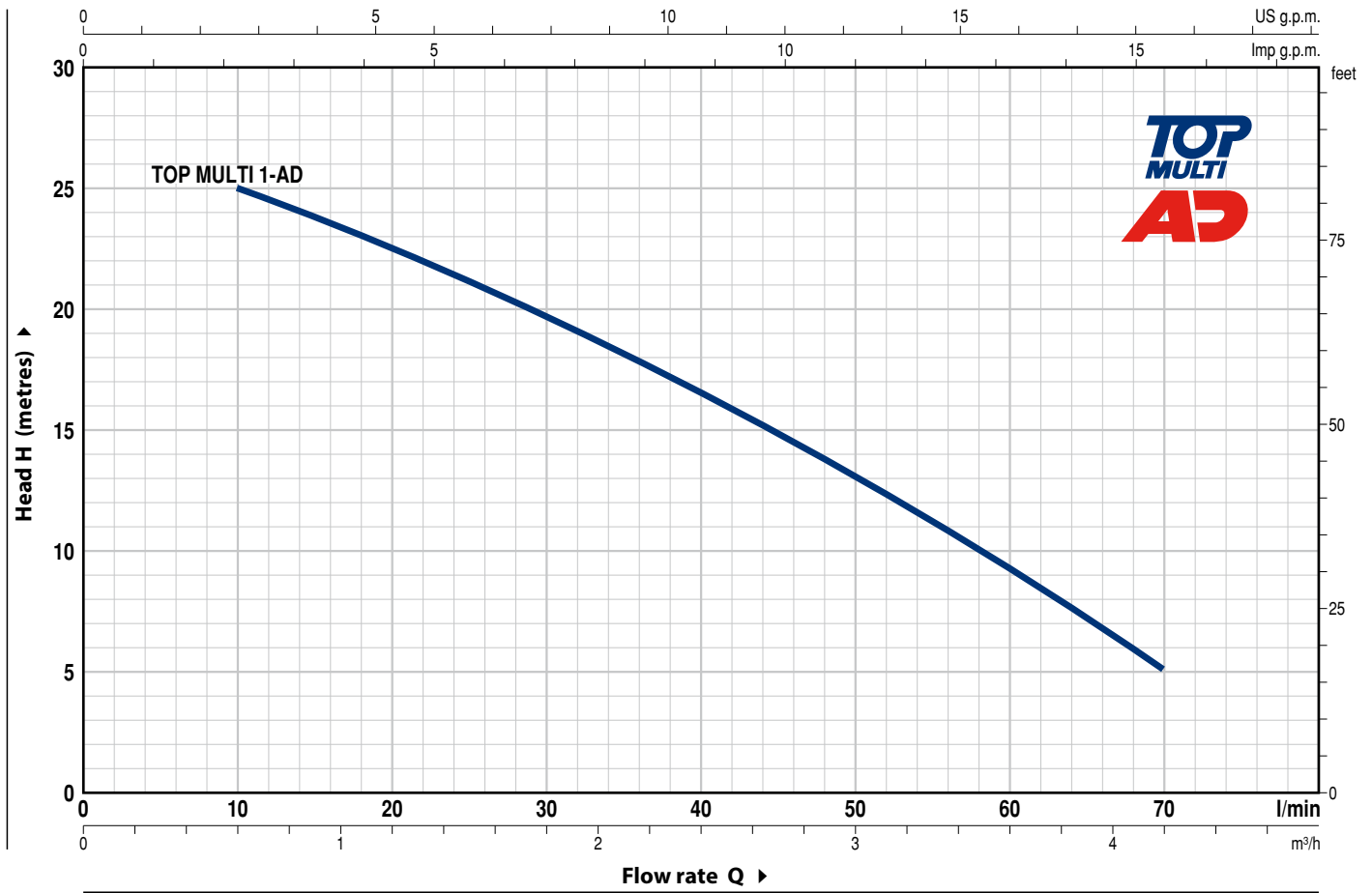
Multistage submersible pumps **TOP MULTI-AD** are designed using materials compliant to this liquid; their use is subjected to local laws and directives.

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL	POWER (P <sub>2</sub> )		Q	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2
	kW	HP		0	10	20	30	40	50	60	70
Single-phase											
<b>TOP MULTI 1-AD</b>	0.37	0.50	<b>H metres</b>	27	25	22.5	19.5	16.5	13	9	5

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI-AD

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>STAGE CASING</b>	Glass fibre reinforced technopolymer
4	<b>IMPELLER</b>	Noryl FE1520PW
5	<b>DIFFUSER</b>	Noryl FE1520PW complete with anti-wear ring
6	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
7	<b>MOTOR CASING</b>	Stainless steel AISI 304
8	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
9	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

## 10 SHAFT WITH DOUBLE SEAL

<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>			
<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Metals</i>
STA-12R SGE	Ø 12 mm	Silicon carbide	Graphite	EPDM	AISI 304

## 11 LIP SEAL Ø 12 x Ø 19 x H 5 mm

## 12 BEARINGS 6201 ZZ - C3E / 6201 ZZ - C3E

## 13 CAPACITOR

<i>Capacitance</i>	
<i>(230 V or 240 V)</i>	<i>(110 V)</i>
10 µF 450 VL	16 µF 250 VL

## 14 ELECTRIC MOTOR

**TOP MULTI 1-AD:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

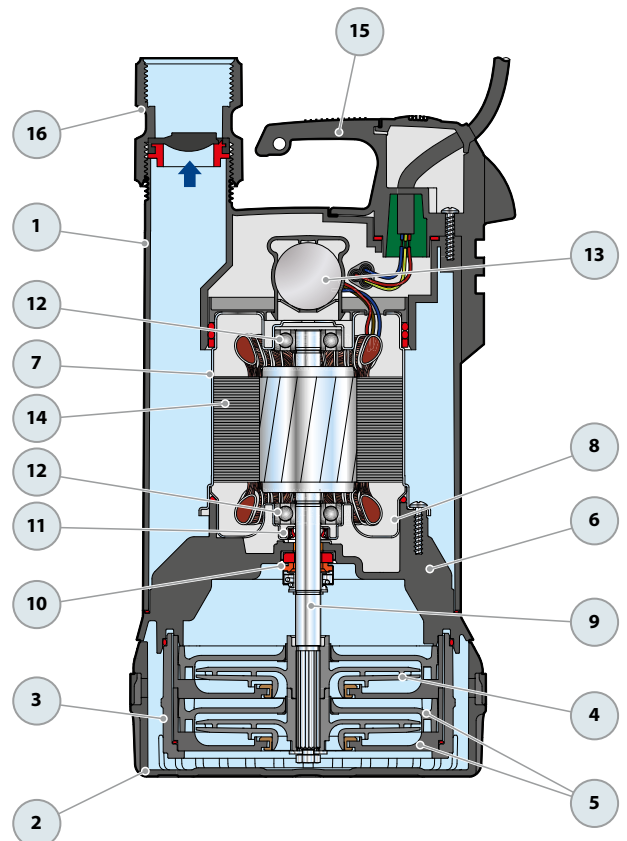
## 15 HANDLE ASSEMBLY (resin sealed)

Complete with **5 metres** long "H07BN4-F" power cable

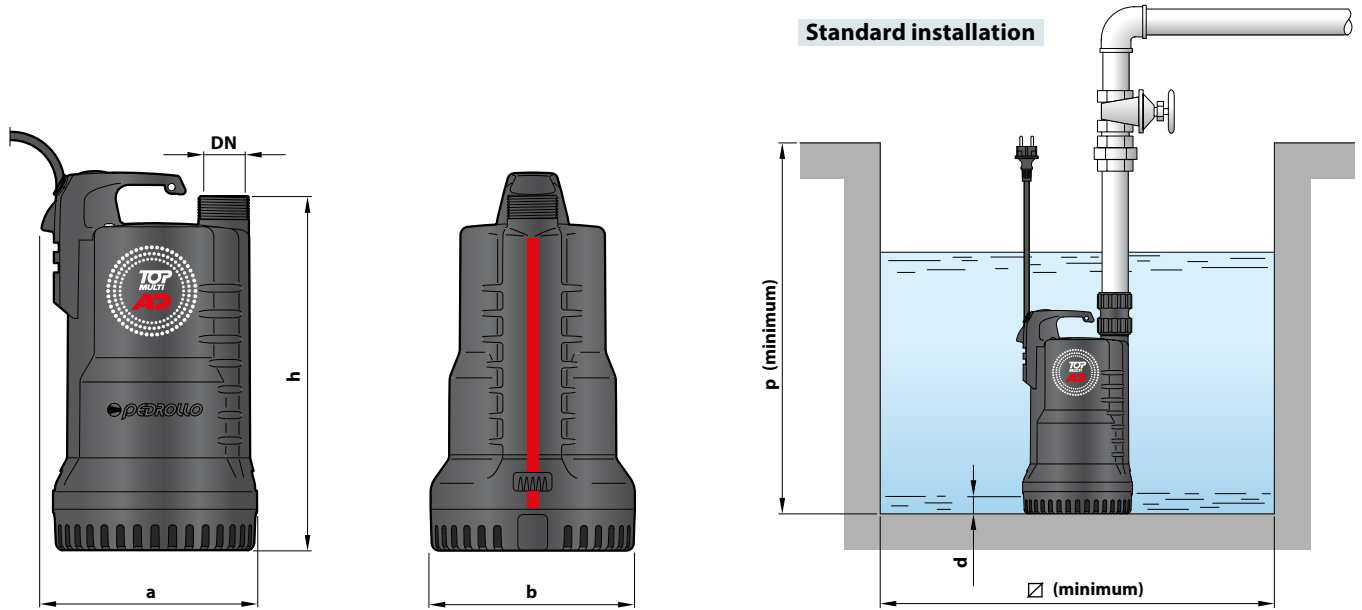
## 16 PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)



## DIMENSIONS AND WEIGHT



MODEL	PORT DN	N. STAGES	DIMENSIONS mm					kg
			a	b	h	d	∅	
Single-phase	DN							
TOP MULTI 1-AD	1¼"	2	180	170	295	25	220	5.8

## ABSORPTION

MODEL	VOLTAGE		
	Single-phase	230 V	240 V
TOP MULTI 1-AD	2.0 A	1.9 A	4.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 1-AD	60	100

# RX

## Submersible DRAINAGE pumps

 Clear water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+50 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for RX 1-2-3
  - **25 mm** above ground level for RX 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for RX 1-2-3
- **10 m** long power cable for RX 4-5
- float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **RX** series pumps are suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in fixed installations and applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

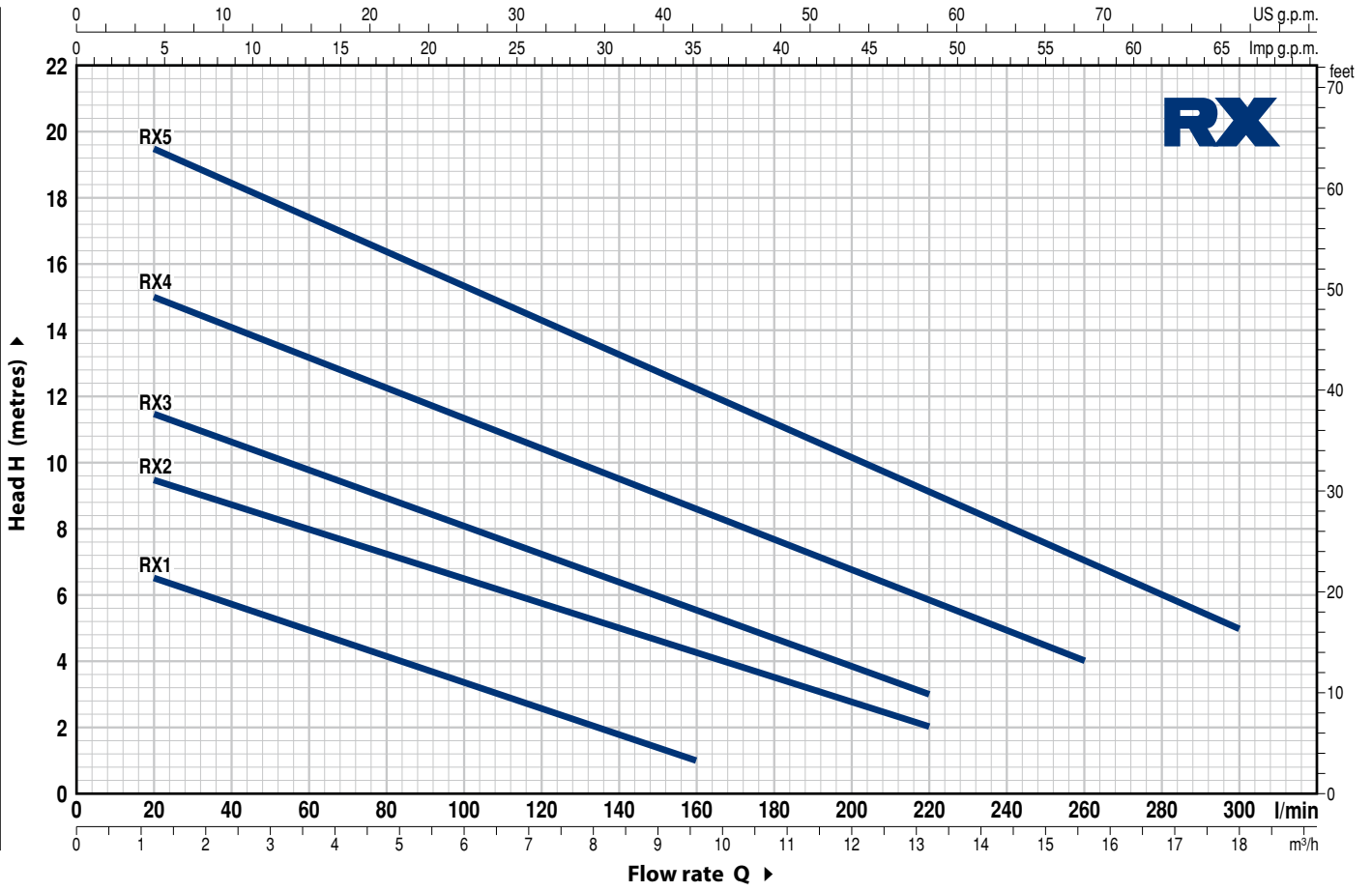
### OPTIONS AVAILABLE ON REQUEST

- “**RX-GM**” pumps with a vertical float switch (suitable for particularly small wells)
- Special mechanical seal
- RX 1-2-3 pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency



**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate													
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	3.6	6.0	8.4	9.6	12.0	13.2	15.6	18.0			
				l/min	0	20	60	100	140	160	200	220	260	300				
RXm 1	RX 1	0.25	0.33	H metres	7.5	6.5	5	3.5	2	1								
RXm 2	RX 2	0.37	0.50		10	9.5	8	6.5	5	4.5	2.5	2						
RXm 3	RX 3	0.55	0.75		12	11.5	9.5	8	6.5	5.5	3.5	3						
RXm 4	RX 4	0.75	1		16	15	13	11.5	9.5	8.5	6.5	5.5	4					
RXm 5	RX 5	1.1	1.5		20	19.5	17.5	15.5	13.5	12.5	10	9	7	5				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# RX 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Materials		
		Stationary ring	Rotational ring	Elastomer
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

9 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

10 **BEARINGS** 6201 ZZ / 6201 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance	
	(230 V or 240 V)	(110 V)
<b>RXm 1</b>	10 µF 450 VL	16 µF - 250 VL
<b>RXm 2</b>	10 µF 450 VL	16 µF - 250 VL
<b>RXm 3</b>	14 µF 450 VL	16 µF - 250 VL

### 12 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

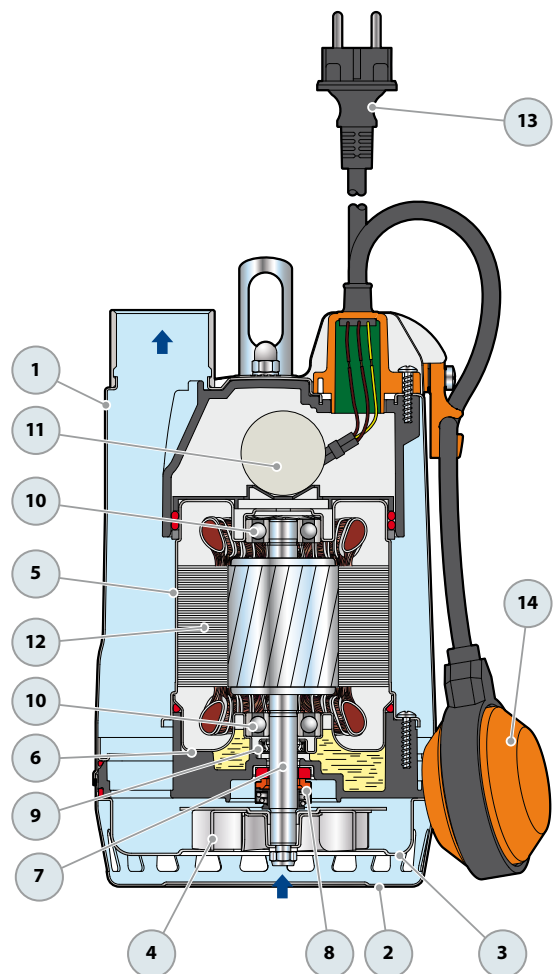
**RX:** three-phase 400 V - 50 Hz  
– Insulation: class F  
– Protection: IP X8

### 13 POWER CABLE

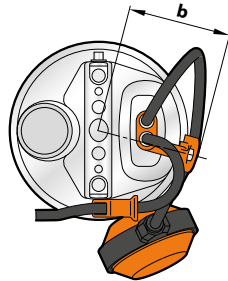
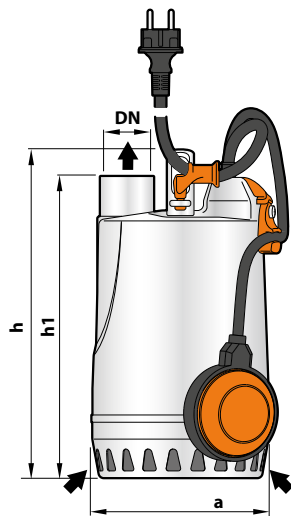
"H07 RN-F" type  
(with Schuko plug for single-phase versions only)  
**Standard length 5 metres**

### 14 FLOAT SWITCH

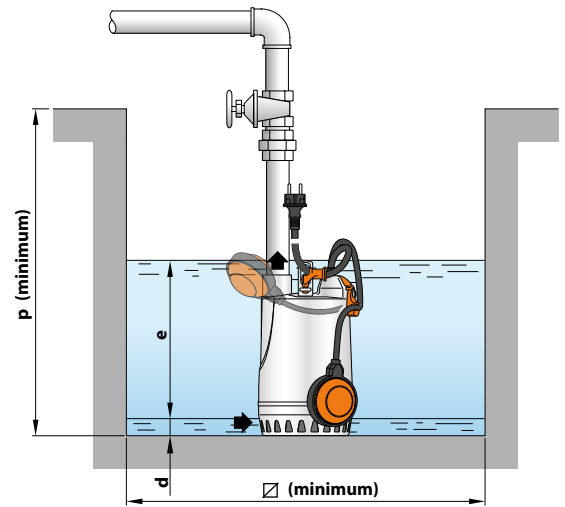
(Only for single-phase versions)



## DIMENSIONS AND WEIGHT

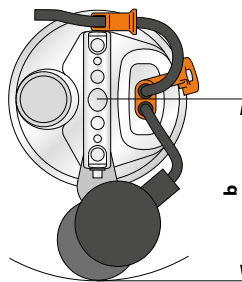
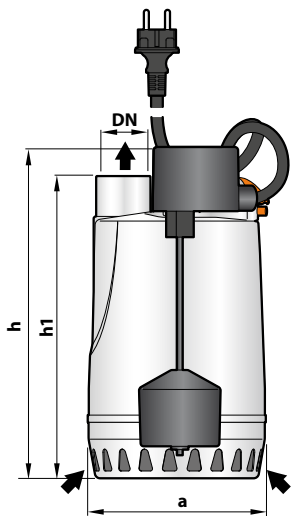


Standard installation

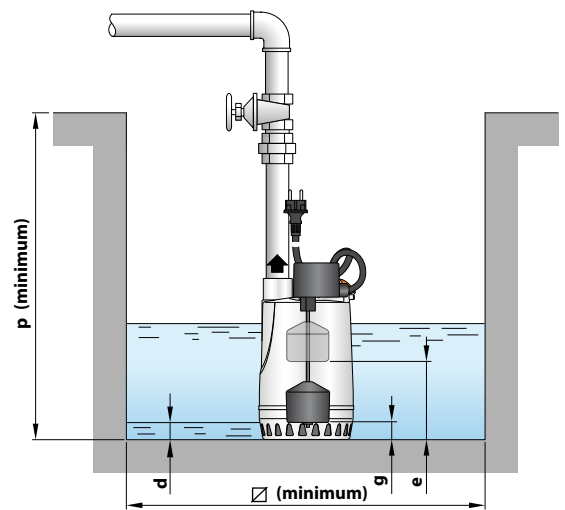


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1	RX 1	1 1/4"	147	24	269	246	14	variable	350	350	6.1	5.5	96	144
RXm 2	RX 2				298	277					6.1	5.6	96	144
RXm 3	RX 3				7.6	7.0					96	144		

Version with vertical float switch



Standard installation



MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase		DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1-GM		1 1/4"	147	150	270	247	14	145	40	350	240	6.2	80	120
RXm 2-GM					300	277		175	45			6.2	80	120
RXm 3-GM					7.5	80		120						

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
RXm 1	1.5 A	1.4 A	3.0 A
RXm 2	2.0 A	2.0 A	4.0 A
RXm 3	3.6 A	3.4 A	7.2 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 1	1.6 A	0.9 A	1.6 A	0.9 A
RX 2	1.7 A	1.0 A	1.7 A	1.0 A
RX 3	2.8 A	1.6 A	2.6 A	1.5 A

# RX 4-5

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 9 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

### 10 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
RXm 4	20 µF 450 VL	30 µF - 250 VL
RXm 5	25 µF 450 VL	30 µF - 250 VL

### 11 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

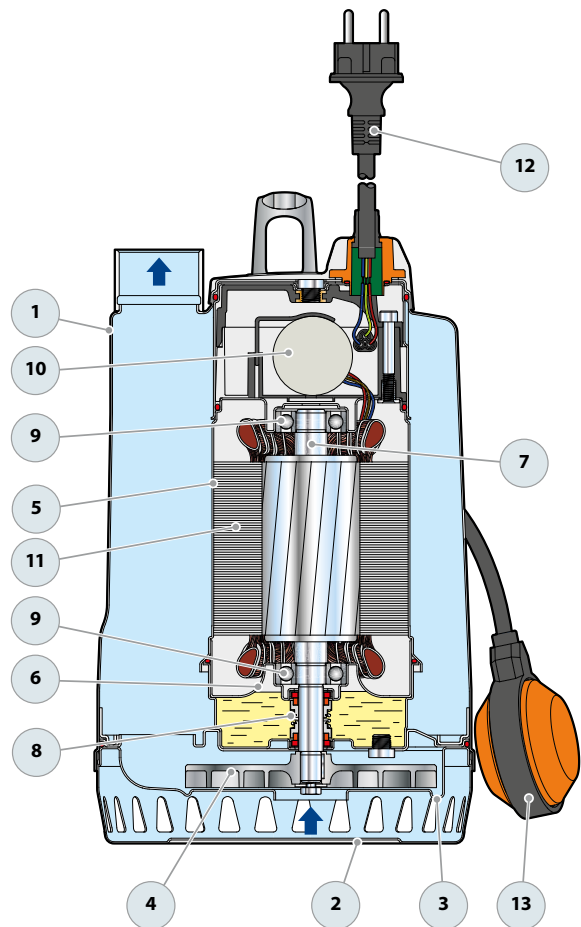
### 12 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

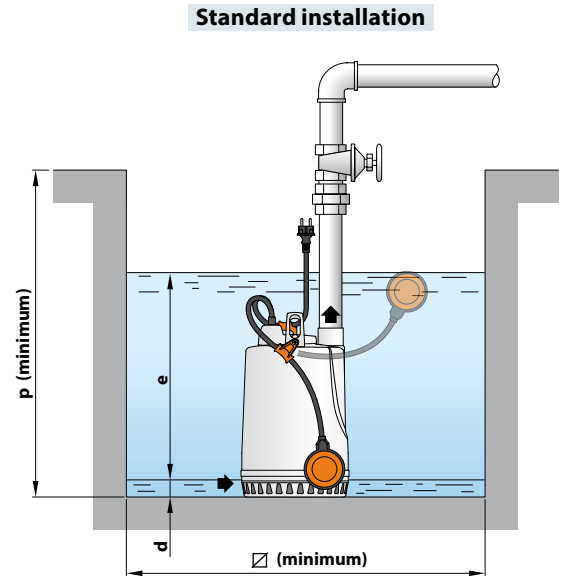
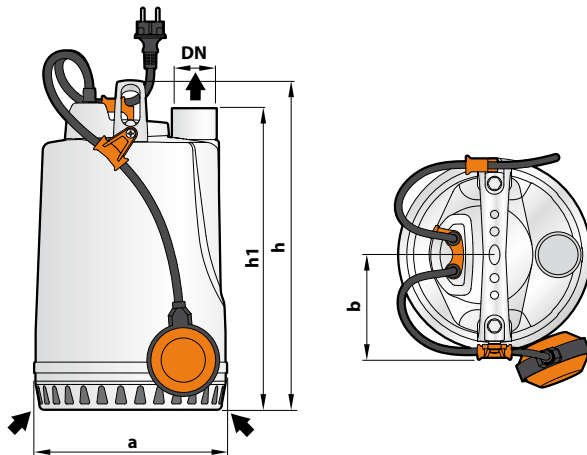
**Standard length 10 metres**

### 13 FLOAT SWITCH

Only for single-phase versions  
(Vertical float switch in the GM versions).

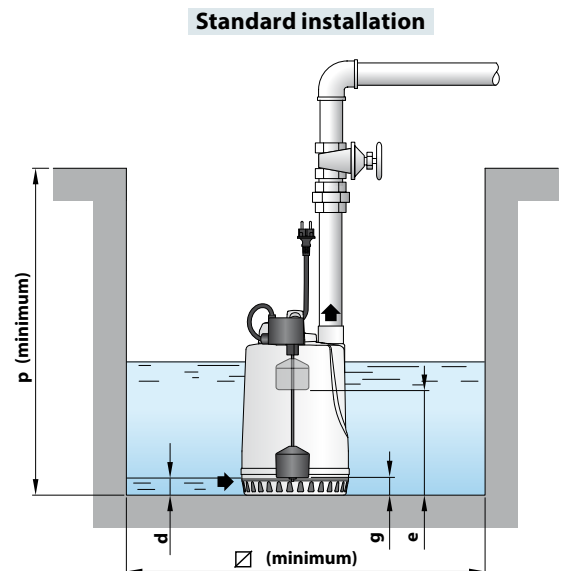
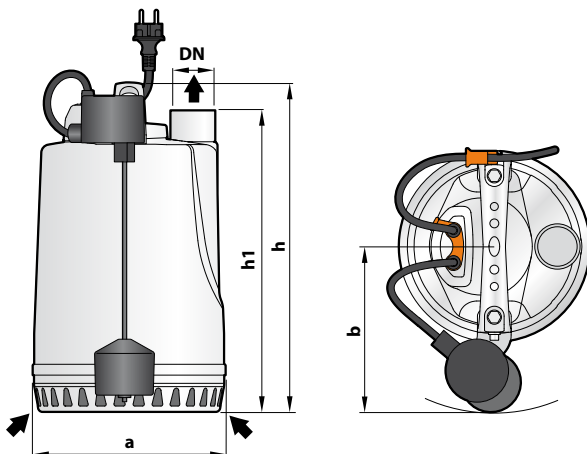


## DIMENSIONS AND WEIGHT



MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4	RX 4	1½"	220	118.5	370	336	25	variable	500	500	14.4	13.3	45	60
RXm 5	RX 5										15.4	14.4	45	60

**Version with vertical float switch**



MODEL	PORT	DIMENSIONS mm								kg	PALLETIZATION		
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4 - GM	1½"	220	186.5	370	336	25	250	50	500	300	16.7	45	60
RXm 5 - GM											15.8	45	60

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
RXm 4	5.9 A	5.9 A
RXm 5	7.5 A	7.5 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 4	3.6 A	2.1 A	3.5 A	2.0 A
RX 5	6.1 A	3.5 A	5.9 A	3.4 A



Clean water  
(Maximum  
sand content 100 g/m<sup>3</sup>)



Civil use



Agricultural use



Industrial use

### PERFORMANCE RANGE

- Flow rate up to **1500 l/min** (90 m<sup>3</sup>/h)
- Head up to **375 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m<sup>3</sup>**
- **200 m** immersion limit
- Installation:
  - vertical
  - horizontal, with the following limits:
    - 6HR34 up to **11 stages**
    - 6HR44 up to **10 stages**
    - 6HR54 up to **9 stages**
    - 6HR64 up to **7 stages**
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **10 cm/s**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

#### ELECTRIC MOTOR

– Three-phase 400 V - 50 Hz

**4 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



EU REGULATION N. 547/2012

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **100 g/m<sup>3</sup>**. Because of their high efficiency and reliability, they are suitable for use in civil, agricultural and industrial applications such as the distribution of water in combination with pressure tanks, for irrigation and for pressure boosting in fire-fighting sets, etc.

### PATENTS - TRADE MARKS - MODELS

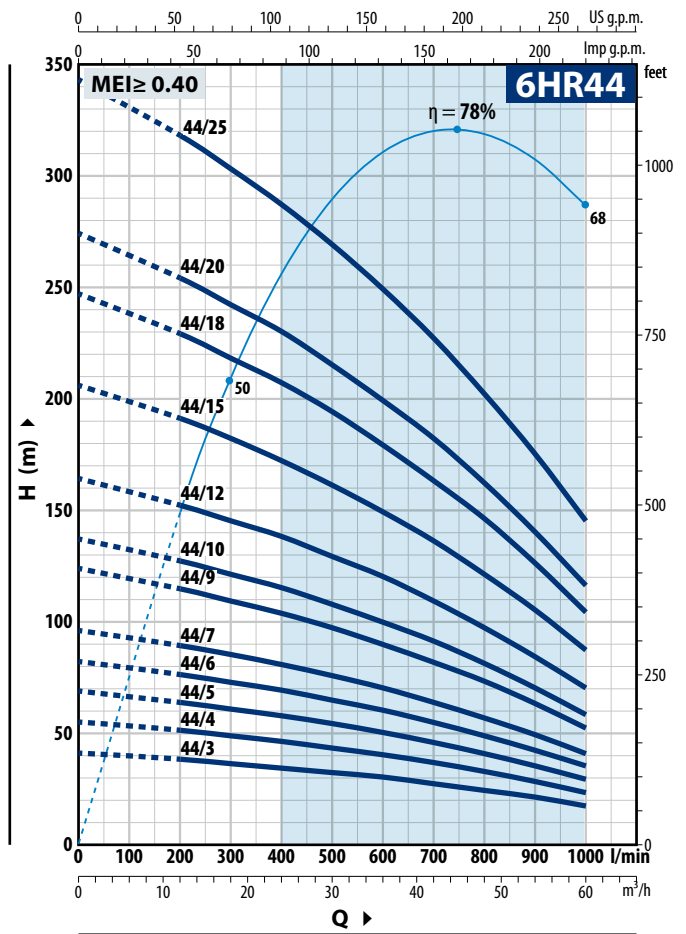
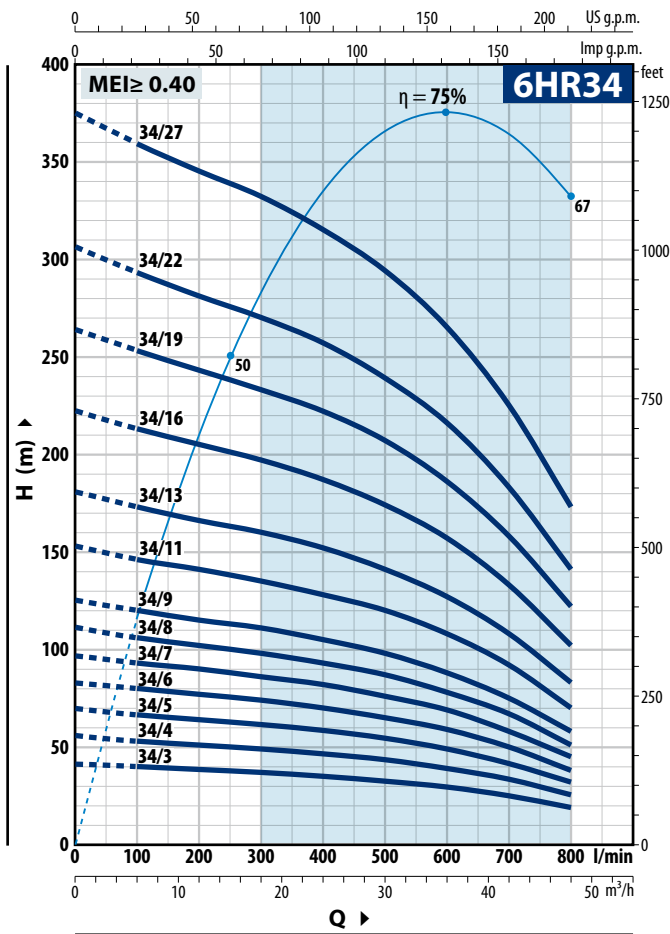
Registered EU Design n. 004675106-0002

### OPTIONS AVAILABLE ON REQUEST

- 6HR-HYD pumps with double cable cover suitable for dual voltage 400/690 V (star/delta)
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### 6HR34

MODEL	POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h											
	kW	HP		0	6	12	18	24	30	36	42	48			
<b>Three-phase</b>				<b>0</b>	<b>100</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>			
6HR 34/3	4	5.5	H metres	41.5	40	38.5	37	35	32.5	29.5	25	19			
6HR 34/4	5.5	7.5		55.5	53	51	49	46.5	43.5	39	33.5	25.5			
6HR 34/5	7.5	10		69.5	66.5	64	61.5	58.5	54.5	49	41.5	32			
6HR 34/6	9.2	12.5		83	80	77	74	70	65	59	50	38			
6HR 34/7	11	15		97	93	90	86	82	76	69	58	45			
6HR 34/8	11	15		111	106	102	98	93	87	78	67	51			
6HR 34/9	13	17.5 <sup>(1)</sup>		125	120	115	111	105	98	88	75	58			
6HR 34/11	15	20		153	146	141	135	128	120	108	92	70			
6HR 34/13	18.5	25		181	173	166	160	152	141	127	108	83			
6HR 34/16	22	30		222	213	205	197	187	174	157	133	102			
6HR 34/19	26	35 <sup>(2)</sup>		264	253	243	233	222	207	186	158	122			
6HR 34/22	30	40		306	293	281	270	257	239	216	183	141			
6HR 34/27	37	50	375	359	345	332	315	294	265	225	173				

### 6HR44

MODEL	POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h											
	kW	HP		0	12	18	24	30	36	42	48	54	60		
<b>Three-phase</b>				<b>0</b>	<b>200</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>	<b>900</b>	<b>1000</b>		
6HR 44/3	5.5	7.5	H metres	41	38	36	34	32	30	27	24	21	17		
6HR 44/4	7.5	10		55	51	48.5	46	43	40	36.5	32.5	28	23		
6HR 44/5	7.5	10		68.5	63.5	60.5	57.5	54	50	45.5	40.5	35	29		
6HR 44/6	9.2	12.5		82	76	72.5	69	64.5	60	54.5	48.5	42	35		
6HR 44/7	11	15		96	89	85	80.5	75.5	70	63.5	56.5	49	40.5		
6HR 44/9	13	17.5 <sup>(1)</sup>		123.5	114.5	109	103.5	97	89.5	81.5	73	63	52		
6HR 44/10	15	20		137	127	121	115	107.5	99.5	91	81	70	58		
6HR 44/12	18.5	25		164	152	145	138	129	120	109	97	84	70		
6HR 44/15	22	30		206	191	182	172	161	149	136	121	105	87		
6HR 44/18	26	35 <sup>(2)</sup>		247	229	218	207	194	179	163	146	126	104		
6HR 44/20	30	40		274	254	242	230	215	199	182	162	140	116		
6HR 44/25	37	50		343	318	303	287	269	249	227	202	175	145		

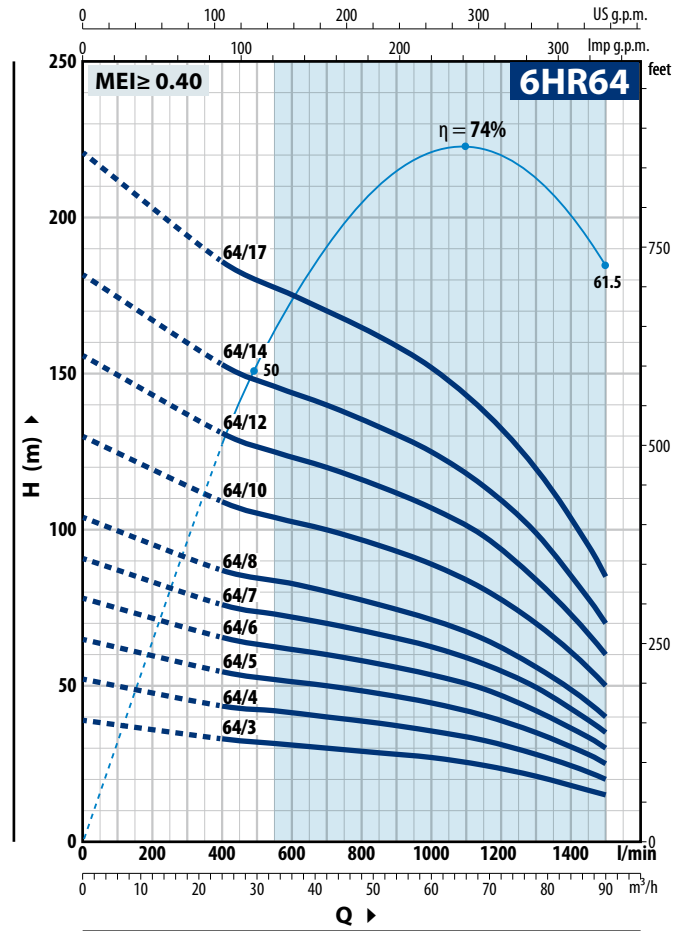
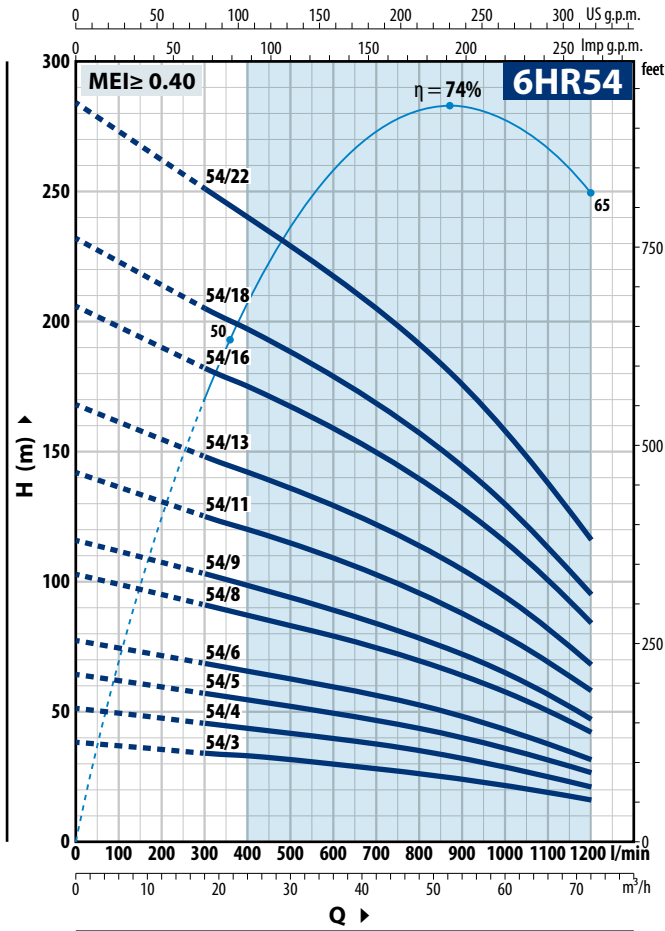
Q = Flow rate H = Total manometric head

(1) Pump fitted with a 20 HP motor  
 (2) Pump fitted with a 40 HP motor

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



#### 6HR54

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	18	24	30	36	42	48	54	60	66	72	
<b>Three-phase</b>				<b>0</b>	<b>300</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>700</b>	<b>800</b>	<b>900</b>	<b>1000</b>	<b>1100</b>	<b>1200</b>		
6HR 54/3	5.5	7.5	H metres	38.5	34	33	31.5	29.5	28	26	24	21.5	19	16		
6HR 54/4	7.5	10		51.5	45.5	43.5	41.5	39.5	37.5	35	32	29	25	21		
6HR 54/5	9.2	12.5		64.5	57	54.5	52	49.5	46.5	43.5	40	36	31.5	26.5		
6HR 54/6	11	15		77.5	68.5	65.5	62.5	59.5	56	52.5	48	43	37.5	31.5		
6HR 54/8	13	17.5 <sup>(1)</sup>		103	91	87	83	79	74.5	69.5	64	57.5	50.5	42		
6HR 54/9	15	20		116	103	98	94	89	84	78	72	65	57	47		
6HR 54/11	18.5	25		142	125	120	115	109	103	96	88	79	69	58		
6HR 54/13	22	30		168	148	142	136	129	121	113	104	94	82	68		
6HR 54/16	26	35 <sup>(2)</sup>		206	182	175	167	159	149	139	128	115	101	84		
6HR 54/18	30	40		232	205	197	188	178	168	157	144	130	113	95		
6HR 54/22	37	50	284	251	240	229	218	205	192	176	158	138	116			

#### 6HR64

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate										
	kW	HP		m <sup>3</sup> /h	0	24	33	42	51	60	69	78	87	90
<b>Three-phase</b>				<b>0</b>	<b>400</b>	<b>550</b>	<b>700</b>	<b>850</b>	<b>1000</b>	<b>1150</b>	<b>1300</b>	<b>1450</b>	<b>1500</b>	
6HR 64/3	7.5	10	H metres	39	33	31.5	30	28.5	27	24.5	21	16.5	15	
6HR 64/4	9.2	12.5		52	43.5	42	40	38	35.5	32.5	28	22.5	20	
6HR 64/5	11	15		65	54.5	52	50	47.5	44.5	40.5	35	28	25	
6HR 64/6	13	17.5 <sup>(1)</sup>		78	65.5	62.5	60	57	53.5	49	42	33.5	30	
6HR 64/7	15	20		91	76	73	70	66.5	62.5	57	49.5	39	35	
6HR 64/8	18.5	25		104	87	84	80	76	71	65	56	45	40	
6HR 64/10	22	30		130	109	104	100	95	89	81	70	56	50	
6HR 64/12	26	35 <sup>(2)</sup>		156	131	125	120	114	107	98	84	67	60	
6HR 64/14	30	40		182	153	146	140	133	125	114	99	78	70	
6HR 64/17	37	50		221	186	178	170	162	152	138	120	95	85	

Q = Flow rate H = Total manometric head

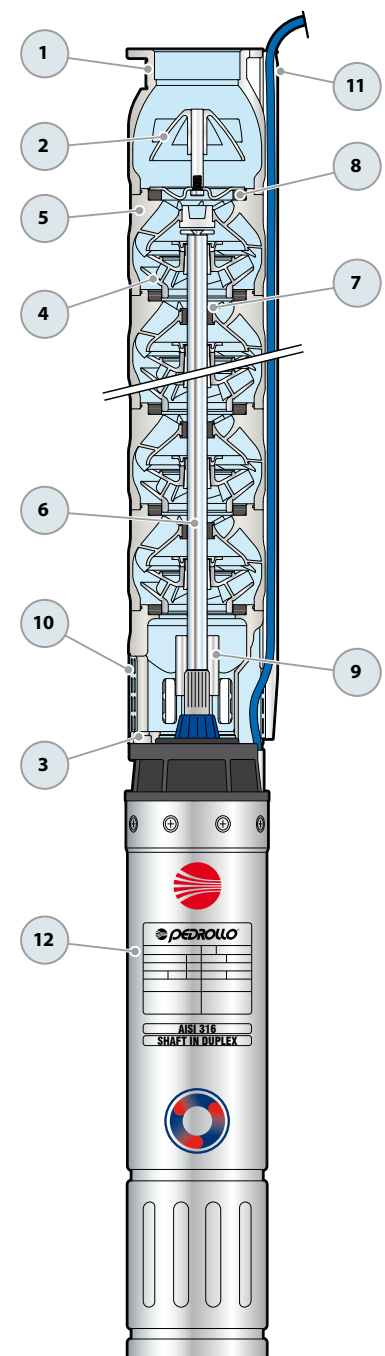
(1) Pump fitted with a 20 HP motor

(2) Pump fitted with a 40 HP motor

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

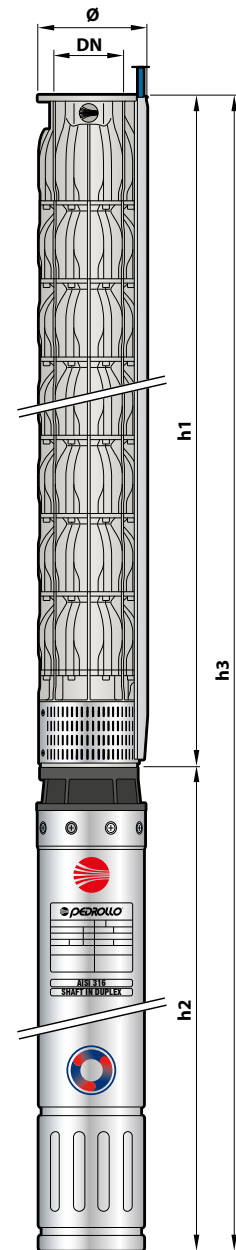


POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Precision cast stainless steel AISI 304 in compliance with NEMA standards
4 IMPELLERS	Precision cast stainless steel AISI 304
5 DIFFUSERS	Precision cast stainless steel AISI 304
6 PUMP SHAFT	Stainless steel AISI 304
7 PUMP BEARINGS	Special elastomer
8 WEAR RINGS	Special elastomer
9 DRIVE COUPLING	Stainless steel AISI 304
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 6"	6PD = "PEDROLLO" oil filled motor

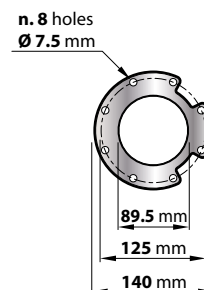


## DIMENSIONS AND WEIGHT

MODEL	PORT DN	Ø	DIMENSIONS mm			kg 3~		
			h1	h2	h3			
6HR 34/3 - PD	3"	150	581	595	1176	55.4		
6HR 34/4 - PD			682	625	1307	61.1		
6HR 34/5 - PD			783	660	1443	67.5		
6HR 34/6 - PD			884	700	1584	72.9		
6HR 34/7 - PD			985	765	1750	83.2		
6HR 34/8 - PD			1086	765	1851	86.6		
6HR 34/9 - PD			1187	820	2007	98.0		
6HR 34/11 - PD			1389	820	2209	105.7		
6HR 34/13 - PD			1591	883	2474	122.4		
6HR 34/16 - PD			1894	953	2847	138.5		
6HR 34/19 - PD			2197	1098	3295	166.6		
6HR 34/22 - PD			2500	1098	3598	176.7		
6HR 34/27 - PD			3005	1233	4238	203.5		
6HR 44/3 - PD					581	625	1206	57.4
6HR 44/4 - PD					682	660	1342	64.1
6HR 44/5 - PD					783	660	1443	67.5
6HR 44/6 - PD					884	700	1584	72.9
6HR 44/7 - PD					985	765	1750	83.2
6HR 44/9 - PD					1187	820	2007	98.0
6HR 44/10 - PD					1288	820	2108	102.3
6HR 44/12 - PD					1490	883	2373	119.0
6HR 44/15 - PD					1793	953	2746	135.1
6HR 44/18 - PD					2096	1098	3194	163.2
6HR 44/20 - PD					2298	1098	3396	169.9
6HR 44/25 - PD					2803	1233	4036	196.8
6HR 54/3 - PD					599	625	1224	57.5
6HR 54/4 - PD					706	660	1366	64.3
6HR 54/5 - PD					813	700	1513	69.7
6HR 54/6 - PD					920	765	1685	80.2
6HR 54/8 - PD					1134	820	1954	95.0
6HR 54/9 - PD					1241	820	2061	99.4
6HR 54/11 - PD					1455	883	2338	116.2
6HR 54/13 - PD					1669	953	2622	129.1
6HR 54/16 - PD			1990	1098	3088	156.3		
6HR 54/18 - PD			2204	1098	3302	164.1		
6HR 54/22 - PD			2632	1233	3865	187.8		
6HR 64/3 - PD			599	660	1259	57.2		
6HR 64/4 - PD			706	700	1406	63.9		
6HR 64/5 - PD			813	765	1578	69.2		
6HR 64/6 - PD			920	820	1740	79.6		
6HR 64/7 - PD			1027	820	1847	90.9		
6HR 64/8 - PD			1134	883	2017	94.2		
6HR 64/10 - PD			1348	953	2301	111.8		
6HR 64/12 - PD			1562	1098	2660	124.4		
6HR 64/14 - PD			1776	1098	2874	147.1		
6HR 64/17 - PD			2097	1233	3330	159.0		



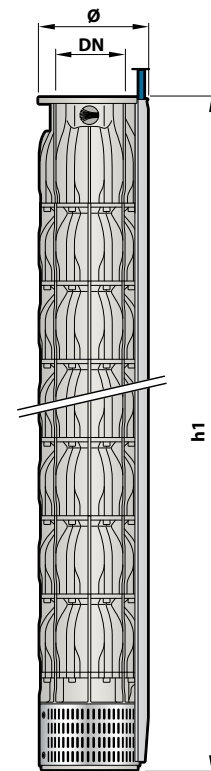
### COUNTERFLANGE KIT (TO BE ORDERED SEPARATELY)



Kit consisting of:  
counterflange, seal, screws and nuts

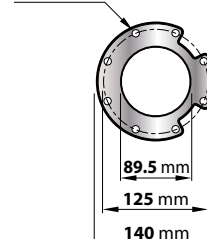
## DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL Pump	PORT DN	DIMENSIONS mm		kg 3~		
		Ø	h1			
6HR 34/3 - HYD	3"	150	581	21.8		
6HR 34/4 - HYD			682	25.1		
6HR 34/5 - HYD			783	28.5		
6HR 34/6 - HYD			884	32.5		
6HR 34/7 - HYD			985	35.8		
6HR 34/8 - HYD			1086	39.2		
6HR 34/9 - HYD			1187	42.6		
6HR 34/11 - HYD			1389	49.7		
6HR 34/13 - HYD			1591	56.4		
6HR 34/16 - HYD			1894	69.5		
6HR 34/19 - HYD			2197	80.6		
6HR 34/22 - HYD			2500	90.7		
6HR 34/27 - HYD			3005	108.5		
6HR 44/3 - HYD					581	21.8
6HR 44/4 - HYD					682	25.1
6HR 44/5 - HYD					783	28.5
6HR 44/6 - HYD					884	32.5
6HR 44/7 - HYD					985	35.8
6HR 44/9 - HYD					1187	42.6
6HR 44/10 - HYD					1288	46.3
6HR 44/12 - HYD					1490	53.0
6HR 44/15 - HYD					1793	66.1
6HR 44/18 - HYD					2096	77.2
6HR 44/20 - HYD					2298	83.9
6HR 44/25 - HYD					2803	101.8
6HR 54/3 - HYD					599	21.9
6HR 54/4 - HYD					706	25.3
6HR 54/5 - HYD					813	28.7
6HR 54/6 - HYD					920	32.8
6HR 54/8 - HYD					1134	39.6
6HR 54/9 - HYD					1241	43.0
6HR 54/11 - HYD					1455	50.2
6HR 54/13 - HYD					1669	57.1
6HR 54/16 - HYD					1990	70.3
6HR 54/18 - HYD			2204	78.1		
6HR 54/22 - HYD			2632	92.8		
6HR 64/3 - HYD			599	21.6		
6HR 64/4 - HYD			706	24.9		
6HR 64/5 - HYD			813	28.2		
6HR 64/6 - HYD			920	32.2		
6HR 64/7 - HYD			1027	35.5		
6HR 64/8 - HYD			1134	38.8		
6HR 64/10 - HYD			1348	45.8		
6HR 64/12 - HYD			1562	52.4		
6HR 64/14 - HYD			1776	62.1		
6HR 64/17 - HYD			2097	73.0		



### COUNTERFLANGE KIT (TO BE ORDERED SEPARATELY)

n. 8 fori  
Ø 7.5 mm



Kit consisting of:  
counterflange, seal, screws and nuts

# 4PD

## 4" PEDROLLO submersible motors

 Domestic use

 Civil use

 Industrial use



### PERFORMANCE

- Power from **0.37 to 7.5 kW**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **200 m** immersion limit
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz ( $n \sim 2900 \text{ min}^{-1}$ )
- Voltage:
  - single-phase **230 V**
  - three-phase **400 V**
- Insulation: class F
- Protection: IP 68

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CONSTRUCTION AND SAFETY STANDARDS

- Oil filled **rewindable** motors (non-toxic oil for use with food)
- **Jacket: AISI 316 stainless steel**
- **Shaft: "DUPLEX" stainless steel**
- Dimensions of the flange connection in compliance with **NEMA** standards.
- Complete with power cable of the following length:
  - **2 m** powers from 0.37 to 2.2 kW
  - **3.6 m** powers from 3 to 7.5 kW.

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

### SACRIFICIAL ANODE

(Supplied on request - code ASS4PDA01)

- Manufactured with a special zinc-aluminium cadmium-free alloy, suitable for contact with drinking water.
- It is easily fitted to the lower extremity of 4PD motors to protect them from corrosion in the presence of irregular currents or particularly aggressive waters, greatly increasing the life of the motor component.



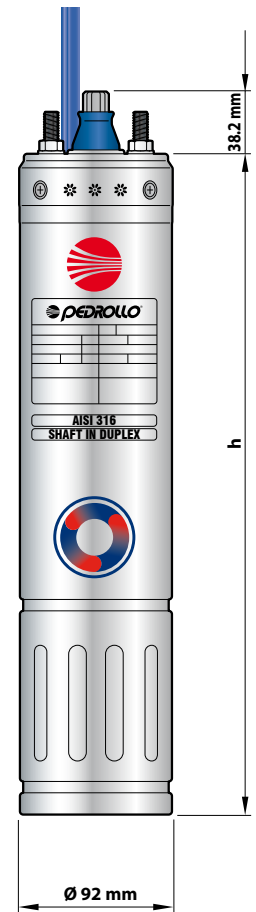
## PERFORMANCE DATA

### Single-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	Capacitor (VL=450V) μF	h mm	Weight kg
	kW	HP							
<b>230 V / 50 Hz</b>									
4PDm / 0.50	0.37	0.50	2000	2800	3.3	0.86	20	311	6.8
4PDm / 0.75	0.55	0.75		2810	3.5	0.89	25	331	7.7
4PDm / 1	0.75	1		2825	3.2	0.91	35	356	8.9
4PDm / 1.5	1.1	1.5		2840	3.2	0.93	40	396	10.6
4PDm / 2	1.5	2		2845	3.3	0.93	60	437	12.6
4PDm / 3	2.2	3		2820	3.1	0.94	75	492	14.9

### Three-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	h mm	Weight kg
	kW	HP						
<b>400 V / 50 Hz</b>								
4PD / 0.50	0.37	0.50	2000	2855	3.2	0.52	311	7.0
4PD / 0.75	0.55	0.75		2835	4	0.63	331	7.7
4PD / 1	0.75	1		2825	3.8	0.71	356	8.8
4PD / 1.5	1.1	1.5		2825	4.6	0.79	371	9.4
4PD / 2	1.5	2		2835	3.8	0.66	396	10.6
4PD / 3	2.2	3		2810	6.5	0.73	437	12.5
4PD / 4	3	4	3000	2840	5.6	0.79	450	13.7
4PD / 5.5	4	5.5	5000	2835	5.4	0.77	505	16.3
4PD / 7.5	5.5	7.5		2820	5.4	0.82	590	20.1
4PD / 10	7.5	10		2840	5.4	0.76	800	29.5



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
4PDm / 0.50	3.6 A
4PDm / 0.75	4.7 A
4PDm / 1	5.9 A
4PDm / 1.5	8.3 A
4PDm / 2	10.7 A
4PDm / 3	15.2 A

MODEL	VOLTAGE	
Three-phase	230 V	400 V
4PD / 0.50	3.1 A	1.8 A
4PD / 0.75	3.5 A	2.0 A
4PD / 1	4.3 A	2.5 A
4PD / 1.5	5.9 A	3.4 A
4PD / 2	8.3 A	4.8 A
4PD / 3	10.6 A	6.1 A
4PD / 4	12.3 A	7.1 A
4PD / 5.5	15.9 A	9.2 A
4PD / 7.5	21.3 A	12.3 A
4PD / 10	-	16.4 A

# 4PS

## 4" encapsulated PEDROLLO submersible motors

 Domestic use

 Civil use

 Industrial use



### PERFORMANCE

- Power from **0.37** to **7.5 kW**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **100 m** immersion limit
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

### ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz ( $n \sim 2900 \text{ min}^{-1}$ )
- Voltage:
  - single-phase **230 V** up to 2.2 kW
  - three-phase **400 V**
- Insulation: class F
- Protection: IP 68

### CONSTRUCTION AND SAFETY STANDARDS

- **Encapsulated** water filled submersible motors
- **Jacket: AISI 316 stainless steel**
- **Shaft: "DUPLEX" stainless steel**
- Dimensions of the flange connection in accordance **NEMA** standards.

Complete with power cable of the following length:

- **2 m** powers from 0.37 to 2.2 kW
- **3.6 m** powers from 3 to 7.5 kW.

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## PERFORMANCE DATA

### Single-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	Capacitor (VL=450V) μF	h mm	Weight kg
	kW	HP							
<b>230 V / 50 Hz</b>									
4PSm / 0.50	0.37	0.50	2000	2845	3.4	0.88	20	237	8.2
4PSm / 0.75	0.55	0.75		2840	3.8	0.93	25	257	9.0
4PSm / 1	0.75	1		2835	3.8	0.92	35	272	9.6
4PSm / 1.5	1.1	1.5		2820	3.3	0.91	40	312	11.2
4PSm / 2	1.5	2	3000	2830	3.2	0.94	60	352	13.1
4PSm / 3	2.2	3		2810	3.6	0.94	75	402	15.5

### Three-phase versions

MODEL	Rated power P <sub>2</sub>		Axial load N	Revs min <sup>-1</sup>	Starting current Rated current	Power factor cos φ	h mm	Weight kg
	kW	HP						
<b>400 V / 50 Hz</b>								
4PS / 0.50	0.37	0.50	2000	2855	4.2	0.64	237	8.1
4PS / 0.75	0.55	0.75		2835	4.1	0.70	237	8.1
4PS / 1	0.75	1		2830	4.4	0.68	257	8.9
4PS / 1.5	1.1	1.5		2825	4.6	0.69	272	9.6
4PS / 2	1.5	2	3000	2820	4.7	0.73	297	10.7
4PS / 3	2.2	3		2805	5.2	0.74	352	13.1
4PS / 4	3	4		2845	5.7	0.82	484	18.3
4PS / 5.5	4	5.5	6500	2850	5.9	0.78	574	22.6
4PS / 7.5	5.5	7.5		2845	5.9	0.84	664	27.1
4PS / 10	7.5	10		2830	5.8	0.84	764	31.6



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
4PSm / 0.50	3.5 A
4PSm / 0.75	4.4 A
4PSm / 1	5.9 A
4PSm / 1.5	8.1 A
4PSm / 2	10.7 A
4PSm / 3	16.2 A

MODEL	VOLTAGE
Three-phase	400 V
4PS / 0.50	1.6 A
4PS / 0.75	1.8 A
4PS / 1	2.5 A
4PS / 1.5	3.4 A
4PS / 2	4.3 A
4PS / 3	6.0 A
4PS / 4	6.9 A
4PS / 5.5	9.6 A
4PS / 7.5	12.4 A
4PS / 10	16.9 A

# 6PD

## 6" PEDROLLO submersible motors

-  Civil use
-  Agricultural use
-  Industrial use



### PERFORMANCE

- Power from **4 to 37 kW**

### APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **200 m** immersion limit
- Starts/hour: **30** at regular intervals
- Minimum flow rate for motor cooling **10 cm/s**
- Continuous service **S1**

### ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz ( $n \sim 2900 \text{ min}^{-1}$ )
- Three-phase voltage **400 V**
- Insulation: class F
- Protection: IP 68

### CONSTRUCTION AND SAFETY STANDARDS

- Oil filled **rewindable** motors (non-toxic oil for use with food)
- **Jacket: AISI 316 stainless steel**
- **Shaft: "DUPLEX" stainless steel**
- Flange coupling dimensions in compliance with **NEMA** standards.
- Complete with power cable of the following length:
  - **3 m** powers up to 15 kW
  - **4 m** powers from 18.5 to 37 kW.

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



## PERFORMANCE DATA

MODEL	Rated power		Axial load	Revs	Starting current	Efficiency	Power factor	Rated torque	Starting torque	h	Weight
	P <sub>2</sub>				Rated current				Rated torque		
Three-phase 400 V / 50 Hz	kW	HP	N	min <sup>-1</sup>		η	cos φ	Nm		mm	kg
<b>6PD / 5.5</b>	4	5.5	10000	2840	5.1	74%	0.86	13.5	1.65	595	33.4
<b>6PD / 7.5</b>	5.5	7.5		2840	5.1	74%	0.84	18.5	1.60	625	36.5
<b>6PD / 10</b>	7.5	10		2850	4.7	78%	0.83	25.1	1.55	660	37.8
<b>6PD / 12.5</b>	9.2	12.5		2880	4.5	81%	0.77	30.5	1.60	700	42.6
<b>6PD / 15</b>	11	15		2850	5.2	85%	0.82	36.9	2.20	765	51.8
<b>6PD / 20</b>	15	20		2840	5.0	82%	0.86	50.5	2.60	820	58.0
<b>6PD / 25</b>	18.5	25	20000	2850	5.9	84%	0.84	62.0	2.30	883	62.8
<b>6PD / 30</b>	22	30		2850	5.5	84%	0.83	73.8	2.45	953	79.4
<b>6PD / 40</b>	30	40		2860	5.5	85%	0.83	100.2	1.90	1098	92.1
<b>6PD / 50</b>	37	50		2840	5.1	84%	0.83	124.5	2.10	1233	92.0



## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
<b>6PD / 5.5</b>	<b>9.3 A</b>
<b>6PD / 7.5</b>	<b>12.9 A</b>
<b>6PD / 10</b>	<b>17.1 A</b>
<b>6PD / 12.5</b>	<b>21.8 A</b>
<b>6PD / 15</b>	<b>23.8 A</b>
<b>6PD / 20</b>	<b>31.6 A</b>
<b>6PD / 25</b>	<b>39.0 A</b>
<b>6PD / 30</b>	<b>46.5 A</b>
<b>6PD / 40</b>	<b>63.5 A</b>
<b>6PD / 50</b>	<b>78.0 A</b>

## Multi-stage submersible pumps

-  Clean water  
(Maximum sand content 150 g/m<sup>3</sup>)
-  Domestic use
-  Civil use
-  Agricultural use



### PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m<sup>3</sup>/h)
- Head up to **95 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- **20 m** maximum immersion depth (with a sufficiently long power cable)
- Vertical and horizontal installation
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### PATENTS - TRADE MARKS - MODELS

- Patent n. EP14755156.8
- Patent n. IT0001428923
- Patent n. EP2419642.2

### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

A new concept range of submersible multi-stage pumps designed guarantee even greater reliability, thanks to patented innovative technical solutions which prevent blockage of the pumps even after prolonged periods of inactivity.

Because of their high efficiency and reliability they are suitable for use with clean water in domestic, civil and agricultural applications such as the distribution of water in combination with pressure tanks, for the irrigation of gardens and orchards and for pressure boosting, etc.

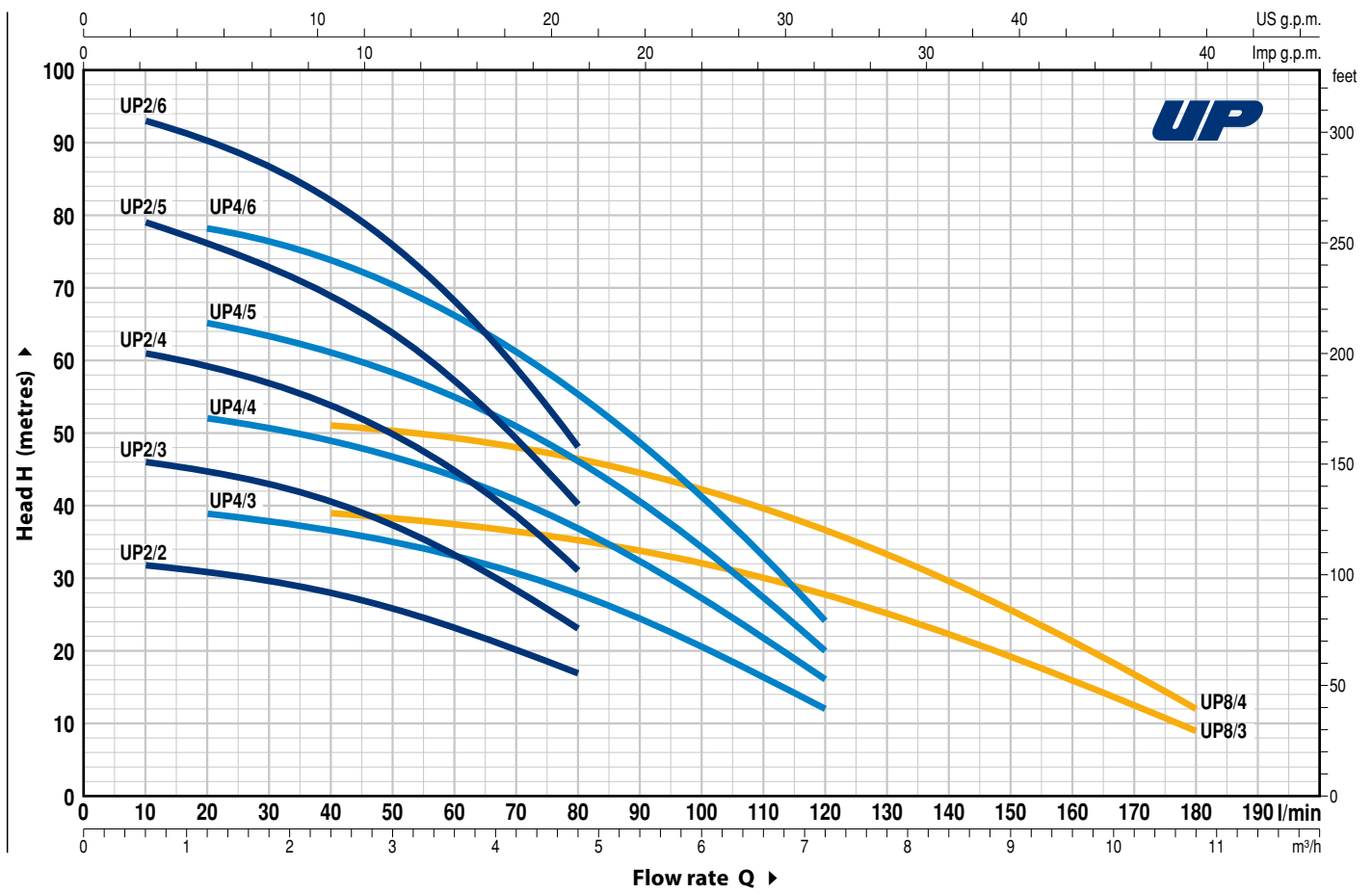
### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Pumps fitted with power cables of other lengths
- Other voltages or 60 Hz frequency
- **Support kit for horizontal operation**



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (l/min)													
Single-phase	Three-phase	kW	HP		0	0.6	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8			
UPm 2/2-GE	UP 2/2	0.37	0.5	H metres	33	32	31	28	23.5	17								
UPm 2/3-GE	UP 2/3	0.55	0.75		48	46	44.5	40.5	33.5	23								
UPm 2/4-GE	UP 2/4	0.75	1		63	61	59	54	45	31								
UPm 2/5-GE	UP 2/5	1.1	1.5		81	79	75.5	68.5	57.5	40								
UPm 2/6-GE	UP 2/6	1.5	2		95	93	90	82	68.5	48								
UPm 4/3-GE	UP 4/3	0.55	0.75		40	-	39	37	33	28	20.5	12						
UPm 4/4-GE	UP 4/4	0.75	1		53	-	52	49	44	37	27.5	16						
UPm 4/5-GE	UP 4/5	1.1	1.5		67	-	65	61.5	55	46.5	34	20						
UPm 4/6-GE	UP 4/6	1.5	2		80	-	78	74	66	56	41	24						
UPm 8/3-GE	UP 8/3	1.1	1.5		40	-	-	39	37.5	35.2	32	27.8	22.2	16	9			
UPm 8/4-GE	UP 8/4	1.5	2	52	-	-	51	49.2	46.5	42	36.5	29.5	21.2	12				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

➡ Single-phase pumps without float switch on request

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304
3	<b>IMPELLERS AND DIFFUSERS</b>	Noryl FE1520PW
4	<b>DIAPHRAGMS</b>	Stainless steel AISI 304
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
6	<b>TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER</b>	

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-17	Ø 17 mm	Motor side	Ceramic	Graphite	NBR
ST1-16	Ø 16 mm	Pump side	Silicon carbide	Graphite	NBR

7	<b>BEARINGS</b>	6303 2RS - C3 / 6203 ZZ - C3E
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8	<b>CAPACITOR</b>	
<b>Pump</b>	<b>Capacitance</b>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
UPm 2/2-GE		
UPm 2/3-GE	16 µF - 500 VL	30 µF - 250 VL
UPm 4/3-GE		
UPm 2/4-GE	20 µF - 450 VL	-
UPm 4/4-GE		
UPm 2/5-GE		
UPm 4/5-GE	25 µF - 450 VL	-
UPm 8/3-GE		
UPm 2/6-GE		
UPm 4/6-GE	35 µF - 450 VL	-
UPm 8/4-GE		

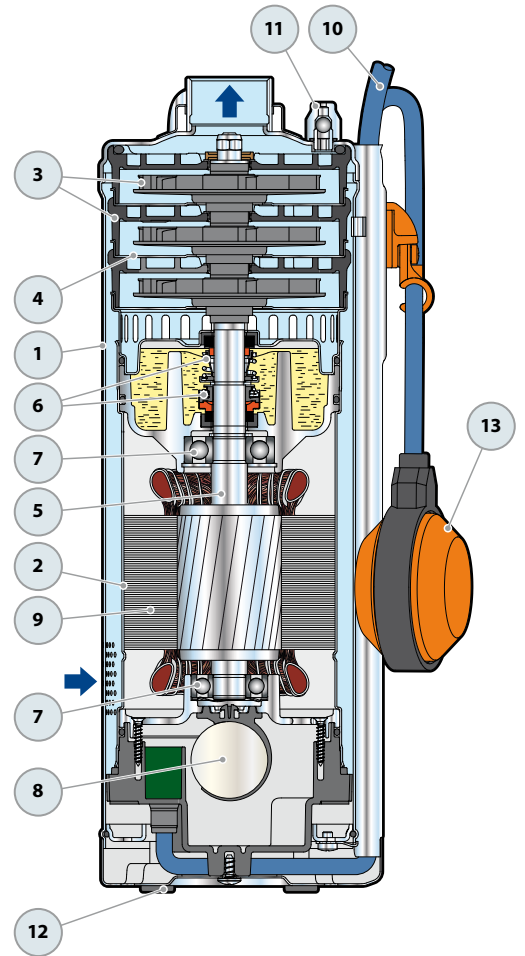
9	<b>ELECTRIC MOTOR</b>
<p><b>UPm:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.</p> <p><b>UP:</b> three-phase 400 V - 50 Hz.</p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X8</li> </ul>	

10	<b>POWER CABLE</b>
<p>⇒ <b>DRINCABLE® type</b> approved for use in drinking water by "WRAS" in compliance with BS 6920, approval n. 7513 Standard length 10 metres</p>	

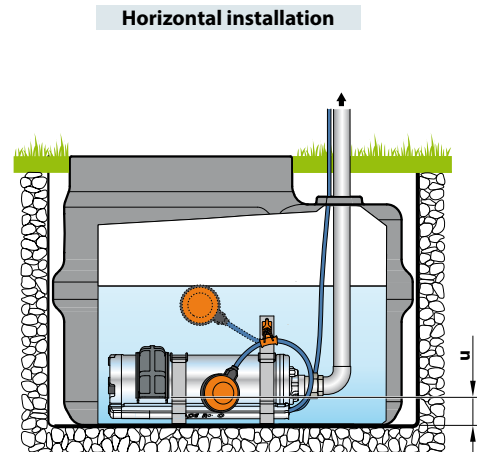
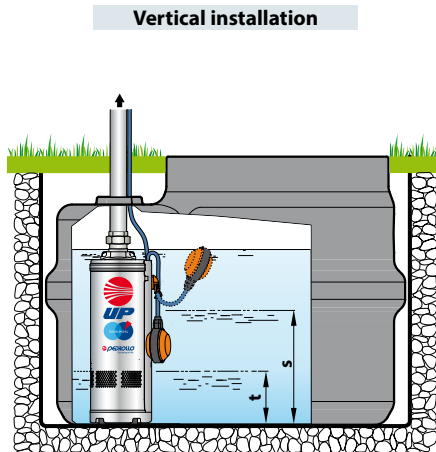
11	<b>AUTOMATIC VENT VALVE</b>
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12	<b>ANTI-VIBRATION SUPPORTS</b>
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13	<b>FLOAT SWITCH</b> (only for single-phase versions)
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## DIMENSIONS AND WEIGHT



MODEL		PORT DN	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase			Ø	h	1~	3~
UPm 2/2-GE	UP 2/2	1 1/4"	2	150	398	12.8	12.5
UPm 2/3-GE	UP 2/3		3		425	13.1	13.1
UPm 2/4-GE	UP 2/4		4		482	14.8	13.7
UPm 2/5-GE	UP 2/5		5		509	16.4	15.1
UPm 2/6-GE	UP 2/6		6		556	18.0	16.6
UPm 4/3-GE	UP 4/3		3		425	12.9	12.9
UPm 4/4-GE	UP 4/4	4	482	14.6	13.5		
UPm 4/5-GE	UP 4/5	5	509	16.2	15.3		
UPm 4/6-GE	UP 4/6	6	556	18.1	16.9		
UPm 8/3-GE	UP 8/3	3	455	15.2	13.8		
UPm 8/4-GE	UP 8/4	4	502	17.0	15.5		

MODEL	LEVELS mm		
	s	t	u
UP 2/2 UP 2/3 UP 4/3	320	135	55
UP 2/4 UP 2/5 UP 4/4 UP 4/5 UP 8/3	350		
UP 2/6 UP 4/6 UP 8/4	370		

s = Minimum restarting level  
t = Emptying level  
u = Minimum operational level

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
UPm 2/2-GE	4.4 A	4.2 A	8.8 A
UPm 2/3-GE	5.4 A	5.2 A	10.8 A
UPm 2/4-GE	6.2 A	6.0 A	-
UPm 2/5-GE	7.6 A	7.3 A	-
UPm 2/6-GE	8.8 A	8.5 A	-
UPm 4/3-GE	5.0 A	4.8 A	10.0 A
UPm 4/4-GE	6.2 A	5.9 A	-
UPm 4/5-GE	7.2 A	6.9 A	-
UPm 4/6-GE	8.7 A	8.4 A	-
UPm 8/3-GE	6.8 A	6.5 A	-
UPm 8/4-GE	8.5 A	8.4 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
UP 2/2	2.8 A	1.6 A	2.7 A	1.5 A
UP 2/3	3.3 A	1.9 A	3.2 A	1.8 A
UP 2/4	4.0 A	2.3 A	3.9 A	2.2 A
UP 2/5	5.0 A	2.9 A	4.9 A	2.8 A
UP 2/6	5.7 A	3.3 A	5.5 A	3.2 A
UP 4/3	3.2 A	1.8 A	3.1 A	1.7 A
UP 4/4	3.8 A	2.2 A	3.7 A	2.1 A
UP 4/5	4.9 A	2.8 A	4.7 A	2.7 A
UP 4/6	5.6 A	3.2 A	5.4 A	3.1 A
UP 8/3	5.0 A	2.9 A	4.9 A	2.8 A
UP 8/4	5.7 A	3.3 A	5.5 A	3.2 A

## PALLETIZATION

MODEL		GROUPAGE/CONTAINER n. pumps
Single-phase	Three-phase	
UPm 2/2-GE	UP 2/2	30
UPm 2/3-GE	UP 2/3	30
UPm 2/4-GE	UP 2/4	30
UPm 2/5-GE	UP 2/5	25
UPm 2/6-GE	UP 2/6	25

MODEL		GROUPAGE/CONTAINER n. pumps
Single-phase	Three-phase	
UPm 4/3-GE	UP 4/3	30
UPm 4/4-GE	UP 4/4	30
UPm 4/5-GE	UP 4/5	25
UPm 4/6-GE	UP 4/6	25
UPm 8/3-GE	UP 8/3	30
UPm 8/4-GE	UP 8/4	30

## Multi-stage submersible pumps



-  Clean water  
(Maximum sand content 150 g/m<sup>3</sup>)
-  Domestic use
-  Civil use
-  Agricultural use

### PERFORMANCE RANGE

- Flow rate up to **160 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **95 m**

### APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum sand content **150 g/m<sup>3</sup>**
- **20 m** maximum immersion depth (with a sufficiently long power cable)
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### INSTALLATION AND USE

Because of their high efficiency and reliability they are suitable for use with clean water in domestic, civil and agricultural applications such as the distribution of water in combination with pressure tanks, for the irrigation of gardens and orchards and for pressure boosting, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP14755156.8
- Patent n. EP2313658

### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Pumps fitted with power cables of other lengths
- Other voltages or 60 Hz frequency

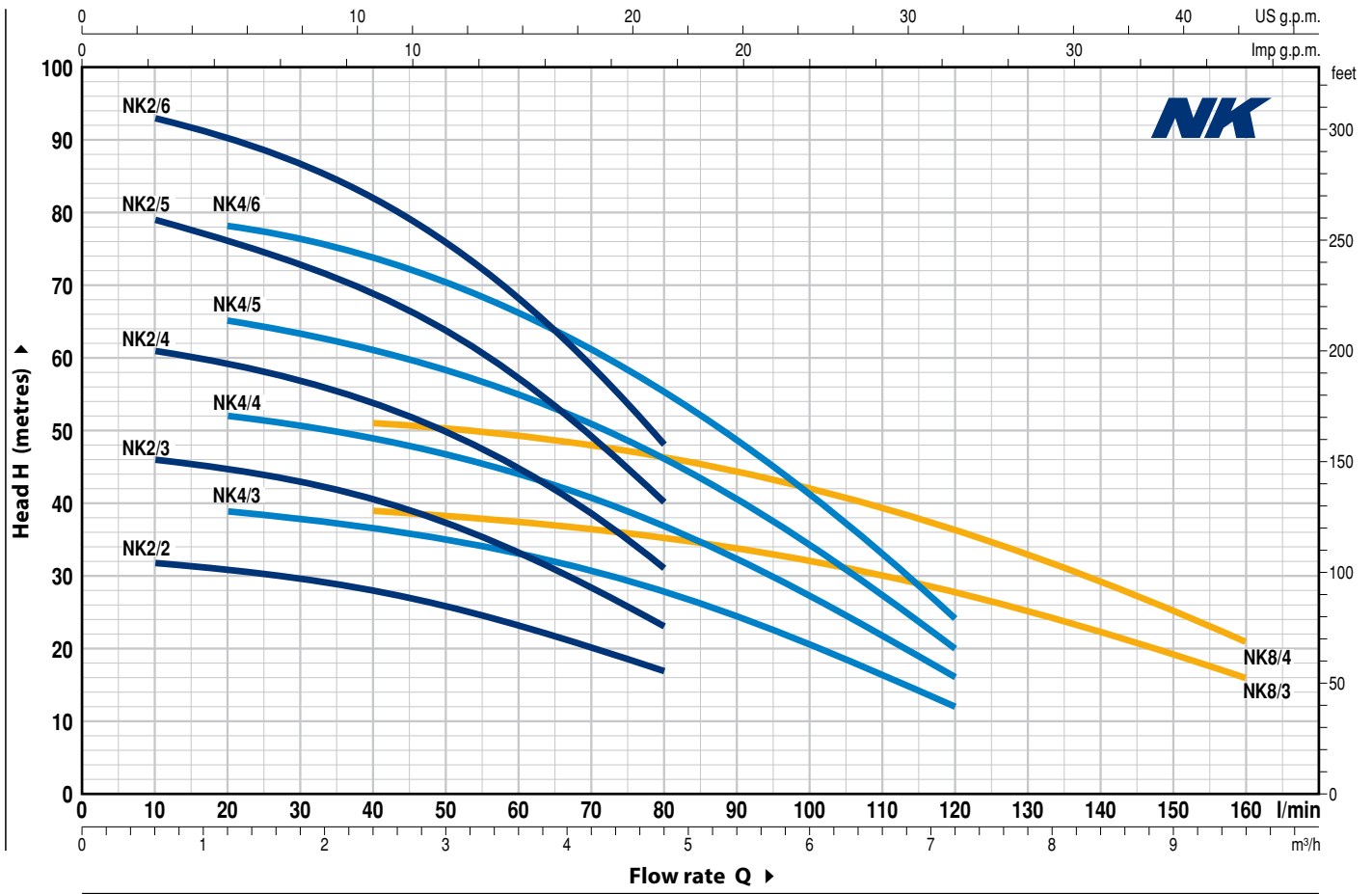
### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (m <sup>3</sup> /h)															
Single-phase	Three-phase	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	6.0	6.6	7.2	8.4	9.6		
				l/min	0	10	20	30	40	50	60	70	80	100	110	120	140	160		
NKm 2/2 GE	NK 2/2	0.37	0.5	H metres	33	32	31	29.5	28	26	23.5	20.5	17							
NKm 2/3 GE	NK 2/3	0.55	0.75		48	46	44.5	42.8	40.5	37.5	33.5	29	23							
NKm 2/4 GE	NK 2/4	0.75	1		63	61	59	57	54	50	45	39	31							
NKm 2/5 GE	NK 2/5	1.1	1.5		81	79	75.5	73	68.5	63.5	57.5	49.5	40							
NKm 2/6 GE	NK 2/6	1.5	2		95	93	90	87	82	76	68.5	59.5	48							
NKm 4/3 GE	NK 4/3	0.55	0.75		40	-	39	38	37	35	33	30.5	28	20.5	16.5	12				
NKm 4/4 GE	NK 4/4	0.75	1		53	-	52	50.5	49	46.5	44	40.5	37	27.5	22	16				
NKm 4/5 GE	NK 4/5	1.1	1.5		67	-	65	63.5	61.5	58	55	50.5	46.5	34	27.5	20				
NKm 4/6 GE	NK 4/6	1.5	2		80	-	78	76	74	70	66	61	56	41	33	24				
NKm 8/3 GE	NK 8/3	1.1	1.5		40	-	-	-	39	38	37.5	36.5	35	32	30	28	22.5	16		
NKm 8/4 GE	NK 8/4	1.5	2	52	-	-	-	51	50	49	48	46	42	39	36	29	21			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

➡ Single-phase pumps without float switch on request

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>EXTERNAL SLEEVE</b>	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304 complete with anti-vibration supports
3	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304
4	<b>IMPELLERS AND DIFFUSERS</b>	Noryl FE1520PW
5	<b>DIAPHRAGMS</b>	Stainless steel AISI 304
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-17	Ø 17 mm	Motor side	Ceramic	Graphite	NBR
ST1-16	Ø 16 mm	Pump side	Silicon carbide	Graphite	NBR

### 8 BEARINGS 6303 2RS - C3 / 6203 ZZ - C3E

### 9 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
NKm 2/2 GE		
NKm 2/3 GE	16 µF - 500 VL	30 µF - 250 VL
NKm 4/3 GE		
NKm 2/4 GE	20 µF - 450 VL	-
NKm 4/4 GE		
NKm 2/5 GE		
NKm 4/5 GE	25 µF - 450 VL	-
NKm 8/3 GE		
NKm 2/6 GE		
NKm 4/6 GE	35 µF - 450 VL	-
NKm 8/4 GE		

### 10 ELECTRIC MOTOR

- NKm:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
- NK:** three-phase 400 V - 50 Hz.
- Insulation: class F
- Protection: IP X8

### 11 POWER CABLE

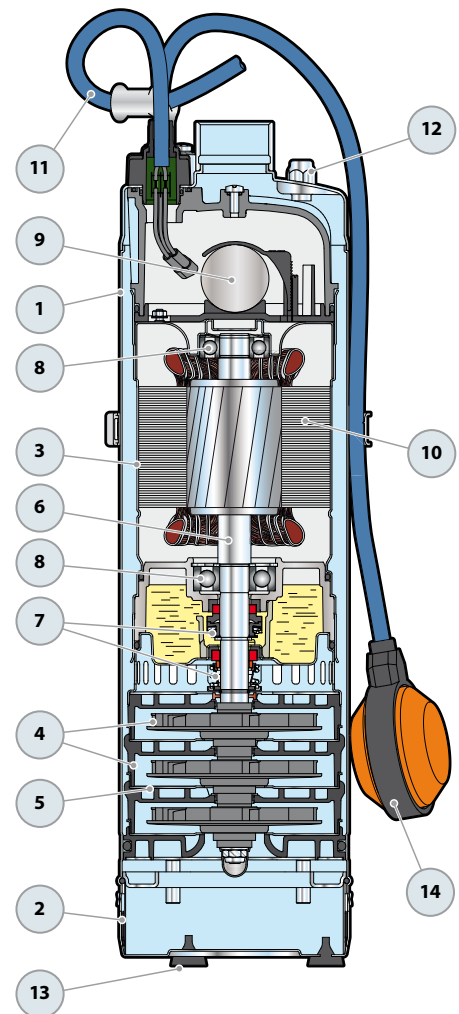
- ⇒ **DRINCABLE® type** approved for use in drinking water by "WRAS" in compliance with BS 6920, approval n. 7513
- Standard length 10 metres**

### 12 AUTOMATIC VENT VALVE

### 13 ANTI-VIBRATION SUPPORTS

### 14 FLOAT SWITCH

- (only for single-phase versions)





## DIMENSIONS AND WEIGHT

MODEL		PORT DN	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase			∅	h	1~	3~
NKm 2/2 GE	NK 2/2	1 1/4"	2	135	459	13.0	13.0
NKm 2/3 GE	NK 2/3		3		486	13.4	13.4
NKm 2/4 GE	NK 2/4		4		543	15.6	14.2
NKm 2/5 GE	NK 2/5		5		570	15.6	15.4
NKm 2/6 GE	NK 2/6		6		617	18.6	17.2
NKm 4/3 GE	NK 4/3		3		486	13.4	13.4
NKm 4/4 GE	NK 4/4		4		543	15.2	14.0
NKm 4/5 GE	NK 4/5		5		570	16.5	15.5
NKm 4/6 GE	NK 4/6		6		617	18.4	17.0
NKm 8/3 GE	NK 8/3		3		516	15.5	14.4
NKm 8/4 GE	NK 8/4		4		563	17.6	15.9



## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
<b>Single-phase</b>			
NKm 2/2 GE	4.3 A	3.9 A	8.6 A
NKm 2/3 GE	5.5 A	4.8 A	11.0 A
NKm 2/4 GE	6.2 A	5.9 A	-
NKm 2/5 GE	7.6 A	7.6 A	-
NKm 2/6 GE	9.2 A	9.0 A	-
NKm 4/3 GE	5.0 A	4.8 A	10.0 A
NKm 4/4 GE	6.2 A	5.9 A	-
NKm 4/5 GE	7.5 A	6.9 A	-
NKm 4/6 GE	8.7 A	8.4 A	-
NKm 8/3 GE	7.1 A	6.8 A	-
NKm 8/4 GE	9.2 A	9.0 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
<b>Three-phase</b>				
NK 2/2	2.8 A	1.6 A	2.7 A	1.5 A
NK 2/3	3.3 A	1.9 A	3.2 A	1.8 A
NK 2/4	4.0 A	2.3 A	3.9 A	2.2 A
NK 2/5	5.2 A	3.0 A	4.9 A	2.8 A
NK 2/6	5.9 A	3.4 A	5.5 A	3.2 A
NK 4/3	3.2 A	1.8 A	3.1 A	1.7 A
NK 4/4	3.8 A	2.2 A	3.7 A	2.1 A
NK 4/5	4.8 A	2.8 A	4.7 A	2.7 A
NK 4/6	5.5 A	3.2 A	5.4 A	3.1 A
NK 8/3	5.0 A	2.9 A	4.7 A	2.7 A
NK 8/4	5.9 A	3.4 A	5.4 A	3.1 A

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
NKm 2/2 GE	NK 2/2	30	54
NKm 2/3 GE	NK 2/3	30	54
NKm 2/4 GE	NK 2/4	25	45
NKm 2/5 GE	NK 2/5	25	45
NKm 2/6 GE	NK 2/6	25	45
NKm 4/3 GE	NK 4/3	30	54
NKm 4/4 GE	NK 4/4	25	45
NKm 4/5 GE	NK 4/5	25	45
NKm 4/6 GE	NK 4/6	25	45
NKm 8/3 GE	NK 8/3	30	-
NKm 8/4 GE	NK 8/4	25	45

# TOP MULTI

## Submersible multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use



TOP MULTI 1



TOP MULTI 2-3-4-5

### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP MULTI 1
  - up to **10 m** for TOP MULTI 2-3-4-5 (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction level:
  - **25 mm** above ground level for TOP MULTI 1
  - **35 mm** above ground level for TOP MULTI 2-3-4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with:

- **10 m** long power cable
- float switch
- hose connector Ø 35 mm
- complete connector with flap-check valve

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**TOP MULTI**® pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made.

Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

### PATENTS - TRADE MARKS - MODELS

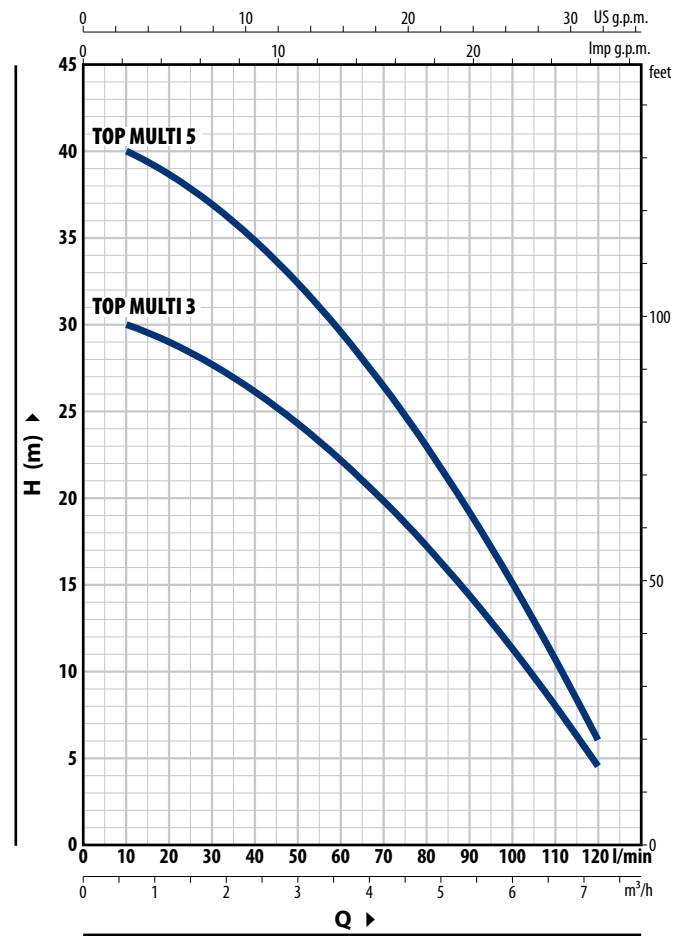
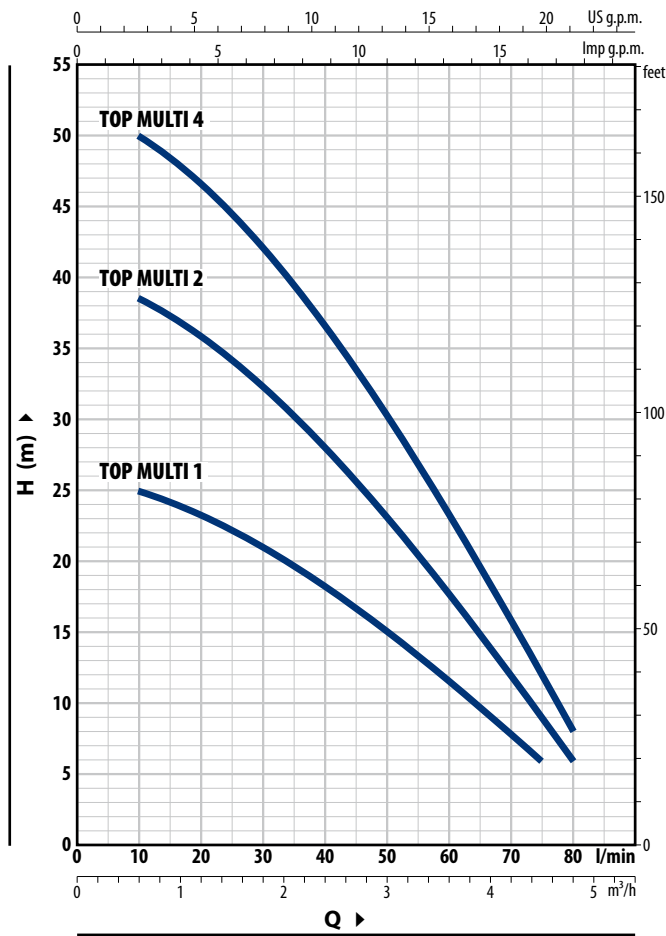
- Registered EU Design n. 000885587 for TOP MULTI 2-3-4-5
- TOP MULTI® Registered Trade Mark n. 0001334477

### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI 1 - 2 - 4

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres											
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.5	4.8		
			l/min	0	10	20	30	40	50	60	70	75	80		
TOP MULTI 1	0.37	0.50		26	25	23.3	21.1	18.3	15.1	11.6	7.9	6			
TOP MULTI 2	0.55	0.75		40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI 4	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI 3 - 5

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres												
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
			l/min	0	10	20	30	40	50	60	70	80	90	100	110	120
TOP MULTI 3	0.55	0.75		30.5	30	29	27.5	26	24.3	22.2	19.8	17.2	14.4	11.3	8	4.5
TOP MULTI 5	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	22.9	19.2	15.1	10.7	6

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI 1

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>STAGE CASING</b>	Glass fibre reinforced technopolymer
4	<b>IMPELLERS</b>	Noryl
5	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
6	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
7	<b>MOTOR CASING</b>	Stainless steel AISI 304
8	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
9	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 10 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Materials			
		Stationary ring	Rotational ring	Elastomer	Metals
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304

11 **LIP SEAL**                      **Ø 12 x Ø 19 x H 5 mm**

12 **BEARINGS**                      **6201 ZZ - C3E / 6201 ZZ - C3E**

### 13 CAPACITOR

Capacitance (230 V or 240 V)	(110 V)
10 µF 450 VL	16 µF 250 VL

### 14 ELECTRIC MOTOR

**TOP MULTI 1:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

### 15 HANDLE ASSEMBLY (resin sealed)

- Complete with:
- **10 metres** long "H07 RN-F" power cable with Schuko plug
  - Float switch

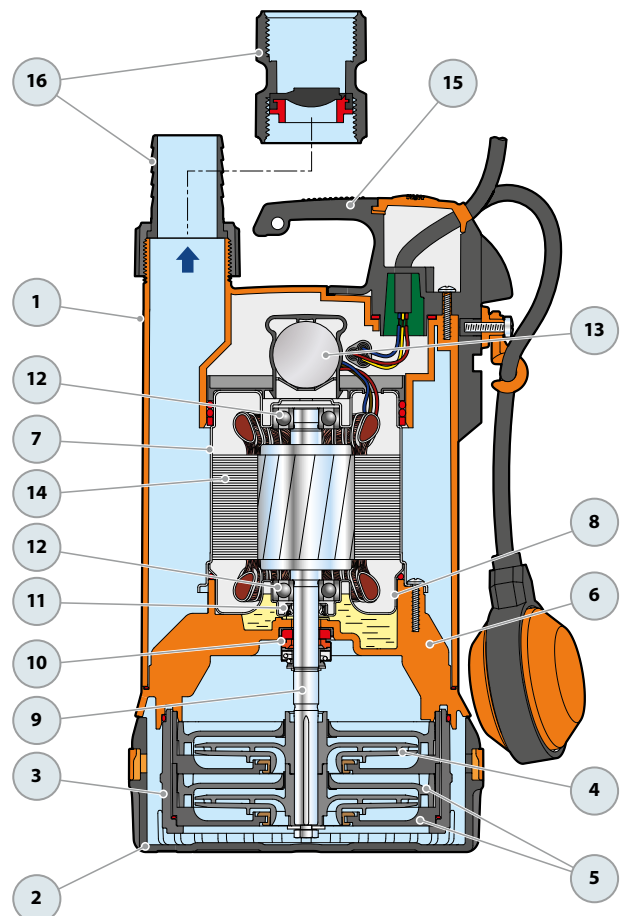
### 16 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

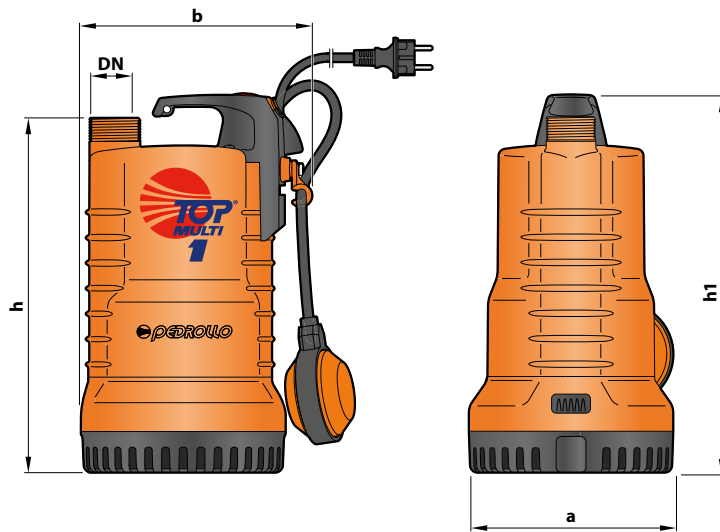
#### PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

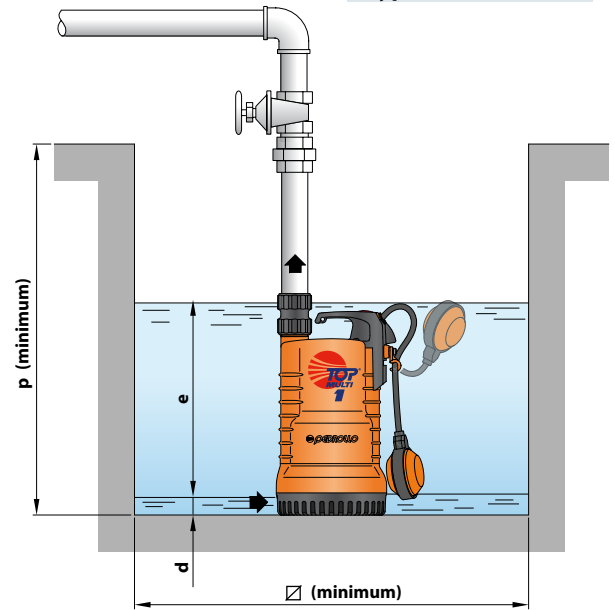
(Included in the equipment)



## DIMENSIONS AND WEIGHT



## Typical installation



MODEL	PORT DN	N. STAGES	DIMENSIONS mm								kg	
			a	b	h	h1	d	e	p	∅		
Single-phase	DN											
TOP MULTI 1	1¼"	2	170	192	295	315	25	variable	350	350	6.8	

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI 1	2.0 A	2.0 A	4.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 1	60	100

# TOP MULTI 2-3-4-5

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	<b>PUMP BODY AND SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING AND MOTOR CASING PLATE</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSERS</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

### 9 BEARINGS

Elettropompa	Tipo
TOP MUTI 2-3	6202 ZZ - C3 / 6201 ZZ
TOP MUTI 4-5	6202 ZZ - EA3 / 6201 ZZ

### 10 CAPACITOR

Elettropompa	Capacità	
Monofase	(230 V o 240 V)	(110 V)
TOP MUTI 2-3	12.5 µF 450 VL	30 µF 250 VL
TOP MUTI 4-5	14 µF 450 VL	30 µF 250 VL

### 11 ELECTRIC MOTOR

**TOP MULTI:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

### 12 POWER CABLE

"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

### 13 FLOAT SWITCH

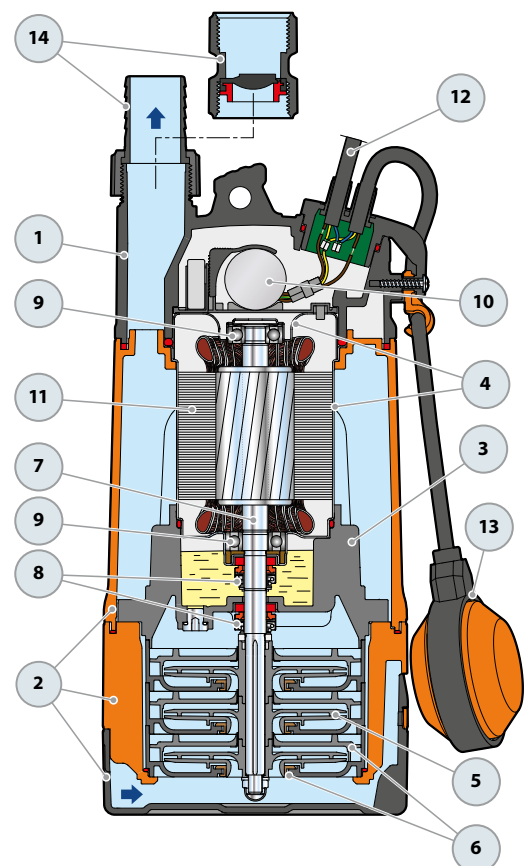
### 14 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

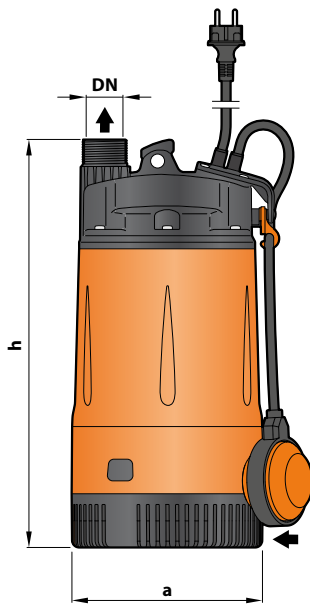
#### PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)



## DIMENSIONS AND WEIGHT



### Typical installation



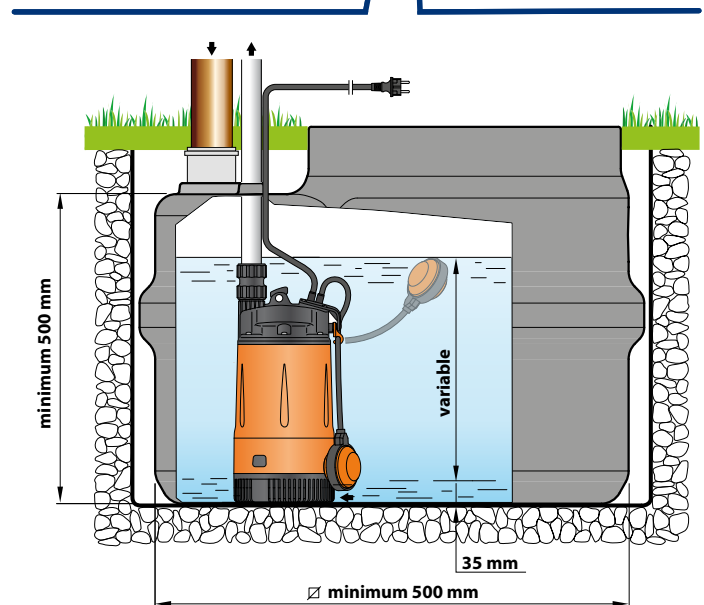
MODEL	PORT	N. STAGES	DIMENSIONS mm		kg
			a	h	
Single-phase	DN				
TOP MULTI 2	1 1/4"	3	178	380	9.2
TOP MULTI 3				415	9.3
TOP MULTI 4					9.9
TOP MULTI 5		4			9.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI 2	3.4 A	3.3 A	6.6 A
TOP MULTI 3	3.6 A	3.5 A	7.2 A
TOP MULTI 4	3.9 A	3.7 A	8.0 A
TOP MULTI 5	3.9 A	3.7 A	8.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP MULTI 2	60	80
TOP MULTI 3	60	80
TOP MULTI 4	60	80
TOP MULTI 5	60	80



# TOP MULTI-EVO

## Submersible multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use



TOP MULTI 1-EVO



TOP MULTI 2-3-4-5 EVO

### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP MULTI 1-EVO
  - up to **10 m** for TOP MULTI 2-3-4-5 EVO (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction level:
  - **25 mm** above ground level for TOP MULTI 1-EVO
  - **35 mm** above ground level for TOP MULTI 2-3-4-5 EVO
- Manometric suction lift up to **7 m**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

- Complete with:
- **10 m** long power cable
  - float switch
  - hose connector Ø 35 mm
  - complete connector with flap-check valve

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### PATENTS - TRADE MARKS - MODELS

- TOP MULTI® Registered Trade Mark n. 0001334477

### INSTALLATION AND USE

**TOP MULTI-EVO** pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made. Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

### OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Other voltages or 60 Hz frequency
- **KGE - Floating suction kit**



Kit includes:

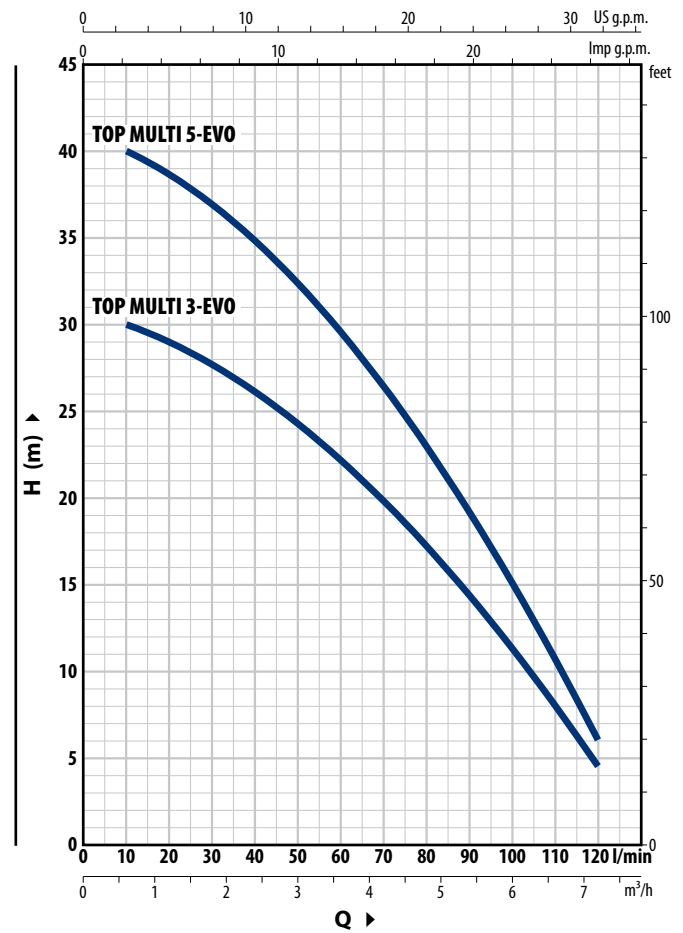
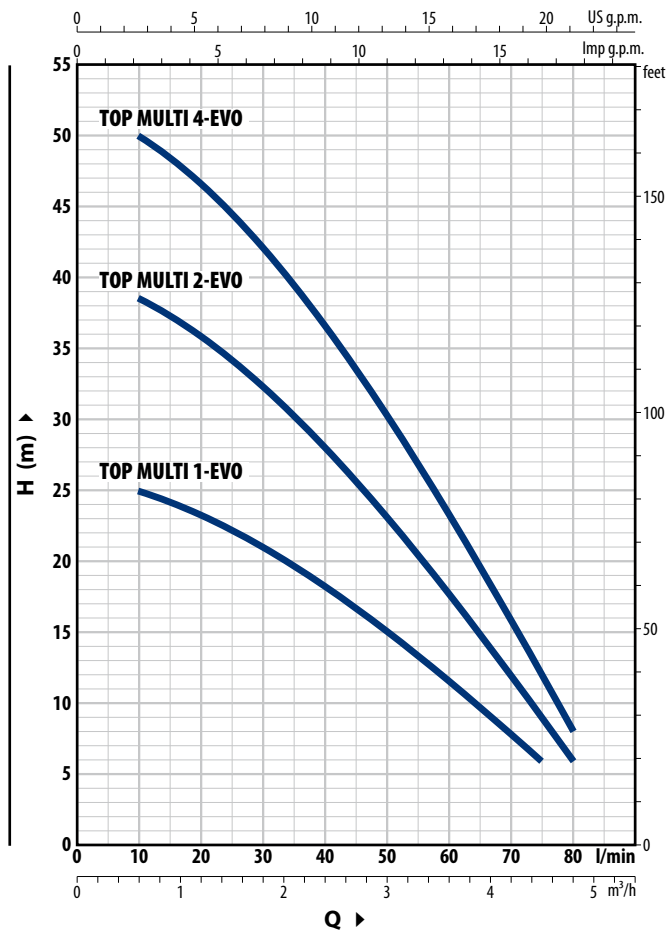
- 1.5 metre long PVC hose (Ø 30 mm)
- stainless steel suction filter
- polyethylene spherical float
- flexible hose fittings Ø 30 mm

TOP MULTI-EVO with KGE kit for aspiration at about 10 cm below the water surface, preventing the suction of any floating waste or sediment on the bottom of the tank thus avoiding any damage to the pump.



