



45
years
ANNIVERSARY

GENERAL CATALOGUE
2019-2020



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Pumps with pressure regulator

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Pumps with pressure regulator

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Pedrollo SpA, established in 1974, has grown by concentrating on the innovation, quality and reliability of its products and in its more than 40 years of history it has assumed an international dimension.

Recognised as one of the leading manufacturers of pumps worldwide it exports more than 90% of its production to 160 countries in five continents although development and production remain proudly Made in Italy.

Through a constant control of the entire manufacturing process from the purchase of the raw materials to the assistance given to its clients, as well as the choice of the technologically most advanced solutions, Pedrollo guarantees the extremely high quality of its products.

The use of sophisticated robots and production lines in the forefront of technology enable the company to produce more than two million pumps a year, with a range which includes more than one hundred families and models suitable for every requirement.







International growth is supported by a sales network which guarantees a wide range of products to the ultimate clients. Pedrollo pumps are designed to be used for most domestic, civil, agricultural and industrial applications.

The salesforce consists of professionals from many parts of the world, a feature which provides clients with a service of the highest quality and personal advice regarding the best solution to adopt.

In order to design the pumps the research and development department of Pedrollo uses the most sophisticated instruments. At the same time its state of the art laboratory for hydraulic tests and the workstations for fluid dynamic calculations and analysis of the finished components support the continuous development of new models as well as improvements to the current range of products.

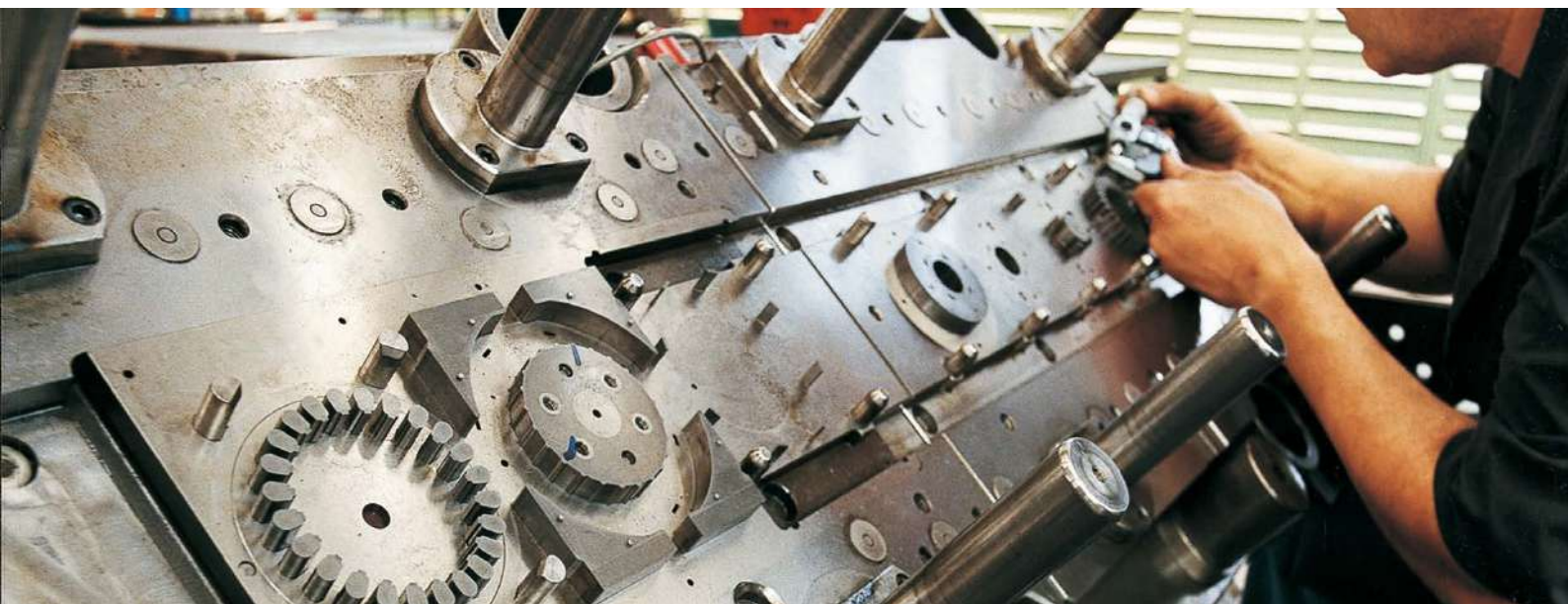
Technology, creativity and passion are the fundamental components of the production philosophy of Pedrollo which offers its clients a simple and reliable product with a remarkable performance, as shown by the attention to the sturdiness of the pumps and the constant reduction in energy consumption.





Pedrollo is able to manufacture all the components of its pumps internally. It has its own foundry, a mechanical workshop for pressing steel components, a motor windings division and mechanical work centres which at all times guarantee the greatest precision and the highest quality.

The factories continue to expand and cover an area of 120,000 square metres. They are noteworthy for the extremely automated processes, in which innovative technology and the training of the staff play a leading role.





Automated lines supply and control the final assembly of the pumps, thus guaranteeing the high quality standards of Pedrollo throughout their assembly. The continuous automated tests which are carried out directly guarantee that the finished product will always be available in a very short time.



Pedrollo has a well-equipped hydraulic and electrical laboratory whose task is to test the new models which have been designed before they can enter production.

The laboratory is fitted with a rig capable of reproducing even the most difficult working conditions for the pumps: it is thus possible to directly verify the efficacy of a project and guarantee the quality and reliability of the Pedrollo products to the clients.

EU REGULATION N. 547/2012

- Pumps with a minimum efficiency index $MEI \geq 0.40$ in conformity with the EU Regulation in force from 1st January 2015.
- The bench mark for the most efficient water pumps is $MEI \geq 0.70$.
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with a full diameter impeller. The trimming of the impeller adapts the pump to a fixed duty point, resulting in a lower energy consumption. The minimum efficiency index (MEI) is based on the full diameter impeller.
- The functioning of the water pump with variable places of operation can be more efficient and economical if, for example, it is controlled by means of a variable speed motor which adjusts the function of the pump to the system.
- The information regarding the bench mark efficiency is available at:
www.europump.org/efficiencycharts

GUARANTEE

- All Pedrollo Pumps are guaranteed for a minimum of one year subject to the terms and conditions of Pedrollo SpA as long as any necessary spare parts fitted during the period of guarantee are original Pedrollo spare parts.

Pumps with peripheral impeller

 Clean water

 Domestic use



PERFORMANCE RANGE

- Flow rate up to **90 l/min** (5.4 m³/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

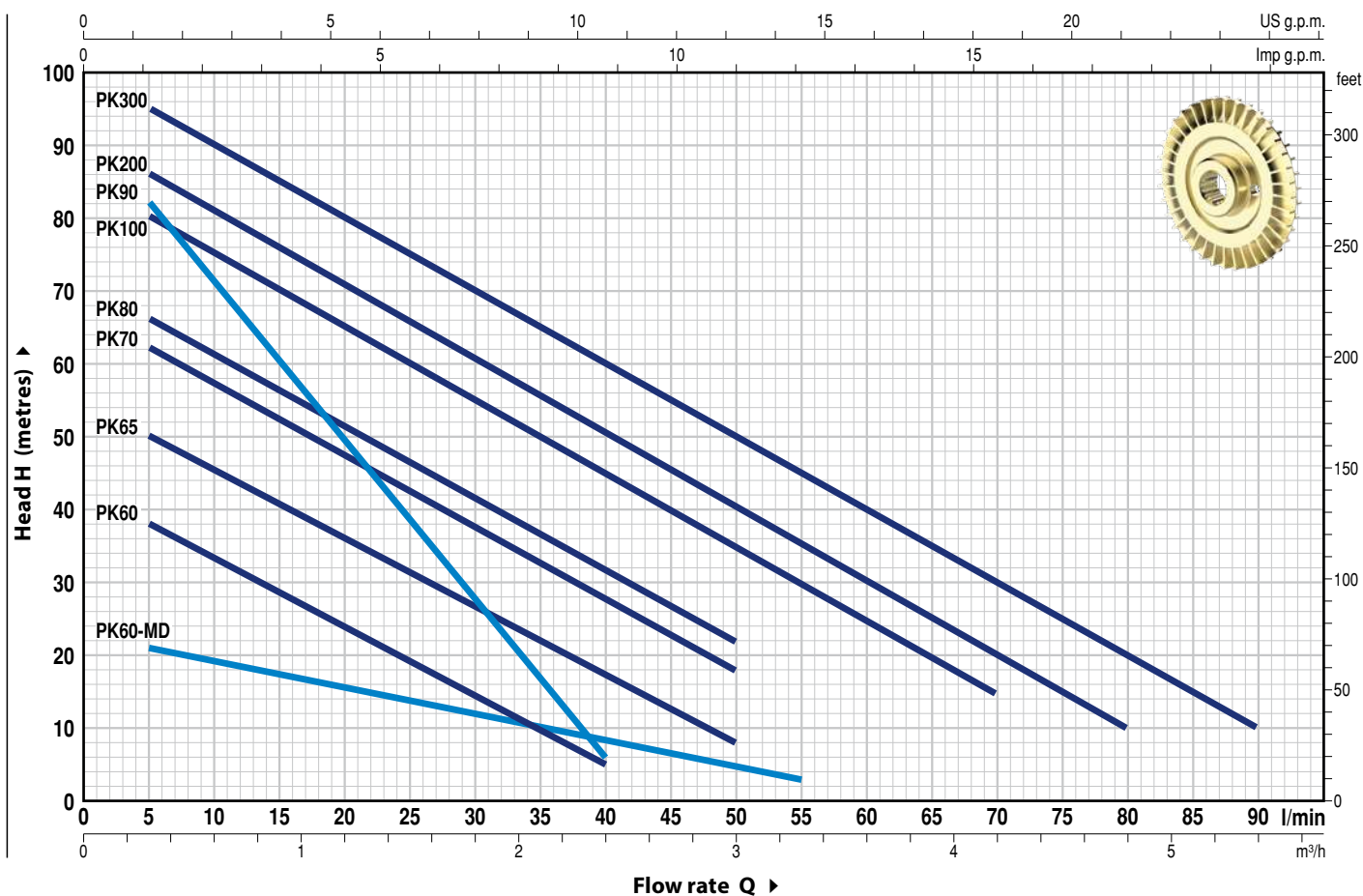
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PK60, PK65)
- Pump body: patent n. 0000275946 (PK60, PK65)
- Registered EU Design n. 004673192
-  **PKm 60®** Registered Trade Mark n. 009875394

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⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0	3.3	4.2	4.8	5.4	
Single-phase	Three-phase	kW	HP	▲		l/min	0	5	10	15	20	25	30	35	40	50	55	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				22	21	19	17.5	15.5	13.8	12	10	8.5	5	3				
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	IE3			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				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	30	15			
PKm 200	PK 200	1.5	2				90	86	81	76	71	65.5	60	55	50	40	35	20	10		
PKm 300	PK 300	2.2	3				100	95	90	85	80	75	70	65	60	50	45	30	20	10	

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

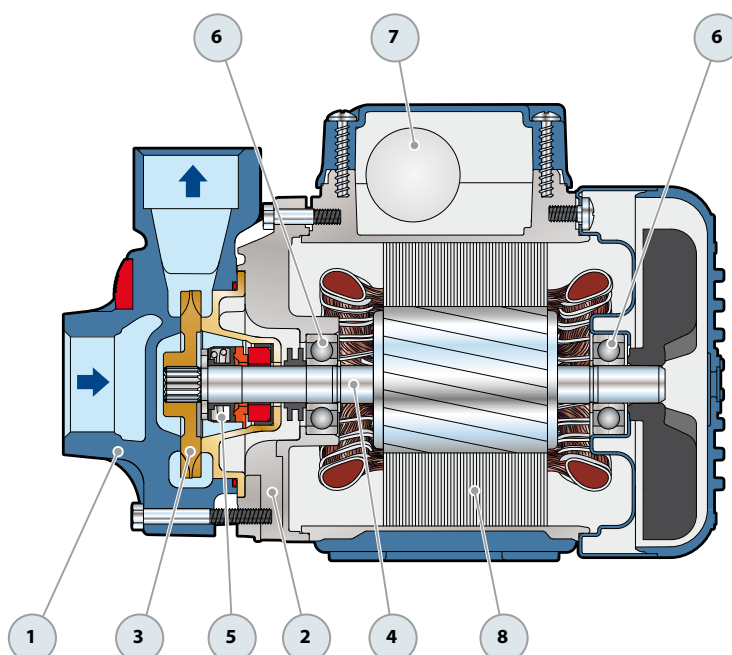
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

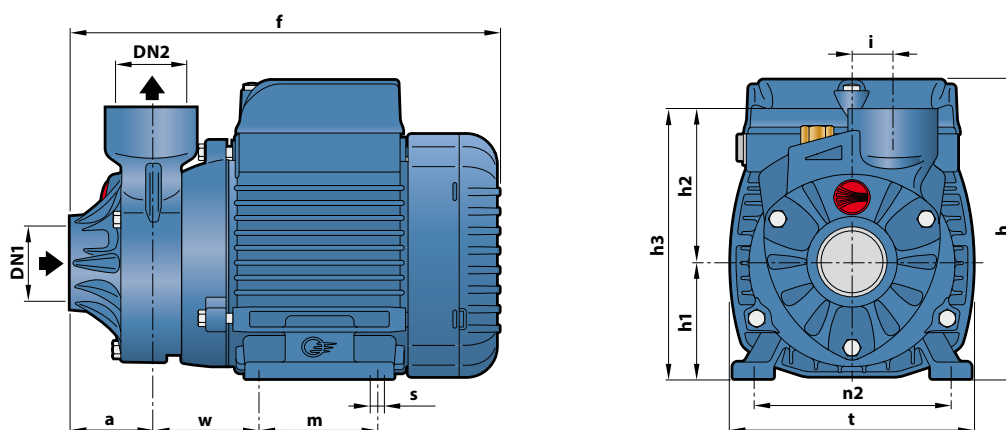
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron, with threaded ports in compliance with ISO 228/1 (PK 60, PK 60-MD with an Epoxy Electro Coating treatment)					
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 (EN 10088-3 - 1.4104 for PK 60, PK 60-MD, PK 65)					
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>
		PK 60-65-70-80	AR-12	Ø 12 mm	Ceramic	Graphite	NBR
		PK 60-MD					
		PK 90	ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR
		PK 100-200-300	FN-14	Ø 14 mm	Graphite	Ceramic	NBR
6	BEARINGS	<i>Pump</i>	<i>Model</i>				
		PK 60-65	6201 ZZ / 6201 ZZ				
		PK 60-MD					
		PK 70-80-90	6203 ZZ / 6203 ZZ				
		PK 100-200-300	6204 ZZ / 6204 ZZ				
7	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>				
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>		<i>(110 V)</i>		
		PKm 60	10 µF - 450 VL		25 µF - 250 VL		
		PKm 60-MD					
		PKm 65	14 µF - 450 VL		25 µF - 250 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 - 300 VL		
		PKm 100	31.5 µF - 450 VL		60 µF - 250 VL		
		PKm 200	45 µF - 450 VL		80 µF - 250 VL		
		PKm 300	50 µF - 450 VL		–		
8	ELECTRIC MOTOR	PKm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PK: three-phase 230/400 V - 50 Hz.					
		➡ The three-phase pumps are fitted with high performance motors up to P ₂ =0.55 kW in class IE2 and from P ₂ =0.60 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	i	m	t	n2	w	s	1~	3~
PKm 60°	PK 60°	1"	1"	38	208	145	56	75	131	17	55	118	94-100	53	7	5.2	5.2
PKm 60°-MD	PK 60°-MD				237	152	63		138		80	120	100			5.2	5.2
PKm 65	PK 65				285	179 *	71		156		90	140	112			62	7.0
PKm 70	PK 70			55	10.0			10.0									
PKm 80	PK 80			10.2	10.1												
PKm 90	PK 90	¾"	¾"	46	278	84	155	19	100	152	125	95	9	15.0	14.9		
PKm 100	PK 100	1"	1"	62	356	212	80	88	168	19	100	152	125	95	9	15.9	15.9
PKm 200	PK 200				376	—	18.6										
PKm 300	PK 300																

(*) 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	VOLTAGE				
Three-phase	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

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

Pumps with peripheral impeller

 Clean water

 Domestic use



PERFORMANCE RANGE

- Flow rate up to **90 l/min** (5.4 m³/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)
- Max. working pressure:
 - **6 bar** for PQ 60, 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

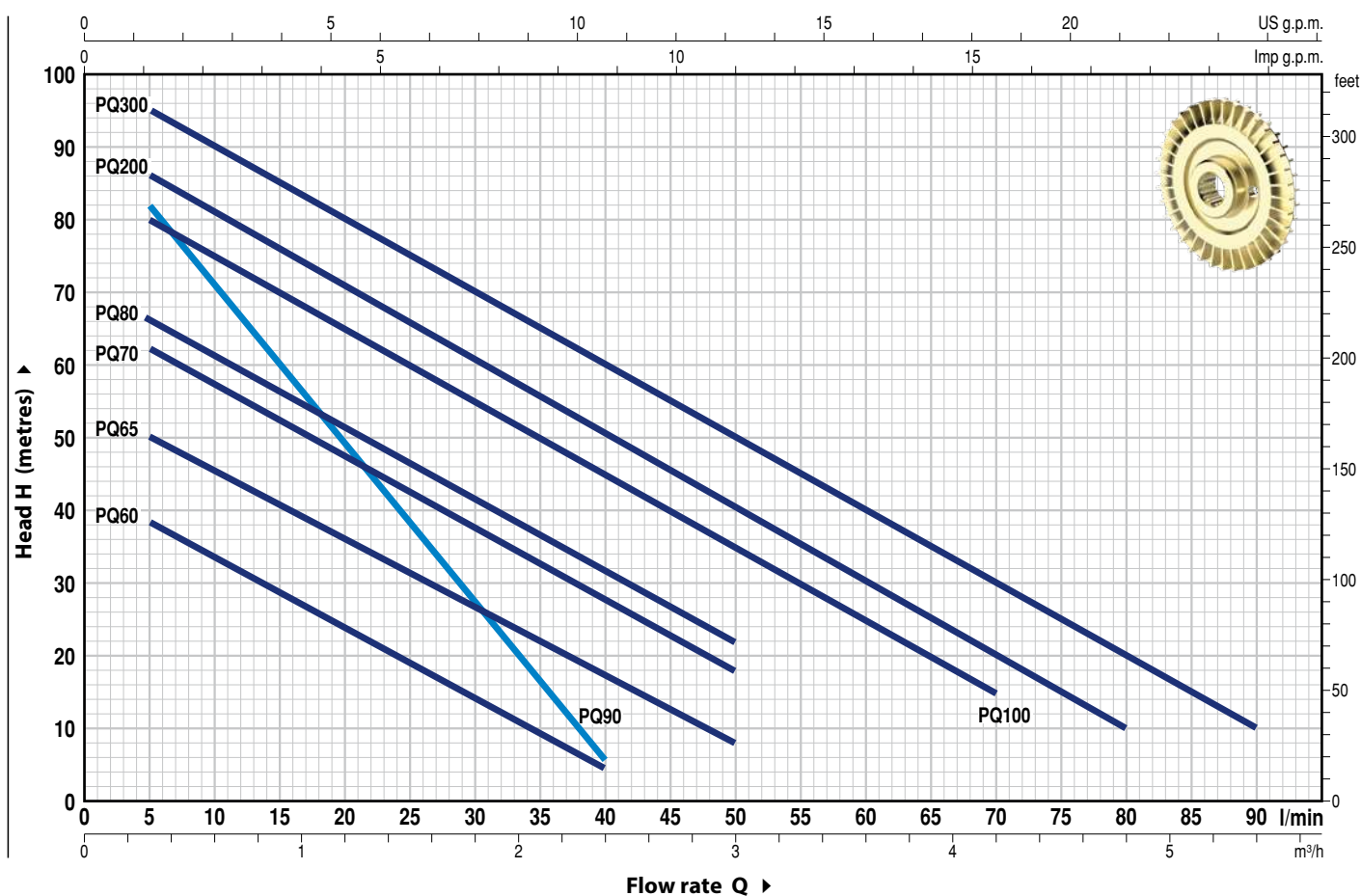
- Motor bracket: patent n. IT1243605
- Shaft: patent n 0000275945 (PQ60, PQ65)
- Registered EU Design n. 002146548
- **PQm 60**® Registered Trade Mark n. 0001520591

OPTIONS AVAILABLE ON REQUEST

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



MODEL		POWER (P ₂)			Q m³/h l/min	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
Single-phase	Three-phase	kW	HP	▲		0	5	10	15	20	25	30	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	10	5					
PQm 65	PQ 65	0.55	0.75			55	50	45.5	40.5	36	31	27	22	17	8				
PQm 70	PQ 70	0.60	0.85	IE3		65	62	57	52	47	42	37	32	27	18				
PQm 80	PQ 80	0.75	1			70	66	61	56	51	46	41	36.5	31	22				
PQm 90	PQ 90	0.75	1			90	82	71	60	49	38	27	17	5					
PQm 100	PQ 100	1.1	1.5			85	80	75	70	65	60	55	50	45	35	25	15		
PQm 200	PQ 200	1.5	2			90	86	81	76	71	65.5	60	55	50	40	30	20	10	
PQm 300	PQ 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

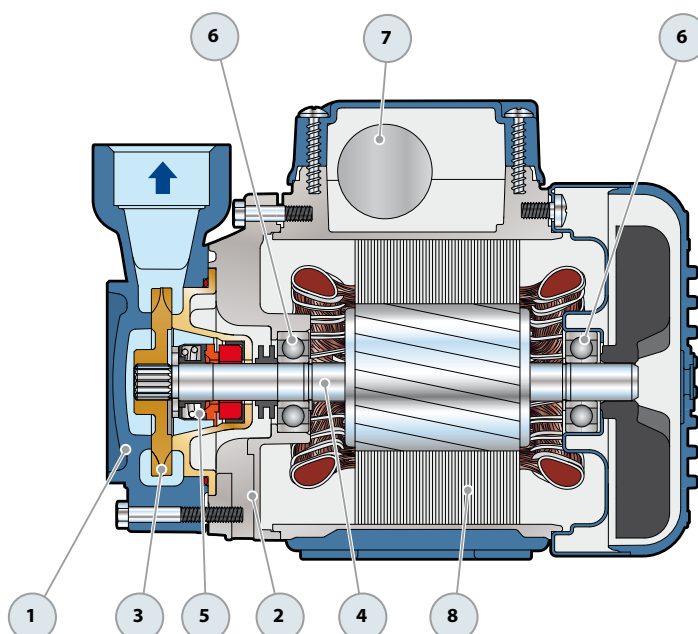
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

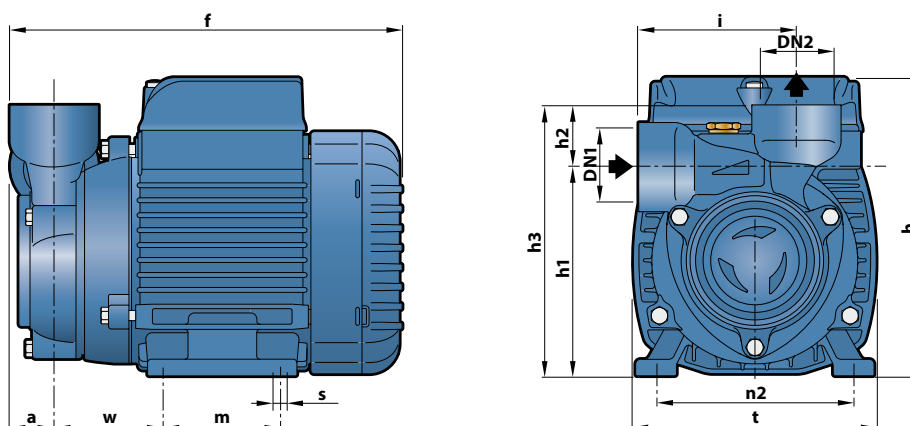
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with 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 (EN 10088-3 - 1.4104 for PQ 60, PQ 65)				
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials	
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>
		PQ 60-65	AR-12	Ø 12 mm	Ceramic	Graphite
		PQ 70-80-90	ST1-12	Ø 12 mm	Silicon carbide	Graphite
		PQ 100-200-300	FN-14	Ø 14 mm	Graphite	Ceramic
						<i>Elastomer</i>
						NBR
						NBR
						NBR
6	BEARINGS	Pump	Model			
		PQ 60-65	6201 ZZ / 6201 ZZ			
		PQ 70-80-90	6203 ZZ / 6203 ZZ			
		PQ 100-200-300	6204 ZZ / 6204 ZZ			
7	CAPACITOR	Pump	Capacitance			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>		<i>(110 V)</i>	
		PQm 60	10	µF - 450 VL	25	µF - 250 VL
		PQm 65	14	µF - 450 VL	25	µF - 250 VL
		PQm 70	16	µF - 450 VL	60	µF - 300 VL
		PQm 80	20	µF - 450 VL	60	µF - 300 VL
		PQm 90	20	µF - 450 VL	60	µF - 300 VL
		PQm 100	31.5	µF - 450 VL	60	µF - 250 VL
		PQm 200	45	µF - 450 VL	80	µF - 250 VL
		PQm 300	50	µF - 450 VL	-	-
8	ELECTRIC MOTOR	PQm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PQ: three-phase 230/400 V - 50 Hz. ⇒ The three-phase pumps are fitted with high performance motors up to P₂=0.55 kW in class IE2 and from P₂=0.60 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	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 65	PQ 65				220	152	113		143	78	80	120	100			6.9	6.2												
PQm 70	PQ 70				256	181 *	121		151	83	90	142	112	62.5		9.7	9.8												
PQm 80	PQ 80						126	27	153	84		142	112	9.7		9.7													
PQm 90	PQ 90	¾"	¾"	29	322.5	211	140	28	168	88	100	164	125	95	9	9.9	8.9												
PQm 100	PQ 100	1"	1"													14.1	14.0												
PQm 200	PQ 200															15.2	15.2												
PQm 300	PQ 300															342.5												—	17.8

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

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
PQm 60	2.6 A	2.4 A	5.2 A
PQm 65	3.7 A	3.5 A	7.4 A
PQm 70	5.2 A	4.8 A	10.4 A
PQm 80	5.2 A	5.0 A	10.5 A
PQm 90	5.6 A	5.1 A	11.5 A
PQm 100	9.0 A	8.6 A	18.0 A
PQm 200	12.0 A	11.5 A	24.0 A
PQm 300	—	—	—

MODEL	VOLTAGE				
Three-phase	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 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 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

Self-priming pumps with peripheral impeller

 Clean water

 Domestic use



PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m³/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

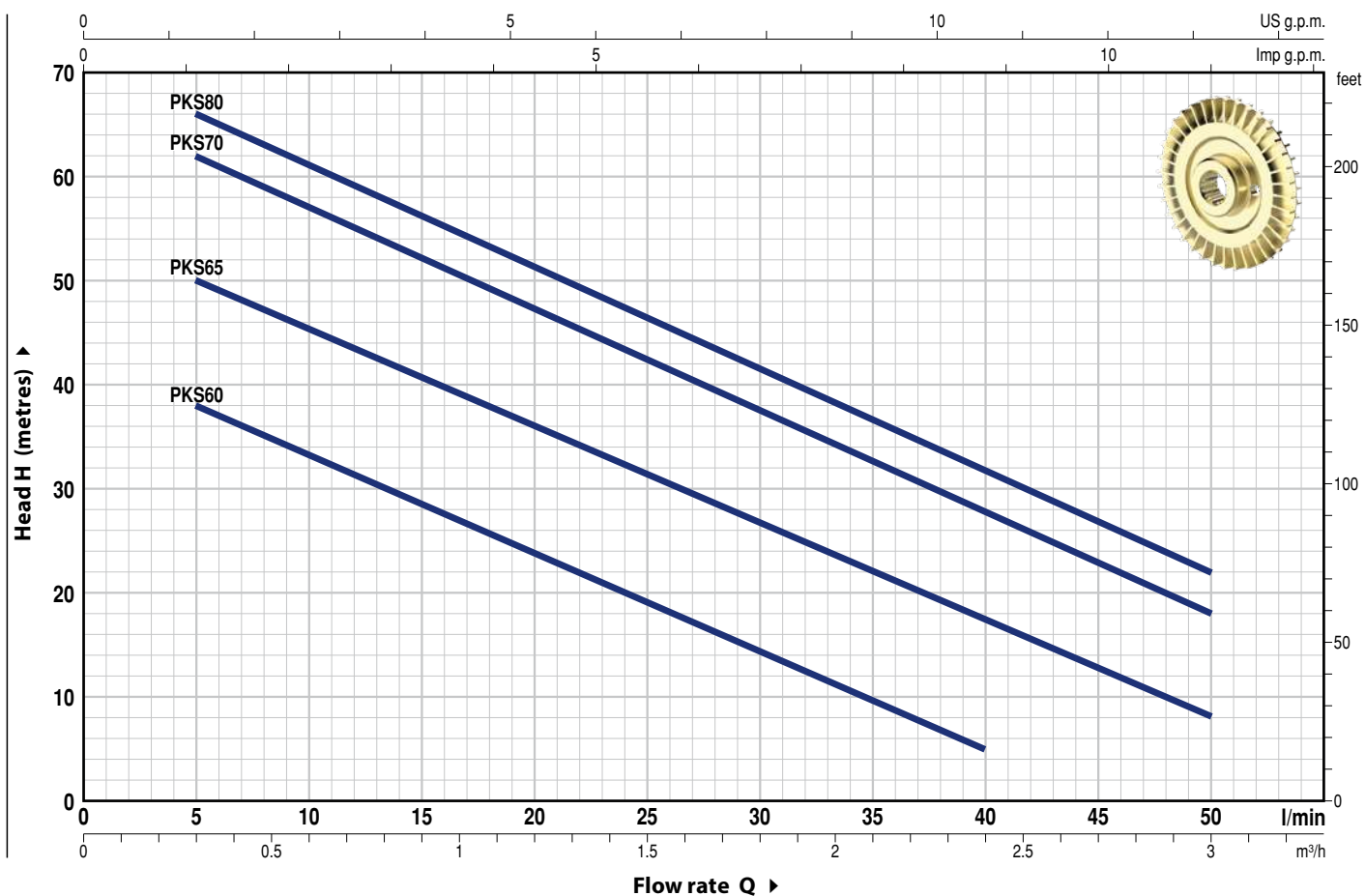
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PKS60, PKS65)

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⁻¹ HS= 0 m



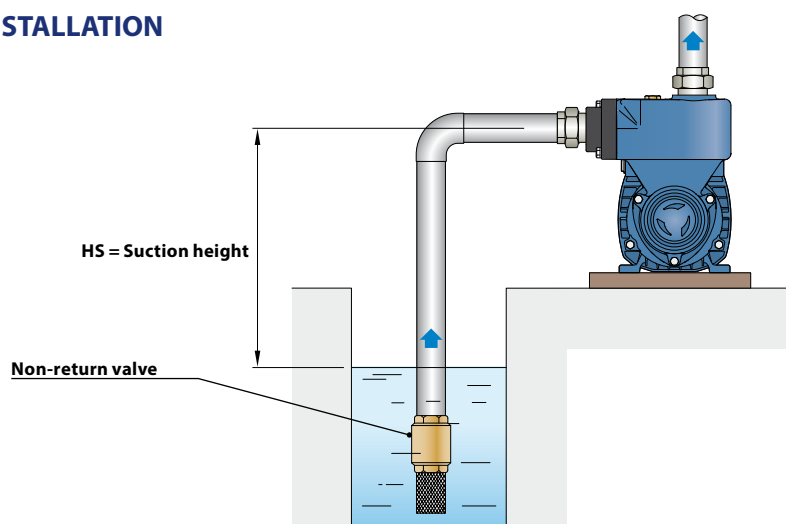
MODEL		POWER (P ₂)			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	
Single-phase	Three-phase	kW	HP	▲		l/min	0	5	10	15	20	25	30	35	40	45	50	
PKSm 60	PKS 60	0.37	0.50	IE2	H metres	40	38	33.5	29	24	19.5	15	10	5				
PKSm 65	PKS 65	0.55	0.75			55	50	45.5	40.5	36	31	27	22	17	12.5	8		
PKSm 70	PKS 70	0.60	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

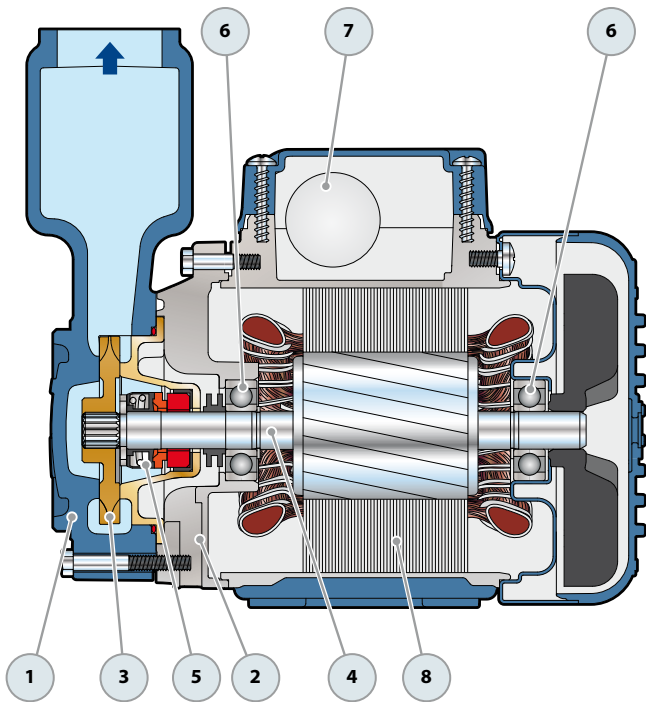
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

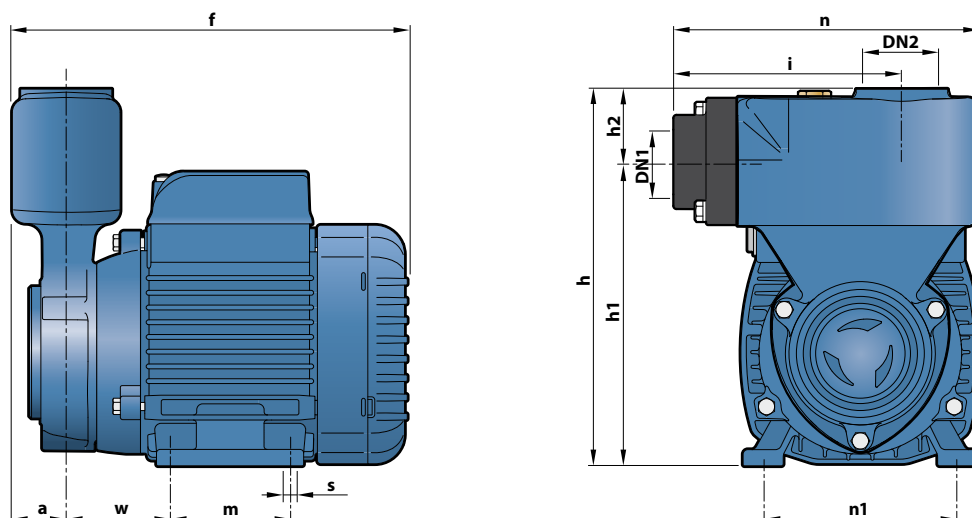
STANDARD INSTALLATION



POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron with threaded ports in compliance with ISO 228/1 and a built-in flap-check valve in the suction port				
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 (EN 10088-3 - 1.4104 for PKS 60, PKS 65)				
5	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
6	BEARINGS	Pump	Model			
		PKS 60-65	6201 ZZ / 6201 ZZ			
		PKS 70-80	6203 ZZ / 6203 ZZ			
7	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		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	ELECTRIC MOTOR	PKSm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PKS: three-phase 230/400 V - 50 Hz. ➡ The three-phase pumps are fitted with high performance motors up to P2=0.55 kW in class IE2 and from P2=0.60 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	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														10.5	10.5

ABSORPTION

MODEL	VOLTAGE		
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			
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 m³/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

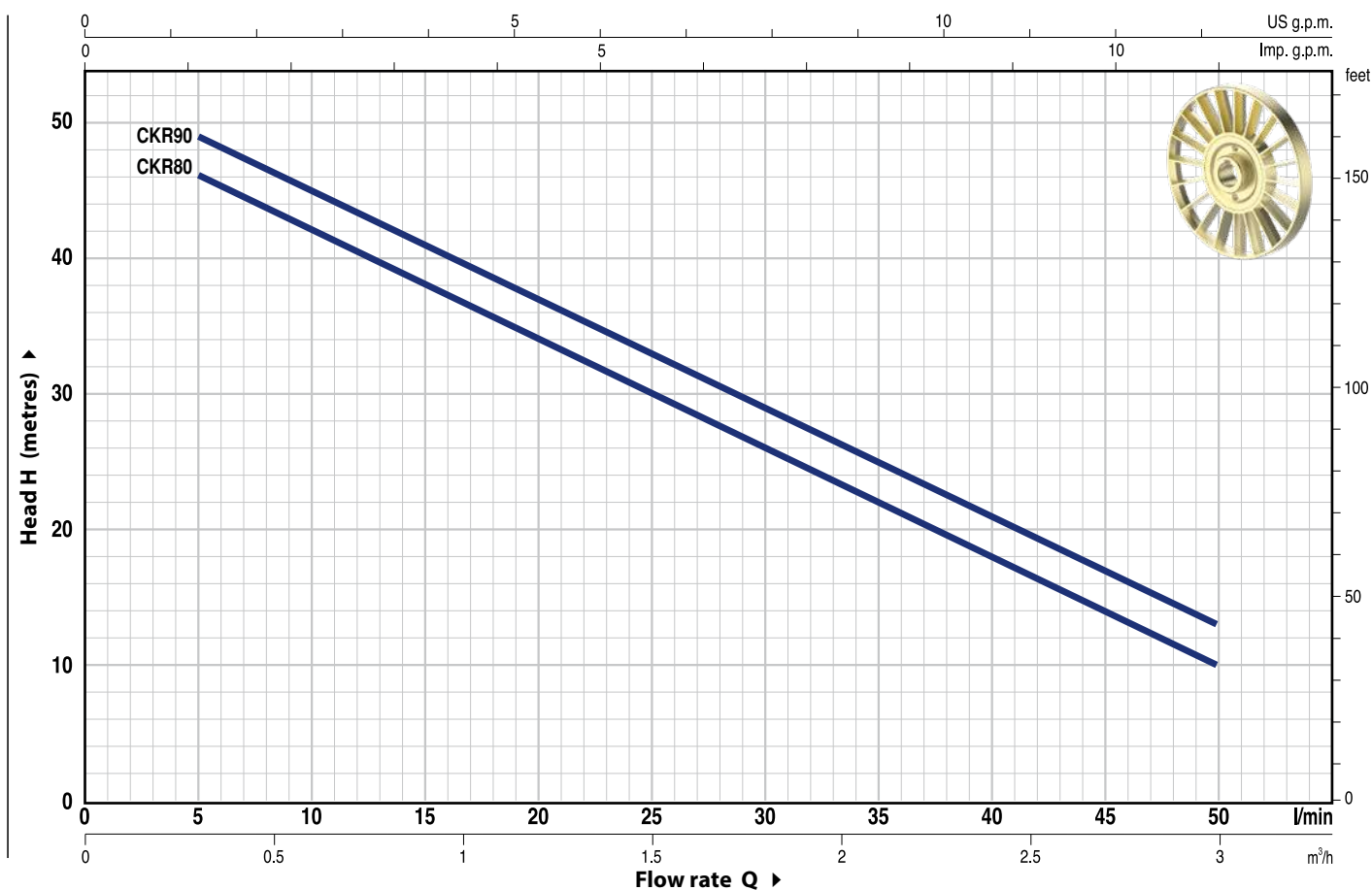
- Motor bracket: patent n. IT1243605
- Registered EU Design n. 342159-0008

OPTIONS AVAILABLE ON REQUEST

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



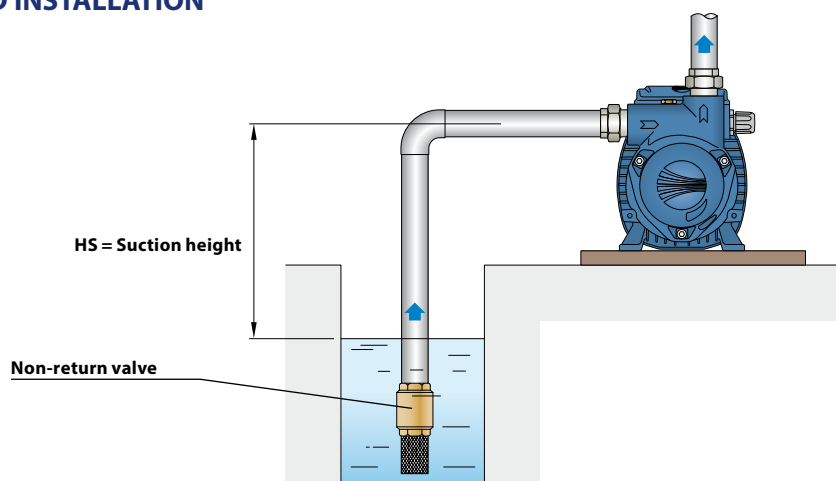
MODEL		POWER (P ₂)			Q	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0
Single-phase	Three-phase	kW	HP	▲		0	5	10	15	20	25	30	35	40	50
CKRm 80	CKR 80	0.55	0.75	IE3	H metres	48	46	42	38	34	30	26	22	18	10
CKRm 90	CKR 90	0.75	1			51	49	45	41	37	33	29	25	21	13

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

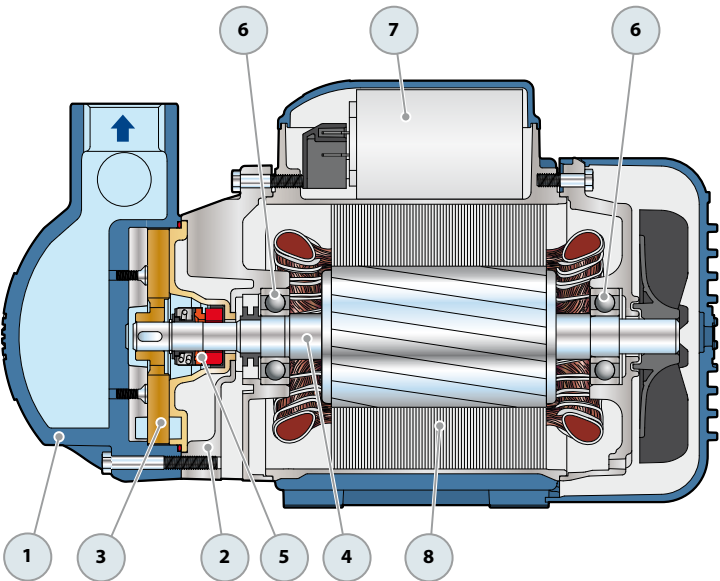
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

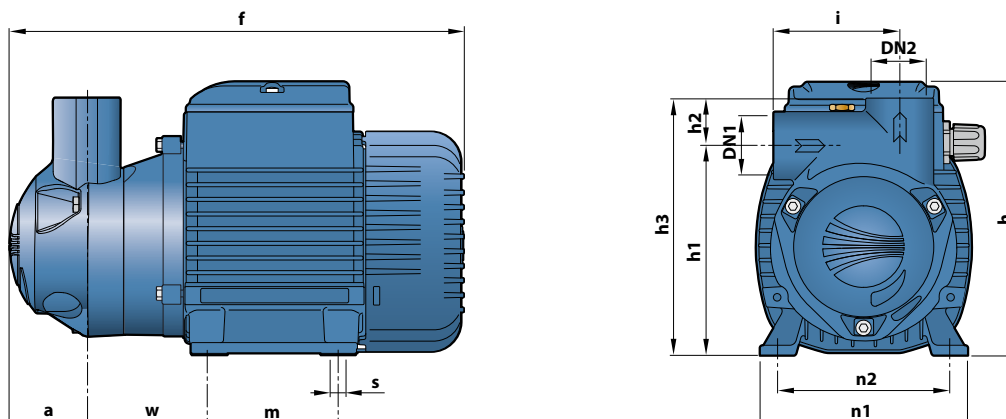
STANDARD INSTALLATION



POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	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	MOTOR BRACKET	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
3	IMPELLER	Brass star type with open radial vanes				
4	MOTOR SHAFT	Stainless steel AISI 431				
5	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-12V	Ø 12 mm	Ceramic	Graphite	Viton
6	BEARINGS	6203 ZZ / 6203 ZZ				
7	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		CKRm 80	16 µF - 450 VL	60 µF - 300 VL		
		CKRm 90	20 µF - 450 VL	60 µF - 300 VL		
8	ELECTRIC MOTOR	CKRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. CKR: 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		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

Self-priming liquid ring pumps

-  Clean water
-  Domestic use
-  Civil use
-  Agricultural use



PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m³/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

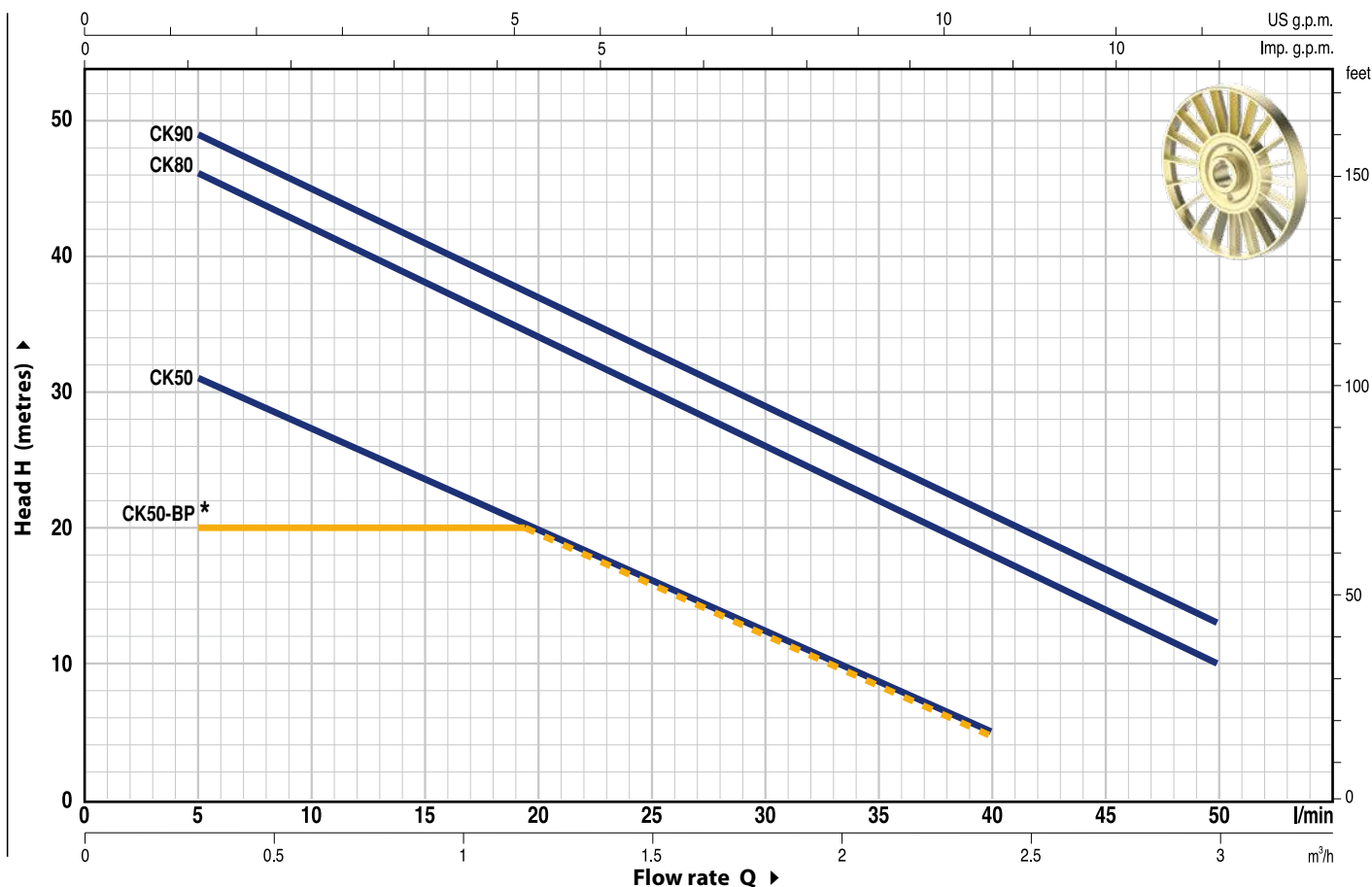
- Motor bracket: patent n. IT1243605
- CK 80/90 Registered EU Design n. 342159-0008

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⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0
Single-phase	Three-phase	kW	HP	▲		l/min	0	5	10	15	20	25	30	35	40	50
CKm 50	CK 50	0.37	0.50	IE2	H metres	35	31	27	24	20	16	13	9	5		
CKm 50-BP	CK 50-BP	0.25	0.33			20	20	20	20	20	16	13	9	5		
CKm 80	CK 80	0.55	0.75	IE3		48	46	42	38	34	30	26	22	18	10	
CKm 90	CK 90	0.75	1			51	49	45	41	37	33	29	25	21	13	

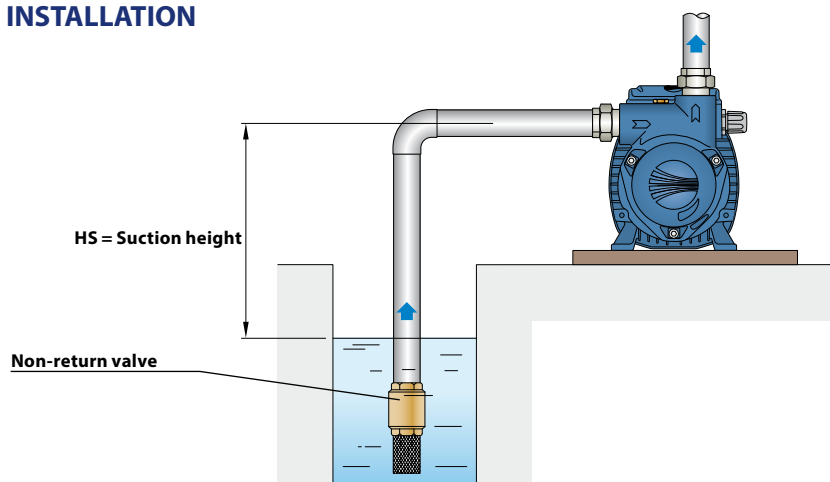
Q = Flow rate H = Total manometric head HS = Suction height

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

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

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

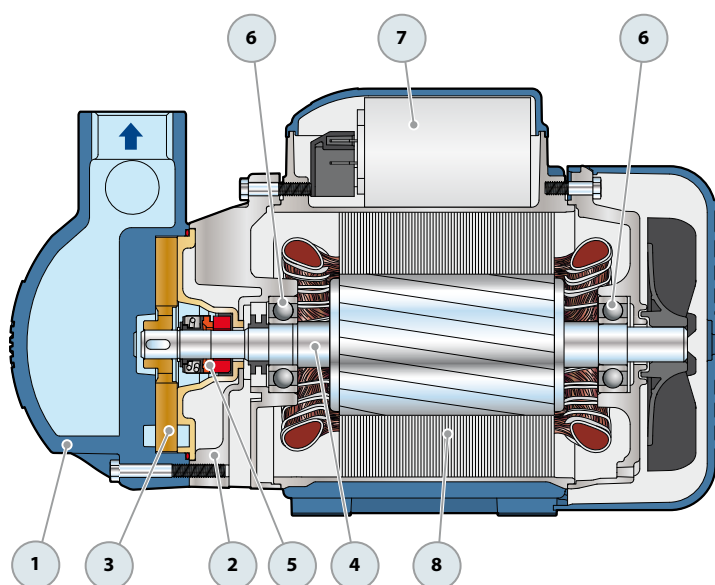
STANDARD INSTALLATION



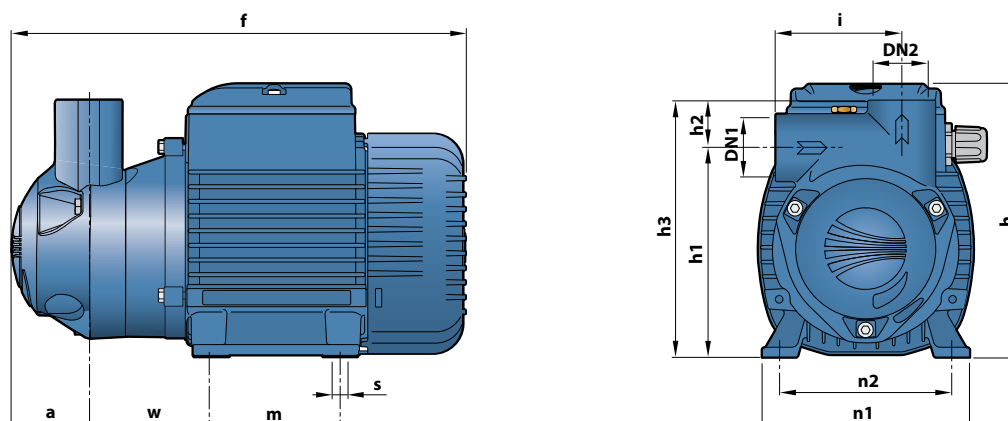
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron complete with 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 star type with open radial vanes				
4	MOTOR SHAFT	Stainless steel AISI 431				
5	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-12V	Ø 12 mm	Ceramic	Graphite	Viton
6	BEARINGS	Pump	Model			
		CK 50	6201 ZZ / 6201 ZZ			
		CK 50-BP				
		CK 80	6203 ZZ / 6203 ZZ			
		CK 90				
7	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		CKm 50	12.5 µF - 450 VL	25 µF - 250 VL		
		CKm 50-BP				
		CKm 80	16 µF - 450 VL	60 µF - 250 VL		
		CKm 90	20 µF - 450 VL	60 µF - 250 VL		
8	ELECTRIC MOTOR	CKm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. CK: 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		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	7.3	7.3
CKm 50-BP	CK 50-BP			43	261											7.2	7.3
CKm 80	CK 80	1"	1"	50	297	181	136	31	167	81	90	134	112	76		10.8	10.8
CKm 90	CK 90															10.8	10.8

ABSORPTION

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

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

Centrifugal pumps

 Clean water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **160 l/min** (9.6 m³/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

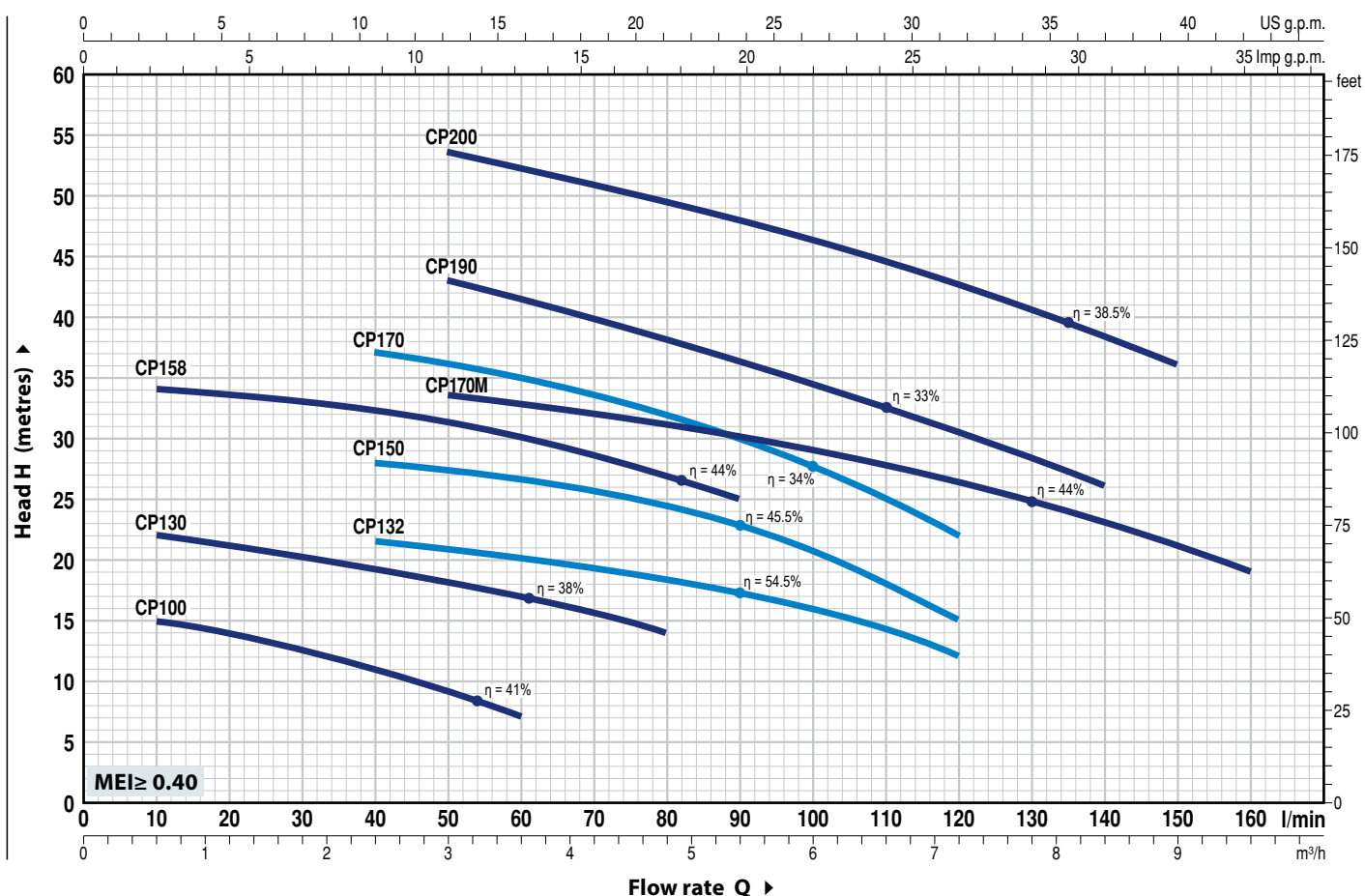
- Registered Trade Mark n. 0001516350  CPm158
- Registered EU Design n. 002098434

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⁻¹ HS = 0 m



MODEL		POWER (P ₂)			Q m³/h l/min	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
Single-phase	Three-phase	kW	HP	▲		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

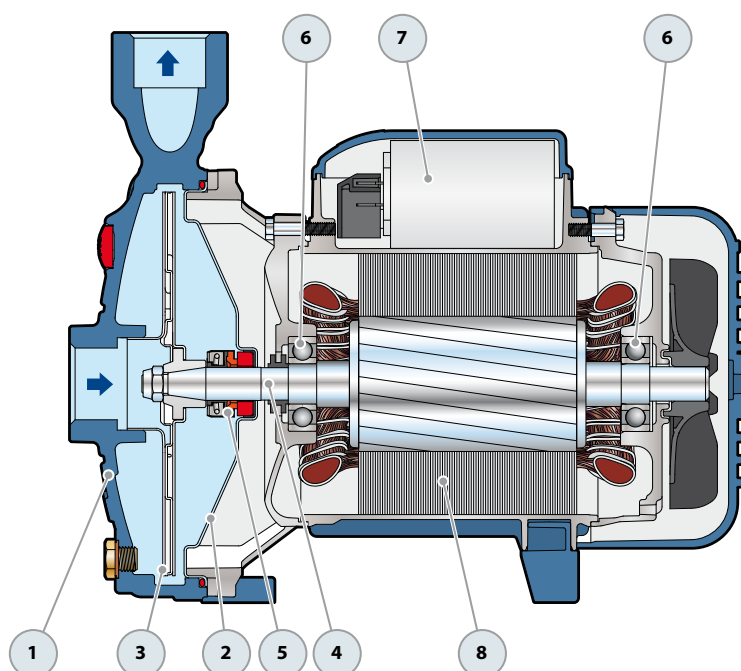
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

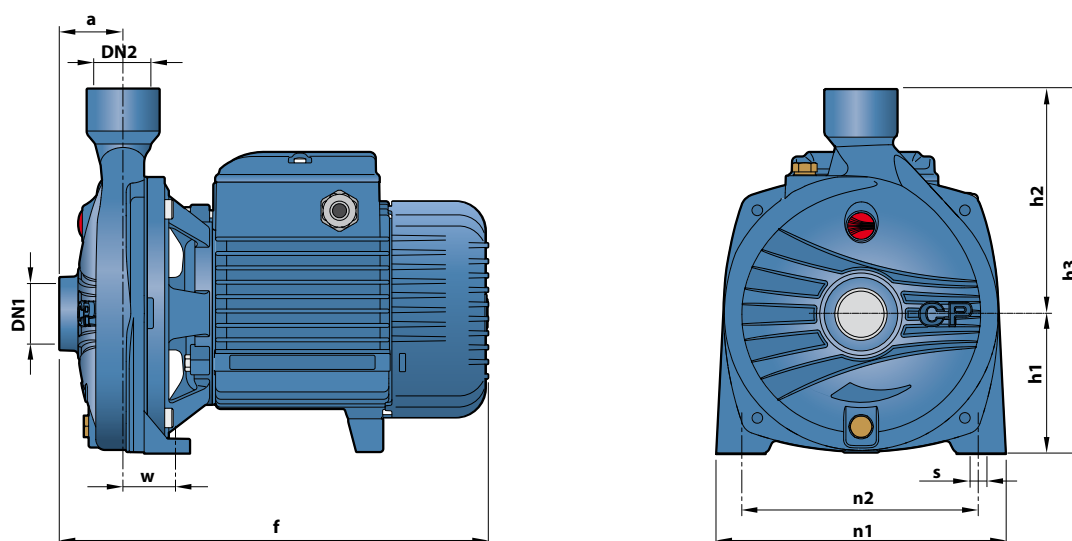
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1					
2	BODY BACKPLATE	Stainless steel AISI 304 (cast iron for CP 170-170M-190-200)					
3	IMPELLER	Stainless steel AISI 304					
4	MOTOR SHAFT	Stainless steel AISI 431					
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials		
		Model	Model	Diameter	Stationary ring	Rotational ring	Elastomer
		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	Pump	Model				
		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	CAPACITOR	Pump	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 150-158	20 µF - 450 VL	60 µF - 300 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	–			
		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 ₂ =0.25 kW in class IE2 and from P ₂ =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				286	240	92	148	190	160	37	11	12.0	12.0
CPm 158	CP 158												12.1	12.0
CPm 170 - 170M	CP 170 - 170M	1¼"	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

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 m³/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
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. 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

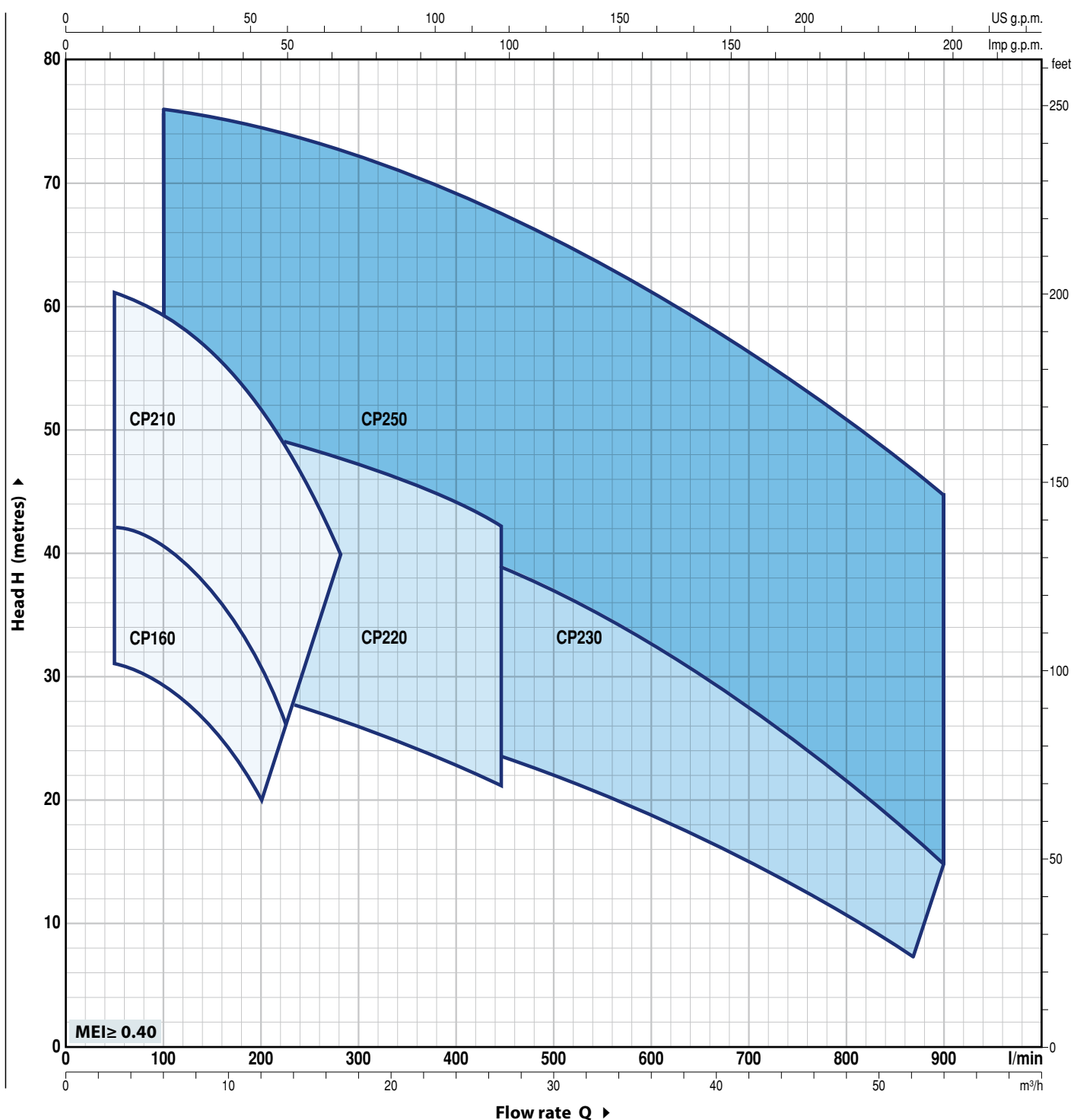
- Registered EU Design n. 002098434 for CP 160, CP210, CP250
- Registered Italian model n. 72753 for CP 220, CP 230

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

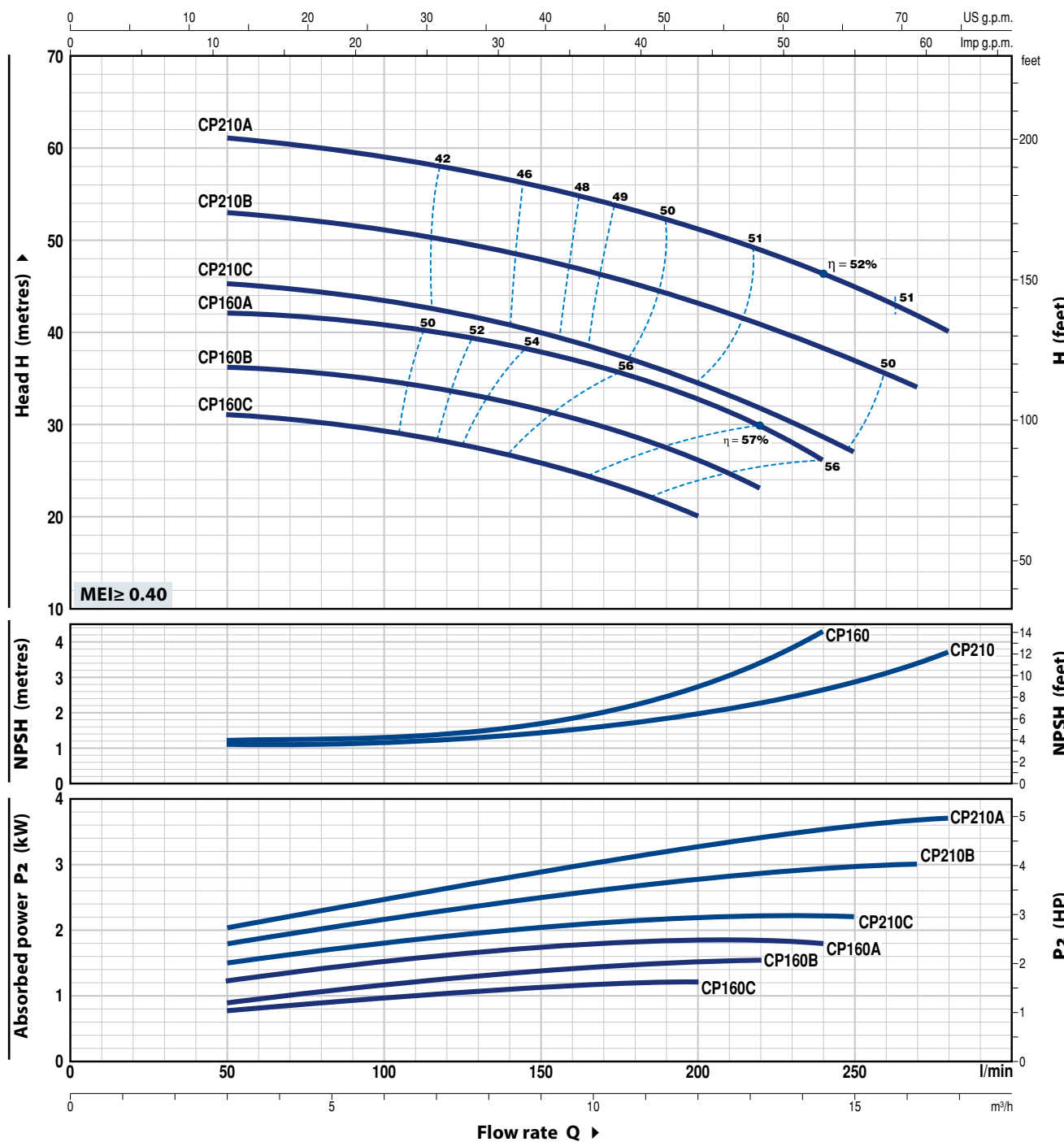
50 Hz n= 2900 min⁻¹ HS= 0 m



CP 160-210

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ HS = 0 m



MODEL		POWER (P ₂)			Q	m³/h l/min	0	3	4.5	6	7.5	9	10.5	12	13.2	14.4	15	16.2	16.8
Single-phase	Three-phase	kW	HP	▲			0	50	75	100	125	150	175	200	220	240	250	270	280
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	

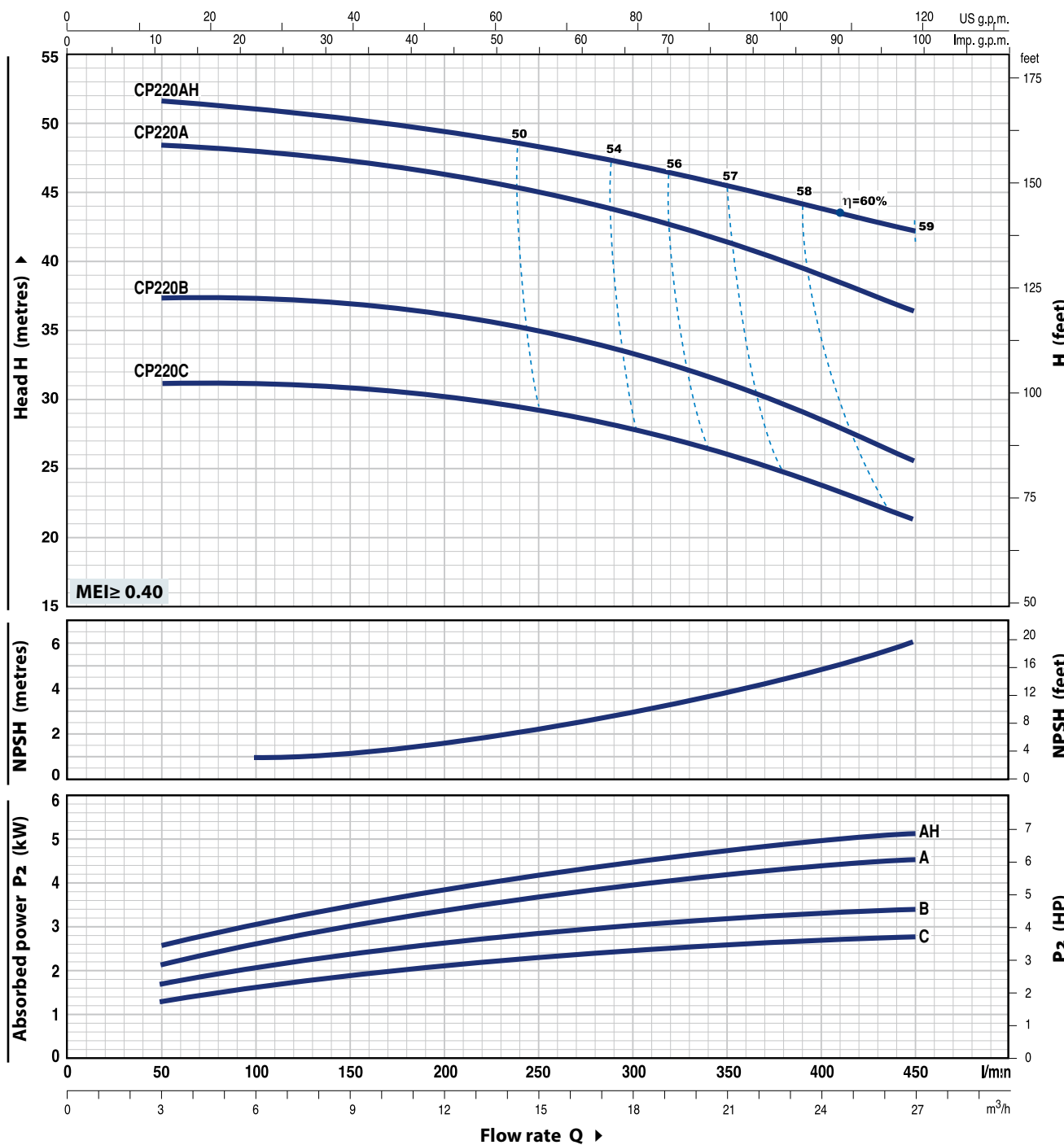
Q = Flow rate H = Total manometric head HS = Suction height

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⁻¹ HS = 0 m



MODEL		POWER (P ₂)		▲	Q	0	3	6	12	18	24	27
Single-phase	Three-phase	kW	HP			0	50	100	200	300	400	450
CPm 220C	CP 220C	2.2	3	IE3	H metres	32	31.5	31	30	28	24	21
–	CP 220B	3	4			38	37.5	37	36	33.5	29	25
–	CP 220A	4	5.5			49	48.5	48	46	43.5	39.5	36
–	CP 220AH	5.5	7.5			52	51.5	51	49	47	44	42

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

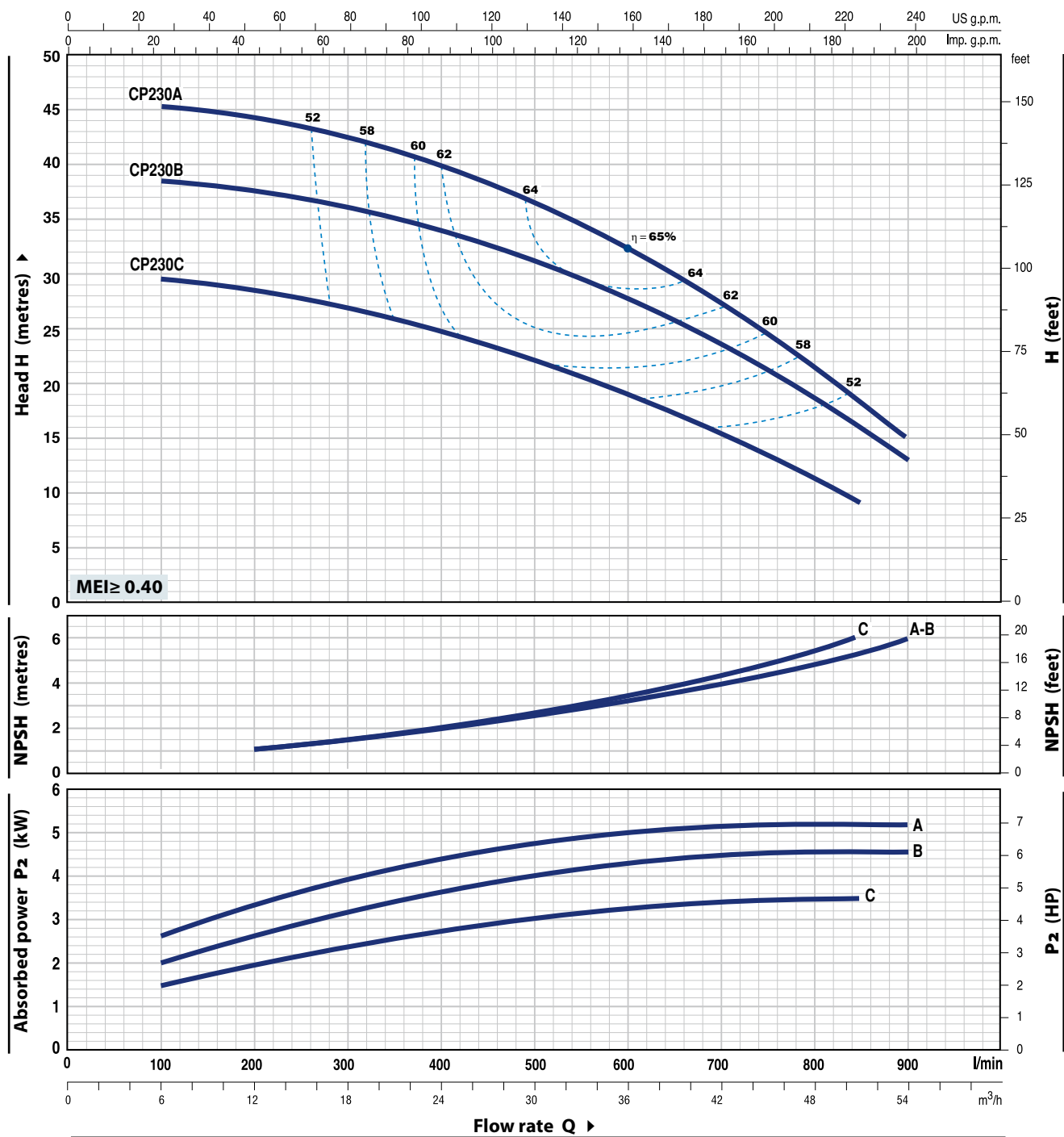
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

CP 230

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$



MODEL	POWER (P ₂)		▲	Q	m ³ /h	0	6	12	18	24	30	36	42	48	51	54
	kW	HP				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

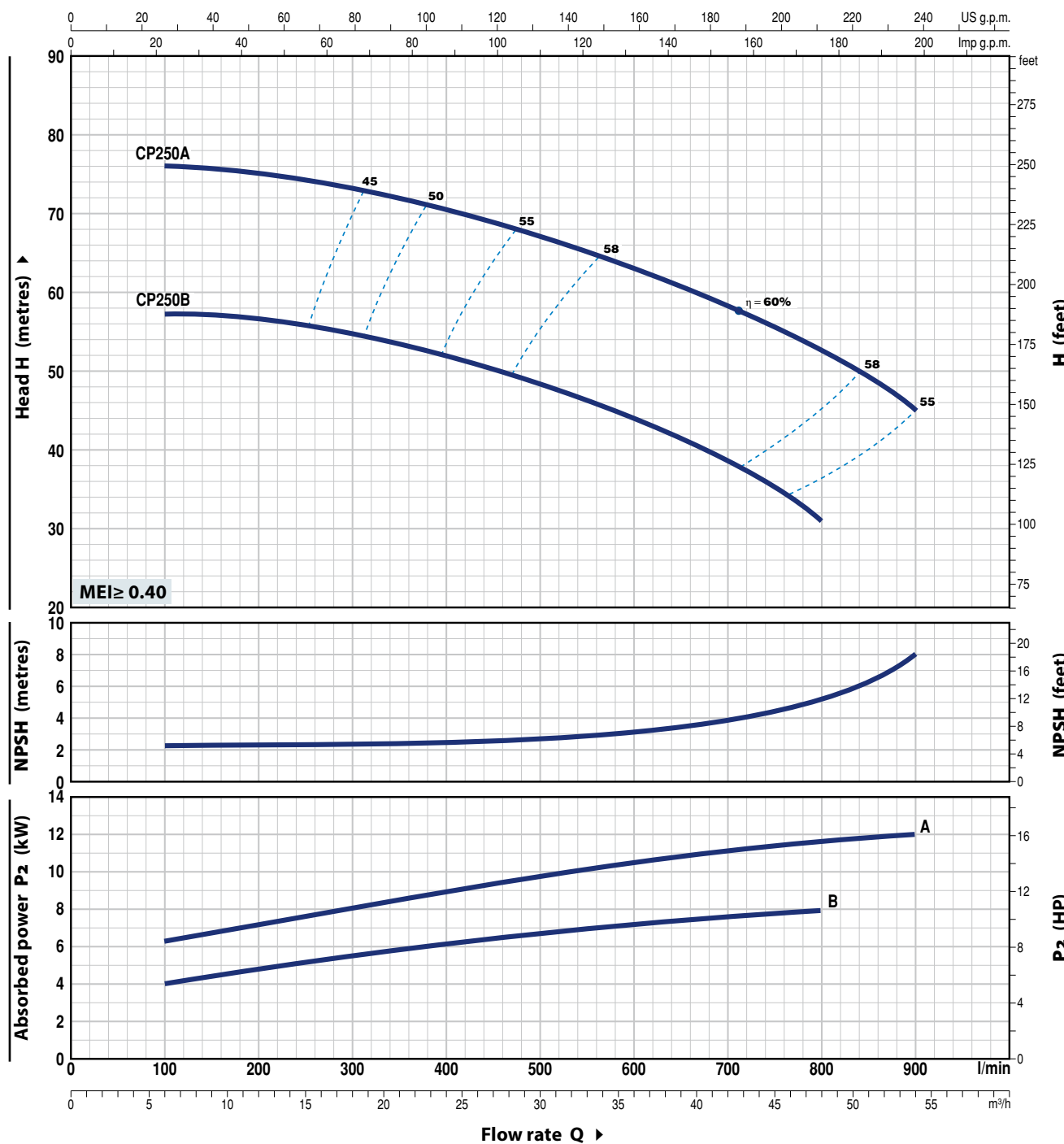
Q = Flow rate H = Total manometric head HS = Suction height

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⁻¹ HS= 0 m



MODEL	POWER (P ₂)			Q	m³/h	0	6	12	18	24	30	36	42	48	54
Three-phase	kW	HP	▲		l/min	0	100	200	300	400	500	600	700	800	900
CP 250B	7.5	10	IE3	H metres	57	57.4	56.8	54.8	52	48.4	44.1	38.8	31.3		
CP 250A	11	15			76.1	76	74.9	73.2	70.7	67.3	63	58.1	52.7	45.2	

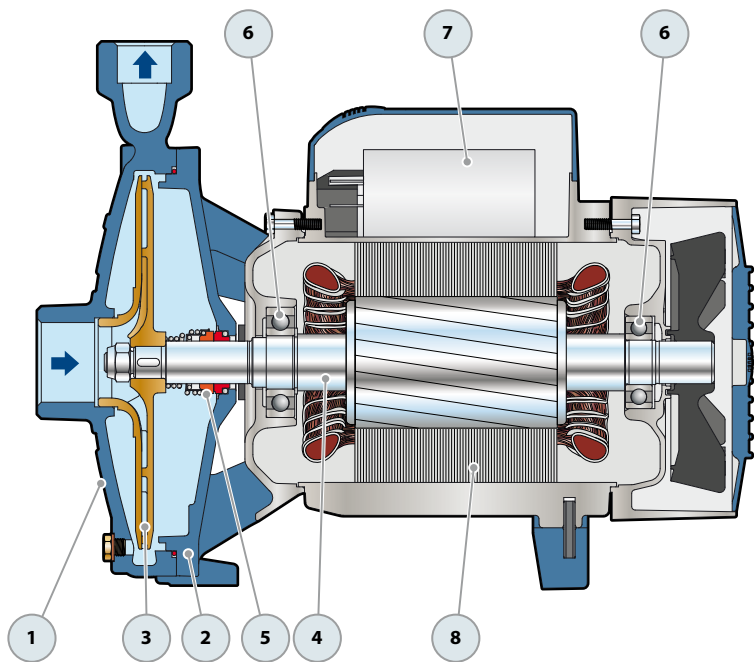
Q = Flow rate H = Total manometric head HS = Suction height

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

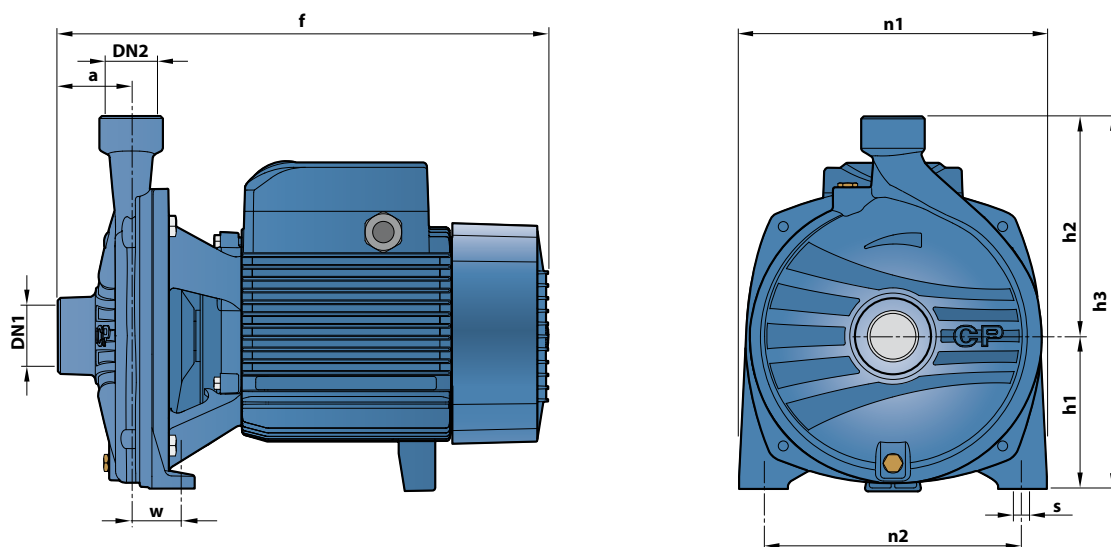
▲ Three-phase motor efficiency class (IEC 60034-30-1)

CP 160-210

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	PUMP BODY	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	BODY BACKPLATE	Cast iron					
3	IMPELLER	Stainless steel for CP160 Brass for CP 210					
4	MOTOR SHAFT	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 160	FN-18	Ø 18 mm	Graphite	Ceramic	NBR
		CP 210	FN-24	Ø 24 mm	Graphite	Ceramic	NBR
6	BEARINGS	<i>Pump</i>	<i>Model</i>				
		CP 160	6204 ZZ / 6204 ZZ				
		CP 210	6206 ZZ - C3 / 6205 ZZ				
7	CAPACITOR	<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	ELECTRIC MOTOR	CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding (up to 1.5 kW). CP: 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		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				391								-	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

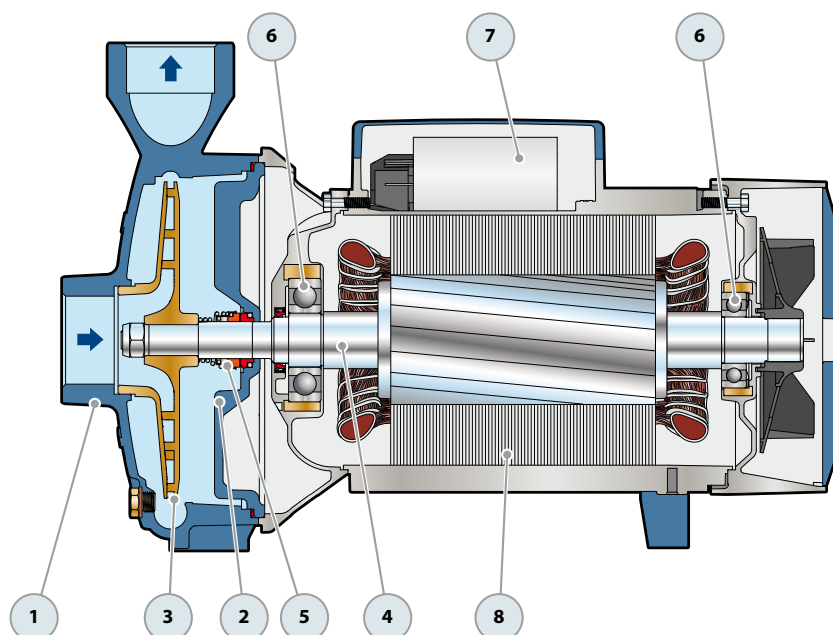
ABSORPTION

MODEL	VOLTAGE		
Single-phase	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

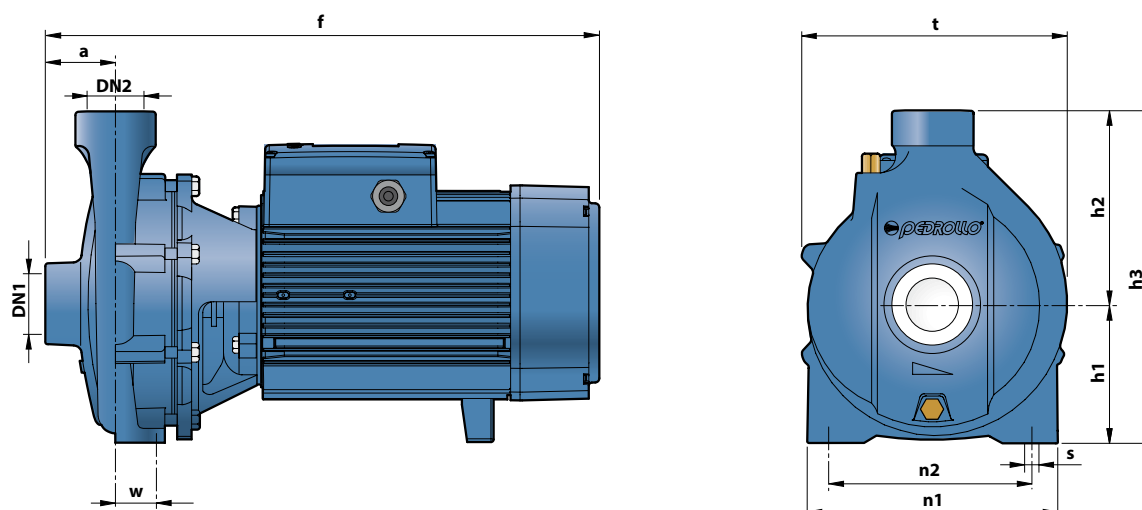
MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CP 160C	5.7 A	3.3 A	1.9 A	5.5 A	3.2 A	1.8 A
CP 160B	6.9 A	4.0 A	2.3 A	6.7 A	3.8 A	2.2 A
CP 160A	8.9 A	5.1 A	2.9 A	8.3 A	4.8 A	2.8 A
CP 210C	9.2 A	5.3 A	3.1 A	8.8 A	5.1 A	2.9 A
CP 210B	11.2 A	6.5 A	3.8 A	10.8 A	6.2 A	3.6 A
CP 210A	14.8 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	PUMP BODY	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	BODY BACKPLATE	Cast iron					
3	IMPELLER	Brass for CP 220, CP 230 Cast iron for CP 250					
4	MOTOR SHAFT	Stainless steel AISI 431					
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials		
		Model	Model	Diameter	<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	BEARINGS	Pump	Model				
		CP 220C	6206 ZZ - C3 / 6204 ZZ				
		CPm 220C					
		CP 220B CP 230C	6206 ZZ - C3 / 6205 ZZ				
		CP 220A-AH CP 230B-A CP 250B	6307 ZZ - C3 / 6206 ZZ - C3				
		CP 250A	6310 ZZ - C3 / 6308 ZZ - C3				
7	CAPACITOR	Pump	Capacitance				
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>				
		CPm 220C	70 µF - 450 VL				
8	ELECTRIC MOTOR	CPm: single-phase 230 V - 50 Hz. CP: three-phase 230/400 V - 50 Hz up to 4 kW. 400/690 V - 50 Hz from 5.5 to 11 kW. ➡ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1) – 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									—	41.0
—	CP 230A				505	136	192	328	273	250	190			—	46.0
—	CP 250B				506									—	74.0
—	CP 250A			65	570	160	232	392	317	294	230	45		—	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

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 m³/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

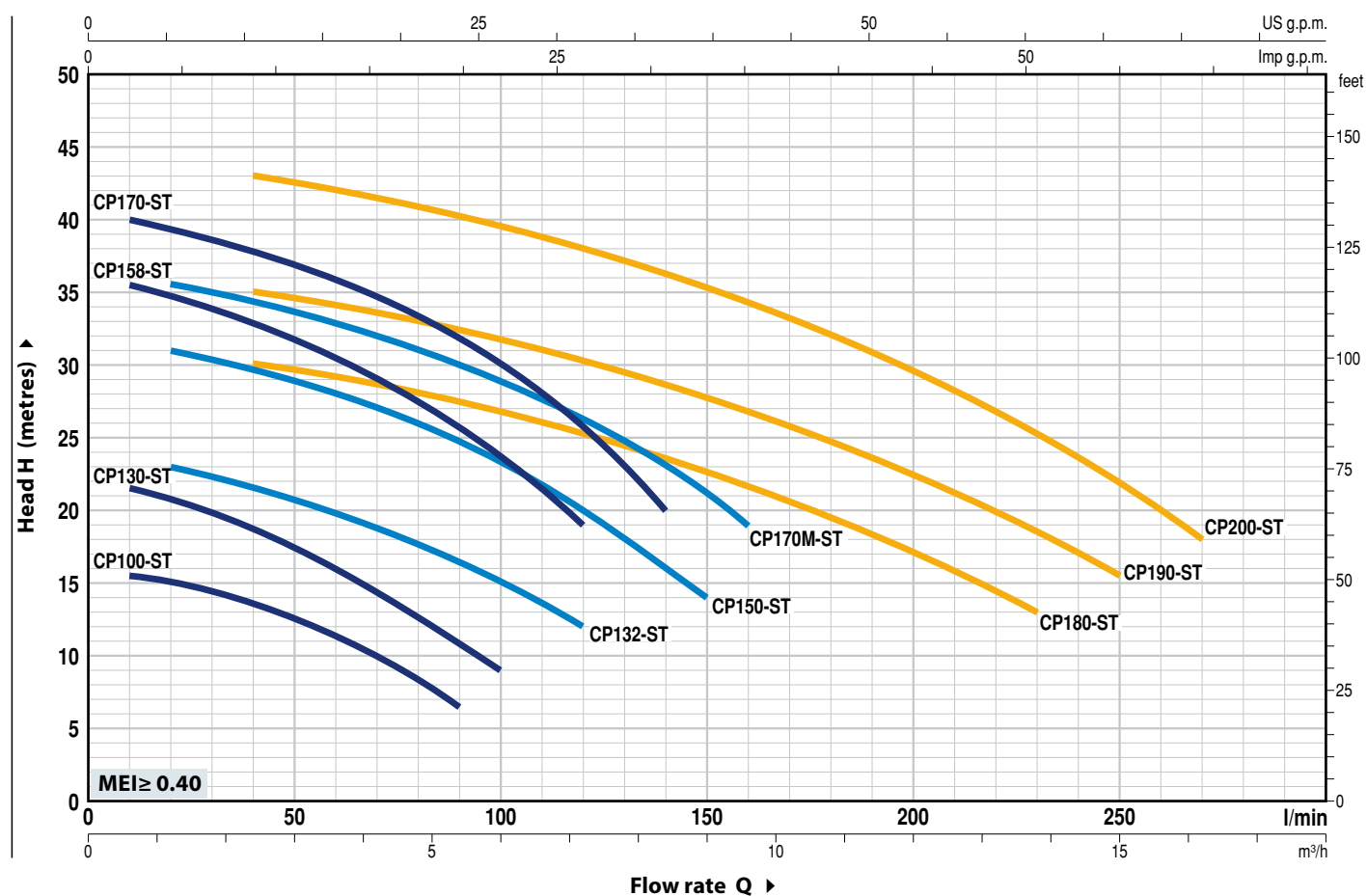
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



PERFORMANCE RANGE

50 Hz n = 2900 min⁻¹ HS = 0 m



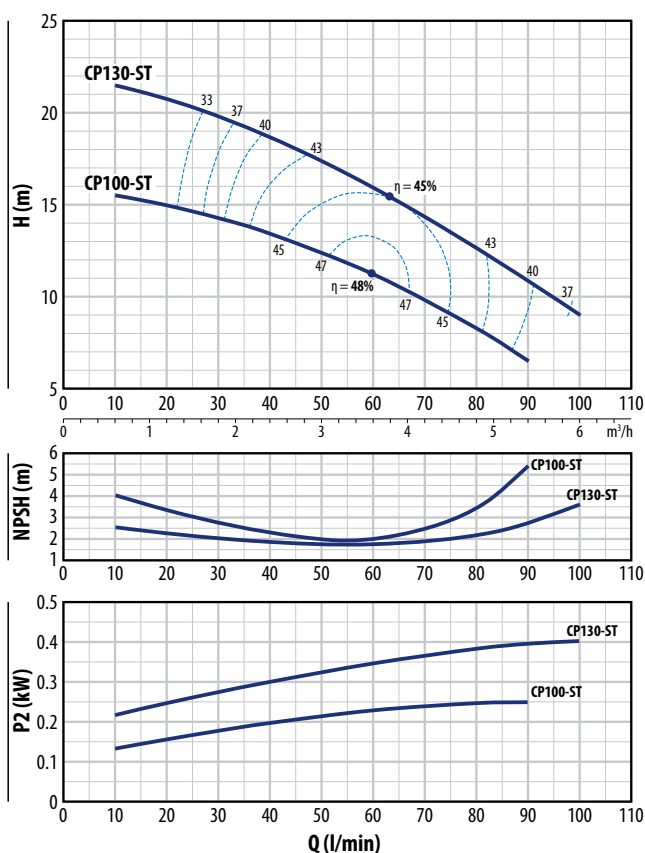
MODEL		POWER (P ₂)			Q	m³/h	0	0.6	1.2	2.4	3.6	5.4	6.0	7.2	8.4	9.0	9.6	12	13.8	15	16.2	
Single-phase	Three-phase	kW	HP	▲		l/min	0	10	20	40	60	90	100	120	140	150	160	200	230	250	270	
CPm 100-ST4 CPm 100-ST6	CP 100-ST4 CP 100-ST6	0.25	0.33	IE2	H metres	16	15.5	15	13.5	11.2	6.5											
CPm 130-ST4 CPm 130-ST6	CP 130-ST4 CP 130-ST6	0.37	0.50	IE3		22.5	21.5	20.8	18.8	16	10.8	9										
CPm 132-ST4 CPm 132-ST6	CP 132-ST4 CP 132-ST6	0.55	0.75			24	–	23	21.5	19.8	16.5	15	12									
CPm 150-ST4 CPm 150-ST6	CP 150-ST4 CP 150-ST6	0.75	1	IE3		32	–	31	29.8	28	24.8	23.2	20	16	14							
CPm 158-ST4 CPm 158-ST6	CP 158-ST4 CP 158-ST6	0.75	1			36.5	35.5	34.5	33	31	26.2	24	19									
CPm 170-ST4 CPm 170-ST6	CP 170-ST4 CP 170-ST6	1.1	1.5	IE3		41	40	39.2	37.8	36	32	30	25.8	20								
CPm 170M-ST4 CPm 170M-ST6	CP 170M-ST4 CP 170M-ST6	1.1	1.5			36.5	–	35.5	34.3	33	30	29	26.4	23	21	19						
CPm 180-ST4 CPm 180-ST6	CP 180-ST4 CP 180-ST6	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 190-ST4 CPm 190-ST6	CP 190-ST4 CP 190-ST6	1.5	2			37	–	–	35	34	32.2	31.5	30.2	28.7	27.8	27	22.7	18.5	15.5			
CPm 200-ST4 CPm 200-ST6	CP 200-ST4 CP 200-ST6	2.2	3			45	–	–	43	42	40.2	39.5	38	36.5	35.5	34.5	29.8	25.5	22	18		

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

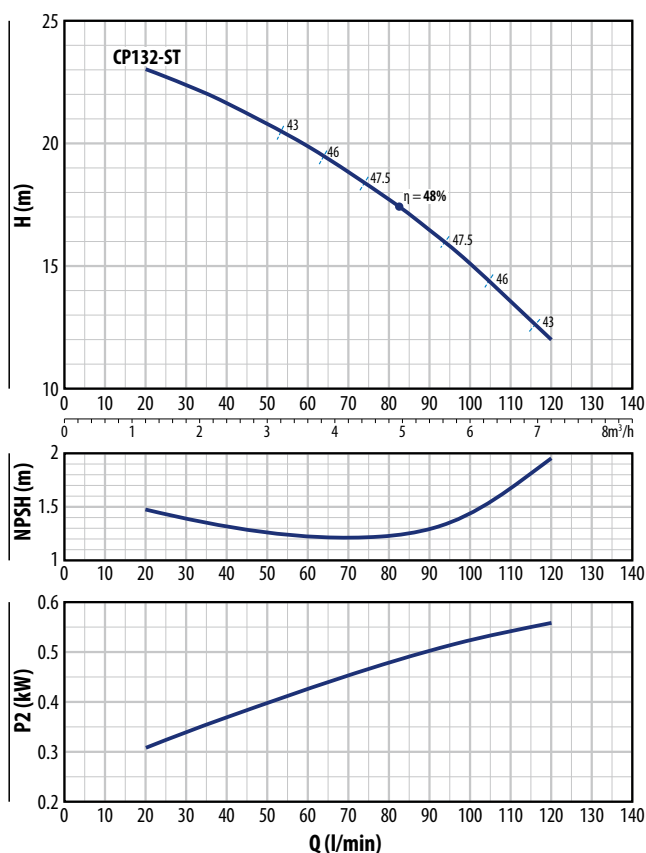
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

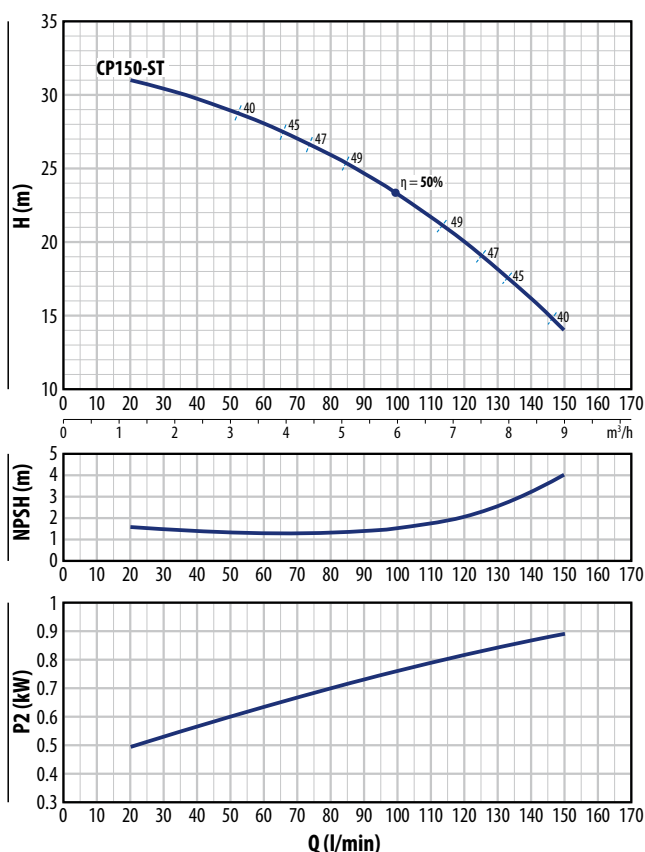
CP 100-ST CP130-ST



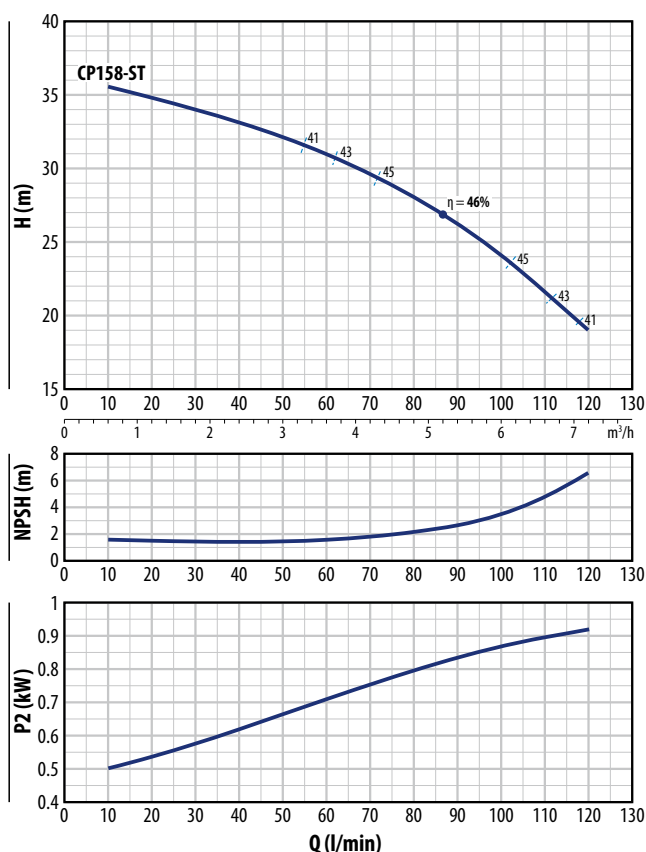
CP 132-ST



CP 150-ST



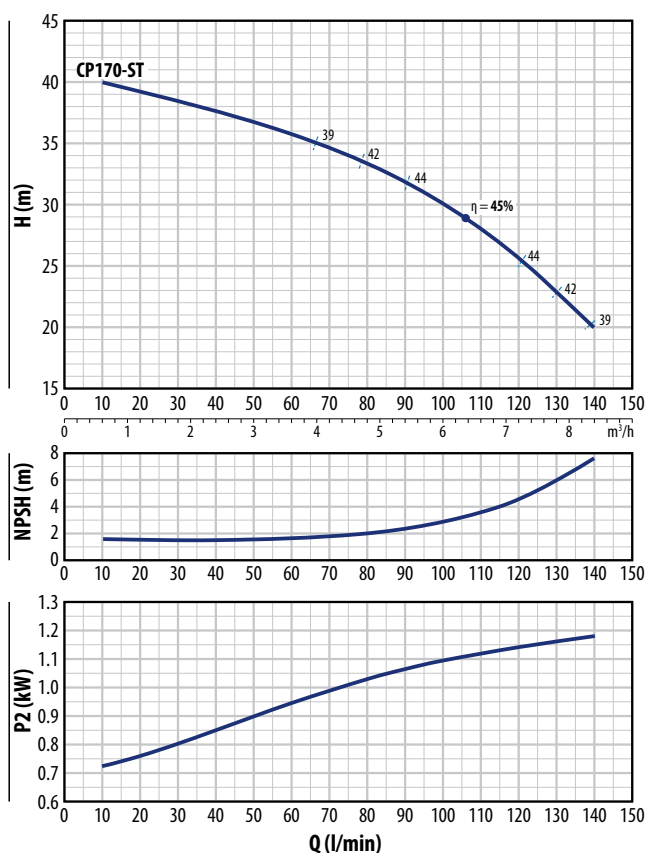
CP 158-ST



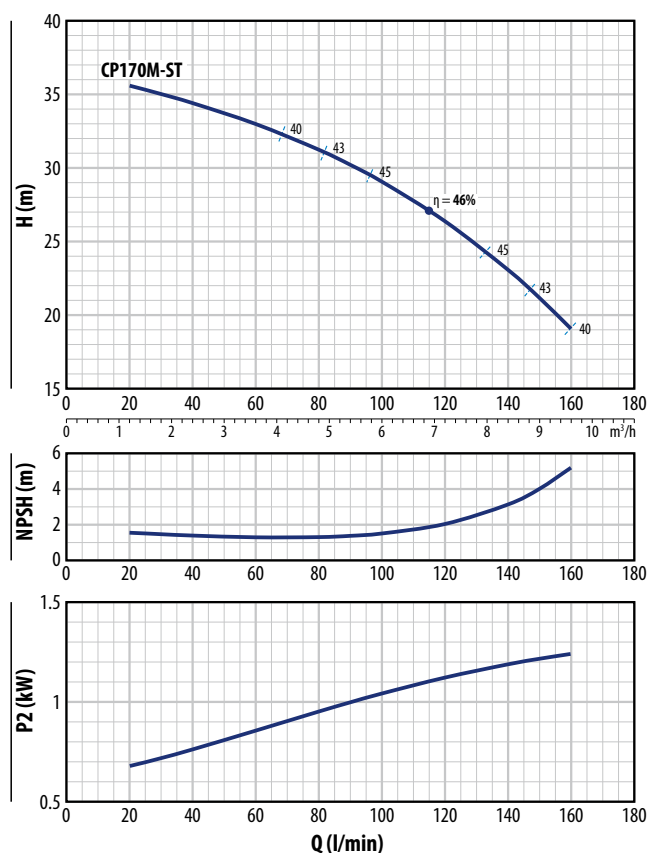
CHARACTERISTIC CURVES

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$

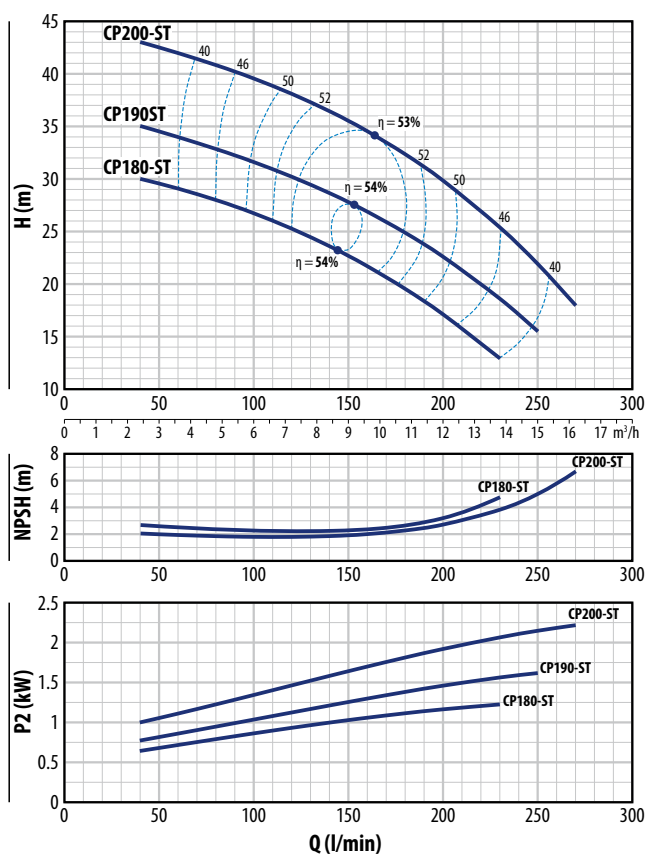
CP 170-ST



CP 170M-ST



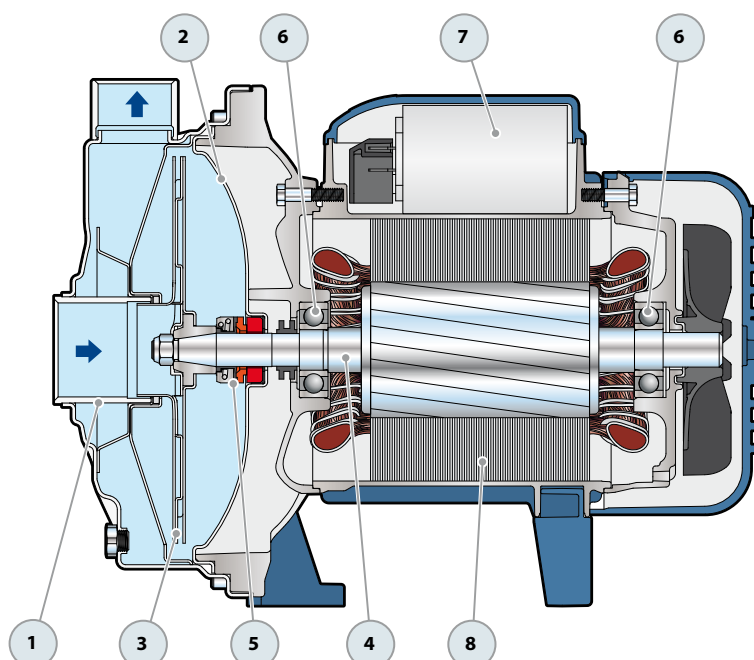
CP 180-190-200-ST



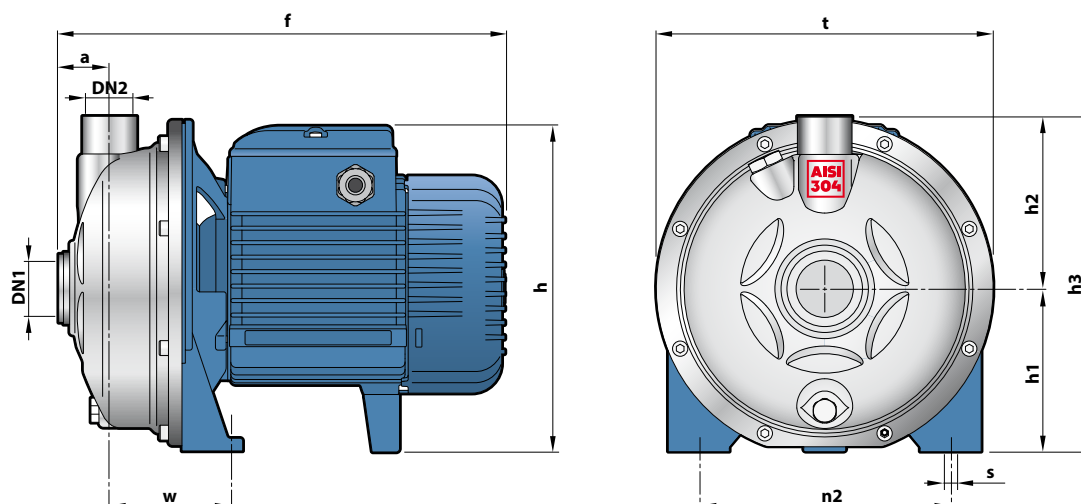
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Stainless steel AISI 304						
2	BODY BACKPLATE	Stainless steel AISI 304						
3	IMPELLER	Stainless steel AISI 304						
4	MOTOR SHAFT	Stainless steel AISI 431						
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials			
		<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	BEARINGS	Pump	Model					
		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	CAPACITOR	Pump	Capacitance					
		<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	ELECTRIC MOTOR	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.						
		■ The three-phase pumps are fitted with high performance motors for P2=0.25 kW in class IE2 and from P2=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	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			31.5	266	181	92	93.5	185.5	120	181	68.5	9	6.5	6.5
CPm 132-ST4	CP 132-ST4			31.5	266	181	92	93.5	185.5	120	181	68.5	9	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			34	296	219 *	107	112	219	165	221	80.5	9.5	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			33.5	368	251	120	117.5	237.5	180	244	86.5	11	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			33.5	368	250	120	117.5	237.5	180	244	86.5	11	16.2	16.9
CPm 200-ST4	CP 200-ST4			33.5	390	250	120	117.5	237.5	180	244	86.5	11	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

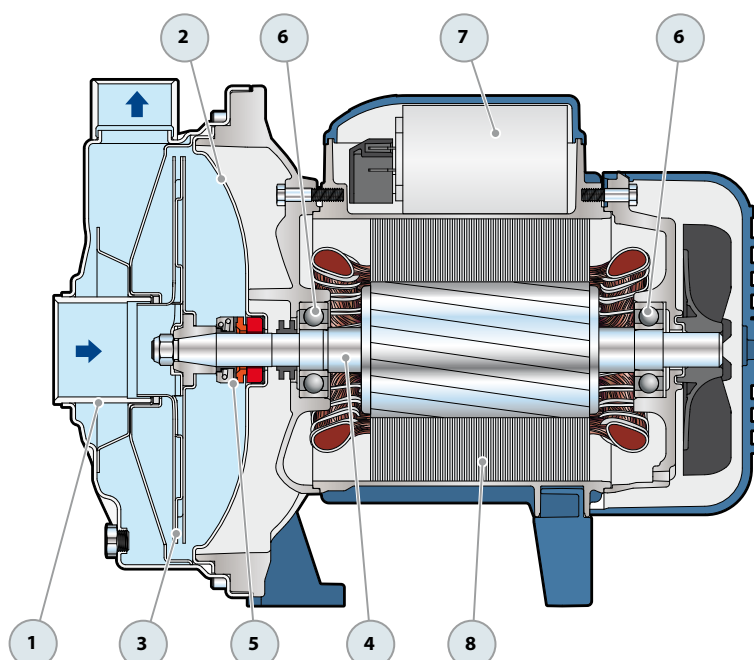
PALLETIZATION

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		
CPm 180-ST4	CP 180-ST4	45	63
CPm 190-ST4	CP 190-ST4		
CPm 200-ST4	CP 200-ST4		

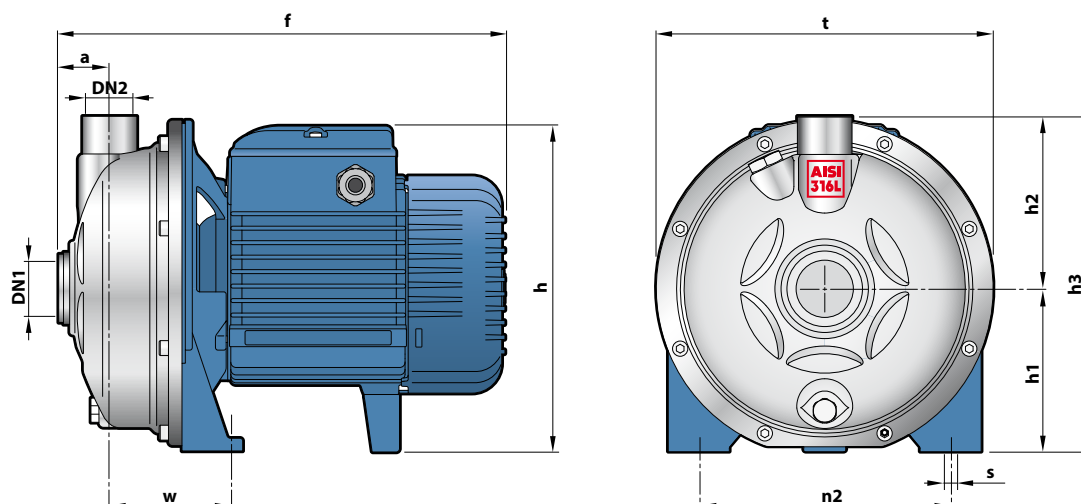
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Stainless steel AISI 316L						
2	BODY BACKPLATE	Stainless steel AISI 316L						
3	IMPELLER	Stainless steel AISI 316L						
4	MOTOR SHAFT	Stainless steel AISI 316L						
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials			
		Model	Model	Diameter	Stationary ring	Rotational ring	Elastomer	Spring
		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	AR-14ST6	Ø 14 mm	Ceramic	Graphite	NBR	AISI 316
		CP 170-ST6, CP 170M-ST6 CP 180-ST6, CP 190-ST6 CP 200-ST6	FN-18ST6	Ø 18 mm	Graphite	Ceramic	NBR	AISI 316
6	BEARINGS	Pump	Model					
		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	CAPACITOR	Pump	Capacitance					
		Single-phase	(230 V or 240 V)		(110 V)			
		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	ELECTRIC MOTOR	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.						
		➡ The three-phase pumps are fitted with high performance motors for P2=0.25 kW in class IE2 and from P2=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	h	h1	h2	h3	n2	t	w	s	1~	3~
CPm 100-ST6	CP 100-ST6	1 1/4"	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			31.5	266	181	92	93.5	185.5	120	181	68.5	9	6.6	6.6
CPm 132-ST6	CP 132-ST6			31.5	266	181	92	93.5	185.5	120	181	68.5	9	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			34	296	219 *	107	112	219	165	221	80.5	9.5	10.8	10.8
CPm 170-ST6	CP 170-ST6			33.5	368	251	120	117.5	237.5	180	244	86.5	11	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			33.5	368	250	120	117.5	237.5	180	244	86.5	11	15.8	15.7
CPm 190-ST6	CP 190-ST6			33.5	368	250	120	117.5	237.5	180	244	86.5	11	17.0	17.0
CPm 200-ST6	CP 200-ST6			33.5	390	250	120	117.5	237.5	180	244	86.5	11	19.6	19.7

(*) 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		

Vertical multi-stage pumps

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



PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m³/h)
- Head up to **112 m**

APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- Liquid temperature between **-10 °C** and **+40 °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



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.

PATENTS - TRADE MARKS - MODELS

- Patent n. EP14755156.8

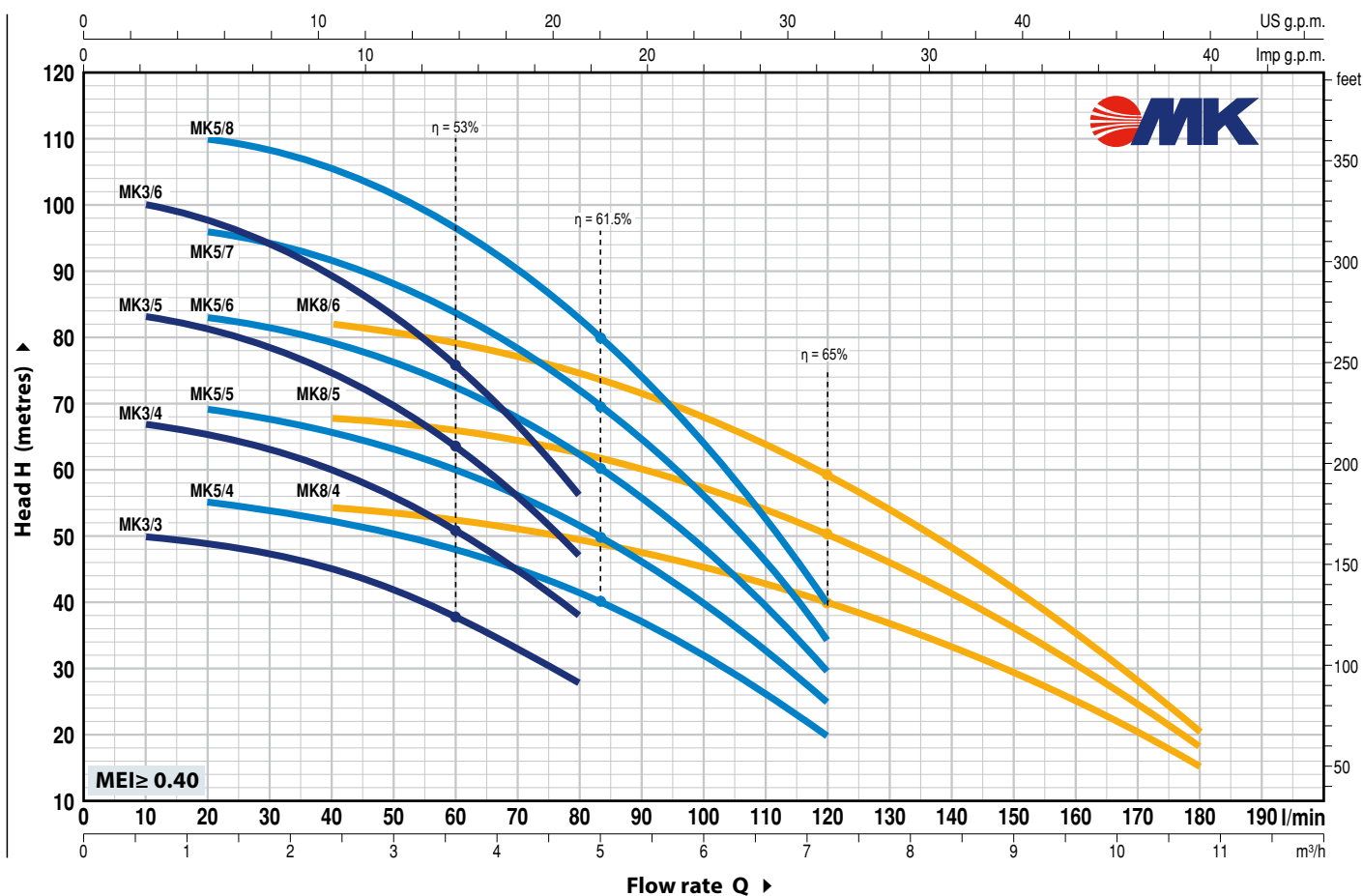
OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- Supply of threaded flanges ISO 228/1 (1" - 1¼" - 1½") suction and delivery ports



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



MODEL		POWER (P ₂)			Q	m ³ /h	0	0.6	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	
Single-phase	Three-phase	kW	HP	▲		l/min	0	10	20	40	60	80	100	120	140	160	180	
MKm 3/3	MK 3/3	0.75	1	IE3	H metres	52	50	49	45	38	28							
MKm 3/4	MK 3/4	1.1	1.5			69.5	67	65.5	60	50.5	38							
MKm 3/5	MK 3/5	1.1	1.5			87	83	82	75	63.5	47							
MKm 3/6	MK 3/6	1.5	2			104	100	98	90	76	56							
MKm 5/4	MK 5/4	1.1	1.5			56	–	55	52.5	48	41.5	32	20					
MKm 5/5	MK 5/5	1.1	1.5			70	–	69	66	60	51.5	40	25					
MKm 5/6	MK 5/6	1.5	2			84	–	83	79	72	62	48	30					
MKm 5/7	MK 5/7	1.8	2.5			98	–	96	92.5	84	72.5	56	34					
MKm 5/8	MK 5/8	2.2	3			112	–	110	105.5	96	82.5	64	40					
MKm 8/4	MK 8/4	1.5	2			56	–	–	54	52	50	46	39	31.5	24	15		
MKm 8/5	MK 8/5	1.8	2.5			70	–	–	67.5	66	63	58	50	40	30	18		
MKm 8/6	MK 8/6	2.2	3			86	–	–	82	78	74	68	58	46.5	35	20		

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	SUCTION BODY	Cast iron with an Epoxy Electro Coating complete with threaded suction port ISO 228/1				
2	EXTERNAL SLEEVE	Stainless steel AISI 304				
3	DELIVERY BODY	Cast iron with an Epoxy Electro Coating complete with threaded delivery port ISO 228/1				
4	IMPELLERS AND DIFFUSERS	Noryl FE1520PW				
5	DIAPHRAGMS	Stainless steel AISI 304				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
8	BEARINGS	6304 ZZ / 6204 ZZ				

9 CAPACITOR

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
MKm 3/3	25 µF - 450 VL	60 µF - 250 VL
MKm 3/4	25 µF - 450 VL	60 µF - 250 VL
MKm 3/5	31.5 µF - 450 VL	60 µF - 250 VL
MKm 3/6	45 µF - 450 VL	80 µF - 250 VL
MKm 5/4	25 µF - 450 VL	60 µF - 250 VL
MKm 5/5	31.5 µF - 450 VL	60 µF - 250 VL
MKm 5/6	45 µF - 450 VL	80 µF - 250 VL
MKm 5/7	50 µF - 450 VL	–
MKm 5/8	50 µF - 450 VL	–
MKm 8/4	45 µF - 450 VL	80 µF - 250 VL
MKm 8/5	50 µF - 450 VL	–
MKm 8/6	50 µF - 450 VL	–

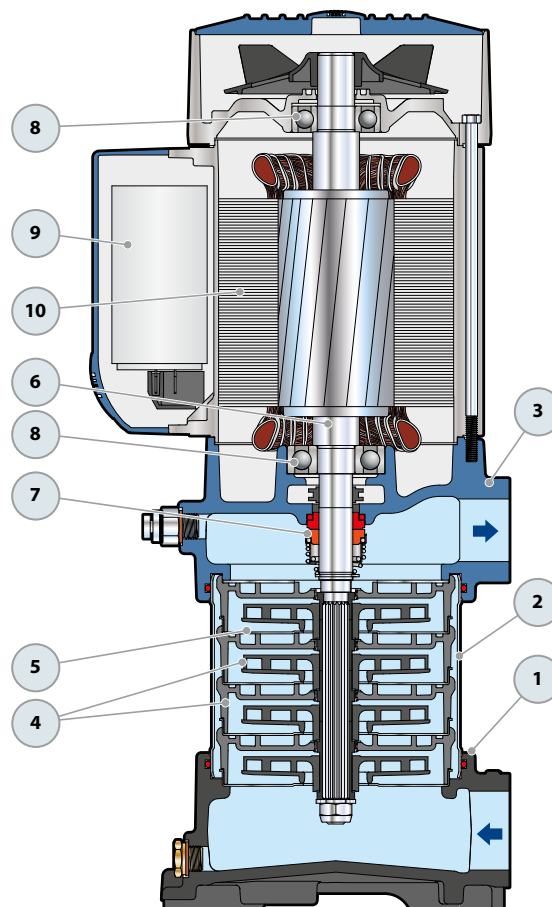
10 ELECTRIC MOTOR

MKm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding up to P₂=1.5 kW

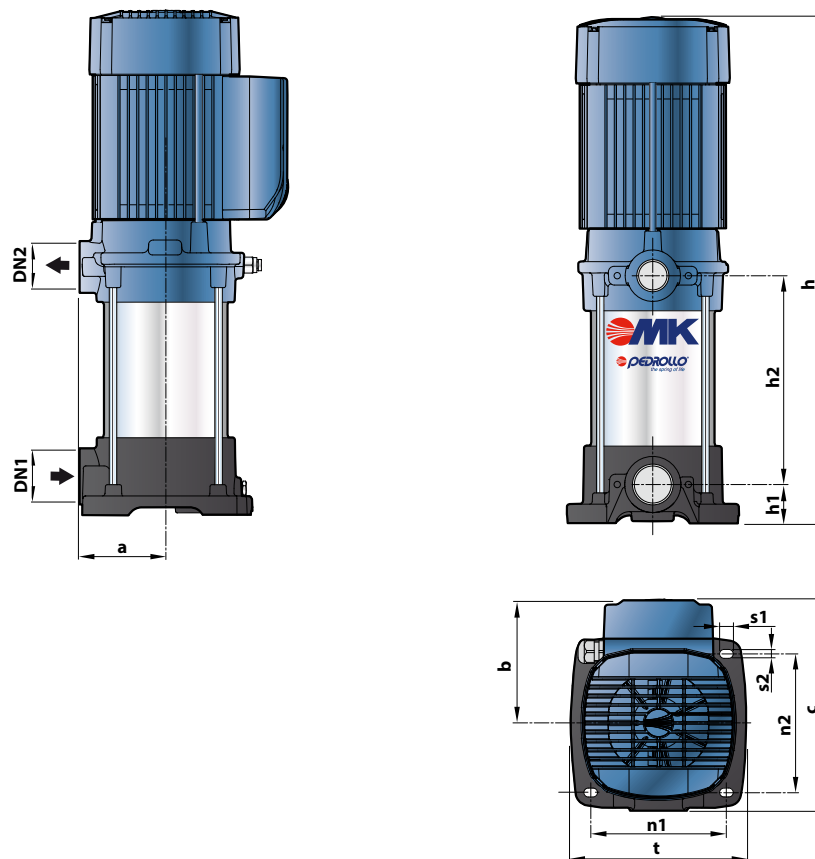
MK: three-phase 230/400 V - 50 Hz

⇒ **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	1¼"	1"	3	93	450	41.5	132.5	143	146	185	131	224	14.5	10	20.1	20.2	
MKm 3/4	MK 3/4			4		477		159.5								20.5	20.5	
MKm 3/5	MK 3/5			5		504		186.5								22.0	22.1	
MKm 3/6	MK 3/6			6		531		213.5								23.0	23.6	
MKm 5/4	MK 5/4			4		477		159.5								20.3	20.4	
MKm 5/5	MK 5/5			5		504		186.5								21.8	22.0	
MKm 5/6	MK 5/6			6		531		213.5								23.9	23.8	
MKm 5/7	MK 5/7			7		558		240.5								25.0	24.2	
MKm 5/8	MK 5/8			8		582		265								25.5	24.4	
MKm 8/4	MK 8/4			4		475		158								22.9	21.5	
MKm 8/5	MK 8/5			5		504		186.5								23.7	23.1	
MKm 8/6	MK 8/6			6		531		213.5								24.6	23.0	

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
MKm 3/3	5.9 A	5.6 A	11.8 A
MKm 3/4	6.8 A	6.5 A	13.6 A
MKm 3/5	8.7 A	8.5 A	17.4 A
MKm 3/6	10.4 A	10.0 A	20.8 A
MKm 5/4	6.6 A	6.3 A	13.2 A
MKm 5/5	8.1 A	7.9 A	16.2 A
MKm 5/6	9.5 A	9.2 A	19.0 A
MKm 5/7	10.6 A	10.2 A	-
MKm 5/8	11.5 A	11.2 A	-
MKm 8/4	10.3 A	10.0 A	20.6 A
MKm 8/5	11.2 A	10.9 A	-
MKm 8/6	12.3 A	12.0 A	-

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
MK 3/3	5.2 A	3.0 A	1.7 A	5.0 A	2.9 A	1.7 A
MK 3/4	5.4 A	3.1 A	1.8 A	5.2 A	3.0 A	1.7 A
MK 3/5	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
MK 3/6	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
MK 5/4	5.4 A	3.1 A	1.8 A	5.2 A	3.0 A	1.7 A
MK 5/5	5.5 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
MK 5/6	6.6 A	3.8 A	2.2 A	6.4 A	3.7 A	2.1 A
MK 5/7	8.3 A	4.8 A	2.8 A	8.0 A	4.6 A	2.7 A
MK 5/8	8.8 A	5.1 A	2.9 A	8.5 A	4.9 A	2.8 A
MK 8/4	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
MK 8/5	8.6 A	5.0 A	2.9 A	8.3 A	4.8 A	2.8 A
MK 8/6	9.5 A	5.5 A	3.2 A	9.3 A	5.3 A	3.0 A

2-5CR 60-80-100

Multi-stage centrifugal pumps

 Clean water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m³/h)
- Head up to **67 m**

APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- 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 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.

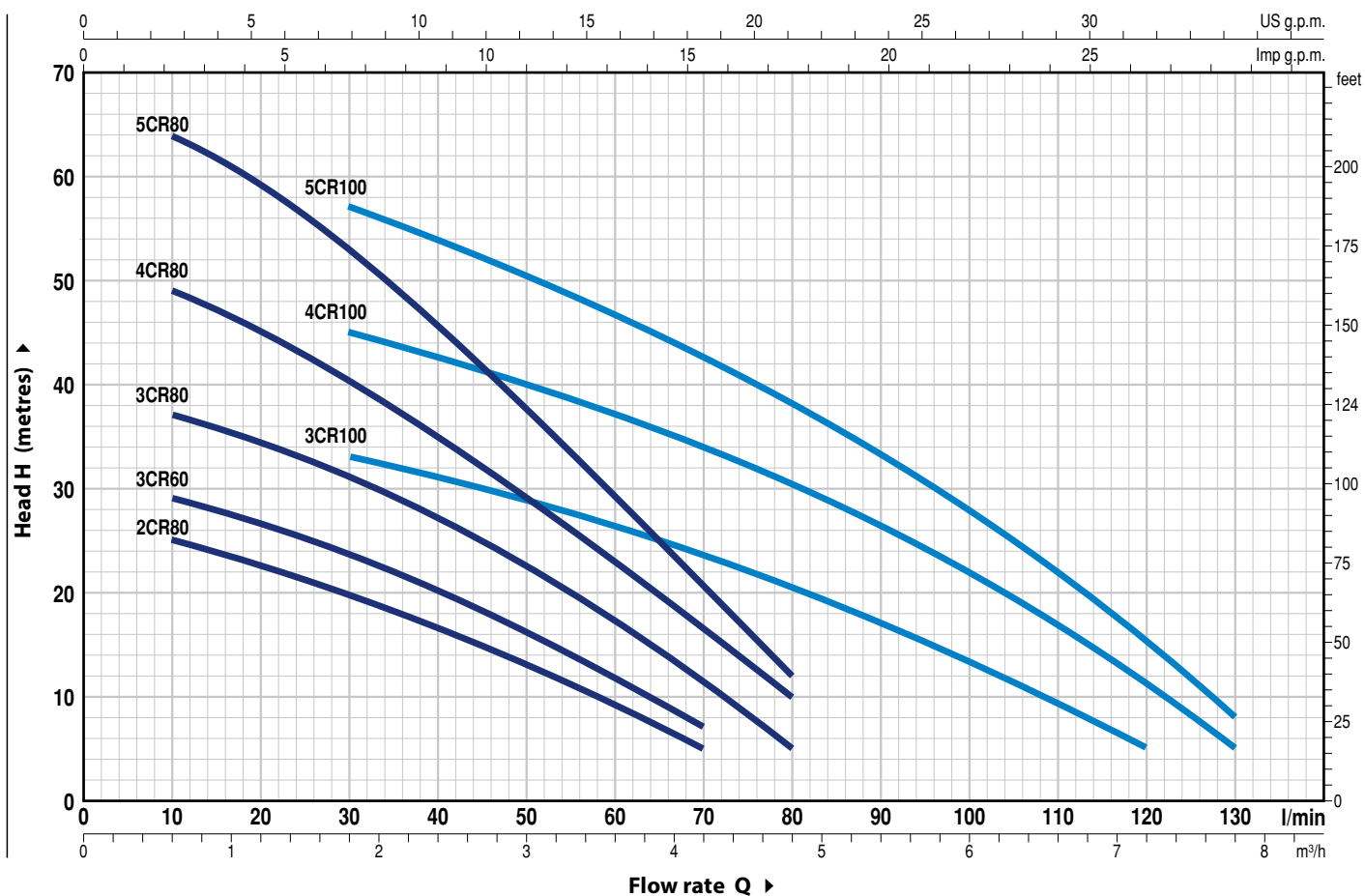
Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q	m³/h	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
Single-phase	Three-phase	kW	HP	▲		l/min	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							
3CRm 60	3CR 60	0.37	0.50			31	30	29	28	26.5	25	23.5	20	16	11.5	7							
3CRm 80	3CR 80	0.45	0.60			40	38	37	36	34.5	33	31	27	22.5	17	11	5						
4CRm 80	4CR 80	0.55	0.75			52	50	49	47	44.5	42	40	34	28.5	22.5	16	10						
5CRm 80	5CR 80	0.75	1	IE3		67	66	64	62	59	56	53	45.5	37.5	29.5	20.5	12						
3CRm 100	3CR 100	0.55	0.75	IE2		38	37	36	35	34.5	33.5	33	31	28	26	23	20	17	13.5	10	5		
4CRm 100	4CR 100	0.75	1	IE3		50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5	
5CRm 100	5CR 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	

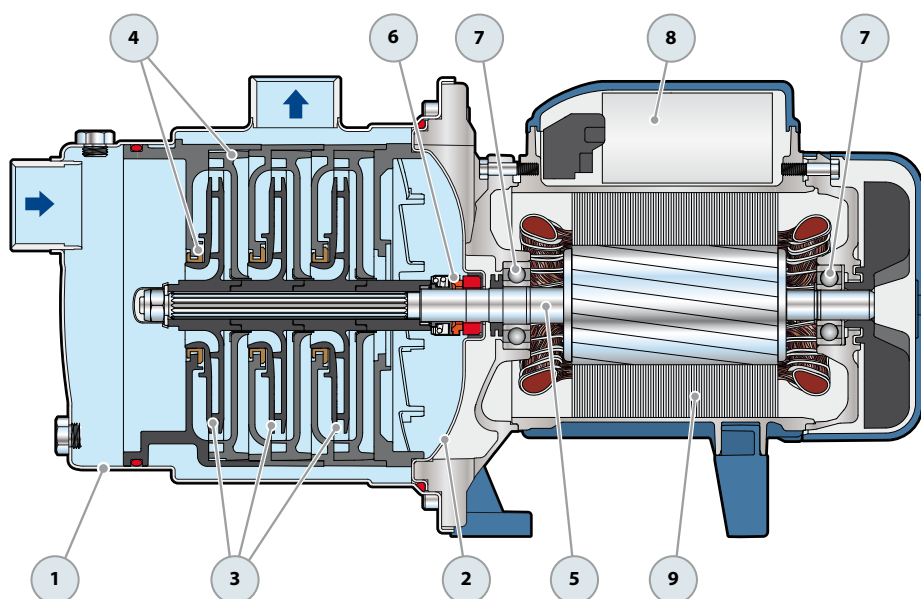
Q = Flow rate H = Total manometric head HS = Suction height

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

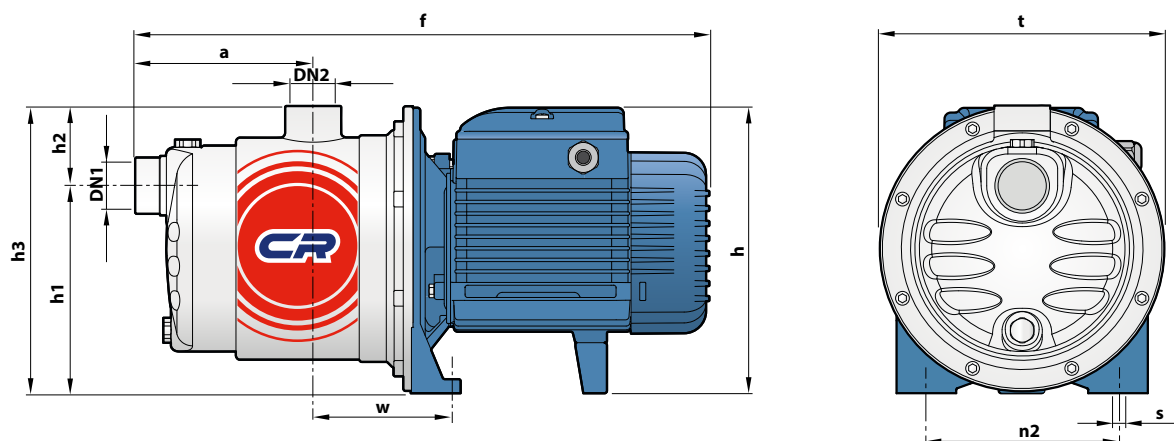
▲ Three-phase motor efficiency class (IEC 60034-30-1)

2-5CR 60-80-100

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	Noryl FE1520PW				
4	DIFFUSERS	Noryl FE1520PW complete with anti-wear ring				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	<i>Seal Model</i> AR-13	<i>Shaft Diameter</i> Ø 13 mm	<i>Stationary ring</i> Ceramic	<i>Materials Rotational ring</i> Graphite	<i>Elastomer</i> NBR
7	BEARINGS	<i>Pump</i> 2CR 80 3CR 60 3CR 80 4CR 80 3CR 100 4CR 100 5CR 80 5CR 100	<i>Model</i> 6202 ZZ - C3 / 6201 ZZ 6203 ZZ / 6203 ZZ			
8	CAPACITOR	<i>Pump Single-phase</i> 2CRm 80 3CRm 60 3CRm 80 4CRm 80 3CRm 100 4CRm 100 5CRm 80 5CRm 100	<i>Capacitance (230 V or 240 V)</i> 10 μF - 450 VL 12.5 μF - 450 VL 14 μF - 450 VL 20 μF - 450 VL 25 μF - 450 VL	<i>(110 V)</i> 25 μF - 250 VL 25 μF - 250 VL 25 μF - 250 VL 25 μF - 250 VL 60 μF - 300 VL 60 μF - 300 VL		
9	ELECTRIC MOTOR	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. → 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) – 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~							
2CRm 80	2CR 80	1"	1"	113	367	182	132	51	183	182	120	87	9	6.4	6.3							
3CRm 60	3CR 60													6.3	6.4							
3CRm 80	3CR 80													7.2	7.2							
4CRm 80	4CR 80			8.3	7.6																	
5CRm 80	5CR 80			138	392	202 *							10	11.4	10.7							
3CRm 100	3CR 100			113	367	182								9	7.9	7.2						
4CRm 100	4CR 100			138	410	202 *								10	10.7	10.6						
5CRm 100	5CR 100														11.4	10.7						

(*) 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 60	2.4 A	2.3 A	4.8 A
3CRm 80	3.3 A	3.3 A	6.6 A
4CRm 80	3.8 A	3.6 A	7.6 A
5CRm 80	5.5 A	5.2 A	11.0 A
3CRm 100	3.9 A	3.7 A	7.8 A
4CRm 100	6.0 A	6.0 A	12.0 A
5CRm 100	6.3 A	6.1 A	12.6 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 60	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 60	3CR 60	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

3-7CR 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 m³/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 **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. 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

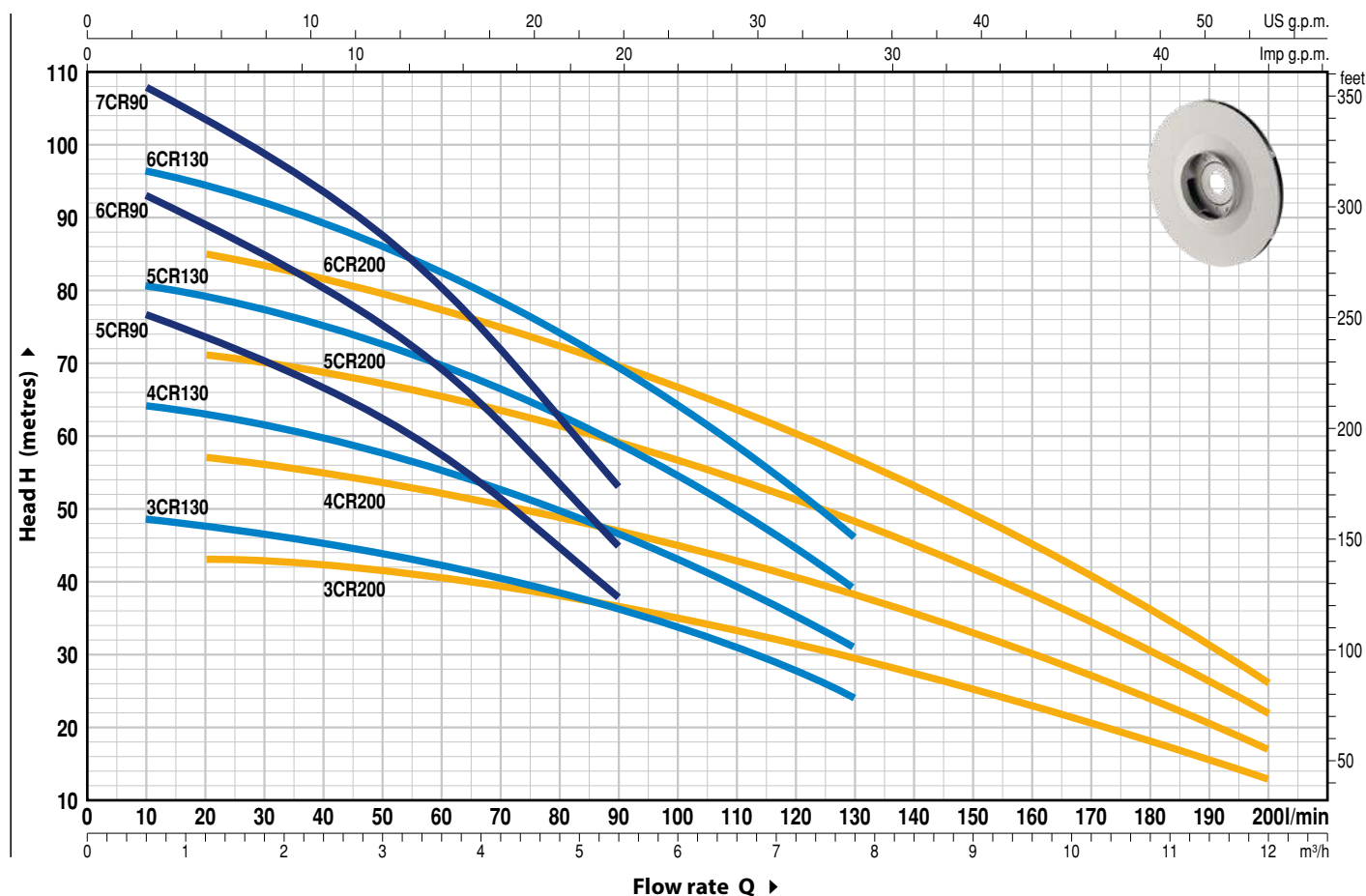
- Patent n. EP14755156.8

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⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q	m³/h															
Single-phase	Three-phase	kW	HP	▲		l/min	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	
						0	5	10	20	40	60	80	90	100	130	140	160	180	200		
5CRm 90	5CR 90	1.1	1.5	IE3	H metres	80	78	77	74	67	57	45	38								
6CRm 90	6CR 90	1.5	2			96	94	92	88	80	69	53	45								
7CRm 90	7CR 90	1.8	2.5			111	110	108	103	93	80	63	53								
3CRm 130	3CR 130	1.1	1.5			49	49	48.5	47.5	45	42.5	38.5	36	33.5	24						
4CRm 130	4CR 130	1.5	2			65	65	64	63	60	56	50	47	43	31						
5CRm 130	5CR 130	1.8	2.5			81	81	80.5	79	75	70	62.5	59	54	39						
–	6CR 130	2.2	3			97	97	96.5	94.5	90	83	74.5	69	64	46						
3CRm 200	3CR 200	1.1	1.5			44	43.5	43.5	43	42	40.5	38	36.5	35	29	27.5	23	18	13		
4CRm 200	4CR 200	1.5	2			58	57.5	57.5	57	55	52.5	49.5	47	45	38	35.5	30	24	17		
5CRm 200	5CR 200	1.8	2.5			73	72	71.5	71	69	65.5	62	59	56.5	48	44.5	38	30	22		
–	6CR 200	2.2	3			87	86	85.5	85	82	78	73	69	67	57	53	45	36	26		

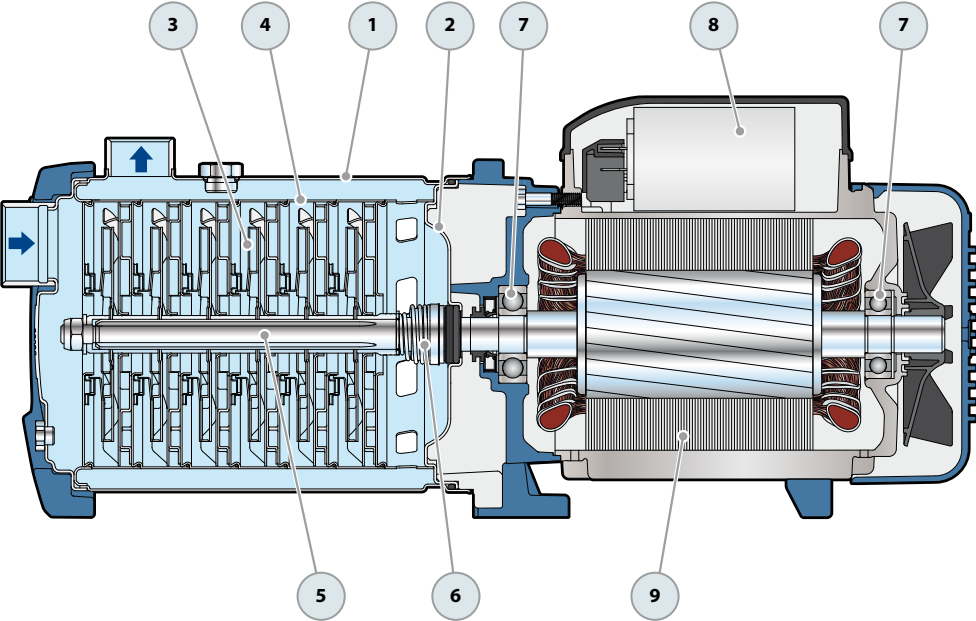
Q = Flow rate H = Total manometric head HS = Suction height

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

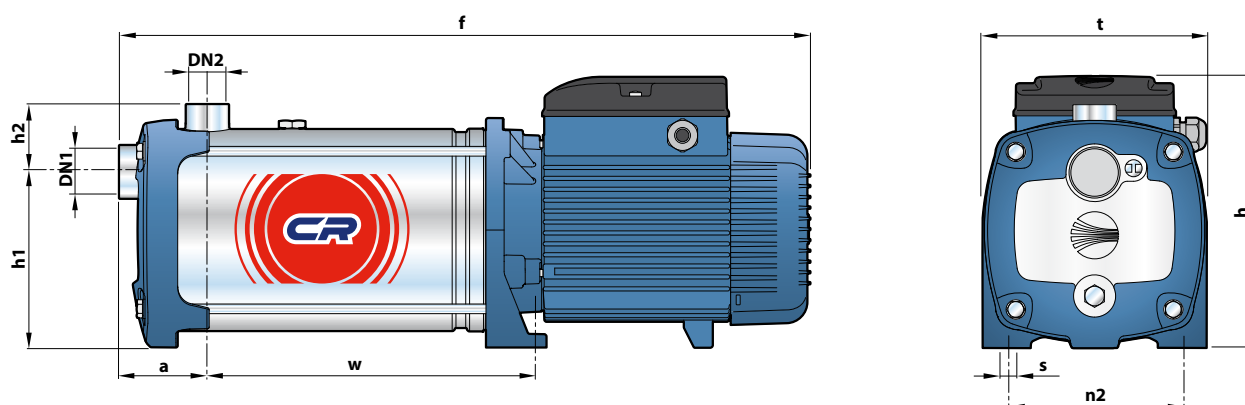
▲ Three-phase motor efficiency class (IEC 60034-30-1)

3-7CR 90-130-200

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	Stainless steel AISI 304				
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>
		FN-18	Ø 18 mm	Graphite	Silicon carbide	EPDM
7	BEARINGS	6304 2RS - C3 / 6204 ZZ - C3E				
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		5CRm 90	31.5 µF - 450 VL	60 µF - 250 VL		
		3CRm 130				
		3CRm 200				
		6CRm 90	45 µF - 450 VL	80 µF - 250 VL		
		4CRm 130				
		4CRm 200				
7CRm 90	50 µF - 450 VL	–				
5CRm 130						
5CRm 200						
9	ELECTRIC MOTOR	3-7CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. 3-7CR: 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		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
5CRm 90	5CR 90	1 1/4"	1"	73	497	228	145	56	185	145	193	11	20.3	19.8
6CRm 90	6CR 90				523						219		21.0	21.9
7CRm 90	7CR 90				569						245		26.0	26.0
3CRm 130	3CR 130				445						141		18.1	18.1
4CRm 130	4CR 130				471						167		20.0	20.1
5CRm 130	5CR 130				517						193		23.7	23.8
-	6CR 130				543						219		-	24.8
3CRm 200	3CR 200				445						141		18.1	18.1
4CRm 200	4CR 200				471						167		20.0	20.1
5CRm 200	5CR 200				518						193		23.7	23.6
-	6CR 200				543						219		-	24.4

ABSORPTION

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

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

3-6CR 90X-130X-200X

TECHNOPOLYMER IMPELLERS

Multi-stage centrifugal pumps

 Clean water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m³/h)
- Head up to **97 m**

APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- 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. 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

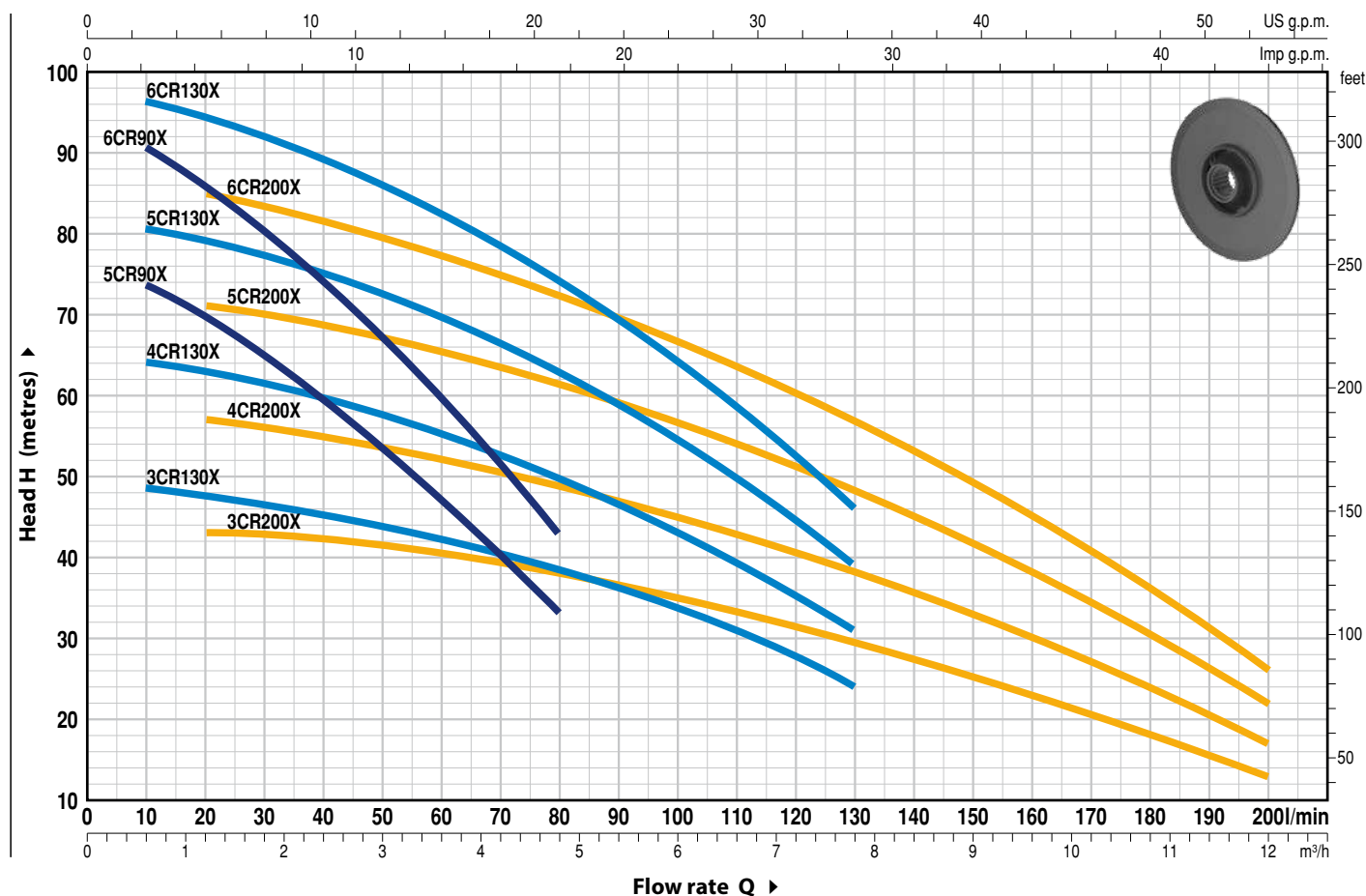
- Patent n. EP14755156.8

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⁻¹ HS= 0 m



MODEL		POWER (P ₂)		▲	Q															
Single-phase	Three-phase	kW	HP			0	0.3	0.6	1.2	2.4	3.6	4.8	6.0	7.8	8.4	9.6	10.8	12.0		
						0	5	10	20	40	60	80	100	130	140	160	180	200		
5CRm 90X	5CR 90X	1.1	1.5	IE3	H metres	76	76	73.5	70	60.5	47	33								
6CRm 90X	6CR 90X	1.5	2			93	93	90.5	86	74.5	59.5	43								
3CRm 130X	3CR 130X	1.1	1.5			49	49	48.5	47.5	45	42.5	38.5	33.5	24						
4CRm 130X	4CR 130X	1.5	2			65	65	64	63	60	56	50	43	31						
5CRm 130X	5CR 130X	1.8	2.5			81	81	80.5	79	75	70	62.5	54	39						
–	6CR 130X	2.2	3			97	97	96.5	94.5	90	83	74.5	64	46						
3CRm 200X	3CR 200X	1.1	1.5			44	43.5	43.5	43	42	40.5	38	35	29	27.5	23	18	13		
4CRm 200X	4CR 200X	1.5	2			58	57.5	57.5	57	55	52.5	49.5	45	38	35.5	30	24	17		
5CRm 200X	5CR 200X	1.8	2.5			73	72	71.5	71	69	65.5	62	56.5	48	44.5	38	30	22		
–	6CR 200X	2.2	3			87	86	85.5	85	82	78	73	67	57	53	45	36	26		

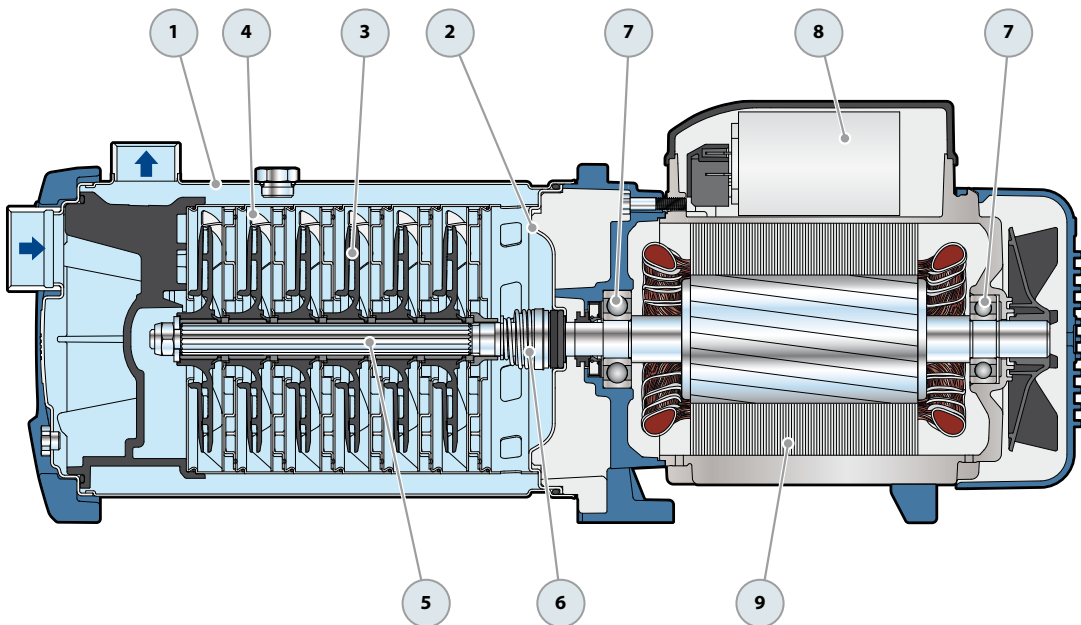
Q = Flow rate H = Total manometric head HS = Suction height

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

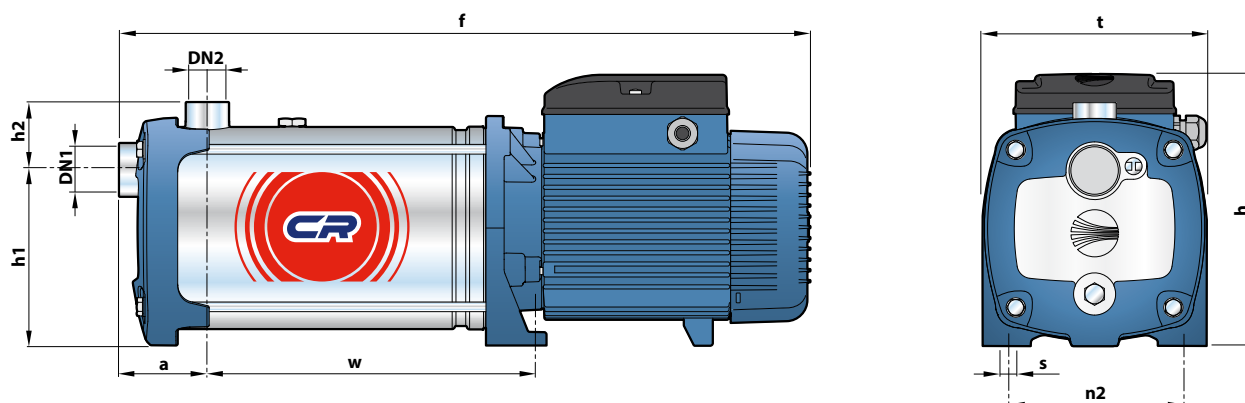
▲ Three-phase motor efficiency class (IEC 60034-30-1)

3-6CR 90X-130X-200X

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 FE1520PW				
4	DIFFUSERS	Stainless steel AISI 304				
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>
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6304 2RS - C3 / 6204 ZZ - C3E				
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>		
		5CRm 90X 3CRm 130X 3CRm 200X	31.5 µF - 450 VL	60 µF - 250 VL		
		6CRm 90X 4CRm 130X 4CRm 200X	45 µF - 450 VL	80 µF - 250 VL		
		5CRm 130X 5CRm 200X	50 µF - 450 VL	–		
9	ELECTRIC MOTOR	3-6CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. 3-6CR: 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		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
5CRm 90X	5CR 90X	1 1/4"	1"	73	549	228	145	56	185	145	245	11	19.5	19.5
6CRm 90X	6CR 90X				575						271		21.4	20.2
3CRm 130X	3CR 130X				497						193		17.9	18.0
4CRm 130X	4CR 130X				523						219		19.8	19.8
5CRm 130X	5CR 130X				570						245		23.1	23.7
-	6CR 130X				595						271		-	24.0
3CRm 200X	3CR 200X				497						193		17.9	18.0
4CRm 200X	4CR 200X				523						219		19.9	19.8
5CRm 200X	5CR 200X				569						245		23.2	23.7
-	6CR 200X				595						271		-	24.0

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
5CRm 90X	9.3 A	9.0 A	18.6 A
6CRm 90X	11.0 A	10.8 A	22.0 A
3CRm 130X	8.5 A	8.3 A	17.0 A
4CRm 130X	10.3 A	9.9 A	20.6 A
5CRm 130X	12.5 A	12.0 A	-
3CRm 200X	8.7 A	8.0 A	17.4 A
4CRm 200X	10.5 A	10.1 A	21.0 A
5CRm 200X	12.5 A	12.0 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
5CR 90X	6.1 A	3.5 A	2.0 A	5.9 A	3.4 A	1.9 A
6CR 90X	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
3CR 130X	5.6 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
4CR 130X	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
5CR 130X	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
6CR 130X	9.9 A	5.7 A	3.3 A	9.5 A	5.5 A	3.2 A
3CR 200X	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
4CR 200X	7.3 A	4.2 A	2.4 A	7.0 A	4.0 A	2.3 A
5CR 200X	9.4 A	5.4 A	3.1 A	9.0 A	5.2 A	3.0 A
6CR 200X	10.2 A	5.9 A	3.4 A	9.8 A	5.7 A	3.3 A

2-4CP

Multi-stage centrifugal pumps

 Clean water

 Domestic use



PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m³/h)
- Head up to **52 m**

APPLICATION LIMITS

- Manometric suction lift up to **7 m**
- 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. 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

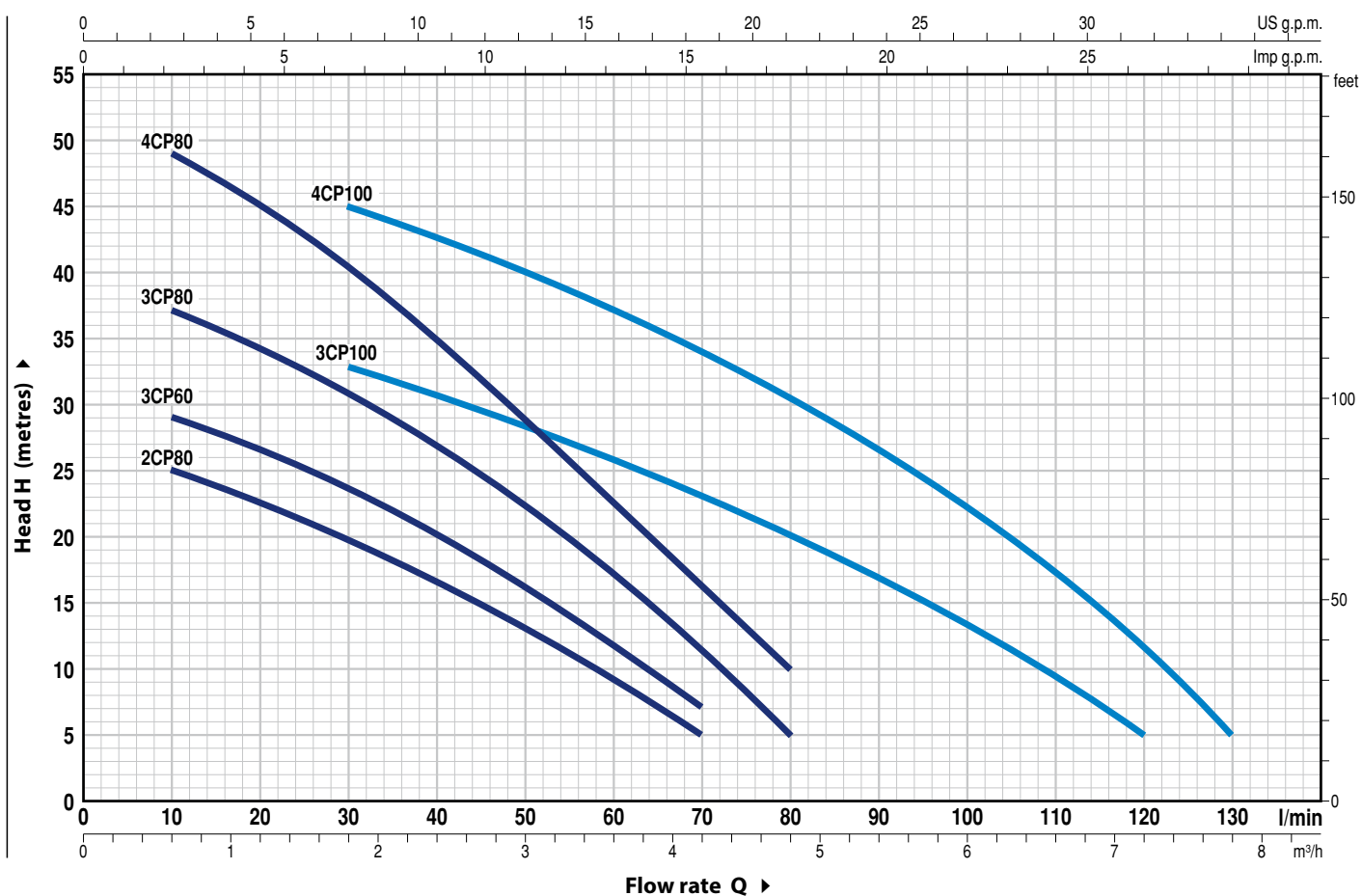
- Registered EU Design n. 002073635-0001

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



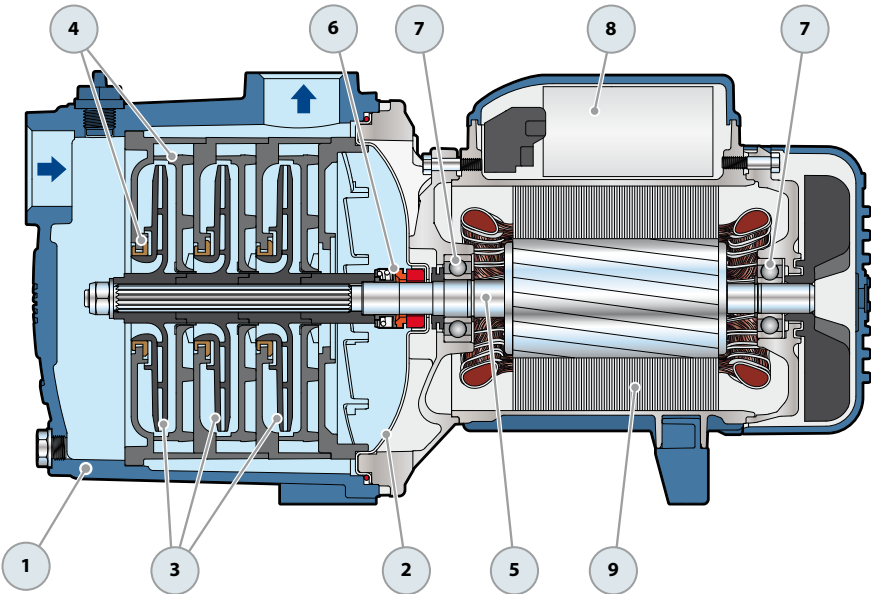
MODEL		POWER (P ₂)			Q	m³/h l/min	0	0.3	0.6	0.9	1.2	1.5	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8
Single-phase	Three-phase	kW	HP	▲			0	5	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130
2CPm 80	2CP 80	0.37	0.50	IE2	H metres	27	26	25	24	22.5	21	20	16.5	13	9	5							
3CPm 60	3CP 60	0.37	0.50			30	30	29	28	26.5	25	23.5	20	16	11.5	7							
3CPm 80	3CP 80	0.45	0.60			40	38	37	36	34.5	33	31	27	22.5	17	11	5						
4CPm 80	4CP 80	0.55	0.75			52	50	49	47	44.5	42	40	34	28.5	22.5	16	10						
3CPm 100	3CP 100	0.55	0.75	IE2		38	37	36	35	34.5	33.5	33	31	28	26	23	20	17	13.5	10	5		
4CPm 100	4CP 100	0.75	1	IE3		50	50	49	48	47	46	45	42	39.5	37	34	30.5	26.5	22	17	11	5	

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

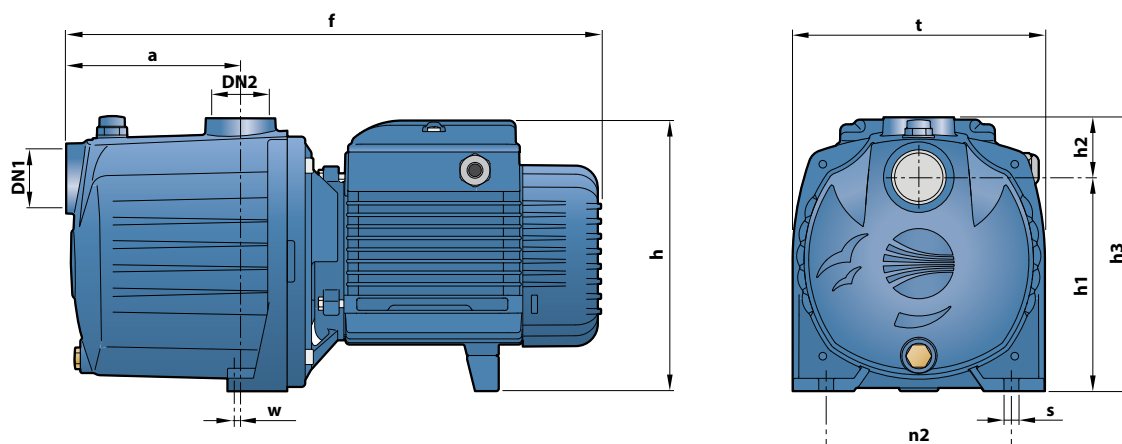
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLERS	Noryl FE1520PW				
4	DIFFUSERS	Noryl FE1520PW complete with anti-wear ring				
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>
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR
7	BEARINGS	<i>Pump</i>	<i>Model</i>			
		2CP 80	6202 ZZ - C3 / 6201 ZZ			
		3CP 60				
		3CP 80				
		4CP 80				
		3CP 100	6203 ZZ / 6203 ZZ			
		4CP 100				
8	CAPACITOR	<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 60	12.5 µF - 450 VL	25 µF - 250 VL		
		3CPm 80				
		4CPm 80	14 µF - 450 VL	25 µF - 250 VL		
		3CPm 100				
		4CPm 100	20 µF - 450 VL	60 µF - 300 VL		
9	ELECTRIC MOTOR	2-4CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.				
		2-4CP: three-phase 230/400 V - 50 Hz.				
		➡ 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)				
		– 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~
2CPm 80	2CP 80	1"	1"	85	313	172	134	38	172	158	116	1.5	9	8.4	8.4
3CPm 60	3CP 60			110	338									8.6	8.6
3CPm 80	3CP 80													10.0	10.0
4CPm 80	4CP 80					10.7								10.2	
3CPm 100	3CP 100					10.7								10.0	
4CPm 100	4CP 100					13.1								13.1	
					357	192 *									

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

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CPm 80	2.4 A	2.3 A	4.8 A
3CPm 60	2.4 A	2.3 A	4.8 A
3CPm 80	3.2 A	3.1 A	6.4 A
4CPm 80	4.0 A	3.8 A	8.0 A
3CPm 100	3.8 A	3.6 A	7.6 A
4CPm 100	6.0 A	5.8 A	12.0 A

MODEL	VOLTAGE					
Three-phase	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 60	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	98	140
3CPm 60	3CP 60	98	140
3CPm 80	3CP 80	84	120
4CPm 80	4CP 80	84	120
3CPm 100	3CP 100	84	120
4CPm 100	4CP 100	84	108

2CP

Centrifugal twin-impeller pumps

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



PERFORMANCE RANGE

- Flow rate up to **450 l/min** (27 m³/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



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 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.

