45 years
ANNIVERSARY

GENERAL CATALOGUE
2019-2020

PEDROLLO®
the spring of life

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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.

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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.

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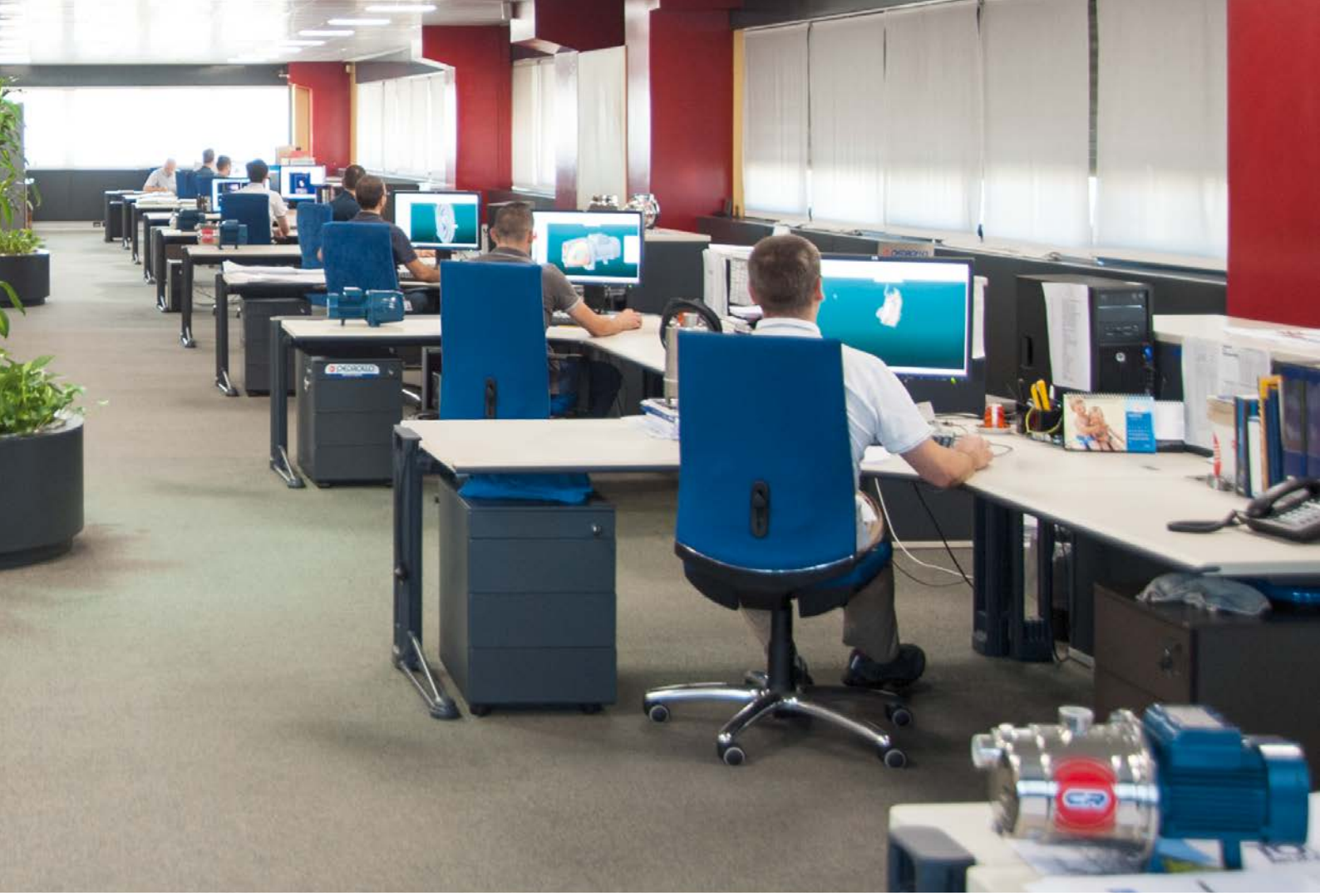

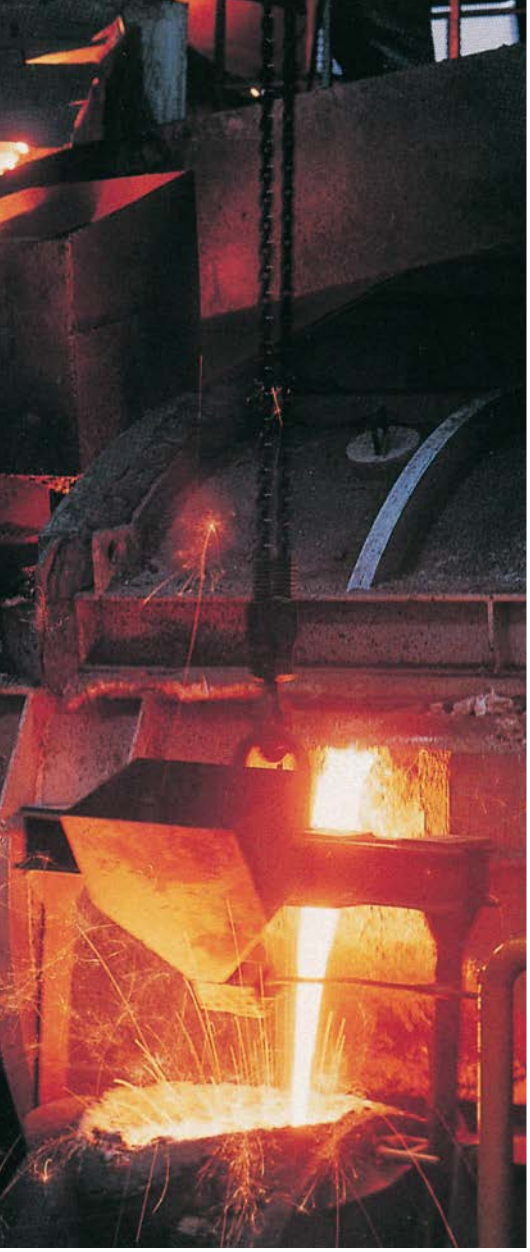

Pedrollo is able to manufacture all the components of its pumps internally. It has its own foundry, a mechanical workshop for pressing steel components, a motor windings division and mechanical work centres which at all times guarantee the greatest precision and the highest quality.

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.

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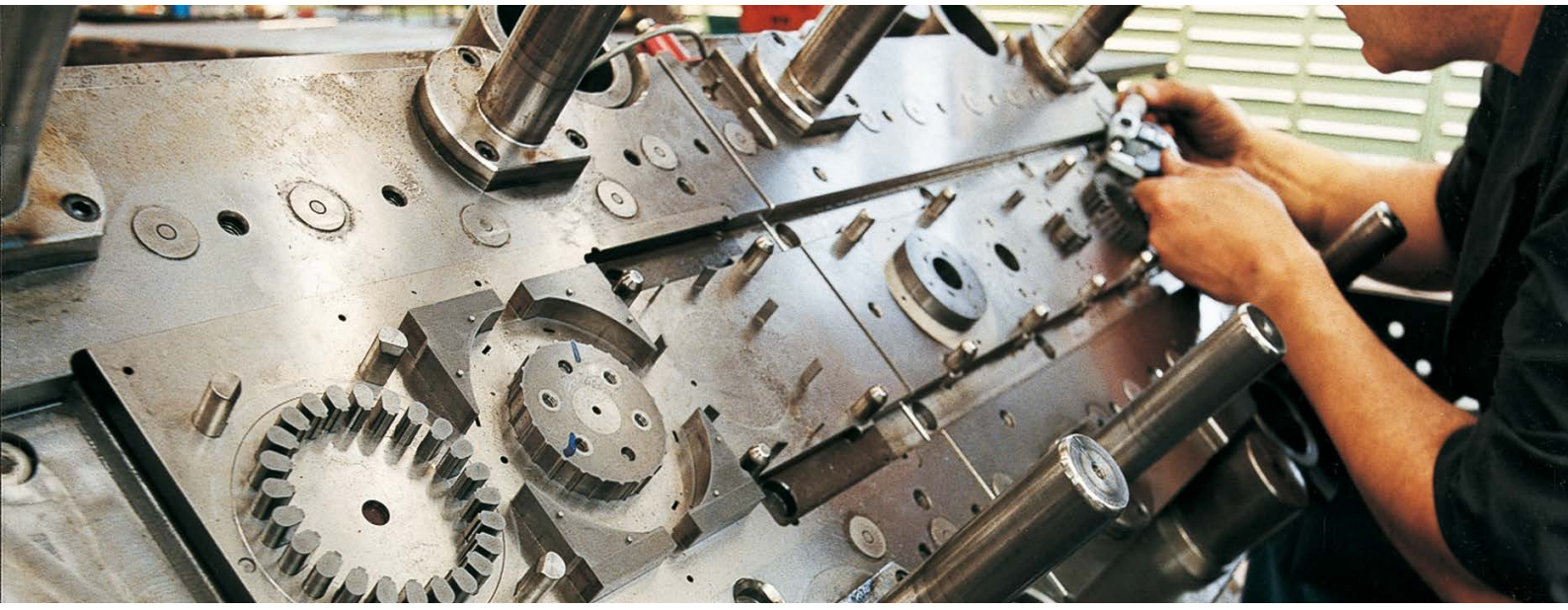

Automated lines supply and control the final assembly of the pumps, thus guaranteeing the high quality standards of Pedrollo throughout their assembly. The continuous automated tests which are carried out directly guarantee that the finished product will always be available in a very short time.

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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.

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EU REGULATION N. 547/2012

- Pumps with a minimum efficiency index MEI ≥ 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 ≥ 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 m^3/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

CE

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

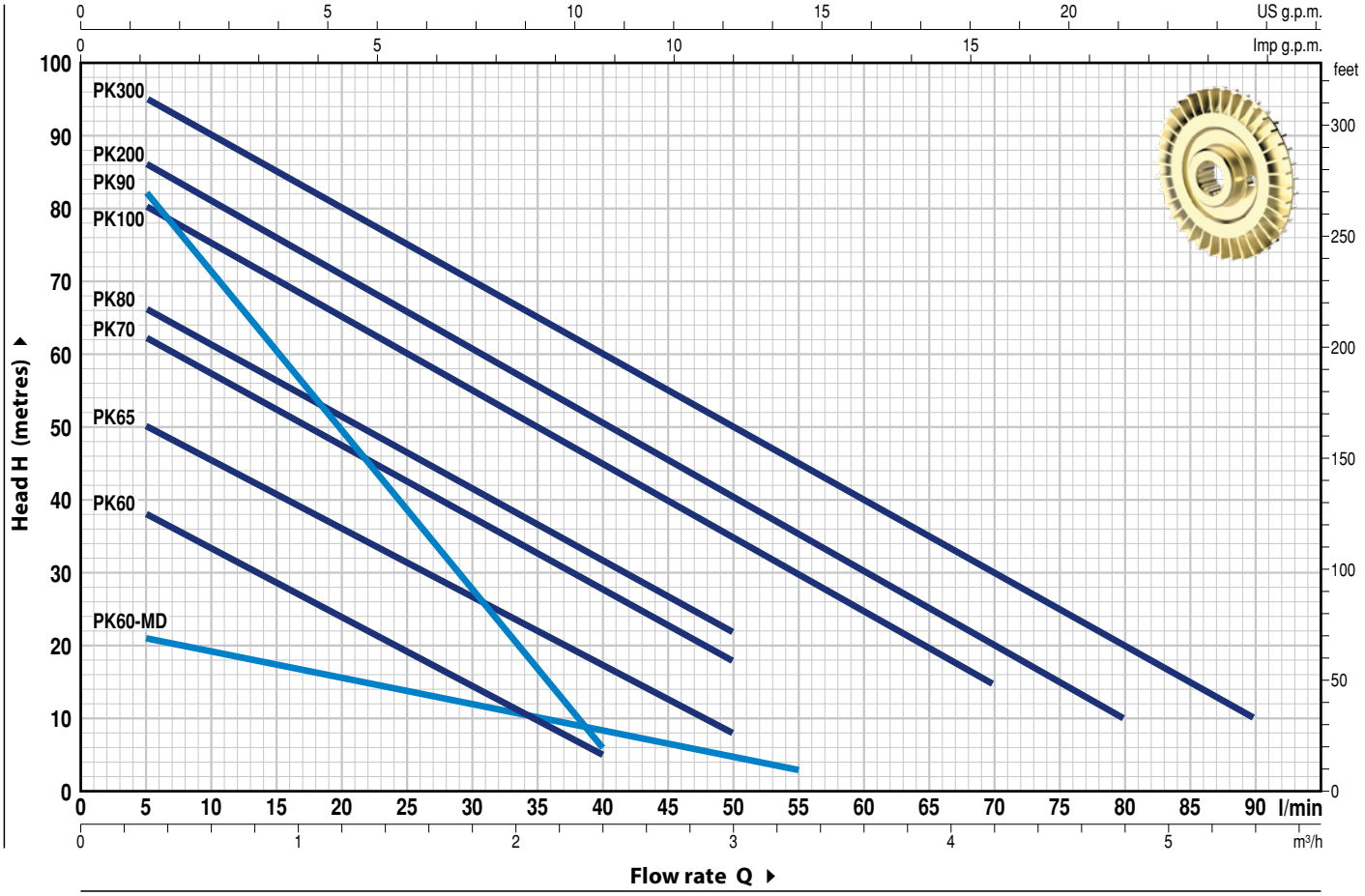
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PK60, PK65)
- Pump body: patent n. 0000275946 (PK60, PK65)
- Registered EU Design n. 004673192
- **PKm 60®** Registered Trade Mark n. 009875394

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 (P2)			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				40	38	33.5	29	24	19.5	15	10	5					
PKm 60-MD	**PK 60-MD**	0.37	0.50	**IE2**			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				65	62	57	52	47	42	37	32	27	18				
PKm 80	**PK 80**	0.75	1		**H**	metres	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	**IE3**			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

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

Pump	*Seal*	*Shaft*	*Materials*		
Model	***Model***	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*
PK 60-65-70-80 **PK 60-MD**	**AR-12**	**Ø 12** mm	Ceramic	Graphite	NBR
PK 90	**ST1-12**	**Ø 12** mm	Silicon carbide	Graphite	NBR
PK 100-200-300	**FN-14**	**Ø 14** mm	Graphite	Ceramic	NBR

6 BEARINGS

Pump	*Model*
PK 60-65 **PK 60-MD**	**6201 ZZ / 6201 ZZ**
PK 70-80-90	**6203 ZZ / 6203 ZZ**
PK 100-200-300	**6204 ZZ / 6204 ZZ**

7 CAPACITOR

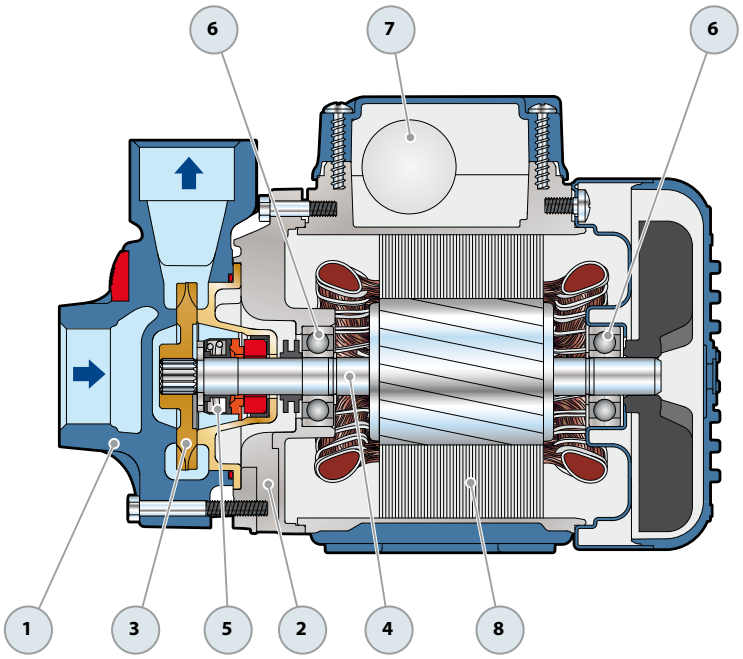
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
PKm 60 **PKm 60-MD**	**10** µF - 450 VL	**25** µF - 250 VL
PKm 65	**14** µF - 450 VL	**25** µF - 250 VL
PKm 70	**16** µF - 450 VL	**60** µF - 300 VL
PKm 80	**20** µF - 450 VL	**60** µF - 300 VL
PKm 90	**20** µF - 450 VL	**60** µF - 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

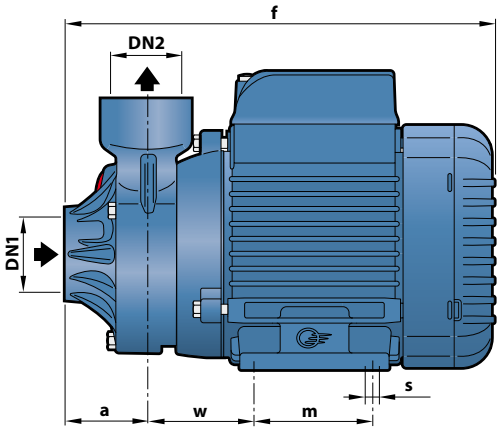
PKm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
PK: three-phase 230/400 V - 50 Hz.

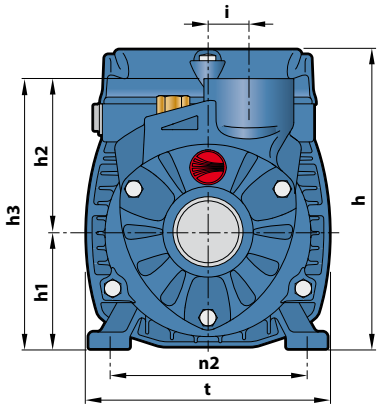
➠ **The three-phase pumps are fitted with high performance motors up to P_2=0.55 kW in class IE2 and from P_2=0.60 kW in class IE3 (IEC 60034-30-1)**

– 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															5.2	5.2
PKm 65	PK 65				237	152	63		138		80	120	100			7.0	6.3
PKm 70	PK 70			55	285	179 *	71	85	156		90	140	112	62		10.0	10.0
PKm 80	PK 80															9.9	10.0
PKm 90	PK 90	¾"	¾"	46	278			84	155	19						10.2	10.1
PKm 100	PK 100	1"	1"	62	356	212	80	88	168	19	100	152	125	95	9	15.0	14.9
PKm 200	PK 200															15.9	15.9
PKm 300	PK 300				376											—	18.6

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

ABSORPTION

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

MODEL	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 m^3/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

CE

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

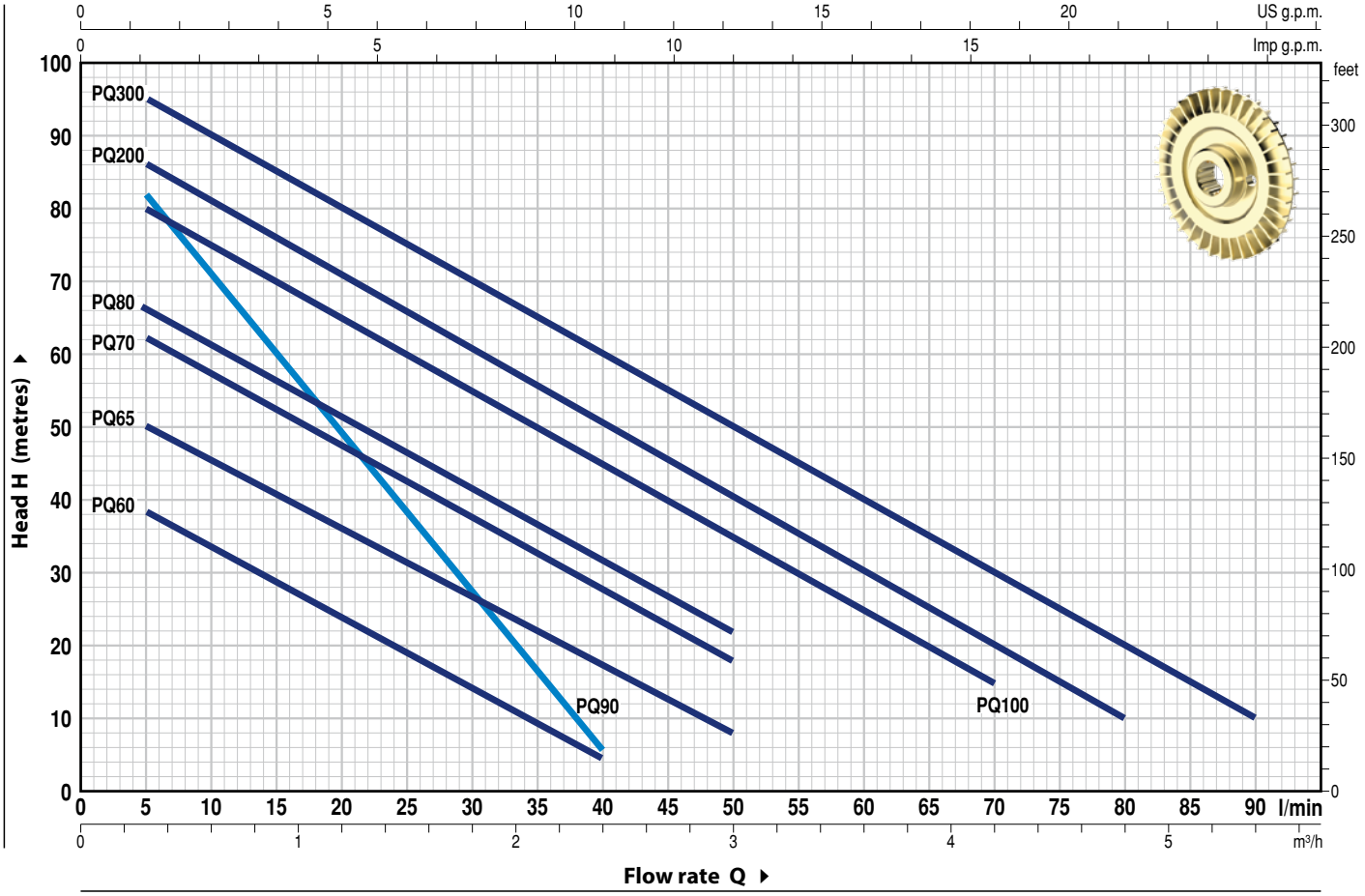
- Motor bracket: patent n. IT1243605
- Shaft: patent n 0000275945 (PQ60, PQ65)
- Registered EU Design n. 002146548
- PQm 60® Registered Trade Mark n. 0001520591

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 (P2)			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0	3.6	4.2	4.8	5.4
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**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

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*	
Model	***Model***	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*
PQ 60-65	**AR-12**	**Ø 12** mm	Ceramic	Graphite	NBR
PQ 70-80-90	**ST1-12**	**Ø 12** mm	Silicon carbide	Graphite	NBR
PQ 100-200-300	**FN-14**	**Ø 14** mm	Graphite	Ceramic	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

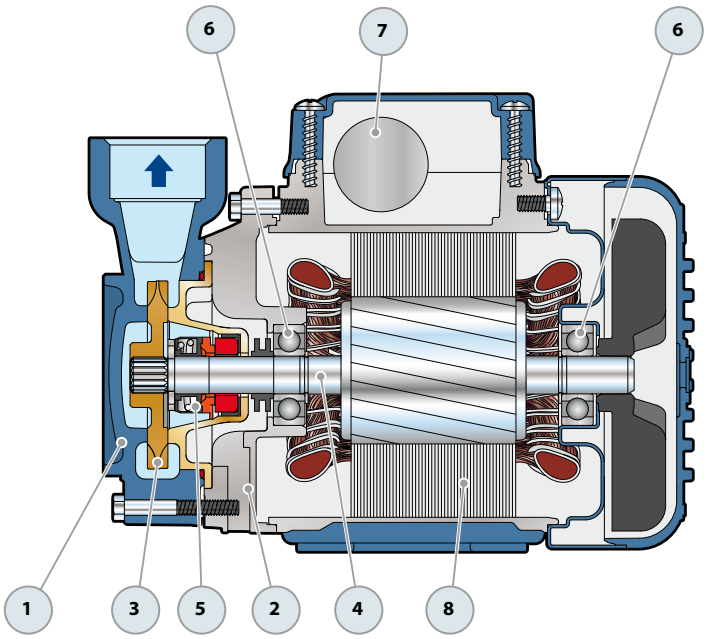
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
PQm 60	**10** µF - 450 VL	**25** µF - 250 VL
PQm 65	**14** µF - 450 VL	**25** µF - 250 VL
PQm 70	**16** µF - 450 VL	**60** µF - 300 VL
PQm 80	**20** µF - 450 VL	**60** µF - 300 VL
PQm 90	**20** µF - 450 VL	**60** µF - 300 VL
PQm 100	**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

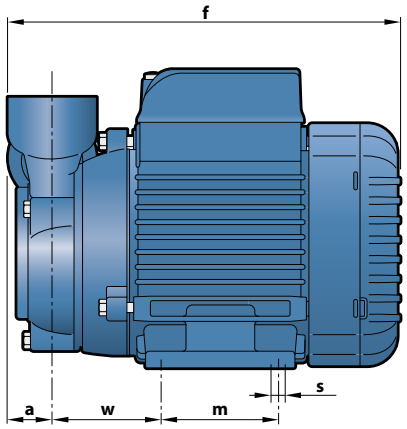
PQm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
PQ: three-phase 230/400 V - 50 Hz.

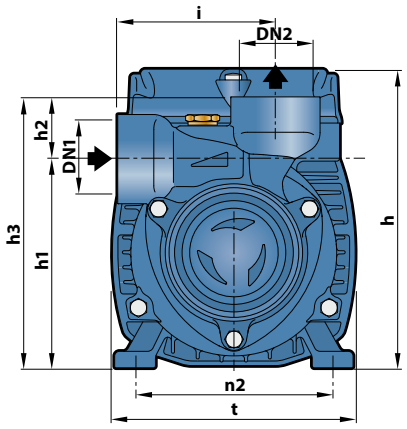
➠ **The three-phase pumps are fitted with high performance motors up to P_2=0.55 kW in class IE2 and from P_2=0.60 kW in class IE3 (IEC 60034-30-1)**

– 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~
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**															**9.7**	**9.7**
PQm 90	**PQ 90**	**¾"**	**¾"**				126	27	153	84						**9.9**	**8.9**
PQm 100	**PQ 100**	**1"**	**1"**	29	322.5	211	140	28	168	88	100	164	125	95	9	**14.1**	**14.0**
PQm 200	**PQ 200**															**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**

PKS

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

CE

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

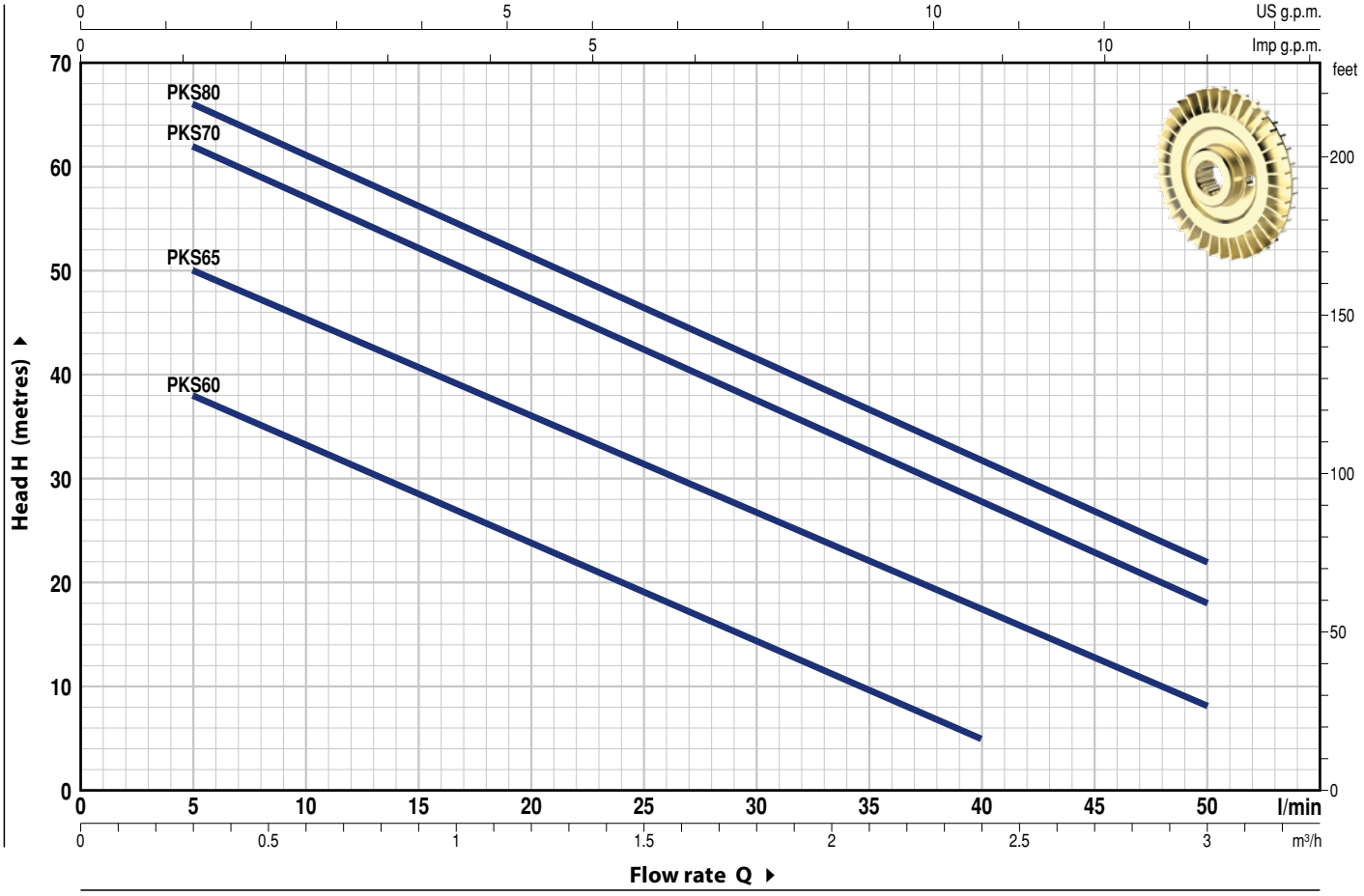
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PKS60, PKS65)

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



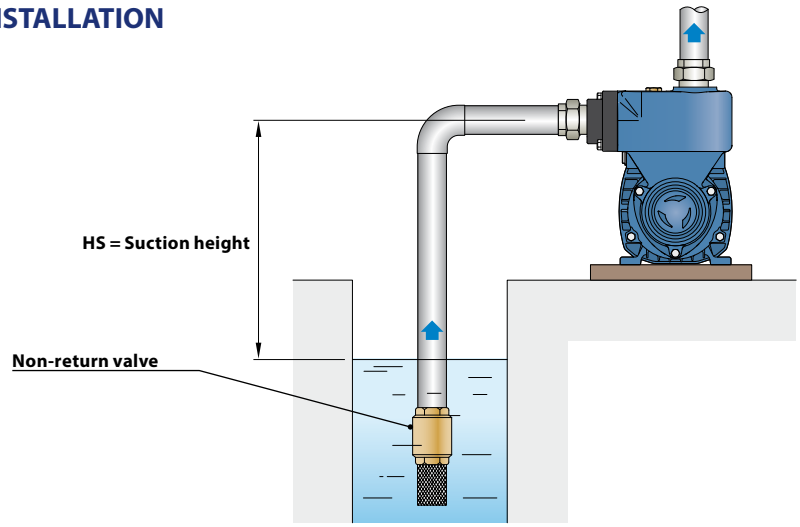
MODEL		POWER (P2)			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**
PKSm 60	**PKS 60**	0.37	0.50	IE2	H	metres	40	38	33.5	29	24	19.5	15	10	5		
PKSm 65	**PKS 65**	0.55	0.75				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

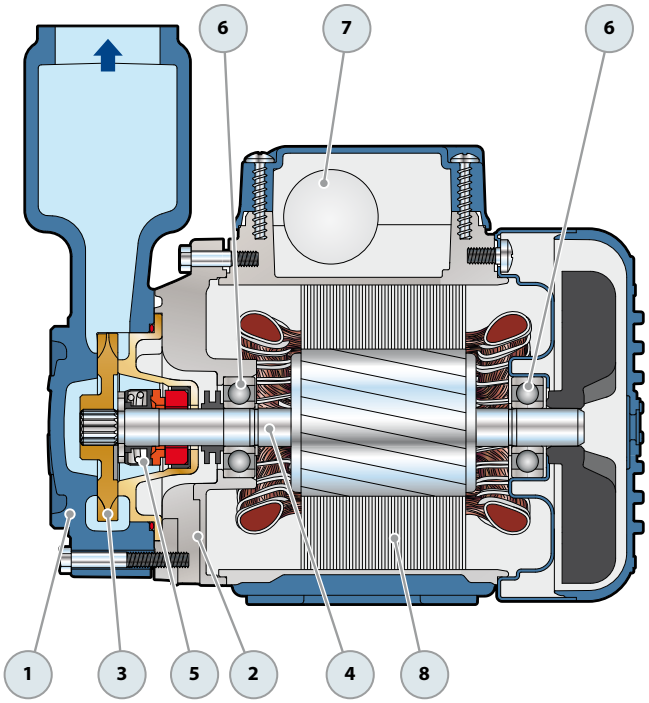
Pump	***Capacitance***	
Single-phase	***(230 V or 240 V)***	***(110 V)***
PKSm 60	**10** µF - 450 VL	**25** µF - 250 VL
PKSm 65	**14** µF - 450 VL	**25** µF - 250 VL
PKSm 70	**16** µF - 450 VL	**60** µF - 300 VL
PKSm 80	**20** µF - 450 VL	**60** µF - 300 VL

8 ELECTRIC MOTOR

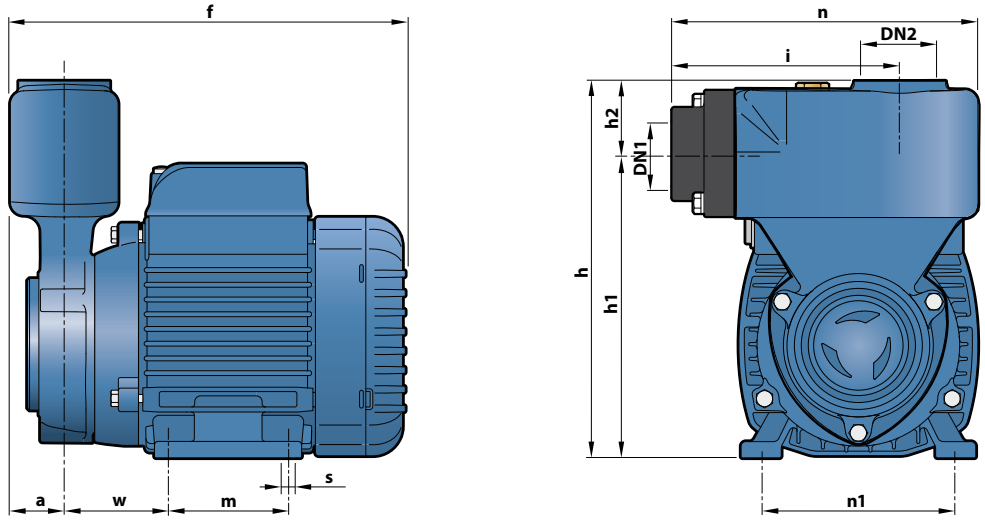
PKSm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
PKS: three-phase 230/400 V - 50 Hz.

➠ **The three-phase pumps are fitted with high performance motors up to 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	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**

CKR

Self-priming liquid ring pumps

With double anti-seize frontal inserts

Clean water
Civil use
Industrial use
Agricultural use

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

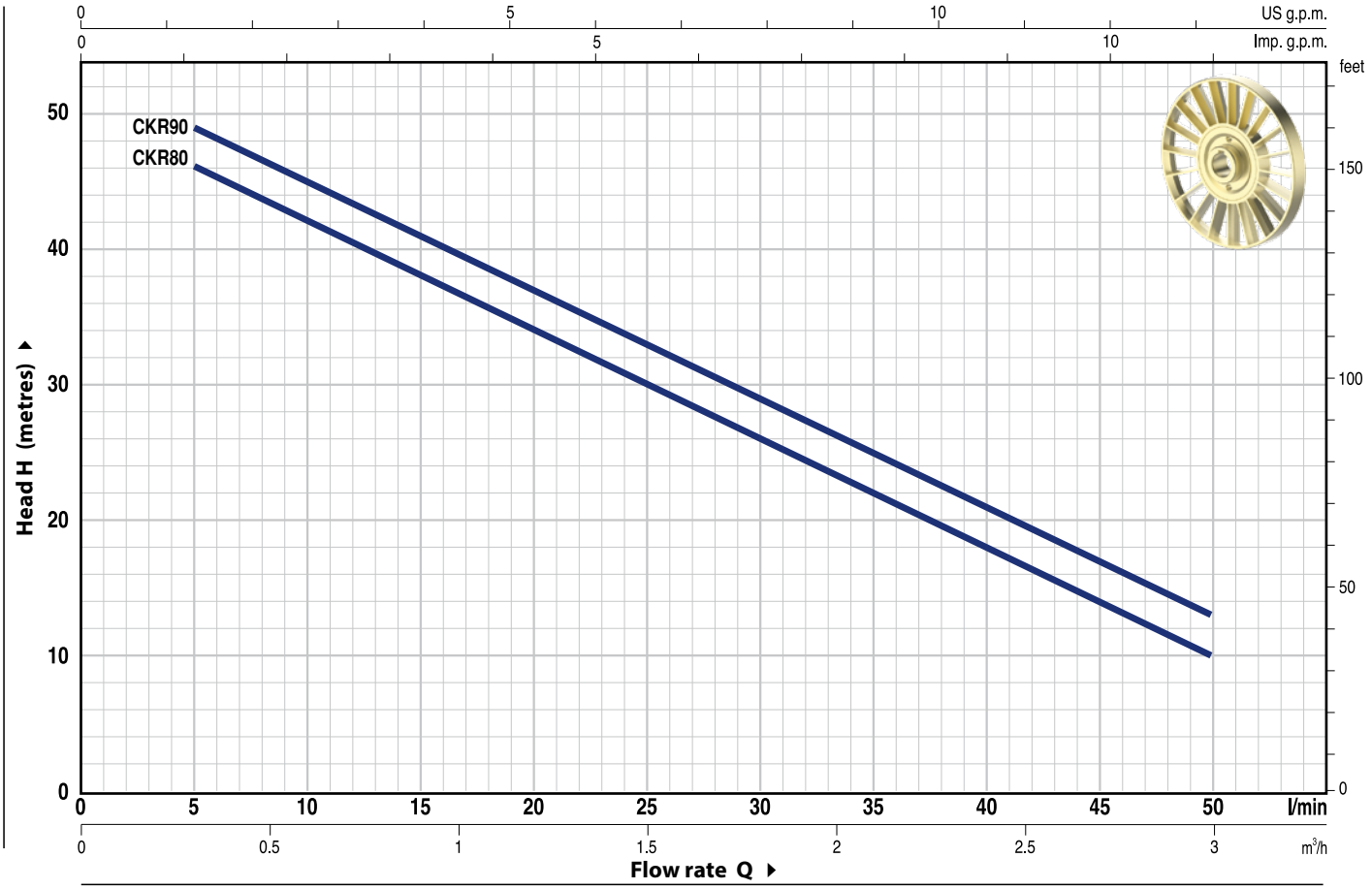
- Motor bracket: patent n. IT1243605
- Registered EU Design n. 342159-0008

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



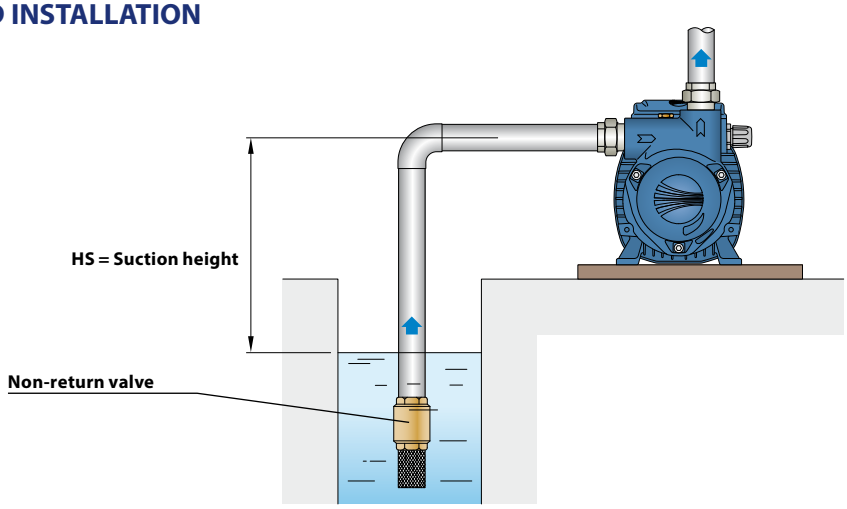
MODEL		POWER (P2)			Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**
CKRm 80	**CKR 80**	0.55	0.75	**IE3**	**H**	metres	48	46	42	38	34	30	26	22	18	10
CKRm 90	**CKR 90**	0.75	1				51	49	45	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

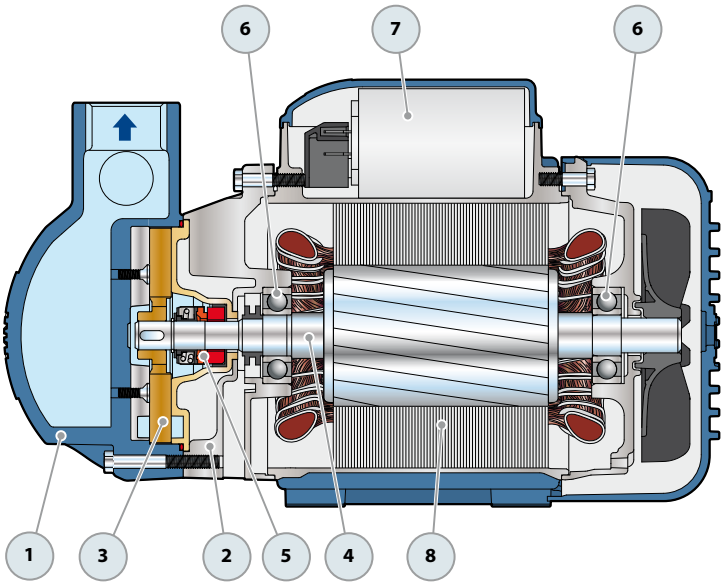
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
CKRm 80	**16** µF - 450 VL	**60** µF - 300 VL
CKRm 90	**20** µF - 450 VL	**60** µF - 300 VL

8 ELECTRIC MOTOR

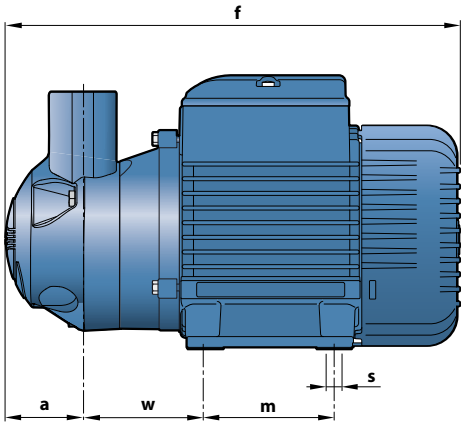
CKRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
CKR: three-phase 230/400 V - 50 Hz.

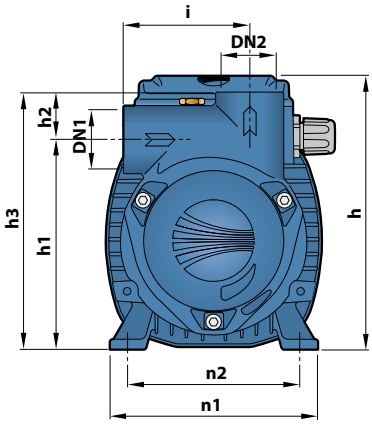
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– 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

CK

Self-priming liquid ring pumps

Clean water
Domestic use
Civil use
Agricultural use

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m^3/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

CE

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

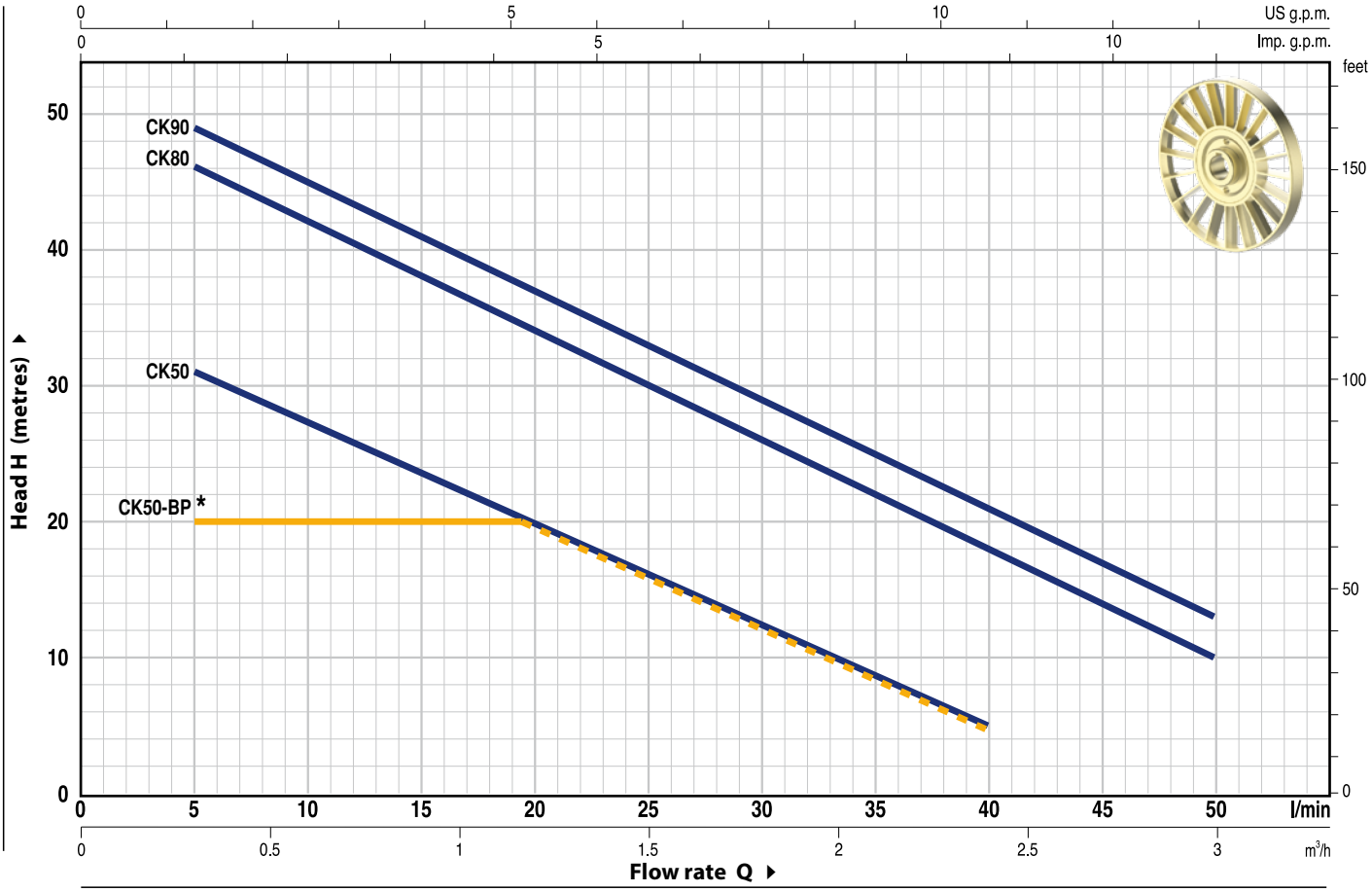
- Motor bracket: patent n. IT1243605
- CK 80/90 Registered EU Design n. 342159-0008

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 (P2)			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

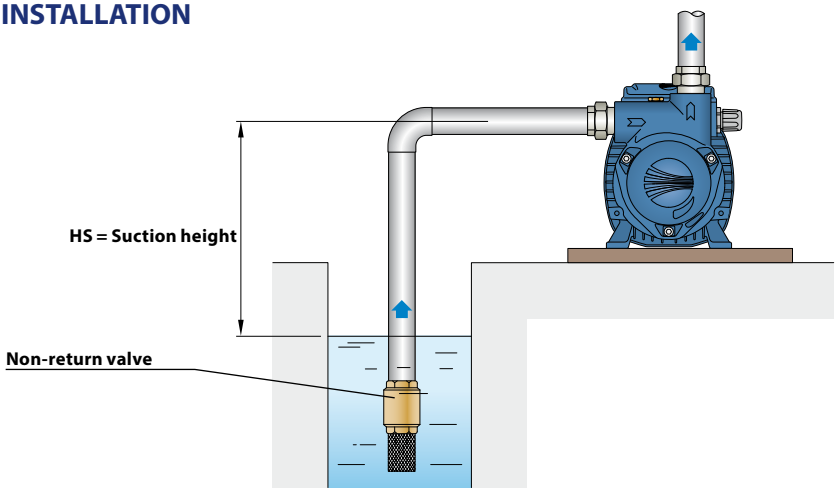
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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 **CK 50-BP**	**6201 ZZ / 6201 ZZ**
CK 80 **CK 90**	**6203 ZZ / 6203 ZZ**

7 CAPACITOR

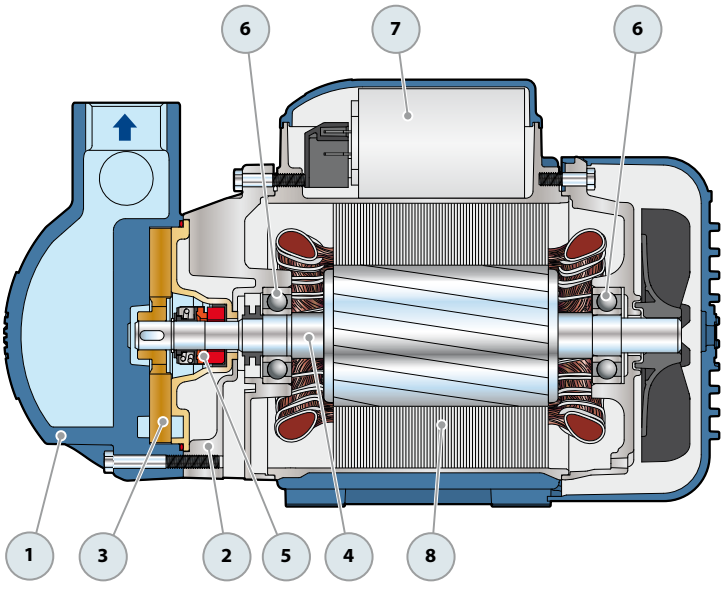
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
CKm 50 **CKm 50-BP**	**12.5** µF - 450 VL	**25** µF - 250 VL
CKm 80	**16** µF - 450 VL	**60** µF - 250 VL
CKm 90	**20** µF - 450 VL	**60** µF - 250 VL

8 ELECTRIC MOTOR

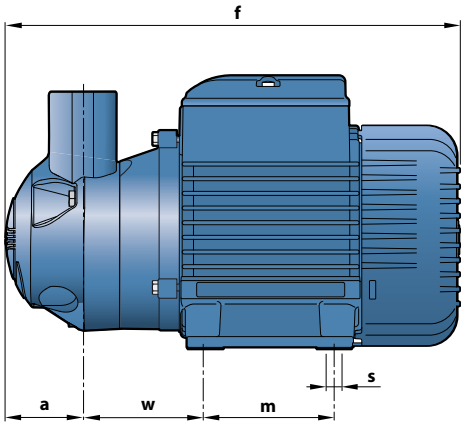
CKm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
CK: three-phase 230/400 V - 50 Hz.

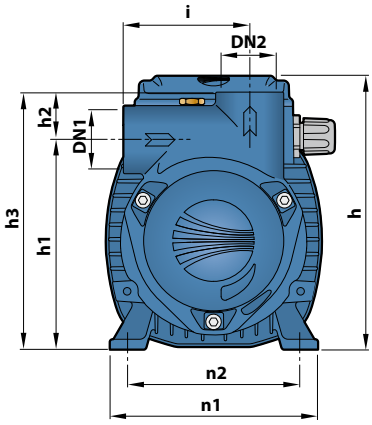
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– 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 m^3/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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

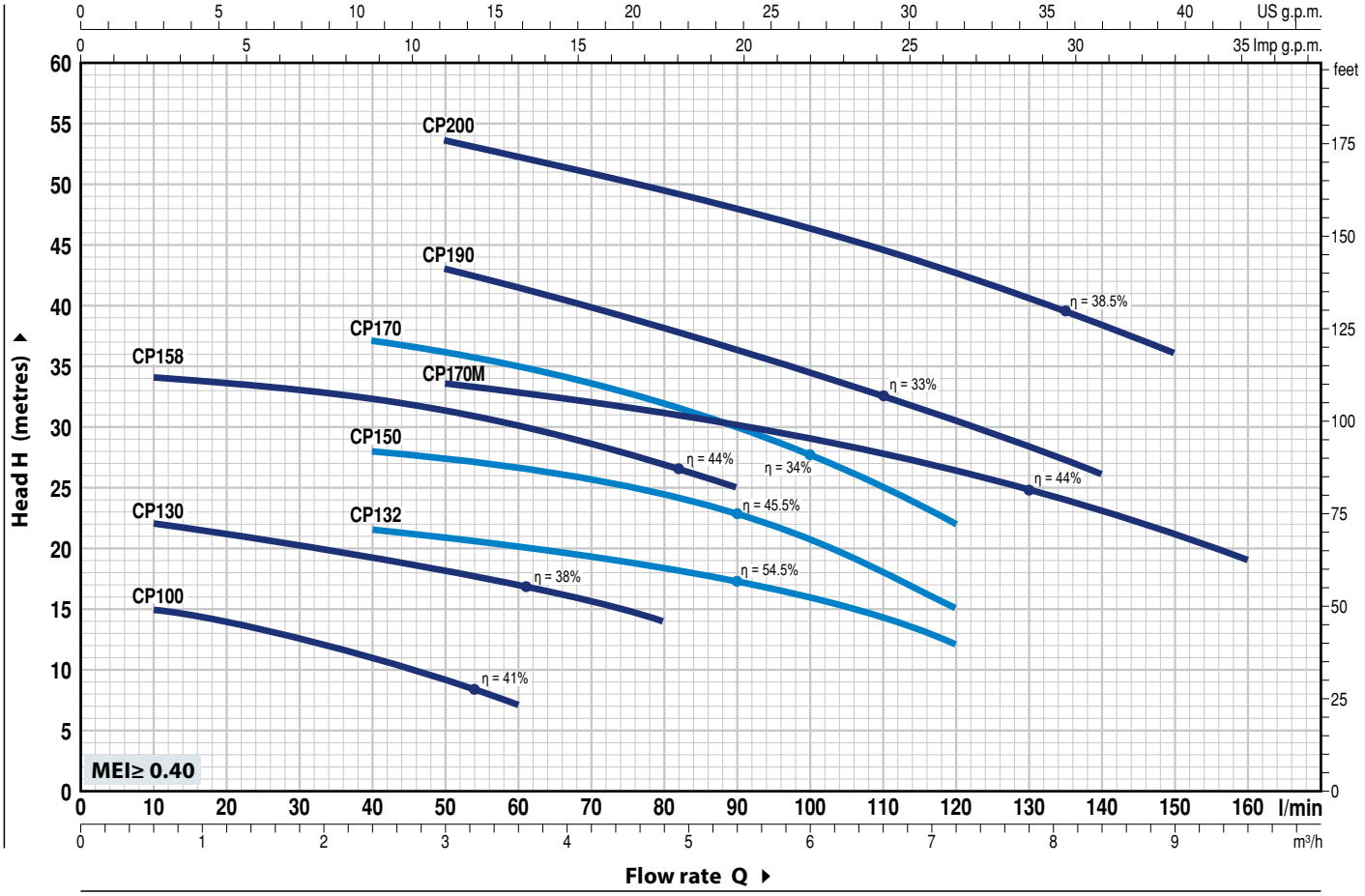
- Registered Trade Mark n. 0001516350 CPm158
- Registered EU Design n. 002098434

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 (P2)			Q m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6
Single-phase	**Three-phase**	**kW**	**HP**	▲	l/min	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**	**140**	**150**	**160**
CPm 100	**CP 100**	0.25	0.33	**IE2**	**H** metres	16	15	14	12.5	11	9	7										
CPm 130	**CP 130**	0.37	0.50			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	**IE3**		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

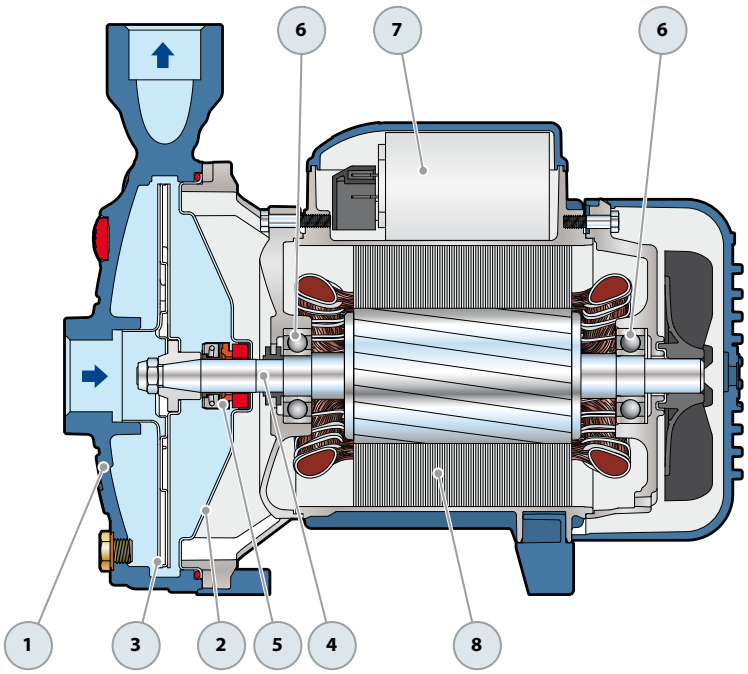
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
CPm 100	**10** µF - 450 VL	**25** µF - 250 VL
CPm 130	**10** µF - 450 VL	**25** µF - 250 VL
CPm 132	**14** µF - 450 VL	**25** µF - 250 VL
CPm 150-158	**20** µF - 450 VL	**60** µF - 300 VL
CPm 170-170M	**25** µF - 450 VL	**60** µF - 250 VL
CPm 190	**45** µF - 450 VL	**80** µF - 250 VL
CPm 200	**50** µF - 450 VL	–

8 ELECTRIC MOTOR

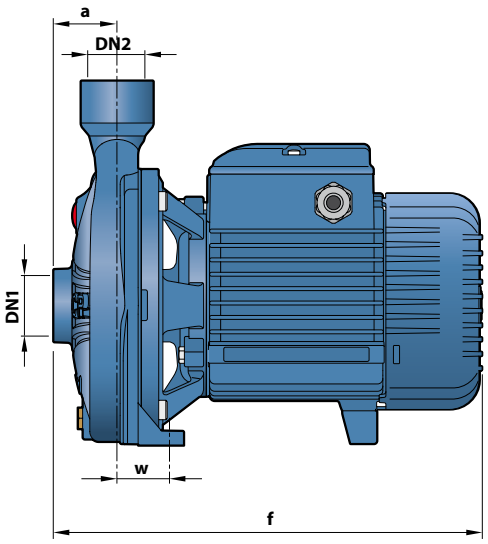
CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
CP: three-phase 230/400 V - 50 Hz.

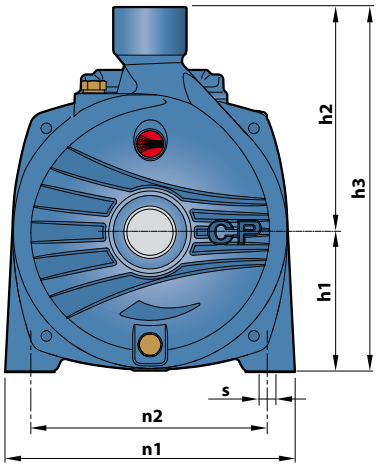
➠ **The three-phase pumps are fitted with high performance motors up to P2=0.25 kW in class IE2 and from P2=0.37 kW in class IE3 (IEC 60034-30-1)**

– Insulation: class F
– Protection: IP X4



DIMENSIONS AND WEIGHT





MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	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		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

CP

Centrifugal pumps

Clean water
Civil use
Agricultural use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **900 l/min** (54 m^3/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

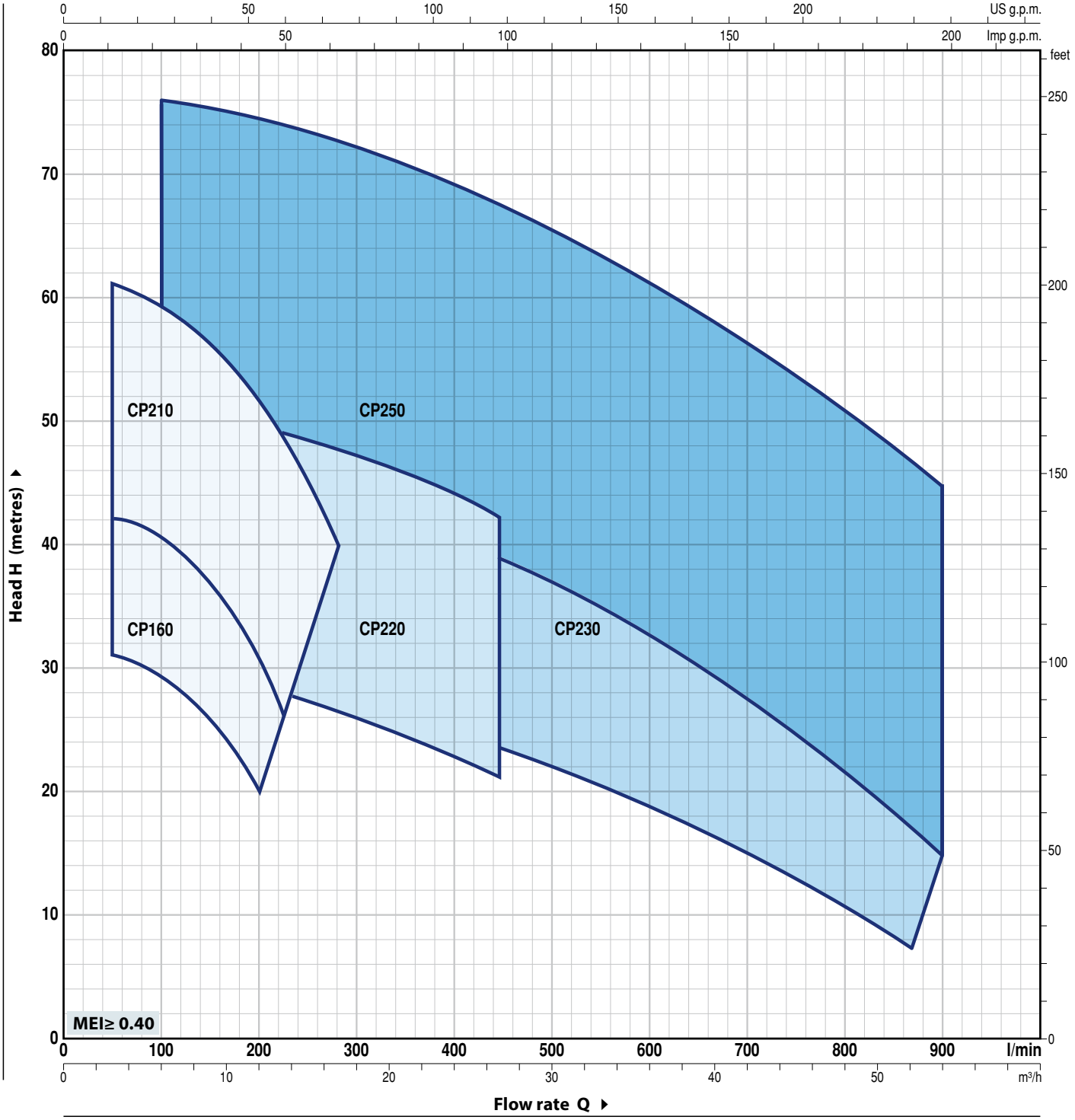
- Registered EU Design n. 002098434 for CP 160, CP210, CP250
- Registered Italian model n. 72753 for CP 220, CP 230

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

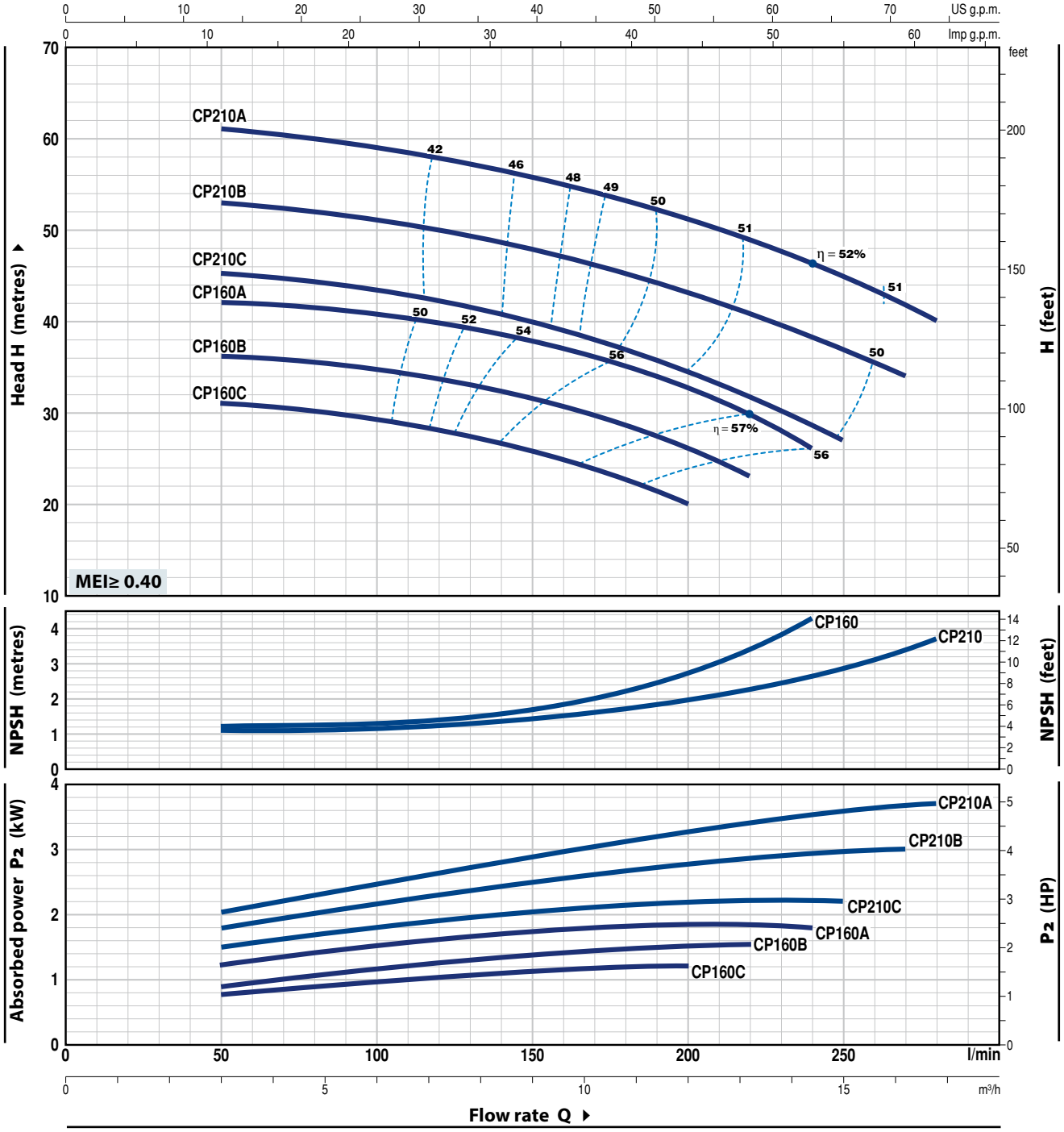
50 Hz **n= 2900 min^{-1}** HS= 0 m



CP 160-210

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL		POWER (P2)			Q	m³/h	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**	▲		l/min	**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

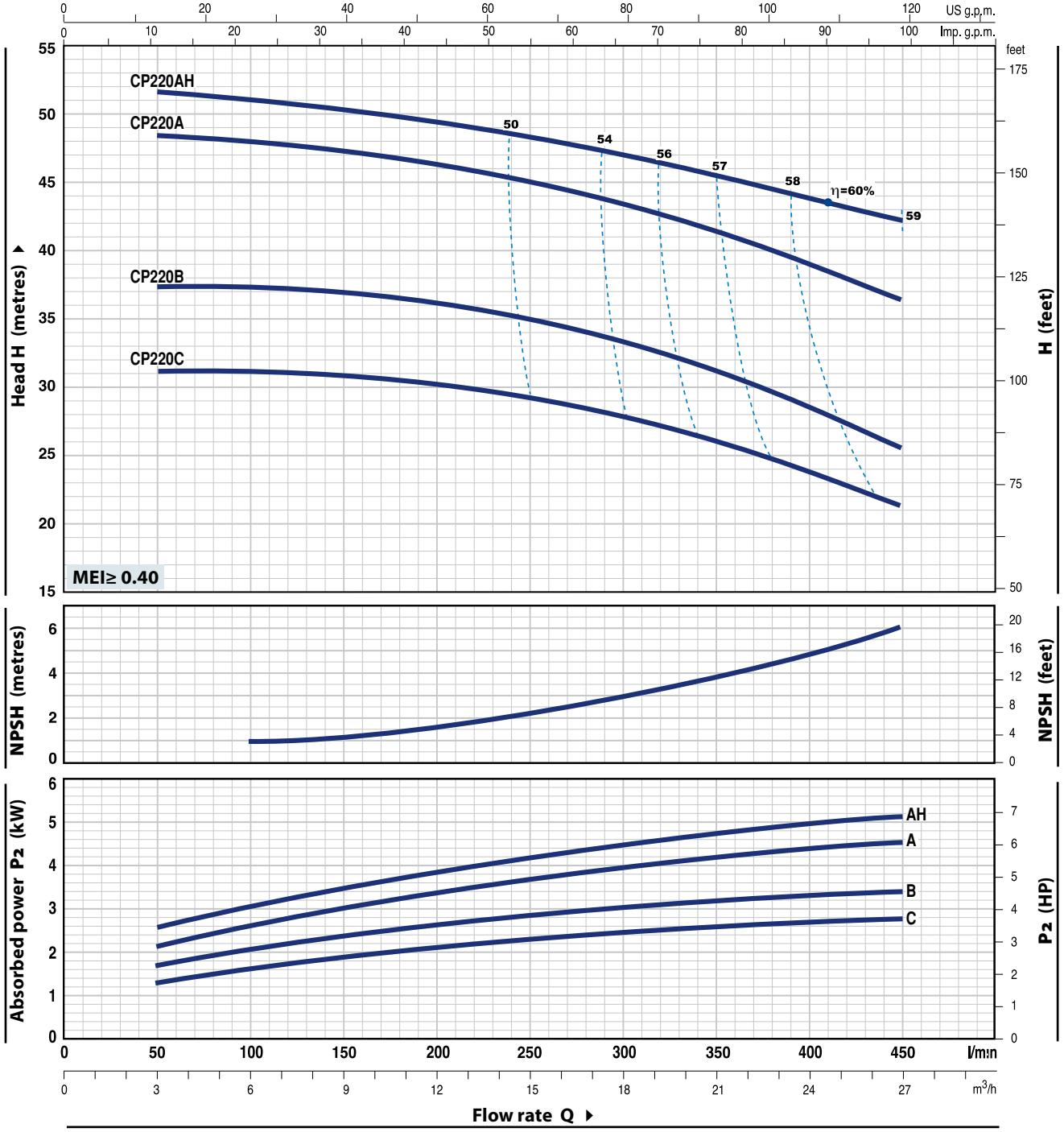
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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 (P2)			Q	m³/h	0	3	6	12	18	24	27
Single-phase	Three-phase	kW	HP	▲		l/min	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

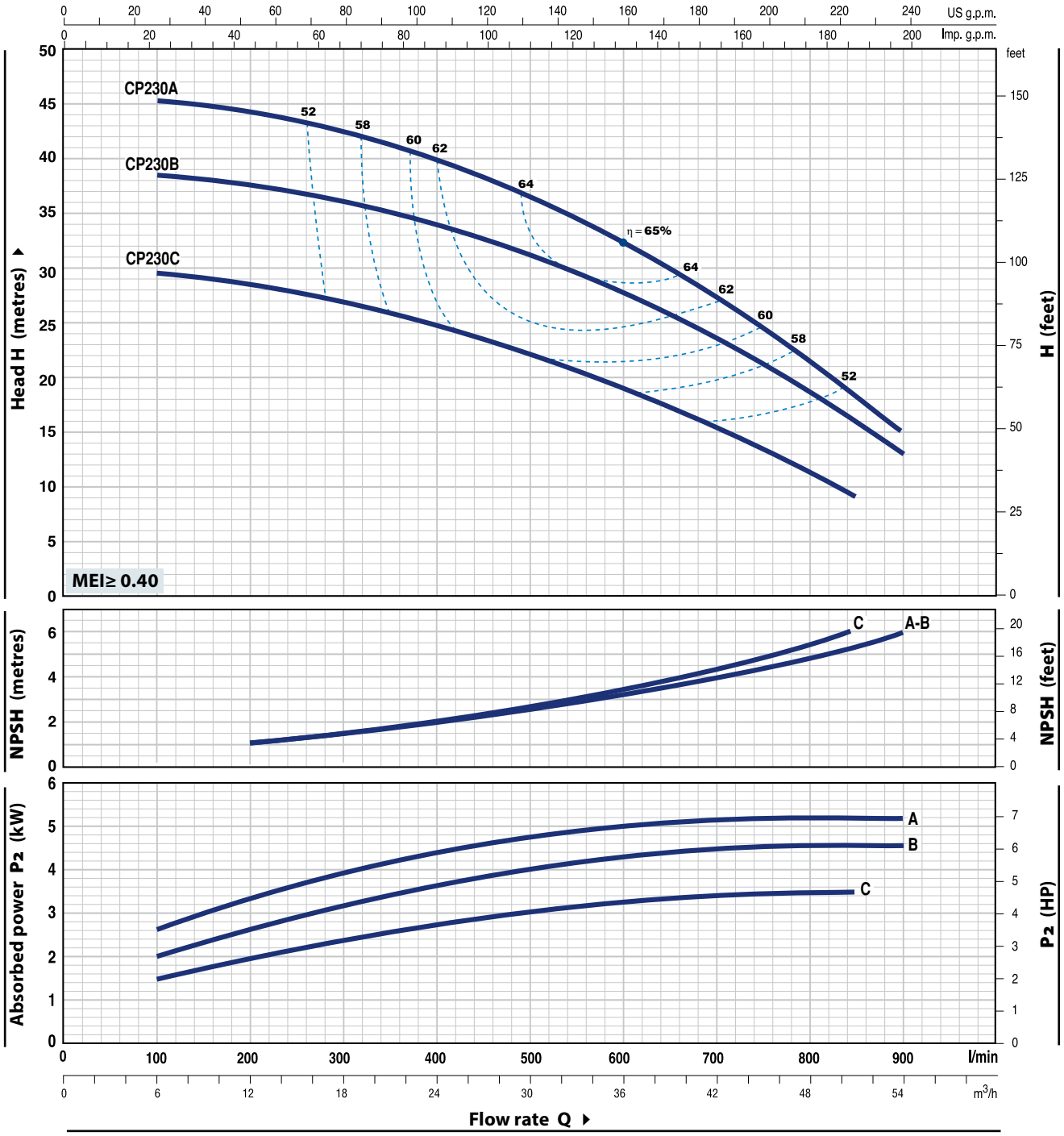
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

CP 230

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL	POWER (P2)			Q	m³/h	0	6	12	18	24	30	36	42	48	51	54
Three-phase	kW	HP	▲		l/min	0	100	200	300	400	500	600	700	800	850	900
CP 230C	3	4				30	29.5	28.5	27	25	22	19.5	15.5	11.5	9	
CP 230B	4	5.5	IE3	H	metres	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

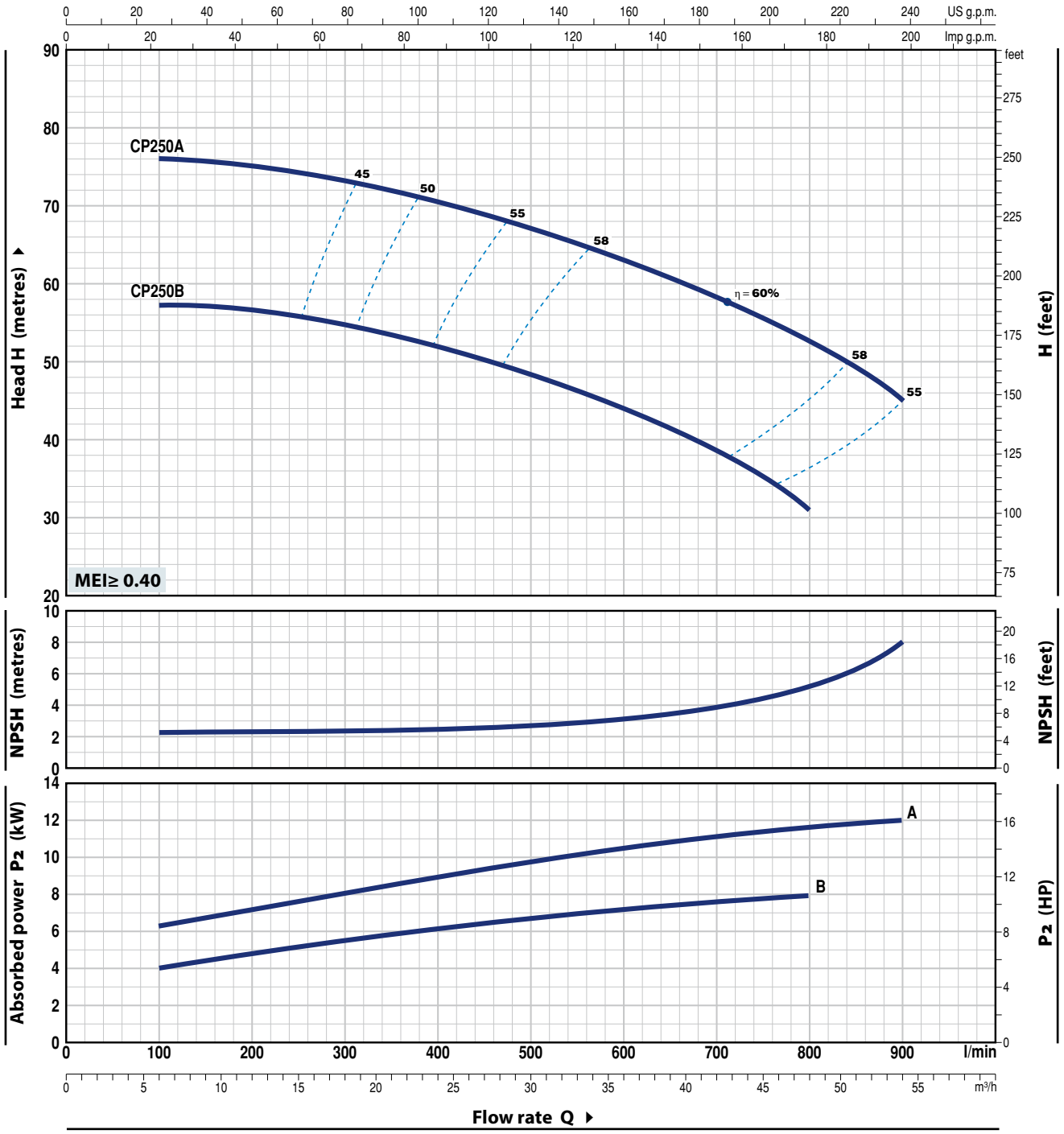
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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 (P2)			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

Pump	*Seal*	*Shaft*	*Materials*		
Model	*Model*	*Diameter*	*Stationary ring*	*Rotational ring*	*Elastomer*
CP 160	**FN-18**	**Ø 18** mm	Graphite	Ceramic	NBR
CP 210	**FN-24**	**Ø 24** mm	Graphite	Ceramic	NBR

6 BEARINGS

Pump	*Model*
CP 160	**6204 ZZ / 6204 ZZ**
CP 210	**6206 ZZ - C3 / 6205 ZZ**

7 CAPACITOR

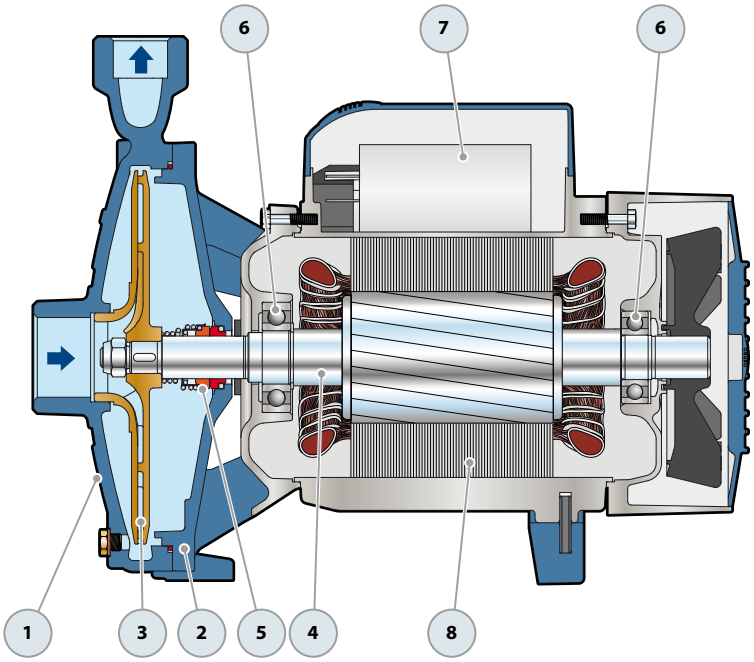
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
CPm 160C	**31.5** µF - 450 VL	**60** µF - 250 VL
CPm 160B	**45** µF - 450 VL	**80** µF - 250 VL
CPm 210C	**70** µF - 450 VL	**–**

8 ELECTRIC MOTOR

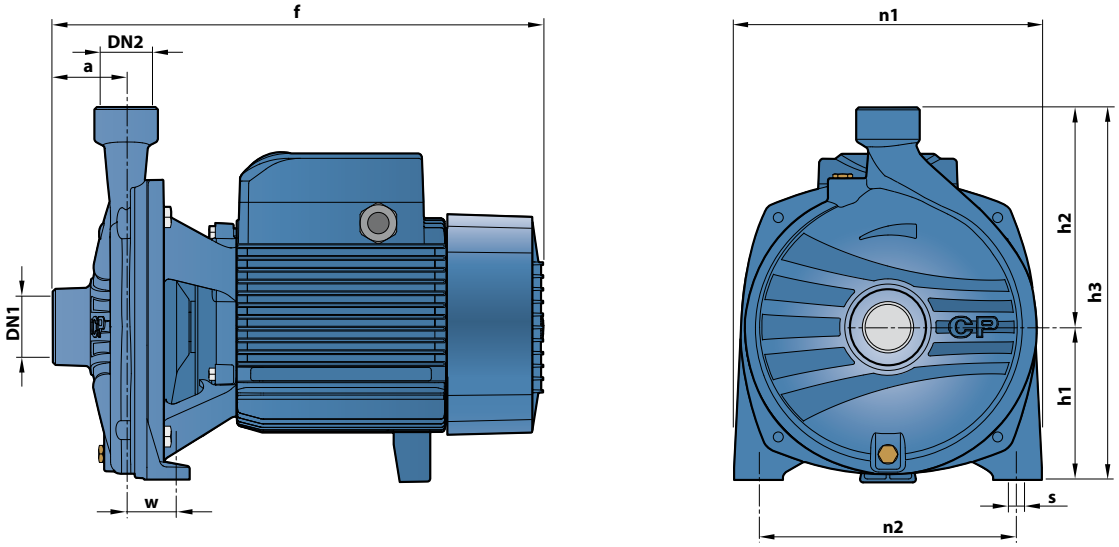
CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding (up to 1.5 kW).
CP: three-phase 230/400 V - 50 Hz.

➠ **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

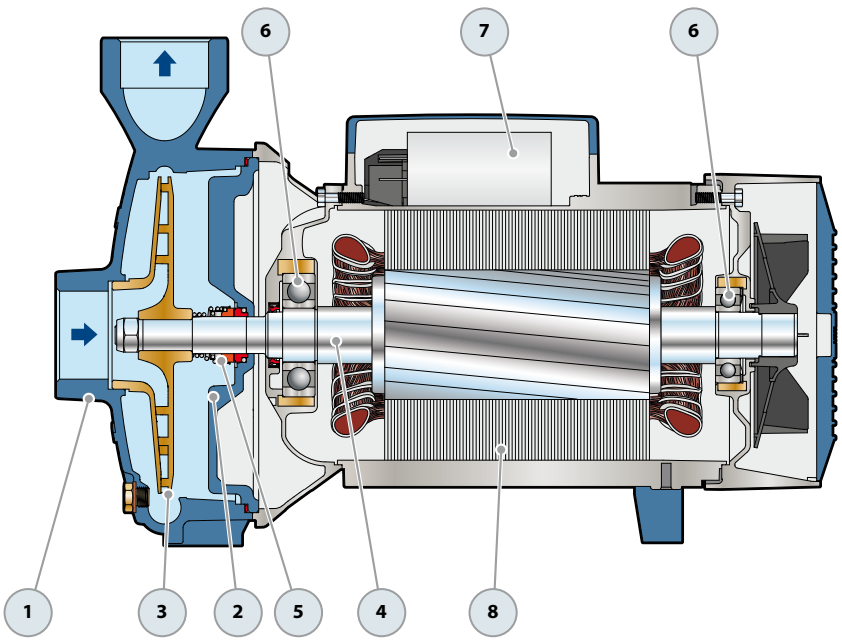
MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CP 160C	**5.7** A	**3.3** A	**1.9** A	**5.5** A	**3.2** A	**1.8** A
CP 160B	**6.9** A	**4.0** A	**2.3** A	**6.7** A	**3.8** A	**2.2** A
CP 160A	**8.9** A	**5.1** A	**2.9** A	**8.3** A	**4.8** A	**2.8** A
CP 210C	**9.2** A	**5.3** A	**3.1** 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

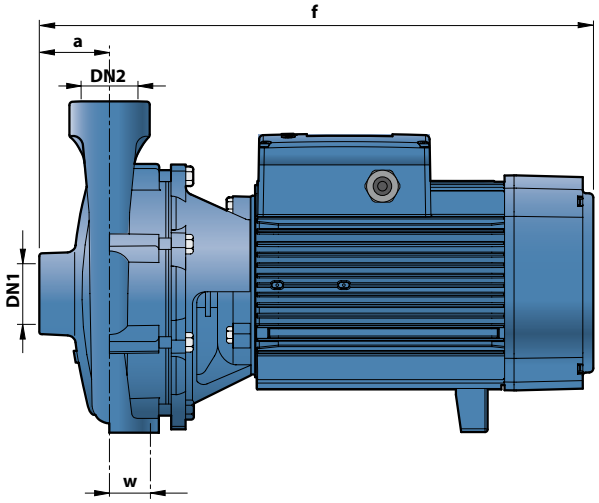
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	**PUMP BODY**	Cast iron complete with threaded ports in compliance with ISO 228/1					
2	**BODY BACKPLATE**	Cast iron					
3	**IMPELLER**	Brass for CP 220, CP 230 Cast iron for CP 250					
4	**MOTOR SHAFT**	Stainless steel AISI 431					
5	**MECHANICAL SEAL**	***Pump***	***Seal***	***Shaft***		*Materials*	
		Model	***Model***	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*
		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***				
		Single-phase	***(230 V or 240 V)***				
		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.					

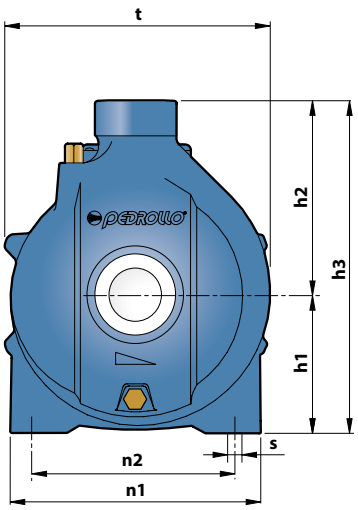
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– 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	136	192	328	273	250	190			–	**41.0**
–	**CP 230A**				505									–	**46.0**
–	**CP 250B**			65	506	160	232	392	317	294	230	45		–	**74.0**
–	**CP 250A**				570									–	**103.0**

ABSORPTION

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

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

CP-ST

Stainless steel centrifugal pumps

Clean water
Domestic use
Agricultural use
Industrial use

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**

PERFORMANCE RANGE

- Maximum flow rate **270 l/min** (16.2 m^3/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**

CONSTRUCTION AND SAFETY STANDARDS

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

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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

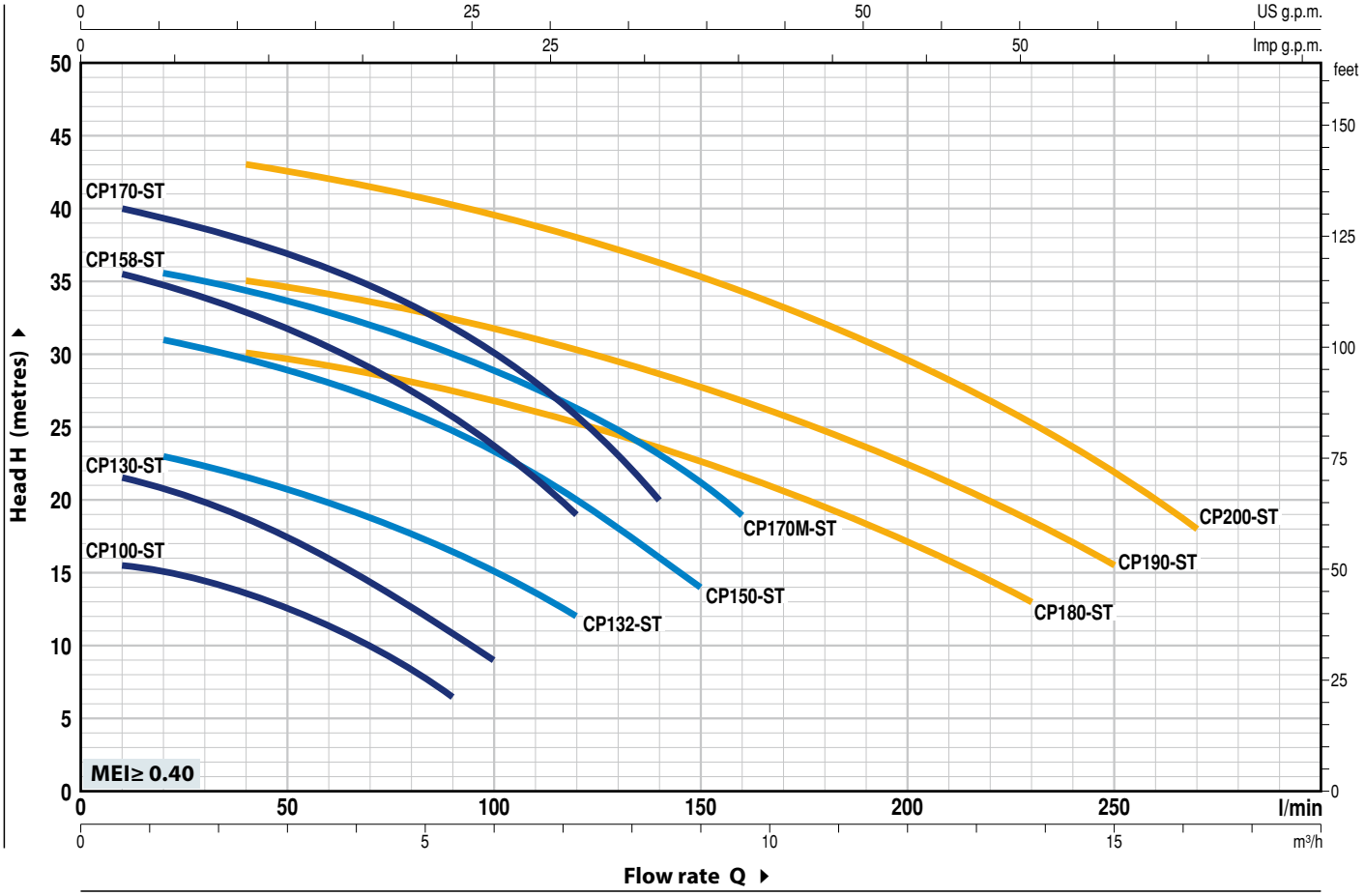
Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. Because of its design features these centrifugal pumps are recommended for use in domestic, agricultural and industrial applications. All the components in contact 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

PERFORMANCE RANGE

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL		POWER (P2)			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			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	**IE3**		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.

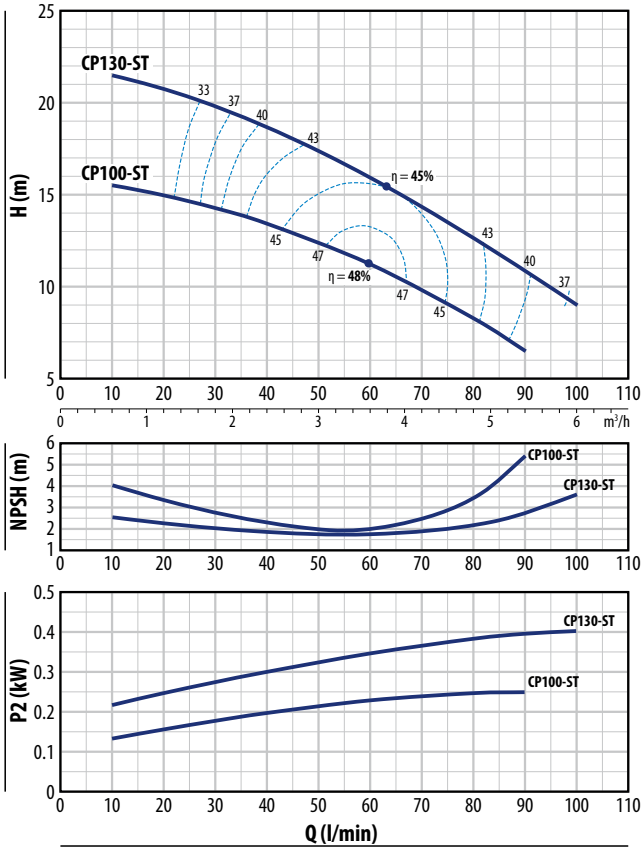
▲ Three-phase motor efficiency class (IEC 60034-30-1)

CP-ST

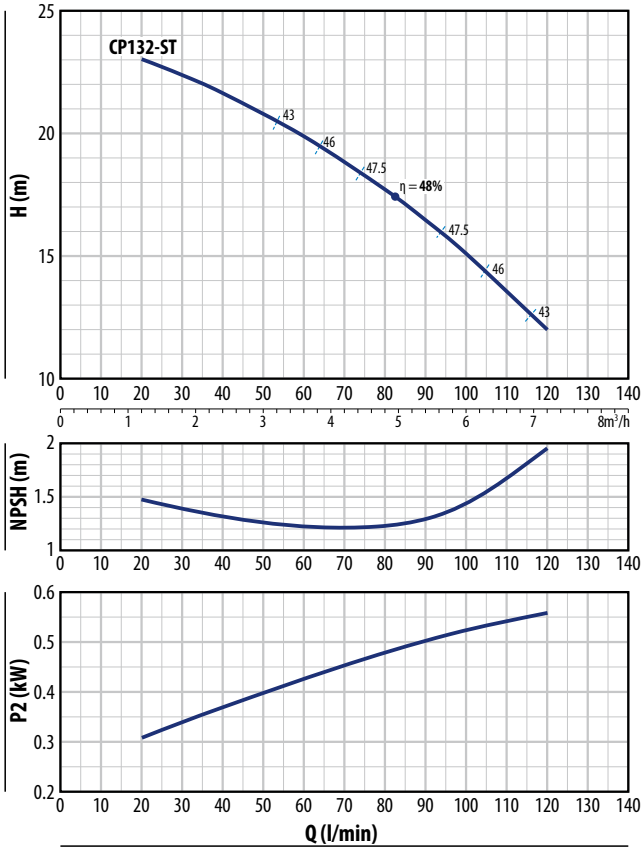
CHARACTERISTIC CURVES

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

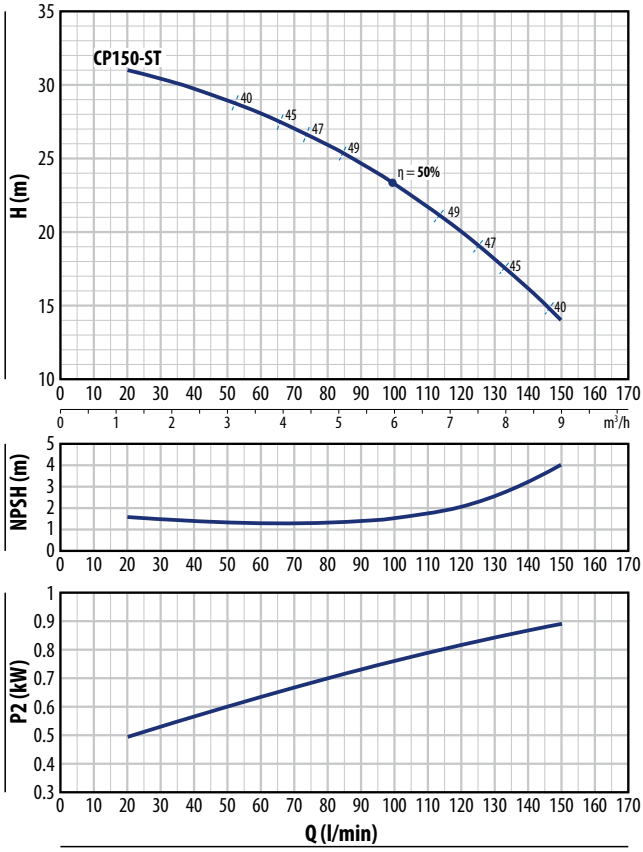
CP 100-ST CP130–ST



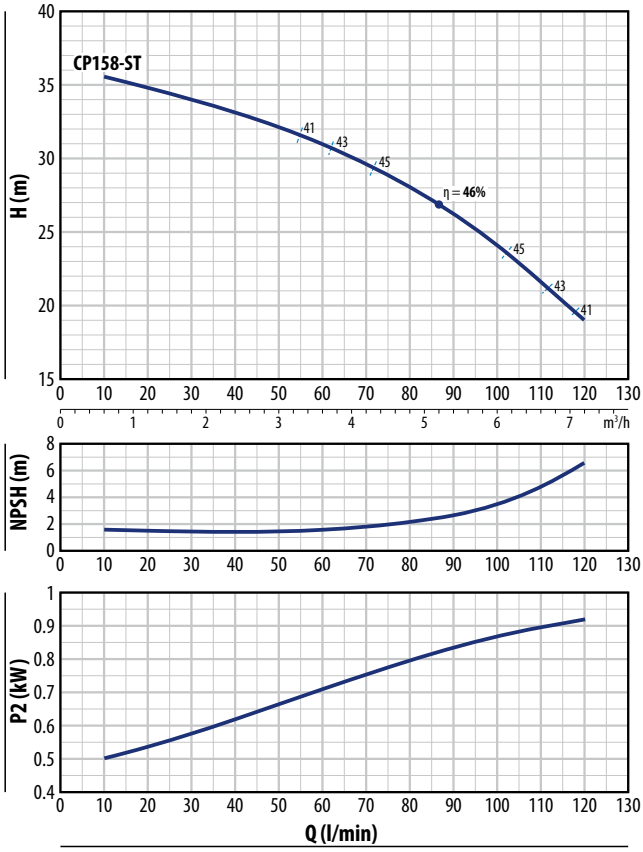
CP 132-ST



CP 150-ST



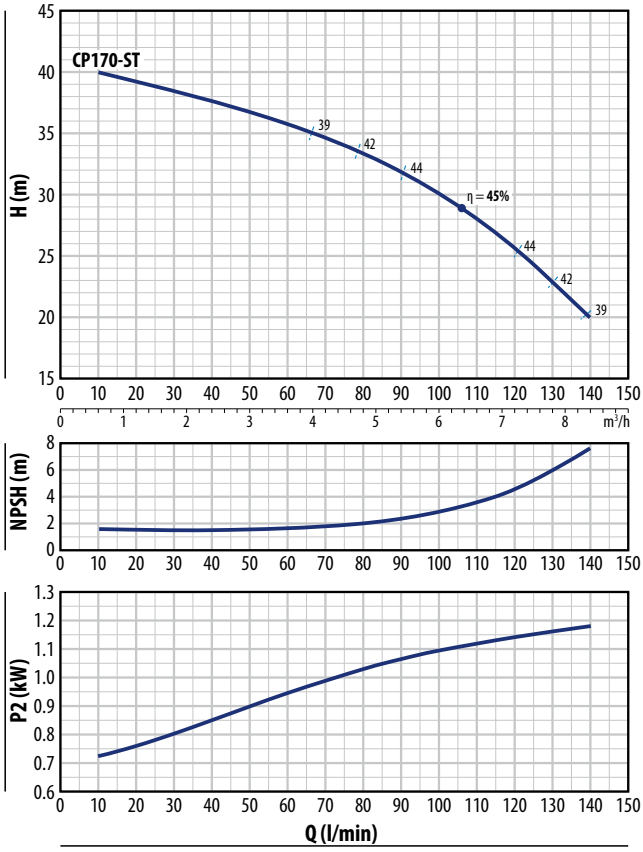
CP 158-ST



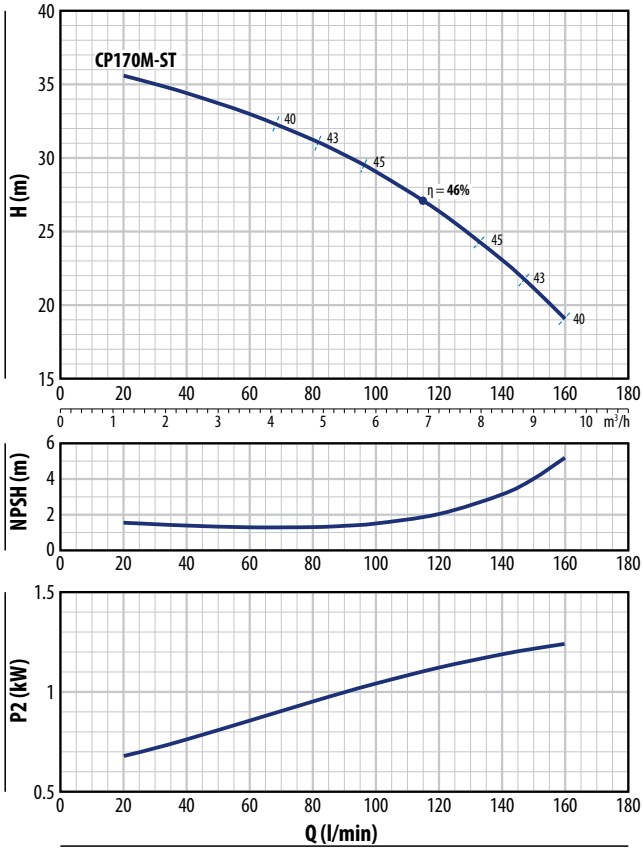
CHARACTERISTIC CURVES

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

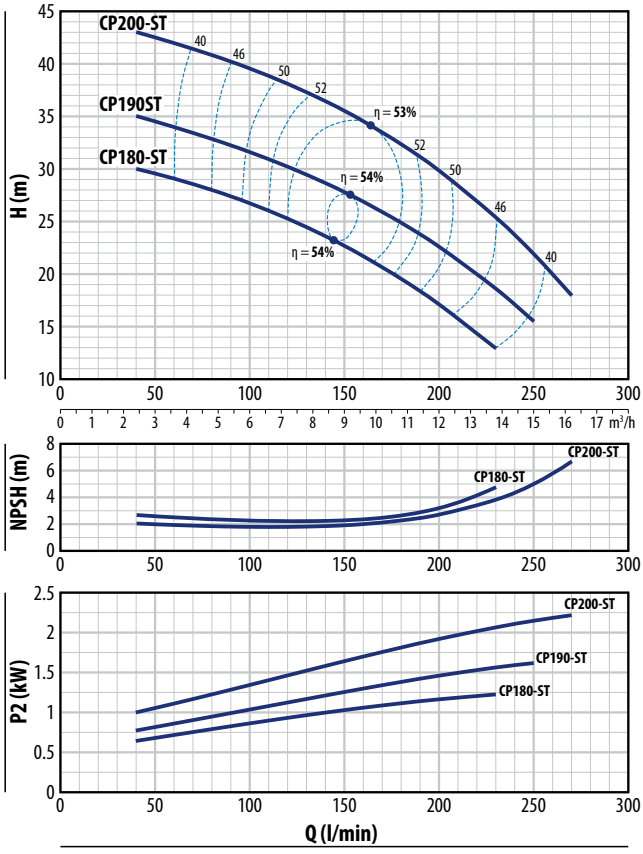
CP 170-ST



CP 170M-ST



CP 180-190-200-ST



CP-ST4

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*			
Model	*Model*	*Diameter*	*Stationary ring*	*Rotational ring*	*Elastomer*	*Spring*
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

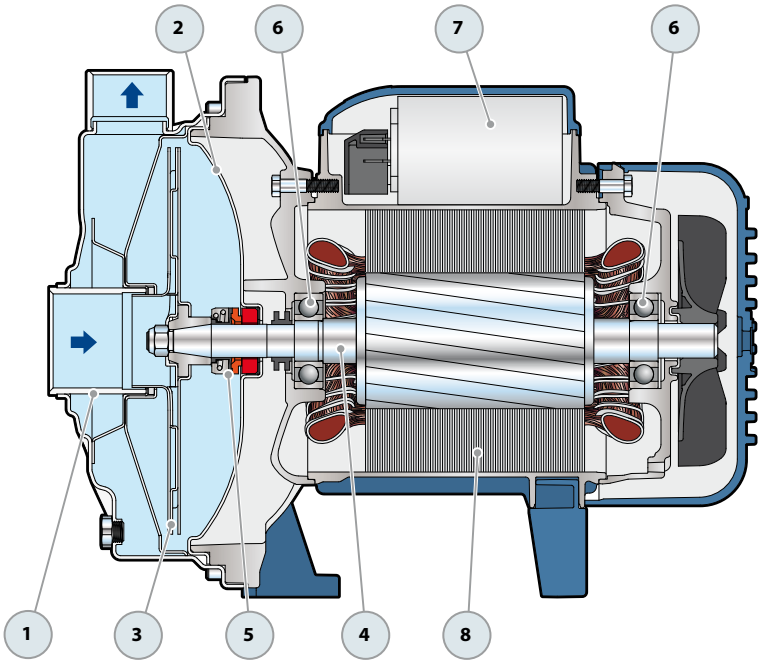
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
CPm 100-ST4	**10** µF - 450 VL	**25** µF - 250 VL
CPm 130-ST4	**10** µF - 450 VL	**25** µF - 250 VL
CPm 132-ST4	**14** µF - 450 VL	**25** µF - 250 VL
CPm 150-ST4, CPm 158-ST4	**20** µF - 450 VL	**60** µF - 300 VL
CPm 170-ST4, CPm 170M-ST4	**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

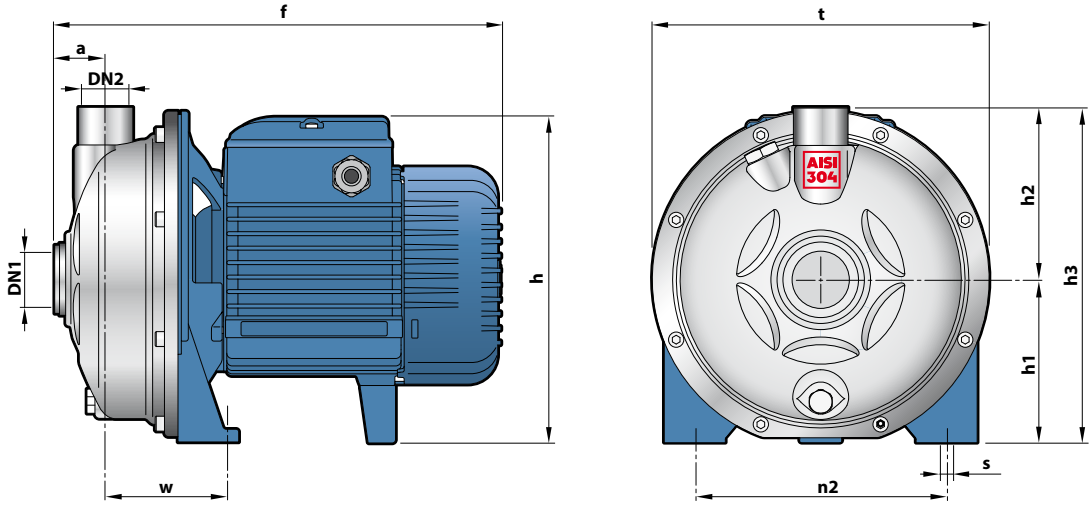
CPm-ST4: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
CP-ST4: three-phase 230/400 V - 50 Hz.