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI-EVO 1 - 2 - 4

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres											
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.5	4.8		
TOP MULTI 1-EVO	0.37	0.50	l/min	0	10	20	30	40	50	60	70	75	80		
TOP MULTI 2-EVO	0.55	0.75	H metres	26	25	23.3	21.1	18.3	15.1	11.6	7.9	6			
TOP MULTI 4-EVO	0.75	1	H metres	40	38.5	36	32.5	28	23.1	17.7	12	9	6		
			H metres	52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI-EVO 3 - 5

MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres													
	kW	HP		0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	
TOP MULTI 3-EVO	0.55	0.75	l/min	0	10	20	30	40	50	60	70	80	90	100	110	120	
TOP MULTI 5-EVO	0.75	1	H metres	30.5	30	29	27.5	26	24.3	22.2	19.8	17.2	14.4	11.3	8	4.5	
			H metres	41	40	38.5	37	35	32.5	29.5	26.5	22.9	19.2	15.1	10.7	6	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI 1-EVO

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY AND DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1				
2	<b>BASE</b>	Glass fibre reinforced technopolymer				
3	<b>STAGE CASING</b>	Glass fibre reinforced technopolymer				
4	<b>IMPELLERS</b>	Noryl				
5	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring				
6	<b>MOTOR CASING</b>	Stainless steel AISI 304				
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304				
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
9	<b>SHAFT WITH DOUBLE SEAL AND OIL CHAMBER</b>					
	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>			
	<b>Model</b>	<b>Diameter</b>	<b>Stationary ring</b>	<b>Rotational ring</b>	<b>Elastomer</b>	<b>Metals</b>
	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304

10	<b>LIP SEAL</b>	Ø 12 x Ø 19 x H 5 mm
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11	<b>BEARINGS</b>	6201 ZZ - C3E / 6201 ZZ - C3E
----	-----------------	-------------------------------

12	<b>CAPACITOR</b>	
	<b>Capacitance</b>	
	(230 V or 240 V)	(110 V)
	10 µF 450 VL	16 µF 250 VL

**13 ELECTRIC MOTOR**

**TOP MULTI 1-EVO:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

**14 HANDLE ASSEMBLY** (resin sealed)

Complete with:

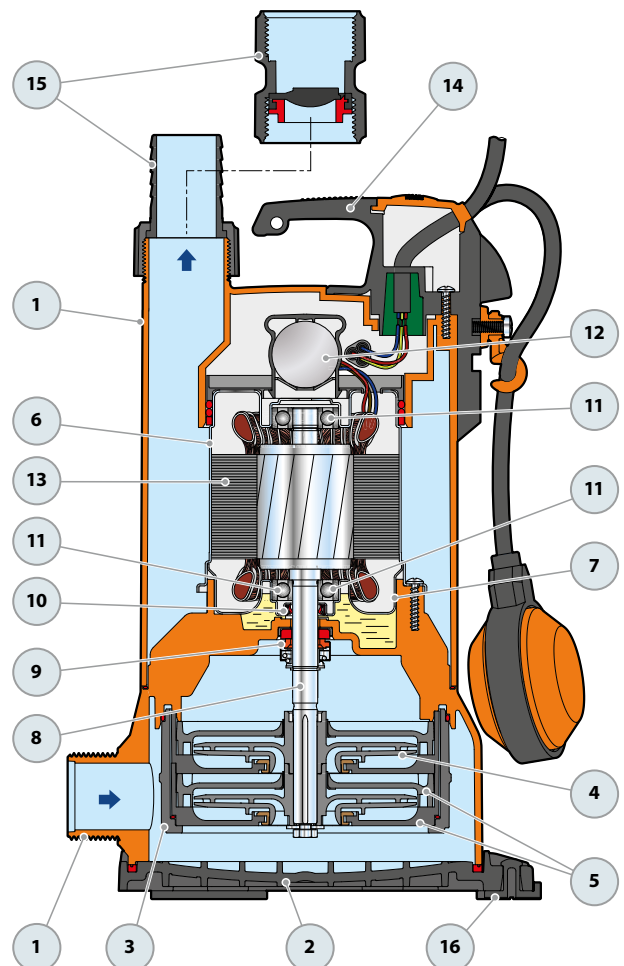
- 10 metres long "H07 RN-F" power cable with Schuko plug
- Float switch

**15 HOSE CONNECTOR WITH RING NUT**  
Ø 35 mm hose connection

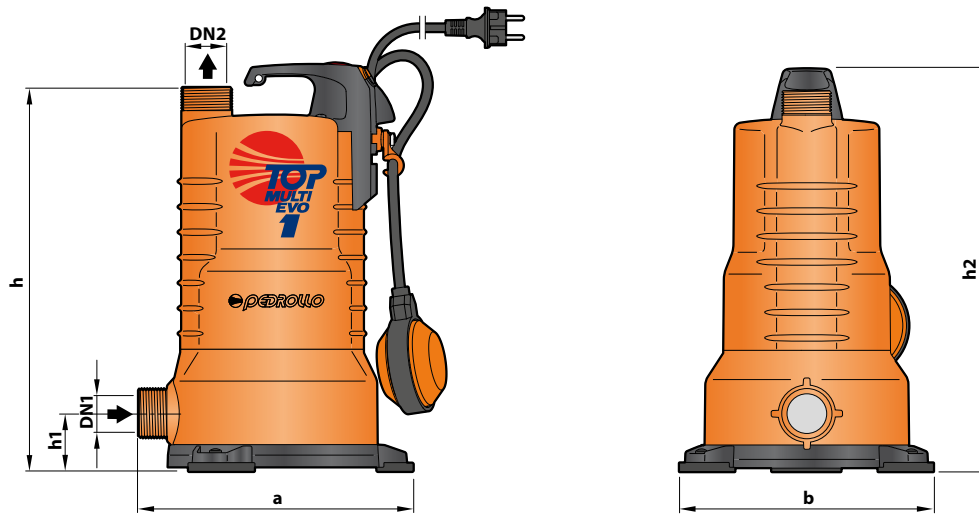
**PIPE COUPLING**  
Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)

**16 ANTI-VIBRATION FEET**



## DIMENSIONS AND WEIGHT



MODEL	PORTS		N. STAGES	DIMENSIONS mm					kg
	DN1	DN2		a	b	h	h1	h2	
Single-phase									
<b>TOP MULTI 1-EVO</b>	<b>1¼"</b>	<b>1¼"</b>	<b>2</b>	227	210	317	49	337	<b>7.1</b>

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
<b>TOP MULTI 1-EVO</b>	<b>2.0 A</b>	<b>1.9 A</b>	<b>4.0 A</b>

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
<b>TOP MULTI 1-EVO</b>	<b>45</b>	<b>60</b>

# TOP MULTI 2-3-4-5 EVO

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY AND DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1
2	<b>PUMP BODY AND BASE</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

## 8 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 9 BEARINGS

Pump	Model
TOP MUTI 2-3 EVO	6202 ZZ - C3 / 6201 ZZ
TOP MUTI 4-5 EVO	6202 ZZ - EA3 / 6201 ZZ

## 10 CAPACITOR

Pump Single-phase	Capacitance	
	(230 V or 240 V)	(110 V)
TOP MUTI 2-3 EVO	12.5 µF 450 VL	30 µF 250 VL
TOP MUTI 4-5 EVO	14 µF 450 VL	30 µF 250 VL

## 11 ELECTRIC MOTOR

**TOP MULTI-EVO:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 12 POWER CABLE

"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

## 13 FLOAT SWITCH

## 14 HOSE CONNECTOR WITH RING NUT

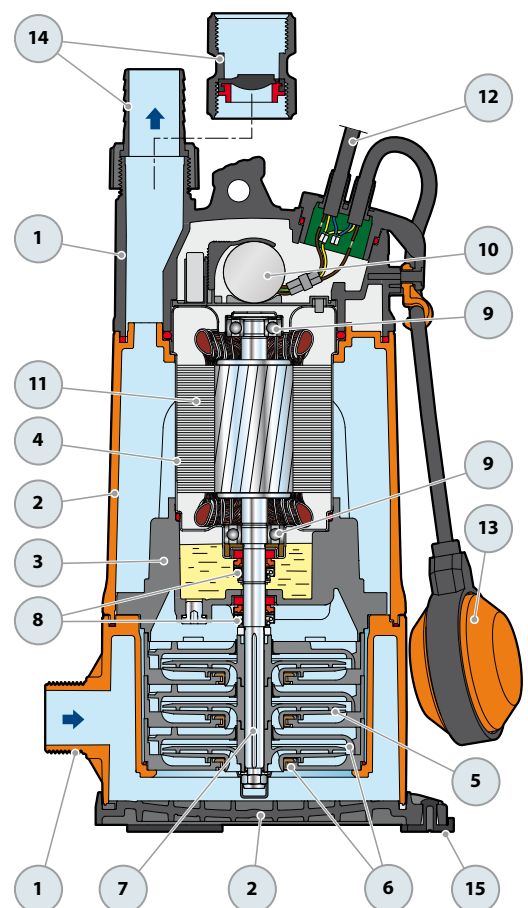
Ø 35 mm hose connection

## PIPE COUPLING

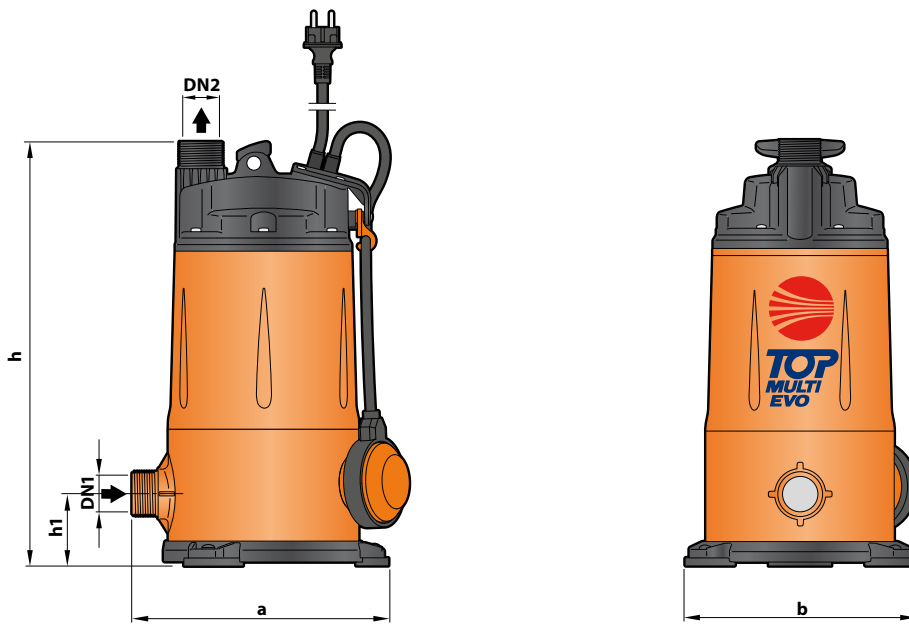
Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)

## 15 ANTI-VIBRATION SUPPORTS



## DIMENSIONS AND WEIGHT



MODEL	PORTS		N. STAGES	DIMENSIONS mm				kg
	DN1	DN2		a	b	h	h1	
Single-phase								
TOP MULTI 2-EVO	1¼"	1¼"	3	239	216	394	68	9.9
TOP MULTI 3-EVO			9.9					
TOP MULTI 4-EVO			10.4					
TOP MULTI 5-EVO			10.4					

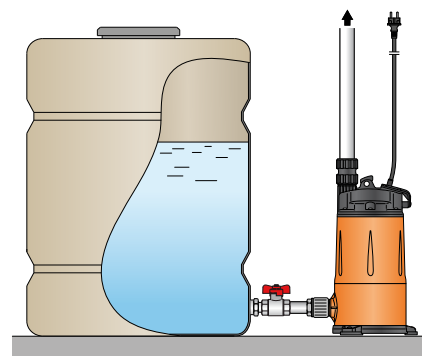
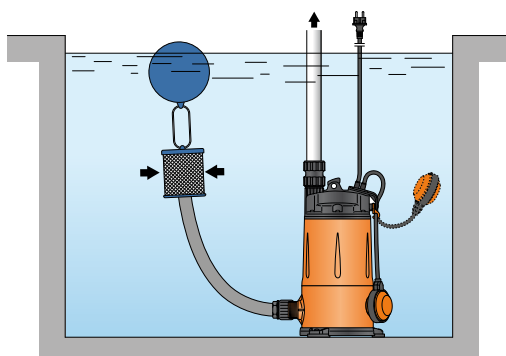
## ABSORPTION

MODEL	TENSIONE		
	230 V	240 V	110V
Single-phase			
TOP MULTI 2-EVO	3.4 A	3.3 A	6.8 A
TOP MULTI 3-EVO	3.6 A	3.4 A	7.2 A
TOP MULTI 4-EVO	3.9 A	3.7 A	8.0 A
TOP MULTI 5-EVO	3.9 A	3.7 A	8.0 A

## PALLETIZATION

MODEL	PER GROUPAGE	CONTAINER
	n° pompe	n. pumps
Single-phase		
TOP MULTI 2-EVO	45	60
TOP MULTI 3-EVO	45	60
TOP MULTI 4-EVO	45	60
TOP MULTI 5-EVO	45	60

## STANDARD INSTALLATION



# TOP MULTI-TECH

## Multi-stage automatic submersible pumps

-  Clean water
-  Domestic use
-  Civil use

**AUTOMATIC  
START & STOP**



### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**
- Restart pressure: **1.5 bar**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum height between pump and point of use **10 m**
- Maximum liquid temperature **+40 °C**
- Suction down to **35 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with:

- **10 m** long power cable
- internal electronic device for pump starting (when tap opened) and stopping (when tap closed)
- threaded connector 1¼" (delivery)
- hose connector Ø 35 mm

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**TOP-MULTI-TECH** pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made.

Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

**An internal electronic device starts or stops the pump automatically when the tap is opened or closed.**

### PATENTS - TRADE MARKS - MODELS

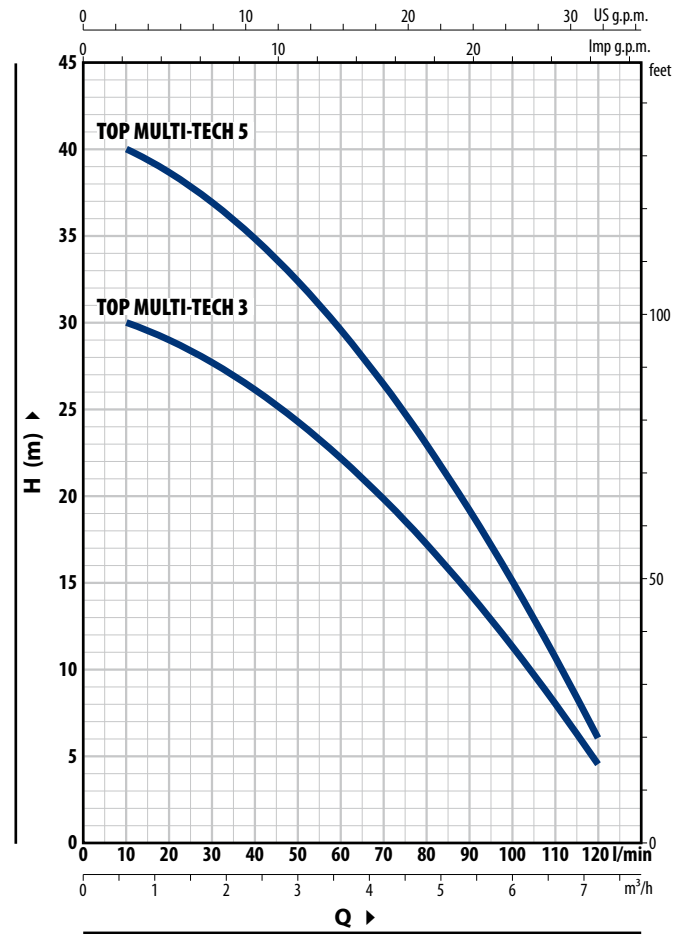
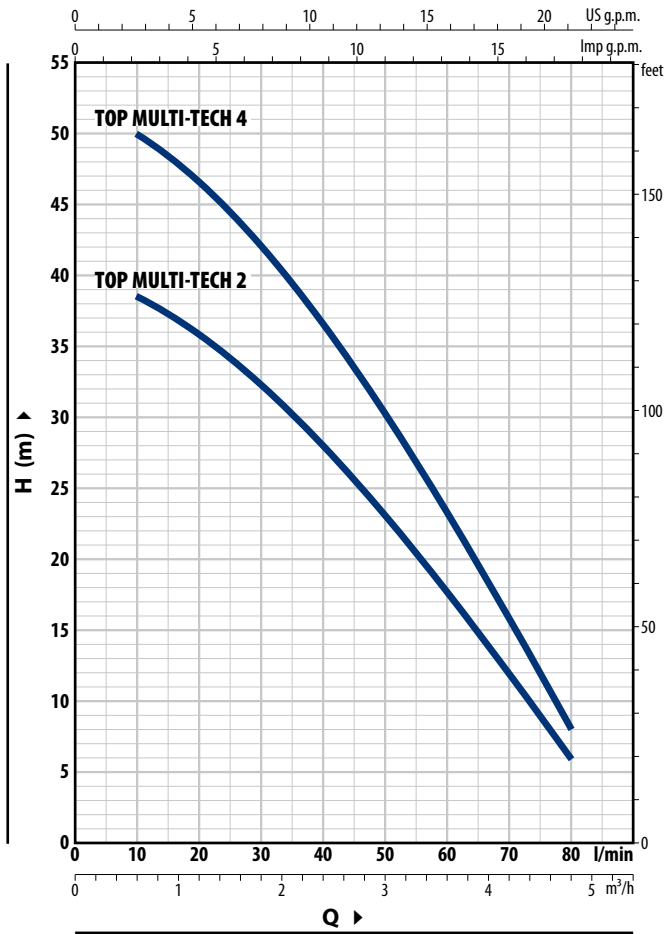
- Patent n. EP2990653
- TOP MULTI® Registered Trade Mark n. 0001334477

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI-TECH 2 - 4

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	
Single-phase				0	10	20	30	40	50	60	70	75	80		
TOP MULTI-TECH 2	0.55	0.75	H metres	40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI-TECH 4	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI-TECH 3 - 5

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate														
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	5.4	6	6.6	7.2
Single-phase				0	10	20	30	40	50	60	70	75	80	90	100	110	120	
TOP MULTI-TECH 3	0.55	0.75	H metres	30.5	30	29	27.5	26	24.3	22.2	19.8	18.5	17.2	14.4	11.3	8	4.5	
TOP MULTI-TECH 5	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	24.7	22.9	19.2	15.1	10.7	6	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI-TECH

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Glass fibre reinforced technopolymer
2	<b>PUMP BODY E SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
8	<b>ELECTRONIC DEVICE</b>	<p><b>TOP MULTI-TECH pumps are fitted with an internal electronic device which starts the pump when the pressure of the system falls below 1.5 bar (eg. when opening a tap) and stops it when the flow falls below 3 litre per minute.</b></p> <p><b>It protects the pump:</b></p> <ul style="list-style-type: none"> <li>– against dry running;</li> <li>– against blockage: after long periods of pump inactivity the electronic device starts the pump every 48 hours for 10 seconds.</li> </ul>

## 9 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 10 BEARINGS

Pump	Model
TOP MULTI-TECH 2-3	6202 ZZ - C3 / 6201 ZZ
TOP MULTI-TECH 4-5	6202 ZZ - EA3 / 6201 ZZ

## 11 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP MULTI-TECH 2-3	12.5 µF 450 VL	30 µF 250 VL
TOP MULTI-TECH 4-5	14 µF 450 VL	30 µF 250 VL

## 12 ELECTRIC MOTOR

**TOP MULTI-TECH:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 13 POWER CABLE

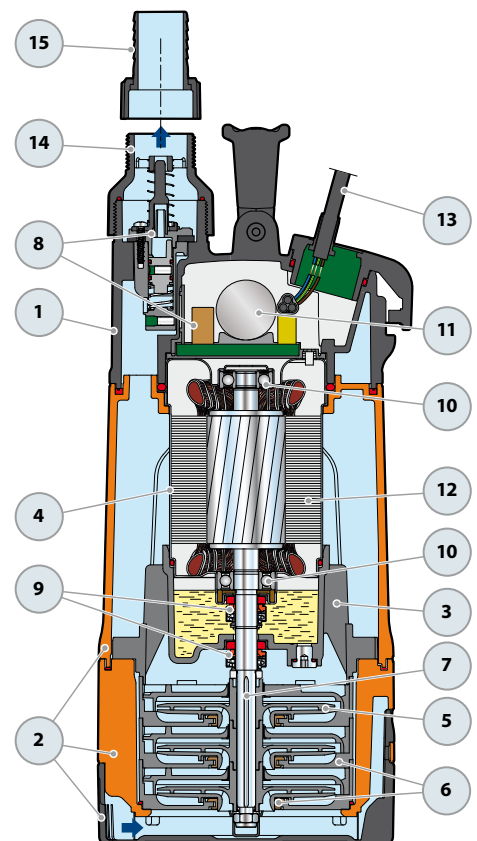
"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

## 14 THREADED CONNECTOR

Threaded connector 1¼"

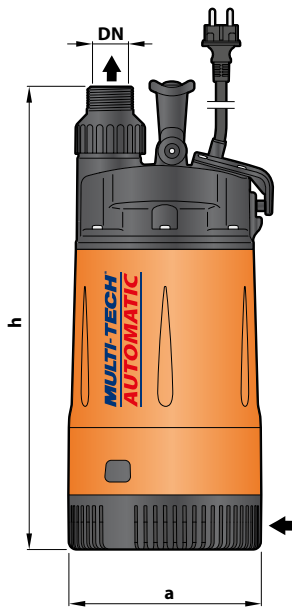
## 15 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection





## DIMENSIONS AND WEIGHT



MODEL	PORT	N. STAGES	DIMENSIONS mm		kg	
Single-phase	DN		a	h		
TOP MULTI-TECH 2	1 1/4"	3	178	428	9.3	
TOP MULTI-TECH 3		4		463		10.0
TOP MULTI-TECH 4						
TOP MULTI-TECH 5						



## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
TOP MULTI-TECH 2	3.4 A	3.3 A	6.6 A
TOP MULTI-TECH 3	3.6 A	3.5 A	7.2 A
TOP MULTI-TECH 4	3.9 A	3.7 A	8.0 A
TOP MULTI-TECH 5	3.9 A	3.7 A	8.0 A

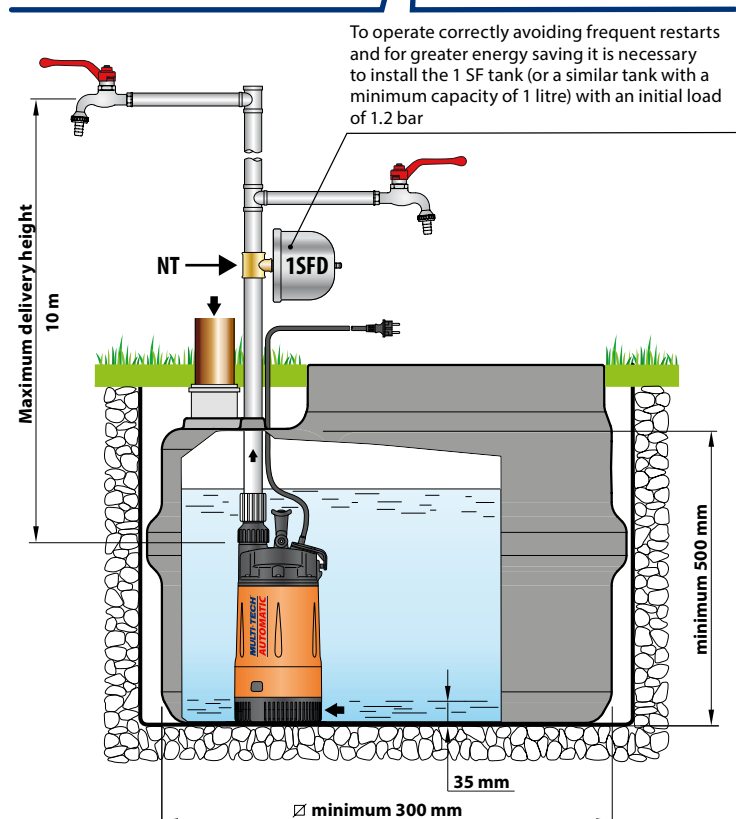
## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI-TECH 2	60	80
TOP MULTI-TECH 3	60	80
TOP MULTI-TECH 4	60	80
TOP MULTI-TECH 5	60	80

## ACCESSORIES (CAN BE ORDERED SEPARATELY)

MODEL	Code	FITTING	CAPACITY	PRE-SET	MAXIMUM WORKING PRESSURE
Tank 1 SFD 	500667	1/2" (male)	1 litro	1.2 bar	10 bar
3-way fitting NT 1.25 	500160001	1 1/4" - 1 1/4" - 1/2" gas	-	-	-

## Typical installation



# TOP MULTI-EVOTECH

## Multi-stage automatic submersible pumps

-  Clean water
-  Domestic use
-  Civil use

**AUTOMATIC  
START & STOP**



### PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m<sup>3</sup>/h)
- Head up to **52 m**
- Restart pressure: **1.5 bar**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum height between pump and point of use **10 m**
- Maximum liquid temperature **+40 °C**
- Suction down to **35 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

Complete with:

- **10 m** long power cable
- internal electronic device for pump starting (when tap opened) and stopping (when tap closed)
- threaded connector 1¼" (delivery)
- hose connector Ø 35 mm

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2990653
- TOP MULTI® Registered Trade Mark n. 0001334477

### INSTALLATION AND USE

**TOP-MULTI-EVOTECH** pumps are recommended for pumping **clean water** and liquids that are not chemically aggressive for the materials from which the pump is made.

Because of their high efficiency and reliability they are suitable for use in applications such as domestic water supply from reservoirs, tanks or relatively deep wells, for drawing rain water from cisterns to water gardens or for use in irrigation systems, etc.

**An internal electronic device starts or stops the pump automatically when the tap is opened or closed.**

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- **KGE - Floating suction kit**



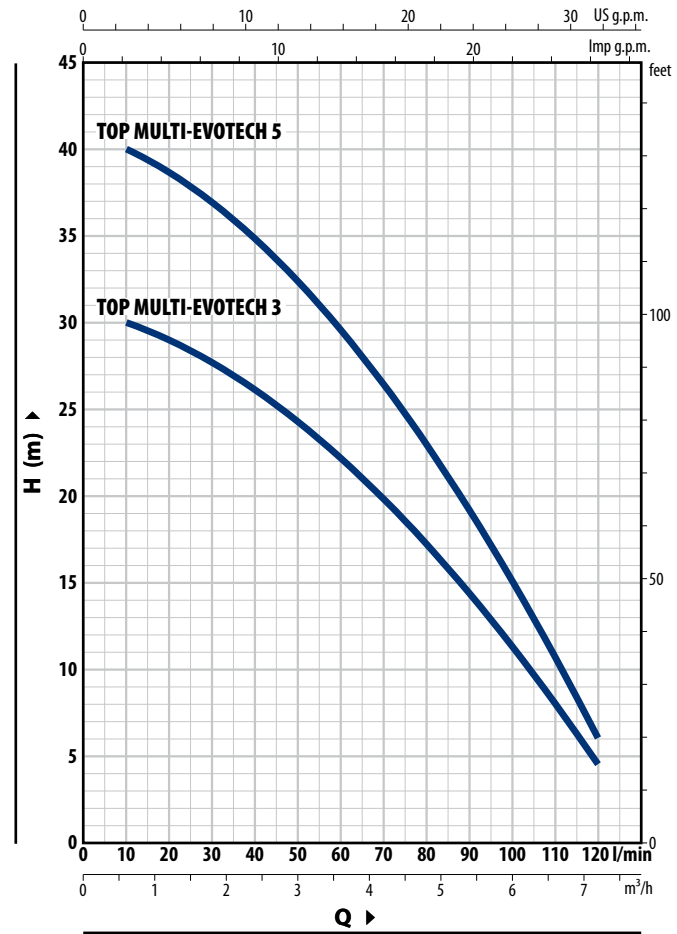
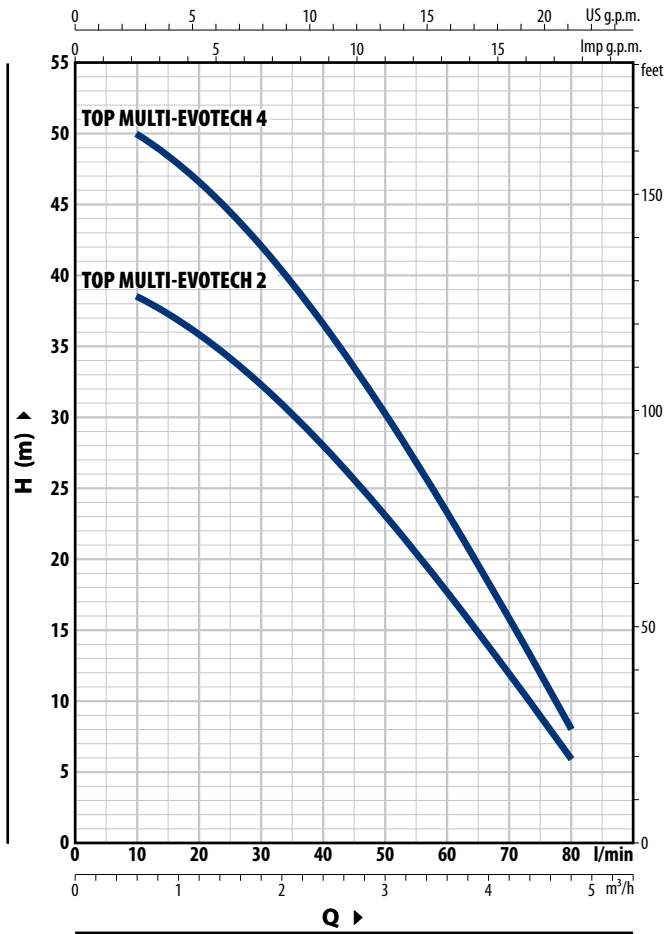
Kit includes:

- 1.5 metre long PVC hose (Ø 30 mm)
- stainless steel suction filter
- polyethylene spherical float
- flexible hose fittings Ø 30 mm

TOP MULTI-EVOTECH with KGE kit for aspiration at about 10 cm below the water surface, preventing the suction of any floating waste or sediment on the bottom of the tank thus avoiding any damage to the pump.

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



### TOP MULTI-EVOTECH 2 - 4

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	
Single-phase			l/min	0	10	20	30	40	50	60	70	75	80		
TOP MULTI-EVOTECH 2	0.55	0.75	H metres	40	38.5	36	32.5	28	23.1	17.7	12	9	6		
TOP MULTI-EVOTECH 4	0.75	1		52	50	46.5	42	36.5	30.5	23.3	15.8	11.9	8		

### TOP MULTI-EVOTECH 3 - 5

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.5	4.8	5.4	6	6.6
Single-phase			l/min	0	10	20	30	40	50	60	70	75	80	90	100	110	120
TOP MULTI-EVOTECH 3	0.55	0.75	H metres	30.5	30	29	27.5	26	24.3	22.2	19.8	18.5	17.2	14.4	11.3	8	4.5
TOP MULTI-EVOTECH 5	0.75	1		41	40	38.5	37	35	32.5	29.5	26.5	24.7	22.9	19.2	15.1	10.7	6

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI-EVOTECH

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>SUCTION BODY AND DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1
2	<b>PUMP BODY AND BASE</b>	Glass fibre reinforced technopolymer
3	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>IMPELLERS</b>	Noryl
6	<b>DIFFUSER AND STAGE BOXES</b>	Noryl complete with anti-wear ring
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
8	<b>ELECTRONIC DEVICE</b>	<p><b>TOP MULTI-EVOTECH pumps are fitted with an internal electronic device which starts the pump when the pressure of the system falls below 1.5 bar (eg. when opening a tap) and stops it when the flow falls below 3 litre per minute.</b></p> <p><b>It protects the pump:</b></p> <ul style="list-style-type: none"> <li>– against dry running;</li> <li>– against blockage: after long periods of pump inactivity the electronic device starts the pump every 48 hours for 10 seconds.</li> </ul>

## 9 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Stationary ring	Rotational ring	Elastomer
STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
STA-13R SIC	Ø 13 mm	Pump side	Silicon carbide	Graphite	NBR

## 10 BEARINGS

Pump	Model
TOP MUTI-EVOTECH 2-3	6202 ZZ - C3 / 6201 ZZ
TOP MUTI-EVOTECH 4-5	6202 ZZ - EA3 / 6201 ZZ

## 11 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP MUTI-EVOTECH 2-3	12.5 µF 450 VL	30 µF 250 VL
TOP MUTI-EVOTECH 4-5	14 µF 450 VL	30 µF 250 VL

## 12 ELECTRIC MOTOR

**TOP MULTI-EVOTECH:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

## 13 POWER CABLE

"H07 RN-F" with Schuko plug  
**Standard length 10 metres**

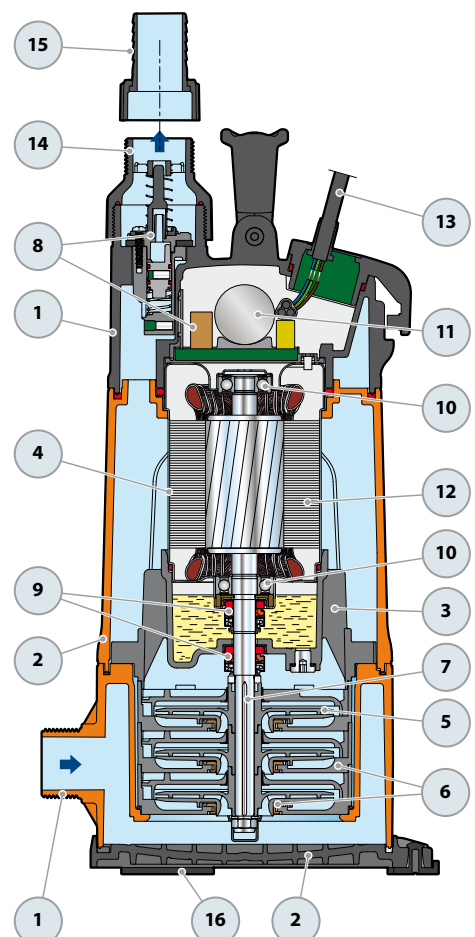
## 14 THREADED CONNECTOR

Threaded connector 1¼"

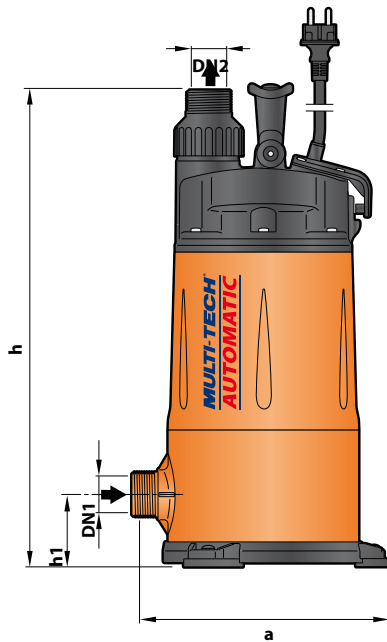
## 15 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

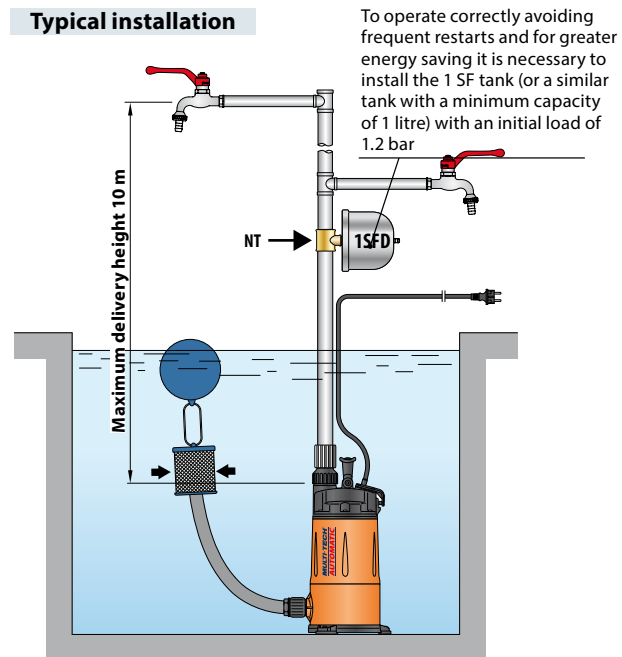
## 16 ANTI-VIBRATION SUPPORTS



## DIMENSIONS AND WEIGHT



### Typical installation



To operate correctly avoiding frequent restarts and for greater energy saving it is necessary to install the 1 SF tank (or a similar tank with a minimum capacity of 1 litre) with an initial load of 1.2 bar

MODEL	PORTS		N. STAGES	DIMENSIONS mm			kg
	DN1	DN2		a	h	h1	
Single-phase							
TOP MULTI-EVOTECH 2	1 1/4"	1 1/4"	3	239	442	68	9.9
TOP MULTI-EVOTECH 3					9.9		
TOP MULTI-EVOTECH 4			4		476		10.5
TOP MULTI-EVOTECH 5					10.5		



## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI-EVOTECH 2	3.4 A	3.3 A	6.6 A
TOP MULTI-EVOTECH 3	3.6 A	3.5 A	7.2 A
TOP MULTI-EVOTECH 4	3.9 A	3.7 A	8.0 A
TOP MULTI-EVOTECH 5	3.9 A	3.7 A	8.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP MULTI-EVOTECH 2	45	60
TOP MULTI-EVOTECH 3	45	60
TOP MULTI-EVOTECH 4	45	60
TOP MULTI-EVOTECH 5	45	60

## ACCESSORIES (CAN BE ORDERED SEPARATELY)

MODEL	Code	FITTING	CAPACITY	PRE-SET	MAXIMUM WORKING PRESSURE
Tank 1 SFD 	500667	1/2" (male)	1 litre	1.2 bar	10 bar
Raccordo 3 vie NT 1.25 	500160001	1 1/4" - 1/4" - 1/2" gas	-	-	-



### PERFORMANCE RANGE

- Flow rate up to **360 l/min** (21.6 m<sup>3</sup>/h)
- Head up to **15.5 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP 1-2-3
  - up to **5 m** for TOP 4-5(with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**  
(Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for TOP 1-2-3
  - **30 mm** above ground level for TOP 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for TOP 1-2-3
- **10 m** long power cable for TOP 4-5
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP** series is suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

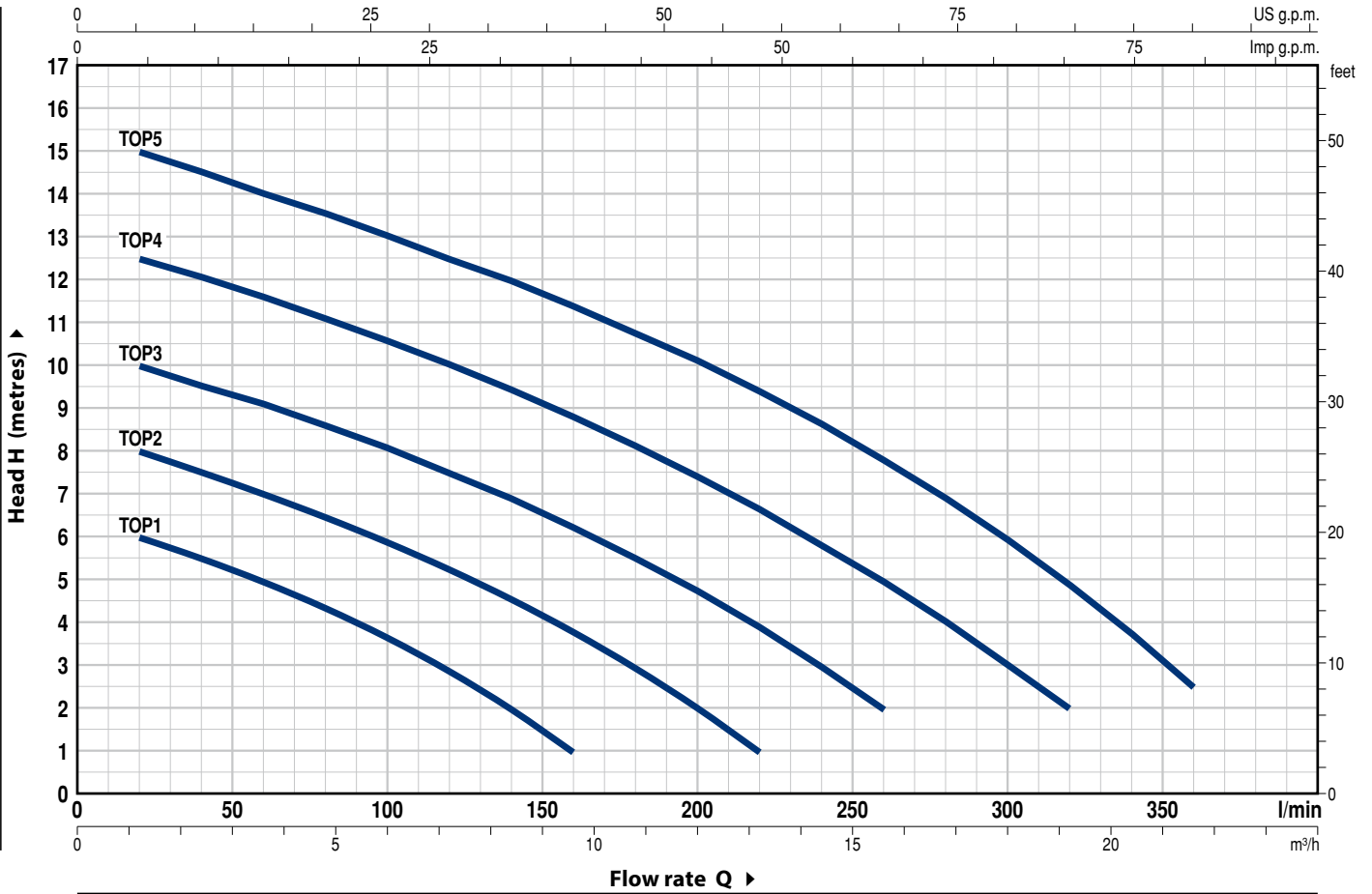
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- **"TOP-GM"** pumps with vertical float switch (suitable for particularly small wells)
- **"TOP 2-3 LA"** pumps intended for use with aggressive liquids
- Special mechanical seal
- TOP 1-2-3 pumps with **10 m** long power cable
  - ➔ N.B. Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres																							
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	15.6	16.8	18.0	19.2	20.4	21.6					
			l/min	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360					
TOP 1	0.25	0.33		6.5	6	5.5	5	4.4	3.7	2.9	2	1															
TOP 2	0.37	0.50		8.5	8	7.5	7	6.5	5.9	5.3	4.6	3.8	3	2	1												
TOP 3	0.55	0.75	H metres	10.4	10	9.6	9.1	8.6	8.1	7.5	6.9	6.3	5.5	4.8	3.9	3	2										
TOP 4	0.75	1		12.9	12.5	12.1	11.6	11.1	10.6	10.1	9.5	8.8	8.2	7.4	6.7	5.9	5	4	3.1	2							
TOP 5	0.92	1.25		15.5	15	14.5	14	13.6	13.1	12.6	12	11.4	10.8	10.1	9.4	8.7	7.8	6.9	6	4.9	3.7	2.5					

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (AISI 316L for LA versions)

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Pump Model	Seal Model	Shaft Diameter	Materials			
			Stationary ring	Rotational ring	Elastomer	Metals
TOP 1-2-3	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
TOP 1-2-3 GM						
TOP 2-3 LA	AR-12R LA	Ø 12 mm	Ceramic	Graphite	NBR	AISI 316

10 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

11 **BEARINGS** 6201 ZZ / 6201 ZZ

### 12 CAPACITOR

Pump Model	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP 1	10 µF 450 VL	16 µF - 250 VL
TOP 2	10 µF 450 VL	16 µF - 250 VL
TOP 3	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

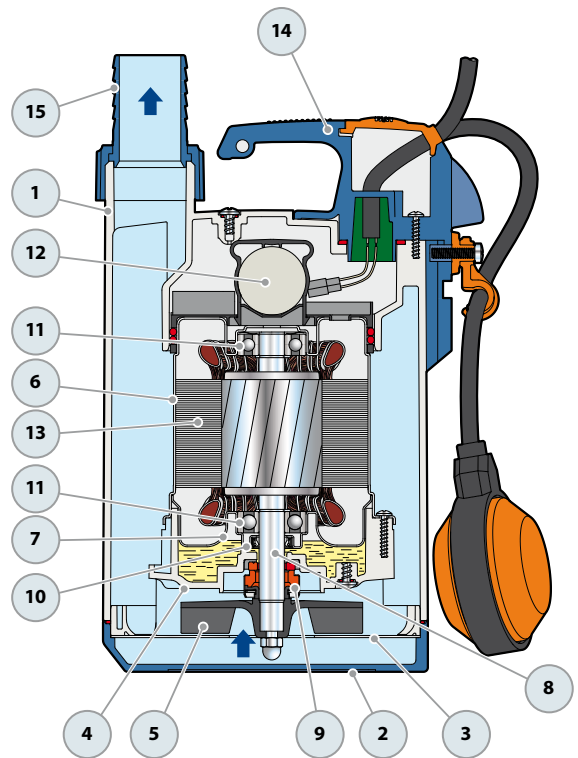
**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

Complete with:  
 – 5 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

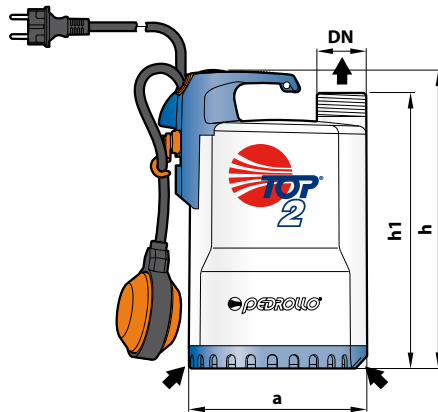
### 15 HOSE CONNECTOR WITH RING NUT

Ø 25 mm hose connection for TOP 1  
 Ø 35 mm for TOP 2-3

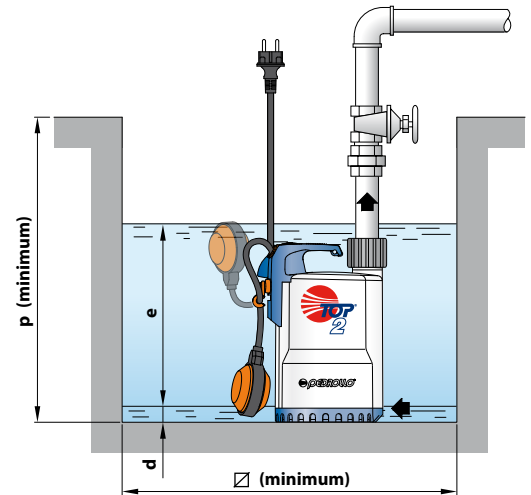




## DIMENSIONS AND WEIGHT

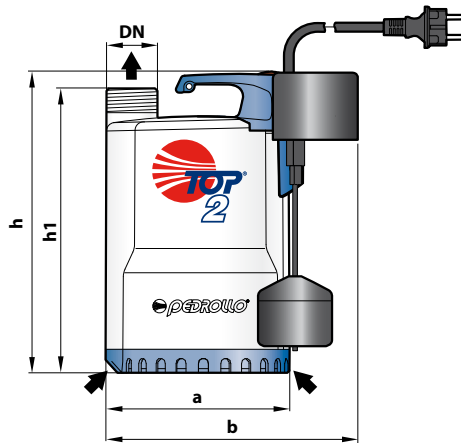


Typical installation

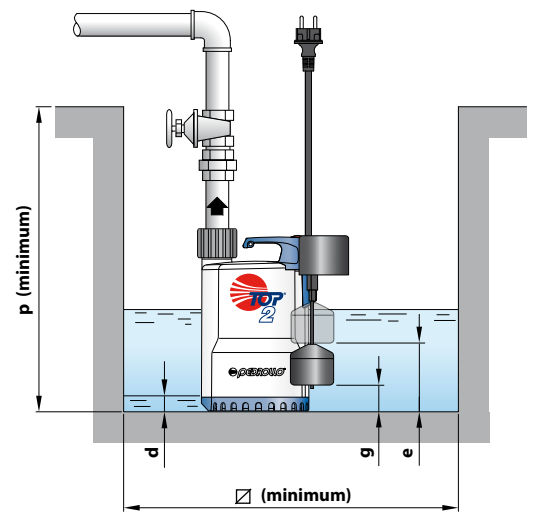


MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	p		Ø
Single-phase										
TOP 1	1¼"	152	260	240	14	regolabile	350	350	5.3	
TOP 2			290	270					5.3	
TOP 3									6.7	

Version with vertical float switch



Typical installation



MODEL	PORT	DIMENSIONS mm									kg
		DN	a	b	h	h1	d	e	g	p	
Single-phase											
TOP 1-GM	1¼"	152	200	260	240	14	140	35	350	220	5.4
TOP 2-GM				290	270						5.4
TOP 3-GM											170

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1	1.5 A	1.4 A	3.0 A
TOP 2	2.0 A	2.0 A	4.0 A
TOP 3	3.2 A	3.2 A	6.4 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase		
TOP 1	96	144
TOP 2	96	144
TOP 3	96	144

# TOP 4-5

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

10	<b>BEARINGS</b>	6203 ZZ / 6203 ZZ
----	-----------------	-------------------

11	<b>CAPACITOR</b>	
	<b>Pump</b>	<b>Capacitance</b>
	Single-phase	(230 V or 240 V) (110 V)
	TOP 4	16 µF 450 VL 30 µF - 250 VL
	TOP 5	20 µF 450 VL 30 µF - 250 VL

**12 ELECTRIC MOTOR**

**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

**13 HANDLE ASSEMBLY** (resin sealed)

Complete with:

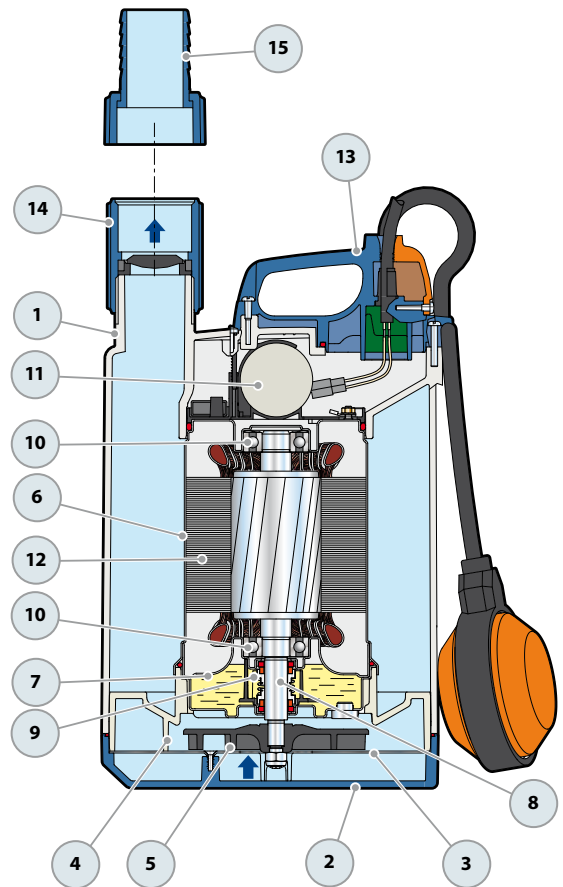
- 10 metres long "H07 RN-F" power cable with Schuko plug
- Float switch (Vertical float switch in the GM versions)

**14 PIPE COUPLING**

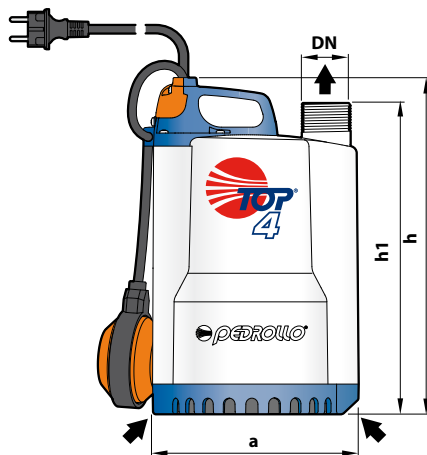
In technopolymer with 1½" thread and non-return valve

**15 HOSE CONNECTOR WITH RING NUT**

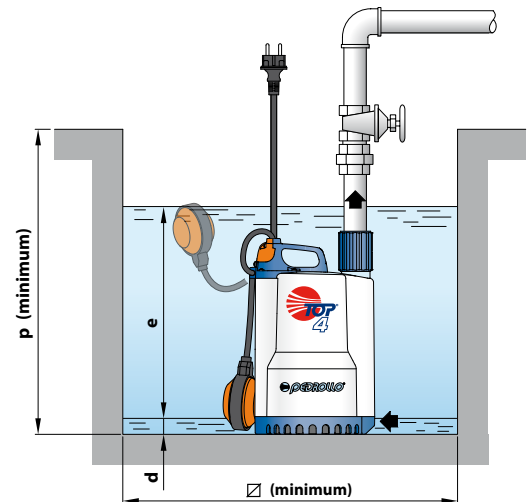
Hose connection Ø 41 mm



## DIMENSIONS AND WEIGHT

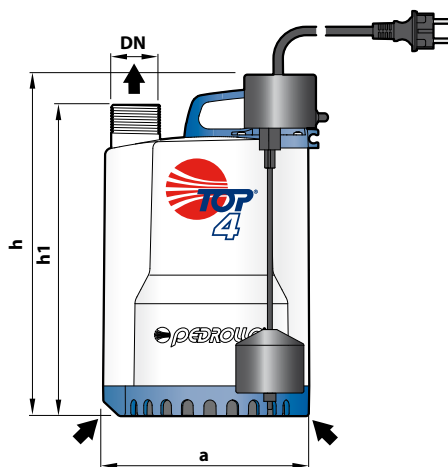


Typical installation

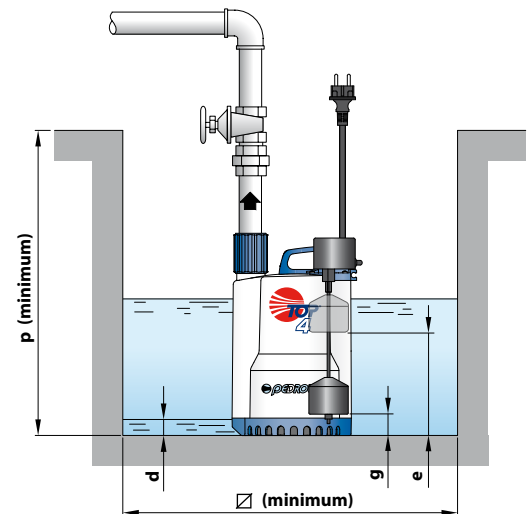


MODEL	PORT	DIMENSIONS mm							kg
		DN	a	h	h1	d	e	p	
Single-phase	1½"	204	337	313	30	variable	450	450	
TOP 4									10.3
TOP 5									11.3

Version with vertical float switch



Typical installation



MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	g		p
Single-phase	1½"	204	337	313	30	220	65	450	300	
TOP 4 - GM										10.4
TOP 5 - GM										11.4

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	4.5 A	4.4 A	9.0 A
TOP 4			
TOP 5	5.5 A	5.5 A	11.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP 4	60	100
TOP 5	60	100



### PERFORMANCE RANGE

- Flow rate up to **360 l/min** (21.6 m<sup>3</sup>/h)
- Head up to **15.5 m**

### APPLICATION LIMITS

- Immersion depth:
  - up to **3 m** for TOP 1-2-3
  - up to **5 m** for TOP 4-5(with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**  
(Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for TOP 1-2-3
  - **30 mm** above ground level for TOP 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for TOP 1-2-3
- **10 m** long power cable for TOP 4-5
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP** series is suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

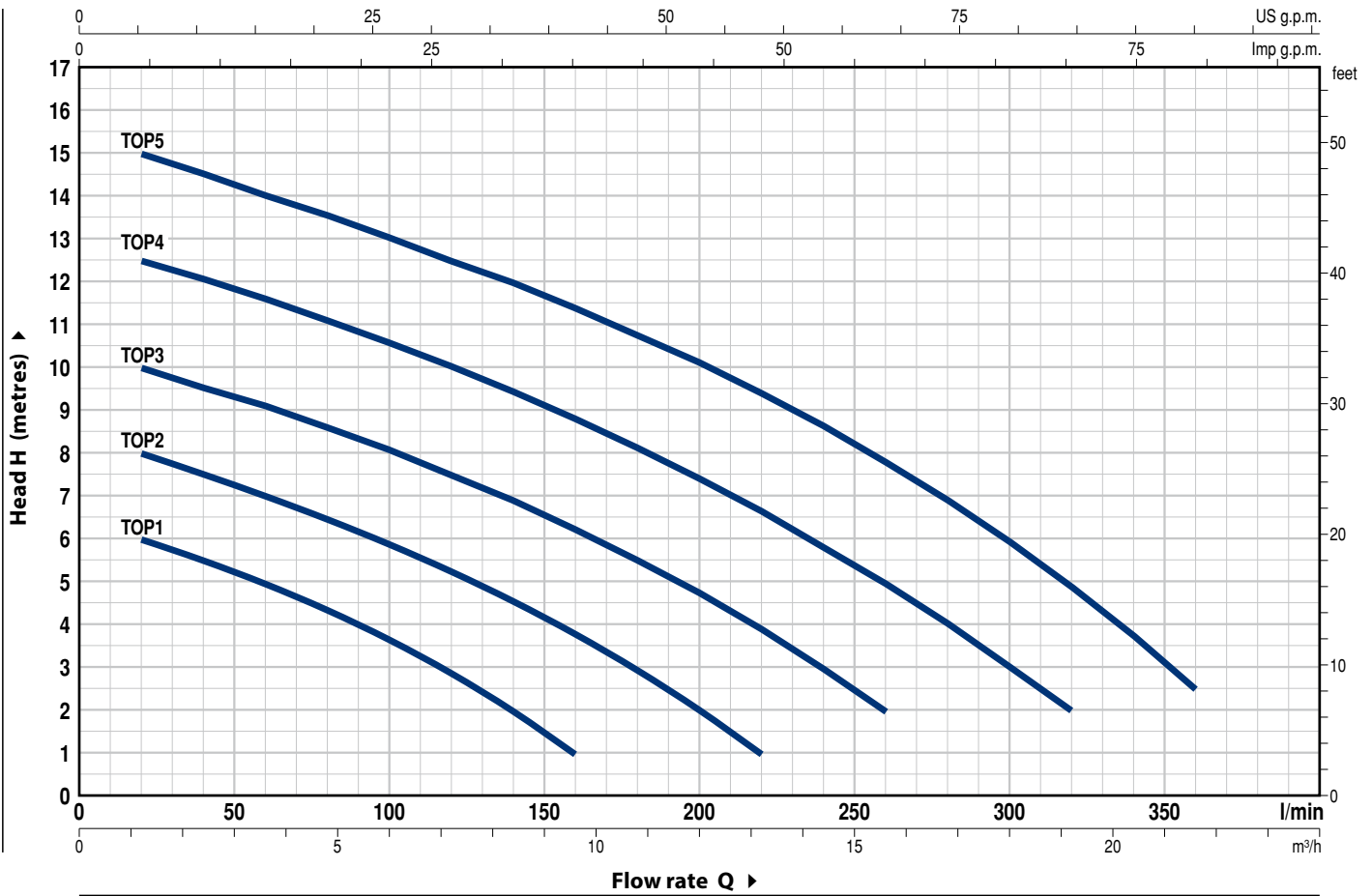
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- **"TOP-GM"** pumps with vertical float switch (suitable for particularly small wells)
- **"TOP 2-3 LA"** pumps intended for use with aggressive liquids
- Special mechanical seal
- TOP 1-2-3 pumps with **10 m** long power cable
  - ➔ N.B. Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	H metres																							
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	13.2	14.4	15.6	16.8	18.0	19.2	20.4	21.6					
			l/min	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360					
TOP 1	0.25	0.33		6.5	6	5.5	5	4.4	3.7	2.9	2	1															
TOP 2	0.37	0.50		8.5	8	7.5	7	6.5	5.9	5.3	4.6	3.8	3	2	1												
TOP 3	0.55	0.75	H metres	10.4	10	9.6	9.1	8.6	8.1	7.5	6.9	6.3	5.5	4.8	3.9	3	2										
TOP 4	0.75	1		12.9	12.5	12.1	11.6	11.1	10.6	10.1	9.5	8.8	8.2	7.4	6.7	5.9	5	4	3.1	2							
TOP 5	0.92	1.25		15.5	15	14.5	14	13.6	13.1	12.6	12	11.4	10.8	10.1	9.4	8.7	7.8	6.9	6	4.9	3.7	2.5					

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304 (AISI 316L for LA versions)
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (AISI 316L for LA versions)

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Pump Model	Seal Model	Shaft Diameter	Materials			
			Stationary ring	Rotational ring	Elastomer	Metals
TOP 1-2-3	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
TOP 1-2-3 GM						
TOP 2-3 LA	AR-12R LA	Ø 12 mm	Ceramic	Graphite	NBR	AISI 316

10 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

11 **BEARINGS** 6201 ZZ / 6201 ZZ

### 12 CAPACITOR

Pump Model	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
TOP 1	10 µF 450 VL	16 µF - 250 VL
TOP 2	10 µF 450 VL	16 µF - 250 VL
TOP 3	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

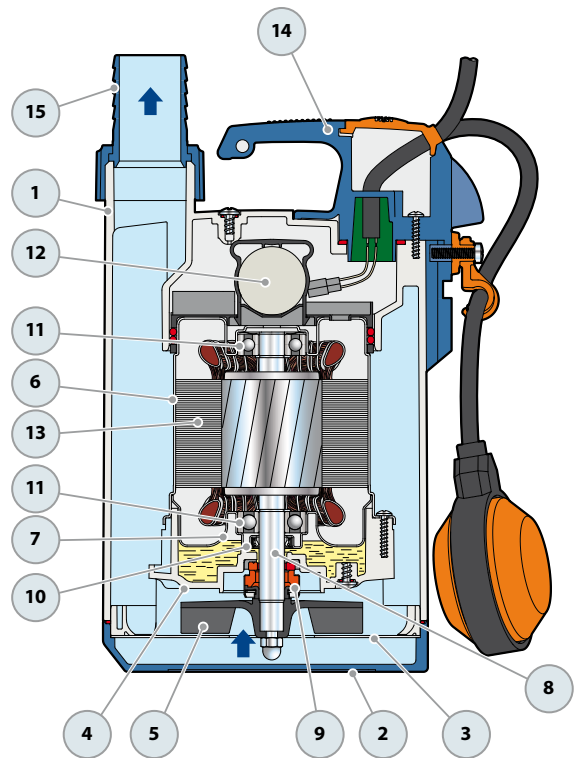
**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

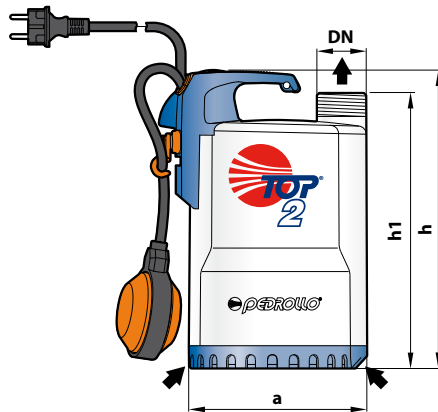
Complete with:  
 – 5 metres long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 15 HOSE CONNECTOR WITH RING NUT

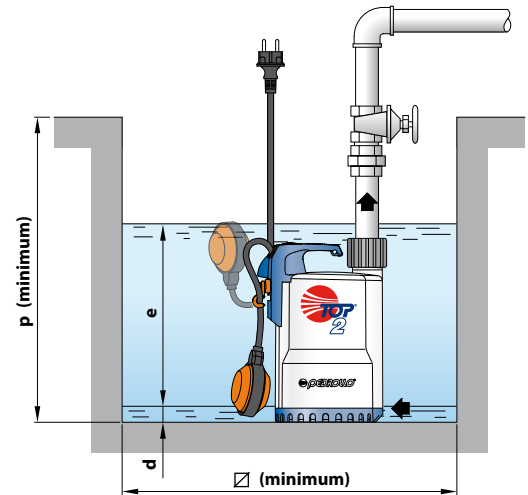
Ø 25 mm hose connection for TOP 1  
 Ø 35 mm for TOP 2-3



## DIMENSIONS AND WEIGHT

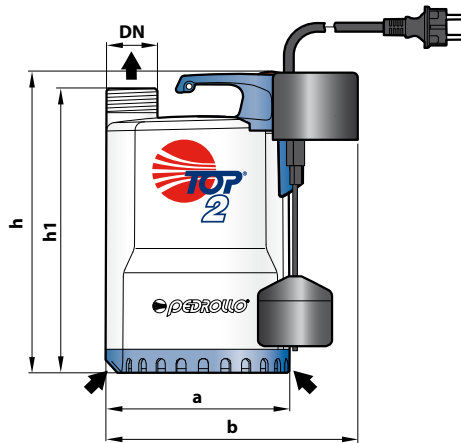


Typical installation

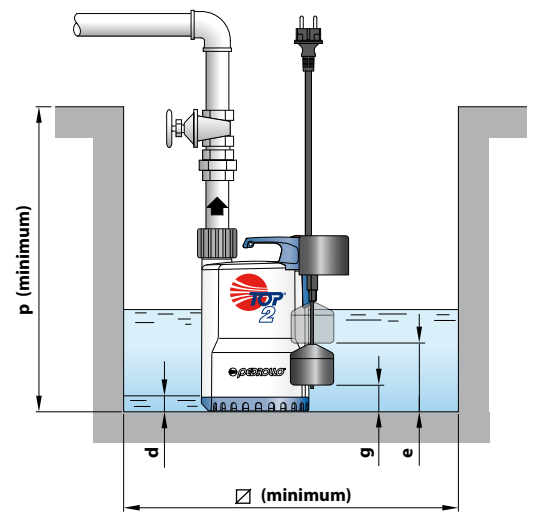


MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	p		Ø
Single-phase										
TOP 1	1¼"	152		260	240	14	regolabile	350	350	5.3
TOP 2				290	270					6.7
TOP 3										

Version with vertical float switch



Typical installation



MODEL	PORT	DIMENSIONS mm									kg
		DN	a	b	h	h1	d	e	g	p	
Single-phase											
TOP 1-GM	1¼"	152	200	260	240	14	140	35	350	220	5.4
TOP 2-GM				290	270						5.4
TOP 3-GM				170	40						6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1	1.5 A	1.4 A	3.0 A
TOP 2	2.0 A	2.0 A	4.0 A
TOP 3	3.2 A	3.2 A	6.4 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1	96	144
TOP 2	96	144
TOP 3	96	144

# TOP 4-5

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Noryl
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

10 **BEARINGS** 6203 ZZ / 6203 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
TOP 4	16 µF 450 VL	30 µF - 250 VL
TOP 5	20 µF 450 VL	30 µF - 250 VL

### 12 ELECTRIC MOTOR

**TOP:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 13 HANDLE ASSEMBLY (resin sealed)

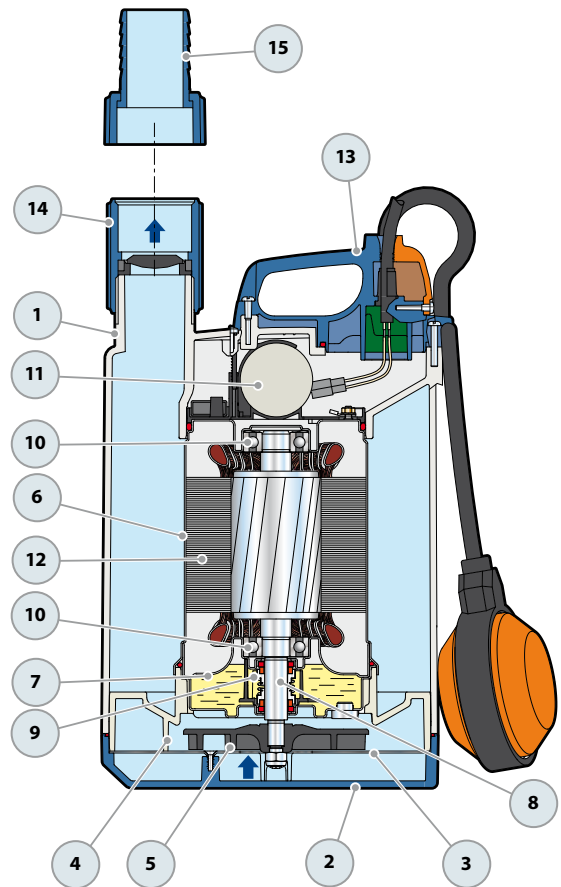
Complete with:  
 – **10 metres** long "H07 RN-F" power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 14 PIPE COUPLING

In technopolymer with 1½" thread and non-return valve

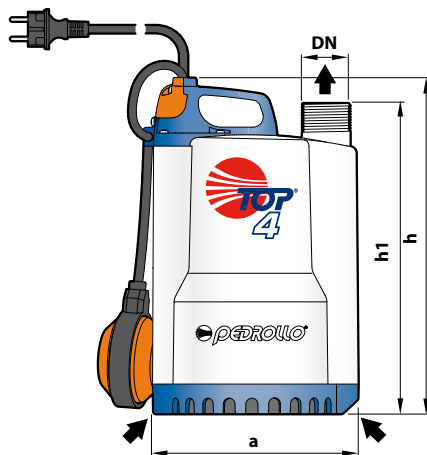
### 15 HOSE CONNECTOR WITH RING NUT

Hose connection Ø 41 mm

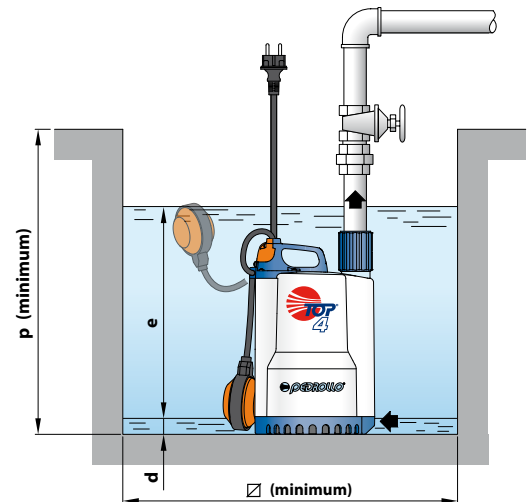




## DIMENSIONS AND WEIGHT

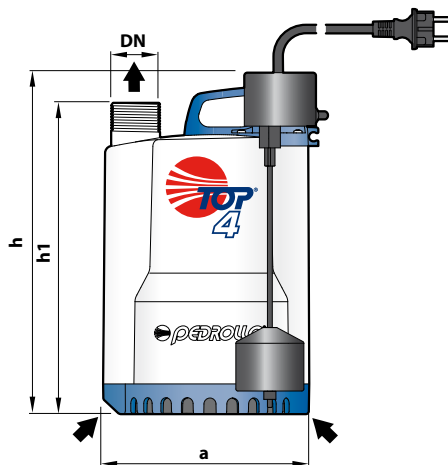


Typical installation

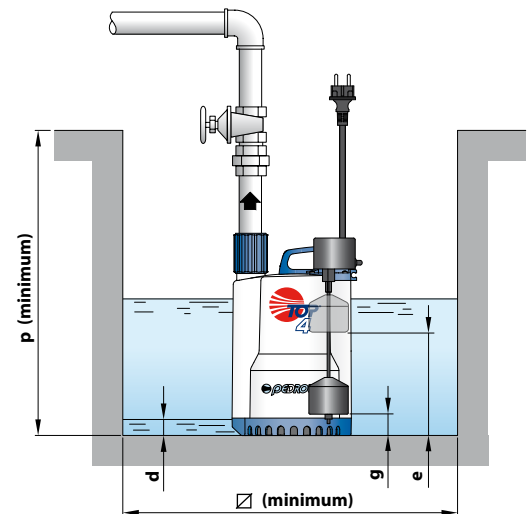


MODEL	PORT	DIMENSIONS mm							kg
		DN	a	h	h1	d	e	p	
Single-phase	1½"	204	337	313	30	variable	450	450	
TOP 4									10.3
TOP 5									11.3

Version with vertical float switch



Typical installation



MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	g		p
Single-phase	1½"	204	337	313	30	220	65	450	300	
TOP 4 - GM										10.4
TOP 5 - GM										11.4

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	4.5 A	4.4 A	9.0 A
TOP 4	5.5 A	5.5 A	11.0 A
TOP 5			

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP 4	60	100
TOP 5	60	100

# TOP-FLOOR

## Submersible DRAINAGE pumps

 Clear water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **160 l/min** (9.6 m<sup>3</sup>/h)
- Head up to **9 m**

### APPLICATION LIMITS

- **3 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 2 mm**
- Suction down to **2 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with a **5 m** power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP-FLOOR** series is suitable for use with **clear water** that does not contain abrasive particles.

Because of their ability to drain water to a level of 2 millimetres above ground level, they are suitable for use in domestic emergencies where a small area must be drained to the lowest possible level.

### PATENTS - TRADE MARKS - MODELS

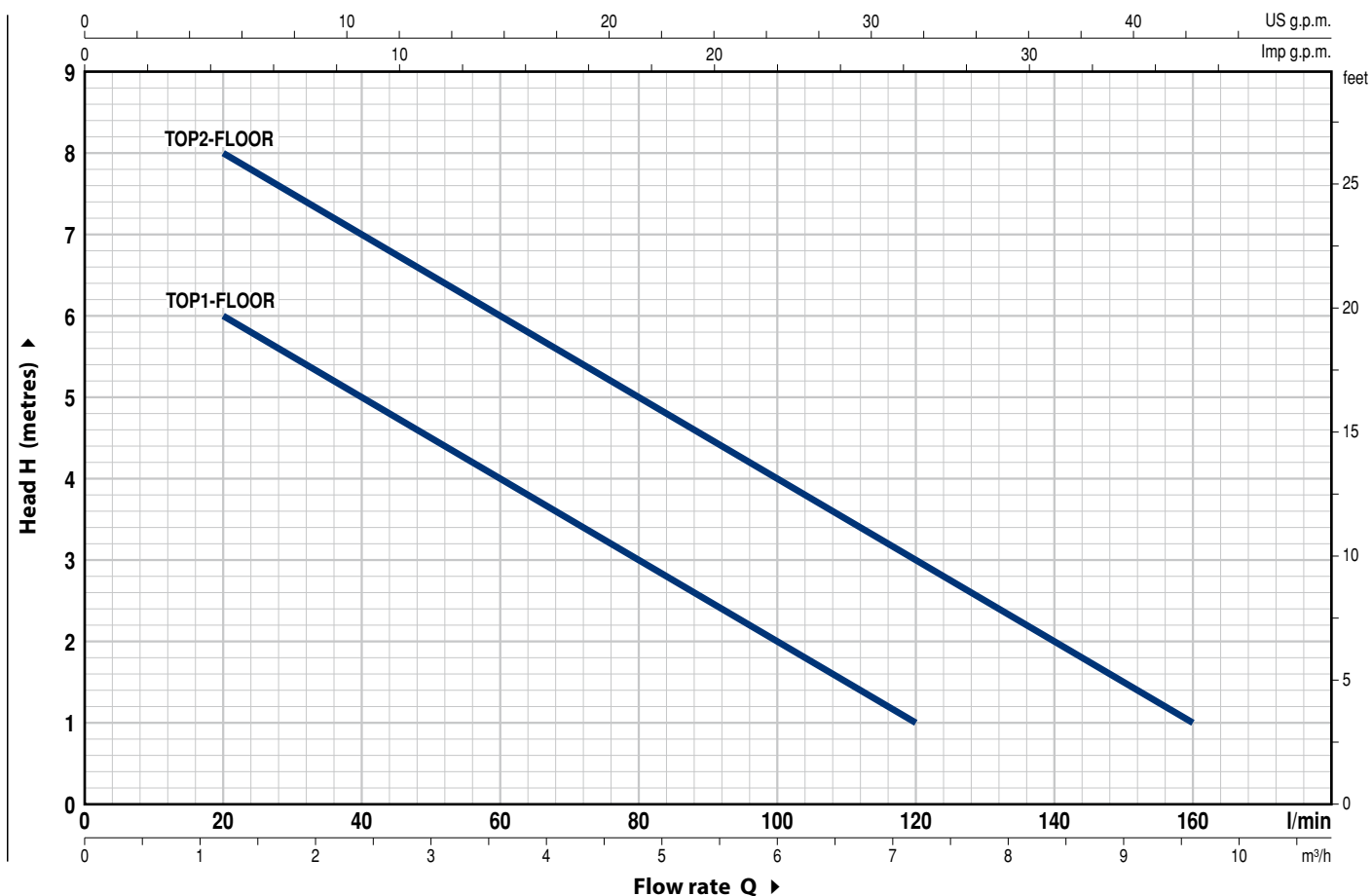
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- Pumps with float switch
- Pumps intended for use with aggressive liquids:
  - **TOP 1-FLOOR/LA**
  - **TOP 2-FLOOR/LA**
- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL	POWER (P <sub>2</sub> )		Q	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6
	kW	HP		0	20	40	60	80	100	120	140	160
Single-phase												
TOP 1-FLOOR	0.25	0.33	H metres	7	6	5	4	3	2	1		
TOP 2-FLOOR	0.37	0.50		9	8	7	6	5	4	3	2	1

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP-FLOOR

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer			
2	<b>SUCTION FILTER</b>	Technopolymer			
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304 (AISI 316L for LA versions)			
4	<b>DIFFUSER</b>	Technopolymer			
5	<b>IMPELLER</b>	Noryl FE1520PW			
6	<b>MOTOR CASING</b>	Stainless steel AISI 304 (AISI 316L for LA versions)			
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304			
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431 (AISI 316L for LA versions)			
9	<b>SHAFT WITH DOUBLE SEAL AND OIL CHAMBER</b>				
	<b>Seal</b>	<b>Shaft</b>	<b>Materials</b>		
	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR
10	<b>LIP SEAL</b>	Ø 12 x Ø 19 x H 5 mm			

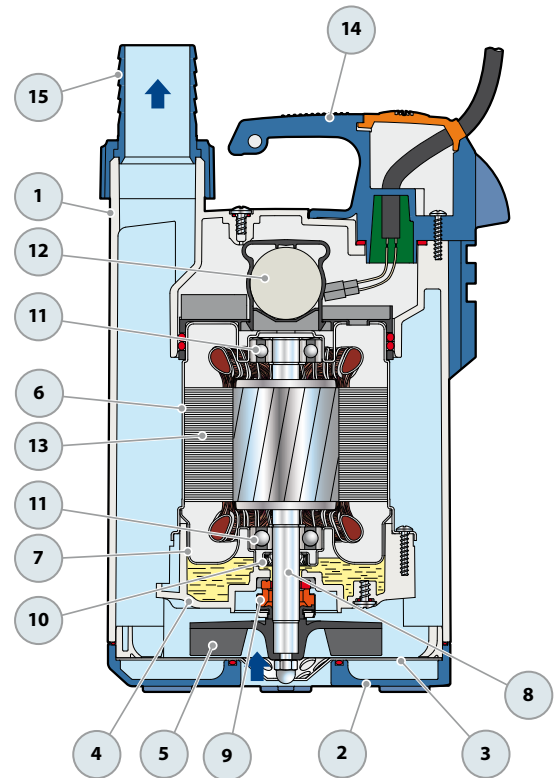
11	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ			
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12	<b>CAPACITOR</b>				
	<b>Pump</b>	<b>Capacitance</b>			
	<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
	TOP 1-FLOOR	10 µF 450 VL	16 µF - 250 VL		
	TOP 2-FLOOR	10 µF 450 VL	16 µF - 250 VL		

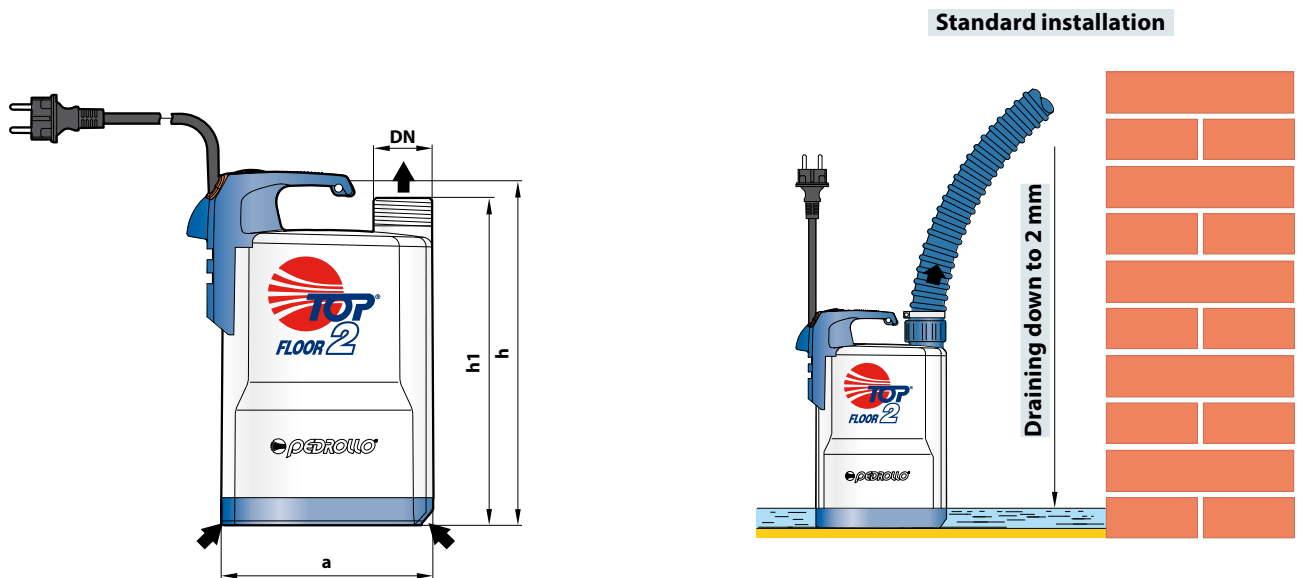
13	<b>ELECTRIC MOTOR</b>
	<b>TOP-FLOOR:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
	– Insulation: class F
	– Protection: IP X8

14	<b>HANDLE ASSEMBLY</b> (resin sealed)
	Complete with 5 metres long "H07 RN-F" <b>power cable</b> with Schuko plug

15	<b>HOSE CONNECTOR WITH RING NUT</b>
	Ø 25 mm hose connection for TOP1 - FLOOR
	Ø 35 mm hose connection for TOP2 - FLOOR



## DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm			Minimum drying level	kg
		a	h	h1		
Single-phase	DN					
TOP 1-FLOOR	1¼"	152	257	237	2 mm	5.1
TOP 2-FLOOR						5.2

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1-FLOOR	1.5 A	1.4 A	3.0 A
TOP 2-FLOOR	2.0 A	1.9 A	4.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase		
TOP 1-FLOOR	96	144
TOP 2-FLOOR	96	144

# TOP-VORTEX

## Submersible pumps

 Dirty water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **170 l/min** (10.2 m<sup>3</sup>/h)
- Head up to **8.7 m**

### APPLICATION LIMITS

- **3 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 25 mm**
- Suction down to **25 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP-VORTEX** pump is suitable for use with **dirty water** that is not chemically aggressive towards the materials from which the pump is made.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as clearing dirty water, emptying tanks, discharging domestic waste water, and for emptying collection traps containing suspended solids up to a maximum of Ø 25 mm.

### PATENTS - TRADE MARKS - MODELS

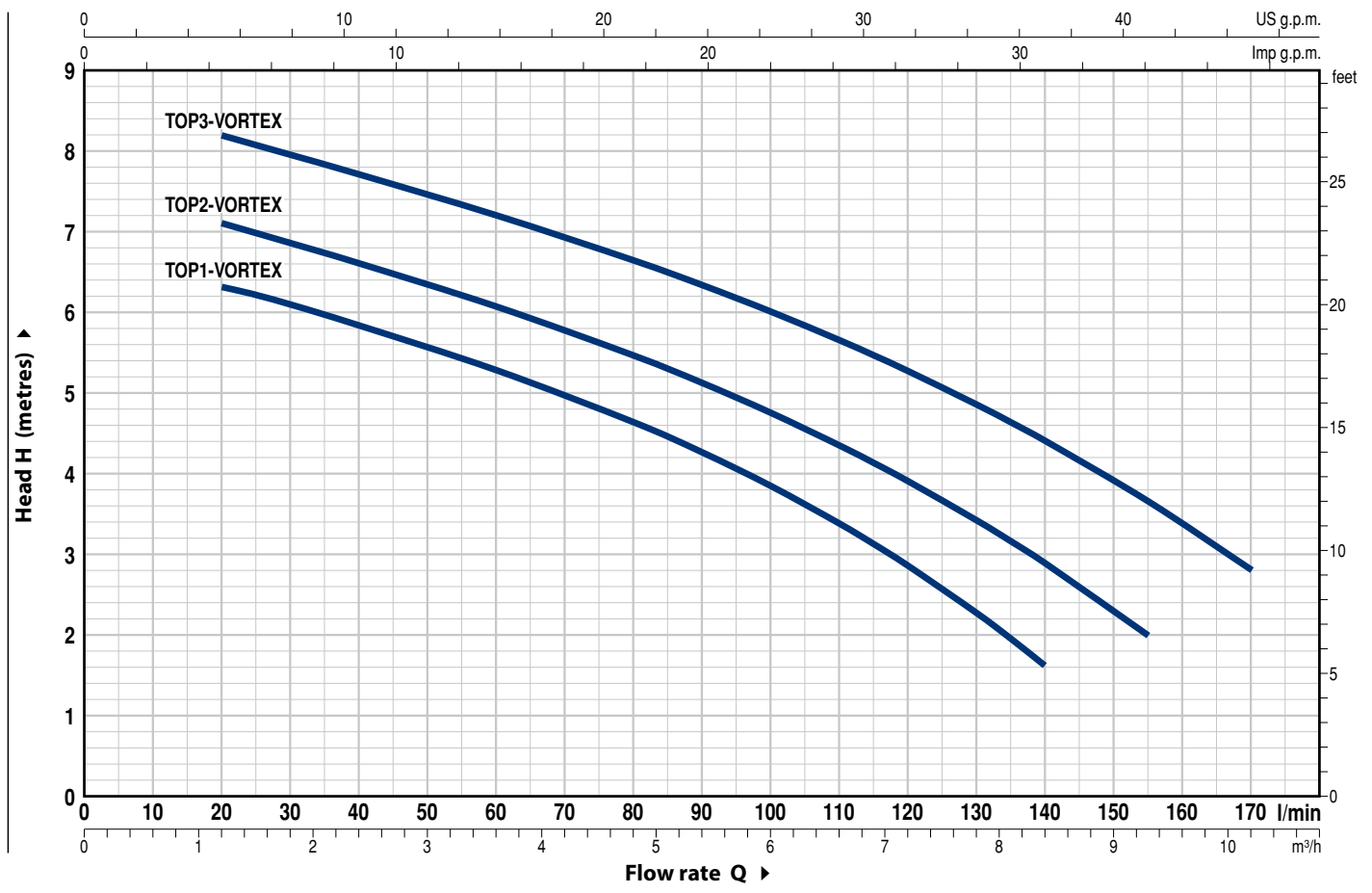
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- “**TOP-VORTEX/GM**” pumps with vertical switch (suitable for particularly small wells)
- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.3	10.2		
			l/min	0	20	40	60	80	100	120	140	155	170		
<b>TOP 1 - VORTEX</b>	0.25	0.33	H metres	6.9	6.3	5.8	5.3	4.6	3.8	2.8	1.6				
<b>TOP 2 - VORTEX</b>	0.37	0.50		7.6	7.1	6.6	6.1	5.5	4.8	3.9	2.9	2			
<b>TOP 3 - VORTEX</b>	0.55	0.75		8.7	8.2	7.7	7.2	6.7	6	5.3	4.4	3.7	2.8		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP-VORTEX

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Technopolymer
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Technopolymer VORTEX type
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Materials</i>		
		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

10 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

11 **BEARINGS** 6201 ZZ / 6201 ZZ

### 12 CAPACITOR

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
TOP 1 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 2 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 3 - VORTEX	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

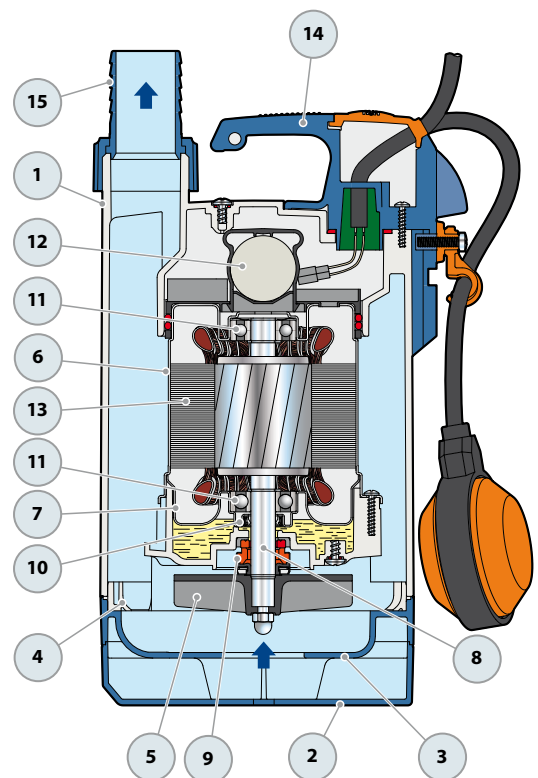
**TOP-VORTEX:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

Complete with:  
 – 5 metres long “H07 RN-F” power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

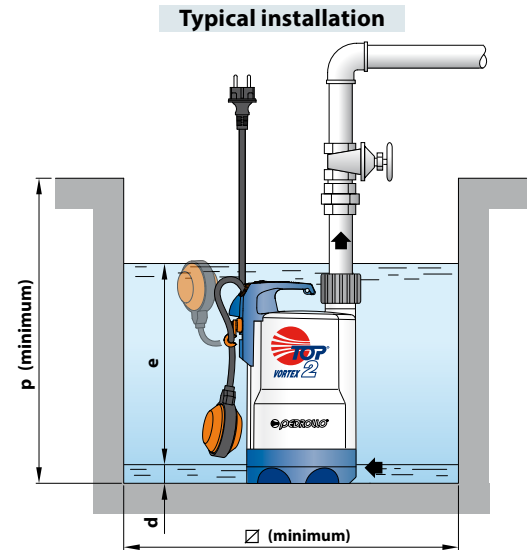
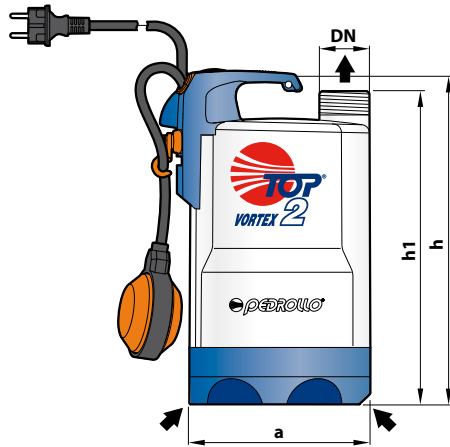
### 15 HOSE CONNECTOR WITH RING NUT

Hose connection Ø 35 mm



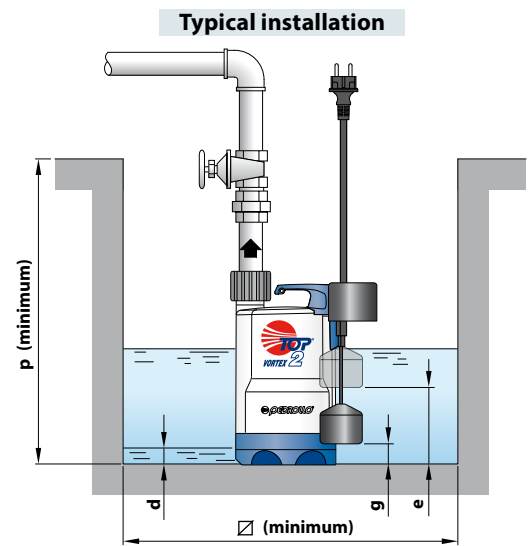
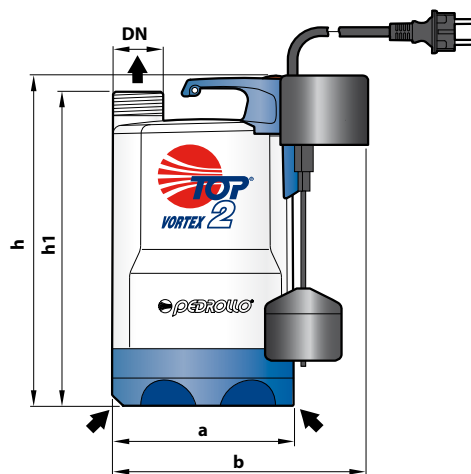


## DIMENSIONS AND WEIGHT



MODEL	PORT DN	DIMENSIONS mm							kg
		a	h	h1	d	e	p	Ø	
Single-phase	DN								
TOP 1 - VORTEX	1 1/4"	152	288	268	25	variable	350	350	5.3
TOP 2 - VORTEX			318	298					5.3
TOP 3 - VORTEX									6.7

### Version with vertical float switch



MODEL	PORT DN	DIMENSIONS mm									kg
		a	b	h	h1	d	e	g	p	Ø	
Single-phase	DN										
TOP 1 - VORTEX/GM	1 1/4"	152	200	288	268	25	170	40	350	220	5.4
TOP 2 - VORTEX/GM				318	298		200	65			5.4
TOP 3 - VORTEX/GM											6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1 - VORTEX	1.5 A	1.4 A	3.0 A
TOP 2 - VORTEX	2.0 A	1.9 A	4.0 A
TOP 3 - VORTEX	2.9 A	2.8 A	7.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1 - VORTEX	96	120
TOP 2 - VORTEX	96	120
TOP 3 - VORTEX	96	120

# TOP-VORTEX

## Submersible pumps

 Dirty water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **170 l/min** (10.2 m<sup>3</sup>/h)
- Head up to **8.7 m**

### APPLICATION LIMITS

- **3 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 25 mm**
- Suction down to **25 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- float switch

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

The **TOP-VORTEX** pump is suitable for use with **dirty water** that is not chemically aggressive towards the materials from which the pump is made.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as clearing dirty water, emptying tanks, discharging domestic waste water, and for emptying collection traps containing suspended solids up to a maximum of Ø 25 mm.

### PATENTS - TRADE MARKS - MODELS

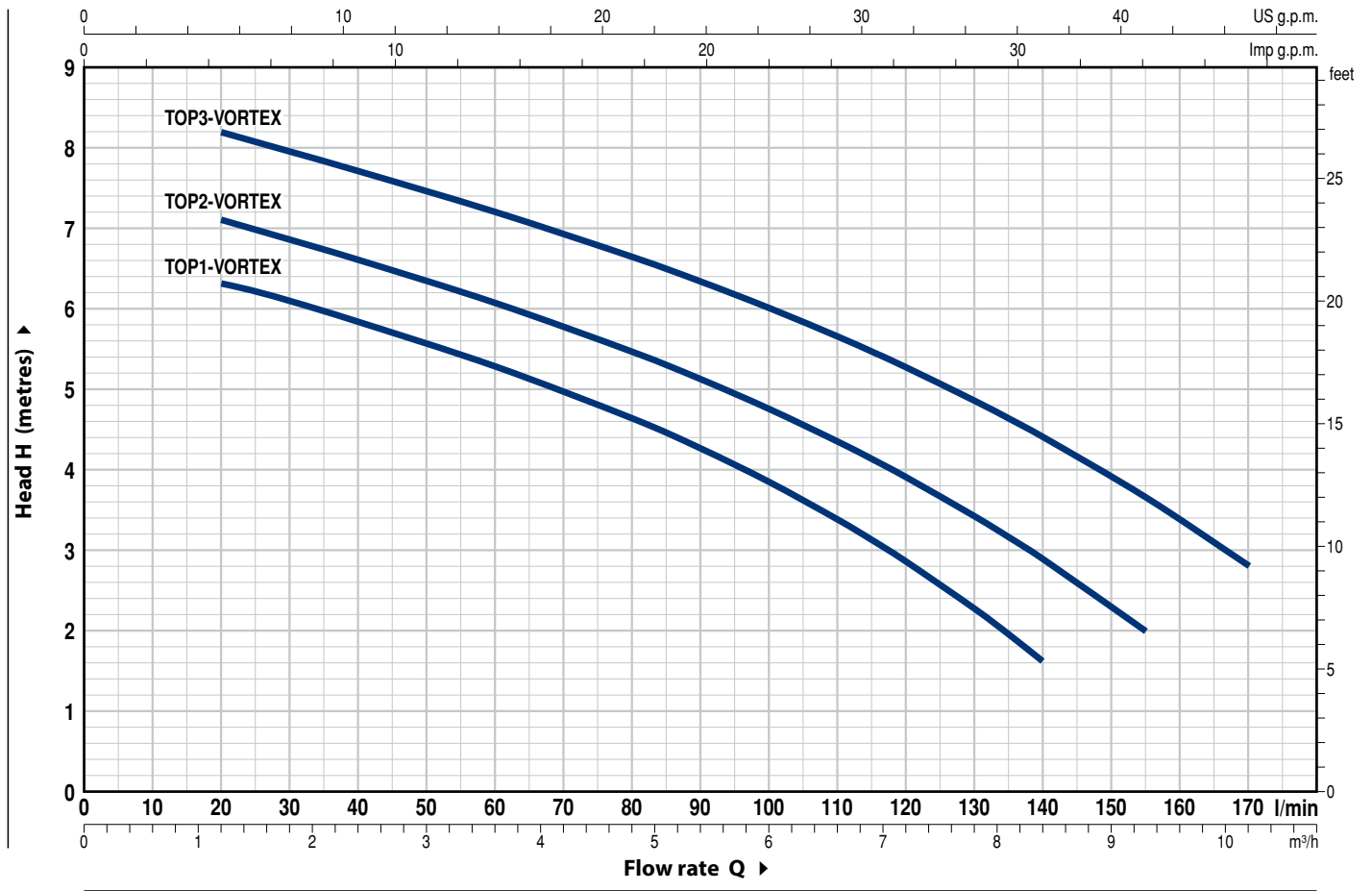
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

### OPTIONS AVAILABLE ON REQUEST

- “**TOP-VORTEX/GM**” pumps with vertical switch (suitable for particularly small wells)
- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Single-phase	POWER (P <sub>2</sub> )		Q m <sup>3</sup> /h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.3	10.2
	kW	HP		0	20	40	60	80	100	120	140	155	170
TOP 1 - VORTEX	0.25	0.33	H metres	6.9	6.3	5.8	5.3	4.6	3.8	2.8	1.6		
TOP 2 - VORTEX	0.37	0.50		7.6	7.1	6.6	6.1	5.5	4.8	3.9	2.9	2	
TOP 3 - VORTEX	0.55	0.75		8.7	8.2	7.7	7.2	6.7	6	5.3	4.4	3.7	2.8

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP-VORTEX

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Technopolymer
2	<b>SUCTION FILTER</b>	Technopolymer
3	<b>SUCTION PLATE</b>	Technopolymer
4	<b>DIFFUSER</b>	Technopolymer
5	<b>IMPELLER</b>	Technopolymer VORTEX type
6	<b>MOTOR CASING</b>	Stainless steel AISI 304
7	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
8	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Materials</i>		
		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

10	<b>LIP SEAL</b>	Ø 12 x Ø 19 x H 5 mm
11	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ

### 12 CAPACITOR

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
TOP 1 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 2 - VORTEX	10 µF 450 VL	16 µF - 250 VL
TOP 3 - VORTEX	14 µF 450 VL	16 µF - 250 VL

### 13 ELECTRIC MOTOR

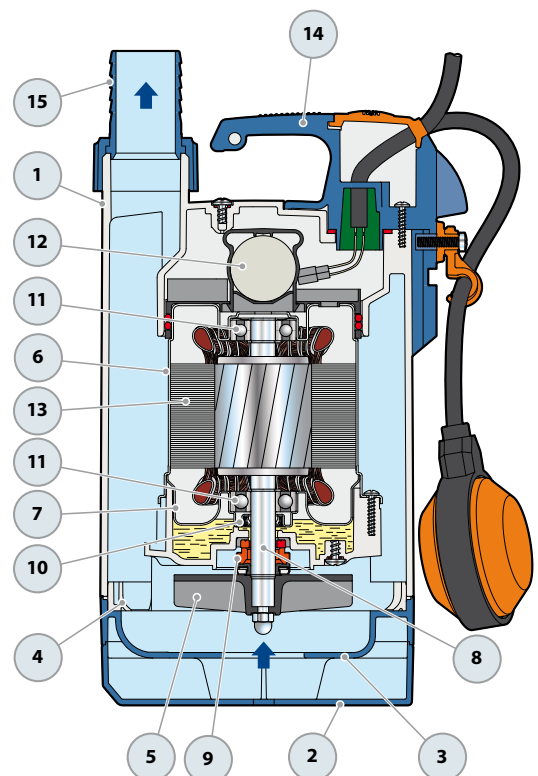
**TOP-VORTEX:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.  
 – Insulation: class F  
 – Protection: IP X8

### 14 HANDLE ASSEMBLY (resin sealed)

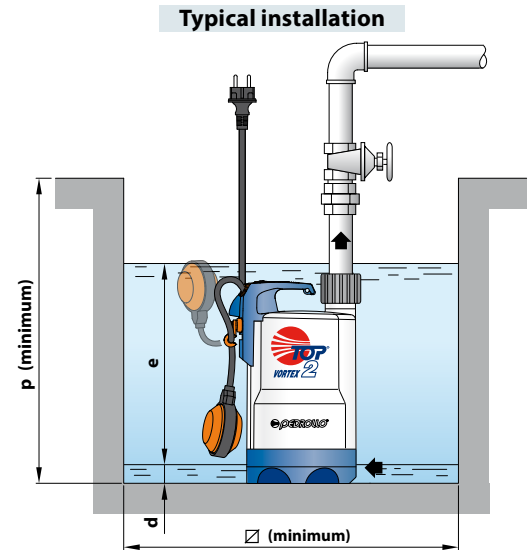
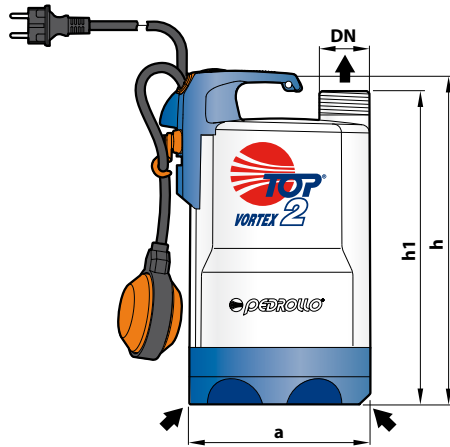
Complete with:  
 – 5 metres long “H07 RN-F” power cable with Schuko plug  
 – Float switch  
 (Vertical float switch in the GM versions)

### 15 HOSE CONNECTOR WITH RING NUT

Hose connection Ø 35 mm

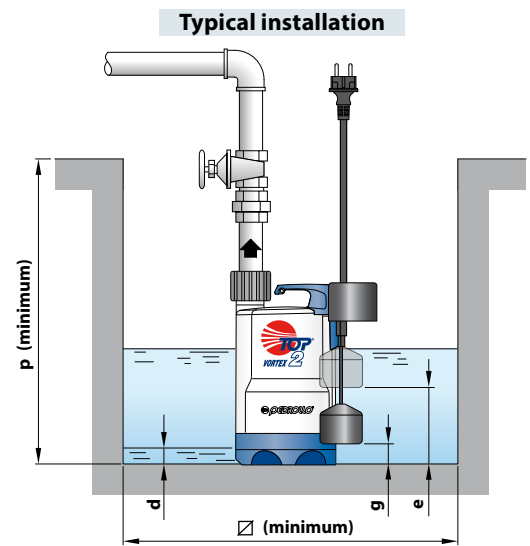
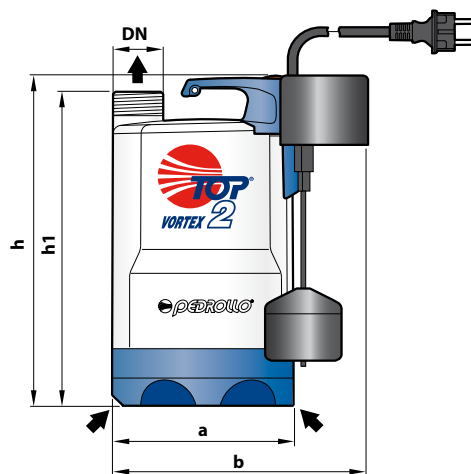


## DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm							kg	
		DN	a	h	h1	d	e	p		Ø
Single-phase	DN									
TOP 1 - VORTEX	1 1/4"	152		288	268	25	variable	350	350	5.3
TOP 2 - VORTEX				318	298					5.3
TOP 3 - VORTEX										6.7

### Version with vertical float switch



MODEL	PORT	DIMENSIONS mm									kg	
		DN	a	b	h	h1	d	e	g	p		Ø
Single-phase	DN											
TOP 1 - VORTEX/GM	1 1/4"	152	200		288	268	25	170	40	350	220	
TOP 2 - VORTEX/GM					318	298		200	65			5.4
TOP 3 - VORTEX/GM												6.9

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP 1 - VORTEX	1.5 A	1.4 A	3.0 A
TOP 2 - VORTEX	2.0 A	1.9 A	4.0 A
TOP 3 - VORTEX	2.9 A	2.8 A	7.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP 1 - VORTEX	96	120
TOP 2 - VORTEX	96	120
TOP 3 - VORTEX	96	120

## Submersible pumps

 Sewage water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **240 l/min** (14.4 m<sup>3</sup>/h)
- Head up to **10 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 30 mm**
- Suction down to **35 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- Liquid level vertical sliding magnetic float switch (adjustable)

**EN 60335-1**  
**IEC 60335-1**  
**CEI 61-150**

**EN 60034-1**  
**IEC 60034-1**  
**CEI 2-3**



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **TEX** pump is suitable for use with dirty water that is not chemically aggressive towards the materials from which the pump is made.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in applications such as clearing dirty water, emptying tanks, discharging domestic waste water, and for emptying collection traps containing suspended solids up to a maximum of Ø 30 mm.