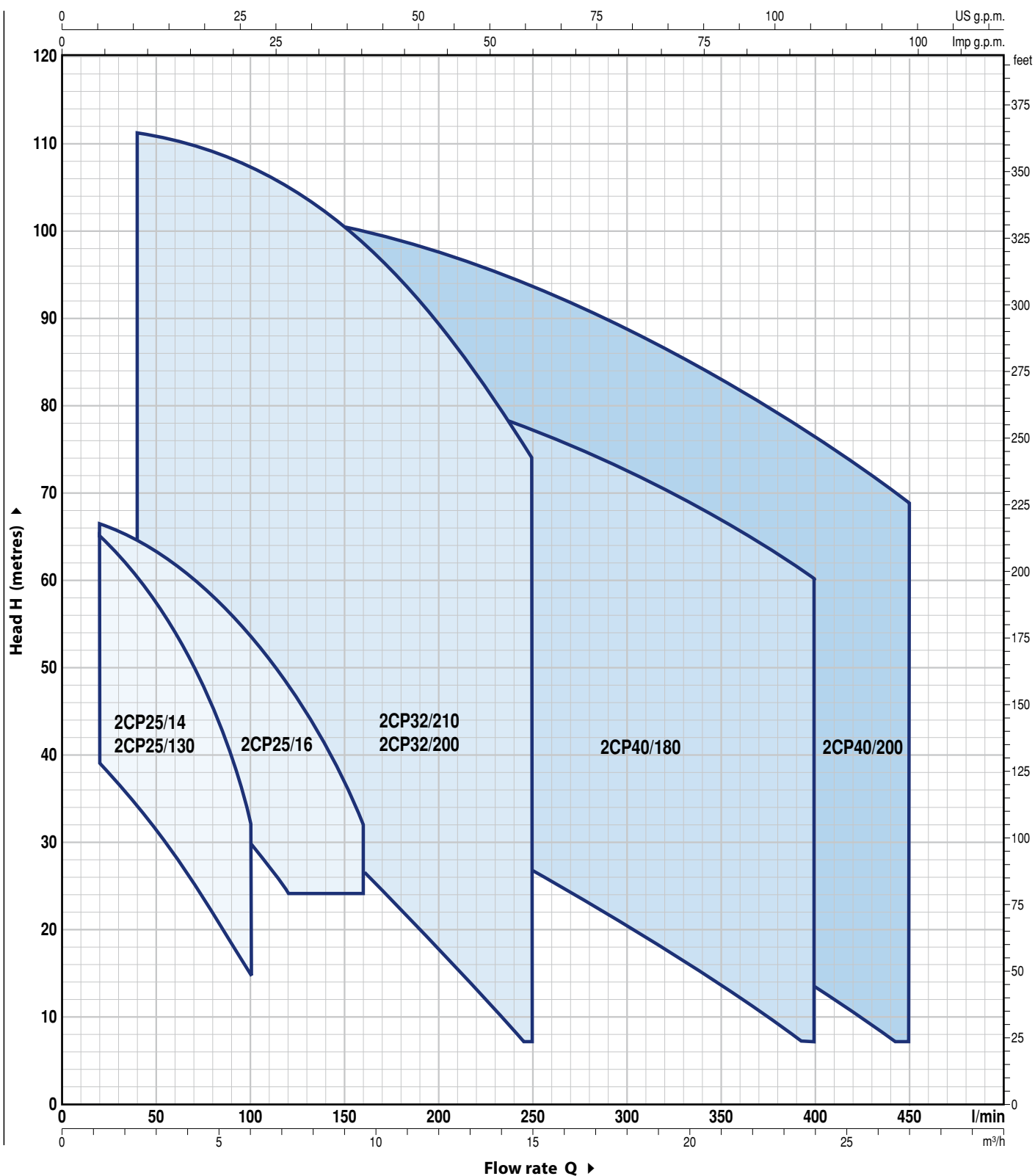
Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

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

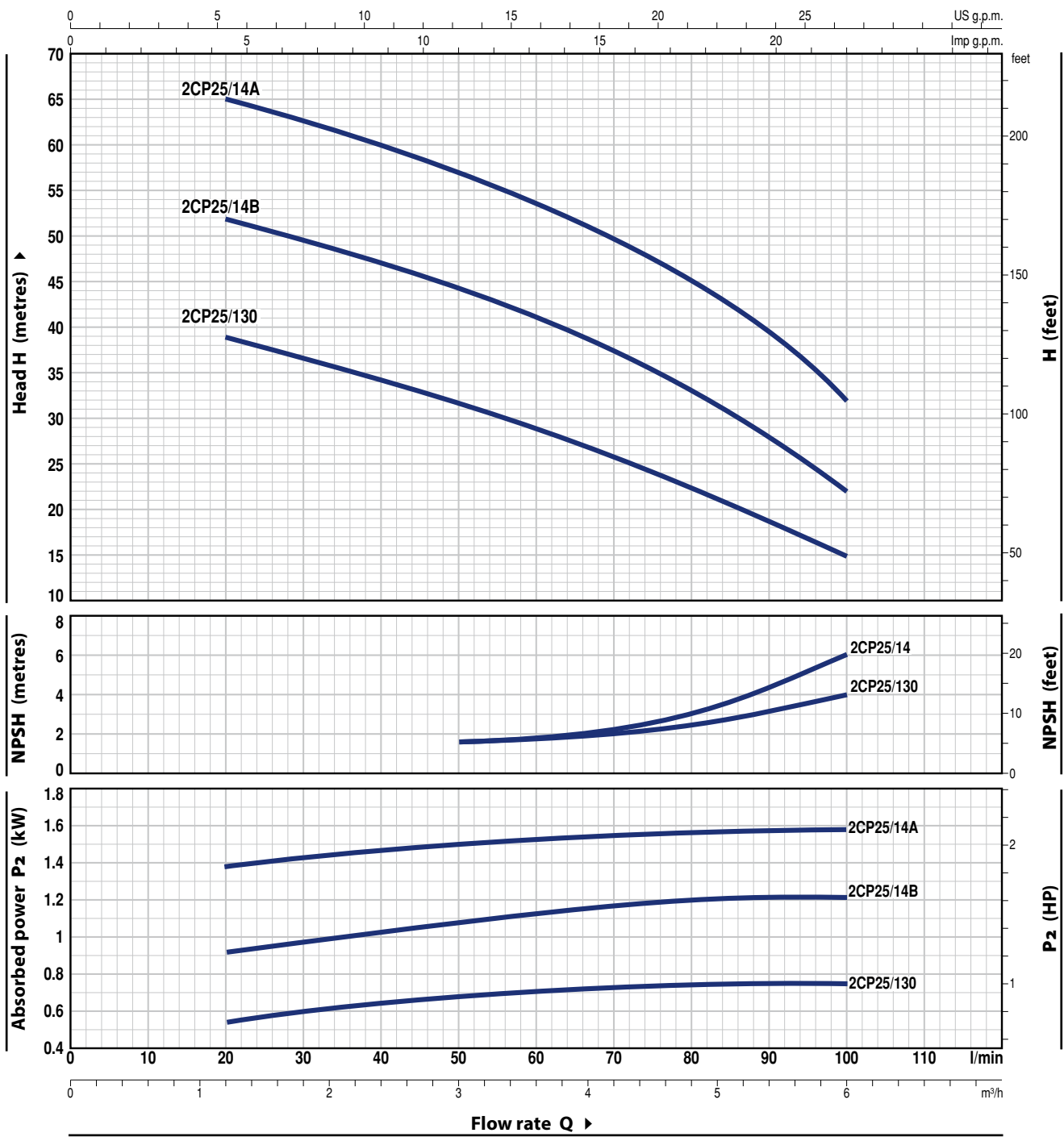
PERFORMANCE RANGE

50 Hz n= 2900 min⁻¹ HS= 0 m



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q	m³/h	0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
Single-phase	Three-phase	kW	HP	▲		l/min	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	

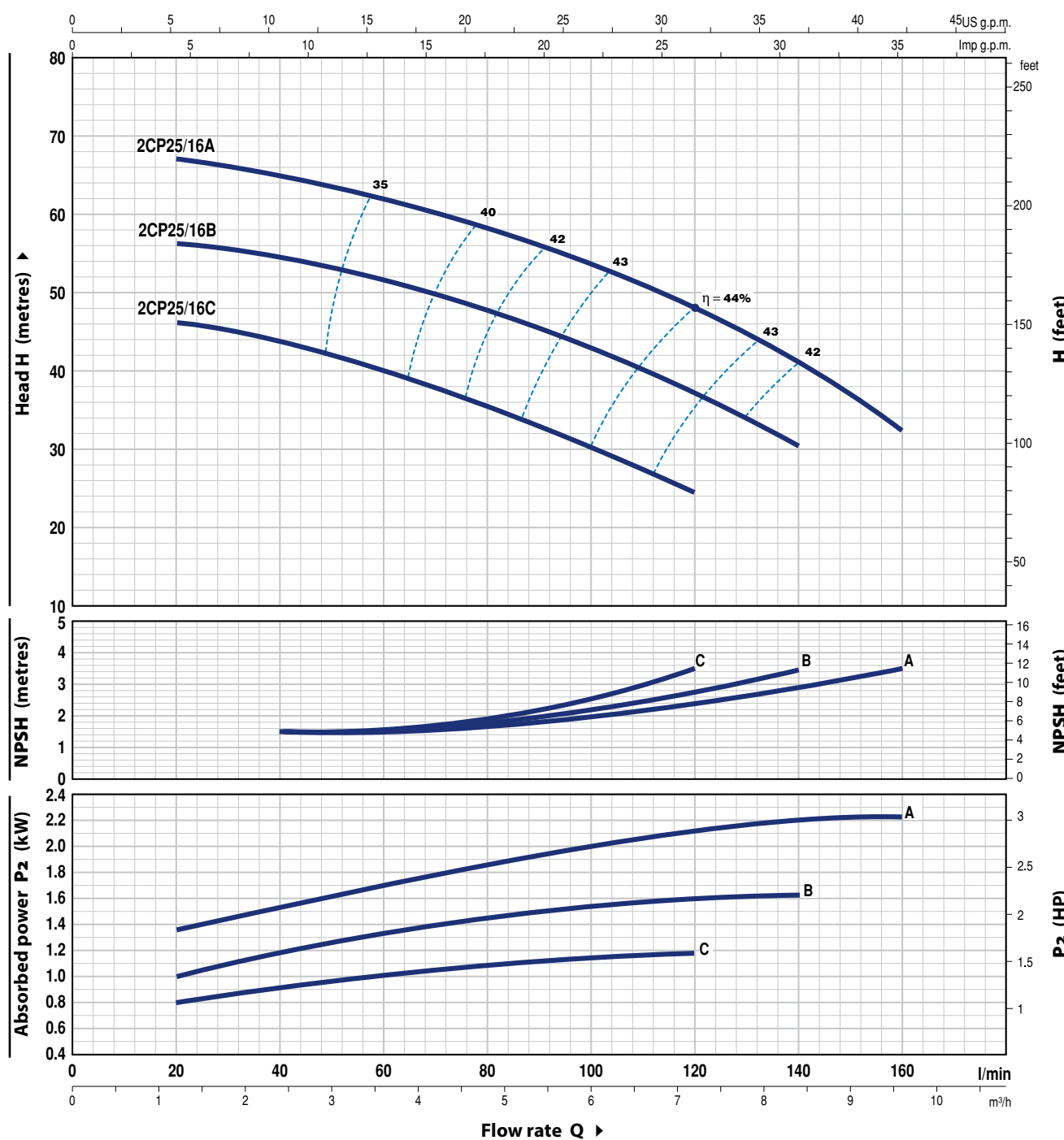
Q = Flow rate H = Total manometric head HS = Suction height

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 $n = 2900 \text{ min}^{-1}$ HS = 0 m



MODEL		POWER (P ₂)			Q	m³/h	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
Single-phase	Three-phase	kW	HP	▲		l/min	0	20	30	40	50	60	70	80	90	100	110	120	140	160
2CPm 25/16C	2CP 25/16C	1.1	1.5	IE3	H metres	47	46	45	44	42	40	38	35	33	30	27	24			
2CPm 25/16B	2CP 25/16B	1.5	2			58	56	55	54	53	51	49	47	45	43	40	37	30		
2CPm 25/16A	2CP 25/16A	2.2	3			68	67	65.5	64.5	63	62	60	58	56	54	51	48	41	32	

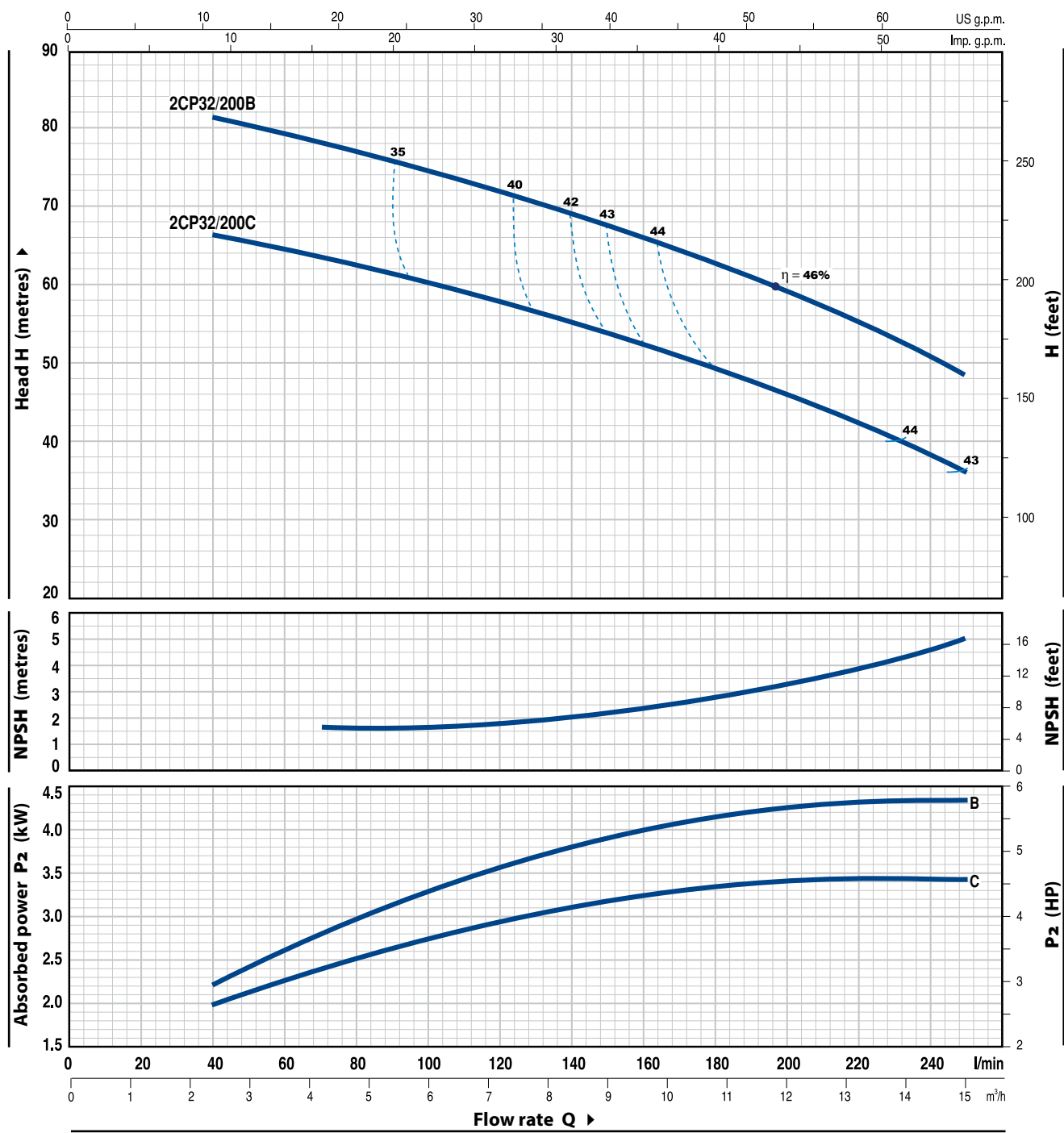
Q = Flow rate H = Total manometric head HS = Suction height

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⁻¹ HS= 0 m



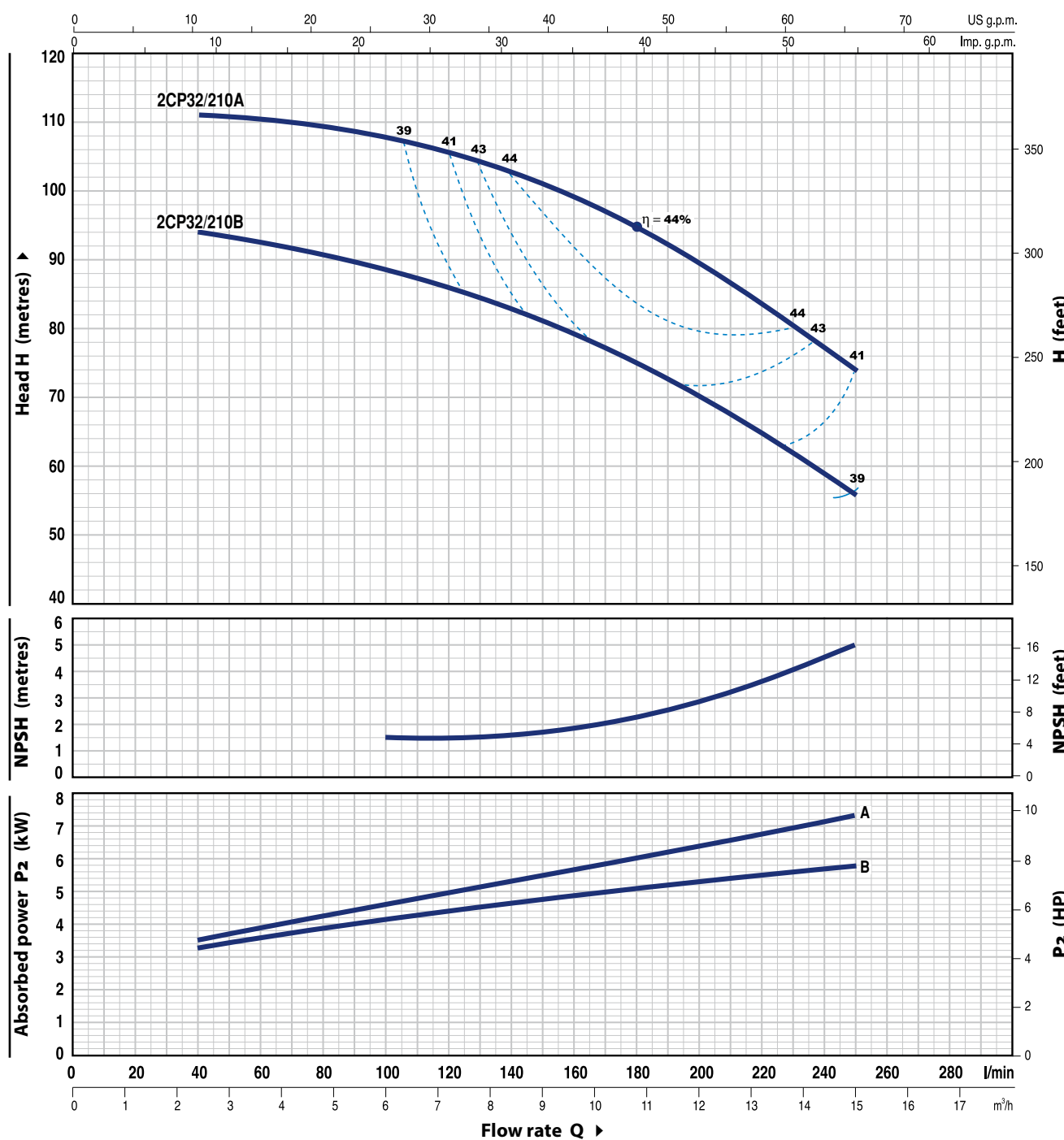
MODEL	POWER (P ₂)		▲	Q															
	kW	HP			0	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.5	8.4	9.6	10.8	12.0	15.0
Three-phase					0	40	50	60	70	80	90	100	110	125	140	160	180	200	250
2CP 32/200C	3	4	IE3	H metres	70	66.5	65.5	65	64	63	62	60.5	59	57	55	52	49.5	46.5	36
2CP 32/200B	4	5.5			85	81	80	79	78	77	76	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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		▲	Q																			
	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					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				

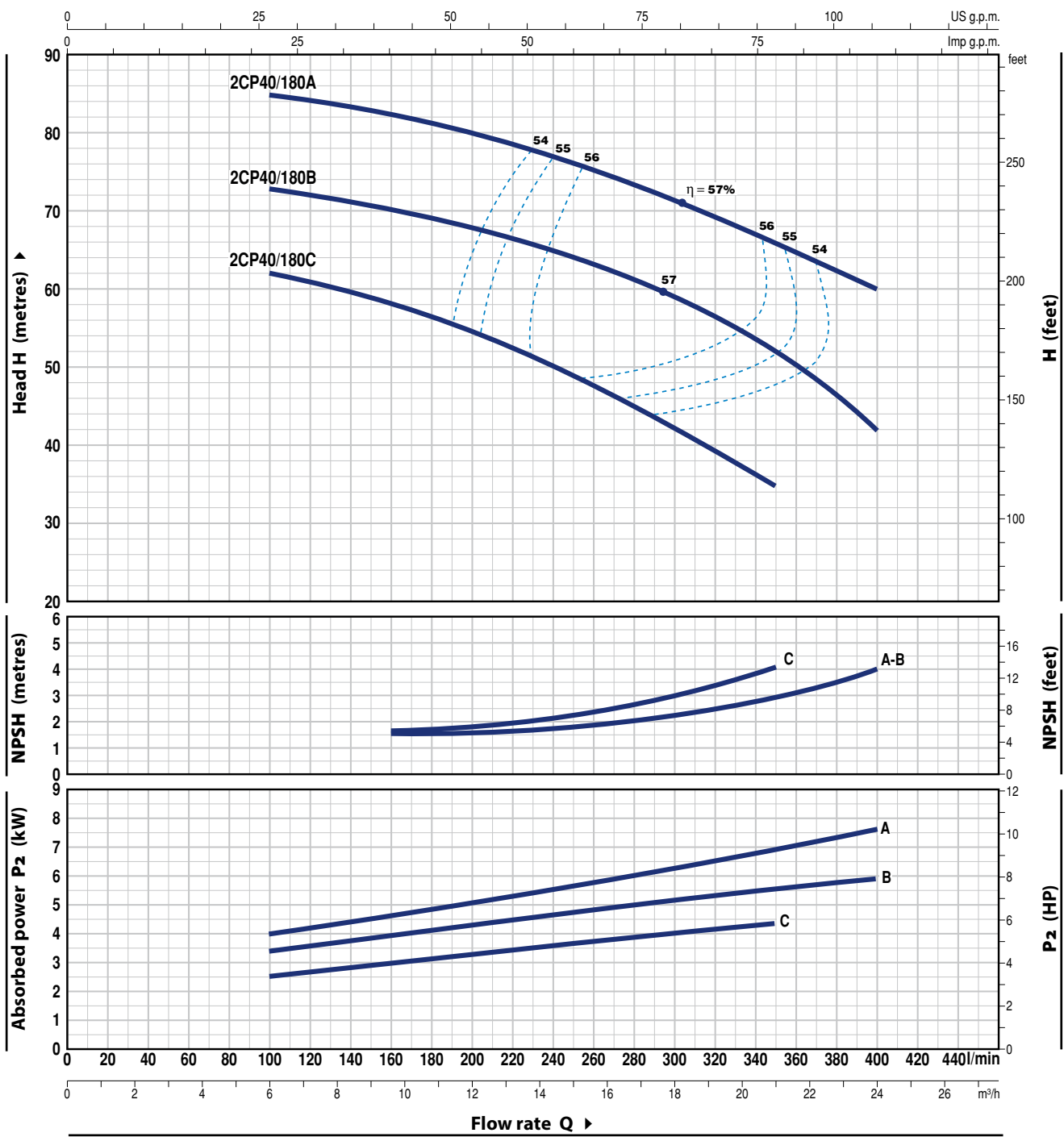
Q = Flow rate H = Total manometric head HS = Suction height

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⁻¹ HS= 0 m



MODEL	POWER (P ₂)			Q m ³ /h l/min	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	kW	HP	▲		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

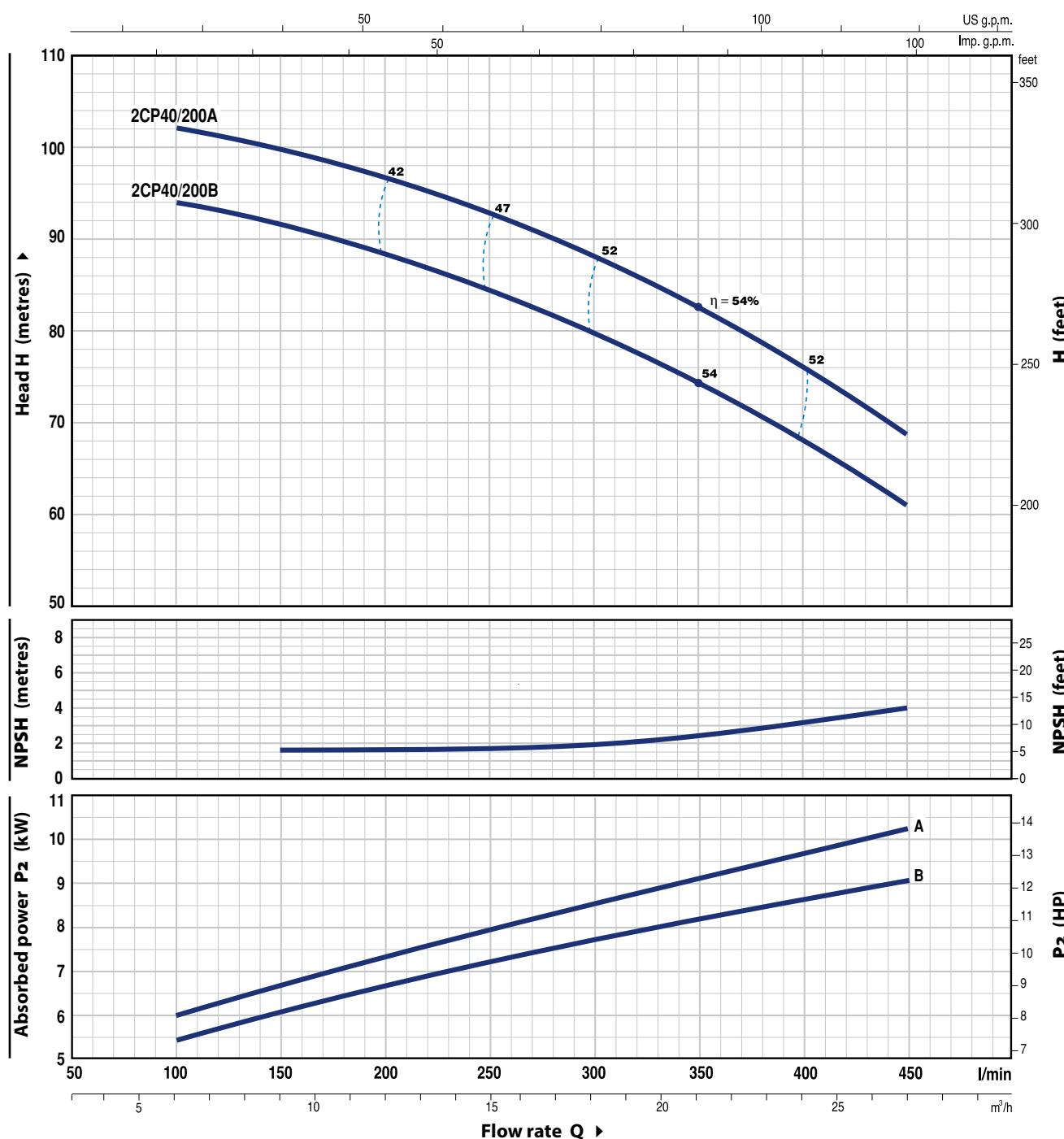
Q = Flow rate H = Total manometric head HS = Suction height

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 $n = 2900 \text{ min}^{-1}$ HS = 0 m



MODEL	POWER (P ₂)		Q	m³/h	0	6.0	9	10.8	12.0	15.0	18.0	21.0	24.0	27.0
	kW	HP			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

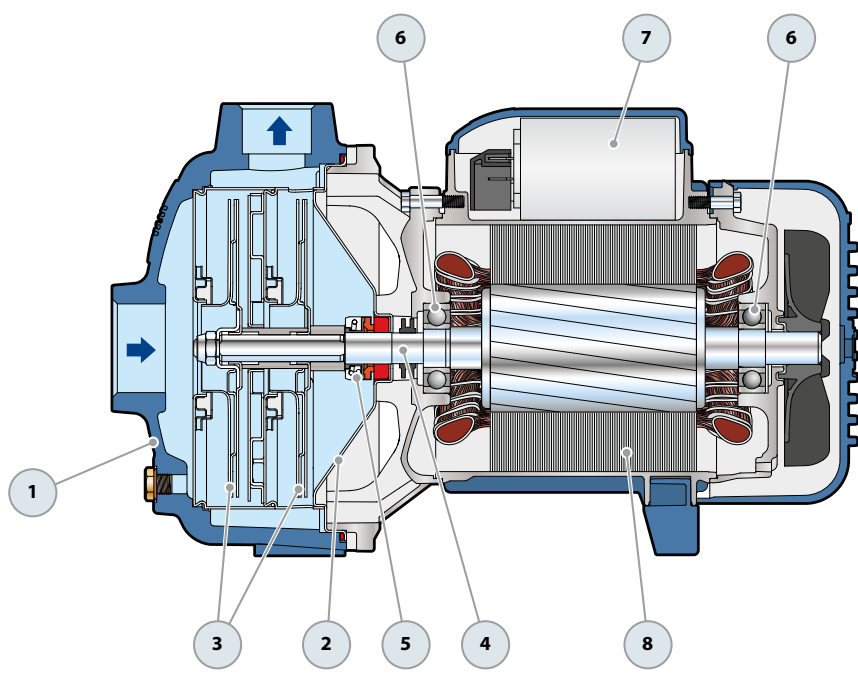
Q = Flow rate H = Total manometric head HS = Suction height

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

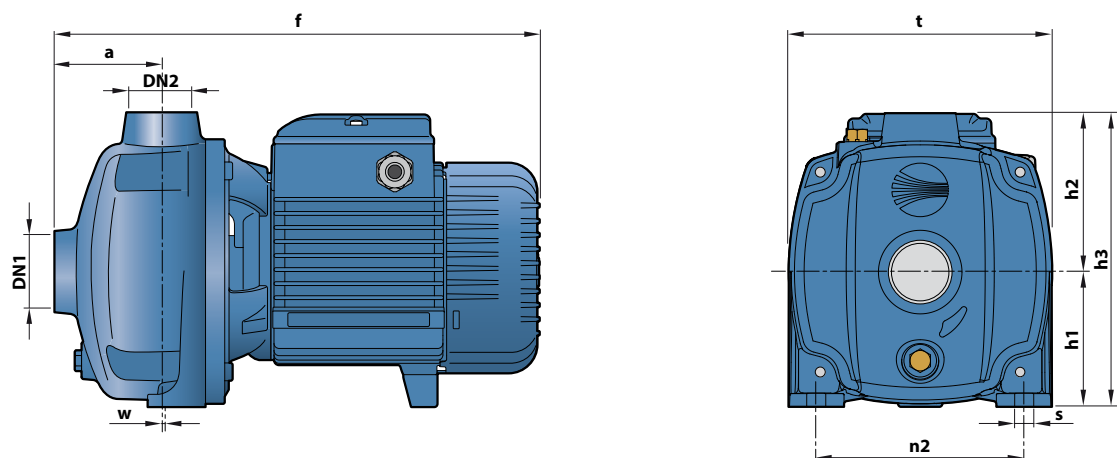
▲ Three-phase motor efficiency class (IEC 60034-30-1)

2CP 25/130

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLERS	Stainless steel AISI 304				
4	MOTOR SHAFT	Stainless steel AISI 431				
5	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-14	Ø 14 mm	Ceramic	Graphite	NBR
6	BEARINGS	6203 ZZ / 6203 ZZ				
7	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		2CPm 25/130	20 µF - 450 VL	60 µF - 300 VL		
8	ELECTRIC MOTOR	2CPm 25/130: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. 2CP 25/130: 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		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

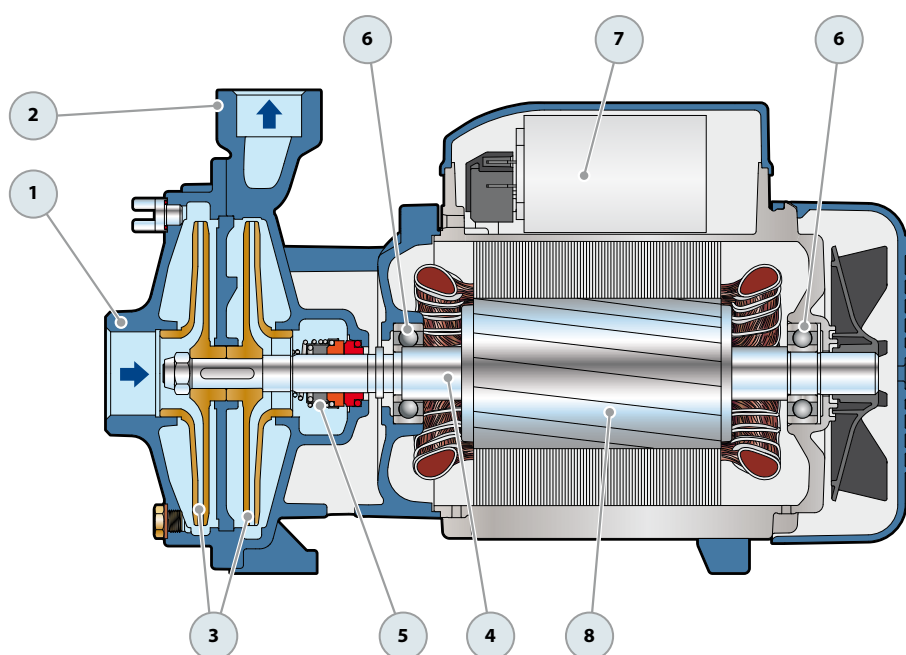
MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
2CPm 25/130	6.3 A	6.0 A	12.6 A

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

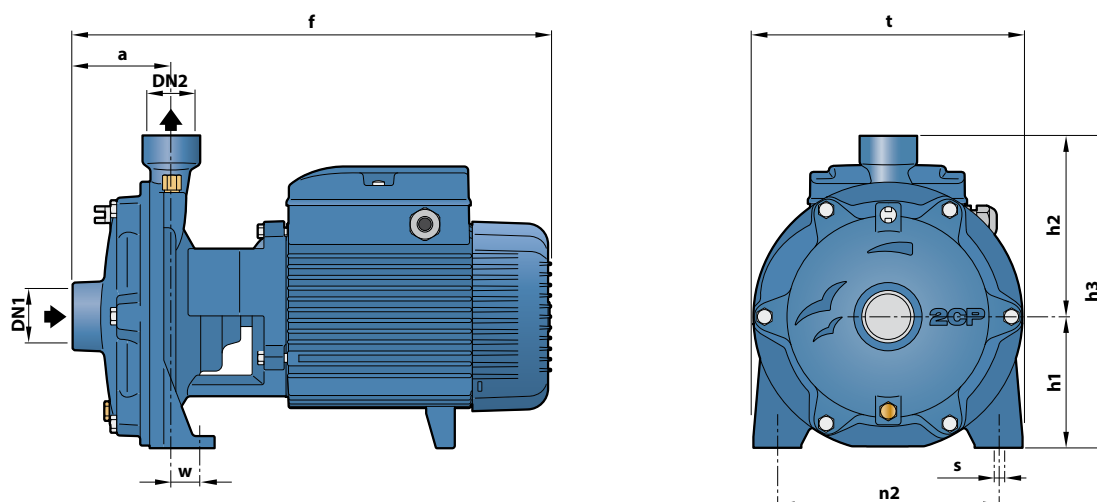
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	SUCTION BODY	Cast iron complete with threaded suction port in compliance with ISO 228/1					
2	DELIVERY BODY	Cast iron complete with threaded suction port in compliance with ISO 228/1					
3	IMPELLERS	Brass					
4	MOTOR SHAFT	Stainless steel AISI 431					
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials		
		<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							
6	BEARINGS	Pump	Model				
		2CP 25/14	6204 ZZ - C3 / 6204 ZZ - C3				
		2CP 25/16					
		2CP 32/200	6206 ZZ - C3 / 6206 ZZ - C3				
		2CP 32/210					
		2CP 40/180	6306 ZZ - C3 / 6206 ZZ - C3				
		2CP 40/200					
7	CAPACITOR	Pump	Capacitance				
		<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					
		2CPm 25/14A	45 µF - 450 VL	80 µF - 250 VL			
		2CPm 25/16B					
2CPm 25/16A	50 µF - 450 VL	–					
8	ELECTRIC MOTOR	2CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. 2CP: three-phase 230/400 V - 50 Hz up to 4 kW 400/690 V - 50 Hz from 5.5 to 11 kW ➡ 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		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	1 1/2"	1 1/4"	95	464	132	172	304	266	206	19	14	-	39.4
-	2CP 32/200C												-	43.1
-	2CP 32/200B												-	54.7
-	2CP 32/210B												-	60.5
-	2CP 32/210A	2"	1 1/2"	108	541	139	195	334	292	232	21	14	-	48.6
-	2CP 40/180C												-	54.2
-	2CP 40/180B												-	59.7
-	2CP 40/180A												-	93.5
-	2CP 40/200B	2"	1 1/2"	110	566	160	195	355	298				-	93.2
-	2CP 40/200A												-	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



PERFORMANCE RANGE

- Flow rate up to **60 l/min** (3.6 m³/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

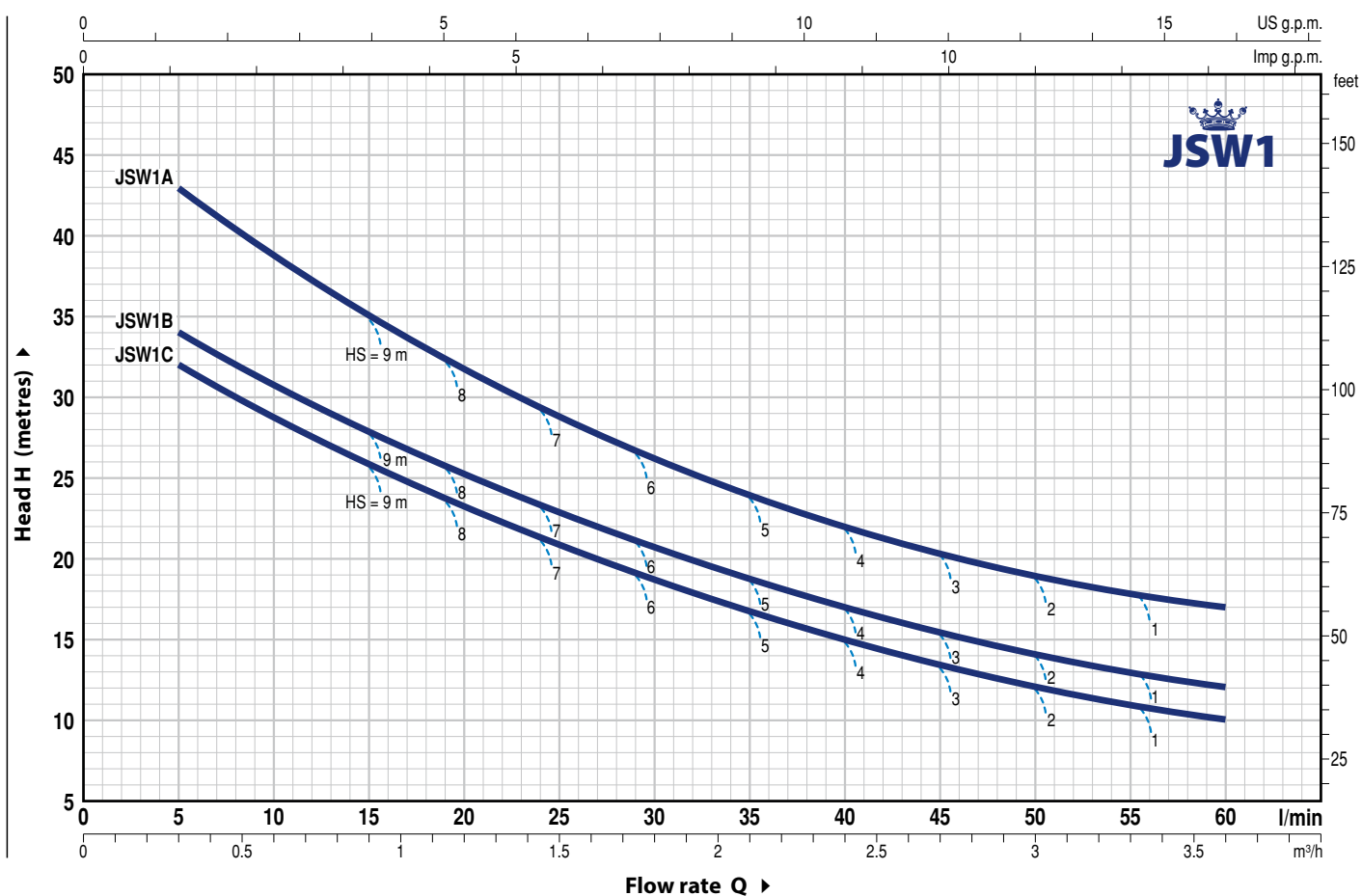
- Registered Trade Mark n. 013073135 JSW[®]
- Registered EU Design n. 002218610
- European Patent n. 1 510 696

OPTIONS AVAILABLE ON REQUEST

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



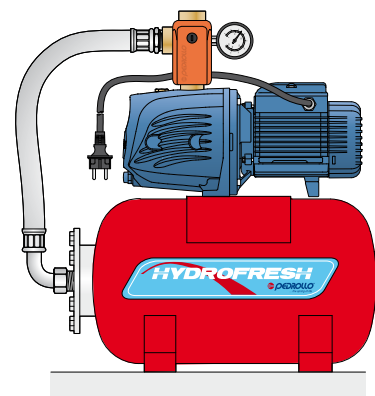
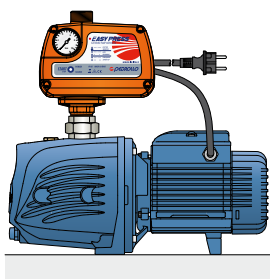
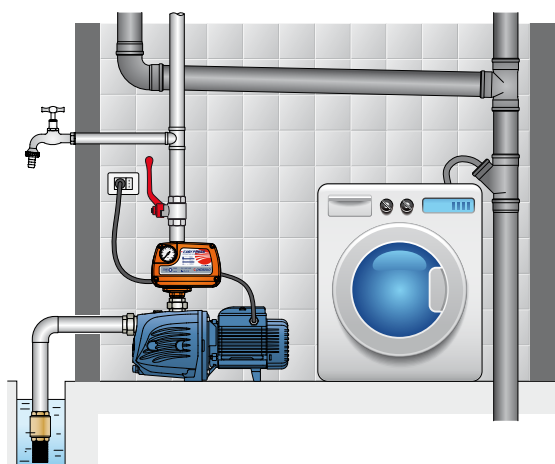
MODEL		POWER (P ₂)			Q m ³ /h l/min	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6
Single-phase	Three-phase	kW	HP	▲		0	5	10	20	25	30	40	45	50	60
JSWm 1C	JSW 1C	0.37	0.50	IE2	H metres	35	32	28.5	23.5	21	18.5	15	13.5	12	10
JSWm 1B	JSW 1B	0.48	0.65			37	34	30.5	25.5	23	20.5	17	15.5	14	12
JSWm 1A	JSW 1A	0.55	0.75			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)

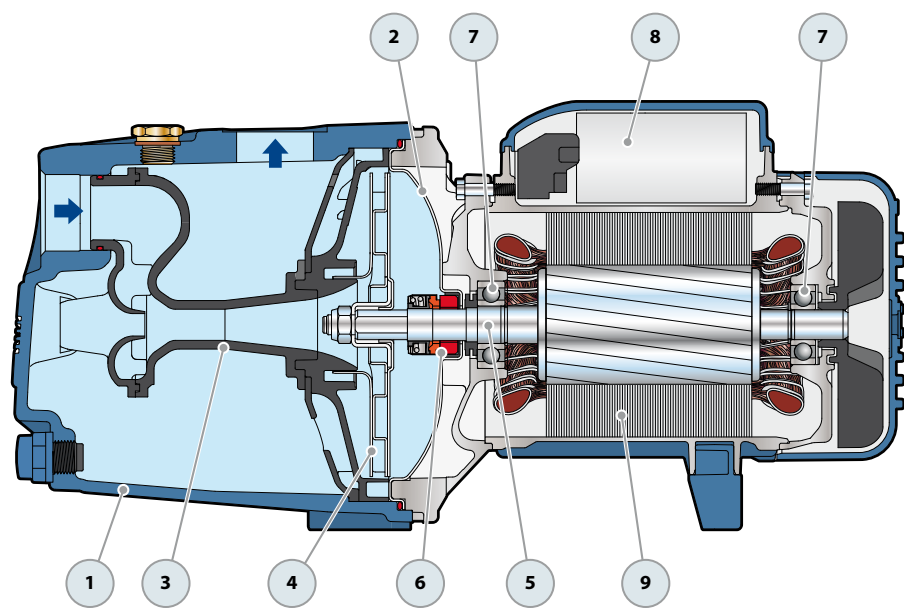
STANDARD INSTALLATION



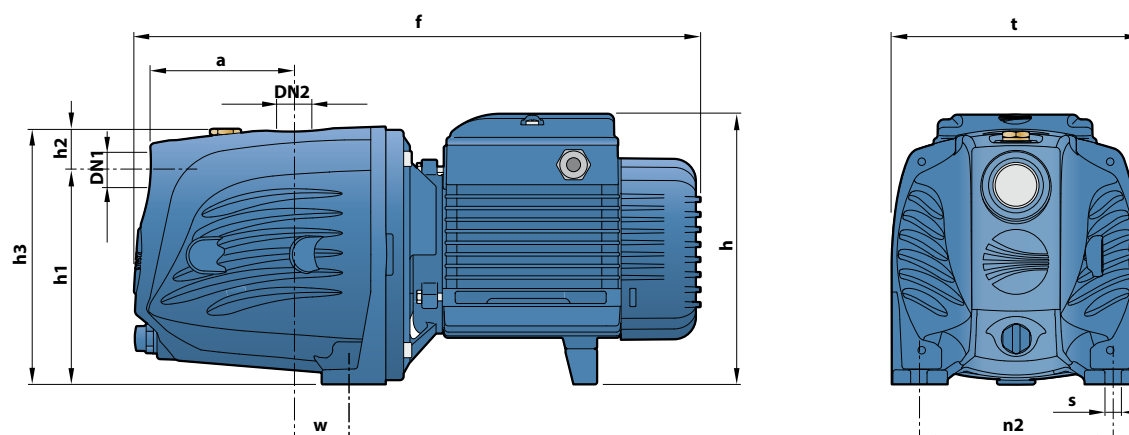
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	NOZZLE ASSEMBLY	Noryl FE1520PW				
4	IMPELLER	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal Model	Shaft Diameter	Stationary ring	Materials Rotational ring	Elastomer
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
7	BEARINGS	6201 ZZ / 6201 ZZ				
8	CAPACITOR	Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)		
		JSWm 1C	10 µF - 450 VL	25 µF - 250 VL		
		JSWm 1B	10 µF - 450 VL	25 µF - 250 VL		
		JSWm 1A	14 µF - 450 VL	25 µF - 250 VL		
9	ELECTRIC MOTOR	JSWm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. JSW: three-phase 230/400 V - 50 Hz. ➡ 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) – 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 1C	JSW 1C	1"	1"	94	357	171	127	35	162	158	124	24	10	9.8	9.7
JSWm 1B	JSW 1B													9.7	9.9
JSWm 1A	JSW 1A													10.5	9.7

ABSORPTION

MODEL	VOLTAGE		
	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
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

PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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 **85 l/min** (5.1 m³/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

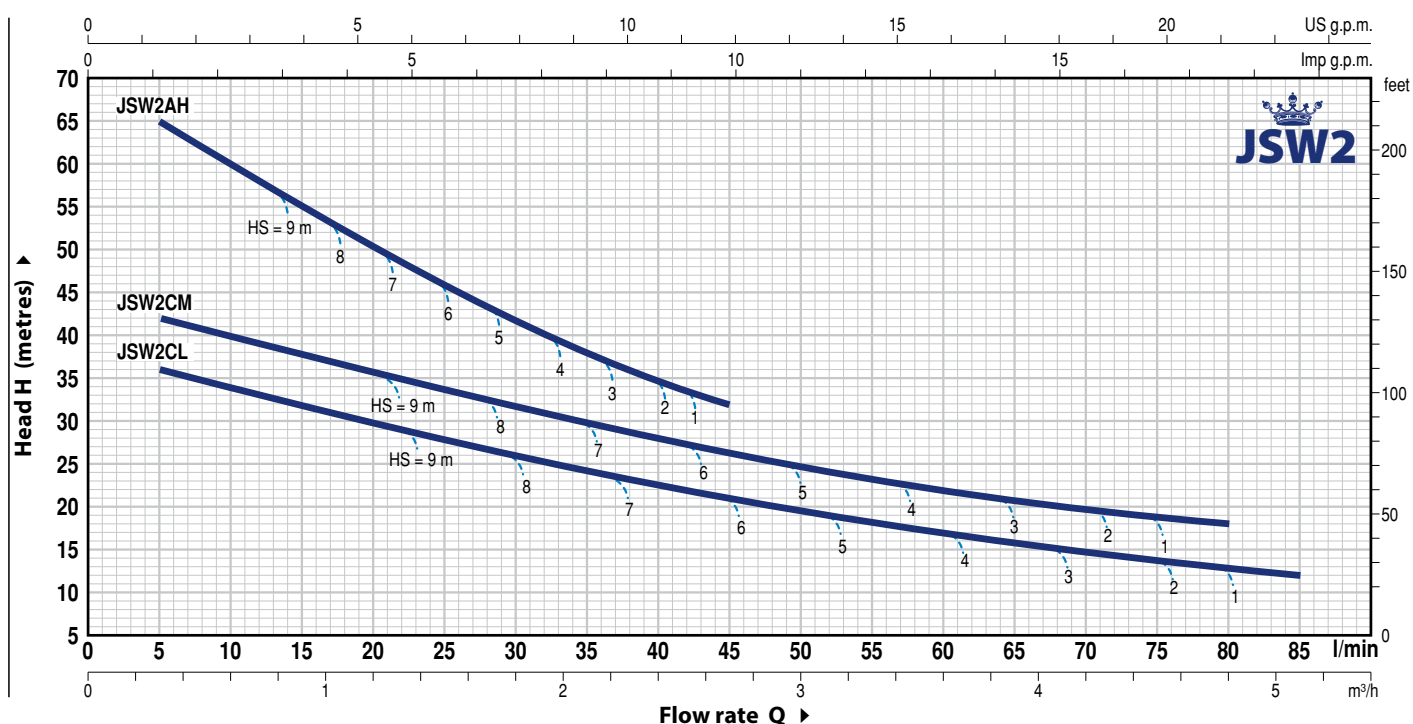
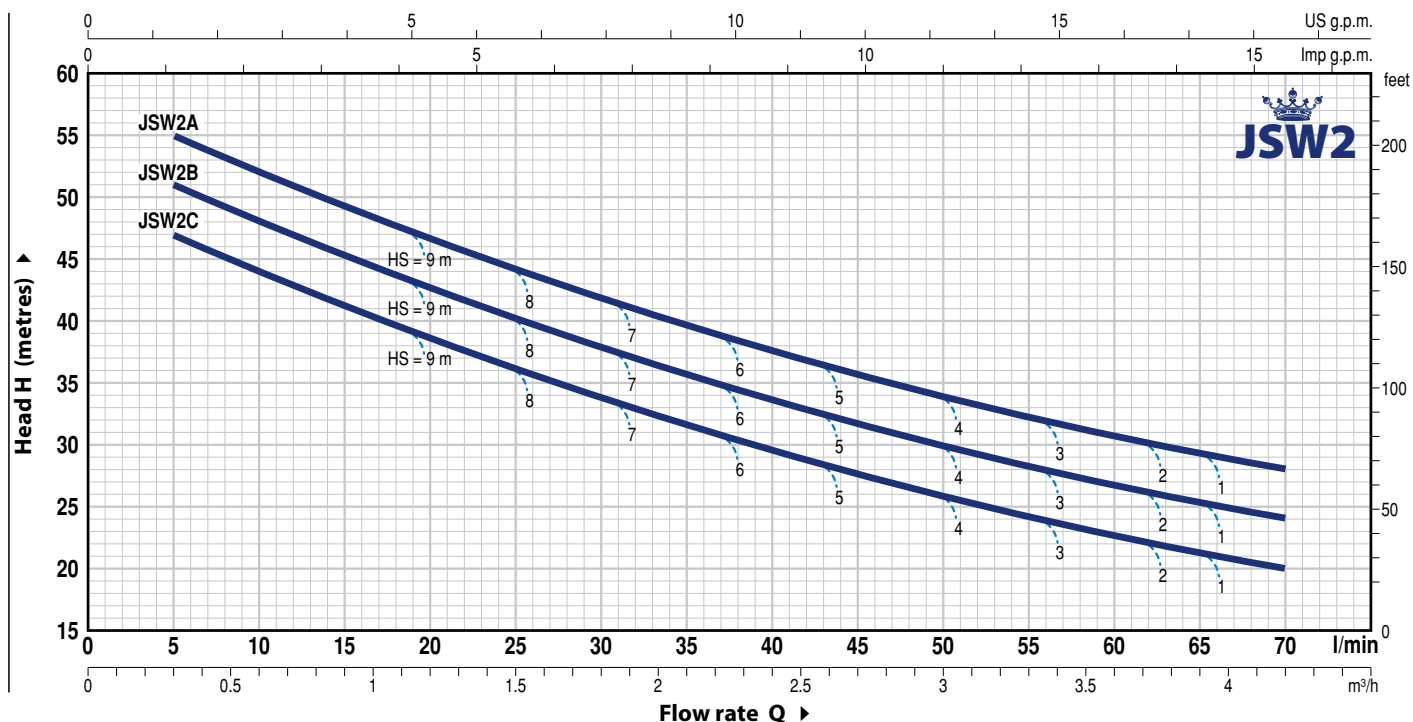
- Registered Trade Mark n. 013073135  JSW®
- Registered EU Design n. 002218610
- European Patent n. 1 510 696

OPTIONS AVAILABLE ON REQUEST

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



MODEL		POWER (P ₂)		▲	Q															
Single-phase	Three-phase	kW	HP			0	0.3	0.6	1.2	1.8	2.4	2.7	3.0	3.6	4.2	4.8	5.1			
						0	5	10	20	30	40	45	50	60	70	80	85			
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 2CM	JSW 2CM	0.75	1			44	42	40	35.5	31.5	28	26	24.5	22	19.5	18				
JSWm 2CL	JSW 2CL	0.75	1			38	36	34	30	26	22.5	21	19.5	17	14.5	13	12			
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

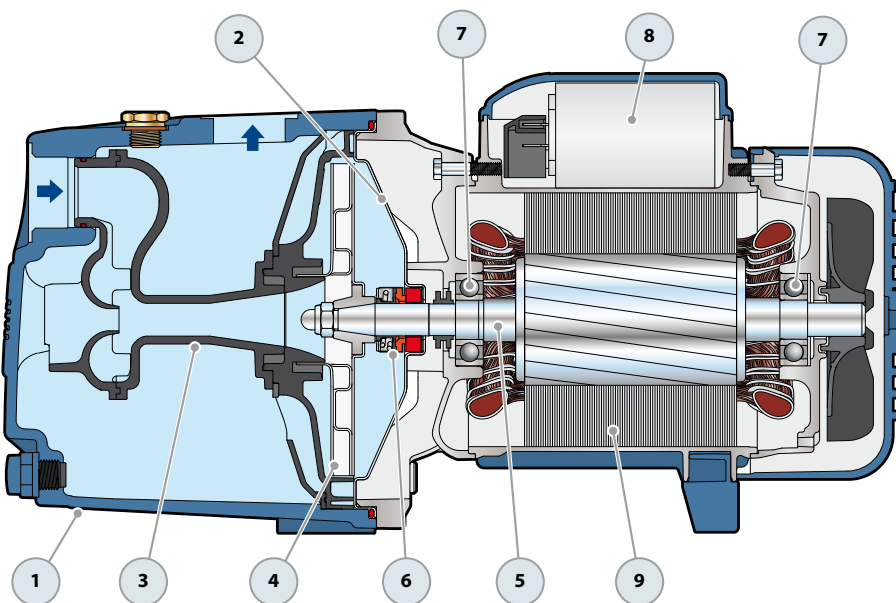
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

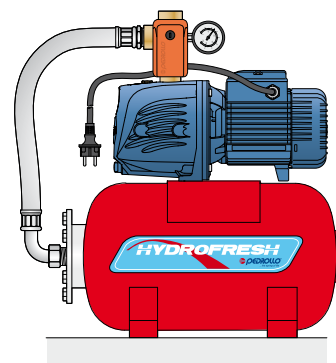
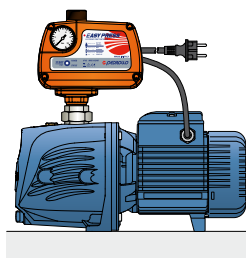
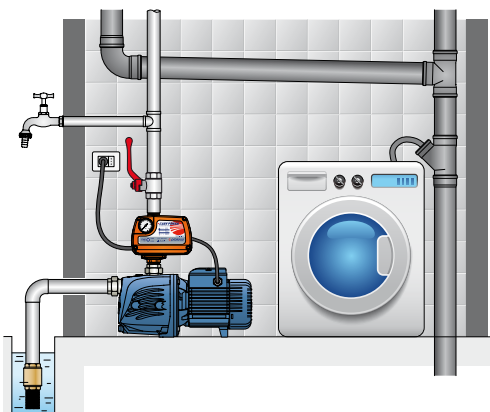
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

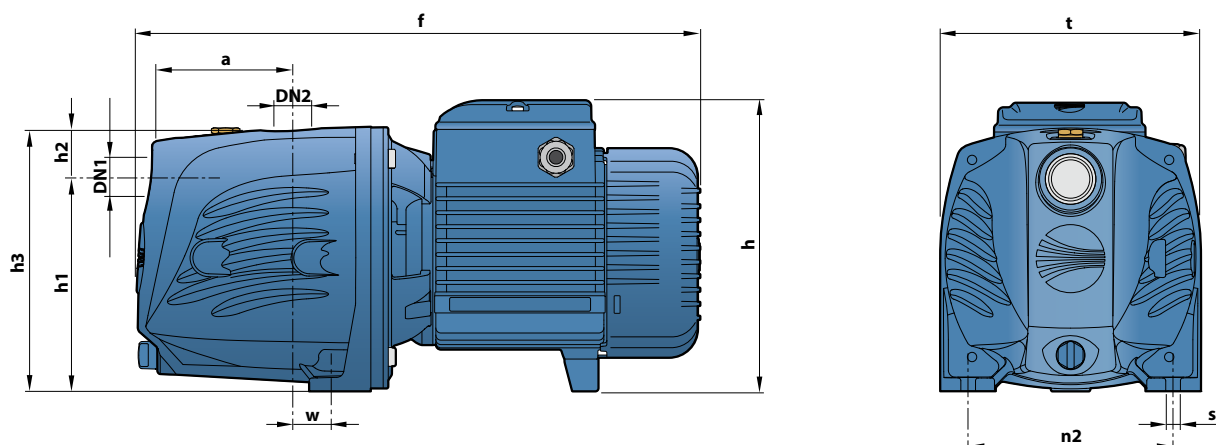
1	PUMP BODY	Cast iron, complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	NOZZLE ASSEMBLY	Noryl FE1520PW				
4	IMPELLER	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal Model	Shaft Diameter	Stationary ring	Materials Rotational ring	Elastomer
		AR-14	Ø 14 mm	Ceramic	Graphite	NBR
7	BEARINGS	6203 ZZ / 6203 ZZ				
8	CAPACITOR	Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)		
		JSWm 2C-CL-CM	20 µF - 450 VL	60 µF - 300 VL		
		JSWm 2B	25 µF - 450 VL	60 µF - 300 VL		
		JSWm 2A-AH	25 µF - 450 VL	60 µF - 300 VL		
9	ELECTRIC MOTOR	JSWm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. JSW: 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				



STANDARD 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	13.1	12.9
JSWm 2B	JSW 2B													14.0	13.9
JSWm 2A	JSW 2A													14.7	14.4
JSWm 2CM	JSW 2CM													12.9	13.0
JSWm 2CL	JSW 2CL													13.0	13.0
JSWm 2AH	JSW 2AH													14.2	14.3

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

ABSORPTION

MODEL	VOLTAGE		
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 2CM	4.7 A	4.5 A	9.4 A
JSWm 2CL	3.8 A	3.6 A	7.6 A
JSWm 2AH	6.0 A	5.8 A	12.0 A

MODEL	VOLTAGE					
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 2CM	3.5 A	2.0 A	1.2 A	3.3 A	1.9 A	1.1 A
JSW 2CL	3.2 A	1.8 A	1.0 A	2.9 A	1.7 A	1.0 A
JSW 2AH	5.1 A	3.0 A	1.7 A	5.0 A	2.9 A	1.7 A

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 2CM	JSW 2CM	72	96
JSWm 2CL	JSW 2CL	72	96
JSWm 2AH	JSW 2AH	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 m³/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

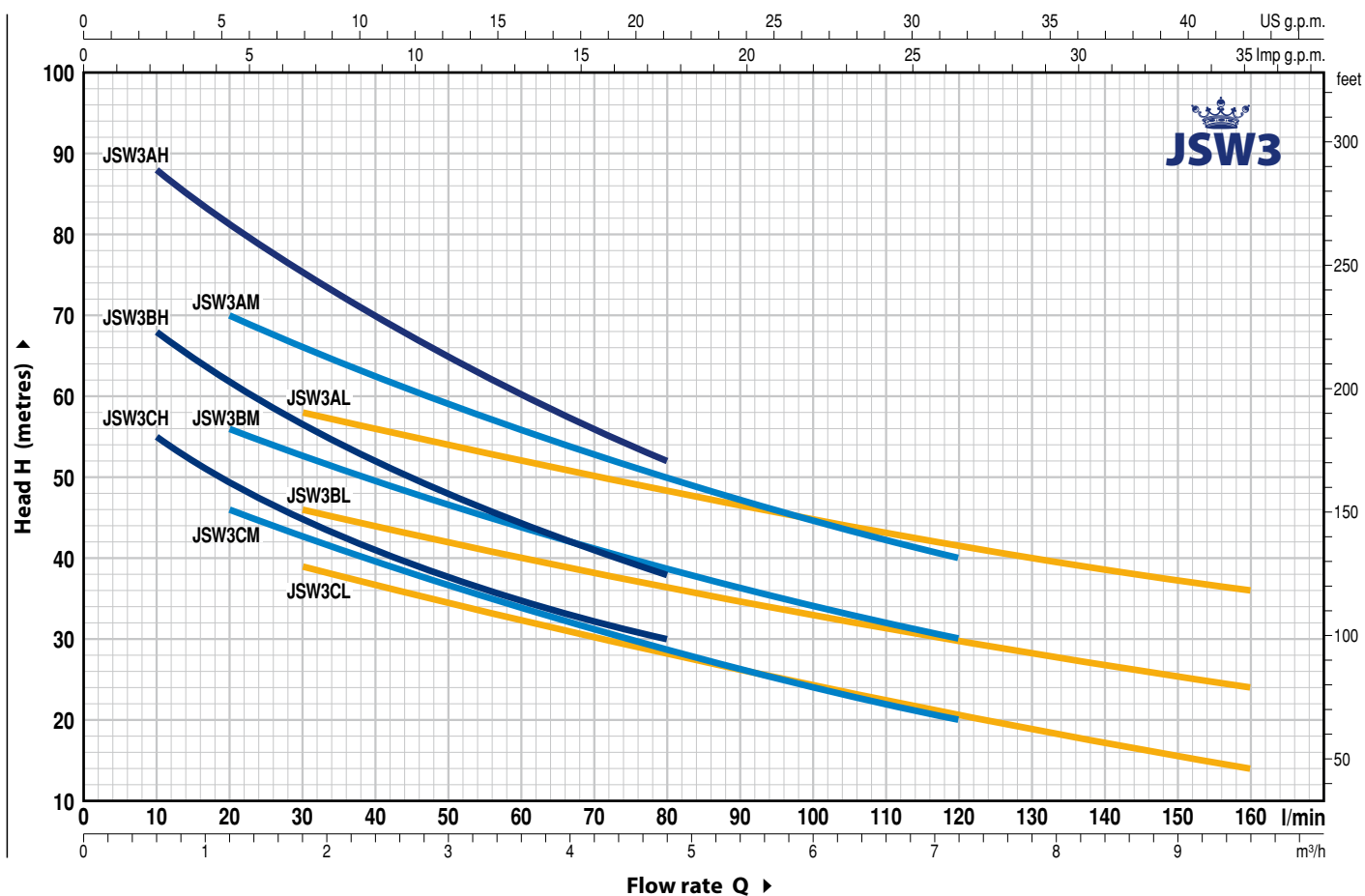
- Registered Trade Mark n. 013073135 JSW[®]
- Registered EU Design n. 002218610

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 protection

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



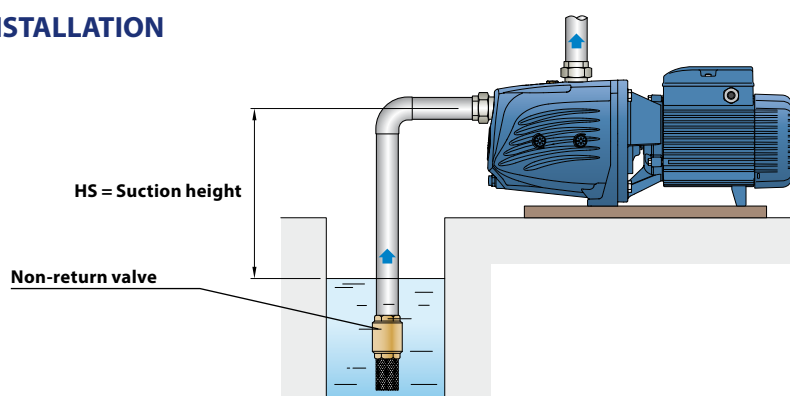
MODEL		POWER (P ₂)			Q	m ³ /h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	6.0	7.2	8.4	9.6
Single-phase	Three-phase	kW	HP	▲		l/min	0	10	20	30	40	50	60	70	80	100	120	140	160
JSWm 3CH	JSW 3CH	1.1	1.5	IE3	H metres		62	55	49	45	41	38	35	32	30				
JSWm 3BH	JSW 3BH	1.5	2				73	68	62	56.5	52	48	44	41	38				
JSWm 3AH	JSW 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.

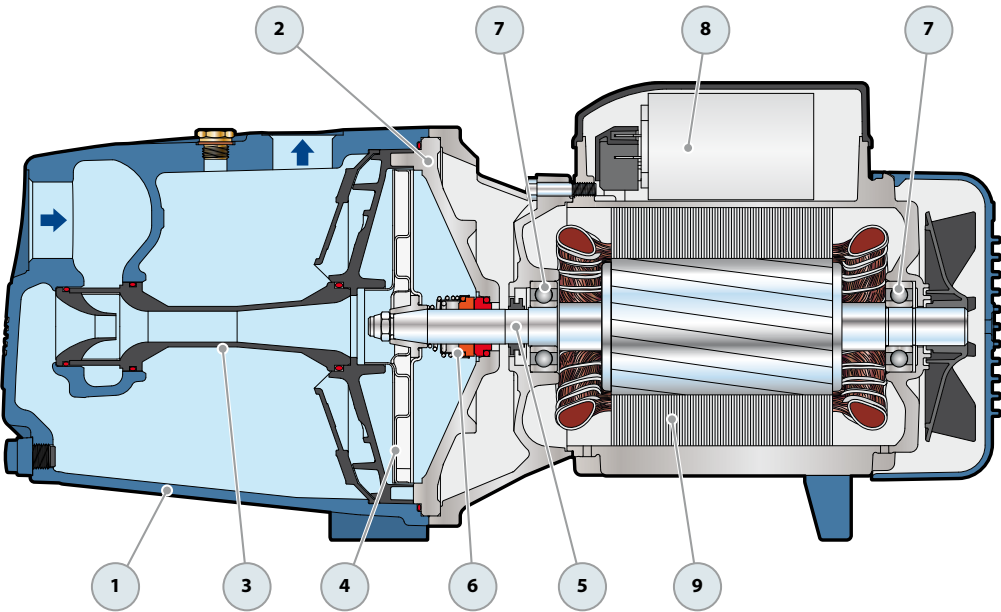
▲ Three-phase motor efficiency class (IEC 60034-30-1)

STANDARD INSTALLATION

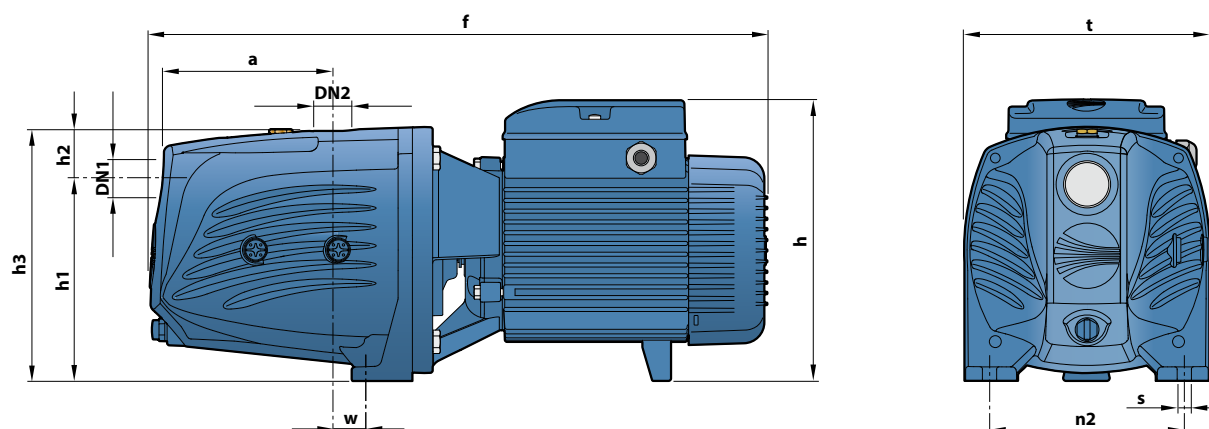


POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Cast iron				
3	NOZZLE ASSEMBLY	Noryl FE1520PW				
4	IMPELLER	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6204 ZZ / 6204 ZZ				
8	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		JSWm 3C	31.5 µF - 450 VL	60 µF - 250 VL		
		JSWm 3B	45 µF - 450 VL	80 µF - 250 VL		
		JSWm 3A	50 µF - 450 VL	–		
9	ELECTRIC MOTOR	JSWm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. JSW: 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		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				542									25.5	25.4
JSWm 3AH	JSW 3AH				542									28.2	28.0
JSWm 3CM	JSW 3CM				522									24.4	24.4
JSWm 3BM	JSW 3BM				542									25.6	25.5
JSWm 3AM	JSW 3AM				542									28.0	28.2
JSWm 3CL	JSW 3CL				522									24.4	24.3
JSWm 3BL	JSW 3BL				522									25.6	25.5
JSWm 3AL	JSW 3AL				542									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

SPRINKLER

Self-priming centrifugal pumps

 Clean water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18.0 m³/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.

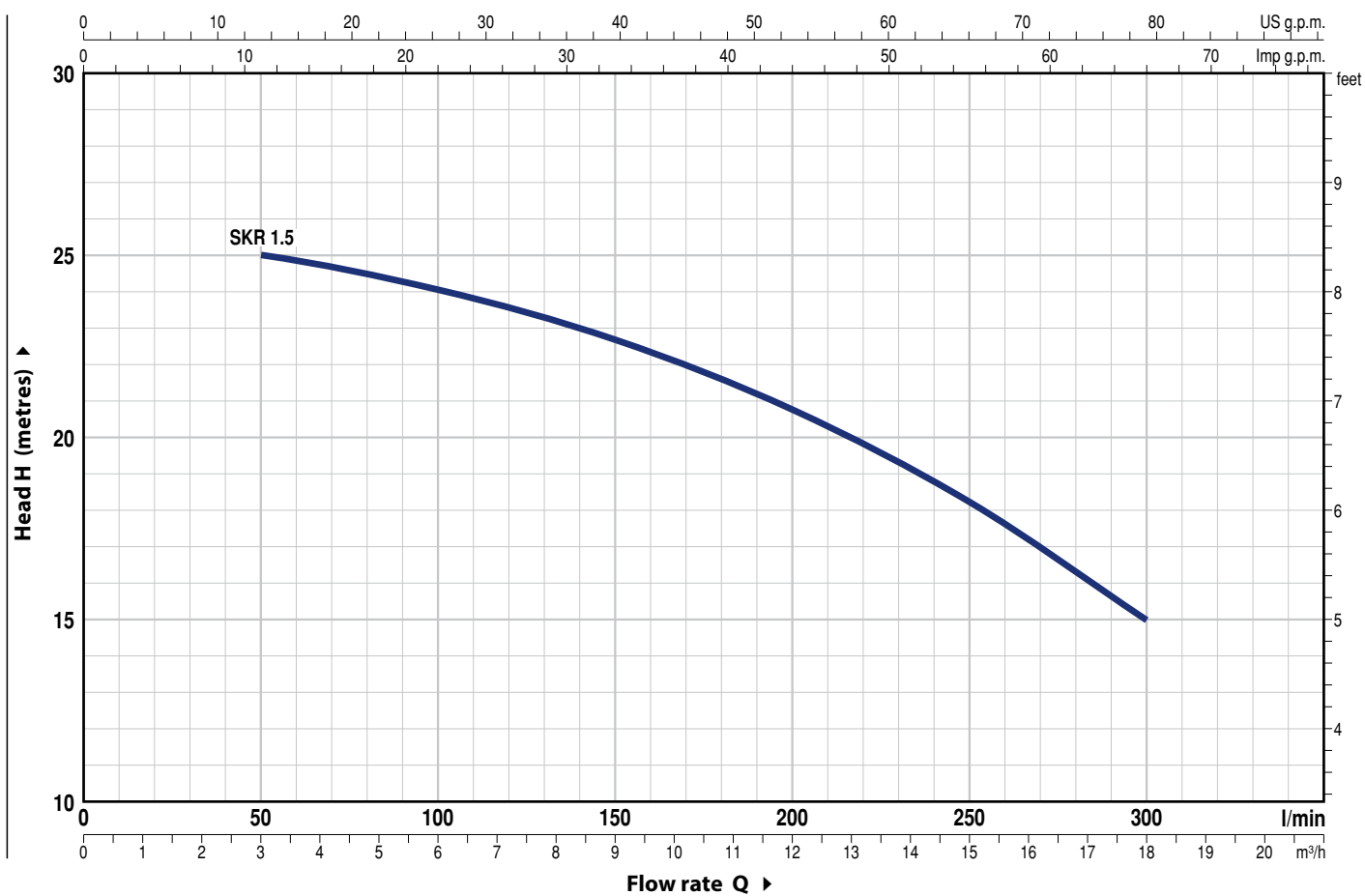
Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 protection

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



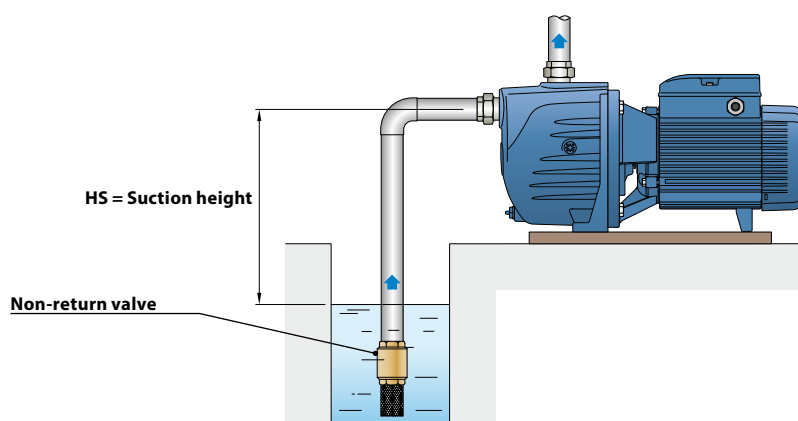
MODEL		POWER (P ₂)			Q m³/h l/min	0	3.0	6.0	9.0	12.0	15.0	18.0
Single-phase	Three-phase	kW	HP	▲		0	50	100	150	200	250	300
SKRm 1.5	SKR 1.5	1.5	2	IE3	H metres	25.5	25	24	22.7	20.8	18.2	15

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

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

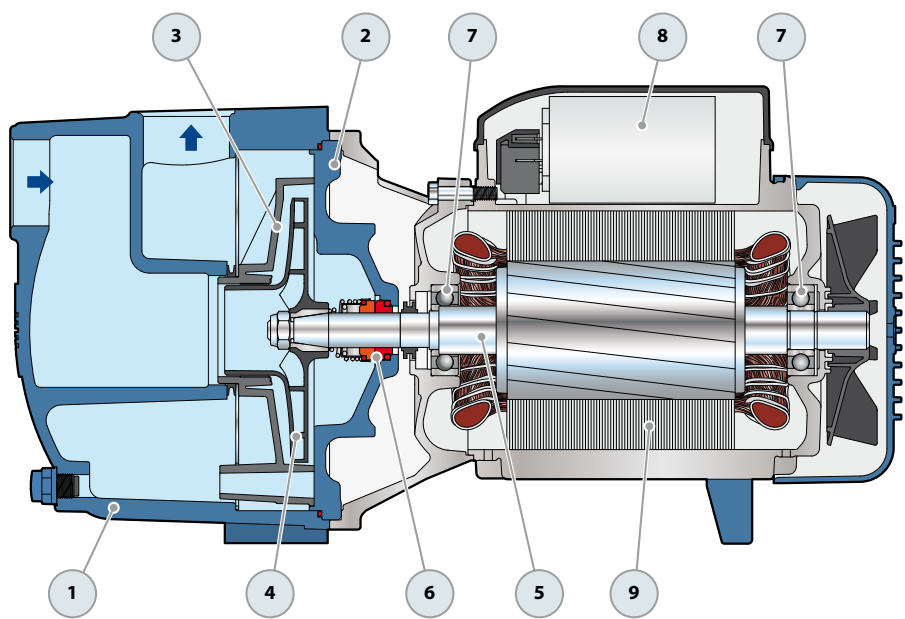
▲ Three-phase motor efficiency class (IEC 60034-30-1)

STANDARD INSTALLATION

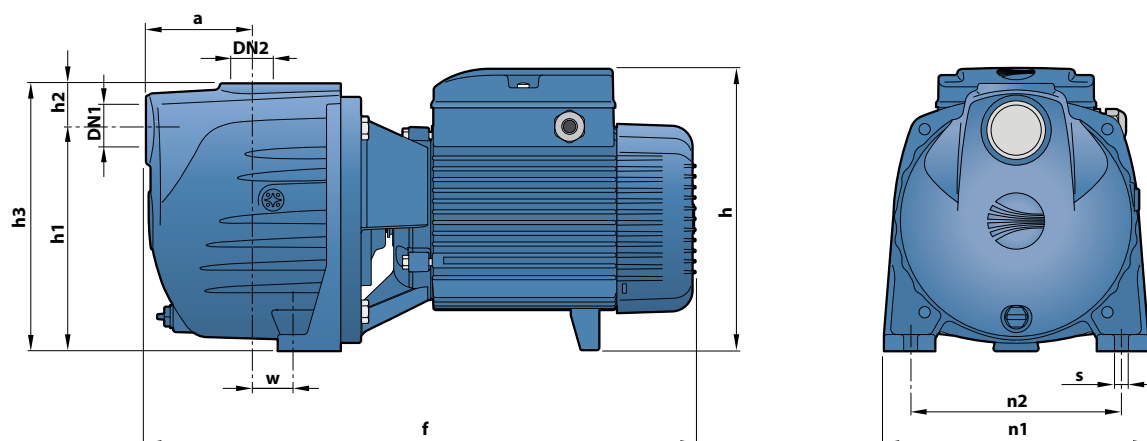


SPRINKLER

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	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6204 ZZ / 6204 ZZ				
8	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		SKRm 1.5	45 μF - 450 VL	80 μF - 250 VL		
9	ELECTRIC MOTOR	SKRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. SKR: 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		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



PERFORMANCE RANGE

- Flow rate up to **60 l/min** (3.6 m³/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

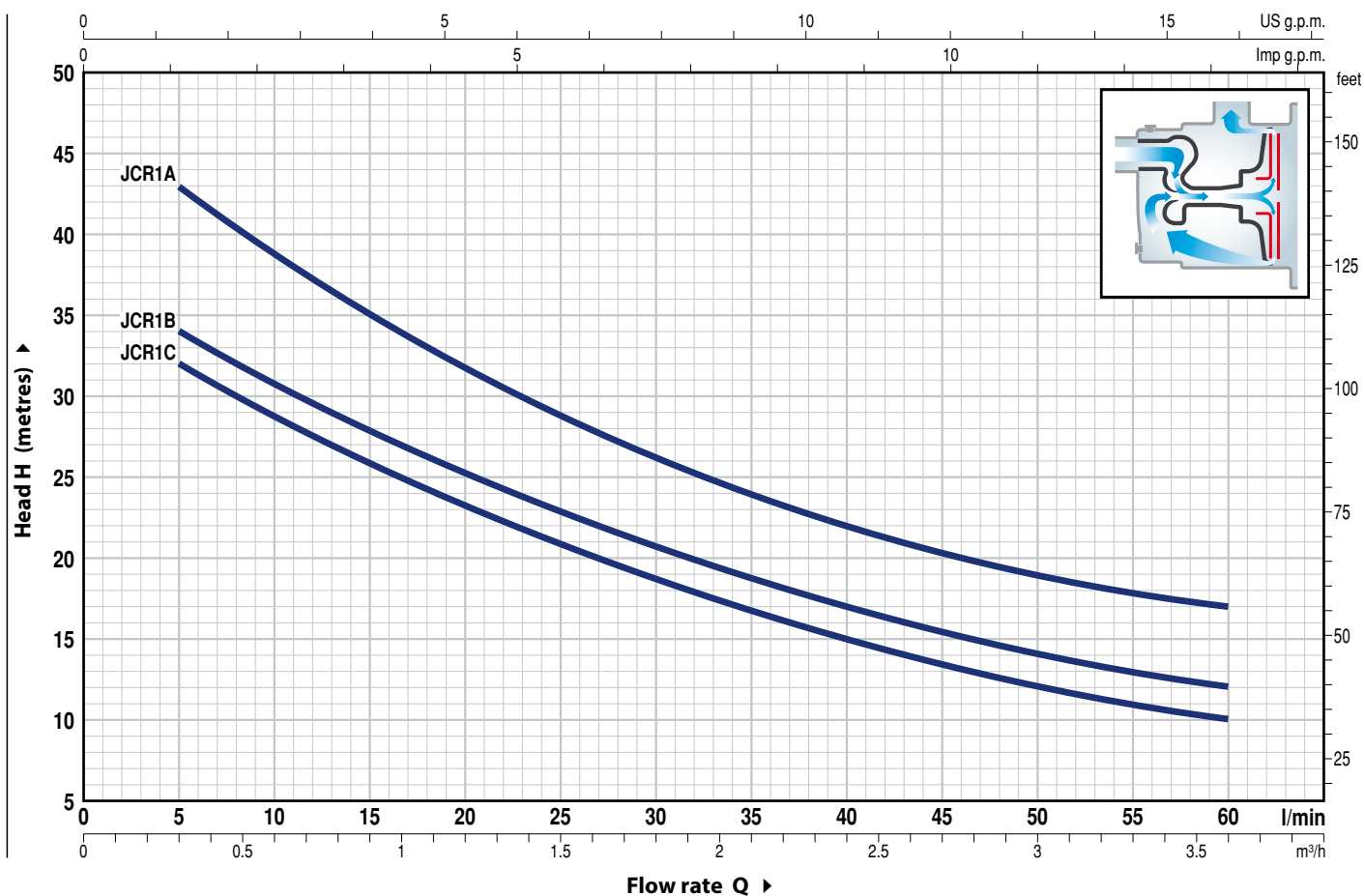
- European Patent n. 1 510 696

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



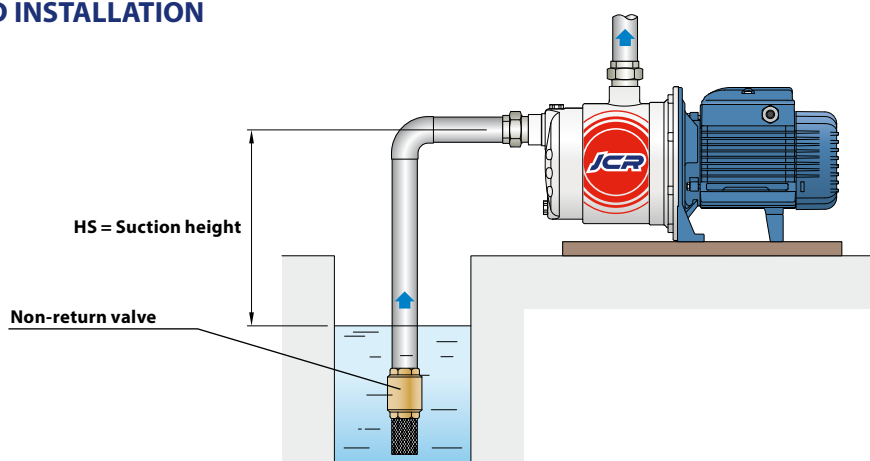
MODEL		POWER (P ₂)			Q	m³/h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6
Single-phase	Three-phase	kW	HP	▲		l/min	0	5	10	20	25	30	40	45	50	60
JCRm 1C	JCR 1C	0.37	0.50	IE2	H metres	35	32	28.5	23.5	21	18.5	15	13.5	12	10	
JCRm 1B	JCR 1B	0.48	0.65			37	34	30.5	25.5	23	20.5	17	15.5	14	12	
JCRm 1A	JCR 1A	0.55	0.75	IE3		48	43	39	31.5	28.5	26	22	20.5	19	17	

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

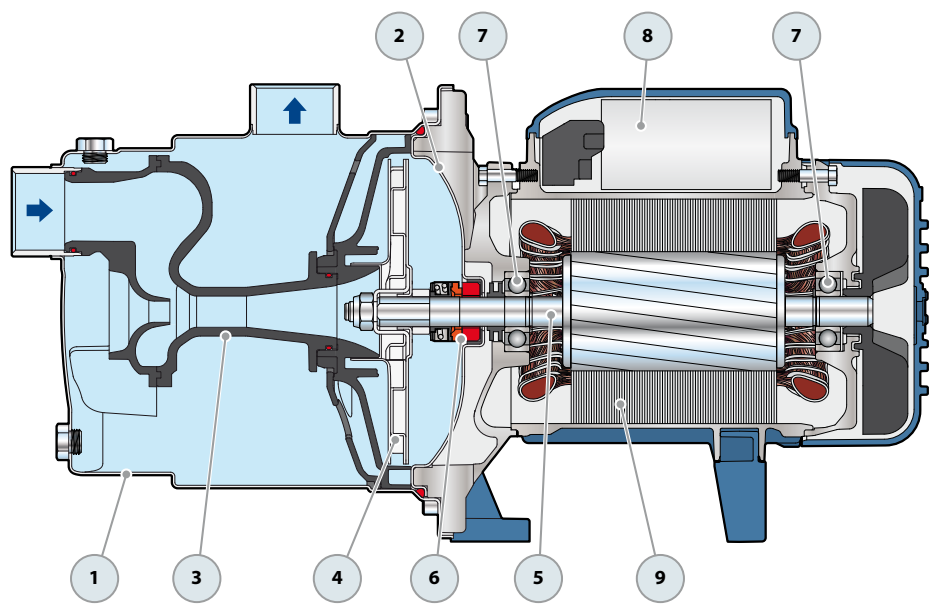
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

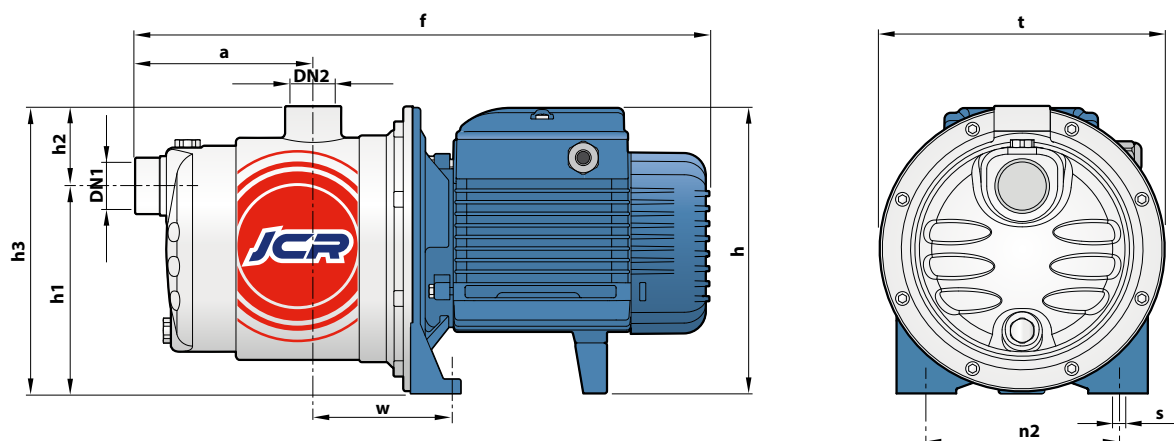
STANDARD INSTALLATION



POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	NOZZLE ASSEMBLY	Noryl FE1520PW				
4	IMPELLER	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal Model	Shaft Diameter	Stationary ring	Materials Rotational ring	Elastomer
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
7	BEARINGS	6201 ZZ / 6201 ZZ				
8	CAPACITOR	Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)		
		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 P2=0.48 kW in class IE2 and from P2=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

-  Clean water
-  Domestic use
-  Civil use



PERFORMANCE RANGE

- Flow rate up to **85 l/min** (5.1 m³/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

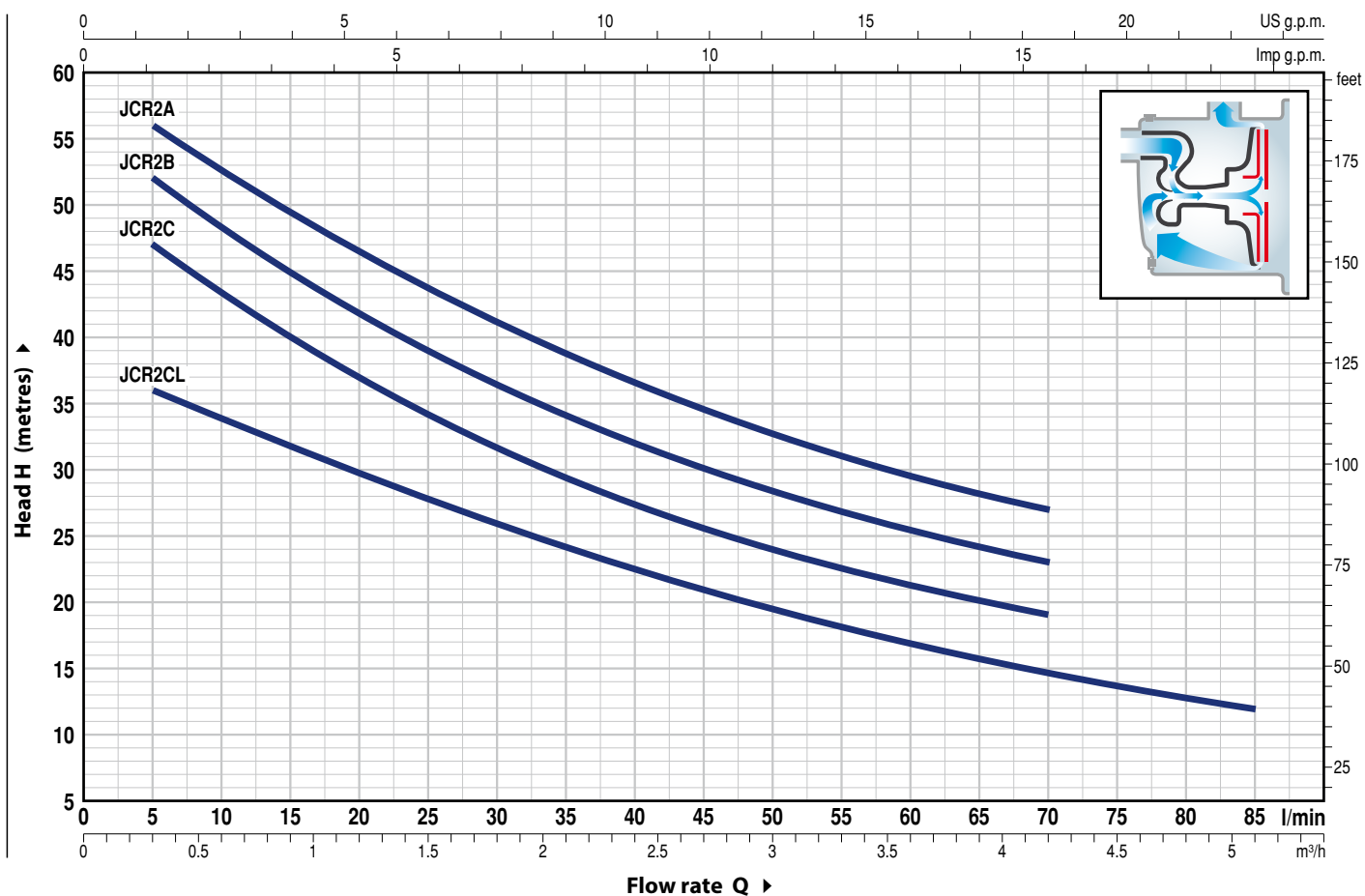
- European Patent n. 1 510 696

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



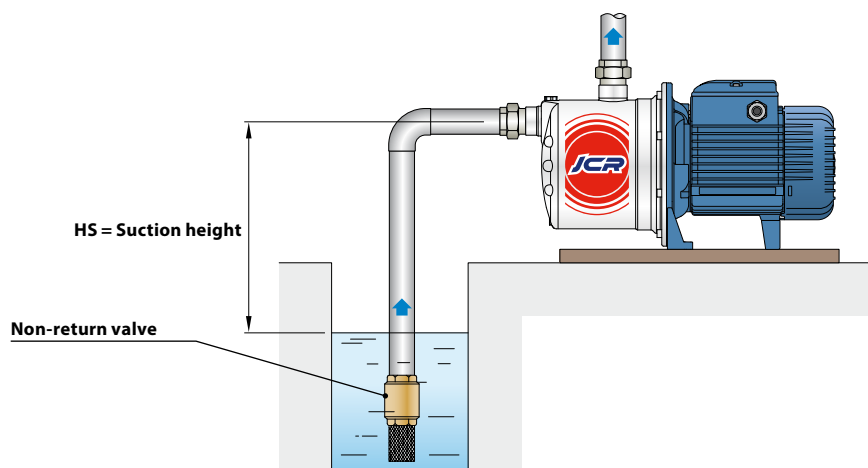
MODEL		POWER (P ₂)			Q	m³/h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6	4.2	4.8	5.1
Single-phase	Three-phase	kW	HP	▲		l/min	0	5	10	20	25	30	40	45	50	60	70	80	85
JCRm 2C	JCR 2C	0.75	1	IE3	H metres	50	47	43	37	34	31.5	27.5	25.5	24	21	19			
JCRm 2B	JCR 2B	0.90	1.25			55	52	48	42	39	36	32	30	28.5	25.5	23			
JCRm 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

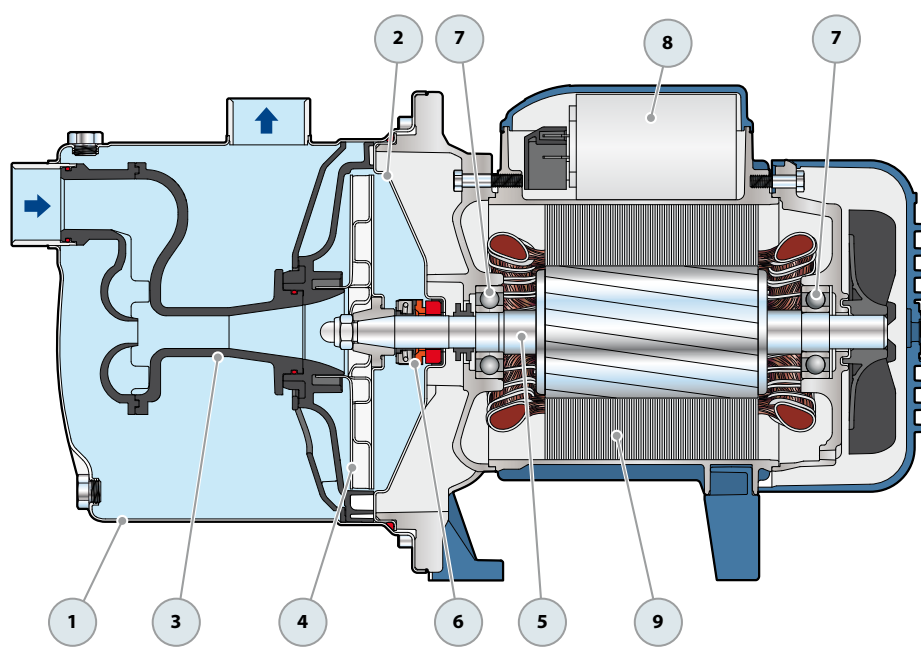
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

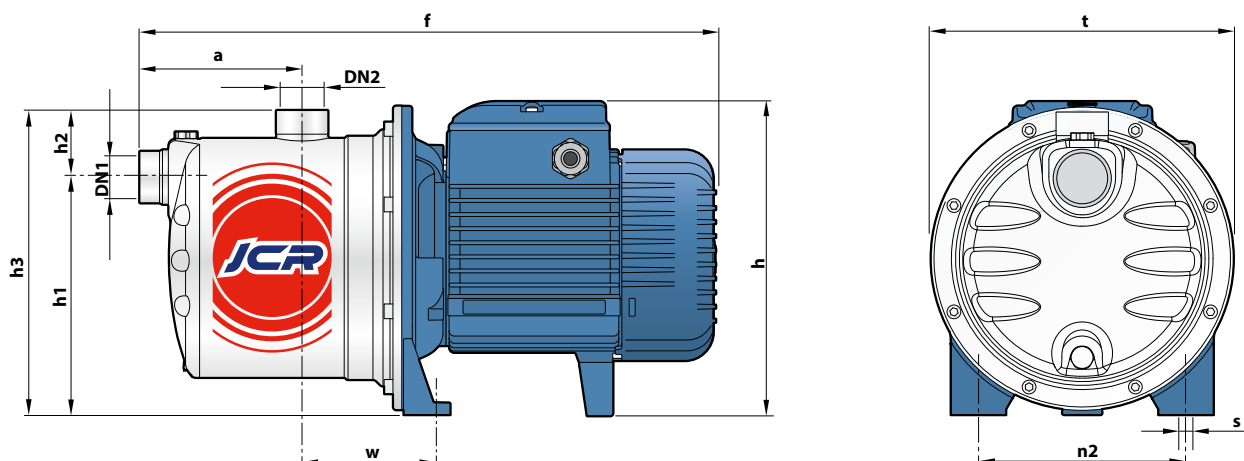
STANDARD INSTALLATION



POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	NOZZLE ASSEMBLY	Noryl FE1520PW				
4	IMPELLER	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal Model	Shaft Diameter	Stationary ring	Materials Rotational ring	Elastomer
		AR-14	Ø 14 mm	Ceramic	Graphite	NBR
7	BEARINGS	6203 ZZ / 6203 ZZ				
8	CAPACITOR	Pump Single-phase	Capacitance (230 V or 240 V)	(110 V)		
		JCRm 2C	20 µF - 450 VL	60 µF - 300 VL		
		JCRm 2CL				
		JCRm 2B	25 µF - 450 VL	60 µF - 300 VL		
		JCRm 2A	25 µF - 450 VL	60 µF - 350 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 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 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	110 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	720 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

PLURIJET 60X-80X-100X

Self-priming multi-stage pumps

 Clean water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **130 l/min** (7.8 m³/h)
- Head up to **52 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

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

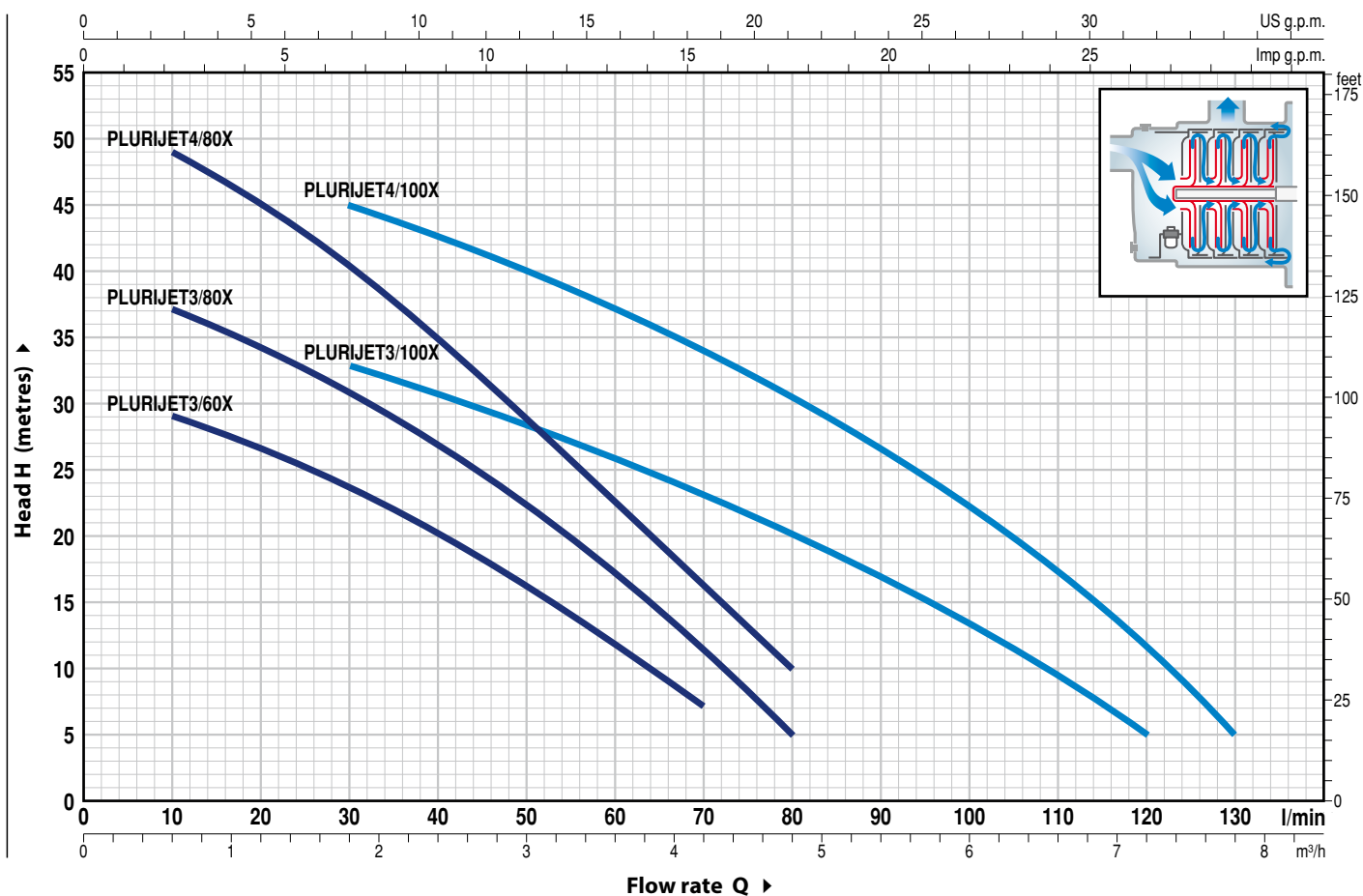
- Registered Trade Mark n. 3974301 PLURIJET®

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



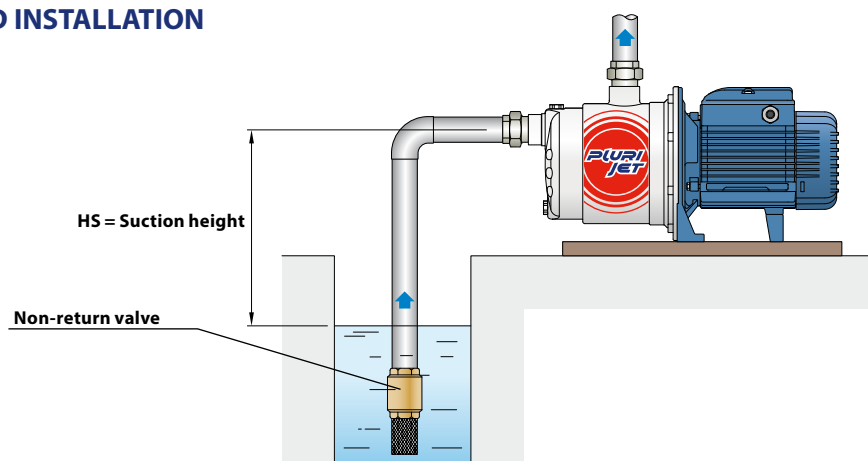
MODEL		POWER (P ₂)			Q																
Single-phase	Three-phase	kW	HP	▲		m³/h	0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8
					l/min	0	5	10	20	30	40	50	60	70	80	90	100	110	120	130	
PLURIJETm 3/60X	PLURIJET 3/60X	0.37	0.50	IE2	H metres	31	30	29	26.5	23.5	20	16	11.5	7							
PLURIJETm 3/80X	PLURIJET 3/80X	0.48	0.65			40	38	37	34.5	31	27	22.5	17	11	5						
PLURIJETm 4/80X	PLURIJET 4/80X	0.55	0.75			52	50	49	44.5	40	34	28.5	22.5	16	10						
PLURIJETm 3/100X	PLURIJET 3/100X	0.55	0.75	38		37	36	34.5	33	31	28	26	23	20	17	13.5	10	5			
PLURIJETm 4/100X	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.

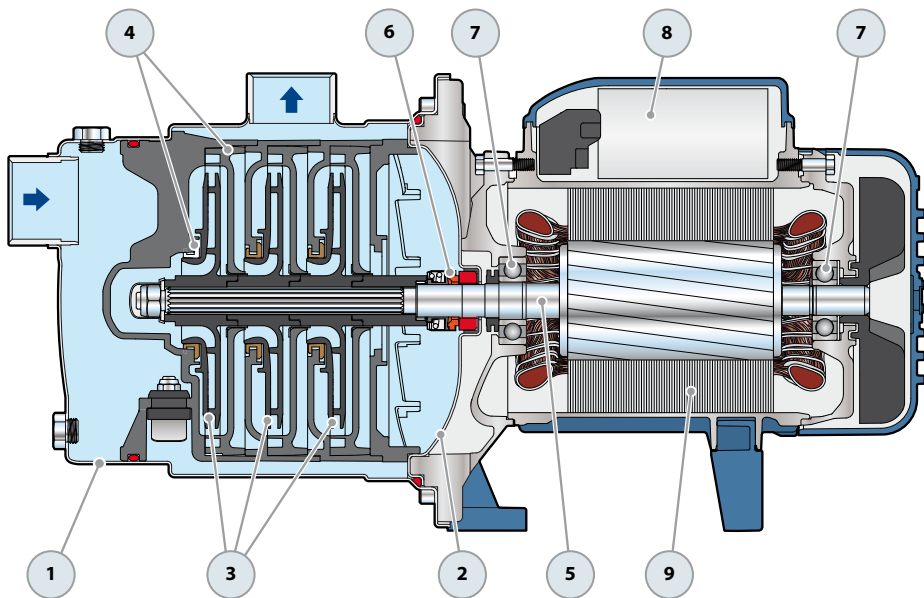
▲ Three-phase motor efficiency class (IEC 60034-30-1)

STANDARD INSTALLATION

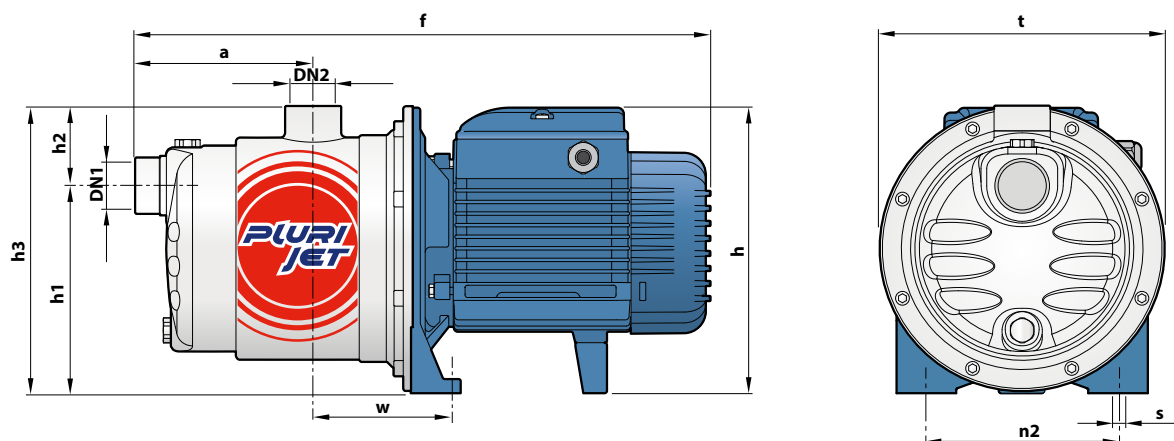


PLURIJET 60X-80X-100X

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 FE1520PW					
4	DIFFUSERS	Noryl FE1520PW complete with anti-wear ring					
5	MOTOR SHAFT	Stainless steel AISI 431					
6	MECHANICAL SEAL	Seal Model	Shaft Diameter	Stationary ring	Materials Rotational ring	Elastomer	
		AR-13	Ø 13 mm	Ceramic	Graphite	NBR	
7	BEARINGS	Pump	Model				
		PLURIJET 3/60X					
		PLURIJET 3/80X	6202 ZZ - C3 / 6201 ZZ				
		PLURIJET 3/100X					
		PLURIJET 4/80X					
		PLURIJET 4/100X	6203 ZZ / 6203 ZZ				
8	CAPACITOR	Pump	Capacitance				
		Single-phase	(230 V or 240 V)		(110 V)		
		PLURIJETm 3/60X	10	µF - 450 VL	25	µF - 250 VL	
		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					
		PLURIJETm 4/100X	20	µF - 450 VL	60	µF - 300 VL	
9	ELECTRIC MOTOR	PLURIJETm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.					
		PLURIJET: three-phase 230/400 V - 50 Hz.					
		➡ 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)					
		– 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~
PLURIJETm 3/60X	PLURIJET 3/60X	1"	1"	113	367	182	132	51	183	182	120	87	9	6.5	6.5
PLURIJETm 3/80X	PLURIJET 3/80X			138	392									7.3	7.3
PLURIJETm 4/80X	PLURIJET 4/80X													8.3	7.8
PLURIJETm 3/100X	PLURIJET 3/100X			113	367									7.9	7.3
PLURIJETm 4/100X	PLURIJET 4/100X			138	411	202 *							10	10.6	10.6

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

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
PLURIJETm 3/60X	2.4 A	2.3 A	4.8 A
PLURIJETm 3/80X	3.3 A	3.1 A	6.6 A
PLURIJETm 4/80X	4.1 A	4.0 A	8.2 A
PLURIJETm 3/100X	4.1 A	4.0 A	8.2 A
PLURIJETm 4/100X	6.0 A	5.8 A	12.0 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
PLURIJET 3/60X	1.7 A	1.0 A	0.6 A	1.6 A	0.9 A	0.5 A
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 3/60X	PLURIJET 3/60X	84	108
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

Self-priming multi-stage pumps

 Clean water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m³/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

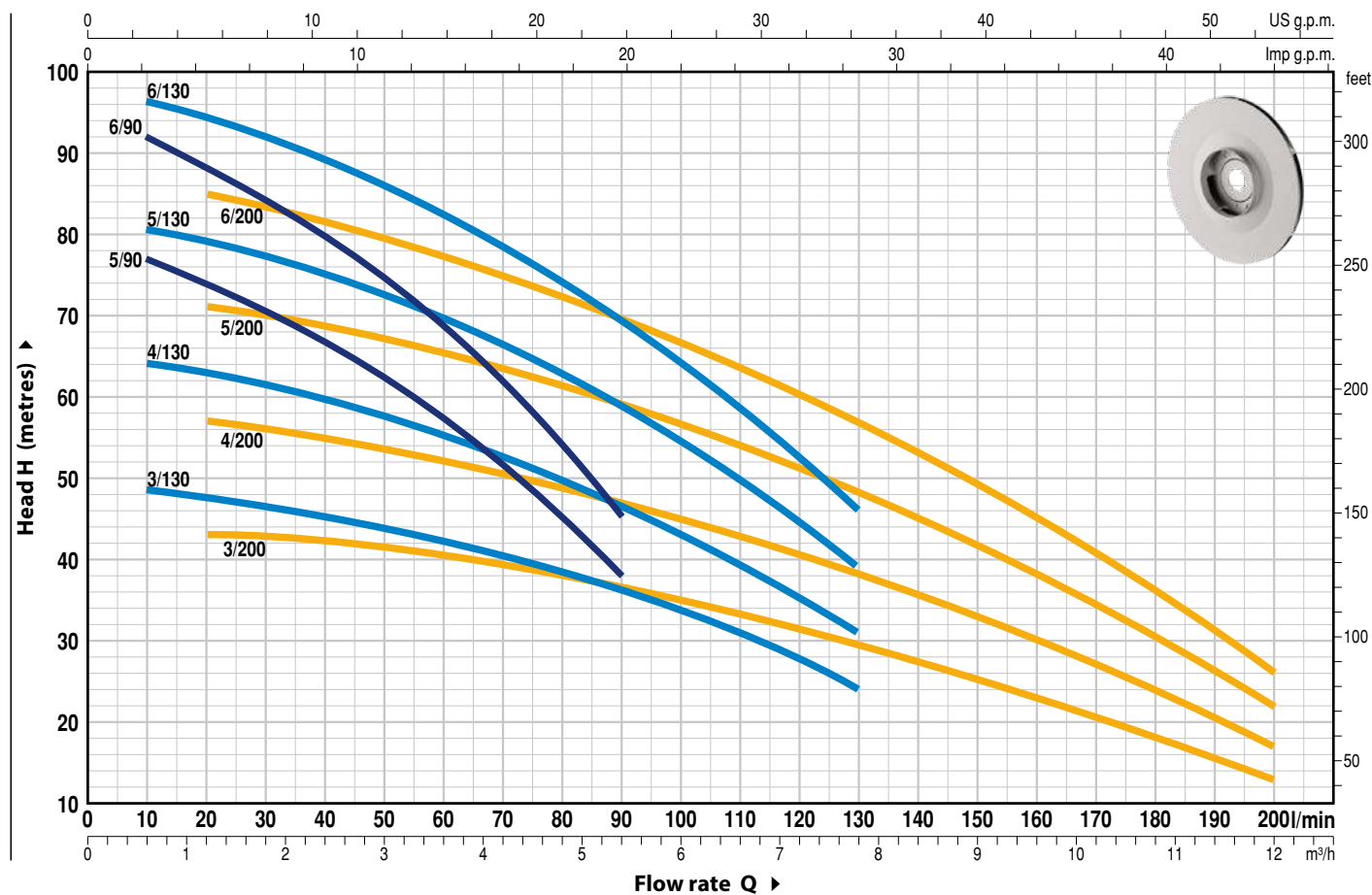
- Registered Trade Mark n. 3974301 PLURIJET®
- Patent Pending n. EP14755156.8

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 class protection

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



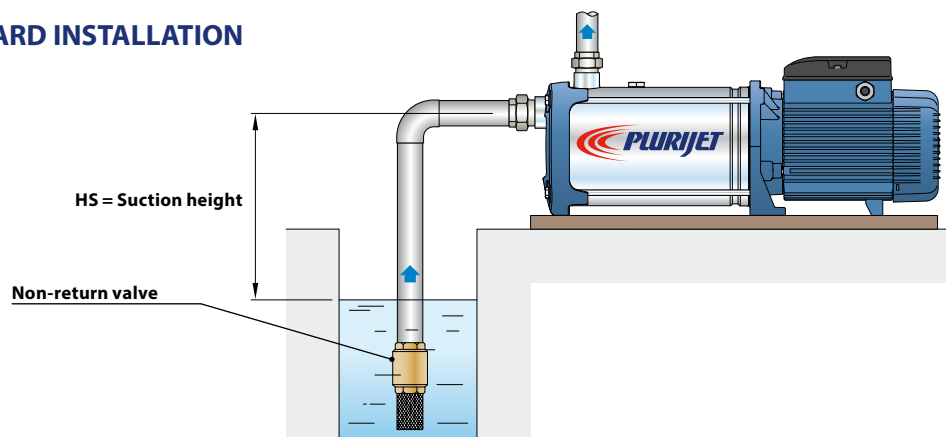
MODEL		POWER (P ₂)		▲	Q	0	0.3	0.6	1.2	2.4	3.6	5.4	6.0	7.8	8.4	9.6	10.8	12.0
Single-phase	Three-phase	kW	HP			0	5	10	20	40	60	90	100	130	140	160	180	200
PLURIJETm 5/90	PLURIJET 5/90	1.1	1.5	IE3	H metres	80	78	77	74	67	57	38						
PLURIJETm 6/90	PLURIJET 6/90	1.5	2			96	94	92	88	80	69	45						
PLURIJETm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

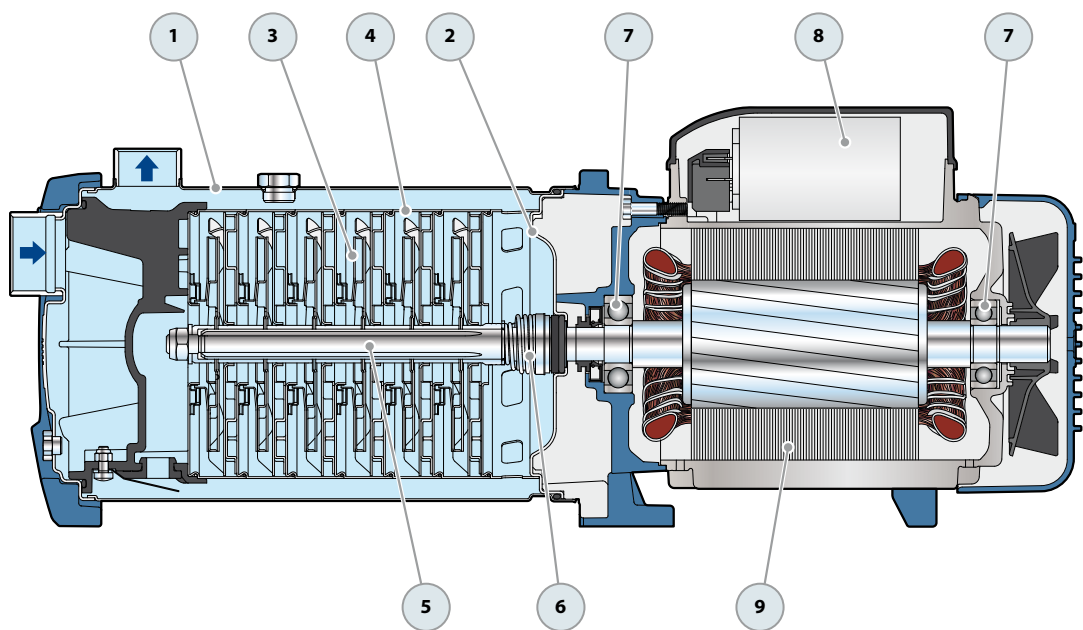
▲ Three-phase motor efficiency class (IEC 60034-30-1)

STANDARD INSTALLATION

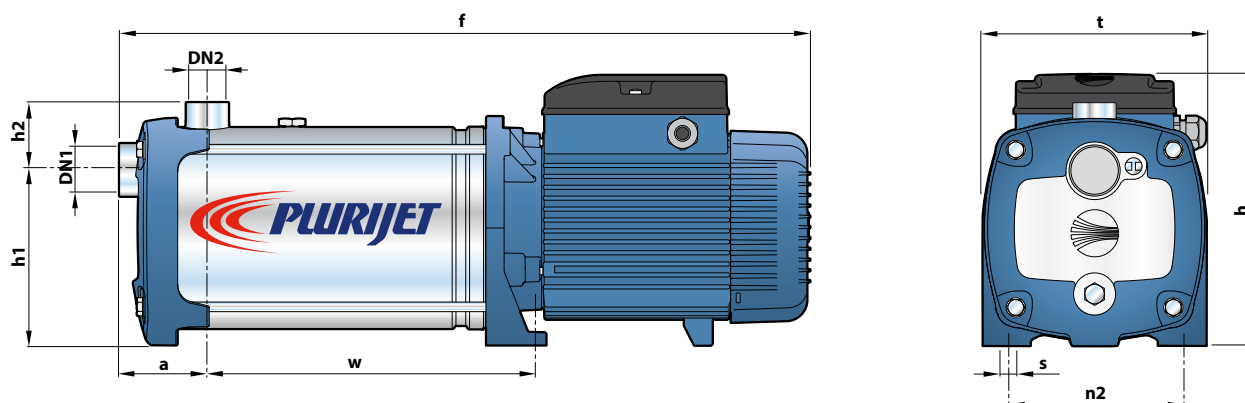


PLURIJET 90-130-200

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	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6304 2RS - C3 / 6204 ZZ - C3E				
8	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		PLURIJETm 5/90	31.5 µF - 450 VL	60 µF - 250 VL		
		PLURIJETm 3/130				
		PLURIJETm 3/200				
		PLURIJETm 6/90	45 µF - 450 VL	80 µF - 250 VL		
		PLURIJETm 4/130				
		PLURIJETm 4/200				
PLURIJETm 5/130	50 µF - 450 VL	-				
PLURIJETm 5/200						
9	ELECTRIC MOTOR	PLURIJETm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.				
		PLURIJET: 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		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	56	185	145	245	11	20.4	20.5
PLURIJETm 6/90	PLURIJET 6/90				573						271		22.7	22.5
PLURIJETm 3/130	PLURIJET 3/130				497						193		18.5	18.6
PLURIJETm 4/130	PLURIJET 4/130				523						219		20.5	20.6
PLURIJETm 5/130	PLURIJET 5/130				569						245		23.7	24.2
-	PLURIJET 6/130				595						271		-	25.3
PLURIJETm 3/200	PLURIJET 3/200				497						193		18.5	18.6
PLURIJETm 4/200	PLURIJET 4/200				523						219		20.6	20.6
PLURIJETm 5/200	PLURIJET 5/200				569						245		24.7	24.0
-	PLURIJET 6/200				595						271		-	25.0

ABSORPTION

MODEL	VOLTAGE		
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					
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

PLURIJET 90X-130X-200X

TECHNOPOLYMER IMPELLERS

Self-priming multi-stage pumps



Clean water



Domestic use



Civil use



PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m³/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

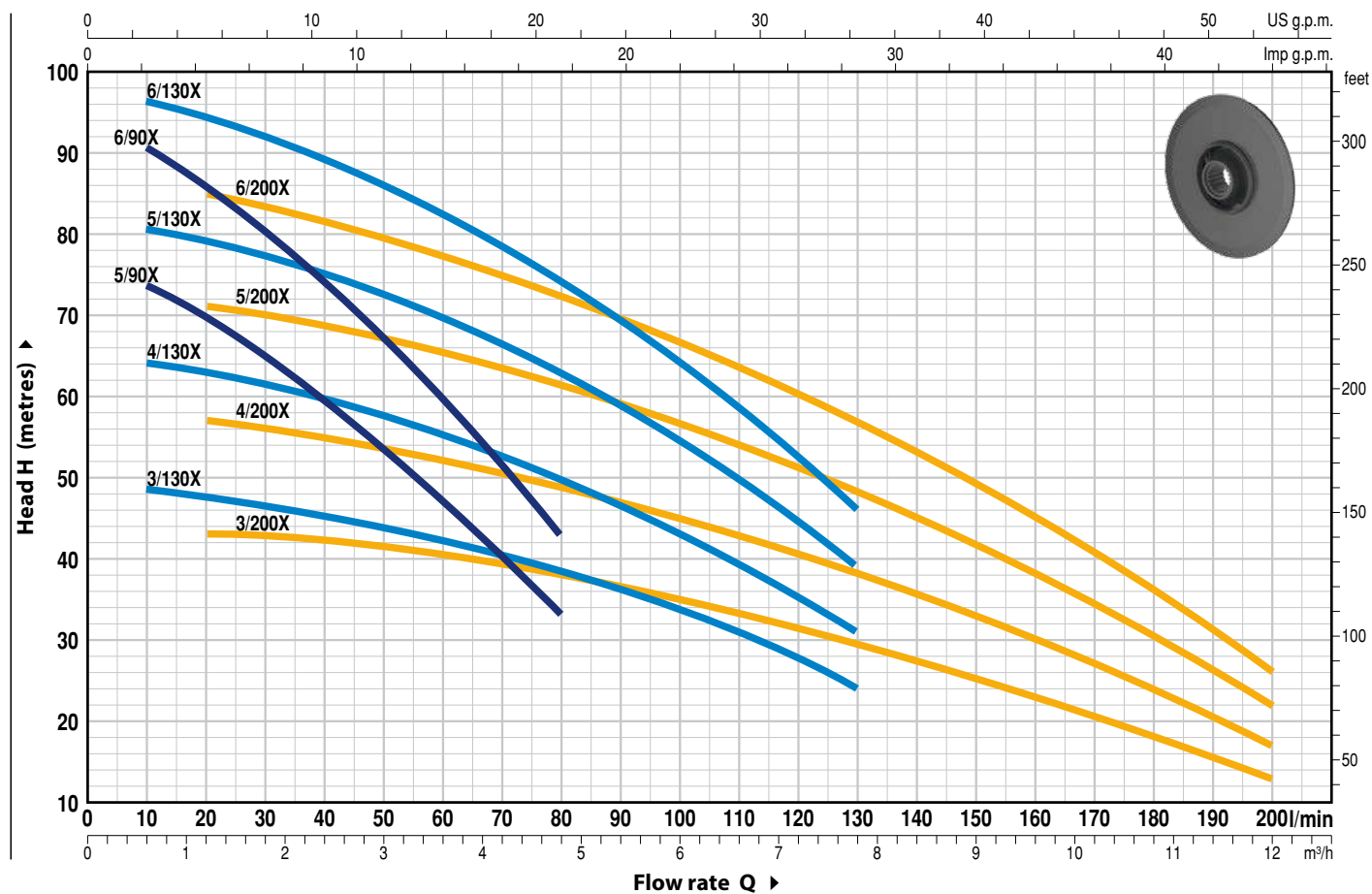
- Registered Trade Mark n. 3974301 PLURIJET®
- Patent n. EP14755156.8

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency
- IPX5 class protection

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



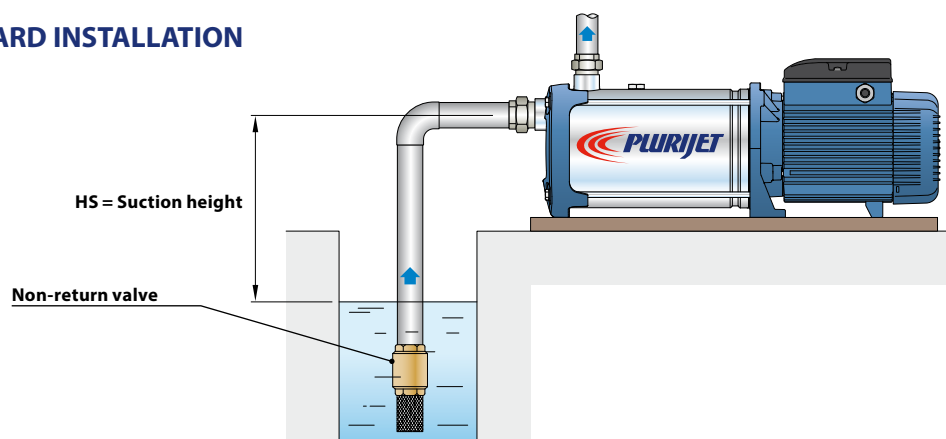
MODEL		POWER (P ₂)		Q																
Single-phase	Three-phase	kW	HP		m³/h	0	0.3	0.6	1.2	2.4	3.6	4.8	6.0	7.8	8.4	9.6	10.8	12.0		
					l/min	0	5	10	20	40	60	80	100	130	140	160	180	200		
PLURIJETm 5/90X	PLURIJET 5/90X	1.1	1.5	IE3	H metres	76	76	73.5	70	60.5	47	33								
PLURIJETm 6/90X	PLURIJET 6/90X	1.5	2			93	93	90.5	86	74.5	59.5	43								
PLURIJETm 3/130X	PLURIJET 3/130X	1.1	1.5			49	49	48.5	47.5	45	42.5	38.5	33.5	24						
PLURIJETm 4/130X	PLURIJET 4/130X	1.5	2			65	65	64	63	60	56	50	43	31						
PLURIJETm 5/130X	PLURIJET 5/130X	1.8	2.5			81	81	80.5	79	75	70	62.5	54	39						
-	PLURIJET 6/130X	2.2	3			97	97	96.5	94.5	90	83	74.5	64	46						
PLURIJETm 3/200X	PLURIJET 3/200X	1.1	1.5			44	43.5	43.5	43	42	40.5	38	35	29	27.5	23	18	13		
PLURIJETm 4/200X	PLURIJET 4/200X	1.5	2			58	57.5	57.5	57	55	52.5	49.5	45	38	35.5	30	24	17		
PLURIJETm 5/200X	PLURIJET 5/200X	1.8	2.5			73	72	71.5	71	69	65.5	62	56.5	48	44.5	38	30	22		
-	PLURIJET 6/200X	2.2	3			87	86	85.5	85	82	78	73	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.

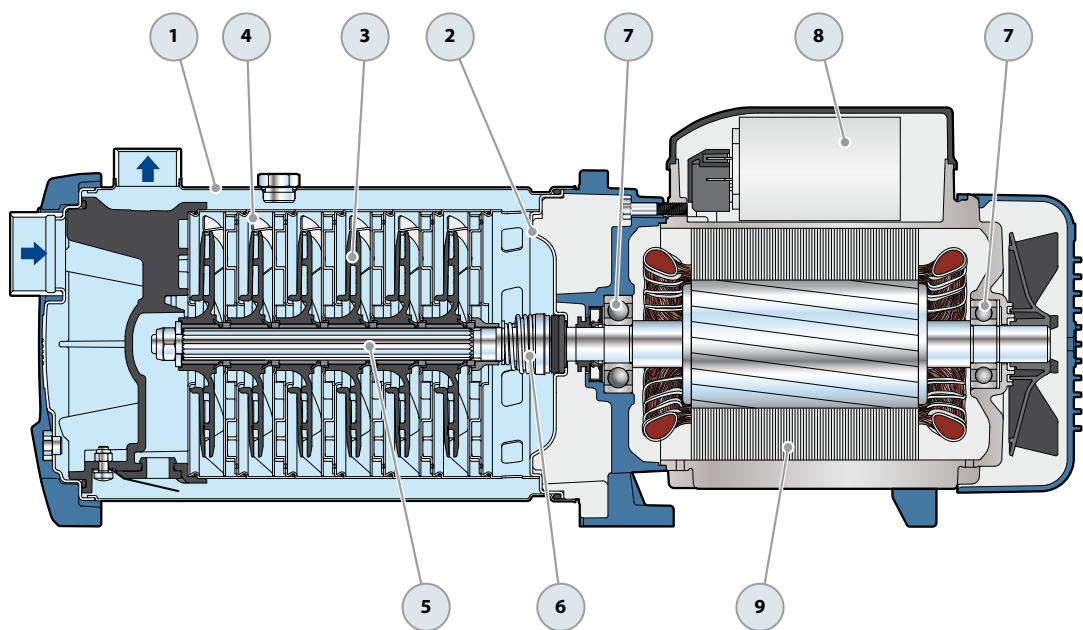
▲ Three-phase motor efficiency class (IEC 60034-30-1)

STANDARD INSTALLATION

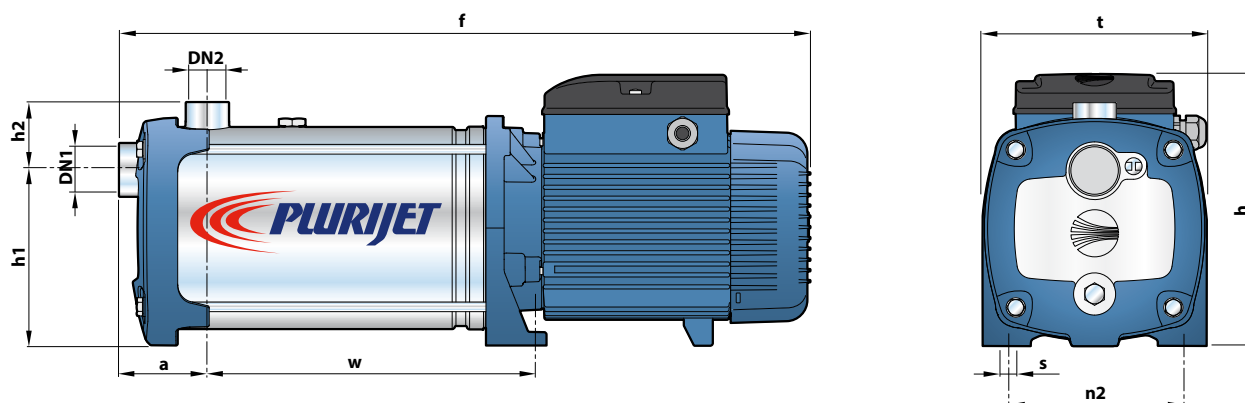


PLURIJET 90X-130X-200X

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 FE1520PW				
4	DIFFUSERS	Stainless steel AISI 304				
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>
		FN-18	Ø 18 mm	Graphite	Ceramic	NBR
7	BEARINGS	6304 2RS - C3 / 6204 ZZ - C3E				
8	CAPACITOR	<i>Pump</i>	<i>Capacitance</i>			
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>		<i>(110 V)</i>	
		PLURIJETm 5/90X	31.5 µF - 450 VL		60 µF - 250 VL	
		PLURIJETm 3/130X				
		PLURIJETm 3/200X				
		PLURIJETm 6/90X	45 µF - 450 VL		80 µF - 250 VL	
		PLURIJETm 4/130X				
		PLURIJETm 4/200X				
PLURIJETm 5/130X	50 µF - 450 VL	–				
PLURIJETm 5/200X						
9	ELECTRIC MOTOR	PLURIJETm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PLURIJET: 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		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	t	n2	w	s	1~	3~
PLURIJETm 5/90X	PLURIJET 5/90X	1 1/4"	1"	73	549	228	145	56	185	145	245	11	19.5	19.5
PLURIJETm 6/90X	PLURIJET 6/90X				575						271		21.4	20.2
PLURIJETm 3/130X	PLURIJET 3/130X				497						193		17.9	18.0
PLURIJETm 4/130X	PLURIJET 4/130X				523						219		19.8	19.8
PLURIJETm 5/130X	PLURIJET 5/130X				569						245		23.1	23.7
-	PLURIJET 6/130X				595						271		-	24.0
PLURIJETm 3/200X	PLURIJET 3/200X				497						193		17.9	18.0
PLURIJETm 4/200X	PLURIJET 4/200X				523						219		19.9	19.8
PLURIJETm 5/200X	PLURIJET 5/200X				569						245		23.2	23.7
-	PLURIJET 6/200X				595						271		-	24.0

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
PLURIJETm 5/90X	9.3 A	9.0 A	18.6 A
PLURIJETm 6/90X	11.0 A	10.8 A	22.0 A
PLURIJETm 3/130X	8.5 A	8.3 A	17.0 A
PLURIJETm 4/130X	10.3 A	9.9 A	20.6 A
PLURIJETm 5/130X	12.5 A	12.0 A	-
PLURIJETm 3/200X	8.7 A	8.0 A	17.4 A
PLURIJETm 4/200X	10.5 A	10.1 A	21.0 A
PLURIJETm 5/200X	12.5 A	12.0 A	-

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
PLURIJET 5/90X	6.1 A	3.5 A	2.0 A	5.9 A	3.4 A	1.9 A
PLURIJET 6/90X	7.3 A	4.2 A	2.4 A	6.9 A	4.0 A	2.3 A
PLURIJET 3/130X	5.6 A	3.2 A	1.8 A	5.4 A	3.1 A	1.8 A
PLURIJET 4/130X	6.9 A	4.0 A	2.3 A	6.6 A	3.8 A	2.2 A
PLURIJET 5/130X	9.0 A	5.2 A	3.0 A	8.6 A	5.0 A	2.9 A
PLURIJET6/130X	9.9 A	5.7 A	3.3 A	9.5 A	5.5 A	3.2 A
PLURIJET 3/200X	5.9 A	3.4 A	2.0 A	5.7 A	3.3 A	1.9 A
PLURIJET 4/200X	7.3 A	4.2 A	2.4 A	7.0 A	4.0 A	2.3 A
PLURIJET 5/200X	9.4 A	5.4 A	3.1 A	9.0 A	5.2 A	3.0 A
PLURIJET 6/200X	10.2 A	5.9 A	3.4 A	9.8 A	5.7 A	3.3 A

Centrifugal pumps with open impeller

-  Clean water
-  Domestic use
-  Agricultural use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **350 l/min** (21 m³/h)
- Head up to **20 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**
- Passage of suspended solids up to **Ø 10 mm**
- 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 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. Because of these characteristics the **NGA** series pumps are used specifically in industry and for transferring water from canals, rivers, reservoirs, tanks, 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

OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

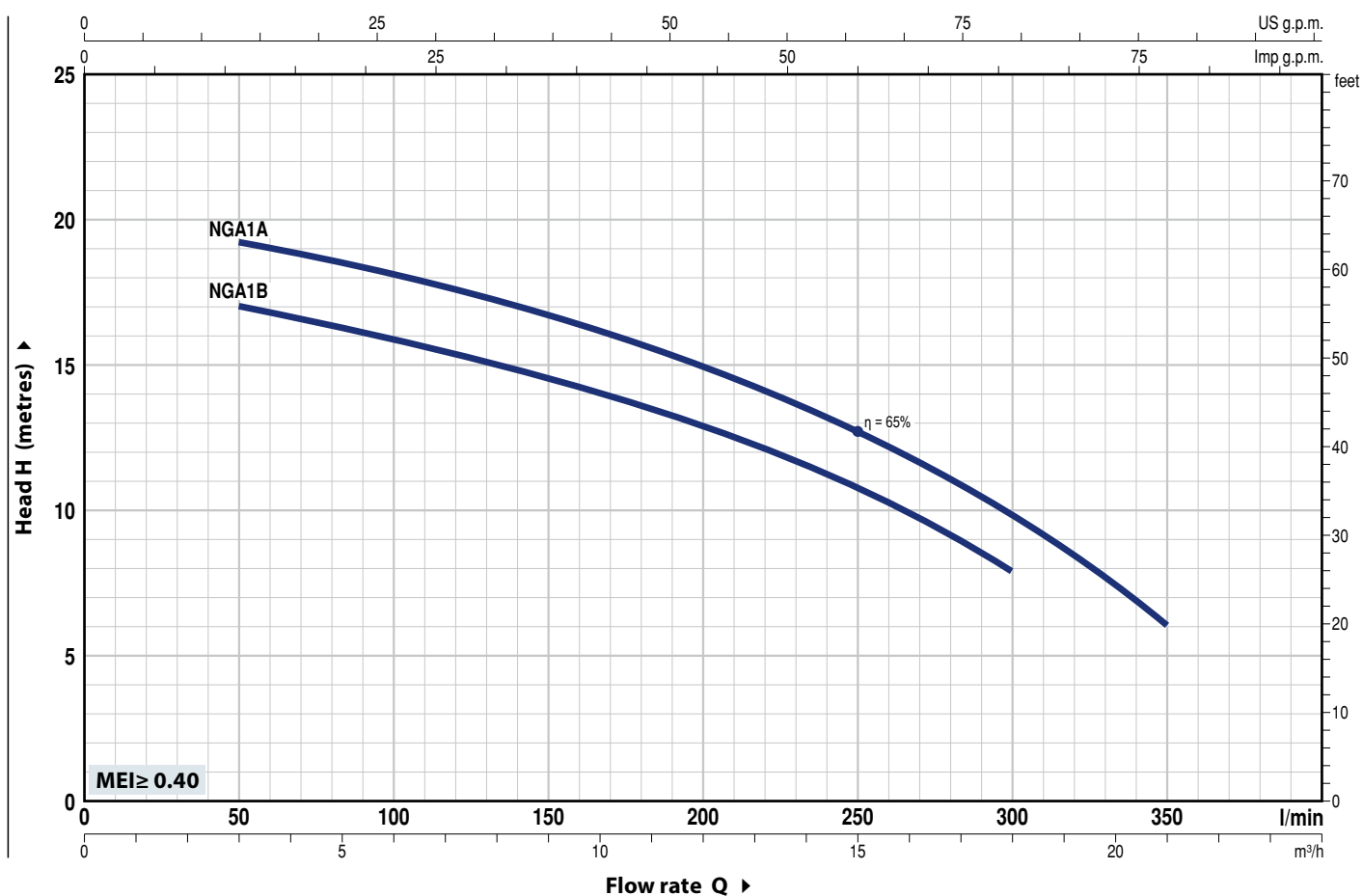
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



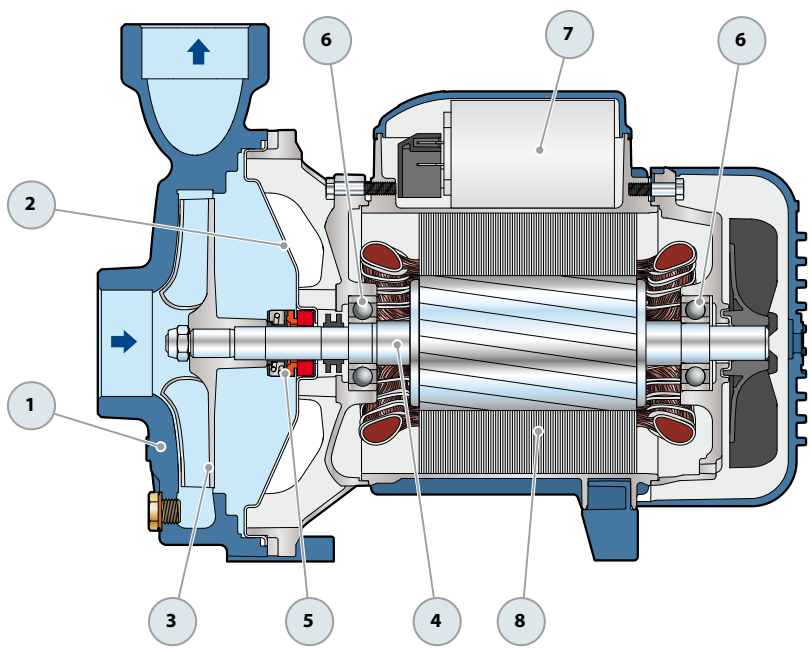
MODEL		POWER (P ₂)			Q	0	3	6	9	12	15	18	21
Single-phase	Three-phase	kW	HP	▲		0	50	100	150	200	250	300	350
NGAm 1B	NGA 1B	0.55	0.75	IE3	H metres	18	17	16	14.5	13	10.5	8	
NGAm 1A	NGA 1A	0.75	1			20	19.5	18	16.5	15	12.5	10	6

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

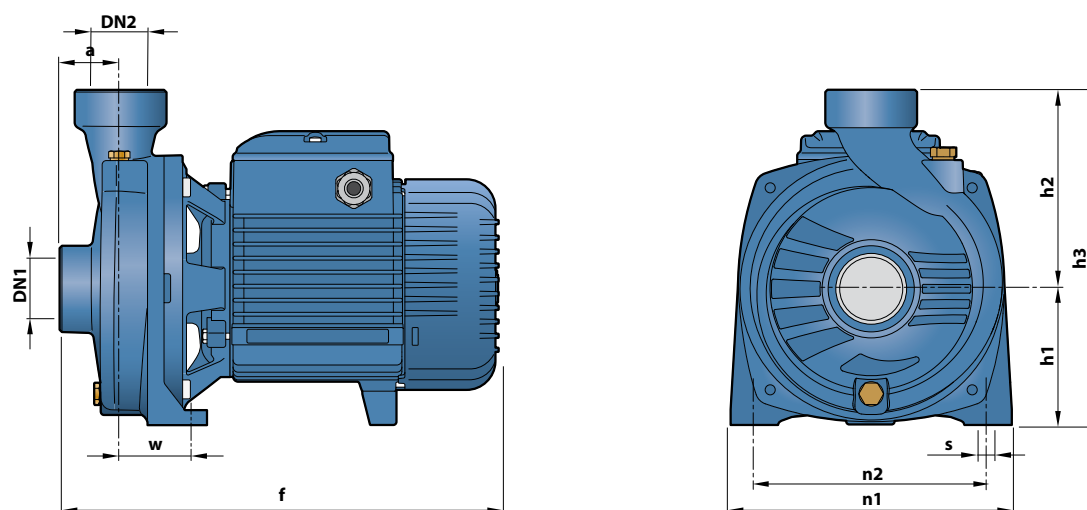
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 304				
3	IMPELLER	Open impeller in stainless steel AISI 316				
4	MOTOR SHAFT	Stainless steel AISI 431				
5	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-14	Ø 14 mm	Ceramic	Graphite	NBR
6	BEARINGS	6203 ZZ / 6203 ZZ				
7	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		NGAm 1B	16 µF - 450 VL	60 µF - 300 VL		
		NGAm 1A	20 µF - 450 VL	60 µF - 300 VL		
8	ELECTRIC MOTOR	NGAm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. NGA: 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		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"	41	297	92	135	227	190	160	50	10	12.4	12.4
NGAm 1A	NGA 1A												12.5	12.4

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
NGAm 1B	5.6 A	5.3 A	11.2 A
NGAm 1A	6.2 A	6.0 A	12.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
NGA 1B	3.3 A	1.9 A	1.1 A	3.2 A	1.85 A	1.1 A
NGA 1A	3.7 A	2.1 A	1.2 A	3.6 A	2.05 A	1.2 A

NGA-PRO

Stainless steel pumps with open impeller

 Clean water

 Agricultural use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **350 l/min** (21 m³/h)
- Head up to **20 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**
- Passage of suspended solids up to **Ø 10 mm**
- 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**. Because of this characteristic the **NGA-PRO** series of pumps are particularly suitable for use in plants for washing fruit, vegetables, fish and shellfish, in industrial washing plants and for the circulation of cooling liquids. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

PATENTS - TRADE MARKS - MODELS

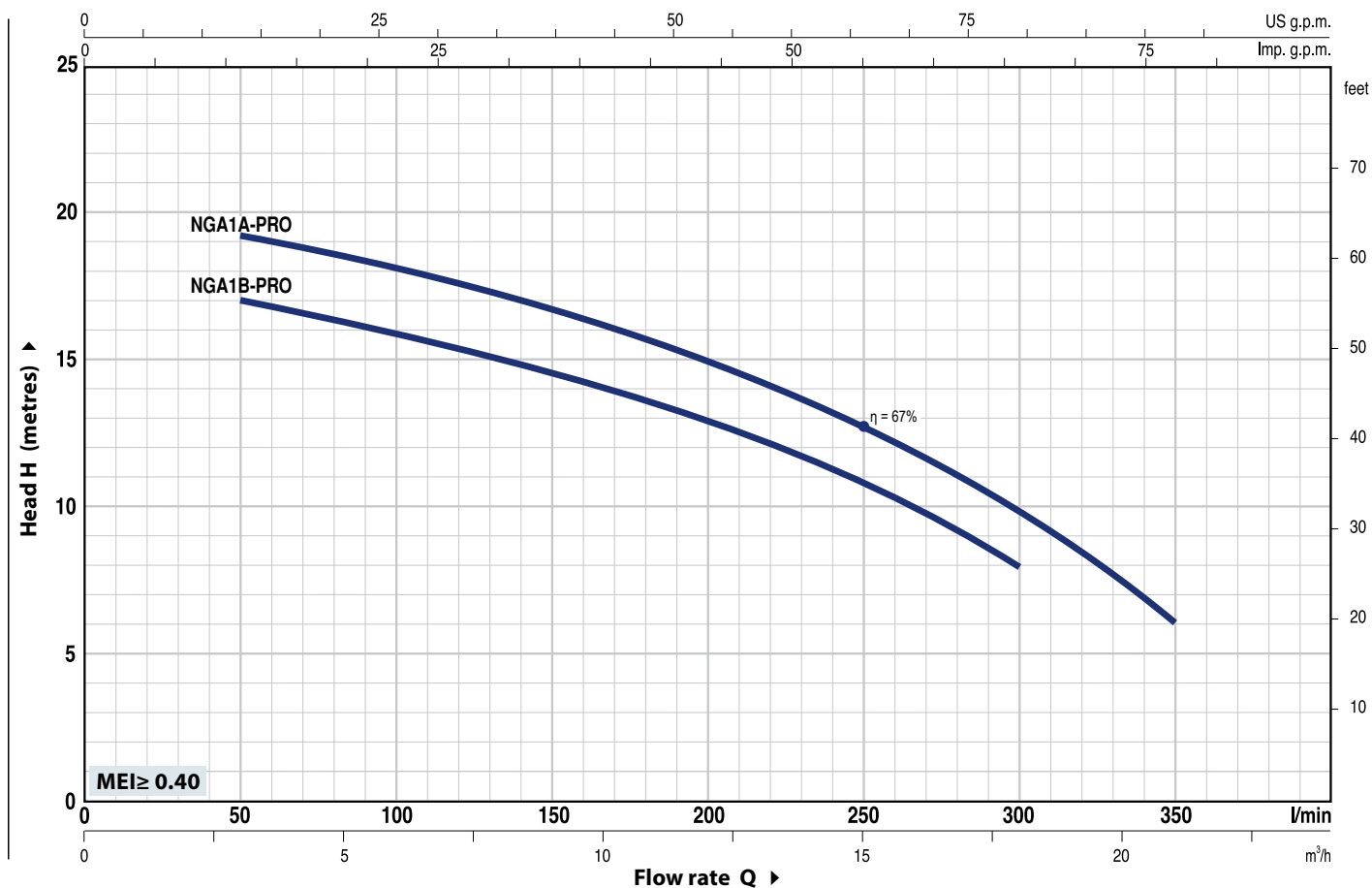
- Registered EU Design n. 002098434

OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



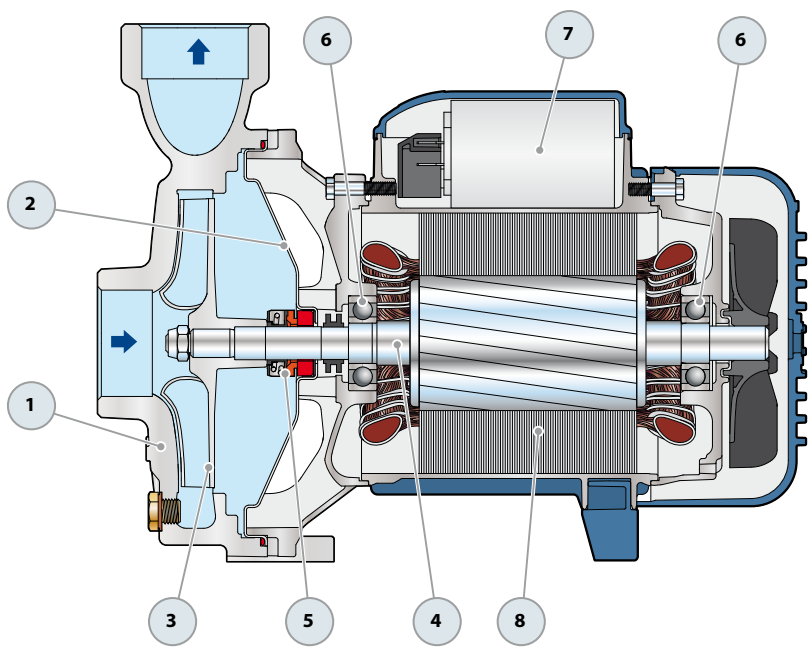
MODEL		POWER (P ₂)			Q m³/h l/min	0	3	6	9	12	15	18	21
Single-phase	Three-phase	kW	HP	▲		0	50	100	150	200	250	300	350
NGAm 1B - PRO	NGA 1B - PRO	0.55	0.75	IE3	H metres	18	17	16	14.5	13	10.5	8	
NGAm 1A - PRO	NGA 1A - PRO	0.75	1			20	19.5	18	16.5	15	12.5	10	6

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

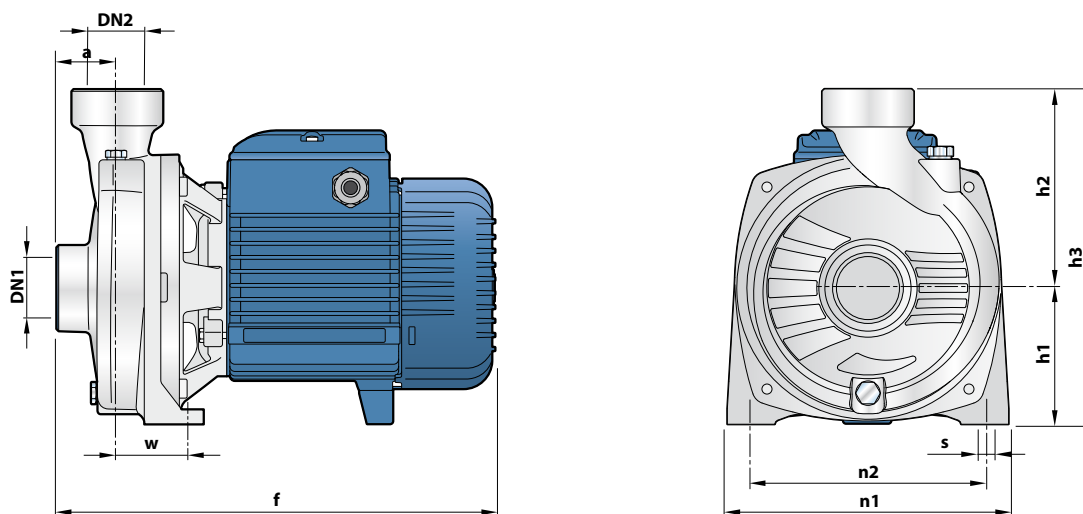
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 316 complete with threaded ports in compliance with ISO 228/1				
2	BODY BACKPLATE	Stainless steel AISI 316				
3	IMPELLER	Open impeller in stainless steel AISI 316				
4	MOTOR SHAFT	Stainless steel AISI 316L				
5	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-14S	Ø 14 mm	Ceramic	Graphite	Viton
6	BEARINGS	6203 ZZ / 6203 ZZ				
7	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		NGAm 1B - PRO	16 µF - 450 VL	60 µF - 300 VL		
		NGAm 1A - PRO	20 µF - 450 VL	60 µF - 300 VL		
8	ELECTRIC MOTOR	NGAm - PRO: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. NGA - PRO: 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		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"	41	299	92	134.5	226.5	190	160	50	10	12.7	12.7
NGAm 1A - PRO	NGA 1A - PRO												12.9	12.7

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
NGAm 1B - PRO	5.6 A	5.3 A	11.2 A
NGAm 1A - PRO	6.2 A	6.0 A	12.4 A

MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
NGA 1B - PRO	3.3 A	1.9 A	1.1 A	3.2 A	1.85 A	1.1 A
NGA 1A - PRO	3.7 A	2.1 A	1.2 A	3.6 A	2.05 A	1.2 A

AUTOMATIC PRESSURISATION SYSTEM WITH INVERTER

-  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.



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

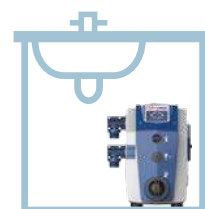


COMPACT DIMENSIONS



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.



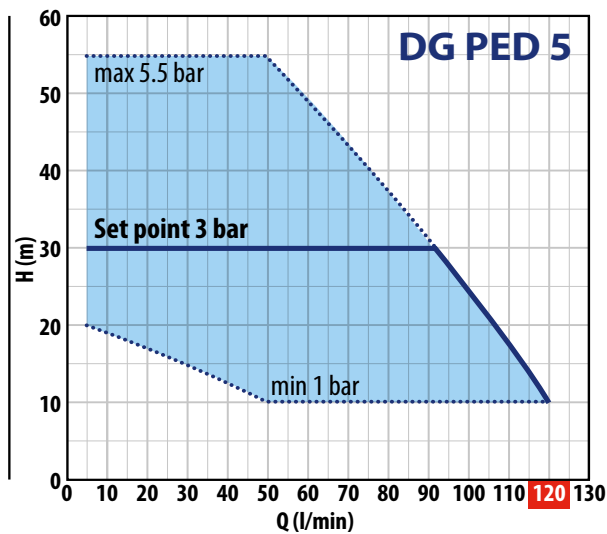
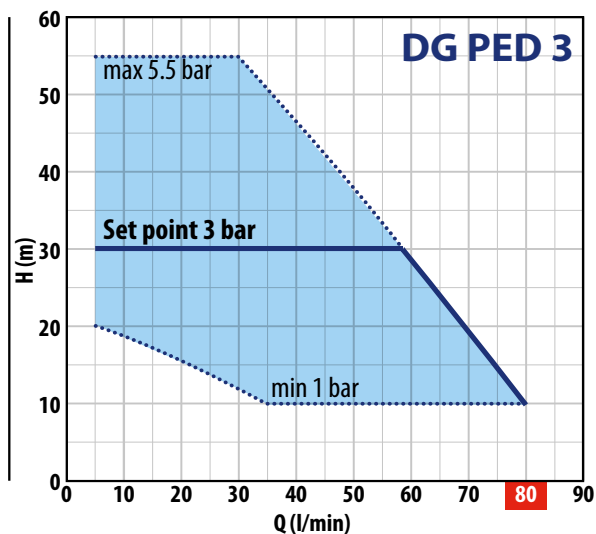
TECHNICAL DATA

- Supply voltage ~ **230 V** ± 10%
- Frequency **50/60 Hz**
- Insulation: **class F**
- Max absorbed current: **7.5 A** DG PED 3 - **10.5 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

CHARACTERISTIC CURVES



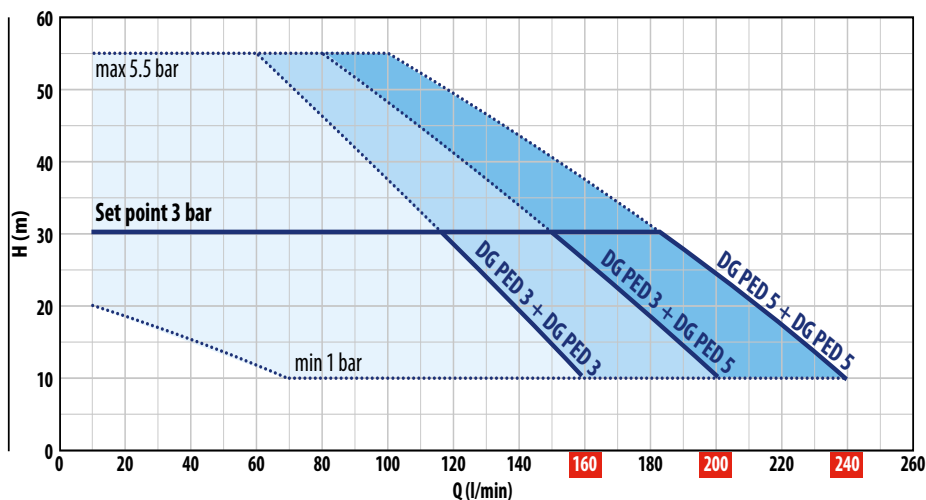
MODEL	POWER		MAX PERFORMANCES	H	PERFORMANCES (ADJUSTABLE SET POINT)					
	P ₂				Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase	kW	HP	▲	l/min	metres	bar	l/min	bar	l/min	bar
DG PED 3	0.75	1	IE3	5 – 80	55 – 10	1	35 – 80	3	5 – 58	5.5
DG PED 5	1.1	1.5		5 – 120	55 – 10	1	50 – 120	3	5 – 92	5.5

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)

CHARACTERISTIC CURVES FOR GROUPS OF TWO DG PED 3 OR 5



OPTIONAL ACCESSORIES



Connection kit for two DG PED units



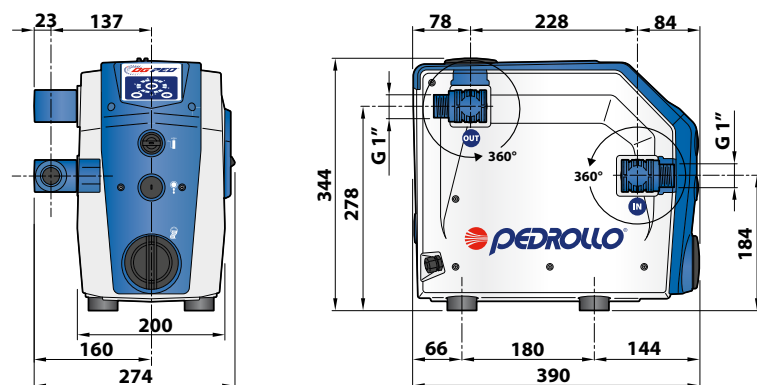
Electronic expansion circuit board



Kit for wall-mounting a single DG PED



Kit for wall-mounting a group of two units



Electronic circulators for heating systems



PERFORMANCE RANGE

- Flow rate up to **3.5 m³/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 **≤ 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 ≤ 0.20

The benchmark for the most efficient circulators is EEI ≤ 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.

	PROPORTIONAL PROGRAMME (GREEN LED)		It changes proportionally the pressure (head) in accordance with demanded heat from the system(variation of delivery).
	CONSTANT PROGRAMME (ORANGE LED)		It keeps the pressure constant (head) in accordance with demanded heat from the system(variation of delivery).
	CUSTOM-MADE PROGRAMME (BLUE LED)	MIN MAX	Fixed speed curves of operation, adjustable by positioning the selector anywhere between the MIN and MAX positions

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.

WHITE LED.

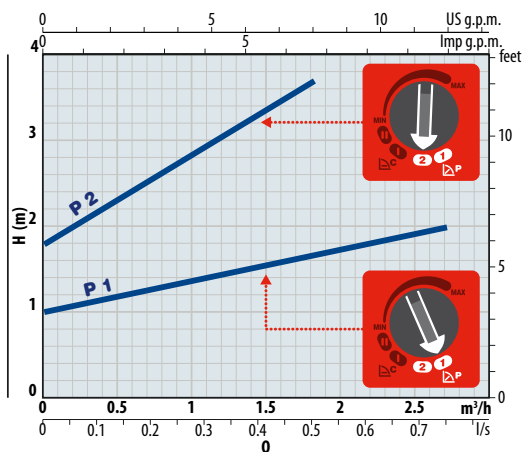
Air bubble in the system. Vent system.



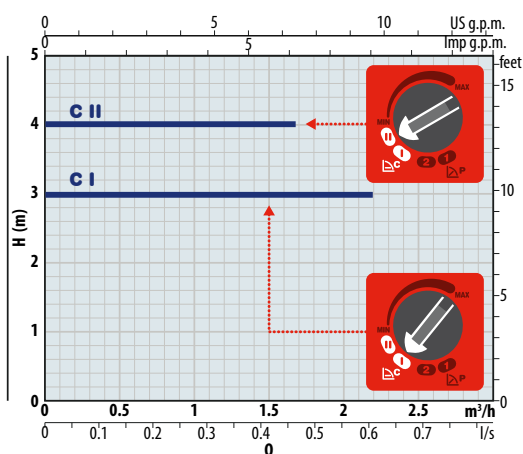
RED LED.

Circulating pump is in block still under tension

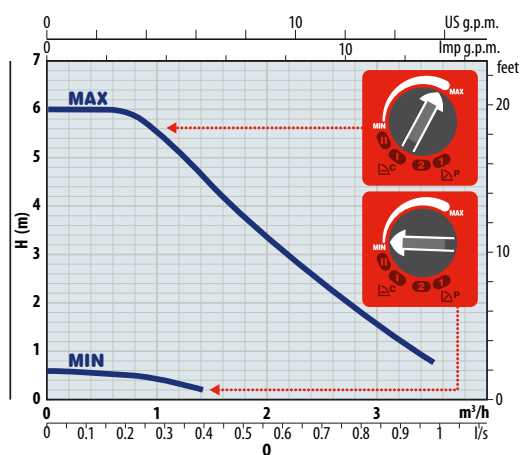
CHARACTERISTIC CURVES



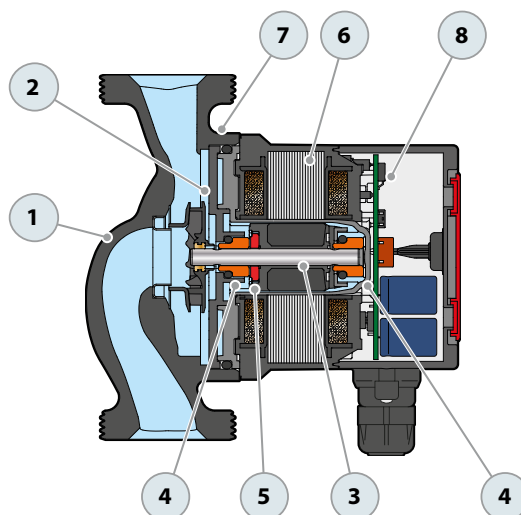
CHARACTERISTIC CURVES



CHARACTERISTIC CURVES MIN-MAX

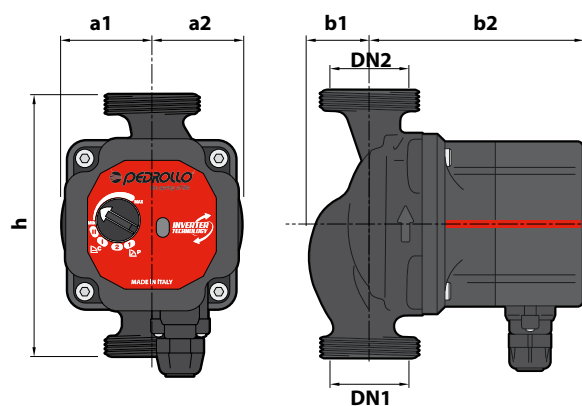


CONSTRUCTION CHARACTERISTICS



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	- Single-phase 230 V (-10%; +6%) - 50 Hz - Absorbed power P1: Min 3 W - Max 42 W - Absorbed current I1: Min 0.03 A - Max 0.33 A - Insulation: class H - Protection: IP 44 - Appliance Class: II
7	SEALS	EPDM
8	ELECTRONIC CIRCUIT BOARD	

DIMENSIONS AND WEIGHT



MODEL	PORTS		DIMENSIONS mm					kg
Single-phase	DN1	DN2	h	a1	a2	b1	b2	
DHL 25-60/130	G 1½"	G 1½"	130	45	45	29	104.2	2.01
DHL 25-60/180			180					2.60

TISSEL-100

Pumps with inverter

-  Clean water
-  Domestic use
-  Civil use



TS1-4CP 100



TS1-5CR 100



TS1-2CP

DESCRIPTION

- **TISSEL 100** are compact pumping unit made by centrifugal pump and variable speed device (inverter) with a built-in pressure sensor.
- Sturdy and simple to use, TISSEL 100 is ideal to keep always constant pressure inside system regardless variation of utilities.
- Speed regulator water cooled at IP 65. Powered by alternate single-phase tension (230±10% V - 50/60 Hz), it gives output tension as 3-phase alternate to supply water pump motor at IE3 class.
- Smooth start and stop of the pump.
- Lower wear of the water pump due to modulation of running speed from the inverter.

PROTECTIONS

- **Dry running**
Microchip action stops pump after few seconds and try scheduled set restarts to check water availability.
- **Running pressure lower than minimum set running**
It stops the pump after few seconds (i.e. when there is a break in a pipe).
- **Currents-tensions-temperatures**
It limits currents; it informs whether tension reaches the allowed limits, it protects from overheating as well as short circuits between the output phases.

CONSTRUCTION AND SAFETY STANDARDS

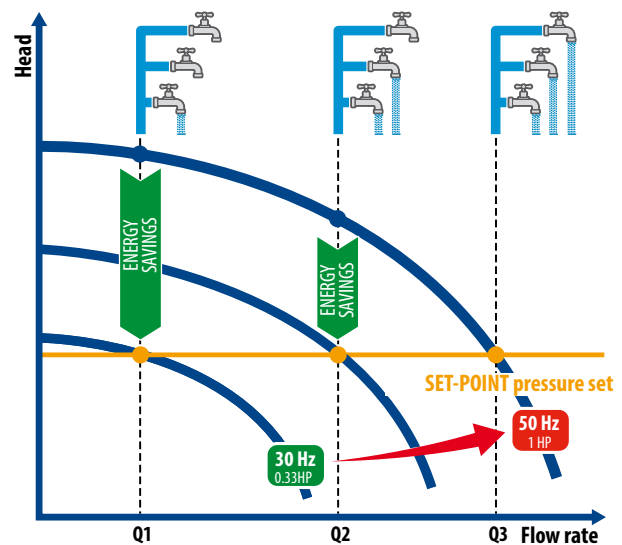
EN 60335-1
IEC 60335-1
CEI 61-150

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



ENERGY SAVINGS

As it works at variable speed, TISSEL 100 uses only the necessary energy demand required by the system according to the water demand.

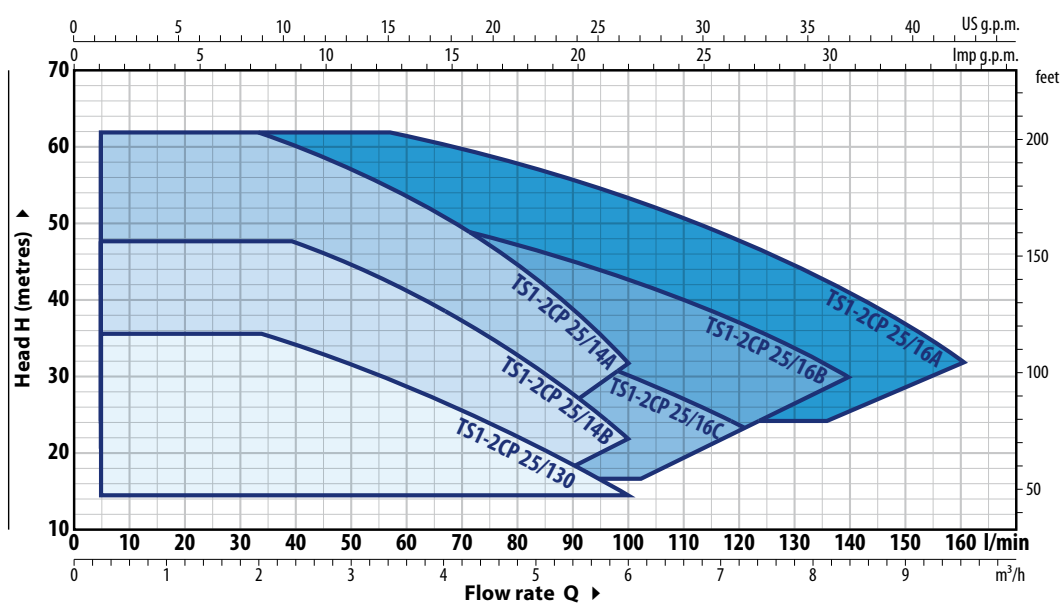
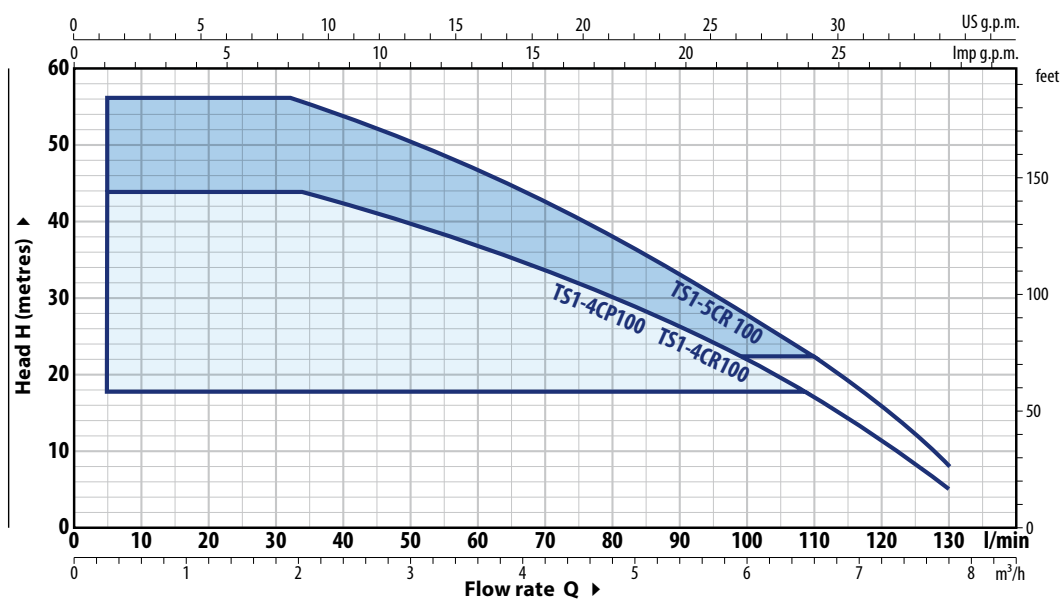


CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



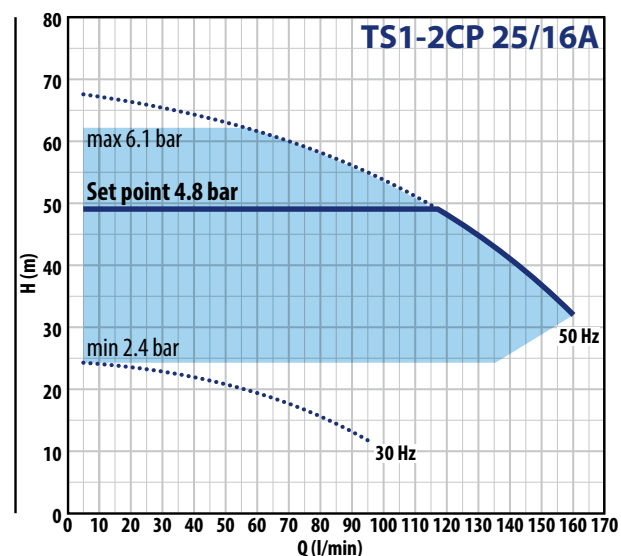
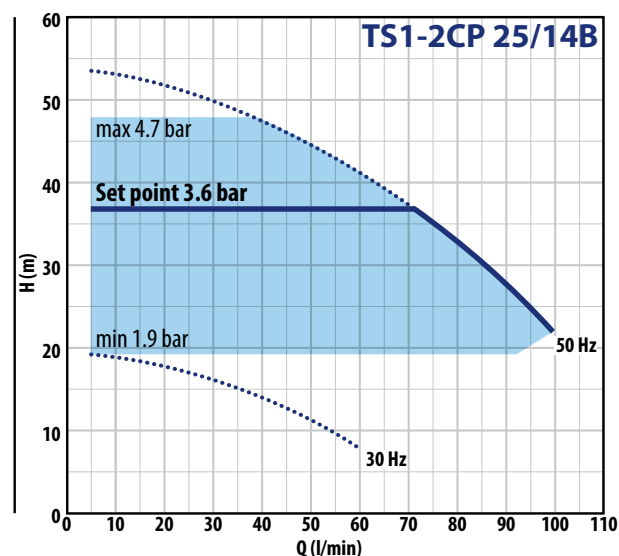
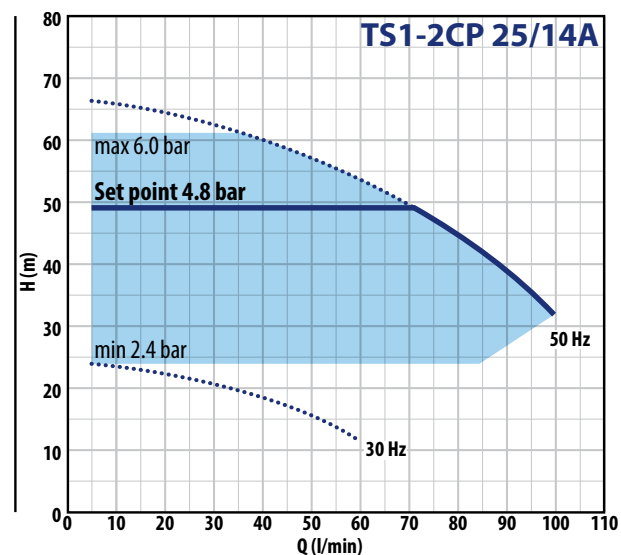
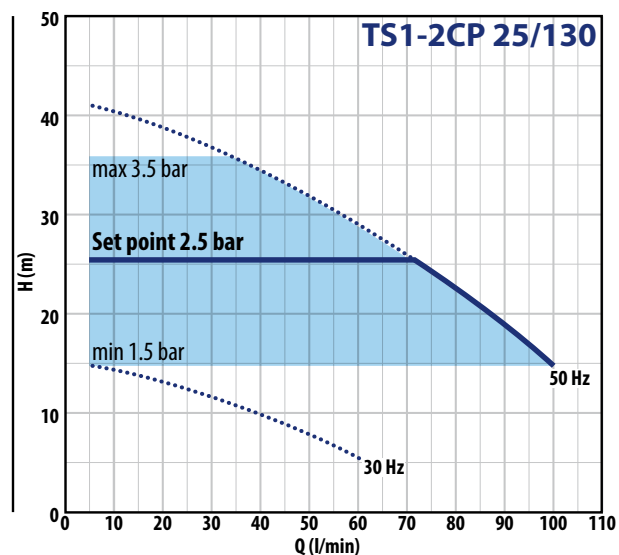
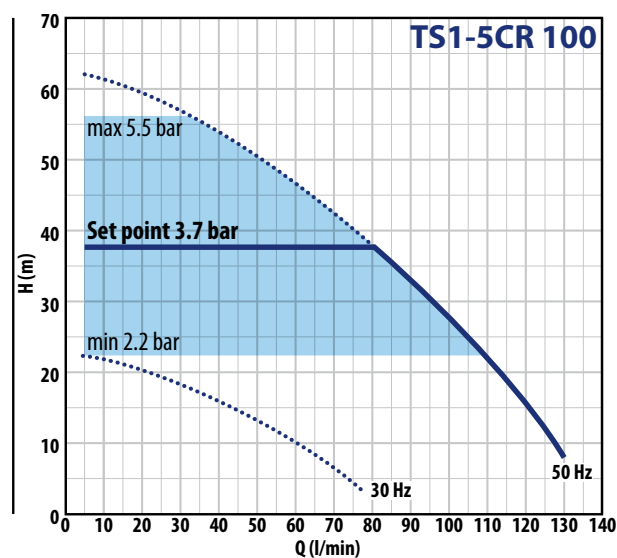
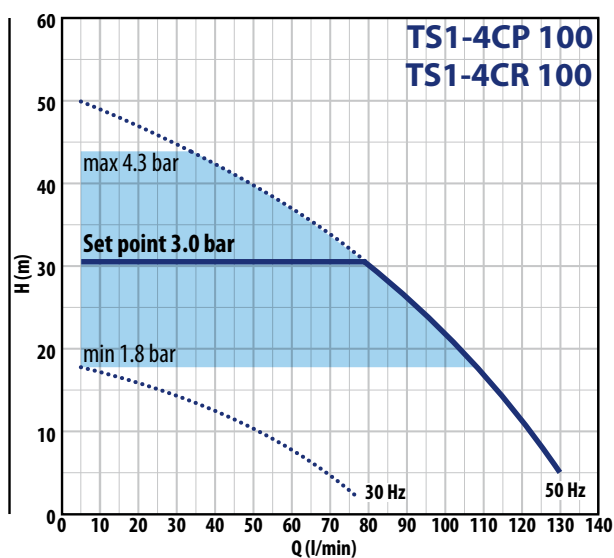
PERFORMANCE RANGE $n = 2900 \text{ min}^{-1}$



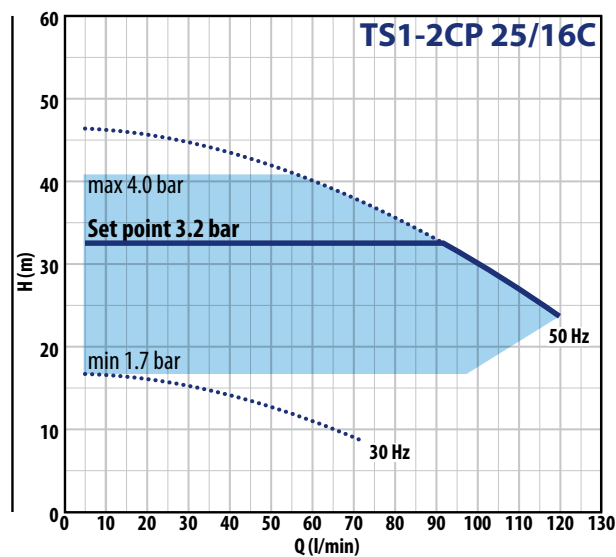
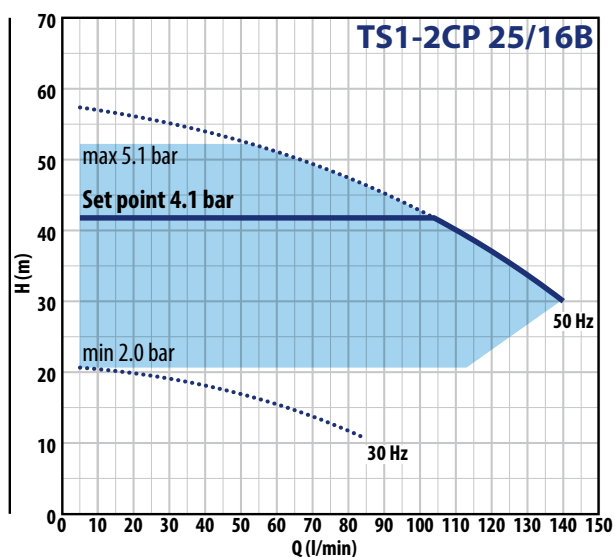
MODEL	POWER			ABSORPTION	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	P2		▲		230 V	Q	H	Min. Set Point		Set Point Stand. Setting		Max. Set Point
Single-phase	kW	HP				l/min	metres	bar	l/min	bar	l/min	bar
TS1-4CP 100	0.75	1	IE3	9.2 A	5 – 130	44 – 5	1.8	5 – 107	3.0	5 – 80	4.3	5 – 33
TS1-4CR 100	0.75	1		9.2 A	5 – 130	44 – 5	1.8	5 – 107	3.0	5 – 80	4.3	5 – 33
TS1-5CR 100	0.75	1		10.0 A	5 – 130	56 – 8	2.2	5 – 107	3.7	5 – 80	5.5	5 – 33
TS1-2CP 25/130	0.75	1	IE3	9.5 A	5 – 100	36 – 15	1.5	5 – 100	2.5	5 – 67	3.5	5 – 34
TS1-2CP 25/14B	1.1	1.5		10.5 A	5 – 100	48 – 22	1.9	5 – 92	3.6	5 – 70	4.7	5 – 35
TS1-2CP 25/14A	1.5	2		16.0 A	5 – 100	61 – 32	2.4	5 – 85	4.8	5 – 70	6.0	5 – 35
TS1-2CP 25/16C	1.1	1.5	IE3	11.5 A	5 – 120	41 – 24	1.7	5 – 100	3.2	5 – 85	4.0	5 – 52
TS1-2CP 25/16B	1.5	2		13.5 A	5 – 140	52 – 30	2.0	5 – 110	4.1	5 – 100	5.1	5 – 52
TS1-2CP 25/16A	2.2	3		21.5 A	5 – 160	62 – 32	2.4	5 – 135	4.8	5 – 115	6.1	5 – 52

TISSEL-100

CHARACTERISTIC CURVES $n = 2900 \text{ min}^{-1}$



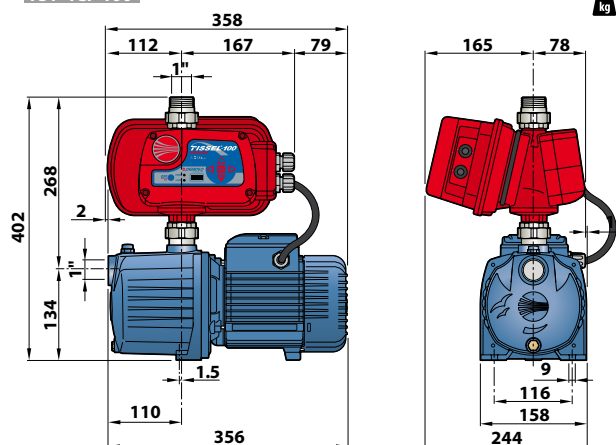
CHARACTERISTIC CURVES $n = 2900 \text{ min}^{-1}$



DIMENSIONS (mm)

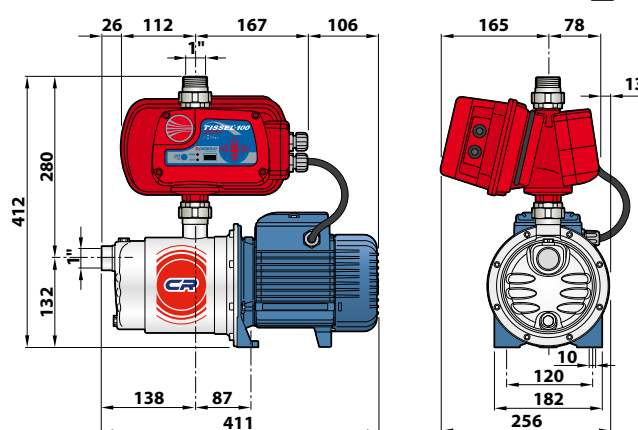
TS1-4CP 100

21.1 kg



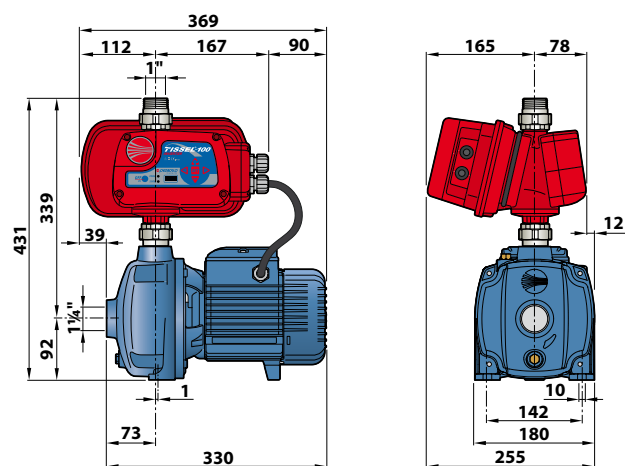
TS1-4CR 100 – TS1-5CR 100

18.5 kg

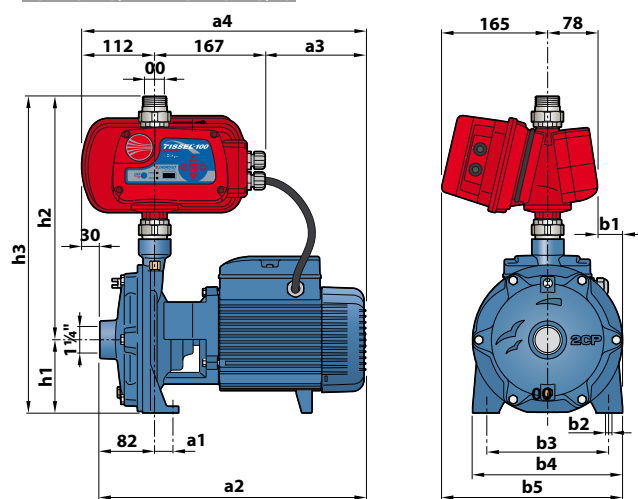


TS1-2CP 25/130

22.7 kg



TS1-2CP 25/14 – TS1-2CP 25/16



MODEL	a1	a2	a3	a4	b1	b2	b3	b4	b5	h1	h2	h3	kg
TS1-2CP 25/14B	17	404	155	434	22	10	162	200	265	93	360	453	28.6
TS1-2CP 25/14A	26	404	155	434	34	11	185	225	278	110	381	491	32.6
TS1-2CP 25/16C	17	404	155	434	22	10	162	200	265	93	360	453	28.4
TS1-2CP 25/16B	26	404	155	434	34	11	185	225	278	110	381	491	32.4
TS1-2CP 25/16A	26	424	175	454	34	11	185	225	278	110	381	491	35.2

TISSEL-200

Pumps with inverter

-  Clean water
-  Domestic use
-  Civil use



TS2-MK



TS2-CR



TS2-PLURIJET

DESCRIPTION

- **TISSEL 200** are compact pumping units consisting of one centrifugal waterpump coupled with a variable speed device (inverter) with an external pressure sensor to be placed in a place inside the system.
- Sturdy and simple to use, **TISSEL 200** is ideal to keep always constant pressure inside system regardless variation of utilities.
- Built-in speed regulator with automatic fan ventilation and IP54 protection. Powered by single-phase alternate tension (230±10% V - 50/60 Hz) it gives an output alternate 3phase tension to run waterpump motor in IE3 class.
- Smooth start and stop of the pump.
- Lower wear of the waterpump due to modulation of running speed from the inverter.

PROTECTIONS

- **Dry running**
Microchip action stops pump after few seconds and try scheduled set restarts to check water availability.
- **Running pressure lower than minimum set running**
It stops the pump after few seconds (i.e. when there is a break in a pipe).
- **Currents-tensions-temperatures**
It limits currents; it informs whether tension reaches the allowed limits, it protects from overheating as well as short circuits between the output phases.

CONSTRUCTION AND SAFETY STANDARDS

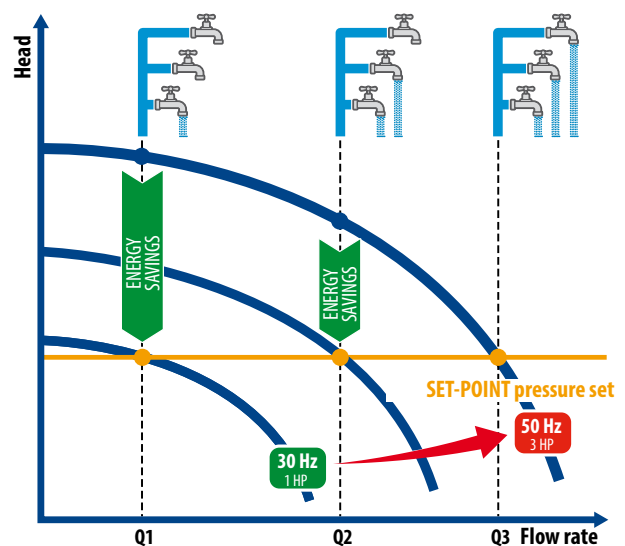
EN 60335-1
IEC 60335-1
CEI 61-150

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



ENERGY SAVINGS

As it works at variable speed, TISSEL 200 uses only the necessary energy demand required by the system according to the water demand.

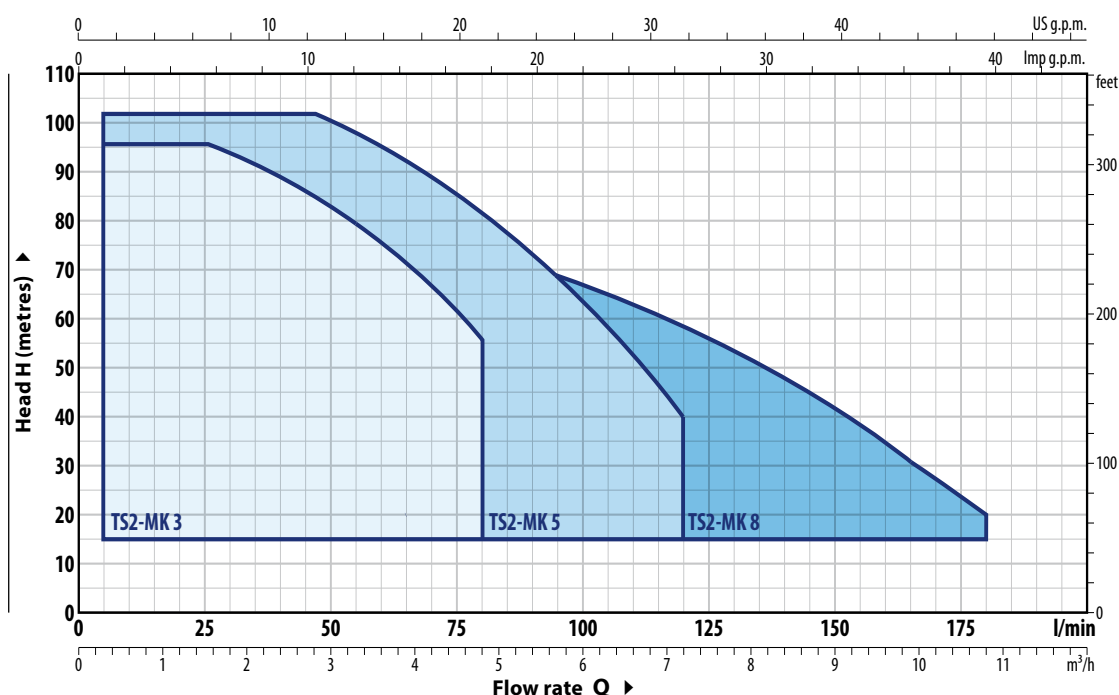


CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



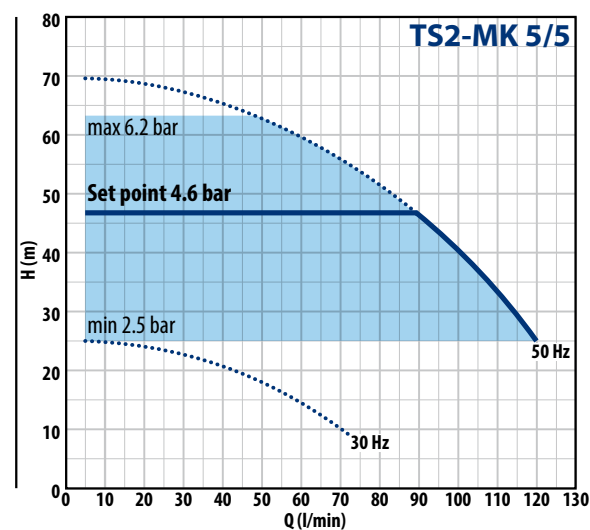
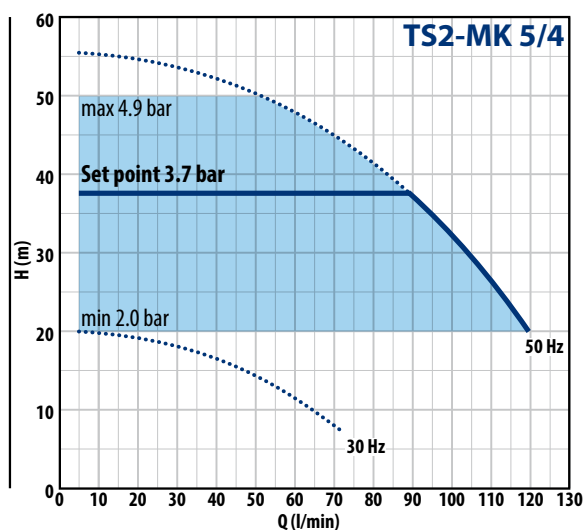
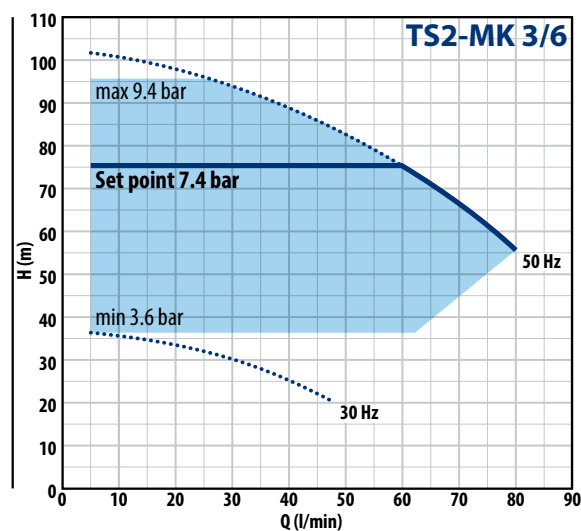
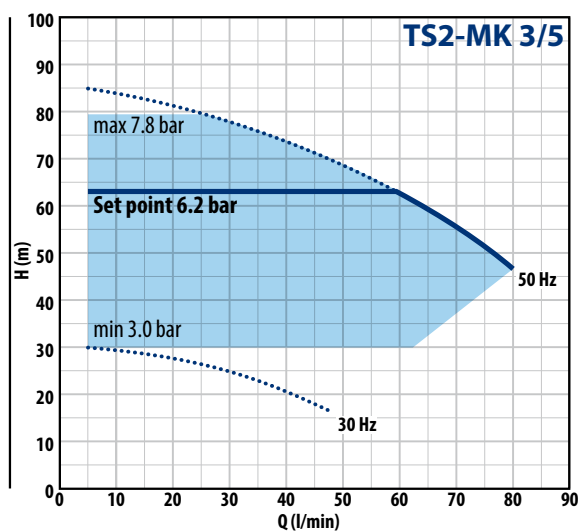
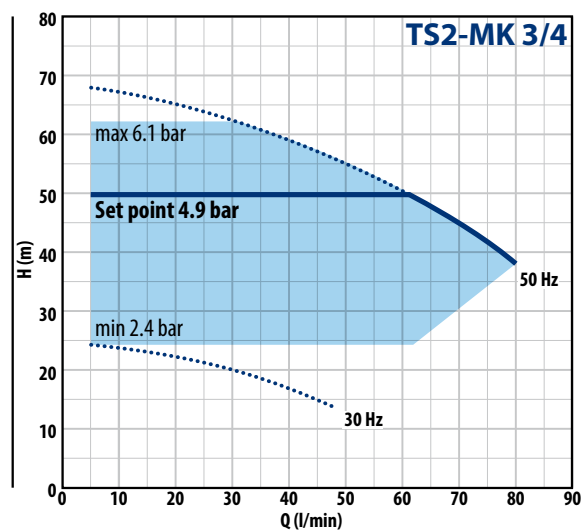
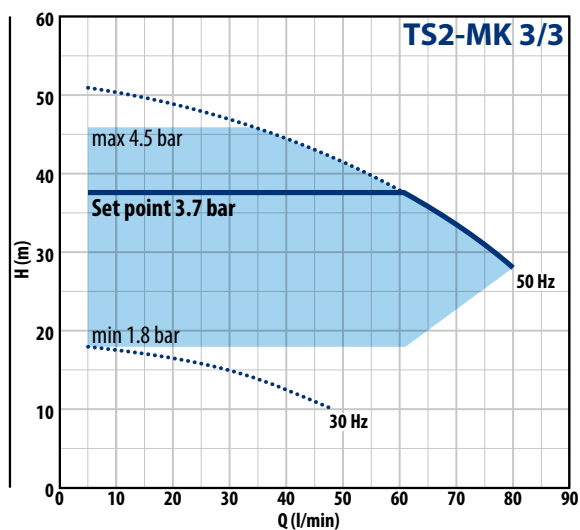
PERFORMANCE RANGE $n=2900 \text{ min}^{-1}$



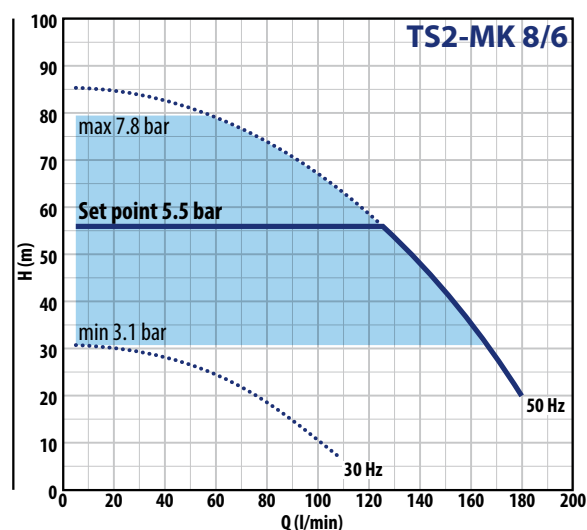
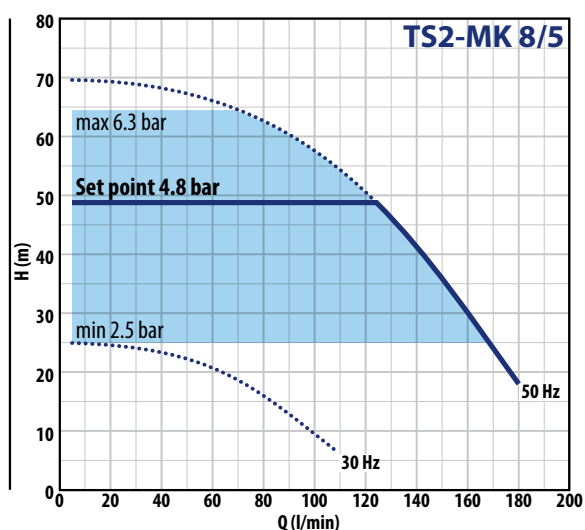
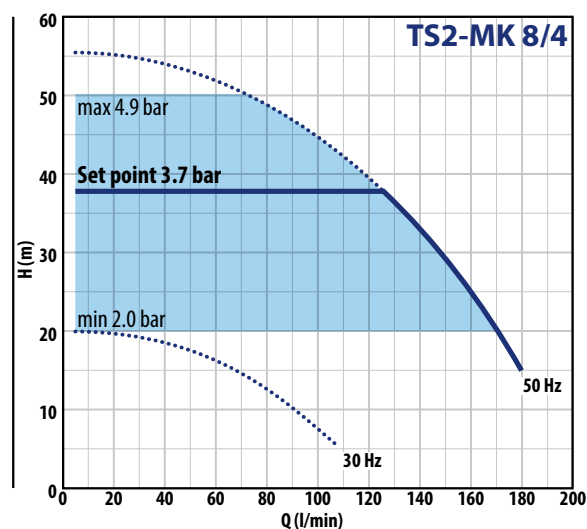
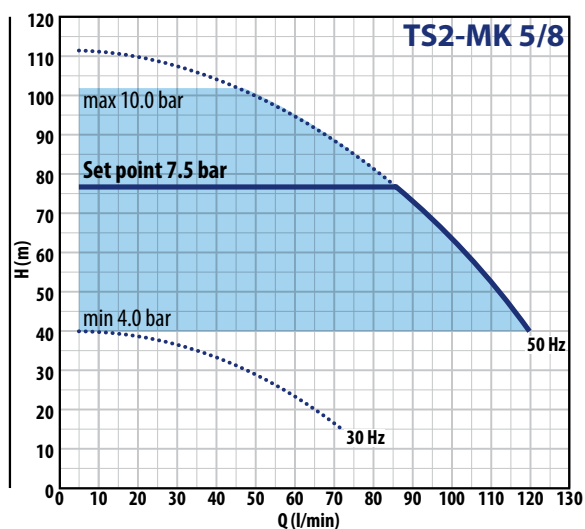
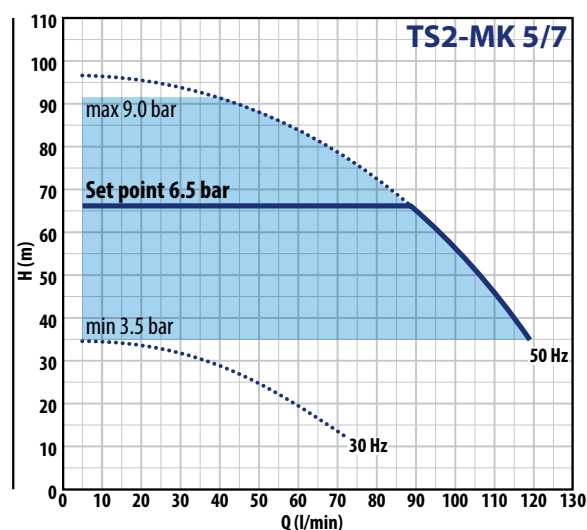
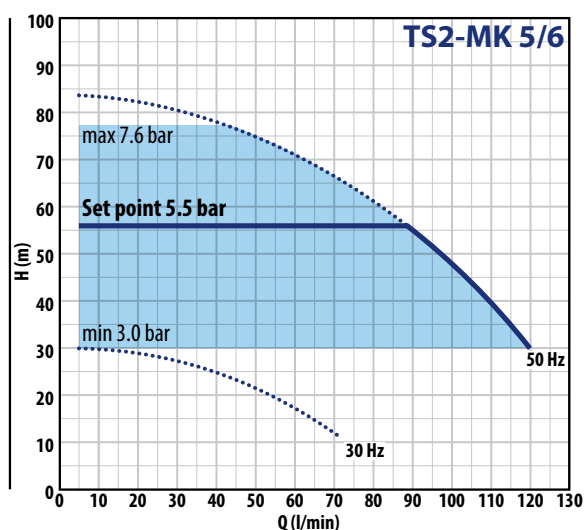
MODEL	POWER		▲	ABSORPTION 230 V	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	kW	HP			Q l/min	H metres	Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase							bar	l/min	bar	l/min	bar	l/min
TS2-MK 3/3	0.75	1	IE3	9.0 A	5 – 80	46 – 28	1.8	5 – 63	3.7	5 – 58	4.5	5 – 35
TS2-MK 3/4	1.1	1.5		9.0 A	5 – 80	62 – 38	2.4	5 – 62	4.9	5 – 58	6.1	5 – 33
TS2-MK 3/5	1.1	1.5		13.0 A	5 – 80	80 – 47	3.0	5 – 62	6.2	5 – 58	7.8	5 – 28
TS2-MK 3/6	1.5	2		13.0 A	5 – 80	96 – 56	3.6	5 – 63	7.4	5 – 58	9.4	5 – 25
TS2-MK 5/4	1.1	1.5		10.0 A	5 – 120	50 – 20	2.0	5 – 120	3.7	5 – 85	4.9	5 – 48
TS2-MK 5/5	1.1	1.5		12.0 A	5 – 120	63 – 25	2.5	5 – 120	4.6	5 – 85	6.2	5 – 48
TS2-MK 5/6	1.5	2		13.5 A	5 – 120	78 – 30	3.0	5 – 120	5.5	5 – 85	7.6	5 – 45
TS2-MK 5/7	1.8	2.5		16.0 A	5 – 120	92 – 34	3.5	5 – 118	6.5	5 – 85	9.0	5 – 43
TS2-MK 5/8	2.2	3		17.5 A	5 – 120	102 – 40	4.0	5 – 120	7.5	5 – 85	10.0	5 – 46
TS2-MK 8/4	1.5	2		14.0 A	5 – 180	50 – 15	2.0	5 – 167	3.7	5 – 120	4.9	5 – 70
TS2-MK 8/5	1.8	2.5		15.0 A	5 – 180	64 – 18	2.5	5 – 167	4.8	5 – 120	6.3	5 – 70
TS2-MK 8/6	2.2	3		16.0 A	5 – 180	80 – 20	3.1	5 – 163	5.5	5 – 120	7.8	5 – 53

TISSEL-200 MK

CHARACTERISTIC CURVES $n = 2900 \text{ min}^{-1}$

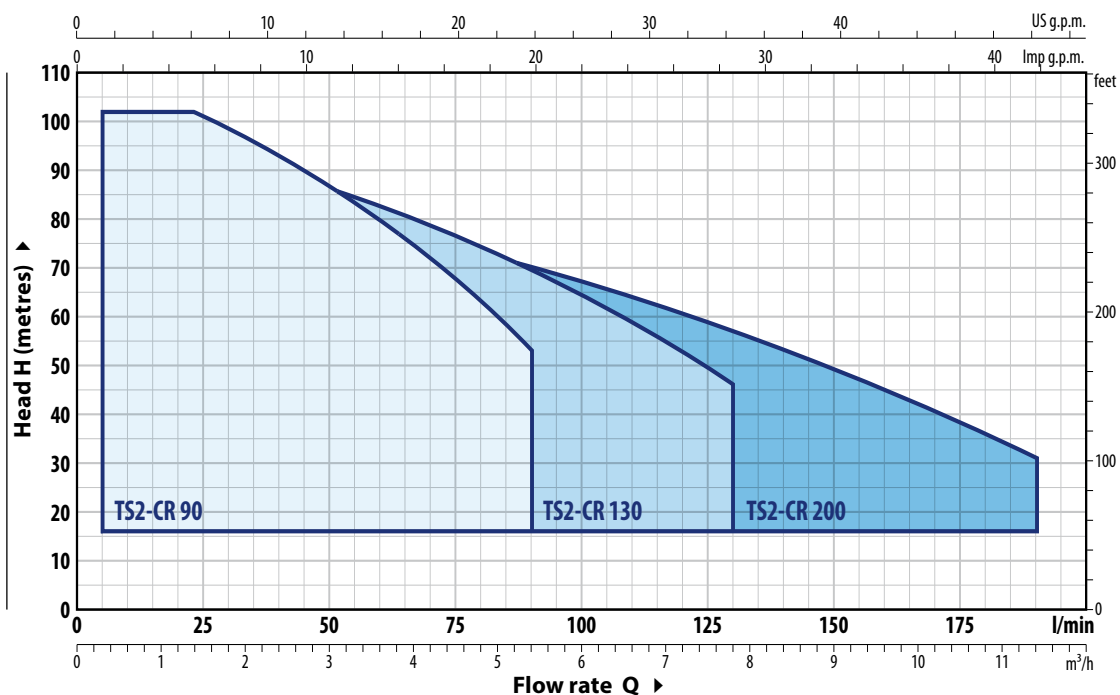


CHARACTERISTIC CURVES $n = 2900 \text{ min}^{-1}$



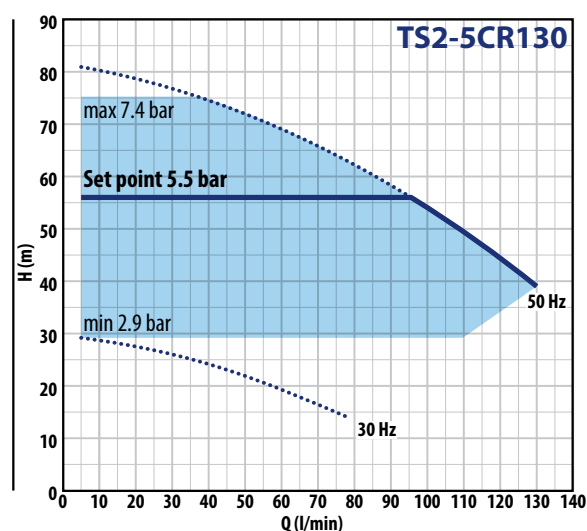
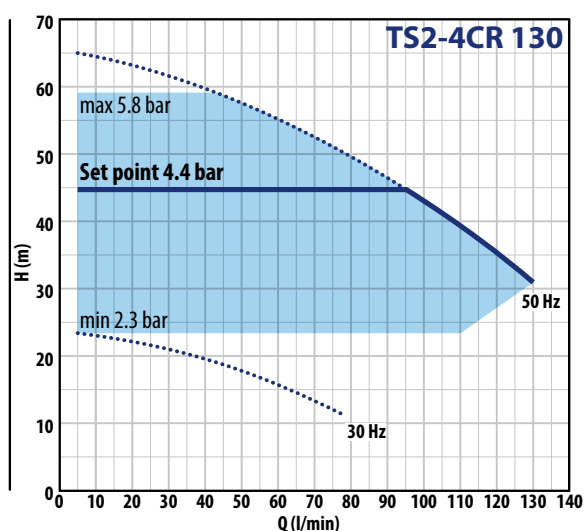
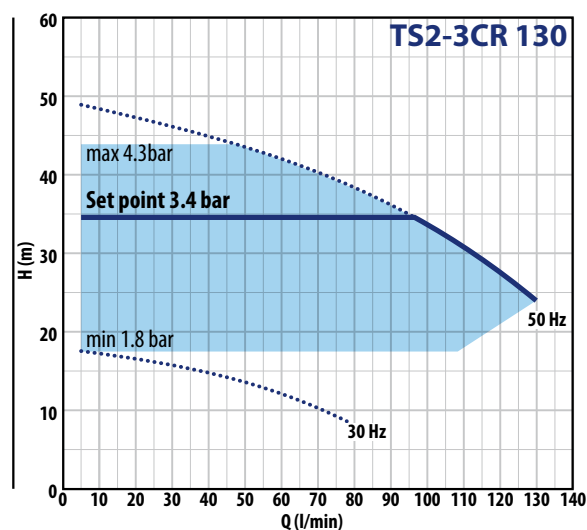
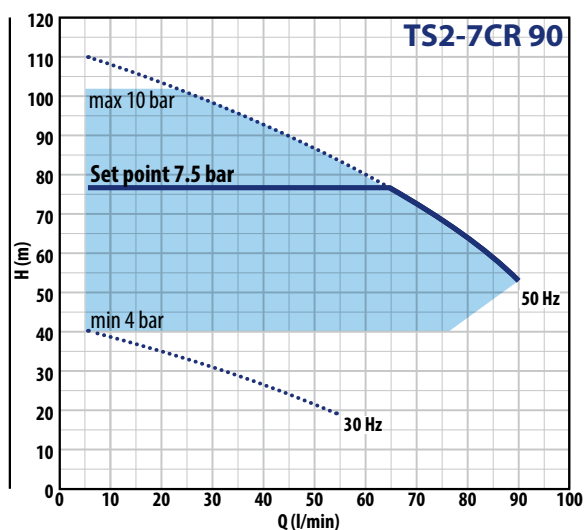
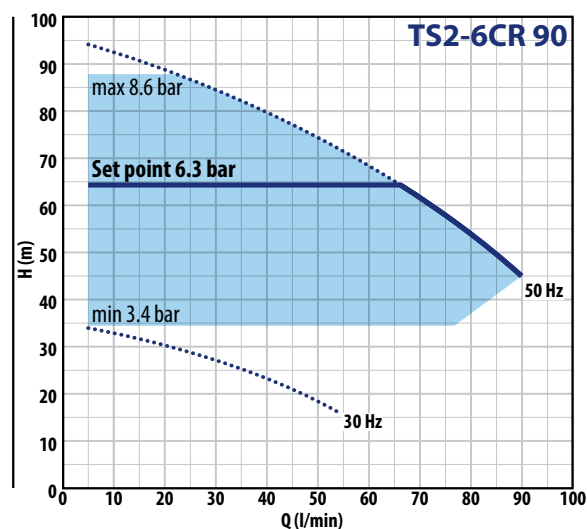
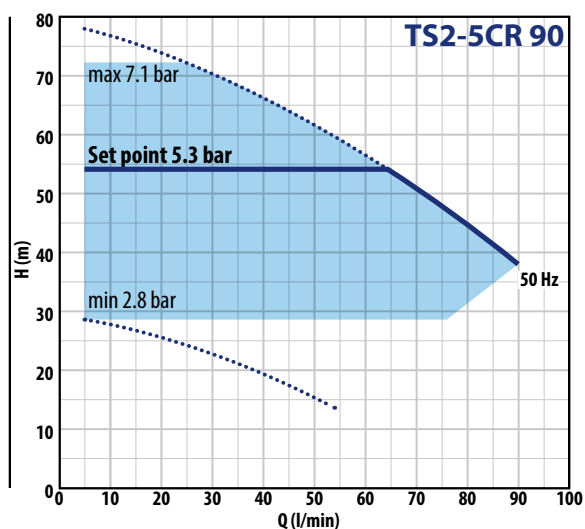
TISSEL-200 CR

CHARACTERISTIC CURVES $n=2900 \text{ min}^{-1}$



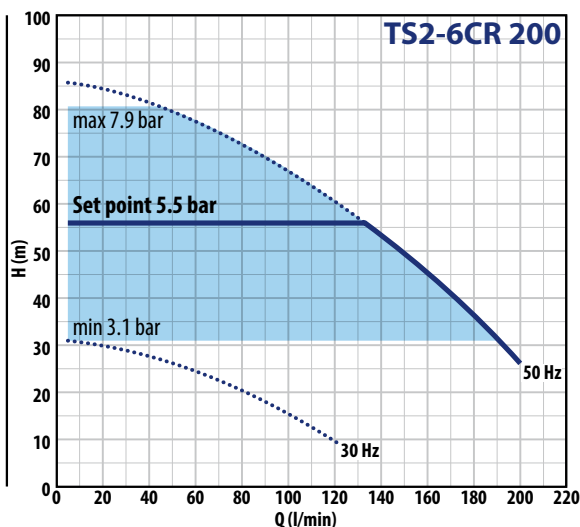
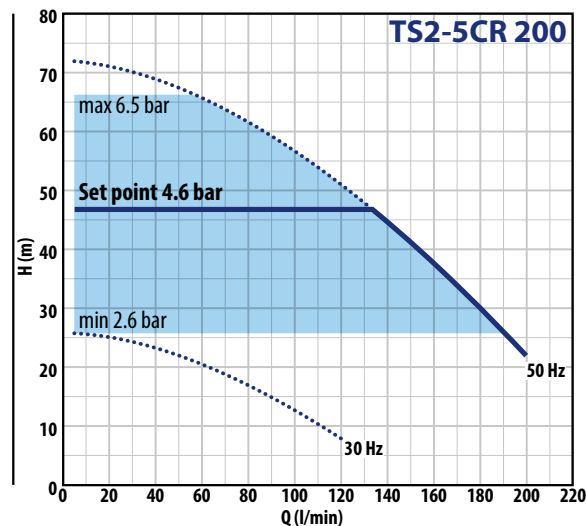
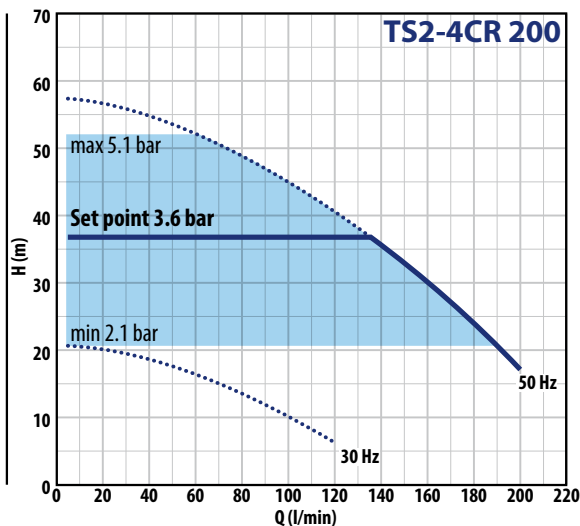
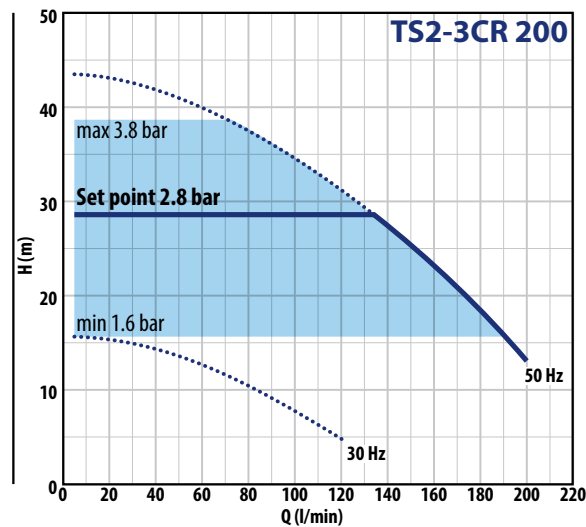
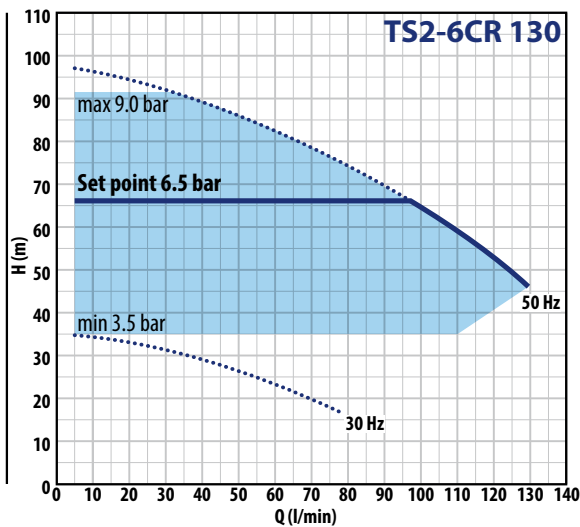
MODEL	POWER			▲	ABSORPTION 230 V	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	kW	P2 HP				Q l/min	H metres	Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase								bar	l/min	bar	l/min	bar	l/min
TS2-5CR 90	1.1	1.5		IE3	13.0 A	5 – 90	78 – 38	2.80	5 – 75	5.30	5 – 65	7.10	5 – 23
TS2-6CR 90	1.5	2			13.5 A	5 – 90	94 – 45	3.40	5 – 75	6.30	5 – 65	8.60	5 – 21
TS2-7CR 90	1.8	2.5			16.0 A	5 – 90	110 – 53	4.00	5 – 75	7.50	5 – 65	10.00	5 – 21
TS2-3CR 130	1.1	1.5			12.5 A	5 – 130	49 – 24	1.80	5 – 110	3.40	5 – 92	4.30	5 – 48
TS2-4CR 130	1.5	2			14.5 A	5 – 130	65 – 31	2.30	5 – 110	4.40	5 – 92	5.80	5 – 45
TS2-5CR 130	1.8	2.5			18.5 A	5 – 130	81 – 39	2.90	5 – 110	5.50	5 – 92	7.40	5 – 38
TS2-6CR 130	2.2	3			20.5 A	5 – 130	97 – 45	3.50	5 – 110	6.50	5 – 92	9.00	5 – 33
TS2-3CR 200	1.1	1.5			10.0 A	5 – 200	43 – 13	1.60	5 – 185	2.80	5 – 133	3.80	5 – 72
TS2-4CR 200	1.5	2			13.0 A	5 – 200	57 – 17	2.10	5 – 185	3.60	5 – 133	5.10	5 – 65
TS2-5CR 200	1.8	2.5			16.0 A	5 – 200	72 – 22	2.60	5 – 185	4.60	5 – 133	6.50	5 – 56
TS2-6CR 200	2.2	3			22.0 A	5 – 200	86 – 26	3.10	5 – 185	5.50	5 – 133	7.90	5 – 45