➠ **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	1¼"	1"	31.5	266	181	92	93.5	185.5	120	181	68.5	9	5.7	5.7
CPm 130-ST4	CP 130-ST4													6.5	6.5
CPm 132-ST4	CP 132-ST4													7.2	7.2
CPm 150-ST4	CP 150-ST4			34	296	219 *	107	112	219	165	221	80.5	9.5	10.8	10.7
CPm 158-ST4	CP 158-ST4													10.8	10.8
CPm 170-ST4	CP 170-ST4			33.5	368	251	120	117.5	237.5	180	244	86.5	11	14.5	14.6
CPm 170M-ST4	CP 170M-ST4													14.4	14.5
CPm 180-ST4	CP 180-ST4			33.5	368	250	120	117.5	237.5	180	244	86.5	11	15.8	15.8
CPm 190-ST4	CP 190-ST4													16.2	16.9
CPm 200-ST4	CP 200-ST4				390									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	–

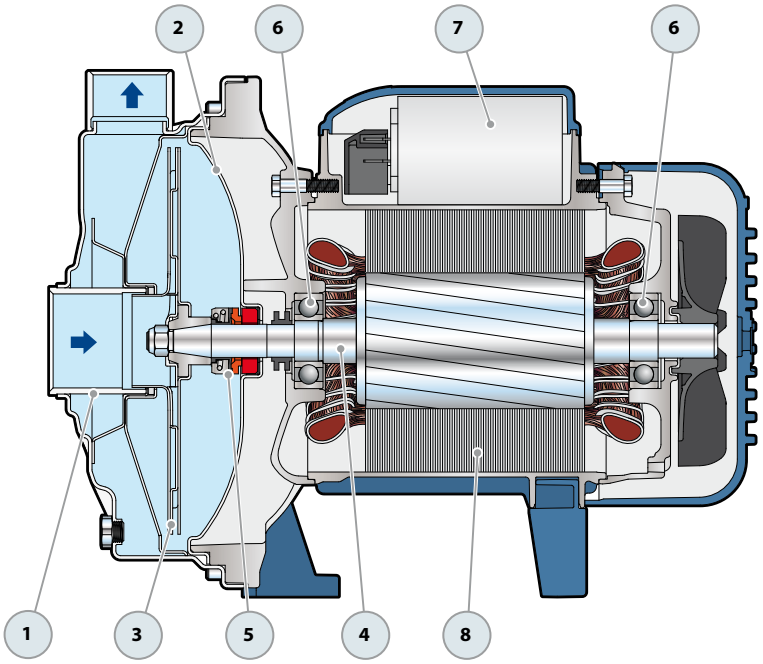
MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
CP 100-ST4	**1.7** A	**1.0** A	**0.6** A	**1.7** A	**1.0** A	**0.6** A
CP 130-ST4	**1.9** A	**1.1** A	**0.6** A	**1.9** A	**1.1** A	**0.6** A
CP 132-ST4	**2.3** A	**1.3** A	**0.8** A	**2.1** A	**1.2** A	**0.7** A
CP 150-ST4	**4.2** A	**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

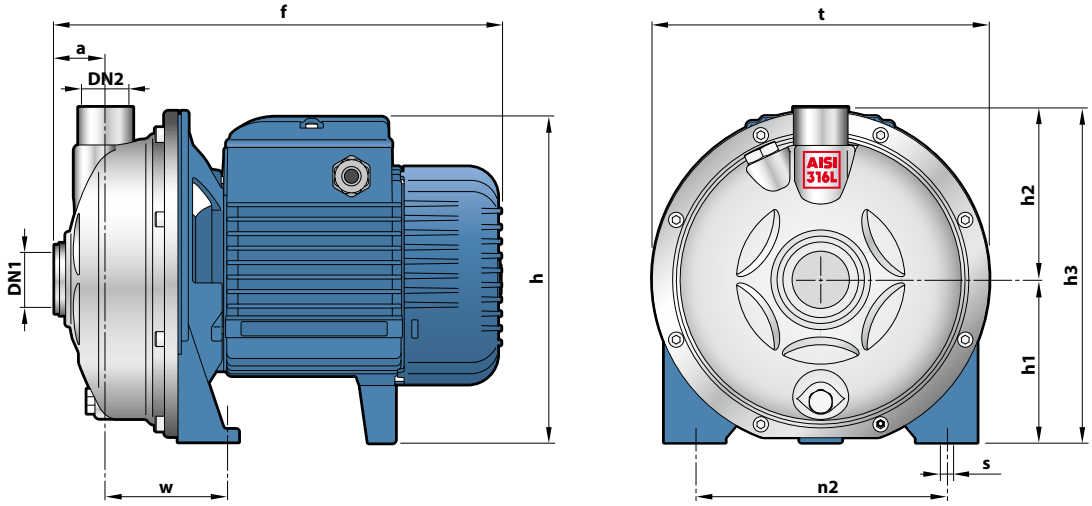
MODEL		GROUPAGE	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
CPm 100-ST4	CP 100-ST4	**96**	**144**
CPm 130-ST4	CP 130-ST4		
CPm 132-ST4	CP 132-ST4		
CPm 150-ST4	CP 150-ST4	**50**	**80**
CPm 158-ST4	CP 158-ST4		
CPm 170-ST4	CP 170-ST4	**45**	**63**
CPm 170M-ST4	CP 170M-ST4		
CPm 180-ST4	CP 180-ST4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

CP-ST6

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 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	h	h1	h2	h3	n2	t	w	s	1~	3~
CPm 100-ST6	CP 100-ST6	1¼"	1"	31.5	266	181	92	93.5	185.5	120	181	68.5	9	5.7	5.7
CPm 130-ST6	CP 130-ST6													6.6	6.6
CPm 132-ST6	CP 132-ST6													7.2	6.5
CPm 150-ST6	CP 150-ST6			34	296	219 *	107	112	219	165	221	80.5	9.5	10.8	10.7
CPm 158-ST6	CP 158-ST6													10.8	10.8
CPm 170-ST6	CP 170-ST6			33.5	368	251	120	117.5	237.5	180	244	86.5	11	14.6	14.7
CPm 170M-ST6	CP 170M-ST6													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													17.0	17.0
CPm 200-ST6	CP 200-ST6				390									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		
CPm 170-ST6	CP 170-ST6	**45**	**63**
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		

MK

Vertical multi-stage pumps

Clean water
Domestic use
Civil use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **180 l/min** (10.8 m^3/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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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

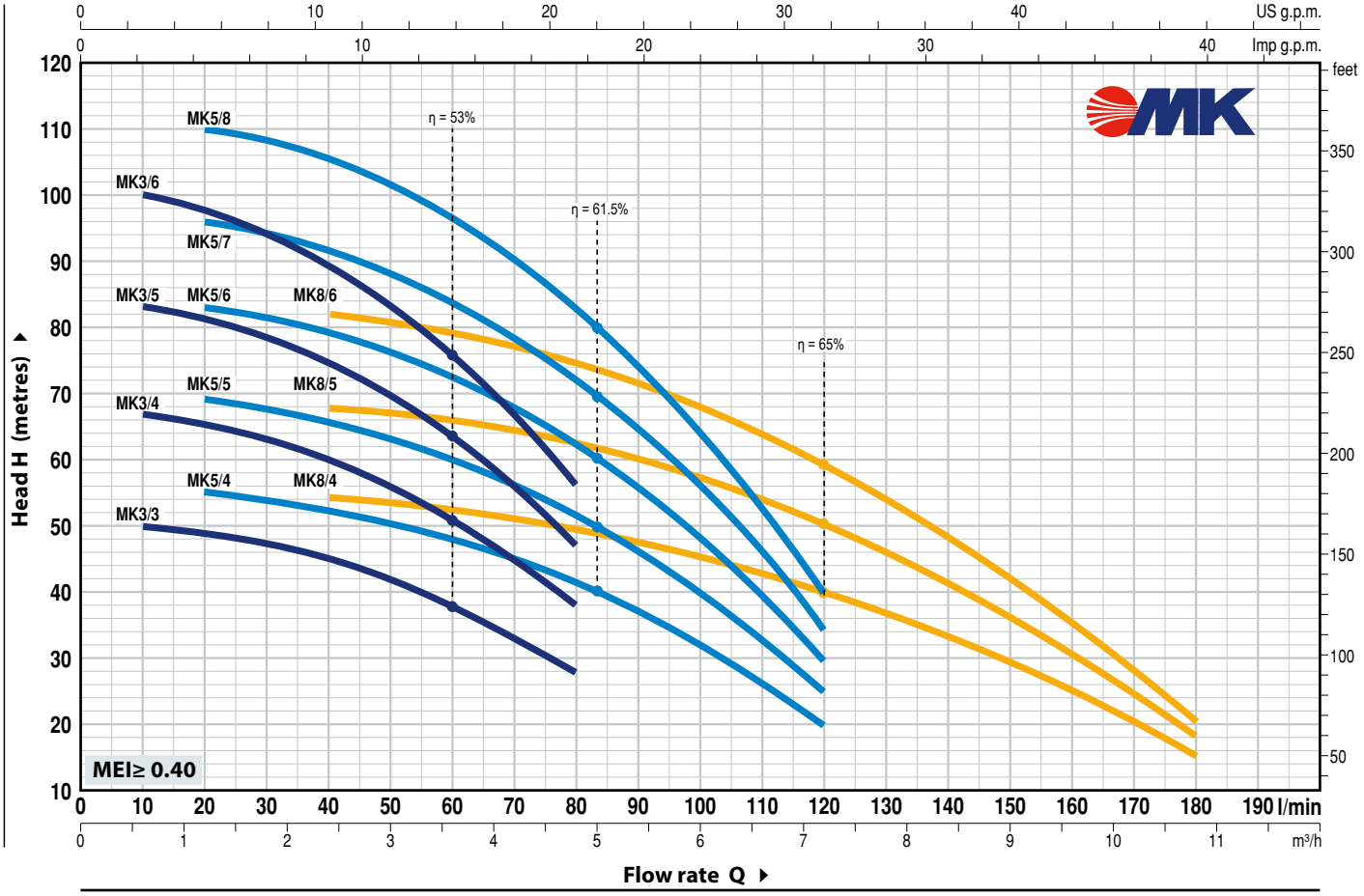
- Patent n. EP14755156.8

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 (P2)			Q	m³/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				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	**IE3**	**H**	metres	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

Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
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	–

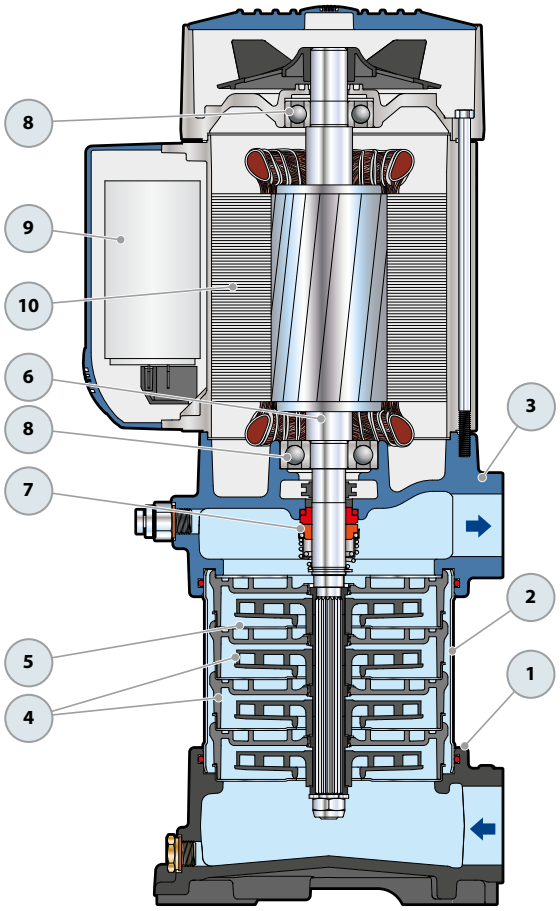
10 ELECTRIC MOTOR

MKm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding up to P_2=1.5 kW

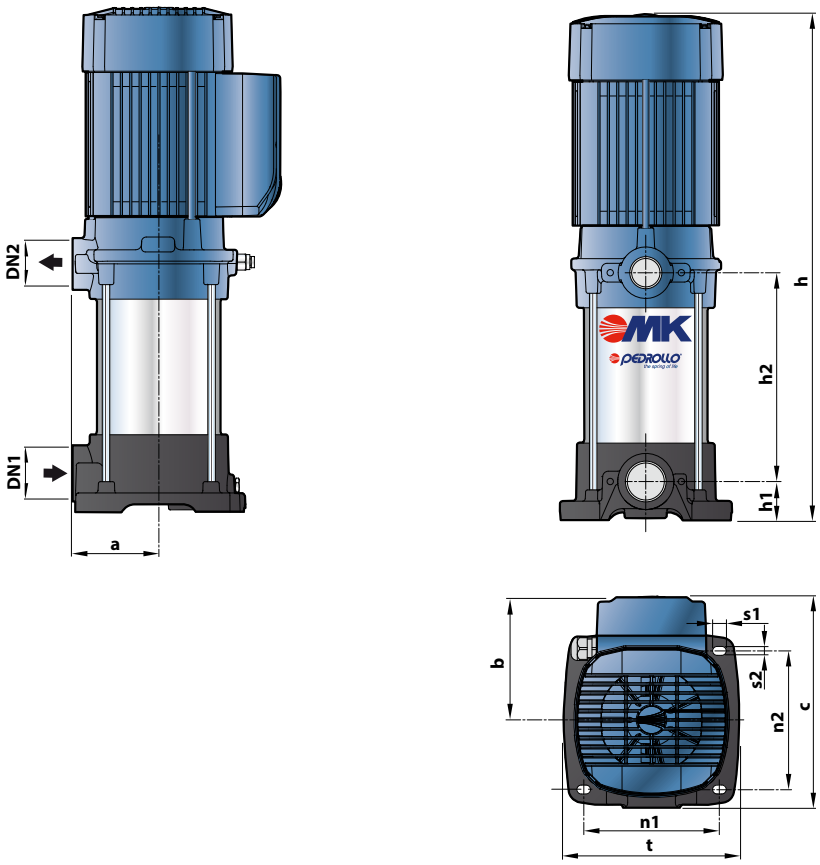
MK: three-phase 230/400 V - 50 Hz

➠ **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		
Single-phase	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					
Three-phase	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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

INSTALLATION AND USE

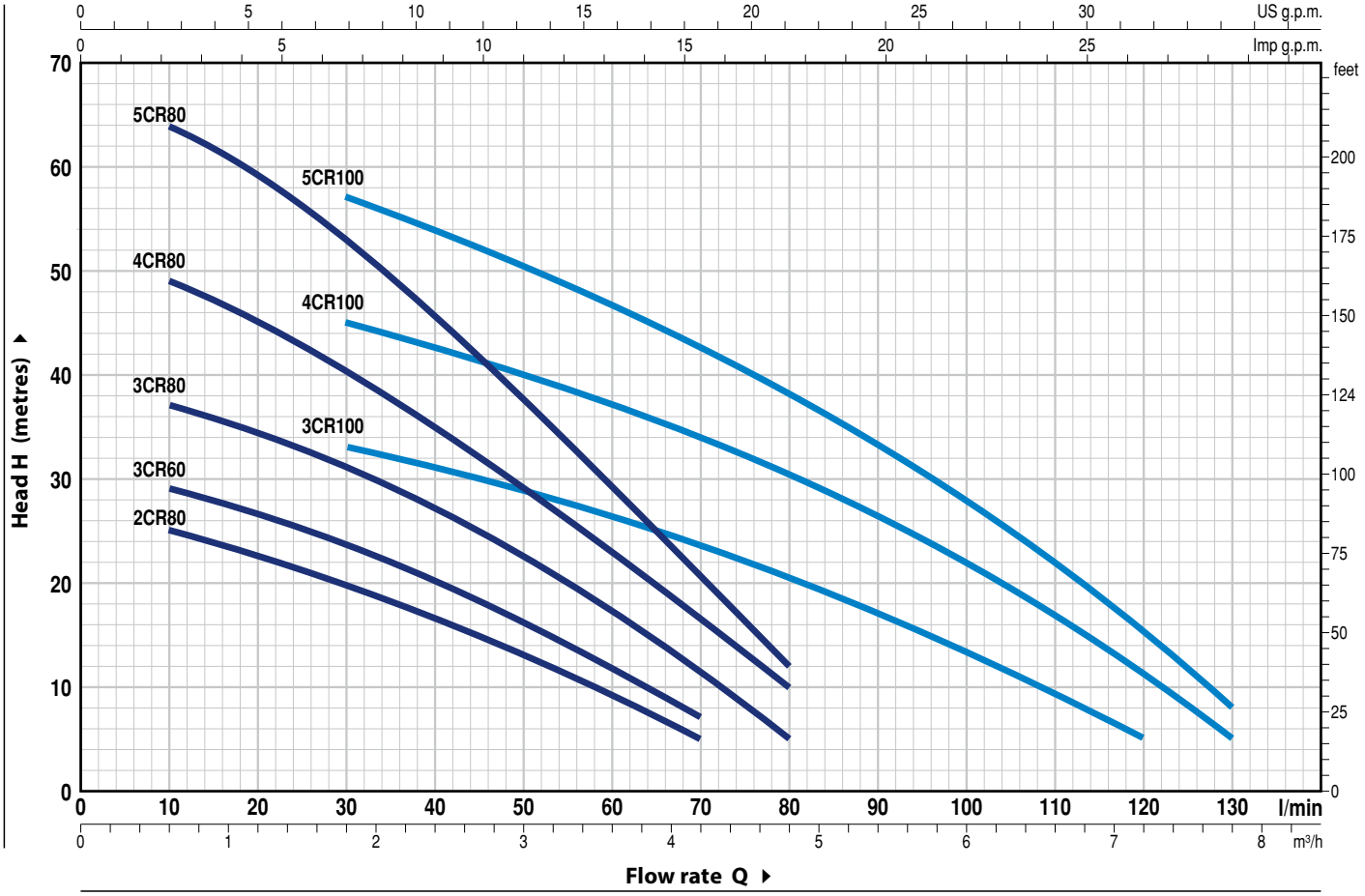
Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. As a result of their quietness these pumps are widely used in domestic applications such as the distribution of water in combination with small and medium sized pressure 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 (P2)			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				27	26	25	24	22.5	21	20	16.5	13	9	5						
3CRm 60	**3CR 60**	0.37	0.50	**IE2**			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**	**H**	metres	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				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	**IE3**			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

Seal *Model*	*Shaft* *Diameter*	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
AR-13	**Ø 13** mm	Ceramic	Graphite	NBR

7 BEARINGS

Pump	*Model*
2CR 80 **3CR 60** **3CR 80** **4CR 80** **3CR 100**	**6202 ZZ - C3 / 6201 ZZ**
4CR 100 **5CR 80** **5CR 100**	**6203 ZZ / 6203 ZZ**

8 CAPACITOR

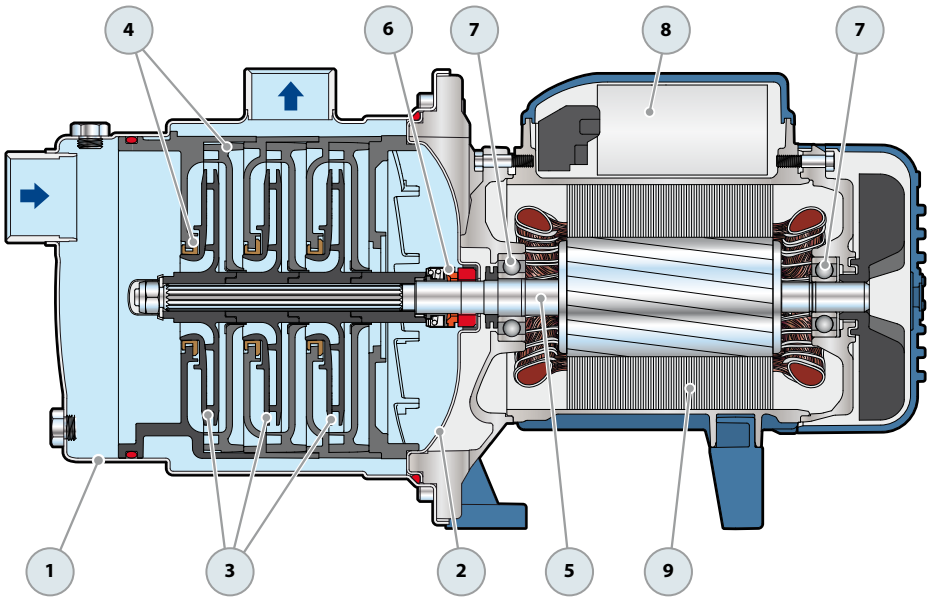
Pump *Single-phase*	*Capacitance* *(230 V or 240 V)*	*(110 V)*
2CRm 80 **3CRm 60**	**10** µF - 450 VL	**25** µF - 250 VL
3CRm 80	**12.5** µF - 450 VL	**25** µF - 250 VL
4CRm 80 **3CRm 100**	**14** µF - 450 VL	**25** µF - 250 VL
4CRm 100 **5CRm 80**	**20** µF - 450 VL	**60** µF - 300 VL
5CRm 100	**25** µF - 450 VL	**60** µF - 300 VL

9 ELECTRIC MOTOR

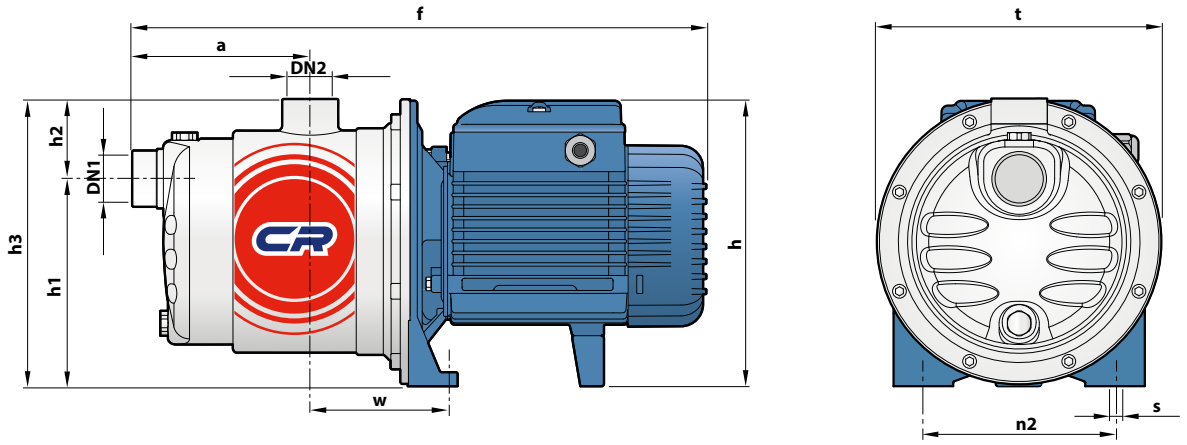
2-5CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
2-5CR: three-phase 230/400 V - 50 Hz.

➠ **The three-phase pumps are fitted with high performance motors up to 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	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			138	392									8.3	7.6
5CRm 80	5CR 80				411	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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

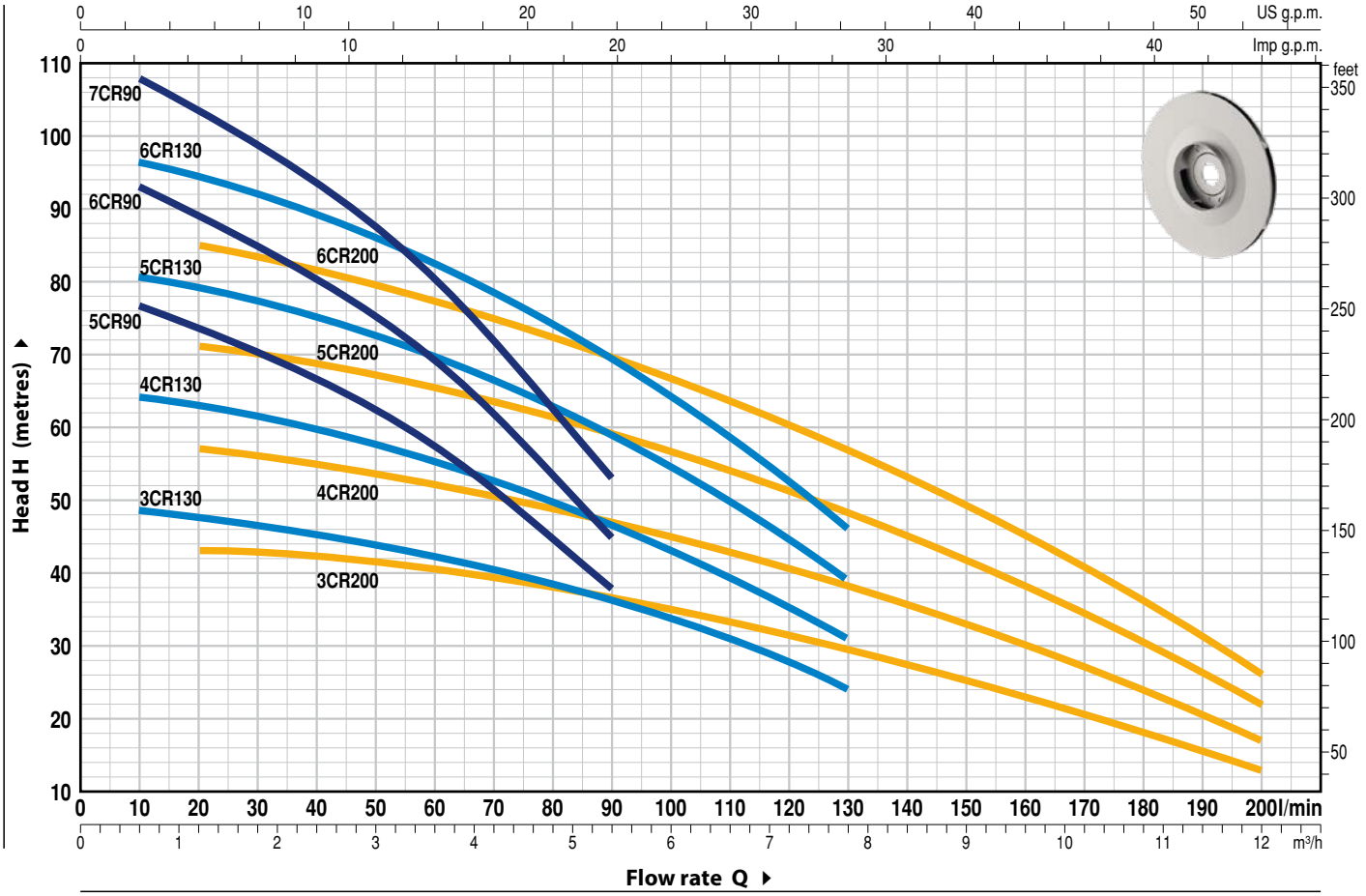
- Patent n. EP14755156.8

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 (P2)			Q	m³/h	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
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**20**	**40**	**60**	**80**	**90**	**100**	**130**	**140**	**160**	**180**	**200**
5CRm 90	**5CR 90**	1.1	1.5				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	**IE3**	**H**	metres	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

Seal	*Shaft*	*Materials*		
Model	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*
FN-18	**Ø 18** mm	Graphite	Silicon carbide	EPDM

7 BEARINGS — **6304 2RS - C3 / 6204 ZZ - C3E**

8 CAPACITOR

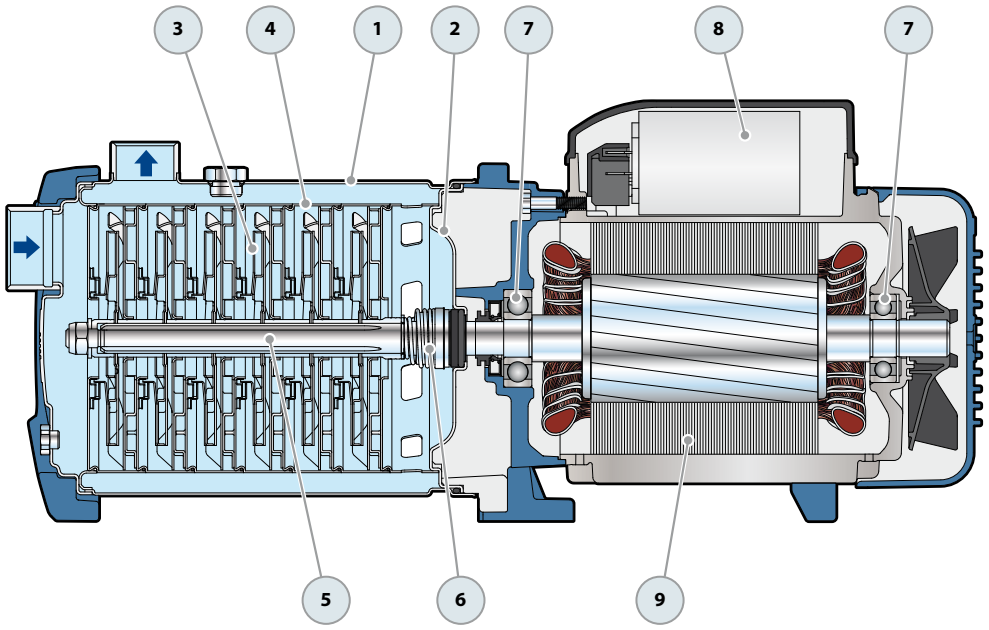
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
5CRm 90 **3CRm 130** **3CRm 200**	**31.5** µF - 450 VL	**60** µF - 250 VL
6CRm 90 **4CRm 130** **4CRm 200**	**45** µF - 450 VL	**80** µF - 250 VL
7CRm 90 **5CRm 130** **5CRm 200**	**50** µF - 450 VL	–

9 ELECTRIC MOTOR

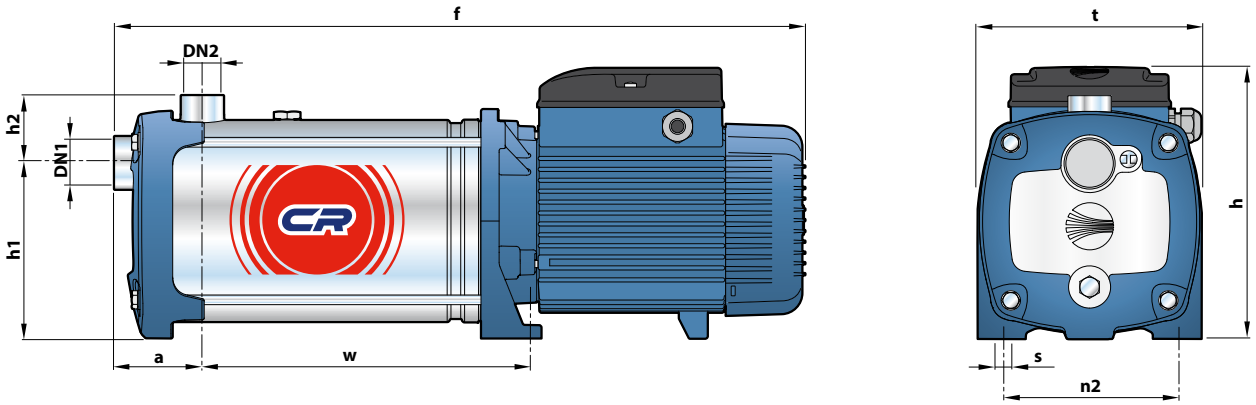
3-7CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
3-7CR: three-phase 230/400 V - 50 Hz.

➠ **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				497						193		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	1¼"	1"	73	517	228	145	56	185	145	193	11	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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

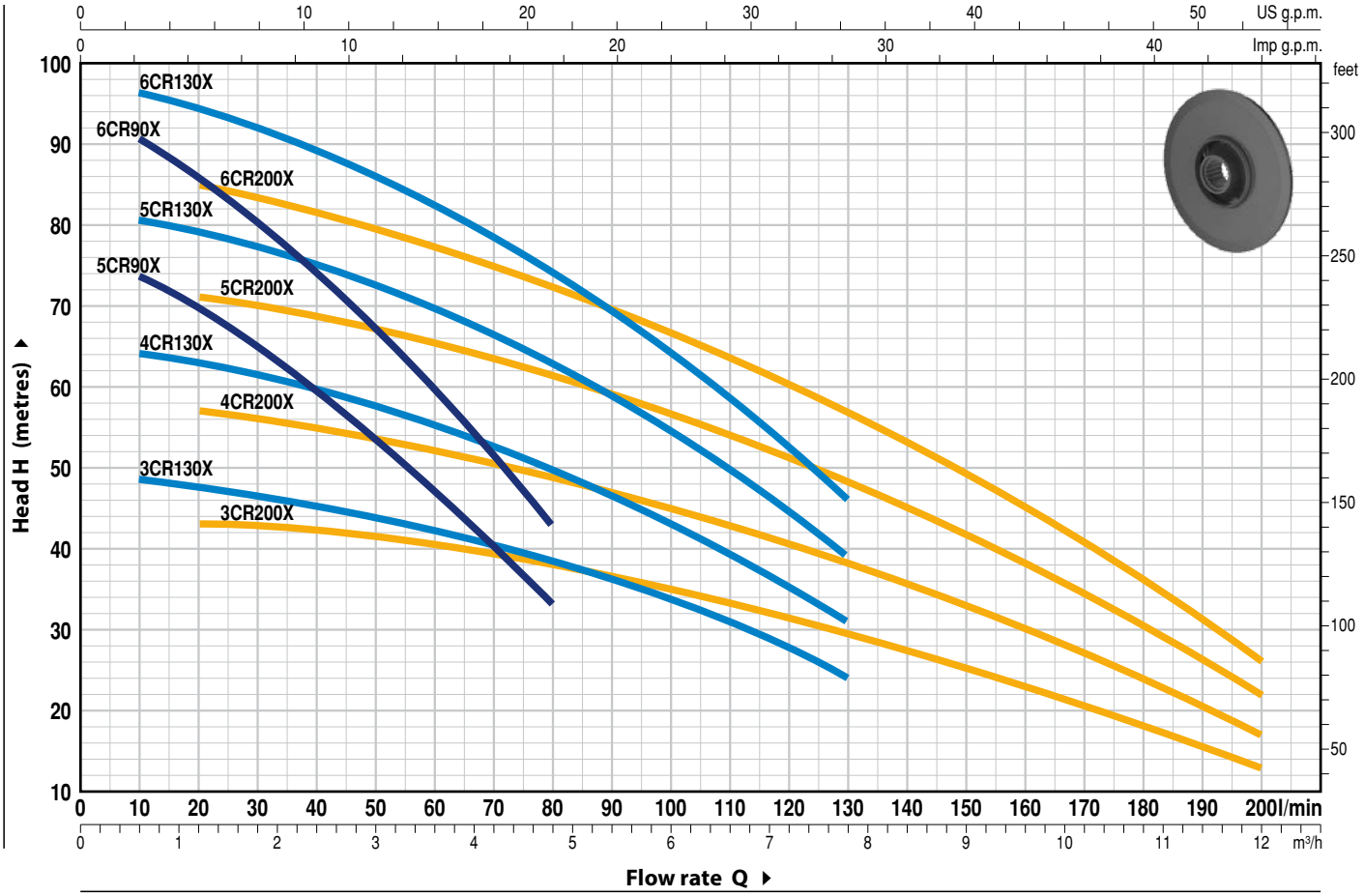
- Patent n. EP14755156.8

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 (P2)			Q	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
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**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

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

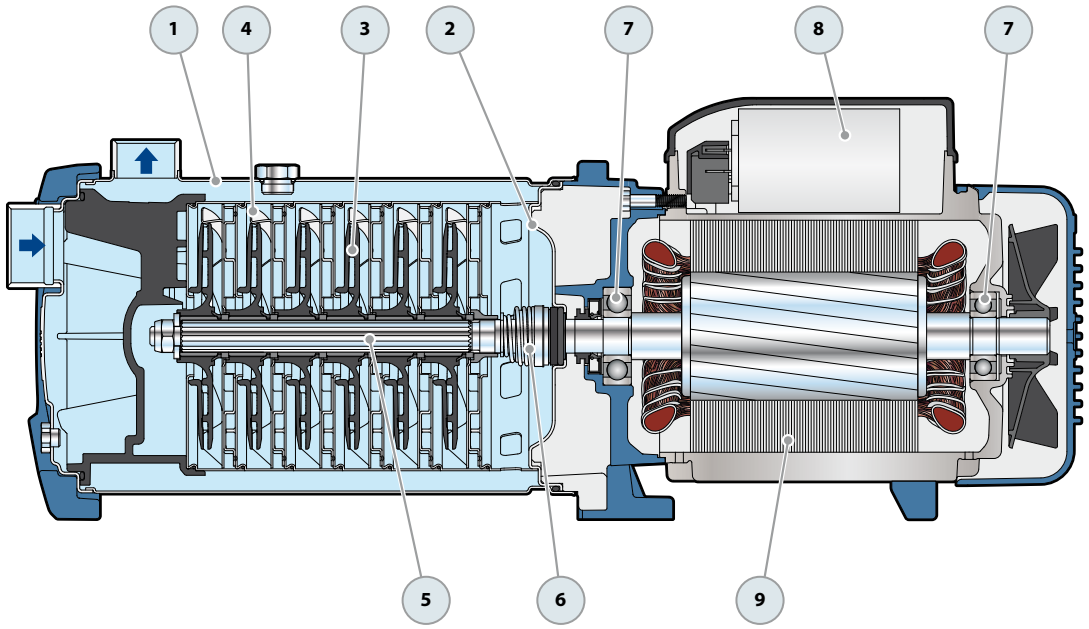
Pump	***Capacitance***	
Single-phase	***(230 V or 240 V)***	***(110 V)***
5CRm 90X **3CRm 130X** **3CRm 200X**	**31.5** µF - 450 VL	**60** µF - 250 VL
6CRm 90X **4CRm 130X** **4CRm 200X**	**45** µF - 450 VL	**80** µF - 250 VL
5CRm 130X **5CRm 200X**	**50** µF - 450 VL	**–**

9 ELECTRIC MOTOR

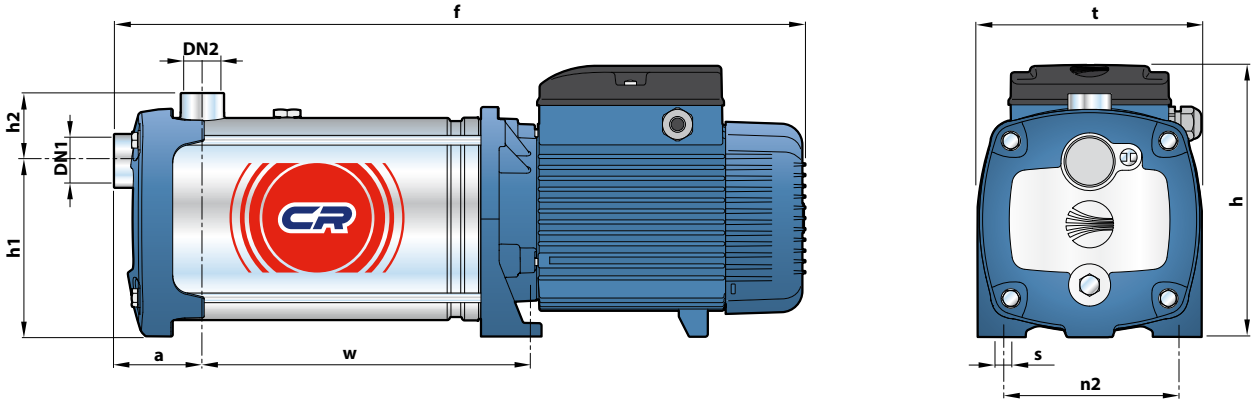
3-6CRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
3-6CR: three-phase 230/400 V - 50 Hz.

➠ **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**	**1¼"**	**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	–

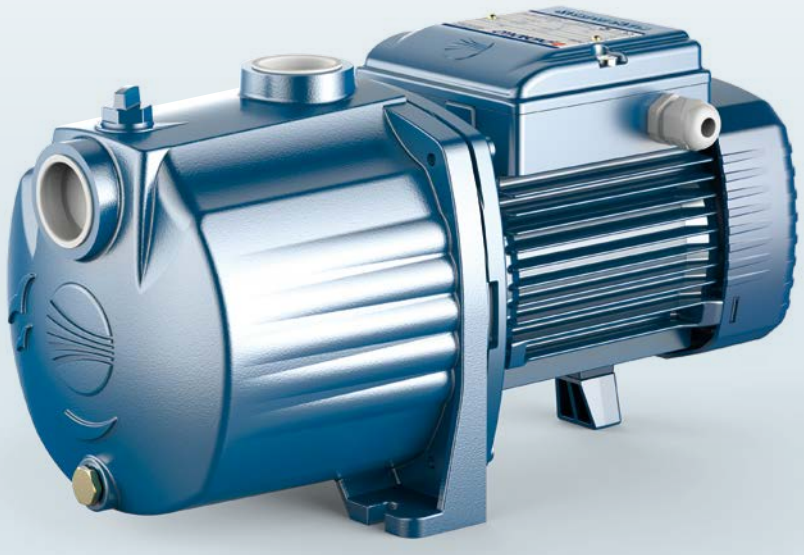
MODEL	VOLTAGE					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
5CR 90X	**6.1** A	**3.5** A	**2.0** A	**5.9** A	**3.4** A	**1.9** A
6CR 90X	**7.3** A	**4.2** A	**2.4** A	**6.9** A	**4.0** A	**2.3** A
3CR 130X	**5.6** A	**3.2** A	**1.8** A	**5.4** A	**3.1** A	**1.8** A
4CR 130X	**6.9** A	**4.0** A	**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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

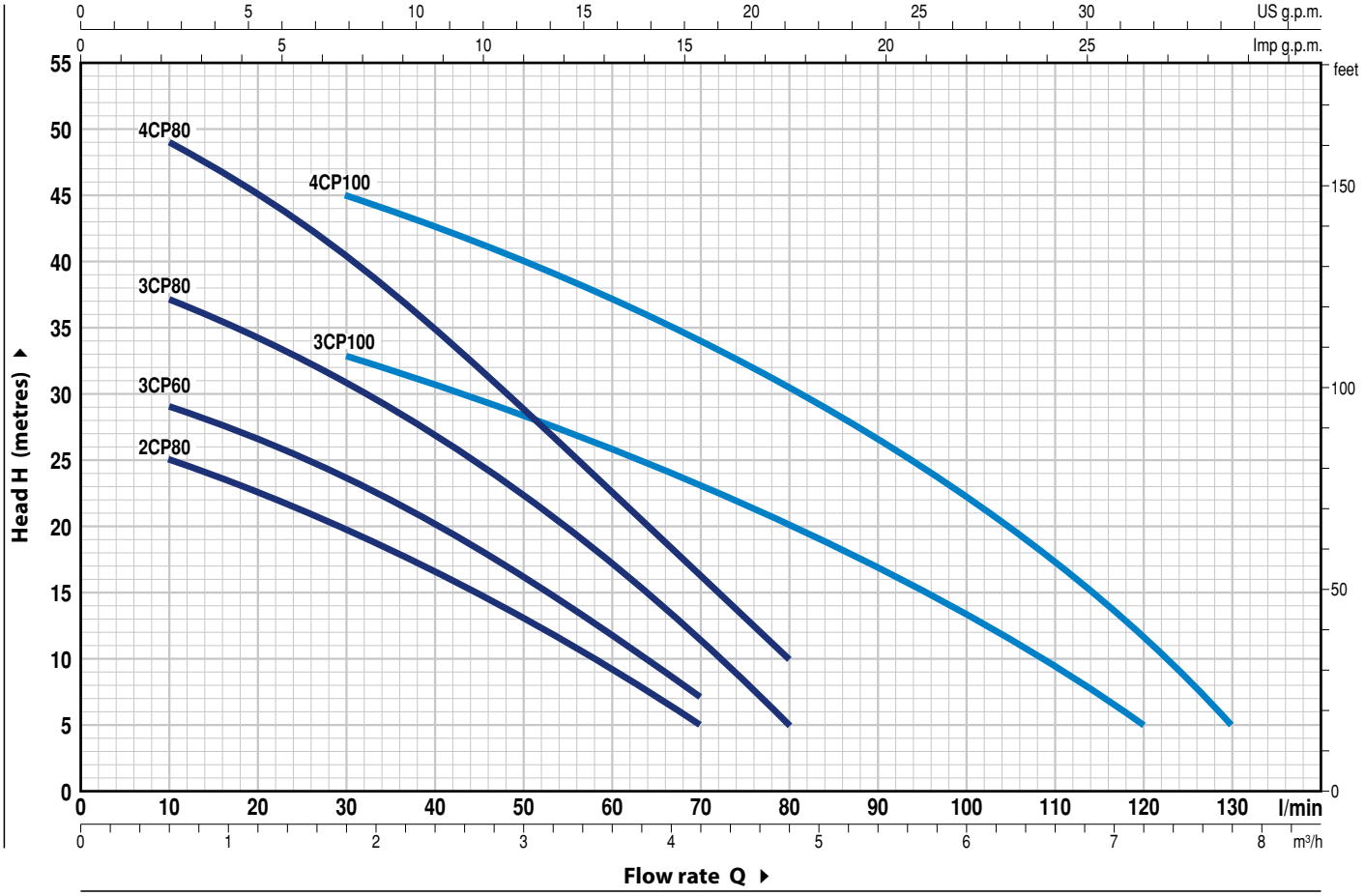
- Registered EU Design n. 002073635-0001

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 (P2)			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**
2CPm 80	**2CP 80**	0.37	0.50		**H**	metres	27	26	25	24	22.5	21	20	16.5	13	9	5						
3CPm 60	**3CP 60**	0.37	0.50	**IE2**			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)

2-4CP

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

Seal	*Shaft*	*Materials*		
Model	*Diameter*	*Stationary ring*	*Rotational ring*	*Elastomer*
AR-13	**Ø 13** mm	Ceramic	Graphite	NBR

7 BEARINGS

Pump	*Model*
2CP 80 **3CP 60** **3CP 80** **4CP 80** **3CP 100**	**6202 ZZ - C3 / 6201 ZZ**
4CP 100	**6203 ZZ / 6203 ZZ**

8 CAPACITOR

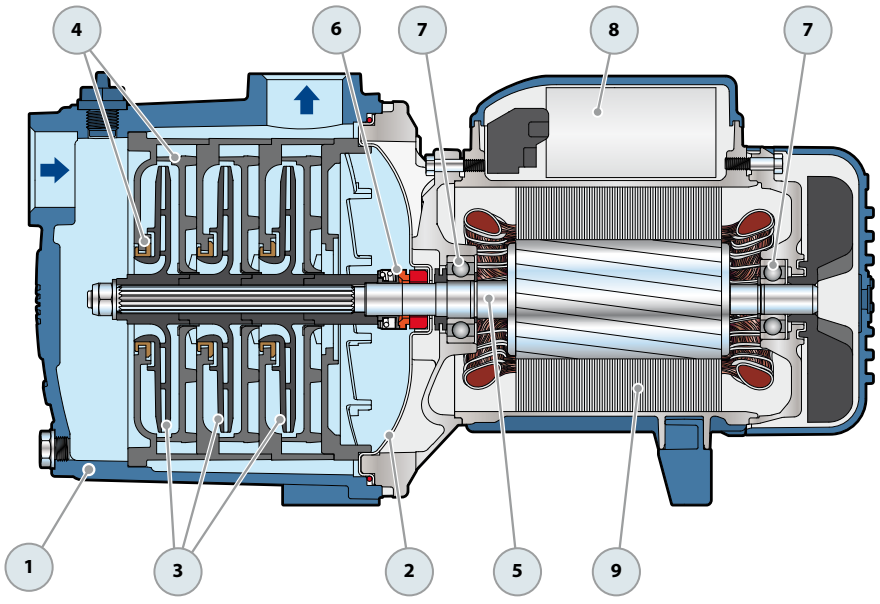
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
2CPm 80 **3CPm 60**	**10** µF - 450 VL	**25** µF - 250 VL
3CPm 80	**12.5** µF - 450 VL	**25** µF - 250 VL
4CPm 80 **3CPm 100**	**14** µF - 450 VL	**25** µF - 250 VL
4CPm 100	**20** µF - 450 VL	**60** µF - 300 VL

9 ELECTRIC MOTOR

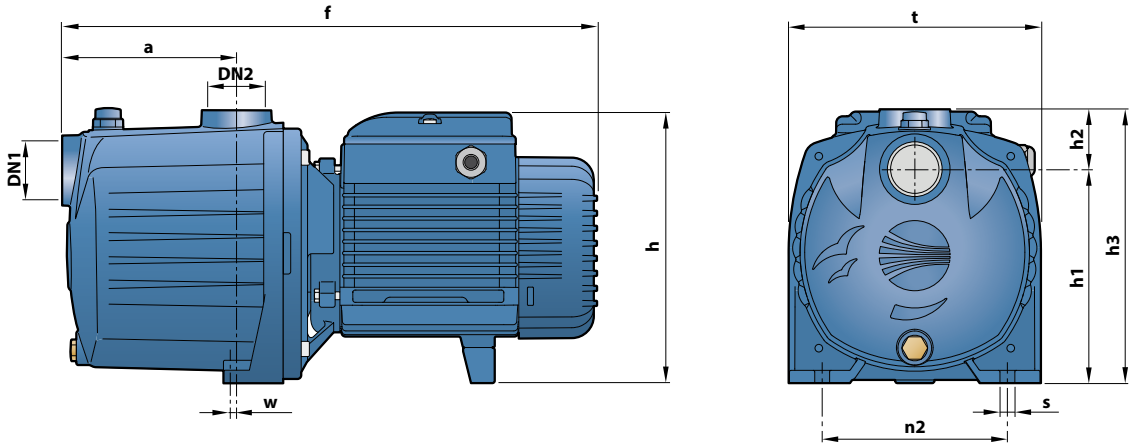
2-4CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
2-4CP: three-phase 230/400 V - 50 Hz.

➠ **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													8.6	8.6
3CPm 80	3CP 80			110	338									10.0	10.0
4CPm 80	4CP 80													10.7	10.2
3CPm 100	3CP 100													10.7	10.0
4CPm 100	4CP 100				357	192 *								13.1	13.1

(*) 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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

INSTALLATION AND USE

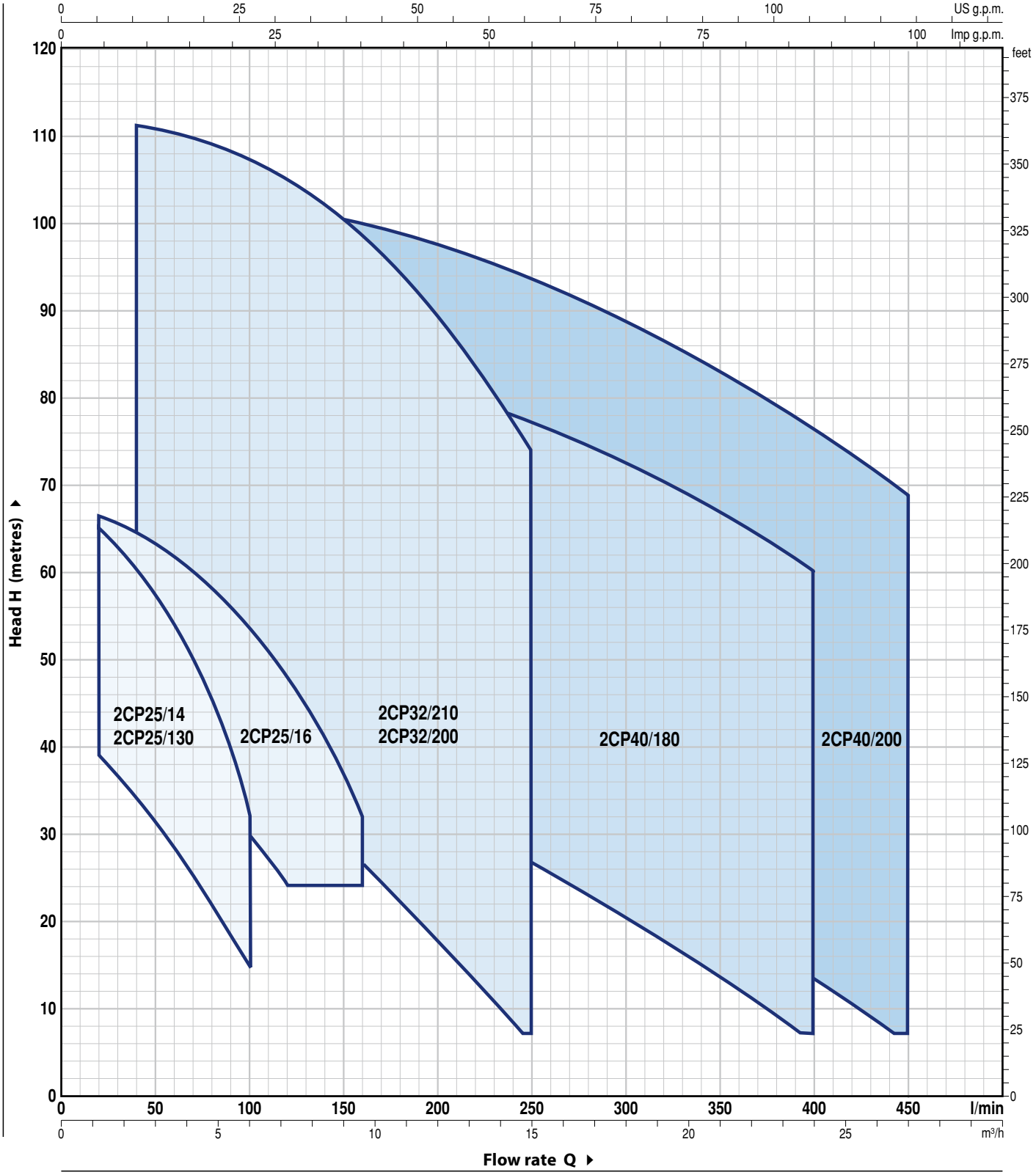
Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The high performance and adaptability to a wide range of applications make them the ideal choice in domestic, civil and industrial applications, in particular for the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

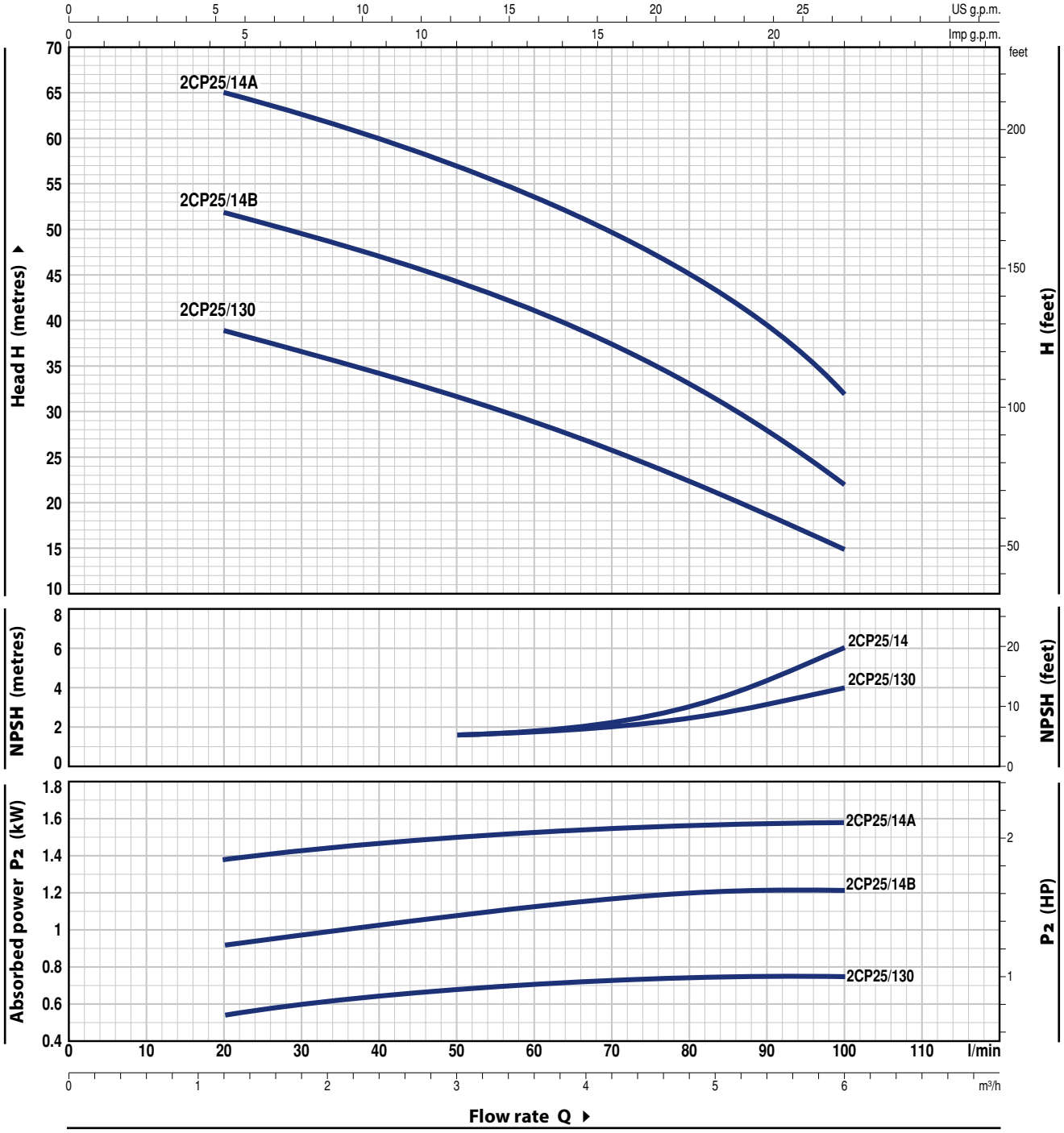
PERFORMANCE RANGE

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 (P2)			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				42	39	37	34	31	28.5	25.5	22	18	15
2CPm 25/14B	**2CP 25/14B**	1.1	1.5	**IE3**	**H**	metres	54	52	50	47.5	44.5	41	37	33	28	22
2CPm 25/14A	**2CP 25/14A**	1.5	2				67	65	62	60	57	54	50	45	40	32

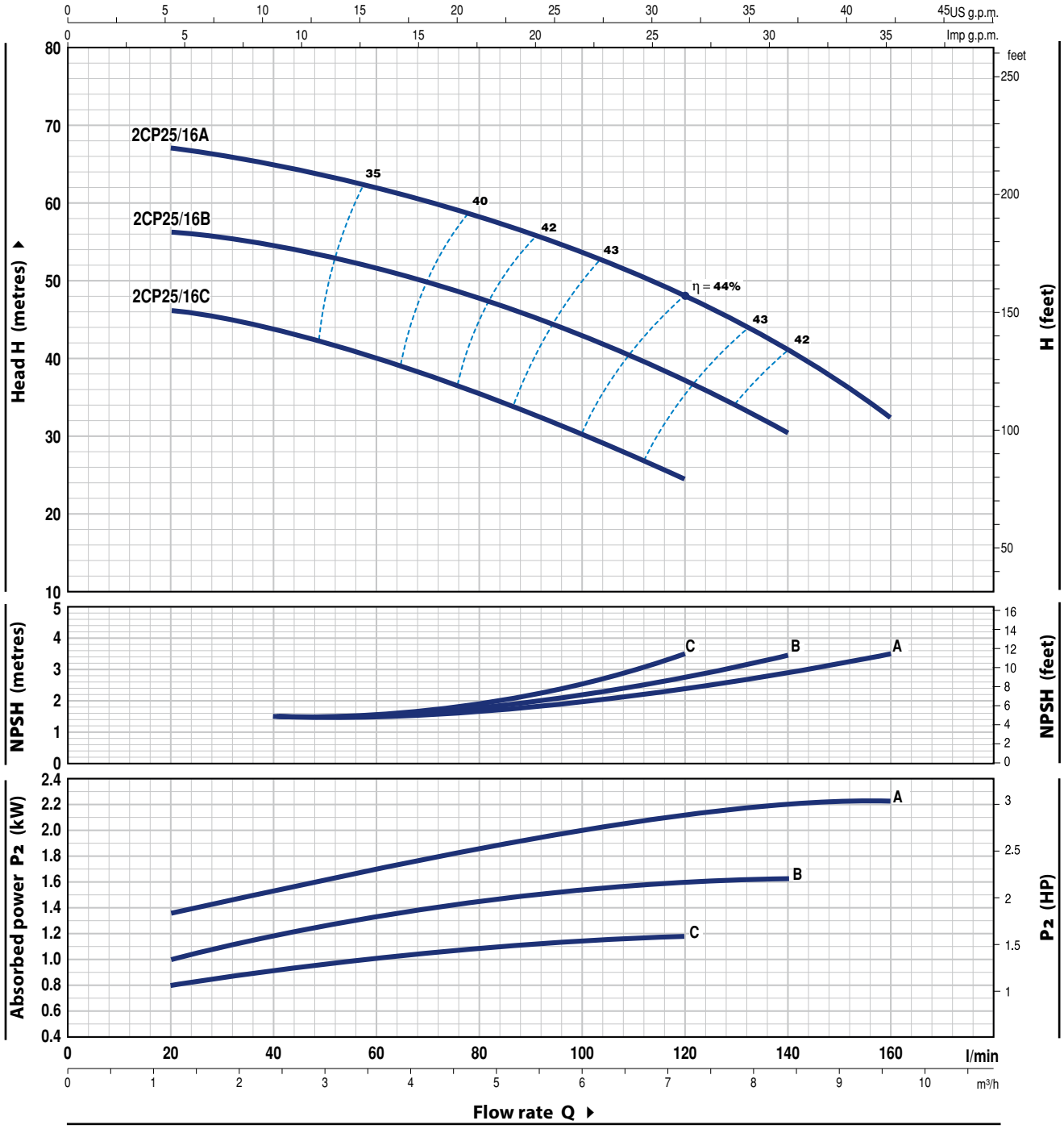
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL		POWER (P2)			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				47	46	45	44	42	40	38	35	33	30	27	24		
2CPm 25/16B	**2CP 25/16B**	1.5	2	**IE3**	**H**	metres	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

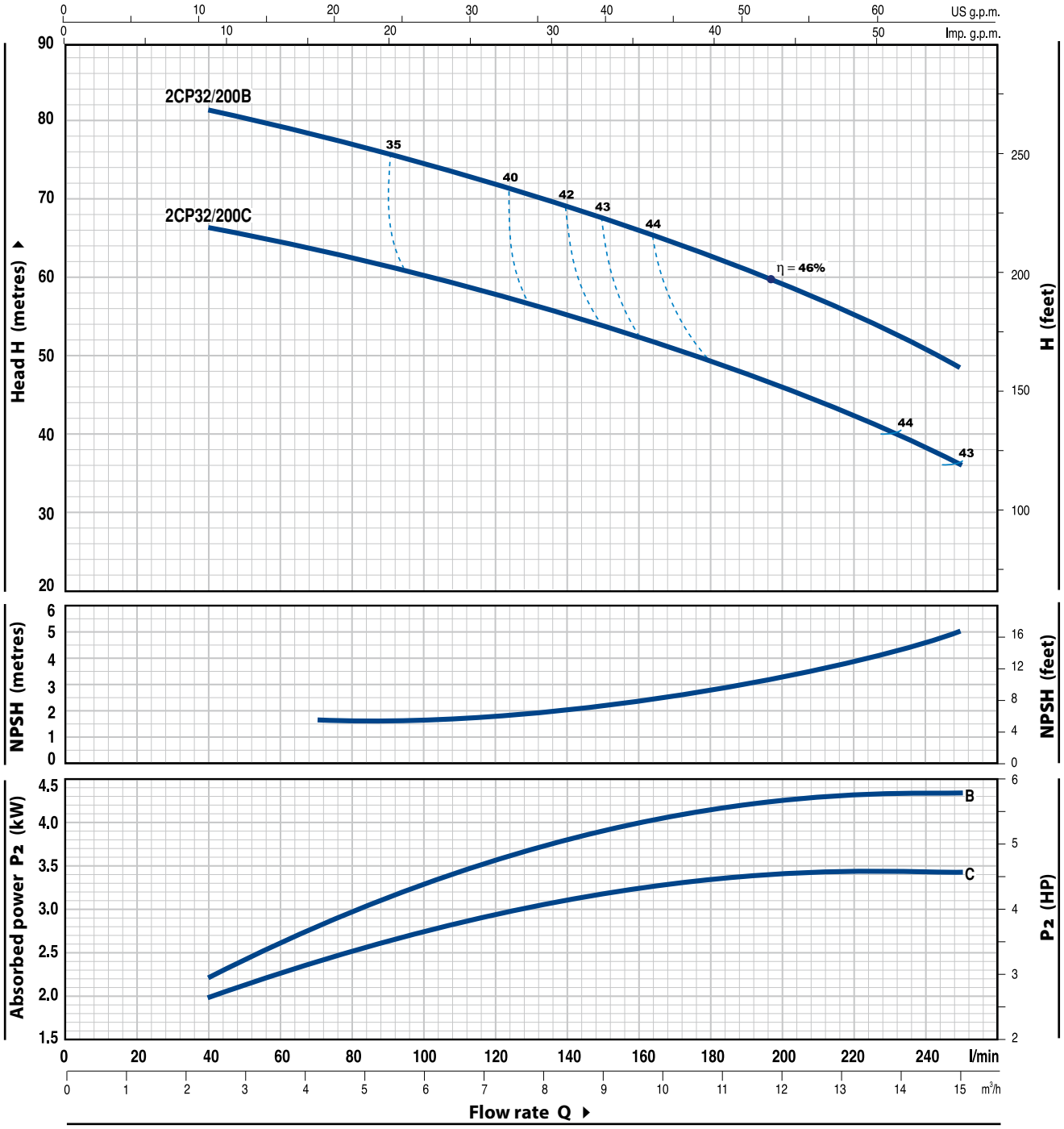
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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 (P2)			Q	m³/h	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	kW	HP	▲		l/min	**0**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**125**	**140**	**160**	**180**	**200**	**250**
2CP 32/200C	3	4	IE3	H	metres	70	66.5	65.5	65	64	63	62	60.5	59	57	55	52	49.5	46.5	36
2CP 32/200B	4	5.5				85	81	80	79	78	77	76	75	74	72	69	66	62	58	49

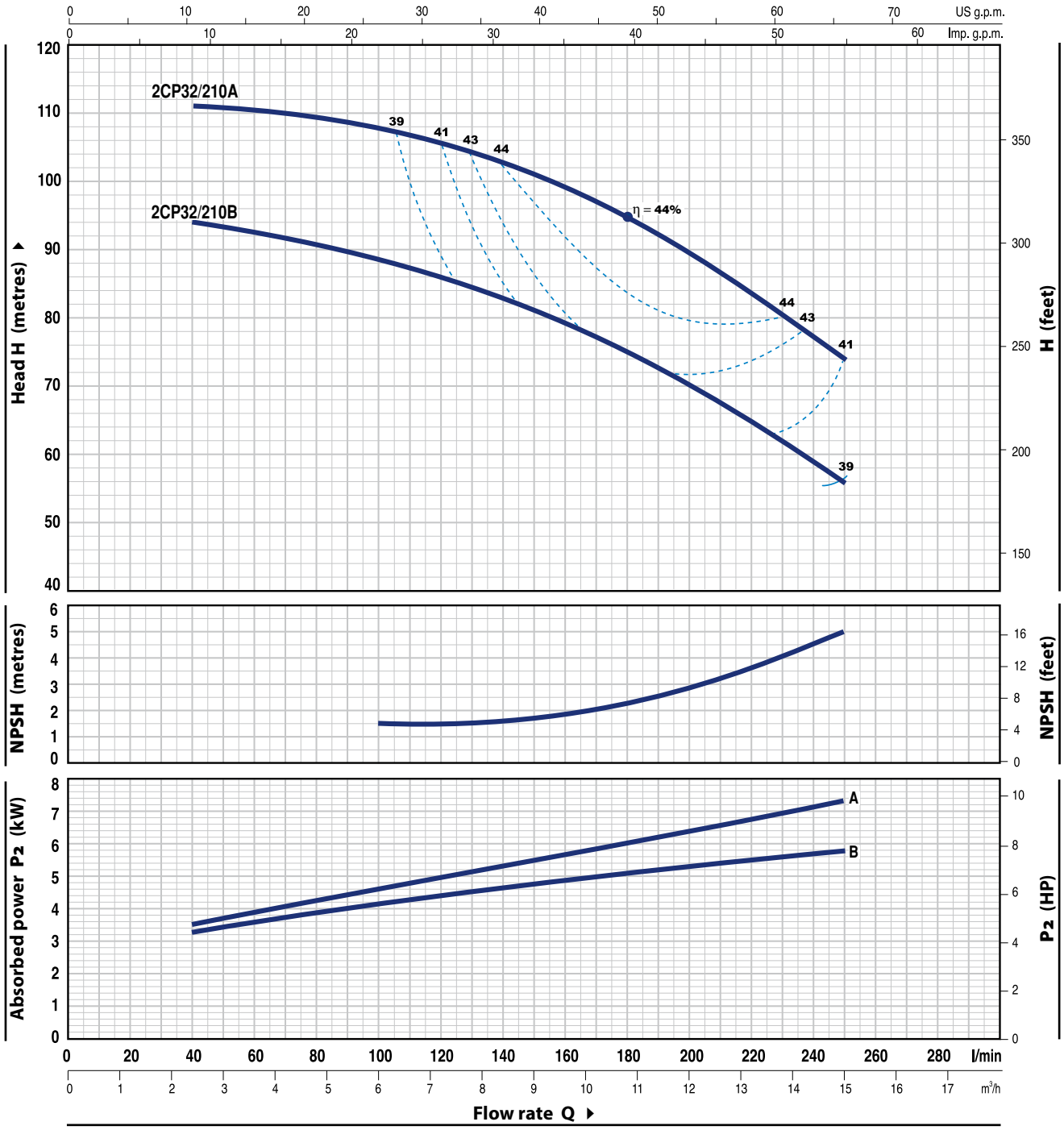
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)			Q	m³/h	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	kW	HP	▲		l/min	**0**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**125**	**140**	**160**	**180**	**200**	**250**
2CP 32/210B	5.5	7.5	**IE3**	**H**	metres	94	94	93.5	93	92	91	90	89	87	85	83	79	75	70	56
2CP 32/210A	7.5	10				112	111	110.8	110.5	110.3	110	109	108	107	105	102	99	94	89	74

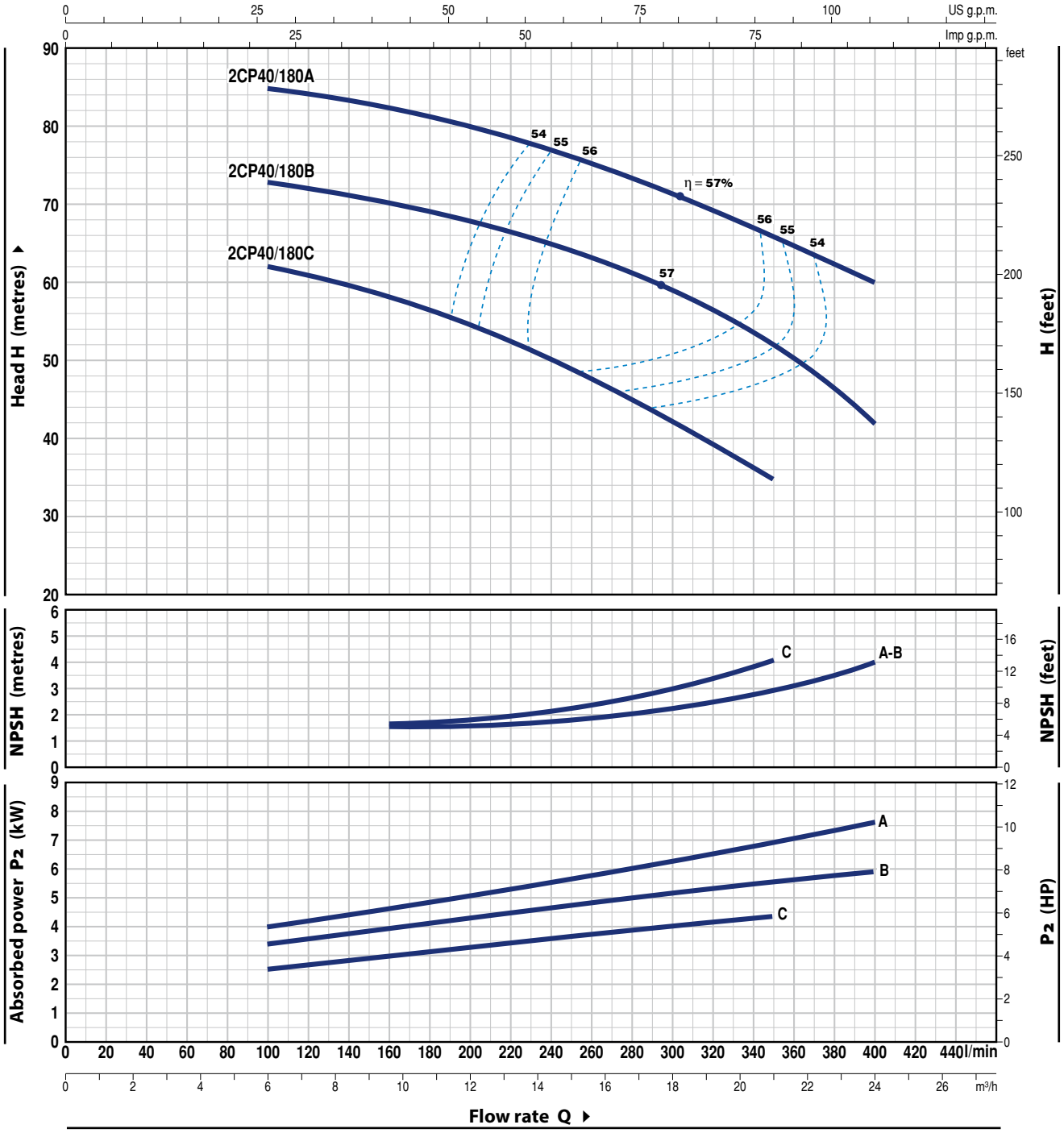
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)			Q	m³/h	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	▲		l/min	**0**	**100**	**110**	**125**	**140**	**160**	**180**	**200**	**250**	**300**	**350**	**400**
2CP 40/180C	4	5.5				64	62	61	60	59	58	56	54.5	49	43	35	
2CP 40/180B	5.5	7.5	**IE3**	**H**	metres	76	73	72.5	72	71	70	69	67.5	64	59	52	42
2CP 40/180A	7.5	10				88	85	84.5	84	83	82	81	79.5	76	72	67	60

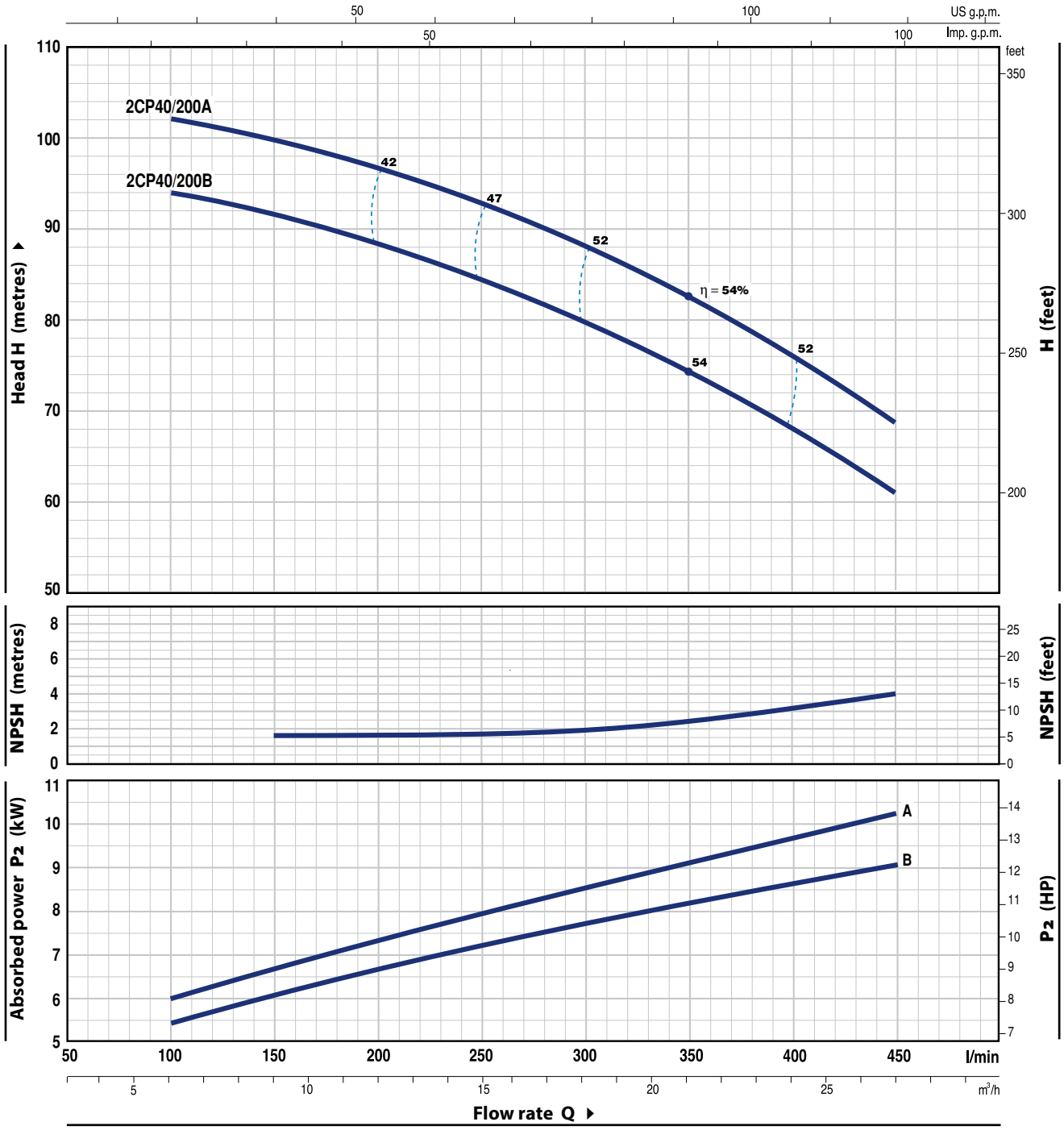
Q = Flow rate **H** = Total manometric head **HS** = Suction height

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL	POWER (P2)			Q	m³/h	0	6.0	9	10.8	12.0	15.0	18.0	21.0	24.0	27.0
Three-phase	kW	HP	▲		l/min	**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**

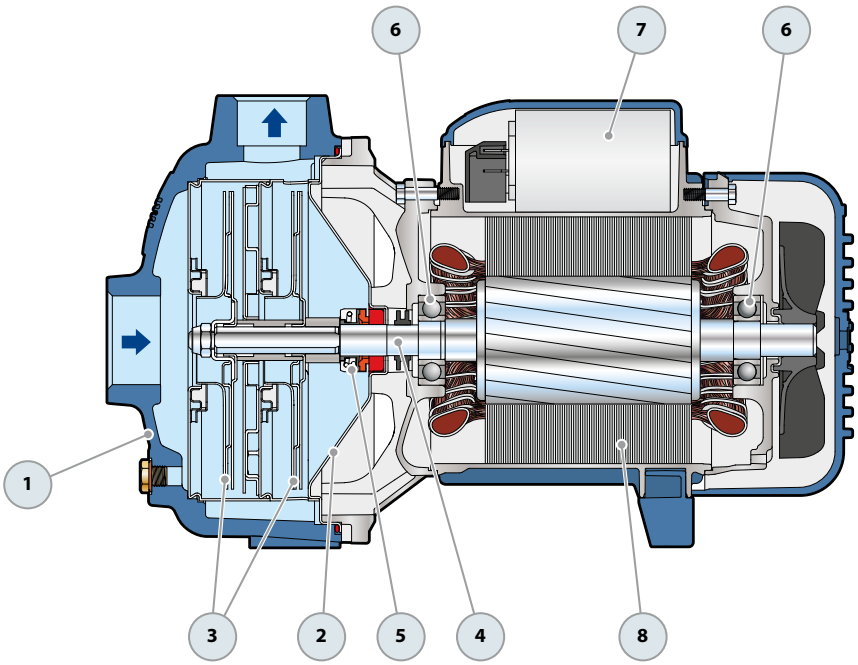
7	**CAPACITOR**	***Pump***	***Capacitance***	
		Single-phase	***(230 V or 240 V)***	***(110 V)***
		2CPm 25/130	**20** µF - 450 VL	**60** µF - 300 VL

8 ELECTRIC MOTOR

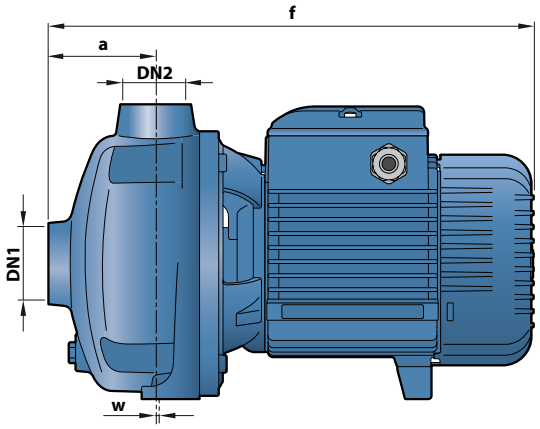
2CPm 25/130: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
2CP 25/130: three-phase 230/400 V - 50 Hz.

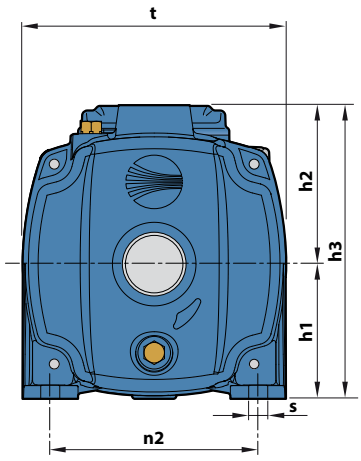
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– 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*		
Model	*Model*	*Diameter*	*Stationary ring*	*Rotational ring*	*Elastomer*
2CP 25/14 **2CP 25/16**	**FN-18**	**Ø 18** mm	Graphite	Ceramic	NBR
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	**FN-32 NU**	**Ø 32** mm	Graphite	Ceramic	NBR

6 BEARINGS

Pump	*Model*
2CP 25/14 **2CP 25/16**	**6204 ZZ - C3 / 6204 ZZ - C3**
2CP 32/200	**6206 ZZ - C3 / 6206 ZZ - C3**
2CP 32/210 **2CP 40/180**	**6306 ZZ - C3 / 6206 ZZ - C3**
2CP 40/200	**6308 ZZ - C3 / 6308 ZZ - C3**

7 CAPACITOR

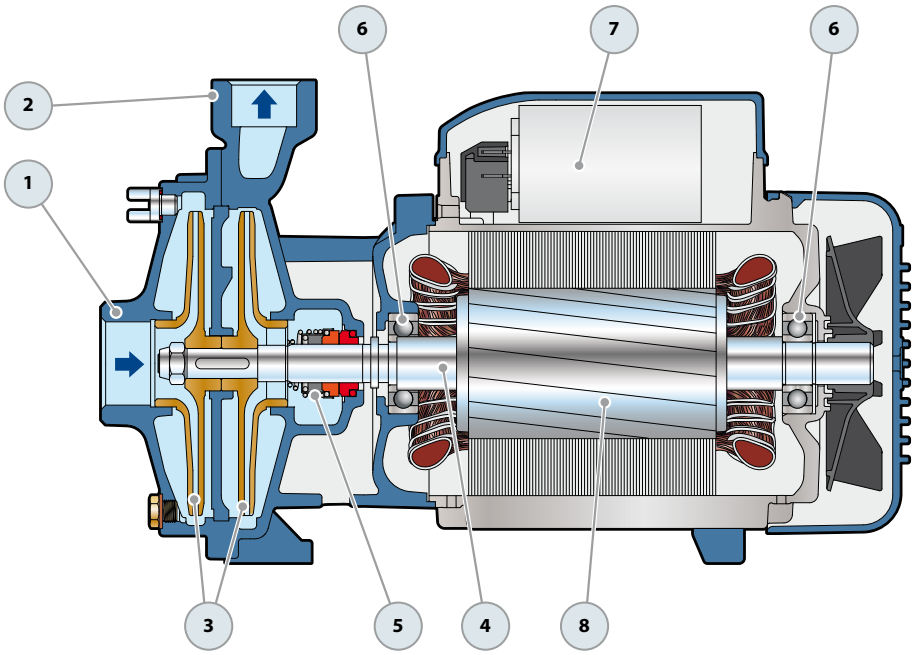
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
2CPm 25/14B **2CPm 25/16C**	**25** µF - 450 VL	**60** µF - 250 VL
2CPm 25/14A **2CPm 25/16B**	**45** µF - 450 VL	**80** µF - 250 VL
2CPm 25/16A	**50** µF - 450 VL	–

8 ELECTRIC MOTOR

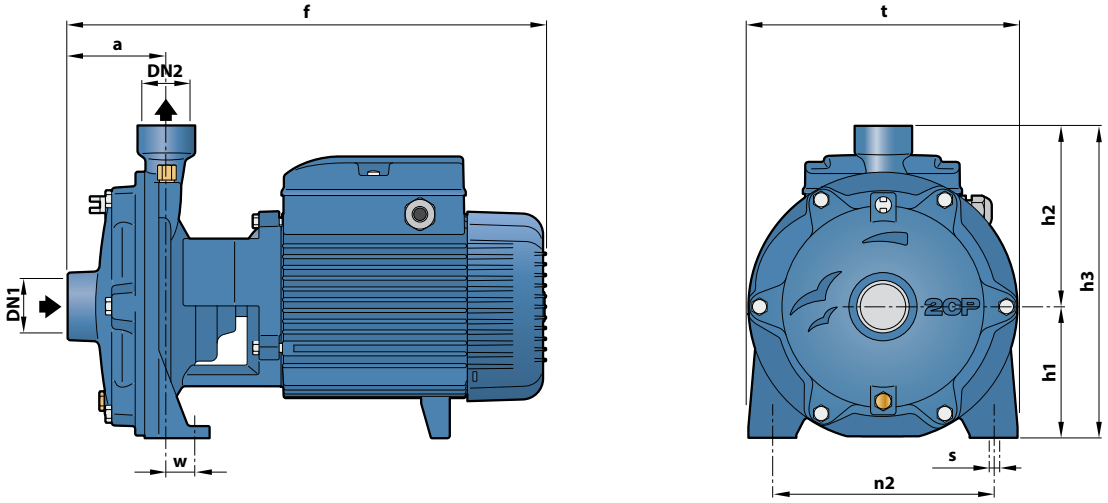
2CPm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
2CP: three-phase 230/400 V - 50 Hz up to 4 kW
400/690 V - 50 Hz from 5.5 to 11 kW

➠ **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	1¼"	1"	82	404	93	130	223	200	162	17	10	19.7	20.6
2CPm 25/14A	2CP 25/14A					110	151	261	225	185	26	11	24.6	24.6
2CPm 25/16C	2CP 25/16C					93	130	223	200	162	17	10	19.3	20.4
2CPm 25/16B	2CP 25/16B					110	151	261	226	185	26	11	24.3	24.4
2CPm 25/16A	2CP 25/16A				424								27.1	27.2
–	2CP 32/200C	1½"	1¼"	95	464	132	172	304	266	206	19	14	–	39.4
–	2CP 32/200B												–	43.1
–	2CP 32/210B	2"		108	541	139	195	334	292	232	21		–	54.7
–	2CP 32/210A												–	60.5
–	2CP 40/180C		1½"		496								–	48.6
–	2CP 40/180B				542								–	54.2
–	2CP 40/180A												–	59.7
–	2CP 40/200B			110	566	160	195	355	298				–	93.5
–	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

JSW1

Self-priming “JET” pumps

Clean water

Domestic use

PERFORMANCE RANGE

- Flow rate up to **60 l/min** (3.6 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

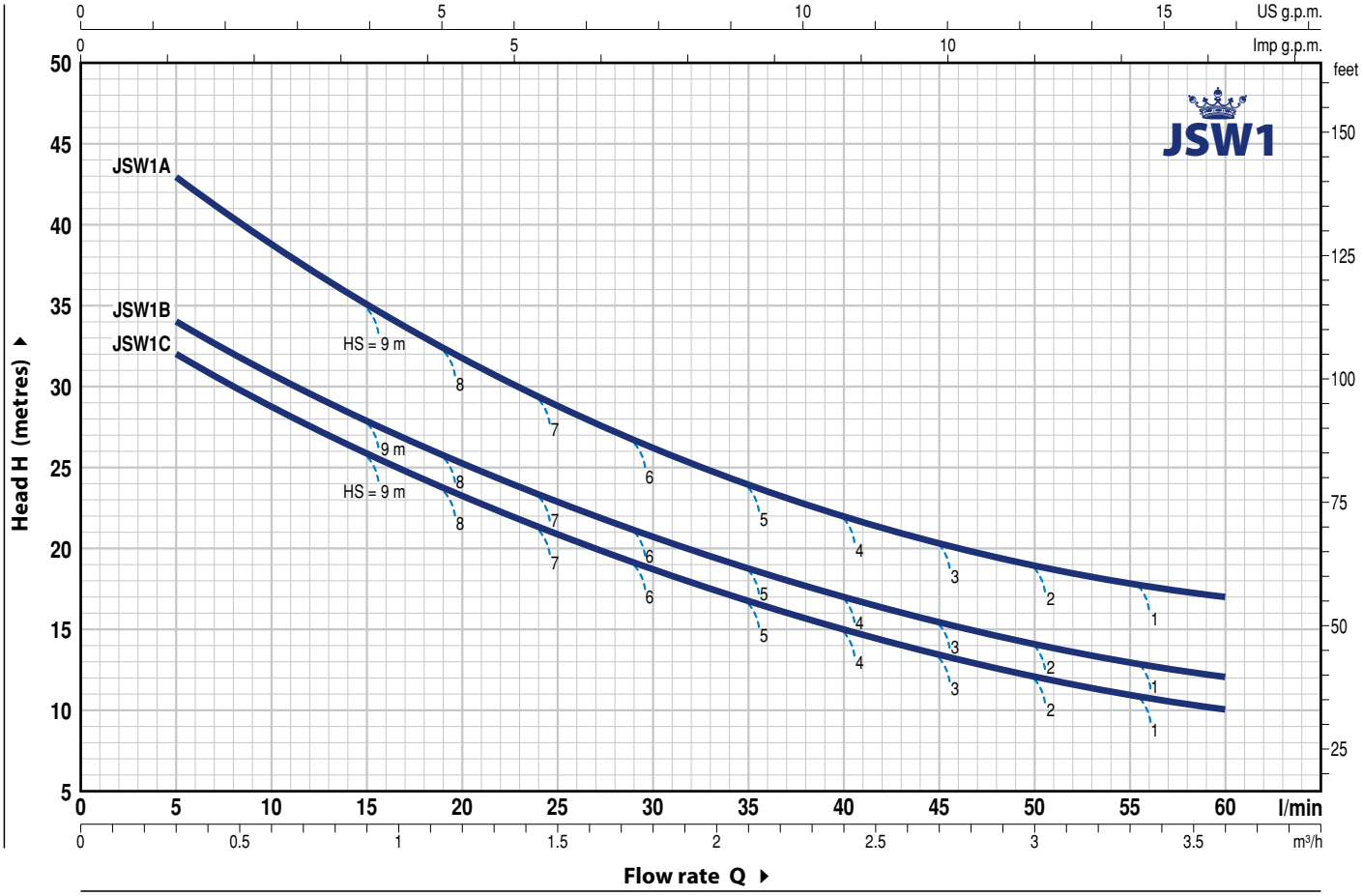
- Registered Trade Mark n. 013073135 JSW®
- Registered EU Design n. 002218610
- European Patent n. 1 510 696

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



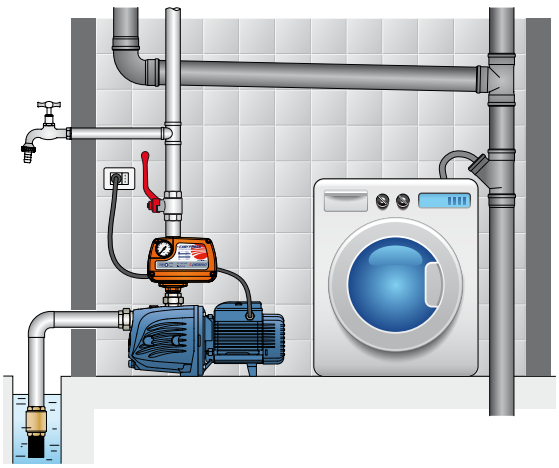
MODEL		POWER (P2)			Q m³/h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6
Single-phase	Three-phase	kW	HP	▲	l/min	0	5	10	20	25	30	40	45	50	60
JSWm 1C	JSW 1C	0.37	0.50	IE2	H metres	35	32	28.5	23.5	21	18.5	15	13.5	12	10
JSWm 1B	JSW 1B	0.48	0.65			37	34	30.5	25.5	23	20.5	17	15.5	14	12
JSWm 1A	JSW 1A	0.55	0.75	IE3		48	43	39	31.5	28.5	26	22	20.5	19	17

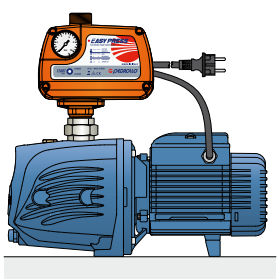
Q = Flow rate **H** = Total manometric head **HS** = Suction height

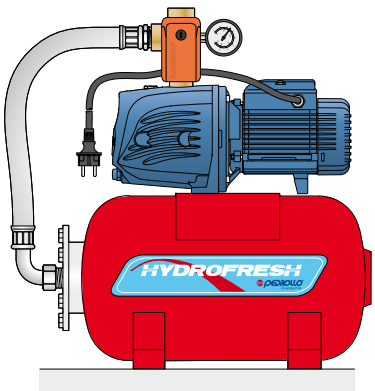
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

STANDARD INSTALLATION







JSW1

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***	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
AR-12	**Ø 12** mm	Ceramic	Graphite	NBR

7	**BEARINGS**	**6201 ZZ / 6201 ZZ**	
8	**CAPACITOR**		

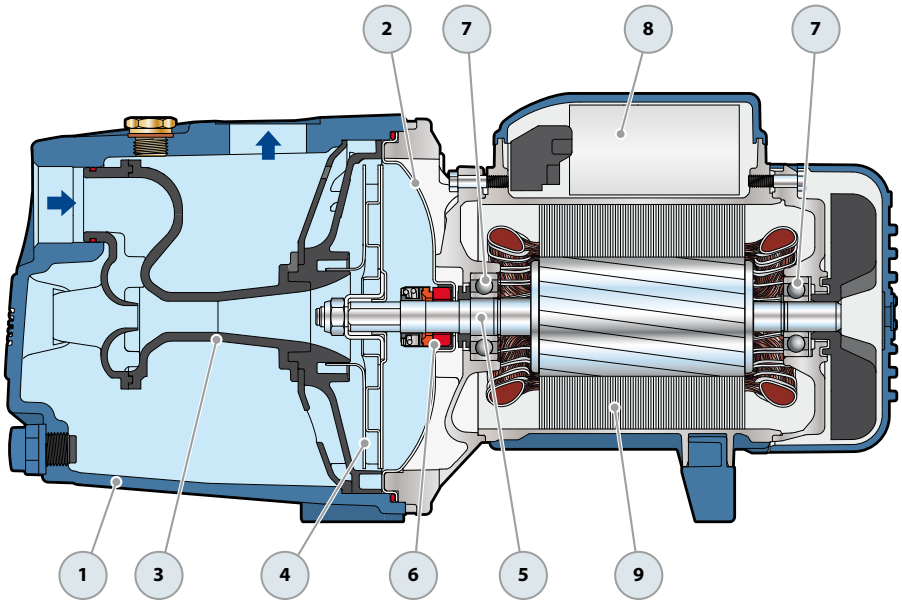
Pump ***Single-phase***	***Capacitance*** ***(230 V or 240 V)***	***(110 V)***
JSWm 1C	**10** µF - 450 VL	**25** µF - 250 VL
JSWm 1B	**10** µF - 450 VL	**25** µF - 250 VL
JSWm 1A	**14** µF - 450 VL	**25** µF - 250 VL

9 ELECTRIC MOTOR

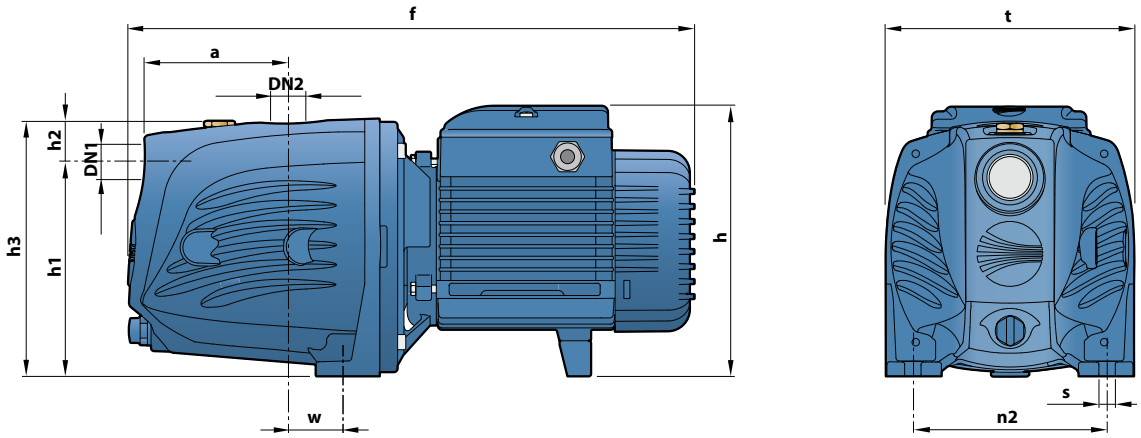
JSWm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
JSW: three-phase 230/400 V - 50 Hz.

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

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

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**

JSW2

Self-priming “JET” pumps

Clean water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **85 l/min** (5.1 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

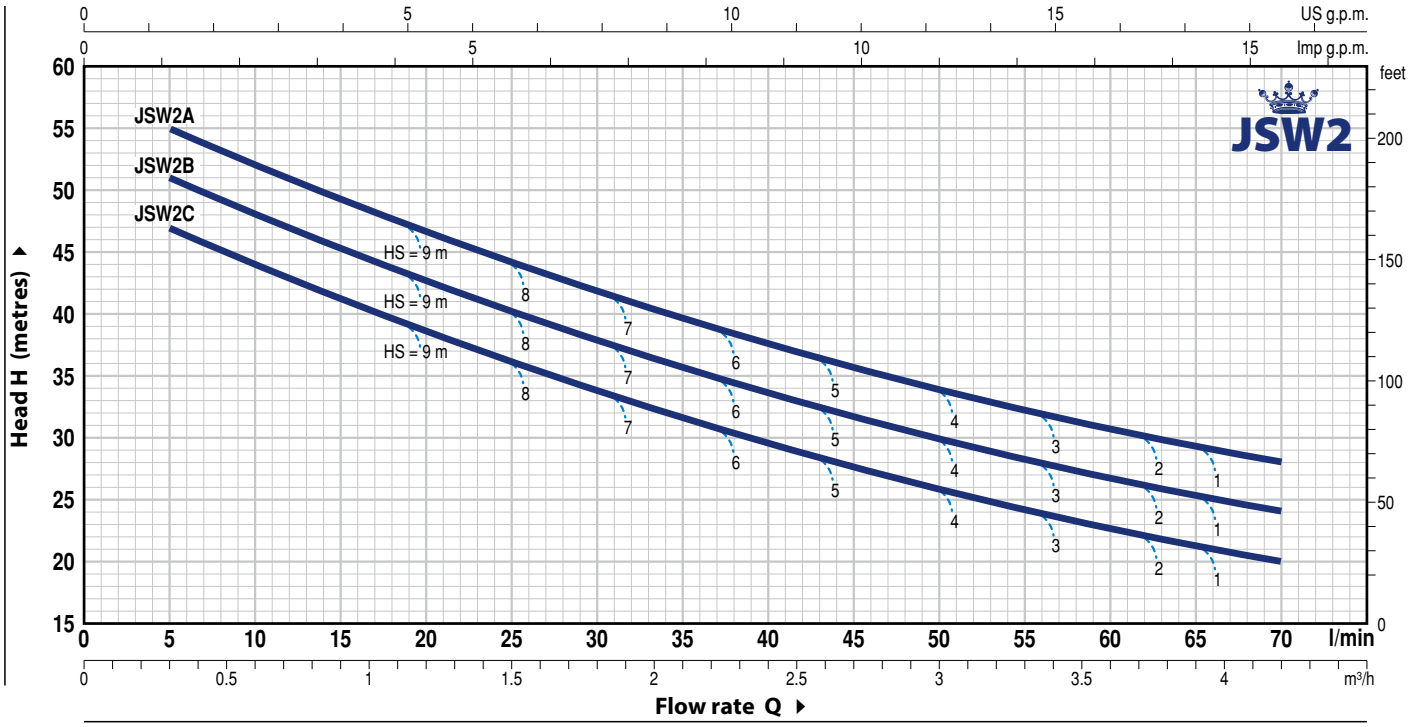
- Registered Trade Mark n. 013073135 JSW®
- Registered EU Design n. 002218610
- European Patent n. 1 510 696

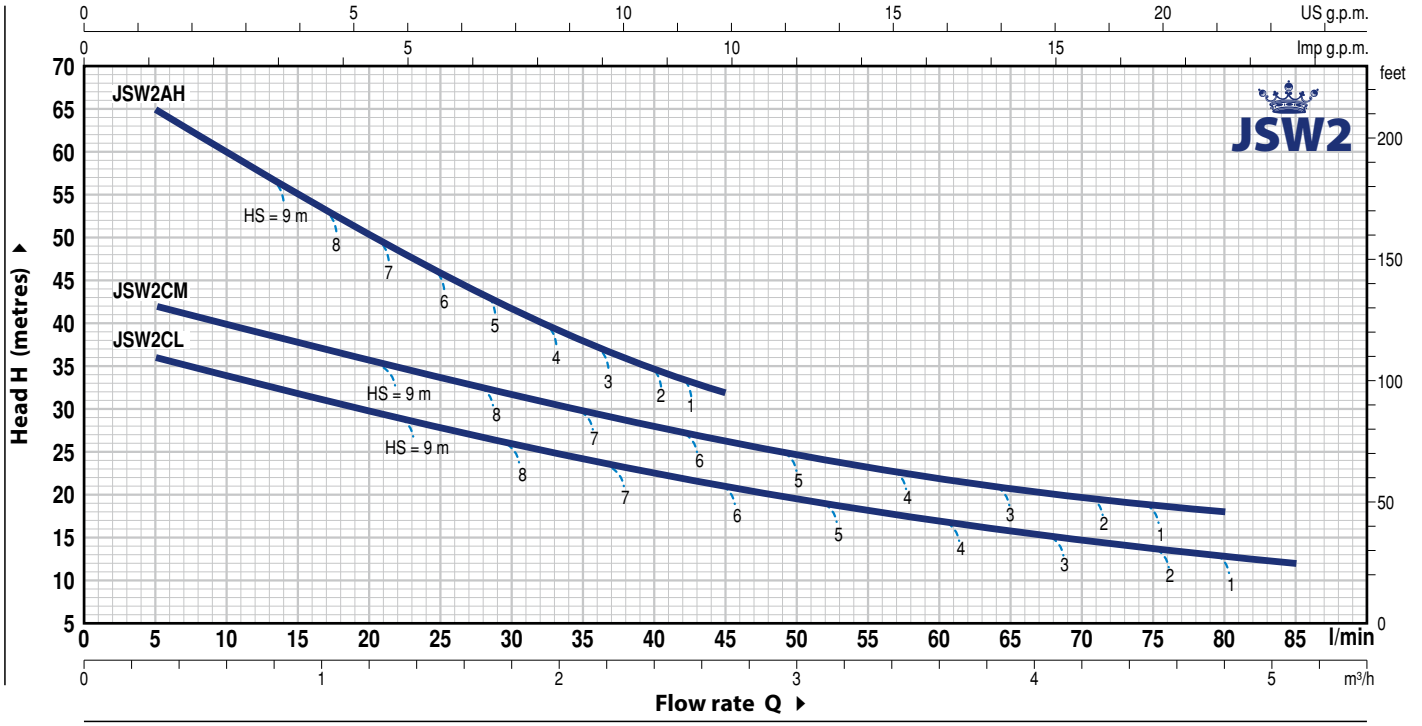
OPTIONS AVAILABLE ON REQUEST

- 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 (P2)			Q m³/h	0	0.3	0.6	1.2	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**	**30**	**40**	**45**	**50**	**60**	**70**	**80**	**85**
JSWm 2C	**JSW 2C**	0.75	1			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	**IE3**	**H** metres	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)

JSW2

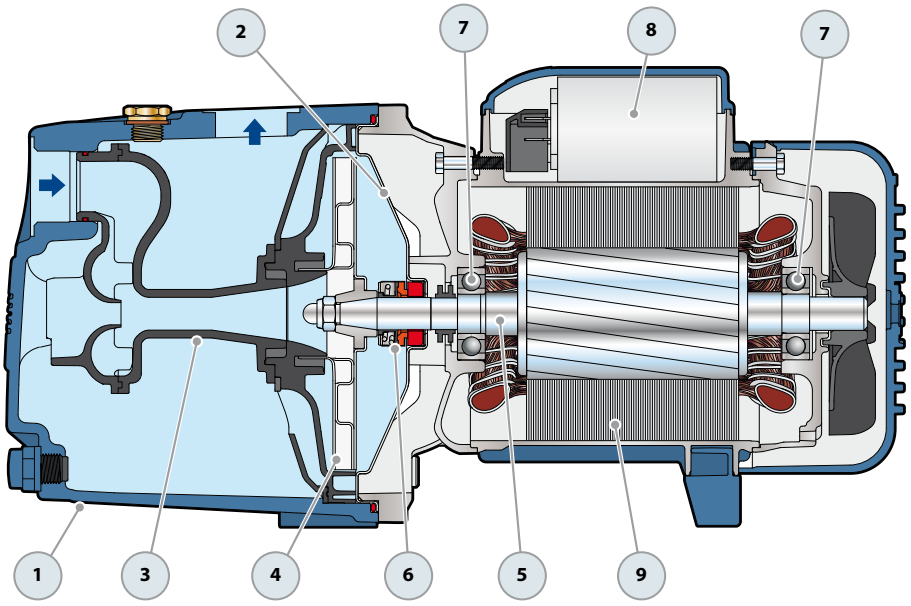
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron, complete with threaded ports in compliance with ISO 228/1
2	**BODY BACKPLATE**	Stainless steel AISI 304
3	**NOZZLE ASSEMBLY**	Noryl FE1520PW
4	**IMPELLER**	Stainless steel AISI 304
5	**MOTOR SHAFT**	Stainless steel AISI 431
6	**MECHANICAL SEAL**	

Seal ***Model***	***Shaft*** ***Diameter***	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
AR-14	**Ø 14** mm	Ceramic	Graphite	NBR

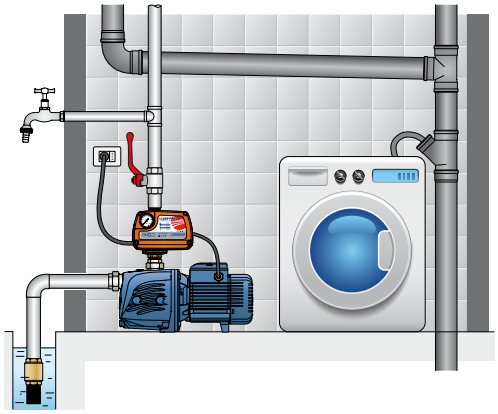
7	**BEARINGS**	**6203 ZZ / 6203 ZZ**

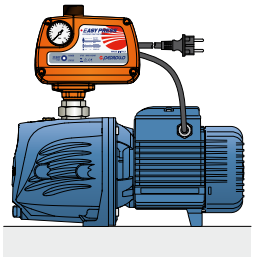
8	**CAPACITOR**	***Pump*** ***Single-phase***	***Capacitance*** ***(230 V or 240 V)***	***(110 V)***
		JSWm 2C-CL-CM	**20** µF - 450 VL	**60** µF - 300 VL
		JSWm 2B	**25** µF - 450 VL	**60** µF - 300 VL
		JSWm 2A-AH	**25** µF - 450 VL	**60** µF - 300 VL

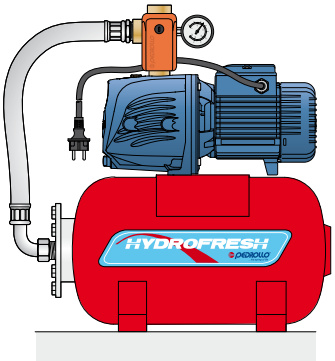
9	**ELECTRIC MOTOR**	**JSWm**: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding. **JSW**: three-phase 230/400 V - 50 Hz. ➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)** – Insulation: class F – Protection: IP X4



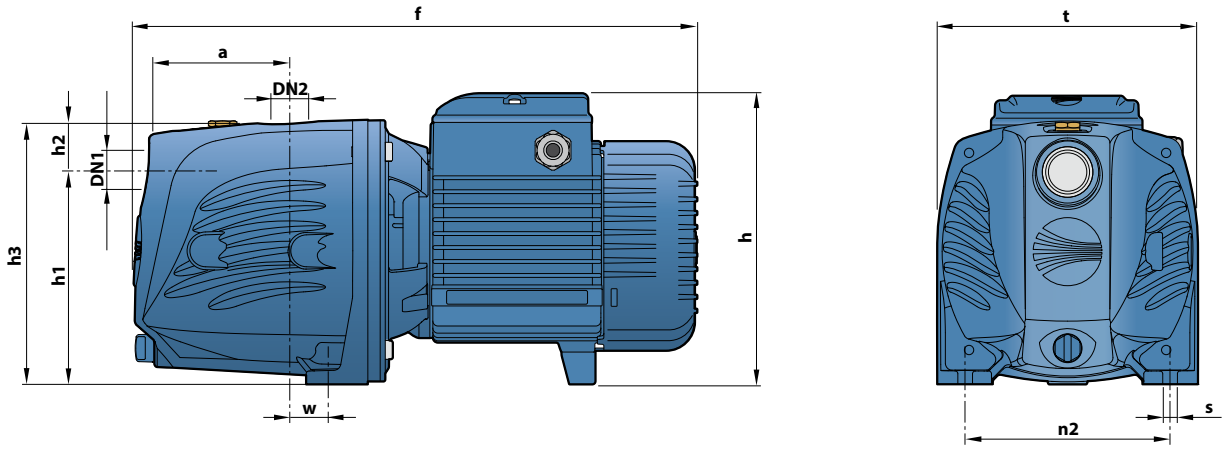
STANDARD INSTALLATION







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**

JSW3

Self-priming “JET” pumps

Clean water
Domestic use
Civil use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **160 l/min** (9.6 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

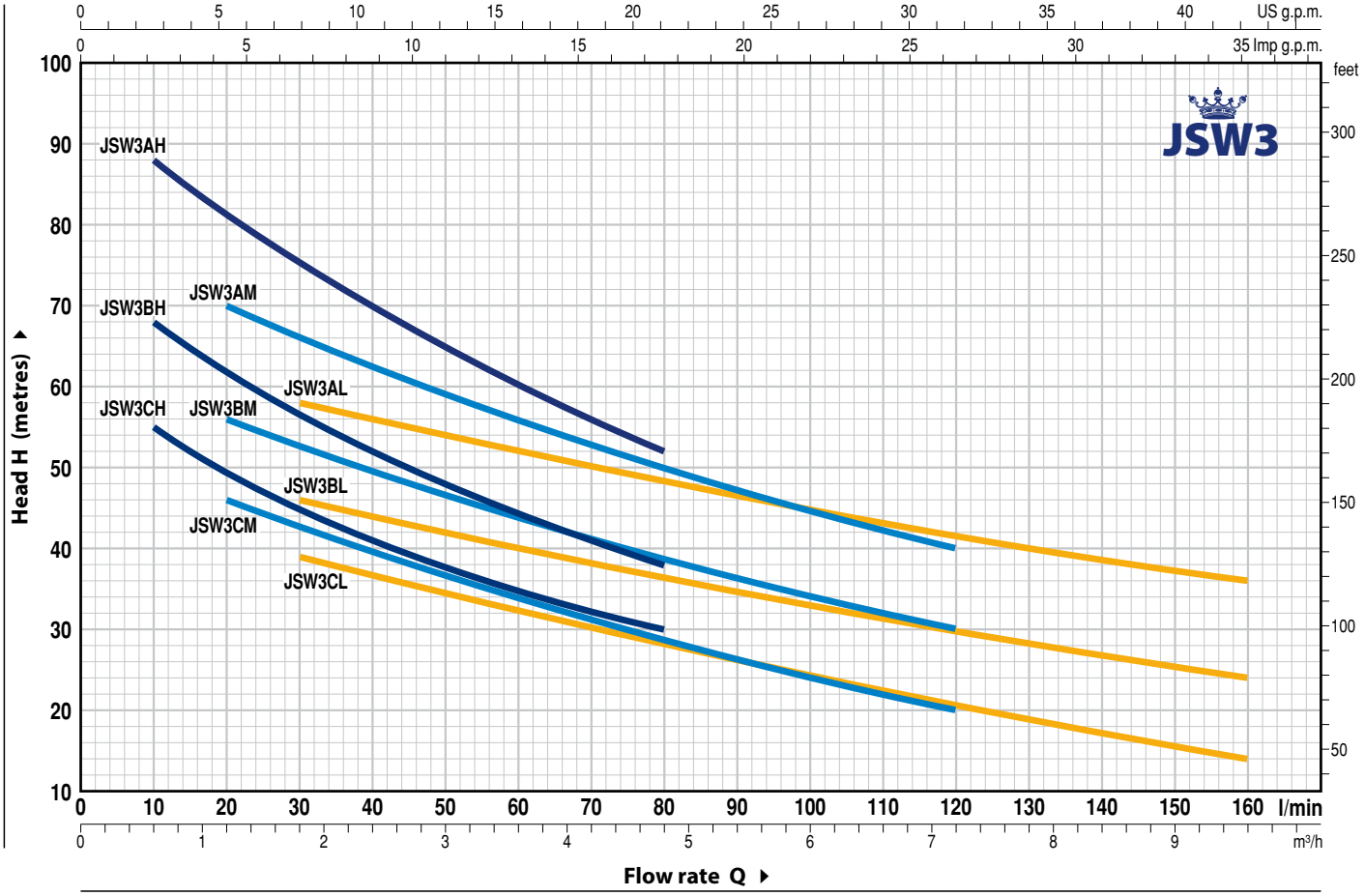
- Registered Trade Mark n. 013073135 JSW®
- Registered EU Design n. 002218610

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



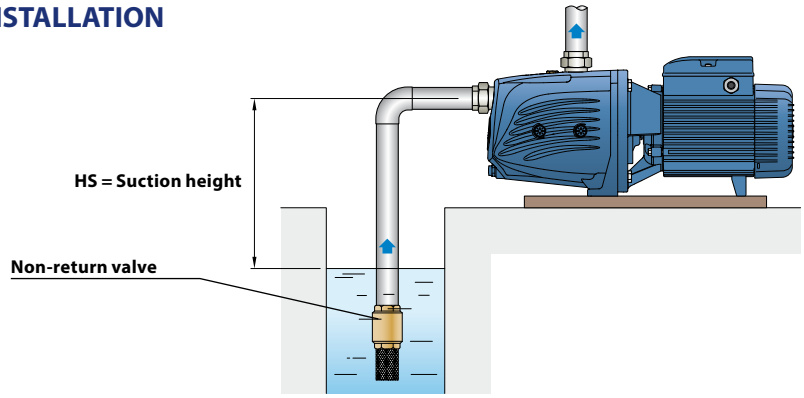
MODEL		POWER (P2)			Q m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	6.0	7.2	8.4	9.6
Single-phase	**Three-phase**	**kW**	**HP**	▲	l/min	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**100**	**120**	**140**	**160**
JSWm 3CH	**JSW 3CH**	1.1	1.5			62	55	49	45	41	38	35	32	30				
JSWm 3BH	**JSW 3BH**	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	**IE3**	**H** metres	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

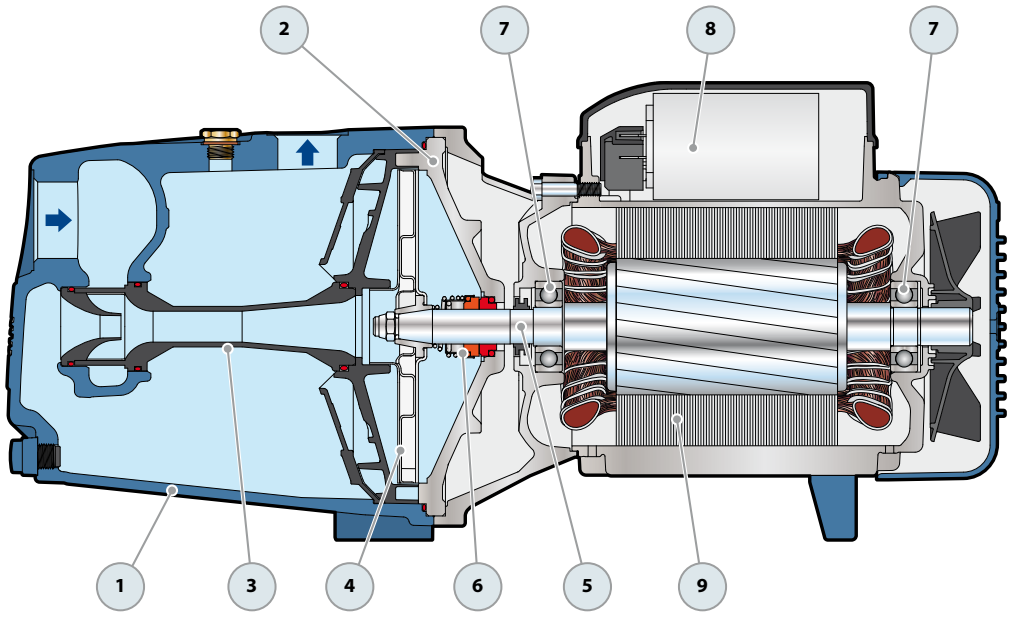
Pump	***Capacitance***	
Single-phase	***(230 V or 240 V)***	***(110 V)***
JSWm 3C	**31.5** µF - 450 VL	**60** µF - 250 VL
JSWm 3B	**45** µF - 450 VL	**80** µF - 250 VL
JSWm 3A	**50** µF - 450 VL	**–**

9 ELECTRIC MOTOR

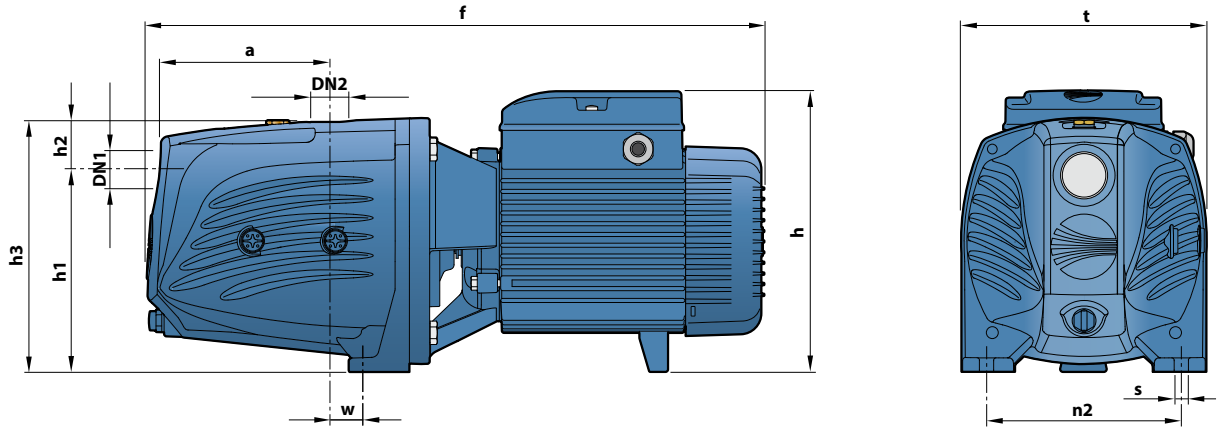
JSWm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
JSW: three-phase 230/400 V - 50 Hz.