### PATENTS - TRADE MARKS - MODELS

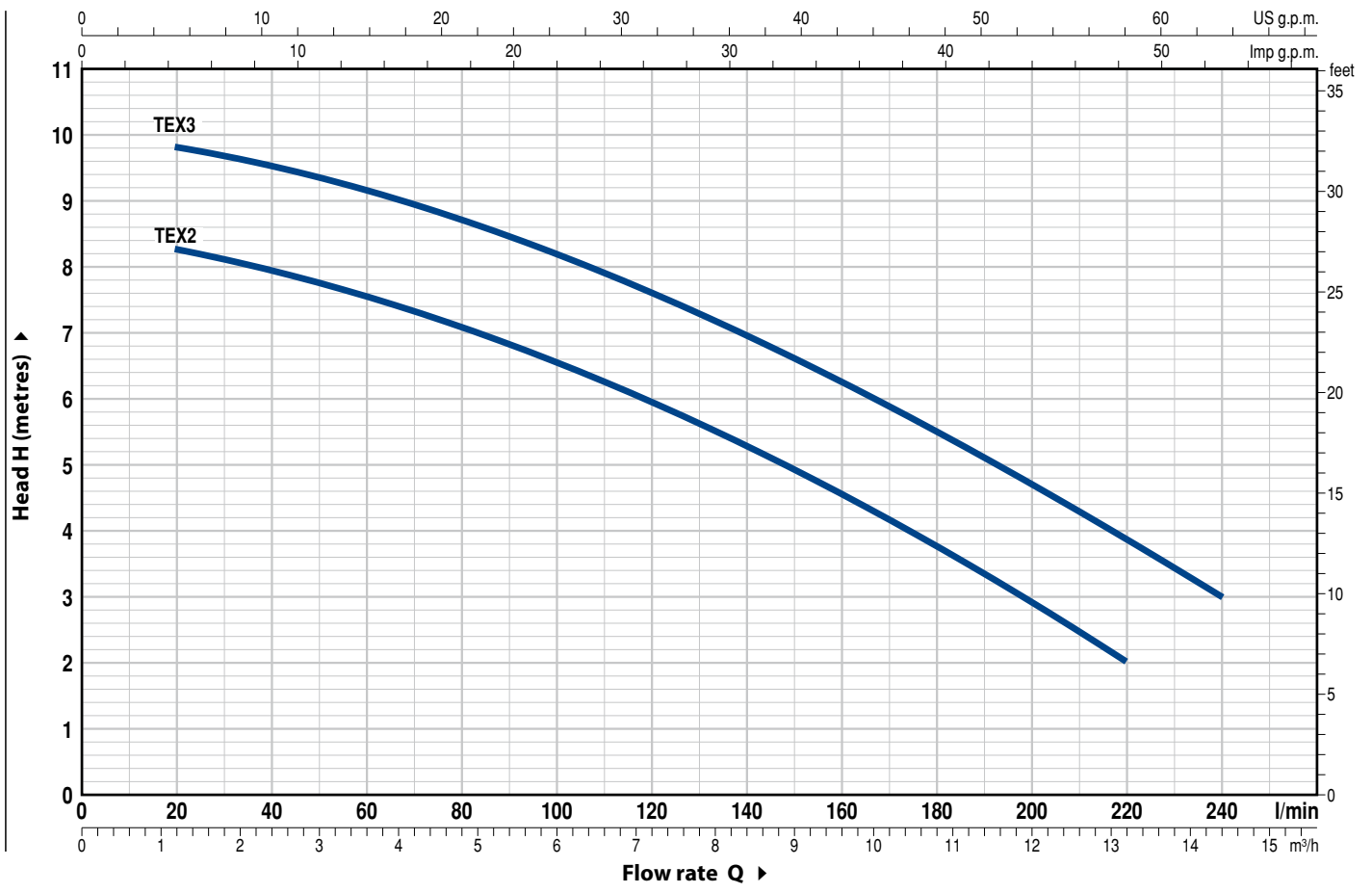
- Registered EU Design n. 005205556
- **TEX®** Registered Trade Mark n. 017884160

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>

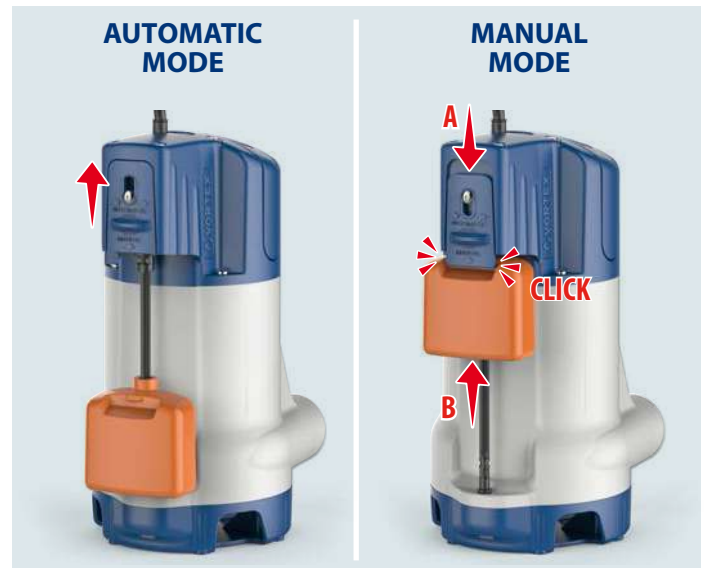


MODEL Single-phase	POWER (P <sub>2</sub> )		Q	Flow rate															
	kW	HP		m <sup>3</sup> /h	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12	13.2	14.4		
			l/min	0	20	40	60	80	100	120	140	160	180	200	220	240			
TEX 2	0.37	0.50	H metres	8.5	8.3	7.9	7.6	7.1	6.6	6	5.3	4.6	3.8	2.9	2				
TEX 3	0.55	0.75	H metres	10	9.8	9.5	9.2	8.7	8.2	7.6	7	6.3	5.5	4.7	3.9	3			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### RETRACTABLE HANDLE



**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 HANDLE</b>	Glass fibre reinforced technopolymer
<b>2 PUMP BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
<b>3 SUCTION FILTER</b>	Technopolymer
<b>4 SUCTION PLATE</b>	Technopolymer
<b>5 IMPELLER</b>	Glass fibre reinforced technopolymer VORTEX type impeller
<b>6 MOTOR CASING</b>	Stainless steel AISI 304
<b>7 MOTOR CASING PLATE</b>	Stainless steel AISI 304
<b>8 MOTOR SHAFT</b>	Stainless steel AISI 431

**9 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER**

<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
<b>Model</b>	<b>Diameter</b>			
<b>STA-12R</b>	<b>Ø 12 mm</b>	Ceramic	Graphite	NBR

**10 LIP SEAL**      **Ø 12 x Ø 19 x H 5 mm**

**11 BEARINGS**      **6201 ZZ / 6201 ZZ**

**12 CAPACITOR**

<i>Pump</i>	<i>Capacitance</i>
<i>Single-phase</i>	<i>(230 V or 240 V)</i>
<b>TEX 2</b>	<b>12.5 µF 450 VL</b>
<b>TEX 3</b>	<b>14 µF 450 VL</b>

**13 ELECTRIC MOTOR**

**TEX:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

**14 POWER CABLE**

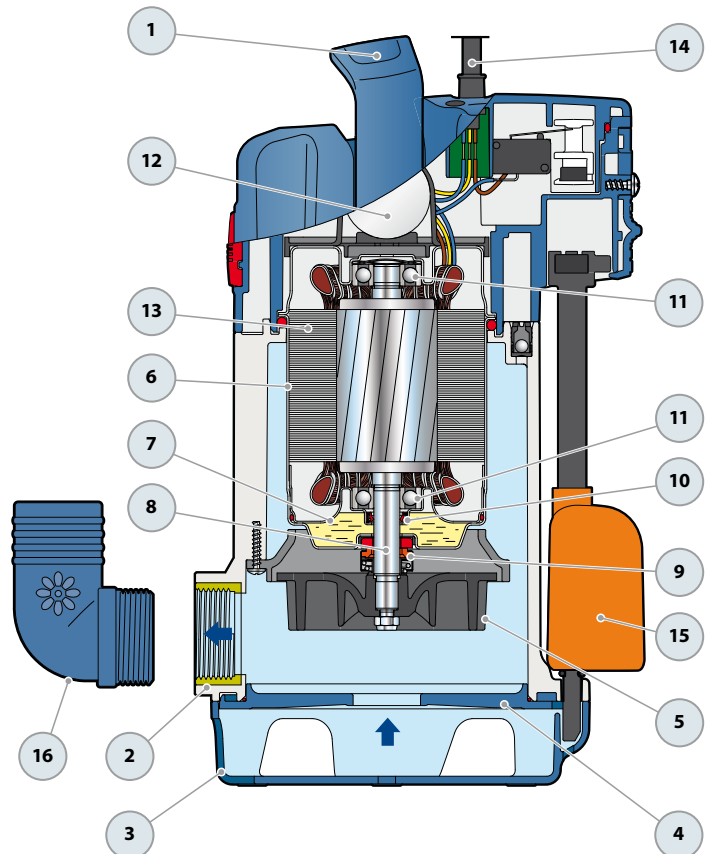
"H07 RN-F" type with Schuko plug  
**Standard length 5 metres**

**15 LEVEL FLOAT SWITCH**

Liquid level vertical sliding magnetic float switch (adjustable)

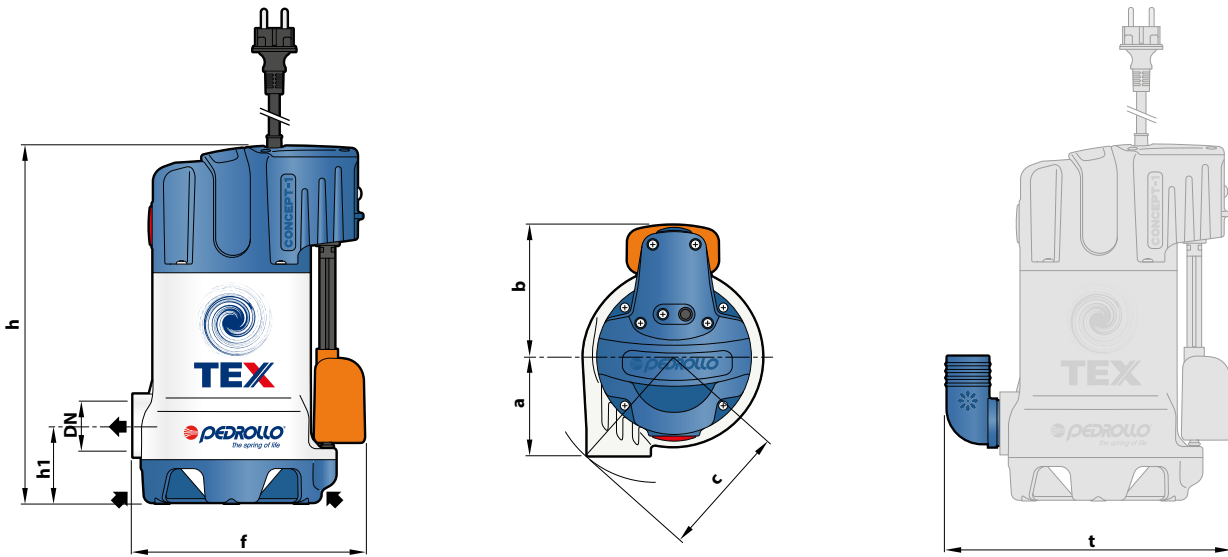
**16 HOSE CONNECTION**

**Ø 40 mm**





## DIMENSIONS AND WEIGHT



MODEL	PORT DN	Passage of solids	DIMENSIONS mm											kg		
			a	b	c	f	h1	h	d	e	g	t	p		∅	
Single-phase																1~
TEX 2	1 1/4"	∅ 30 mm	88	117	118	205	69.5	318	35	100	80 o 100	251	350	220	6.5	
TEX 3															6.8	

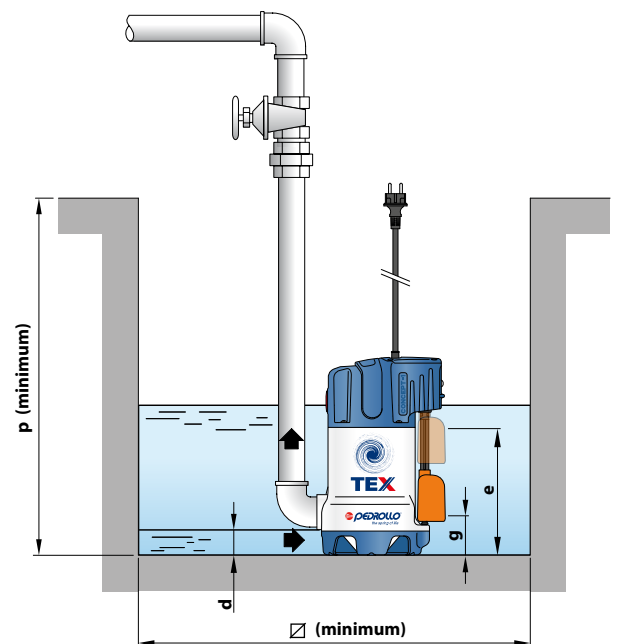
## ABSORPTION

MODEL	VOLTAGE	
	Single-phase	230 V
TEX 2	2.7 A	2.6 A
TEX 3	3.3 A	3.2 A

## PALLETIZATION

MODEL	GROUPAGE
	Single-phase
TEX 2	60
TEX 3	60

### Typical installation



Submersible multi-stage pumps designed to pump AdBlue®



### PERFORMANCE RANGE

- Flow rate up to **70 l/min** (4.2 m<sup>3</sup>/h)
- Head up to **27 m**

### APPLICATION LIMITS

- **3 metres** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction down to **25 mm** above ground level
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pump is complete with:

- **5 metres** long power cable with H07BN4-F coating
- complete connector with flap-check valve

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Multistage submersible pumps **TOP MULTI 1-AD** are designed to pump clean liquid, which is defined according to standard ISO 22241 as AUS 32 (Aqueous Urea Solution 32.5%).

This liquid is equivalent to other commercial trademarks known as:

- **AdBlue®** (trademark registered by Verband der Automobilindustrie VDA);
- **DEF** (Diesel Exhaust Fluid);
- **Arla 32** (Agente Redutor Liquido de Óxido de Nitrogênio Automotivo).

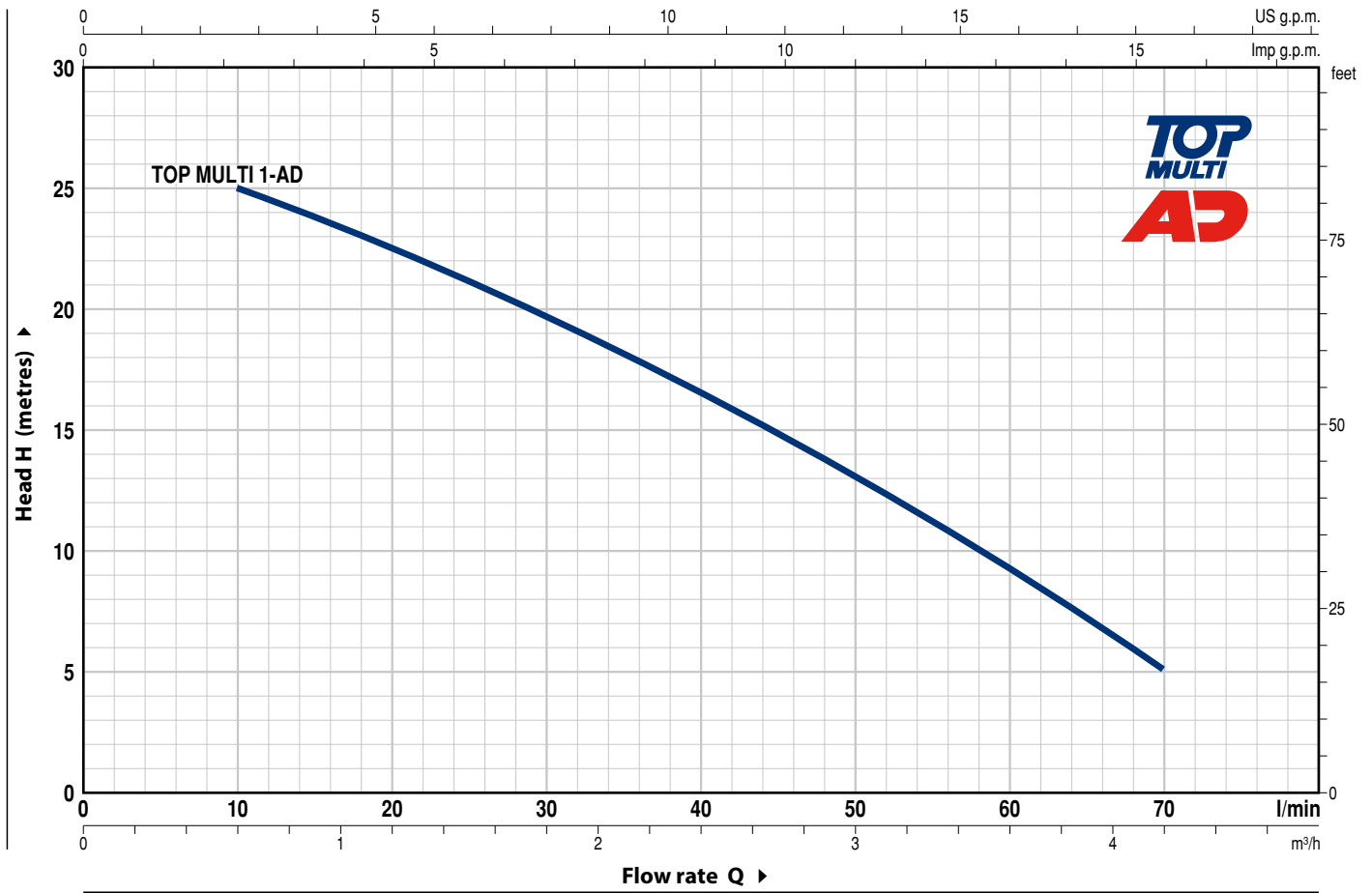
Multistage submersible pumps **TOP MULTI-AD** are designed using materials compliant to this liquid; their use is subjected to local laws and directives.

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL	POWER (P <sub>2</sub> )		Q	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2
	kW	HP		0	10	20	30	40	50	60	70
Single-phase											
<b>TOP MULTI 1-AD</b>	0.37	0.50	<b>H metres</b>	27	25	22.5	19.5	16.5	13	9	5

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TOP MULTI-AD

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>DELIVERY BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Glass fibre reinforced technopolymer
3	<b>STAGE CASING</b>	Glass fibre reinforced technopolymer
4	<b>IMPELLER</b>	Noryl FE1520PW
5	<b>DIFFUSER</b>	Noryl FE1520PW complete with anti-wear ring
6	<b>VANE DIFFUSER</b>	Glass fibre reinforced technopolymer
7	<b>MOTOR CASING</b>	Stainless steel AISI 304
8	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
9	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

## 10 SHAFT WITH DOUBLE SEAL

<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>			
<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>	<i>Metals</i>
STA-12R SGE	Ø 12 mm	Silicon carbide	Graphite	EPDM	AISI 304

## 11 LIP SEAL Ø 12 x Ø 19 x H 5 mm

## 12 BEARINGS 6201 ZZ - C3E / 6201 ZZ - C3E

## 13 CAPACITOR

<i>Capacitance</i>	
<i>(230 V or 240 V)</i>	<i>(110 V)</i>
10 µF 450 VL	16 µF 250 VL

## 14 ELECTRIC MOTOR

**TOP MULTI 1-AD:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

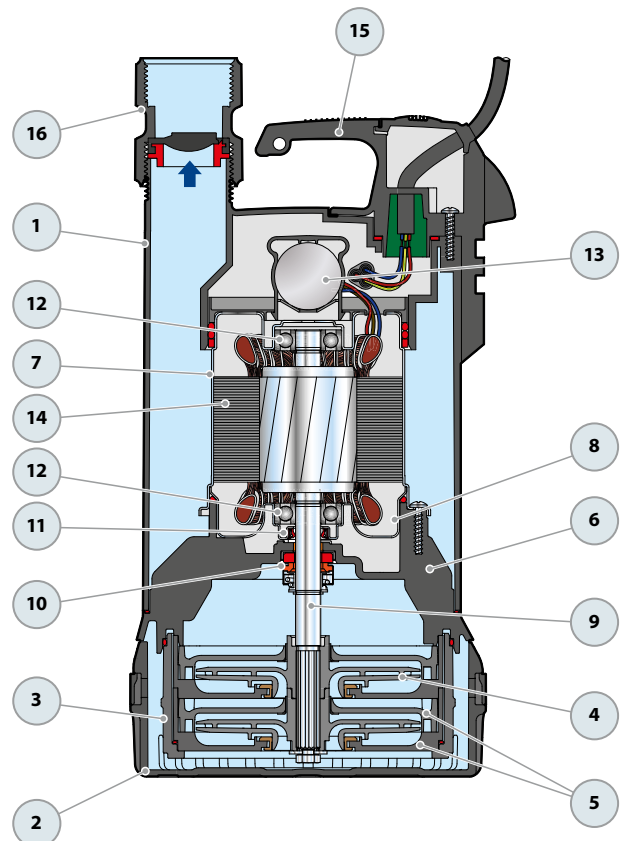
## 15 HANDLE ASSEMBLY (resin sealed)

Complete with **5 metres** long "H07BN4-F" power cable

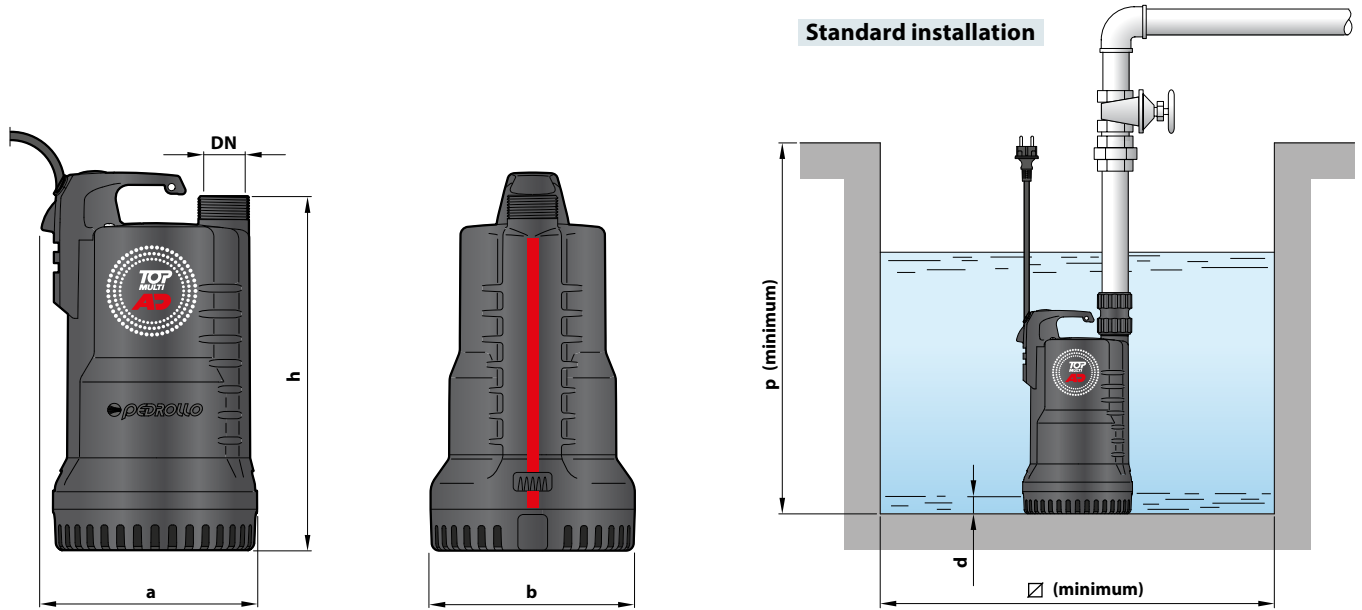
## 16 PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)



## DIMENSIONS AND WEIGHT



MODEL	PORT DN	N. STAGES	DIMENSIONS mm					kg
			a	b	h	d	∅	
Single-phase	DN							
TOP MULTI 1-AD	1¼"	2	180	170	295	25	220	5.8

## ABSORPTION

MODEL	VOLTAGE		
	Single-phase	230 V	240 V
TOP MULTI 1-AD	2.0 A	1.9 A	4.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 1-AD	60	100

# RX

## Submersible DRAINAGE pumps

 Clear water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+50 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for RX 1-2-3
  - **25 mm** above ground level for RX 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for RX 1-2-3
- **10 m** long power cable for RX 4-5
- float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **RX** series pumps are suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in fixed installations and applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

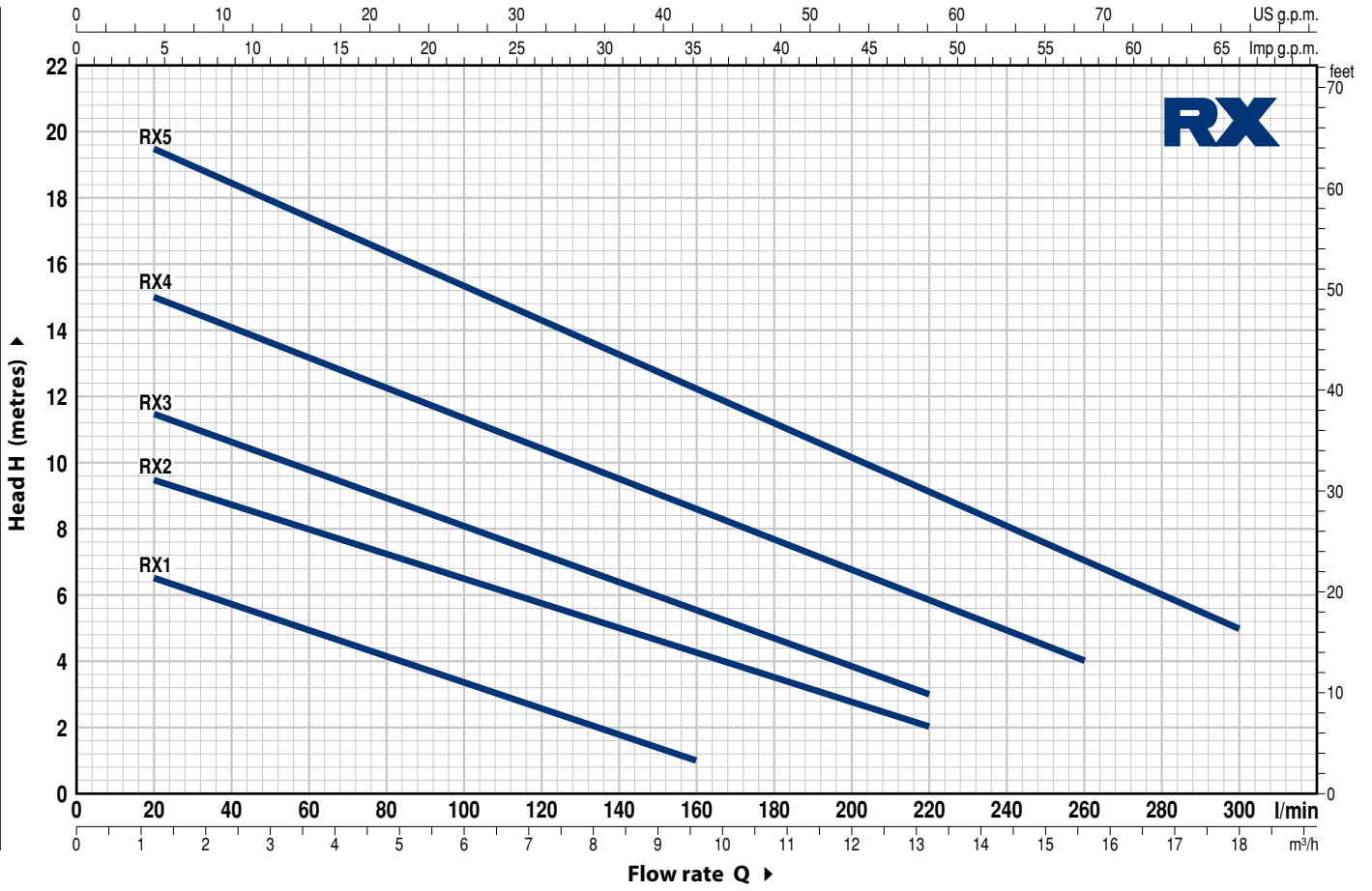
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- “**RX-GM**” pumps with a vertical float switch (suitable for particularly small wells)
- Special mechanical seal
- RX 1-2-3 pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate													
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	3.6	6.0	8.4	9.6	12.0	13.2	15.6	18.0			
				l/min	0	20	60	100	140	160	200	220	260	300				
RXm 1	RX 1	0.25	0.33	H metres	7.5	6.5	5	3.5	2	1								
RXm 2	RX 2	0.37	0.50		10	9.5	8	6.5	5	4.5	2.5	2						
RXm 3	RX 3	0.55	0.75		12	11.5	9.5	8	6.5	5.5	3.5	3						
RXm 4	RX 4	0.75	1		16	15	13	11.5	9.5	8.5	6.5	5.5	4					
RXm 5	RX 5	1.1	1.5		20	19.5	17.5	15.5	13.5	12.5	10	9	7	5				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# RX 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Materials		
		Stationary ring	Rotational ring	Elastomer
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

9 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

10 **BEARINGS** 6201 ZZ / 6201 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance	
	(230 V or 240 V)	(110 V)
<b>RXm 1</b>	10 µF 450 VL	16 µF - 250 VL
<b>RXm 2</b>	10 µF 450 VL	16 µF - 250 VL
<b>RXm 3</b>	14 µF 450 VL	16 µF - 250 VL

### 12 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

– Insulation: class F

– Protection: IP X8

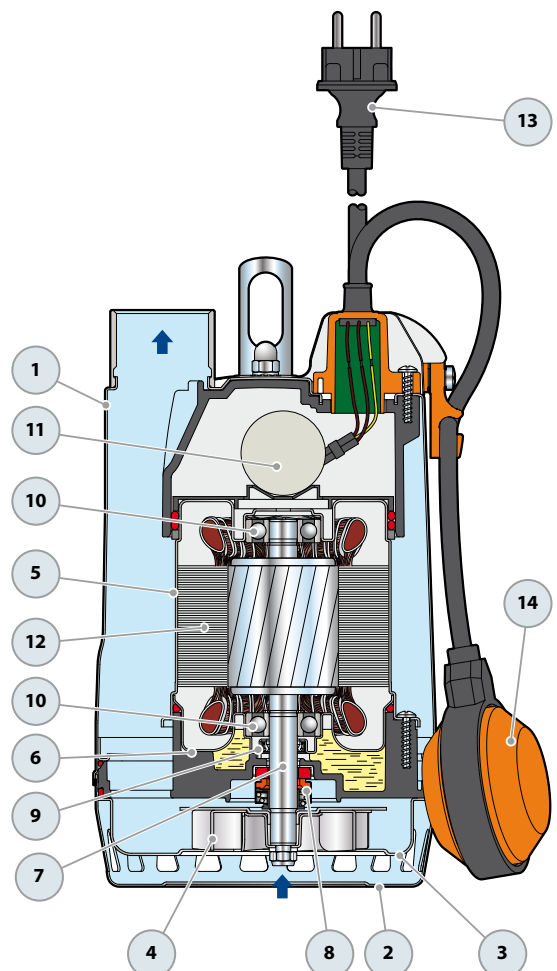
### 13 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 5 metres**

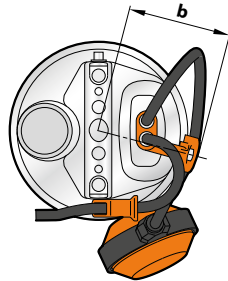
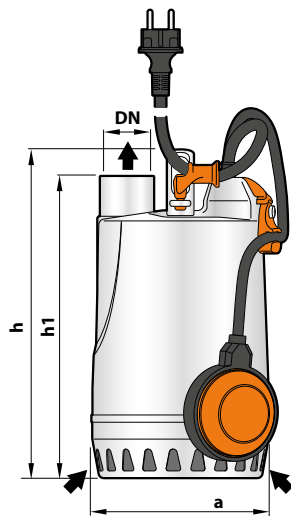
### 14 FLOAT SWITCH

(Only for single-phase versions)

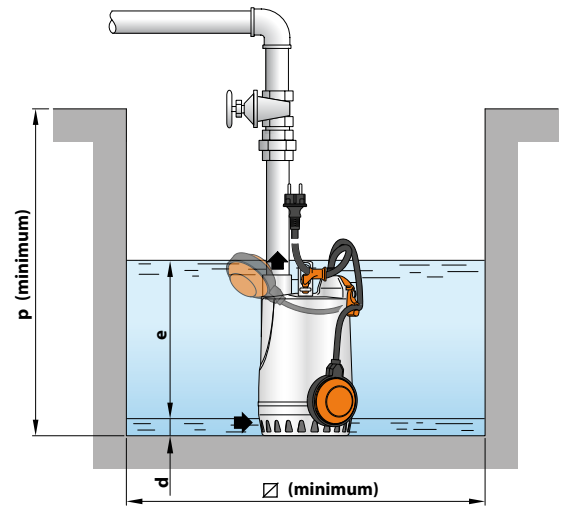




## DIMENSIONS AND WEIGHT

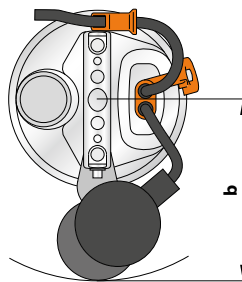
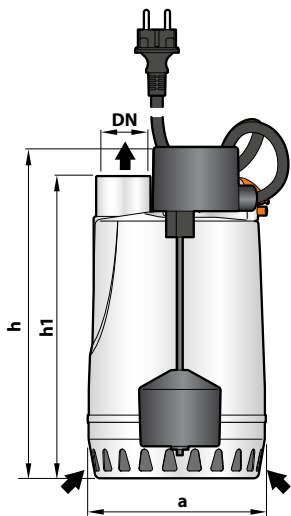


Standard installation

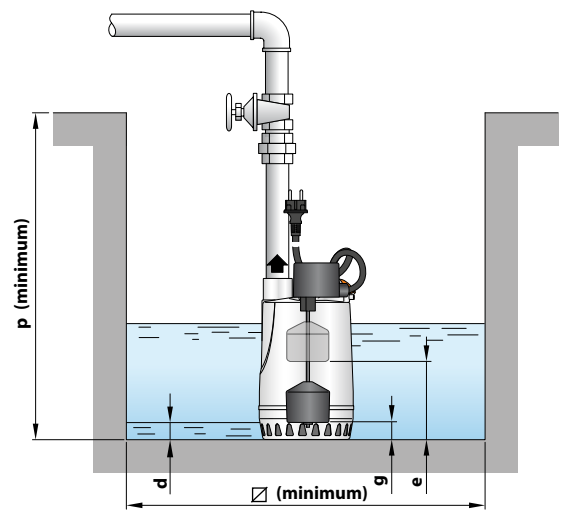


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1	RX 1	1 1/4"	147	24	269	246	14	variable	350	350	6.1	5.5	96	144
RXm 2	RX 2				298	277					6.1	5.6	96	144
RXm 3	RX 3				7.6	7.0					96	144		

Version with vertical float switch



Standard installation



MODEL		PORT	DIMENSIONS mm								kg	PALLETIZATION	
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1-GM	1 1/4"	147	150	270	247	14	145	40	350	240	6.2	80	120
RXm 2-GM				300	277		175	45			6.2	80	120
RXm 3-GM				7.5	80		120						

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
RXm 1	1.5 A	1.4 A	3.0 A
RXm 2	2.0 A	2.0 A	4.0 A
RXm 3	3.6 A	3.4 A	7.2 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 1	1.6 A	0.9 A	1.6 A	0.9 A
RX 2	1.7 A	1.0 A	1.7 A	1.0 A
RX 3	2.8 A	1.6 A	2.6 A	1.5 A

# RX 4-5

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 9 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

### 10 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
RXm 4	20 µF 450 VL	30 µF - 250 VL
RXm 5	25 µF 450 VL	30 µF - 250 VL

### 11 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

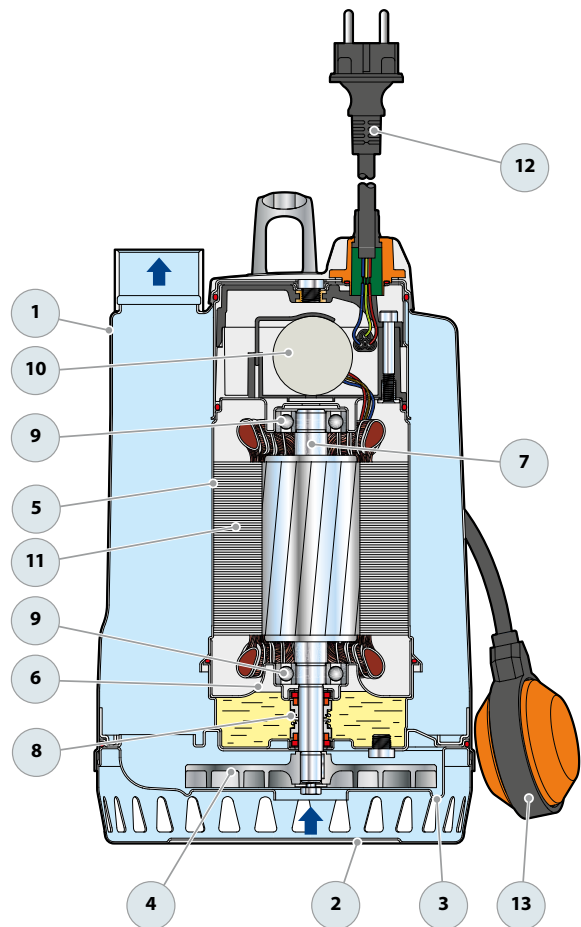
### 12 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

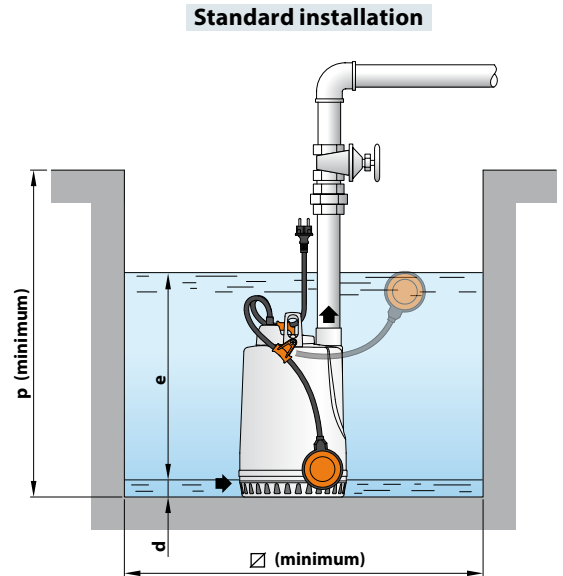
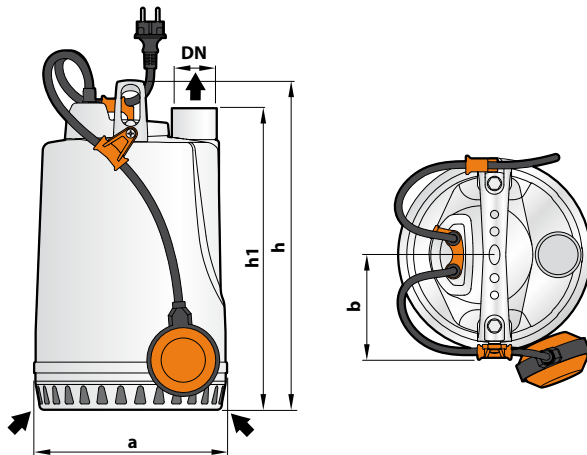
**Standard length 10 metres**

### 13 FLOAT SWITCH

Only for single-phase versions  
(Vertical float switch in the GM versions).

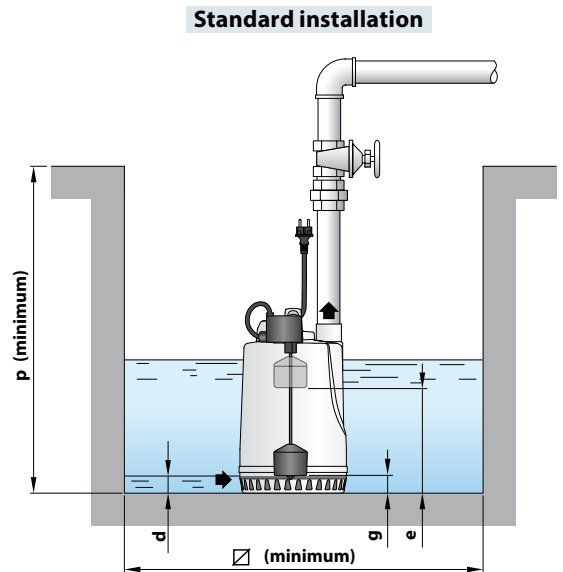
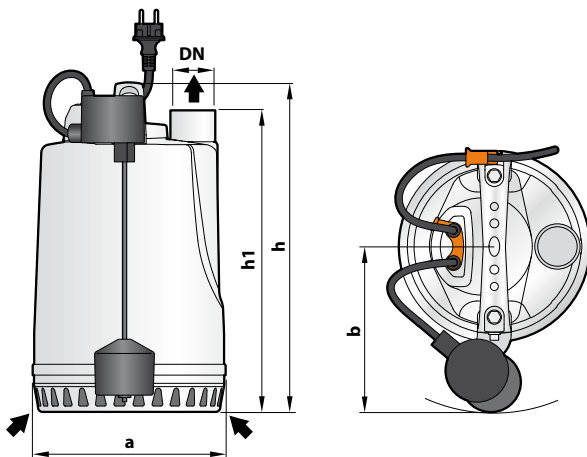


## DIMENSIONS AND WEIGHT



MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4	RX 4	1½"	220	118.5	370	336	25	variable	500	500	14.4	13.3	45	60
RXm 5	RX 5										15.4	14.4	45	60

**Version with vertical float switch**



MODEL	PORT	DIMENSIONS mm								kg	PALLETIZATION		
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4 - GM	1½"	220	186.5	370	336	25	250	50	500	300	16.7	45	60
RXm 5 - GM											15.8	45	60

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
RXm 4	5.9 A	5.9 A
RXm 5	7.5 A	7.5 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 4	3.6 A	2.1 A	3.5 A	2.0 A
RX 5	6.1 A	3.5 A	5.9 A	3.4 A

# RX

## Submersible DRAINAGE pumps

 Clear water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+50 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of suspended solids up to **Ø 10 mm**
- Suction level:
  - **14 mm** above ground level for RX 1-2-3
  - **25 mm** above ground level for RX 4-5
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for RX 1-2-3
- **10 m** long power cable for RX 4-5
- float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **RX** series pumps are suitable for use with **clear water** that does not contain abrasive particles.

Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.

They are suitable for use in fixed installations and applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

### PATENTS - TRADE MARKS - MODELS

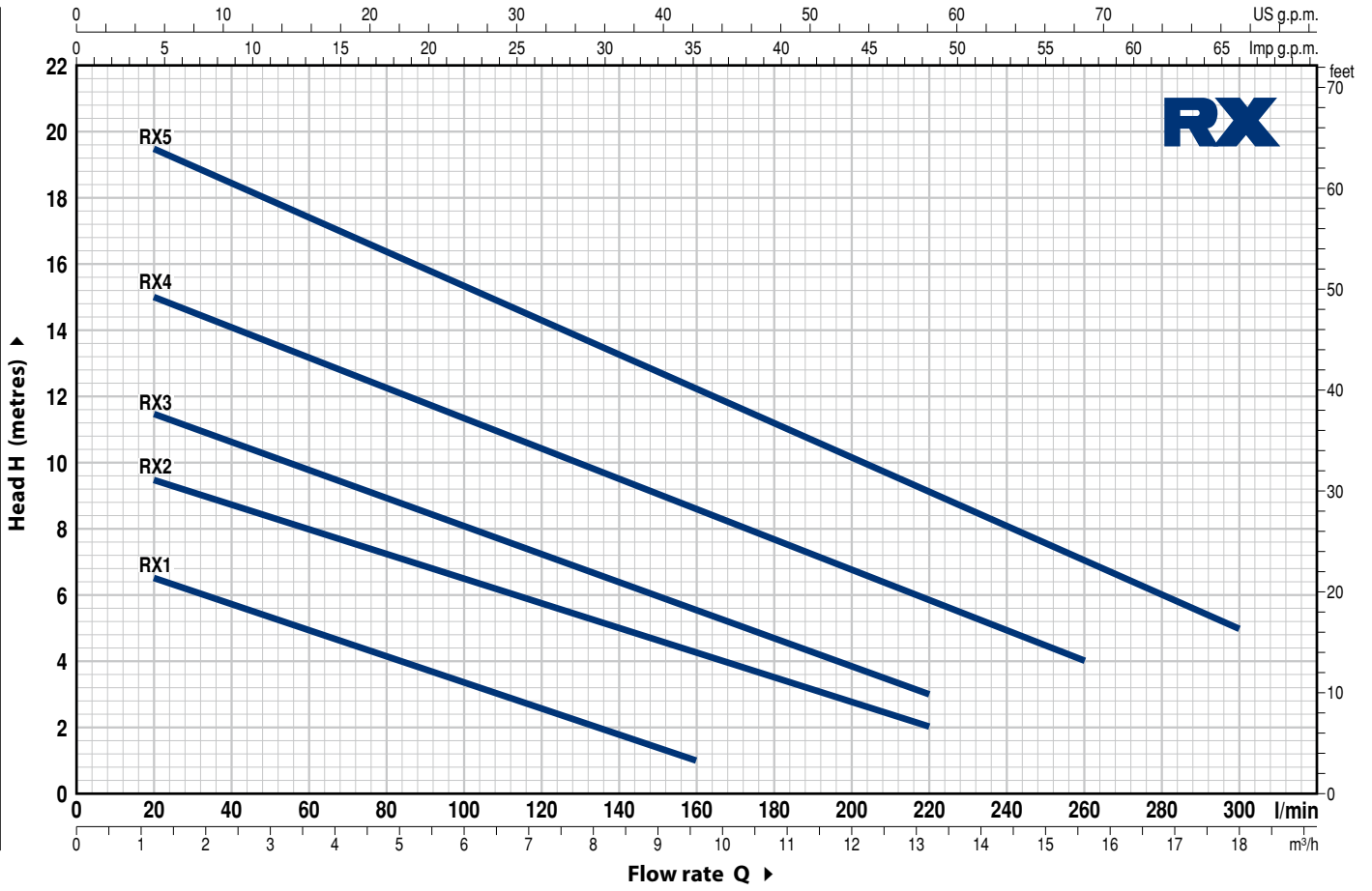
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- “**RX-GM**” pumps with a vertical float switch (suitable for particularly small wells)
- Special mechanical seal
- RX 1-2-3 pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate													
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	3.6	6.0	8.4	9.6	12.0	13.2	15.6	18.0			
				l/min	0	20	60	100	140	160	200	220	260	300				
RXm 1	RX 1	0.25	0.33	H metres	7.5	6.5	5	3.5	2	1								
RXm 2	RX 2	0.37	0.50		10	9.5	8	6.5	5	4.5	2.5	2						
RXm 3	RX 3	0.55	0.75		12	11.5	9.5	8	6.5	5.5	3.5	3						
RXm 4	RX 4	0.75	1		16	15	13	11.5	9.5	8.5	6.5	5.5	4					
RXm 5	RX 5	1.1	1.5		20	19.5	17.5	15.5	13.5	12.5	10	9	7	5				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# RX 1-2-3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Materials		
		Stationary ring	Rotational ring	Elastomer
STA-12R	Ø 12 mm	Ceramic	Graphite	NBR

9 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

10 **BEARINGS** 6201 ZZ / 6201 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance	
	(230 V or 240 V)	(110 V)
<b>RXm 1</b>	10 µF 450 VL	16 µF - 250 VL
<b>RXm 2</b>	10 µF 450 VL	16 µF - 250 VL
<b>RXm 3</b>	14 µF 450 VL	16 µF - 250 VL

### 12 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

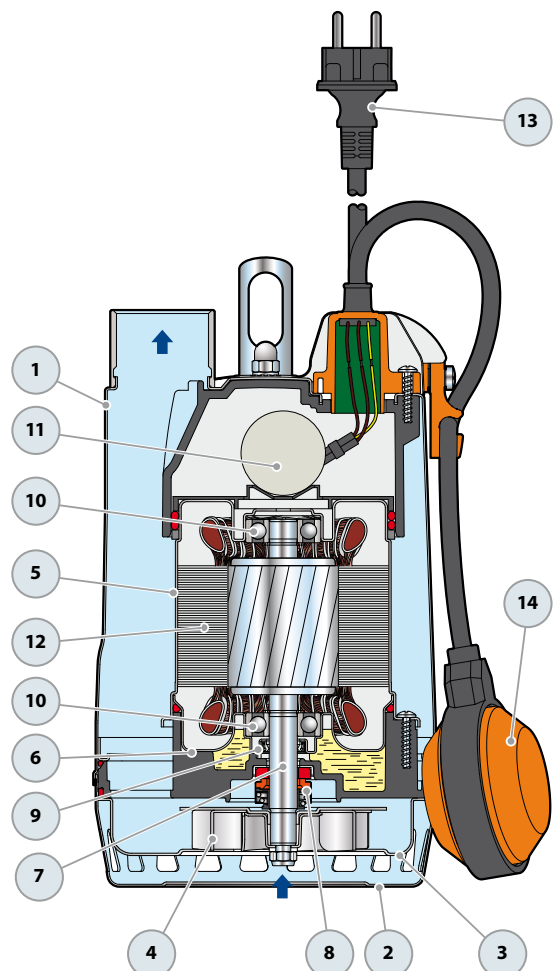
### 13 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

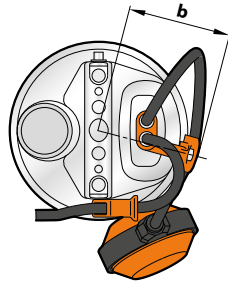
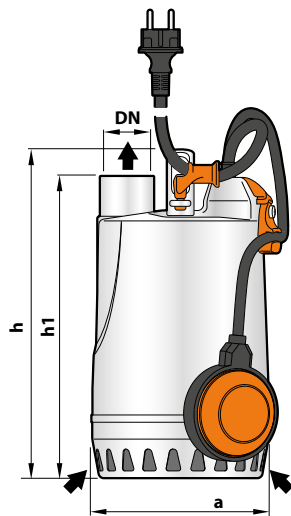
**Standard length 5 metres**

### 14 FLOAT SWITCH

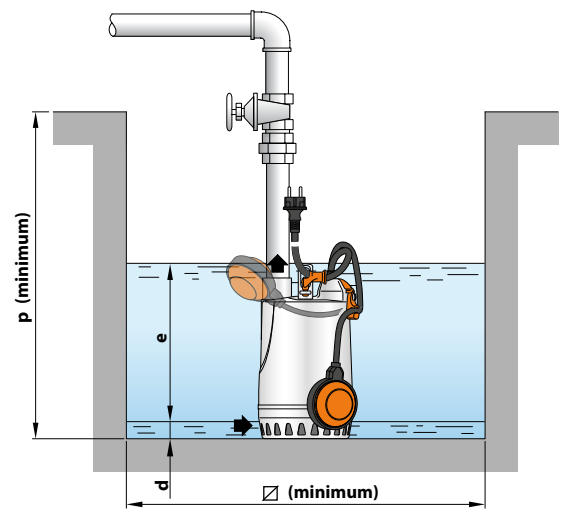
(Only for single-phase versions)



## DIMENSIONS AND WEIGHT

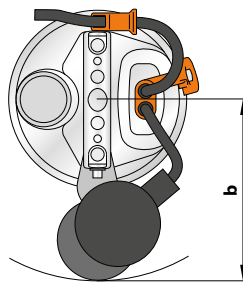
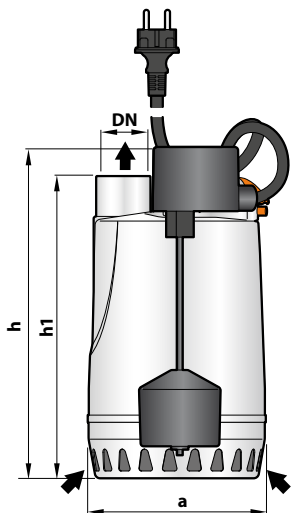


Standard installation

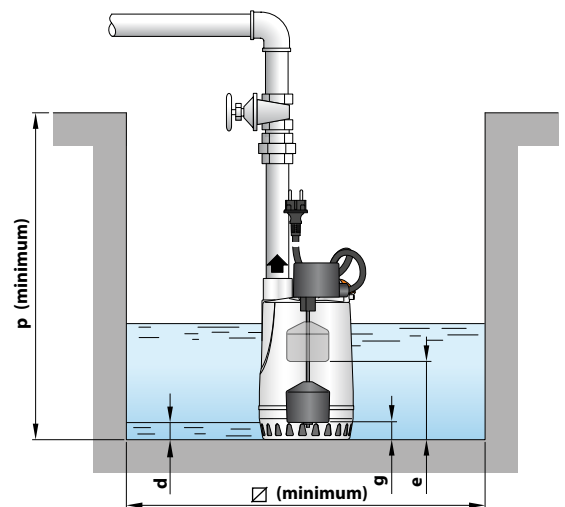


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1	RX 1	1 1/4"	147	24	269	246	14	variable	350	350	6.1	5.5	96	144
RXm 2	RX 2				298	277					6.1	5.6	96	144
RXm 3	RX 3				7.6	7.0					96	144		

Version with vertical float switch



Standard installation



MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase		DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1-GM		1 1/4"	147	150	270	247	14	145	40	350	240	6.2	80	120
RXm 2-GM					300	277		175	45			6.2	80	120
RXm 3-GM					7.5	80		120						

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
RXm 1	1.5 A	1.4 A	3.0 A
RXm 2	2.0 A	2.0 A	4.0 A
RXm 3	3.6 A	3.4 A	7.2 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 1	1.6 A	0.9 A	1.6 A	0.9 A
RX 2	1.7 A	1.0 A	1.7 A	1.0 A
RX 3	2.8 A	1.6 A	2.6 A	1.5 A

# RX 4-5

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 9 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

### 10 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)
RXm 4	20 µF 450 VL	30 µF - 250 VL
RXm 5	25 µF 450 VL	30 µF - 250 VL

### 11 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

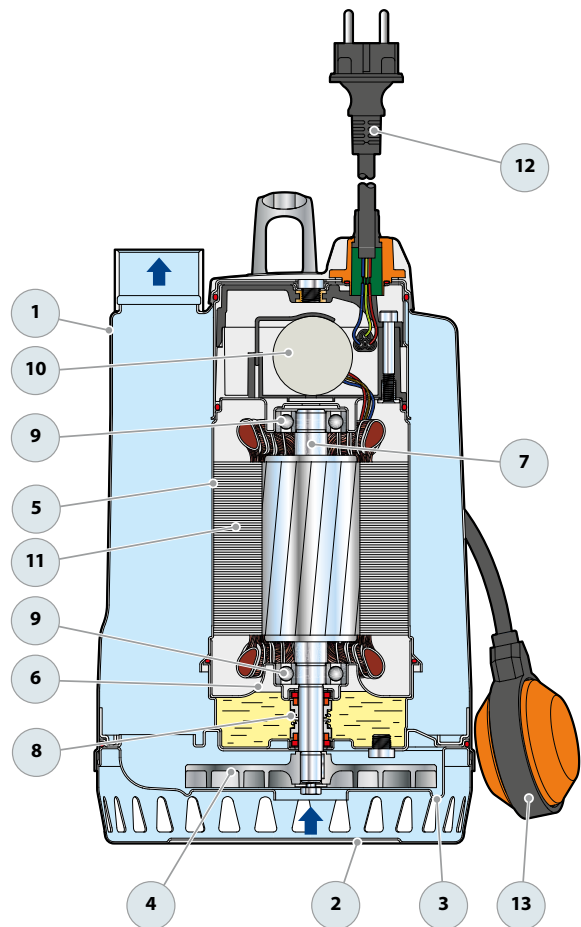
### 12 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

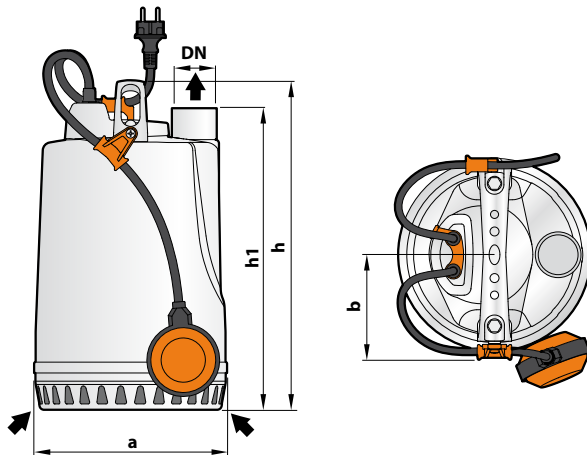
### 13 FLOAT SWITCH

Only for single-phase versions  
(Vertical float switch in the GM versions).

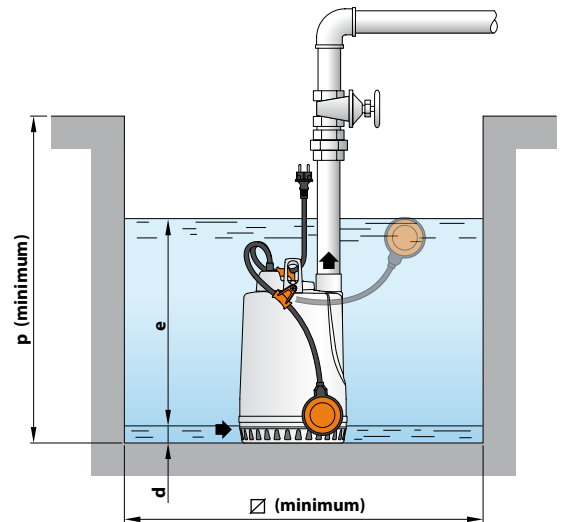




## DIMENSIONS AND WEIGHT

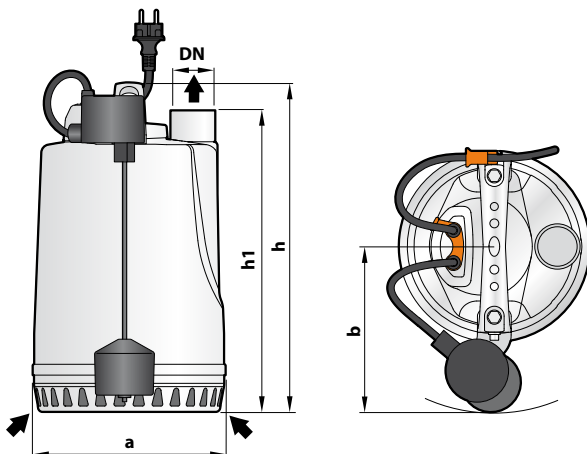


Standard installation

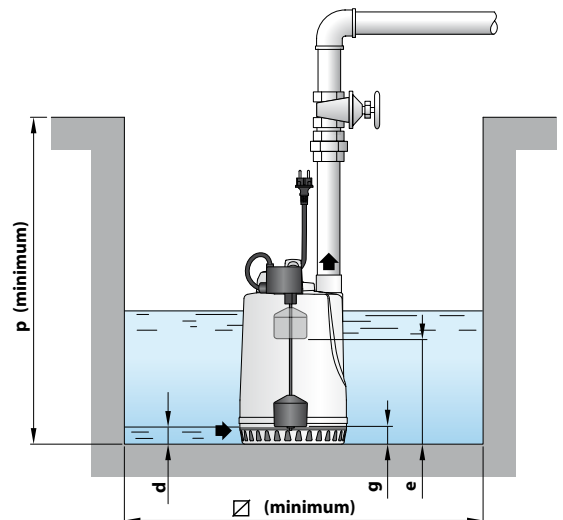


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4	RX 4	1½"	220	118.5	370	336	25	variable	500	500	14.4	13.3	45	60
RXm 5	RX 5										15.4	14.4	45	60

Version with vertical float switch



Standard installation



MODEL	PORT	DIMENSIONS mm								kg	PALLETIZATION		
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4 - GM	1½"	220	186.5	370	336	25	250	50	500	300	16.7	45	60
RXm 5 - GM											15.8	45	60

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
RXm 4	5.9 A	5.9 A
RXm 5	7.5 A	7.5 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 4	3.6 A	2.1 A	3.5 A	2.0 A
RX 5	6.1 A	3.5 A	5.9 A	3.4 A

# RX-VORTEX

## Submersible pumps

 Dirty water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **380 l/min** (22.8 m<sup>3</sup>/h)
- Head up to **13 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+50 °C** (Maximum liquid temperature +90 °C for a maximum of 3 minutes intermittent service)
- Passage of solids:
  - up to **Ø 20 mm** for RX 2/20, RX 3/20
  - up to **Ø 40 mm** for RX 4/40, RX 5/40
- Suction level:
  - **25 mm** above ground level for RX 2/20, RX 3/20
  - **50 mm** above ground level for RX 4/40, RX 5/40
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable for RX 2/20, RX 3/20
- **10 m** long power cable for RX 4/40, RX 5/40
- float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **RX-VORTEX** series pumps are suitable for use with **dirty water**. The design solutions that have been adopted, such as the complete cooling of the motor, guarantee the reliability of the pump. They are suitable for use in domestic applications such as for discharging dirty water containing suspended solids.

### PATENTS - TRADE MARKS - MODELS

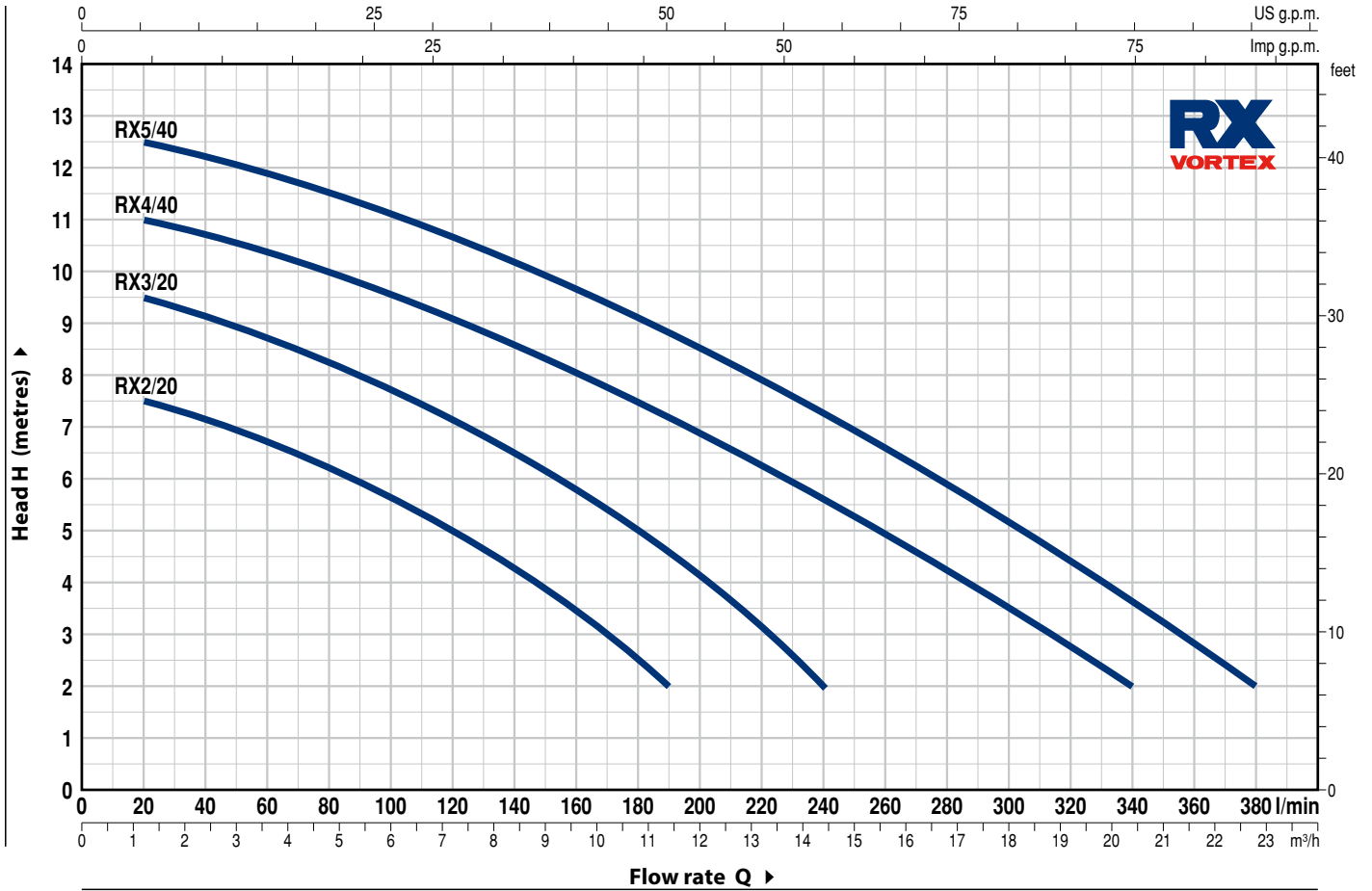
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- “**RX-VORTEX GM**” pumps with a vertical float switch (suitable for particularly small wells)
- Special mechanical seal
- RX 2-3/20 pumps with a **10 m** long power cable
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P <sub>2</sub> )		Q	H metres																
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	11.4	13.2	14.4	20.4	22.8		
				l/min	0	20	40	60	80	100	120	140	160	190	220	240	340	380			
RXm 2/20	RX 2/20	0.37	0.50	H metres	8	7.5	7.1	6.7	6.2	5.7	5	4.3	3.4	2							
RXm 3/20	RX 3/20	0.55	0.75		10	9.5	9.1	8.7	8.2	7.7	7.1	6.5	5.8	4.6	3.2	2					
RXm 4/40	RX 4/40	0.75	1		11.2	11	10.7	10.4	10	9.5	9	8.5	8	7.1	6.2	5.6	2				
RXm 5/40	RX 5/40	1.1	1.5		13	12.5	12.2	11.9	11.5	11.1	10.6	10.1	9.6	8.8	7.9	7.3	3.6	2			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304 VORTEX type
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal Model	Shaft Diameter	Stationary ring	Materials	
			Rotational ring	Elastomer
STA-12R SIC	Ø 12 mm	Ceramic	Silicon carbide	NBR

9 **LIP SEAL** Ø 12 x Ø 19 x H 5 mm

10 **BEARINGS** 6201 ZZ / 6201 ZZ

### 11 CAPACITOR

Pump Single-phase	Capacitance (230 V or 240 V) (110 V)	
RXm 2/20	10 µF 450 VL	16 µF - 250 VL
RXm 3/20	14 µF 450 VL	16 µF - 250 VL

### 12 ELECTRIC MOTOR

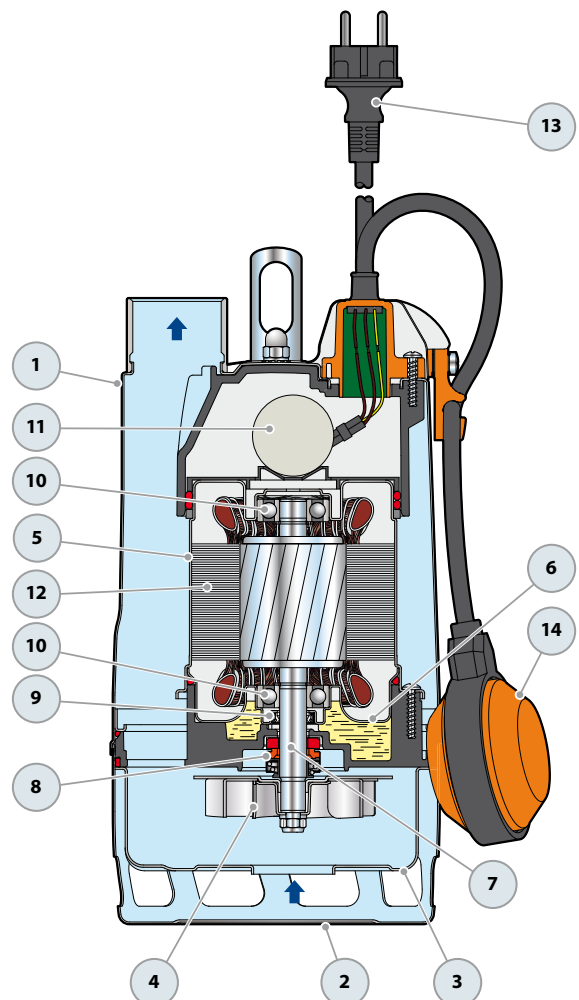
**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding  
**RX:** three-phase 400 V - 50 Hz  
– Insulation: class F  
– Protection: IP X8

### 13 POWER CABLE

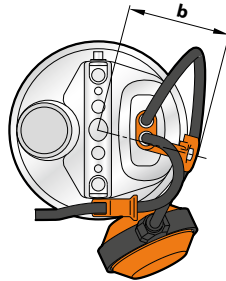
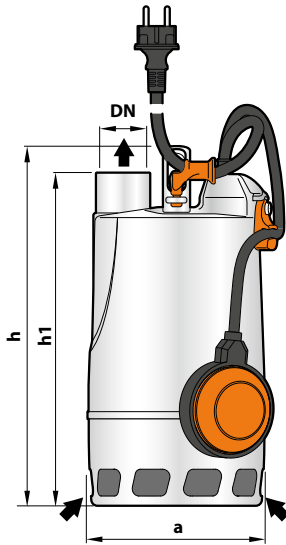
"H07 RN-F" type  
(with Schuko plug for single-phase versions only)  
**Standard length 5 metres**

### 14 FLOAT SWITCH

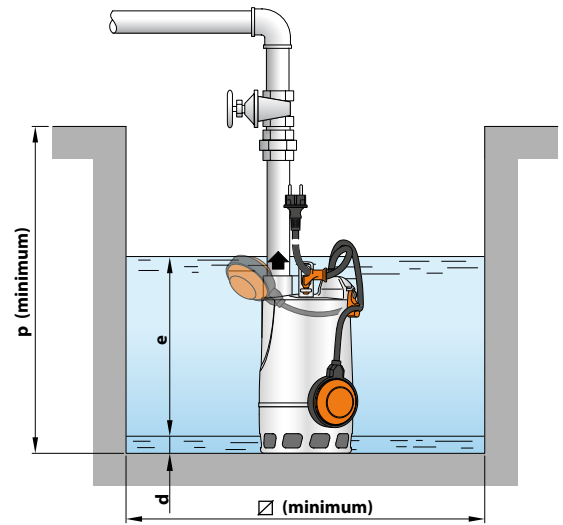
(Only for single-phase versions)



## DIMENSIONS AND WEIGHT

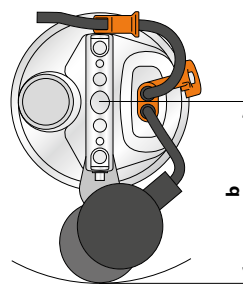
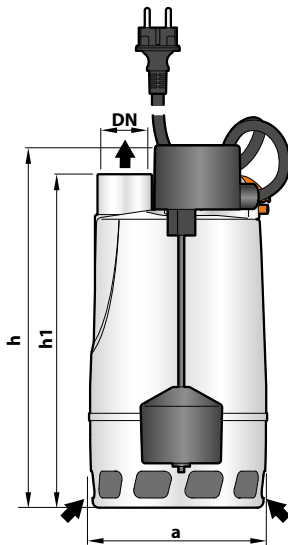


Standard installation

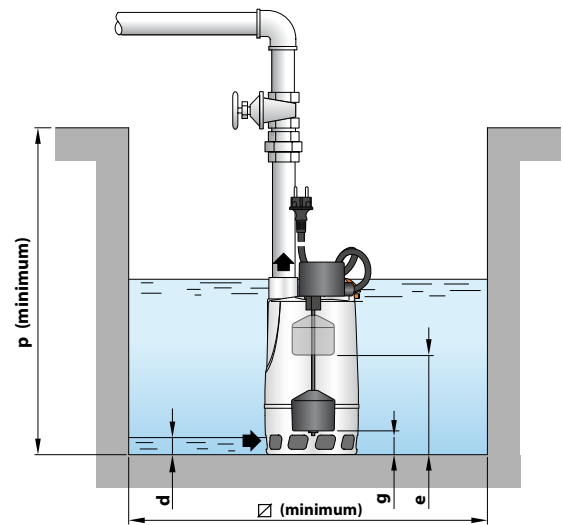


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 2/20	RX 2/20	1 1/4"	147	83	302	278	25	variable	350	350	6.2	5.8	96	144
RXm 3/20	RX 3/20				330	308								

Version with vertical float switch



Standard installation



MODEL	PORT	DIMENSIONS mm									kg	PALLETIZATION	
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 2/20-GM	1 1/4"	147	150	300	278	25	180	50	350	240	6.3	96	144
RXm 3/20-GM				335	308		210	80					

## ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
RXm 2/20	2.6 A	2.5 A	5.2 A
RXm 3/20	3.5 A	3.4 A	6.4 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 2/20	1.9 A	1.1 A	1.9 A	1.1 A
RX 3/20	2.9 A	1.7 A	2.8 A	1.6 A

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>DIFFUSER</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Stainless steel AISI 304 VORTEX type
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 9 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

#### CAPACITOR

Pump	Capacitance
10 Single-phase	(230 V or 240 V)
RXm 4/40	20 µF 450 VL
RXm 5/40	25 µF 450 VL

### 11 ELECTRIC MOTOR

**RXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**RX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

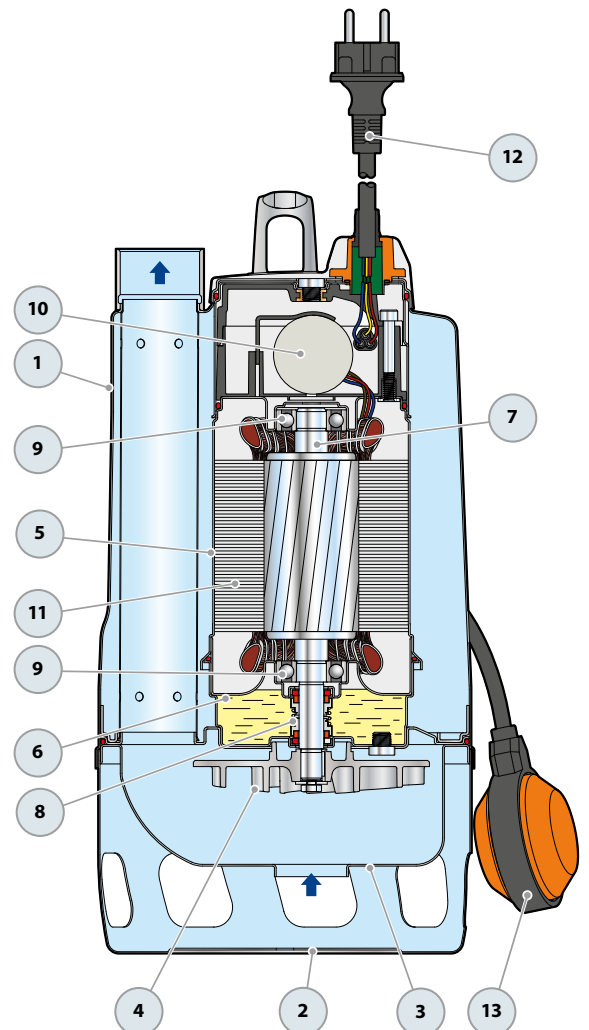
### 12 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

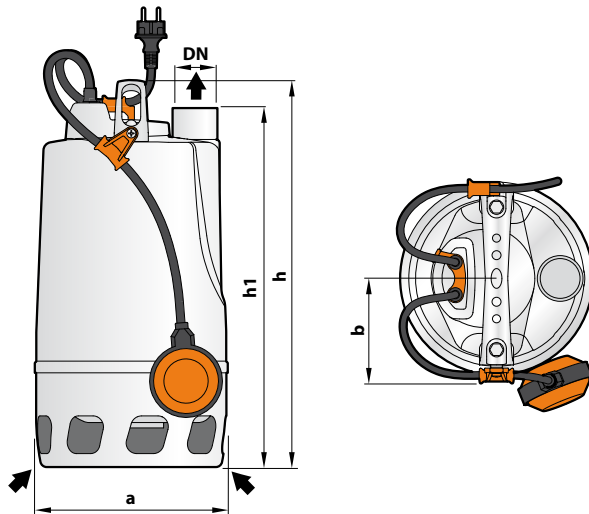
**Standard length 10 metres**

### 13 FLOAT SWITCH

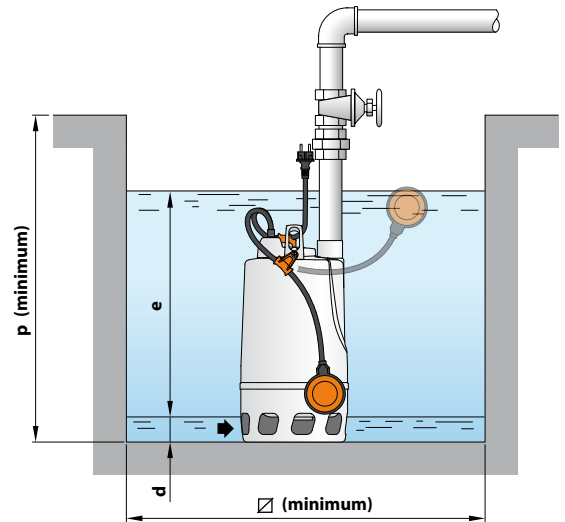
Only for single-phase versions  
(Vertical float switch in the GM versions).



## DIMENSIONS AND WEIGHT

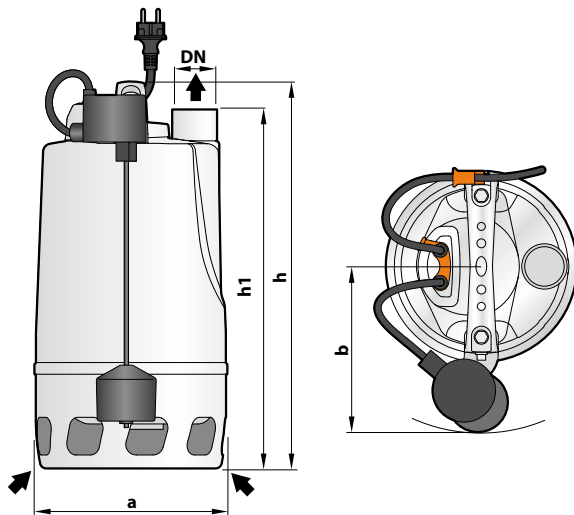


Standard installation

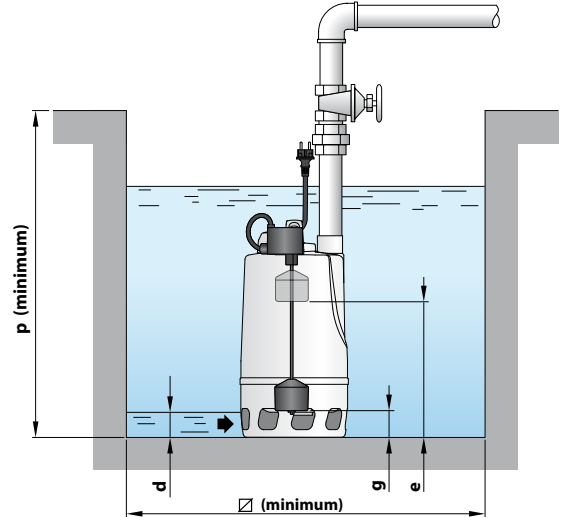


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4/40	RX 4/40	1½"	215	115	433	400	50	variable	500	500	14.8	13.9	45	60
RXm 5/40	RX 5/40										16.0	15.1	45	60

Version with vertical float switch



Standard installation



MODEL	PORT	DIMENSIONS mm										kg	PALLETIZATION	
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	1~	GROUPAGE n. pumps	CONTAINER n. pumps	
RXm 4/40 - GM	1½"	215	186.5	433	400	50	320	80	500	350	15.2	36	48	
RXm 5/40 - GM											16.3	36	48	

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
RXm 4/40	5.2 A	5.0 A
RXm 5/40	6.5 A	6.5 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 4/40	3.6 A	2.1 A	3.5 A	2.0 A
RX 5/40	5.4 A	3.1 A	5.2 A	3.0 A

## Submersible pumps in stainless steel

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **700 l/min** (42 m<sup>3</sup>/h)
- Head up to **17 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 40 mm** for VX /35-ST
  - up to **Ø 50 mm** for VX /50-ST
- Minimum immersion depth for continuous service:
  - **290 mm** for VX 8-ST and VX 10-ST
  - **330 mm** for VX 15-ST
  - **360 mm** for VX 20-ST

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

The **VX-ST** submersible pumps in stainless steel are recommended for draining **sewage water** in domestic, civil and industrial applications, in every case where there are solid bodies in suspension, for example water mixed with mud, groundwater, surface water. They are suitable for draining flooded areas such as cellars, underground car parks, car washes, for emptying cesspools and for sewage disposal. These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

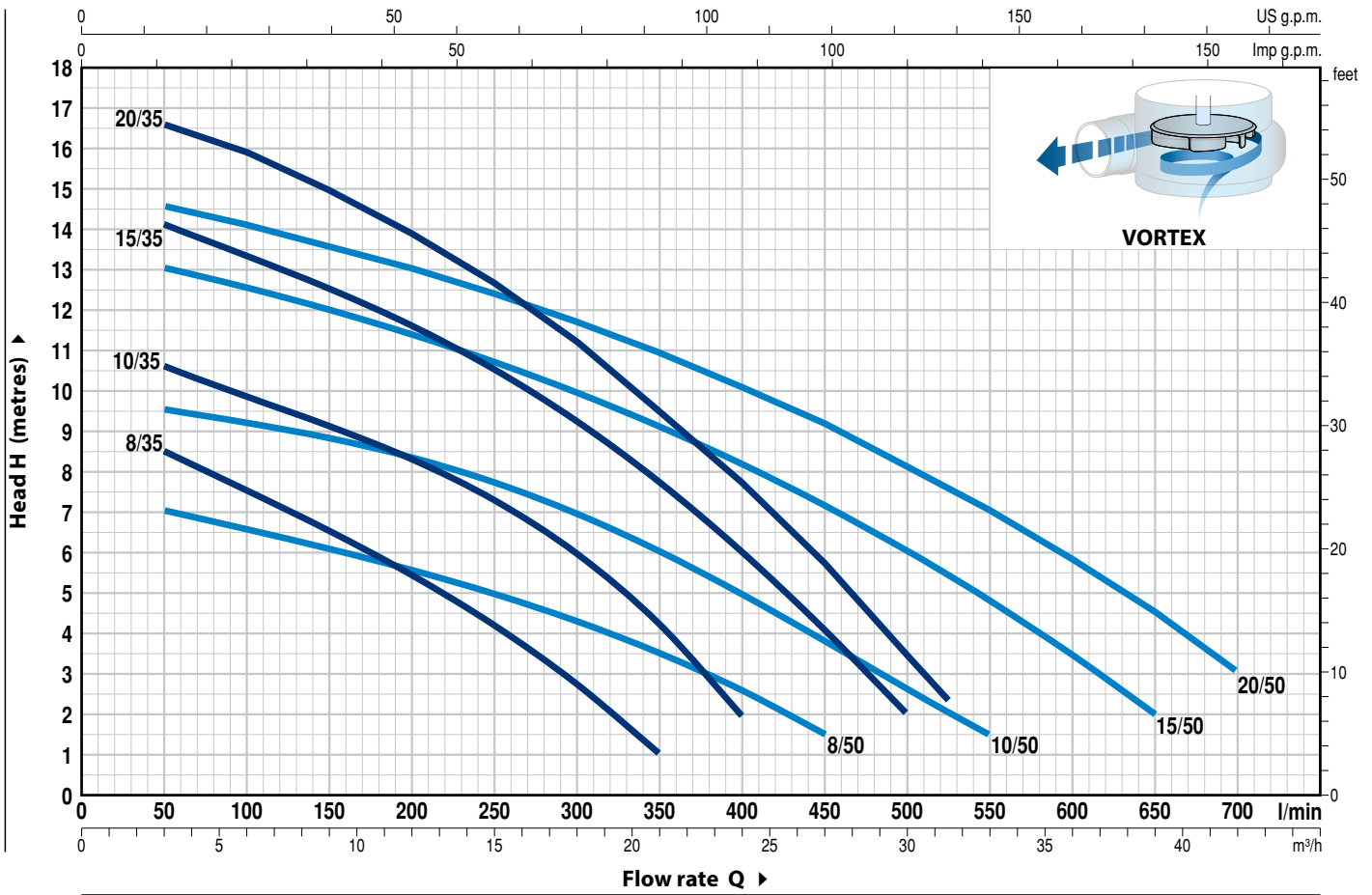
### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- AISI 316L stainless steel pump shaft
- Other voltages or 60 Hz frequency



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POTENZA (P <sub>2</sub> )		Q	H metres															
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3	6	12	18	21	24	27	30	31.5	33	36	39	42	
				l/min	0	50	100	200	300	350	400	450	500	525	550	600	650	700		
VXm 8/35 -ST	VX 8/35 -ST	0.55	0.75		9.5	8.5	7.5	5.4	2.7	1										
VXm 10/35 -ST	VX 10/35 -ST	0.75	1		11.5	10.5	10	8.3	6	4	2									
VXm 15/35 -ST	VX 15/35 -ST	1.1	1.5		15	14	13.5	11.7	9.2	7.7	6	4.1	2							
VXm 20/35 -ST	VX 20/35 -ST	1.5	2		17	16.5	15.9	14	11	9.5	7.7	5.7	3.5	2.5						
VXm 8/50 -ST	VX 8/50 -ST	0.55	0.75		7.5	7	6.6	5.7	4.2	3.5	2.5	1.5								
VXm 10/50 -ST	VX 10/50 -ST	0.75	1		10	9.5	9.2	8.5	7	6	5	3.8	2.7	2	1.5					
VXm 15/50 -ST	VX 15/50 -ST	1.1	1.5		13.5	13	12.5	11.5	10	9	8	7	6	5.4	4.7	3.3	2			
VXm 20/50 -ST	VX 20/50 -ST	1.5	2		15	14.5	14	13	11.7	11	10	9	8.2	7.6	7	5.8	4.5	3		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
<b>2 BASE</b>	Stainless steel AISI 304
<b>3 IMPELLER</b>	VORTEX type AISI 304 stainless steel. The VORTEX impeller allows pumping solids with a diameter of up to 50 mm and thanks to its special geometry it ensures safe operation against clogging
<b>4 MOTOR CASING</b>	Stainless steel AISI 304
<b>5 MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>VX 8-10 ST</b> Cast iron with an Epoxy Electro Coating treatment for <b>VX 15-20 ST</b>
<b>6 MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 DOUBLE MECHANICAL SEAL IN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
<b>MG1-14D SIC</b>	<b>Ø 14 mm</b>	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

Double mechanical seal in oil chamber, with silicon carbide chute slides for a greater resistance to abrasion and wear and for a longer life of the pump.

### 8 BEARINGS

Pump	Model
<b>VX 8-10 ST</b>	<b>6203 ZZ / 6203 ZZ</b>
<b>VX 15-20 ST</b>	<b>6303 2RS - C3 / 6203 ZZ</b>

### 9 CAPACITOR

(only for single-phase versions)

### 10 ELECTRIC MOTOR

Electric motors produced to a high quality standard, subjected to the most rigorous checks to ensure excellent insulation. The impregnation of the winding, achieved with high quality resins, is followed by treatment in an oven for up to eight hours, thus ensuring the long working life of the motor.

**VXm-ST:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**VX-ST:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

### 11 POWER CABLE

Power cable encapsulated in epoxy resin both in the area of the grommets and at the point where the wires exit the sheath, resulting in an absolute insulation from moisture and water infiltration.

H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

### 12 EXTERNAL FLOAT SWITCH

(only for single-phase versions)

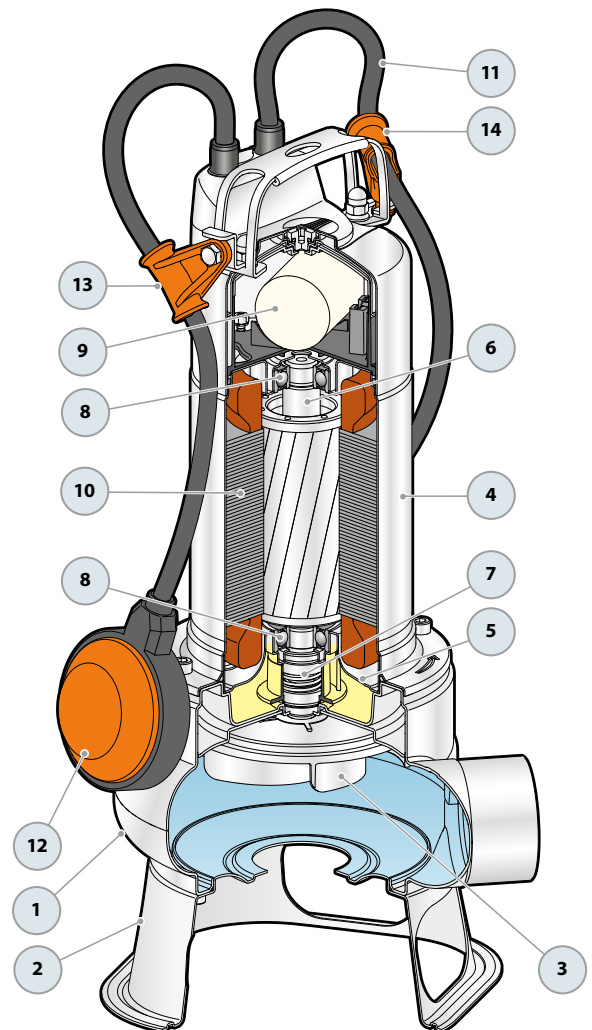
### 13 TILTING DEVICE FOR THE FLOAT CABLE

(only for single-phase versions)

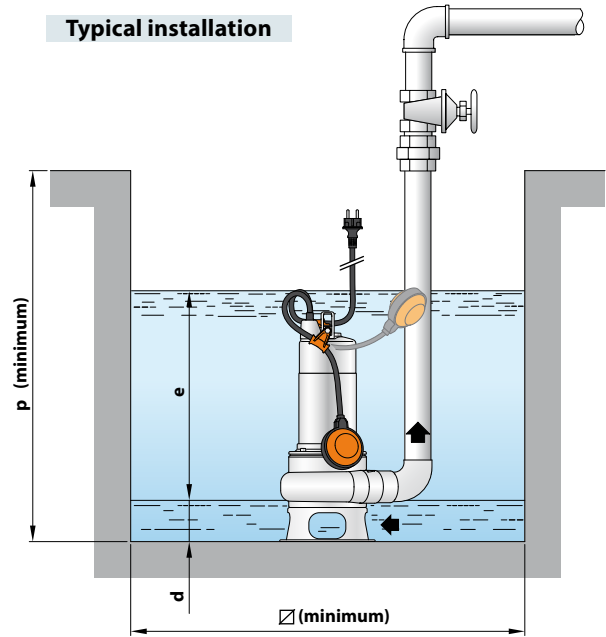
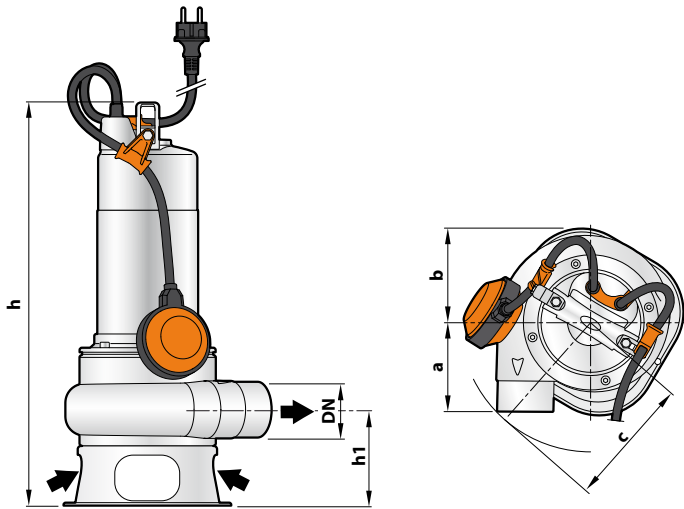
Patent n. IT0001428923

### 14 TEAR-PROOF DEVICE FOR THE POWER CABLE

Patent n. EP2313658



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	∅	1~	3~	
VXm 8/35 -ST	VX 8/35 -ST	1½"	∅ 40 mm	95	96	140	424	106	55	variable	500	500	11.0	10.1	
VXm 10/35 -ST	VX 10/35 -ST						439						12.7	11.5	
VXm 15/35 -ST	VX 15/35 -ST						472						15.5	13.8	
VXm 20/35 -ST	VX 20/35 -ST						502						17.7	15.6	
VXm 8/50 -ST	VX 8/50 -ST	2"	∅ 50 mm	102	96	145	435	107	60	variable	500	500	11.4	10.3	
VXm 10/50 -ST	VX 10/50 -ST						450						12.9	11.7	
VXm 15/50 -ST	VX 15/50 -ST						483						15.5	14.1	
VXm 20/50 -ST	VX 20/50 -ST						513						17.8	15.6	

## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
<b>Single-phase</b>		
VXm 8/35 -ST	4.3 A	4.2 A
VXm 10/35 -ST	5.5 A	5.4 A
VXm 15/35 -ST	7.0 A	6.9 A
VXm 20/35 -ST	9.6 A	9.4 A
VXm 8/50 -ST	4.1 A	4.0 A
VXm 10/50 -ST	5.5 A	5.4 A
VXm 15/50 -ST	7.0 A	6.9 A
VXm 20/50 -ST	9.6 A	9.4 A

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
<b>Three-phase</b>				
VX 8/35 -ST	2.8 A	1.6 A	2.7 A	1.6 A
VX 10/35 -ST	3.8 A	2.2 A	3.6 A	2.1 A
VX 15/35 -ST	4.7 A	2.7 A	4.5 A	2.6 A
VX 20/35 -ST	6.4 A	3.7 A	6.1 A	3.5 A
VX 8/50 -ST	2.8 A	1.6 A	2.7 A	1.6 A
VX 10/50 -ST	3.8 A	2.2 A	3.6 A	2.1 A
VX 15/50 -ST	4.7 A	2.7 A	4.5 A	2.6 A
VX 20/50 -ST	6.4 A	3.7 A	6.1 A	3.5 A

## CAPACITORS

MODEL	CAPACITANCE
<b>Single-phase</b>	(230 V or 240 V)
VXm 8/35 -ST	20 µF 450 VL
VXm 10/35 -ST	25 µF 450 VL
VXm 15/35 -ST	35 µF 450 VL
VXm 20/35 -ST	35 µF 450 VL
VXm 8/50 -ST	20 µF 450 VL
VXm 10/50 -ST	25 µF 450 VL
VXm 15/50 -ST	35 µF 450 VL
VXm 20/50 -ST	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
VXm 8/35 -ST	VX 8/35 -ST	45	60
VXm 10/35 -ST	VX 10/35 -ST	45	60
VXm 15/35 -ST	VX 15/35 -ST	30	45
VXm 20/35 -ST	VX 20/35 -ST	30	45
VXm 8/50 -ST	VX 8/50 -ST	45	60
VXm 10/50 -ST	VX 10/50 -ST	45	60
VXm 15/50 -ST	VX 15/50 -ST	30	60
VXm 20/50 -ST	VX 20/50 -ST	30	45

# SEWAGE LIFTING SYSTEM VX-ST – BC-ST

## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-ST</b>	Cod. ASSPVX35ST	DN <b>2"</b>
For <b>VX /50-ST , BC /50-ST</b>	Cod. ASSPVX50ST	DN <b>2"</b>

Kit consisting of:

- 1) footing connection
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-ST</b>	Cod. ASSPVX35STV	DN <b>2½"</b>
For <b>VX /50-ST, BC /50-ST</b>	Cod. ASSPVX50STV	DN <b>2½"</b>

Kit consisting of:

- 1) footing connection complete with counterflange
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## ACCESSORIES CAN BE ORDERED

### SLIDE GUIDE (also to be ordered separately)

For <b>VX /35-ST</b>	Cod. ASSFL005
For <b>VX /50-ST , BC /50-ST</b>	Cod. ASSFL006

Complete with ring nut and seal



### INTERMEDIATE SUPPORT (on request)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
----------------------	--------------------

**In order to ensure stability, insert the intermediate support every 2 metres**



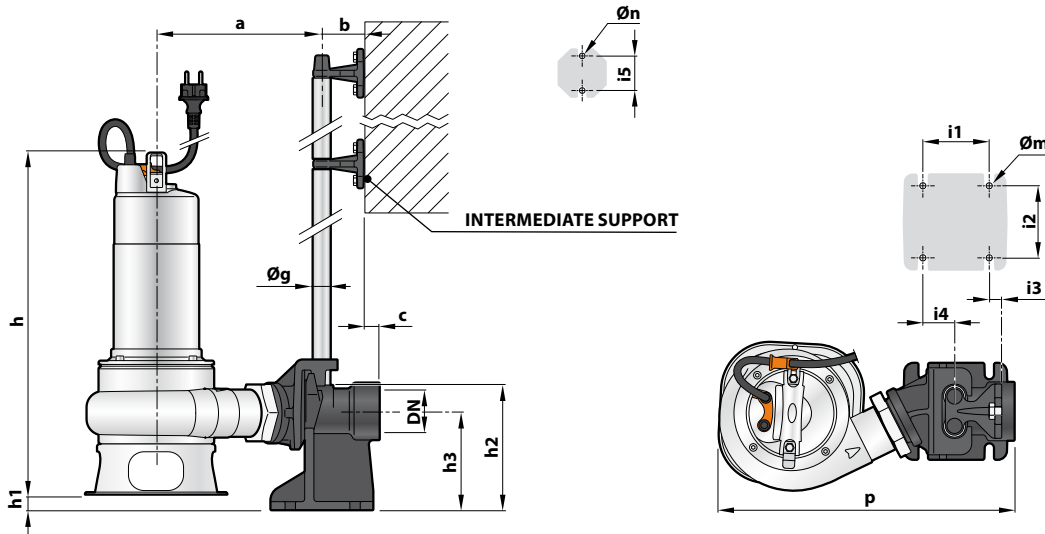
### GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
-----------------	-----------------

Maximum length of the tube plank: 6 metres

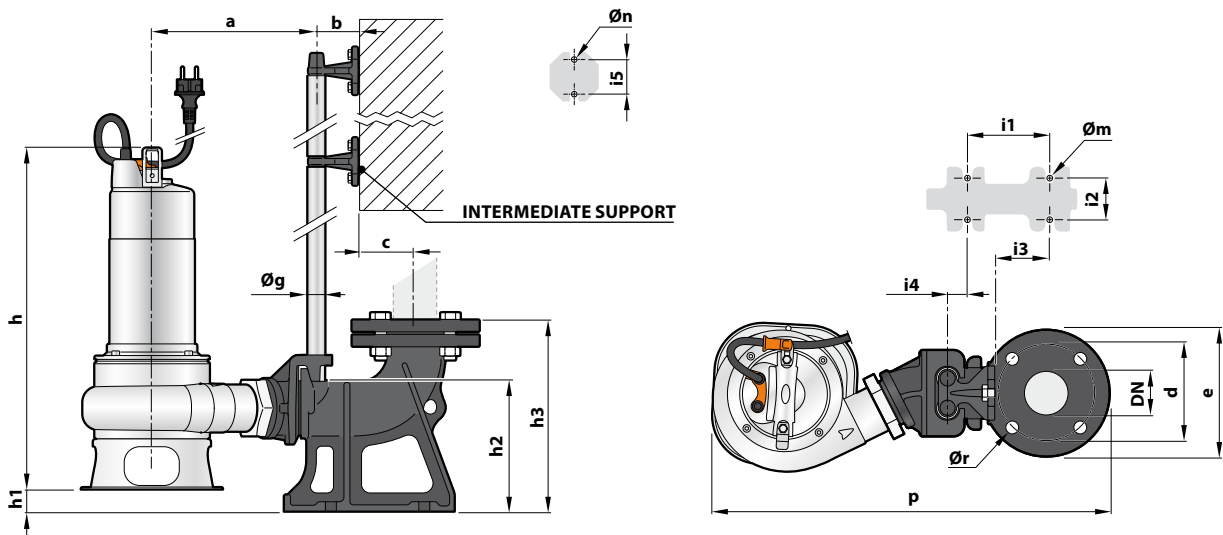


### DIMENSIONS (Horizontal delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm																
Single-phase	Three-phase			a	b	c	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	
VXm 8/35 -ST	VX 8/35 -ST	40	2"	214			386	424	24											
VXm 10/35 -ST	VX 10/35 -ST							439												
VXm 15/35 -ST	VX 15/35 -ST							472												
VXm 20/35 -ST	VX 20/35 -ST							502												
VXm 8/50 -ST	VX 8/50 -ST	50	2"	221	61	17	372	435	23	165	130	85	94	16	40	50	¾"	12	11	
VXm 10/50 -ST	VX 10/50 -ST							450												
VXm 15/50 -ST	VX 15/50 -ST							483												
VXm 20/50 -ST	VX 20/50 -ST							513												
BCm 10/50 -ST	BC 10/50 -ST	50	2"					450												
BCm 15/50 -ST	BC 15/50 -ST							483												
BCm 20/50 -ST	BC 20/50 -ST							513												

### DIMENSIONS (Vertical delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm																		
Single-phase	Three-phase			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VXm 8/35 -ST	VX 8/35 -ST	40	2½"	207				495	22													
VXm 10/35 -ST	VX 10/35 -ST																					439
VXm 15/35 -ST	VX 15/35 -ST																					472
VXm 20/35 -ST	VX 20/35 -ST																					502
VXm 8/50 -ST	VX 8/50 -ST	50	2½"	212	61	52	125	165	501	26	164	215	120	72	62	3	50	¾"	14	11	18	
VXm 10/50 -ST	VX 10/50 -ST																					435
VXm 15/50 -ST	VX 15/50 -ST																					450
VXm 20/50 -ST	VX 20/50 -ST																					483
BCm 10/50 -ST	BC 10/50 -ST	50	2½"																			
BCm 15/50 -ST	BC 15/50 -ST																					450
BCm 20/50 -ST	BC 20/50 -ST																					483

## Submersible pumps in stainless steel

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **850 l/min** (51 m<sup>3</sup>/h)
- Head up to **17 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 50 mm**
- Minimum immersion depth for continuous service:
  - **290 mm** for BC 10/50-ST
  - **330 mm** for BC 15/50-ST
  - **360 mm** for BC 20/50-ST

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**BC-ST** submersible pumps in stainless steel are recommended for draining **dirty and sewage water** in domestic, civil and industrial applications. They come equipped with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids up to Ø 50 mm. They are ideal for pumping sewage, waste water, surface water and water mixed with mud in locations such as blocks of flats and detached houses.

These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

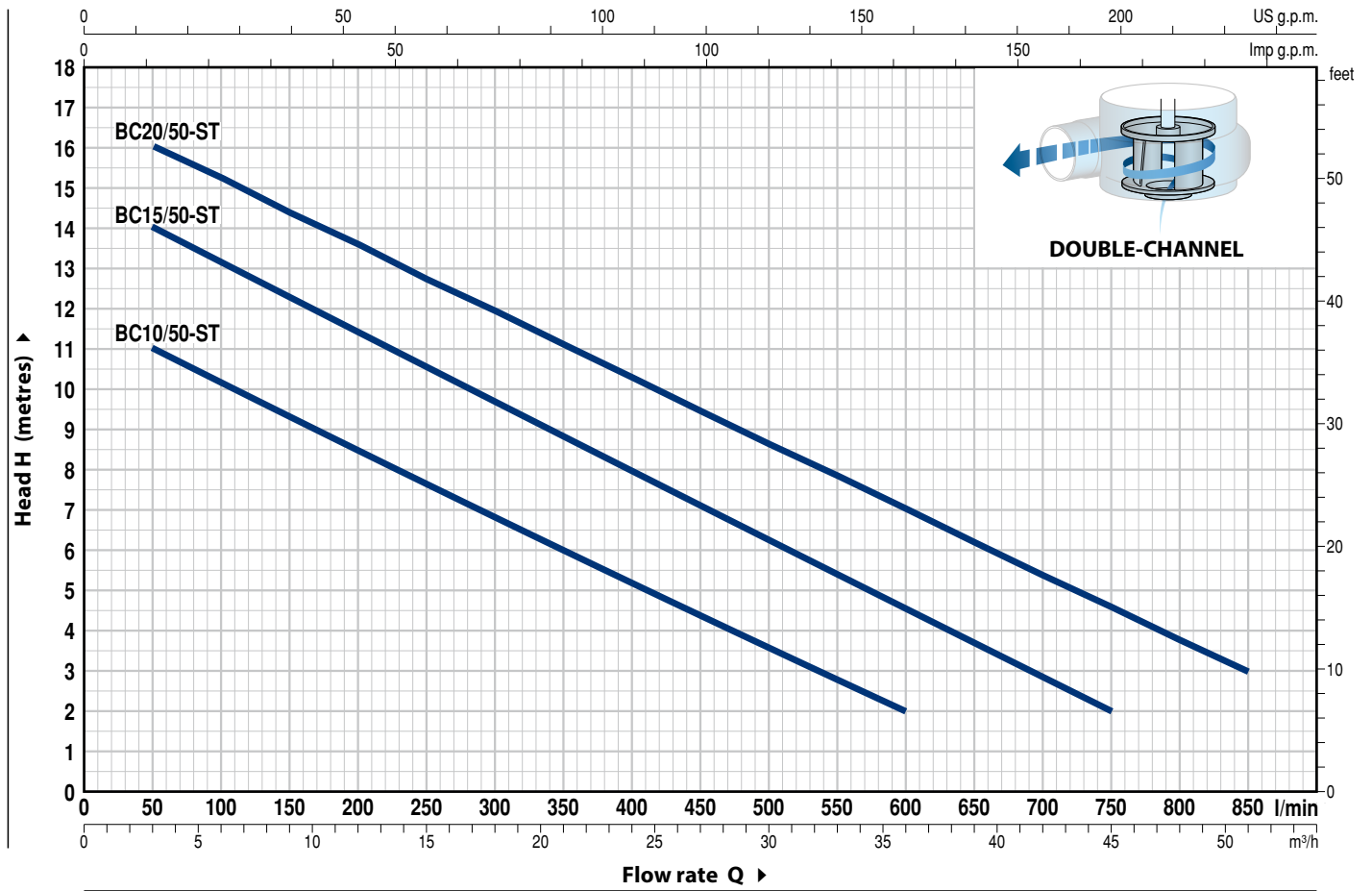
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- AISI 316L stainless steel pump shaft
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate														
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3	6	12	18	24	30	36	42	45	51			
				l/min	0	50	100	200	300	400	500	600	700	750	850				
BCm 10/50-ST	BC 10/50-ST	0.75	1	H metres	12	11	10	8.5	7	5	3.6	2							
BCm 15/50-ST	BC 15/50-ST	1.1	1.5		15	14	13	11.5	9.7	8	6.3	4.6	2.9	2					
BCm 20/50-ST	BC 20/50-ST	1.5	2		17	16	15.3	13.5	12	10.3	8.6	7.0	5.3	4.5	3				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
<b>2 BASE</b>	Stainless steel AISI 304
<b>3 IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type. The double-channel impeller produces excellent performance and high energy efficiency, developing higher pressure and ensuring the pumping of solids up to 50 mm in diameter. Definitely the most highly performing solution for draining wastewater.
<b>4 MOTOR CASING</b>	Stainless steel AISI 304
<b>5 MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>BC 10/50-ST</b> Cast iron with an Epoxy Electro Coating treatment for <b>BC 15/50-ST, BC 20/50-ST</b>
<b>6 MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 DOUBLE MECHANICAL SEAL IN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
<b>MG1-14D SIC</b>	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

Double mechanical seal in oil chamber, with silicon carbide chute slides for a greater resistance to abrasion and wear and for a longer life of the pump.