CHARACTERISTIC CURVES $n = 2900 \text{ min}^{-1}$



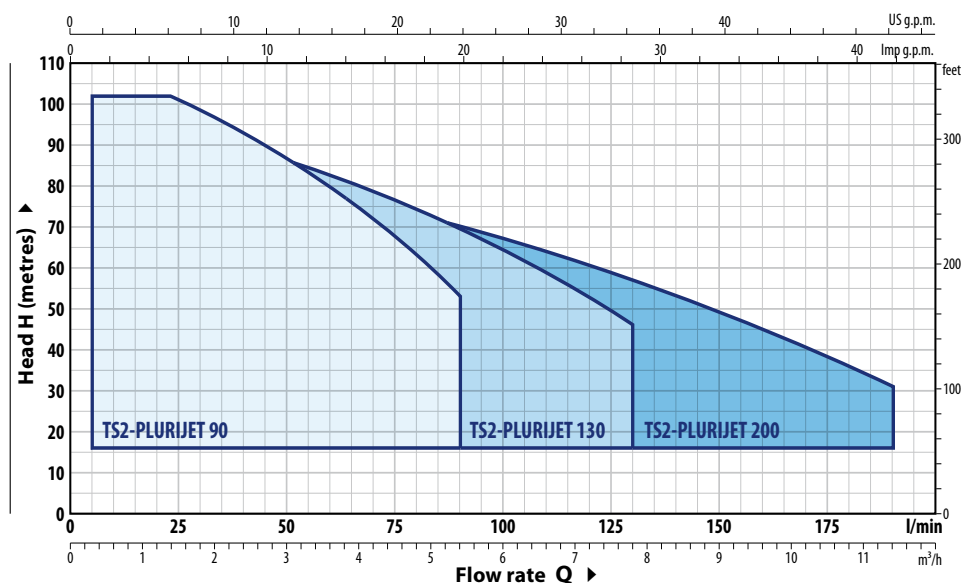
TISSEL-200 CR

CHARACTERISTIC CURVES $n=2900\text{ min}^{-1}$



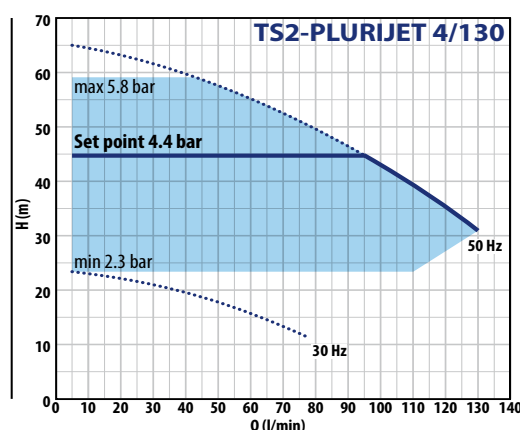
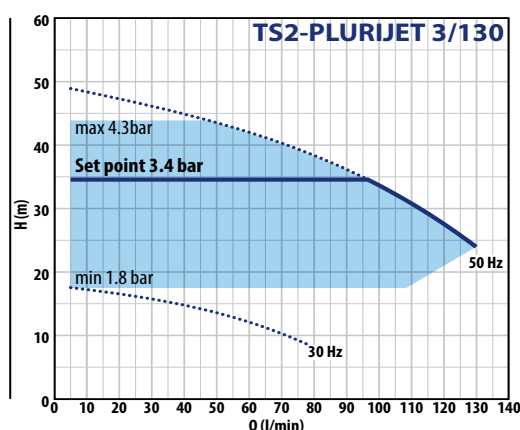
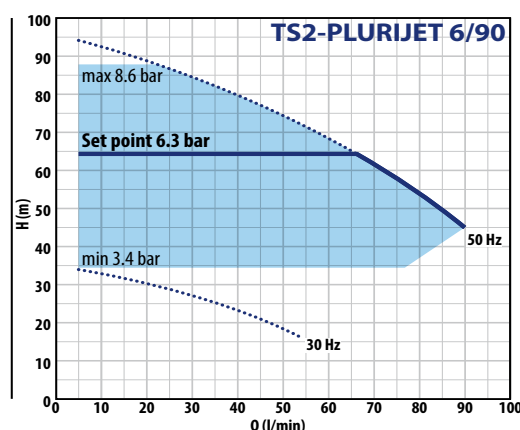
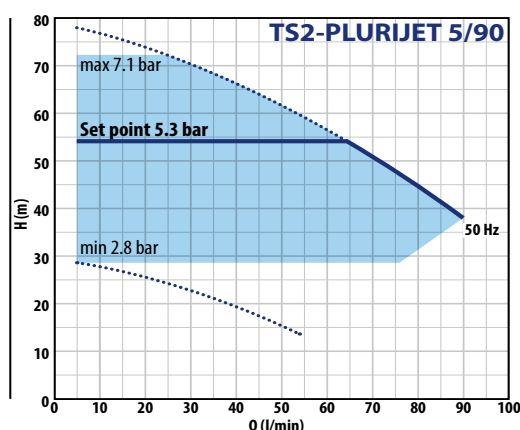
TISSSEL-200 PLURIJET

CHARACTERISTIC CURVES n= 2900 min⁻¹



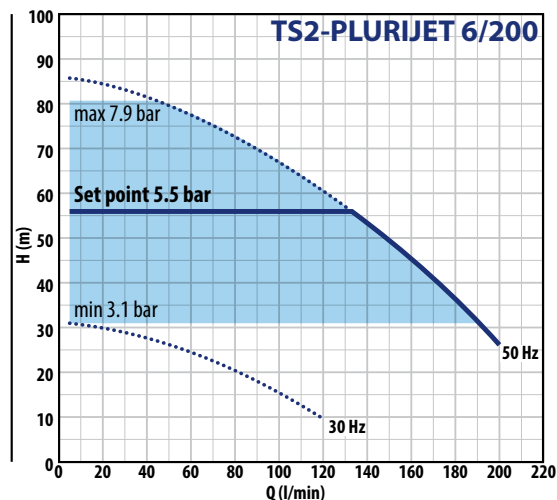
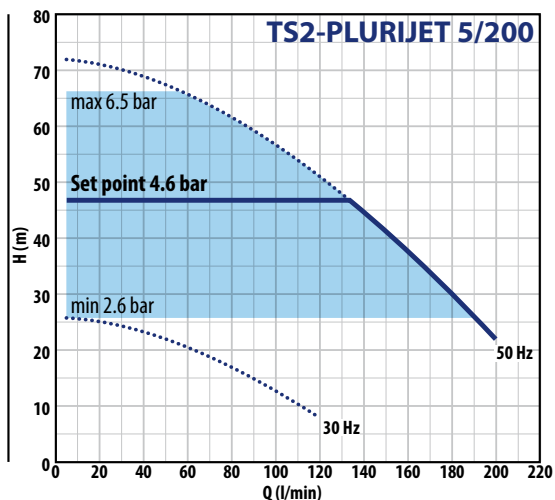
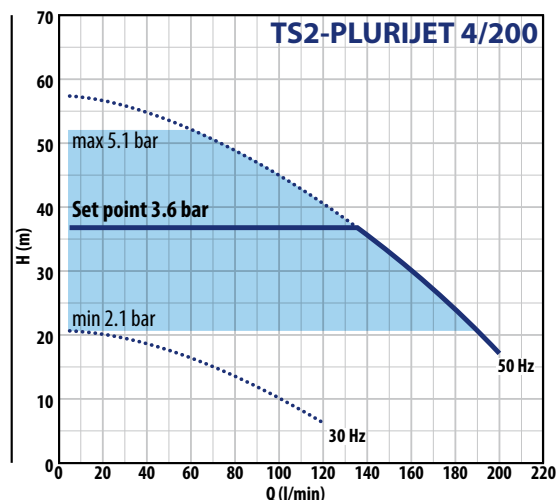
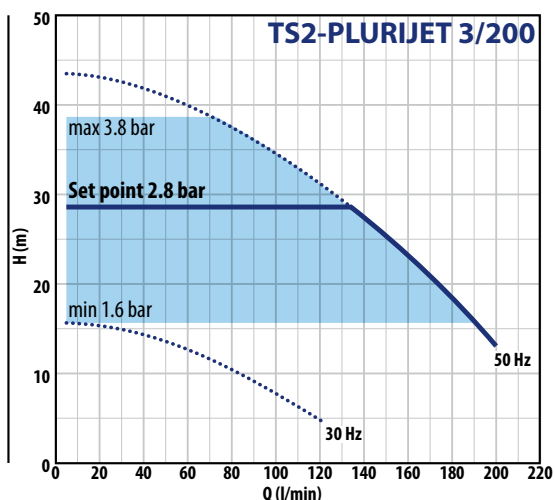
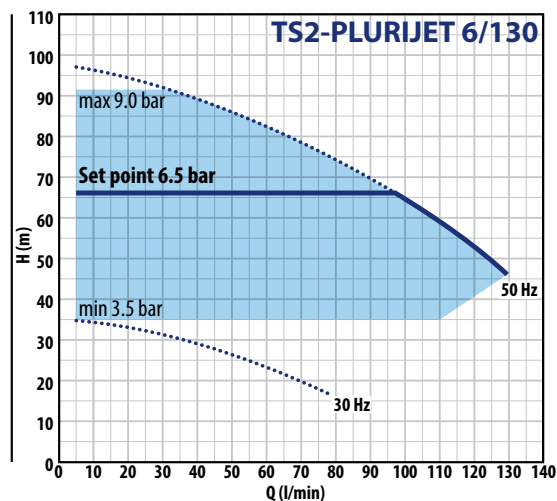
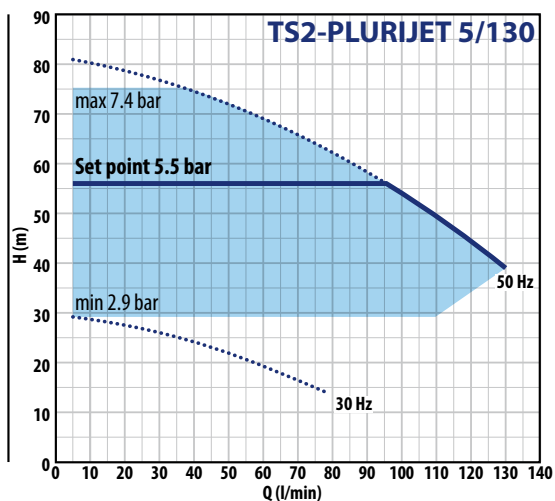
MODEL	POWER		ABSORPTION	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	P2	▲	230 V	Q	H	Min. Set Point	Set Point Stand. Setting		Max. Set Point		
Single-phase	kW	HP		l/min	metres	bar	l/min	bar	l/min	bar	l/min
TS2-PLURIJET 5/90	1.1	1.5	11.5 A	5 – 90	78 – 38	2.80	5 – 75	5.30	5 – 65	7.10	5 – 23
TS2-PLURIJET 6/90	1.5	2	13.5 A	5 – 90	94 – 45	3.40	5 – 75	6.30	5 – 65	8.60	5 – 21
TS2-PLURIJET 3/130	1.1	1.5	12.5 A	5 – 130	49 – 24	1.80	5 – 110	3.40	5 – 92	4.30	5 – 48
TS2-PLURIJET 4/130	1.5	2	14.5 A	5 – 130	65 – 31	2.30	5 – 110	4.40	5 – 92	5.80	5 – 45
TS2-PLURIJET 5/130	1.8	2.5	18.5 A	5 – 130	81 – 39	2.90	5 – 110	5.50	5 – 92	7.40	5 – 38
TS2-PLURIJET 6/130	2.2	3	20.0 A	5 – 130	97 – 45	3.50	5 – 110	6.50	5 – 92	9.00	5 – 33
TS2-PLURIJET 3/200	1.1	1.5	10.0 A	5 – 200	43 – 13	1.60	5 – 185	2.80	5 – 133	3.80	5 – 72
TS2-PLURIJET 4/200	1.5	2	16.0 A	5 – 200	57 – 17	2.10	5 – 185	3.60	5 – 133	5.10	5 – 65
TS2-PLURIJET 5/200	1.8	2.5	16.0 A	5 – 200	72 – 22	2.60	5 – 185	4.60	5 – 133	6.50	5 – 56
TS2-PLURIJET 6/200	2.2	3	22.0 A	5 – 200	86 – 26	3.10	5 – 185	5.50	5 – 133	7.90	5 – 45

CHARACTERISTIC CURVES n= 2900 min⁻¹

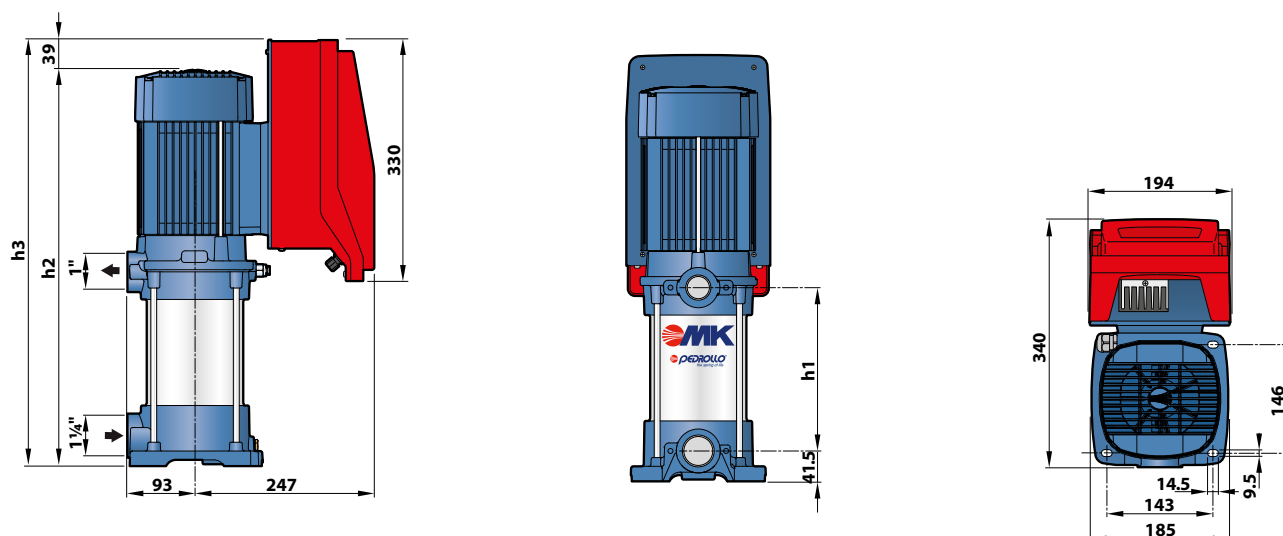


TISSEL-200 PLURIJET

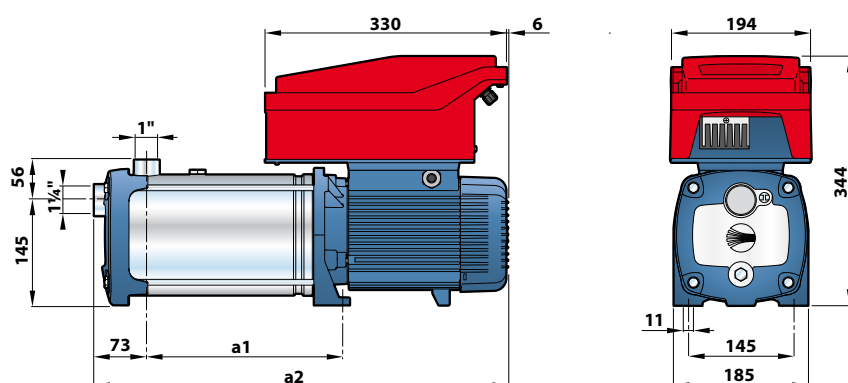
CHARACTERISTIC CURVES $n = 2900 \text{ min}^{-1}$



DIMENSIONS (mm)



MODEL	h1	h2	h3	kg
TS2-MK 3/3	132.5	450	489	26.7
TS2-MK 3/4	159.5	477	516	27.0
TS2-MK 3/5	186.5	504	543	28.6
TS2-MK 3/6	213.5	531	570	30.1
TS2-MK 5/4	159.5	477	516	26.9
TS2-MK 5/5	186.5	504	543	28.5
TS2-MK 5/6	213.5	531	570	30.3
TS2-MK 5/7	240.5	558	597	30.7
TS2-MK 5/8	267.5	585	624	30.9
TS2-MK 8/4	159.5	477	516	28.0
TS2-MK 8/5	186.5	504	543	29.6
TS2-MK 8/6	213.5	531	570	30.4



MODEL	a1	a2	kg
TS2-5CR 90	193	497	26.3
TS2-6CR 90	219	523	28.4
TS2-7CR 90	245	569	32.5
TS2-3CR 130	141	445	25.0
TS2-4CR 130	167	471	26.9
TS2-5CR 130	193	517	30.3
TS2-6CR 130	219	543	31.2
TS2-3CR 200	141	445	25.0
TS2-4CR 200	167	471	26.9
TS2-5CR 200	193	517	30.3
TS2-6CR 200	219	543	31.2

MODEL	a1	a2	kg
TS2-PLURIJET 5/90	245	549	27.0
TS2-PLURIJET 6/90	271	575	29.0
TS2-PLURIJET 3/130	193	497	25.1
TS2-PLURIJET 4/130	219	523	27.1
TS2-PLURIJET 5/130	245	569	30.7
TS2-PLURIJET 6/130	271	595	31.8
TS2-PLURIJET 3/200	193	497	25.1
TS2-PLURIJET 4/200	219	523	27.1
TS2-PLURIJET 5/200	245	569	30.7
TS2-PLURIJET 6/200	271	595	31.8

Centrifugal pumps

Medium flow

 Clean water

 Agricultural use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **600 l/min** (36 m³/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

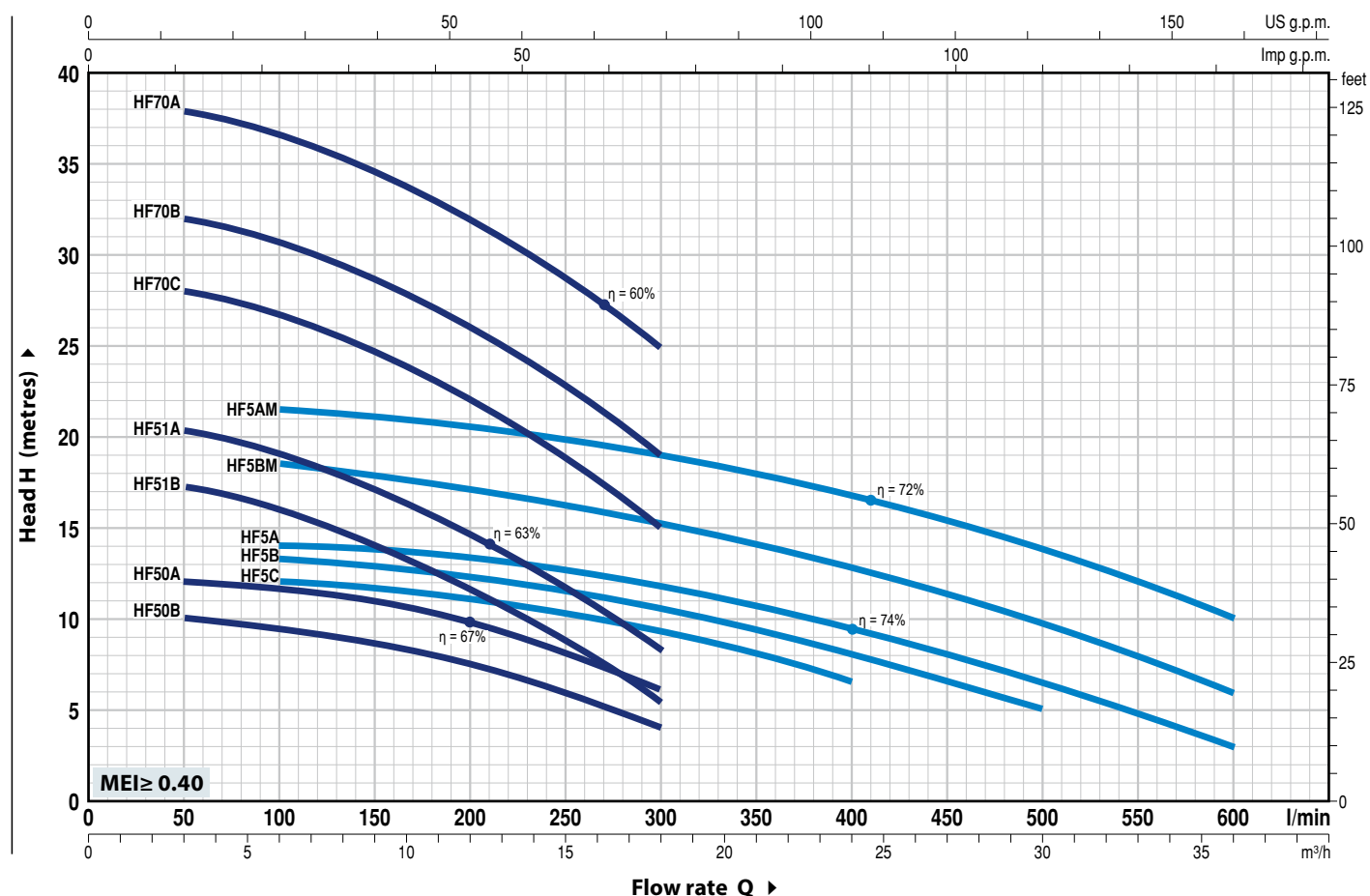
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ HS = 0 m



MODEL		POWER (P ₂)			Q m³/h l/min	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	H metres	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			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

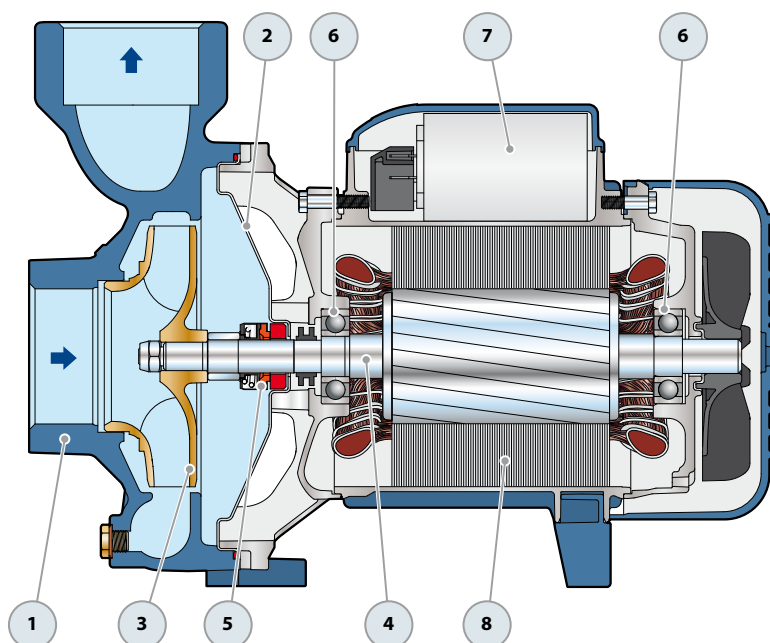
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

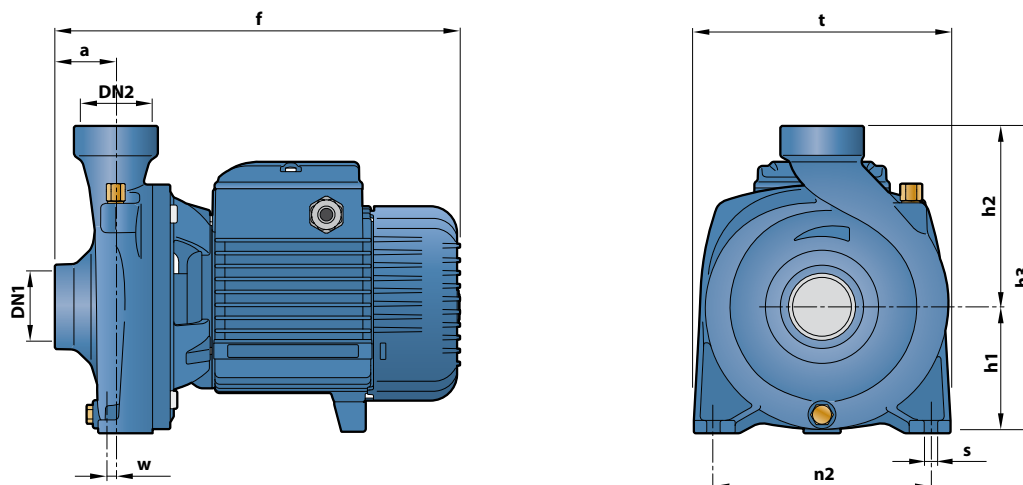
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	BODY BACKPLATE	Stainless steel AISI 304 (cast iron for HF 5M-70)					
3	IMPELLER	Brass					
4	MOTOR SHAFT	Stainless steel AISI 431					
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials		
		Model	Model	Diameter	Stationary ring	Rotational ring	Elastomer
		HF 50	AR-12	Ø 12 mm	Ceramic	Graphite	NBR
		HF 5-51	AR-14	Ø 14 mm	Ceramic	Graphite	NBR
		HF 5M-70	FN-18	Ø 18 mm	Graphite	Ceramic	NBR
6	BEARINGS	Pump	Model				
		HF 50	6201 ZZ / 6201 ZZ				
		HF 5-51	6203 ZZ / 6203 ZZ				
		HF 5M-70	6204 ZZ / 6204 ZZ				
7	CAPACITOR	Pump	Capacitance				
		Single-phase	(230 V or 240 V)	(110 V)			
		HFm 50B	10 µF - 450 VL	25 µF - 250 VL			
		HFm 50A	14 µF - 450 VL	25 µF - 250 VL			
		HFm 51B	20 µF - 450 VL	60 µF - 300 VL			
		HFm 51A	20 µF - 450 VL	60 µF - 300 VL			
		HFm 70C	25 µF - 450 VL	60 µF - 250 VL			
		HFm 70B	45 µF - 450 VL	80 µF - 250 VL			
		HFm 5C	16 µF - 450 VL	60 µF - 300 VL			
		HFm 5B	20 µF - 450 VL	60 µF - 300 VL			
		HFm 5A	25 µF - 450 VL	60 µF - 300 VL			
		HFm 5BM	25 µF - 450 VL	60 µF - 250 VL			
		HFm 5AM	45 µF - 450 VL	80 µF - 250 VL			
		8	ELECTRIC MOTOR	HFm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.			
HF: three-phase 230/400 V - 50 Hz.							
➡ The three-phase pumps are fitted with high performance motors up to P ₂ =0.55 kW in class IE2 and from P ₂ =0.75 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	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												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				393								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												14.6	14.7
HFm 5BM	HF 5BM			59	386	110	150	260	208		12.5	11	19.2	20.3
HFm 5AM	HF 5AM									21.6			21.6	

ABSORPTION

MODEL	VOLTAGE		
	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
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

Centrifugal pumps

High flow

Clean water

Agricultural use

Industrial use



PERFORMANCE RANGE

- Flow rate up to **2200 l/min** (132 m³/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

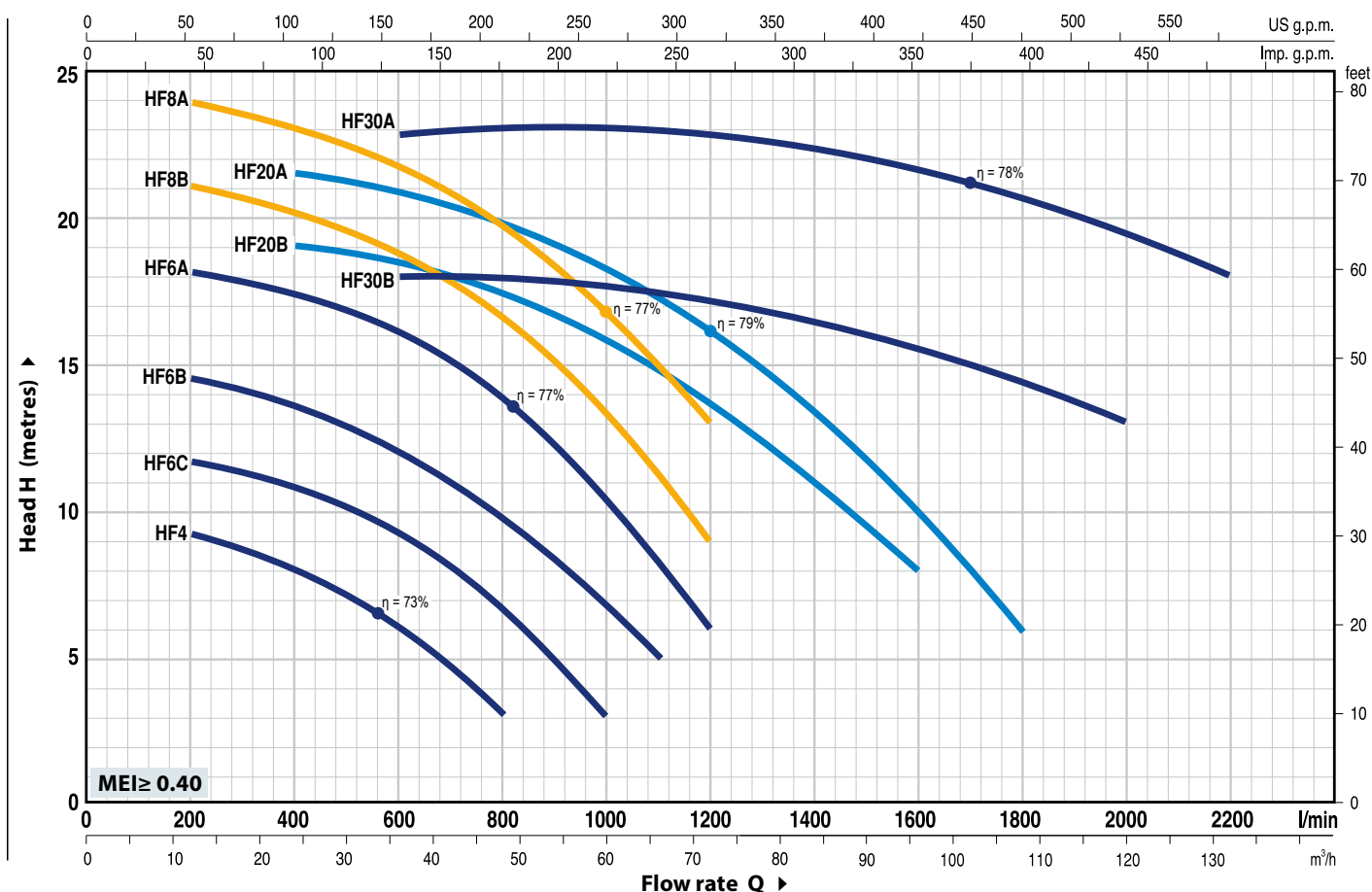
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹ HS = 0 m



MODEL		POWER (P ₂)			Q	m³/h	0	12	18	24	30	36	42	48	54	60	66	72	84	96	102	108	120	132	
Single-ph.	Three-ph.	kW	HP	▲		l/min	0	200	300	400	500	600	700	800	900	1000	1100	1200	1400	1600	1700	1800	2000	2200	
HFm 4	HF 4	0.75	1	IE3	H metres	10	9.3	8.7	8	7	6	4.7	3												
HFm 6C	HF 6C	1.1	1.5			11.9	11.7	11.3	10.7	10.2	9.2	8	6.7	5	3										
HFm 6B	HF 6B	1.5	2			14.7	14.5	14	13.5	12.8	12	11	9.7	8.2	6.7	5									
HFm 6A	HF 6A	2.2	3			18.5	18.1	17.8	17.2	16.8	16	15	13.8	12.2	10.5	8.3	6								
–	HF 8B	3	4			21.5	21	20.7	20	19.5	18.8	17.8	16.5	15	13.5	11.2	9								
–	HF 8A	4	5.5			24.5	24	23.5	23	22.5	21.8	20.8	19.5	18.3	16.8	15	13								
–	HF 20B	3	4			19	-	-	19	18.8	18.5	18	17.5	16.8	16	14.5	13.5	11	8						
–	HF 20A	4	5.5			21.5	-	-	21.5	21.3	21	20.5	19.8	19	18	17	16	13.3	10	8	6				
–	HF 30B	5.5	7.5			18	-	-	-	-	18	18	18	18	18	17.5	17	16.5	15.5	15	14.5	13			
–	HF 30A	7.5	10			23	-	-	-	-	23	23	23	23	23	23	22.5	22.5	22.5	22	21.5	21	19.5	18	

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

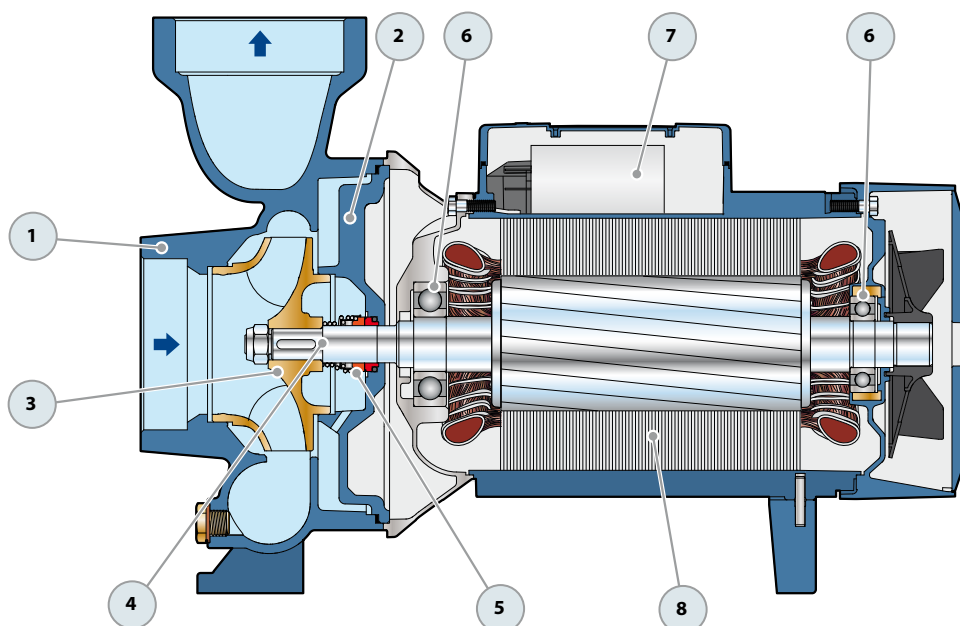
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

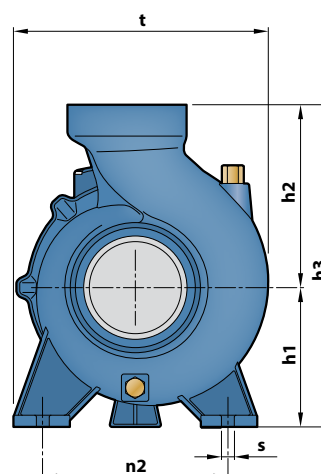
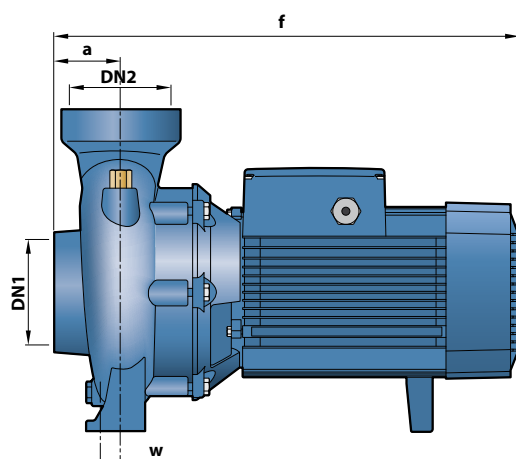
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	BODY BACKPLATE	Cast iron (stainless steel AISI 304 for HF 4)					
3	IMPELLER	Brass for HF 4, HF 6, HF 8 Cast iron for HF 20, HF 30					
4	MOTOR SHAFT	Stainless steel AISI 431					
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials		
		Model	Model	Diameter	Stationary ring	Rotational ring	Elastomer
		HF 4	AR-14	Ø 14 mm	Ceramic	Graphite	NBR
		HF 6	FN-18	Ø 18 mm	Graphite	Ceramic	NBR
		HF 8, HF 20	FN-20	Ø 20 mm	Graphite	Ceramic	NBR
		HF 30	FN-24	Ø 24 mm	Graphite	Ceramic	NBR
6	BEARINGS	Pump	Model				
		HF 4	6203 ZZ / 6203 ZZ				
		HF 6	6304 ZZ / 6204 ZZ				
		HF 8B, HF 20B	6206 ZZ - C3 / 6205 ZZ				
		HF 8A, HF 20A	6306 ZZ - C3 / 6206 ZZ - C3				
		HF 30	6307 ZZ - C3 / 6206 ZZ - C3				
7	CAPACITOR	Pump	Capacitance				
		Single-phase	(230 V or 240 V)		(110 V)		
		HFm 4	20 µF - 450 VL	60 µF - 300 VL			
		HFm 6C	31.5 µF - 450 VL	60 µF - 250 VL			
		HFm 6B	45 µF - 450 VL	80 µF - 250 VL			
		HFm 6A	50 µF - 450 VL	–			
8	ELECTRIC MOTOR	HFm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. HF: three-phase 230/400 V - 50 Hz up to 4 kW 400/690 V - 50 Hz from 5.5 to 7.5 kW. ➡ The three-phase pump is fitted with a high performance motor 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	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		240		5	12.5	25.5	25.4
HFm 6B	HF 6B												26.8	26.8
HFm 6A	HF 6A				429								29.3	29.3
–	HF 8B	4"	4"	71	445	132	180	312		190	27	14	–	35.6
–	HF 8A				465								–	41.0
–	HF 20B				453								–	37.2
–	HF 20A				470				255				–	41.0
–	HF 30B									–			52.2	
–	HF 30A			76,5				534	160	210			370	292

ABSORPTION

MODEL	VOLTAGE		
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	10.8 A	9.8 A	21.0 A
HFm 6A	13.5 A	13.0 A	-

MODEL	VOLTAGE					
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	7.5 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 m³/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

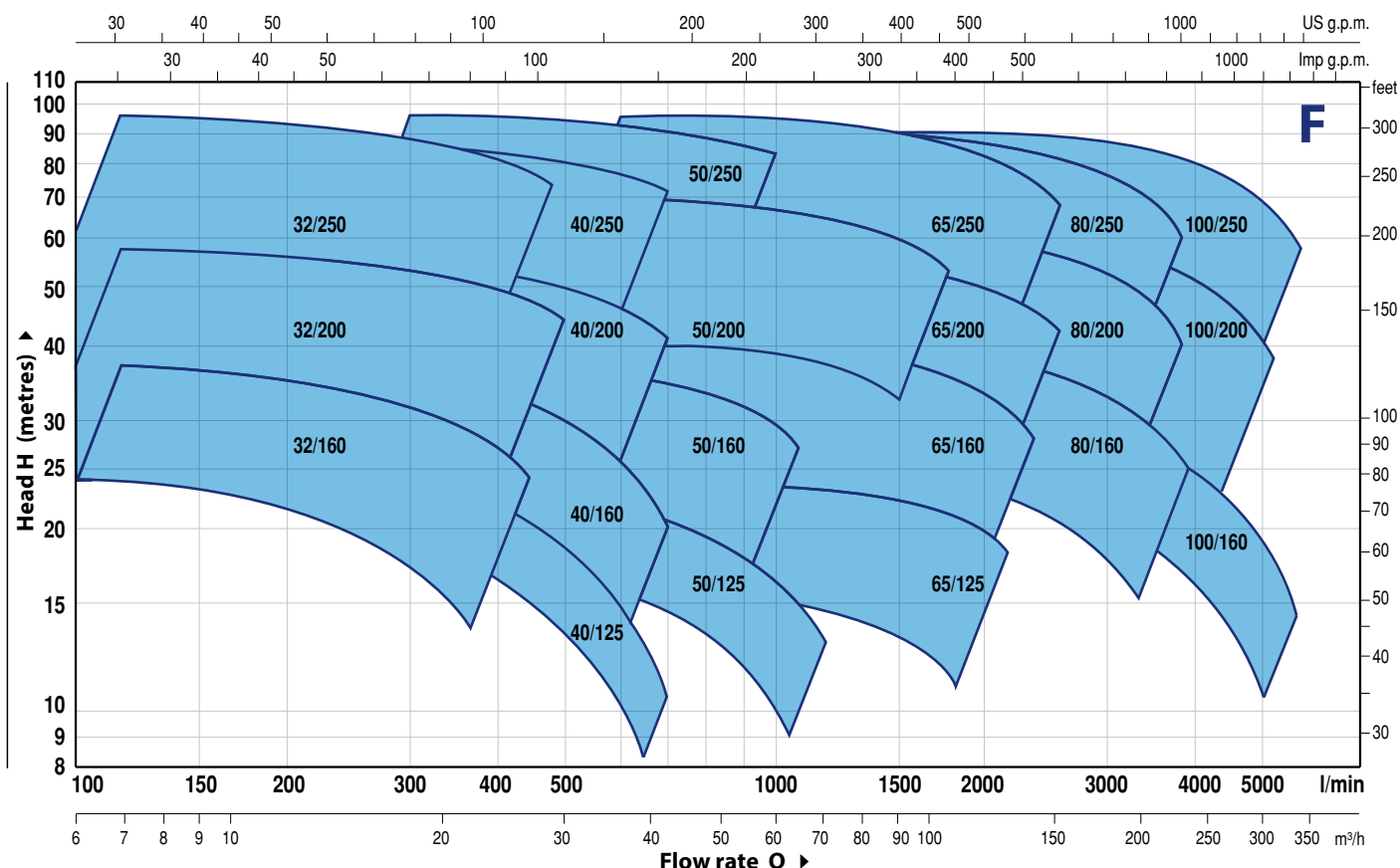
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



PERFORMANCE RANGE

50 Hz n= 2900 min⁻¹



PERFORMANCE DATA

50 Hz n= 2900 min⁻¹

MODEL	POWER (P ₂)		▲	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 ₂)		▲	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	IE3	400 – 2500	87 – 62
F 65/250A	45	60		400 – 2600	95 – 68
F 80/160D	11	15		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	IE3	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		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

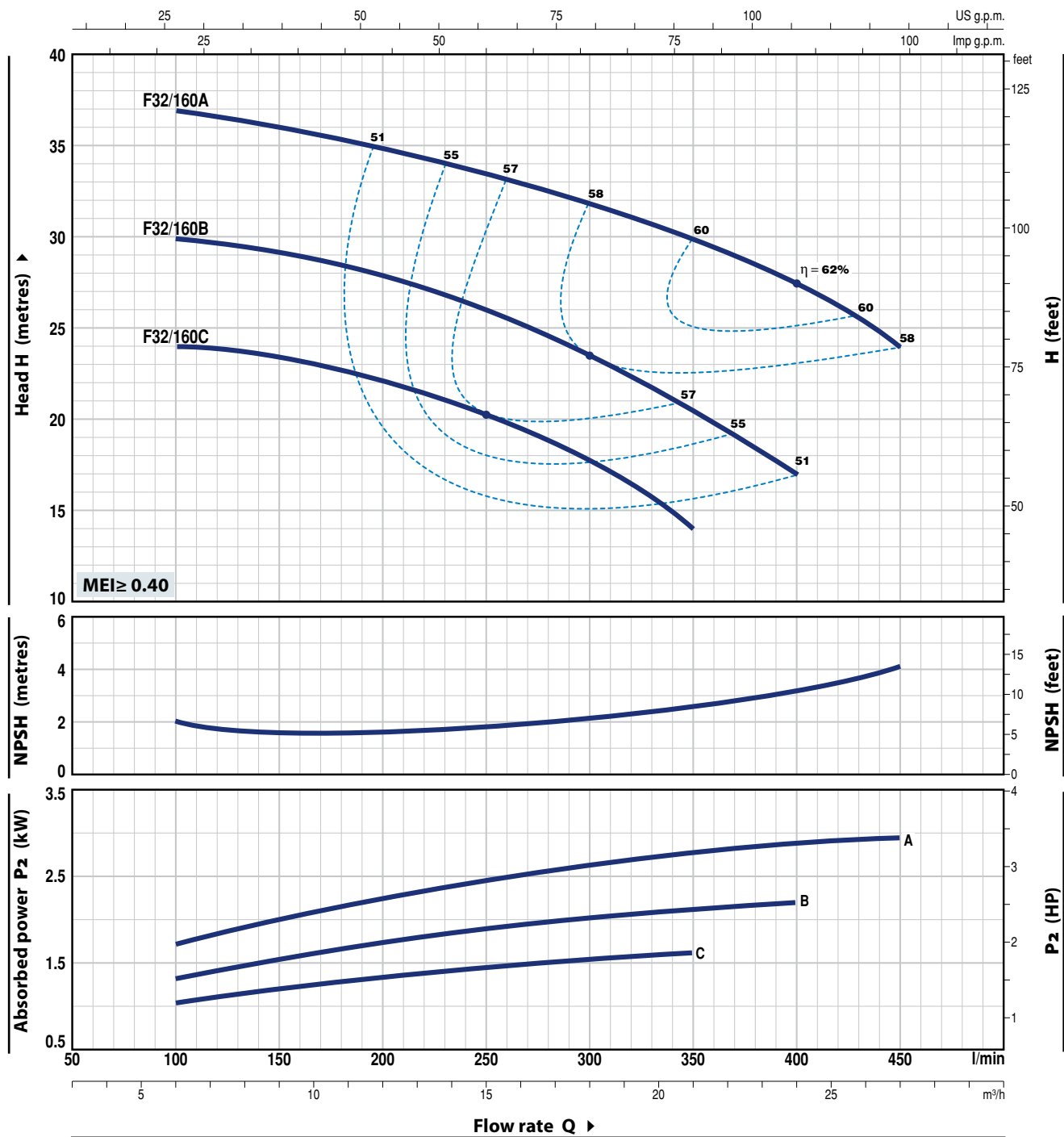
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

F32/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$

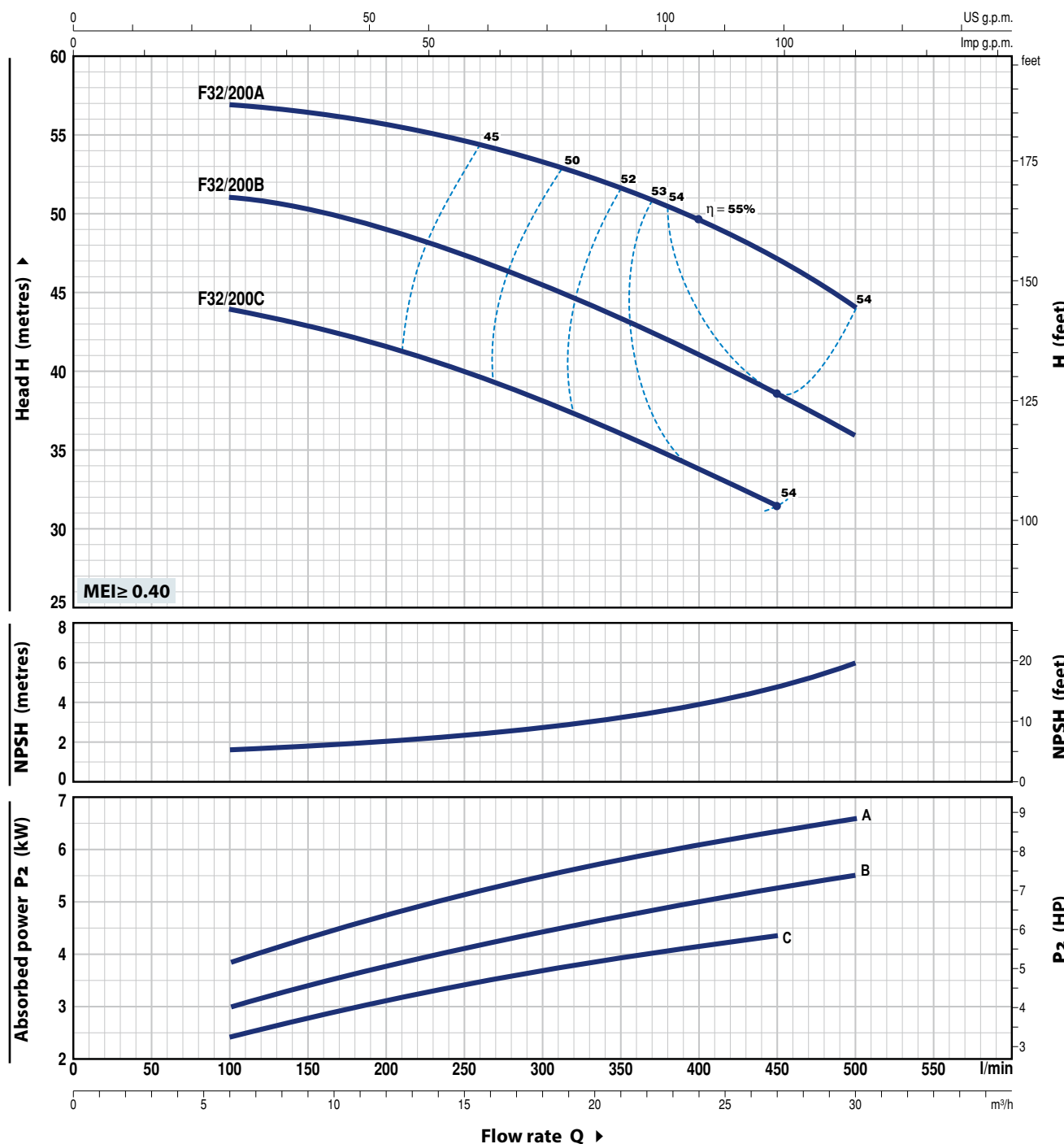


MODEL		POWER (P ₂)		Q	0	6	9	12	15	18	21	24	27
Single-phase	Three-phase	kW	HP		0	100	150	200	250	300	350	400	450
Fm 32/160C	F 32/160C	1.5	2	H metres	25	24	23.5	22	20.5	18	14		
Fm 32/160B	F 32/160B	2.2	3		31	30	29	28	26	23.5	20.5	17	
–	F 32/160A	3	4		38	37	36	35	33.5	31.5	30	27.5	24

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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q	0	6	9	12	15	18	21	24	27	30
	kW	HP		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

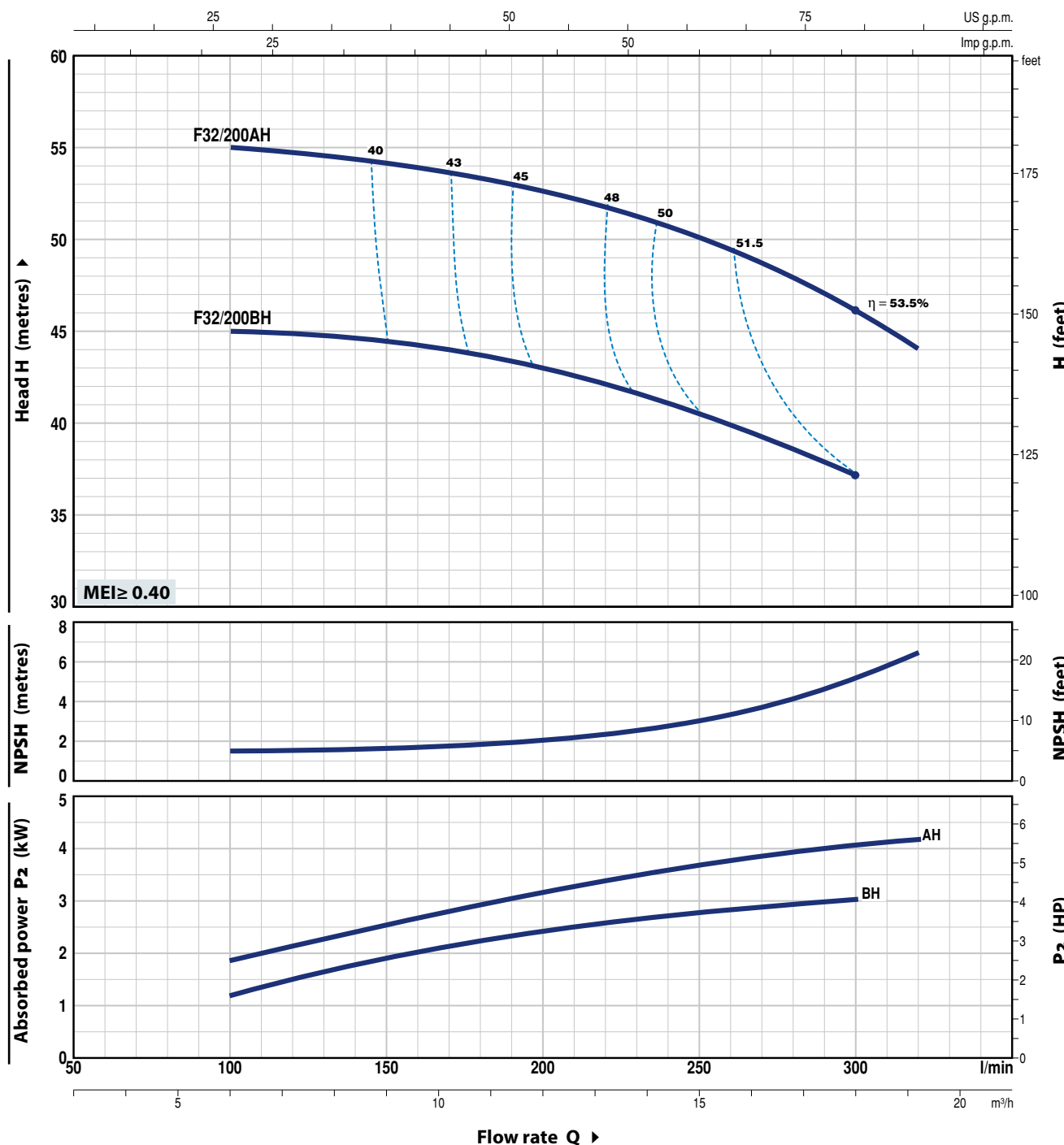
Q = Flow rate H = Total manometric head HS = Suction height

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

F32/200H

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ HS = 0 m



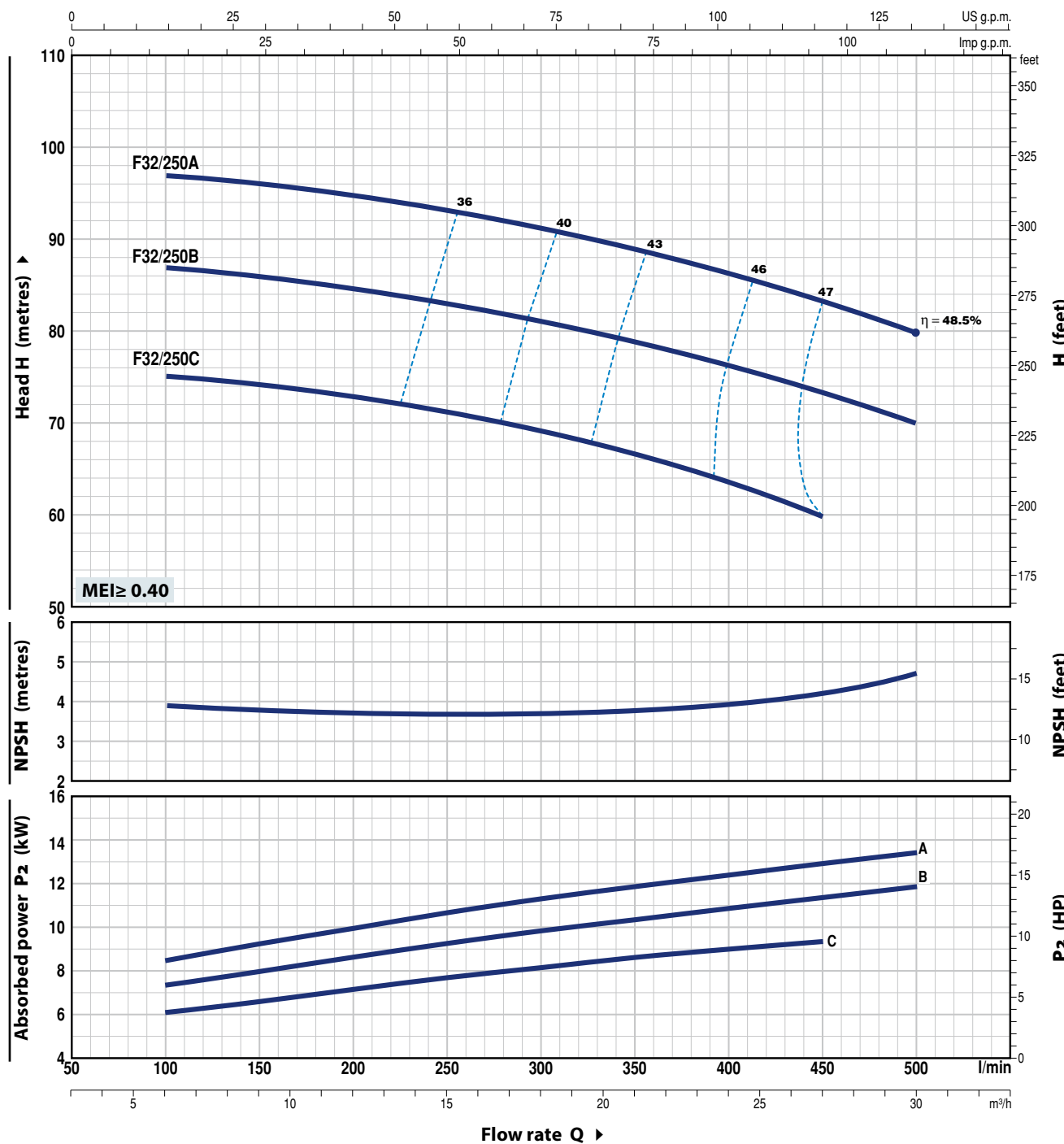
MODEL	POWER (P ₂)		Q m ³ /h l/min	0	6	9	12	15	18	19.2
Three-phase	kW	HP		0	100	150	200	250	300	320
F 32/200BH	3	4	H metres	47	45	44.5	43	40.5	37	
F 32/200AH	4	5.5		57	55	54	52.5	50	46	44

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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q	0	6	9	12	15	18	21	24	27	30
	kW	HP		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

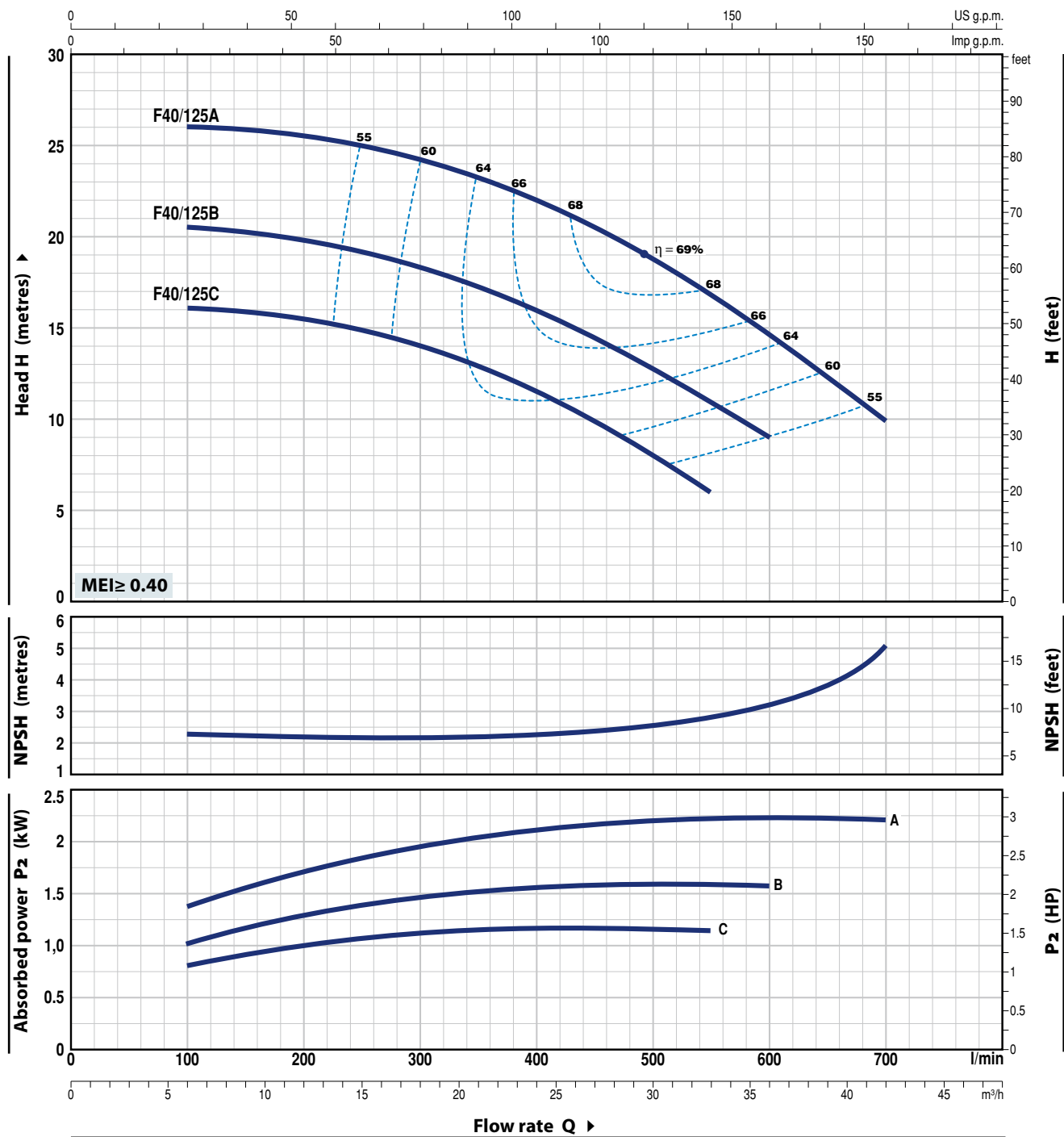
Q = Flow rate H = Total manometric head HS = Suction height

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

F40/125

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m

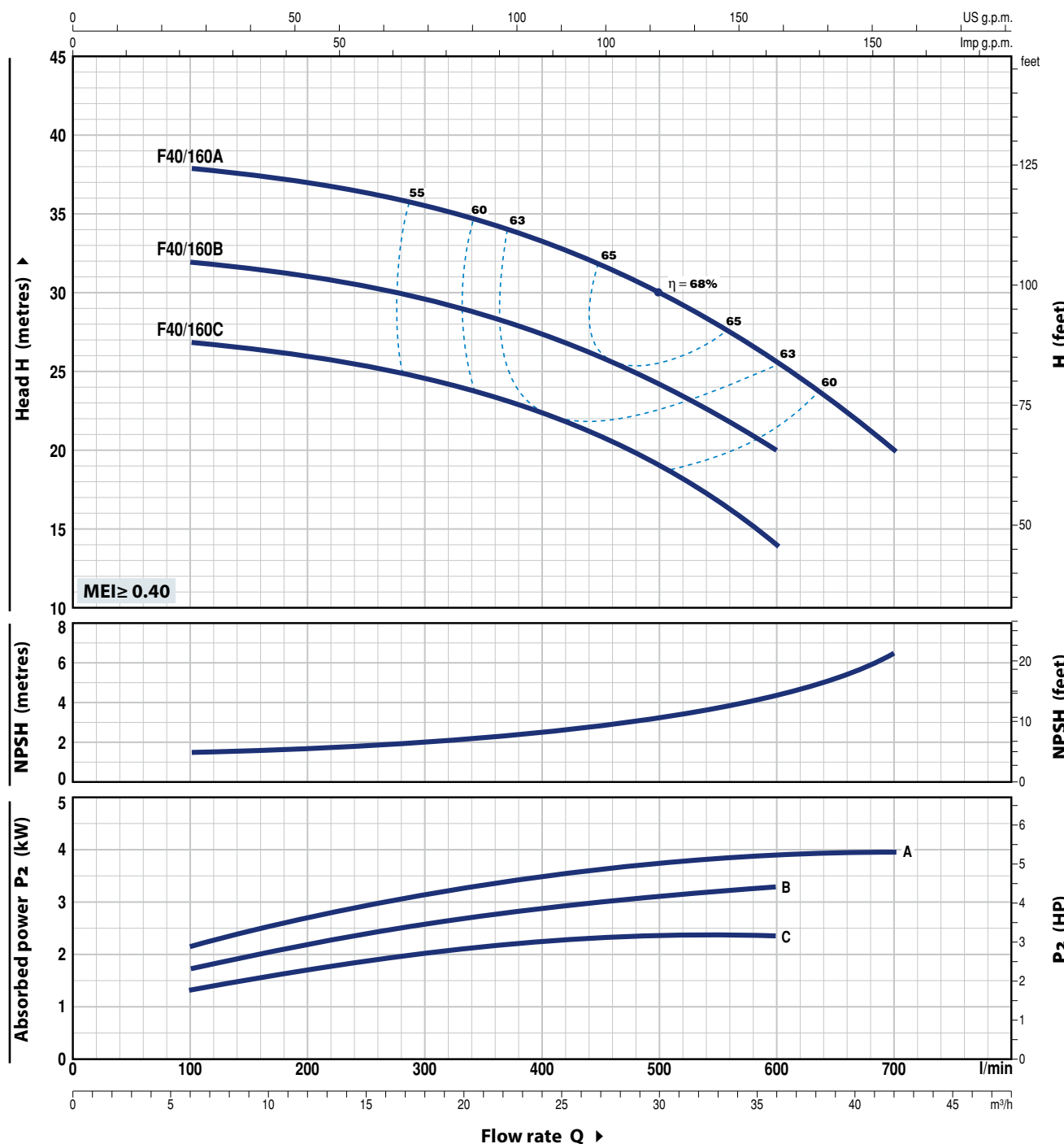


MODEL		POWER (P ₂)		Q	0	6	12	18	24	30	33	36	39	42
Single-phase	Three-phase	kW	HP		0	100	200	300	400	500	550	600	650	700
Fm 40/125C	F 40/125C	1.1	1.5	H metres	16	16	15.5	14	11.5	8	6			
Fm 40/125B	F 40/125B	1.5	2		20.5	20.5	19.8	18.5	16	12.8	11	9		
-	F 40/125A	2.2	3		26	26	25.5	24	22	18.5	17	14.5	12.5	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 $n = 2900 \text{ min}^{-1}$ HS= 0 m



MODEL		POWER (P ₂)		Q m³/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

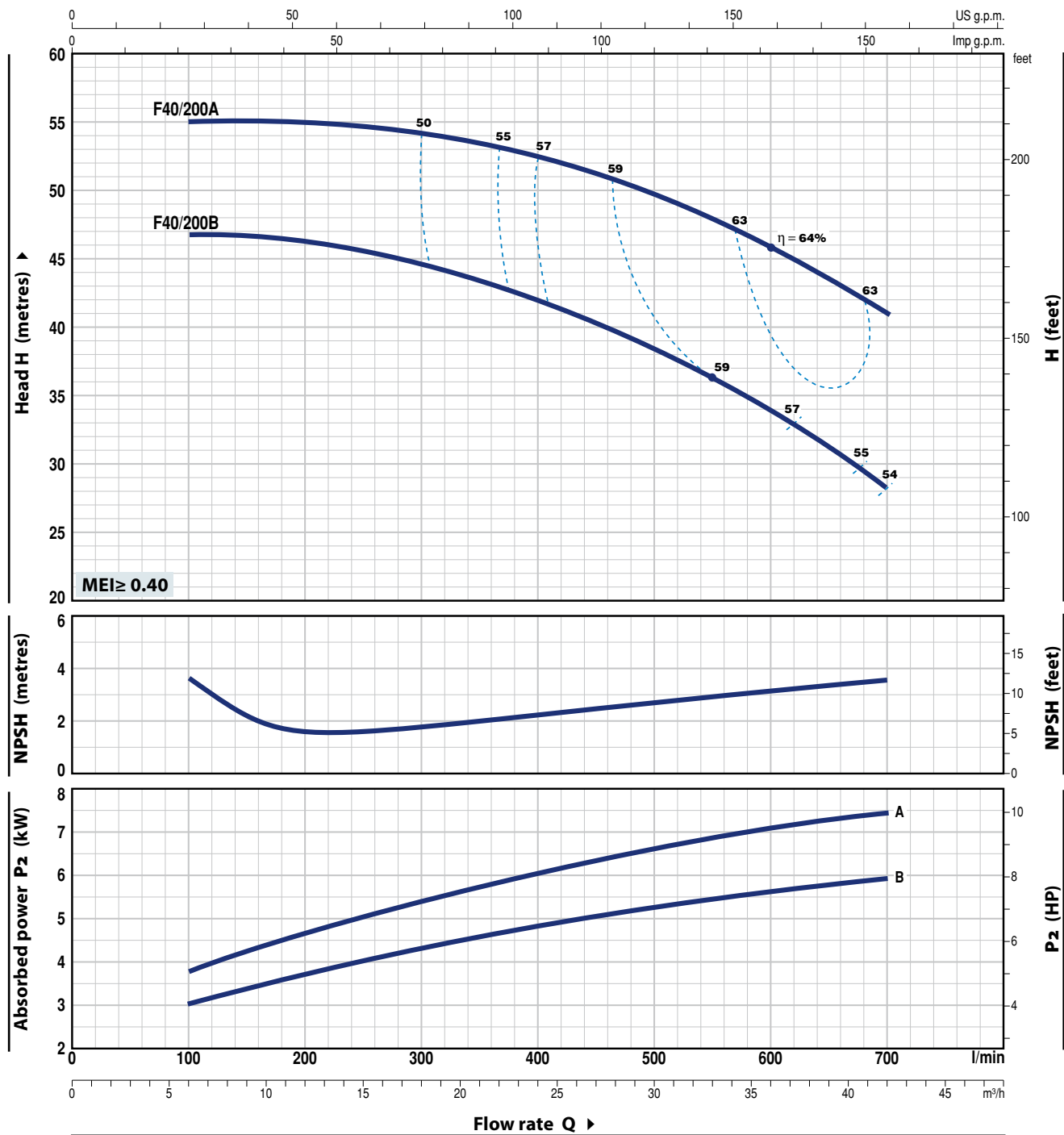
Q = Flow rate H = Total manometric head HS = Suction height

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

F40/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$

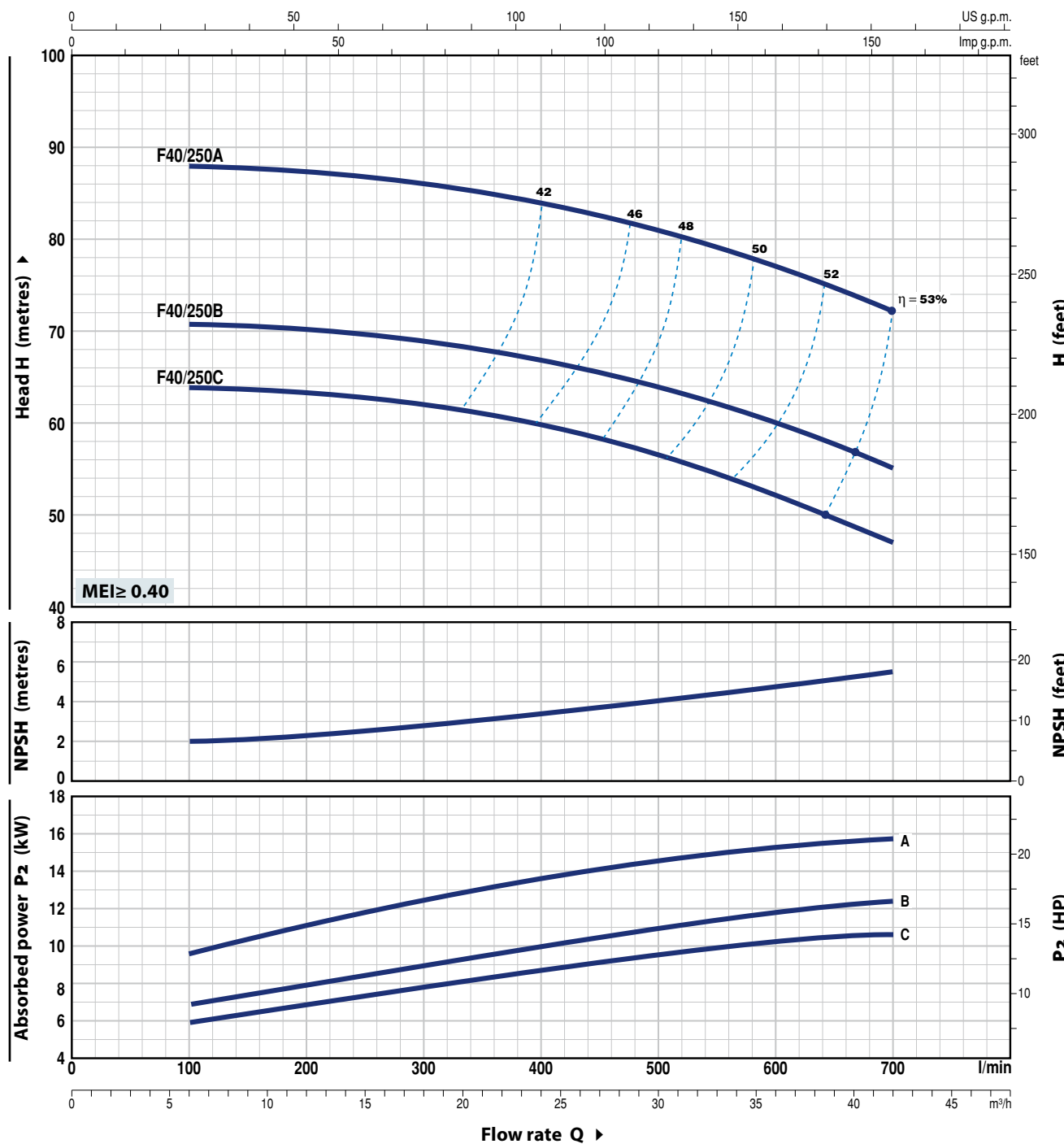


MODEL	POWER (P_2)		Q $\frac{\text{m}^3}{\text{h}}$ $\frac{\text{l}}{\text{min}}$	0	6	9	12	15	18	24	30	36	42
	kW	HP		0	100	150	200	250	300	400	500	600	700
F 40/200B	5.5	7.5	H metres	48	47	46.5	46	45.5	44.5	42	38	34	28
F 40/200A	7.5	10		56	55	55	55	54.5	54	52.5	49.5	46	41

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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q	0	6	9	12	15	18	24	30	36	42
	kW	HP		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

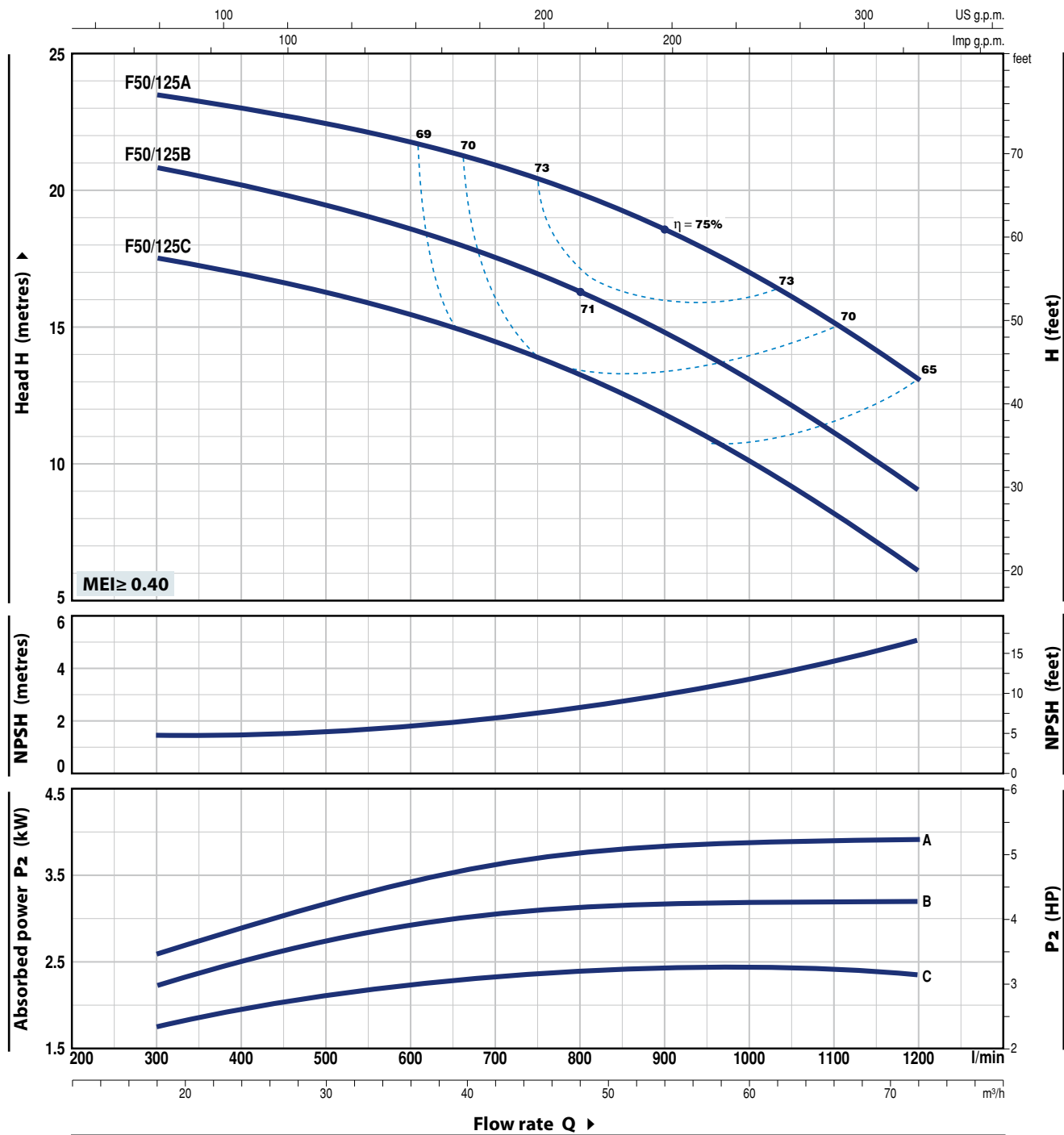
Q = Flow rate H = Total manometric head HS = Suction height

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

F50/125

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$



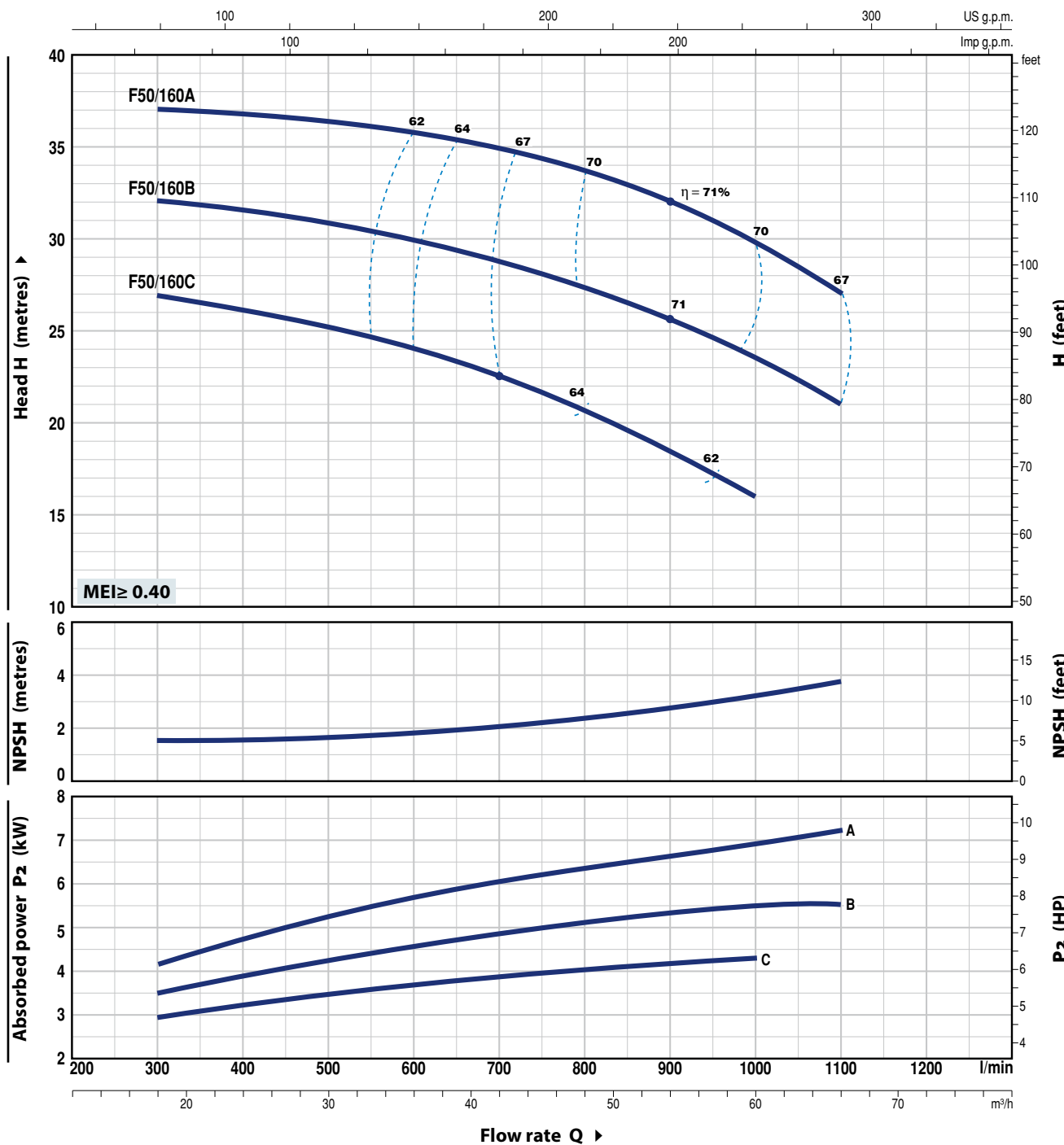
MODEL		POWER (P_2)		Q $\frac{\text{m}^3}{\text{h}}$ $\frac{\text{l}}{\text{min}}$	0	18	24	30	36	42	48	54	60	66	72
Single-phase	Three-phase	kW	HP		0	300	400	500	600	700	800	900	1000	1100	1200
Fm 50/125C	F 50/125C	2.2	3	H metres	18.5	17.5	17	16.5	15.5	14.8	13.5	12	10.5	8.2	6
-	F 50/125B	3	4		21.5	20.7	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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q	0	18	24	30	36	42	48	54	60	66
	kW	HP		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

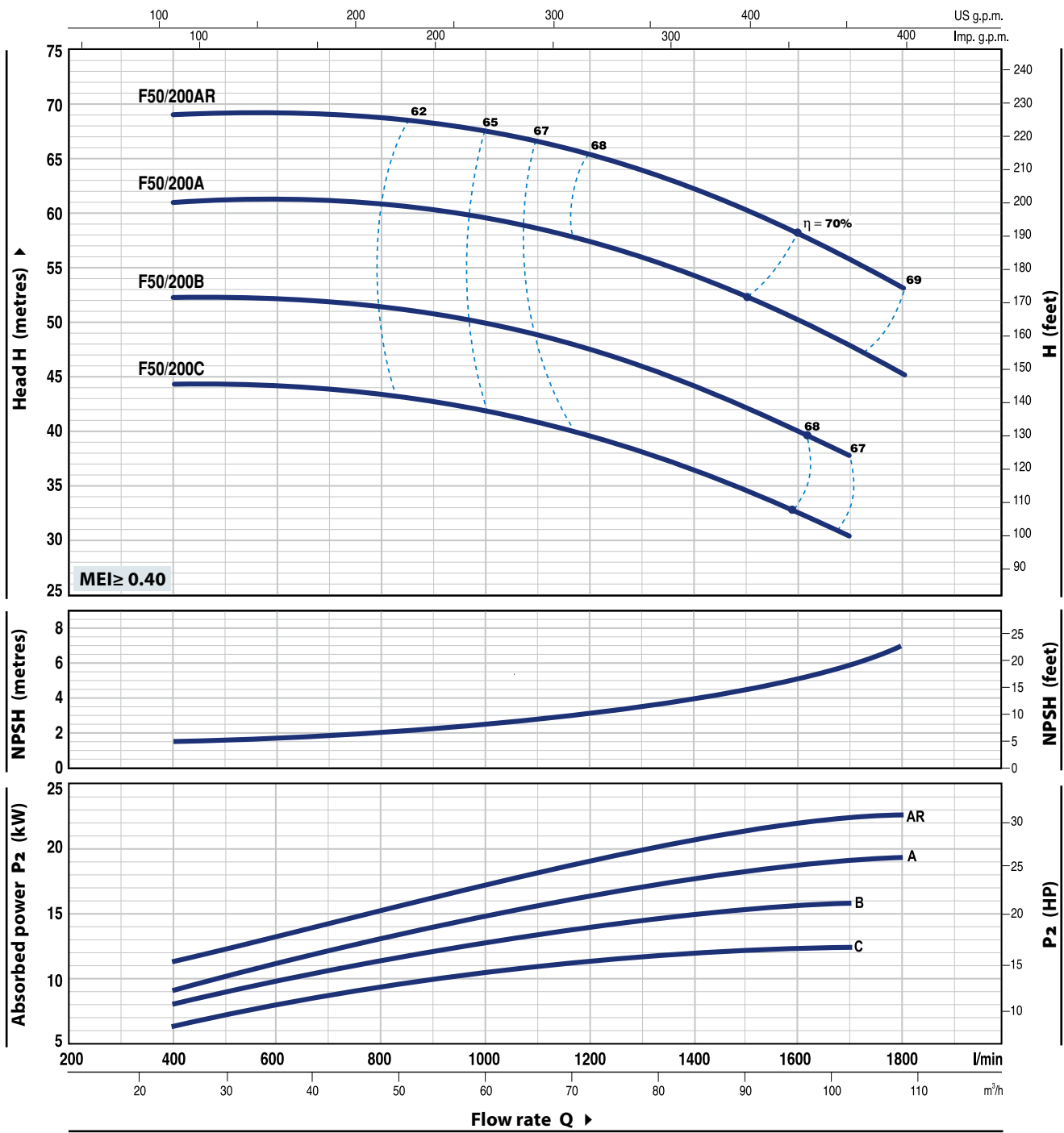
Q = Flow rate H = Total manometric head HS = Suction height

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

F50/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$

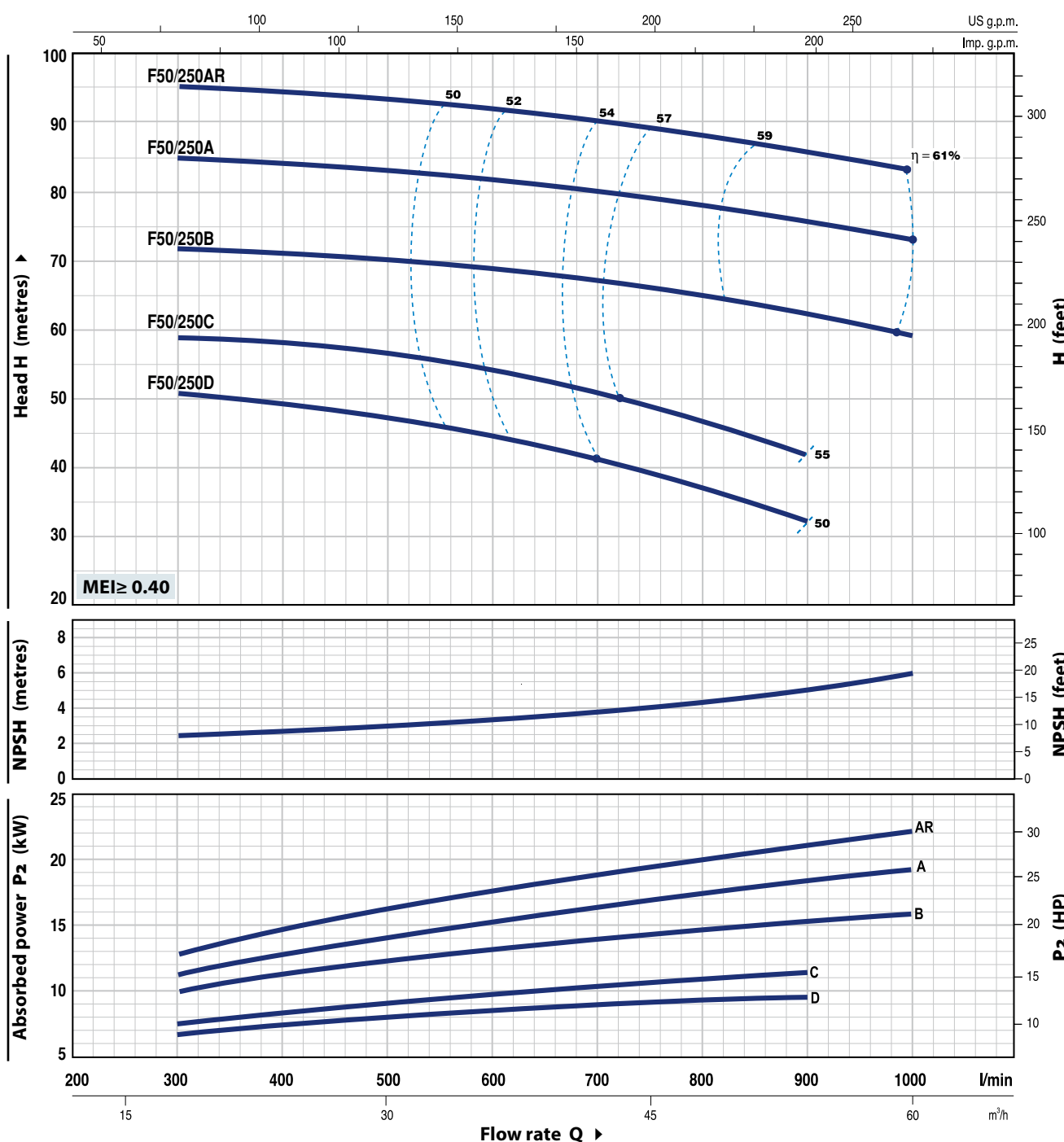


MODEL	POWER (P ₂)		Q	24	36	48	60	72	84	96	102	108
	kW	HP		400	600	800	1000	1200	1400	1600	1700	1800
F 50/200C	11	15	H metres	44	44	44	42	39	36	33	30	
F 50/200B	15	20		52	52	52	50	47	44	40	38	
F 50/200A	18.5	25		61	61	60.5	60	57	54	50	48	45
F 50/200AR	22	30		69	69	68.5	68	65	62	58	56	53

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 $n = 2900 \text{ min}^{-1}$ HS = 0 m



MODEL	POWER (P ₂)		Q	0	18	24	30	36	42	48	54	60
	kW	HP		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

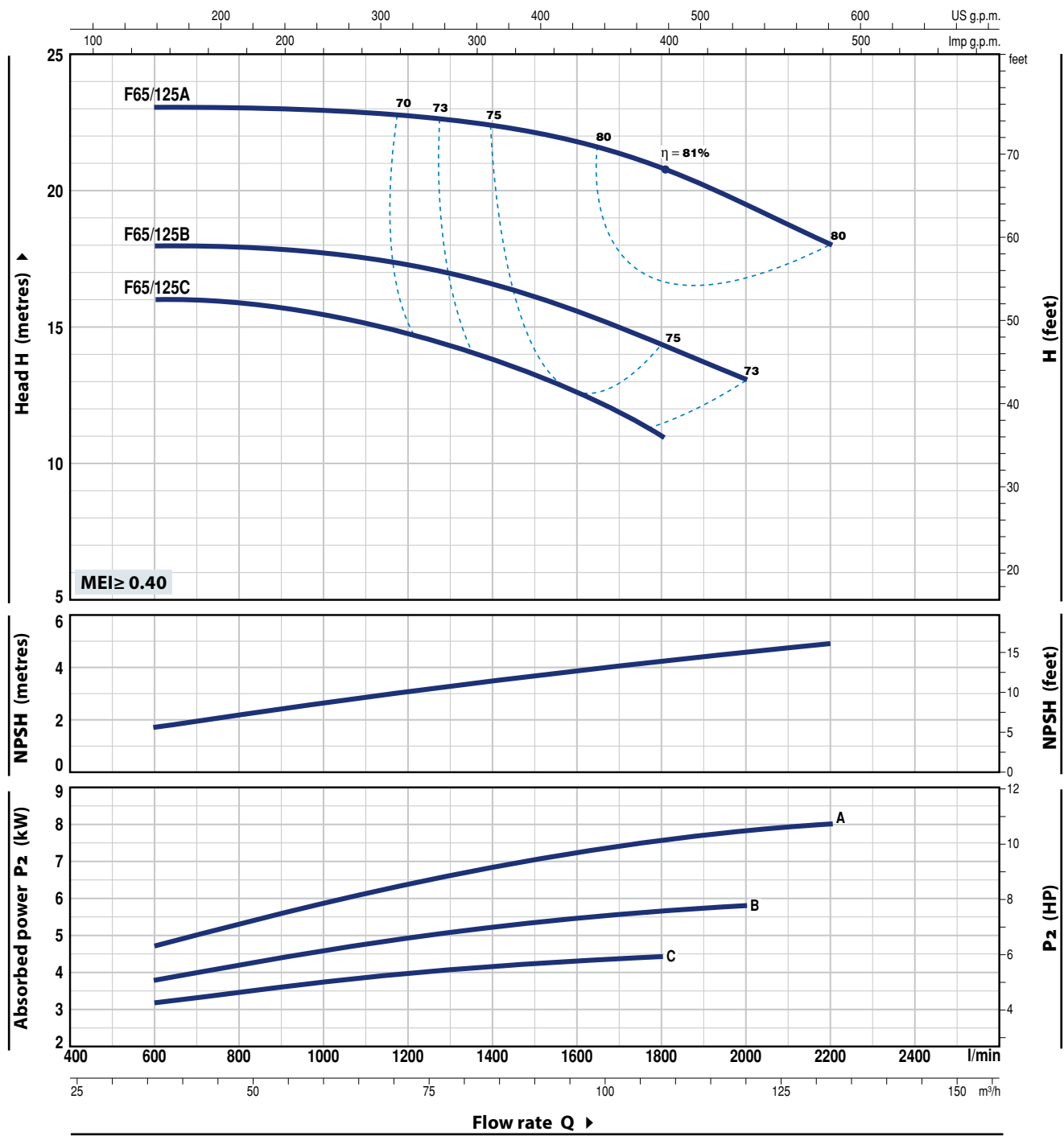
Q = Flow rate H = Total manometric head HS = Suction height

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

F65/125

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$

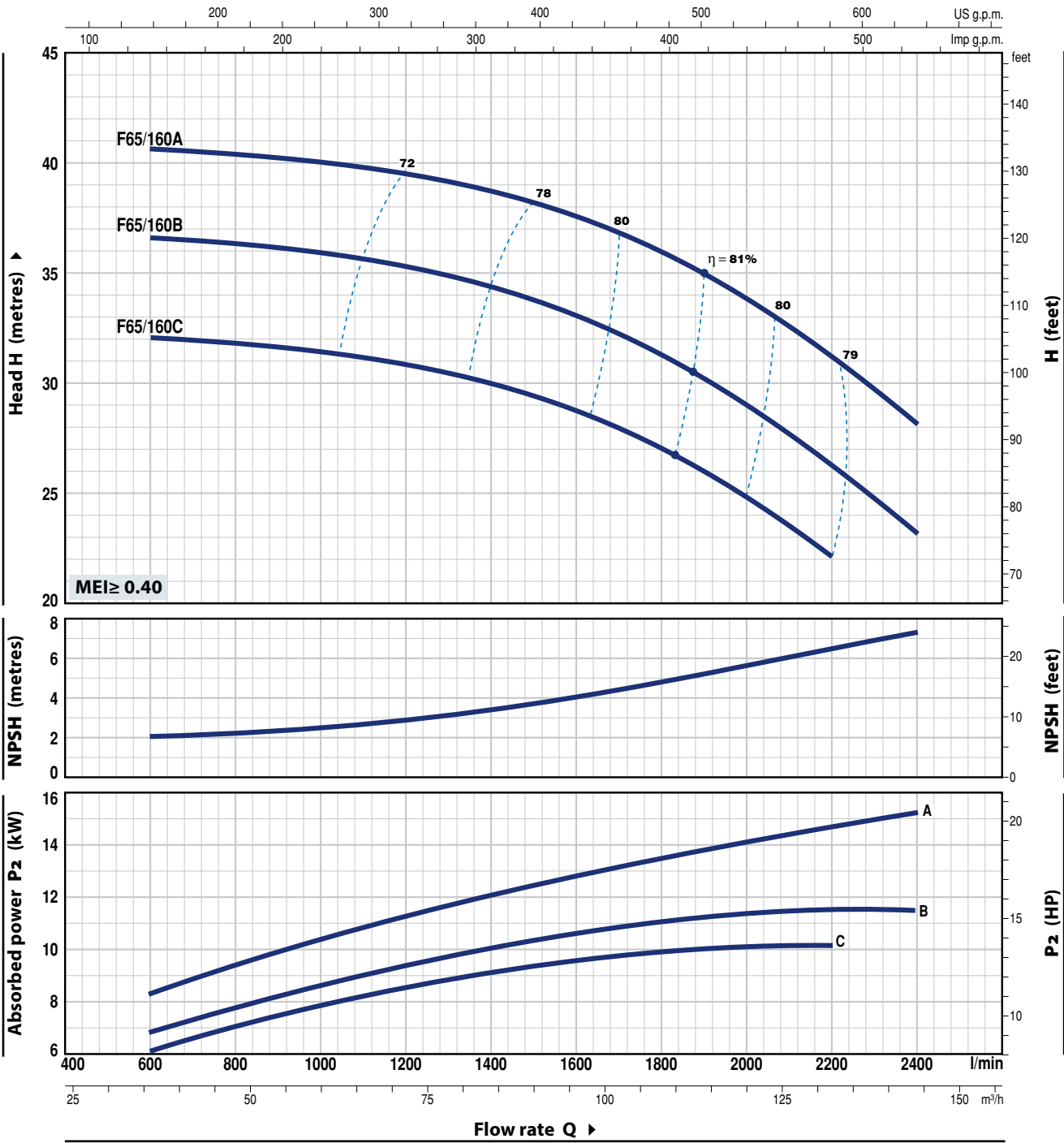


MODEL	POWER (P_2)		Q	0	36	48	60	72	84	96	108	120	132
	kW	HP		0	600	800	1000	1200	1400	1600	1800	2000	2200
F 65/125C	4	5.5	H metres	16	16	16	15.5	14.5	13.5	12.5	11		
F 65/125B	5.5	7.5		18	18	18	18	17	16.5	15.5	14.5	13	
F 65/125A	7.5	10		23	23	23	23	22.5	22.5	22	21	19.5	18

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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q	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

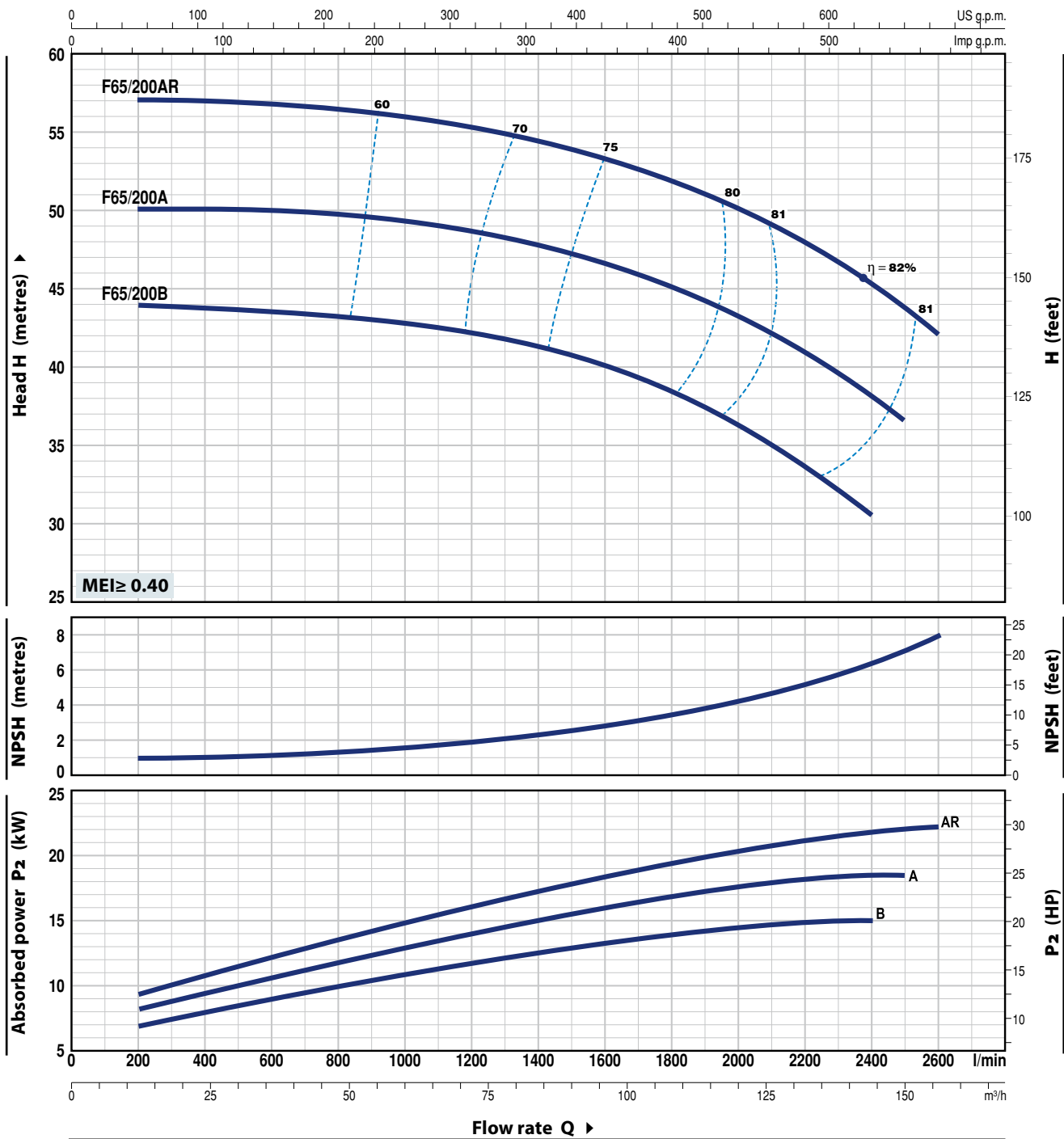
Q =Flow rate H =Total manometric head HS = Suction height

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

F65/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$



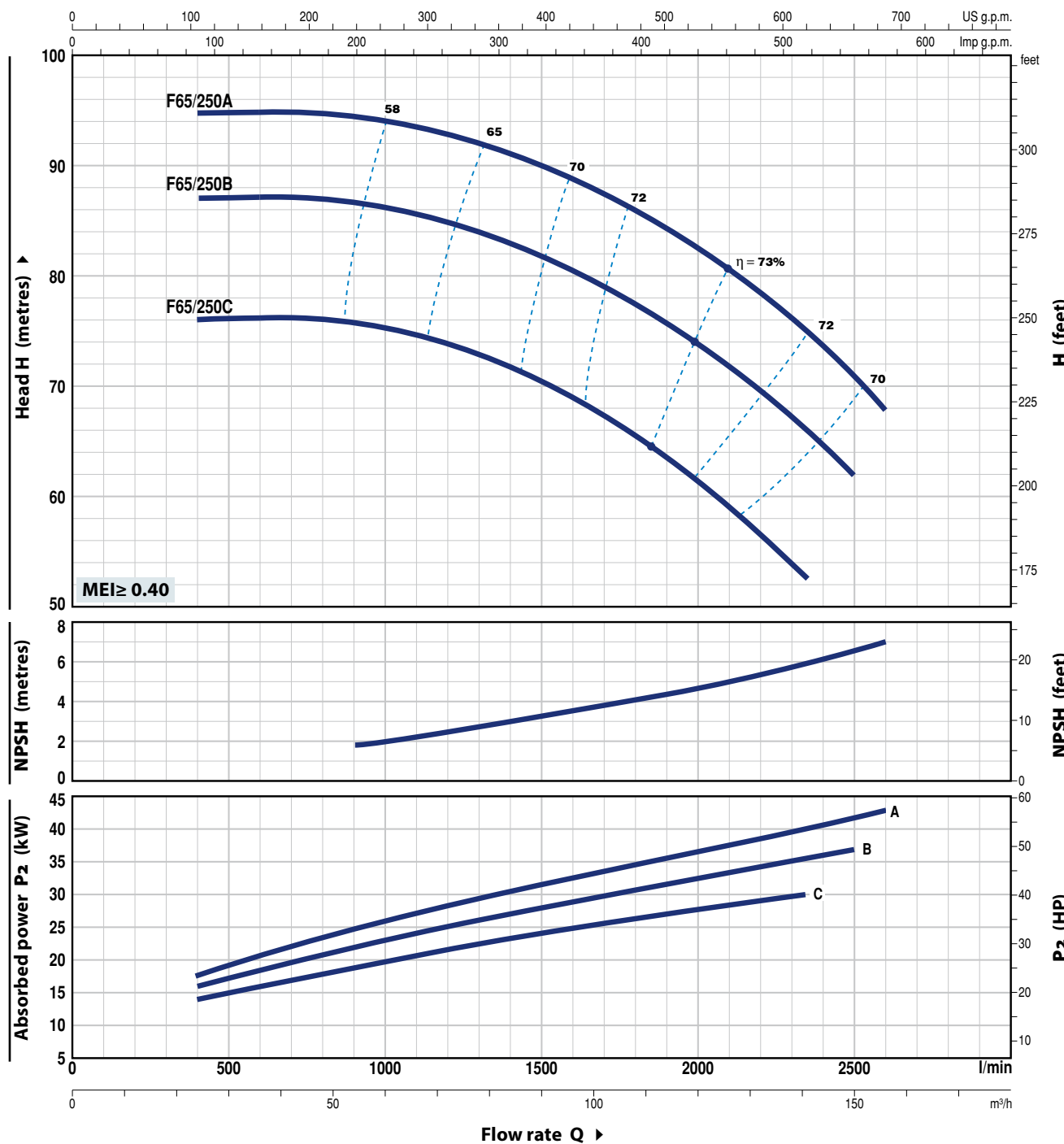
MODEL	POWER (P_2)		Q $\frac{\text{m}^3}{\text{h}}$ l/min	12	36	48	60	72	84	96	108	120	132	144	150	156
	kW	HP		200	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2500	2600
F 65/200B	15	20	H metres	44	43.5	43.3	43	42.5	41.5	40	38.5	36.5	34	30.5		
F 65/200A	18.5	25		50	50	50	49.5	49	48	46.5	45	43	41	38	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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q m³/h l/min	24	40	60	80	100	120	141	150	156
	kW	HP		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

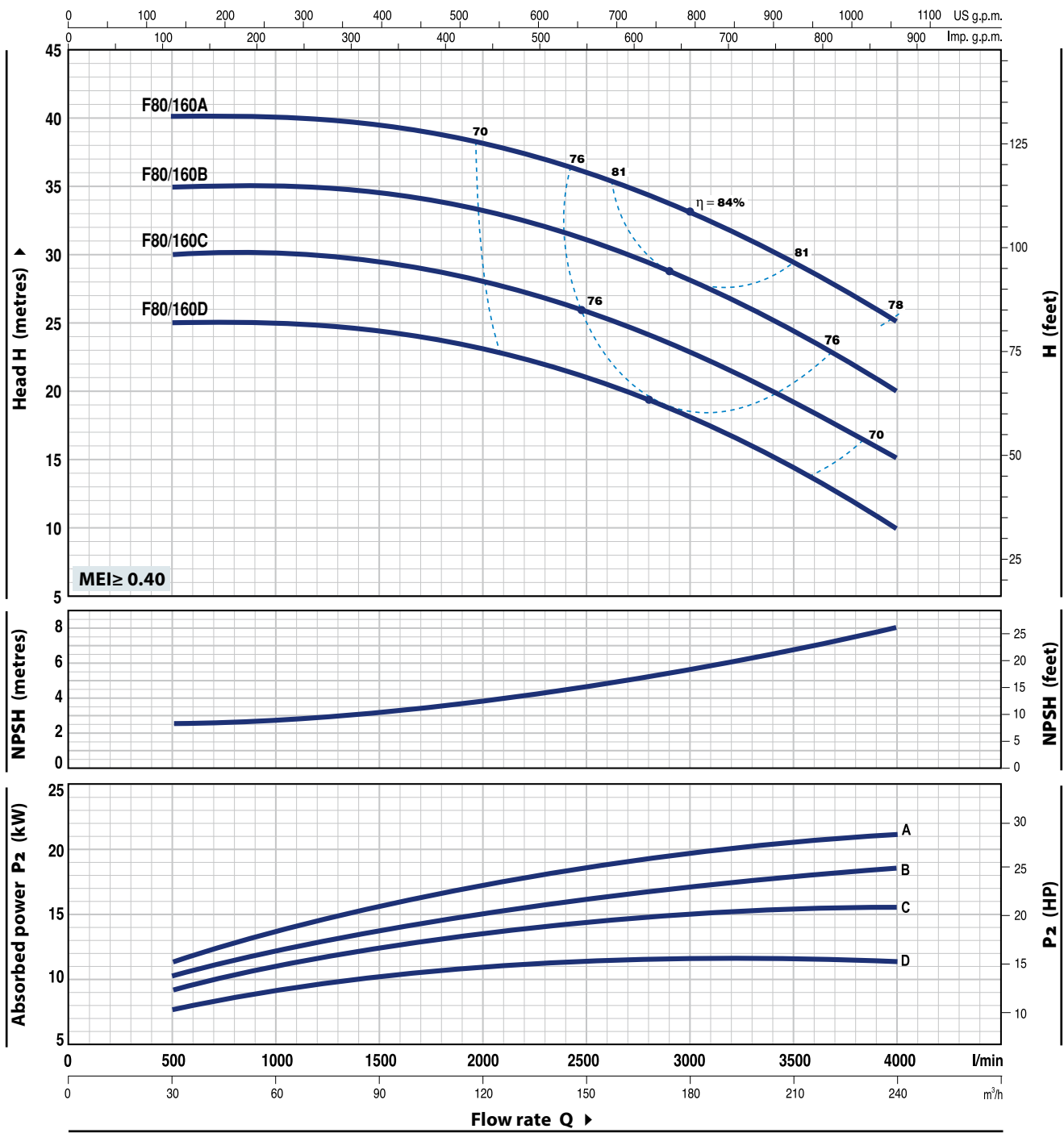
Q = Flow rate H = Total manometric head HS = Suction height

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

F80/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$

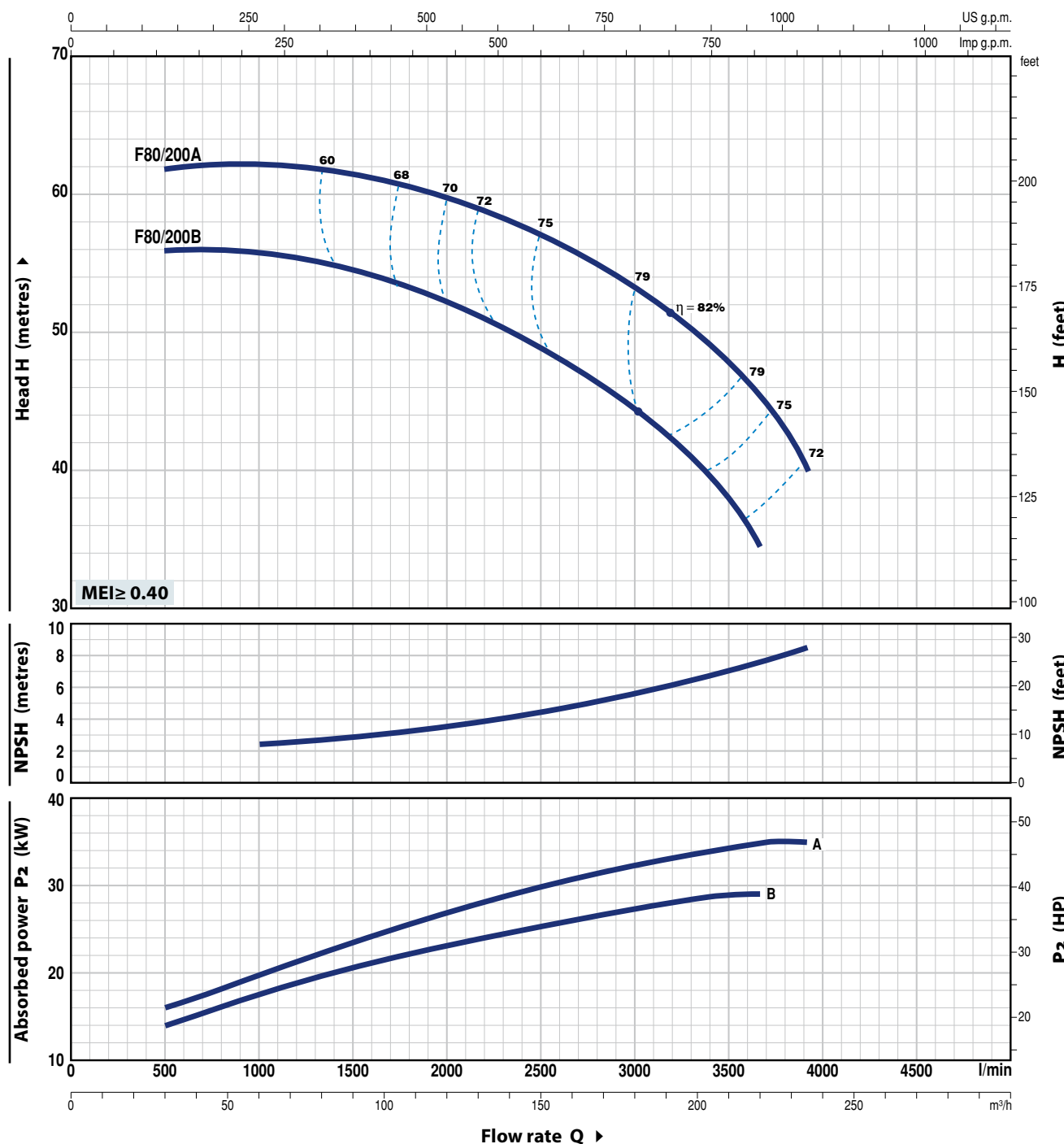


MODEL	POWER (P_2)		Q	0	30	60	90	120	150	180	210	240
	kW	HP		0	500	1000	1500	2000	2500	3000	3500	4000
F 80/160D	11	15	H metres	25	25	25	24.5	23.5	21	18	14.5	10
F 80/160C	15	20		30	30	30	29.5	28.5	26	23	19.5	15
F 80/160B	18.5	25		35	35	35	34.5	33.5	31	28.5	24.5	20
F 80/160A	22	30		40	40	40	39.5	38.5	36	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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q	30	50	100	150	200	219	234
	kW	HP		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

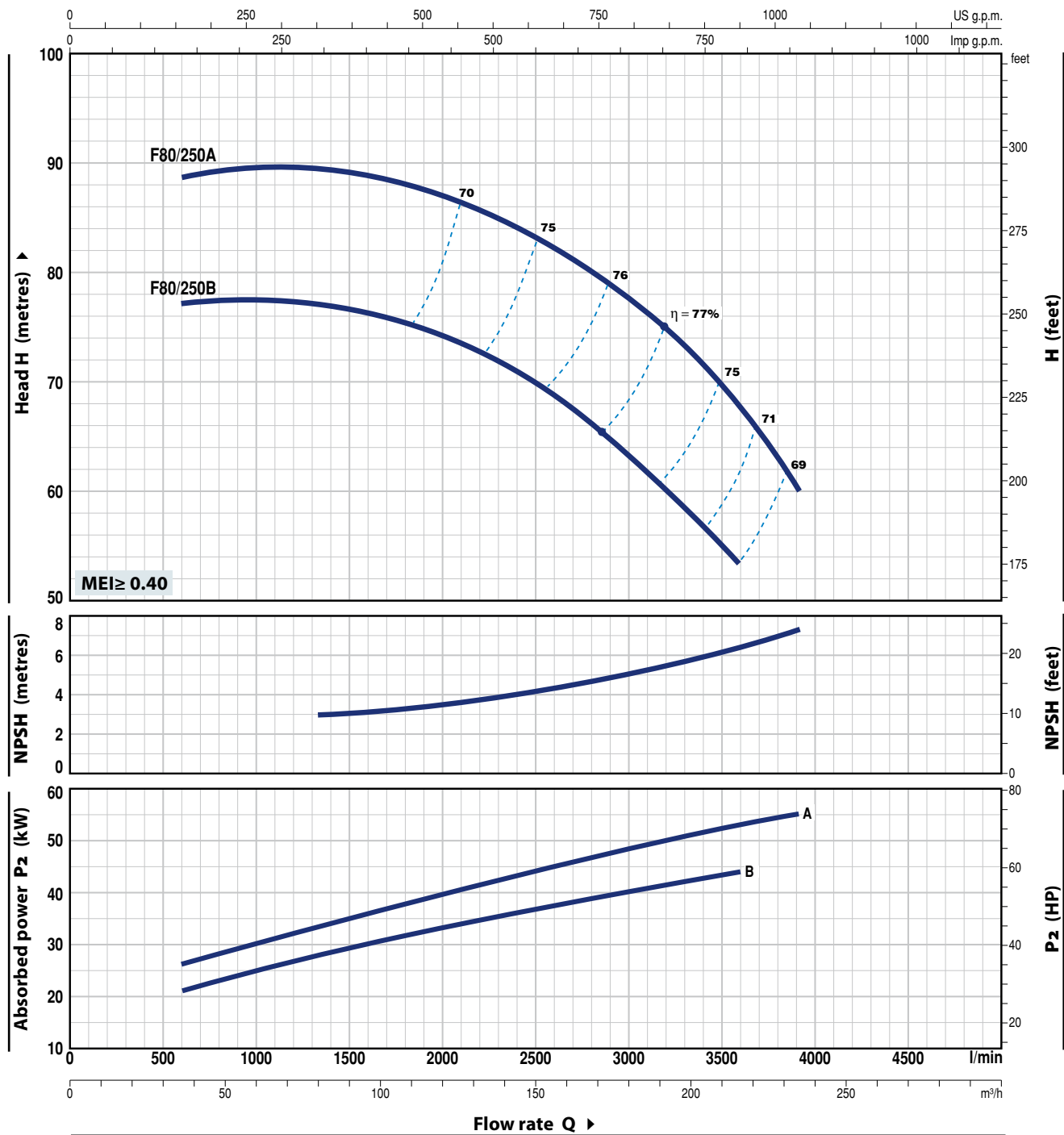
Q =Flow rate H =Total manometric head HS = Suction height

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

F80/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$



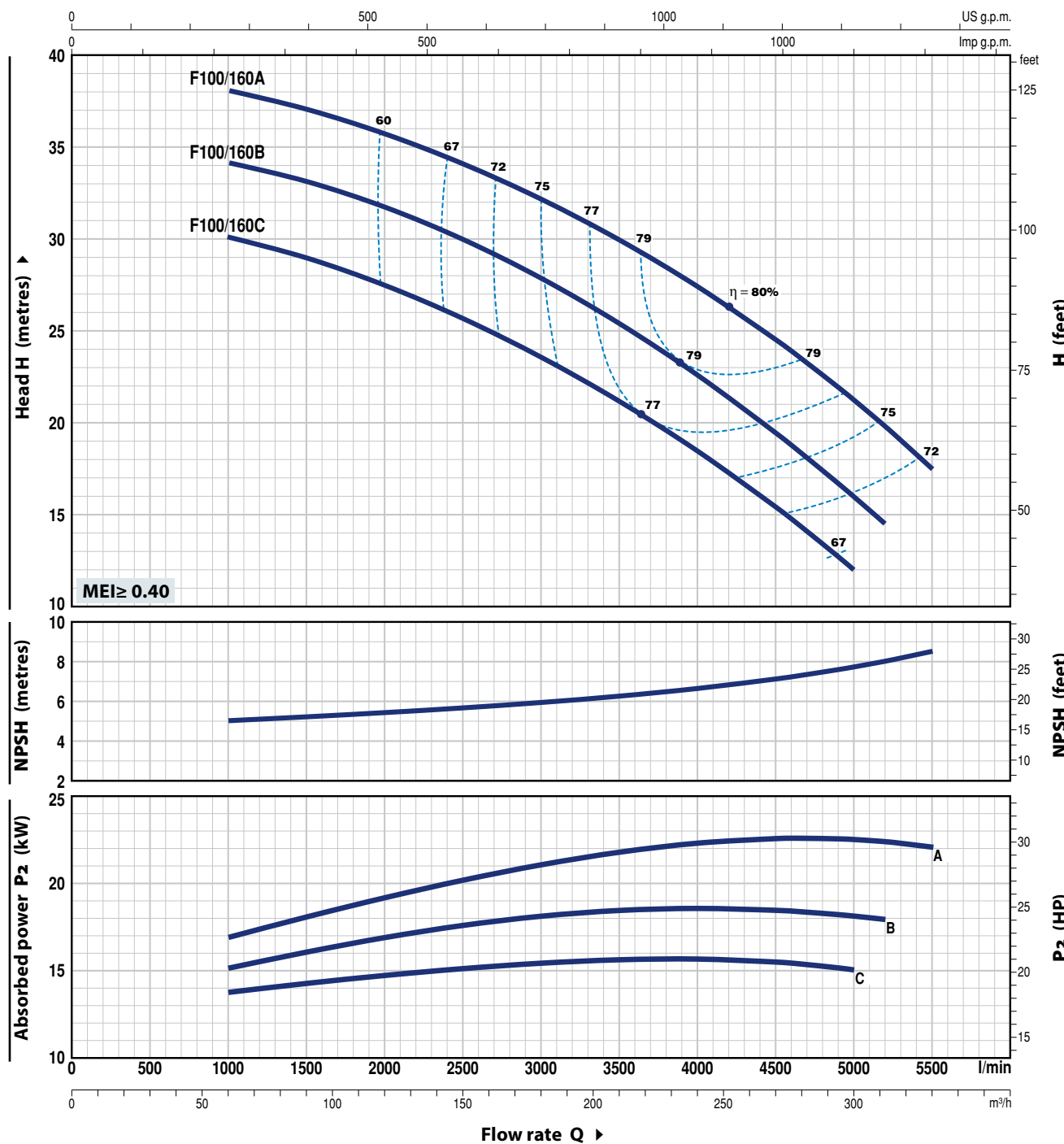
MODEL	POWER (P_2)		Q	36	50	100	150	200	216	234
	kW	HP		600	833	1667	2500	3333	3600	3900
F 80/250B	45	60	H metres	77	77.5	76	70.5	58.5	54	
F 80/250A	55	75		88.5	89.5	89	83	72	68	60

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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q	60	120	180	240	270	300	312	330
	kW	HP		1000	2000	3000	4000	4500	5000	5200	5500
F 100/160C	15	20	H metres	30	27.5	23.5	18	15.5	12		
F 100/160B	18.5	25		34	32	27.5	22.5	19.5	16	14.5	
F 100/160A	22	30		38	36	32	27.4	24.5	21	20	17.5

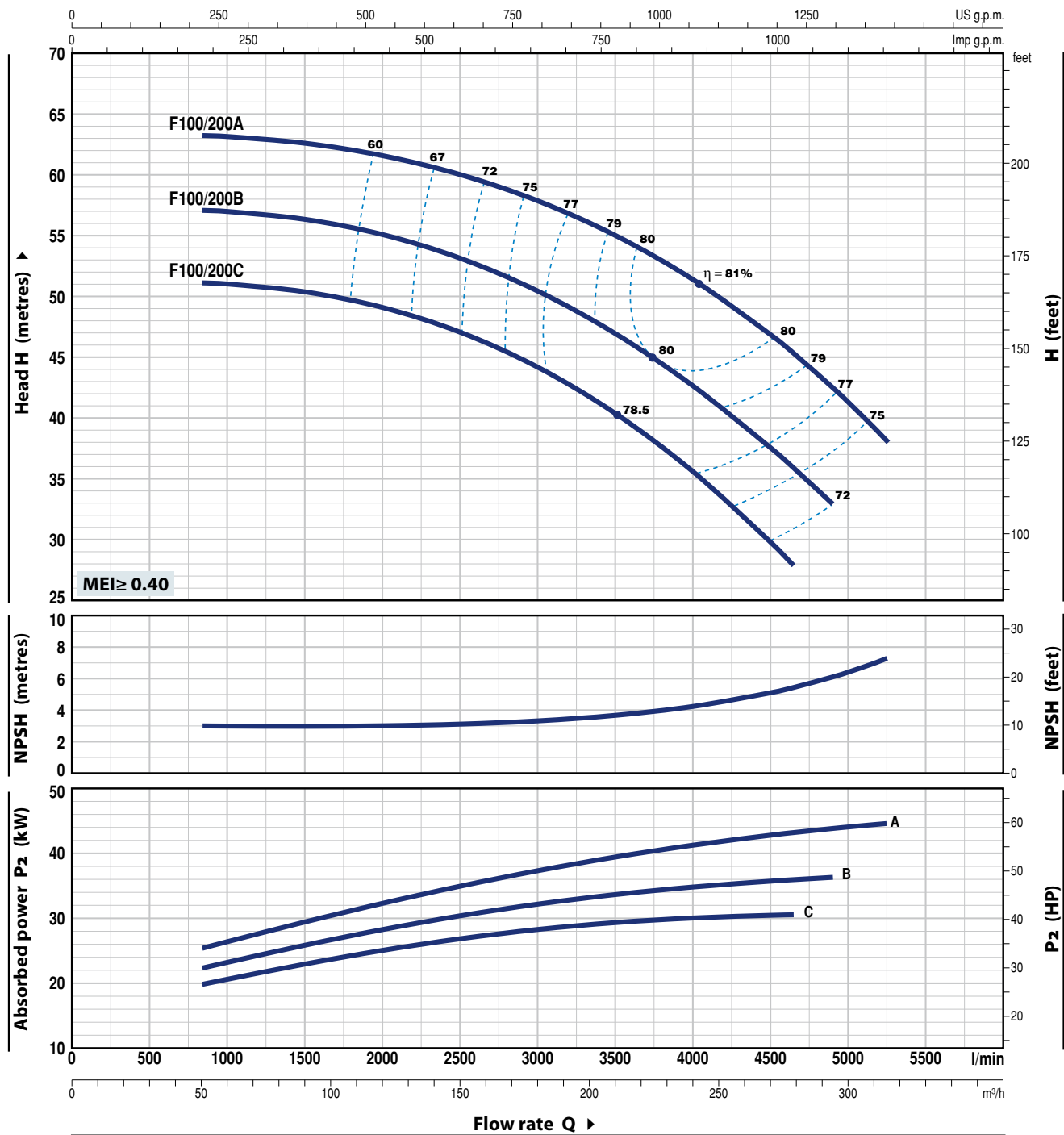
Q = Flow rate H = Total manometric head HS = Suction height

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

F100/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$



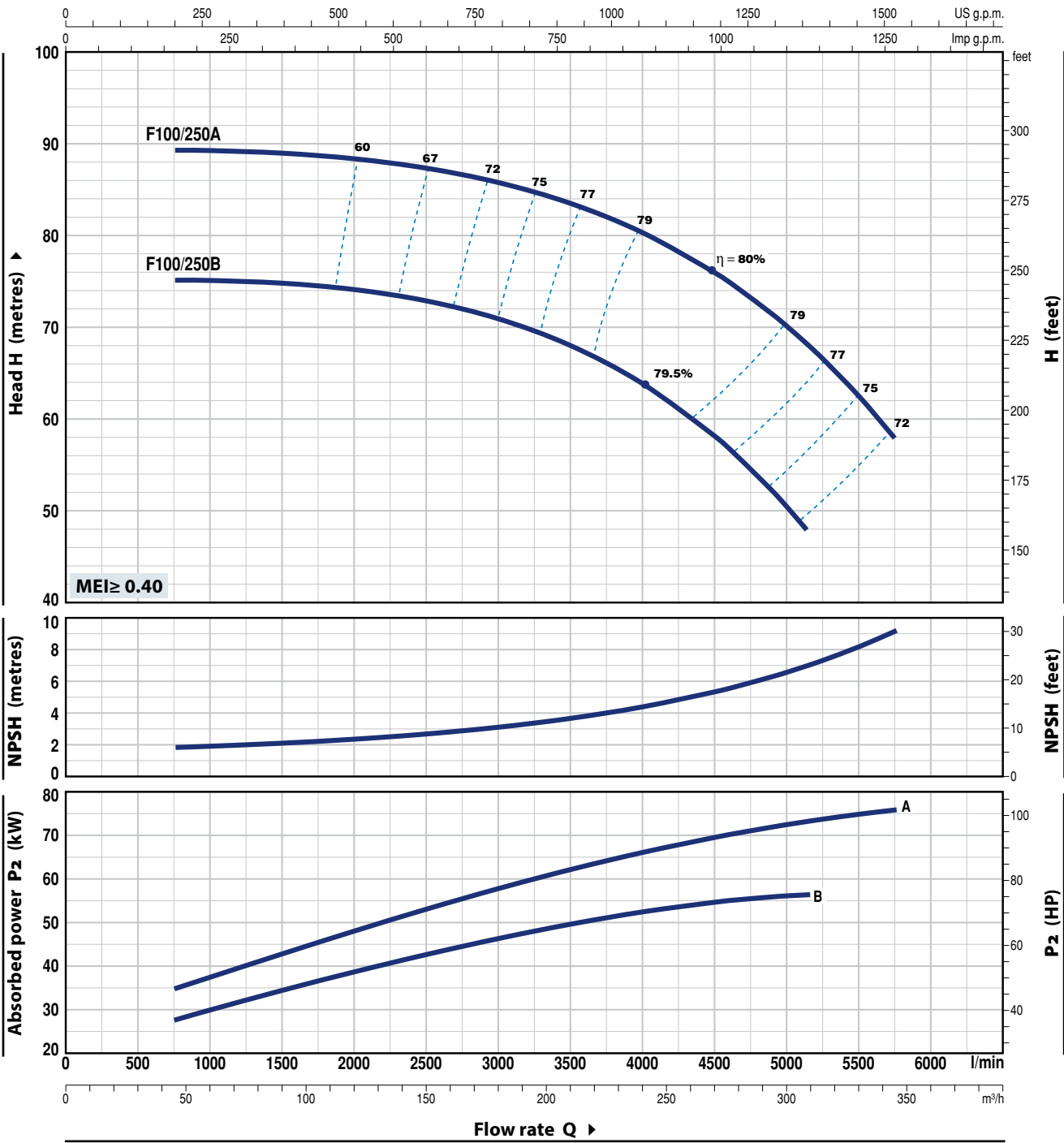
MODEL	POWER (P_2)		Q $\frac{\text{m}^3}{\text{h}}$ $\frac{\text{l}}{\text{min}}$	0	50	100	150	200	250	279	294	300	315
	kW	HP		0	833	1667	2500	3333	4167	4650	4900	5000	5250
F 100/200C	30	40	H metres	51	51	50	47	41.5	34	28			
F 100/200B	37	50		57	57	56	53	48	41	36	33		
F 100/200A	45	60		63	63	62.5	60	56	50	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⁻¹ HS= 0 m



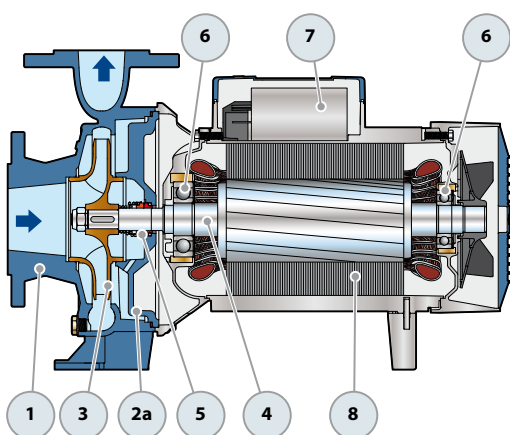
MODEL	POWER (P ₂)		Q	48	96	150	180	210	240	300	309	345
	kW	HP		800	1600	2500	3000	3500	4000	5000	5150	5750
F 100/250B	55	75	H metres	75	75	74	71.5	69	64.5	51	48	
F 100/250A	75	100		89	89	88.5	87	84	80.5	70.5	69	58

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

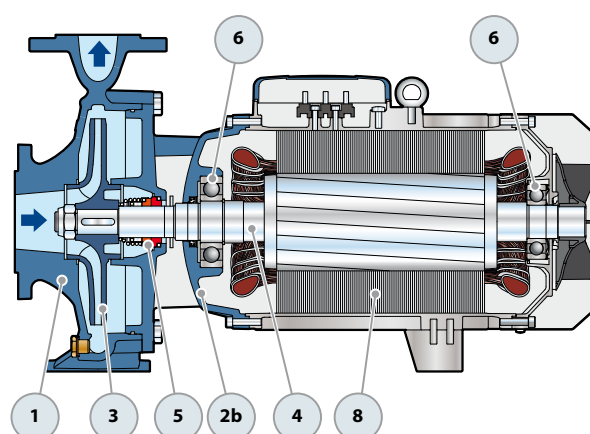
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron complete with flanged suction and delivery ports					
2a	BODY BACKPLATE	Cast iron for F32/160, F32/200, F40/125, F40/160, F40/200, F50/125, F50/160, F65/125					
2b	MOTOR BRACKET	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					
3	IMPELLER	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					
4	MOTOR SHAFT	Stainless steel AISI 431					
5	MECHANICAL SEAL	Pump	Seal	Shaft	Materials		
		Model	Model	Diameter	Stationary ring	Rotational ring	Elastomer
		F32/160, F40/125, F40/160, 50/125	FN-20	Ø 20 mm	Graphite	Ceramic	NBR
		F32/200, F40/200, F50/160, F65/125	FN-24	Ø 24 mm	Graphite	Ceramic	NBR
		F50/200, F65/160, F65/200, F80/160, F100/160	FN-32 NU	Ø 32 mm	Graphite	Ceramic	NBR
		F32/250, F40/250, F50/250	FN-38	Ø 38 mm	Graphite	Ceramic	NBR
		F65/250, F80/200, F80/250B, F100/200	FN-40 NU	Ø 40 mm	Graphite	Ceramic	NBR
		F80/250A, F100/250	FH-45 NU	Ø 45 mm	Graphite	Ceramic	NBR
6	BEARINGS	Pump	Model	Pump	Model		
		F32/160C F40/160C	6206 ZZ-C3 / 6204 ZZ	F32/250 F50/200	6310 ZZ-C3 / 6308 ZZ-C3		
		F32/160B F50/125C		F40/250 F65/160			
		F40/125		F50/250 F80/160			
		Fm32/160B F32/160A	6206 ZZ-C3 / 6205 ZZ	F65/200 F100/160	6312 ZZ-C3 / 6212 ZZ-C3		
		Fm40/160C F40/160B		F65/250 F80/200			
		Fm50/125C F50/125B		F80/250B F100/200			
		F40/160A	6306 ZZ-C3 / 6206 ZZ-C3	F80/250A	6314 ZZ-C3 / 6313 ZZ-C3		
F50/125A	F100/250						
F32/200 F40/200	6307 ZZ-C3 / 6206 ZZ-C3						
F50/160 F65/125							
7	CAPACITOR	Pump	Capacitance				
		Single-phase	(230 V or 240 V)				
		Fm32/160C	45 µF - 450 VL				
		Fm32/160B	70 µF - 450 VL				
		Fm40/125C	31.5 µF - 450 VL				
		Fm40/125B	45 µF - 450 VL				
		Fm40/160C	70 µF - 450 VL				
		Fm50/125C	70 µF - 450 VL				
8	ELECTRIC MOTOR	Fm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding (up to 1.5 kW)					
		F: three-phase 230/400 V - 50 Hz up to 4 kW 400/690 V - 50 Hz from 5.5 to 75 kW					
		► The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)					
– Insulation: class F – Protection: IP 55							



Single-phase version



Three-phase version

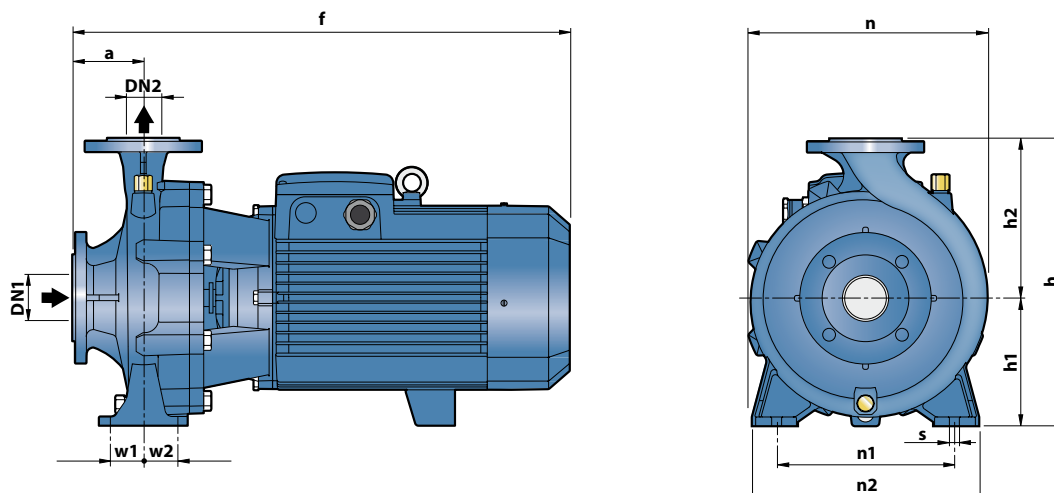
ABSORPTION

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

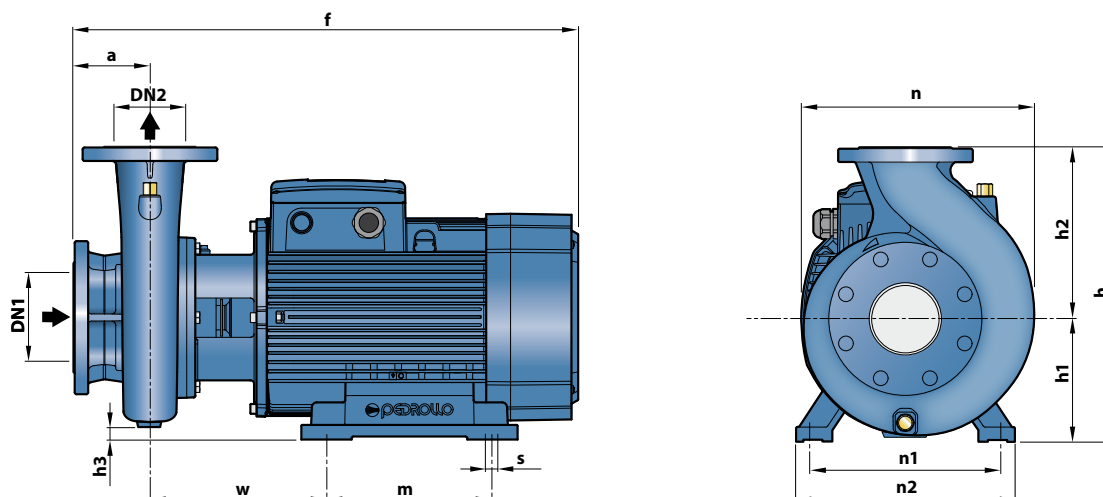
MODEL	VOLTAGE		
	230–240 V	400–415 V	690–720 V
Three-phase			
F 50/250D	–	19.0 A	11.0 A
F 50/250C	–	21.0 A	12.0 A
F 50/250B	–	27.0 A	15.6 A
F 50/250A	–	34.0 A	19.6 A
F 50/250AR	–	41.0 A	24.0 A
F 65/125C	17.5 A	10.0 A	5.8 A
F 65/125B	–	12.0 A	7.0 A
F 65/125A	–	16.5 A	9.5 A
F 65/160C	–	19.0 A	11.0 A
F 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



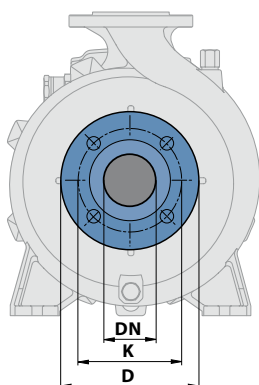
MODEL		DIMENSIONS mm													kg											
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	n	n1	n2	w1	w2	s	1~	3~										
Fm 32/160C	F 32/160C	50	32	80	419	292	132	160	240	190	245	35	35	14	32.6	32.3										
Fm 32/160B	F 32/160B				448/432										42.3	35.2										
-	F 32/160A				448										-	38.7										
-	F 32/200C				469										-	46.3										
-	F 32/200B				515										340	160	180	273	-	51.8						
-	F 32/200A																		-	56.9						
-	F 32/200BH			469	-	42.0																				
-	F 32/200AH				-	45.8																				
-	F 32/250C			100	606	405	180	225	325	250	320	47.5	47.5		-	105.5										
-	F 32/250B														-	103.2										
-	F 32/250A	65	40	80	701	252	112	140	244	160	210	35	35		-	121.0										
Fm 40/125C	F 40/125C				421										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			100	535	340	160	180	277	212	265	250	320	47.5	47.5	-	43.6									
-	F 40/200B															-	53.0									
-	F 40/200A															-	59.0									
-	F 40/250C															606	405	180	225	329	250	320	47.5	47.5	-	104.0
-	F 40/250B																								-	104.0
-	F 40/250A																								701	-
Fm 50/125C	F 50/125C	65	50	100	465/451	292	132	160	242	190	240	35	35	36.8	35.1											
-	F 50/125B				465									-	38.5											
-	F 50/125A				484									-	42.8											
-	F 50/160C				489									-	47.3											
-	F 50/160B				535									340	180	273	212	265	35	35	-	52.8				
-	F 50/160A																				-	57.6				
-	F 50/200C				616									160	200	316.5					-	100.0				
-	F 50/200B				711																-	115.0				
-	F 50/200A				743									360	200	295	-	127.2								
-	F 50/200AR																-	141.0								
-	F 50/250D				605									405	180	225	333	250	320	-	104.2					
-	F 50/250C																			-	105.0					
-	F 50/250B			701		-	121.0																			
-	F 50/250A			733	405	180	225	333	250	320	-	134.2														
-	F 50/250AR										-	147.0														
-	F 65/125C										511	-	53.2													
-	F 65/125B			80	65	100	557	340	160	180	292	212	280	47.5	47.5	-	58.3									
-	F 65/125A						620									360	200	295	-	63.0						
-	F 65/160C	-	98.5																							
-	F 65/160B	716	405				180		225	330	250					320	-	100.2								
-	F 65/160A																-	114.0								
-	F 65/200B	718	-				119.3																			
-	F 65/200A	751	405	180	225	336	250	320	-	132.1																
-	F 65/200AR								-	145.3																
-	F 80/160D								652	-	103.1															
-	F 80/160C	100	80	125	747	480	200	280	382	280	360	60	60	18	-	120.0										
-	F 80/160B				779										-	133.8										
-	F 80/160A				760										-	144.0										
-	F 100/160C				790										-	141.2										
-	F 100/160B	125	100	125	760	480	200	280	382	280	360	60	60	18	-	150.3										
-	F 100/160A				790										-	164.0										

DIMENSIONS AND WEIGHT



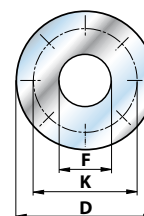
MODEL	DIMENSIONS mm														kg
Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n	n1	n2	w	m	s	3~
F 65/250C	80	65	100	796	451	201	250	16	363	318	360	269.5	305	18.5	208.0
F 65/250B				847											226.0
F 65/250A				847											246.2
F 80/200B	100	80	125	824	450	250	280	26	360	400	490	294	350	24	197.4
F 80/200A				875											223.0
F 80/250B				872				12	380	318	360	271	305	18.5	240.0
F 80/250A	125	100	140	1015	620	250	280	55	490	406	485	313	350	24	547.0
F 100/200C				826											214.4
F 100/200B				875	481	201	280	0	391	318	360	271	305	18.5	234.2
F 100/200A	125	100	140	877											232.8
F 100/250B				1060	620	250	280	40	485	406	485	313	350	24	551.2
F 100/250A															544.3

FLANGED PORTS



COUNTER FLANGES

(CAN BE ORDERED SEPARATELY)



DN FLANGES	D	K	HOLES	
mm	mm	mm	N°	Ø (mm)
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160	8	18
100	220	180		
125	250	210		

DN FLANGES	F	D	K	HOLES	
mm	COUNTERFLANGES	mm	mm	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	18
100	4"	220	180		
125	5"	250	210		

Standardised “EN 733” stainless steel pumps



Clean water



Industrial use



PERFORMANCE RANGE

- Flow rate up to **2200 l/min** (132 m³/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

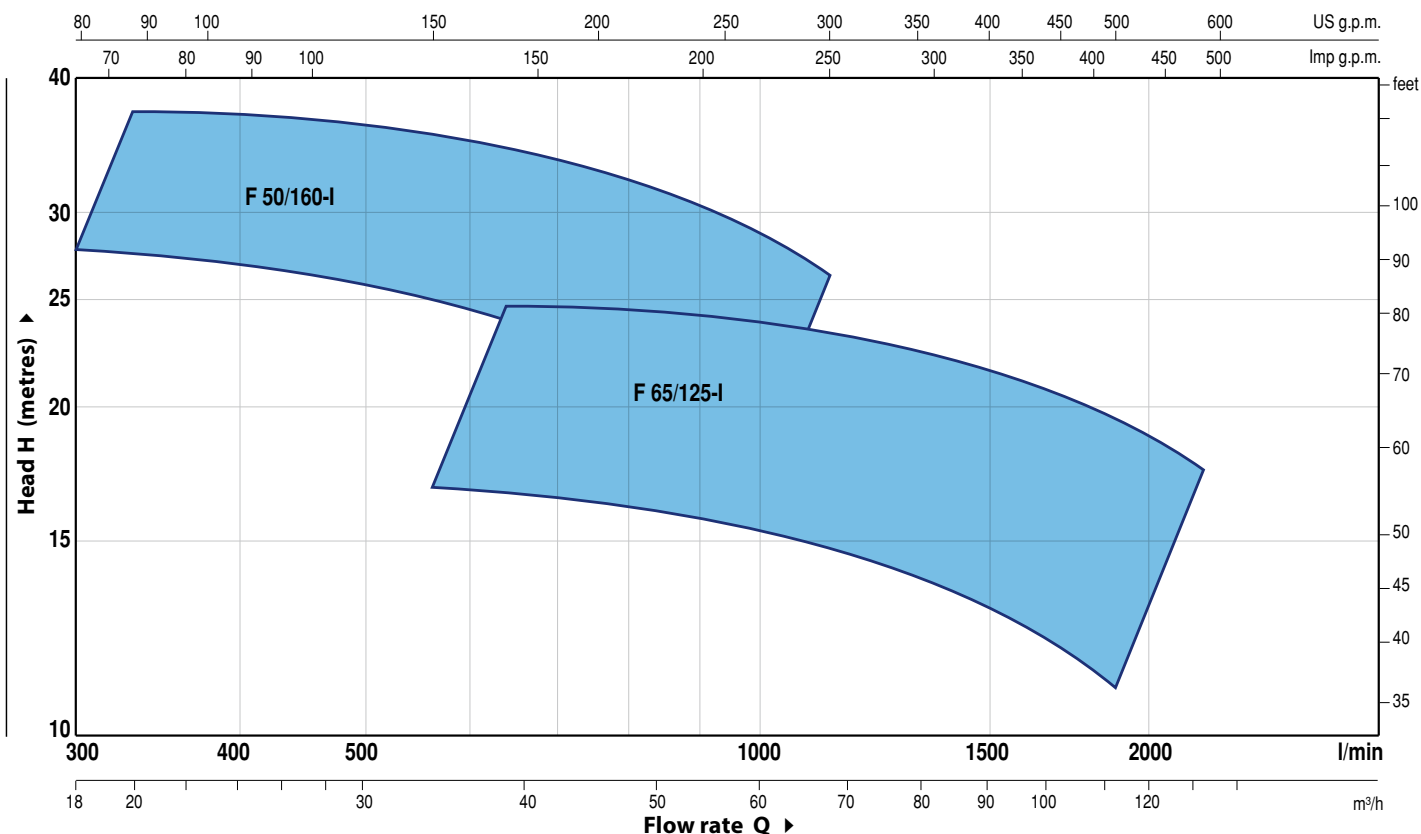
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



PERFORMANCE RANGE

50 Hz n= 2900 min⁻¹



PERFORMANCE DATA

50 Hz n= 2900 min⁻¹

MODEL Three-phase	POWER (P ₂)			PERFORMANCE	
	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

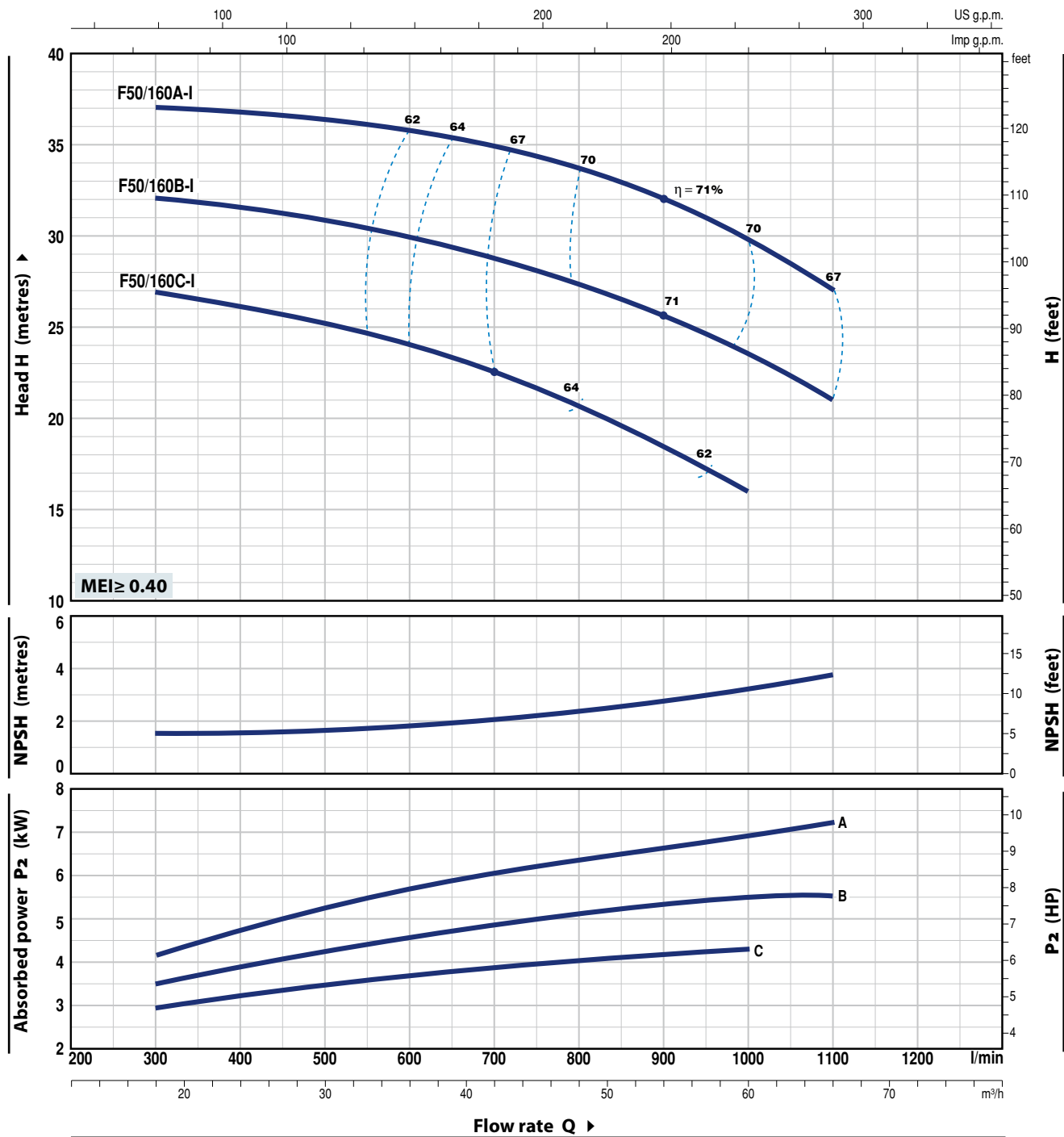
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

F50/160-I

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$ $HS = 0 \text{ m}$



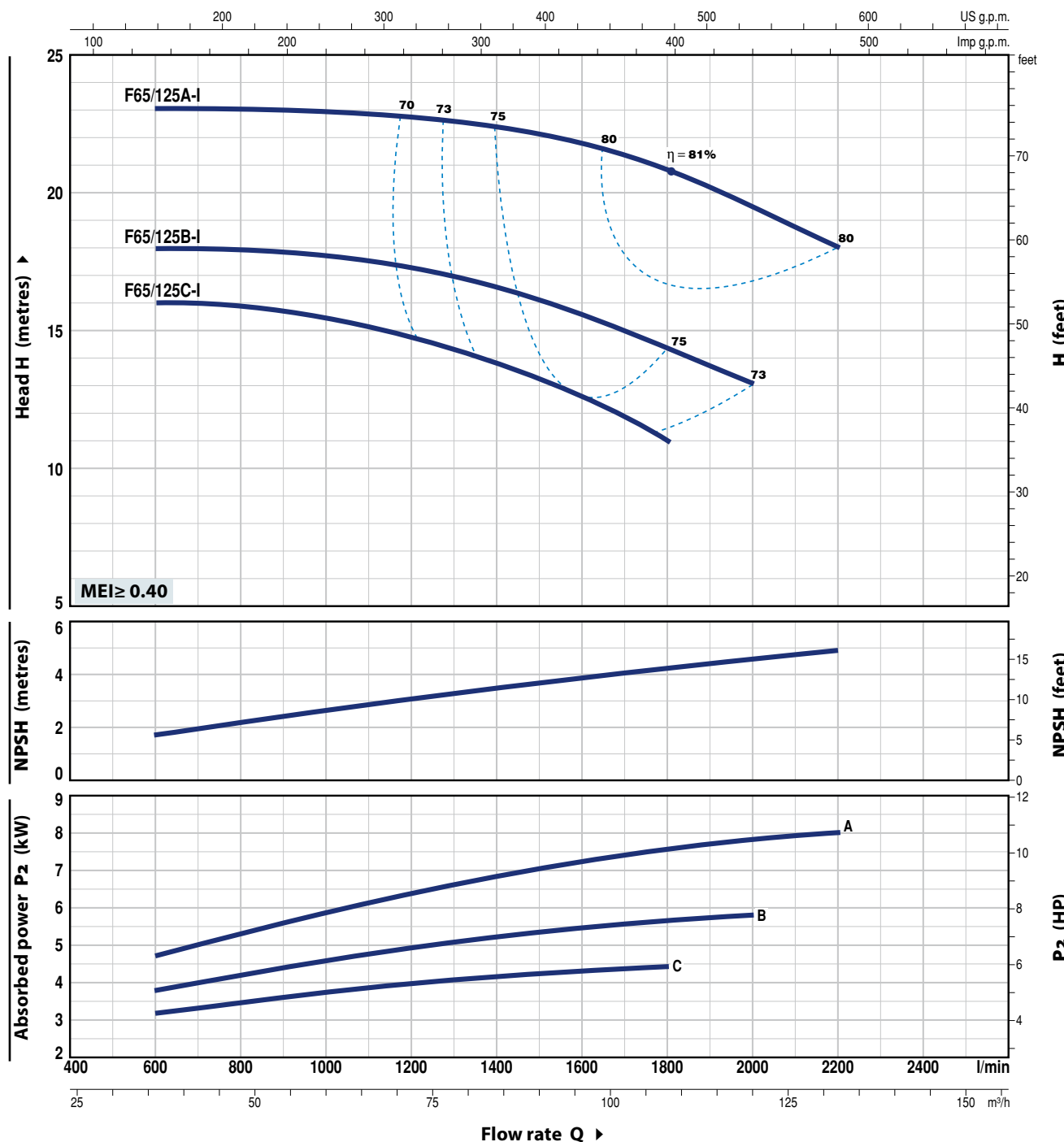
MODEL	POWER (P_2)		Q $\frac{\text{m}^3}{\text{h}}$ $\frac{\text{l}}{\text{min}}$	0	18	24	30	36	42	48	54	60	66
	kW	HP		0	300	400	500	600	700	800	900	1000	1100
F 50/160C-I	4	5.5	H metres	27	27	26.5	25	24.5	23	20	18.5	16	
F 50/160B-I	5.5	7.5		33	32	31.7	31	30	29	27	26	24	21
F 50/160A-I	7.5	10		38	37	36.8	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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q	0	36	48	60	72	84	96	108	120	132
	kW	HP		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

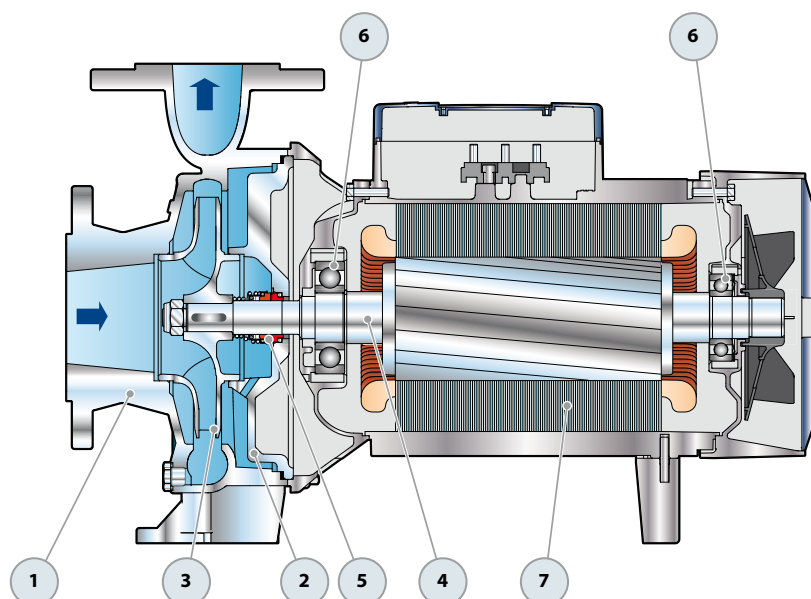
Q = Flow rate H = Total manometric head HS = Suction height

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

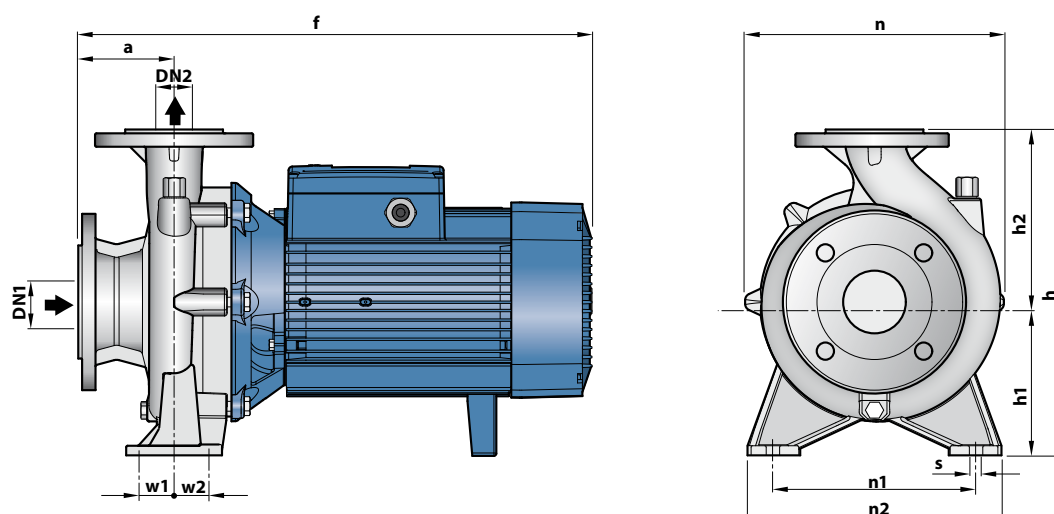
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Stainless steel AISI 316 complete with flanged suction and delivery ports					
2	BODY BACKPLATE	Stainless steel AISI 316					
3	IMPELLER	Stainless steel AISI 316					
4	MOTOR SHAFT	Stainless steel AISI 316L					
5	MECHANICAL SEAL	Pump	Seal	Shaft		Materials	
		Model	Model	Diameter	Stationary ring	Rotational ring	Elastomer
		F50/160-I F65/125-I	FN-24SV	Ø 24 mm	Silicon carbide	Silicon carbide	Viton
6	BEARINGS	Pump	Model				
		F50/160-I F65/125-I	6307 ZZ-C3 / 6206 ZZ-C3				
7	ELECTRIC MOTOR	F: three-phase 230/400 V - 50 Hz for 4 kW 400/690 V - 50 Hz from 5.5 to 7.5 kW ⇒ The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1) – Insulation: class F – Protection: IP 55					



DIMENSIONS AND WEIGHT



MODEL	DIMENSIONS mm													kg
Three-phase	DN1	DN2	a	f	h	h1	h2	n	n1	n2	w1	w2	s	3~
F 50/160C-I	65	50	100	489	340	160	180	269	212	265	35	35	14	50.2
F 50/160B-I				535										54.0
F 50/160A-I				511										65.5
F 65/125C-I	80	65		557				291		280	47.5	47.5		62.6
F 65/125B-I				67.7										
F 65/125A-I				72.9										

ABSORPTION

MODEL	VOLTAGE		
Three-phase	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 **3000 l/min** (180 m³/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

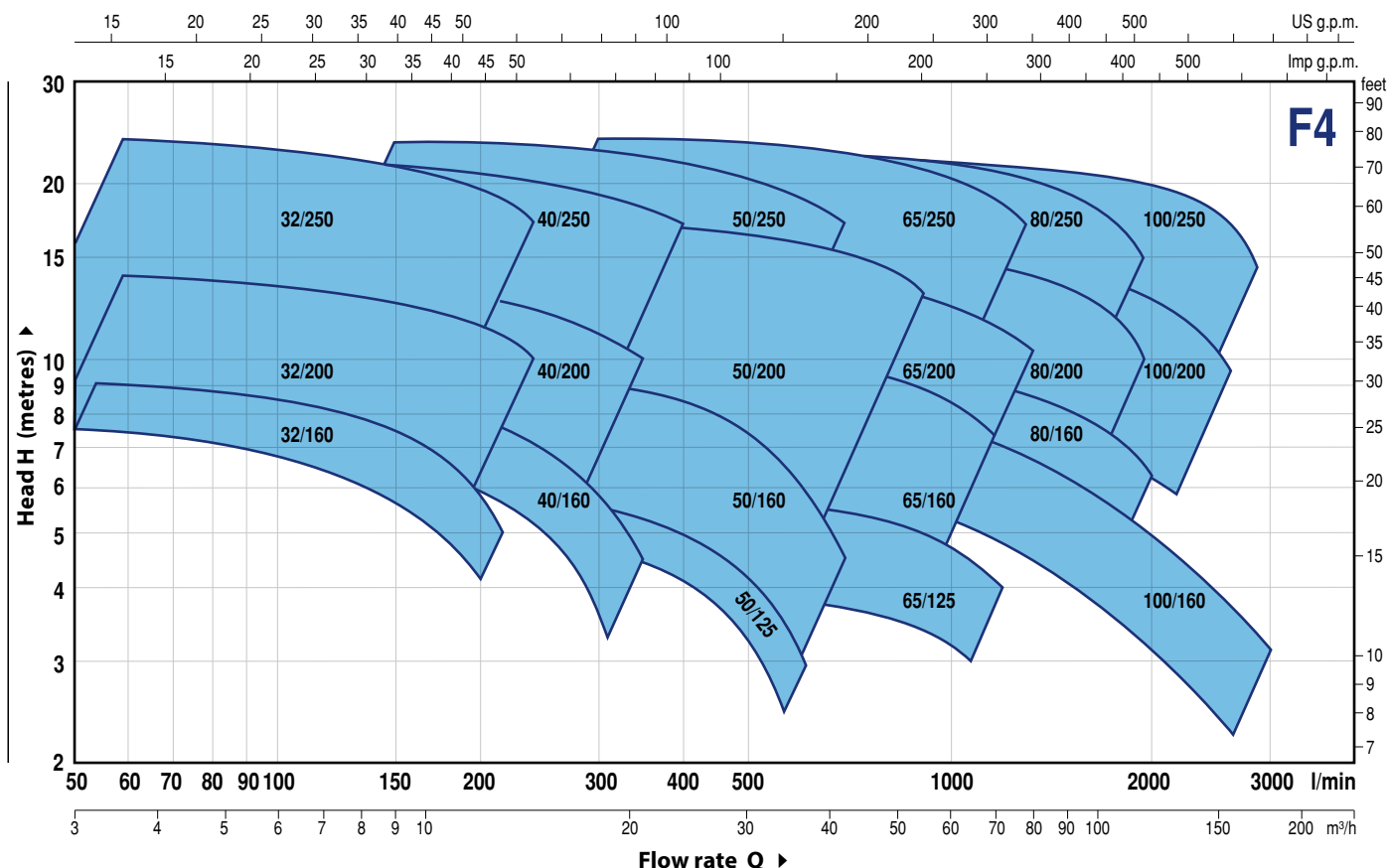
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



PERFORMANCE RANGE

50 Hz n = 1450 min⁻¹



PERFORMANCE DATA

50 Hz n = 1450 min⁻¹

MODEL	POWER (P ₂)			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		50 – 150	11.3 – 9.2
F4-32/200AH	0.75	1		50 – 160	13.8 – 11
F4-32/250C	1.1	1.5		50 – 220	18.4 – 15
F4-32/250B	1.5	2		50 – 250	21.7 – 17.4
F4-32/250A	2.2	3	IE2	50 – 270	23.8 – 18.7
F4-40/160B	0.37	0.5		50 – 320	7.5 – 3.5
F4-40/160A	0.55	0.75	IE3	50 – 350	9 – 4.5
F4-40/200B	0.75	1		50 – 350	11.5 – 7
F4-40/200A	1.1	1.5		50 – 350	13.8 – 10
F4-40/250C	1.1	1.5		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		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		200 – 900	17 – 13.2
F4-50/250D	1.1	1.5	IE3	150 – 650	12.5 – 5
F4-50/250C	1.5	2		150 – 700	14 – 5
F4-50/250B	2.2	3		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 ₂)			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		300 – 1100	7.5 – 5.5
F4-65/160B	1.5	2		300 – 1200	9.1 – 5.7
F4-65/160A	2.2	3		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		200 – 1300	23.5 – 17
F4-80/160D	1.5	2		300 – 2000	6.3 – 2.5
F4-80/160C	2.2	3		300 – 2000	7.5 – 3.8
F4-80/160B	2.2	3		300 – 2000	8.8 – 5
F4-80/160A	3	4		300 – 2000	10 – 6.2
F4-80/200B	4	5.5	IE3	300 – 1800	14 – 9
F4-80/200A	5.5	7.5		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		300 – 1950	22 – 15
F4-100/160B	2.2	3		400 – 2600	8.3 – 3.5
F4-100/160A	3	4		400 – 2800	10 – 4.7
F4-100/200C	4	5.5	IE3	400 – 2300	12.7 – 7
F4-100/200B	5.5	7.5		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		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

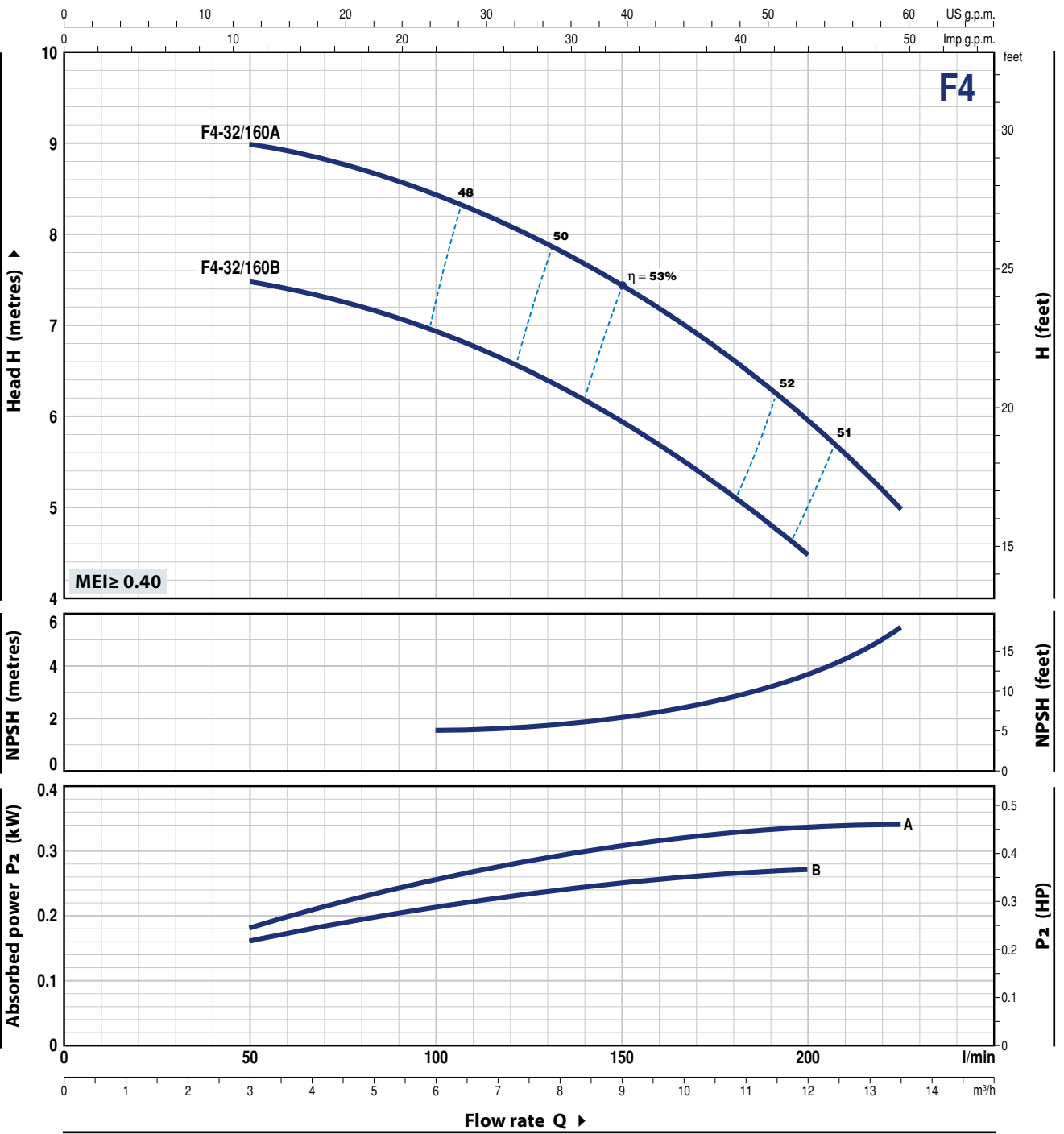
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

F4-32/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$

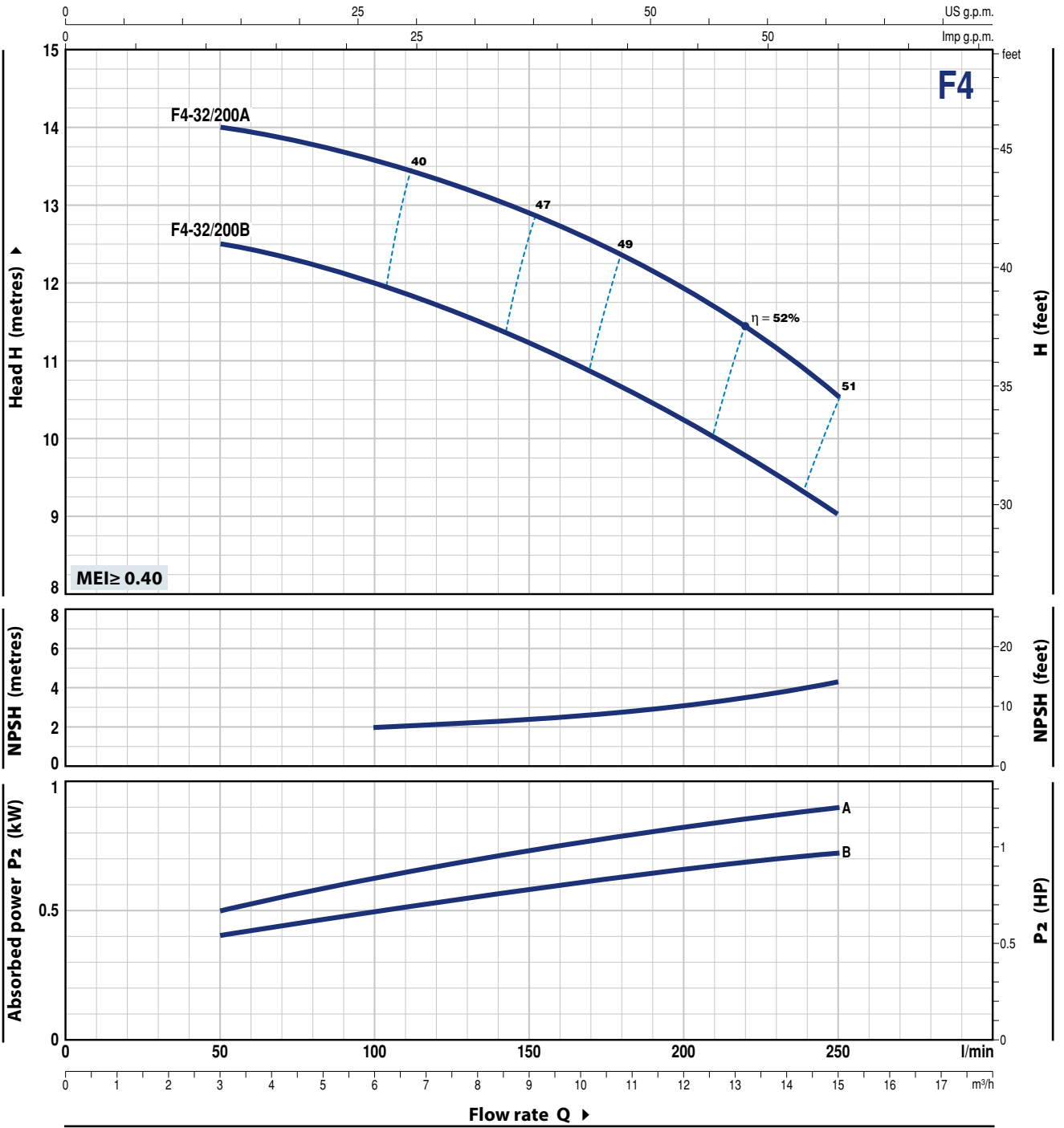


MODEL	POWER (P_2)		Q	3	4.5	6	7.5	9	10.8	12	13.5
	kW	HP		50	75	100	125	150	180	200	225
F4-32/160B	0.37	0.5	H metres	7.5	7.3	6.9	6.5	6	5.1	4.5	
F4-32/160A	0.37	0.5		9	8.8	8.4	8	7.5	6.6	6	5

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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q m³/h l/min	3	6	9	12	15
	kW	HP		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

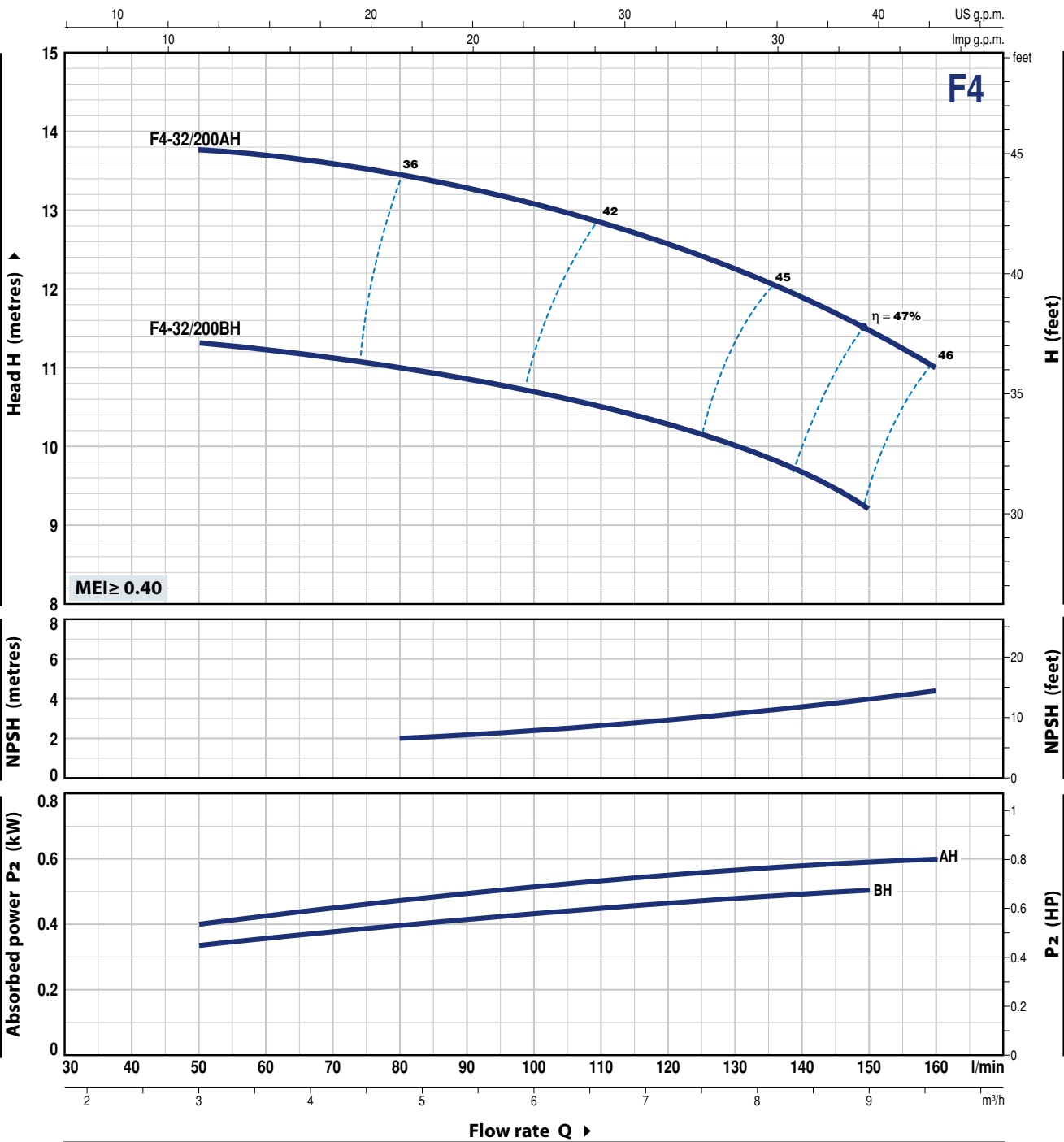
Q =Flow rate H =Total manometric head HS = Suction height

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

F4-32/200H

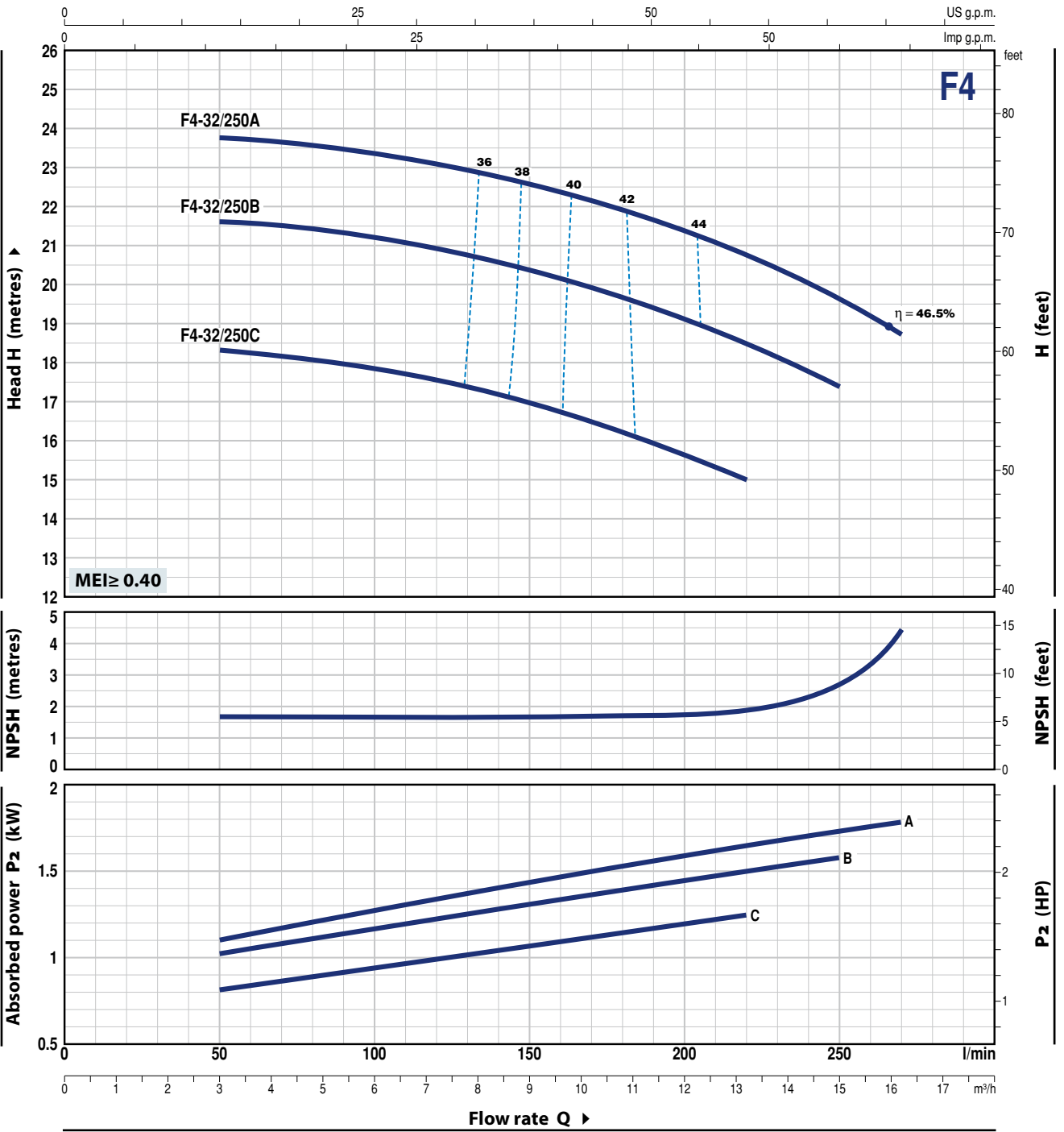
CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$



MODEL	POWER (P_2)		Q m^3/h l/min	3	4.2	5.4	6.6	7.8	9	9.6
	kW	HP		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.



MODEL	POWER (P ₂)		Q	3	4.5	6	7.5	9	10.5	13.2	15	16.2
	kW	HP		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

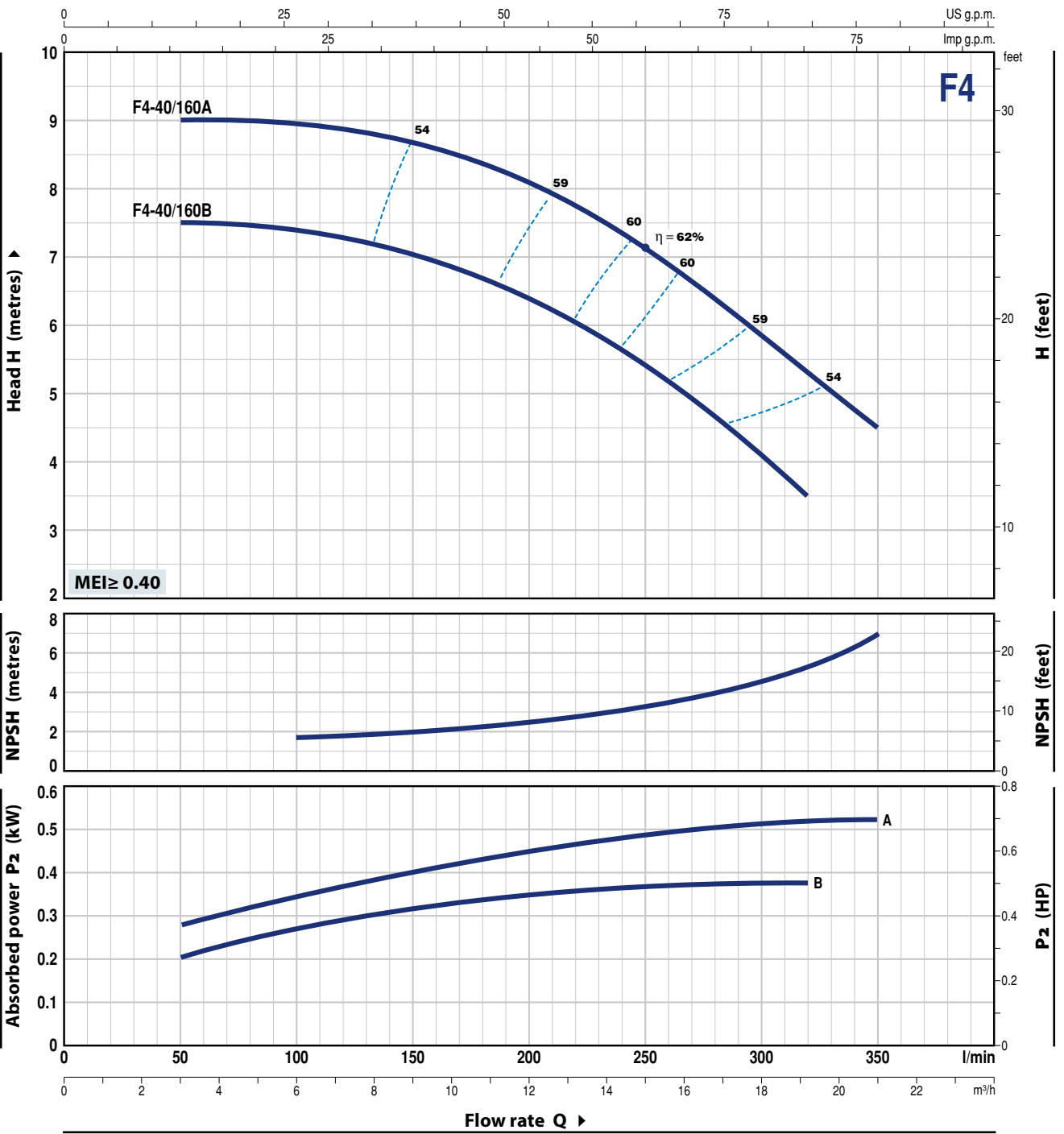
Q =Flow rate H =Total manometric head HS = Suction height

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

F4-40/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

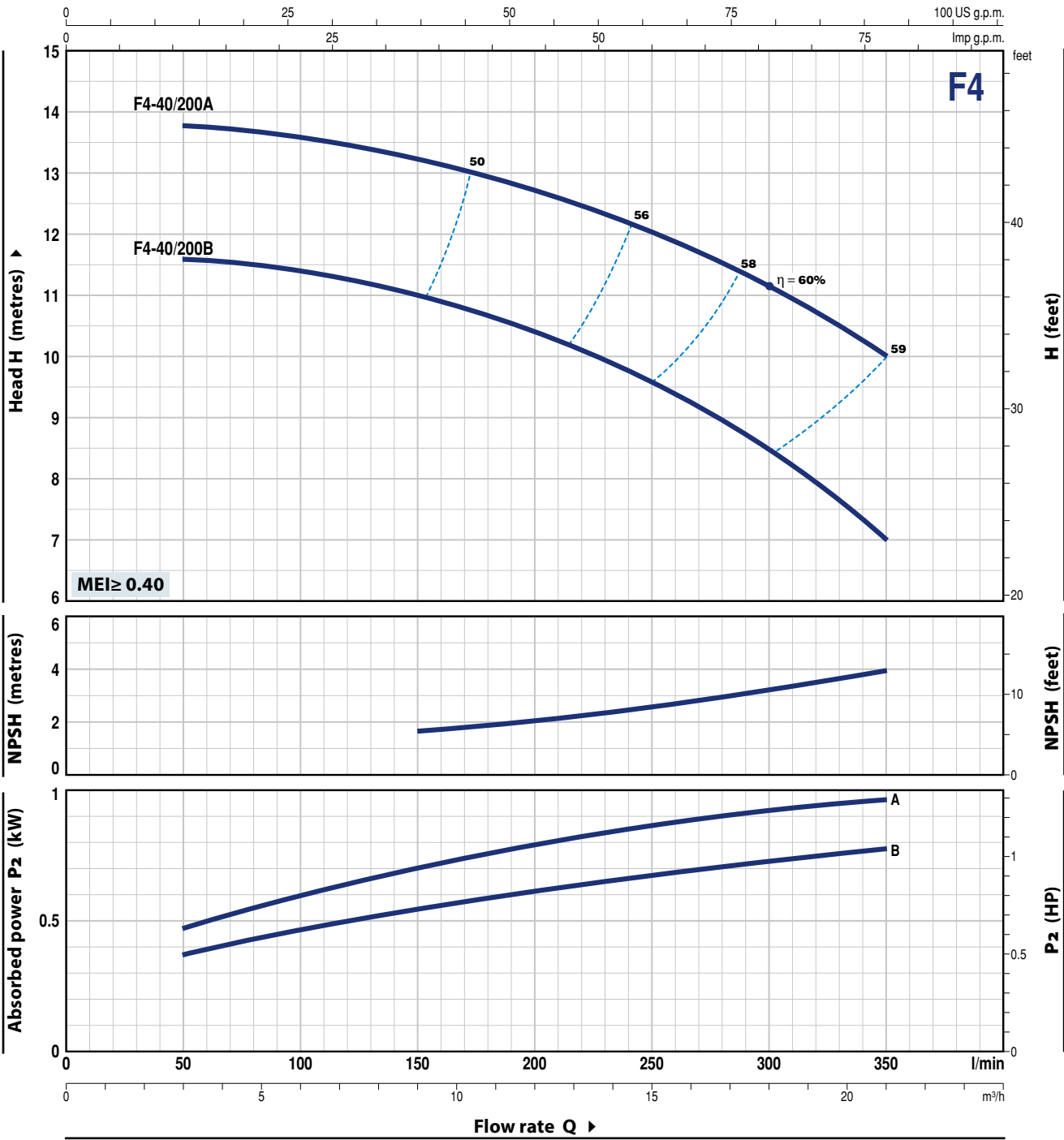
50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$



MODEL	POWER (P_2)		Q m³/h l/min	3	6	9	12	15	18	19.2	21
	kW	HP		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.