➠ **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**				522									**24.2**	**28.2**
JSWm 3BH	**JSW 3BH**													**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**	**1¼"**	**1"**	143		240	165	39	204	206	164	30	11	**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**													**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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

INSTALLATION AND USE

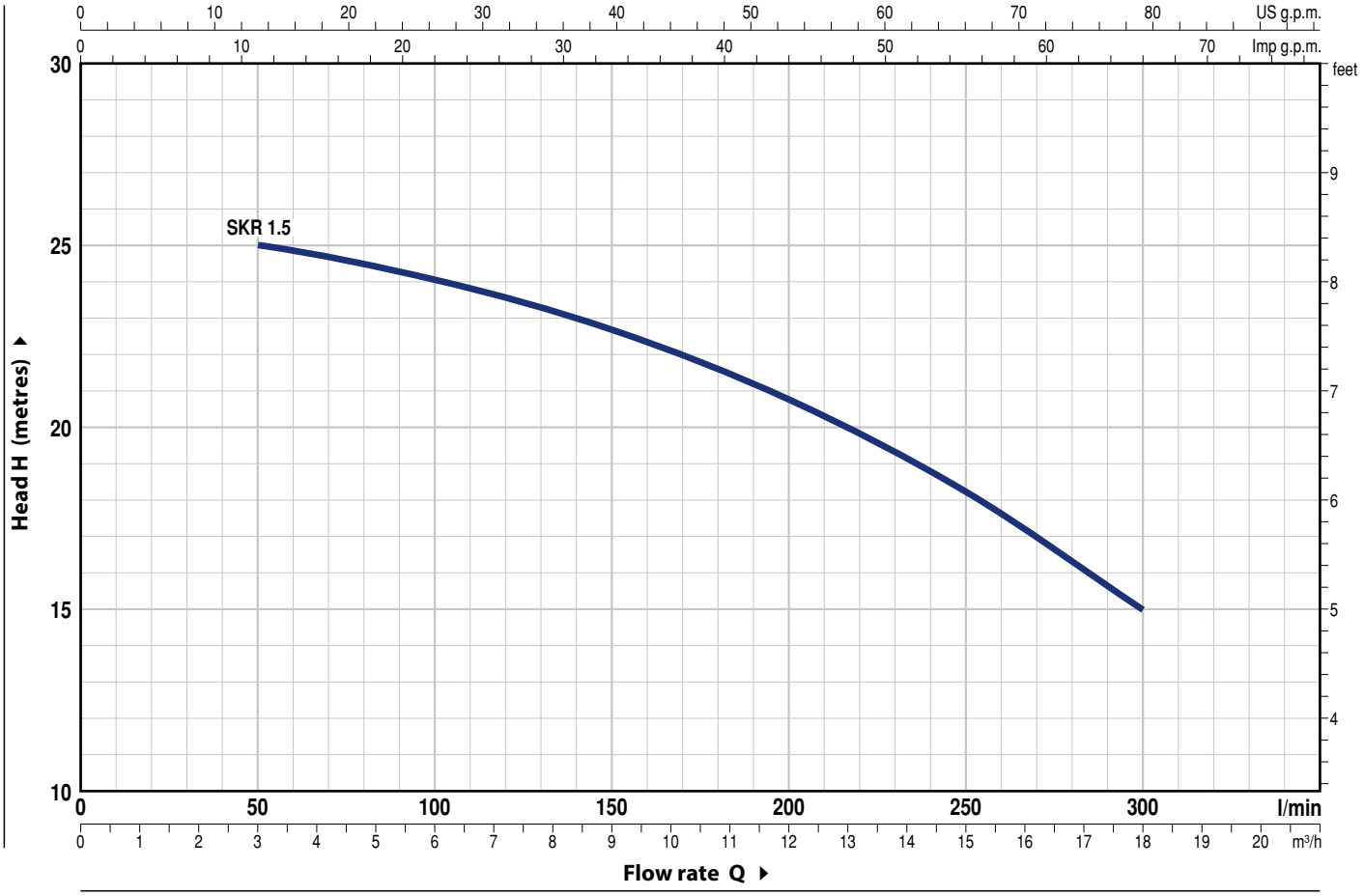
Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. The self-priming **SPRINKLER** pumps are designed to pump water even in cases where air is present. Because of their reliability and the fact that they are easy to 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



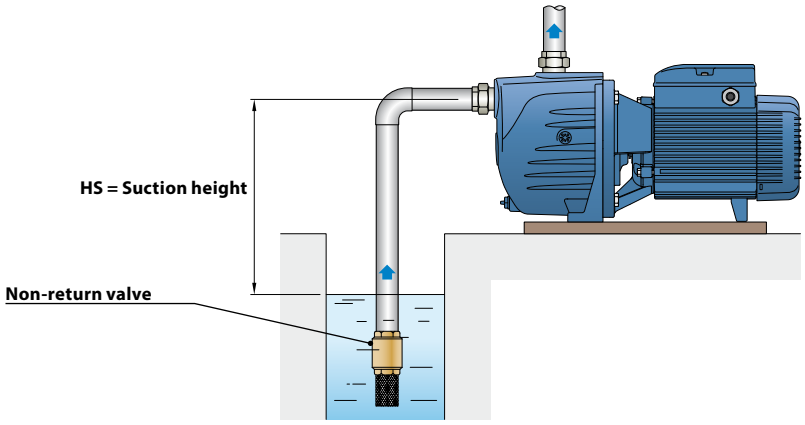
MODEL		POWER (P2)			Q	m³/h	0	3.0	6.0	9.0	12.0	15.0	18.0
Single-phase	Three-phase	kW	HP	▲		l/min	**0**	**50**	**100**	**150**	**200**	**250**	**300**
SKRm 1.5	**SKR 1.5**	1.5	2	**IE3**	**H**	metres	25.5	25	24	22.7	20.8	18.2	15

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

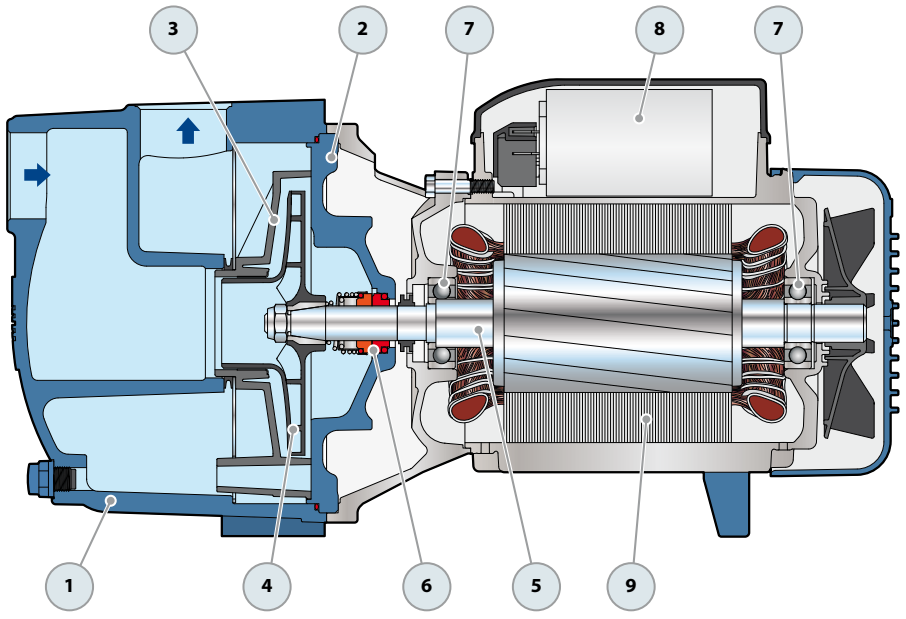
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with threaded ports in compliance with ISO 228/1
2	**BODY BACKPLATE**	Cast iron with an Epoxy Electro Coating treatment
3	**DIFFUSER**	Noryl FE1520PW
4	**IMPELLER**	Noryl FE1520PW
5	**MOTOR 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

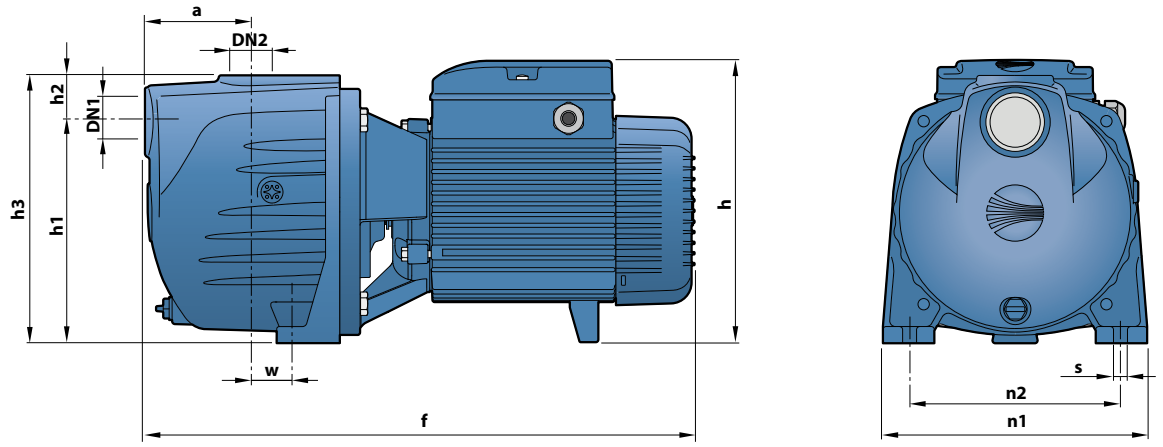
7	**BEARINGS**	**6204 ZZ / 6204 ZZ**

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**

JCR1

Self-priming “JET” pumps

Clean water

Domestic use

PERFORMANCE RANGE

- Flow rate up to **60 l/min** (3.6 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

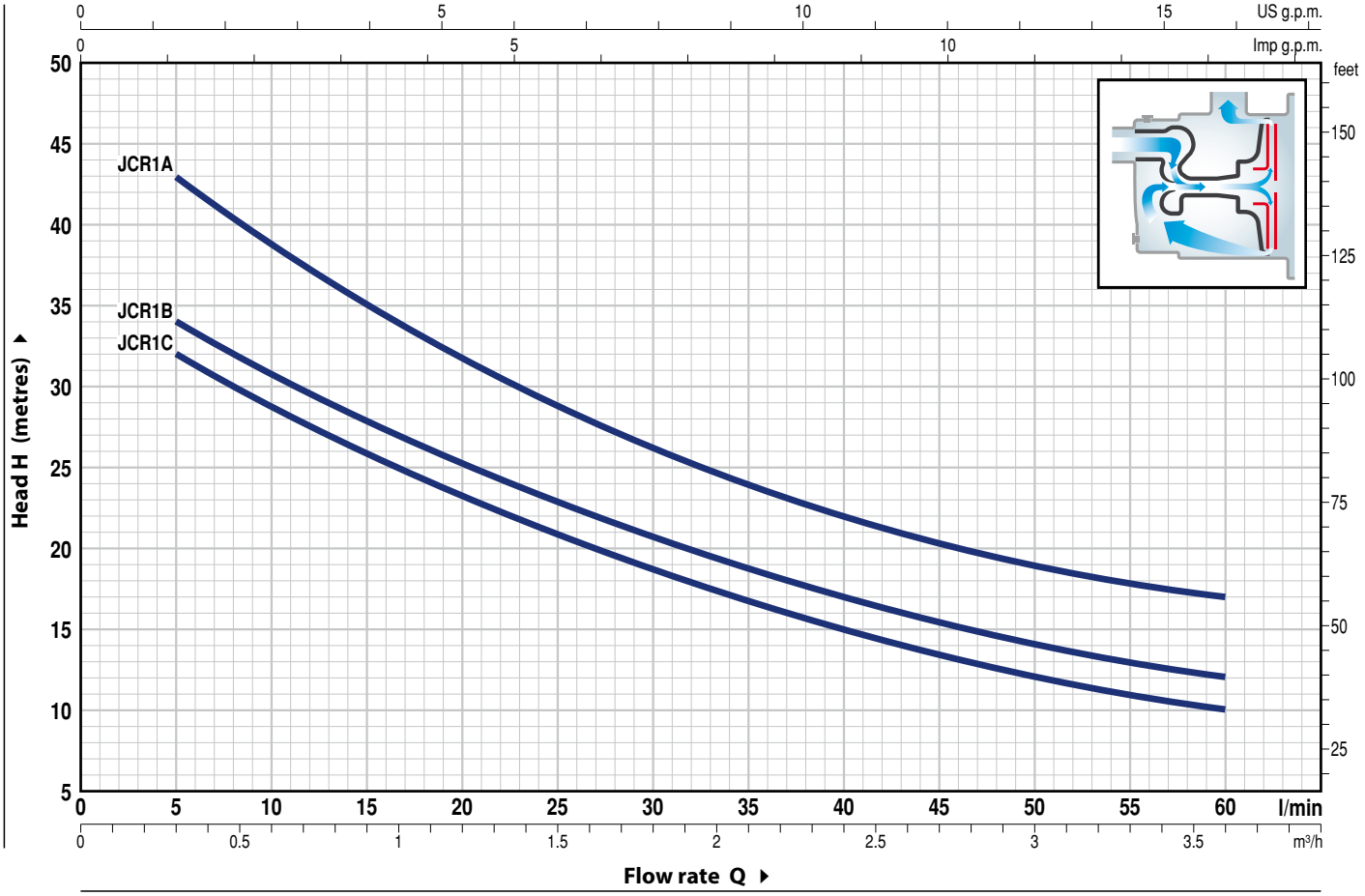
- European Patent n. 1 510 696

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



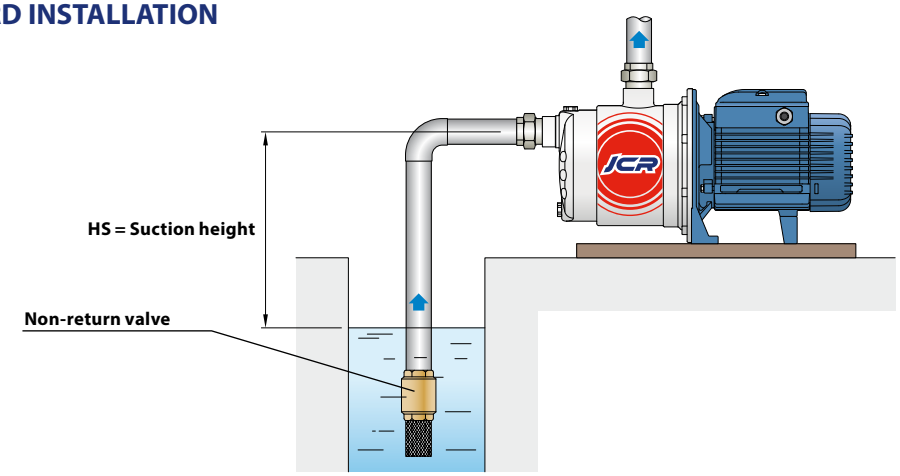
MODEL		POWER (P2)			Q	m³/h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**20**	**25**	**30**	**40**	**45**	**50**	**60**
JCRm 1C	**JCR 1C**	0.37	0.50	**IE2**	**H**	metres	35	32	28.5	23.5	21	18.5	15	13.5	12	10
JCRm 1B	**JCR 1B**	0.48	0.65				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***	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
AR-12	**Ø 12** mm	Ceramic	Graphite	NBR

7 BEARINGS — **6201 ZZ / 6201 ZZ**

8 CAPACITOR

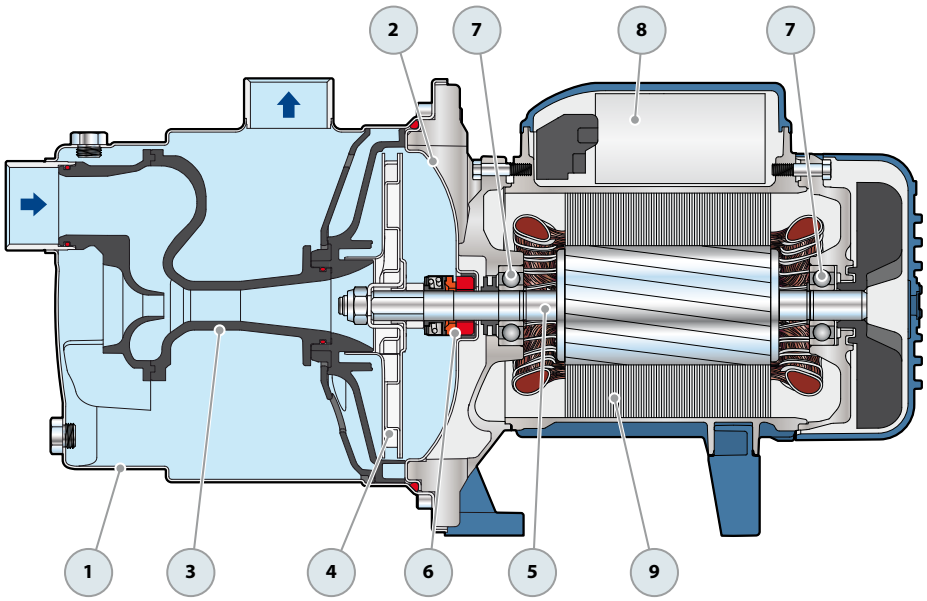
Pump ***Single-phase***	***Capacitance*** ***(230 V or 240 V)***	***(110 V)***
JCRm 1C	**10** µF - 450 VL	**25** µF - 250 VL
JCRm 1B	**10** µF - 450 VL	**25** µF - 250 VL
JCRm 1A	**14** µF - 450 VL	**25** µF - 250 VL

9 ELECTRIC MOTOR

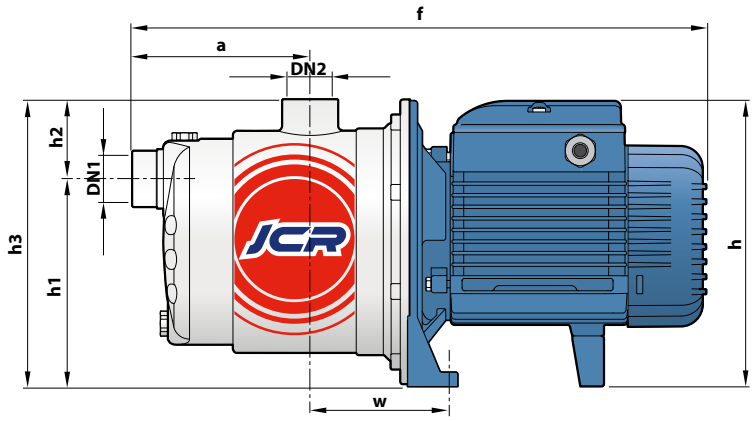
JCRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
JCR: three-phase 230/400 V - 50 Hz.

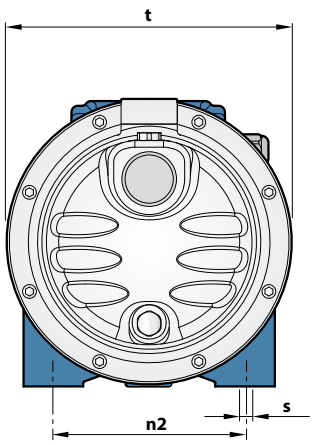
➠ **The three-phase pumps are fitted with high performance motors up to P2=0.48 kW in class IE2 and from P2=0.55 kW in class IE3 (IEC 60034-30-1)**

– 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		
Single-phase	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					
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
JCR 1C	**1.7** A	**1.0** A	**0.6** A	**1.7** A	**1.0** A	**0.6** A
JCR 1B	**2.1** A	**1.2** A	**0.7** A	**2.1** A	**1.2** A	**0.7** A
JCR 1A	**2.8** A	**1.6** A	**0.9** A	**2.8** A	**1.6** A	**0.9** A

PALLETIZATION

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

JCR2

Self-priming “JET” pumps

Clean water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **85 l/min** (5.1 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

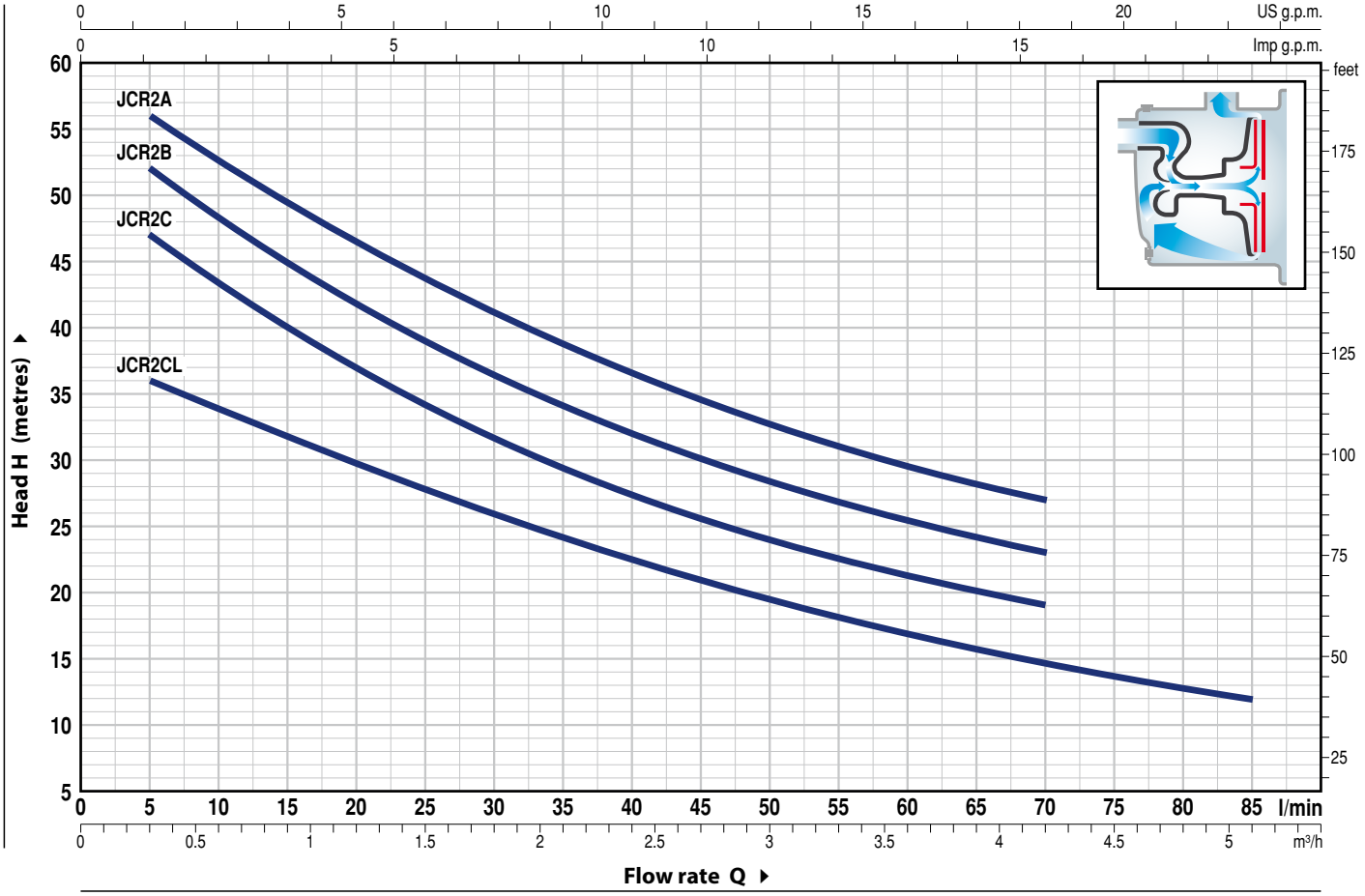
- European Patent n. 1 510 696

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



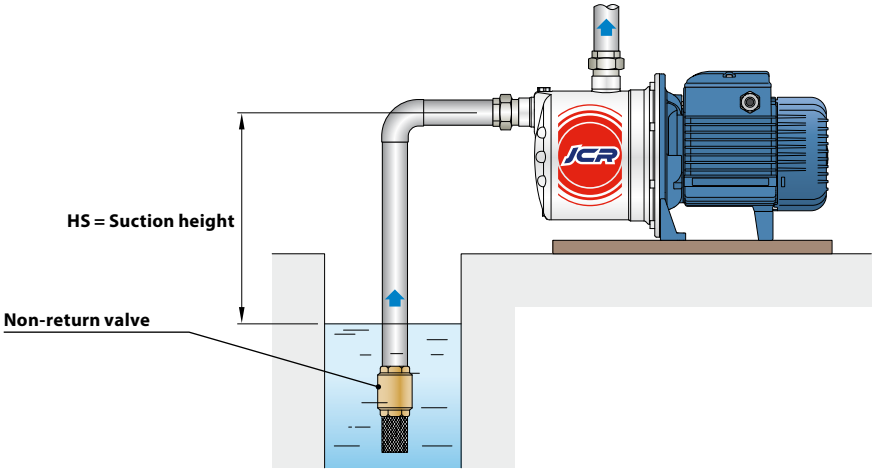
MODEL		POWER (P2)			Q	m³/h	0	0.3	0.6	1.2	1.5	1.8	2.4	2.7	3.0	3.6	4.2	4.8	5.1
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**20**	**25**	**30**	**40**	**45**	**50**	**60**	**70**	**80**	**85**
JCRm 2C	**JCR 2C**	0.75	1	IE3	H	metres	50	47	43	37	34	31.5	27.5	25.5	24	21	19		
JCRm 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



JCR2

POS. COMPONENT — CONSTRUCTION CHARACTERISTICS

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***	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
AR-14	**Ø 14** mm	Ceramic	Graphite	NBR

7 BEARINGS — **6203 ZZ / 6203 ZZ**

8 CAPACITOR

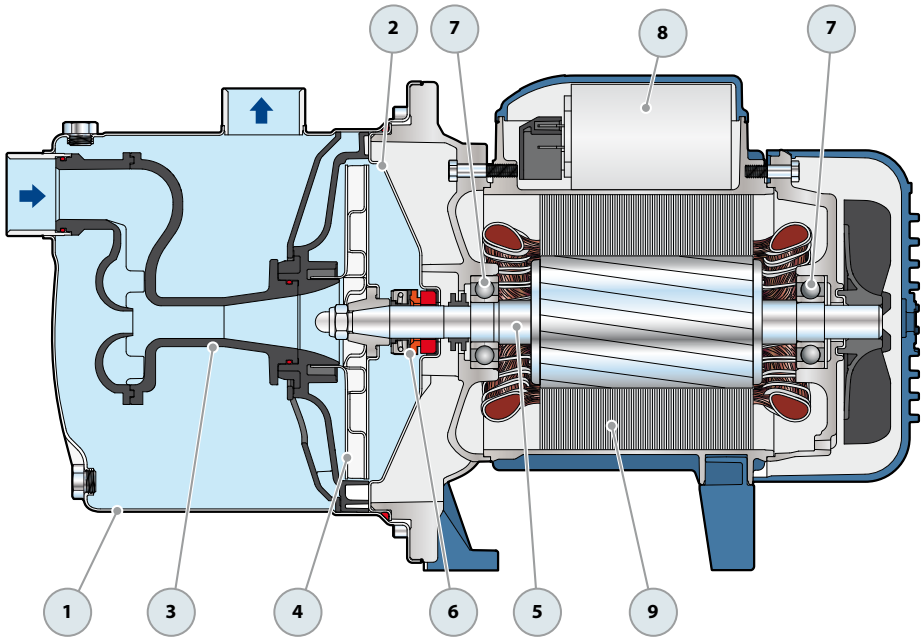
Pump ***Single-phase***	***Capacitance*** ***(230 V or 240 V)***	***(110 V)***
JCRm 2C **JCRm 2CL**	**20** µF - 450 VL	**60** µF - 300 VL
JCRm 2B	**25** µF - 450 VL	**60** µF - 300 VL
JCRm 2A	**25** µF - 450 VL	**60** µF - 350 VL

9 ELECTRIC MOTOR

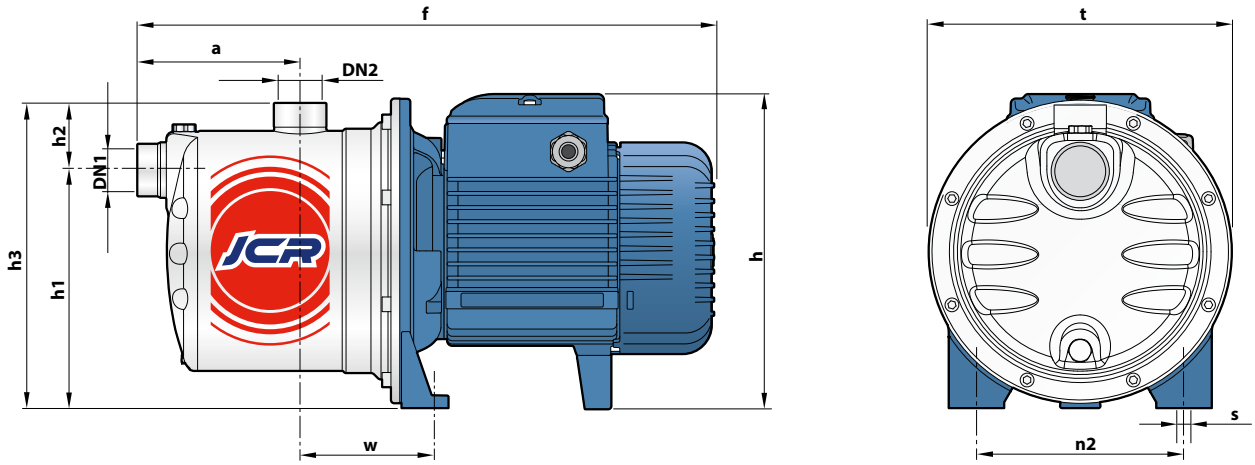
JCRm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
JCR: three-phase 230/400 V - 50 Hz.

➠ **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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

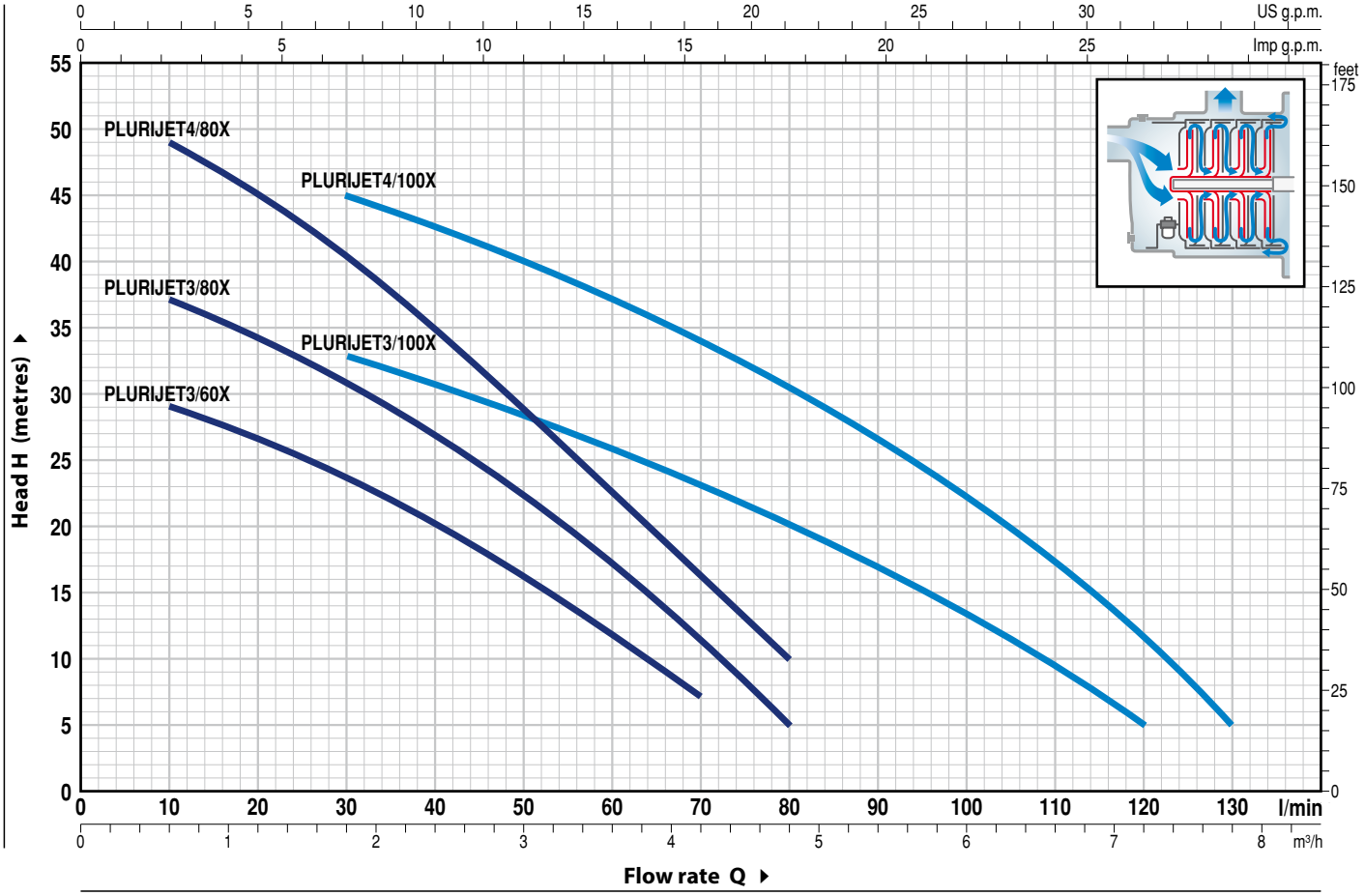
- Registered Trade Mark n. 3974301 PLURIJET®

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



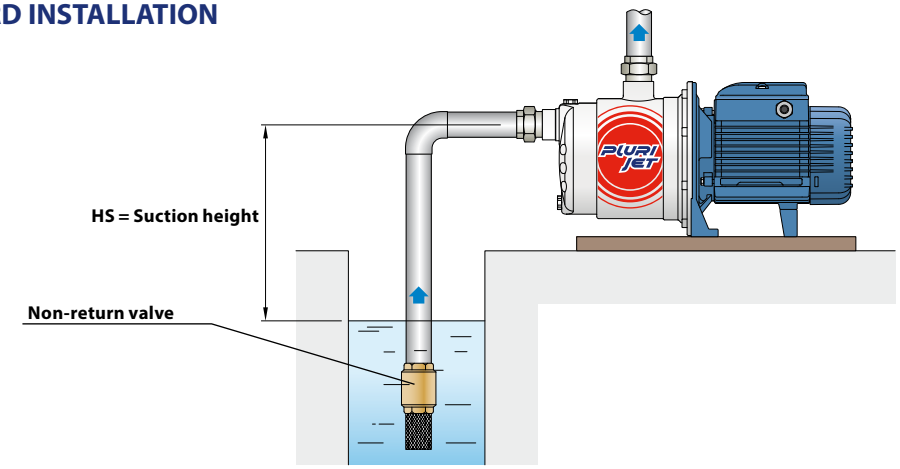
MODEL		POWER (P2)			Q m³/h	0	0.3	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8
Single-phase	**Three-phase**	**kW**	**HP**	▲	Q l/min	**0**	**5**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**	**130**
PLURIJETm 3/60X	**PLURIJET 3/60X**	0.37	0.50			31	30	29	26.5	23.5	20	16	11.5	7						
PLURIJETm 3/80X	**PLURIJET 3/80X**	0.48	0.65	**IE2**		40	38	37	34.5	31	27	22.5	17	11	5					
PLURIJETm 4/80X	**PLURIJET 4/80X**	0.55	0.75		**H** metres	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*	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
AR-13	**Ø 13** mm	Ceramic	Graphite	NBR

7 BEARINGS

Pump	*Model*
PLURIJET 3/60X **PLURIJET 3/80X** **PLURIJET 3/100X** **PLURIJET 4/80X**	**6202 ZZ - C3 / 6201 ZZ**
PLURIJET 4/100X	**6203 ZZ / 6203 ZZ**

8 CAPACITOR

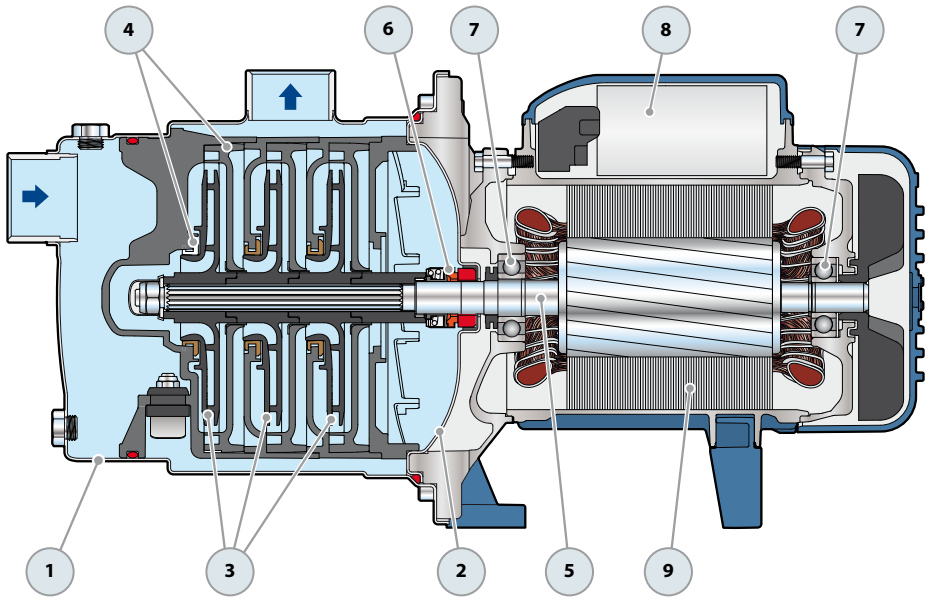
Pump *Single-phase*	*Capacitance* *(230 V or 240 V)*	*(110 V)*
PLURIJETm 3/60X	**10** µF - 450 VL	**25** µF - 250 VL
PLURIJETm 3/80X	**12.5** µF - 450 VL	**25** µF - 250 VL
PLURIJETm 4/80X **PLURIJETm 3/100X**	**14** µF - 450 VL	**25** µF - 250 VL
PLURIJETm 4/100X	**20** µF - 450 VL	**60** µF - 300 VL

9 ELECTRIC MOTOR

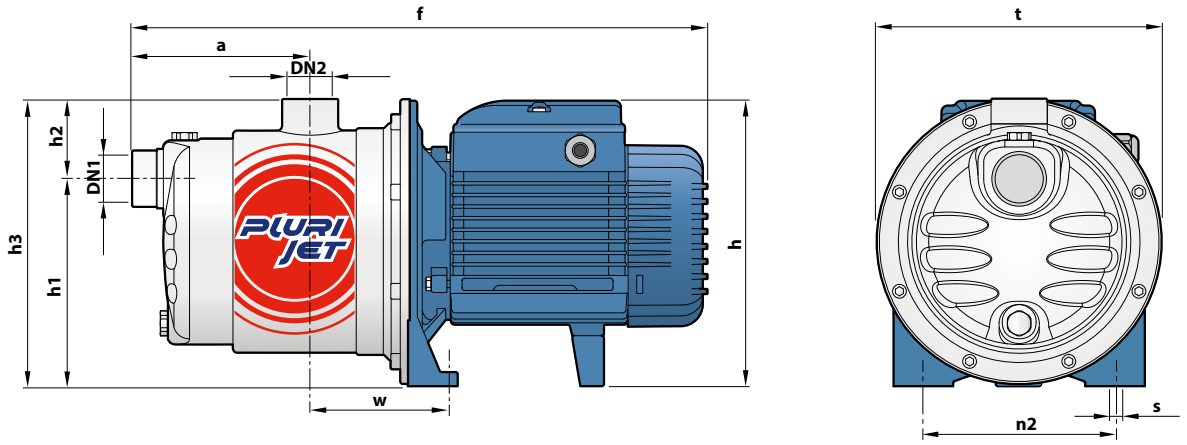
PLURIJETm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
PLURIJET: three-phase 230/400 V - 50 Hz.

➠ **The three-phase pumps are fitted with high performance motors up to 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	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**													**7.3**	**7.3**
PLURIJETm 4/80X	**PLURIJET 4/80X**			138	392									**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**

PLURIJET 90-130-200

STAINLESS STEEL IMPELLERS

Self-priming multi-stage pumps

Clean water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **200 l/min** (12 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

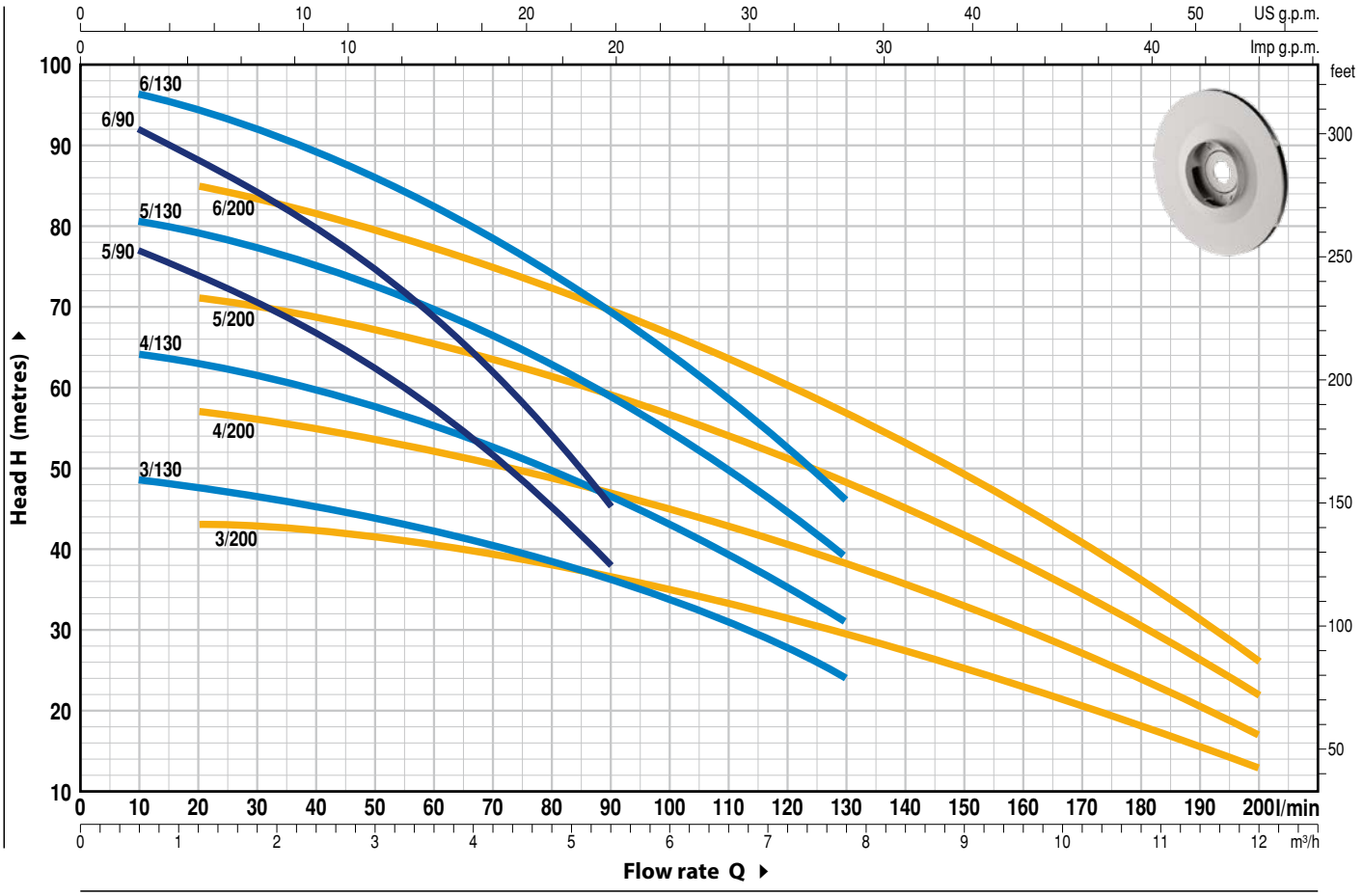
- Registered Trade Mark n. 3974301 PLURIJET®
- Patent Pending n. EP14755156.8

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



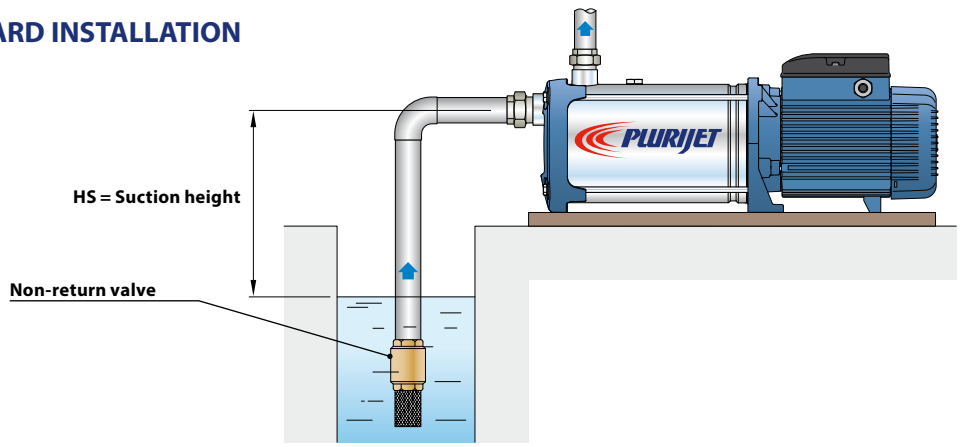
MODEL		POWER (P2)			Q	m³/h	0	0.3	0.6	1.2	2.4	3.6	5.4	6.0	7.8	8.4	9.6	10.8	12.0
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**20**	**40**	**60**	**90**	**100**	**130**	**140**	**160**	**180**	**200**
PLURIJETm 5/90	**PLURIJET 5/90**	1.1	1.5				80	78	77	74	67	57	38						
PLURIJETm 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	**IE3**	**H**	metres	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

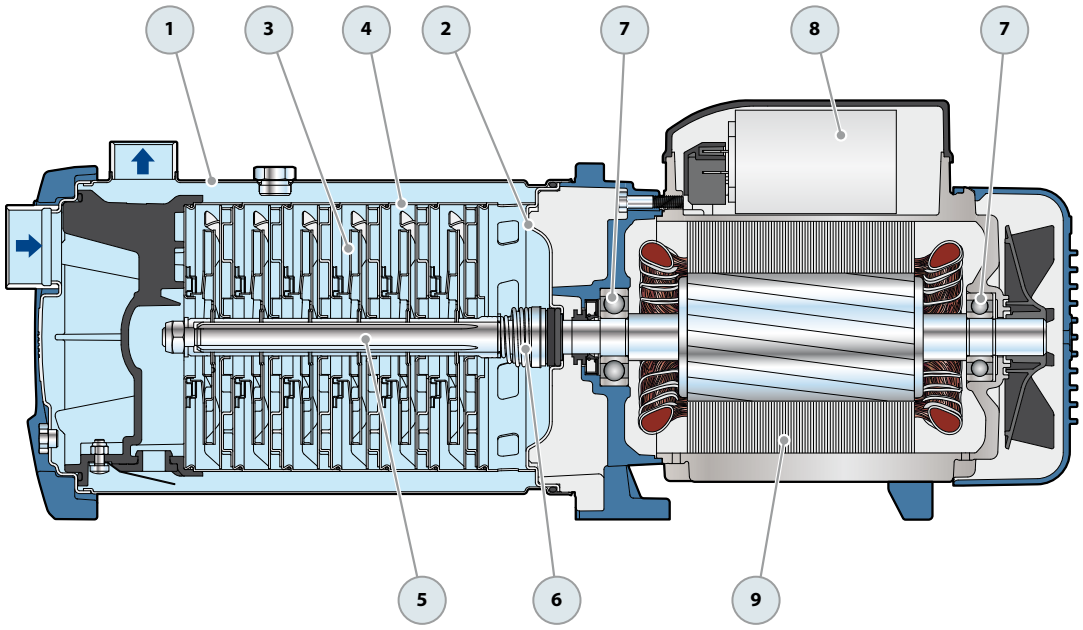
Pump *Single-phase*	*Capacitance* *(230 V or 240 V)*	*(110 V)*
PLURIJETm 5/90 **PLURIJETm 3/130** **PLURIJETm 3/200**	**31.5** µF - 450 VL	**60** µF - 250 VL
PLURIJETm 6/90 **PLURIJETm 4/130** **PLURIJETm 4/200**	**45** µF - 450 VL	**80** µF - 250 VL
PLURIJETm 5/130 **PLURIJETm 5/200**	**50** µF - 450 VL	–

9 ELECTRIC MOTOR

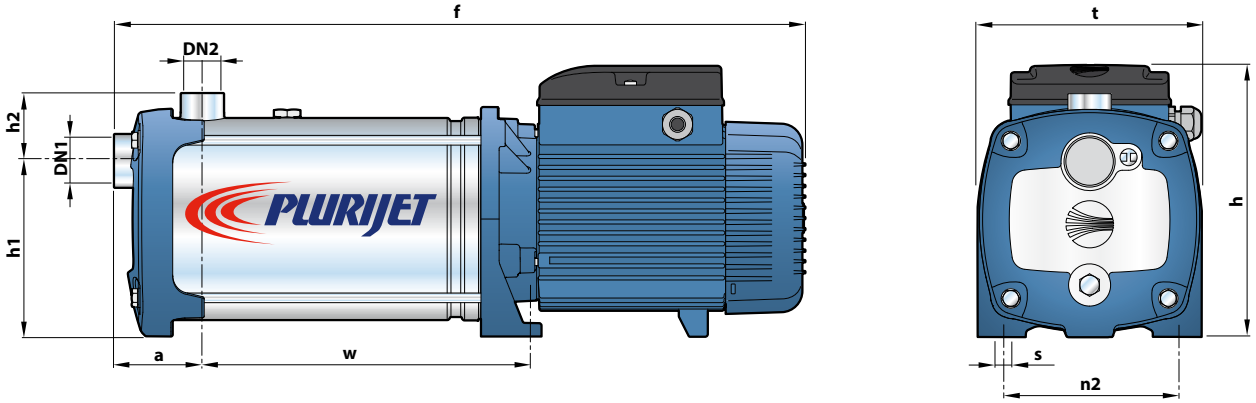
PLURIJETm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
PLURIJET: three-phase 230/400 V - 50 Hz.

➠ **The three-phase pumps are fitted with high performance motors 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**				549						245		**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**	**1¼"**	**1"**	75	569	228	145	56	185	145	245	11	**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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

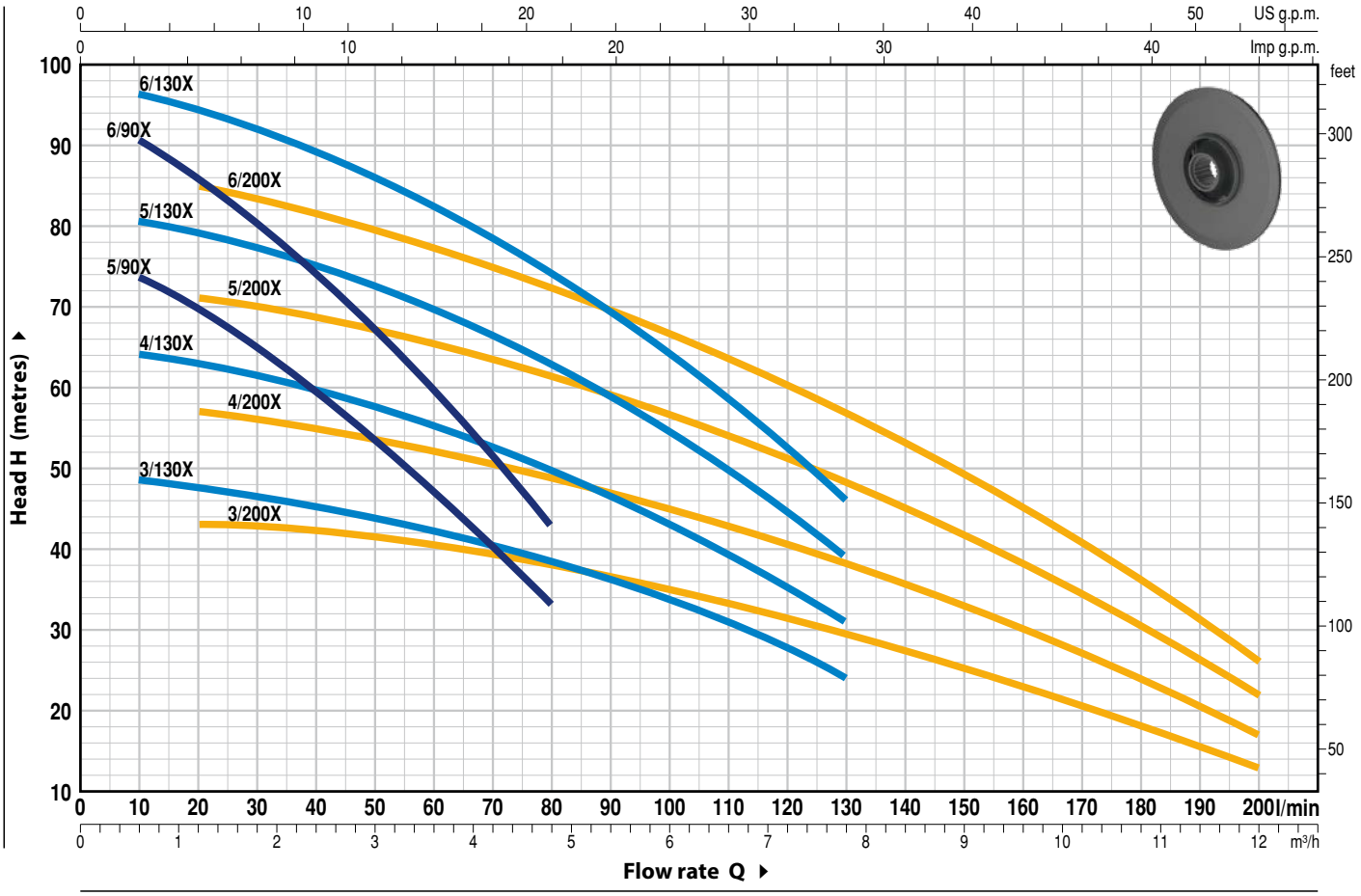
- Registered Trade Mark n. 3974301 PLURIJET®
- Patent n. EP14755156.8

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



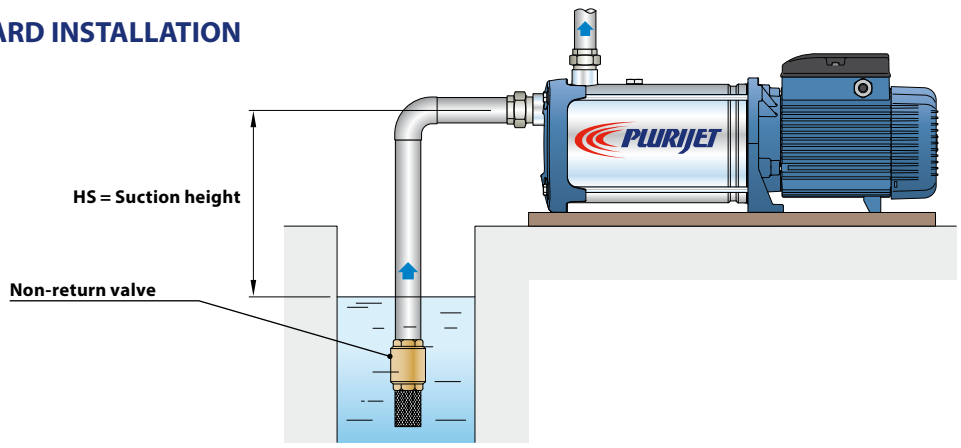
MODEL		POWER (P2)			Q	m³/h	0	0.3	0.6	1.2	2.4	3.6	4.8	6.0	7.8	8.4	9.6	10.8	12.0
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**0**	**5**	**10**	**20**	**40**	**60**	**80**	**100**	**130**	**140**	**160**	**180**	**200**
PLURIJETm 5/90X	**PLURIJET 5/90X**	1.1	1.5				76	76	73.5	70	60.5	47	33						
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	**IE3**	**H**	metres	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

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

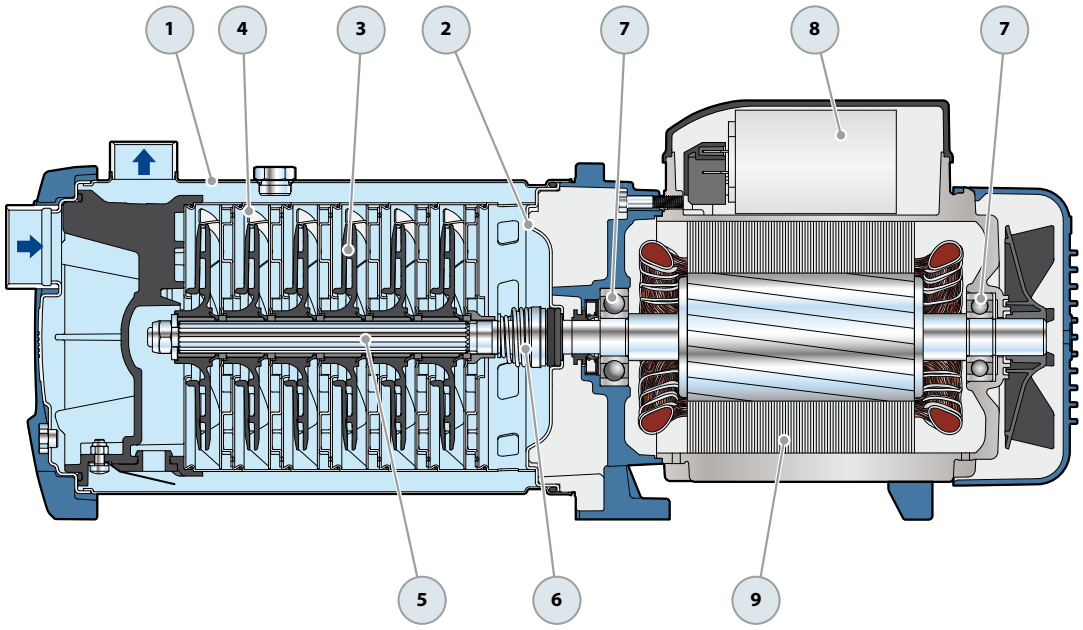
Pump *Single-phase*	*Capacitance* *(230 V or 240 V)*	*(110 V)*
PLURIJETm 5/90X **PLURIJETm 3/130X** **PLURIJETm 3/200X**	**31.5** µF - 450 VL	**60** µF - 250 VL
PLURIJETm 6/90X **PLURIJETm 4/130X** **PLURIJETm 4/200X**	**45** µF - 450 VL	**80** µF - 250 VL
PLURIJETm 5/130X **PLURIJETm 5/200X**	**50** µF - 450 VL	–

9 ELECTRIC MOTOR

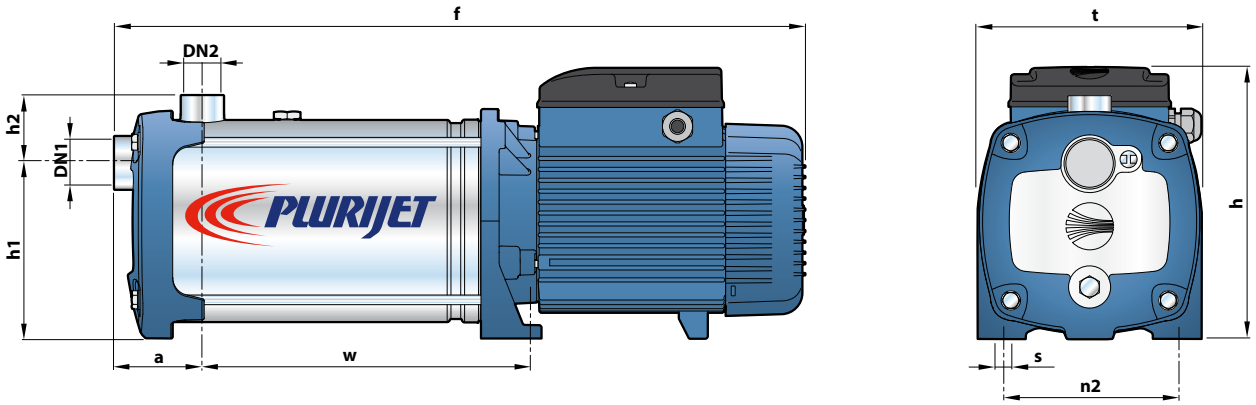
PLURIJETm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
PLURIJET: three-phase 230/400 V - 50 Hz.

➠ **The three-phase pumps are fitted with high performance motors 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**	**1¼"**	**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

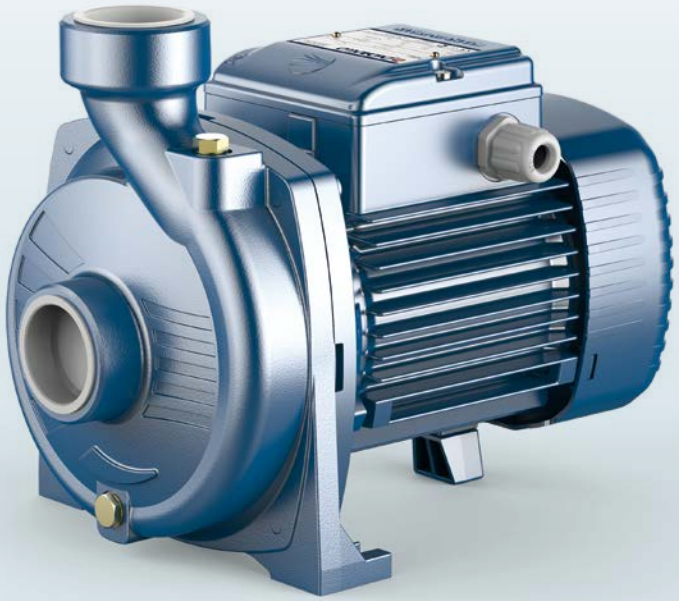
MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
PLURIJETm 5/90X	**9.3** A	**9.0** A	**18.6** A
PLURIJETm 6/90X	**11.0** A	**10.8** A	**22.0** A
PLURIJETm 3/130X	**8.5** A	**8.3** A	**17.0** A
PLURIJETm 4/130X	**10.3** A	**9.9** A	**20.6** A
PLURIJETm 5/130X	**12.5** A	**12.0** A	–
PLURIJETm 3/200X	**8.7**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

NGA

Centrifugal pumps with open impeller

Clean water
Domestic use
Agricultural use
Industrial use



PERFORMANCE RANGE

- Flow rate up to **350 l/min** (21 m^3/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. 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

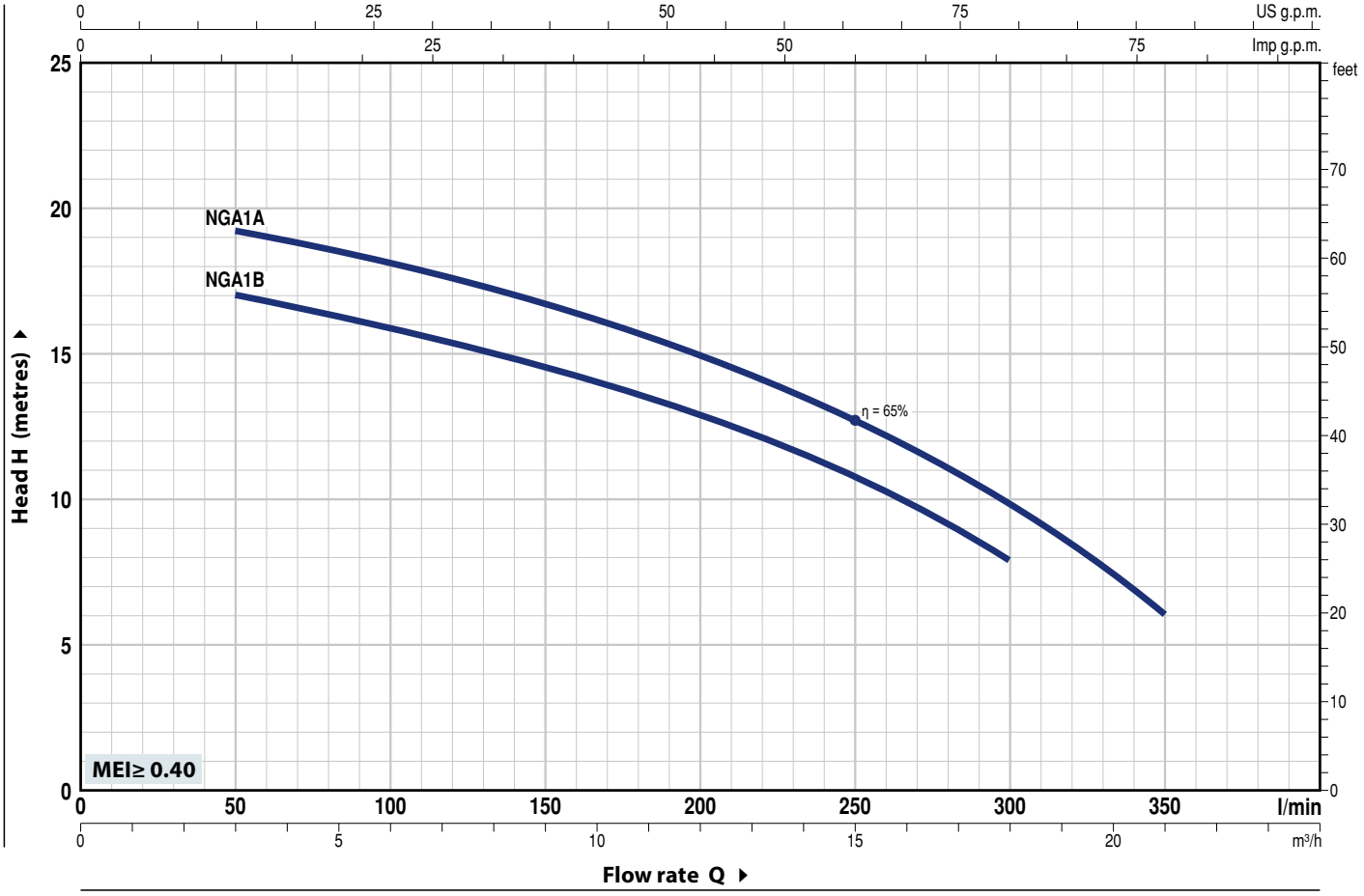
- Registered EU Design n. 002098434

OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL		POWER (P2)			Q	m³/h	0	3	6	9	12	15	18	21
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**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

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

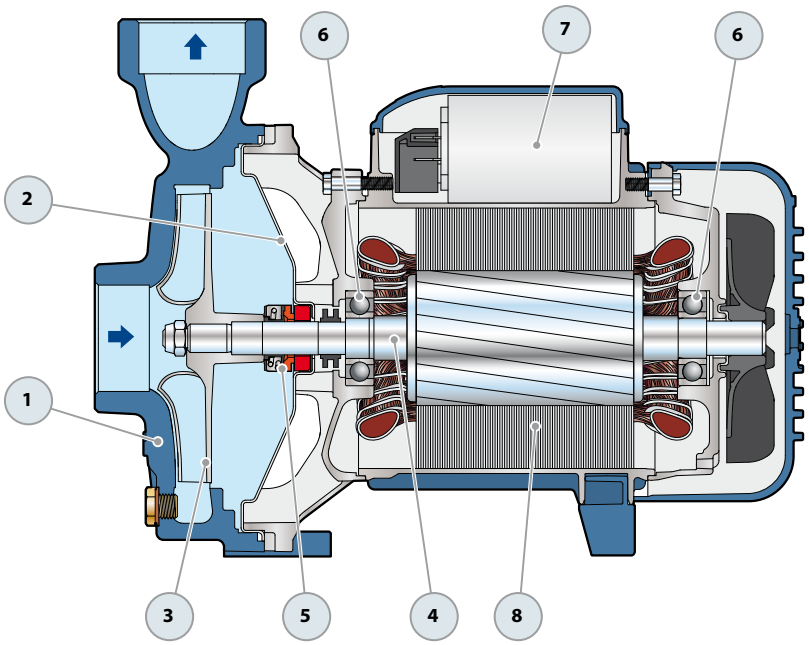
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
NGAm 1B	**16** µF - 450 VL	**60** µF - 300 VL
NGAm 1A	**20** µF - 450 VL	**60** µF - 300 VL

8 ELECTRIC MOTOR

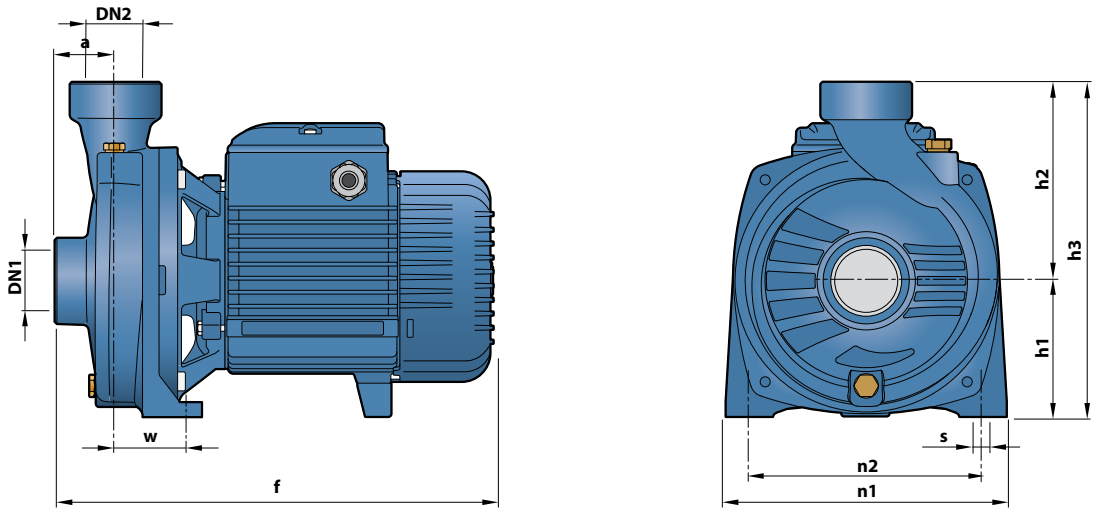
NGAm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
NGA: three-phase 230/400 V - 50 Hz.

➠ **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		
Single-phase	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					
Three-phase	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

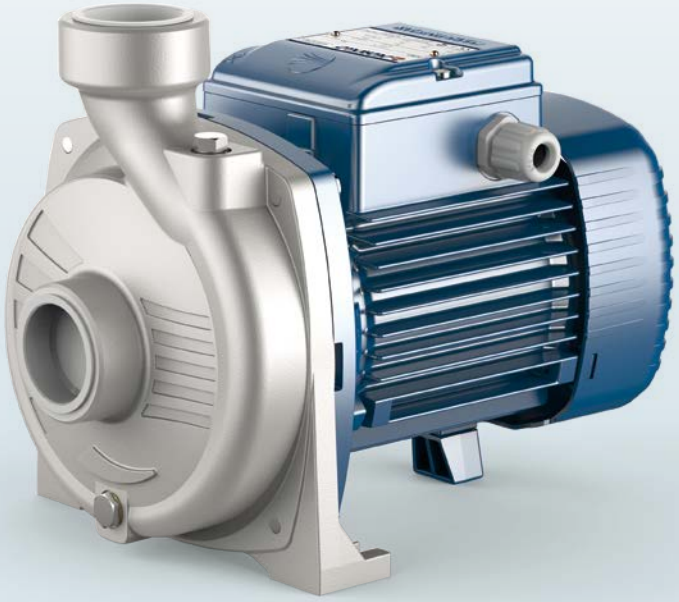
NGA-PRO

Stainless steel pumps with open impeller

Clean water

Agricultural use

Industrial use



PERFORMANCE RANGE

- Flow rate up to **350 l/min** (21 m^3/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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

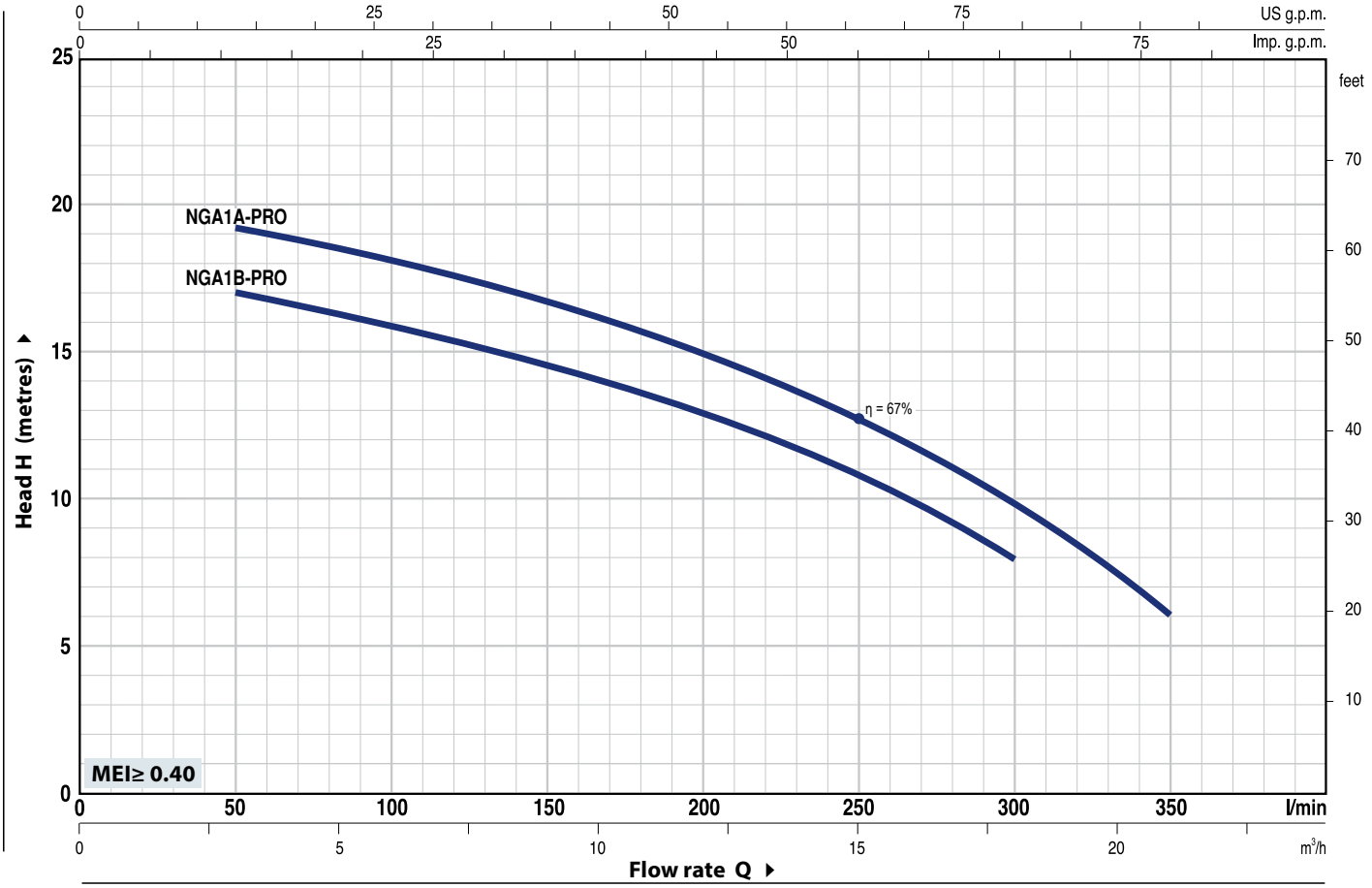
- Registered EU Design n. 002098434

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 (P2)			Q	m³/h	0	3	6	9	12	15	18	21
Single-phase	Three-phase	kW	HP	▲		l/min	**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)

NGA-PRO

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

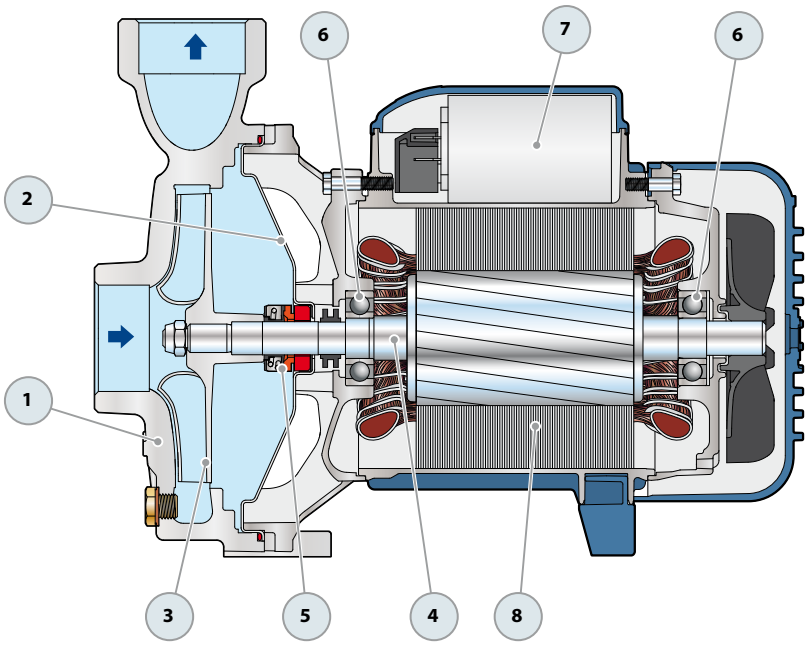
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
NGAm 1B - PRO	**16** µF - 450 VL	**60** µF - 300 VL
NGAm 1A - PRO	**20** µF - 450 VL	**60** µF - 300 VL

8 ELECTRIC MOTOR

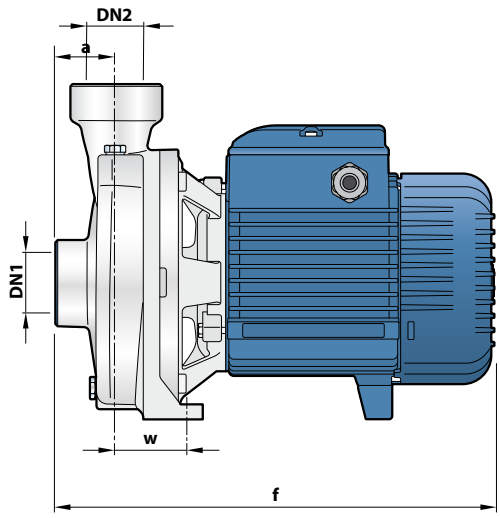
NGAm - PRO: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
NGA - PRO: three-phase 230/400 V - 50 Hz.

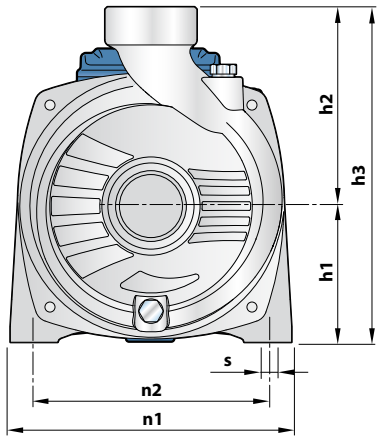
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– 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.

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

ALL IN ONE

Main components:
Multistage self-priming pump
Expansion vessel
Non-return valve
Intuitive control panel

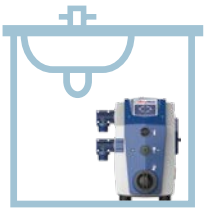
LOW-NOISE

CONSTANT PRESSURE

EASY TO USE

INSTALLABLE ANYWHERE

Thanks to its compactness and low noise level the DG PED can be installed anywhere



COMPACT DIMENSIONS

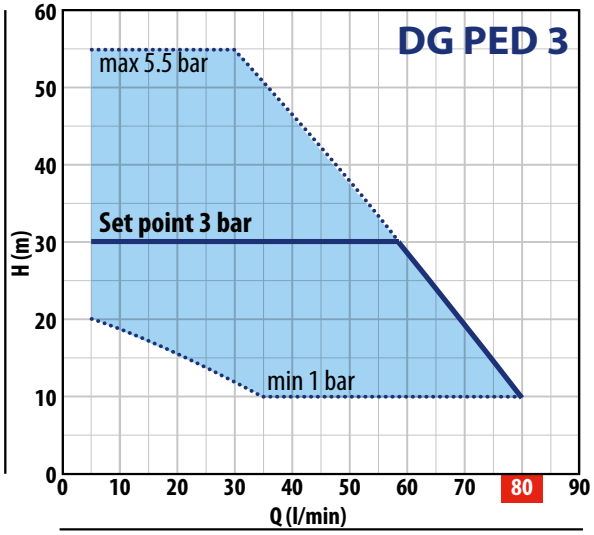
DOMESTIC USE

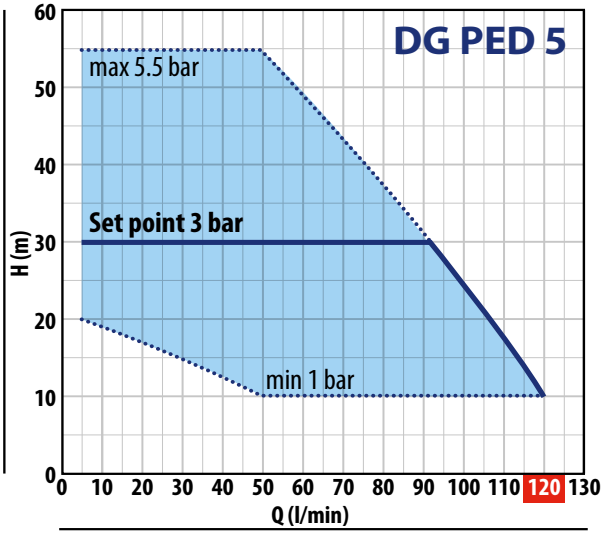
A single DG PED meets the requirements of single apartments or small houses.

RESIDENTIAL USE

Two DG PED assembled as a set meet the requirements of more than one apartment.

CHARACTERISTIC CURVES

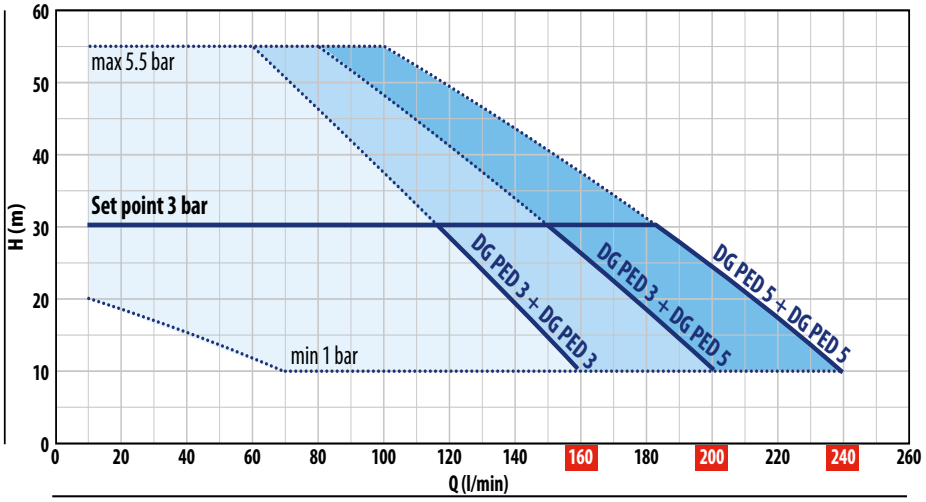




MODEL	POWER			MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	P2			Q	H	Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase	kW	HP	▲	l/min	metres	bar	l/min	bar	l/min	bar	l/min
DG PED 3	0.75	1	IE3	5 – **80**	55 – 10	1	35 – **80**	**3**	5 – **58**	5.5	5 – 30
DG PED 5	1.1	1.5		5 – **120**	55 – 10	1	50 – **120**	**3**	5 – **92**	5.5	5 – 50

Q = Flow rate **H** = Total manometric head Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B. ▲ Three-phase motor efficiency class (IEC 60034-30-1)

CHARACTERISTIC CURVES FOR GROUPS OF TWO DG PED 3 OR 5



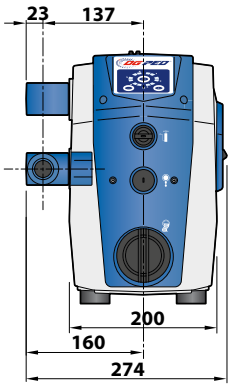
OPTIONAL ACCESSORIES

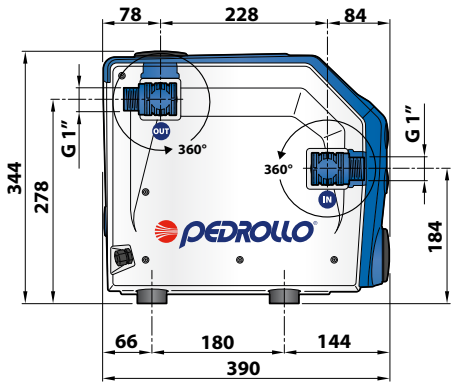
Connection kit for two DG PED units

Electronic expansion circuit board

Kit for wall-mounting a single DG PED

Kit for wall-mounting a group of two units





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

MADE IN ITALY

DHL

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

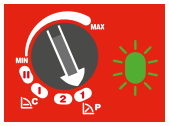
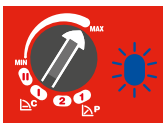
Electronic circulating pumps at low energetic consumption as A+ class. Compared to traditional circulating pumps with same performances, these may go up to -85% consumption of electricity.
These are recommended for house and residential building. Due to electronic control is possible to achieve advanced 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 noiseof 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.

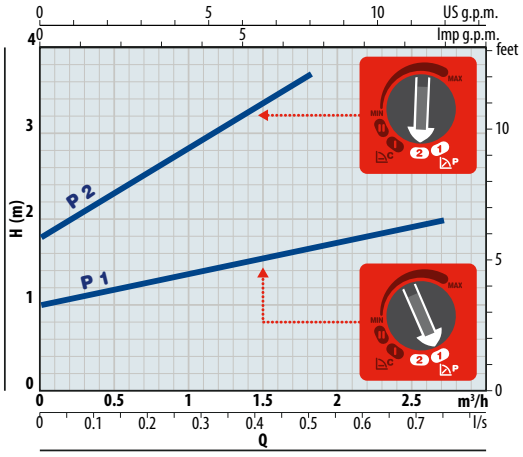
	**PROPORTIONAL PROGRAMME** (GREEN LED)	ΔP 1 e 2	It changes proportionally the pressure (head) in accordance with demanded heat from the system(variation of delivery).
	CONSTANT PROGRAMME (ORANGE LED)	C I e II	It keeps the pressure constant (head)) in accordance with demanded heat from the system(variation 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.

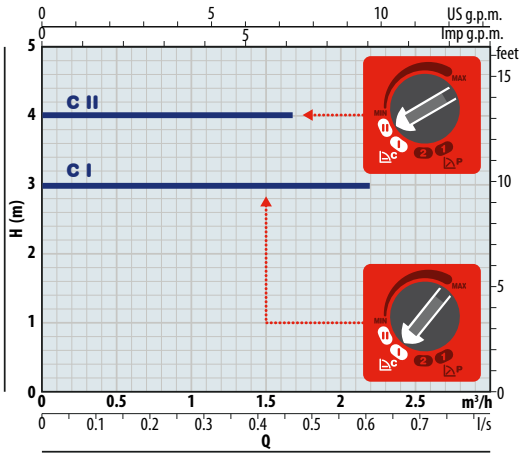
WHITE LED.
Air bubble in the system. Vent system.

RED LED.
Circulating pump is in block still under tension

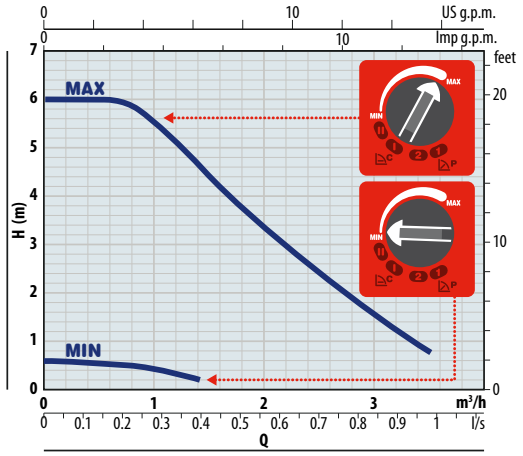
CHARACTERISTIC CURVES ΔP



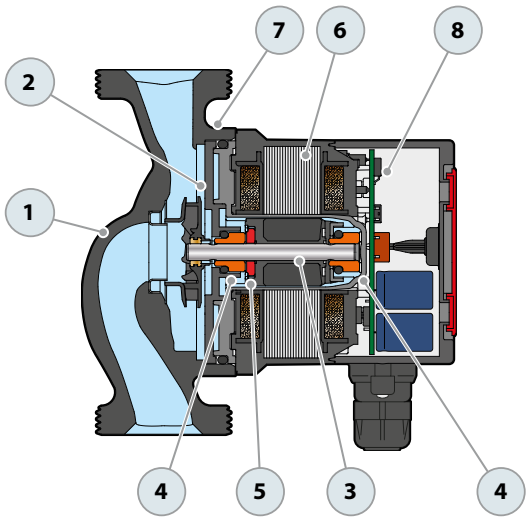
CHARACTERISTIC CURVES ΔC



CHARACTERISTIC CURVES MIN – MAX

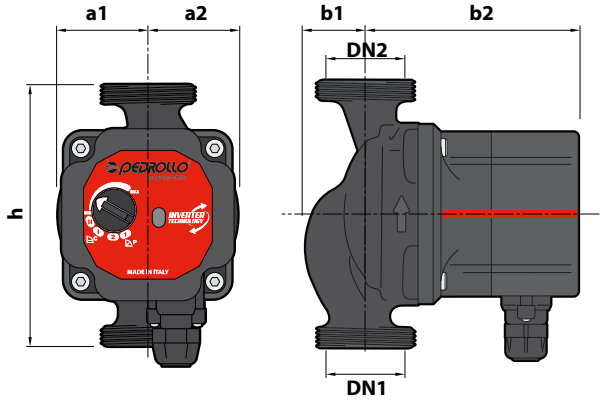


CONSTRUCTION CHARACTERISTICS



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 pumpand 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 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

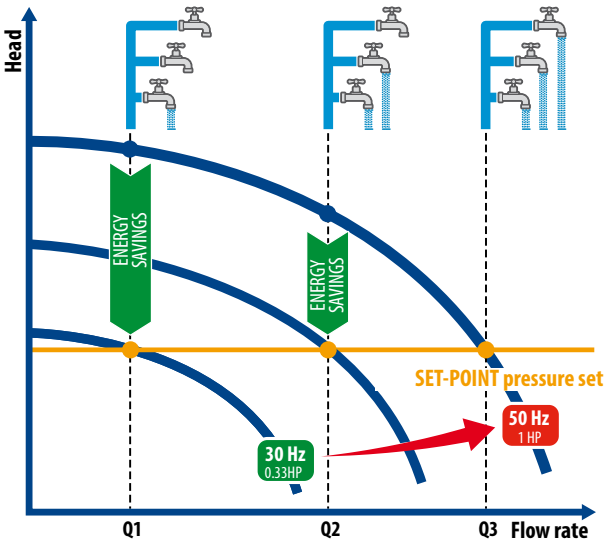
EN 60335-1
IEC 60335-1
CEI 61-150

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

CE

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.

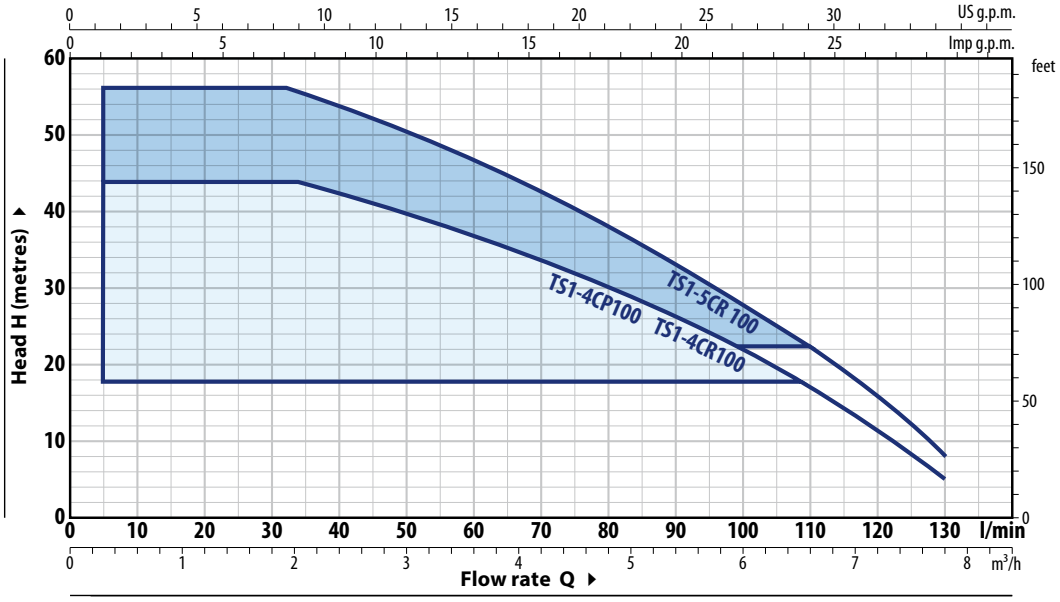


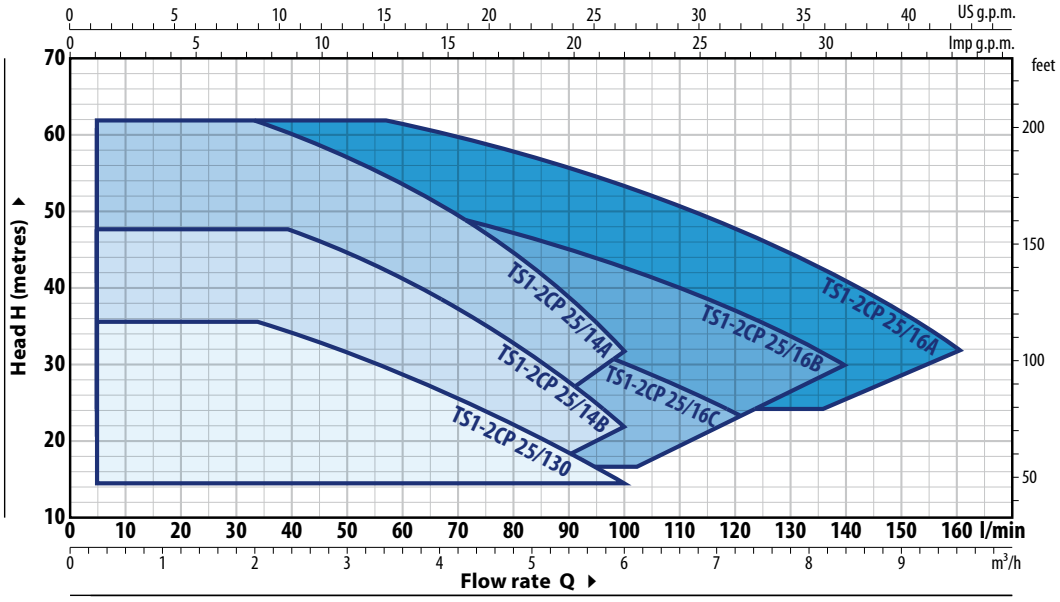
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

PERFORMANCE RANGE n= 2900 min^{-1}

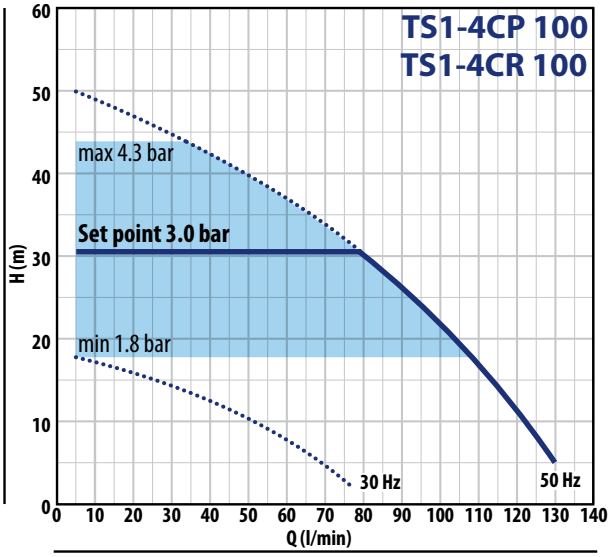


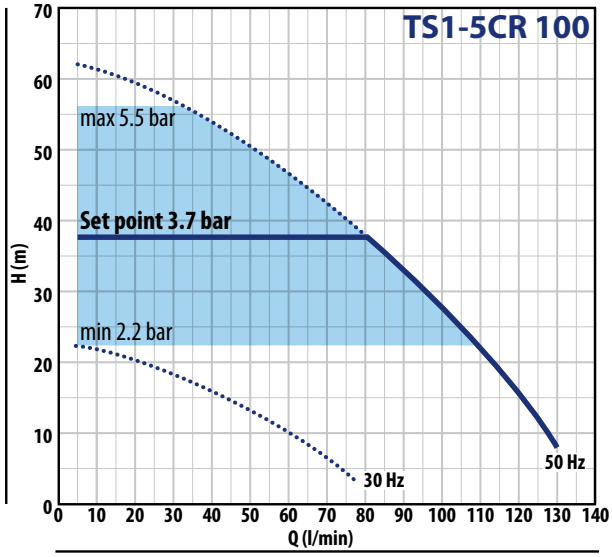


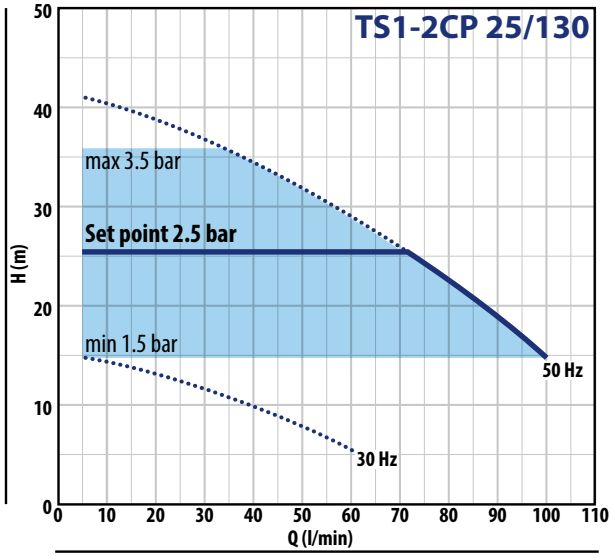
MODEL	POWER			ABSORPTION	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	P2			230 V	Q	H	Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase	kW	HP	▲		l/min	metres	bar	l/min	bar	l/min	bar	l/min
TS1-4CP 100	0.75	1	**IE3**	**9.2** A	5 – 130	44 – 5	1.8	5 – 107	**3.0**	5 – **80**	4.3	5 – 33
TS1-4CR 100	0.75	1	**IE3**	**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	**IE3**	**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	**IE3**	**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		**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	**IE3**	**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

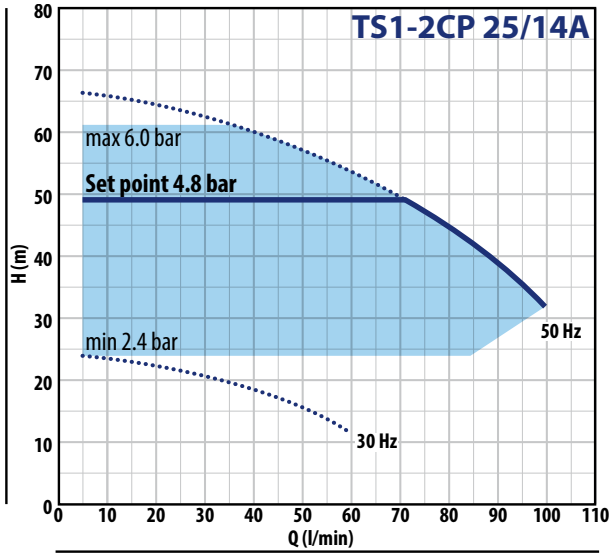
TISSEL-100

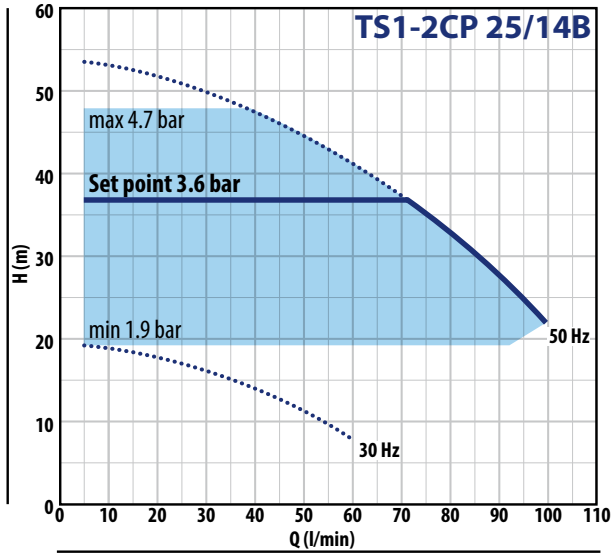
CHARACTERISTIC CURVES n= 2900 min^{-1}

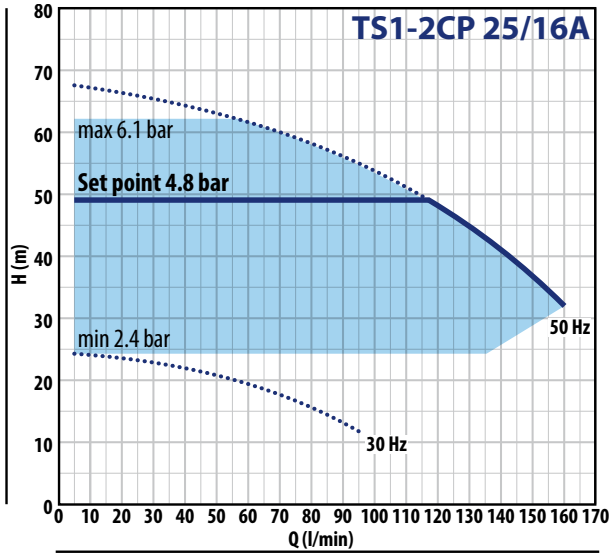




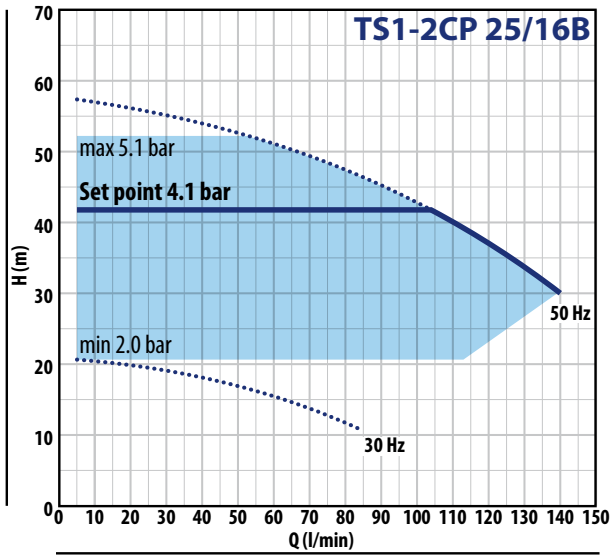


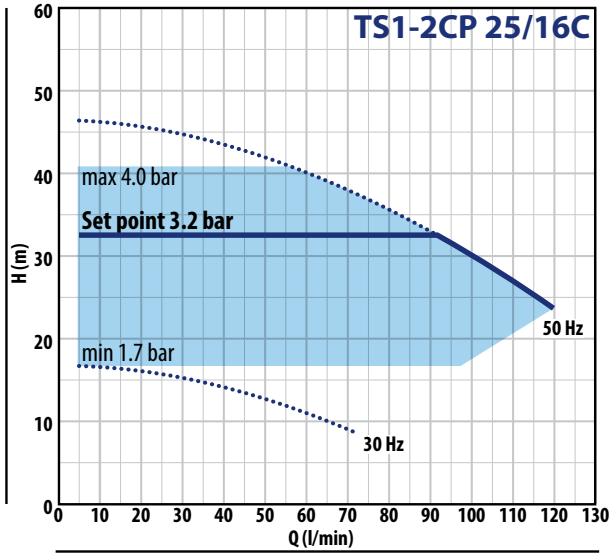






CHARACTERISTIC CURVES n= 2900 min^{-1}

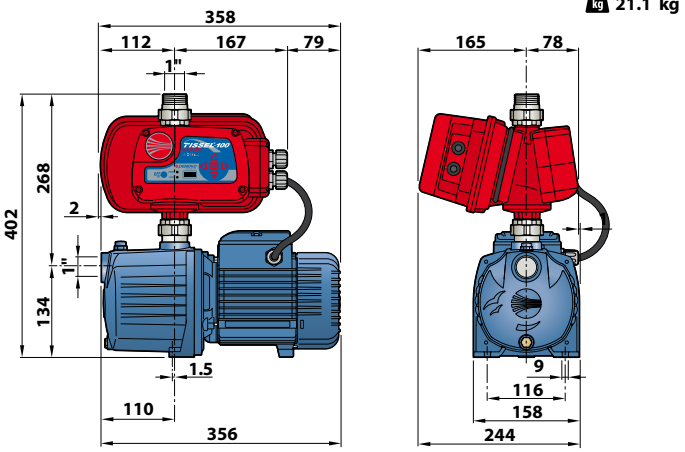




DIMENSIONS (mm)

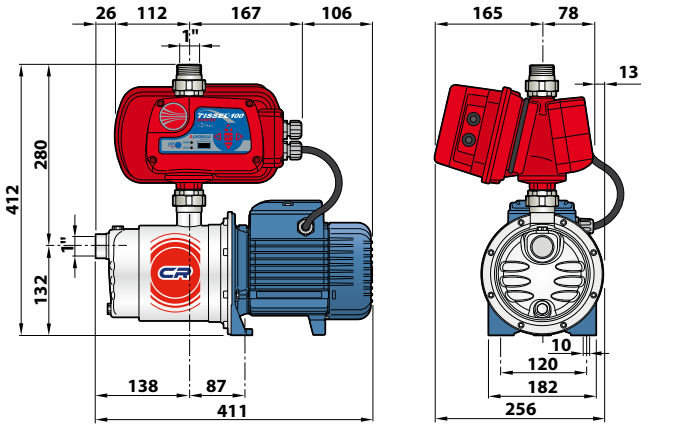
TS1-4CP 100

21.1 kg



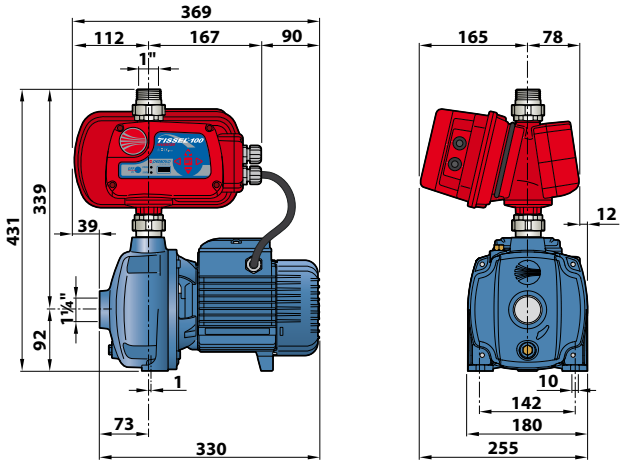
TS1-4CR 100 – TS1-5CR 100

18.5 kg

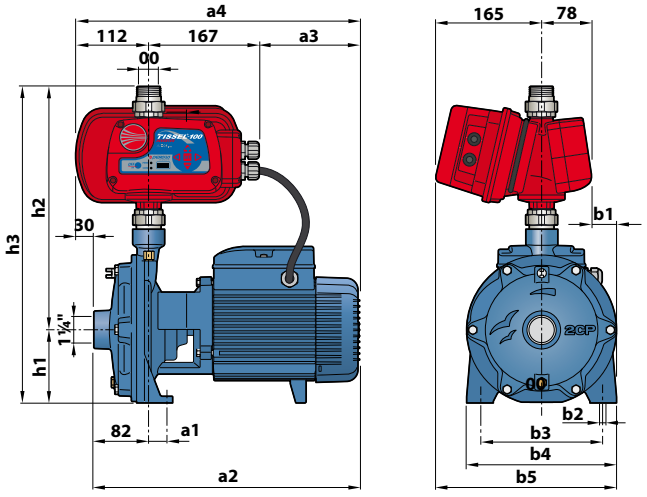


TS1-2CP 25/130

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

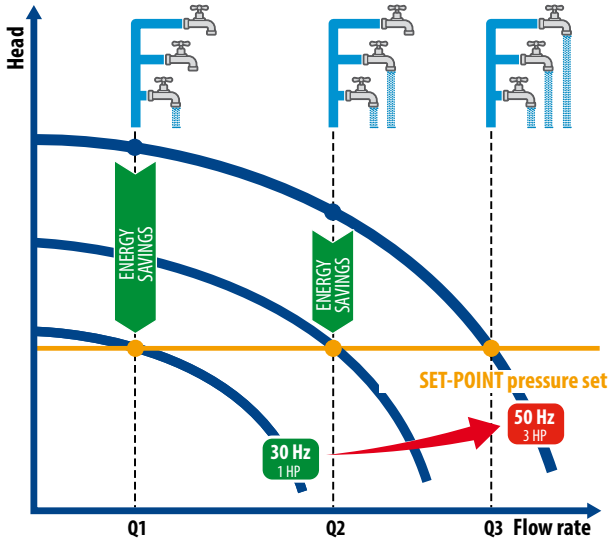
EN 60335-1
IEC 60335-1
CEI 61-150

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

CE

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.