### 8 BEARINGS

Pump	Model
<b>BC 10/50-ST</b>	<b>6203 ZZ / 6203 ZZ</b>
<b>BC 15/50-ST</b> <b>BC 20/50-ST</b>	<b>6303 2RS - C3 / 6203 ZZ</b>

### 9 CAPACITOR

(only for single-phase versions)

### 10 ELECTRIC MOTOR

Electric motors produced to a high quality standard, subjected to the most rigorous checks to ensure excellent insulation. The impregnation of the winding, achieved with high quality resins, is followed by treatment in an oven for up to eight hours, thus ensuring the long working life of the motor.

**BCm-ST:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**BC-ST:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

### 11 POWER CABLE

Power cable encapsulated in epoxy resin both in the area of the grommets and at the point where the wires exit the sheath, resulting in an absolute insulation from moisture and water infiltration.

H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

### 12 EXTERNAL FLOAT SWITCH

(only for single-phase versions)

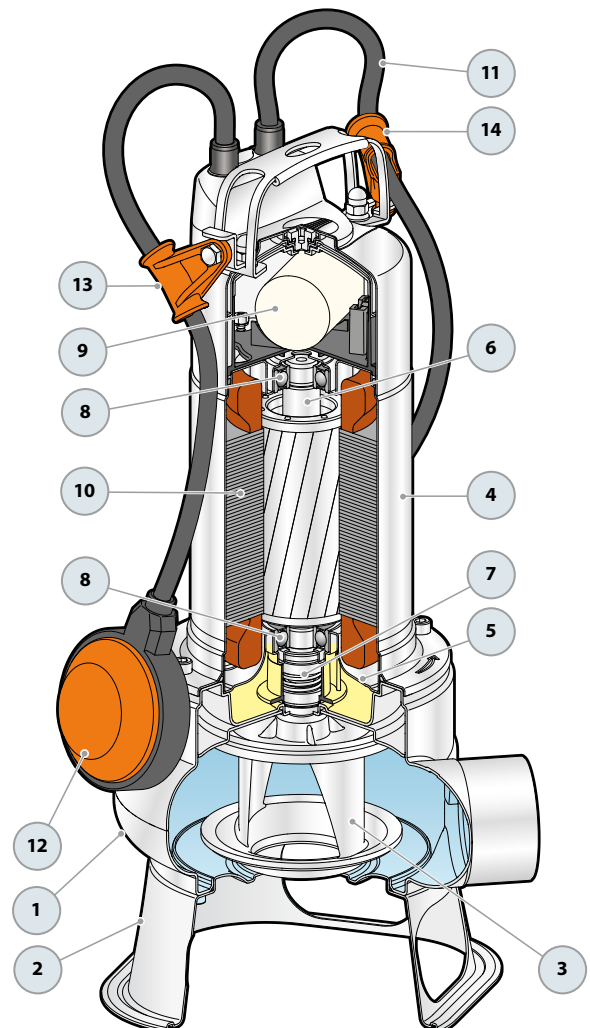
### 13 TILTING DEVICE FOR THE FLOAT CABLE

(only for single-phase versions)

Patent n. IT0001428923

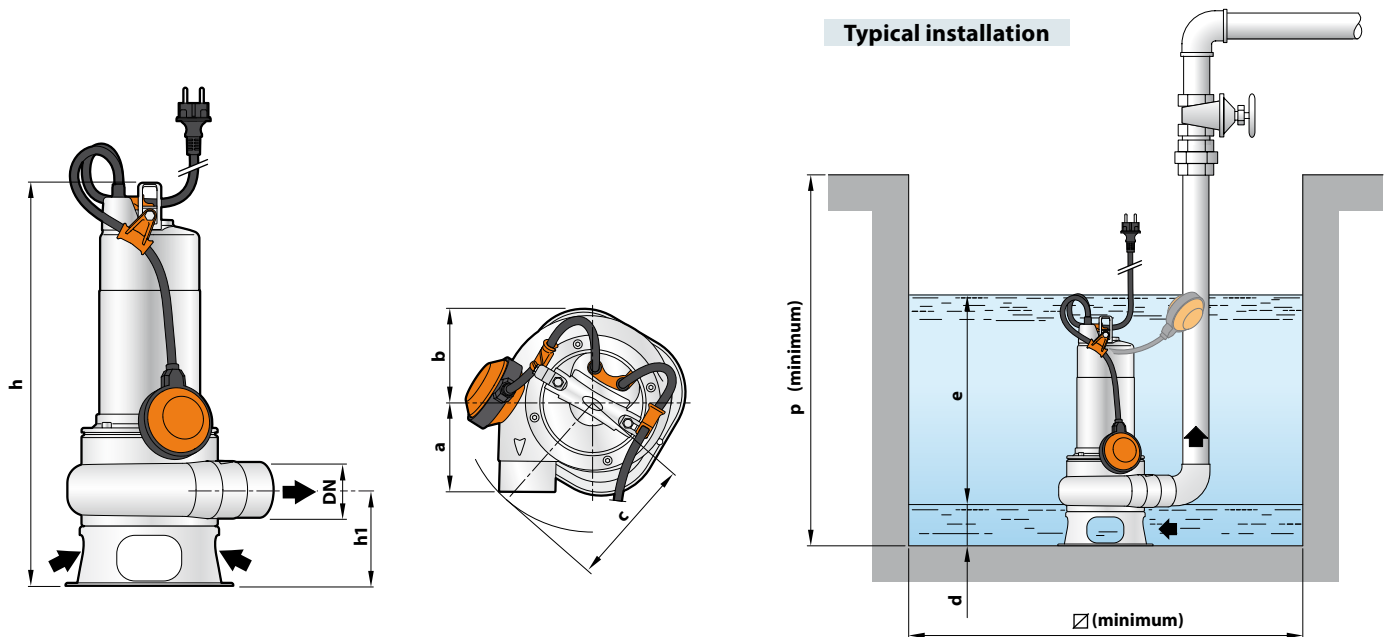
### 14 TEAR-PROOF DEVICE FOR THE POWER CABLE

Patent n. EP2313658





## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	Ø	1~	3~
BCm 10/50-ST	BC 10/50-ST	2"	Ø 50 mm	102	95	145	450	107	60	variable	500	500	13.4	12.2
BCm 15/50-ST	BC 15/50-ST						483						16.0	14.4
BCm 20/50-ST	BC 20/50-ST						513						18.2	16.0

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
BCm 10/50-ST	5.5 A	5.4 A
BCm 15/50-ST	8.0 A	7.8 A
BCm 20/50-ST	10.0 A	9.8 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
BC 10/50-ST	3.8 A	2.2 A	3.6 A	2.1 A
BC 15/50-ST	5.3 A	3.1 A	5.1 A	2.9 A
BC 20/50-ST	6.7 A	3.9 A	6.5 A	3.7 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
BCm 10/50-ST	25 µF 450 VL
BCm 15/50-ST	35 µF 450 VL
BCm 20/50-ST	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
BCm 10/50-ST	BC 10/50-ST	45	60
BCm 15/50-ST	BC 15/50-ST	30	45
BCm 20/50-ST	BC 20/50-ST	30	45

# SEWAGE LIFTING SYSTEM VX-ST – BC-ST

## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-ST</b>	Cod. ASSPVX35ST	DN <b>2"</b>
For <b>VX /50-ST , BC /50-ST</b>	Cod. ASSPVX50ST	DN <b>2"</b>

Kit consisting of:

- 1) footing connection
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-ST</b>	Cod. ASSPVX35STV	DN <b>2½"</b>
For <b>VX /50-ST, BC /50-ST</b>	Cod. ASSPVX50STV	DN <b>2½"</b>

Kit consisting of:

- 1) footing connection complete with counterflange
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## ACCESSORIES CAN BE ORDERED

### SLIDE GUIDE (also to be ordered separately)

For <b>VX /35-ST</b>	Cod. ASSFL005
For <b>VX /50-ST , BC /50-ST</b>	Cod. ASSFL006

Complete with ring nut and seal



### INTERMEDIATE SUPPORT (on request)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
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**In order to ensure stability, insert the intermediate support every 2 metres**



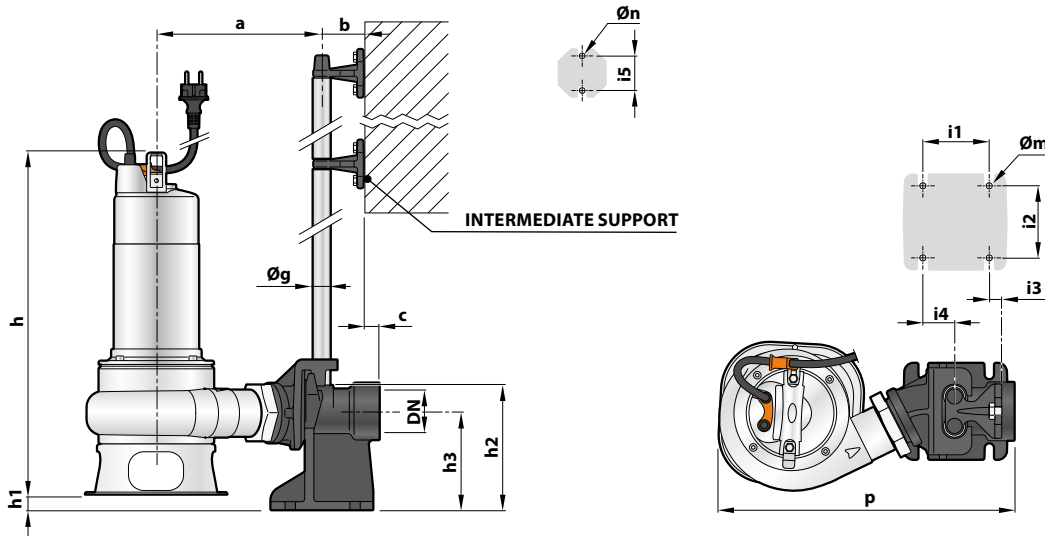
### GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
-----------------	-----------------

Maximum length of the tube plank: 6 metres

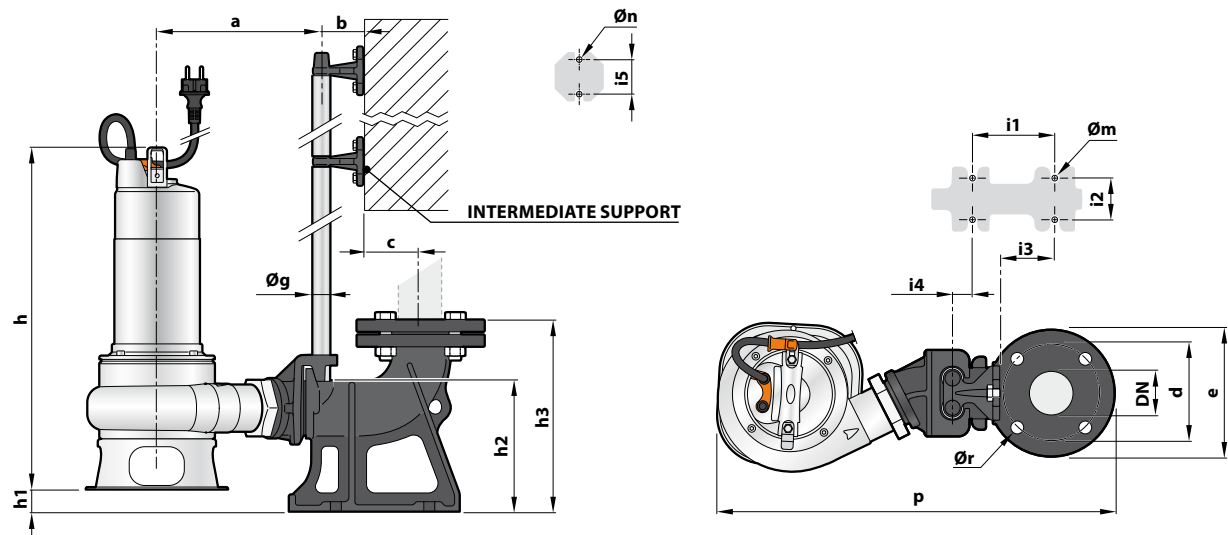


### DIMENSIONS (Horizontal delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm															
Single-phase	Three-phase			a	b	c	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
VXm 8/35 -ST	VX 8/35 -ST	40	2"	214			386	424	24										
VXm 10/35 -ST	VX 10/35 -ST							439											
VXm 15/35 -ST	VX 15/35 -ST							472											
VXm 20/35 -ST	VX 20/35 -ST							502											
VXm 8/50 -ST	VX 8/50 -ST	50	2"	221	61	17	372	435	23	165	130	85	94	16	40	50	¾"	12	11
VXm 10/50 -ST	VX 10/50 -ST							450											
VXm 15/50 -ST	VX 15/50 -ST							483											
VXm 20/50 -ST	VX 20/50 -ST							513											
BCm 10/50 -ST	BC 10/50 -ST	50	2"					450											
BCm 15/50 -ST	BC 15/50 -ST							483											
BCm 20/50 -ST	BC 20/50 -ST							513											

### DIMENSIONS (Vertical delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm																		
Single-phase	Three-phase			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VXm 8/35 -ST	VX 8/35 -ST	40	2½"	207				495	22													
VXm 10/35 -ST	VX 10/35 -ST																				439	
VXm 15/35 -ST	VX 15/35 -ST																				472	
VXm 20/35 -ST	VX 20/35 -ST																				502	
VXm 8/50 -ST	VX 8/50 -ST	50	2½"	212	61	52	125	165	501	26	164	215	120	72	62	3	50	¾"	14	11	18	
VXm 10/50 -ST	VX 10/50 -ST																					435
VXm 15/50 -ST	VX 15/50 -ST																					450
VXm 20/50 -ST	VX 20/50 -ST																					483
BCm 10/50 -ST	BC 10/50 -ST	50	2½"																			
BCm 15/50 -ST	BC 15/50 -ST																				450	
BCm 20/50 -ST	BC 20/50 -ST																				483	

## Submersible pumps in stainless steel

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m<sup>3</sup>/h)
- Head up to **15.5 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 40 mm** for VX /35-MF
  - up to **Ø 50 mm** for VX /50-MF
- Minimum immersion depth for continuous service:
  - **290 mm** for VX 8-MF and VX 10-MF
  - **330 mm** for VX 15-MF
  - **360 mm** for VX 20-MF

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**VX-MF** submersible pumps in stainless steel are recommended for draining **sewage water** in domestic, civil and industrial applications, in every case where there are solid bodies in suspension, for example water mixed with mud, groundwater, surface water. They are suitable for draining flooded areas such as cellars, underground car parks, car washes, for emptying cesspools and for sewage disposal.

These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

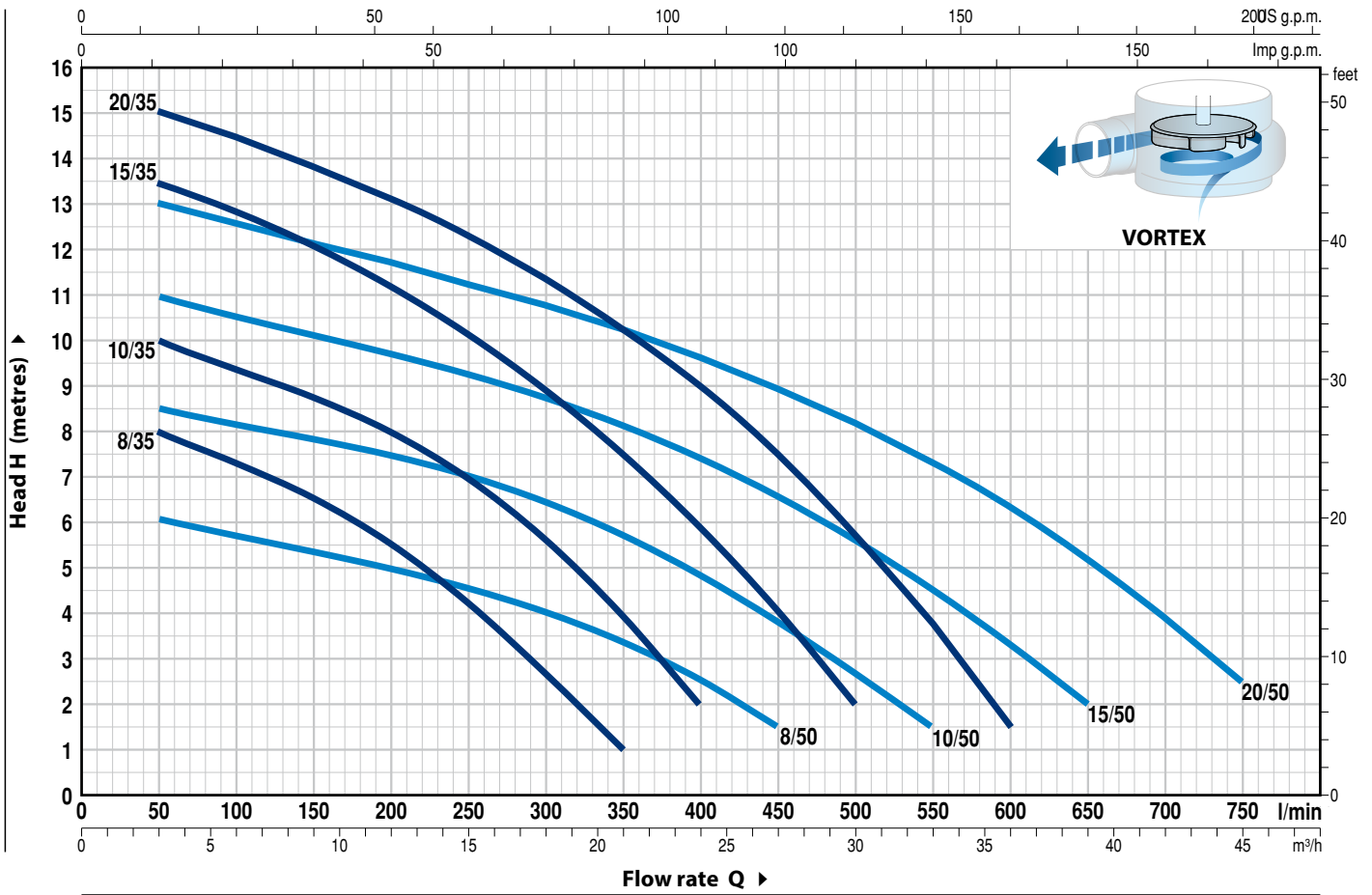
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate														
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3	6	12	18	21	24	27	30	33	36	39	45	
				l/min	0	50	100	200	300	350	400	450	500	550	600	650	750		
VXm 8/35 -MF	VX 8/35 -MF	0.55	0.75	H metres	9	8	7.5	5.5	2.7	1									
VXm 10/35 -MF	VX 10/35 -MF	0.75	1		11	10	9.5	8	5.7	4	2								
VXm 15/35 -MF	VX 15/35 -MF	1.1	1.5		14	13.5	12.8	11.2	9	7.7	6	4	2						
VXm 20/35 -MF	VX 20/35 -MF	1.5	2		15.5	15	14.5	13	11.5	10.3	9	7.5	5.8	3.8	1.5				
VXm 8/50 -MF	VX 8/50 -MF	0.55	0.75		6.5	6	5.8	5	4	3.3	2.5	1.5							
VXm 10/50 -MF	VX 10/50 -MF	0.75	1		9	8.5	8.2	7.5	6.5	5.8	5	3.8	2.5	1.5					
VXm 15/50 -MF	VX 15/50 -MF	1.1	1.5		11.5	11	10.5	9.8	8.7	8	7.5	6.5	5.5	4.5	3.5	2			
VXm 20/50 -MF	VX 20/50 -MF	1.5	2		13.5	13	12.5	11.5	10.7	10	9.5	9	8	7.5	6.5	5	2.5		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Precision cast stainless steel AISI 316L with threaded port in compliance with ISO 228/1
2	<b>BASE</b>	Stainless steel AISI 304
3	<b>IMPELLER</b>	VORTEX type AISI 304 stainless steel. The VORTEX impeller allows pumping solids with a diameter of up to 50 mm and thanks to its special geometry it ensures safe operation against clogging
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>VX 8-10 MF</b> Cast iron with an Epoxy Electro Coating treatment for <b>VX 15-20 MF</b>
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 316L

### 7 DOUBLE MECHANICAL SEAL IN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

Double mechanical seal in oil chamber, with silicon carbide chute slides for a greater resistance to abrasion and wear and for a longer life of the pump.

### 8 BEARINGS

Pump	Model
VX 8-10 MF	6203 ZZ / 6203 ZZ
VX 15-20 MF	6303 2RS - C3 / 6203 ZZ

### 9 CAPACITOR EN 60252-1/A1

(only for single-phase versions)

### 10 ELECTRIC MOTOR

Electric motors produced to a high quality standard, subjected to the most rigorous checks to ensure excellent insulation. The impregnation of the winding, achieved with high quality resins, is followed by treatment in an oven for up to eight hours, thus ensuring the long working life of the motor.

**VXm-MF:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**VX-MF:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

### 11 POWER CABLE

Power cable encapsulated in epoxy resin both in the area of the grommets and at the point where the wires exit the sheath, resulting in an absolute insulation from moisture and water infiltration.

H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

### 12 EXTERNAL FLOAT SWITCH

(only for single-phase versions)

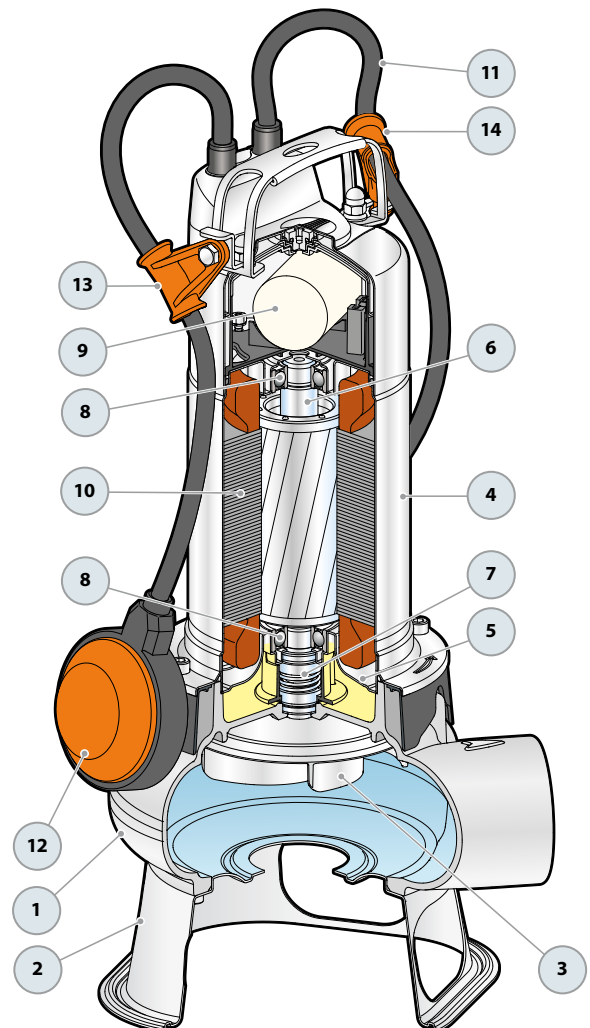
### 13 TILTING DEVICE FOR THE FLOAT CABLE

(only for single-phase versions)

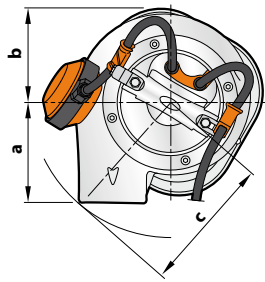
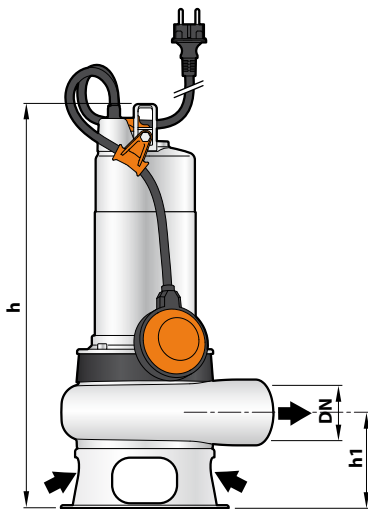
Patent n. IT0001428923

### 14 TEAR-PROOF DEVICE FOR THE POWER CABLE

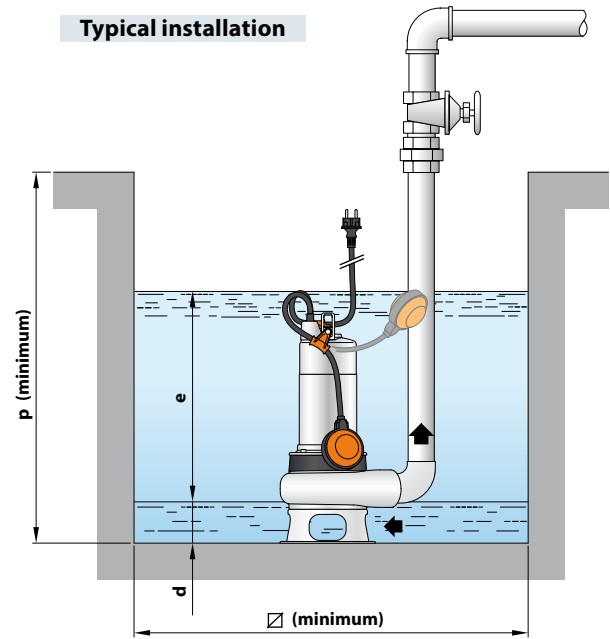
Patent n. EP2313658



## DIMENSIONS AND WEIGHT



Typical installation



MODEL		PORT DN	Passage of solids	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	∅	1~	3~	
VXm 8/35 -MF	VX 8/35 -MF	1½"	Ø 40 mm	107	97	148	424	105	55	regolabile	500	500	13.0	11.8	
VXm 10/35 -MF	VX 10/35 -MF						439						14.4	13.2	
VXm 15/35 -MF	VX 15/35 -MF						472						17.2	15.6	
VXm 20/35 -MF	VX 20/35 -MF						502						19.4	17.2	
VXm 8/50 -MF	VX 8/50 -MF	2"	Ø 50 mm	112	97	149	435	107	60	regolabile	500	500	13.2	12.1	
VXm 10/50 -MF	VX 10/50 -MF						450						14.7	13.5	
VXm 15/50 -MF	VX 15/50 -MF						483						17.5	16.0	
VXm 20/50 -MF	VX 20/50 -MF						513						19.8	17.5	

## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
<b>Single-phase</b>		
VXm 8/35 -MF	4.3 A	4.2 A
VXm 10/35 -MF	5.5 A	5.4 A
VXm 15/35 -MF	7.0 A	6.9 A
VXm 20/35 -MF	9.6 A	9.4 A
VXm 8/50 -MF	4.1 A	4.0 A
VXm 10/50 -MF	5.5 A	5.4 A
VXm 15/50 -MF	7.0 A	6.9 A
VXm 20/50 -MF	9.6 A	9.4 A

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
<b>Three-phase</b>				
VX 8/35 -MF	2.8 A	1.6 A	2.7 A	1.6 A
VX 10/35 -MF	3.8 A	2.2 A	3.6 A	2.1 A
VX 15/35 -MF	4.7 A	2.7 A	4.5 A	2.6 A
VX 20/35 -MF	6.4 A	3.7 A	6.1 A	3.5 A
VX 8/50 -MF	2.8 A	1.6 A	2.7 A	1.6 A
VX 10/50 -MF	3.8 A	2.2 A	3.6 A	2.1 A
VX 15/50 -MF	4.7 A	2.7 A	4.5 A	2.6 A
VX 20/50 -MF	6.4 A	3.7 A	6.1 A	3.5 A

## CAPACITORS

TIPO	CAPACITANCE
<b>Single-phase</b>	(230 V or 240 V)
VXm 8/35 -MF	20 µF 450 VL
VXm 10/35 -MF	25 µF 450 VL
VXm 15/35 -MF	35 µF 450 VL
VXm 20/35 -MF	35 µF 450 VL
VXm 8/50 -MF	20 µF 450 VL
VXm 10/50 -MF	25 µF 450 VL
VXm 15/50 -MF	35 µF 450 VL
VXm 20/50 -MF	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
VXm 8/35 -MF	VX 8/35 -MF	45	60
VXm 10/35 -MF	VX 10/35 -MF	45	60
VXm 15/35 -MF	VX 15/35 -MF	30	45
VXm 20/35 -MF	VX 20/35 -MF	30	45
VXm 8/50 -MF	VX 8/50 -MF	45	60
VXm 10/50 -MF	VX 10/50 -MF	45	60
VXm 15/50 -MF	VX 15/50 -MF	30	60
VXm 20/50 -MF	VX 20/50 -MF	30	45

# SEWAGE LIFTING SYSTEM VX-MF – BC-MF

## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-MF</b>	Cod. ASSPVX35ST	DN <b>2"</b>
For <b>VX /50-MF , BC /50-MF</b>	Cod. ASSPVX50ST	DN <b>2"</b>

Kit consisting of:

- 1) footing connection
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-MF</b>	Cod. ASSPVX35STV	DN <b>2½"</b>
For <b>VX /50-MF, BC /50-MF</b>	Cod. ASSPVX50STV	DN <b>2½"</b>

Kit consisting of:

- 1) footing connection complete with counterflange
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## ACCESSORIES CAN BE ORDERED

### SLIDE GUIDE (also to be ordered separately)

For <b>VX /35-MF</b>	Cod. ASSFL005
For <b>VX /50-MF , BC /50-MF</b>	Cod. ASSFL006

Complete with ring nut and seal



### INTERMEDIATE SUPPORT (on request)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
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**In order to ensure stability, insert the intermediate support every 2 metres**



### GUIDE TUBES (AISI 304 stainless steel)

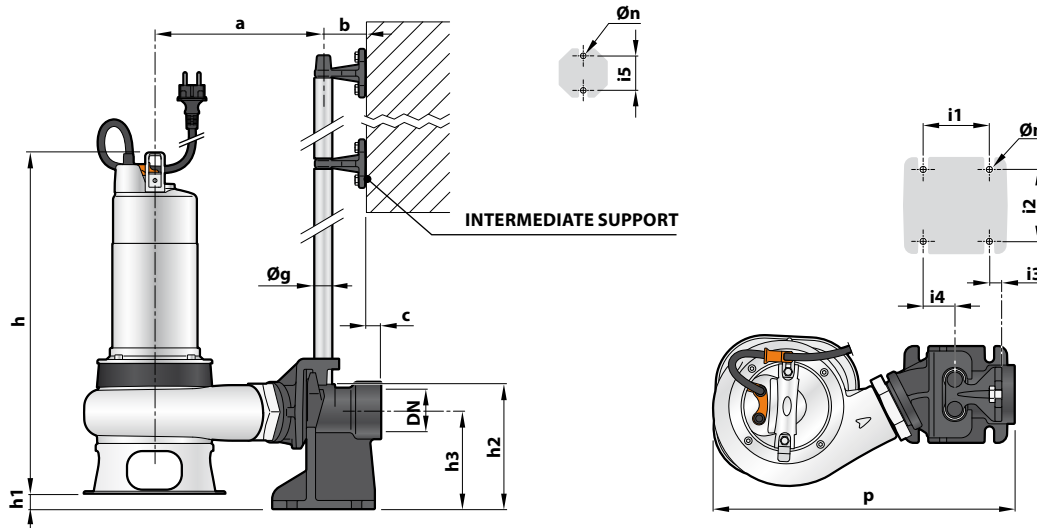
Guide tube Ø ¾"	Cod. 54SARTG005
-----------------	-----------------

Maximum length of the tube plank: 6 metres



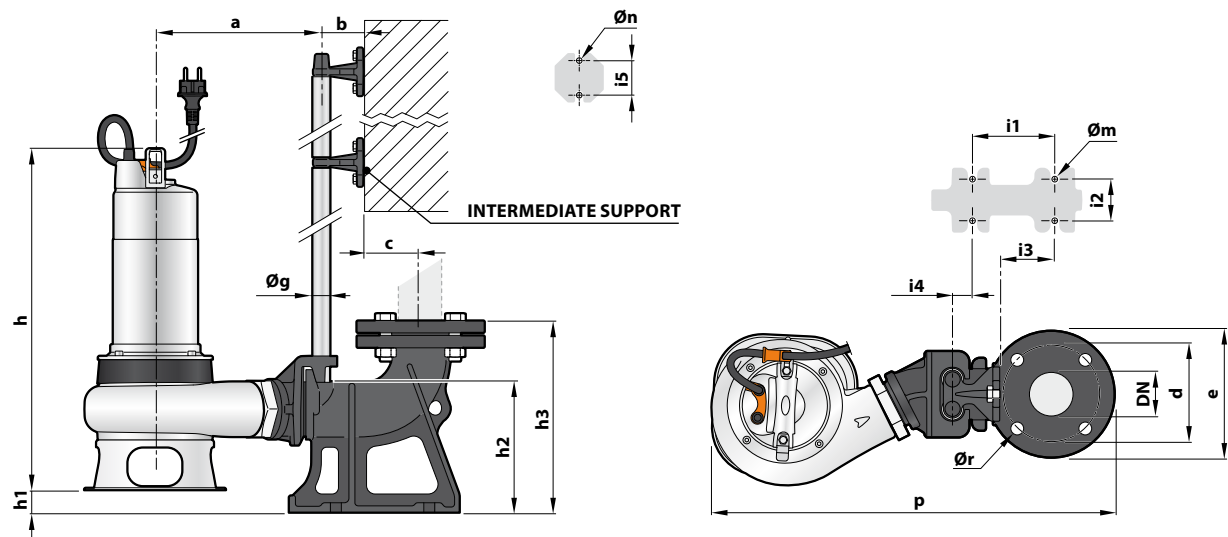


### DIMENSIONS (Horizontal delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm															
Single-phase	Three-phase			a	b	c	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
VXm 8/35 -MF	VX 8/35 -MF	40	2"	222				424	25										
VXm 10/35 -MF	VX 10/35 -MF							439											
VXm 15/35 -MF	VX 15/35 -MF							472											
VXm 20/35 -MF	VX 20/35 -MF							502											
VXm 8/50 -MF	VX 8/50 -MF	50	2"	226	61	17		435	23	165	130	85	94	16	40	50	¾"	12	11
VXm 10/50 -MF	VX 10/50 -MF							450											
VXm 15/50 -MF	VX 15/50 -MF							483											
VXm 20/50 -MF	VX 20/50 -MF							513											
BCm 10/50 -MF	BC 10/50 -MF	50	2"					450											
BCm 15/50 -MF	BC 15/50 -MF							483											
BCm 20/50 -MF	BC 20/50 -MF							513											

### DIMENSIONS (Vertical delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm																		
Single-phase	Three-phase			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VXm 8/35 -MF	VX 8/35 -MF	40	2½"	215					503	23												
VXm 10/35 -MF	VX 10/35 -MF																				439	
VXm 15/35 -MF	VX 15/35 -MF																				472	
VXm 20/35 -MF	VX 20/35 -MF																				502	
VXm 8/50 -MF	VX 8/50 -MF	50	2½"	217	61	52	125	165	507	21	164	215	120	72	62	3	50	¾"	14	11	18	
VXm 10/50 -MF	VX 10/50 -MF																					450
VXm 15/50 -MF	VX 15/50 -MF																					483
VXm 20/50 -MF	VX 20/50 -MF																					513
BCm 10/50 -MF	BC 10/50 -MF	50	2½"																			
BCm 15/50 -MF	BC 15/50 -MF																				450	
BCm 20/50 -MF	BC 20/50 -MF																				483	

## Submersible pumps in stainless steel

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **850 l/min** (51 m<sup>3</sup>/h)
- Head up to **17 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 50 mm**
- Minimum immersion depth for continuous service:
  - **290 mm** foe BC 10/50-MF
  - **330 mm** foe BC 15/50-MF
  - **360 mm** foe BC 20/50-MF

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system  
certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**BC-MF** submersible pumps are recommended for draining **dirty and sewage water** in domestic, civil and industrial applications. They come equipped with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids up to Ø 50 mm. They are ideal for pumping sewage, waste water, surface water and water mixed with mud in locations such as blocks of flats and detached house.

These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

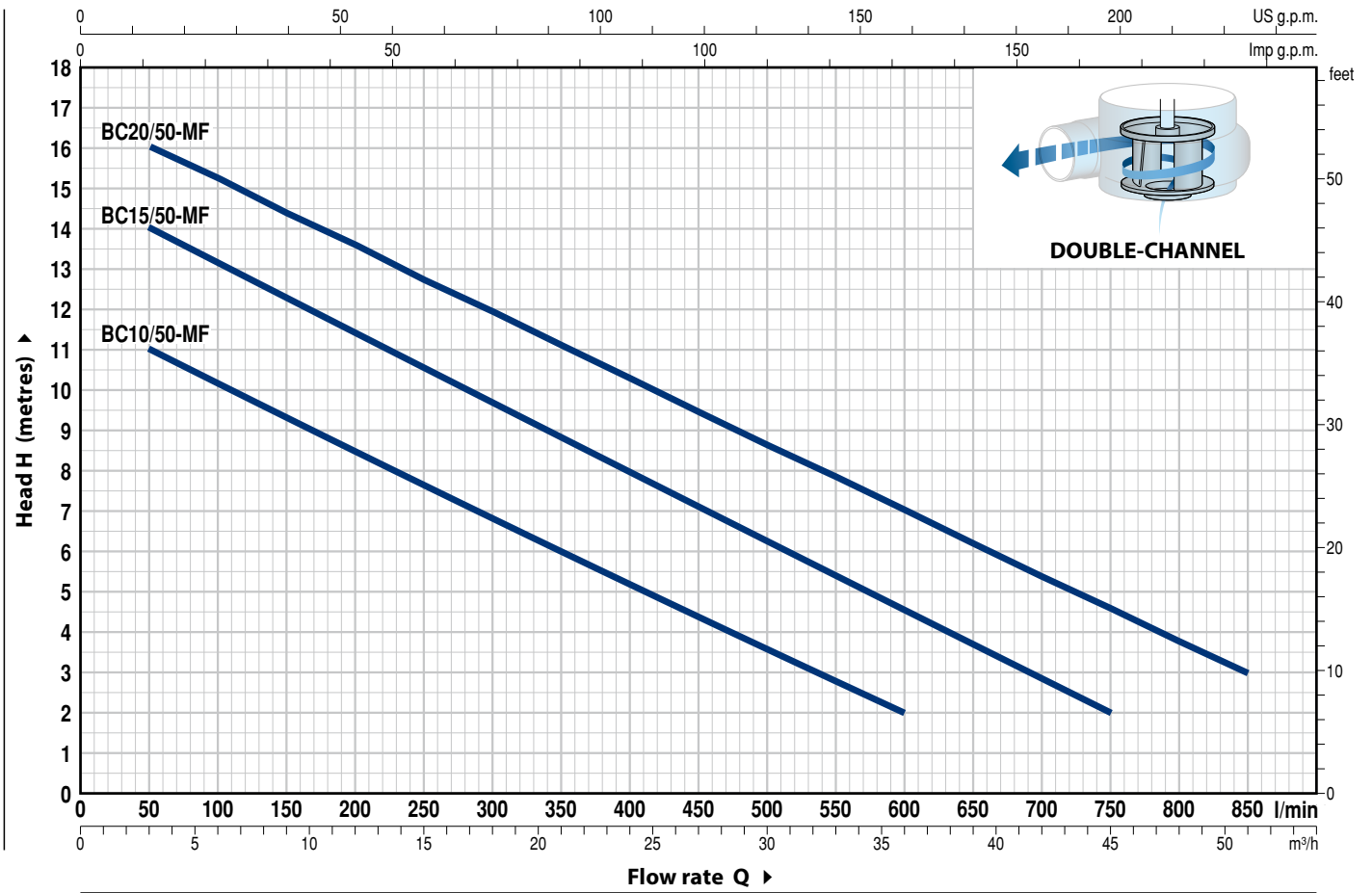
- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate														
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3	6	12	18	24	30	36	42	45	51			
				l/min	0	50	100	200	300	400	500	600	700	750	850				
BCm 10/50-MF	BC 10/50-MF	0.75	1	H metres	12	11	10	8.5	7	5	3.6	2							
BCm 15/50-MF	BC 15/50-MF	1.1	1.5		15	14	13	11.5	9.7	8	6.3	4.6	2.9	2					
BCm 20/50-MF	BC 20/50-MF	1.5	2		17	16	15.3	13.5	12	10.3	8.6	7.0	5.3	4.5	3				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Precision cast stainless steel AISI 316L with threaded port in compliance with ISO 228/1
2	<b>BASE</b>	Stainless steel AISI 304
3	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type. The double-channel impeller produces excellent performance and high energy efficiency, developing higher pressure and ensuring the pumping of solids up to 50 mm in diameter. Definitely the most highly performing solution for draining wastewater.
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>BC 10/50-MF</b> Cast iron with an Epoxy Electro Coating treatment for <b>BC 15/50-MF, BC 20/50-MF</b>
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 316L

### 7 DOUBLE MECHANICAL SEAL IN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

Double mechanical seal in oil chamber, with silicon carbide chute slides for a greater resistance to abrasion and wear and for a longer life of the pump.

### 8 BEARINGS

Pump	Model
BC 10/50-MF	6203 ZZ / 6203 ZZ
BC 15/50-MF BC 20/50-MF	6303 2RS - C3 / 6203 ZZ

### 9 CAPACITOR

EN 60252-1/A1  

(only for single-phase versions)

### 10 ELECTRIC MOTOR

Electric motors produced to a high quality standard, subjected to the most rigorous checks to ensure excellent insulation. The impregnation of the winding, achieved with high quality resins, is followed by treatment in an oven for up to eight hours, thus ensuring the long working life of the motor.

**BCm-MF:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**BC-MF:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

### 11 POWER CABLE

Power cable encapsulated in epoxy resin both in the area of the grommets and at the point where the wires exit the sheath, resulting in an absolute insulation from moisture and water infiltration.

H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

### 12 EXTERNAL FLOAT SWITCH

(only for single-phase versions)

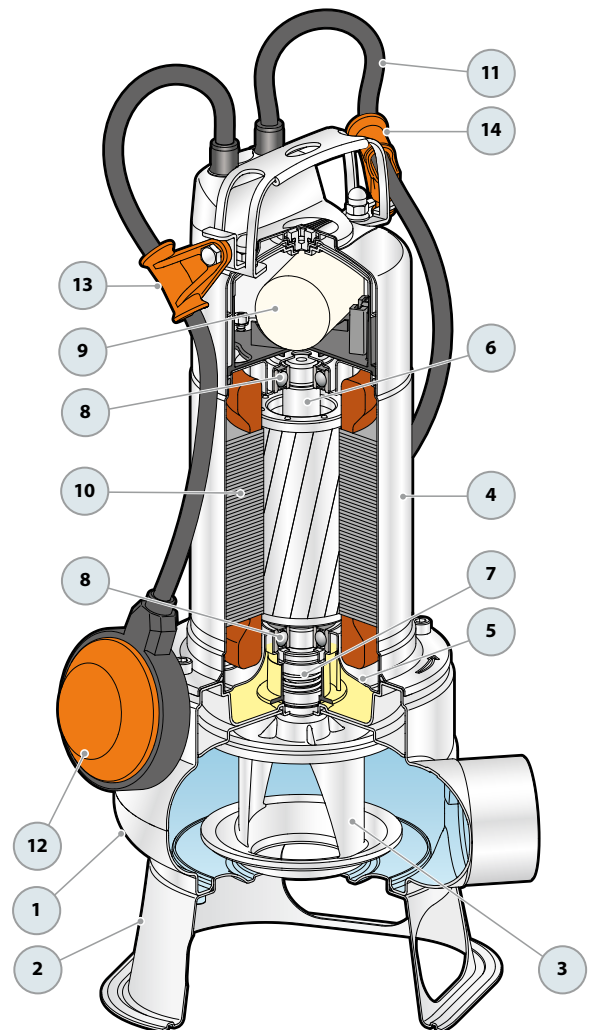
### 13 TILTING DEVICE FOR THE FLOAT CABLE

(only for single-phase versions)

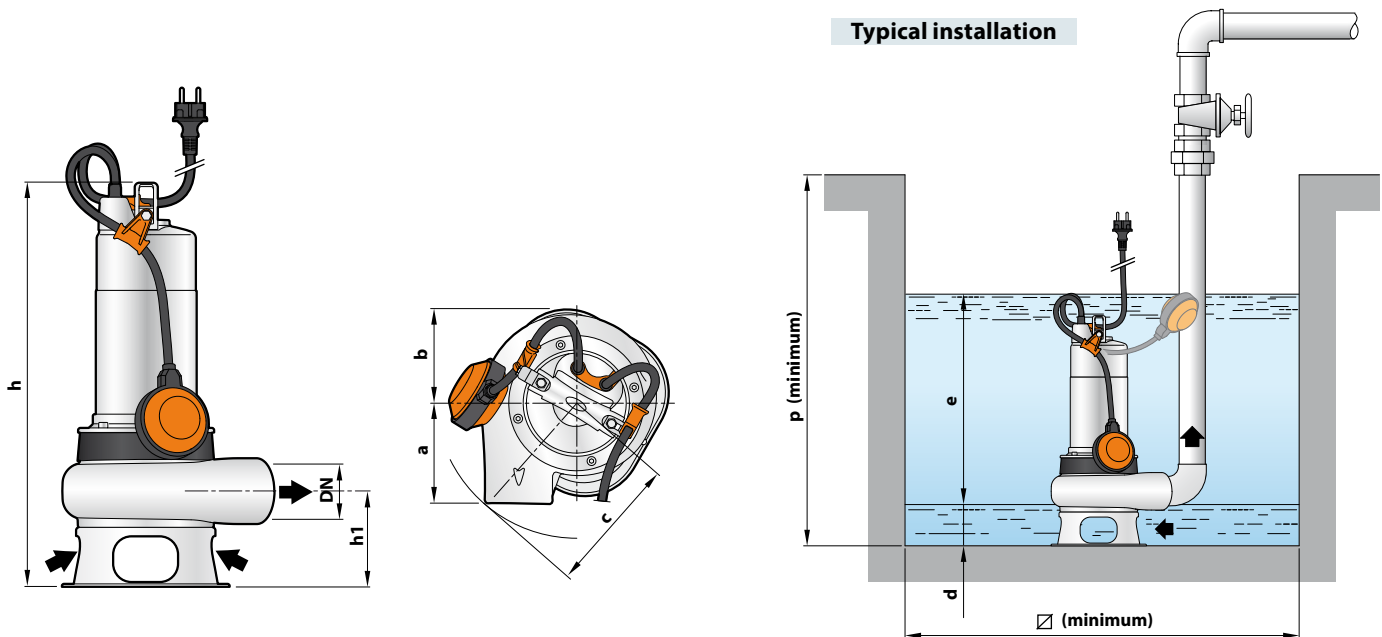
Patent n. IT0001428923

### 14 TEAR-PROOF DEVICE FOR THE POWER CABLE

Patent n. EP2313658



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	Ø	1~	3~
BCm 10/50-MF	BC 10/50-MF	2"	Ø 50 mm	102	95	145	450	107	60	variable	500	500	15.2	14.0
BCm 15/50-MF	BC 15/50-MF						483						17.8	16.2
BCm 20/50-MF	BC 20/50-MF						513						20.0	17.8

## ABSORPTION

MODEL	VOLTAGE	
	Single-phase	230 V
BCm 10/50-MF	5.5 A	5.4 A
BCm 15/50-MF	8.0 A	7.8 A
BCm 20/50-MF	10.0 A	9.8 A

MODEL	VOLTAGE			
	Three-phase	230 V	400 V	240 V
BC 10/50-MF	3.8 A	2.2 A	3.6 A	2.1 A
BC 15/50-MF	5.3 A	3.1 A	5.1 A	2.9 A
BC 20/50-MF	6.7 A	3.9 A	6.5 A	3.7 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
BCm 10/50-MF	25 µF 450 VL
BCm 15/50-MF	35 µF 450 VL
BCm 20/50-MF	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Monofase	Three-phase	n. pumps	n. pumps
BCm 10/50-MF	BC 10/50-MF	45	60
BCm 15/50-MF	BC 15/50-MF	30	45
BCm 20/50-MF	BC 20/50-MF	30	45

# SEWAGE LIFTING SYSTEM VX-MF – BC-MF

## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-MF</b>	Cod. ASSPVX35ST	DN 2"
For <b>VX /50-MF , BC /50-MF</b>	Cod. ASSPVX50ST	DN 2"

Kit consisting of:

- 1) footing connection
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VX /35-MF</b>	Cod. ASSPVX35STV	DN 2½"
For <b>VX /50-MF, BC /50-MF</b>	Cod. ASSPVX50STV	DN 2½"

Kit consisting of:

- 1) footing connection complete with counterflange
- 2) slide guide with ring nut and seal
- 3) support for the guide tubes



## ACCESSORIES CAN BE ORDERED

### SLIDE GUIDE (also to be ordered separately)

For <b>VX /35-MF</b>	Cod. ASSFL005
For <b>VX /50-MF , BC /50-MF</b>	Cod. ASSFL006

Complete with ring nut and seal



### INTERMEDIATE SUPPORT (on request)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
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**In order to ensure stability, insert the intermediate support every 2 metres**



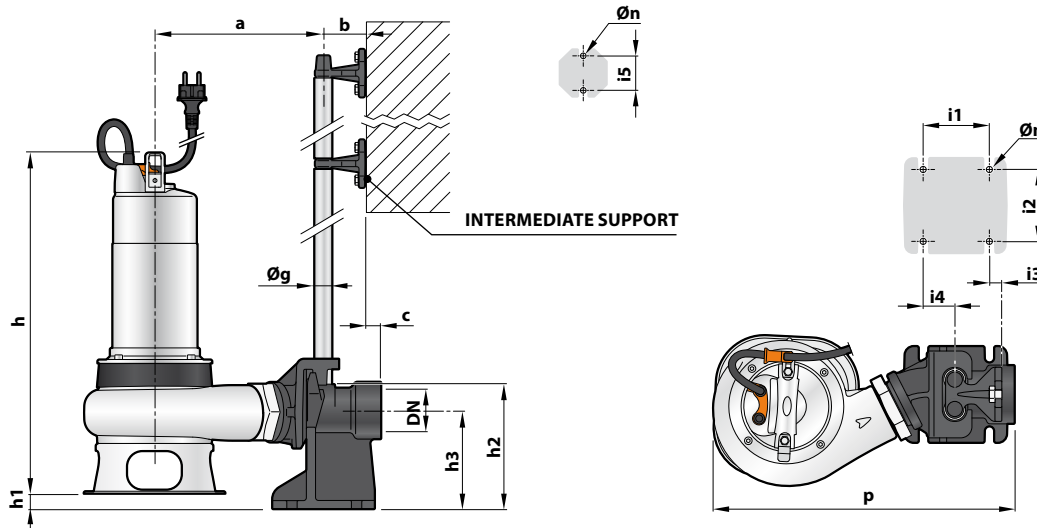
### GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
-----------------	-----------------

Maximum length of the tube plank: 6 metres

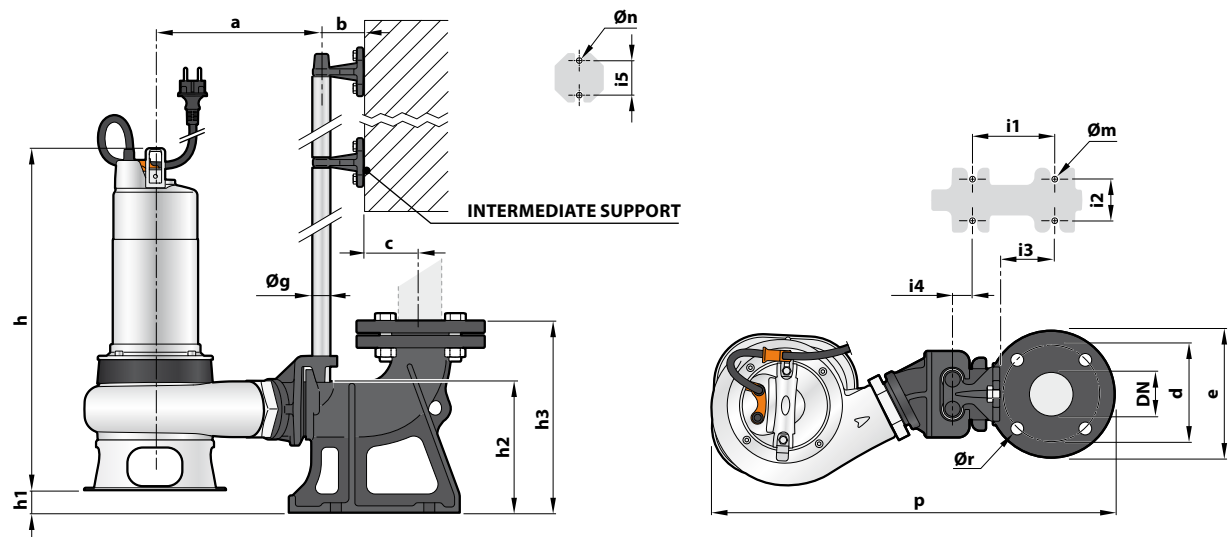


### DIMENSIONS (Horizontal delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm																
Single-phase	Three-phase			a	b	c	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	
VXm 8/35 -MF	VX 8/35 -MF	40	2"	222				424	25											
VXm 10/35 -MF	VX 10/35 -MF							439												
VXm 15/35 -MF	VX 15/35 -MF							472												
VXm 20/35 -MF	VX 20/35 -MF							502												
VXm 8/50 -MF	VX 8/50 -MF							435												
VXm 10/50 -MF	VX 10/50 -MF	50	2"	226	61	17		450	23	165	130	85	94	16	40	50	¾"	12	11	
VXm 15/50 -MF	VX 15/50 -MF							483												
VXm 20/50 -MF	VX 20/50 -MF							513												
BCm 10/50 -MF	BC 10/50 -MF							450												
BCm 15/50 -MF	BC 15/50 -MF							483												
BCm 20/50 -MF	BC 20/50 -MF	513																		

### DIMENSIONS (Vertical delivery version)



MODEL		Passage of solids mm	PORT DN	DIMENSIONS mm																		
Single-phase	Three-phase			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VXm 8/35 -MF	VX 8/35 -MF	40	2½"	215					424	23												
VXm 10/35 -MF	VX 10/35 -MF								439													
VXm 15/35 -MF	VX 15/35 -MF								472													
VXm 20/35 -MF	VX 20/35 -MF								502													
VXm 8/50 -MF	VX 8/50 -MF								435													
VXm 10/50 -MF	VX 10/50 -MF	50	2½"	217	61	52	125	165	450	21	164	215	120	72	62	3	50	¾"	14	11	18	
VXm 15/50 -MF	VX 15/50 -MF								483													
VXm 20/50 -MF	VX 20/50 -MF								507													
BCm 10/50 -MF	BC 10/50 -MF								450													
BCm 15/50 -MF	BC 15/50 -MF								483													
BCm 20/50 -MF	BC 20/50 -MF	513																				

# D

## Submersible drainage pumps

-  Clear water
-  Domestic use
-  Civil use



### PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m<sup>3</sup>/h)
- Head up to **26 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 10 mm**
- Suction down to **17 mm** above ground level
- Minimum immersion depth for continuous service:
  - **210 mm** for D 8-10-20
  - **250 mm** for D 30

### CONSTRUCTION AND SAFETY STANDARDS

- Power cable length:
  - **5 m** for D8, D10, D20
  - **10 m** for D30
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

Designed for draining **clear or slightly dirty water**, the **D** series pumps are recommended for domestic, civil and professional applications for draining flooded interiors such as basements and garages, for emptying swimming pools and tanks, for disposal of waste water which is not sewage.

These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

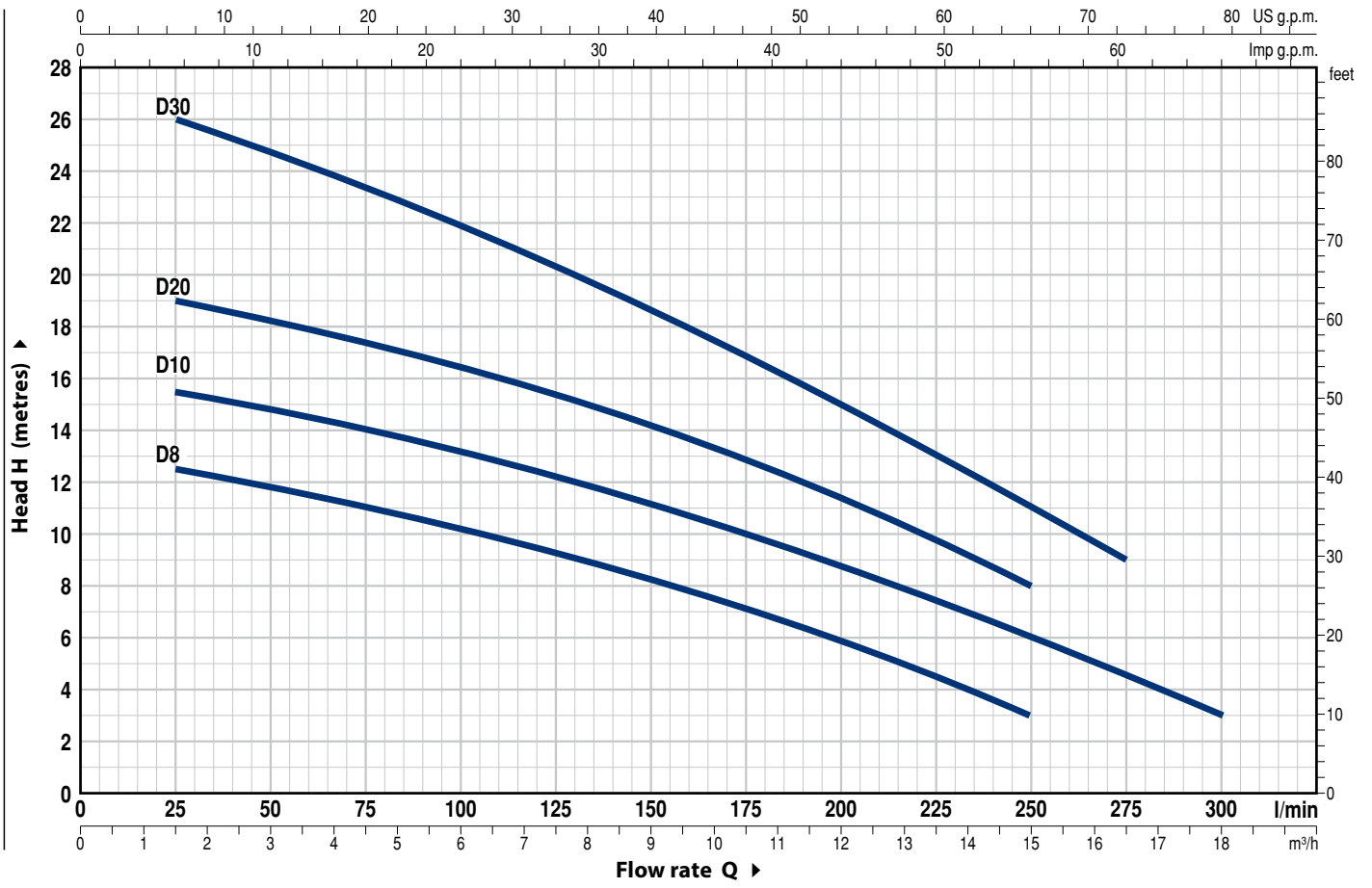
### OPTIONS AVAILABLE ON REQUEST

- D8-10-20 pumps with a **10 m** power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate																	
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12.0	13.2	15.0	16.5	18.0				
				l/min	0	25	50	75	100	125	150	175	200	220	250	275	300					
Dm 8	D 8	0.55	0.75	H metres	13	12.5	12	11	10	9	8	7	6	4.7	3							
Dm 10	D 10	0.75	1		16	15.5	15	14	13.2	12.2	11.2	10	8.8	7.8	6	4.5	3					
Dm 20	D 20	0.75	1		20	19	18.5	17.5	16.5	15.5	14.3	13	11.5	10	8							
Dm 30	D 30	1.1	1.5		26	26	25	23.5	22	20.5	18.7	17	15	13.5	11	9						

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	Stainless steel AISI 304
3	<b>SUCTION PLATE</b>	Stainless steel AISI 304
4	<b>IMPELLER</b>	Technopolymer open type
5	<b>MOTOR CASING</b>	Stainless steel AISI 304
6	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>D 8-10-20</b> Cast iron with an Epoxy Electro Coating treatment for <b>D 30</b>
7	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Pump Model	Seal Model	Shaft Diameter	Position	Materials		
				Stationary ring	Rotational ring	Elastomer
D8	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
D10			Pump side	Silicon carbide	Silicon carbide	NBR
D20						
(Double seal on shaft with a ring seal Ø 16 x Ø 24 x H 5 mm)				Ceramic	Silicon carbide	NBR
D30	ST1-14 SIC	Ø 14 mm				

### 9 BEARINGS

Pump	Model
D 8-10-20	6203 ZZ / 6203 ZZ
D 30	6303 2RS - C3 / 6203 ZZ

10 CAPACITOR EN 60252-1/A1 

### 11 ELECTRIC MOTOR

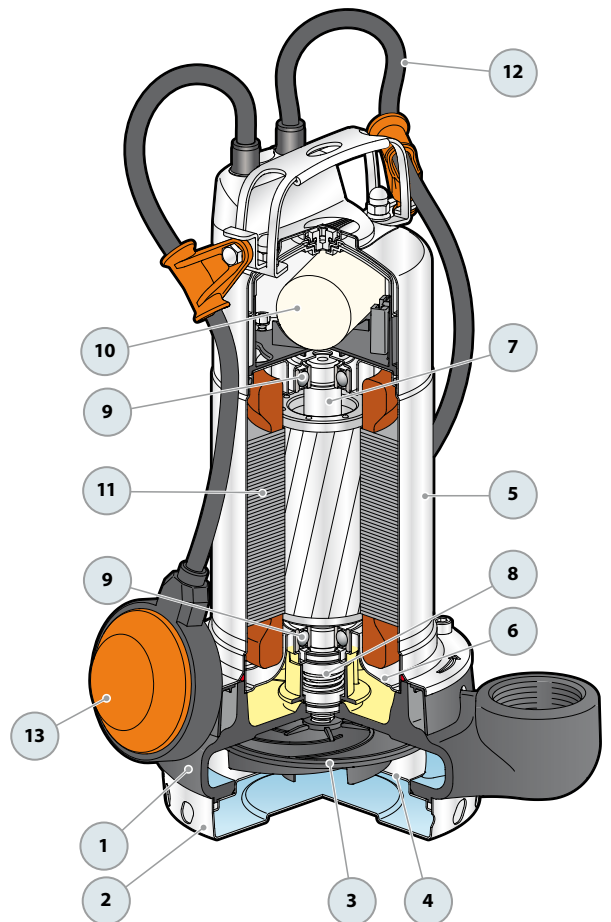
**Dm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding  
**D:** three-phase 400 V - 50 Hz  
– Insulation: class F  
– Protection: IP X8

### 12 POWER CABLE

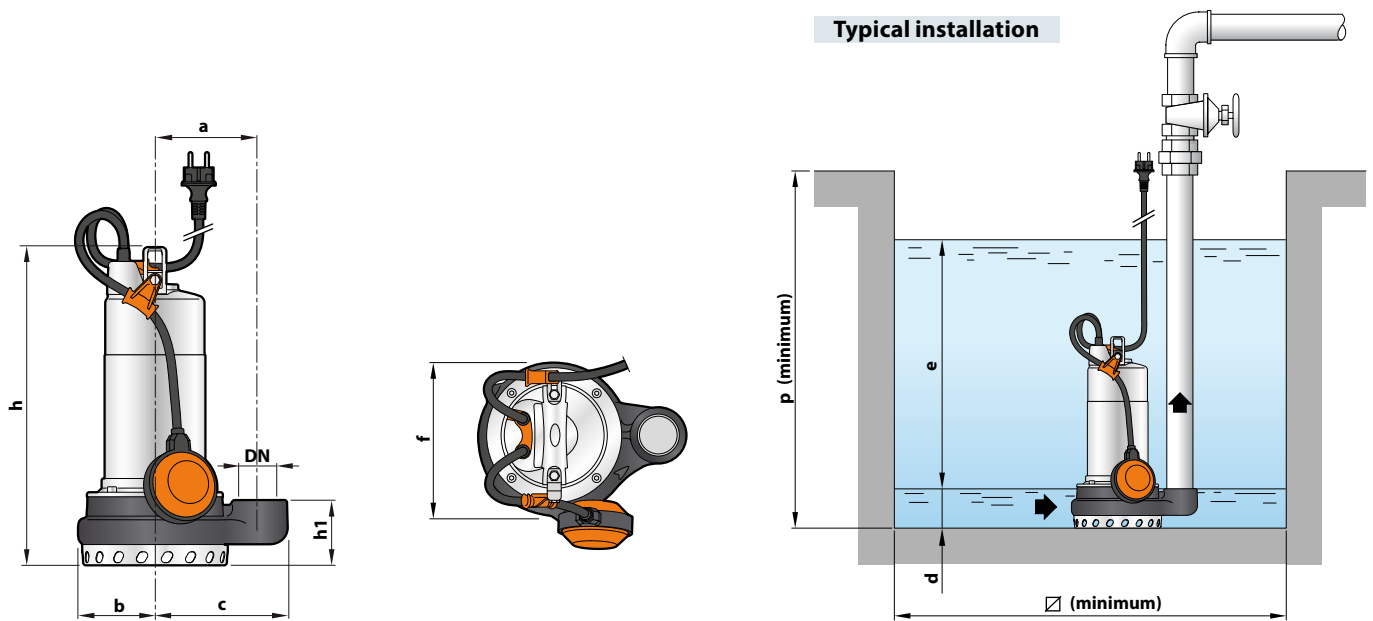
“H07 RN-F” type  
(with Schuko plug for single-phase versions only)  
**Standard length 5 metres (10 metres for D30)**

### 13 FLOAT SWITCH

(only for single-phase versions)



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	DIMENSIONS mm										kg	
Single-phase	Three-phase		a	b	c	f	h	h1	d	e	p	Ø	1~	3~
Dm 8	D 8	1½"	115	85	147	177	338	73	17	variable	500	500	12.8	11.7
Dm 10	D 10						353						14.0	12.9
Dm 20	D 20						353						14.0	12.9
Dm 30	D 30			93			195	390					84	17.4

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
	Single-phase	230 V
Dm 8	3.4 A	3.4 A
Dm 10	5.0 A	4.9 A
Dm 20	5.5 A	5.4 A
Dm 30	7.3 A	7.2 A

MODEL	VOLTAGE			
	Three-phase	230 V	400 V	240 V
D 8	2.3 A	1.4 A	2.2 A	1.3 A
D 10	3.4 A	2.0 A	3.3 A	1.9 A
D 20	3.8 A	2.2 A	3.6 A	2.1 A
D 30	5.0 A	2.9 A	4.8 A	2.8 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
Dm 8	20 µF 450 VL
Dm 10	25 µF 450 VL
Dm 20	25 µF 450 VL
Dm 30	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
Dm 8	D 8	60	80
Dm 10	D 10	60	80
Dm 20	D 20	60	80
Dm 30	D 30	60	80

## Submersible pumps

-  Sewage water
-  Domestic use
-  Civil use



### PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m<sup>3</sup>/h)
- Head up to **13 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 30 mm** for ZXm 2/30
  - up to **Ø 40 mm** for ZXm 2/40
- Minimum immersion depth for continuous service:
  - **265 mm** for ZXm 2/30
  - **275 mm** for ZXm 2/40

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- float switch
- hose connection Ø 50 mm

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### INSTALLATION AND USE

**ZX2** series pumps are suitable for draining **dirty water** in domestic and civil applications and for pumping dirty water containing suspended solids up to Ø 40 mm. They distinguish themselves for the ease with which they are installed and their reliability under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

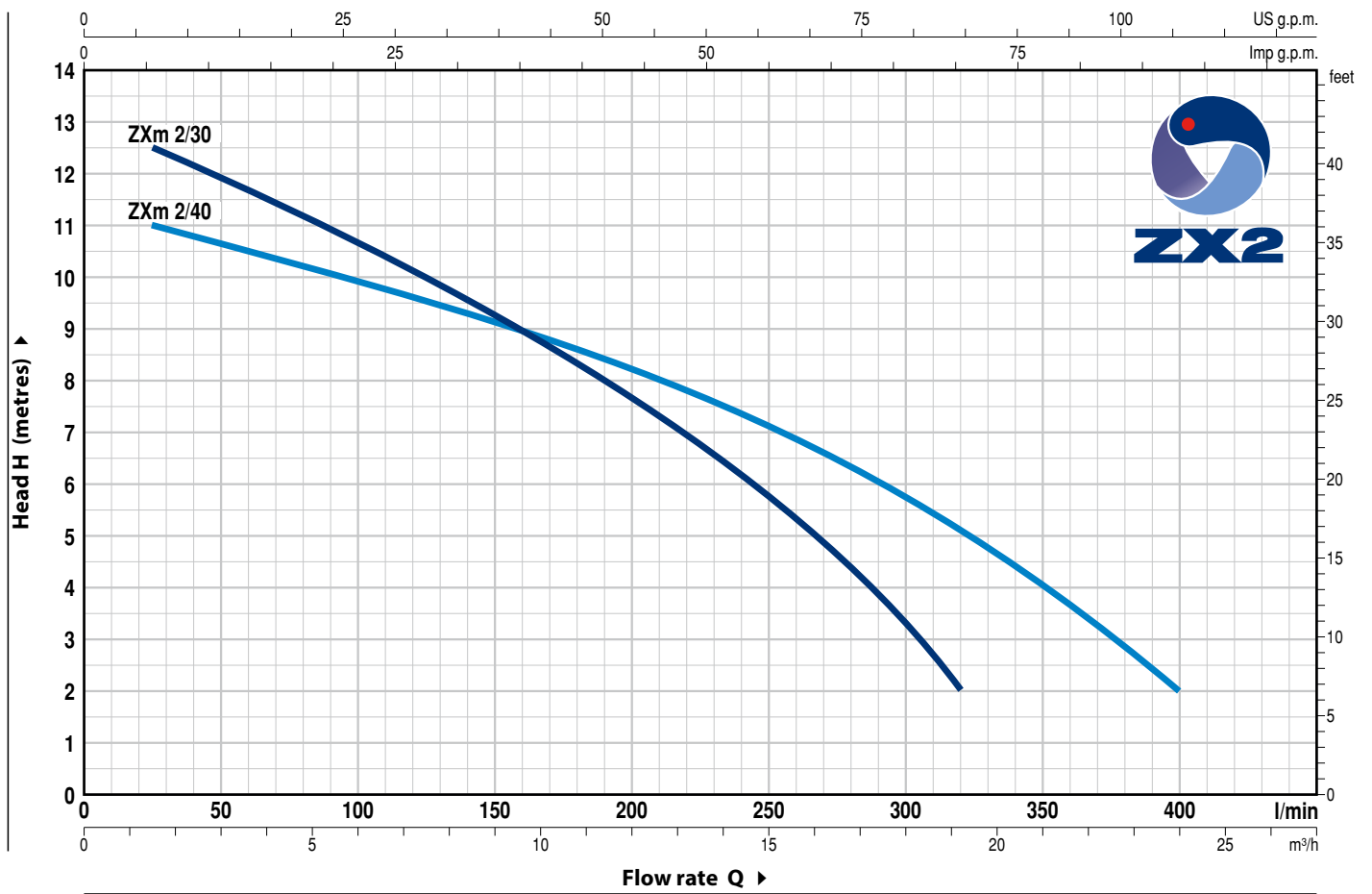
### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>

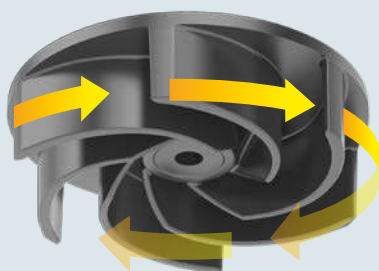


MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	0	1.5	3	6	9	12	15	18	19.2	21	24		
Single-phase				0	25	50	100	150	200	250	300	320	350	400			
ZXm 2/30	0.55	0.75	H metres	13	12.5	11.8	10.6	9.3	7.6	5.8	3.3	2					
ZXm 2/40	0.55	0.75		11.5	11	10.6	9.8	9.2	8.2	7.2	5.7	5.2	4	2			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### VORTEX IMPELLER



## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1 (5 years guarantee)				
<b>2 BASE</b>	Glass fibre reinforced technopolymer				
<b>3 IMPELLER</b>	Glass fibre reinforced technopolymer VORTEX type				
<b>4 MOTOR CASING</b>	Stainless steel AISI 304				
<b>5 MOTOR CASING PLATE</b>	Stainless steel AISI 304				
<b>6 MOTOR SHAFT</b>	Stainless steel AISI 431				
<b>7 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER</b>					
<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Materials</i>
<b>MG1-14D SIC</b>	<b>Ø 14 mm</b>	Motor side Pump side	Silicon carbide Silicon carbide	Graphite Silicon carbide	NBR NBR
<b>8 BEARINGS</b>	<b>6203 ZZ / 6203 ZZ</b>				

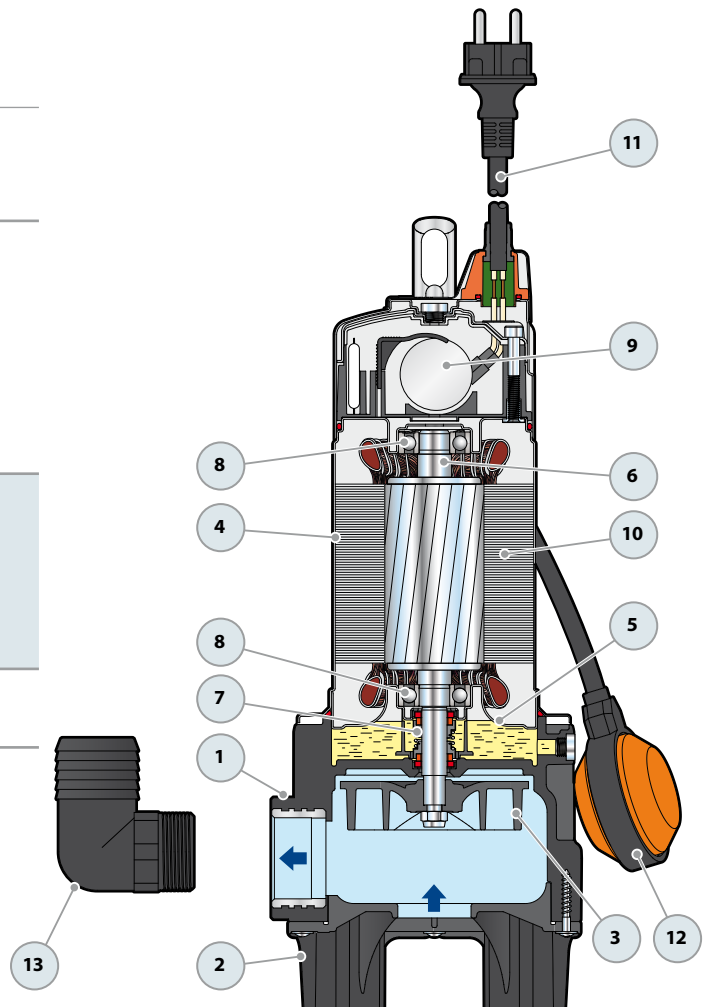
<b>9 CAPACITOR</b>
<i>Capacitance</i> (230 V or 240 V)
<b>20 µF 450 VL</b>

<b>10 ELECTRIC MOTOR</b>
<b>ZXm 2:</b> single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding
– Insulation: class F – Protection: IP X8

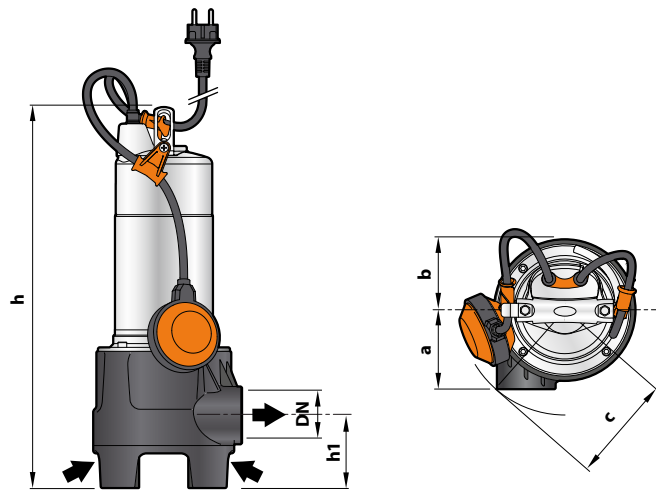
<b>11 POWER CABLE</b>
“H07 RN-F” type (with Schuko plug for single-phase versions only)
<b>Standard length 5 metres</b>

<b>12 FLOAT SWITCH</b>
------------------------

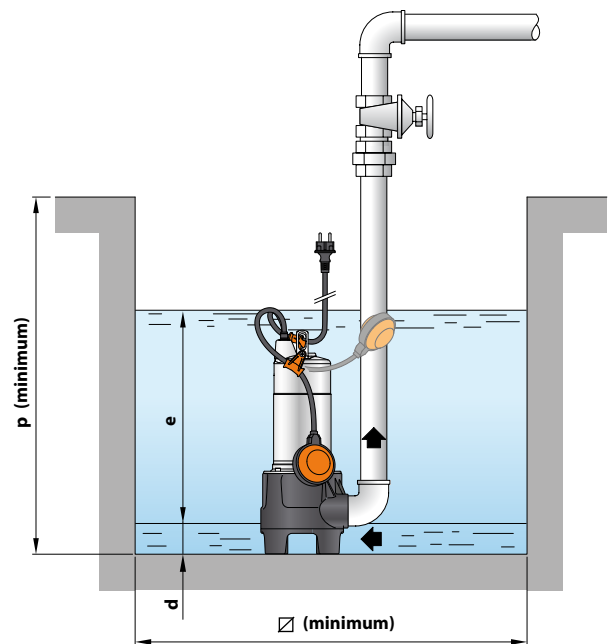
<b>13 HOSE CONNECTION</b>
<b>Ø 50 mm</b>



## DIMENSIONS AND WEIGHT



### Typical installation



MODEL	PORT DN	Passage of solids	DIMENSIONS mm									kg 1~
			a	b	c	h	h1	d	e	p	∅	
ZXm 2/30	1½"	∅ 30 mm	90	81	118	413	73	50	variable	500	500	10.8
ZXm 2/40		∅ 40 mm				432	83					

## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
ZXm 2/30	4.0 A	4.0 A
ZXm 2/40	4.0 A	3.8 A

## PALLETIZATION

MODEL	GROUPAGE
Single-phase	n. pumps
ZXm 2/30	54
ZXm 2/40	54

## Submersible pumps

 Sewage water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m<sup>3</sup>/h)
- Head up to **13 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 30 mm** for ZXm 2/30-GM
  - up to **Ø 40 mm** for ZXm 2/40-GM
- Minimum immersion depth for continuous service:
  - **265 mm** for ZXm 2/30-GM
  - **275 mm** for ZXm 2/40-GM

### CONSTRUCTION AND SAFETY STANDARDS

The pumps are complete with:

- **5 m** long power cable
- Liquid level vertical sliding magnetic float switch (adjustable)
- hose connection Ø 50 mm

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

**ZX2GM** series pumps are suitable for draining **dirty water** in domestic and civil applications and for pumping dirty water containing suspended solids up to Ø 40 mm. They distinguish themselves for the ease with which they are installed and their reliability under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

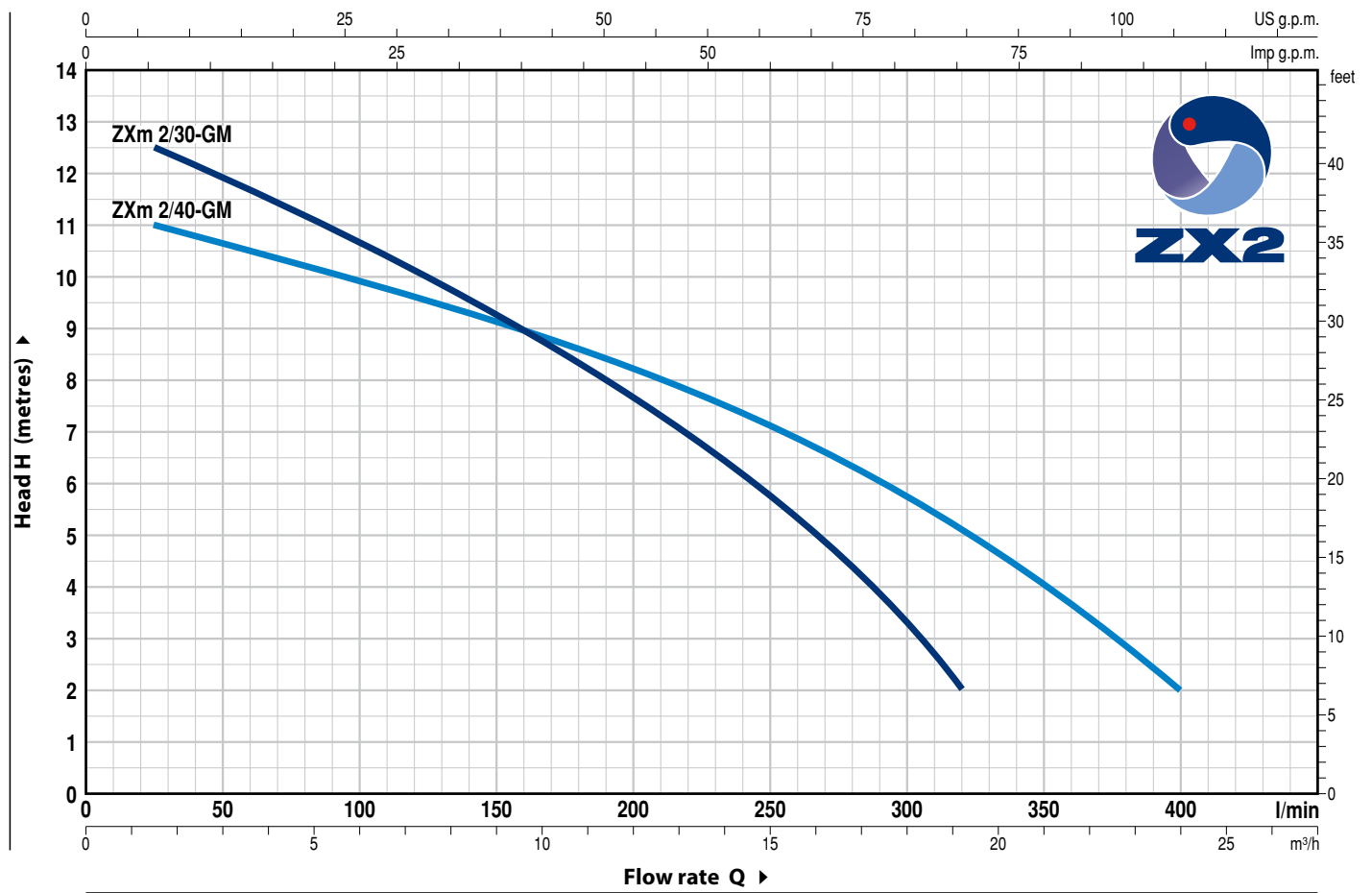
### OPTIONS AVAILABLE ON REQUEST

- Pumps with a **10 m** long power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency



## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>

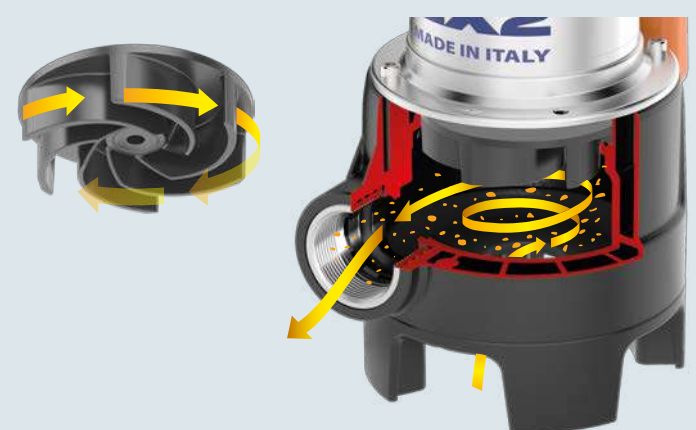


MODEL	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	0	1.5	3	6	9	12	15	18	19.2	21	24		
Single-phase				0	25	50	100	150	200	250	300	320	350	400			
ZXm 2/30-GM	0.55	0.75	H metres	13	12.5	11.8	10.6	9.3	7.6	5.8	3.3	2					
ZXm 2/40-GM	0.55	0.75	H metres	11.5	11	10.6	9.8	9.2	8.2	7.2	5.7	5.2	4	2			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

### VORTEX IMPELLER



### SELECTOR FOR AUTOMATIC OR MANUAL OPERATION



## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1 (5 years guarantee)
2	<b>BASE</b>	Glass fibre reinforced technopolymer
3	<b>IMPELLER</b>	Glass fibre reinforced technopolymer VORTEX type
4	<b>MOTOR CASING</b>	Stainless steel AISI 304
5	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 8 BEARINGS 6203 ZZ / 6203 ZZ

### 9 CAPACITOR

**Capacitance**  
(230 V or 240 V)

20 µF 450 VL

### 10 ELECTRIC MOTOR

**ZXm 2-GM:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

- Insulation: class F
- Protection: IP X8

### 11 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

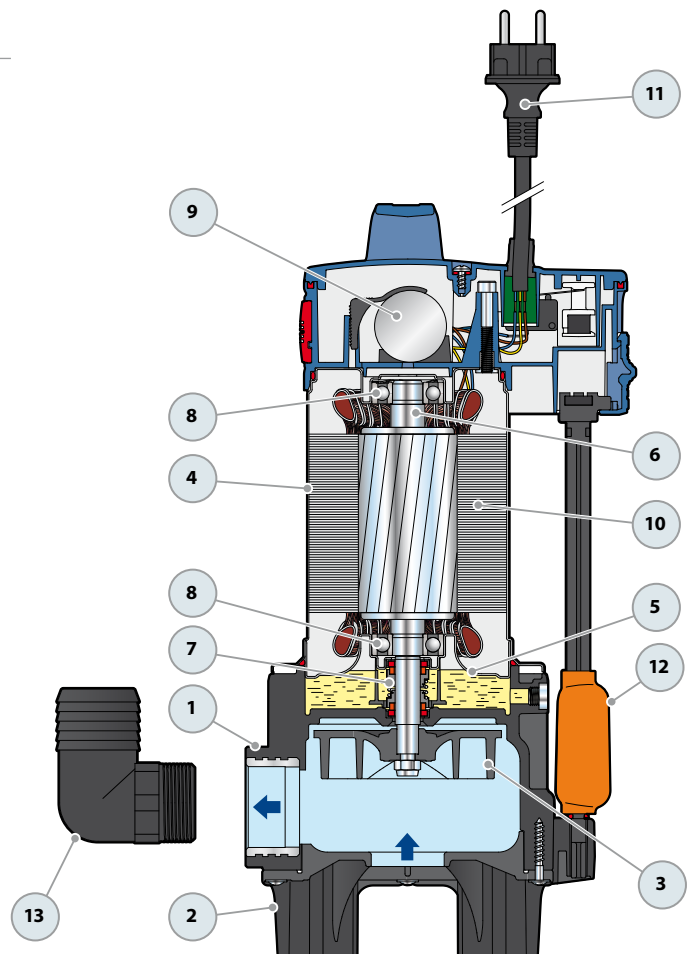
**Standard length 5 metres**

### 12 LEVEL FLOAT SWITCH

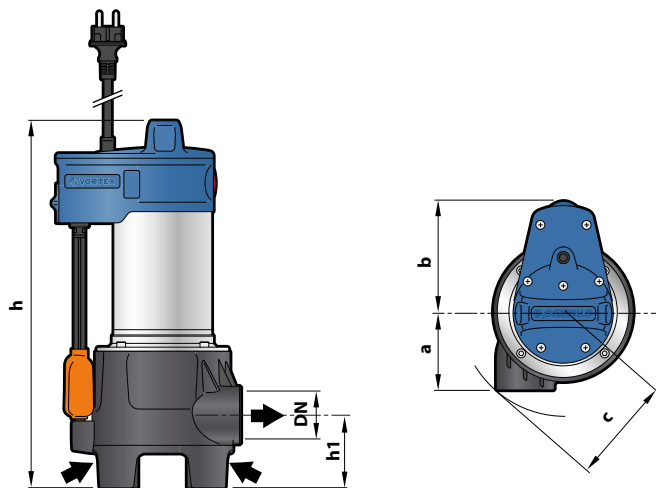
Liquid level vertical sliding magnetic float switch (adjustable)

### 13 HOSE CONNECTION

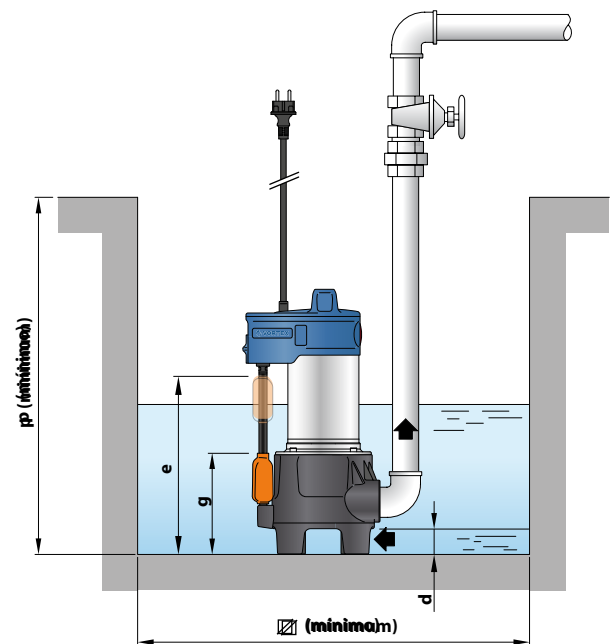
Ø 50 mm



## DIMENSIONS AND WEIGHT



### Typical installation



MODEL	PORT DN	Passage of solids	DIMENSIONS mm										kg 1~
			a	b	c	h	h1	e	f	g	p	□	
ZXm 2/30-GM	1½"	Ø 30 mm	90	127	118	394	73	50	130	260	450	300	10.5
ZXm 2/40-GM		Ø 40 mm				404	83		140	270			

## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
ZXm 2/30-GM	4.0 A	3.9 A
ZXm 2/40-GM	4.0 A	3.9 A

## PALLETIZATION

MODEL	GROUPAGE
Single-phase	n. pumps
ZXm 2/30-GM	54
ZXm 2/40-GM	54

## Submersible pumps

 Dirty water

 Domestic use



### PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m<sup>3</sup>/h)
- Head up to **11 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 40 mm**
- Suction down to **50 mm** above ground level
- **240 mm** minimum immersion depth for continuous service

### CONSTRUCTION AND SAFETY STANDARDS

- **5 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

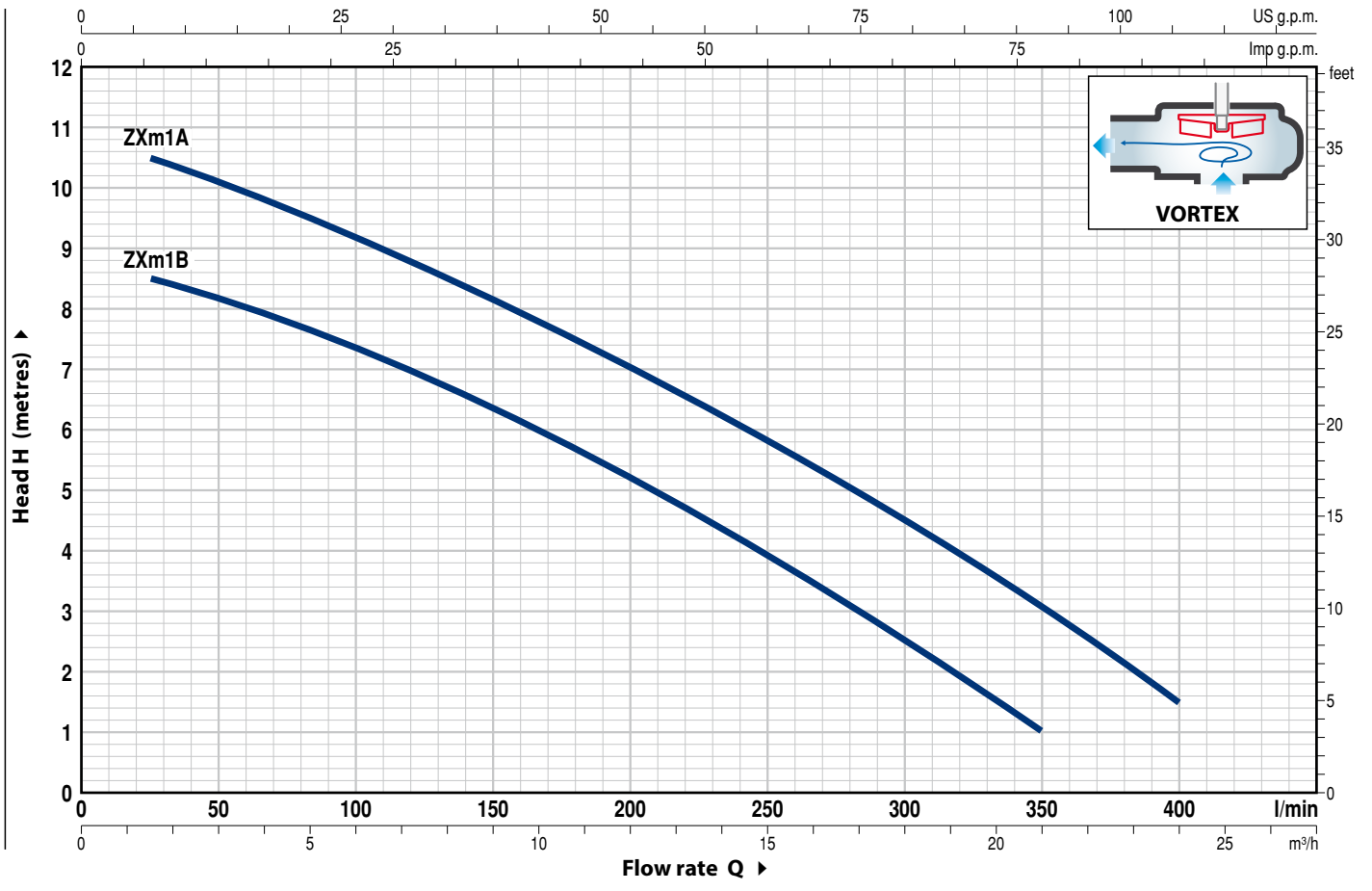
**ZX** series pumps are suitable for draining **dirty water** in domestic applications and for pumping dirty water containing suspended solids up to Ø 40 mm. They distinguish themselves for the ease with which they are installed and their reliability under automatic operating conditions in fixed installations.

### OPTIONS AVAILABLE ON REQUEST

- Pumps with a **10 m** long power cable.  
    ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



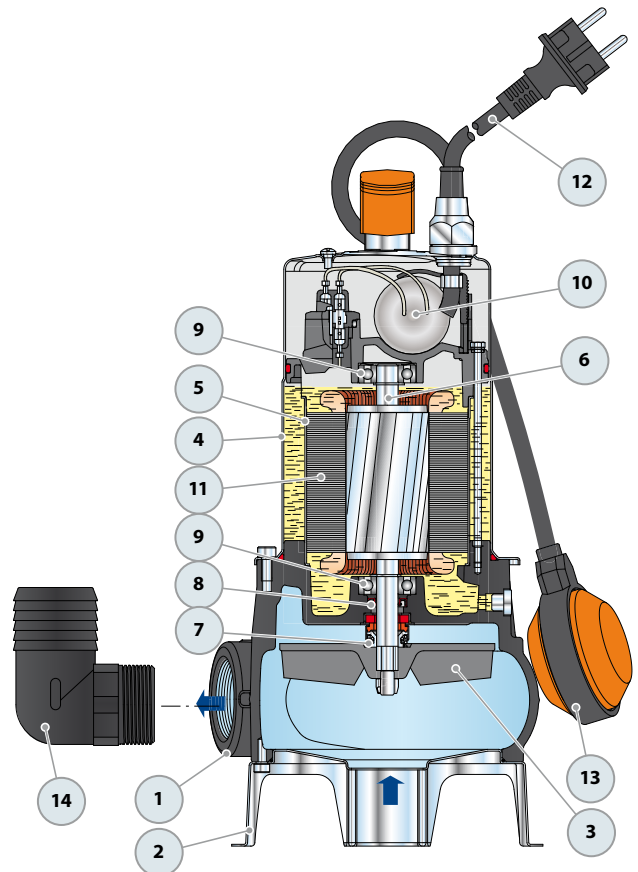
MODEL Single-phase	POWER (P <sub>2</sub> )		Q	Flow rate												
	kW	HP		m <sup>3</sup> /h	0	1.5	3.0	4.5	6.0	9.0	12.0	15.0	18.0	21.0	24.0	
ZXm 1B/40	0.50	0.70	l/min	0	25	50	75	100	150	200	250	300	350	400		
ZXm 1A/40	0.60	0.85	H metres	9	8.5	8.3	8	7.5	6.5	5.2	4	2.5	1			
				11	10.5	10	9.5	9.2	8.2	7	5.7	4.3	2.8	1.5		

Q = Flow rate H = Total manometric head

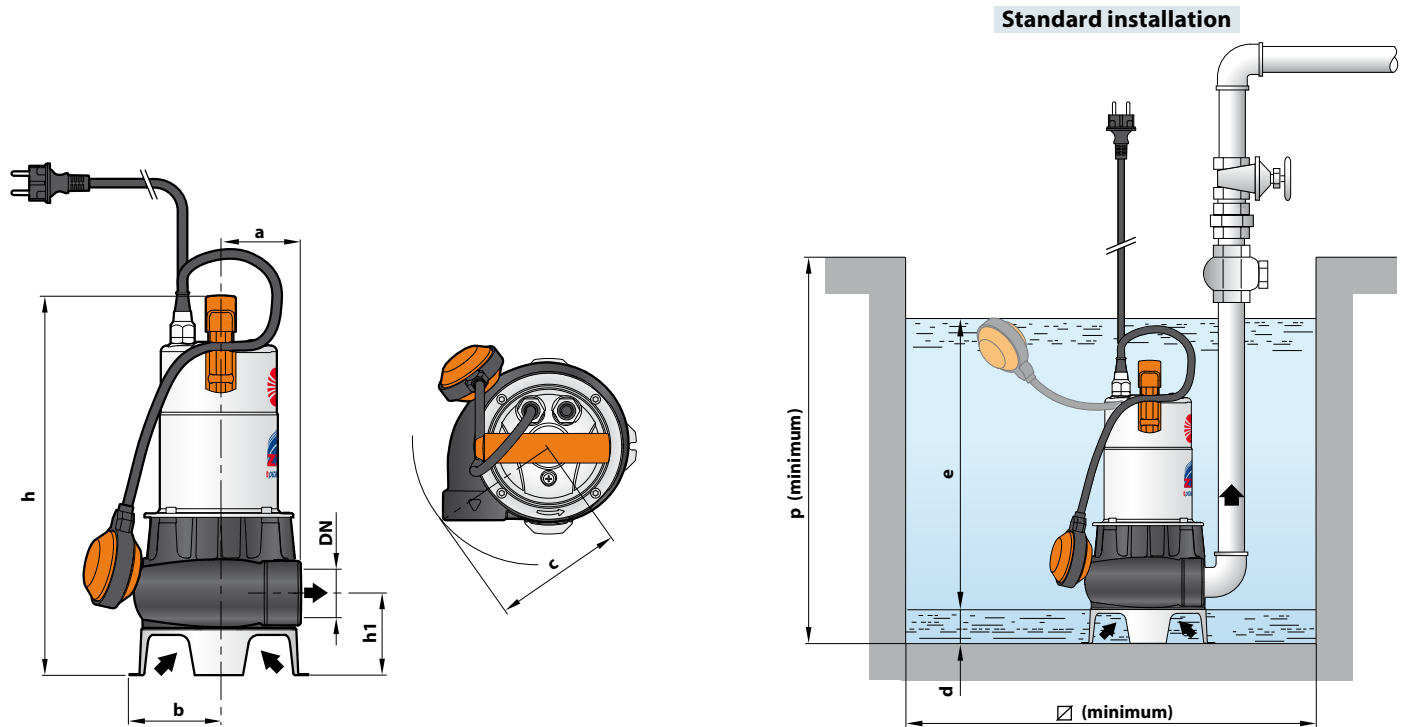
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with threaded port in compliance with ISO 228/1			
2	<b>BASE</b>	Stainless steel AISI 304			
3	<b>IMPELLER</b>	Technopolymer VORTEX type			
4	<b>MOTOR SLEEVE</b>	Stainless steel AISI 304			
5	<b>MOTOR CASING</b>	Stainless steel			
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431			
7	<b>SHAFT WITH DOUBLE SEAL</b>				
	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Materials</i>		<i>Elastomer</i>
	STA-12R	Ø 12 mm	Stationary ring Ceramic	Rotational ring Graphite	NBR
8	<b>LIP SEAL</b>	Ø 12 x Ø 22 x H 6 mm			
9	<b>BEARINGS</b>	6201 ZZ / 6201 ZZ			
10	<b>CAPACITOR</b>				
	<i>Pump</i>	<i>Capacitance</i>			
	<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
	ZXm 1B/40	12.5 µF 450 VL	30 µF - 250 VL		
	ZXm 1A/40	16 µF 450 VL	30 µF - 250 VL		
11	<b>ELECTRIC MOTOR</b>				
	ZXm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding				
	– Insulation: class F				
	– Protection: IP X8				
12	<b>POWER CABLE</b>				
	"H07 RN-F" with Schuko plug				
	<b>Standard length 5 metres</b>				
13	<b>FLOAT SWITCH</b>				
	(only for single-phase versions)				
14	<b>HOSE CONNECTION</b>				
	Ø 50 mm				



## DIMENSIONS AND WEIGHT



MODEL	PORT DN	Passage of solids	DIMENSIONS mm									kg	
			a	b	c	h	h1	d	e	p	∅		
Single-phase													1~
ZXm 1B/40	1½"	Ø 40 mm	75	89	130	378	82	50	variable	450	450	11.6	
ZXm 1A/40												12.0	

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
ZXm 1B/40	3.3 A	3.3 A	6.6 A
ZXm 1A/40	4.5 A	4.5 A	9.0 A

## PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
ZXm 1B/40	60	80
ZXm 1A/40	60	80

## Submersible pumps

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m<sup>3</sup>/h)
- Head up to **15.5 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 40 mm** for VX /35
  - up to **Ø 50 mm** for VX /50
- Minimum immersion depth for continuous service:
  - **290 mm** for VX 8 and VX 10
  - **330 mm** for VX 15
  - **360 mm** for VX 20

### CONSTRUCTION AND SAFETY STANDARDS

- Power cable length:
  - **5 m** for VX8-10/35, VX8-10/50
  - **10 m** for VX15/35, VX15/50
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### INSTALLATION AND USE

VX pumps are recommended for domestic, civil and industrial applications in all cases where the water contains suspended solids up to Ø 50 mm, for example **groundwater, surface water, sewage and dirty water**.

They are for example suitable for draining flooded areas such as cellars, underground car parks, car washes, for emptying cesspools and for sewage disposal.