MODEL	POWER (P ₂)		Q	3	6	9	12	15	18	21
	kW	HP		50	100	150	200	250	300	350
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

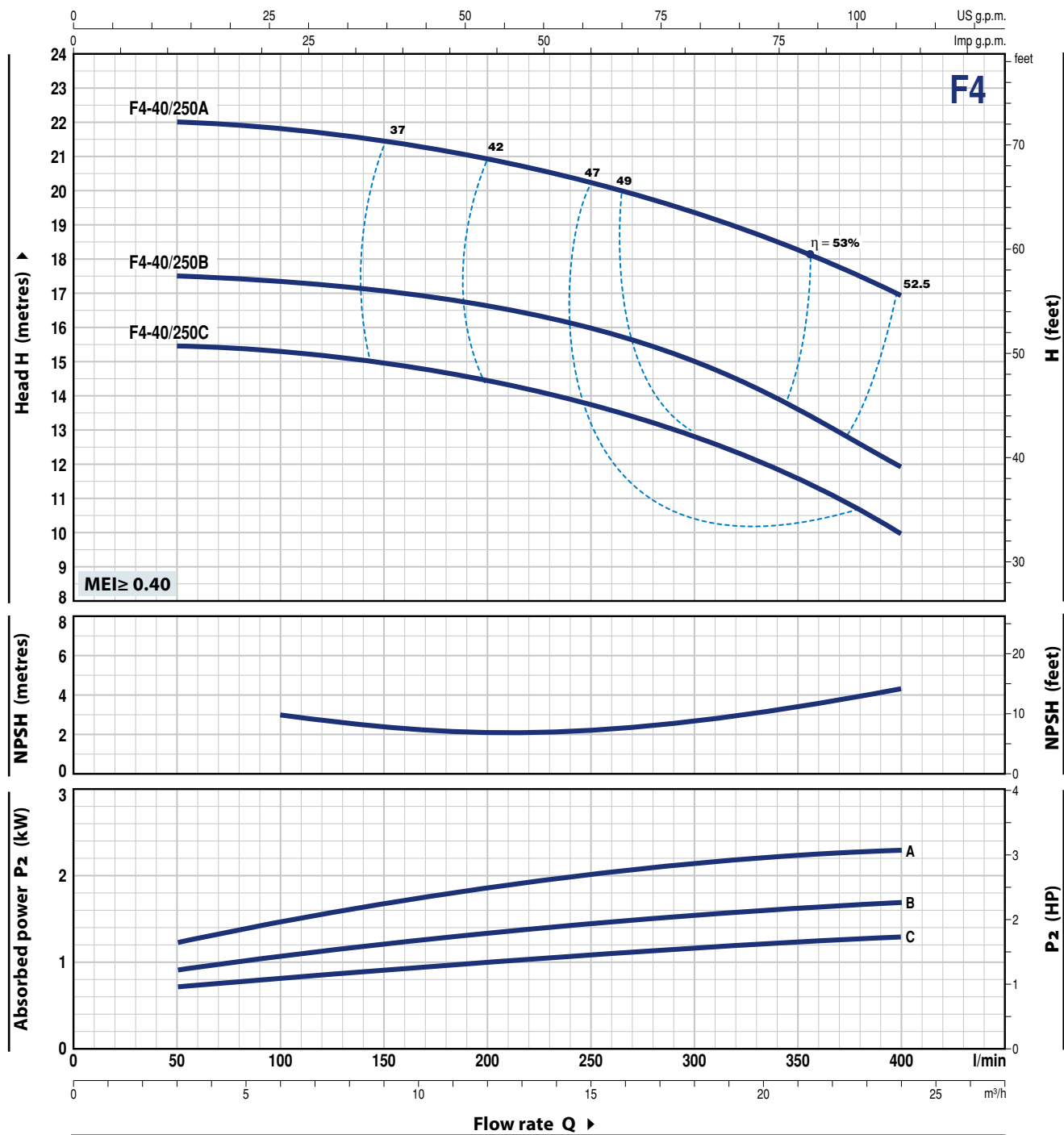
Q =Flow rate H =Total manometric head HS = Suction height

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

F4-40/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$



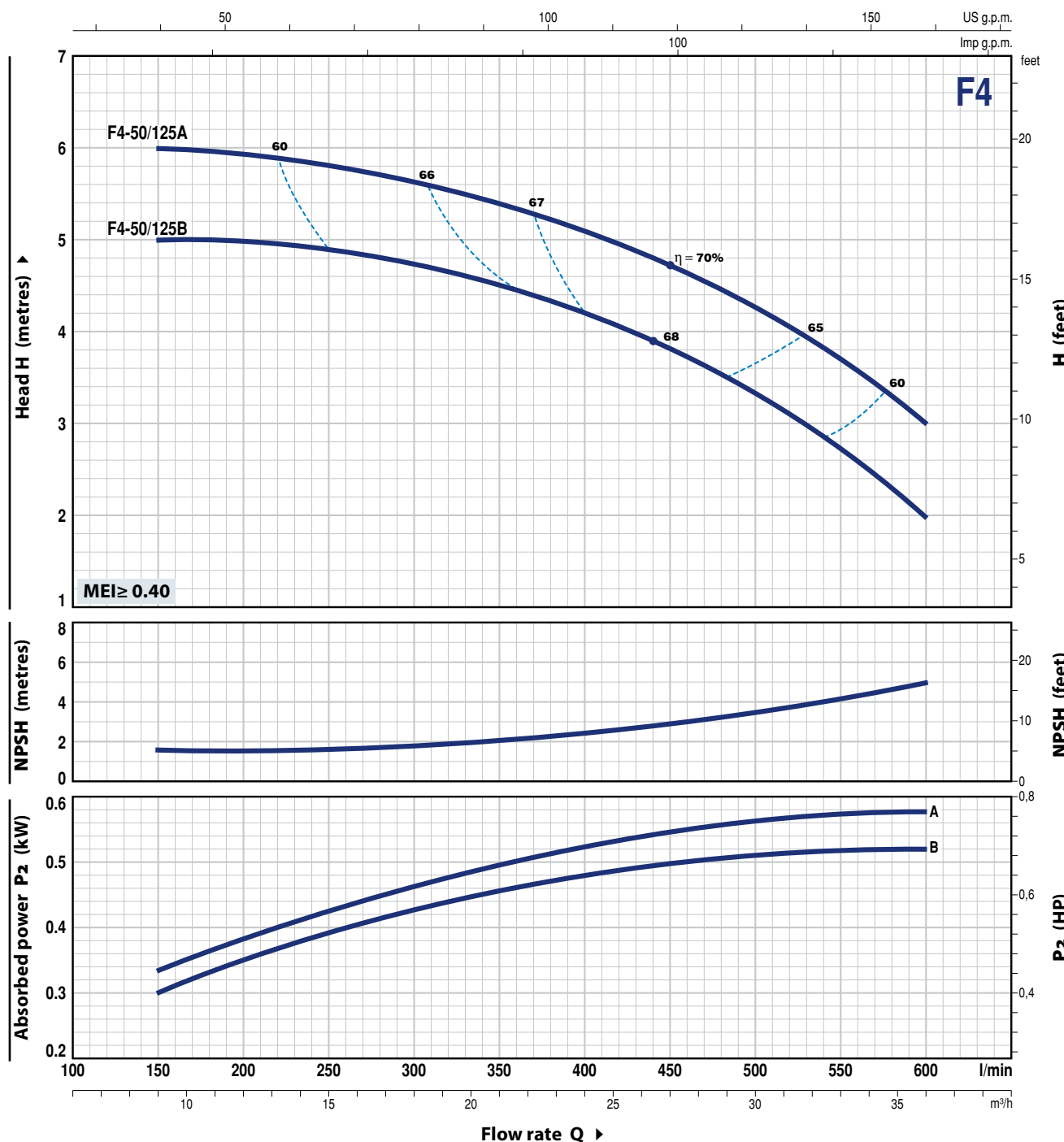
MODEL	POWER (P_2)		Q	3	6	9	12	15	18	21	24
	kW	HP		50	100	150	200	250	300	350	400
F4-40/250C	1.1	1.5	H metres	15.5	15.2	15	14.5	13.6	12.9	11.5	10
F4-40/250B	1.5	2		17.5	17.2	17	16.5	16	15	13.5	12
F4-40/250A	2.2	3		22	21.9	21.5	21	20.2	19.2	18.2	17

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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q m³/h l/min	9	12	15	17	21	24	27	30	33	36
	kW	HP		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

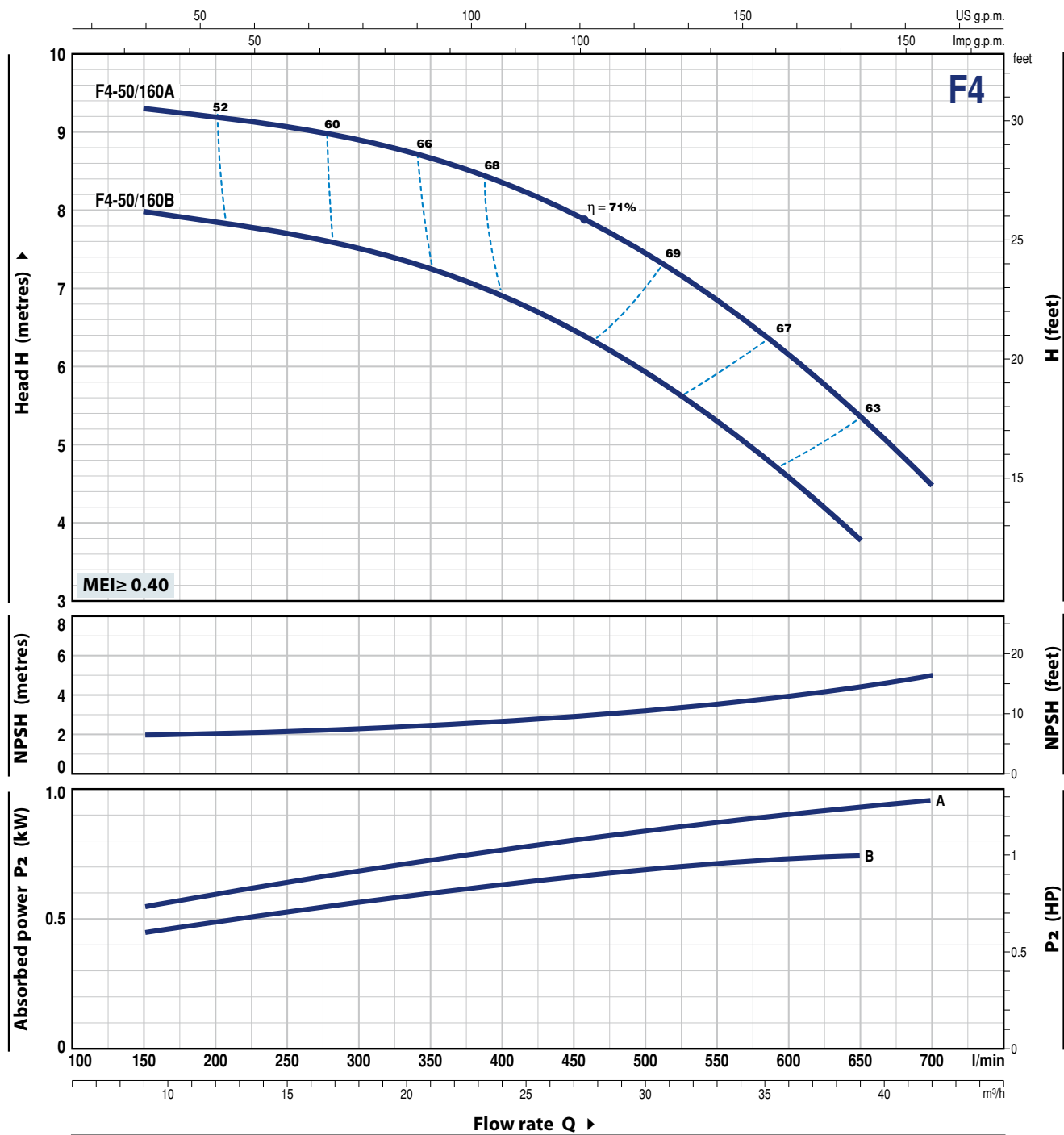
Q = Flow rate H = Total manometric head HS = Suction height

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

F4-50/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$

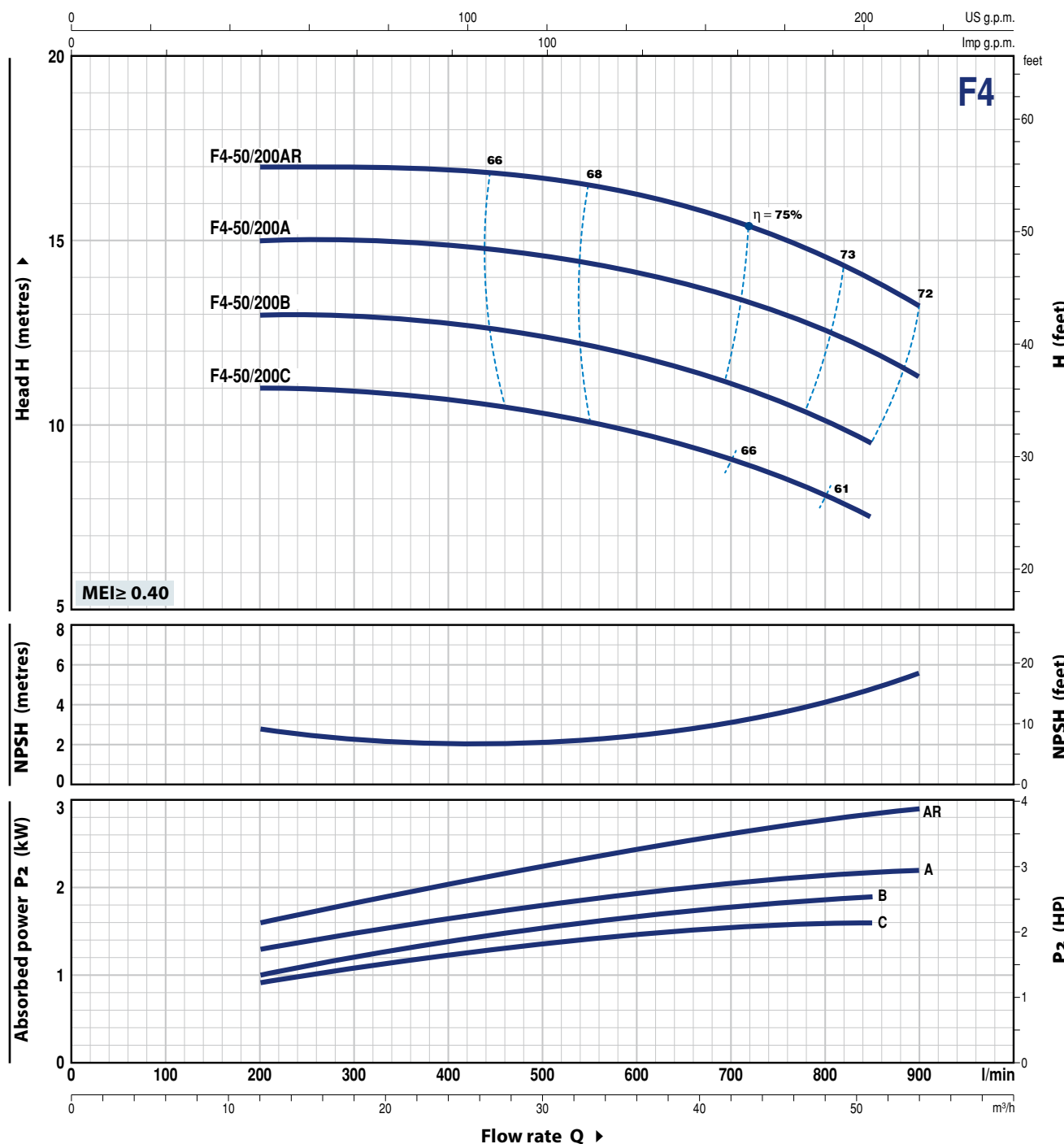


MODEL	POWER (P_2)		Q	9	12	15	17	21	24	27	30	33	36	39	42
	kW	HP		150	200	250	300	350	400	450	500	550	600	650	700
F4-50/160B	0.75	1	H metres	8	7.8	7.7	7.5	7.2	6.9	6.5	5.9	5.3	4.6	3.8	
F4-50/160A	1.1	1.5		9.3	9.2	9.1	8.9	8.7	8.4	8	7.4	6.8	6.2	5.4	4.5

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⁻¹ HS = 0 m



MODEL	POWER (P ₂)		Q m³/h l/min	12	17	24	30	36	42	48	51	54
	kW	HP		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

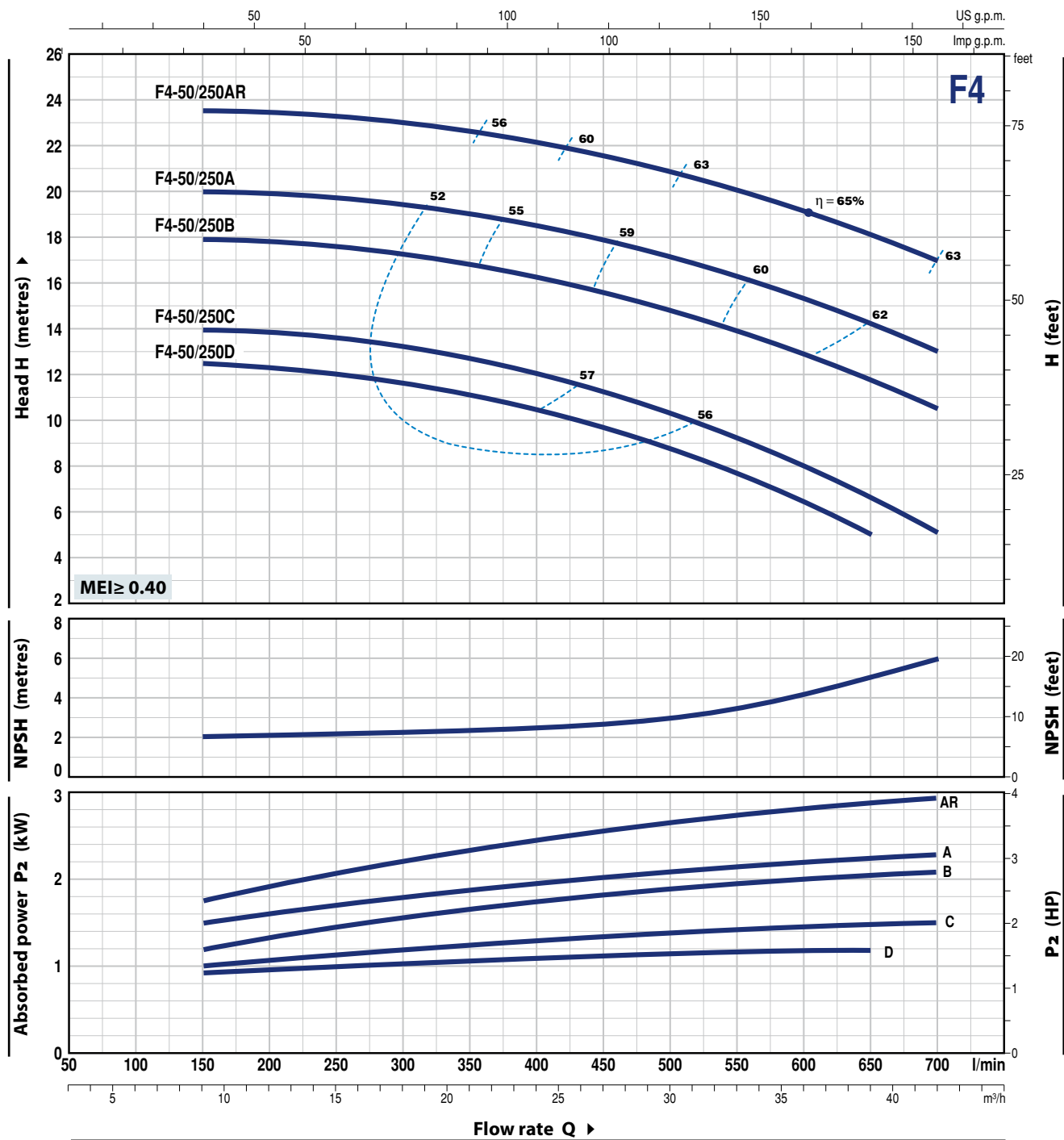
Q = Flow rate H = Total manometric head HS = Suction height

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

F4-50/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$



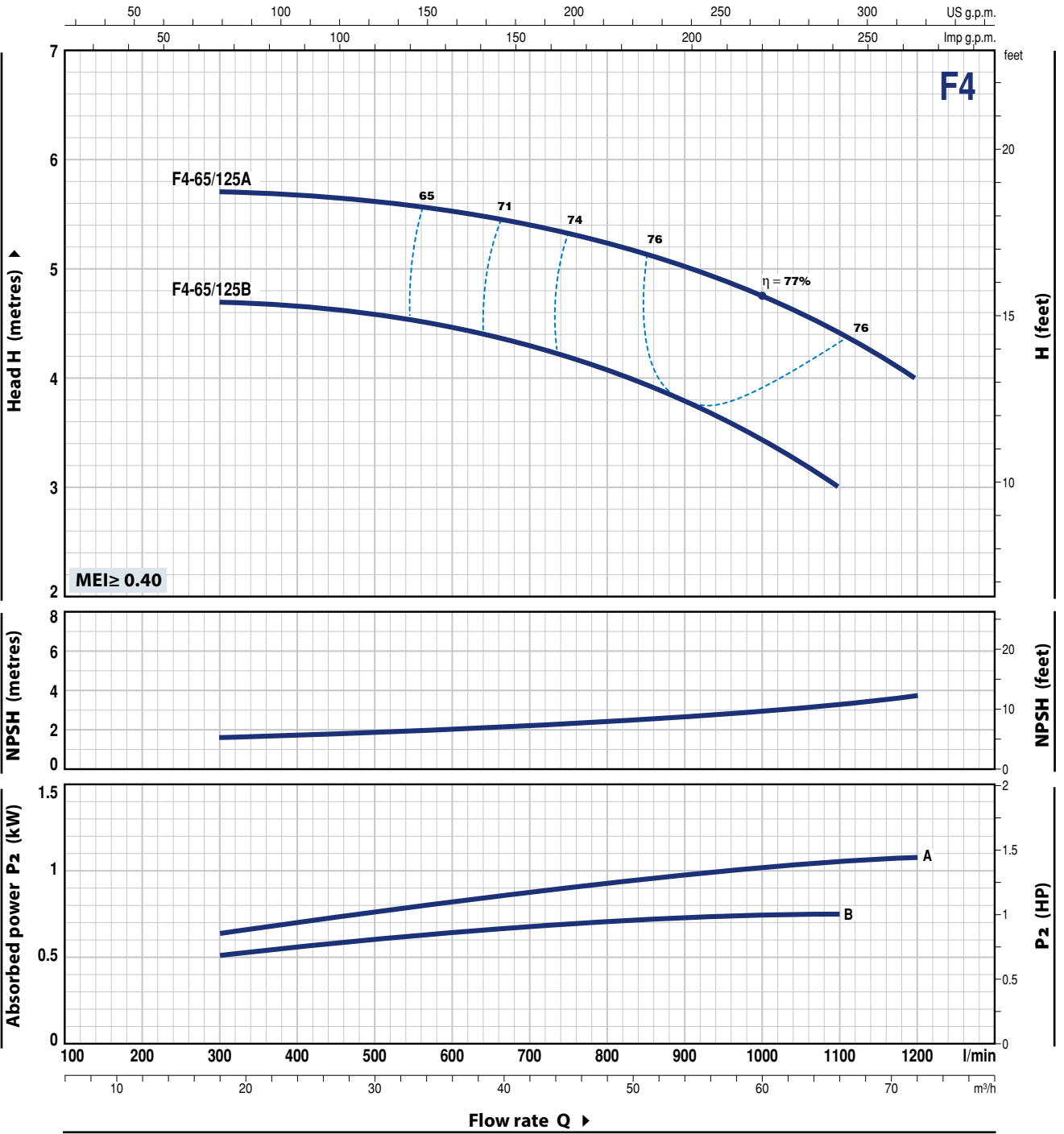
MODEL	POWER (P_2)		Q m^3/h l/min	9	12	15	18	21	24	27	30	33	36	39	42
	kW	HP		150	200	250	300	350	400	450	500	550	600	650	700
F4-50/250D	1.1	1.5	H metres	12.5	12.3	12	11.5	11.1	10.5	9.8	8.8	7.8	6.5	5	
F4-50/250C	1.5	2		14	13.9	13.6	13.2	12.8	12	11.2	10.2	9.2	8	6.6	5
F4-50/250B	2.2	3		18	17.9	17.6	17.2	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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q	18	24	30	36	42	48	54	60	66	72
	kW	HP		300	400	500	600	700	800	900	1000	1100	1200
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	1.1	1.5		5.7	5.7	5.6	5.5	5.4	5.2	5	4.7	4.4	4

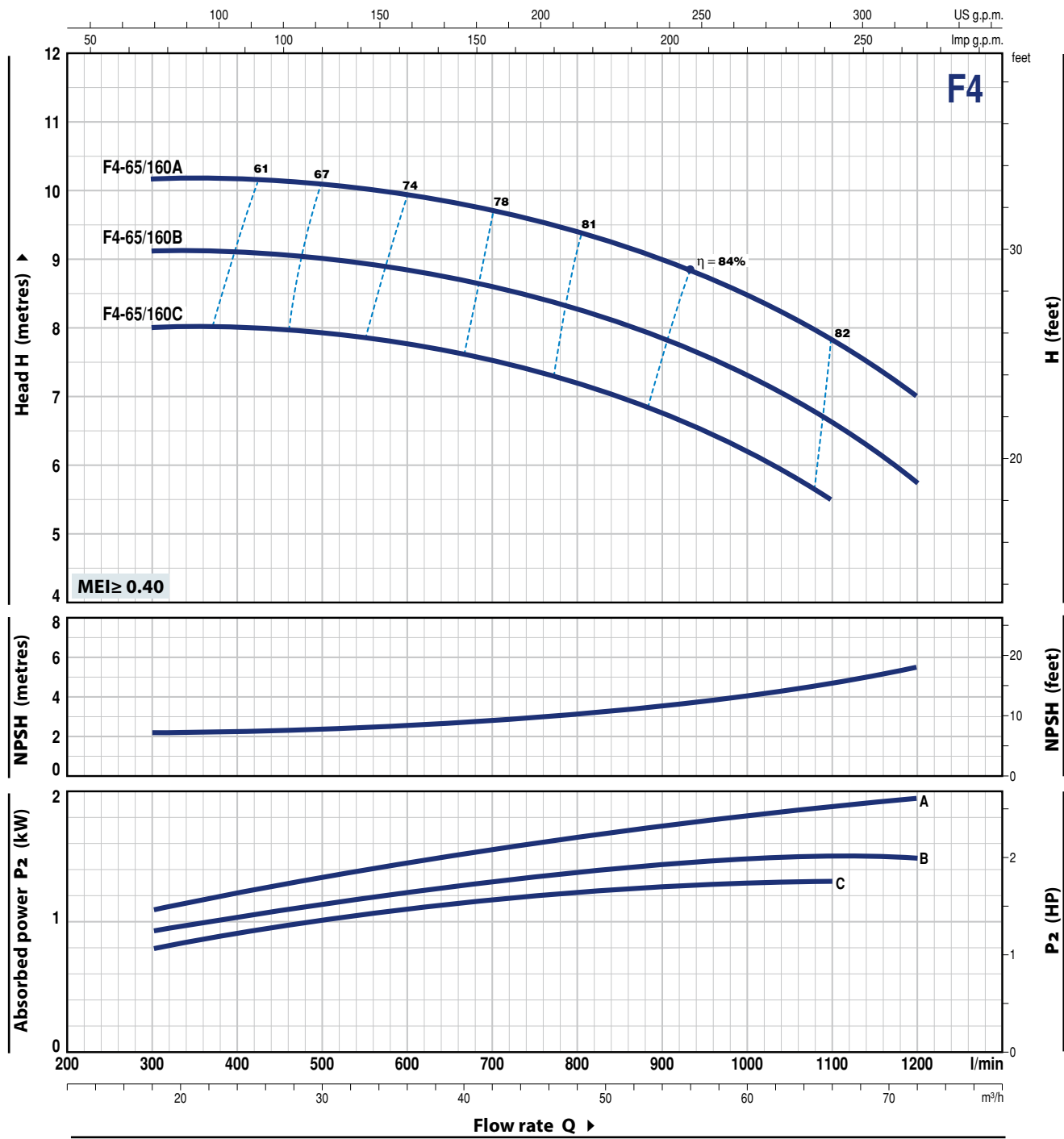
Q =Flow rate H =Total manometric head HS = Suction height

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⁻¹ HS= 0 m

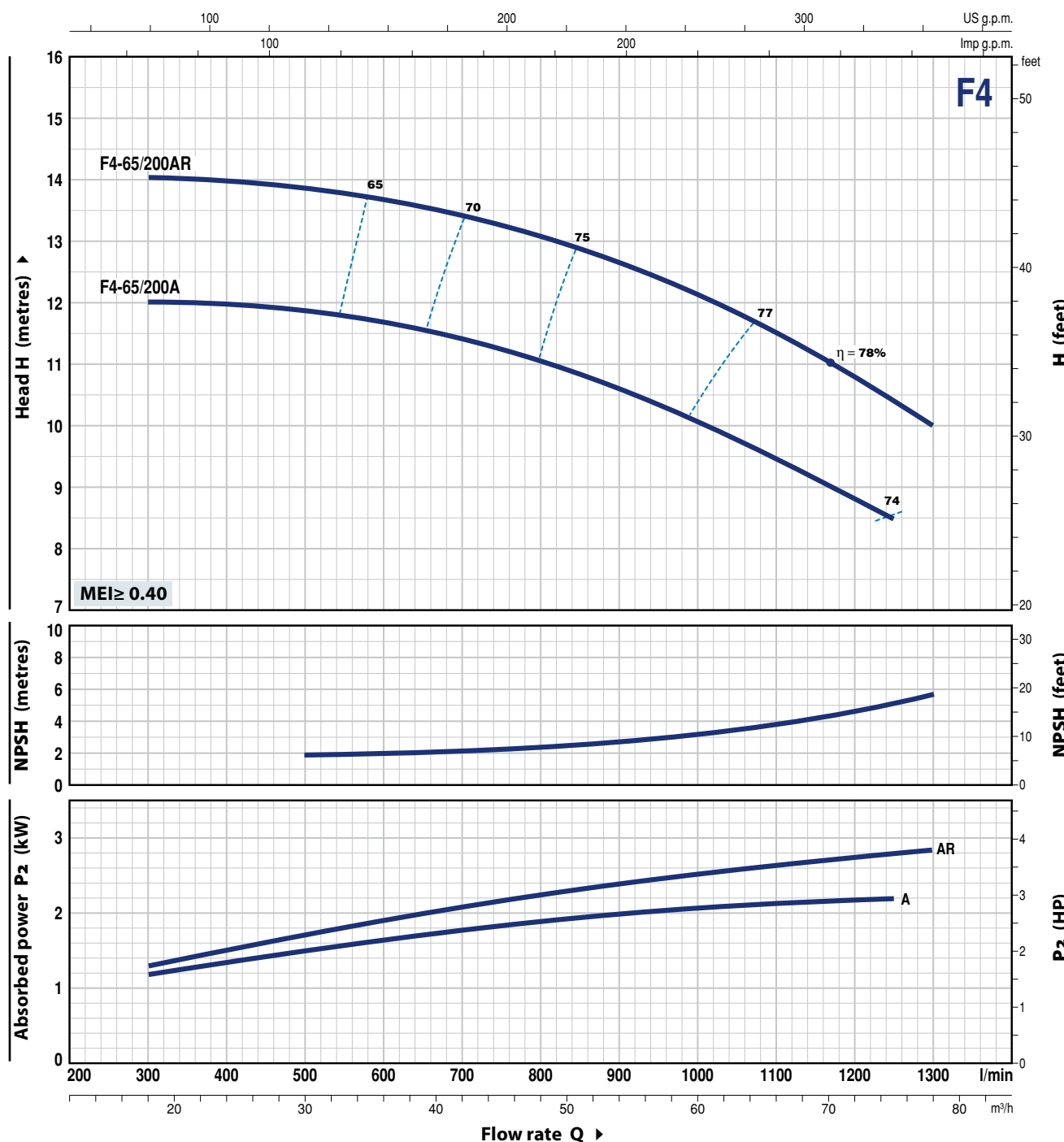


MODEL	POWER (P ₂)		Q	18	24	30	36	42	48	54	60	66	72
	kW	HP		300	400	500	600	700	800	900	1000	1100	1200
F4-65/160C	1.1	1.5	H metres	8	8	7.9	7.7	7.5	7.2	6.7	6.2	5.5	
F4-65/160B	1.5	2		9.1	9.1	9	8.8	8.6	8.3	7.8	7.3	6.6	5.7
F4-65/160A	2.2	3		10.1	10.1	10.1	9.9	9.7	9.4	9	8.5	7.8	7

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 $n = 1450 \text{ min}^{-1}$ HS = 0 m



MODEL	POWER (P_2)		Q	18	24	30	36	42	48	54	60	66	72	75	78
	kW	HP		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

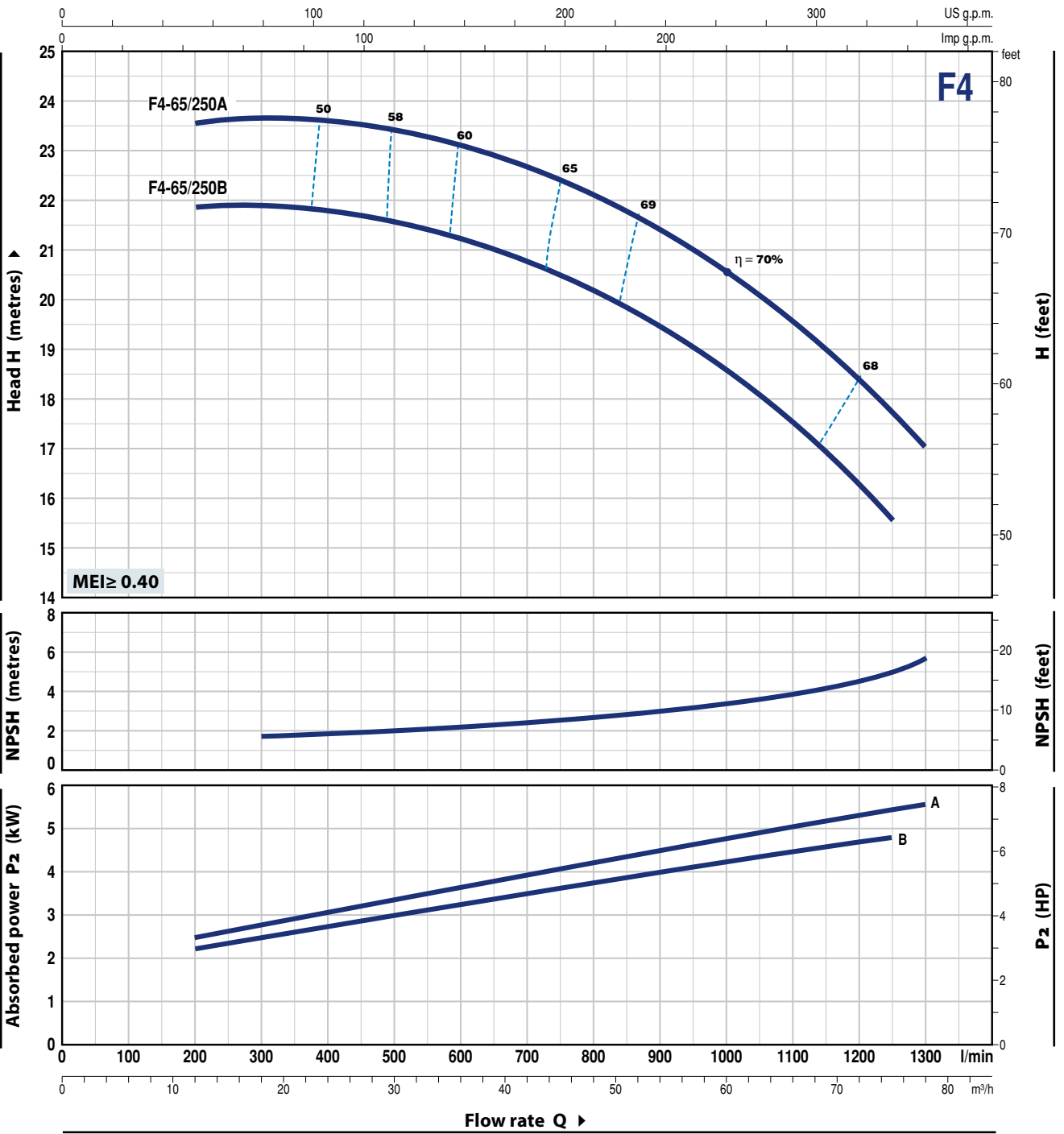
Q = Flow rate H = Total manometric head HS = Suction height

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

F4-65/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$

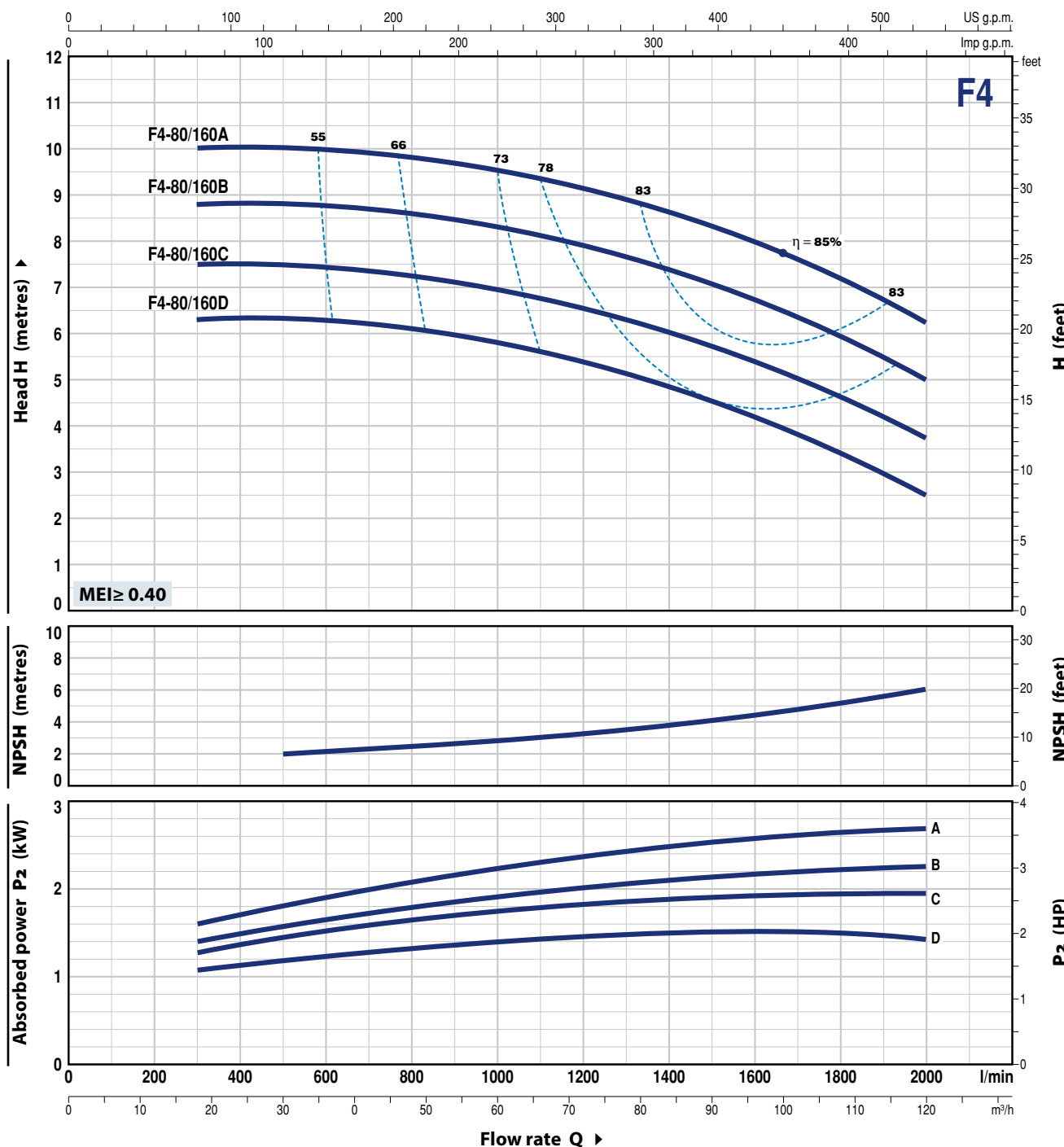


MODEL	POWER (P_2)		Q m^3/h l/min	12	18	24	30	36	42	48	54	60	66	72	75	78
	kW	HP		200	300	400	500	600	700	800	900	1000	1100	1200	1250	1300
F4-65/250B	4	5.5	H metres	21.8	21.8	21.7	21.5	21.2	20.7	20.2	19.5	18.6	17.5	16.2	15.5	
F4-65/250A	5.5	7.5		23.5	23.5	23.5	23.4	23.1	22.6	22.1	21.5	20.5	19.6	18.5	17.8	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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q	18	24	36	48	60	72	84	96	108	120
	kW	HP		300	400	600	800	1000	1200	1400	1600	1800	2000
F4-80/160D	1.5	2	H metres	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

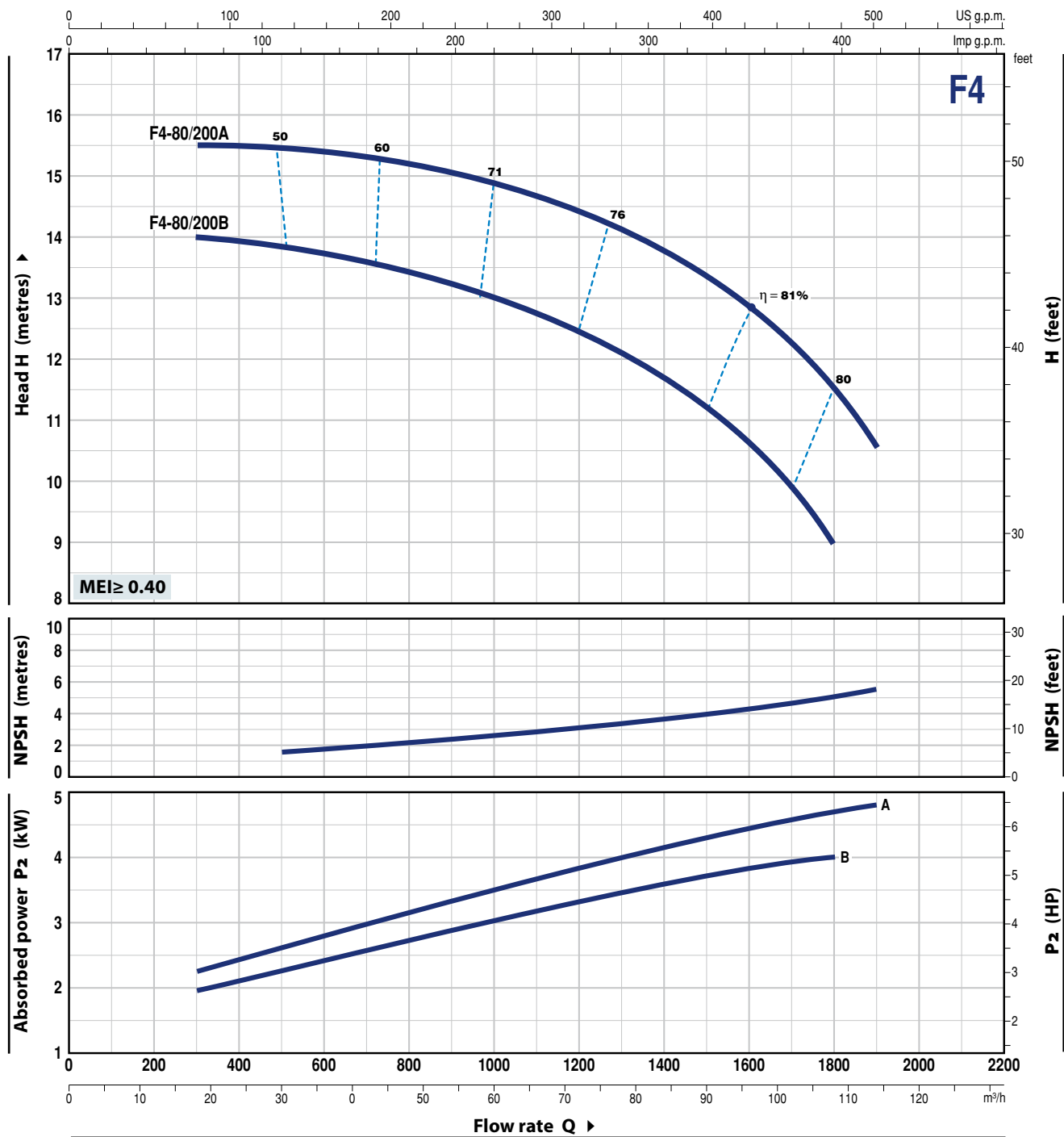
Q = Flow rate H = Total manometric head HS = Suction height

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

F4-80/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$

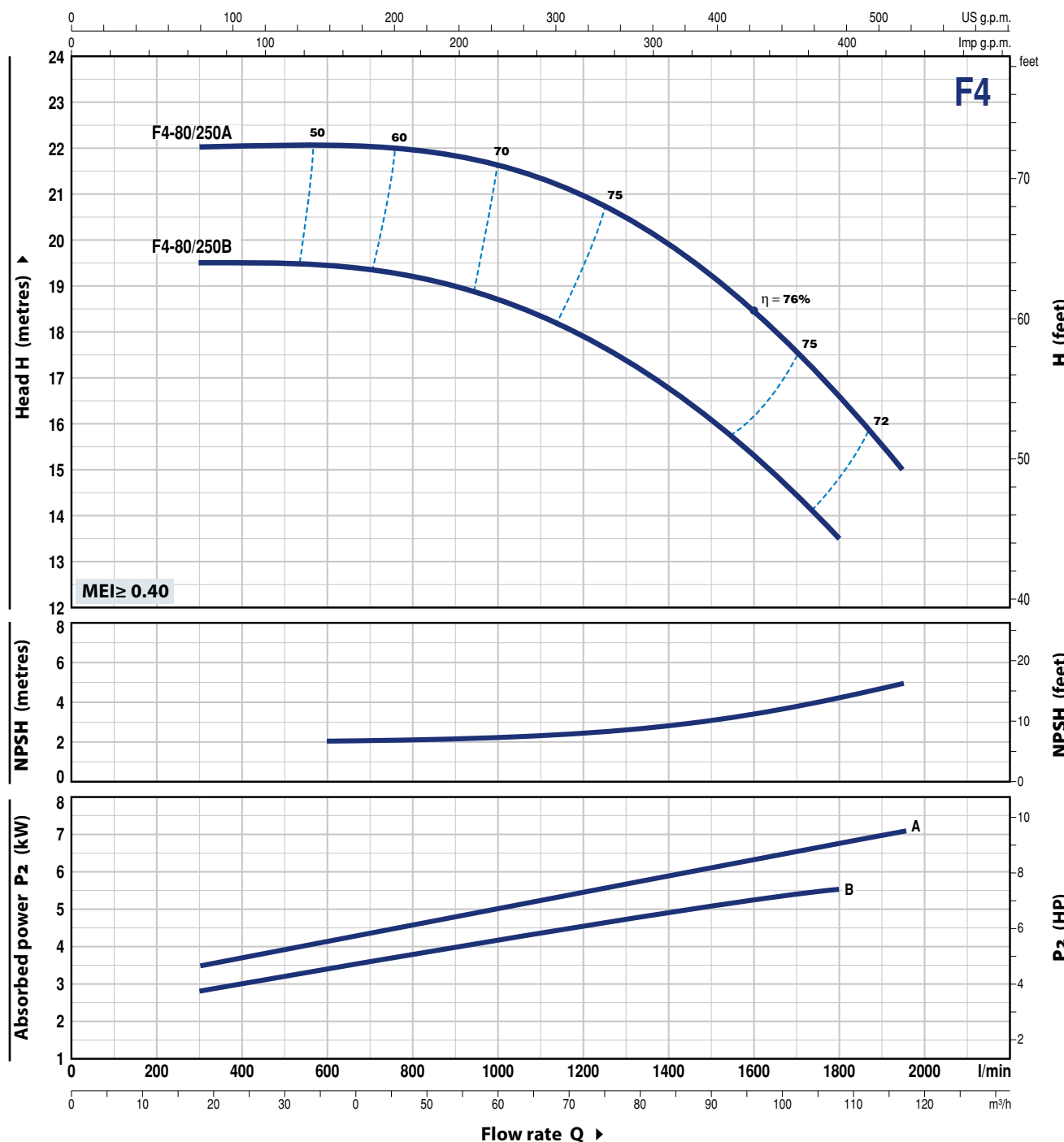


MODEL	POWER (P ₂)		Q	18	24	36	48	60	72	84	96	108	114
	kW	HP		300	400	600	800	1000	1200	1400	1600	1800	1900
F4-80/200B	4	5.5	H metres	14	13.9	13.7	13.4	13	12.5	11.7	10.6	9	
F4-80/200A	5.5	7.5		15.5	15.5	15.4	15.2	14.8	14.5	13.7	12.8	11.5	10.5

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⁻¹ HS= 0 m



MODEL	POWER (P ₂)		Q m ³ /h l/min	18	24	36	48	60	72	84	96	108	117
	kW	HP		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

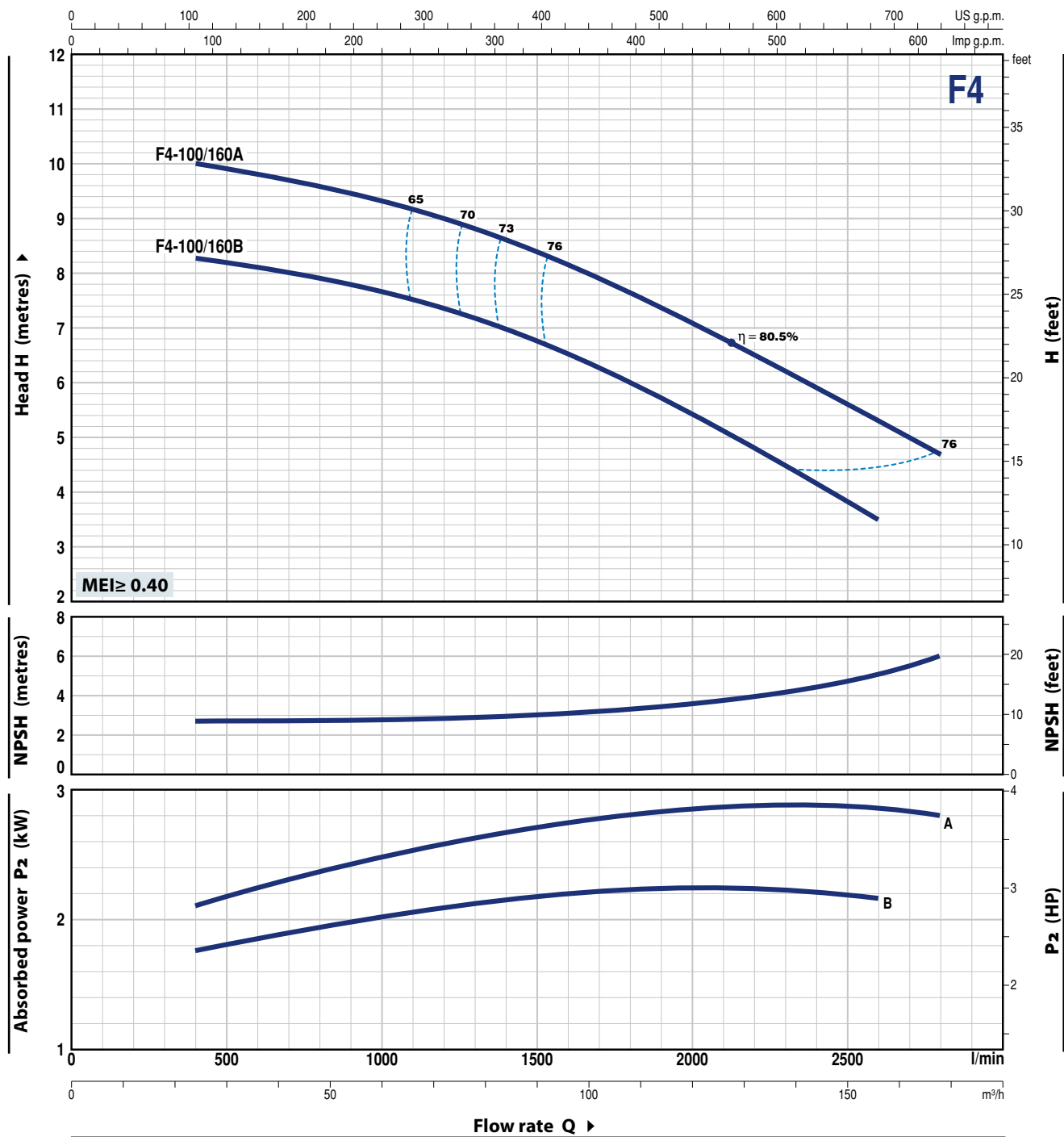
Q = Flow rate H = Total manometric head HS = Suction height

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

F4-100/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$

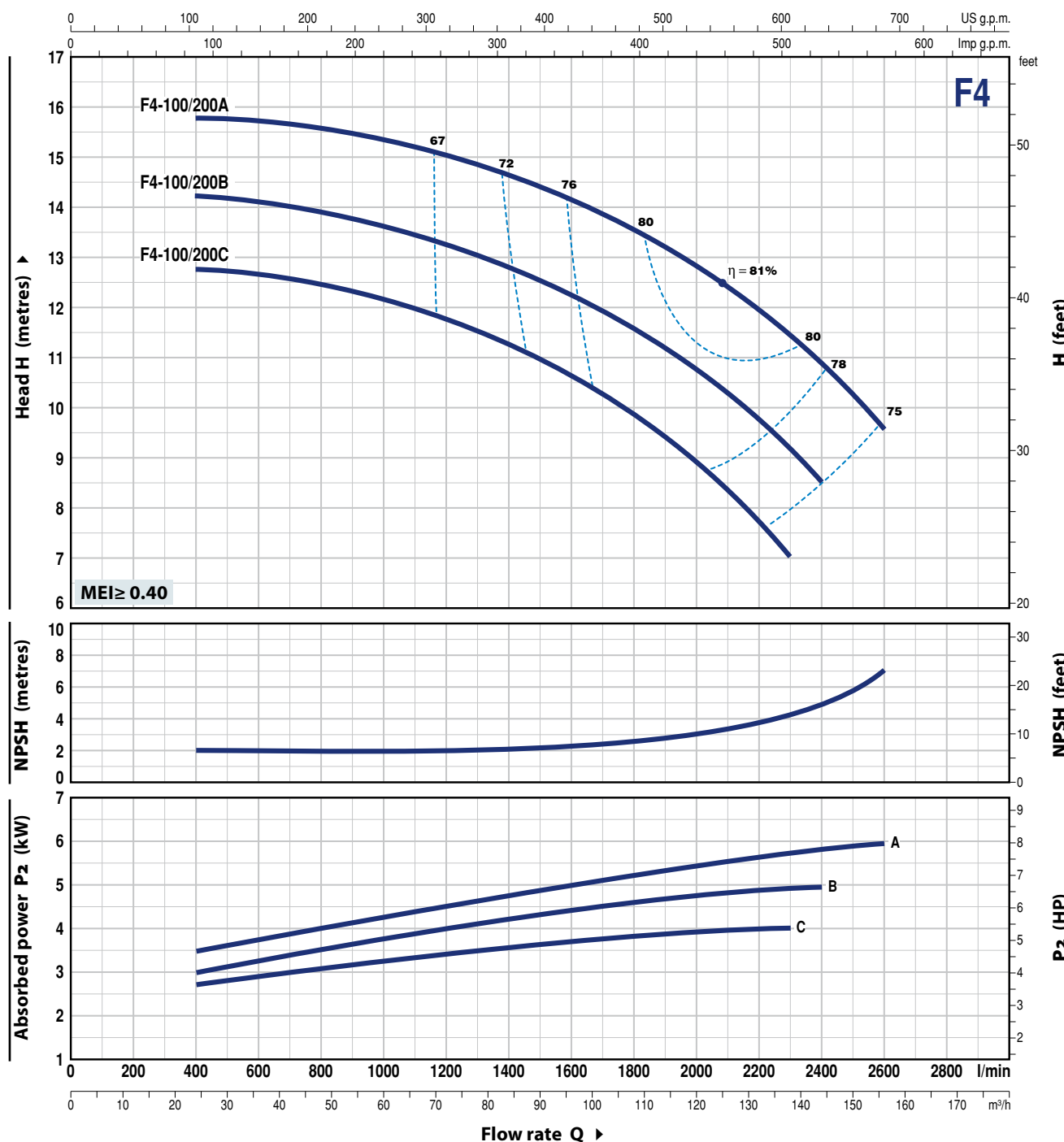


MODEL	POWER (P_2)		Q m^3/h l/min	24	48	72	96	120	144	156	168
	kW	HP		400	800	1200	1600	2000	2400	2600	2800
F4-100/160B	2.2	3	H metres	8.3	8	7.5	6.5	5.5	4.2	3.5	
F4-100/160A	3	4		10	9.5	9	8	7	6	5.2	4.7

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 $n = 1450 \text{ min}^{-1}$ HS = 0 m



MODEL	POWER (P_2)		Q	24	36	48	60	72	84	96	108	120	138	144	156
	kW	HP		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

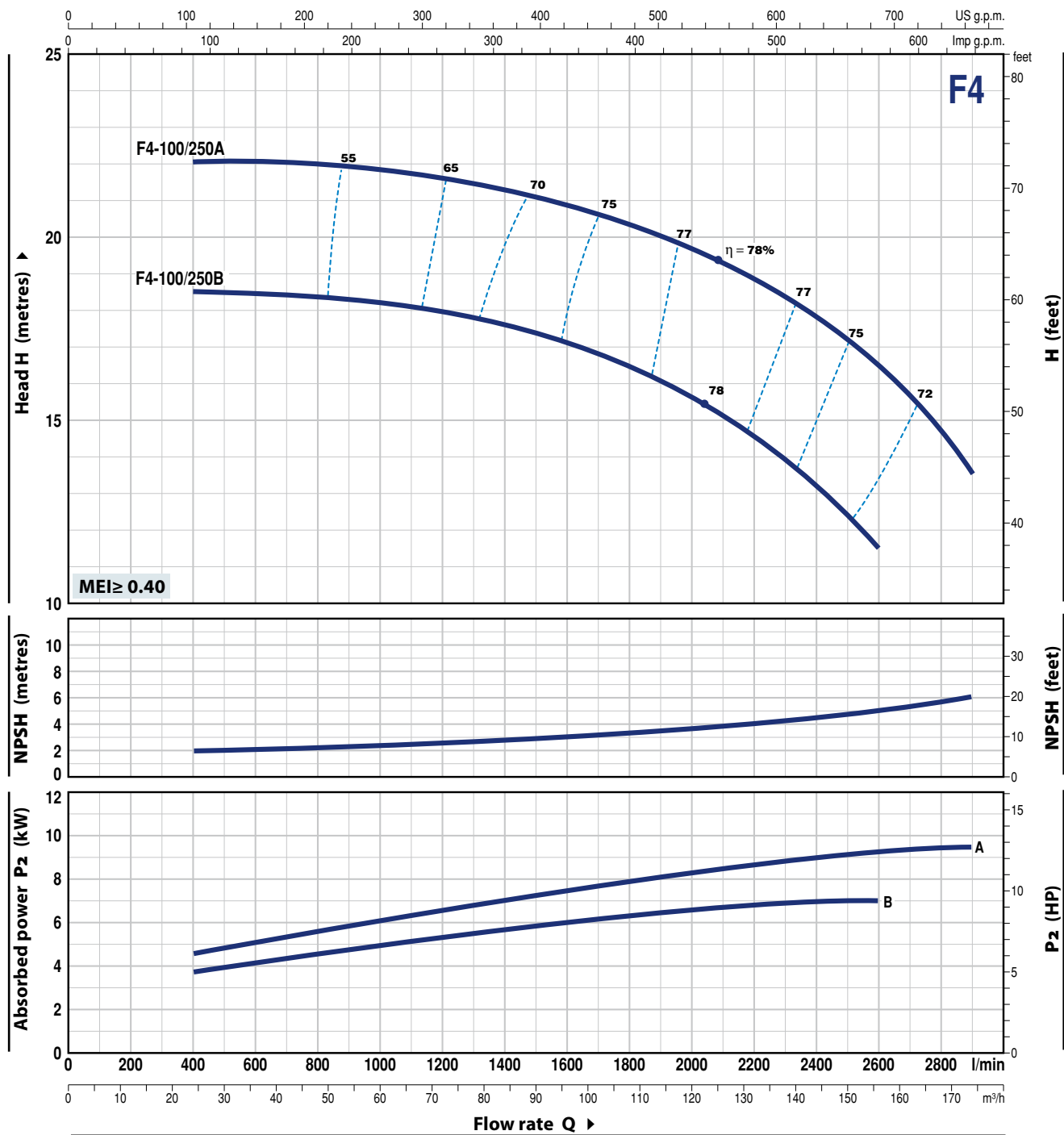
Q = Flow rate H = Total manometric head HS = Suction height

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

F4-100/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$ $HS = 0 \text{ m}$



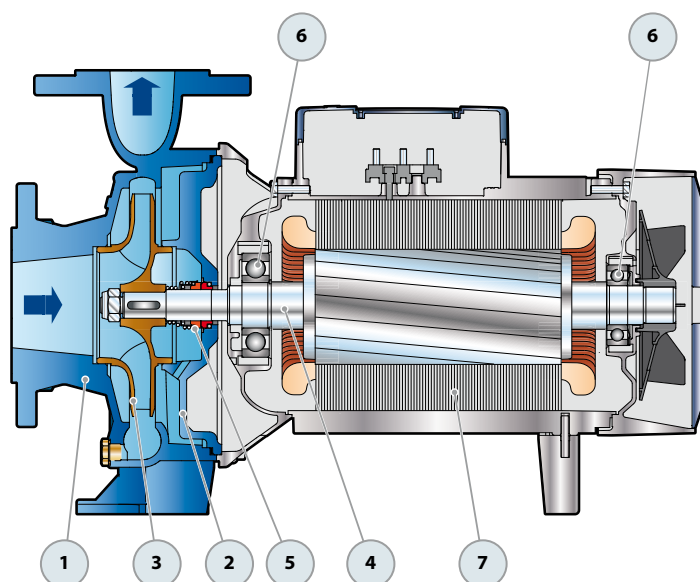
MODEL	POWER (P_2)		Q	24	36	48	60	72	84	96	108	120	132	144	156	174
	kW	HP		l/min	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2900
F4-100/250B	7.5	10	H metres	18.5	18.5	18.3	18.2	18	17.5	17.1	16.5	15.7	14.5	13.2	11.5	
F4-100/250A	9.2	12.5		22	22	22	21.8	21.6	21.2	20.9	20.3	19.7	18.9	17.9	16.5	13.5

Q =Flow rate H =Total manometric head HS = Suction height Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

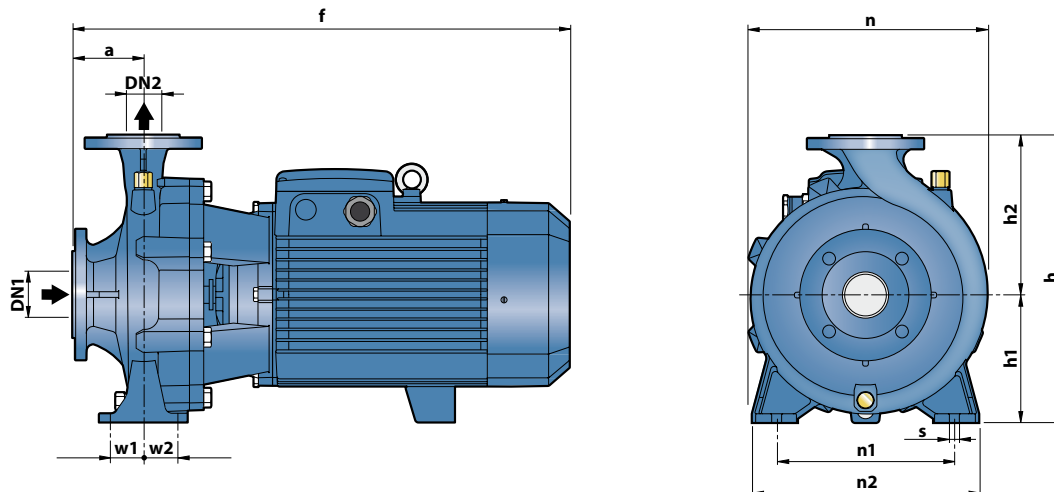
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron, complete with flanged suction and delivery ports						
2	BODY BACKPLATE	Cast iron						
3	IMPELLER	Brass for F4-32/160, 32/200, 40/160, 40/200, 50/125, 50/160						
		Cast iron for F4-32/250, 40/250, 50/200, 50/250, 65/125, 65/160, 65/200, 65/250, F4-80/160, 80/200, 80/250, 100/160, 100/200, 100/250						
4	MOTOR SHAFT	Stainless steel AISI 431						
5	MECHANICAL SEAL	Pump Model		Seal Model	Shaft Diameter	Materials		
						Stationary ring	Rotational ring	Elastomer
		F4-32/160	F4-50/125	FN-20	Ø 20 mm	Graphite	Ceramic	NBR
		F4-40/160						
		F4-32/200	F4-50/160	FN-24	Ø 24 mm	Graphite	Ceramic	NBR
		F4-40/200	F4-65/125					
		F4-50/200	F4-80/160	FN-32 NU	Ø 32 mm	Graphite	Ceramic	NBR
		F4-65/200	F4-100/160					
		F4-65/160						
		F4-32/250	F4-50/250	FN-38	Ø 38 mm	Graphite	Ceramic	NBR
		F4-40/250						
F4-65/250	F4-100/200	FN-40 NU	Ø 40 mm	Graphite	Ceramic	NBR		
F4-80/200								
F4-80/250	F4-100/250	FH-45 NU	Ø 45 mm	Graphite	Ceramic	NBR		
6	BEARINGS	Pump	Model			Pump	Model	
		F4-32/160	6206 ZZ-C3 / 6204 ZZ			F4-32/250	6208 ZZ-C3 / 6206 ZZ-C3	
		F4-40/160				F4-40/250		
		F4-50/125				F4-50/200		
						F4-50/250		
					F4-65/160			
					F4-65/200			
		F4-32/200	6307 ZZ-C3 / 6206 ZZ-C3			F4-80/160	6310 ZZ-C3 / 6308 ZZ-C3	
		F4-40/200				F4-100/160		
		F4-50/160				F4-65/250		
F4-65/125				F4-80/200				
				F4-80/250				
			F4-100/200					
			F4-100/250					
7	ELECTRIC MOTOR	F4: with 4 poles three-phase 230/400 V - 50 Hz						
		➡ The three-phase pumps are fitted with high performance motors up to P2=0.37 kW in class IE2 and from P2=0.75 kW in class IE3 (IEC 60034-30-1)						
		– Insulation: class F – Protection: IP 55						

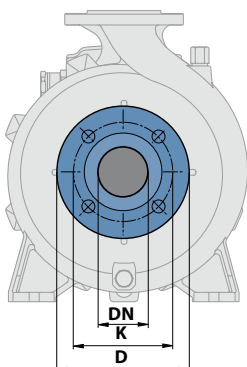


DIMENSIONS AND WEIGHT



MODEL	DIMENSIONS mm													kg						
Three-phase	DN1	DN2	a	f	h	h1	h2	n	n1	n2	w1	w2	s							
F4-32/160B	50	32	80	412	292	132	160	242	190	240	35	35	14	31.2						
F4-32/160A														31.2						
F4-32/200B														43.4						
F4-32/200A														43.5						
F4-32/200BH			100	469	340	160	180	270						42.3						
F4-32/200AH												42.4								
F4-32/250C				522	405	180	225	330	250	320	405	47.5		64.1						
F4-32/250B				568										63.1						
F4-32/250A												68.7								
F4-40/160B	65	40	80	412	292	132	160	240	190	240	35	35	14	32.5						
F4-40/160A														32.9						
F4-40/200B			100	489	340	160	180	275	212	265						46.0				
F4-40/200A																46.2				
F4-40/250C				522	405	180	225	328	250	320	47.5	47.5		59.7						
F4-40/250B				568										60.1						
F4-40/250A															72.4					
F4-50/125B			65	50	100	431	292	132	160	242	190	240		35	35	14	32.2			
F4-50/125A												32.2								
F4-50/160B	489	340				160	180	269	212	265			44.4							
F4-50/160A	529																44.6			
F4-50/200C	576	360				200	316					59.2								
F4-50/200B												68.3								
F4-50/200A												68.5								
F4-50/200AR												68.8								
F4-50/250D	522	405				180	225	337	250	320	47.5	47.5	59.9							
F4-50/250C	568																			63.3
F4-50/250B																				68.7
F4-50/250A															69.1					
F4-50/250AR																	78.0			
F4-65/125B	80	65				100	511	340	160	180	291	212	280	47.5	47.5		14	50.2		
F4-65/125A										50.4										
F4-65/160C			533	360	200		300				55.0									
F4-65/160B			579							58.7										
F4-65/160A			582	405	180		225	340	250	320			65.0							
F4-65/200A													72.0							
F4-65/200AR													78.4							
F4-65/250B			627	450	200		250	373	280	360	60	60	18			111.2				
F4-65/250A												139.6								
F4-80/160D	100	80	125	565	405	180	225	330	250	320	47.5	47.5	14	65.8						
F4-80/160C				611																67.3
F4-80/160B																				70.0
F4-80/160A																				76.4
F4-80/200B				655	430	250	360	280	345						100.0					
F4-80/200A															130.2					
F4-80/250B				673	480	200	280	405	315	400				60	60	18	149.5			
F4-80/250A																		137.6		
F4-100/160B	125	100	125	622	480	200	280	362	280	360	60	60	18	91.0						
F4-100/160A																	97.0			
F4-100/200C				657														122.0		
F4-100/200B																		116.0		
F4-100/200A			140	694	505	225	422	315	400						124.1					
F4-100/250B				789												143.0				
F4-100/250A																159.3				

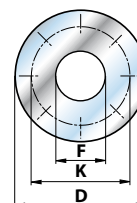
FLANGED PORTS



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	18
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	18
100	4"	220	180		
125	5"	250	210		

ABSORPTION

MODEL	VOLTAGE	
	230–240 V	400–415 V
Three-phase		
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
Three-phase		
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

Standardised “EN 733” centrifugal pumps



Clean water



Industrial use



PERFORMANCE RANGE

- Flow rate up to **6000 l/min** (360 m³/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

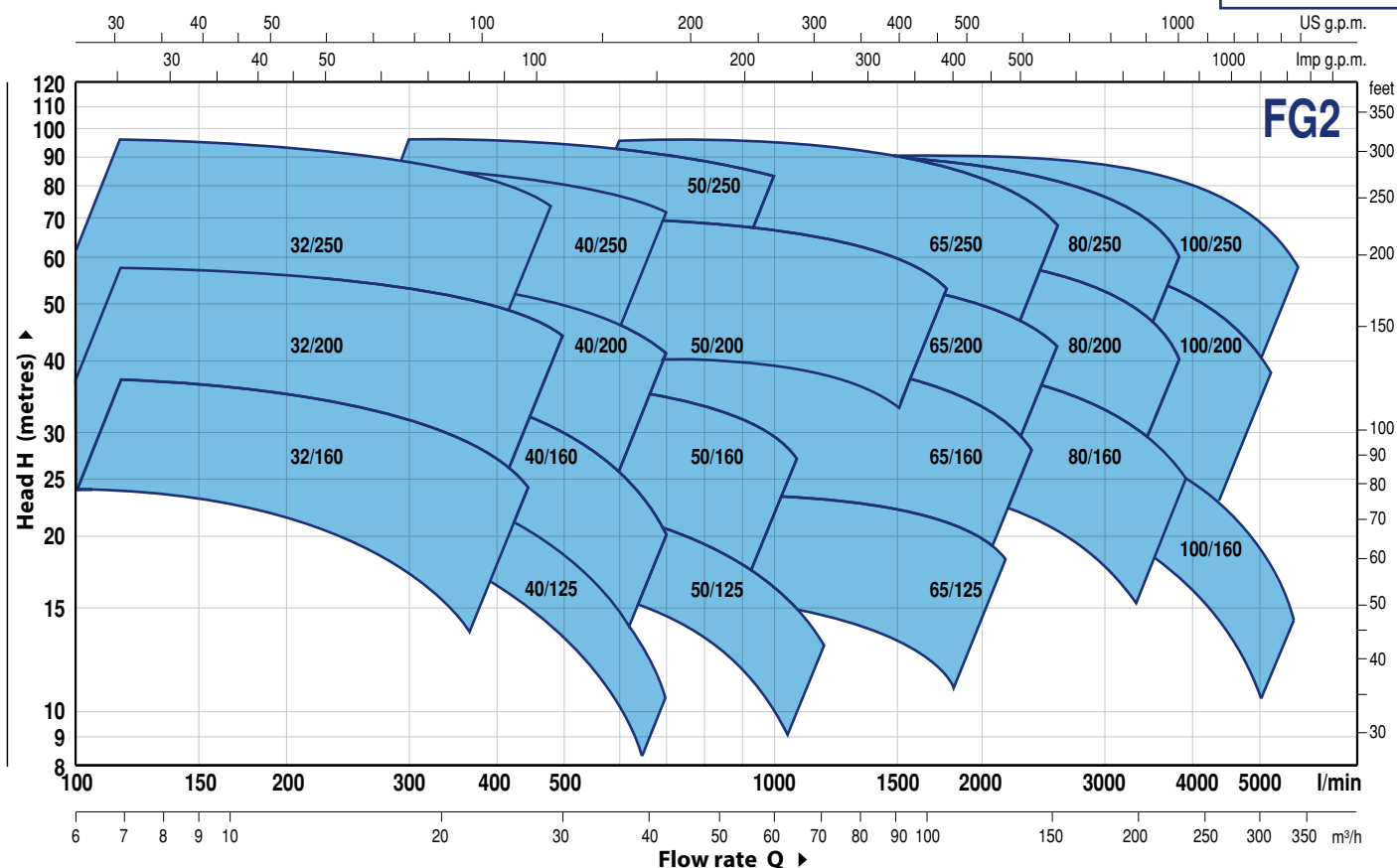
- Water supply
- Pressure boosting
- Irrigation
- Water circulation in air-conditioning units
- Cleaning sets
- Firefighting sets
- Industrial applications
- Agricultural applications

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⁻¹



PERFORMANCE DATA

MODEL	MOTOR PAIRING		PERFORMANCE n= 2900 min ⁻¹	
	kW	HP	Q m ³ /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

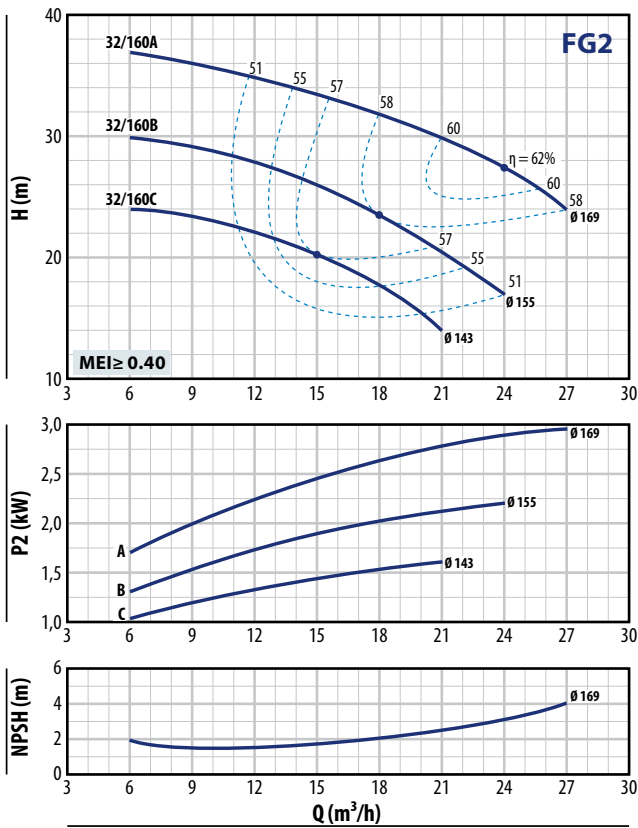
MODEL	MOTOR PAIRING		PERFORMANCE n= 2900 min ⁻¹	
	kW	HP	Q m ³ /h	H metres
FG2-65/125C	4	5.5	36 – 108	16 – 11
FG2-65/125B	5.5	7.5	36 – 120	18 – 13
FG2-65/125A	7.5	10	36 – 132	23 – 18
FG2-65/160C	9.2	12.5	36 – 132	32 – 22
FG2-65/160B	11	15	36 – 144	36.5 – 23
FG2-65/160A	15	20	36 – 144	40.5 – 28
FG2-65/200B	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

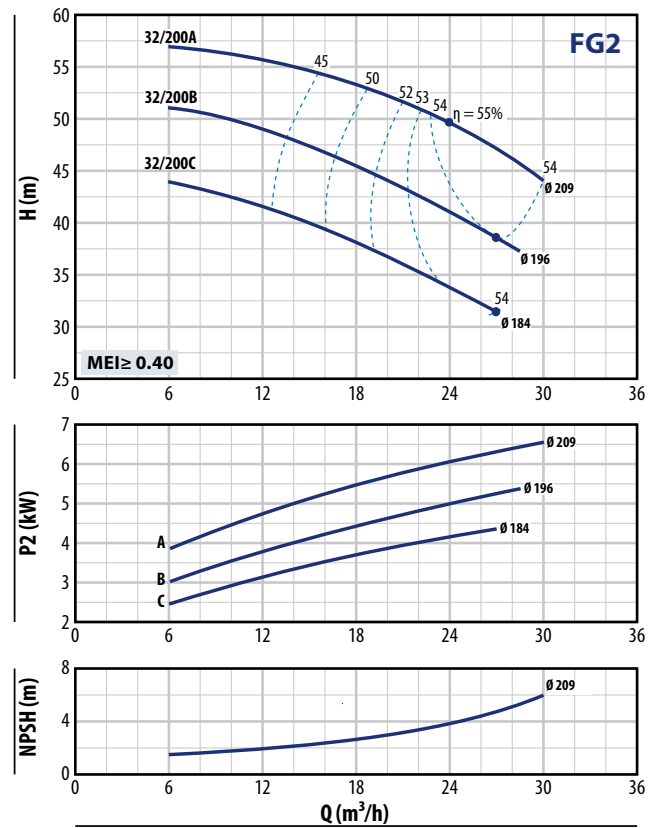
H = Total manometric head

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

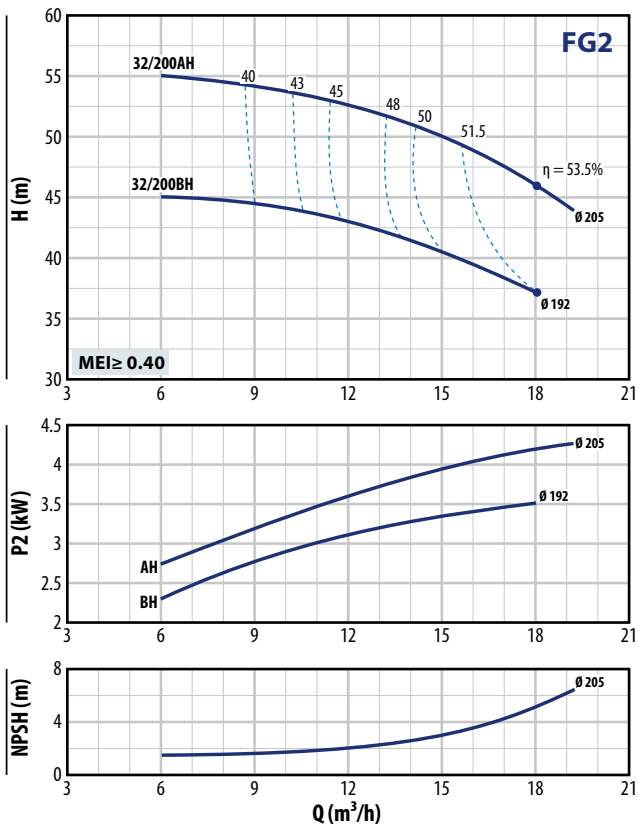
FG2-32/160



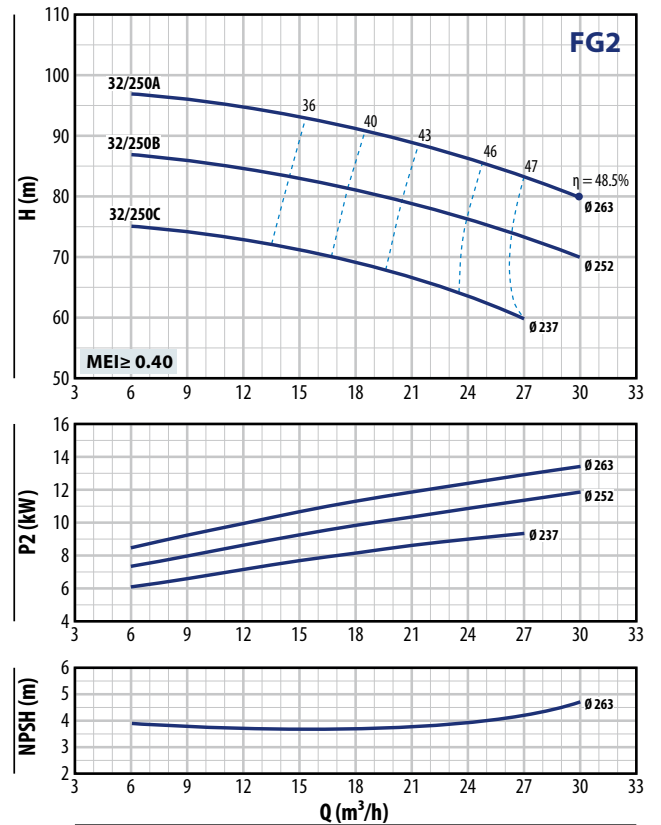
FG2-32/200



FG2-32/200H



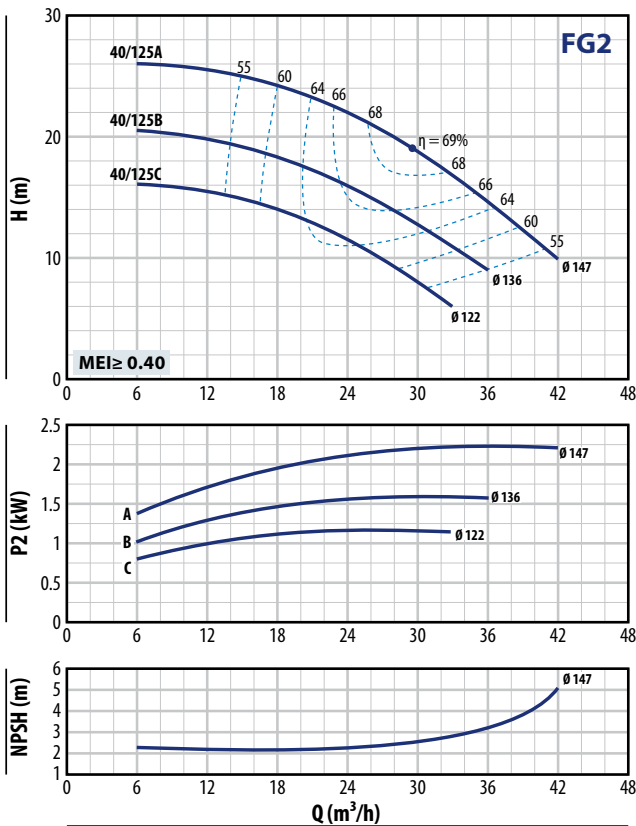
FG2-32/250



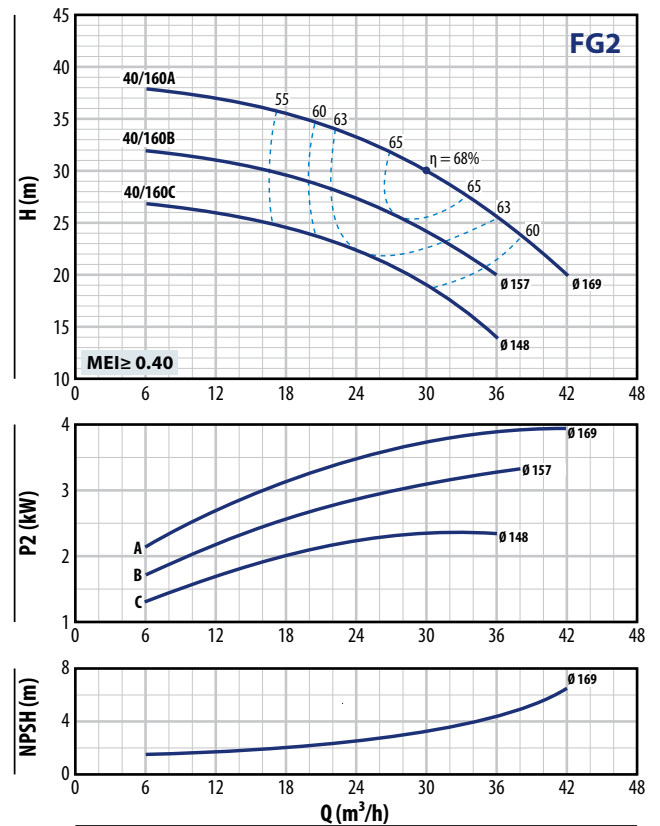
CHARACTERISTIC CURVES

n = 2900 min⁻¹

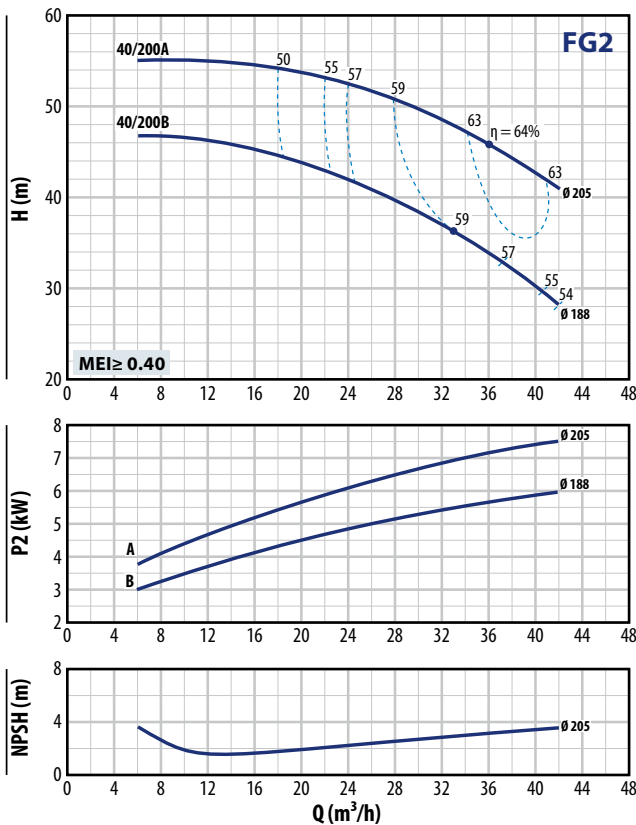
FG2-40/125



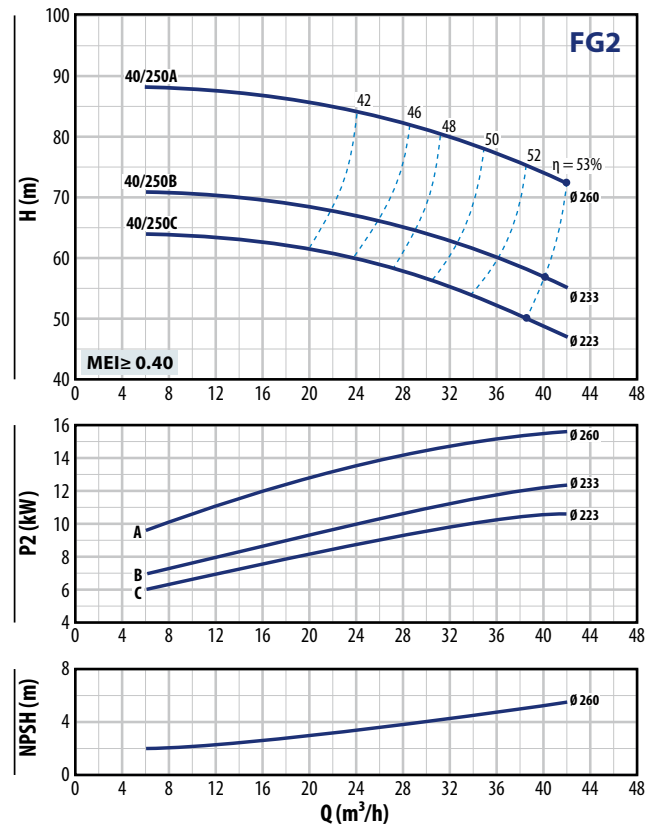
FG2-40/160



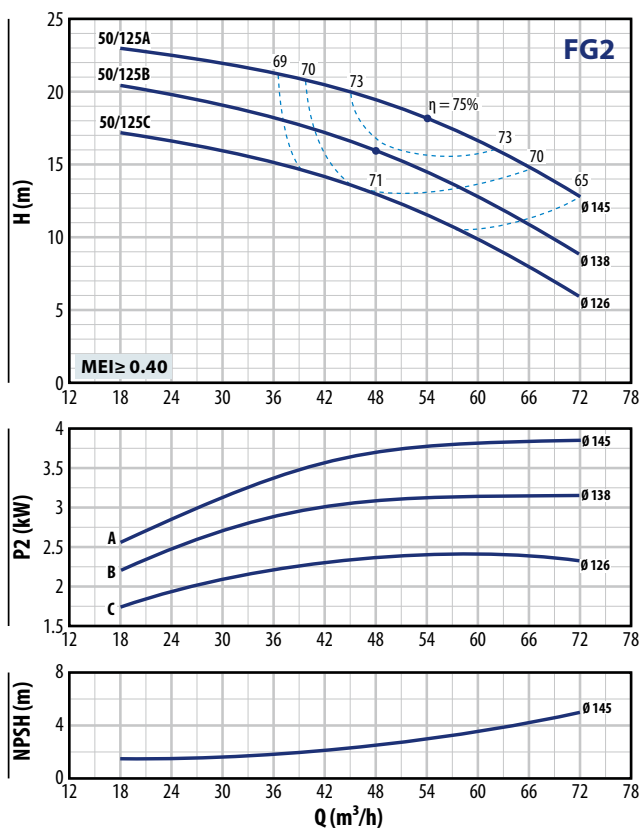
FG2-40/200



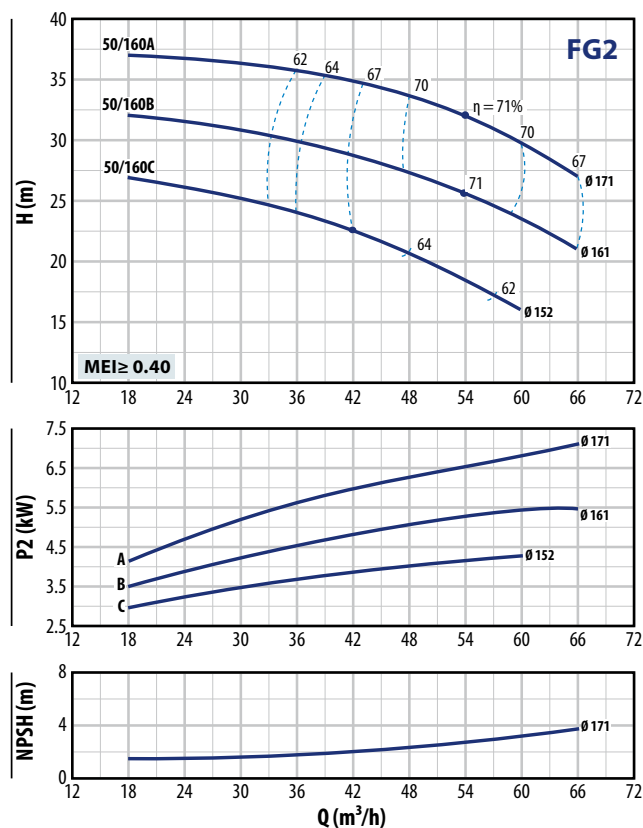
FG2-40/250



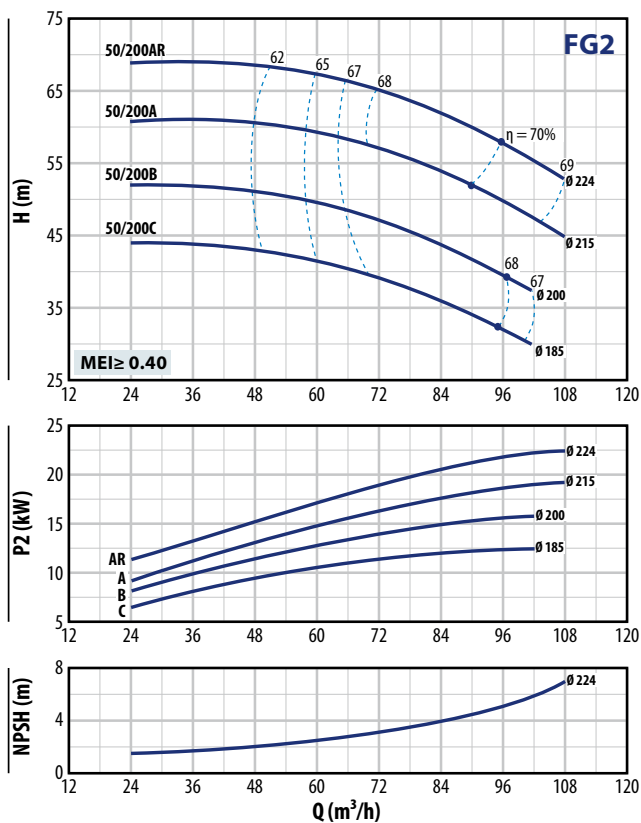
FG2-50/125



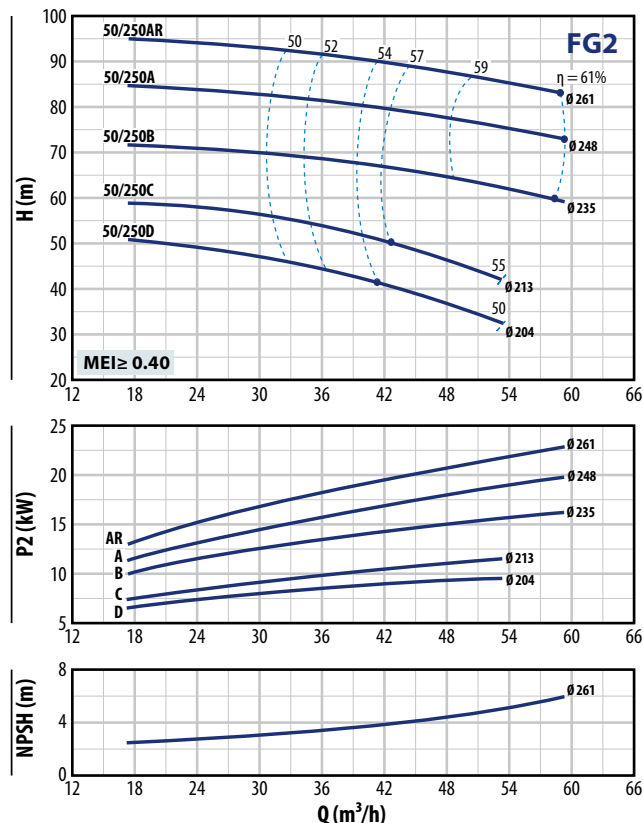
FG2-50/160



FG2-50/200



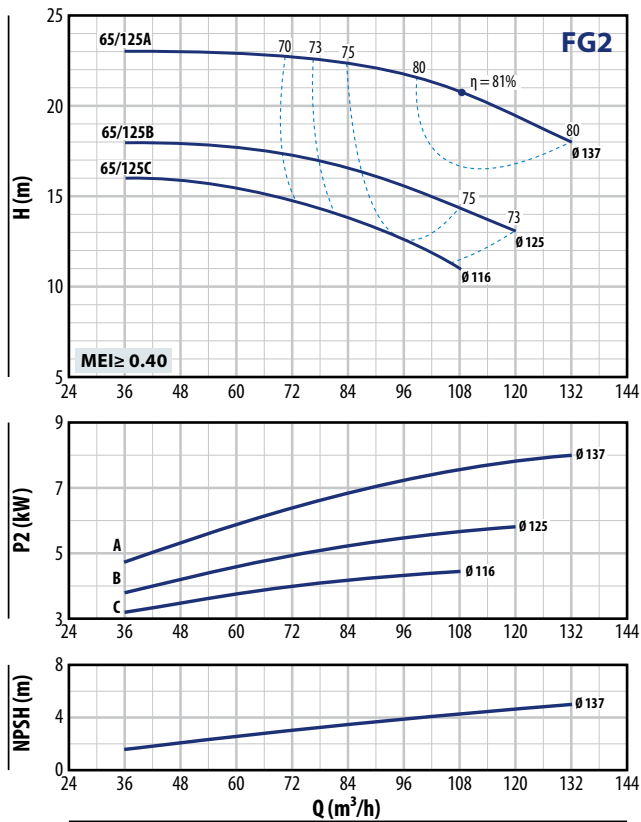
FG2-50/250



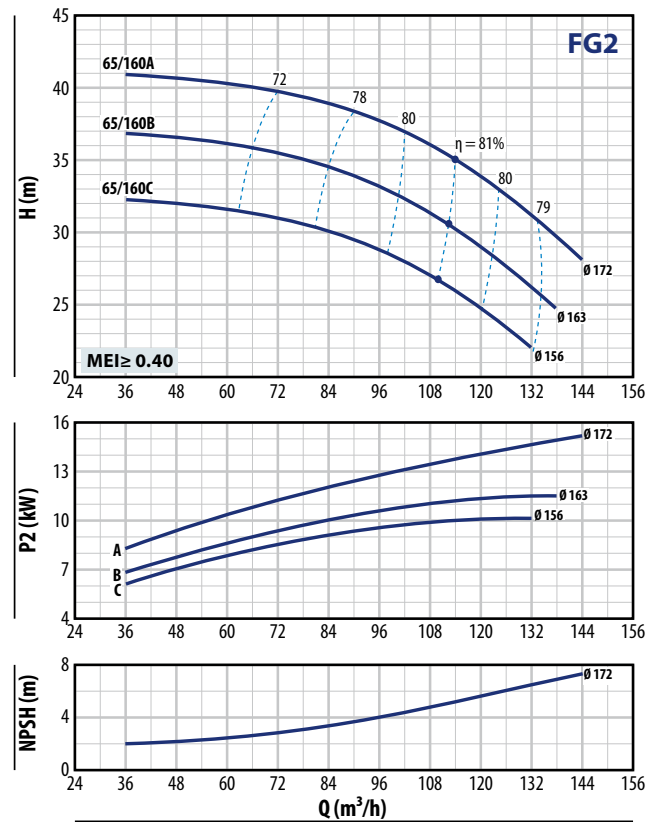
CHARACTERISTIC CURVES

n = 2900 min⁻¹

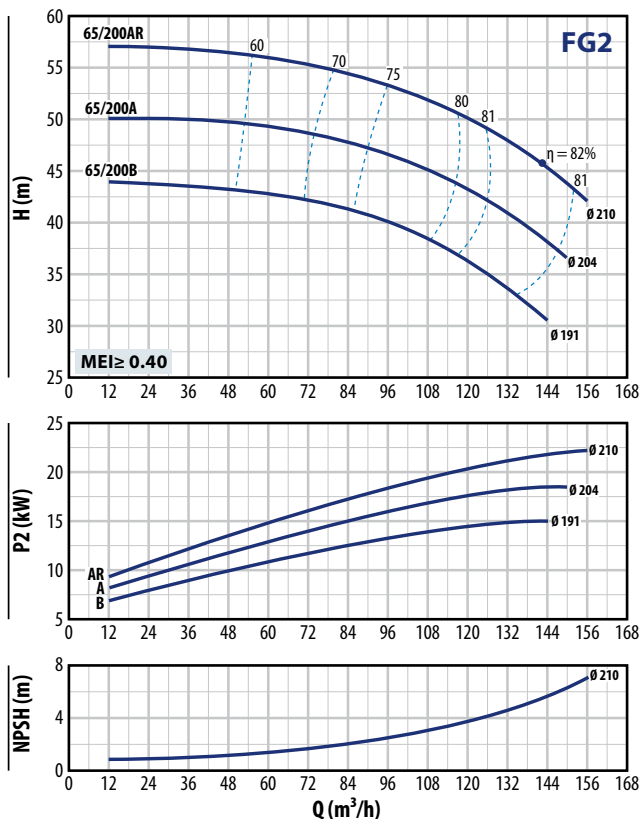
FG2-65/125



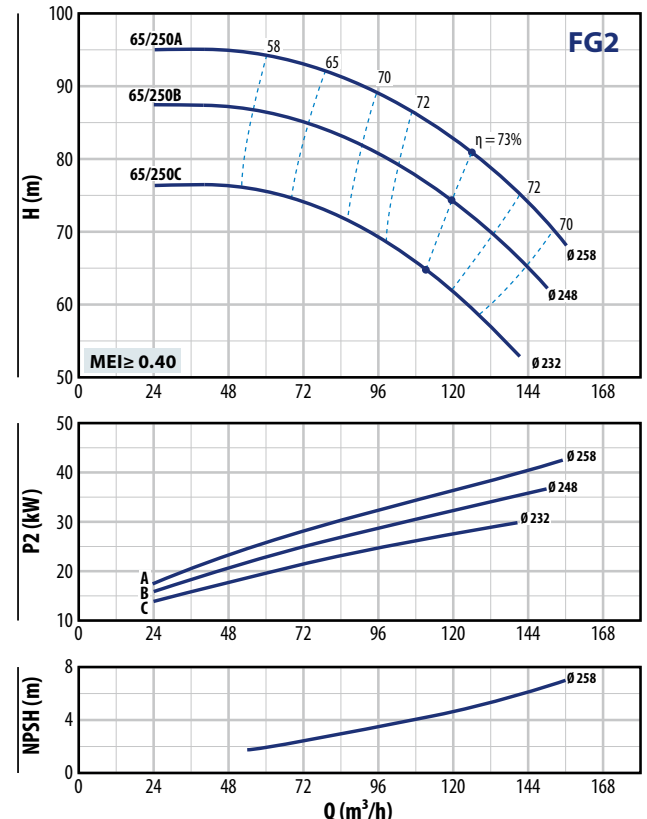
FG2-65/160



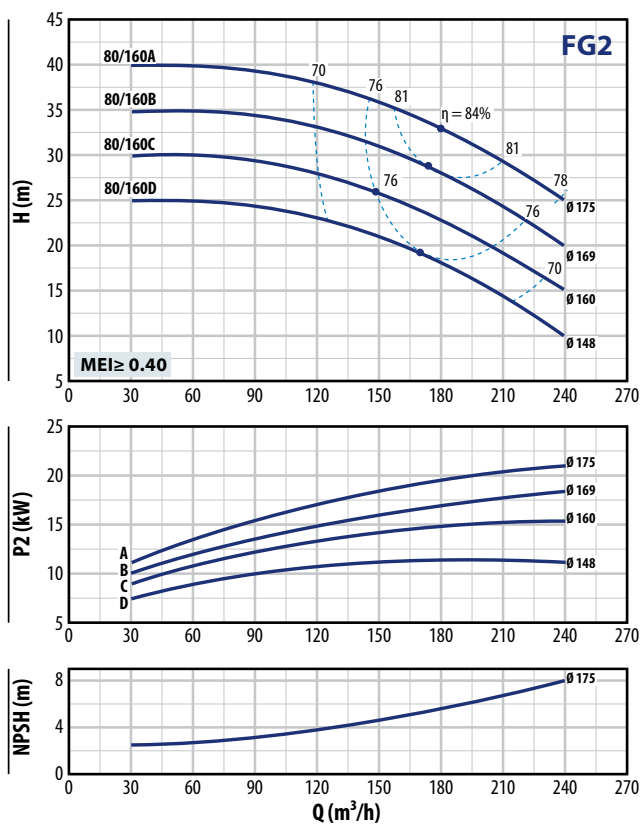
FG2-65/200



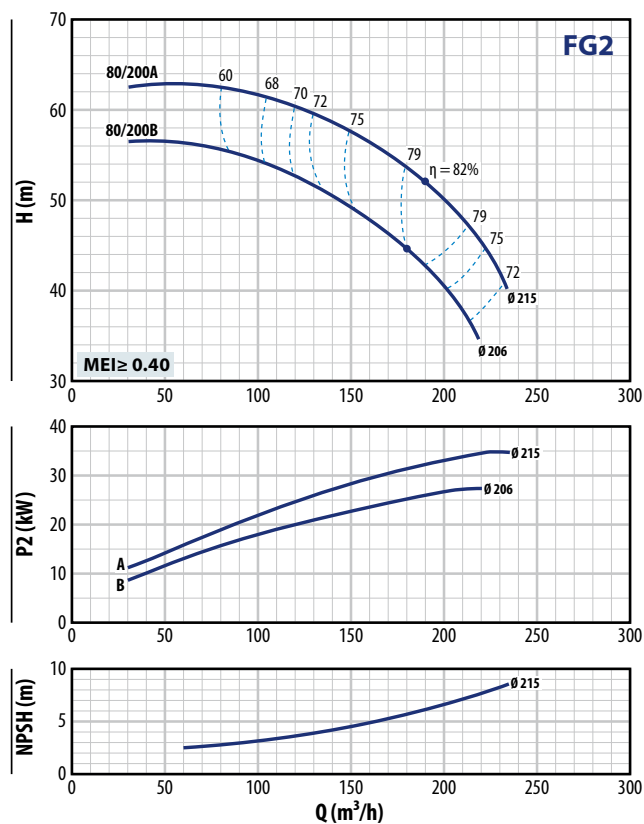
FG2-65/250



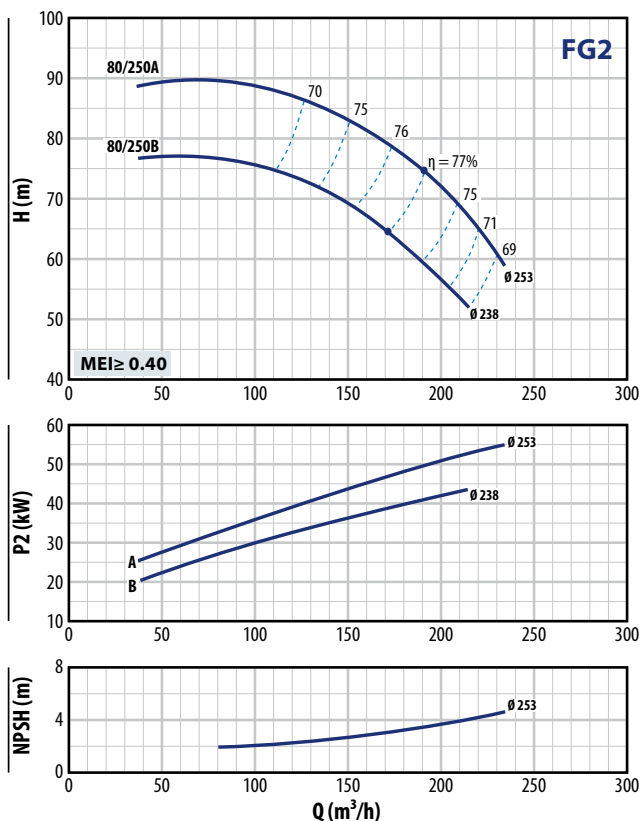
FG2-80/160



FG2-80/200



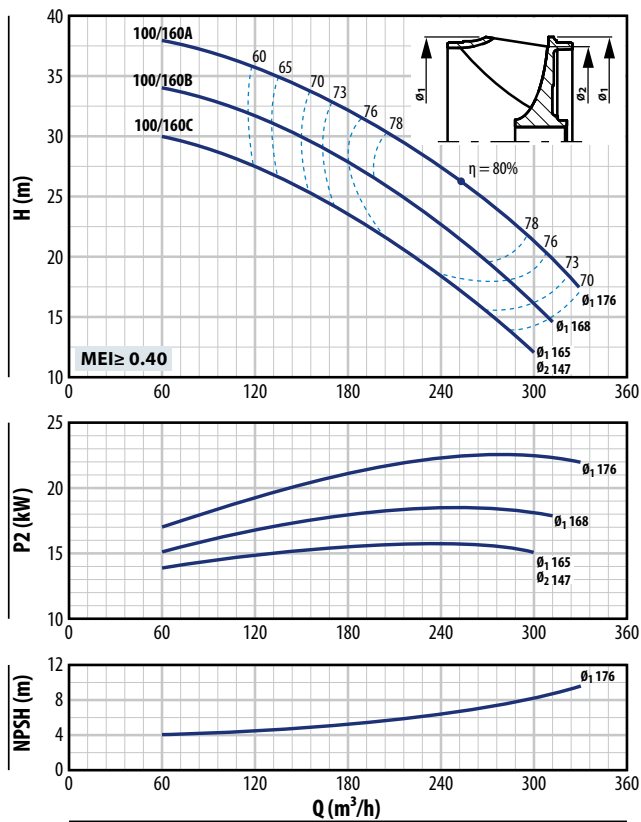
FG2-80/250



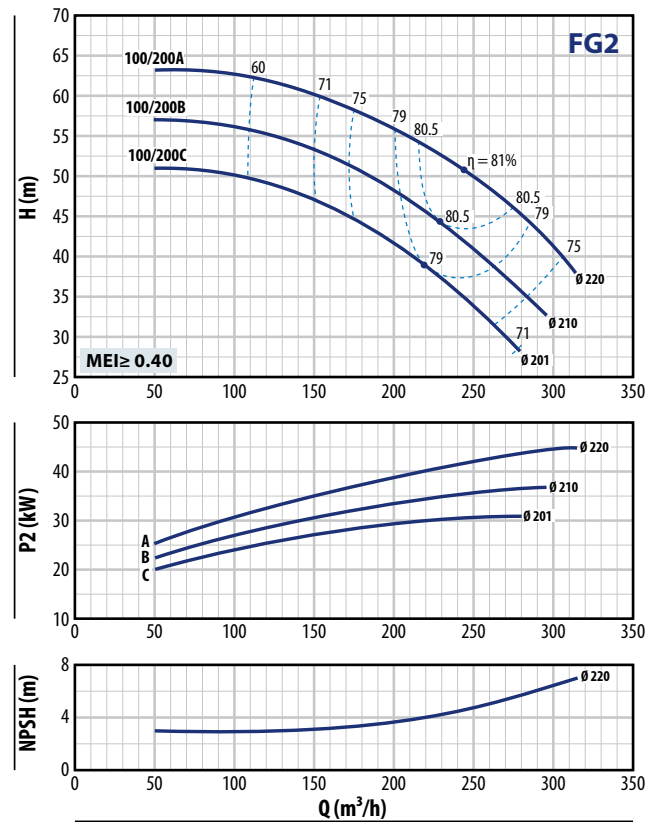
CHARACTERISTIC CURVES

n = 2900 min⁻¹

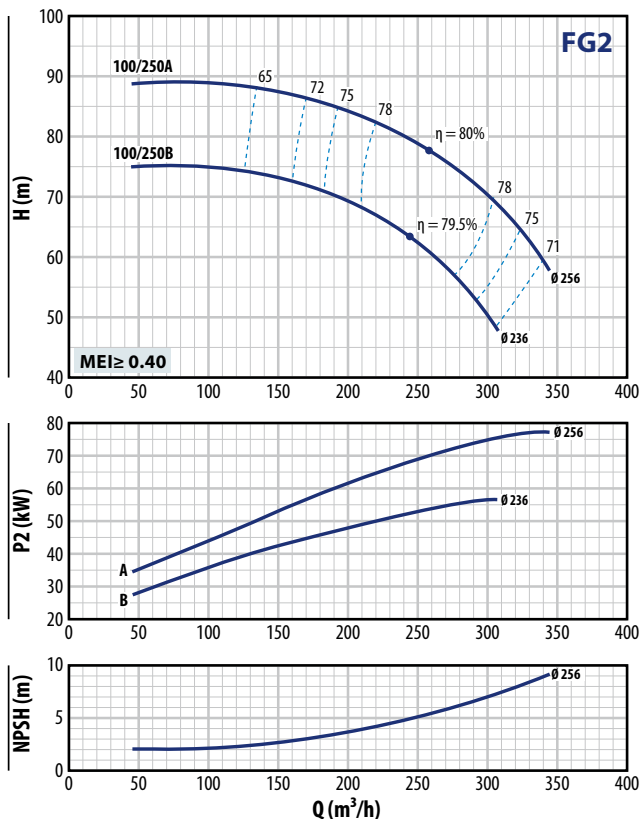
FG2-100/160



FG2-100/200

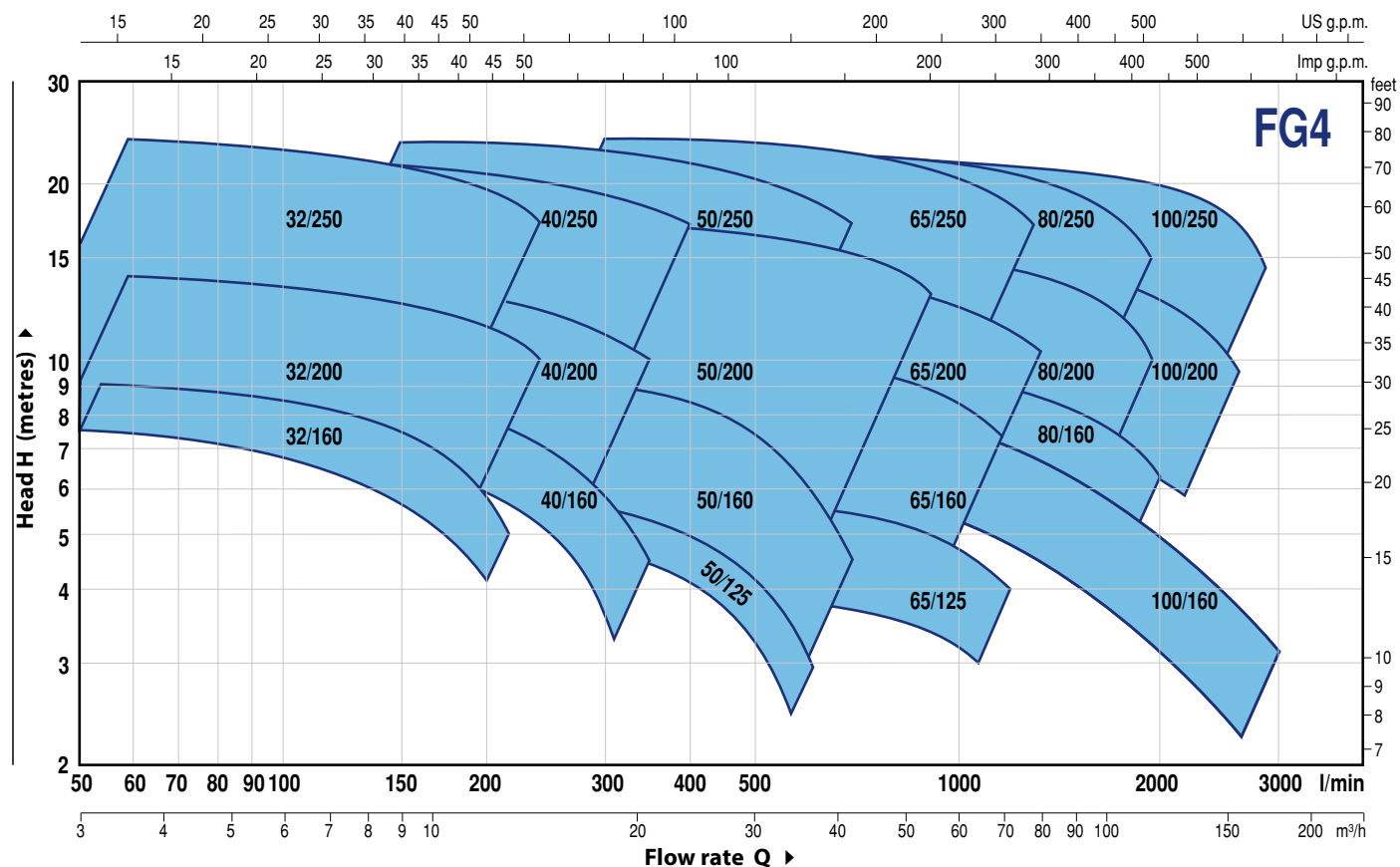


FG2-100/250



PERFORMANCE RANGE

n= 1450 min⁻¹



PERFORMANCE DATA

MODEL	MOTOR PAIRING		PERFORMANCE n= 1450 min ⁻¹	
	kW	HP	Q m³/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 ⁻¹	
	kW	HP	Q m³/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

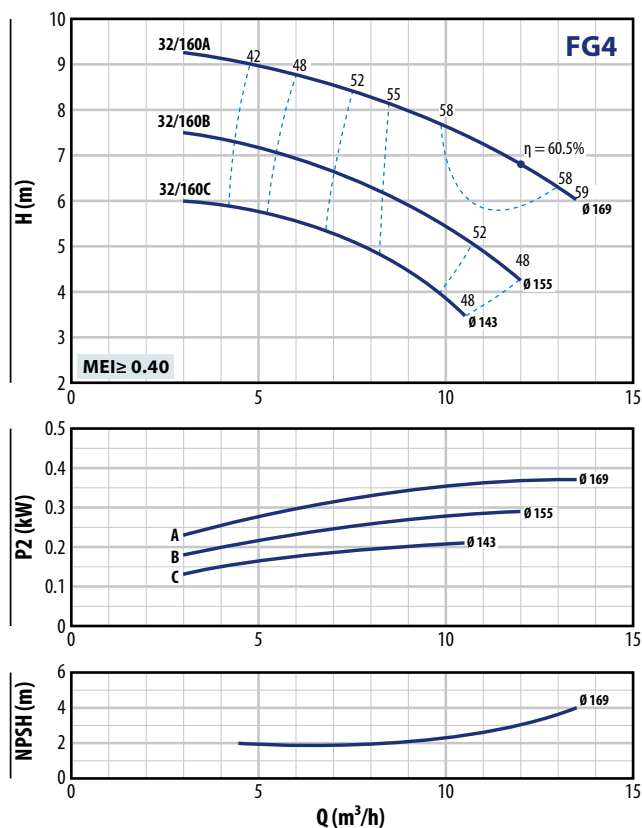
H = Total manometric head

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

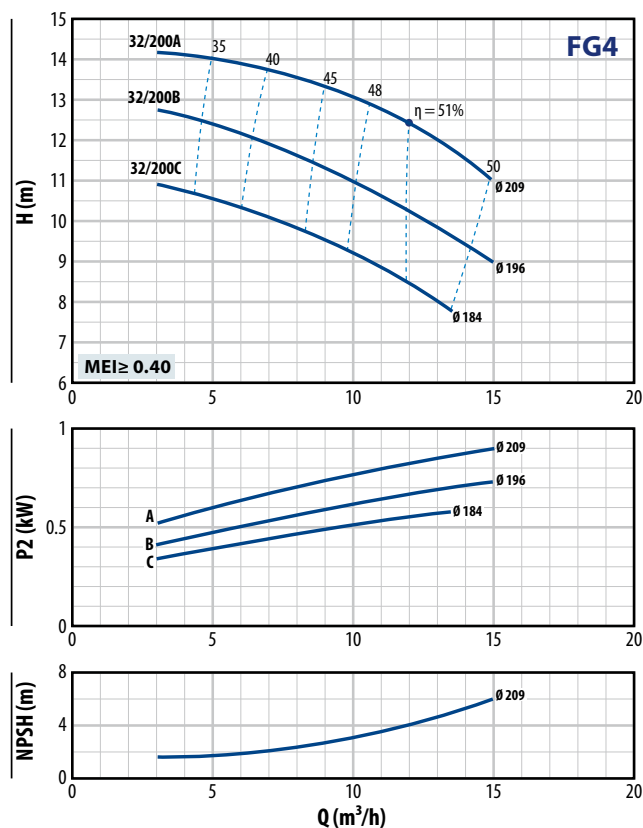
CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

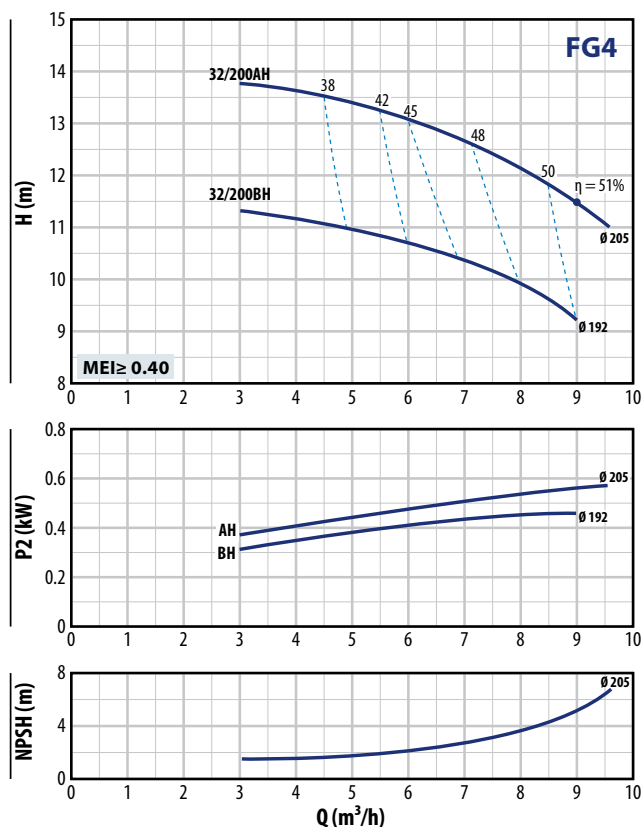
FG4-32/160



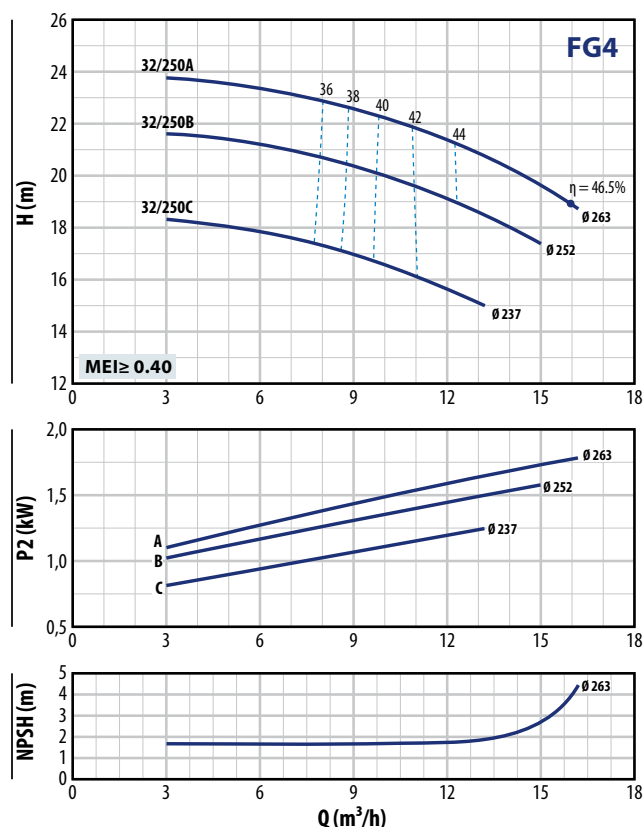
FG4-32/200



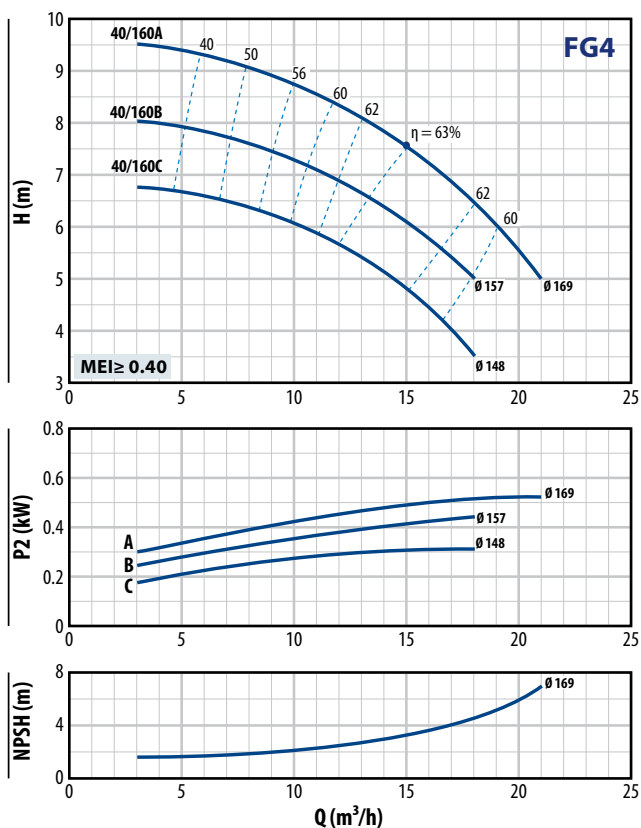
FG4-32/200H



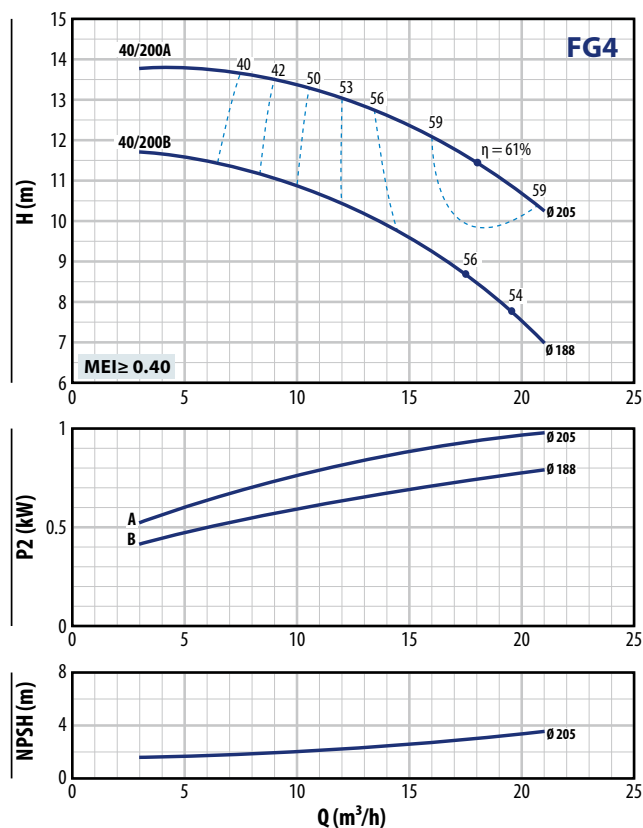
FG4-32/250



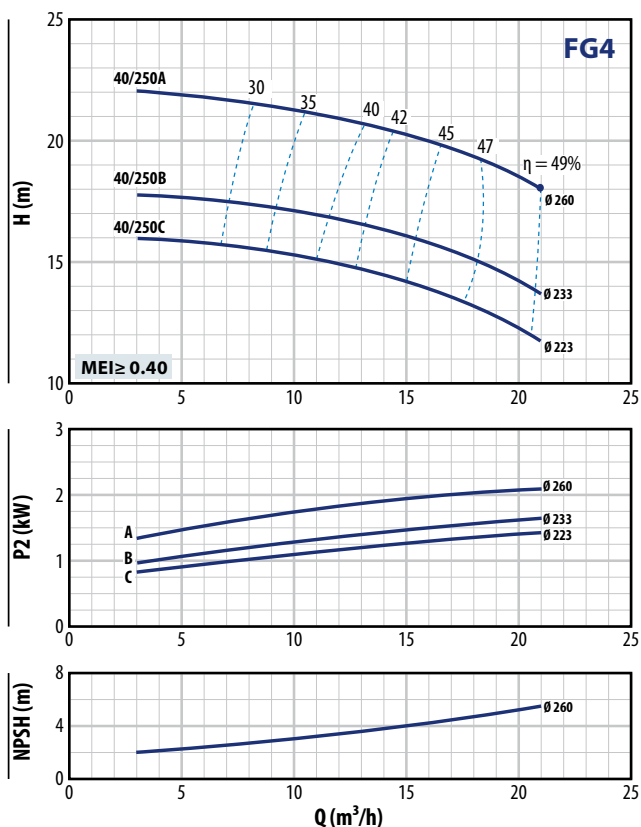
FG4-40/160



FG4-40/200



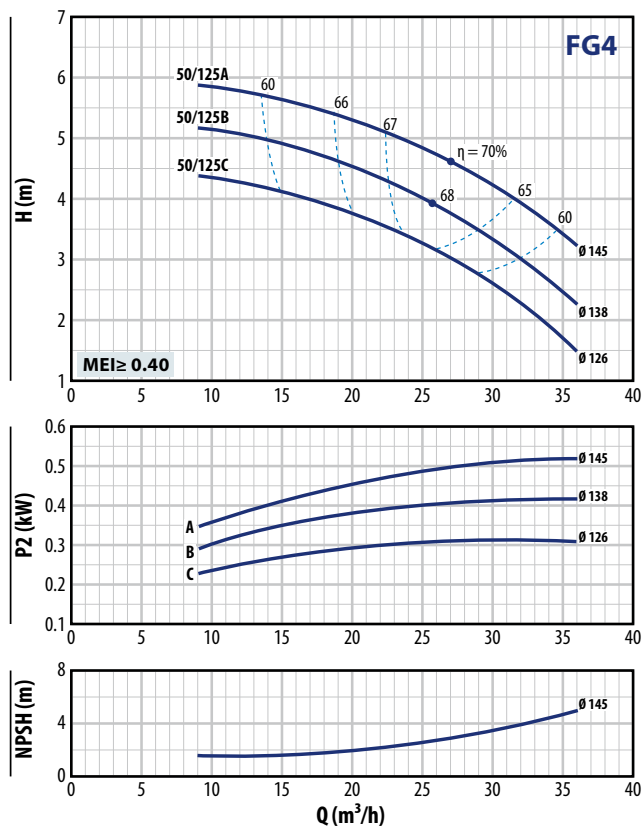
FG4-40/250



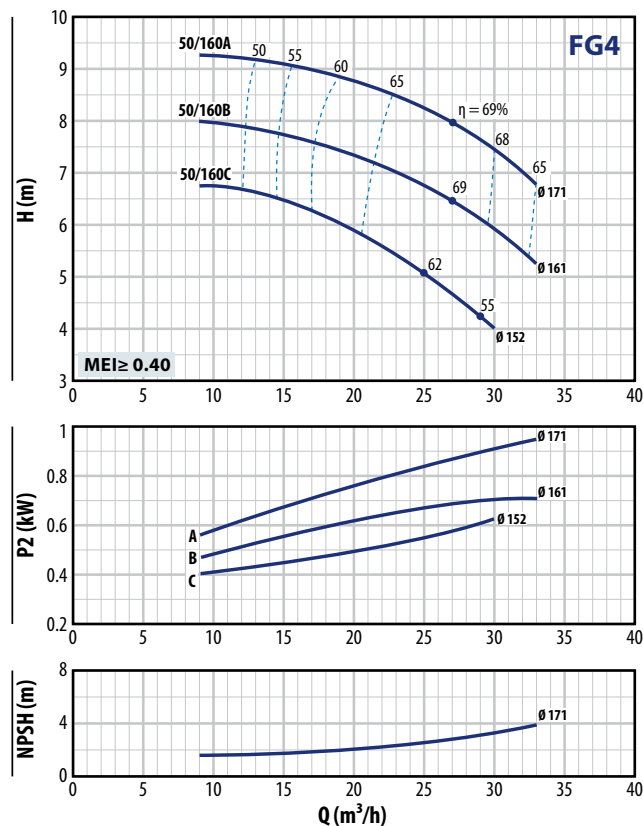
CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

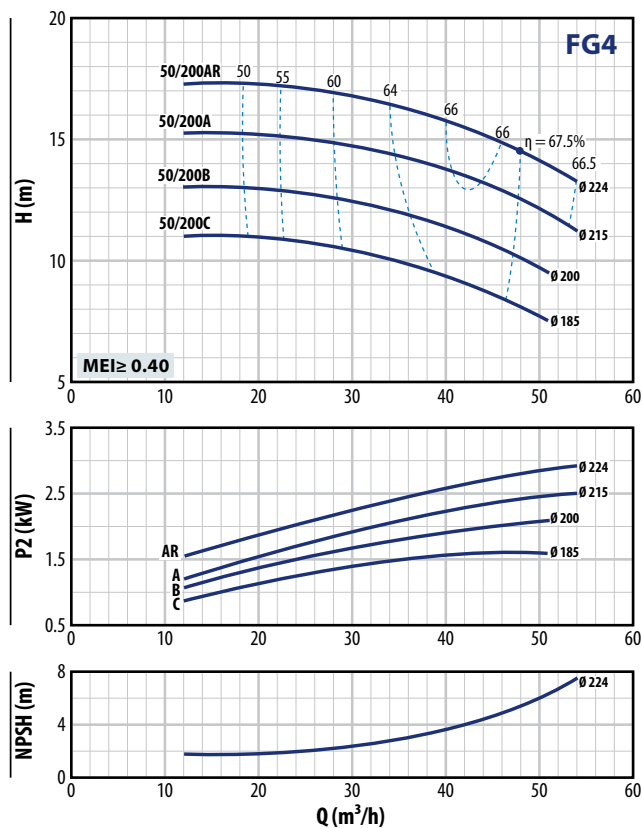
FG4-50/125



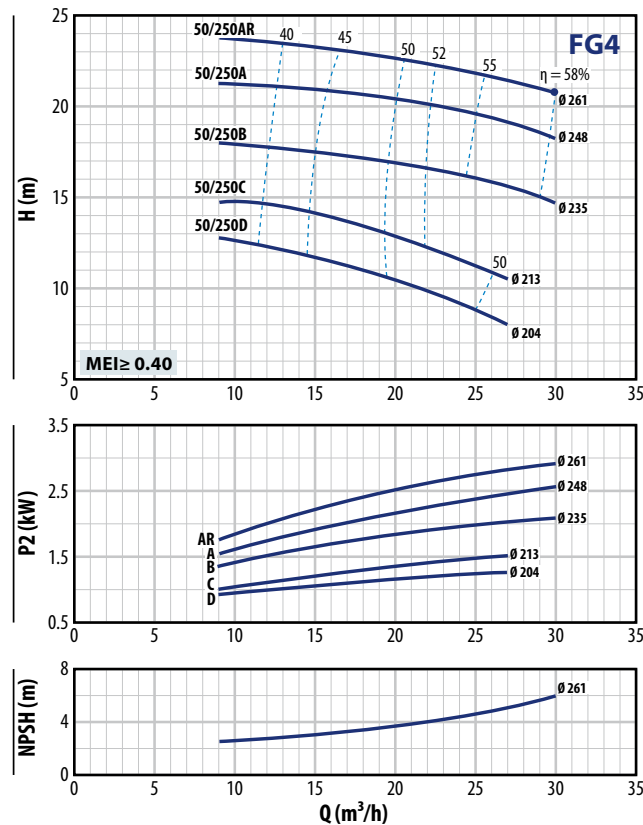
FG4-50/160



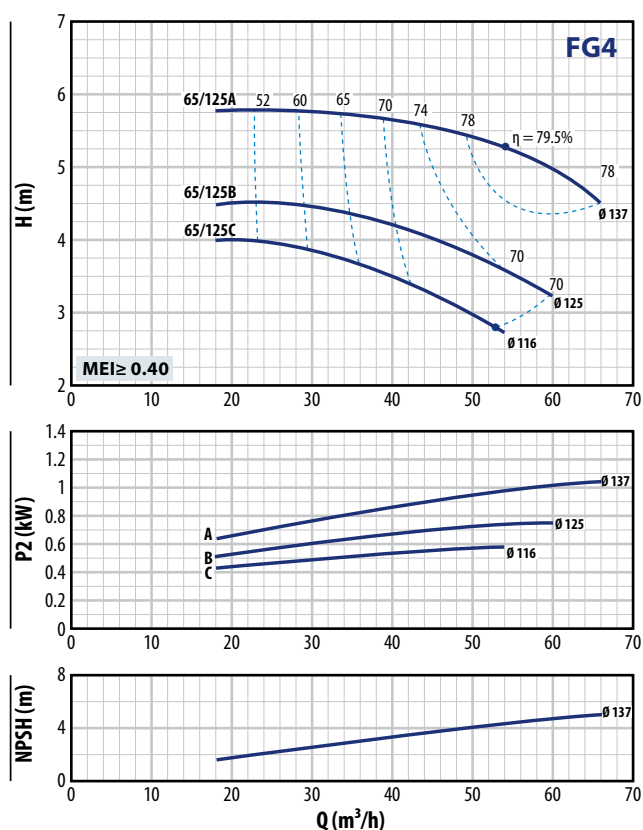
FG4-50/200



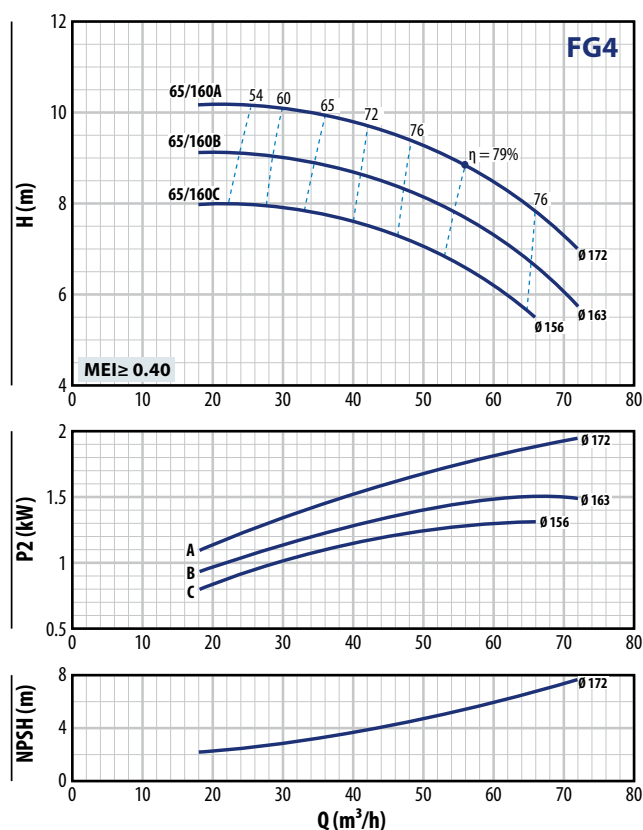
FG4-50/250



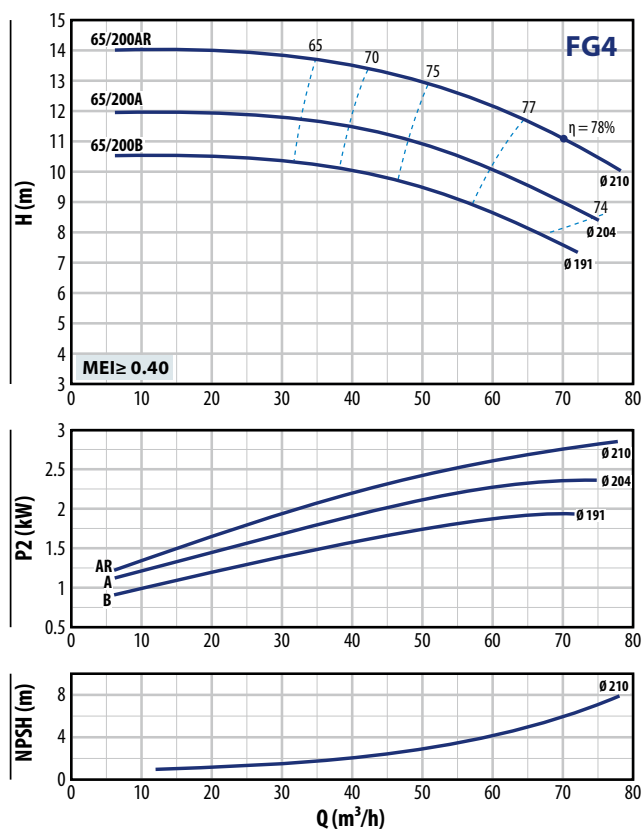
FG4-65/125



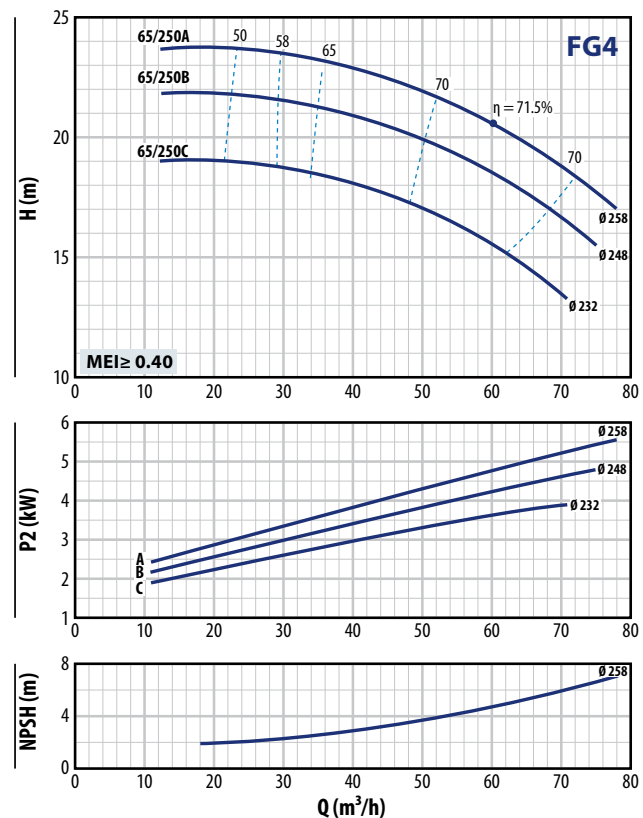
FG4-65/160



FG4-65/200



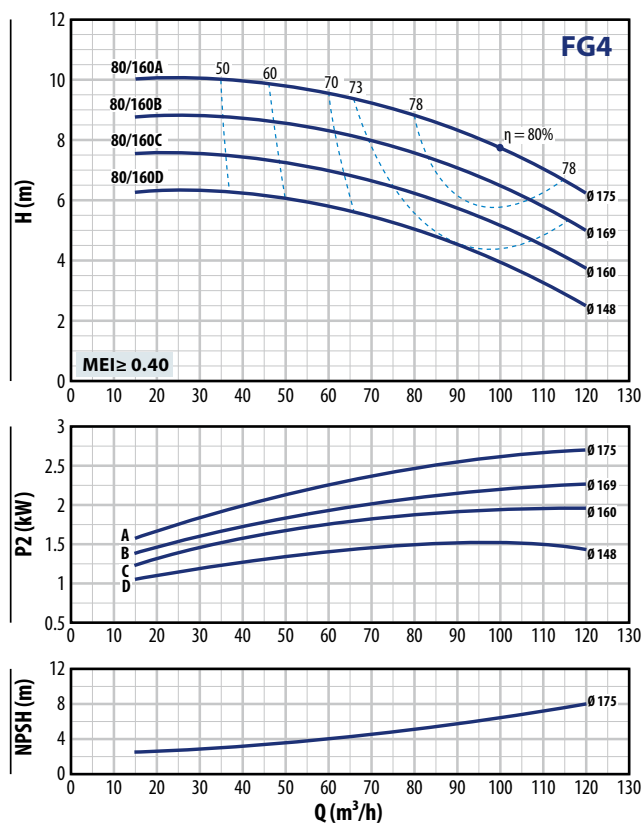
FG4-65/250



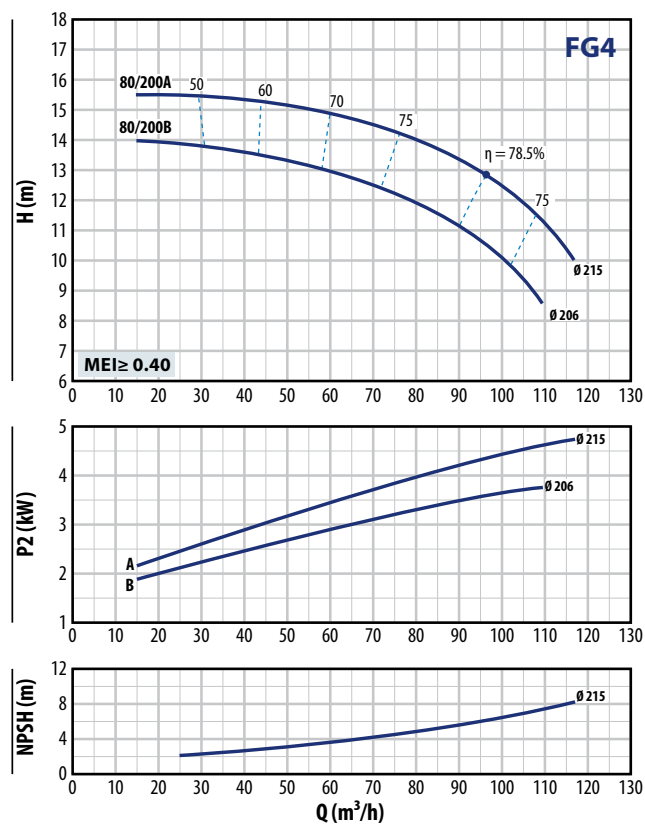
CHARACTERISTIC CURVES

$n = 1450 \text{ min}^{-1}$

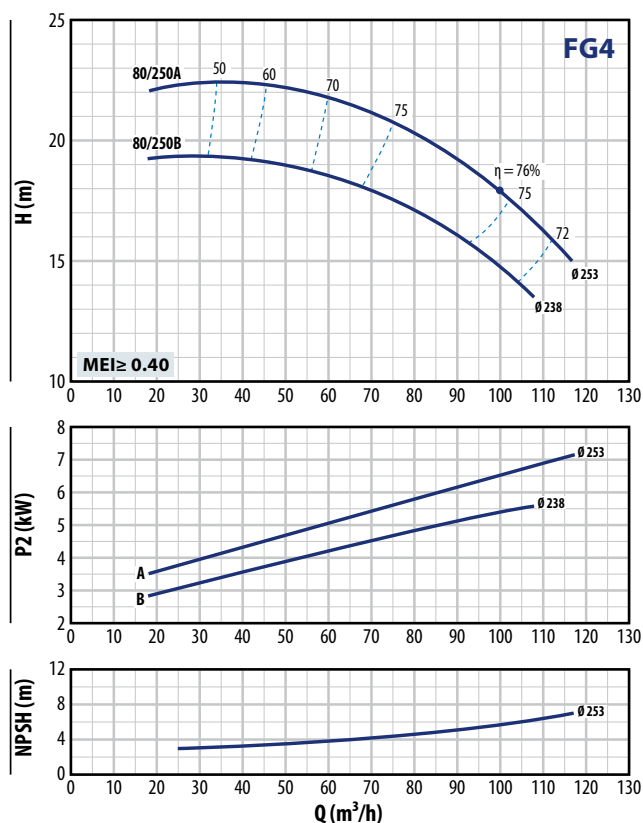
FG4-80/160



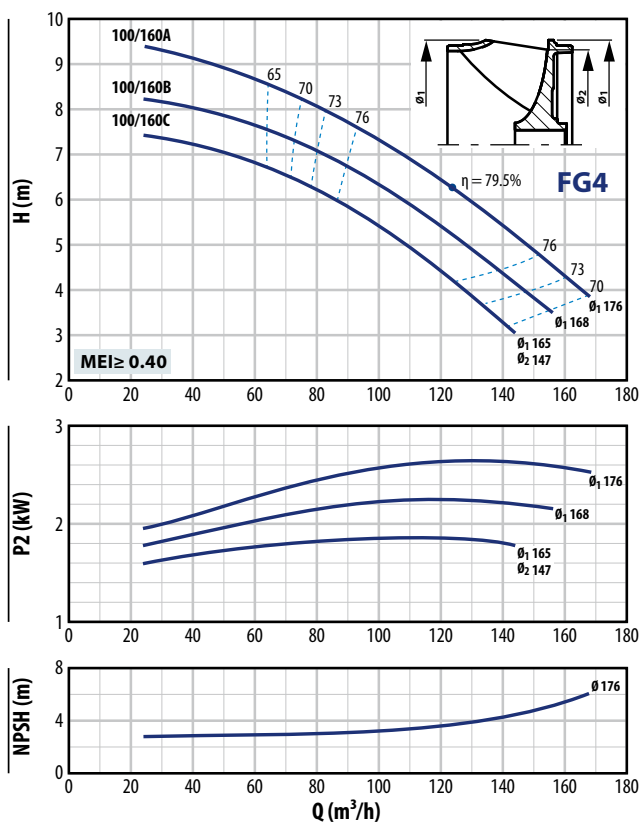
FG4-80/200



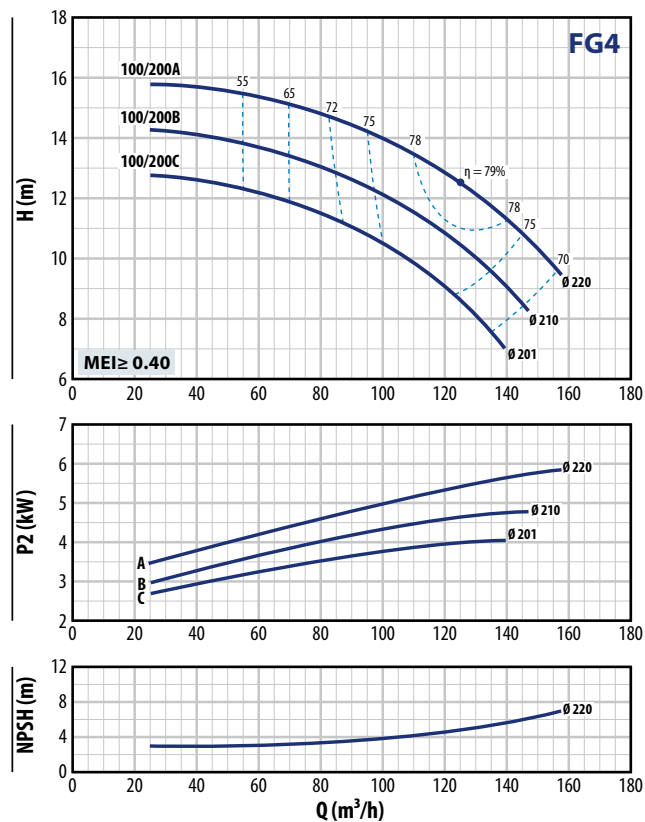
FG4-80/250



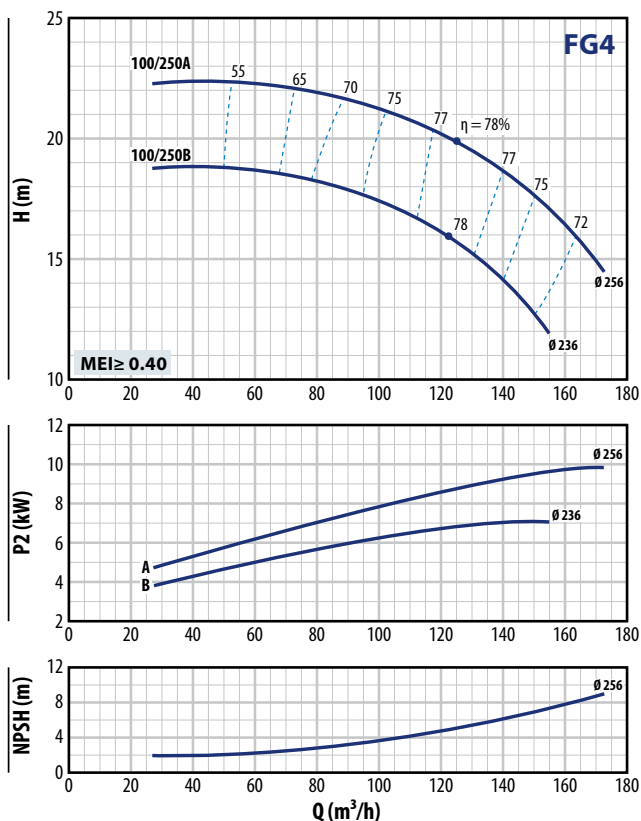
FG4-100/160



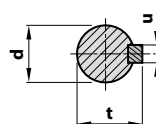
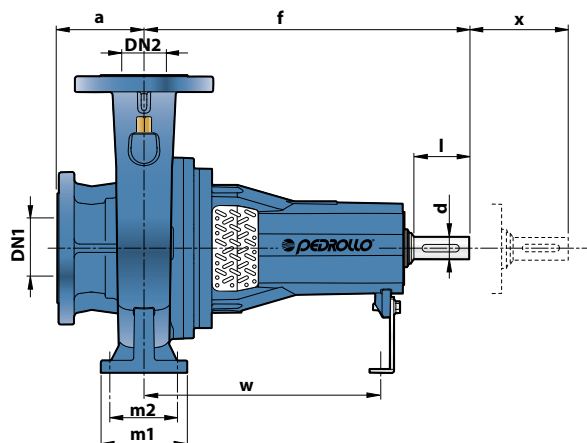
FG4-100/200



FG4-100/250

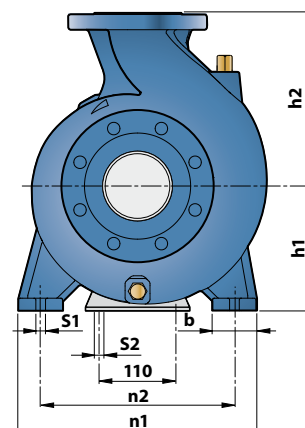


DIMENSIONS AND WEIGHT



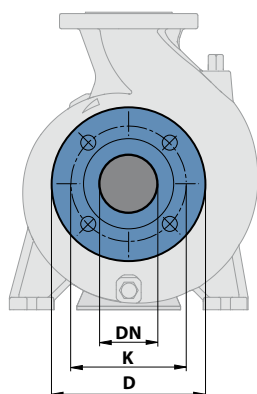
SHAFT mm

d	u	t
24 k6	8	27
32 k6	10	35



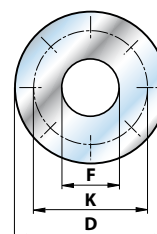
MODEL	DIMENSIONS mm																	kg
	DN1	DN2	a	f	h1	h2	b	m1	m2	n1	n2	s1	s2	w	x	d	l	
FG 32/160	50	32	80	360	132	160	55	96	71	240	190	14	14	260	100	24	50	33,0
FG 32/200					160	180	55	95										38,5
FG 32/200H					160	180	55	36,8										
FG 32/250			100		180	225	65	125	95	320	250							53,0
FG 40/125	65	40	80		112	140	50	100	70	210	160							34,0
FG 40/160					132	160				240	190							35,0
FG 40/200					160	180				55	265							212
FG 40/250			180		225	65	125	95	320	250	59,0							
FG 50/125	65	50	100		132	160	50	100	70	240	190							33,0
FG 50/160					160	180	55			265	212							38,3
FG 50/200					160	200	50			320	250							50,3
FG 50/250			180		225	65	125	95	320	250	57,0							
FG 65/125	80	65	100		160	180			65	280	212							45,0
FG 65/160					160	200			65	320	250							48,0
FG 65/200					180	225	65	160	120	360	280							55,0
FG 65/250			470		200	250	80			18	340							140
FG 80/160	100	80	125	360	180	225	65			125	95	320	250	14	260	24	50	
FG 80/200				470	180	250	65	345	280			340	32	80	75,0			
FG 80/250				200	280	80	400	315	18			260	24	50	94,0			
FG 100/160			125	100	470	360	200	280		80	160	120	360	280	340	32	80	87,0
FG 100/200	200	280				80	400	315		104,0								
FG 100/250	140	225			280	80												

FLANGED PORTS



COUNTER FLANGES

(CAN BE ORDERED SEPARATELY)



DN FLANGES	D	K	HOLES	
mm	mm	mm	N°	Ø (mm)
32	140	100	4	18
40	150	110		
50	165	125		
65	185	145		
80	200	160	8	18
100	220	180		
125	250	210		

DN FLANGES	F	D	K	HOLES	
mm	COUNTERFLANGES	mm	mm	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	18
100	4"	220	180		
125	5"	250	210		

FLUID SOLAR

4" high efficiency submersible solar pumps

 Clean water
(Maximum sand content 150 g/m³)

 Domestic use

 Agricultural use



PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m³/h)
- Head up to **180 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m³**
- 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.**

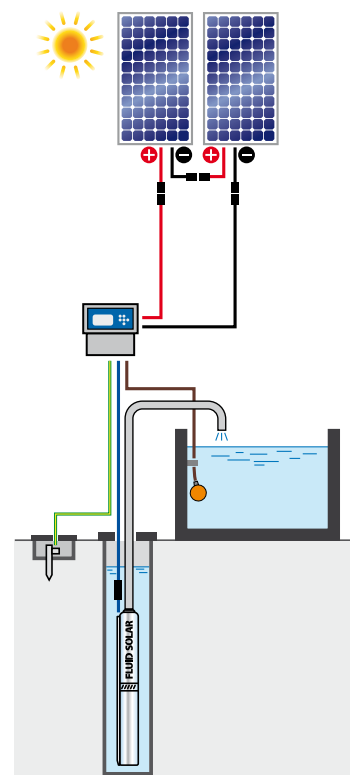
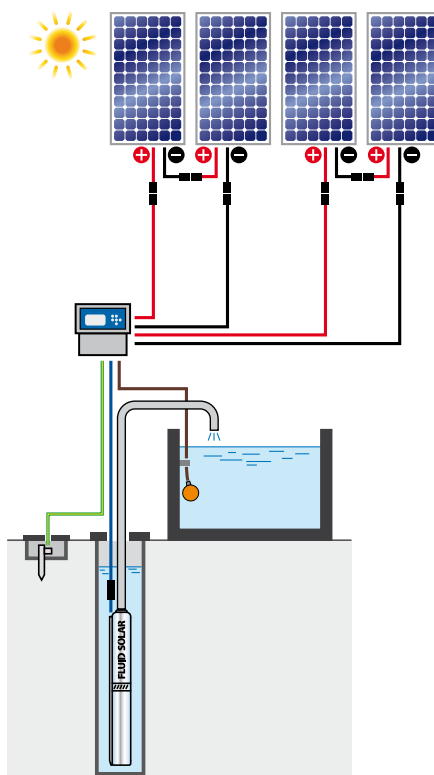
PATENTS - TRADE MARKS

- Patent n. 0001413386, EP2419642
- Patent n. EP2300717
- FLUID SOLAR® Registered Trade Mark n. 0001516301

Installation examples for electric water pump as P1=750 W

FLUID SOLAR 1/10 - 2/6 - 4/4 - 6/3

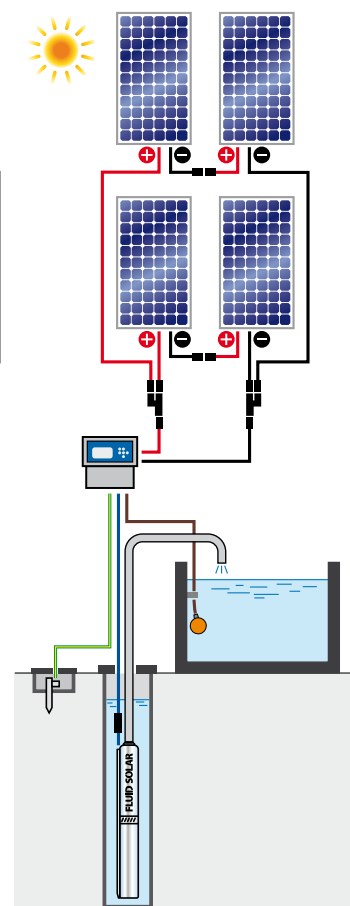
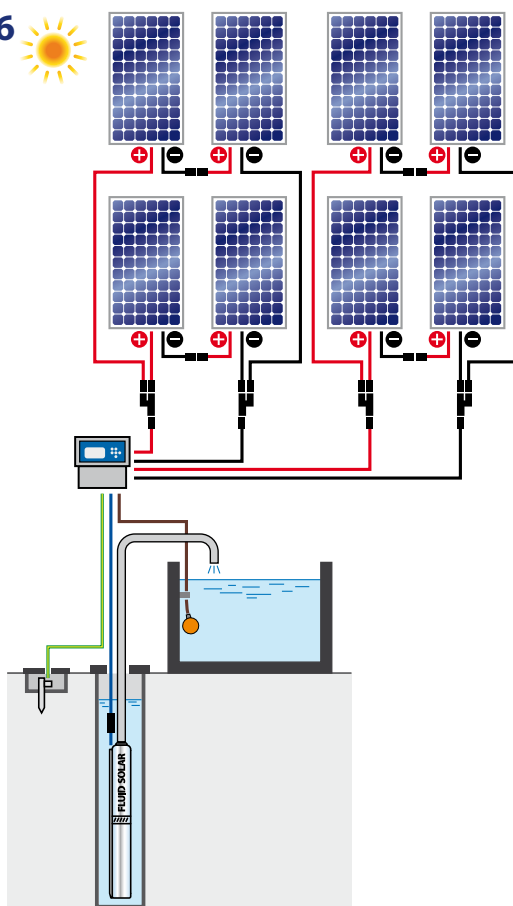
- To get the nominal maximum performances waterpump has to be powered by **n. 4 photovoltaic modules** with a nominal total power of **980 Wp** at least.
- Waterpump can be powered even by only **2 photovoltaic modules**: in this case performances are lower than maximum nominal performances that can be achieved with 4 modules.
- Empty tension for any single module has to range between **35 to 50 V_{DC}**.



Installation examples for electric water pump as P1=1500 W

FLUID SOLAR 1/20 - 2/14 - 4/8 - 6/6

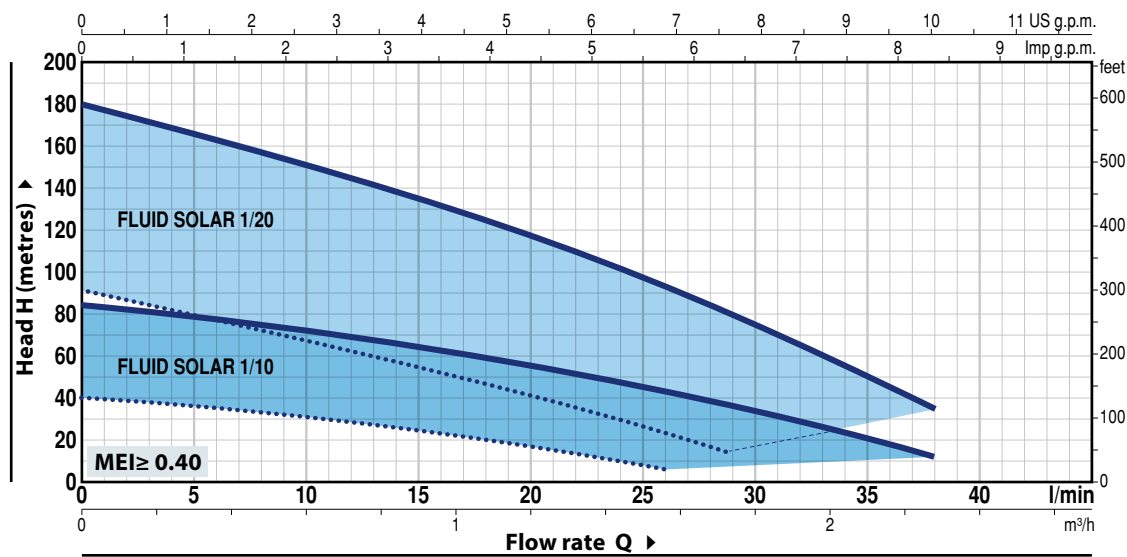
- To get the nominal maximum performances waterpump has to be powered by **n. 8 photovoltaic modules** with a nominal total power of **1960 Wp** at least.
- Waterpump can be powered even by only **4 photovoltaic modules**: in this case performances are lower than maximum nominal performances that can be achieved with 8 modules.
- Empty tension for any single module has to range between **35 to 50 V_{DC}**.



FLUID SOLAR

CHARACTERISTIC CURVES AND PERFORMANCE DATA

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



FLUID SOLAR 1/10

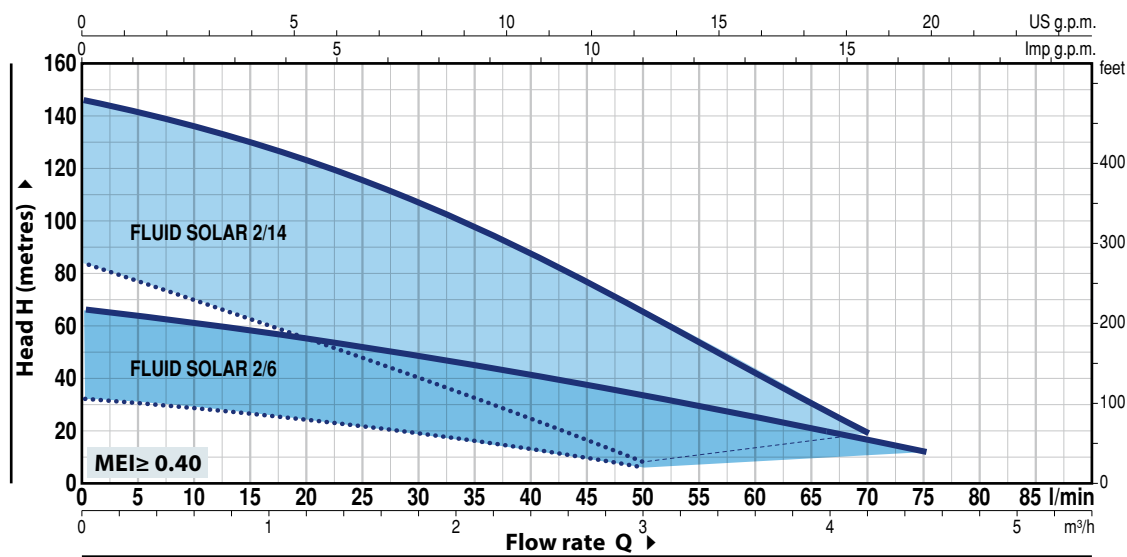
ABSORBED POWER P₁ **750 W**
Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

Q m³/h l/min	0	0.3	0.6	1.2	1.6	1.8	2.3
	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 P₁ **1500 W**
Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q m³/h l/min	0	0.3	0.6	1.2	1.6	1.74	1.8	2.3
	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 P₁ **750 W**
Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

Q m³/h l/min	0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.5
	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 P₁ **1500 W**
Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

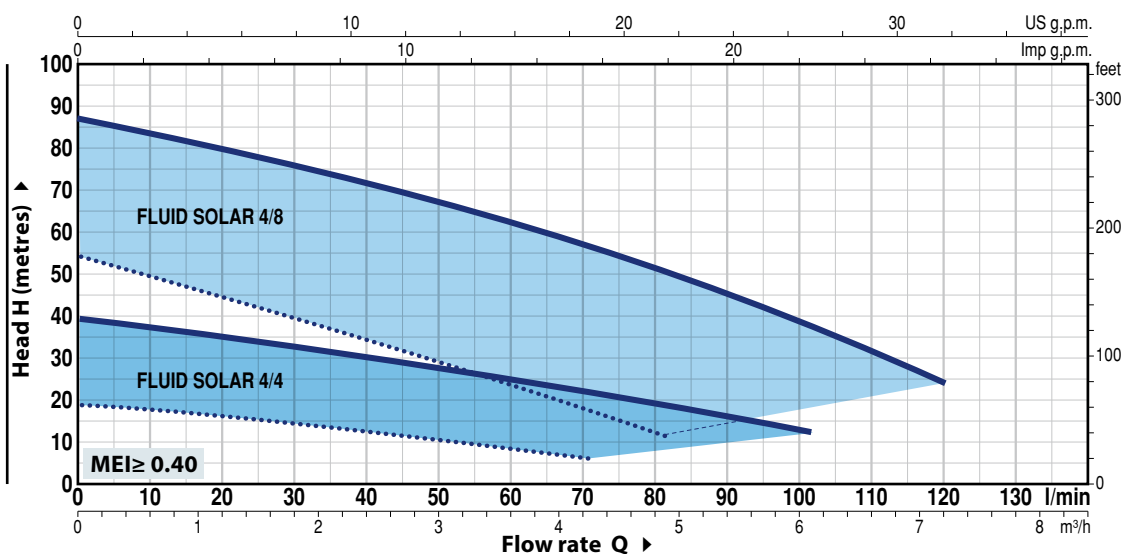
Q m³/h l/min	0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2
	0	5	10	20	30	40	50	60	70
H metres	146	140	136	123	107	87	65	42	20
	82	77	70	55	40	24	8		

- Performance with a solar radiation of 1000 W/m² and with an available voltage of the photovoltaic panels of 100 Vdc
- Performance with a solar radiation of 300 W/m² 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 P₁ **750 W**

Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

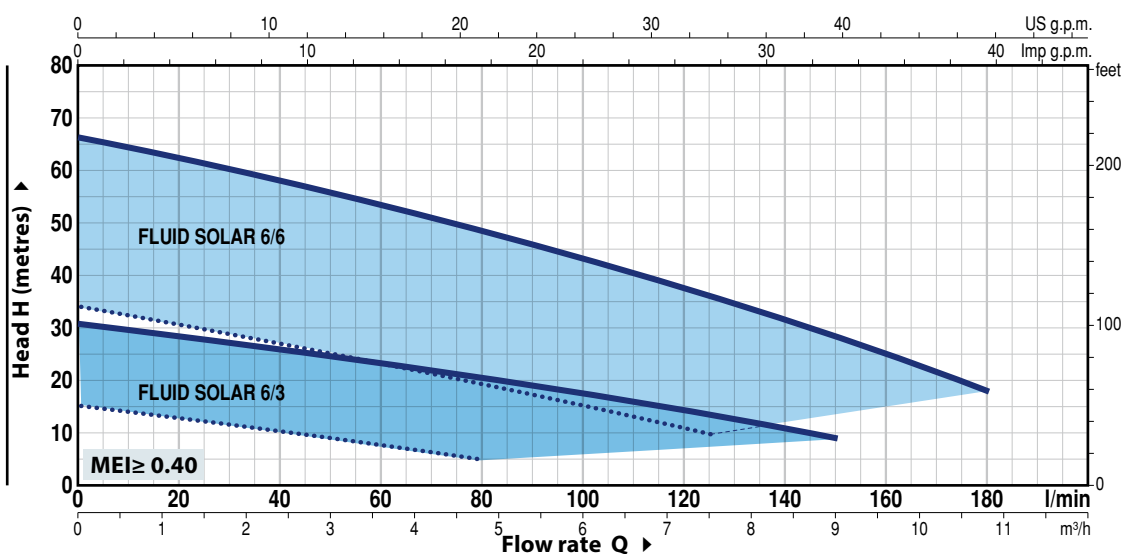
Q m³/h	0	0.3	0.6	1.2	1.8	3.0	3.6	4.3	4.5	4.8	5.7	6.1
Q l/min	0	5	10	20	30	50	60	71	75	80	95	102
H metres	39	38.5	37	35	32.5	27	25	22	21	18	14	12
H metres	19	18.5	17.5	16	14	10	8	6				

FLUID SOLAR 4/8

ABSORBED POWER P₁ **1500 W**

Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q m³/h	0	0.3	0.6	1.2	2.4	3.6	4.9	6.0	7.2
Q l/min	0	5	10	20	40	60	82	100	120
H metres	87	85	83	80	71	62	50	39	24
H metres	54	52	49	45	34	23	11		



FLUID SOLAR 6/3

ABSORBED POWER P₁ **750 W**

Performance with **4 photovoltaic panels** with a total rated power of 980 Wp

Q m³/h	0	0.3	1.8	3.6	4.8	5.4	7.2	9.0
Q l/min	0	5	30	60	80	90	120	150
H metres	31	30	27	23	20	19	14	9
H metres	15	14	11	8	5			

FLUID SOLAR 6/6

ABSORBED POWER P₁ **1500 W**

Performance with **8 photovoltaic panels** with a total rated power of 1960 Wp

Q m³/h	0	0.3	1.8	3.6	5.4	7.2	7.5	9.0	10.8
Q l/min	0	5	30	60	90	120	125	150	180
H metres	66	65	60	53	46	37	36	28	18
H metres	34	33	29	23	17	11	10		

— Performance with a solar radiation of 1000 W/m² and with an available voltage of the photovoltaic panels of 100 Vdc

.... Performance with a solar radiation of 300 W/m² 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 P₁ = 750 W

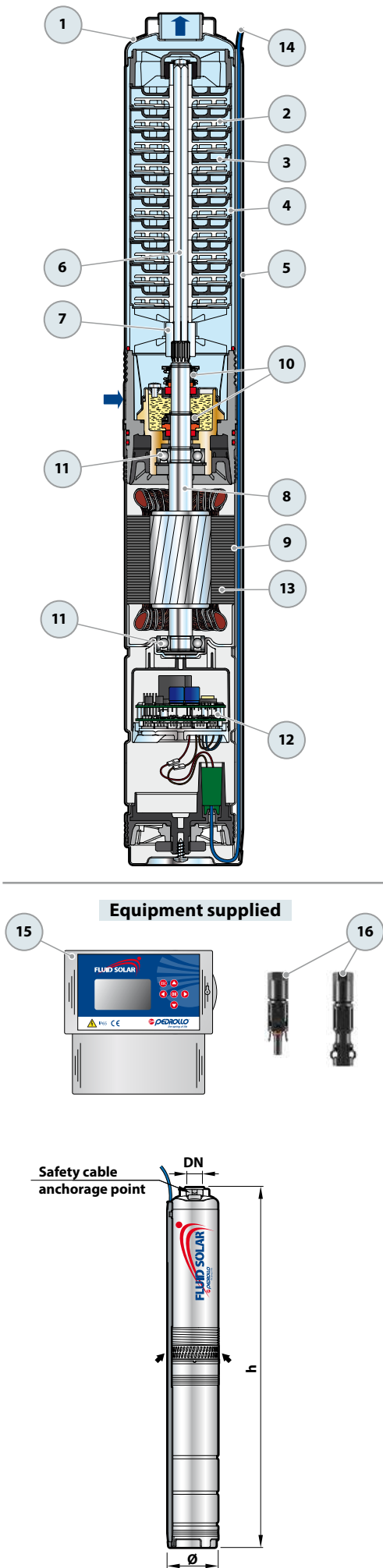
POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	DELIVERY BODY AND EXTERNAL SLEEVE	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1.			
2	IMPELLERS	Lexan 141-R for FLUID SOLAR 1/10, 4/4, 6/3 Delrin for FLUID SOLAR 2/6			
3	DIFFUSERS	Noryl FE1520PW			
4	STAGE BOXES / STAGE LIDS	Stainless steel AISI 304			
5	CABLE COVER	Stainless steel AISI 304			
6	PUMP SHAFT	Stainless steel AISI 304 for FLUID SOLAR 1/10, 4/4, 4/8, 6/3			
7	DRIVE COUPLING	Stainless steel AISI 316L for FLUID SOLAR 1/10, 4/4, 4/8, 6/3			
8	MOTOR SHAFT	Stainless steel AISI 431			
9	MOTOR SLEEVE	Stainless steel AISI 304			
10	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER				
	Seal	Shaft	Position	Materials	
	Model	Diameter		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	6203 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 <u>Standard length 2 metres</u>				
	Equipment supplied: connection kit for RPS2 cables				
15	CONTROL BOX				
16	CONNECTORS				
	– 2 SMK male connectors				
	– 2 SMK female connectors				

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 DELIVERY BODY AND EXTERNAL SLEEVE	Stainless steel AISI 304, complete with threaded delivery port in compliance with ISO 228/1.				
2 IMPELLERS	Lexan 141-R				
3 DIFFUSERS	Noryl FE1520PW				
4 STAGE BOXES / STAGE LIDS	Stainless steel AISI 304				
5 CABLE COVER	Stainless steel AISI 304				
6 PUMP SHAFT	Stainless steel AISI 304				
7 DRIVE COUPLING	Stainless steel AISI 316L				
8 MOTOR SHAFT	Stainless steel AISI 431				
9 MOTOR SLEEVE	Stainless steel AISI 304				
10 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER					
<i>Seal</i>	<i>Shaft</i>	<i>Position</i>	<i>Materials</i>		
<i>Model</i>	<i>Diameter</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
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 ACCL1 201
Standard length 2 metres

Equipment supplied: connection kit for RPS2 cables

15 CONTROL BOX

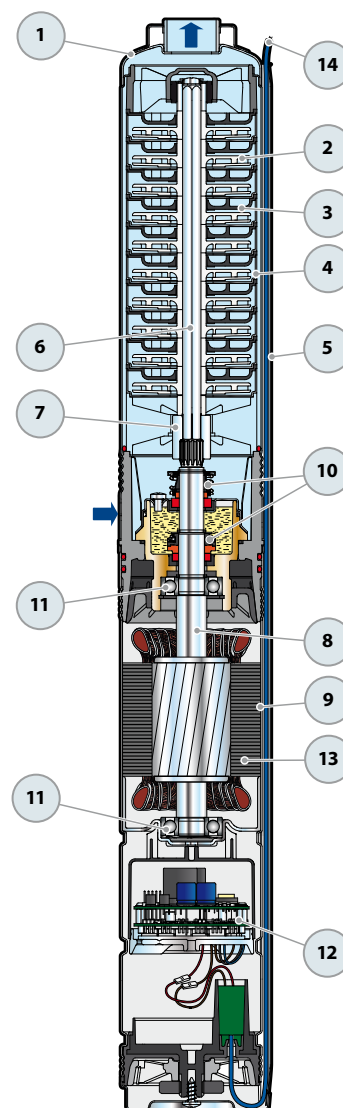
16 CONNECTORS

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

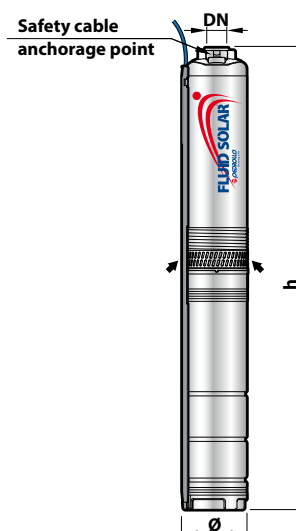
DIMENSIONS AND WEIGHT

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)



Equipment supplied



3" submersible pumps

-  Clean water
(Maximum sand content 150 g/m³)
-  Domestic use
-  Civil use



PERFORMANCE RANGE

- Flow rate up to **45 l/min** (2.7 m³/h)
- Head up to **162 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m³**
- Maximum immersion depth of **60 m** with a sufficiently long power cable
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

ELECTRIC MOTOR

- Oil filled **rewindable** motors (non-toxic oil for use with food) a 2 pole, 50 Hz (n ~ 2900 min⁻¹)
- 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

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

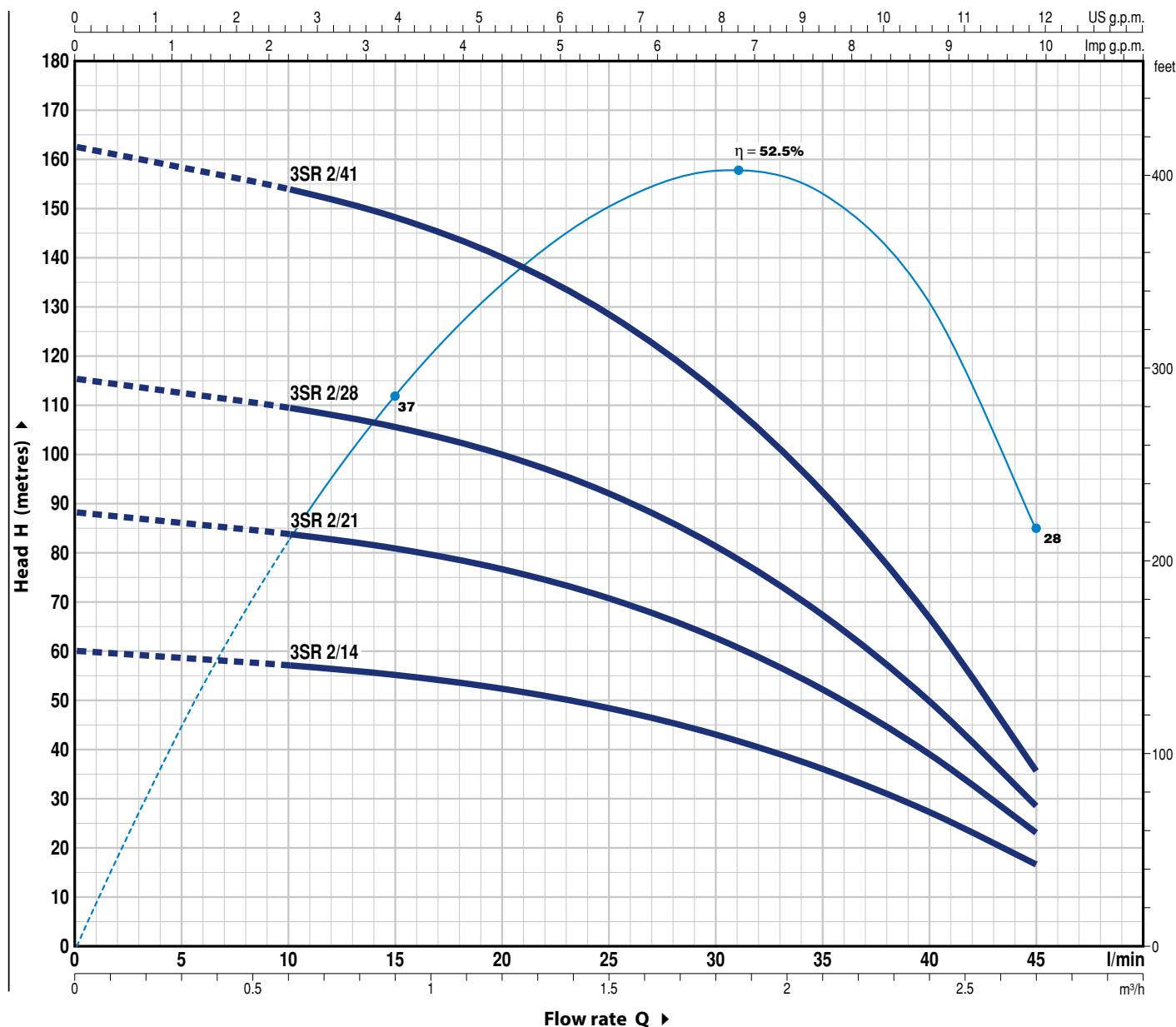


INSTALLATION AND USE

Suitable for use with clean water with a sand content of no more than **150 g/m³**. 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.

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



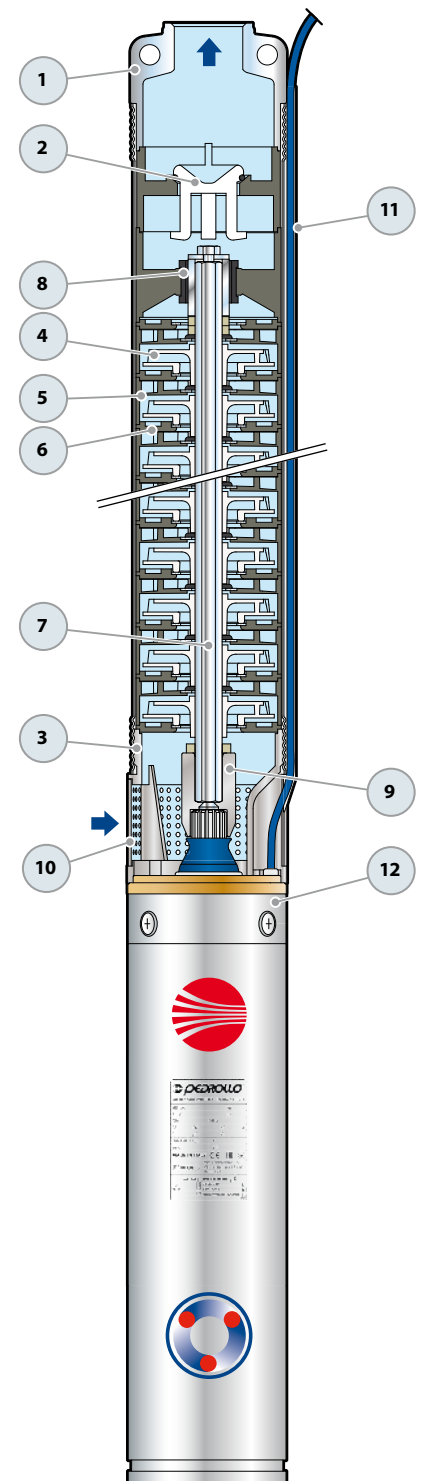
MODEL		POWER (P ₂)		Q m³/h l/min	0	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP		0	10	15	20	25	30	35	40	45
3SRm 2/14	3SR 2/14	0.37	0.50	H metres	60	57	55	52	48.5	43	36	27.5	16.5
3SRm 2/21	3SR 2/21	0.55	0.75		88	84	81	77	71	62.5	52.5	39	23.5
3SRm 2/28	3SR 2/28	0.75	1		115	109	105	100	92	81	67.5	50	28.5
3SRm 2/41	3SR 2/41	1.1	1.5		162	154	148	140	128	113	92	66.5	35.5

Q = Flow rate H = Total manometric head

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

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

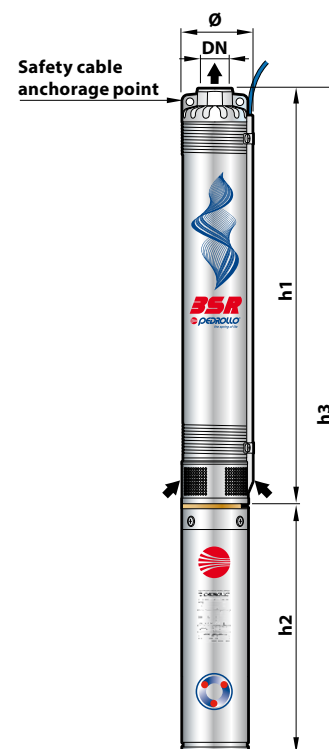
1	DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	NON-RETURN VALVE	Technopolymer
3	MOTOR BRACKET	Stainless steel AISI 304, compliance with NEMA standards
4	IMPELLERS	Technopolymer
5	DIFFUSER	Technopolymer
6	DIFFUSER PLATE	Technopolymer
7	PUMP SHAFT	Stainless steel AISI 431
8	PUMP BEARINGS	NBR rubber - Stainless steel AISI 304
9	DRIVE COUPLING	Stainless steel AISI 304
10	FILTER	Stainless steel AISI 304
11	CABLE COVER	Stainless steel AISI 304
12	MOTOR 3"	– Oil filled rewindable motors (non-toxic oil for use with food) – 2 pole, 50 Hz (n ~ 2900 min-1) – 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



DIMENSIONS AND WEIGHT

MODEL	PORT		DIMENSIONS mm			kg
Single-phase	DN	Ø	h1	h2	h3	
3SRm 2/14	1"	76	514	373	887	9.4
3SRm 2/21			672	393	1065	10.8
3SRm 2/28			830	433	1263	12.8
3SRm 2/41			1167	477	1644	15.6

MODEL	PORT		DIMENSIONS mm			kg
Three-phase	DN	Ø	h1	h2	h	
3SR 2/14	1"	76	514	353	867	9.0
3SR 2/21			672	373	1045	10.3
3SR 2/28			830	393	1223	11.8
3SR 2/41			1167	433	1600	14.5



ABSORPTION

Single-phase versions

MODEL	Rated power P ₂		Axial load	Capacitor (VL=450V)	ABSORPTION
230 V / 50 Hz	kW	HP	N	µF	
3SRm 2/14	0.37	0.50	800	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

Three-phase versions

MODEL	Rated power P ₂		Axial load	ABSORPTION
400 V / 50 Hz	kW	HP	N	
3SR 2/14	0.37	0.50	800	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

4" submersible pump with peripheral impeller

 Clean water

 Domestic use

 Agricultural use



PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m³/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

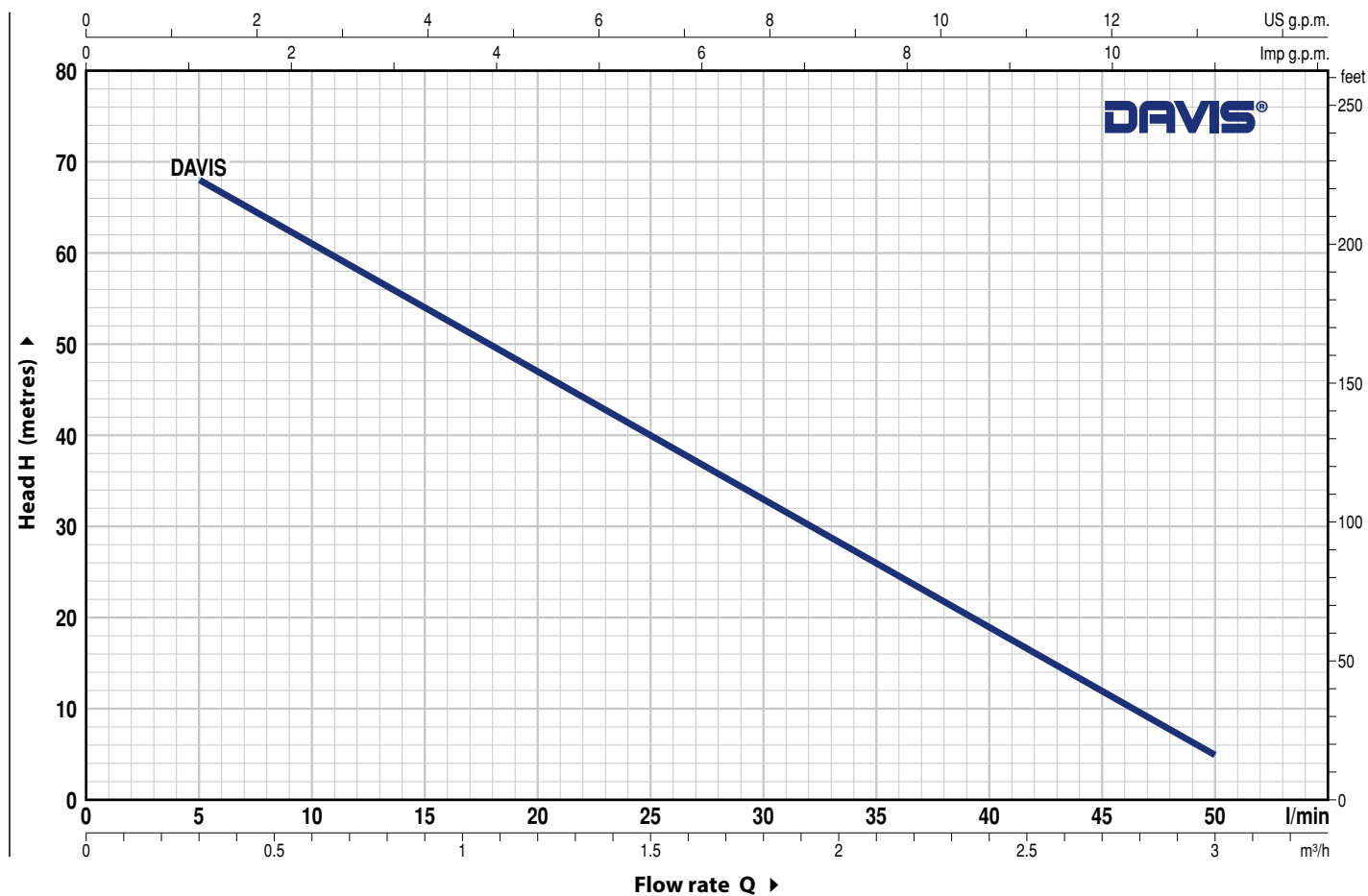
- **30 metres long power cable**
- Other voltages or 60 Hz frequency

➡ **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⁻¹



MODEL Single-phase	POWER (P ₂)		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.

CONSTRUCTION CHARACTERISTICS

1	DELIVERY BODY	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	PUMP BODY BACK PLATE	Brass
3	IMPELLER	Brass with peripheral radial vanes
4	MOTOR SLEEVE	Stainless steel AISI 304
5	MOTOR SHAFT	Stainless steel AISI 431

6 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal	Shaft	Position	Materials		
Model	Diameter		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 μ F - 500 VL	70 μ F - 250 VL

9 ELECTRIC MOTOR

Submersible PEDROLLO motor, suitable for continuous duty (with dry, rewindable stator).

DAVIS®: single-phase 230 V - 50 Hz

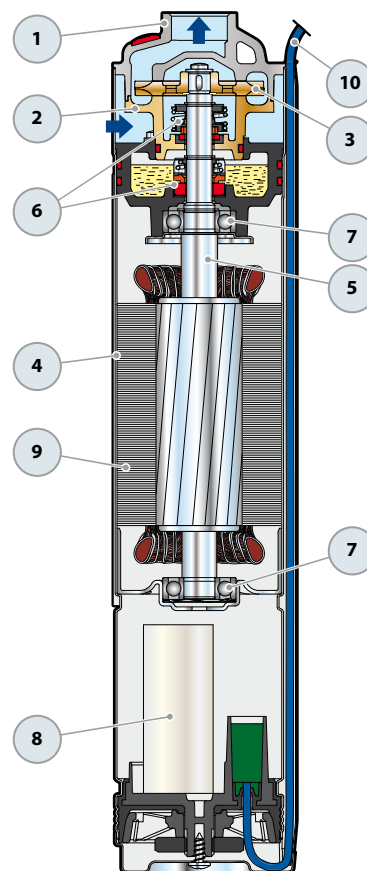
Motor with built-in capacitor.

Thermal overload protector incorporated into the winding.

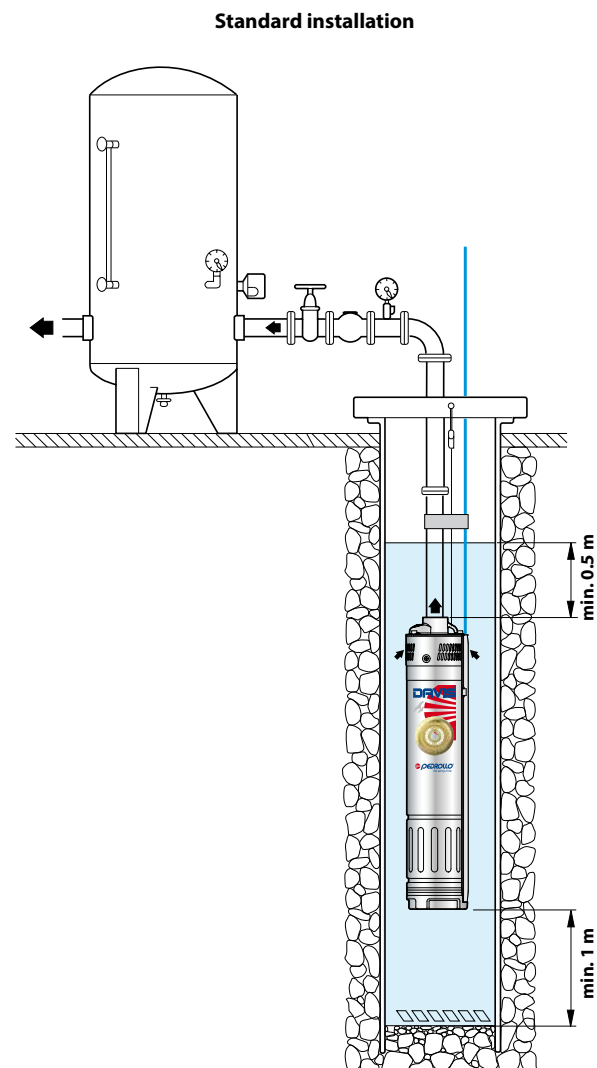
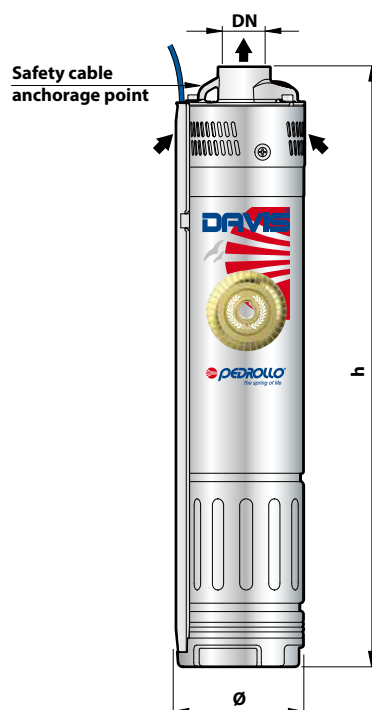
- Insulation: class F
- Protection: IP X8

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



MODEL	PORT	DIMENSIONS mm		kg
Single-phase	DN	Ø	h	
DAVIS®	1"	101	470	12.6

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
DAVIS®	5.7 A	5.5 A	11.4 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
DAVIS®	60	60

4BLOCK

4" monoblock submersible pumps



-  Clean water
(Maximum sand content 150 g/m³)
-  Domestic use
-  Civil use
-  Agricultural use

PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m³/h)
- Head up to **128 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m³**
- 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**

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 pumping clean water from boreholes that contain sand (up to **150 g/m³**).

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.

PATENTS - TRADE MARKS - MODELS

- Patent n. EP2300717 - EP2419642

OPTIONS AVAILABLE ON REQUEST

- **30 metres** long power cable
- Other voltages or 60 Hz frequency

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

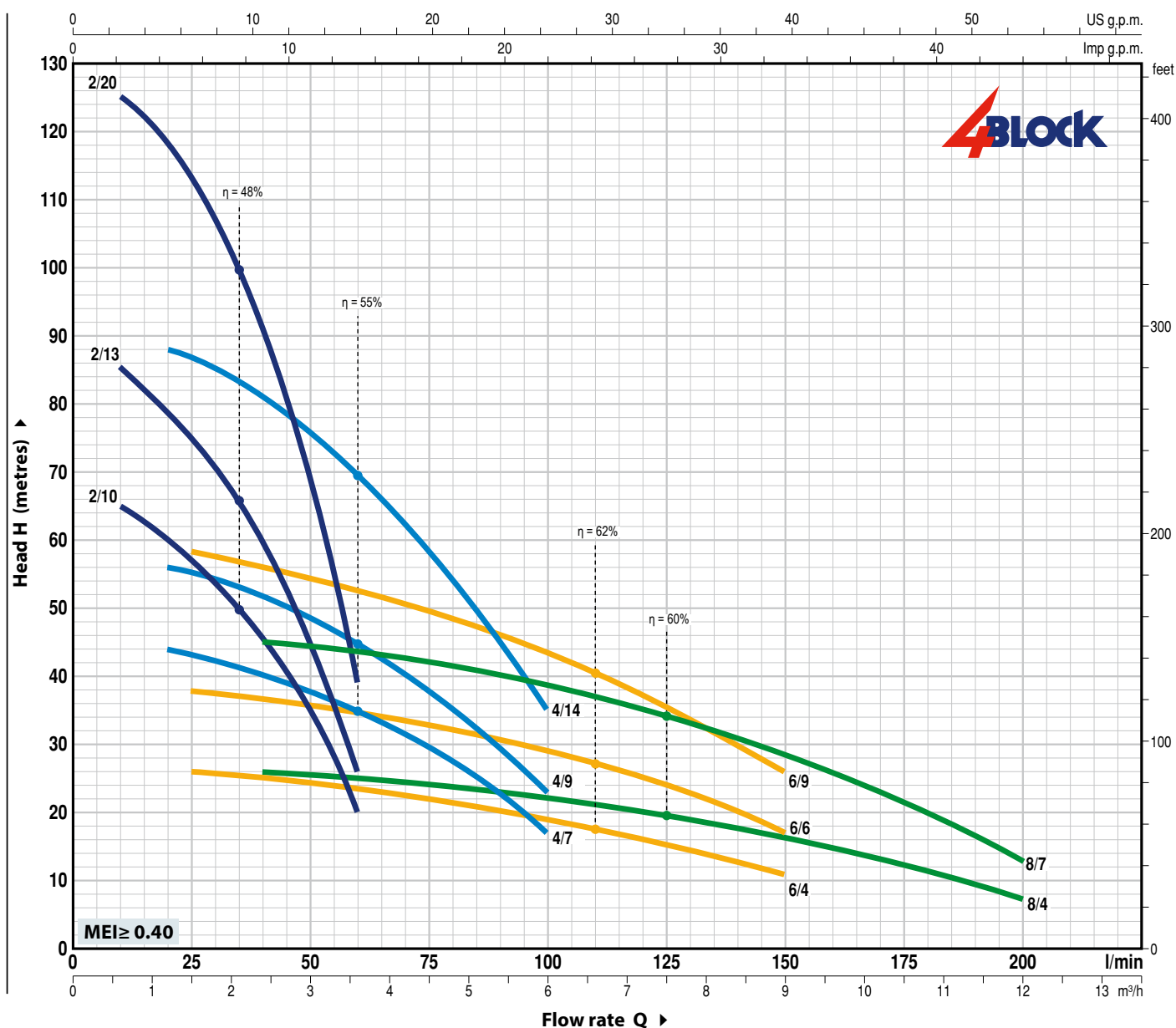


► Ready to install, stainless steel monoblock submersible pump.

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⁻¹



MODEL	POWER (P ₂)		Q															
	kW	HP		m ³ /h	0	0.6	1.2	1.5	2.4	3.6	4.5	6.0	7.5	9.0	10.5	12.0		
Single-phase				l/min	0	10	20	25	40	60	75	100	125	150	175	200		
4BLOCKm 2/10	0.55	0.75	H metres		66	65	60	57	46	20								
4BLOCKm 2/13	0.75	1			86	85	79	75	60	26								
4BLOCKm 2/20	1.1	1.5			128	125	118	113	91	39								
4BLOCKm 4/7	0.55	0.75			46	–	44	43	40	35	29.5	17						
4BLOCKm 4/9	0.75	1			60	–	56	55	52	45	37.5	23						
4BLOCKm 4/14	1.1	1.5			92	–	88	87	81	70	58	35						
4BLOCKm 6/4	0.55	0.75			28	–	–	26	25	23.5	22	19	15	11				
4BLOCKm 6/6	0.75	1			40	–	–	38	37	35	33	29	24	17				
4BLOCKm 6/9	1.1	1.5			61	–	–	58	56	52.5	50	44	35	26				
4BLOCKm 8/4	0.75	1			26.5	–	–	–	26	25	24	22	19.5	16.2	12.5	7.5		
4BLOCKm 8/7	1.1	1.5			46	–	–	–	45	44	42	39	34	28.5	21.5	13		

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 IMPELLERS	Lexan 141-R
3 DIFFUSERS	Noryl FE1520PW
4 STAGE CASING	Stainless steel AISI 304
5 PUMP SHAFT	Stainless steel AISI 304
6 PUMP BEARINGS	Special technopolymer housing with stainless steel AISI 316, chrome oxide coated, sand resistant shaft bushing.
7 DRIVE COUPLING	Stainless steel AISI 316L
8 CABLE COVER	Stainless steel AISI 304
9 MOTOR SHAFT	Stainless steel AISI 431
10 MOTOR SLEEVE	Stainless steel AISI 304

11 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

Seal	Shaft	Position	Materials		
Model	Diameter		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

12 BEARINGS

Pump	Model
4BLOCK – 0.55–0.75 kW	6203 2RS - C3E / 6203 ZZ - C3E
4BLOCK – 1.1 kW	3203B 2RS - C3 / 6203 ZZ - C3E

13 CAPACITOR

Pump	Capacitance
Single-phase	(230 V or 240 V)
4BLOCK – 0.55 kW	20 µF - 500 VL
4BLOCK – 0.75 kW	31.5 µF - 500 VL
4BLOCK – 1.1 kW	35 µF - 500 VL

14 ELECTRIC MOTOR

Submersible PEDROLLO motor, suitable for continuous duty (with dry, rewindable stator).

4BLOCKm: single-phase 230 V - 50 Hz

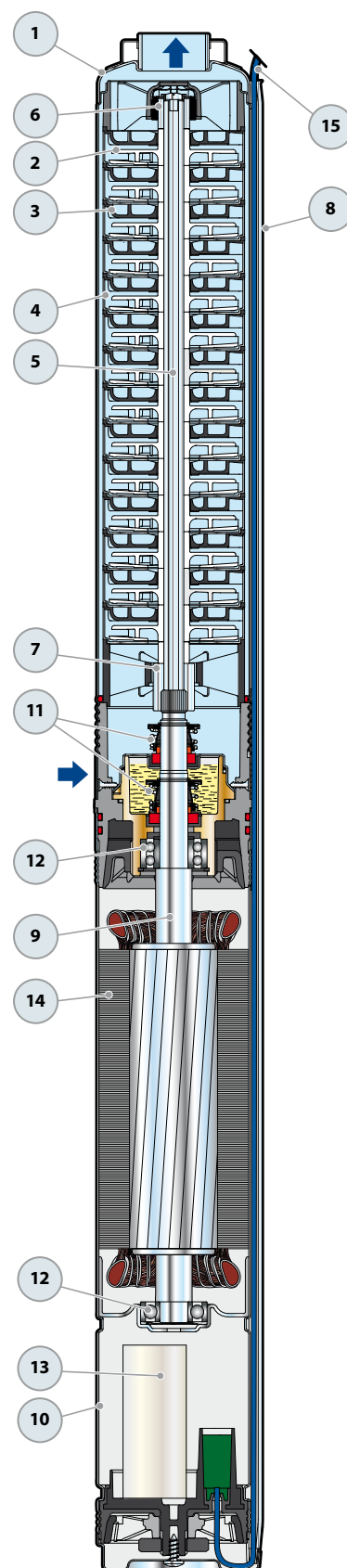
Motor with built-in capacitor.

Thermal overload protector incorporated into the winding.