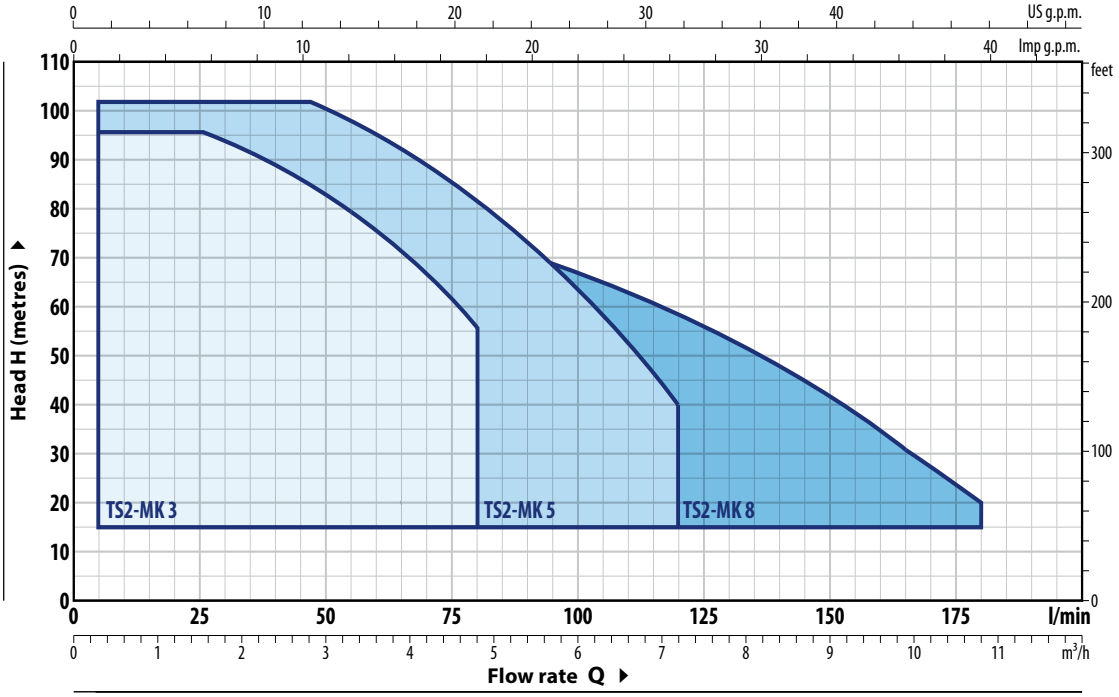
CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

TISSEL-200 MK

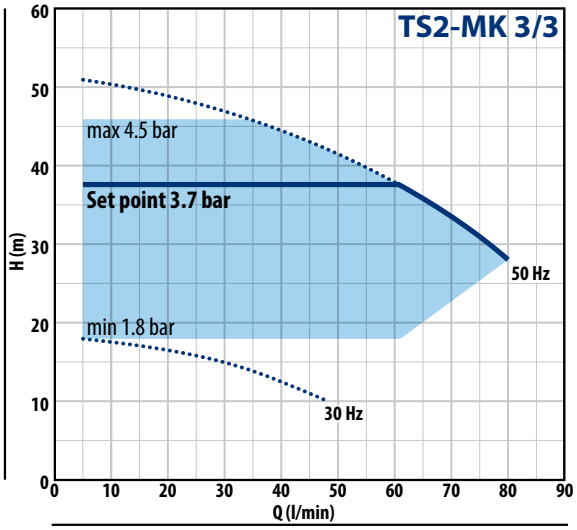
PERFORMANCE RANGE n= 2900 min^{-1}

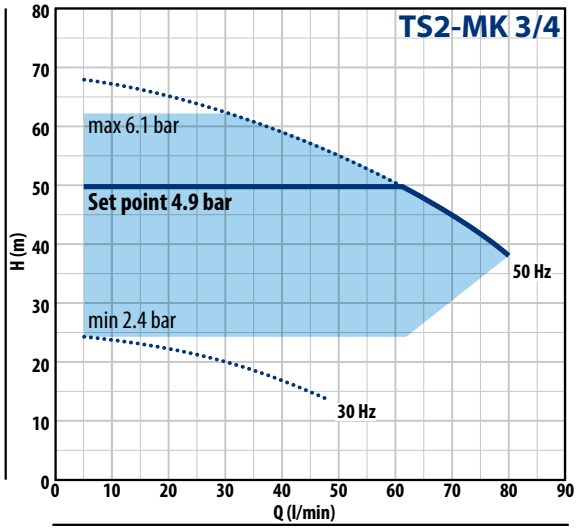


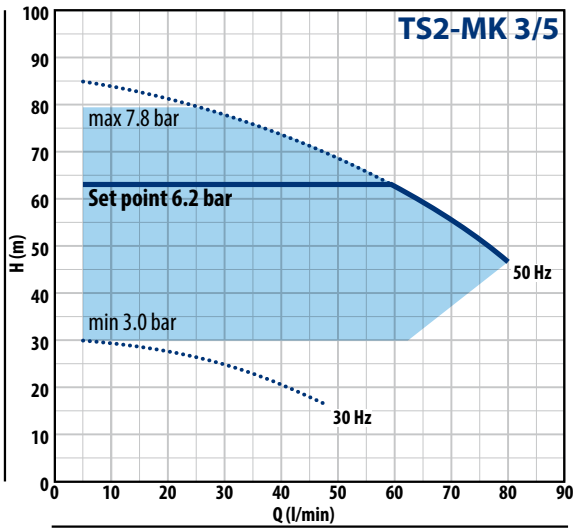
MODEL	POWER P2			ABSORPTION 230 V	MAX PERFORMANCES Q	MAX PERFORMANCES H	PERFORMANCES (ADJUSTABLE SET POINT) Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase	kW	HP	▲		l/min	metres	bar	l/min	bar	l/min	bar	l/min
TS2-MK 3/3	0.75	1		**9.0** A	5 – 80	46 – 28	1.8	5 – 63	**3.7**	5 – **58**	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	**IE3**	**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

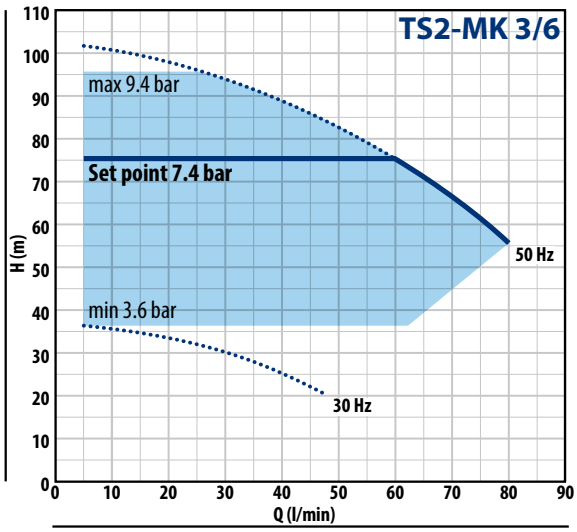
TISSEL-200 MK

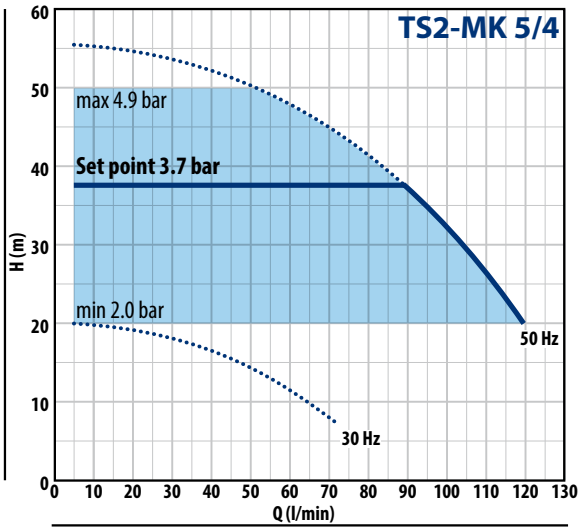
CHARACTERISTIC CURVES n= 2900 min^{-1}

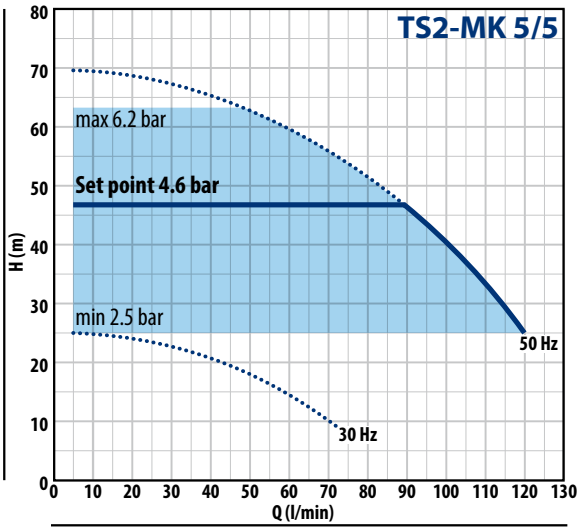




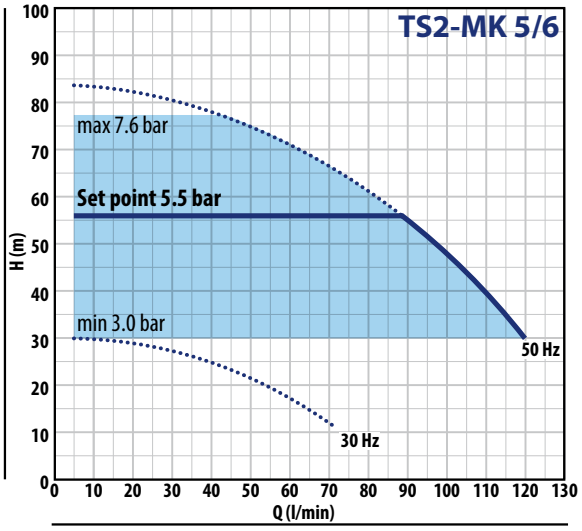


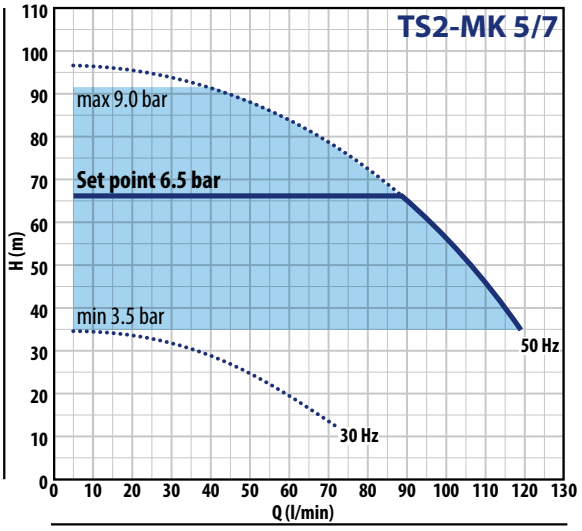


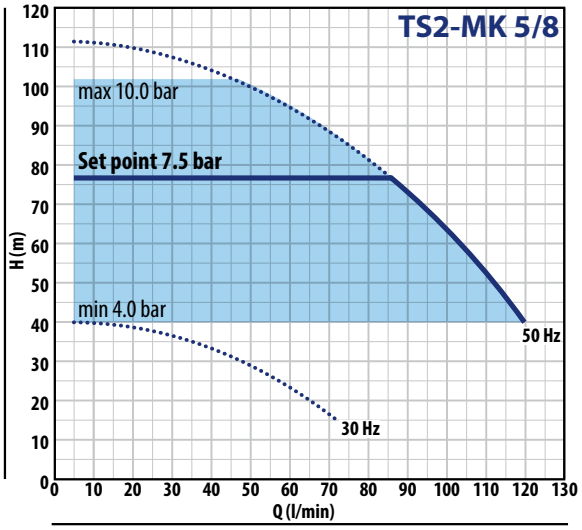


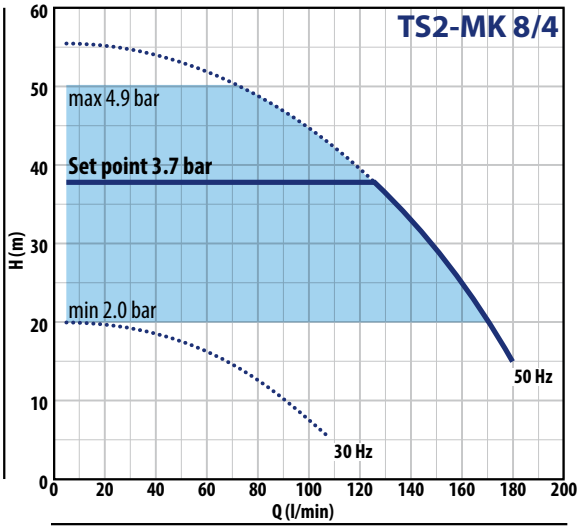


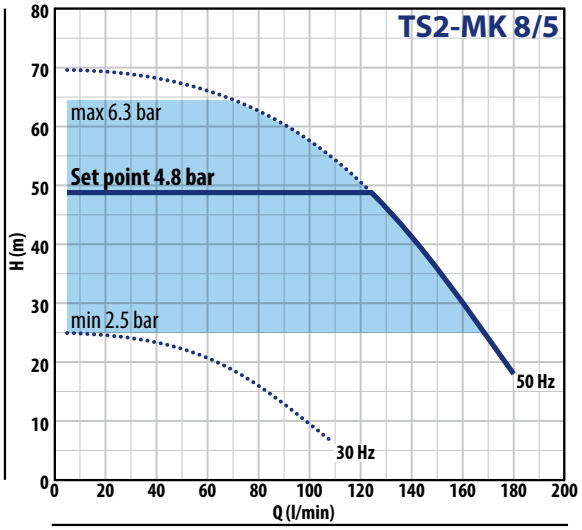
CHARACTERISTIC CURVES n= 2900 min^{-1}

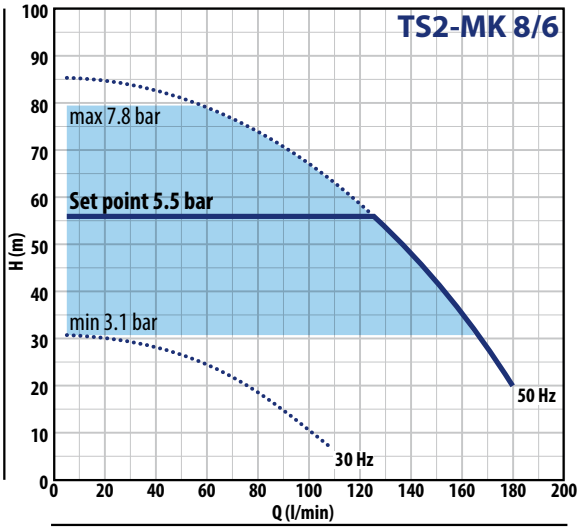






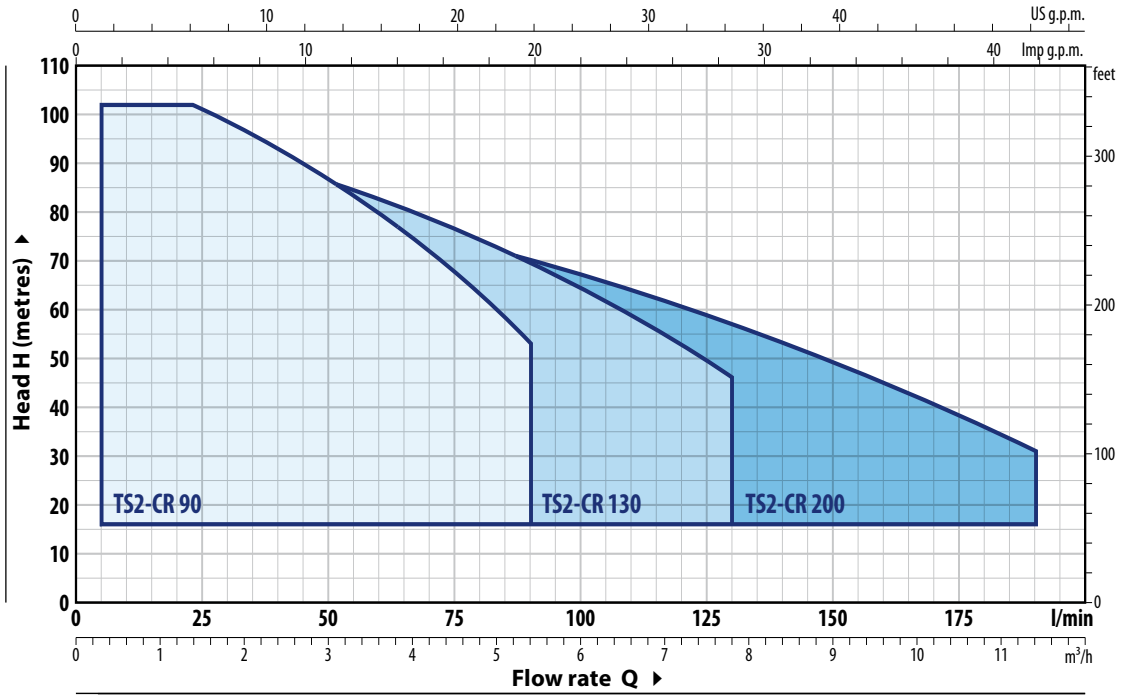






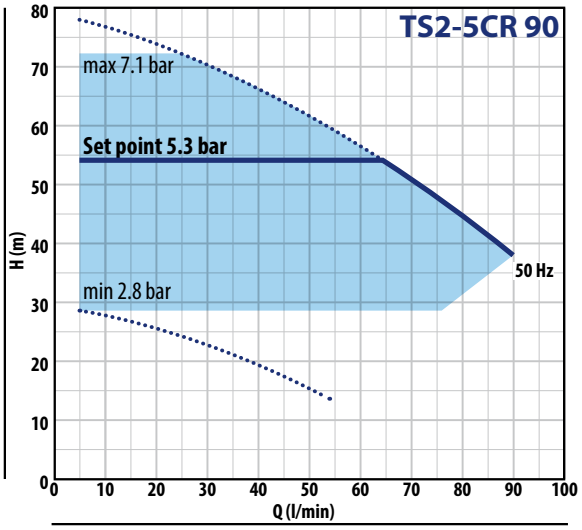
TISSEL-200 CR

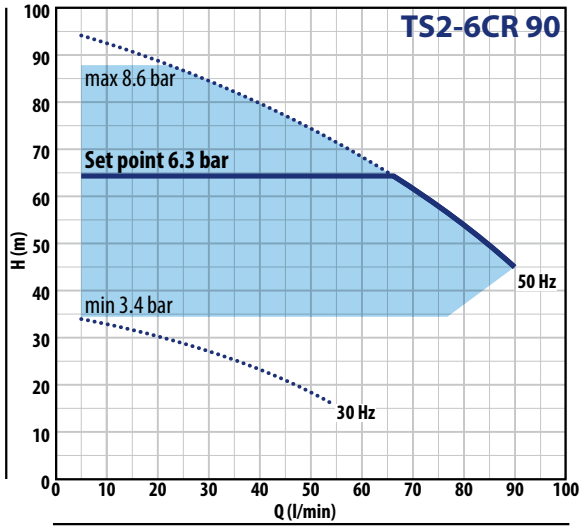
CHARACTERISTIC CURVES n= 2900 min⁻¹

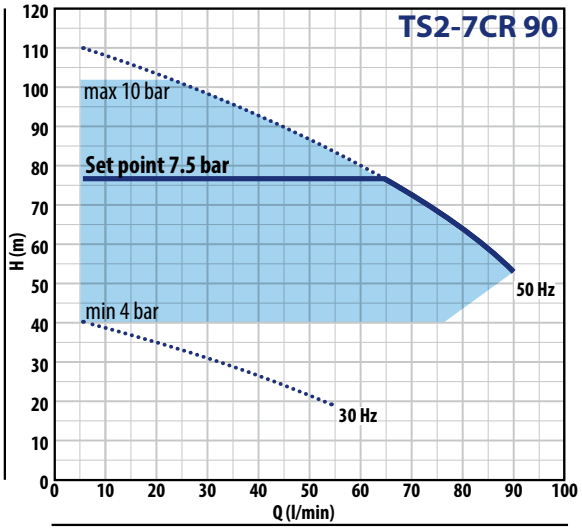


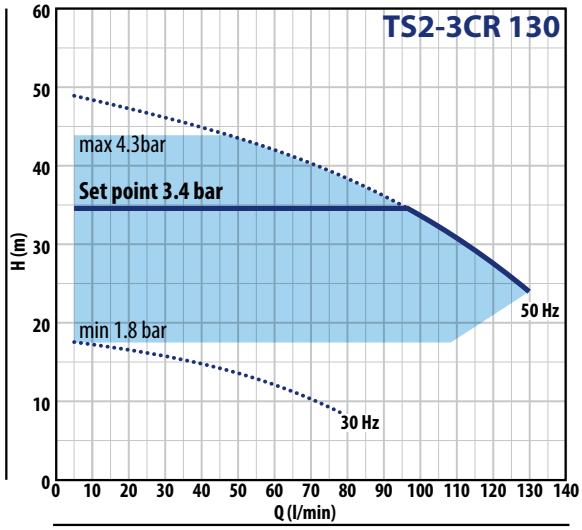
MODEL	POWER			ABSORPTION	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
	P2			230 V	Q	H	Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase	kW	HP	▲		l/min	metres	bar	l/min	bar	l/min	bar	l/min
TS2-5CR 90	1.1	1.5		**13.0** A	5 – 90	78 – 38	2.80	5 – 75	**5.30**	5 **– 65**	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	**IE3**	**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

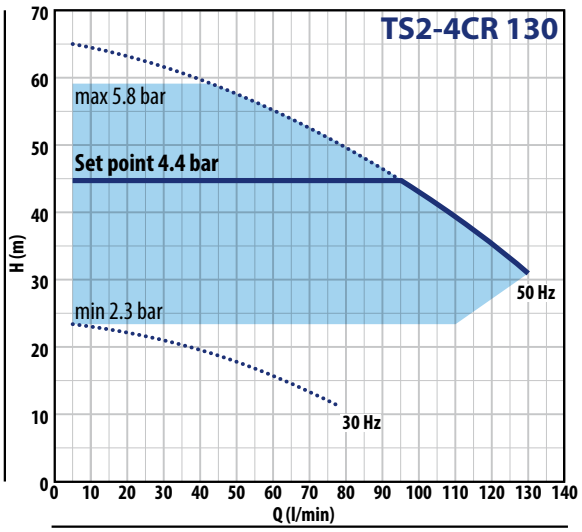
CHARACTERISTIC CURVES n= 2900 min^{-1}

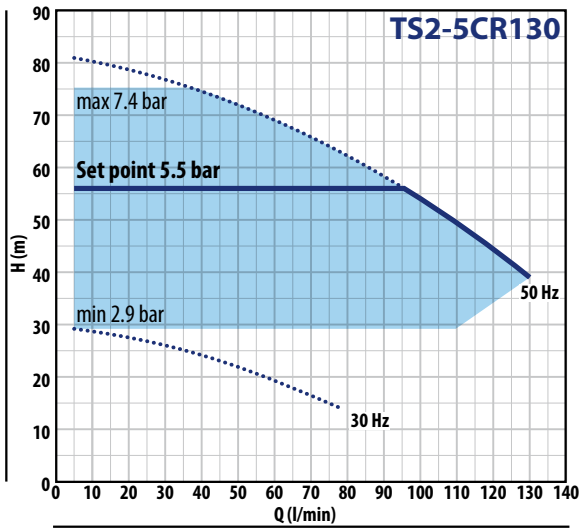






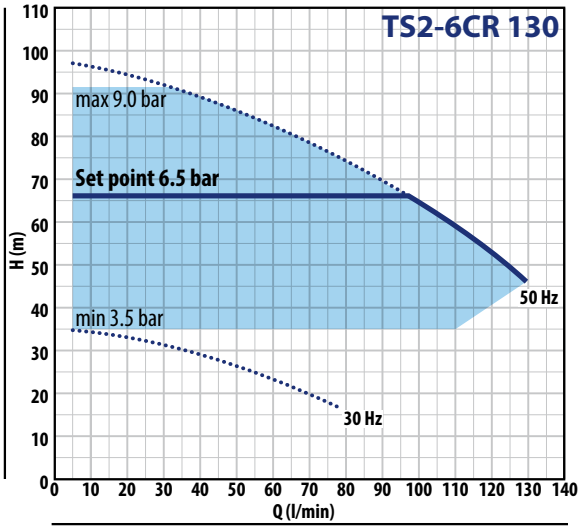


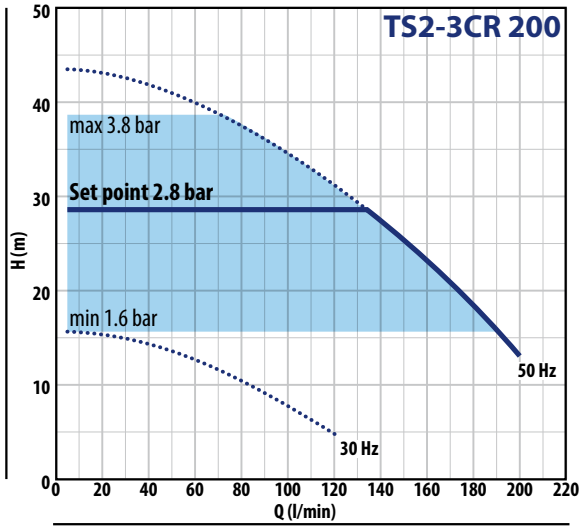


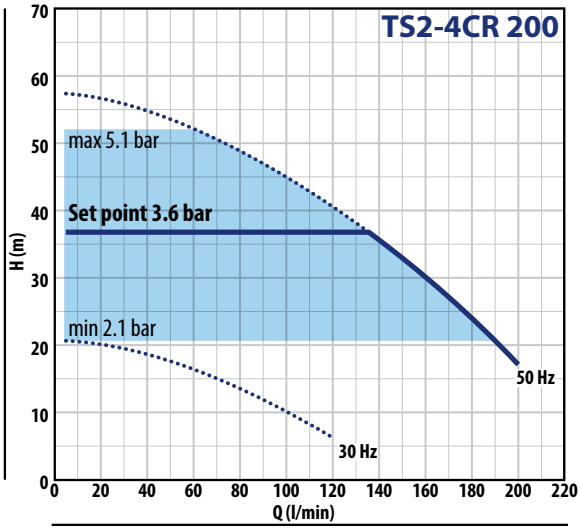


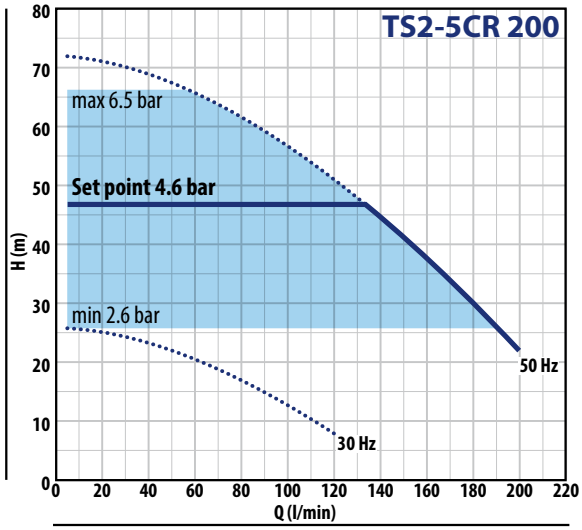
TISSEL-200 CR

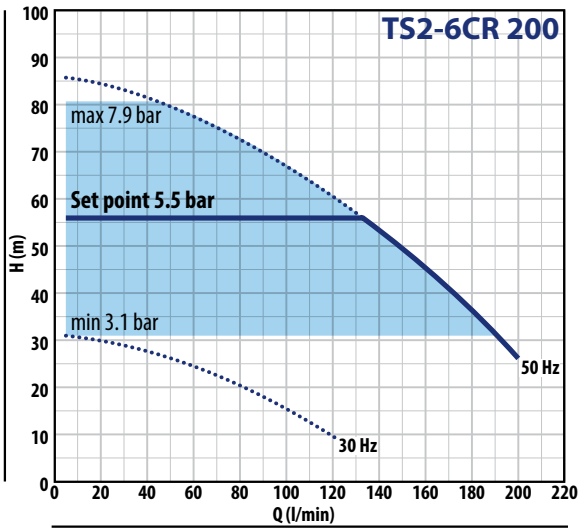
CHARACTERISTIC CURVES n= 2900 min^{-1}





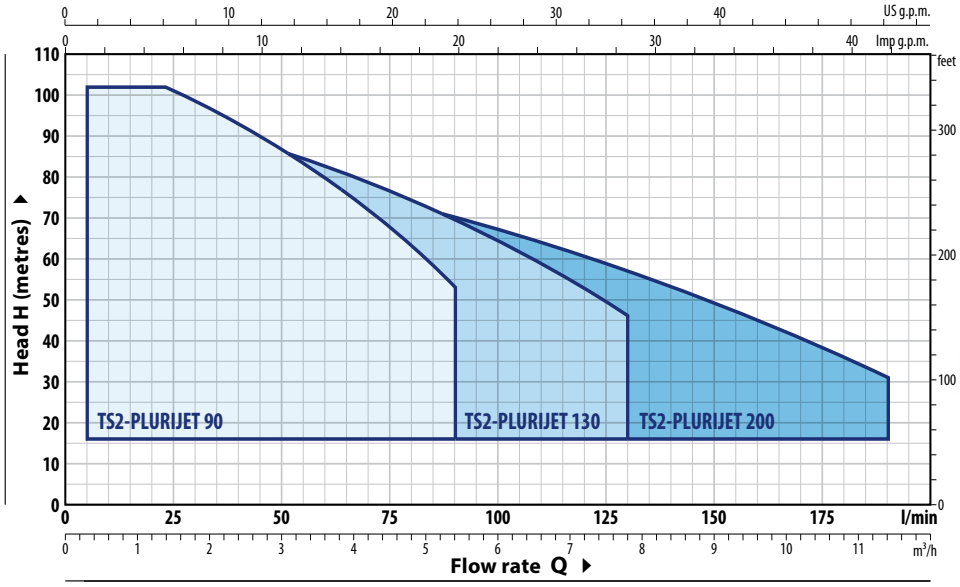






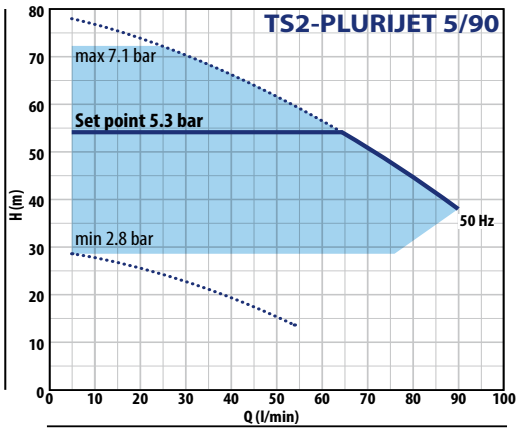
TISSEL-200 PLURIJET

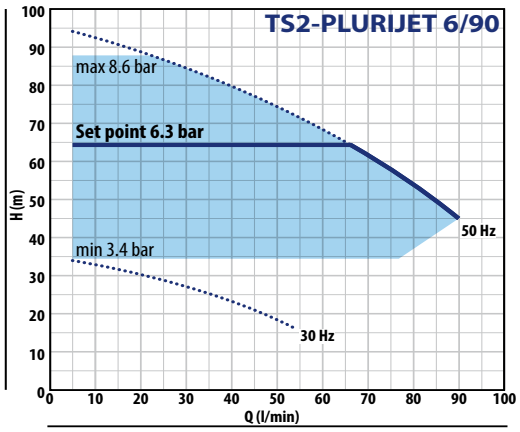
CHARACTERISTIC CURVES n= 2900 min⁻¹

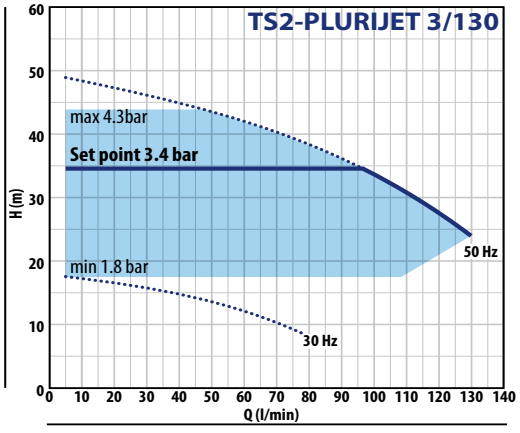


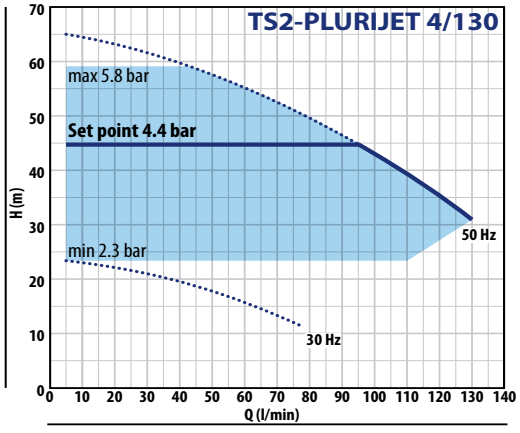
MODEL	POWER P2			ABSORPTION	MAX PERFORMANCES		PERFORMANCES (ADJUSTABLE SET POINT)					
				230 V	Q	H	Min. Set Point		Set Point Stand. Setting		Max. Set Point	
Single-phase	kW	HP	▲		l/min	metres	bar	l/min	bar	l/min	bar	l/min
TS2-PLURIJET 5/90	1.1	1.5	IE3	**11.5** A	5 – 90	78 – 38	2.80	5 – 75	**5.30**	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



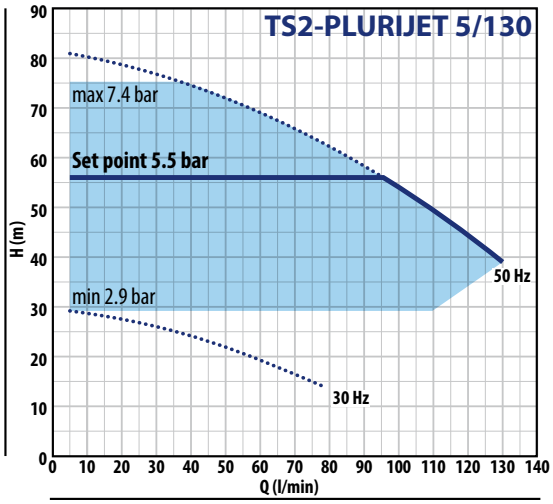


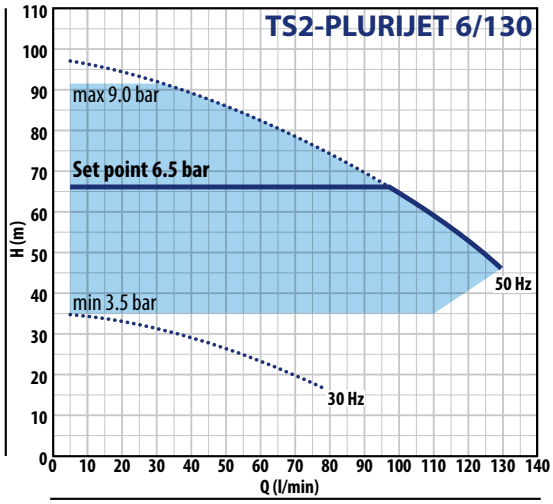


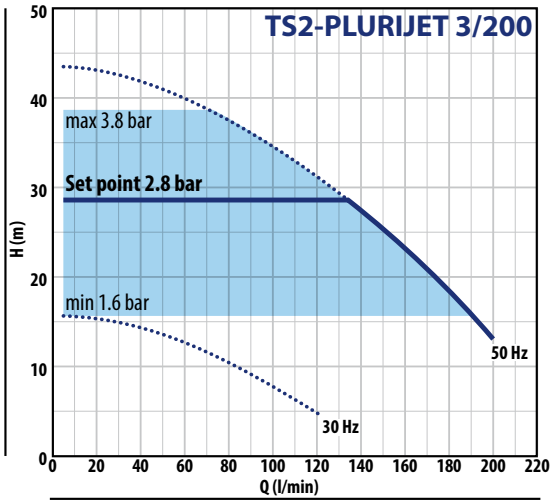


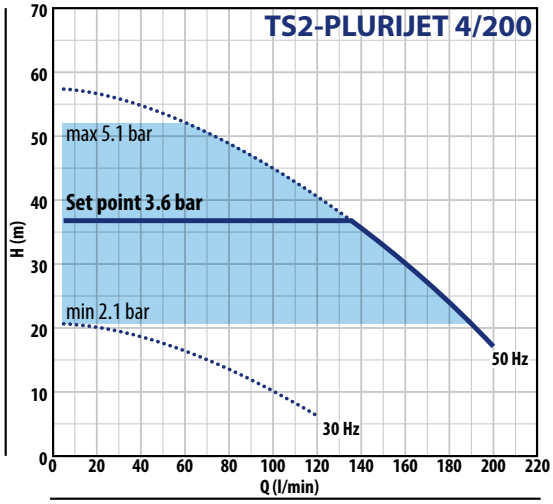
TISSEL-200 PLURIJET

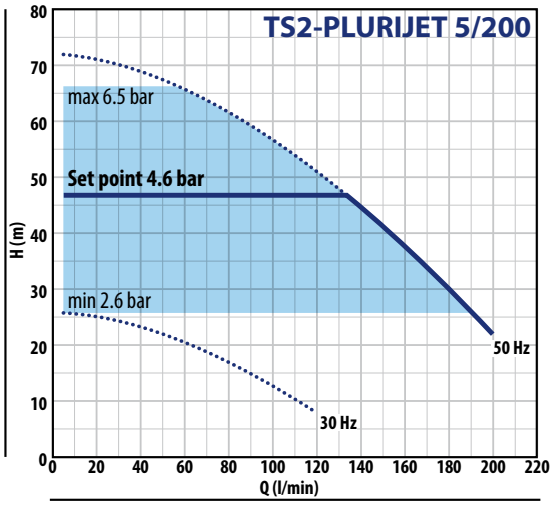
CHARACTERISTIC CURVES n= 2900 min^{-1}

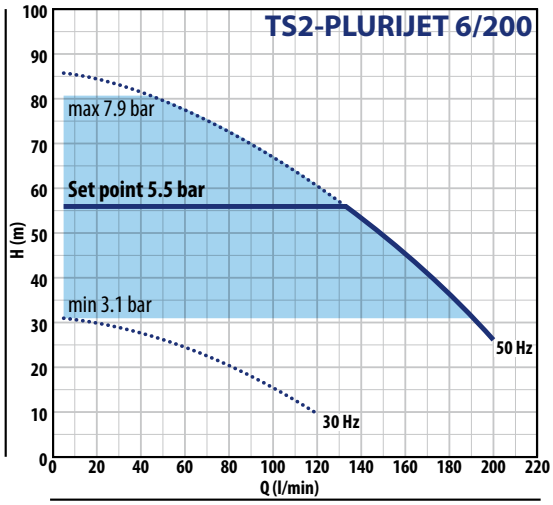




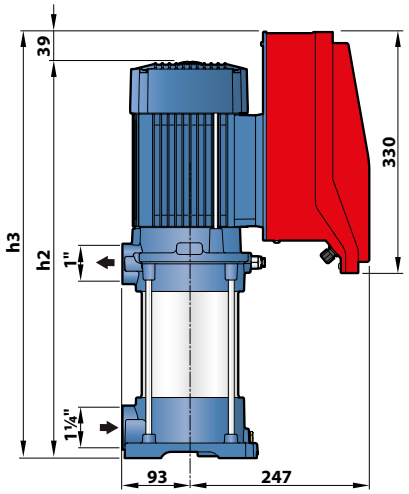


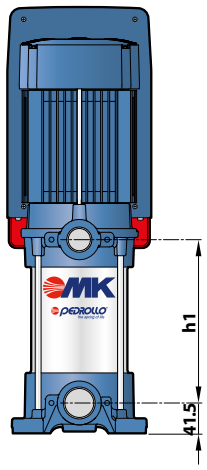


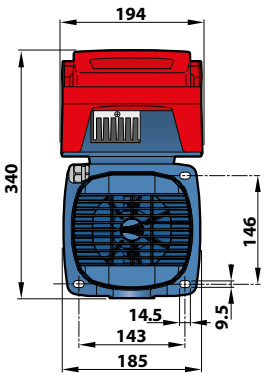




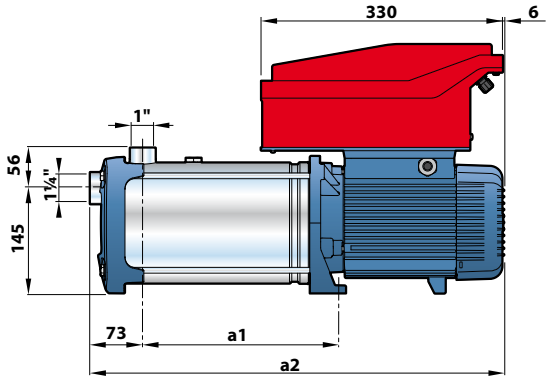
DIMENSIONS (mm)

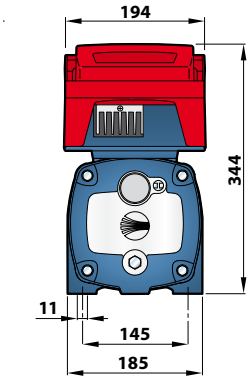






MODEL	h1	h2	h3	kg
TS2-MK 3/3	132.5	450	489	**26.7**
TS2-MK 3/4	159.5	477	516	**27.0**
TS2-MK 3/5	186.5	504	543	**28.6**
TS2-MK 3/6	213.5	531	570	**30.1**
TS2-MK 5/4	159.5	477	516	**26.9**
TS2-MK 5/5	186.5	504	543	**28.5**
TS2-MK 5/6	213.5	531	570	**30.3**
TS2-MK 5/7	240.5	558	597	**30.7**
TS2-MK 5/8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

HF

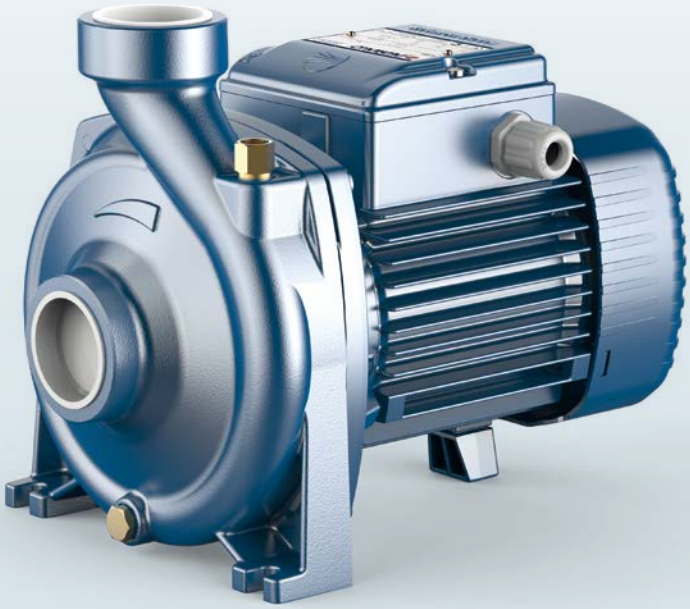
Centrifugal pumps

Medium flow

Clean water

Agricultural use

Industrial use



PERFORMANCE RANGE

- Flow rate up to **600 l/min** (36 m^3/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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

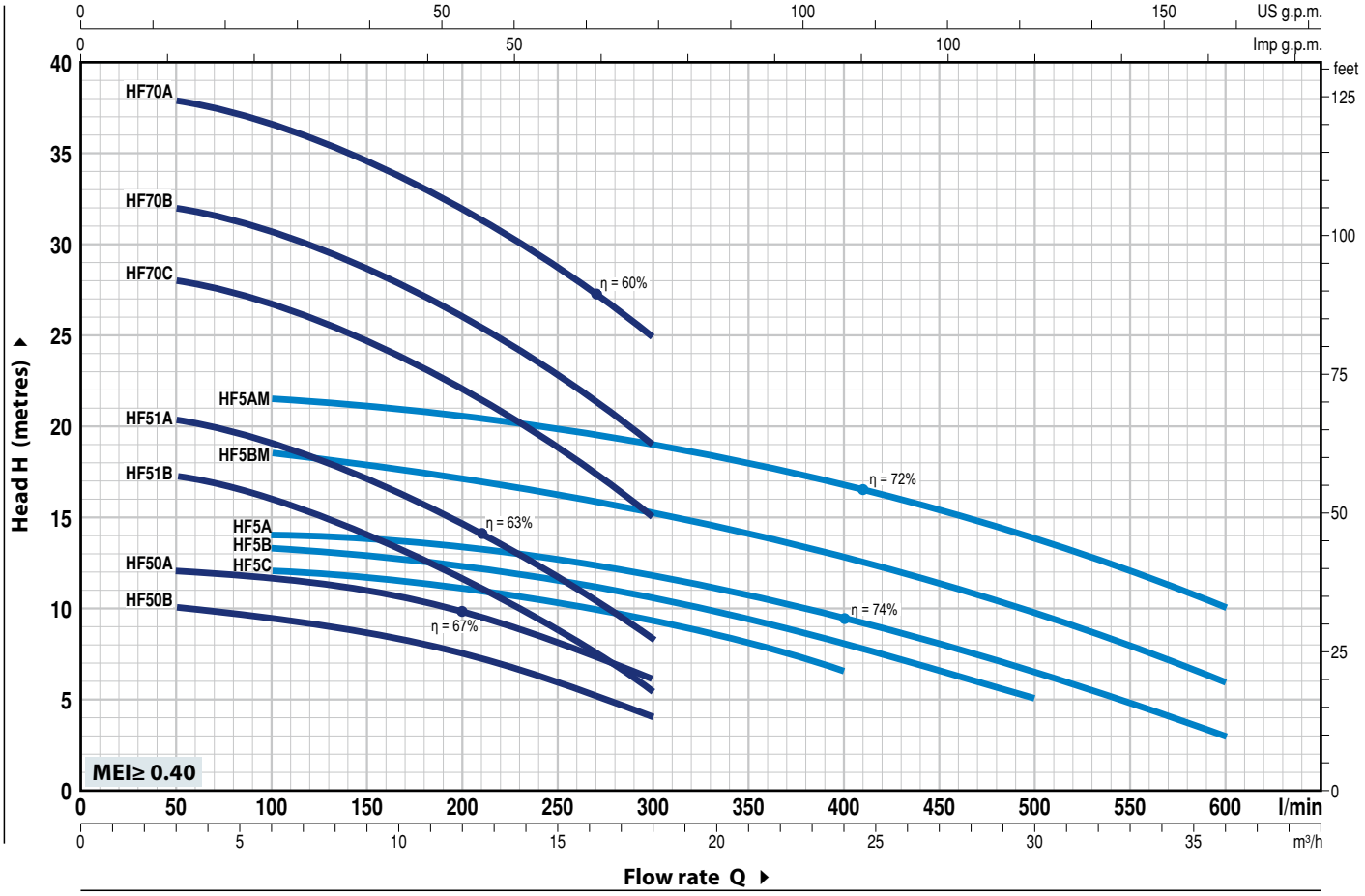
Suitable for use in civil and agricultural applications. The high efficiency and continuous duty capabilities makes these pumps ideal for use in applications such as flood and spray irrigation, drawing water from lakes, rivers and wells, or for any number of different industrial applications where the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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL		POWER (P2)			Q	m³/h	0	3	6	9	12	15	18	21	24	30	36
Single-phase	**Three-phase**	**kW**	**HP**	▲		l/min	**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				18.2	17.2	16	14	11.5	9	5.4				
HFm 51A	**HF 51A**	0.75	1				21.2	20.2	19	17	14.5	11.6	8.4				
HFm 70C	**HF 70C**	1.1	1.5	**IE3**			29	28	26.5	24.5	22	18.5	15				
HFm 70B	**HF 70B**	1.5	2				33	32	30.5	28.5	26	22.5	19				
–	**HF 70A**	2.2	3				39	38	36.5	34.5	32	28.5	25				
HFm 5C	**HF 5C**	0.55	0.75	**IE2**			12.5	–	12	11.7	11	10.2	9.2	8	6.5		
HFm 5B	**HF 5B**	0.75	1				13.7	–	13.2	13	12.5	11.6	10.5	9.2	8	5	
HFm 5A	**HF 5A**	1.1	1.5	**IE3**			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

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

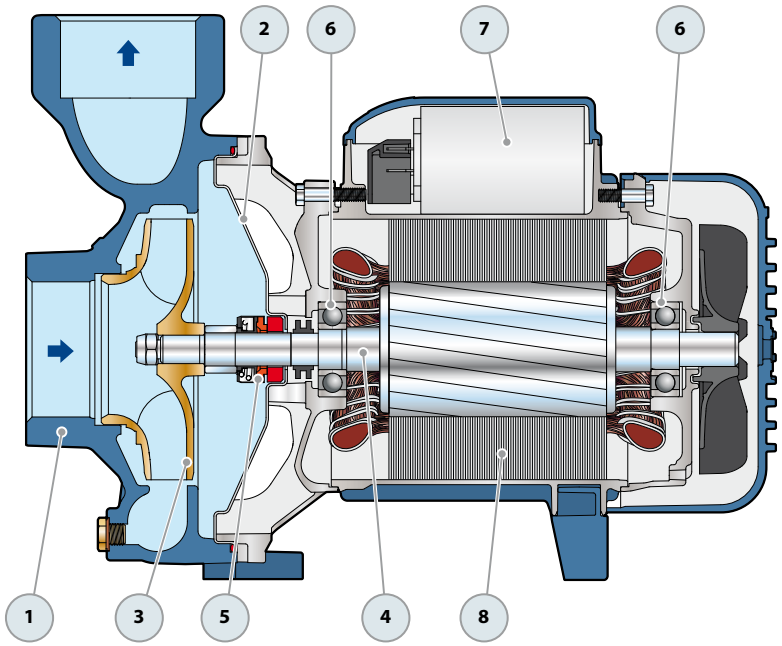
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
HFm 50B	**10** µF - 450 VL	**25** µF - 250 VL
HFm 50A	**14** µF - 450 VL	**25** µF - 250 VL
HFm 51B	**20** µF - 450 VL	**60** µF - 300 VL
HFm 51A	**20** µF - 450 VL	**60** µF - 300 VL
HFm 70C	**25** µF - 450 VL	**60** µF - 250 VL
HFm 70B	**45** 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

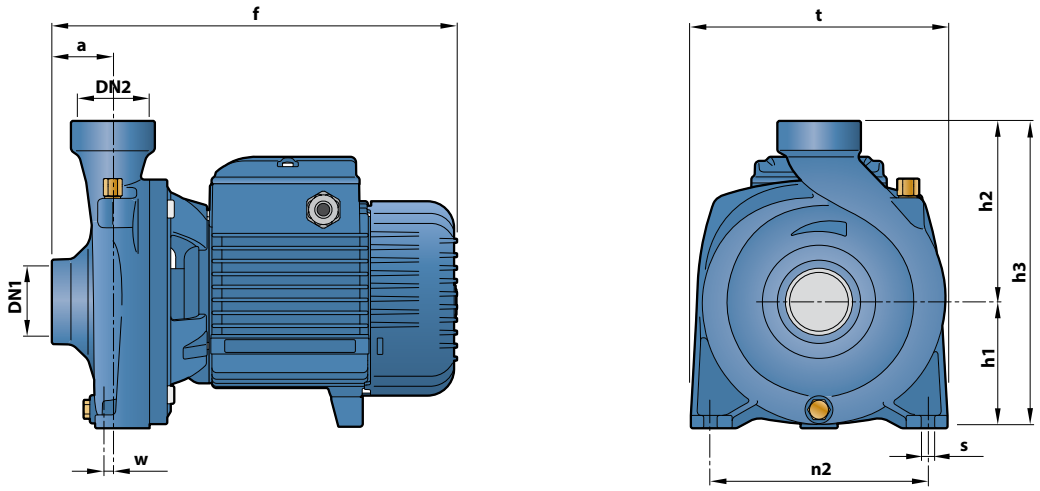
HFm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
HF: three-phase 230/400 V - 50 Hz.

➠ **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			45	303	92	133	225	190	160	2		12.9	12.7
HFm 51A	HF 51A												13.0	13.0
HFm 70C	HF 70C			48.5	373	114	155	269	216	171	12	12	18.8	20.1
HFm 70B	HF 70B												21.4	21.5
–	HF 70A				393								–	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		
Single-phase	230 V	240 V	110 V
HFm 50B	**2.8** A	**2.6** A	**5.6** A
HFm 50A	**3.8** A	**3.6** A	**7.6** A
HFm 51B	**4.7** A	**4.5** A	**9.4** A
HFm 51A	**5.6** A	**5.3** A	**11.2** A
HFm 70C	**8.0** A	**7.6** A	**16.0** A
HFm 70B	**10.0** A	**9.0** A	**20.0** A
HFm 5C	**4.2** A	**3.8** A	**8.4** A
HFm 5B	**4.9** A	**4.5** A	**9.8** A
HFm 5A	**6.2** A	**5.7** A	**12.4** A
HFm 5BM	**7.7** A	**7.1** A	**15.4** A
HFm 5AM	**10.1** A	**9.7** A	**20.2** A

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

HF

Centrifugal pumps

High flow

Clean water

Agricultural use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **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

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

INSTALLATION AND USE

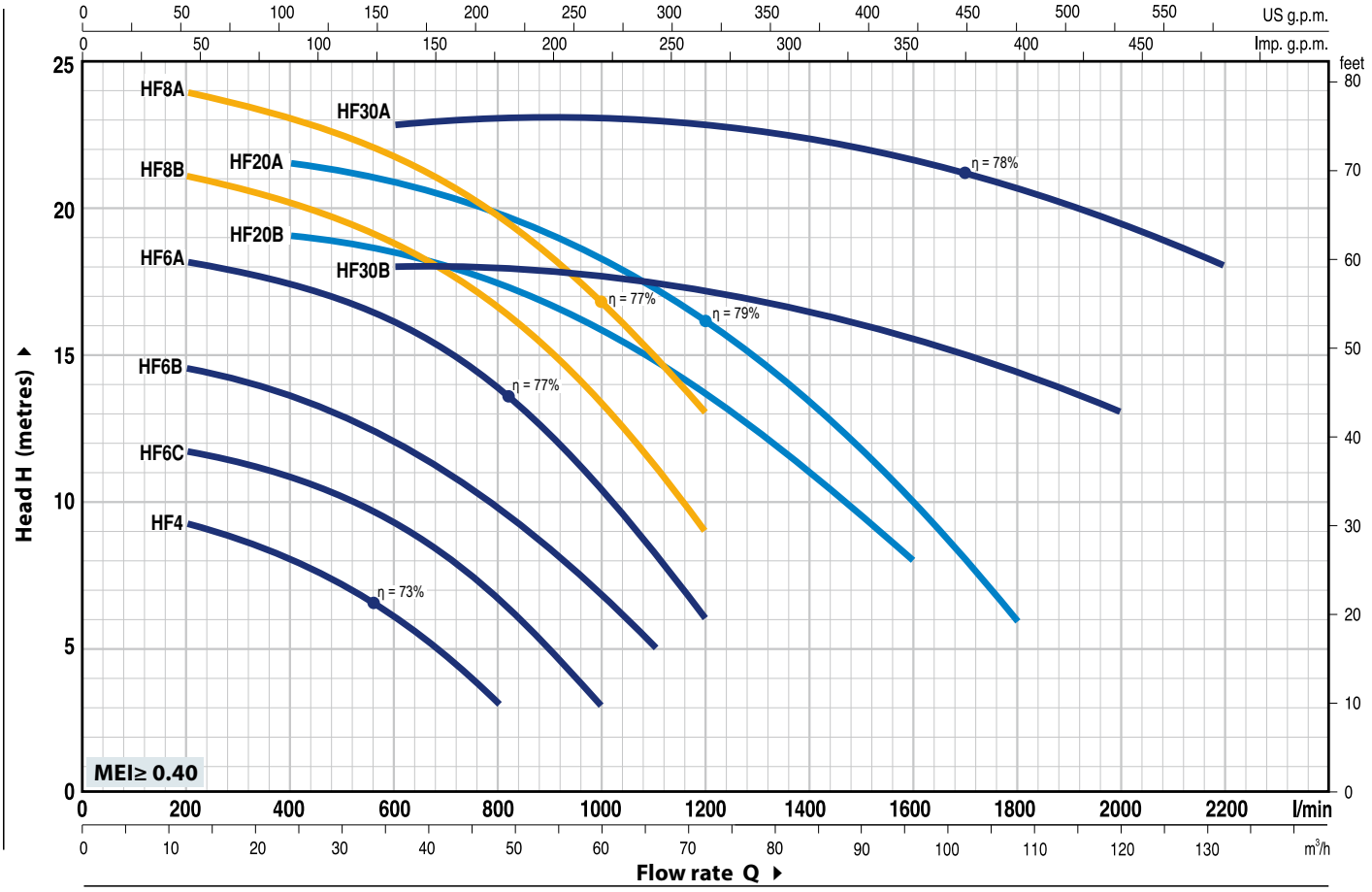
Suitable for use in civil and agricultural applications. The high efficiency and continuous duty capabilities makes these pumps ideal for use in activities such as flood and spray irrigation, drawing water from lakes, rivers and wells, or for any number of different industrial applications where the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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL		POWER (P2)			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	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

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

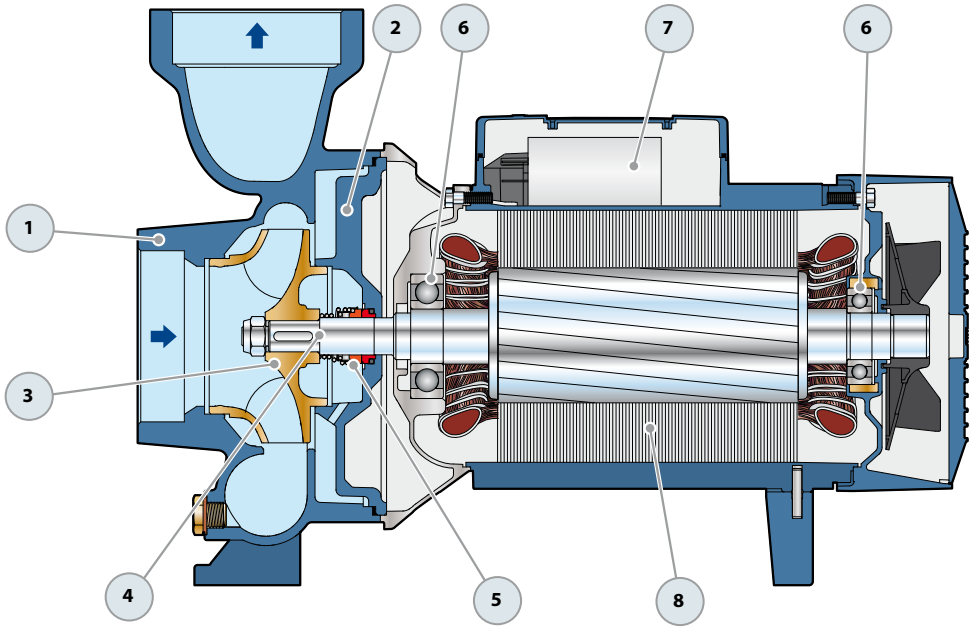
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
HFm 4	**20** µF - 450 VL	**60** µF - 300 VL
HFm 6C	**31.5** µF - 450 VL	**60** µF - 250 VL
HFm 6B	**45** µF - 450 VL	**80** µF - 250 VL
HFm 6A	**50** µF - 450 VL	–

8 ELECTRIC MOTOR

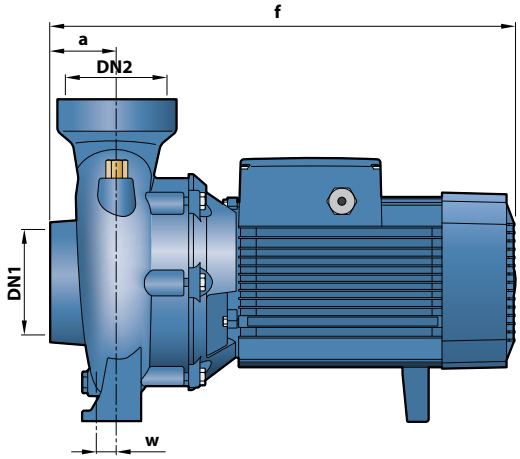
HFm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
HF: three-phase 230/400 V - 50 Hz up to 4 kW
400/690 V - 50 Hz from 5.5 to 7.5 kW.

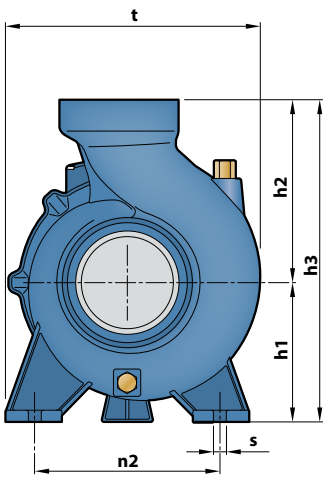
➠ **The three-phase pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)**

– 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	312	240	190	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		245		27	14	–	**35.6**
–	**HF 8A**				465								–	**41.0**
–	**HF 20B**				453				255				–	**37.2**
–	**HF 20A**				470								–	**41.0**
–	**HF 30B**			76,5	534	160	210	370	292	212			–	**52.2**
–	**HF 30A**												–	**57.8**

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 m^3/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

CE

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

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

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

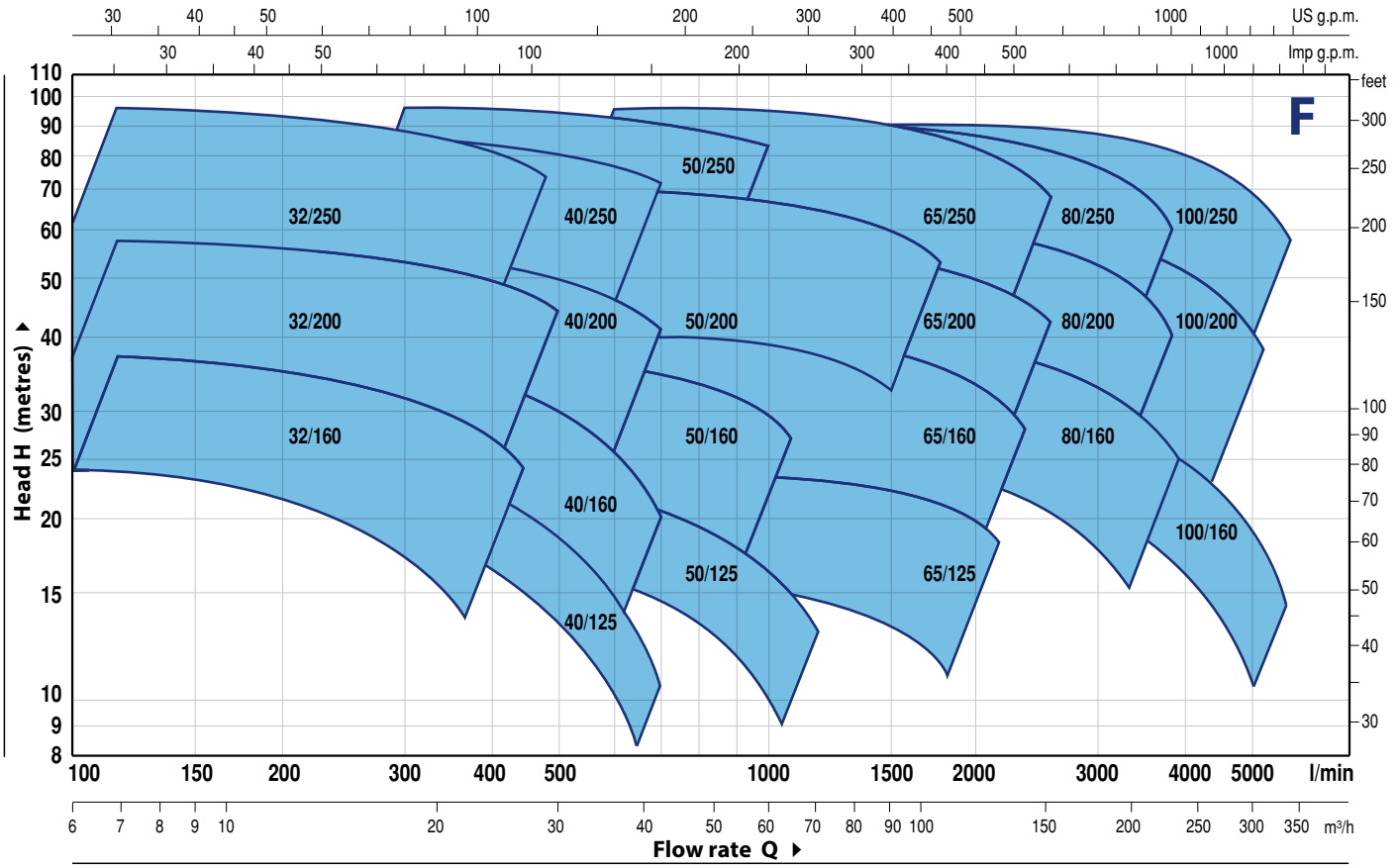
Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

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

PERFORMANCE RANGE

50 Hz n= 2900 min⁻¹



PERFORMANCE DATA

50 Hz n= 2900 min⁻¹

MODEL	POWER (P2)		▲	PERFORMANCE	
	kW	HP		Q l/min	H metres
F 32/160C	1.5	2		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	IE3	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		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	IE3	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		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	IE3	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 (P2)		▲	PERFORMANCE	
	kW	HP		Q l/min	H metres
F 65/125C	4	5.5		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	IE3	600 – 2400	40.5 – 28
F 65/200B	15	20		200 – 2400	44 – 30.5
F 65/200A	18.5	25		200 – 2500	50 – 36.5
F 65/200AR	22	30		200 – 2600	57 – 42
F 65/250C	30	40		400 – 2350	76 – 53
F 65/250B	37	50		400 – 2500	87 – 62
F 65/250A	45	60		400 – 2600	95 – 68
F 80/160D	11	15		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	IE3	500 – 4000	40 – 25
F 80/200B	30	40		500 – 3650	56 – 34.5
F 80/200A	37	50		500 – 3900	62 – 40
F 80/250B	45	60		600 – 3600	77 – 54
F 80/250A	55	75		600 – 3900	88.5 – 60
F 100/160C	15	20		1000 – 5000	30 – 12
F 100/160B	18.5	25		1000 – 5200	34 – 14.5
F 100/160A	22	30		1000 – 5500	38 – 17.5
F 100/200C	30	40	IE3	833 – 4650	51 – 28
F 100/200B	37	50		833 – 4900	57 – 33
F 100/200A	45	60		833 – 5250	63 – 38
F 100/250B	55	75		800 – 5150	75 – 48
F 100/250A	75	100		800 – 5750	89 – 58

Q =Flow rate

H =Total manometric head

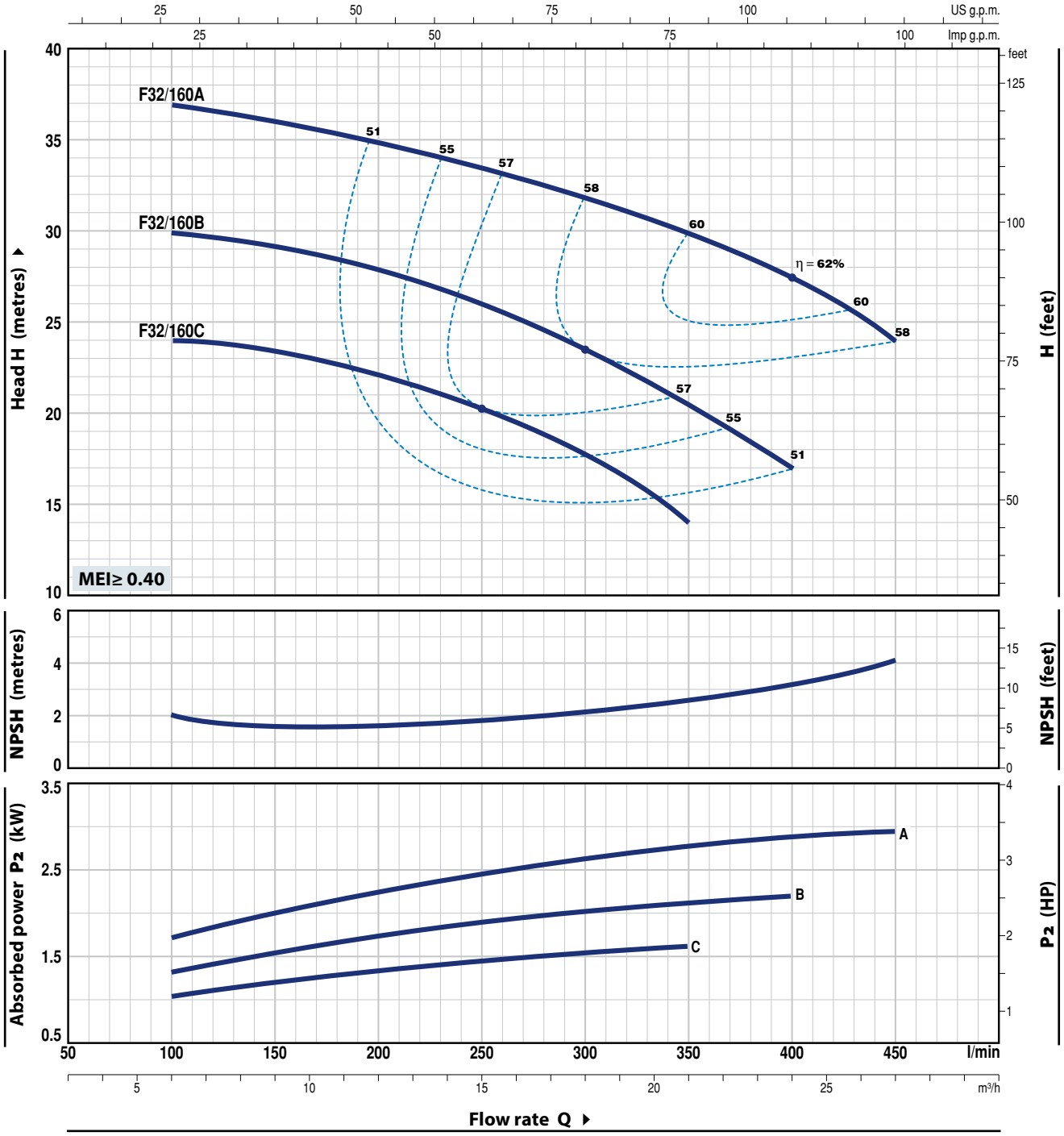
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

F32/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL		POWER (P2)		Q	m³/h	0	6	9	12	15	18	21	24	27
Single-phase	Three-phase	kW	HP		l/min	**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

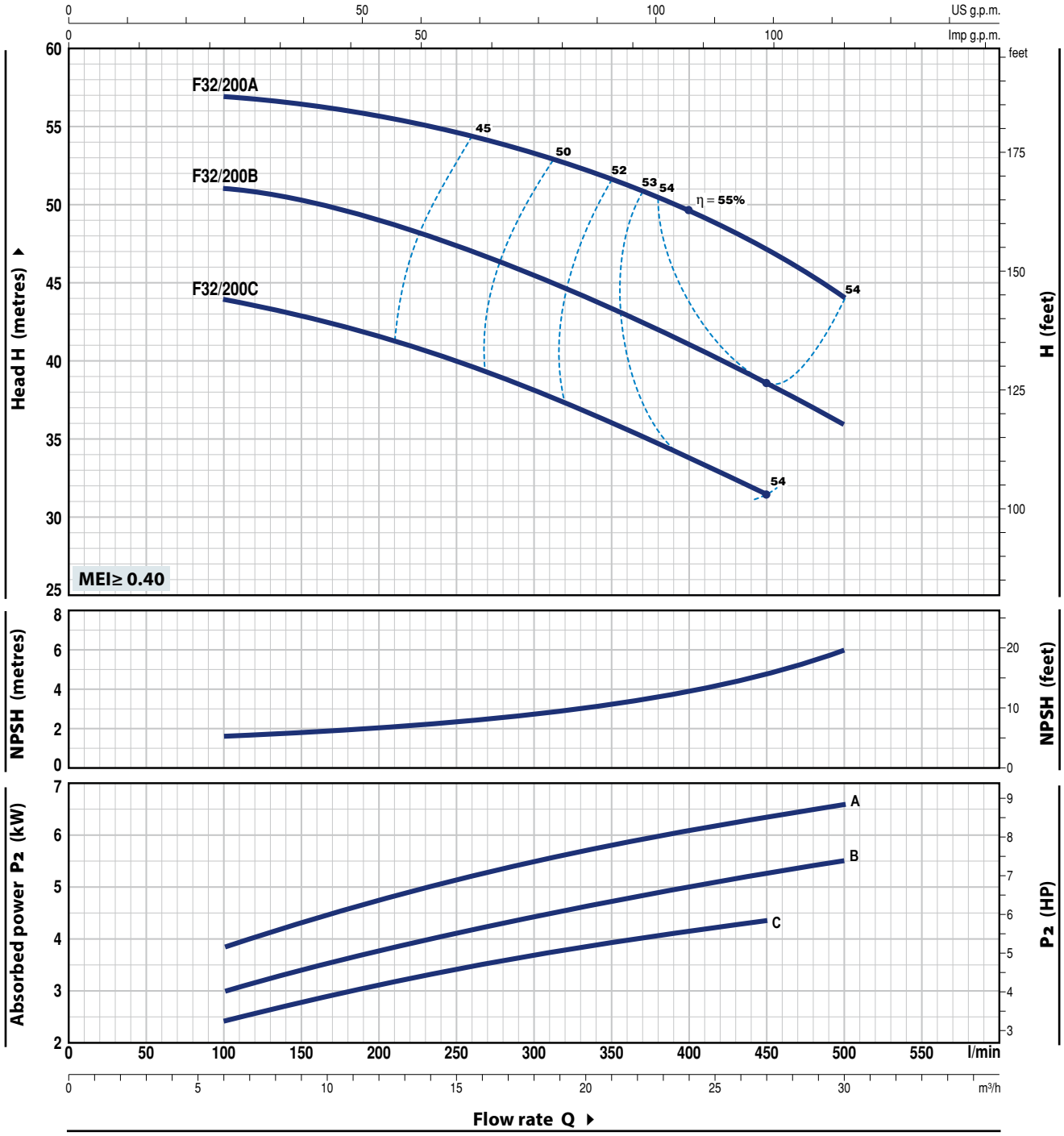
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F32/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	0	6	9	12	15	18	21	24	27	30
Three-phase	kW	HP		l/min	**0**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**
F 32/200C	4	5.5			46	44	43	41.5	40	38	36	34	31.5	
F 32/200B	5.5	7.5	**H**	metres	52	51	50.5	49	47	45	43	41	38.5	36
F 32/200A	7.5	10			60	57	56.5	56	55	53.5	52	50	47	44

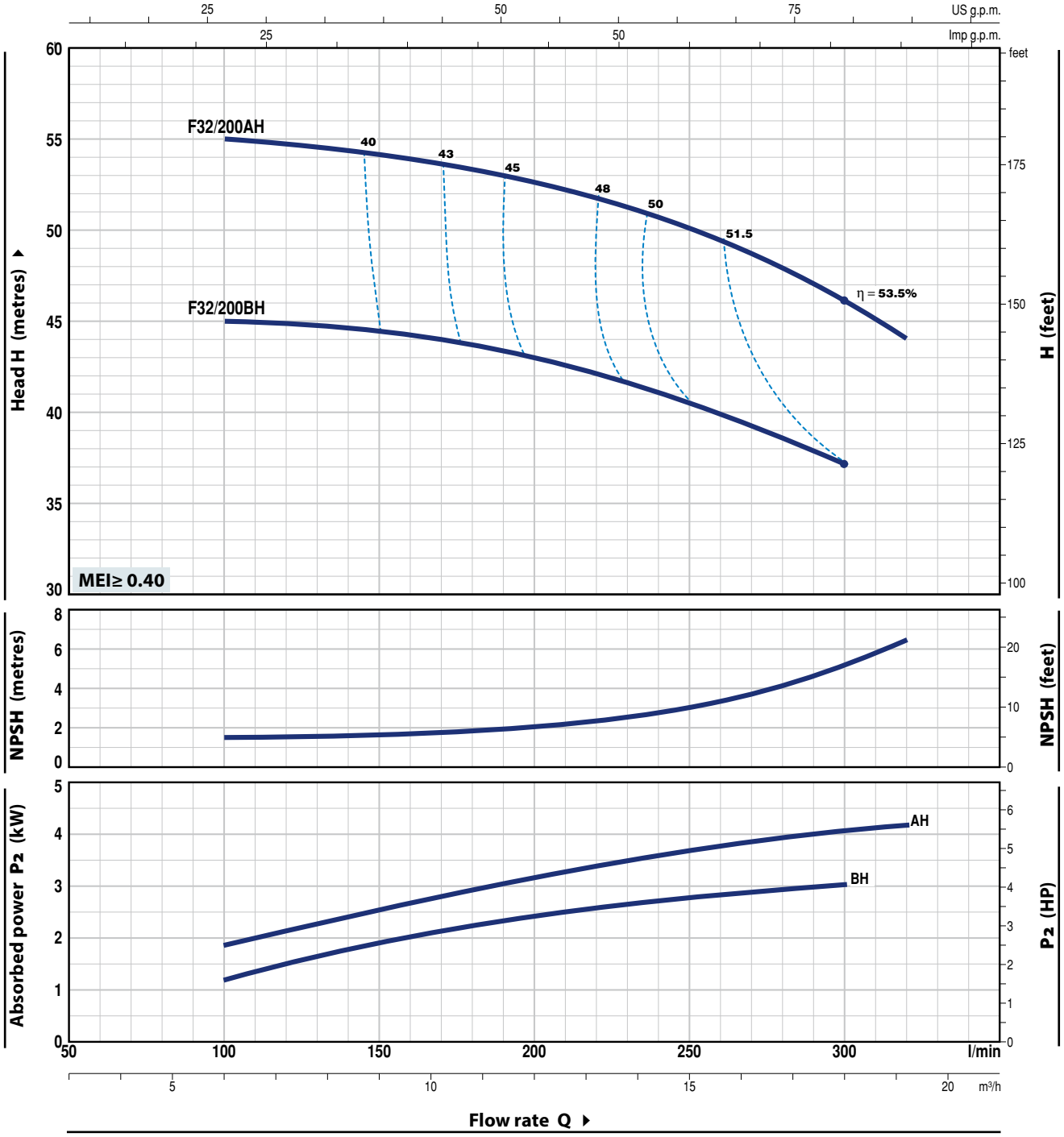
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F32/200H

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



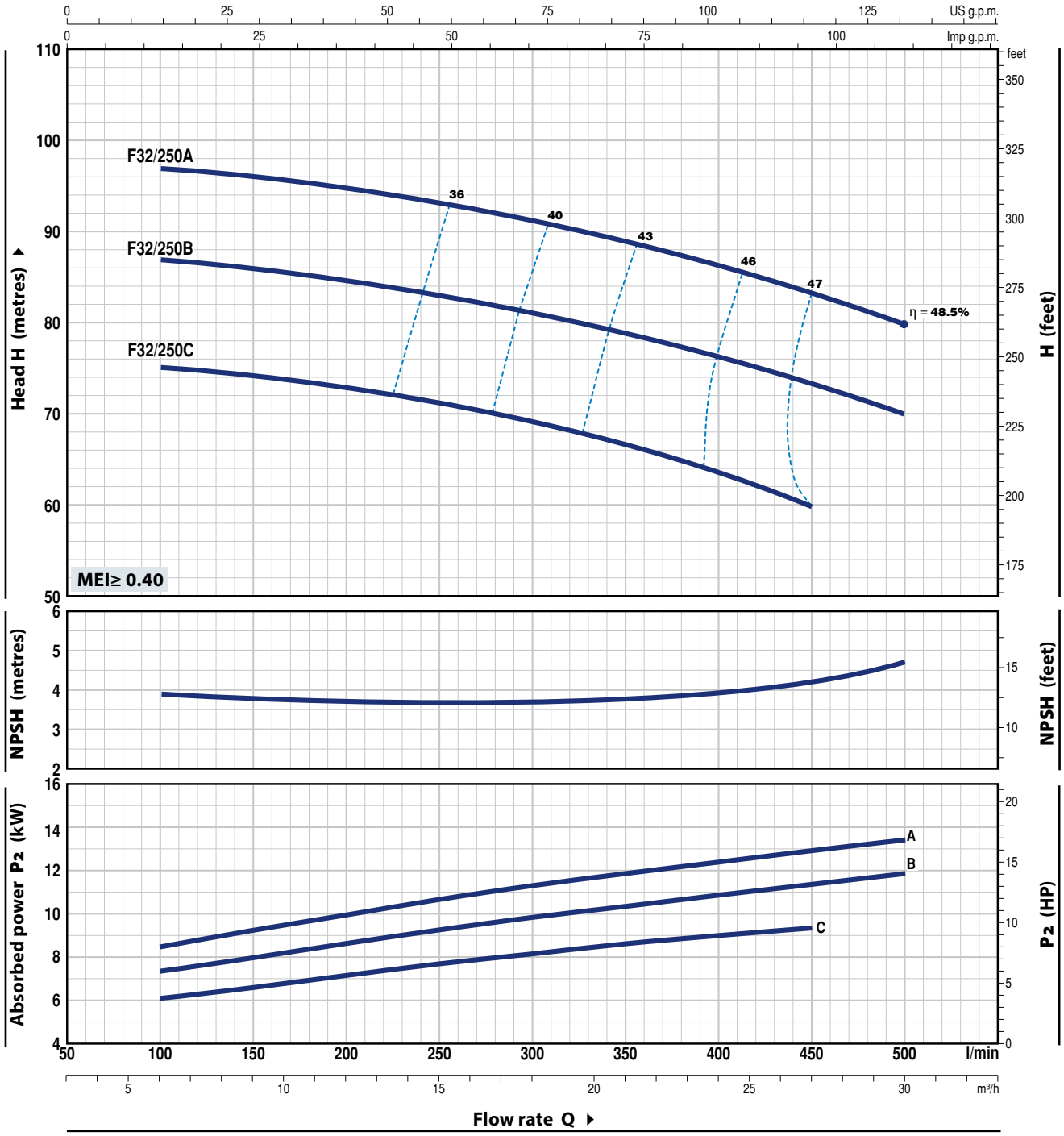
MODEL	POWER (P2)		Q	m³/h	0	6	9	12	15	18	19.2
Three-phase	kW	HP		l/min	**0**	**100**	**150**	**200**	**250**	**300**	**320**
F 32/200BH	3	4	**H**	metres	47	45	44.5	43	40.5	37	
F 32/200AH	4	5.5			57	55	54	52.5	50	46	44

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 (P2)		Q	m³/h	0	6	9	12	15	18	21	24	27	30
Three-phase	kW	HP		l/min	**0**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**
F 32/250C	9.2	12.5			76	75	74.5	73	71.5	69.5	67	64	60	
F 32/250B	11	15	**H**	metres	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

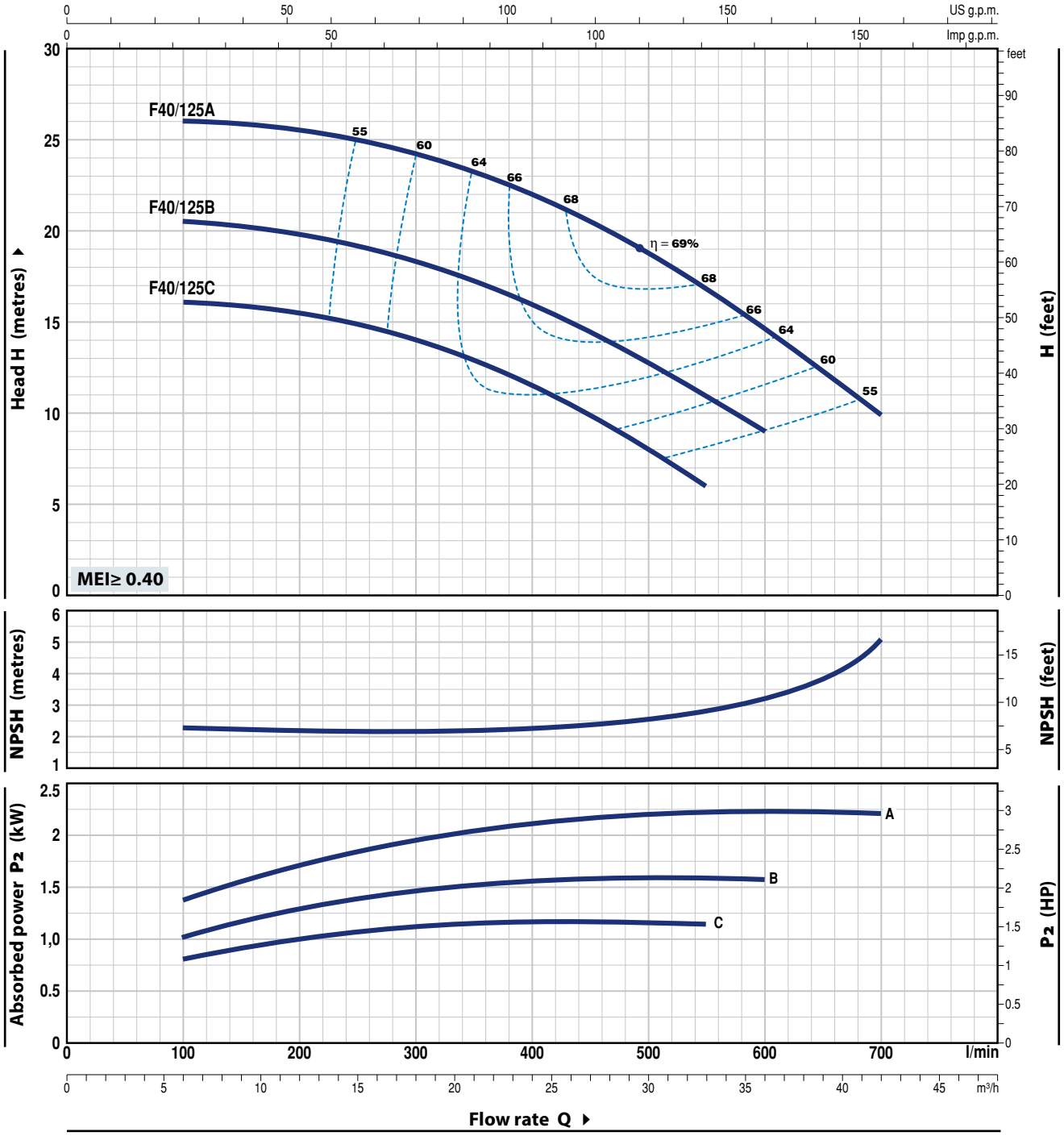
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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 (P2)		Q	m³/h	0	6	12	18	24	30	33	36	39	42
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**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

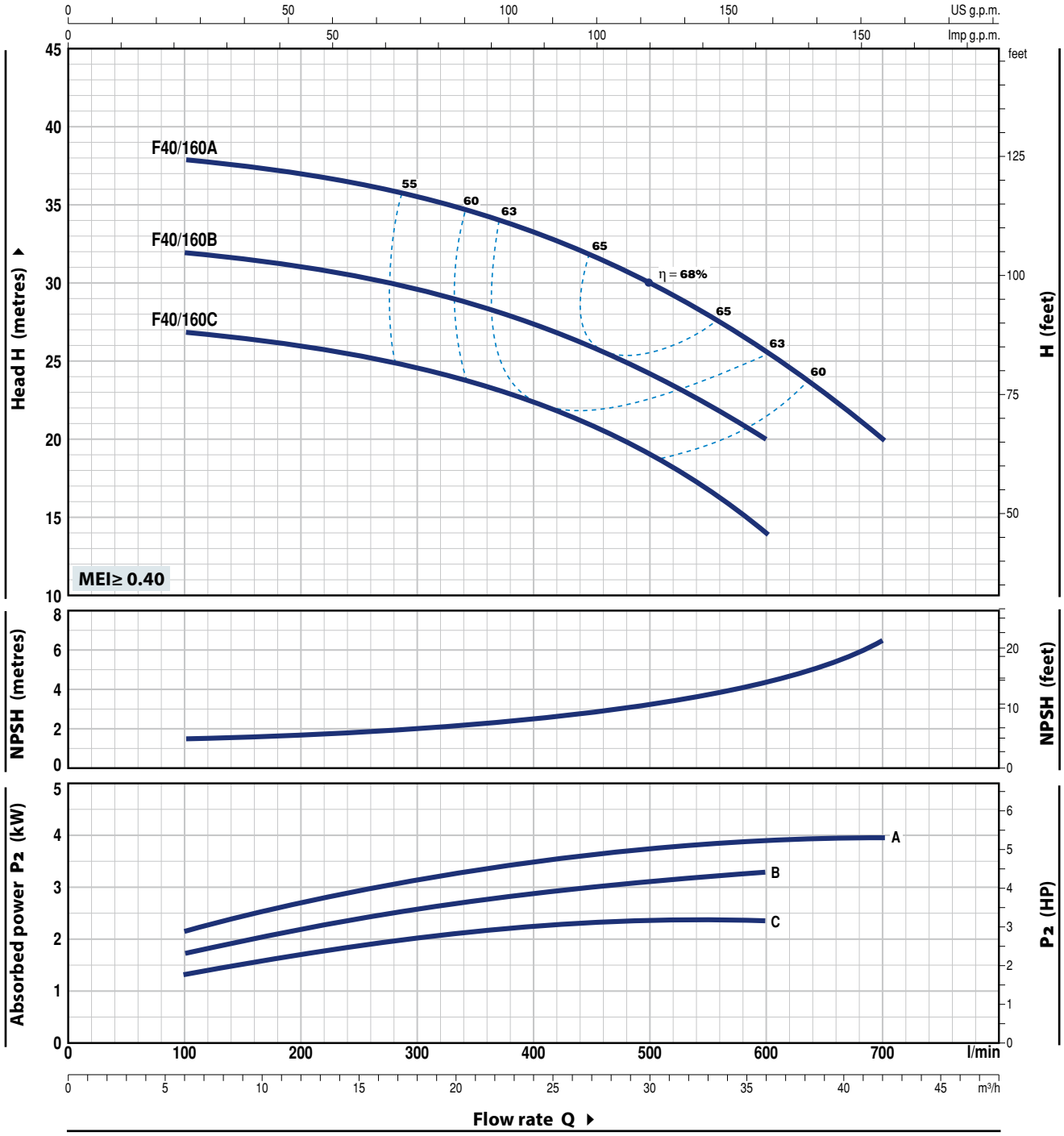
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F40/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL		POWER (P2)		Q	m³/h	0	6	9	12	15	18	24	30	36	42
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**0**	**100**	**150**	**200**	**250**	**300**	**400**	**500**	**600**	**700**
Fm 40/160C	**F 40/160C**	2.2	3	**H**	metres	27	27	26.5	26	25.5	25	22.5	19	14	
–	**F 40/160B**	3	4			32	32	31.5	31	30.5	30	27.5	24	20	
–	**F 40/160A**	4	5.5			38	38	37.8	37	36.5	36	33.5	30	26	20

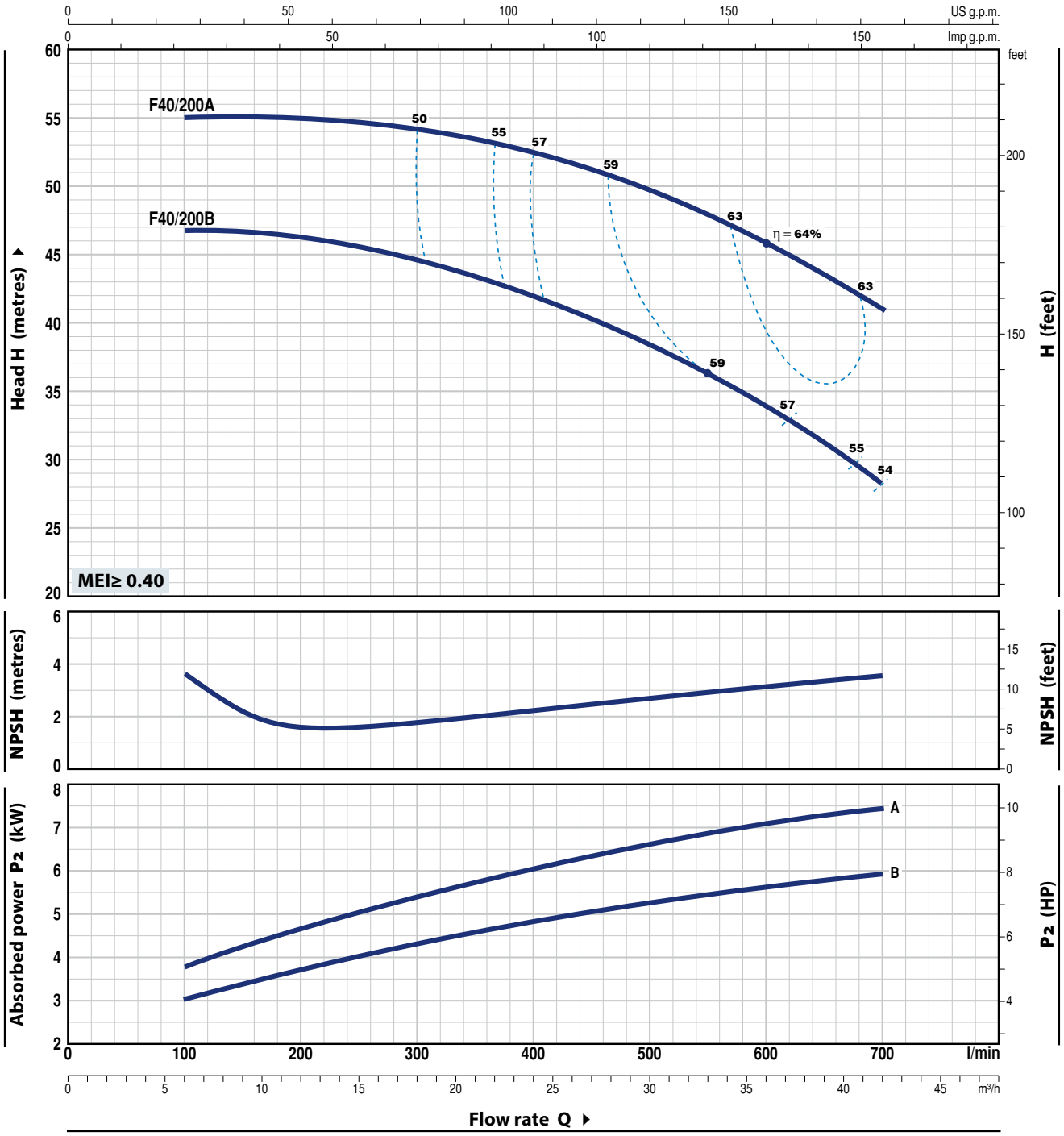
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F40/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q m³/h	0	6	9	12	15	18	24	30	36	42
Three-phase	kW	HP	l/min	**0**	**100**	**150**	**200**	**250**	**300**	**400**	**500**	**600**	**700**
F 40/200B	5.5	7.5	H metres	48	47	46.5	46	45.5	44.5	42	38	34	28
F 40/200A	7.5	10		56	55	55	55	54.5	54	52.5	49.5	46	41

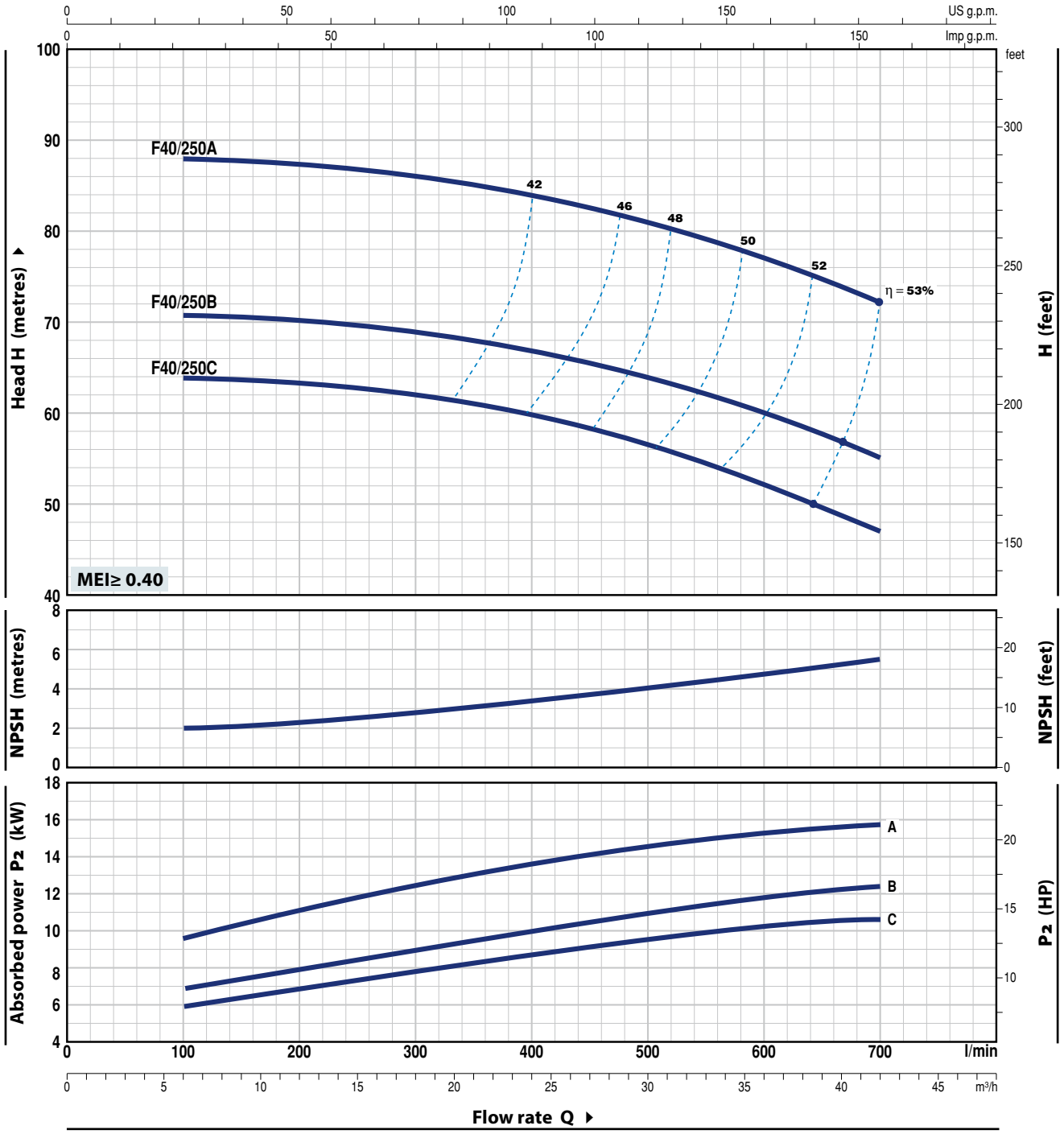
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F40/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	0	6	9	12	15	18	24	30	36	42
Three-phase	kW	HP		l/min	**0**	**100**	**150**	**200**	**250**	**300**	**400**	**500**	**600**	**700**
F 40/250C	9.2	12.5	**H**	metres	64	64	63.5	63	62.5	62	60	56.5	52.5	47
F 40/250B	11	15			71	71	70.5	70	69.5	69	67	64	60	55
F 40/250A	15	20			88	88	87.5	87	86.5	86	84	81	77	72

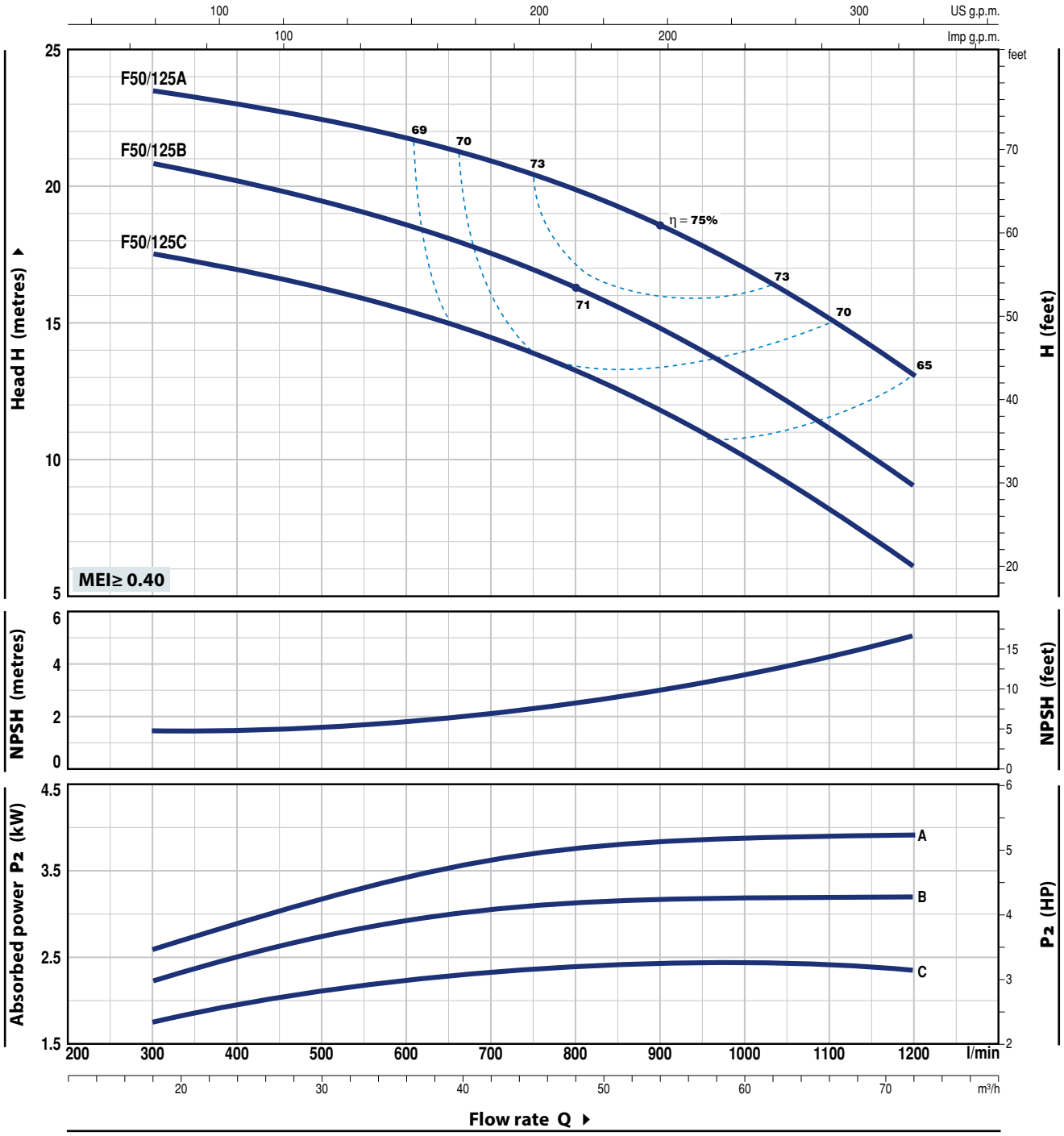
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F50/125

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



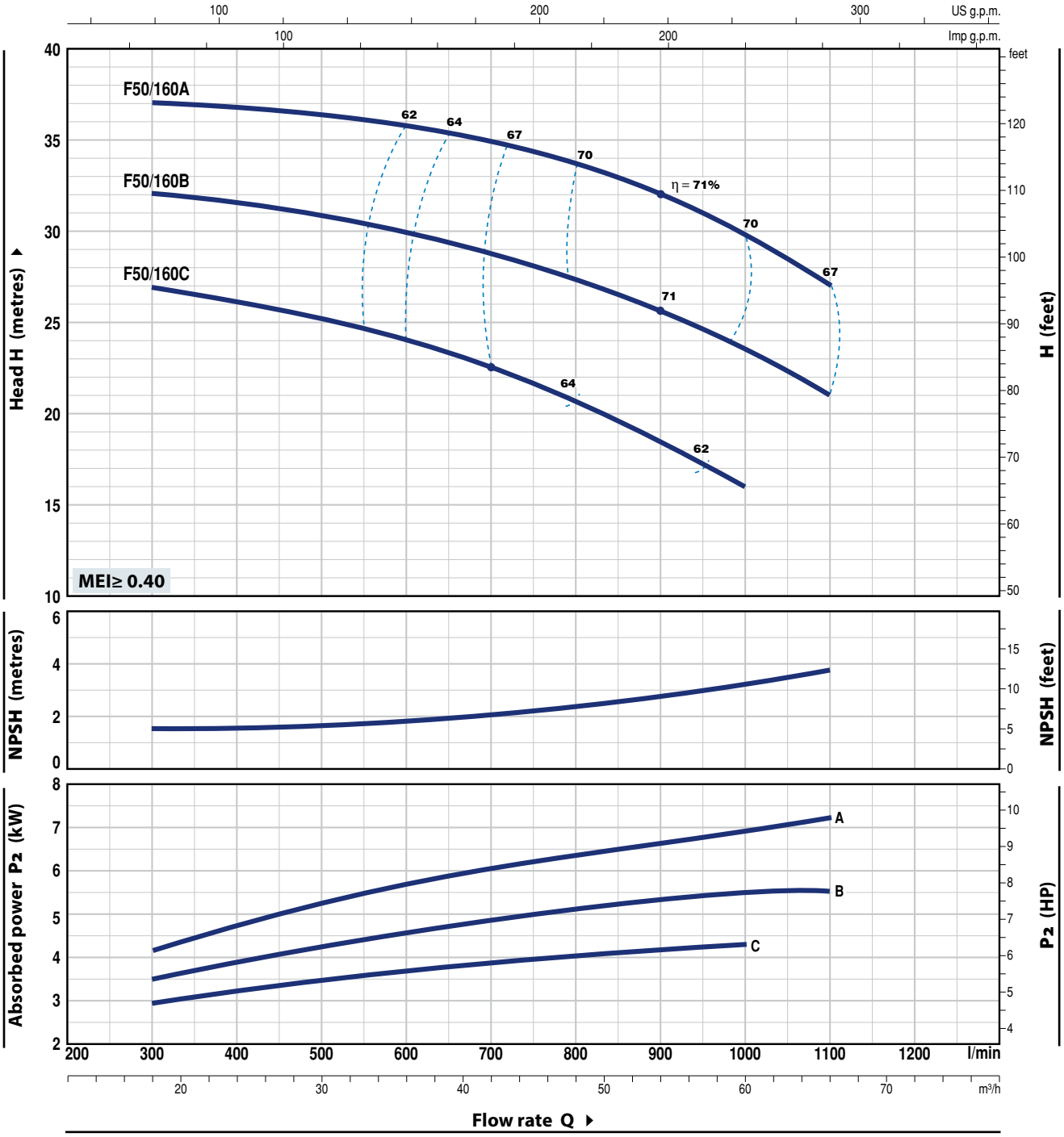
MODEL		POWER (P2)		Q	m³/h	0	18	24	30	36	42	48	54	60	66	72
Single-phase	Three-phase	kW	HP		l/min	**0**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**	**1100**	**1200**
Fm 50/125C	**F 50/125C**	2.2	3	**H**	metres	18.5	17.5	17	16.5	15.5	14.8	13.5	12	10.5	8.2	6
–	**F 50/125B**	3	4			21.5	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 (P2)		Q m³/h	0	18	24	30	36	42	48	54	60	66
Three-phase	kW	HP	l/min	0	300	400	500	600	700	800	900	1000	1100
F 50/160C	4	5.5	H metres	27	27	26.5	25	24.5	23	20	18.5	16	
F 50/160B	5.5	7.5		33	32	31.7	31	30	29	27	26	24	21
F 50/160A	7.5	10		38	37	36.8	36.5	36	34	33	32	30	27

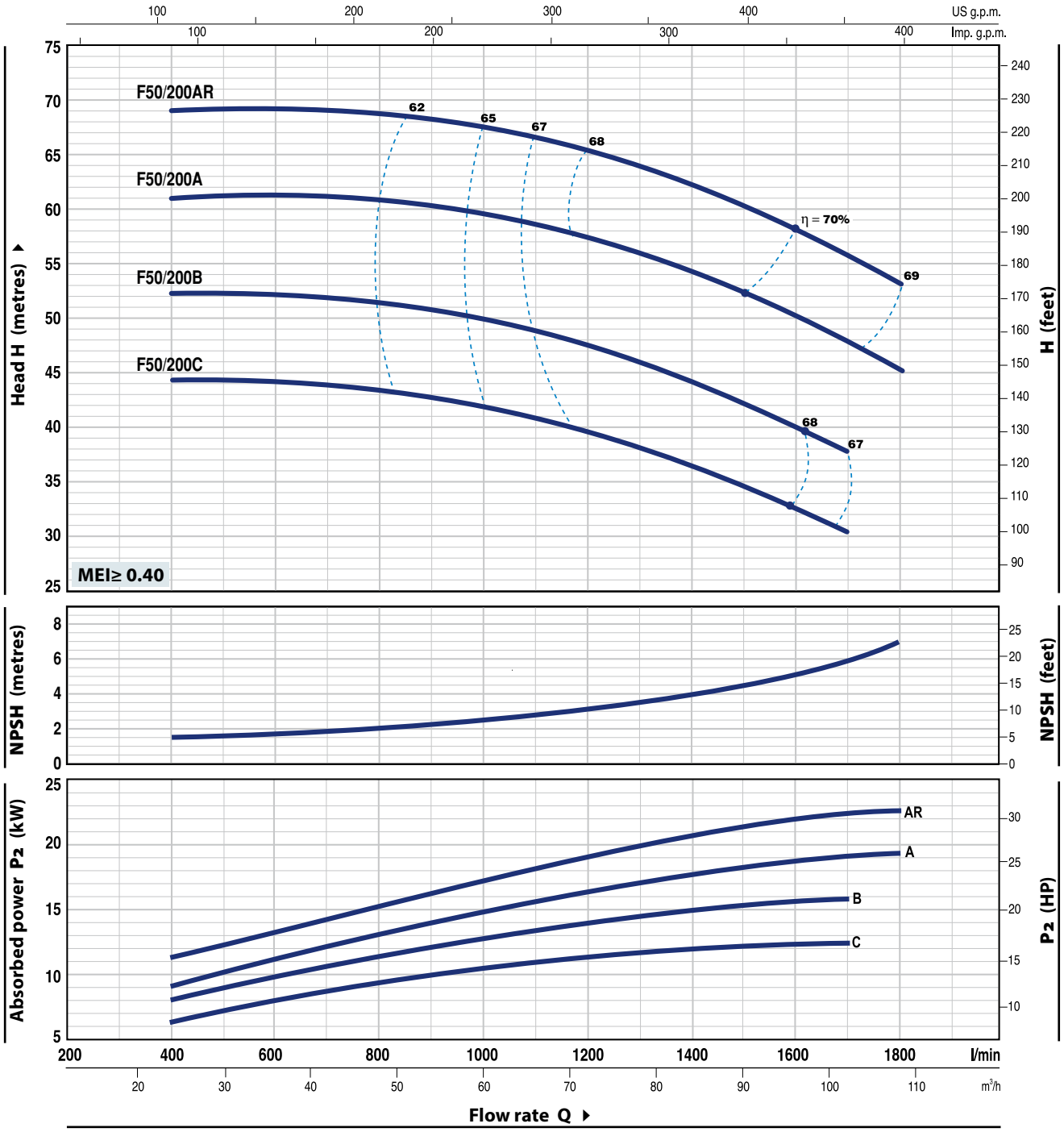
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F 50/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



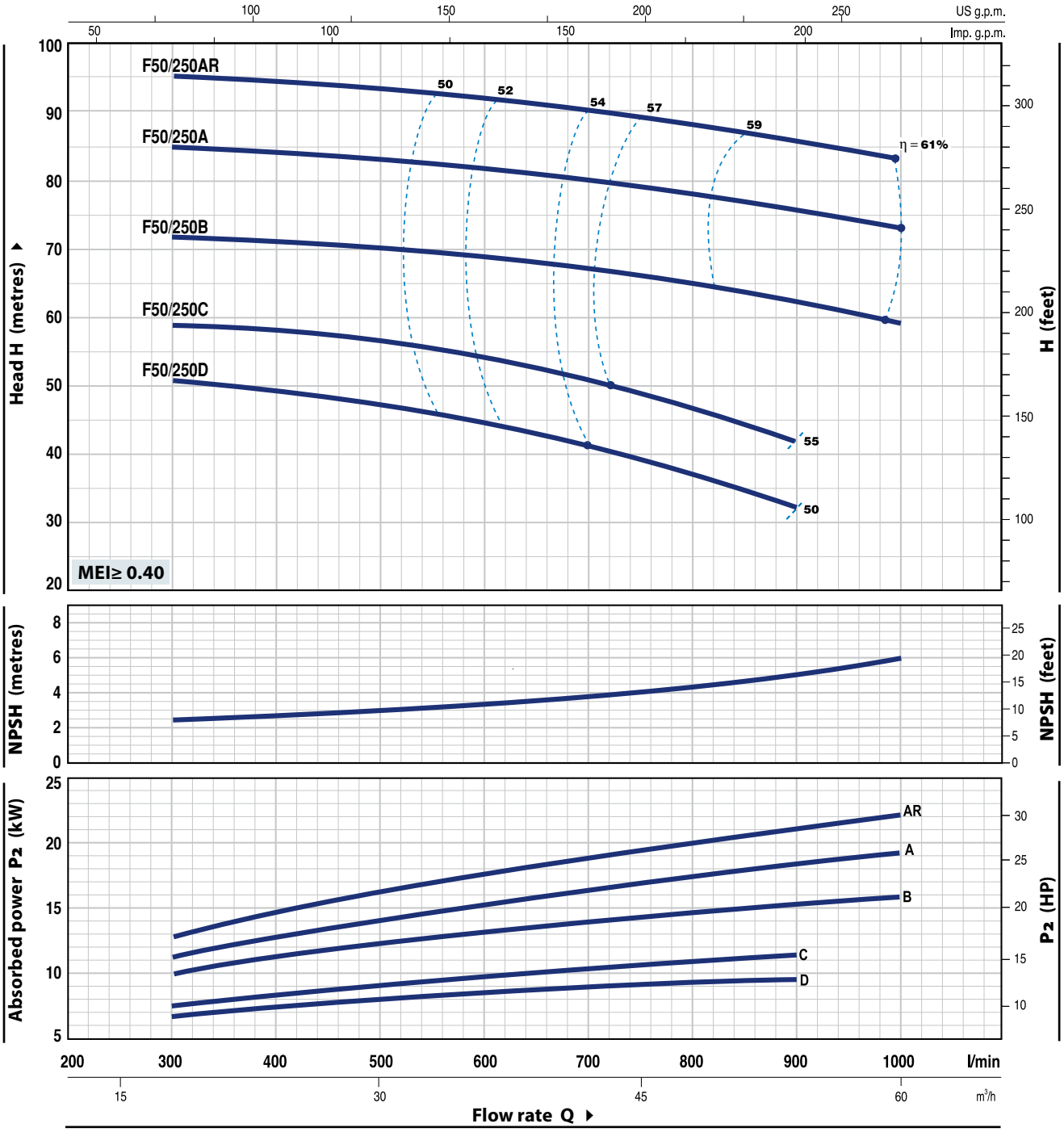
MODEL	POWER (P2)		Q m³/h	24	36	48	60	72	84	96	102	108
Three-phase	kW	HP	l/min	400	600	800	1000	1200	1400	1600	1700	1800
F 50/200C	11	15	H metres	44	44	44	42	39	36	33	30	
F 50/200B	15	20		52	52	52	50	47	44	40	38	
F 50/200A	18.5	25		61	61	60.5	60	57	54	50	48	45
F 50/200AR	22	30		69	69	68.5	68	65	62	58	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 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	0	18	24	30	36	42	48	54	60
Three-phase	kW	HP		l/min	**0**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**
F 50/250D	9.2	12.5			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	**H**	metres	72	72	71	70	69	67	65	62	59
F 50/250A	18.5	25			85	85	84	83	82	80	78	76	73
F 50/250AR	22	30			95	95	94	93	92	90	88	86	83

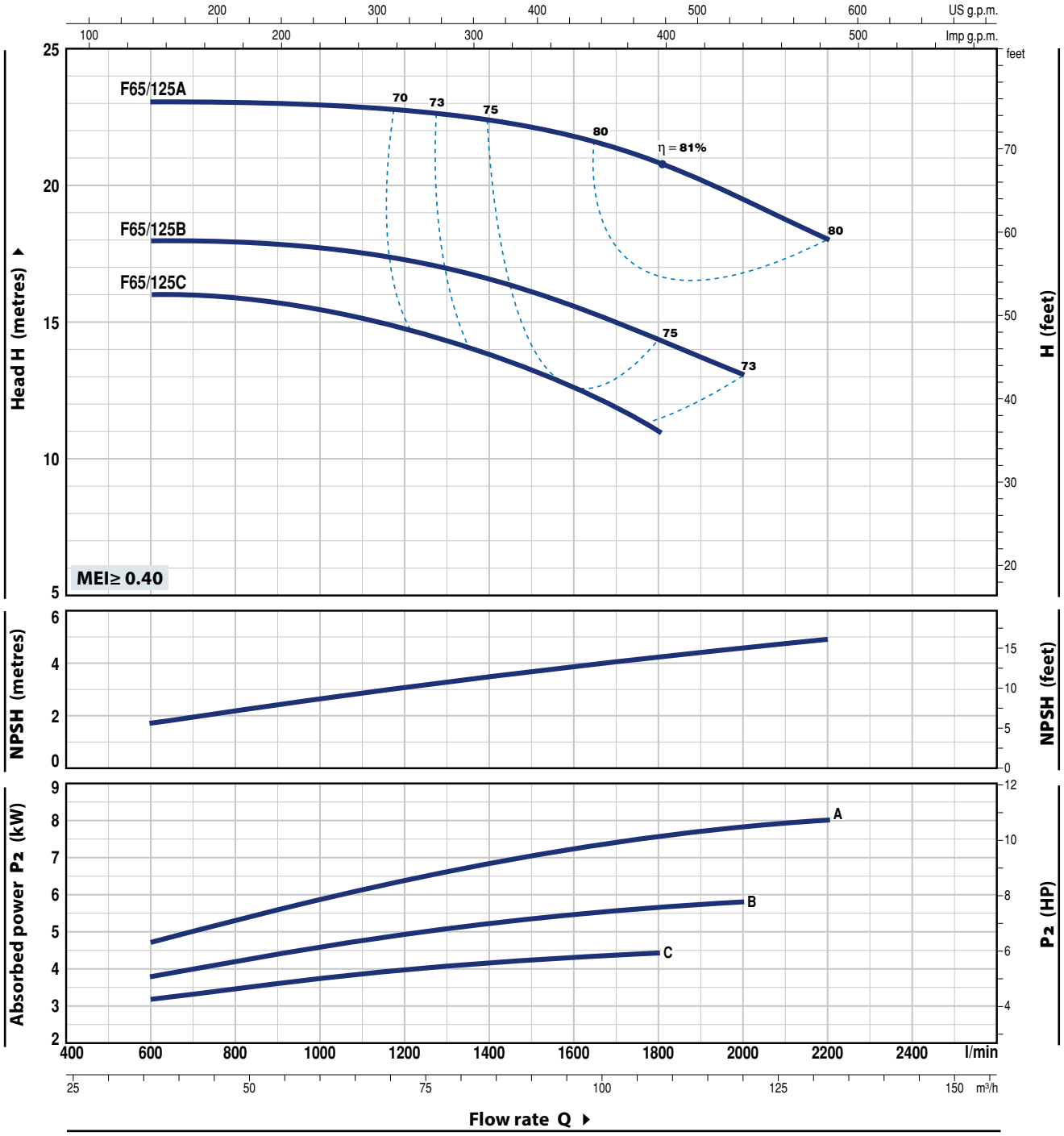
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F65/125

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	0	36	48	60	72	84	96	108	120	132
Three-phase	kW	HP		l/min	**0**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**2000**	**2200**
F 65/125C	4	5.5			16	16	16	15.5	14.5	13.5	12.5	11		
F 65/125B	5.5	7.5	**H**	metres	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

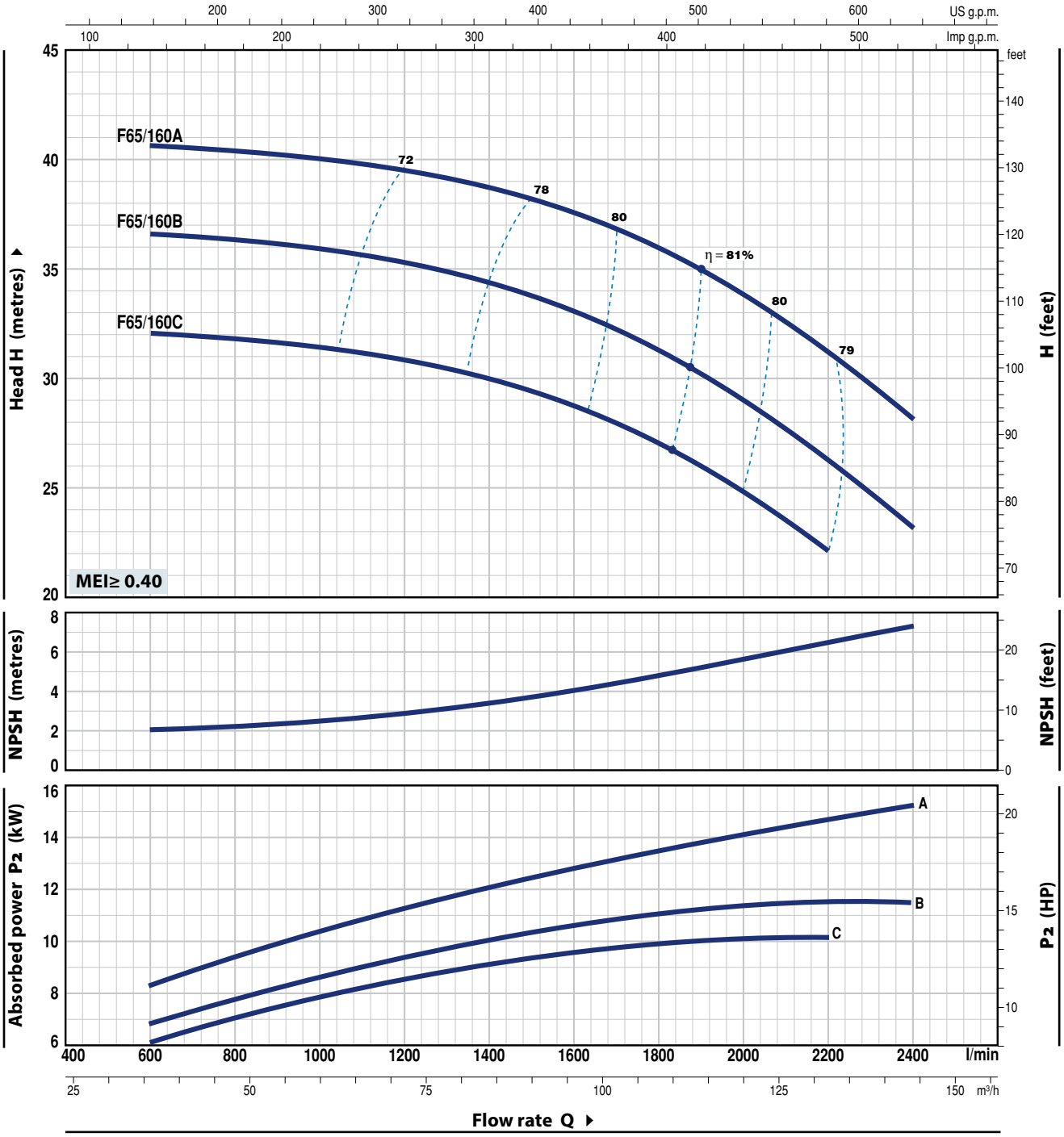
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F65/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	0	36	48	60	72	84	96	108	120	132	144
Three-phase	kW	HP		l/min	**0**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**2000**	**2200**	**2400**
F 65/160C	9.2	12.5	**H**	metres	32	32	32	32	32	30	29	27	25	22	
F 65/160B	11	15			37	36.5	36.5	36	35.5	34	33	31	29	26	23
F 65/160A	15	20			41	40.5	40.5	40	39.5	39	37.5	36	34	31	28

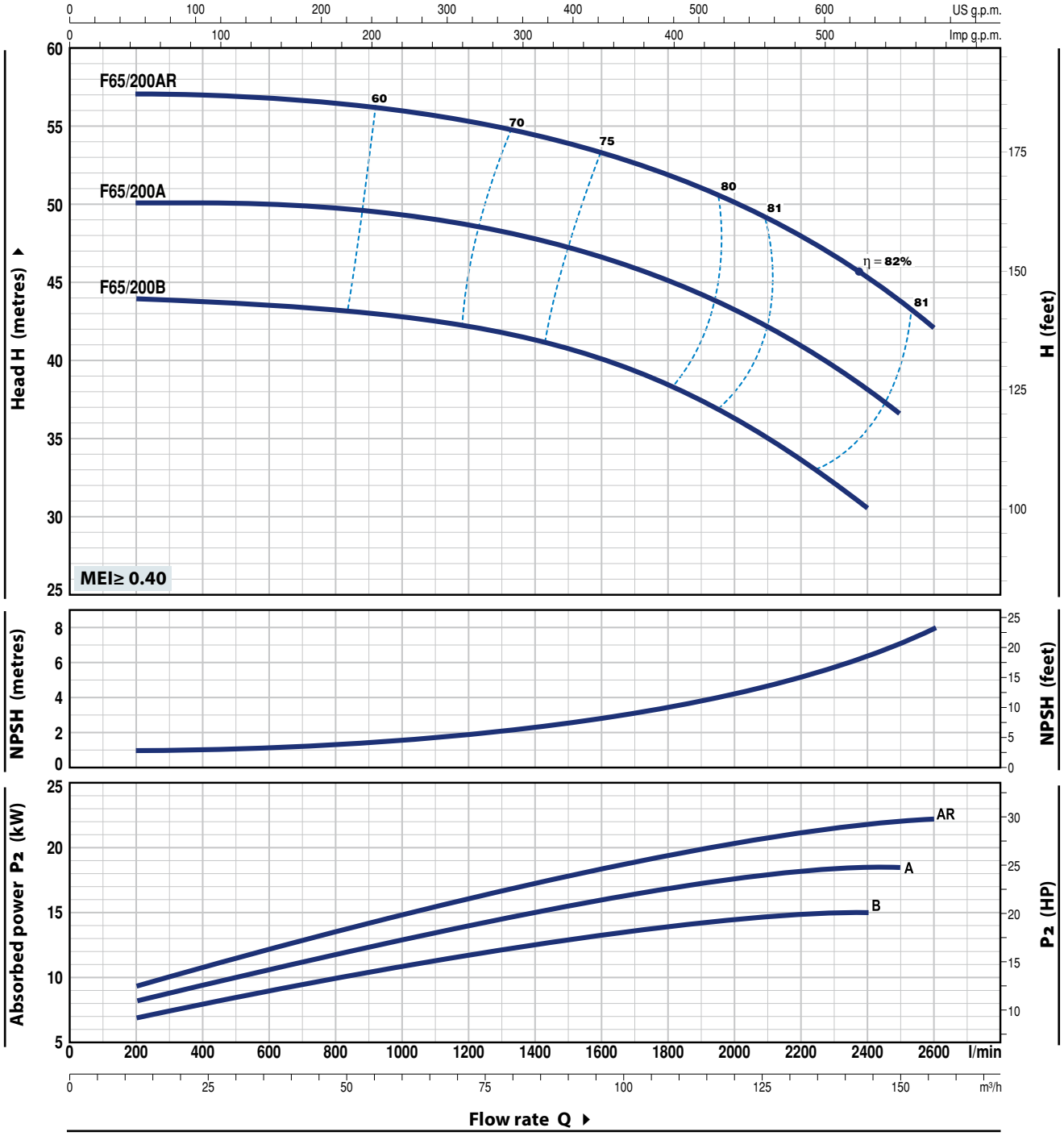
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F65/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



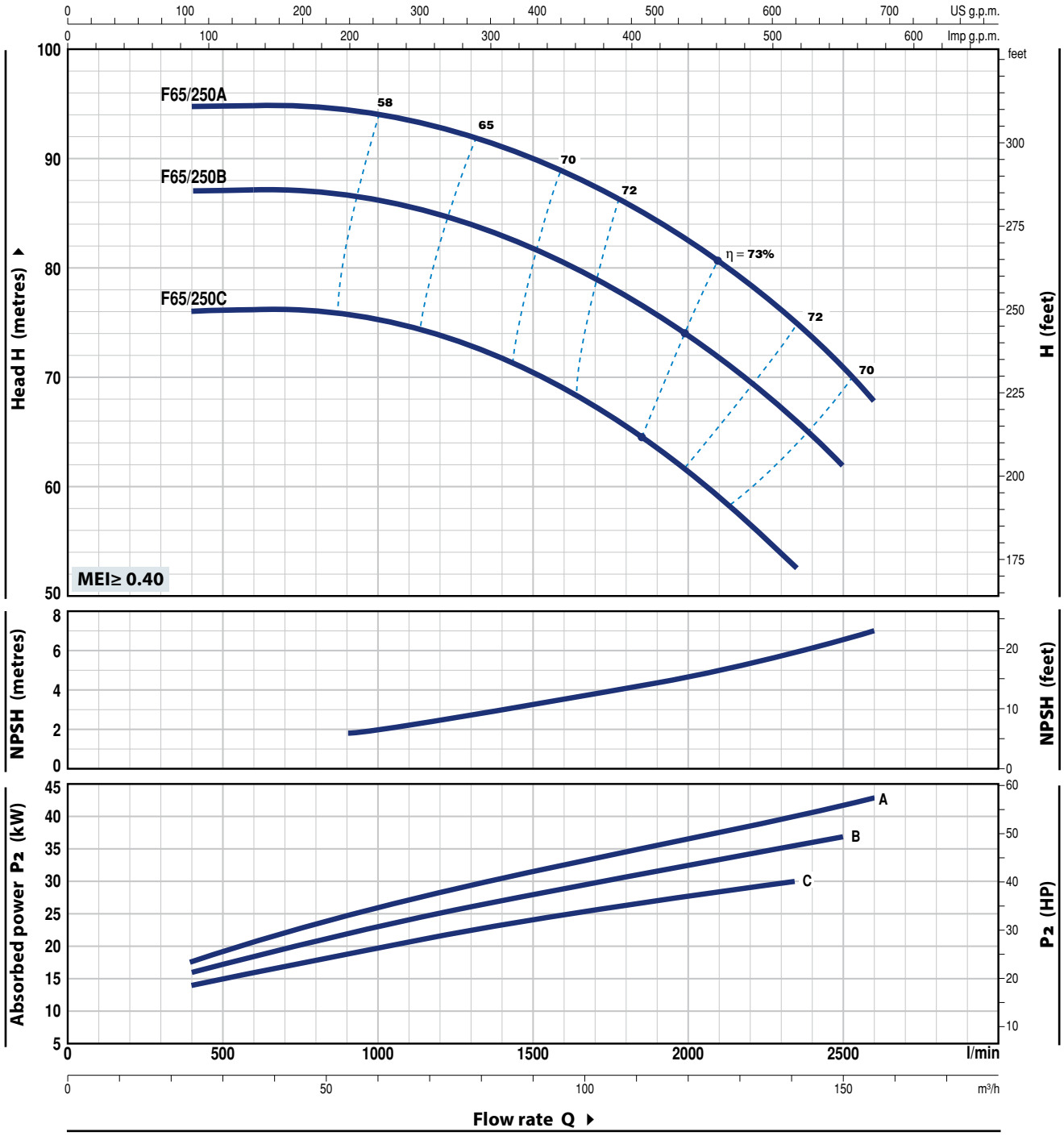
MODEL	POWER (P2)		Q	m³/h	12	36	48	60	72	84	96	108	120	132	144	150	156
Three-phase	kW	HP		l/min	**200**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**2000**	**2200**	**2400**	**2500**	**2600**
F 65/200B	15	20			44	43.5	43.3	43	42.5	41.5	40	38.5	36.5	34	30.5		
F 65/200A	18.5	25	**H**	metres	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 (P2)		Q	m³/h	24	40	60	80	100	120	141	150	156
Three-phase	kW	HP		l/min	**400**	**667**	**1000**	**1333**	**1667**	**2000**	**2350**	**2500**	**2600**
F 65/250C	30	40			76	76	75.5	72.5	68	61.5	53		
F 65/250B	37	50	**H**	metres	87	87	86	84	80	74	66.5	62	
F 65/250A	45	60			95	95	94	92	88	82.5	75	71	68