These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- VX8-10 pumps with a **10 m** power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### CERTIFICATIONS

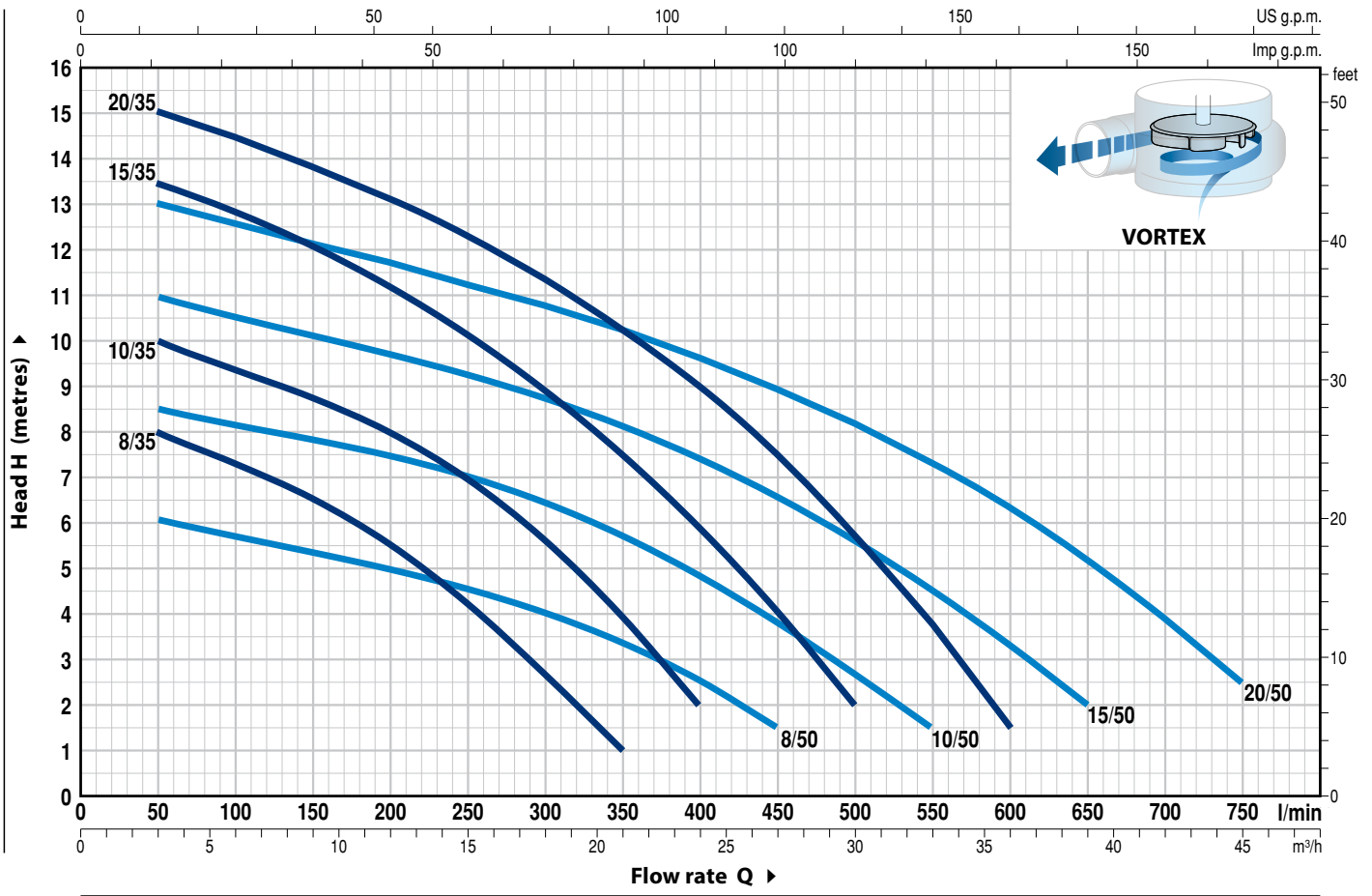
Company with management system certified DNV ISO 9001: QUALITY





### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (l/min)														
Single-phase	Three-phase	kW	HP		0	3	6	12	18	21	24	27	30	33	36	39	45		
VXm 8/35	VX 8/35	0.55	0.75	H metres	9	8	7.5	5.5	2.7	1									
VXm 10/35	VX 10/35	0.75	1		11	10	9.5	8	5.7	4	2								
VXm 15/35	VX 15/35	1.1	1.5		14	13.5	12.8	11.2	9	7.7	6	4	2						
VXm 20/35	VX 20/35	1.5	2		15.5	15	14.5	13	11.5	10.3	9	7.5	5.8	3.8	1.5				
VXm 8/50	VX 8/50	0.55	0.75		6.5	6	5.8	5	4	3.3	2.5	1.5							
VXm 10/50	VX 10/50	0.75	1		9	8.5	8.2	7.5	6.5	5.8	5	3.8	2.5	1.5					
VXm 15/50	VX 15/50	1.1	1.5		11.5	11	10.5	9.8	8.7	8	7.5	6.5	5.5	4.5	3.5	2			
VXm 20/50	VX 20/50	1.5	2		13.5	13	12.5	11.5	10.7	10	9.5	9	8	7.5	6.5	5	2.5		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment for a greater resistance to corrosion, with threaded port in compliance with ISO 228/1
<b>2 BASE</b>	Stainless steel AISI 304
<b>3 IMPELLER</b>	VORTEX type AISI 304 stainless steel (Cast iron with an Epoxy Electro Coating treatment for VX 15). The VORTEX impeller allows the pumping of solid bodies with a diameter of up to 50 mm and thanks to its particular geometry it ensures a safe anti-clogging operation.
<b>4 MOTOR CASING</b>	Stainless steel AISI 304
<b>5 MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>VX 8-10</b> Cast iron with an Epoxy Electro Coating treatment for <b>VX 15-20</b>
<b>6 MOTOR SHAFT</b>	Stainless steel AISI 431

**7 DOUBLE MECHANICAL SEAL IN OIL CHAMBER**

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

Double mechanical seal with an intermediate oil chamber, with silicon carbide chute slides for a greater resistance to abrasion and wear and for a longer life of the pump.

**8 BEARINGS**

Pump	Model
VX 8-10	6203 ZZ / 6203 ZZ
VX 15-20	6303 2RS - C3 / 6203 ZZ

**9 CAPACITOR** EN 60252-1/A1  

(only for single-phase versions)

**10 ELECTRIC MOTOR**

Electric motors produced to a high quality standard, subjected to the most rigorous checks to ensure excellent insulation. The impregnation of the winding, achieved with high quality resins, is followed by treatment in an oven for up to eight hours, thus ensuring the long working life of the motor.

**VXm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**VX:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

**11 POWER CABLE**

Power cable encapsulated in epoxy resin both in the area of the grommets and at the point where the wires exit the sheath, resulting in an absolute insulation from moisture and water infiltration.

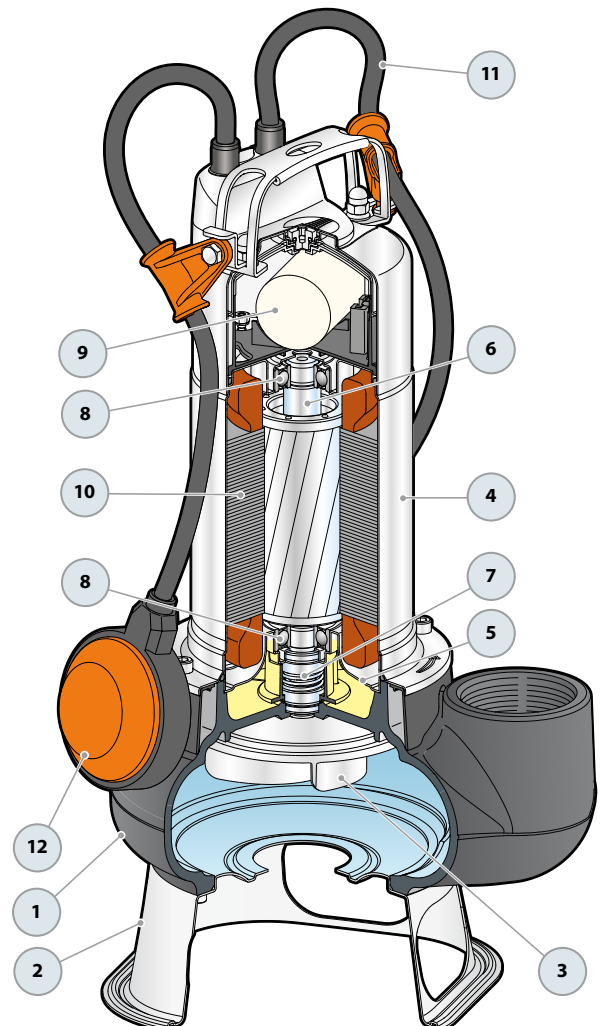
H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length:**

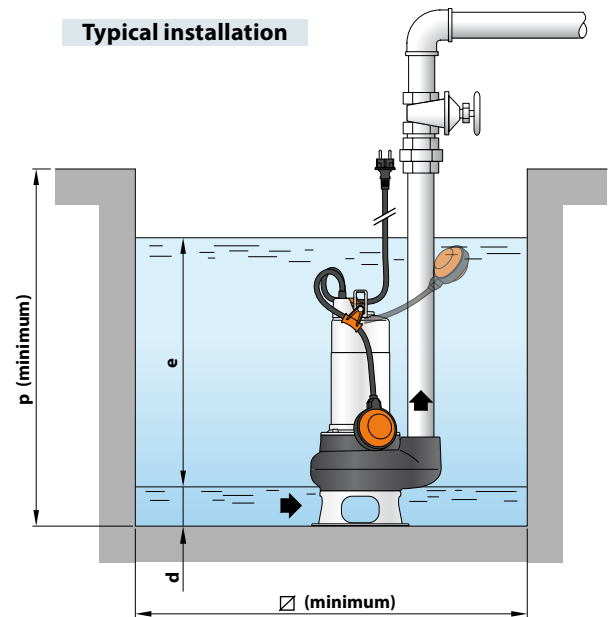
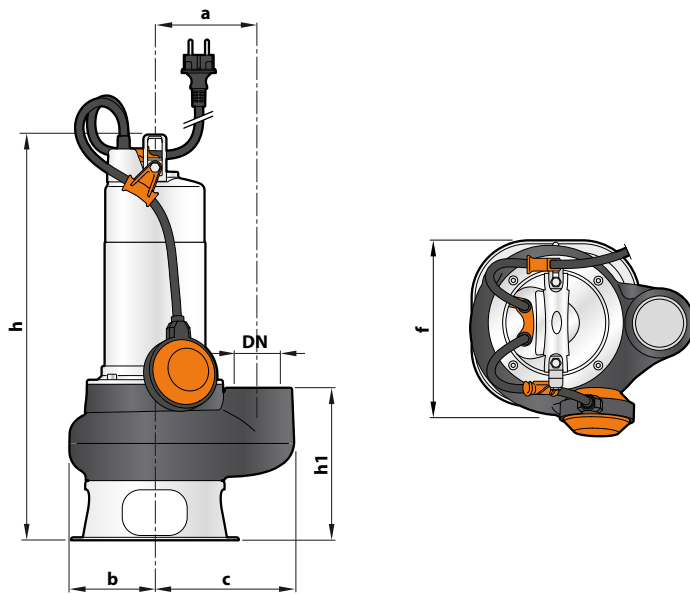
- **5 metres** for VX 8-10,
- **10 metres** for VX 15-20

**12 FLOAT SWITCH**

(only for single-phase versions)



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	f	h	h1	d	e	p	Ø	1~	3~
VXm 8/35	VX 8/35	1½"	Ø 40 mm	115	95	148	200	425	158	55	variable	500	500	13.7	12.6
VXm 10/35	VX 10/35							440						15.2	14.0
VXm 15/35	VX 15/35							473						18.0	16.4
VXm 20/35	VX 20/35							503						20.2	18.0
VXm 8/50	VX 8/50	2"	Ø 50 mm	115	95	155	200	436	169	60		500	500	14.2	13.1
VXm 10/50	VX 10/50							451						15.7	14.5
VXm 15/50	VX 15/50							484						18.5	16.9
VXm 20/50	VX 20/50							514						20.7	18.5

## ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
Single-phase		
VXm 8/35	4.3 A	4.2 A
VXm 10/35	5.5 A	5.4 A
VXm 15/35	7.0 A	6.9 A
VXm 20/35	9.6 A	9.4 A
VXm 8/50	4.3 A	4.2 A
VXm 10/50	5.5 A	5.4 A
VXm 15/50	7.0 A	6.9 A
VXm 20/50	9.6 A	9.4 A

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase				
VX 8/35	2.8 A	1.6 A	2.7 A	1.6 A
VX 10/35	3.8 A	2.2 A	3.6 A	2.1 A
VX 15/35	4.7 A	2.7 A	4.5 A	2.6 A
VX 20/35	6.4 A	3.7 A	6.1 A	3.5 A
VX 8/50	2.8 A	1.6 A	2.7 A	1.6 A
VX 10/50	3.8 A	2.2 A	3.6 A	2.1 A
VX 15/50	4.7 A	2.7 A	4.5 A	2.6 A
VX 20/50	6.4 A	3.7 A	6.1 A	3.5 A

## CAPACITOR

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
VXm 8/35	20 µF 450 VL
VXm 10/35	25 µF 450 VL
VXm 15/35	35 µF 450 VL
VXm 20/35	35 µF 450 VL
VXm 8/50	20 µF 450 VL
VXm 10/50	25 µF 450 VL
VXm 15/50	35 µF 450 VL
VXm 20/50	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
VXm 8/35	VX 8/35	45	60
VXm 10/35	VX 10/35	45	60
VXm 15/35	VX 15/35	30	45
VXm 20/35	VX 20/35	30	45
VXm 8/50	VX 8/50	45	60
VXm 10/50	VX 10/50	45	60
VXm 15/50	VX 15/50	30	60
VXm 20/50	VX 20/50	30	45

## Submersible pumps

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **850 l/min** (51 m<sup>3</sup>/h)
- Head up to **17 m**

### APPLICATION LIMITS

- **5 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 50 mm**
- Minimum immersion depth for continuous service:
  - **290 mm** for BC 10/50
  - **330 mm** for BC 15/50
  - **360 mm** for BC 20/50

### CONSTRUCTION AND SAFETY STANDARDS

- Power cable length:
  - **5 m** for BC 10/50
  - **10 m** for BC 15/50, BC 20/50,
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### INSTALLATION AND USE

BC submersible pumps are suitable for draining **dirty and sewage water** in domestic and civil applications. They come equipped with a DOUBLE-CHANNEL stainless steel impeller and are capable of pumping liquids containing short fibred suspended solids up to Ø 50 mm.

They are ideal for pumping sewage, waste water, surface water and water mixed with mud in locations such as blocks of flats and detached houses.

These pumps distinguish themselves for their reliability, which can be best appreciated under automatic operating conditions in fixed installations.

### PATENTS - TRADE MARKS - MODELS

- Patent n. EP2313658
- Patent n. IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- BC10/50 pumps with a **10 m** power cable.
  - ➔ N.B.: Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

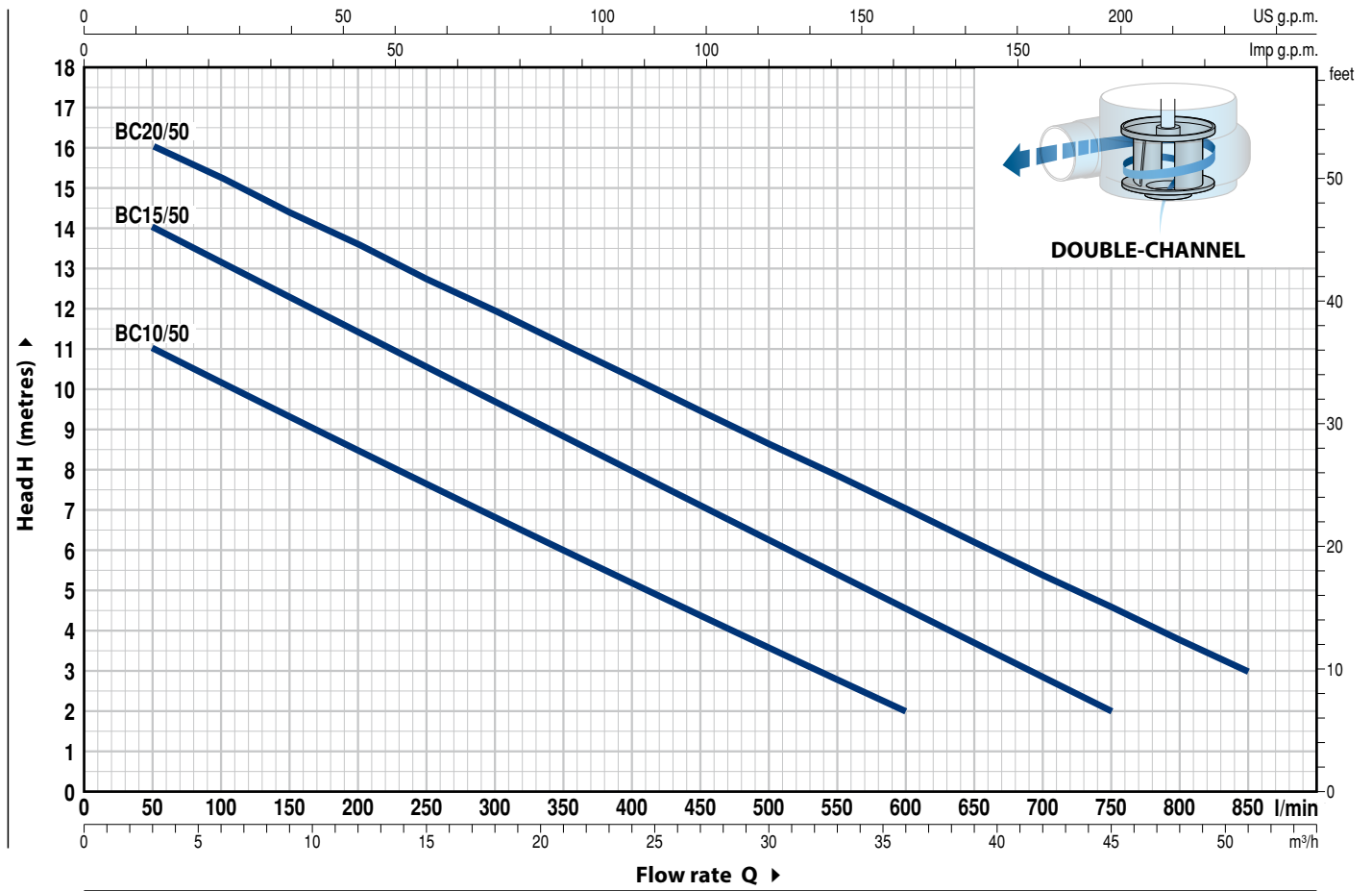
### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate														
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	3	6	12	18	24	30	36	42	45	51			
				l/min	0	50	100	200	300	400	500	600	700	750	850				
BCm 10/50	BC 10/50	0.75	1	H metres	12	11	10	8.5	7	5	3.6	2							
BCm 15/50	BC 15/50	1.1	1.5		15	14	13	11.5	9.7	8	6.3	4.6	2.9	2					
BCm 20/50	BC 20/50	1.5	2		17	16	15.3	13.5	12	10.3	8.6	7.0	5.3	4.5	3				

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment for a greater resistance to corrosion, with threaded port in compliance with ISO 228/1
<b>2 BASE</b>	Stainless steel AISI 304
<b>3 IMPELLER</b>	DOUBLE CHANNEL type AISI 304 micro-cast stainless steel. The DOUBLE CHANNEL impeller permits one to obtain an excellent performance and a high energy efficiency, developing a greater pressure and guaranteeing the pumping of solid bodies with a diameter of up to 50 mm. Undoubtedly the best solution for the drainage of waste water.
<b>4 MOTOR CASING</b>	Stainless steel AISI 304
<b>5 MOTOR CASING PLATE</b>	Stainless steel AISI 304 for <b>BC 10/50</b> Cast iron with an Epoxy Electro Coating treatment for <b>BC 15/50, BC 20/50</b>

## 6 MOTOR SHAFT

Stainless steel AISI 431

## 7 DOUBLE MECHANICAL SEAL IN OIL CHAMBER



Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

Double mechanical seal with an intermediate oil chamber, with silicon carbide chute slides for a greater resistance to abrasion and wear and for a longer life of the pump.

## 8 BEARINGS

Pump	Model
BC 10/50	6203 ZZ / 6203 ZZ
BC 15/50, BC 20/50	6303 2RS - C3 / 6203 ZZ

## 9 CAPACITOR

EN 60252-1/A1  

(only for single-phase versions)

## 10 ELECTRIC MOTOR

Electric motors produced to a high quality standard, subjected to the most rigorous checks to ensure excellent insulation. The impregnation of the winding, achieved with high quality resins, is followed by treatment in an oven for up to eight hours, thus ensuring the long working life of the motor.

- BCm:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding
- BC:** three-phase 400 V - 50 Hz
- Insulation: class F
- Protection: IP X8

## 11 POWER CABLE

Power cable encapsulated in epoxy resin both in the area of the grommets and at the point where the wires exit the sheath, resulting in an absolute insulation from moisture and water infiltration.

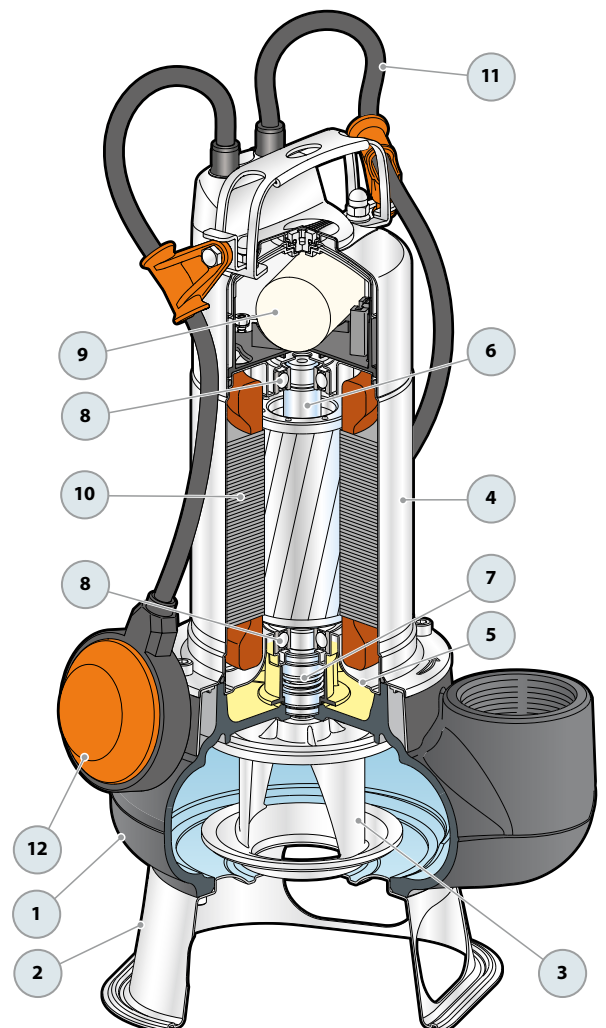
H07 RN-F" type  
(with Schuko plug for single-phase versions only)

### Standard length:

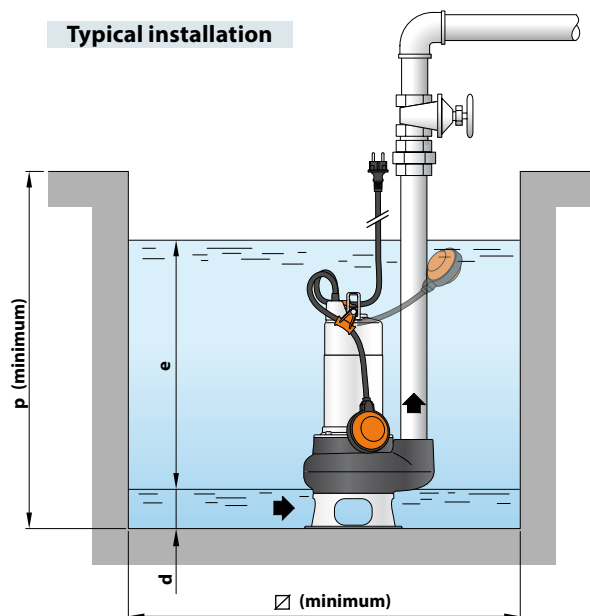
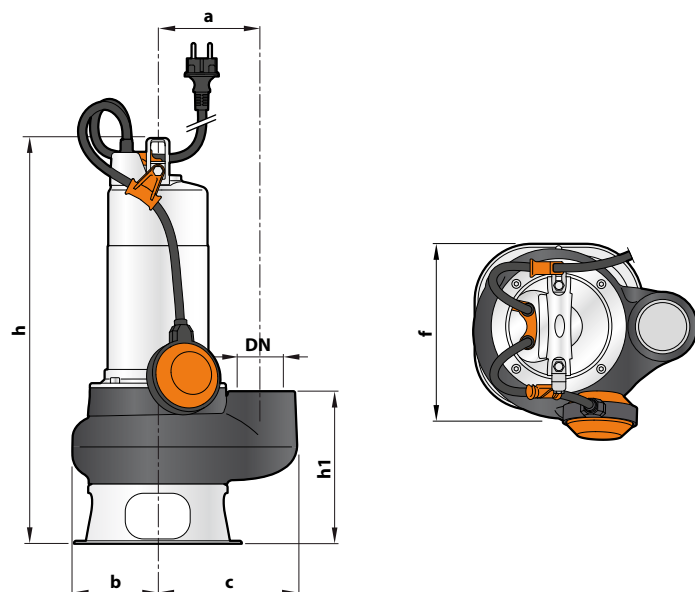
- 5 metri for BC 10/50,
- 10 metri for BC 15/50, BC 20/50

## 12 FLOAT SWITCH

(only for single-phase versions)



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	f	h	h1	d	e	p	Ø	1~	3~
BCm 10/50	BC 10/50	2"	Ø 50 mm	115	95	155	200	451	169	60	variable	500	500	16.2	15.0
BCm 15/50	BC 15/50							484						18.8	17.2
BCm 20/50	BC 20/50							514						21.0	18.8

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
BCm 10/50	5.5 A	5.4 A
BCm 15/50	8.0 A	7.8 A
BCm 20/50	10.0 A	9.8 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
BC 10/50	3.8 A	2.2 A	3.6 A	2.1 A
BC 15/50	5.3 A	3.1 A	5.1 A	2.9 A
BC 20/50	6.7 A	3.9 A	6.5 A	3.7 A

## CAPACITORS

MODEL	CAPACITANCE
Single-phase	(230 V or 240 V)
BCm 10/50	25 µF 450 VL
BCm 15/50	35 µF 450 VL
BCm 20/50	35 µF 450 VL

## PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
BCm 10/50	BC 10/50	45	60
BCm 15/50	BC 15/50	30	45
BCm 20/50	BC 20/50	30	45

## Submersible pumps

-  Filthy water
-  Domestic use
-  Civil use



### PERFORMANCE RANGE

- Flow rate up to **650 l/min** (39 m<sup>3</sup>/h)
- Head up to **14 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 40 mm** for VXC /35-N
  - up to **Ø 50 mm** for VXC /45-N
- Minimum immersion depth for continuous service:
  - **280 mm** for VXC /35-N
  - **300 mm** for VXC /45-N

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY  
ISO 14001: ENVIRONMENT



### INSTALLATION AND USE

VXC series pumps, made from heavy gauge cast iron offering exceptional sturdiness and abrasion resistance, come equipped with a VORTEX impeller and are therefore suitable for draining **waste water containing suspended solids, filthy water and mixed with mud.**

### PATENTS - TRADE MARKS - MODELS

- Patent Pending n. BO2015A000116
- Registered EU Design n. 002501486-0003

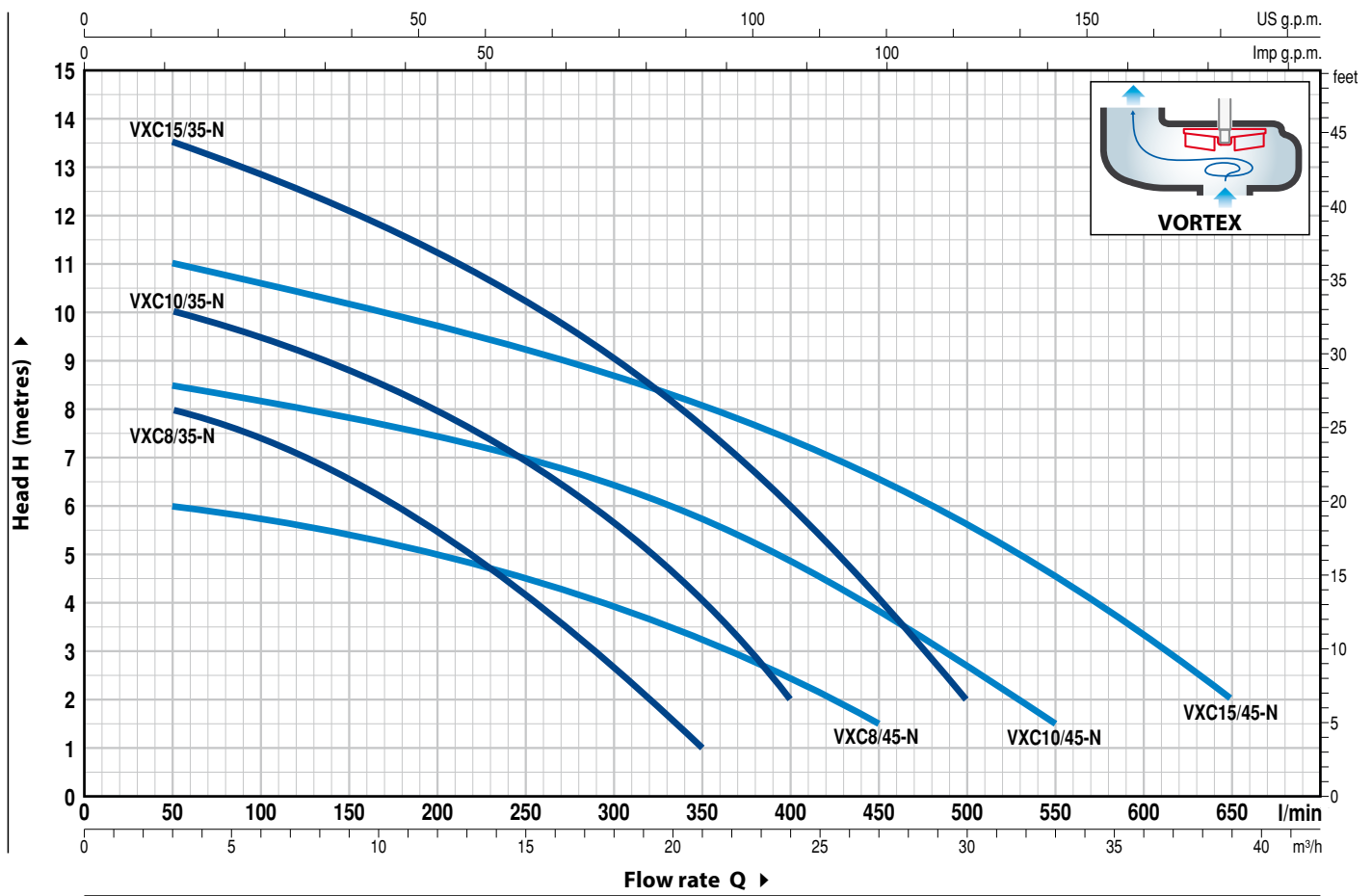
### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 rpm



MODEL		POWER (P <sub>2</sub> )		Q	H metres													
Single-phase	Three-phase	kW	HP		0	3	6	12	18	21	24	27	30	33	36	39		
				l/min	0	50	100	200	300	350	400	450	500	550	600	650		
VXCm 8/35 -N	VXC 8/35 -N	0.55	0.75		9	8	7.5	5.5	2.7	1								
VXCm 10/35-N	VXC 10/35-N	0.75	1		11	10	9.5	8	5.7	4	2							
VXCm 15/35-N	VXC 15/35-N	1.1	1.5		14	13.5	12.8	11.2	9	7.7	6	4	2					
VXCm 8/45 -N	VXC 8/45 -N	0.55	0.75		6.5	6	5.8	5	4	3.3	2.5	1.5						
VXCm 10/45-N	VXC 10/45-N	0.75	1		9	8.5	8.2	7.5	6.5	5.8	5	3.8	2.5	1.5				
VXCm 15/45-N	VXC 15/45-N	1.1	1.5		11.5	11	10.5	9.8	8.7	8	7.5	6.5	5.5	4.5	3.5	2		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
<b>2 BASE</b>	Stainless steel AISI 304
<b>3 IMPELLER</b>	Stainless steel AISI 304 VORTEX type
<b>4 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
<b>5 MOTOR CASING PLATE</b>	Stainless steel AISI 304
<b>6 MOTOR SHAFT</b>	Stainless steel EN 10088-3 - 1.4104

**7 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER**

<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Materials</i>		
			<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
<b>MG1-14D SIC</b>	<b>Ø 14 mm</b>	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

**8 BEARINGS 6203 ZZ / 6203 ZZ**

**9 CAPACITOR**

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
<b>VXCm 8/35 -N</b>	<b>20 µF 450 VL</b>	<b>30 µF - 250 VL</b>
<b>VXCm 8/45 -N</b>		
<b>VXCm 10/35 -N</b>		
<b>VXCm 10/45 -N</b>		
<b>VXCm 15/35 -N</b>	<b>25 µF 450 VL</b>	-
<b>VXCm 15/45 -N</b>		

**10 ELECTRIC MOTOR**

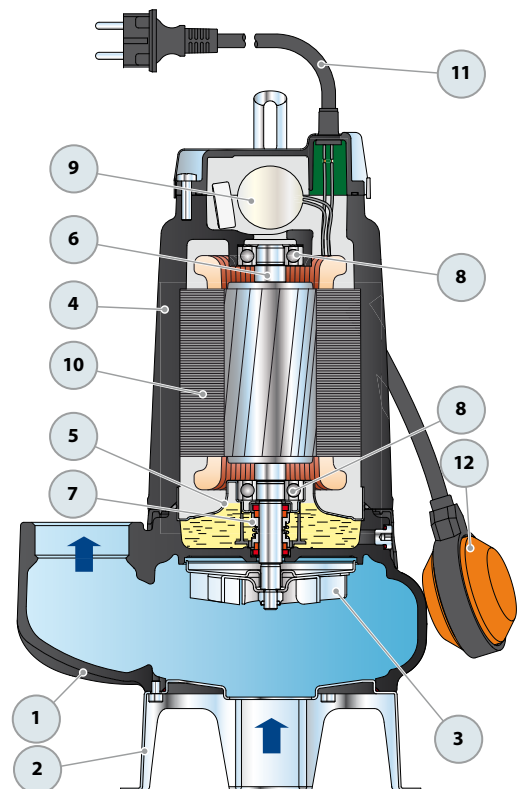
**VXCm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding  
**VXC:** three-phase 400 V - 50 Hz  
– Insulation: class F  
– Protection: IP X8

**11 POWER CABLE**

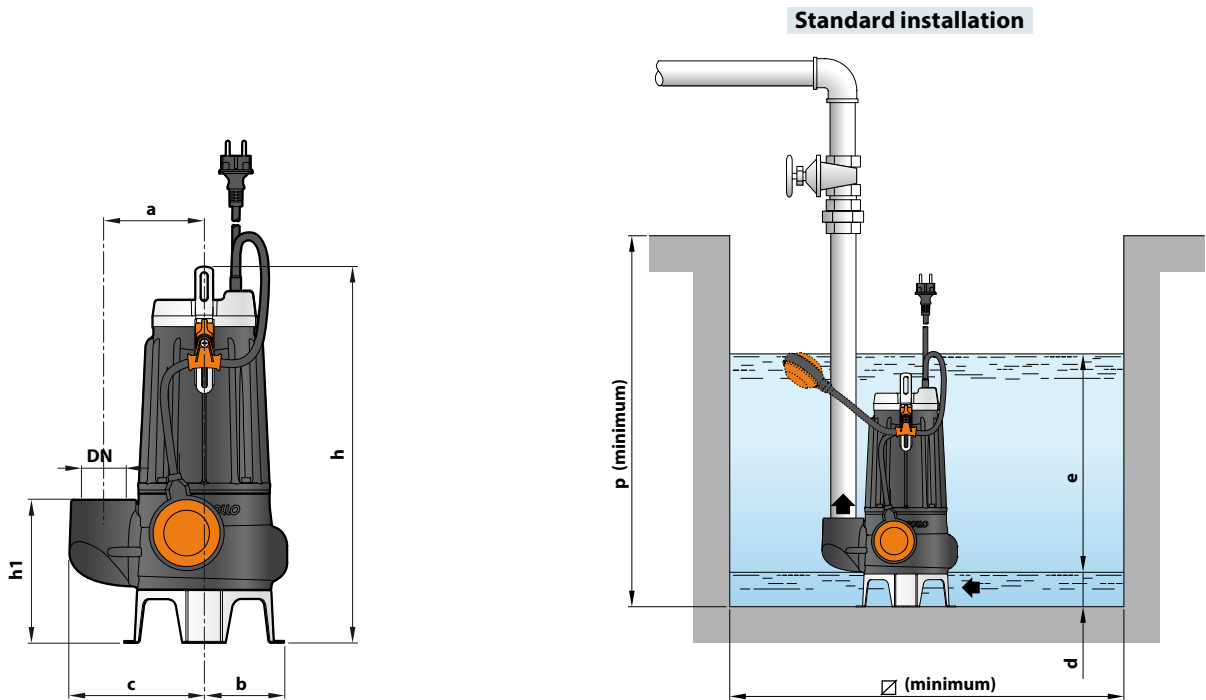
“H07 RN-F” type  
(with Schuko plug for single-phase versions only)  
**Standard length 10 metres**

**12 FLOAT SWITCH**

(only for single-phase versions)



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	Ø	1~	3~
VXCm 8/35 -N	VXC 8/35 -N	1½"	Ø 40 mm	115	95	148	388	139	50	variable	500	500	17.0	16.7
VXCm 10/35-N	VXC 10/35-N						403						17.8	16.7
VXCm 15/35-N	VXC 15/35-N						19.4	18.4						
VXCm 8/45 -N	VXC 8/45 -N	2"	Ø 50 mm	115	95	155	413	164	60	variable	500	500	17.5	17.2
VXCm 10/45-N	VXC 10/45-N						428						18.3	17.2
VXCm 15/45-N	VXC 15/45-N						19.9	18.9						

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
<b>Single-phase</b>	230 V	240 V	110 V
VXCm 8/35 -N	3.5 A	3.4 A	7.0 A
VXCm 10/35-N	4.8 A	4.6 A	9.6 A
VXCm 15/35-N	7.4 A	7.1 A	-
VXCm 8/45 -N	3.7 A	3.5 A	7.4 A
VXCm 10/45-N	5.0 A	4.8 A	10.0 A
VXCm 15/45-N	7.1 A	6.8 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
<b>Three-phase</b>	230 V	400 V	240 V	415 V
VXC 8/35 -N	3.0 A	1.7 A	2.9 A	1.65 A
VXC 10/35-N	3.5 A	2.0 A	3.4 A	1.95 A
VXC 15/35-N	5.2 A	3.0 A	5.0 A	2.9 A
VXC 8/45 -N	3.2 A	1.8 A	3.1 A	1.75 A
VXC 10/45-N	3.5 A	2.0 A	3.4 A	1.95 A
VXC 15/45-N	5.2 A	3.0 A	5.0 A	2.9 A

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
VXCm 8/35 -N	VXC 8/35 -N	60	80
VXCm 10/35-N	VXC 10/35-N	60	80
VXCm 15/35-N	VXC 15/35-N	60	80
VXCm 8/45 -N	VXC 8/45 -N	54	72
VXCm 10/45-N	VXC 10/45-N	54	72
VXCm 15/45-N	VXC 15/45-N	54	72

 Sewage water

 Domestic use

 Civil use



### PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m<sup>3</sup>/h)
- Head up to **15 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 50 mm**
- Minimum immersion depth for continuous service: **300 mm**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- Float switch for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY



### INSTALLATION AND USE

**MC** series pumps, made from heavy gauge cast iron offering exceptional sturdiness, abrasion resistance and durability, come equipped with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids up to Ø 50 mm.

Recommended for conveying **drained water and sewage, waste water, water mixed with mud, groundwater and surface water** for applications in blocks of flats, industries, multi-storey and underground car parks, wash areas, etc.

### PATENTS - TRADE MARKS - MODELS

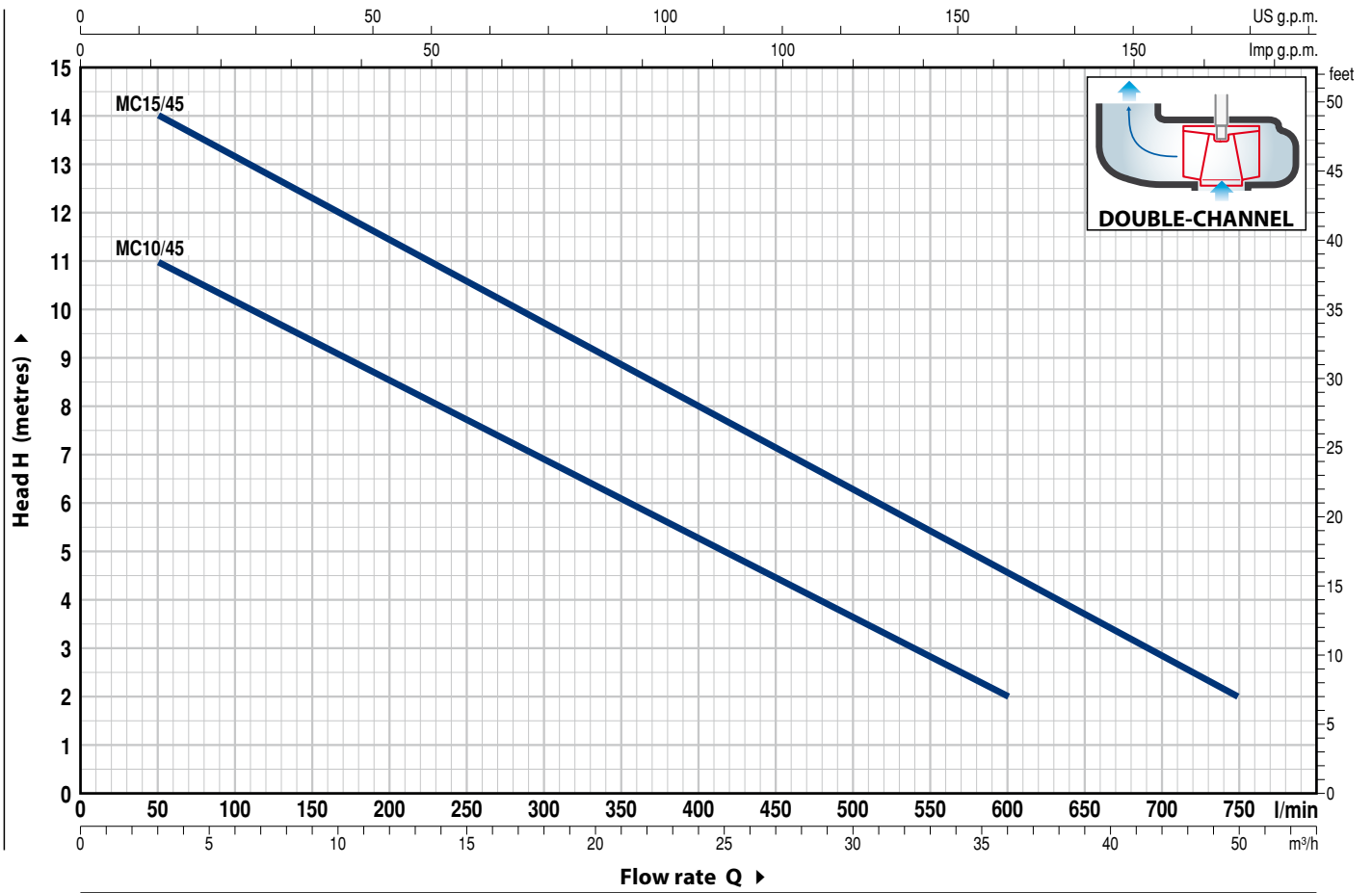
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P <sub>2</sub> )		Q	0	3	6	12	18	24	30	36	42	45
Single-phase	Three-phase	kW	HP		0	50	100	200	300	400	500	600	700	750
MCm 10/45	MC 10/45	0.75	1	H metres	12	11	10	8.5	7	5	3.5	2		
MCm 15/45	MC 15/45	1.1	1.5		15	14	13	11.5	9.7	8	6.3	4.5	3	2

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	<b>BASE</b>	Stainless steel AISI 304
3	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
4	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR CASING PLATE</b>	Stainless steel AISI 304
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 8 BEARINGS 6203 ZZ / 6203 ZZ

### 9 CAPACITOR

Pump	Capacitance	
Single-phase	(230 V or 240 V)	(110 V)
MCm 10/45	20 µF 450 VL	30 µF - 250 VL
MCm 15/45	25 µF 450 VL	-

### 10 ELECTRIC MOTOR

**MCm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**MC:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

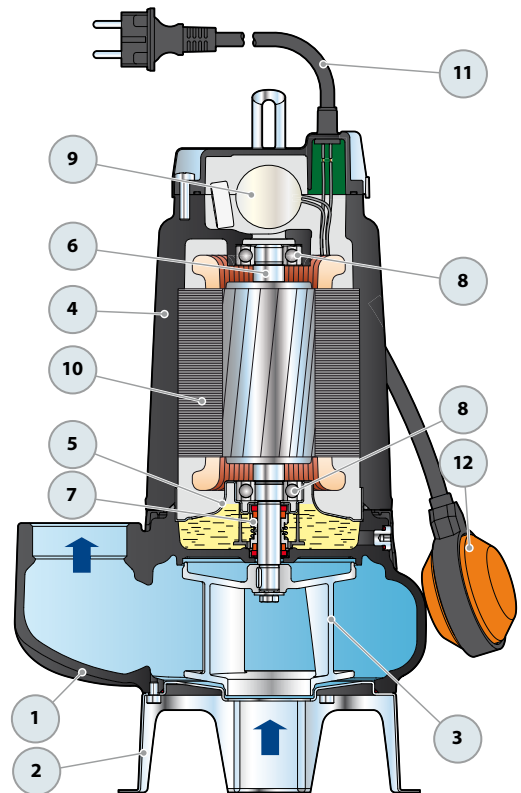
### 11 POWER CABLE

"H07 RN-F" type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

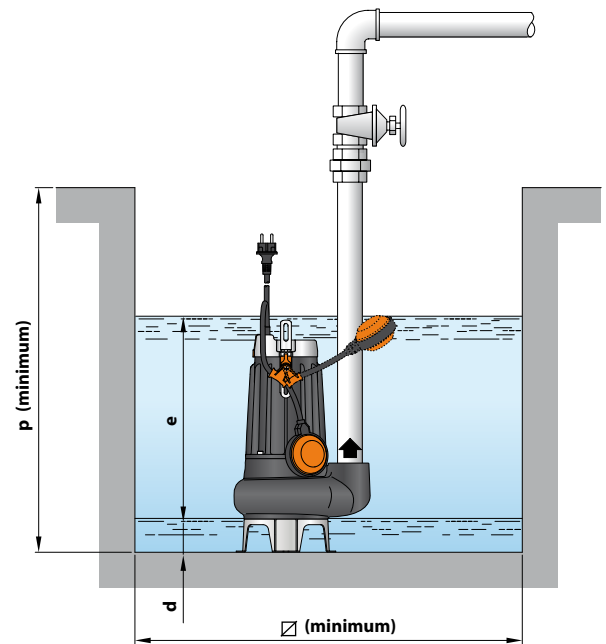
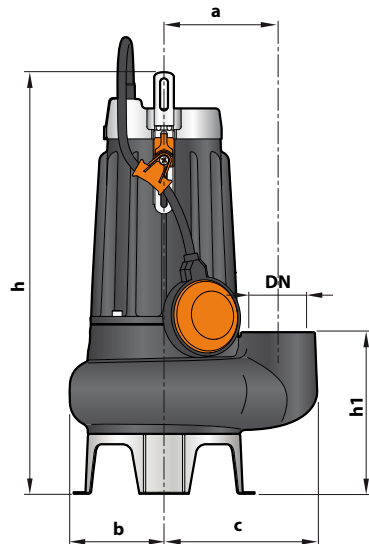
### 12 FLOAT SWITCH

(only for single-phase versions)



## DIMENSIONS AND WEIGHT

### Standard installation



MODEL		PORT DN	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	p	∅	1~	3~
MCm 10/45	MC 10/45	2"	Ø 50 mm	115	95	155	413	164	60	variable	500	500	18.8	17.7
MCm 15/45	MC 15/45						428							

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
MCm 10/45	5.0 A	4.8 A	11.8 A
MCm 15/45	8.2 A	8.0 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
MC 10/45	3.6 A	2.1 A	3.5 A	2.0 A
MC 15/45	5.5 A	3.2 A	5.4 A	3.1 A

## PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
MCm 10/45	MC 10/45	54	72
MCm 15/45	MC 15/45	54	72

# DC

Submersible drainage pumps



**MADE IN ITALY**

 **PEDROLLO**<sup>®</sup>  
*the spring of life*





## Submersible drainage pumps

 Clean water

 Civic use

 Industrial use

- ※ **DC** electric pumps are efficient, powerful and robust cast-iron drainage pumps, suitable for the most demanding applications and recommended for civic and industrial use in fixed installations.
- ※ **They are recommended for pumping rainwater, wastewater and drainage water with solid bodies up to 10 mm in diameter, in construction, underground car parks, outdoor areas, for emptying tanks and many other industrial and commercial applications.**
- ※ The careful choice of components, strict quality control and advanced manufacturing techniques grant a fully reliable and safe operation for every user.
- ※ The accurate fluid-dynamic design allows greater energy saving taking advantage of the high efficiency.



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### PERFORMANCE RANGE

- Flow rate up to **550 l/min** (33 m<sup>3</sup>/h)
- Head up to **38 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40°C**
- Passage of suspended solids up to **Ø 10 mm**
- Suction down to **17 mm, 25 mm** above ground level, (**DC 42-43-44**)
- Minimum immersion depth for continuous service: **220 mm, 300 mm (DC 42-43-44)**

### CONSTRUCTION AND SAFETY STANDARDS

- Power cable length **10 m**
- Float switch for single-phase versions

### INSTALLATION AND USE

**DC** submersible pumps, made of cast iron of considerable thickness, with exceptional strength, abrasion resistance and durability, are recommended for draining off **clean water** or slightly dirty water. They stand out for their robustness and reliability in fixed installations with automatic operation. **DC** series electric pumps can operate in continuous service even when partially uncovered.

### PATENTS - TRADEMARKS - MODELS

- Patent n° IT0001428923
- Registered community model n° 002501486-0001

### OPTIONS AVAILABLE ON REQUEST

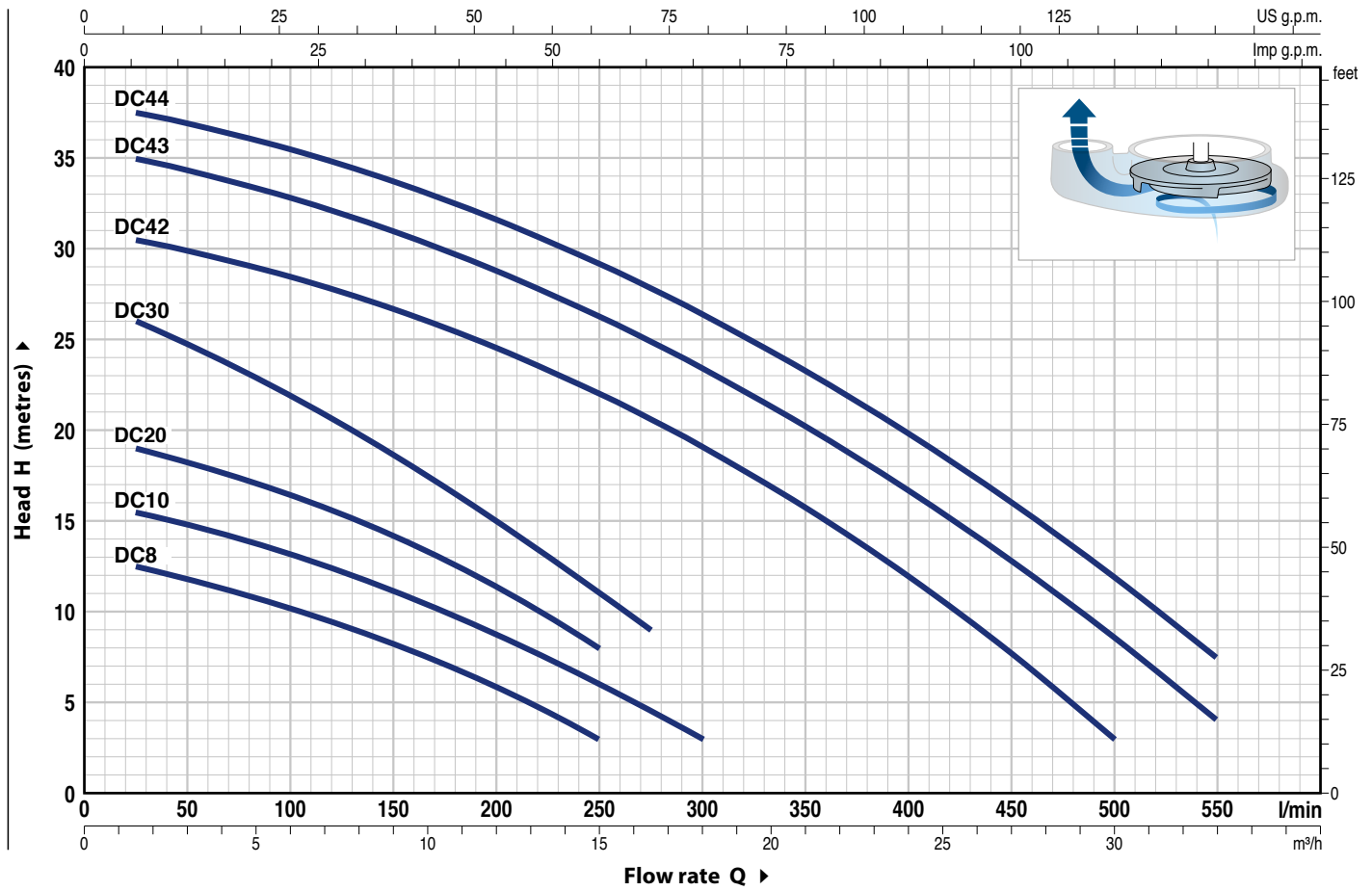
- Single-phase electric pumps without a float switch
- Other voltages or 60 Hz frequency

### WARRANTY

2 years as per our general terms and conditions of sale

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	H metres																
Single-phase	Three-phase	kW	HP		0	1.5	3.0	6.0	9.0	12.0	15.0	16.5	18.0	21.0	24.0	27.0	30.0	33.0			
				l/min	0	25	50	100	150	200	250	275	300	350	400	450	500	550			
DCm 8	DC 8	0.55	0.75	H metres	13	12.5	11.8	10.2	8.2	5.8	3										
DCm 10	DC 10	0.75	1		16	15.5	14.8	13.2	11.2	8.8	6	4.5	3								
DCm 20	DC 20	0.75	1		20	19	18.5	16.5	14.3	11.5	8										
DCm 30	DC 30	1.1	1.5		26	26	24.8	22	18.7	15	11	9									
DCm 42	DC 42	1.5	2		31	30.5	30	28.4	26.5	24.3	21.6	20.2	18.6	15.3	11.6	7.5	3				
DCm 43	DC 43	2.2	3		35.5	35	34.4	32.9	31	28.8	26.3	25	23.5	20.3	16.7	12.8	8.5	4			
-	DC 44	3	4		38	37.5	37	35.5	33.7	31.6	29.2	27.8	26.4	23.3	19.9	16.1	12	7.5			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/11
2	<b>SUCTION FILTER</b>	AISI 304 stainless steel
3	<b>SUCTION PLATE</b>	AISI 304 stainless steel
4	<b>IMPELLER</b>	Technopolymer open type
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
6	<b>MOTOR CASING PLATE</b>	AISI 304 stainless steel
7	<b>MOTOR SHAFT</b>	AISI 431 stainless steel

### 8 DOUBLE MECHANICAL SEAL IN OIL CHAMBER

<i>Electric pump Model</i>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Materials</i>		
				<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
<b>DC8</b>	<b>MG1-14D SIC</b>	<b>Ø 14 mm</b>	Motor side	Silicon carbide	Graphite	NBR
<b>DC10</b>			Pump side	Silicon carbide	Silicon carbide	NBR
<b>DC20</b>			Pump side	Silicon carbide	Silicon carbide	NBR
<b>(Double seal on shaft with a ring seal Ø 16 x Ø 24 x H 5 mm)</b>						
<b>DC30</b>	<b>ST1-14 SIC</b>	<b>Ø 14 mm</b>		Ceramic	Silicon carbide	NBR

### 9 BEARINGS

Type **6203 ZZ / 6203 ZZ**

**10 CAPACITOR EN 60252-1/A1**  
(only for single-phase versions)



### 11 ELECTRIC MOTOR

**DCm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**DC:** three-phase 400 V - 50 Hz

– Insulation: class F

– Protection: IP X8

### 12 POWER CABLE

“H07 RN-F” type  
(with Schuko plug for single-phase versions only)

**Standard length 10 metres**

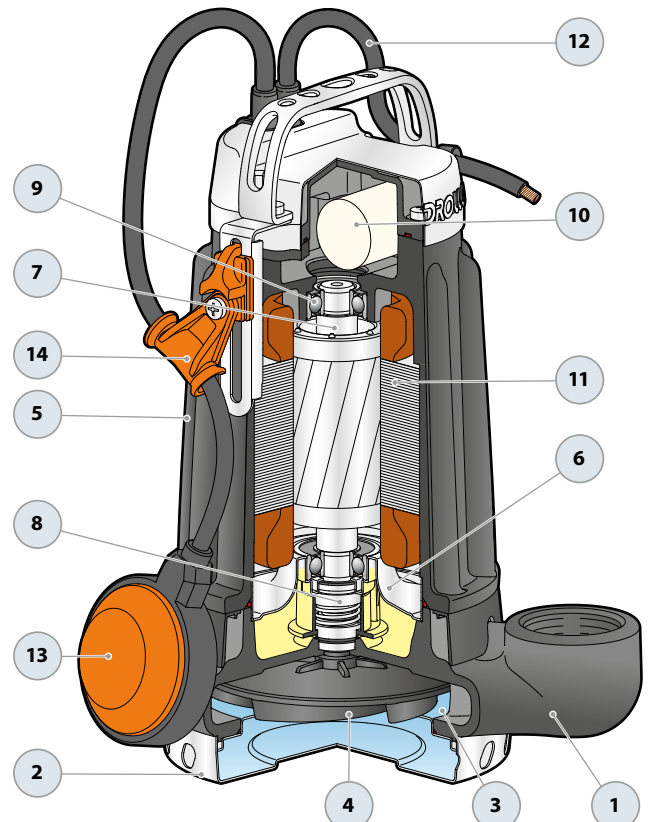
### 13 EXTERNAL FLOAT SWITCH

(only for single-phase versions)

### 14 TILTING DEVICE FOR THE FLOAT CABLE

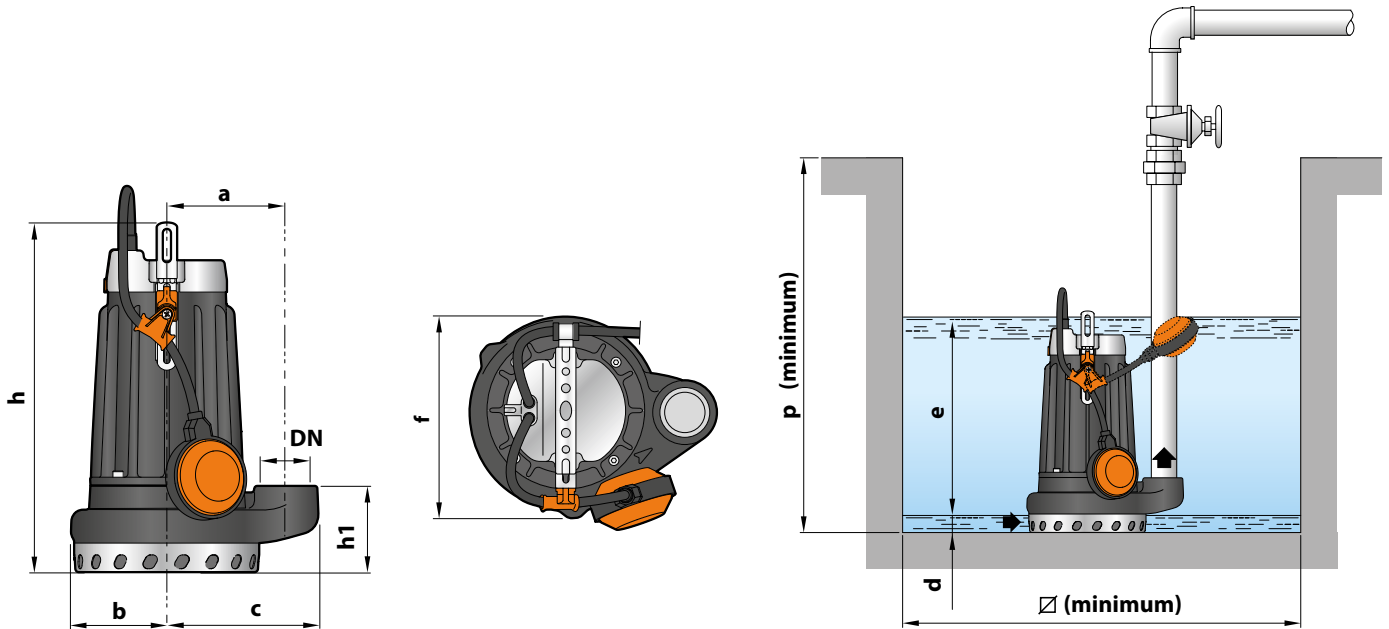
(only for single-phase versions)

Patent n° IT0001428923



## DIMENSIONS AND WEIGHTS

### Standard installation



MODEL		PORT	DIMENSIONS mm										kg	
Single-phase	Three-phase	DN	a	b	c	f	h	h1	d	e	p	∅	1~	3~
DCm 8	DC 8	1½"	115	85	147	177	324	73	17	adjustable	500	500	15.8	15.8
DCm 10	DC 10												16.9	15.8
DCm 20	DC 20			17.0	15.9									
DCm 30	DC 30			18.8	17.7									

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
DCm 8	3.2 A	3.1 A
DCm 10	4.7 A	4.5 A
DCm 20	5.7 A	5.6 A
DCm 30	7.2 A	7.0 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
DC 8	2.8 A	1.6 A	2.6 A	1.5 A
DC 10	3.5 A	2.0 A	3.3 A	1.9 A
DC 20	4.2 A	2.4 A	4.0 A	2.3 A
DC 30	5.2 A	3.0 A	5.0 A	2.9 A

## CAPACITORS

MODEL	CAPACITY
Single-phase	(230 V or 240 V)
DCm 8	20 µF - 450 VL
DCm 10	
DCm 20	
DCm 30	25 µF - 450 VL

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	<b>SUCTION FILTER</b>	AISI 304 stainless steel
3	<b>SUCTION PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
4	<b>IMPELLER</b>	Open made of microcast AISI 304 stainless steel
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
6	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
7	<b>MOTOR SHAFT</b>	AISI 431 stainless steel

<b>8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER</b>					
Seal Model	Shaft Diameter	Position	Stationary ring	Materials Rotational ring	Elastomer
STA-24	Ø 24 mm	Motor side	Ceramic	Graphite	NBR
STA-22 SIC	Ø 22 mm	Pump side	Silicon carbide	Silicon carbide	NBR

9	<b>BEARINGS</b>	<b>3305B 2RS/6204 ZZ</b>
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10	<b>CAPACITOR EN 60252-1/A1</b> (only for single-phase versions)	
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11	<b>ELECTRIC MOTOR</b> DCm42-43: single-phase 230 V - 50 Hz DC: three-phase 400 V - 50 Hz
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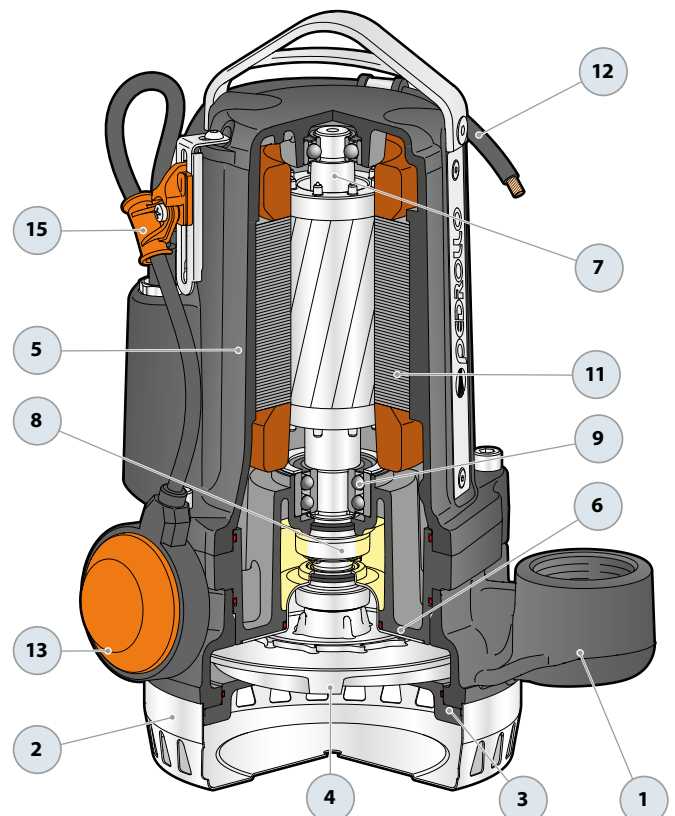
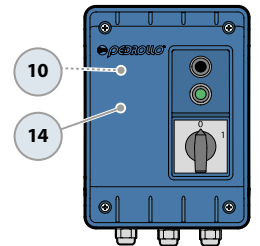
12	<b>POWER CABLE</b> Of 10 metres type "H07 RN-F"
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13	<b>EXTERNAL FLOAT SWITCH</b> (only for single-phase versions)
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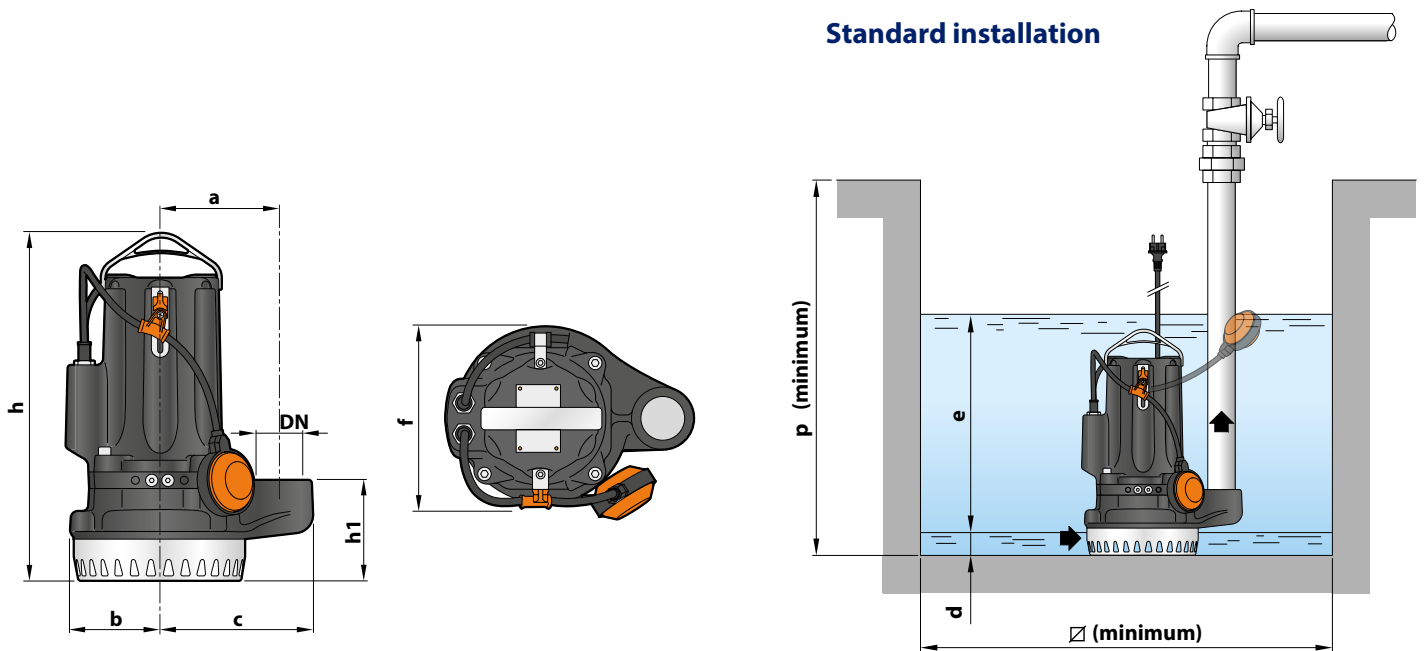
14	<b>ELECTRICAL PANEL FOR DCm42-43</b> (only for single-phase versions)
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15	<b>TILTING DEVICE FOR THE FLOAT CABLE</b> (only for single-phase versions) Patent n° IT0001428923
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Standard equipment  
Electrical panel  
(only for single-phase versions)



## DIMENSIONS AND WEIGHTS



MODEL		PORT DN	DIMENSIONS mm										kg	
Single-phase	Three-phase		a	b	c	h	h1	f	d	e	p	Ø	1~	3~
DCm 42	DC 42	2"	150	112	190	434	125	230	25	adjustable	800	800	43.0	41.0
DCm 43	DC 43					460   434							48.0	42.0
-	DC 44					460							-	47.0

## ABSORPTION

MODEL	VOLTAGE	
	Single-phase	230 V
DCm 42	13 A	12.5 A
DCm 43	16 A	14 A

MODEL	VOLTAGE			
	Three-phase	230 V	400 V	240 V
DC 42	9.0 A	5.2 A	8.6 A	5.0 A
DC 43	10.7 A	6.2 A	10.3 A	6.0 A
DC 44	11.8 A	6.8 A	11.3 A	6.5 A

## CAPACITOR

MODEL	CAPACITY
Single-phase	(230 V or 240 V)
DCm 42	50 µF - 450 VL
DCm 43	60 µF - 450 VL

*The features and specifications here in stated are in no way binding for the manufacturer.  
Pedrollo S.p.A. is free to modify the product in order to improve its production at any time without previous notice.*

**Pedrollo S.p.A.**

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# TRITUS<sup>®</sup>

Submersible pumps with grinder



**MADE IN ITALY**

 **PEDROLLO<sup>®</sup>**  
*the spring of life*



## Submersible pumps with grinder

**TRITUS** submersible shredder pumps are recognised for their reliability and high operational safety: not subject to locking.

The shredder group with its staggered cutting system drastically reduces the need for the motor torque.

It undertakes a perfect shredding, using less power, and it eliminates clogging caused by particularly problematic objects such as plastic, rubber, articles in cloth, sanitary napkins, wet wipes, protective masks, latex gloves and other hygiene products.

**These shredders are therefore recommended where it is necessary to transport waste water over long distances or through small pipes, for installations which are not suitable for the installation of gravity systems or located in areas which are not serviced by sewer systems.**

**They are therefore recommended for:**

- Slaughterhouse waste
- Food Industries
- Paper Mills
- Farms
- Production Activities in General
- Lavatories WC

- ✳ The shredder is manufactured entirely of high strength **AISI 440 C** tempered stainless steel
- ✳ Double mechanical seal with an interposed oil chamber
- ✳ All cast iron parts with **cataphoresis** treatment
- ✳ Electric panel with a manual reset motor protection and with a starting and operating condenser (only for single phase versions)



### PERFORMANCE RANGE

- Flow rate up to **305 l/min** (18.3 m<sup>3</sup>/h)
- Head up to **44.5 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Suction down above ground level:
  - **85 mm** for **TR 0.75-0.9-1.1-1.3**
  - **95 mm** for **TR 1.5-2.2-3**
- Minimum immersion depth for continuous service:
  - **300 mm** per **TR 0.75-0.9-1.1-1.3**
  - **350 mm** per **TR 1.5-2.2-3**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

The **TRITUS** series of grinder pumps are fitted with a **GRINDER in tempered stainless steel of great resistance** which completely grinds up solid bodies and fibres in waste and reflux water from domestic, civil and industrial applications and conveys it under pressure into the sewers through small diameter pipes.

### PATENTS - TRADE MARKS - MODELS

- Patent n° EP2313658
- Patent n° IT0001428923
- Registered EU Design n° 002501486-0002, 008625685-0005, 008625685-0006
- TRITUS® Registered trade mark n° 013017181

### OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

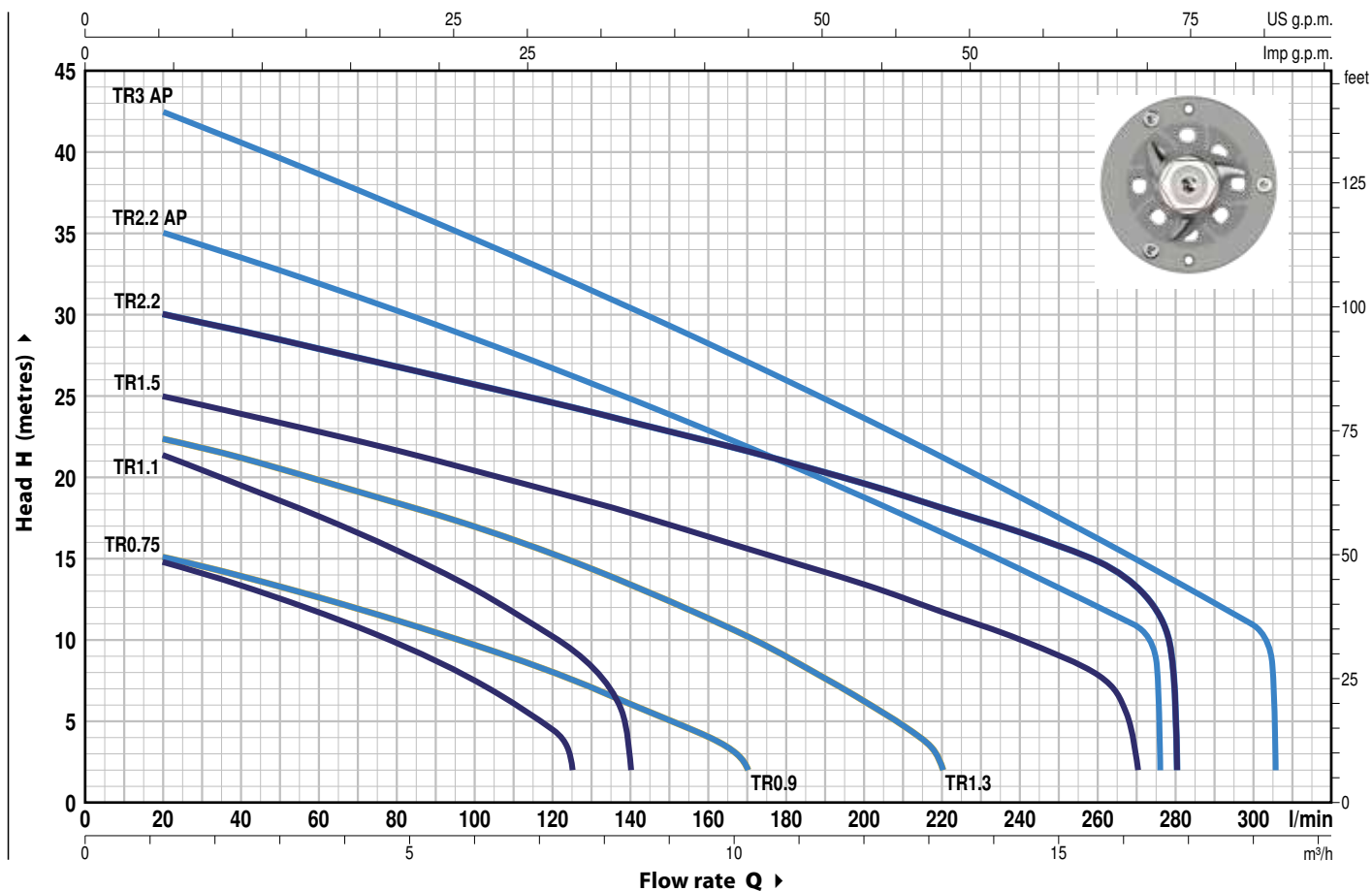
### WARRANTY

2 years in accordance with our general conditions of sale

## Submersible pumps with grinder

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	H metres																		
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	1.2	2.4	3.6	4.8	6.0	7.5	8.4	10.2	12	13.2	14.4	16.2	16.5	16.8	18	18.3	
				l/min	0	20	40	60	80	100	125	140	170	200	220	240	270	275	280	300	305		
TRm 0.75	TR 0.75	0.75	1		16.5	15	13.5	11.8	10	7.5	2												
TRm 0.9	TR 0.9	0.9	1.25		16	15	13.8	12.5	11.1	9.6	7.5	6	2										
TRm 1.1	TR 1.1	1.1	1.5		23	21.5	19.5	17.5	15.5	13	9.5	2											
TRm 1.3	TR 1.3	1.3	1.75		23.5	22.5	21.2	19.8	18.4	17	14.8	13.4	10.2	6.2	2								
TRm 1.5	TR 1.5	1.5	2		26	25	24	22.8	21.7	20.4	18.8	17.8	15.6	13.4	11.7	10	2						
-	TR 2.2	2.2	3		31	30	29	28	26.8	25.7	24.3	23.5	21.5	19.5	18	16.5	13.2	12	2				
TRm 2.2 AP	TR 2.2 AP	2.2	3		36.5	35	33.5	32	30.5	28.5	26.5	24.8	21.8	18.7	16.6	14.3	11	2					
-	TR 3 AP	3	4		44.5	42.5	41	39	37	35	32	30.5	27.5	23.7	21.3	18.8	15	14	13.6	11	2		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

# TRITUS 0.75 – 0.9 – 1.1 – 1.3

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	<b>IMPELLER</b>	Technopolymer open type
3	<b>GRINDER</b>	Tempered AISI 440C stainless steel
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment

### 6 DOUBLE MECHANICAL SEAL IN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6203 ZZ-C3E / 6203 ZZ-C3E

### 8 ELECTRIC MOTOR

**TRm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**TR:** three-phase 400 V - 50 Hz

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

"H07 RN-F" type

**Standard length 10 metres**

### 10 FLOAT SWITCH

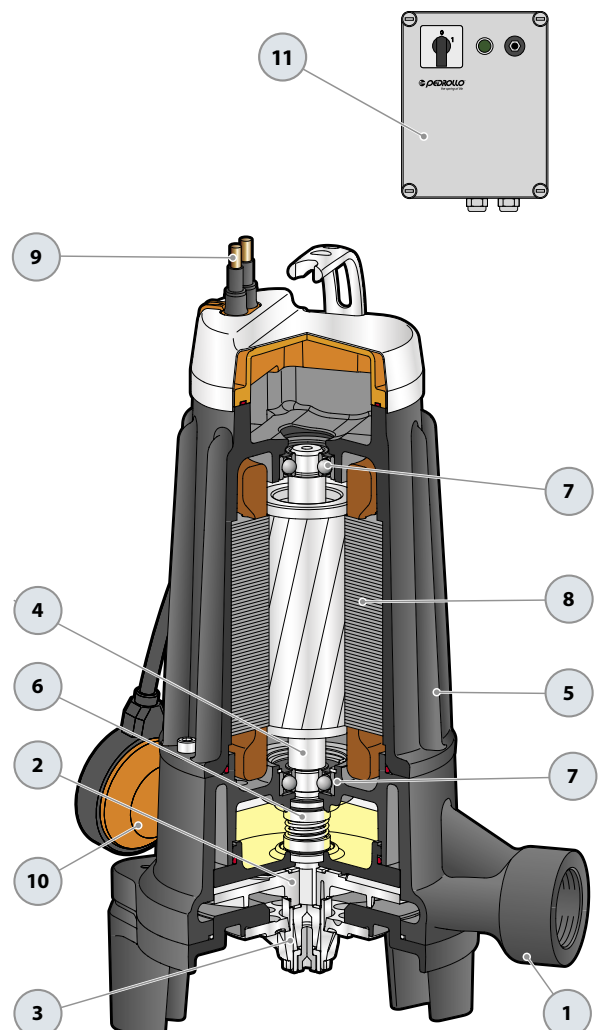
(only for single-phase versions)

### 11 CONTROL BOX

(only for single-phase versions)

With manual overload cut-out and with starting and operating capacitors.

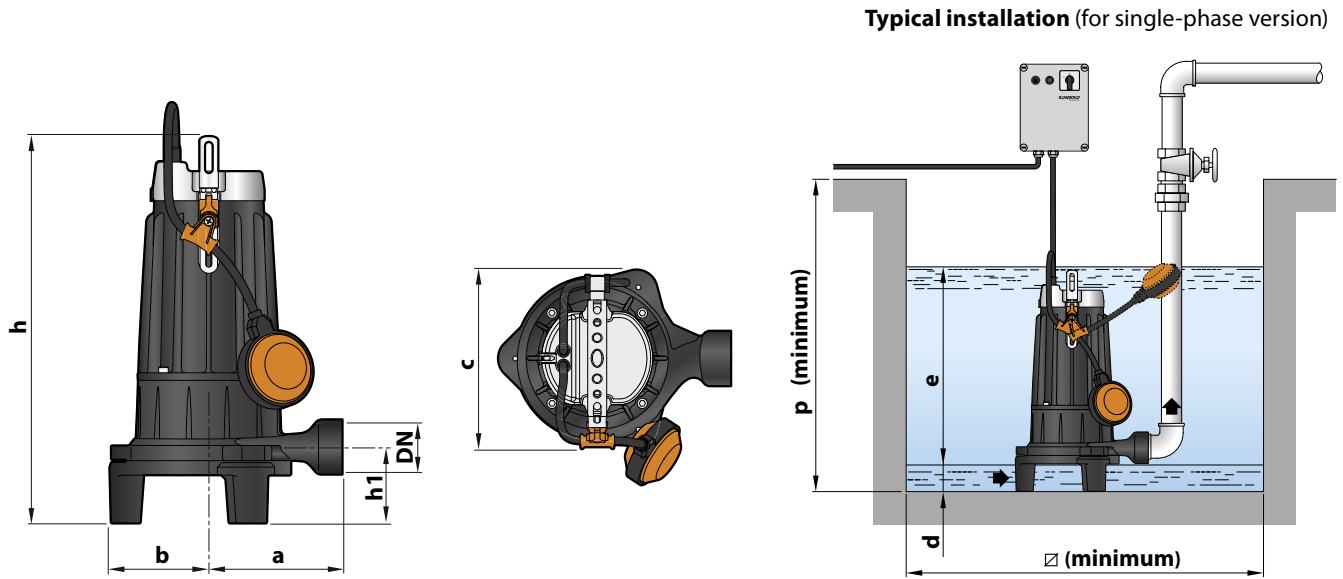
**Standard features  
Control box  
(only for single-phase versions)**



# TRITUS 0.75 – 0.9 – 1.1 – 1.3



## DIMENSIONS AND WEIGHT



MODEL		PORT DN	DIMENSIONS mm									kg *	
Single-phase	Three-phase		a	b	c	h	h1	d	e	p	∅	1~	3~
TRm 0.75	TR 0.75	1 1/4"	140	104	186	406	80	85	variable	500	500	24.0	22.0
TRm 0.9	TR 0.9											23.9	22.2
TRm 1.1	TR 1.1											25.7	23.2
TRm 1.3	TR 1.3											25.5	23.1

(\* weight of pump without control box)

## ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
TRm 0.75	5.5 A	5.4 A
TRm 0.9	6.0 A	5.8 A
TRm 1.1	7.4 A	7.1 A
TRm 1.3	9.0 A	8.6 A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
TR 0.75	4.3 A	2.5 A	4.2 A	2.4 A
TR 0.9	4.5 A	2.6 A	4.3 A	2.5 A
TR 1.1	5.2 A	3.0 A	5.0 A	2.9 A
TR 1.3	6.6 A	3.8 A	6.2 A	3.6 A

## CAPACITOR

MODEL	CAPACITANCE	
Pump Single-phase (230 V o 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 0.75	25 µF 450 VL	80 µF 450 VL
TRm 0.9		
TRm 1.1		
TRm 1.3		

# TRITUS 1.5 – 2.2

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded port in compliance with ISO 228/1
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 open type
3	<b>GRINDER</b>	Tempered AISI 440C stainless steel
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment

## 6 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-20	Ø 20 mm	Motor side	Ceramic	Graphite	NBR
STA-19	Ø 19 mm	Pump side	Silicon carbide	Silicon carbide	NBR

## 7 BEARINGS 3304 B-ZZ-C3 / 6304 ZZ-C3

## 8 ELECTRIC MOTOR

**TRm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**TR:** three-phase 400 V - 50 Hz  
with thermal overload protector incorporated into the winding to connect to the control box

- Insulation: class F
- Protection: IP X8

## 9 POWER CABLE

"H07 RN-F" type  
**Standard length 10 metres**

## 10 FLOAT SWITCH

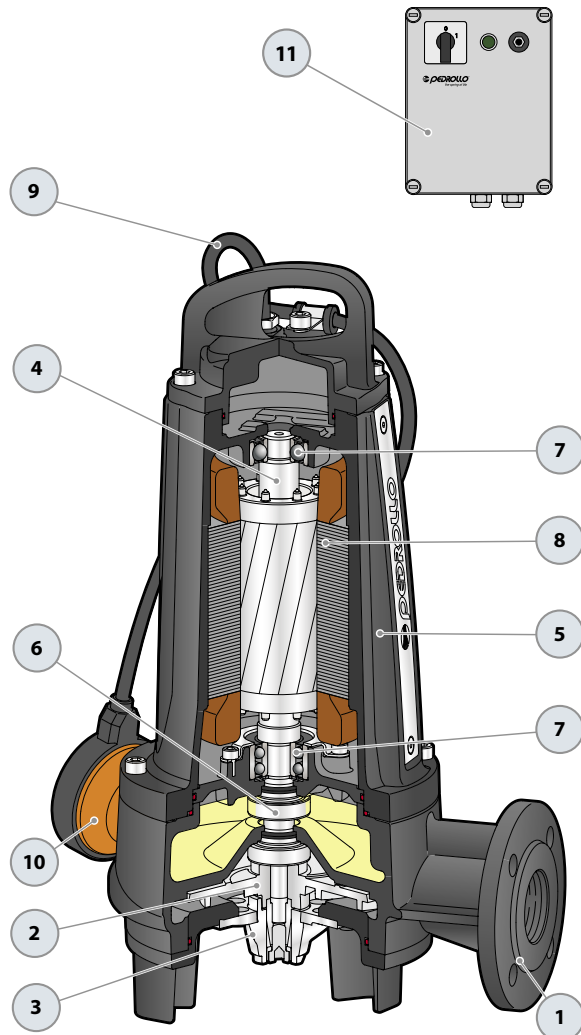
(only for single-phase versions)

## 11 CONTROL BOX

(only for single-phase versions)

With manual overload cut-out and with starting and operating capacitors.

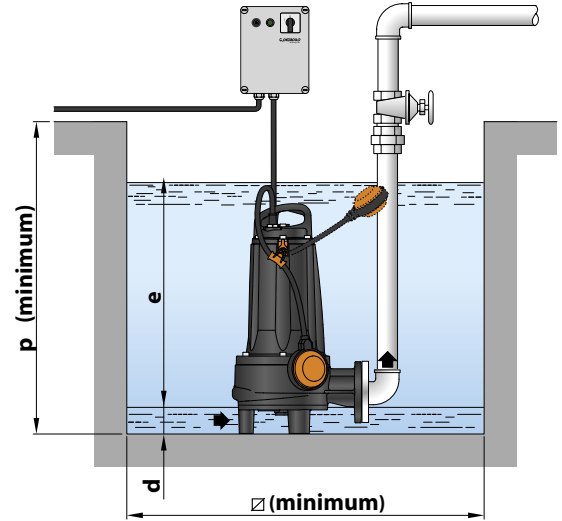
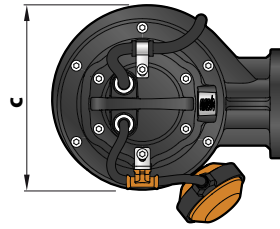
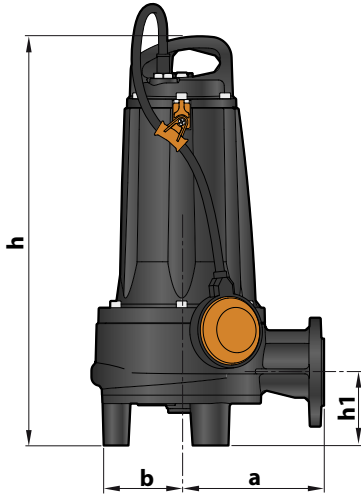
**Standard features**  
**Control box**  
(only for single-phase versions)



# TRITUS 1.5 – 2.2

## DIMENSIONS AND WEIGHT

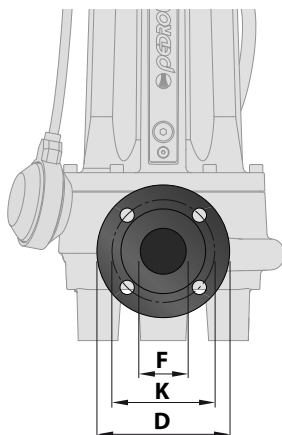
Typical installation (for single-phase version)



MODEL		DIMENSIONS mm									kg	
Single-phase	Three-phase	a	b	c	h	h1	d	e	p	Ø	1~	3~
TRm 1.5	TR 1.5	172	105	221	489	87.5	95	variable	800	800	45	44
-	TR 2.2										-	44

## PORT FLANGE

MODEL		FLANGE	F	K	D	HOLES	
Single-phase	Three-phase	DN		mm	mm	N°	Ø (mm)
TRm 1.5	TR 1.5	40 (PN6)	1½"	100	130	4	14
-	TR 2.2						



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
TRm 1.5	10.0 A
MODEL	VOLTAGE
Three-phase	400 V
TR 1.5	3.7 A
TR 2.2	5.5 A

## CAPACITOR

MODEL	CAPACITANCE	
Pump Single-phase (230 V o 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 1.5	50 µF 450 VL	80 µF 450 VL

# TRITUS 2.2 - 3 AP

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded port in compliance with ISO 228/1					
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 open type					
3	<b>GRINDER</b>	Tempered AISI 440C stainless steel					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
5	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment					
6	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment					
7	<b>SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER</b>						
	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Materials</i>	<i>Elastomer</i>
	STA-24	Ø 24 mm	Motor side	Ceramic	Graphite		NBR
	STA-22	Ø 22 mm	Pump side	Silicon carbide	Silicon carbide		NBR

8 **BEARINGS**                      **3305 B-2RS-EA5/6204-ZZ-EA3**

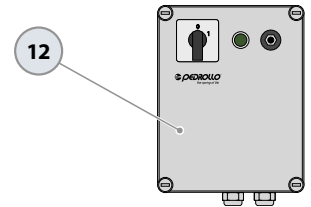
**Standard features**  
**Control box**  
(only for single-phase versions)

9 **ELECTRIC MOTOR**

**TRm:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**TR:** three-phase 400 V - 50 Hz  
with thermal overload protector incorporated into the winding to connect to the control box

- Insulation: class F
- Protection: IP X8



10 **POWER CABLE**

"H07 RN-F" type  
**Standard lenght 10 metres**

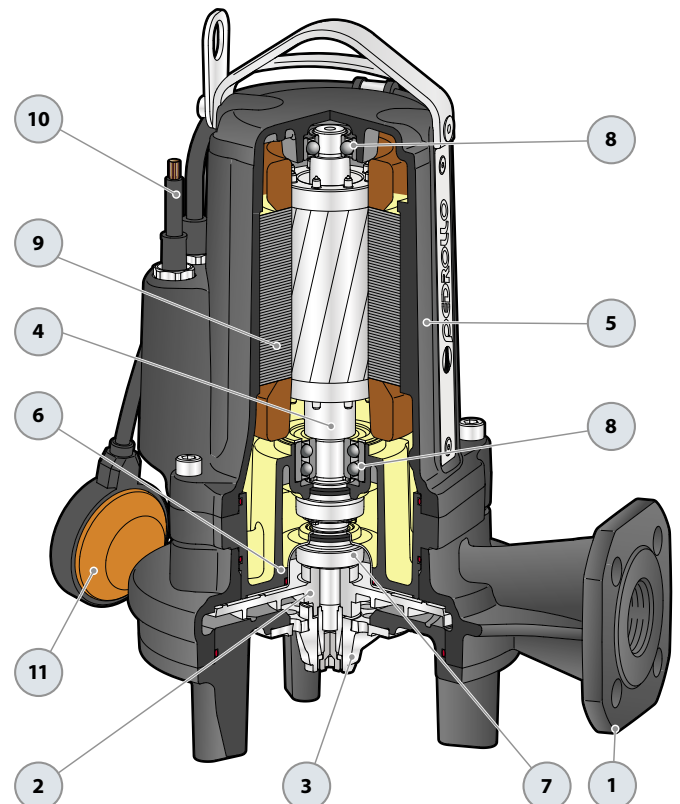
11 **LOAT SWITCH**

(only for single-phase versions)

12 **CONTROL BOX**

(only for single-phase versions)

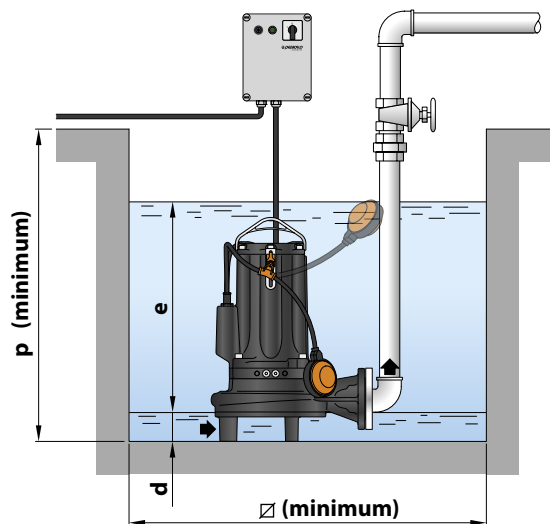
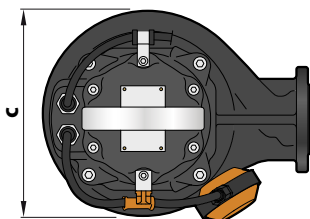
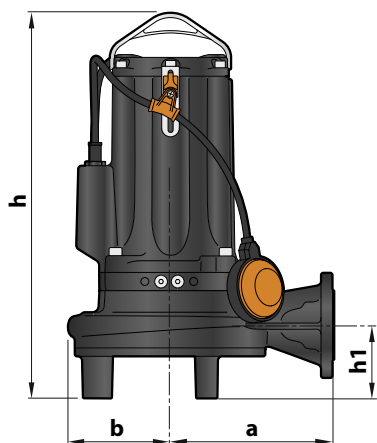
With manual overload cut-out and with starting and operating capacitors.



# TRITUS 2.2 - 3 AP

## DIMENSIONS AND WEIGHT

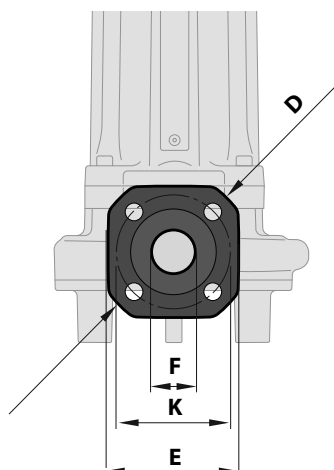
Typical installation (for single-phase version)



MODEL		DIMENSIONS mm										kg	
Single-phase	Three-phase	a	b	c	h Single-phase	h Three-phase	h1	d	e	p	Ø	1~	3~
TRm 2.2 AP	TR 2.2 AP	203	126	256	480	453	90	95	variable	800	800	53.5	47
-	TR 3 AP				480							-	53

## PORT FLANGE

MODEL		FLANGE	F	K	D	E	HOLES	
Single-phase	Three-phase	DN		mm	mm	mm	N°	Ø (mm)
TRm 2.2 AP	TR 2.2 AP	40 (PN10)	1½"	110	150	130	4	18
-	TR 3 AP							



## ABSORPTION

MODEL	VOLTAGE
Single-phase	230 V
TRm 2.2 AP	14.0 A

MODEL	VOLTAGE
Three-phase	400 V
TR 2.2 AP	5.5 A
TR 3 AP	6.3 A

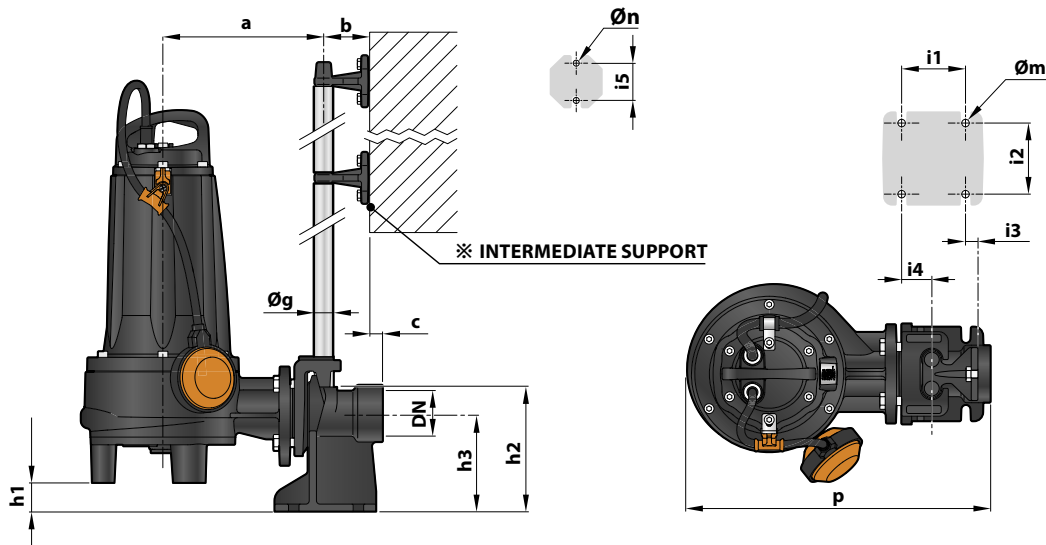
## CAPACITOR

MODEL	CAPACITANCE	
Pump Single-phase (230 V o 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor
TRm 2.2 AP	60 µF 450 VL	120 µF 450 VL



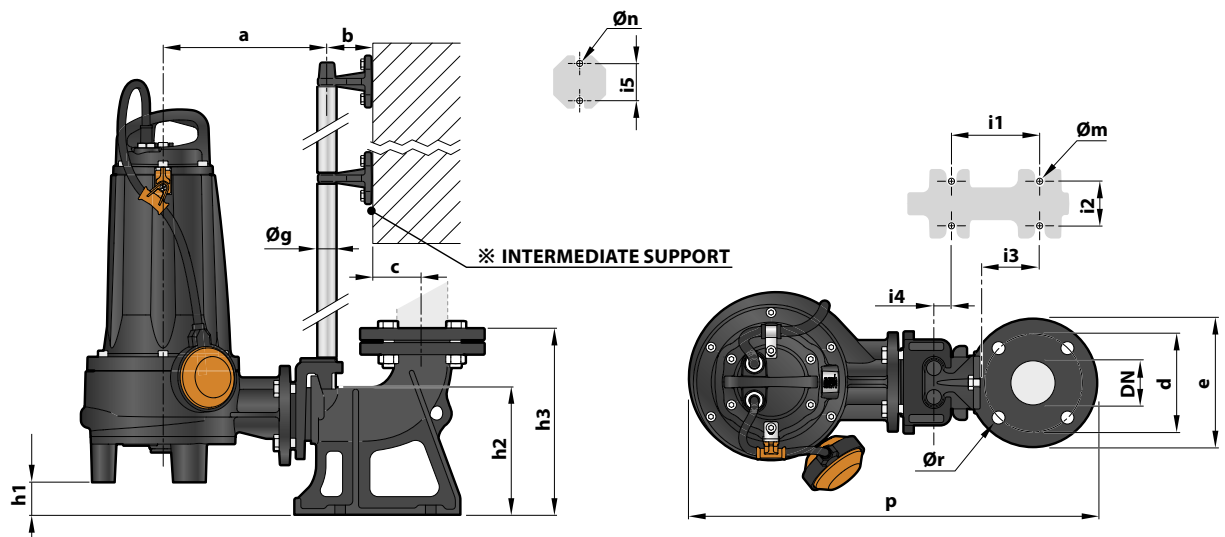
# SEWAGE LIFTING SYSTEM

## DIMENSIONS (Horizontal delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm														
Single-phase	Three-phase			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
TRm 0.75	TR 0.75	2"	Ø 7	212	61	17	395	50	165	130	85	94	16	40	50	3/4	14	11
TRm 0.9	TR 0.9																	
TRm 1.1	TR 1.1																	
TRm 1.3	TR 1.3																	
TRm 1.5	TR 1.5	2"	Ø 7	215	61	17	400	42.5	165	130	85	94	16	40	50	3/4	14	11
-	TR 2.2																	

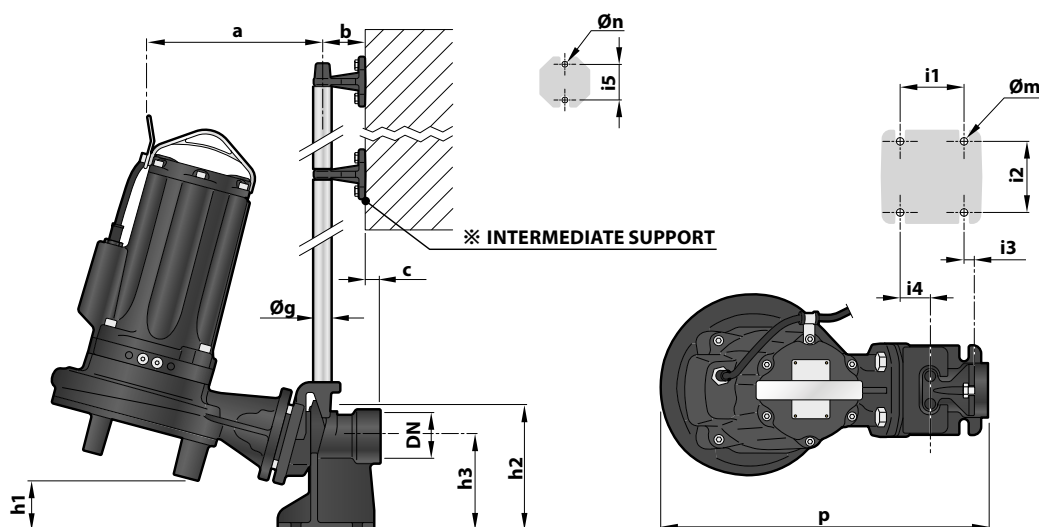
## DIMENSIONS (Vertical delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm																	
Single-phase	Three-phase			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TRm 0.75	TR 0.75	2½"	Ø 7	206	61	51.5	125	165	505	48	163.5	215.5	120	72	62	3	50	3/4	14	11	18
TRm 0.9	TR 0.9																				
TRm 1.1	TR 1.1																				
TRm 1.3	TR 1.3																				
TRm 1.5	TR 1.5	2½"	Ø 7	211	61	51.5	125	165	514	40	163.5	215.5	120	72	62	3	50	3/4	14	11	18
-	TR 2.2																				

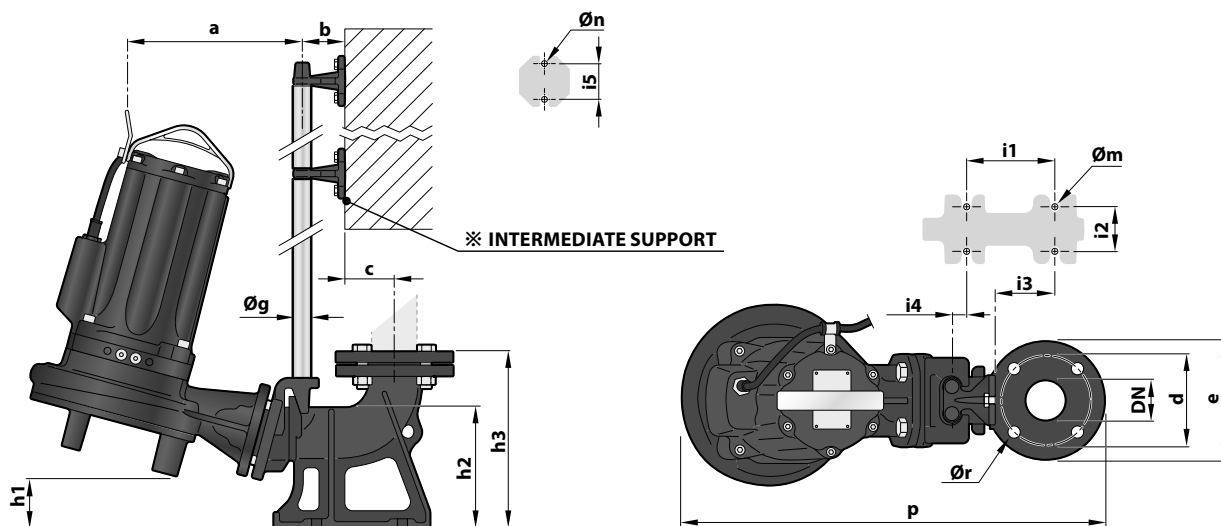
# SEWAGE LIFTING SYSTEM

## DIMENSIONS (Horizontal delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm														
Single-phase	Three-phase			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
TRm 2.2 AP	TR 2.2 AP	2"	Ø 7	228	61	17	455	71	165	130	85	94	16	40	50	3/4	14	11
-	TR 3 AP			238														

## DIMENSIONS (Vertical delivery version)



MODEL		PORT DN	Solids mm	DIMENSIONS mm																	
Single-phase	Three-phase			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TRm 2.2 AP	TR 2.2 AP	2½"	Ø 7	225	61	51.5	125	165	569	69	163.5	215.5	120	72	62	3	50	3/4	14	11	18
-	TR 3 AP			235																	

*The features and specifications here in stated are in no way binding for the manufacturer.  
Pedrollo S.p.A. is free to modify the product in order to improve its production at any time without previous notice.*

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**MADE IN ITALY**

Z-DPL90081UK\_01

# VXC - MC

VORTEX and DOUBLE-CHANNEL submersible pumps



**MADE IN ITALY**

 **PEDROLLO**<sup>®</sup>  
*the spring of life*

# VXC

## VORTEX submersible pumps



- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new VXC, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new VXC electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if completely uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The VXC series is equipped with an extremely reliable and robust VORTEX impeller with low risk of clogging.