- Insulation: class F
- Protection: IP X8

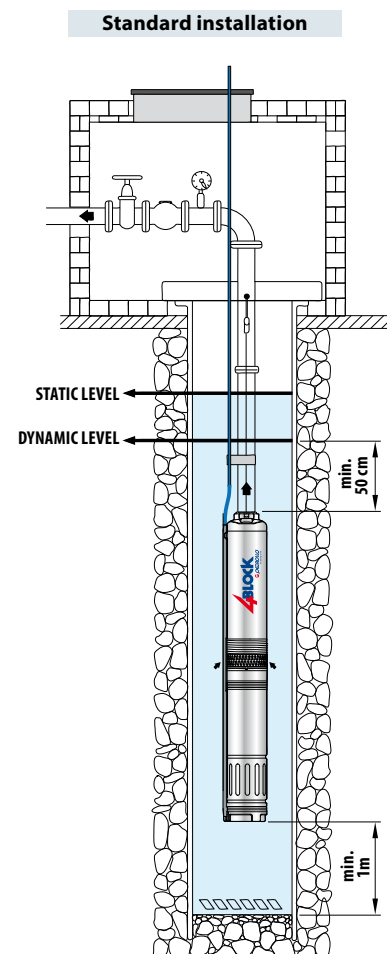
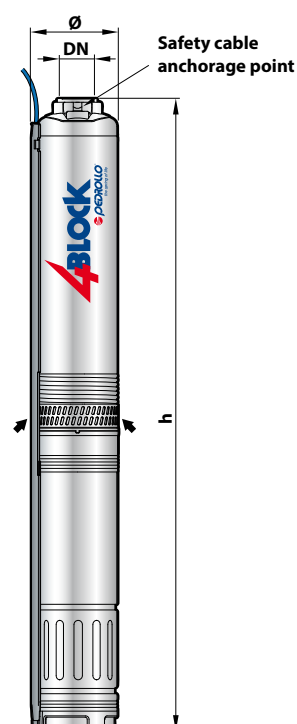
15 POWER CABLE

- ⇒ **PBS-P type**
approved for use in drinking water by "ACS"
in compliance with BS 6920, approval n. 04 ACCL1 201
Standard length 20 metres



DIMENSIONS AND WEIGHT

MODEL Single-phase	PORT DN	DIMENSIONS mm			kg 1~
		N.STAGES	Ø	h	
4BLOCKm 2/10	1¼"	10	100	705	12.5
4BLOCKm 2/13		13		786	14.3
4BLOCKm 2/20		20		986	17.8
4BLOCKm 4/7		7		674	12.1
4BLOCKm 4/9		9		743	13.8
4BLOCKm 4/14		14		925	17.0
4BLOCKm 6/4		4		641	10.7
4BLOCKm 6/6		6		725	13.3
4BLOCKm 6/9		9		887	16.5
4BLOCKm 8/4		4		665	13.8
4BLOCKm 8/7		7		827	17.0



ABSORPTION

MODEL Single-phase	VOLTAGE	
	230 V	240 V
4BLOCKm – 0.55 kW	5.0 A	4.8 A
4BLOCKm – 0.75 kW	6.0 A	5.8 A
4BLOCKm – 1.1 kW	8.0 A	7.8 A

PALLETIZATION

MODEL Single-phase	GROUPAGE n. pumps
4BLOCKm 2/10	55
4BLOCKm 2/13	33
4BLOCKm 2/20	33
4BLOCKm 4/7	55
4BLOCKm 4/9	55
4BLOCKm 4/14	33
4BLOCKm 6/4	55
4BLOCKm 6/6	55
4BLOCKm 6/9	33
4BLOCKm 8/4	55
4BLOCKm 8/7	33

4SR-F[®]

FLOATING IMPELLERS (Patented)



4" submersible pumps



Clean water
(Maximum
sand content 150 g/m³)



Domestic use



Civil use



Industrial use

PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12.0 m³/h)
- Head up to **432 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m³**
- 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 **150 g/m³**. 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. 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

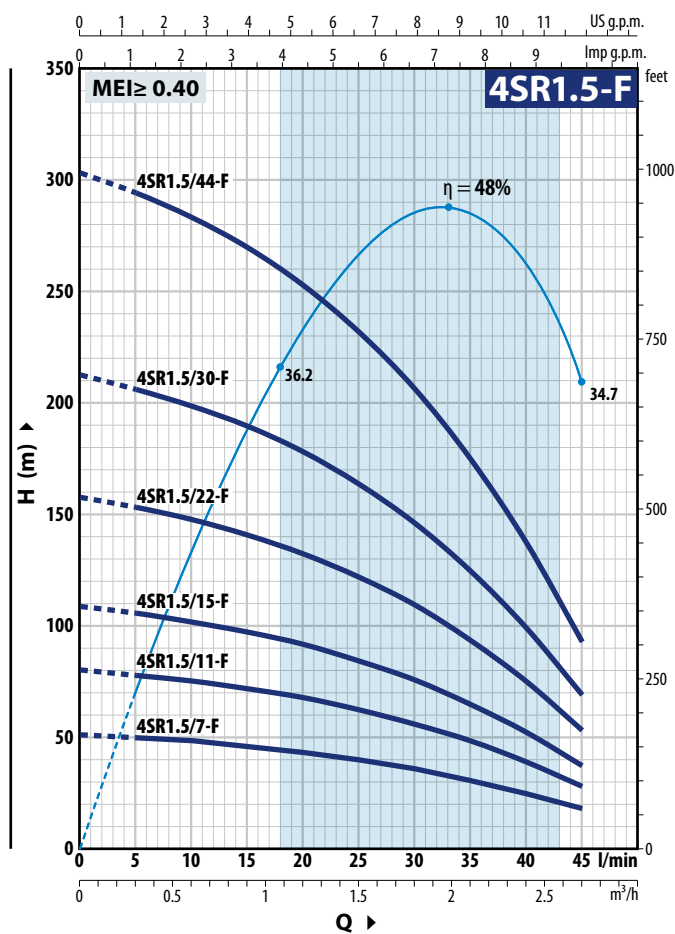
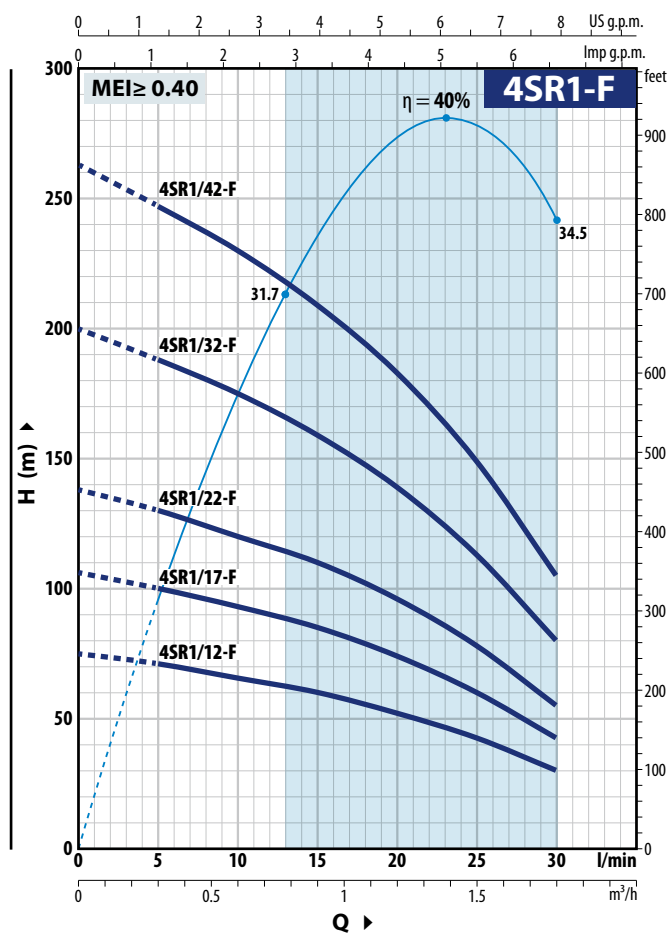
- Other voltages or 60 Hz frequency
- Kit of cooling jacket complete with filter and supports; recommended for powers from 2.2 kW to 7.5 kW



COOLING JACKET

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



4SR1-F

MODEL		POWER (P ₂)		Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8
Single-phase	Three-phase	kW	HP		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

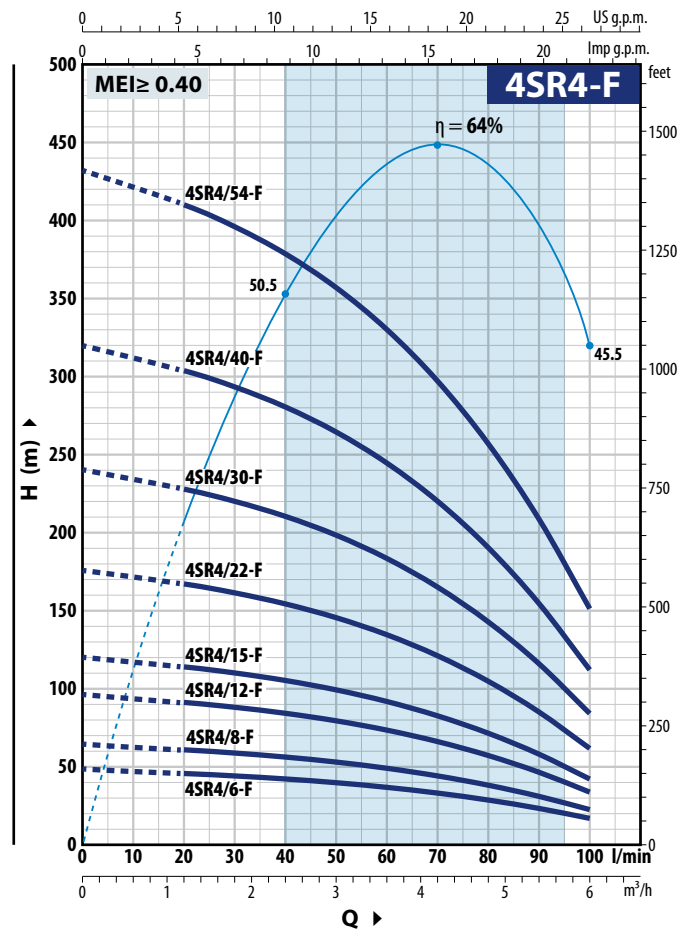
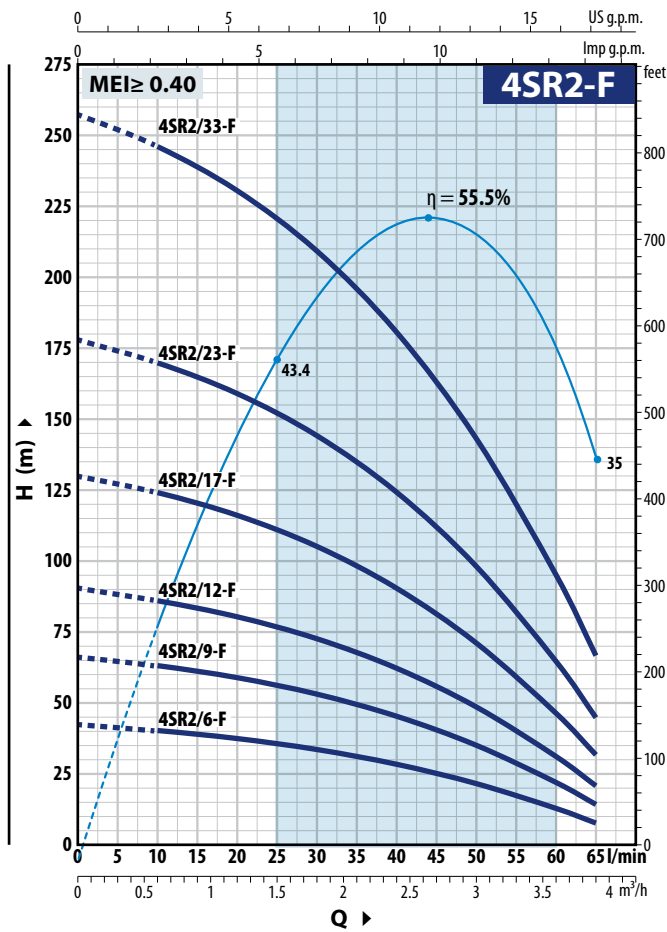
MODEL		POWER (P ₂)		Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP		l/min	0	5	10	15	20	25	30	35	40	45
4SRm 1.5/7 -F	4SR 1.5/7 -F	0.37	0.50	H metres	51.5	50	48.5	46	43.5	40	36	31	25	18	
4SRm 1.5/11 -F	4SR 1.5/11 -F	0.55	0.75		81	78	76	72	68	62.5	56	48.5	39	28	
4SRm 1.5/15 -F	4SR 1.5/15 -F	0.75	1		109	106	102	98	92	85	76	65	53	37.5	
4SRm 1.5/22-F	4SR 1.5/22-F	1.1	1.5		158	154	148	141	133	122	110	94	75	53	
4SRm 1.5/30-F	4SR 1.5/30-F	1.5	2		213	206	199	190	178	164	146	125	99	69	
4SRm 1.5/44-F	4SR 1.5/44-F	2.2	3		304	295	284	270	253	232	207	175	138	93	

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⁻¹



4SR2-F

MODEL		POWER (P ₂)		Q	m ³ /h	0	0.6	1.2	1.8	2.4	3.0	3.6	3.9
Single-phase	Three-phase	kW	HP		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	26.5	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	66.2	52.9	35.8	25.7	
4SRm 2/17 -F	4SR 2/17 -F	1.1	1.5		133	127	119	108	94	75	50.7	36.4	
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

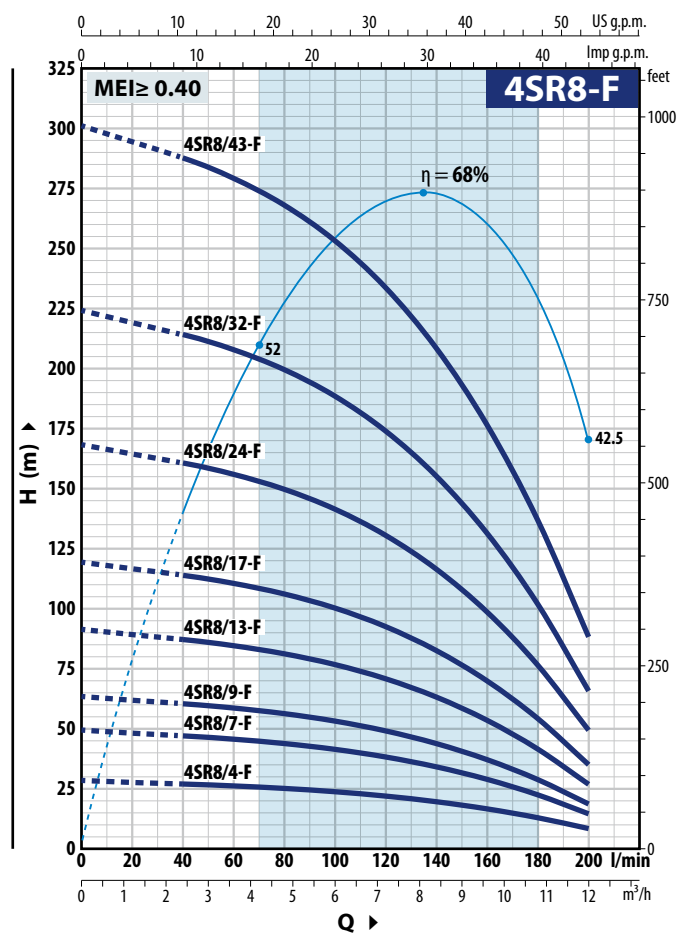
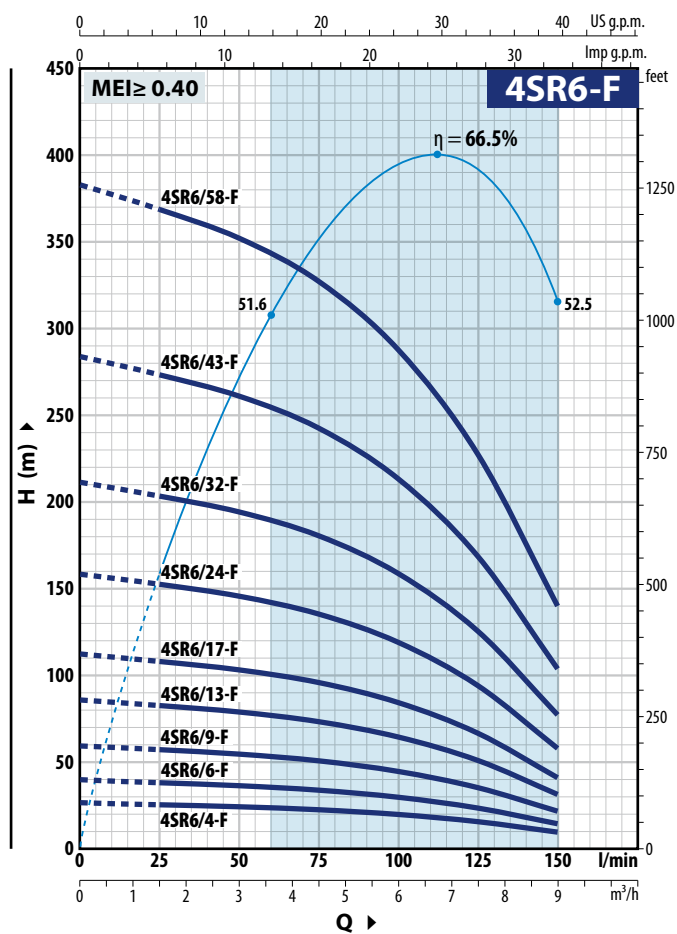
MODEL		POWER (P ₂)		Q	m ³ /h	0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
Single-phase	Three-phase	kW	HP		l/min	0	20	30	40	50	60	70	80	90	100
4SRm 4/6 -F	4SR 4/6 -F	0.55	0.75	H metres	48	45.5	44	42	39.5	36.5	33	28.5	23.2	17	
4SRm 4/8 -F	4SR 4/8 -F	0.75	1		64	60.5	58.5	56	53	49	44	38	31	22.5	
4SRm 4/12 -F	4SR 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⁻¹



4SR6-F

MODEL		POWER (P2)		Q m³/h l/min	0	1.5	3.0	4.5	6.0	7.5	9.0
Single-phase	Three-phase	kW	HP		0	25	50	75	100	125	150
4SRm 6/4 -F	4SR 6/4 -F	0.55	0.75	H metres	26.5	25.5	24.3	22.5	19.8	15.7	9.5
4SRm 6/6 -F	4SR 6/6 -F	0.75	1		39.5	38	36.5	34	29.5	23.5	14.5
4SRm 6/9 -F	4SR 6/9 -F	1.1	1.5		59.5	57	54.5	50.5	44.5	35.5	21.5
4SRm 6/13-F	4SR 6/13-F	1.5	2		86	83	79	73	64.5	51	31.5
4SRm 6/17-F	4SR 6/17-F	2.2	3		112	108	103	96	84	66.5	41
–	4SR 6/24-F	3	4		158	152	146	135	119	94	58
–	4SR 6/32-F	4	5.5		211	203	194	180	159	125	77
–	4SR 6/43-F	5.5	7.5		284	273	261	242	213	168	104
–	4SR 6/58-F	7.5	10		383	368	352	327	287	227	140

4SR8-F

MODEL		POWER (P ₂)		Q m³/h l/min	0	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0
Single-phase	Three-phase	kW	HP		0	40	60	80	100	120	140	160	180	200
4SRm 8/4 -F	4SR 8/4 -F	0.75	1	H metres	28	27	26	25	23.6	21.8	19.4	16.4	12.7	8
4SRm 8/7 -F	4SR 8/7 -F	1.1	1.5		49	47	45.5	43.5	41.5	38	34	28.5	22.3	14.5
4SRm 8/9 -F	4SR 8/9 -F	1.5	2		63	60.5	58.5	56	53	49	43.5	37	28.5	18.5
4SRm 8/13-F	4SR 8/13 -F	2.2	3		91	87	85	81	77	71	63	53.5	41.5	26.5
–	4SR 8/17-F	3	4		119	114	111	106	100	92	82	70	54	35
–	4SR 8/24-F	4	5.5		168	161	156	150	141	131	116	99	76	49
–	4SR 8/32-F	5.5	7.5		224	214	208	200	189	174	155	131	102	65.5
–	4SR 8/43-F	7.5	10		301	288	280	268	253	234	209	177	137	88

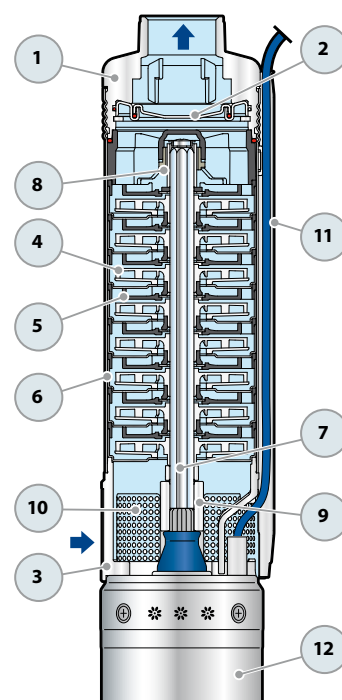
Q = Flow rate H = Total manometric head

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

POS. COMPONENT

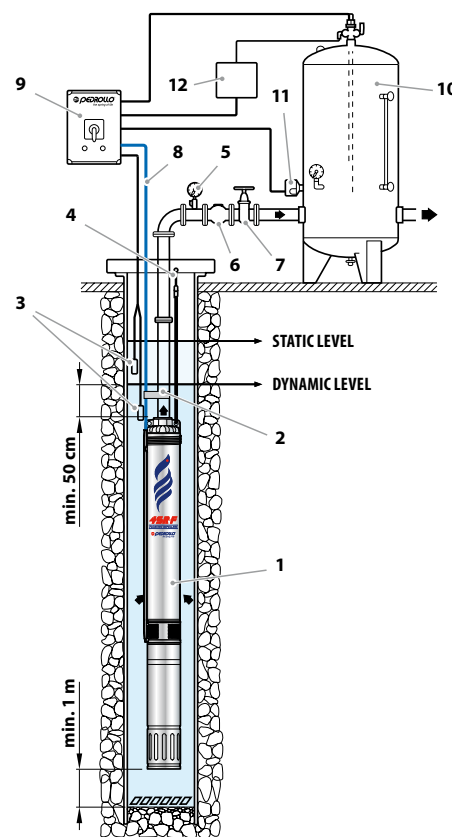
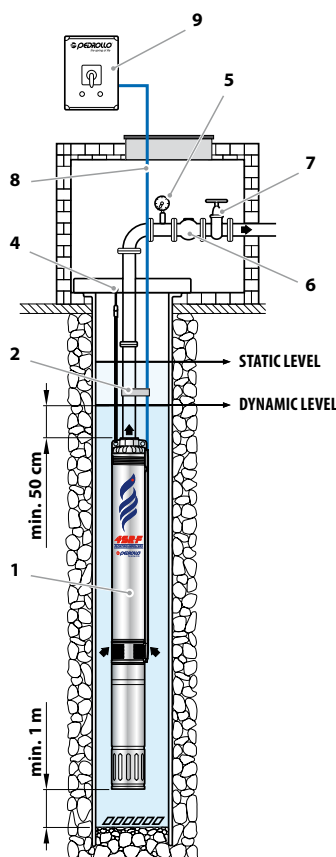
CONSTRUCTION CHARACTERISTICS

1	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	IMPELLER	Delrin
5	DIFFUSER	Noryl FE1520PW
6	STAGE 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 316L up to 2.2 kW; stainless steel AISI 304 for higher powers
10	FILTER	Stainless steel AISI 304
11	CABLE COVER	Stainless steel AISI 304
12	MOTOR 4"	4PD = rewindable oil filled submersible motor 4PS = insulated 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)

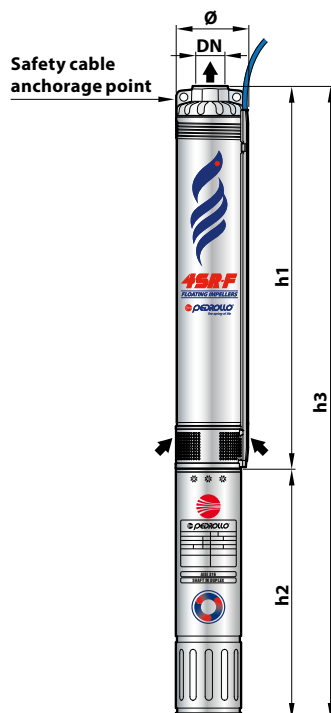
MODEL	DN	DIMENSIONS mm			kg
Pump		Ø	h1	h	
4SR 1/12 - F - HYD	1¼"	98	402	405	4.5
4SR 1/17 - F - HYD			528	531	6.2
4SR 1/22 - F - HYD			628	631	7.7
4SR 1/32 - F - HYD			853	856	10.2
4SR 1/42 - F - HYD			1052	1055	12.5
4SR 1.5/7 - F - HYD			303	306	3.6
4SR 1.5/11 - F - HYD			382	385	4.3
4SR 1.5/15 - F - 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
Single-phase		Ø	h1	h2	h3	1~
4SRm 1/12 - F - PD	1 1/4"	98	402	311	713	11.0
4SRm 1/17 - F - PD			528	331	859	13.4
4SRm 1/22 - F - PD			628	356	984	16.2
4SRm 1/32 - F - PD			853	396	1249	20.4
4SRm 1/42 - F - PD			1052	437	1489	24.2
4SRm 1.5/7 - F - PD			303	311	614	10.1
4SRm 1.5/11 - F - PD			382	331	713	11.5
4SRm 1.5/15 - F - PD			488	356	844	14.3
4SRm 1.5/22 - F - PD			627	396	1023	17.8
4SRm 1.5/30 - F - PD			787	437	1224	20.9
4SRm 1.5/44 - F - PD			1163	492	1655	29.5
4SRm 2/6 - F - PD			283	311	594	9.9
4SRm 2/9 - F - PD			343	331	674	11.1
4SRm 2/12 - F - PD			402	356	758	13.1
4SRm 2/17 - F - PD			528	396	924	16.4
4SRm 2/23 - F - PD			647	437	1084	19.5
4SRm 2/33 - F - PD			873	492	1365	25.5
4SRm 4/6 - F - PD			313	331	644	10.8
4SRm 4/8 - F - PD			363	356	719	12.6
4SRm 4/12 - F - PD			462	396	858	15.5
4SRm 4/15 - F - PD			563	437	1000	17.8
4SRm 4/22 - F - PD			737	492	1229	23.4
4SRm 6/4 - F - PD	2"	98	289	331	620	10.4
4SRm 6/6 - F - PD			352	356	708	12.3
4SRm 6/9 - F - PD			446	396	842	15.1
4SRm 6/13 - F - PD			598	437	1035	17.8
4SRm 6/17 - F - PD			723	492	1215	22.7
4SRm 8/4 - F - PD			240	356	596	11.7
4SRm 8/7 - F - PD			382	396	778	14.4
4SRm 8/9 - F - PD			446	437	883	16.6
4SRm 8/13 - F - PD			598	492	1090	20.9

MODEL	DN	DIMENSIONS mm				kg
Three-phase		Ø	h1	h2	h3	3~
4SR 1/12 - F - PD	1 1/4"	98	402	311	713	11.0
4SR 1/17 - F - PD			528	331	859	13.4
4SR 1/22 - F - PD			628	356	984	16.2
4SR 1/32 - F - PD			853	371	1224	19.6
4SR 1/42 - F - PD			1052	396	1448	22.7
4SR 1.5/7 - F - PD			303	311	614	10.1
4SR 1.5/11 - F - PD			382	331	713	11.5
4SR 1.5/15 - F - PD			488	356	844	14.3
4SR 1.5/22 - F - PD			627	371	998	17.0
4SR 1.5/30 - F - PD			787	396	1183	19.4
4SR 1.5/44 - F - PD			1163	437	1600	26.3
4SR 2/6 - F - PD			283	311	594	9.9
4SR 2/9 - F - PD			343	331	674	11.1
4SR 2/12 - F - PD			402	356	758	13.1
4SR 2/17 - F - PD			528	371	899	15.6
4SR 2/23 - F - PD			647	396	1043	18.0
4SR 2/33 - F - PD			873	437	1310	22.3
4SR 4/6 - F - PD			313	331	644	10.8
4SR 4/8 - F - PD			363	356	719	12.6
4SR 4/12 - F - PD			462	371	833	14.7
4SR 4/15 - F - PD			563	396	959	16.3
4SR 4/22 - F - PD	2"	98	737	437	1174	20.2
4SR 4/30 - F - PD			963	450	1413	23.9
4SR 4/40 - F - PD			1284	505	1789	32.0
4SR 4/54 - F - PD			1684	590	2274	39.0
4SR 6/4 - F - PD			289	331	620	10.4
4SR 6/6 - F - PD			352	356	708	12.3
4SR 6/9 - F - PD			446	371	817	14.3
4SR 6/13 - F - PD			598	396	994	16.3
4SR 6/17 - F - PD			723	437	1160	19.5
4SR 6/24 - F - PD			969	450	1419	23.5
4SR 6/32 - F - PD			1247	505	1752	29.2
4SR 6/43 - F - PD			1618	590	2208	36.9
4SR 6/58 - F - PD			2161	800	2961	52.4
4SR 8/4 - F - PD			240	356	596	11.7
4SR 8/7 - F - PD			382	371	753	13.6
4SR 8/9 - F - PD			446	396	842	15.1
4SR 8/13 - F - PD			598	437	1035	17.7
4SR 8/17 - F - PD			723	450	1173	21.0
4SR 8/24 - F - PD			969	505	1474	26.4
4SR 8/32 - F - PD			1247	590	1837	32.9
4SR 8/43 - F - PD			1618	800	2418	45.8

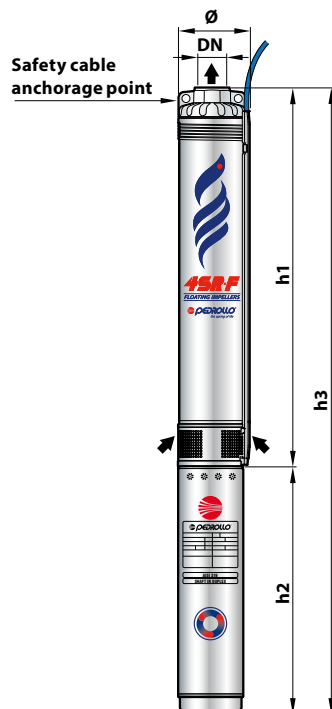


4PD = rewindable oil filled submersible motor

DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
Single-phase		Ø	h1	h2	h3	1~
4SRm 1/12 - F - PS	1 1/4"	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
Three-phase		Ø	h1	h2	h3	3~
4SR 1/12 - F - PS	1 1/4"	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	2"	98	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			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



4" submersible pumps



Clean water
(Maximum
sand content 150 g/m³)



Domestic use



Civil use



Industrial use

PERFORMANCE RANGE

- Flow rate up to **340 l/min** (20.4 m³/h)
- Head up to **271 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m³**
- 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/m³**. 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

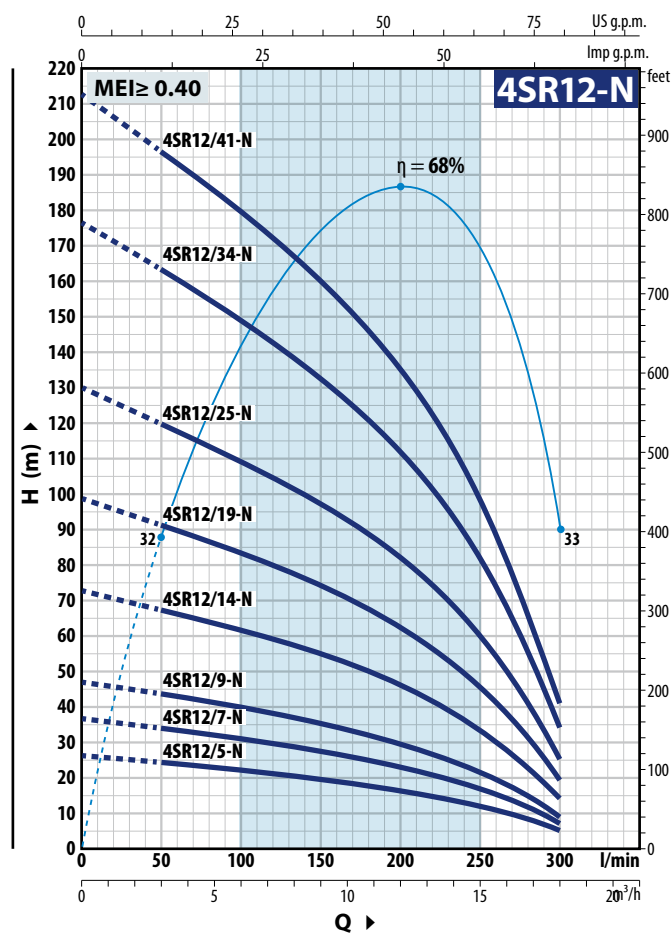
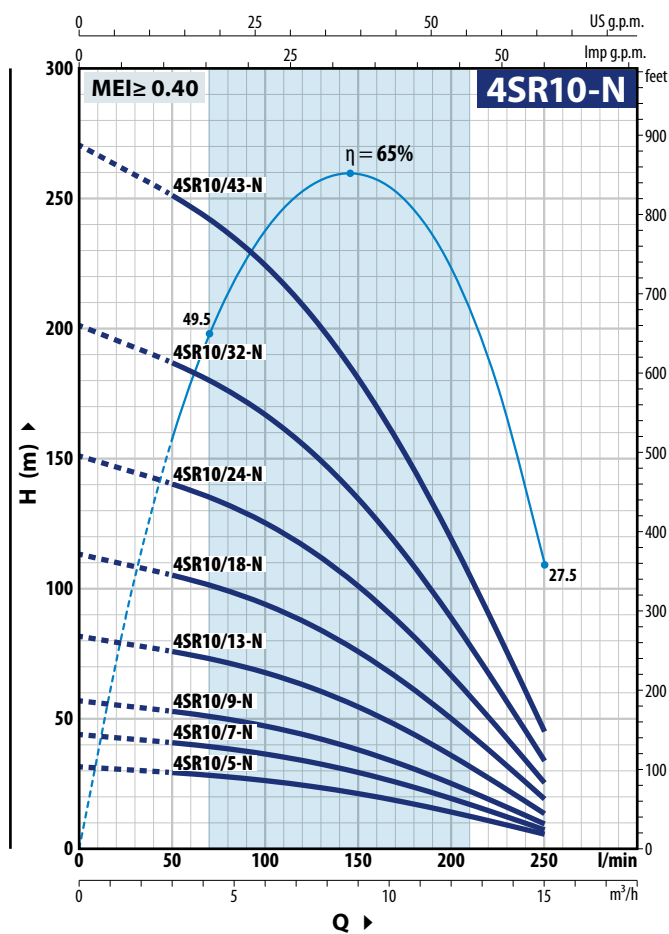
- Other voltages or 60 Hz frequency
- Kit of cooling jacket complete with filter and supports; recommended for powers from 2.2 kW to 7.5 kW



COOLING JACKET

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n = 2900 min⁻¹



4SR10-N

MODEL		POWER (P ₂)		Q m³/h l/min	0	3.0	6.0	7.5	9.0	10.5	12	13.5	15.0
Single-phase	Three-phase	kW	HP		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	26.1	23.9	21	17.7	13.9	9.6	5
4SRm 10/7 -N	4SR 10/7 -N	1.1	1.5		44	41	36.5	33.5	29.5	24.8	19.4	13.5	7.5
4SRm 10/9 -N	4SR 10/9 -N	1.5	2		56.5	52.5	47	43	38	32	24.9	17.4	9.5
4SRm 10/13 -N	4SR 10/13 -N	2.2	3		82	76	68	62	54.5	46	36	25.1	13.5
–	4SR 10/18 -N	3	4		113	105	94	86	76	63.5	50	34.5	19
–	4SR 10/24 -N	4	5.5		151	140	125	115	101	85	66.5	46.5	25
–	4SR 10/32 -N	5.5	7.5		202	187	167	153	135	113	89	61.5	33.5
–	4SR 10/43 -N	7.5	10		271	252	225	205	181	152	119	83	45

4SR12-N

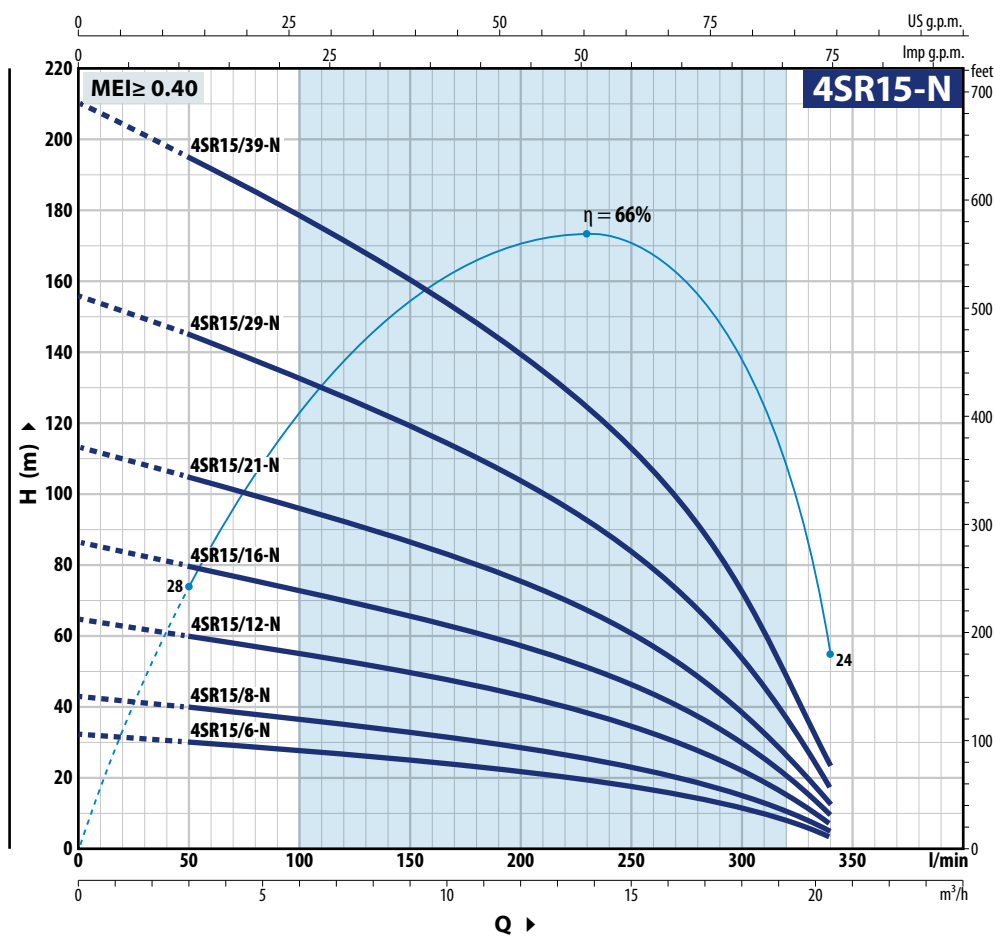
MODEL		POWER (P ₂)		Q m³/h l/min	0	3.0	6.0	8.4	10.2	12	13.8	15.6	16.8	18.0
Single-phase	Three-phase	kW	HP		0	50	100	140	170	200	230	260	280	300
4SRm 12/5 -N	4SR 12/5 -N	0.75	1	H metres	26	24	22	20	18.5	16.5	14	10.5	8	5
4SRm 12/7 -N	4SR 12/7 -N	1.1	1.5		36.5	33.5	30.5	28	26	23	19.5	15	11	7
4SRm 12/9 -N	4SR 12/9 -N	1.5	2		47	43	39.5	36	33	30	25.5	19	14.5	9
4SRm 12/14 -N	4SR 12/14 -N	2.2	3		73	67	61	56	51.5	46	39.5	30	22.5	14
–	4SR 12/19 -N	3	4		99	91	83	76	70	63	53.5	40.5	30.5	19
–	4SR 12/25 -N	4	5.5		130	120	109.5	100	92	83	70.5	53.5	40	25
–	4SR 12/34 -N	5.5	7.5		177	163	149	136	125	112.5	96	73	54.5	34
–	4SR 12/41 -N	7.5	10		213	197	179.5	164	151	135.5	115.5	87.5	66	41

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⁻¹



4SR15-N

MODEL		POWER (P ₂)		Q										
Single-phase	Three-phase	kW	HP		m³/h	0	3.0	6.0	9.0	12	15	18	19.2	20.4
					l/min	0	50	100	150	200	250	300	320	340
4SRm 15/6 -N	4SR 15/6 -N	1.1	1.5	H metres		32.5	30	27.5	24.5	21.5	17.5	11	7.5	3.5
4SRm 15/8 -N	4SR 15/8 -N	1.5	2			43	40	36.5	33	29	23	14.5	10	5
4SRm 15/12 -N	4SR 15/12 -N	2.2	3			65	60	54.5	49	43	35	22	15.5	7
-	4SR 15/16 -N	3	4			86.5	80	73	65.5	57.5	46.5	29.5	20.5	9.5
-	4SR 15/21 -N	4	5.5			113.5	105	96	86	75.5	61	38.5	27	12.5
-	4SR 15/29 -N	5.5	7.5			156.5	145	132	119	104.5	84.5	53.5	37	17.5
-	4SR 15/39 -N	7.5	10			210.5	195	178	160	140.5	113.5	72	50	23.5

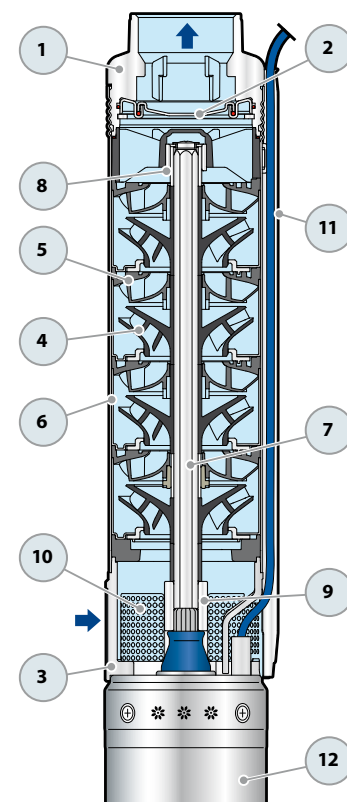
Q = Flow rate H = Total manometric head

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, compliance with NEMA standards
4 IMPELLER	Noryl FE1520PW
5 DIFFUSER	Noryl FE1520PW
6 STAGE 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 316L up to 2.2 kW; stainless steel AISI 304 for higher powers
10 FILTER	Stainless steel AISI 304
11 CABLE COVER	Stainless steel AISI 304
12 MOTOR 4"	4PD = rewindable oil filled submersible motor 4PS = incapsulated water cooled submersible motor



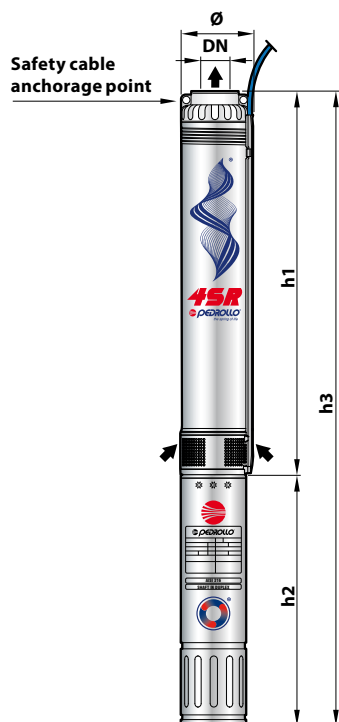
DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	DN	DIMENSIONS mm			kg
Three-phase		Ø	h1	h	
4SR 10/5 - N - HYD	2"	98	429	432	3.9
4SR 10/7 - N - HYD			531	534	4.8
4SR 10/9 - N - HYD			633	636	5.7
4SR 10/13 - N - HYD			836	839	7.5
4SR 10/18 - N - HYD			1091	1094	9.8
4SR 10/24 - N - HYD			1396	1399	12.4
4SR 10/32 - N - HYD			1803	1806	16.0
4SR 10/43 - N - HYD			2363	2366	21.0
4SR 12/5 - N - HYD			543	546	5.5
4SR 12/7 - N - HYD			689	692	3.3
4SR 12/9 - N - HYD			835	838	9.1
4SR 12/14 - N - HYD			1200	1203	12.6
4SR 12/19 - N - HYD			1565	1568	15.1
4SR 12/25 - N - HYD			2003	2006	19.7
4SR 12/34 - N - HYD			2660	2663	26.6
4SR 12/41 - N - HYD			3165	3168	31.6
4SR 15/6 - N - HYD			616	619	6.0
4SR 15/8 - N - HYD			762	765	8.3
4SR 15/12 - N - HYD			1054	1057	11.3
4SR 15/16 - N - HYD			1346	1349	13.4
4SR 15/21 - N - HYD			1711	1714	16.8
4SR 15/29 - N - HYD			2295	2298	22.9
4SR 15/39 - N - HYD			3020	3023	29.7



DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Single-phase						1~
4SRm 10/5 - N - PD	2"	98	429	356	785	12.4
4SRm 10/7 - N - PD			531	396	927	16.7
4SRm 10/9 - N - PD			633	437	1070	18.9
4SRm 10/13 - N - PD			836	492	1328	25.6
4SRm 12/5 - N - PD			543	356	899	14.1
4SRm 12/7 - N - PD			689	396	1085	17.8
4SRm 12/9 - N - PD			835	437	1272	21.0
4SRm 12/14 - N - PD			1200	492	1692	26.8
4SRm 15/6 - N - PD			616	396	1012	16.6
4SRm 15/8 - N - PD			762	437	1199	20.4
4SRm 15/12 - N - PD			1054	492	1546	25.4



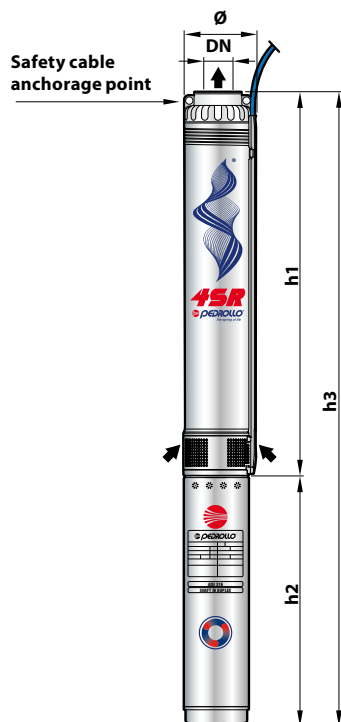
MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Three-phase						3~
4SR 10/5 - N - PD	2"	98	429	356	785	12.4
4SR 10/7 - N - PD			531	371	902	14.2
4SR 10/9 - N - PD			633	396	1029	15.9
4SR 10/13 - N - PD			836	437	1273	19.2
4SR 10/18 - N - PD			1091	450	1541	23.0
4SR 10/24 - N - PD			1396	505	1901	28.5
4SR 10/32 - N - PD			1803	590	2393	35.8
4SR 10/43 - N - PD			2363	800	3163	50.0
4SR 12/5 - N - PD			543	356	899	14.0
4SR 12/7 - N - PD			689	371	1060	12.7
4SR 12/9 - N - PD			835	396	1231	19.3
4SR 12/14 - N - PD			1200	437	1637	24.3
4SR 12/19 - N - PD			1565	450	2015	28.3
4SR 12/25 - N - PD			2003	505	2508	35.8
4SR 12/34 - N - PD			2660	590	3360	46.4
4SR 12/41 - N - PD			3165	800	3965	60.6
4SR 15/6 - N - PD			616	371	987	15.4
4SR 15/8 - N - PD			762	396	1158	18.5
4SR 15/12 - N - PD			1054	437	1491	23.0
4SR 15/16 - N - PD			1346	450	1796	26.6
4SR 15/21 - N - PD			1711	505	2216	32.9
4SR 15/29 - N - PD			2295	590	2995	42.7
4SR 15/39 - N - PD			3020	800	3820	58.7

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	429	272	701	13.0
4SRm 10/7 - N - PS			531	312	843	17.7
4SRm 10/9 - N - PS			633	352	985	20.6
4SRm 10/13 - N - PS			836	402	1238	24.9
4SRm 12/5 - N - PS			543	272	815	14.7
4SRm 12/7 - N - PS			689	312	1001	18.8
4SRm 12/9 - N - PS			835	352	1187	22.7
4SRm 12/14 - N - PS			1200	402	1602	26.1
4SRm 15/6 - N - PS			616	312	928	17.6
4SRm 15/8 - N - PS			762	352	1114	22.1
4SRm 15/12 - N - PS			1054	402	1456	24.7

MODEL	DN	DIMENSIONS mm				kg
		Ø	h1	h2	h3	
Three-phase						3~
4SR 10/5 - N - PS	2"	98	429	257	686	11.8
4SR 10/7 - N - PS			531	272	803	13.9
4SR 10/9 - N - PS			633	297	930	16.9
4SR 10/13 - N - PS			836	352	1188	20.9
4SR 10/18 - N - PS			1091	484	1575	26.8
4SR 10/24 - N - PS			1396	574	1970	35.8
4SR 10/32 - N - PS			1803	664	2467	43.8
4SR 10/43 - N - PS			2363	764	3127	52.4
4SR 12/5 - N - PS			543	257	800	13.4
4SR 12/7 - N - PS			689	272	961	12.4
4SR 12/9 - N - PS			835	297	1132	20.3
4SR 12/14 - N - PS			1200	352	1552	26.0
4SR 12/19 - N - PS			1565	484	2049	32.1
4SR 12/25 - N - PS			2003	574	2577	43.1
4SR 12/34 - N - PS			2660	664	3324	54.4
4SR 12/41 - N - PS			3165	764	3929	63.0
4SR 15/6 - N - PS			616	272	888	15.1
4SR 15/8 - N - PS			762	297	1059	19.5
4SR 15/12 - N - PS			1054	352	1406	24.7
4SR 15/16 - N - PS			1346	484	1830	30.4
4SR 15/21 - N - PS			1711	574	2285	40.2
4SR 15/29 - N - PS			2295	664	2959	50.7
4SR 15/39 - N - PS			3020	764	3784	61.1



4PS = encapsulated water cooled submersible motor

4" submersible pumps



Clean water
(Maximum
sand content 150 g/m³)



Domestic use



Civil use



Industrial use



PERFORMANCE RANGE

- Flow rate up to **375 l/min** (22.5 m³/h)
- Head up to **390 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **150 g/m³**
- 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 **27 stages**
 - 4SR6 - 4SR8 - 4SR10 - 4SR12 - 4SR15 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 **150 g/m³**. 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 0.37 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

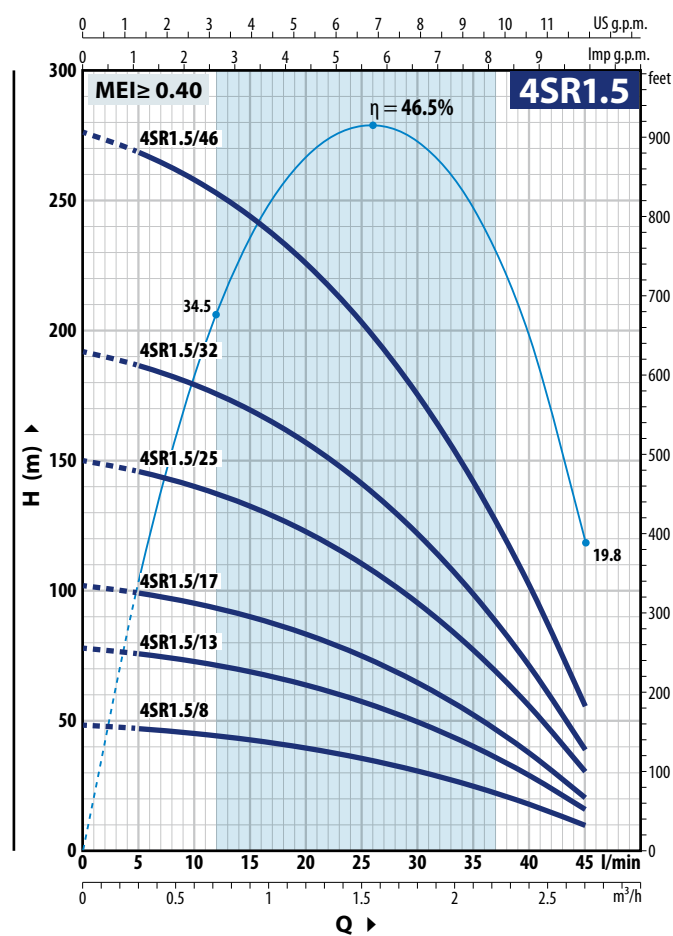
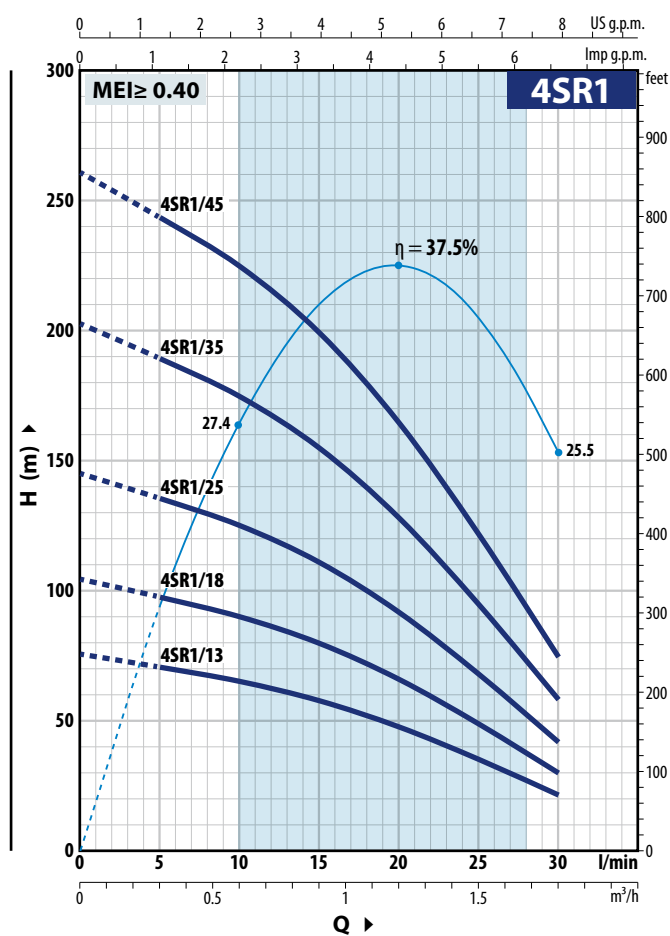
OPTIONS AVAILABLE ON REQUEST

- 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



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



4SR1

MODEL		POWER (P ₂)		Q m³/h l/min	0	0.3	0.6	0.9	1.2	1.5	1.8
Single-phase	Three-phase	kW	HP		0	5	10	15	20	25	30
4SRm 1/13	4SR 1/13	0.37	0.50	H metres	75	70	65	57.5	47.5	35	21.5
4SRm 1/18	4SR 1/18	0.55	0.75		104	97	90	80	66	48.5	30
4SRm 1/25	4SR 1/25	0.75	1		145	135	125	111	92	67.5	41.5
4SRm 1/35	4SR 1/35	1.1	1.5		203	190	175	155	128	95	58
4SRm 1/45	4SR 1/45	1.5	2		261	244	225	199	165	122	75

4SR1.5

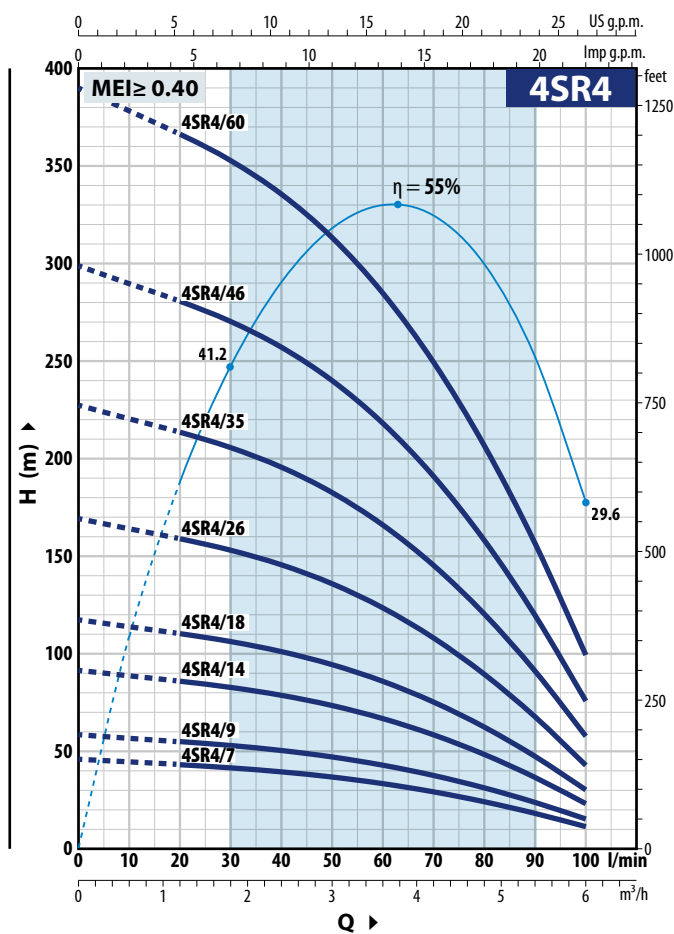
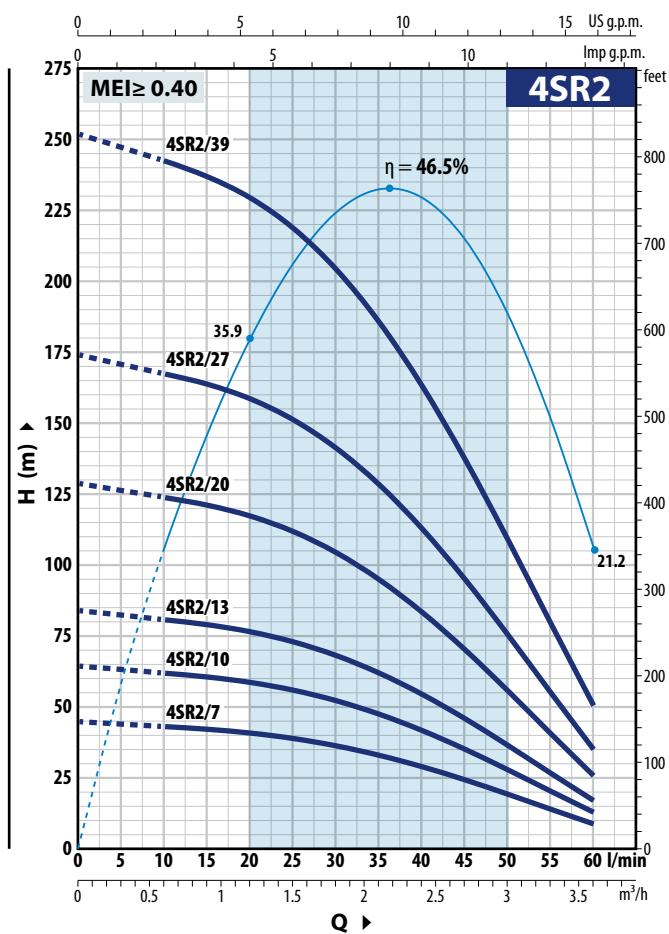
MODEL		POWER (P ₂)		Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP		l/min	0	5	10	15	20	25	30	35	40	45
4SRm 1.5/8	4SR 1.5/8	0.37	0.50	H metres	48	46.5	45	42.5	39	35	30.5	24.6	17.7	9.5	
4SRm 1.5/13	4SR 1.5/13	0.55	0.75		78	76	73	69	63.5	57.5	49.5	40	28.5	15.5	
4SRm 1.5/17	4SR 1.5/17	0.75	1		102	99	95	90	83	75	64.5	52	37.5	20.5	
4SRm 1.5/25	4SR 1.5/25	1.1	1.5		150	146	140	132	123	110	95	77	55	30	
4SRm 1.5/32	4SR 1.5/32	1.5	2		192	187	179	169	157	141	122	98	71	38.5	
4SRm 1.5/46	4SR 1.5/46	2.2	3		276	268	258	244	225	203	175	141	102	55	

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⁻¹



4SR2

MODEL		POWER (P ₂)		Q m³/h l/min	0	0.6	1.2	1.8	2.4	3.0	3.6
Single-phase	Three-phase	kW	HP		0	10	20	30	40	50	60
4SRm 2/7	4SR 2/7	0.37	0.50	H metres	45	43.5	41	36.5	29.5	19.6	9
4SRm 2/10	4SR 2/10	0.55	0.75		64.5	62	58.5	52.5	42	28	13
4SRm 2/13	4SR 2/13	0.75	1		84	81	76	68	54.5	36.5	17
4SRm 2/20	4SR 2/20	1.1	1.5		129	124	117	105	84	56	26
4SRm 2/27	4SR 2/27	1.5	2		174	167	159	141	113	75	35
4SRm 2/39	4SR 2/39	2.2	3		252	242	229	204	163	109	50.5

4SR4

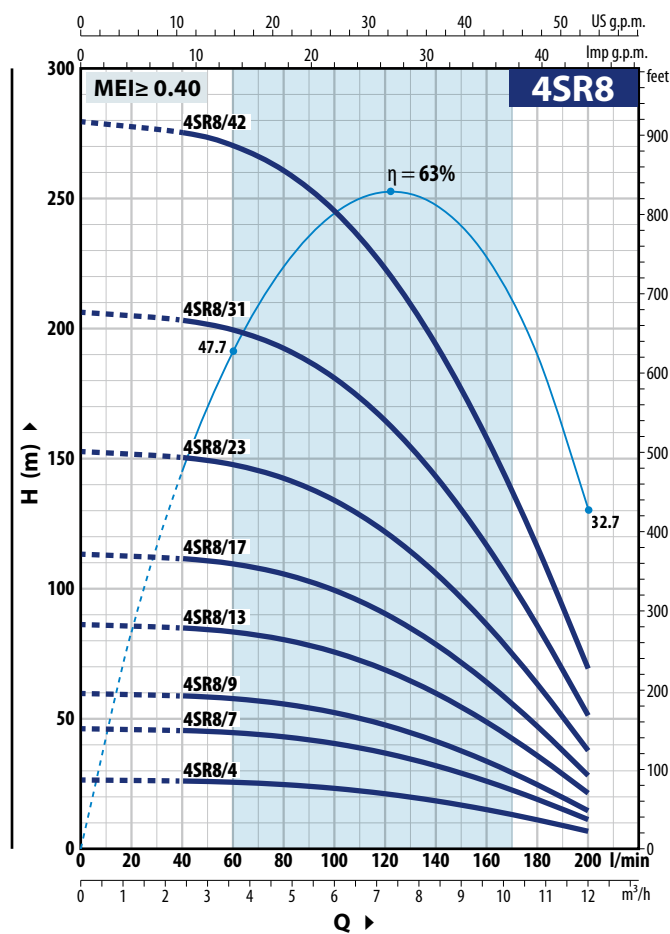
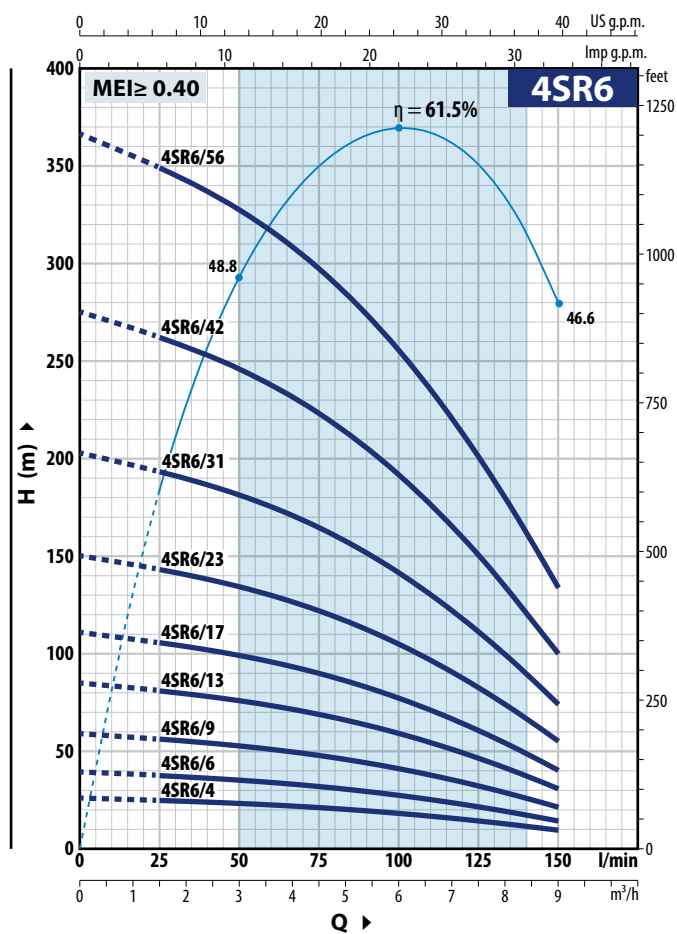
MODEL		POWER (P ₂)		Q	m³/h	0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
Single-phase	Three-phase	kW	HP		l/min	0	20	30	40	50	60	70	80	90	100
4SRm 4/7	4SR 4/7	0.55	0.75	H metres	45.5	42.5	41	39	36.5	33	29	24.1	18.2	11.5	
4SRm 4/9	4SR 4/9	0.75	1		58.5	55	53	50.5	47	42.5	37.5	31	23.4	15	
4SRm 4/14	4SR 4/14	1.1	1.5		91	85	82	78	73	66.5	58	48	36.5	23	
4SRm 4/18	4SR 4/18	1.5	2		117	110	106	101	94	85	75	62	47	29.5	
4SRm 4/26	4SR 4/26	2.2	3		169	159	153	145	136	123	108	89	67.5	43	
–	4SR 4/35	3	4		228	214	206	196	183	166	145	120	91	57.5	
–	4SR 4/46	4	5.5		299	281	270	257	240	218	191	158	120	76	
–	4SR 4/60	5.5	7.5		390	366	353	336	313	285	249	206	156	99	

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⁻¹



4SR6

MODEL		POWER (P ₂)		Q m³/h l/min	0	1.5	3.0	4.5	6.0	7.5	9.0
Single-phase	Three-phase	kW	HP		0	25	50	75	100	125	150
4SRm 6/4	4SR 6/4	0.55	0.75	H metres	26	25	23.4	21.2	18.3	14.3	9.5
4SRm 6/6	4SR 6/6	0.75	1		39.5	37.5	35	32	27.5	21.5	14.5
4SRm 6/9	4SR 6/9	1.1	1.5		59	56	52.5	48	41	32.5	21.5
4SRm 6/13	4SR 6/13	1.5	2		85	81	76	69	59.5	46.5	31
4SRm 6/17	4SR 6/17	2.2	3		111	106	99	90	78	61	40.5
–	4SR 6/23	3	4		151	143	135	122	105	82	55
–	4SR 6/31	4	5.5		203	193	181	165	141	111	74
–	4SR 6/42	5.5	7.5		275	262	246	223	192	151	100
–	4SR 6/56	7.5	10		367	349	328	297	256	201	134

4SR8

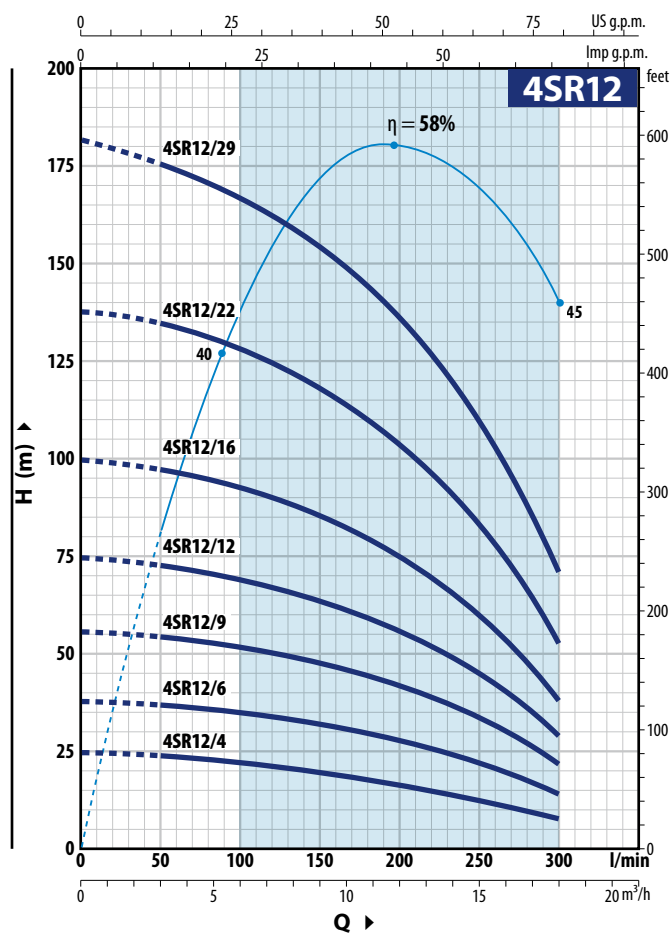
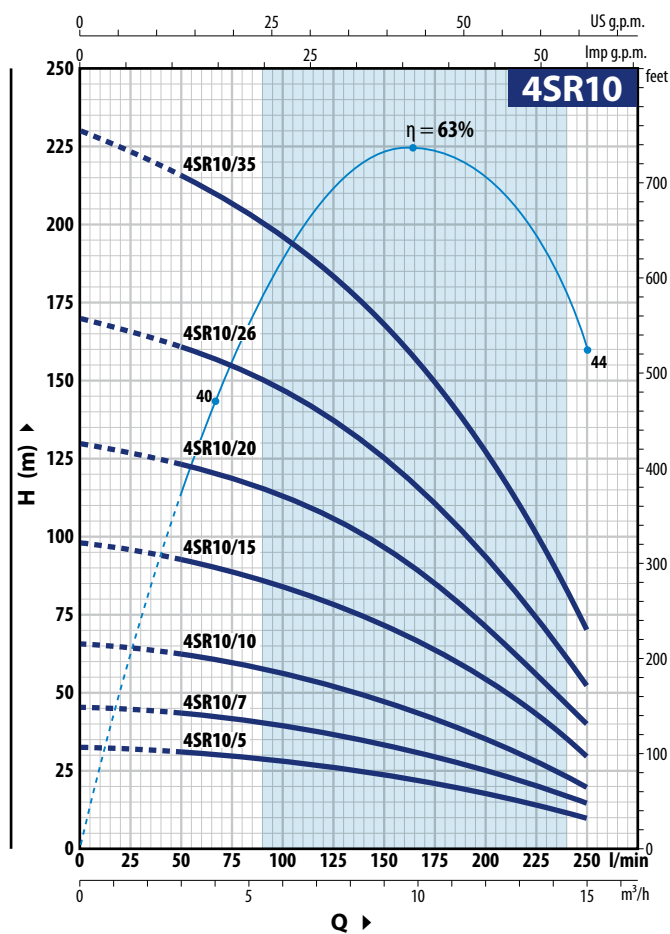
MODEL		POWER (P ₂)		Q m ³ /h l/min	0	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0
Single-phase	Three-phase	kW	HP		0	40	60	80	100	120	140	160	180	200
4SRm 8/4	4SR 8/4	0.75	1	H metres	26.5	26	25.7	24.8	23.3	21.2	18.4	15	11	6.5
4SRm 8/7	4SR 8/7	1.1	1.5		46.5	46	45	43.5	41	37	32.5	26.3	19.3	11.5
4SRm 8/9	4SR 8/9	1.5	2		60	59	58	56	52.5	47.5	41.5	34	24.8	15
4SRm 8/13	4SR 8/13	2.2	3		86	85	84	81	76	69	60	49	36	21.5
–	4SR 8/17	3	4		113	111	109	105	99	90	78	64	47	28
–	4SR 8/23	4	5.5		153	151	148	143	134	122	106	86	63.5	38
–	4SR 8/31	5.5	7.5		206	203	199	192	181	164	143	116	85	51
–	4SR 8/42	7.5	10		279	275	270	260	245	223	194	158	116	69.5

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⁻¹



4SR10

● MODELS TO BE SOLD ONLY OUTSIDE EU

MODEL		POWER (P ₂)		Q m³/h l/min	0	3.0	4.5	6.0	7.5	9.0	10.5	12	13.5	15.0
Single-phase	Three-phase	kW	HP		0	50	75	100	125	150	175	200	225	250
4SRm 10/5	4SR 10/5	1.1	1.5	H metres	33	31	30	28	26	24	21	18	14	10
4SRm 10/7	4SR 10/7	1.5	2		46	43	41	39	37	34	30	25	20	15
4SRm 10/10	4SR 10/10	2.2	3		66	62	59	56	53	48	42	36	28	20
–	4SR 10/15	3	4		98	92	88	84	79	72	64	53	42	30
–	4SR 10/20	4	5.5		130	123	118	112	106	96	85	71	56	40
–	4SR 10/26	5.5	7.5		170	160	154	147	138	126	110	94	72	52
–	4SR 10/35	7.5	10		230	216	208	197	184	168	148	126	100	70

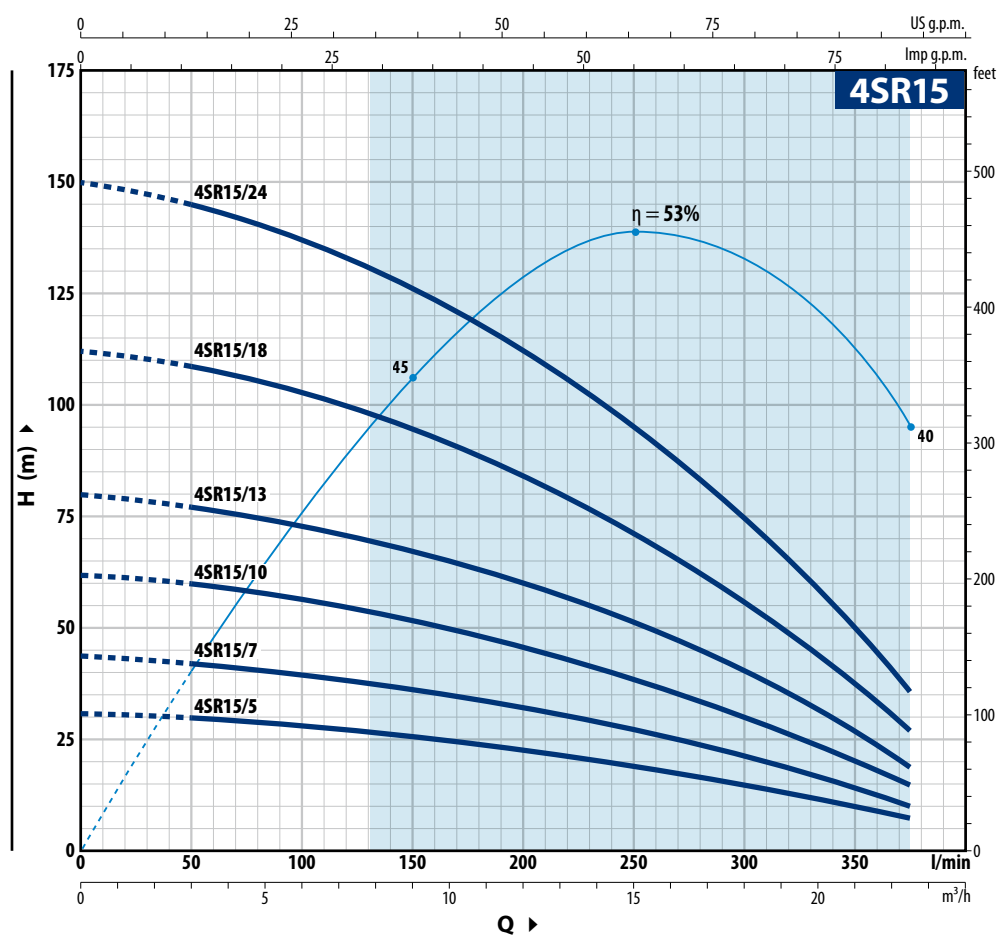
4SR12

● MODELS TO BE SOLD ONLY OUTSIDE EU

MODEL		POWER (P ₂)		Q											
Single-phase	Three-phase	kW	HP		m³/h	0	3.0	6.0	9.0	12.0	13.2	14.4	15.6	16.8	18.0
				l/min	0	50	100	150	200	220	240	260	280	300	
4SRm 12/4	4SR 12/4	1.1	1.5	H metres	25	24	22	19	16	15	14	12	11	8	
4SRm 12/6	4SR 12/6	1.5	2		38	37	35	32	28	26	24	21	18	14	
4SRm 12/9	4SR 12/9	2.2	3		56	55	52	48	42	39	36	32	27	22	
–	4SR 12/12	3	4		75	73	69	64	56	52	48	43	36	29	
–	4SR 12/16	4	5.5		100	97	93	86	75	70	64	57	48	38	
–	4SR 12/22	5.5	7.5		138	135	127	118	103	96	88	78	66	53	
–	4SR 12/29	7.5	10		182	176	167	155	135	126	116	103	88	71	

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



4SR15

● MODELS TO BE SOLD ONLY OUTSIDE EU

MODEL		POWER (P ₂)		Q	m ³ /h	0	3.0	6.0	9.0	12.0	15.0	18.0	21.0	22.5
Single-phase	Three-phase	kW	HP		l/min	0	50	100	150	200	250	300	350	375
4SRm 15/5	4SR15/5	1.5	2	H metres	31	30	28	26	23	20	15	10	7.5	
4SRm 15/7	4SR15/7	2.2	3		44	42	40	37	32	27	20	13	10	
–	4SR15/10	3	4		62	60	57	52	46	38	30	20	15	
–	4SR15/13	4	5.5		80	77	72	68	60	50	40	25	19	
–	4SR15/18	5.5	7.5		112	108	102	95	85	71	55	37	27	
–	4SR15/24	7.5	10		150	145	138	126	112	95	75	50	36	

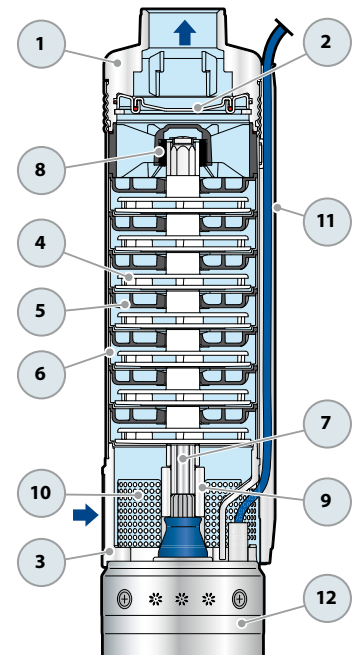
Q = Flow rate H = Total manometric head

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

POS. COMPONENT

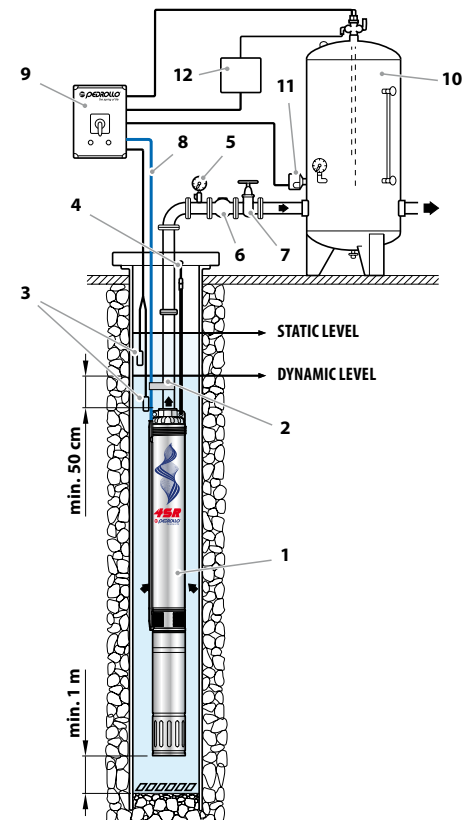
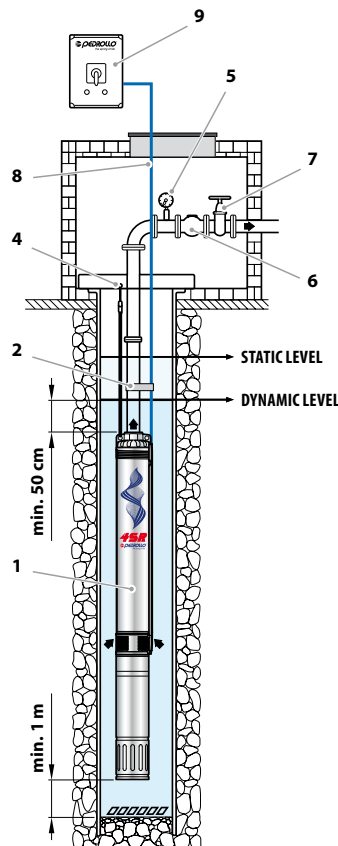
CONSTRUCTION CHARACTERISTICS

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	Stainless steel AISI 304 in compliance with NEMA standards
4	IMPELLER	Lexan
5	DIFFUSER	Noryl FE1520PW
6	STAGE 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 316L up to 2.2 kW; stainless steel AISI 304 for higher powers
10	FILTER	Stainless steel AISI 304
11	CABLE COVER	Stainless steel AISI 304
12	MOTOR 4"	4PD = rewindable oil filled submersible motor 4PS = encapsulated 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.

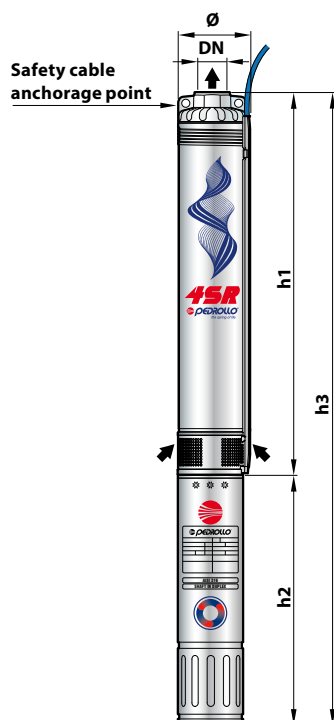
DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	DN	DIMENSIONS mm			kg
Pump		Ø	h1	h	
4SR 1/13 - HYD	1 1/4"	98	400	403	4.7
4SR 1/18 - HYD			517	520	6.0
4SR 1/25 - HYD			646	649	7.4
4SR 1/35 - HYD			856	859	9.4
4SR 1/45 - HYD			1065	1068	11.4
4SR 1.5/8 - HYD			308	311	3.8
4SR 1.5/13 - HYD			400	403	4.5
4SR 1.5/17 - HYD			499	502	5.7
4SR 1.5/25 - HYD			646	649	7.3
4SR 1.5/32 - HYD			800	803	9.2
4SR 1.5/46 - HYD			1134	1137	13.2
4SR 2/7 - HYD			290	293	3.6
4SR 2/10 - HYD			345	348	4.2
4SR 2/13 - HYD			400	403	4.8
4SR 2/20 - HYD			554	557	6.4
4SR 2/27 - HYD			683	686	7.8
4SR 2/39 - HYD			929	932	10.5
4SR 4/7 - HYD			314	317	3.8
4SR 4/9 - HYD			358	361	4.3
4SR 4/14 - HYD			468	471	5.4
4SR 4/18 - HYD			580	583	6.6
4SR 4/26 - HYD			756	759	8.3
4SR 4/35 - HYD			978	981	10.7
4SR 4/46 - HYD			1295	1298	15.0
4SR 4/60 - HYD			1652	1655	24.3
4SR 6/4 - HYD	2"	98	281	284	3.7
4SR 6/6 - HYD			341	344	4.0
4SR 6/9 - HYD			431	434	4.8
4SR 6/13 - HYD			576	579	6.1
4SR 6/17 - HYD			695	698	7.3
4SR 6/23 - HYD			900	903	9.3
4SR 6/31 - HYD			1164	1167	11.6
4SR 6/42 - HYD			1519	1522	20.6
4SR 6/56 - HYD			2063	2066	22.0
4SR 8/4 - HYD			281	284	3.5
4SR 8/7 - HYD			371	374	4.2
4SR 8/9 - HYD			431	434	4.7
4SR 8/13 - HYD			576	579	6.1
4SR 8/17 - HYD			695	698	7.2
4SR 8/23 - HYD			900	903	9.3
4SR 8/31 - HYD			1164	1167	16.7
4SR 8/42 - HYD			1519	1522	14.9
4SR 10/5 - HYD			416	419	4.4
4SR 10/7 - HYD			518	521	5.3
4SR 10/10 - HYD			709	712	6.9
4SR 10/15 - HYD			1001	1004	9.5
4SR 10/20 - HYD			1256	1259	12.0
4SR 10/26 - HYD			1599	1602	15.7
4SR 10/35 - HYD			2095	2098	19.7
4SR 12/4 - HYD			365	368	4.0
4SR 12/6 - HYD			467	470	4.8
4SR 12/9 - HYD			658	661	6.6
4SR 12/12 - HYD			810	813	8.1
4SR 12/16 - HYD			1052	1055	9.6
4SR 12/22 - HYD			1358	1361	12.8
4SR 12/29 - HYD			1752	1755	15.9
4SR 15/5 - HYD			421	424	4.5
4SR 15/7 - HYD			525	528	5.3
4SR 15/10 - HYD			719	722	7.0
4SR 15/13 - HYD			874	877	8.4
4SR 15/18 - HYD			1172	1175	11.1
4SR 15/24 - HYD			1521	1524	14.0



DIMENSIONS AND WEIGHT

MODEL	DN	DIMENSIONS mm				kg
Single-phase		Ø	h1	h2	h3	1~
4SRm 1/13 - PD	1 1/4"	98	400	311	711	11.2
4SRm 1/18 - PD			517	331	848	13.2
4SRm 1/25 - PD			646	356	1002	15.9
4SRm 1/35 - PD			856	396	1252	19.6
4SRm 1/45 - PD			1065	437	1502	23.1
4SRm 1.5/8 - PD			308	311	619	10.3
4SRm 1.5/13 - PD			400	331	731	11.7
4SRm 1.5/17 - PD			499	356	855	14.2
4SRm 1.5/25 - PD			646	396	1042	17.5
4SRm 1.5/32 - PD			800	437	1237	20.9
4SRm 1.5/46 - PD			1134	492	1626	28.1
4SRm 2/7 - PD			290	311	601	10.1
4SRm 2/10 - PD			345	331	676	11.4
4SRm 2/13 - PD			400	356	756	13.3
4SRm 2/20 - PD			554	396	950	16.6
4SRm 2/27 - PD			683	437	1120	19.5
4SRm 2/39 - PD			929	492	1421	25.4
4SRm 4/7 - PD			314	331	645	11.0
4SRm 4/9 - PD			358	356	714	12.8
4SRm 4/14 - PD			468	396	864	15.6
4SRm 4/18 - PD			580	437	1017	18.3
4SRm 4/26 - PD			756	492	1248	23.2
4SRm 6/4 - PD	2"	98	281	331	612	10.9
4SRm 6/6 - PD			341	356	697	12.5
4SRm 6/9 - PD			431	396	827	15.0
4SRm 6/13 - PD			576	437	1013	17.8
4SRm 6/17 - PD			695	492	1187	22.2
4SRm 8/4 - PD			281	356	637	12.0
4SRm 8/7 - PD			371	396	767	14.4
4SRm 8/9 - PD			431	437	868	16.4
4SRm 8/13 - PD			576	492	1068	21.0
4SRm 10/5 - PD			416	396	812	15.2
4SRm 10/7 - PD			518	437	955	16.9
4SRm 10/10 - PD			709	492	1201	21.7
4SRm 12/4 - PD			365	396	761	14.7
4SRm 12/6 - PD			467	437	904	15.8
4SRm 12/9 - PD			658	492	1150	21.7
4SRm 15/5 - PD			421	437	858	16.7
4SRm 15/7 - PD			525	492	1017	20.7



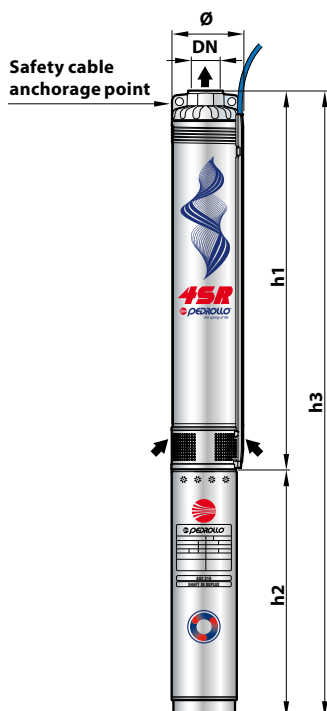
MODEL	DN	DIMENSIONS mm				kg
Three-phase		Ø	h1	h2	h3	3~
4SR 1/13 - PD	1 1/4"	98	400	311	711	11.2
4SR 1/18 - PD			517	331	848	13.2
4SR 1/25 - PD			646	356	1002	15.9
4SR 1/35 - PD			856	371	1227	18.8
4SR 1/45 - PD			1065	396	1461	21.6
4SR 1.5/8 - PD			308	311	619	10.3
4SR 1.5/13 - PD			400	331	731	11.7
4SR 1.5/17 - PD			499	356	855	14.2
4SR 1.5/25 - PD			646	371	1017	16.7
4SR 1.5/32 - PD			800	396	1196	19.4
4SR 1.5/46 - PD			1134	437	1571	24.9
4SR 2/7 - PD			290	311	601	10.1
4SR 2/10 - PD			345	331	676	11.4
4SR 2/13 - PD			400	356	756	13.3
4SR 2/20 - PD			554	371	925	15.8
4SR 2/27 - PD			683	396	1079	18.0
4SR 2/39 - PD			929	437	1366	22.2
4SR 4/7 - PD			314	331	645	11.0
4SR 4/9 - PD			358	356	714	12.8
4SR 4/14 - PD			468	371	839	14.8
4SR 4/18 - PD			580	396	976	16.8
4SR 4/26 - PD			756	437	1193	20.0
4SR 4/35 - PD	2"	98	978	450	1428	23.9
4SR 4/46 - PD			1295	505	1800	31.1
4SR 4/60 - PD			1652	590	2242	44.1
4SR 6/4 - PD			281	331	612	10.9
4SR 6/6 - PD			341	356	697	12.5
4SR 6/9 - PD			431	371	802	14.2
4SR 6/13 - PD			576	396	972	16.3
4SR 6/17 - PD			695	437	1132	19.0
4SR 6/23 - PD			900	450	1350	22.5
4SR 6/31 - PD			1164	505	1669	27.7
4SR 6/42 - PD			1519	590	2109	40.4
4SR 6/56 - PD			2063	800	2863	51.0
4SR 8/4 - PD			281	356	637	12.0
4SR 8/7 - PD			371	371	742	13.6
4SR 8/9 - PD			431	396	827	14.9
4SR 8/13 - PD			576	437	1013	17.8
4SR 8/17 - PD			695	450	1145	20.4
4SR 8/23 - PD			900	505	1405	25.4
4SR 8/31 - PD			1164	590	1754	36.5
4SR 8/42 - PD			1519	800	2319	43.9
4SR 10/5 - PD			416	371	787	14.3
4SR 10/7 - PD			518	396	914	16.0
4SR 10/10 - PD			709	437	1146	19.1
4SR 10/15 - PD			1001	450	1451	23.2
4SR 10/20 - PD			1256	505	1761	30.7
4SR 10/26 - PD			1599	590	2189	35.8
4SR 10/35 - PD			2095	800	2895	49.2
4SR 12/4 - PD			365	371	736	12.5
4SR 12/6 - PD			467	396	863	16.8
4SR 12/9 - PD			658	437	1095	18.8
4SR 12/12 - PD			810	450	1260	22.0
4SR 12/16 - PD			1052	505	1557	26.2
4SR 12/22 - PD			1358	590	1948	31.9
4SR 12/29 - PD			1752	800	2552	46.3
4SR 15/5 - PD			421	396	817	15.2
4SR 15/7 - PD			525	437	962	16.5
4SR 15/10 - PD			719	450	1169	22.1
4SR 15/13 - PD			874	505	1379	24.6
4SR 15/18 - PD			1172	590	1762	30.7
4SR 15/24 - PD			1521	800	2321	43.5

4PD = rewindable oil filled submersible motor

● MODELS TO BE SOLD ONLY OUTSIDE EU

DIMENSIONS AND WEIGHT

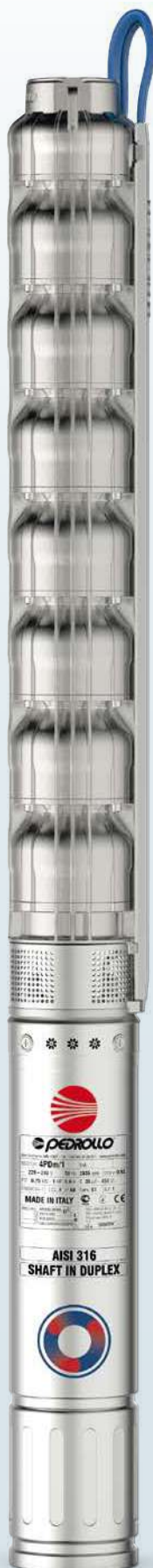
MODEL	DN	DIMENSIONS mm				kg
Single-phase		Ø	h1	h2	h3	1~
4SRm 1/13 - PS	1¼"	98	400	237	637	11.5
4SRm 1/18 - PS			517	257	774	13.9
4SRm 1/25 - PS			646	272	918	16.5
4SRm 1/35 - PS			856	312	1168	20.6
4SRm 1/45 - PS			1065	352	1417	24.8
4SRm 1.5/8 - PS			308	237	545	10.6
4SRm 1.5/13 - PS			400	257	657	12.4
4SRm 1.5/17 - PS			499	272	771	14.8
4SRm 1.5/25 - PS			646	312	958	18.5
4SRm 1.5/32 - PS			800	352	1152	22.6
4SRm 1.5/46 - PS			1134	402	1536	27.4
4SRm 2/7 - PS			290	237	527	10.4
4SRm 2/10 - PS			345	257	602	12.1
4SRm 2/13 - PS			400	272	672	13.9
4SRm 2/20 - PS			554	312	866	17.6
4SRm 2/27 - PS			683	352	1035	21.2
4SRm 2/39 - PS			929	402	1331	24.7
4SRm 4/7 - PS			314	257	571	11.7
4SRm 4/9 - PS			358	272	630	13.4
4SRm 4/14 - PS			468	312	780	16.6
4SRm 4/18 - PS			580	352	932	20.0
4SRm 4/26 - PS			756	402	1158	22.5
4SRm 6/4 - PS	2"	98	281	257	538	11.6
4SRm 6/6 - PS			341	272	613	13.1
4SRm 6/9 - PS			431	312	743	16.0
4SRm 6/13 - PS			576	352	928	19.5
4SRm 6/17 - PS			695	402	1097	21.5
4SRm 8/4 - PS			281	272	553	12.6
4SRm 8/7 - PS			371	312	683	15.4
4SRm 8/9 - PS			431	352	783	18.1
4SRm 8/13 - PS			576	402	978	20.3
4SRm 10/5 - PS			416	312	728	16.2
4SRm 10/7 - PS			518	352	870	18.6
4SRm 10/10 - PS			709	402	1111	21.0
4SRm 12/4 - PS			365	312	677	15.7
4SRm 12/6 - PS			467	352	819	17.5
4SRm 12/9 - PS			658	402	1060	21.0
4SRm 15/5 - PS			421	352	773	18.4
4SRm 15/7 - PS			525	402	927	20.0



MODEL	DN		DIMENSIONS mm				kg	
Three-phase			Ø	h1	h2	h3	3~	
4SR 1/13 - PS	1¼"		98	400	237	637	11.5	
4SR 1/18 - PS				517	237	754	12.8	
4SR 1/25 - PS				646	257	903	15.3	
4SR 1/35 - PS				856	272	1128	18.5	
4SR 1/45 - PS				1065	297	1362	22.6	
4SR 1.5/8 - PS				308	237	545	10.6	
4SR 1.5/13 - PS				400	237	637	11.3	
4SR 1.5/17 - PS				499	257	756	13.6	
4SR 1.5/25 - PS				646	272	918	16.4	
4SR 1.5/32 - PS				800	297	1097	20.4	
4SR 1.5/46 - PS				1134	352	1486	26.6	
4SR 2/7 - PS				290	237	527	10.4	
4SR 2/10 - PS				345	237	582	11.0	
4SR 2/13 - PS				400	257	657	12.7	
4SR 2/20 - PS				554	272	826	15.5	
4SR 2/27 - PS				683	297	980	19.0	
4SR 2/39 - PS				929	352	1281	23.9	
4SR 4/7 - PS				314	237	551	10.6	
4SR 4/9 - PS				358	257	615	12.2	
4SR 4/14 - PS				468	272	740	14.5	
4SR 4/18 - PS				580	297	877	17.8	
4SR 4/26 - PS	756	352	1108	21.7				
4SR 4/35 - PS	978	484	1462	27.7				
4SR 4/46 - PS	1295	574	1869	38.4				
4SR 4/60 - PS	1652	664	2316	52.1				
4SR 6/4 - PS	2"		98	281	237	518	10.5	
4SR 6/6 - PS				341	257	598	11.9	
4SR 6/9 - PS				431	272	703	13.9	
4SR 6/13 - PS				576	297	873	17.3	
4SR 6/17 - PS				695	352	1047	20.7	
4SR 6/23 - PS				900	484	1384	26.3	
4SR 6/31 - PS				1164	574	1738	35.0	
4SR 6/42 - PS				1519	664	2183	48.4	
4SR 6/56 - PS				2063	764	2827	53.4	
4SR 8/4 - PS				281	257	538	11.4	
4SR 8/7 - PS				371	272	643	13.3	
4SR 8/9 - PS				431	297	728	15.9	
4SR 8/13 - PS				576	352	928	19.5	
4SR 8/17 - PS				695	484	1179	24.2	
4SR 8/23 - PS				900	574	1474	32.7	
4SR 8/31 - PS				1164	664	1828	44.5	
4SR 8/42 - PS				1519	764	2283	46.3	
4SR 10/5 - PS				●	416	272	688	14.0
4SR 10/7 - PS					518	297	815	17.0
4SR 10/10 - PS					709	352	1061	20.8
4SR 10/15 - PS					1001	484	1485	27.0
4SR 10/20 - PS	1256	574	1830		38.0			
4SR 10/26 - PS	1599	664	2263		43.8			
4SR 10/35 - PS	●	2095	764	2859	51.6			
4SR 12/4 - PS		365	272	637	12.2			
4SR 12/6 - PS		467	297	764	17.8			
4SR 12/9 - PS		658	352	1010	20.5			
4SR 12/12 - PS		810	484	1294	25.8			
4SR 12/16 - PS		1052	574	1626	33.5			
4SR 12/22 - PS	●	1358	664	2022	39.9			
4SR 12/29 - PS		1752	764	2516	48.7			
4SR 15/5 - PS		421	297	718	16.2			
4SR 15/7 - PS		525	352	877	18.2			
4SR 15/10 - PS		719	484	1203	25.9			
4SR 15/13 - PS		874	574	1448	31.9			
4SR 15/18 - PS	●	1172	664	1836	38.7			
4SR 15/24 - PS		1521	764	2285	45.9			

4PS = incapsulated water cooled submersible motor

● MODELS TO BE SOLD ONLY OUTSIDE EU



4" submersible pumps



Clean water
(Maximum
sand content 100 g/m³)



Domestic use



Civil use



Industrial use

PERFORMANCE RANGE

- Flow rate up to **420 l/min** (25.2 m³/h)
- Head up to **176 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m³**
- 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/m³**. 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

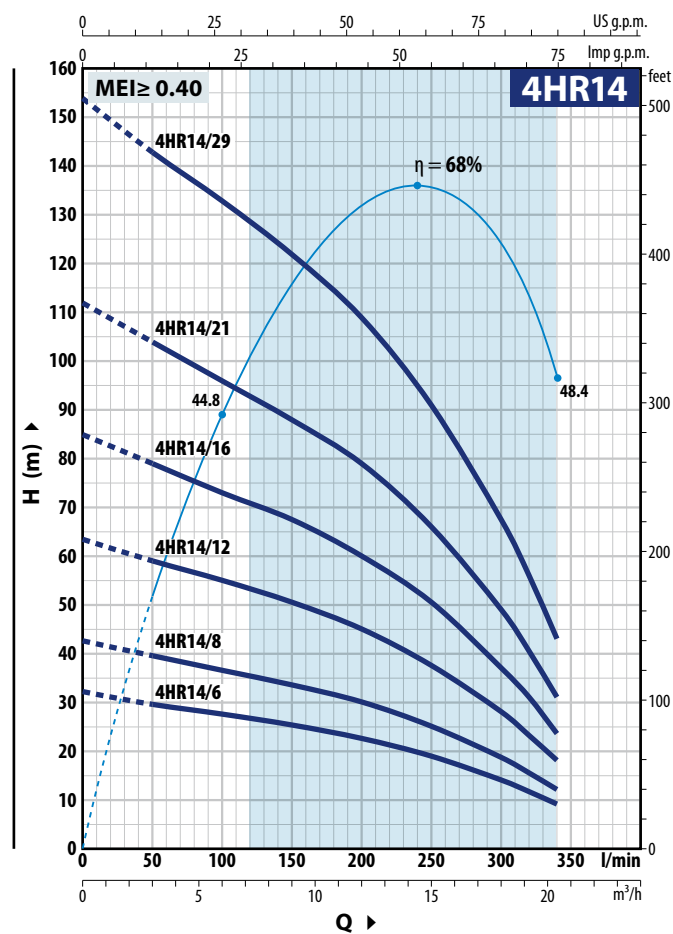
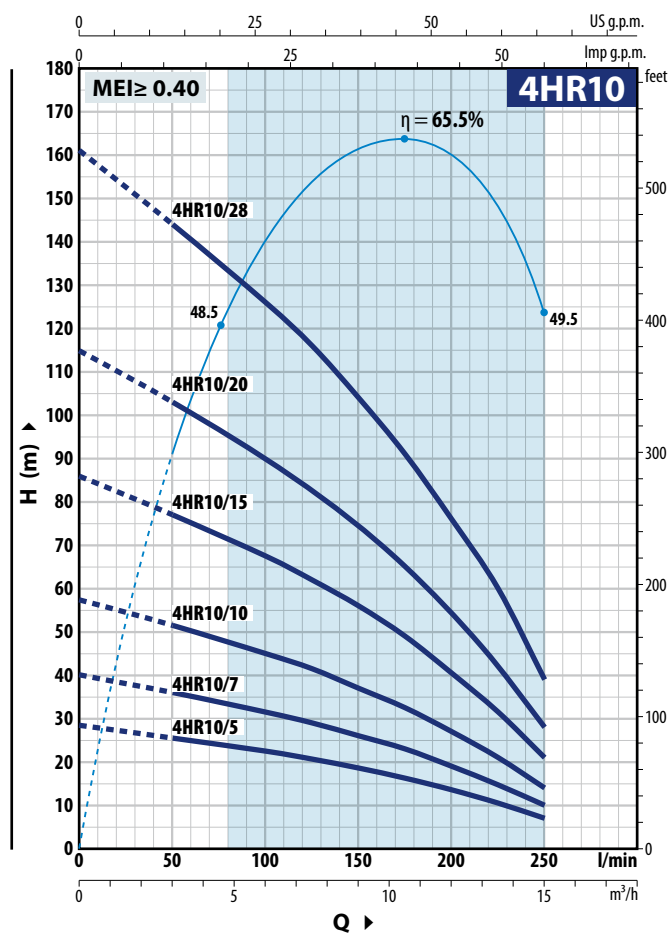
- Registered EU Design n. 004128619

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$



4HR10

MODEL		POWER (P ₂)		Q	m ³ /h	0	3.0	6.0	7.5	9.0	10.5	12.0	13.5	15.0
Single-phase	Three-phase	kW	HP			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

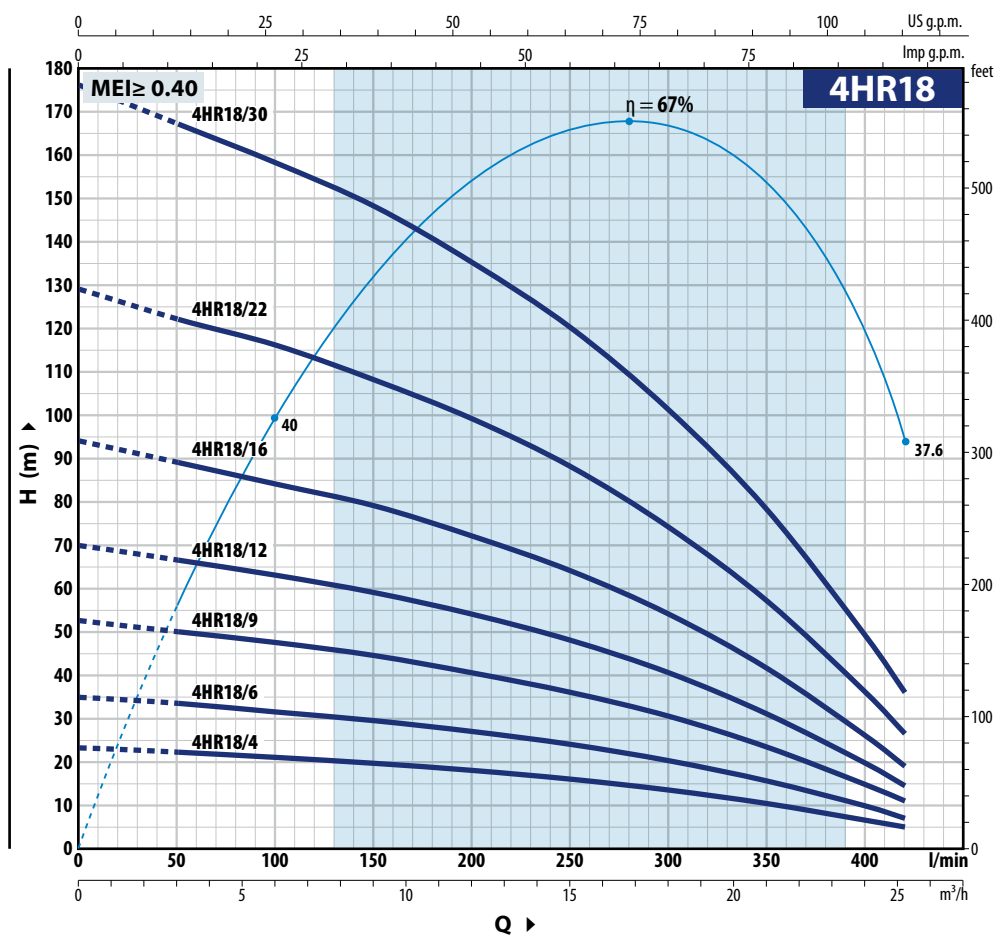
MODEL		POWER (P ₂)		Q	m ³ /h	0	3.0	6.0	9.0	12.0	15.0	18.0	19.2	20.4
Single-phase	Three-phase	kW	HP			0	50	100	150	200	250	300	320	340
4HRm 14/6	4HR 14/6	1.1	1.5	H metres		32	29.5	27.5	25.3	22.5	18.9	14	11.6	9
4HRm 14/8	4HR 14/8	1.5	2			42.5	39.5	36.5	33.5	30	25	18.6	15.4	12
4HRm 14/12	4HR 14/12	2.2	3			63.4	59	55	50.5	45	37.5	28	23.1	18
–	4HR 14/16	3	4			85	79	73	67.5	60	50.5	37	31	23.5
–	4HR 14/21	4	5.5			112	104	96	88	79	66	49	40.5	31
–	4HR 14/29	5.5	7.5			154	143	133	122	109	91	67.5	56	43

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⁻¹



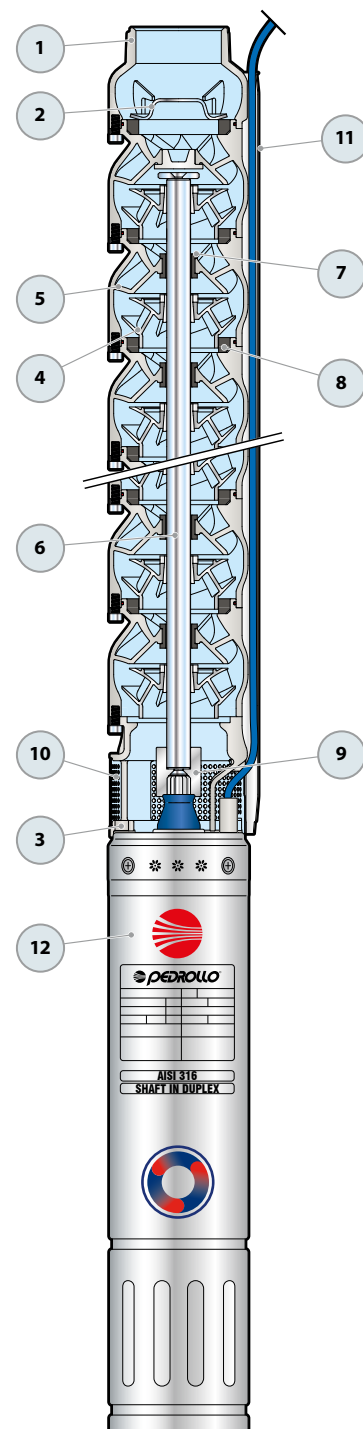
4HR18

MODEL		POWER (P ₂)		Q											
Single-phase	Three-phase	kW	HP		m³/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	H metres		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.

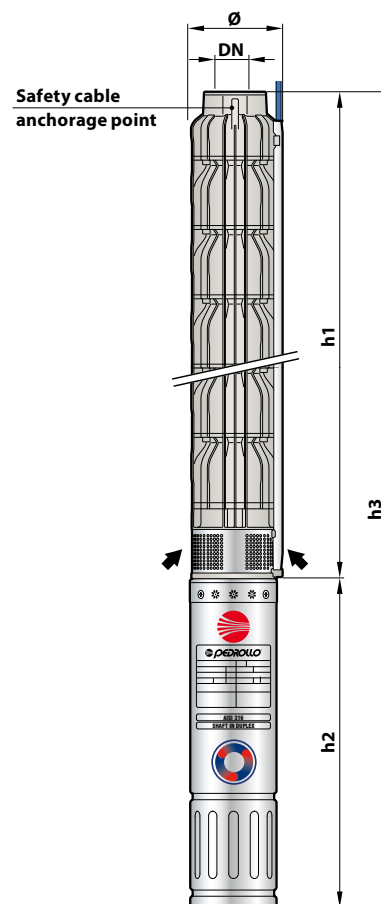
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	NON-RETURN VALVE	Stainless steel AISI 304
3	MOTOR BRACKET	Precision cast stainless steel AISI 304 in compliance with NEMA standards
4	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"	4PD = rewindable oil filled submersible motor 4PS = incapsulated water cooled submersible motor



DIMENSIONS AND WEIGHT

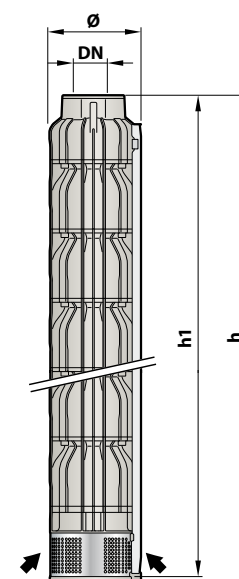
MODEL	4HRm - PD (with 4PD motor)						4HRm - PS (with 4PS motor)					
	DN	DIMENSIONS mm				kg	DN	DIMENSIONS mm				kg
Single-phase		Ø	h1	h2	h3			Ø	h1	h2	h3	
4HRm 10/5	2"	100	511	356	867	19.7	2"	100	511	272	783	20.3
4HRm 10/7			657	396	1053	23.8			657	312	969	24.8
4HRm 10/10			876	437	1313	31.0			876	352	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
Three-phase		Ø	h1	h2	h3			Ø	h1	h2	h3	
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

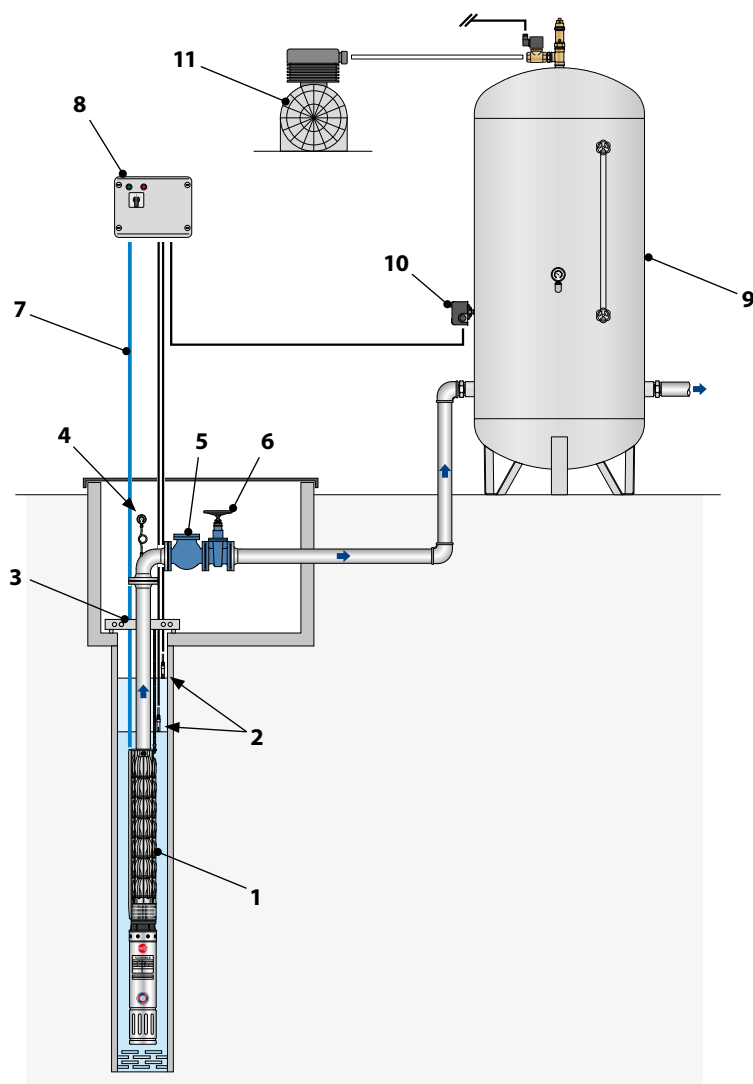


DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	PORT	DIMENSIONS mm			kg
Pump	DN	Ø	h1	h	
4HR 10/5 - HYD	2"	100	511	514	8.8
4HR 10/7 - HYD			657	660	11.5
4HR 10/10 - HYD			876	879	15.4
4HR 10/15 - HYD			1241	1244	22.0
4HR 10/20 - HYD			1606	1609	28.5
4HR 10/28 - HYD			2190	2193	39.0
4HR 14/6 - HYD			584	587	10.2
4HR 14/8 - HYD			730	733	12.8
4HR 14/12 - HYD			1022	1025	18.0
4HR 14/16 - HYD			1314	1317	23.3
4HR 14/21 - HYD			1679	1682	29.9
4HR 14/29 - HYD			2263	2266	40.4
4HR 18/4 - HYD			438	441	7.5
4HR 18/6 - HYD			584	587	10.2
4HR 18/9 - HYD			803	806	14.1
4HR 18/12 - HYD			1022	1025	18.0
4HR 18/16 - HYD			1314	1317	23.3
4HR 18/22 - HYD			1752	1755	31.2
4HR 18/30 - HYD			2336	2339	41.7



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/m³)



Civil use



Agricultural use



Industrial use



PERFORMANCE RANGE

- Flow rate up to **1000 l/min** (60 m³/h)
- Head up to **390 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m³**
- **100 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/m³**. 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

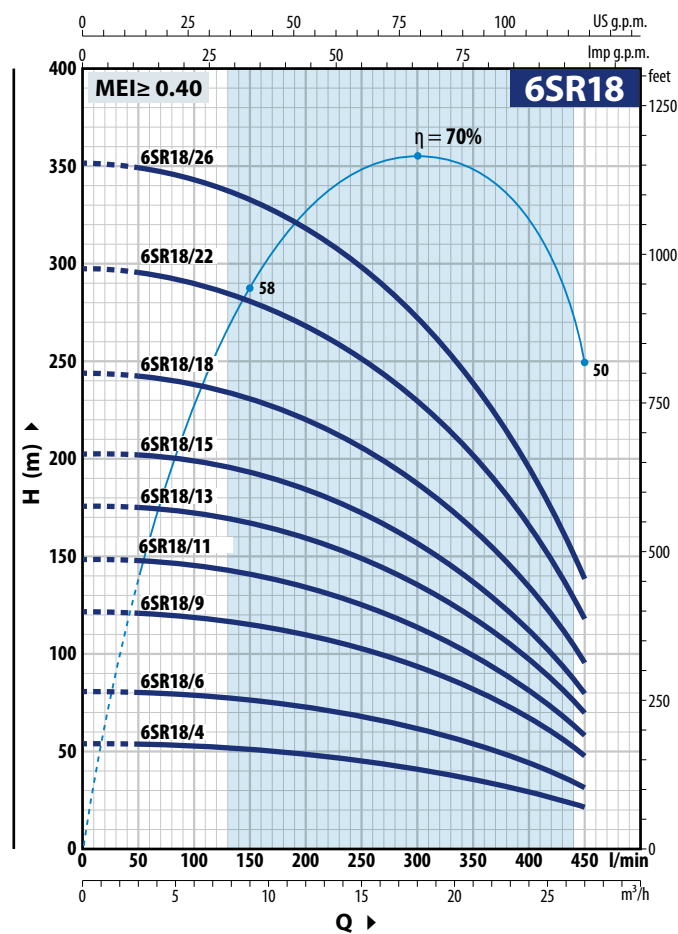
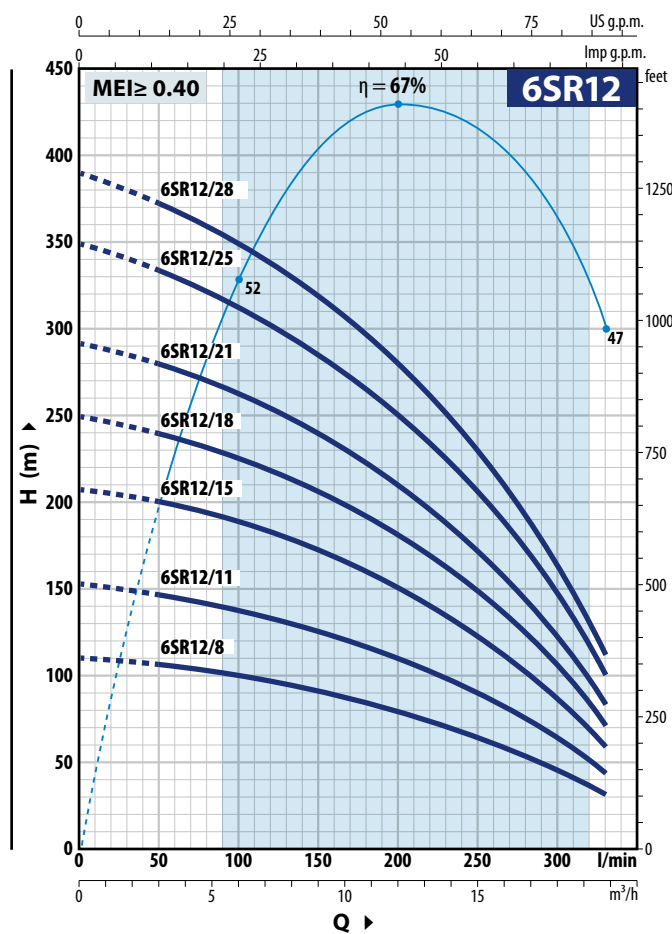
- Kit of cooling jacket complete with filter and supports
- 6SR-HYD pumps with double cable cover suitable for dual voltage 400/690 V (star/delta) motors from 11 kW to 30 kW
- Other voltages or 60 Hz frequency
- **Kit of cooling jacket complete with filter and supports**



COOLING JACKET

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 2900 \text{ min}^{-1}$



6SR12

MODEL	POWER (P ₂)		Q m³/h l/min	0	3.0	6.0	9.0	12.0	15.0	18.0	19.8
Three-phase	kW	HP		0	50	100	150	200	250	300	330
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

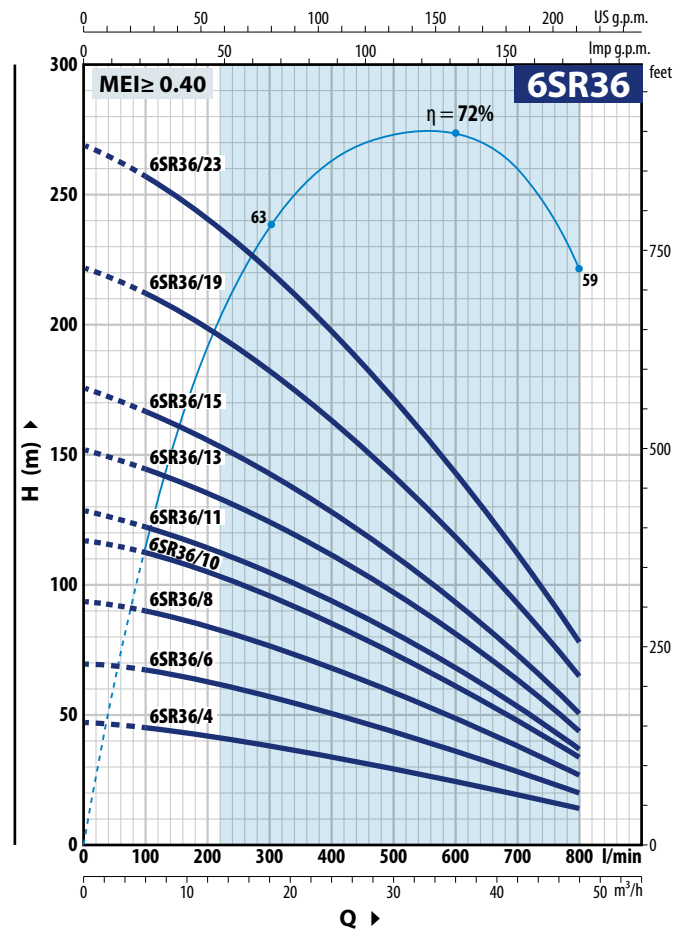
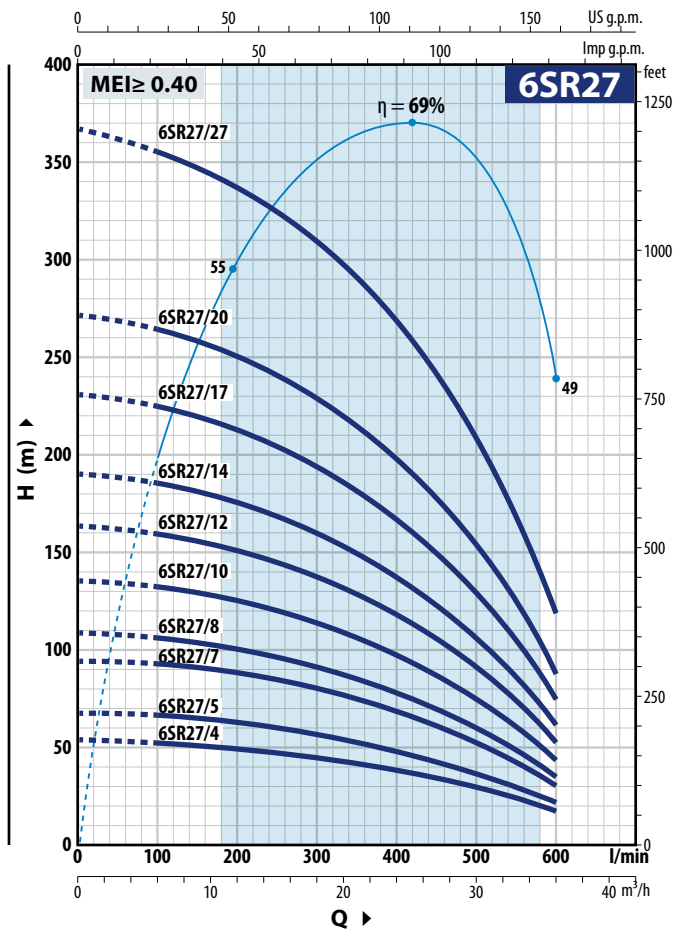
MODEL	POWER (P ₂)		Q	m³/h	0	3	6	9	12	15	18	21	24	27
	kW	HP		l/min	0	50	100	150	200	250	300	350	400	450
Three-phase														
6SR 18/4	4	5.5	H metres		54	53.8	53	51	49	46	42	37	30	22
6SR 18/6	5.5	7.5			81	80.5	79	77	74	69	63	55	45	32
6SR 18/9	7.5	10			122	121	119	116	111	103	94	83	68	48
6SR 18/11	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⁻¹



6SR27

MODEL	POWER (P ₂)		Q	0	6	12	18	24	30	36
	kW	HP		0	100	200	300	400	500	600
6SR 27/4	4	5.5	H metres	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

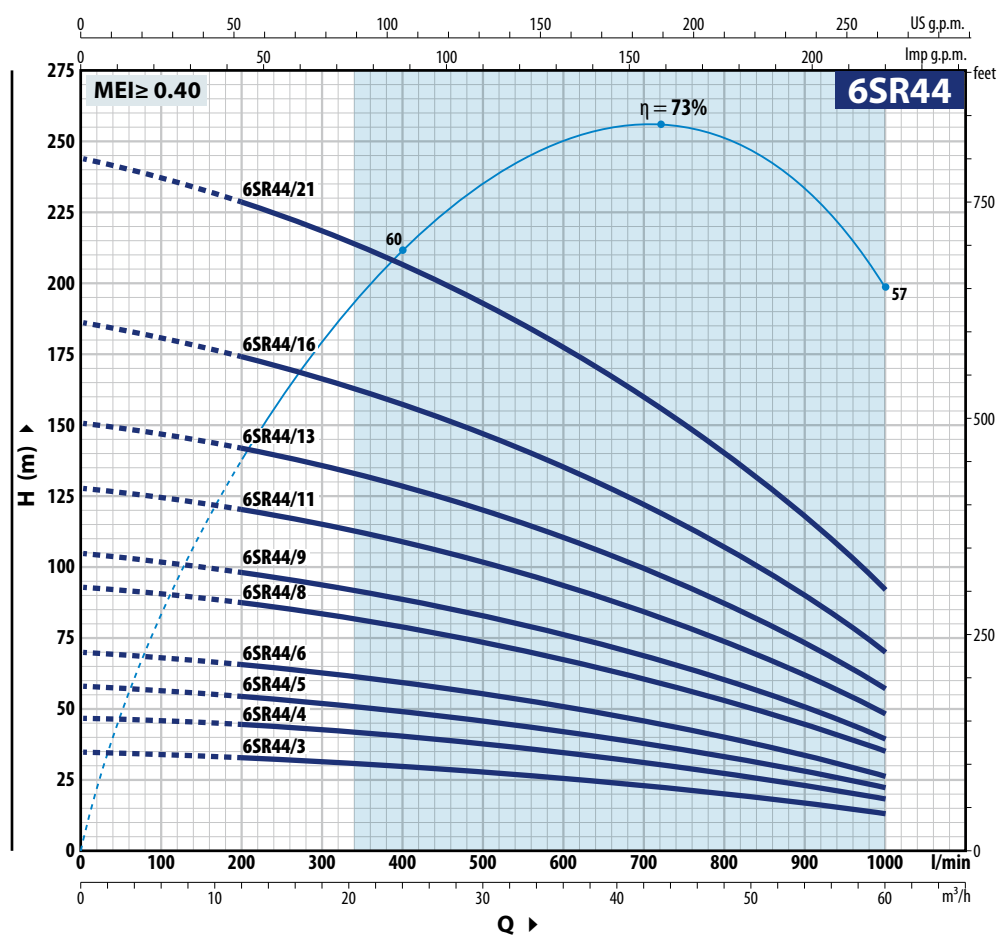
MODEL	POWER (P ₂)		Q	0	6	12	18	24	30	36	42	48
	kW	HP		0	100	200	300	400	500	600	700	800
6SR 36/4	4	5.5	H metres	47	45	42	38	34	29	25	19	14
6SR 36/6	5.5	7.5		70	67	63	57	51	44	37	29	20
6SR 36/8	7.5	10		94	89	84	76	68	59	50	39	27
6SR 36/10	9.2	12.5		117	111	105	95	85	74	62	48	34
6SR 36/11	11	15		129	123	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⁻¹



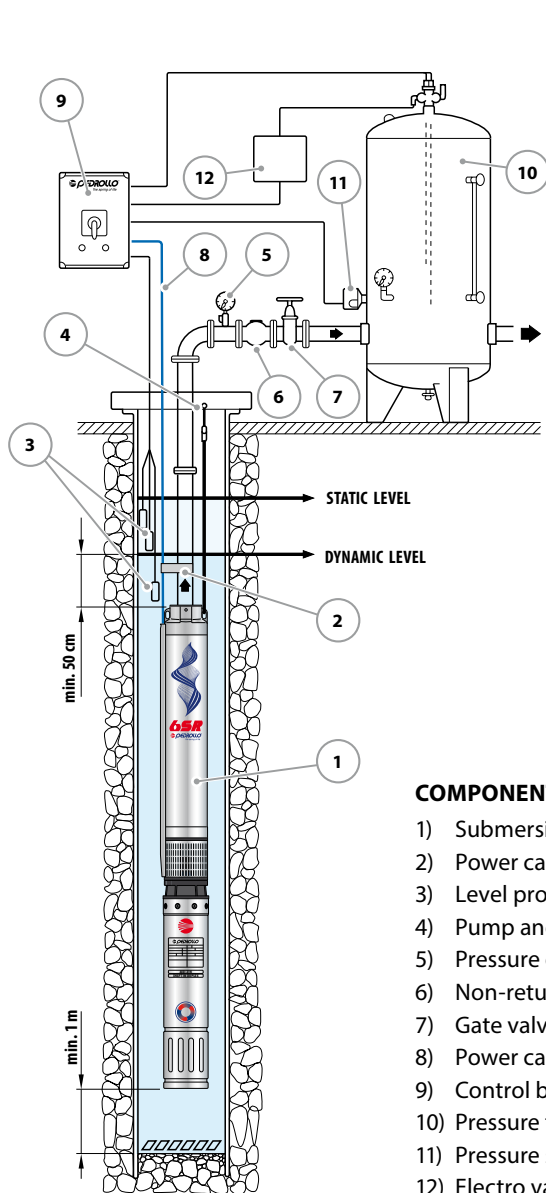
6SR44

MODEL Three-phase	POWER (P ₂)		Q m³/h l/min	0	12	18	24	30	36	42	48	54	60
	kW	HP		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

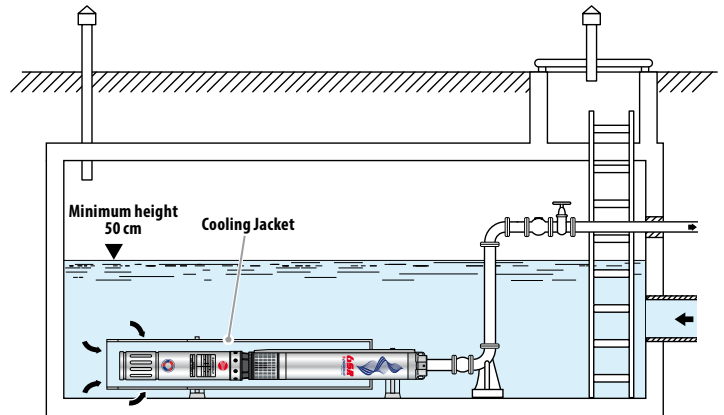
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

STANDARD 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



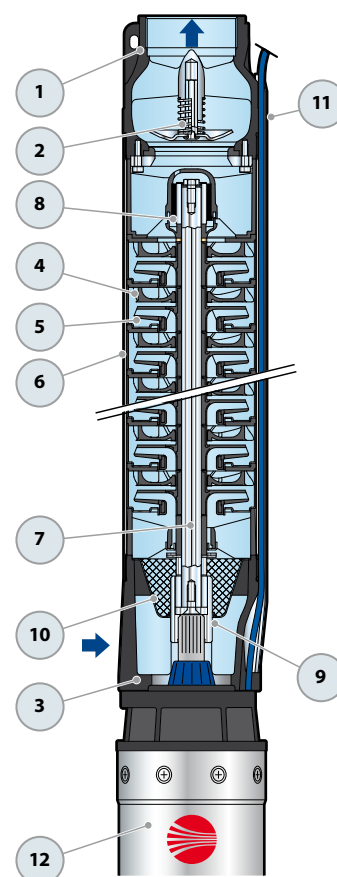
Cooling jacket

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.

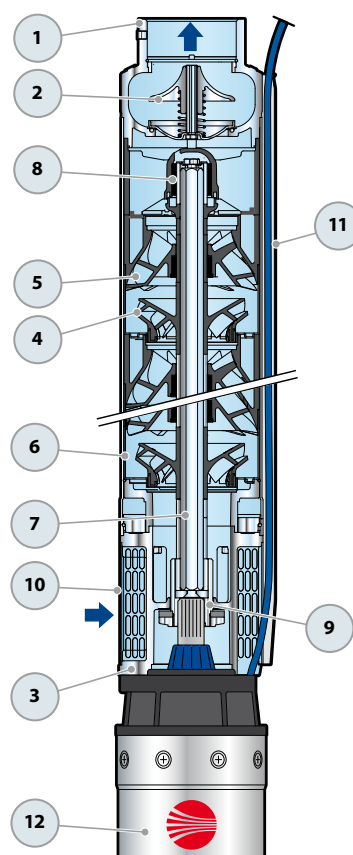
6SR12-18-27 (Radial impellers)

POS. COMPONENT	CONSTRUCTION CHARACTERISTICS
1 DELIVERY BODY	Nickel-plated 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	Nickel-plated cast iron with an Epoxy Electro Coating treatment in compliance with NEMA standards
4 IMPELLERS	Special-rubber coated Noryl FE1520PW
5 DIFFUSERS	Noryl FE1520PW
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"	6PD = rewindable oil filled submersible motor

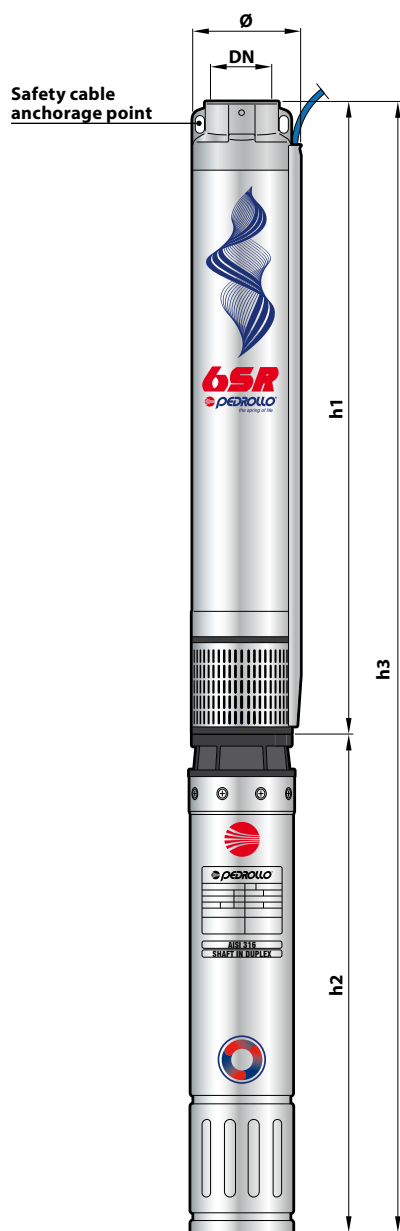


6SR36-44 (Semi-axial impellers)

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	Nickel-plated cast iron in compliance with NEMA standards
4 IMPELLERS	Noryl FE1520PW e ricoperte in gomma speciale
5 DIFFUSERS	Noryl FE1520PW
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"	6PD = rewindable oil filled submersible motor



DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm				kg
Three-phase	DN	Ø	h1	h2	h3	3~
6SR 12/8 - PD	3"	149.5	719	633	1352	53.8
6SR 12/11 - PD			849	667	1516	60.9
6SR 12/15 - PD			1068	698	1766	66.8
6SR 12/18 - PD			1198	731	1929	73.0
6SR 12/21 - PD			1328	826	2154	83.9
6SR 12/25 - PD			1502	894	2396	96.0
6SR 12/28 - PD			1632	894	2526	98.1
6SR 18/4 - PD			545	633	1178	49.6
6SR 18/6 - PD			632	667	1299	53.6
6SR 18/9 - PD			762	698	1460	60.3
6SR 18/11 - PD			849	731	1580	67.0
6SR 18/13 - PD			981	826	1807	76.9
6SR 18/15 - PD			1068	894	1962	84.6
6SR 18/18 - PD			1198	894	2092	87.6
6SR 18/22 - PD			1371	959	2330	99.7
6SR 18/26 - PD			1545	1116	2661	125.7
6SR 27/4 - PD			583	595	1178	47.9
6SR 27/5 - PD			636	667	1303	53.5
6SR 27/7 - PD			742	698	1440	58.8
6SR 27/8 - PD			795	731	1526	63.0
6SR 27/10 - PD			901	826	1727	74.1
6SR 27/12 - PD			1051	894	1945	83.6
6SR 27/14 - PD			1157	894	2051	85.9
6SR 27/17 - PD			1316	959	2275	97.5
6SR 27/20 - PD			1474	1116	2590	123.0
6SR 27/27 - PD			1845	1243	3088	135.8
6SR 36/4 - PD			823	633	1456	55.4
6SR 36/6 - PD			1049	667	1716	64.0
6SR 36/8 - PD			1275	698	1973	71.0
6SR 36/10 - PD			1501	731	2232	76.2
6SR 36/11 - PD			1613	826	2439	90.0
6SR 36/13 - PD			1839	894	2733	102.0
6SR 36/15 - PD			2065	894	2959	107.0
6SR 36/19 - PD			2517	959	3476	121.0
6SR 36/23 - PD			2969	1116	4085	154.0
6SR 44/3 - PD			710	633	1343	54.0
6SR 44/4 - PD			823	667	1490	57.5
6SR 44/5 - PD			936	698	1634	63.1
6SR 44/6 - PD			1049	731	1780	70.0
6SR 44/8 - PD			1275	826	2101	82.2
6SR 44/9 - PD			1388	894	2282	92.0
6SR 44/11 - PD			1613	894	2507	97.0
6SR 44/13 - PD			1839	959	2798	110.0
6SR 44/16 - PD			2178	1116	3294	141.0
6SR 44/21 - PD			2743	1243	3986	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



6" submersible pump



Clean water
(Maximum
sand content 100 g/m³)



Civil use



Agricultural use



Industrial use

PERFORMANCE RANGE

- Flow rate up to **1500 l/min** (90 m³/h)
- Head up to **375 m**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- Maximum sand content **100 g/m³**
- **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/m³**. 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

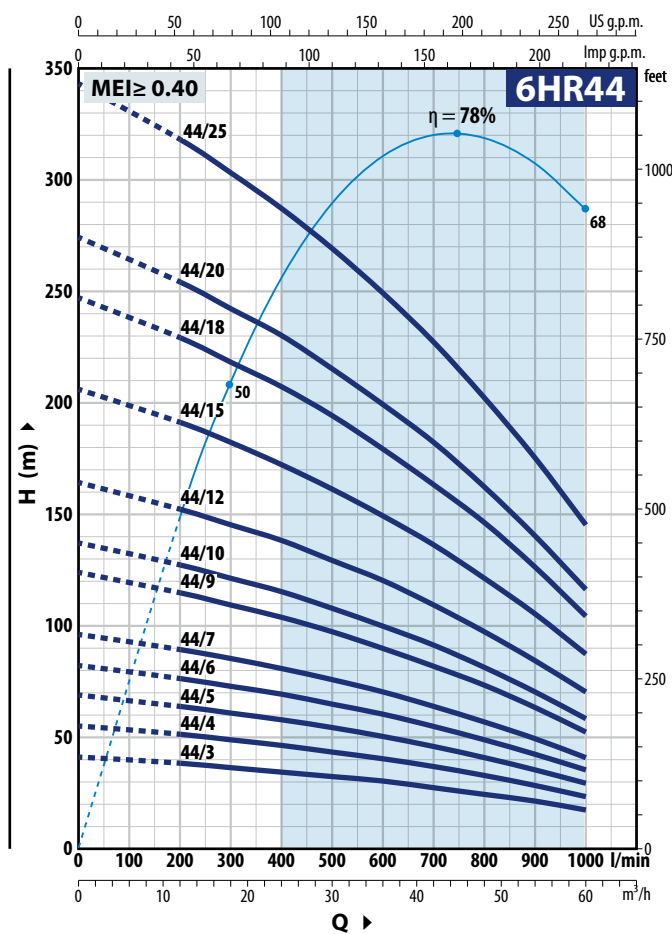
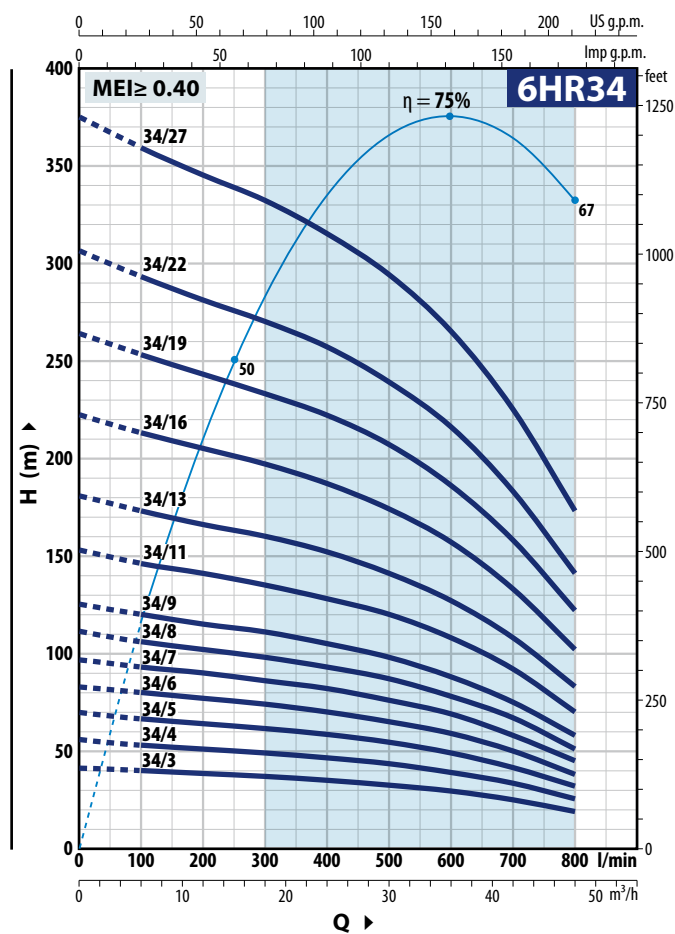
Registered EU Design n. 004675106-0002

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⁻¹



6HR34

MODEL	POWER (P ₂)		Q	0	6	12	18	24	30	36	42	48
	kW	HP		0	100	200	300	400	500	600	700	800
Three-phase												
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 ⁽¹⁾		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 ⁽²⁾		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 ₂)		Q	0	12	18	24	30	36	42	48	54	60
	kW	HP		0	200	300	400	500	600	700	800	900	1000
Three-phase													
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 ⁽¹⁾		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 ⁽²⁾		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

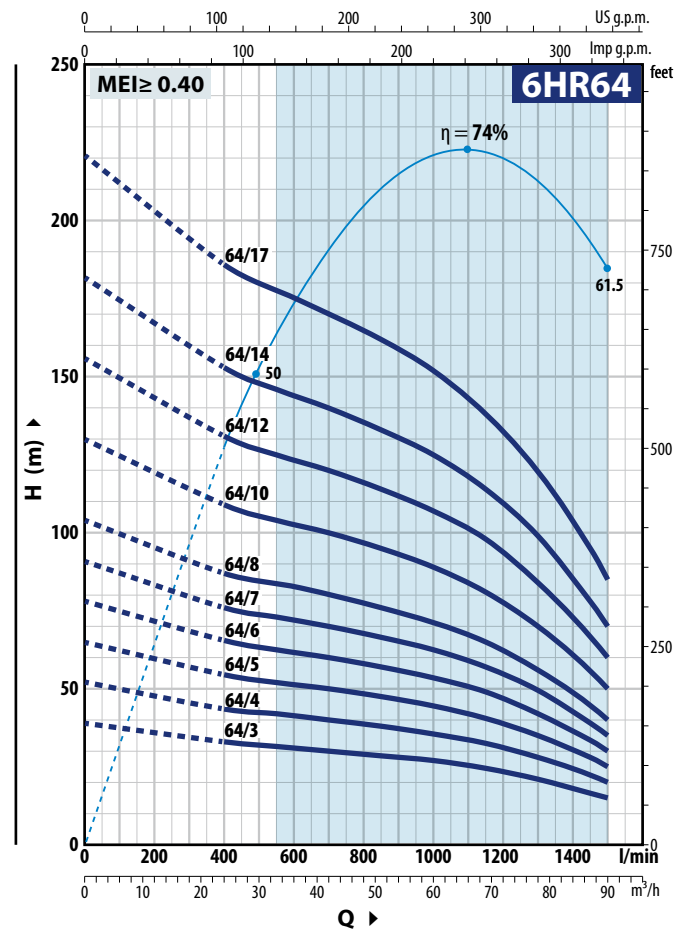
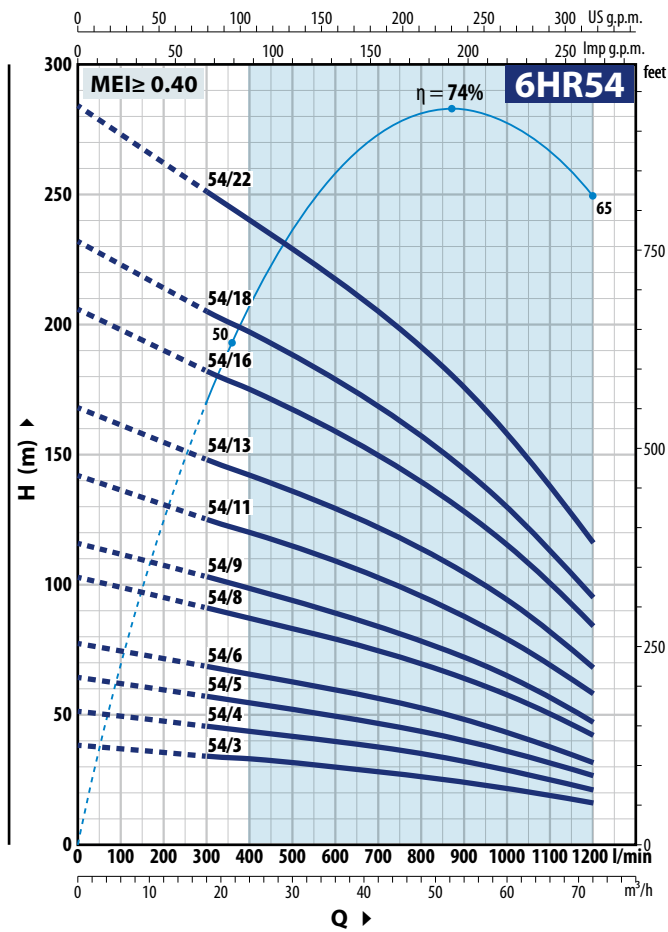
(1) Pump fitted with a 20 HP motor

(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⁻¹



6HR54

MODEL	POWER (P ₂)		Q	m³/h	0	18	24	30	36	42	48	54	60	66	72
Three-phase	kW	HP		l/min	0	300	400	500	600	700	800	900	1000	1100	1200
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 ⁽¹⁾			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 ⁽²⁾			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 ₂)		Q	m³/h l/min	0	24	33	42	51	60	69	78	87	90
Three-phase	kW	HP			0	400	550	700	850	1000	1150	1300	1450	1500
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 ⁽¹⁾		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 ⁽²⁾		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

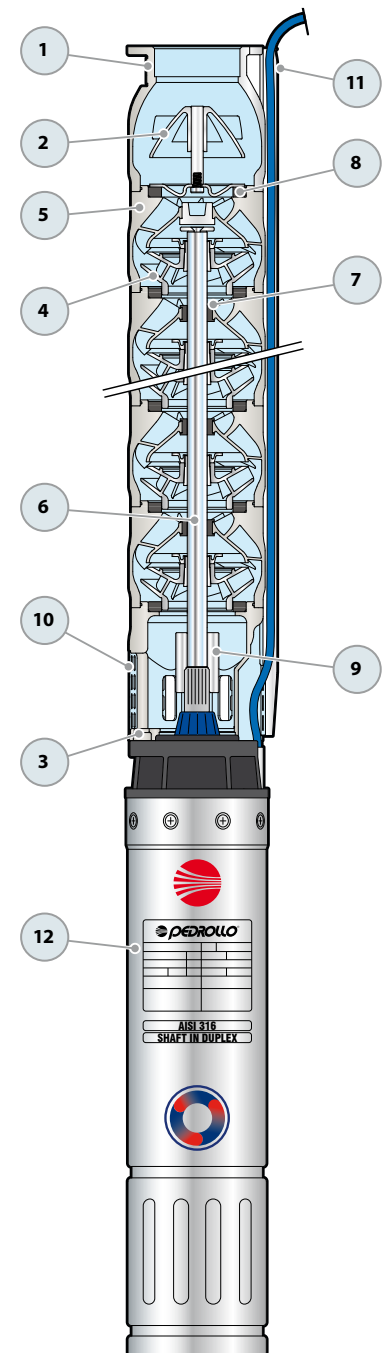
(2) Pump fitted with a 40 HP motor

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

POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

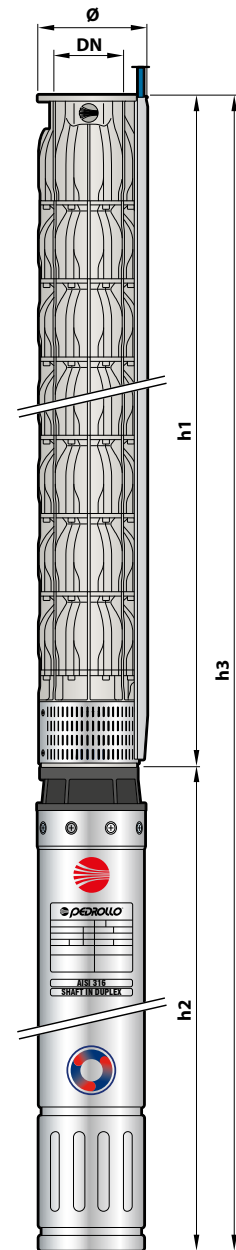
1 DELIVERY BODY	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2 NON-RETURN VALVE	Stainless steel AISI 304
3 MOTOR BRACKET	Precision cast stainless steel AISI 304 in compliance with NEMA standards
4 IMPELLERS	Precision cast stainless steel AISI 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



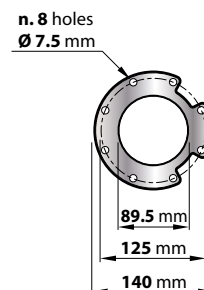
DIMENSIONS AND WEIGHT

MODEL	PORT		DIMENSIONS mm			kg
Three-phase	DN	Ø	h1	h2	h3	3~
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

6PD = rewindable oil filled submersible motor



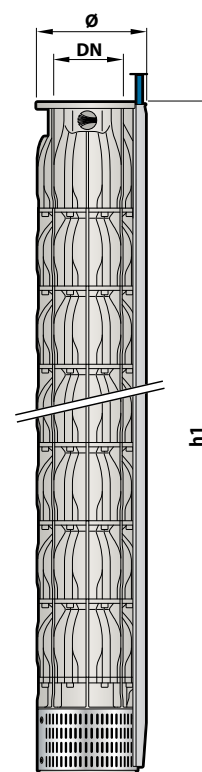
COUNTERFLANGE KIT (TO BE ORDERED SEPARATELY)



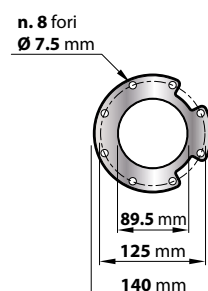
Kit consisting of:
counterflange, seal, screws and nuts

DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	PORT	DIMENSIONS mm		kg
Pump	DN	Ø	h1	3~
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)



Kit consisting of:
counterflange, seal, screws and nuts

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		Axial load	Revs	Starting current	Power factor	Capacitor (VL=450V)	h	Weight
	P ₂				Rated current				
230 V / 50 Hz	kW	HP	N	min ⁻¹		cos φ	μF	mm	kg
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		Axial load	Revs	Starting current	Power factor	h	Weight
	P ₂				Rated current			
400 V / 50 Hz	kW	HP	N	min ⁻¹		cos φ	mm	kg
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

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

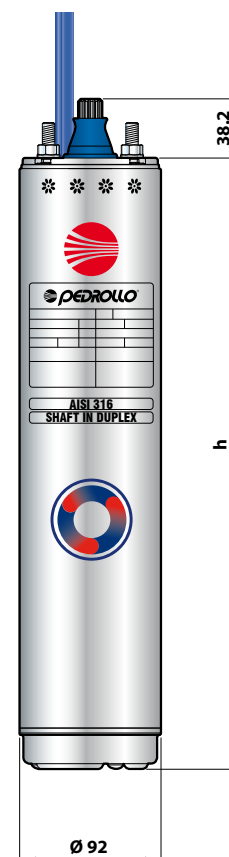
PERFORMANCE DATA

Single-phase versions

MODEL	Rated power		Axial load	Revs	Starting current	Power factor	Capacitor (VL=450V)	h	Weight
	P ₂				Rated current				
230 V / 50 Hz	kW	HP	N	min ⁻¹		cos φ	μF	mm	kg
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		Axial load	Revs	Starting current	Power factor	h	Weight
	P ₂				Rated current			
400 V / 50 Hz	kW	HP	N	min ⁻¹		cos φ	mm	kg
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

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
					Rated current				Rated torque		
Three-phase 400 V / 50 Hz	kW	HP	N	min ⁻¹		η	cos φ	Nm		mm	kg
6PD / 5.5	4	5.5	10000	2840	5.1	74%	0.86	13.5	1.65	595	33.4
6PD / 7.5	5.5	7.5		2840	5.1	74%	0.84	18.5	1.60	625	36.5
6PD / 10	7.5	10		2850	4.7	78%	0.83	25.1	1.55	660	37.8
6PD / 12.5	9.2	12.5		2880	4.5	81%	0.77	30.5	1.60	700	42.6
6PD / 15	11	15		2850	5.2	85%	0.82	36.9	2.20	765	51.8
6PD / 20	15	20		2840	5.0	82%	0.86	50.5	2.60	820	58.0
6PD / 25	18.5	25	20000	2850	5.9	84%	0.84	62.0	2.30	883	62.8
6PD / 30	22	30		2850	5.5	84%	0.83	73.8	2.45	953	79.4
6PD / 40	30	40		2860	5.5	85%	0.83	100.2	1.90	1098	92.1
6PD / 50	37	50		2840	5.1	84%	0.83	124.5	2.10	1233	92.0



ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
6PD / 5.5	9.3 A
6PD / 7.5	12.9 A
6PD / 10	17.1 A
6PD / 12.5	21.8 A
6PD / 15	23.8 A
6PD / 20	31.6 A
6PD / 25	39.0 A
6PD / 30	46.5 A
6PD / 40	63.5 A
6PD / 50	78.0 A

Multi-stage submersible pumps

-  Clean water
(Maximum sand content 150 g/m³)
-  Domestic use
-  Civil use
-  Agricultural use



PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m³/h)
- Head up to **95 m**

APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum sand content **150 g/m³**
- **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.

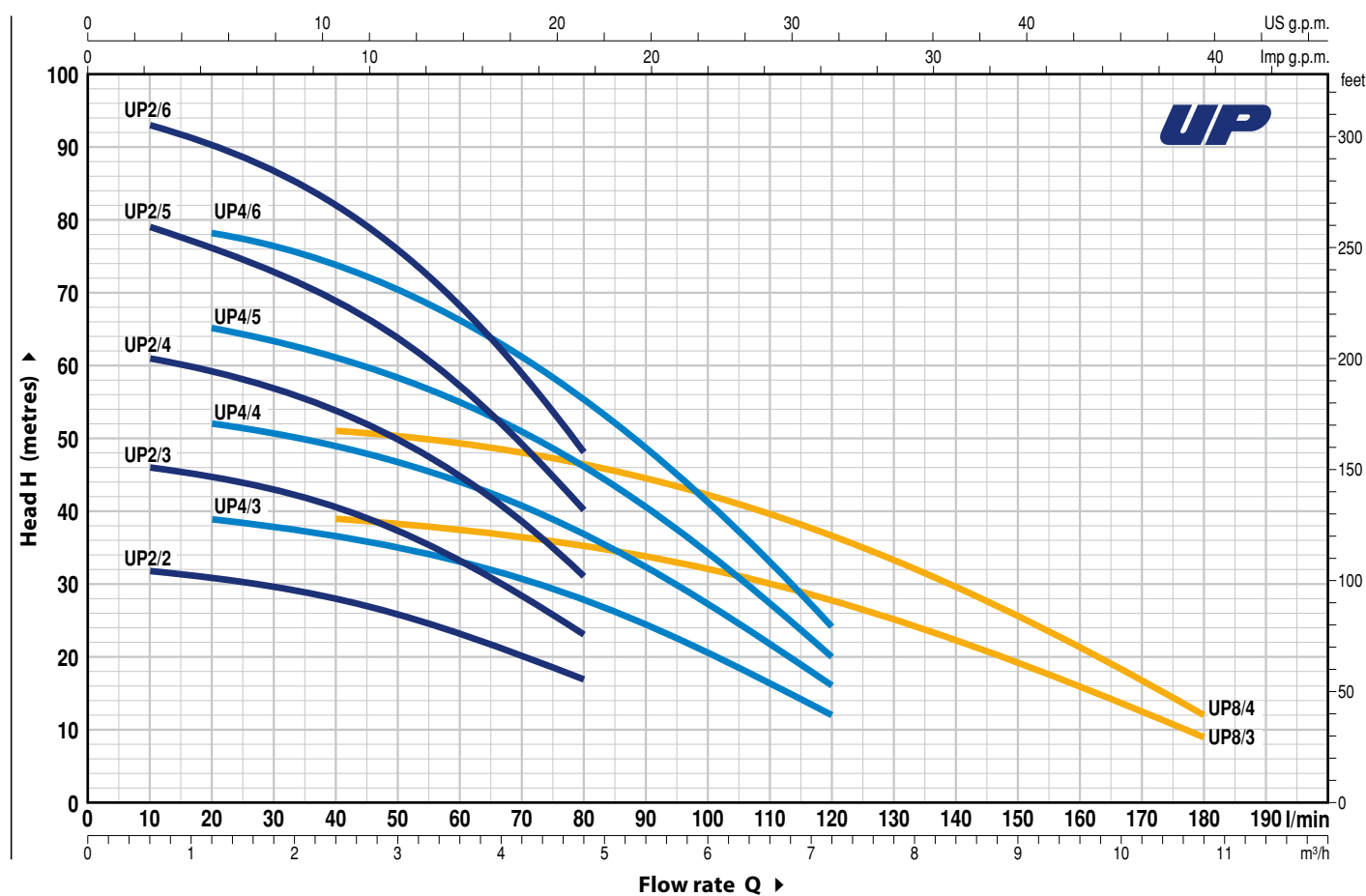
OPTIONS AVAILABLE ON REQUEST

- 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⁻¹



MODEL		POWER (P ₂)		Q m³/h 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.

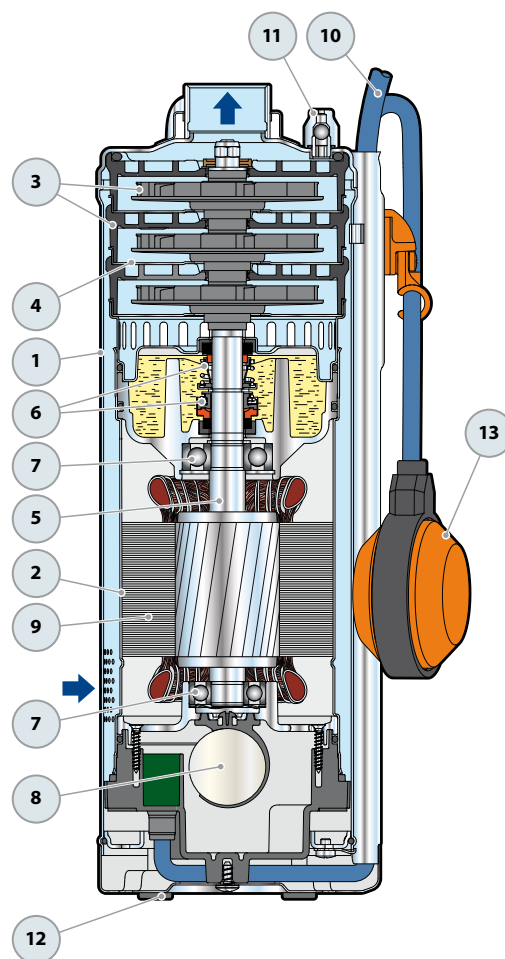
➡ Single-phase pumps without float switch on request

POS. COMPONENT

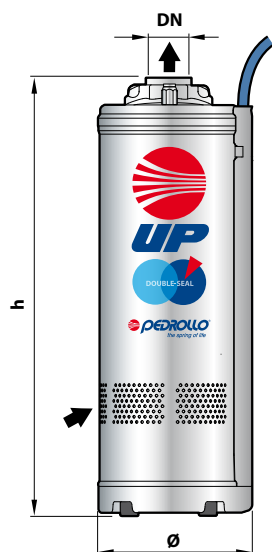
CONSTRUCTION CHARACTERISTICS

1	EXTERNAL SLEEVE	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1				
2	MOTOR SLEEVE	Stainless steel AISI 304				
3	IMPELLERS AND DIFFUSERS	Noryl FE1520PW				
4	DIAPHRAGMS	Stainless steel AISI 304				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER					
	Seal	Shaft	Position	Materials		
	Model	Diameter		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	BEARINGS	6303 2RS - C3 / 6203 ZZ - C3E				
8	CAPACITOR					
	Pump	Capacitance				
	Single-phase	(230 V or 240 V)	(110 V)			
	UPm 2/2-GE	16 µF - 500 VL	30 µF - 250 VL			
	UPm 2/3-GE					
	UPm 4/3-GE	20 µF - 450 VL	-			
	UPm 2/4-GE					
	UPm 4/4-GE	25 µF - 450 VL	-			
	UPm 2/5-GE					
	UPm 4/5-GE	35 µF - 450 VL	-			
	UPm 8/3-GE					
	UPm 2/6-GE	-				
	UPm 4/6-GE					
	UPm 8/4-GE					
9	ELECTRIC MOTOR					
	UPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.					
	UP: three-phase 400 V - 50 Hz.					
	- Insulation: class F					
	- Protection: IP X8					
10	POWER CABLE					
	⇒ DRINCABLE® type approved for use in drinking water by "WRAS" in compliance with BS 6920, approval n. 7513 Standard length 10 metres					
11	AUTOMATIC VENT VALVE					
12	ANTI-VIBRATION SUPPORTS					
13	FLOAT SWITCH (only for single-phase versions)					

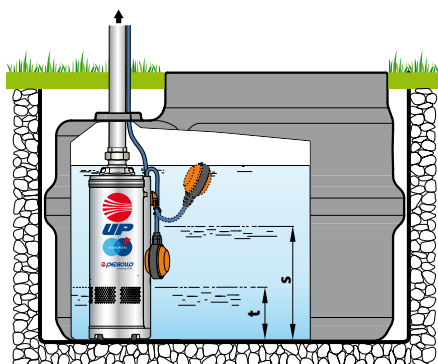
The diagram is a vertical cross-section of a pump assembly. At the top, a blue arrow points upwards from a delivery port (1). Below this are the impellers and diffusers (3) mounted on a motor shaft (5). The shaft is supported by bearings (7) and passes through two mechanical seals (6) separated by an oil chamber. The motor sleeve (2) surrounds the shaft. The motor (9) is shown with its internal components. The pump is mounted on anti-vibration supports (12). A float switch (13) is connected to the pump via a cable (10). An automatic vent valve (11) is located at the top of the pump housing. The entire assembly is housed in a stainless steel external sleeve (1).



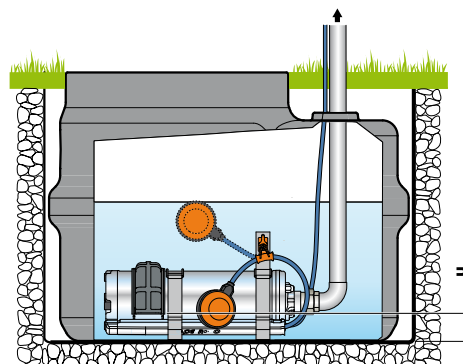
DIMENSIONS AND WEIGHT



Vertical installation



Horizontal installation



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/m³)
-  Domestic use
-  Civil use
-  Agricultural use

PERFORMANCE RANGE

- Flow rate up to **160 l/min** (7.2 m³/h)
- Head up to **95 m**

APPLICATION LIMITS

- Maximum liquid temperature **+40 °C**
- Maximum sand content **150 g/m³**
- **20 m** maximum immersion depth (with a sufficiently long power cable)
- Continuous service **S1**

CONSTRUCTION AND SAFETY STANDARDS

- **20 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

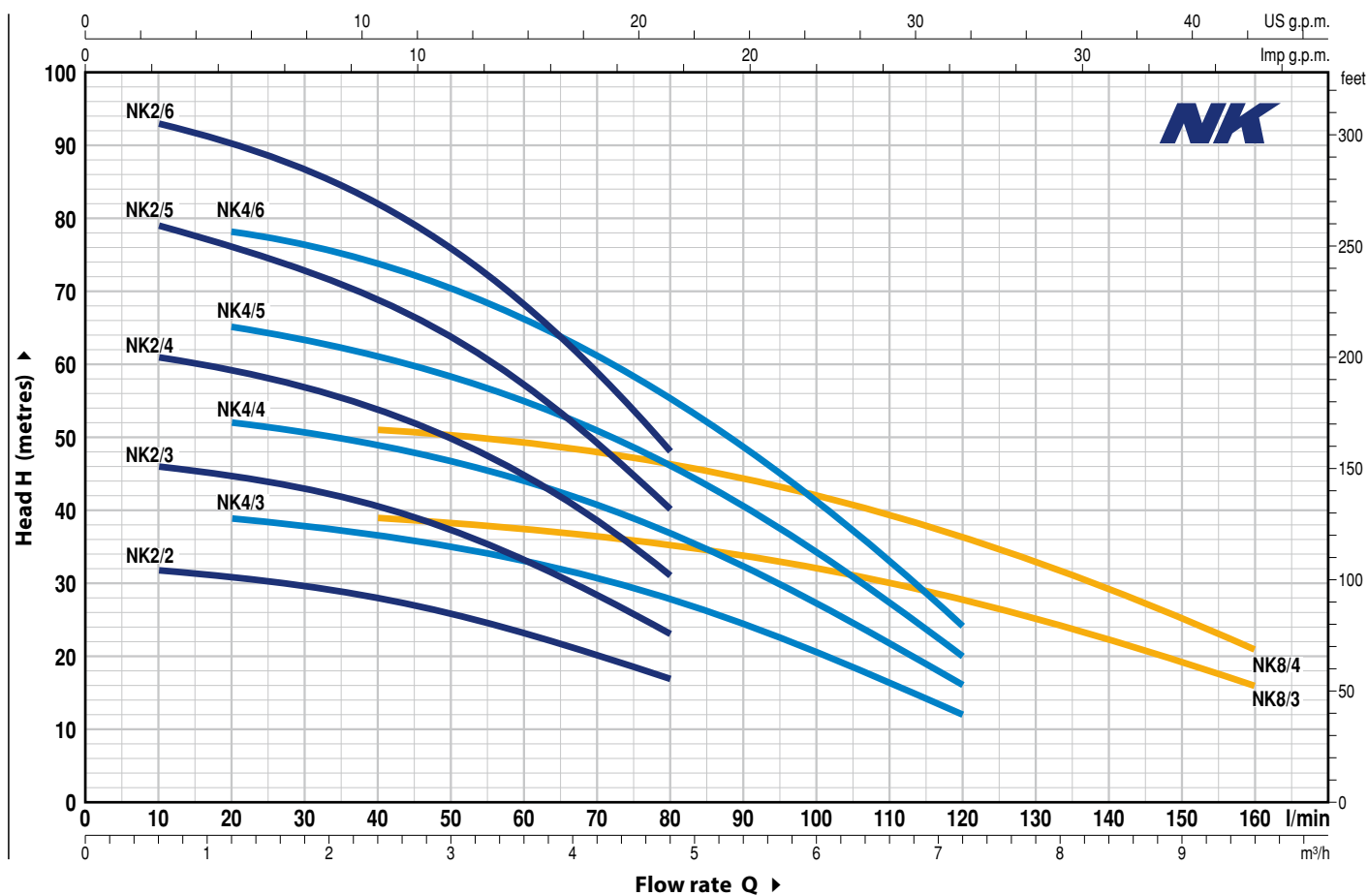
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q m³/h l/min	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
Single-phase	Three-phase	kW	HP		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	EXTERNAL SLEEVE	Stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	SUCTION FILTER	Stainless steel AISI 304 complete with anti-vibration supports
3	MOTOR SLEEVE	Stainless steel AISI 304
4	IMPELLERS AND DIFFUSERS	Noryl FE1520PW
5	DIAPHRAGMS	Stainless steel AISI 304
6	MOTOR SHAFT	Stainless steel AISI 431
7	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER	

Seal	Shaft	Position	Materials		
Model	Diameter		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
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9	CAPACITOR	
	Pump	Capacitance
	<i>Single-phase</i>	<i>(230 V or 240 V)</i> <i>(110 V)</i>
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		

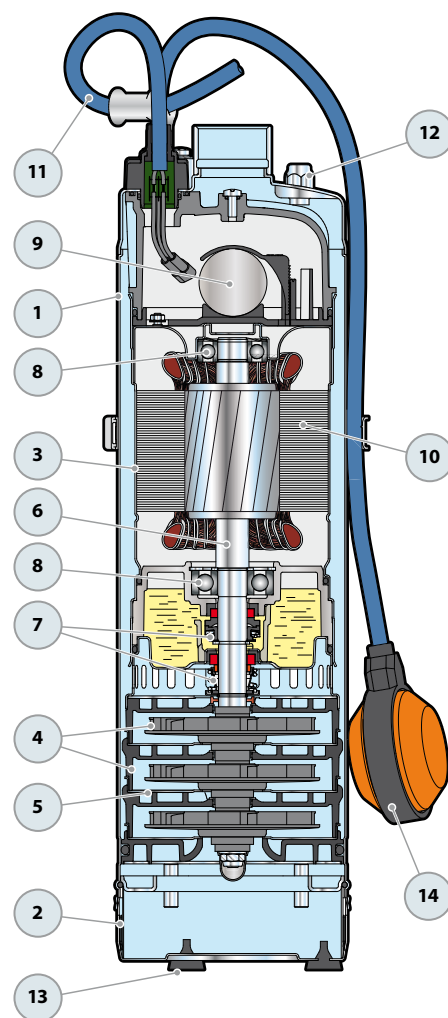
10	ELECTRIC MOTOR
	NKm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
	NK: three-phase 400 V - 50 Hz.
	– Insulation: class F
	– Protection: IP X8

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
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13	ANTI-VIBRATION SUPPORTS
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14	FLOAT SWITCH
	(only for single-phase versions)



DIMENSIONS AND WEIGHT

MODEL		PORT DN	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase			Ø	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
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
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
TOP MULTI 3

PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m³/h)
- Head up to **42 m**

APPLICATION LIMITS

- Immersion depth:
 - up to **3 m** for TOP MULTI 1
 - up to **10 m** for TOP MULTI 2-3 (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
- 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

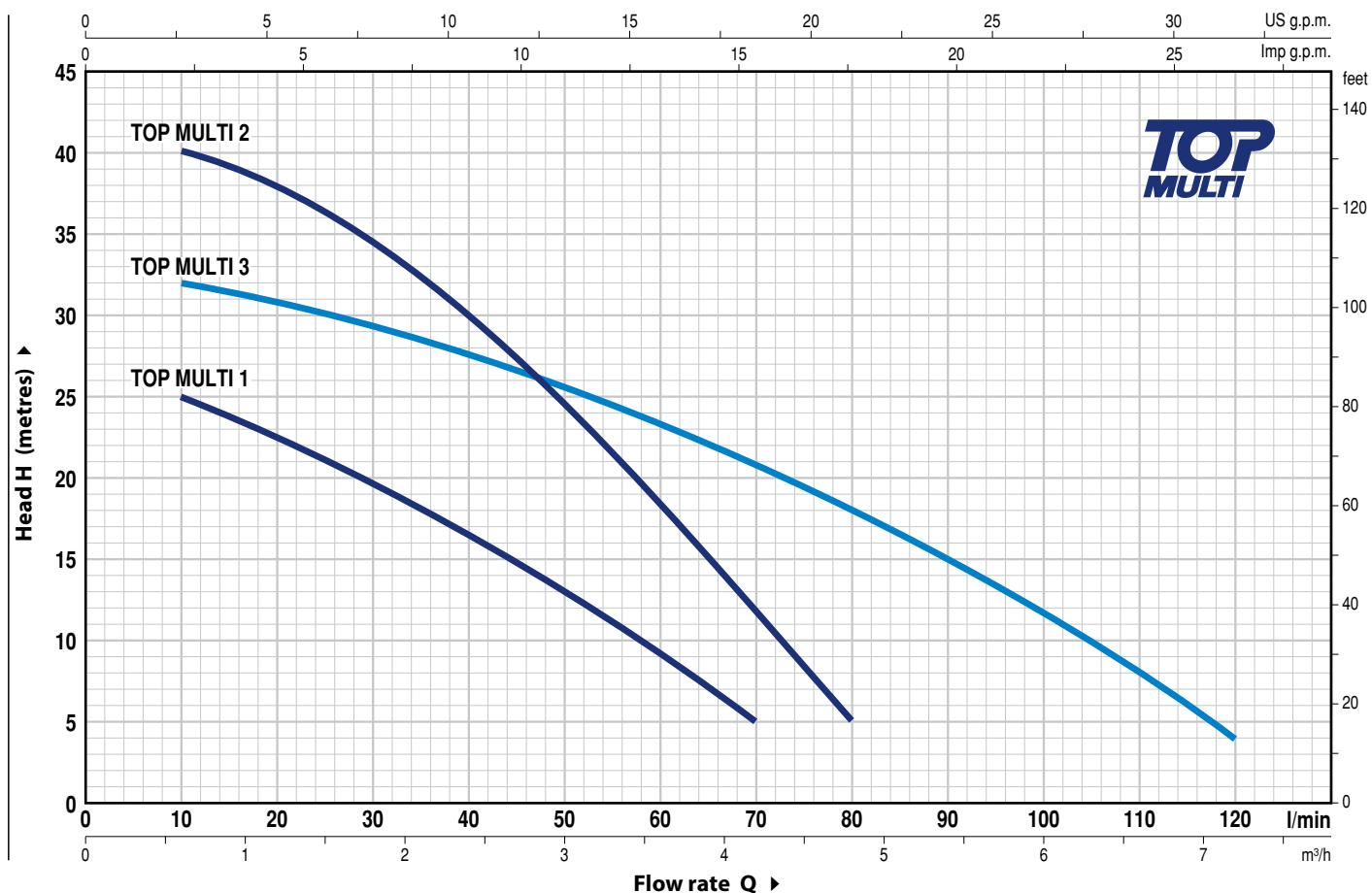
- Registered EU Design n. 000885587 for TOP MULTI 2-3
- TOP MULTI® Registered Trade Mark n. 0001334477

OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL Single-phase	POWER (P ₂)		Q	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
	kW	HP		0	10	20	30	40	50	60	70	80	90	100	110	120
TOP MULTI 1	0.37	0.50	H metres	27	25	22.5	19.5	16.5	13	9	5					
TOP MULTI 2	0.55	0.75		42	40	38	34	30	24	18	11.5	5				
TOP MULTI 3	0.55	0.75		33	32	31	29.5	28	25.5	23	20.5	18	15	12	8	4

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	PUMP BODY	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	SUCTION FILTER	Glass fibre reinforced technopolymer
3	STAGE CASING	Glass fibre reinforced technopolymer
4	IMPELLERS	Noryl FE1520PW
5	DIFFUSER AND STAGE BOXES	Noryl FE1520PW complete with anti-wear ring
6	VANE DIFFUSER	Glass fibre reinforced technopolymer
7	MOTOR CASING	Stainless steel AISI 304
8	MOTOR CASING PLATE	Stainless steel AISI 304
9	MOTOR SHAFT	Stainless steel AISI 431

10 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER

Seal	Shaft	Materials			
Model	Diameter	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

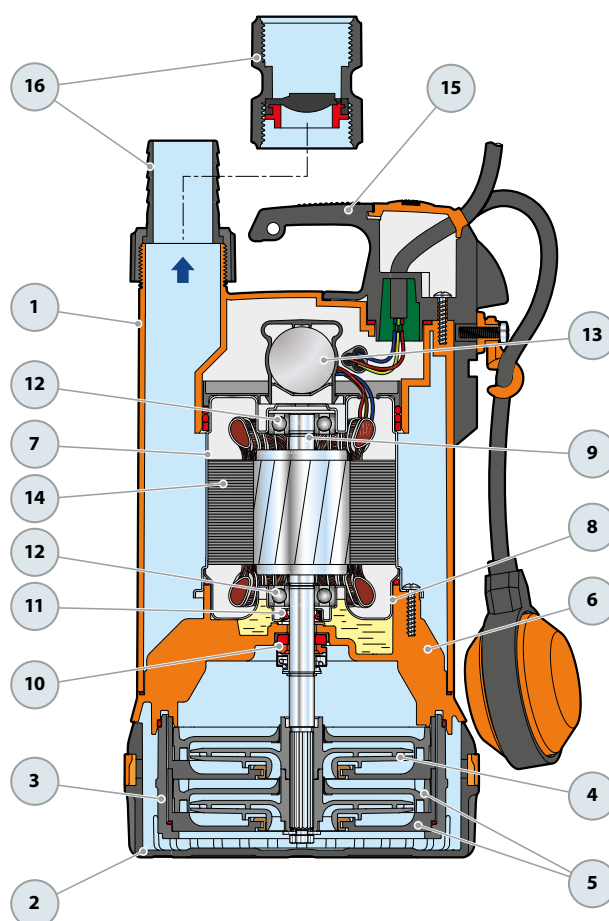
16 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

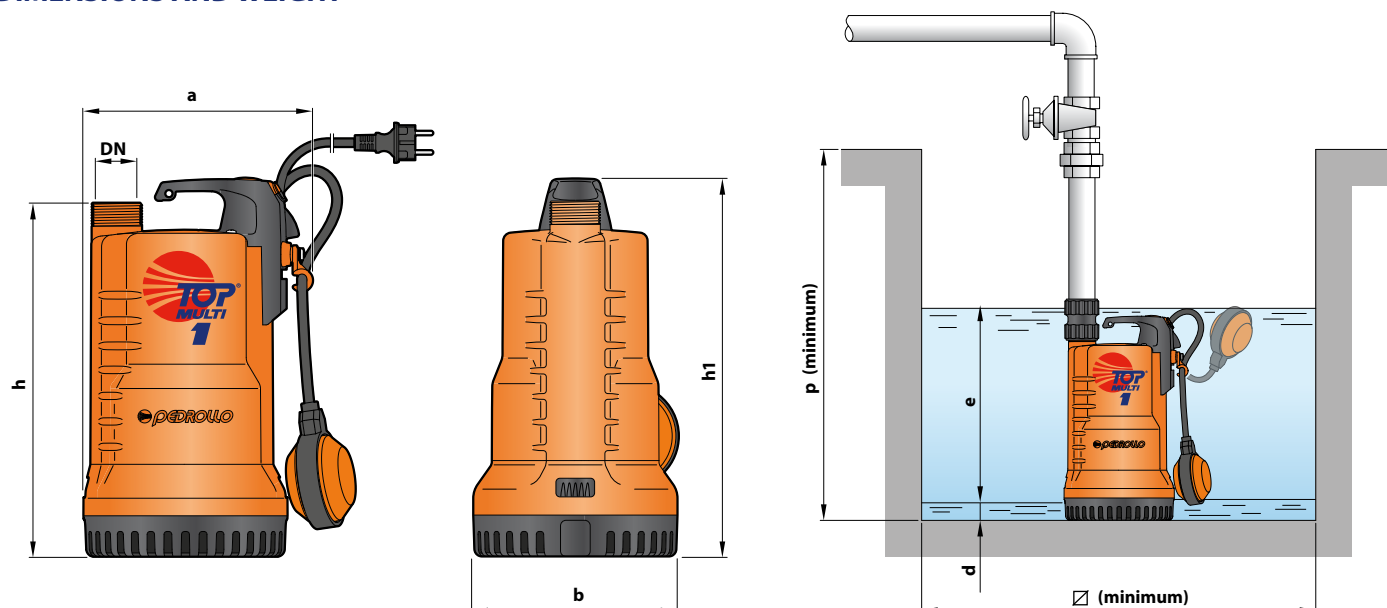
PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)



DIMENSIONS AND WEIGHT



MODEL	PORT DN	N. STAGES	DIMENSIONS mm								kg
			a	b	h	h1	d	e	p	Ø	
Single-phase	DN										
TOP MULTI 1	1¼"	2	192	170	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

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	DELIVERY BODY	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	PUMP BODY AND SUCTION FILTER	Glass fibre reinforced technopolymer
3	DIFFUSER	Glass fibre reinforced technopolymer
4	MOTOR SLEEVE AND MOTOR CASING PLATE	Stainless steel AISI 304
5	IMPELLERS	Noryl FE1520PW
6	DIFFUSERS	Noryl complete with anti-wear ring
7	MOTOR SHAFT	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-12R SG	Ø 12 mm	Pump side	Silicon carbide	Graphite	NBR

9 BEARINGS 6202 ZZ - C3 / 6201 ZZ

10 CAPACITOR

Capacitance

(230 V or 240 V)	(110 V)
12.5 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

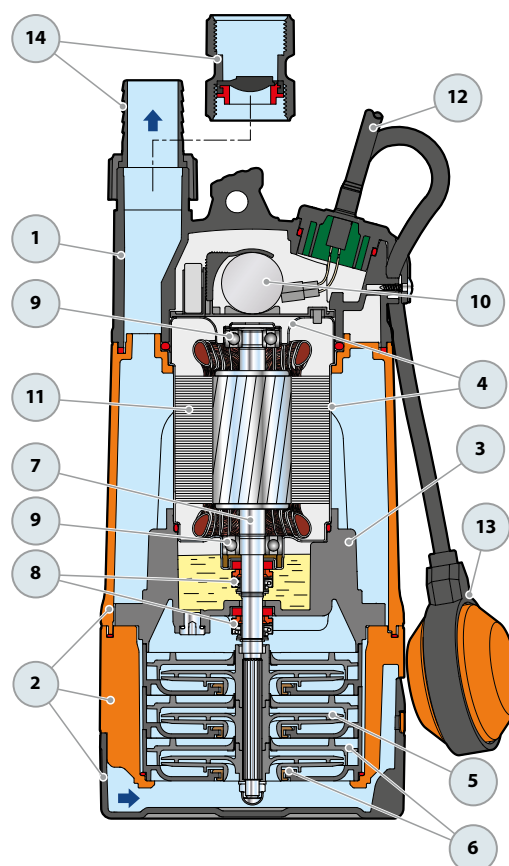
14 HOSE CONNECTOR WITH RING NUT

Ø 35 mm hose connection

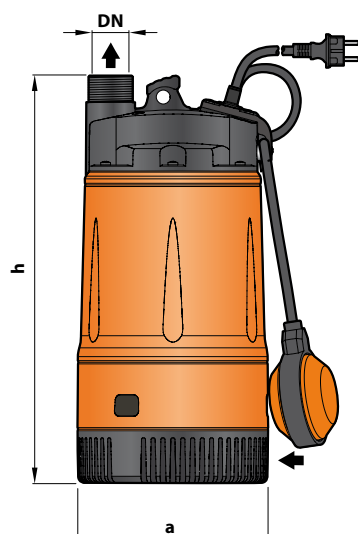
PIPE COUPLING

Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)



DIMENSIONS AND WEIGHT



MODEL	PORT	N. STAGES	DIMENSIONS mm		kg
Single-phase	DN		a	h	
TOP MULTI 2	1 1/4"	3	178	380	9.2
TOP MULTI 3					9.3

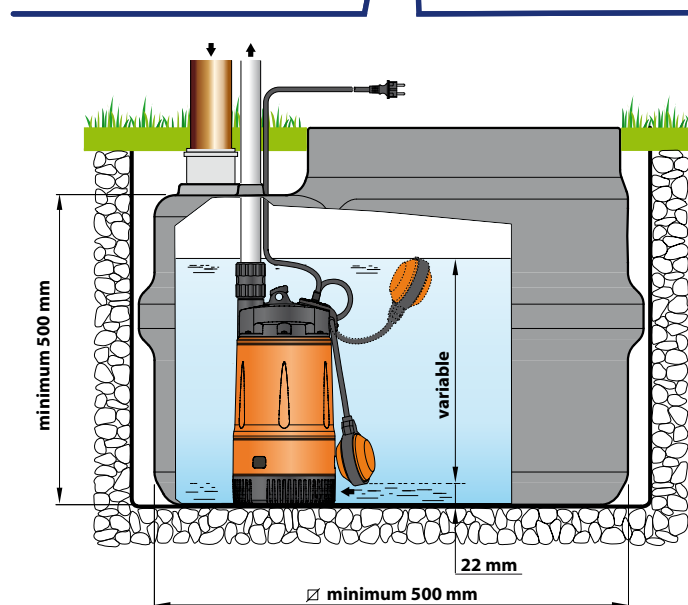
ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
TOP MULTI 2	3.4 A	3.3 A	6.6 A
TOP MULTI 3	3.6 A	3.5 A	7.2 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 2	60	80
TOP MULTI 3	60	80

Standard installation



TOP MULTI-EVO

Submersible multi-stage pumps

-  Clean water
-  Domestic use
-  Civil use



TOP MULTI 1-EVO



TOP MULTI 2-EVO
TOP MULTI 3-EVO

PERFORMANCE RANGE

- Flow rate up to **120 l/min** (7.2 m³/h)
- Head up to **42 m**

APPLICATION LIMITS

- Immersion depth:
 - up to **3 m** for TOP MULTI 1-EVO
 - up to **10 m** for TOP MULTI 2-3 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 EVO
- 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**



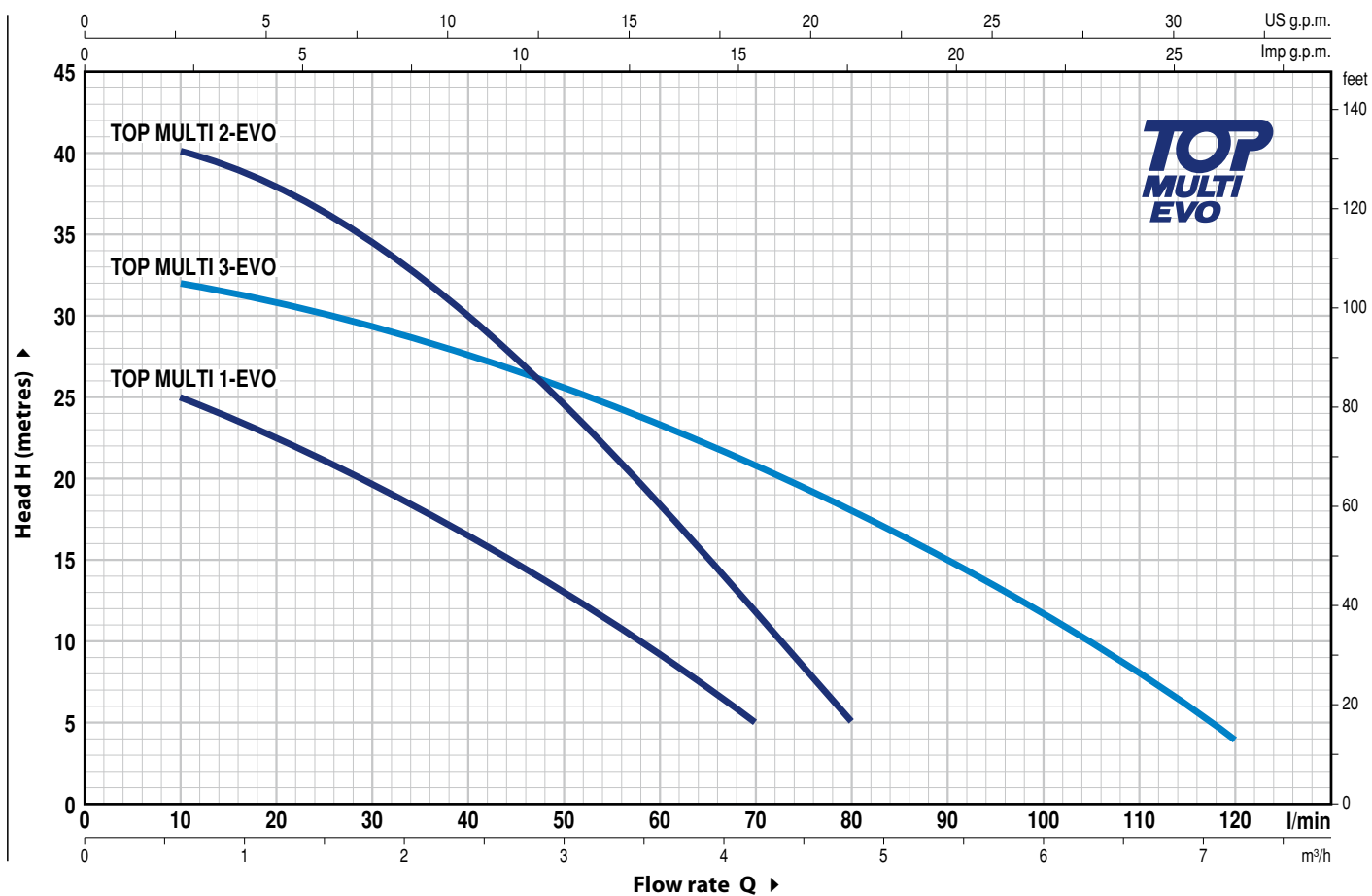
Kit includes:

- 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⁻¹

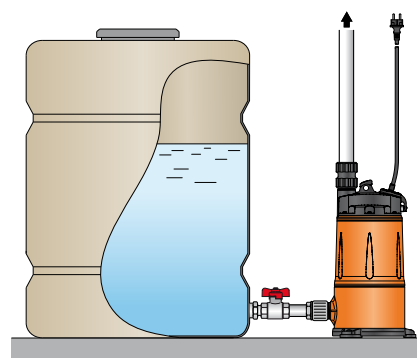
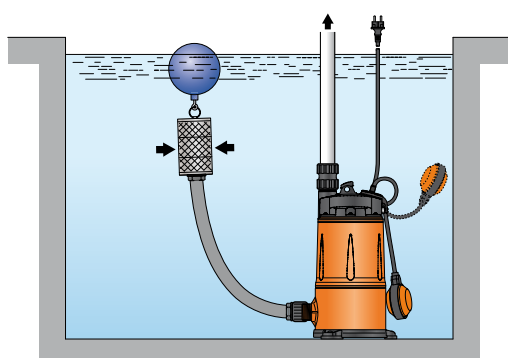


MODEL Single-phase	POWER (P ₂)		Q	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	kW	HP		0	10	20	30	40	50	60	70	80	90	100	110	120
TOP MULTI 1-EVO	0.37	0.50	H metres	27	25	22.5	19.5	16.5	13	9	5					
TOP MULTI 2-EVO	0.55	0.75		42	40	38	34	30	24	18	11.5	5				
TOP MULTI 3-EVO	0.55	0.75		33	32	31	29.5	28	25.5	23	20.5	18	15	12	8	4

Q = Flow rate H = Total manometric head

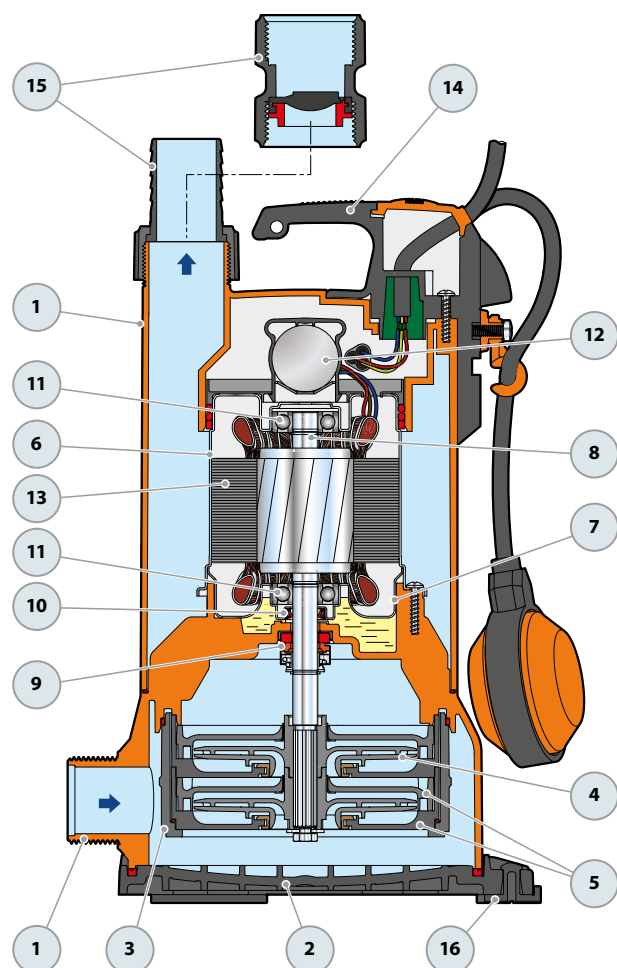
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

STANDARD INSTALLATION

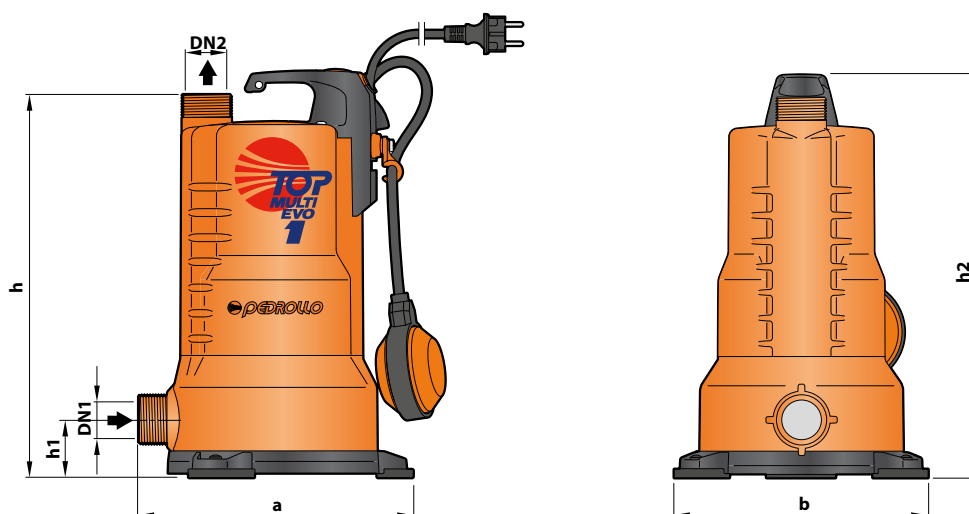


TOP MULTI 1-EVO

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	SUCTION BODY AND DELIVERY BODY	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1
2	BASE	Glass fibre reinforced technopolymer
3	STAGE CASING	Glass fibre reinforced technopolymer
4	IMPELLERS	Noryl FE1520PW
5	DIFFUSER AND STAGE BOXES	Noryl FE1520PW complete with anti-wear ring
6	MOTOR CASING	Stainless steel AISI 304
7	MOTOR CASING PLATE	Stainless steel AISI 304
8	MOTOR SHAFT	Stainless steel AISI 431
9	SHAFT WITH DOUBLE SEAL AND OIL CHAMBER	
	Seal	Shaft
	Model	Diameter
	STA-12R	Ø 12 mm
		Stationary ring
		Ceramic
		Rotational ring
		Graphite
		Elastomer
		NBR
		Metals
		AISI 304
10	LIP SEAL	Ø 12 x Ø 19 x H 5 mm
11	BEARINGS	6201 ZZ - C3E / 6201 ZZ - C3E
12	CAPACITOR	
	Capacitance	
	(230 V or 240 V)	(110 V)
	10 µF 450 VL	10 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	N. STAGES		DIMENSIONS mm					kg
Single-phase	DN1	DN2	a	b	h	h1	h2	
TOP MULTI 1-EVO	1¼"	1¼"	227	210	317	49	337	7.1

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
TOP MULTI 1-EVO	2.0 A	1.9 A	4.0 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 1-EVO	45	60

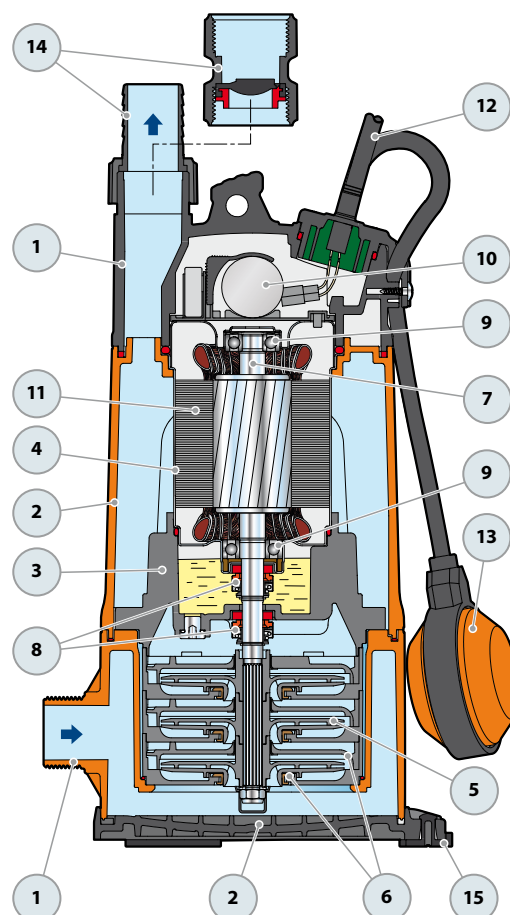
TOP MULTI 2-3 EVO

POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

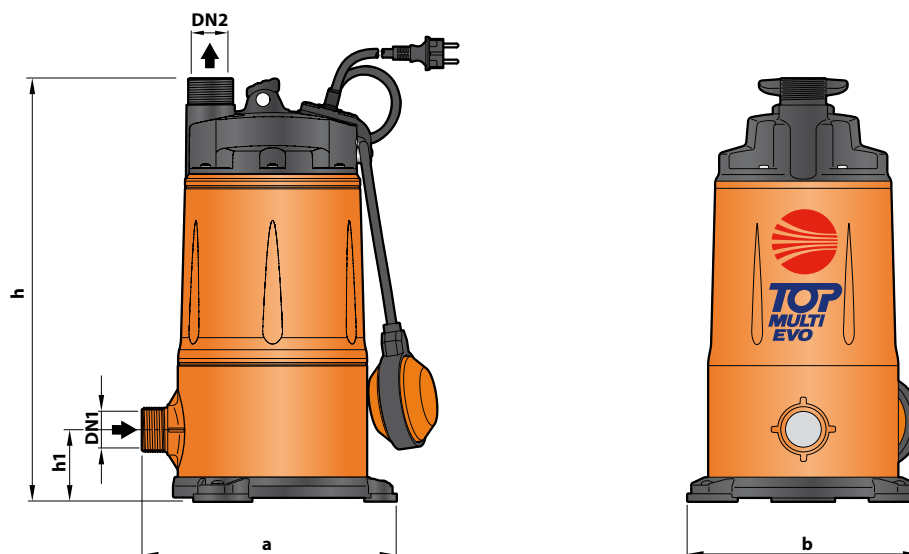
1	SUCTION BODY AND DELIVERY BODY	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1				
2	PUMP BODY AND BASE	Glass fibre reinforced technopolymer				
3	DIFFUSER	Glass fibre reinforced technopolymer				
4	MOTOR SLEEVE	Stainless steel AISI 304				
5	IMPELLERS	Noryl FE1520PW				
6	DIFFUSER AND STAGE BOXES	Noryl complete with anti-wear ring				
7	MOTOR SHAFT	Stainless steel AISI 431				
8	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER					
	Seal	Shaft	Position	Materials		
	Model	Diameter		Stationary ring	Rotational ring	Elastomer
	STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
	STA-12R SG	Ø 12 mm	Pump side	Silicon carbide	Graphite	NBR
9	BEARINGS	6202 ZZ - C3 / 6201 ZZ				
10	CAPACITOR					
	Capacitance					
	(230 V or 240 V)	(110 V)				
	12.5 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					

The diagram is a vertical cross-section of a pump assembly. At the top, a blue arrow points upwards through a vertical pipe (1). Below this, a motor sleeve (4) encloses the motor shaft (7). The shaft is supported by bearings (9) and has two mechanical seals (8) separated by an oil chamber. The seals are made of ceramic/silicon carbide (stationary) and graphite (rotational) with NBR elastomers. The pump body (2) and diffuser (3) are made of glass fibre reinforced technopolymer. The impellers (5) are made of Noryl FE1520PW. The diffuser and stage boxes (6) are also made of Noryl. A power cable (12) with a Schuko plug is connected to the motor. A float switch (13) is attached to the bottom of the assembly. A hose connector with a ring nut (14) is at the very bottom. The entire unit is supported by anti-vibration supports (15).