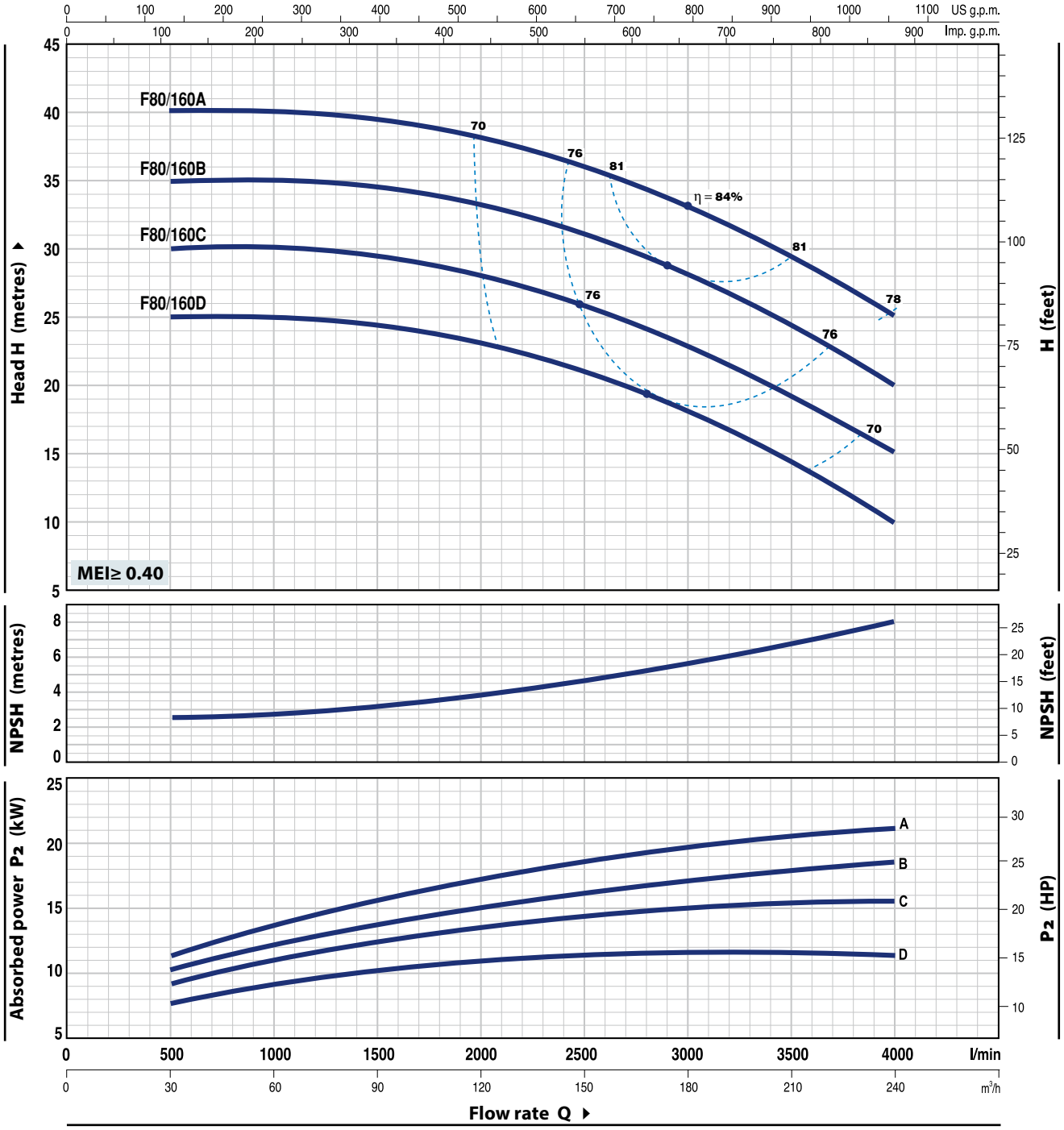
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F80/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



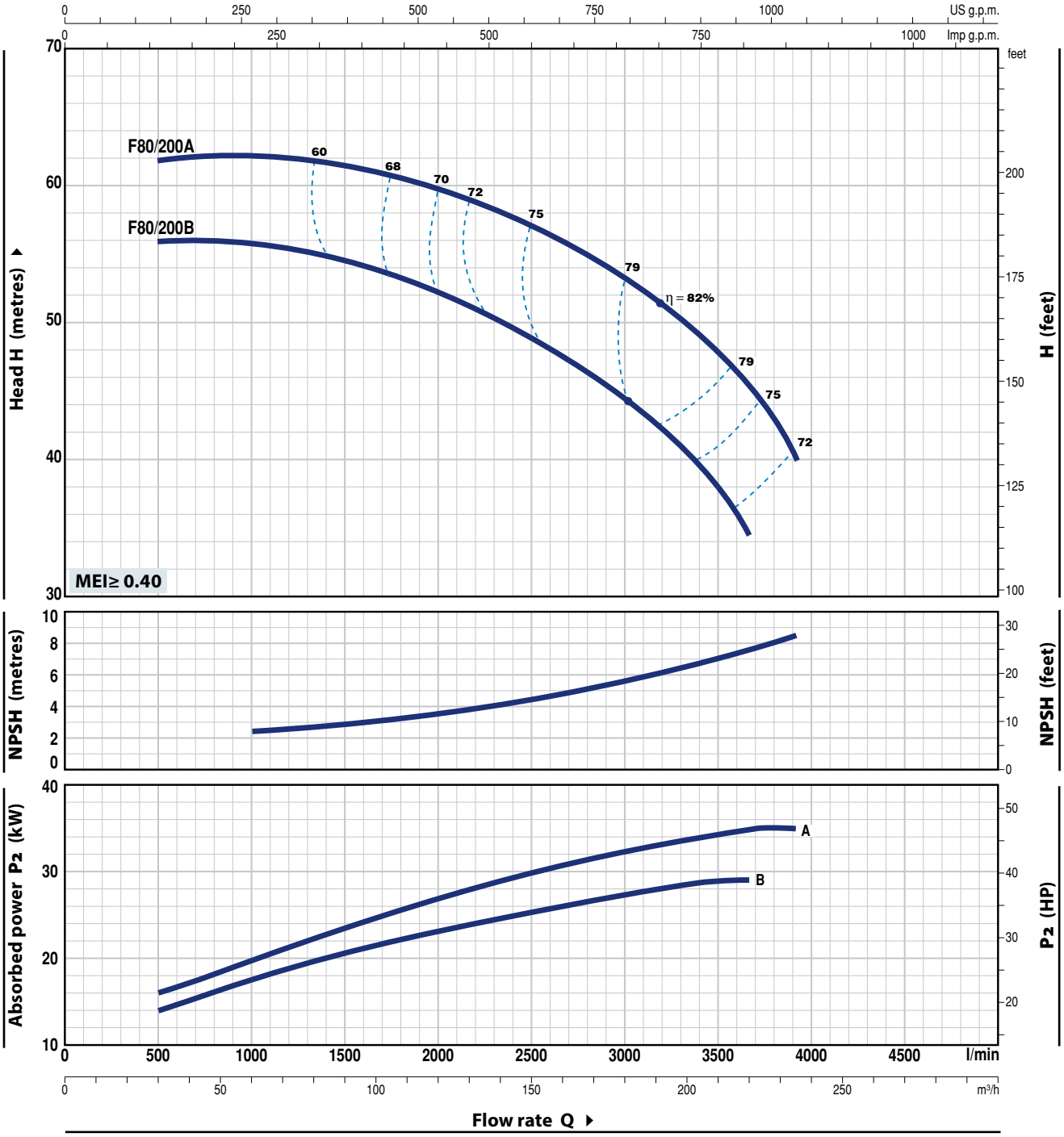
MODEL	POWER (P2)		Q	m³/h	0	30	60	90	120	150	180	210	240
Three-phase	kW	HP		l/min	**0**	**500**	**1000**	**1500**	**2000**	**2500**	**3000**	**3500**	**4000**
F 80/160D	11	15	H	metres	25	25	25	24.5	23.5	21	18	14.5	10
F 80/160C	15	20			30	30	30	29.5	28.5	26	23	19.5	15
F 80/160B	18.5	25			35	35	35	34.5	33.5	31	28.5	24.5	20
F 80/160A	22	30			40	40	40	39.5	38.5	36	33	29.5	25

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	30	50	100	150	200	219	234
Three-phase	kW	HP		l/min	**500**	**833**	**1667**	**2500**	**3333**	**3650**	**3900**
F 80/200B	30	40	**H**	metres	56	56	54	49	41	34.5	
F 80/200A	37	50			62	62	61	57	50	45.5	40

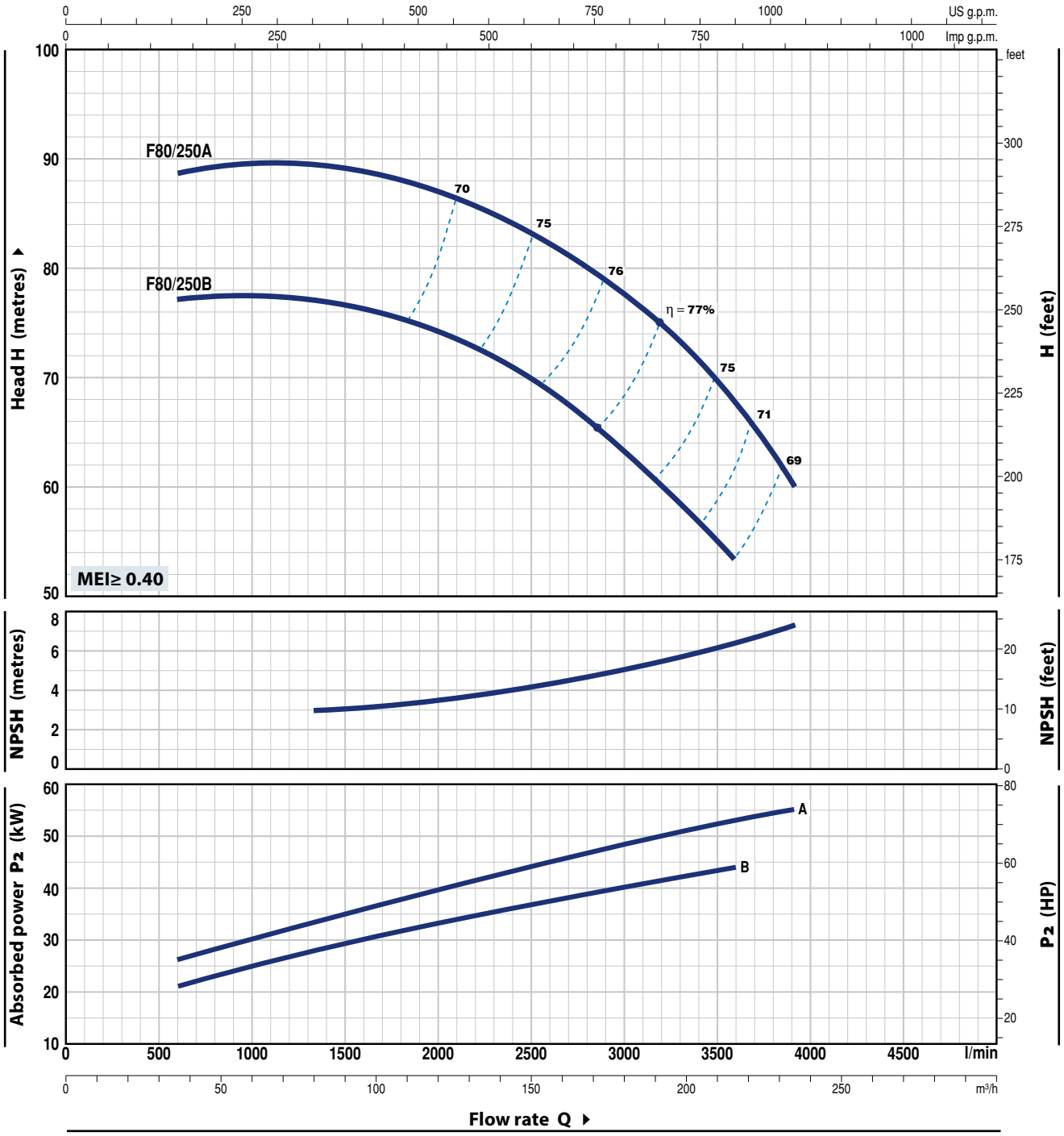
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F80/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



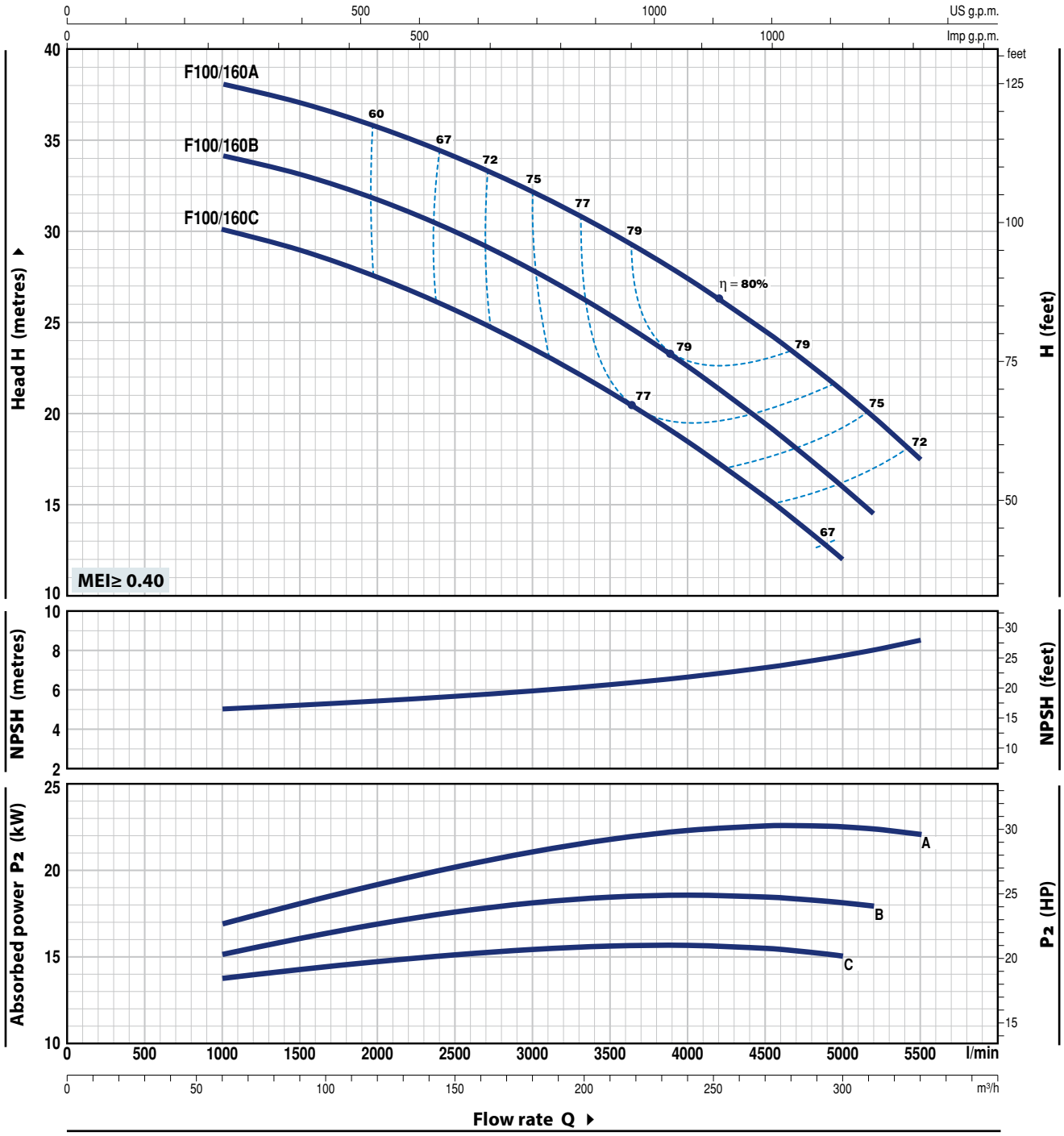
MODEL	POWER (P2)		Q	m³/h	36	50	100	150	200	216	234
Three-phase	kW	HP		l/min	**600**	**833**	**1667**	**2500**	**3333**	**3600**	**3900**
F 80/250B	45	60	**H**	metres	77	77.5	76	70.5	58.5	54	
F 80/250A	55	75			88.5	89.5	89	83	72	68	60

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 (P2)		Q	m³/h	60	120	180	240	270	300	312	330
Three-phase	kW	HP		l/min	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

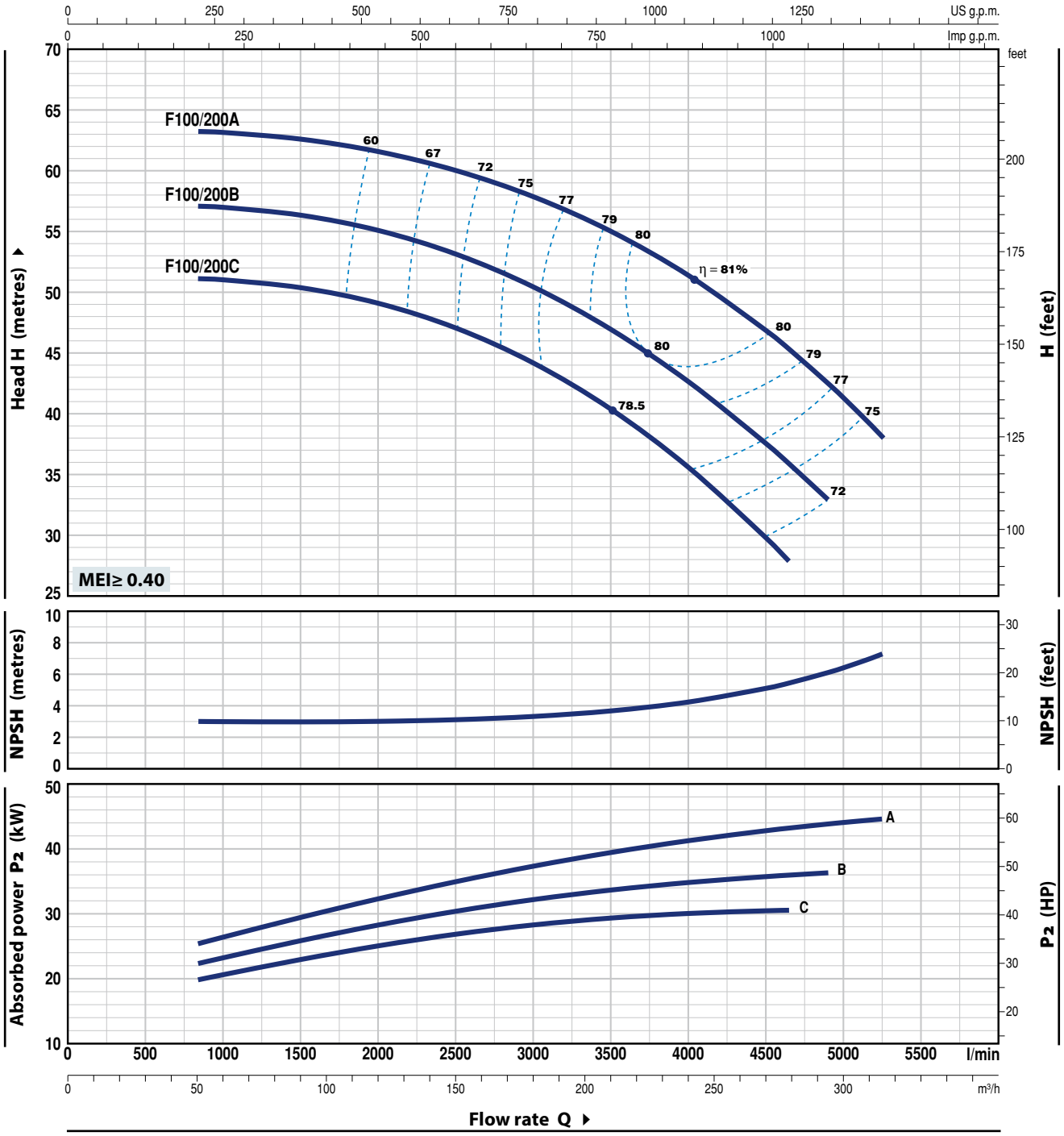
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F100/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



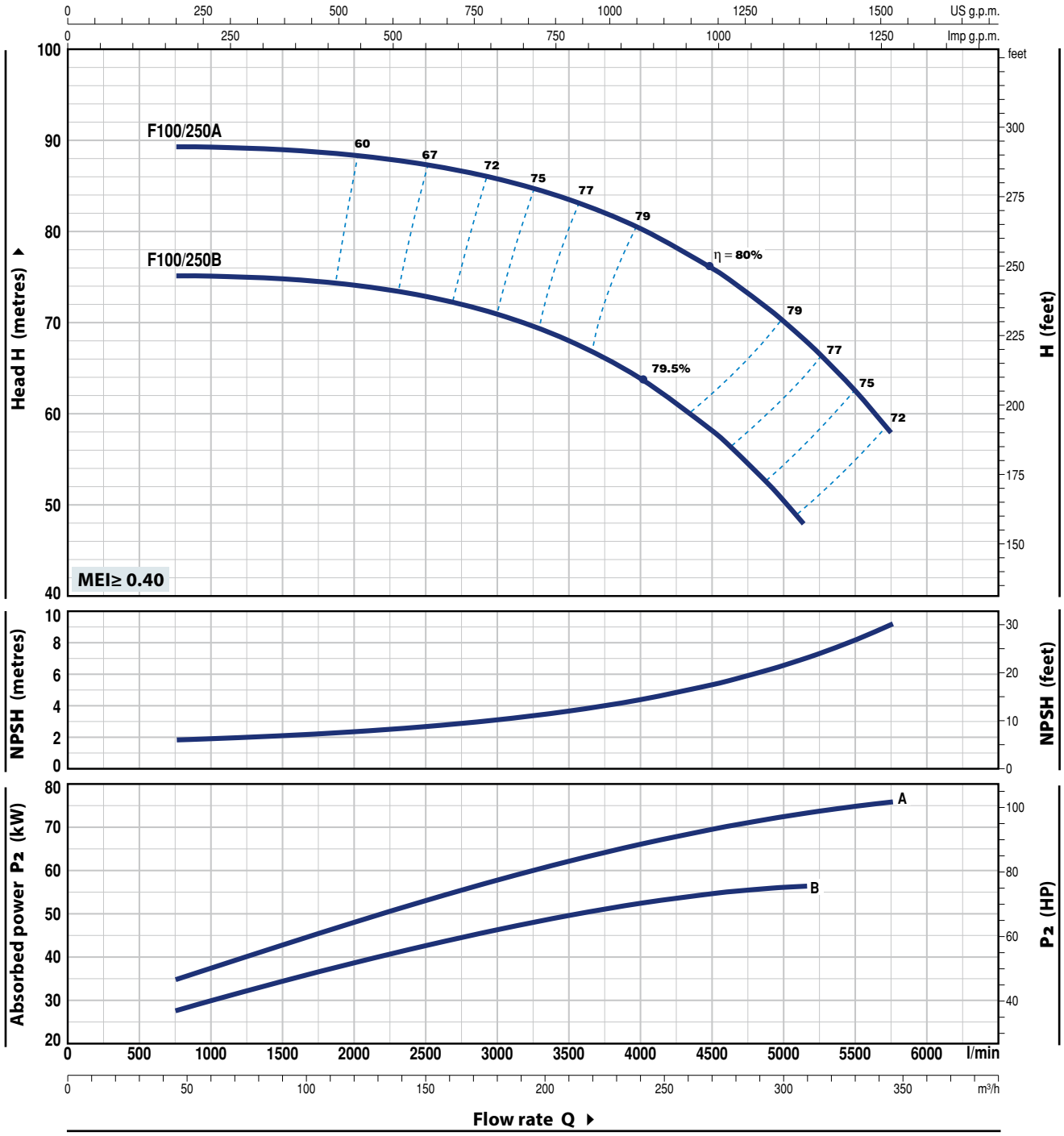
MODEL	POWER (P2)		Q	m³/h	0	50	100	150	200	250	279	294	300	315
Three-phase	kW	HP		l/min	**0**	**833**	**1667**	**2500**	**3333**	**4167**	**4650**	**4900**	**5000**	**5250**
F 100/200C	30	40			51	51	50	47	41.5	34	28			
F 100/200B	37	50	**H**	metres	57	57	56	53	48	41	36	33		
F 100/200A	45	60			63	63	62.5	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 (P2)		Q	m³/h	48	96	150	180	210	240	300	309	345
Three-phase	kW	HP		l/min	**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

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 F32/160B F50/125C F40/125	**6206 ZZ-C3 / 6204 ZZ**	F32/250 F50/200 F40/250 F65/160 F50/250 F80/160 F65/200 F100/160	**6310 ZZ-C3 / 6308 ZZ-C3**
Fm32/160B F32/160A Fm40/160C F40/160B Fm50/125C F50/125B	**6206 ZZ-C3 / 6205 ZZ**	F65/250 F80/200 F80/250B F100/200	**6312 ZZ-C3 / 6212 ZZ-C3**
F40/160A F50/125A	**6306 ZZ-C3 / 6206 ZZ-C3**	F80/250A F100/250	**6314 ZZ-C3 / 6313 ZZ-C3**
F32/200 F40/200 F50/160 F65/125	**6307 ZZ-C3 / 6206 ZZ-C3**		

7 CAPACITOR

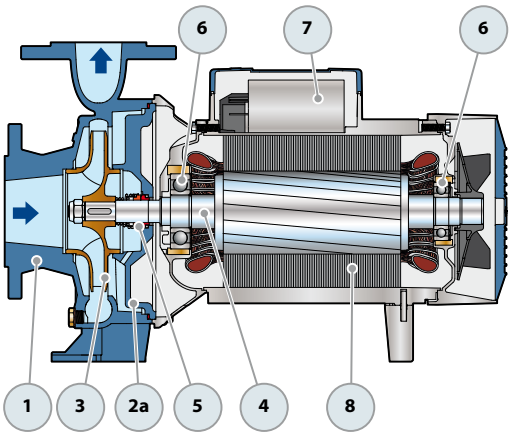
Pump	*Capacitance*
Single-phase	***(230 V or 240 V)***
Fm32/160C	**45** µF - 450 VL
Fm32/160B	**70** µF - 450 VL
Fm40/125C	**31.5** µF - 450 VL
Fm40/125B	**45** µF - 450 VL
Fm40/160C	**70** µF - 450 VL
Fm50/125C	**70** µF - 450 VL

8 ELECTRIC MOTOR

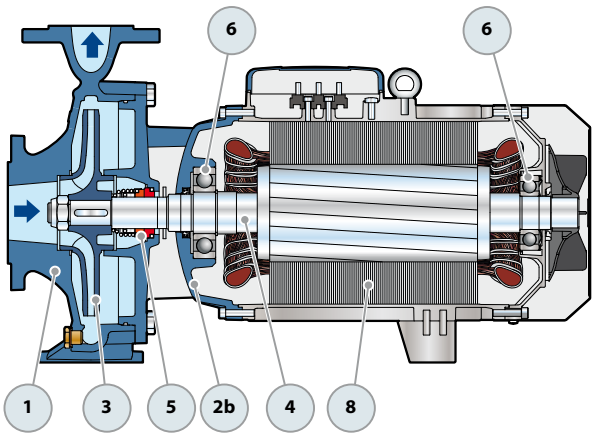
Fm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding (up to 1.5 kW)
F: three-phase 230/400 V - 50 Hz up to 4 kW
400/690 V - 50 Hz from 5.5 to 75 kW

➠ **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

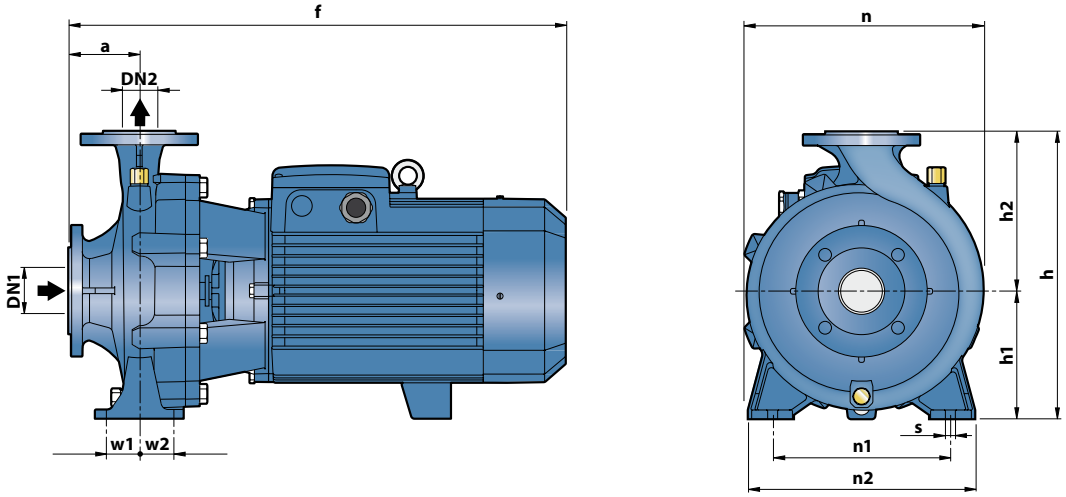
ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
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		
Three-phase	230–240 V	400–415 V	690–720 V
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

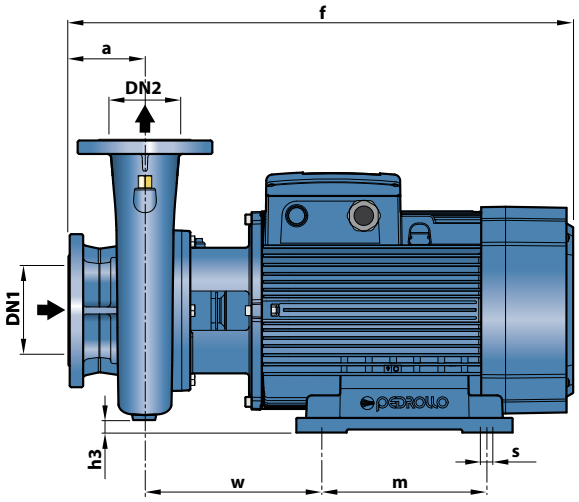
MODEL	VOLTAGE		
Three-phase	230–240 V	400–415 V	690–720 V
F 50/250D	–	**19.0** A	**11.0** A
F 50/250C	–	**21.0** A	**12.0** A
F 50/250B	–	**27.0** A	**15.6** A
F 50/250A	–	**34.0** A	**19.6** A
F 50/250AR	–	**41.0** A	**24.0** A
F 65/125C	**17.5** A	**10.0** A	**5.8** A
F 65/125B	–	**12.0** A	**7.0**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

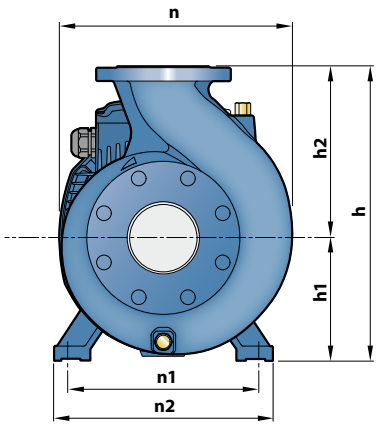
DIMENSIONS AND WEIGHT



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	340	160	180	273						**–**	**46.3**
–	**F 32/200B**				515										**–**	**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**				701										–	**121.0**
Fm 40/125C	**F 40/125C**	**65**	**40**	80	421	252	112	140	244	160	210	35	35		**31.5**	**29.9**
Fm 40/125B	**F 40/125B**														**33.0**	**32.4**
–	**F 40/125A**				441										–	**32.6**
Fm 40/160C	**F 40/160C**				439	292	132	160	241	190	240				**38.3**	**33.4**
–	**F 40/160B**				448										**–**	**38.9**
–	**F 40/160A**				465										**–**	**43.6**
–	**F 40/200B**			100	535	340	160	180	277	212	265				**–**	**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										**–**	**120.0**
Fm 50/125C	**F 50/125C**	**65**	**50**		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	340	160	180	273	212	265				**–**	**47.3**
–	**F 50/160B**				535										**–**	**52.8**
–	**F 50/160A**														**–**	**57.6**
–	**F 50/200C**				616	360		200	316.5						**–**	**100.0**
–	**F 50/200B**				711										**–**	**115.0**
–	**F 50/200A**														**–**	**127.2**
–	**F 50/200AR**				743										**–**	**141.0**
–	**F 50/250D**				605	405	180	225	333	250	320	47.5	47.5		**–**	**104.2**
–	**F 50/250C**														**–**	**105.0**
–	**F 50/250B**				701										**–**	**121.0**
–	**F 50/250A**														**–**	**134.2**
–	**F 50/250AR**				733										**–**	**147.0**
–	**F 65/125C**	**80**	**65**		511	340	160	180	292	212	280				**–**	**53.2**
–	**F 65/125B**				557										**–**	**58.3**
–	**F 65/125A**														**–**	**63.0**
–	**F 65/160C**				620	360		200	295						**–**	**98.5**
–	**F 65/160B**														**–**	**100.2**
–	**F 65/160A**				716										**–**	**114.0**
–	**F 65/200B**				718	405	180	225	336	250	320				**–**	**119.3**
–	**F 65/200A**														**–**	**132.1**
–	**F 65/200AR**				751										**–**	**145.3**
–	**F 80/160D**	**100**	**80**	125	652				330						**–**	**103.1**
–	**F 80/160C**				747										**–**	**120.0**
–	**F 80/160B**														**–**	**133.8**
–	**F 80/160A**				779										**–**	**144.0**
–	**F 100/160C**	**125**	**100**		760	480	200	280	382	280	360	60	60	18	**–**	**141.2**
–	**F 100/160B**														**–**	**150.3**
–	**F 100/160A**				790										**–**	**164.0**

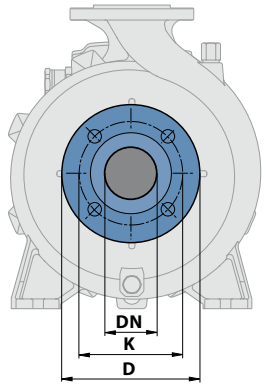
DIMENSIONS AND WEIGHT





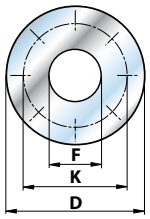
MODEL	DIMENSIONS mm													kg
Three-phase	DN1	DN2	a	f	h	h1	h2	h3	n	n1	n2	w	m	s	3~
F 65/250C				796											**208.0**
F 65/250B	**80**	**65**	100	847	451			16	363						**226.0**
F 65/250A				847		201	250			318	360	269.5	305	18.5	**246.2**
F 80/200B				824	450			26	360						**197.4**
F 80/200A	**100**	**80**		875											**223.0**
F 80/250B				872	480		280	12	380						**240.0**
F 80/250A			125	1015	620	250		55	490	400	490	294	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**		877											**232.8**
F 100/250B			140	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	
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	
100	**4"**	220	180		
125	**5"**	250	210		

F-I

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

CE

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

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

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

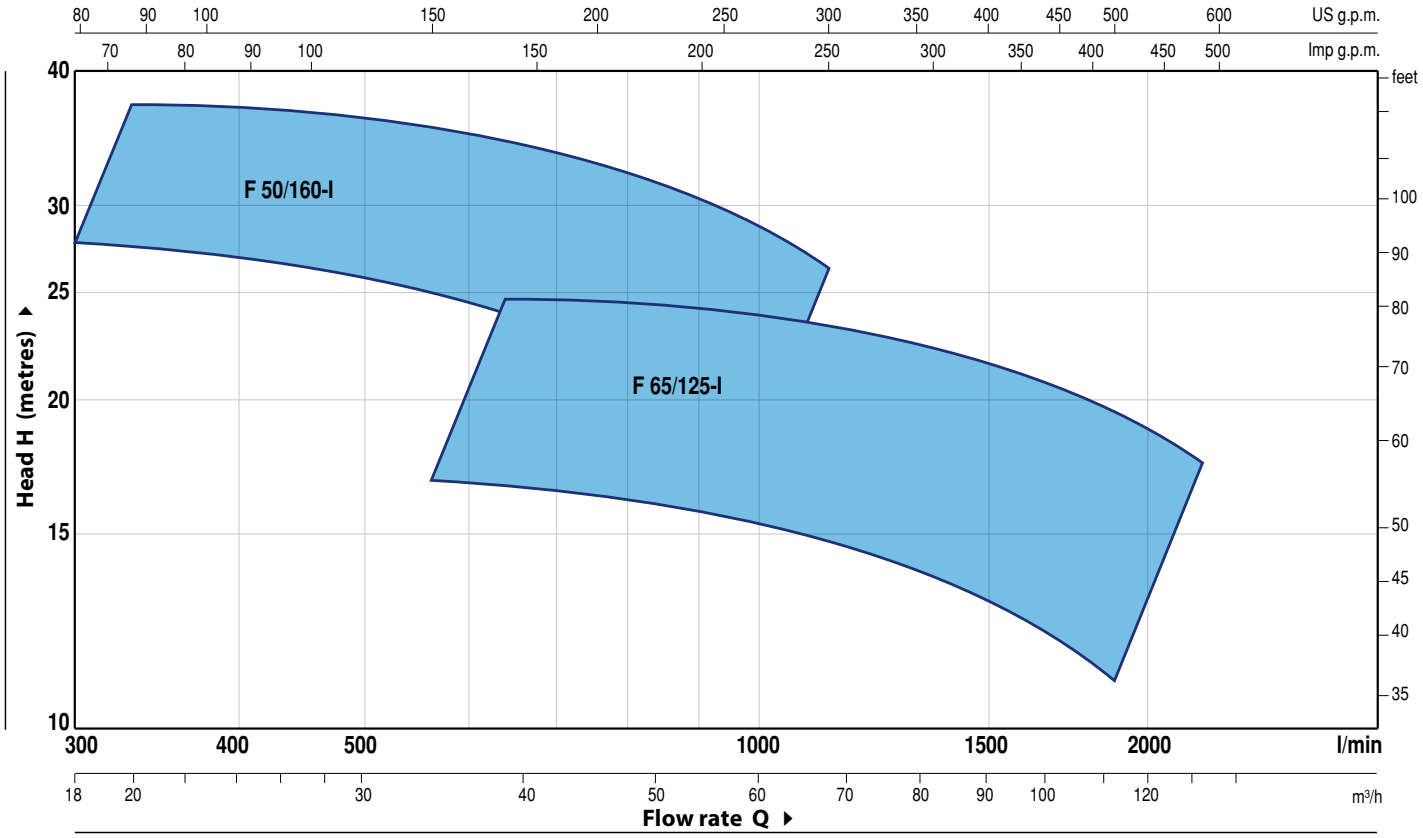
Suitable for use with clean, aggressive liquids that are chemically compatible with the materials from which the pump is made. Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

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

PERFORMANCE RANGE

50 Hz n= 2900 min⁻¹



PERFORMANCE DATA

50 Hz n= 2900 min⁻¹

MODEL	POWER (P2)			PERFORMANCE	
Three-phase	**kW**	**HP**	▲	**Q** l/min	**H** metres
F 50/160C- I	4	5.5	**IE3**	300 – 1000	27 – 16
F 50/160B-I	5.5	7.5		300 – 1100	32 – 21
F 50/160A-I	7.5	10		300 – 1100	37 – 27
F 65/125C-I	4	5.5	**IE3**	600 – 1800	16 – 11
F 65/125B-I	5.5	7.5		600 – 2000	18 – 13
F 65/125A-I	7.5	10		600 – 2200	23 – 18

Q =Flow rate

H =Total manometric head

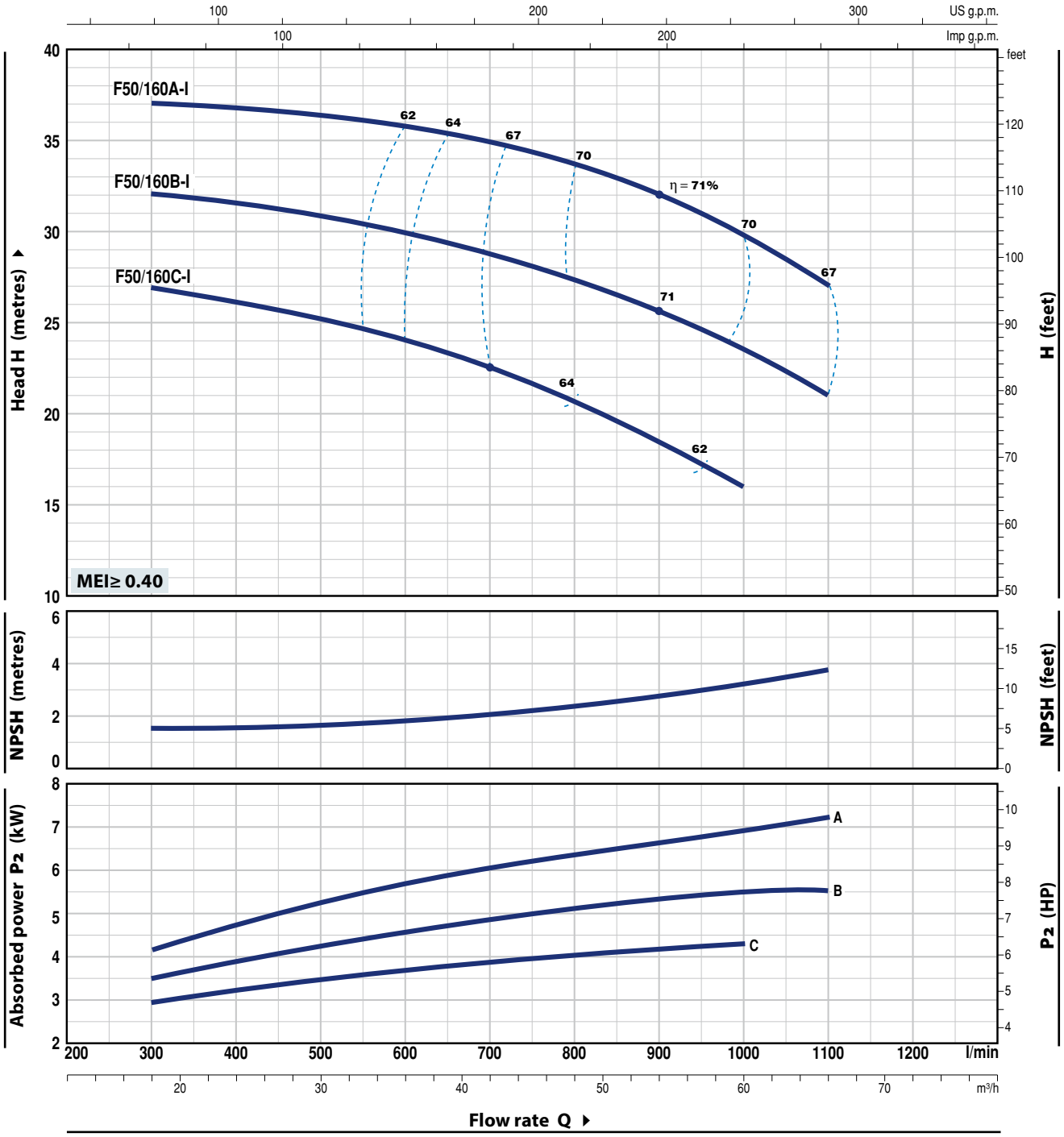
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

F50/160-I

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



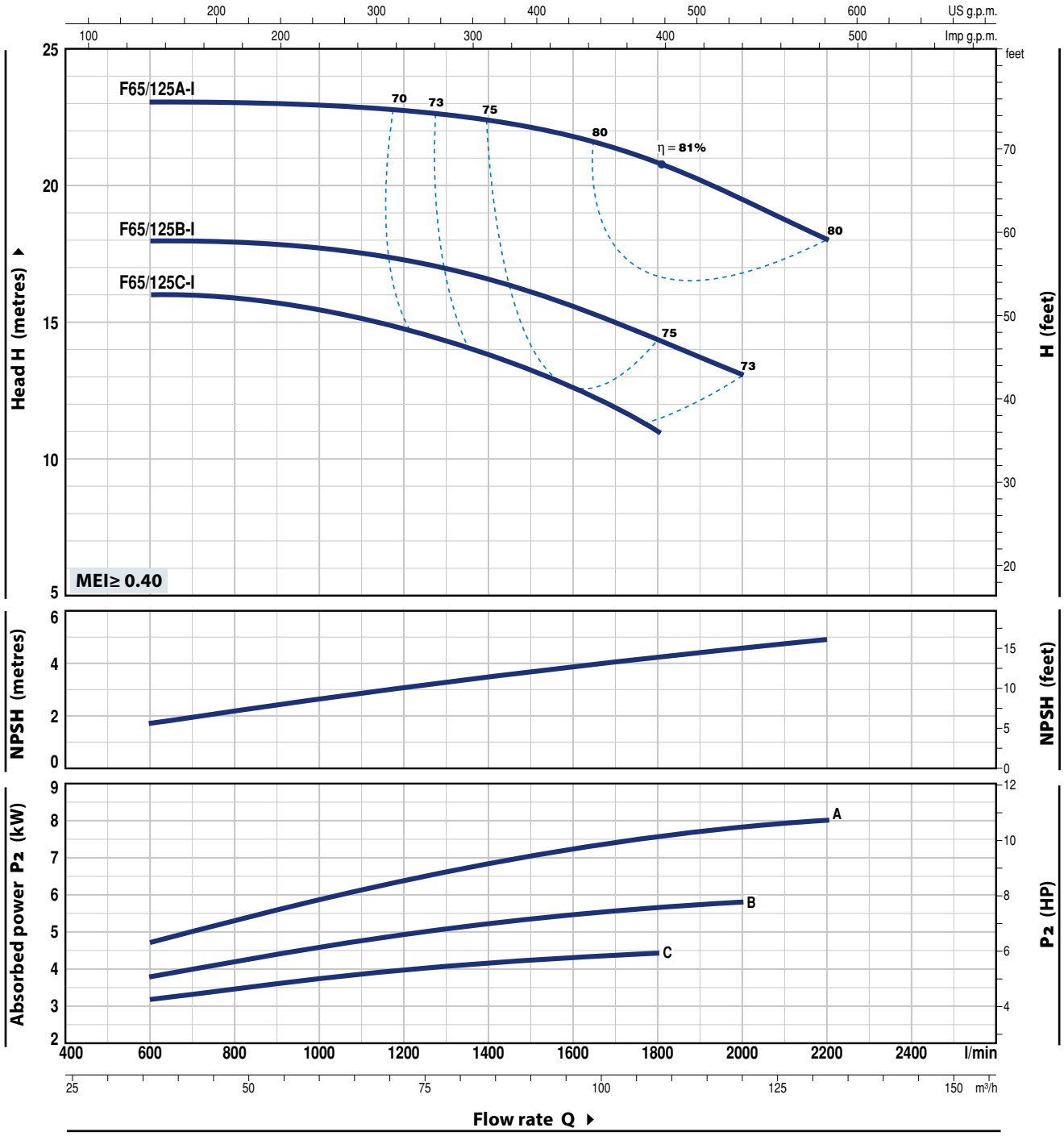
MODEL	POWER (P2)		Q	m³/h	0	18	24	30	36	42	48	54	60	66
Three-phase	kW	HP		l/min	**0**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**	**1100**
F 50/160C-I	4	5.5	H	metres	27	27	26.5	25	24.5	23	20	18.5	16	
F 50/160B-I	5.5	7.5			33	32	31.7	31	30	29	27	26	24	21
F 50/160A-I	7.5	10			38	37	36.8	36.5	36	34	33	32	30	27

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q										
Three-phase	kW	HP		m³/h	0	36	48	60	72	84	96	108	120	132
				l/min	**0**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**2000**	**2200**
F 65/125C-I	4	5.5	**H**	metres	16	16	16	15.5	14.5	13.5	12.5	11		
F 65/125B-I	5.5	7.5			18	18	18	18	17	16.5	15.5	14.5	13	
F 65/125A-I	7.5	10			23	23	23	23	22.5	22.5	22	21	19.5	18

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

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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

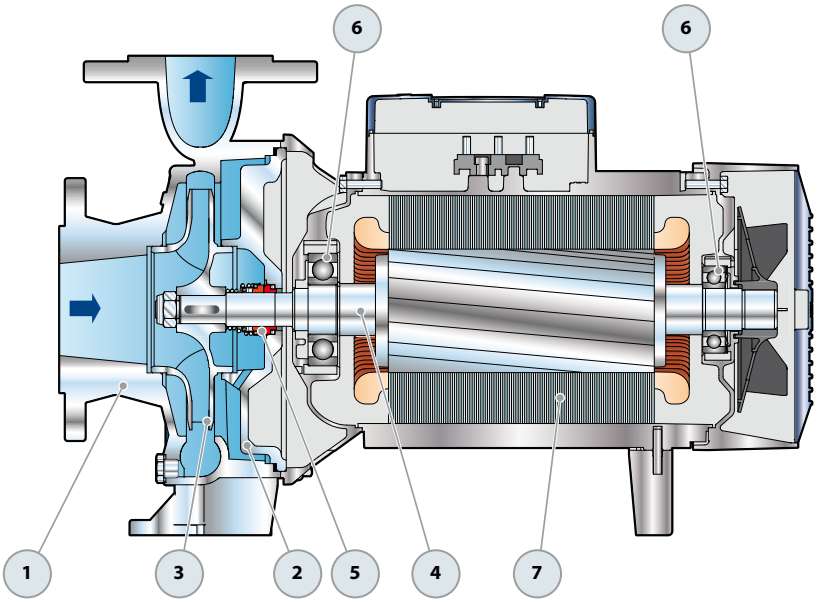
Pump	***Model***
F50/160-I **F65/125-I**	**6307 ZZ-C3 / 6206 ZZ-C3**

7 ELECTRIC MOTOR

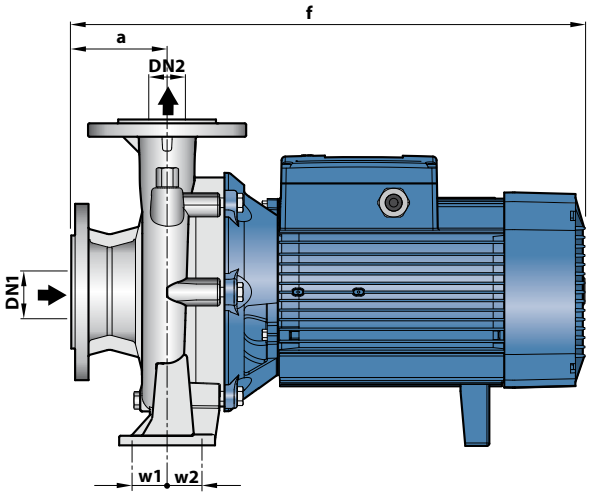
F: three-phase 230/400 V - 50 Hz for 4 kW
400/690 V - 50 Hz from 5.5 to 7.5 kW

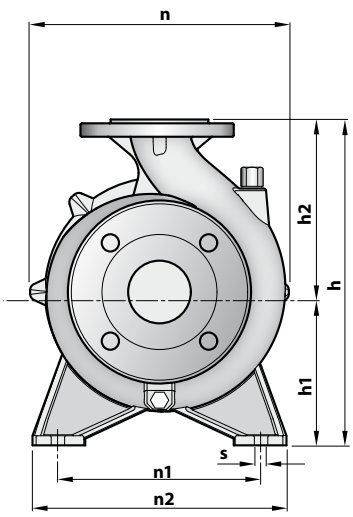
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– 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														**65.5**
F 65/125C-I	**80**	**65**		511				291		280	47.5	47.5		**62.6**
F 65/125B-I				557										**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

F4

50 Hz n= 1450 min^{-1}

Standardised “EN 733” centrifugal pumps

Clean water

Industrial use

PERFORMANCE RANGE

- Flow rate up to **3000 l/min** (180 m^3/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

CE

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

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

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

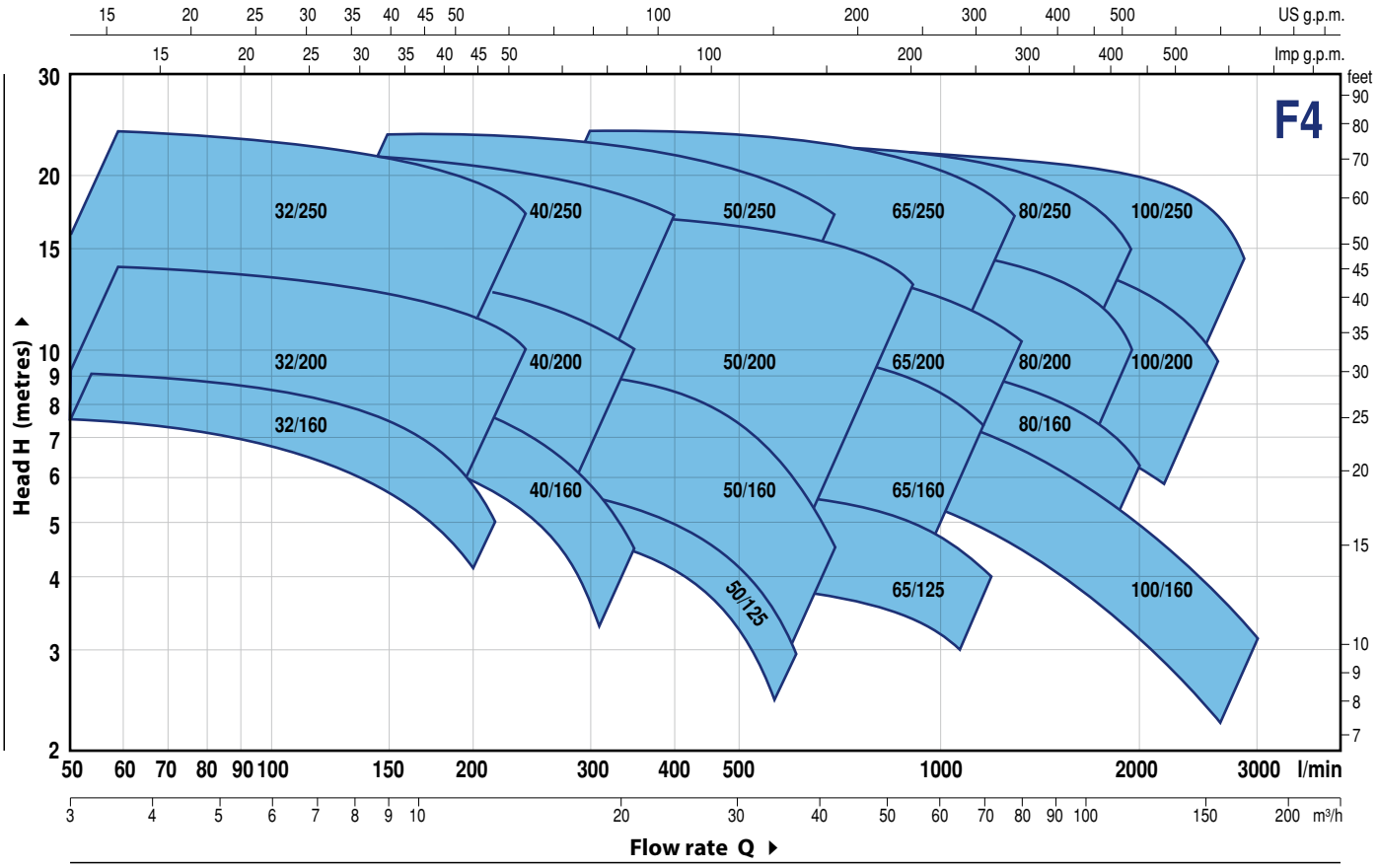
Installation needs to be undertaken in well ventilated closed areas or anyway protected from bad weather.

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

PERFORMANCE RANGE

50 Hz n= 1450 min⁻¹



PERFORMANCE DATA

50 Hz n= 1450 min⁻¹

MODEL	POWER (P2)			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		50 – 270	23.8 – 18.7
F4-40/160B	0.37	0.5	IE2	50 – 320	7.5 – 3.5
F4-40/160A	0.55	0.75		50 – 350	9 – 4.5
F4-40/200B	0.75	1	IE3	50 – 350	11.5 – 7
F4-40/200A	1.1	1.5		50 – 350	13.8 – 10
F4-40/250C	1.1	1.5		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 (P2)			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		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	IE3	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		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	IE3	400 – 2600	8.3 – 3.5
F4-100/160A	3	4		400 – 2800	10 – 4.7
F4-100/200C	4	5.5		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

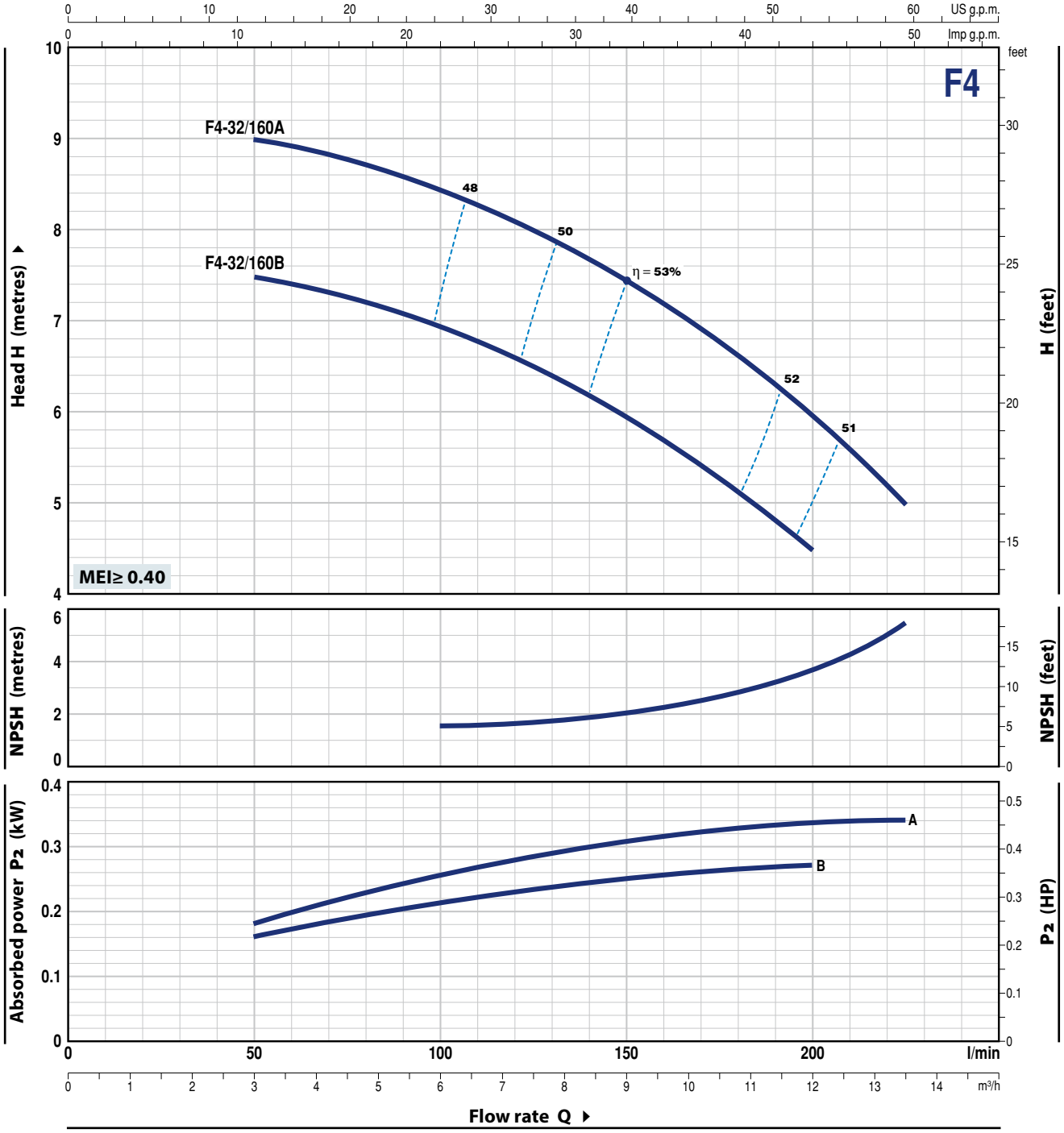
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

F4-32/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	3	4.5	6	7.5	9	10.8	12	13.5
Three-phase	kW	HP		l/min	**50**	**75**	**100**	**125**	**150**	**180**	**200**	**225**
F4-32/160B	0.37	0.5	**H**	metres	7.5	7.3	6.9	6.5	6	5.1	4.5	
F4-32/160A	0.37	0.5			9	8.8	8.4	8	7.5	6.6	6	5

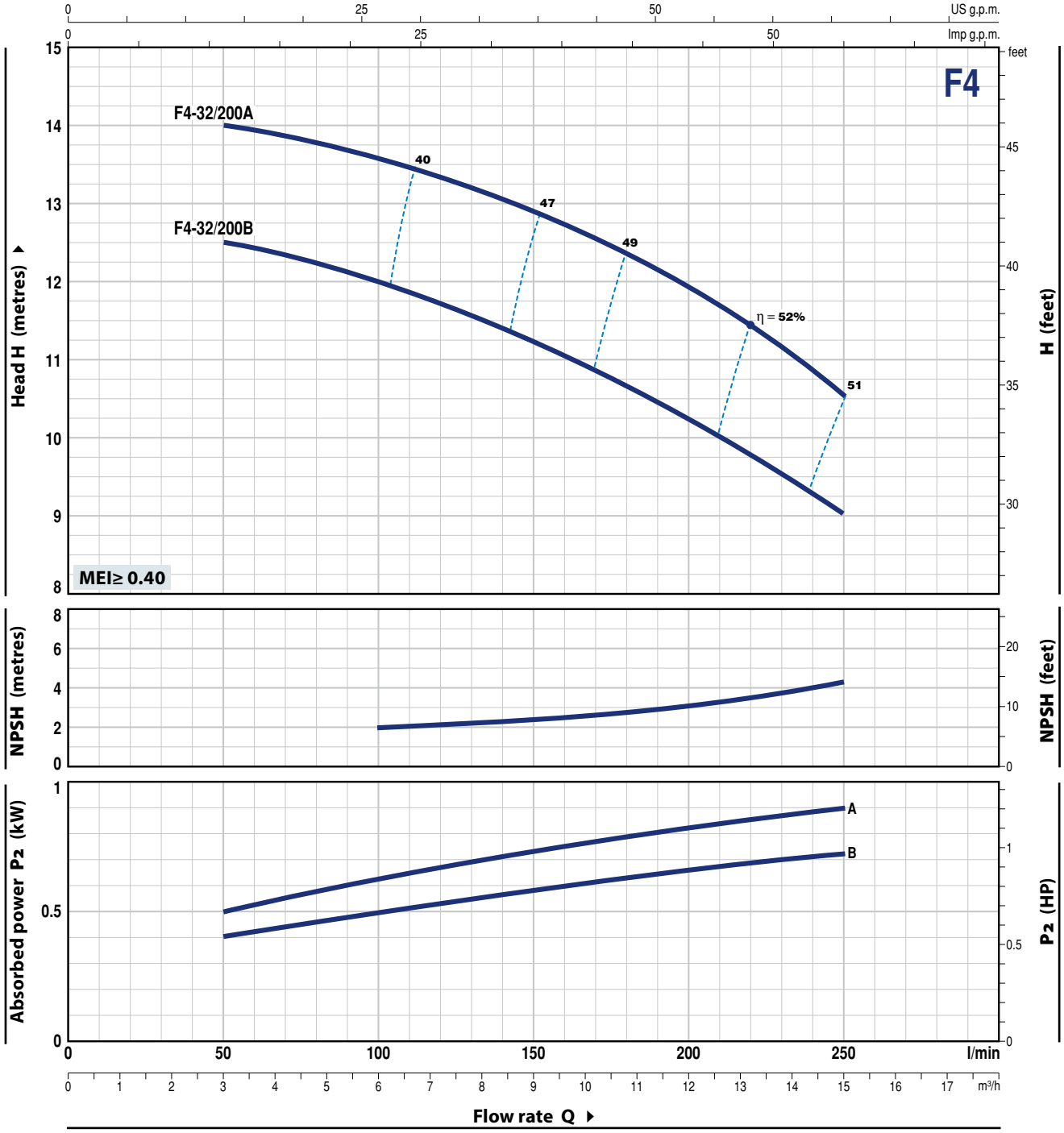
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-32/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	3	6	9	12	15
Three-phase	kW	HP		l/min	**50**	**100**	**150**	**200**	**250**
F4-32/200B	0.75	1	**H**	metres	12.5	12	11.2	10.3	9
F4-32/200A	1.1	1.5			14	13,6	12.8	11.9	10.5

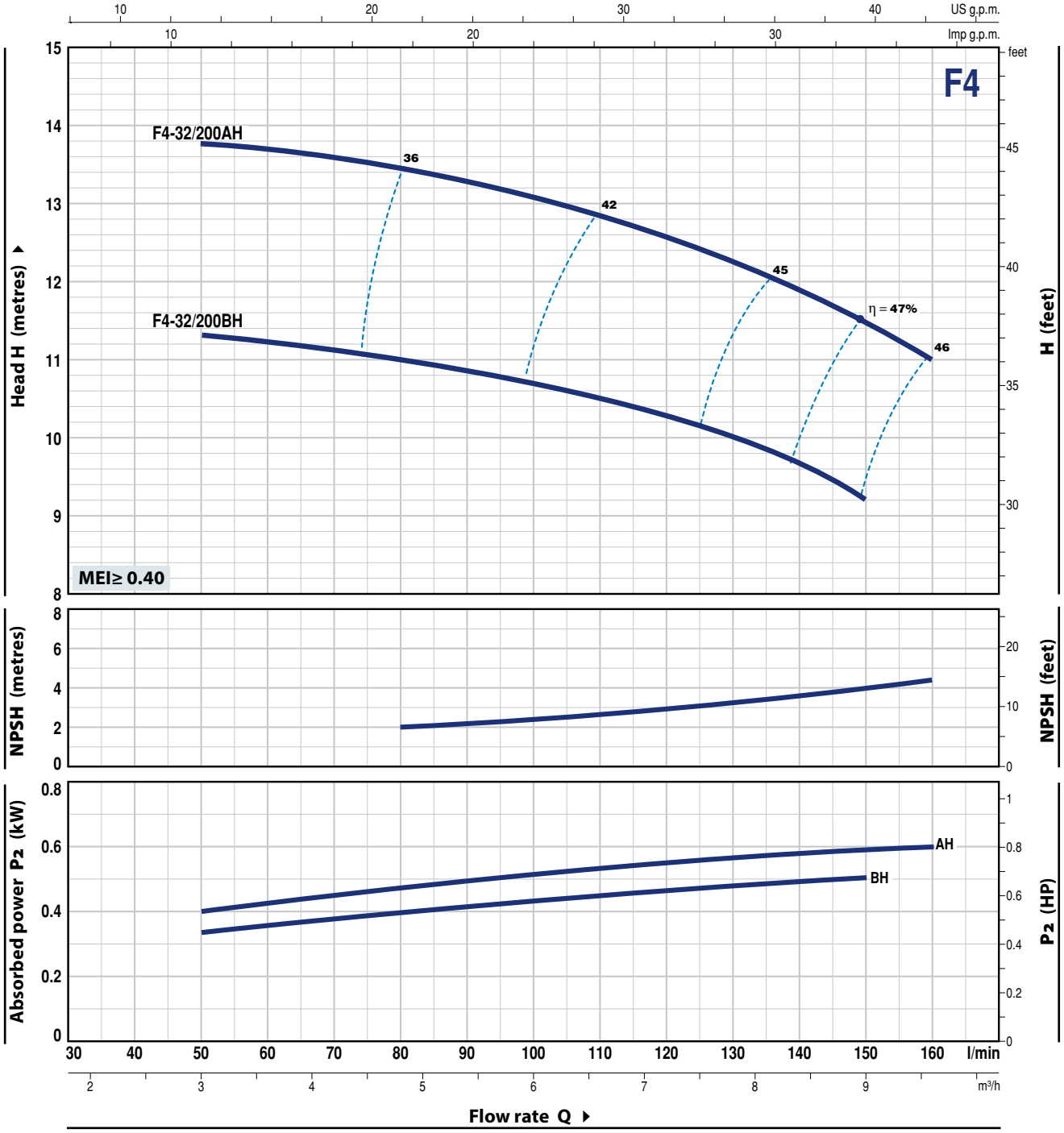
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-32/200H

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



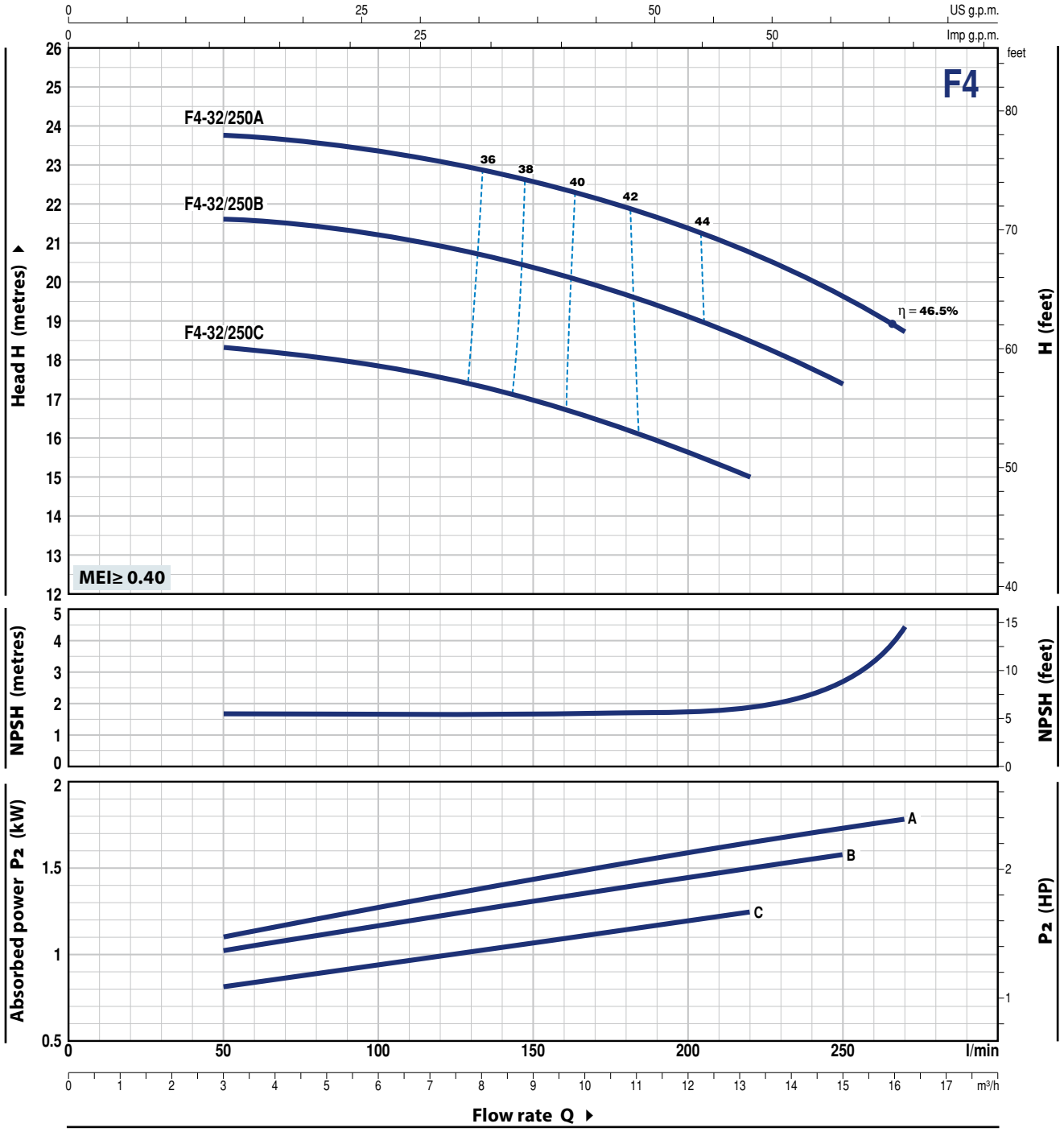
MODEL	POWER (P2)		Q	m³/h	3	4.2	5.4	6.6	7.8	9	9.6
Three-phase	kW	HP		l/min	**50**	**70**	**90**	**110**	**130**	**150**	**160**
F4-32/200BH	0.75	1	**H**	metres	11.3	11.1	10.8	10.5	10	9.2	
F4-32/200AH	0.75	1			13.8	13.6	13.3	12.8	12.2	11.5	11

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

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	3	4.5	6	7.5	9	10.5	13.2	15	16.2
Three-phase	kW	HP		l/min	**50**	**75**	**100**	**125**	**150**	**175**	**220**	**250**	**270**
F4-32/250C	1.1	1.5	**H**	metres	18.4	18.1	17.8	17.5	17	16.4	15		
F4-32/250B	1.5	2			21.7	21.5	21.2	20.9	20.4	19.8	18.5	17.4	
F4-32/250A	2.2	3			23.8	23.6	23.4	23	22.6	22.1	20.8	19.6	18.7

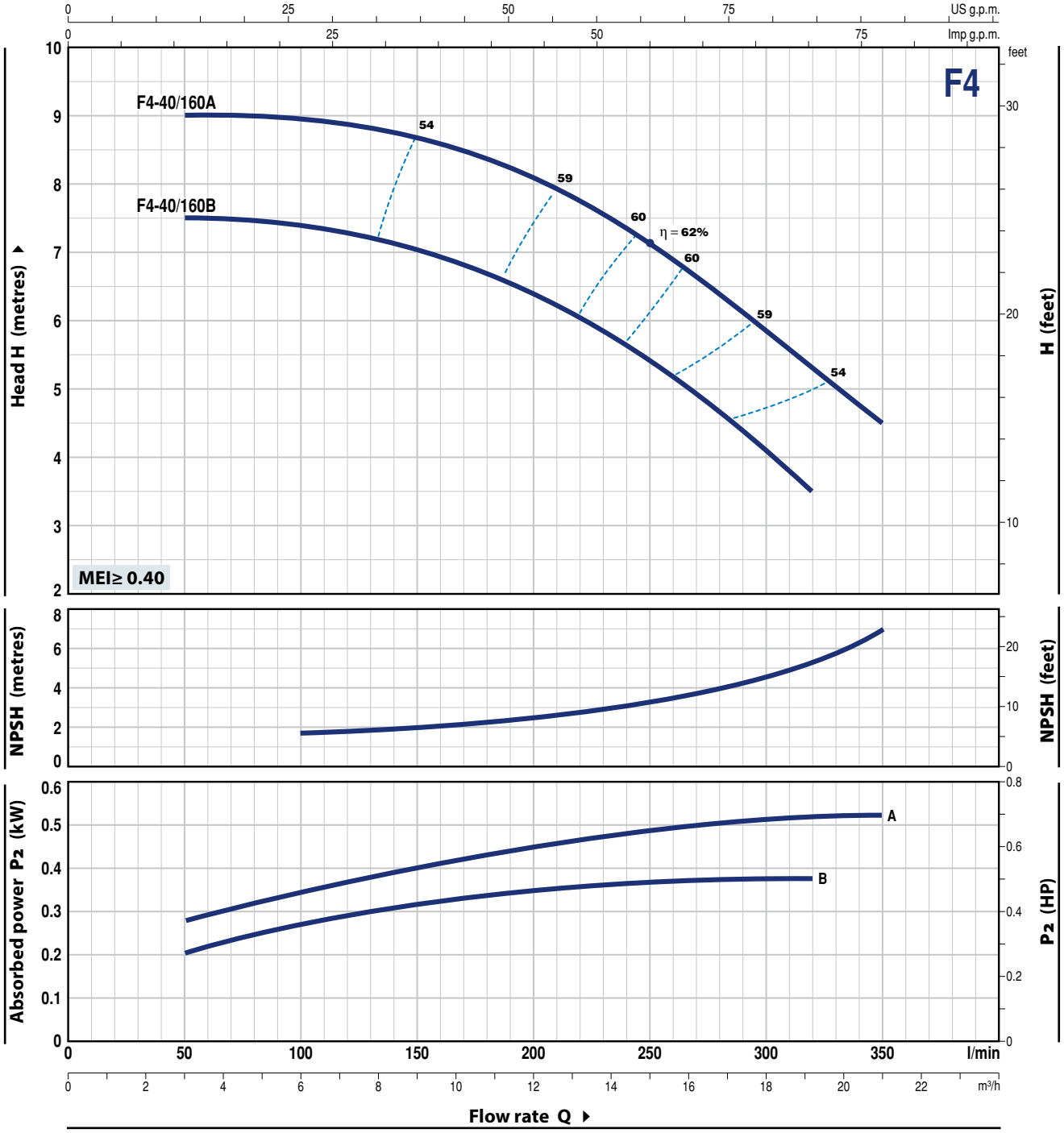
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-40/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	3	6	9	12	15	18	19.2	21
Three-phase	kW	HP		l/min	50	100	150	200	250	300	320	350
F4-40/160B	0.37	0.5	H	metres	7.5	7.4	7	6.4	5.4	4.1	3.5	
F4-40/160A	0.55	0.75			9	8.9	8.7	8.1	7.1	5.8	5.3	4.5

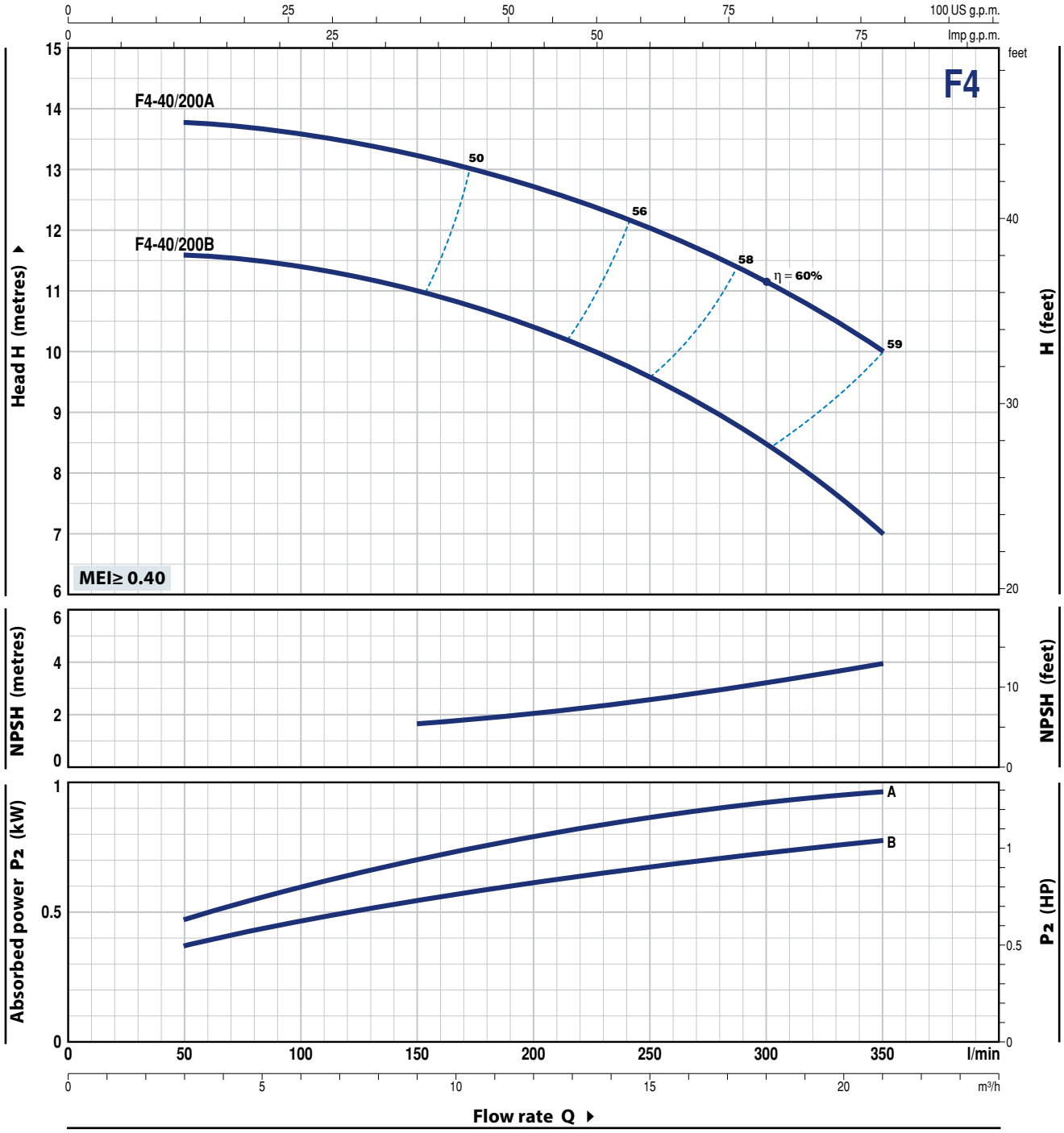
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-40/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	3	6	9	12	15	18	21
Three-phase	kW	HP		l/min	**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

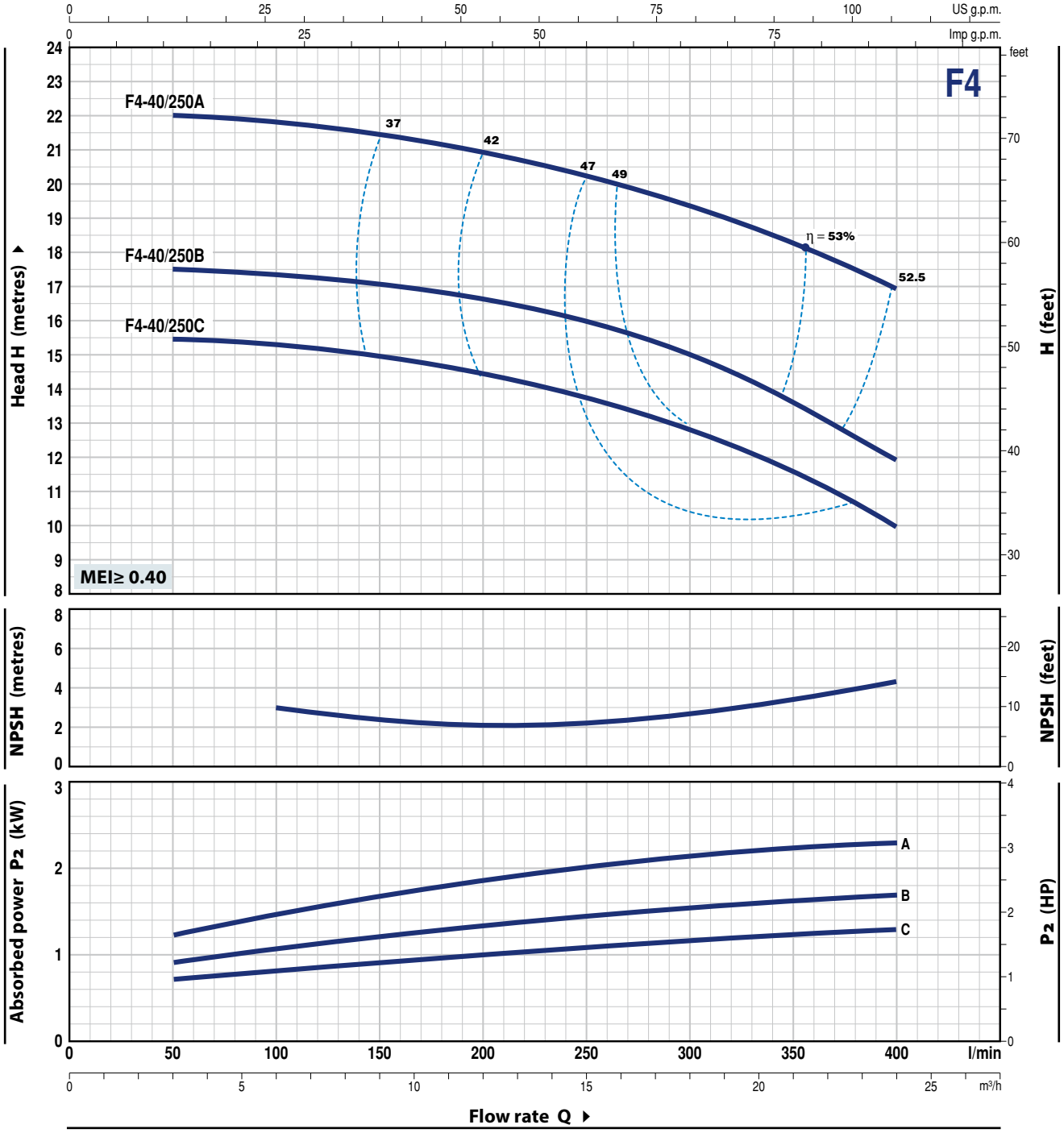
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-40/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



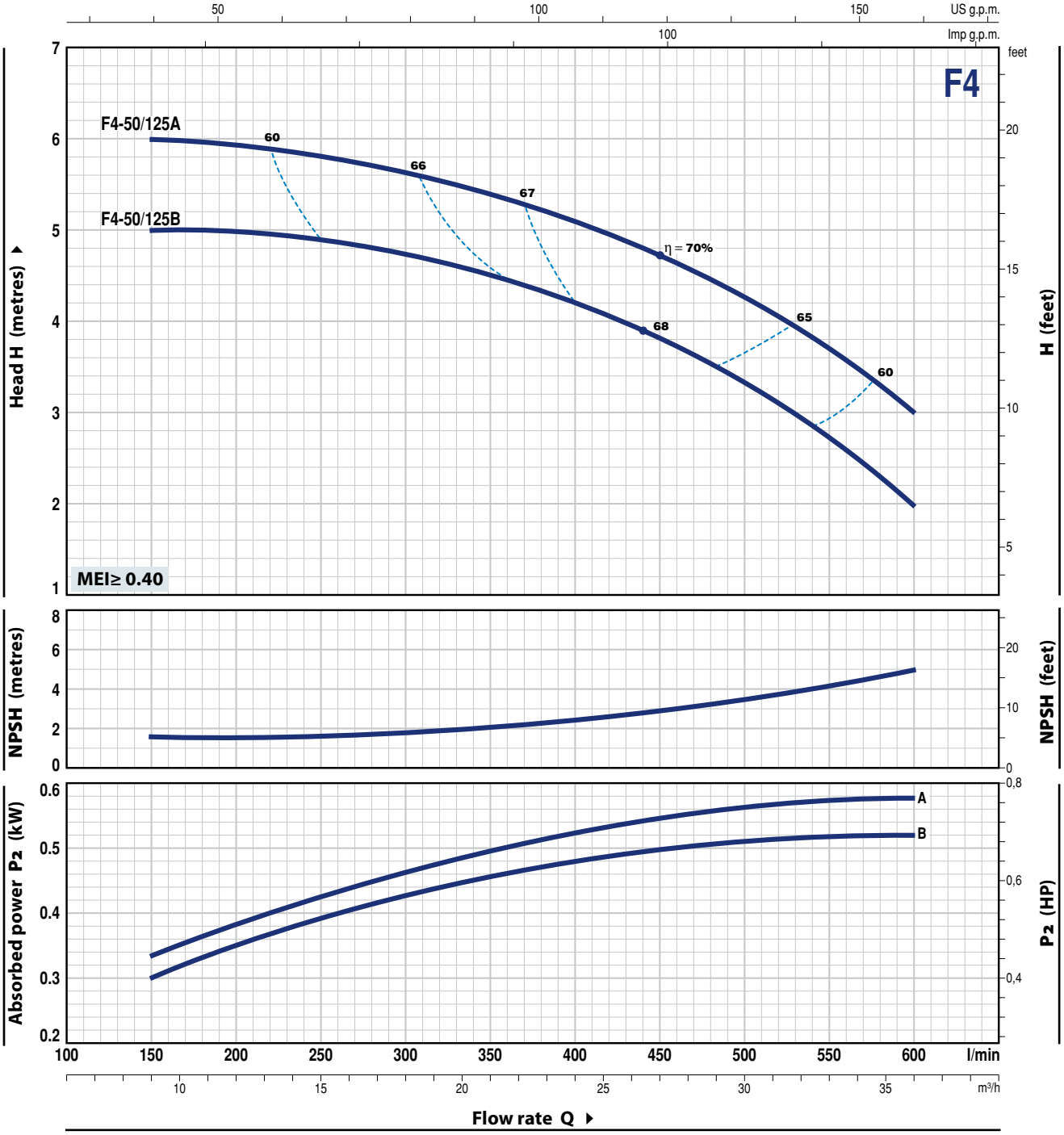
MODEL	POWER (P2)		Q	m³/h	3	6	9	12	15	18	21	24
Three-phase	kW	HP		l/min	**50**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
F4-40/250C	1.1	1.5	**H**	metres	15.5	15.2	15	14.5	13.6	12.9	11.5	10
F4-40/250B	1.5	2			17.5	17.2	17	16.5	16	15	13.5	12
F4-40/250A	2.2	3			22	21.9	21.5	21	20.2	19.2	18.2	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 (P2)		Q	m³/h	9	12	15	17	21	24	27	30	33	36
Three-phase	kW	HP		l/min	150	200	250	300	350	400	450	500	550	600
F4-50/125B	0.55	0.75	H	metres	5	5	4.9	4.7	4.5	4.2	3.8	3.3	2.7	2
F4-50/125A	0.55	0.75			6	5.9	5.8	5.6	5.4	5.1	4.7	4.2	3.7	3

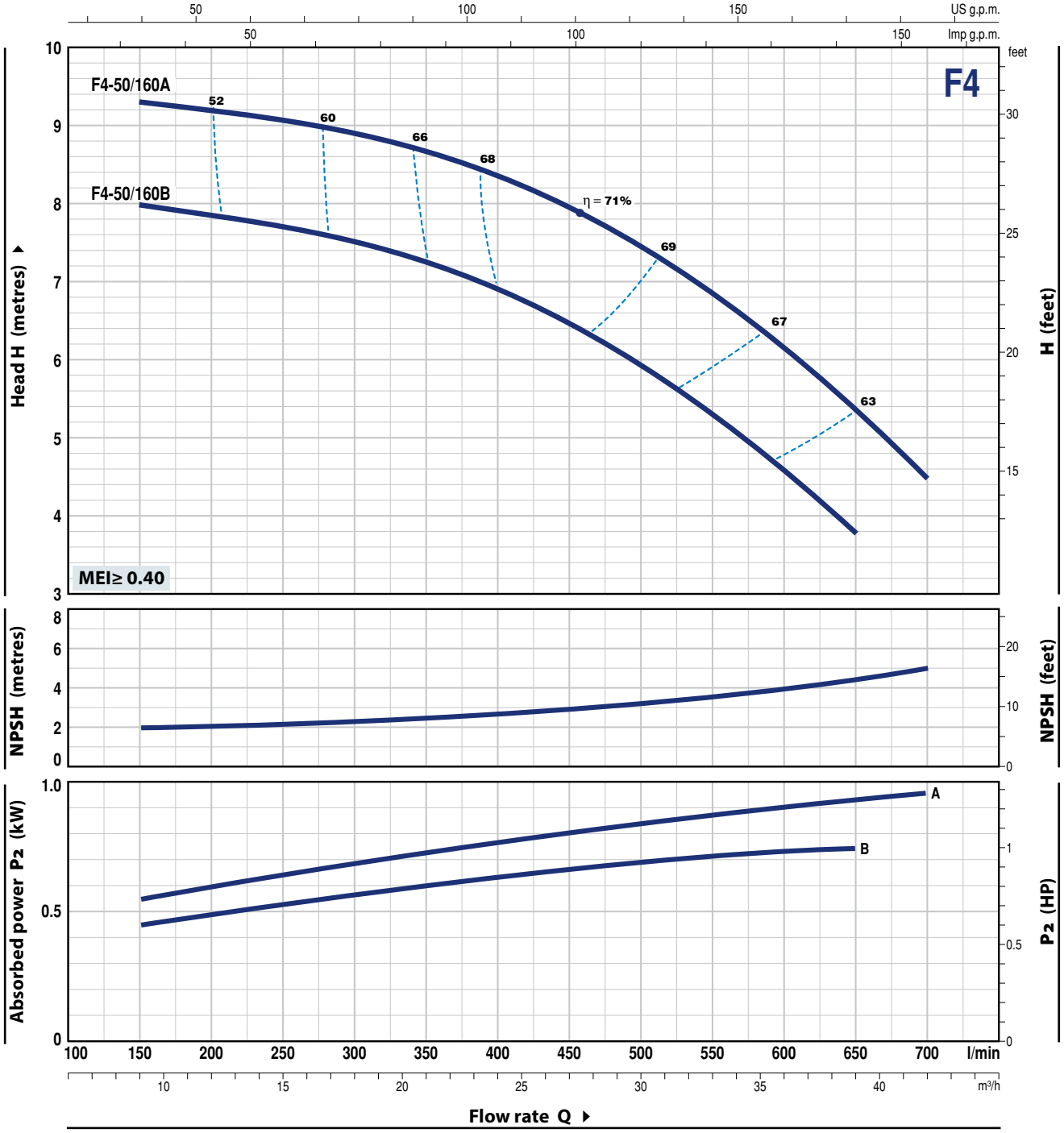
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-50/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	9	12	15	17	21	24	27	30	33	36	39	42
Three-phase	kW	HP		l/min	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**650**	**700**
F4-50/160B	0.75	1	**H**	metres	8	7.8	7.7	7.5	7.2	6.9	6.5	5.9	5.3	4.6	3.8	
F4-50/160A	1.1	1.5			9.3	9.2	9.1	8.9	8.7	8.4	8	7.4	6.8	6.2	5.4	4.5

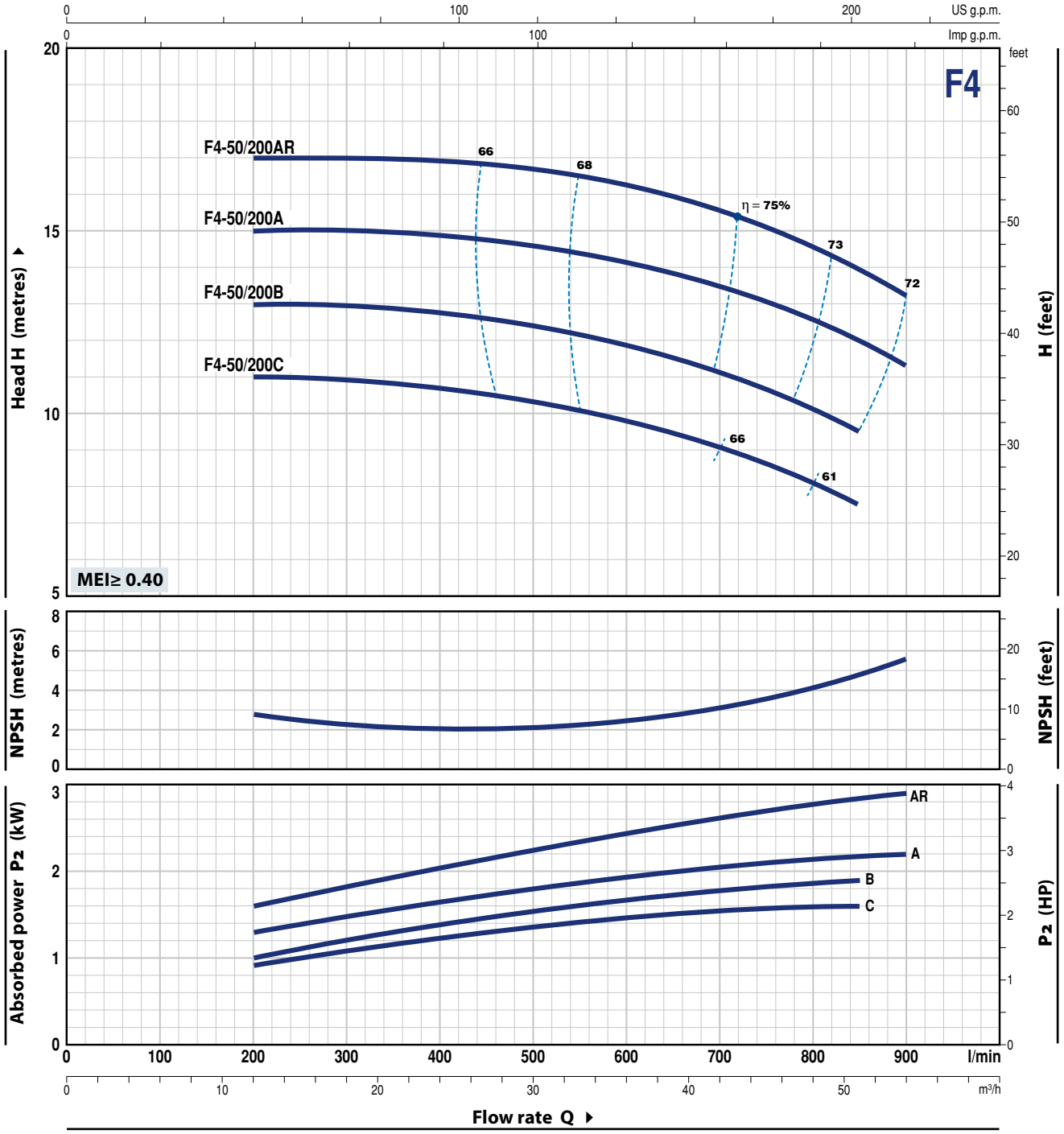
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-50/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q m³/h	12	17	24	30	36	42	48	51	54
Three-phase	kW	HP	l/min	200	300	400	500	600	700	800	850	900
F4-50/200C	1.5	2	H metres	11	11	10.8	10.3	9.8	9	8	7.5	
F4-50/200B	2.2	3		13	13	12.8	12.4	11.9	11.1	10.1	9.5	
F4-50/200A	2.2	3		15	15	14.9	14.6	14.1	13.5	12.5	12	11.2
F4-50/200AR	3	4		17	17	16.9	16.7	16.2	15.5	14.5	14	13.2

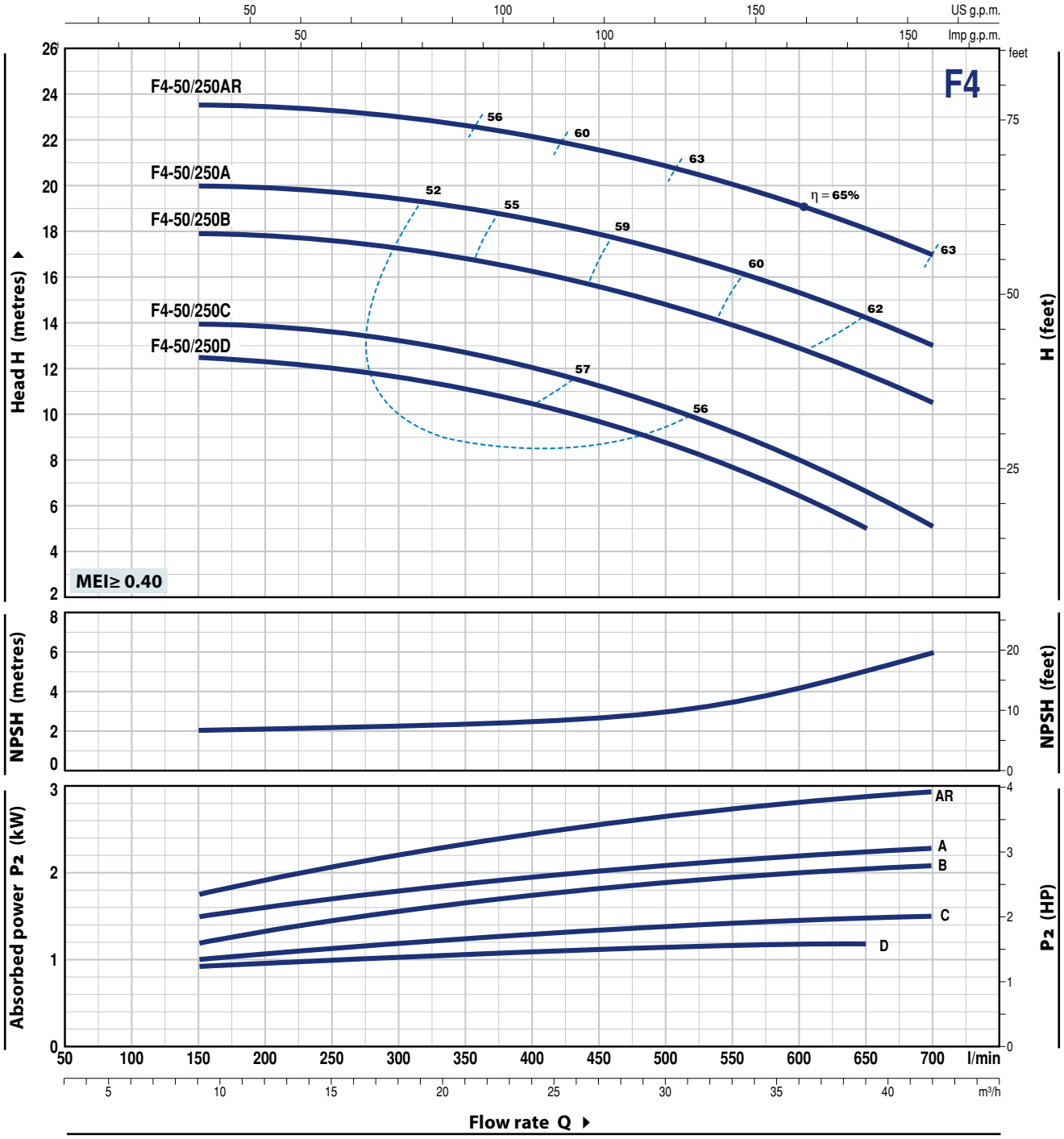
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-50/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



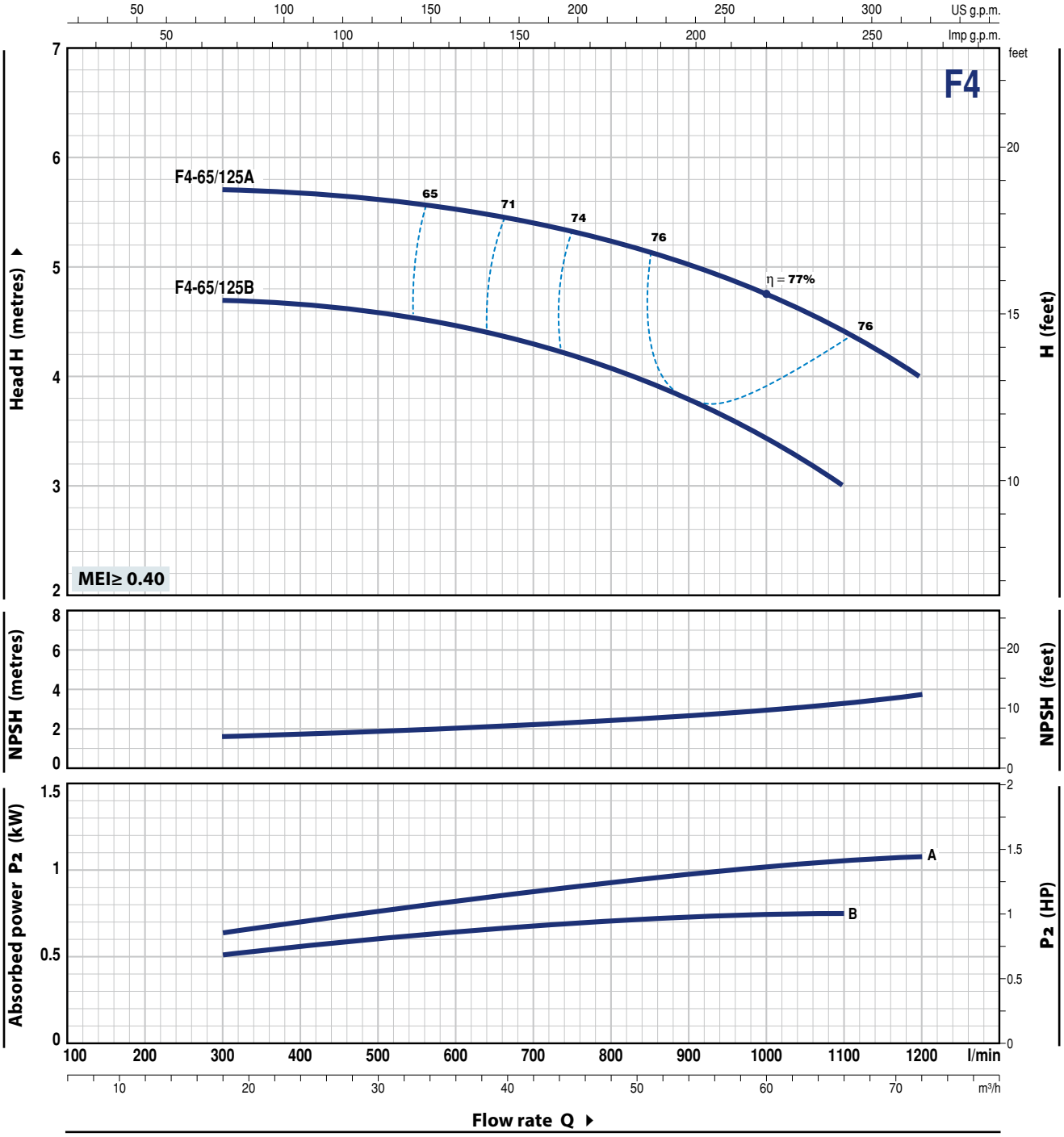
MODEL	POWER (P2)		Q m³/h	9	12	15	18	21	24	27	30	33	36	39	42
Three-phase	kW	HP	l/min	150	200	250	300	350	400	450	500	550	600	650	700
F4-50/250D	1.1	1.5		12.5	12.3	12	11.5	11.1	10.5	9.8	8.8	7.8	6.5	5	
F4-50/250C	1.5	2		14	13.9	13.6	13.2	12.8	12	11.2	10.2	9.2	8	6.6	5
F4-50/250B	2.2	3	H metres	18	17.9	17.6	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 (P2)		Q	m³/h	18	24	30	36	42	48	54	60	66	72
Three-phase	kW	HP		l/min	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

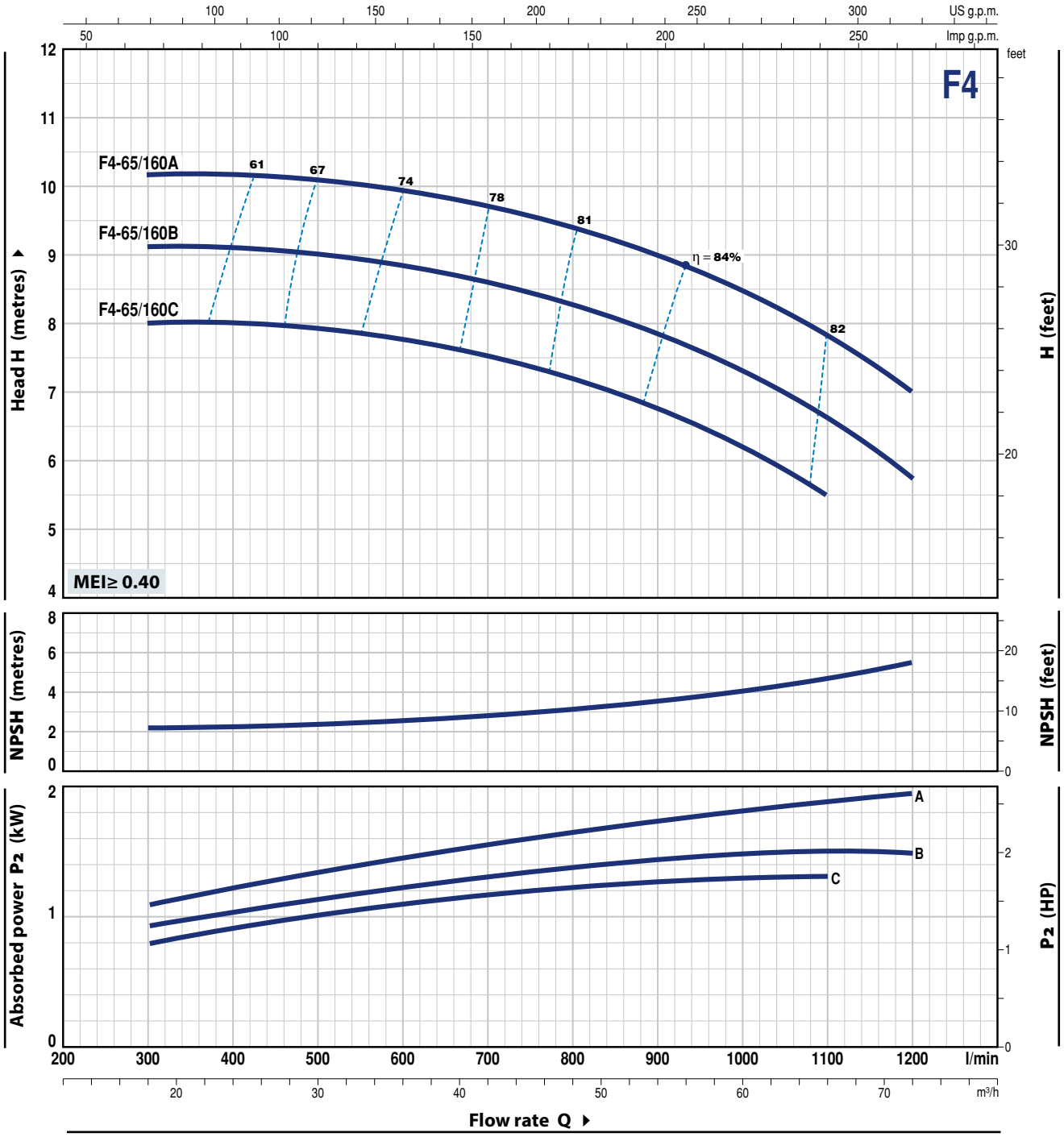
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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



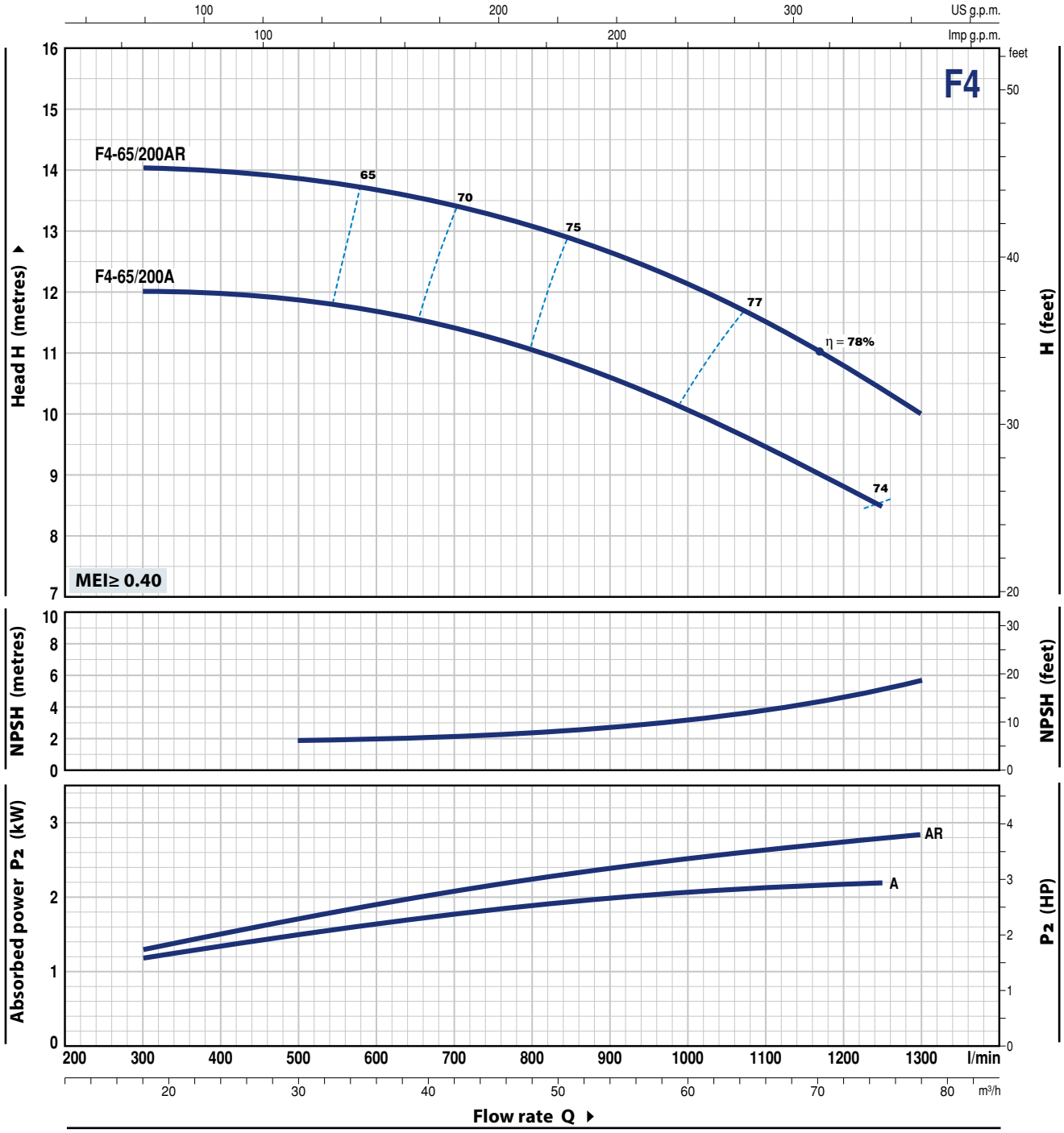
MODEL	POWER (P2)		Q	m³/h	18	24	30	36	42	48	54	60	66	72
Three-phase	kW	HP		l/min	300	400	500	600	700	800	900	1000	1100	1200
F4-65/160C	1.1	1.5	H	metres	8	8	7.9	7.7	7.5	7.2	6.7	6.2	5.5	
F4-65/160B	1.5	2			9.1	9.1	9	8.8	8.6	8.3	7.8	7.3	6.6	5.7
F4-65/160A	2.2	3			10.1	10.1	10.1	9.9	9.7	9.4	9	8.5	7.8	7

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 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	18	24	30	36	42	48	54	60	66	72	75	78
Three-phase	kW	HP		l/min	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1250**	**1300**
F4-65/200A	2.2	3	H	metres	12	12	11.9	11.6	11.4	11	10.6	10.1	9.5	8.8	8.5	
F4-65/200AR	3	4			14	13.9	13.8	13.6	13.4	13.1	12.7	12.1	11.5	10.8	10.3	10

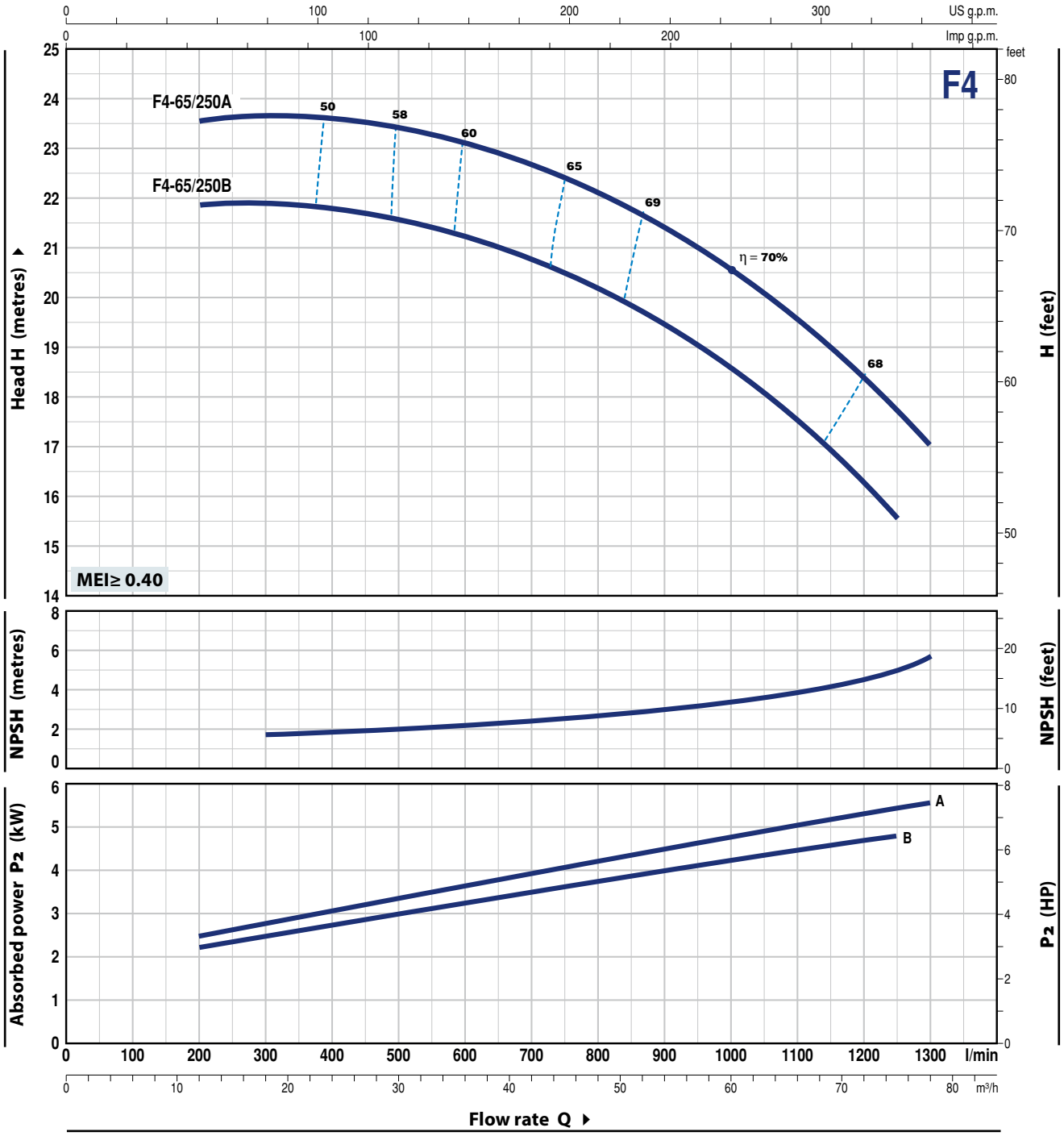
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-65/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	12	18	24	30	36	42	48	54	60	66	72	75	78
Three-phase	kW	HP		l/min	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**	**1100**	**1200**	**1250**	**1300**
F4-65/250B	4	5.5	**H**	metres	21.8	21.8	21.7	21.5	21.2	20.7	20.2	19.5	18.6	17.5	16.2	15.5	
F4-65/250A	5.5	7.5			23.5	23.5	23.5	23.4	23.1	22.6	22.1	21.5	20.5	19.6	18.5	17.8	17