### PERFORMANCE RANGE

- Flow rate up to **1250 l/min** (75 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for VXC /50-F
  - up to **Ø 65 mm** for VXC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

The VXC series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

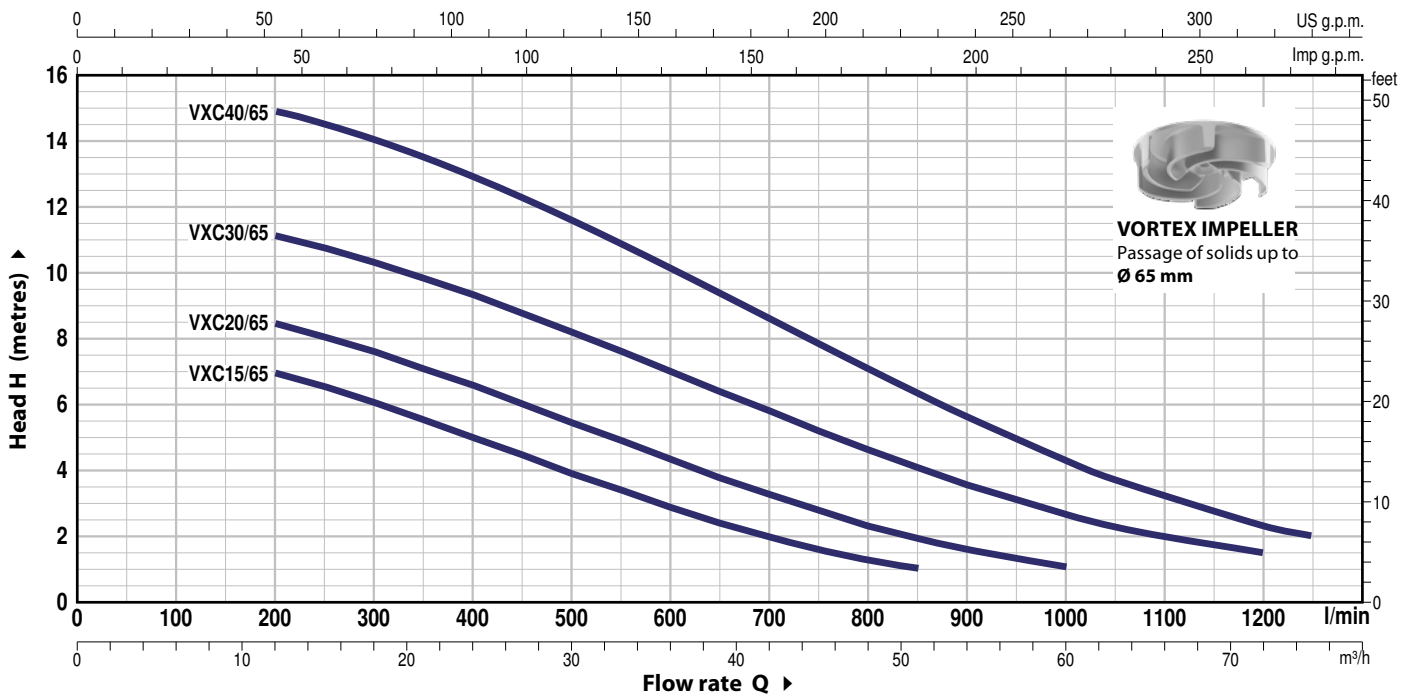
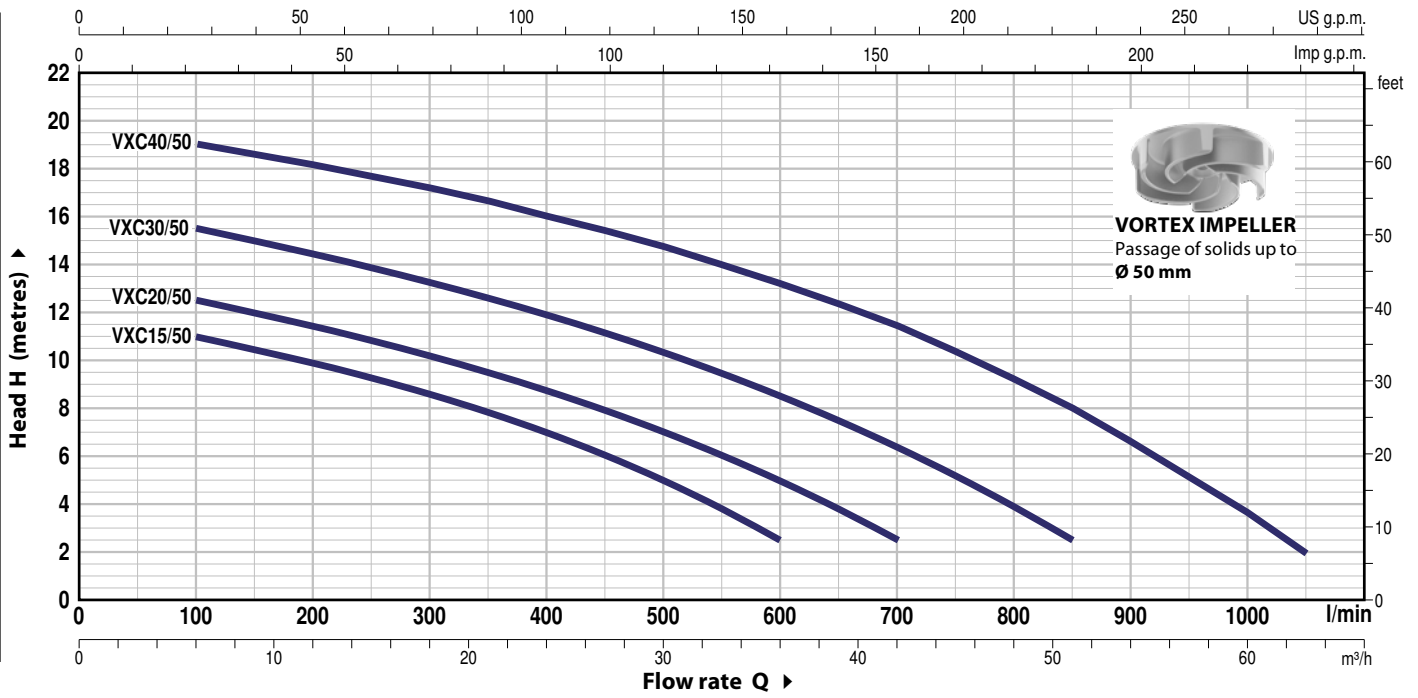
### GUARANTEE

► For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:

- three-phase
  - VXC 15-20-30-40/50
  - VXC 15-20-30-40/65

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h													
Single-phase	Three-phase	kW	HP		0	6	12	18	24	30	36	42	51	60	63	72	75	
				l/min	0	100	200	300	400	500	600	700	850	1000	1050	1200	1250	
VXCm 15/50	VXC 15/50	1.1	1.5	H metres	12.0	11.0	9.9	8.6	7.0	5.0	2.5							
VXCm 20/50	VXC 20/50	1.5	2		13.5	12.5	11.4	10.2	8.7	7.0	5.0	2.5						
VXCm 30/50	VXC 30/50	2.2	3		16.5	15.5	14.4	13.2	11.9	10.3	8.5	6.4	2.5					
-	VXC 40/50	3	4		20.0	19.0	18.1	17.1	16.0	14.7	13.2	11.4	8.0	3.6	2.0			
VXCm 15/65	VXC 15/65	1.1	1.5	8.0	-	7.0	6.0	5.0	3.9	2.8	2.0	1.0						
VXCm 20/65	VXC 20/65	1.5	2	9.5	-	8.5	7.6	6.6	5.4	4.3	3.3	2.0	1.0					
VXCm 30/65	VXC 30/65	2.2	3	12.0	-	11.1	10.3	9.3	8.2	7.0	5.8	4.1	2.6	2.3	1.5			
-	VXC 40/65	3	4	15.5	-	15.0	14.0	13.0	11.6	10.1	8.6	6.3	4.3	3.7	2.3	2.0		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 VORTEX type
3	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
4	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3

### 8 ELECTRIC MOTOR

**VXCm 15-20-30:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**VXC:** three-phase 400 V - 50 Hz.  
with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

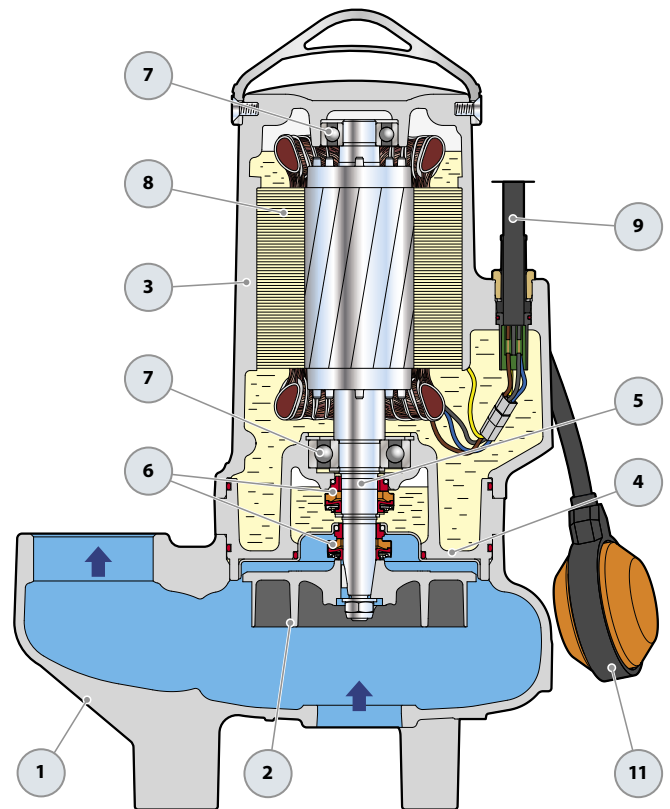
### 10 CONTROL BOX for VXCm 15-20-30

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

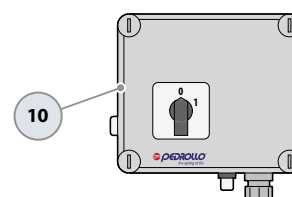
(only for single-phase versions)



### OPTIONAL – Supporting Base

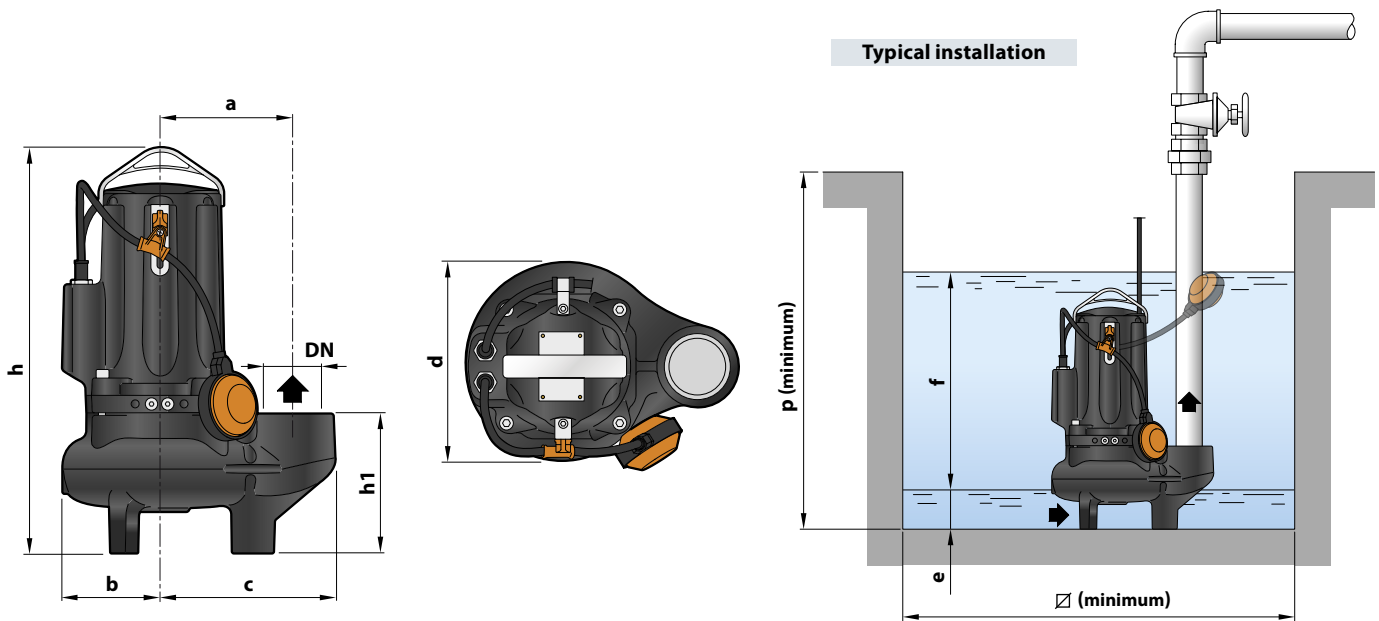


### Standard features



Control box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids mm	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	f	p	∅	1~	3~
VXCm 15/50	VXC 15/50	2½"	∅ 50	162	119	212	487	167	242	75	variable	800	800	42.0	40.5
VXCm 20/50	VXC 20/50						513   487							43.0	42.0
VXCm 30/50	VXC 30/50						513							48.0	43.0
-	VXC 40/50						-							-	48.0
VXCm 15/65	VXC 15/65	3"	∅ 65	180	120	240	521	201	246	85	variable	800	800	44.0	42.5
VXCm 20/65	VXC 20/65						547   521							45.0	44.0
VXCm 30/65	VXC 30/65						547							50.0	45.0
-	VXC 40/65						-							-	50.0

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
Single-phase	230 V	240 V
VXCm 15/50	8.5 A	8.1 A
VXCm 20/50	9.0 A	8.6 A
VXCm 30/50	12.0 A	11.5 A
VXCm 15/65	8.5 A	8.1 A
VXCm 20/65	9.0 A	8.6 A
VXCm 30/65	12.0 A	11.5 A

MODEL	VOLTAGE		
Three-phase	230-240 V	400-415 V	690-720 V
VXC 15/50	5.9 A	3.4 A	2.0 A
VXC 20/50	6.4 A	3.7 A	2.1 A
VXC 30/50	8.7 A	5.0 A	2.9 A
VXC 40/50	10.7 A	6.2 A	3.5 A
VXC 15/65	5.9 A	3.4 A	2.0 A
VXC 20/65	6.4 A	3.7 A	2.1 A
VXC 30/65	8.7 A	5.0 A	2.9 A
VXC 40/65	10.7 A	6.2 A	3.6 A

MODEL	CAPACITANCE CAPACITORS
Single-phase	(230 V o 240 V)
VXCm 15/50 VXCm 15/65	50 µF 450 VL
VXCm 20/50 VXCm 20/65	50 µF 450 VL
VXCm 30/50 VXCm 30/65	60 µF 450 VL



# MC

## Submersible pumps **DOUBLE-CHANNEL**



- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new **MC**, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new **MC** electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if partially uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The **MC** series is equipped with a double-channel impeller, ideal for the discharge of large volumes of waste water.



### PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m<sup>3</sup>/h)
- Head up to **25 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for MC /50
  - up to **Ø 65 mm** for MC /65
- Minimum immersion depth for continuous service:
  - **320 mm** for MC /50
  - **360 mm** for MC /65

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

**MC** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

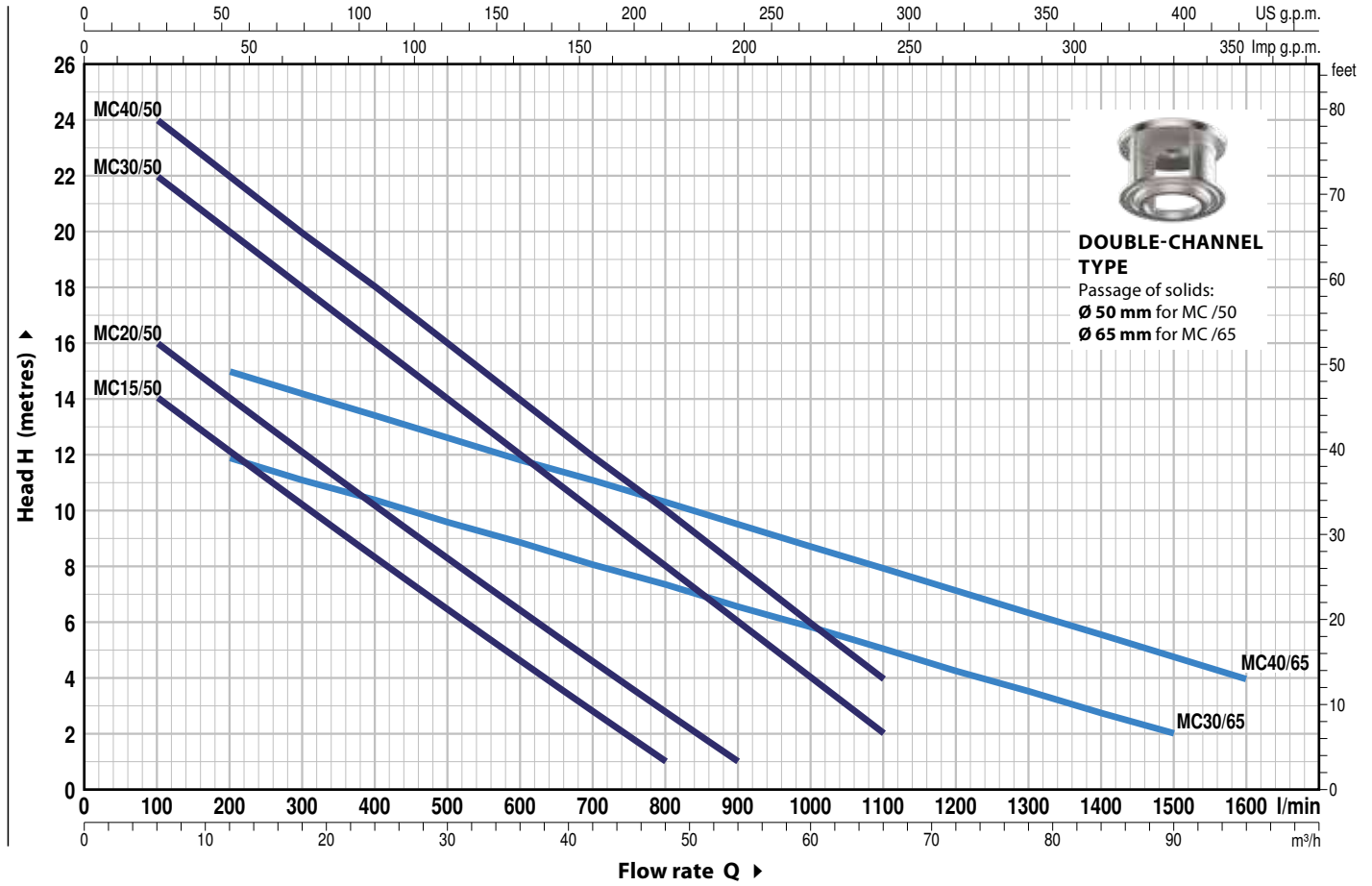
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### GUARANTEE

- ▣ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
  - three-phase
    - **MC 15-20-30-40/50**
    - **MC 30-40/65**

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	H metres																
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96	
				l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1600		
MCm 15/50	MC 15/50	1.1	1.5	H metres	16	14	12.5	10.5	8.5	6.5	4.5	3	1								
MCm 20/50	MC 20/50	1.5	2		18	16	14	12.5	10.5	8.5	6.5	5	3	1							
MCm 30/50	MC 30/50	2.2	3		24	22	20	18	16	14	12	10	8	6	4	2					
-	MC 40/50	3	4		25	24	22	20	18	16	14	12	10	8	6	4					
MCm 30/65	MC 30/65	2.2	3		13	-	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2			
-	MC 40/65	3	4		17	-	15	14	13.5	12.5	12	11	10.5	9.5	8.5	8	7	4.8	4		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
<b>2 IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
<b>3 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
<b>4 MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
<b>5 MOTOR SHAFT</b>	Stainless steel AISI 431

**6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

**7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3**

**8 ELECTRIC MOTOR**

**MCm 15-20-30:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**MC:** three-phase 400 V - 50 Hz. with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

**9 POWER CABLE**

**10 metres** long "H07 RN-F" cable

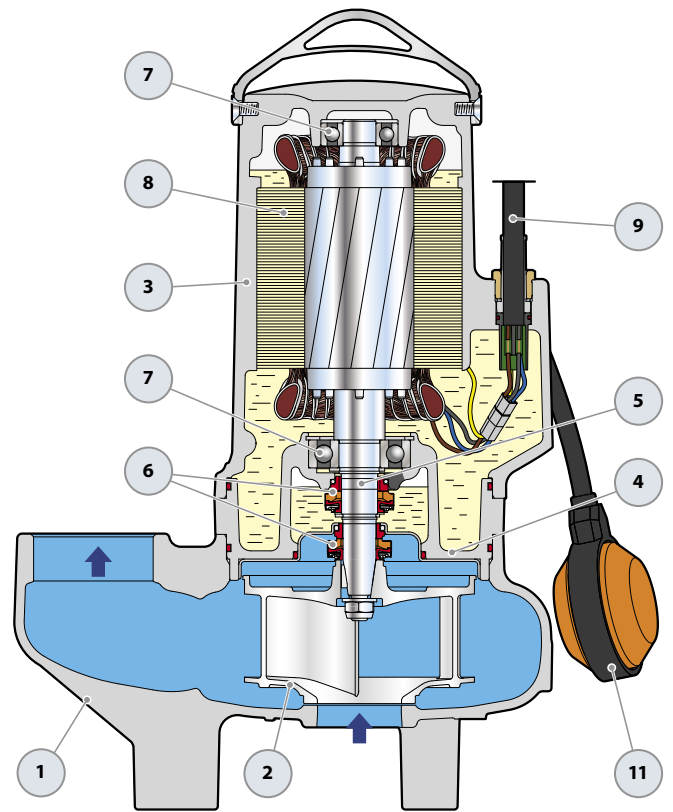
**10 CONTROL BOX for MCm 15-20-30**

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

**11 FLOAT SWITCH**

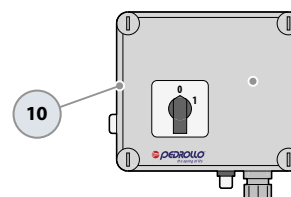
(only for single-phase versions)



**OPTIONAL – Supporting Base**

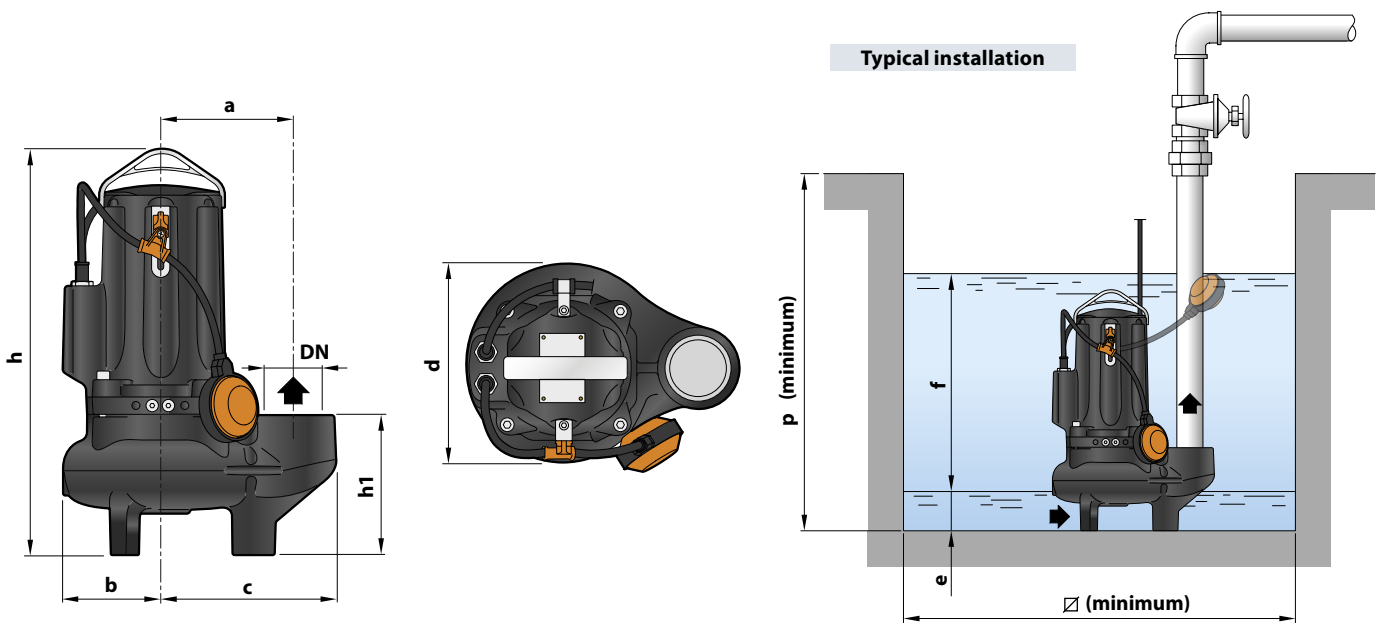


**Standard Equipment**



**Control Box**  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids mm	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	f	p	∅	1~	3~
MCm 15/50	MC 15/50	2½"	∅ 50	162	119	212	487	167	242	75	variable	800	800	42.0	40.5
MCm 20/50	MC 20/50						43.0							42.0	
MCm 30/50	MC 30/50						513   487							48.0	43.0
-	MC 40/50						513							-	48.0
MCm 30/65	MC 30/65	3"	∅ 65	180	120	240	547   521	201	246	85	variable	800	800	50.0	45.0
-	MC 40/65						547							-	50.0

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
	230 V	240 V
Single-phase	230 V	240 V
MCm 15/50	10.5 A	10.1 A
MCm 20/50	14.0 A	13.4 A
MCm 30/50	18.0 A	17.3 A
MCm 30/65	14.0 A	13.4 A

MODEL	VOLTAGE		
	230-240 V	400-415 V	690-720 V
Three-phase	230-240 V	400-415 V	690-720 V
MC 15/50	7.8 A	4.5 A	2.6 A
MC 20/50	8.7 A	5.0 A	2.9 A
MC 30/50	11.2 A	6.5 A	3.7 A
MC 40/50	12.1 A	7 A	4.1 A
MC 30/65	11.2 A	6.5 A	3.7 A
MC 40/65	13.0 A	7.5 A	4.3 A

MODEL	CAPACITANCE CAPACITORS
	(230 V o 240 V)
Single-phase	(230 V o 240 V)
MCm 15/50	50 µF 450 VL
MCm 20/50	50 µF 450 VL
MCm 30/50 MCm 30/65	60 µF 450 VL

# VXC-F

## VORTEX Submersible Pumps with flanged ports



- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new VXC-F, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new VXC-F electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if completely uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The VXC-F series is equipped with an extremely reliable and robust VORTEX impeller with low risk of clogging.



### PERFORMANCE RANGE

- Flow rate up to **1250 l/min** (75 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for VXC /50-F
  - up to **Ø 65 mm** for VXC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

The VXC-F series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

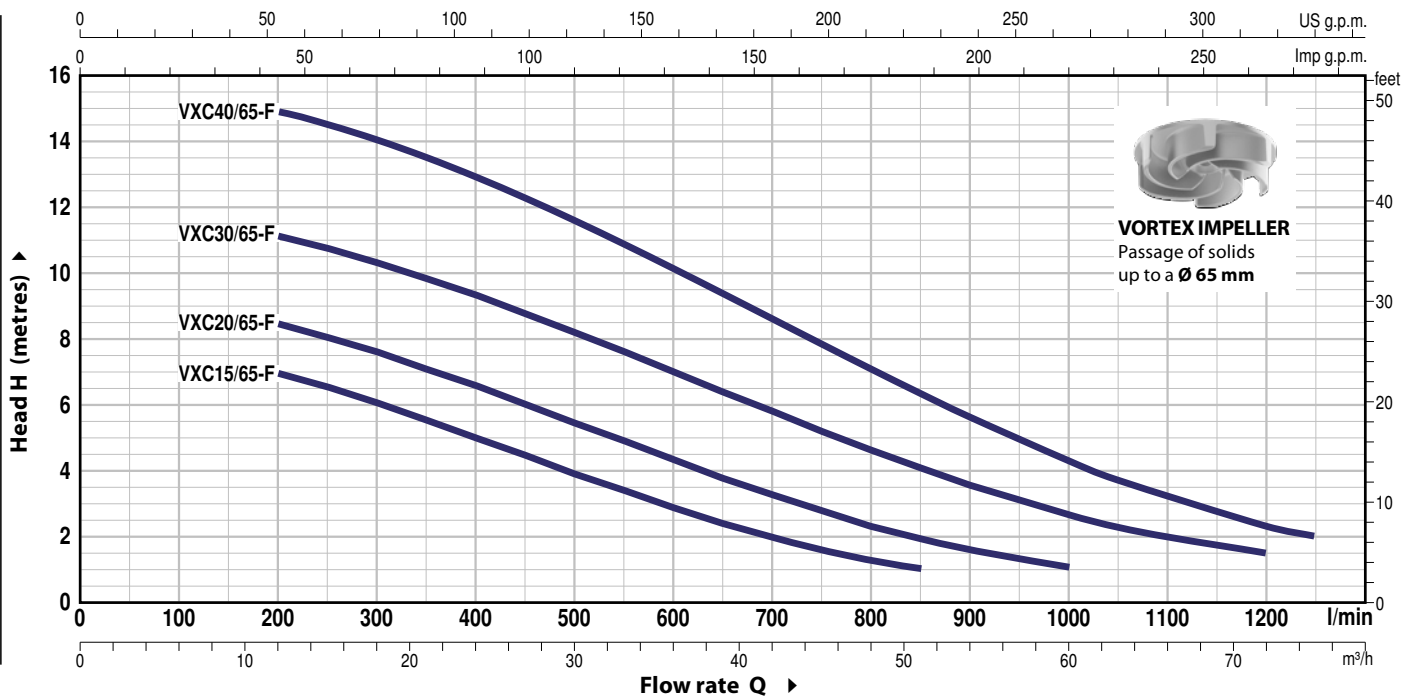
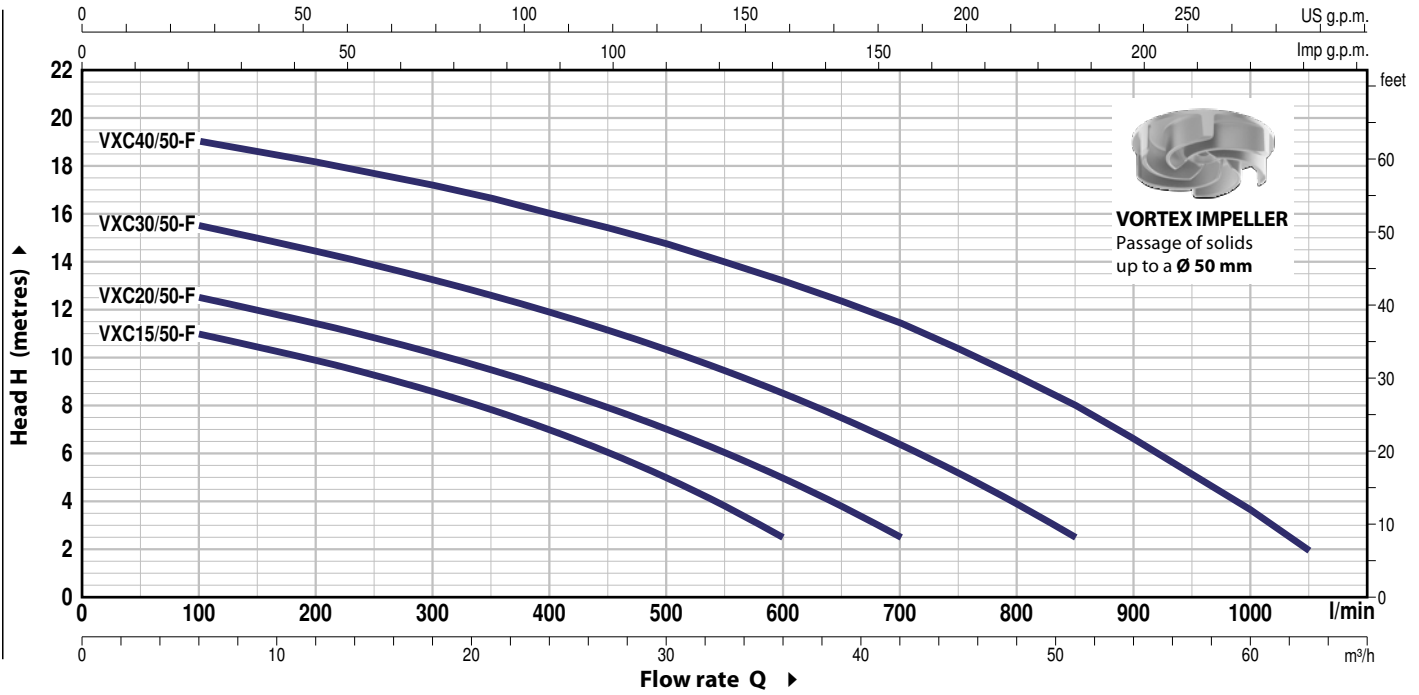
- Connection support KIT
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### GUARANTEE

- ▶ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
  - three-phase
    - **VXC 15-20-30-40/50-F**
    - **VXC 15-20-30-40/65-F**

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P2)		Q	Flow rate														
Single-phase	Three-phase	kW	HP		m³/h	0	6	12	18	24	30	36	42	51	60	63	72	75	
				l/min	0	100	200	300	400	500	600	700	850	1000	1050	1200	1250		
VXCm 15/50-F	VXC 15/50-F	1.1	1.5	H metri	12.0	11.0	9.9	8.6	7.0	5.0	2.5								
VXCm 20/50-F	VXC 20/50-F	1.5	2		13.5	12.5	11.4	10.2	8.7	7.0	5.0	2.5							
VXCm 30/50-F	VXC 30/50-F	2.2	3		16.5	15.5	14.4	13.2	11.9	10.3	8.5	6.4	2.5						
-	VXC 40/50-F	3	4		20.0	19.0	18.1	17.1	16.0	14.7	13.2	11.4	8.0	3.6	2.0				
VXCm 15/65-F	VXC 15/65-F	1.1	1.5		8.0	-	7.0	6.0	5.0	3.9	2.8	2.0	1.0						
VXCm 20/65-F	VXC 20/65-F	1.5	2		9.5	-	8.5	7.6	6.6	5.4	4.3	3.3	2.0	1.0					
VXCm 30/65-F	VXC 30/65-F	2.2	3		12.0	-	11.1	10.3	9.3	8.2	7.0	5.8	4.1	2.6	2.3	1.5			
-	VXC 40/65-F	3	4		15.5	-	15.0	14.0	13.0	11.6	10.1	8.6	6.3	4.3	3.7	2.3	2.0		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
2	<b>IMPELLER</b>	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
4	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3

### 8 ELECTRIC MOTOR

**VXCm 15-20-30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**VXC-F:** three-phase 400 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

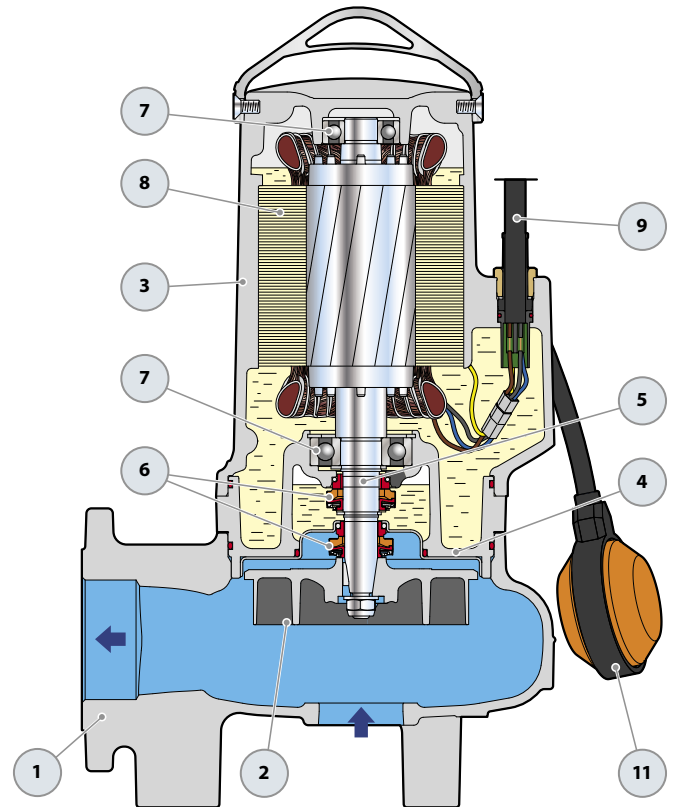
### 10 CONTROL BOX for VXCm 15-20-30-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

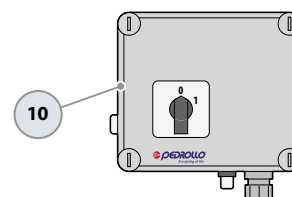
(only for single-phase versions)



### OPTIONAL – Supporting Base

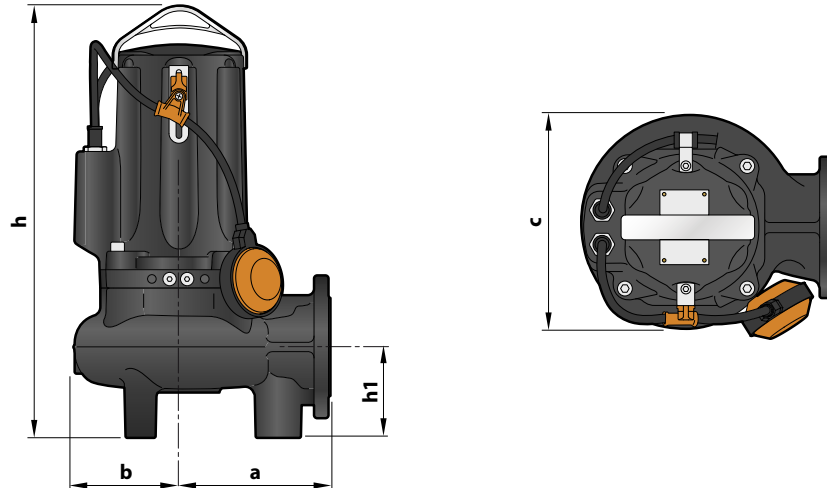


### Standard Equipment



Control Box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		Passage of solids mm	DIMENSIONS mm					kg		
Single-phase	Three-phase		a	b	c	h	h1	1~	3~	
VXCm 15/50-F	VXC 15/50-F	Ø 50	170	119	242	487	102		43.5	42.0
VXCm 20/50-F	VXC 20/50-F					513   487				
VXCm 30/50-F	VXC 30/50-F					513				
-	VXC 40/50-F					513				
VXCm 15/65-F	VXC 15/65-F	Ø 65	210	120	246	521	123		46.0	44.5
VXCm 20/65-F	VXC 20/65-F					547   521				
VXCm 30/65-F	VXC 30/65-F					547				
-	VXC 40/65-F					547				

## ABSORPTION AND CAPACITORS

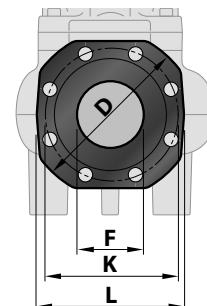
MODEL	VOLTAGE	
	230 V	240 V
Single-phase	230 V	240 V
VXCm 15/50-F	8.5 A	8.1 A
VXCm 20/50-F	9.0 A	8.6 A
VXCm 30/50-F	12.0 A	11.5 A
VXCm 15/65-F	8.5 A	8.1 A
VXCm 20/65-F	9.0 A	8.6 A
VXCm 30/65-F	12.0 A	11.5 A

MODEL	VOLTAGE		
	230-240 V	400-415 V	690-720 V
Three-phase	230-240 V	400-415 V	690-720 V
VXC 15/50-F	5.9 A	3.4 A	2.0 A
VXC 20/50-F	6.4 A	3.7 A	2.1 A
VXC 30/50-F	8.7 A	5.0 A	2.9 A
VXC 40/50-F	10.7 A	6.2 A	3.5 A
VXC 15/65-F	5.9 A	3.4 A	2.0 A
VXC 20/65-F	6.4 A	3.7 A	2.1 A
VXC 30/65-F	8.7 A	5.0 A	2.9 A
VXC 40/65-F	10.7 A	6.2 A	3.6 A

MODEL	CAPACITANCE CAPACITORS	
	(230 V o 240 V)	
Single-phase	(230 V o 240 V)	
VXCm 15/50-F	50 µF 450 VL	
VXCm 15/65-F	50 µF 450 VL	
VXCm 20/50-F	50 µF 450 VL	
VXCm 20/65-F	50 µF 450 VL	
VXCm 30/50-F	60 µF 450 VL	
VXCm 30/65-F	60 µF 450 VL	

## PORT FLANGE

MODEL	FLANGE	F	K	D	L	HOLES	
						N°	Ø (mm)
VXC /50-F	DN65 (PN10)	2½"	145	185	160	4	18
VXC /65-F	DN80 (PN10)	3"	160	200	180	8	18





# MC-F

## Submersible pumps **DOUBLE-CHANNEL** with flanged ports

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use

- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new **MC-F**, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new **MC-F** electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if partially uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The **MC-F** series is equipped with a double-channel impeller, ideal for the discharge of large volumes of waste water.



### PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m<sup>3</sup>/h)
- Head up to **25 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for MC /50-F
  - up to **Ø 65 mm** for MC /65-F
- Minimum immersion depth for continuous service:
  - **320 mm** for MC /50-F
  - **360 mm** for MC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

**MC-F** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

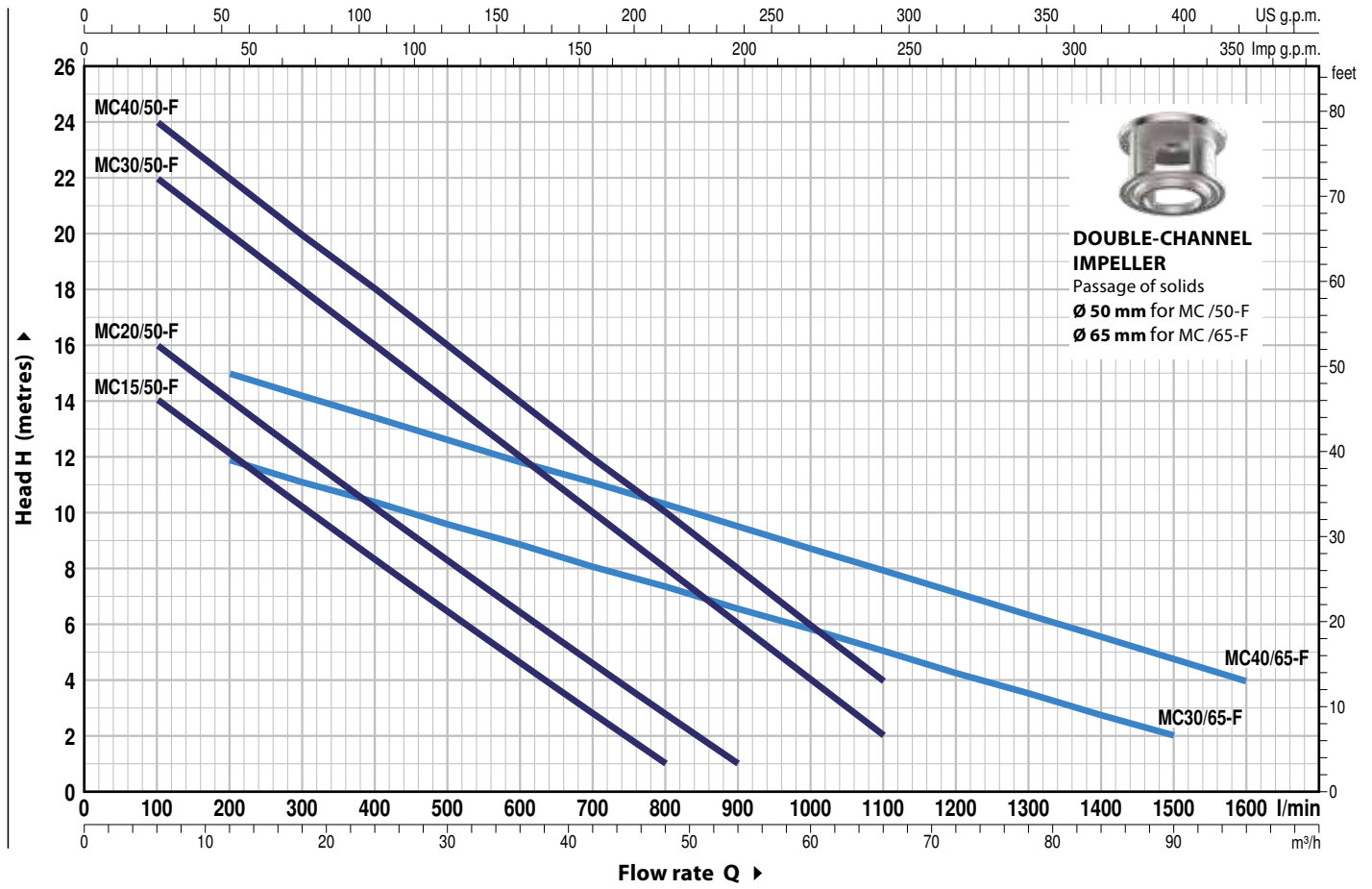
### GUARANTEE

⇒ **For the following versions, to validate the guarantee, the built-in thermal overload guarantee, the built-in thermal overload control box:**

- three-phase
  - **MC 15-20-30-40/50-F**
  - **MC 30-40/65-F**

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P2)		Q	H metres															
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96
				l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1600	
MCm 15/50-F	MC 15/50-F	1.1	1.5		16	14	12.5	10.5	8.5	6.5	4.5	3	1							
MCm 20/50-F	MC 20/50-F	1.5	2		18	16	14	12.5	10.5	8.5	6.5	5	3	1						
MCm 30/50-F	MC 30/50-F	2.2	3		24	22	20	18	16	14	12	10	8	6	4	2				
-	MC 40/50-F	3	4		25	24	22	20	18	16	14	12	10	8	6	4				
MCm 30/65-F	MC 30/65-F	2.2	3		13	-	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2		
-	MC 40/65-F	3	4		17	-	15	14	13.5	12.5	12	11	10.5	9.5	8.5	8	7	4.8	4	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
2	<b>IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
3	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
4	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3

### 8 ELECTRIC MOTOR

**MCm 15-20-30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**MC-F:** three-phase 400 V - 50 Hz. with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

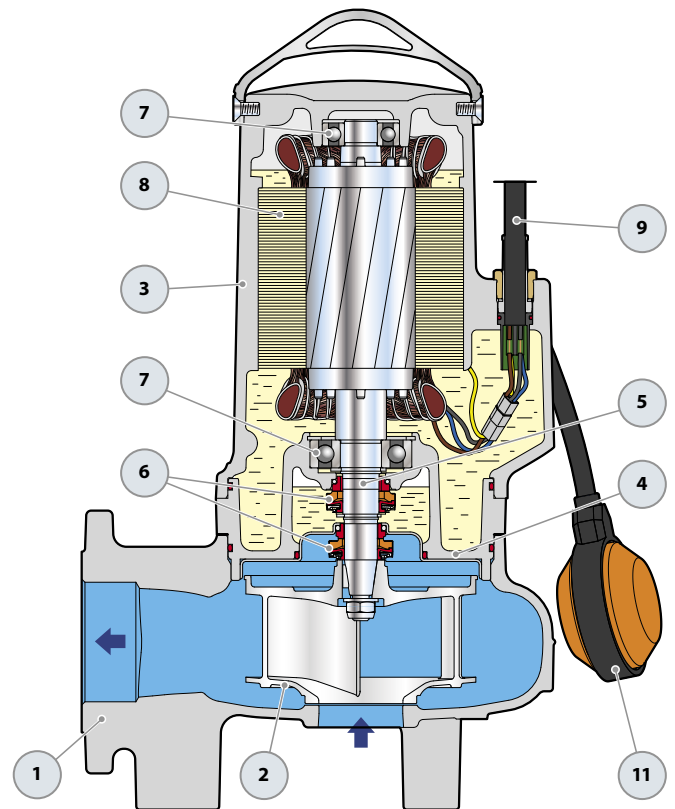
### 10 CONTROL BOX for MCm 15-20-30-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

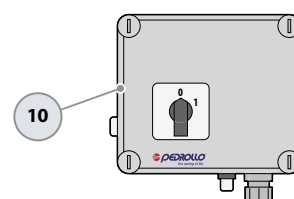
(only for single-phase versions)



### OPTIONAL – Supporting Base

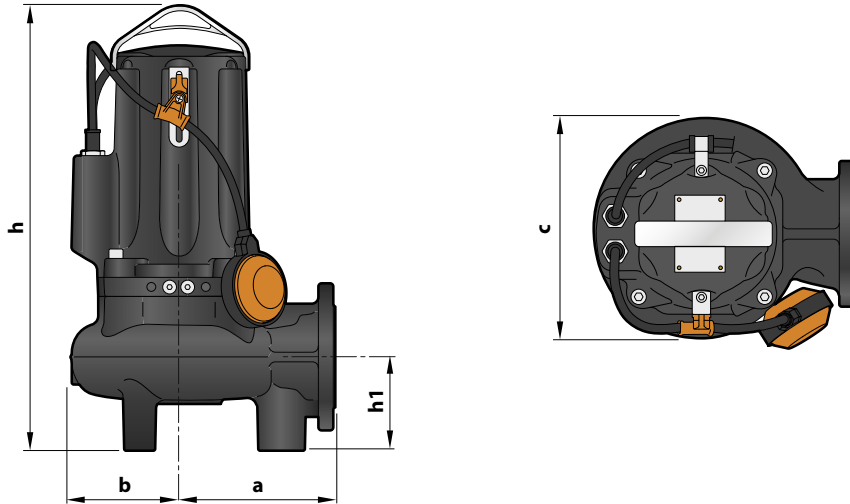


### Standard Equipment



Control Box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		Passage of solids mm	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
MCm 15/50-F	MC 15/50-F	Ø 50	170	119	242	487	102	43.5	42.0
MCm 20/50-F	MC 20/50-F					513   487		44.5	43.5
MCm 30/50-F	MC 30/50-F					513		49.5	44.5
-	MC 40/50-F					-		-	49.5
MCm 30/65-F	MC 30/65-F	Ø 65	210	120	246	547   521	123	52.0	47.0
-	MC 40/65-F					547		-	52.0

## ABSORPTION AND CAPACITORS

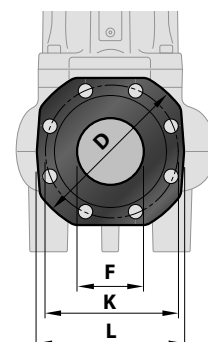
MODEL	VOLTAGE	
Single-phase	230 V	240 V
MCm 15/50-F	10.5 A	10.1 A
MCm 20/50-F	14.0 A	13.4 A
MCm 30/50-F	18.0 A	17.3 A
MCm 30/65-F	14.0 A	13.4 A

MODEL	VOLTAGE		
Three-phase	230-240 V	400-415 V	690-720 V
MC 15/50-F	7.8 A	4.5 A	2.6 A
MC 20/50-F	8.7 A	5.0 A	2.9 A
MC 30/50-F	11.2 A	6.5 A	3.7 A
MC 40/50-F	12.1 A	7 A	4.1 A
MC 30/65-F	11.2 A	6.5 A	3.7 A
MC 40/65-F	13.0 A	7.5 A	4.3 A

MODEL	CAPACITANCE CAPACITORS
Single-phase	(230 V or 240 V)
MCm 15/50-F	50 µF 450 VL
MCm 20/50-F	50 µF 450 VL
MCm 30/50-F	60 µF 450 VL
MCm 30/65-F	60 µF 450 VL

## PORT FLANGE

MODEL	FLANGE	F	K mm	D mm	L mm	HOLES	
						N°	Ø (mm)
MC /50-F	DN65 (PN10)	2½"	145	185	160	4	18
MC /65-F	DN80 (PN10)	3"	160	200	180	8	18



# SEWAGE LIFTING SYSTEM VXC-F – MC-F



## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VXC /50-F, MC /50-F</b>	Cod. ASSVXCF051	DN <b>2"</b>
--------------------------------	-----------------	--------------

Kit consisting of:

1. footing connection
2. slide guide with screws and seals
3. support for the guide tubes



## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VXC /50-F, MC /50-F</b>	Cod. ASSVXCF051V	DN <b>2½"</b>
For <b>VXC /65-F, MC /65-F</b>	Cod. ASSVXCF071V	DN <b>3"</b>

Kit consisting of:

1. footing connection completo di controflangia
2. slide guide with screws and seals
3. support for the guide tubes



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For <b>VXC /50-F, MC /50-F</b>	Cod. ASSVXCF0704V	DN <b>3"</b>
For <b>VXC /65-F, MC /65-F</b>	Cod. ASSVXCF0705V	

Kit consisting of:

1. footing connection completo di controflangia
2. slide guide with screws and seals
3. support for the guide tubes

## ACCESSORIES CAN BE ORDERED

### SLIDE GUIDE (Also to be ordered separately)

For <b>VXC /50-F, MC /50-F</b> with guide tubes Ø ¾"	Cod. ASSFL0017
For <b>VXC /65-F, MC /65-F</b> with guide tubes Ø ¾"	Cod. ASSFL0018
For <b>VXC /50-F, MC /50-F</b> with guide tubes Ø 2"	Cod. ASSFL071
For <b>VXC /65-F, MC /65-F</b> with guide tubes Ø 2"	Cod. ASSFL072

Complete with screws and seals

### INTERMEDIATE SUPPORT (To be ordered separately)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
For guide tubes Ø 2"	Cod. 859SV349INTFA

**In order to ensure stability, insert the intermediate support:**

- every 2 metres with ¾" guide tubes (compulsory)
- every 3 metres with 2" guide tubes (recommended)

### GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
Guide tube Ø 2"	Cod. 54SARTG006

Maximum length of the tube plank: 6 metres

### INTERMEDIATE SUPPORT

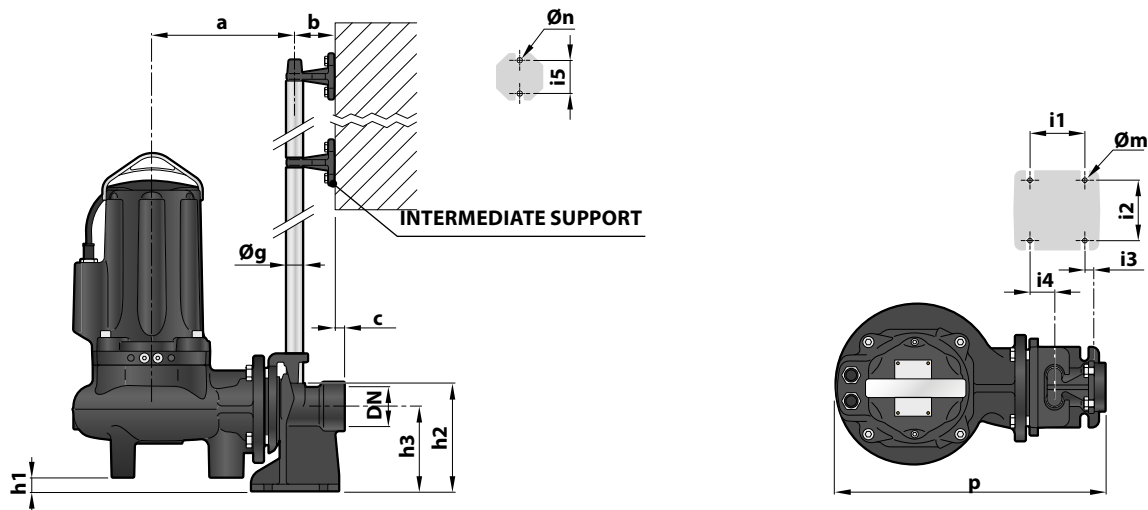
For guide tubes Ø ¾"



For guide tubes Ø 2"

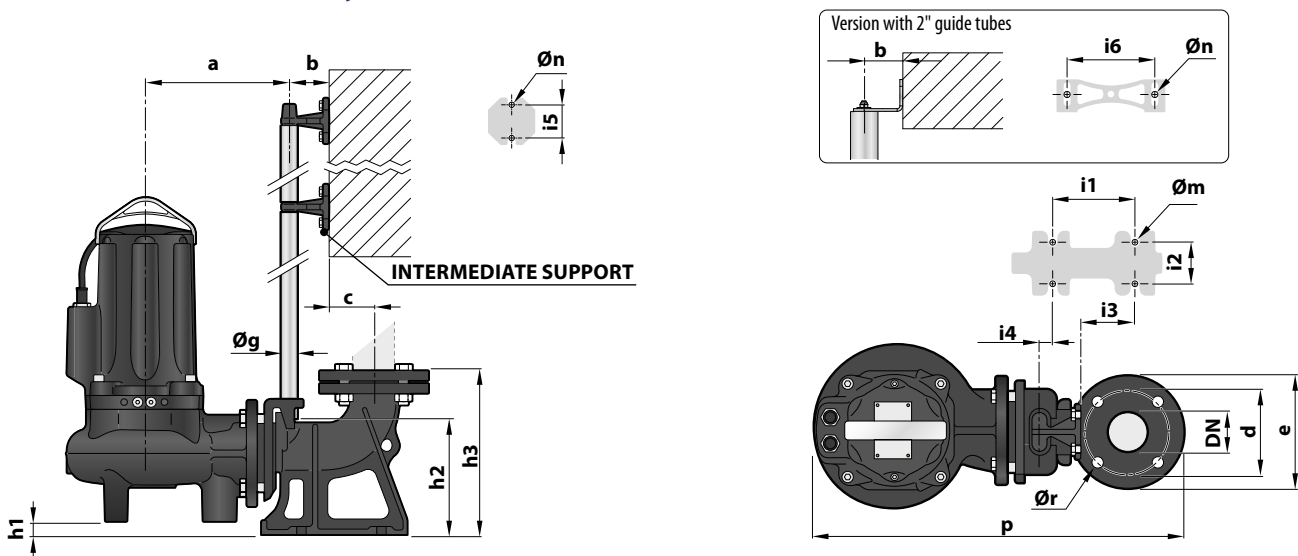


## DIMENSIONS (Horizontal delivery version)



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm														
			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
VXC /50-F	Ø 50	2"	216	61	17	412	28	165	130	85	94	16	40	50	¾"	12	11
MC /50-F																	

## DIMENSIONS (Vertical delivery version)



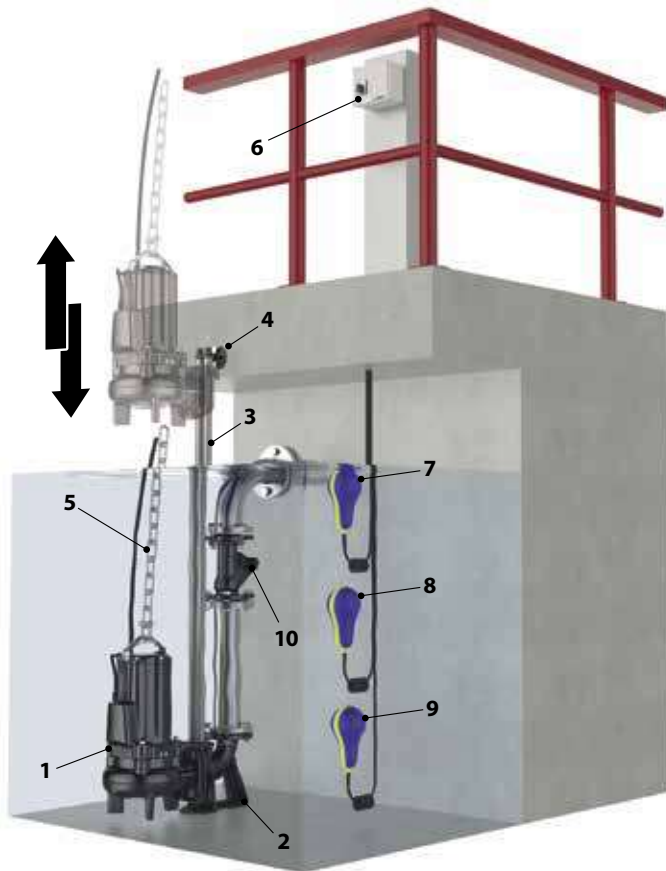
### Version with ¾" guide tubes

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																	
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VXC /50-F	Ø 50	2½" (PN10)	213	61	52	125	165	526	25.5	164	215	120	72	62	3	50	¾"	14	11	18
MC /50-F																				
VXC /65-F	Ø 65	3" (PN6)	253	61	69	150	190	598	46	216	279	130	112	84	15	50	¾"	14	11	18
MC /65-F																				

### Version with 2" guide tubes

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																		
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn	Ør
VXC /50-F	Ø 50	3" (PN10)	320	85	95	160	200	718	105	265	392	250	150	35	-130	-	187	2"	22	13.5	18
MC /50-F																					
VXC /65-F	Ø 65	3" (PN10)	359	85	95	160	200	760	84	256	392	250	150	35	-130	-	187	2"	22	13.5	18
MC /65-F																					

## STANDARD INSTALLATION



1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. Lifting chain
6. Control box
7. Alarm float switch
8. Starting float switch
9. Stop float switch
10. Non-return valve



*The features and specifications here in stated are in no way binding for the manufacturer.  
Pedrollo S.p.A. is free to modify the product at any time without previous notice.*

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**MADE IN ITALY**

# VXC - MC

VORTEX and DOUBLE-CHANNEL submersible pumps



**MADE IN ITALY**

 **PEDROLLO**<sup>®</sup>  
*the spring of life*



# VXC

## VORTEX submersible pumps



- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new VXC, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new VXC electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if completely uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The VXC series is equipped with an extremely reliable and robust VORTEX impeller with low risk of clogging.



### PERFORMANCE RANGE

- Flow rate up to **1250 l/min** (75 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for VXC /50-F
  - up to **Ø 65 mm** for VXC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

The VXC series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

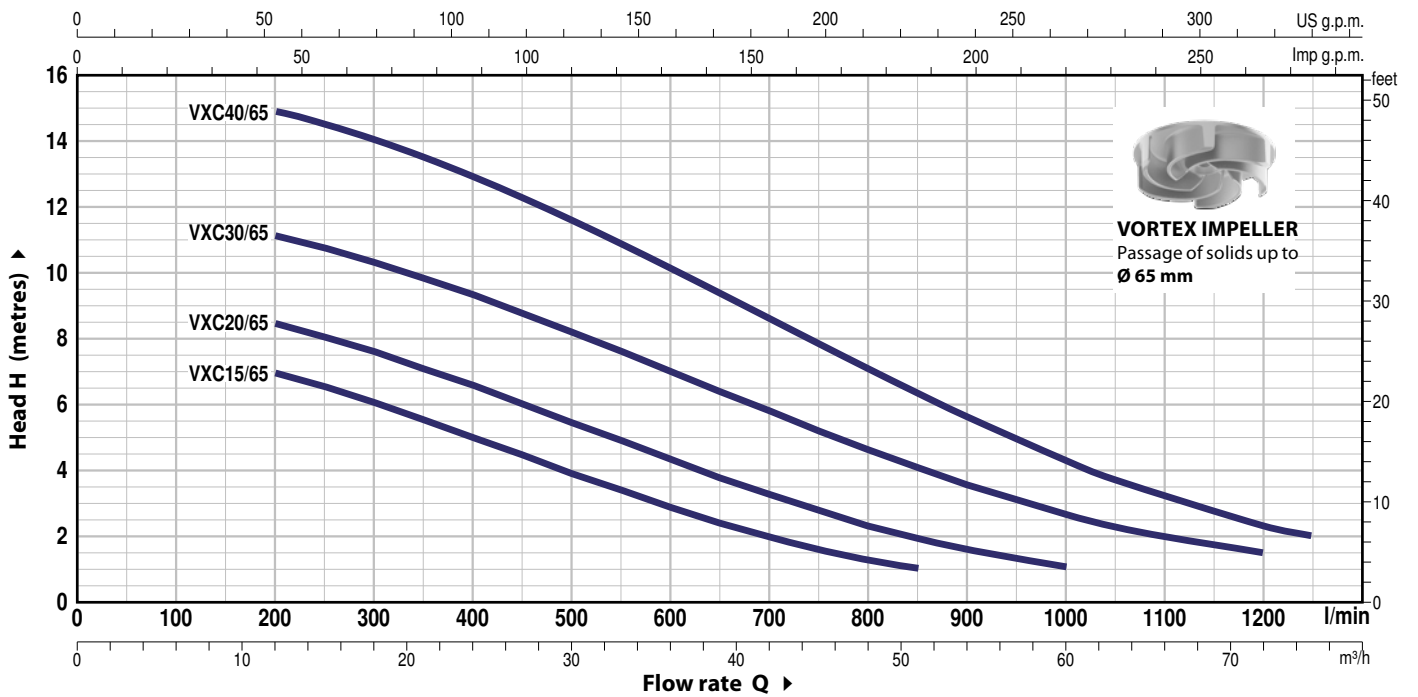
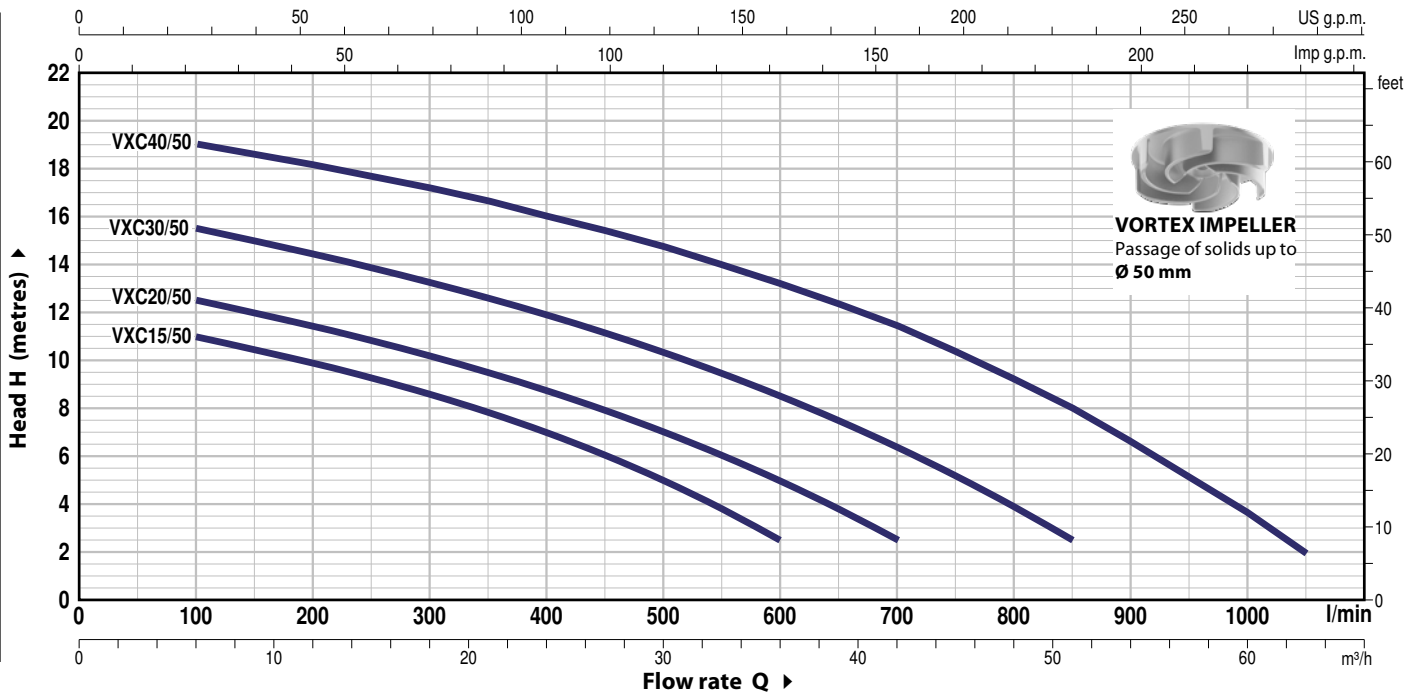
### GUARANTEE

► For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:

- three-phase
  - VXC 15-20-30-40/50
  - VXC 15-20-30-40/65

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	m <sup>3</sup> /h													
Single-phase	Three-phase	kW	HP		0	6	12	18	24	30	36	42	51	60	63	72	75	
				l/min	0	100	200	300	400	500	600	700	850	1000	1050	1200	1250	
VXCm 15/50	VXC 15/50	1.1	1.5	H metres	12.0	11.0	9.9	8.6	7.0	5.0	2.5							
VXCm 20/50	VXC 20/50	1.5	2		13.5	12.5	11.4	10.2	8.7	7.0	5.0	2.5						
VXCm 30/50	VXC 30/50	2.2	3		16.5	15.5	14.4	13.2	11.9	10.3	8.5	6.4	2.5					
-	VXC 40/50	3	4		20.0	19.0	18.1	17.1	16.0	14.7	13.2	11.4	8.0	3.6	2.0			
VXCm 15/65	VXC 15/65	1.1	1.5	8.0	-	7.0	6.0	5.0	3.9	2.8	2.0	1.0						
VXCm 20/65	VXC 20/65	1.5	2	9.5	-	8.5	7.6	6.6	5.4	4.3	3.3	2.0	1.0					
VXCm 30/65	VXC 30/65	2.2	3	12.0	-	11.1	10.3	9.3	8.2	7.0	5.8	4.1	2.6	2.3	1.5			
-	VXC 40/65	3	4	15.5	-	15.0	14.0	13.0	11.6	10.1	8.6	6.3	4.3	3.7	2.3	2.0		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
<b>2 IMPELLER</b>	Precision cast stainless steel AISI 304 VORTEX type
<b>3 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
<b>4 MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
<b>5 MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3

### 8 ELECTRIC MOTOR

**VXCm 15-20-30:** single-phase 230 V - 50 Hz  
with thermal overload protector incorporated into the winding

**VXC:** three-phase 400 V - 50 Hz.  
with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

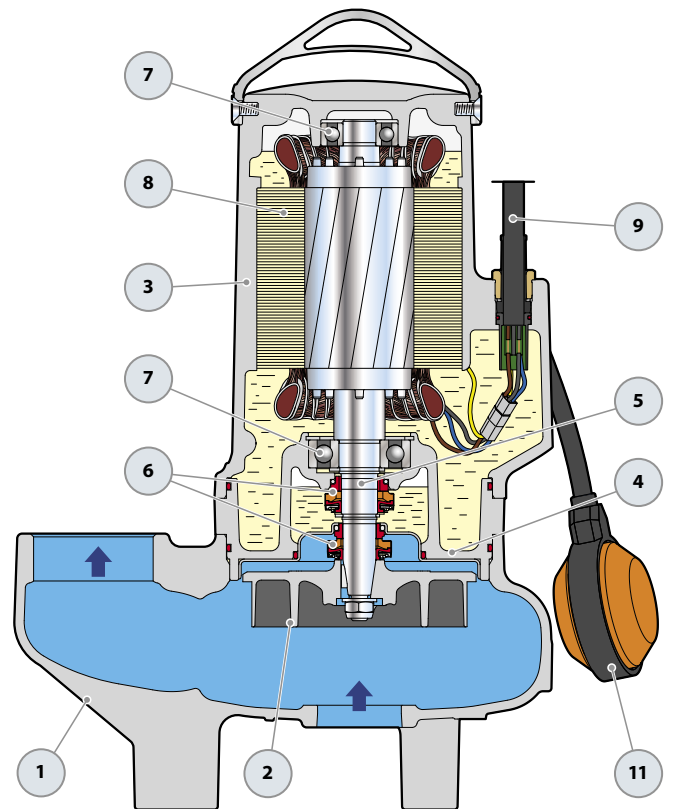
### 10 CONTROL BOX for VXCm 15-20-30

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

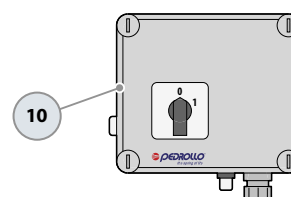
(only for single-phase versions)



### OPTIONAL – Supporting Base

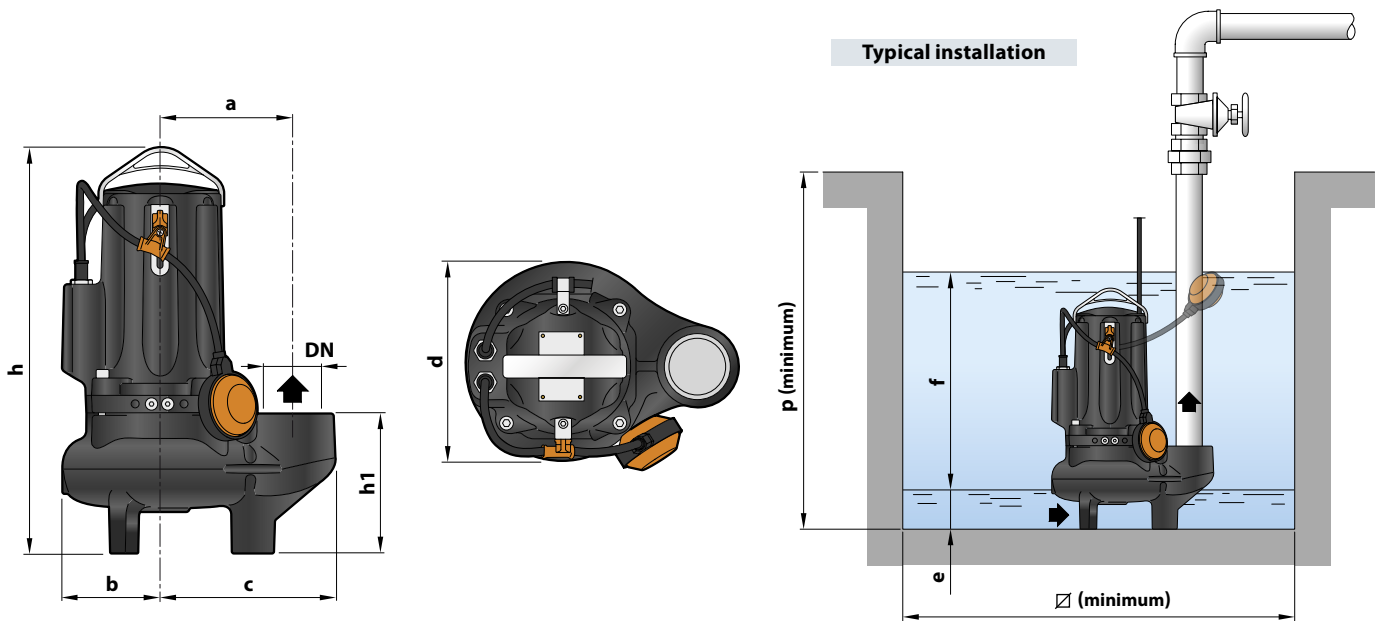


### Standard features



Control box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids mm	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	f	p	∅	1~	3~
VXCm 15/50	VXC 15/50	2½"	∅ 50	162	119	212	487	167	242	75	variable	800	800	42.0	40.5
VXCm 20/50	VXC 20/50						513   487							43.0	42.0
VXCm 30/50	VXC 30/50						513							48.0	43.0
-	VXC 40/50						-							-	48.0
VXCm 15/65	VXC 15/65	3"	∅ 65	180	120	240	521	201	246	85	variable	800	800	44.0	42.5
VXCm 20/65	VXC 20/65						547   521							45.0	44.0
VXCm 30/65	VXC 30/65						547							50.0	45.0
-	VXC 40/65						-							-	50.0

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
Single-phase	230 V	240 V
VXCm 15/50	8.5 A	8.1 A
VXCm 20/50	9.0 A	8.6 A
VXCm 30/50	12.0 A	11.5 A
VXCm 15/65	8.5 A	8.1 A
VXCm 20/65	9.0 A	8.6 A
VXCm 30/65	12.0 A	11.5 A

MODEL	VOLTAGE		
Three-phase	230-240 V	400-415 V	690-720 V
VXC 15/50	5.9 A	3.4 A	2.0 A
VXC 20/50	6.4 A	3.7 A	2.1 A
VXC 30/50	8.7 A	5.0 A	2.9 A
VXC 40/50	10.7 A	6.2 A	3.5 A
VXC 15/65	5.9 A	3.4 A	2.0 A
VXC 20/65	6.4 A	3.7 A	2.1 A
VXC 30/65	8.7 A	5.0 A	2.9 A
VXC 40/65	10.7 A	6.2 A	3.6 A

MODEL	CAPACITANCE CAPACITORS
Single-phase	(230 V o 240 V)
VXCm 15/50 VXCm 15/65	50 µF 450 VL
VXCm 20/50 VXCm 20/65	50 µF 450 VL
VXCm 30/50 VXCm 30/65	60 µF 450 VL

# MC

## Submersible pumps **DOUBLE-CHANNEL**

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use

- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new **MC**, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new **MC** electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if partially uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The **MC** series is equipped with a double-channel impeller, ideal for the discharge of large volumes of waste water.



### PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m<sup>3</sup>/h)
- Head up to **25 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for MC /50
  - up to **Ø 65 mm** for MC /65
- Minimum immersion depth for continuous service:
  - **320 mm** for MC /50
  - **360 mm** for MC /65

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

**MC** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

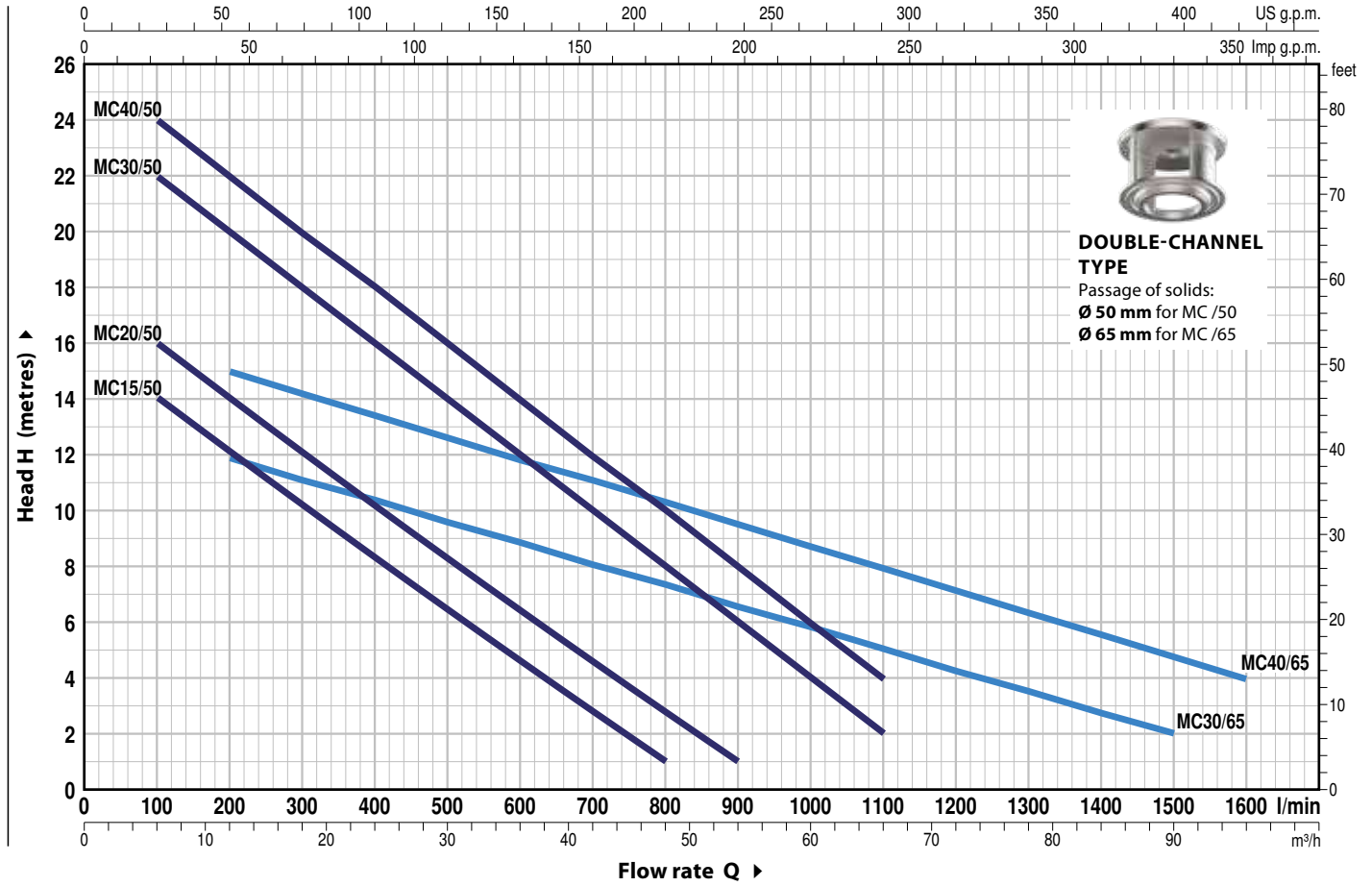
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### GUARANTEE

- ▣ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
  - three-phase
    - **MC 15-20-30-40/50**
    - **MC 30-40/65**

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P <sub>2</sub> )		Q	H metres																
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96	
				l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1600		
MCm 15/50	MC 15/50	1.1	1.5	H metres	16	14	12.5	10.5	8.5	6.5	4.5	3	1								
MCm 20/50	MC 20/50	1.5	2		18	16	14	12.5	10.5	8.5	6.5	5	3	1							
MCm 30/50	MC 30/50	2.2	3		24	22	20	18	16	14	12	10	8	6	4	2					
-	MC 40/50	3	4		25	24	22	20	18	16	14	12	10	8	6	4					
MCm 30/65	MC 30/65	2.2	3		13	-	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2			
-	MC 40/65	3	4		17	-	15	14	13.5	12.5	12	11	10.5	9.5	8.5	8	7	4.8	4		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
<b>2 IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
<b>3 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
<b>4 MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
<b>5 MOTOR SHAFT</b>	Stainless steel AISI 431

**6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

**7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3**

**8 ELECTRIC MOTOR**

**MCm 15-20-30:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**MC:** three-phase 400 V - 50 Hz. with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

**9 POWER CABLE**

**10 metres** long "H07 RN-F" cable

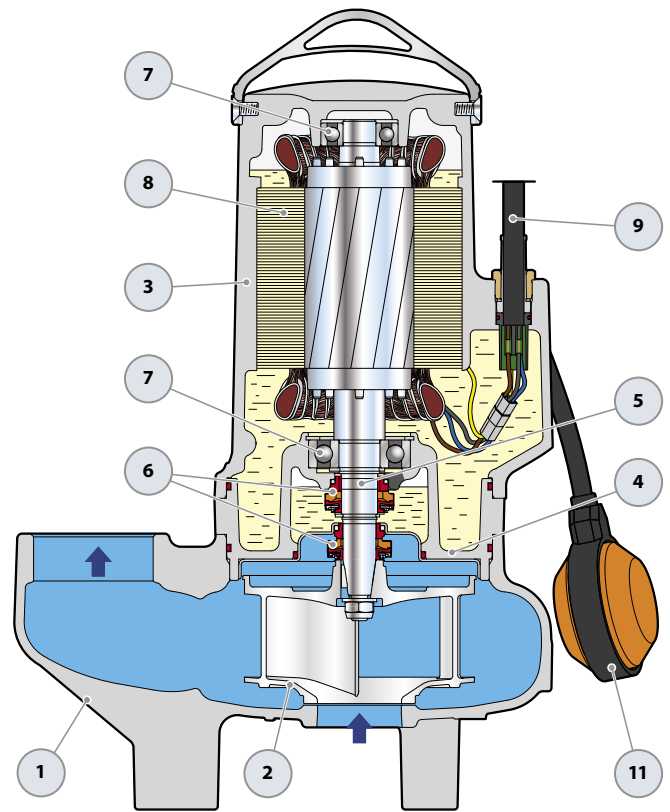
**10 CONTROL BOX for MCm 15-20-30**

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

**11 FLOAT SWITCH**

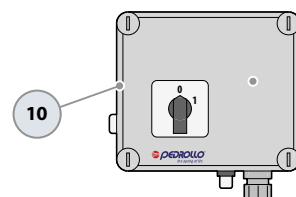
(only for single-phase versions)



**OPTIONAL – Supporting Base**

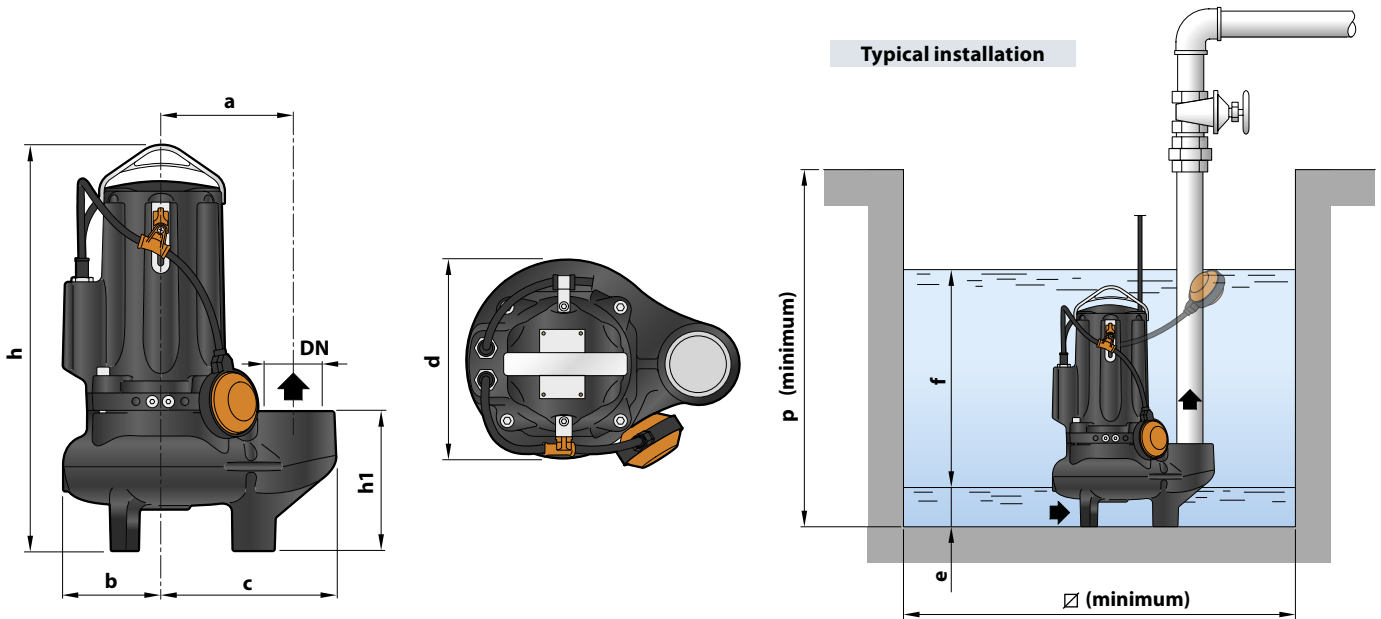


**Standard Equipment**



**Control Box**  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		PORT DN	Passage of solids mm	DIMENSIONS mm										kg	
Single-phase	Three-phase			a	b	c	h	h1	d	e	f	p	∅	1~	3~
MCm 15/50	MC 15/50	2½"	∅ 50	162	119	212	487	167	242	75	variable	800	800	42.0	40.5
MCm 20/50	MC 20/50						43.0							42.0	
MCm 30/50	MC 30/50						513   487							48.0	43.0
-	MC 40/50						513							-	48.0
MCm 30/65	MC 30/65	3"	∅ 65	180	120	240	547   521	201	246	85	variable	800	800	50.0	45.0
-	MC 40/65						547							-	50.0

## ABSORPTION AND CAPACITORS

MODEL	VOLTAGE	
	230 V	240 V
Single-phase	230 V	240 V
MCm 15/50	10.5 A	10.1 A
MCm 20/50	14.0 A	13.4 A
MCm 30/50	18.0 A	17.3 A
MCm 30/65	14.0 A	13.4 A

MODEL	VOLTAGE		
	230-240 V	400-415 V	690-720 V
Three-phase	230-240 V	400-415 V	690-720 V
MC 15/50	7.8 A	4.5 A	2.6 A
MC 20/50	8.7 A	5.0 A	2.9 A
MC 30/50	11.2 A	6.5 A	3.7 A
MC 40/50	12.1 A	7 A	4.1 A
MC 30/65	11.2 A	6.5 A	3.7 A
MC 40/65	13.0 A	7.5 A	4.3 A

MODEL	CAPACITANCE CAPACITORS
	(230 V o 240 V)
Single-phase	(230 V o 240 V)
MCm 15/50	50 µF 450 VL
MCm 20/50	50 µF 450 VL
MCm 30/50 MCm 30/65	60 µF 450 VL



# VXC-F

## VORTEX Submersible Pumps with flanged ports



- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new VXC-F, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new VXC-F electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if completely uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The VXC-F series is equipped with an extremely reliable and robust VORTEX impeller with low risk of clogging.



### PERFORMANCE RANGE

- Flow rate up to **1250 l/min** (75 m<sup>3</sup>/h)
- Head up to **20 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for VXC /50-F
  - up to **Ø 65 mm** for VXC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

The VXC-F series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

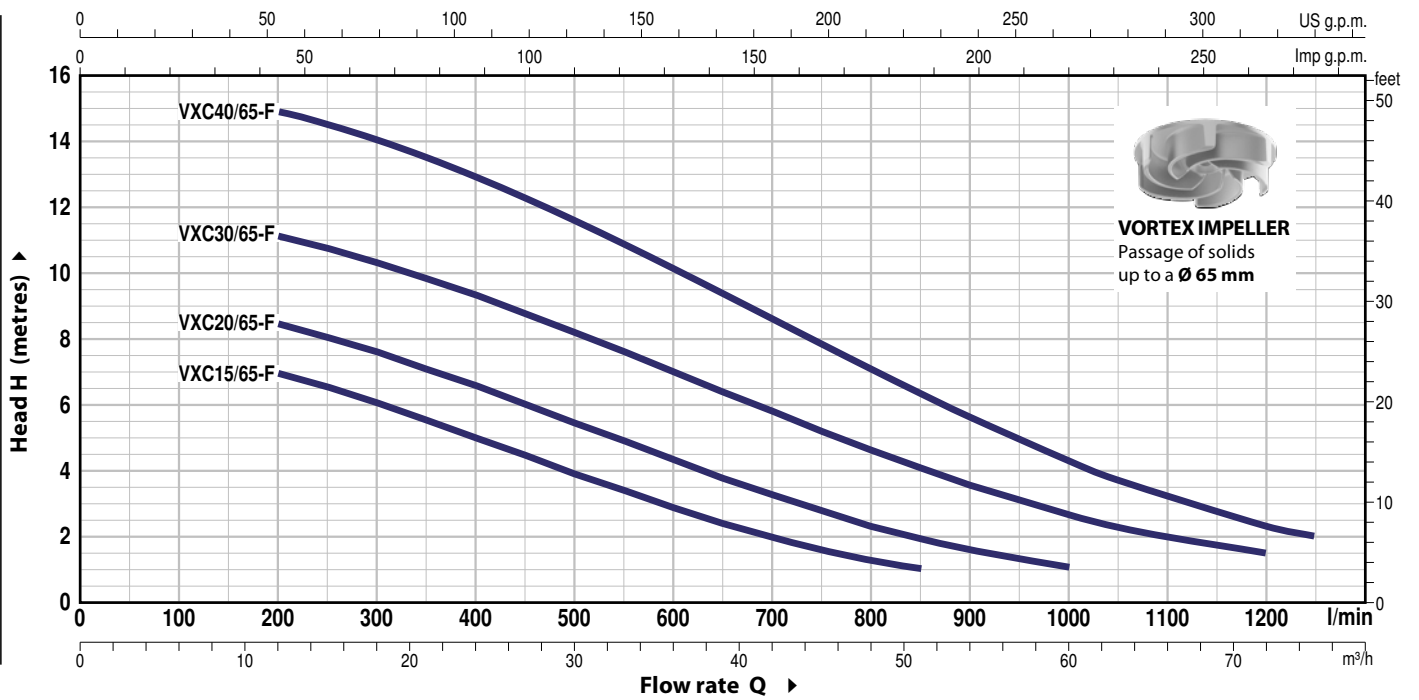
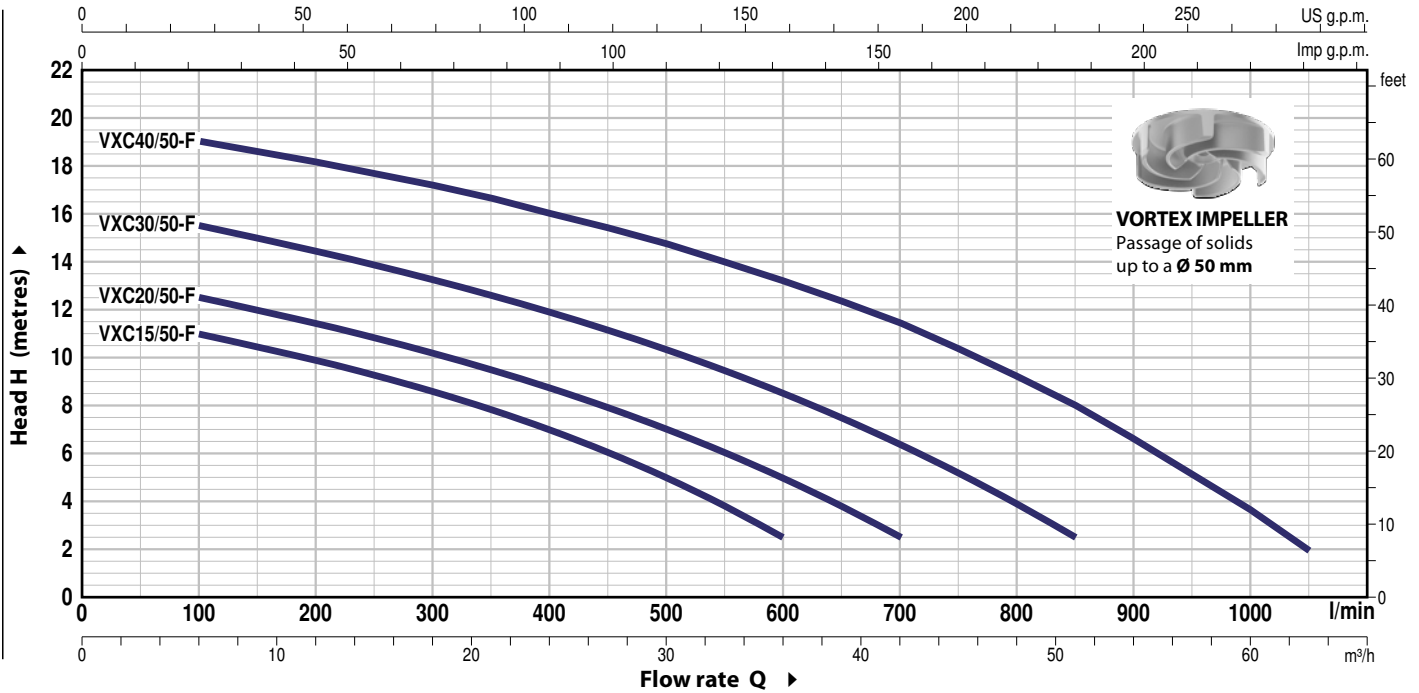
- Connection support KIT
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

### GUARANTEE

- ▶ **For the following versions, to validate the guarantee, the built-in thermal overload protector must be connected to the control box:**
  - three-phase
    - **VXC 15-20-30-40/50-F**
    - **VXC 15-20-30-40/65-F**

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL		POWER (P2)		Q	Flow rate														
Single-phase	Three-phase	kW	HP		m³/h	0	6	12	18	24	30	36	42	51	60	63	72	75	
				l/min	0	100	200	300	400	500	600	700	850	1000	1050	1200	1250		
VXCm 15/50-F	VXC 15/50-F	1.1	1.5	H metri	12.0	11.0	9.9	8.6	7.0	5.0	2.5								
VXCm 20/50-F	VXC 20/50-F	1.5	2		13.5	12.5	11.4	10.2	8.7	7.0	5.0	2.5							
VXCm 30/50-F	VXC 30/50-F	2.2	3		16.5	15.5	14.4	13.2	11.9	10.3	8.5	6.4	2.5						
-	VXC 40/50-F	3	4		20.0	19.0	18.1	17.1	16.0	14.7	13.2	11.4	8.0	3.6	2.0				
VXCm 15/65-F	VXC 15/65-F	1.1	1.5		8.0	-	7.0	6.0	5.0	3.9	2.8	2.0	1.0						
VXCm 20/65-F	VXC 20/65-F	1.5	2		9.5	-	8.5	7.6	6.6	5.4	4.3	3.3	2.0	1.0					
VXCm 30/65-F	VXC 30/65-F	2.2	3		12.0	-	11.1	10.3	9.3	8.2	7.0	5.8	4.1	2.6	2.3	1.5			
-	VXC 40/65-F	3	4		15.5	-	15.0	14.0	13.0	11.6	10.1	8.6	6.3	4.3	3.7	2.3	2.0		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
<b>2 IMPELLER</b>	VORTEX type in cast iron with an Epoxy Electro Coating treatment
<b>3 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
<b>4 MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
<b>5 MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3

### 8 ELECTRIC MOTOR

**VXCm 15-20-30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**VXC-F:** three-phase 400 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

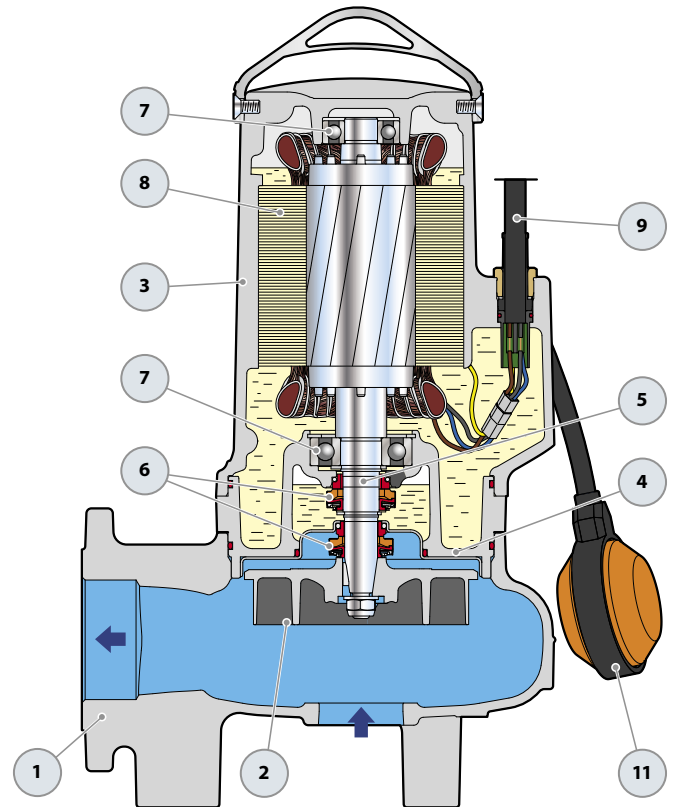
### 10 CONTROL BOX for VXCm 15-20-30-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

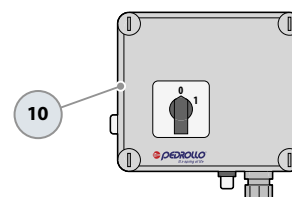
(only for single-phase versions)



### OPTIONAL – Supporting Base

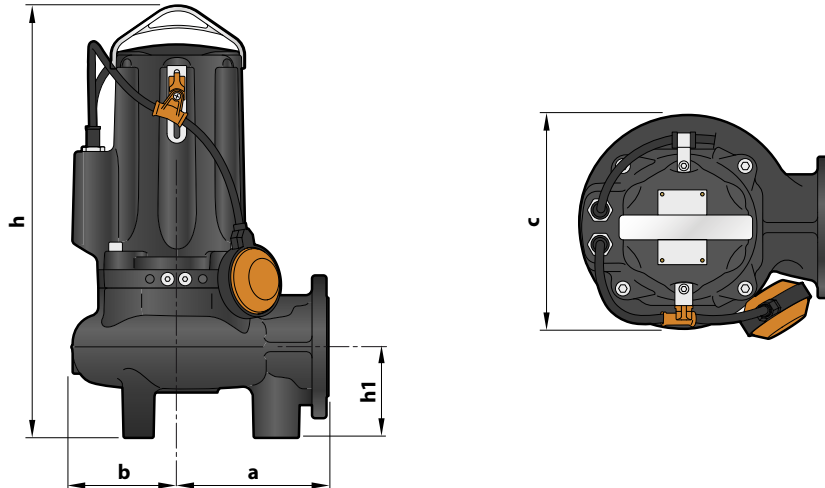


### Standard Equipment



Control Box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		Passage of solids mm	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
VXCm 15/50-F	VXC 15/50-F	Ø 50	170	119	242	487	102	43.5	42.0
VXCm 20/50-F	VXC 20/50-F					513   487			
VXCm 30/50-F	VXC 30/50-F					513			
-	VXC 40/50-F					513			
VXCm 15/65-F	VXC 15/65-F	Ø 65	210	120	246	521	123	46.0	44.5
VXCm 20/65-F	VXC 20/65-F					547   521			
VXCm 30/65-F	VXC 30/65-F					547			
-	VXC 40/65-F					547			

## ABSORPTION AND CAPACITORS

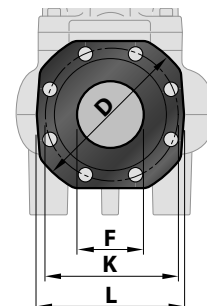
MODEL	VOLTAGE	
	230 V	240 V
Single-phase	230 V	240 V
VXCm 15/50-F	8.5 A	8.1 A
VXCm 20/50-F	9.0 A	8.6 A
VXCm 30/50-F	12.0 A	11.5 A
VXCm 15/65-F	8.5 A	8.1 A
VXCm 20/65-F	9.0 A	8.6 A
VXCm 30/65-F	12.0 A	11.5 A

MODEL	VOLTAGE		
	230-240 V	400-415 V	690-720 V
Three-phase	230-240 V	400-415 V	690-720 V
VXC 15/50-F	5.9 A	3.4 A	2.0 A
VXC 20/50-F	6.4 A	3.7 A	2.1 A
VXC 30/50-F	8.7 A	5.0 A	2.9 A
VXC 40/50-F	10.7 A	6.2 A	3.5 A
VXC 15/65-F	5.9 A	3.4 A	2.0 A
VXC 20/65-F	6.4 A	3.7 A	2.1 A
VXC 30/65-F	8.7 A	5.0 A	2.9 A
VXC 40/65-F	10.7 A	6.2 A	3.6 A

MODEL	CAPACITANCE CAPACITORS	
	(230 V o 240 V)	
Single-phase	(230 V o 240 V)	
VXCm 15/50-F	50 µF 450 VL	
VXCm 15/65-F	50 µF 450 VL	
VXCm 20/50-F	50 µF 450 VL	
VXCm 20/65-F	50 µF 450 VL	
VXCm 30/50-F	60 µF 450 VL	
VXCm 30/65-F	60 µF 450 VL	

## PORT FLANGE

MODEL	FLANGE	F	K	D	L	HOLES	
						N°	Ø (mm)
VXC /50-F	DN65 (PN10)	2½"	145	185	160	4	18
VXC /65-F	DN80 (PN10)	3"	160	200	180	8	18



# MC-F

## Submersible pumps **DOUBLE-CHANNEL** with flanged ports

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use

- ※ An innovative project by Pedrollo's Research and Development department, has resulted in the new **MC-F**, a complete range of extremely robust and reliable electric pumps.
- ※ Thanks to the enhanced oversizing of the oil-bath electric motor, shaft and bearings, the new **MC-F** electric pumps guarantee an unprecedented service life, with high hydraulic performance, low operating costs and easy maintenance. The oil-bath motor also allows continuous operation of the electric pump, even if partially uncovered.
- ※ They are recommended in all installations for pumping waste water with suspended solid bodies up to 65 mm diameter.
- ※ The **MC-F** series is equipped with a double-channel impeller, ideal for the discharge of large volumes of waste water.



### PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m<sup>3</sup>/h)
- Head up to **25 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for MC /50-F
  - up to **Ø 65 mm** for MC /65-F
- Minimum immersion depth for continuous service:
  - **320 mm** for MC /50-F
  - **360 mm** for MC /65-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

### INSTALLATION AND USE

**MC-F** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

- Patent n° IT0001428923

### OPTIONS AVAILABLE ON REQUEST

- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

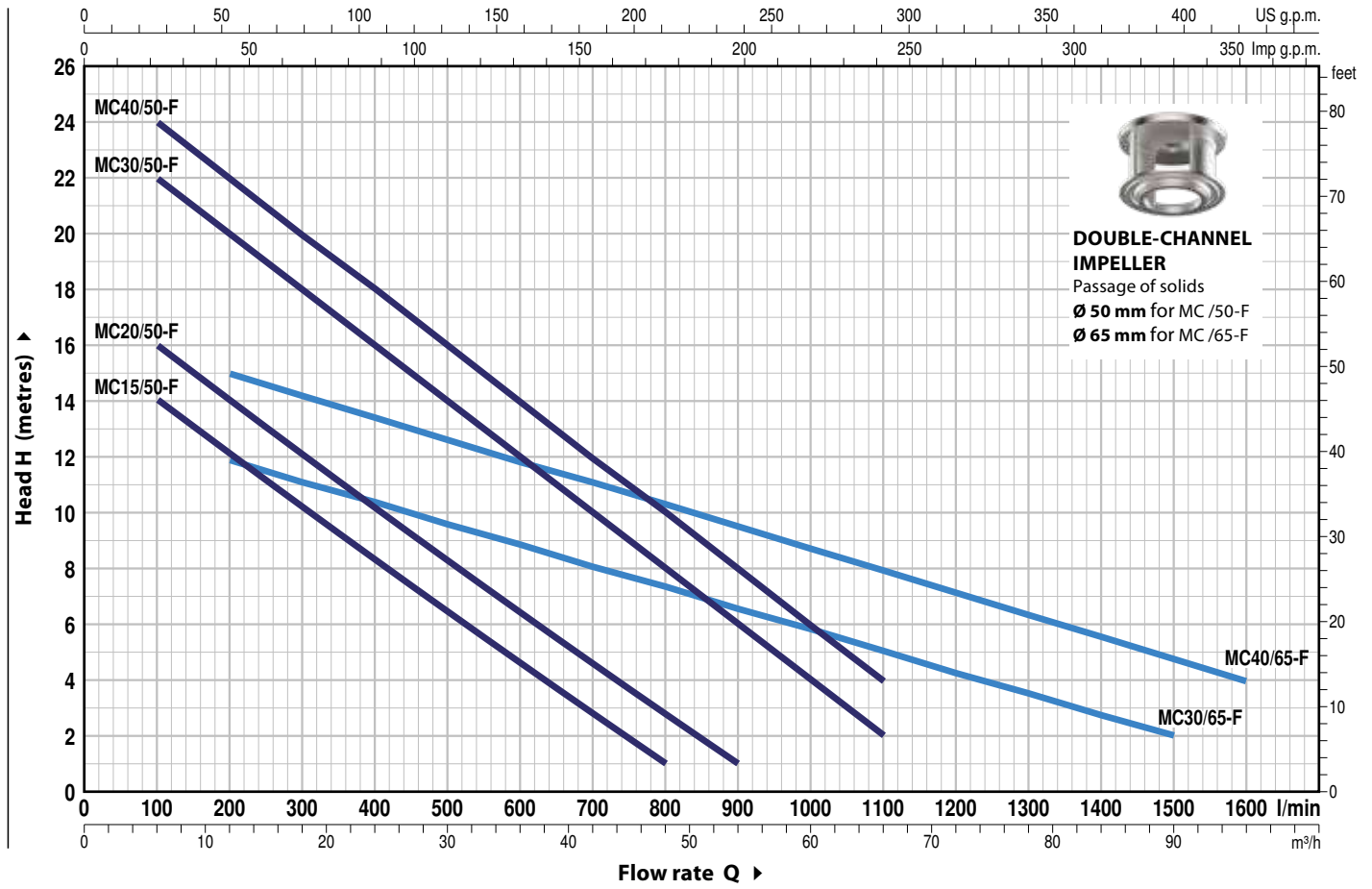
### GUARANTEE

⇒ **For the following versions, to validate the guarantee, the built-in thermal overload guarantee, the built-in thermal overload control box:**

- three-phase
  - **MC 15-20-30-40/50-F**
  - **MC 30-40/65-F**

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 min<sup>-1</sup>**



MODEL		POWER (P2)		Q	H metres															
Single-phase	Three-phase	kW	HP		m <sup>3</sup> /h	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96
				l/min	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1500	1600	
MCm 15/50-F	MC 15/50-F	1.1	1.5		16	14	12.5	10.5	8.5	6.5	4.5	3	1							
MCm 20/50-F	MC 20/50-F	1.5	2		18	16	14	12.5	10.5	8.5	6.5	5	3	1						
MCm 30/50-F	MC 30/50-F	2.2	3		24	22	20	18	16	14	12	10	8	6	4	2				
-	MC 40/50-F	3	4		25	24	22	20	18	16	14	12	10	8	6	4				
MCm 30/65-F	MC 30/65-F	2.2	3		13	-	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2		
-	MC 40/65-F	3	4		17	-	15	14	13.5	12.5	12	11	10.5	9.5	8.5	8	7	4.8	4	

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

<b>1 PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment, with flanged and threaded ports in compliance with ISO 228/1
<b>2 IMPELLER</b>	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
<b>3 MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
<b>4 MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
<b>5 MOTOR SHAFT</b>	Stainless steel AISI 431

### 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
STA-22	Ø 22 mm	Motor side	Ceramic	Graphite	NBR
STA-20	Ø 20 mm	Pump side	Silicon carbide	Silicon carbide	NBR

### 7 BEARINGS 6305 CM D 6 / 6204 ZZ - C3

### 8 ELECTRIC MOTOR

**MCm 15-20-30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

**MC-F:** three-phase 400 V - 50 Hz. with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

- Insulation: class F
- Protection: IP X8

### 9 POWER CABLE

10 metres long "H07 RN-F" cable

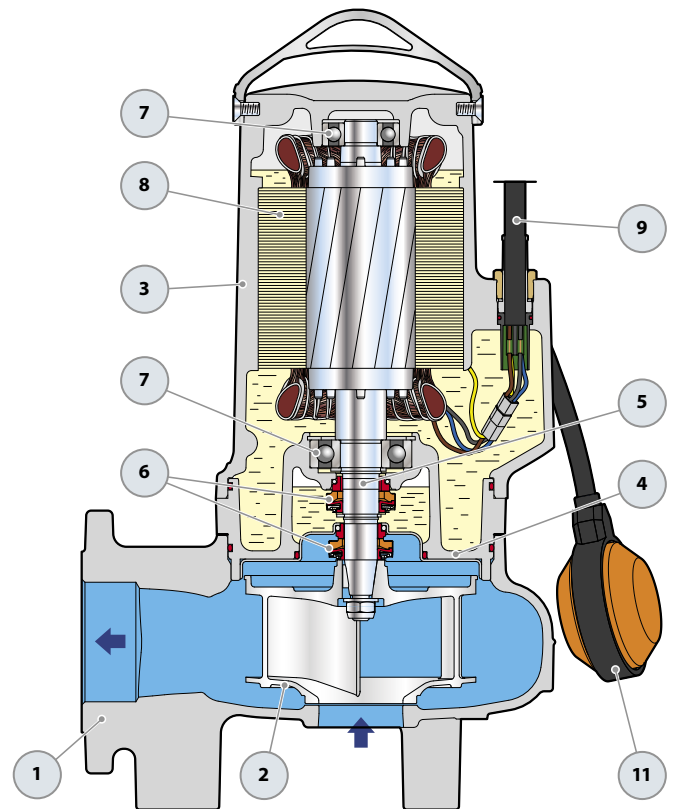
### 10 CONTROL BOX for MCm 15-20-30-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 11 FLOAT SWITCH

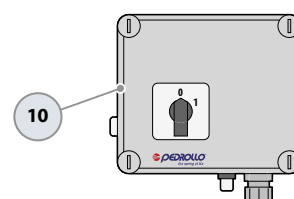
(only for single-phase versions)



### OPTIONAL – Supporting Base

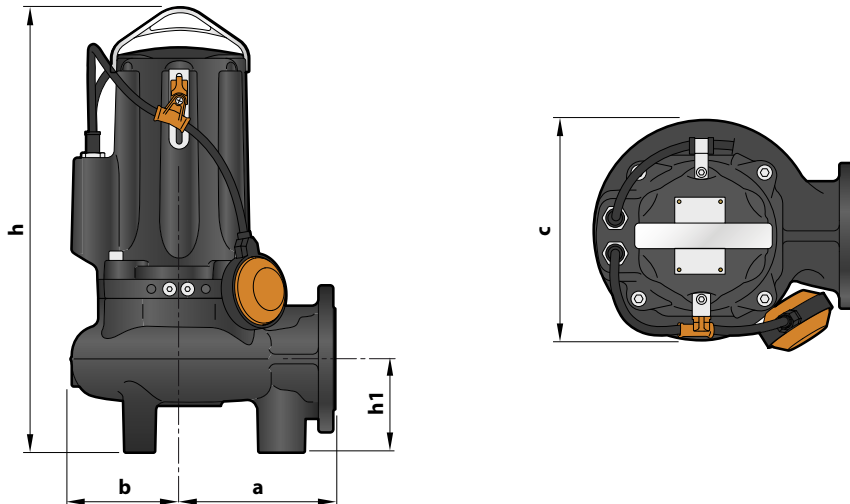


### Standard Equipment



Control Box  
(only for single-phase versions)

## DIMENSIONS AND WEIGHT



MODEL		Passage of solids mm	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
MCm 15/50-F	MC 15/50-F	Ø 50	170	119	242	487	102	43.5	42.0
MCm 20/50-F	MC 20/50-F					513   487		44.5	43.5
MCm 30/50-F	MC 30/50-F					513		49.5	44.5
-	MC 40/50-F					-		-	49.5
MCm 30/65-F	MC 30/65-F	Ø 65	210	120	246	547   521	123	52.0	47.0
-	MC 40/65-F					547		-	52.0

## ABSORPTION AND CAPACITORS

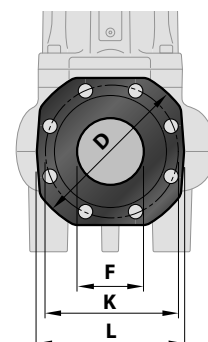
MODEL	VOLTAGE	
Single-phase	230 V	240 V
MCm 15/50-F	10.5 A	10.1 A
MCm 20/50-F	14.0 A	13.4 A
MCm 30/50-F	18.0 A	17.3 A
MCm 30/65-F	14.0 A	13.4 A

MODEL	VOLTAGE		
Three-phase	230-240 V	400-415 V	690-720 V
MC 15/50-F	7.8 A	4.5 A	2.6 A
MC 20/50-F	8.7 A	5.0 A	2.9 A
MC 30/50-F	11.2 A	6.5 A	3.7 A
MC 40/50-F	12.1 A	7 A	4.1 A
MC 30/65-F	11.2 A	6.5 A	3.7 A
MC 40/65-F	13.0 A	7.5 A	4.3 A

MODEL	CAPACITANCE CAPACITORS
Single-phase	(230 V or 240 V)
MCm 15/50-F	50 µF 450 VL
MCm 20/50-F	50 µF 450 VL
MCm 30/50-F	60 µF 450 VL
MCm 30/65-F	60 µF 450 VL

## PORT FLANGE

MODEL	FLANGE	F	K mm	D mm	L mm	HOLES	
						N°	Ø (mm)
MC /50-F	DN65 (PN10)	2½"	145	185	160	4	18
MC /65-F	DN80 (PN10)	3"	160	200	180	8	18





# SEWAGE LIFTING SYSTEM VXC-F – MC-F



## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VXC /50-F, MC /50-F</b>	Cod. ASSVXCF051	DN <b>2"</b>
--------------------------------	-----------------	--------------

Kit consisting of:

1. footing connection
2. slide guide with screws and seals
3. support for the guide tubes



## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For <b>VXC /50-F, MC /50-F</b>	Cod. ASSVXCF051V	DN <b>2½"</b>
For <b>VXC /65-F, MC /65-F</b>	Cod. ASSVXCF071V	DN <b>3"</b>

Kit consisting of:

1. footing connection completo di controflangia
2. slide guide with screws and seals
3. support for the guide tubes



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For <b>VXC /50-F, MC /50-F</b>	Cod. ASSVXCF0704V	DN <b>3"</b>
For <b>VXC /65-F, MC /65-F</b>	Cod. ASSVXCF0705V	

Kit consisting of:

1. footing connection completo di controflangia
2. slide guide with screws and seals
3. support for the guide tubes

## ACCESSORIES CAN BE ORDERED

### SLIDE GUIDE (Also to be ordered separately)

For <b>VXC /50-F, MC /50-F</b> with guide tubes Ø ¾"	Cod. ASSFL0017
For <b>VXC /65-F, MC /65-F</b> with guide tubes Ø ¾"	Cod. ASSFL0018
For <b>VXC /50-F, MC /50-F</b> with guide tubes Ø 2"	Cod. ASSFL071
For <b>VXC /65-F, MC /65-F</b> with guide tubes Ø 2"	Cod. ASSFL072

Complete with screws and seals

### INTERMEDIATE SUPPORT (To be ordered separately)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
For guide tubes Ø 2"	Cod. 859SV349INTFA

**In order to ensure stability, insert the intermediate support:**

- every 2 metres with ¾" guide tubes (compulsory)
- every 3 metres with 2" guide tubes (recommended)

### GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
Guide tube Ø 2"	Cod. 54SARTG006

Maximum length of the tube plank: 6 metres

### INTERMEDIATE SUPPORT

For guide tubes Ø ¾"

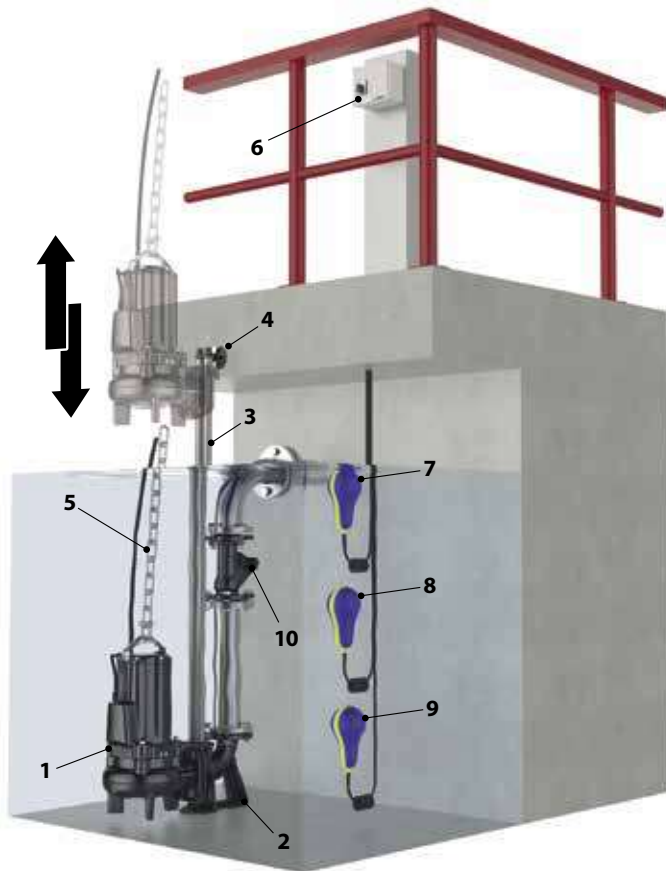


For guide tubes Ø 2"





## STANDARD INSTALLATION



1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. Lifting chain
6. Control box
7. Alarm float switch
8. Starting float switch
9. Stop float switch
10. Non-return valve



*The features and specifications here in stated are in no way binding for the manufacturer.  
Pedrollo S.p.A. is free to modify the product at any time without previous notice.*

### Pedrollo S.p.A.

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**MADE IN ITALY**

# VX

VORTEX submersible pumps



**MADE IN ITALY**

 **PEDROLLO**<sup>®</sup>  
*the spring of life*

## VORTEX

- ※ **VX** electric pumps are **VORTEX** pumps, specially designed and made using the most advanced expertise of Pedrollo that can rely on 50 years of experience in pump construction.
- ※ **Made from stainless steel and exceptionally sturdy, abrasion-resistant, long-lasting, heavy-gauge cast iron, VX pumps are equipped with VORTEX type impellers, highly recommended for their reliability and low risk of clogging. These pumps are therefore suitable for draining foul, waste water, sewage, water mixed with solids, activated and putrid sludge.**
- ※ Thanks to enhanced oversizing of the electric motor, shaft and bearings, these new **VX** electric pumps guarantee unprecedented service life, high hydraulic performance, low operating costs and easy maintenance. The sturdy electric motor construction allows continuous mode operation even if partially uncovered.



### PERFORMANCE RANGE

- Flow rate up to **1800 l/min** (108 m<sup>3</sup>/h)
- Head up to **26 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth below the water level (with a properly long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids:
  - up to **Ø 50 mm** for VX 50
  - up to **Ø 65 mm** for VX 65
  - up to **Ø 80 mm** for VX 80
- **500 mm** minimum immersion depth for continuous service

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** power cable length

### INSTALLATION AND USE

Recommended in all installations for pumping sewage with suspended solids (up to 80 mm in diameter), wastewater, rain water, liquid manure, municipal blackwater and industrial waste.

Suitable for installation in sewers, tunnels, excavations, canals, underground parking lots, etc.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design No. 003863158-0002

### OPTIONS AVAILABLE ON REQUEST

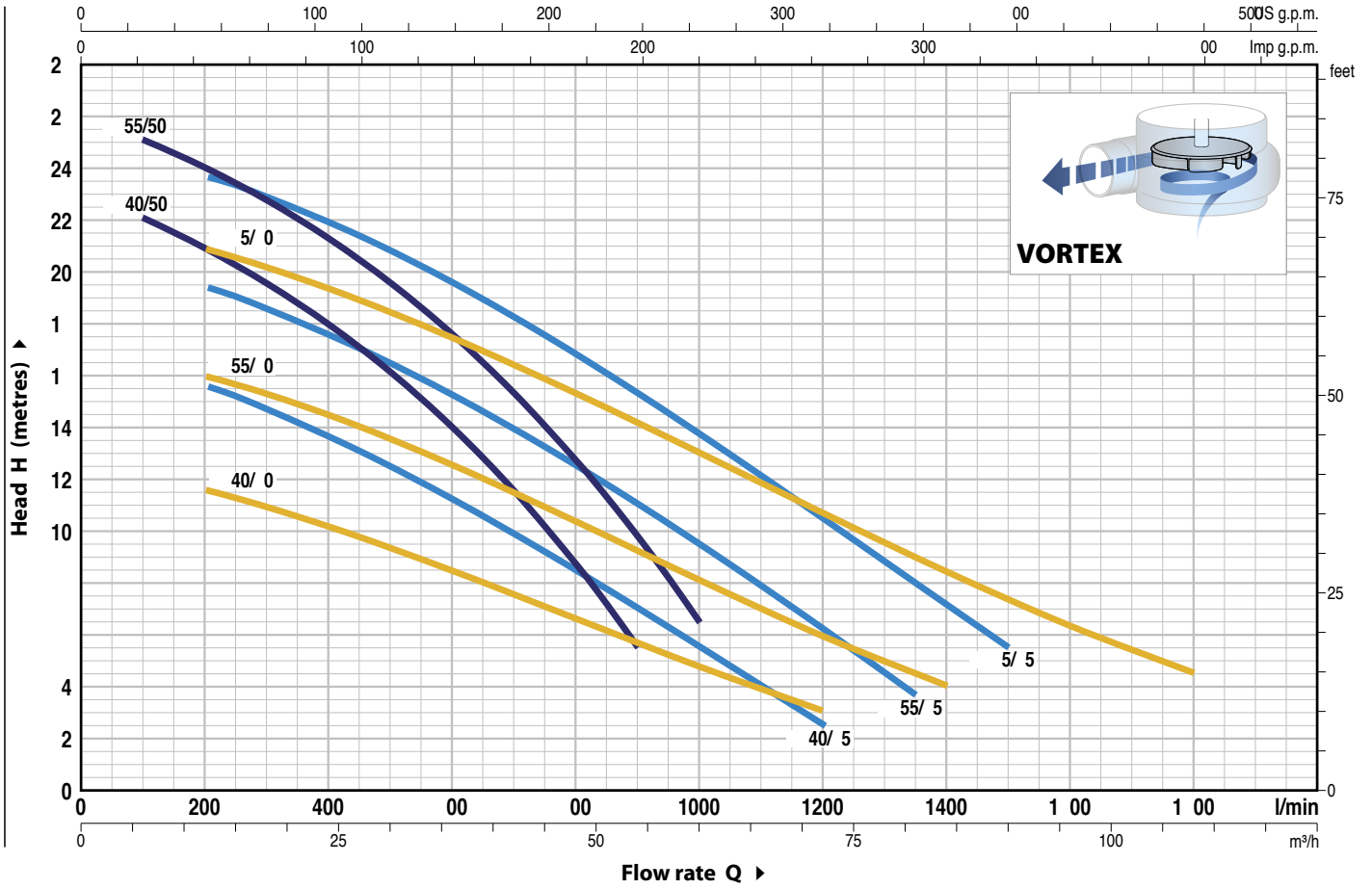
- Other voltage ratings or 60 Hz frequency

### WARRANTY

2 years in accordance with our general terms of sale

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	6	12	18	24	30	36	42	48	54	60
Three-phase				0	100	200	300	400	500	600	700	800	900	1000	
VX 40/50	3	4	H metres	23	22	20.8	19.5	17.9	16.1	13.9	11.5	8.7	5.5		
VX 55/50	4	5.5	H metres	26	25	23.9	22.7	21.2	19.5	17.5	15.3	12.7	9.8	6.5	

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	12	18	27	36	45	54	63	72	81	90
Three-phase				0	200	300	450	600	750	900	1050	1200	1350	1500	
VX 40/65	3	4	H metres	17	15.6	14.7	13.1	11.2	9.2	7	4.8	2.5			
VX 55/65	4	5.5	H metres	20.7	19.4	18.5	17	15.2	13.2	11	8.7	6.2	3.7		
VX 75/65	5.5	7.5	H metres	24.8	23.6	22.9	21.4	19.6	17.5	15.2	12.9	10.5	8	5.5	

MODEL	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	12	24	36	48	60	72	84	96	108	
Three-phase				0	200	400	600	800	1000	1200	1400	1600	1800		
VX 40/80	3	4	H metres	12.5	11.5	10.2	8.5	6.7	4.9	3					
VX 55/80	4	5.5	H metres	16.5	16	14.4	12.5	10.3	8.1	6	4				
VX 75/80	5.5	7.5	H metres	22	21	19.2	17.4	15.2	13	10.7	8.4	6.4	4.5		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT

## CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with Epoxy Electro Coating treatment, with flanged and threaded port in compliance with ISO 228/1
2	<b>IMPELLER</b>	Cast iron with Epoxy Electro Coating treatment, VORTEX type
3	<b>MOTOR CASING</b>	AISI 304 stainless steel
4	<b>MOTOR CASING PLATE</b>	Cast iron with Epoxy Electro Coating treatment
5	<b>MOTOR SHAFT</b>	AISI 431 stainless steel

## 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

	Seal Model	Shaft Diameter	Position	Materials		
				Stationary ring	Rotational ring	Elastomer
<b>VX 50</b>	<b>ED560-25</b>	<b>Ø 25 mm</b>	Motor side	Silicon carbide	Graphite	NBR
			Pump side	Silicon carbide	Silicon carbide	NBR
<b>VX 65-80</b>	<b>AR-27</b>	<b>Ø 27 mm</b>	Motor side	Silicon carbide	Graphite	NBR
	<b>AR-25</b>	<b>Ø 25 mm</b>	Pump side	Silicon carbide	Silicon carbide	NBR

## 7 BEARINGS 6306 ZZ C3 / 6304 ZZ C3

## 8 ELECTRIC MOTOR

three-phase 400 V - 50 Hz

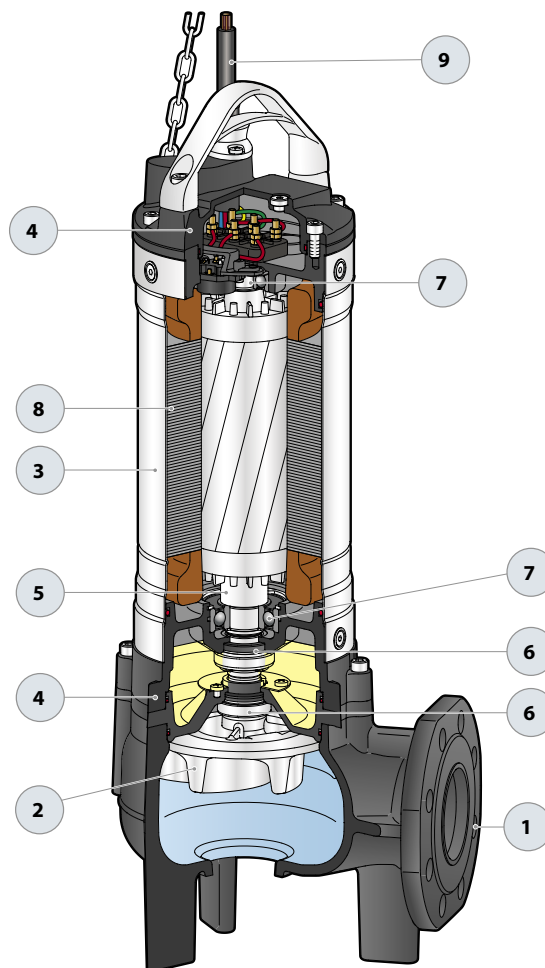
**with automatically resettable thermal motor protector built into the motor (THREE-PHASE)**

- Insulation: class F
- Protection: IP X8

## 9 POWER CABLE

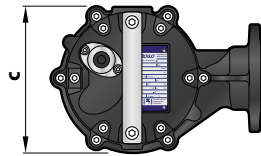
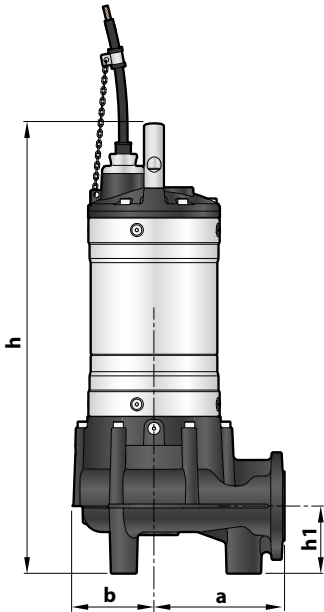
"H07 RN-F" type

**Standard length 10 metres**

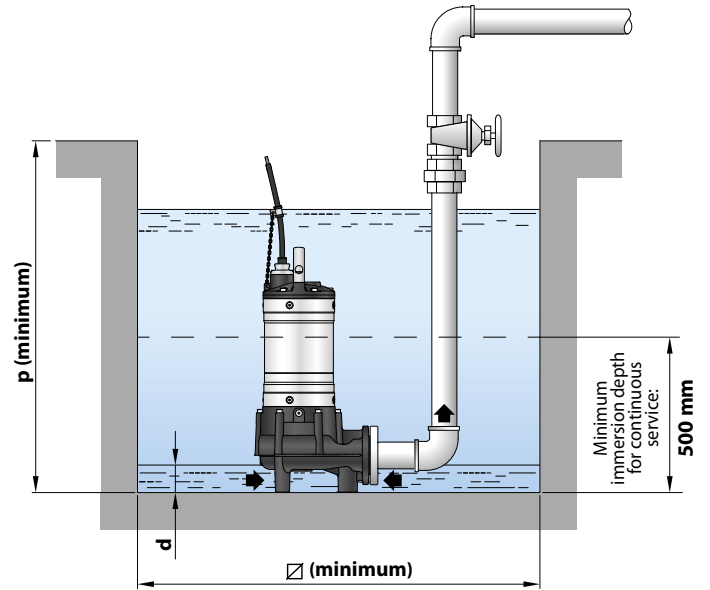


# VX 50 - 65 - 80

## DIMENSIONS AND WEIGHT



### Typical installation



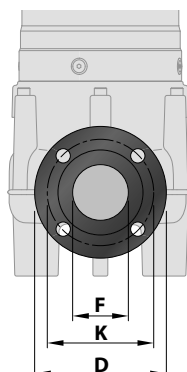
MODEL	Passage of solids	DIMENSIONS mm								kg
		a	b	c	h	h1	d	p	∅	
Three-phase										3~
VX 40/50	∅ 50 mm	170	106	193	602	100	55	700	500	50.0
VX 55/50					642					58.2
VX 40/65	∅ 65 mm	170	107	196	630	121	70	800	500	53.3
VX 55/65					670					60.0
VX 75/65					700					65.0
VX 40/80	∅ 80 mm	178	107	210	655	150	85	800	500	54.8
VX 55/80					695					61.5
VX 75/80					725					66.5

## PORT FLANGE

MODEL	FLANGE	F	K	D	HOLES		
					N°	∅ (mm)	
Three-phase	DN		mm	mm			
VX 40/50	50	2"	125	150	4	18	
VX 55/50	(PN10)						
VX 40/65	65	2½"	145	185	8	18	
VX 55/65							(PN10)
VX 75/65							
VX 40/80	80	3"	160	200	8	18	
VX 55/80							(PN10)
VX 75/80							

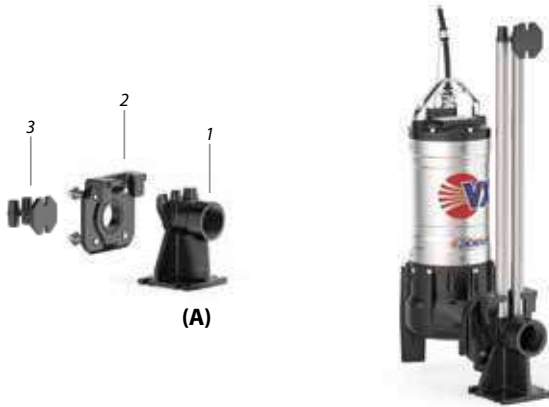
## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
VX 40/50	5.8 A
VX 55/50	7.0 A
VX 40/65	6.2 A
VX 55/65	7.7 A
VX 75/65	12.7 A
VX 40/80	6.0 A
VX 55/80	8.5 A
VX 75/80	13.5 A





# SEWAGE LIFTING SYSTEM VX40-50 – 65

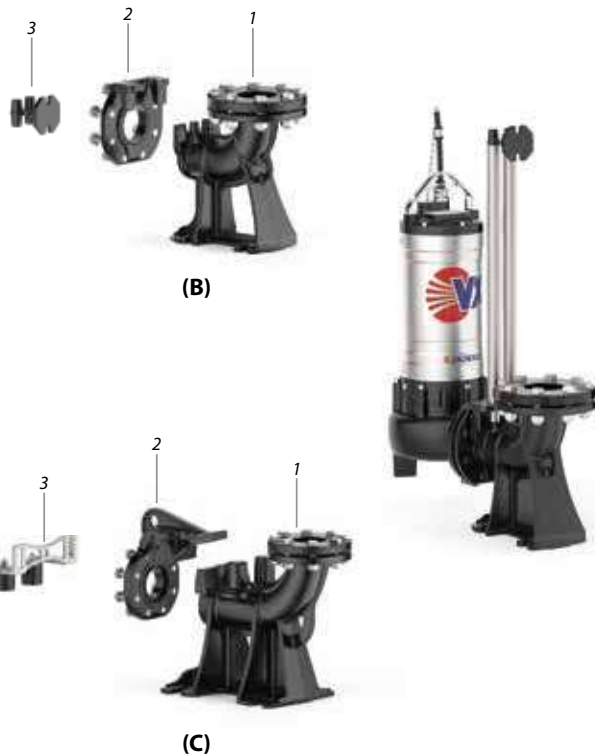


## HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES (A)

For <b>VX /40</b>	Code ASSPVX40	DN <b>2"</b>
For <b>VX /50</b>	Code ASSPVX50	DN <b>2"</b>

### Kit comprising:

1. footing connection;
2. slide guide with screws and seals;
3. support for guide tubes.

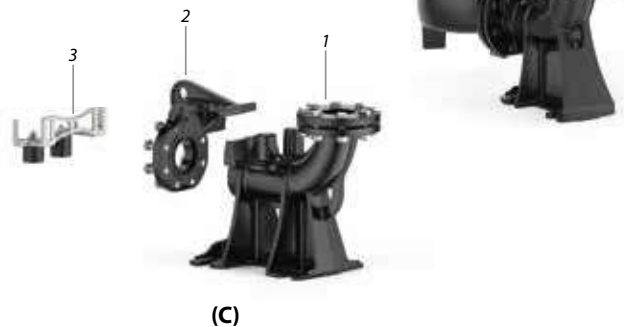


## VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES (B)

For <b>VX /40</b>	Code ASSPVX40V	DN <b>2½"</b>
For <b>VX /50</b>	Code ASSPVX503V	DN <b>2½"</b>
For <b>VX /65,</b>	Code ASSPVX653V	DN <b>3"</b>

### Kit comprising:

1. footing connection complete with counterflange;
2. slide guide with screws and seals;
3. support for guide tubes.



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES (C)

For <b>VX /50</b>	Code ASSPVX50V	DN <b>3"</b>
For <b>VX /65,</b>	Code ASSPVX65V	DN <b>3"</b>
For <b>VX /80,</b>	Code ASSVXCF0705V	DN <b>3"</b>

### Kit comprising:

1. footing connection complete with counterflange;
2. slide guide with screws and seals;
3. support for guide tubes.

## ACCESSORIES AVAILABLE ON ORDER

### SLIDE GUIDE (Can also be ordered separately)

For <b>VX /40</b> with guide tubes Ø ¾"	Code ASSFL011
For <b>VX /50</b> with guide tubes Ø ¾"	Code ASSFL009
For <b>VX /65,</b> with guide tubes Ø ¾"	Code ASSFL010
For <b>VX /50</b> with guide tubes Ø 2"	Code ASSFL050
For <b>VX /65,</b> with guide tubes Ø 2"	Code ASSFL065
For <b>VX /80,</b> with guide tubes Ø 2"	Code ASSFL072

- Complete with screws and seals



### INTERMEDIATE SUPPORT (on request)

For guide tubes Ø ¾"	Code 859SV340INTFA
For guide tubes Ø 2"	Code 859SV349INTFA



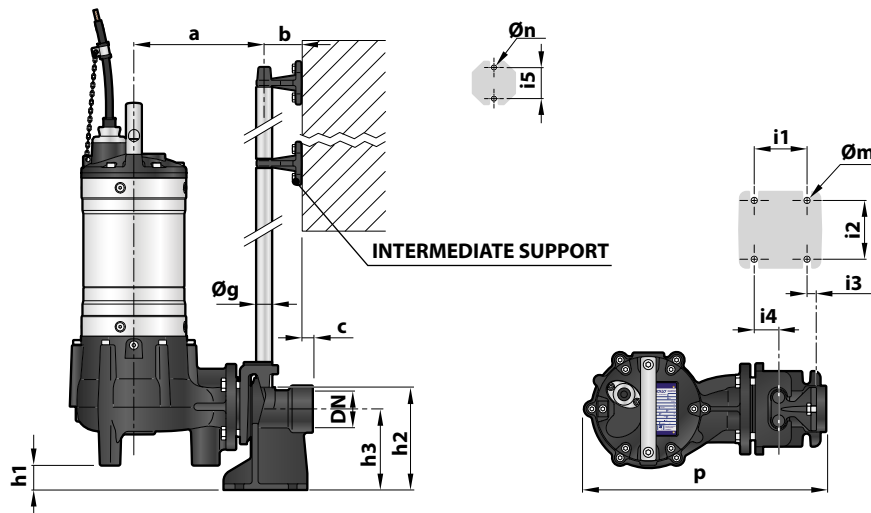
### GUIDE TUBES (AISI 304 stainless steel)

Guide tubes Ø ¾"	Code 54SARTG005
Guide tubes Ø 2"	Code 54SARTG006

- To ensure stability, install the intermediate support:
  - every 2 metres with ¾" guide tubes (mandatory);
  - every 3 metres with 2" guide tubes (recommended).
- Maximum length of the tube plank: 6 metres

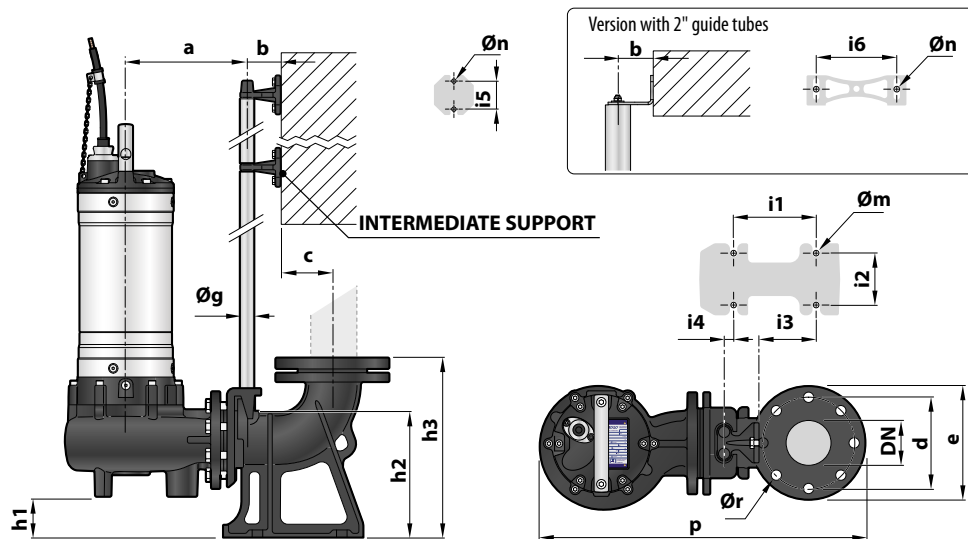


## DIMENSIONS (Horizontal delivery version)



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm														
			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn
VX /50	Ø 50	2"	214	61	17	400	30	165	130	85	94	16	40	50	¾"	12	11

## DIMENSIONS (Vertical delivery version)



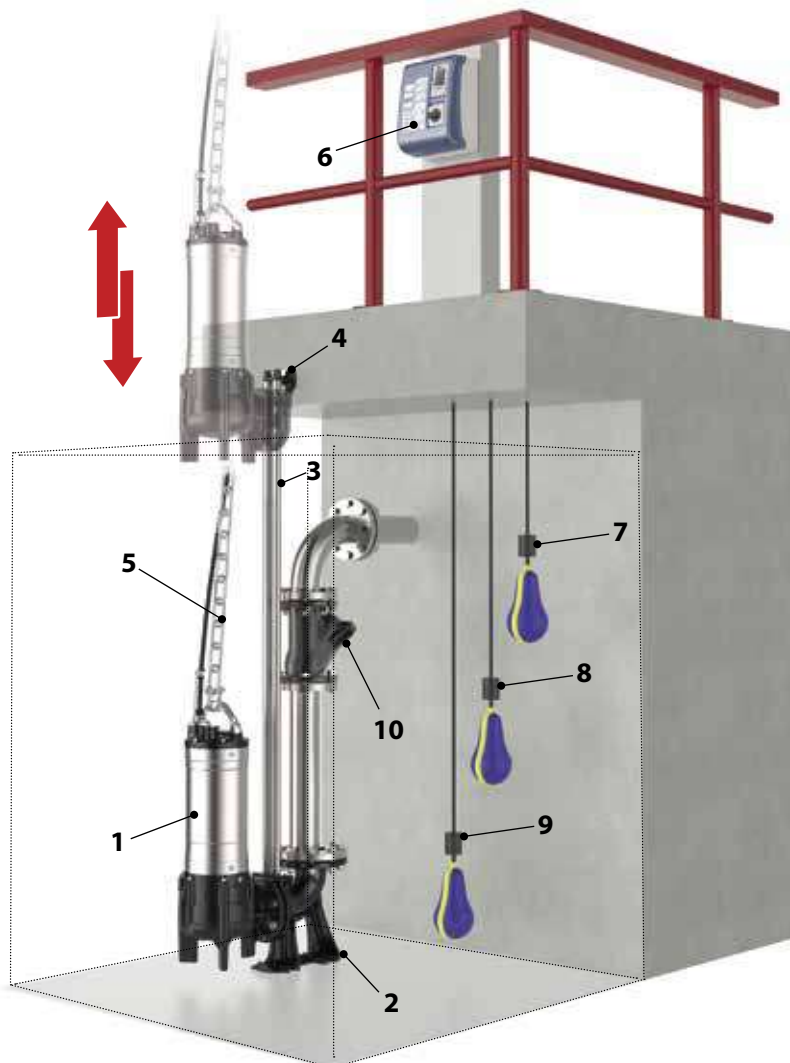
### Version with ¾" guide tubes

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																	
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
VX /50	Ø 50	2½"	211	61	52	125	165	506	28	164	216	120	72	62	3	50	¾"	14	11	18
VX /65	Ø 65	3"	213		69	150	190	537	48	216	280	130	112	84	15					

### Version with 2" guide tubes

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																		
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn	Ør
VX /50	Ø 50	3"	319	86	95	160	200	706	107	264	392	250	150	34	-	80	186	2"	22	13.5	18
VX /65	Ø 65							697	86												
VX /80	Ø 80							714	57												

## TYPICAL INSTALLATION



1. Pump
2. Footing connection
3. Guide tubes
4. Support for guide tubes
5. Lifting chain
6. Control box
7. Alarm float switch
8. Starting float switch
9. Stop float switch
10. Non-return valve



*The features and specifications here in are in no way binding for the manufacturer.  
Pedrollo S.p.A. reserves the right to modify the product in accordance with its production improvement policy at any time and without prior notice.*

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**MADE IN ITALY**

# BC

DOUBLE-CHANNEL submersible pumps



**MADE IN ITALY**

 **PEDROLLO**<sup>®</sup>  
*the spring of life*

## DOUBLE-CHANNEL

- ※ **BC** electric pumps are **DOUBLE CHANNEL** pumps, specially designed and made using the most advanced expertise of Pedrollo that can rely on 50 years of experience in pump construction.
- ※ **Made from stainless steel and exceptionally sturdy, abrasion-resistant, long-lasting, heavy-gauge cast iron, BC series pumps feature high-efficiency DOUBLE CHANNEL type impellers for high flow rates. They are therefore suitable for draining foul and waste water, sewage, water mixed with solids, activated and putrid sludge with solids in suspension up to 50 mm in diameter.**
- ※ Thanks to enhanced oversizing of the electric motor, shaft and bearings, these new **BC** electric pumps guarantee unprecedented service life, high hydraulic performance, low operating costs and easy maintenance. The sturdy electric motor construction allows continuous mode operation even if partially uncovered.



### PERFORMANCE RANGE

- Flow rate up to **2300 l/min** (138 m<sup>3</sup>/h)
- Head up to **31 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth below the water level (with a properly long power cable)
  - Maximum liquid temperature **+40 °C**
  - Passage of suspended solids:
    - up to **Ø 35 mm** for BC 35
    - up to **Ø 50 mm** for BC 50
- Minimum immersion depth for continuous service: **500 mm**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** power cable length

### INSTALLATION AND USE

Made from stainless steel and exceptionally sturdy, abrasion-resistant, long-lasting, heavy-gauge cast iron, the **BC** pump series features a **DOUBLE-CHANNEL** impeller and is therefore suitable for draining **dirty, sewage and waste water, and water mixed with putrid sludge.**

The pumps are suitable for installation in sewers, tunnels, excavations, canals, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 003863158-0001

### OPTIONS AVAILABLE ON REQUEST

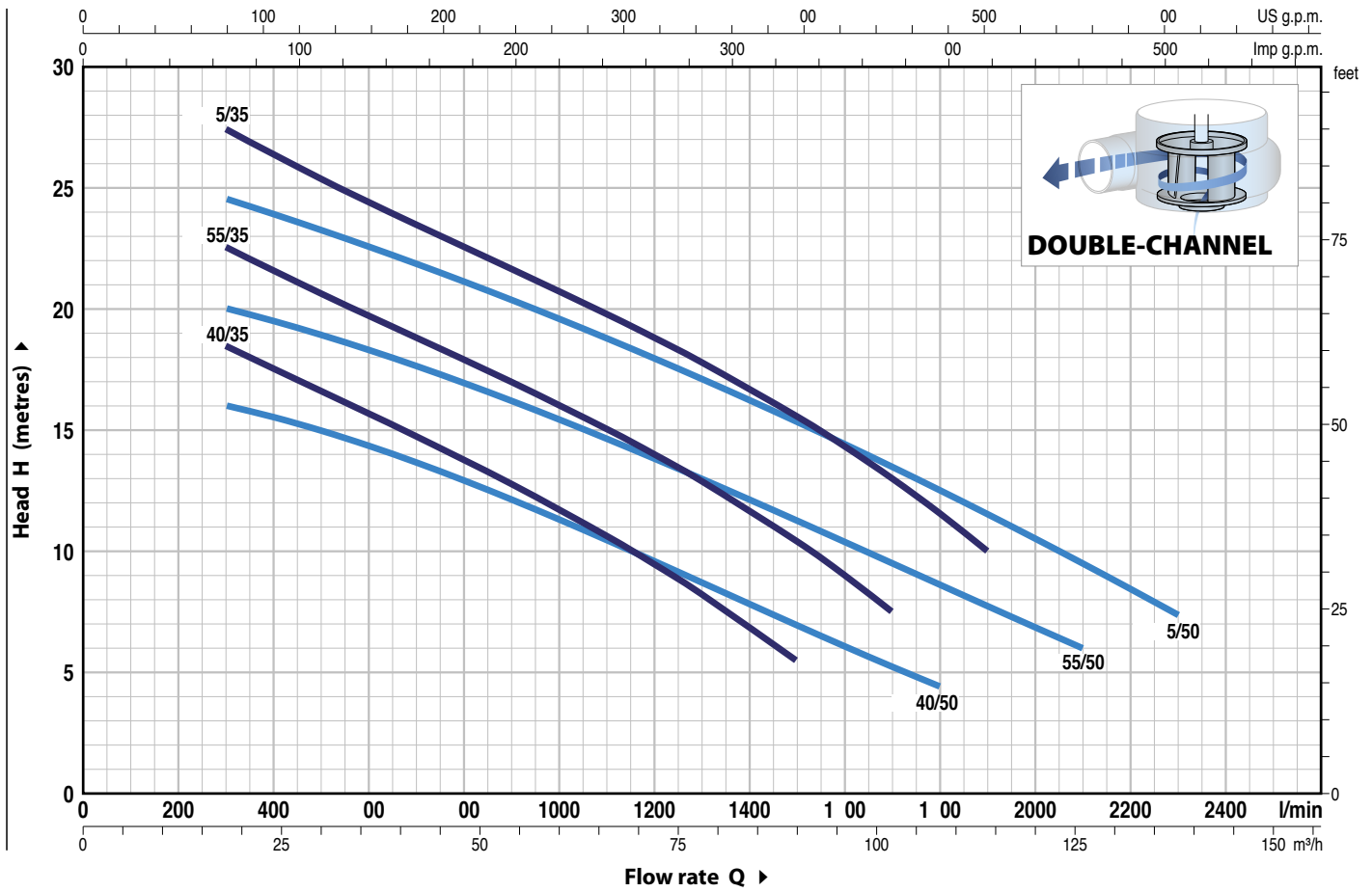
- Other voltage ratings or 60 Hz frequency

### WARRANTY

2 years in accordance with our general terms of sale

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



MODEL Three-phase	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	18	30	42	54	66	78	90	102	114	
BC 40/35	3	4	H metres	0	300	500	700	900	1100	1300	1500	1700	1900		
BC 55/35	4	5.5		21.4	18.5	16.6	14.7	12.8	10.6	8.2	5.5				
BC 75/35	5.5	7.5		25.8	22.5	20.6	18.8	17	15	12.9	10.4	7.5			
				31	27.5	25.4	23.5	21.6	19.8	17.8	15.6	13	10		

MODEL Three-phase	POWER (P <sub>2</sub> )		Q	Flow rate											
	kW	HP		m <sup>3</sup> /h	0	18	30	45	60	75	90	108	126	138	
BC 40/50	3	4	H metres	0	300	500	750	1000	1250	1500	1800	2100	2300		
BC 55/50	4	5.5		16.5	16	14.8	13.1	11.1	9	6.8	4.5				
BC 75/50	5.5	7.5		21.5	20	19.1	17.5	15.6	13.5	11.3	8.7	6			
				26.5	24.5	23.2	21.5	19.6	17.5	15.3	12.4	9.4	7.5		

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with Epoxy Electro Coating treatment, with flanged and threaded port in compliance with ISO 228/1
2	<b>IMPELLER</b>	Cast iron with Epoxy Electro Coating treatment DOUBLE-CHANNEL type
3	<b>MOTOR CASING</b>	AISI 304 stainless steel
4	<b>MOTOR CASING PLATE</b>	Cast iron with Epoxy Electro Coating treatment
5	<b>MOTOR SHAFT</b>	AISI 431 stainless steel

## 6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
AR-27	Ø 27 mm	Motor side	Silicon carbide	Graphite	NBR
AR-25	Ø 25 mm	Pump side	Silicon carbide	Silicon carbide	NBR

## 7 BEARINGS 6306 ZZ C3 / 6304 ZZ C3

## 8 ELECTRIC MOTOR

three-phase 400 V - 50 Hz

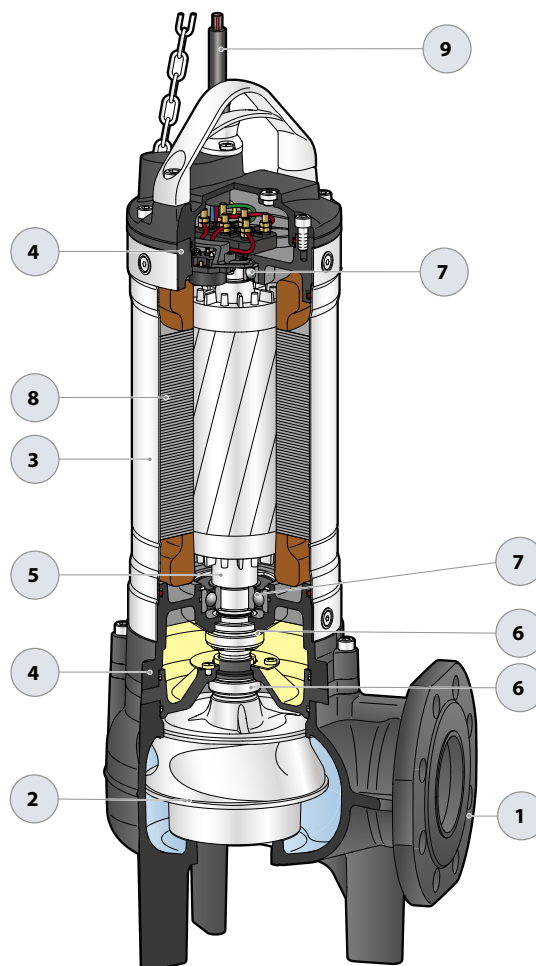
**with automatically resettable thermal motor protector built into the motor (THREE-PHASE)**

- Insulation: class F
- Protection: IP X8

## 9 POWER CABLE

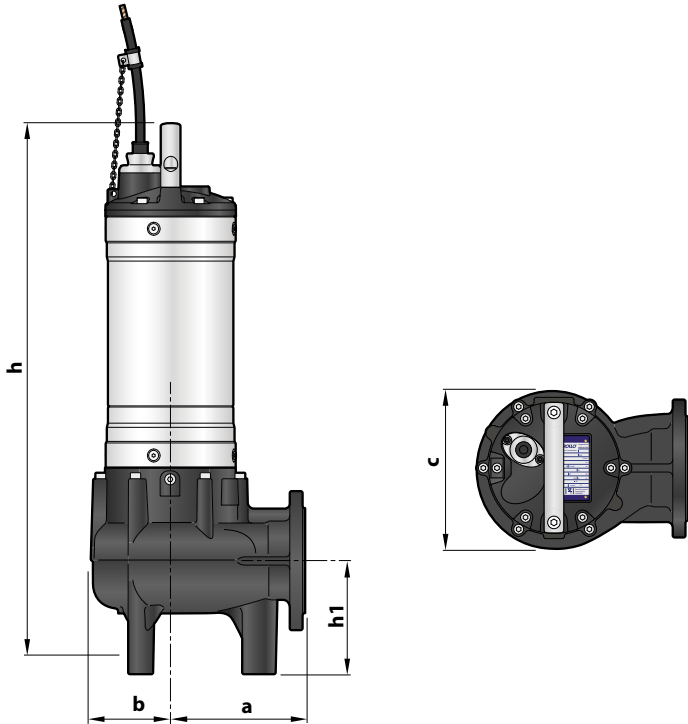
"H07 RN-F" type

**Standard length 10 metres**

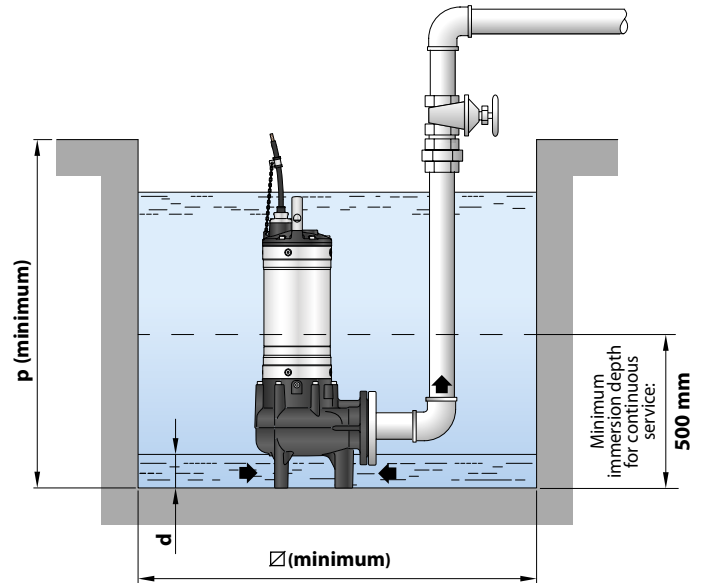


# BC 35 - 50

## DIMENSIONS AND WEIGHT



Typical installation



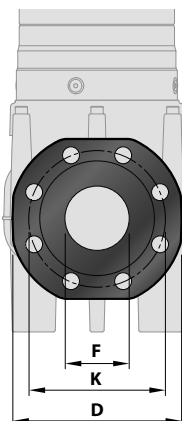
MODEL	Passage of solids	DIMENSIONS mm								
		a	b	c	h	h1	d	p	Ø	3~
BC 40/35	Ø 35 mm	170	113	225	595	100	40	800	500	56.0
BC 55/35					635					62.2
BC 75/35					665					67.0
BC 40/50	Ø 50 mm	178	107	210	655	150	85	800	500	58.5
BC 55/50					695					64.7
BC 75/50					725					69.4

## PORT FLANGE

MODEL	FLANGE DN	F	K mm	D mm	HOLES	
					N°	Ø (mm)
BC 40/35	65 (PN10)	2½"	145	185	4	18
BC 55/35						
BC 75/35						
BC 40/50	80 (PN10)	3"	160	200	8	18
BC 55/50						
BC 75/50						

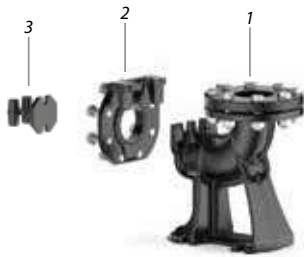
## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
BC 40/35	6.2 A
BC 55/35	8.3 A
BC 75/35	13.5 A
BC 40/50	7.0 A
BC 55/50	9.0 A
BC 75/50	13.5 A





# SEWAGE LIFTING SYSTEM



(B)

## VERTICAL DELIVERY VERSION WITH 3/4" GUIDE TUBES (B)

For <b>BC /35</b>	Code ASSPVX653V	DN <b>3"</b>
For <b>BC /50</b>	Code ASSVXCF071V	DN <b>3"</b>

### Kit comprising:

1. footing connection complete with counterflange;
2. slide guide with screws and seals;
3. support for guide tubes.



(C)

## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES (C)

For <b>BC /35</b>	Code ASSPVX65V	DN <b>3"</b>
For <b>BC /50</b>	Code ASSVXCF0705V	DN <b>3"</b>

### Kit comprising:

1. footing connection complete with counterflange;
2. slide guide with screws and seals;
3. support for guide tubes.

## ACCESSORIES AVAILABLE ON ORDER

### SLIDE GUIDE (Can also be ordered separately)

For <b>BC /35</b> with guide tubes Ø 3/4"	Code ASSFL010
For <b>BC /50</b> with guide tubes Ø 3/4"	Code ASSFL0018
For <b>BC /35</b> with guide tubes Ø 2"	Code ASSFL065
For <b>BC /50</b> with guide tubes Ø 2"	Code ASSFL072

- Complete with screws and seals



### INTERMEDIATE SUPPORT (on request)

For guide tubes Ø 3/4"	Code 859SV340INTFA
For guide tubes Ø 2"	Code 859SV349INTFA



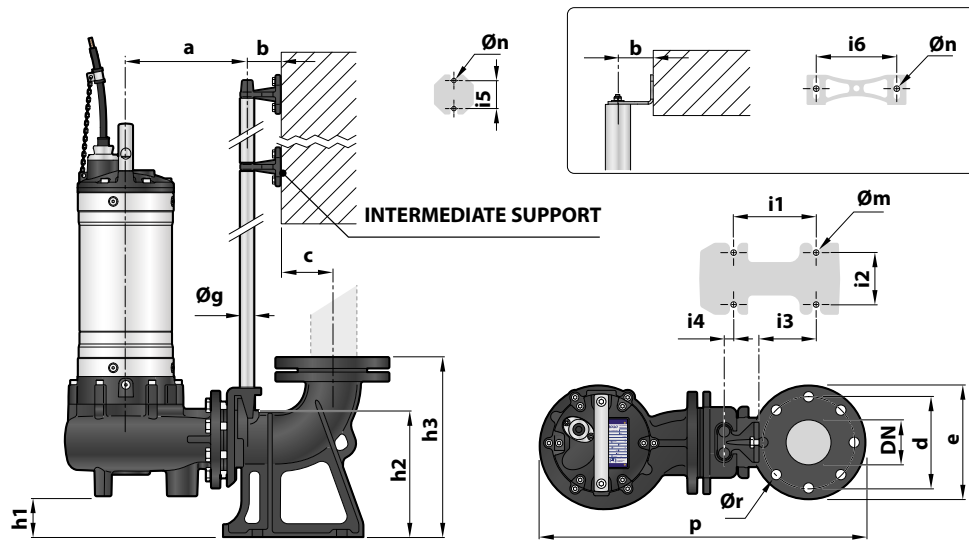
### GUIDE TUBES (AISI 304 stainless steel)

Guide tubes Ø 3/4"	Code 54SARTG005
Guide tubes Ø 2"	Code 54SARTG006

- **To ensure stability, install the intermediate support:**
  - every 2 metres with 3/4" guide tubes (mandatory);
  - every 3 metres with 2" guide tubes (recommended).
- **Maximum length of the tube plank: 6 metres**



## DIMENSIONS (Horizontal delivery version)



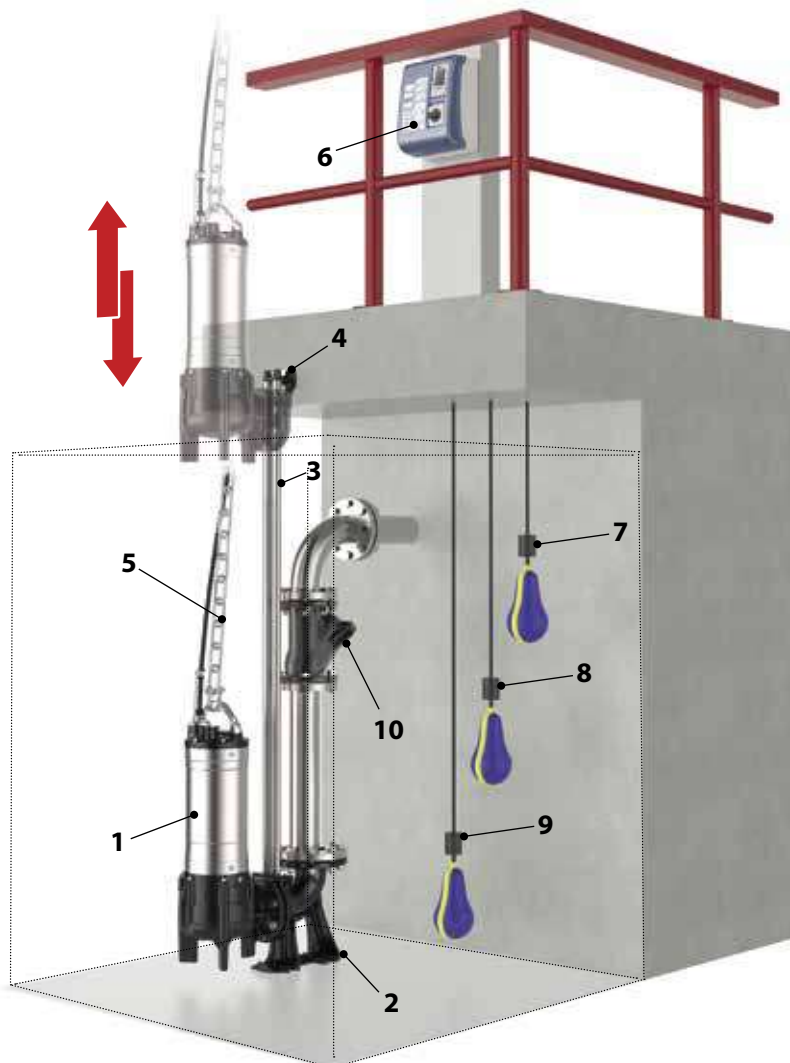
### Version with 3/4" guide tubes

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																	
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
BC /35	Ø 35	3"	231	61	69	150	190	550	69	216	280	130	112	84	15	50	3/4"	14	11	18
BC /50	Ø 50		222					553	19											

### Version with 2" guide tubes

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																		
			a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn	Ør
BC /35	Ø 35	3"	319	86	95	160	200	710	107	264	392	250	150	34	-	80	186	2"	22	13.5	18
BC /50	Ø 50		328					714	57												

## TYPICAL INSTALLATION



1. Pump
2. Footing connection
3. Guide tubes
4. Support for guide tubes
5. Lifting chain
6. Control box
7. Alarm float switch
8. Starting float switch
9. Stop float switch
10. Non-return valve



*The features and specifications here in are in no way binding for the manufacturer.*

*Pedrollo S.p.A. reserves the right to modify the product in accordance with its production improvement policy at any time and without prior notice.*

### Pedrollo S.p.A.

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vendite@pedrollo.com - sales@pedrollo.com - www.pedrollo.com

**MADE IN ITALY**

## Submersible pumps

▣▣▣ Medium flow

 Sewage water

 Civil use

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **2200 l/min** (132 m<sup>3</sup>/h)
- Head up to **12.2 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 100 mm**
- Minimum immersion depth for continuous service: **550 mm**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **VXC4** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a VORTEX impeller and are therefore suitable for draining **dirty, sewage and reflux water, and water mixed with putrid mud**. They are suitable for installation in sewers, tunnels, excavations, canals, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

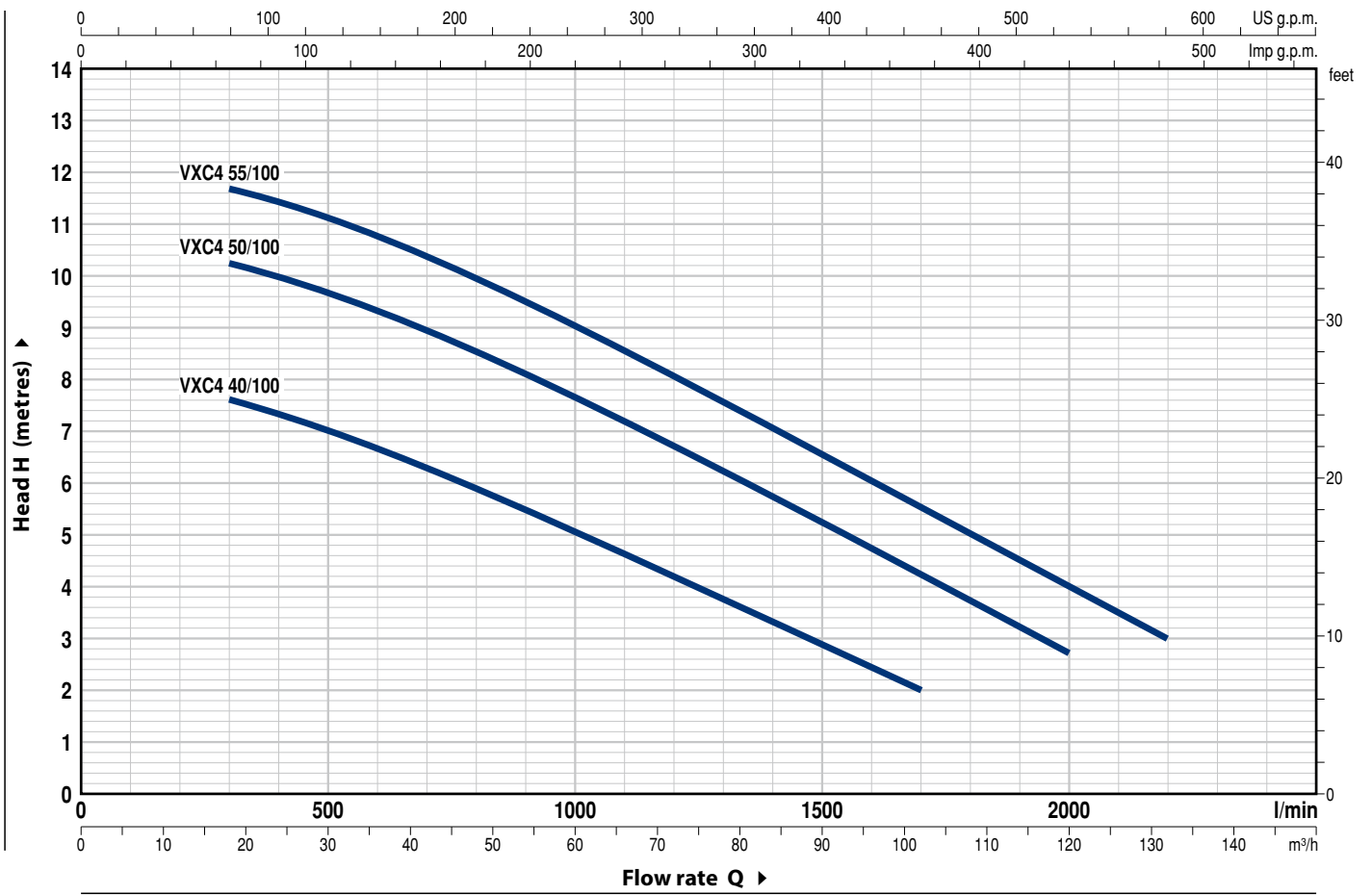
- Registered EU Design n. 003863158-0003

### OPTIONS AVAILABLE ON REQUEST

- Pumps equipped with internal probes detecting the presence of water in the oil chamber
- Pumps with double cable for star/delta start
- Other voltages or 60 Hz frequency

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min<sup>-1</sup>



MODEL Three-phase	POWER (P <sub>2</sub> )		Q	0	18	30	45	60	75	90	102	120	132
	kW	HP		0	300	500	750	1000	1250	1500	1700	2000	2200
VXC4 40/100	3	4	H metres	8.3	7.6	7	6.1	5.1	4	2.9	2		
VXC4 50/100	3.7	5		10.8	10.2	9.6	8.7	7.6	6.4	5.2	4.2	2.7	
VXC4 55/100	4	5.5		12.2	11.7	11.1	10.2	9	7.8	6.5	5.5	4	3

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment
2	<b>BASE</b>	Cast iron with an Epoxy Electro Coating treatment
3	<b>IMPELLER</b>	VORTEX type in cast iron with an Epoxy Electro Coating treatment
4	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG91-40D	Ø 40 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

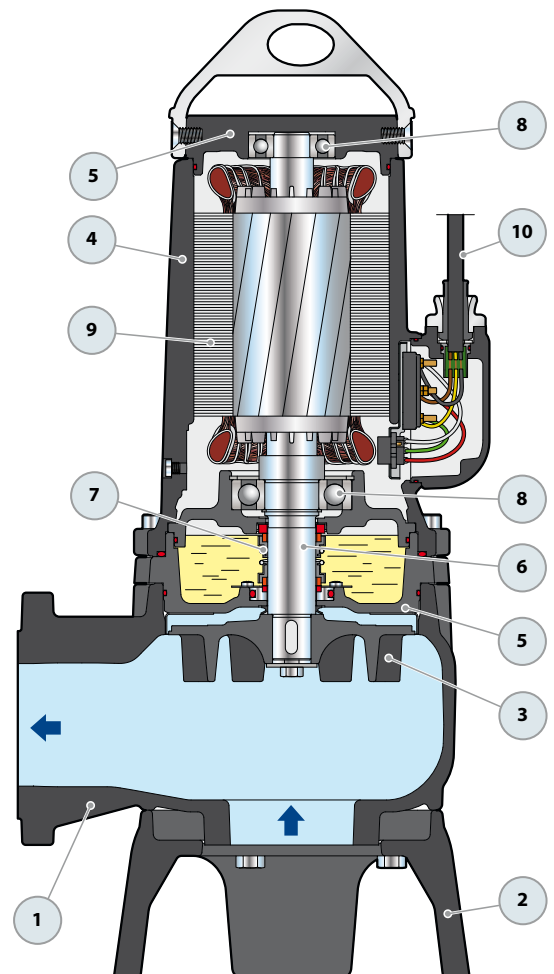
### 8 BEARINGS 6309 ZZ-C3 / 6306 ZZ-C3

### 9 ELECTRIC MOTOR

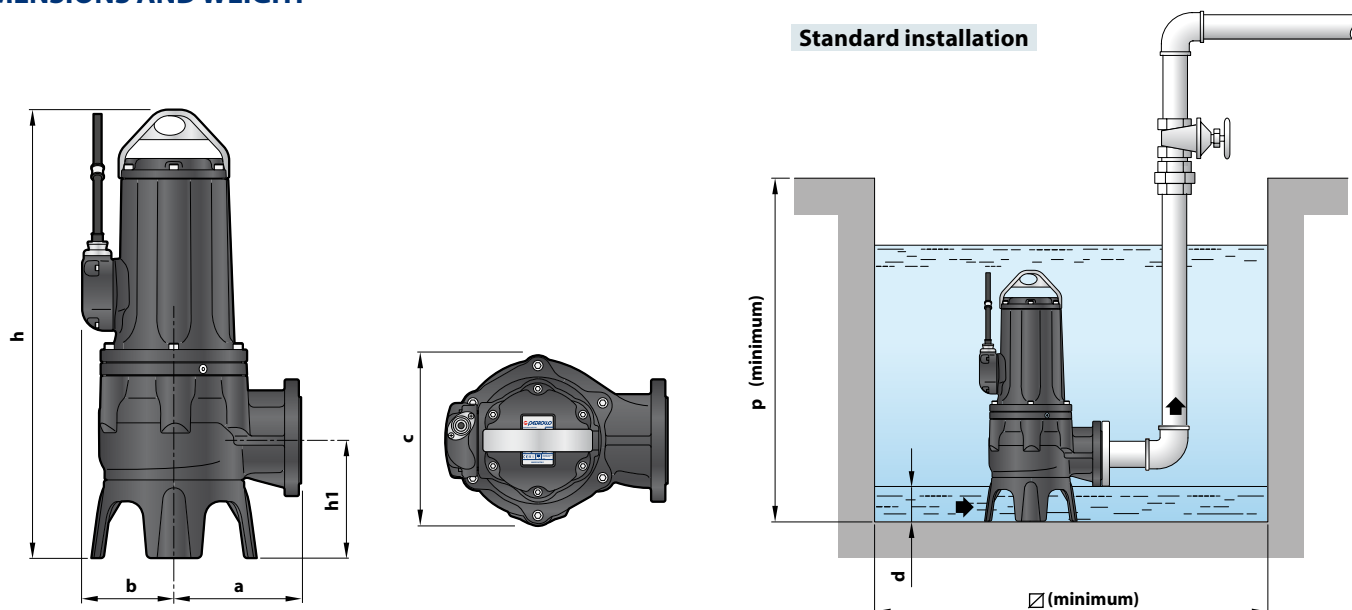
- three-phase 400 V - 50 Hz  
with thermal overload protector incorporated into the winding
- Insulation: class F
- Protection: IP X8

### 10 POWER CABLE

"H07 RN-F" type  
**Standard length 10 metres**

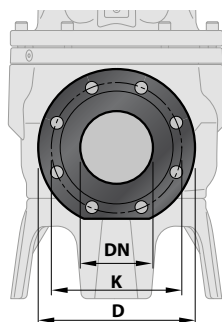


## DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm								kg
		a	b	c	h	h1	d	p	Ø	
Three-phase										3~
VXC4 40/100	Ø 100 mm	228	165	302	806	211	140	1000	1000	129.1
VXC4 50/100										129.0
VXC4 55/100										132.0

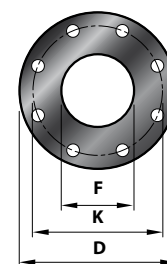
## FLANGED PORT



MODEL	FLANGE DN	K mm	D mm	HOLES	
				N°	Ø (mm)
Three-phase	100 (PN10)	180	220	8	18
VXC4 40/100					
VXC4 50/100					
VXC4 55/100					

## COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



MODEL	FLANGE DN	F	K mm	D mm	HOLES	
					N°	Ø (mm)
Three-phase	100	4"	180	220	8	18
VXC4 40/100						
VXC4 50/100						
VXC4 55/100						

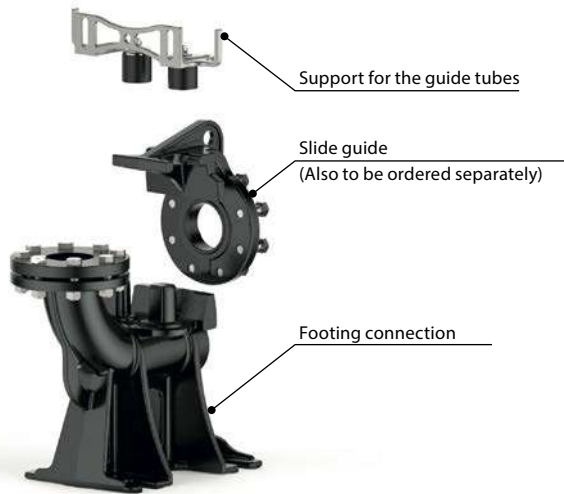
## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
VXC4 40/100	5.5 A
VXC4 50/100	7.7 A
VXC4 55/100	9.0 A

## PALLETIZATION

MODEL	GROUPAGE
Three-phase	n. pumps
VXC4 40/100	4
VXC4 50/100	4
VXC4 55/100	4

# SEWAGE LIFTING SYSTEM VXC4 – MC4



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For <b>VXC4</b>	Cod. ASSPVXC4V	DN 4"
For <b>MC4</b>	Cod. ASSPMC4V	DN 3"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

## STANDARD INSTALLATION

1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. Intermediate support for the guide tubes
6. Lifting chain
7. Control box
8. Stop float switch
9. Starting float switch
10. Starting float switch auxiliary pump
11. Alarm float switch
12. Non-return valve

## SLIDE GUIDE (Also to be ordered separately)

For <b>VXC4</b>	Cod. ASSFL100
For <b>MC4</b>	Cod. ASSFL080

Complete with screws and seals

## ● INTERMEDIATE SUPPORT (To be ordered separately)

Guide tube Ø 2"	Cod. 859SV349INTFA
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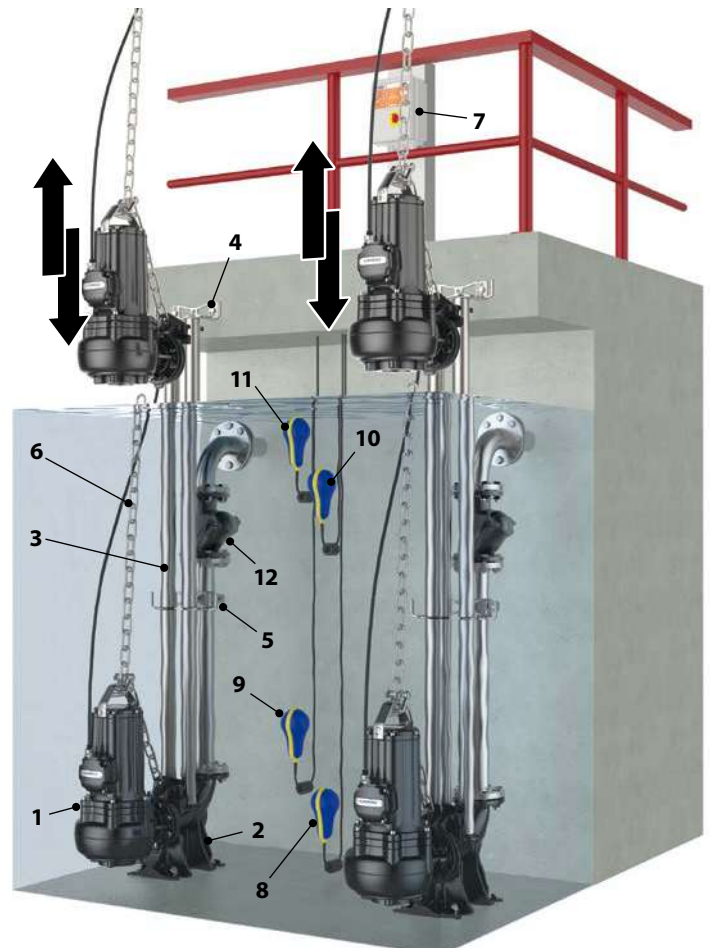


**In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)**

## GUIDE TUBES (AISI 304 stainless steel)

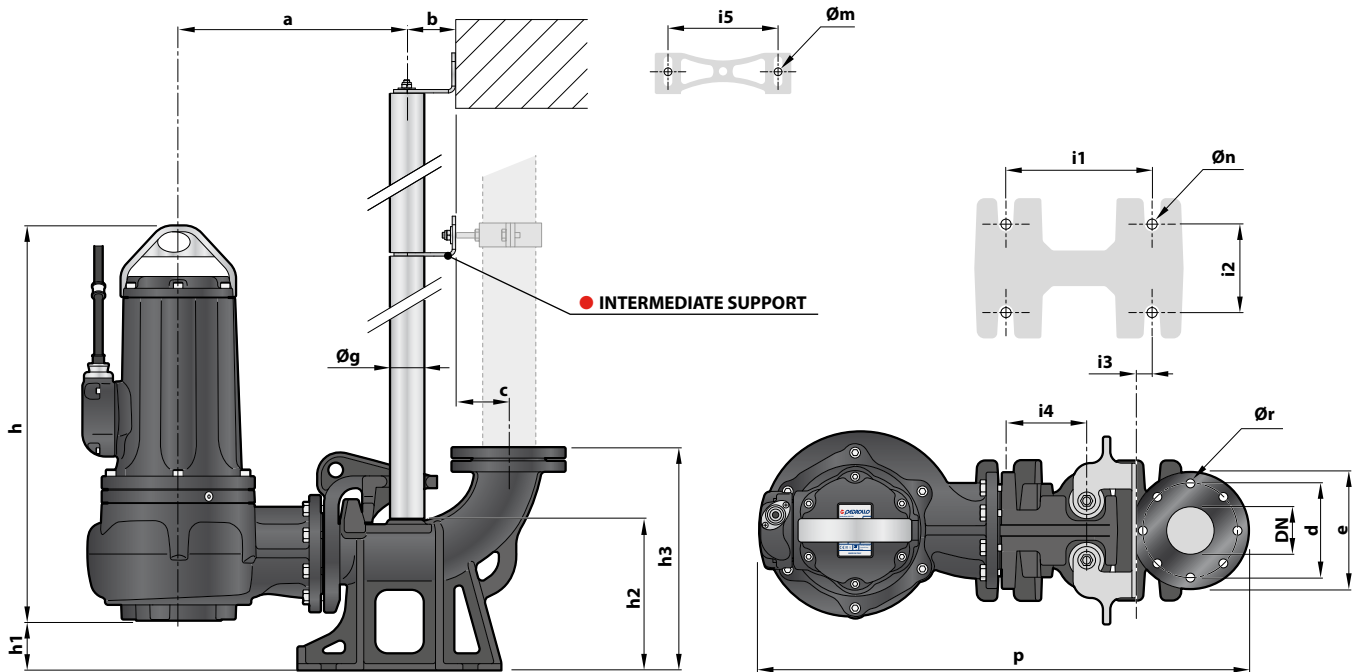
Guide tube Ø 2"	Cod. 54SARTG006
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Maximum length of the tube plank: 6 metres





## DIMENSIONS



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																			
			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør	
Three-phase																						
VXC4 40/100	Ø 100	4"	376	85	105	180	220	841	695	107	266	426	250	150	34	130	186	2"	13	16	18	
VXC4 50/100																						
VXC4 55/100																						

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																			
			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør	
Three-phase																						
MC4 40/55	Ø 55	3"	396	85	95	160	200	841	680	92	256	592	250	150	34	130	186	2"	13	16	18	
MC4 50/55																						
MC4 55/55																						

## Submersible pumps

▣▣▣ Medium flow

 Sewage water

 Civil use

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **2600 l/min** (156 m<sup>3</sup>/h)
- Head up to **16 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 55 mm**
- Minimum immersion depth for continuous service: **550 mm**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

**MC4** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a DOUBLE-CHANNEL impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

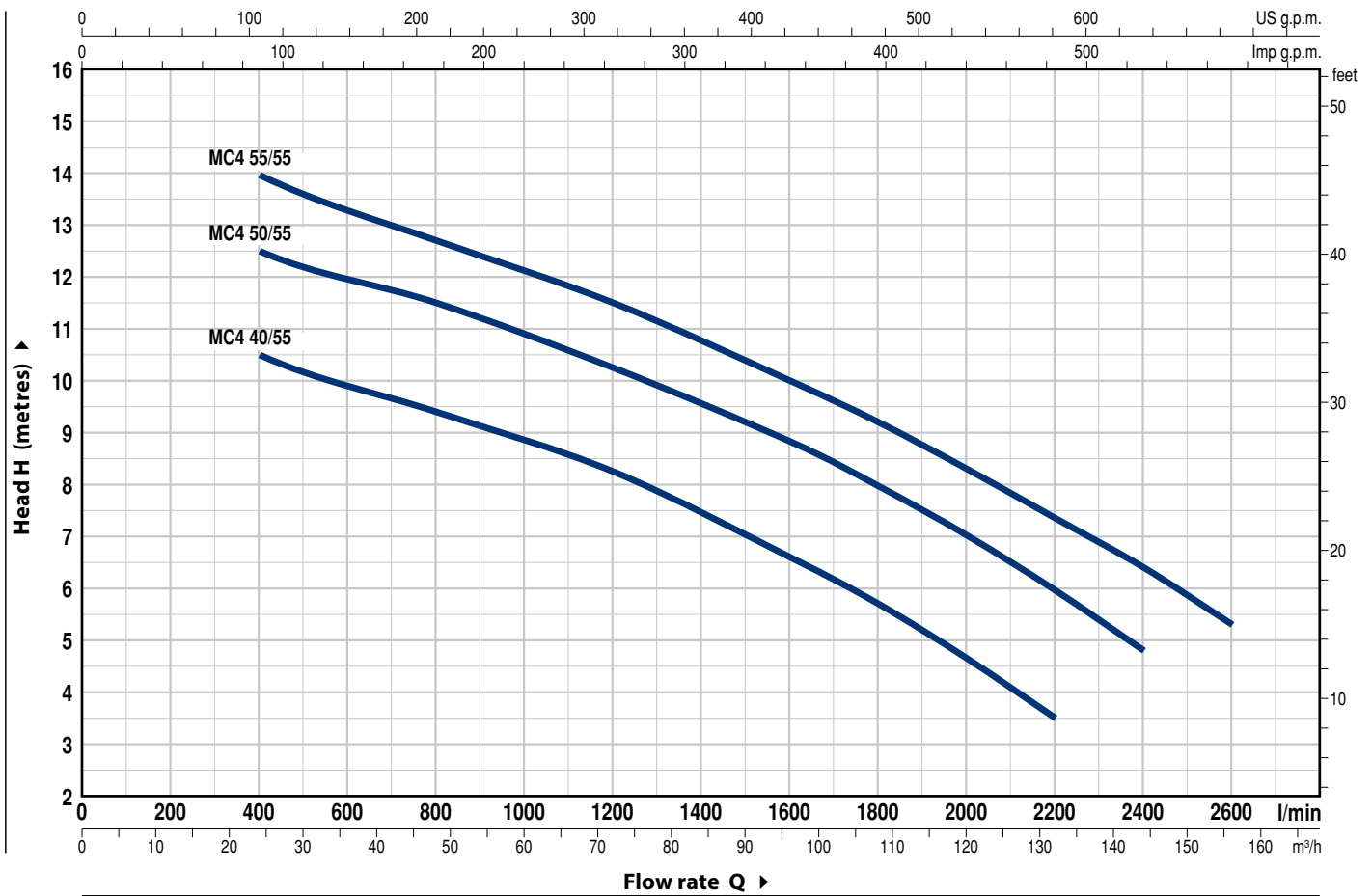
- Registered EU Design n. 003863158-0004

### OPTIONS AVAILABLE ON REQUEST

- Pumps equipped with internal probes detecting the presence of water in the oil chamber
- Pumps with double cable for star/delta start
- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min<sup>-1</sup>



MODEL Three-phase	POWER (P <sub>2</sub> )		Q	0	24	48	72	96	108	120	132	144	156
	kW	HP		0	400	800	1200	1600	1800	2000	2200	2400	2600
MC4 40/55	3	4	H metres	12.5	10.5	9.4	8.3	6.6	5.7	4.7	3.5		
MC4 50/55	3.7	5		14.5	12.5	11.5	10.3	8.8	8	7	6	4.8	
MC4 55/55	4	5.5		16	13.9	12.7	11.5	10	9.2	8.3	7.4	6.4	5.3

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron with an Epoxy Electro Coating treatment
2	<b>BASE</b>	Cast iron with an Epoxy Electro Coating treatment
3	<b>IMPELLER</b>	DOUBLE-CHANNEL type in cast iron with an Epoxy Electro Coating treatment
4	<b>MOTOR CASING</b>	Cast iron with an Epoxy Electro Coating treatment
5	<b>MOTOR CASING PLATE</b>	Cast iron with an Epoxy Electro Coating treatment
6	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

### 7 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG91-40D	Ø 40 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

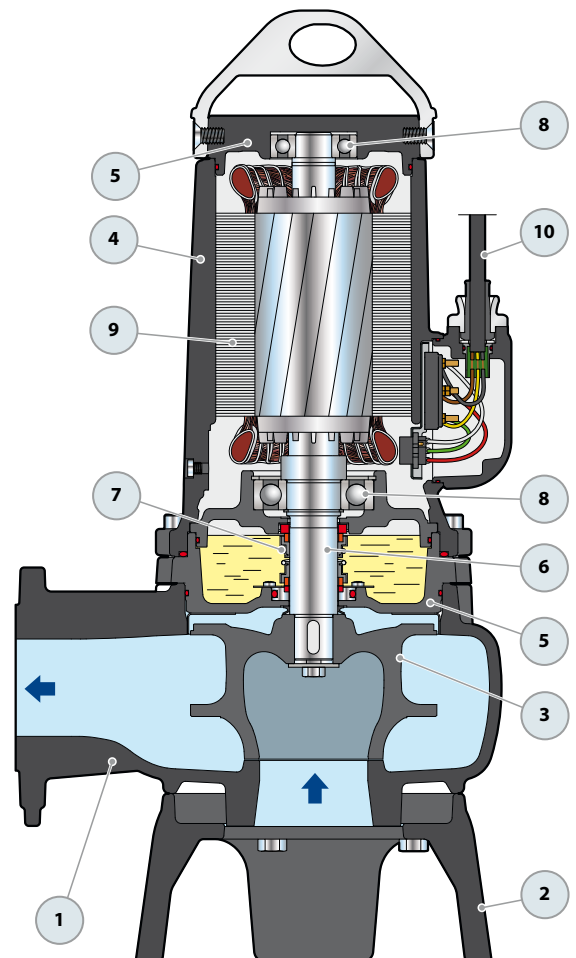
### 8 BEARINGS 6309 ZZ-C3 / 6306 ZZ-C3

### 9 ELECTRIC MOTOR

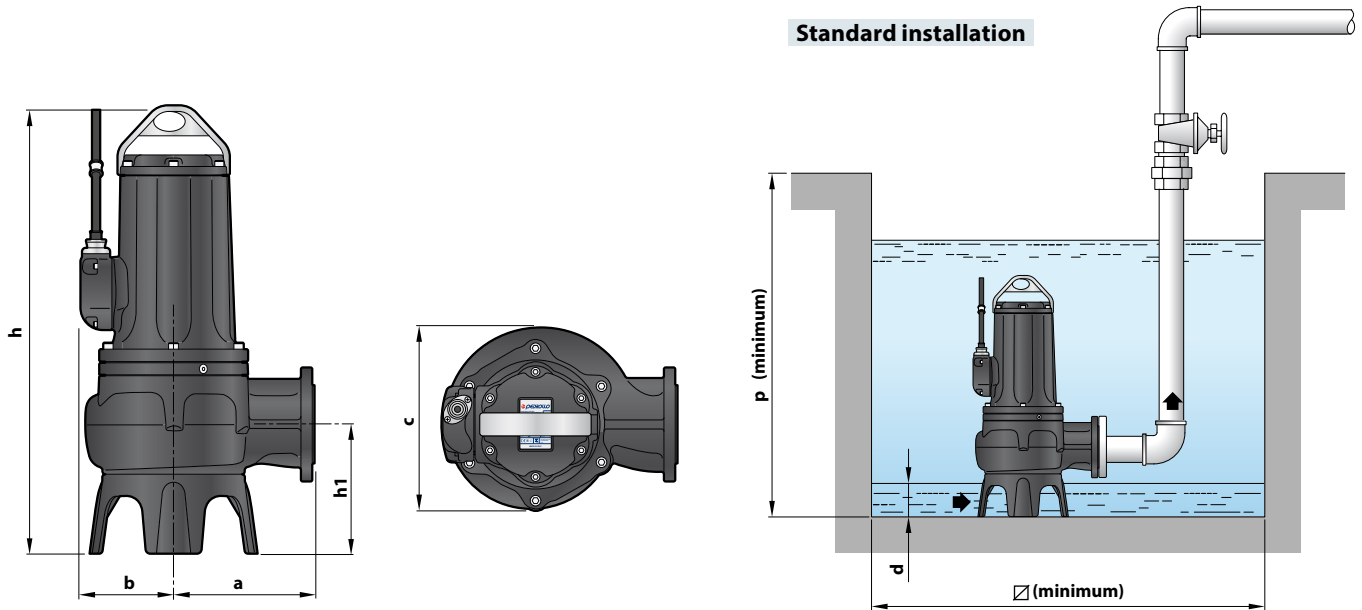
- three-phase 400 V - 50 Hz  
with thermal overload protector incorporated into the winding
- Insulation: class F
- Protection: IP X8

### 10 POWER CABLE

"H07 RN-F" type  
**Standard length 10 metres**

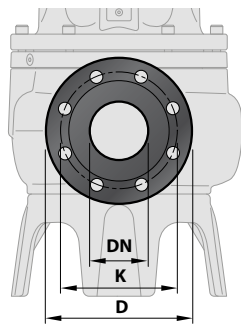


## DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm								kg
		a	b	c	h	h1	d	p	∅	
Three-phase										3~
MC4 40/55	Ø 55 mm	248	165	320	792	228	140	1000	1000	125.2
MC4 50/55										133.0
MC4 55/55										136.0

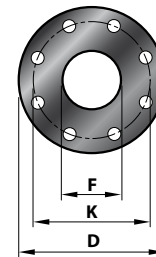
## FLANGED PORT



MODEL	FLANGE DN	K mm	D mm	HOLES	
				N°	∅ (mm)
Three-phase	80 (PN10)	160	200	8	18
MC4 40/55					
MC4 50/55					
MC4 55/55					

## COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



MODEL	FLANGE DN	F	K mm	D mm	HOLES	
					N°	∅ (mm)
Three-phase	80	3"	160	200	8	18
MC4 40/55						
MC4 50/55						
MC4 55/55						

## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
MC4 40/55	5.5 A
MC4 50/55	7.7 A
MC4 55/55	8.3 A

## PALLETIZATION

MODEL	GROUPAGE
Three-phase	n. pumps
MC4 40/55	4
MC4 50/55	4
MC4 55/55	4

# SEWAGE LIFTING SYSTEM VXC4 – MC4



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For <b>VXC4</b>	Cod. ASSPVXC4V	DN 4"
For <b>MC4</b>	Cod. ASSPMC4V	DN 3"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

## STANDARD INSTALLATION

1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. Intermediate support for the guide tubes
6. Lifting chain
7. Control box
8. Stop float switch
9. Starting float switch
10. Starting float switch auxiliary pump
11. Alarm float switch
12. Non-return valve

## SLIDE GUIDE (Also to be ordered separately)

For <b>VXC4</b>	Cod. ASSFL100
For <b>MC4</b>	Cod. ASSFL080

Complete with screws and seals

## ● INTERMEDIATE SUPPORT (To be ordered separately)

Guide tube Ø 2"	Cod. 859SV349INTFA
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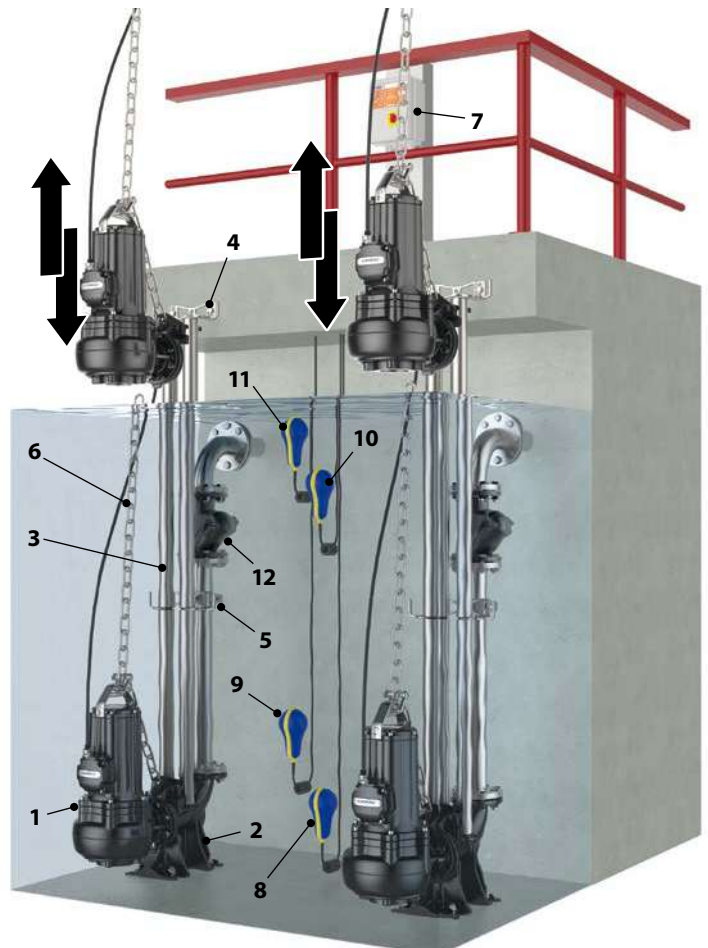


**In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)**

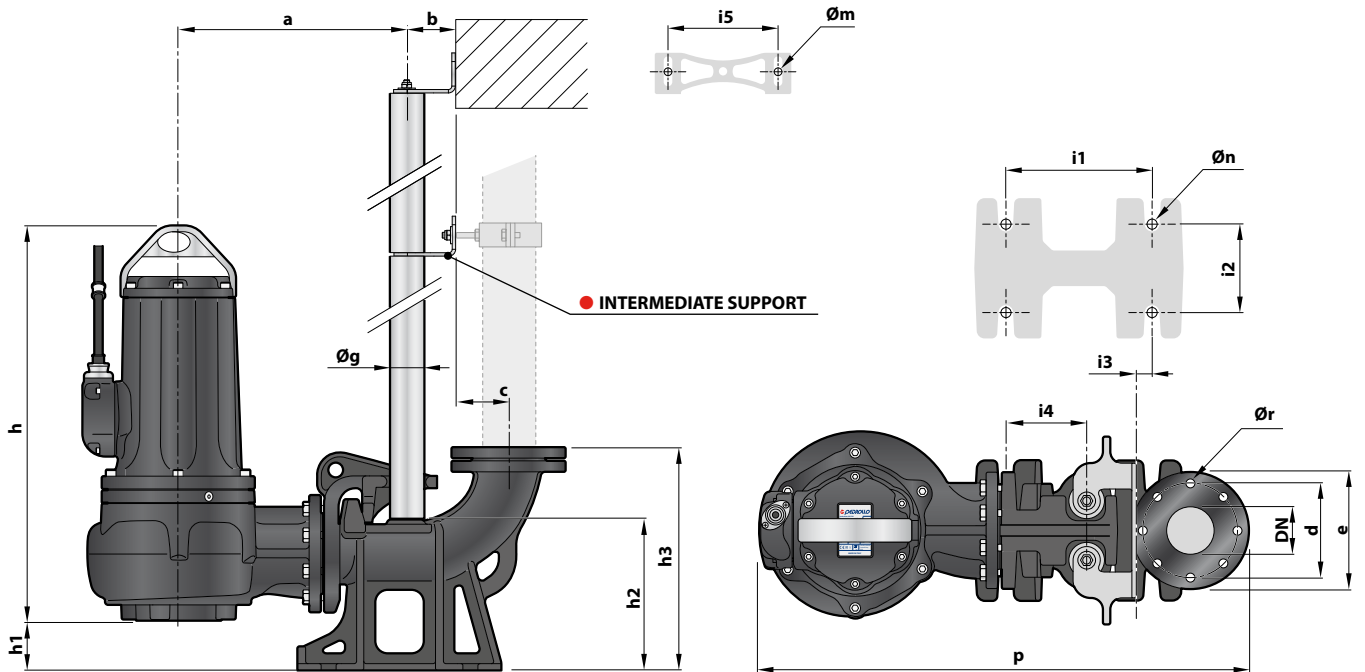
## GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø 2"	Cod. 54SARTG006
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Maximum length of the tube plank: 6 metres



## DIMENSIONS



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																			
			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør	
Three-phase																						
VXC4 40/100	Ø 100	4"	376	85	105	180	220	841	695	107	266	426	250	150	34	130	186	2"	13	16	18	
VXC4 50/100																						
VXC4 55/100																						

MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																			
			a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør	
Three-phase																						
MC4 40/55	Ø 55	3"	396	85	95	160	200	841	680	92	256	592	250	150	34	130	186	2"	13	16	18	
MC4 50/55																						
MC4 55/55																						

## Submersible pumps

High flow

 Sewage water

 Civil use

 Industrial use



### PERFORMANCE RANGE

- Flow rate up to **5000 l/min** (300 m<sup>3</sup>/h)
- Head up to **20.8 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 80 mm**
- To have continuous duty, the pump has not to emerge (to be out) of the water for more than **290 mm**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **VXC4** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a VORTEX impeller and are therefore suitable for draining **dirty, sewage and reflux water, and water mixed with putrid mud**. They are suitable for installation in sewers, tunnels, excavations, canals, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 003863158-0003

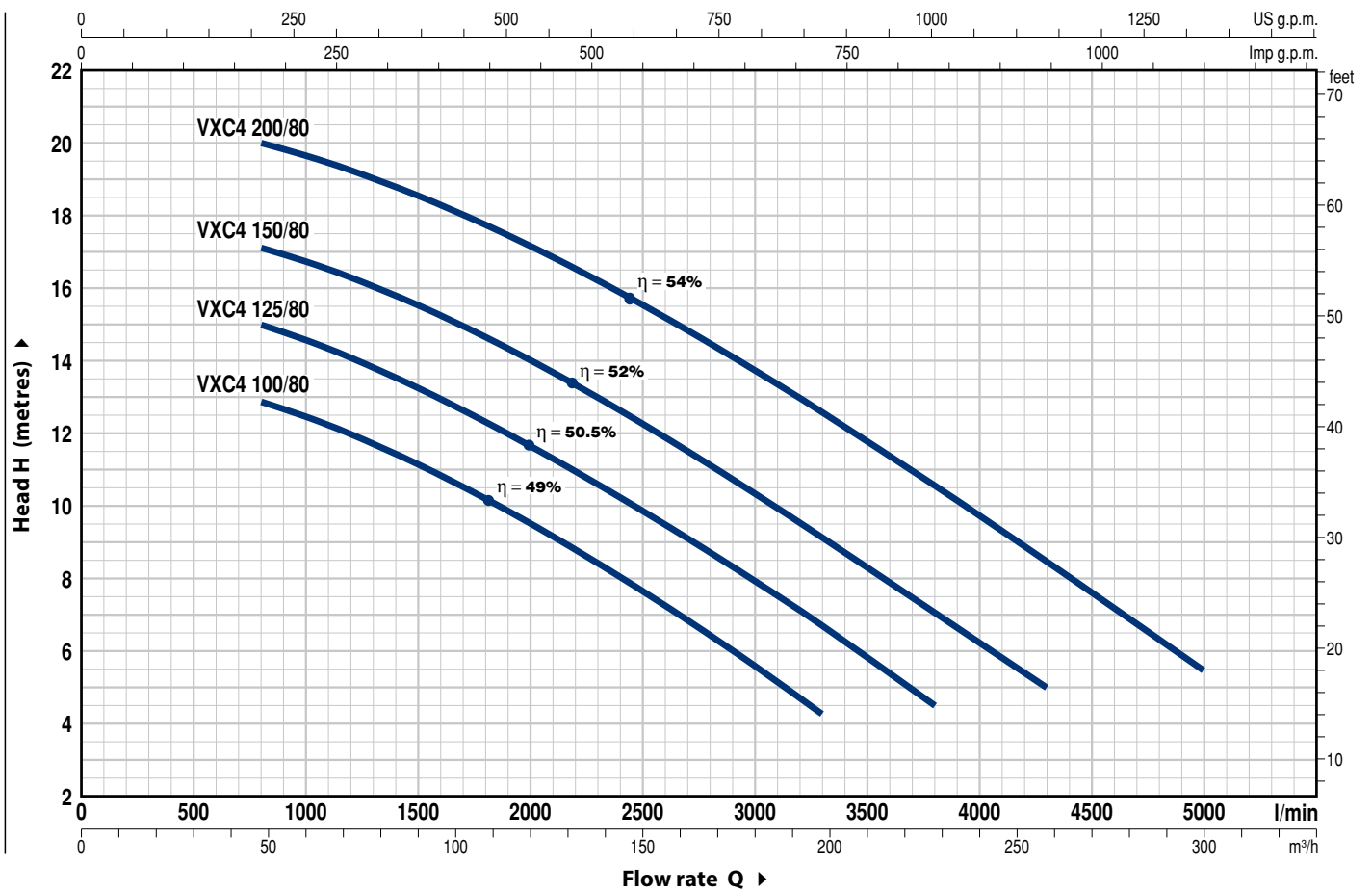
### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min<sup>-1</sup>



MODEL Three-phase	POWER (P <sub>2</sub> )		Q	Flow rate													
	kW	HP		m <sup>3</sup> /h	0	48	60	90	120	150	180	198	228	258	300		
			l/min	0	800	1000	1500	2000	2500	3000	3300	3800	4300	5000			
VXC4 100/80	7.5	10	H metres	13.7	12.9	12.5	11.2	9.6	7.7	5.6	4.3						
VXC4 125/80	9.2	12.5		15.8	15	14.6	13.3	11.7	9.9	7.9	6.7	4.5					
VXC4 150/80	11	15		18	17.2	16.8	15.6	14.1	12.3	10.4	9.2	7.1	5				
VXC4 200/80	15	20		20.8	20	19.7	18.6	17.2	15.6	13.8	12.6	10.6	8.5	5.5			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	<b>PUMP BODY</b>	Cast iron				
2	<b>IMPELLER</b>	VORTEX type in cast iron				
3	<b>MOTOR CASING</b>	Cast iron				
4	<b>MOTOR CASING PLATE</b>	Cast iron				
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431				
6	<b>SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER</b>					
	<b>Seal</b>	<b>Shaft</b>	<b>Position</b>	<b>Materials</b>		
	<i>Model</i>	<i>Diameter</i>		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
	<b>AR-35</b>	<b>Ø 35 mm</b>	Motor side	Ceramic	Graphite	NBR
	<b>MG1-40</b>	<b>Ø 40 mm</b>	Pump side	Silicon carbide	Silicon carbide	NBR
7	<b>BEARINGS</b>	<b>6308 2RS-C3 / 3308A 2RS-C3</b>				

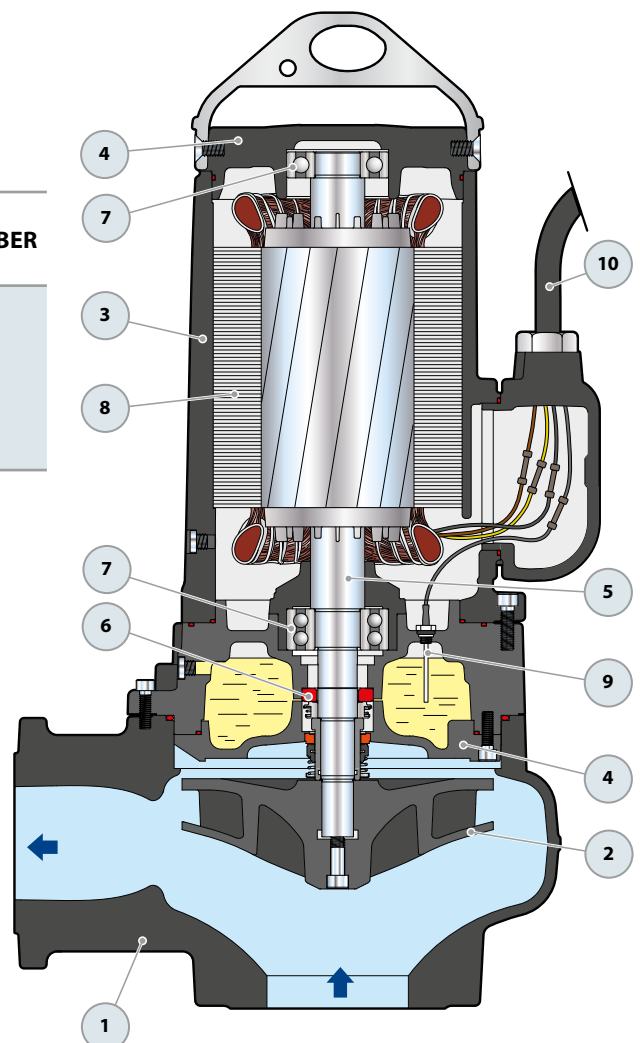
### 8 ELECTRIC MOTOR

- three-phase 400 V - 50 Hz  
with thermal overload protector incorporated into the winding
- Insulation: class F
- Protection: IP X8

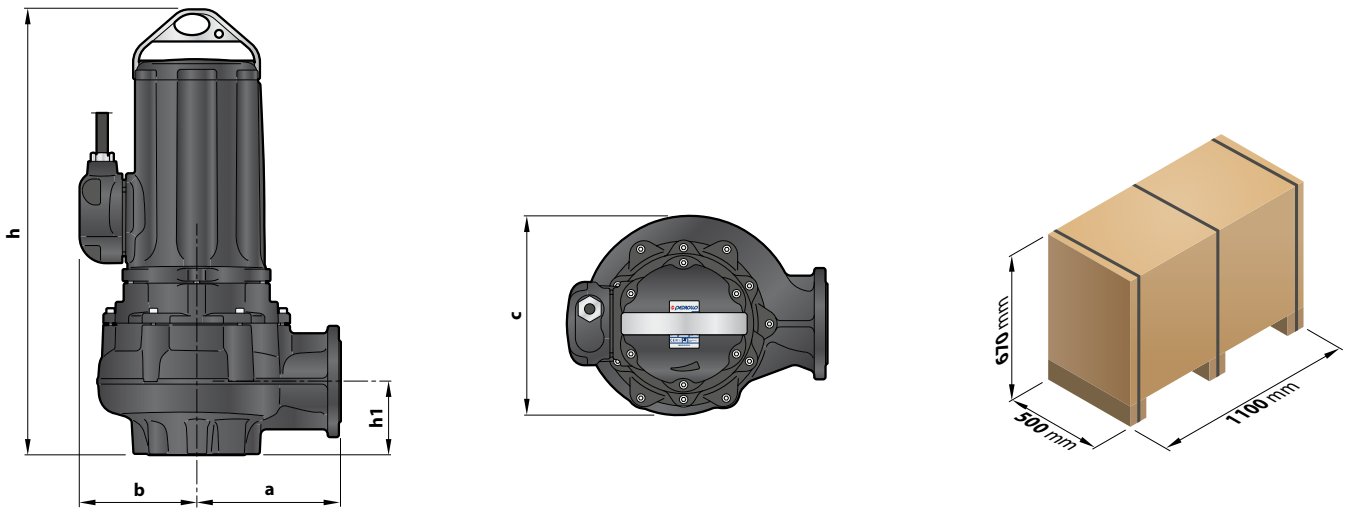
### 9 PROBE DETECTING THE PRESENCE OF WATER IN THE OIL CHAMBER

### 10 POWER CABLE

"H07 RN-F" type  
**Standard length 10 metres**

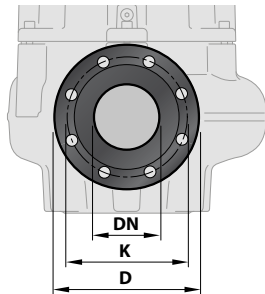


## DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm					kg
		a	b	c	h	h1	
Three-phase	Ø 80	285	232	395	870	145	3~
VXC4 100/80							215
VXC4 125/80							217
VXC4 150/80							227
VXC4 200/80							237

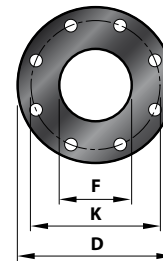
## FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
				N°	Ø (mm)
Three-phase	DN	mm	mm		
VXC4 100/80	100 (PN10)	180	220	8	18
VXC4 125/80					
VXC4 150/80					
VXC4 200/80					

## COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



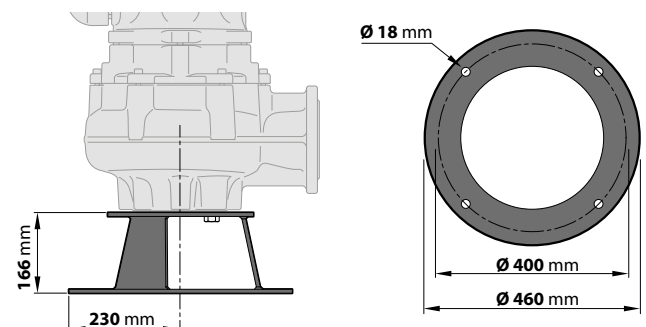
MODEL	FLANGE	F	K	D	HOLES	
					N°	Ø (mm)
Three-phase	DN		mm	mm		
VXC4 100/80	100	4"	180	220	8	18
VXC4 125/80						
VXC4 150/80						
VXC4 200/80						

## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
VXC4 100/80	16.0 A
VXC4 125/80	18.5 A
VXC4 150/80	22.5 A
VXC4 200/80	28.5 A

## BASE

(TO BE ORDERED SEPARATELY)



# SEWAGE LIFTING SYSTEM VXC4 – MC4



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For <b>VXC4, MC4</b>	Cod. ASSPVXC4V	DN 4"
----------------------	----------------	-------

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

## STANDARD INSTALLATION

- |   |  |
|---|--|
| 1. Pump                                     | 7. Control box                           |
| 2. Footing connection                       | 8. Stop float switch                     |
| 3. Guide tubes                              | 9. Starting float switch                 |
| 4. Support for the guide tubes              | 10. Starting float switch auxiliary pump |
| 5. Intermediate support for the guide tubes | 11. Alarm float switch                   |
| 6. Lifting chain                            | 13. Cement base                          |

## SLIDE GUIDE (Also to be ordered separately)

For <b>VXC4, MC4</b>	Cod. ASSFL100
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Complete with screws and seals

## ● INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV349INTFA	Guide tube Ø 2"
--------------------	-----------------