DIMENSIONS AND WEIGHT

Standard installation



MODEL			N. STAGES	DIMENSIONS mm				kg
Single-phase	DN1	DN2		a	b	h	h1	
TOP MULTI 2-EVO	1 1/4"	1 1/4"	3	239	216	394	68	9.8
TOP MULTI 3-EVO								9.9

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110V
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

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 2-EVO	45	60
TOP MULTI 3-EVO	45	60

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 m³/h)
- Head up to **42 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 **34 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

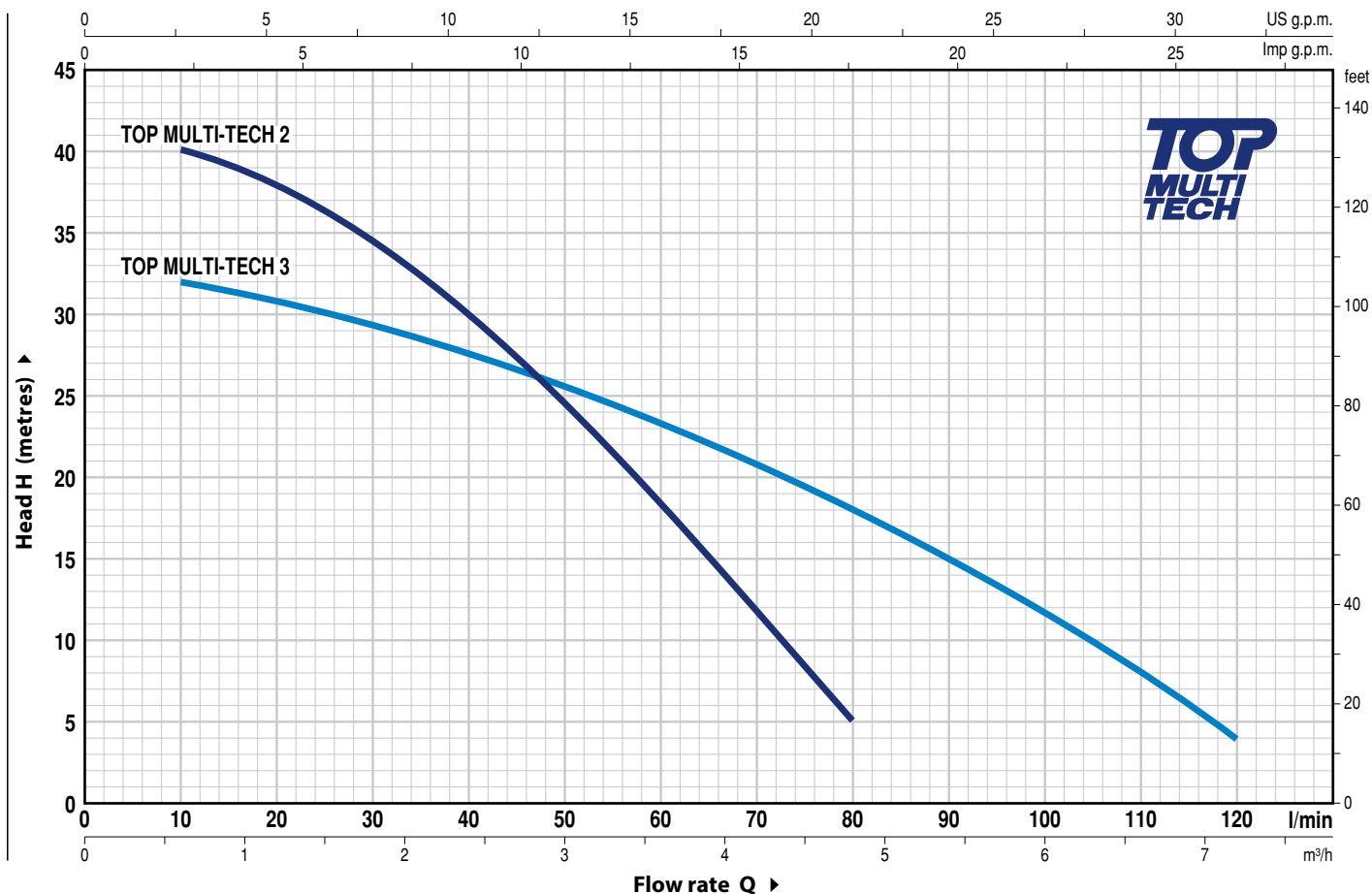
- Patent n. EP2990653
- TOP MULTI® Registered Trade Mark n. 0001334477

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



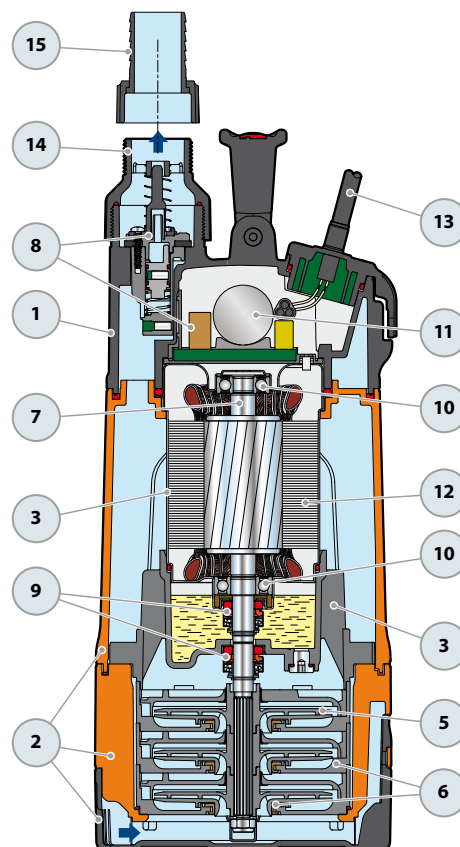
MODEL Single-phase	POWER (P ₂)		Q	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	kW	HP		0	10	20	30	40	50	60	70	80	90	100	110	120
TOP MULTI-TECH 2	0.55	0.75	H metres	42	40	38	34	30	24	18	11.5	5				
TOP MULTI-TECH 3	0.55	0.75		33	32	31	29.5	28	25.5	23	20.5	18	15	12	8	4

Q = Flow rate H = Total manometric head

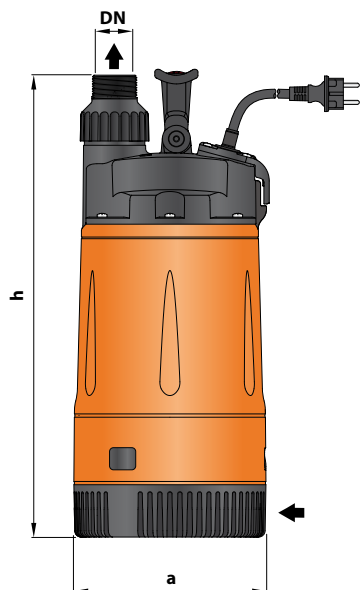
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

TOP MULTI-TECH

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	DELIVERY BODY	Glass fibre reinforced technopolymer
2	PUMP BODY E SUCTION FILTER	Glass fibre reinforced technopolymer
3	DIFFUSER	Glass fibre reinforced technopolymer
4	MOTOR SLEEVE	Stainless steel AISI 304
5	IMPELLERS	Noryl FE1520PW
6	DIFFUSER AND STAGE BOXES	Noryl complete with anti-wear ring
7	MOTOR SHAFT	Stainless steel AISI 431
8	ELECTRONIC DEVICE	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. It protects the pump: – against dry running; – against blockage: after long periods of pump inactivity the electronic device starts the pump every 48 hours for 10 seconds.
9	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER	
	<i>Seal</i>	<i>Shaft</i> <i>Position</i> <i>Materials</i>
	<i>Model</i>	<i>Diameter</i> <i>Stationary ring</i> <i>Rotational ring</i> <i>Elastomer</i>
	STA-13R	Ø 13 mm Motor side Ceramic Graphite NBR
	STA-12R SG	Ø 12 mm Pump side Silicon carbide Graphite NBR
10	BEARINGS	6202 ZZ - C3 / 6201 ZZ
11	CAPACITOR	
	<i>Capacitance</i>	
	(230 V or 240 V)	(110 V)
	12.5 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



Standard installation



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					

ABSORPTION

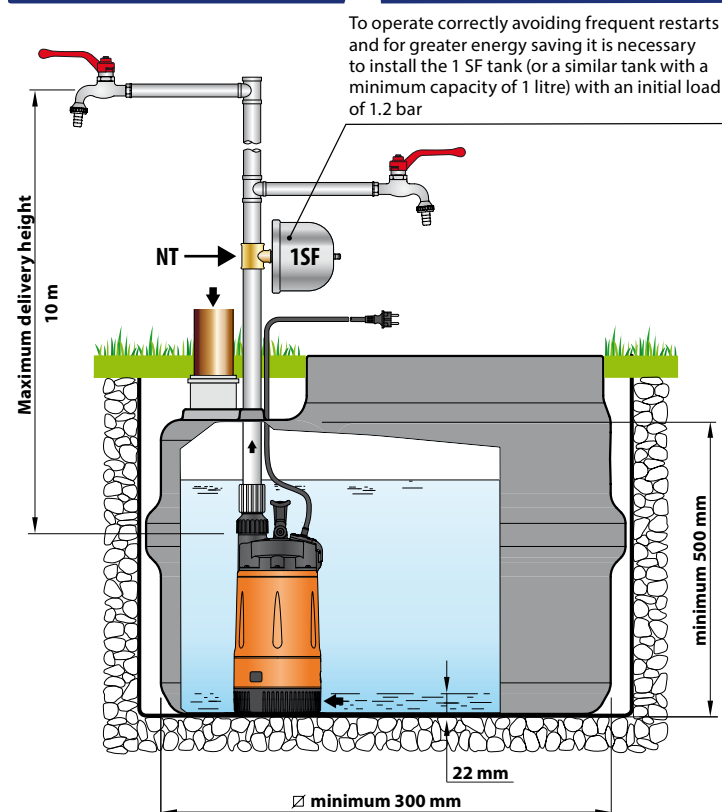
MODEL	VOLTAGE
Single-phase	230 V
TOP MULTI-TECH 2	3.4 A
TOP MULTI-TECH 3	3.6 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI-TECH 2	60	80
TOP MULTI-TECH 3	60	80

ACCESSORIES (CAN BE ORDERED SEPARATELY)

MODEL	Code	FITTING	CAPACITY	PRE-SET	MAXIMUM WORKING PRESSURE
Tank 1 SF	500667	1/2" (male)	1 litre	1.2 bar	10 bar
3-way fitting NT 1.25	500160001	1 1/4" - 1 1/4" - 1/2" gas	-	-	-



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 m³/h)
- Head up to **42 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 **52 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**



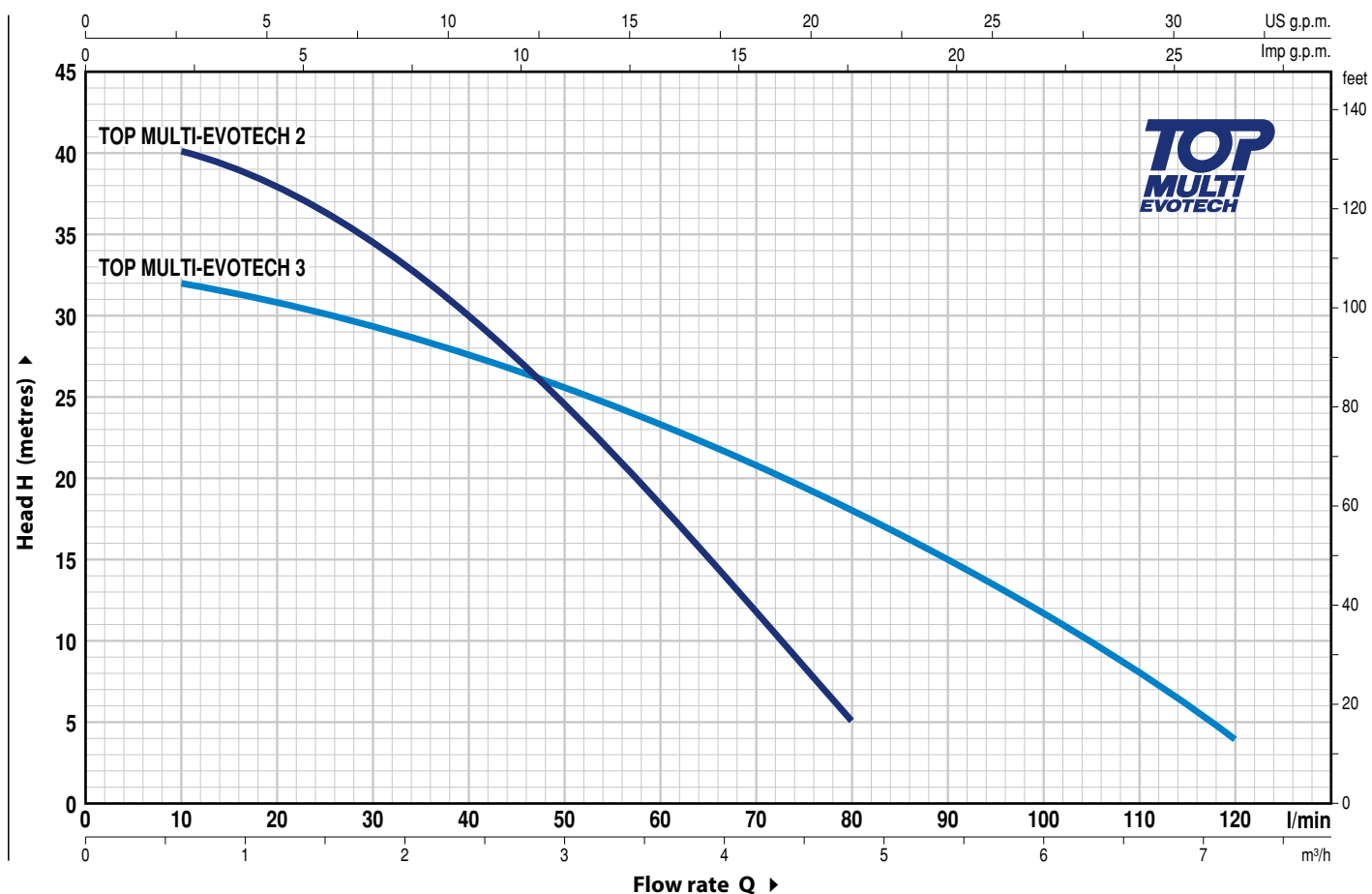
Kit includes:

- 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⁻¹

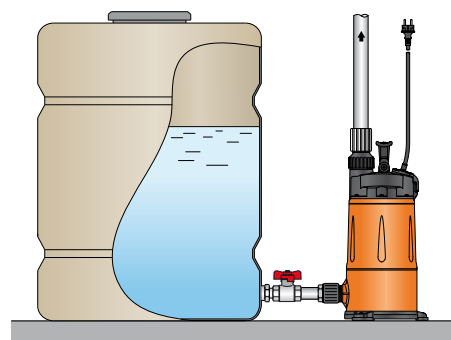
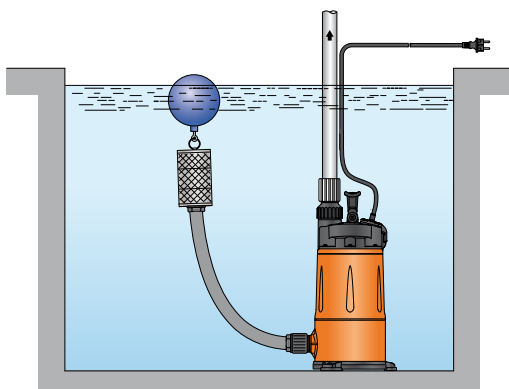


MODEL Single-phase	POWER (P ₂)		Q	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
	kW	HP		0	10	20	30	40	50	60	70	80	90	100	110	120
TOP MULTI-EVOTECH 2	0.55	0.75	H metres	42	40	38	34	30	24	18	11.5	5				
TOP MULTI-EVOTECH 3	0.55	0.75		33	32	31	29.5	28	25.5	23	20.5	18	15	12	8	4

Q = Flow rate H = Total manometric head

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

STANDARD INSTALLATION



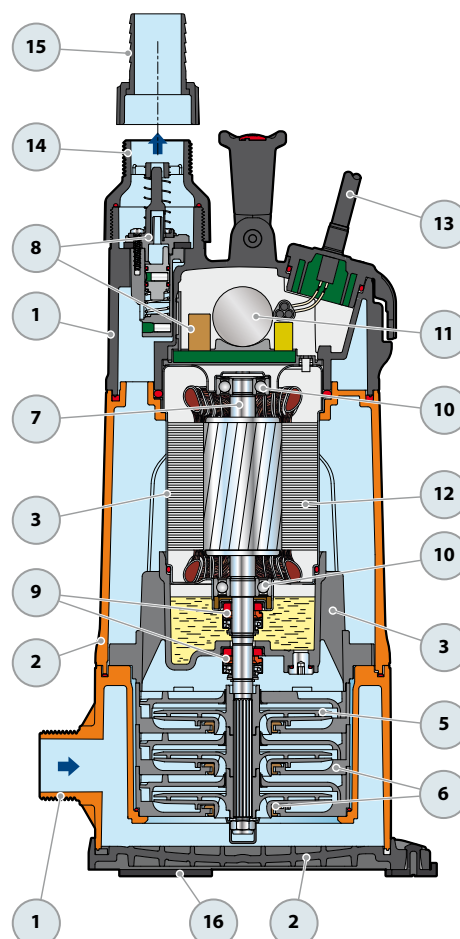
TOP MULTI-EVOTECH

POS. COMPONENT

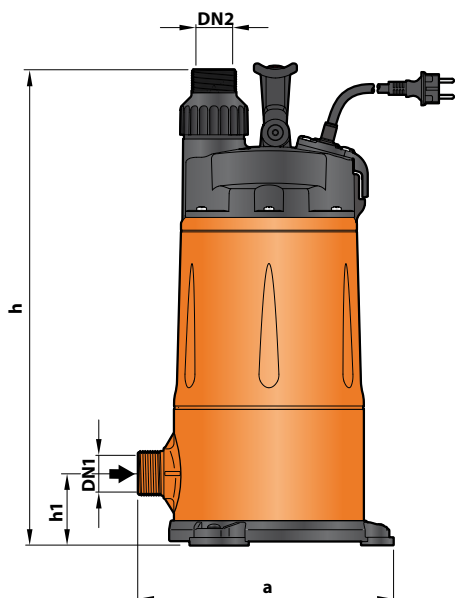
CONSTRUCTION CHARACTERISTICS

1	SUCTION BODY AND DELIVERY BODY	Glass fibre reinforced technopolymer complete with threaded delivery ports in compliance with ISO 228/1				
2	PUMP BODY AND BASE	Glass fibre reinforced technopolymer				
3	DIFFUSER	Glass fibre reinforced technopolymer				
4	MOTOR SLEEVE	Stainless steel AISI 304				
5	IMPELLERS	Noryl FE1520PW				
6	DIFFUSER AND STAGE BOXES	Noryl FE1520PW complete with anti-wear ring				
7	MOTOR SHAFT	Stainless steel AISI 431				
8	ELECTRONIC DEVICE	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. It protects the pump: – against dry running; – against blockage: after long periods of pump inactivity the electronic device starts the pump every 48 hours for 10 seconds.				
9	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER					
	Seal	Shaft	Position	Materials		
	Model	Diameter		Stationary ring	Rotational ring	Elastomer
	STA-13R	Ø 13 mm	Motor side	Ceramic	Graphite	NBR
	STA-12R SG	Ø 12 mm	Pump side	Silicon carbide	Graphite	NBR
10	BEARINGS	6202 ZZ - C3 / 6201 ZZ				
11	CAPACITOR					
	Capacitance					
	(230 V or 240 V)	(110 V)				
	12.5 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					

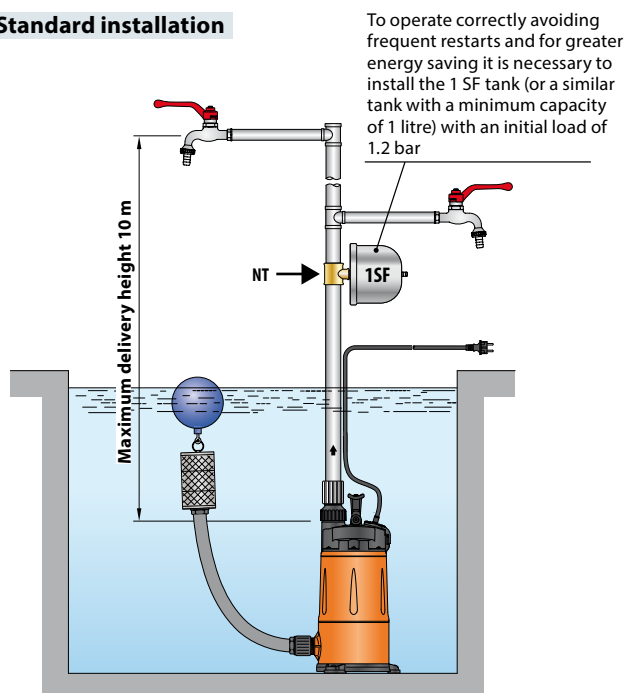
The diagram is a vertical cross-section of a pump assembly. At the top, a blue hose connector (15) is attached to a threaded connector (14). Below this is the suction body (1) and diffuser (3). The pump body (2) contains the impeller (5) mounted on the motor shaft (7). The motor (12) is housed within a motor sleeve (4). The electronic device (8) is located near the motor. The diffuser and stage boxes (6) are shown below the pump body. The entire assembly is supported by anti-vibration supports (16). The diagram also shows the two mechanical seals (9) separated by an oil chamber, with stationary rings (10) and rotational rings (11) made of ceramic and silicon carbide respectively, and elastomers (NBR) made of NBR.



DIMENSIONS AND WEIGHT



Standard installation



MODEL	N. STAGES		DIMENSIONS mm			kg
Single-phase	DN1	DN2	a	h	h1	
TOP MULTI 2-EVOTECH	1 1/4"	1 1/4"	239	442	68	9.9
TOP MULTI 3-EVOTECH						

ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
TOP MULTI 2-EVOTECH	3.4 A	6.8 A
TOP MULTI 3-EVOTECH	3.6 A	7.2 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 2-EVOTECH	45	60
TOP MULTI 3-EVOTECH	45	60

ACCESSORIES (CAN BE ORDERED SEPARATELY)

MODEL	Code	FITTING	CAPACITY	PRE-SET	MAXIMUM WORKING PRESSURE
Tank 1 SF 	500667	1/2" (male)	1 litre	1.2 bar	10 bar
3-way fitting NT 1.25 	500160001	1 1/4" - 1 1/4" - 1/2" gas	—	—	—



PERFORMANCE RANGE

- Flow rate up to **360 l/min** (21.6 m³/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



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

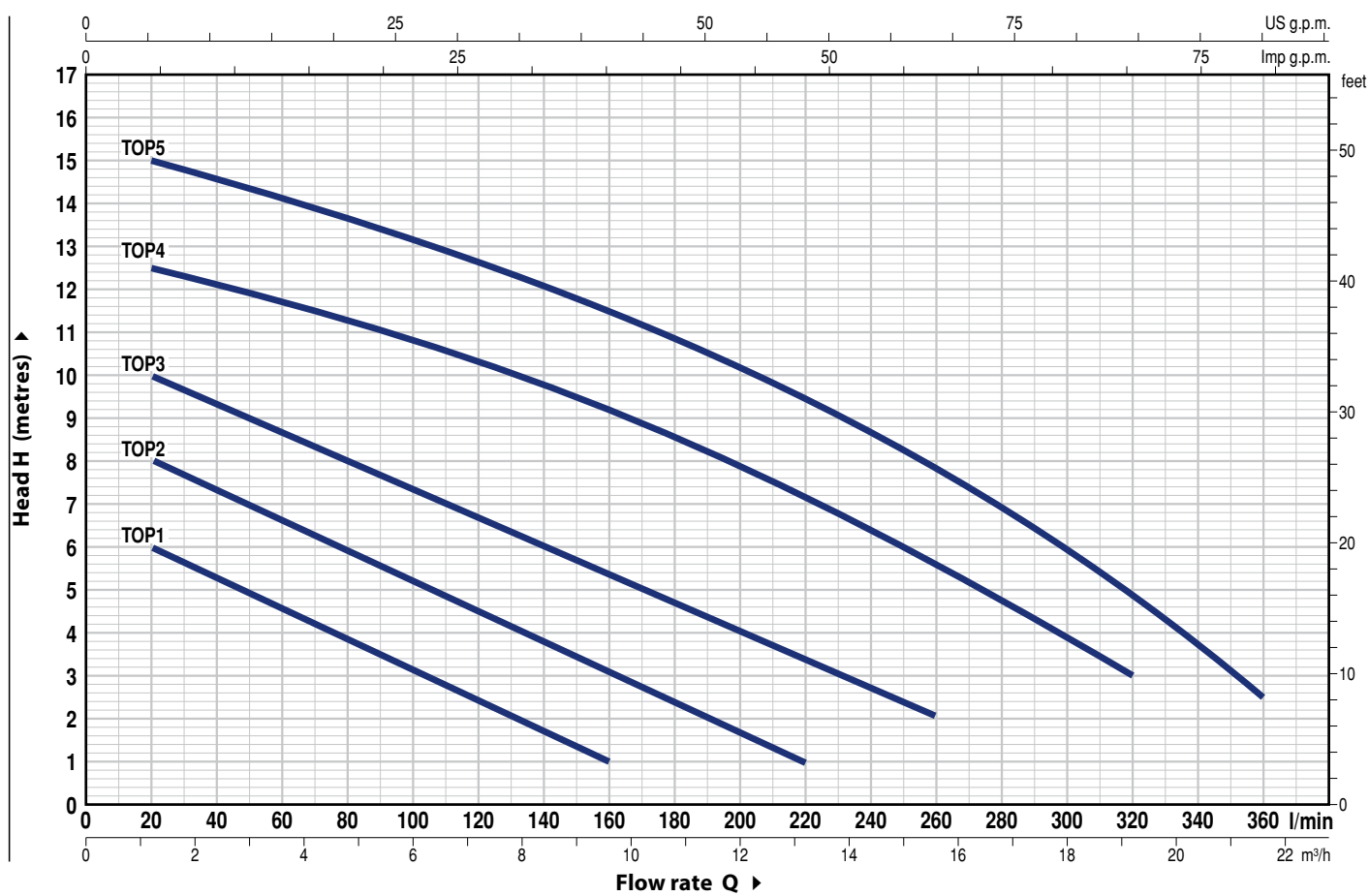
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL Single-phase	POWER (P ₂)		Q m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12	13.2	14.4	15.6	16.8	18.0	19.2	20.4	21.6
	kW	HP		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	H metres	7	6	5.5	4.5	4	3	2.5	1.5	1										
TOP 2	0.37	0.50		9	8	7.5	6.5	6	5.5	4.5	4	3	2.5	1.8	1							
TOP 3	0.55	0.75		10.5	10	9	8.8	8	7.5	6.5	6	5.5	4.8	4	3.5	2.5	2					
TOP 4	0.75	1		13	12.5	12.1	11.6	11.3	10.8	10.3	9.8	9.2	8.5	7.9	7.1	6.4	5.5	4.7	3.9	3		
TOP 5	0.92	1.25		15.5	15	14.5	14.1	13.6	13.2	12.6	12	11.5	10.8	10	9.4	8.5	7.8	6.8	6	4.8	3.6	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	PUMP BODY	Technopolymer
2	SUCTION FILTER	Technopolymer
3	SUCTION PLATE	Stainless steel AISI 304 (AISI 316L for LA versions)
4	DIFFUSER	Technopolymer
5	IMPELLER	Noryl FE1520PW
6	MOTOR CASING	Stainless steel AISI 304 (AISI 316L for LA versions)
7	MOTOR CASING PLATE	Stainless steel AISI 304
8	MOTOR SHAFT	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 TOP 1-2-3 GM	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR	AISI 304
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
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11	BEARINGS	6201 ZZ / 6201 ZZ
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12 CAPACITOR

Pump Single-phase	Capacitance	
	(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

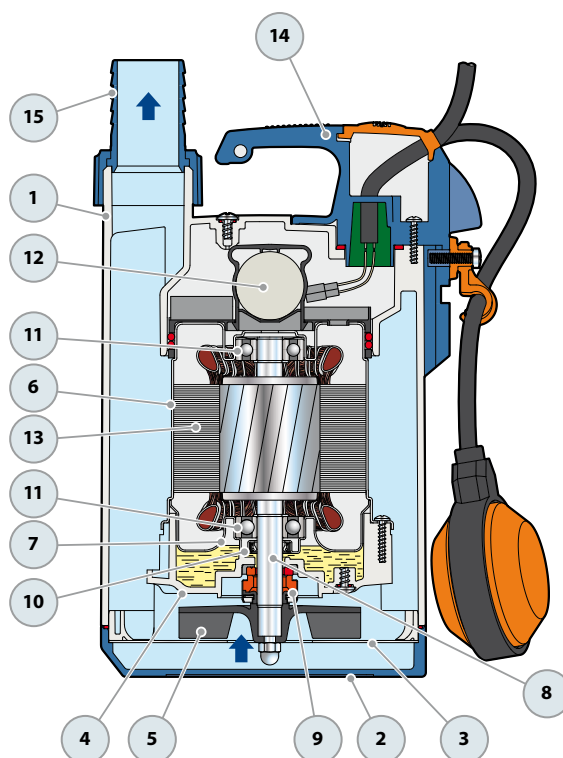
14 HANDLE ASSEMBLY (resin sealed)

Complete with:

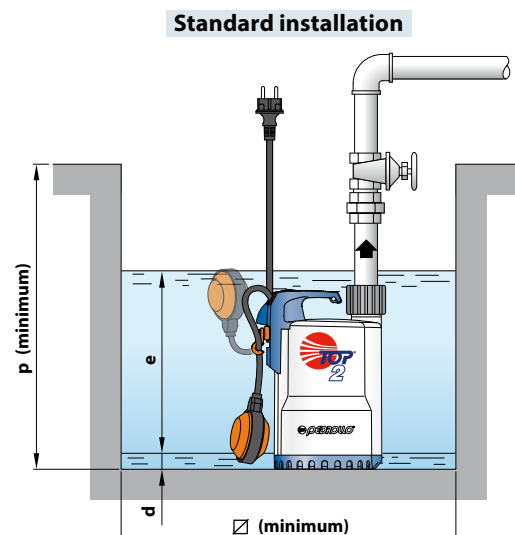
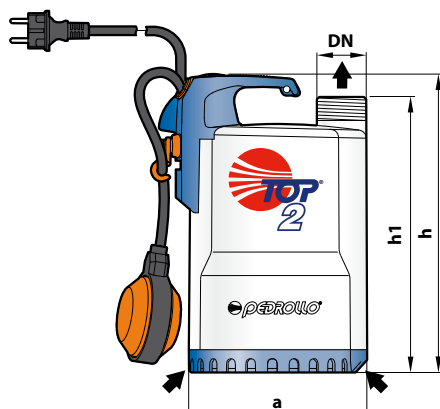
- **5 metres** long "H07 RN-F" power cable with Schuko plug
- Float switch
(Vertical float switch in the GM versions)

15 HOSE CONNECTOR WITH RING NUT

Ø 25 mm hose connection for TOP 1
Ø 35 mm for TOP 2-3

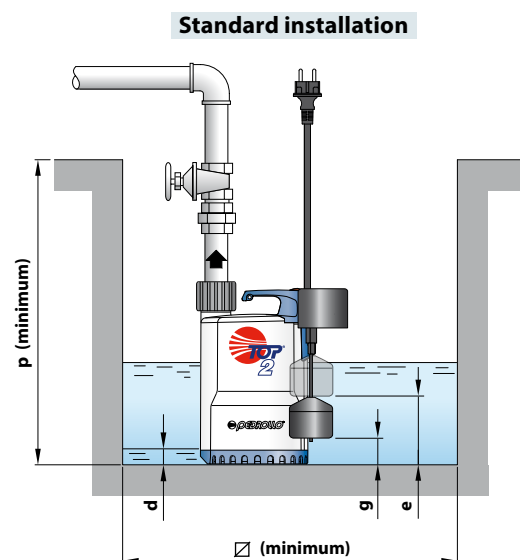
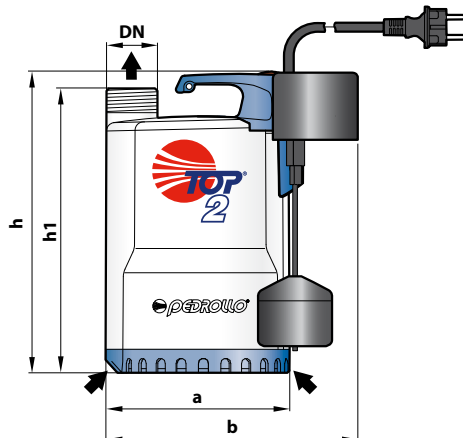


DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	p	Ø	
TOP 1	1 1/4"	152	260	240	14	variable	350	350	5.3
TOP 2									5.3
TOP 3			290	271					6.7

Version with vertical float switch



MODEL	PORT	DIMENSIONS mm									kg
Single-phase	DN	a	b	h	h1	d	e	g	p	Ø	
TOP1-GM	1 1/4"	152	200	260	241	14	140	35	350	220	5.4
TOP2-GM											5.4
TOP3-GM				290	271		170	40			6.9

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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	n. pumps	n. pumps
TOP 1	96	144
TOP 2	96	144
TOP 3	96	144

TOP 4-5

POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Technopolymer
2	SUCTION FILTER	Technopolymer
3	SUCTION PLATE	Stainless steel AISI 304
4	DIFFUSER	Technopolymer
5	IMPELLER	Noryl FE1520PW
6	MOTOR CASING	Stainless steel AISI 304
7	MOTOR CASING PLATE	Stainless steel AISI 304
8	MOTOR SHAFT	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
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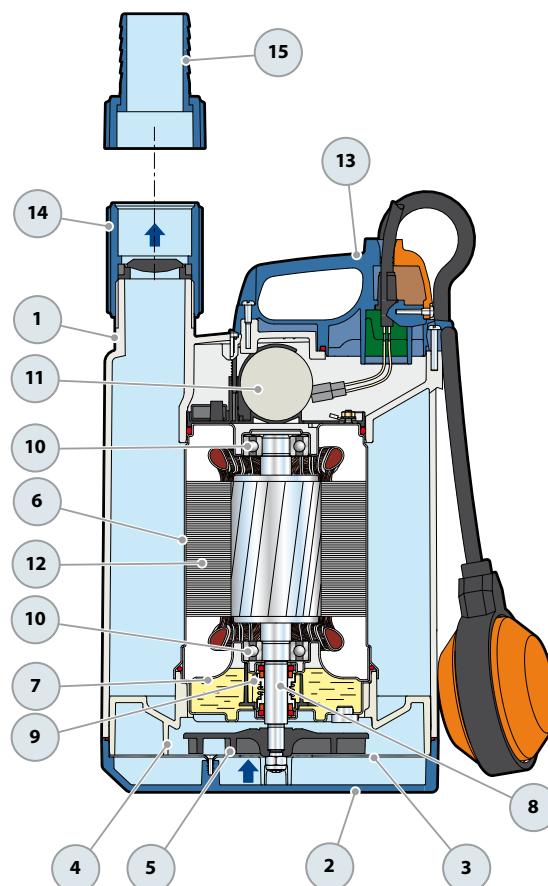
11	CAPACITOR	
Pump		Capacitance
Single-phase	(230 V or 240 V)	(110 V)
TOP 4	16 µF 450 VL	30 µF - 250 VL
TOP 5	20 µF 450 VL	30 µF - 250 VL

12	ELECTRIC MOTOR	
TOP: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. – Insulation: class F – Protection: IP X8		

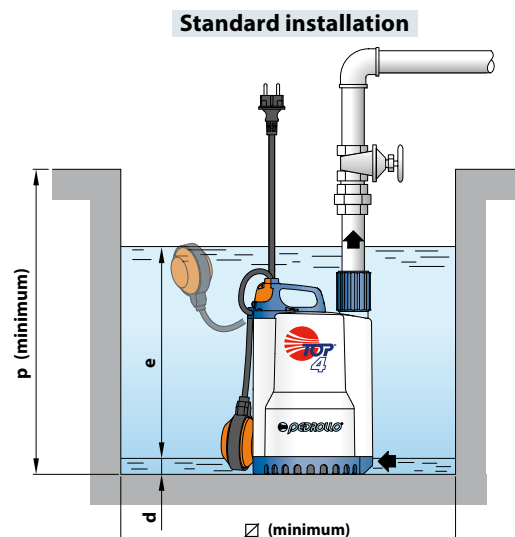
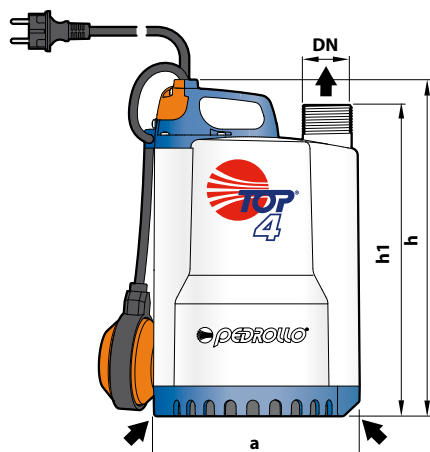
13	HANDLE ASSEMBLY (resin sealed)	
Complete with: – 10 metres long "H07 RN-F" power cable with Schuko plug – Float switch (Vertical float switch in the GM versions)		

14	PIPE COUPLING	
In technopolymer with 1½" thread and non-return valve		

15	HOSE CONNECTOR WITH RING NUT	
Hose connection Ø 41 mm		

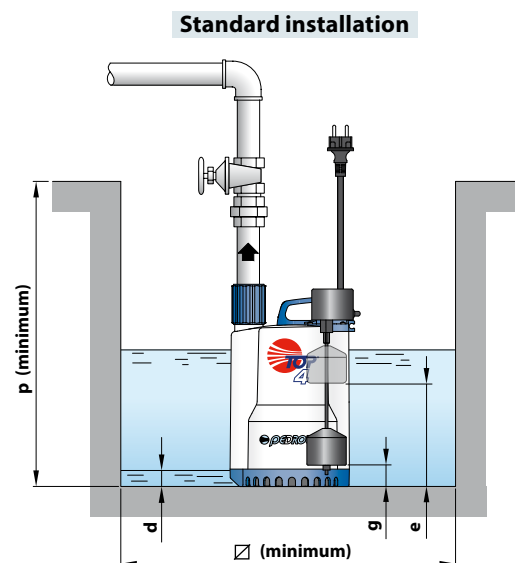
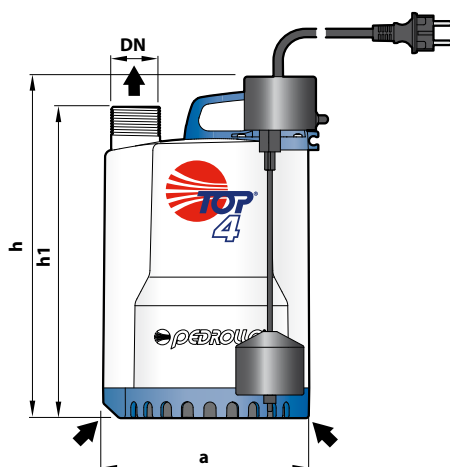


DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	p	Ø	
TOP 4	1½"	204	337	313	30	variable	450	450	10.3
TOP 5									11.3

Version with vertical float switch



MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	g	p	Ø
TOP 4 - GM	1½"	204	337	313	30	220	65	450	300
TOP 5 - GM									

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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 m³/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

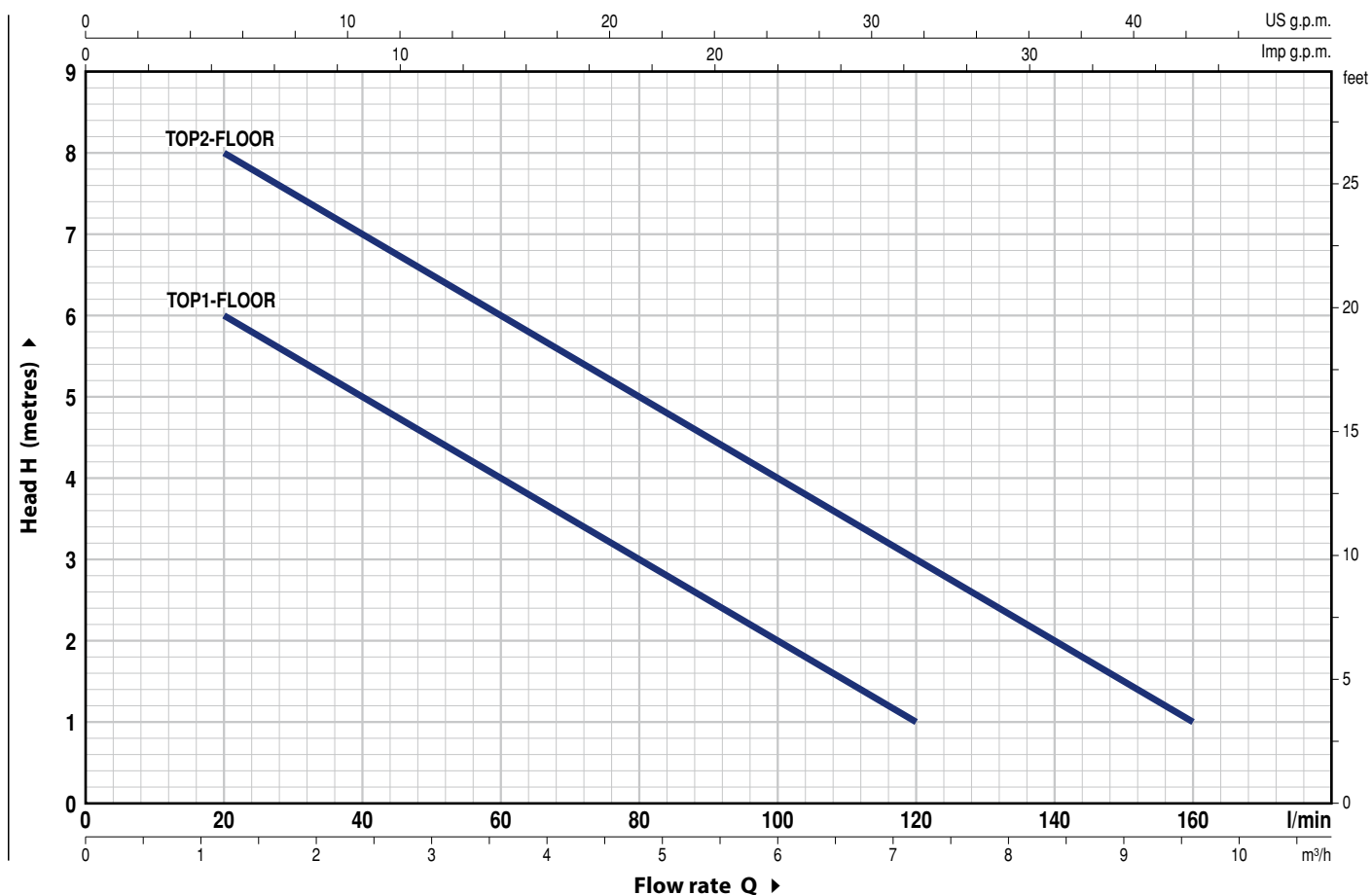
- Registered EU Design n. 342159-0011

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⁻¹



MODEL Single-phase	POWER (P ₂)		Q m ³ /h l/min	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
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

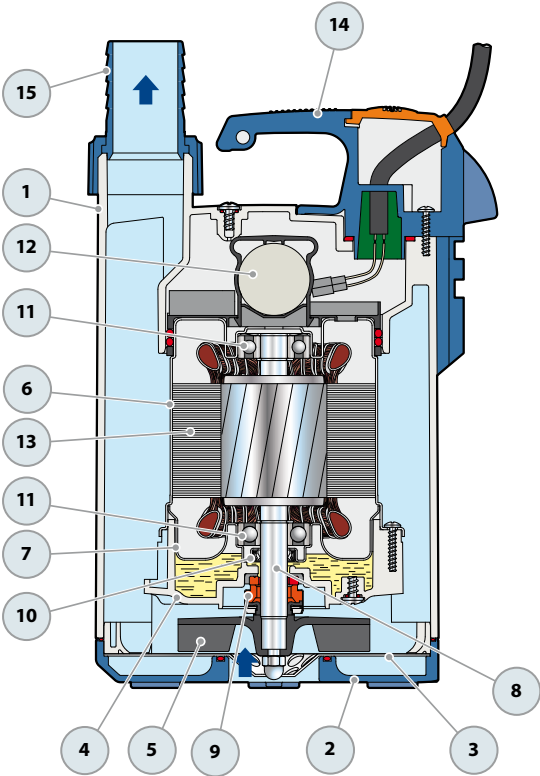
Q = Flow rate H = Total manometric head

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

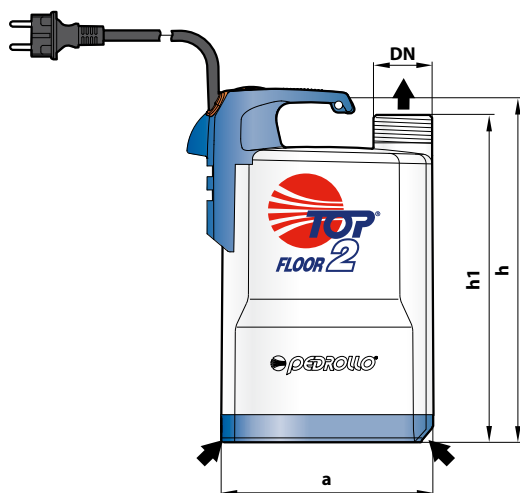
TOP-FLOOR

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Technopolymer				
2	SUCTION FILTER	Technopolymer				
3	SUCTION PLATE	Stainless steel AISI 304 (AISI 316L for LA versions)				
4	DIFFUSER	Technopolymer				
5	IMPELLER	Noryl FE1520PW				
6	MOTOR CASING	Stainless steel AISI 304 (AISI 316L for LA versions)				
7	MOTOR CASING PLATE	Stainless steel AISI 304				
8	MOTOR SHAFT	Stainless steel AISI 431 (AISI 316L for LA versions)				
9	SHAFT WITH DOUBLE SEAL AND OIL CHAMBER					
Seal		Shaft		Materials		
Model	Diameter	Stationary ring	Rotational ring	Elastomer		
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					
Pump		Capacitance				
Single-phase	(230 V or 240 V)	(110 V)				
TOP 1-FLOOR	10 µF 450 VL	16 µF - 250 VL				
TOP 2-FLOOR	10 µF 450 VL	16 µF - 250 VL				
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						

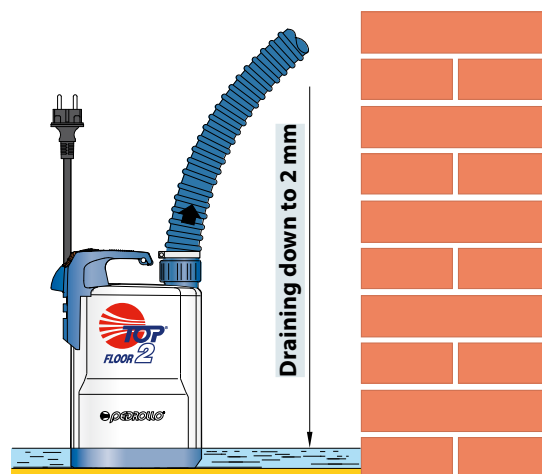
The diagram is a detailed cross-sectional view of the pump assembly. It shows the internal components from the suction side at the top to the motor and handle at the bottom. Numbered callouts identify the following parts: 1. Pump body; 2. Suction filter; 3. Suction plate; 4. Diffuser; 5. Impeller; 6. Motor casing; 7. Motor casing plate; 8. Motor shaft; 9. Shaft with double seal and oil chamber; 10. Lip seal; 11. Bearings; 12. Capacitor; 13. Electric motor; 14. Handle assembly; 15. Hose connector with ring nut. The diagram also shows the flow of water being pumped upwards, indicated by a blue arrow at the top.



DIMENSIONS AND WEIGHT



Standard installation



MODEL	PORT	DIMENSIONS mm			Minimum drying level	kg
Single-phase	DN	a	h	h1		
TOP 1-FLOOR	1 1/4"	152	257	237	2 mm	5.1
TOP 2-FLOOR						5.2

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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	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 **180 l/min** (10.8 m³/h)
- Head up to **8.5 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

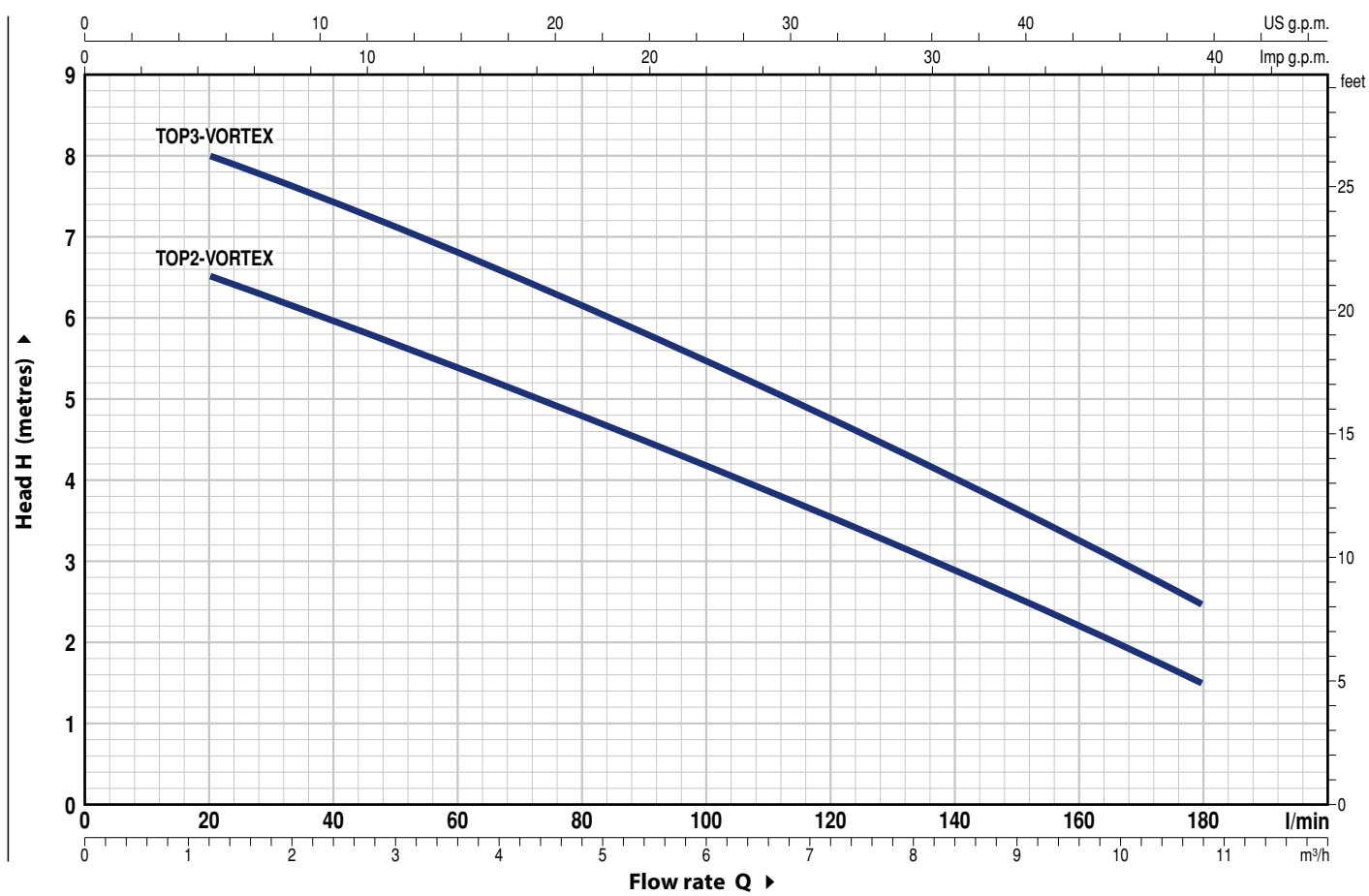
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

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⁻¹



MODEL Single-phase	POWER (P ₂)		Q m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8
	kW	HP		0	20	40	60	80	100	120	140	160	180
TOP 2 - VORTEX	0.37	0.50	H metres	7	6.5	6	5.4	4.8	4.2	3.5	2.9	2.2	1.5
TOP 3 - VORTEX	0.55	0.75		8.5	8	7.4	6.8	6.1	5.5	4.7	4	3.2	2.5

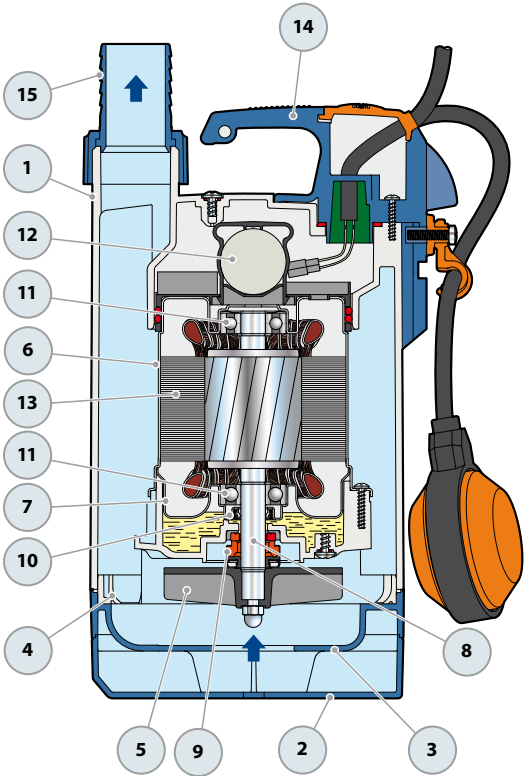
Q = Flow rate H = Total manometric head

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

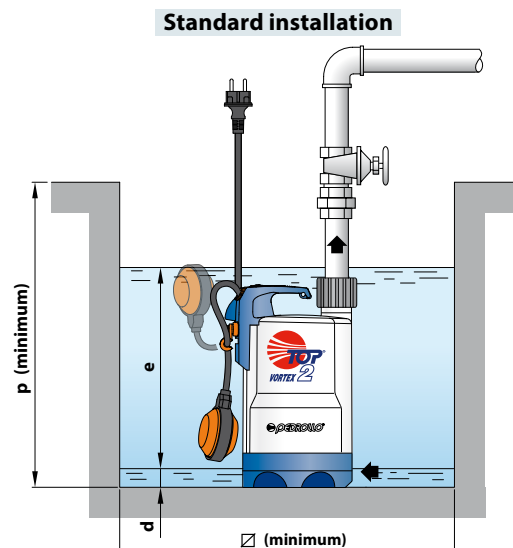
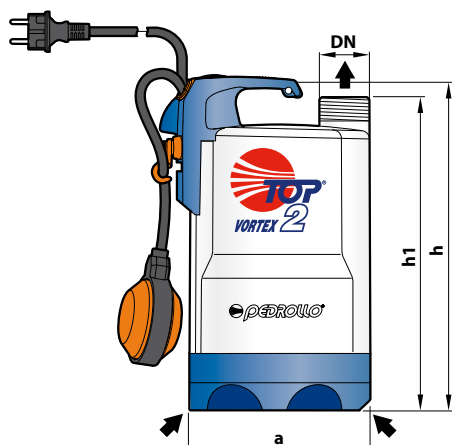
TOP-VORTEX

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Technopolymer				
2	SUCTION FILTER	Technopolymer				
3	SUCTION PLATE	Technopolymer				
4	DIFFUSER	Technopolymer				
5	IMPELLER	Technopolymer VORTEX type				
6	MOTOR CASING	Stainless steel AISI 304				
7	MOTOR CASING PLATE	Stainless steel AISI 304				
8	MOTOR SHAFT	Stainless steel AISI 431				
9	SHAFT WITH DOUBLE SEAL AND OIL CHAMBER					
Seal		Shaft		Materials		
Model	Diameter	Stationary ring	Rotational ring	Elastomer		
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					
Pump		Capacitance				
Single-phase	(230 V or 240 V)	(110 V)				
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						

The diagram is a detailed cross-sectional view of the pump assembly. It shows the internal components, including the motor, shaft, impeller, and various seals. The numbered callouts are as follows: 1. Pump body; 2. Suction filter; 3. Suction plate; 4. Diffuser; 5. Impeller; 6. Motor casing; 7. Motor casing plate; 8. Motor shaft; 9. Shaft with double seal and oil chamber; 10. Lip seal; 11. Bearings; 12. Capacitor; 13. Electric motor; 14. Handle assembly; 15. Hose connector with ring nut. The diagram also shows the flow of water into the pump and the connection of the power cable and float switch.

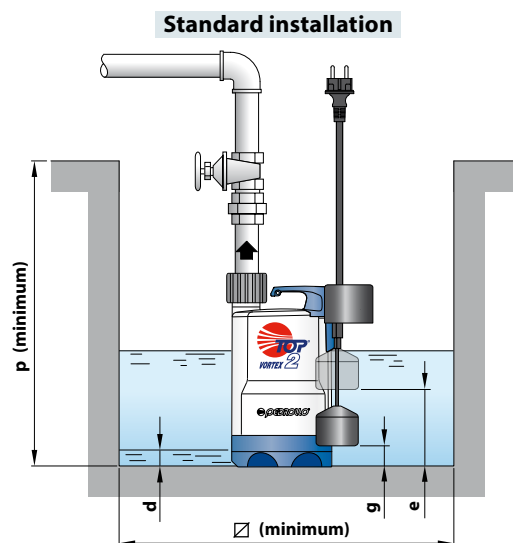
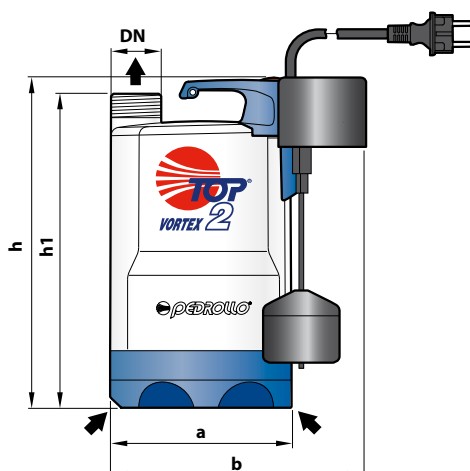


DIMENSIONS AND WEIGHT



MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	p	∅	
TOP 2 - VORTEX	1 1/4"	152	288	268	25	variable	350	350	5.3
TOP 3 - VORTEX			318	298					6.7

Version with vertical float switch



MODEL	PORT	DIMENSIONS mm									kg
Single-phase	DN	a	b	h	h1	d	e	g	p	∅	
TOP 2 - VORTEX/GM	1 1/4"	152	200	288	268	25	170	40	350	220	5.4
TOP 3 - VORTEX/GM				318	298		200	65			6.9

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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
Single-phase	n. pumps	n. pumps
TOP 2 - VORTEX	96	120
TOP 3 - VORTEX	96	120



PERFORMANCE RANGE

- Flow rate up to **240 l/min** (14.4 m³/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

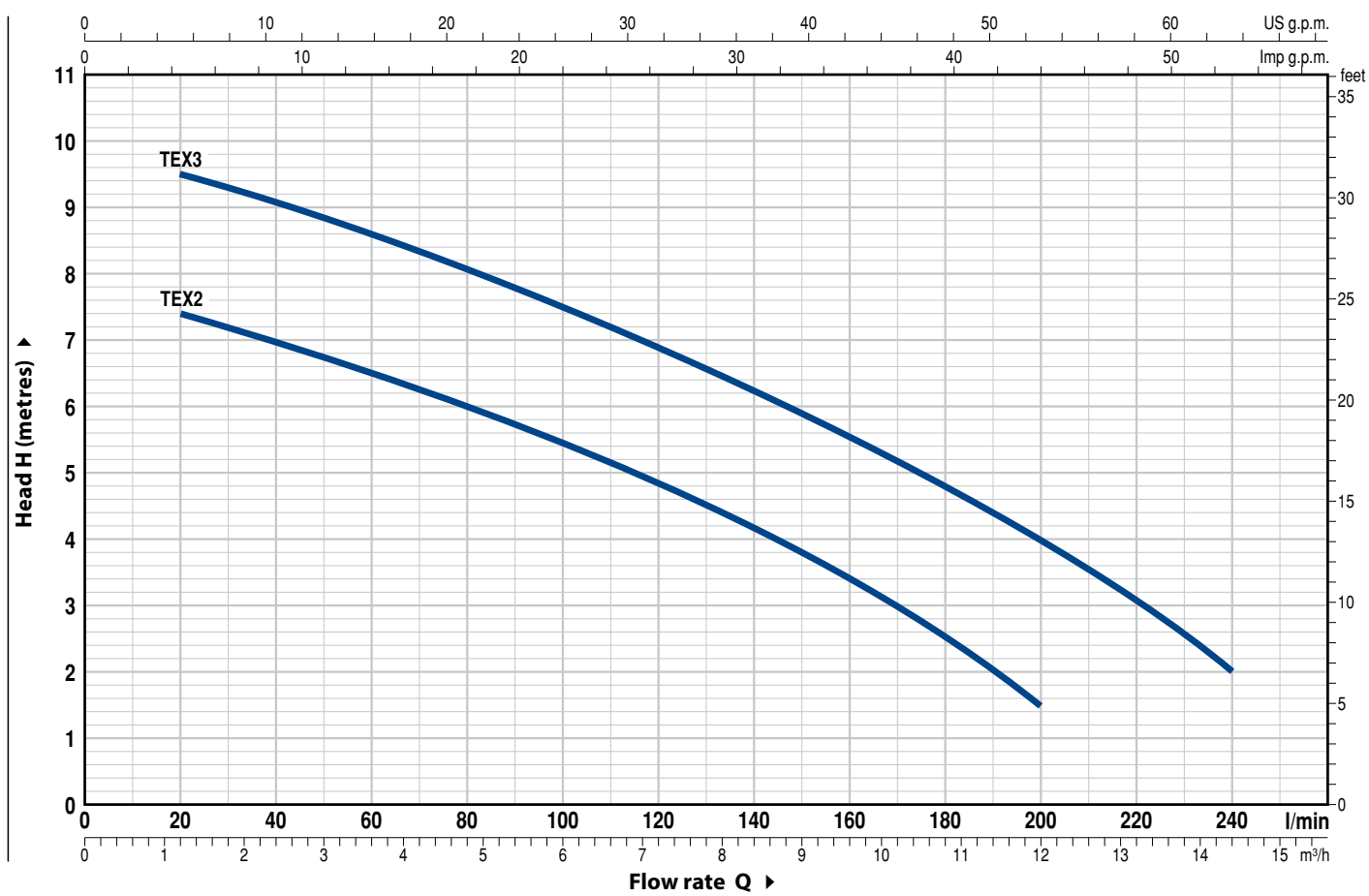
- Registered EU Design n. 005205556
- **TEX[®]** Registered Trade Mark n. 017884160

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⁻¹



MODEL Single-phase	POWER (P ₂)		Q m³/h l/min	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	14.4
	kW	HP		0	20	40	60	80	100	120	140	160	180	200	240
TEX 2	0.37	0.50	H metres	8	7.5	7	6.5	6	5.5	4.8	4.2	3.4	2.5	1.5	
TEX 3	0.55	0.75		10	9.5	9	8.5	8	7.5	6.8	6.2	5.5	4.8	3.9	2

Q = Flow rate H = Total manometric head

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

SELECTOR FOR AUTOMATIC OR MANUAL OPERATION

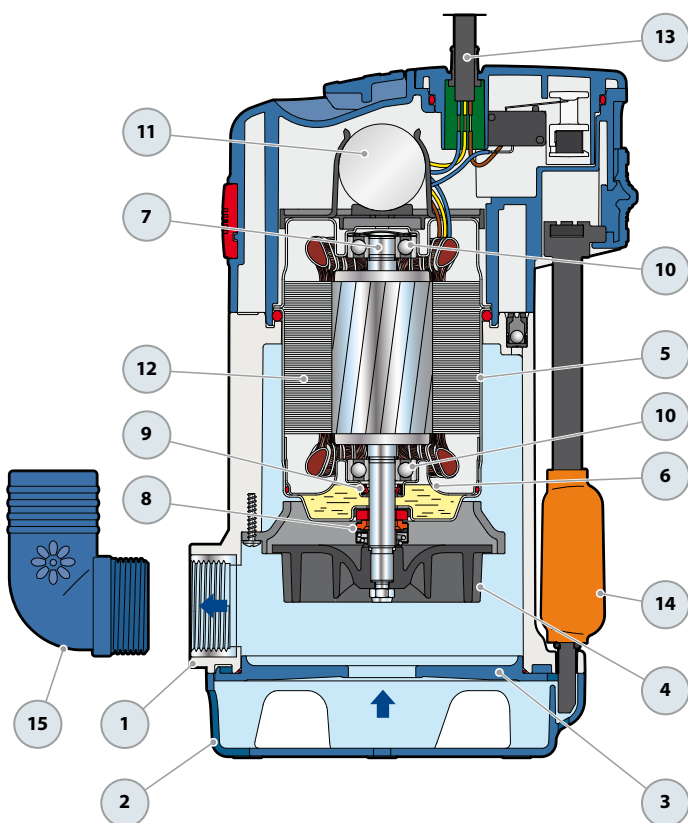


POS. COMPONENT

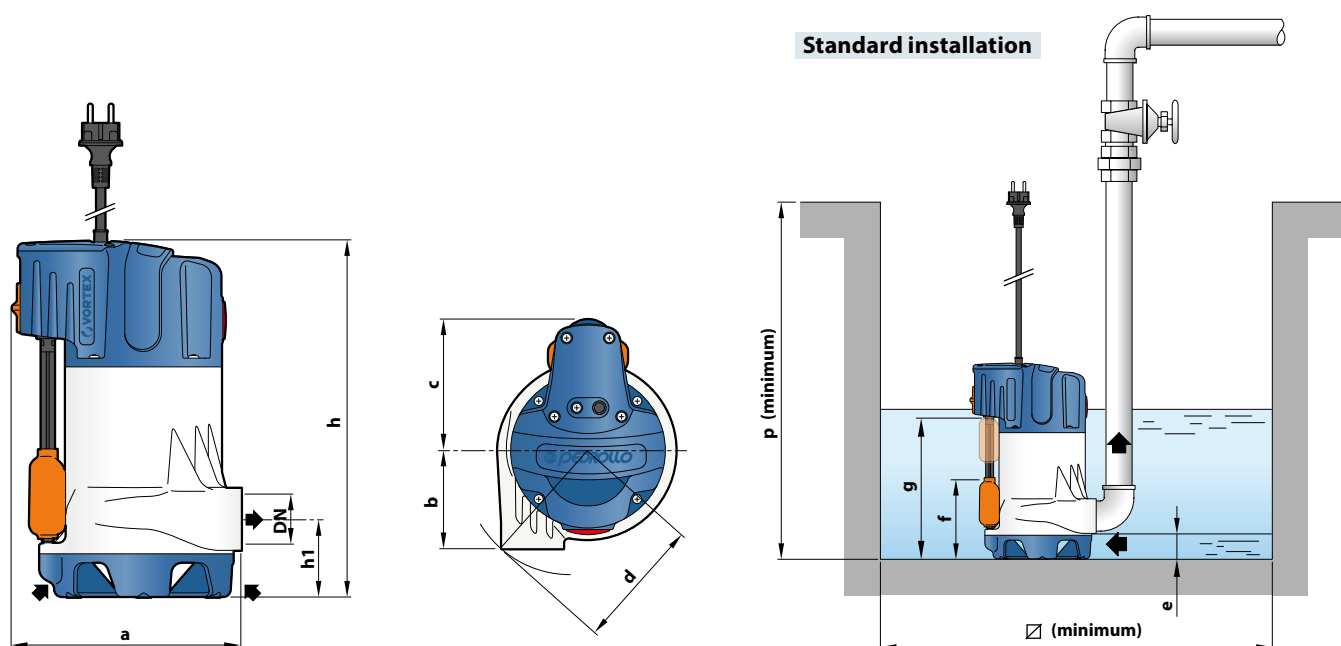
CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1			
2	SUCTION FILTER	Technopolymer			
3	SUCTION PLATE	Technopolymer			
4	IMPELLER	Glass fibre reinforced technopolymer VORTEX type impeller			
5	MOTOR CASING	Stainless steel AISI 304			
6	MOTOR CASING PLATE	Stainless steel AISI 304			
7	MOTOR SHAFT	Stainless steel AISI 431			
8	SHAFT WITH DOUBLE SEAL AND OIL CHAMBER				
	Seal	Shaft	Materials		
	Model	Diameter	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)			
	TEX 2	10 µF 450 VL			
	TEX 3	12.5 µF 450 VL			
12	ELECTRIC MOTOR				
	TEX: 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" type with Schuko plug				
	Standard length 5 metres				
14	LEVEL FLOAT SWITCH				
	Liquid level vertical sliding magnetic float switch (adjustable)				
15	HOSE CONNECTION				
	Ø 40 mm				

The diagram is a detailed cross-sectional view of a pump assembly. It shows the internal components, including the motor, shaft, impeller, and various seals. The assembly is housed in a blue-colored casing. Numbered callouts (1-15) point to specific parts: 1. Pump body, 2. Suction filter, 3. Suction plate, 4. Impeller, 5. Motor casing, 6. Motor casing plate, 7. Motor shaft, 8. Shaft with double seal and oil chamber, 9. Lip seal, 10. Bearings, 11. Capacitor, 12. Electric motor, 13. Power cable, 14. Level float switch, and 15. Hose connection. The diagram also shows the internal wiring and the connection points for the power cable and the level float switch.



DIMENSIONS AND WEIGHT



MODEL	PORT	Passage	DIMENSIONS mm											kg
Single-phase	DN	of solids	a	b	c	d	h1	h	e	f	g	p	□	1~
TEX 2	1 1/4"	Ø 30 mm	205	88	117	118	69.5	318	35	110 or 130	220	350	220	6.1
TEX 3														6.8

ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
TEX 2	2.3 A	2.2 A
TEX 3	3.3 A	3.2 A

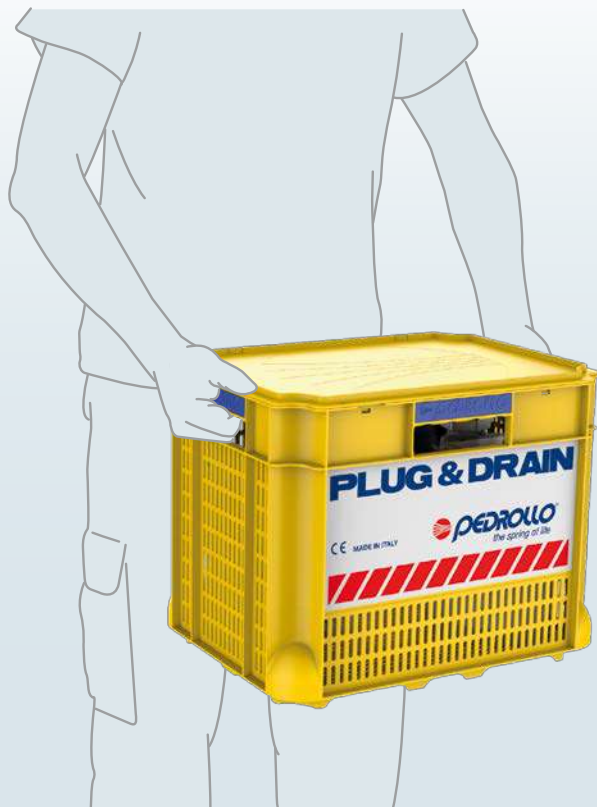
PALLETIZATION

MODEL	GROUPAGE
Single-phase	n. pumps
TEX 2	60
TEX 3	60

PLUG & DRAIN

Emergency KIT for emptying or preventing floods

 Domestic use



PLUG & DRAIN is the indispensable and practical emergency kit for tackling flooding in garages, cellars and basements with efficacy and speed.

Thanks to the versatile drainage pump and the 15 metres long PVC hose it is possible to swiftly drain the flooded area, if necessary using the plastic crate as a filter.

With **PLUG & DRAIN** you can completely drain the area affected by flooding: the pump can in fact suck up water down to a level of only 2 mm from the bottom.

With **PLUG & DRAIN** you have everything you require ready for use:

- pump with a ready-fitted connector, a 10 metres long power cable with Schuko plug and an external float switch;
- PVC hose with a rapid connector;
- Crate-filter to prevent possible bulky residues blocking water drainage.

TYPICAL USE

In the case of flooded premises place **PLUG & DRAIN** on the floor, attach the flat hose to the pump by means of the rapid connector, plug into the electricity network and empty the water through the hose. The plastic crate will act as a filter, making it possible to drain down to a level of about 2 cm from the bottom.

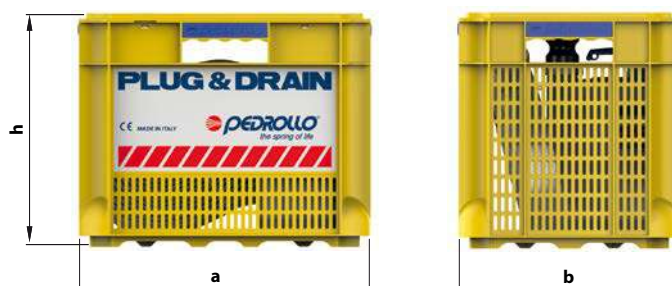
In order to drain the residual water disconnect the pump from the crate and place it on the floor. The pump will be able to drain down to a level of only 2 mm from the bottom.

PLUG & DRAIN also has the advantage that it can be stored on a shelf so as to have everything necessary in order and ready for use.

DIMENSIONS AND WEIGHTS

MODEL	DIMENSIONS mm			kg*
	a	b	h	
PLUG & DRAIN	400	300	320	10.7

(* Overall weight: pump, hose, connectors and crate)





COMPONENTS

SUBMERSIBLE TOP2-FLOOR PUMP

- Single-phase **230 V - 50 Hz**
- Thermal overload protector incorporated in the winding
- **10 metres** power cable fitted with Schuko plug
- External float switch
- "FASTFIT 1.25" rapid connection
- Performance:
 - **H max= 9 m**
 - **Q max= 160 l/min**
- Emptying level down to **2 mm** from the bottom



PVC HOSE

- "FASTFIT 1.25" rapid connection
- Length of tube **15 m**
- Diameter of tube **1 1/4"**



CRATE-FILTER

- Complete with a system for fixing the pump for a stable operation and an easy detachment for use of the pump without the crate-filter
- Complete with a lid so as to put away **PLUG & DRAIN** in order and have it always ready for use



Submersible DRAINAGE pumps

-  Clear water
-  Domestic use
-  Civil use



PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m³/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

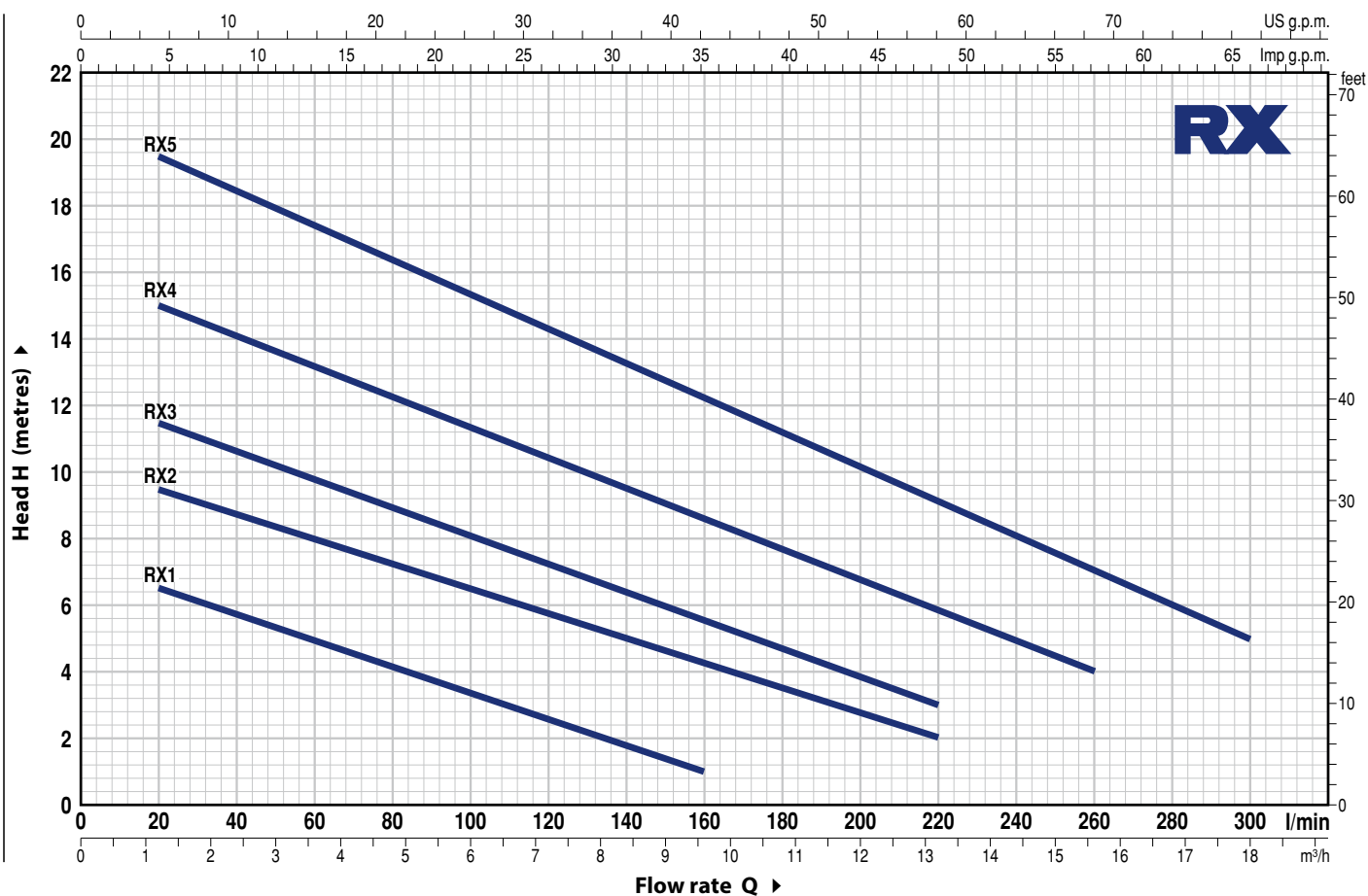
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹



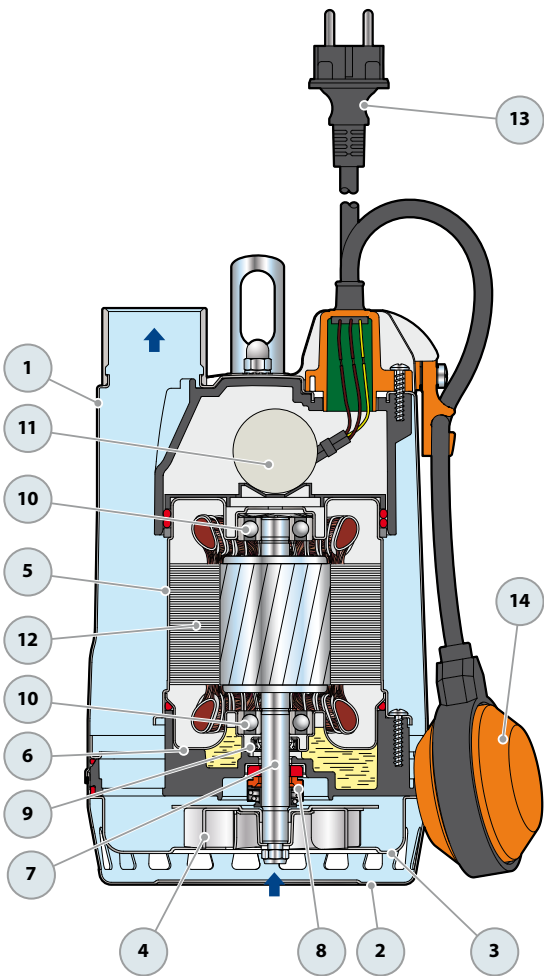
MODEL		POWER (P ₂)		Q	0	1.2	3.6	6.0	8.4	9.6	12.0	13.2	15.6	18.0
Single-phase	Three-phase	kW	HP		0	20	60	100	140	160	200	220	260	300
RXm 1	RX 1	0.25	0.33	H metres	7.5	6.5	5	3.5	2	1				
RXm 2	RX 2	0.37	0.50		10	9.5	8	6.5	5	4.5	2.5	2		
RXm 3	RX 3	0.55	0.75		12	11.5	9.5	8	6.5	5.5	3.5	3		
RXm 4	RX 4	0.75	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

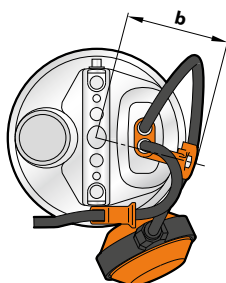
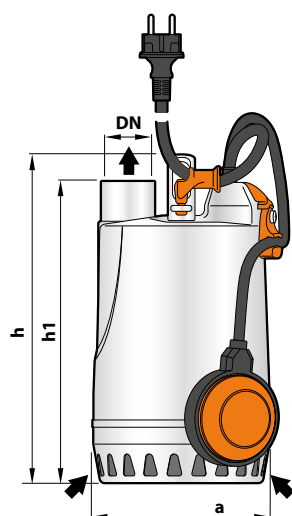
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

RX 1-2-3

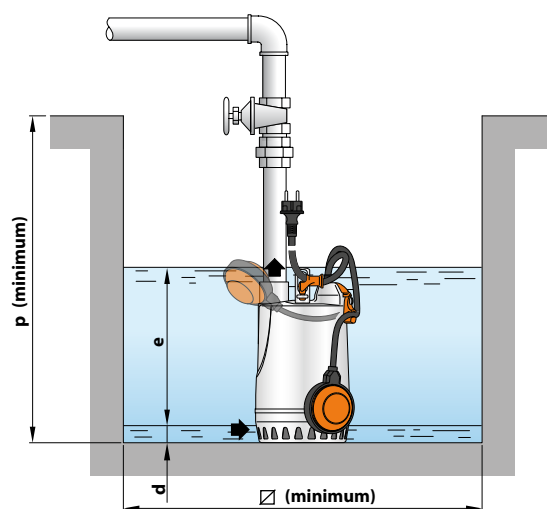
POS. COMPONENT		CONSTRUCTION CHARACTERISTICS
1	PUMP BODY	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	SUCTION FILTER	Stainless steel AISI 304
3	DIFFUSER	Stainless steel AISI 304
4	IMPELLER	Stainless steel AISI 304
5	MOTOR CASING	Stainless steel AISI 304
6	MOTOR CASING PLATE	Stainless steel AISI 304
7	MOTOR SHAFT	Stainless steel AISI 431
8 SHAFT WITH DOUBLE SEAL AND OIL CHAMBER		
<i>Seal</i>		<i>Shaft</i>
<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>
STA-12R	Ø 12 mm	Ceramic
		<i>Materials</i>
		<i>Rotational ring</i>
		<i>Elastomer</i>
		Graphite
		NBR
9	LIP SEAL	Ø 12 x Ø 19 x H 5 mm
10	BEARINGS	6201 ZZ / 6201 ZZ
11	CAPACITOR	
<i>Pump</i>		<i>Capacitance</i>
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
RXm 1	10 µF 450 VL	16 µF - 250 VL
RXm 2	10 µF 450 VL	16 µF - 250 VL
RXm 3	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

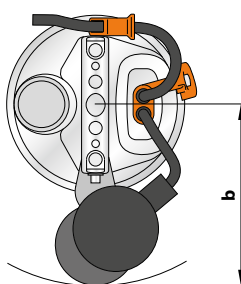
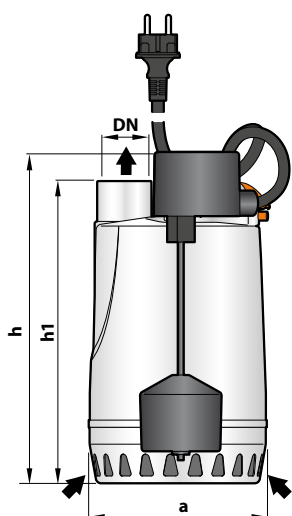


Standard installation

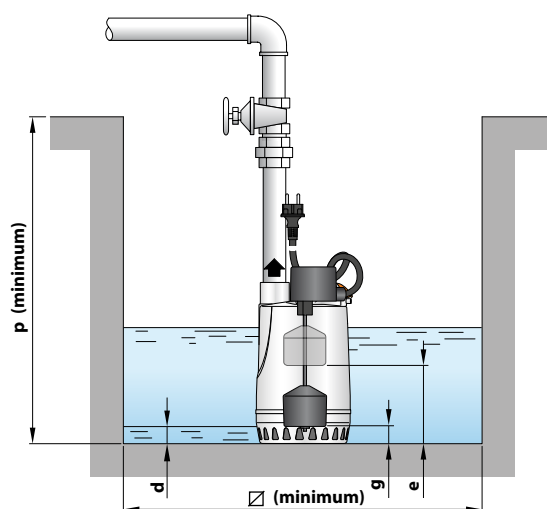


MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	Ø	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1	RX 1	1¼"	147	24	269	246	14	variable	350	350	6.1	5.5	96	144
RXm 2	RX 2										6.1	5.6	96	144
RXm 3	RX 3				298	277					7.6	7.0	96	144

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	1¼"	147	150	270	247	14	145	40	350	240	6.2	80	120
RXm 2-GM											6.2	80	120
RXm 3-GM											7.5	80	120

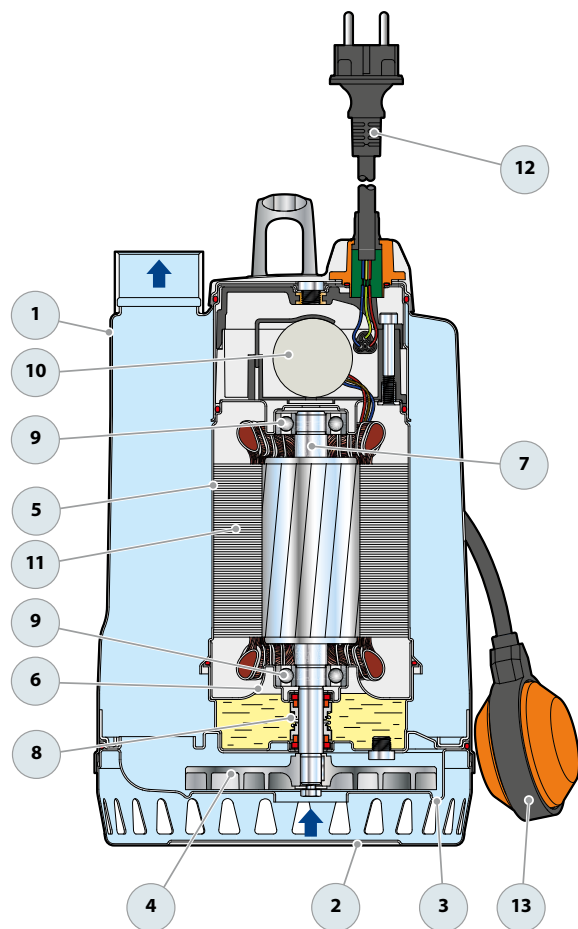
ABSORPTION

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

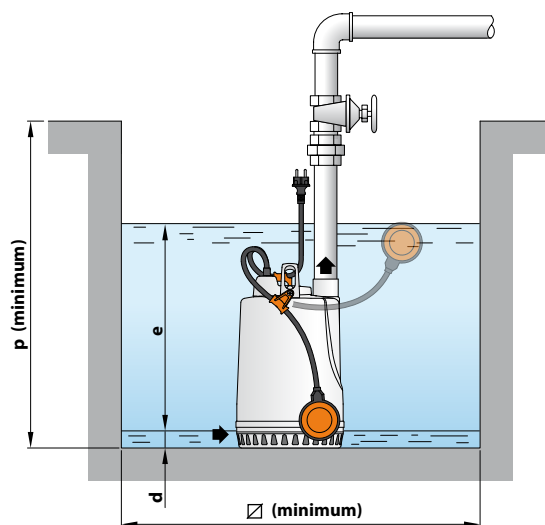
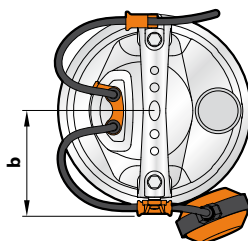
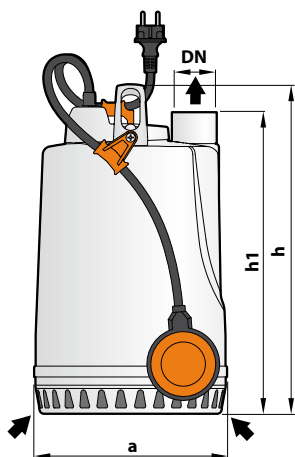
RX 4-5

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS					
1	PUMP BODY	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1					
2	SUCTION FILTER	Stainless steel AISI 304					
3	DIFFUSER	Stainless steel AISI 304					
4	IMPELLER	Stainless steel AISI 304					
5	MOTOR CASING	Stainless steel AISI 304					
6	MOTOR CASING PLATE	Stainless steel AISI 304					
7	MOTOR SHAFT	Stainless steel AISI 431					
8	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER						
<i>Seal</i>		<i>Shaft</i>	<i>Position</i>	<i>Materials</i>			
<i>Model</i>		<i>Diameter</i>		<i>Stationary ring</i>	<i>Rotational ring</i>		
MG1-14D SIC		Ø 14 mm	Motor side	Silicon carbide	Graphite		
			Pump side	Silicon carbide	Silicon carbide		
					<i>Elastomer</i>		
					NBR		
					NBR		
9	BEARINGS	6203 ZZ-C3E / 6203 ZZ-C3E					
10	CAPACITOR						
<i>Pump</i>		<i>Capacitance</i>					
<i>Single-phase</i>		(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

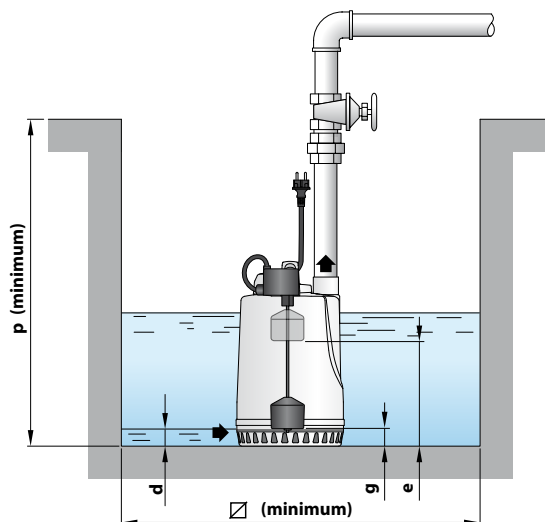
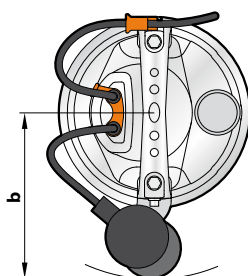
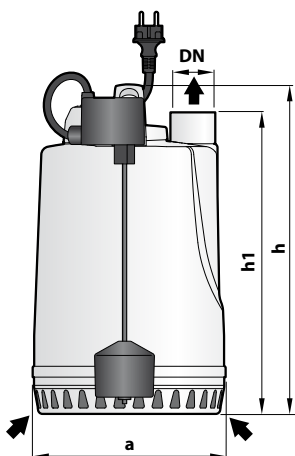


MODEL		PORT	DIMENSIONS mm								kg	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	□	1~	3~
RXm 4	RX 4	1½"	220	118.5	370	336	25	variable	500	500	14.4	13.3
RXm 5	RX 5										15.4	14.4

PALLETIZATION	
GROUPAGE n. pumps	CONTAINER n. pumps
45	60
45	60

Version with vertical float switch

Standard installation



MODEL	PORT	DIMENSIONS mm								kg
Single-phase	DN	a	b	h	h1	d	e	g	p	□
RXm 4 - GM	1½"	220	186.5	370	336	25	250	50	500	300
RXm 5 - GM										

PALLETIZATION	
GROUPAGE n. pumps	CONTAINER n. pumps
45	60
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 m³/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

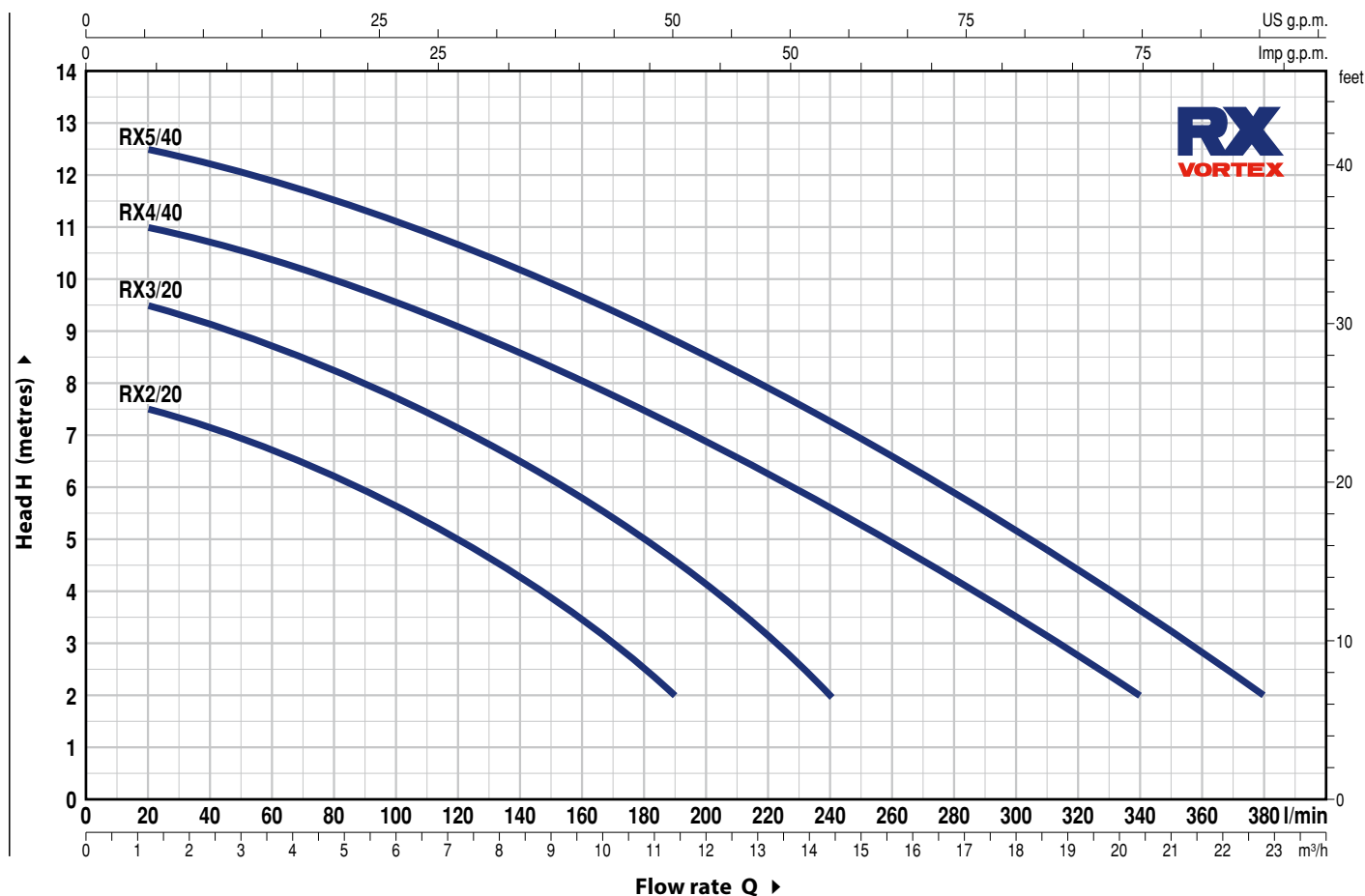
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹

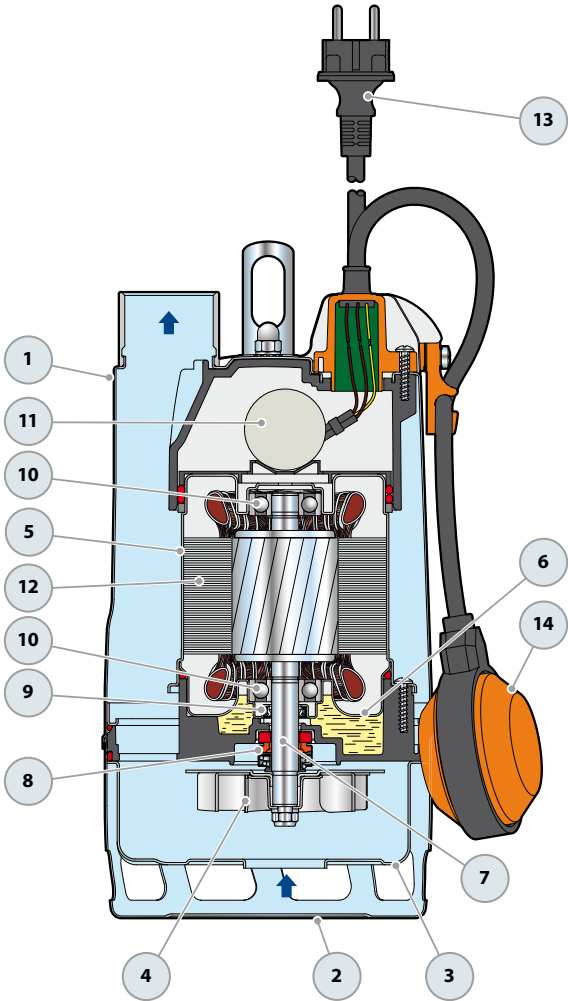


MODEL		POWER (P ₂)		Q m³/h l/min	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	11.4	13.2	14.4	20.4	22.8
Single-phase	Three-phase	kW	HP		0	20	40	60	80	100	120	140	160	190	220	240	340	380
RXm 2/20	RX 2/20	0.37	0.50	H metres	8	7.5	7.1	6.7	6.2	5.7	5	4.3	3.4	2				
RXm 3/20	RX 3/20	0.55	0.75		10	9.5	9.1	8.7	8.2	7.7	7.1	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

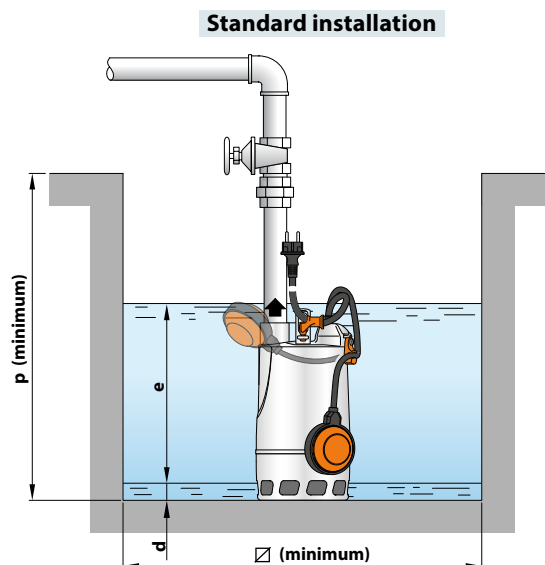
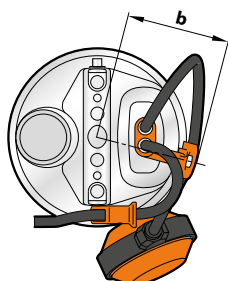
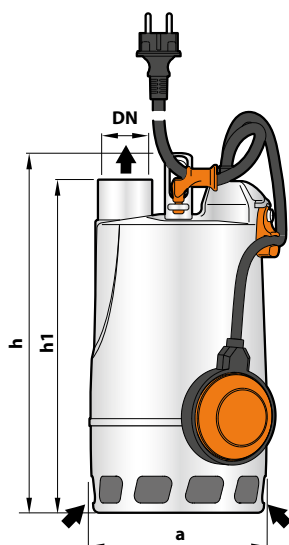
Q = Flow rate H = Total manometric head

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

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1				
2	SUCTION FILTER	Stainless steel AISI 304				
3	DIFFUSER	Stainless steel AISI 304				
4	IMPELLER	Stainless steel AISI 304 VORTEX type				
5	MOTOR CASING	Stainless steel AISI 304				
6	MOTOR CASING PLATE	Stainless steel AISI 304				
7	MOTOR SHAFT	Stainless steel AISI 431				
8	SHAFT WITH DOUBLE SEAL AND OIL CHAMBER					
		Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	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	Capacitance			
		Single-phase	(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)						

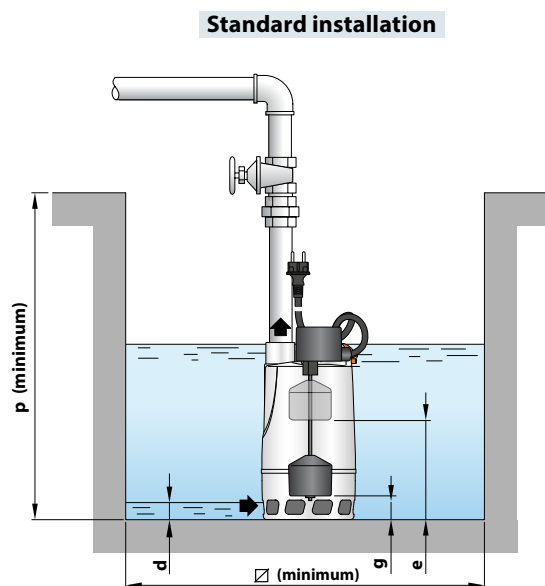
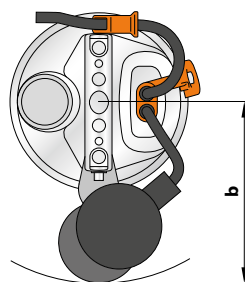
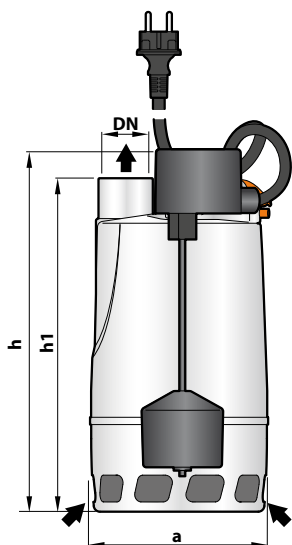


DIMENSIONS AND WEIGHT



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					7.3	7.0	96	144

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 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			7.9	96	144

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. COMPONENTCONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1
2	SUCTION FILTER	Stainless steel AISI 304
3	DIFFUSER	Stainless steel AISI 304
4	IMPELLER	Stainless steel AISI 304 VORTEX type
5	MOTOR CASING	Stainless steel AISI 304
6	MOTOR CASING PLATE	Stainless steel AISI 304
7	MOTOR SHAFT	Stainless steel AISI 431

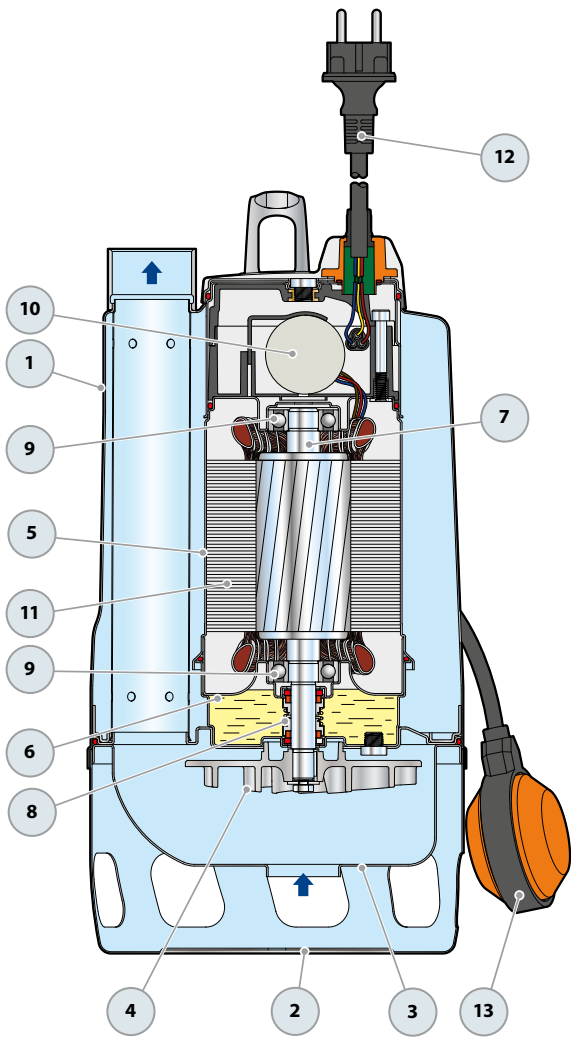
8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER					
Seal Model	Shaft Diameter	Position	Materials		
			Stationary ring	Rotational ring	Elastomer
MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

9	BEARINGS	6203 ZZ-C3E / 6203 ZZ-C3E
CAPACITOR		
10	Pump	Capacitance
	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	

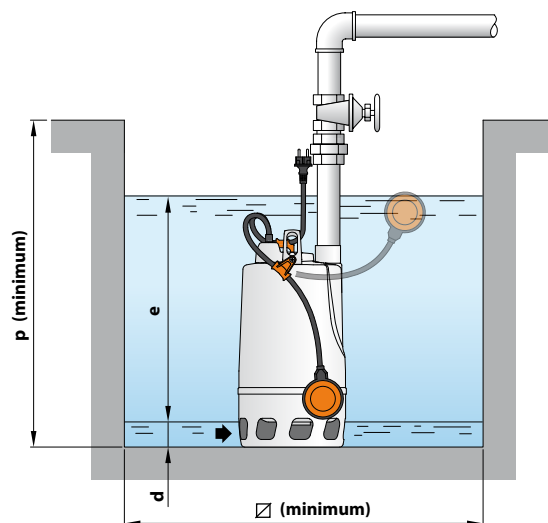
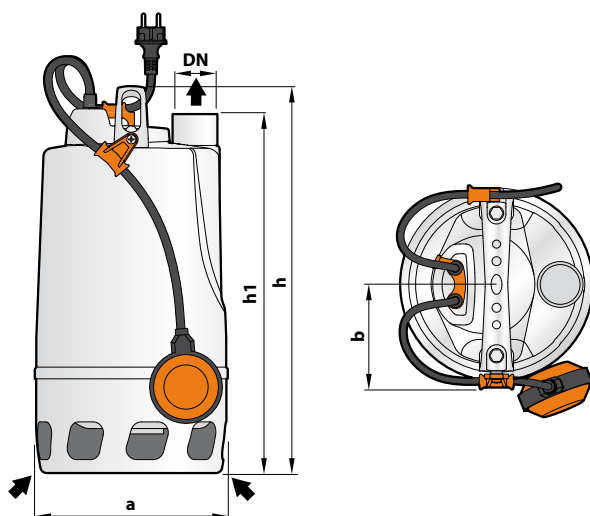
12	POWER CABLE
"H07 RN-F" type	
(with Schuko plug for single-phase versions only)	
Standard length 10 metres	

13	FLOAT SWITCH
Only for single-phase versions	
(Vertical float switch in the GM versions).	



DIMENSIONS AND WEIGHT

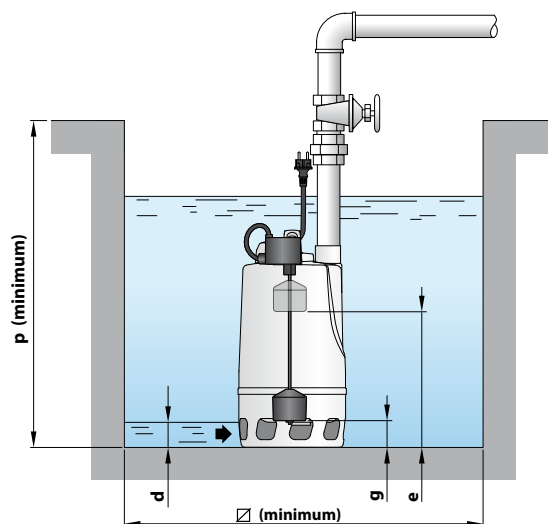
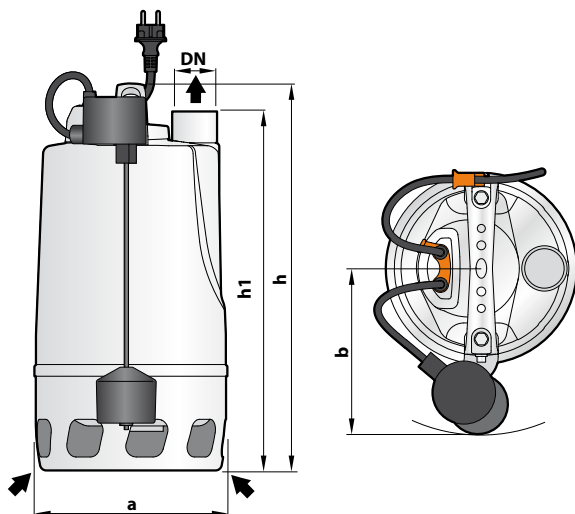
Standard installation



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 **650 l/min** (39 m³/h)
- Head up to **15 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:
 - **280 mm** for VX /35-ST
 - **300 mm** for VX /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

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

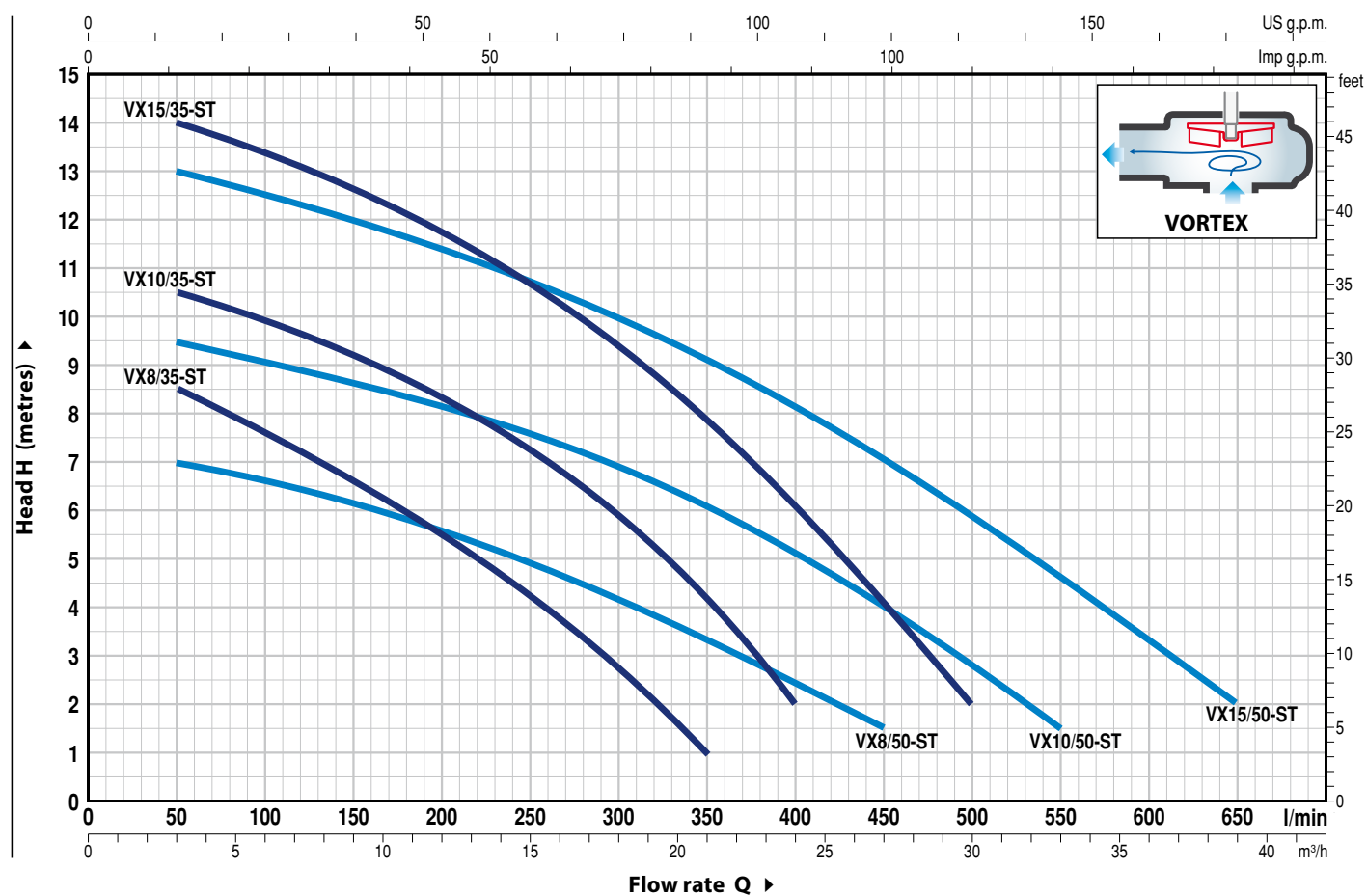
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹



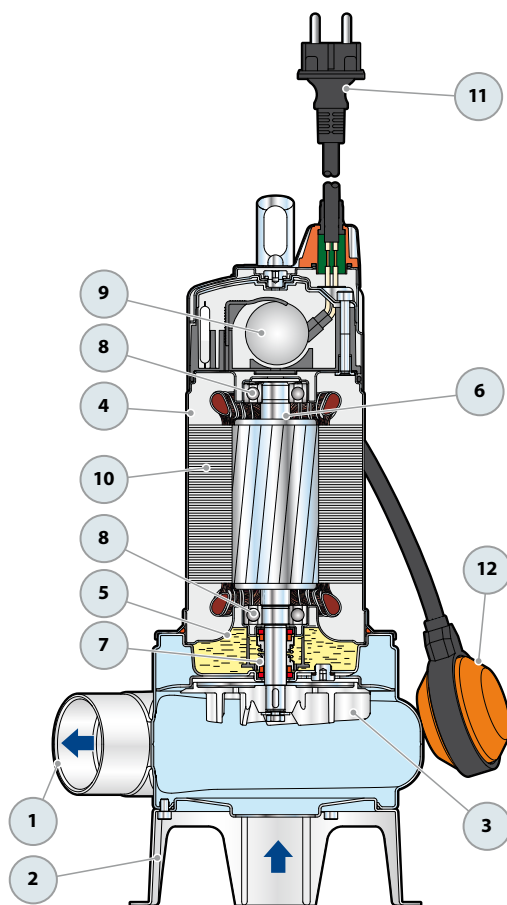
MODEL		POWER (P ₂)		Q														
Single-phase	Three-phase	kW	HP		m³/h	0	3	6	12	18	21	24	27	30	33	36	39	
					l/min	0	50	100	200	300	350	400	450	500	550	600	650	
VXm 8/35 -ST	VX 8/35 -ST	0.55	0.75	H metres		9.5	8.5	7.5	5.4	2.7	1							
VXm 10/35-ST	VX 10/35-ST	0.75	1			11.5	10.5	10	8.3	6	4	2						
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 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	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	4.7	3.3	2	

Q = Flow rate H = Total manometric head

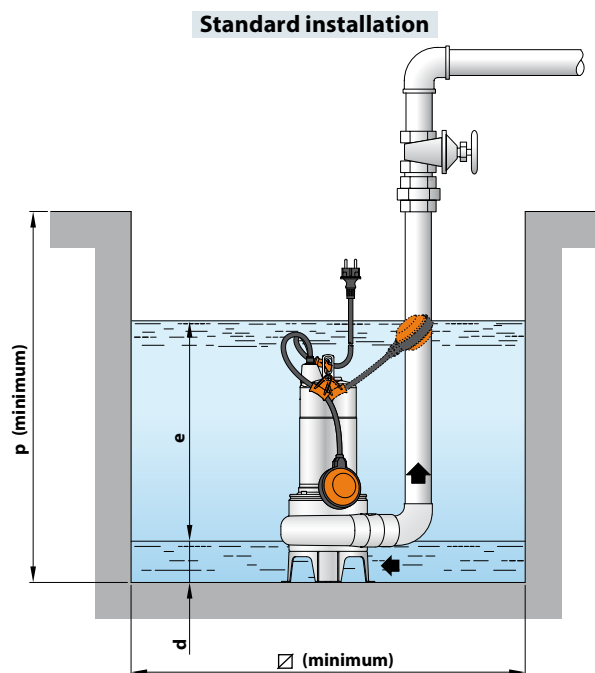
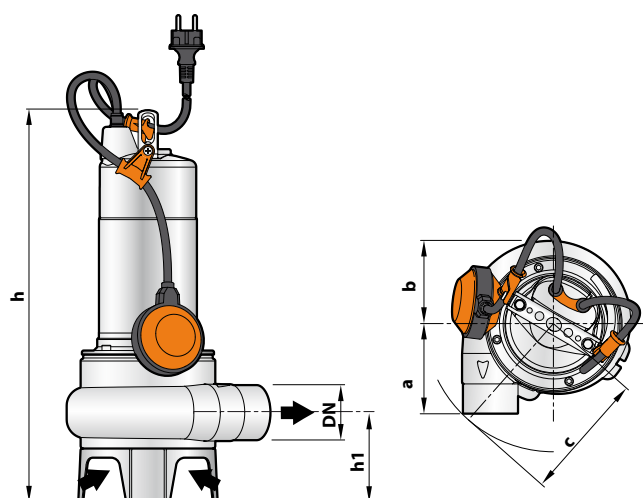
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1				
2	BASE	Stainless steel AISI 304				
3	IMPELLER	Stainless steel AISI 304 VORTEX type				
4	MOTOR CASING	Stainless steel AISI 304				
5	MOTOR CASING PLATE	Stainless steel AISI 304				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER					
	Seal	Shaft	Position	Materials		
	Model	Diameter		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)			
	VXm 8/35 -ST	20 µF 450 VL	30 µF - 250 VL			
	VXm 8/50 -ST					
	VXm 10/35-ST					
	VXm 10/50-ST					
	VXm 15/35-ST	25 µF 450 VL	–			
	VXm 15/50-ST					
10	ELECTRIC 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					
	"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	□	1~	3~
VXm 8/35 -ST	VX 8/35 -ST	1½"	Ø 40 mm	95	95	140	406	87	50	variable	500	500	10.6	10.6
VXm 10/35 -ST	VX 10/35 -ST						421						11.6	10.7
VXm 15/35 -ST	VX 15/35 -ST						421						13.0	11.9
VXm 8/50 -ST	VX 8/50 -ST	2"	Ø 50 mm	102	95	140	432	102	60	variable	500	500	11.0	10.8
VXm 10/50 -ST	VX 10/50 -ST						447						11.0	10.8
VXm 15/50 -ST	VX 15/50 -ST						447						13.1	12.1

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
VXm 8/35 -ST	3.5 A	3.4 A	7.0 A
VXm 10/35 -ST	4.8 A	4.8 A	9.6 A
VXm 15/35 -ST	7.4 A	7.1 A	-
VXm 8/50 -ST	3.7 A	3.7 A	7.4 A
VXm 10/50 -ST	5.0 A	4.8 A	11.0 A
VXm 15/50 -ST	7.1 A	7.0 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase				
VX 8/35 -ST	2.9 A	1.7 A	2.8 A	1.6 A
VX 10/35 -ST	3.5 A	2.0 A	3.3 A	1.9 A
VX 15/35 -ST	5.2 A	3.0 A	5.0 A	2.9 A
VX 8/50 -ST	3.1 A	1.8 A	2.9 A	1.7 A
VX 10/50 -ST	3.6 A	2.1 A	3.5 A	2.0 A
VX 15/50 -ST	5.2 A	3.0 A	5.0 A	2.9 A

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
VXm 8/35 -ST	VX 8/35 -ST	60	80
VXm 10/35 -ST	VX 10/35 -ST	60	80
VXm 15/35 -ST	VX 15/35 -ST	54	72
VXm 8/50 -ST	VX 8/50 -ST	54	72
VXm 10/50 -ST	VX 10/50 -ST	54	72
VXm 15/50 -ST	VX 15/50 -ST	54	72

Submersible pumps in stainless steel

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m³/h)
- Head up to **15 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: **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

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

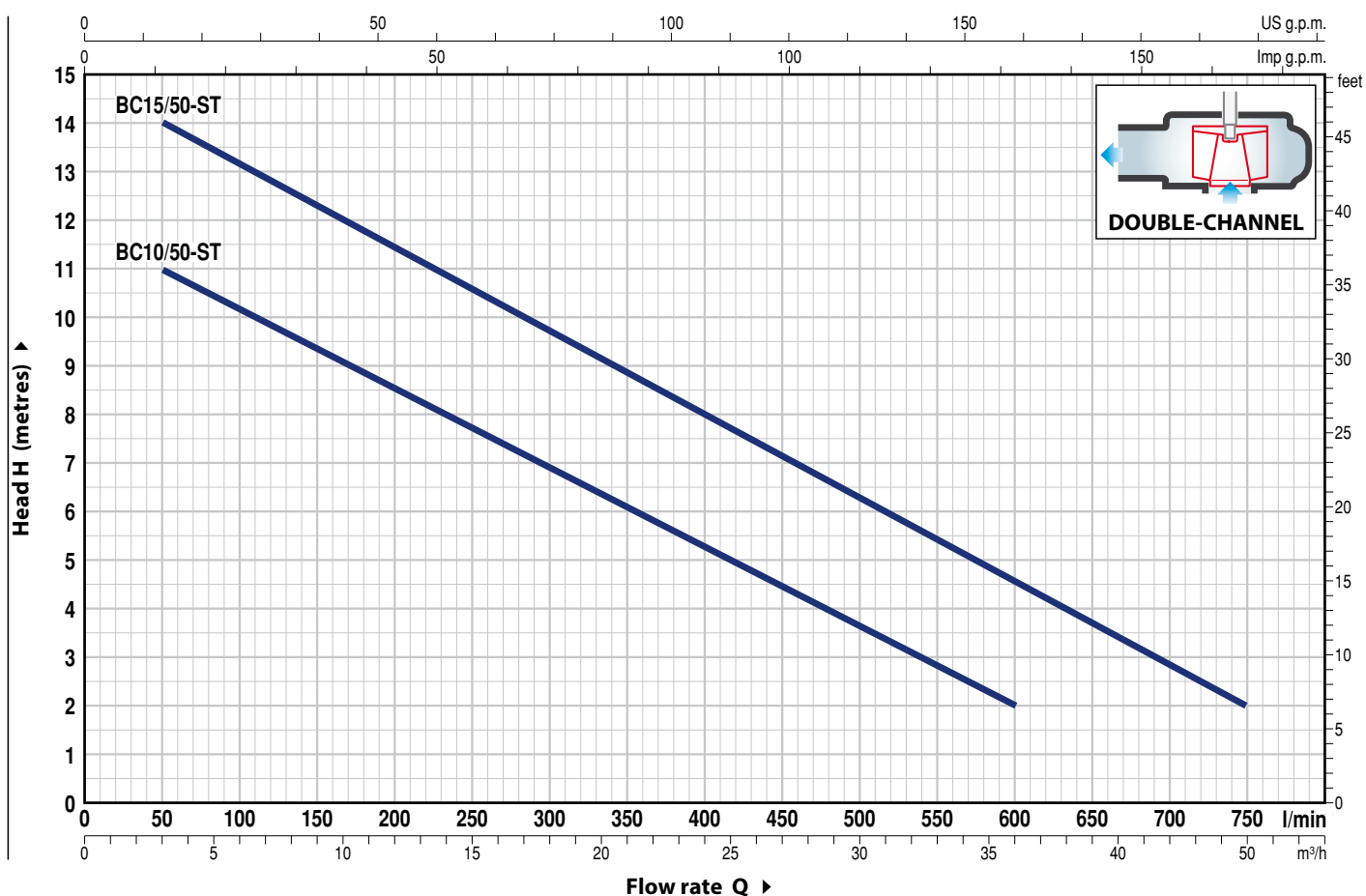
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹



MODEL		POWER (P ₂)		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
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

Q = Flow rate H = Total manometric head

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

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

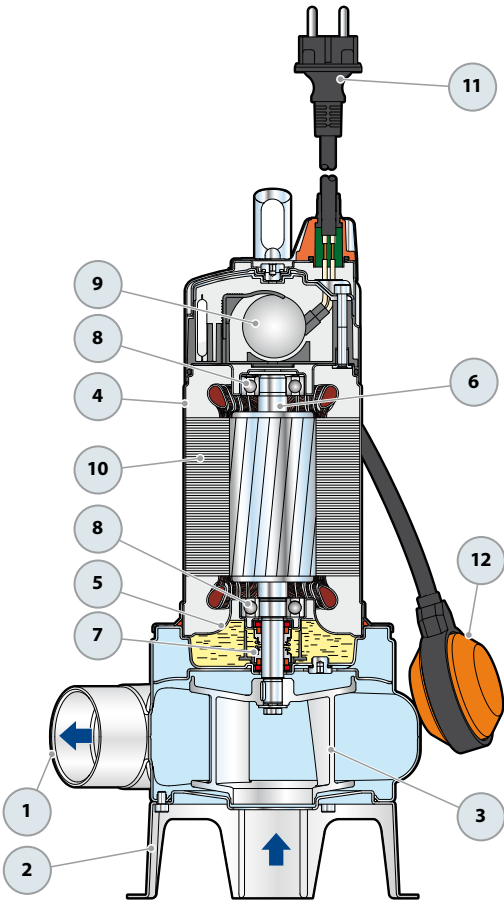
1	PUMP BODY	Stainless steel AISI 304 with threaded port in compliance with ISO 228/1			
2	BASE	Stainless steel AISI 304			
3	IMPELLER	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type			
4	MOTOR CASING	Stainless steel AISI 304			
5	MOTOR CASING PLATE	Stainless steel AISI 304			
6	MOTOR SHAFT	Stainless steel AISI 431			
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER				
	Seal	Shaft	Position	Materials	
	Model	Diameter		Stationary ring	Rotational ring
	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite
			Pump side	Silicon carbide	Silicon carbide
					Elastomer
					NBR
					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>	
BCm 10/50-ST	20 µF 450 VL	30 µF - 250 VL	
BCm 15/50-ST	25 µF 450 VL	-	

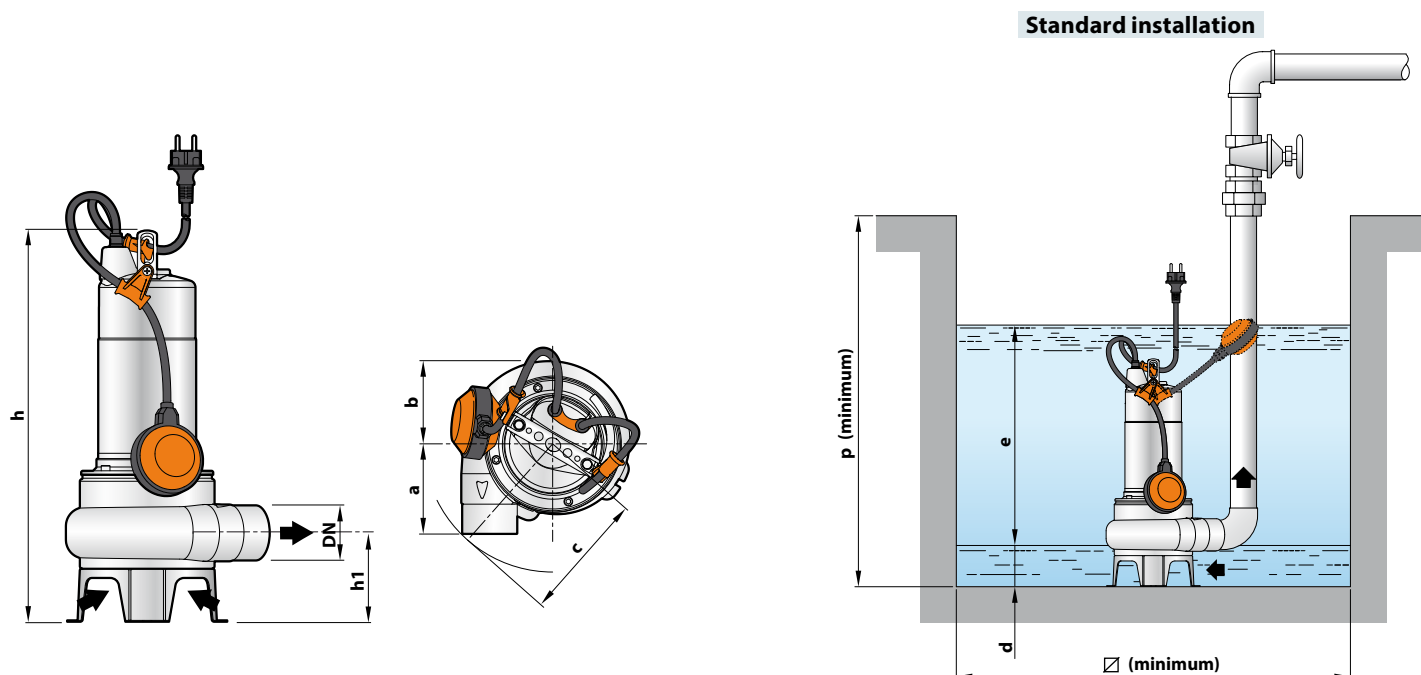
10	ELECTRIC MOTOR
BCm: single-phase 230 V - 50 Hz	
with thermal overload protector incorporated into the winding	
BC: three-phase 400 V - 50 Hz	
- Insulation: class F	
- Protection: IP X8	

11	POWER CABLE
"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	□		1~	3~
BCm 10/50-ST	BC 10/50-ST	2"	Ø 50 mm	102	95	140	432	102	60	variable	500	500		12.4	11.2
BCm 15/50-ST	BC 15/50-ST						447							13.3	12.2

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
BCm 10/50-ST	5.0 A	4.8 A	10.0 A
BCm 15/50-ST	8.2 A	7.9 A	–

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
BC 10/50-ST	3.6 A	2.1 A	3.5 A	2.0 A
BC 15/50-ST	5.5 A	3.2 A	5.4 A	3.1 A

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
BCm 10/50-ST	BC 10/50-ST	54	72
BCm 15/50-ST	BC 15/50-ST	54	72

SEWAGE LIFTING SYSTEM VX-ST – BC-ST



A) HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For VX /35-ST	Cod. ASSPVX35ST	DN 2"
For VX /50-ST , BC /50-ST	Cod. ASSPVX50ST	DN 2"

Kit consisting of:

- footing connection
- slide guide with ring nut and seal
- support for the guide tubes

B) VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

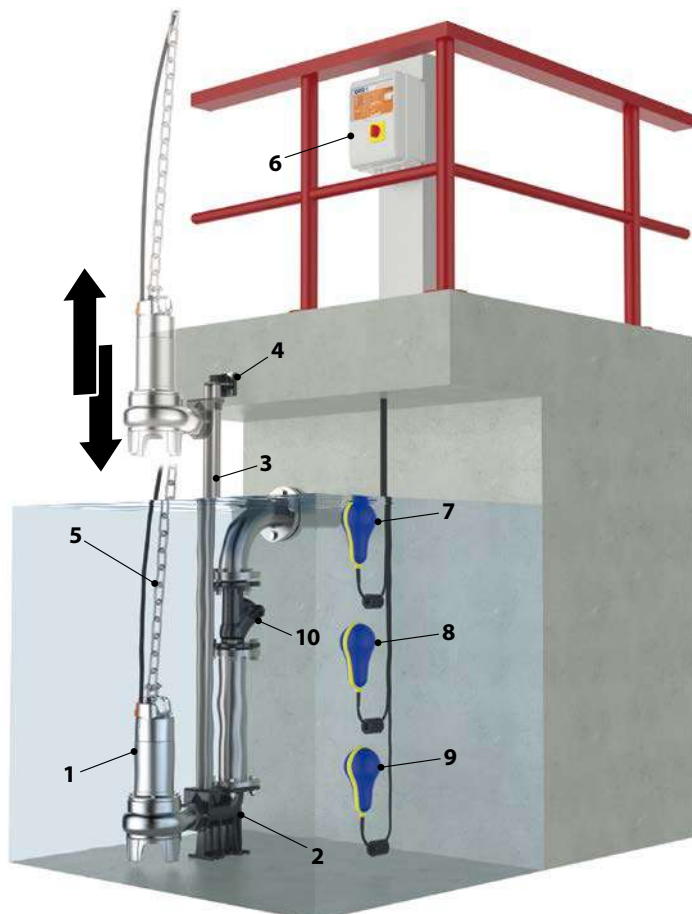
For VX /35-ST	Cod. ASSPVX35STV	DN 2½"
For VX /50-ST, BC /50-ST	Cod. ASSPVX50STV	DN 2½"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with ring nut and seal
- support for the guide tubes

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



SLIDE GUIDE (Also to be ordered separately)

For VX /35-ST	Cod. ASSFL005
For VX /50-ST , BC /50-ST	Cod. ASSFL005

Complete with ring nut and seal

● INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV340INTFA	For guide tubes Ø ¾"
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In order to ensure stability, insert the intermediate support every 2 metres

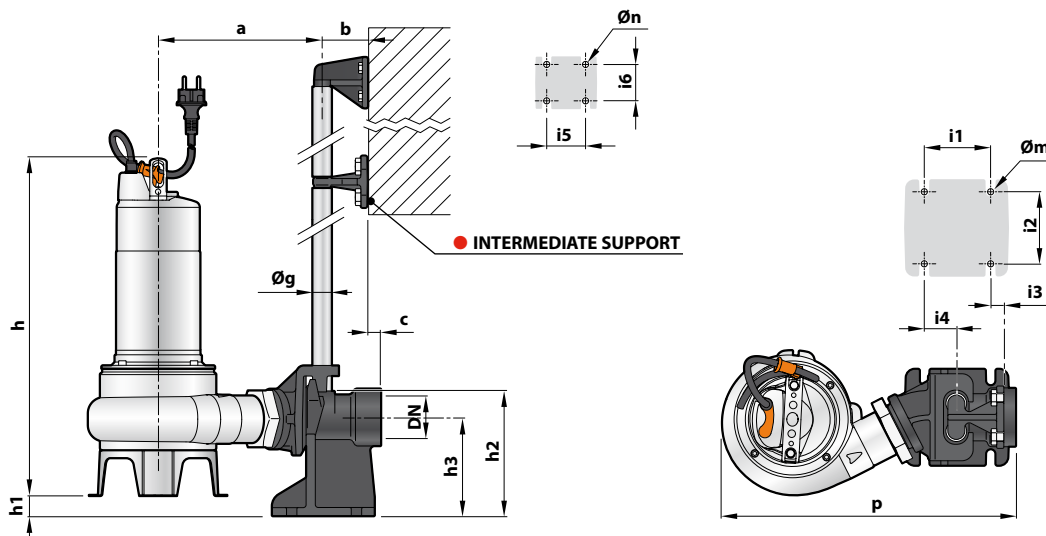


GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG005	Ø ¾"
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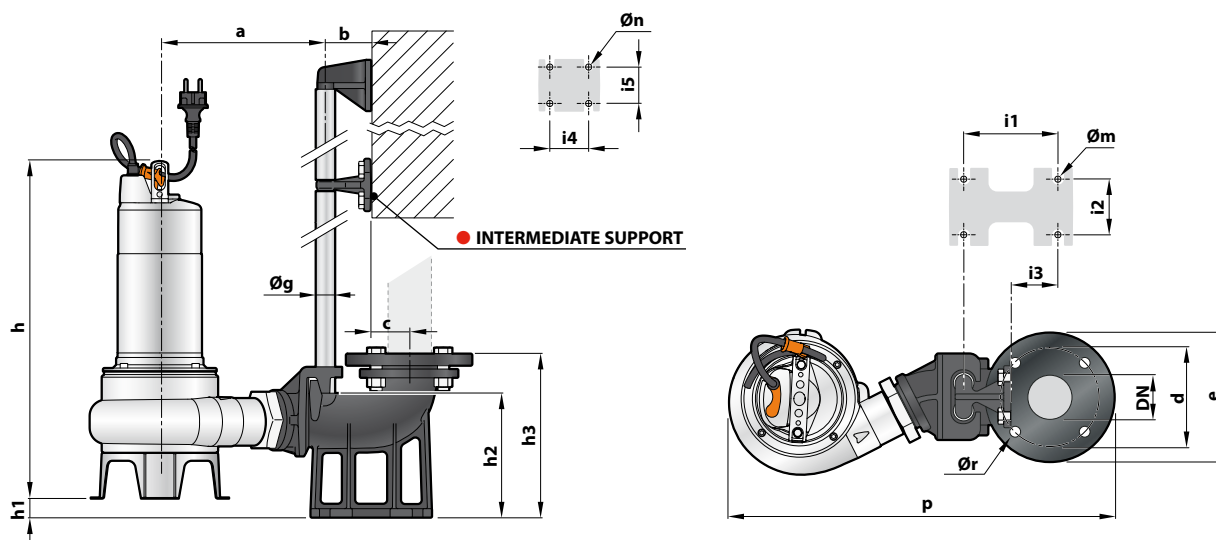
Maximum length of the tube plank: 6 metres

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	i6	Øg	Øm	Øn
VXm 8/35 -ST	VX 8/35 -ST	40	2"	207	61	17	379	406	43											
VXm 10/35 -ST	VX 10/35 -ST							421												
VXm 15/35 -ST	VX 15/35 -ST							430												
VXm 8/50 -ST	VX 8/50 -ST							430												
VXm 10/50 -ST	VX 10/50 -ST	50	2"	217	61	17	388	445	28	130	165	85	94	16	40	50	48	¾"	12	11
VXm 15/50 -ST	VX 15/50 -ST							445												
BCm 10/50 -ST	BC 10/50 -ST							430												
BCm 15/50 -ST	BC 15/50 -ST							445												

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	61	52	125	165	495	406	40																										
VXm 10/35-ST	VX 10/35-ST									421																											
VXm 15/35-ST	VX 15/35-ST																																				
VXm 8/50 -ST	VX 8/50 -ST	50		217																				507	430	26	164	215	120	72	62	50	48	¾"	14	11	18
VXm 10/50-ST	VX 10/50-ST																								445												
VXm 15/50-ST	VX 15/50-ST																								430												
BCm 10/50 -ST	BC 10/50 -ST																								445												
BCm 15/50-ST	BC 15/50 -ST																																				

Submersible pumps in stainless steel

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **650 l/min** (39 m³/h)
- Head up to **14 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:
 - **280 mm** for VX /35-MF
 - **300 mm** for VX /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

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

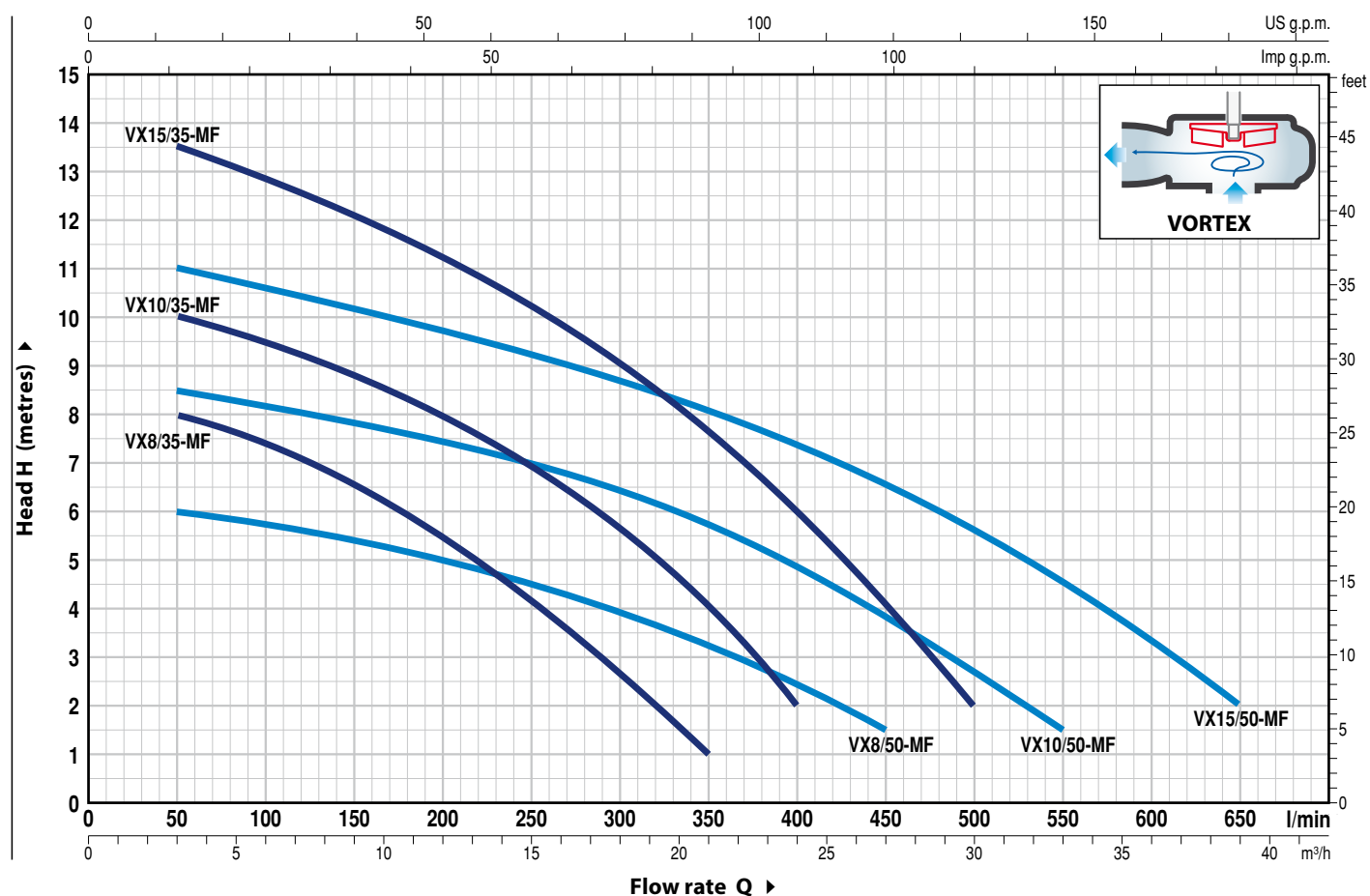
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹



MODEL		POWER (P ₂)		Q	m ³ /h	0	3	6	12	18	21	24	27	30	33	36	39
Single-phase	Three-phase	kW	HP		l/min	0	50	100	200	300	350	400	450	500	550	600	650
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 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	

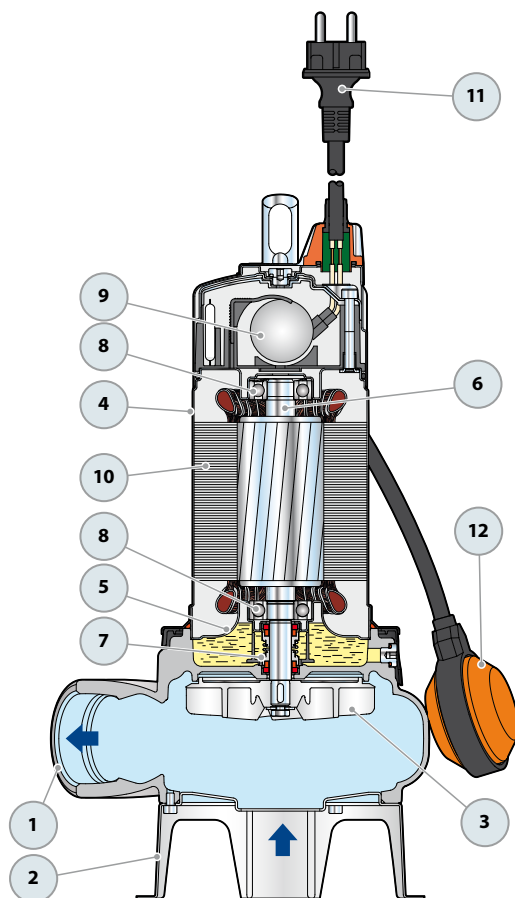
Q = Flow rate H = Total manometric head

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

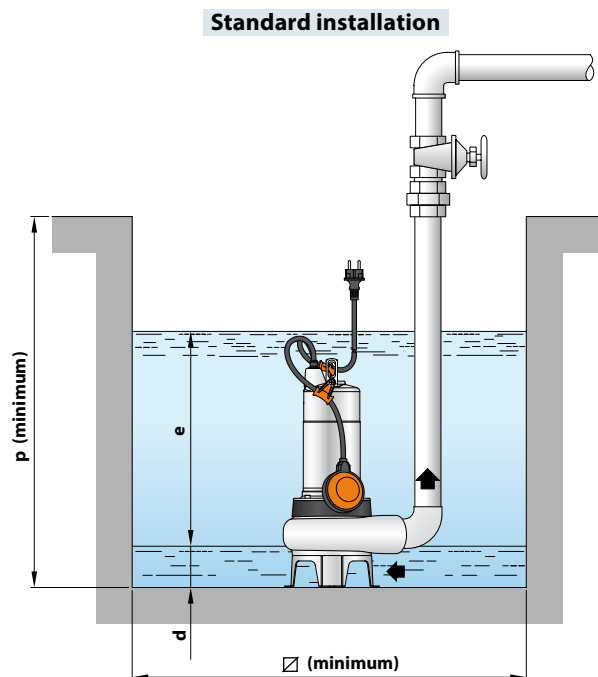
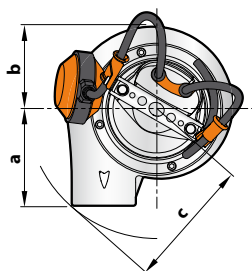
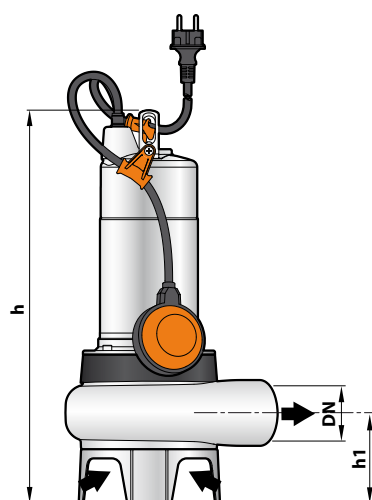
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Precision cast stainless steel AISI 316L with threaded port in compliance with ISO 228/1																						
2	BASE	Stainless steel AISI 304																						
3	IMPELLER	Stainless steel AISI 304 VORTEX type																						
4	MOTOR CASING	Stainless steel AISI 304																						
5	MOTOR CASING PLATE	Stainless steel AISI 304																						
6	MOTOR SHAFT	Stainless steel AISI 316L																						
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER																							
<table><tr><td>Seal</td><td>Shaft</td><td>Position</td><td colspan="3">Materials</td></tr><tr><td>Model</td><td>Diameter</td><td></td><td>Stationary ring</td><td>Rotational ring</td><td>Elastomer</td></tr><tr><td rowspan="2">MG1-14D SIC</td><td rowspan="2">Ø 14 mm</td><td>Motor side</td><td>Silicon carbide</td><td>Graphite</td><td>NBR</td></tr><tr><td>Pump side</td><td>Silicon carbide</td><td>Silicon carbide</td><td>NBR</td></tr></table>			Seal	Shaft	Position	Materials			Model	Diameter		Stationary ring	Rotational ring	Elastomer	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR	Pump side	Silicon carbide	Silicon carbide	NBR
Seal	Shaft	Position	Materials																					
Model	Diameter		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																							
<table><tr><td>Pump</td><td colspan="2">Capacitance</td></tr><tr><td>Single-phase</td><td>(230 V or 240 V)</td><td>(110 V)</td></tr><tr><td>VXm 8/35 -MF</td><td rowspan="4">20 µF 450 VL</td><td rowspan="4">30 µF - 250 VL</td></tr><tr><td>VXm 8/50 -MF</td></tr><tr><td>VXm 10/35-MF</td></tr><tr><td>VXm 10/50-MF</td></tr><tr><td>VXm 15/35-MF</td><td rowspan="2">25 µF 450 VL</td><td rowspan="2">–</td></tr><tr><td>VXm 15/50-MF</td></tr></table>			Pump	Capacitance		Single-phase	(230 V or 240 V)	(110 V)	VXm 8/35 -MF	20 µF 450 VL	30 µF - 250 VL	VXm 8/50 -MF	VXm 10/35-MF	VXm 10/50-MF	VXm 15/35-MF	25 µF 450 VL	–	VXm 15/50-MF						
Pump	Capacitance																							
Single-phase	(230 V or 240 V)	(110 V)																						
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VXm 15/50-MF																								
10	ELECTRIC 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																							
"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	☐	1~	3~
VXm 8/35 -MF	VX 8/35 -MF	1½"	Ø 40 mm	107	98	150	410	86	50	variable	500	500	12.9	12.6
VXm 10/35 -MF	VX 10/35 -MF						421						13.7	12.6
VXm 15/35 -MF	VX 15/35 -MF						431	15.0	14.0					
VXm 8/50 -MF	VX 8/50 -MF	2"	Ø 50 mm	112			446	102	60				13.4	13.1
VXm 10/50 -MF	VX 10/50 -MF						14.2						13.1	
VXm 15/50 -MF	VX 15/50 -MF						15.5	14.5						

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
VXm 8/35 -MF	3.5 A	3.4 A	7.0 A
VXm 10/35 -MF	4.8 A	4.6 A	9.6 A
VXm 15/35 -MF	7.4 A	7.1 A	-
VXm 8/50 -MF	3.7 A	3.5 A	7.4 A
VXm 10/50 -MF	5.0 A	4.8 A	10.0 A
VXm 15/50 -MF	7.1 A	6.8 A	-

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase				
VX 8/35 -MF	3.0 A	1.7 A	2.9 A	1.65 A
VX 10/35 -MF	3.5 A	2.0 A	3.4 A	1.95 A
VX 15/35 -MF	5.2 A	3.0 A	5.0 A	2.9 A
VX 8/50 -MF	3.2 A	1.8 A	3.1 A	1.75 A
VX 10/50 -MF	3.5 A	2.0 A	3.4 A	1.95 A
VX 15/50 -MF	5.2 A	3.0 A	5.0 A	2.9 A

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
VXm 8/35 -MF	VX 8/35 -MF	60	80
VXm 10/35 -MF	VX 10/35 -MF	60	80
VXm 15/35 -MF	VX 15/35 -MF	54	72
VXm 8/50 -MF	VX 8/50 -MF	54	72
VXm 10/50 -MF	VX 10/50 -MF	54	72
VXm 15/50 -MF	VX 15/50 -MF	54	72

Submersible pumps in stainless steel

 Sewage water

 Domestic use

 Civil use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m³/h)
- Head up to **15 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: **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

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

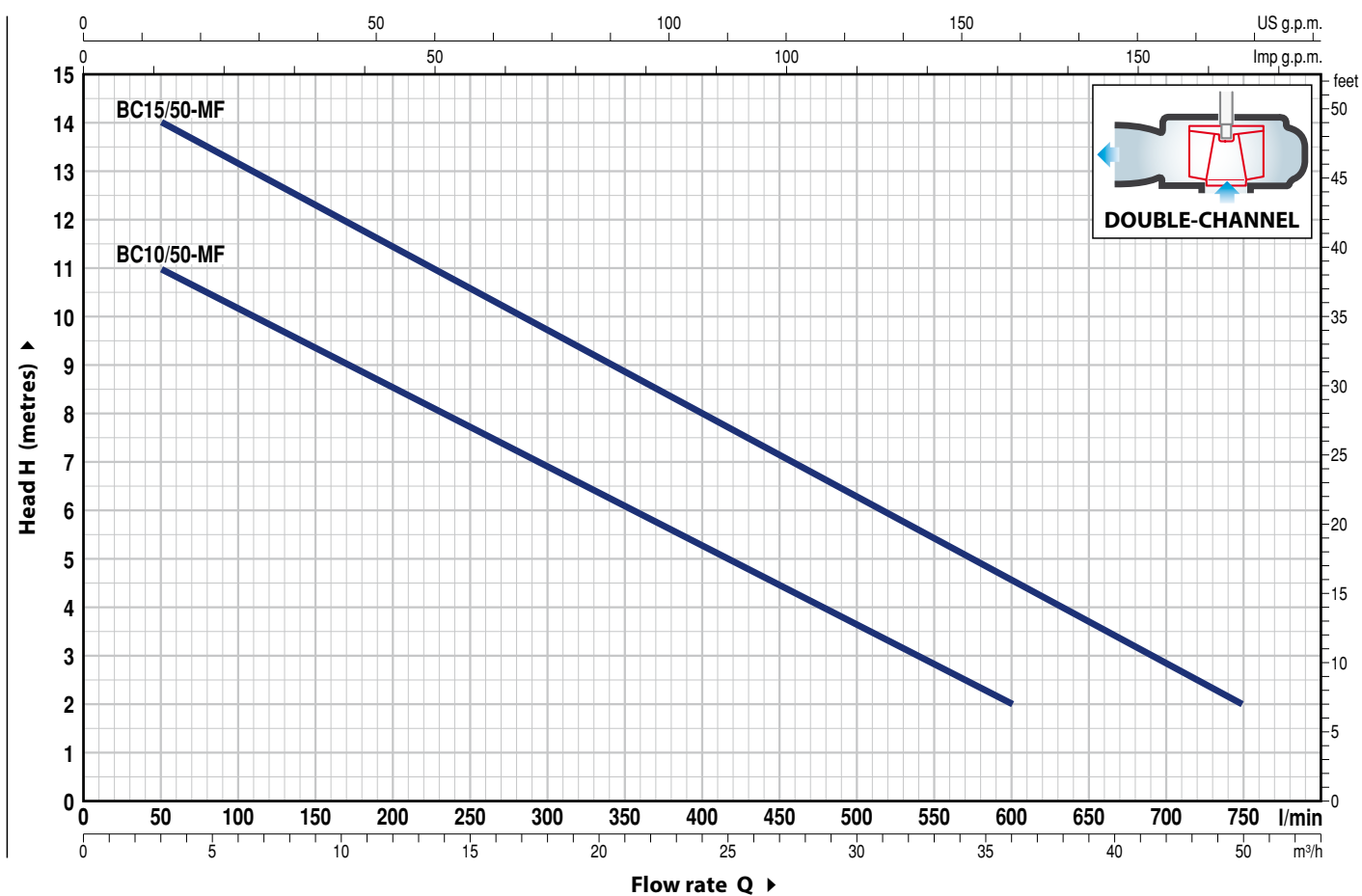
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹



MODEL		POWER (P ₂)		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
BCm 10/50-MF	BC 10/50-MF	0.75	1	H metres	12	11	10	8.5	7	5	3.5	2		
BCm 15/50-MF	BC 15/50-MF	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. COMPONENTCONSTRUCTION CHARACTERISTICS

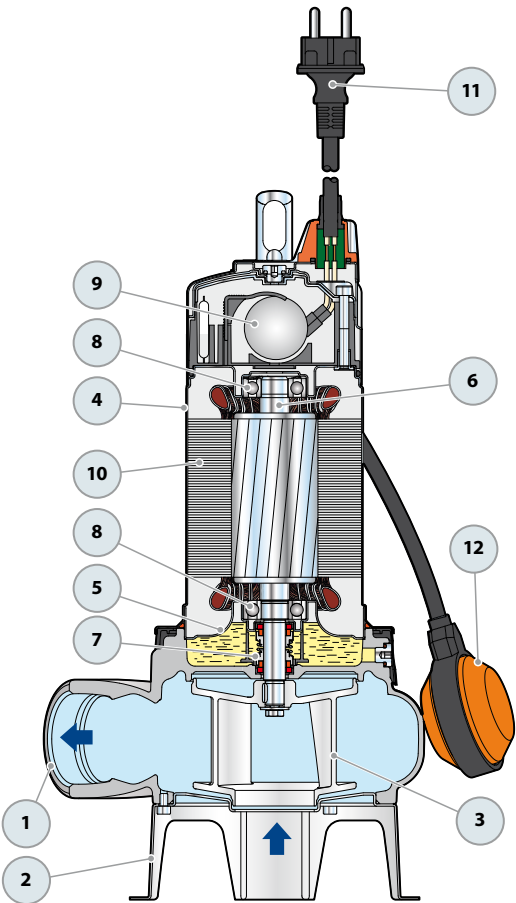
1	PUMP BODY	Precision cast stainless steel AISI 316L with threaded port in compliance with ISO 228/1			
2	BASE	Stainless steel AISI 304			
3	IMPELLER	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type			
4	MOTOR CASING	Stainless steel AISI 304			
5	MOTOR CASING PLATE	Stainless steel AISI 304			
6	MOTOR SHAFT	Stainless steel AISI 316L			
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER				
	Seal	Shaft	Position	Materials	
	Model	Diameter		Stationary ring	Rotational ring
	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite
			Pump side	Silicon carbide	Silicon carbide
					Elastomer
					NBR
					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>	
BCm 10/50-MF	20 µF 450 VL	30 µF 250 VL	
BCm 15/50-MF	25 µF 450 VL	–	

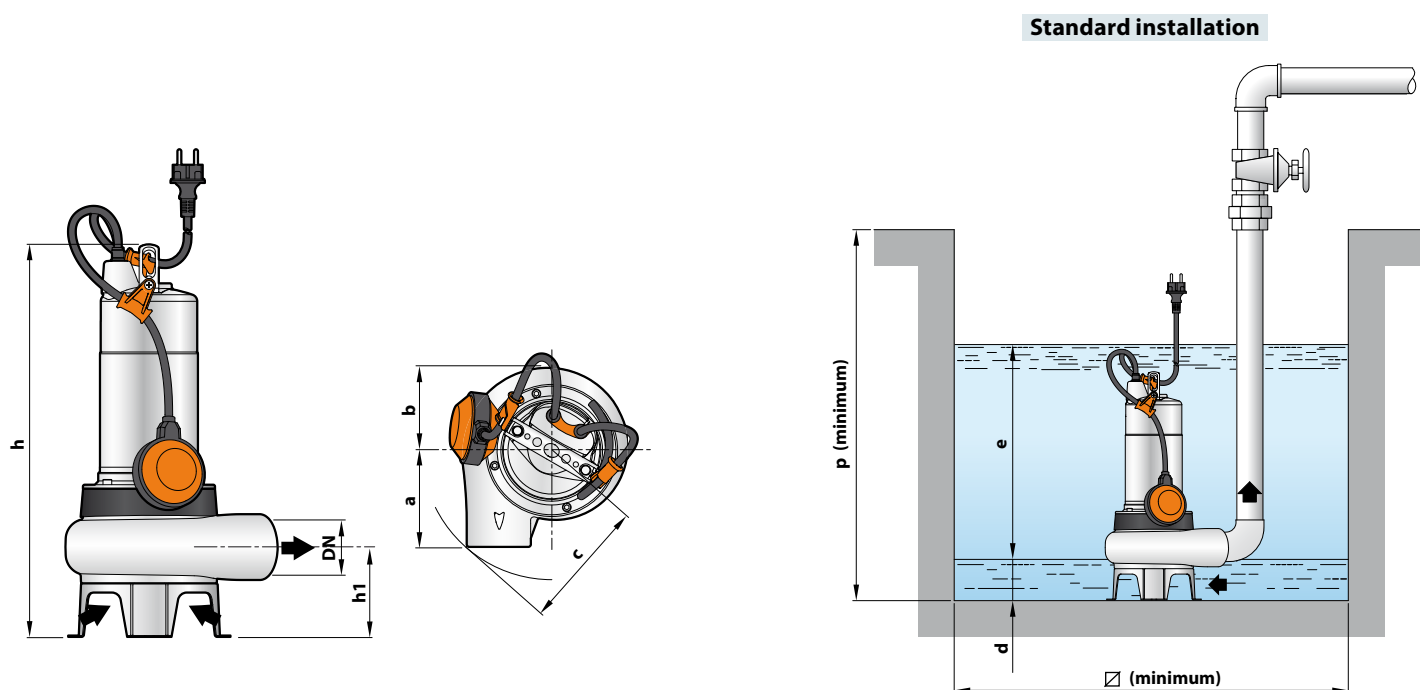
- 10 ELECTRIC MOTOR
- BCm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
- BC: three-phase 400 V - 50 Hz
- Insulation: class F
- Protection: IP X8

- 11 POWER CABLE
- "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	□	1~	3~
BCm 10/50-MF	BC 10/50-MF	2"	Ø 50 mm	112	97	150	432	102	60	variable	500	500	14.5	13.5
BCm 15/50-MF	BC 15/50-MF						447						15.5	14.3

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
BCm 10/50-MF	5.0 A	5.0 A	11.8 A
BCm 15/50-MF	8.2 A	8.0 A	–

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
BC 10/50-MF	3.6 A	2.1 A	3.5 A	2.0 A
BC 15/50-MF	5.5 A	3.2 A	5.4 A	3.1 A

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
BCm 10/50-MF	BC 10/50-MF	54	72
BCm 15/50-MF	BC 15/50-MF	54	72

SEWAGE LIFTING SYSTEM VX-MF – BC-MF



(A)

(B)



A) HORIZONTAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For VX /35-MF	Cod. ASSPVX35ST	DN 2"
For VX /50-MF , BC /50-MF	Cod. ASSPVX50ST	DN 2"

Kit consisting of:

- footing connection
- slide guide with ring nut and seal
- support for the guide tubes

B) VERTICAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For VX /35-MF	Cod. ASSPVX35STV	DN 2½"
For VX /50-MF, BC /50-MF	Cod. ASSPVX50STV	DN 2½"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with ring nut and seal
- support for the guide tubes

SLIDE GUIDE (Also to be ordered separately)

For VX /35-MF	Cod. ASSFL005
For VX /50-MF , BC /50-MF	Cod. ASSFL005

Complete with ring nut and seal

● INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV340INTFA	For guide tubes Ø ¾"
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In order to ensure stability, insert the intermediate support every 2 metres



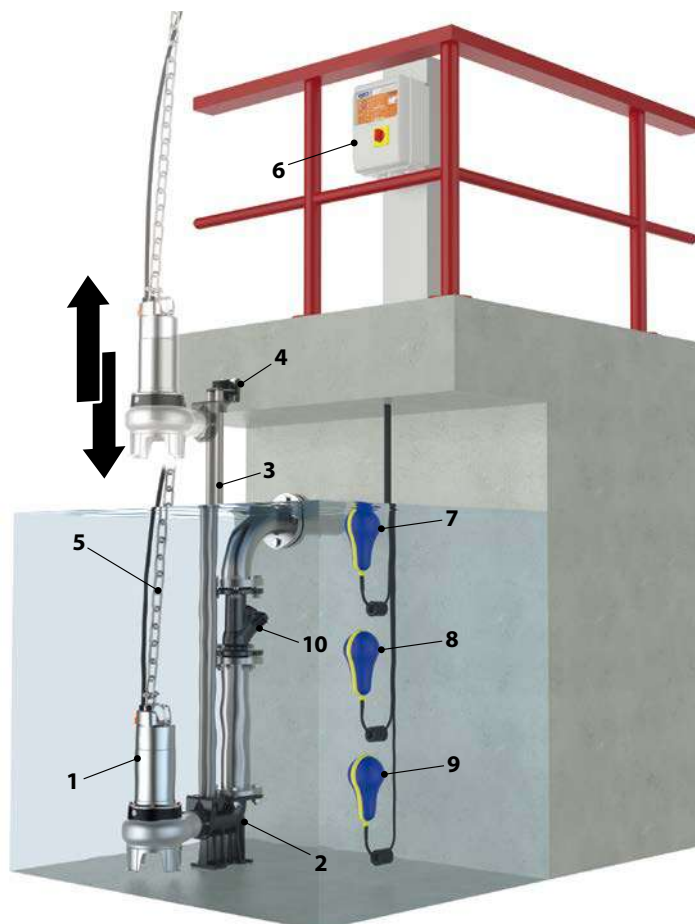
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG005	Ø ¾"
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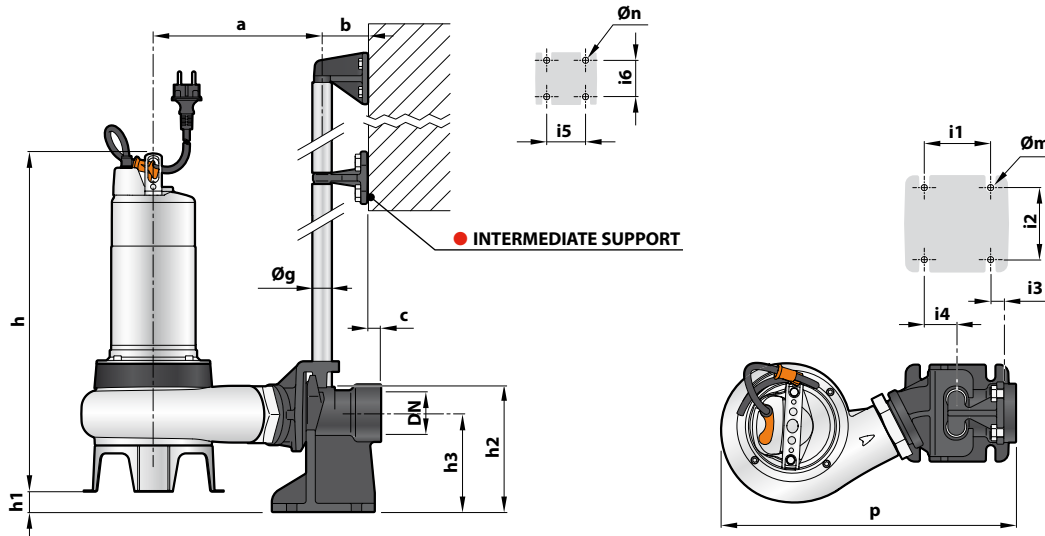
Maximum length of the tube plank: 6 metres

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

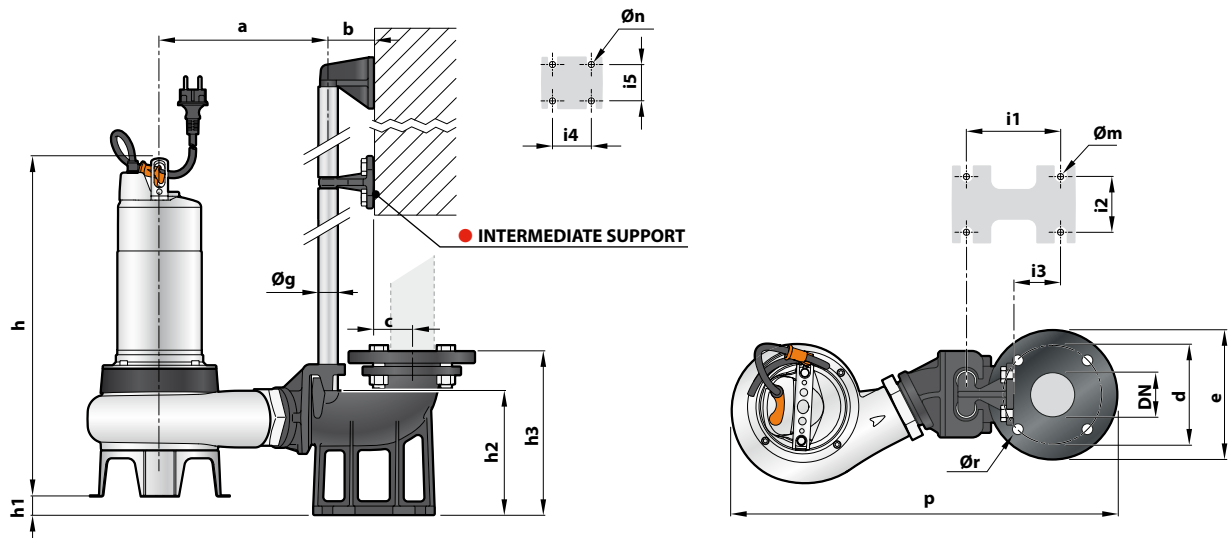


DIMENSIONS (Horizontal delivery version)



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	i6	Øg	Øm	Øn
VXm 8/35 -MF	VX 8/35 -MF	40	2"	217	61	17	387	406	45	165	130	85	94	16	40	50	48	¾"	12	11
VXm 10/35 -MF	VX 10/35 -MF																			
VXm 15/35 -MF	VX 15/35 -MF																			
VXm 8/50 -MF	VX 8/50 -MF	50	2"				390	434	29											
VXm 10/50 -MF	VX 10/50 -MF																			
VXm 15/50 -MF	VX 15/50 -MF																			
BCm 10/50 -MF	BC 10/50 -MF	50	2"					430												
BCm 15/50 -MF	BC 15/50 -MF							445												

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"	217	61	52	125	165	504	406	42	164	215	120	72	62	50	48	¾"	14	11	18
VXm 10/35 -MF	VX 10/35 -MF									421												
VXm 15/35 -MF	VX 15/35 -MF																					
VXm 8/50 -MF	VX 8/50 -MF	50	2½"						507	430	26											
VXm 10/50 -MF	VX 10/50 -MF									445												
VXm 15/50 -MF	VX 15/50 -MF									430												
BCm 10/50 -MF	BC 10/50 -MF									445												
BCm 15/50 -MF	BC 15/50 -MF																					

Submersible drainage pumps

 Clear water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m³/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: **220 mm**

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

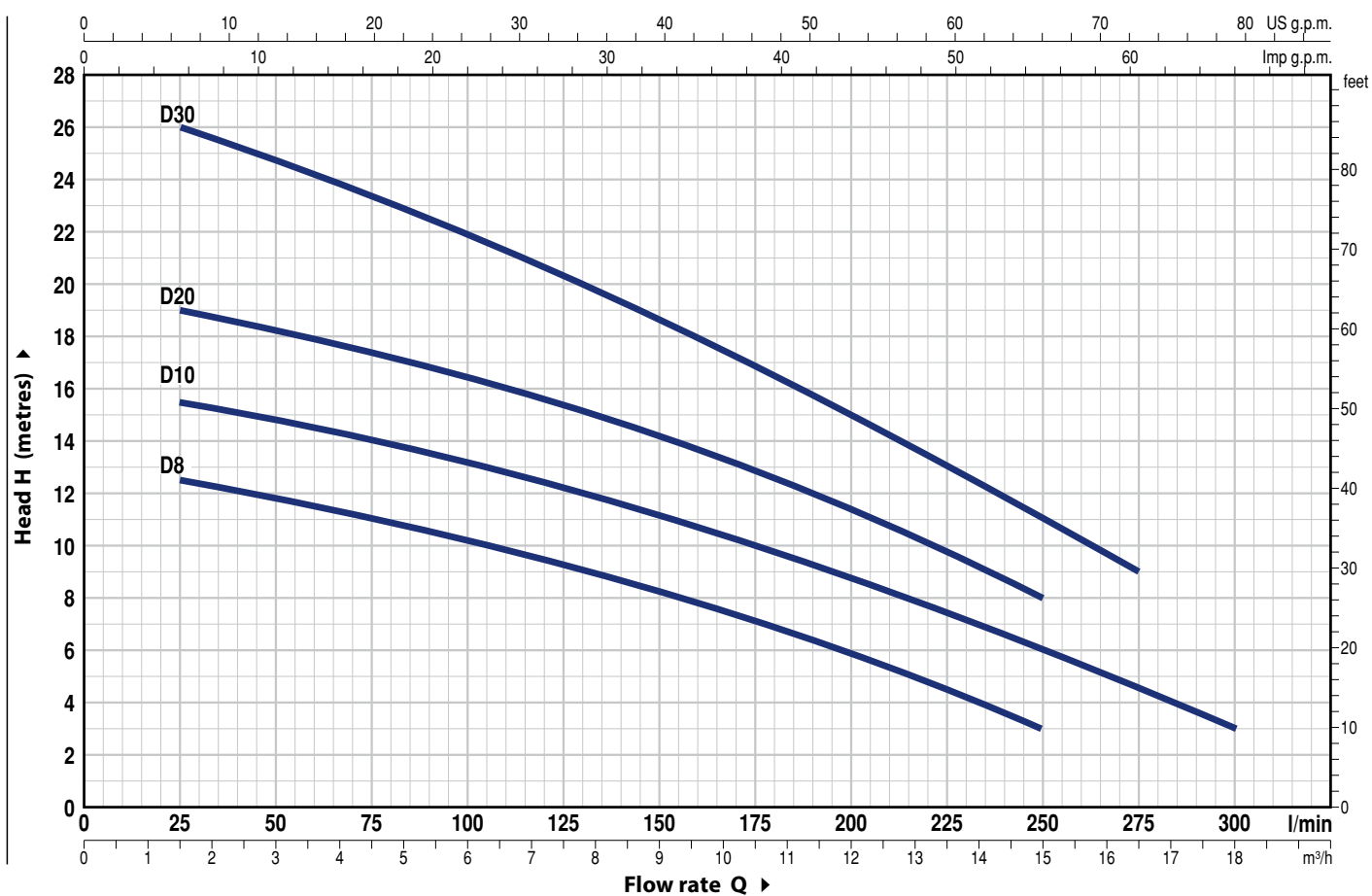
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹



MODEL		POWER (P ₂)		Q														
Single-phase	Three-phase	kW	HP		m³/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	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	SUCTION FILTER	Stainless steel AISI 304
3	SUCTION PLATE	Stainless steel AISI 304
4	IMPELLER	Technopolymer open type
5	MOTOR CASING	Stainless steel AISI 304
6	MOTOR CASING PLATE	Stainless steel AISI 304
7	MOTOR SHAFT	Stainless steel AISI 431

8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

<i>Pump Model</i>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Stationary ring</i>	<i>Materials Rotational ring</i>	<i>Elastomer</i>
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)						
D30	ST1-14 SIC	Ø 14 mm		Ceramic	Silicon carbide	NBR

9	BEARINGS	6203 ZZ / 6203 ZZ
10	CAPACITOR	
<i>Pump</i>	<i>Capacitance</i>	<i>(110 V)</i>
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	
Dm8	20 µF 450 VL	30 µF - 250 VL
Dm10		
Dm20		
Dm30	25 µF 450 VL	–

11 ELECTRIC MOTOR

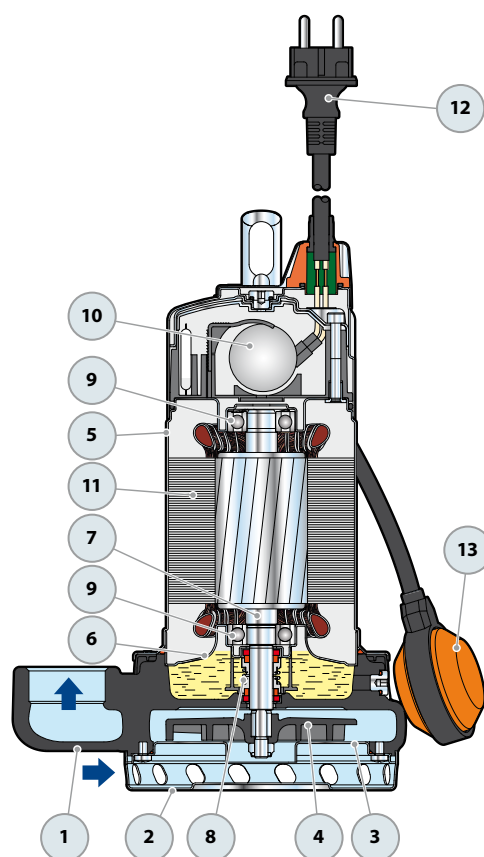
Dm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
D: three-phase 400 V - 50 Hz
– Insulation: class F
– Protection: IP X8

12 POWER CABLE

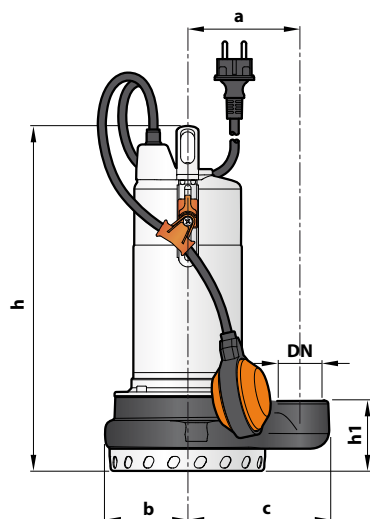
“H07 RN-F” type
(with Schuko plug for single-phase versions only)
Standard length 5 metres (10 metres for D30)

13 FLOAT SWITCH

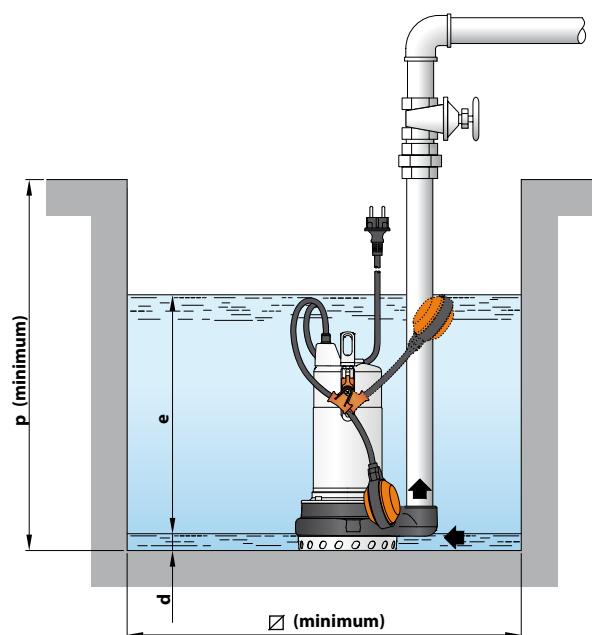
(only for single-phase versions)



DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT DN	DIMENSIONS mm									kg	
Single-phase	Three-phase		a	b	c	h	h1	d	e	p	Ø	1~	3~
Dm 8	D 8	1½"	115	85	147	344	73	17	variable	500	500	12.0	11.7
Dm 10	D 10											12.9	11.7
Dm 20	D 20											12.9	11.9
Dm 30	D 30			93		355	84					15.1	14.0

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
Dm 8	3.2 A	3.1 A	6.4 A
Dm 10	4.7 A	4.7 A	11.5 A
Dm 20	5.7 A	5.7 A	11.4 A
Dm 30	7.2 A	7.0 A	–

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
D 8	2.8 A	1.6 A	2.6 A	1.5 A
D 10	3.5 A	2.0 A	3.3 A	1.9 A
D 20	4.2 A	2.4 A	4.0 A	2.3 A
D 30	5.2 A	3.0 A	5.0 A	2.9 A

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 m³/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
- kose 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

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

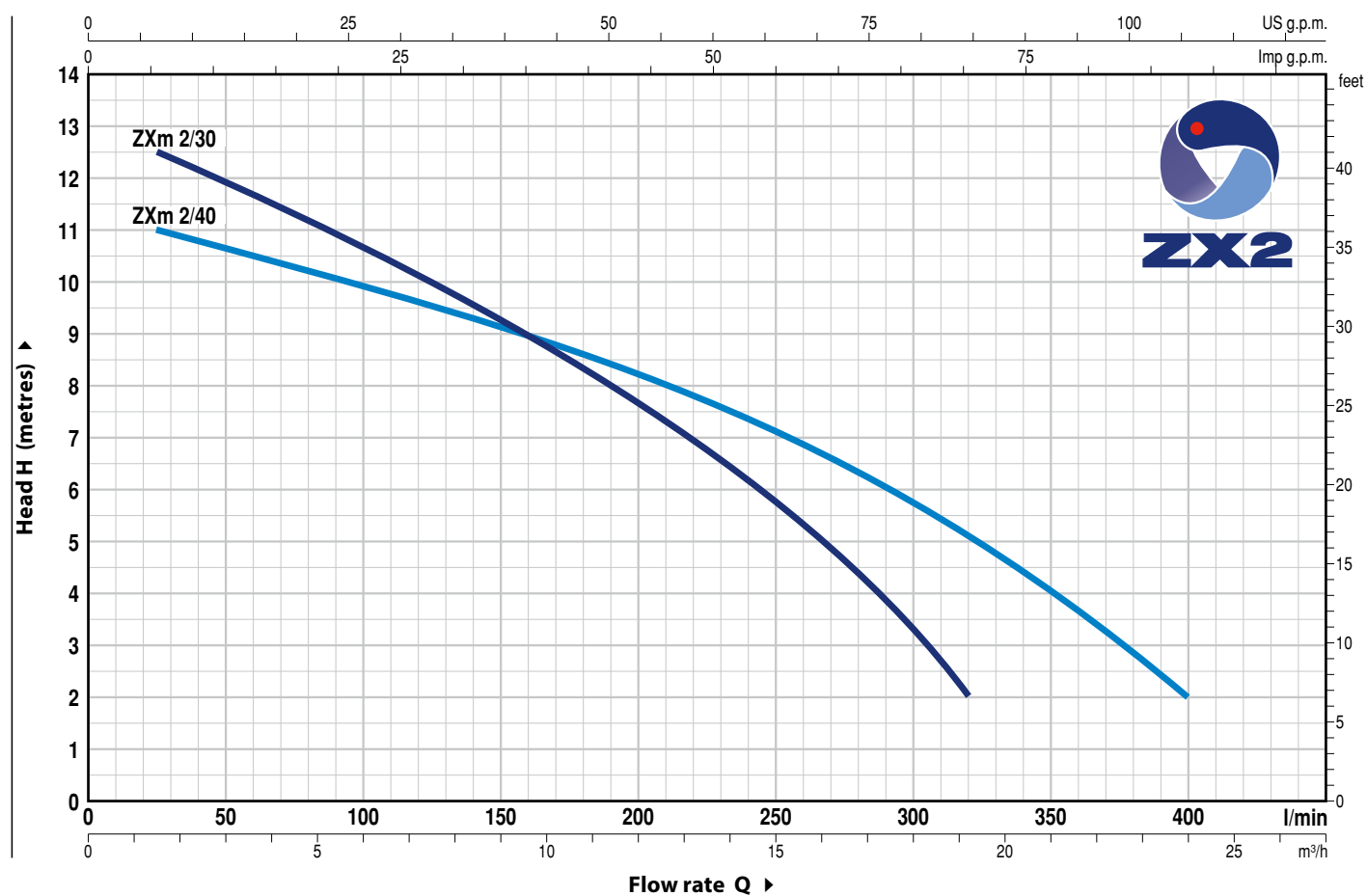
- Patent n. EP2313658
- Patent n. IT0001428923

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹

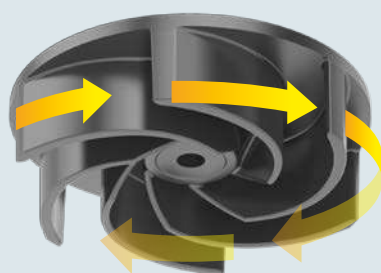


MODEL Single-phase	POWER (P ₂)		Q m³/h l/min	0	1.5	3	6	9	12	15	18	19.2	21	24
	kW	HP		0	25	50	100	150	200	250	300	320	350	400
ZXm 2/30	0.55	0.75	H metres	13	12.5	11.8	10.6	9.3	7.6	5.8	3.3	2		
ZXm 2/40	0.55	0.75		11.5	11	10.6	9.8	9.2	8.2	7.2	5.7	5.2	4	2

Q = Flow rate H = Total manometric head

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

VORTEX IMPELLER

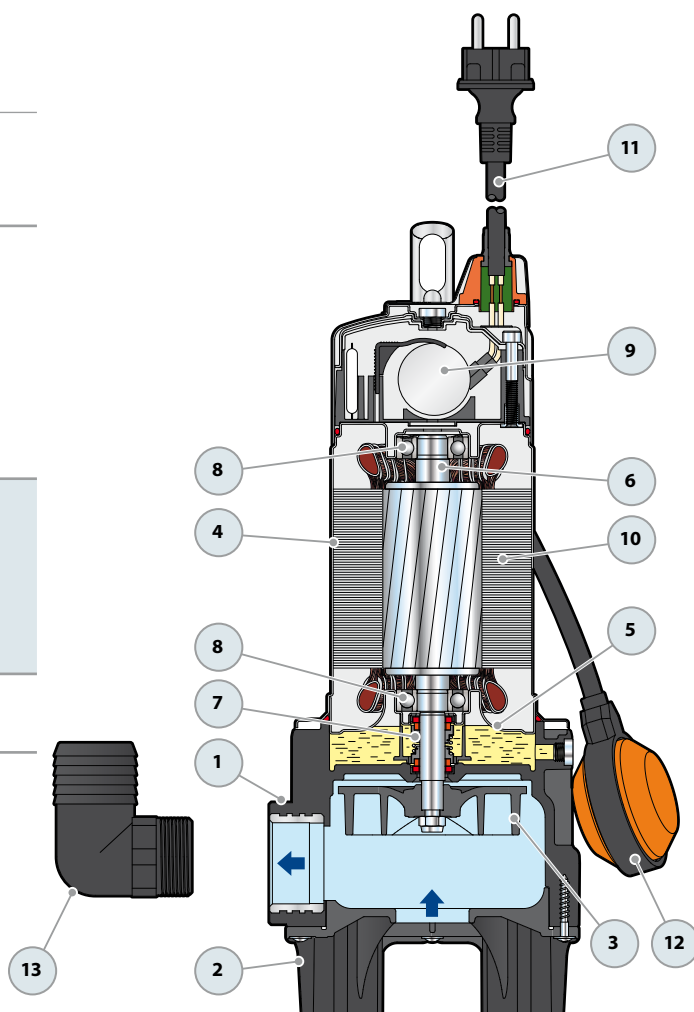


POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

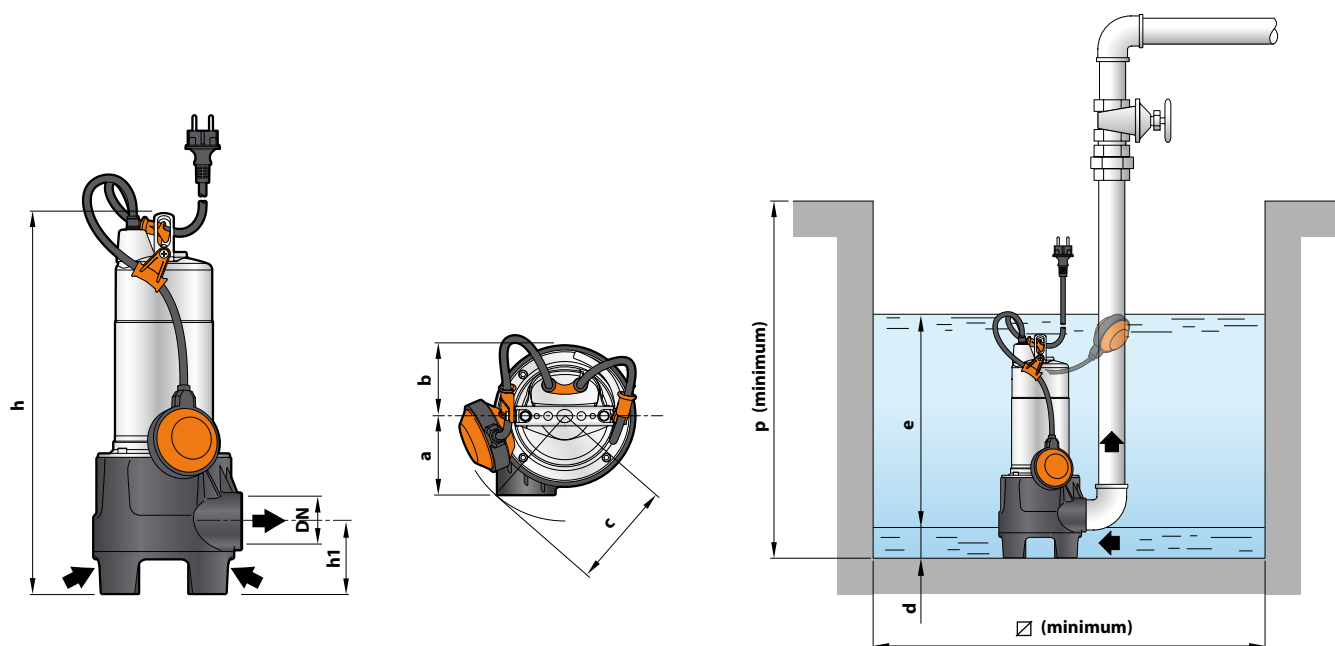
1	PUMP BODY	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1 (5 years guarantee)			
2	BASE	Glass fibre reinforced technopolymer			
3	IMPELLER	Glass fibre reinforced technopolymer VORTEX type			
4	MOTOR CASING	Stainless steel AISI 304			
5	MOTOR CASING PLATE	Stainless steel AISI 304			
6	MOTOR SHAFT	Stainless steel AISI 431			
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER				
	Seal	Shaft	Position	Materials	
	Model	Diameter		Stationary ring	Rotational ring
	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite
			Pump side	Silicon carbide	Silicon carbide
8	BEARINGS	6203 ZZ / 6203 ZZ			
9	CAPACITOR				
	Capacitance				
	(230 V or 240 V)				
	20 µF 450 VL				
10	ELECTRIC MOTOR				
	ZXm 2: 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	FLOAT SWITCH				
13	HOSE CONNECTION				
	Ø 50 mm				

The diagram is a vertical cross-section of the pump assembly. At the top, a power cable with a Schuko plug (11) enters the motor housing (4). Inside the housing, a capacitor (9) is visible. The motor shaft (6) passes through the center, supported by bearings (8). A double mechanical seal (7) is located where the shaft enters the pump casing (5). The seal consists of a stationary ring (Silicon carbide) and a rotational ring (Graphite). The shaft itself is made of stainless steel AISI 431. The pump casing (5) is made of stainless steel AISI 304 and contains the impeller (3). The impeller is made of glass fibre reinforced technopolymer VORTEX type. The base (2) and motor casing plate (1) are also made of glass fibre reinforced technopolymer. The entire assembly is designed for a 230 V - 50 Hz single-phase motor (10) with class F insulation and IP X8 protection. The pump body (1) is complete with a threaded delivery port in compliance with ISO 228/1. The float switch (12) is located at the bottom of the pump casing. The hose connection (13) is at the very bottom, with a diameter of Ø 50 mm.



DIMENSIONS AND WEIGHT

Standard installation



MODEL Single-phase	PORT DN	Passage of solids	DIMENSIONS mm									kg
			a	b	c	h	h1	d	e	p	□	1~
ZXm 2/30	1½"	Ø 30 mm	90	81	118	412	73	50	variable	500	500	10.8
ZXm 2/40		Ø 40 mm				422	83					10.8

ABSORPTION

MODEL Single-phase	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 Single-phase	GROUPAGE n. pumps
ZXm 2/30	54
ZXm 2/40	54

 Sewage water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m³/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)
- kose 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

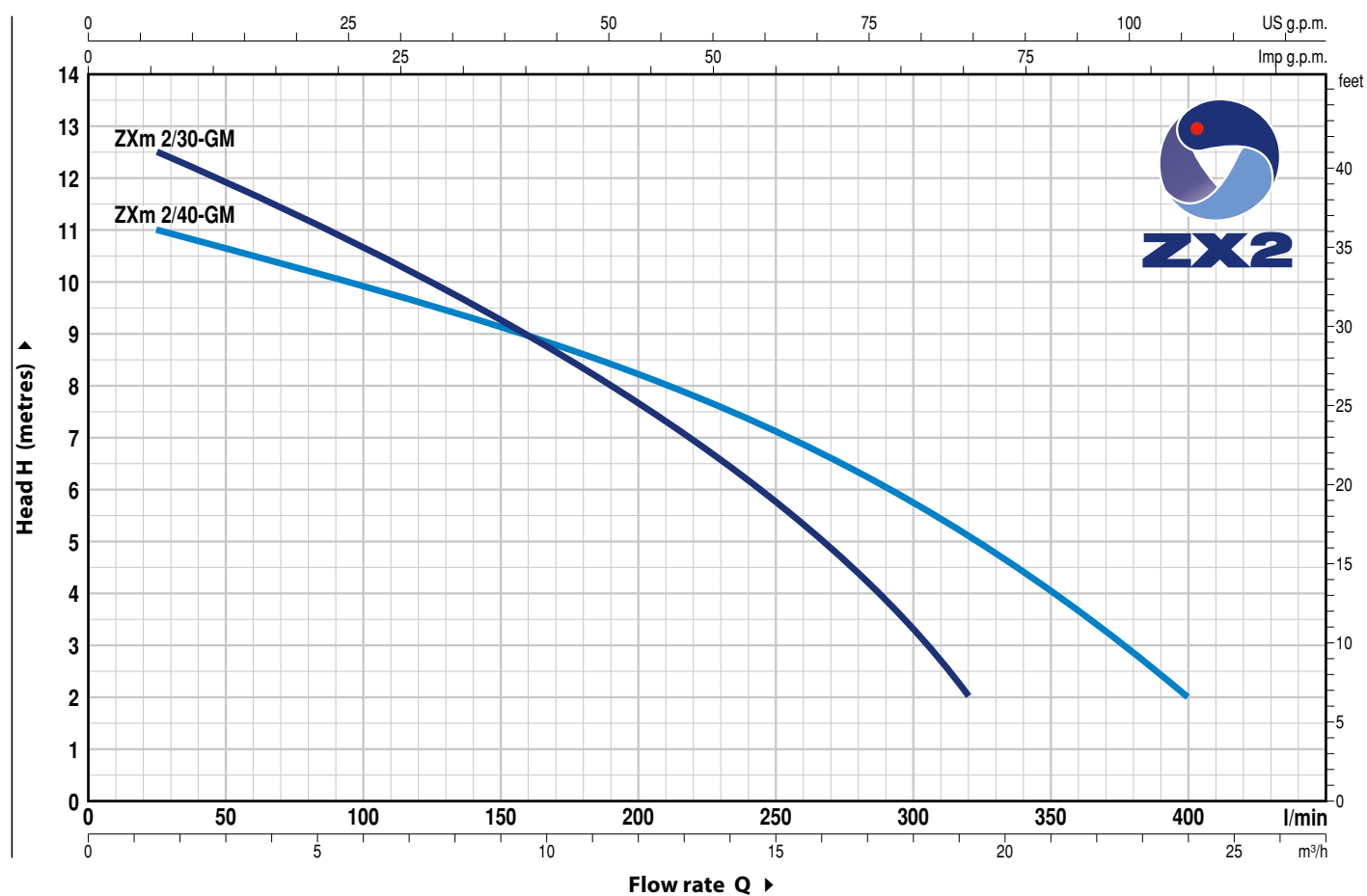
- Patent n. EP2313658
- Patent n. IT0001428923

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⁻¹

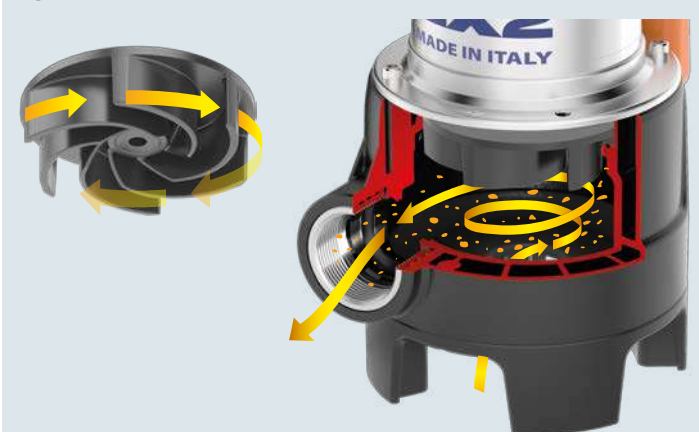


MODEL	POWER (P ₂)		Q	0	1.5	3	6	9	12	15	18	19.2	21	24
	kW	HP		0	25	50	100	150	200	250	300	320	350	400
ZXm 2/30-GM	0.55	0.75	H metres	13	12.5	11.8	10.6	9.3	7.6	5.8	3.3	2		
ZXm 2/40-GM	0.55	0.75		11.5	11	10.6	9.8	9.2	8.2	7.2	5.7	5.2	4	2

Q = Flow rate H = Total manometric head

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

VORTEX IMPELLER



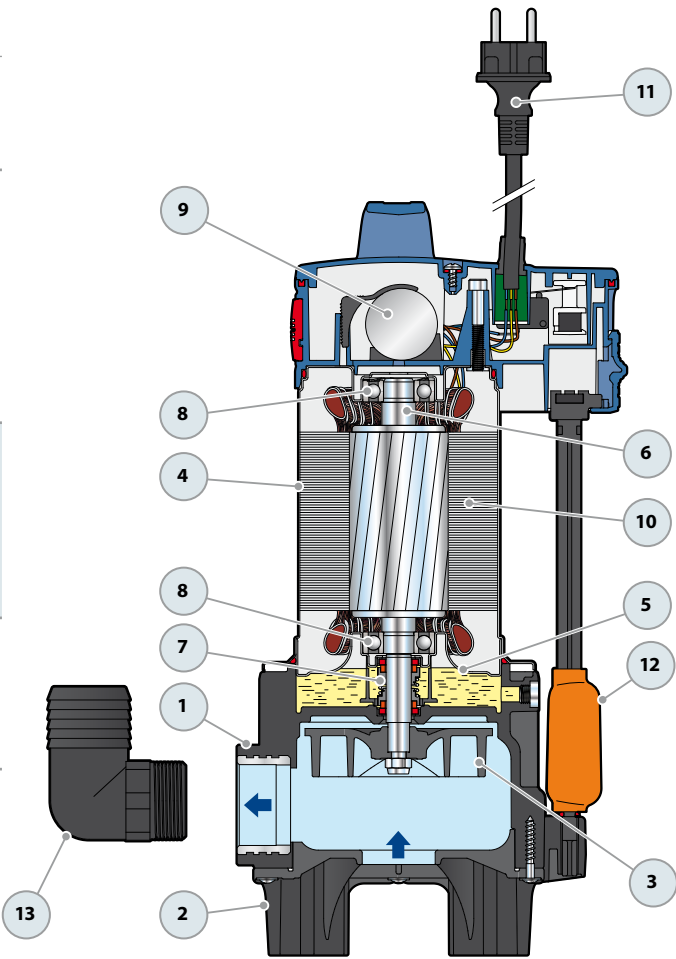
SELECTOR FOR AUTOMATIC OR MANUAL OPERATION



POS. COMPONENT CONSTRUCTION CHARACTERISTICS

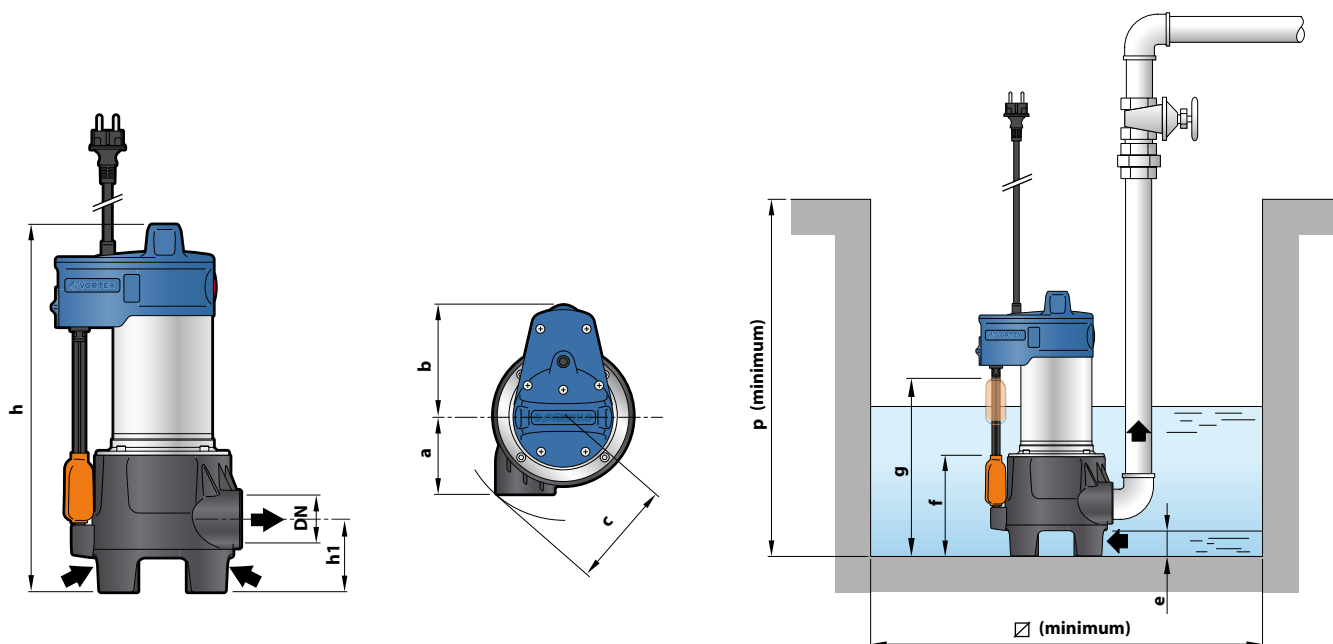
1	PUMP BODY	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1 (5 years guarantee)				
2	BASE	Glass fibre reinforced technopolymer				
3	IMPELLER	Glass fibre reinforced technopolymer VORTEX type				
4	MOTOR CASING	Stainless steel AISI 304				
5	MOTOR CASING PLATE	Stainless steel AISI 304				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER					
Seal		Shaft	Position	Materials		
Model	Diameter		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						

The diagram is a detailed cross-sectional view of the pump assembly. It shows the internal components from the base to the motor casing. Numbered callouts point to the following parts: 1. Motor shaft, 2. Base, 3. Impeller, 4. Motor casing, 5. Motor casing plate, 6. Motor shaft, 7. Shaft with double mechanical seal, 8. Bearings, 9. Capacitor, 10. Electric motor, 11. Power cable, 12. Level float switch, and 13. Hose connection. The diagram also shows the internal oil chamber and the double mechanical seal separating it from the pump chamber.



DIMENSIONS AND WEIGHT

Standard installation



MODEL	PORT DN	Passage of solids	DIMENSIONS mm										kg 1~
			a	b	c	h	h1	e	f	g	p	Ø	
ZXm 2/30-GM	1½"	Ø 30 mm	90	127	118	344	73	50	130	260	450	300	10.5
ZXm 2/40-GM		Ø 40 mm				404	83		140	270			10.6

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 m³/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

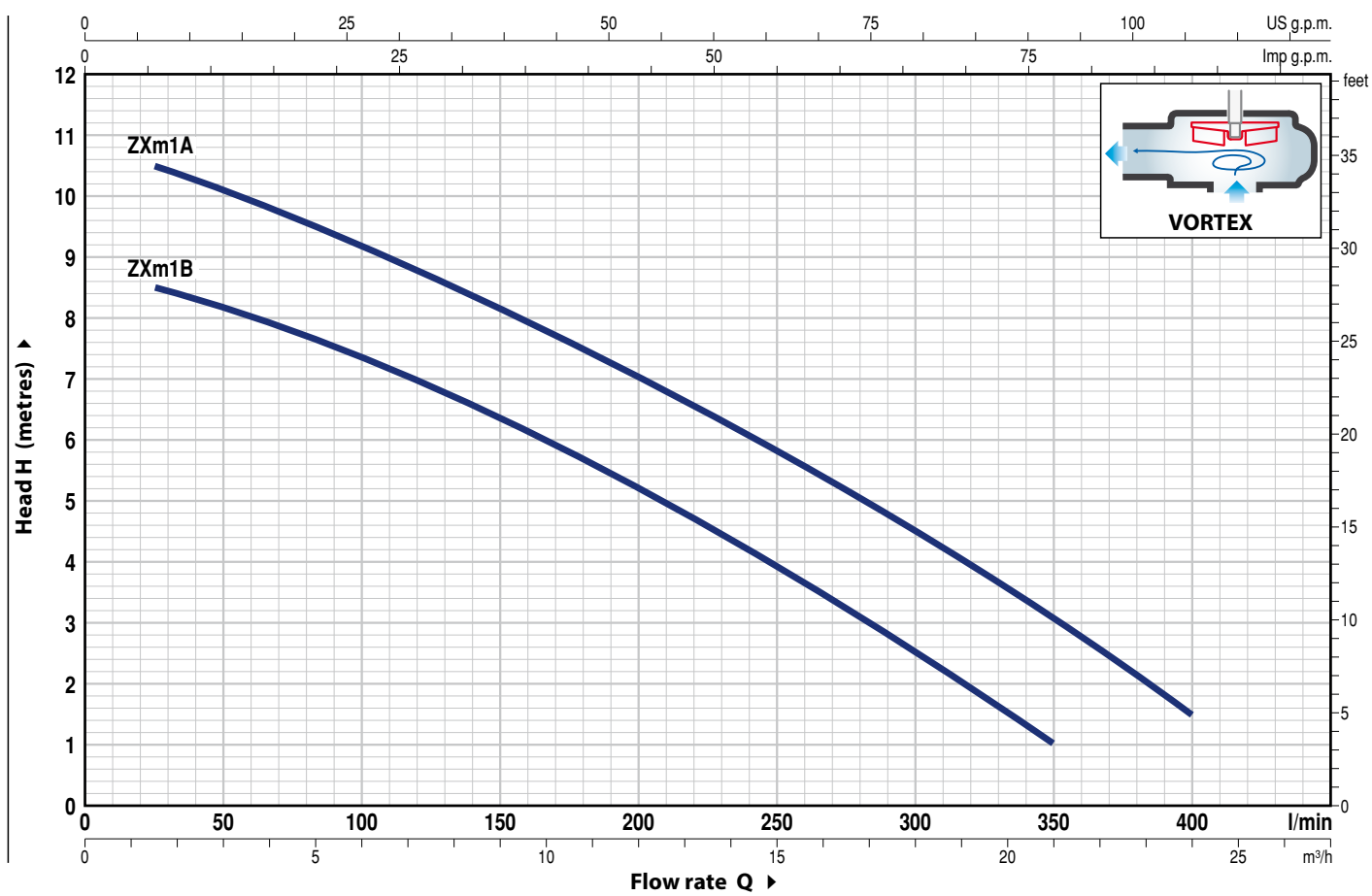
ZX series pumps are suitable for draining **dirty water** in domestic applications and for pumping dirty water containing suspended solids up to Ø 40 mm. They distinguish themselves for the ease with which they are installed and their reliability under automatic operating conditions in fixed installations.