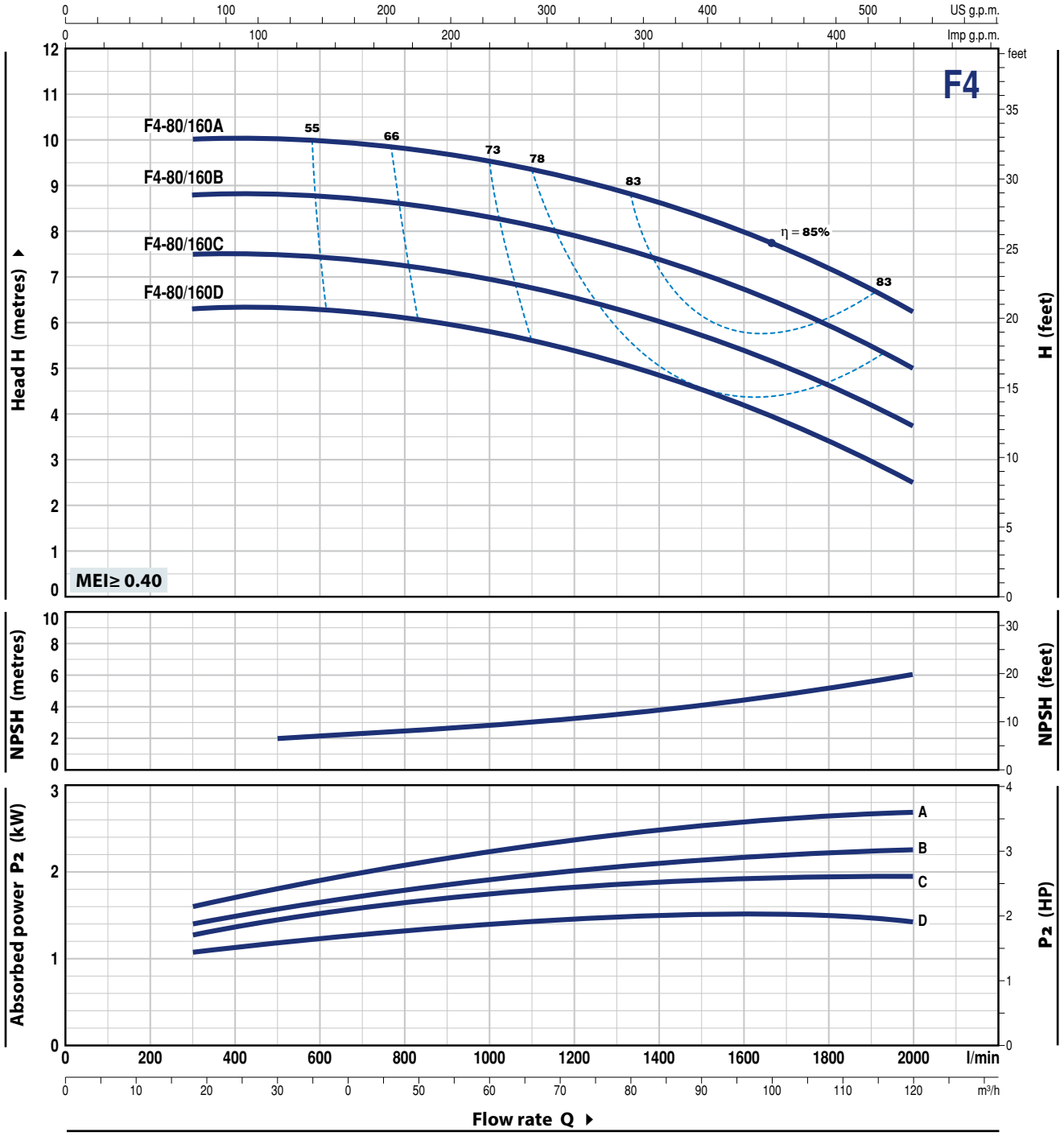
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-80/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q m³/h	18	24	36	48	60	72	84	96	108	120
Three-phase	kW	HP	l/min	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

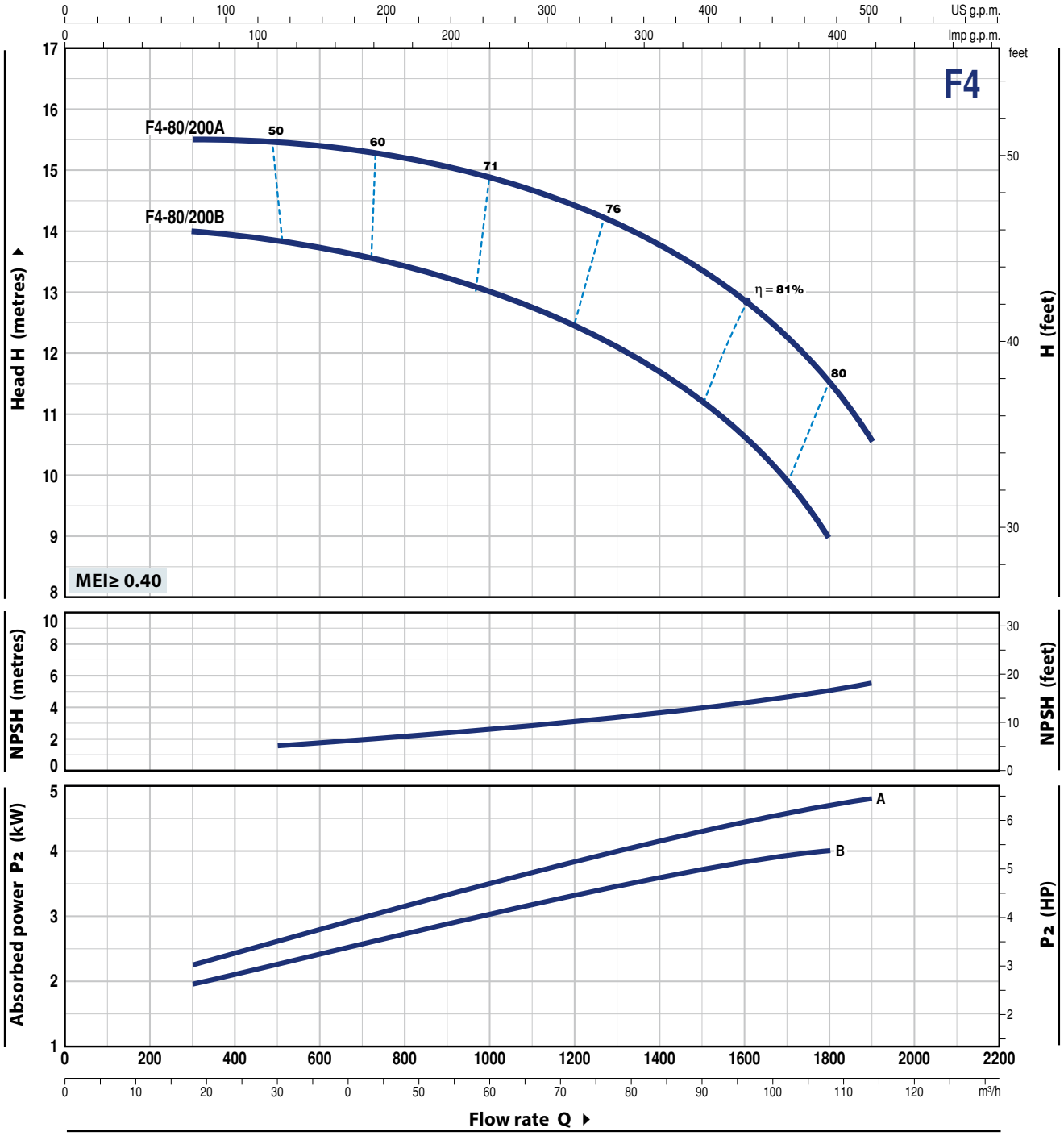
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-80/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



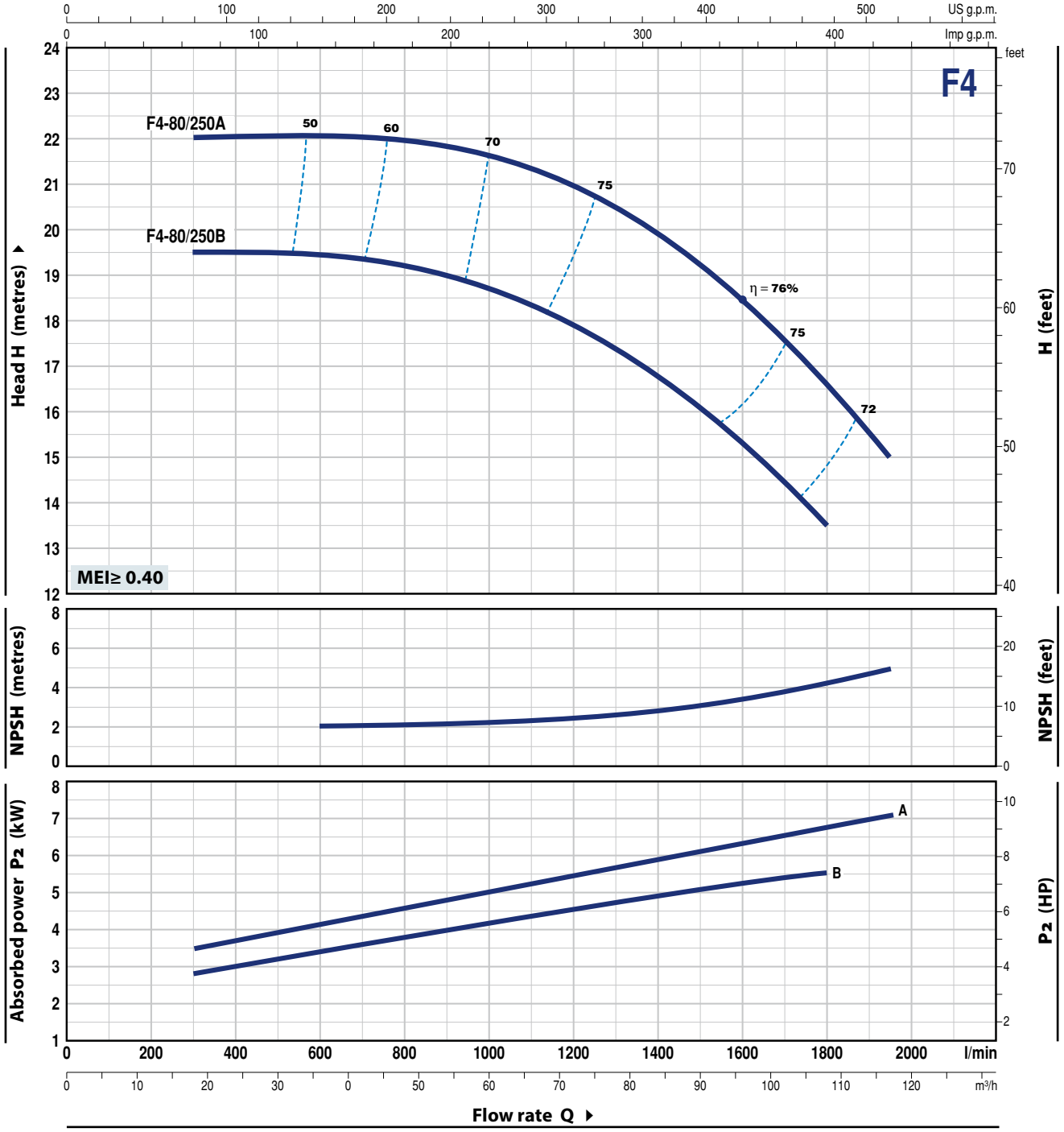
MODEL	POWER (P2)		Q	m³/h	18	24	36	48	60	72	84	96	108	114
Three-phase	kW	HP		l/min	**300**	**400**	**600**	**800**	**1000**	**1200**	**1400**	**1600**	**1800**	**1900**
F4-80/200B	4	5.5	**H**	metres	14	13.9	13.7	13.4	13	12.5	11.7	10.6	9	
F4-80/200A	5.5	7.5			15.5	15.5	15.4	15.2	14.8	14.5	13.7	12.8	11.5	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 (P2)		Q	m³/h	18	24	36	48	60	72	84	96	108	117
Three-phase	kW	HP		l/min	300	400	600	800	1000	1200	1400	1600	1800	1950
F4-80/250B	5.5	7.5	H	metres	19.5	19.5	19.5	19.2	18.7	17.9	16.7	15.3	13.5	
F4-80/250A	7.5	10			22	22	22	21.9	21.6	21	20	18.5	16.5	15

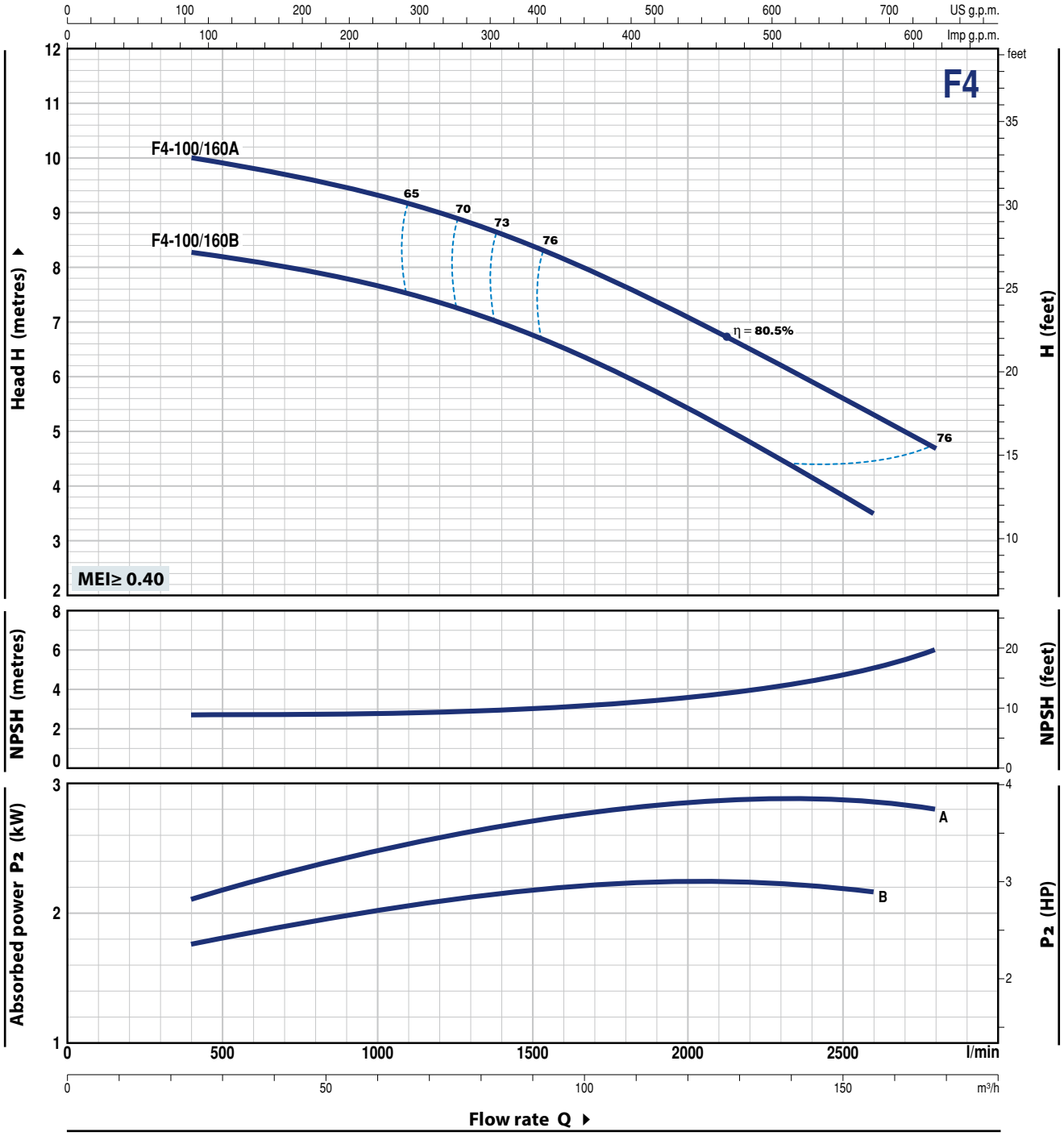
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-100/160

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	24	48	72	96	120	144	156	168
Three-phase	kW	HP		l/min	**400**	**800**	**1200**	**1600**	**2000**	**2400**	**2600**	**2800**
F4-100/160B	2.2	3	**H**	metres	8.3	8	7.5	6.5	5.5	4.2	3.5	
F4-100/160A	3	4			10	9.5	9	8	7	6	5.2	4.7

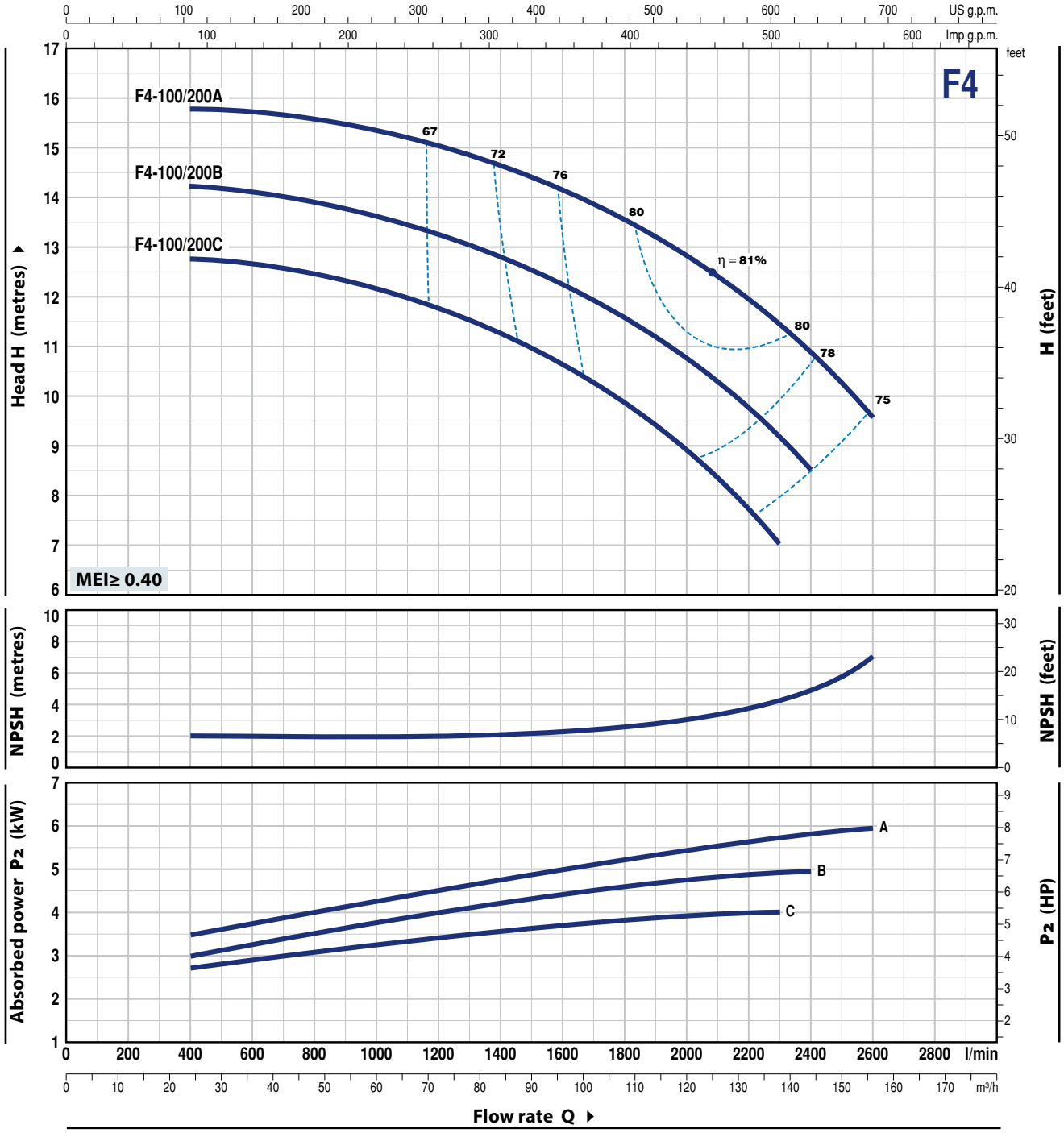
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-100/200

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min⁻¹** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	24	36	48	60	72	84	96	108	120	138	144	156
Three-phase	kW	HP		l/min	400	600	800	1000	1200	1400	1600	1800	2000	2300	2400	2600
F4-100/200C	4	5.5	H	metres	12.7	12.6	12.5	12.2	11.8	11.3	10.6	9.9	8.9	7		
F4-100/200B	5.5	7.5			14.2	14.1	13.9	13.6	13.3	12.8	12.2	11.6	10.7	9.2	8.5	
F4-100/200A	5.5	7.5			15.8	15.7	15.6	15.4	15	14.6	14.2	13.5	12.8	12	11.4	9.5

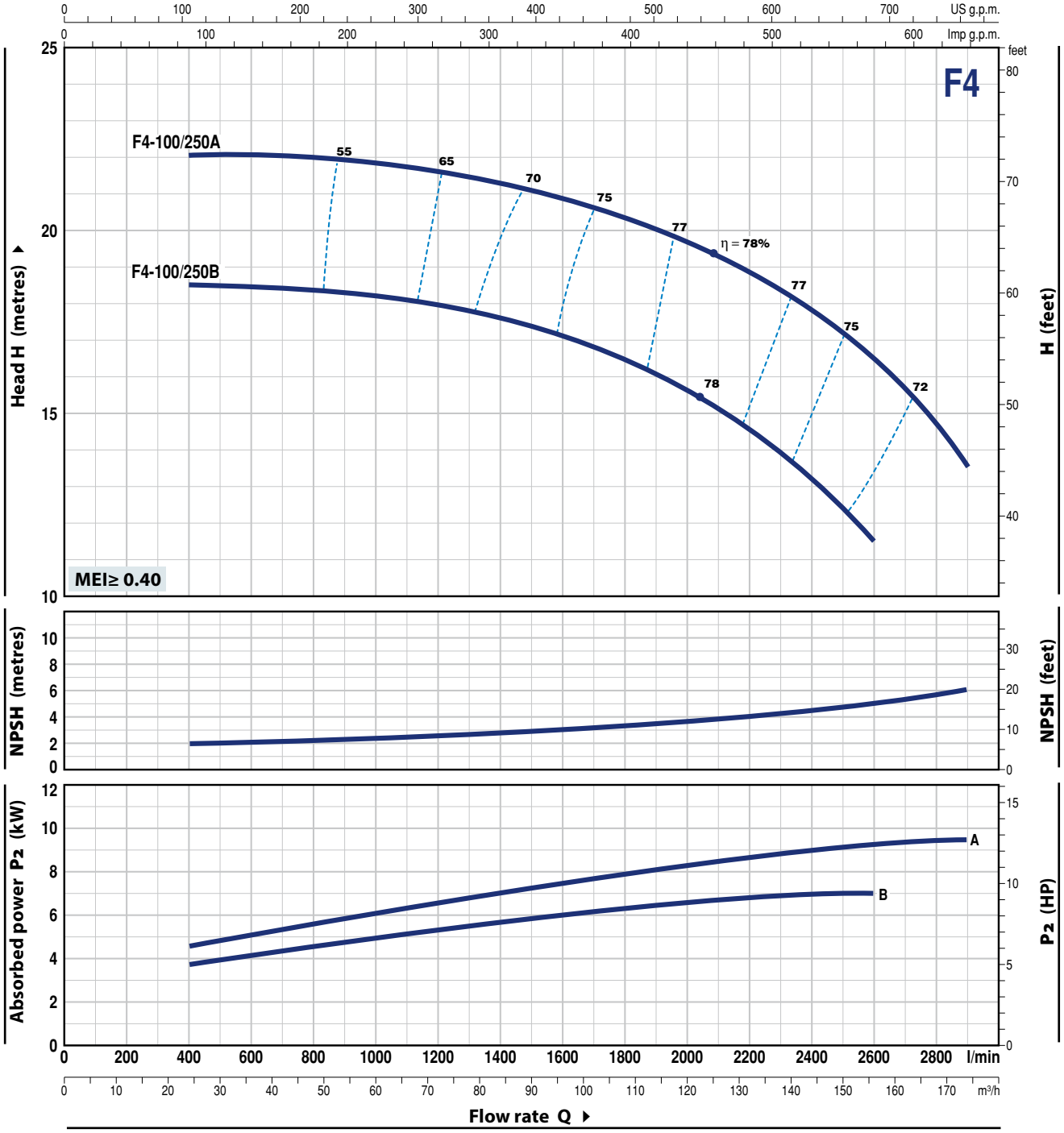
Q =Flow rate **H** =Total manometric head **HS** = Suction height

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

F4-100/250

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 1450 min^{-1}** HS= 0 m



MODEL	POWER (P2)		Q	m³/h	24	36	48	60	72	84	96	108	120	132	144	156	174
Three-phase	kW	HP		l/min	**400**	**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

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 F4-40/160	F4-50/125	**FN-20**	**Ø 20** mm	Graphite	Ceramic	NBR
F4-32/200 F4-40/200	F4-50/160 F4-65/125	**FN-24**	**Ø 24** mm	Graphite	Ceramic	NBR
F4-50/200 F4-65/200 F4-65/160	F4-80/160 F4-100/160	**FN-32 NU**	**Ø 32** mm	Graphite	Ceramic	NBR
F4-32/250 F4-40/250	F4-50/250	**FN-38**	**Ø 38** mm	Graphite	Ceramic	NBR
F4-65/250 F4-80/200	F4-100/200	**FN-40 NU**	**Ø 40** mm	Graphite	Ceramic	NBR
F4-80/250	F4-100/250	**FH-45 NU**	**Ø 45** mm	Graphite	Ceramic	NBR

6 BEARINGS

Pump	***Model***
F4-32/160 F4-40/160 F4-50/125	**6206 ZZ-C3 / 6204 ZZ**
F4-32/200 F4-40/200 F4-50/160 F4-65/125	**6307 ZZ-C3 / 6206 ZZ-C3**

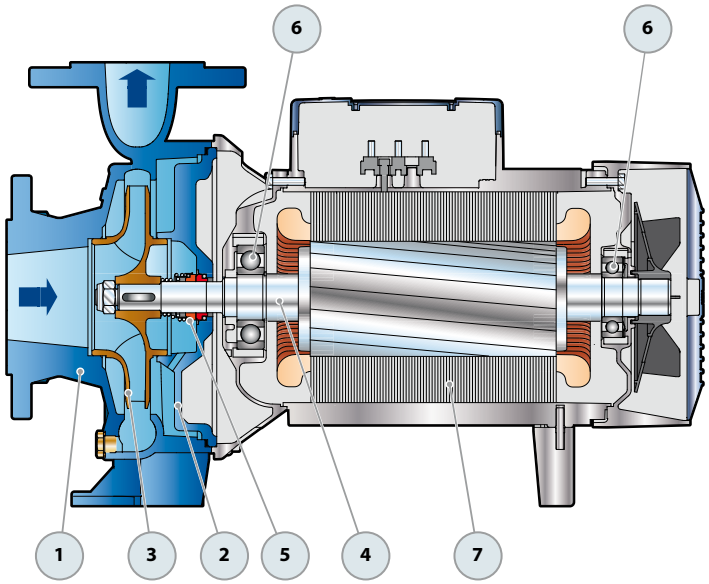
Pump	***Model***
F4-32/250 F4-40/250 F4-50/200 F4-50/250 F4-65/160 F4-65/200 F4-80/160 F4-100/160	**6208 ZZ-C3 / 6206 ZZ-C3**
F4-65/250 F4-80/200 F4-80/250 F4-100/200 F4-100/250	**6310 ZZ-C3 / 6308 ZZ-C3**

7 ELECTRIC MOTOR

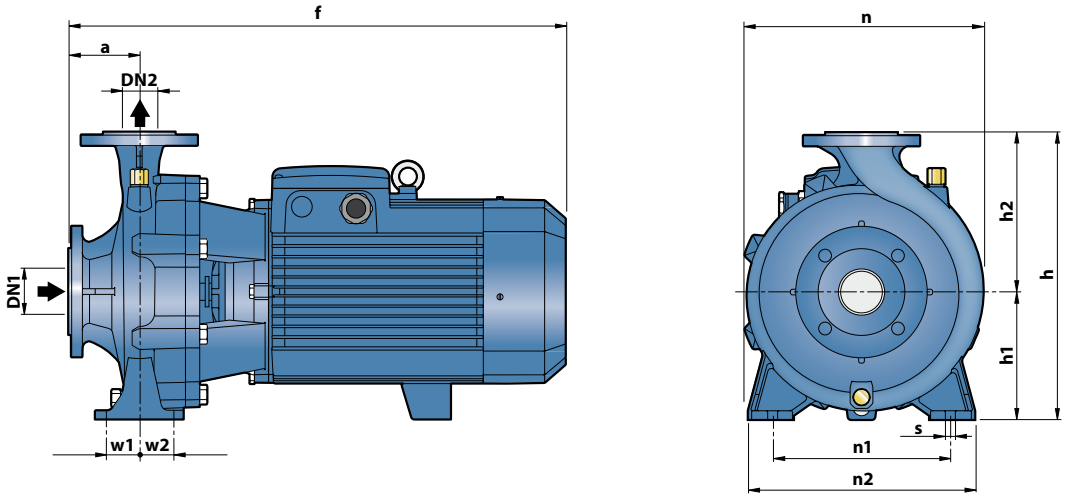
F4: with 4 poles three-phase 230/400 V - 50 Hz

➠ **The three-phase pumps are fitted with high performance motors up to P_2=0.37 kW in class IE2 and from P_2=0.75 kW in class IE3 (IEC 60034-30-1)**

– Insulation: class F
– Protection: IP 55

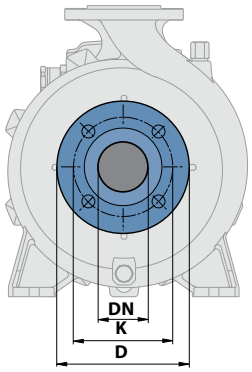


DIMENSIONS AND WEIGHT



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				469	340	160	180	270						43.4
F4-32/200A														43.5
F4-32/200BH														42.3
F4-32/200AH														42.4
F4-32/250C			100	522	405	180	225	330	250	320	405	47.5		64.1
F4-32/250B														63.1
F4-32/250A				568										68.7
F4-40/160B	65	40	80	412	292	132	160	240	190	240	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														60.1
F4-40/250A				568										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														44.6
F4-50/200C				529	360		200	316						59.2
F4-50/200B				576										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														63.3
F4-50/250B				568										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														58.7
F4-65/160A				579										65.0
F4-65/200A				582	405	180	225	340	250	320				72.0
F4-65/200AR														78.4
F4-65/250B				627	450	200	250	373	280	360	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				391						122.0
F4-100/200B														116.0
F4-100/200A														124.1
F4-100/250B			140	694	505	225		422	315	400				143.0
F4-100/250A				789										159.3

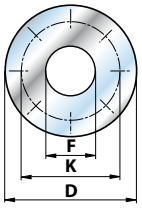
FLANGED PORTS



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	
100	220	180		
125	250	210		

COUNTER FLANGES

(CAN BE ORDERED SEPARATELY)



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

ABSORPTION

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

FG

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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

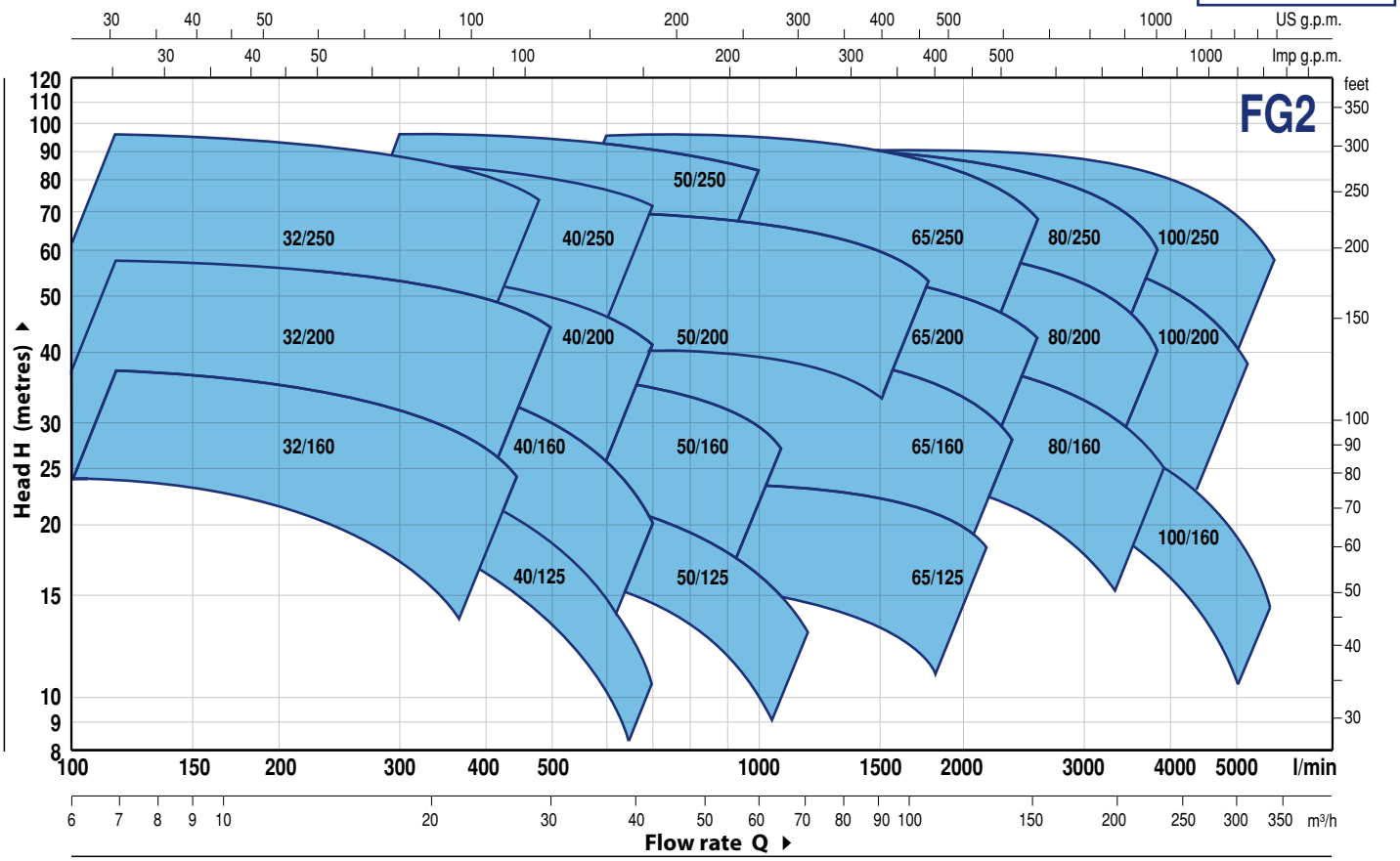
- Water supply
- Pressure boosting
- Irrigation
- Water circulation in air-conditioning units
- Cleaning sets
- Firefighting sets
- Industrial applications
- Agricultural applications

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 m³/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 m³/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

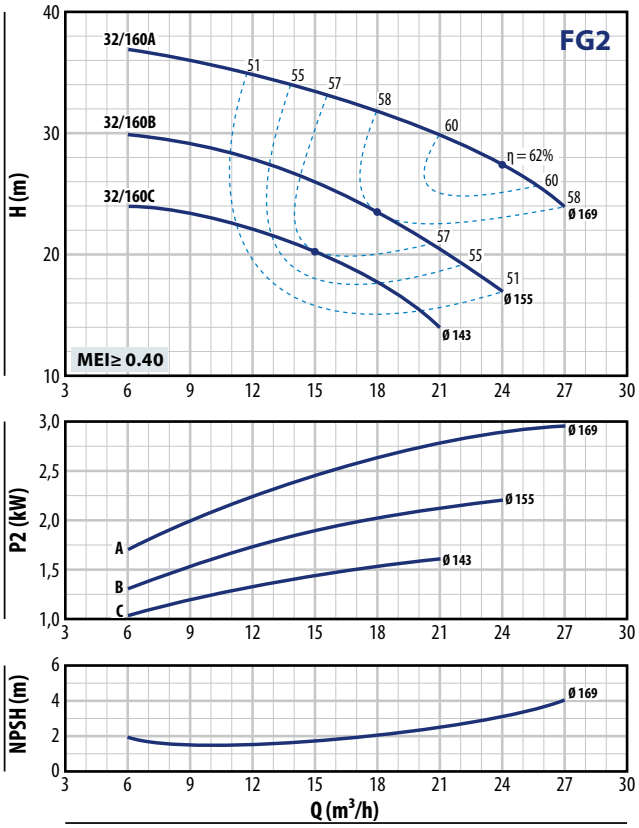
H =Total manometric head

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

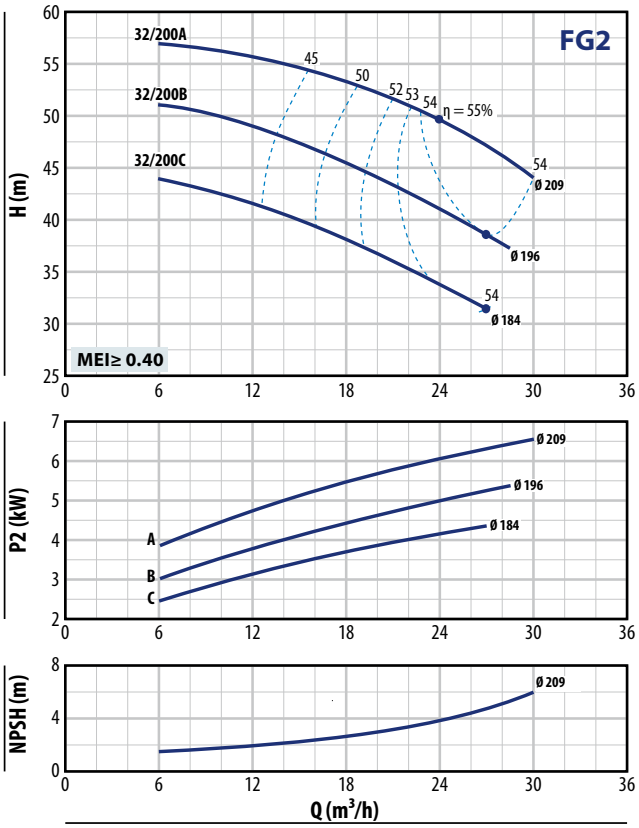
CHARACTERISTIC CURVES

n= 2900 min^{-1}

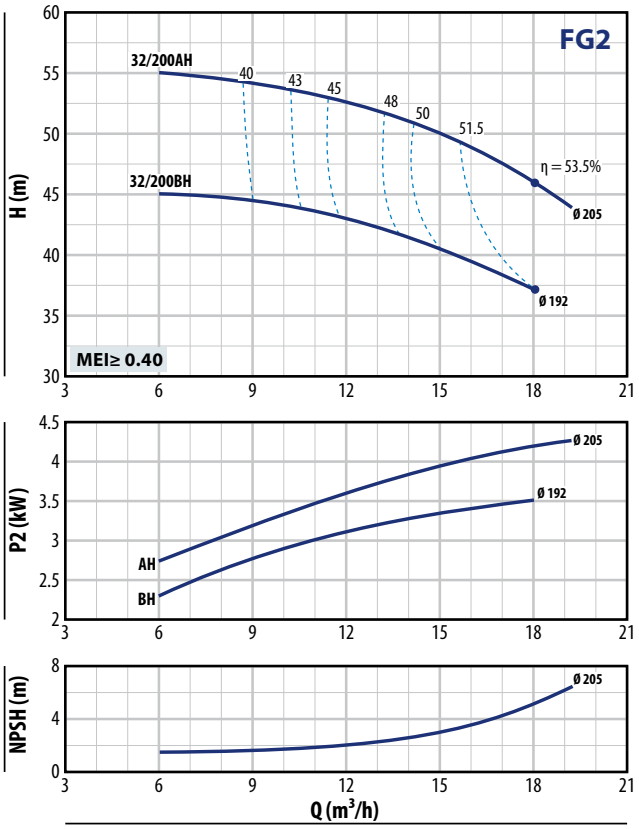
FG2-32/160



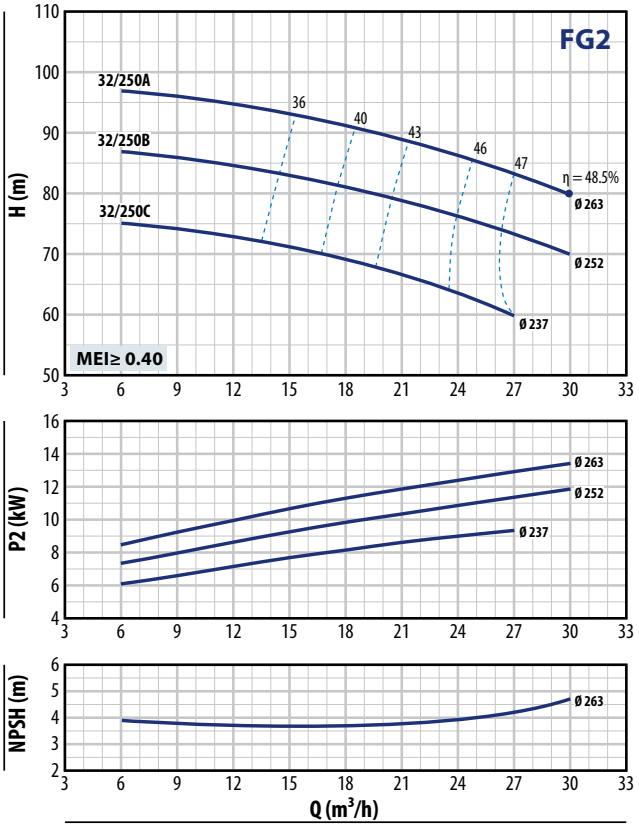
FG2-32/200



FG2-32/200H



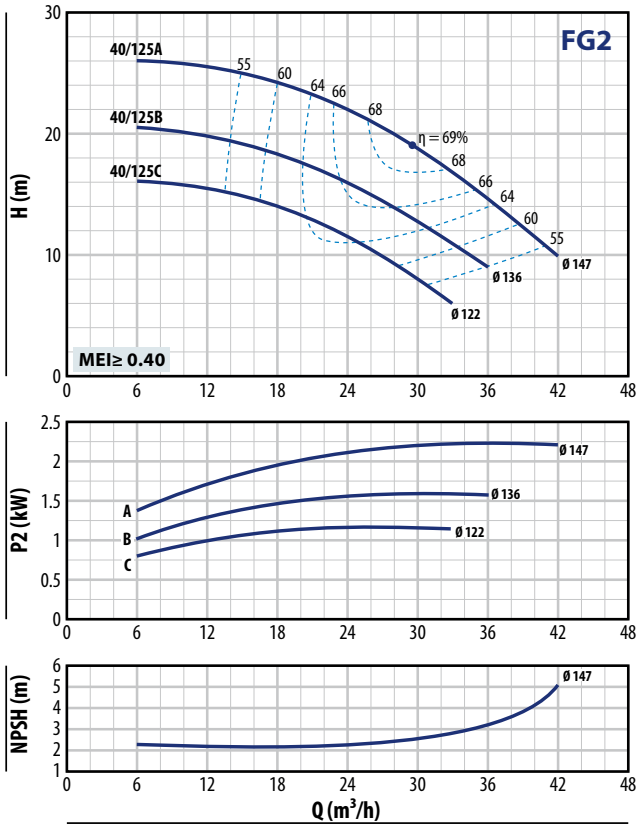
FG2-32/250



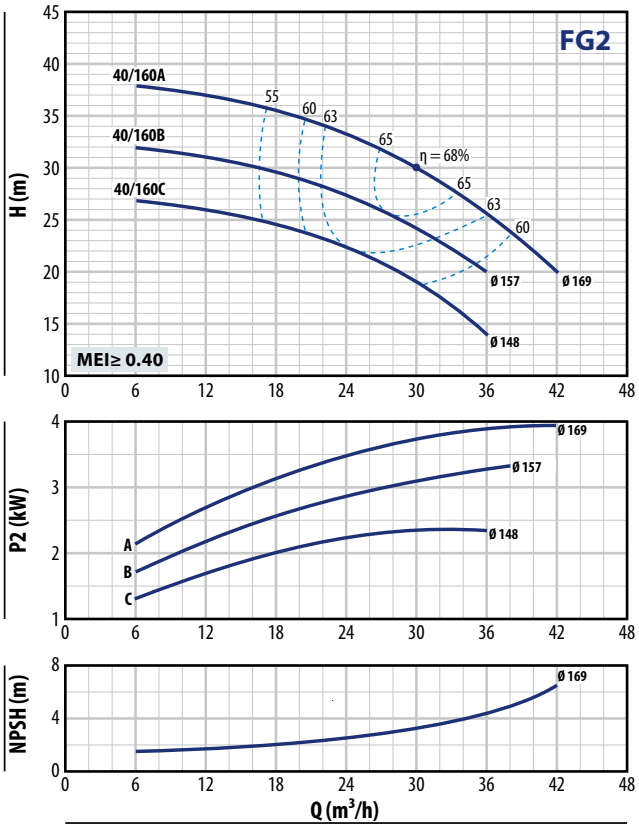
CHARACTERISTIC CURVES

n= 2900 min^{-1}

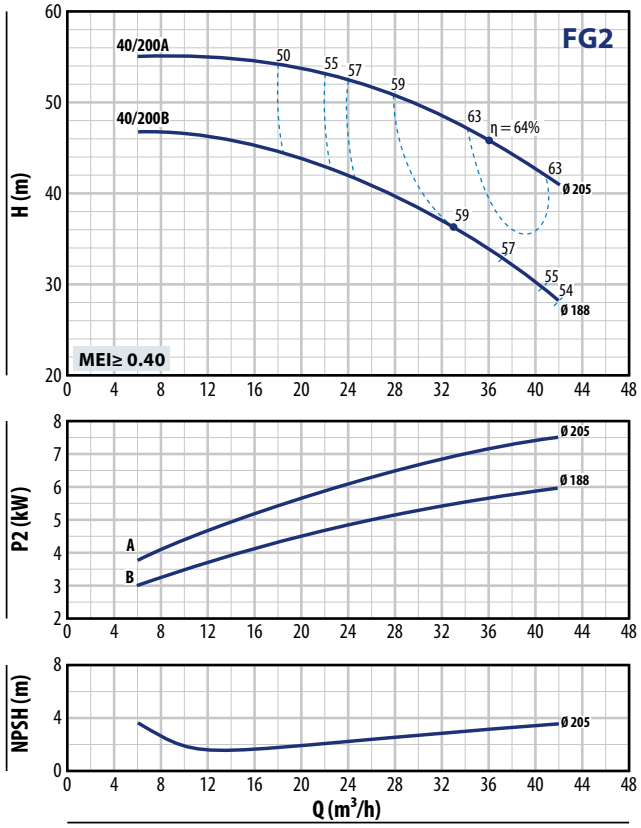
FG2-40/125



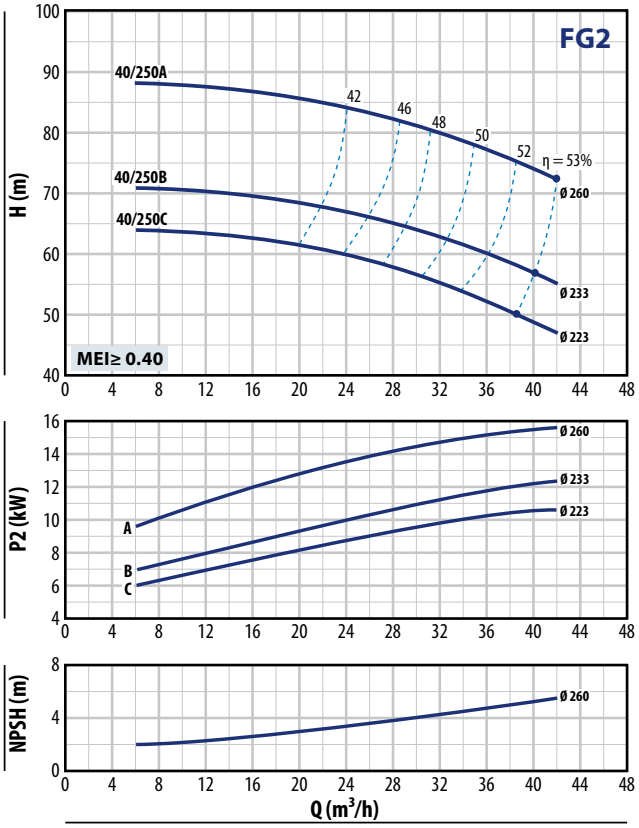
FG2-40/160



FG2-40/200



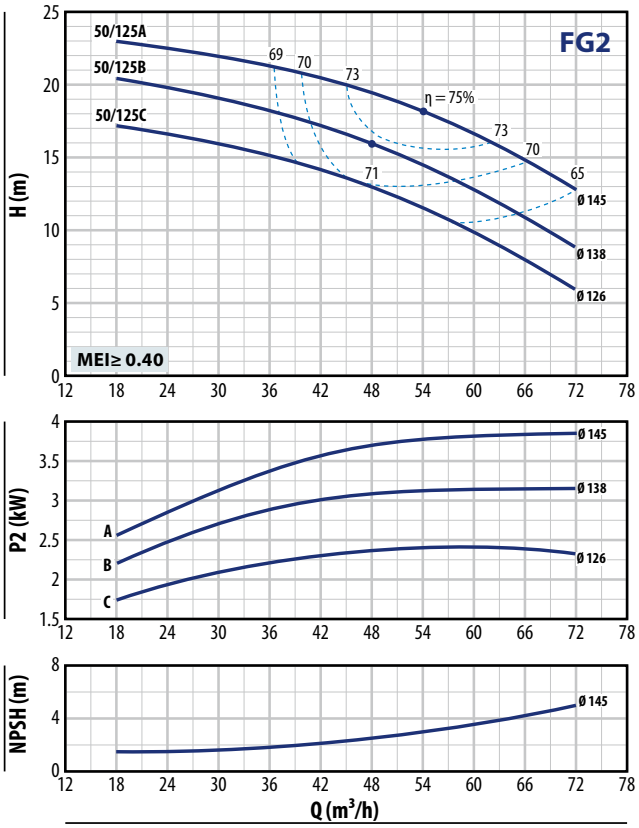
FG2-40/250



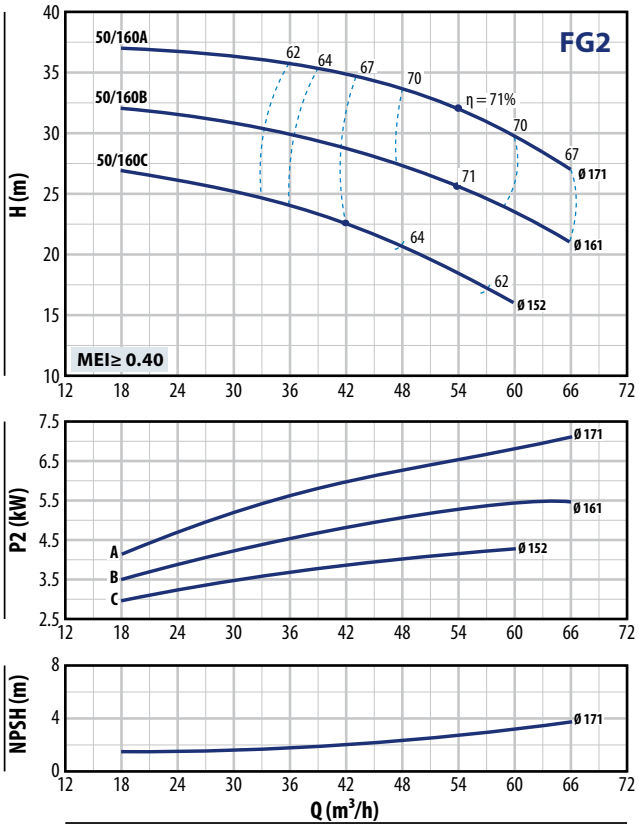
CHARACTERISTIC CURVES

n= 2900 min^{-1}

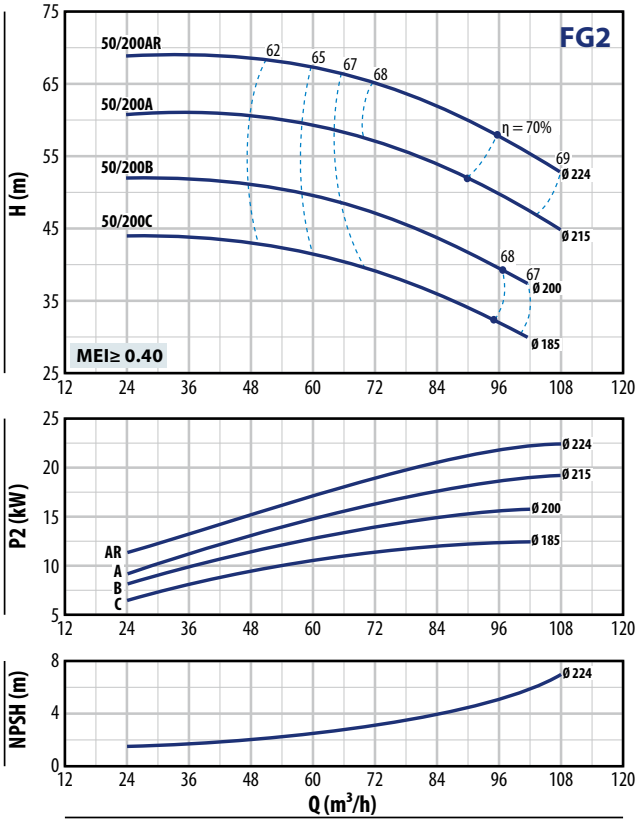
FG2-50/125



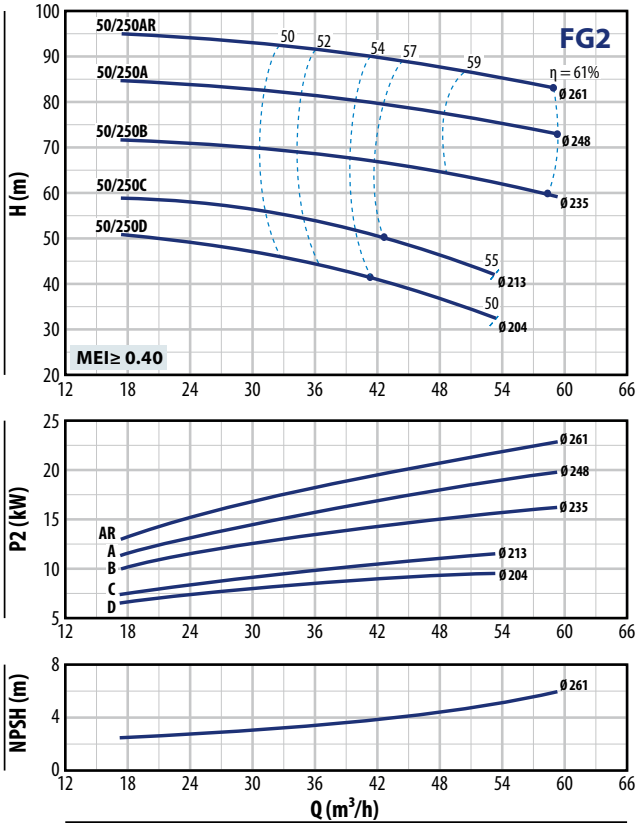
FG2-50/160



FG2-50/200



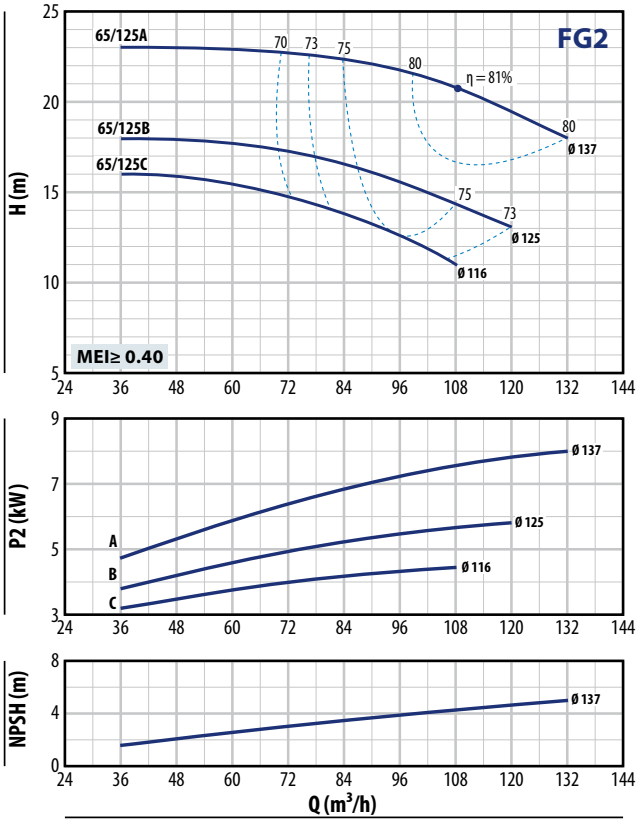
FG2-50/250



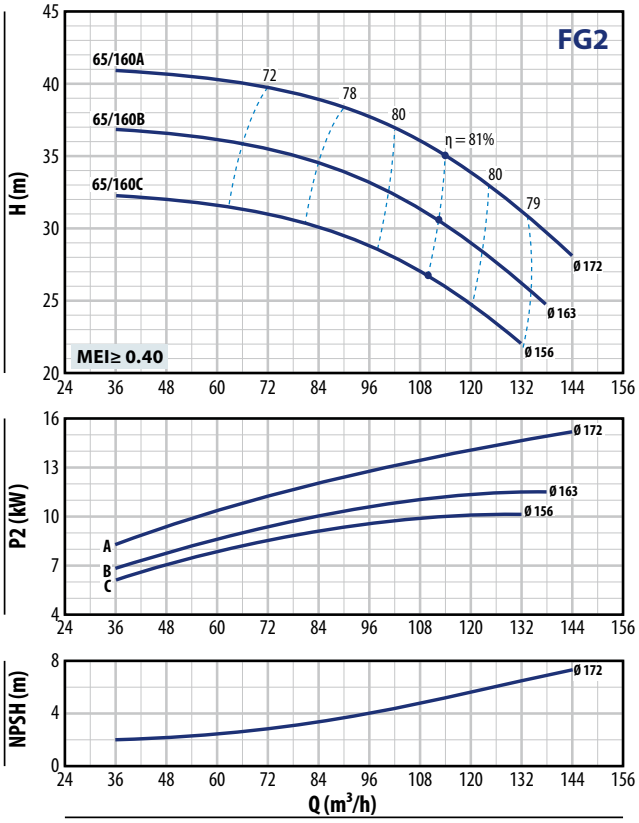
CHARACTERISTIC CURVES

n= 2900 min^{-1}

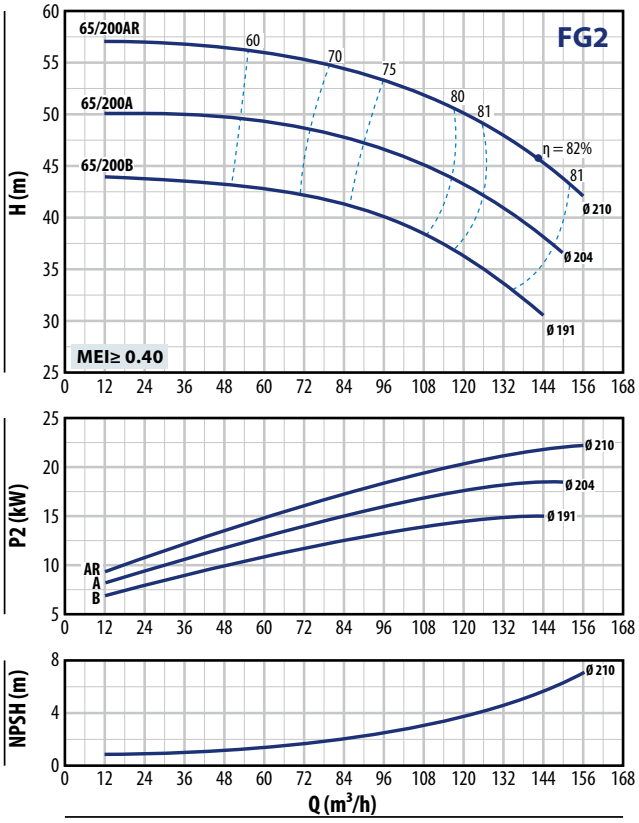
FG2-65/125



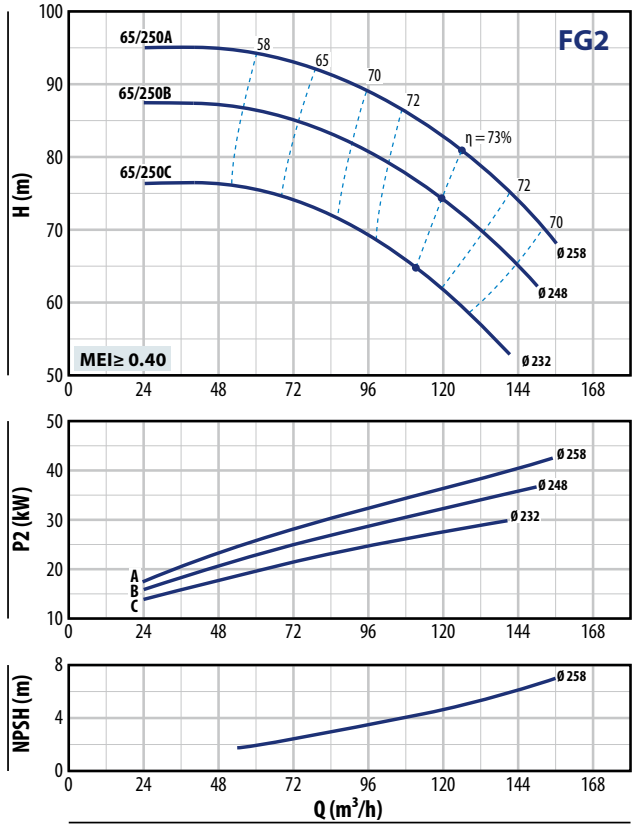
FG2-65/160



FG2-65/200



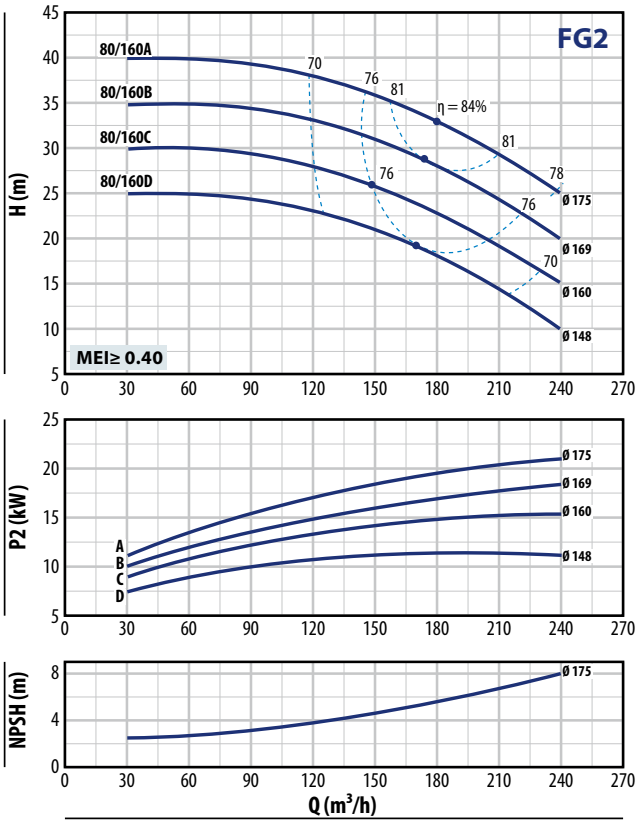
FG2-65/250



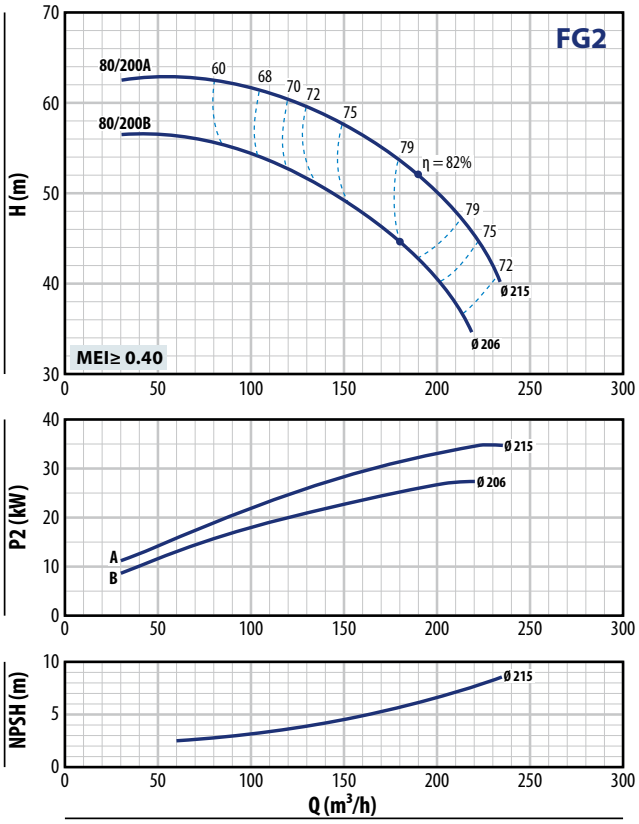
CHARACTERISTIC CURVES

n= 2900 min^{-1}

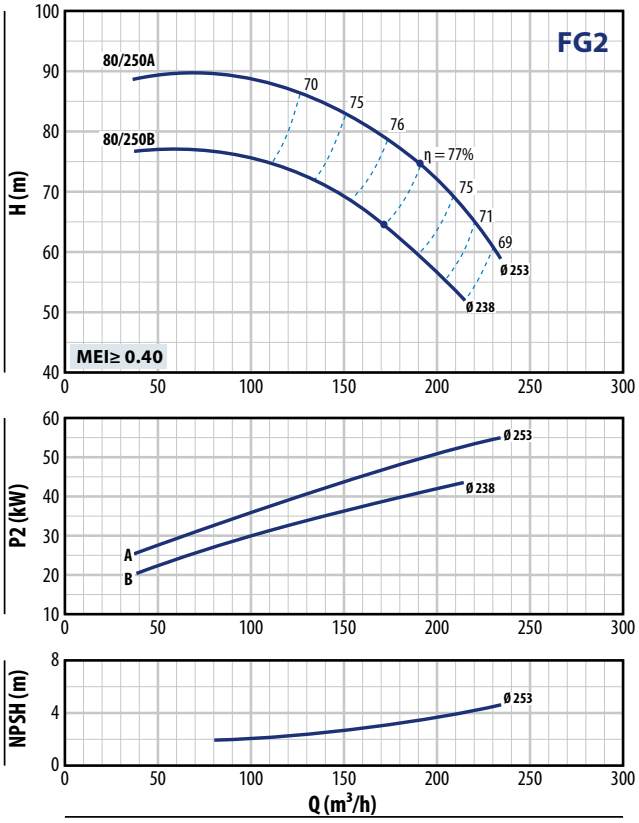
FG2-80/160



FG2-80/200



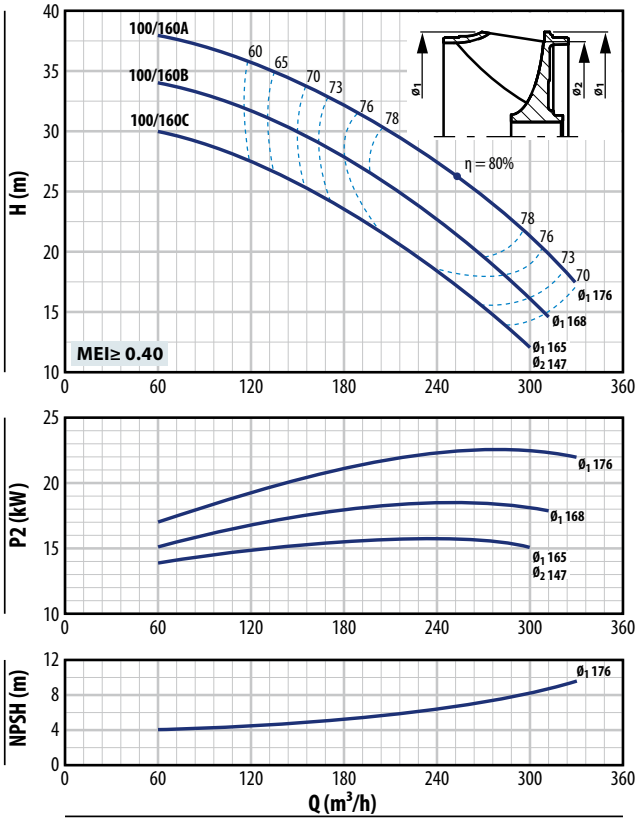
FG2-80/250



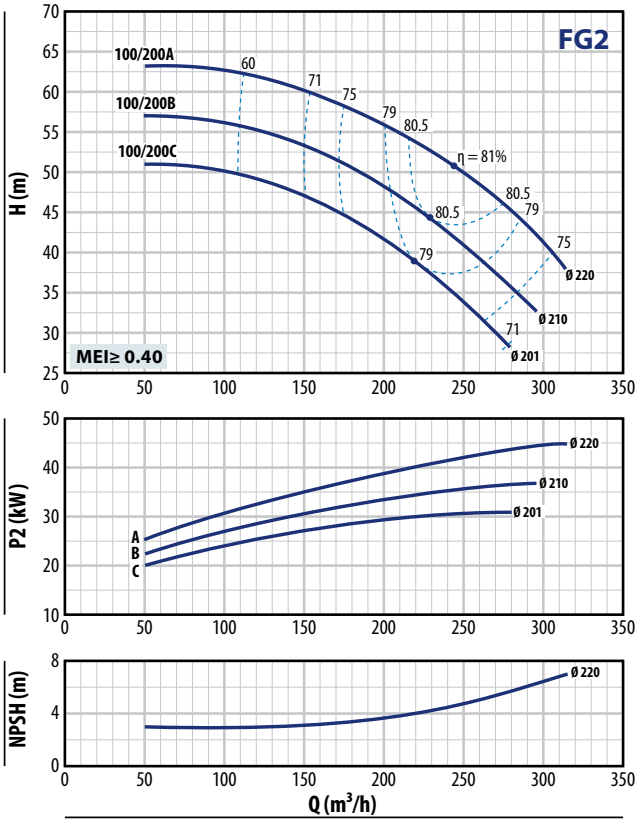
CHARACTERISTIC CURVES

n= 2900 min^{-1}

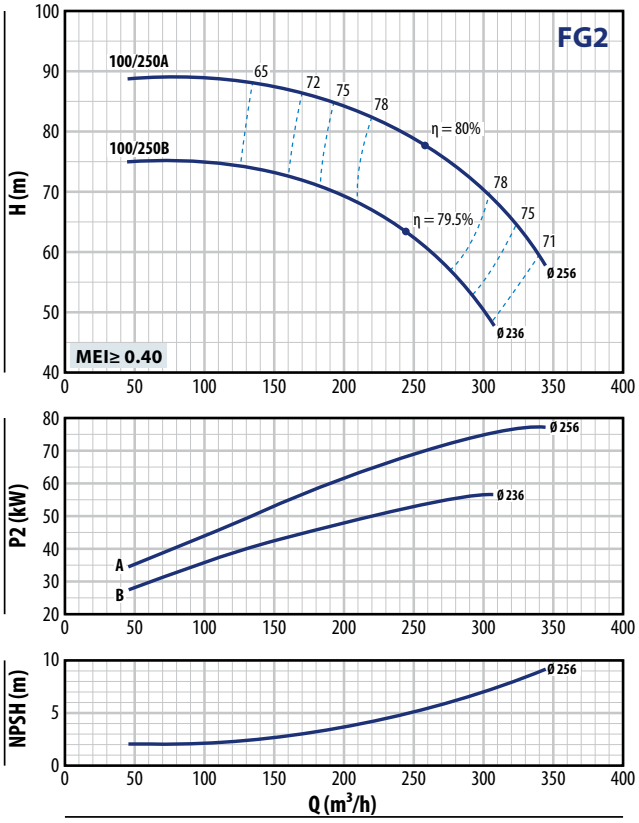
FG2-100/160



FG2-100/200



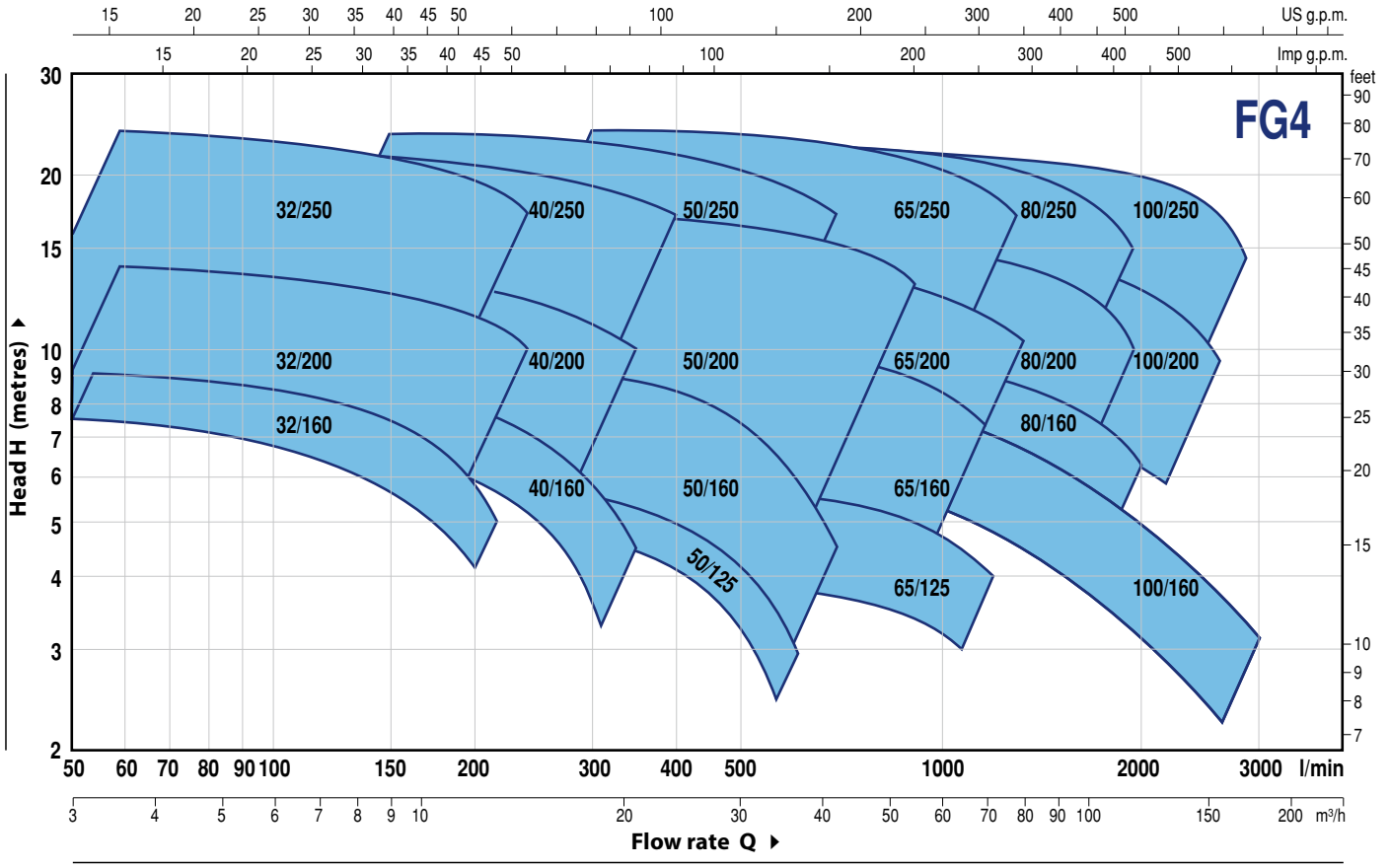
FG2-100/250



FG4

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

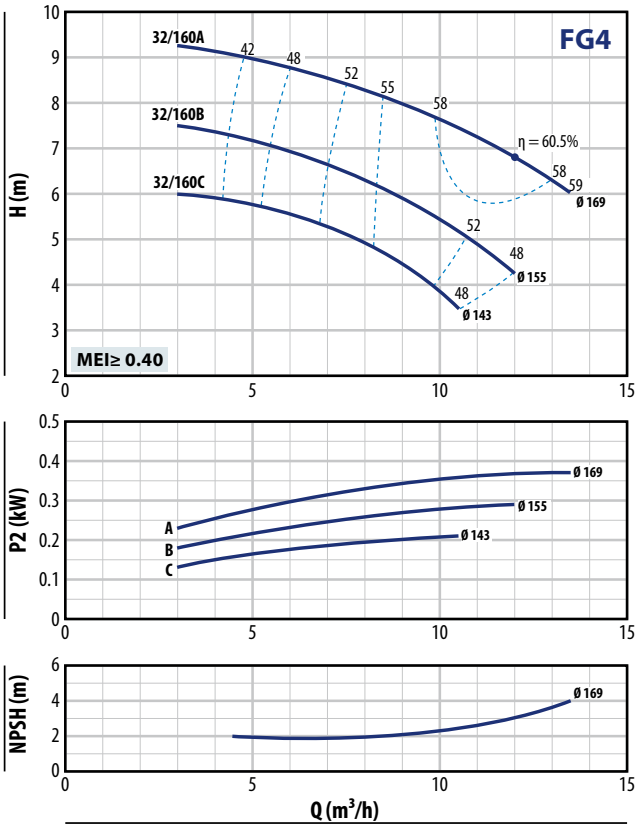
H =Total manometric head

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

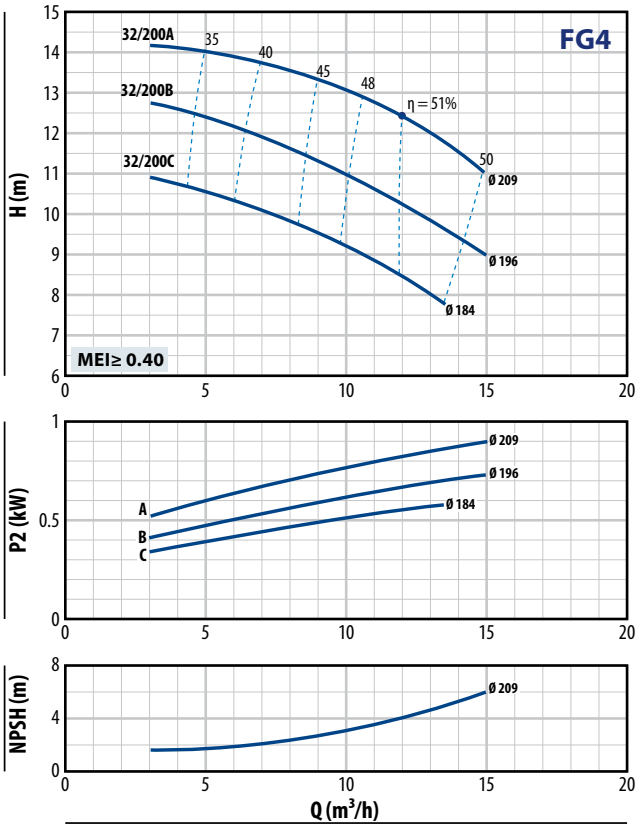
CHARACTERISTIC CURVES

n= 1450 min^{-1}

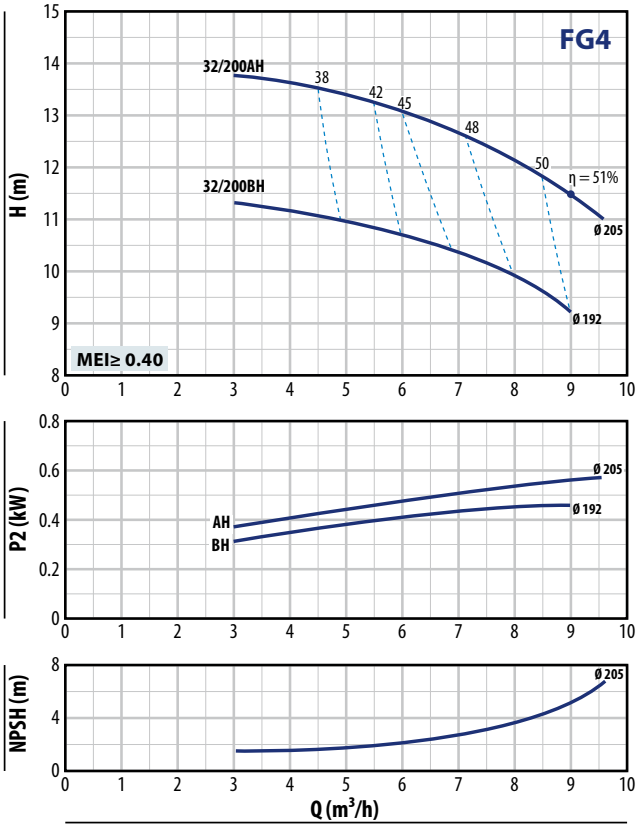
FG4-32/160



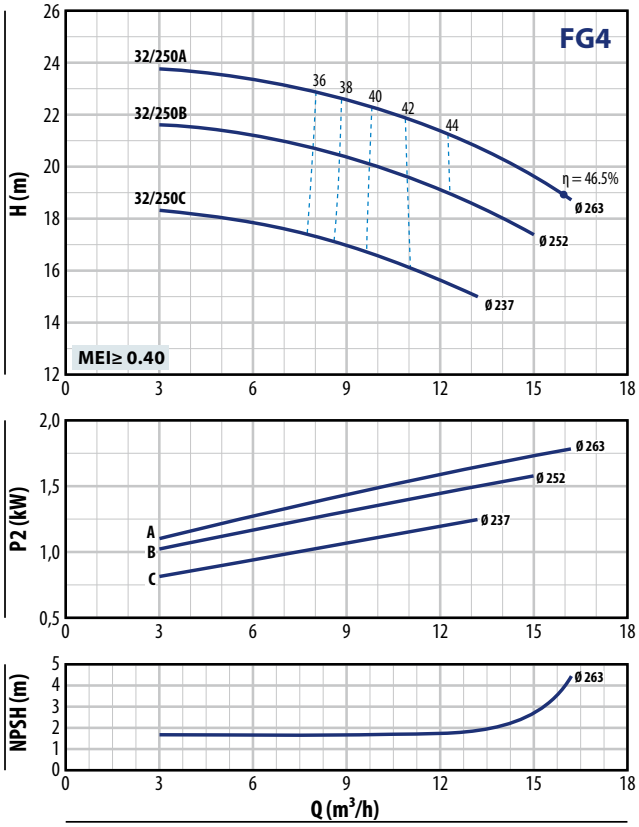
FG4-32/200



FG4-32/200H



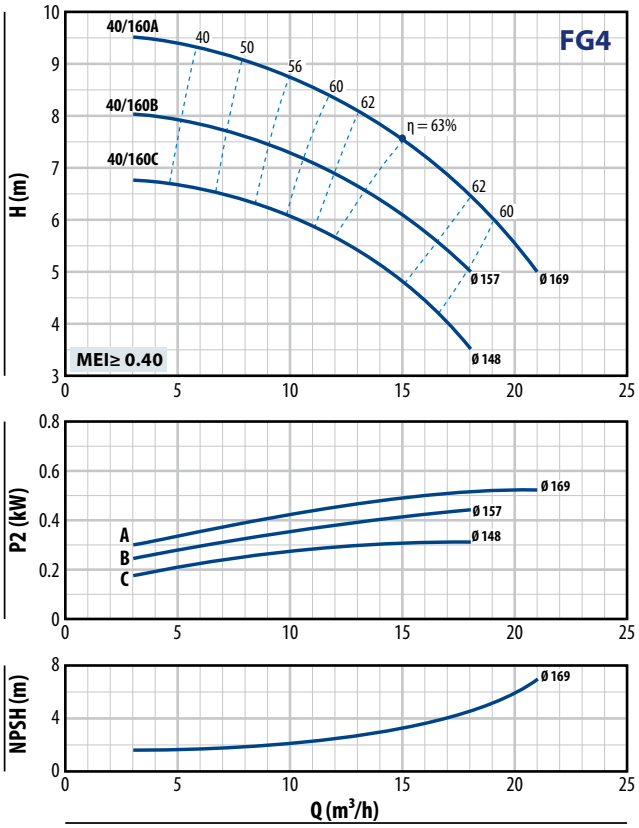
FG4-32/250



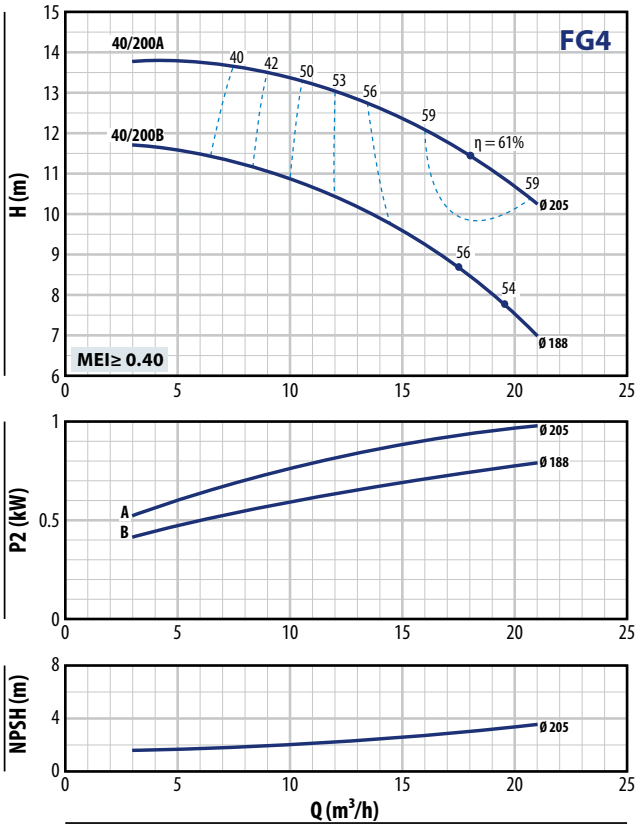
CHARACTERISTIC CURVES

n= 1450 min^{-1}

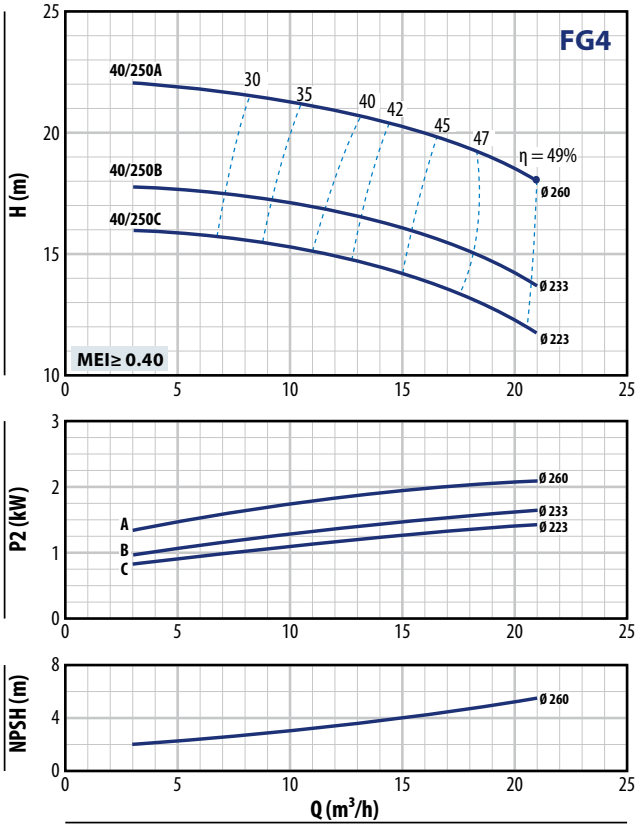
FG4-40/160



FG4-40/200



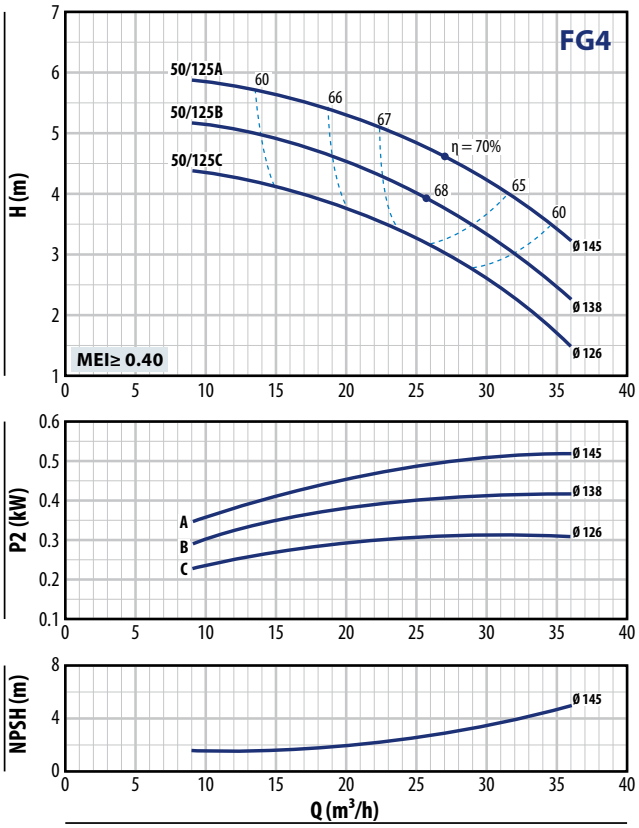
FG4-40/250



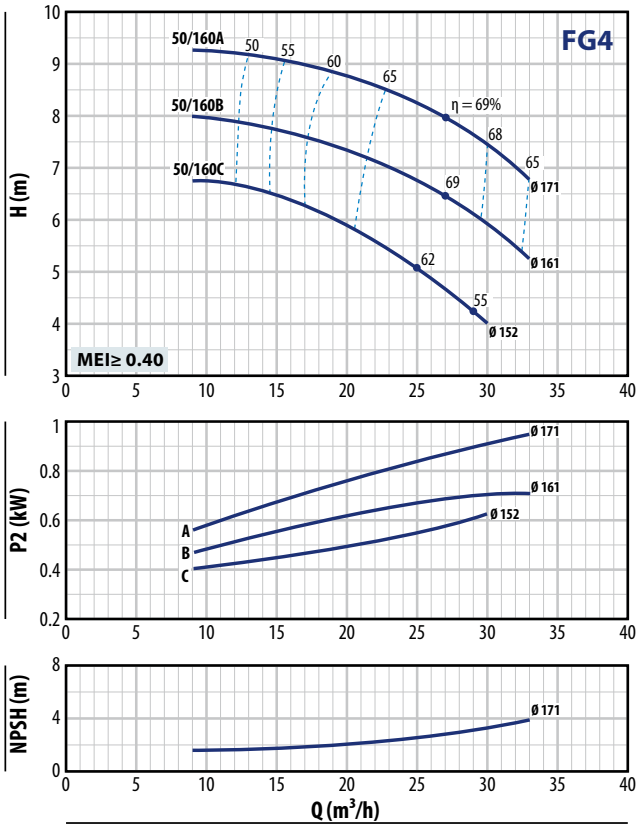
CHARACTERISTIC CURVES

n= 1450 min^{-1}

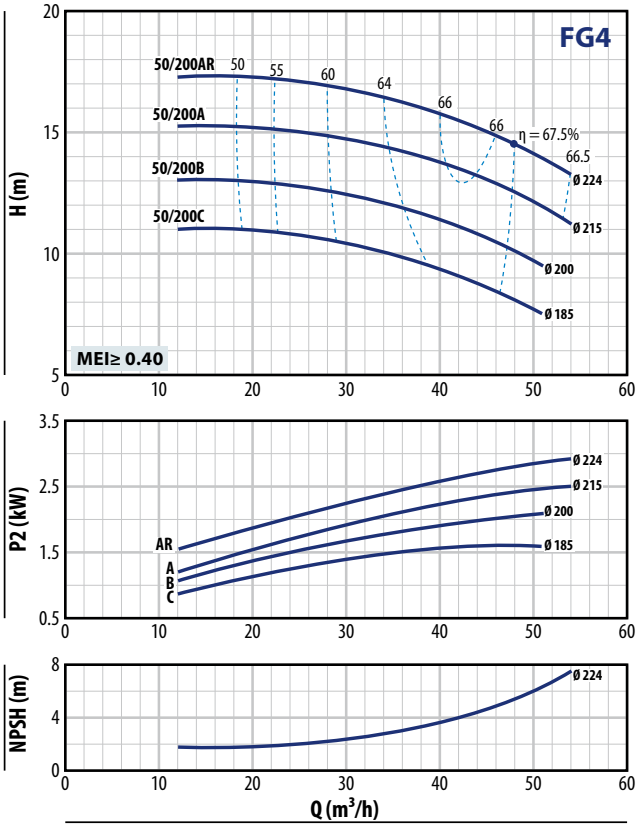
FG4-50/125



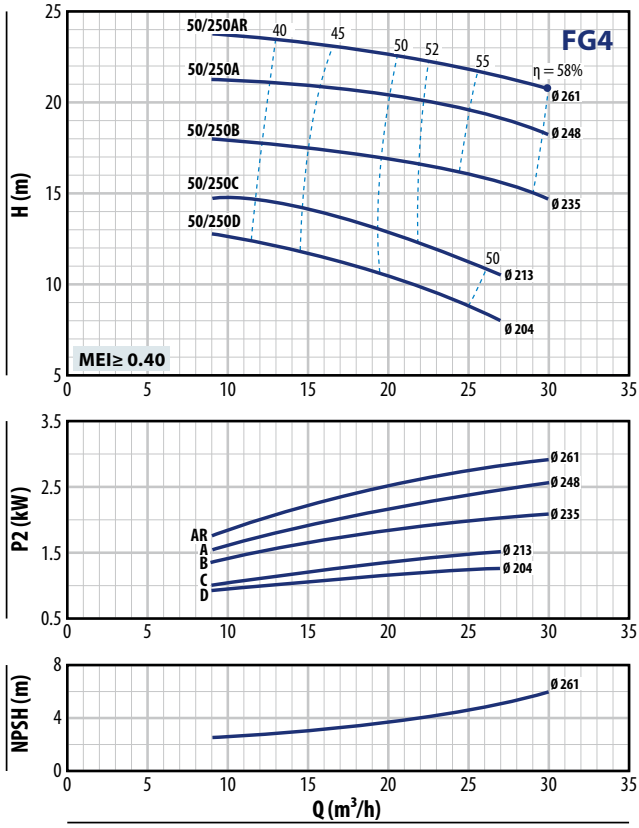
FG4-50/160



FG4-50/200



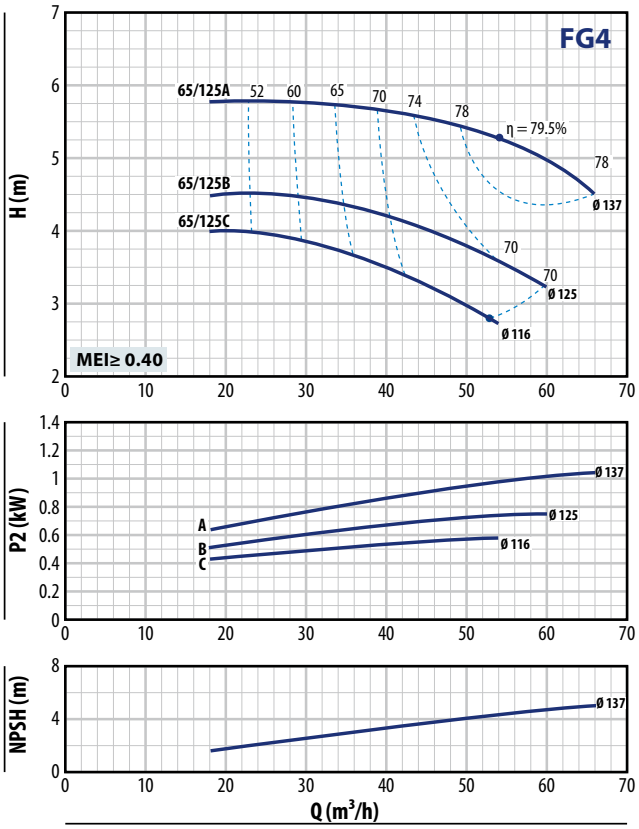
FG4-50/250



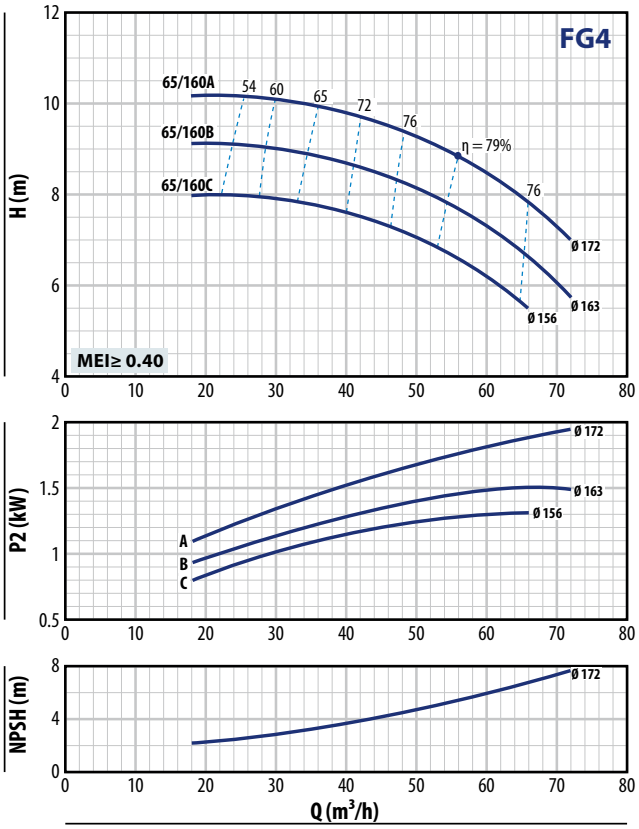
CHARACTERISTIC CURVES

n= 1450 min^{-1}

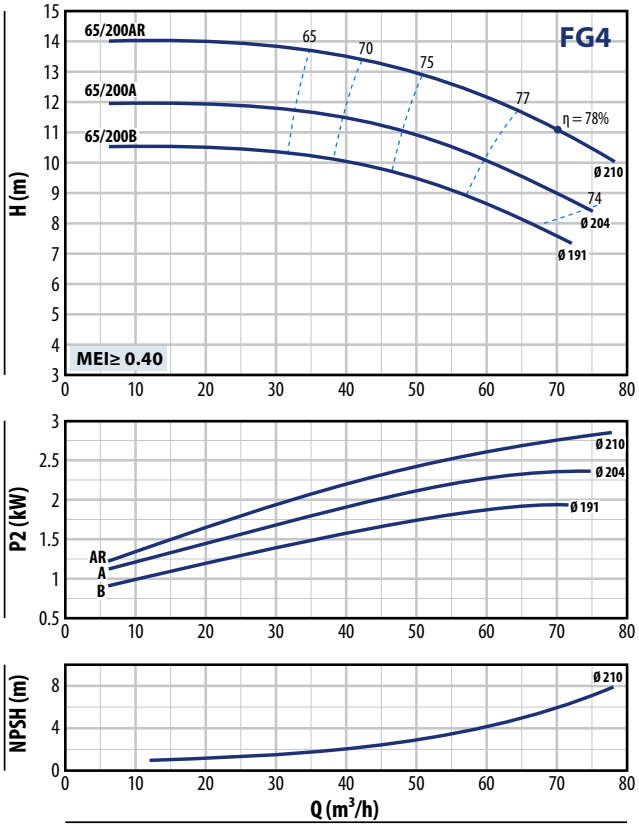
FG4-65/125



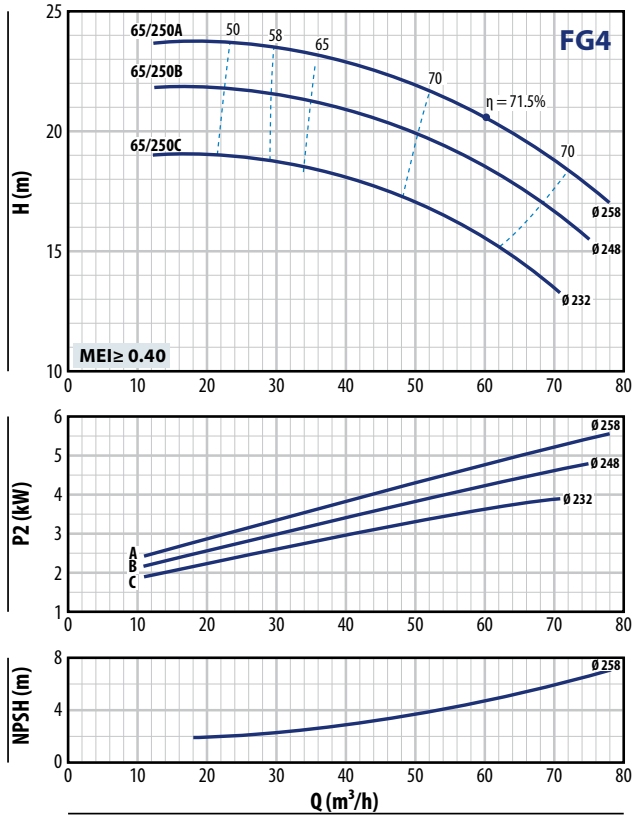
FG4-65/160



FG4-65/200



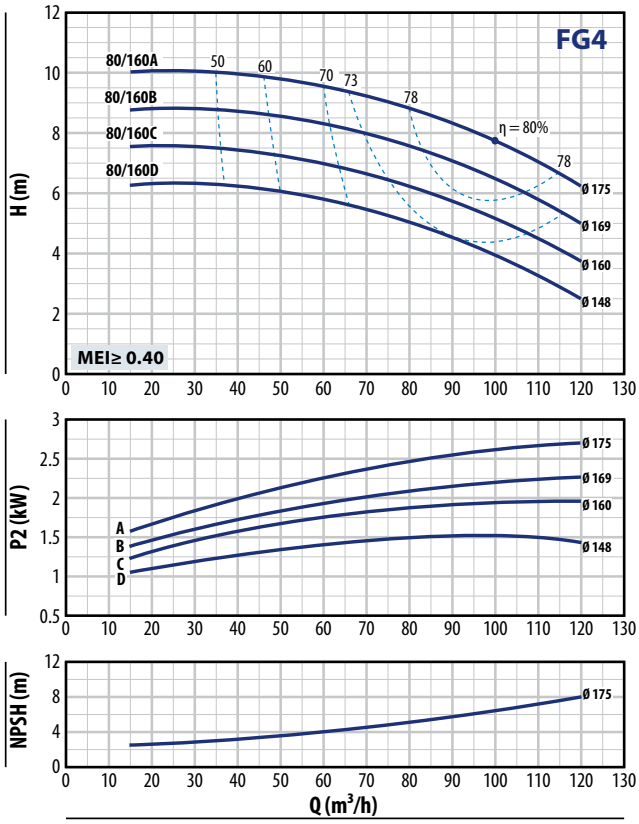
FG4-65/250



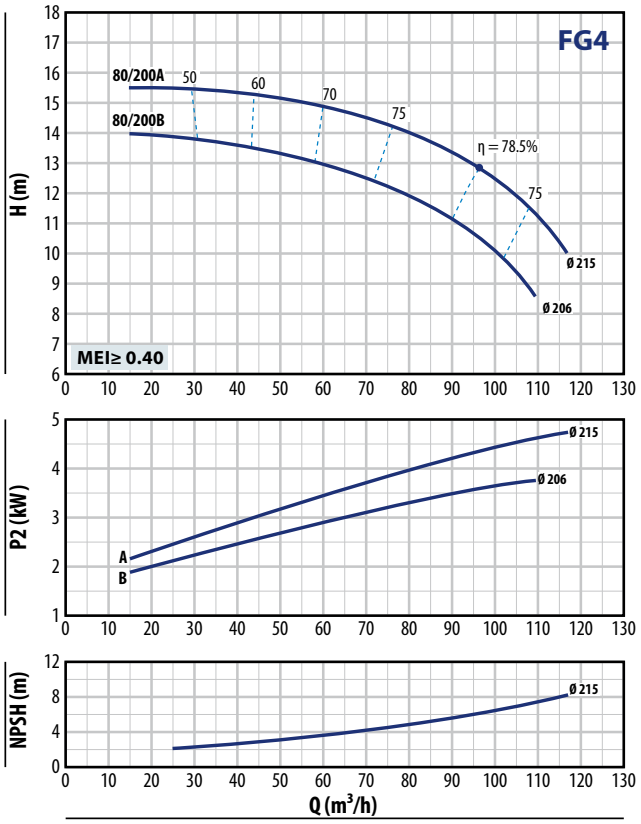
CHARACTERISTIC CURVES

n= 1450 min^{-1}

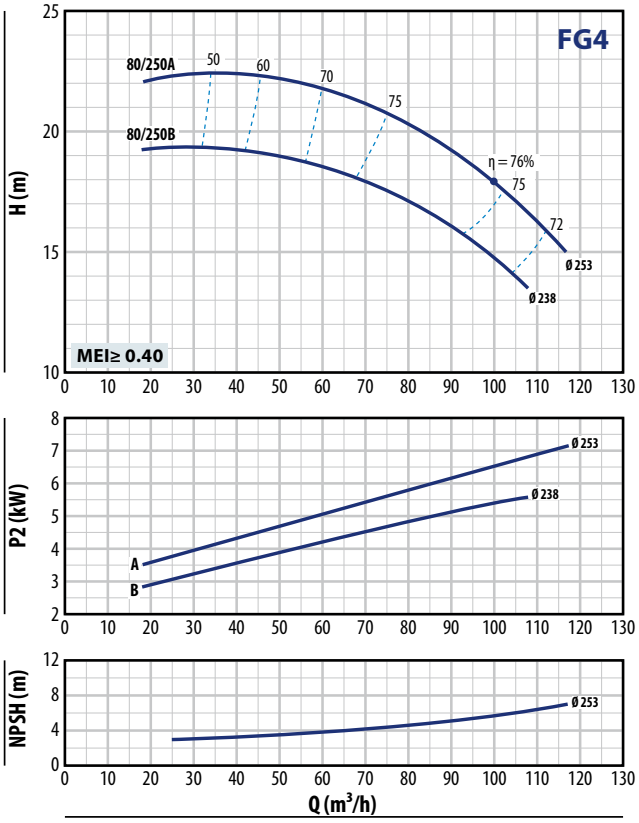
FG4-80/160



FG4-80/200



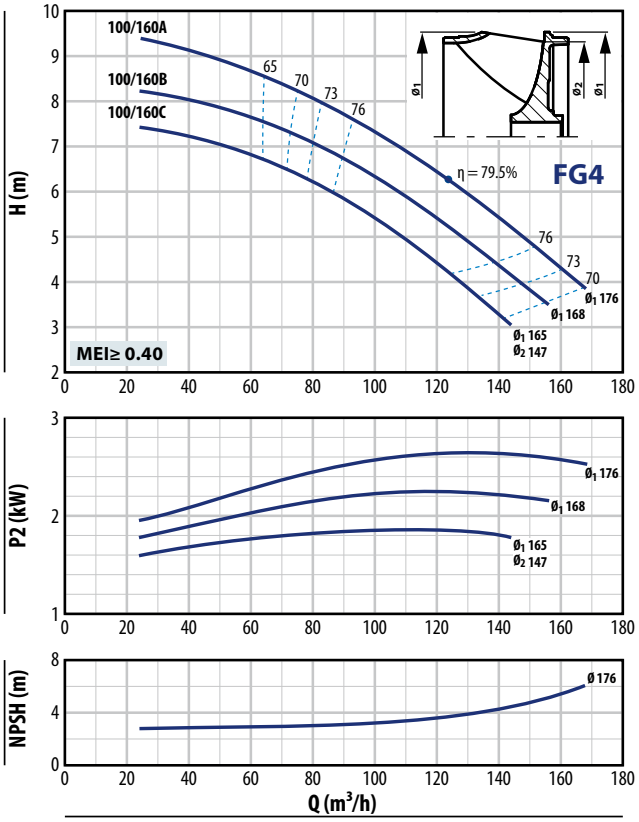
FG4-80/250



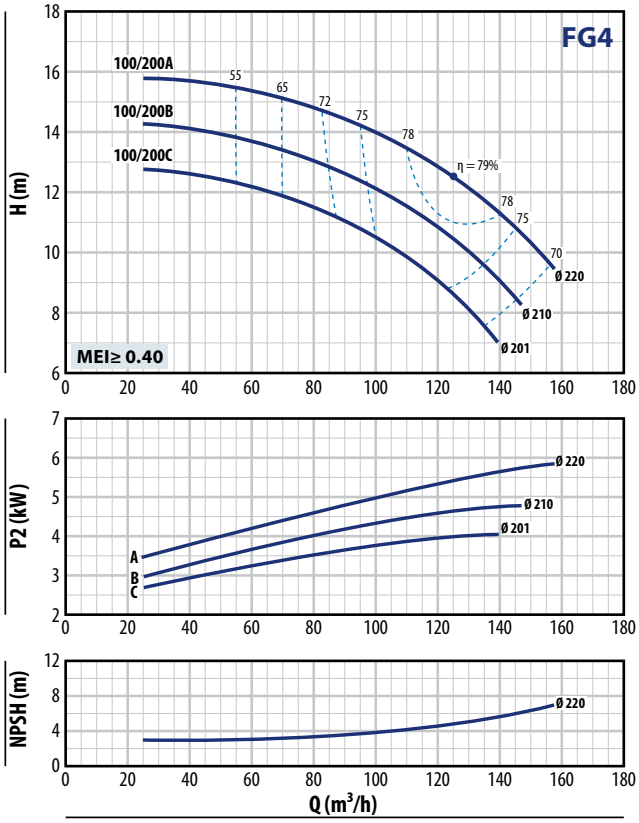
CHARACTERISTIC CURVES

n= 1450 min^{-1}

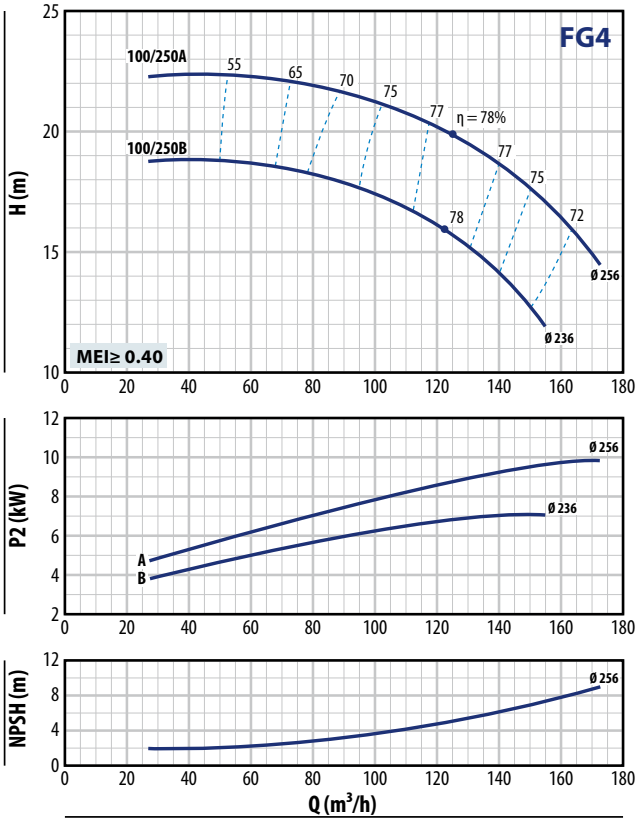
FG4-100/160



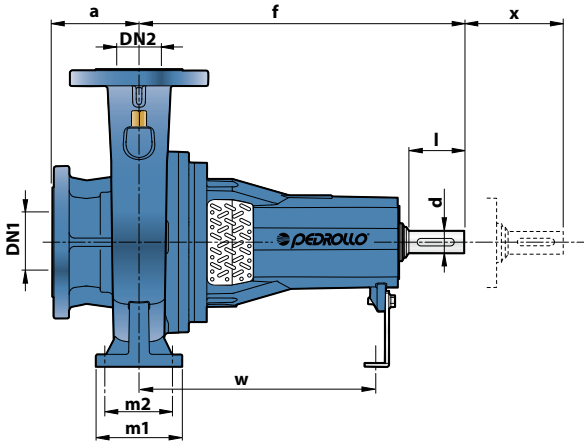
FG4-100/200

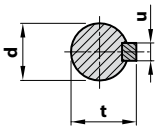


FG4-100/250

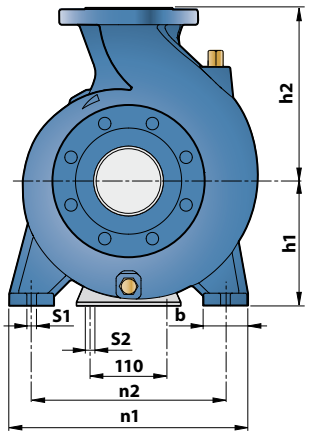


DIMENSIONS AND WEIGHT



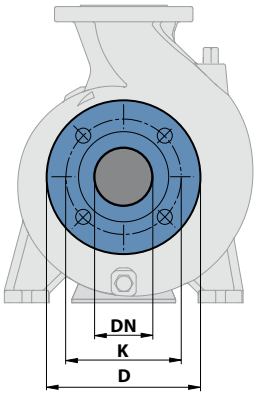


SHAFT mm		
d	u	t
24 k6	8	27
32 k6	10	35



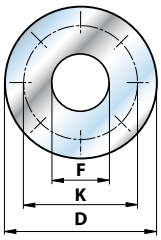
MODEL	DIMENSIONS mm																kg
	DN1	DN2	a	f	h1	h2	b	m1	m2	n1	n2	s1	s2	w	x	d	l	
FG 32/160	50	32	80	360	132	160	55	96	71	240	190	14	14	260	100	24	50	**33,0**
FG 32/200					160	180	55	95										**38,5**
FG 32/200H					160	180	55											**36,8**
FG 32/250			100		180	225	65	125	95	320	250							**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			100		160	180	55			265	212							**40,0**
FG 40/250					180	225	65	125	95	320	250							**59,0**
FG 50/125	65	50			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											**50,3**
FG 50/250					180	225	65	125	95	320	250							**57,0**
FG 65/125	80	65			160	180	65			280	212							**45,0**
FG 65/160					160	200	65											**48,0**
FG 65/200					180	225	65			320	250							**55,0**
FG 65/250				470	200	250	80	160	120	360	280	18		340		32	80	**83,0**
FG 80/160	100	80	125	360	180	225	65	125	95	320	250	14		260	140	24	50	**53,0**
FG 80/200				470	180	250	65			345	280			340		32	80	**75,0**
FG 80/250					200	280	80			400	315							**93,0**
FG 100/160	125	100		360	200	280	80	160	120	360	280	18		260		24	50	**94,0**
FG 100/200				470	200	280	80							340		32	80	**87,0**
FG 100/250			140		225	280	80			400	315							**104,0**

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	
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	
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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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**.