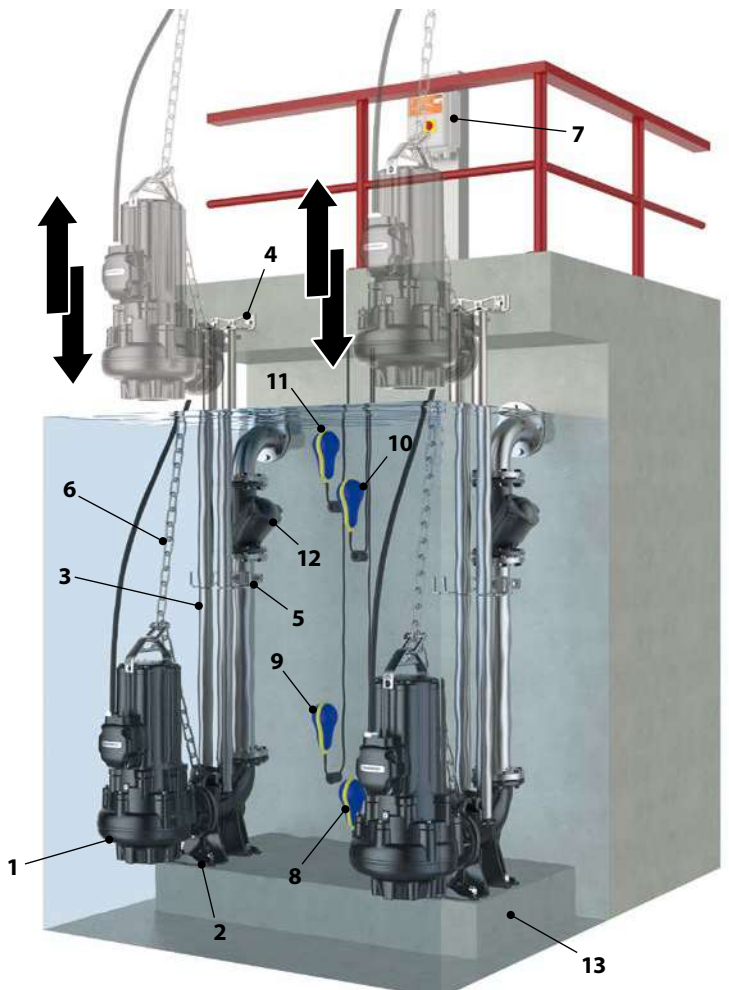
**In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)**



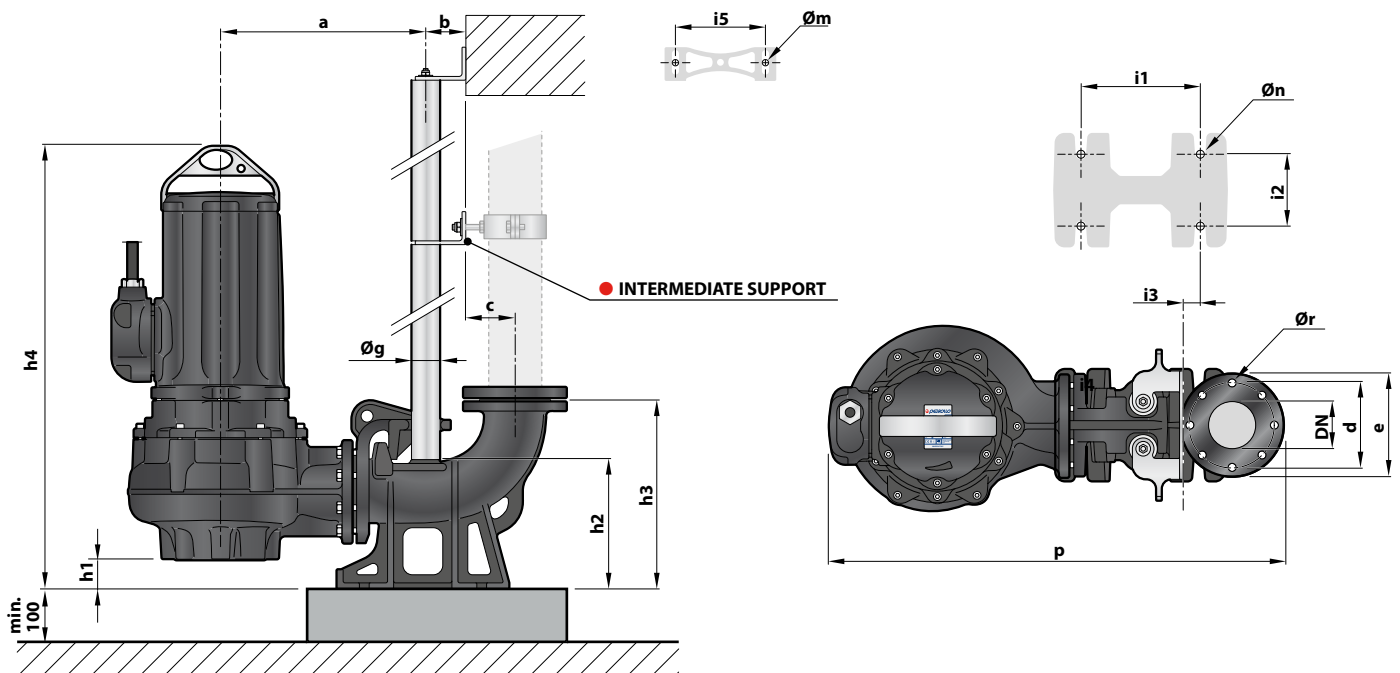
## GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG006	Ø 2"
-----------------	------

Maximum length of the tube plank: 6 metres






## DIMENSIONS



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																	
			a	b	c	d	e	p	h1	h2	h3	h4	i1	i2	i3	i5	Øg	Øm	Øn	Ør
Three-phase																				
VXC4 /80	Ø 80	100	435	85.5	104.5	180	220	965	62	275	400	930	250	150	34	187	2"	13.5	22	18
MC4 /80																				

## Submersible pumps

High flow

-  Sewage water
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **5000 l/min** (300 m<sup>3</sup>/h)
- Head up to **22 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of suspended solids up to **Ø 80 mm**
- \To have continuous duty, the pump has not to emerge (to be out) of the water for more than **290 mm**

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

**MC4** series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a **DOUBLE-CHANNEL** impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

### PATENTS - TRADE MARKS - MODELS

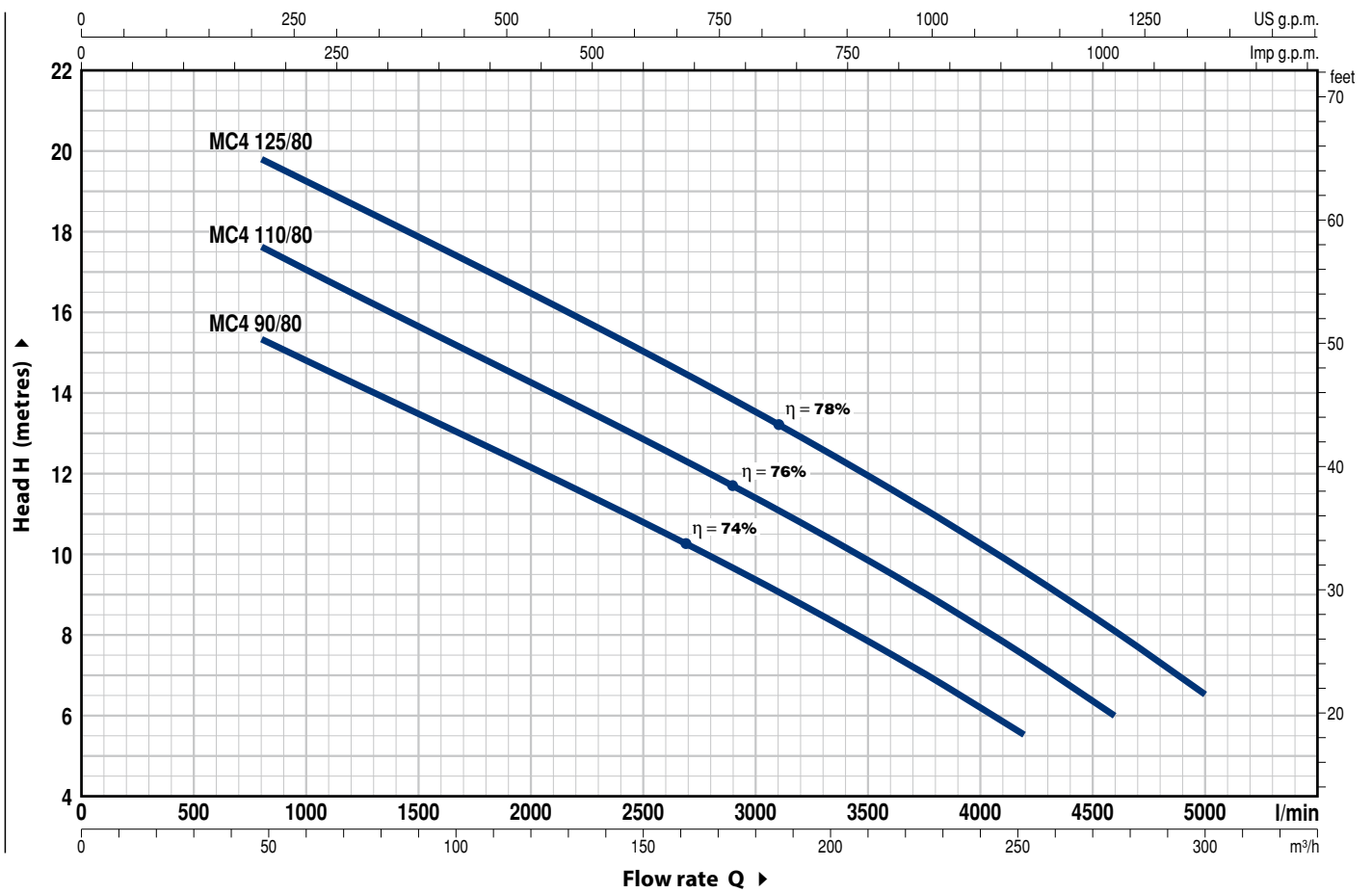
- Registered EU Design n. 003863158-0004

### OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

## CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min<sup>-1</sup>



MODEL Three-phase	POWER (P <sub>2</sub> )		Q	Flow rate														
	kW	HP		m <sup>3</sup> /h	0	48	60	90	120	150	180	210	240	252	276	300		
			l/min	0	800	1000	1500	2000	2500	3000	3500	4000	4200	4600	5000			
MC4 90/80	6.7	9	H metres	17.5	15.3	14.8	13.4	12.1	10.8	9.3	7.8	6.2	5.5					
MC4 110/80	8	11	H metres	20	17.6	17	15.6	14.2	12.8	11.4	9.8	8.2	7.5	6				
MC4 125/80	9.2	12.5	H metres	22	19.8	19.2	17.8	16.4	15	13.5	11.9	10.2	9.5	8.1	6.5			

Q = Flow rate H = Total manometric head

Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

**POS. COMPONENT CONSTRUCTION CHARACTERISTICS**

1	<b>PUMP BODY</b>	Cast iron
2	<b>IMPELLER</b>	DOUBLE-CHANNEL type in cast iron
3	<b>MOTOR CASING</b>	Cast iron
4	<b>CASING</b>	Cast iron
5	<b>MOTOR SHAFT</b>	Stainless steel AISI 431

**6 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER**

<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Materials</i>		
			<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
<b>AR-35</b>	<b>Ø 35 mm</b>	Motor side	Ceramic	Graphite	NBR
<b>MG1-40</b>	<b>Ø 40 mm</b>	Pump side	Silicon carbide	Silicon carbide	NBR

**7 BEARINGS 6308 2RS-C3 / 3308A 2RS-C3**

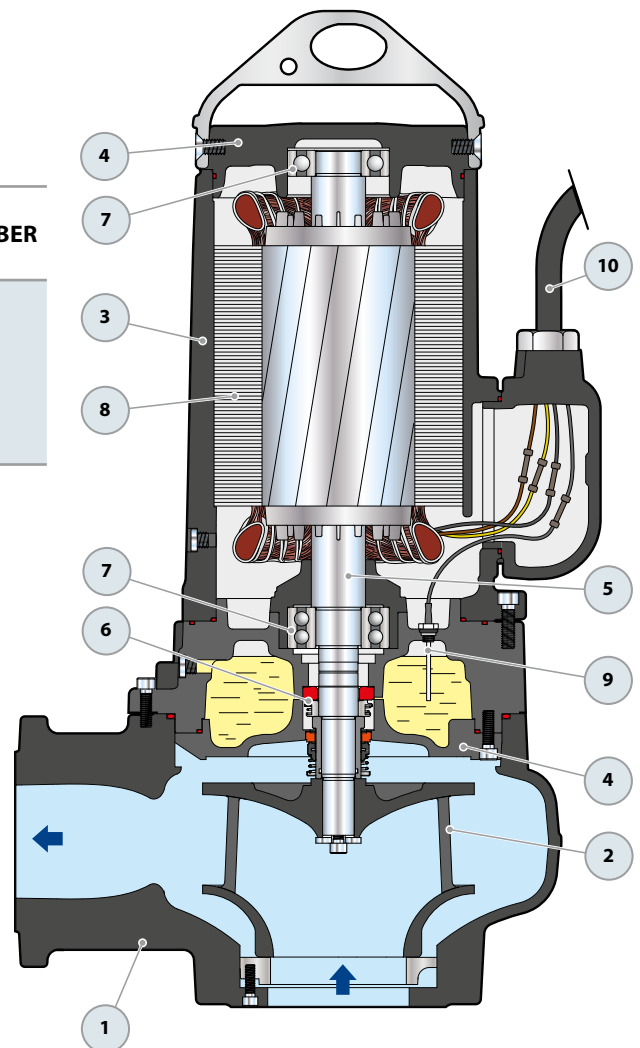
**8 ELECTRIC MOTOR**

- three-phase 400 V - 50 Hz  
with thermal overload protector incorporated into the winding
- Insulation: class F
- Protection: IP X8

**9 PROBE DETECTING THE PRESENCE OF WATER IN THE OIL CHAMBER**

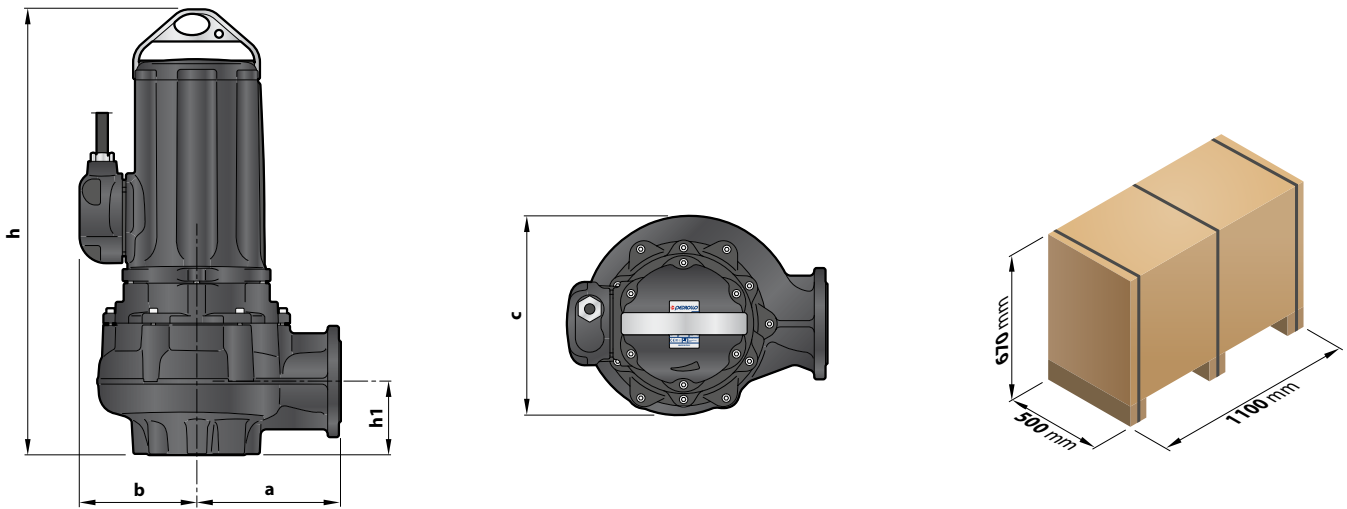
**10 POWER CABLE**

"H07 RN-F" type  
**Standard length 10 metres**



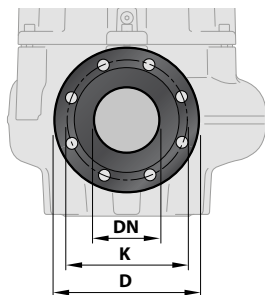


## DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm					kg
		a	b	c	h	h1	
Three-phase							3~
MC4 90/80	Ø 80	285	232	395	870	145	219
MC4 110/80							220
MC4 125/80							230

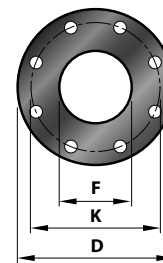
## FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
				N°	Ø (mm)
Three-phase	DN	mm	mm		
MC4 90/80	100 (PN10)	180	220	8	18
MC4 110/80					
MC4 125/80					

## COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



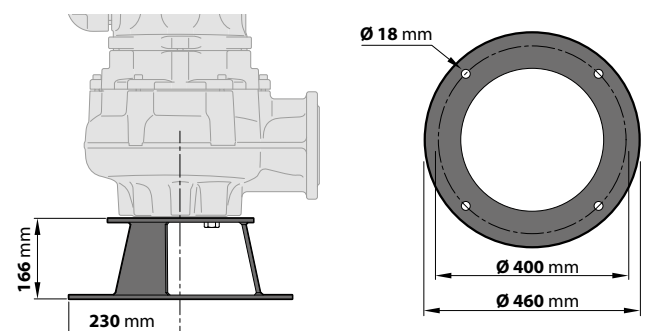
MODEL	FLANGE	F	K	D	HOLES	
					N°	Ø (mm)
Three-phase	DN		mm	mm		
MC4 90/80	100	4"	180	220	8	18
MC4 110/80						
MC4 125/80						

## ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
MC4 90/80	14.5 A
MC4 110/80	17.5 A
MC4 125/80	18.5 A

## BASE

(TO BE ORDERED SEPARATELY)



# SEWAGE LIFTING SYSTEM VXC4 – MC4



## VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For <b>VXC4, MC4</b>	Cod. ASSPVXC4V	DN 4"
----------------------	----------------	-------

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

## STANDARD INSTALLATION

- |   |  |
|---|--|
| 1. Pump                                     | 7. Control box                           |
| 2. Footing connection                       | 8. Stop float switch                     |
| 3. Guide tubes                              | 9. Starting float switch                 |
| 4. Support for the guide tubes              | 10. Starting float switch auxiliary pump |
| 5. Intermediate support for the guide tubes | 11. Alarm float switch                   |
| 6. Lifting chain                            | 13. Cement base                          |

## SLIDE GUIDE (Also to be ordered separately)

For <b>VXC4, MC4</b>	Cod. ASSFL100
----------------------	---------------

Complete with screws and seals

## ● INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV349INTFA	Guide tube Ø 2"
--------------------	-----------------

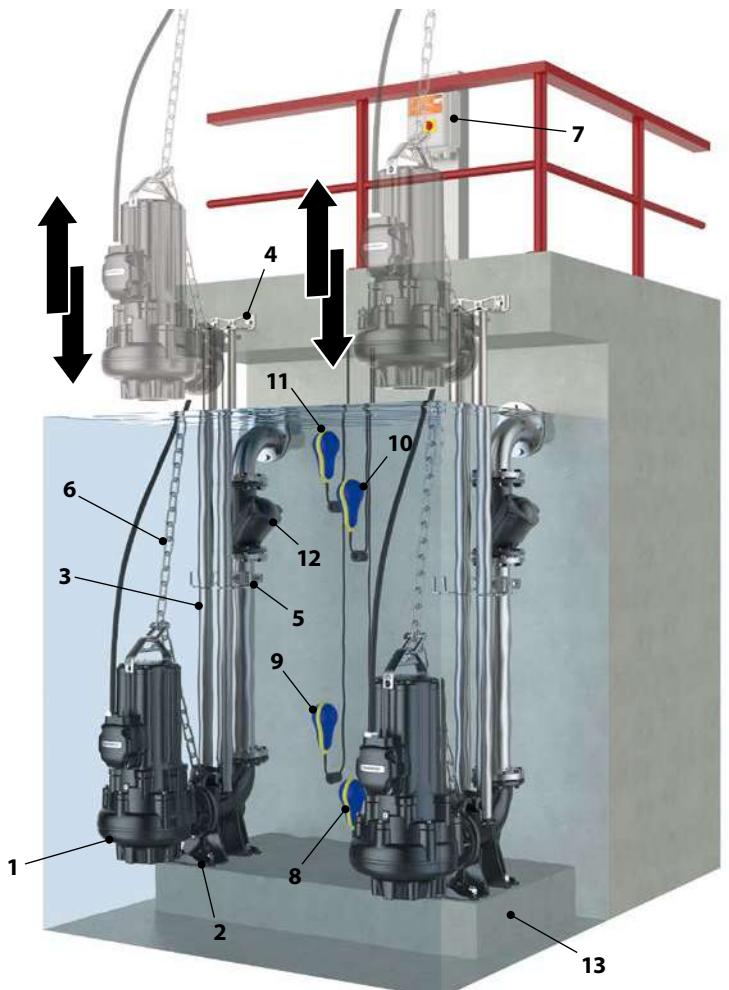
**In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)**



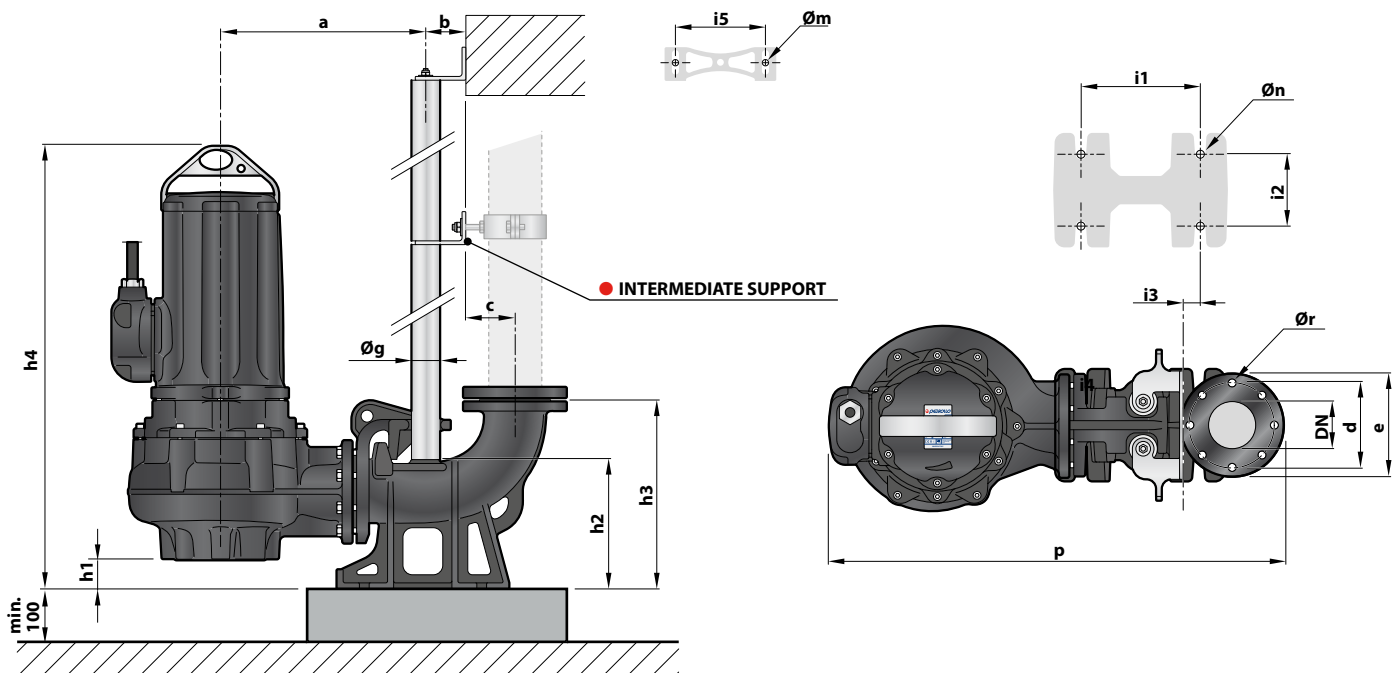
## GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG006	Ø 2"
-----------------	------

Maximum length of the tube plank: 6 metres



## DIMENSIONS



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																	
			a	b	c	d	e	p	h1	h2	h3	h4	i1	i2	i3	i5	Øg	Øm	Øn	Ør
Three-phase																				
VXC4 /80	Ø 80	100	435	85.5	104.5	180	220	965	62	275	400	930	250	150	34	187	2"	13.5	22	18
MC4 /80																				

# AUTOMATIC PRESSURE BOOSTING SETS (AUTOCLAVES)



HYDROFRESH 05 VT



HYDROFRESH 24 SF



HYDROFRESH 24 CL



HYDROFRESH 60 CL

## PERFORMANCE

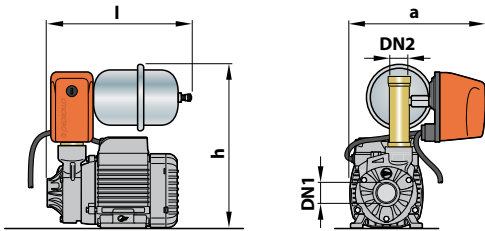
MODEL	POWER (P <sub>2</sub> )		FLOW RATE (1) litres/min	SETTING (2) bar
	kW	HP		
<b>HYDROFRESH 05VT</b>				
PKm 60 - 05 VT	0.37	0.50	32	1.4 – 2.8
JCRm 1B - 05 VT	0.48	0.65	60	1.4 – 2.8
JSWm 1BX - 05 VT	0.48	0.65	50	1.4 – 2.8
JSWm 1AX - 05 VT	0.55	0.75	55	1.8 – 3.2
<b>HYDROFRESH 24 SF</b>				
PKm 60 - 24 SF	0.37	0.50	32	1.4 – 2.8
PKm 65 - 24 SF	0.50	0.70	40	1.5 – 3.0
JCRm 1B - 24 SF	0.48	0.65	50	1.4 – 2.8
JCRm 1A - 24 SF	0.55	0.75	55	1.8 – 3.2
JSWm 1CX - 24 SF	0.37	0.50	50	1.2 – 2.6
JSWm 1BX - 24 SF	0.48	0.65	50	1.4 – 2.8
JSWm 1AX - 24 SF	0.55	0.75	55	1.8 – 3.2
JSWm 2CX - 24 SF	0.75	1	70	2.0 – 3.5
JSWm 2BX - 24 SF	0.90	1.25	70	2.4 – 3.8
JSWm 2AX - 24 SF	1.1	1.5	70	2.8 – 4.0
PLURIJETm 3/60X - 24 SF	0.37	0.50	60	1.0 – 2.8
PLURIJETm 3/80X - 24 SF	0.48	0.65	60	1.5 – 3.2
PLURIJETm 4/80X - 24 SF	0.55	0.75	60	2.0 – 4.2
PLURIJETm 3/100X - 24 SF	0.55	0.75	100	1.2 – 3.2
PLURIJETm 4/100X - 24 SF	0.75	1	100	2.2 – 4.4
<b>HYDROFRESH 24 CL</b>				
PKm 60 - 24 CL	0.37	0.50	32	1.4 – 2.8
PKm 65 - 24 CL	0.50	0.70	40	1.5 – 3.0
CPm 158 - 24 CL	0.75	1	90	1.8 – 3.2
CPm 170 - 24 CL	1.1	1.5	120	2.2 – 3.5
JCRm 1B - 24 CL	0.48	0.65	50	1.4 – 2.8
JCRm 1A - 24 CL	0.55	0.75	55	1.8 – 3.2
JCRm 2C - 24 CL	0.75	1	70	1.9 – 3.4
JCRm 2A - 24 CL	1.1	1.5	70	2.7 – 4.0
JSWm 1BX - 24 CL	0.48	0.65	50	1.4 – 2.8
JSWm 1AX - 24 CL	0.55	0.75	55	1.8 – 3.2
JSWm 2CX - 24 CL	0.75	1	70	2.0 – 3.5
JSWm 2BX - 24 CL	0.90	1.25	70	2.4 – 3.8
JSWm 2AX - 24 CL	1.1	1.5	70	2.8 – 4.0
PLURIJETm 3/80X - 24 CL	0.48	0.65	60	1.5 – 3.2
PLURIJETm 4/80X - 24 CL	0.55	0.75	60	2.0 – 4.2
PLURIJETm 3/100X - 24 CL	0.55	0.75	100	1.2 – 3.2
PLURIJETm 4/100X - 24 CL	0.75	1	100	2.2 – 4.4
<b>HYDROFRESH 60 CL</b>				
JSWm 2CX - 60 CL	0.75	1	70	2.0 – 3.5
JSWm 2BX - 60 CL	0.90	1.25	70	2.4 – 3.8
JSWm 2AX - 60 CL	1.1	1.5	70	2.8 – 4.0
PLURIJETm 4/80X - 60 CL	0.55	0.75	60	2.0 – 4.2
PLURIJETm 3/100X - 60 CL	0.55	0.75	100	1.2 – 3.2
PLURIJETm 4/100X - 60 CL	0.75	1	100	2.2 – 4.4

## COMPONENTS:

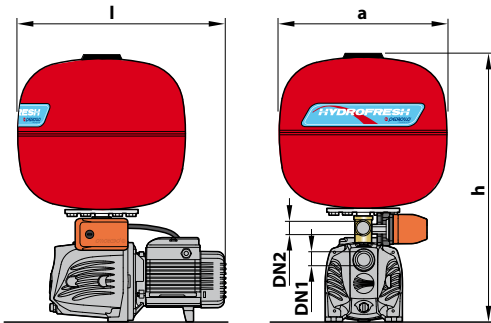
- Single-phase pump
- Tank
- Pressure switch PSG-1
- Pressure gauge (for 24SF, 24CL and 60CL)
- Hose (for 24CL and 60CL)
- Brass connector
- 1.5 m power cable with Schuko plug

- (1) Maximum flow rate at the minimum recommended pressure switch pressure  
 (2) Recommended pressure range

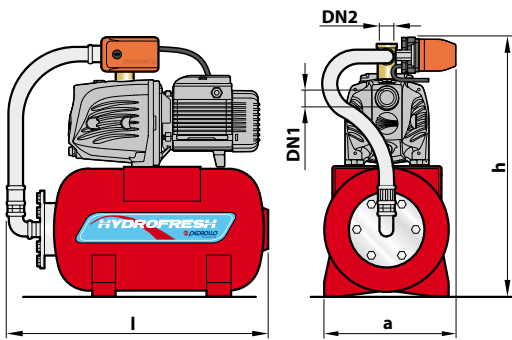
**DIMENSIONS AND WEIGHT**



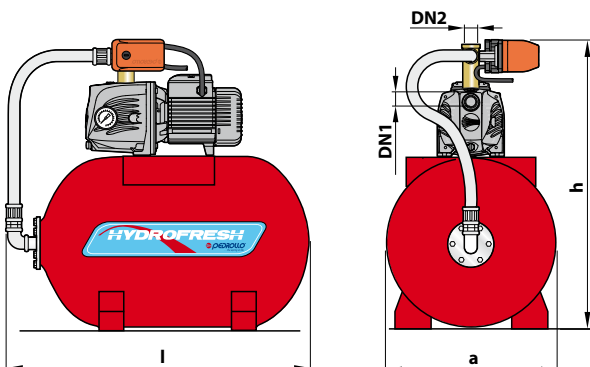
MODEL	PORTS		DIMENSIONS mm			WEIGHT kg
	DN1	DN2	l	a	h	
PKm 60 - 05 VT	1"	1"	212	210	240	6.8
JSWm1 CX - 05 VT	1"	1"	357	210	270	11.4
JSWm1 BX - 05 VT	1"	1"	357	210	270	11.5
JSWm1 AX - 05 VT	1"	1"	357	210	270	12.1



MODEL	PORTS		DIMENSIONS mm			WEIGHT kg
	DN1	DN2	l	a	h	
PKm 60 - 24 SF	1"	1"	350	350	560	13.7
PKm 65 - 24 SF	1"	1"	370	350	570	14.5
JCRm 1B - 24 SF	1"	1"	390	350	613	14.6
JCRm 1A - 24 SF	1"	1"	390	350	613	15.3
JSWm 1CX - 24 SF	1"	1"	394	350	590	17.0
JSWm 1BX - 24 SF	1"	1"	394	350	590	17.4
JSWm 1AX - 24 SF	1"	1"	394	350	590	18.2
JSWm 2CX - 24 SF	1"	1"	430	350	610	20.4
JSWm 2BX - 24 SF	1"	1"	430	350	610	21.5
JSWm 2AX - 24 SF	1"	1"	430	350	610	22.0
PLURIJETm 3/60X - 24 SF	1"	1"	390	350	613	14.2
PLURIJETm 3/80X - 24 SF	1"	1"	390	350	613	15.0
PLURIJETm 4/80X - 24 SF	1"	1"	390	350	613	16.0
PLURIJETm 3/100X - 24 SF	1"	1"	390	350	613	15.6
PLURIJETm 4/100X - 24 SF	1"	1"	390	350	613	18.3



MODEL	PORTS		DIMENSIONS mm			WEIGHT kg
	DN1	DN2	l	a	h	
PKm 60 - 24 CL	1"	1"	535	255	500	13.7
PKm 65 - 24 CL	1"	1"	535	255	510	15.3
CPm 158 - 24 CL	1"	1"	535	255	600	21.3
CPm 170 - 24 CL	1¼"	1"	535	255	620	27.8
JCRm 1B - 24 CL	1"	1"	535	255	560	15.2
JCRm 1A - 24 CL	1"	1"	535	255	560	16.0
JCRm 2C - 24 CL	1"	1"	535	255	570	18.4
JCRm 2A - 24 CL	1"	1"	535	255	570	19.8
JSWm 1BX - 24 CL	1"	1"	535	255	520	18.0
JSWm 1AX - 24 CL	1"	1"	535	255	520	18.6
JSWm 2CX - 24 CL	1"	1"	535	255	530	20.9
JSWm 2BX - 24 CL	1"	1"	535	255	530	21.6
JSWm 2AX - 24 CL	1"	1"	535	255	530	21.9
PLURIJETm 3/80X - 24 CL	1"	1"	535	255	560	15.7
PLURIJETm 4/80X - 24 CL	1"	1"	535	255	560	16.7
PLURIJETm 3/100X - 24 CL	1"	1"	535	255	560	16.3
PLURIJETm 4/100X - 24 CL	1"	1"	535	255	560	19.0



MODEL	PORTS		DIMENSIONS mm			WEIGHT kg
	DN1	DN2	l	a	h	
JSWm 2CX - 60 CL	1"	1"	730	340	675	28.1
JSWm 2BX - 60 CL	1"	1"	730	340	675	28.7
JSWm 2AX - 60 CL	1"	1"	730	340	675	29.3
PLURIJETm 4/80X - 60 CL	1"	1"	730	340	678	22.9
PLURIJETm 3/100X - 60 CL	1"	1"	730	340	678	22.5
PLURIJETm 4/100X - 60 CL	1"	1"	730	340	678	25.2



MODEL	POWER (P <sub>2</sub> )	
	kW	HP
Single-phase		
PKm 60 - EP	0.37	0.50
PKm 65 - EP	0.50	0.70
3CPm 80 - EP	0.45	0.60
4CPm 80 - EP	0.55	0.75
3CPm 100 - EP	0.55	0.75
4CPm 100 - EP	0.75	1
3CRm 80 - EP	0.45	0.60
4CRm 80 - EP	0.55	0.75
5CRm 80 - EP	0.75	1
3CRm 100 - EP	0.55	0.75
4CRm 100 - EP	0.75	1
2CPm 25/14B - EP	1.1	1.5
JSWm 1B - EP	0.48	0.65
JSWm 1A - EP	0.55	0.75
JSWm 2C - EP	0.75	1
JSWm 2B - EP	0.90	1.25
JSWm 2A - EP	1.1	1.5
JSWm 2CL - EP	0.75	1
JSWm 2CX - EP	0.75	1
JSWm 2BX - EP	0.90	1.25
PLURIJETm 3/60X - EP	0.37	0.50
PLURIJETm 3/80X - EP	0.48	0.65
PLURIJETm 4/80X - EP	0.55	0.75
PLURIJETm 3/100X - EP	0.55	0.75
PLURIJETm 4/100X - EP	0.75	1
PLURIJETm 5/90X - EP	1.1	1.5
PLURIJETm 3/130X - EP	1.1	1.5
PLURIJETm 3/200X - EP	1.1	1.5

### EASYPUMP COMPONENTS:

- Single-phase pump
- EASYPRESS with pressure gauge
- GSR quick-fit joint
- 1.5 metres power cable with Schuko plug

### EASYPUMP

Small pumps fitted with an electronic pressure switch that starts and stops the pump as required when a tap is turned on or off. The pump is also protected against dry running.



### PERFORMANCE RANGE

- Max flow rate: **200 l/min** (12 m<sup>3</sup>/h)
- Working pressure: **10 bar**
- Restarting pressure: **1.5 bar** ●

### APPLICATION LIMITS

- Maximum liquid temperature **+55 °C**
- Ambient temperature up to **+40 °C**
- Burst pressure **> 40 bar**
- Protection: **IP 65**
- Voltage: **230 V** - Frequency: **50/60 Hz**
- Max current: **16 A**

### CONSTRUCTION AND SAFETY STANDARDS

- Resinated and easily replaced electronic card for complete protection from humidity, fitted in the case with an IP 65 protection.
- The electronic card inside EASYPRESS has undergone the strictest EMC tests of electromagnetic compatibility.
- EASYPRESS complete with pressure gauge.

### INSTALLATION AND USE

The EASYPRESS series consists of electronic devices designed to start (when a tap is turned on) and stop (when a tap is turned off) single-phase pumps.

A **microprocessor protects** the pump from dry running, and allows the pump to be restarted either automatically or manually. It also prevents the pump from starting too often when small leaks are present within an installation.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 868062
- Patent n. IT 1388969, IT 1388970
- EASYPRESS® registered Trade Mark n. 0001334481



### OPTIONS AVAILABLE ON REQUEST

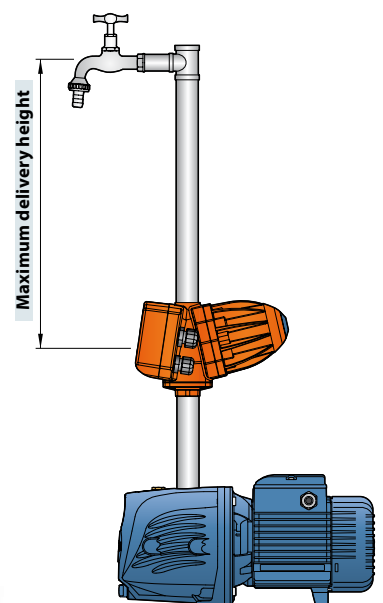
- EASYPRESS-1 version with restarting pressure **0.8 bar** ●
- EASYPRESS-2 version with restarting pressure **2.2 bar** ●
- Version with 1" NPT
- Version with cable and Schuko plug and socket

### STARTING PRESSURE

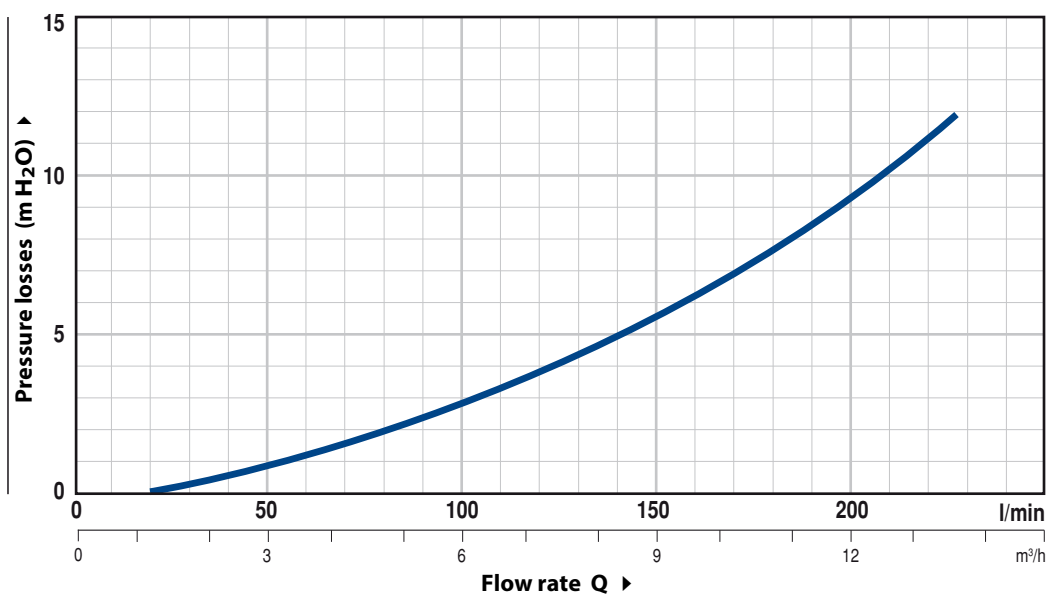
There are three different models available, each with a different starting pressure and easily identified by the coloured cap positioned at the rear of the EASYPRESS, for installations requiring delivery at various heights.

### Maximum delivery height

- 2.2 bar version ● = **18 m**
- 1.5 bar version ● = **11 m**
- 0.8 bar version ● = **5 m**

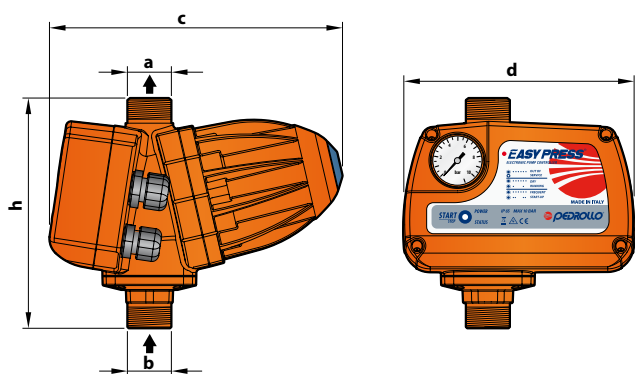


## PRESSURE LOSSES



MODEL	POWER (P <sub>2</sub> )		Volt	Hz	Current	Fittings	Flow rate	Restarting pressure
	kW	HP						
EASYPRESS	1.5	2	230	50/60	16 A	1" x 1"	12 m <sup>3</sup> /h	1.5 bar

## DIMENSIONS AND WEIGHT



MODEL	PORTS		DIMENSIONS mm			kg
	a	b	c	d	h	
EASYPRESS	1"	1"	221	175	174	1.63

## ACCESSORIES

- GSR Special three-piece joint with an o-ring seal (1" M)



## PALLETIZATION

MODEL	
Single-phase	n. EASYPRESS
EASYPRESS	147



## Electronic pressure regulators

 Domestic use



### PERFORMANCE RANGE

- Max flow rate: **200 l/min** (12 m<sup>3</sup>/h)
- Working pressure: **10 bar**
- Restarting pressure: **1.5 bar**

### APPLICATION LIMITS

- Maximum liquid temperature **+50 °C**
- Ambient temperature up to **+40 °C**
- Burst pressure **40 bar**
- Protection: **IP 65**
- Voltage: **230 V** - Frequency: **50/60 Hz**
- Max current: **16 A**

### PERFORMANCE DATA

MODEL	POWER (P <sub>2</sub> )		Volt	Hz	Current
	kW	HP			
Single-phase					
<b>EASYSMALL</b>	1.5	2	230	50/60	<b>16 A</b>

### CONSTRUCTION AND SAFETY STANDARDS

- Tropicalised resinated and easily replaced electronic card for complete protection from humidity, fitted in the case with an IP 65 protection.
- The electronic card inside the EASYSMALL has undergone the strictest EMC tests of electromagnetic compatibility (low emission of interference and a high immunity to disturbance) as a guarantee of its reliable use everywhere.
- EASYSMALL complete with pressure gauge.

### INSTALLATION AND USE

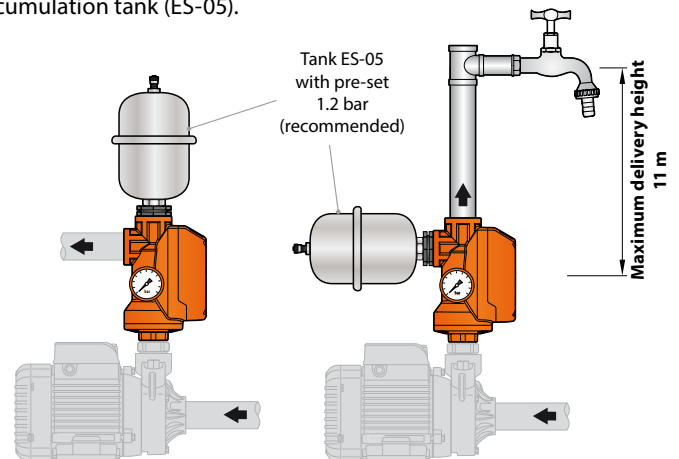
Flow and pressure sensing device for control and protection of single-phase pumps up to 2 HP (for domestic applications). It starts the pump when there is a drop in system pressure (e.g. when opening a tap) and stops the pump when the flow drops below 2 l/min (tap closed).

### PATENTS - TRADE MARKS - MODELS

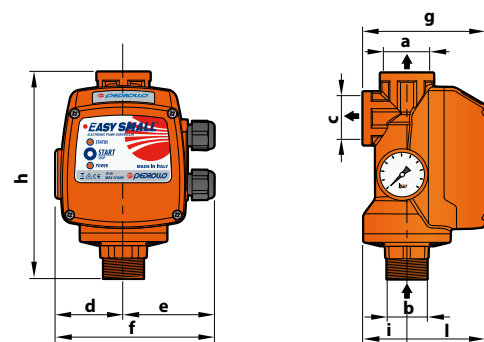
- Registered EU Design n. 001774928
- EASYSMALL® registered Trade Mark n. 0001511131

### STANDARD INSTALLATION

In order to avoid frequent restarts we advise installing a small accumulation tank (ES-05).



### DIMENSIONS AND WEIGHT



MODEL	PORTS			DIMENSIONS mm							kg
	a	b	c	d	e	f	g	h	i	l	
<b>EASYSMALL</b>	1"	1"	1"	56	74	131	100	177	36	64	<b>0.7</b>

### ACCESSORIES

- **ES-05** Stainless steel 0.5 litre tank (1")
- **GSR** Special three piece joint with an o-ring seal (1" M)



## Electronic pressure regulator

Domestic use



### PERFORMANCE RANGE

- Max flow rate: **200 l/min** (12 m<sup>3</sup>/h)
- Working pressure: **8 bar**
- **Default settings:**
  - starting pressure: **2 bar, adjustable in a range between 1 and 5 bar;**
  - max rated current: **16 A, adjustable in a range between 4 and 16 A.**

### APPLICATION LIMITS

- Maximum liquid temperature **+55 °C**
- Ambient temperature up to **+40 °C**
- Burst pressure **24 bar**
- Protection: **IP 65**

### INSTALLATION AND USE

**PRESFLO MULTI** stands out from the traditional pressure-flow regulators thanks to some innovative features:

- **an air filled expansion vessel, equipped in the device;**
- **manual setup of the starting pressure of the pump and the maximum current.**

#### RESTART PRESSURE AND MAXIMUM LOAD CURRENT

**PRESFLO MULTI** allows adjustment of the pump restart pressure between **1 and 5 bar** and the maximum current between **4 and 16 A**. The adjustment is made with 2 trimmers located under the (removeable) cover of the (electronic) board. One single model covers a range of installation requirements.

#### SURGE TANK

**PRESFLO MULTI** includes an incorporated **2 litre** surge tank. The substantial accumulation volume combined with its ability to absorb excess pressure, a typical surge tank characteristic, make it suitable for use in installations where other pressure flow regulators may prove inadequate. In order to guarantee optimum protection and accumulator performance, it is possible to adjust the tank pressure, the **factory setting is 2 bar**, based on the pump start pressure selected.

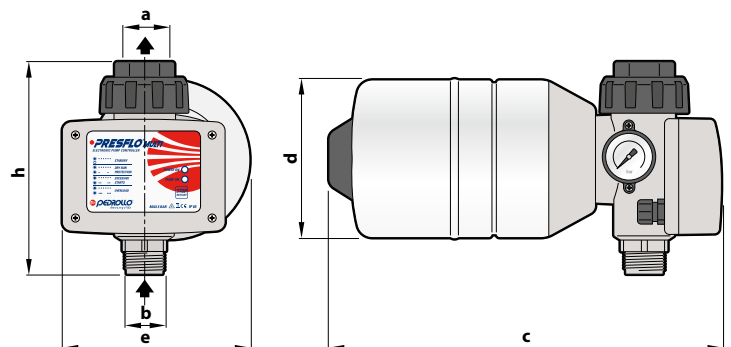
### PERFORMANCE DATA

MODEL	POWER (P <sub>2</sub> )		Volt	Hz	Maximum current
	kW	HP			
<b>PRESFLO MULTI</b>	1.5	2	230	50/60	<b>16 A</b>

### CONSTRUCTION AND SAFETY STANDARDS

- Resinated and easily replaced electronic card for complete protection from humidity, fitted in the case with an IP 65 protection.
- The electronic card inside **PRESFLO MULTI** has undergone the strictest EMC tests of electromagnetic compatibility.
- **PRESFLO MULTI** complete with pressure gauge.

### DIMENSIONS AND WEIGHT



MODEL	PORTS		DIMENSIONS mm				kg
	a	b	c	d	e	h	
<b>PRESFLO MULTI</b>	<b>1"</b>	<b>1"</b>	299	127	149	168	<b>2.0</b>

### ACCESSORIES

- **GSR** Special three-piece joint with an o-ring seal (1" M)



# COMBIPRESS "CB2"

## Pressure boosting sets

 Domestic use

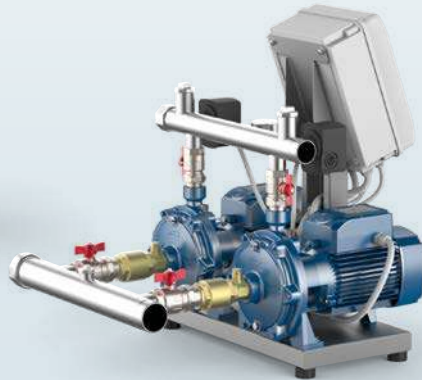
 Agricultural use

 Civil use

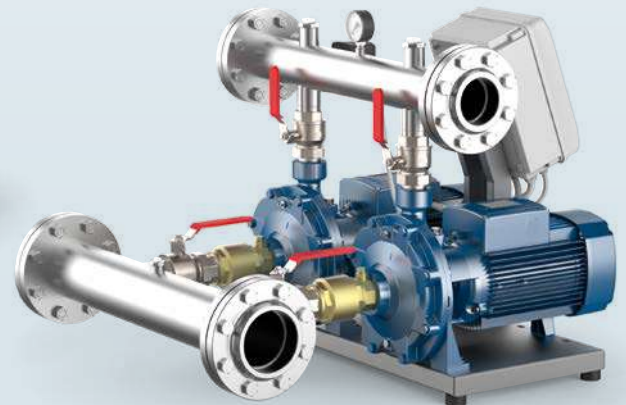
 Industrial use



CB2 - MK



CB2 - 2CP



CB2 - 2CP

### OPERATING PRINCIPLE

**COMBIPRESS** are pressure boosting sets consisting of two pumps assembled in a ready to be mounted unit.

The sets are arranged so that, at each increase in demand by the users, one or both pumps in succession start automatically. The operation of the number of pumps necessary to satisfy the demand for water results in a marked reduction in power consumption.

The electronic circuit in the control box alternates the operation of the pumps.

### USES

- Clean water and chemically non-aggressive liquids.
- Water supply: pressure boosting in industrial applications, blocks of flats, hotels, communities, water treatment plants, campsites, schools, hospitals, barracks, etc.
- Irrigation: playing fields in general (football, golf, etc), agriculture, artificial snow systems.

### CONSTRUCTION CHARACTERISTICS

- **PUMPS** complete with intake and exhaust manifolds, spherical valves and non-return valves.
- **BLOCK** constructed from a metal section.
- **COMPONENTS** of command and control installed on the exhaust manifold and consisting of a pressure gauge and two pressure switches which can be set by the user (the factory setting is regulated based on the average use of the set).
- **CONTROL BOX** fitted with a gate block switch, a low voltage pressure switch control circuit, an electronic circuit to alternate the operation of the pumps, an amperometric protection (overload cut-out) and an anti-rebound system at the start of the pumps (to avoid continuous false starts in the case of short and limited requests by the user).

**CB2m:** single-phase 230 V - 50 Hz.

**CB2:** three-phase 230/400 V - 50 Hz up to 4 kW.

400/690 V - 50 Hz from 5.5 to 7.5 kW.

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



## PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup> HS= 0 m

MODEL	1~ 3~		POWER (P <sub>2</sub> )		▲	Q* m <sup>3</sup> /h l/min	0	1.2	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6		
	kW	HP	0	20			40	80	120	160	200	240	280	320	360				
CB2 - MK 3/3	●	●	2 x 0.75	2 x 1	IE3	H metres	52	50	49	45	38	28							
CB2 - MK 3/4	●	●	2 x 1.1	2 x 1.5			69.5	67	65.5	60	50.5	38							
CB2 - MK 3/5	●	●	2 x 1.1	2 x 1.5			87	83	82	75	63.5	47							
CB2 - MK 3/6	●	●	2 x 1.5	2 x 2			104	100	98	90	76	56							
CB2 - MK 5/4	●	●	2 x 1.1	2 x 1.5	IE3		56	-	55	52.5	48	41.5	32	20					
CB2 - MK 5/5	●	●	2 x 1.1	2 x 1.5			70	-	69	66	60	51.5	40	25					
CB2 - MK 5/6	●	●	2 x 1.5	2 x 2			84	-	83	79	72	62	48	30					
CB2 - MK 5/7		●	2 x 1.8	2 x 2.5			98	-	96	92.5	84	72.5	56	34					
CB2 - MK 5/8		●	2 x 2.2	2 x 3	112		-	110	105.5	96	82.5	64	40						
CB2 - MK 8/4	●	●	2 x 1.5	2 x 2	IE3		56	-	-	54	52	50	46	39	31.5	24	15		
CB2 - MK 8/5		●	2 x 1.8	2 x 2.5			70	-	-	67.5	66	63	58	50	40	30	18		
CB2 - MK 8/6		●	2 x 2.2	2 x 3			86	-	-	82	78	74	68	58	46.5	35	20		

MODEL	1~ 3~		POWER (P <sub>2</sub> )		▲	Q* m <sup>3</sup> /h l/min	0	0.6	1.2	2.4	3.6	4.8	7.2	8.4	9.6	10.8	12.0	13.2	14.4	15.6
	kW	HP	0	10			20	40	60	80	120	140	160	180	200	220	240	260		
CB2 - 4CP 100	●		2 x 0.75	2 x 1	IE3	H metres	50	50	49	47	45	42	37	34	30.5	26.5	22	17	11	5

MODEL	1~ 3~		POWER (P <sub>2</sub> )		▲	Q* m <sup>3</sup> /h l/min	0	0.6	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6
	kW	HP	0	10			20	40	60	80	100	120	140	160	180	200	220	240	260		
CB2 - 3CRm80	●		2 x 0.45	2 x 0.60	IE2	H metres	40	38	37	34.5	31	27	22.5	17	11	5					
CB2 - 4CRm80	●		2 x 0.55	2 x 0.75			52	50	49	44.5	40	34	28.5	22.5	16	10					
CB2 - 5CRm80	●		2 x 0.75	2 x 1	IE3		67	66	64	59	53	45.5	37.5	29.5	20.5	12					
CB2 - 4CRm100	●		2 x 0.75	2 x 1			50	50	49	47	45	42	39.5	37	34	30.5	26.5	22	17	11	5
CB2 - 5CRm100	●		2 x 1.1	2 x 1.5	63		62	61.5	59.5	57	53.5	50.5	46.5	42.5	38	33	28	22	15	8	

MODEL	1~ 3~		POWER (P <sub>2</sub> )		▲	Q* m <sup>3</sup> /h l/min	0	2.4	4.8	7.2	9.6	12.0	13.2	14.4	16.8	19.2	21.6	24.0	30.0	36.0	42.0	48.0	
	kW	HP	0	40			80	120	160	200	220	240	280	320	360	400	500	600	700	800			
CB2 - 2CP 25/130	●	●	2 x 0.75	2 x 1	IE3	H metres	42	39	34	28.5	22	15											
CB2 - 2CP 25/14B	●	●	2 x 1.1	2 x 1.5			54	52	47.5	41	33	22											
CB2 - 2CP 25/16C	●	●	2 x 1.1	2 x 1.5			47	46	44	40	35	30	27	24									
CB2 - 2CP 25/16B	●	●	2 x 1.5	2 x 2			58	56	54	51	47	43	40	37	30								
CB2 - 2CP 25/16A		●	2 x 2.2	2 x 3	68		67	64.5	62	58	54	51	48	41	32								
CB2 - 2CP 32/200C		●	2 x 3	2 x 4	IE3		70	-	66.5	65	63	60.5	59	58	55	52	49.5	46.5	36				
CB2 - 2CP 32/200B		●	2 x 4	2 x 5.5			85	-	81	79	77	75	74	72	69	66	62	58	49				
CB2 - 2CP 32/210B		●	2 x 5.5	2 x 7.5			94	-	94	93	91	89	87	86	83	79	75	70	56				
CB2 - 2CP 32/210A		●	2 x 7.5	2 x 10			112	-	111	110.5	110	108	107	106	102	99	94	89	74				
CB2 - 2CP 40/180C		●	2 x 4	2 x 5.5	IE3		64	-	-	-	-	62	61.3	60.5	59	57.5	56	54.5	49	43	35		
CB2 - 2CP 40/180B		●	2 x 5.5	2 x 7.5			76	-	-	-	-	73	72.5	72	71	70	69	67.5	64	59.5	54	46	
CB2 - 2CP 40/180A		●	2 x 7.5	2 x 10			88	-	-	-	-	85	84.5	84	83	82	81	79.5	76	72	67	60	

Q = Flow rate H = Total manometric head HS = Suction height

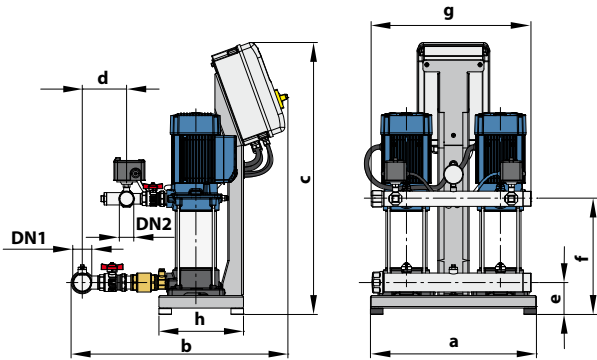
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

\* Maximum flow rate of the pressure boosting set with both pumps running

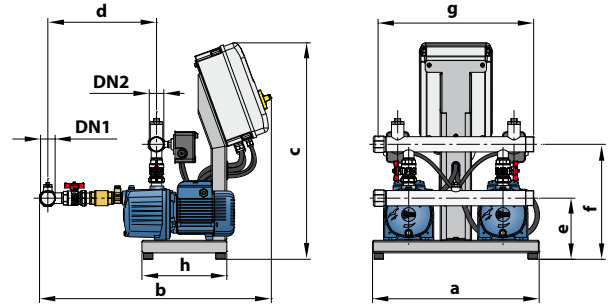
▲ Three-phase motor efficiency class (IEC 60034-30-1)

# COMBIPRESS "CB2"

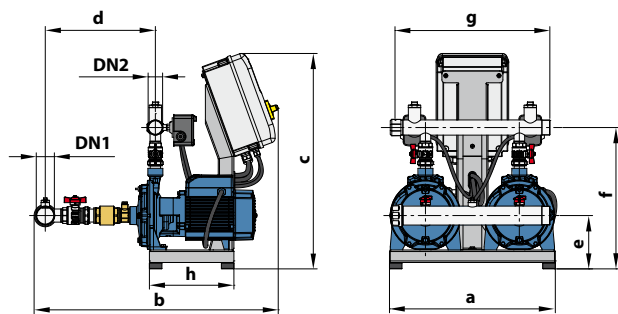
## DIMENSIONS AND WEIGHT



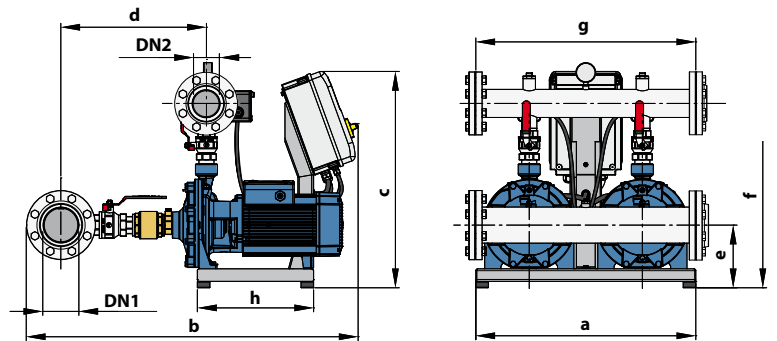
**CB2 - MK**



**CB2 - 4CP • CB2 - 3-5CR**



**CB2 - 2CP 25/ • CB2 - 2CP 32/**



**CB2 - 2CP 40/**

MODEL		PORTS		DIMENSIONS mm								kg	
Single-phase	Three-phase	DN1	DN2	a	b	c	d	e	f	g	h	1~	3~
CB2 - MKm 3/3	CB2 - MK 3/3	2"	1½"	530	695	868	140	102	251	500	270	58.0	59.0
CB2 - MKm 3/4	CB2 - MK 3/4								275			59.0	59.0
CB2 - MKm 3/5	CB2 - MK 3/5								299			60.0	60.0
CB2 - MKm 3/6	CB2 - MK 3/6								323			66.0	64.0
CB2 - MKm 5/4	CB2 - MK 5/4								275			59.0	59.0
CB2 - MKm 5/5	CB2 - MK 5/5								299			59.0	60.0
CB2 - MKm 5/6	CB2 - MK 5/6								323			65.0	63.0
-	CB2 - MK 5/7								347			-	66.0
-	CB2 - MK 5/8	368	-	67.0									
CB2 - MKm 8/4	CB2 - MK 8/4	2½"	1½"	530	742	868	178	102	261	500	270	67.0	65.0
-	CB2 - MK 8/5								288			-	68.0
-	CB2 - MK 8/6								309			-	68.0
CB2 - 4CPm100	-	1½"	1½"	530	737	688	346	194	366	500	270	52.0	-
CB2 - 3CRm80	-	1½"	1½"	530	764	689	349	192	372	500	270	39.8	-
CB2 - 4CRm80	-				789		374					41.8	-
CB2 - 5CRm80	-				837		412					46.6	-
CB2 - 4CRm100	-	2"	2"	530	780	688	352	170	452	500	270	52.9	-
CB2 - 5CRm100	-											53.7	-
CB2 - 2CPm 25/130	CB2 - 2CP 25/130	1½"	1½"	530	746	688	343	152	394	500	270	52.5	51.0
CB2 - 2CPm 25/14B	CB2 - 2CP 25/14B	2"	1½"	530	771	688	352	153	417	500	270	70.5	70.0
CB2 - 2CPm 25/16C	CB2 - 2CP 25/16C				170			452	70.5			70.0	
CB2 - 2CPm 25/16B	CB2 - 2CP 25/16B				192			535	79.5			79.0	
-	CB2 - 2CP 25/16A				199			565	-			82.0	
-	CB2 - 2CP 32/200C	3"	2"	700	982	688	454	192	535	700	370	-	112.0
-	CB2 - 2CP 32/200B				199			565	-			118.0	
-	CB2 - 2CP 32/210B				199			565	-			149.0	
-	CB2 - 2CP 32/210A				199			565	-			156.0	
-	CB2 - 2CP 40/180C	4"	3"	700	1056	688	463	199	587	700	370	-	168.0
-	CB2 - 2CP 40/180B											-	178.0
-	CB2 - 2CP 40/180A											-	188.0

-  Clean water
-  Domestic use
-  Civil use



## DESCRIPTION

- **DG PED** is an automatic pressurisation system with inverter which integrates: a high efficiency self-priming pump; an expansion vessel; pressure and flow rate sensors; a non-return valve.
- **DG PED is a compact, autonomous, quiet and high performance pumping system.**
- **A sophisticated electronically controlled inverter, at the heart of the system, in an intuitive way:**
  - maintains the pressure of the installation constant by regulating the speed of the pump in accordance with the required flow rate;
  - controls the hydraulic and electric operating parameters and protects the pump from anomalies;
  - can be equipped with an expansion card that makes it possible to work in parallel with other inverters in the pumping groups by managing input and output signals;
  - it adapts to every type of pressurisation system, including existing ones;
  - it limits the starting and operating currents in order to provide a greater saving of energy.

## TECHNICAL DATA

- Supply voltage ~ **230 V** ± 10%
- Frequency **50/60 Hz**
- Insulation: **class F**
- Max absorbed current: **7.5 A** DG PED 3 - **10 A** DG PED 5
- P1 Maximum absorbed power: **1.0 kW** DG PED 3 - **1.5 kW** DG PED 5
- Protection IP X4
- Factory set point **3 bar**

## APPLICATION LIMITS

- Manometric suction lift up to **8 m**
- Liquid temperature between 0 °C and **+40 °C**
- Ambient temperature between 0 °C and **+40 °C**
- Max. working pressure **10 bar**
- Continuous service **S1**
- Operates in a **vertical** position



### ALL IN ONE

#### Main components:

- Multistage self-priming pump
- Expansion vessel
- Non-return valve
- Intuitive control panel



### LOW-NOISE



### CONSTANT PRESSURE

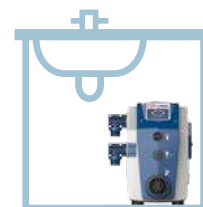


### EASY TO USE



### INSTALLABLE ANYWHERE

Thanks to its compactness and low noise level the DG PED can be installed anywhere



### COMPACT DIMENSIONS



### DOMESTIC USE

A single DG PED meets the requirements of single apartments or small houses.

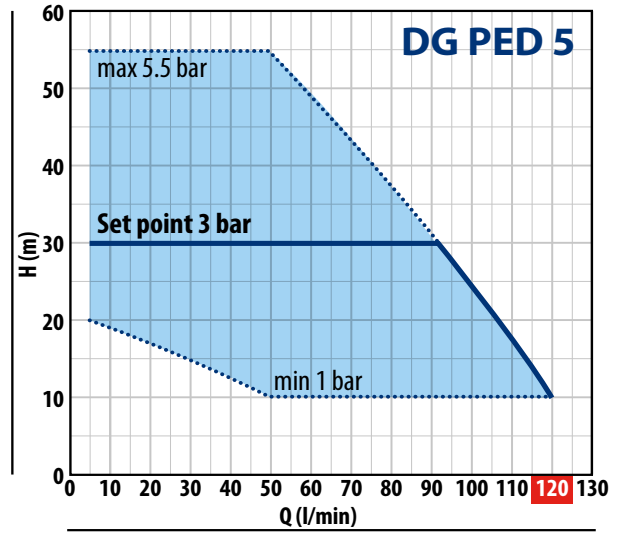
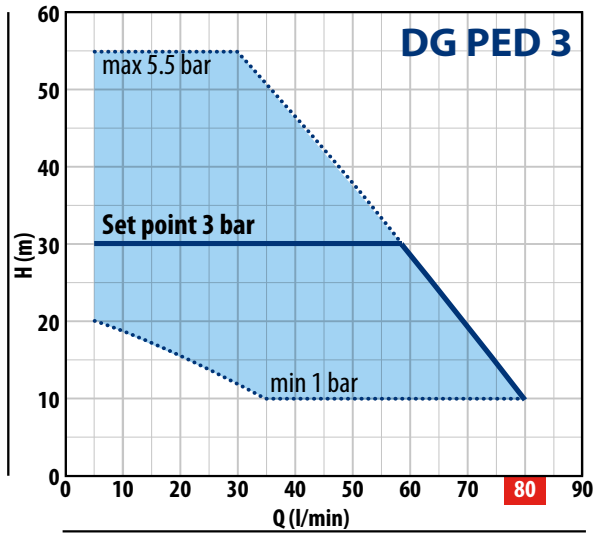


### RESIDENTIAL USE

Two DG PED assembled as a set meet the requirements of more than one apartment.



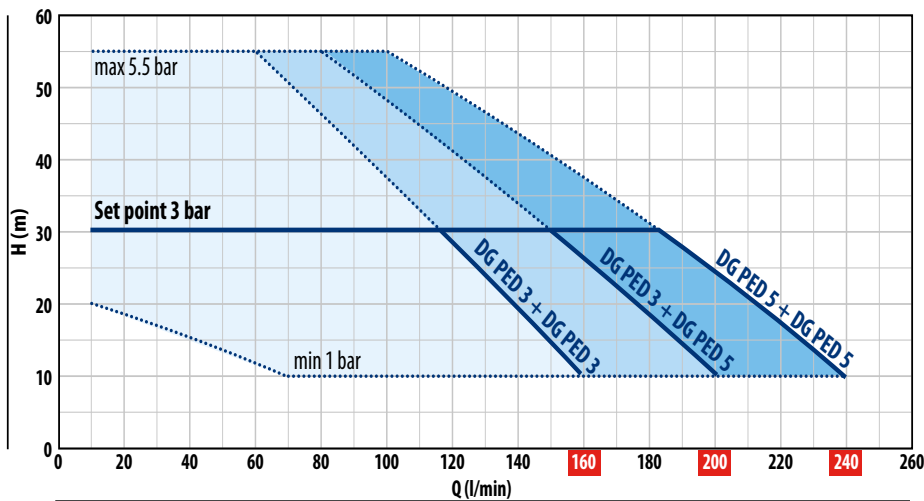
## CHARACTERISTIC CURVES



MODEL	POWER		▲	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	P <sub>2</sub> kW	HP		Q l/min	H metres	Min. Set Point bar	l/min	Set Point Stand. Setting		Max. Set Point	
Single-phase								bar	l/min	bar	l/min
<b>DG PED 3</b>	0.75	1	IE3	5 - 80	55 - 10	1	35 - 80	3	5 - 58	5.5	5 - 30
<b>DG PED 5</b>	1.1	1.5		5 - 120	55 - 10	1	50 - 120	3	5 - 92	5.5	5 - 50

Q = Flow rate H = Total manometric head Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B. ▲ Three-phase motor efficiency class (IEC 60034-30-1)

## CHARACTERISTIC CURVES FOR GROUPS OF TWO DG PED 3 OR 5



## OPTIONAL ACCESSORIES



Connection kit for two DG PED units



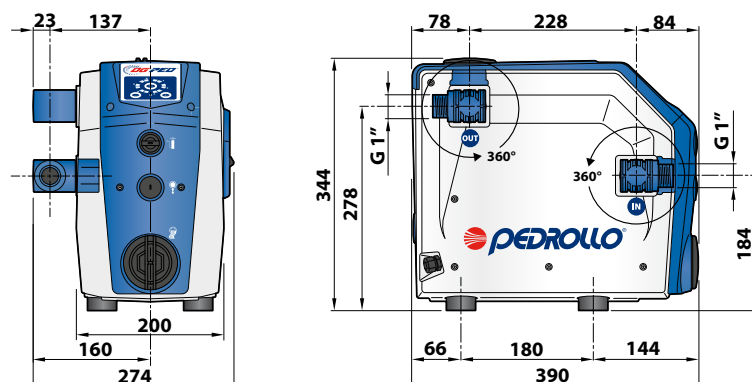
Electronic expansion circuit board



Kit for wall-mounting a single DG PED



Kit for wall-mounting a group of two units





### PERFORMANCE RANGE

- Flow rate up to **3.5 m<sup>3</sup>/h** (0.97 l/s)
- Head up to **6 m**

### APPLICATION LIMITS

- Liquid temperature between **+2 °C** and **+95 °C**
- Ambient temperature between **0 °C** and **+40 °C**
- Maximum working pressure **6 bar**
- Minimum pressure while in suction:
  - **0.3 bar** at +50 °C
  - **1.0 bar** at +95 °C
- Maximum relative humidity  $\leq$  **95%**
- Sound pressure level **< 43 dB(A)**
- Maximum glycol **30%**
- Continuous service **S1**

### CONSTRUCTION AND SAFETY STANDARDS

EN 60335-1	EN 61000-3-2	EN 55014-1
EN 60335-2-51	EN 61000-3-3	EN 55014-2
EN 62233	EN 16297-1	EN 16297-2

### EU REGULATION N. 622/2012 - EEI $\leq$ 0.20

The benchmark for the most efficient circulators is EEI  $\leq$  0.20

### INSTALLATION AND USE

Electronic circulating pumps at low energetic consumption as A+ class. Compared to traditional circulating pumps with same performances, these may go up to -85% consumption of electricity. These are recommended for house and residential building. Due to electronic control is possible to achieve advanced options as well as the running operations simply adjusting tuning selector from control box.

Running available programmes allow circulating pumps to perform the best lowering energetic consumption as well as cancelling noise of waterflow inside pipes, valves and radiators.

Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

### CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

### MODES OF OPERATION

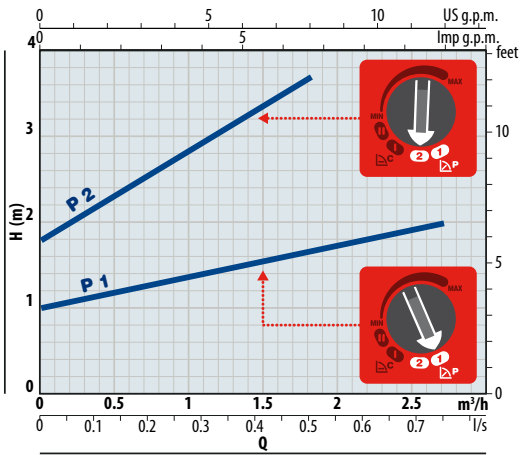
The control panel allows one to select the preferred work curve by means of three programmes.

A luminous LED, with different colours, provides information regarding the operating status of the circulator.

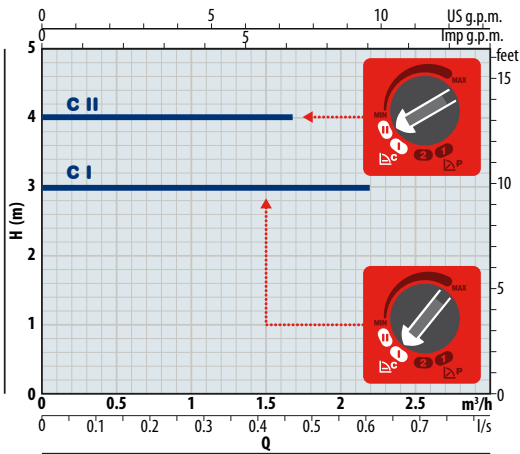
	<p><b>PROPORTIONAL PROGRAMME</b> (GREEN LED)</p>		<p>It changes proportionally the pressure (head) in accordance with demanded heat from the system (variation of delivery).</p>	<p>In case of air-bubble inside the system is told by a led in the control box. The built-in electronic allows automatic reset of the motor in case of this inconvenience occur.</p>
	<p><b>CONSTANT PROGRAMME</b> (ORANGE LED)</p>		<p>It keeps the pressure constant (head) in accordance with demanded heat from the system (variation of delivery).</p>	<p> WHITE LED. Air bubble in the system. Vent system.</p>
	<p><b>CUSTOM-MADE PROGRAMME</b> (BLUE LED)</p>	<p><b>MIN MAX</b></p>	<p>Fixed speed curves of operation, adjustable by positioning the selector anywhere between the MIN and MAX positions</p>	<p> RED LED. Circulating pump is in block still under tension.</p>



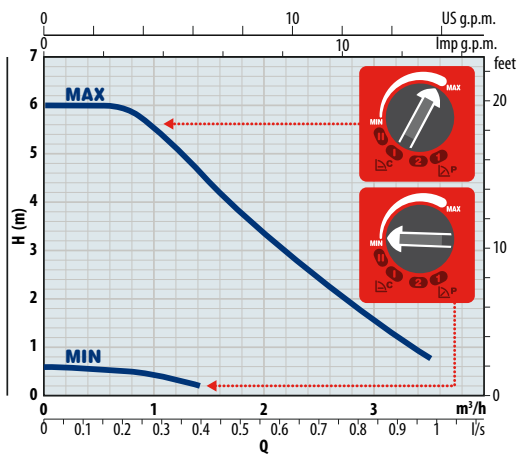
### CHARACTERISTIC CURVES



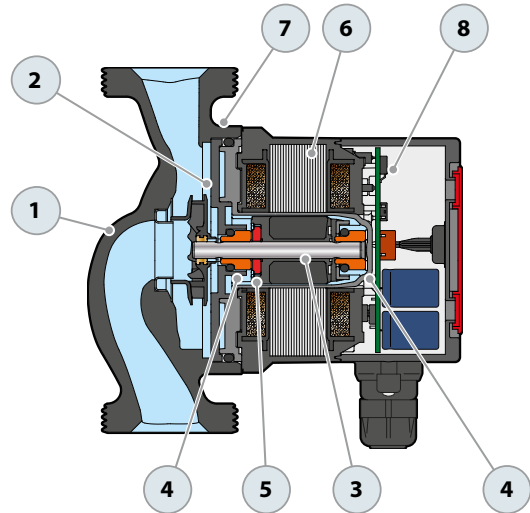
### CHARACTERISTIC CURVES



### CHARACTERISTIC CURVES MIN-MAX

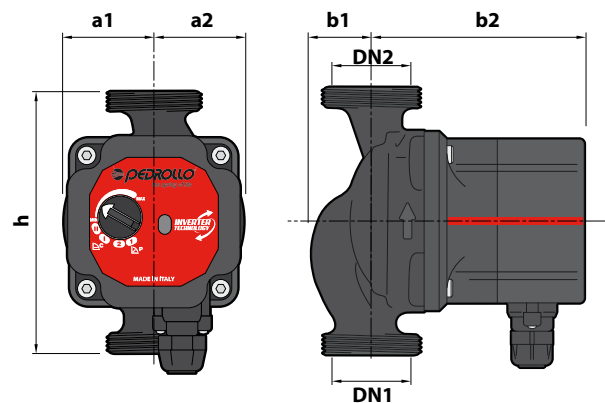


### CONSTRUCTION CHARACTERISTICS



1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment
2	IMPELLER	Technopolymer
3	SHAFT	Ceramic
4	BEARINGS	Graphite
5	THRUST BEARING	Ceramic
6	ELECTRIC MOTOR	<ul style="list-style-type: none"> <li>- Single-phase</li> <li>- 230 V (-10%; +6%) - 50 Hz</li> <li>- Absorbed power P1: Min 3 W - Max 42 W</li> <li>- Absorbed current I1: Min 0.03 A - Max 0.33 A</li> <li>- Insulation: class H</li> <li>- Protection: IP 44</li> <li>- Appliance Class: II</li> </ul>
7	SEALS	EPDM
8	ELECTRONIC CIRCUIT BOARD	

### DIMENSIONS AND WEIGHT



MODEL	PORTS		DIMENSIONS mm					kg
	DN1	DN2	h	a1	a2	b1	b2	
Single-phase								
DHL 25-60/130	G 1½"	G 1½"	130	45	45	29	104.2	2.01
DHL 25-60/180			180					2.60

# E1 E2

## Multifunction Electronic Control Box for Electric Pumps



**MADE IN ITALY**

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## Multifunction Electronic Control Box for Electric Pumps

The **E1/E2** multifunctional electronic control panels are designed to suit any application, whether for clean water or waste water systems. Thanks to the possibility of selecting **six preset operation modes**, they allow any pumping system to be managed simply and intuitively.

- ✳ With two pumps, the control box automatically alternates the starting of the pumps to optimize the wear and the running times.
- ✳ In case of failure of one pump, the logic automatically disables it, switching the second one to keep the system on duty.
- ✳ The Wi-Fi and Bluetooth module (optional) makes the use of the electronic control panel even simpler and more intuitive, allowing setting parameters and system status to be displayed directly on your smartphone.



### GENERAL CHARACTERISTICS

- Operating voltage:  
**230V ±15 - 50/60 Hz (E1/E2 MONO)**  
**400V ±15 - 50/60 Hz (E1/E2 TRI)**
- Panel mount switch disconnecter
- Auxiliary circuit protection fuse
- Motor protection fuse
- External ABS enclosure
- Cable glands
- **IP 55** protection
- Ambient temperature **-5/+40 °C**
- Relative humidity **50% at 40 °C**

### INPUTS

#### Control of analogue and digital inputs:

- Pressure switches
- Floating Switches
- Remote contacts
- Starting/Stopping floating switches
- Level Probes
- Pressure transducers 4-20 mA
- 0-10 V signals

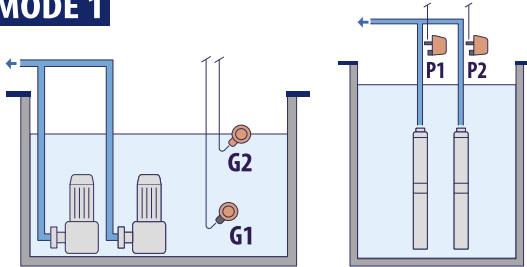
### PROTECTIONS

- Programmable dry run protection through  $\cos \phi$ , current, float or level sensor control.
- Phase failure or reverse protection
- Minimum and maximum current control
- Minimum and maximum supply voltage control
- Motor fault alarm management
- Management of minimum and maximum level alarms
- Auxiliary pump management in case of pump fault (E2 panel)

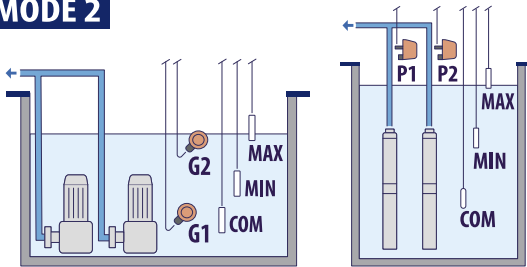
## Multifunction Electronic Control Box for Electric Pumps

### OPERATION MODE:

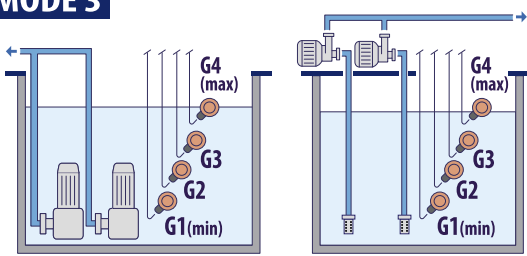
#### MODE 1



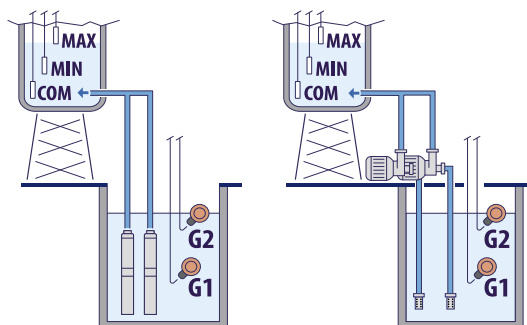
#### MODE 2



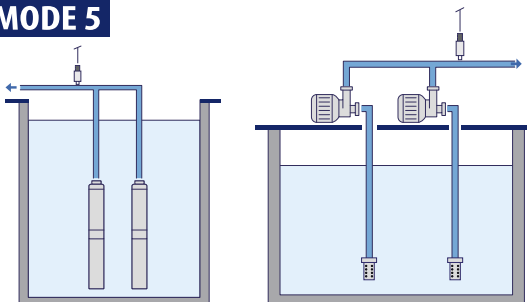
#### MODE 3



#### MODE 4



#### MODE 5



#### MODE 6



### E1 Multifunction electronic control box for single electric pump

MODEL	CODE	VOLTAGE	RATED CURRENT	PROTECTION FUSES
E1 MONO	533QPED001M	1~ 230V 50/60 Hz	up to 18 A	20 A
E1 TRI/1	533QPED001T	3~ 400V 50/60 Hz	up to 18 A	20 A
E1 TRI/2	533QPED011T	3~ 400V 50/60 Hz	up to 25 A	32 A

### E2 multifunction electronic control box for two electric pumps

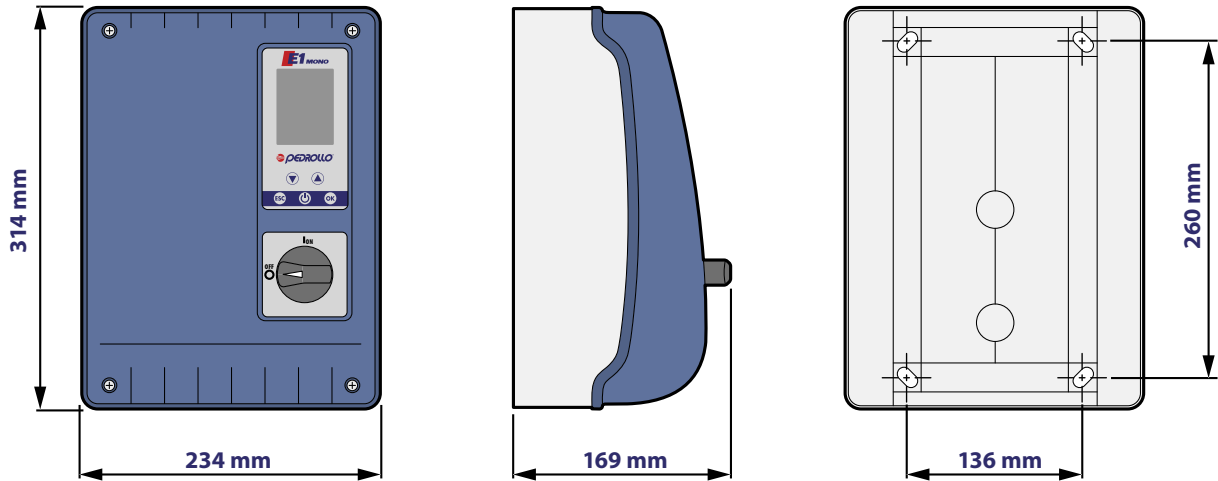
MODEL	CODE	VOLTAGE	RATED CURRENT	PROTECTION FUSES
E2 MONO	533QPED002M	1~ 230V 50/60 Hz	up to 18 A	20 A
E2 TRI	533QPED002T	3~ 400V 50/60 Hz	up to 16 A	32 A

### SIMPLICITY OF USE

- Multilingual management system allowing a choice of six operating modes:
  - MODE 1:** (default) Emptying and pressurising by electrical parameters
  - MODE 2:** Emptying and pressurisation by level probes
  - MODE 3:** Emptying
  - MODE 4:** Filling
  - MODE 5:** Pressurisation
  - MODE 6:** Customised
- Large multifunctional LCD display with integrated multimeter to display all system parameters (operating status and faults, voltage, frequency, current,  $\cos \varphi$ , etc.).
- Programmable management of pump alternation (E2 panel)
- Optional Wi-Fi and Bluetooth module

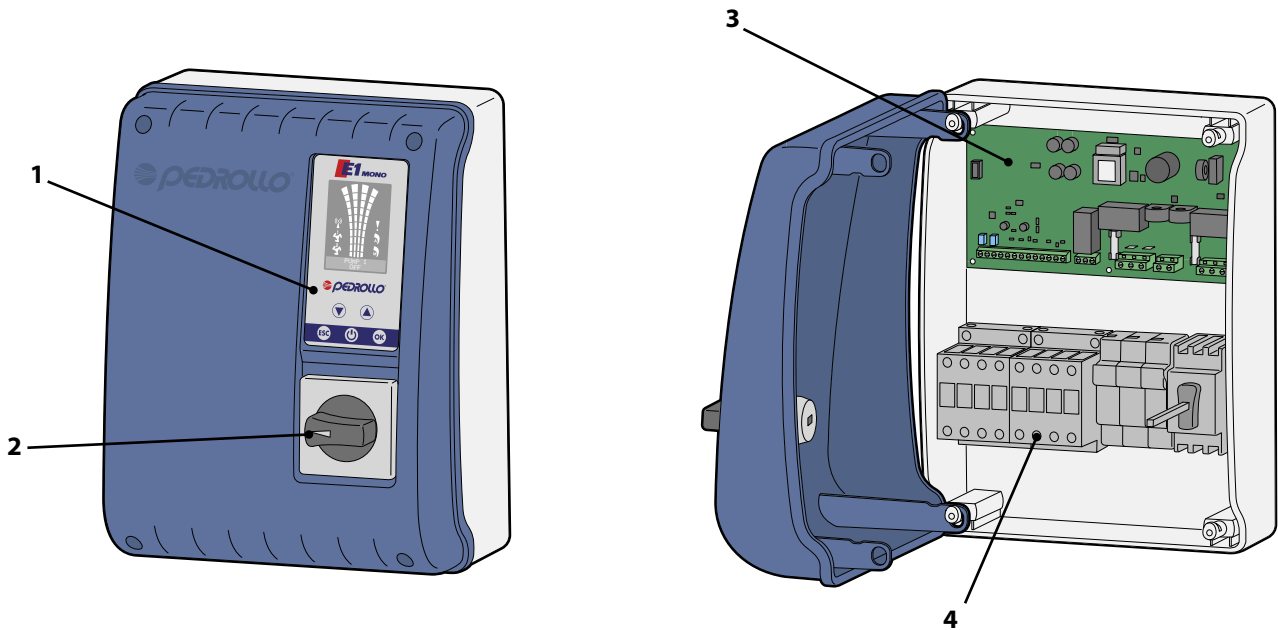
## Multifunction Electronic Control Box for Electric Pumps

### DIMENSIONS, SPACING AND MOUNTING HOLES



### PARTS LIST

1. Control Panel
2. Main Switch I/O
3. Electronic Board
4. Circuit-Breaker/Relay assembly



# EP

Electronic device for protection of the pump



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## PRODUCT DESCRIPTION

The **EP** electronic device protects the pump by automatically stopping it in cases of dry running, overcurrent, voltage too high / voltage too low.

## TECHNICAL DATA

Single-phase supply voltage	<b>110/230 Vac</b>
Acceptable voltage variations	<b>± 10%</b>
Frequency	<b>50-60 Hz</b>
Maximum current for pump motor	<b>10 A</b>
Operating temperature	<b>min 5 °C   max 45 °C</b>
Maximum ambient temperature	<b>55 °C</b>

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =



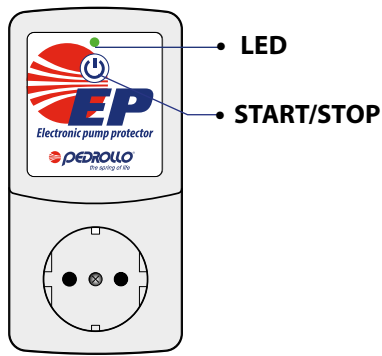


Fig. 1

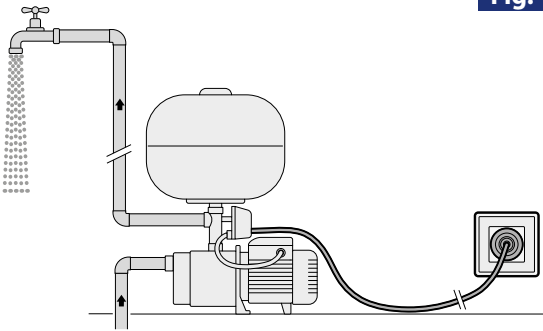


Fig. 2

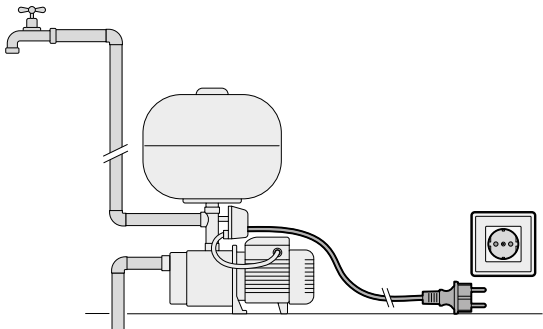


Fig. 3

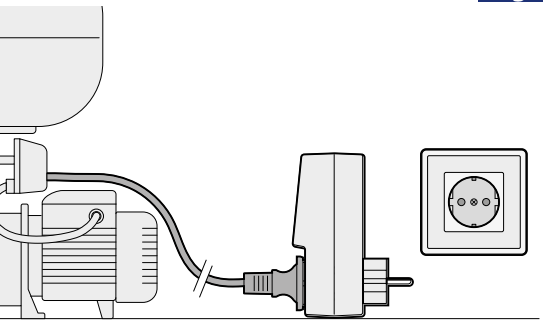
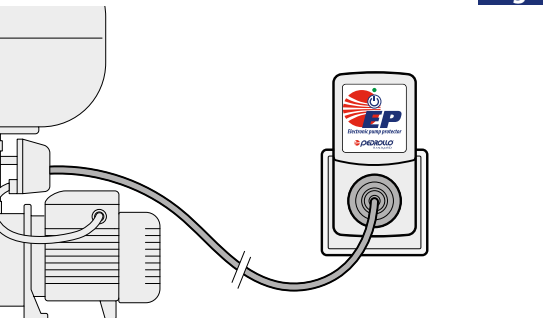










Fig. 4



## CONTROL PANEL

- Key  with function of **START/STOP**, self-learning and alarm reset.
- Multicoloured **LED** light.  
Flashes and changes colour depending on the status of the device EP.

Description LED light	Meaning of the LED light
 <b>Light off</b>	Device switched off
 <b>Fixed GREEN warning light</b>	Device switched on
 <b>Fixed BLUE warning light</b>	Device operating correctly
 <b>Flashing RED warning light</b>	Dry running
 <b>Fixed RED warning light</b>	Overcurrent
 <b>Fixed YELLOW warning light</b>	Voltage/Voltage too low
 <b>Continuous change in warning light colour</b>	Self-learning phase (WIZARD)

## INSTALLATION AND OPERATION

Once the correct operation of the water system has been verified, proceed as follows:

- Run the pump with the delivery point open (**Fig.1**).
- Disconnect the plug of the power cable of the pump from the power outlet leaving the delivery point open and fully discharge the system (**Fig. 2**).
- Insert the plug of the pump power cord into the EP device (**Fig.3**).
- Insert the EP into the power socket (**Fig. 4**) and start the self-learning procedure (see instruction manual).

After checking the self-learning procedure you can use the installation.

# G THOR

TRACTOR DRIVEN PTO GENERATORS



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 **PEDROLLO**<sup>®</sup>  
the spring of life



# G THOR

## Tractor driven PTO generators

- ※ **G-THOR: THE EASIEST AND MOST CONVENIENT SOLUTION TO PROVIDE PORTABLE ELECTRICAL POWER IN THE AGRICULTURAL SECTOR**
- ※ **G-THOR** is a tractor driven **PTO** (power take-off) generator that includes synchronous alternator, coupled to a speed increaser gearbox, towable by the tractor via three-point hitch.
- ※ The generator can be used after being placed on the ground. After having connected the tractor **PTO** shaft to the speed increaser gearbox with a cardan shaft, the tractor **PTO** must be set up at the required rpm.
- ※ The gearbox, transmitting the tractor **PTO** mechanical power to the alternator, increases the **PTO** required rpm up to the alternator nominal speed. The perfect working conditions are reached once the frequency meter indicates 50Hz value.
- ※ All **PTO** generators are available in both single and three-phase configurations.



## APPLICATION

- This series has been designed to provide reliable power in emergency situations and for rural areas.
- Main applications are:
  - *Submersible pumps*
  - *Milking and cooling equipments*
  - *Harvesting activities*
  - *Poultry, sheep and cattle farms*
  - *Feeding equipments*
  - *Climate controlled warehouses*
  - *Dairy activities*
  - *Wheat mills*



# G THOR

## Tractor driven PTO generators

### TECHNICAL DATA

MODEL	LINZ ELECTRIC ALTERNATOR	GEAR BOX (COMER)	GEAR BOX (BIMA)	ELECTRIC POWER @ 0.8.P.F (kVA) 230/400V - 50Hz	ELECTRIC POWER (kW) 230/400V - 50Hz	TRACTOR PTO OUTPUT POWER (HP) @required rpm		TRACTOR PTO REQUIRED RPM	WEIGHT (kg)	DIMENSIONS	SUGGESTED TRACTOR POWER (HP)
						540 PTO speed	1000 PTO speed				
<b>COMPOUND REGULATION</b>											
<b>G-TS10C</b>	E1S13S B/4	A-624 B	-	10	10	17,6	-	430	165	SMALL	32
<b>G-TS16C</b>	E1S13M E/4	A-624 B	-	16	16	27,2	-	430	191	SMALL	50
<b>G-TS20C</b>	E1S13MF /4	A-624 B	-	20	20	33,6	-	430	194,5	SMALL	60
<b>ELECTRONIC REGULATION</b>											
<b>G-TS20</b>	PRO18S A/4	A-624 C	-	20	20	32,7	-	430	233	SMALL	55
<b>G-TS25</b>	PRO18S B/4	A-624 C	-	25	25	40,5	-	430	243	SMALL	70
<b>G-TS30</b>	PRO18S C/4	A-624 C	-	30	30	47,6	-	430	261	SMALL	85
<b>G-TS42</b>	PRO18M E/4	A-624 C	-	42	31	50,4	-	430	303	SMALL	90
<b>G-TM50</b>	PRO18L F/4	-	MGE7	50	43	65,8	-	420	352	MEDIUM	120
<b>G-TL75</b>	PRO22 SB/4	-	MGE9	75	65	98,7	-	420	494,5	LARGE	180
<b>G-TL85</b>	PRO22 SC/4	-	MGE9	85	66	98,7	-	420	514,5	LARGE	180
<b>G-TL100</b>	PRO22 SD/4	-	MGE10	100	84	126	-	500	556,5	LARGE	235
<b>G-TL130</b>	PRO22 ME/4	-	AMA	130	110	-	161	750	654,5	LARGE	300

#### OVERLOAD CAPACITY

The available engine start up capacity is up to 300% for 10 seconds and up to 50% for 2 minutes.

The alternator can bear 10% overload for one hour on 6 working hours.

#### SHORT CIRCUIT CURRENT

In case of three-phase symmetric short circuit, the permanent current is approx. three times of the rated current and it can be sustained for at least 10 seconds.

#### ELECTRIC PANEL

As standard all the alternators mount an electrical panel that includes: Voltmeter, Amperometer, Frequncymeter, CEE 5P full power socket, CEE 3P 16 or 32 Amp socket, Schuko socket with thermal protection, Magnetothermic switches and Earth leakage breaker.

#### REFERENCE STANDARDS

The **G-THOR** series is built in accordance with EN 60034-1, EN 60204-1, EN61000-6-2, EN61000-6-4, EN55014-1, EN 55011 standards and the 2006/95/CE and 2004/108/CE directives.

### G-THOR GOING DIGITAL

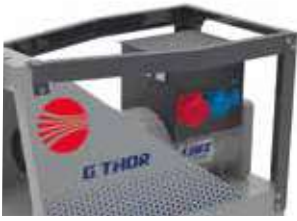
The **PRO** series alternators can be equipped with the DR30 digital regulator which allows to read comfortably from the dedicated App (available for Android and iOS) on your smartphone the following parameters:

- Generator Frequency
- Voltage Phase R-S-T
- Current, Cosphi, Active power



## ACCESSORIES

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### EXTRA PROTECTION BARS:

Extra bars for panel protection

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### DMK70 DEVICE FOR PANEL:

Three-phase digital voltmeter that reads every amperage phase + protection and general shut-down breaker in case of: phase loss, phase sequence, max-min voltage, max-min frequency and voltage asymmetry. All parameters settable by end user electrician.

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### WHEELS KIT FOR MANUAL MOVEMENTS:

Supplied separately in a carton box with screws and assembling instructions.  
2x fixed wheels + 2x steering wheels with brakes. Total acceptable load: 800kg.

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### TRAILER KIT FOR GROUND MOVEMENTS:

Supplied with axle and 2 x tires + shaft variable in height.

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### 3 POINTS HITCH PINS KIT :

2 x low points diameter 28 + 1 x top point diameter 25 + 3 pins

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### STORAGE COVER

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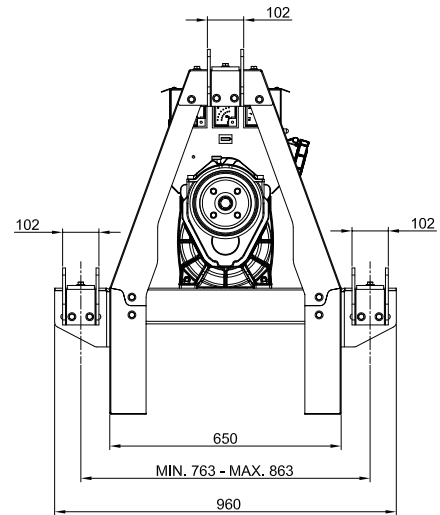
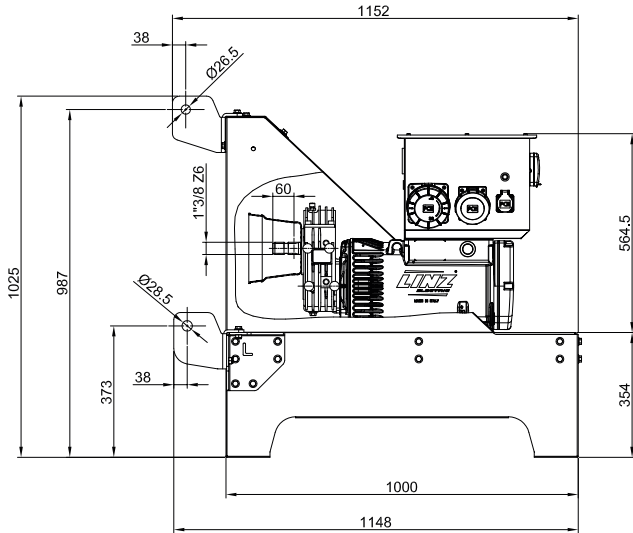
### DIGITAL CONNECTION KIT

including DR30 digital regulator (for PRO alternators series) + connection module to read parameters on your smartphone

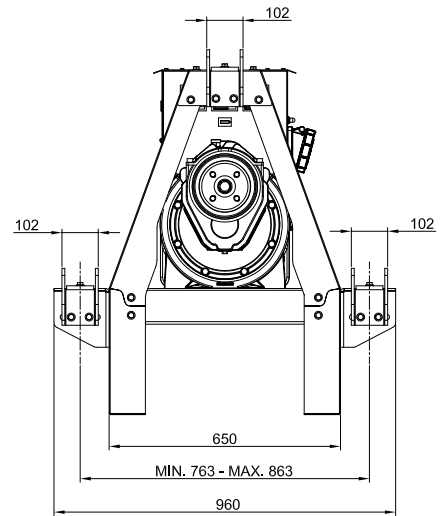
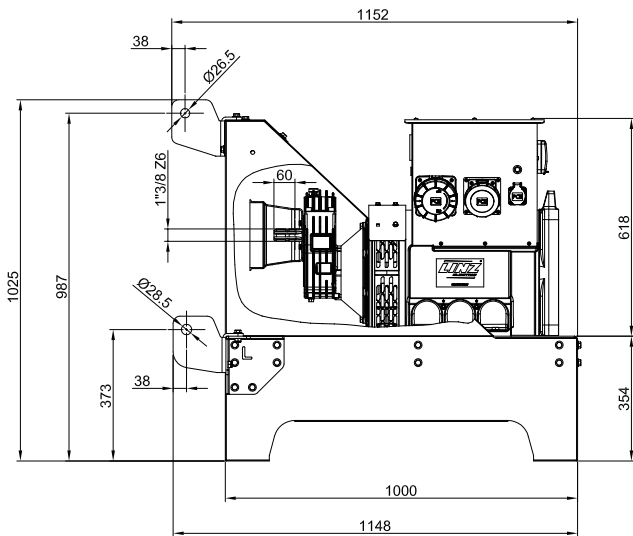
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## DIMENSIONS

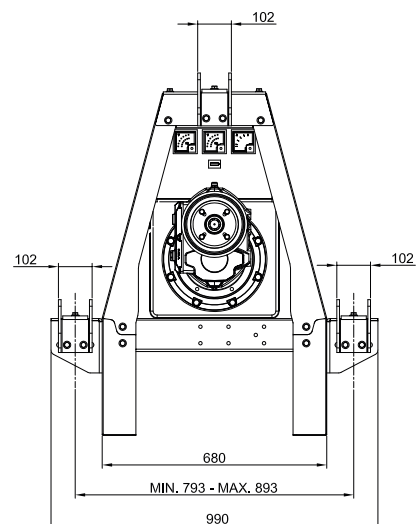
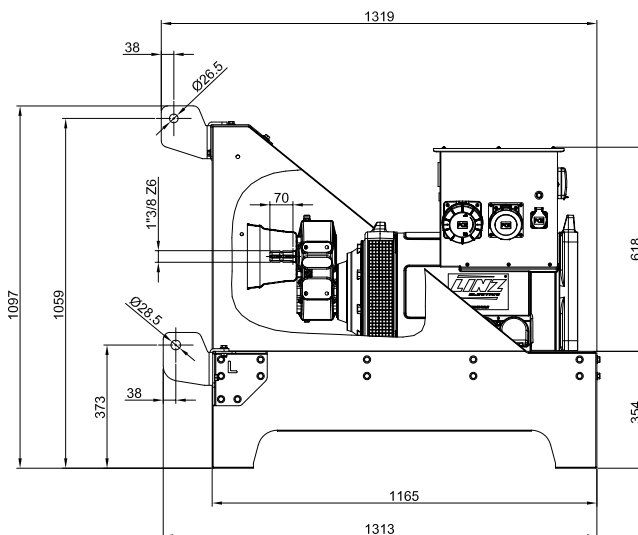
### ● SMALL - E1S13S-M



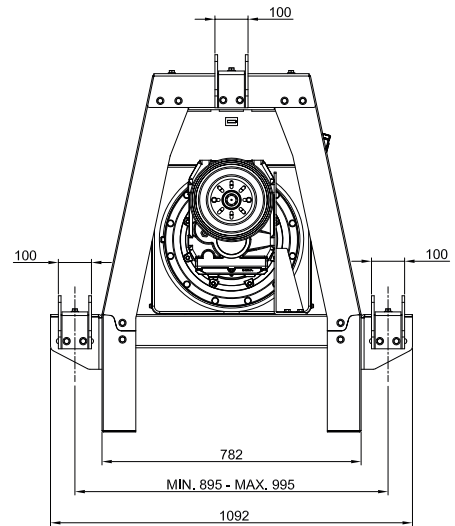
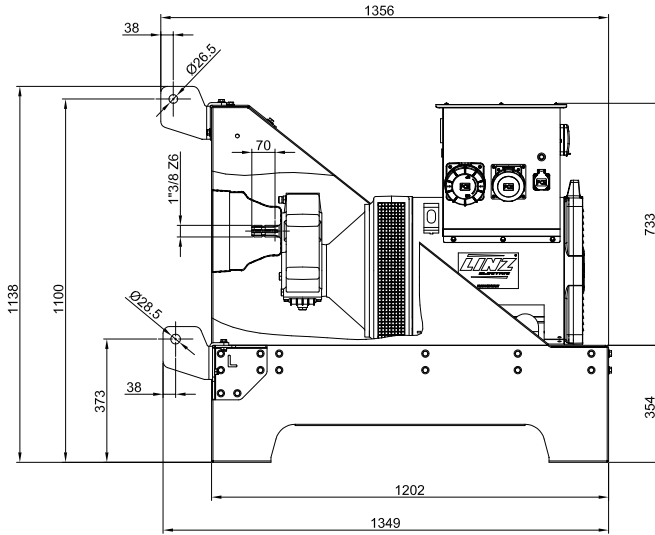
### ● SMALL - PRO18S-M



### ● MEDIUM - PRO18L



● **LARGE - PRO22SB - SC - SD**



● **LARGE - PRO22ME**