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⁻¹



MODEL Single-phase	POWER (P ₂)		Q m ³ /h l/min	0	1.5	3.0	4.5	6.0	9.0	12.0	15.0	18.0	21.0	24.0
	kW	HP		0	25	50	75	100	150	200	250	300	350	400
ZXm 1B/40	0.50	0.70	H metres	9	8.5	8.3	8	7.5	6.5	5.2	4	2.5	1	
ZXm 1A/40	0.60	0.85		11	10.5	10	9.5	9.2	8.2	7	5.7	4.3	2.8	1.5

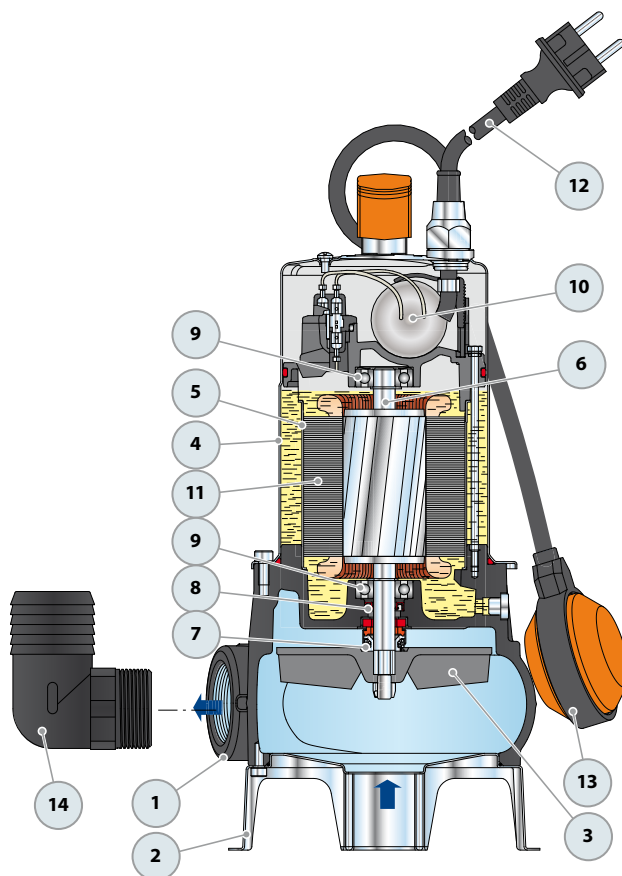
Q = Flow rate H = Total manometric head

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

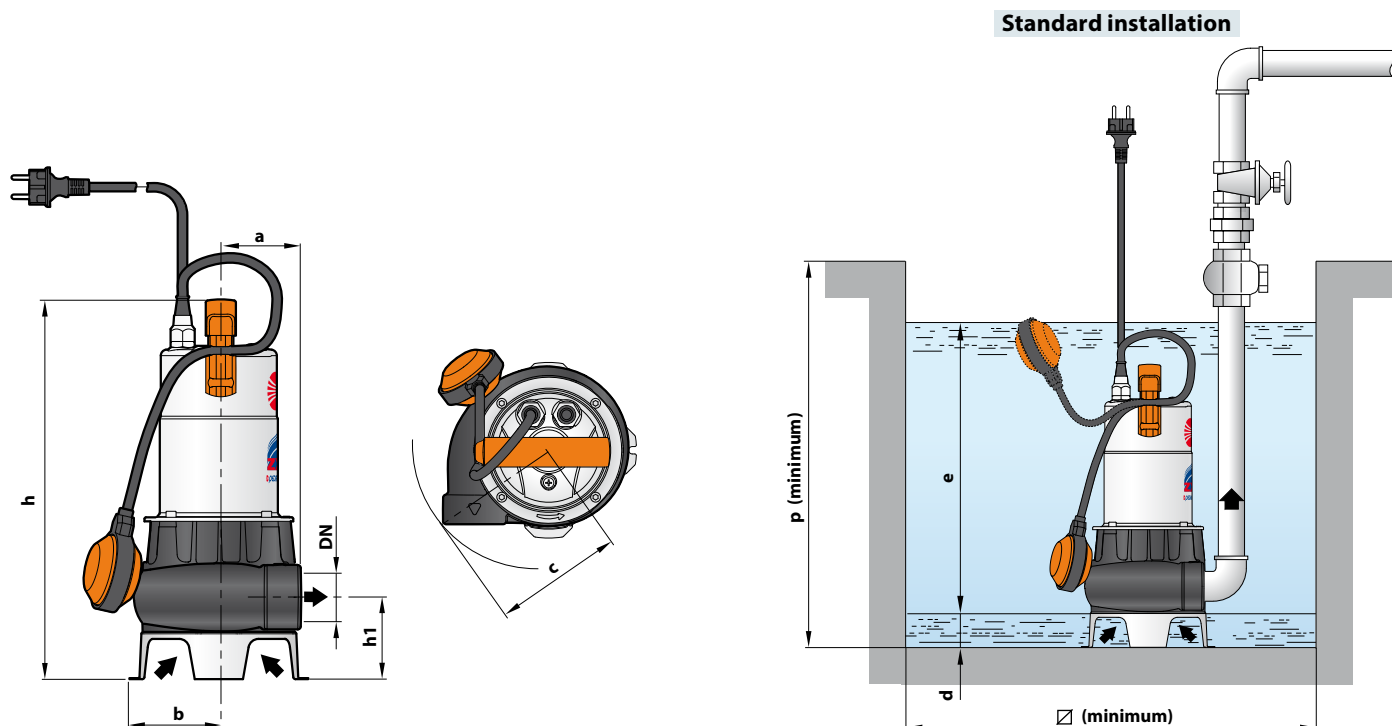
POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with threaded port in compliance with ISO 228/1			
2	BASE	Stainless steel AISI 304			
3	IMPELLER	Technopolymer VORTEX type			
4	MOTOR SLEEVE	Stainless steel AISI 304			
5	MOTOR CASING	Stainless steel			
6	MOTOR SHAFT	Stainless steel AISI 431			
7	SHAFT WITH DOUBLE SEAL				
	Seal	Shaft	Materials		
	Model	Diameter	Stationary ring	Rotational ring	Elastomer
	STA-12R	Ø 12 mm	Ceramic	Graphite	NBR
8	LIP SEAL	Ø 12 x Ø 22 x H 6 mm			
9	BEARINGS	6201 ZZ / 6201 ZZ			
10	CAPACITOR				
	Pump	Capacitance			
	Single-phase	(230 V or 240 V)	(110 V)		
	ZXm 1B/40	12.5 µF 450 VL	30 µF - 250 VL		
	ZXm 1A/40	16 µF 450 VL	30 µF - 250 VL		
11	ELECTRIC MOTOR				
	ZXm: 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 5 metres				
13	FLOAT SWITCH (only for single-phase versions)				
14	HOSE CONNECTION				
	Ø 50 mm				

The diagram illustrates the internal components of the pump assembly. Callout 1 points to the pump body at the top. Callout 2 indicates the base. Callout 3 points to the impeller. Callout 4 points to the motor sleeve. Callout 5 points to the motor casing. Callout 6 points to the motor shaft. Callout 7 points to the shaft with double seal. Callout 8 points to the lip seal. Callout 9 points to the bearings. Callout 10 points to the capacitor. Callout 11 points to the electric motor. Callout 12 points to the power cable with a Schuko plug. Callout 13 points to the float switch. Callout 14 points to the hose connection at the bottom.



DIMENSIONS AND WEIGHT



MODEL	PORT	Passage of solids	DIMENSIONS mm									kg
Single-phase	DN		a	b	c	h	h1	d	e	p	□	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		
Single-phase	230 V	240 V	110 V
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
Single-phase	n. pumps	n. pumps
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 **650 l/min** (39 m³/h)
- Head up to **14 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:
 - **280 mm** for VX /35
 - **300 mm** for VX /50

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



CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



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

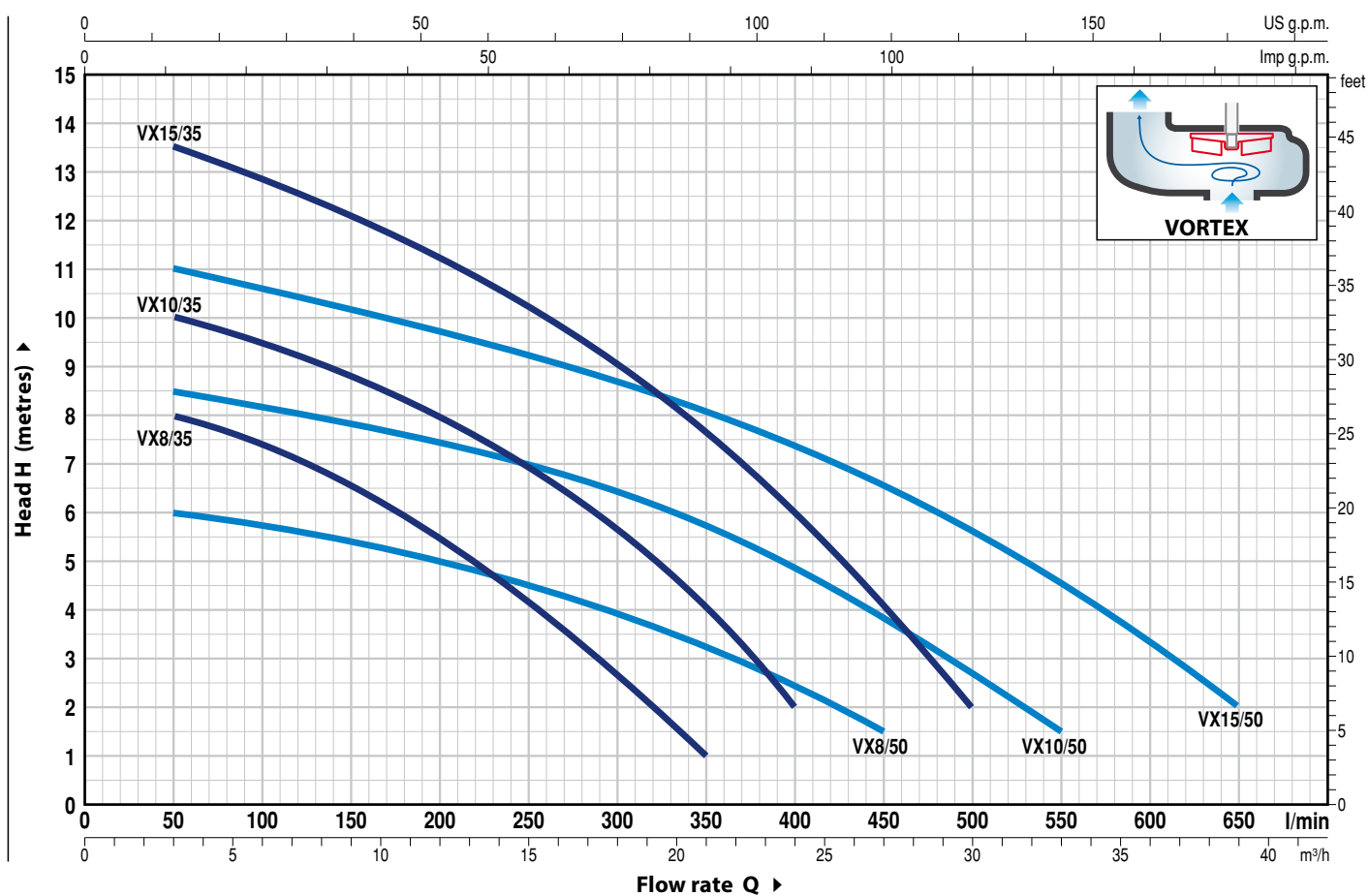
- Patent n. EP2313658
- Patent n. IT0001428923

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q													
Single-phase	Three-phase	kW	HP		m³/h	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
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 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

Q = Flow rate H = Total manometric head

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

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	BASE	Stainless steel AISI 304
3	IMPELLER	Stainless steel AISI 304 VORTEX type
4	MOTOR CASING	Stainless steel AISI 304
5	MOTOR CASING PLATE	Stainless steel AISI 304
6	MOTOR SHAFT	Stainless steel AISI 431

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>
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

<i>Pump Single-phase</i>	<i>Capacitance (230 V or 240 V) (110 V)</i>	
VXm 8/35	20 µF 450 VL	30 µF - 250 VL
VXm 8/50		
VXm 10/35		
VXm 10/50	25 µF 450 VL	–
VXm 15/35		
VXm 15/50		

10 ELECTRIC MOTOR

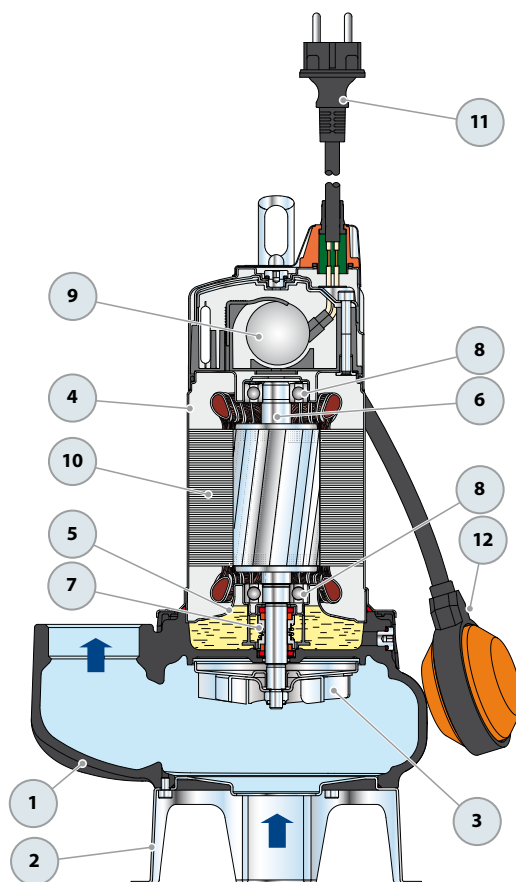
VXm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
VX: three-phase 400 V - 50 Hz
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

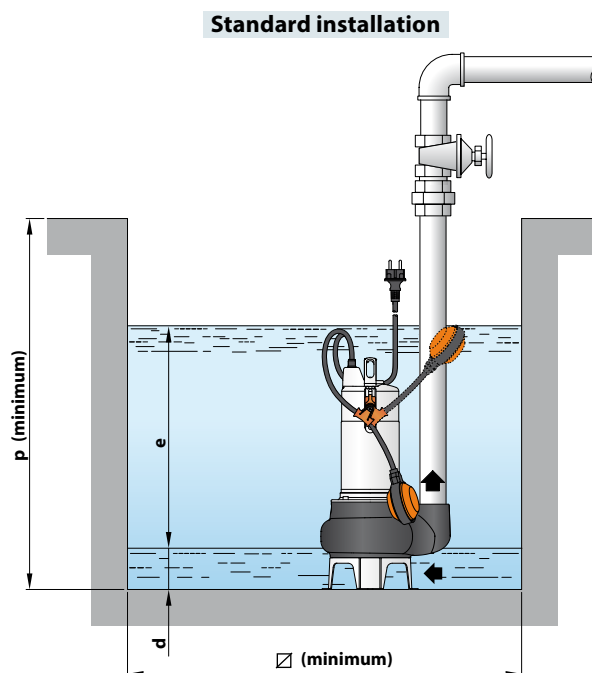
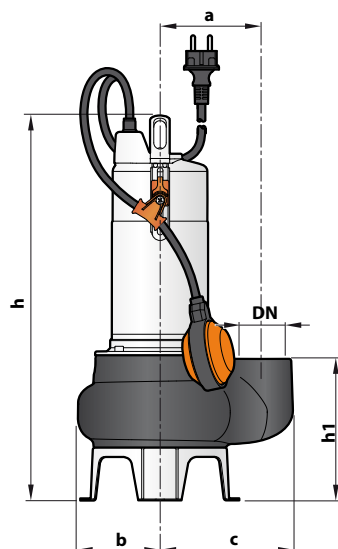
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres (10 metres for VX15/35-50)

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	h	h1	d	e	p	☐	1~	3~
VXm 8/35	VX 8/35	1½"	Ø 40 mm	115	95	148	410	139	50	variable	500	500	12.8	12.6
VXm 10/35	VX 10/35						421						13.7	12.6
VXm 15/35	VX 15/35						432						15.7	14.5
VXm 8/50	VX 8/50	2"	Ø 50 mm			155	432	164	60				13.3	13.1
VXm 10/50	VX 10/50						446						14.3	13.1
VXm 15/50	VX 15/50												16.1	15.0

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
VXm 8/35	3.5 A	3.5 A	7.0 A
VXm 10/35	4.8 A	4.8 A	11.5 A
VXm 15/35	7.4 A	7.0 A	–
VXm 8/50	3.7 A	3.6 A	7.0 A
VXm 10/50	5.0 A	4.8 A	11.5 A
VXm 15/50	7.1 A	7.0 A	–

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase				
VX 8/35	2.9 A	1.7 A	2.8 A	1.6 A
VX 10/35	3.5 A	2.0 A	3.3 A	1.9 A
VX 15/35	5.2 A	3.0 A	5.0 A	2.9 A
VX 8/50	3.1 A	1.8 A	2.9 A	1.7 A
VX 10/50	3.5 A	2.0 A	3.3 A	1.9 A
VX 15/50	5.2 A	3.0 A	5.0 A	2.9 A

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
VXm 8/35	VX 8/35	60	80
VXm 10/35	VX 10/35	60	80
VXm 15/35	VX 15/35	54	72
VXm 8/50	VX 8/50	54	72
VXm 10/50	VX 10/50	54	72
VXm 15/50	VX 15/50	54	72

Submersible pumps

 Sewage water

 Domestic use

 Civil use

 Industrial use


PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m³/h)
- Head up to **15 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: **300 mm**

CONSTRUCTION AND SAFETY STANDARDS

- Power cable length:
 - **5 m** for BC10/50
 - **10 m** for BC15/50
- Float switch for single-phase versions

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

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



CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



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

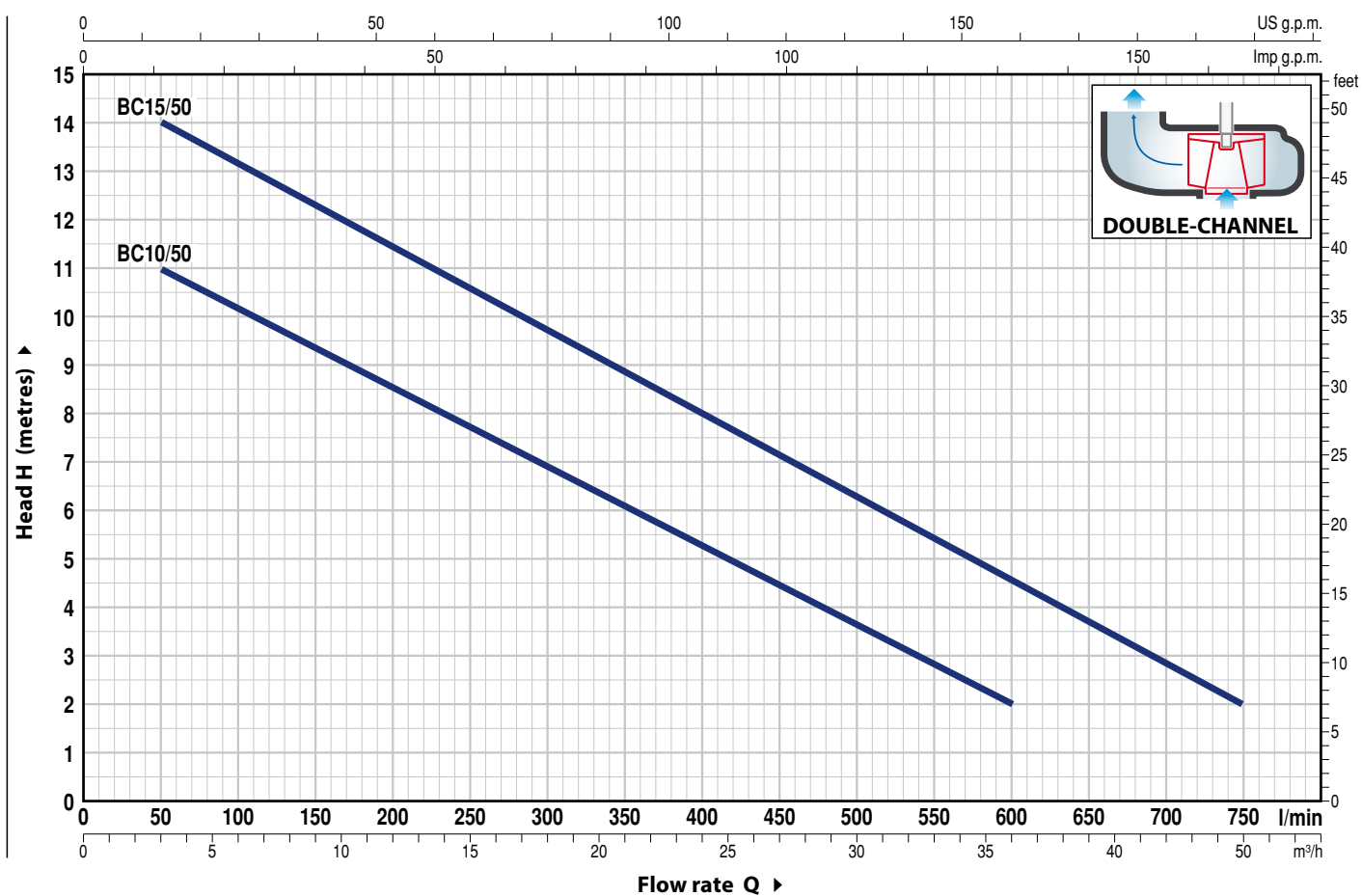
- Patent n. EP2313658
- Patent n. IT0001428923

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q m³/h l/min	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
BCm 10/50	BC 10/50	0.75	1	H metres	12	11	10	8.5	7	5	3.5	2		
BCm 15/50	BC 15/50	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 PUMP BODY Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1

2 BASE Stainless steel AISI 304

3 IMPELLER Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type

4 MOTOR CASING Stainless steel AISI 304

5 MOTOR CASING PLATE Stainless steel AISI 304

6 MOTOR SHAFT Stainless steel AISI 431

7 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Stationary ring</i>	<i>Materials</i> <i>Rotational ring</i>	<i>Elastomer</i>
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

<i>Pump</i>	<i>Capacitance</i>	
<i>Single-phase</i>	<i>(230 V or 240 V)</i>	<i>(110 V)</i>
BCm 10/50	20 µF 450 VL	30 µF - 250 VL
BCm 15/50	25 µF 450 VL	–

10 ELECTRIC MOTOR

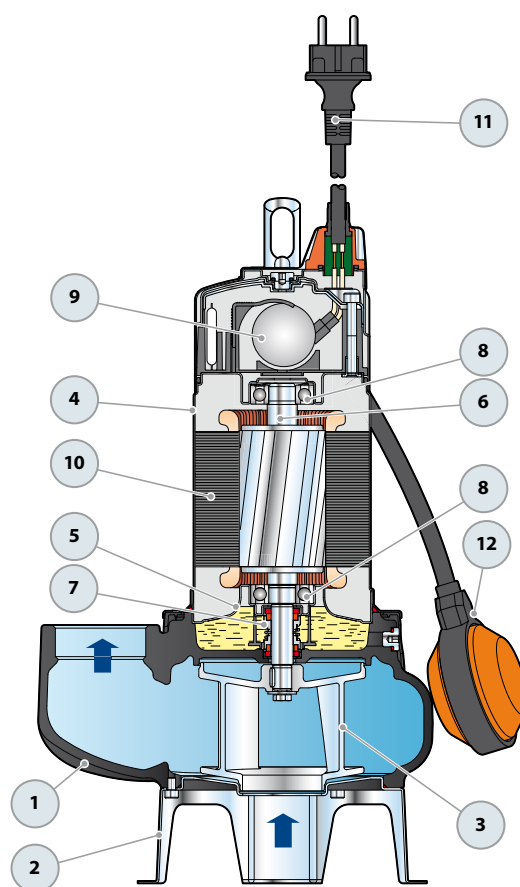
BCm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
BC: three-phase 400 V - 50 Hz
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

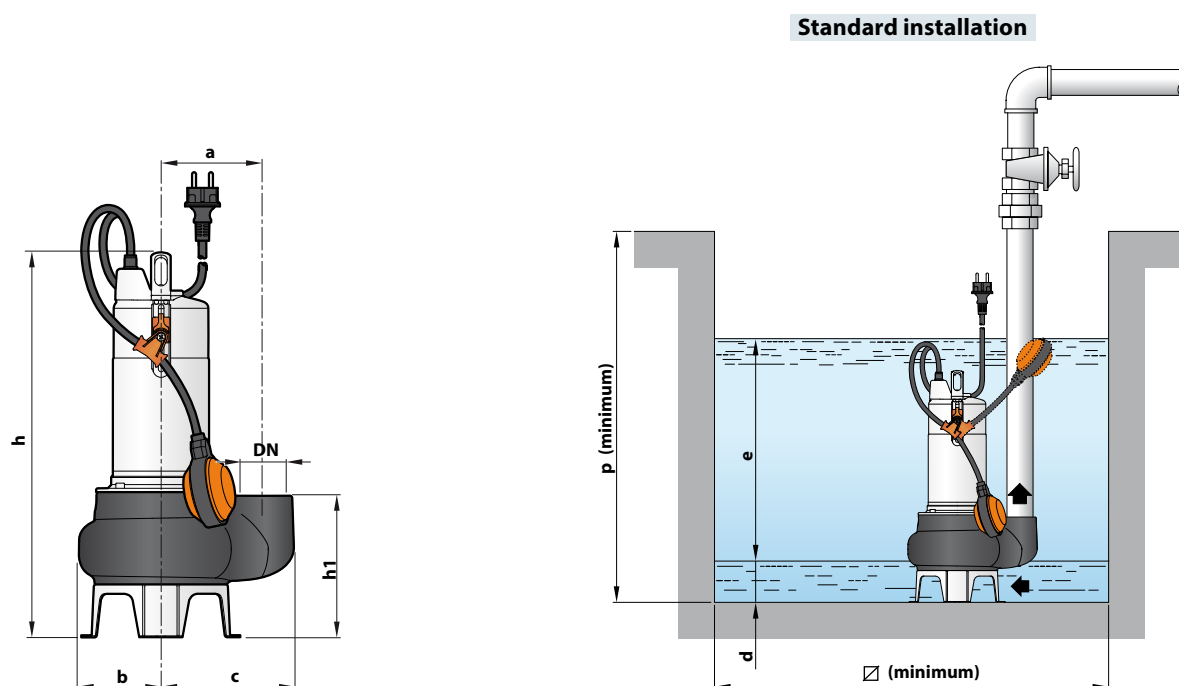
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres (10 metres for BC15/50)

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	h	h1	d	e	p	Ø	1~	3~
BCm 10/50	BC 10/50	2"	Ø 50 mm	115	95	155	432	164	60	variable	500	500	14.8	13.8
BCm 15/50	BC 15/50						447						16.4	15.3

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
BCm 10/50	5.0 A	5.0 A	11.8 A
BCm 15/50	8.2 A	8.0 A	–

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
BC 10/50	3.6 A	2.1 A	3.5 A	2.0 A
BC 15/50	5.5 A	3.2 A	5.4 A	3.1 A

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
BCm 10/50	BC 10/50	54	72
BCm 15/50	BC 15/50	54	72

 Sewage water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **650 l/min** (39 m³/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
 - up to **Ø 50 mm** for VXC /45
- Minimum immersion depth for continuous service:
 - **280 mm** for VXC /35
 - **300 mm** for VXC /45

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

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, sewage water and mixed with mud.**

PATENTS - TRADE MARKS - MODELS

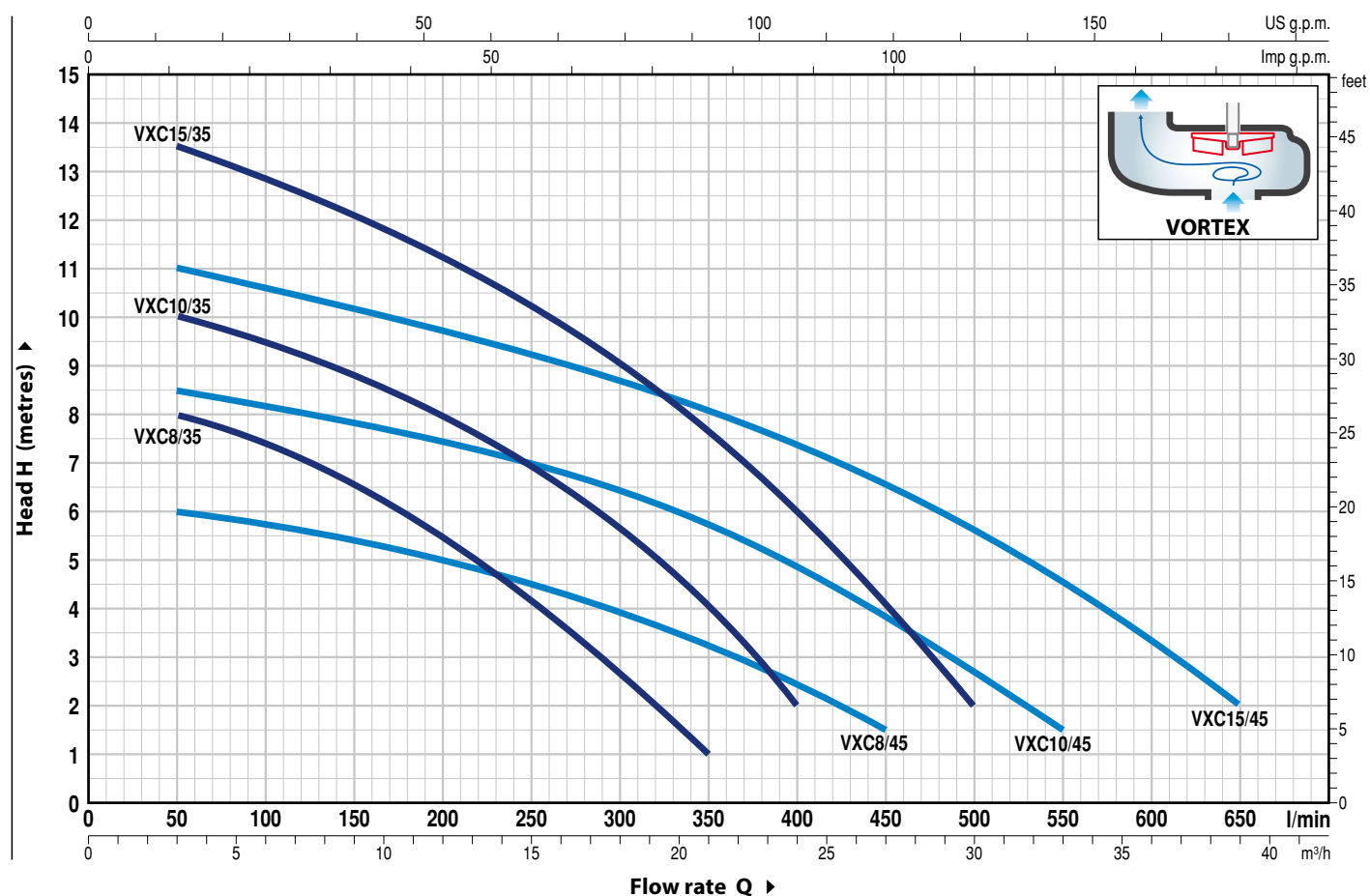
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

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⁻¹



MODEL		POWER (P ₂)		Q													
Single-phase	Three-phase	kW	HP		m³/h	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	VXC 8/35	0.55	0.75	H metres		9	8	7.5	5.5	2.7	1						
VXCm 10/35	VXC 10/35	0.75	1			11	10	9.5	8	5.7	4	2					
VXCm 15/35	VXC 15/35	1.1	1.5			14	13.5	12.8	11.2	9	7.7	6	4	2			
VXCm 8/45	VXC 8/45	0.55	0.75			6.5	6	5.8	5	4	3.3	2.5	1.5				
VXCm 10/45	VXC 10/45	0.75	1			9	8.5	8.2	7.5	6.5	5.8	5	3.8	2.5	1.5		
VXCm 15/45	VXC 15/45	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

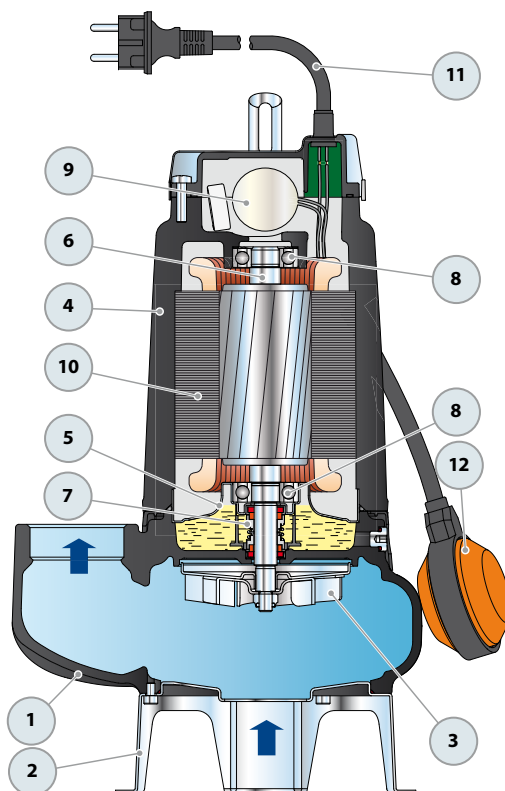
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

POS. COMPONENT

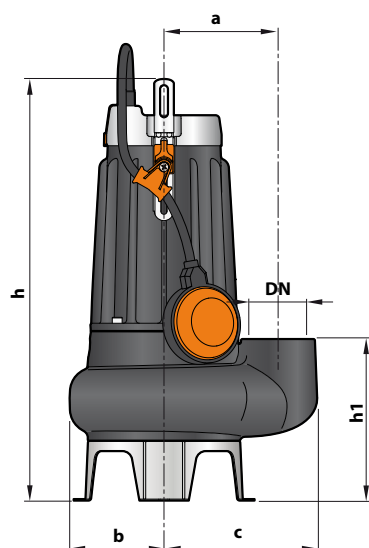
CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1				
2	BASE	Stainless steel AISI 304				
3	IMPELLER	Stainless steel AISI 304 VORTEX type				
4	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment				
5	MOTOR CASING PLATE	Stainless steel AISI 304				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER					
Seal		Shaft	Position	Materials		
Model	Diameter			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)			
VXCm 8/35		20 µF 450 VL	30 µF - 250 VL			
VXCm 8/45						
VXCm 10/35						
VXCm 10/45						
VXCm 15/35		25 µF 450 VL	-			
VXCm 15/45						
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)					

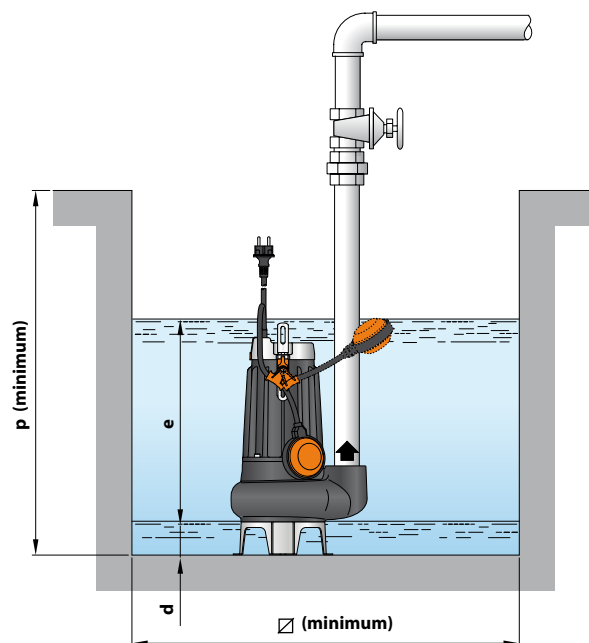
The diagram shows a vertical cross-section of a pump assembly. At the top, a power cable (11) with a Schuko plug enters the motor housing. Below the motor casing (4), the motor shaft (6) is visible, supported by bearings (8). The shaft passes through a double mechanical seal (7) which is separated by an oil chamber. The seal consists of a stationary ring (Silicon carbide) and a rotational ring (Graphite/Silicon carbide) with an NBR elastomer. The impeller (3) is mounted on the shaft. The pump body (1) is at the bottom, with an outlet port. A float switch (12) is connected to the motor assembly. The base (2) is at the very bottom. The motor casing plate (5) is also shown.



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	Ø	1~	3~
VXCm 8/35	VXC 8/35	1½"	Ø 40 mm	115	95	148	389	139	50	variable	500	500	16.8	16.7
VXCm 10/35	VXC 10/35						403						17.6	16.7
VXCm 15/35	VXC 15/35												19.3	18.2
VXCm 8/45	VXC 8/45	2"	Ø 50 mm	115	95	155	413	164	60	variable	500	500	17.4	17.2
VXCm 10/45	VXC 10/45						428						18.3	17.2
VXCm 15/45	VXC 15/45												19.8	18.8

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
VXCm 8/35	3.5 A	3.4 A	7.0 A
VXCm 10/35	4.8 A	4.6 A	11.0 A
VXCm 15/35	7.4 A	7.0 A	–
VXCm 8/45	3.7 A	3.5 A	7.4 A
VXCm 10/45	5.0 A	4.8 A	11.5 A
VXCm 15/45	7.1 A	7.0 A	–

MODEL	VOLTAGE			
	230 V	400 V	240 V	415 V
Three-phase				
VXC 8/35	2.9 A	1.7 A	2.8 A	1.65 A
VXC 10/35	3.5 A	2.0 A	3.3 A	1.95 A
VXC 15/35	5.2 A	3.0 A	5.0 A	2.9 A
VXC 8/45	3.1 A	1.8 A	2.9 A	1.75 A
VXC 10/45	3.5 A	2.0 A	3.3 A	1.95 A
VXC 15/45	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	VXC 8/35	60	80
VXCm 10/35	VXC 10/35	60	80
VXCm 15/35	VXC 15/35	60	80
VXCm 8/45	VXC 8/45	54	72
VXCm 10/45	VXC 10/45	54	72
VXCm 15/45	VXC 15/45	54	72

Submersible pumps

 Sewage water

 Domestic use

 Civil use


PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m³/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

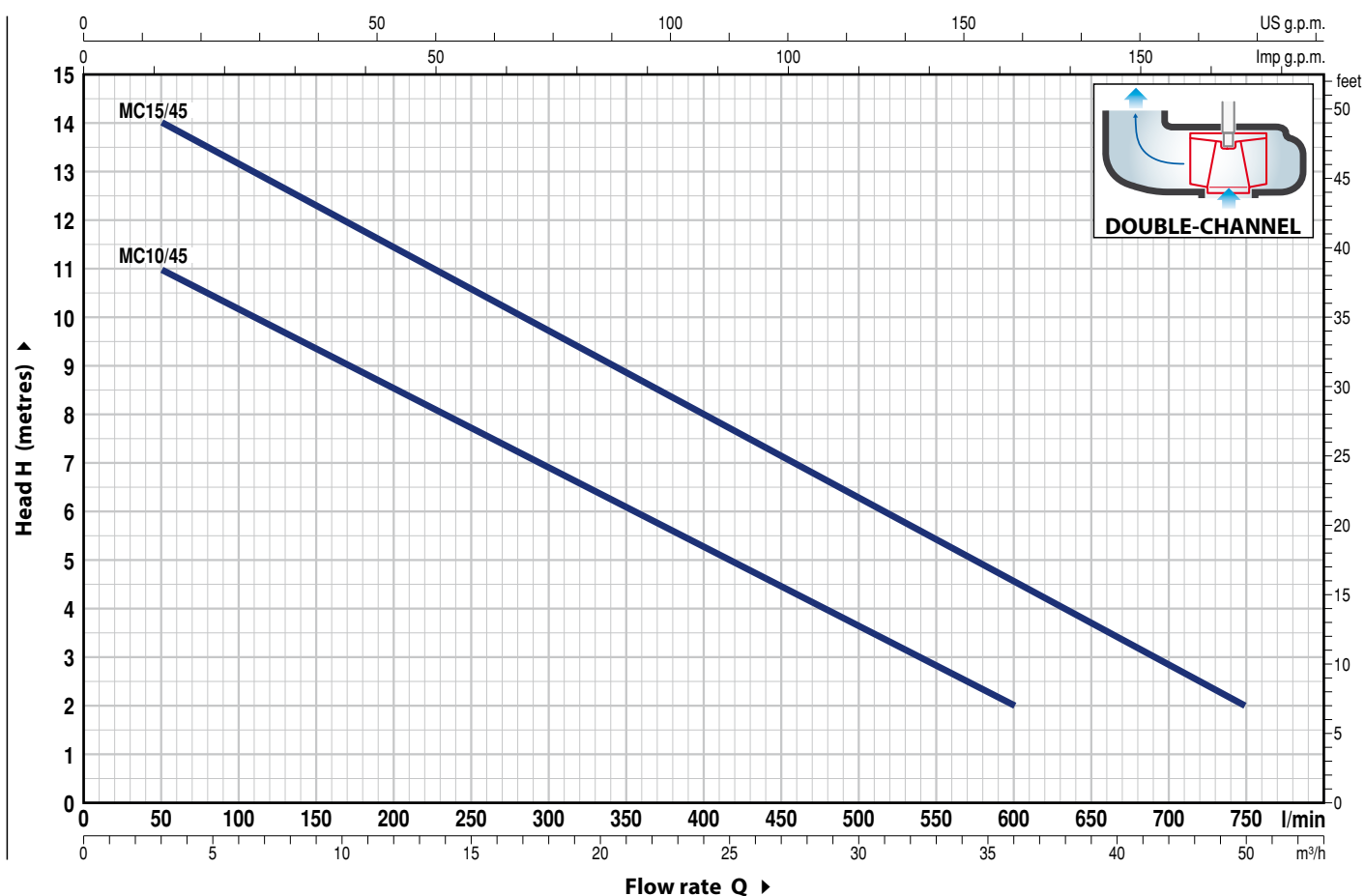
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

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⁻¹



MODEL		POWER (P ₂)		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

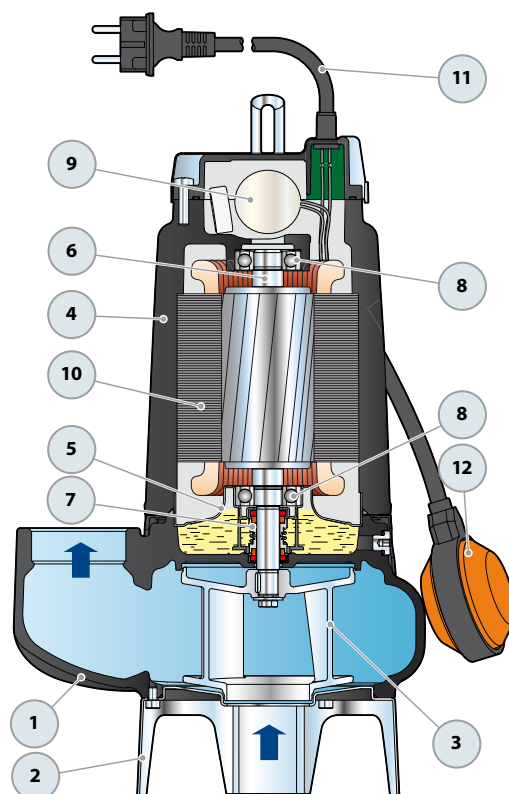
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

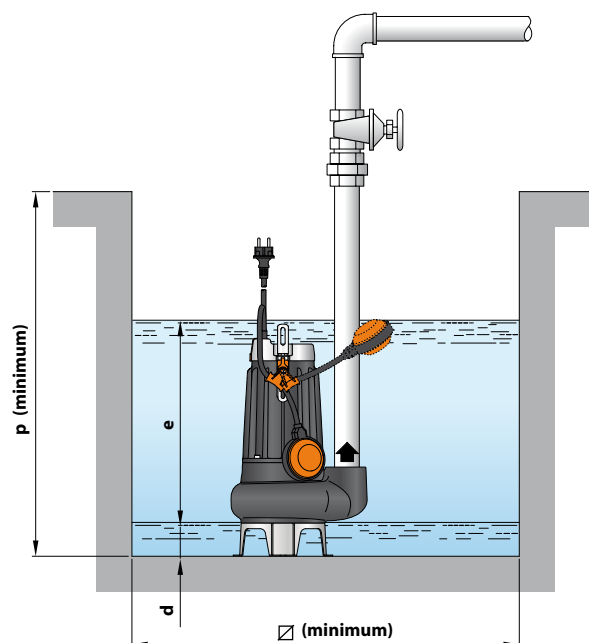
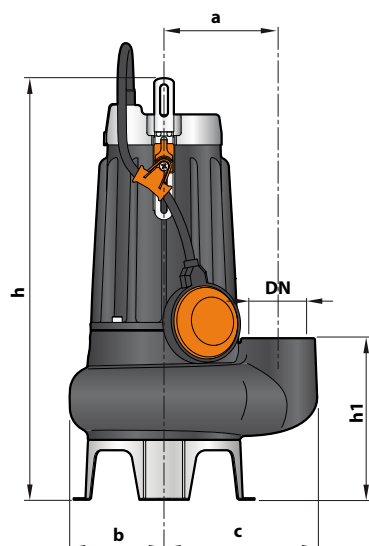
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1				
2	BASE	Stainless steel AISI 304				
3	IMPELLER	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type				
4	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment				
5	MOTOR CASING PLATE	Stainless steel AISI 304				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER					
Seal		Shaft	Position	Materials		
Model	Diameter			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)						

The diagram shows a vertical cross-section of the pump assembly. At the top, a power cable with a Schuko plug (11) enters the motor housing. The motor casing (4) contains the electric motor (10) with its capacitor (9). The motor shaft (6) passes through the motor casing and is sealed by a double mechanical seal (7) with stationary and rotational rings. The shaft (6) is supported by bearings (8) on both sides. The shaft extends down to the impeller (3) which is mounted on the motor shaft. The impeller is housed within the pump body (1) which has a threaded port at the top. A float switch (12) is attached to the bottom of the pump body. The entire assembly is mounted on a base (2).



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	□ (minimum)	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						20.1	18.9

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

Submersible drainage pumps

 Clear water

 Domestic use

 Civil use



PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m³/h)
- Head up to **26 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** above ground level
- Minimum immersion depth for continuous service: **220 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

DC submersible pumps, made from heavy gauge cast iron offering exceptional sturdiness, abrasion resistance and durability, are suitable for draining **clear or slightly dirty water**. They distinguish themselves for their sturdiness and reliability under automatic operating conditions in fixed installations.

PATENTS - TRADE MARKS - MODELS

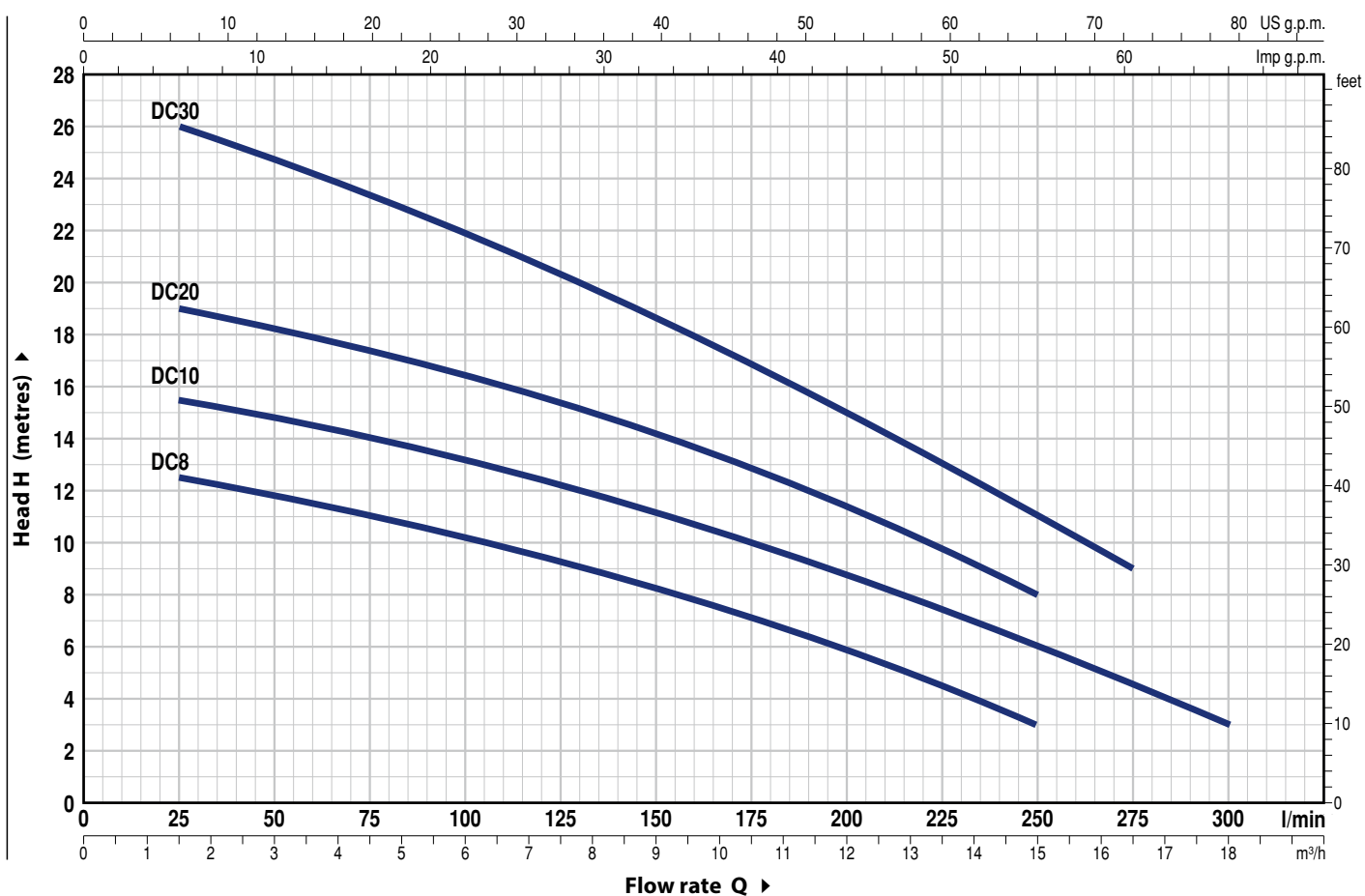
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

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⁻¹



MODEL		POWER (P ₂)		Q														
Single-phase	Three-phase	kW	HP		m³/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
DCm 8	DC 8	0.55	0.75	H metres		13	12.5	11.8	11	10.2	9.2	8.2	7	5.8	4.7	3		
DCm 10	DC 10	0.75	1			16	15.5	14.8	14	13.2	12.2	11.2	10	8.8	7.8	6	4.5	3
DCm 20	DC 20	0.75	1			20	19	18.5	17.5	16.5	15.5	14.3	13	11.5	10	8		
DCm 30	DC 30	1.1	1.5			26	26	24.8	23.5	22	20.4	18.7	16.9	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	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	SUCTION FILTER	Stainless steel AISI 304
3	SUCTION PLATE	Stainless steel AISI 304
4	IMPELLER	Technopolymer open type
5	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment
6	MOTOR CASING PLATE	Stainless steel AISI 304
7	MOTOR SHAFT	Stainless steel AISI 431

8 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

<i>Pump Model</i>	<i>Seal Model</i>	<i>Shaft Diameter</i>	<i>Position</i>	<i>Stationary ring</i>	<i>Materials</i> <i>Rotational ring</i>	<i>Elastomer</i>
DC8	MG1-14D SIC	Ø 14 mm	Motor side	Silicon carbide	Graphite	NBR
DC10			Pump side	Silicon carbide	Silicon carbide	NBR
DC20						
(Double seal on shaft with a ring seal Ø 16 x Ø 24 x H 5 mm)						
DC30	ST1-14 SIC	Ø 14 mm		Ceramic	Silicon carbide	NBR

9 BEARINGS 6203 ZZ / 6203 ZZ

10 CAPACITOR

<i>Pump Single-phase</i>	<i>Capacitance (230 V or 240 V)</i>	<i>(110 V)</i>
DCm8	20 µF 450 VL	30 µF - 250 VL
DCm10		
DCm20		
DCm30	25 µF 450 VL	–

11 ELECTRIC MOTOR

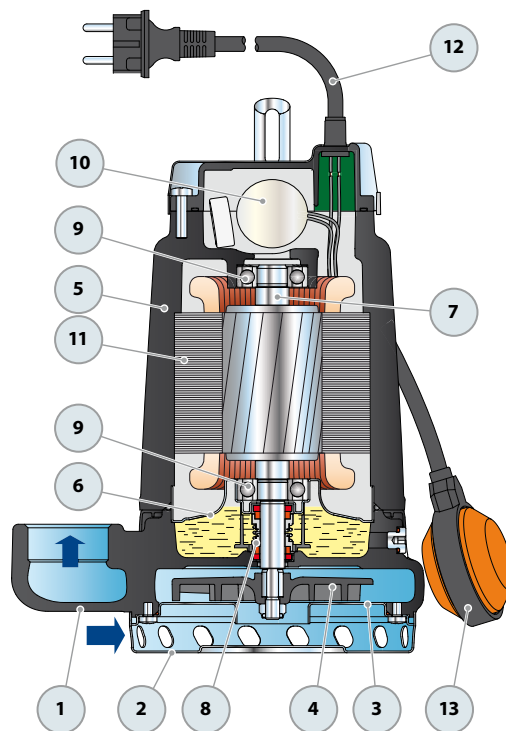
DCm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
DC: three-phase 400 V - 50 Hz
– Insulation: class F
– Protection: IP X8

12 POWER CABLE

"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 10 metres

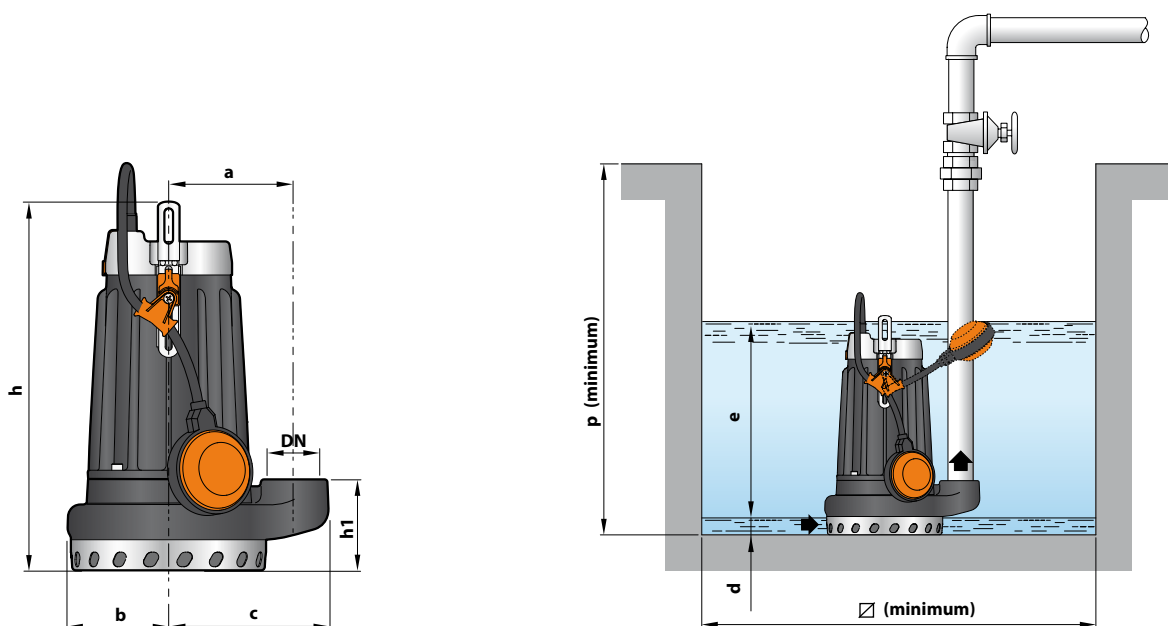
13 FLOAT SWITCH

(only for single-phase versions)



DIMENSIONS AND WEIGHT

Standard installation



MODEL		PORT DN	DIMENSIONS mm									kg	
Single-phase	Three-phase		a	b	c	h	h1	d	e	p	Ø	1~	3~
DCm 8	DC 8	1½"	115	85	147	322	72	17	variable	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			93		337	84					18.8	17.7

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
DCm 8	3.2 A	3.1 A	6.4 A
DCm 10	4.7 A	4.5 A	–
DCm 20	5.7 A	5.6 A	11.4 A
DCm 30	7.2 A	7.0 A	–

MODEL	VOLTAGE			
	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

PALLETIZATION

MODEL		GROUPAGE n. pumps	CONTAINER n. pumps
Single-phase	Three-phase		
DCm 8	DC 8	60	80
DCm 10	DC 10	60	80
DCm 20	DC 20	60	80
DCm 30	DC 30	60	80



Sewage water



Domestic use



Civil use



PERFORMANCE RANGE

- Flow rate up to **260 l/min** (15.6 m³/h)
- Head up to **31 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
- Minimum immersion depth for continuous service:
 - **300 mm** for TR 0.75-0.9-1.1-1.3
 - **350 mm** for TR 1.5-2.2

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 **TRITUS** series of grinder pumps manufactured from heavy gauge robust cast iron, resistant to abrasion and long-lasting, 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 and civil applications and conveys it under pressure into the sewers through small diameter pipes.

PATENTS - TRADE MARKS - MODELS

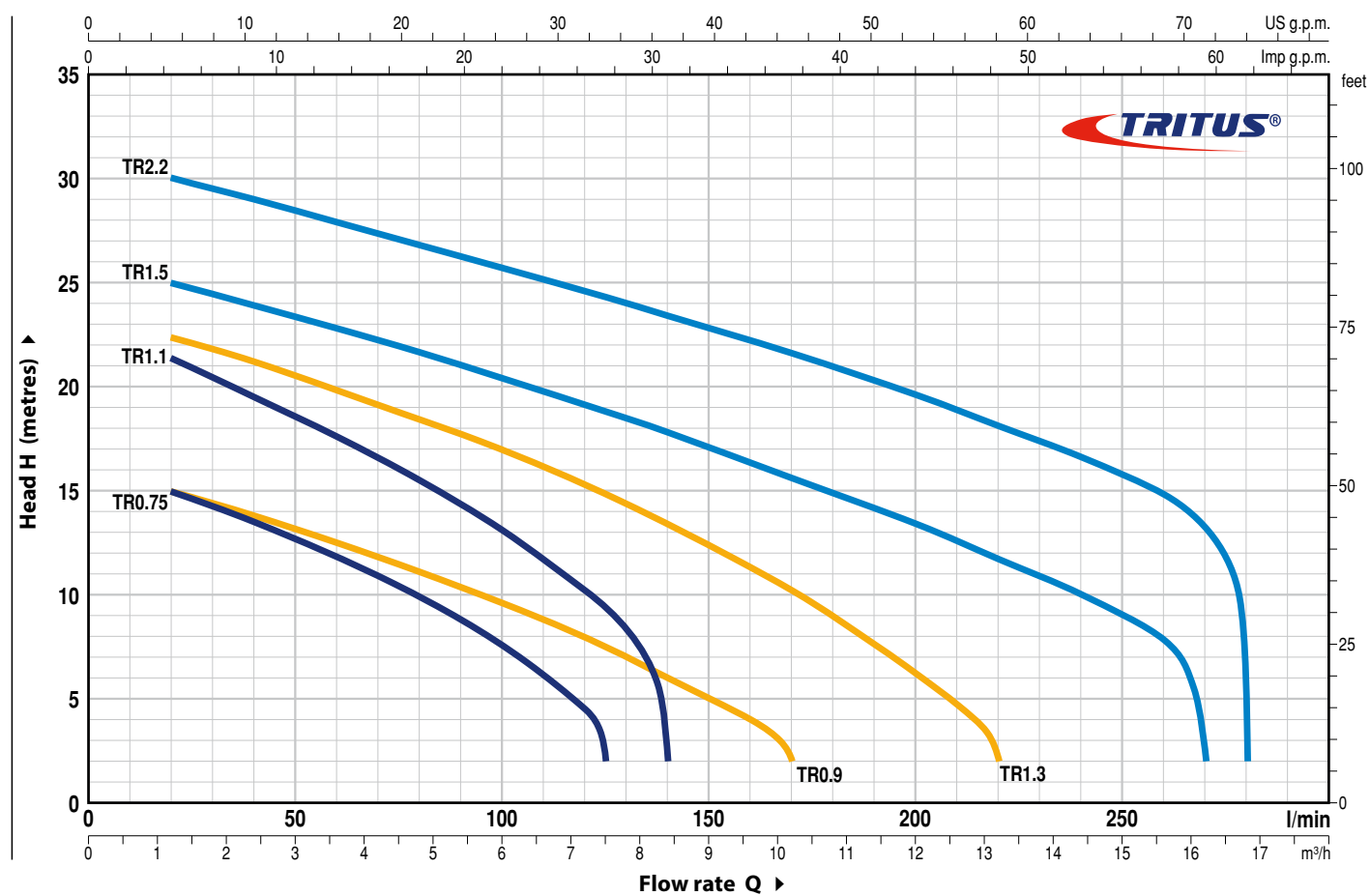
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0002 (TR 0.75, TR 0.9, TR 1.1, TR 1.3)
- TRITUS® Registered trade mark n. 013017181

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⁻¹



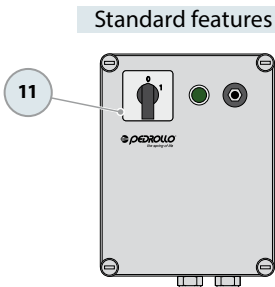
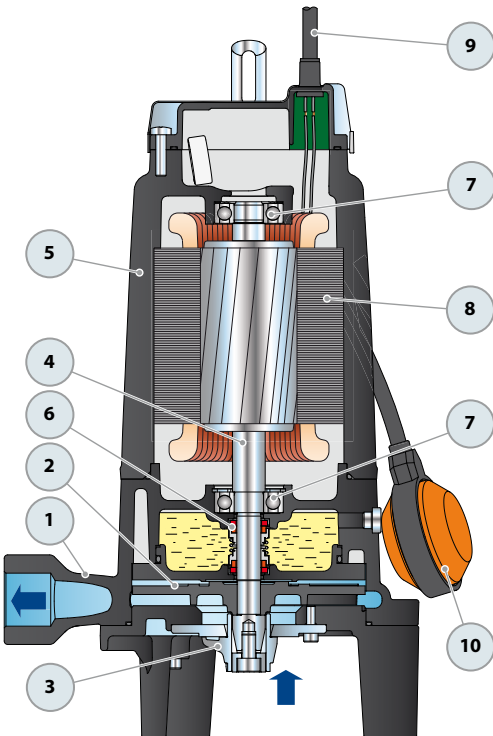
MODEL		POWER (P ₂)		Q														
Single-phase	Three-phase	kW	HP		0	1.2	2.4	3.6	4.8	6.0	7.5	8.4	10.2	12	13.2	14.4	16.2	16.8
					0	20	40	60	80	100	125	140	170	200	220	240	270	280
TRm 0.75	TR 0.75	0.75	1	H metres	16.5	15	13.5	11.8	10	7.5	2							
TRm 0.9	TR 0.9	0.9	1.25		16	15	13.8	12.5	11.1	9.6	7.5	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	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	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1				
2	IMPELLER	Technopolymer open type				
3	GRINDER	Tempered AISI 440C stainless steel				
4	MOTOR SHAFT	Stainless steel AISI 431				
5	MOTOR CASING	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
	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 capacitors for starting and operating.					
	Pump Single-phase (230 V or 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					

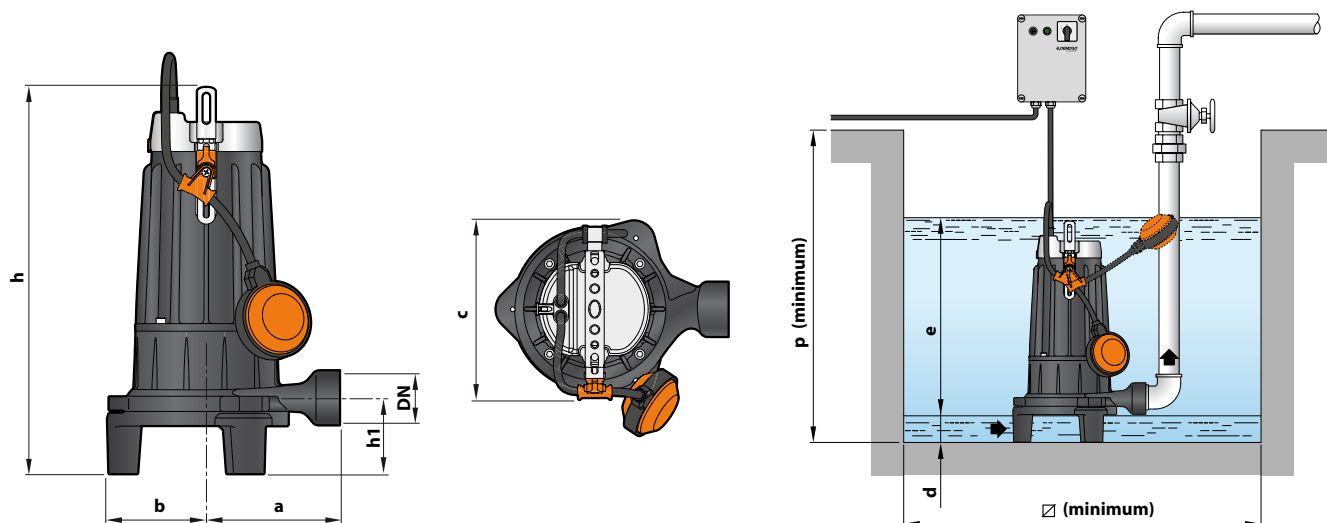


Standard features

Control box
(only for single-phase versions)

DIMENSIONS AND WEIGHT

Standard installation (for single-phase version)



MODEL		PORT DN	DIMENSIONS mm									kg *	
Single-phase	Three-phase		a	b	c	h	h1	d	e	p	Ø	1~	3~
TRm 0.75	TR 0.75	1¼"	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	
	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			
	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

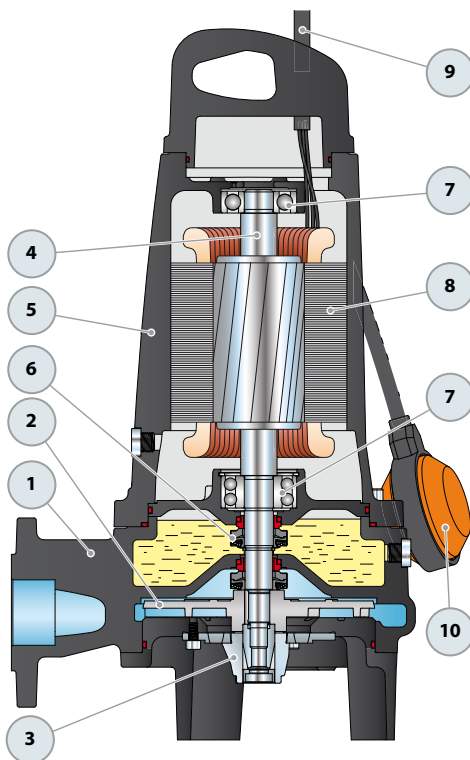
PALLETIZATION

MODEL	GROUPAGE
	n. pumps
TRm 0.75	36
TRm 0.9	36
TRm 1.1	36
TRm 1.3	36

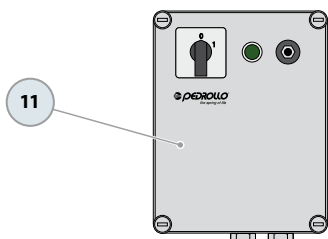
MODEL	GROUPAGE
	n. pumps
TR 0.75	60
TR 0.9	60
TR 1.1	60
TR 1.3	60

TRITUS 1.5 – 2.2

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1				
2	IMPELLER	Precision cast stainless steel AISI 304 open type				
3	GRINDER	Tempered AISI 440C stainless steel				
4	MOTOR SHAFT	Stainless steel AISI 431				
5	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment				
6	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER					
	Seal	Shaft	Position	Materials		
	Model	Diameter		Stationary ring	Rotational ring	Elastomer
	STA-20	Ø 20 mm	Motor side	Graphite	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 <u>with thermal overload protector incorporated into the winding to be connected to the control box</u>					
	– 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 capacitors for starting and operating.					
	Pump Single-phase (230 V or 240 V)	Capacitance of the operating capacitor	Capacitance of the starting capacitor			
	TRm 1.5	50 µF 450 VL	80 µF 450 VL			



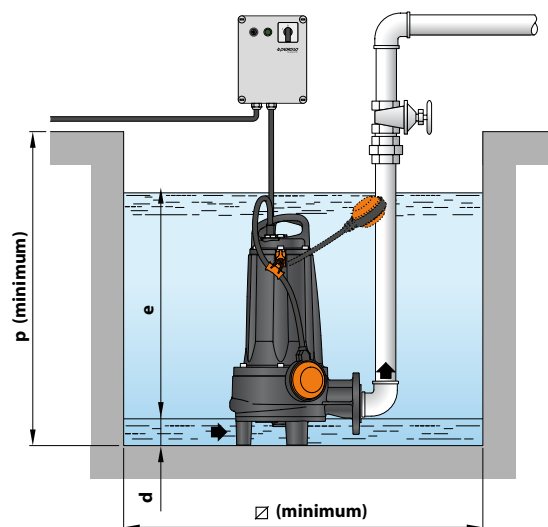
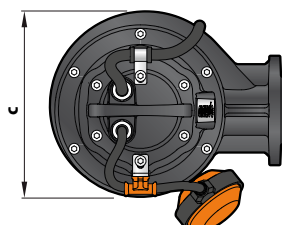
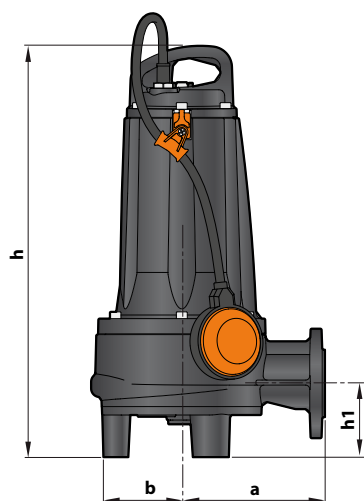
Standard features



Control box
(only for single-phase versions)

DIMENSIONS AND WEIGHT

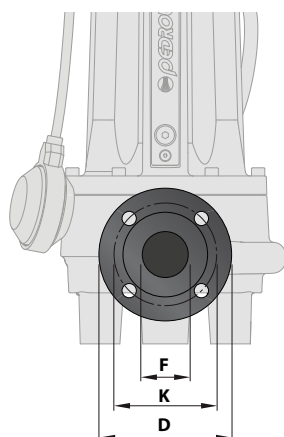
Standard installation (for single-phase version)



MODEL		DIMENSIONS mm									kg	
Single-phase	Three-phase	a	b	c	h	h1	d	e	p	∅	1~	3~
TRm 1.5	TR 1.5	172	105	221	489	87.5	95	variable	800	800	45.5	42.1
-	TR 2.2										-	44.4

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

PALLETIZATION

MODEL	GROUPAGE
	n. pumps
TRm 1.5	10
TR 1.5	12
TR 2.2	12

SEWAGE LIFTING SYSTEM TRITUS



A) HORIZONTAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For TR 0.75, TR 0.9, TR 1.1, TR 1.3	Cod. ASSPTRITUS11	DN 2"
For TR 1.5, TR 2.2	Cod. ASSPTRITUS22	DN 2"

Kit consisting of:

- footing connection
- slide guide
(with ring nut and seal for TR 0.75, TR 0.9, TR 1.1, TR 1.3,
with screws and seal for TR 1.5 and TR 2.2)
- support for the guide tubes

B) VERTICAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For TR 0.75, TR 0.9, TR 1.1, TR 1.3	Cod. ASSPTRITUS11V	DN 2½"
For TR 1.5, TR 2.2	Cod. ASSPTRITUS22V	DN 2½"

Kit consisting of:

- footing connection complete with counterflange
- slide guide
(with ring nut and seal for TR 0.75, TR 0.9, TR 1.1, TR 1.3,
with screws and seal for TR 1.5 and TR 2.2)
- support for the guide tubes

● INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV340INTFA For Ø 3/4" guide tubes



In order to ensure stability, insert one intermediate support every two metres of guide tube

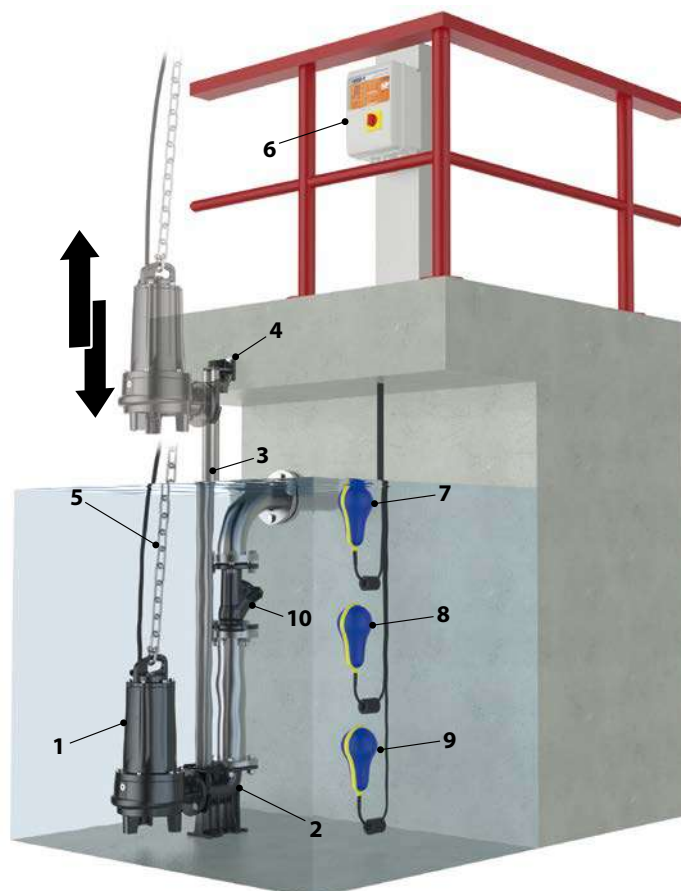
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG005 Ø 3/4"

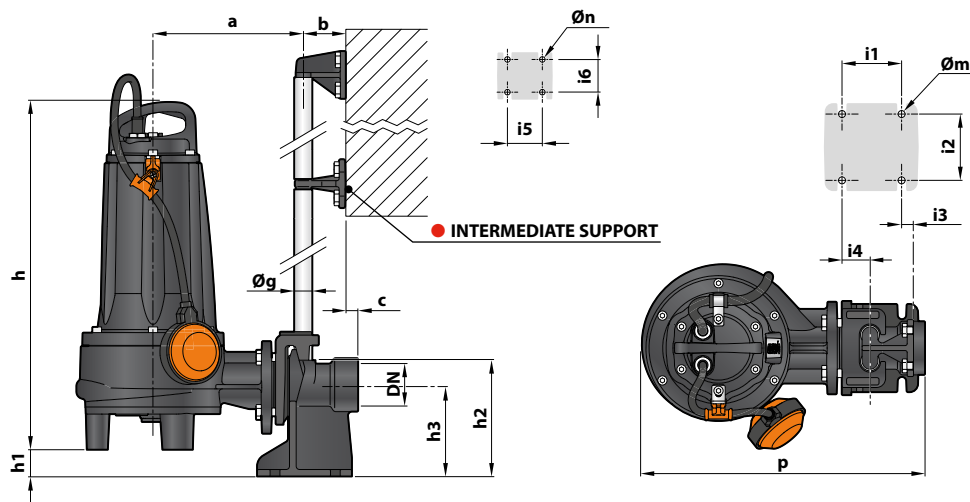
Maximum length of the tube plank: 6 metres

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

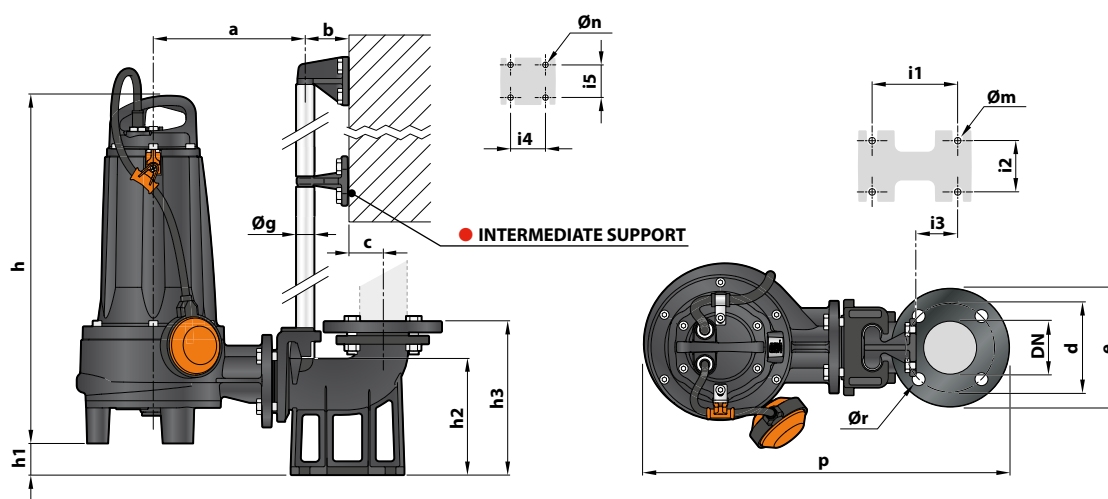


DIMENSIONS (Horizontal delivery version)



MODEL		PORT	DIMENSIONS mm																
Single-phase	Three-phase	DN	a	b	c	p	h	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn
TRm 0.75	TR 0.75	2"	210	61	17	392	405	50	165	130	85	94	40	16	50	48	¾"	12	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"	216	61	17	401	489	40	165	130	85	94	40	16	50	48	¾"	12	11
-	TR 2.2																		

DIMENSIONS (Vertical delivery version)



MODEL		PORT	DIMENSIONS mm																		
Single-phase	Three-phase	DN	a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
TRm 0.75	TR 0.75	2½"	202	61	52	125	165	501	405	48	164	216	120	72	62	50	48	¾"	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"	212	61	52	125	165	515	489	38	164	216	120	72	62	50	48	¾"	14	11	18
-	TR 2.2																				

 Sewage water

 Domestic use

 Civil use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **1200 l/min** (72 m³/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 solids:
 - up to **Ø 50 mm** for VXC /50
 - up to **Ø 70 mm** for VXC /70
- Minimum immersion depth for continuous service:
 - **390 mm** for VXC /50
 - **430 mm** for VXC /70

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 **VXC** 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

- Patent n. IT0001428923
- Registered EU Design n. 342159-0017

OPTIONS AVAILABLE ON REQUEST

- QES control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

GUARANTEE

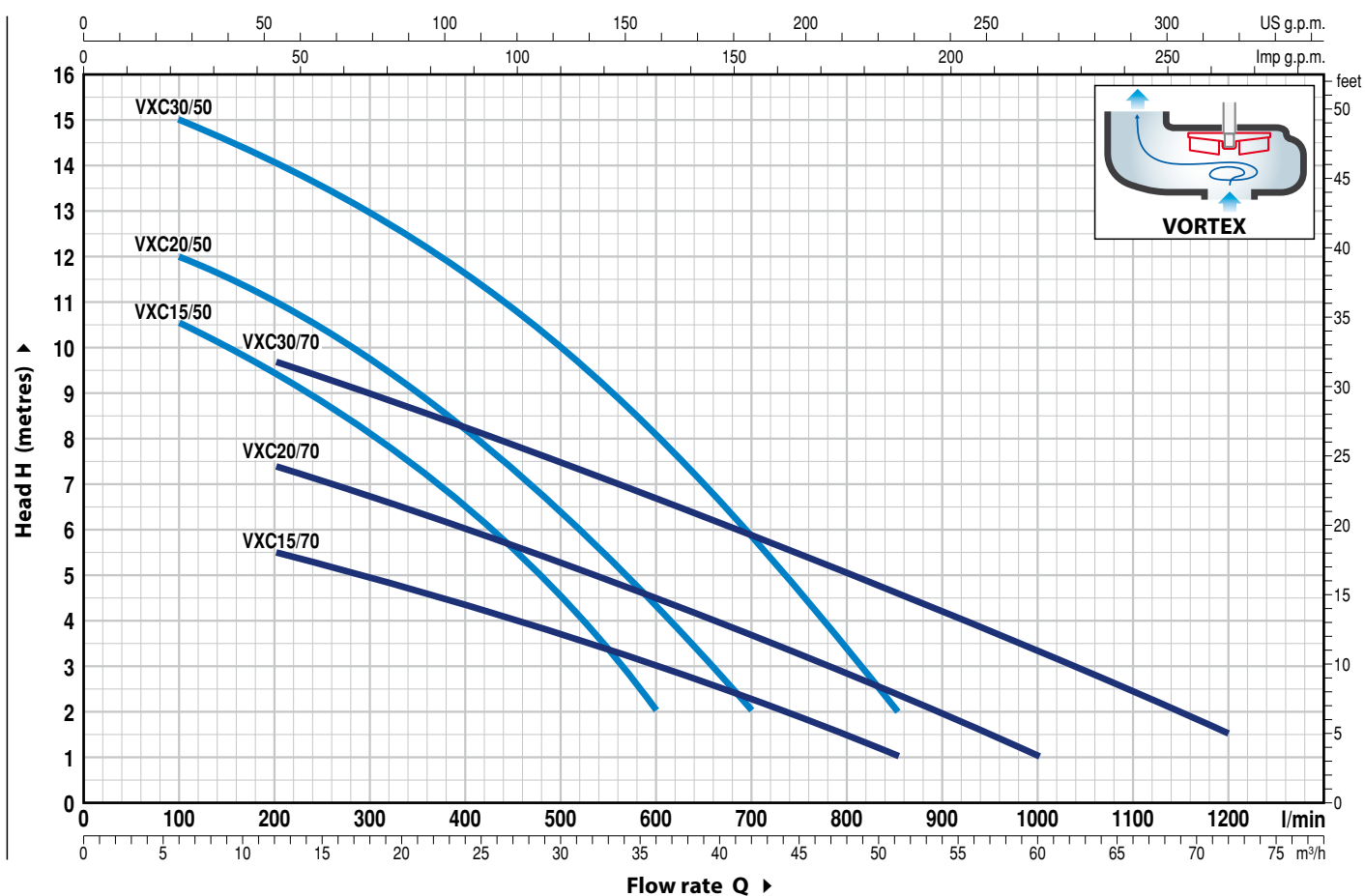
➡ For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:

single-phase
– VXCm 30/50
– VXCm 30/70

three-phase
– VXC 15-20-30/50
– VXC 15-20-30/70

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q	m³/h l/min	0	6	12	18	21	24	30	36	42	48	51	54	60	66	72
Single-phase	Three-phase	kW	HP			0	100	200	300	350	400	500	600	700	800	850	900	1000	1100	1200
VXCm 15/50	VXC 15/50	1.1	1.5	H metres	11.5	10.5	9.5	8.2	7.2	6.5	4.5	2								
VXCm 20/50	VXC 20/50	1.5	2		13	12	11	9.5	9	8	6.5	4.5	2							
VXCm 30/50	VXC 30/50	2.2	3		16	15	14	13	12.3	11.5	10	8	5.9	3.3	2					
VXCm 15/70	VXC 15/70	1.1	1.5		6.5	–	5.5	5	4.7	4.4	3.7	3	2.2	1.5	1					
VXCm 20/70	VXC 20/70	1.5	2		8.5	–	7.4	6.7	6.3	6	5.2	4.5	3.6	2.8	2.4	2	1			
VXCm 30/70	VXC 30/70	2.2	3		11	–	9.7	9	8.6	8.2	7.5	6.7	5.8	5	4.6	4.2	3.3	2.5	1.5	

Q = Flow rate H = Total manometric head

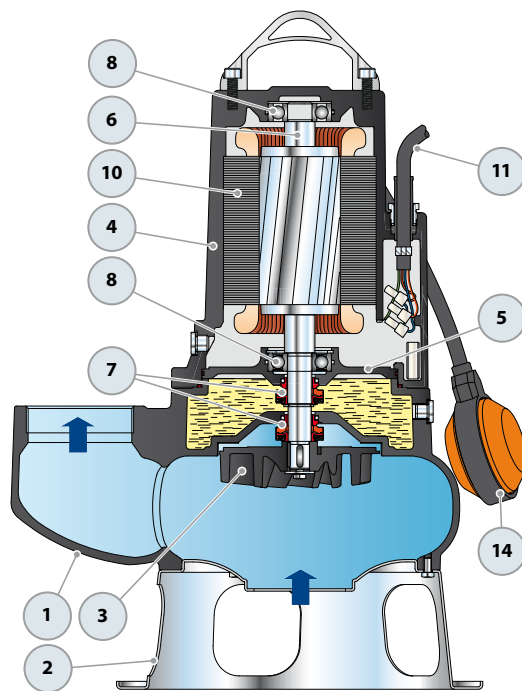
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

POS. COMPONENT CONSTRUCTION CHARACTERISTICS

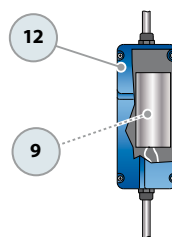
1	PUMP BODY	Cast iron with threaded port in compliance with ISO 228/1																								
2	BASE	Stainless steel AISI 304																								
3	IMPELLER	VORTEX type in cast iron with an Epoxy Electro Coating treatment																								
4	MOTOR CASING	Cast iron																								
5	MOTOR CASING PLATE	Cast iron																								
6	MOTOR SHAFT	Stainless steel AISI 431																								
7	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER																									
<table><tr><th>Seal</th><th>Shaft</th><th>Position</th><th colspan="3">Materials</th></tr><tr><th>Model</th><th>Diameter</th><th></th><th>Stationary ring</th><th>Rotational ring</th><th>Elastomer</th></tr><tr><td>STA-20</td><td>Ø 20 mm</td><td>Motor side</td><td>Ceramic</td><td>Graphite</td><td>NBR</td></tr><tr><td>STA-19</td><td>Ø 19 mm</td><td>Pump side</td><td>Silicon carbide</td><td>Silicon carbide</td><td>NBR</td></tr></table>			Seal	Shaft	Position	Materials			Model	Diameter		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
Seal	Shaft	Position	Materials																							
Model	Diameter		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																					
8	BEARINGS	6304 ZZ - C3 / 6304 ZZ - C3																								
9	CAPACITOR																									
<table><tr><th>Pump</th><th>Capacitance</th></tr><tr><th>Single-phase</th><th>(230 V or 240 V)</th></tr><tr><td>VXCm 15/50</td><td>31.5 µF 450 VL</td></tr><tr><td>VXCm 15/70</td><td></td></tr><tr><td>VXCm 20/50</td><td>50 µF 450 VL</td></tr><tr><td>VXCm 20/70</td><td></td></tr><tr><td>VXCm 30/50</td><td>60 µF 450 VL</td></tr><tr><td>VXCm 30/70</td><td></td></tr></table>			Pump	Capacitance	Single-phase	(230 V or 240 V)	VXCm 15/50	31.5 µF 450 VL	VXCm 15/70		VXCm 20/50	50 µF 450 VL	VXCm 20/70		VXCm 30/50	60 µF 450 VL	VXCm 30/70									
Pump	Capacitance																									
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VXCm 20/70																										
VXCm 30/50	60 µF 450 VL																									
VXCm 30/70																										
10	ELECTRIC MOTOR																									
VXCm 15-20: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding																										
⇒ VXCm 30: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box																										
⇒ 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																										
11	POWER CABLE																									
10 metres long "H07 RN-F" cable																										
12	CONTROL BOX for VXCm 15-20																									
(only for single-phase versions)																										
Complete with capacitor and manual reset motor protector																										
13	CONTROL BOX for VXCm 30																									
(only for single-phase versions)																										
QES 300 MONO series																										
14	FLOAT SWITCH																									
(only for single-phase versions)																										

The diagram shows a vertical cross-section of the pump assembly. At the bottom is the base (2). Above it is the pump body (1) with an impeller (3) inside. The motor casing (4) is above the pump body, containing the motor shaft (6) and bearings (8). Two mechanical seals (7) are located between the pump body and the motor casing. The motor casing plate (5) is at the top of the motor casing. A power cable (11) is connected to the motor. A control box (12 or 13) is connected to the motor. A float switch (14) is also connected to the motor.

Standard features	Standard features
Control box for VXCm 15-20 (only for single-phase versions)	Control box for VXCm 30 (only for single-phase versions)

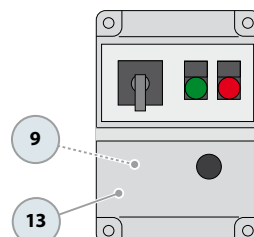


Standard features



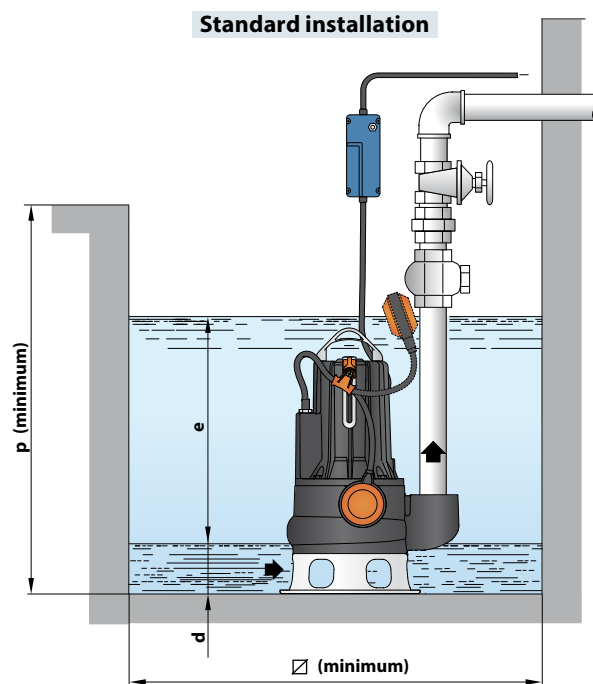
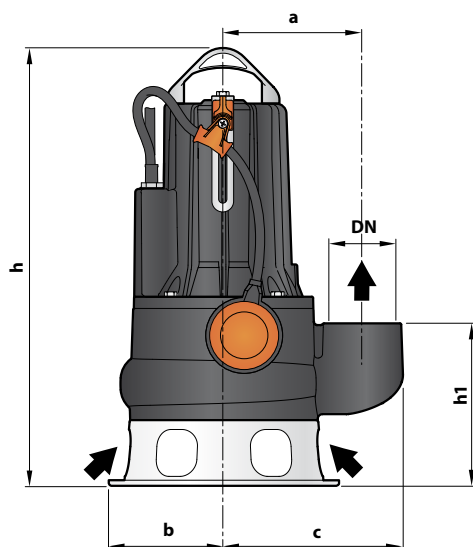
Control box for VXCm 15-20
(only for single-phase versions)

Standard features



Control box for VXCm 30
(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	∅	1~	3~
VXCm 15/50	VXC 15/50	2½"	Ø 50 mm	162	135	210	517	191	75	variable	800	800	36.9	3.8
VXCm 20/50	VXC 20/50						537/524						38.4	36.7
VXCm 30/50	VXC 30/50						556						41.8	39.0
VXCm 15/70	VXC 15/70	3"	Ø 70 mm	180	150	237	556	233	85				40.1	37.9
VXCm 20/70	VXC 20/70						577/556						40.7	38.7
VXCm 30/70	VXC 30/70						577/556						45.0	42.0

ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
VXCm 15/50	8.8 A	8.8 A
VXCm 20/50	10.2 A	10.2 A
VXCm 30/50	15.6 A	15.6 A
VXCm 15/70	8.7 A	8.3 A
VXCm 20/70	10.0 A	9.6 A
VXCm 30/70	15.0 A	15.0 A

MODEL	VOLTAGE		
	230–240 V	400–415 V	690–720 V
VXC 15/50	5.9 A	3.4 A	2.0 A
VXC 20/50	7.3 A	4.2 A	2.4 A
VXC 30/50	9.9 A	5.7 A	3.3 A
VXC 15/70	5.7 A	3.3 A	1.9 A
VXC 20/70	7.3 A	4.2 A	2.4 A
VXC 30/70	9.5 A	5.5 A	3.2 A

PALLETIZATION

MODEL		GROUPAGE n. pumps
Single-phase	Three-phase	
VXCm 15/50	VXC 15/50	16
VXCm 20/50	VXC 20/50	16
VXCm 30/50	VXC 30/50	16
VXCm 15/70	VXC 15/70	12
VXCm 20/70	VXC 20/70	12
VXCm 30/70	VXC 30/70	12

Submersible pumps

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m³/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 70 mm** for MC /70
- Minimum immersion depth for continuous service:
 - **390 mm** for MC /50
 - **430 mm** for MC /70

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 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
- Registered EU Design n. 342159-0017

OPTIONS AVAILABLE ON REQUEST

- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

GUARANTEE

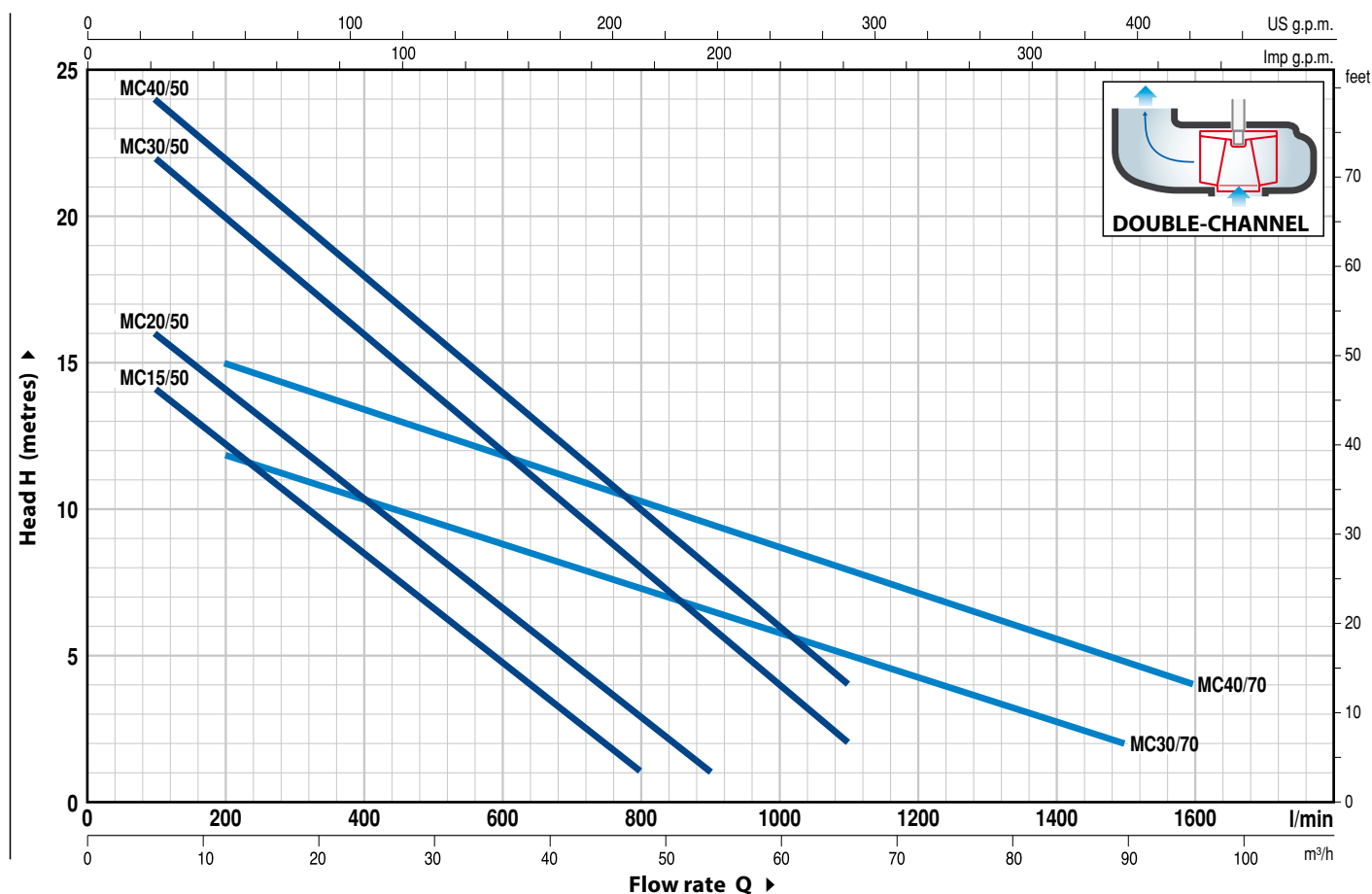
➡ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

single-phase
– **MCm 30/50**
– **MCm 30/70**

three-phase
– **MC 15-20-30-40/50**
– **MC 30-40/70**

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q	m³/h l/min	0	6	12	18	24	30	36	42	48	54	60	66	72	90	96
Single-phase	Three-phase	kW	HP			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 30/70	MC 30/70	2.2	3		13	–	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2		
–	MC 40/70	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	PUMP BODY	Cast iron with threaded port in compliance with ISO 228/1				
2	BASE	Stainless steel AISI 304				
3	IMPELLER	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type				
4	MOTOR CASING	Cast iron				
5	MOTOR CASING PLATE	Cast iron				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER					
Seal		Shaft	Position	Materials		
Model		Diameter		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
8	BEARINGS	6304 ZZ - C3 / 6304 ZZ - C3				
9	CAPACITOR					
Pump		Capacitance				
Single-phase		(230 V or 240 V)				
MCm 15/50		31.5 µF 450 VL				
MCm 20/50		50 µF 450 VL				
MCm 30/50		60 µF 450 VL				
MCm 30/70		60 µF 450 VL				
10	ELECTRIC MOTOR					
MCm 15-20: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding						
⇒ MCm 30: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box						
⇒ 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						
11	POWER CABLE					
10 metres long "H07 RN-F" cable						
12	CONTROL BOX for MCm 15-20					
(only for single-phase versions)						
Complete with capacitor and manual reset motor protector						
13	CONTROL BOX for MCm 30					
(only for single-phase versions)						
QES 300 MONO series						
14	FLOAT SWITCH					
(only for single-phase versions)						

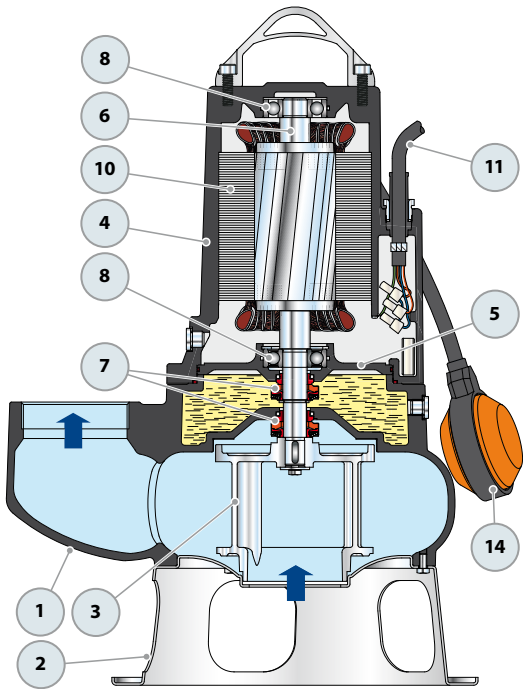
The diagram is a detailed cross-section of the pump assembly. It shows the motor at the top, connected to the pump body. The motor has a winding and a capacitor (9). The pump body contains the impeller (3) and is sealed with two mechanical seals (7) separated by an oil chamber. The base (2) is at the bottom. Various components are numbered: 1 (Pump Body), 2 (Base), 3 (Impeller), 4 (Motor Casing), 5 (Motor Casing Plate), 6 (Motor Shaft), 7 (Two Mechanical Seals), 8 (Bearings), 9 (Capacitor), 10 (Electric Motor), 11 (Power Cable), 12 (Control Box for MCm 15-20), 13 (Control Box for MCm 30), and 14 (Float Switch).

Standard features

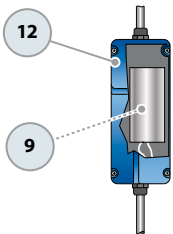
Control box for MCm 15-20
(only for single-phase versions)

Standard features

Control box for MCm 30
(only for single-phase versions)

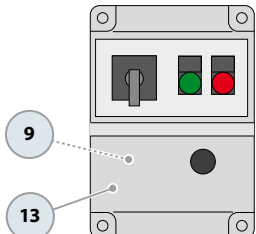


Standard features



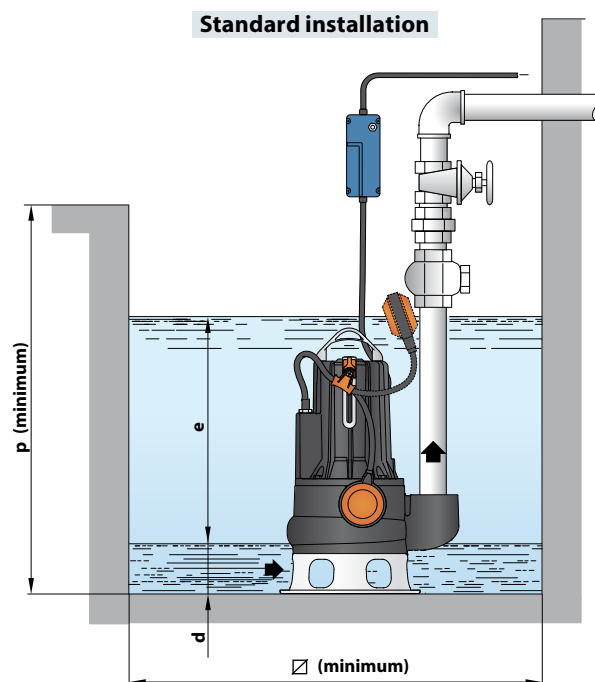
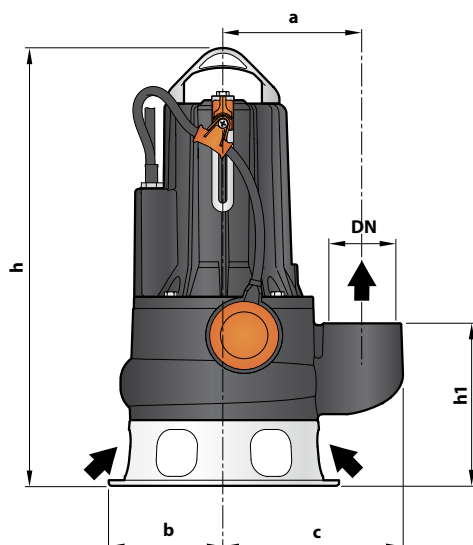
Control box for MCm 15-20 (only for single-phase versions)

Standard features



Control box for MCm 30 (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~
MCm 15/50	MC 15/50	2½"	Ø 50 mm	162	135	210	520	191	75	variable	800	800	37.8	36.2
MCm 20/50	MC 20/50						517						38.6	37.2
MCm 30/50	MC 30/50						530						43.0	39.0
-	MC 40/50						577/563						-	43.4
MCm 30/70	MC 30/70	3"	Ø 70 mm	180	150	237	577	233	85				45.4	42.2
-	MC 40/70						577						-	46.3

ABSORPTION

MODEL	VOLTAGE	
	230 V	240 V
MCm 15/50	9.0 A	9.0 A
MCm 20/50	10.5 A	10.0 A
MCm 30/50	15.2 A	15.2 A
MCm 30/70	15.2 A	15.2 A

MODEL	VOLTAGE		
	230-240 V	400-415 V	690-720 V
MC 15/50	6.1 A	3.5 A	2.0 A
MC 20/50	7.4 A	4.3 A	2.5 A
MC 30/50	9.9 A	5.7 A	3.3 A
MC 40/50	13.5 A	7.8 A	4.5 A
MC 30/70	10.2 A	5.9 A	3.4 A
MC 40/70	13.5 A	7.8 A	4.5 A

PALLETIZATION

MODEL		GROUPAGE n. pumps
Single-phase	Three-phase	
MCm 15/50	MC 15/50	16
MCm 20/50	MC 20/50	16
MCm 30/50	MC 30/50	16
-	MC 40/50	16
MCm 30/70	MC 30/70	12
-	MC 40/70	12

 Sewage water

 Domestic use

 Civil use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **1200 l/min** (72 m³/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 solids:
 - up to **Ø 50 mm** for VXC /50-F
 - up to **Ø 70 mm** for VXC /70-F
- Minimum immersion depth for continuous service:
 - **390 mm** for VXC /50-F
 - **440 mm** for VXC /70-F

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 **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.

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

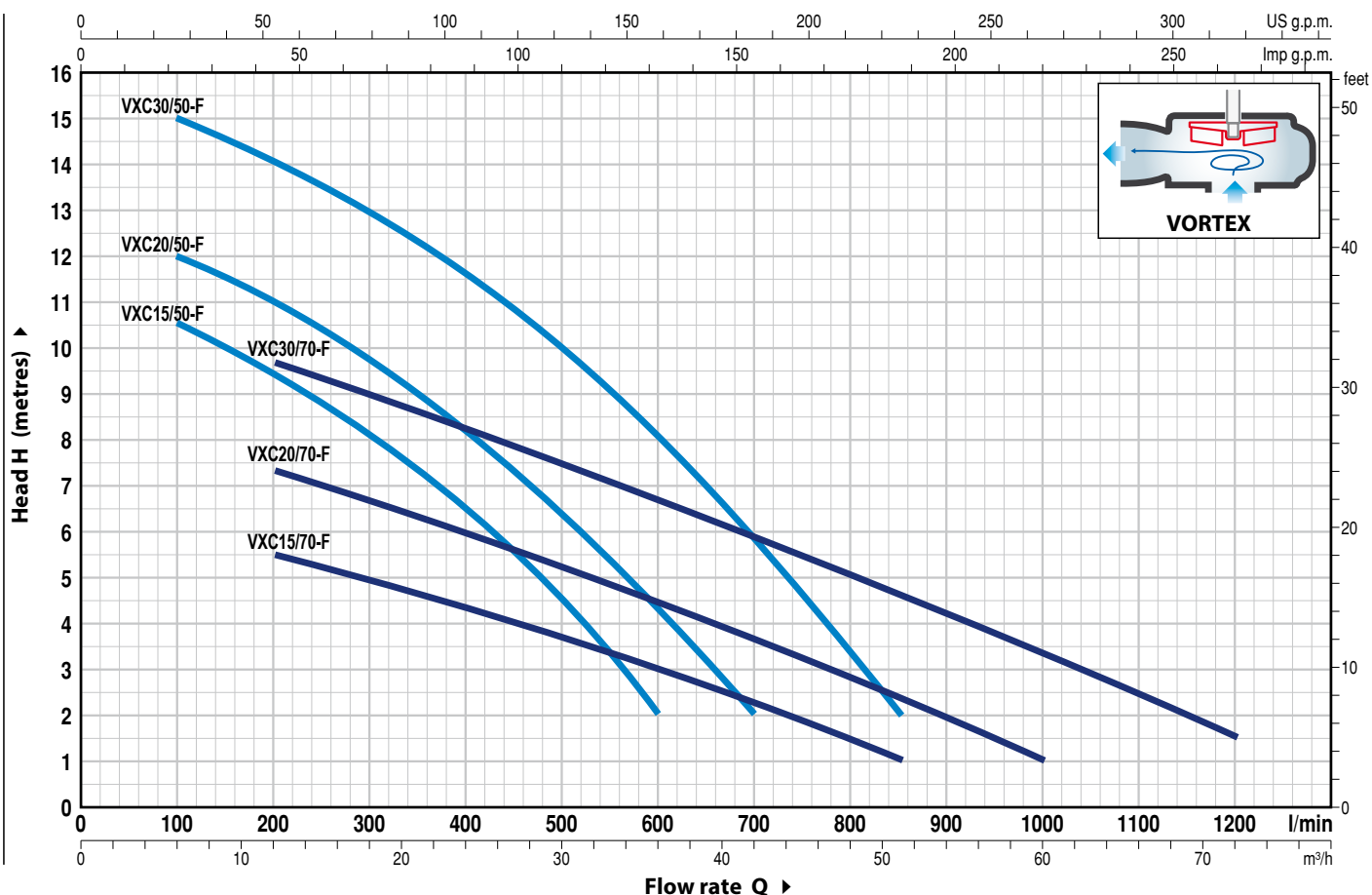
➡ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

single-phase
– VXCm 30/50-F
– VXCm 30/70-F

three-phase
– VXC 15-20-30/50-F
– VXC 15-20-30/70-F

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q	m³/h	0	6	12	18	21	24	27	30	36	42	48	51	54	60	66	72
Single-phase	Three-phase	kW	HP		l/min	0	100	200	300	350	400	450	500	600	700	800	850	900	1000	1100	1200
VXCm 15/50-F	VXC 15/50-F	1.1	1.5	H metres	11.5	10.5	9.5	8.2	7.2	6.5	5.6	4.5	2								
VXCm 20/50-F	VXC 20/50-F	1.5	2		13	12	11	9.5	9	8	7.2	6.5	4.5	2							
VXCm 30/50-F	VXC 30/50-F	2.2	3		16	15	14	13	12.3	11.5	10.8	10	8	5.9	3.3	2					
VXCm 15/70-F	VXC 15/70-F	1.1	1.5		6.5	–	5.5	5	4.7	4.4	4	3.7	3	2.2	1.5	1					
VXCm 20/70-F	VXC 20/70-F	1.5	2		8.5	–	7.4	6.7	6.3	6	5.6	5.2	4.5	3.6	2.8	2.4	2	1			
VXCm 30/70-F	VXC 30/70-F	2.2	3		11	–	9.7	9	8.6	8.2	7.8	7.5	6.7	5.8	5	4.6	4.2	3.3	2.5	1.5	

Q = Flow rate H = Total manometric head

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

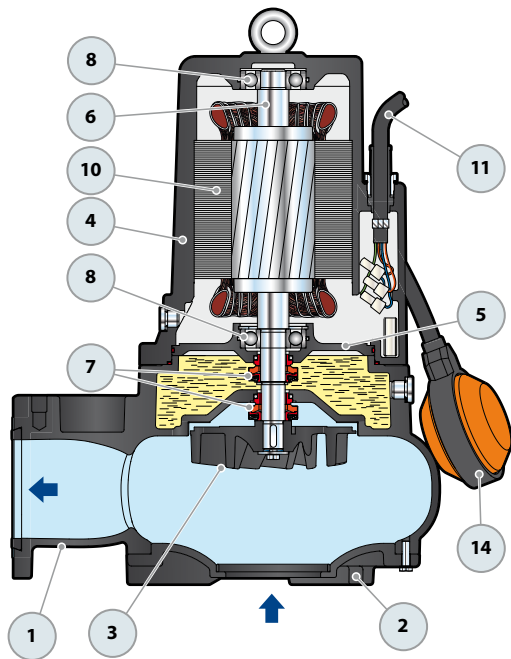
POS. COMPONENT

CONSTRUCTION CHARACTERISTICS

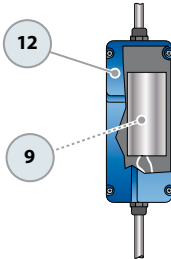
1	PUMP BODY	Cast iron complete with flanged ports				
2	SUCTION PLATE	Cast iron				
3	IMPELLER	VORTEX type in cast iron with an Epoxy Electro Coating treatment				
4	MOTOR CASING	Cast iron				
5	MOTOR CASING PLATE	Cast iron				
6	MOTOR SHAFT	Stainless steel AISI 431				
7	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER					
Seal		Shaft	Position	Materials		
Model	Diameter			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
8	BEARINGS	6304 ZZ - C3 / 6304 ZZ - C3				
9	CAPACITOR					
Pump		Capacitance				
Single-phase		(230 V or 240 V)				
VXCm 15/50-70-F		31.5 µF 450 VL				
VXCm 20/50-70-F		50 µF 450 VL				
VXCm 30/50-70-F		60 µF 450 VL				
10	ELECTRIC MOTOR					
VXCm 15-20-F: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding						
⇒ VXCm 30-F: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box						
⇒ 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						
11	POWER CABLE					
10 metres long "H07 RN-F" cable						
12	CONTROL BOX for VXCm 15-20-F					
(only for single-phase versions)						
Complete with capacitor and manual reset motor protector						
13	CONTROL BOX for VXCm 30-F					
(only for single-phase versions)						
QES 300 MONO series						
14	FLOAT SWITCH					
(only for single-phase versions)						

The diagram shows a detailed cross-section of the pump assembly. Callouts 1 through 14 identify the following components: 1. Pump body, 2. Suction plate, 3. Impeller, 4. Motor casing, 5. Motor casing plate, 6. Motor shaft, 7. Mechanical seal (oil chamber), 8. Bearings, 9. Capacitor, 10. Electric motor, 11. Power cable, 12. Control box for VXCm 15-20-F, 13. Control box for VXCm 30-F, and 14. Float switch. Arrows indicate the flow direction from the suction plate into the pump body.

Standard features	Standard features
Control box for VXCm 15-20-F (HP 1.5-2.0) (only for single-phase versions)	Control box for VXC 30-F (HP 3.0) (only for single-phase versions)

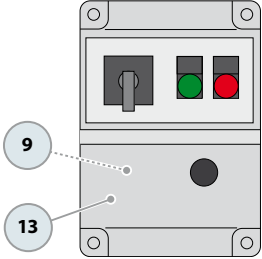


Standard features



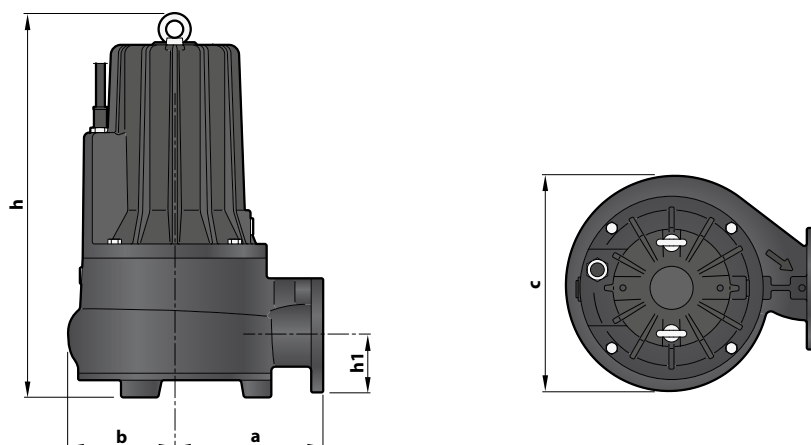
Control box
for VXCm 15-20-F (HP 1.5-2.0)
(only for single-phase versions)

Standard features



Control box
for VXC 30-F (HP 3.0)
(only for single-phase versions)

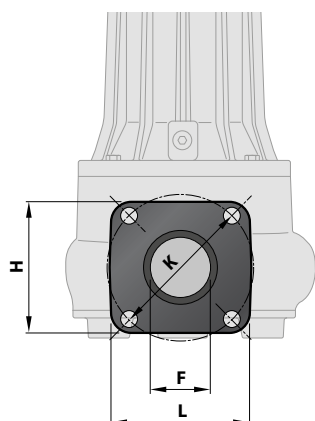
DIMENSIONS AND WEIGHT



MODEL		Passage of solids	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
VXCm 15/50-F	VXC 15/50-F	Ø 50 mm	169	122	248	442	65	39.2	37.8
VXCm 20/50-F	VXC 20/50-F							40.0	38.5
VXCm 30/50-F	VXC 30/50-F					457 / 442		43.7	40.3
VXCm 15/70-F	VXC 15/70-F	Ø 70 mm	205	131	268	455	75	39.0	39.2
VXCm 20/70-F	VXC 20/70-F							42.0	40.4
VXCm 30/70-F	VXC 30/70-F					472 / 455		46.1	43.0

PORT FLANGE

MODEL	F mm	K mm	L mm	H mm	HOLES	
					N°	Ø (mm)
VXC /50-F	58	145	140	130	4	17
VXC /70-F	76		140	140		



ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
VXCm 15/50-F	8.8 A	8.4 A
VXCm 20/50-F	10.2 A	9.8 A
VXCm 30/50-F	15.6 A	15.0 A
VXCm 15/70-F	8.7 A	8.7 A
VXCm 20/70-F	10.0 A	9.6 A
VXCm 30/70-F	15.0 A	14.4 A

MODEL	VOLTAGE		
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	7.3 A	4.2 A	2.4 A
VXC 30/50-F	9.9 A	5.7 A	3.3 A
VXC 15/70-F	5.7 A	3.3 A	1.9 A
VXC 20/70-F	7.3 A	4.2 A	2.4 A
VXC 30/70-F	9.5 A	5.5 A	3.2 A

 Sewage water

 Domestic use

 Civil use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m³/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 70 mm** for MC /70-F
- Minimum immersion depth for continuous service:
 - **390 mm** for MC /50-F
 - **440 mm** for MC /70-F

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 **MC-F** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a **DOUBLE CHANNEL** impeller in stainless steel which allows the drainage of liquids with short fibre solids in suspension. They are suitable for carrying **discharged and sewer water, dirty water, water mixed with mud, groundwater** and surface water, for applications, when placed in suitable wells, in blocks of flats, public buildings, industries, multi-storey and underground car parks and wash areas.

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

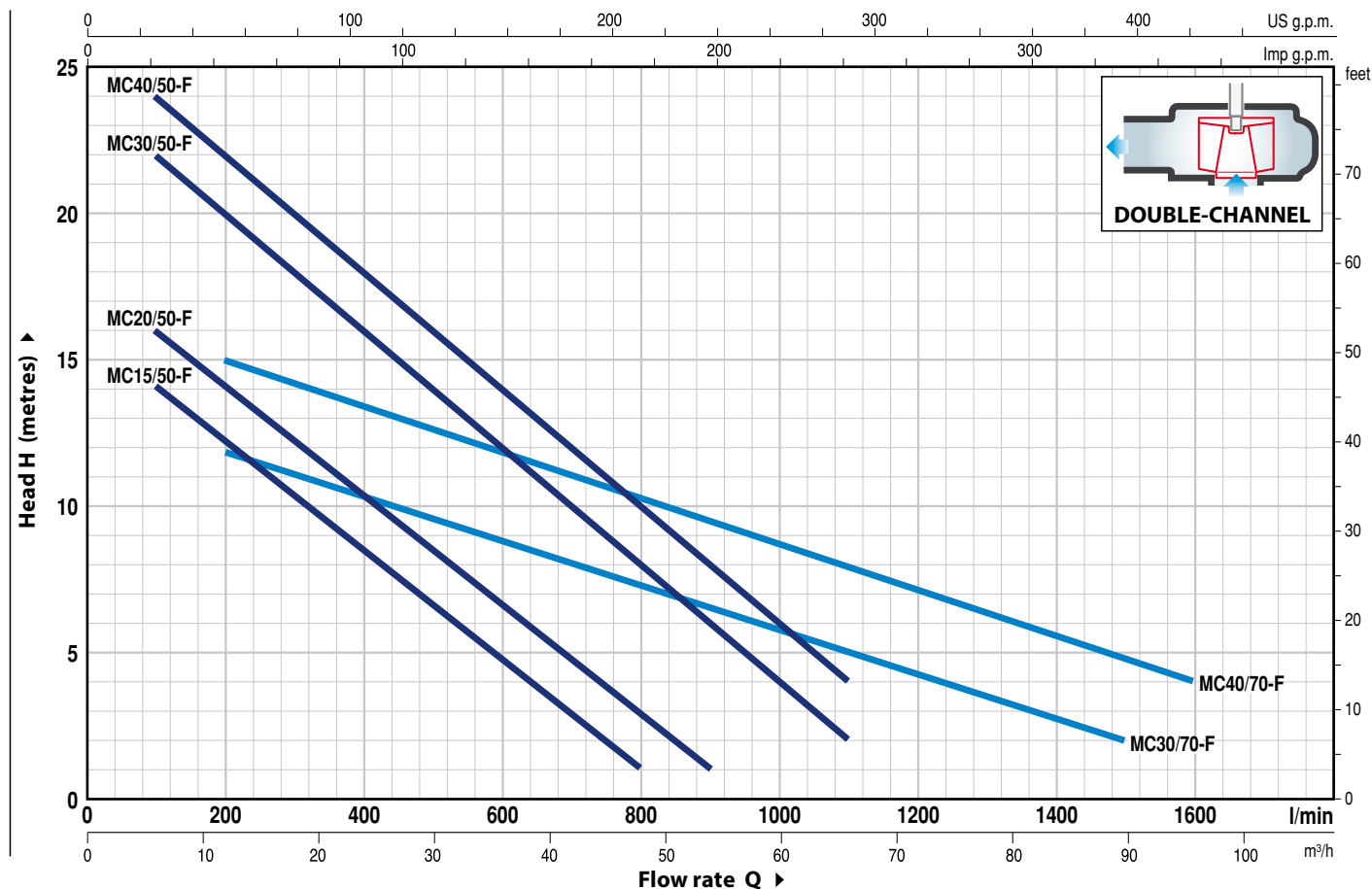
➡ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

single-phase
– MCm 30/50-F
– MCm 30/70-F

three-phase
– MC 15-20-30-40/50-F
– MC 30-40/70-F

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P ₂)		Q																
Single-phase	Three-phase	kW	HP		m³/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	H metres		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 30/70-F	MC 30/70-F	2.2	3			13	–	12	11	10.5	9.7	9	8	7.5	6.5	6	5	4.5	2	
–	MC 40/70-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	PUMP BODY	Cast iron complete with flanged ports
2	SUCTION PLATE	Cast iron
3	IMPELLER	Precision cast stainless steel AISI 304 DOUBLE-CHANNEL type
4	MOTOR CASING	Cast iron
5	MOTOR CASING PLATE	Cast iron
6	MOTOR SHAFT	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-20	Ø 20 mm	Motor side	Ceramic	Graphite	NBR
STA-19	Ø 19 mm	Pump side	Silicon carbide	Silicon carbide	NBR

8 BEARINGS 6304 ZZ - C3 / 6304 ZZ - C3

9 CAPACITOR

Pump	Capacitance
Single-phase	(230 V or 240 V)
MCm 15/50-F	31.5 µF 450 VL
MCm 20/50-F	50 µF 450 VL
MCm 30/50-70-F	60 µF 450 VL

10 ELECTRIC MOTOR

MCm 15-20-F: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

⇒ **MCm 30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box

⇒ **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

11 POWER CABLE

10 metres long "H07 RN-F" cable

12 CONTROL BOX for MCm 15-20-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

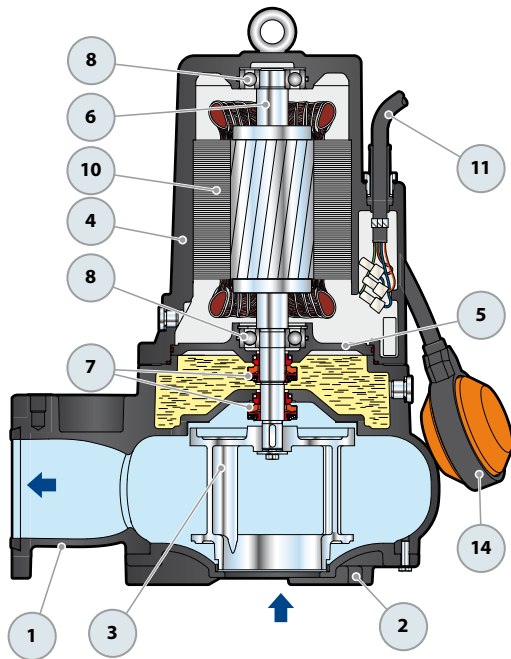
13 CONTROL BOX for MCm 30-F

(only for single-phase versions)

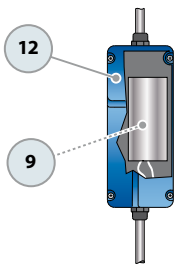
QES 300 MONO series

14 FLOAT SWITCH

(only for single-phase versions)

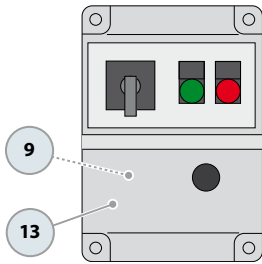


Standard features



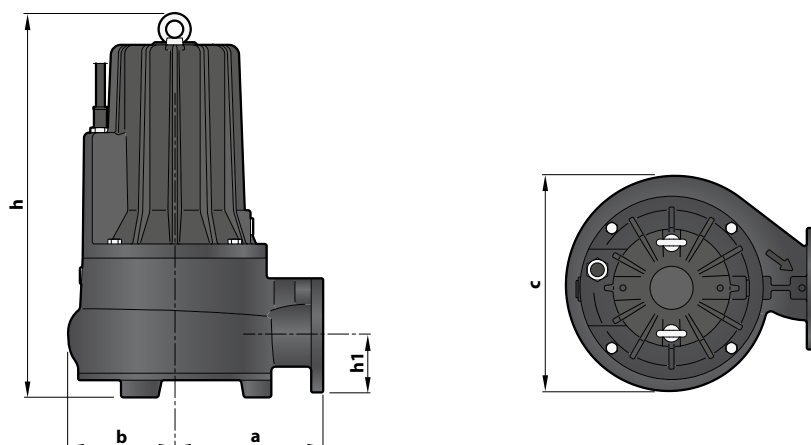
Control box for MCm 15-20-F (HP 1.5-2.0)
(only for single-phase versions)

Standard features



Control box for MCm 30-F (HP 3.0)
(only for single-phase versions)

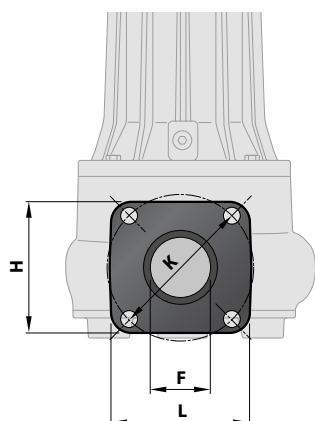
DIMENSIONS AND WEIGHT



MODEL		Passage of solids	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
MCm 15/50-F	MC 15/50-F	Ø 50 mm	169	122	248	442	65	39.5	38.4
MCm 20/50-F	MC 20/50-F							41.8	39.0
MCm 30/50-F	MC 30/50-F					457 / 442		44.8	41.4
–	MC 40/50-F					457		–	45.4
MCm 30/70-F	MC 30/70-F	Ø 70 mm	205	131	268	472 / 458	70	46.6	43.2
–	MC 40/70-F					472			48.1

PORT FLANGE

MODEL	F mm	K mm	L mm	H mm	HOLES	
					N°	Ø (mm)
MC /50-F	58	145	140	130	4	17
MC /70-F	76		140	140		

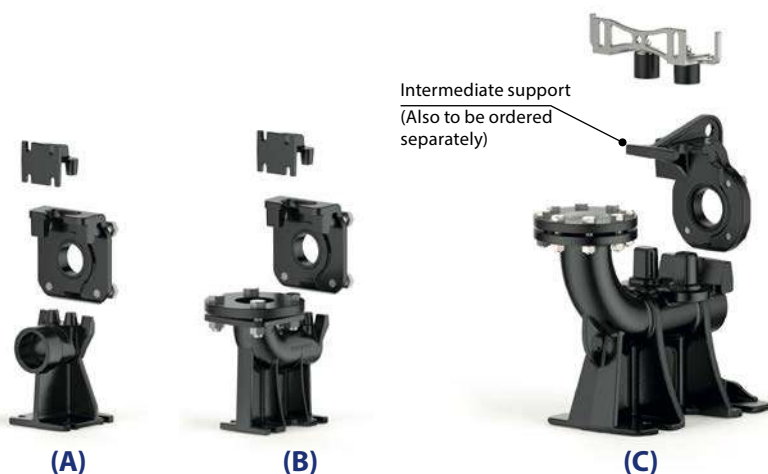


ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
MCm 15/50-F	9.0 A	8.6 A
MCm 20/50-F	10.5 A	10.1 A
MCm 30/50-F	15.2 A	14.6 A
MCm 30/70-F	15.2 A	14.6 A

MODEL	VOLTAGE		
Three-phase	230-240 V	400-415 V	690-720 V
MC 15/50-F	6.1 A	3.5 A	2.0 A
MC 20/50-F	7.4 A	4.3 A	2.5 A
MC 30/50-F	9.9 A	5.7 A	3.3 A
MC 40/50-F	13.5 A	7.8 A	4.5 A
MC 30/70-F	10.2 A	5.9 A	3.4 A
MC 40/70-F	13.5 A	7.8 A	4.5 A

SEWAGE LIFTING SYSTEM VXC-F – MC-F



A) HORIZONTAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For VXC /50-F, MC /50-F	Cod. ASSVXCF050	DN 2"
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Kit consisting of:

- footing connection
- slide guide with screws and seals
- support for the guide tubes

B) VERTICAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

For VXC /50-F, MC /50-F	Cod. ASSVXCF050V	DN 2½"
For VXC /70-F, MC /70-F	Cod. ASSVXCF070V	DN 3"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

C) VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For VXC /50-F, MC /50-F	Cod. ASSVXCF0703V	DN 3"
For VXC /70-F, MC /70-F		

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

SLIDE GUIDE (Also to be ordered separately)

For VXC /50-F, MC /50-F	Cod. ASSFL070
For VXC /70-F, MC /70-F	

Complete with screws and seals

● INTERMEDIATE SUPPORT (To be ordered separately)

For guide tubes Ø ¾"	Cod. 859SV340INTFA
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For guide tubes Ø 2"	Cod. 859SV349INTFA
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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)

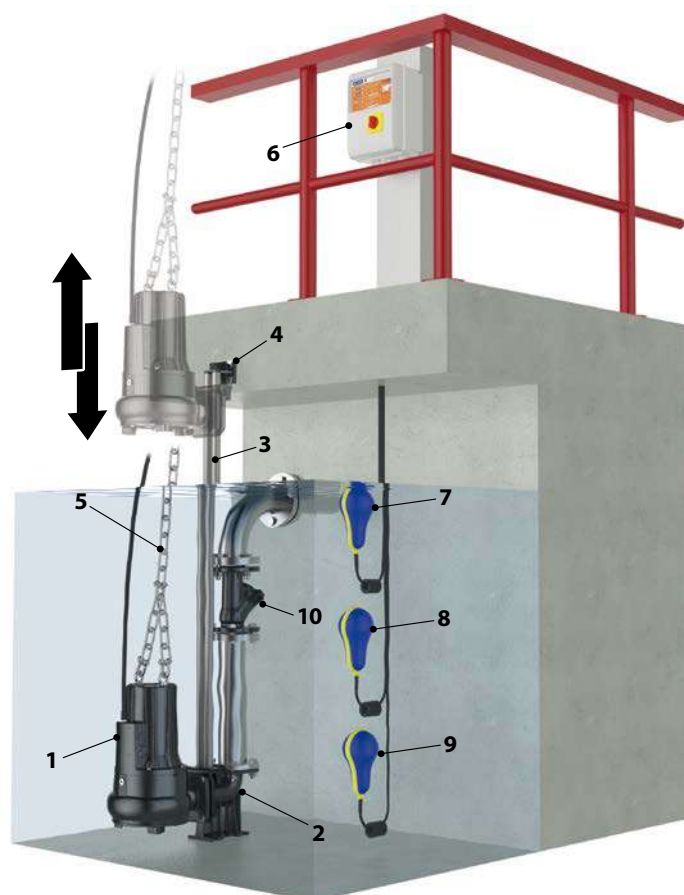
GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
Guide tube Ø 2"	Cod. 54SARTG006

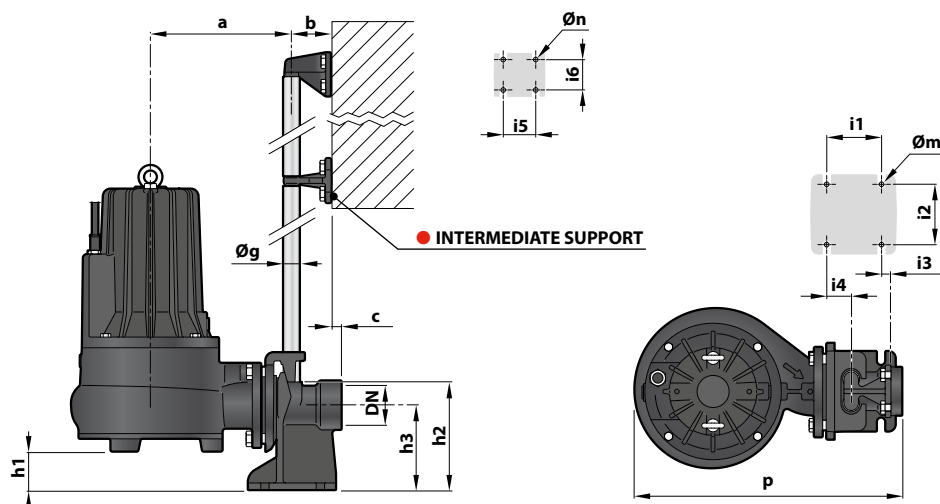
Maximum length of the tube plank: 6 metres

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

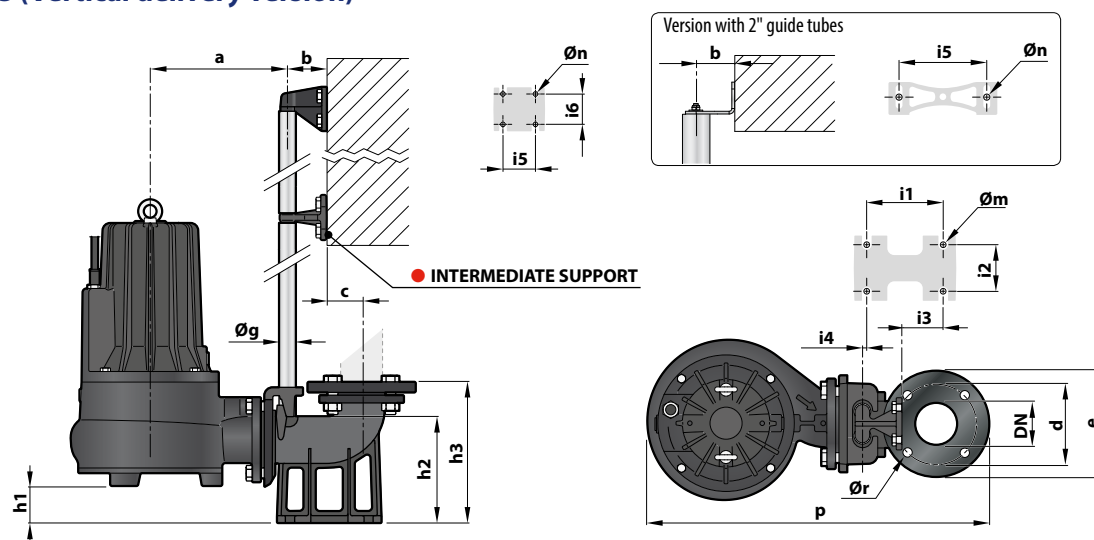


DIMENSIONS (Horizontal delivery version)



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm															
			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn
VXC /50-F	Ø 50	2"	215	61	17	414	60	165	130	85	94	16	40	50	48	¾"	12	11
MC /50-F																		

DIMENSIONS (Vertical delivery version)



● Version with ¾" guide tubes

MODEL	Passage of solids	PORT	DIMENSIONS mm																		
	mm	DN	a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn	Ør
VXC /50-F	Ø 50	2½" (PN10)	212	61	52	125	165	528	57	164	215	120	72	62	3	50	48	¾	14	11	18
MC /50-F																					
VXC /70-F	Ø 70	3" (PN6)	247	61	69	150	190	603	94	216	279	130	112	84	15	50	48	¾	14	11	18
MC /70-F																					

● Version with 2" guide tubes

MODEL	Passage of solids	PORT	DIMENSIONS mm																		
	mm	DN	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)	318	86	95	160	200	720	137	265	392	250	150	34	–	187	–	2"	22	13	18
MC /50-F																					
VXC /70-F	Ø 70	3" (PN10)	354	86	95	160	200	765	132	265	392	250	150	34	–	187	–	2"	22	13	18
MC /70-F																					

VX 40 - VX 50 - VX 65

VORTEX

Submersible pumps

-  Sewage water
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **1500 l/min** (90 m³/h)
- Head up to **26 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 VX 40
 - up to **Ø 50 mm** for VX 50
 - up to **Ø 65 mm** for VX 65
- Minimum immersion depth for continuous service **500 mm**

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 40, VX 50 and VX 65** series of pumps, manufactured from stainless steel and 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.

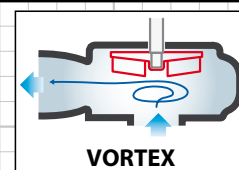
PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 003863158-0002

OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

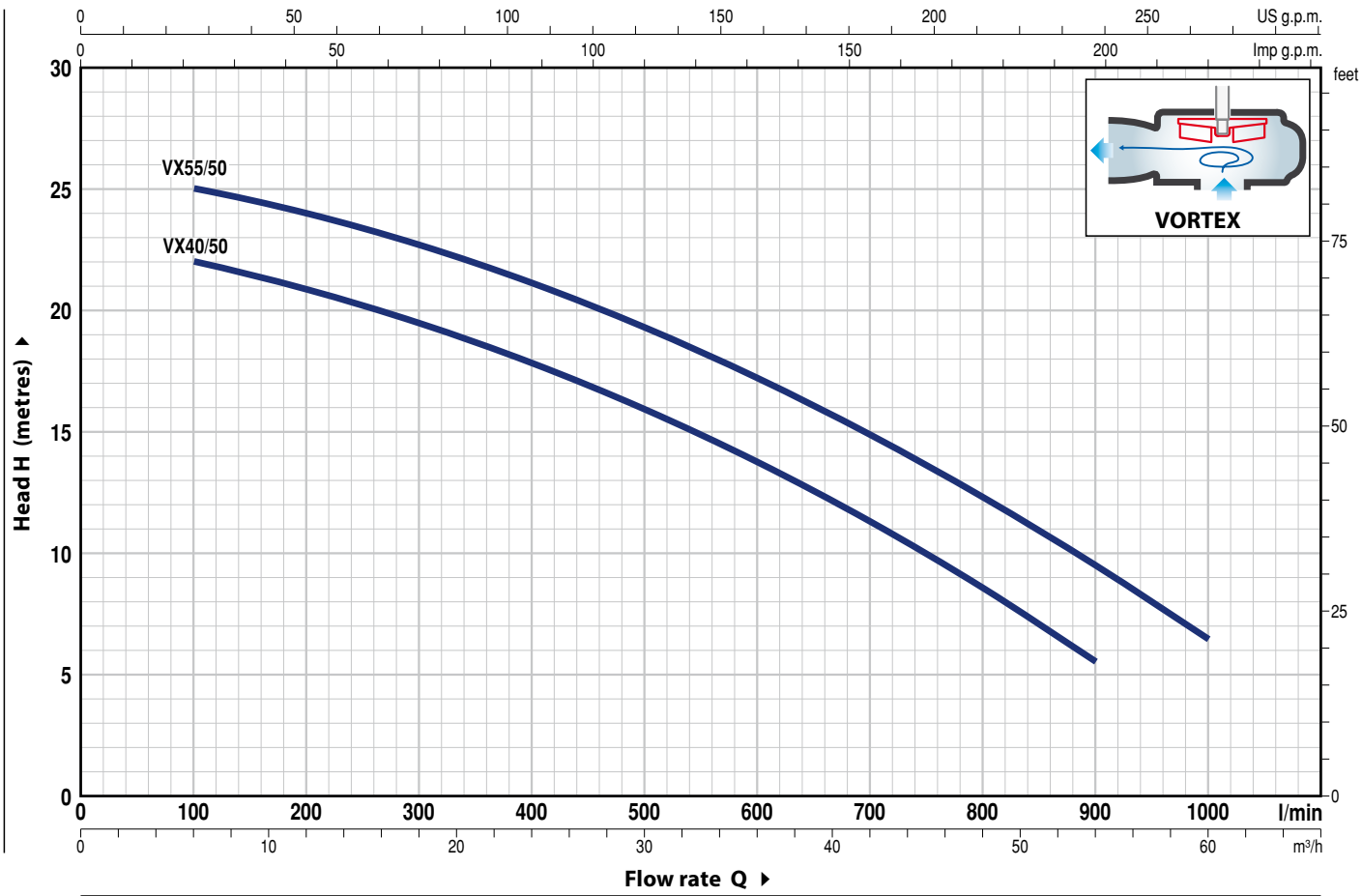
50 Hz n= 2900 min⁻¹



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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



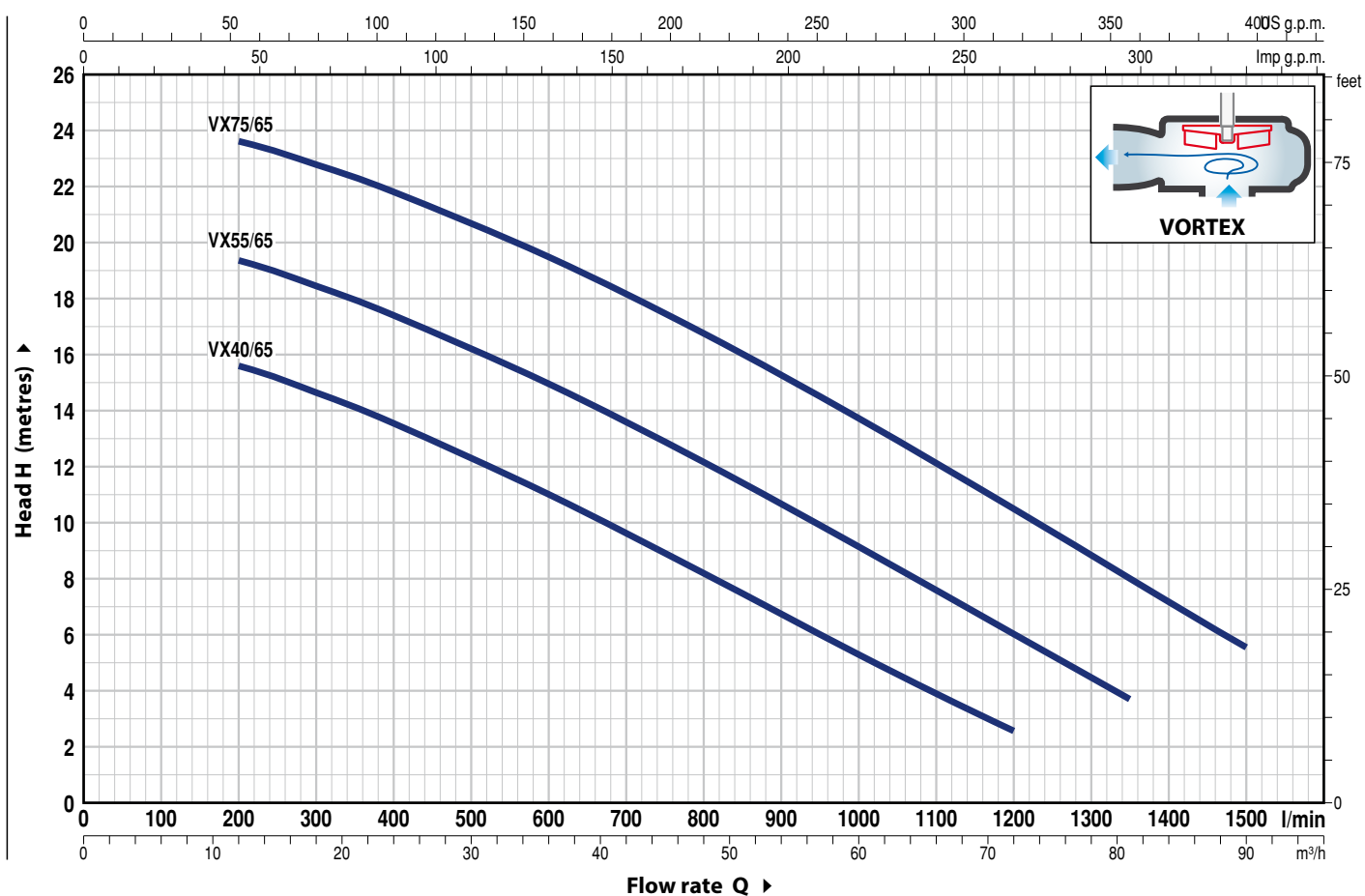
MODEL Three-phase	POWER (P ₂)		Q	m ³ /h	0	6	12	24	36	42	48	54	60
	kW	HP		l/min	0	100	200	400	600	700	800	900	1000
VX 40/50	3	4	H metres		23	22	21	18	14	11.5	7	5.5	
VX 55/50	4	5.5			26	25	24	21.5	17.5	15	11	8	6.5

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⁻¹

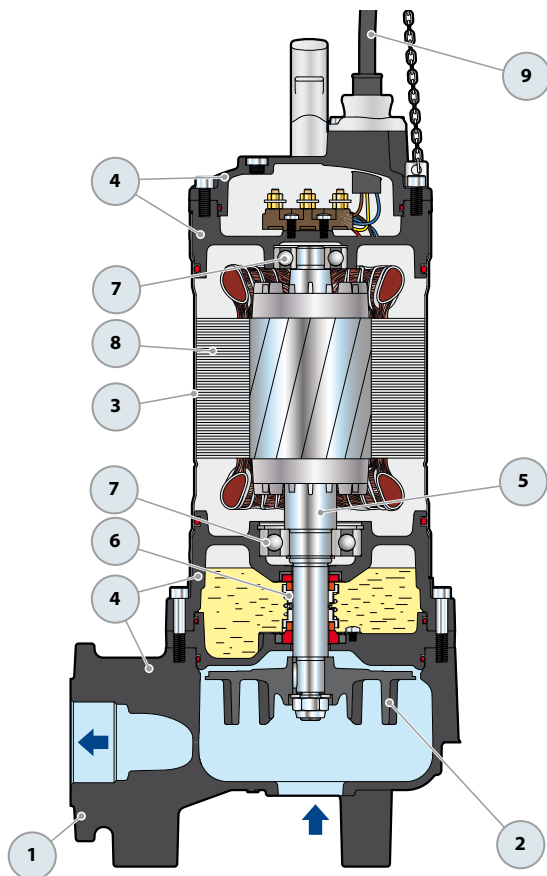


MODEL Three-phase	POWER (P ₂)		Q	m³/h	0	6	12	24	36	42	48	54	60	72	81	90
	kW	HP		l/min	0	100	200	400	600	700	800	900	1000	1200	1350	1500
VX 40/65	3	4	H metres		17	–	15.6	13.5	11	9.5	8.2	7	5.3	2.5		
VX 55/65	4	5.5			20.7	–	19.4	17.5	15	13.5	12	10.7	9.1	6	3.7	
VX 75/65	5.5	7.5			24.8	–	23.6	21.8	19.5	18	16.8	15.2	13.7	10.5	8	5.5

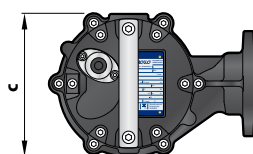
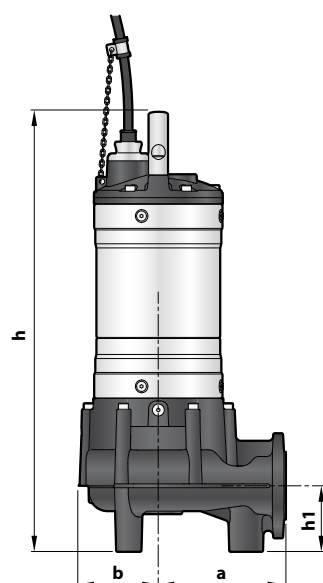
Q = Flow rate H = Total manometric head

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

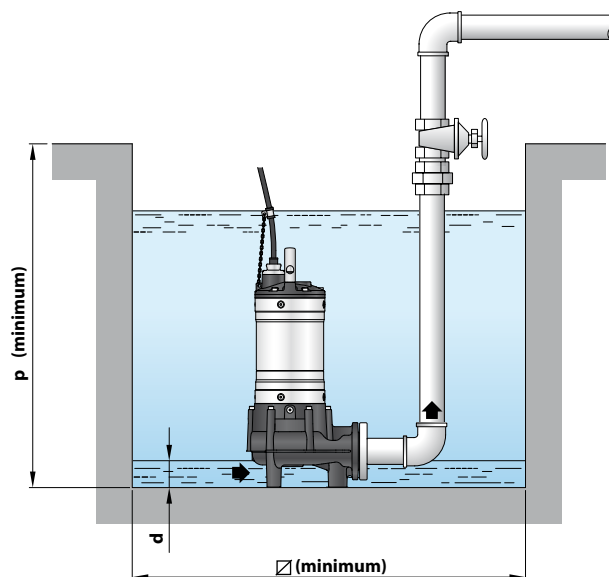
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	IMPELLER	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	MOTOR CASING	Stainless steel AISI 304
4	MOTOR CASING PLATE	Cast iron with an Epoxy Electro Coating treatment
5	MOTOR SHAFT	Stainless steel AISI 431
6	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER	
	Seal Model	Shaft DiameterPositionStationary ringMaterialsRotational ringElastomer
	ED560-25	Ø 25 mmMotor sideSilicon carbideGraphiteNBR
		Pump sideSilicon carbideSilicon carbideNBR
7	BEARINGS	6306 ZZ C3 / 6304 ZZ 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	POWER CABLE	Type "H07 RN-F" Standard length 10 metres



DIMENSIONS AND WEIGHT



Standard installation



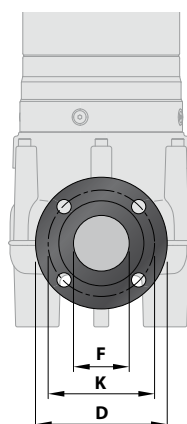
MODEL	Passage of solids	DIMENSIONS mm								kg
Three-phase		a	b	c	h	h1	d	p	Ø	3~
VX 40/40	Ø 40 mm	170	107	192	587	88	55	700	500	48.3
VX 55/40					627					54.3

PORT FLANGE

MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
VX 40/40	50 (PN6)	2"	110	140	4	14
VX 55/40						

ABSORPTION

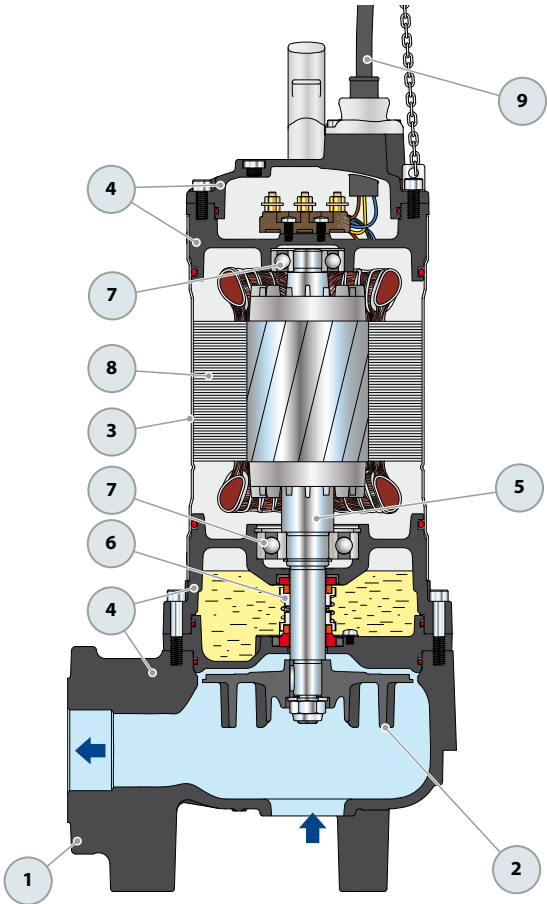
MODEL	VOLTAGE
Three-phase	400 V
VX 40/40	5.8 A
VX 55/40	7.0 A



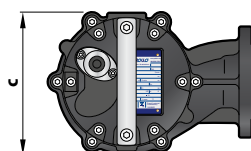
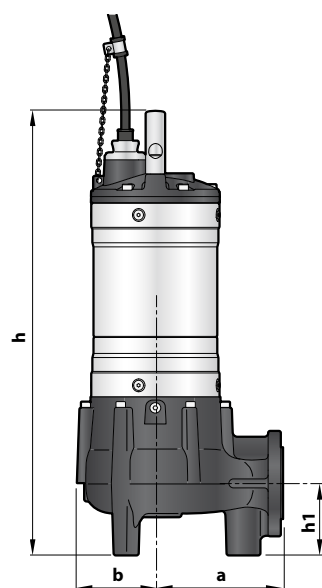
PALLETIZATION

MODEL	GROUPAGE
Three-phase	n. pumps
VX 40/40	10
VX 55/40	10

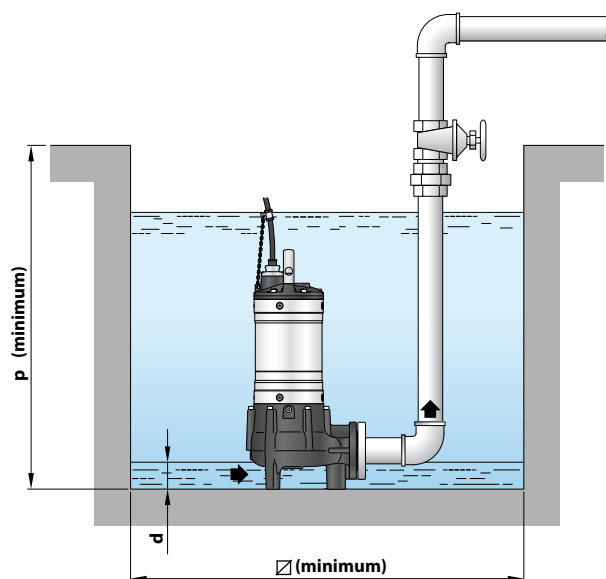
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	IMPELLER	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	MOTOR CASING	Stainless steel AISI 304
4	MOTOR CASING PLATE	Cast iron with an Epoxy Electro Coating treatment
5	MOTOR SHAFT	Stainless steel AISI 431
6	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER	
	Seal Model	Shaft DiameterPositionStationary ringMaterialsRotational ringElastomer
	ED560-25	Ø 25 mmMotor sideSilicon carbideGraphiteNBR
		Pump sideSilicon carbideSilicon carbideNBR
7	BEARINGS	6306 ZZ C3 / 6304 ZZ 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	POWER CABLE	H07 RN-F" type Standard length 10 metres



DIMENSIONS AND WEIGHT



Standard installation



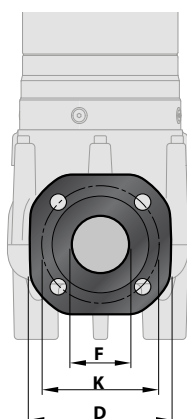
MODEL	Passage of solids	DIMENSIONS mm								kg
Three-phase		a	b	c	h	h1	d	p	∅	3~
VX 40/50	Ø 50 mm	170	106	193	602	100	55	700	500	50.0
VX 55/50					642					58.2

PORT FLANGE

MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
VX 40/50	50 (PN10)	2"	125	150	4	18
VX 55/50						

ABSORPTION

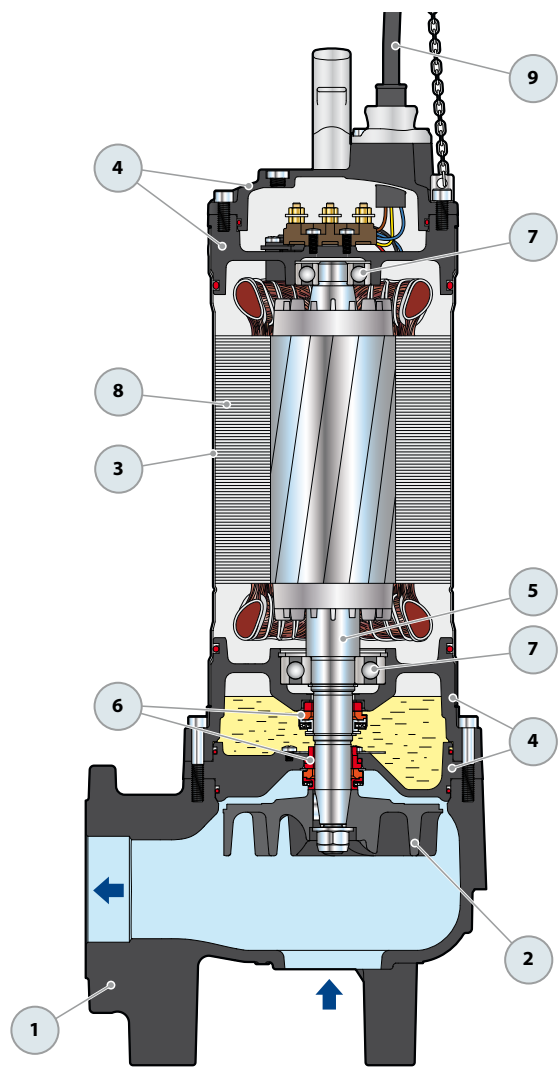
MODEL	VOLTAGE
Three-phase	400 V
VX 40/50	5.8 A
VX 55/50	7.0 A



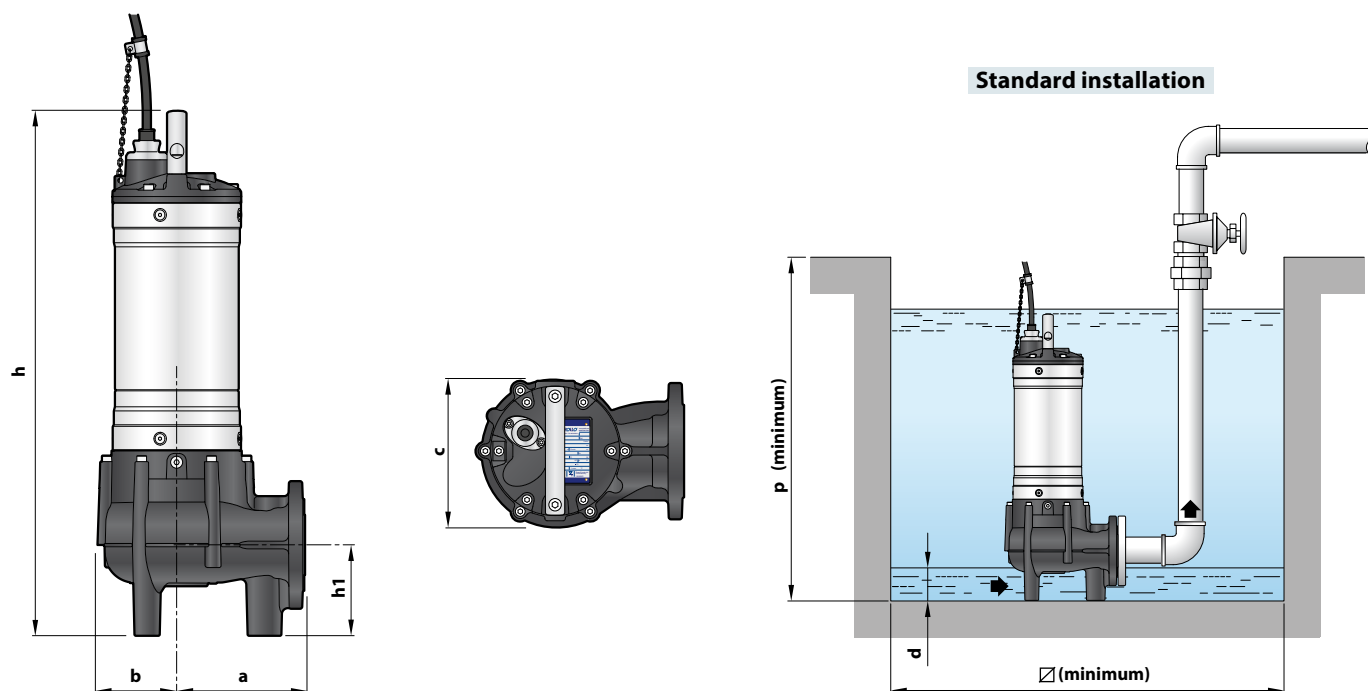
PALLETIZATION

MODEL	GROUPAGE
Three-phase	n. pumps
VX 40/50	10
VX 55/50	12

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	IMPELLER	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	MOTOR CASING	Stainless steel AISI 304
4	MOTOR CASING PLATE	Cast iron with an Epoxy Electro Coating treatment
5	MOTOR SHAFT	Stainless steel AISI 431
6	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER	
	<i>Seal</i>	<i>Shaft</i> <i>Position</i> <i>Materials</i>
	<i>Model</i>	<i>Diameter</i> <i>Stationary ring</i> <i>Rotational ring</i> <i>Elastomer</i>
	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 <u>with thermal overload protector incorporated into the winding</u> – Insulation: class F – Protection: IP X8
9	POWER CABLE	"H07 RN-F" type <u>Standard length 10 metres</u>



DIMENSIONS AND WEIGHT



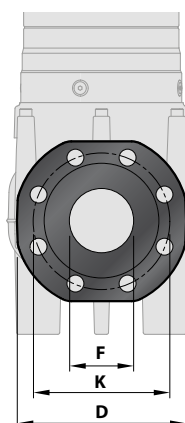
MODEL	Passage of solids	DIMENSIONS mm								
Three-phase		a	b	c	h	h1	d	p	∅	3~
VX 40/65	Ø 65 mm	170	107	196	630	121	70	800	500	53.3
VX 55/65					670					60.0
VX 75/65					700					65.0

PORT FLANGE

MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
VX 40/65	65 (PN10)	2½"	145	185	8	18
VX 55/65						
VX 75/65						

ABSORPTION

MODEL	VOLTAGE
Three-phase	400 V
VX 40/65	6.2 A
VX 55/65	7.7 A
VX 75/65	12.7 A



PALLETIZATION

MODEL	GROUPAGE
Three-phase	n. pumps
VX 40/65	12
VX 55/65	12
VX 75/65	12

-  Sewage water
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **1900 l/min** (114 m³/h)
- Head up to **31 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 35 mm**
- Minimum immersion depth for continuous service: **470 mm**

CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box 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 **BC 35** series of pumps, manufactured from stainless steel and heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted a **DOUBLE-CHANNEL** 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

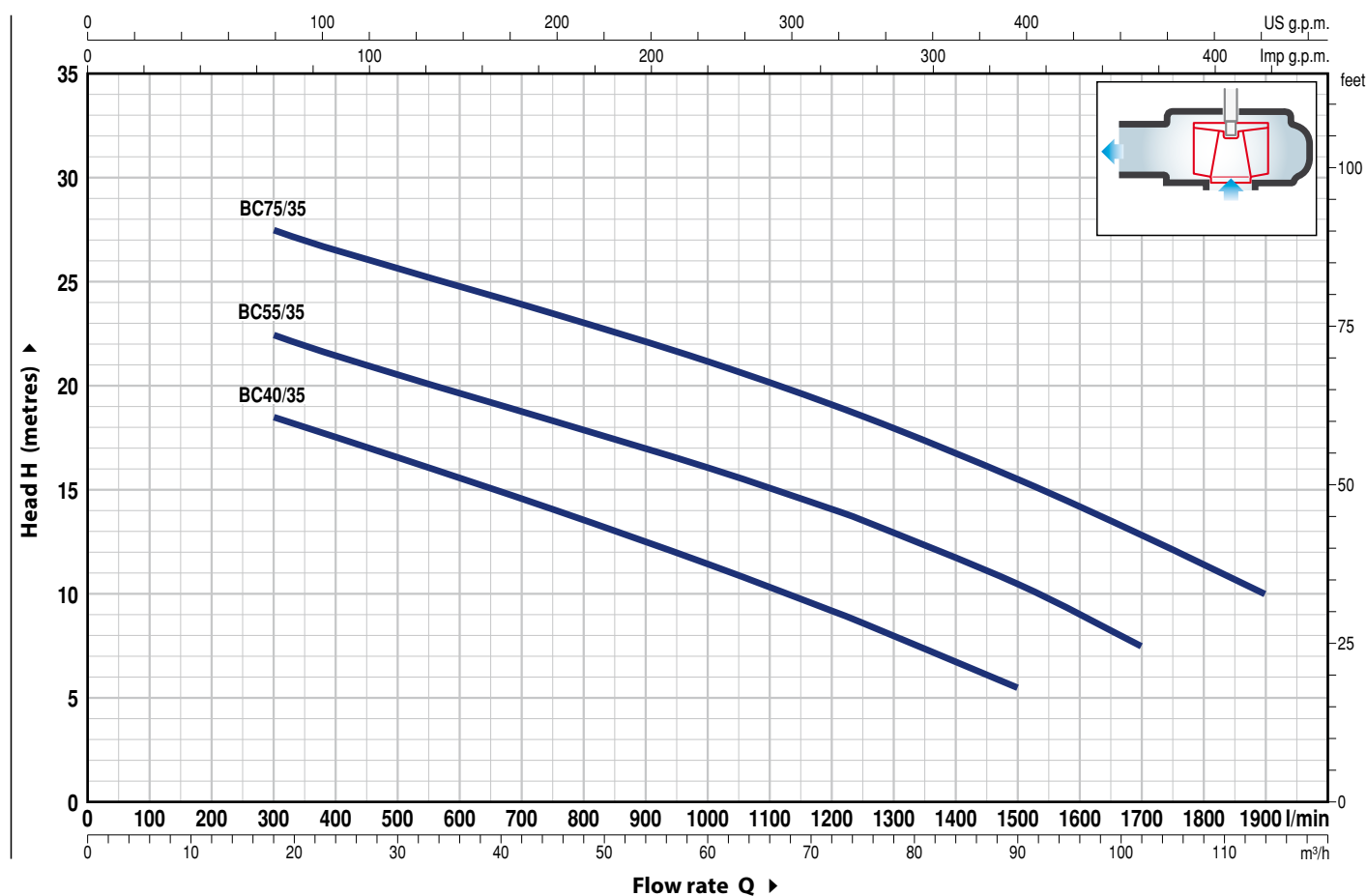
- Registered EU Design n. 003863158-0001

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL Three-phase	POWER (P ₂)		Q m ³ /h l/min	0	18	36	54	72	90	102	114
	kW	HP		0	300	600	900	1200	1500	1700	1900
BC 40/35	3	4	H metres	21.4	18.5	15.5	12.5	9	5.5		
BC 55/35	4	5.5		25.9	22.5	19.5	17	14	10.5	7.5	
BC 75/35	5.5	7.5		31	27.5	24.7	22	19	15.5	11.5	10

Q = Flow rate H = Total manometric head

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

POS. COMPONENTCONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1			
2	IMPELLER	DOUBLE-CHANNEL type in cast iron with an Epoxy Electro Coating treatment			
3	MOTOR CASING	Stainless steel AISI 304			
4	MOTOR CASING PLATE	Cast iron with an Epoxy Electro Coating treatment			
5	MOTOR SHAFT	Stainless steel AISI 431			
6	TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER				
Seal	Shaft	Position	Materials		
Model	Diameter		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 BEARINGS6306 ZZ C3 / 6304 ZZ C3

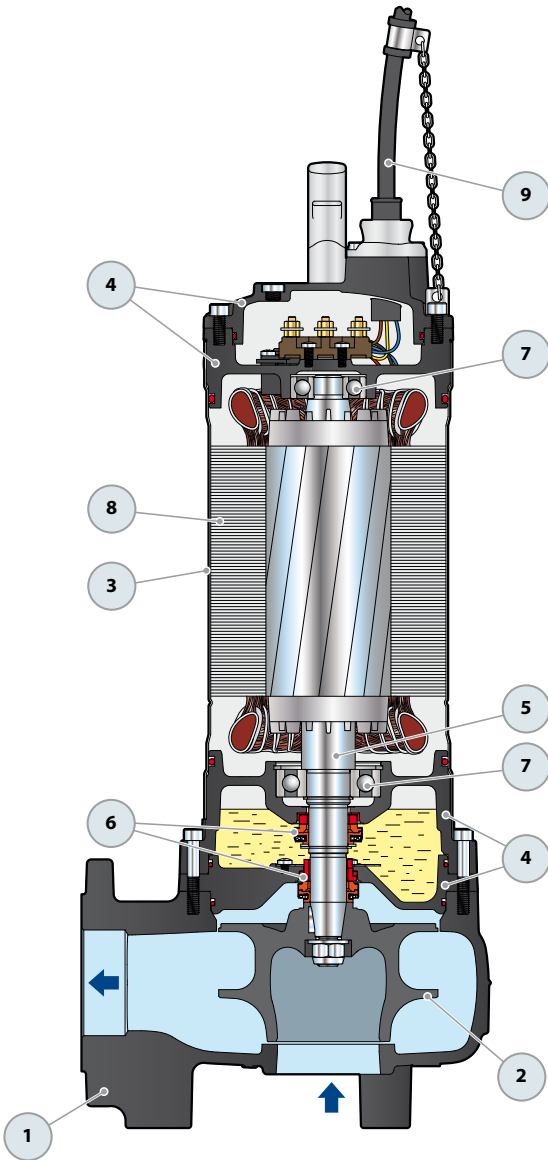
8 ELECTRIC MOTOR

BC 35: three-phase 400 V - 50 Hz
with thermal overload protector incorporated
into the winding

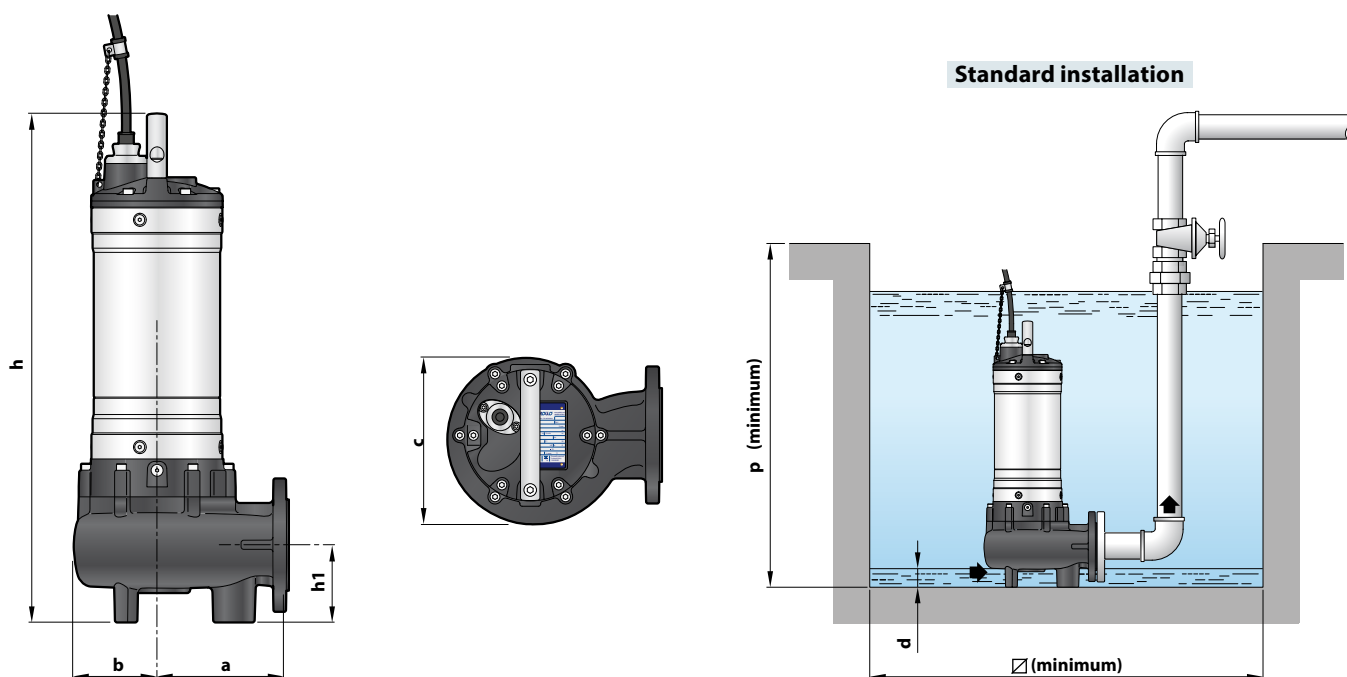
– Insulation: class F
– Protection: IP X8

9 POWER CABLE

"H07 RN-F" type
Standard length 10 metres



DIMENSIONS AND WEIGHT



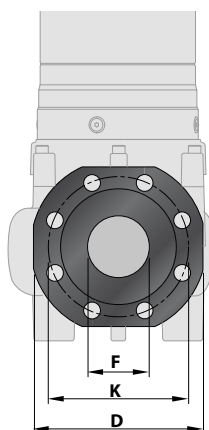
MODEL	Passage of solids	DIMENSIONS mm								
Three-phase		a	b	c	h	h1	d	p	Ø	3~
BC 40/35	Ø 35 mm	170	113	225	595	100	40	800	500	56.0
BC 55/35					635					62.2
BC 75/35					665					67.0

PORT FLANGE

MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
BC 40/35	65 (PN10)	2½"	145	185	4	18
BC 55/35						
BC 75/35						

ABSORPTION

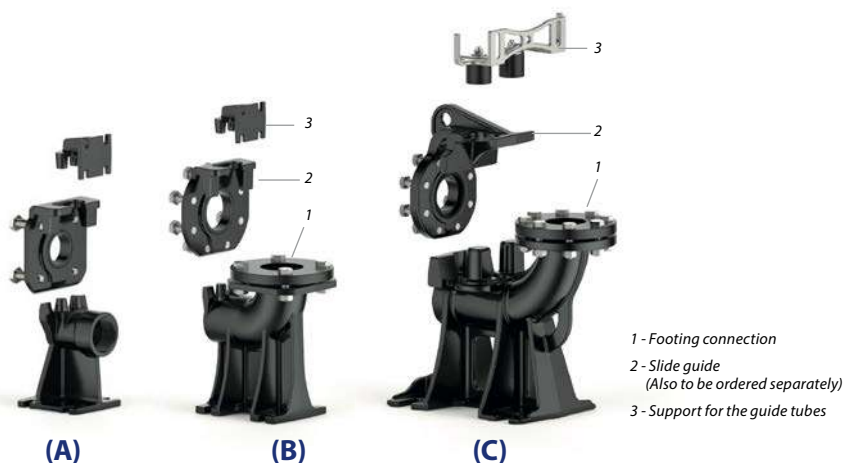
MODEL	VOLTAGE
Three-phase	400 V
BC 40/35	6.2 A
BC 55/35	8.3 A
BC 75/35	13.5 A



PALLETIZATION

MODEL	GROUPAGE
Three-phase	n. pumps
BC 40/35	12
BC 55/35	12
BC 75/35	12

SEWAGE LIFTING SYSTEM VX40 – VX50 – VX65 – BC35



A) HORIZONTAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For VX /40	Cod. ASSPVX40	DN 2"
For VX /50	Cod. ASSPVX50	DN 2"

Kit consisting of:

- footing connection
- slide guide with screws and seals
- support for the guide tubes

B) VERTICAL DELIVERY VERSION WITH ¾" GUIDE TUBES

For VX /40	Cod. ASSPVX40V	DN 2½"
For VX /50	Cod. ASSPVX503V	DN 2½"
For VX /65, BC /35	Cod. ASSPVX653V	DN 3"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

C) VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

For VX /50	Cod. ASSPVX50V	DN 3"
For VX /50, VX /65, BC /35	Cod. ASSPVX65V	DN 3"

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

SLIDE GUIDE (Also to be ordered separately)

For VX /40 with guide tubes Ø ¾"	Cod. ASSFL011
For VX /50 with guide tubes Ø ¾"	Cod. ASSFL009
For VX /50 with guide tubes Ø 2"	Cod. ASSFL050
For VX /65, BC /35 with guide tubes Ø ¾"	Cod. ASSFL010
For VX /65, BC /35 with guide tubes Ø 2"	Cod. ASSFL065

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)

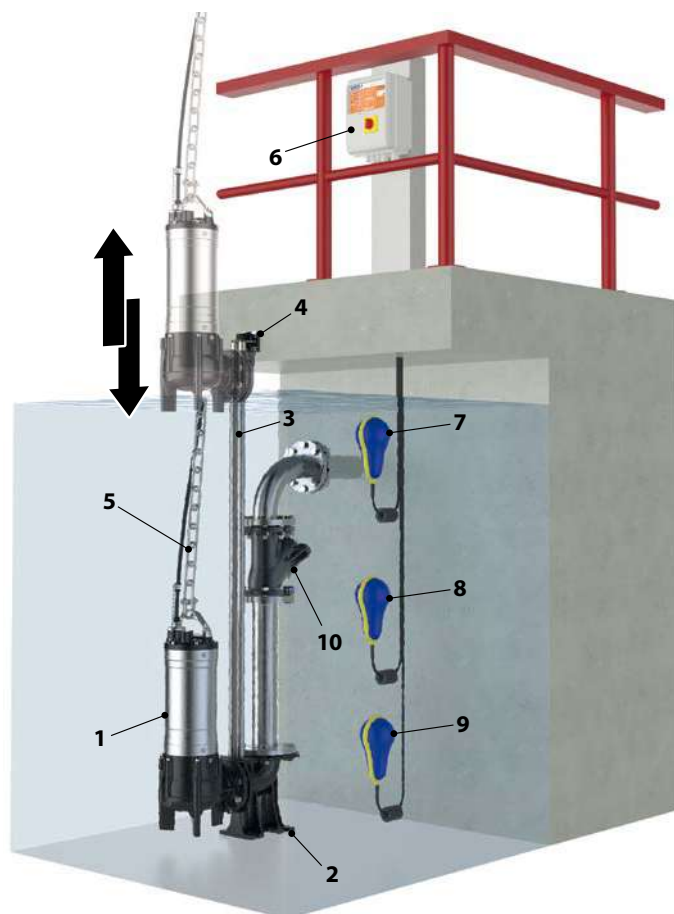
GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø ¾"	Cod. 54SARTG005
Guide tube Ø 2"	Cod. 54SARTG006

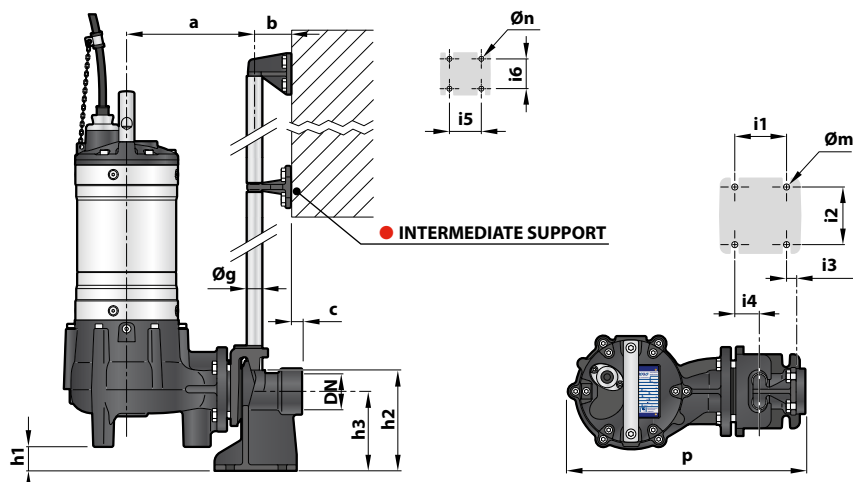
Maximum length of the tube plank: 6 metres

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

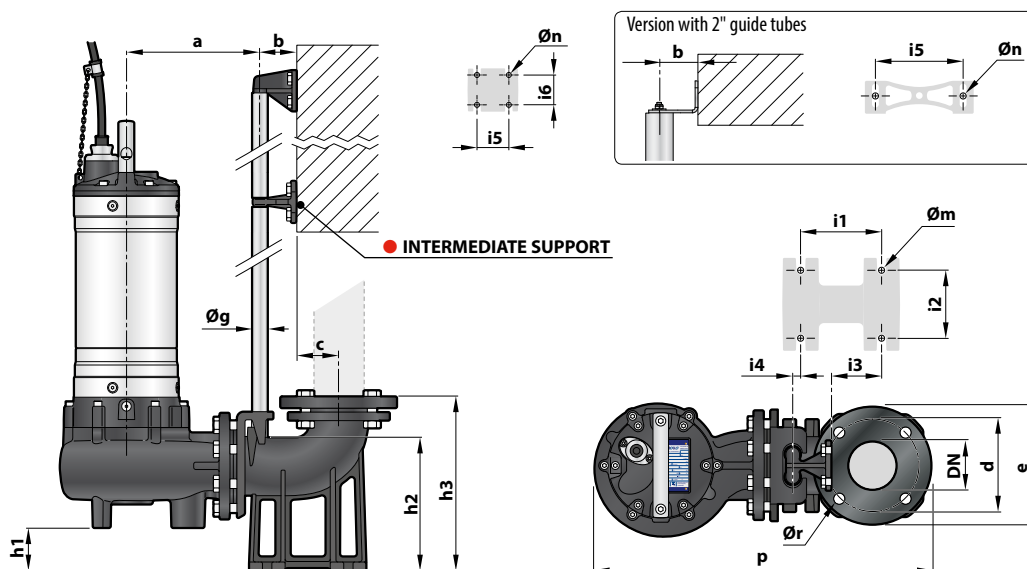


DIMENSIONS (Horizontal delivery version)



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm															
			a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn
VX /40	Ø 40	2"	214	61	17	400	42	165	130	85	94	16	40	50	48	¾"	12	11
VX /50	Ø 50						30											

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	i6	Øg
VX /40	Ø 40	2½"	211	61	52	125	165	506	40	164	216	120	72	62	3	50	48	¾"
VX /50	Ø 50								28									
VX /65	Ø 65	3"	213	61	69	150	190	537	48	216	280	130	112	84	15	50	48	¾"
BC /35	Ø 35		231					550	69									

● 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
VX /50	Ø 50	3"						706	107									
VX /65	Ø 65		319	86	95	160	200	697	86	264	392	250	150	34	—	186	—	2"
BC /35	Ø 35							710	107									

Submersible pumps

Medium flow

 Sewage water

 Civil use

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **2200 l/min** (132 m³/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

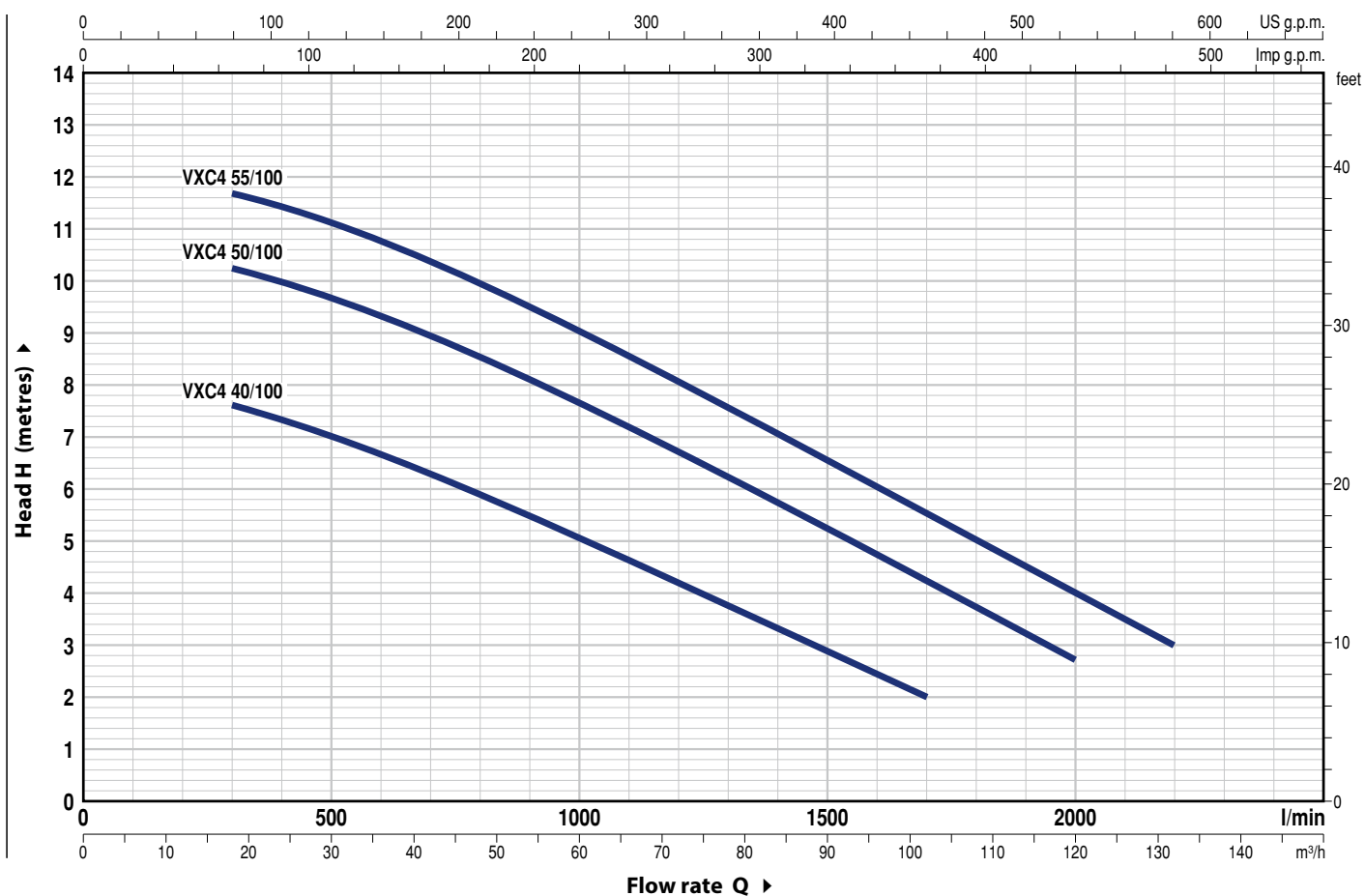
- Registered EU Design n. 003863158-0003

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⁻¹



MODEL Three-phase	POWER (P ₂)		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	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment
2	BASE	Cast iron with an Epoxy Electro Coating treatment
3	IMPELLER	VORTEX type in cast iron with an Epoxy Electro Coating treatment
4	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment
5	MOTOR CASING PLATE	Cast iron with an Epoxy Electro Coating treatment
6	MOTOR SHAFT	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

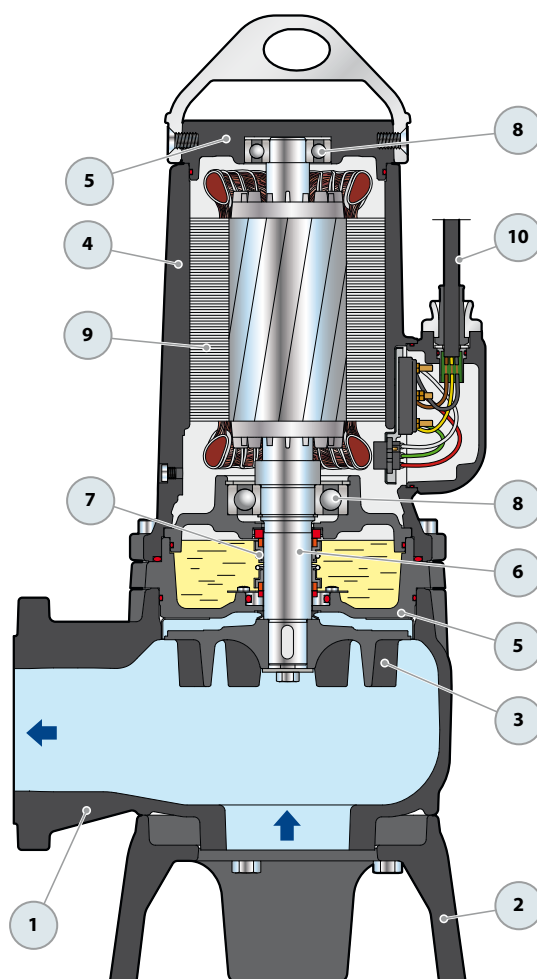
8 BEARINGS 6309 ZZ-C3 / 6306 ZZ-C3

9 ELECTRIC MOTOR

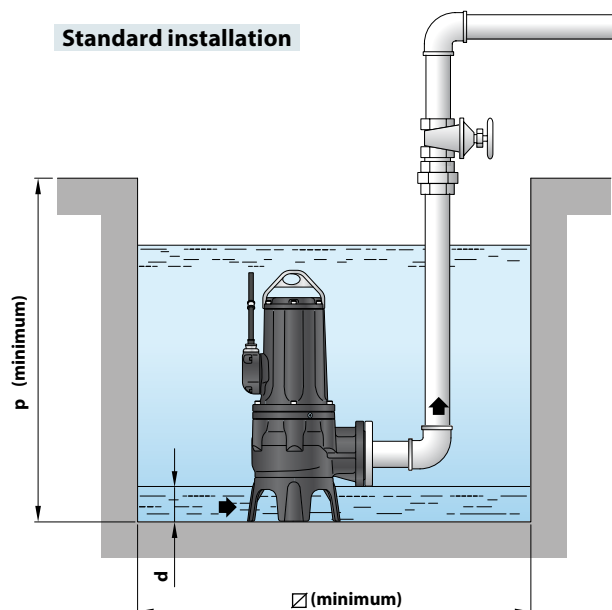
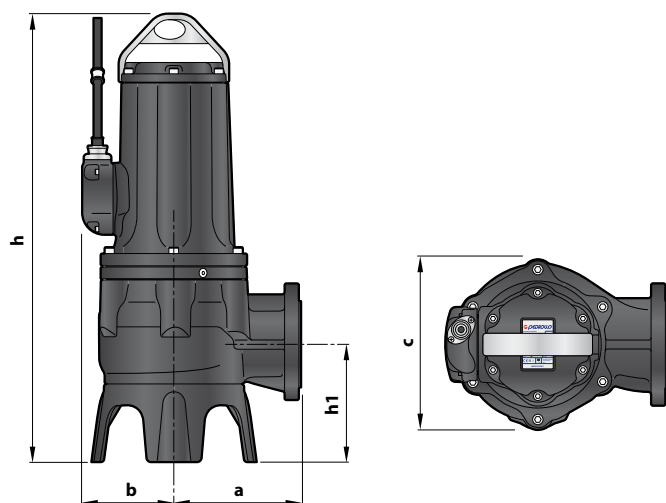
- three-phase 400 V - 50 Hz
with thermal overload protector incorporated into the winding
- Insulation: class F
- Protection: IP X8

10 POWER CABLE

"H07 RN-F" type
Standard length 10 metres

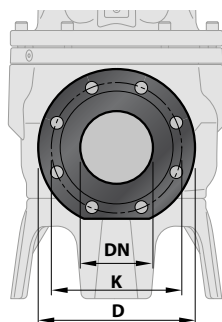


DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm								kg
Three-phase		a	b	c	h	h1	d	p	Ø	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

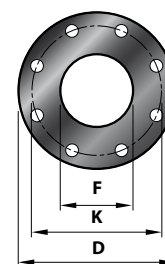
FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
Three-phase	DN	mm	mm	N°	Ø (mm)
VXC4 40/100	100 (PN10)	180	220	8	18
VXC4 50/100					
VXC4 55/100					

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
VXC4 40/100	100	4"	180	220	8	18
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

Submersible pumps

Medium flow

-  Sewage water
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **2600 l/min** (156 m³/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

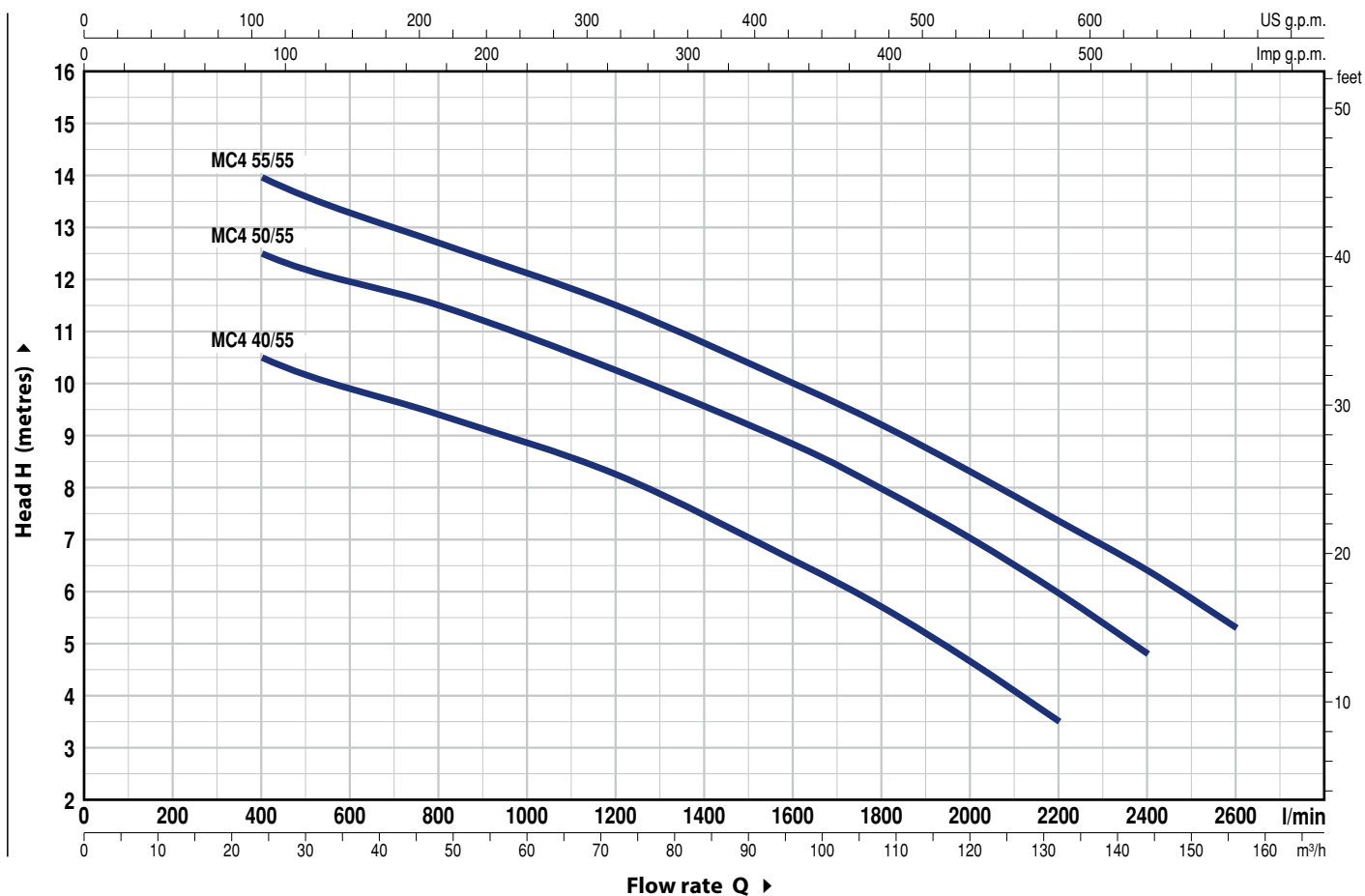
- Registered EU Design n. 003863158-0004

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⁻¹



MODEL Three-phase	POWER (P ₂)		Q m ³ /h l/min	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.