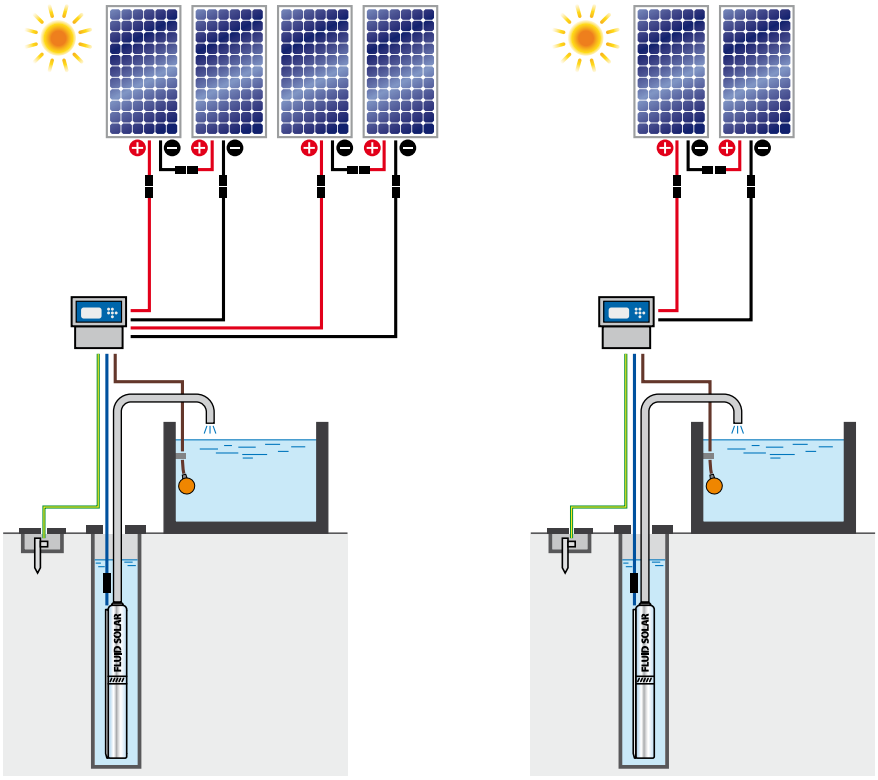
PATENTS - TRADE MARKS

- 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

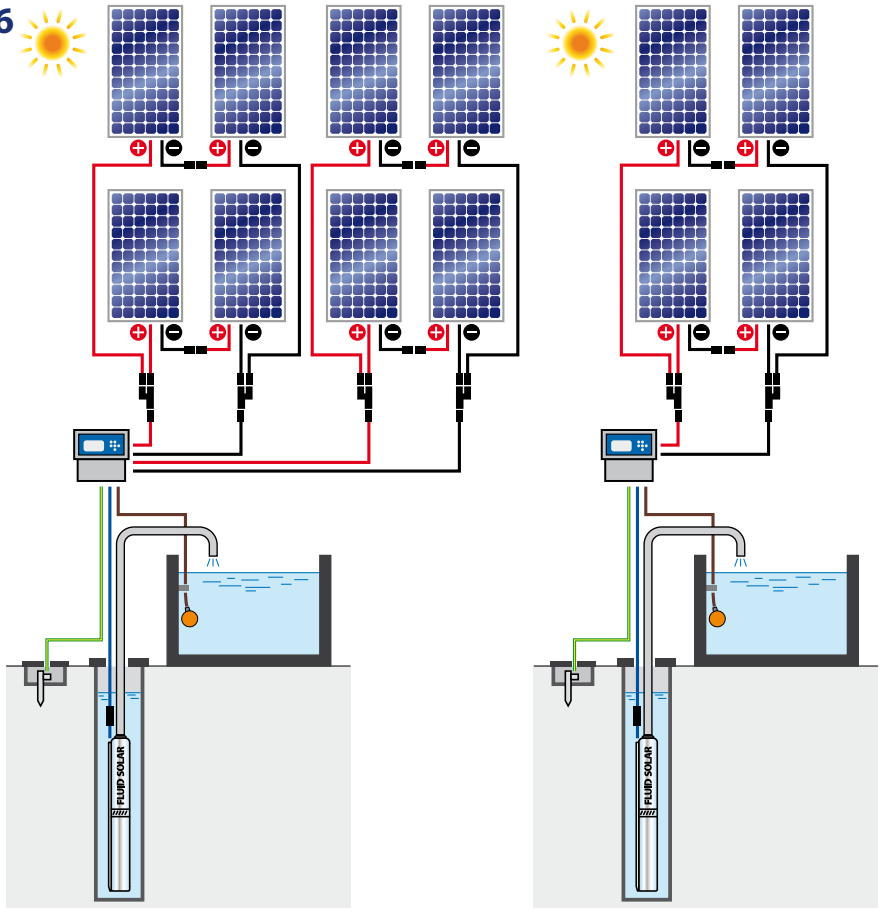
- To get the nominal maximum performances waterpump has to be powered by **n. 4 photovoltaic modules** with a nominal total power of **980 Wp** at least.
- Waterpump can be powered even by only **2 photovoltaic modules**: in this case performances are lower than maximum nominal performances that can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



Installation examples for electric water pump as P1=1500 W

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

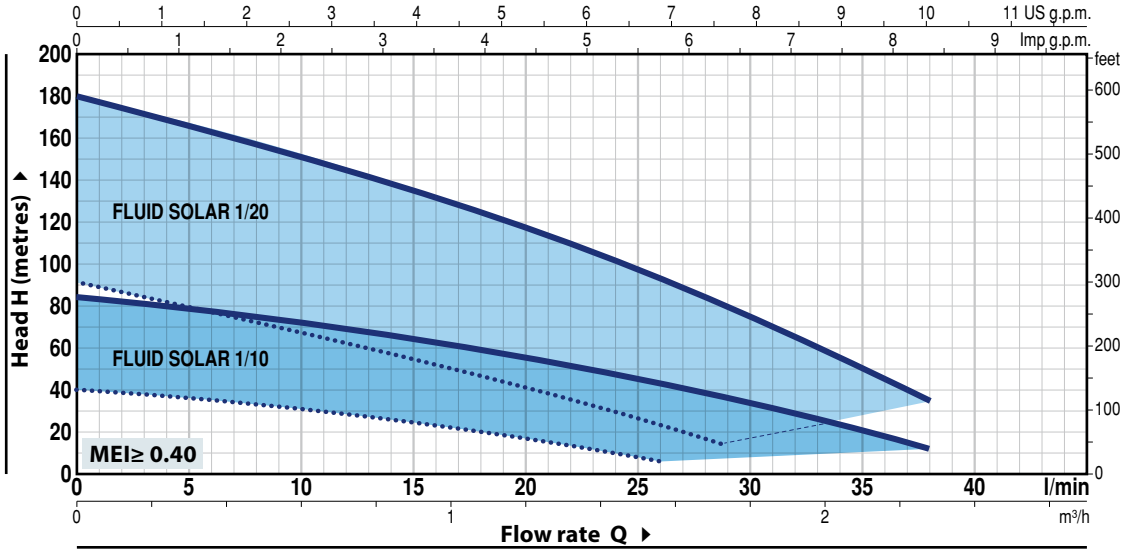
- To get the nominal maximum performances waterpump has to be powered by **n. 8 photovoltaic modules** with a nominal total power of **1960 Wp** at least.
- Waterpump can be powered even by only **4 photovoltaic modules**: in this case performances are lower than maximum nominal performances that can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



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

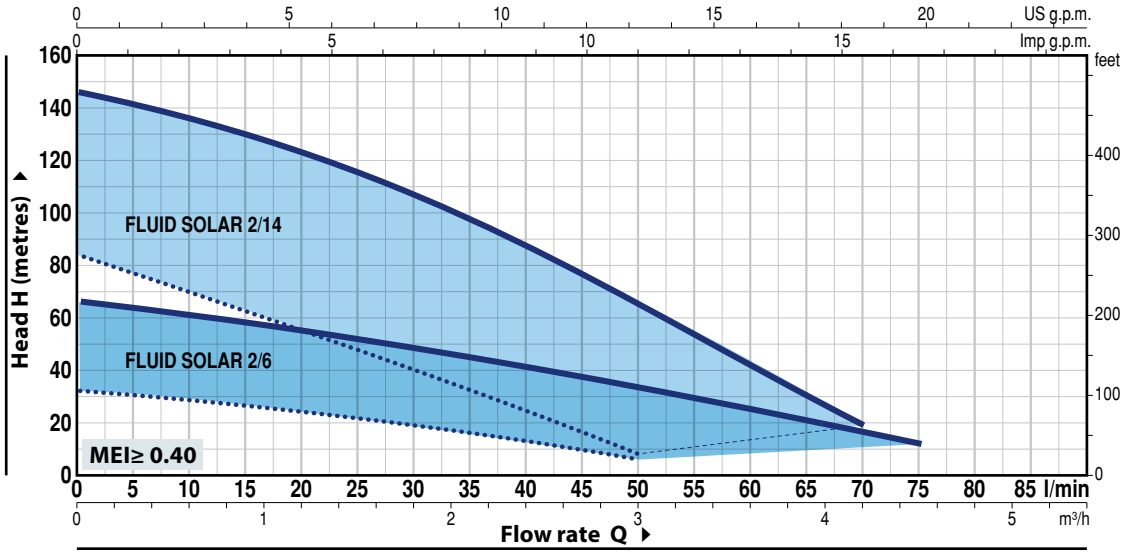
Q	m³/h	0	0.3	0.6	1.2	1.6	1.8	2.3
	l/min	**0**	**5**	**10**	**20**	**26**	**30**	**38**
H metres	▬	84	79	72	56	42	33	12
	••••	40	36	31	17	6		

FLUID SOLAR 1/20

ABSORBED POWER 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	1.6	1.74	1.8	2.3
	l/min	**0**	**5**	**10**	**20**	**26**	**29**	**30**	**38**
H metres	▬	180	165	150	118	92	79	75	35
	••••	90	80	67	41	22	13		



FLUID SOLAR 2/6

ABSORBED POWER 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	2.4	3.0	3.6	4.2	4.5
	l/min	**0**	**5**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**75**
H metres	▬	66	64	61	55	48	41	33	25	16	12
	••••	32	31	28	24	19	13	6			

FLUID SOLAR 2/14

ABSORBED POWER 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	1.8	2.4	3.0	3.6	4.2
	l/min	**0**	**5**	**10**	**20**	**30**	**40**	**50**	**60**	**70**
H metres	▬	146	140	136	123	107	87	65	42	20
	••••	82	77	70	55	40	24	8		

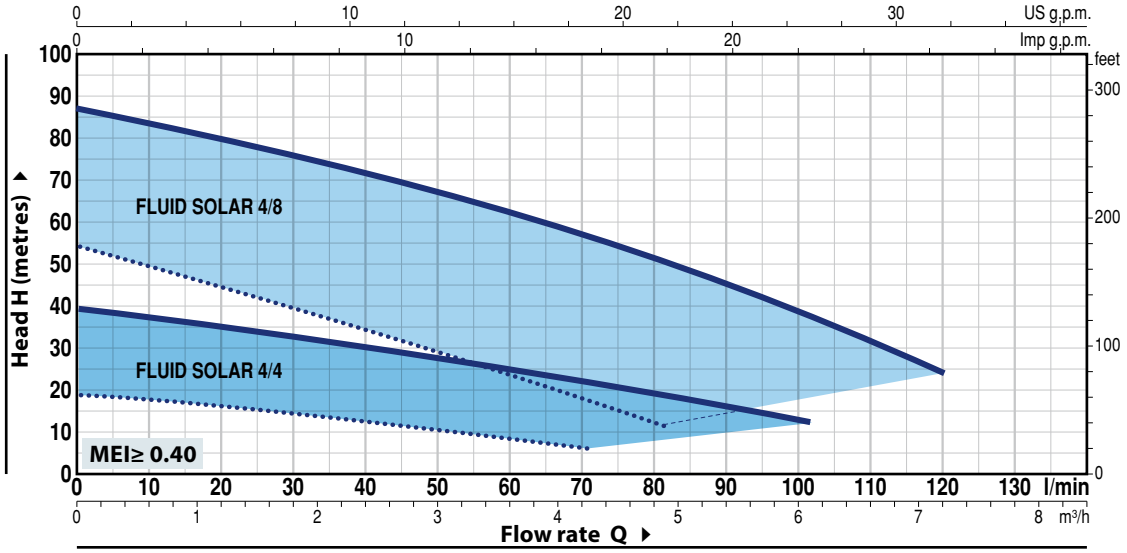
▬ **Performance with a solar radiation of 1000 W/m² and with an available voltage of the photovoltaic panels of 100 VDC**

•••• **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

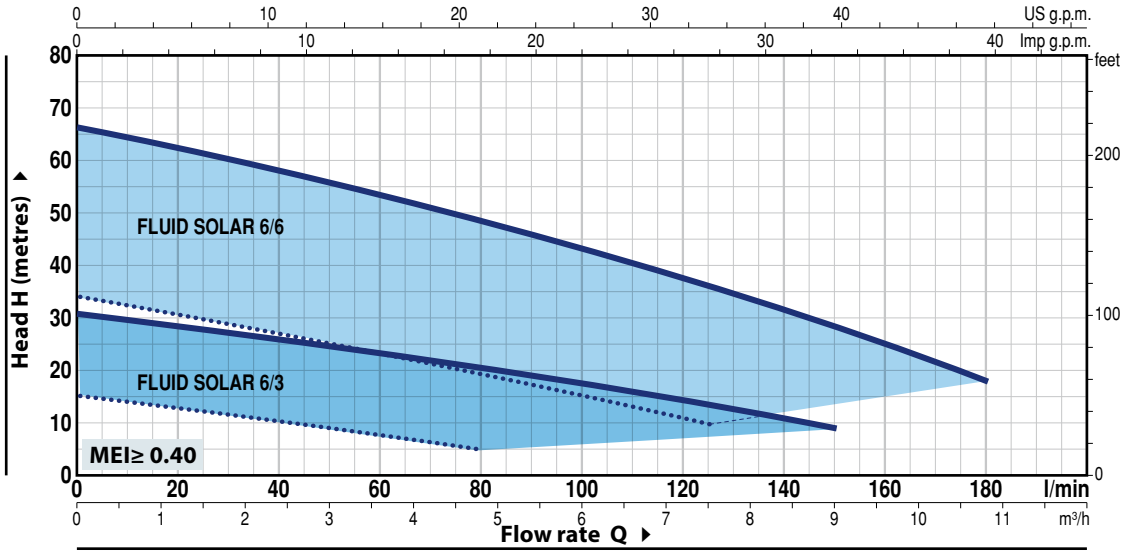
Q	m³/h	0	0.3	0.6	1.2	1.8	3.0	3.6	4.3	4.5	4.8	5.7	6.1
	l/min	**0**	**5**	**10**	**20**	**30**	**50**	**60**	**71**	**75**	**80**	**95**	**102**
H metres	▬	39	38.5	37	35	32.5	27	25	22	21	18	14	12
	••••	19	18.5	17.5	16	14	10	8	6				

FLUID SOLAR 4/8

ABSORBED POWER 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
	l/min	**0**	**5**	**10**	**20**	**40**	**60**	**82**	**100**	**120**
H metres	▬	87	85	83	80	71	62	50	39	24
	••••	54	52	49	45	34	23	11		



FLUID SOLAR 6/3

ABSORBED POWER 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
	l/min	**0**	**5**	**30**	**60**	**80**	**90**	**120**	**150**
H metres	▬	31	30	27	23	20	19	14	9
	••••	15	14	11	8	5			

FLUID SOLAR 6/6

ABSORBED POWER 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
	l/min	**0**	**5**	**30**	**60**	**90**	**120**	**125**	**150**	**180**
H metres	▬	66	65	60	53	46	37	36	28	18
	••••	34	33	29	23	17	11	10		

▬ **Performance with a solar radiation of 1000 W/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 Model	*Shaft Diameter*	*Position*	*Materials* Stationary ring	Rotational ring	Elastomer
STA-17	**Ø 17** mm	Motor side	Silicon carbide	Graphite	NBR
ST1-16	**Ø 16** mm	Pump side	Silicon carbide	Graphite	NBR

11	**BEARINGS**	**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

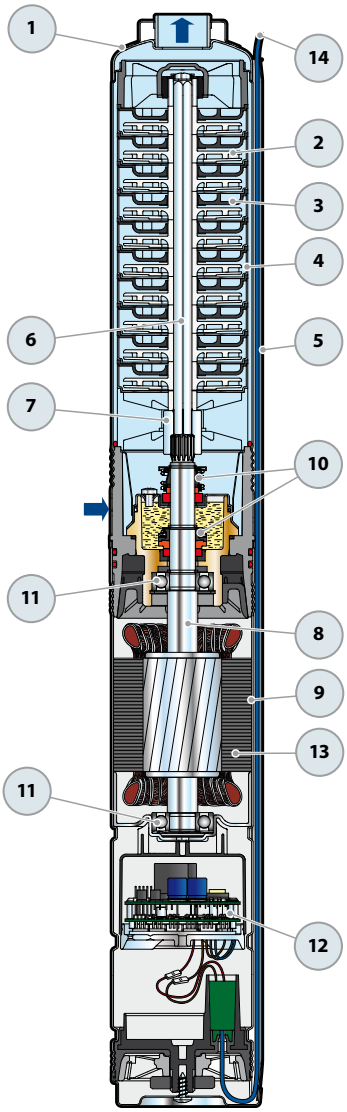
14 POWER CABLE

➠ **PBS-P type**
approved for use in drinking water by "ACS"
in compliance with BS 6920, approval n. 04 ACCLI 201
Standard length 2 metres

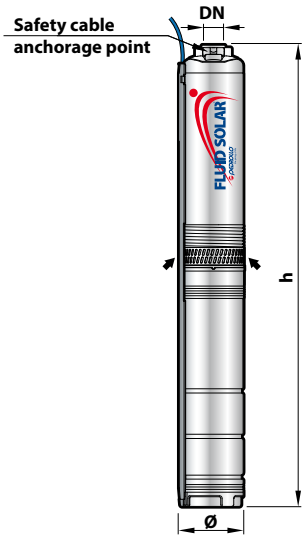
Equipment supplied: connection kit for RPS2 cables

15	**CONTROL BOX**	
16	**CONNECTORS**	

– 2 SMK male connectors
– 2 SMK female connectors



Equipment supplied



DIMENSIONS AND WEIGHT

MODEL	PORT DN	N. STAGES	DIMENSIONS mm Ø	h	kg *
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	**1¼"**	3		616	11.0

(* weight of the pump with control box)

FLUID SOLAR P1 = 1500 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
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**	

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**	**3203 B 2RS - C3E / 6203 ZZ - C3E**
12	**INVERTER**	

13 ELECTRIC MOTOR

- Submersible motor, suitable for continuous duty (with dry, rewindable stator).
- High performance motor with permanent magnets
- Insulation: class F
- Protection: IP X8

14 POWER CABLE

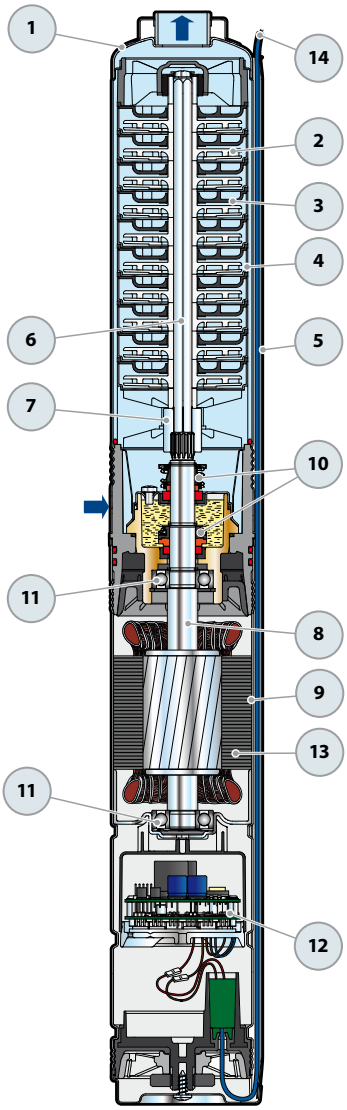
➠ **PBS-P type**
approved for use in drinking water by "ACS"
in compliance with BS 6920, approval n. 04 ACCLI 201
Standard length 2 metres

Equipment supplied: connection kit for RPS2 cables

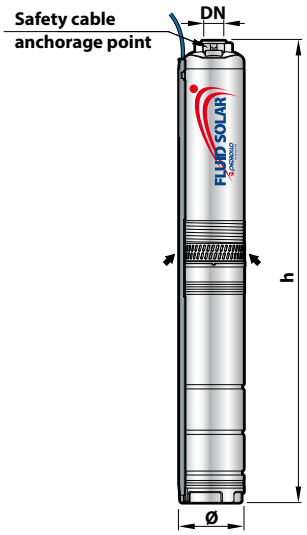
15 CONTROL BOX

16 CONNECTORS

N. 2 SMK male connectors
N. 2 SMK female connectors
N. 2 Y female/male-male connectors type MC4
N. 2 Y male/female-female connectors type MC4



Equipment supplied



DIMENSIONS AND WEIGHT

MODEL	PORT DN	N. STAGES	DIMENSIONS mm Ø	DIMENSIONS mm h	kg *
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	**1¼"**	6		776	13.7

(* weight of the pump with control box)

3SR

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

CE

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

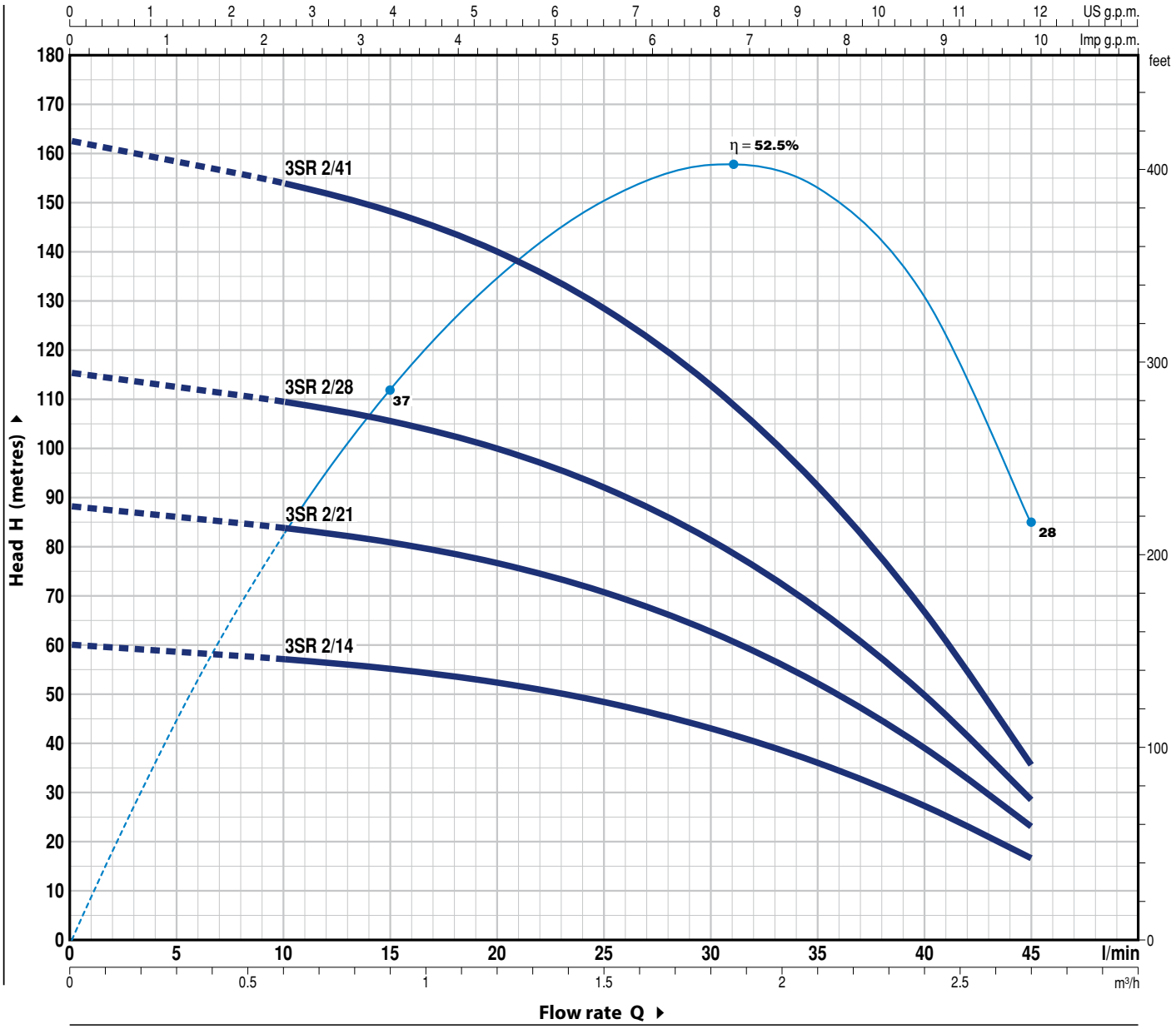
EAC

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

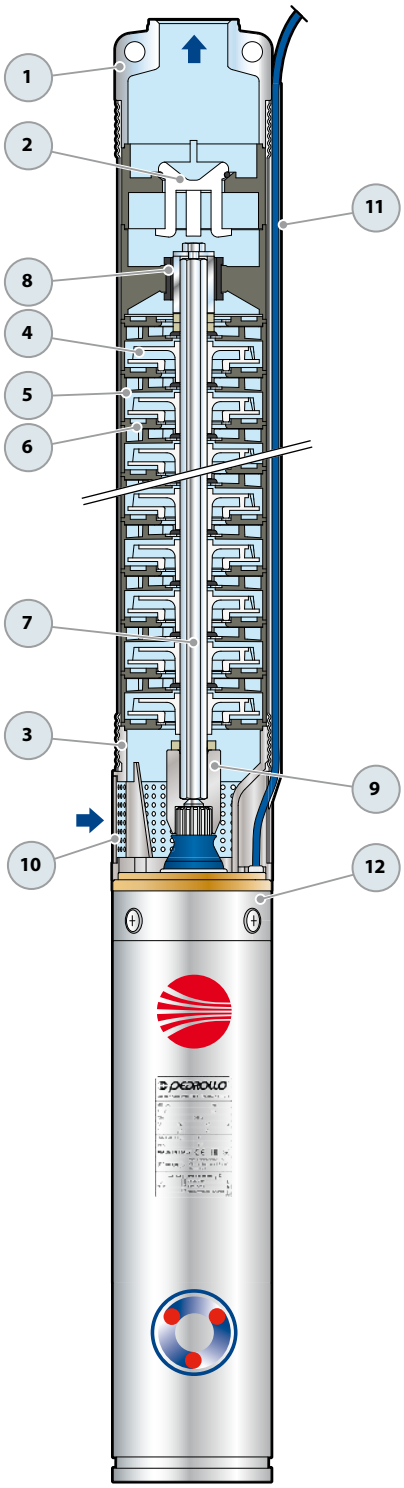


MODEL		POWER (P2)		Q	m³/h	0	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP		l/min	**0**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**
3SRm 2/14	**3SR 2/14**	0.37	0.50	H	metres	60	57	55	52	48.5	43	36	27.5	16.5
3SRm 2/21	**3SR 2/21**	0.55	0.75			88	84	81	77	71	62.5	52.5	39	23.5
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.

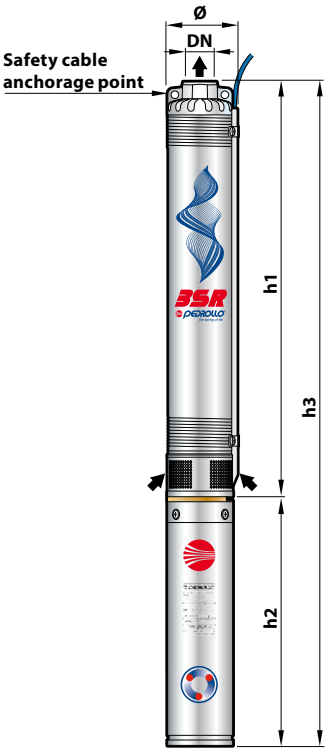
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**DELIVERY BODY**	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	**NON-RETURN VALVE**	Technopolymer
3	**MOTOR BRACKET**	Stainless steel AISI 304, compliance with NEMA standards
4	**IMPELLERS**	Technopolymer
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			514	373	887	**9.4**
3SRm 2/21	**1"**	**76**	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			514	353	867	**9.0**
3SR 2/21	**1"**	**76**	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 P2		Axial load	Capacitor (VL=450V)	ABSORPTION
230 V / 50 Hz	kW	HP	N	µF	
3SRm 2/14	0.37	0.50		12.5	**3.4** A
3SRm 2/21	0.55	0.75		16	**4.5** A
3SRm 2/28	0.75	1	800	20	**6.0** A
3SRm 2/41	1.1	1.5		30	**8.0** A

Three-phase versions

MODEL	Rated power P2		Axial load	ABSORPTION
400 V / 50 Hz	kW	HP	N	
3SR 2/14	0.37	0.50		**1.5** A
3SR 2/21	0.55	0.75		**1.9** A
3SR 2/28	0.75	1	800	**2.6** A
3SR 2/41	1.1	1.5		**3.5** A

DAVIS

4" submersible pump with peripheral impeller

Clean water

Domestic use

Agricultural use

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m^3/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

CE

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

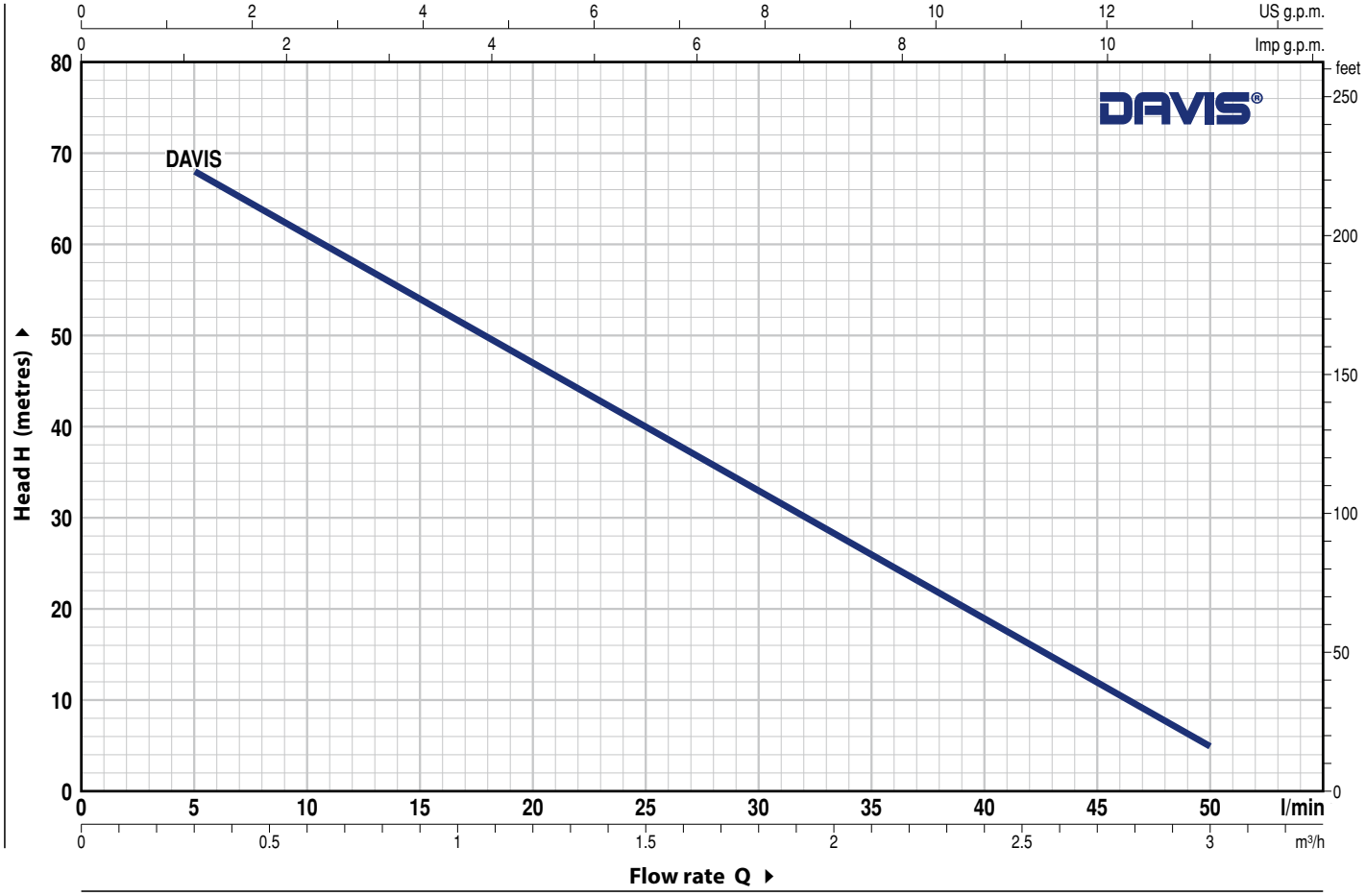
OPTIONS AVAILABLE ON REQUEST

- **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	POWER (P2)		Q											
Single-phase	kW	HP		m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
				l/min	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**
DAVIS®	0.75	1	**H**	metres	75	68	61	54	47	40	33	26	19	12	5

Q = Flow rate **H** = Total manometric head

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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 µF - 500 VL	**70** µF - 250 VL

9 ELECTRIC MOTOR

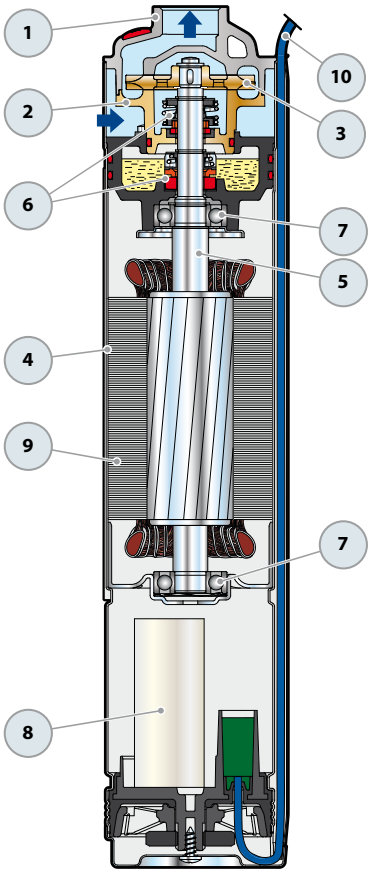
Submersible PEDROLLO motor, suitable for continuous duty (with dry, rewindable stator).

DAVIS®: single-phase 230 V - 50 Hz
Motor with built-in capacitor.
Thermal overload protector incorporated into the winding.

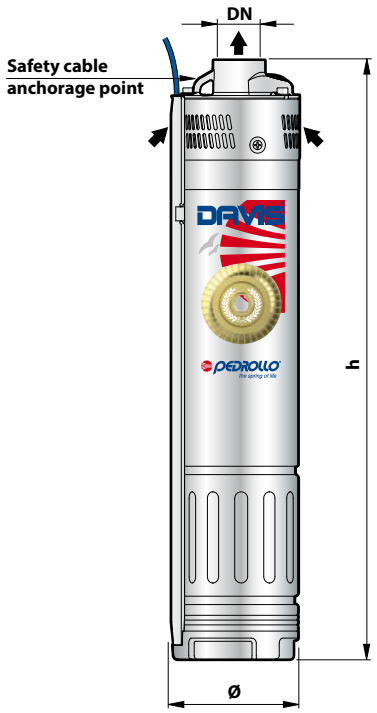
– Insulation: class F
– Protection: IP X8

10 POWER CABLE

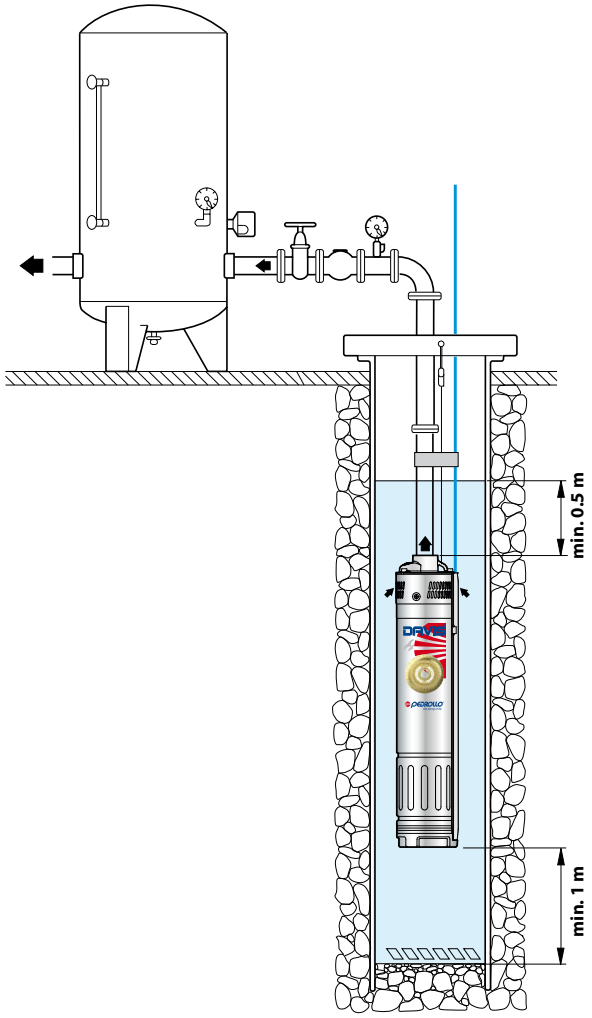
➠ **PBS-P type**
approved for use in drinking water by "ACS"
in compliance with BS 6920, approval . 04 ACCLI 201
Standard length 20 metres



DIMENSIONS AND WEIGHT



Standard installation



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

ABSORPTION

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

PALLETIZATION

MODEL Single-phase	GROUPAGE n. pumps	CONTAINER 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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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

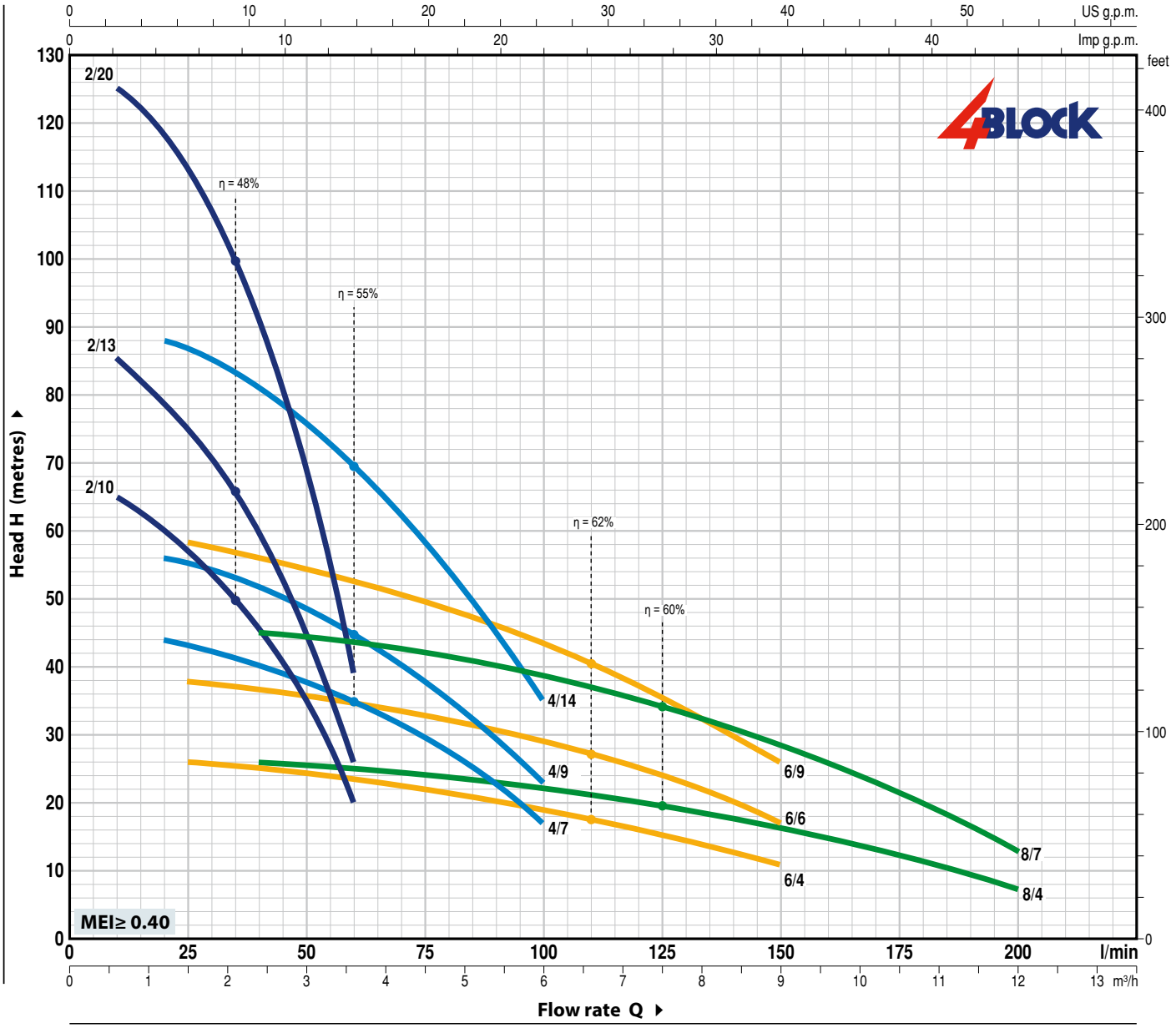
OPTIONS AVAILABLE ON REQUEST

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

➠ 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 (P2)		Q m³/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	**kW**	**HP**	l/min	**0**	**10**	**20**	**25**	**40**	**60**	**75**	**100**	**125**	**150**	**175**	**200**
4BLOCKm 2/10	0.55	0.75		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	H metres	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.

4BLOCK

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

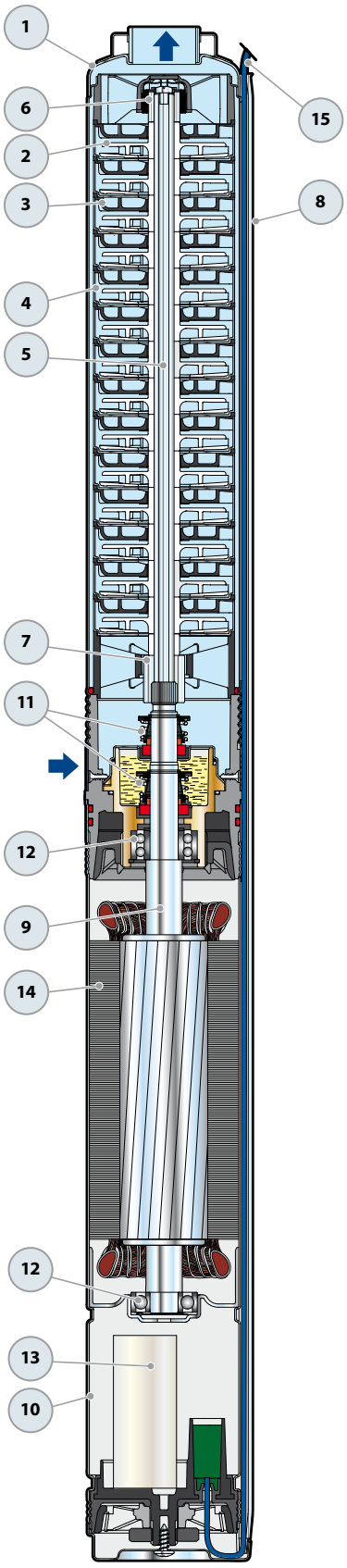
Submersible PEDROLLO motor, suitable for continuous duty (with dry, rewindable stator).

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

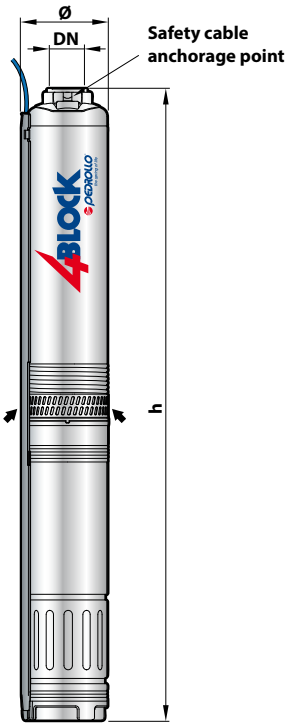
15 POWER CABLE

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

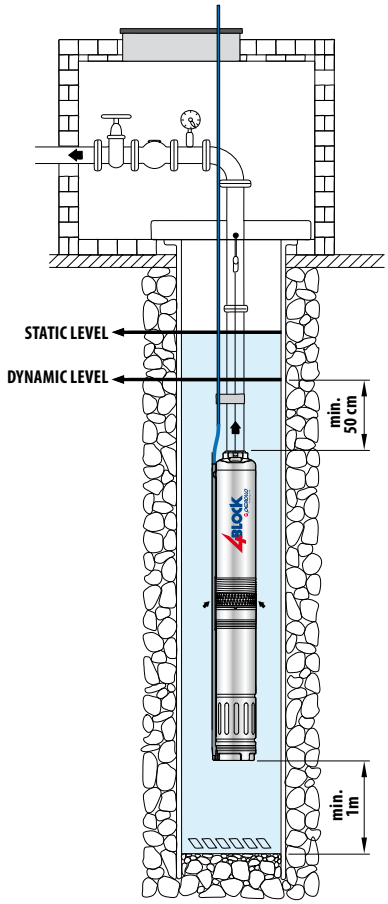


DIMENSIONS AND WEIGHT

MODEL	PORT	DIMENSIONS mm			kg
Single-phase	DN	N.STAGES	Ø	h	1~
4BLOCKm 2/10		10		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	**1¼"**	14	100	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**



Standard installation



ABSORPTION

MODEL	VOLTAGE	
Single-phase	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	GROUPAGE
Single-phase	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**

4" submersible pumps

FLOATING IMPELLERS
(Patented)

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

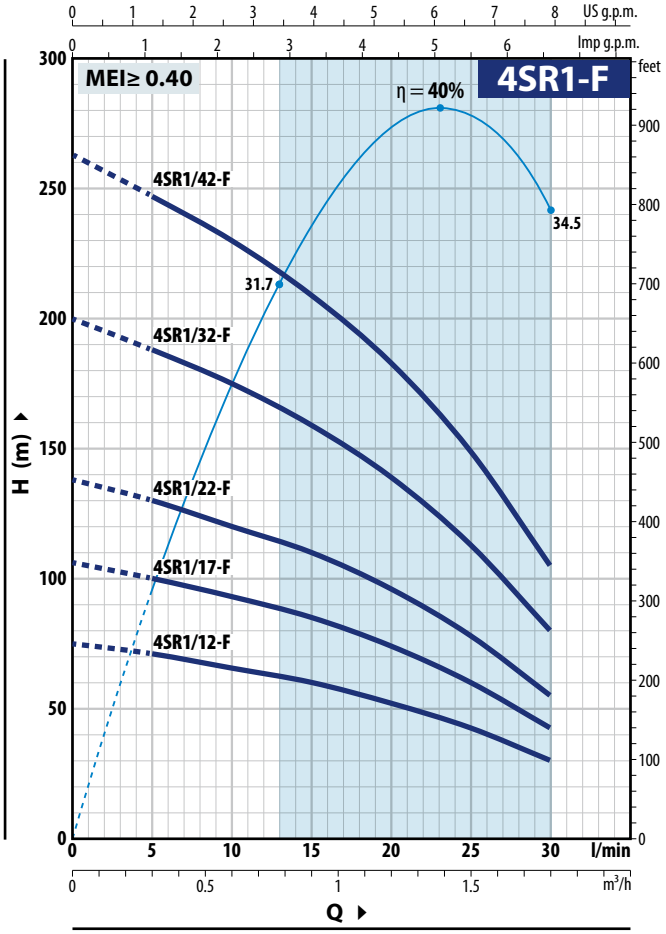
CE

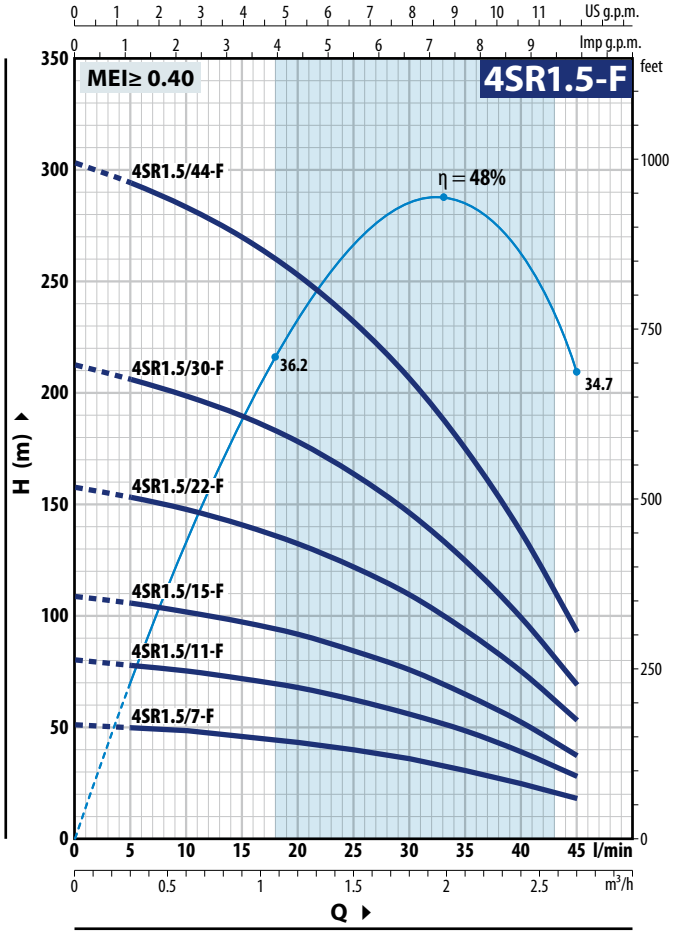
EU REGULATION N. 547/2012

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-F

MODEL		POWER (P2)		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

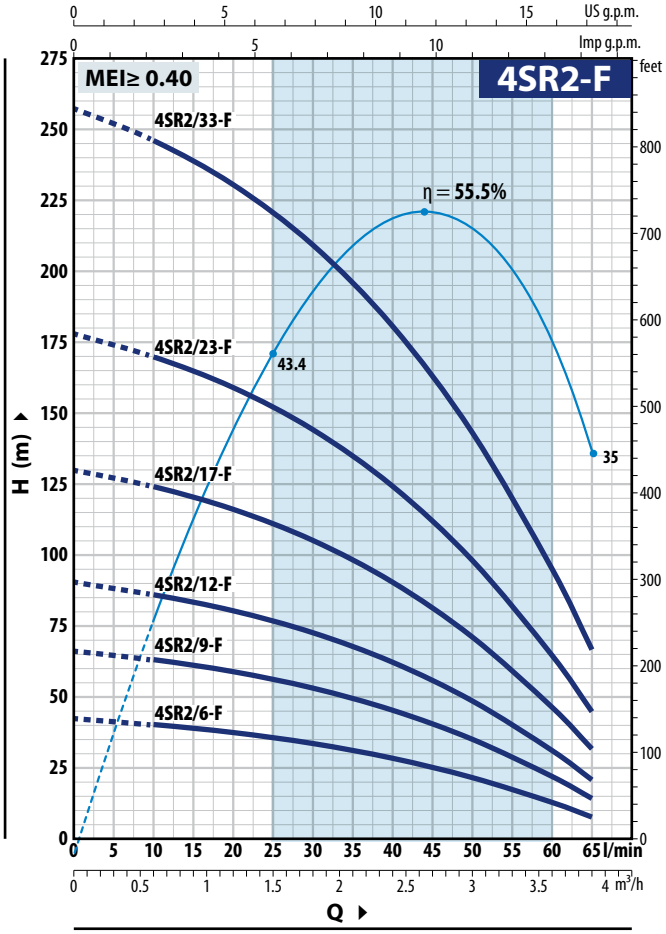
MODEL		POWER (P2)		Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP		l/min	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**
4SRm 1.5/7 -F	4SR 1.5/7 -F	0.37	0.50	H	metres	51.5	50	48.5	46	43.5	40	36	31	25	18
4SRm 1.5/11 -F	4SR 1.5/11 -F	0.55	0.75			81	78	76	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

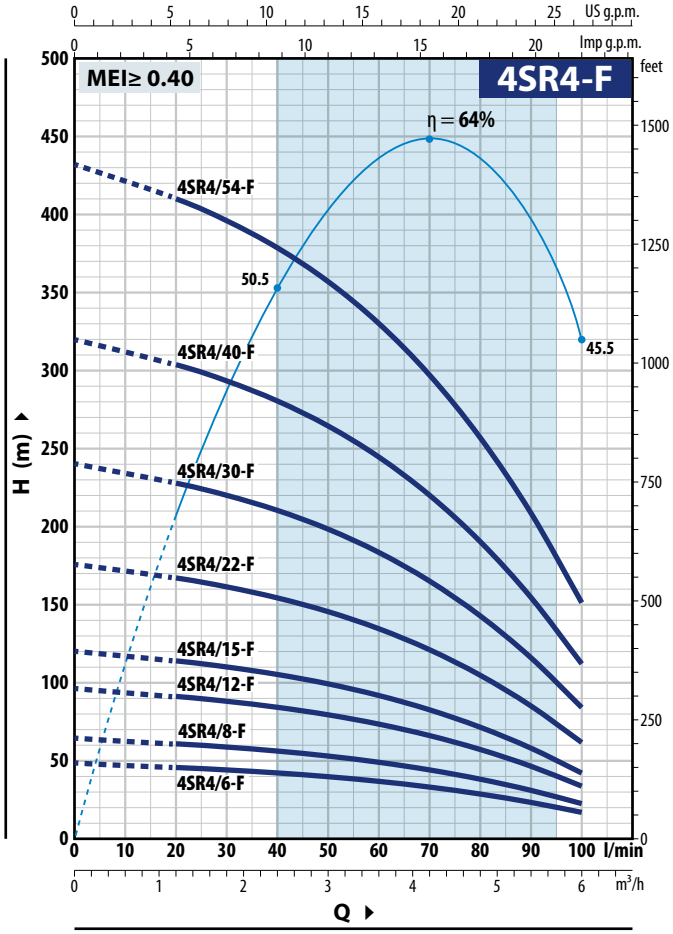
Q = Flow rate **H** = Total manometric head

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 (P2)		Q	m³/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

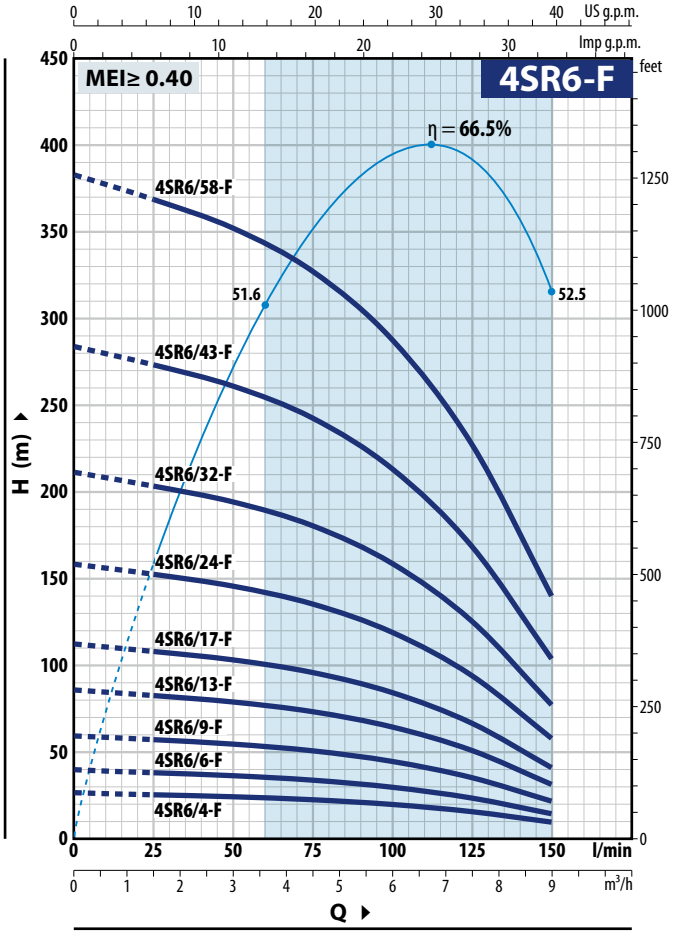
MODEL		POWER (P2)		Q	m³/h	0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
4SRm 4/6 -F	4SR 4/6 -F	0.55	0.75	H	metres	48	45.5	44	42	39.5	36.5	33	28.5	23.2	17
4SRm 4/8 -F	4SR 4/8 -F	0.75	1			64	60.5	58.5	56	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

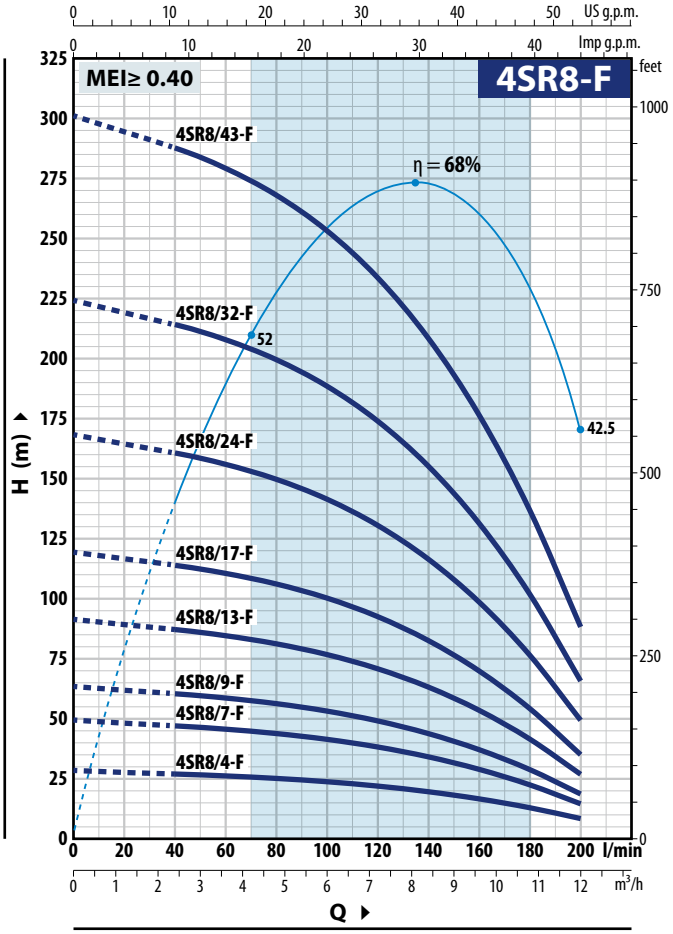
Q = Flow rate **H** = Total manometric head

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	0	1.5	3.0	4.5	6.0	7.5	9.0
Single-phase	Three-phase	kW	HP		l/min	**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

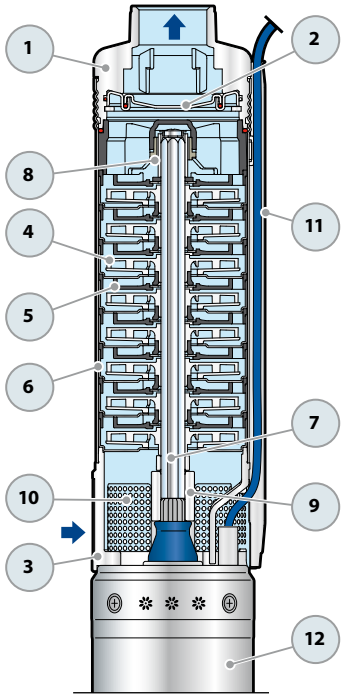
4SR8-F

MODEL		POWER (P2)		Q	m³/h	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		l/min	**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

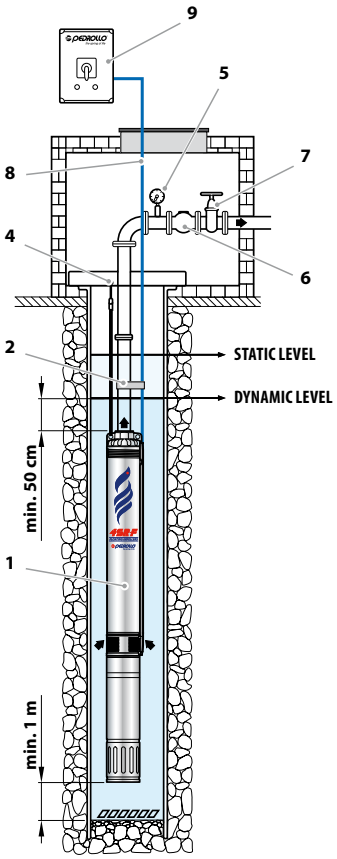
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

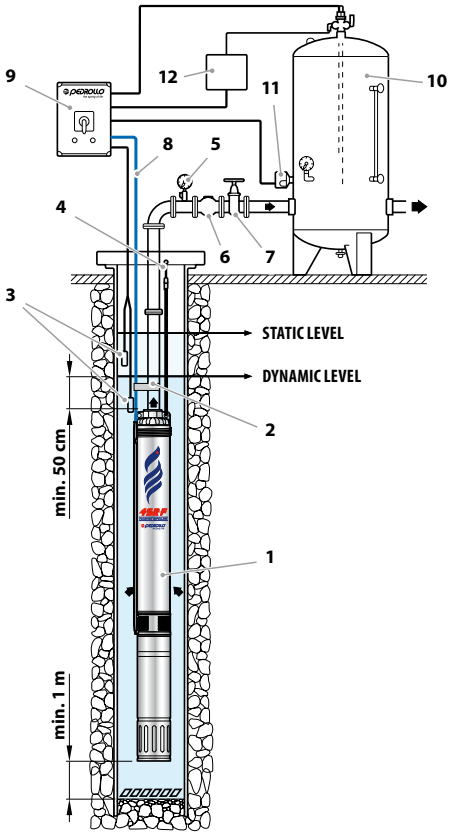
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**DELIVERY BODY**	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	**NON-RETURN VALVE**	Stainless steel AISI 304
3	**MOTOR BRACKET**	Stainless steel AISI 304, in compliance with NEMA standards
4	**IMPELLER**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



STANDARD INSTALLATION

1) Submersible pump
2) Power cable clamps
3) Level probes; prevent dry running
4) Bracket and anchorage cable
5) Pressure gauge
6) Non-return valve
7) Gate valve; for flow rate regulation
8) Power cable
9) Control box
10) Pressure vessel
11) Pressure switch
12) Electro valve/electro-compressor





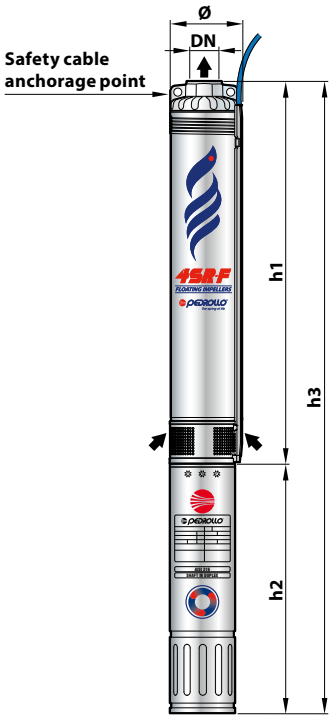
➠ The **4SR** series pumps should be installed in boreholes of at least 4" (100 mm) in diameter. The pump should be lowered into the borehole, by means of the delivery pipe, to such a depth (min. 50 cm and at least one metre from the bottom) that it is completely immersed during operation when the level of water in the borehole may reduce. It is good practice to secure the pump by attaching a stainless steel cable to the anchorage points present on the delivery body.

DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL Pump	DN	DIMENSIONS mm Ø	h1	h	kg
4SR 1/12 - F - HYD			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	**1¼"**		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		**98**	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			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	**2"**		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	1¼"	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"		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

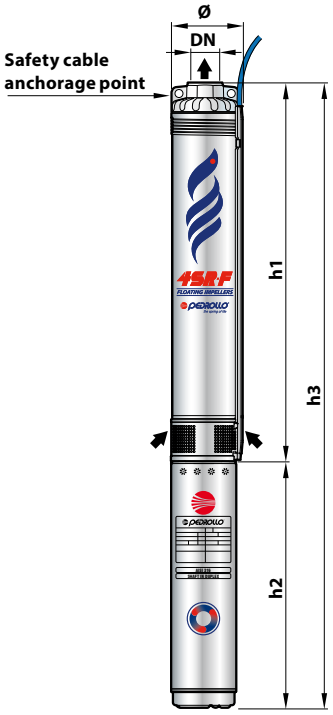


MODEL	DN	DIMENSIONS mm				kg
Three-phase		Ø	h1	h2	h3	3~
4SR 1/12 - F - PD	1¼"	98	402	311	713	11.0
4SR 1/17 - F - PD			528	331	859	13.4
4SR 1/22 - F - PD			628	356	984	16.2
4SR 1/32 - F - PD			853	371	1224	19.6
4SR 1/42 - F - PD			1052	396	1448	22.7
4SR 1.5/7 - F - PD			303	311	614	10.1
4SR 1.5/11 - F - 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			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	2"		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	1¼"	98	402	237	639	11.3
4SRm 1/17 - F - PS			528	257	785	14.1
4SRm 1/22 - F - PS			628	272	900	16.8
4SRm 1/32 - F - PS			853	312	1165	21.4
4SRm 1/42 - F - PS			1052	352	1404	25.9
4SRm 1.5/7 - F - PS			303	237	540	10.4
4SRm 1.5/11 - F - PS			382	257	639	12.2
4SRm 1.5/15 - F - PS			488	272	760	14.9
4SRm 1.5/22 - F - PS			627	312	939	18.8
4SRm 1.5/30 - F - PS			787	352	1139	22.6
4SRm 1.5/44 - F - PS			1163	402	1565	28.8
4SRm 2/6 - F - PS			283	237	520	10.2
4SRm 2/9 - F - PS			343	257	600	11.8
4SRm 2/12 - F - PS			402	272	674	13.7
4SRm 2/17 - F - PS			528	312	840	17.4
4SRm 2/23 - F - PS			647	352	999	21.2
4SRm 2/33 - F - PS			873	402	1275	24.8
4SRm 4/6 - F - PS			313	257	570	11.5
4SRm 4/8 - F - PS			363	272	635	13.2
4SRm 4/12 - F - PS			462	312	774	16.5
4SRm 4/15 - F - PS			563	352	915	19.5
4SRm 4/22 - F - PS			737	402	1139	22.7
4SRm 6/4 - F - PS	2"		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	1¼"	98	402	237	639	11.3
4SR 1/17 - F - PS			528	237	765	13.0
4SR 1/22 - F - PS			628	257	885	15.6
4SR 1/32 - F - PS			853	272	1125	19.3
4SR 1/42 - F - PS			1052	297	1349	23.7
4SR 1.5/7 - F - PS			303	237	540	10.4
4SR 1.5/11 - F - PS			382	237	619	11.1
4SR 1.5/15 - F - PS			488	257	745	13.7
4SR 1.5/22 - F - PS			627	272	899	16.7
4SR 1.5/30 - F - PS			787	297	1084	20.4
4SR 1.5/44 - F - PS			1163	352	1515	28.0
4SR 2/6 - F - PS			283	237	520	10.2
4SR 2/9 - F - PS			343	237	580	10.7
4SR 2/12 - F - PS			402	257	659	12.5
4SR 2/17 - F - PS			528	272	800	15.3
4SR 2/23 - F - PS			647	297	944	19.0
4SR 2/33 - F - PS			873	352	1225	24.0
4SR 4/6 - F - PS			313	237	550	10.4
4SR 4/8 - F - PS			363	257	620	12.0
4SR 4/12 - F - PS			462	272	734	14.4
4SR 4/15 - F - PS			563	297	860	17.3
4SR 4/22 - F - PS			737	352	1089	21.9
4SR 4/30 - F - PS			963	484	1447	27.7
4SR 4/40 - F - PS			1284	574	1858	39.3
4SR 4/54 - F - PS			1684	664	2348	47.0
4SR 6/4 - F - PS	2"		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 = incapsulated water cooled submersible motor

4SR·N®

SEMI-AXIAL IMPELLERS

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

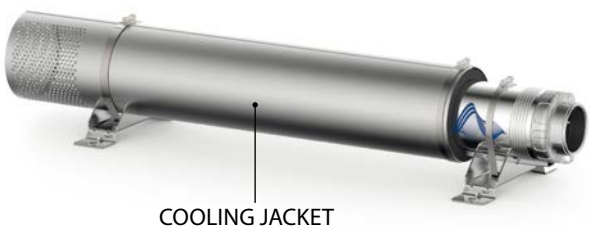
EN 60034-1
IEC 60034-1
CEI 2-3

CE

EU REGULATION N. 547/2012

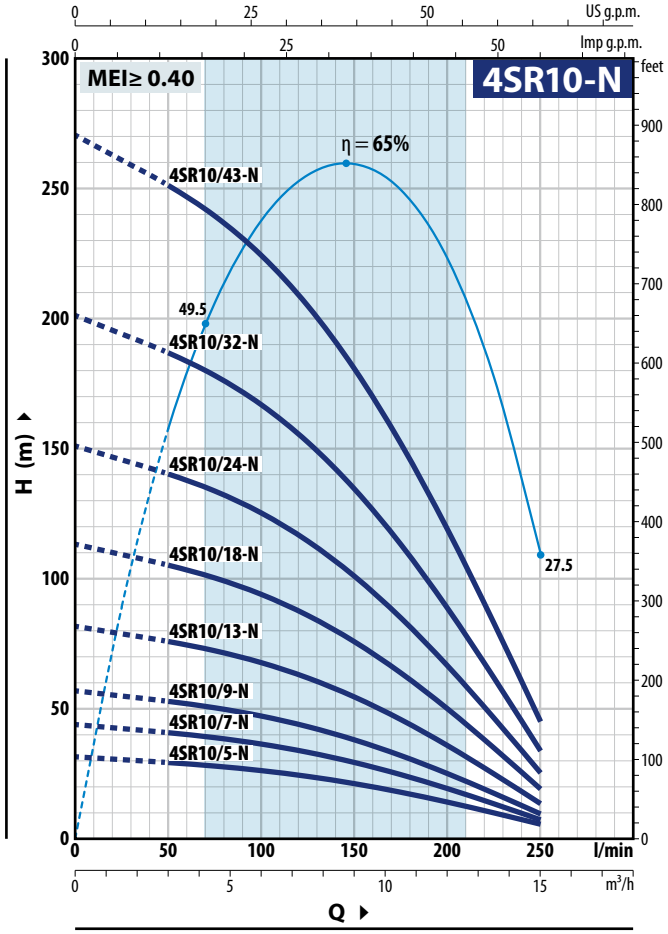
OPTIONS AVAILABLE ON REQUEST

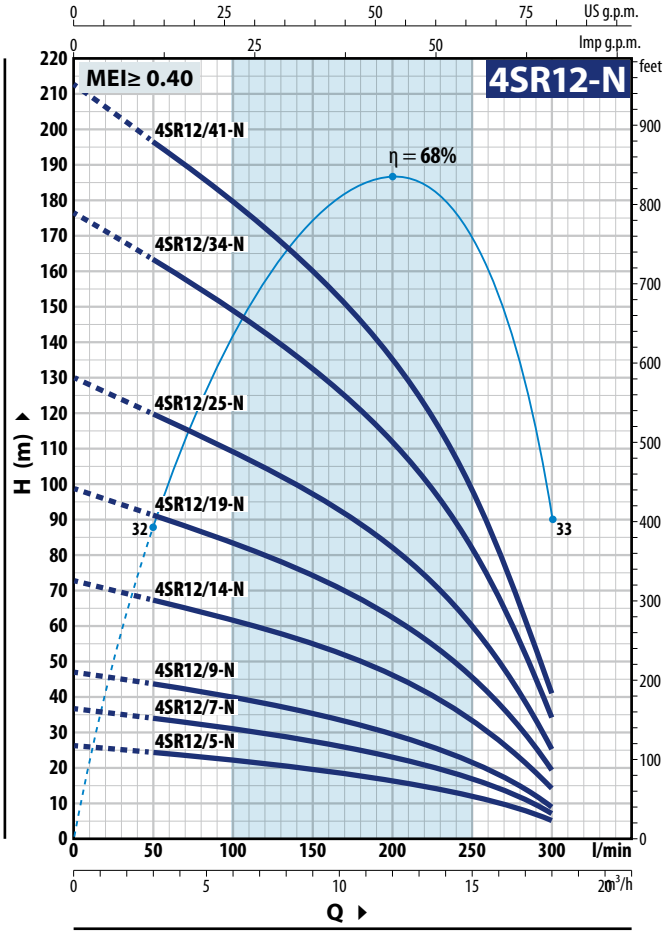
- Other voltages or 60 Hz frequency
- Kit of cooling jacket complete with filter and supports; recommended for powers from 2.2 kW to 7.5 kW



CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹





4SR10-N

MODEL		POWER (P2)		Q	m³/h	0	3.0	6.0	7.5	9.0	10.5	12	13.5	15.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**50**	**100**	**125**	**150**	**175**	**200**	**225**	**250**
4SRm 10/5 -N	**4SR 10/5 -N**	0.75	1			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	**H**	metres	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

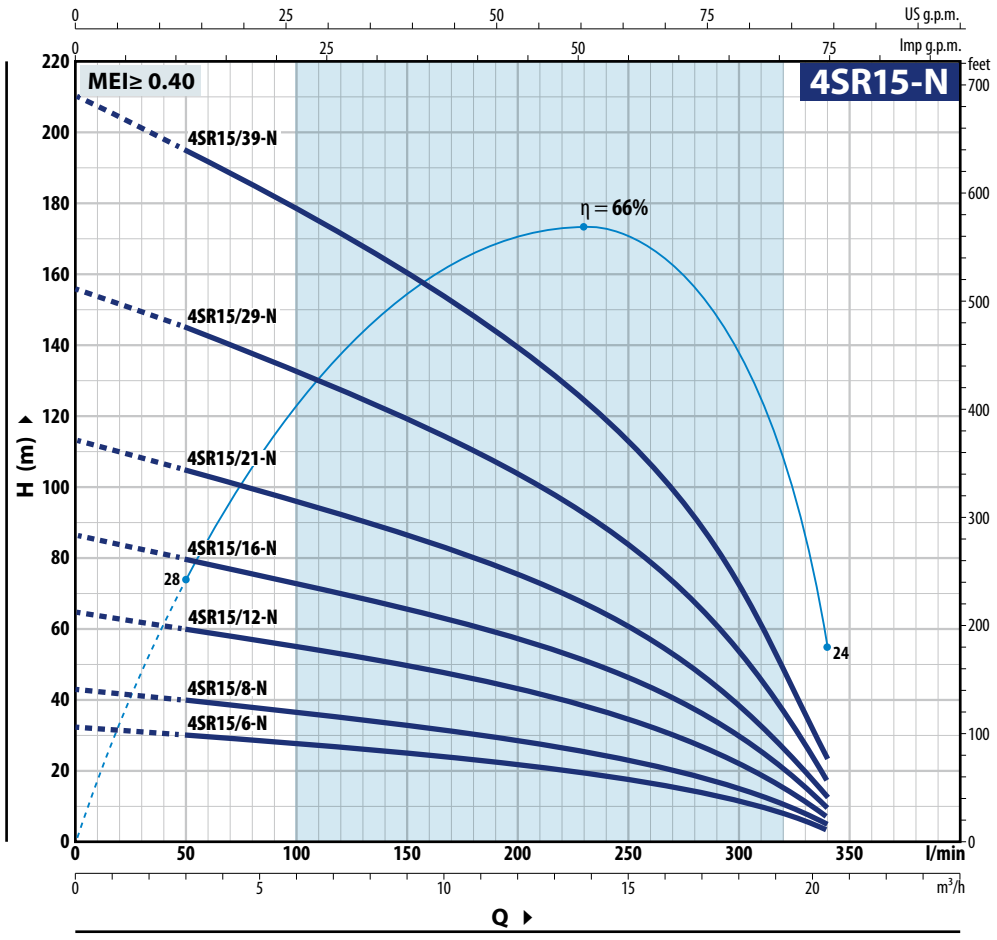
MODEL		POWER (P2)		Q	m³/h	0	3.0	6.0	8.4	10.2	12	13.8	15.6	16.8	18.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**50**	**100**	**140**	**170**	**200**	**230**	**260**	**280**	**300**
4SRm 12/5 -N	**4SR 12/5 -N**	0.75	1			26	24	22	20	18.5	16.5	14	10.5	8	5
4SRm 12/7 -N	**4SR 12/7 -N**	1.1	1.5			36.5	33.5	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	**H**	metres	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



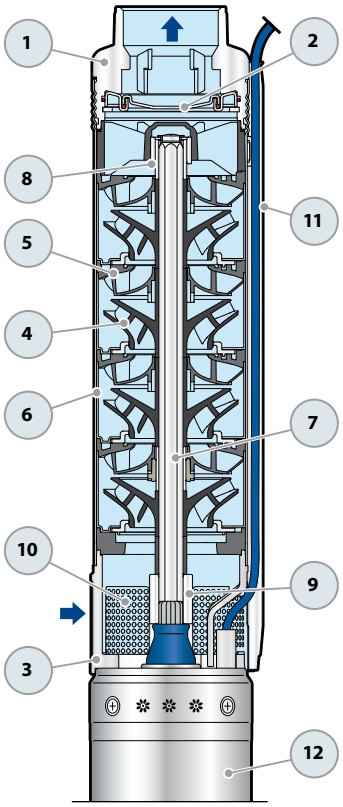
4SR15-N

MODEL		POWER (P2)		Q	m³/h	0	3.0	6.0	9.0	12	15	18	19.2	20.4
Single-phase	Three-phase	kW	HP		l/min	**0**	**50**	**100**	**150**	**200**	**250**	**300**	**320**	**340**
4SRm 15/6 -N	4SR 15/6 -N	1.1	1.5			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	H	metres	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

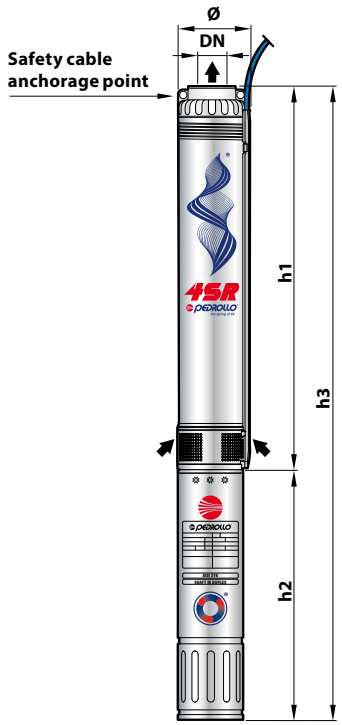


DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL	DN	DIMENSIONS mm			kg
Three-phase		Ø	h1	h	
4SR 10/5 - N - HYD			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	**2"**	**98**	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
Single-phase		Ø	h1	h2	h3	1~
4SRm 10/5 - N - PD			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	**2"**	**98**	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**

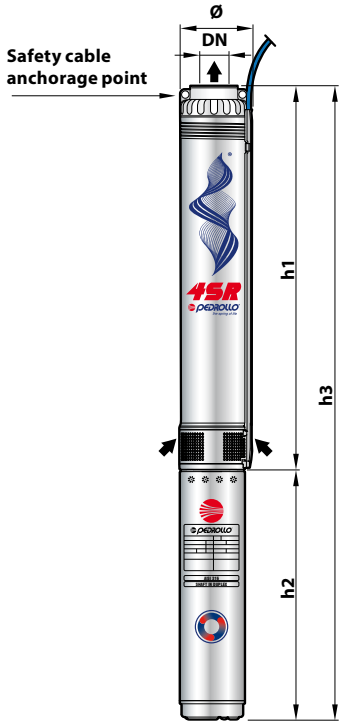


MODEL	DN	DIMENSIONS mm				kg
Three-phase		Ø	h1	h2	h3	3~
4SR 10/5 - N - PD			429	356	785	**12.4**
4SR 10/7 - N - PD			531	371	902	**14.2**
4SR 10/9 - N - PD			633	396	1029	**15.9**
4SR 10/13 - N - PD			836	437	1273	**19.2**
4SR 10/18 - N - PD			1091	450	1541	**23.0**
4SR 10/24 - N - PD			1396	505	1901	**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	**2"**	**98**	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
Single-phase		Ø	h1	h2	h3	1~
4SRm 10/5 - N - PS			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	**2"**	**98**	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
Three-phase		Ø	h1	h2	h3	3~
4SR 10/5 - N - PS			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	**2"**	**98**	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 = incapsulated 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

CE

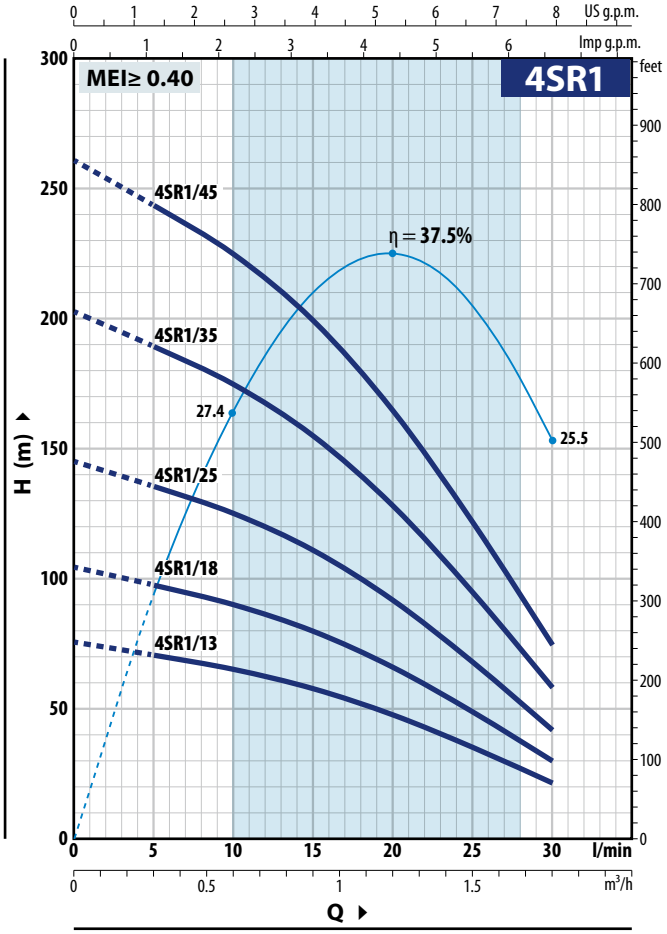
EU REGULATION N. 547/2012

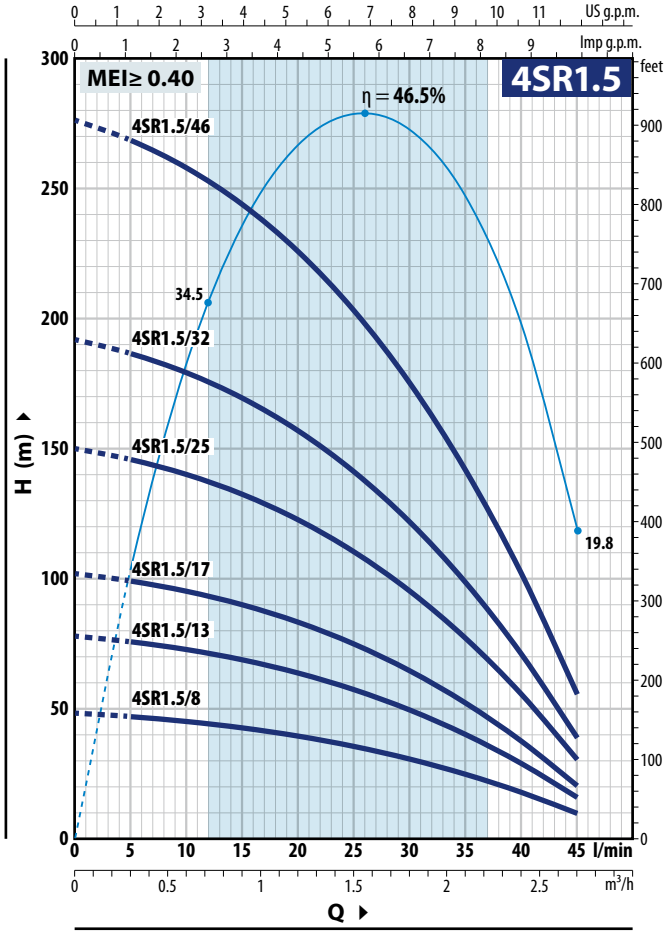
OPTIONS AVAILABLE ON REQUEST

- 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 (P2)		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 1/13	**4SR 1/13**	0.37	0.50			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	**H**	metres	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

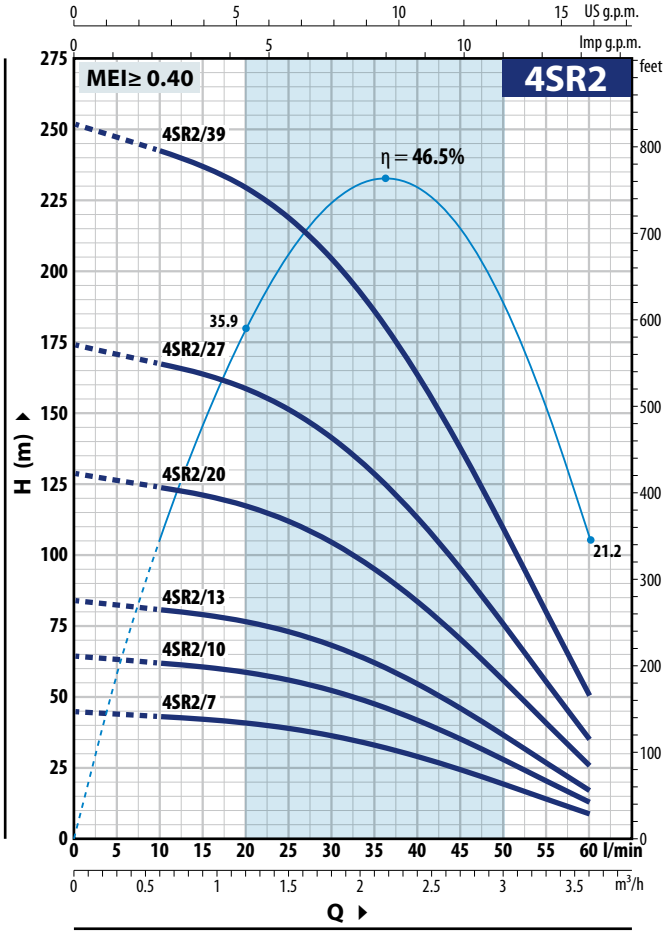
MODEL		POWER (P2)		Q	m³/h	0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7
Single-phase	Three-phase	kW	HP		l/min	**0**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**
4SRm 1.5/8	**4SR 1.5/8**	0.37	0.50			48	46.5	45	42.5	39	35	30.5	24.6	17.7	9.5
4SRm 1.5/13	**4SR 1.5/13**	0.55	0.75			78	76	73	69	63.5	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	**H**	metres	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

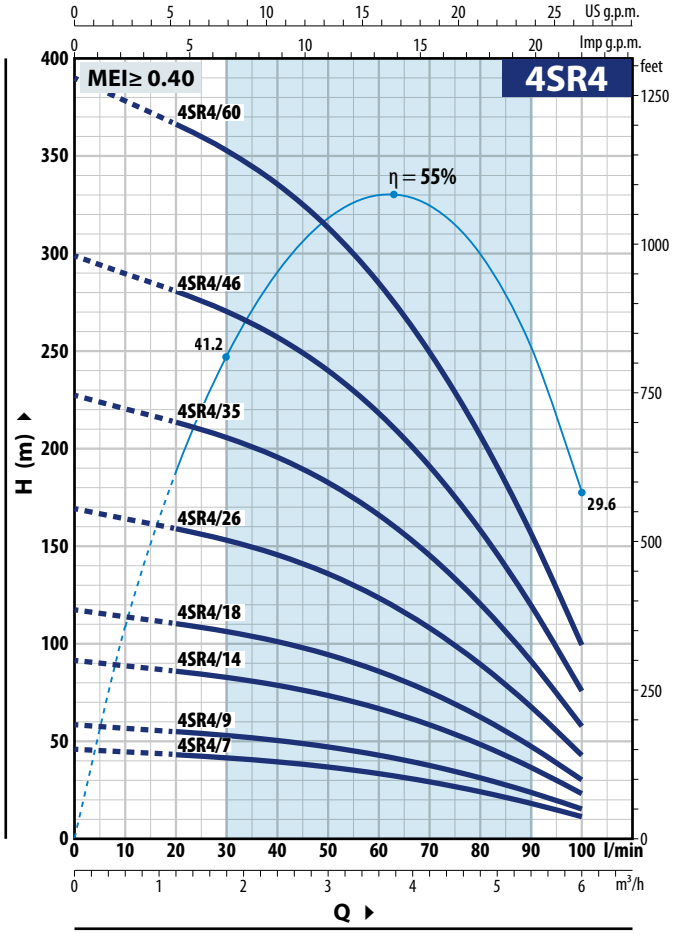
Q = Flow rate **H** = Total manometric head

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 (P2)		Q	m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6
Single-phase	Three-phase	kW	HP		l/min	**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

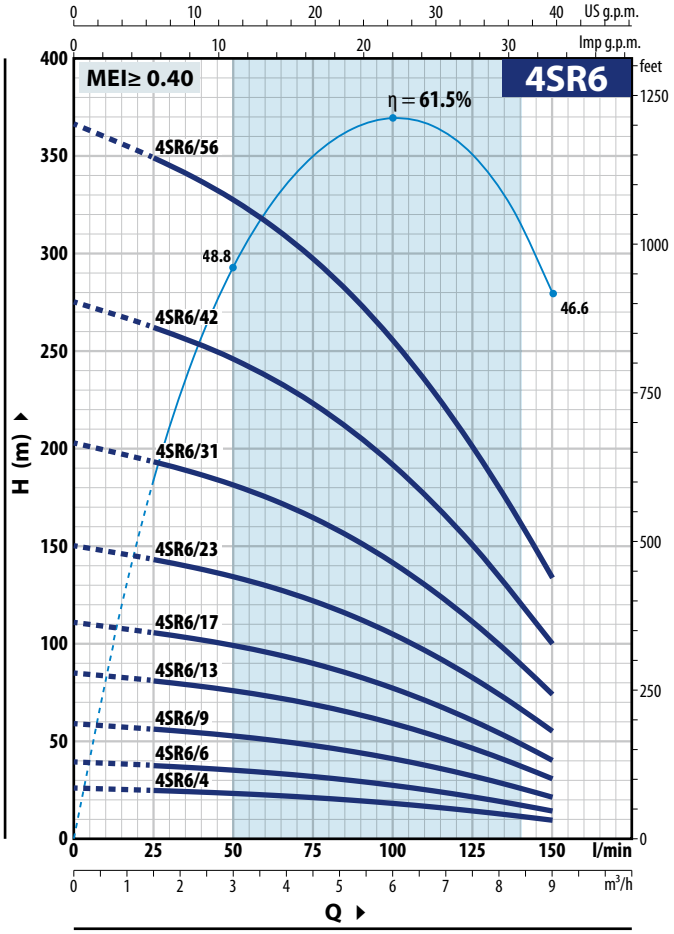
MODEL		POWER (P2)		Q	m³/h	0	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
4SRm 4/7	**4SR 4/7**	0.55	0.75	H metres		45.5	42.5	41	39	36.5	33	29	24.1	18.2	11.5
4SRm 4/9	**4SR 4/9**	0.75	1			58.5	55	53	50.5	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

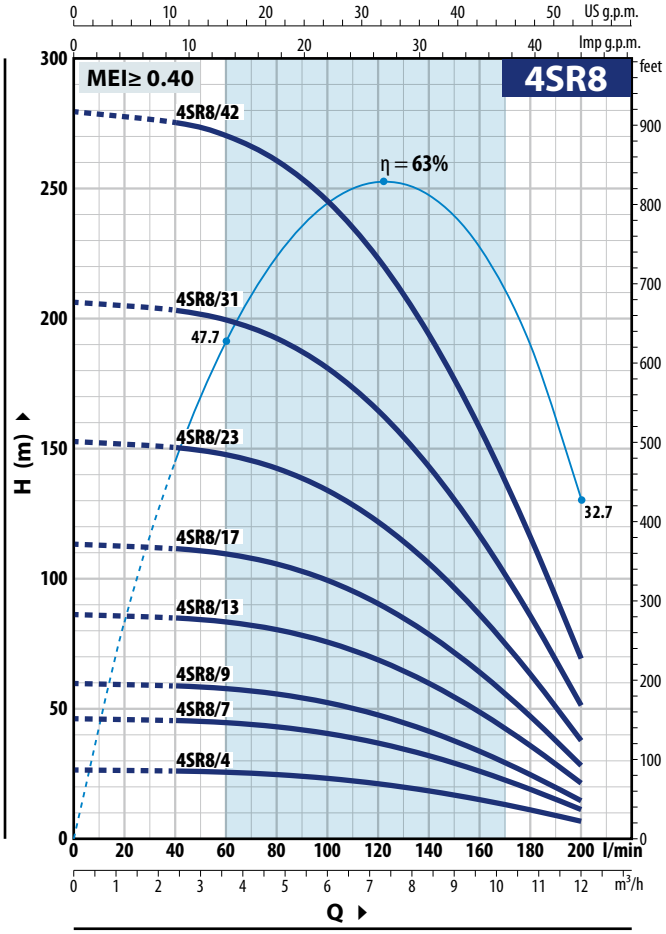
Q = Flow rate **H** = Total manometric head

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 (P2)		Q	m³/h	0	1.5	3.0	4.5	6.0	7.5	9.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**25**	**50**	**75**	**100**	**125**	**150**
4SRm 6/4	**4SR 6/4**	0.55	0.75			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	**H**	metres	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

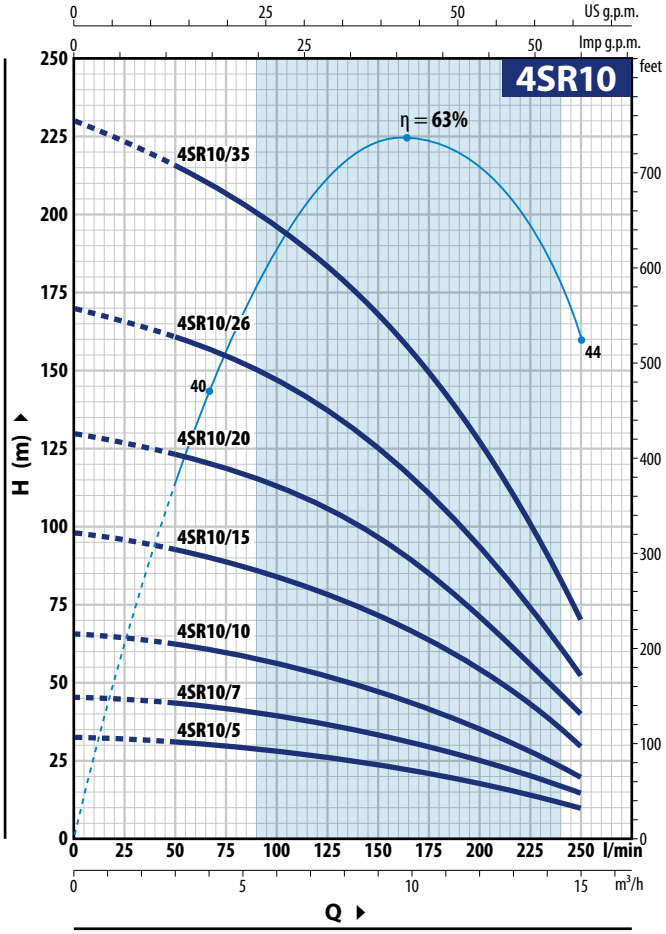
MODEL		POWER (P2)		Q	m³/h	0	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**40**	**60**	**80**	**100**	**120**	**140**	**160**	**180**	**200**
4SRm 8/4	**4SR 8/4**	0.75	1			26.5	26	25.7	24.8	23.3	21.2	18.4	15	11	6.5
4SRm 8/7	**4SR 8/7**	1.1	1.5			46.5	46	45	43.5	41	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	**H**	metres	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

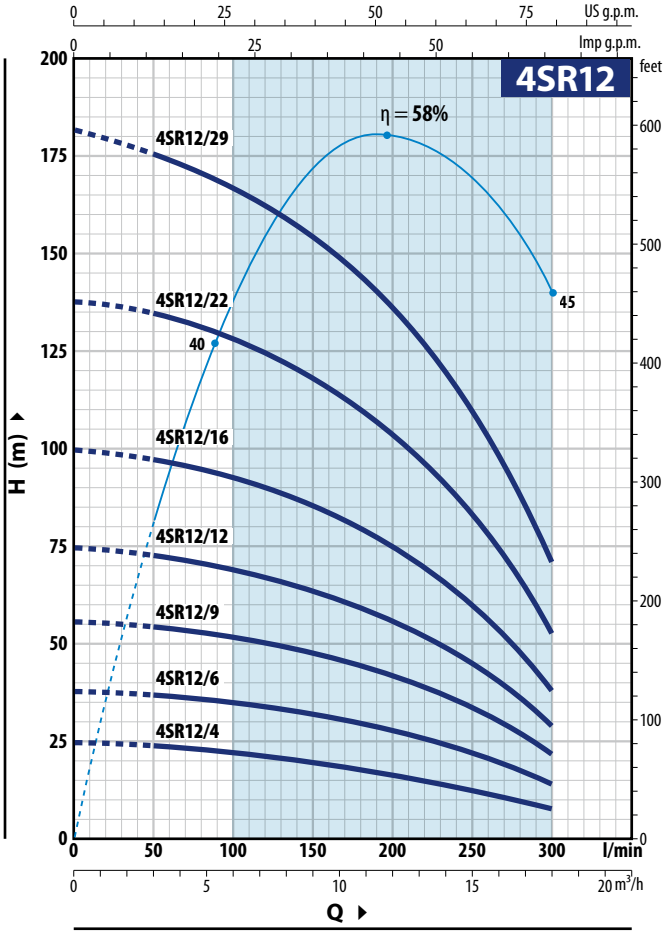
Q = Flow rate **H** = Total manometric head

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 (P2)		Q										
				m³/h	0	3.0	4.5	6.0	7.5	9.0	10.5	12	13.5	15.0
Single-phase	Three-phase	kW	HP	l/min	**0**	**50**	**75**	**100**	**125**	**150**	**175**	**200**	**225**	**250**
4SRm 10/5	**4SR 10/5**	1.1	1.5		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	**H** metres	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

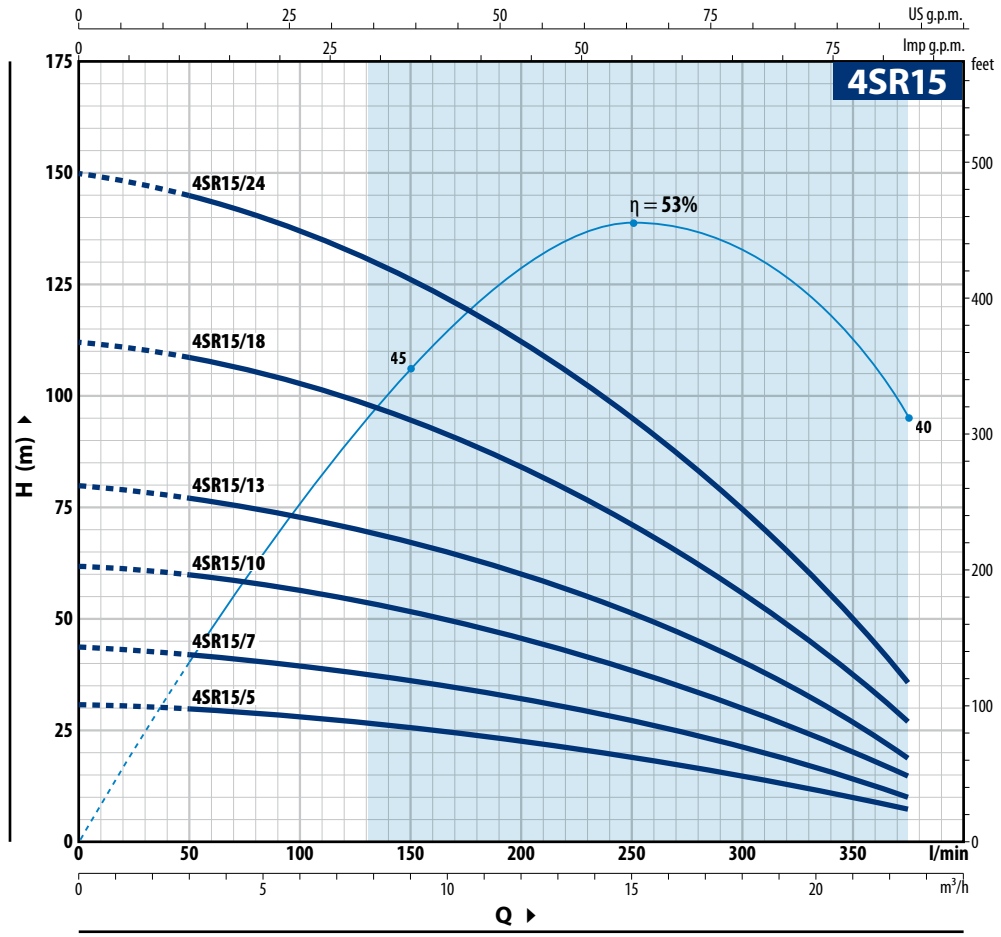
4SR12

● **MODELS TO BE SOLD ONLY OUTSIDE EU**

MODEL		POWER (P2)		Q										
				m³/h	0	3.0	6.0	9.0	12.0	13.2	14.4	15.6	16.8	18.0
Single-phase	Three-phase	kW	HP	l/min	**0**	**50**	**100**	**150**	**200**	**220**	**240**	**260**	**280**	**300**
4SRm 12/4	**4SR 12/4**	1.1	1.5		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	**H** metres	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

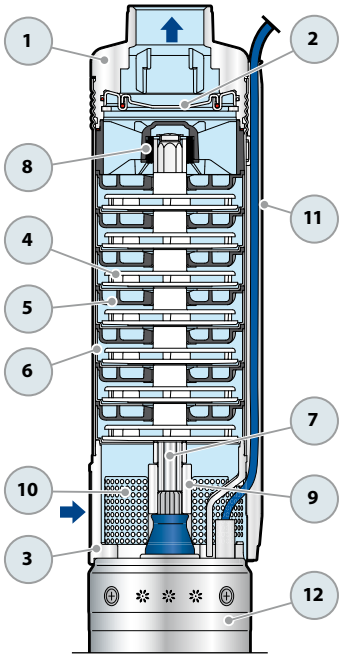
● **MODELS TO BE SOLD ONLY OUTSIDE EU**

MODEL		POWER (P2)		Q m³/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

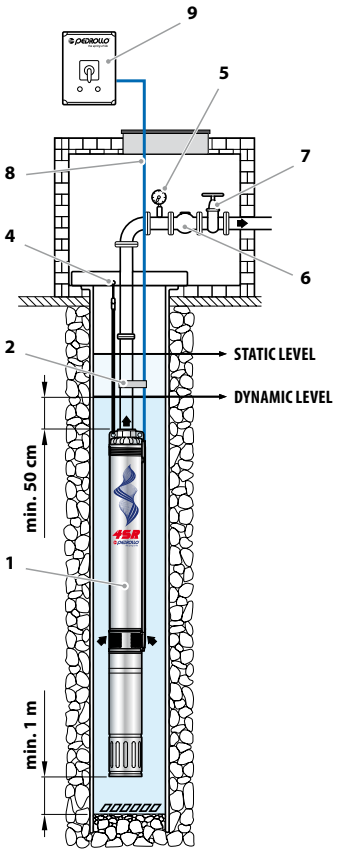
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

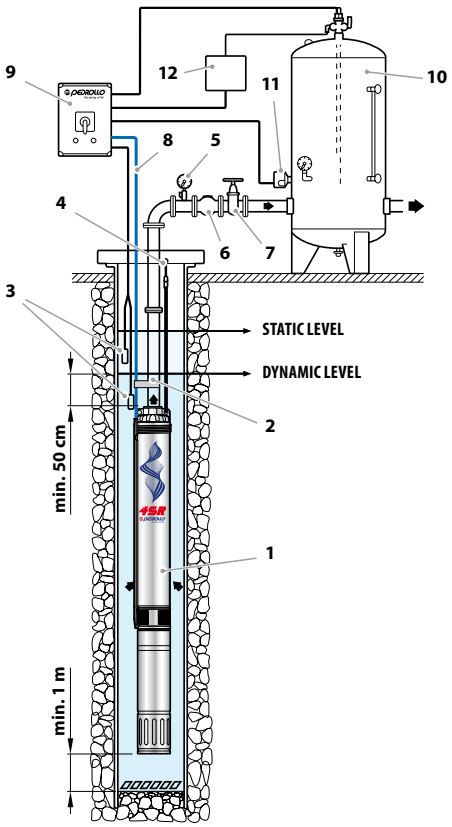
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**DELIVERY BODY**	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	**NON-RETURN VALVE**	Stainless steel AISI 304
3	**MOTOR BRACKET**	Stainless steel AISI 304 in compliance with NEMA standards
4	**IMPELLER**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



STANDARD INSTALLATION

1) Submersible pump
2) Power cable clamps
3) Level probes; prevent dry running
4) Bracket and anchorage cable
5) Pressure gauge
6) Non-return valve
7) Gate valve; for flow rate regulation
8) Power cable
9) Control box
10) Pressure vessel
11) Pressure switch
12) Electro valve/electro-compressor





➠ The **4SR** series pumps should be installed in boreholes of at least 4" (100 mm) in diameter. The pump should be lowered into the borehole, by means of the delivery pipe, to such a depth (min. 50 cm and at least one metre from the bottom) that it is completely immersed during operation when the level of water in the borehole may reduce. It is good practice to secure the pump by attaching a stainless steel cable to the anchorage points present on the delivery body.

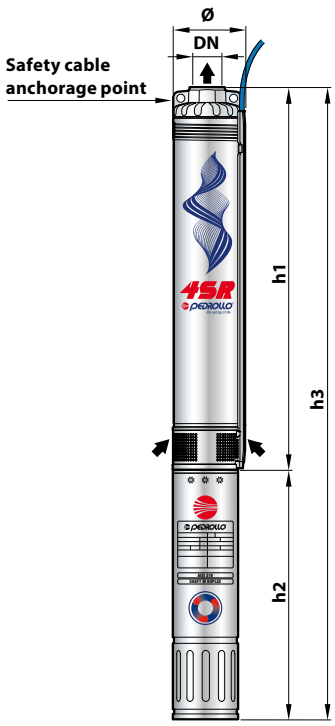
DIMENSIONS AND WEIGHT (PUMP ONLY)

MODEL Pump		DN	DIMENSIONS mm Ø	h1	h	kg
4SR 1/13	- HYD			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	1¼"		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			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		98	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	2"		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**

● **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	- PD	1¼"	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"		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



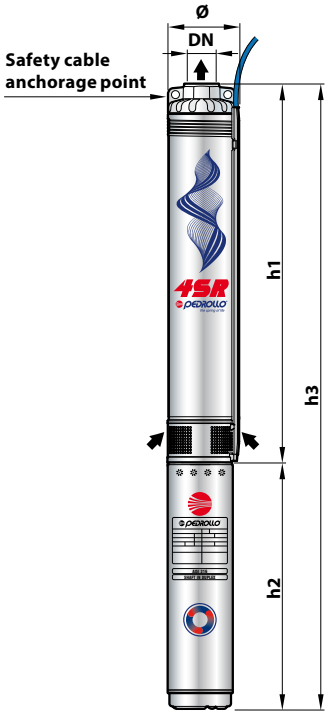
MODEL		DN	DIMENSIONS mm				kg
Three-phase			Ø	h1	h2	h3	3~
4SR 1/13	- PD	1¼"	98	400	311	711	11.2
4SR 1/18	- PD			517	331	848	13.2
4SR 1/25	- PD			646	356	1002	15.9
4SR 1/35	- PD			856	371	1227	18.8
4SR 1/45	- PD			1065	396	1461	21.6
4SR 1.5/8	- PD			308	311	619	10.3
4SR 1.5/13	- PD			400	331	731	11.7
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			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	2"		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"		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"		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**

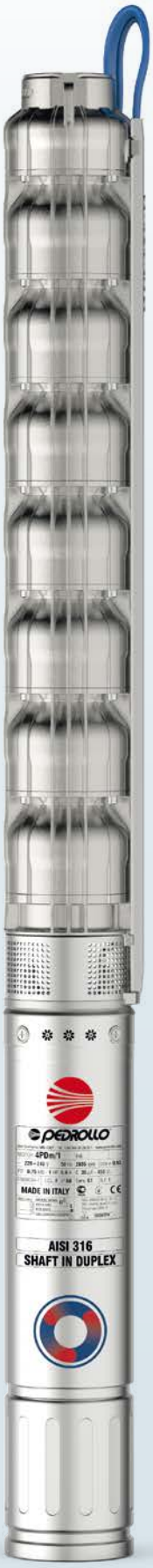
4" submersible pumps

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

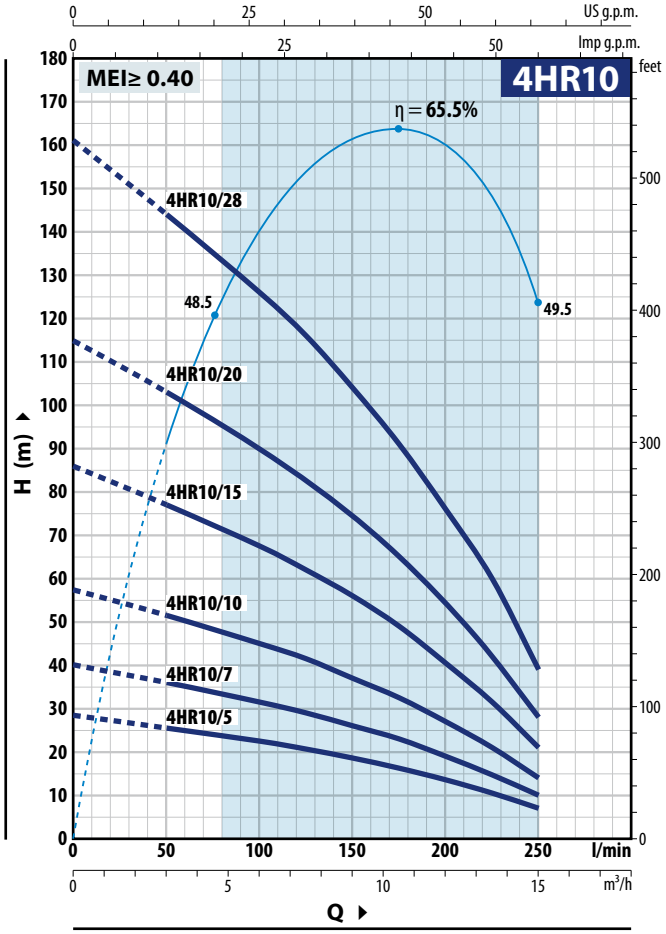
- **Registered EU Design n. 004128619**

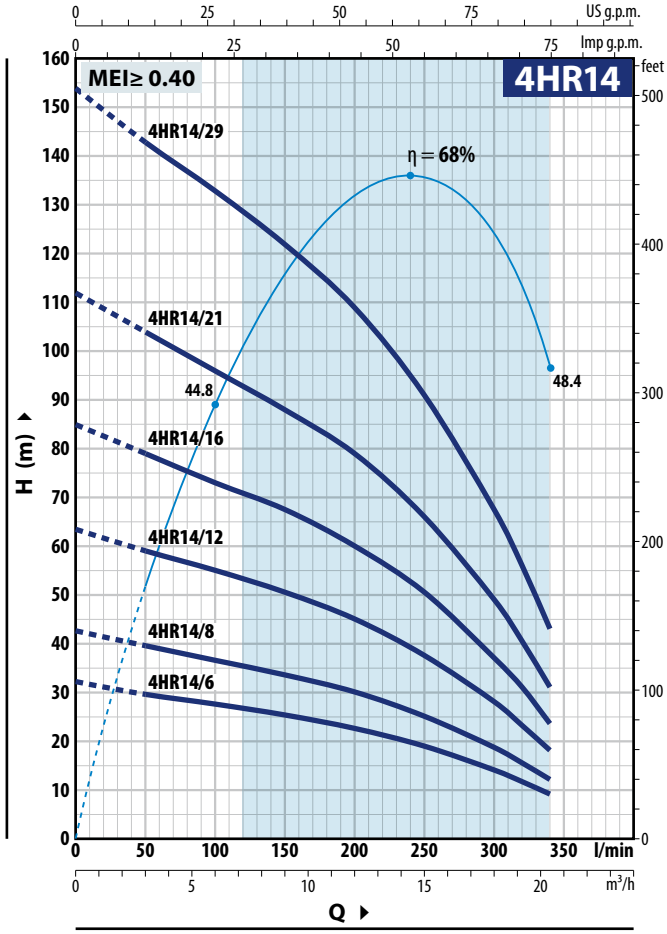
OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹





4HR10

MODEL		POWER (P2)		Q	m³/h	0	3.0	6.0	7.5	9.0	10.5	12.0	13.5	15.0
Single-phase	Three-phase	kW	HP		l/min	**0**	**50**	**100**	**125**	**150**	**175**	**200**	**225**	**250**
4HRm 10/5	4HR 10/5	0.75	1	H	metres	28.5	25.5	22.5	20.7	18.6	16.3	13.6	10.5	7
4HRm 10/7	4HR 10/7	1.1	1.5			40	36	31.5	29	26	23	19	14.7	10
4HRm 10/10	4HR 10/10	1.5	2			57.5	51.5	45	41.5	37	32.5	27	21	14
4HRm 10/15	4HR 10/15	2.2	3			86	77	67.5	62	56	49	40.5	31.5	21
–	4HR 10/20	3	4			115	103	90	83	74	65	54.5	42	28
–	4HR 10/28	4	5.5			161	144	126	116	104	91	76	60	39

4HR14

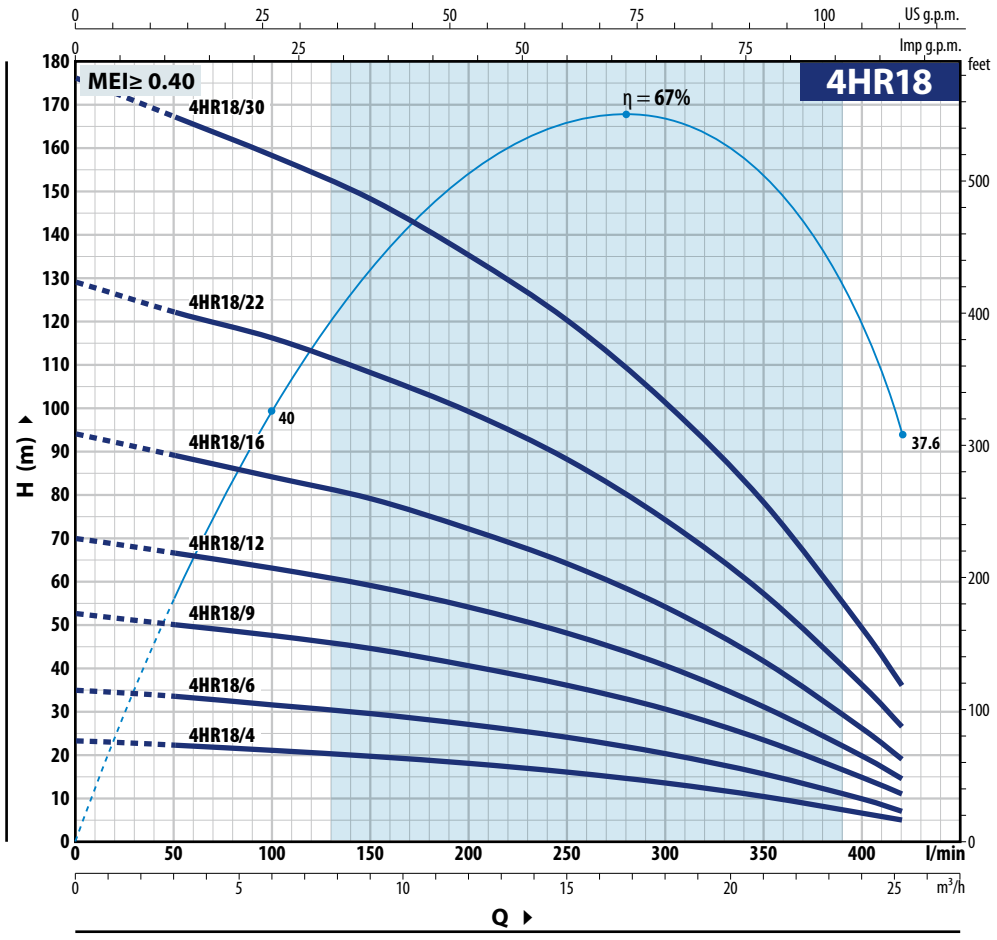
MODEL		POWER (P2)		Q	m³/h	0	3.0	6.0	9.0	12.0	15.0	18.0	19.2	20.4
Single-phase	Three-phase	kW	HP		l/min	**0**	**50**	**100**	**150**	**200**	**250**	**300**	**320**	**340**
4HRm 14/6	4HR 14/6	1.1	1.5	H	metres	32	29.5	27.5	25.3	22.5	18.9	14	11.6	9
4HRm 14/8	4HR 14/8	1.5	2			42.5	39.5	36.5	33.5	30	25	18.6	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



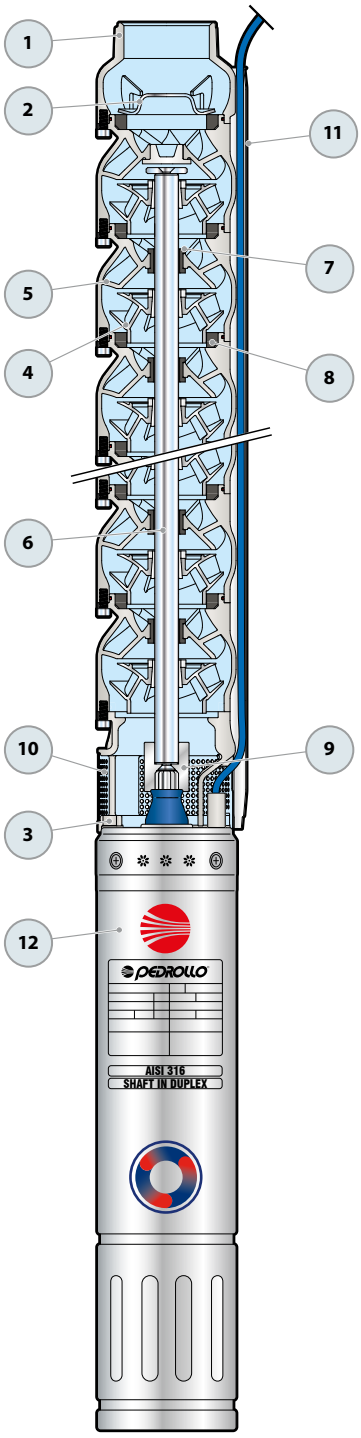
4HR18

MODEL		POWER (P2)		Q	m³/h	0	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	25.2
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**0**	**50**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**420**
4HRm 18/4	**4HR 18/4**	1.1	1.5			23.4	22	21	19.7	18	16	13.5	10.4	6.6	5
4HRm 18/6	**4HR 18/6**	1.5	2			35	33.5	31.5	29.5	27	24	20.3	15.6	9.8	7
4HRm 18/9	**4HR 18/9**	2.2	3			52.5	50	47.5	44.5	40.5	36	30.5	23.4	14.8	11
–	**4HR 18/12**	3	4	**H**	metres	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

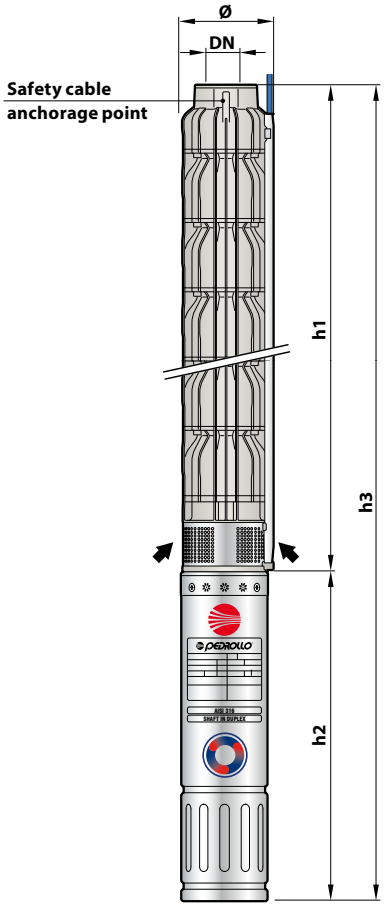
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

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

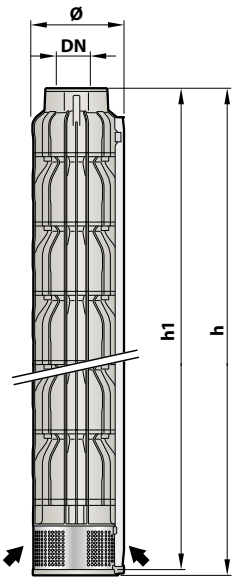
	4HRm - PD (with 4PD motor)						4HRm - PS (with 4PS motor)					
MODEL	DN	DIMENSIONS mm				kg	DN	DIMENSIONS mm				kg
Single-phase		Ø	h1	h2	h3			Ø	h1	h2	h3	
4HRm 10/5	2"	100	511	356	867	19.7	2"	100	511	272	783	20.3
4HRm 10/7			657	396	1053	23.8			657	312	969	24.8
4HRm 10/10			876	437	1313	31.0			876	352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



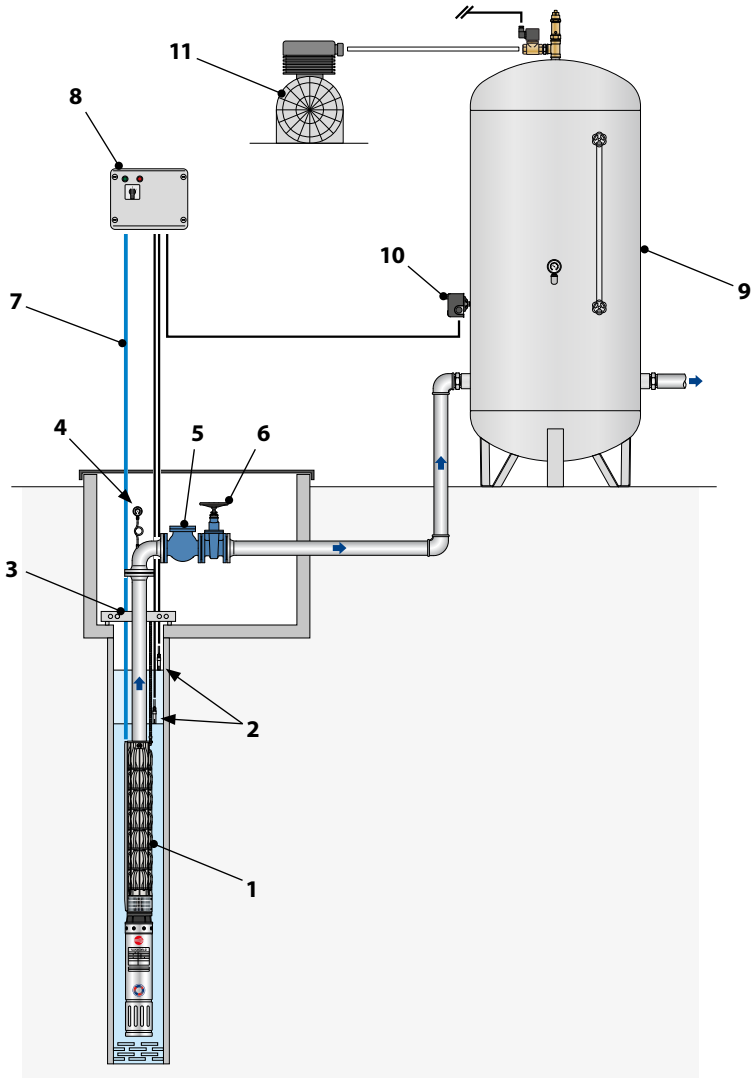
	4HR - PD (with 4PD motor)						4HR - PS (with 4PS motor)					
MODEL	DN	DIMENSIONS mm				kg	DN	DIMENSIONS mm				kg
Three-phase		Ø	h1	h2	h3			Ø	h1	h2	h3	
4HR 10/5	2"	100	511	356	867	18.9	2"	100	511	257	768	18.3
4HR 10/7			657	371	1028	22.3			657	272	929	22.0
4HR 10/10			876	396	1272	27.8			876	297	1173	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			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	**2"**	**100**	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

6SR

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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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.