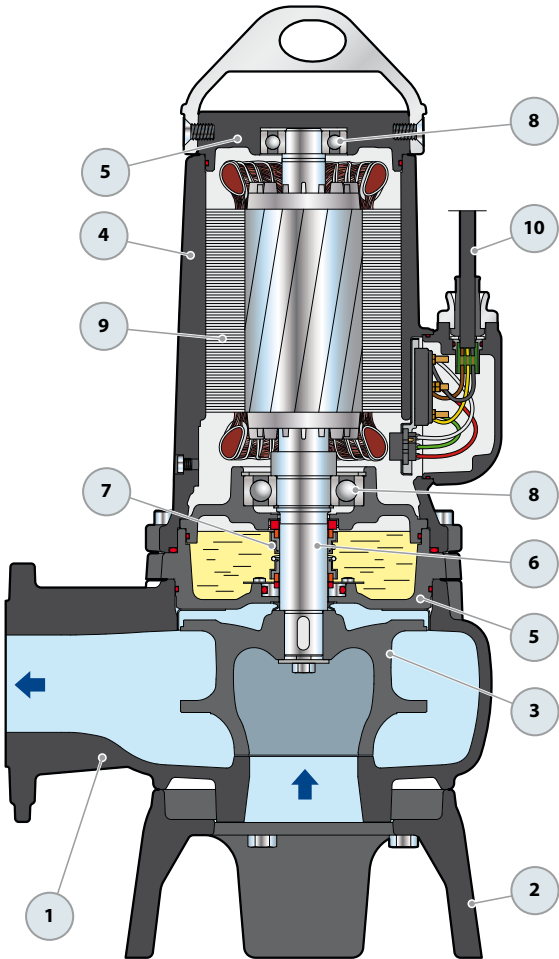
POS. COMPONENT CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron with an Epoxy Electro Coating treatment			
2	BASE	Cast iron with an Epoxy Electro Coating treatment			
3	IMPELLER	DOUBLE-CHANNEL type in cast iron with an Epoxy Electro Coating treatment			
4	MOTOR CASING	Cast iron with an Epoxy Electro Coating treatment			
5	MOTOR CASING PLATE	Cast iron with an Epoxy Electro Coating treatment			
6	MOTOR SHAFT	Stainless steel AISI 431			
7	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER				
Seal	Shaft	Position	Materials		
Model	Diameter		Stationary ring	Rotational ring	Elastomer
MG91-40D	Ø 40 mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

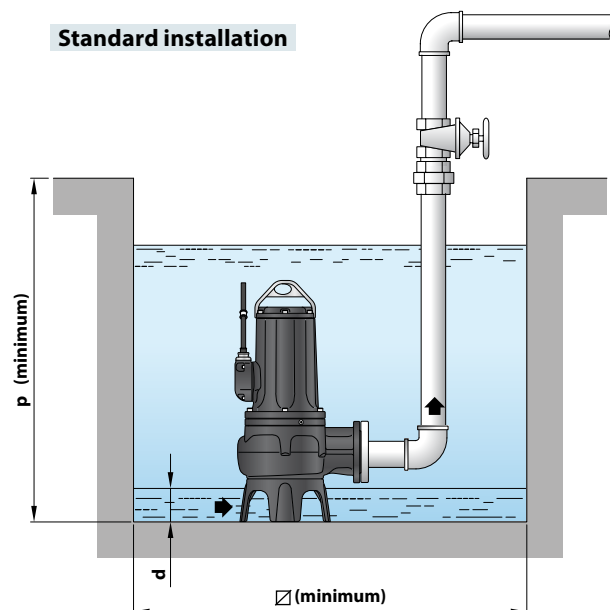
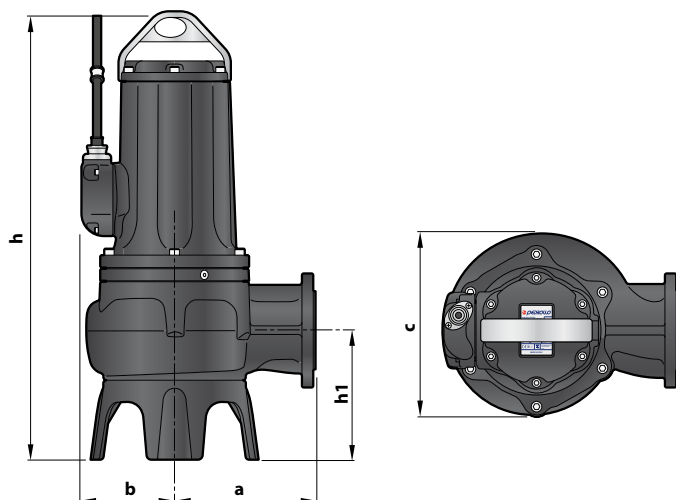
8	BEARINGS	6309 ZZ-C3 / 6306 ZZ-C3
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9	ELECTRIC MOTOR
– three-phase 400 V - 50 Hz	
– <u>with thermal overload protector incorporated into the winding</u>	
– Insulation: class F	
– Protection: IP X8	

10	POWER CABLE
"H07 RN-F" type	
Standard length 10 metres	

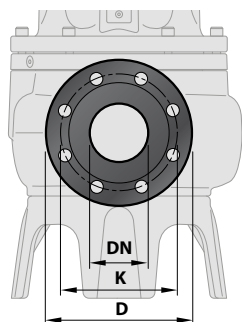


DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm								kg
Three-phase		a	b	c	h	h1	d	p	Ø	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

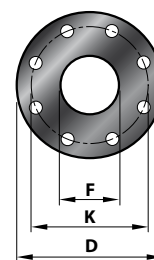
FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
Three-phase	DN	mm	mm	N°	Ø (mm)
MC4 40/55	80 (PN10)	160	200	8	18
MC4 50/55					
MC4 55/55					

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
MC4 40/55	80	3"	160	200	8	18
MC4 50/55						
MC4 55/55						

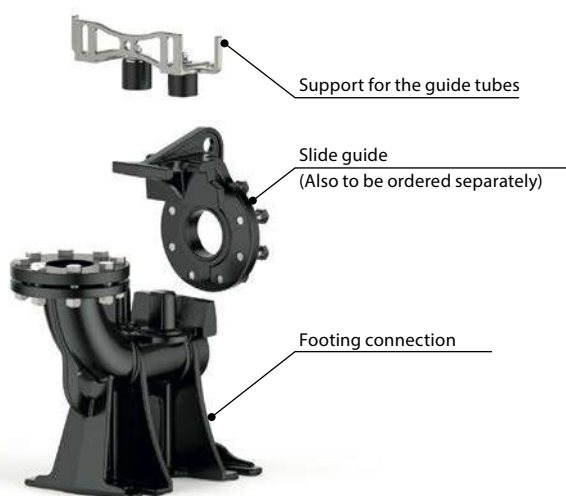
ABSORPTION

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 VXC4	Cod. ASSPVXC4V	DN 4"
For MC4	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 VXC4	Cod. ASSFL100
For MC4	Cod. ASSFL080

Complete with screws and seals

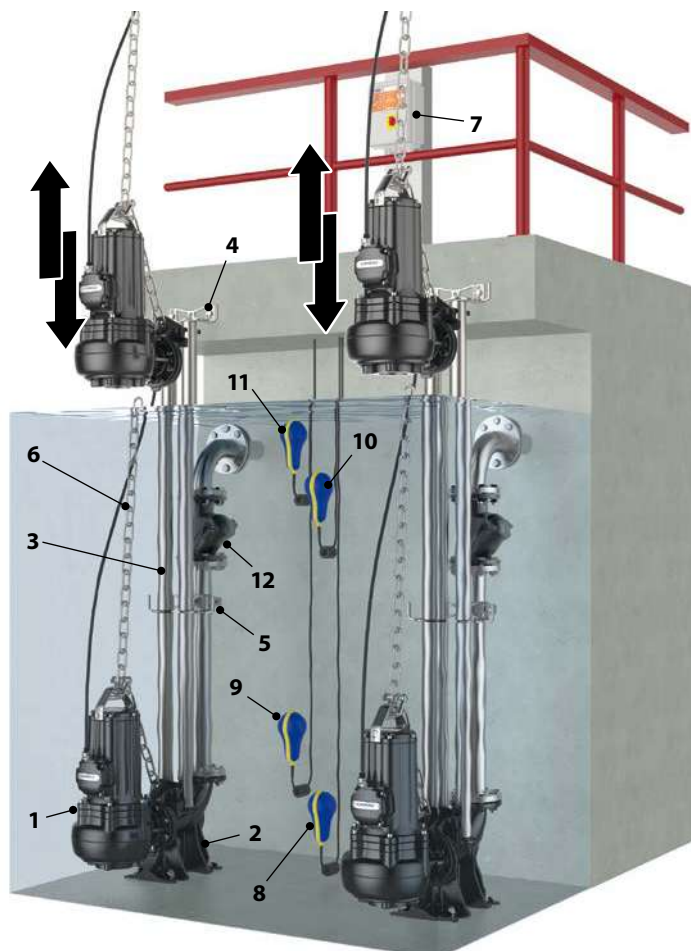
● INTERMEDIATE SUPPORT (To be ordered separately)

Guide tube Ø 2"	Cod. 859SV349INTFA
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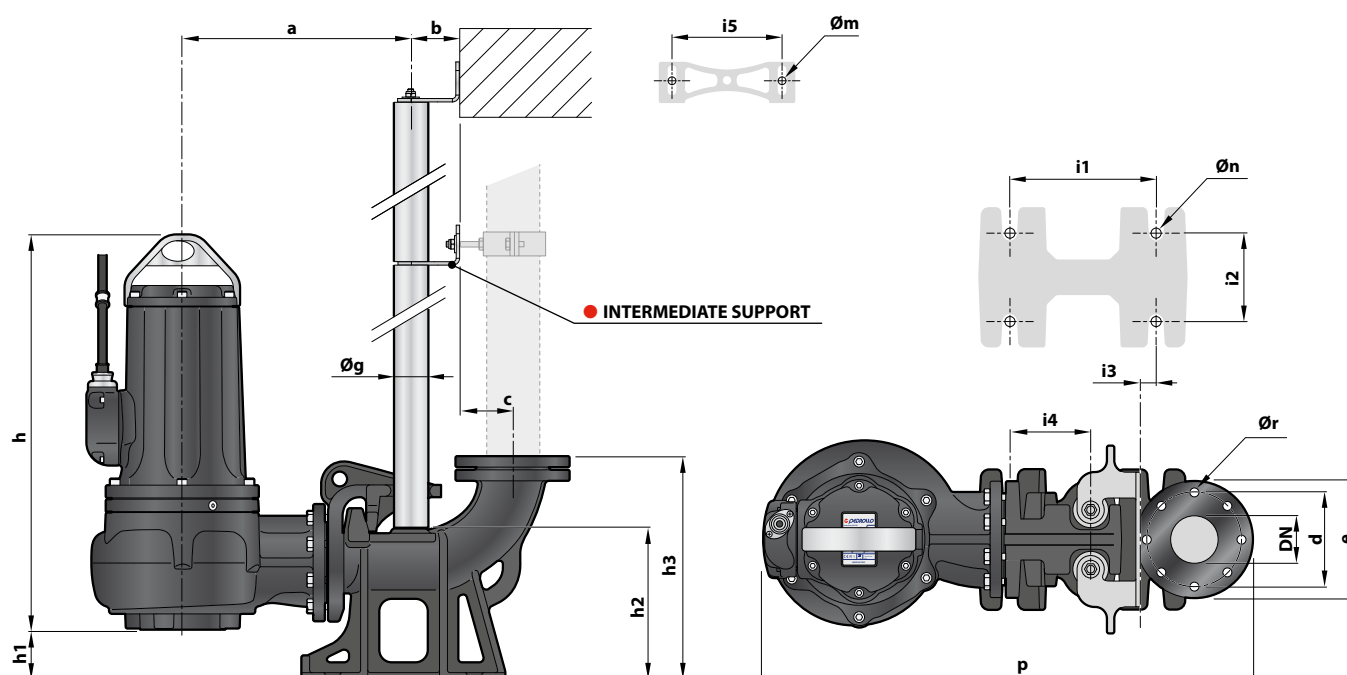
In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)

GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø 2"	Cod. 54SARTG006
Maximum length of the tube plank: 6 metres	



DIMENSIONS



MODEL	Passage of solids	PORT	DIMENSIONS mm																		
Three-phase	mm	DN	a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
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	PORT	DIMENSIONS mm																		
Three-phase	mm	DN	a	b	c	d	e	p	h	h1	h2	h3	i1	i2	i3	i4	i5	Øg	Øm	Øn	Ør
MC4 40/55	Ø 55	3"																			
MC4 50/55			396	85	95	160	200	841	680	92	256	592	250	150	34	130	186	2"	13	16	18
MC4 55/55																					

Submersible pumps

High flow

-  Sewage water
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **5000 l/min** (300 m³/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

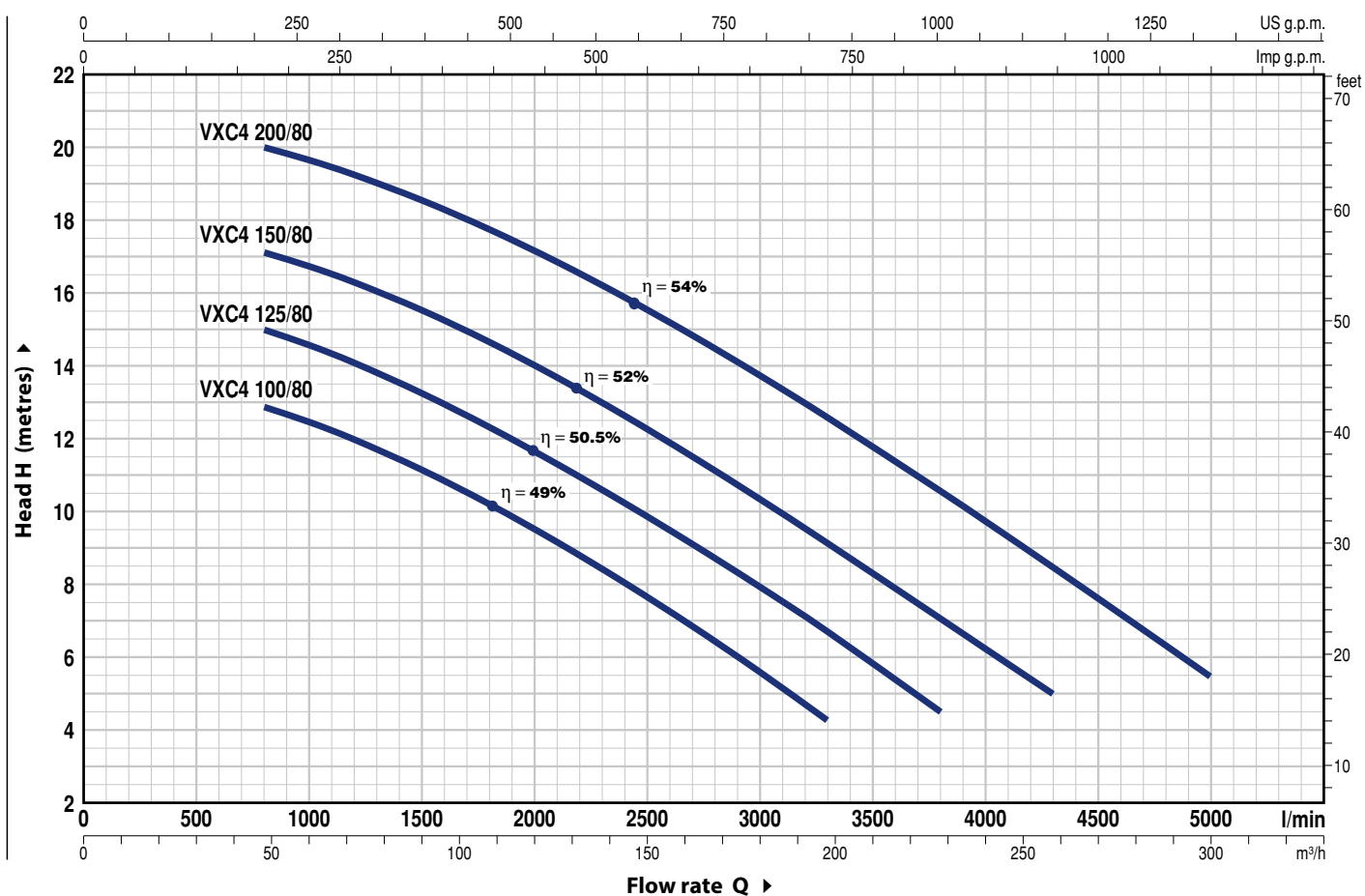
- Registered EU Design n. 003863158-0003

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min⁻¹



MODEL Three-phase	POWER (P ₂)		Q m ³ /h l/min	0	48	60	90	120	150	180	198	228	258	300
	kW	HP		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	PUMP BODY	Cast iron
2	IMPELLER	VORTEX type in cast iron
3	MOTOR CASING	Cast iron
4	MOTOR CASING PLATE	Cast iron
5	MOTOR SHAFT	Stainless steel AISI 431

6 SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER

<i>Seal</i>	<i>Shaft</i>	<i>Position</i>	<i>Materials</i>		
<i>Model</i>	<i>Diameter</i>		<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
AR-35	Ø 35 mm	Motor side	Ceramic	Graphite	NBR
MG1-40	Ø 40 mm	Pump side	Silicon carbide	Silicon carbide	NBR

7	BEARINGS	6308 2RS-C3 / 3308A 2RS-C3
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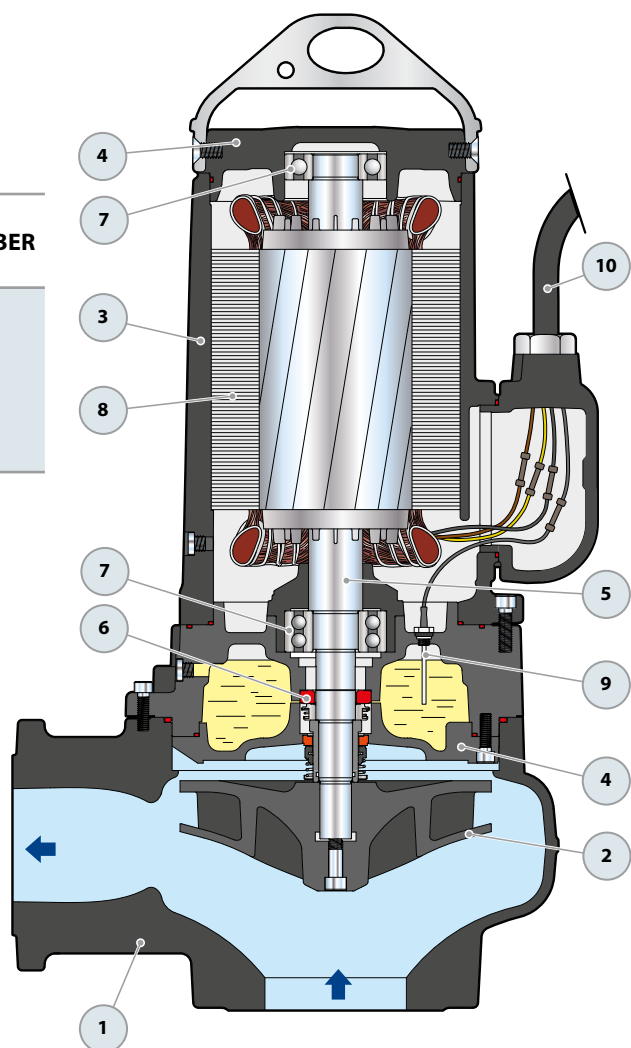
8 ELECTRIC MOTOR

- three-phase 400 V - 50 Hz
with thermal overload protector incorporated into the winding
- Insulation: class F
- Protection: IP X8

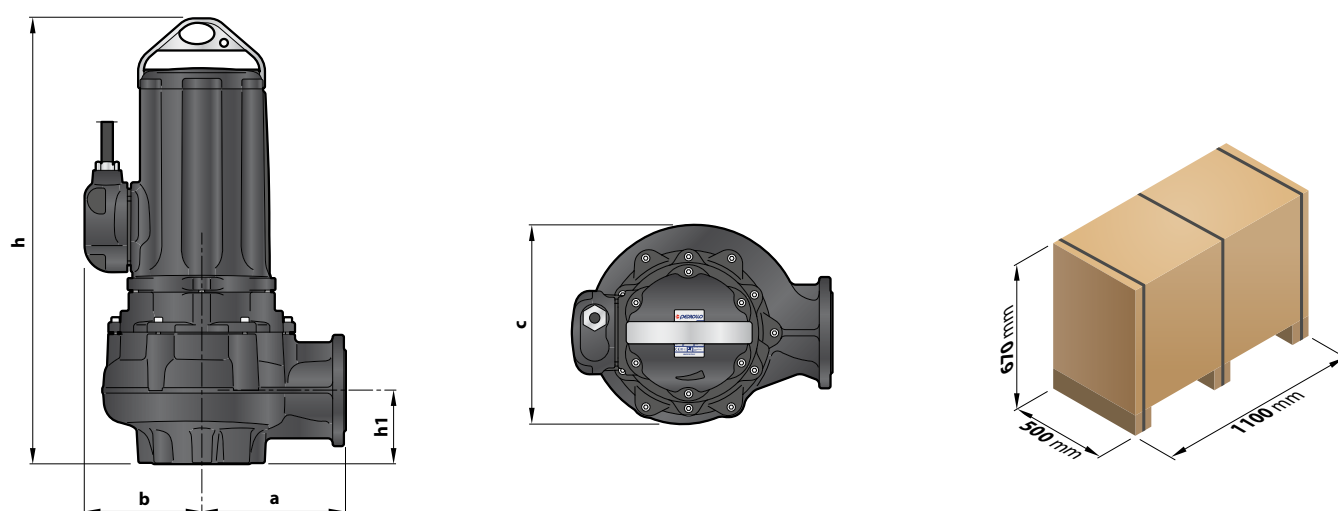
9 PROBE DETECTING THE PRESENCE OF WATER IN THE OIL CHAMBER

10 POWER CABLE

"H07 RN-F" type
Standard length 10 metres

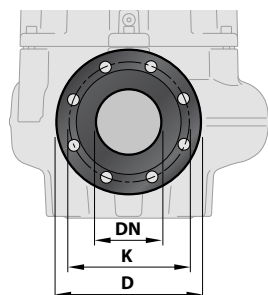


DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm					kg
Three-phase		a	b	c	h	h1	3~
VXC4 100/80	Ø 80	285	232	395	870	145	215
VXC4 125/80							217
VXC4 150/80							227
VXC4 200/80							237

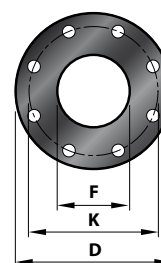
FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
Three-phase	DN	mm	mm	N°	Ø (mm)
VXC4 100/80	100 (PN10)	180	220	8	18
VXC4 125/80					
VXC4 150/80					
VXC4 200/80					

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



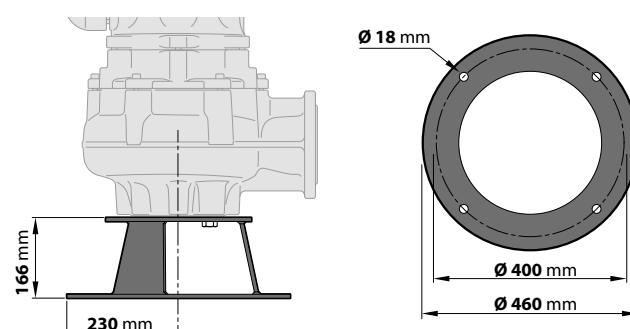
MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
VXC4 100/80	100	4"	180	220	8	18
VXC4 125/80						
VXC4 150/80						
VXC4 200/80						

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)



Submersible pumps

High flow

-  Sewage water
-  Civil use
-  Industrial use



PERFORMANCE RANGE

- Flow rate up to **5000 l/min** (300 m³/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

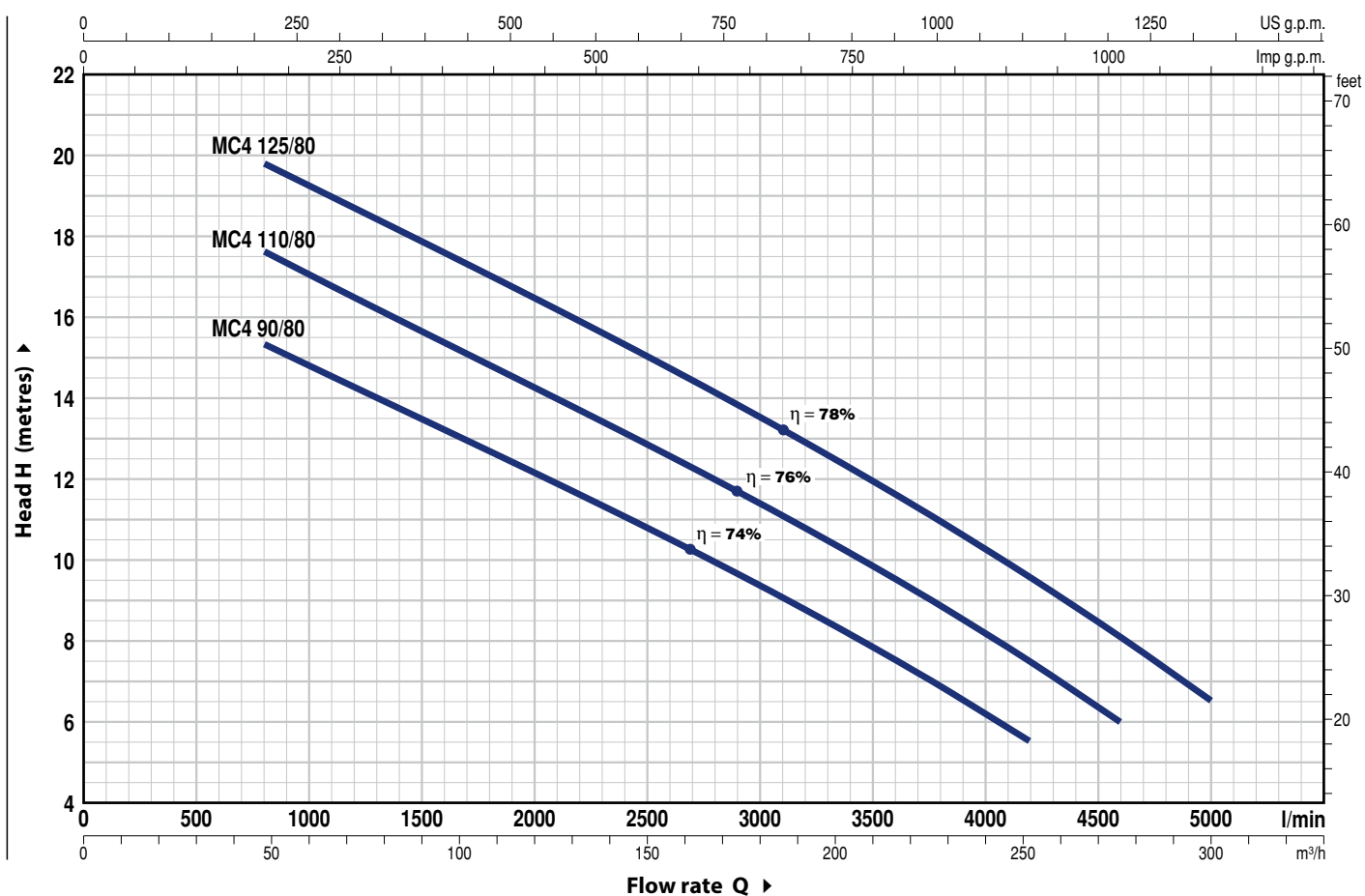
- Registered EU Design n. 003863158-0004

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz $n = 1450 \text{ min}^{-1}$



MODEL Three-phase	POWER (P ₂)		Q													
	kW	HP		m³/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			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			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.

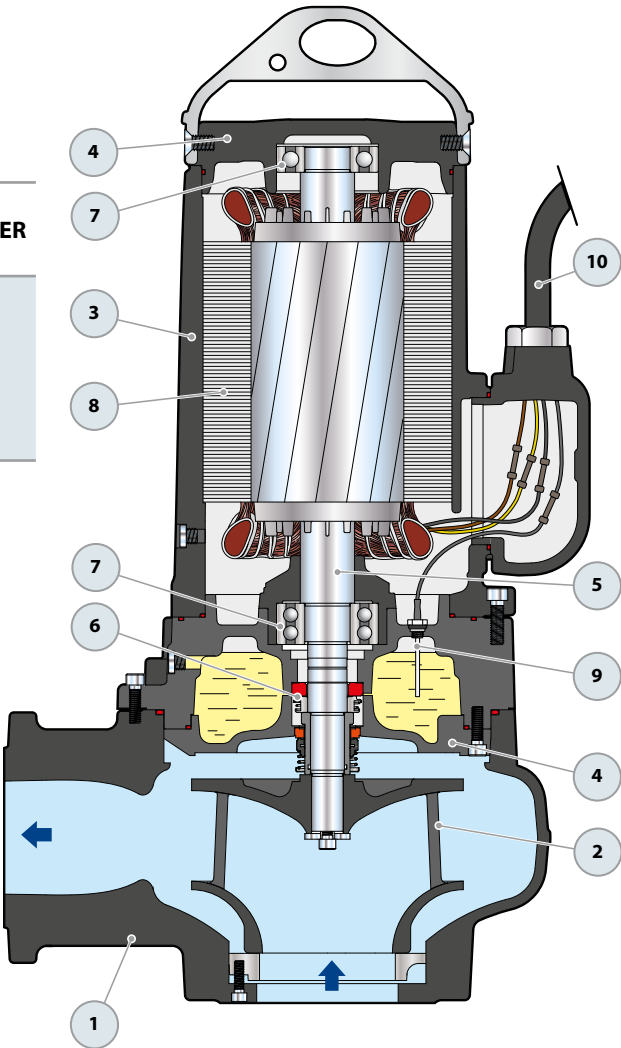
POS. COMPONENTCONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Cast iron			
2	IMPELLER	DOUBLE-CHANNEL type in cast iron			
3	MOTOR CASING	Cast iron			
4	CASING	Cast iron			
5	MOTOR SHAFT	Stainless steel AISI 431			
6	SHAFT WITH DOUBLE MECHANICAL SEAL SEPARATED BY AN OIL CHAMBER				
Seal	Shaft	Position	Materials		
Model	Diameter		Stationary ring	Rotational ring	Elastomer
AR-35	Ø 35 mm	Motor side	Ceramic	Graphite	NBR
MG1-40	Ø 40 mm	Pump side	Silicon carbide	Silicon carbide	NBR

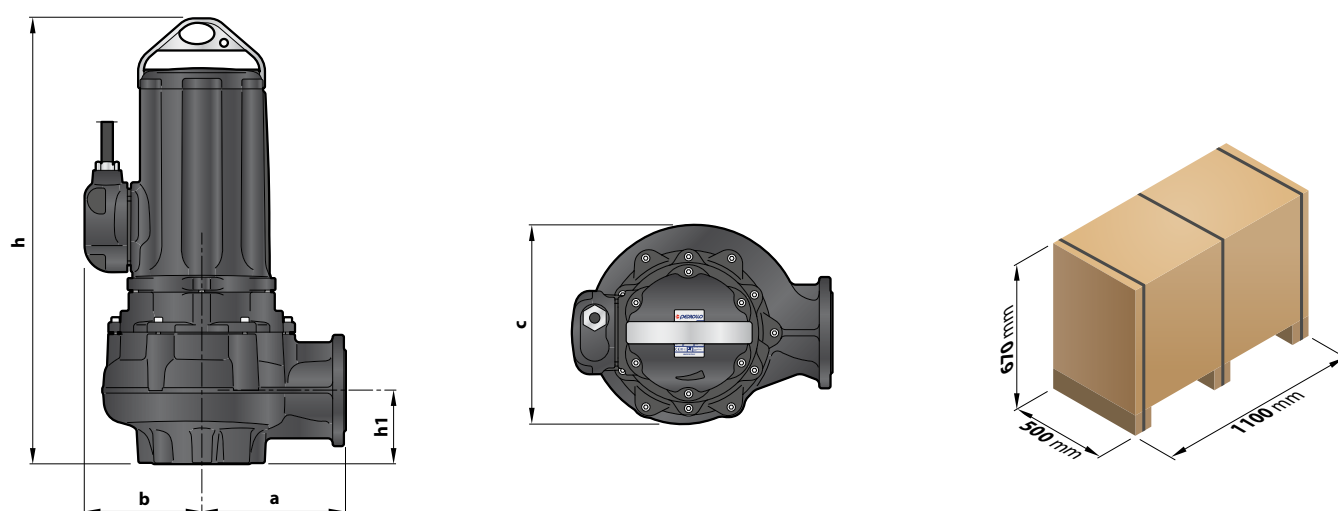
7	BEARINGS	6308 2RS-C3 / 3308A 2RS-C3
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8	ELECTRIC MOTOR
– three-phase 400 V - 50 Hz	
– with thermal overload protector incorporated into the winding	
– Insulation: class F	
– Protection: IP X8	

9	PROBE DETECTING THE PRESENCE OF WATER IN THE OIL CHAMBER
10	POWER CABLE
"H07 RN-F" type	
Standard length 10 metres	

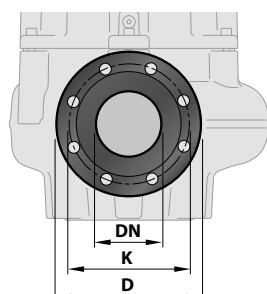


DIMENSIONS AND WEIGHT



MODEL	Passage of solids	DIMENSIONS mm					kg
Three-phase		a	b	c	h	h1	3~
MC4 90/80	Ø 80	285	232	395	870	145	219
MC4 110/80							220
MC4 125/80							230

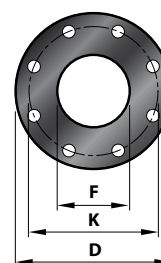
FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
Three-phase	DN	mm	mm	N°	Ø (mm)
MC4 90/80	100 (PN10)	180	220	8	18
MC4 110/80					
MC4 125/80					

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



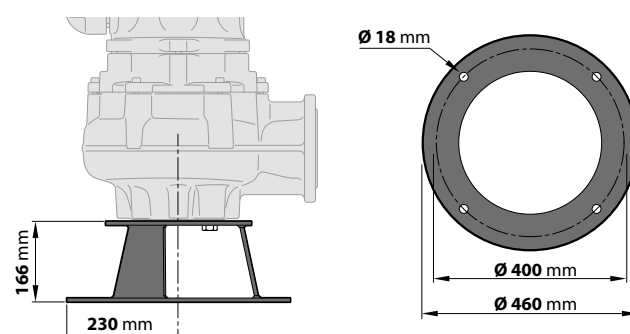
MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
MC4 90/80	100	4"	180	220	8	18
MC4 110/80						
MC4 125/80						

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 VXC4, MC4	Cod. ASSPVXC4V	DN 4"
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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
13. Cement base

SLIDE GUIDE (Also to be ordered separately)

For VXC4, MC4	Cod. ASSFL100
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Complete with screws and seals

● INTERMEDIATE SUPPORT (To be ordered separately)

Cod. 859SV349INTFA	Guide tube Ø 2"
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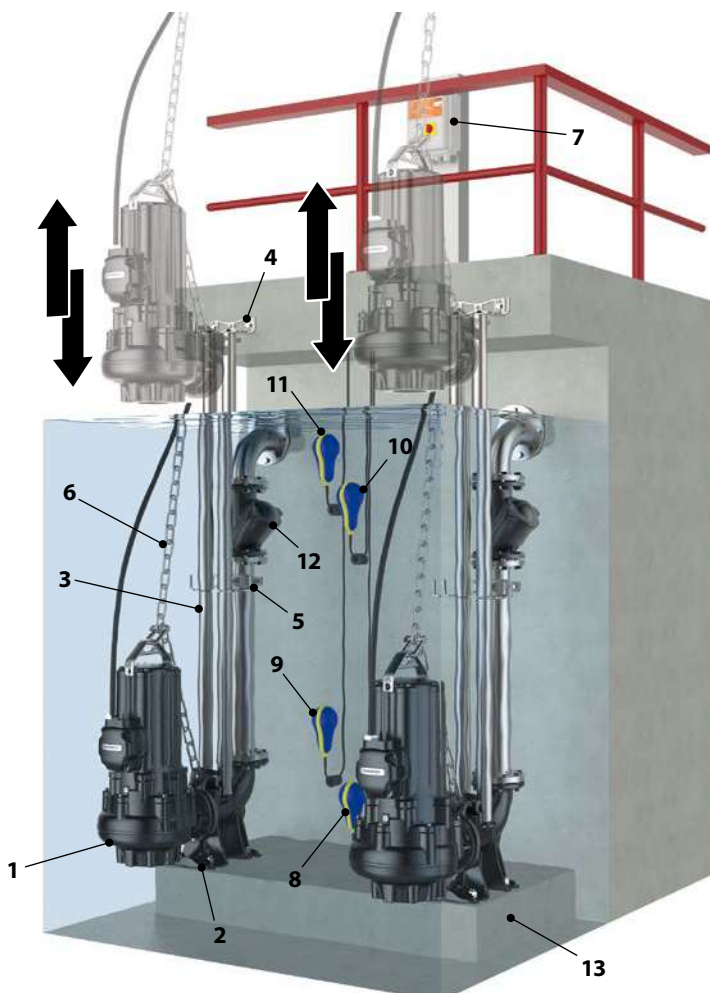
In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)



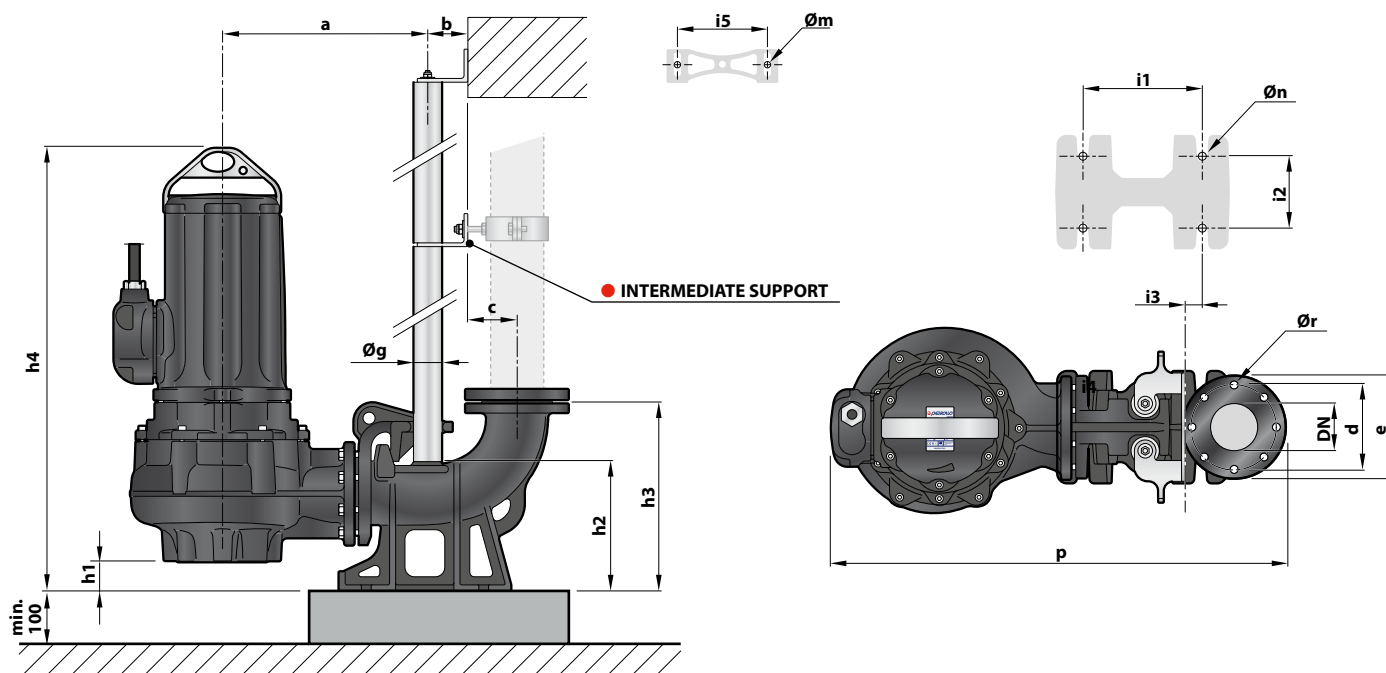
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG006	Ø 2"
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Maximum length of the tube plank: 6 metres



DIMENSIONS



MODEL	Passage of solids mm	PORT DN	DIMENSIONS mm																	
Three-phase			a	b	c	d	e	p	h1	h2	h3	h4	i1	i2	i3	i5	$\varnothing g$	$\varnothing m$	$\varnothing n$	$\varnothing r$
VXC4 /80 MC4 /80	$\varnothing 80$	100	435	85.5	104.5	180	220	965	62	275	400	930	250	150	34	187	2"	13.5	22	18

 Domestic use

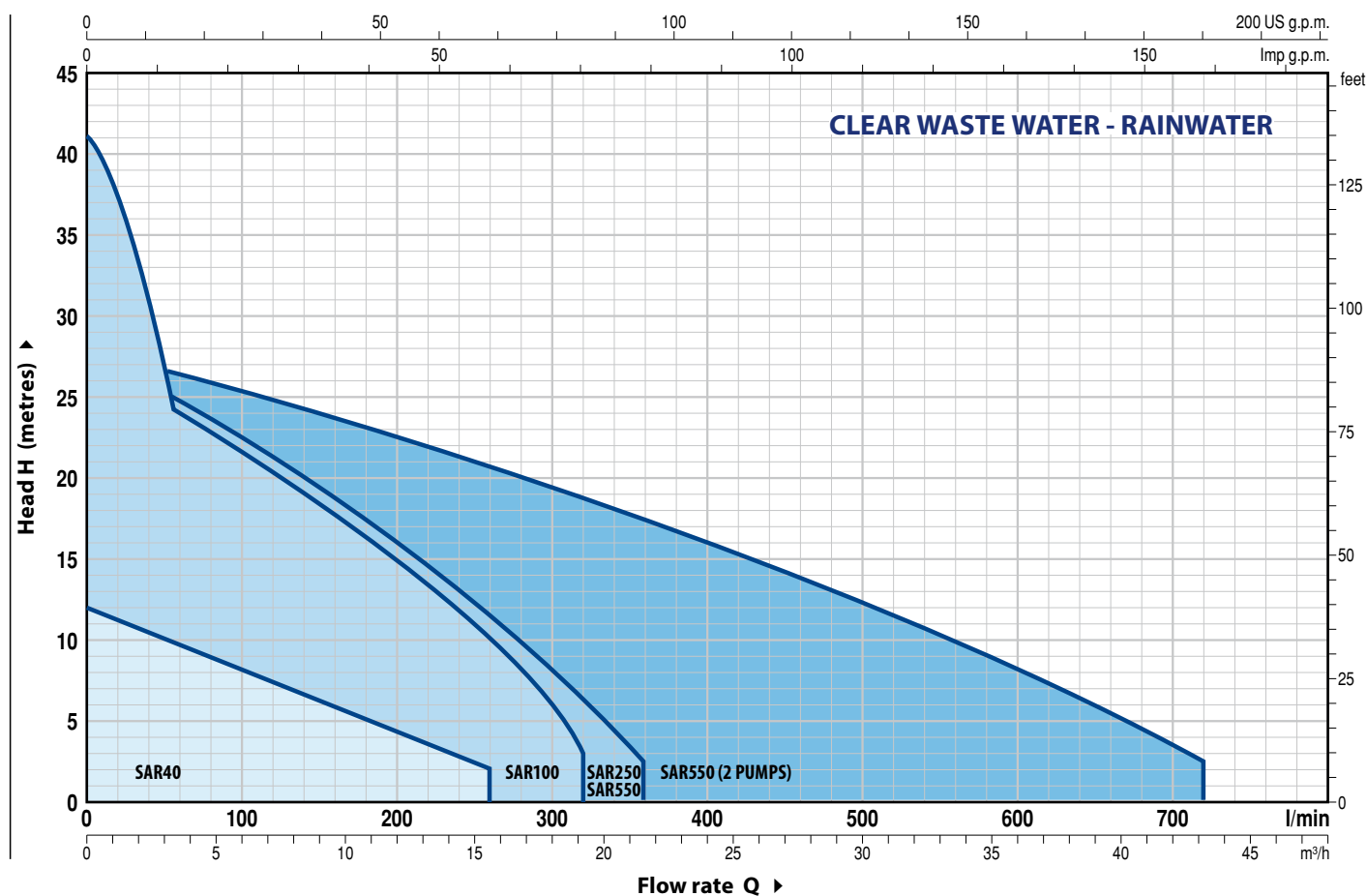
 Agricultural use

 Civil use



PERFORMANCE RANGE

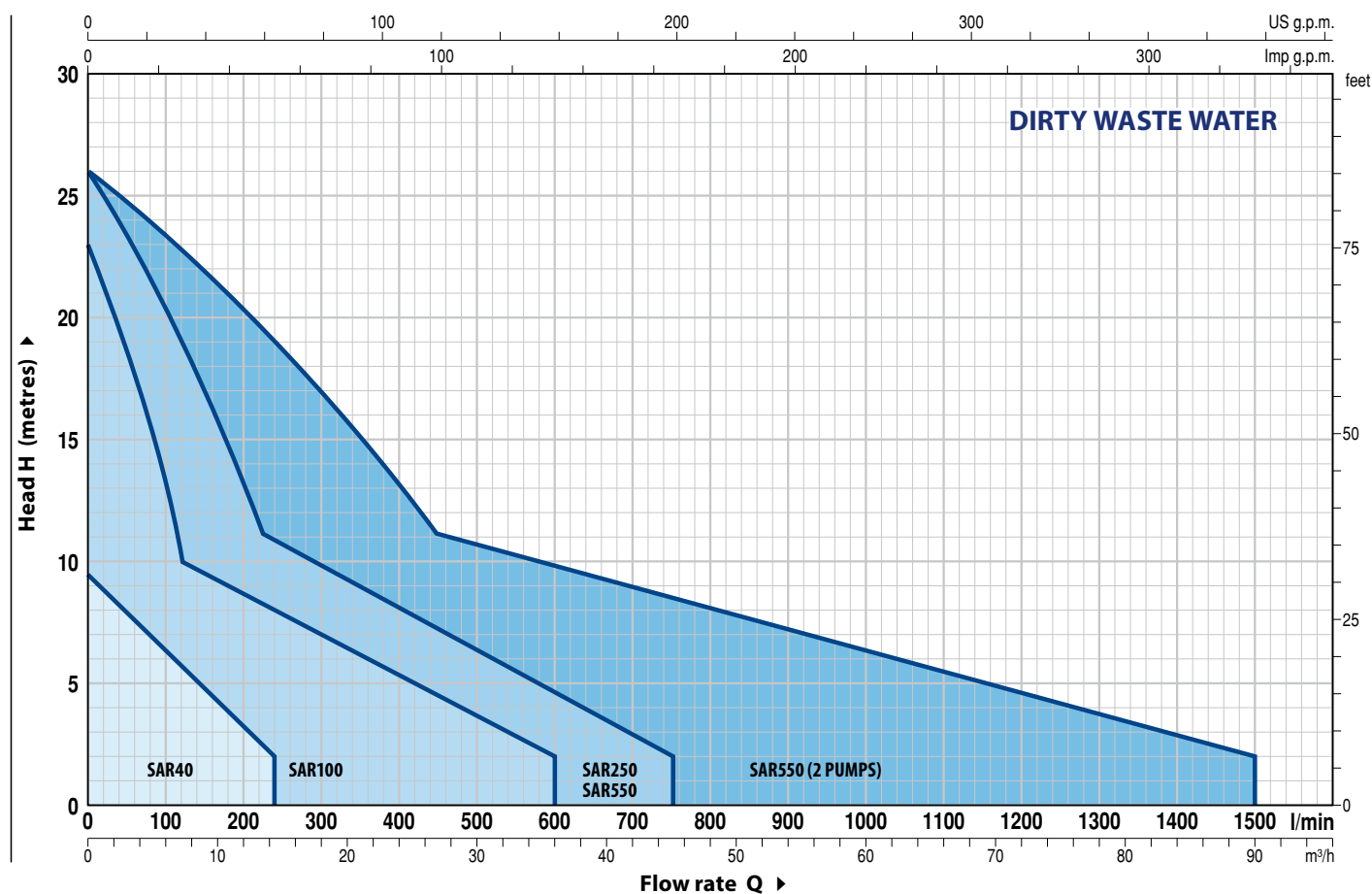
50 Hz $n = 2900 \text{ min}^{-1}$





PERFORMANCE RANGE

50 Hz $n = 2900 \text{ min}^{-1}$



CLEAR WASTE WATER - RAINWATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 40 - TOP 1	0.25	0.33	40	160	6
SAR 40 - TOP 2	0.37	0.50	40	220	8
SAR 40 - TOP 3	0.55	0.75	40	260	10
SAR 40 - RXm 1	0.25	0.33	40	160	6.5
SAR 40 - RXm 2	0.37	0.50	40	220	9.5
SAR 40 - RXm 3	0.55	0.75	40	220	11.5



DIRTY WASTE WATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 40 - TOP 2-VORTEX	0.37	0.50	40	180	6.5
SAR 40 - TEX 2	0.37	0.50	40	200	7.5
SAR 40 - TEX 3	0.55	0.75	40	240	9.5
SAR 40 - RXm2/20	0.37	0.50	40	180	6.5

COMPONENTI

- 40 litres polyethylene tank with cover plate
- Pump complete with float switch
- Power cable: supplied with standard 5 metres cable with Schuko plug (EN 60335-2-41 standard states that the power cable must be 10 metres long for outside use)
- Non-return valve
- Accumulation stations with inlet tube 1½" gas, outlet 1¼" gas and vent ½" gas

CLEAR WASTE WATER - RAINWATER



MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 100 - TOP 2	0.37	0.50	100	220	8
SAR 100 - TOP 3	0.55	0.75	100	260	10
SAR 100 - TOP 4	0.75	1	100	320	12.5
SAR 100 - TOP MULTI 1	0.37	0.50	100	70	25
SAR 100 - TOP MULTI 2	0.55	0.75	100	80	40
SAR 100 - TOP MULTI 3	0.55	0.75	100	120	32
SAR 100 - RXm 2	0.37	0.50	100	220	9.5
SAR 100 - RXm 3	0.55	0.75	100	220	11.5
SAR 100 - Dm 10	0.75	1	100	300	15.5
SAR 100 - Dm 20	0.75	1	100	250	19
SAR 100 - Dm 30	1.1	1.5	100	275	26

DIRTY WASTE WATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 100 - TOP 2-VORTEX	0.37	0.50	100	180	6.5
SAR 100 - TOP 3-VORTEX	0.55	0.75	100	180	8
SAR 100 - RXm 2/20	0.37	0.50	100	180	6.5
SAR 100 - RXm 3/20	0.55	0.75	100	180	8
SAR 100 - ZXm 2/30	0.55	0.75	100	320	12.5
SAR 100 - ZXm 2/40	0.55	0.75	100	400	11
SAR 100 - VXm 8/35	0.55	0.75	100	350	8
SAR 100 - VXm 10/35	0.75	1	100	400	10
SAR 100 - VXm 8/50	0.55	0.75	100	450	6
SAR 100 - VXm 10/50	0.75	1	100	550	8.5
SAR 100 - BCm 10/50	0.75	1	100	600	11

SAR 100 WITH GRINDER PUMPS (TRITUS)

SAR 100 - TRm 0.75	0.75	1	100	120	15.5
SAR 100 - TRm 1.1	1.1	1.5	100	120	22

COMPONENTS

- 100 litres polyethylene tank with cover plate
- Pump complete with float switch
- Power cable: supplied with standard 10 metres cable with Schuko plug
- Control box (only for SAR 100-TR)
- Accumulation stations with inlet tube Ø 110 mm, outlet 1¼" or 1½" or 2" gas and vent Ø 50 mm



CLEAR WASTE WATER - RAINWATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 250 - TOP 3	0.55	0.75	250	260	10
SAR 250 - TOP 4	0.75	1	250	320	12.5
SAR 250 - TOP 5	0.92	1.25	250	360	15
SAR 250 - RXm 3	0.55	0.75	250	220	11.5
SAR 250 - RXm 4	0.75	1	250	260	15
SAR 250 - RXm 5	1.1	1.5	250	300	19.5
SAR 250 - Dm 10	0.75	1	250	300	15.5
SAR 250 - Dm 20	0.75	1	250	250	19
SAR 250 - Dm 30	1.1	1.5	250	275	26

DIRTY WASTE WATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 250 - TOP 2-VORTEX	0.37	0.50	250	180	6.5
SAR 250 - TOP 3-VORTEX	0.55	0.75	250	180	8
SAR 250 - RXm 3/20	0.55	0.75	250	180	8
SAR 250 - RXm 4/40	0.75	1	250	280	9.5
SAR 250 - RXm 5/40	1.1	1.5	250	380	12.5
SAR 250 - VXm10/35-ST	0.75	1	250	400	10.5
SAR 250 - VXm10/50-ST	0.75	1	250	550	9.5
SAR 250 - BCm 10/50-ST	0.75	1	250	600	11
SAR 250 - VXm 10/35	0.75	1	250	400	10
SAR 250 - VXm 15/35	1.1	1.5	250	500	13.5
SAR 250 - VXm 10/50	0.75	1	250	550	8.5
SAR 250 - VXm 15/50	1.1	1.5	250	650	11
SAR 250 - BCm 10/50	0.75	1	250	600	11
SAR 250 - BCm 15/50	1.1	1.5	250	750	14

SAR 250 WITH GRINDER PUMPS (TRITUS)

SAR 250 - TRm 0.75	0.75	1	250	120	15.5
SAR 250 - TRm 1.1	1.1	1.5	250	120	22
SAR 250 - TRm 1.5	1.5	2	250	260	25

COMPONENTS

- **250 litres** polyethylene tank with cover plate
- Pump complete with float switch
- Power cable: supplied with standard 10 metres cable with Schuko plug
- Control box (only for SAR 250-TR)
- Accumulation stations with inlet tube Ø 110 mm, outlet 1¼" or 1½" or 2" gas and vent DN 50 or DN 75
- Coupling support and guide tubes for lowering of pump (only for VX-ST and BC-ST)

OPTIONS AVAILABLE ON REQUEST

- **Alarm KIT** (Cod. KSKIT-ALLARME)
IIKit includes: control box, self-powered siren, float
- **300 mm extension kit** (Cod. KSKIT-308MA)
Kit includes: extension kit for the installation of the polyethylene "SAR" tank at greater depths
- **"SAR" stations with ball check valves and ball valve in the discharge pipe**

CLEAR WASTE WATER - RAINWATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE (1 pump) litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 550 - TOP 4	0.75	1	550	320	12.5
SAR 550 - TOP 5	0.92	1.25	550	360	15
SAR 550 - RXm 4	0.75	1	550	260	15
SAR 550 - RXm 5	1.1	1.5	550	300	19.5
SAR 550 - Dm 10	0.75	1	550	300	15.5
SAR 550 - Dm 20	0.75	1	550	250	19
SAR 550 - Dm 30	1.1	1.5	550	275	26



DIRTY WASTE WATER

MODEL	POWER (P ₂)		TANK CAPACITY litres	MAXIMUM FLOW RATE (1 pump) litres/min	MAXIMUM HEAD metres
	kW	HP			
SAR 550 - RXm 4/40	0.75	1	550	280	9.5
SAR 550 - RXm 5/40	1.1	1.5	550	380	12.5
SAR 550 - VXm 10/35-ST	0.75	1	550	400	10.5
SAR 550 - VXm 10/50-ST	0.75	1	550	550	9.5
SAR 550 - BCm10/50-ST	0.75	1	550	600	11
SAR 550 - VXm 10/35	0.75	1	550	400	10
SAR 550 - VXm 15/35	1.1	1.5	550	500	13.5
SAR 550 - VXm 10/50	0.75	1	550	550	8.5
SAR 550 - VXm 15/50	1.1	1.5	550	650	11
SAR 550 - VX 15/50 (*)	1.1	1.5	550	650	11
SAR 550 - BCm 10/50	0.75	1	550	600	11
SAR 550 - BCm 15/50	1.1	1.5	550	750	14
SAR 550 - BC 15/50 (*)	1.1	1.5	550	750	14
SAR 550 WITH GRINDER PUMPS (TRITUS)					
SAR 550 - TRm 0.75	0.75	1	550	120	15.5
SAR 550 - TRm 1.1	1.1	1.5	550	120	22
SAR 550 - TR 1.1 (*)	1.1	1.5	550	120	22
SAR 550 - TRm 1.5	1.5	2	550	260	25

COMPONENTS

- **550 litre** polyethylene tank with two lids
- Two single-phase pumps (* two three-phase pumps)
- Power cable: supplied with standard 10 metres cable
- Control box
- Three floats for: 1) alternating switch-on of one of the two pumps, 2) maximum level with switch-on of second pump, 3) minimum level with switch-off of pumps
- Accumulation stations with two inlet tubes Ø 110 mm, outlet 1¼" or 1½" or 2" gas and vent DN 50 or DN 75
- Coupling support and guide tubes for lowering of pump (only for VX-ST and BC-ST)

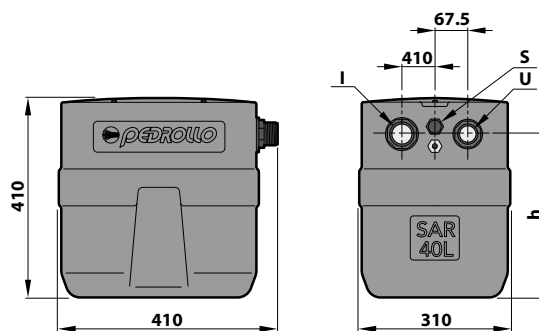
OPTIONS AVAILABLE ON REQUEST

- **Alarm KIT** (Cod. KSKIT-ALLARME)
IIKit includes: control box, self-powered siren, float
- **300 mm extension kit** (Cod. KSKIT-308MA)
Kit includes: extension kit for the installation of the polyethylene "SAR" tank at greater depths
ATTENTION: the tank is fitted with two lids
- **"SAR" stations with ball check valves and ball valve in the discharge pipe**

DIMENSIONS AND WEIGHT

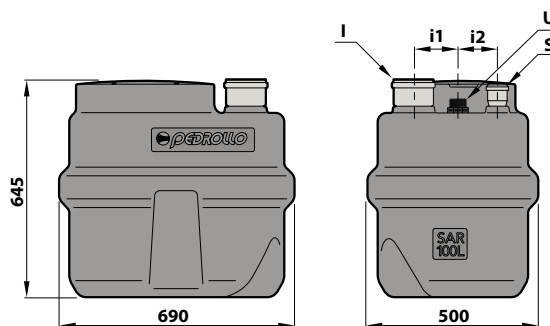
MODEL	PORTS			h	kg
	I	U ⁽¹⁾	S		
SAR 40 - TOP 1	1½"	1¼"	½"	305	14.0
SAR 40 - TOP 2					14.7
SAR 40 - TOP 3				335	16.1
SAR 40 - RXm 1				305	14.2
SAR 40 - RXm 2					15.3
SAR 40 - RXm 3				335	16.9
SAR 40 - TOP 2-VORTEX					14.6
SAR 40 - TEX 2					15.8
SAR 40 - TEX 3					16.5
SAR 40 - RXm 2/20					15.6

⁽¹⁾ Male threaded fitting



MODEL	PORTS			i1	i2	kg
	I	U ⁽¹⁾	S			
SAR 100 - TOP 2	DN 110	1¼"	DN 50	145	100	28.7
SAR 100 - TOP 3						30.1
SAR 100 - TOP 4		1½"				33.7
SAR 100 - TOP MULTI 1		1¼"				30.3
SAR 100 - TOP MULTI 2						32.9
SAR 100 - TOP MULTI 3						32.9
SAR 100 - RXm 2						29.3
SAR 100 - RXm 3		1½"				29.6
SAR 100 - Dm 10						36.6
SAR 100 - Dm 20						36.6
SAR 100 - Dm 30						38.6
SAR 100 - TOP 2-VORTEX		1¼"				28.7
SAR 100 - TOP 3-VORTEX						30.1
SAR 100 - RXm 2/20						29.6
SAR 100 - RXm 3/20						29.8
SAR 100 - ZXm 2/30		1½"				29.6
SAR 100 - ZXm 2/40						30.4
SAR 100 - VXm 8/35						36.4
SAR 100 - VXm 10/35						37.2
SAR 100 - VXm 8/50		2"				36.9
SAR 100 - VXm 10/50						37.7
SAR 100 - BCm 10/50		1¼"				38.4
SAR 100 - TRm 0.75						46.0
SAR 100 - TRm 1.1						47.6

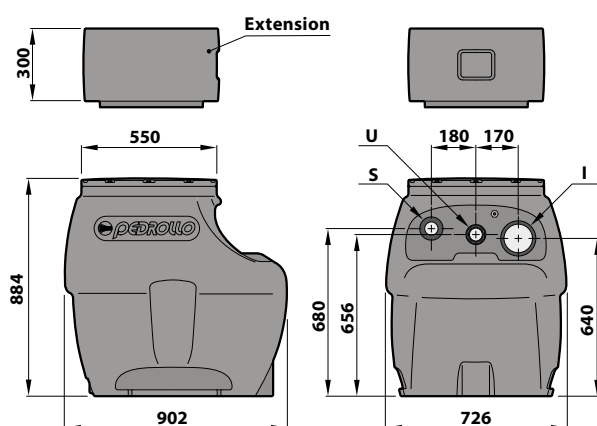
⁽¹⁾ Male threaded fitting



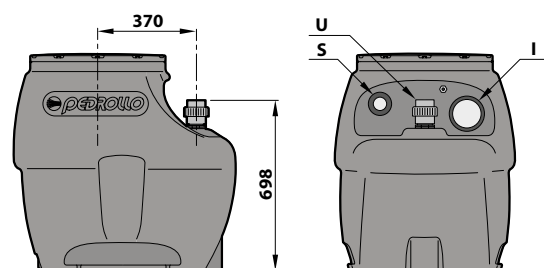
DIMENSIONS AND WEIGHT

MODEL	PORTS			kg
	I	U ⁽¹⁾	S	
SAR 250 - TOP 3	DN 110	1¼"	DN 50	42.6
SAR 250 - TOP 4		1½"		46.2
SAR 250 - TOP 5		1½"		46.2
SAR 250 - RXm 3		1¼"		47.0
SAR 250 - RXm 4		1½"		50.0
SAR 250 - RXm 5		1½"		51.0
SAR 250 - Dm 10		1½"		51.2
SAR 250 - Dm 20		1½"		53.5
SAR 250 - Dm 30		1½"		51.2
SAR 250 - TOP 2-VORTEX		1¼"		44.0
SAR 250 - TOP 3-VORTEX		1¼"		46.0
SAR 250 - RXm 3/20		1½"		45.0
SAR 250 - RXm 4/40		1½"		53.0
SAR 250 - RXm 5/40		1½"		53.0
SAR 250 - VXm10/35-ST		2"		60.0
SAR 250 - VXm10/50-ST		2"		60.0
SAR 250 - BCm10/50-ST		2"		60.5
SAR 250 - VXm 10/35		1½"		53.0
SAR 250 - VXm 15/35		1½"		54.0
SAR 250 - VXm 10/50		2"		53.0
SAR 250 - VXm 15/50		2"		53.0
SAR 250 - BCm 10/50		2"		53.5
SAR 250 - BCm 15/50		2"	DN 75	55.0
SAR 250 - TRm 0.75		1¼"	DN 50	62.0
SAR 250 - TRm 1.1		1¼"		64.0
SAR 250 - TRm 1.5		1½"		79.0

⁽¹⁾ Male threaded fitting (female for VX-ST and BC-ST)

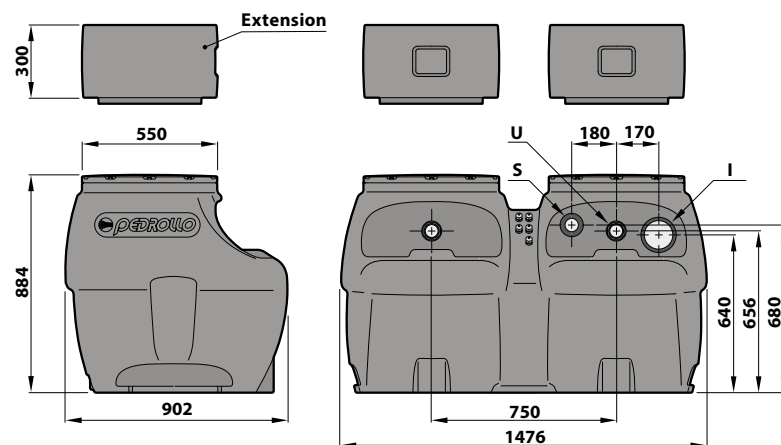


Only for VX-ST, BC-ST versions

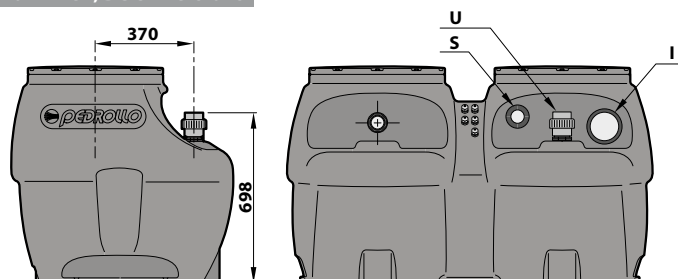


MODEL	PORTS			kg	
	I	U ⁽ⁿ⁾	S		
SAR 550 - TOP 4	DN 110	1½"	DN 50	96.0	
SAR 550 - TOP 5				95.2	
SAR 550 - RXm 4				103.0	
SAR 550 - RXm 5				105.0	
SAR 550 - Dm 10				101.2	
SAR 550 - Dm 20				101.2	
SAR 550 - Dm 30				105.7	
SAR 550 - RXm 4/40				105.0	
SAR 550 - RXm 5/40				106.0	
SAR 550 - V Xm 10/35-ST		2"	DN 75	120.0	
SAR 550 - V Xm 10/50-ST				121.0	
SAR 550 - BCm10/50-ST				122.0	
SAR 550 - V Xm 10/35				105.0	
SAR 550 - V Xm 15/35				106.0	
SAR 550 - V Xm 10/50		2"		105.1	
SAR 550 - V Xm 15/50				108.0	
SAR 550 - V X 15/50				107.0	
SAR 550 - BCm 10/50				109.0	
SAR 550 - BCm 15/50				108.0	
SAR 550 - BC 15/50				106.0	
SAR 550 - TRm 0.75		1¼"	DN 50	135.0	
SAR 550 - TRm 1.1				137.5	
SAR 550 - TR 1.1				137.0	
SAR 550 - TRm 1.5		1½"		182.0	

⁽¹⁾ Male threaded fitting (female for VX-ST and BC-ST)



Only for VX-ST, BC-ST versions



Pump with peripheral impeller

 Clean water

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **32 l/min** (1.92 m³/h)
- Head up to **38 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 **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. 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

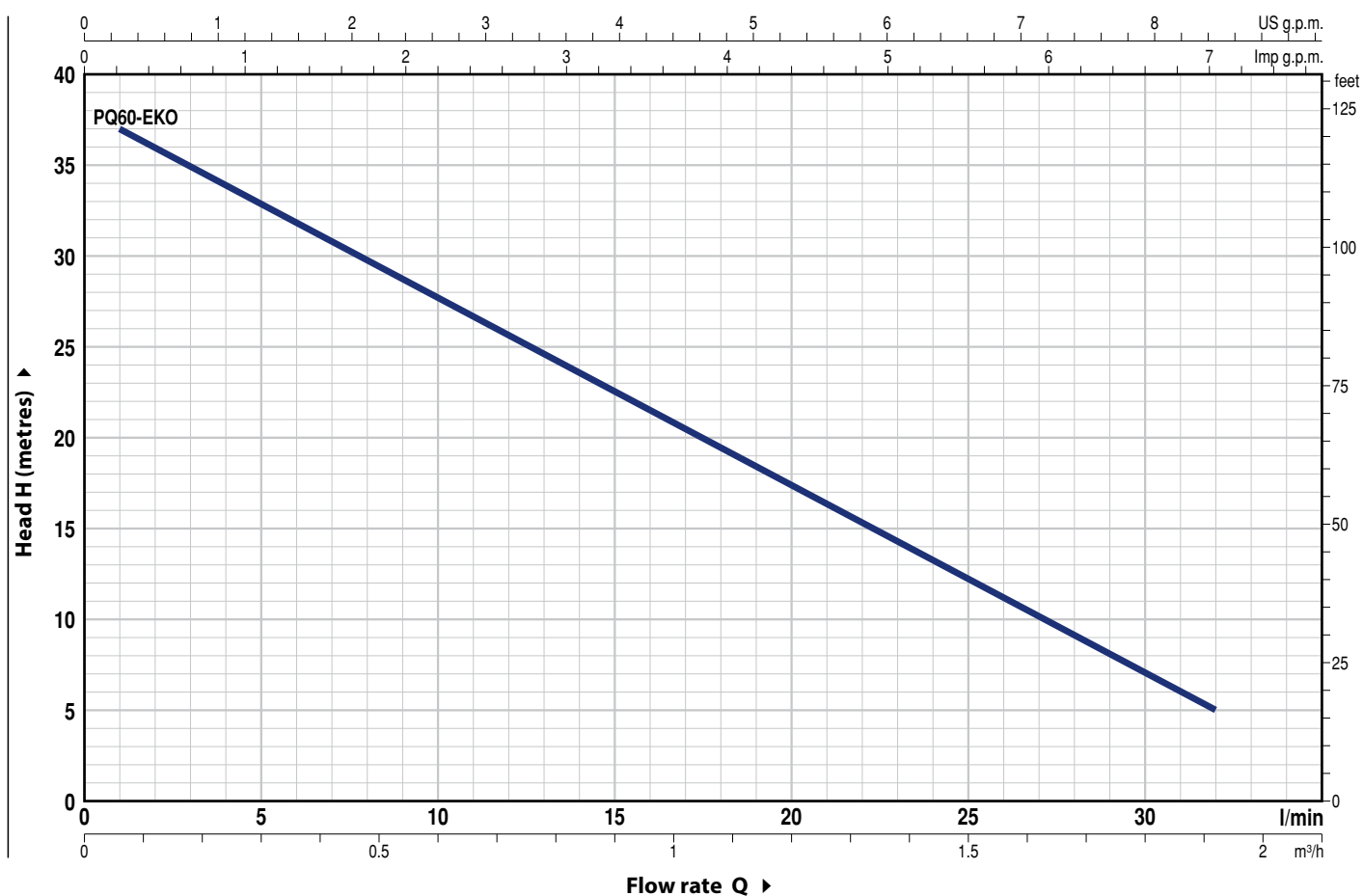
- Motor bracket: patent n. IT1243605
- Patent Pending n. 102018000010750

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⁻¹ HS= 0 m



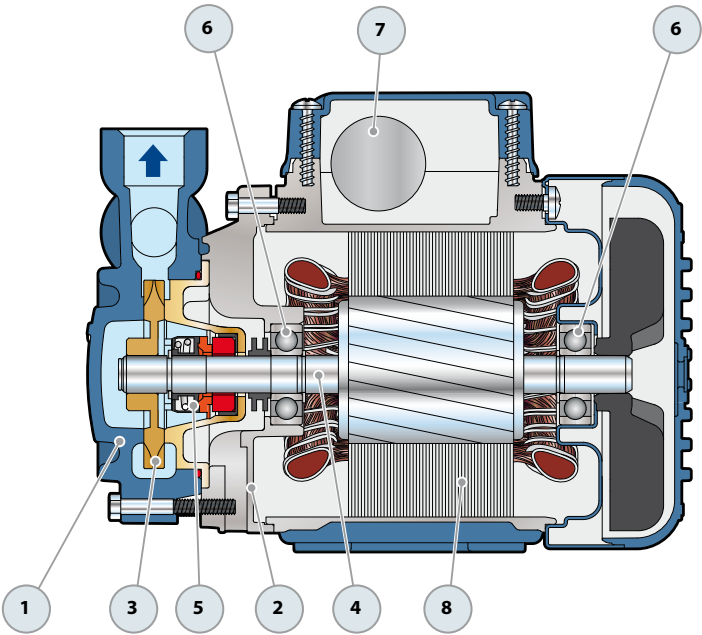
MODEL		POWER (P ₂)			Q	0	0.06	0.3	0.6	0.9	1.2	1.5	1.8	1.92
Single-phase	Three-phase	kW	HP	▲		0	1	5	10	15	20	25	30	32
PQm 60-EKO	PQ 60-EKO	0.37	0.50	IE3	H metres	38	37	33	27.5	22.5	17.5	12	7	5

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

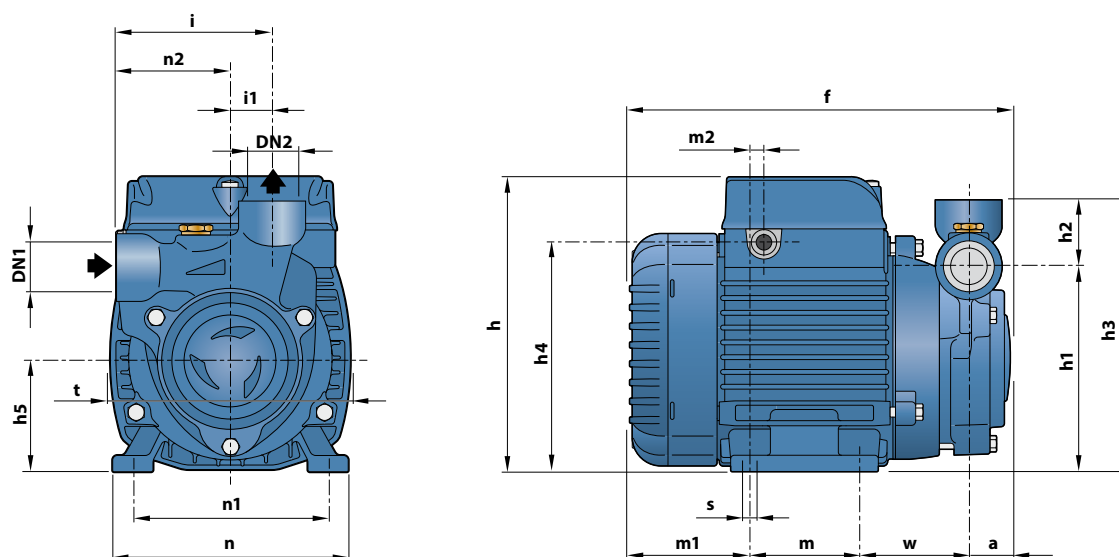
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Cast iron with 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	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		AR-12	Ø 12 mm	Ceramic	Graphite	NBR
6	BEARINGS	6201 ZZ / 6201 ZZ				
7	CAPACITOR	Capacitance				
		(230 V or 240 V)	(110 V)			
		10 µF - 450 VL	25 µF - 450 VL			
8	ELECTRIC MOTOR	PQm-EKO: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PQ-EKO: 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 F – Protection: IP X4				



DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm																			kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	h4	h5	i	i1	m	m1	m2	n	n1	n2	t	w	s	1~	3~
PQm 60-EKO	PQ 60-EKO	1/2"	1/2"	21	191	145	101	32.5	133.5	112	56	75.5	20	55	62	8	116	94 100	55.5	118	53	7	4.8	4.8

ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
PQm 60-EKO	2.5 A	5.0 A

MODEL	VOLTAGE	
Three-phase	230 V	400 V
PQ 60-EKO	2.0 A	1.15 A

Pumps with peripheral impeller

 Clean water

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **15 l/min** (0.9 m³/h)
- Head up to **80 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 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

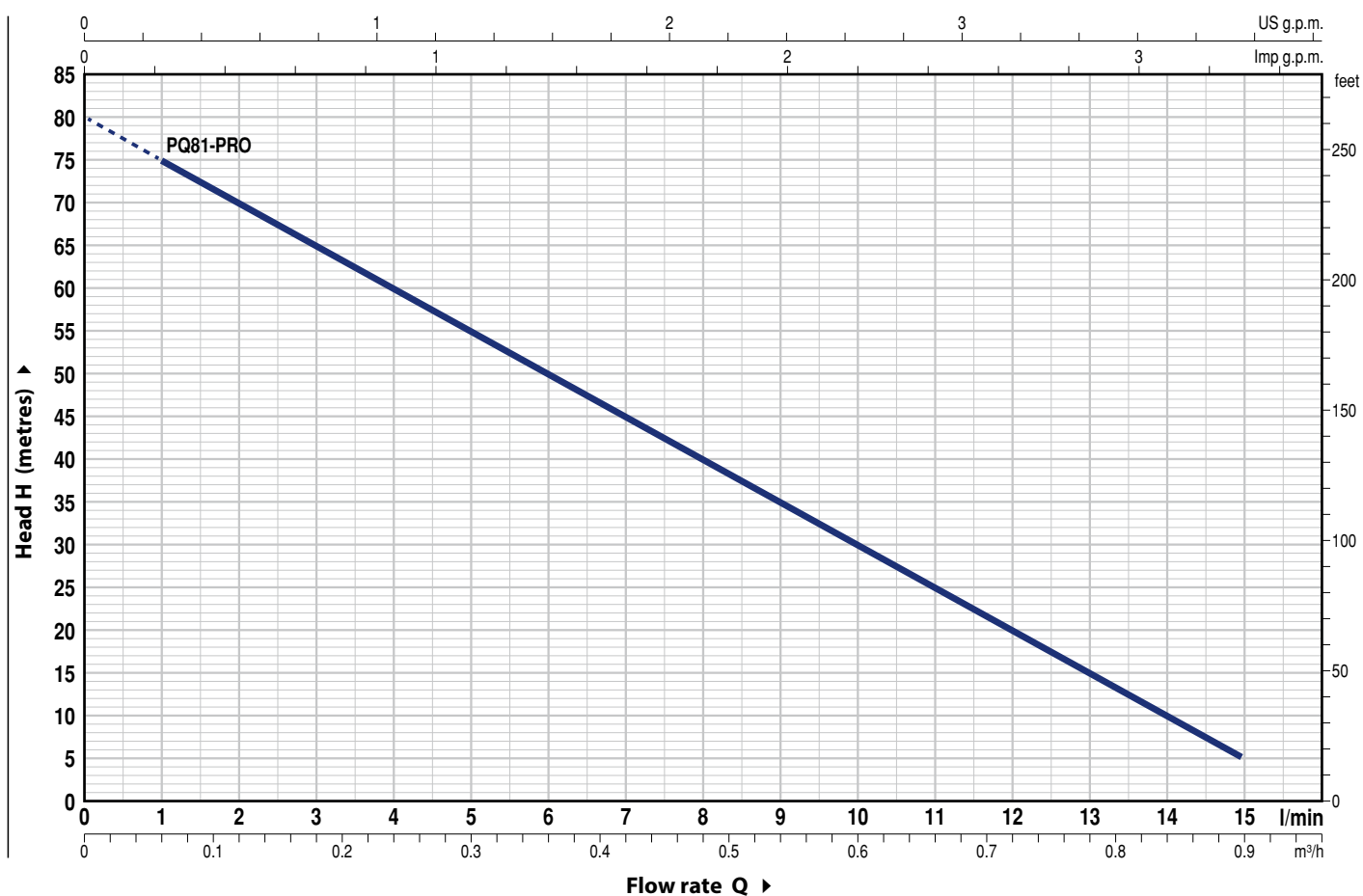
- Motor bracket: patent n. IT1243605

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⁻¹ HS= 0 m



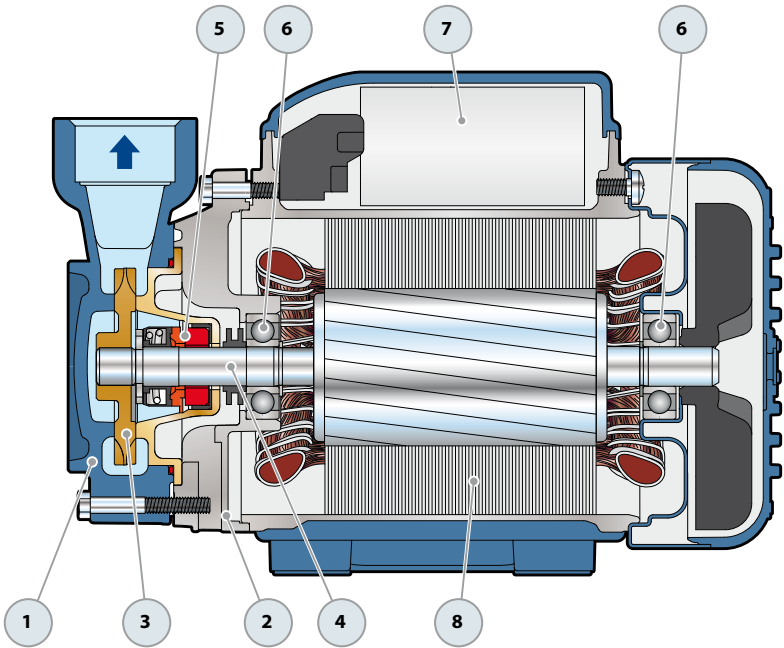
MODEL		POWER (P ₂)			Q																	
Single-phase	Three-phase	kW	HP	▲		m³/h	0	0.06	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60	0.66	0.72	0.78	0.84	0.90
						l/min	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PQm 81-PRO	PQ 81-PRO	0.45	0.60	IE3	H metres		80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5

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

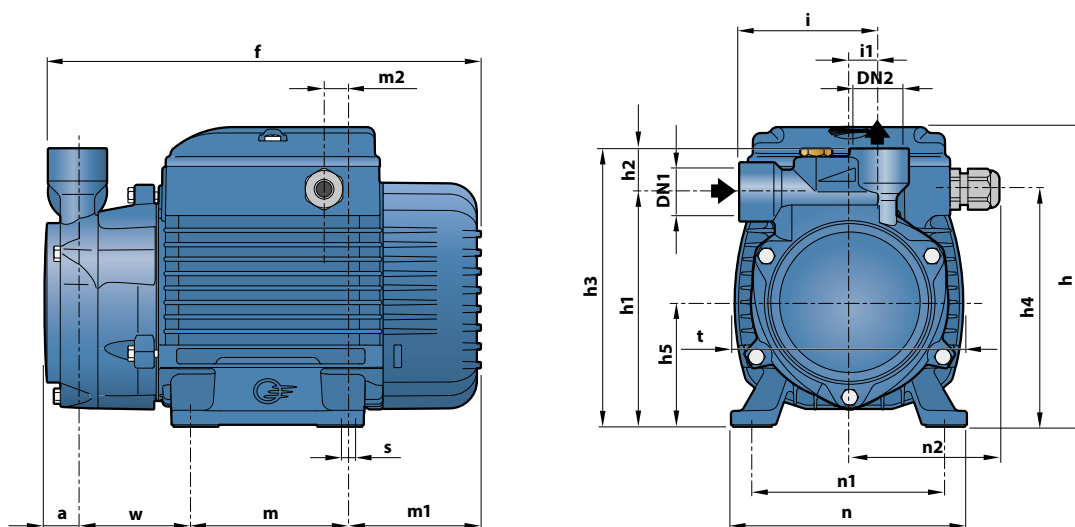
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	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	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	Capacitance				
		(230 V or 240 V)		(110 V)		
		12.5 µF - 450 VL		25 µF - 250 VL		
8	ELECTRIC MOTOR	PQm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PQ: 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 F – Protection: IP X4				



DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm																		kg		
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	h4	h5	i	i1	m	m1	m2	n	n1	n2	t	w	s	1~	3~
PQm 81-PRO	PQ 81-PRO	½"	½"	19	224	153	119	22	141	120.5	63	71	15	80	69	11.5	120	100	77	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

Peripheral pumps with brass pump body

 Clean water

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m³/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 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

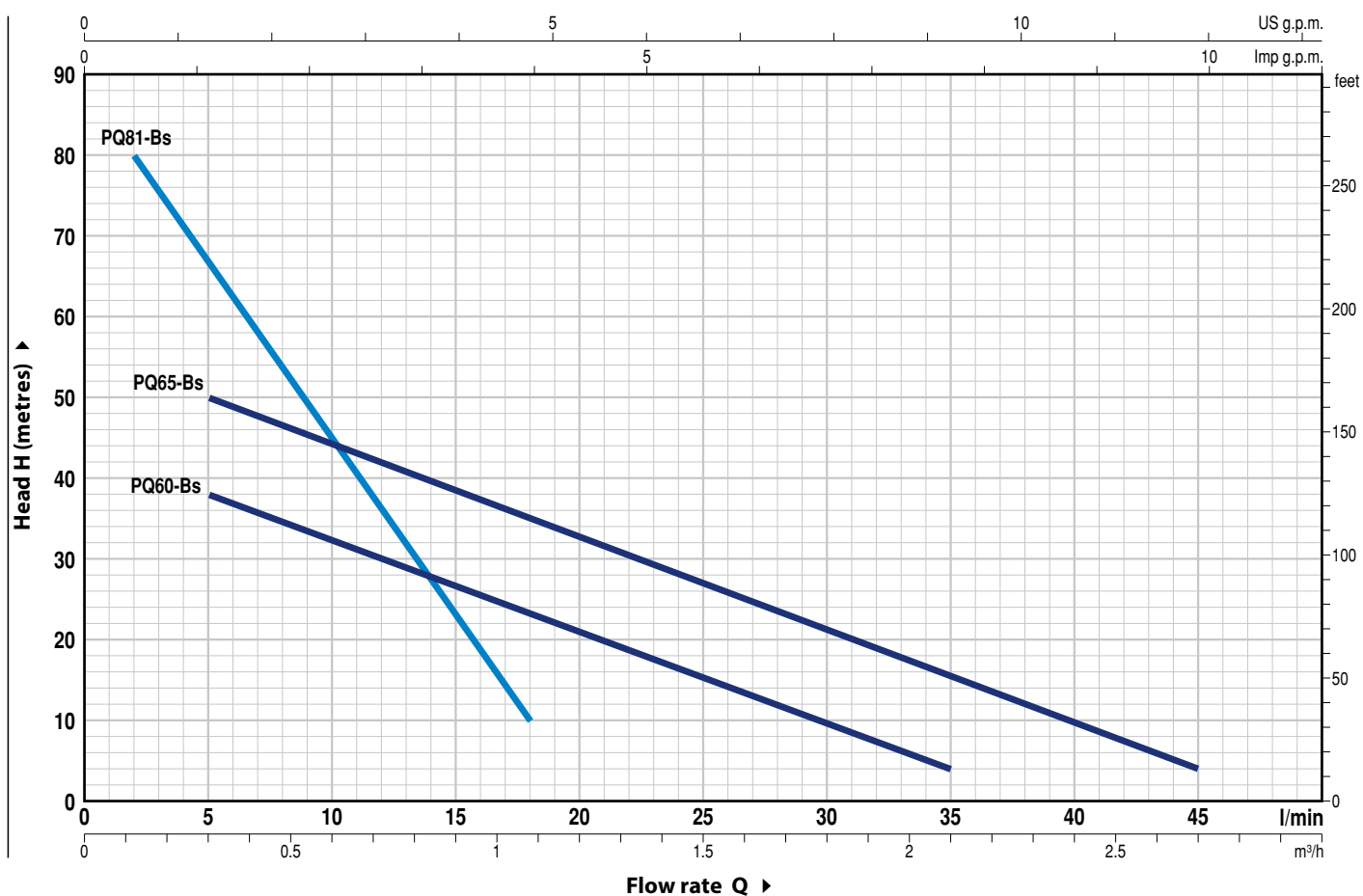
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PQ60-Bs, PQ65-Bs)
- Registered EU Design n. 002146548

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⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q m³/h l/min	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP	▲		0	5	10	15	20	25	30	35	40	45
PQm 60-Bs	PQ 60-Bs	0.37	0.50	IE3	H metres	44	38	32	27	21	15	10	4		
PQm 65-Bs	PQ 65-Bs	0.55	0.75				55	50	44	38	33	27	21	15	10

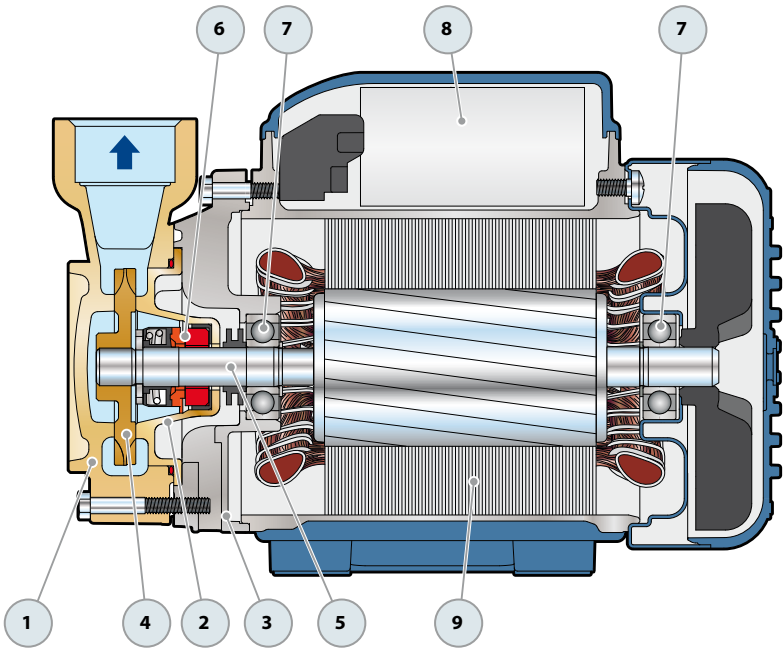
MODEL		POWER (P ₂)			Q m³/h l/min	0	0.12	0.24	0.36	0.48	0.60	0.72	0.84	0.96	1.08
Single-phase	Three-phase	kW	HP	▲		0	2	4	6	8	10	12	14	16	18
PQm 81-Bs	PQ 81-Bs	0.50	0.70	IE3	H metres	90	80	71	63	54	45	37	28	19	10

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

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

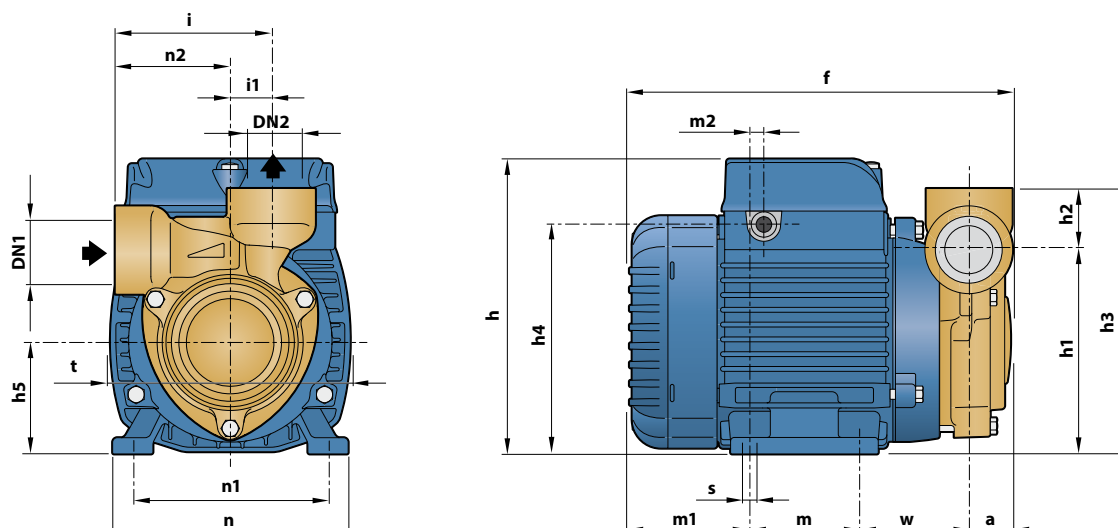
▲ Three-phase motor efficiency class (IEC 60034-30-1)

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	Brass complete with 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	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	Pump	Capacitance			
		Single-phase	(230 V or 240 V)		(110 V)	
		PQm 60-Bs	10 µF - 450 VL		25 µF - 250 VL	
		PQm 65-Bs	14 µF - 450 VL		25 µF - 250 VL	
		PQm 81-Bs	14 µF - 450 VL		25 µF - 250 VL	
8	ELECTRIC MOTOR	PQm-Bs: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PQ-Bs: 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 F – Protection: IP X4				

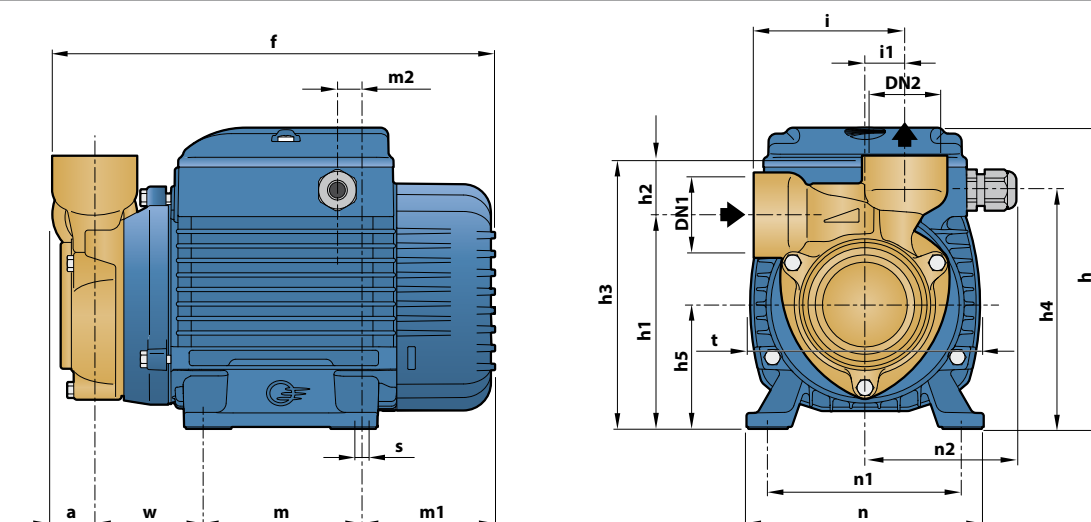


DIMENSIONS AND WEIGHT

PQ 60-Bs



PQ 65-Bs, PQ 81-Bs



MODEL		PORTS		DIMENSIONS mm																				kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	h4	h5	i	i1	m	m1	m2	n	n1	n2	t	w	s	1~	3~	
PQm 60-Bs	PQ 60-Bs	1"	1"	22	192	145	101	30	131	112	56	76	20	55	62	8	116	94 100	55.5	118	53	7	5.0	5.0	
PQm 65-Bs	PQ 65-Bs			23	225	155	108		143	120.5	63			80	70	11.5	119	100	76.5	117			7.0	6.9	
PQm 81-Bs	PQ 81-Bs			½"	½"		19	224	119			22	141								71		15	6.8	6.1

ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	110 V
PQm 60-Bs	2.6 A	5.2 A
PQm 65-Bs	3.7 A	7.4 A
PQm 81-Bs	3.4 A	6.8 A

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
PQ 81-Bs	2.2 A	1.3 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 m³/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

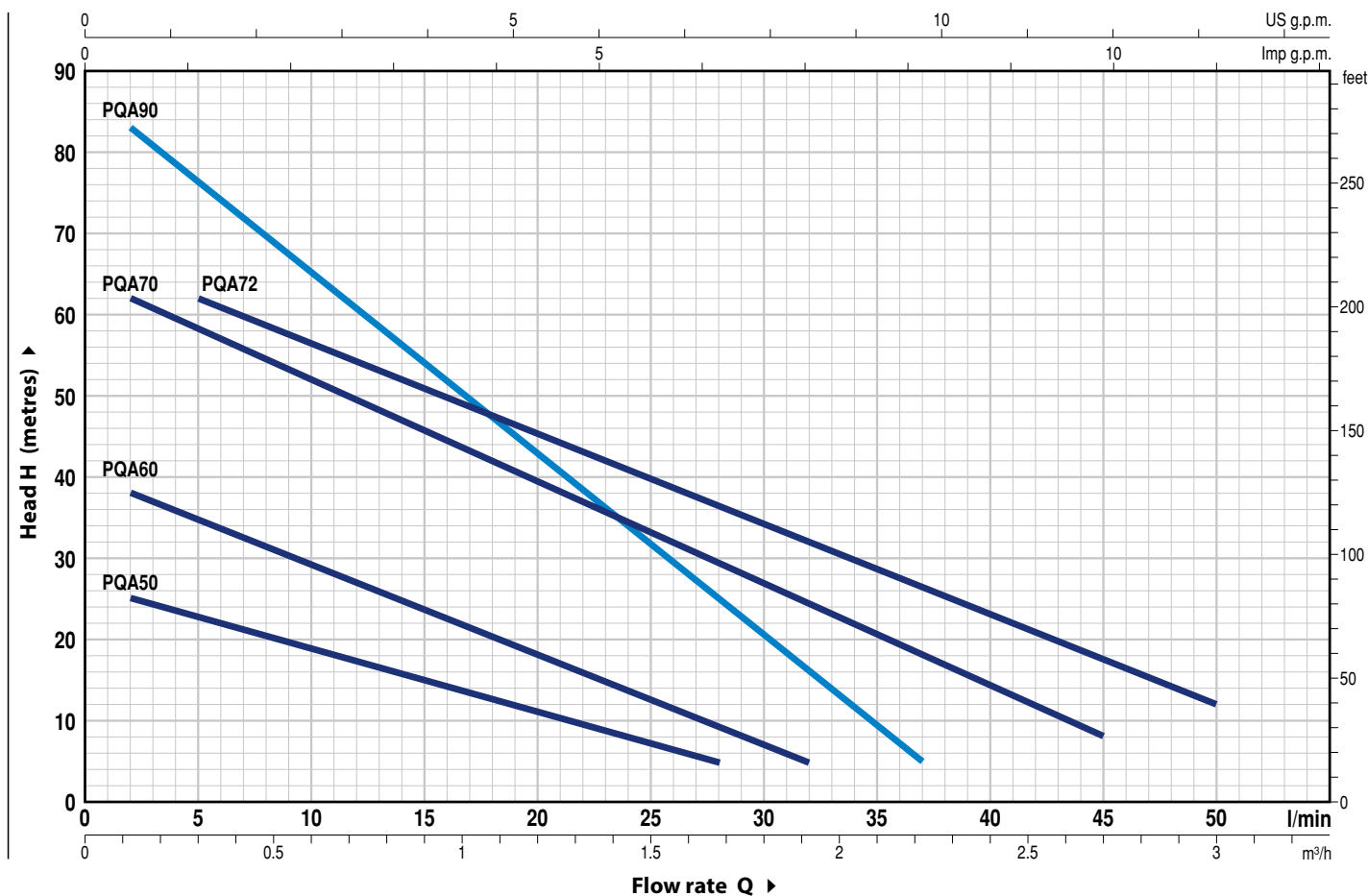
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PQA 50-60)

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⁻¹ HS= 0 m



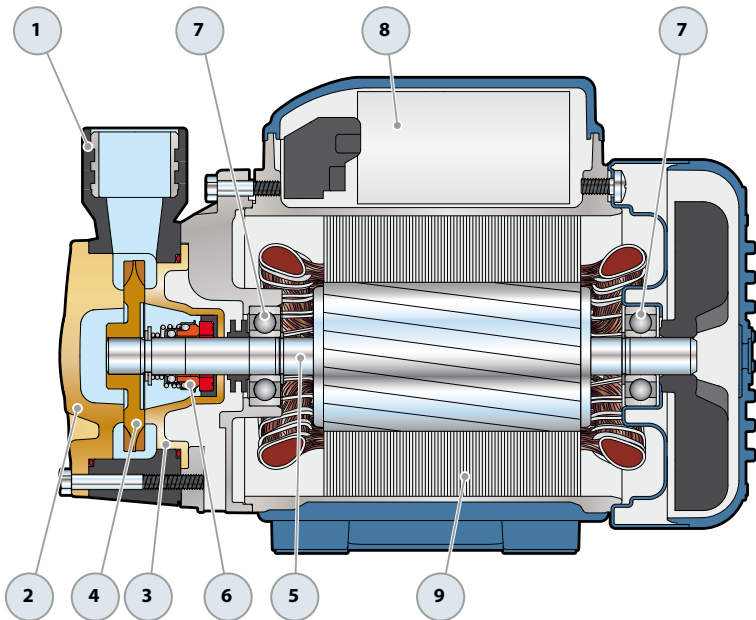
MODEL		POWER (P ₂)			Q m³/h l/min	0	0.1	0.3	0.6	0.9	1.2	1.5	1.7	1.8	1.9	2.2	2.7	3.0
Single-phase	Three-phase	kW	HP	▲		0	2	5	10	15	20	25	28	30	32	37	45	50
PQAm 50	PQA 50	0.18	0.25	IE3	H metres	26	25	22	19	15	11	8	5					
PQAm 60	PQA 60	0.37	0.50			40	38	35	29	23.5	18	12.5	9	7	5			
PQAm 70	PQA 70	0.55	0.75			65	62	58	52	45.5	39.5	33	30	27	24	18	8	
PQAm 72	PQA 72	0.55	0.75			65	–	62	56	51	45	40	36	34	32	26	17	12
PQAm 90	PQA 90	0.75	1			90	83	76	65	54	43	31	25	20	16	5		

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

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

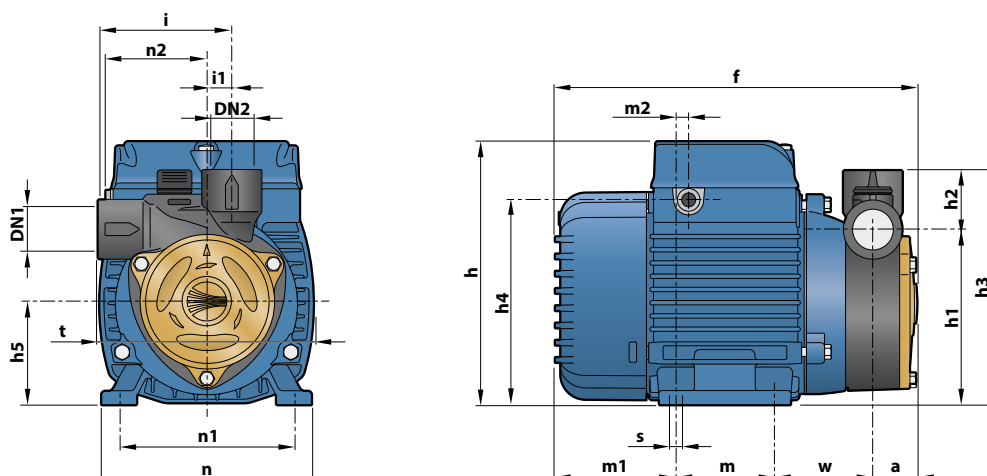
▲ Three-phase motor efficiency class (IEC 60034-30-1)

POS. COMPONENT		CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	PPS complete with threaded metallic port inserts in compliance with ISO 228/1				
2	BODY PLATE	Brass				
3	MOTOR BRACKET	Aluminium with brass insert (patented), reduces the risk of impeller seizure				
4	IMPELLER	Brass with peripheral radial vanes				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR
7	BEARINGS	Pump	Model			
		PQA 50-60	6201 ZZ / 6201 ZZ			
		PQA 70-72-90	6203 ZZ / 6203 ZZ			
8	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		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	ELECTRIC MOTOR	PQAm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. PQA: 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				

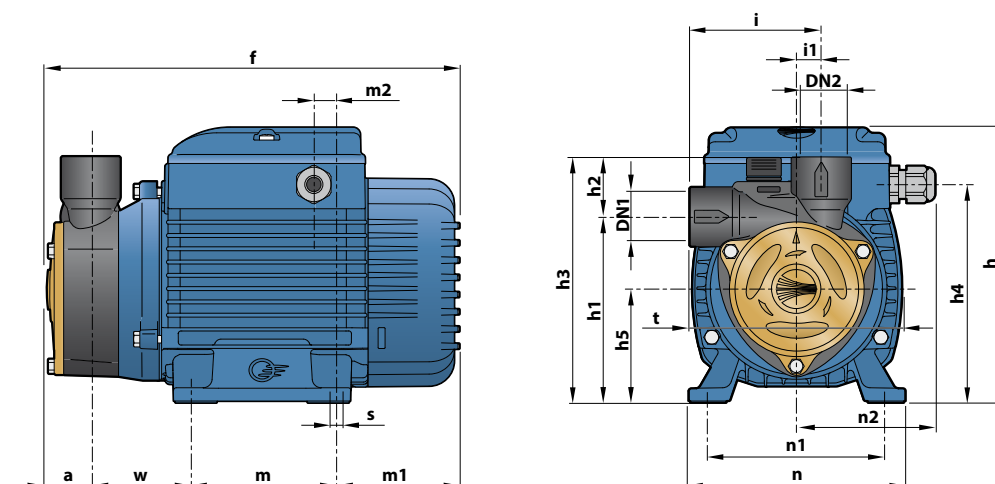


DIMENSIONS AND WEIGHT

PQA 50-60



PQA 70-72-90



MODEL		PORTS		DIMENSIONS mm																				kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	h3	h4	h5	i	i1	m	m1	m2	n	n1	n2	t	w	s	1~	3~	
PQAm 50	PQA 50	½"	½"	25	198	145	96	33	129	112	56	72.5	13.5	55	65	8	116	94 100	55.5	117	53	7	4.7	4.7	
PQAm 60	PQA 60																							4.7	4.7
PQAm 70	PQA 70			28	261		116.5	32.5	149			72.5	13.5												9.3
PQAm 72	PQA 72	1"	1"			179		30	151	139	71	83	20	90	80.5	22	134	112	78	142	62.5		9.3	9.3	
PQAm 90	PQA 90	½"	½"	26.5	260		121	35	156			76	16								62		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

Pump with peripheral impeller



Clean water



Industrial use



PQ 3000

PQ 3000-MF

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m³/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

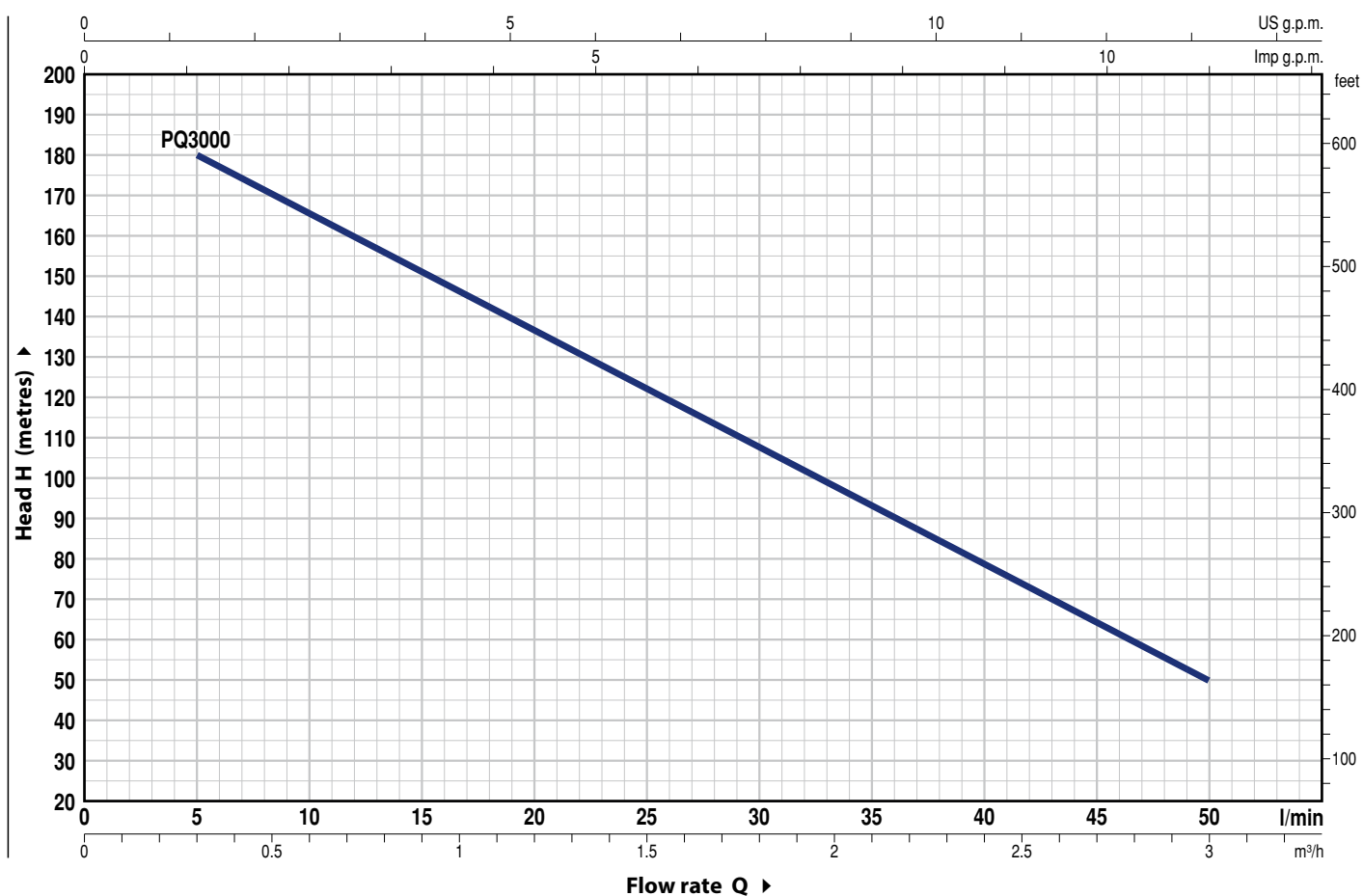
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m



MODEL	POWER (P ₂)		▲	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	IE3	H metres	180	165	151	136.5	122	107.5	93	78.5	64	50
PQ 3000-MF	2.2	3			180	165	151	136.5	122	107.5	93	78.5	64	50

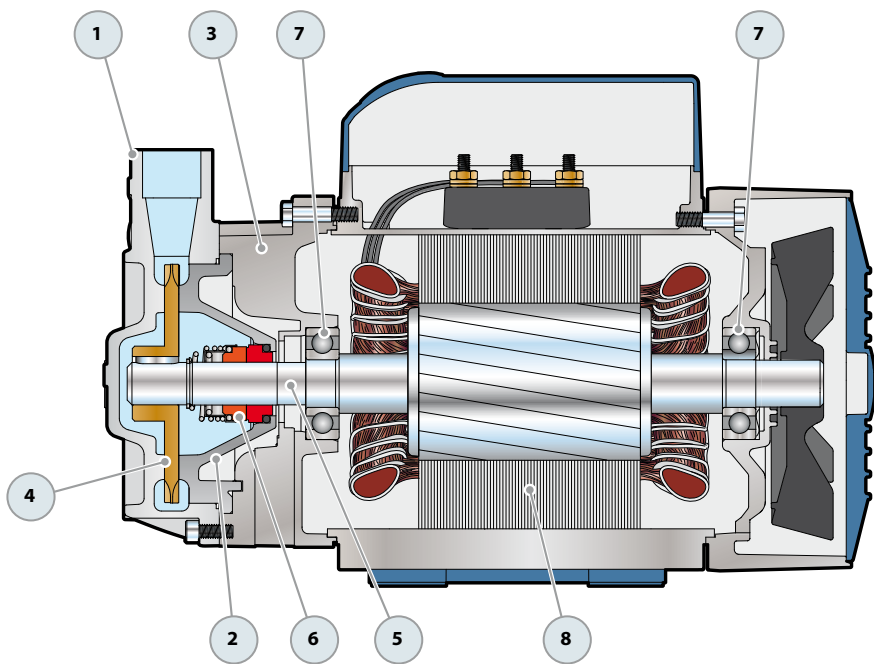
Q = Flow rate H = Total manometric head HS = Suction height

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

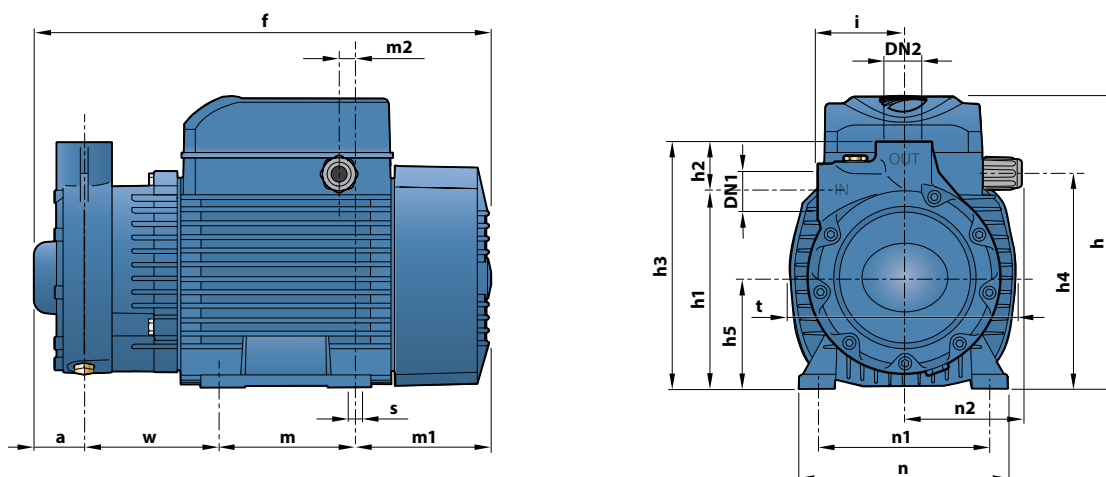
▲ Three-phase motor efficiency class (IEC 60034-30-1)

PQ 3000

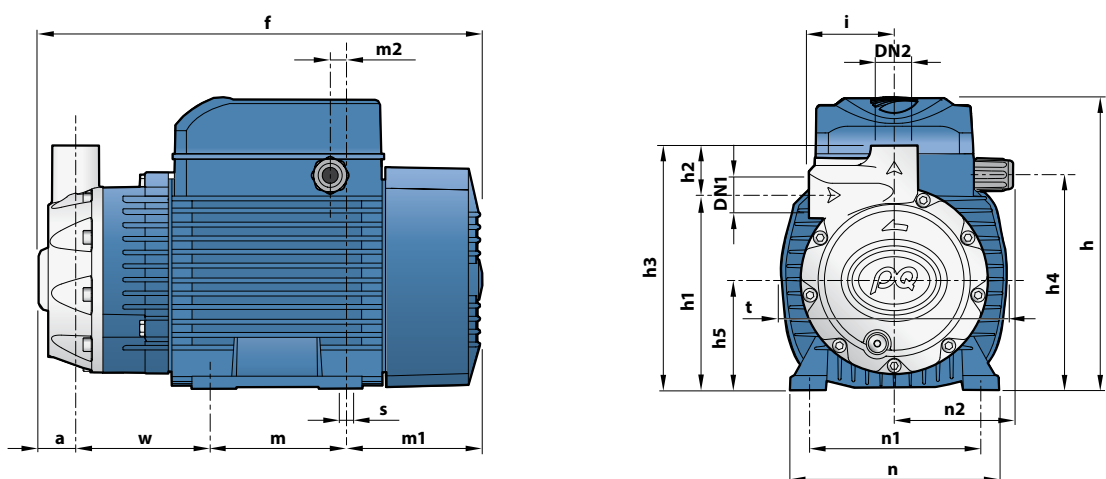
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS				
1	PUMP BODY	PQ 3000: cast iron with anti-block treatment complete with threaded ports in compliance with ISO 228/1 PQ 3000-MF: AISI 316 cast stainless steel complete with threaded ports in compliance with ISO 228/1				
2	PUMP BODY BACK PLATE	Stainless steel AISI 316				
3	MOTOR BRACKET	Aluminium				
4	IMPELLER	Bronze with peripheral radial vanes				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		FN-18 NU	Ø 18 mm	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	
Three-phase	DN1	DN2	a	f	h	h1	h2	h3	h4	h5	i	m	m1	m2	n	n1	n2	t	w	s	3~
PQ 3000	¾"	¾"	37	336	212	142	36	178	156	80	62	100	98.5	11.5	151	125	85	164	100.5	9	17.2



MODEL	PORTS		DIMENSIONS mm																		kg
Three-phase	DN1	DN2	a	f	h	h1	h2	h3	h4	h5	i	m	m1	m2	n	n1	n2	t	w	s	3~
PQ 3000-MF	¾"	¾"	28	327	212	142	36	178	156	80	62	100	98.5	11.5	151	125	85	164	100.5	9	17.1

ABSORPTION

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
PQ 3000	12.9 A	7.5 A	12.5 A	7.3 A
PQ 3000-MF	12.9 A	7.5 A	12.5 A	7.3 A

Pumps with peripheral impeller

 Clean water

 Industrial use



PERFORMANCE RANGE

- Flow rate up to **45 l/min** (2.7 m³/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 **+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

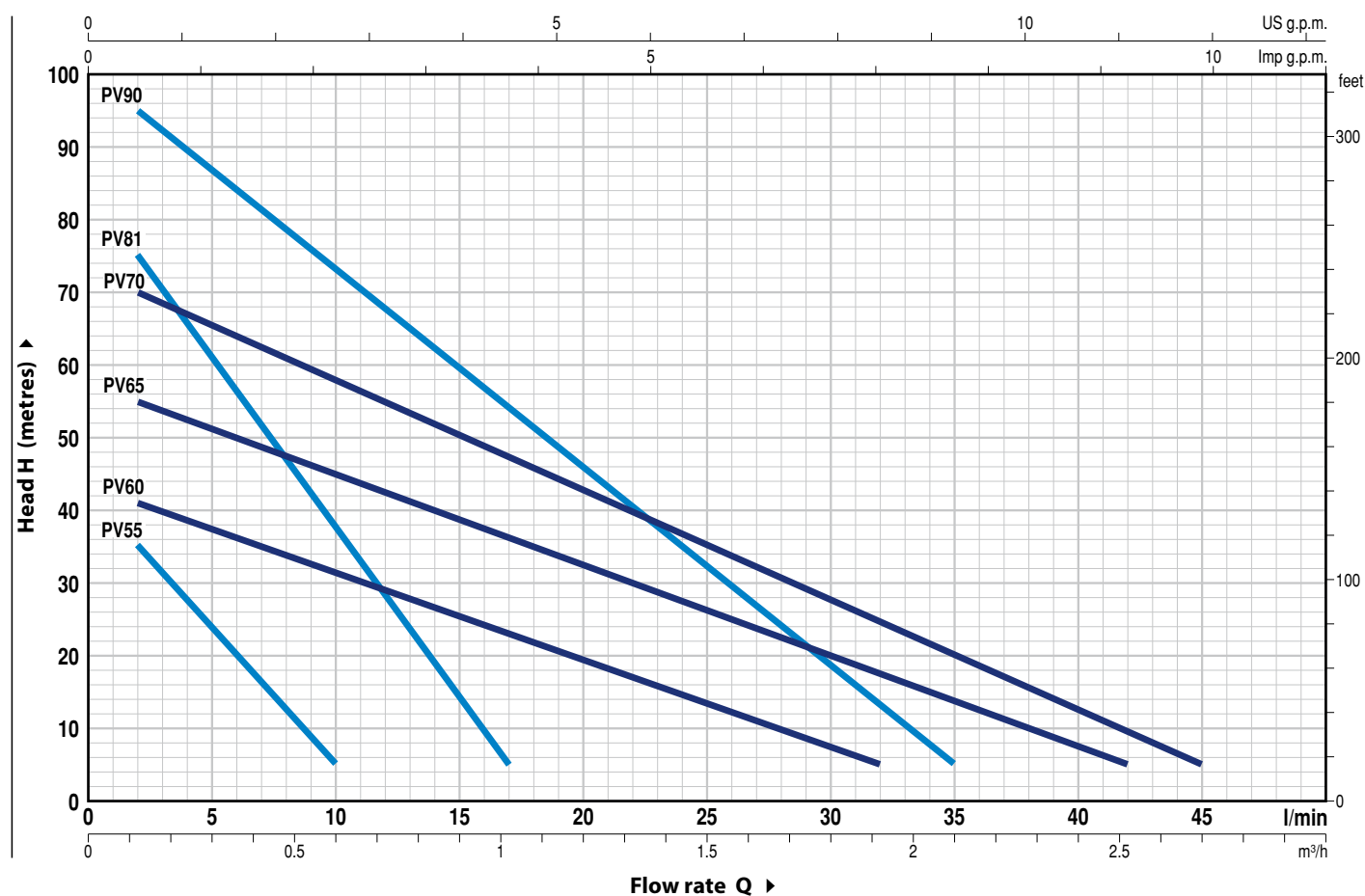
- Shaft: patent n. 0000275945 (PV55)

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⁻¹ HS= 0 m



MODEL		POWER (P ₂)			Q	m³/h	0	0.12	0.18	0.24	0.30	0.36	0.42	0.48	0.54	0.60
Single-phase	Three-phase	kW	HP	▲		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 ₂)			Q	m³/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
Single-phase	Three-phase	kW	HP	▲		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

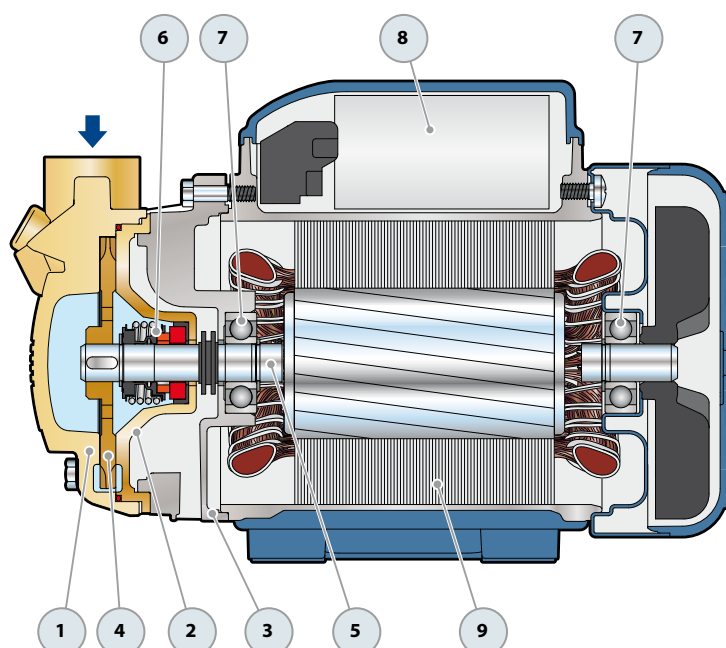
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

POS. COMPONENT

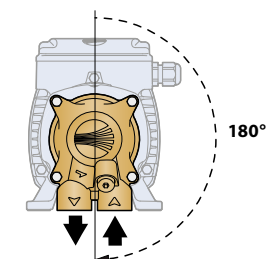
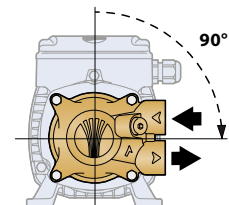
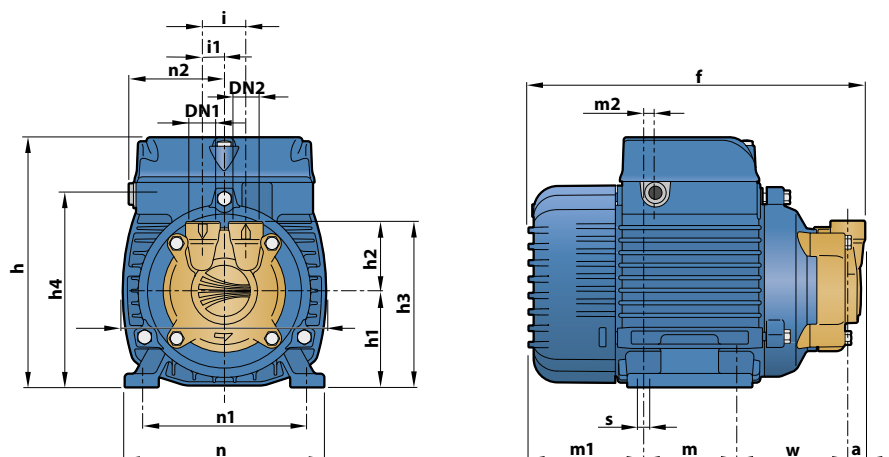
CONSTRUCTION CHARACTERISTICS

1	PUMP BODY	Brass complete with threaded ports in compliance with ISO 228/1				
2	PUMP BODY BACK-PLATE	Brass				
3	MOTOR BRACKET	Aluminium				
4	IMPELLER	Brass with peripheral radial vanes				
5	MOTOR SHAFT	Stainless steel AISI 431				
6	MECHANICAL SEAL	Seal	Shaft	Materials		
		Model	Diameter	Stationary ring	Rotational ring	Elastomer
		ST1-12	Ø 12 mm	Silicon carbide	Graphite	NBR
7	BEARINGS	Pump	Model			
		PV 55-60-65-81	6201 ZZ / 6201 ZZ			
		PV 70-90	6203 ZZ / 6203 ZZ			
8	CAPACITOR	Pump	Capacitance			
		Single-phase	(230 V or 240 V)	(110 V)		
		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	ELECTRIC MOTOR	PVm: single-phase 230 V - 50 Hz (50/60 Hz for PVm55) with thermal overload protector incorporated into the winding. PV: three-phase 230/400 V - 50 Hz (50/60 Hz for PV55). ► The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1) – Insulation: class F – Protection: IP X4				

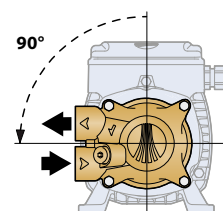
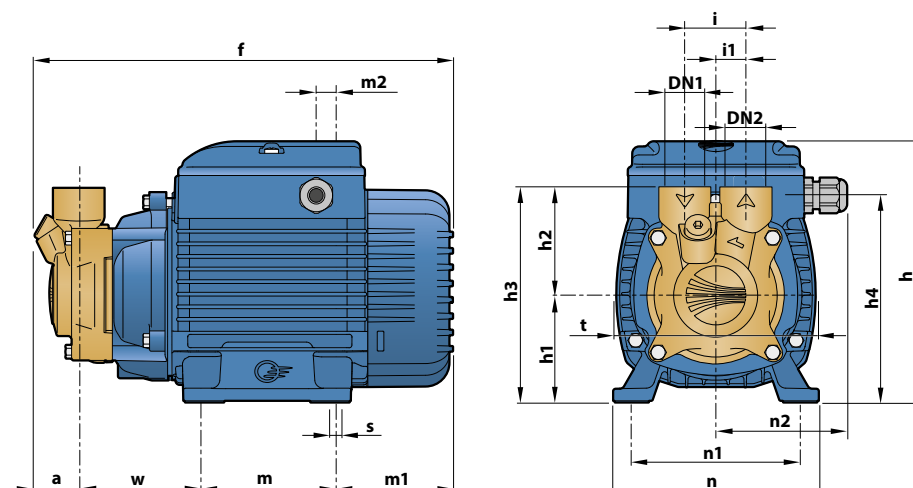


DIMENSIONS AND WEIGHT

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	f	h	h1	h2	h3	h4	i	i1	m	m1	m2	n	n1	n2	t	w	s	1~	3~	
PVm 55	PV 55	1/4"	1/4"	10.5	194	145	56	40	96	112	25	12.5	55	65.5	8	116	94/100	55.5	116	63	7	4.4	4.4	
PVm 60	PV 60	1/2"	1/2"	26	243.5	152	63	62	125	120.5	35	17.5	80	69.5	11.5	120	98/102	76.5	116	68	7	5.5	5.5	
PVm 81	PV 81			26.5	241			65	128											65		6.8	6.8	
PVm 65	PV 65	3/4"	3/4"	27	243.5	180 *	71	66	129	137	132	45	22.5	90	80.5	22	134	110/114	72	141	67	7	6.8	6.8
PVm 70	PV 70			26.5	276				79												10.2		9.5	
PVm 90	PV 90			28	275				76.5												10.0		9.3	

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

ABSORPTION

MODEL	VOLTAGE	
Single-phase	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	
Three-phase	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

Submersible multi-stage pumps designed to pump AdBlue®



PERFORMANCE RANGE

- Flow rate up to **70 l/min** (4.2 m³/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).

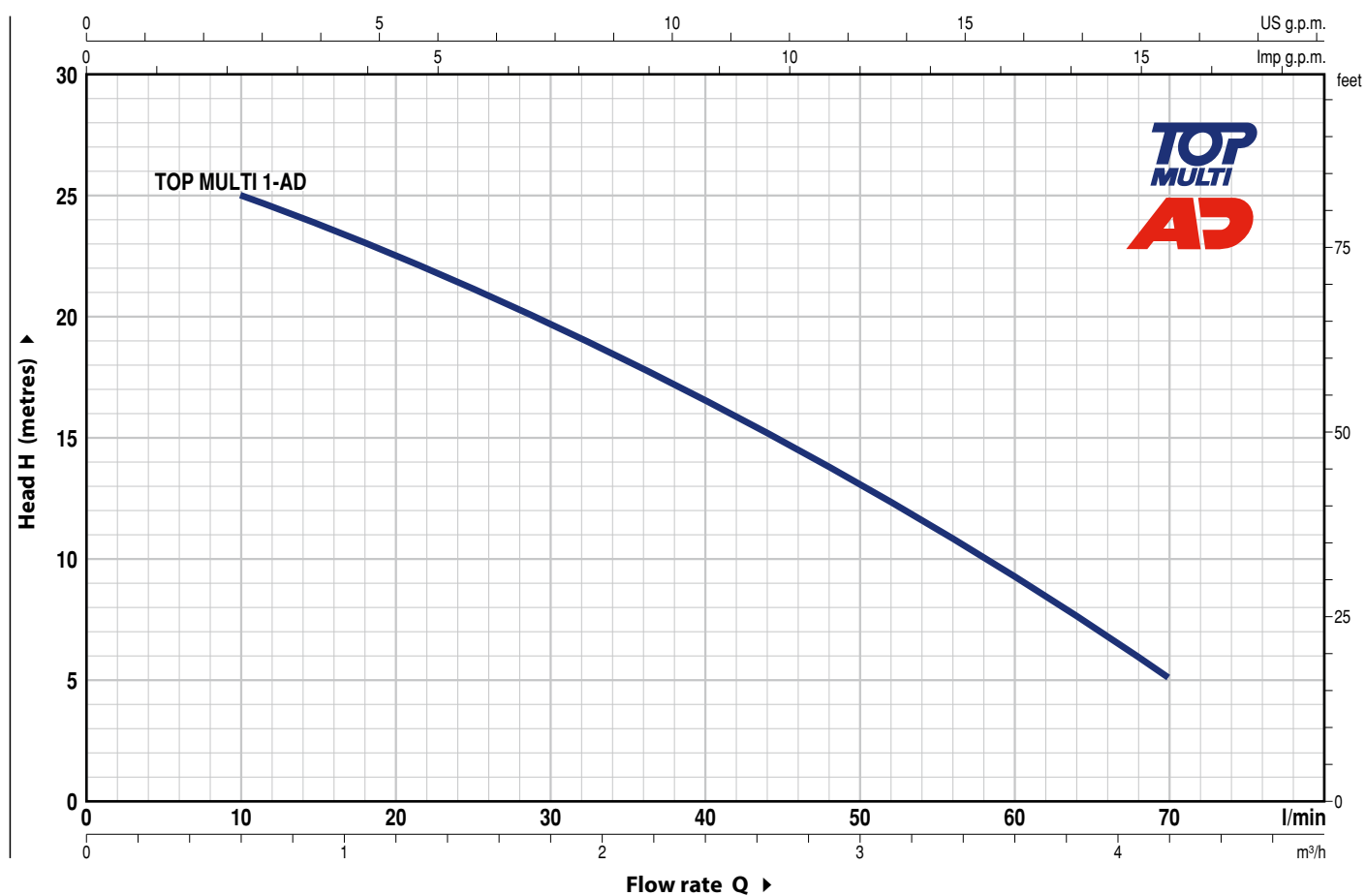
Multistage submersible pumps **TOP MULTI-AD** are designed using materials compliant to this liquid; their use is subjected to local laws and directives.

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



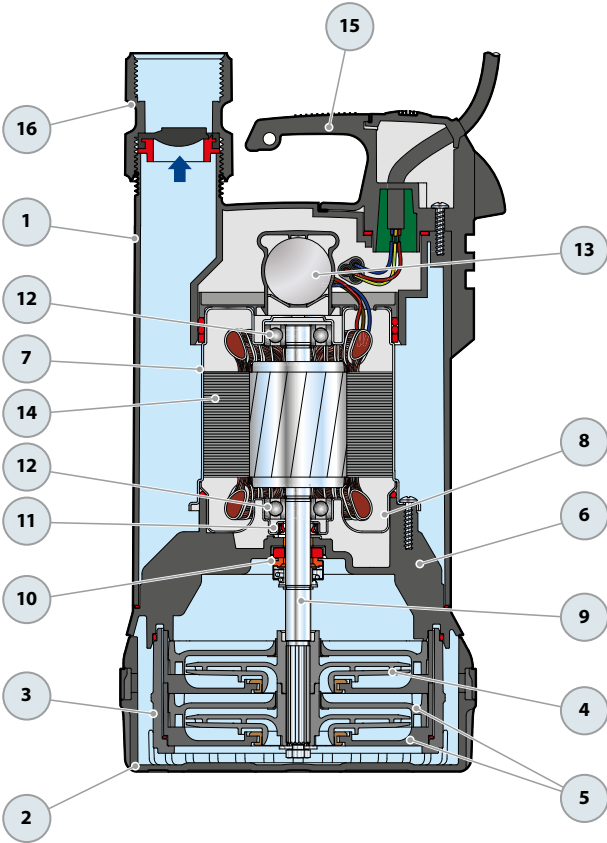
MODEL Single-phase	POWER (P ₂)		Q	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2
	kW	HP		0	10	20	30	40	50	60	70
TOP MULTI 1-AD	0.37	0.50	H metres	27	25	22.5	19.5	16.5	13	9	5

Q = Flow rate H = Total manometric head

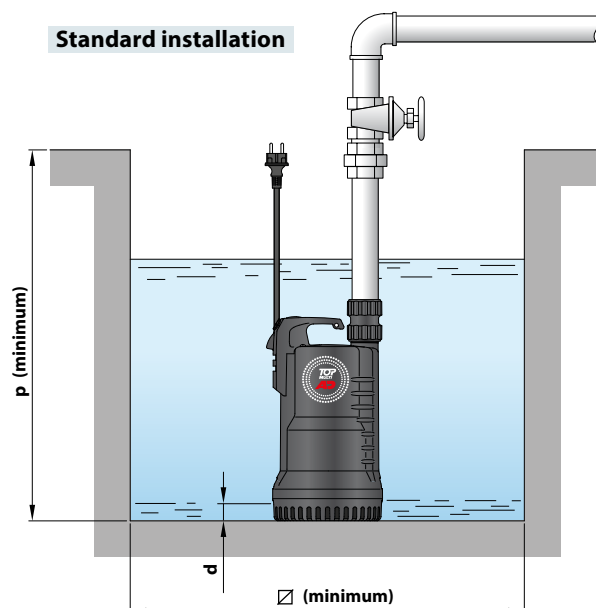
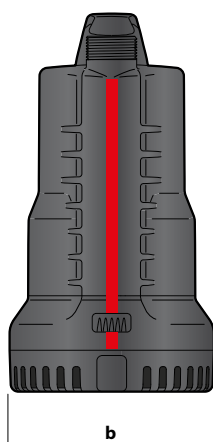
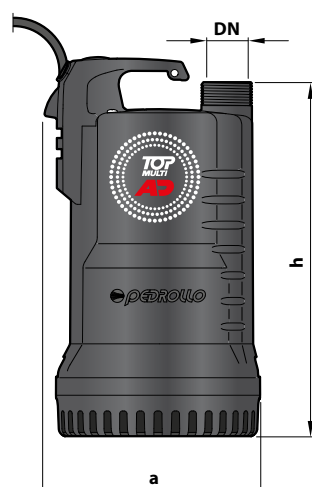
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

TOP MULTI-AD

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	DELIVERY BODY	Glass fibre reinforced technopolymer complete with threaded delivery port in compliance with ISO 228/1
2	SUCTION FILTER	Glass fibre reinforced technopolymer
3	STAGE CASING	Glass fibre reinforced technopolymer
4	IMPELLER	Noryl FE1520PW
5	DIFFUSER	Noryl FE1520PW complete with anti-wear ring
6	VANE DIFFUSER	Glass fibre reinforced technopolymer
7	MOTOR CASING	Stainless steel AISI 304
8	MOTOR CASING PLATE	Stainless steel AISI 304
9	MOTOR SHAFT	Stainless steel AISI 431
10	SHAFT WITH DOUBLE SEAL	
	<i>Seal</i>	<i>Shaft</i>
	<i>Model</i>	<i>Diameter</i>
	STA-12R SGE	Ø 12 mm
		<i>Stationary ring</i>
		Silicon carbide
		<i>Rotational ring</i>
		Graphite
		<i>Elastomer</i>
		EPDM
		<i>Metals</i>
		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>	
	(230 V or 240 V)	(110 V)
	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	Ø	
Single-phase								
TOP MULTI 1-AD	1¼"	2	180	170	295	25	220	5.8

ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase			
TOP MULTI 1-AD	2.0 A	1.9 A	4.0 A

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
	n. pumps	n. pumps
Single-phase		
TOP MULTI 1-AD	60	100

AUTOMATIC PRESSURE BOOSTING SETS (AUTOCLAVES)



HYDROFRESH 05 VT



HYDROFRESH 24 SF



HYDROFRESH 24 CL



HYDROFRESH 60 CL

PERFORMANCE

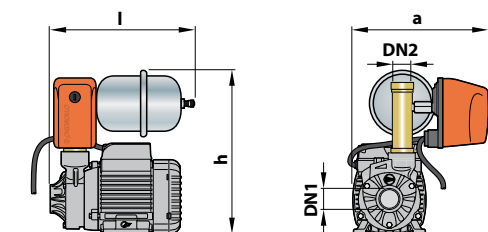
MODEL	POWER (P ₂)		FLOW RATE (1) litres/min	SETTING (2) bar
	kW	HP		
HYDROFRESH 05VT				
PKm 60 - 05 VT	0.37	0.50	32	1.4 – 2.8
JCRm 1B - 05 VT	0.48	0.65	60	1.4 – 2.8
JSWm 1BX - 05 VT	0.48	0.65	50	1.4 – 2.8
JSWm 1AX - 05 VT	0.55	0.75	55	1.8 – 3.2
HYDROFRESH 24 SF				
PKm 60 - 24 SF	0.37	0.50	32	1.4 – 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
HYDROFRESH 24 CL				
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
HYDROFRESH 60 CL				
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:

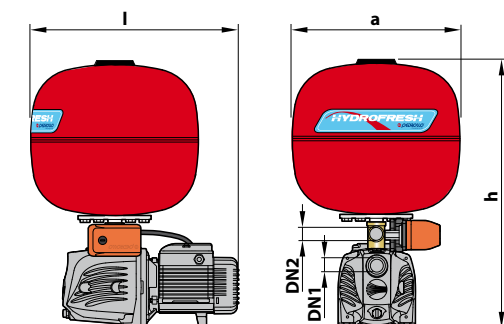
- Single-phase pump
- Tank
- Pressure switch PSG-1
- Pressure gauge (for 24SF, 24CL and 60CL)
- Hose (for 24CL and 60CL)
- Brass connector
- 1.5 m power cable with Schuko plug

- (1) Maximum flow rate at the minimum recommended pressure switch pressure
(2) Recommended pressure range

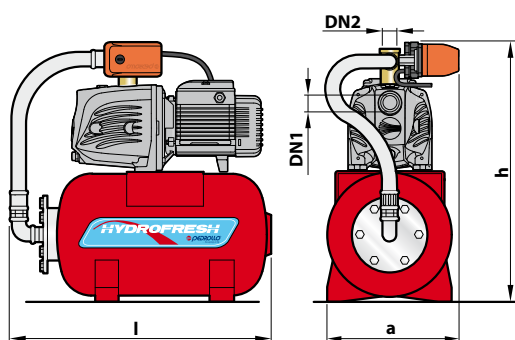
DIMENSIONS AND WEIGHT



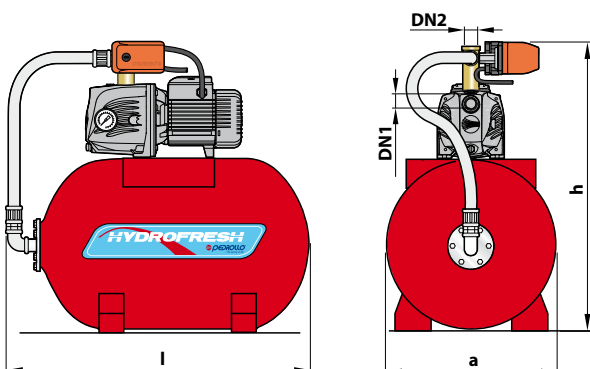
MODEL	PORTS		DIMENSIONS mm			WEIGHT kg
	DN1	DN2	l	a	h	
PKm 60 - 05 VT	1"	1"	212	210	240	6.8
JSWm1 CX - 05 VT	1"	1"	357	210	270	11.4
JSWm1 BX - 05 VT	1"	1"	357	210	270	11.5
JSWm1 AX - 05 VT	1"	1"	357	210	270	12.1



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	1 1/4"	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

COMBIPRESS "CB2"

Pressure boosting sets

 Domestic use

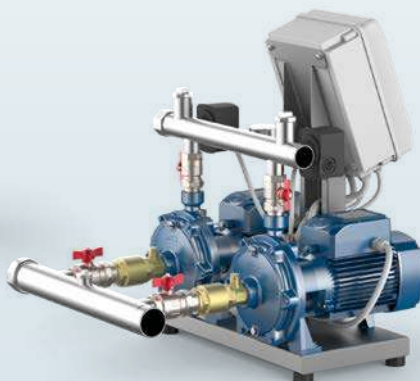
 Agricultural use

 Civil use

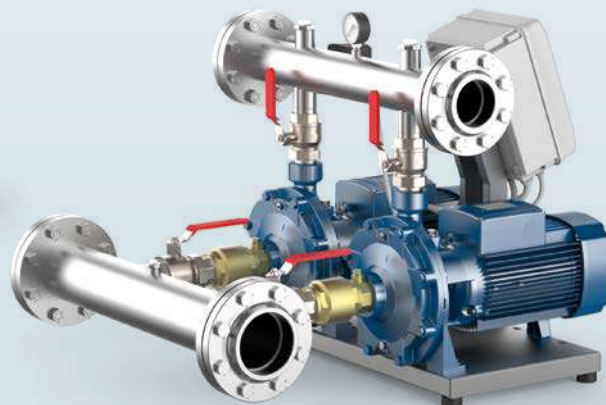
 Industrial use



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 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



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.

PERFORMANCE DATA

50 Hz n= 2900 min⁻¹ HS= 0 m

MODEL			POWER (P ₂)			Q* m³/h l/min	0	1.2	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6	
	1~	3~	kW	HP	▲		0	20	40	80	120	160	200	240	280	320	360	
CB2 - MK 3/3	●	●	2 x 0.75	2x1	IE3	H metres	52	50	49	45	38	28						
CB2 - MK 3/4	●	●	2x1.1	2x1.5			69.5	67	65.5	60	50.5	38						
CB2 - MK 3/5	●	●	2x1.1	2x1.5			87	83	82	75	63.5	47						
CB2 - MK 3/6	●	●	2x1.5	2x2			104	100	98	90	76	56						
CB2 - MK 5/4	●	●	2x1.1	2x1.5	IE3		56	–	55	52.5	48	41.5	32	20				
CB2 - MK 5/5	●	●	2x1.1	2x1.5			70	–	69	66	60	51.5	40	25				
CB2 - MK 5/6	●	●	2x1.5	2x2			84	–	83	79	72	62	48	30				
CB2 - MK 5/7		●	2x1.8	2x2.5			98	–	96	92.5	84	72.5	56	34				
CB2 - MK 5/8		●	2x2.2	2x3	IE3		112	–	110	105.5	96	82.5	64	40				
CB2 - MK 8/4	●	●	2x1.5	2x2			56	–	–	54	52	50	46	39	31.5	24	15	
CB2 - MK 8/5		●	2x1.8	2x2.5			70	–	–	67.5	66	63	58	50	40	30	18	
CB2 - MK 8/6		●	2x2.2	2x3			86	–	–	82	78	74	68	58	46.5	35	20	

MODEL	1~	3~	POWER (P ₂)		▲	Q* m ³ /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			POWER (P2)			Q* m³/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	●	1~ 3~	2x0.45	2x0.60	IE2	H metres	40	38	37	34.5	31	27	22.5	17	11	5					
CB2 - 4CRm80	●		2x0.55	2x0.75			52	50	49	44.5	40	34	28.5	22.5	16	10					
CB2 - 5CRm80	●		2x0.75	2x1	IE3		67	66	64	59	53	45.5	37.5	29.5	20.5	12					
CB2 - 4CRm100	●		2x0.75	2x1			50	50	49	47	45	42	39.5	37	34	30.5	26.5	22	17	11	5
CB2 - 5CRm100	●		2x1.1	2x1.5			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 ₂)			Q* m³/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	●	●	2x0.75	2x1	IE3	H metres	42	39	34	28.5	22	15										
CB2 - 2CP 25/14B	●	●	2x1.1	2x1.5			54	52	47.5	41	33	22										
CB2 - 2CP 25/16C	●	●	2x1.1	2x1.5			47	46	44	40	35	30	27	24								
CB2 - 2CP 25/16B	●	●	2x1.5	2x2			58	56	54	51	47	43	40	37	30							
CB2 - 2CP 25/16A		●	2x2.2	2x3			68	67	64.5	62	58	54	51	48	41	32						
CB2 - 2CP 32/200C		●	2x3	2x4	IE3		70	–	66.5	65	63	60.5	59	58	55	52	49.5	46.5	36			
CB2 - 2CP 32/200B		●	2x4	2x5.5			85	–	81	79	77	75	74	72	69	66	62	58	49			
CB2 - 2CP 32/210B		●	2x5.5	2x7.5			94	–	94	93	91	89	87	86	83	79	75	70	56			
CB2 - 2CP 32/210A		●	2x7.5	2x10			112	–	111	110.5	110	108	107	106	102	99	94	89	74			
CB2 - 2CP 40/180C		●	2x4	2x5.5			IE3	64	–	–	–	–	62	61.3	60.5	59	57.5	56	54.5	49	43	35
CB2 - 2CP 40/180B		●	2x5.5	2x7.5	76			–	–	–	–	73	72.5	72	71	70	69	67.5	64	59.5	54	46
CB2 - 2CP 40/180A		●	2x7.5	2x10	88			–	–	–	–	85	84.5	84	83	82	81	79.5	76	72	67	60

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

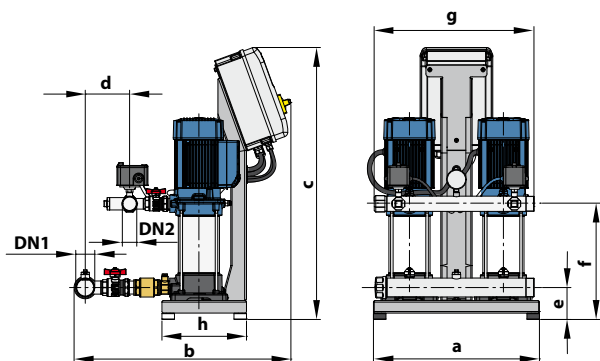
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

* Maximum flow rate of the pressure boosting set with both pumps running

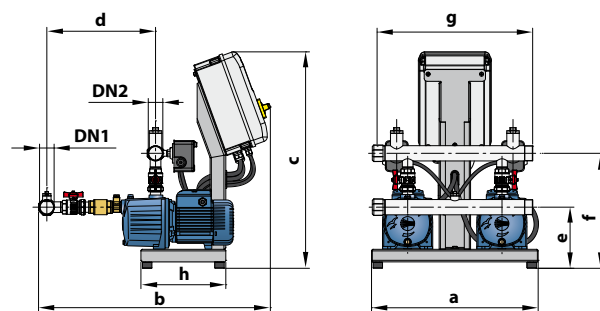
▲ Three-phase motor efficiency class (IEC 60034-30-1)

COMBIPRESS "CB2"

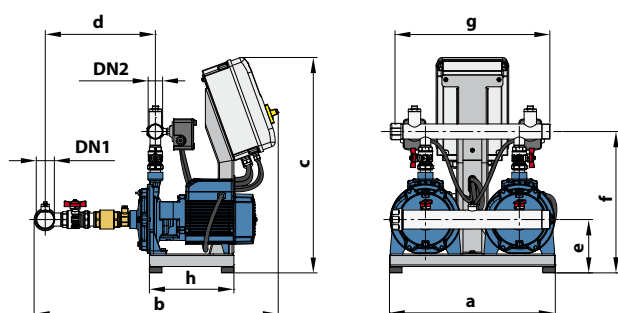
DIMENSIONS AND WEIGHT



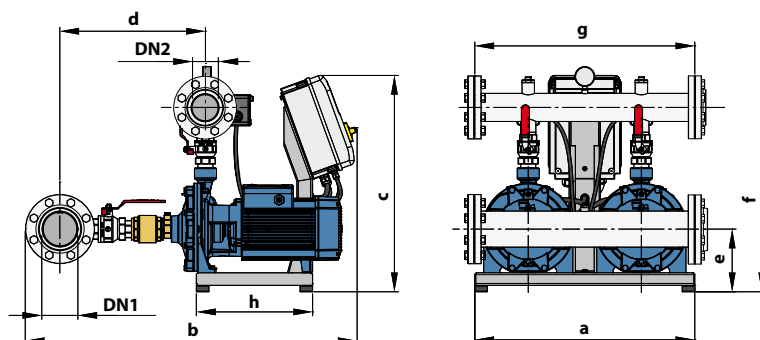
CB2 - MK



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	746	688	343	152	394	500	270	52.9	–								
CB2 - 5CRm100	–	1½"	1½"									53.7	–								
CB2 - 2CPm 25/130	CB2 - 2CP 25/130											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				780			170	452			70.5	70.0								
CB2 - 2CPm 25/16B	CB2 - 2CP 25/16B											79.5	79.0								
–	CB2 - 2CP 25/16A											–	82.0								
–	CB2 - 2CP 32/200C	3"	2"	700	982	688	450	192	535	700	370	–	112.0								
–	CB2 - 2CP 32/200B				987		454	199	565			–	118.0								
–	CB2 - 2CP 32/210B											–	149.0								
–	CB2 - 2CP 32/210A											–	156.0								
–	CB2 - 2CP 40/180C	4"	3"	700	1056	688	463	199	587	700	370	–	168.0								
–	CB2 - 2CP 40/180B	DN 100	DN 80									–	178.0								
–	CB2 - 2CP 40/180A											–	188.0								

Pumps with electronic pressure regulator

 Domestic use



MODEL	POWER (P ₂)	
	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 m³/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

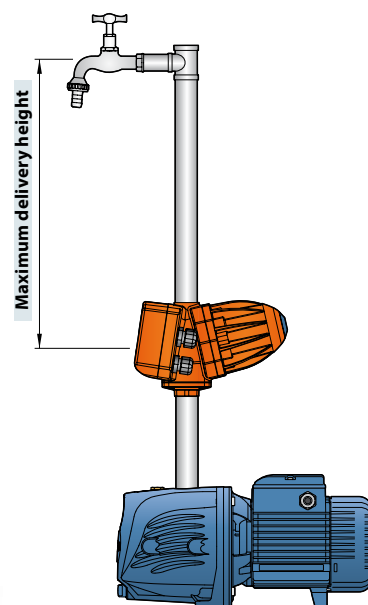
- EASYPRESS-1 version with restarting pressure **0.8 bar** ●
- EASYPRESS-2 version with restarting pressure **2.2 bar** ●
- Version with 1" NPT
- Version with cable and Schuko plug and socket

STARTING PRESSURE

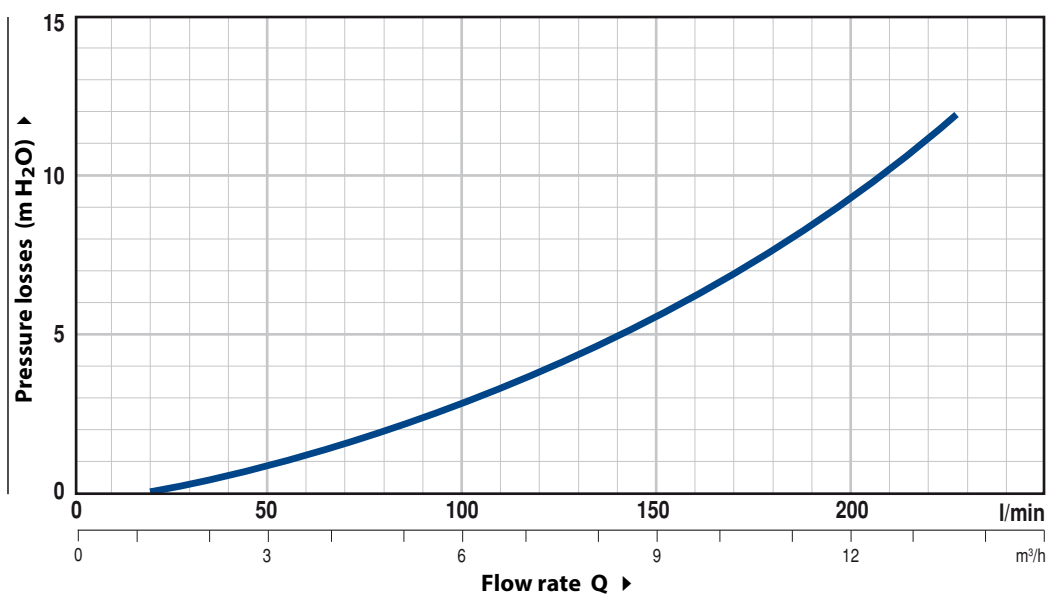
There are three different models available, each with a different starting pressure and easily identified by the coloured cap positioned at the rear of the EASYPRESS, for installations requiring delivery at various heights.

Maximum delivery height

- 2.2 bar version ● = **18 m**
- 1.5 bar version ● = **11 m**
- 0.8 bar version ● = **5 m**

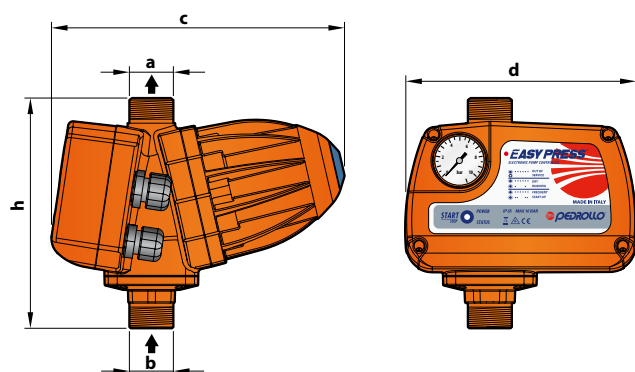


PRESSURE LOSSES



MODEL	POWER (P ₂)		Volt	Hz	Current	Fittings	Flow rate	Restarting pressure
	kW	HP						
EASYPRESS	1.5	2	230	50/60	16 A	1" x 1"	12 m³/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 m³/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 ₂)		Volt	Hz	Current
	kW	HP			
EASYSMALL	1.5	2	230	50/60	16 A

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

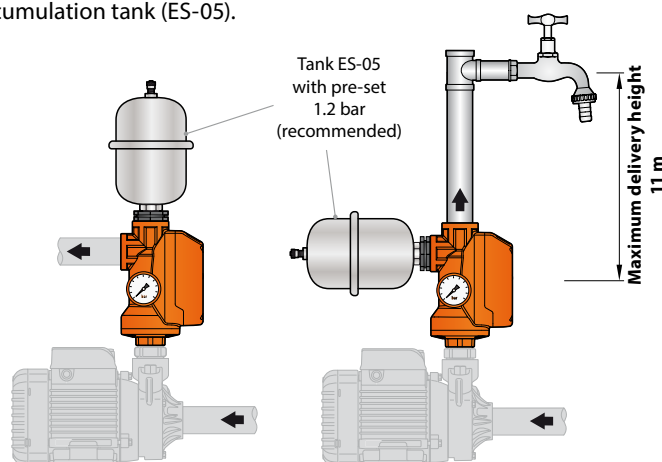
Flow and pressure sensing device for control and protection of single-phase pumps up to 2 HP (for domestic applications). It starts the pump when there is a drop in system pressure (e.g. when opening a tap) and stops the pump when the flow drops below 2 l/min (tap closed).

PATENTS - TRADE MARKS - MODELS

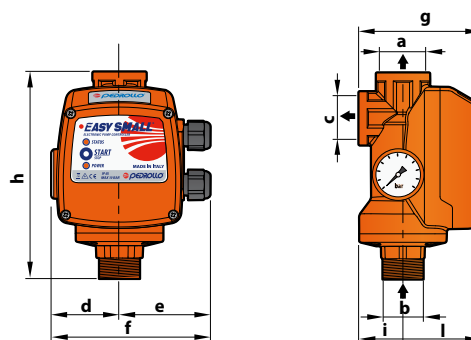
- Registered EU Design n. 001774928
- EASYSMALL® registered Trade Mark n. 0001511131

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	
EASYSMALL	1"	1"	1"	56	74	131	100	177	36	64	0.7

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 m³/h)
- Working pressure: **8 bar**
- Restarting pressure: **2 bar**
(Adjustable between 1 and 5 bar)

APPLICATION LIMITS

- Maximum liquid temperature **+65 °C**
- Ambient temperature up to **+40 °C**
- Burst pressure **32 bar**
- Protection: **IP 65**
- Voltage: **230 V** - Frequency: **50/60 Hz** - Max current: **16 A**

PERFORMANCE DATA

MODEL Single-phase	POWER (P ₂)		Volt	Hz	Current
	kW	HP			
EASYPRO	1.5	2	230	50/60	16 A

CONSTRUCTION AND SAFETY STANDARDS

- Resinated and easily replaced electronic card for a complete protection from humidity.
- The electronic card inside EASYPRO has undergone the strictest EMC tests of electromagnetic compatibility.

PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 976824
- Patent Pending n. IT 1388969, IT 1388970
- EASYPRO® registered Trade Mark n. 0001334546

OPTIONS AVAILABLE ON REQUEST

- Version with 1" NPT ports
- Version with cable and Schuko plug and socket

INSTALLATION AND USE

EASYPRO® stands out from the traditional PRESSURE FLOW SWITCHES because of a number of innovative characteristics:

- **the air filled integrated expansion tank;**
- **selection of the restart pressure of the pump;**
- **the back-lit LCD display.**

PUMP START PRESSURE

EASYPRO® enables you to select the restart pressure of the pump, between **1** and **5** bar.

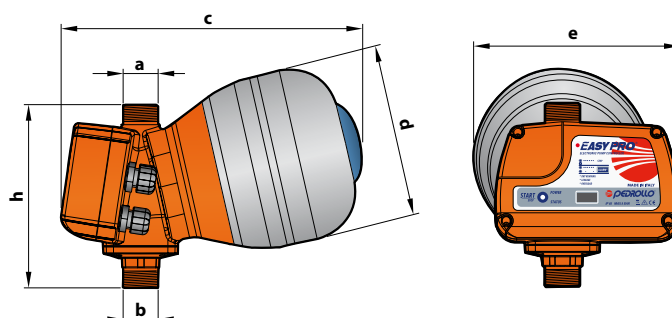
The pressure is selected using the control button and following the instructions on the LCD display. One model covers a wide range of installation requirements.

SURGE TANK

EASYPRO® includes an incorporated **3 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 1.8 bar**, based on the pump start pressure selected.

DIMENSIONS AND WEIGHT



MODEL	PORTS		DIMENSIONS mm				kg
	a	b	c	d	e	h	
EASYPRO	1"	1"	304	162	193	174	2.43

ACCESSORIES

- **GSR** Special three-piece joint with an o-ring seal (1" M)



GSR



SF - SPHERICAL TANK

MODEL	CODE	FITTING	CAPACITY	PALLETIZATION n. tanks
24 SF	50011	1"	24 litres	54
Membrane		50019		

- Maximum working pressure 8 bar
- Inter-changeable butyl rubber membrane

CL - CYLINDRICAL TANK

MODEL	CODE	FITTING	CAPACITY	PALLETIZATION n. tanks	
24 CL	50012	1"	20 litres	56	
60 CL	50031	1"	60 litres	15	
100 CL	50032	1"	100 litres	12	
200 CL	50033	1½"	200 litres	6	
300 CL	50034	1½"	300 litres	6	
Membrane	24 CL	60 CL	100 CL	200 CL	300 CL
CODE	50019	5001960	50019100	50019200C	50019300

- Maximum working pressure 10 bar
- Inter-changeable butyl rubber membrane

VT - VERTICAL TANKS

MODEL	CODE	FITTING	CAPACITY	PALLETIZATION n. tanks			
05 VT	500668/2P	½"	0.5 litres	800			
8 VT	50051	1"	8 litres	189			
19 VT	50052	1"	19 litres	63			
60 VT	50040	1"	60 litres	15			
100 VT	50041	1"	100 litres	12			
200 VT	50042	1½"	200 litres	6			
300 VT	50043	1½"	300 litres	6			
500 VT	50044	1½"	500 litres	1			
Membrane	8 VT	19 VT	60 VT	100 VT	200 VT	300 VT	500 VT
CODE	5001905/8	50019	5001960	50019100	50019200C	50019300	50019500

- Maximum working pressure 10 bar (8 bar for 8VT, 19VT)
- Inter-changeable butyl rubber membrane

SPHERICAL KIT



MODEL	CODE
KSP-24 • 24 litres spherical tank • 0 – 6 bar pressure gauge • 5-way fitting - G 1 • Pressure switch "PSG-1"	50008SP24
KSD-24 • 24 litres spherical tank • 0 – 6 bar pressure gauge • 5-way fitting - G 1 • Pressure switch "FSG2" (Square D)	50010

CYLINDRICAL KIT

KCP-24



MODEL	CODE
KCP-24 • 20 litres cylindrical tank • 0 – 6 bar pressure gauge • 5-way fitting - G 1 • Hose G 1 (500 mm) • Pressure switch "PSG-1"	50008CP24
KCD-24 • 20 litres cylindrical tank • 0 – 6 bar pressure gauge • 5-way fitting - G 1 • Hose G 1 (500 mm) • Pressure switch "FSG2"	50009

KCP-60



MODEL	CODE
KCP-60 • 60 litres cylindrical tank • 0 – 6 bar pressure gauge • 5-way fitting - G 1 • Hose G 1 (600 mm) • Pressure switch "PSG-1"	50008CP60
KCD-60 • 60 litres cylindrical tank • 0 – 6 bar pressure gauge • 5-way fitting - G 1 • Hose G 1 (600 mm) • Pressure switch "FSG2"	50009/67

ACCESSORIES FOR SUBMERSIBLE PUMPS



MODEL	CODE	ROPE DIAMETER	ROPE WEIGHT	MAXIMUM LOAD
SECURITY ROPE (in polypropylene)	116310	Ø 8 mm	30 gr/m	960 kg
	116311	Ø 10 mm	45 gr/m	1425 kg
	116312	Ø 12 mm	65 gr/m	2030 kg
	116313	Ø 14 mm	90 gr/m	2790 kg
	116314	Ø 16 mm	115 gr/m	3500 kg

- Twisted rope in UV stabilized polypropylene threads
- Maximum length available per roll: 220 metres



SECURITY ROPE (in stainless steel AISI 316)	116305	Ø 5 mm	100 gr/m	1500 kg
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- 49-core rope in stainless steel AISI 316
- Maximum length available per roll: 250 metres



MODEL	CODE
STRAIGHT SHACKLE WITH PIN (for 8 mm wire rope) (in stainless steel AISI 316)	1160305



5 mm WIRE ROPE CLAMP (in stainless steel AISI 316)	1160304
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FLOAT SWITCHES



MODEL	CODE		LENGTH
	CABLE H07 RN-F	CABLE PVC	
0315/3	50014H	50014	3 metres
0315/5	500145H	500145	5 metres
0315/10	5001410H	5001410	10 metres

- With **H07 RN-F** cable: a simple function (emptying), with a 10 A switch
- With **PVC** cable: dual function (emptying and filling), with a 10 A switch



T 80/3	50014/1H	50014/1	3 metres
T 80/5	50014/5H	50014/5	5 metres
T 80/10	50014/10H	50014/10	10 metres

- With **H07 RN-F** cable: simple function float switch (emptying), double watertight protection compartment with a 10 A switch
- With **PVC** cable: double function float switch (emptying and filling), double watertight protection compartment with a 10 A switch



SMALL 3	50014S4	50014S3	3 metres
SMALL 5	50014S5	50014S51	5 metres

- With **H07 RN-F** cable: simple function float switch (emptying), double watertight protection compartment with a 10 A switch
- With **PVC** cable: double function float switch (emptying and filling), double watertight protection compartment with a 10 A switch



MODEL	CODE	CABLE	LENGTH
MAC 5	54SARGL001	PVC	10 metres

- Overturning float switch, dual function (emptying and filling), double watertight protection compartment with a 10 A switch
- Recommended for reflux water recovery stations (SAR)



AIRFLO - AUTOMATIC AIR FEEDERS

MODEL	CODE	SUITABLE FOR TANKS
AIRFLO 1	50021	100 – 500 litres
AIRFLO 2	50022	750 – 2000 litres

- Automatic air feeders suitable for maintaining the air cushion in surge tanks without a diaphragm.

NA - 3-WAY NIPPLE FOR AIR FEEDERS

MODEL	CODE	FITTING	DOUBLE CENTRAL FITTING
NA 1.00	50023	1" x 1"	1/2" x 1/4" (male/female)
NA 1.25	50023/1	1 1/4" x 1 1/4"	1/2" x 1/4" (male/female)
NA 1.50	50023/2	1 1/2" x 1 1/2"	1/2" x 1/4" (male/female)
NA 2.00	50023/3	2" x 2"	1/2" x 1/4" (male/female)

- 3-way brass fittings for connections with air feeders (AIRFLO)



PRESSURE SWITCHES

MODEL	CODE	FITTING	STANDARD SETTING (*)
PSG-1	50018/8	1/4" female	1.4 – 2.8 bar
PSG-1M	50018/8M	1/4" male	1.4 – 2.8 bar
FSG 2	50018	1/4" female	1.4 – 2.8 bar
FYG 22	50018/1	1/4" female	5.4 – 7.0 bar
FYG 32	50018/2	1/4" female	8 – 10.5 bar
PT/5 SK (Three-ph.)	50018/8T	1/4" female	1.4 – 2.8 bar

- PSG Registered EU Design n. 002248955
- (*) Adjustable

PRESSURE GAUGES



MODEL	CODE	FITTING	DIAMETER	SCALE
MC 6	50015/2	1/4" - central	50 mm	0 – 6 bar
MR 6	50015	1/4" - radial	63 mm	0 – 6 bar
MR 10	50015/0	1/4" - radial	63 mm	0 – 10 bar

GLYCERIN FILLED PRESSURE GAUGES

MODEL	CODE	FITTING	DIAMETER	SCALE
MCG 6	50015/2G	1/4" - central	50 mm	0 – 6 bar
MRG 6	50015G	1/4" - radial	63 mm	0 – 6 bar
MRG 10	50015/0G	1/4" - radial	63 mm	0 – 10 bar

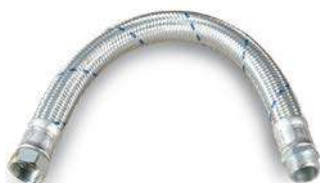
ACCESSORIES



3 - 5 WAY FITTINGS

MODEL	CODE	FITTING
R 3 - 3 vie	50017	1"
R 4 - 4 vie	50016V8	1"
R 5 - 5 vie	50016	1"

- R 3: three-way brass fittings with 1" G connections
- R 4: four-way brass fittings with 1/2" G and 1/4" G connections
- R 5: five-way brass fittings with 1" G and 1/4" G connections



HOSES

MODEL	CODE	TUBE	FITTINGS	LENGTH
TF 5	50013	1"	1" x 1"	500 mm
TF 6	50013/1	1"	1" x 1"	600 mm
TF 10	50013/6	1"	1" x 1"	1000 mm

- Flexible EPDM rubber hoses
- Maximum working pressure 10 bar

HOSES COMPLETE WITH ELBOW

MODEL	CODE	TUBE	FITTINGS	LENGTH
TFG 5	50013/01	3/4"	1" x 1"	500 mm
TFG 6	50013/10	1"	1" x 1"	600 mm

- Flexible EPDM rubber hoses
- Maximum working pressure 10 bar



FLEXIBLE HOSE FITTINGS

MODEL	CODE	Female Hose Fitting Diameter	Male fitting threading
FASTFIT 1.25	5027125	Ø 32 mm	1 1/4"
FASTFIT 1.5	5027150	Ø 38 mm	1 1/2"
FASTFIT 2	5027200	Ø 50 mm	2"
FASTFIT 3	5027300	Ø 75 mm	3"

- CAMLOCK Flexible Hose Fitting KIT:
- – n.1 female Hose Fitting
- – n.1 threaded male fitting



HOSETAIL FITTINGS

MODEL	CODE	HOSETAIL	THREADED FITTING
RP 0.75	50210	Ø 25 mm	3/4"
RP 1	50211	Ø 30 mm	1"
RP 1.25	50212	Ø 35 mm	1 1/4"
RP 1.5	50213	Ø 40 mm	1 1/2"
RP 2	50214	Ø 50 mm	2"
RPG 0.75	50220	Ø 25 mm	3/4"
RPG 1	50221	Ø 30 mm	1"
RPG 1.25	50222	Ø 35 mm	1 1/4"
RPG 1.5	50223	Ø 40 mm	1 1/2"
RPG 2	50224	Ø 50 mm	2"

- Nylon fittings



VF - FOOT VALVES

MODEL	CODE	FITTING
VF 0.5	50100	1/2"
VF 0.75	50101	3/4"
VF 1	50102	1"
VF 1.25	50103	1 1/4"
VF 1.5	50104	1 1/2"
VF 2	50105	2"

- Brass foot valves, stainless steel suction filter



VR - CHECK VALVES

MODEL	CODE	FITTINGS
VR 0.5	50110	1/2"
VR 0.75	50111	3/4"
VR 1	50112	1"
VR 1.25	50113	1 1/4"
VR 1.5	50114	1 1/2"
VR 2	50115	2"

- Brass check valves



VR-FT - BALL CHECK VALVES

MODEL	CODE	FITTINGS
VR-FT 1.25	501201	1 1/4"
VR-FT 1.5	501202	1 1/2"
VR-FT 2	501203	2"

- Check valves for submersible pumps (sewage and waste water)
- Max. working pressure 16 bar
- Min. working pressure 0.3 bar
- Working temperature 0 °C – +80 °C



VR-FF - BALL CHECK VALVES

MODEL	CODE	FITTINGS
VR-FF/DN 65 - FLANGED	501210	DN 65 (PN16) 2 1/2"
VR-FF/DN 80 - FLANGED	501212	DN 65 (PN16) 2 1/2"
VR-FF/DN 100 - FLANGED	501214	DN 65 (PN16) 2 1/2"

- Check valves for submersible pumps (sewage and waste water)
- Max. working pressure 16 bar
- Min. working pressure 0.3 bar
- Working temperature 0 °C – +80 °C

ACCESSORIES



SCHUKO PLUG WITH PROTECTION CASE

MODEL	CODE
PSC	117985

- Protection against water and dust with IP 65 or IP 67 grade protection
- Mechanical protection against tearing



POWER CABLE FOR LEVEL PROBES

MODEL	CODE	LENGTH	SECTION	WEIGHT
CSL-100	117FE00C01	100 m	1.5 mm ²	1.9 kg
CSL-200	117FE00C02	200 m	1.5 mm ²	3.8 kg
CSL-500	117FE00C05	500 m	1.5 mm ²	9.5 kg
CSL-1500	117FE00C15	1500 m	1.5 mm ²	28.5 kg



POWER CABLES FOR SUBMERSIBLE PUMPS

MODEL	CODE	MODEL	WEIGHT PER METRE
4 x 1 mm ²	117G100AN	H07 RN-F	0.165 kg
4 x 1.5 mm ²	117G150AN	H07 RN-F	0.205 kg
4 x 2.5 mm ²	117G200AN	H07 RN-F	0.290 kg
4 x 4 mm ²	117G250AN	H07 RN-F	0.420 kg
4 x 6 mm ²	117G300AN	H07 RN-F	0.505 kg
4 x 10 mm ²	117G350AN	H07 RN-F	1.030 kg
4 x 16 mm ²	117G400AN	H07 RN-F	2.050 kg



POWER CABLES WITH PLUG

MODEL	CODE	CABLE SECTION	LENGTH	PLUG
H05 VV-F (PVC)	117FGA21G	3 x 0.75 mm ²	150 cm	SCHUKO
H07 RN-F (NEOPRENE)	117GLA21G	3 x 1 mm ²	150 cm	SCHUKO



POWER CABLES FOR PHOTOVOLTAIC INSTALLATIONS

MODEL FG21M21	CODE	WEIGHT PER METRE
1 x 4 mm ² red	117SF104R	0.060 kg
1 x 4 mm ² black	117SF104N	0.060 kg
1 x 6 mm ² red	117SF106R	0.080 kg
1 x 6 mm ² black	117SF106N	0.080 kg

F - FILTER HOLDERS WITH PLASTIC HEAD



MODEL	CODE	THREADED FITTINGS	CARTRIDGE HEIGHT
MEDIUM - F 0.75	504F075M	3/4"	5"
MEDIUM - F 1	504F100M	1"	5"
JUNIOR - F 0.75	504F075J	3/4"	7"
JUNIOR - F 1	504F100J	1"	7"
SENIOR - F 0.75	504F075S	3/4"	10"
SENIOR - F 1	504F100S	1"	10"

- Maximum working pressure 5 bar (at temperature +20 °C)
- Maximum temperature + 45°C (at pressure 2 bar)



KIT FOR DISASSEMBLY OF FILTER HOLDERS F

(cod. 504KNPP)

RL - POLYESTER FILTER CARTRIDGES



MODEL	CODE	FILTRATION	CARTRIDGE HEIGHT	FILTER HOLDER
RL 5	504C05	50 µ	5"	MEDIUM F
RL 7	504C07	50 µ	7"	JUNIOR F
RL 10	504C10	50 µ	10"	SENIOR F

FA - POLYPROPYLENE FILTER CARTRIDGES



MODEL	CODE	FILTRATION	CARTRIDGE HEIGHT	FILTER HOLDER
FA 5	504F05	50 µ	5"	MEDIUM F
FA 7	504F07	50 µ	7"	JUNIOR F
FA 10	504F10	50 µ	10"	SENIOR F



HA - FILTER CARTRIDGE WITH POLYPHOSPHATE CRYSTALS

MODEL	CODE	CARTRIDGE HEIGHT	FILTER HOLDER
HA 10	504F08	10"	SENIOR F



LA - FILTER CARTRIDGE WITH ACTIVATED CARBON

MODEL	CODE	CARTRIDGE HEIGHT	FILTER HOLDER
LA 10 BX	504LA10BX	10"	SENIOR F



FLAT PVC HOSE

MODEL	CODE			FITTING
	Length 5 metres	Length 10 metres	Length 20 metres	
TP 1.25	50013P125A	50013P125B	50013P125C	1¼"
TP 1.50	50013P150A	50013P150B	50013P150C	1½"
TP 2.00	50013P200A	50013P200B	50013P200C	2"
TP 2.50	50013P250A	50013P250B	50013P250C	2½"
TP 3.00	50013P300A	50013P300B	50013P300C	3"

- Flat, abrasion and weather resistant plasticised delivery hoses, complete with hosetail.
- ➔ **Ideal for irrigation even with fertilisers and for draining water in combination with drainage pumps**



GARDEN KIT - SUCTION HOSE

MODEL	CODE	FITTING	LENGTH
GARDEN KIT	50200	1"	7 metres

- Hose complete with foot valve



MT 1 - MECHANICAL FLOW METERS

MODEL	CODE	MAXIMUM FLOW RATE	MAXIMUM PRESSURE	FITTINGS
MT 1	504550	120 l/min	3.5 bar	1" x 1"

- Mechanical litre counter for private use, suitable for the following liquids: diesel, kerosene (for heating), solvents, anti-freeze, very light oils (kinematic viscosity max. 300 cSt)

Please note: IT IS NOT COMPATIBLE with all other fluids, and in particular with water, petrol and hydrochloric acid.

- ➔ **Recommended for use with "CK" series pumps**



NZ - DISPENSING NOZZLE WITH HOSE

MODEL	CODE	ELBOW CONNECTION
NZ-1	50430B	¾"
NZ-2	50430A	1"

- Pistol grip distributor in aluminium complete with a flexible tube, reinforced with steel spiral, 4 metres long with threaded fittings

- ➔ **Recommended for use with "CKm 50-BP or CK 50-BP "series pumps"**

TEFLON TAPE FOR HYDRAULIC JOINTS



MODEL	CODE	LENGTH	WIDTH OF TAPE
TFN 1	14TFN/1	12 m	12 mm
TFN 2	14TFN/21	30 m	12 mm
TFN 3	14TFN/3	12 m	19 mm



AEROSOL PAINT

MODEL	CODE	COLOUR	CAPACITANCE
SPRAY 1	120200A/2	Pedrollo blue	400 ml



(RECOMMENDED)

POWER CABLE RESIN JOINT KIT

MODEL	CODE	No. OF CORES	CABLE SECTION	EXTERNAL JUNCTION DIAMETRE
RPS 1	530GT3M82A1	4	1 – 2.5 mm ²	Ø 32 mm
RPS 2	530GT3M82A2	4	1 – 10 mm ²	Ø 42 mm
RPS 3	530GT3M92A1	4	4 – 16 mm ²	Ø 48 mm



(ECONOMIC)

POWER CABLE HEAT-SHRINK JOINT KIT

MODEL	CODE	No. OF CORES	CABLE SECTION
GPS 1	530GT3MGPS1	4	1 – 2.5 mm ²
GPS 2	530GT3MGPS2	4	4 – 6 mm ²
GPS 3	530GT3MGPS35	4	6 – 35 mm ²

BEARINGS FOR PUMPS AND ELECTRIC MOTORS



MODEL	CODE	DIMENSIONS
6201 ZZ	113001	12 x 32 x 10 mm
6201 ZZ - C3E	113001C3E	12 x 32 x 10 mm
6201 2RS - C3	113001SC3E	12 x 32 x 10 mm
6202 ZZ - C3	113012	15 x 35 x 11 mm
6203	113002A	17 x 40 x 12 mm
6203 ZZ	113002	17 x 40 x 12 mm
6203 ZZ - C3E	113002C3E	17 x 40 x 12 mm
6203 2RS - C3E	113002RC3E	17 x 40 x 12 mm
6204 ZZ - C3	113003C3E	20 x 47 x 14 mm
6204 ZZ - C3E	113003	20 x 47 x 14 mm
6205 ZZ	113004	25 x 52 x 15 mm
6206 ZZ - C3	113005C3E	30 x 62 x 16 mm
6208 ZZ - C3	113008	40 x 80 x 18 mm
6003 ZZ - C3	113010	17 x 35 x 10 mm
6212 ZZ - C3	113020	60 x 110 x 22 mm
6303 2RS - C3	113014SC3	17 x 47 x 14 mm
6304 ZZ	113013	20 x 52 x 15 mm
6304 ZZ - C3	113013C3E	20 x 52 x 15 mm
6304 2RS - C3	113013SC3	20 x 52 x 15 mm
6306 ZZ - C3	113015	30 x 72 x 19 mm
6307 ZZ - C3	113017	35 x 80 x 21 mm
6308 ZZ - C3	113018	40 x 90 x 23 mm
6309 ZZ - C3	1130185	45 x 100 x 25 mm
6310 ZZ - C3	113019	50 x 110 x 27 mm
6312 ZZ - C3	113021	60 x 130 x 31 mm
6313 ZZ - C3	113023	65 x 140 x 33 mm
6314 ZZ - C3	113024	70 x 150 x 35 mm
3203 B 2RS - C3	113040RC3E	17 x 40 x 17.5 mm
3304 B ZZ - C3	113041	20 x 52 x 22.2 mm
7202 B	113029	15 x 35 x 22.2 mm

FANS FOR PUMPS AND ELECTRIC MOTORS



MODEL	CODE	DIMENSIONS	SHAFT DIAMETER
FAN-63	14VN059	104 x 21 mm	12 mm
FAN-63/1	14VN067	99 x 22 mm	12 mm
FAN-63/2	14VN068	99 x 26 mm	12 mm
FAN-71R	14VN07	125 x 24 mm	14.5 mm
FAN-71	14VN076	114 x 20 mm	14.5 mm
FAN-71/1	14VN072	116 x 23 mm	14.5 mm
FAN-80R	14VN08	138 x 27 mm	20 mm
FAN-80	14VN081	132 x 27 mm	20 mm
FAN-80 IPX5	14VN0815	132 x 27 mm	20 mm
FAN-90R	14VN09	162 x 32 mm	24 mm
FAN-90	14VN095	148 x 33 mm	24 mm
FAN-100R	14VN10	176 x 38 mm	28 mm
FAN-100	14VN10162	155 x 37 mm	28 mm
FAN-132	14VN132	165 x 45 mm	36 mm
FAN-180	14VN180	240 x 60 mm	55 mm

CAPACITORS WITH FASTON CONNECTIONS



Type F
Capacitors with Fastons

MODEL	CODE	CAPACITANCE	Voltage	Frequency
10 F	111010F	10 μ F	450 VL	50 – 60 Hz
10 FC *	111010FC	10 μ F	450 VL	50 – 60 Hz
12 F	111012F	12.5 μ F	450 VL	50 – 60 Hz
14 F	111014F	14 μ F	450 VL	50 – 60 Hz
16 F - 500	111016F5	16 μ F	500 VL	50 – 60 Hz
16 F - 450	111016F		450 VL	50 – 60 Hz
16 F - 250	112016F		250 VL	50 – 60 Hz
20 F - 500	111020F5	20 μ F	500 VL	50 – 60 Hz
20 F - 450	111020F		450 VL	50 – 60 Hz
25 F - 450	111025F	25 μ F	450 VL	50 – 60 Hz
25 F - 250	112025F		250 VL	50 – 60 Hz
30 F - 250	112030F	30 μ F	250 VL	50 – 60 Hz
31 F	111031F	31.5 μ F	450 VL	50 – 60 Hz
35 F	111035F	35 μ F	450 VL	50 – 60 Hz
35 FC *	111035F1	35 μ F	450 VL	50 – 60 Hz
40 F	111040F	40 μ F	450 VL	50 – 60 Hz
45 F	111045F	45 μ F	450 VL	50 – 60 Hz
50 F	111050F	50 μ F	450 VL	50 – 60 Hz
60 F - 450	111060F	60 μ F	450 VL	50 – 60 Hz
60 F - 300	112061F		300 VL	50 – 60 Hz
60 F - 250	112060F		250 VL	50 – 60 Hz
70 F	111070F	70 μ F	450 VL	50 – 60 Hz
80 F	112080F	80 μ F	250 VL	50 – 60 Hz
90 F	111090F	90 μ F	450 VL	50 – 60 Hz

(*) FC = Special capacitor with reduced dimensions

- Capacitors with CE marking and VDE-IMQ approval

CAPACITORS WITH EXIT CABLES



Type C
Capacitors with exit cables

MODEL	CODE	CAPACITANCE	Voltage	Frequency
10 C	1110102F	10 μ F	450 VL	50 – 60 Hz
12 C	1110122F	12.5 μ F	450 VL	50 – 60 Hz
16 C - 500	1110162F5	16 μ F	500 VL	50 – 60 Hz
16 C - 450	1110162F		450 VL	50 – 60 Hz
20 C - 500	1110202F5	20 μ F	500 VL	50 – 60 Hz
20 C - 450	1110202F		450 VL	50 – 60 Hz
25 C - 450	1110252F	25 μ F	450 VL	50 – 60 Hz
30 C - 250	1120302F	30 μ F	250 VL	50 – 60 Hz
31 C - 500	1110312F5	31.5 μ F	500 VL	50 – 60 Hz
31 C - 450	1110312F		450 VL	50 – 60 Hz
35 C - 500	1110352F5	35 μ F	500 VL	50 – 60 Hz
35 C - 450	1110352F		450 VL	50 – 60 Hz
35 CC * - 450	1110352F1	35 μ F	450 VL	50 – 60 Hz
40 C	1110402F	40 μ F	450 VL	50 – 60 Hz
50 C	1110502F	50 μ F	450 VL	50 – 60 Hz
60 C	1120602F	60 μ F	250 VL	50 – 60 Hz
70 C - 450	1110702F	70 μ F	450 VL	50 – 60 Hz
70 C - 250	1120702F5	70 μ F	250 VL	50 – 60 Hz
75 C	1110752F	75 μ F	450 VL	50 – 60 Hz
80 C	1120802F	80 μ F	250 VL	50 – 60 Hz

(*) CC = Special capacitor with reduced dimensions

- Capacitors with CE marking and VDE-IMQ approval



CAPACITORS WITH DECOUPLER

MODEL	CODE	CAPACITANCE	Voltage	Frequency
80 D	111080D2F	80 μ F	320-480 VL	50 – 60 Hz

- Capacitor for submersible pumps with grinder (TRITUS)

CONTROL BOXES

QEM/3 Control boxes for 3" single-phase submersible pumps



MODEL	CODE	MOTOR POWER (P ₂)		CAPACITOR	RATED CURRENT A
		kW	HP	CAPACITANCE	
Single-phase					
QEM/3-050	530ECS305A1	0.37	0.50	12.5 µF	5
QEM/3-075	530ECS307A1	0.55	0.75	16 µF	6
QEM/3-100	530ECS310A1	0.75	1	20 µF	7
QEM/3-150	530ECS315A1	1.1	1.5	30 µF	10

- Single-phase 230 V 50 Hz

QEM Control boxes for 4" single-phase submersible pumps



MODEL	CODE	MOTOR POWER (P ₂)		CAPACITOR	RATED CURRENT A
		kW	HP	CAPACITANCE	
Single-phase					
QEM 050	530ECN05A1	0.37	0.50	20 µF	5
QEM 075	530ECN07A1	0.55	0.75	25 µF	6
QEM 100	530ECN10A1	0.75	1	35 µF	7
QEM 150	530EC15A1	1.1	1.5	40 µF	11
QEM 200	530ECN20A1	1.5	2	60 µF	13
QEM 300	530EC30A1	2.2	3	75 µF	18

- Single-phase 230 V 50 Hz

QET Control boxes for 4" and 6" three-phase submersible pumps



MODEL	CODE	MOTOR POWER (P ₂)		RATED CURRENT A
		kW	HP	
Three-phase				
QET 050	530TNF05A	0.37	0.50	1.7
QET 075	530TNF07A	0.55	0.75	2
QET 100	530TNF10A	0.75	1	2.5
QET 150	530TNF15A	1.1	1.5	3.9
QET 200	530TNF20A	1.5	2	4.8
QET 300	530TNF30A	2.2	3	7
QET 400	530TNF40A	3	4	9
QET 550	530TNF55A	4	5.5	11.5
QET 750	530TNF75A	5.5	7.5	15.5
QET 1000	530AD100A	7.5	10	21.5
QET 1250	530AD125A	9.2	12.5	23.5
QET 1500	530AD150A	11	15	27.5
QET 2000	530AD200A	15	20	36
QET 2500	530AD250A	18.5	25	45
QET 3000	530AD300A	22	30	54
QET 4000	530AD400A	30	40	68
QET 5000	530AD500A	37	50	85

- The control box is fitted with a selector for manual or automatic operation with the possibility of attaching a float (or a pressure valve, etc.).
- Three-phase 400 V 50 Hz



Level
probes

QSM Control boxes for 4" single-phase pumps with level probes

MODEL	CODE	MOTOR POWER (P ₂)		CAPACITOR	RATED CURRENT A
		kW	HP	CAPACITANCE	
Single-phase					
QSM 050	530MFLCN05A1	0.37	0.50	20 µF	5
QSM 075	530MFLCN07A1	0.55	0.75	25 µF	6
QSM 100	530MFLCN10A1	0.75	1	35 µF	7
QSM 150	530MFLC15A1	1.1	1.5	40 µF	11
QSM 200	530MFLCN20A1	1.5	2	60 µF	13
QSM 300	530MFLC30A1	2.2	3	75 µF	18

- The control box is fitted with a selector for manual or automatic operation with the possibility of attaching a float (or a pressure valve, etc.) and fluid level probes which protect the pump from operating when dry.
- **Single-phase 230 V 50 Hz**



Level
probes

QST Control boxes for 4" and 6" three-phase pumps with level probes

MODEL	CODE	MOTOR POWER (P ₂)		RATED CURRENT
		kW	HP	A
Three-phase				
QST 50	530TFLC05A	0.37	0.50	1.7
QST 75	530TFLC07A	0.55	0.75	2
QST 100	530TFLC10A	0.75	1	2.5
QST 150	530TFLC15A	1.1	1.5	3.9
QST 200	530TFLC20A	1.5	2	4.8
QST 300	530TFLC30A	2.2	3	7
QST 400	530TFLC40A	3	4	9
QST 550	530TFLC55A	4	5.5	11.5
QST 750	530TFLC75A	5.5	7.5	15.5
QST 1000	530ADL100A	7.5	10	21.5
QST 1250	530ADL125A	9.2	12.5	23.5
QST 1500	530ADL150A	11	15	27.5
QST 2000	530ADL200A	15	20	36
QST 2500	530ADL250A	18.5	25	45
QST 3000	530ADL300A	22	30	54
QST 4000	530ADL400A	30	40	68
QST 5000	530ADL500A	37	50	85

- The control box is fitted with a selector for manual or automatic operation with the possibility of attaching a float (or a pressure valve, etc.) and fluid level probes which protect the pump from operating when dry.
- **Three-phase 400 V 50 Hz**

CONTROL BOXES

EVOLUTION Electronic control box for submersible pumps



MODEL	CODE	VOLTAGE	RATED CURRENT A
EVOLUTION-MONO	532DOM003M	Single-phase 230 V 50 Hz	from 2 to 18
EVOLUTION-TRI/1	532DOM075T	Three-phase 400 V 50 Hz	from 2 to 16
EVOLUTION-TRI/2	532DOM100T	Three-phase 400 V 50 Hz	from 16 to 22

- The control box contains a circuit board that makes it possible to adjust the limit at which the overload and shortcircuit protection intervenes; the circuit board also protects the pump against dry running by controlling the $\cos \phi$ value without additional level probes.
- The control box may be connected to a float switch (or a pressure switch, etc.).

QES Control boxes for single-phase drainage pumps



MODEL	CODE	MOTOR POWER (P ₂)		CAPACITOR	RATED CURRENT A
		kW	HP	CAPACITANCE	
Single-phase					
QES 300 MONO	52VX300A1	2.2	3	60 µF	16
QES 300 MONO-AL (*)	52VX300A1AL	2.2	3	60 µF	16

- The control box is designed for connection to the thermal overload protector built into the motor windings of the VXCm 30, VXCm 30-F, MCm 30, MCm 30-F drainage pumps.
- **Single-phase 230 V 50 Hz**

(*) QES 300 MONO-AL, control box with contacts for connection to a level alarm auxiliary float switch

QES Control boxes for three-phase drainage pumps



MODEL	CODE	MOTOR POWER (P ₂)		RATED CURRENT A
		kW	HP	
Three-phase				
QES 150	532QES150A	1.1	1.5	4.2
QES 200	532QES200A	1.5	2	5.2
QES 300	532QES300A	2.2	3	6.5
QES 400	532QES400A	3	4	8

- The control box is equipped with a selector for manual or automatic operation (with float switch) and is designed to be connected to the thermal overload protector built into the motor windings of the VXC, VXC-F, MC, MC-F drainage pumps
- **Three-phase 380 – 415V 50 Hz**



QED1 Electronic control box for 1 drainage pump

MODEL	CODE	VOLTAGE	RATED CURRENT (A)
QED 1- MONO	533QED01M	Single-phase 230 V 50 Hz	from 2 to 18
QED 1- TRI/1	533QED01T	Three-phase 400 V 50 Hz	from 2 a 9
QED 1- TRI/2	533QED012T	Three-phase 400 V 50 Hz	from 2 a 16
QED 1- TRI/3	533QED013T	Three-phase 400 V 50 Hz	from 16 a 25

- The control box contains an electronic card that makes it possible to regulate the threshold at which the protection intervenes against overload currents and short-circuits.
- The control box is designed to be connected to the thermal overload protector built into the motor windings of the VXC, VXC-F, MC, MC-F, VX 50, VX 65, BC 35, VXC4, MC4 drainage pumps and to three float switches (start-up, shut-off and alarm level).



QED2 Electronic control box for 2 drainage pumps

MODEL	CODE	VOLTAGE	RATED CURRENT (A)
QED 2- MONO	533QED02M	Single-phase 230V 50 Hz	from 2 to 18
QED 2- TRI/1	533QED02T	Three-phase 400V 50 Hz	from 2 to 9
QED 2- TRI/2	533QED022T	Three-phase 400V 50 Hz	from 2 to 16
QED 2- TRI/3	533QED023T	Three-phase 400V 50 Hz	from 16 to 25

- The control box contains an electronic card that makes it possible to regulate the threshold at which the protection intervenes against overload currents and short-circuits.
- The control box is designed to be connected to the thermal overload protector built into the motor windings of the VXC, VXC-F, MC, MC-F, VX 50, VX 65, BC 35, VXC4, MC4 drainage pumps and to four float switches (alternate start-up of the first pump, alternate start-up of the second pump, shut-off and alarm level).



ALARM KIT Electronic control box for SAR 250 and SAR 550

MODEL	CODE	VOLTAGE
ALARM KIT	KSKIT-ALLARME	Single-phase 230V 50 Hz

- The panel contains an electronic board, a back-up battery to supply the board, a red warning light and an alarm siren of 90 dB at 1 m. distance.
- The panel is designed for the connection of a float (included in the kit) which sets off the alarm when the contact is closed.



QE2 Electronic control box for pressure boosting sets CB2

MODEL	CODE	VOLTAGE	RATED CURRENT (A)
QE 2- MONO	54CB2SM2M030	Single-phase 230 V 50 Hz	from 2 to 18
QE 2- TRI/1	54CB2SM2T075	Three-phase 400 V 50 Hz	from 2 to 12
QE 2- TRI/2	54CB2SM2T100	Three-phase 400 V 50 Hz	from 2 to 16

- The control box contains an electronic card that makes it possible to regulate the threshold at which the protection intervenes against overload currents and short-circuits.
- The control box is set to accept 2 pressure switch links (running first pump and second pump alternately) as well as one float switch (for minimum water level) to prevent dry running.

CABLE SIZES FOR SUBMERSIBLE MOTORS

SINGLE-PHASE 230 V - 50 Hz

MOTOR POWER (P ₂)		cable section in mm ²						
kW	HP	4 x 1	4 x 1.5	4 x 2.5	4 x 4	4 x 6	4 x 10	4 x 16
maximum cable length in metres								
0.37	0.50	60	90	140				
0.55	0.75	45	70	110	180			
0.75	1	35	50	85	140	210		
1.1	1.5	25	35	60	95	145	240	
1.5	2		30	45	75	115	190	305
2.2	3			30	50	75	125	200

THREE-PHASE 230 V - 50 Hz

MOTOR POWER (P ₂)		cable section in mm ²										
kW	HP	4x1	4 x 1.5	4 x 2.5	4 x 4	4 x 6	4 x 10	4 x 16	4 x 25	4 x 35	4 x 50	4 x 70
maximum cable length in metres												
0.37	0.50	100	152	255								
0.55	0.75	83	126	210	338							
0.75	1	65	99	165	265	405						
1.1	1.5	48	72	120	192	292	485					
1.5	2		53	88	142	215	360					
2.2	3			60	97	147	245	392				
3	4			47	73	110	183	295	510			
4	5.5				55	83	138	220	380			
5.5	7.5					60	100	160	275	385		
7.5	10					45	73	114	195	275	395	
9.2	12.5						64	100	157	220	315	
11	15						54	87	135	190	270	378
13	17.5							75	117	164	236	330
15	20							65	102	144	205	287
18.5	25								82	114	162	225
22	30								69	95	137	190
30	40									70	102	142

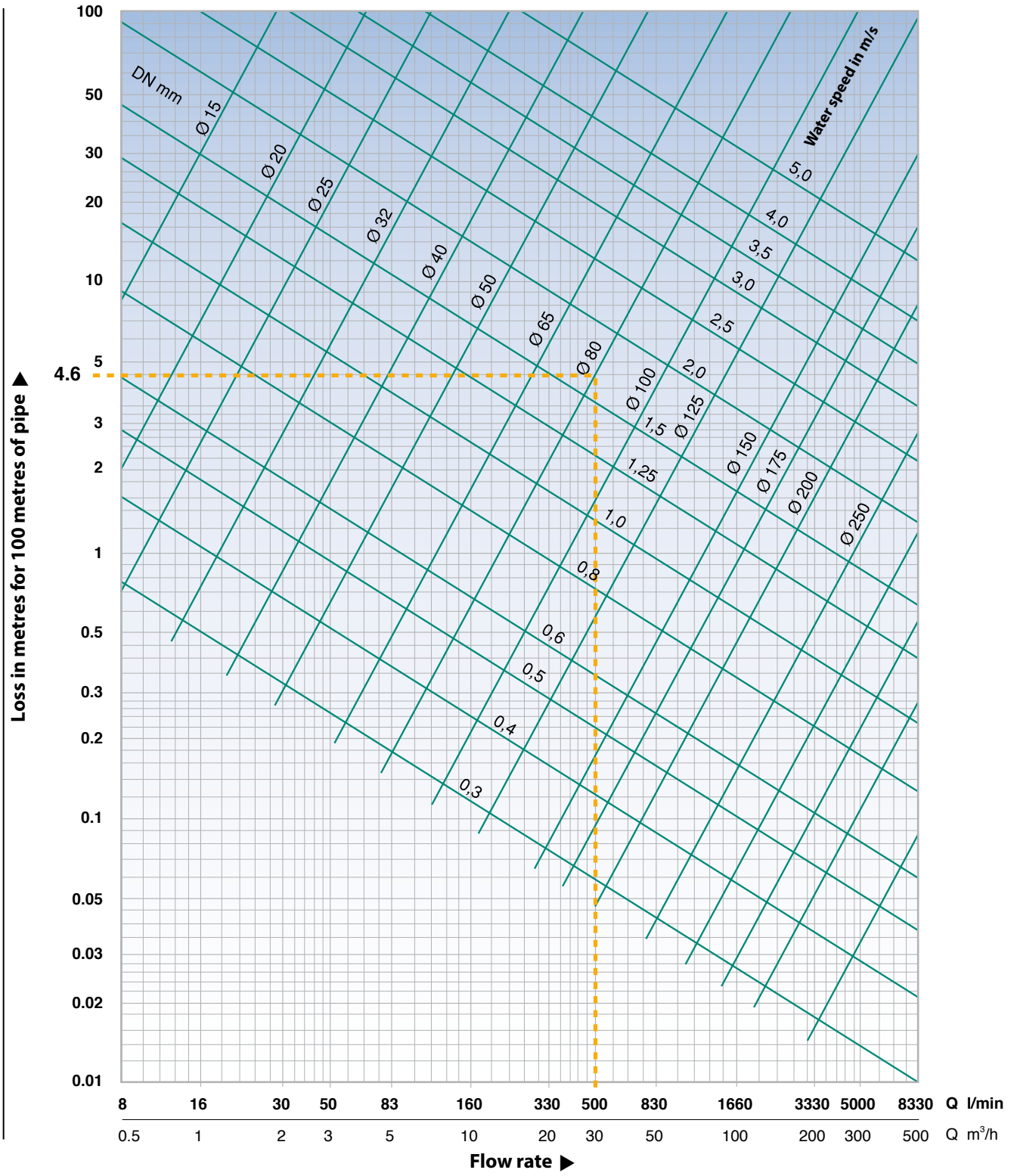
THREE-PHASE 400 V - 50 Hz

MOTOR POWER (P ₂)		cable section in mm ²										
kW	HP	4x1	4 x 1.5	4 x 2.5	4 x 4	4 x 6	4 x 10	4 x 16	4 x 25	4 x 35	4 x 50	4 x 70
maximum cable length in metres												
0.37	0.50	300										
0.55	0.75	250	380									
0.75	1	195	295									
1.1	1.5	145	215	360								
1.5	2	105	160	265	425							
2.2	3	70	110	180	290	440						
3	4	55	85	140	220	330						
4	5.5	40	60	105	165	250	415					
5.5	7.5		45	75	120	180	300	480				
7.5	10		35	55	95	135	220	340	585			
9.2	12.5			47	75	115	190	300	470			
11	15			40	65	95	160	260	405			
13	17.5				60	85	140	225	350	490		
15	20				50	75	125	195	305	430		
18.5	25					58	100	155	245	340	485	
22	30					49	85	130	205	285	410	570
30	40					36	63	96	152	210	305	425

Voltage drop 3% - Maximum environment temperature + 30 °C

FRICTION LOSS CHART

(for straight pipes with 15-250 mm internal diameter and flow rates from 8 to 8330 l/min)



The data in the table refers to cold water and other liquids with the same kinematic viscosity and new cast iron pipes. The load losses (h_v) indicated in the table must be multiplied by: **0.8** for new steel pipes, **1.25** for old, slightly rusty iron pipes, and **1.7** for old pipes where the build-up of incrustations must be taken into account.

➔ **EXAMPLE:** Flow rate data **$Q = 500$ l/min**, new steel pipe $\varnothing 80$ mm, pipe length 50 m.

Find the flow rate on the horizontal axis and move vertically until you meet the DN 80 mm line.

The corresponding load losses can thus be found on the vertical axis.

$h_v = 4,6$ m for every 100 m of pipe.

$h_{v1} = 4,6 \times 0,8 = 3,68$ m/100 (steel pipe).

Considering the real length of the pipe:

$h_{v2} = 3,68 \times 50:100 = 1,84$ m (for 50 m of pipe).

The flow speed is determined by considering the position of the intersection point, which is between the oblique lines with value of 1.5-2 m/sec. In the case considered that gives: **$C = 1.7$ metres/sec**

CONVERSION OF UNITS OF MEASUREMENT

LENGTH

millimetre mm	centimetre cm	metres m	inch in	foot ft	yard yd
1	0.1	0.001	0.0394	0.0033	0.0011
10	1	0.01	0.3937	0.0328	0.0109
1000	100	1	393.701	3.2808	10.936
25.4	2.54	0.0254	1	0.0833	0.0278
304.8	30.48	0.3048	12	1	0.3333
914.4	91.44	0.9144	36	3	1

1 kilometre = 1000 metres = 0.62137 miles – 1 mile = 1609.34 metres = 1.60934 kilometre

VOLUME

cubic metres m ³	litre l	millilitre ml	Imperial gallon Imp. gal.	US gallon US gal	cubic foot ft ³
1	1000	1 x 10 ⁶	220	264.2	35.3147
0.001	1	1000	0.22	0.2642	0.0353
1 x 10 ⁻⁶	0.001	1	2.2 x 10 ⁻⁴	2.642 x 10 ⁻⁴	3.53 x 10 ⁻⁵
0.00455	4.546	4546	1	1.201	0.1605
0.00378	3.785	3785	0.8327	1	0.1337
0.0283	28.317	28.317	6.2288	7.4805	1

WEIGHT

kilogram kg	pound lb	hundredweight cwt	ton t	long ton tn	short ton sh. tn
1	2.205	0.0197	0.001	9.84 x 10 ⁻⁴	0.0011
0.454	1	0.0089	4.54 x 10 ⁻⁴	4.46 x 10 ⁻⁴	5.0 x 10 ⁻⁴
50.802	112	1	0.0508	0.05	0.056
1000	2204.6	19.684	1	0.9842	1.1023
1016	2240	20	1.0161	1	1.102
907.2	2000	17.857	0.9072	0.8929	1

VOLUMETRIC FLOW RATE

litres second	litres minute	cubic metres hour	cubic feet hour	cubic feet minute	Imp. gal. minute	US gal. minute	US barrel day (crude oil) US barrel/g
l/s	l/min	m ³ /h	ft ³ /h	ft ³ /min	Imp. gal./min	US gal./min	
1	60	3.6	127.133	2.1189	13.2	15.85	543.439
0.017	1	0.06	2.1189	0.0353	0.22	0.264	9.057
0.278	16.667	1	35.3147	0.5886	3.666	4.403	150.955
0.008	0.472	0.0283	1	0.0167	0.104	0.125	4.275
0.472	28.317	1.6990	60	1	6.229	7.480	256.475
0.076	4.546	0.2728	9.6326	0.1605	1	1.201	41.175
0.063	3.785	0.2271	8.0209	0.1337	0.833	1	34.286
0.002	0.110	0.0066	0.2339	0.0039	0.024	0.029	1

PRESSURE AND HEAD

Newton square metres N/m ² (Pa)	kiloPascal kPa	bar bar	kilogram force square centimetre kgf/cm ²	pound force square inch psi	foot of water ft H ₂ O	metres of water m H ₂ O	millimetre mercury mm Hg	inch mercury In Hg
1	0.001	1 x 10 ⁻⁵	1.02 x 10 ⁻⁵	1.45 x 10 ⁻⁴	3.35 x 10 ⁻⁴	1.02 x 10 ⁻⁴	0.0075	2.95 x 10 ⁻⁴
1000	1	0.01	1.02 x 10 ⁻²	0.145	0.335	0.102	7.5	0.295
100000	100	1	1.02	14.5	33.52	10.2	750.1	29.53
98067	98.07	0.981	1	14.22	32.81	10	735.6	28.96
6895	6.895	0.069	0.0703	1	2.31	0.703	51.72	2.036
2984	2.984	0.03	0.0305	0.433	1	0.305	22.42	0.882
9789	9.789	0.098	0.1	1.42	3.28	1	73.42	2.891
133.3	0.133	0.0013	0.0014	0.019	0.045	0.014	1	0.039
3386	3.386	0.0338	0.0345	0.491	1.133	0.345	25.4	1