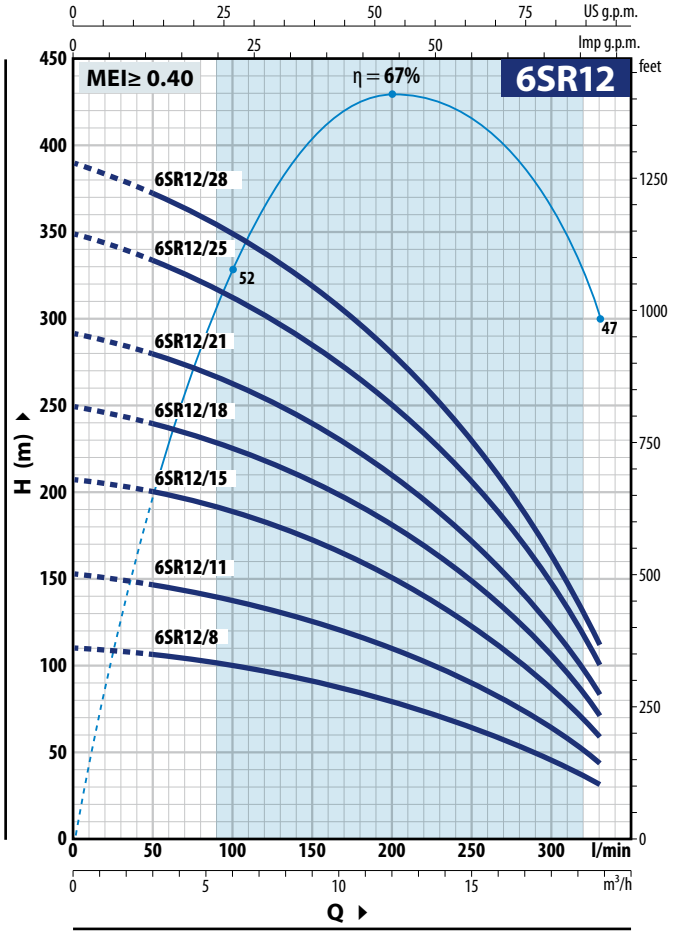
OPTIONS AVAILABLE ON REQUEST

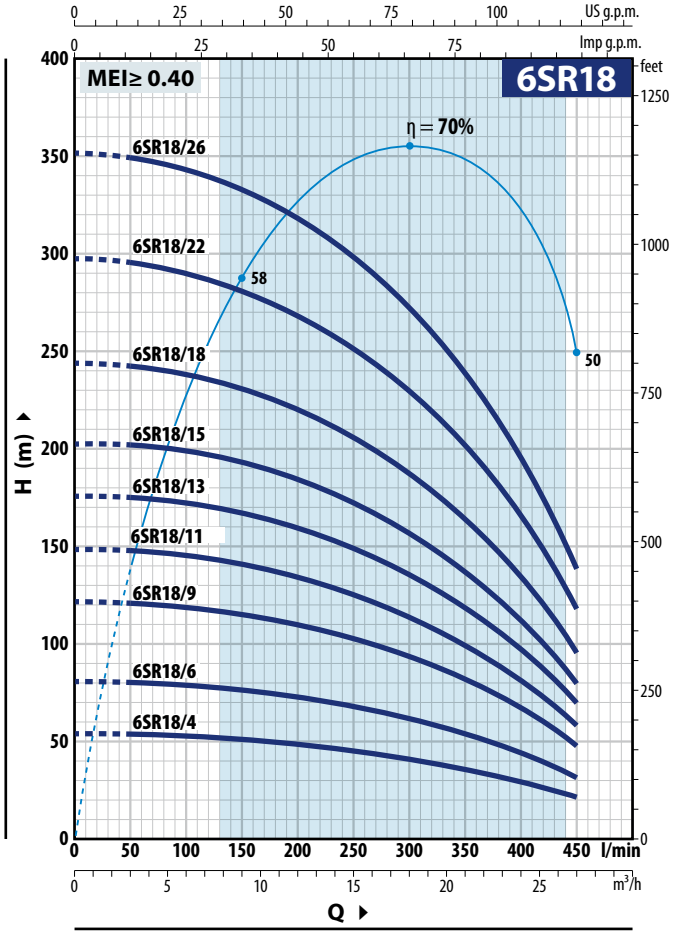
- Kit of cooling jacket complete with filter and supports
- 6SR-HYD pumps with double cable cover suitable for dual voltage 400/690 V (star/delta) motors from 11 kW to 30 kW
- Other voltages or 60 Hz frequency
- **Kit of cooling jacket complete with filter and supports**

COOLING JACKET

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}





6SR12

MODEL	POWER (P2)		Q	m³/h	0	3.0	6.0	9.0	12.0	15.0	18.0	19.8
Three-phase	kW	HP		l/min	**0**	**50**	**100**	**150**	**200**	**250**	**300**	**330**
6SR 12/8	4	5.5			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	**H**	metres	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

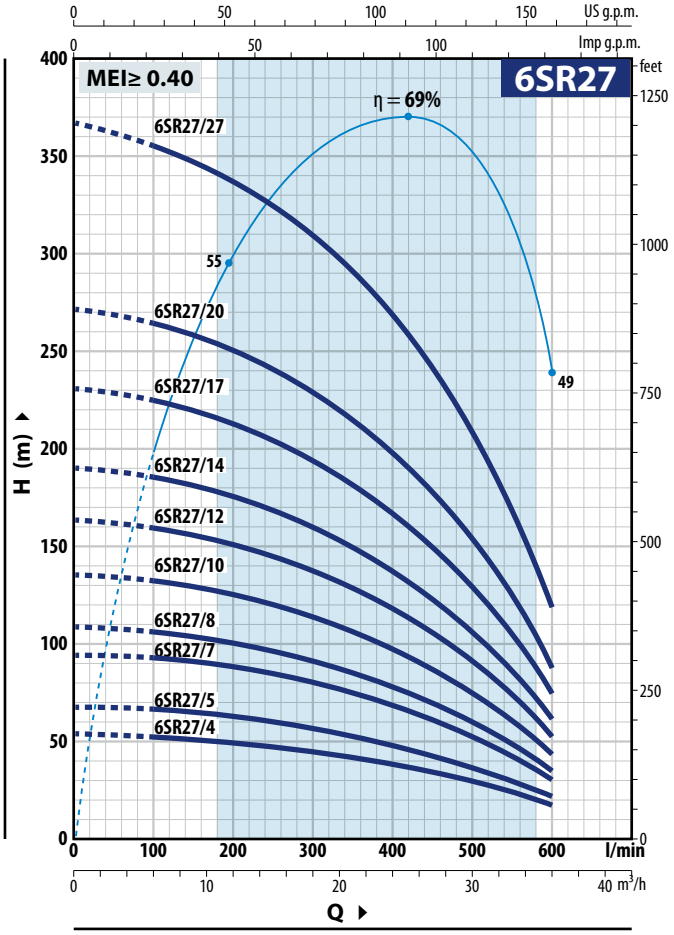
MODEL	POWER (P2)		Q	m³/h	0	3	6	9	12	15	18	21	24	27
Three-phase	kW	HP		l/min	**0**	**50**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**
6SR 18/4	4	5.5			54	53.8	53	51	49	46	42	37	30	22
6SR 18/6	5.5	7.5			81	80.5	79	77	74	69	63	55	45	32
6SR 18/9	7.5	10			122	121	119	116	111	103	94	83	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	**H**	metres	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

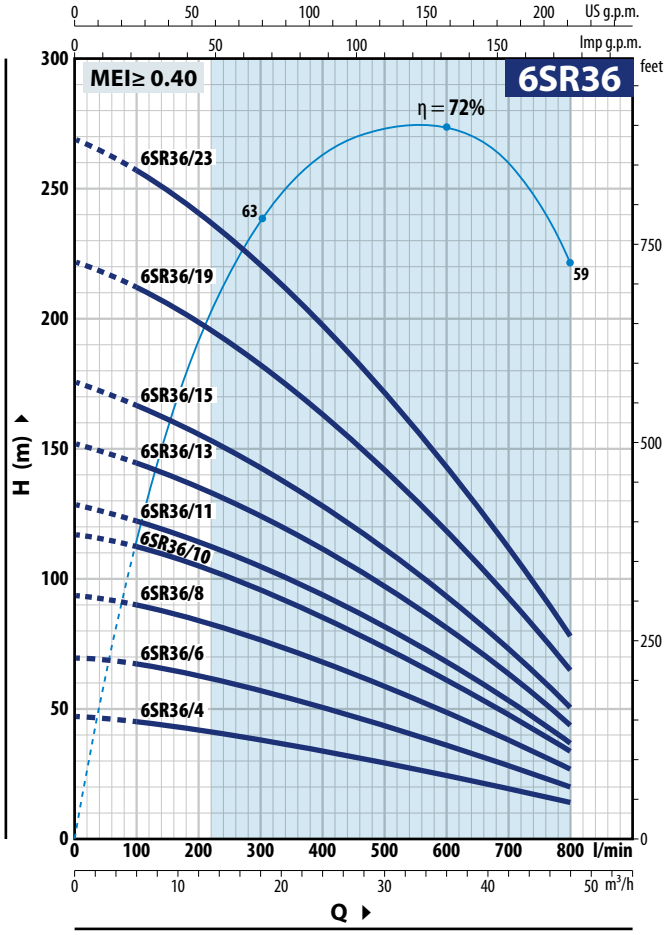
Q = Flow rate **H** = Total manometric head

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 (P2)		Q m³/h	0	6	12	18	24	30	36
Three-phase	kW	HP	l/min	**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

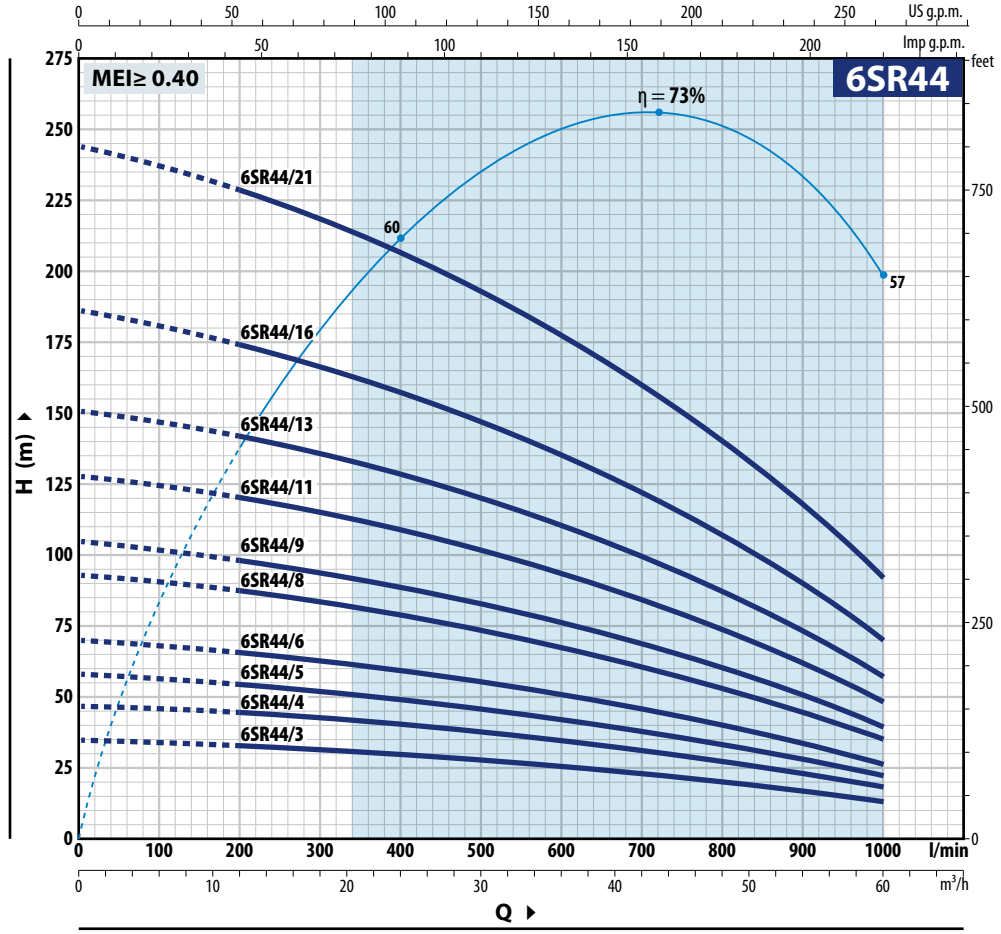
MODEL	POWER (P2)		Q m³/h	0	6	12	18	24	30	36	42	48
Three-phase	kW	HP	l/min	**0**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**
6SR 36/4	4	5.5	H metres	47	45	42	38	34	29	25	19	14
6SR 36/6	5.5	7.5		70	67	63	57	51	44	37	29	20
6SR 36/8	7.5	10		94	89	84	76	68	59	50	39	27
6SR 36/10	9.2	12.5		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



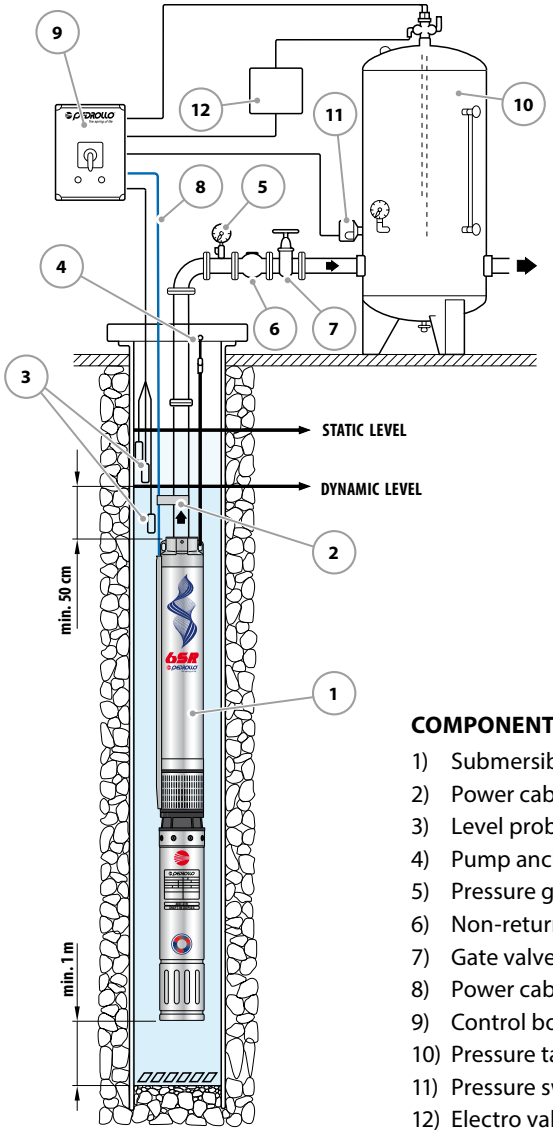
6SR44

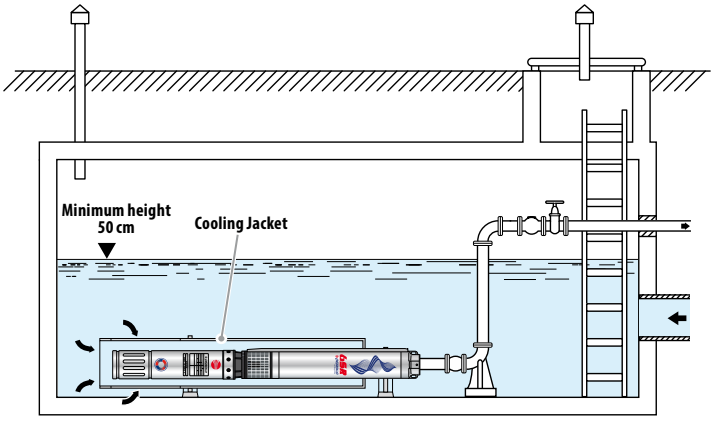
MODEL	POWER (P2)		Q m³/h	0	12	18	24	30	36	42	48	54	60
Three-phase	kW	HP	l/min	**0**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**
6SR 44/3	4	5.5	H metres	35	33	31	30	28	26	23	20	17	13
6SR 44/4	5.5	7.5		47	44	42	40	37	34	31	27	23	18
6SR 44/5	7.5	10		58	54	52	49	46	43	38	33	28	22
6SR 44/6	9.2	12.5		70	65	62	59	56	51	46	40	34	26
6SR 44/8	11	15		93	87	83	79	74	68	61	53	45	35
6SR 44/9	13	17.5		105	98	93	89	83	77	69	60	51	39
6SR 44/11	15	20		128	120	114	109	102	94	84	73	62	48
6SR 44/13	18.5	25		151	141	135	128	120	111	99	86	73	57
6SR 44/16	22	30		186	174	166	158	148	136	122	106	90	70
6SR 44/21	30	40		244	228	218	207	194	179	160	139	118	92

Q = Flow rate **H** = Total manometric head

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

STANDARD INSTALLATION





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.

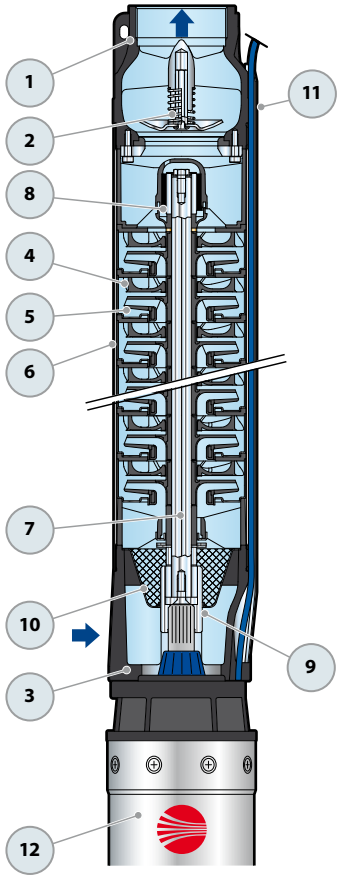
COMPONENTS

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

➠ 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.

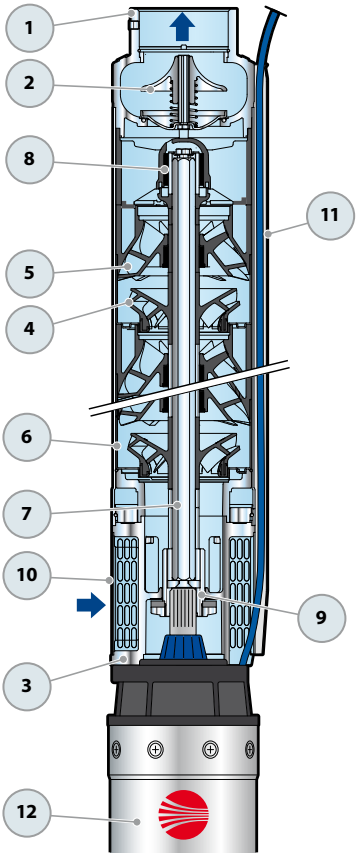
6SR12-18-27 (Radial impellers)

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

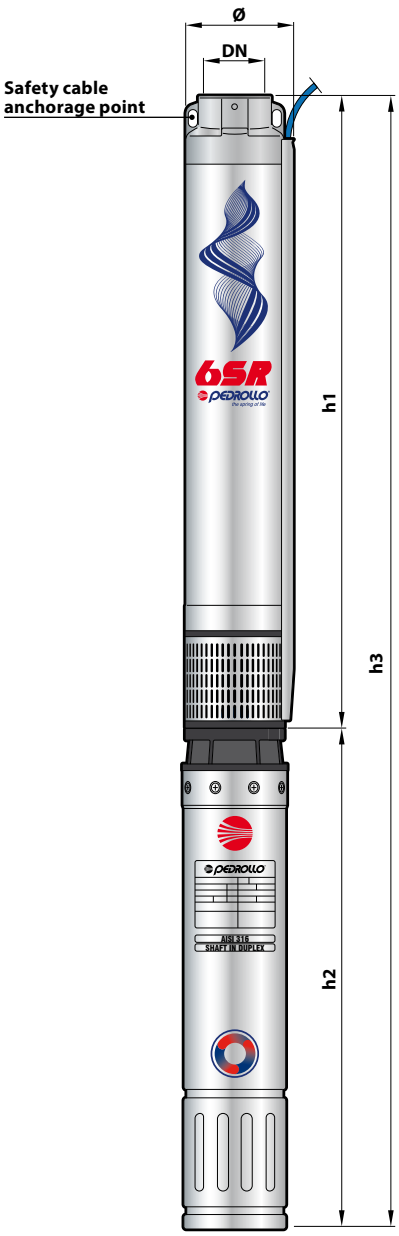


6SR36-44 (Semi-axial impellers)

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			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	3"	149.5	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	PORT	DIMENSIONS mm		kg
Pump	DN	Ø	h1	
6SR 12/8 - HYD			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	3"	149.5	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

6HR

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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

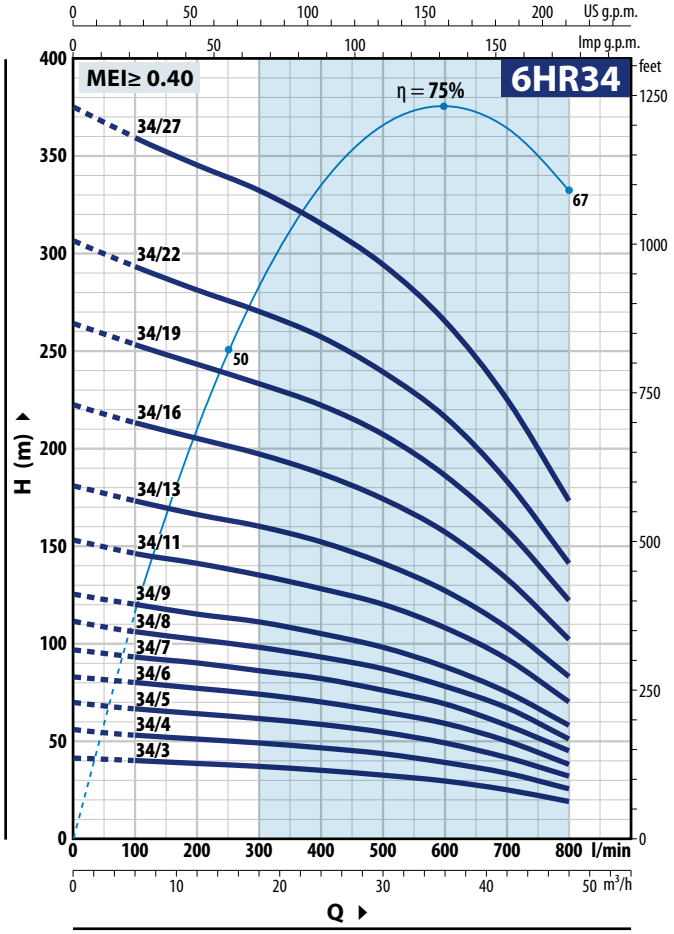
Registered EU Design n. 004675106-0002

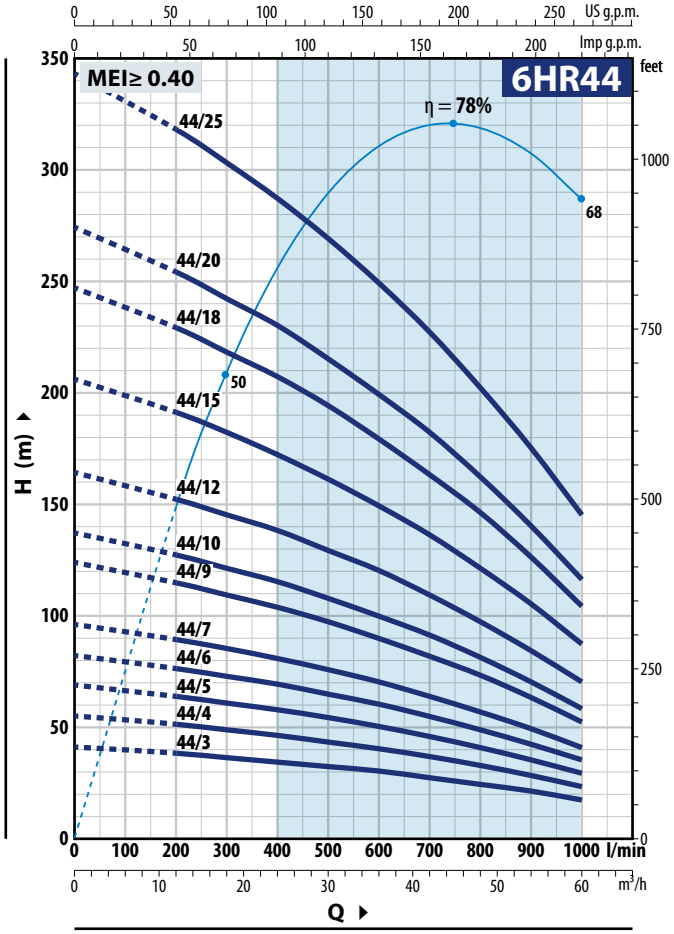
OPTIONS AVAILABLE ON REQUEST

- 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 (P2)		Q	m³/h	0	6	12	18	24	30	36	42	48
Three-phase	kW	HP		l/min	**0**	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**
6HR 34/3	4	5.5			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)	**H**	metres	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 (P2)		Q	m³/h	0	12	18	24	30	36	42	48	54	60
Three-phase	kW	HP		l/min	**0**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**900**	**1000**
6HR 44/3	5.5	7.5			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)	**H**	metres	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

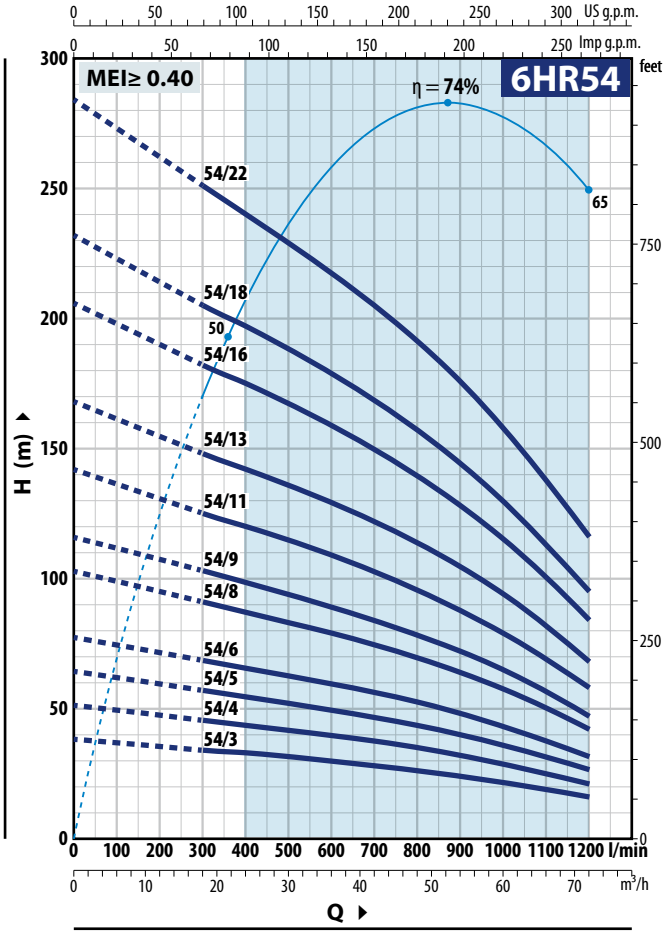
(1) Pump fitted with a 20 HP motor

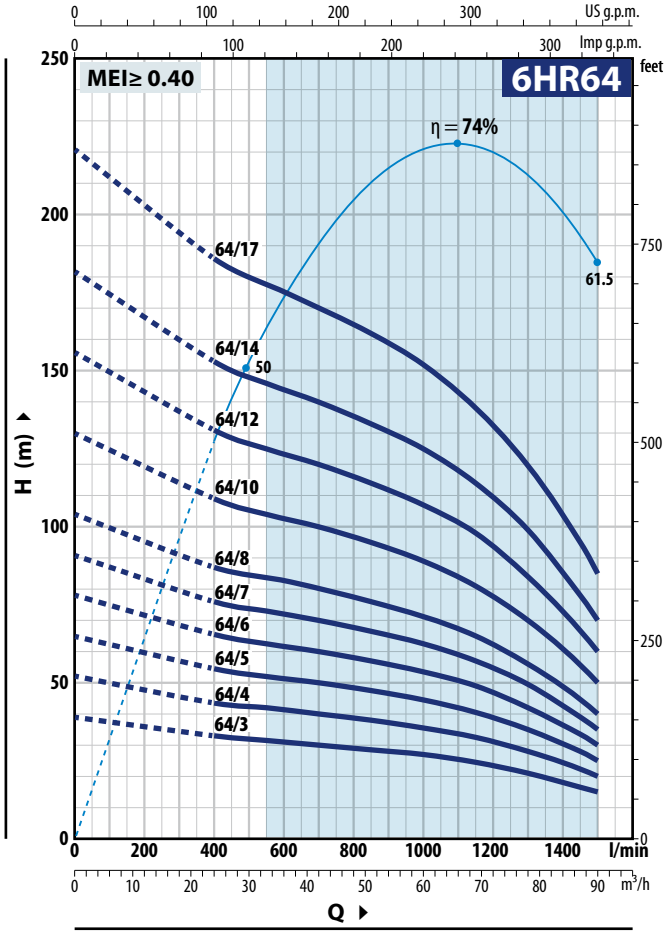
(2) Pump fitted with a 40 HP motor

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 (P2)		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 (P2)		Q	m³/h	0	24	33	42	51	60	69	78	87	90
Three-phase	kW	HP		l/min	**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

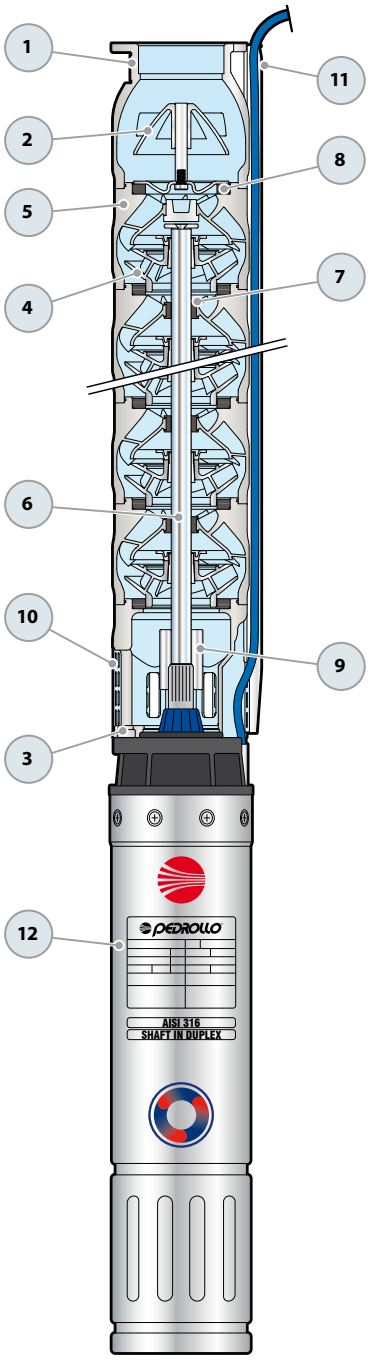
Q = Flow rate **H** = Total manometric head

(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.

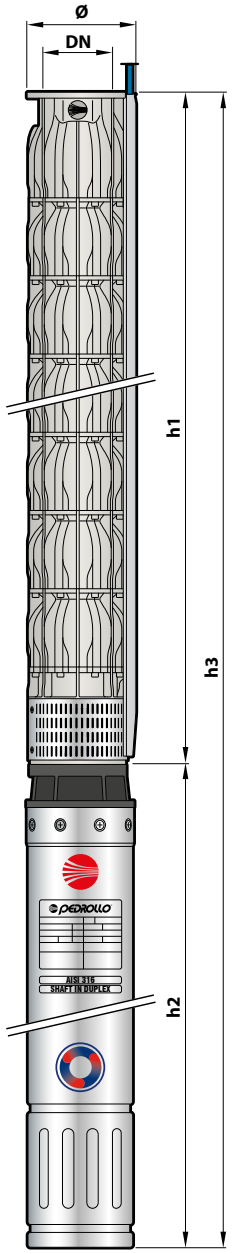
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**DELIVERY BODY**	Precision cast stainless steel AISI 304 complete with threaded delivery port in compliance with ISO 228/1
2	**NON-RETURN VALVE**	Stainless steel AISI 304
3	**MOTOR BRACKET**	Precision cast stainless steel AISI 304 in compliance with NEMA 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

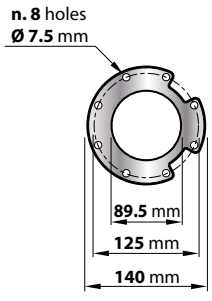
MODEL	PORT	DIMENSIONS mm				kg
Three-phase	DN	Ø	h1	h2	h3	3~
6HR 34/3 - PD			581	595	1176	**55.4**
6HR 34/4 - PD			682	625	1307	**61.1**
6HR 34/5 - PD			783	660	1443	**67.5**
6HR 34/6 - PD			884	700	1584	**72.9**
6HR 34/7 - PD			985	765	1750	**83.2**
6HR 34/8 - PD			1086	765	1851	**86.6**
6HR 34/9 - PD			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	**3"**	**150**	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

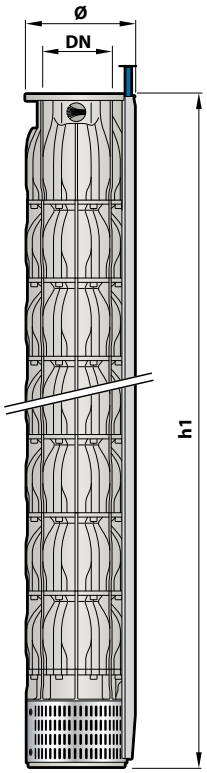
(TO BE ORDERED SEPARATELY)



Kit consisting of:
counterflange, seal, screws and nuts

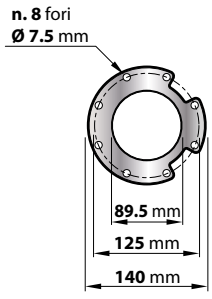
DIMENSIONS AND WEIGHT (PUMP ONLY)

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

4PD

4" PEDROLLO submersible motors

Domestic use

Civil use

Industrial use

PERFORMANCE

- Power from **0.37** to **7.5 kW**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **200 m** immersion limit
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz (n ~ 2900 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 P2		Axial load	Revs	Starting current / Rated current	Power factor	Capacitor (VL=450V)	h	Weight
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 P2		Axial load	Revs	Starting current / Rated current	Power factor	h	Weight
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

4PS

4" encapsulated PEDROLLO submersible motors

Domestic use

Civil use

Industrial use

PERFORMANCE

- Power from **0.37** to **7.5 kW**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **100 m** immersion limit
- Starts/hour: **20** at regular intervals
- Minimum flow rate for motor cooling **8 cm/s**
- Continuous service **S1**

ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz (n ~ 2900 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

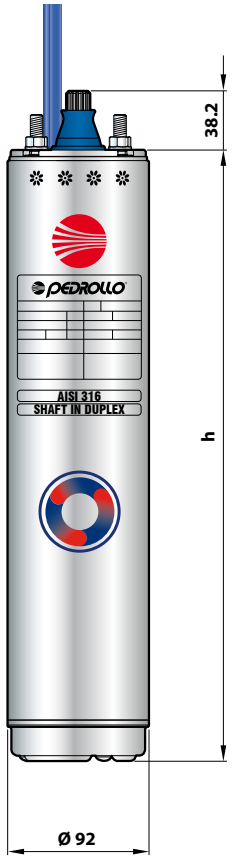
PERFORMANCE DATA

Single-phase versions

MODEL	Rated power P2		Axial load	Revs	Starting current / Rated current	Power factor	Capacitor (VL=450V)	h	Weight
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 P2		Axial load	Revs	Starting current / Rated current	Power factor	h	Weight
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

6PD

6" PEDROLLO submersible motors

Civil use

Agricultural use

Industrial use

PERFORMANCE

- Power from **4** to **37 kW**

APPLICATION LIMITS

- Maximum liquid temperature **+35 °C**
- **200 m** immersion limit
- Starts/hour: **30** at regular intervals
- Minimum flow rate for motor cooling **10 cm/s**
- Continuous service **S1**

ELECTRIC MOTOR

- 2 pole electric motor, 50 Hz (n ~ 2900 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 / Rated current	Efficiency	Power factor	Rated torque	Starting torque / Rated torque	h	Weight
Three-phase	P2										
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

UP

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

CE

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

EAC

INSTALLATION AND USE

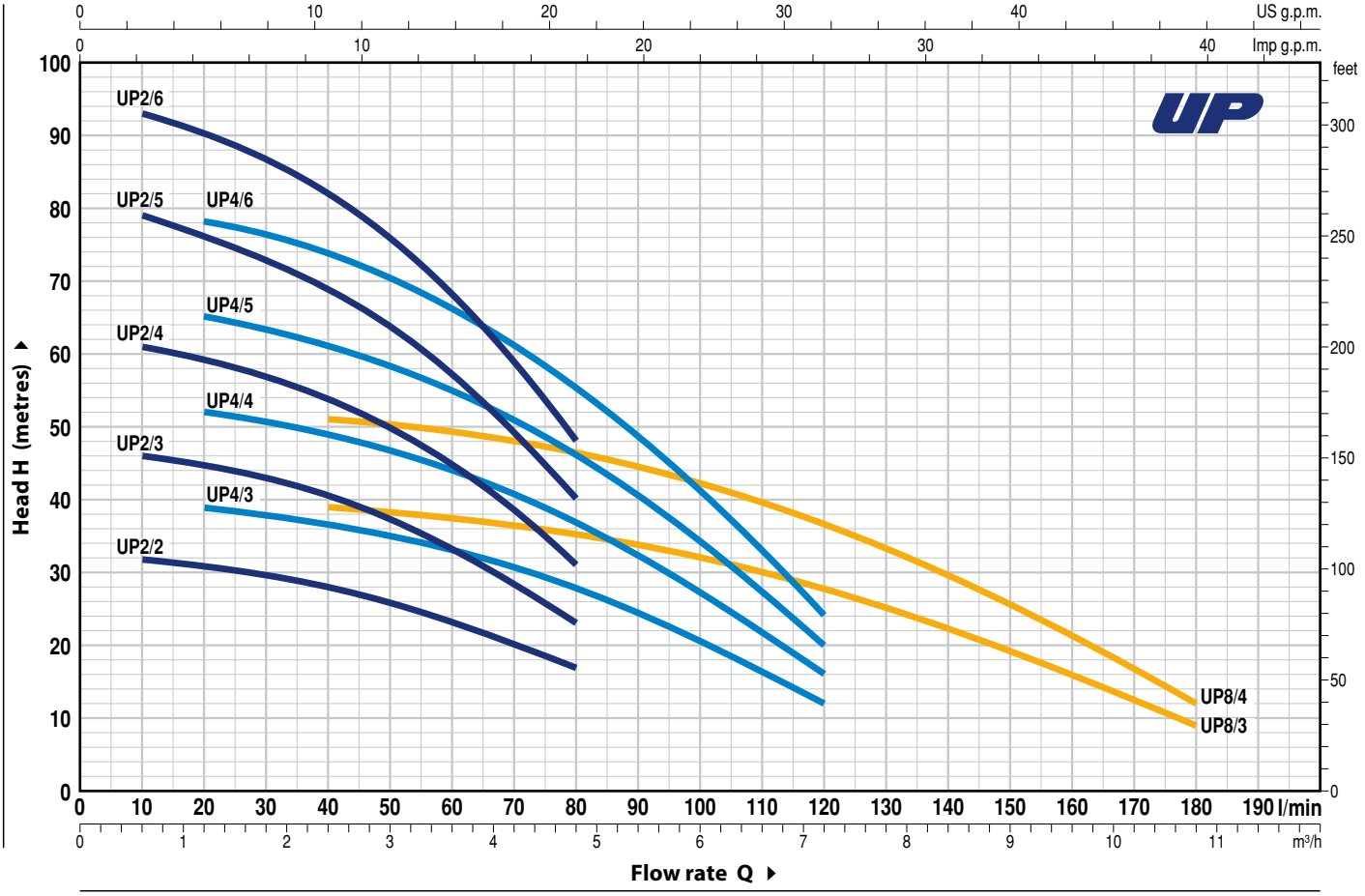
A new concept range of submersible multi-stage pumps designed guarantee even greater reliability, thanks to patented innovative technical solutions which prevent blockage of the pumps even after prolonged periods of inactivity.
Because of their high efficiency and reliability they are suitable for use 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 (P2)		Q	m³/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**
UPm 2/2-GE	**UP 2/2**	0.37	0.5			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	**H**	metres	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 **UPm 2/3-GE** **UPm 4/3-GE**	**16** µF - 500 VL	**30** µF - 250 VL
UPm 2/4-GE **UPm 4/4-GE**	**20** µF - 450 VL	–
UPm 2/5-GE **UPm 4/5-GE** **UPm 8/3-GE**	**25** µF - 450 VL	–
UPm 2/6-GE **UPm 4/6-GE** **UPm 8/4-GE**	**35** µF - 450 VL	–

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

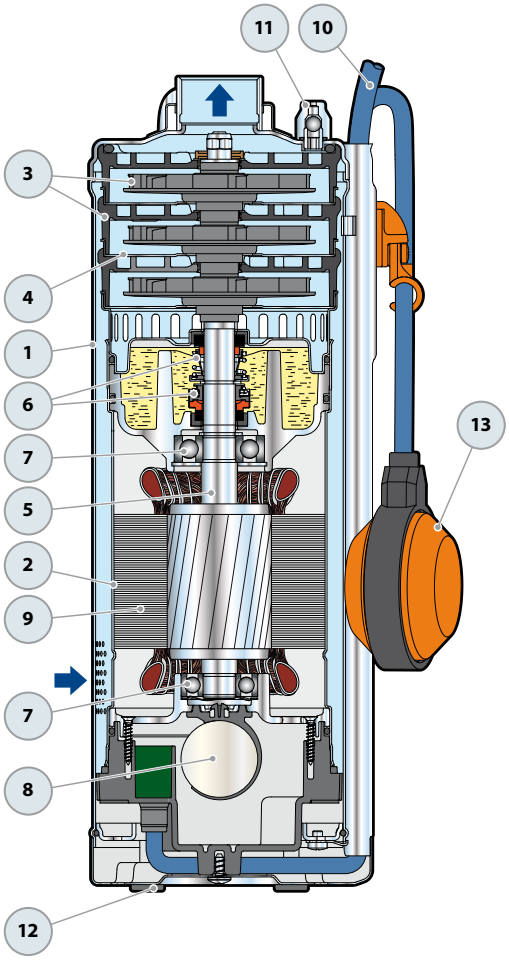
10 POWER CABLE

➠ **DRINCABLE® type**
approved for use in drinking water by "WRAS"
in compliance with BS 6920, approval n. 7513
Standard length 10 metres

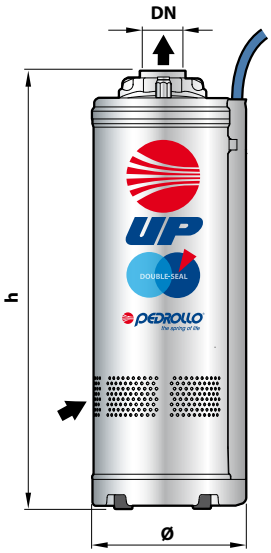
11 AUTOMATIC VENT VALVE

12 ANTI-VIBRATION SUPPORTS

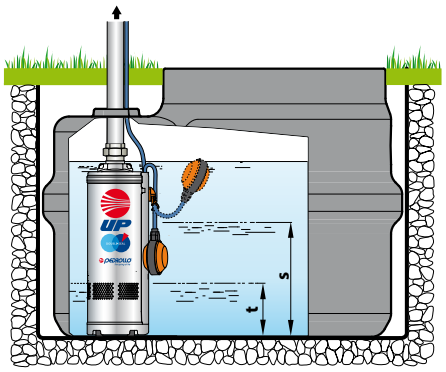
13 FLOAT SWITCH
(only for single-phase versions)



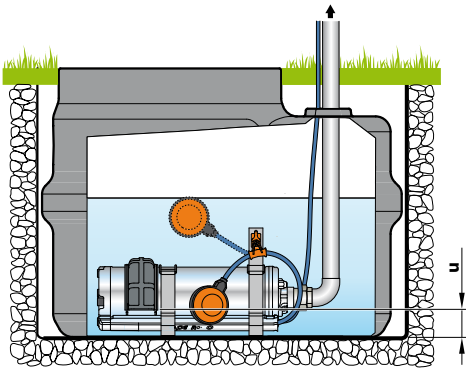
DIMENSIONS AND WEIGHT



Vertical installation



Horizontal installation



MODEL		PORT	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase	DN		Ø	h	1~	3~
UPm 2/2-GE	UP 2/2		2		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	1¼"	3	150	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		
Single-phase	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			
Three-phase	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
Single-phase	Three-phase	n. pumps
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
Single-phase	Three-phase	n. pumps
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

NK

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

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

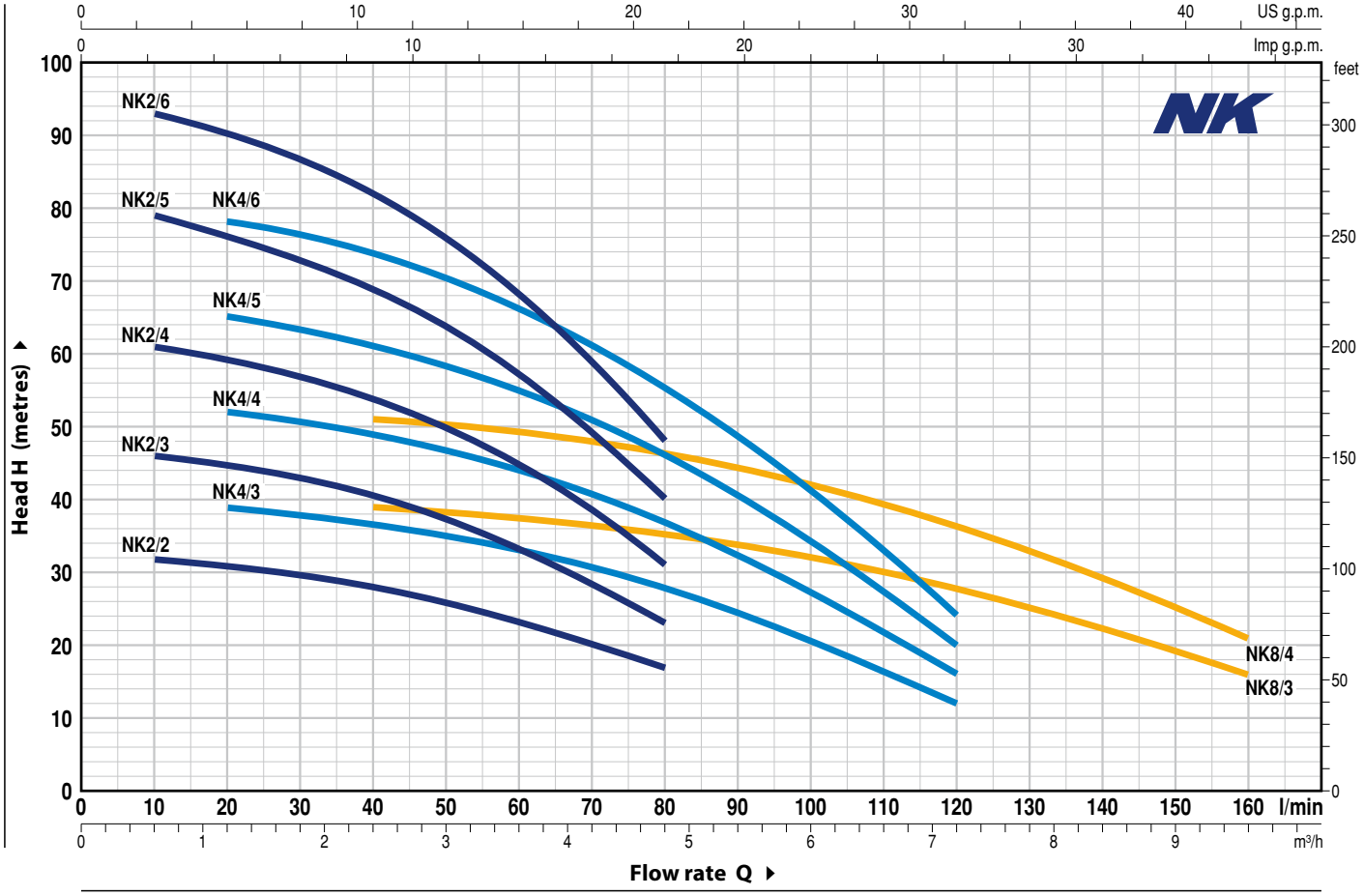
- Patent n. EP14755156.8
- Patent n. EP2313658

OPTIONS AVAILABLE ON REQUEST

- Pumps without float switch
- Pumps fitted with power cables of other lengths
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min⁻¹



MODEL		POWER (P2)		Q	m³/h	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**		l/min	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**100**	**110**	**120**	**140**	**160**
NKm 2/2 GE	**NK 2/2**	0.37	0.5			33	32	31	29.5	28	26	23.5	20.5	17					
NKm 2/3 GE	**NK 2/3**	0.55	0.75			48	46	44.5	42.8	40.5	37.5	33.5	29	23					
NKm 2/4 GE	**NK 2/4**	0.75	1			63	61	59	57	54	50	45	39	31					
NKm 2/5 GE	**NK 2/5**	1.1	1.5			81	79	75.5	73	68.5	63.5	57.5	49.5	40					
NKm 2/6 GE	**NK 2/6**	1.5	2			95	93	90	87	82	76	68.5	59.5	48					
NKm 4/3 GE	**NK 4/3**	0.55	0.75	**H**	metres	40	–	39	38	37	35	33	30.5	28	20.5	16.5	12		
NKm 4/4 GE	**NK 4/4**	0.75	1			53	–	52	50.5	49	46.5	44	40.5	37	27.5	22	16		
NKm 4/5 GE	**NK 4/5**	1.1	1.5			67	–	65	63.5	61.5	58	55	50.5	46.5	34	27.5	20		
NKm 4/6 GE	**NK 4/6**	1.5	2			80	–	78	76	74	70	66	61	56	41	33	24		
NKm 8/3 GE	**NK 8/3**	1.1	1.5			40	–	–	–	39	38	37.5	36.5	35	32	30	28	22.5	16
NKm 8/4 GE	**NK 8/4**	1.5	2			52	–	–	–	51	50	49	48	46	42	39	36	29	21

Q = Flow rate **H** = Total manometric head

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

Single-phase pumps without float switch on request

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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**

9 CAPACITOR

Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
NKm 2/2 GE **NKm 2/3 GE** **NKm 4/3 GE**	**16** µF - 500 VL	**30** µF - 250 VL
NKm 2/4 GE **NKm 4/4 GE**	**20** µF - 450 VL	–
NKm 2/5 GE **NKm 4/5 GE** **NKm 8/3 GE**	**25** µF - 450 VL	–
NKm 2/6 GE **NKm 4/6 GE** **NKm 8/4 GE**	**35** µF - 450 VL	–

10 ELECTRIC MOTOR

NKm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding.
NK: three-phase 400 V - 50 Hz.

– Insulation: class F
– Protection: IP X8

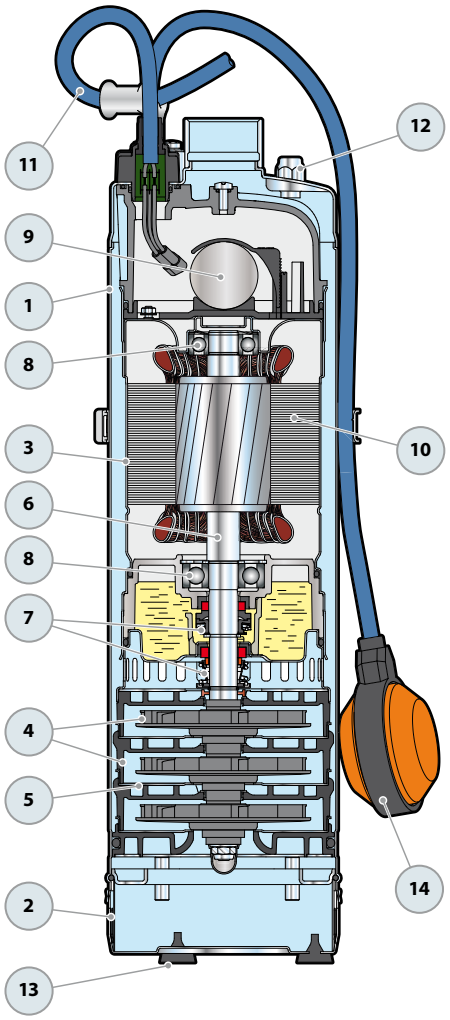
11 POWER CABLE

➠ **DRINCABLE® type approved for use in drinking water by "WRAS" in compliance with BS 6920, approval n. 7513**
Standard length 10 metres

12 AUTOMATIC VENT VALVE

13 ANTI-VIBRATION SUPPORTS

14 FLOAT SWITCH
(only for single-phase versions)



DIMENSIONS AND WEIGHT

MODEL		PORT	N. STAGES	DIMENSIONS mm		kg	
Single-phase	Three-phase	DN		Ø	h	1~	3~
NKm 2/2 GE	NK 2/2	1¼"	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		
Single-phase	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			
Three-phase	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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

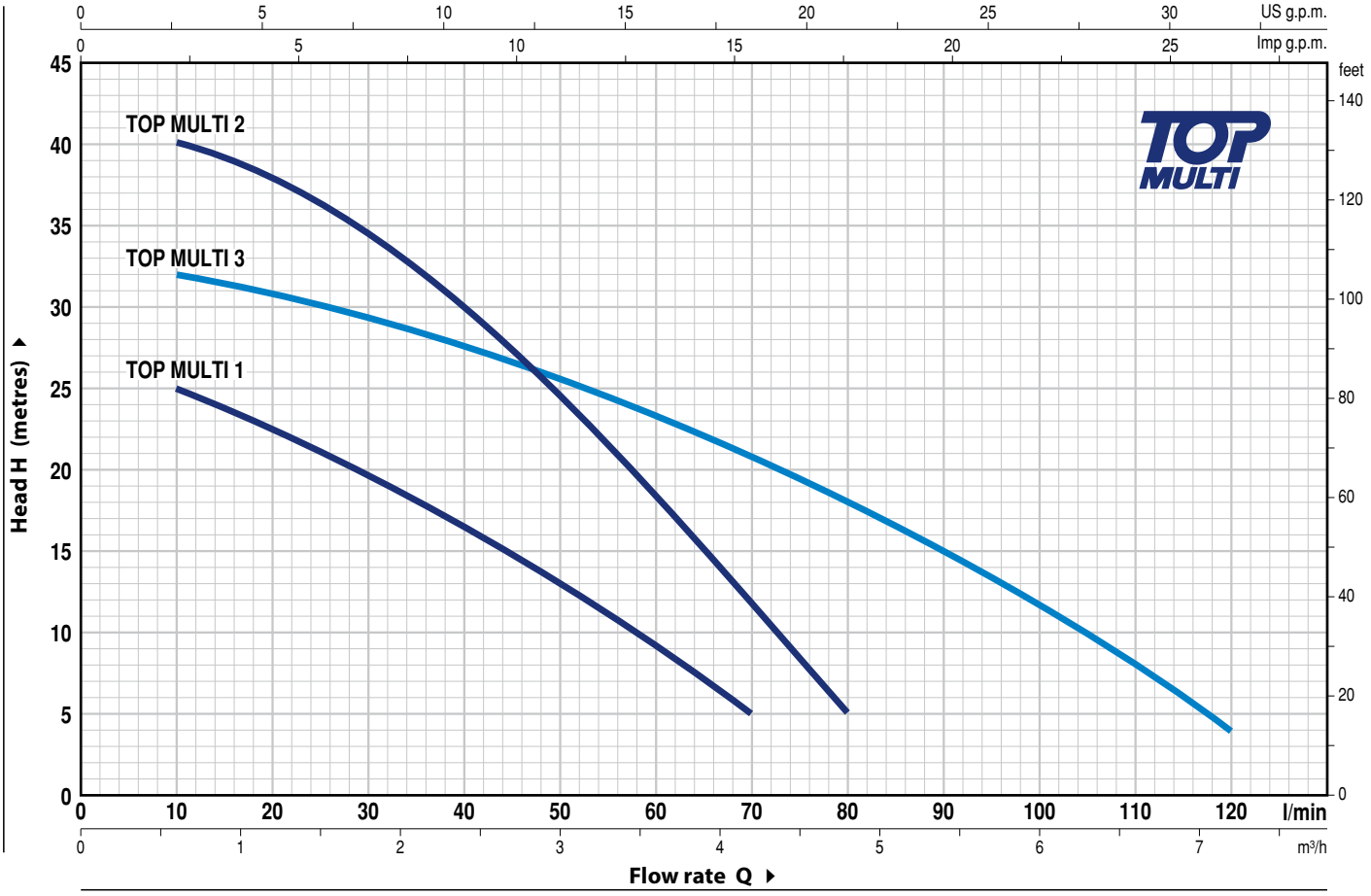
- Registered EU Design n. 000885587 for TOP MULTI 2-3
- TOP MULTI® Registered Trade Mark n. 0001334477

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	POWER (P2)		Q													
				m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
Single-phase	kW	HP		l/min	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**
TOP MULTI 1	0.37	0.50			27	25	22.5	19.5	16.5	13	9	5					
TOP MULTI 2	0.55	0.75	**H**	metres	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

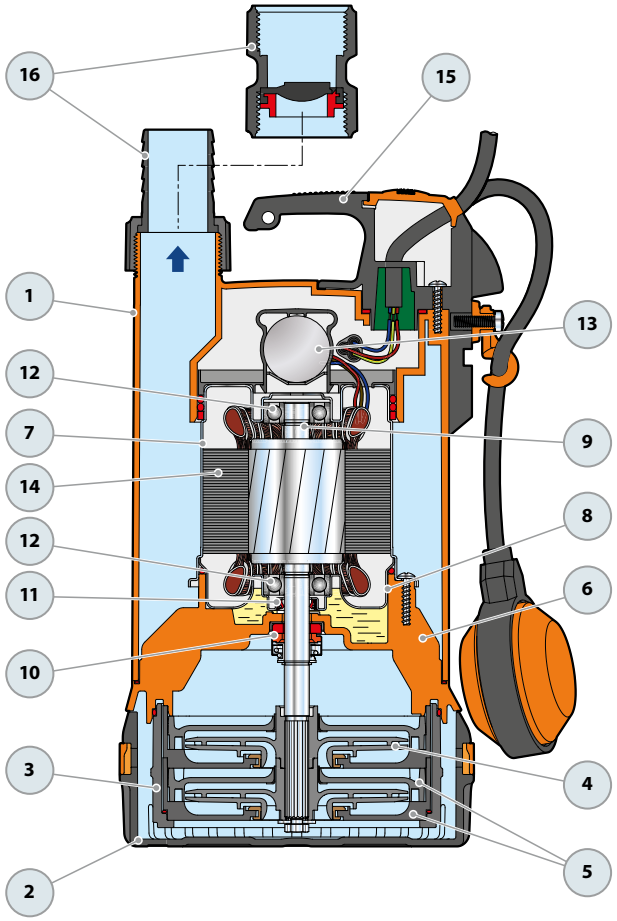
15 HANDLE ASSEMBLY (resin sealed)

Complete with:
– **10 metres** long "H07 RN-F" power cable with Schuko plug
– Float switch

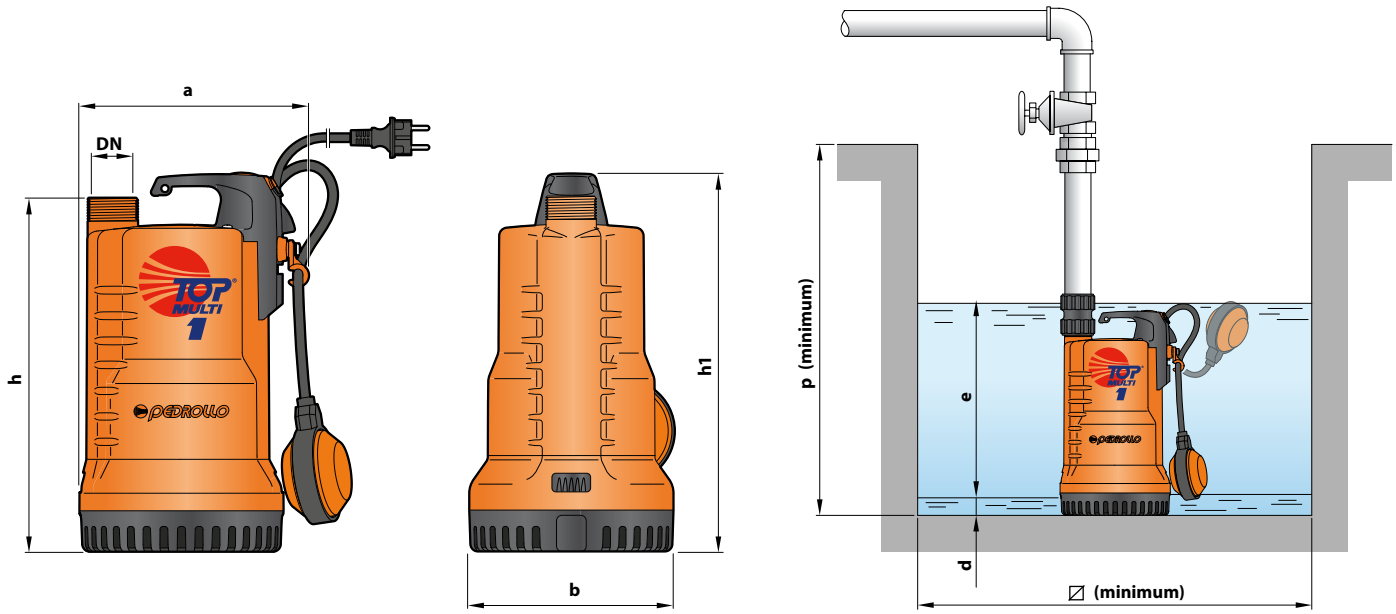
16 HOSE CONNECTOR WITH RING NUT
Ø 35 mm hose connection

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

(Included in the equipment)



DIMENSIONS AND WEIGHT



MODEL	PORT	N. STAGES	DIMENSIONS mm								kg
Single-phase	DN		a	b	h	h1	d	e	p	⍁	
TOP MULTI 1	**1¼"**	2	192	170	295	315	25	variable	350	350	**6.8**

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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	***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: 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

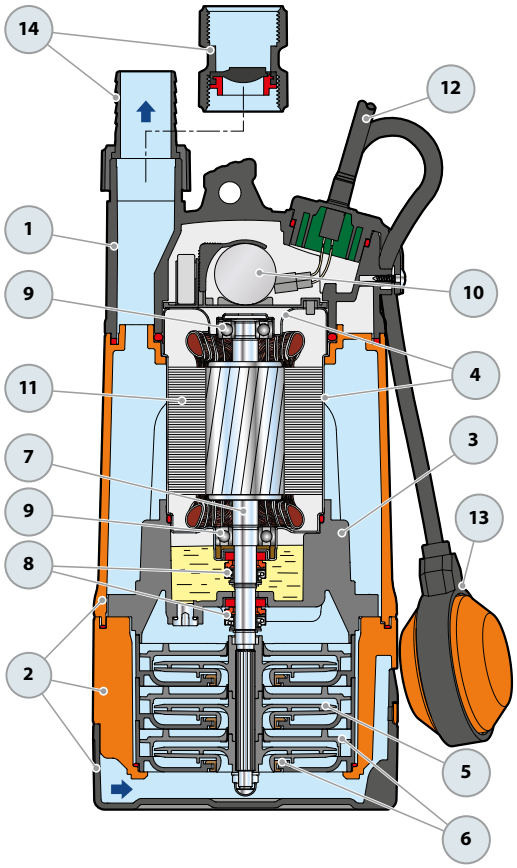
Standard length 10 metres

13 FLOAT SWITCH

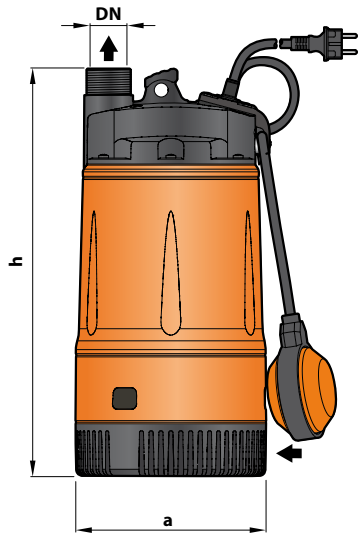
14 HOSE CONNECTOR WITH RING NUT
Ø 35 mm hose connection

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

(Included in the equipment)

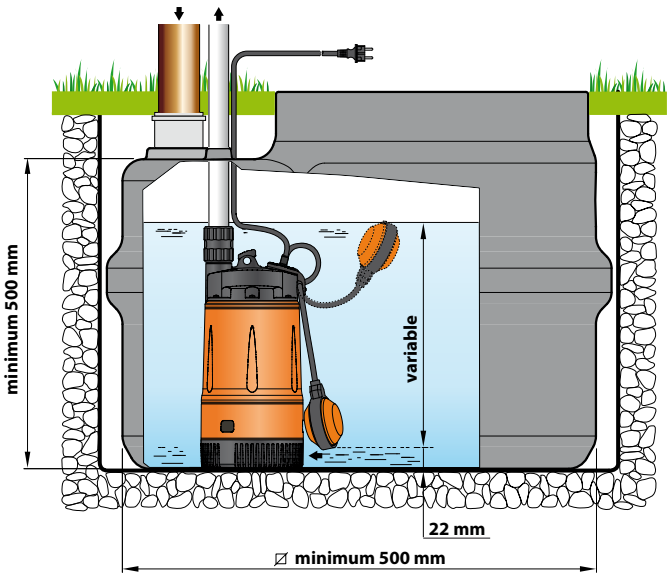


DIMENSIONS AND WEIGHT



Standard installation

MODEL	PORT	N. STAGES	DIMENSIONS mm		kg
Single-phase	DN		a	h	
TOP MULTI 2	1¼"	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**

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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

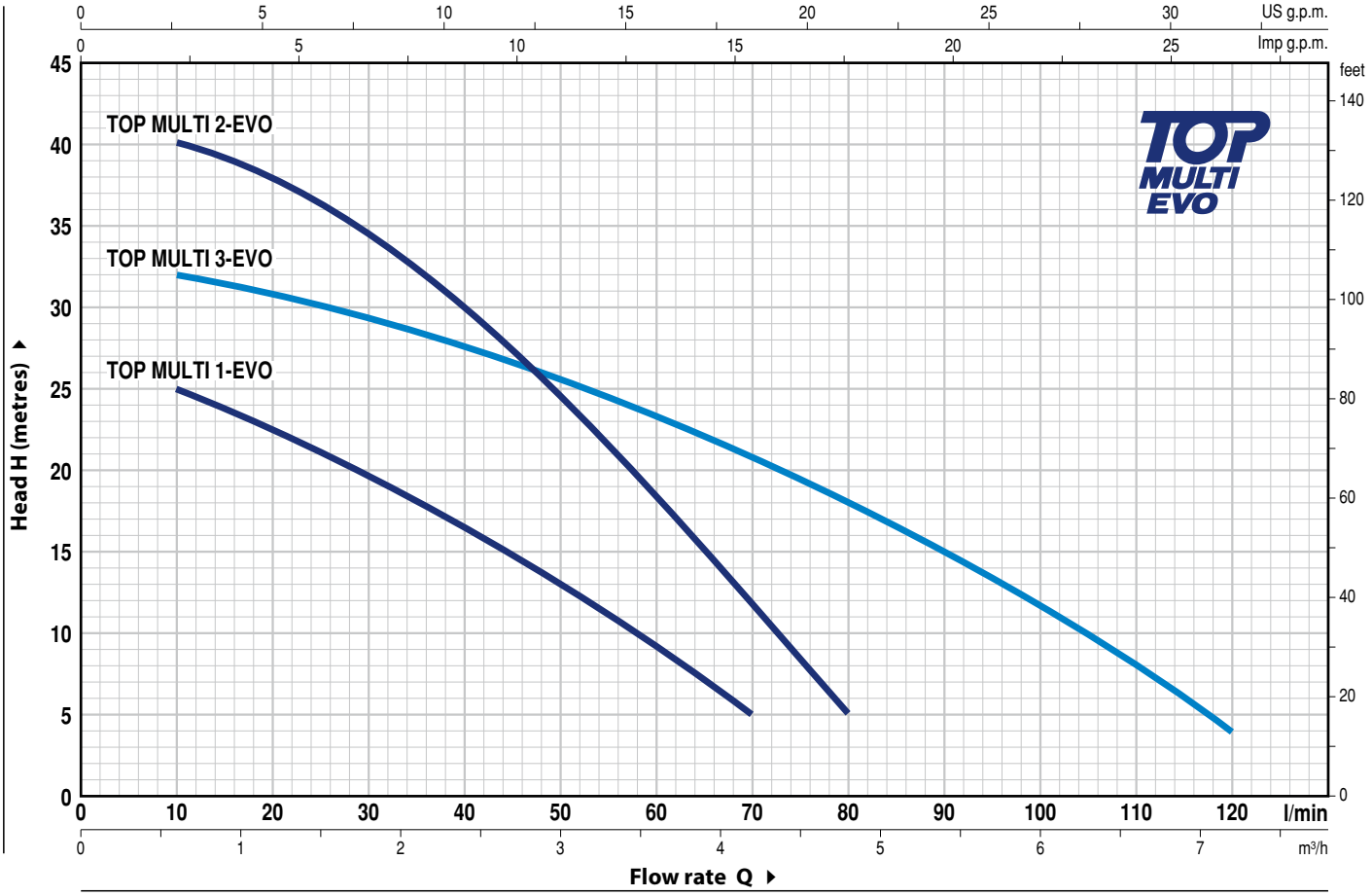
- Pumps without float switch
- Other voltages or 60 Hz frequency
- **KGE - Floating suction kit**

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}

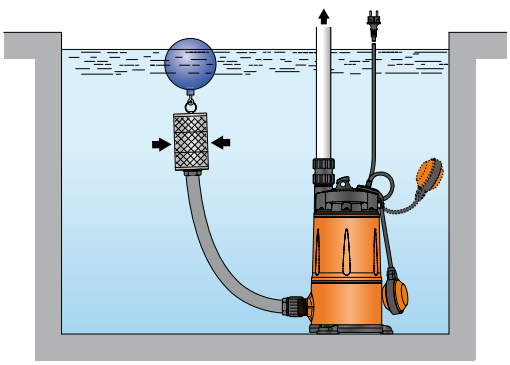


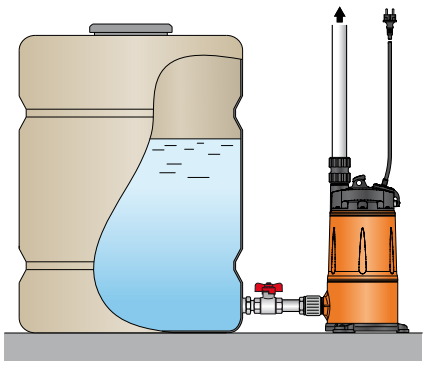
MODEL	POWER (P2)		Q	m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
Single-phase	kW	HP		l/min	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**
TOP MULTI 1-EVO	0.37	0.50			27	25	22.5	19.5	16.5	13	9	5					
TOP MULTI 2-EVO	0.55	0.75	**H**	metres	42	40	38	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*	*Materials*			
Model	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*	*Metals*
STA-12R	**Ø 12** mm	Ceramic	Graphite	NBR	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)

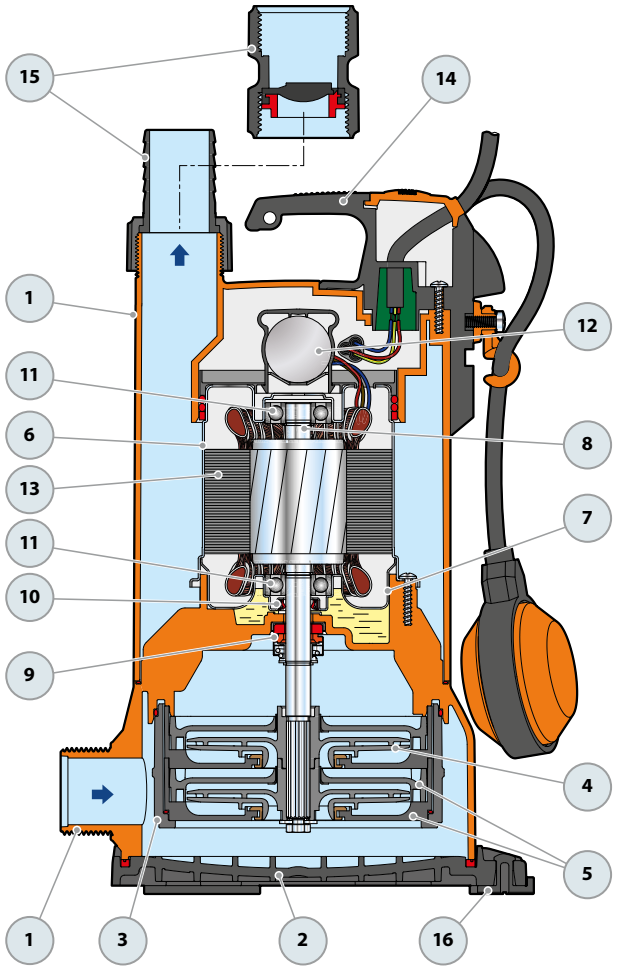
Complete with:
– **10 metres** long "H07 RN-F" power cable with Schuko plug
– Float switch

15 HOSE CONNECTOR WITH RING NUT
Ø 35 mm hose connection

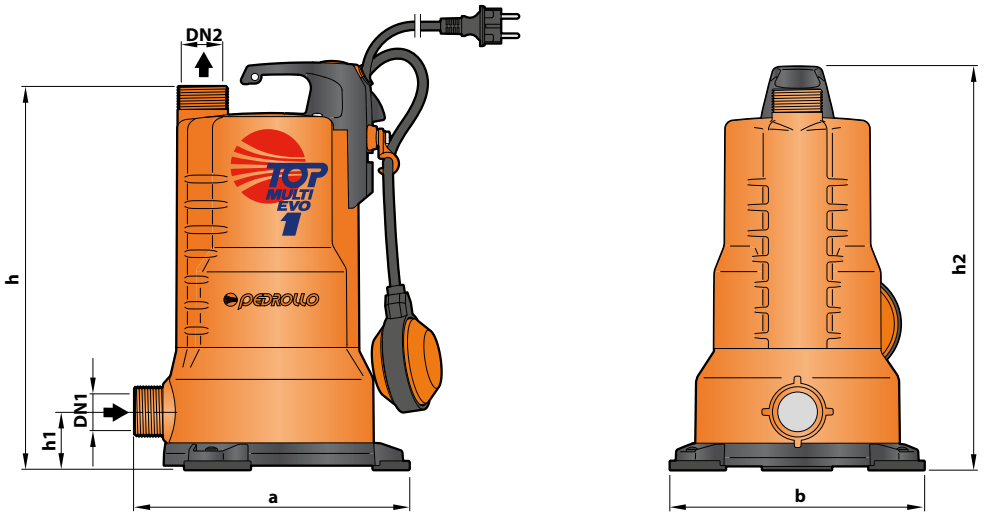
PIPE COUPLING
Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(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"	2	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

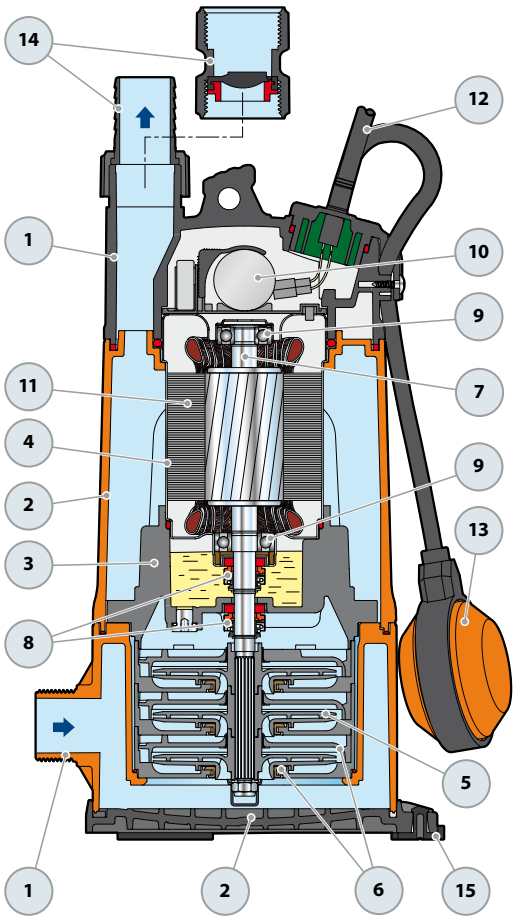
13 FLOAT SWITCH

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

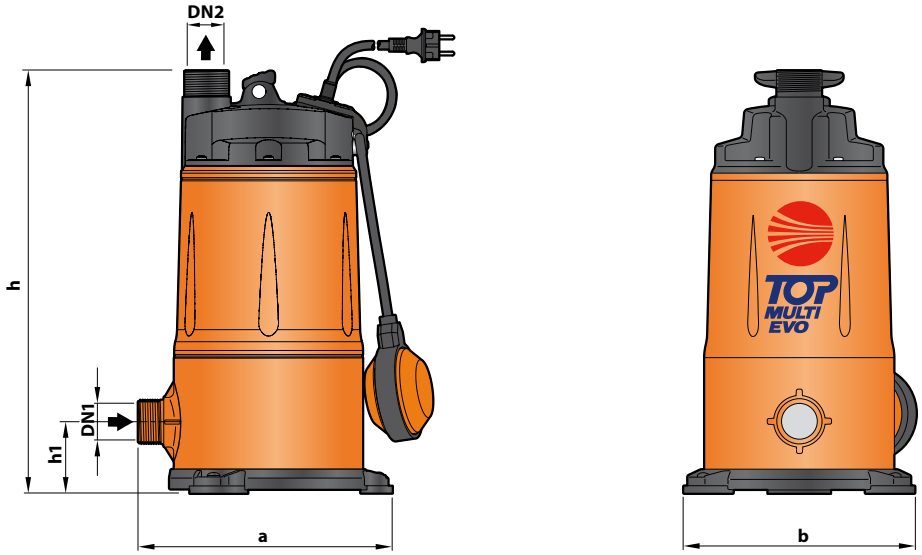
(Included in the equipment)

15 ANTI-VIBRATION SUPPORTS



DIMENSIONS AND WEIGHT

Standard installation



MODEL			N. STAGES	DIMENSIONS mm				kg
Single-phase	DN1	DN2		a	b	h	h1	
TOP MULTI 2-EVO	1¼"	1¼"	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 m^3/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

CE

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

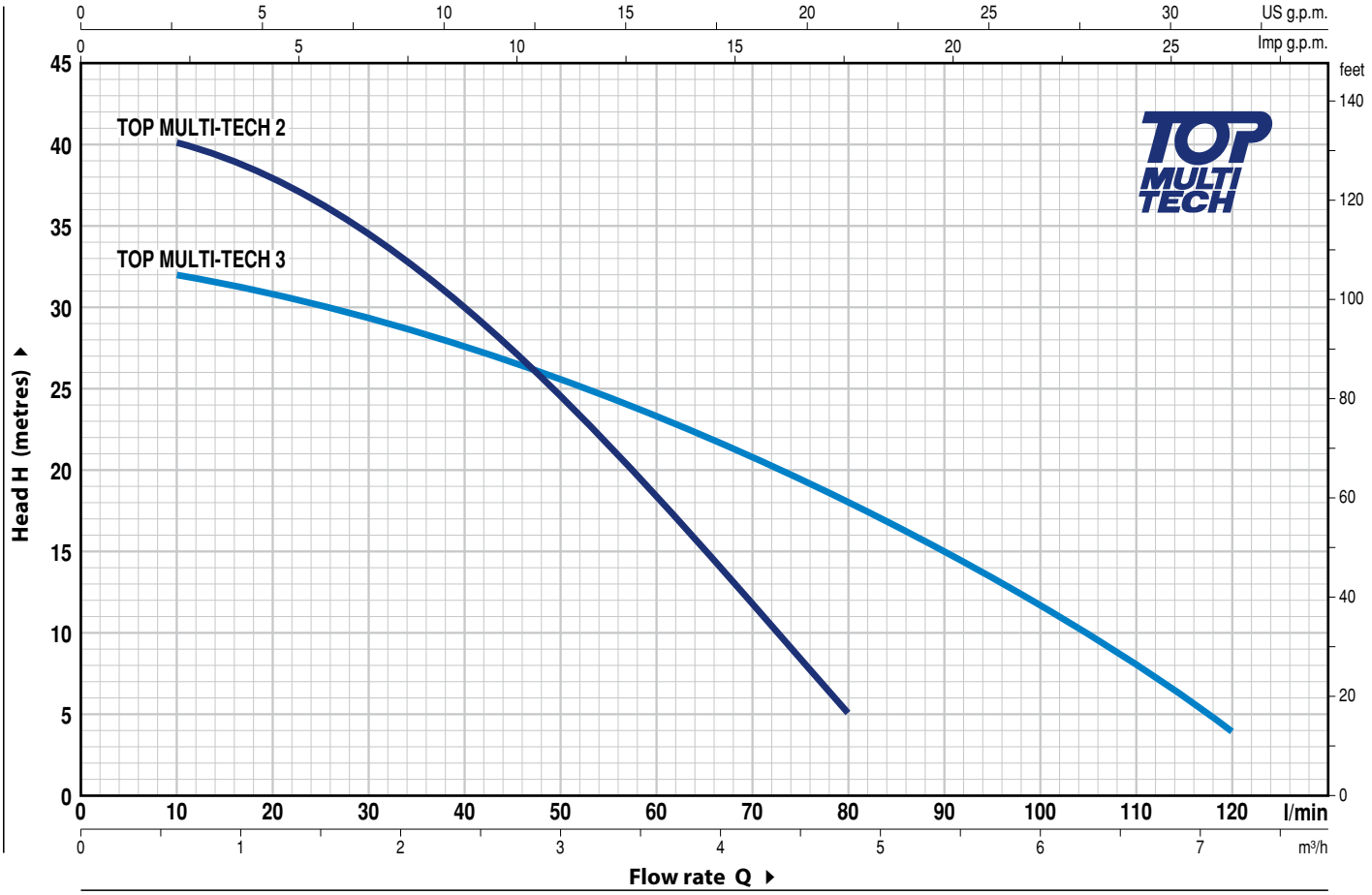
- Patent n. EP2990653
- TOP MULTI® Registered Trade Mark n. 0001334477

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



MODEL	POWER (P2)		Q													
Single-phase	kW	HP	m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
			l/min	**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

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

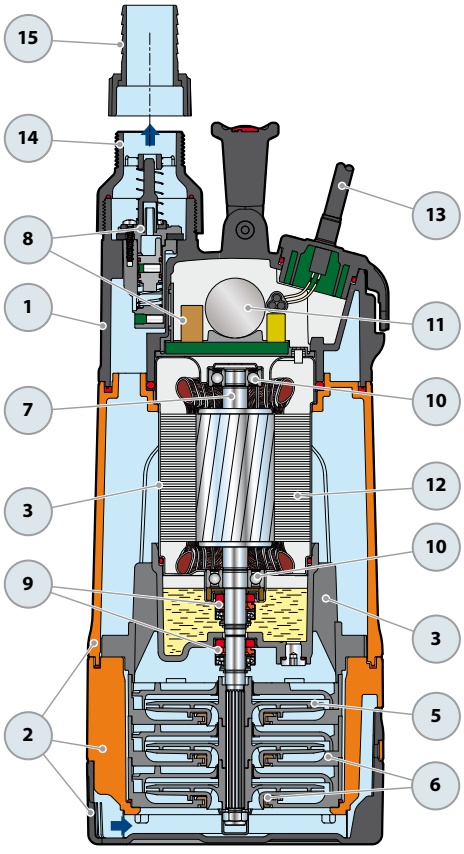
12 ELECTRIC MOTOR

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

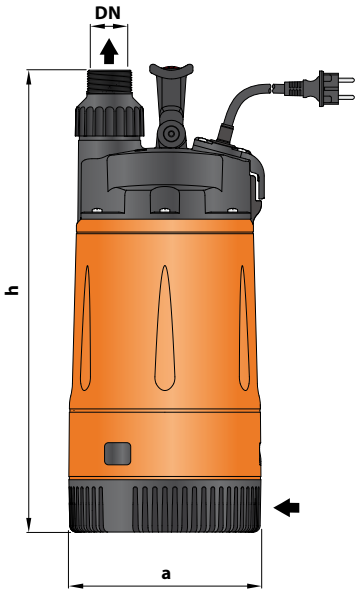
13 POWER CABLE
"H07 RN-F" with Schuko plug
Standard length 10 metres

14 THREADED CONNECTOR
Threaded connector 1¼"

15 HOSE CONNECTOR WITH RING NUT
Ø 35 mm hose connection

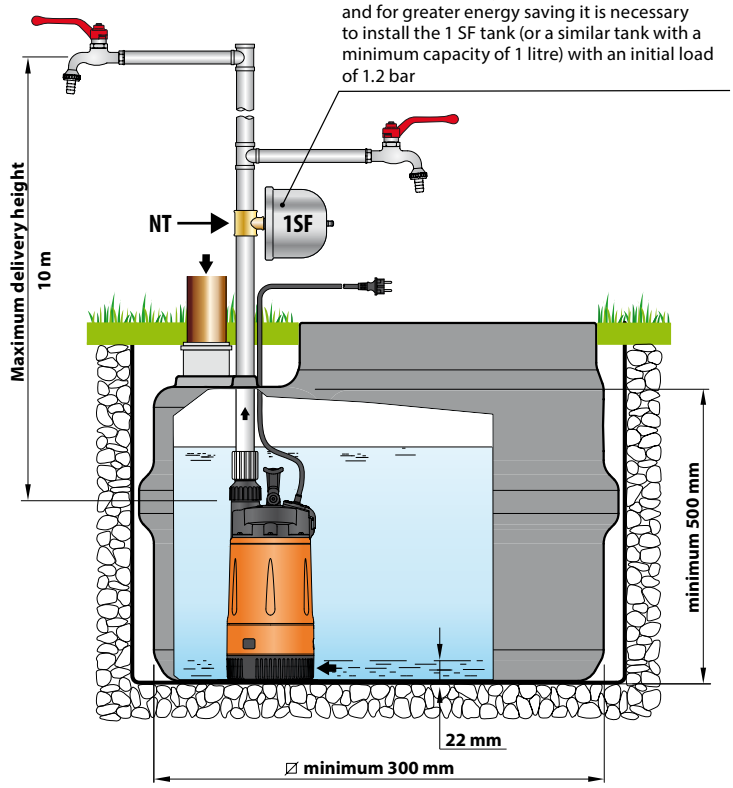


DIMENSIONS AND WEIGHT



MODEL Single-phase	PORT DN	N. STAGES	DIMENSIONS mm a	 h	kg
TOP MULTI-TECH 2	1¼"	3	178	428	9.3
TOP MULTI-TECH 3					

Standard installation



ABSORPTION

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

PALLETIZATION

MODEL Single-phase	GROUPAGE n. pumps	CONTAINER 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	½" (male)	1 litre	1.2 bar	10 bar
3-way fitting **NT 1.25**	500160001	1¼"- 1¼" - ½" 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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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.

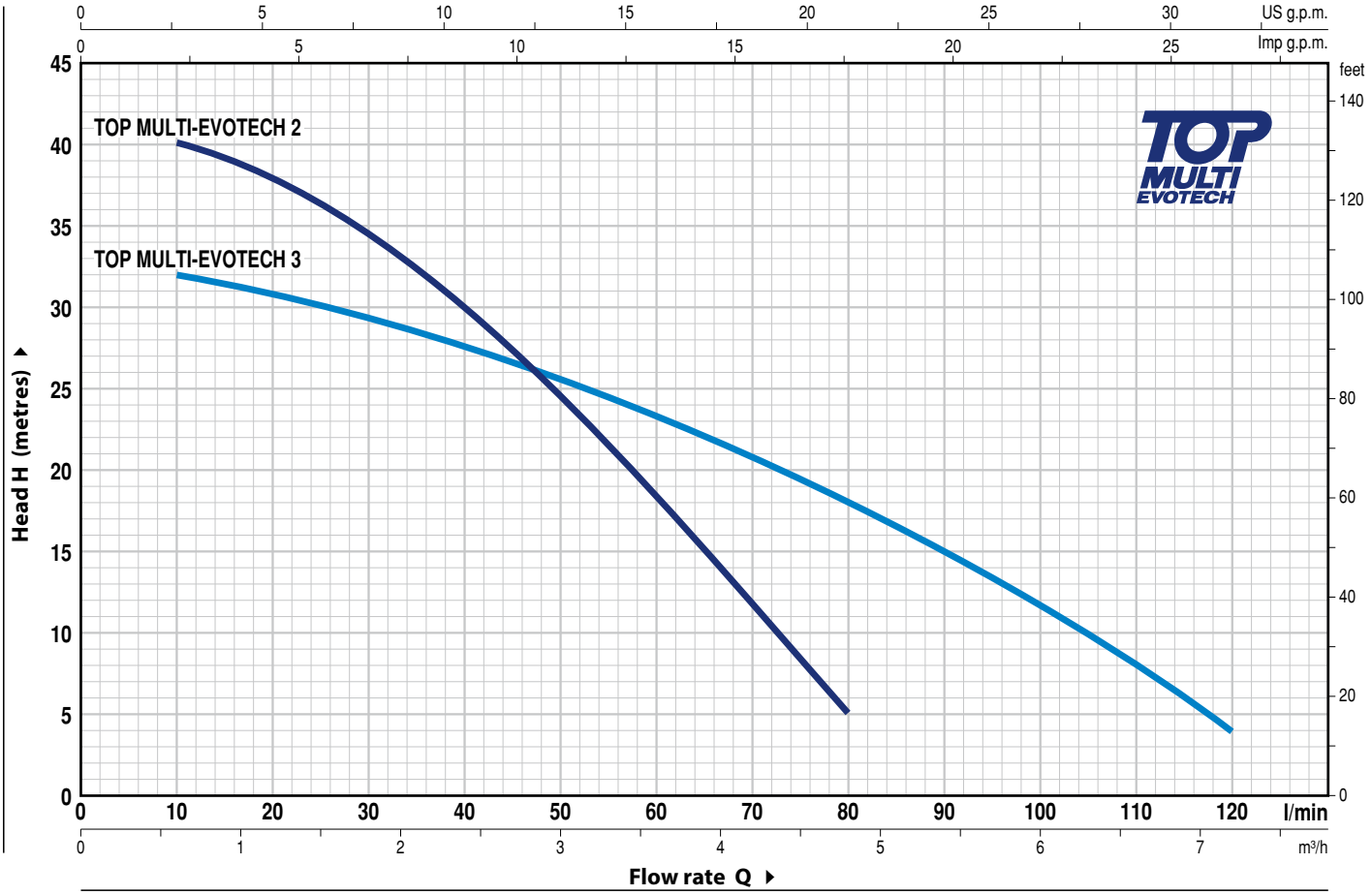
OPTIONS AVAILABLE ON REQUEST

- 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}

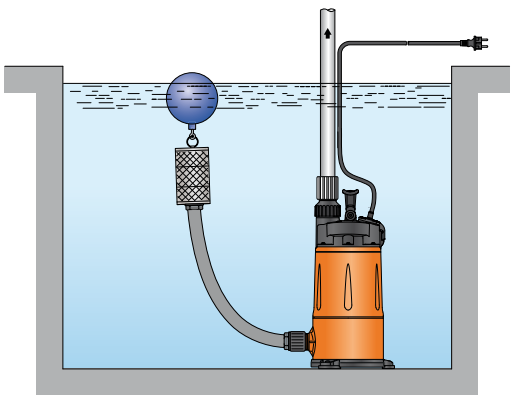


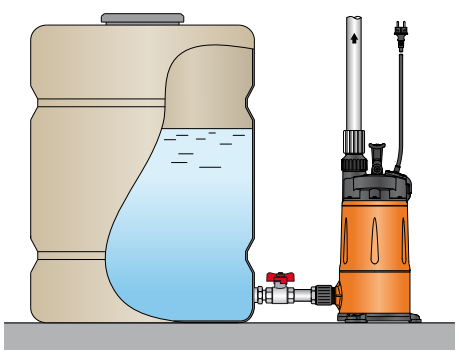
MODEL	POWER (P2)		Q	m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2
Single-phase	**kW**	**HP**		l/min	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**	**120**
TOP MULTI-EVOTECH 2	0.55	0.75	**H**	metres	42	40	38	34	30	24	18	11.5	5				
TOP MULTI-EVOTECH 3	0.55	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

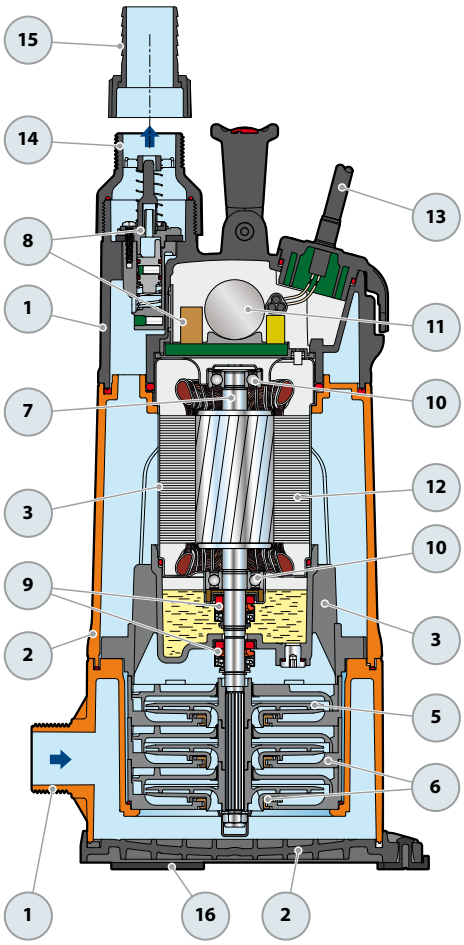
TOP MULTI-EVOTECH: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding.
– Insulation: class F
– Protection: IP X8

13 POWER CABLE
"H07 RN-F" with Schuko plug
Standard length 10 metres

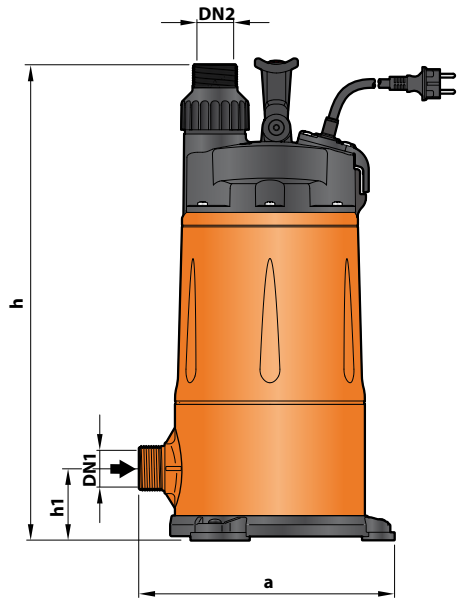
14 THREADED CONNECTOR
Threaded connector 1¼"

15 HOSE CONNECTOR WITH RING NUT
Ø 35 mm hose connection

16 ANTI-VIBRATION SUPPORTS

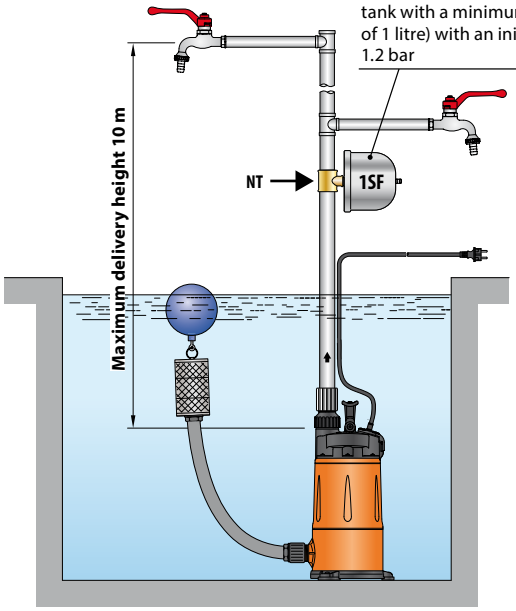


DIMENSIONS AND WEIGHT



Standard installation

To operate correctly avoiding frequent restarts and for greater energy saving it is necessary to install the 1 SF tank (or a similar tank with a minimum capacity of 1 litre) with an initial load of 1.2 bar



MODEL Single-phase	DN1	DN2	N. STAGES	DIMENSIONS mm a	 h	 h1	kg
TOP MULTI 2-EVOTECH	**1¼"**	**1¼"**	3	239	442	68	**9.9**
TOP MULTI 3-EVOTECH							

ABSORPTION

MODEL Single-phase	VOLTAGE 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 Single-phase	GROUPAGE n. pumps	CONTAINER 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	½" (male)	1 litre	1.2 bar	10 bar
3-way fitting **NT 1.25**	500160001	1¼"- 1¼" - ½" gas	–	–	–

TOP

Submersible DRAINAGE pumps

Clear water

Domestic use

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

The **TOP** series is suitable for use with **clear water** that does not contain abrasive particles.
Because of the design solutions that have been adopted, such as the complete cooling of the motor and the shaft with double seal, these pumps are easy to use and reliable.
They are suitable for use in applications such as draining small flooded areas (rooms, cellars, garages) in the event of an emergency, for the disposal of waste water in the home (from dishwashers, washing machines) and for emptying drainage traps.

PATENTS - TRADE MARKS - MODELS

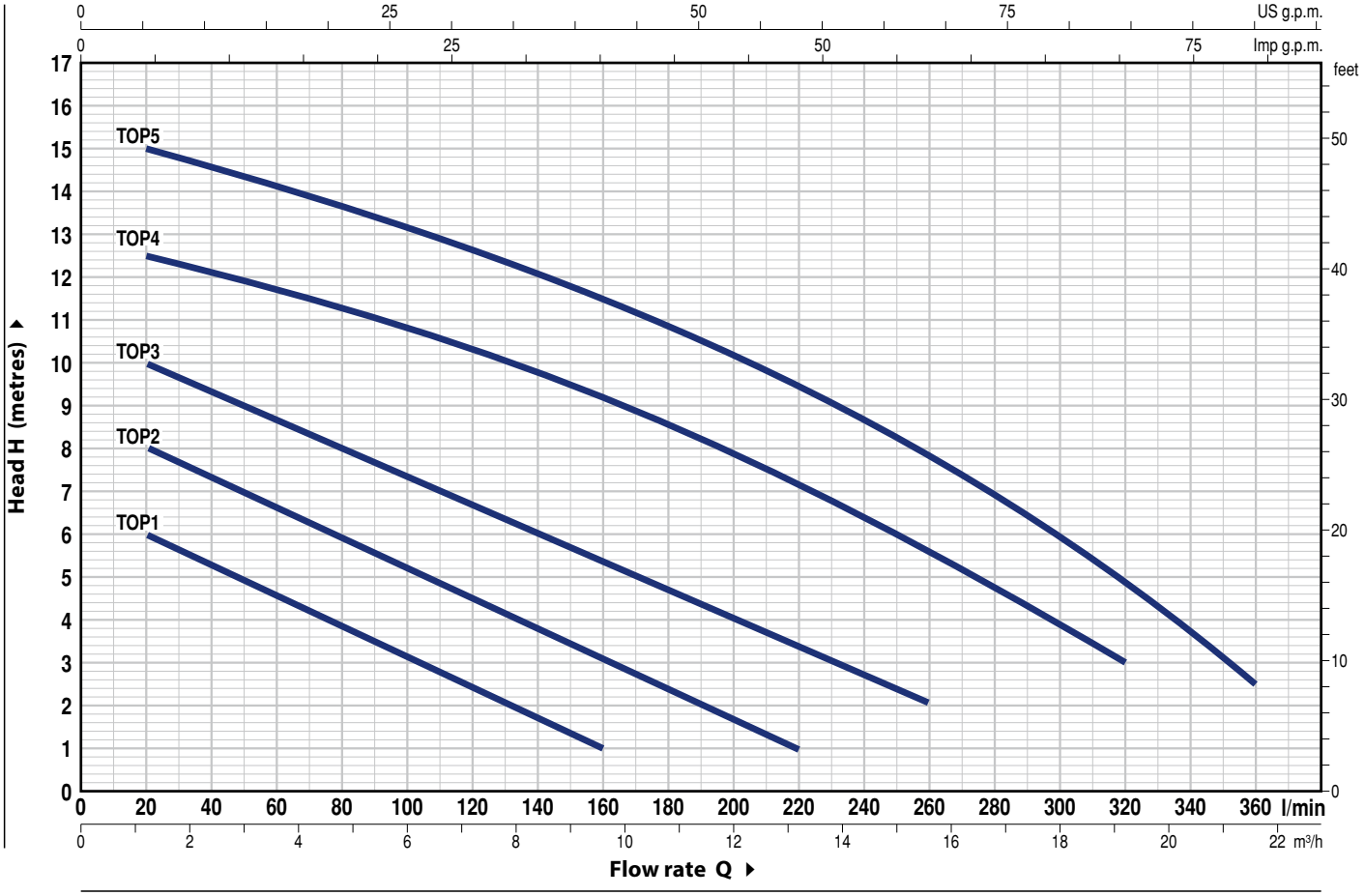
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

OPTIONS AVAILABLE ON REQUEST

- "**TOP-GM**" pumps with vertical float switch (suitable for particularly small wells)
- "**TOP 2-3 LA**" pumps intended for use with aggressive liquids
- Special mechanical seal
- TOP 1-2-3 pumps with **10 m** long power cable
  ➠ N.B. Standard EN 60335-2-41 states that the power cable must be 10 m long for outdoor applications
- Pumps without float switch
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



MODEL	POWER (P2)		Q	m³/h	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
Single-phase	kW	HP		l/min	**0**	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**	**320**	**340**	**360**
TOP 1	0.25	0.33	**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	*Seal*	*Shaft*	*Materials*			
Model	***Model***	***Diameter***	*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

11 BEARINGS — **6201 ZZ / 6201 ZZ**

12 CAPACITOR

Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
TOP 1	**10** µF 450 VL	**16** µF - 250 VL
TOP 2	**10** µF 450 VL	**16** µF - 250 VL
TOP 3	**14** µF 450 VL	**16** µF - 250 VL

13 ELECTRIC MOTOR

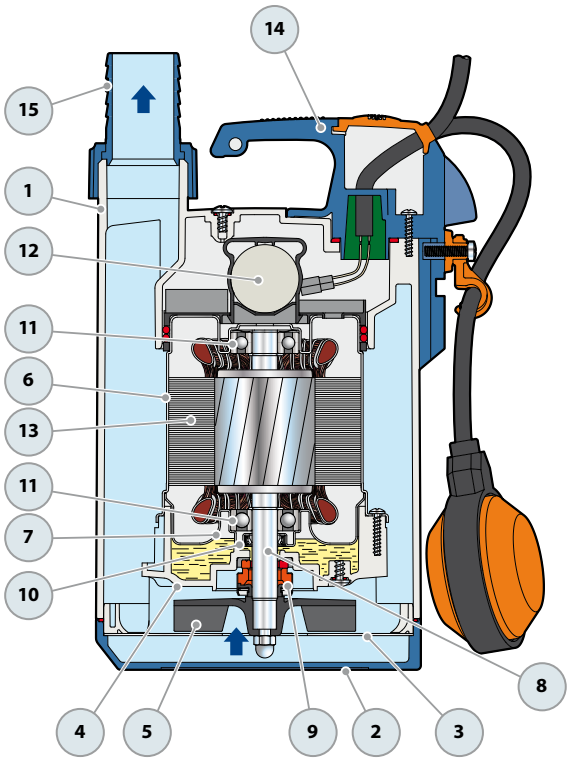
TOP: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding.
– Insulation: class F
– Protection: IP X8

14 HANDLE ASSEMBLY (resin sealed)

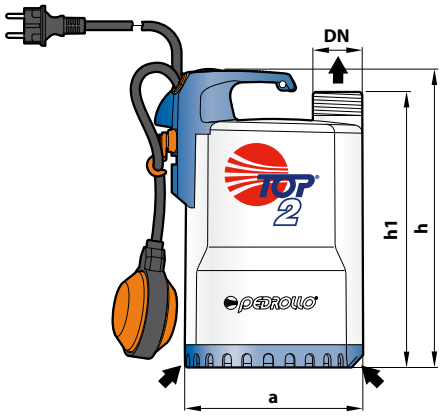
Complete with:
– **5 metres** long "H07 RN-F" power cable with Schuko plug
– Float switch
(Vertical float switch in the GM versions)

15 HOSE CONNECTOR WITH RING NUT

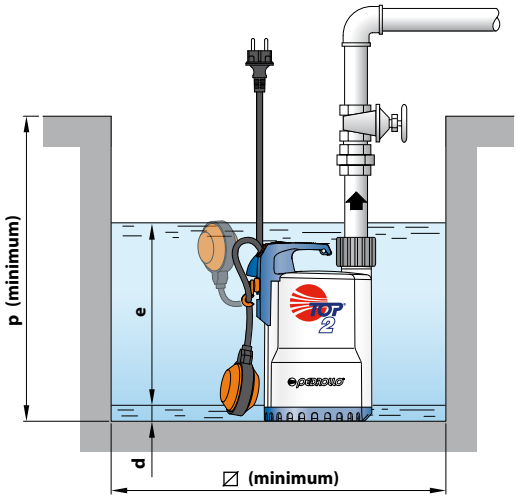
Ø 25 mm hose connection for TOP 1
Ø 35 mm for TOP 2-3



DIMENSIONS AND WEIGHT

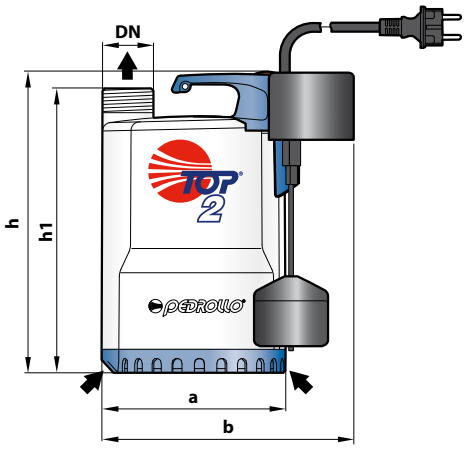


Standard installation

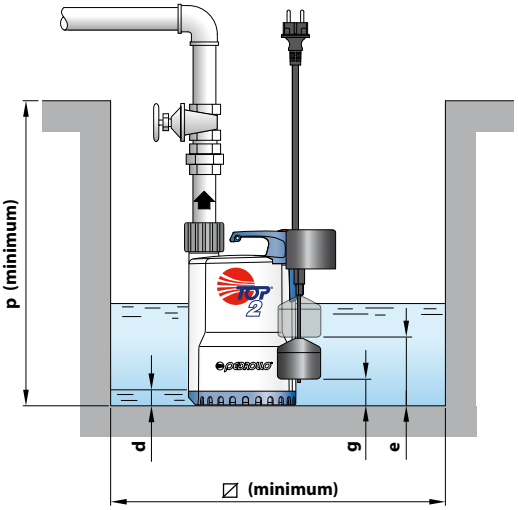


MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	p	⍁	
TOP 1	1¼"	152	260	240	14	variable	350	350	5.3
TOP 2									5.3
TOP 3			290	271					6.7

Version with vertical float switch



Standard installation



MODEL	PORT	DIMENSIONS mm									kg
Single-phase	DN	a	b	h	h1	d	e	g	p	⍁	
TOP 1-GM	1¼"	152	200	260	241	14	140	35	350	220	5.4
TOP 2-GM											5.4
TOP 3-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	*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

10 BEARINGS **6203 ZZ / 6203 ZZ**

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)

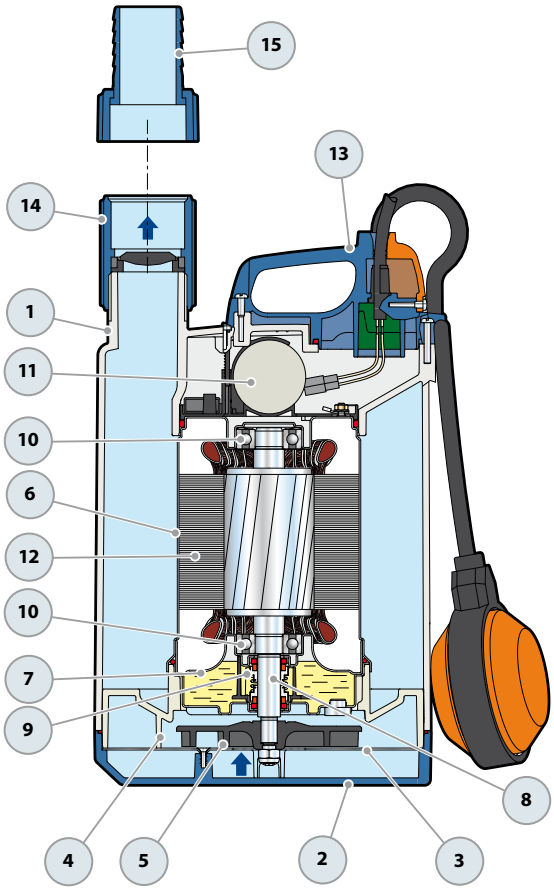
Complete with:
– **10 metres** long "H07 RN-F" power cable with Schuko plug
– Float switch
(Vertical float switch in the GM versions)

14 PIPE COUPLING

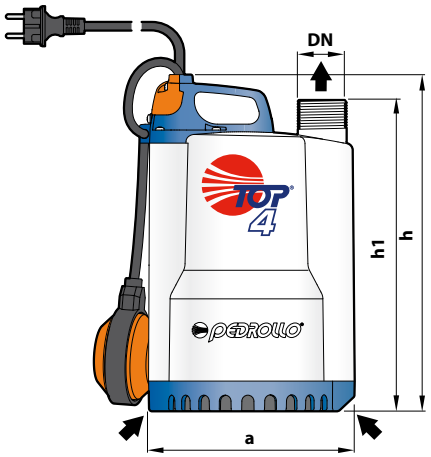
In technopolymer with **1½"** thread and non-return valve

15 HOSE CONNECTOR WITH RING NUT

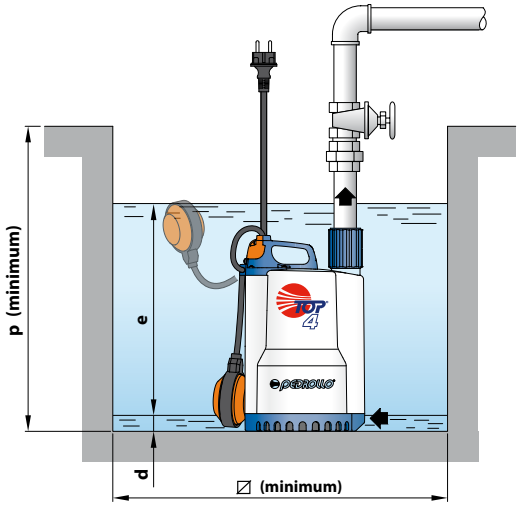
Hose connection **Ø 41** mm



DIMENSIONS AND WEIGHT

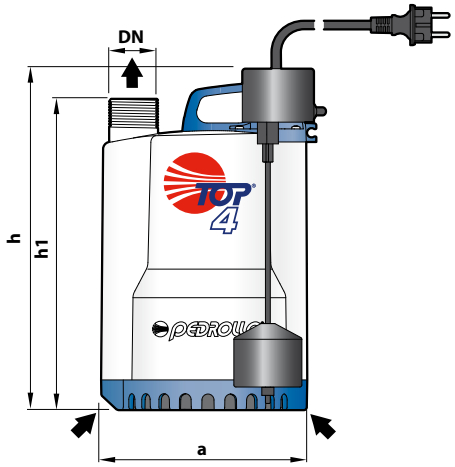


Standard installation

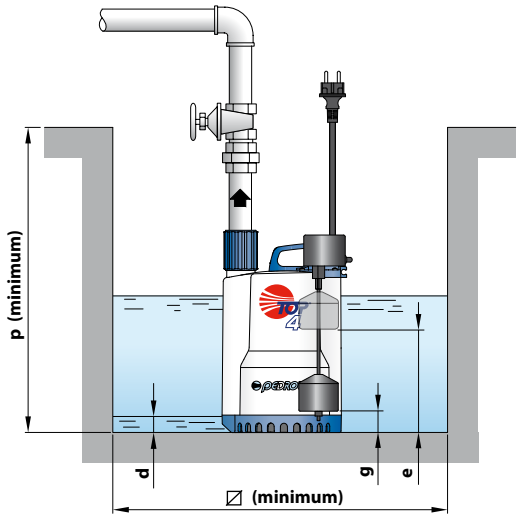


MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	p	⍁	
TOP 4	1½"	204	337	313	30	variable	450	450	10.3
TOP 5									11.3

Version with vertical float switch



Standard installation



MODEL	PORT	DIMENSIONS mm								kg
Single-phase	DN	a	h	h1	d	e	g	p	⍁	
TOP 4 - GM	1½"	204	337	313	30	220	65	450	300	10.4
TOP 5 - GM										11.4

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

CE

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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

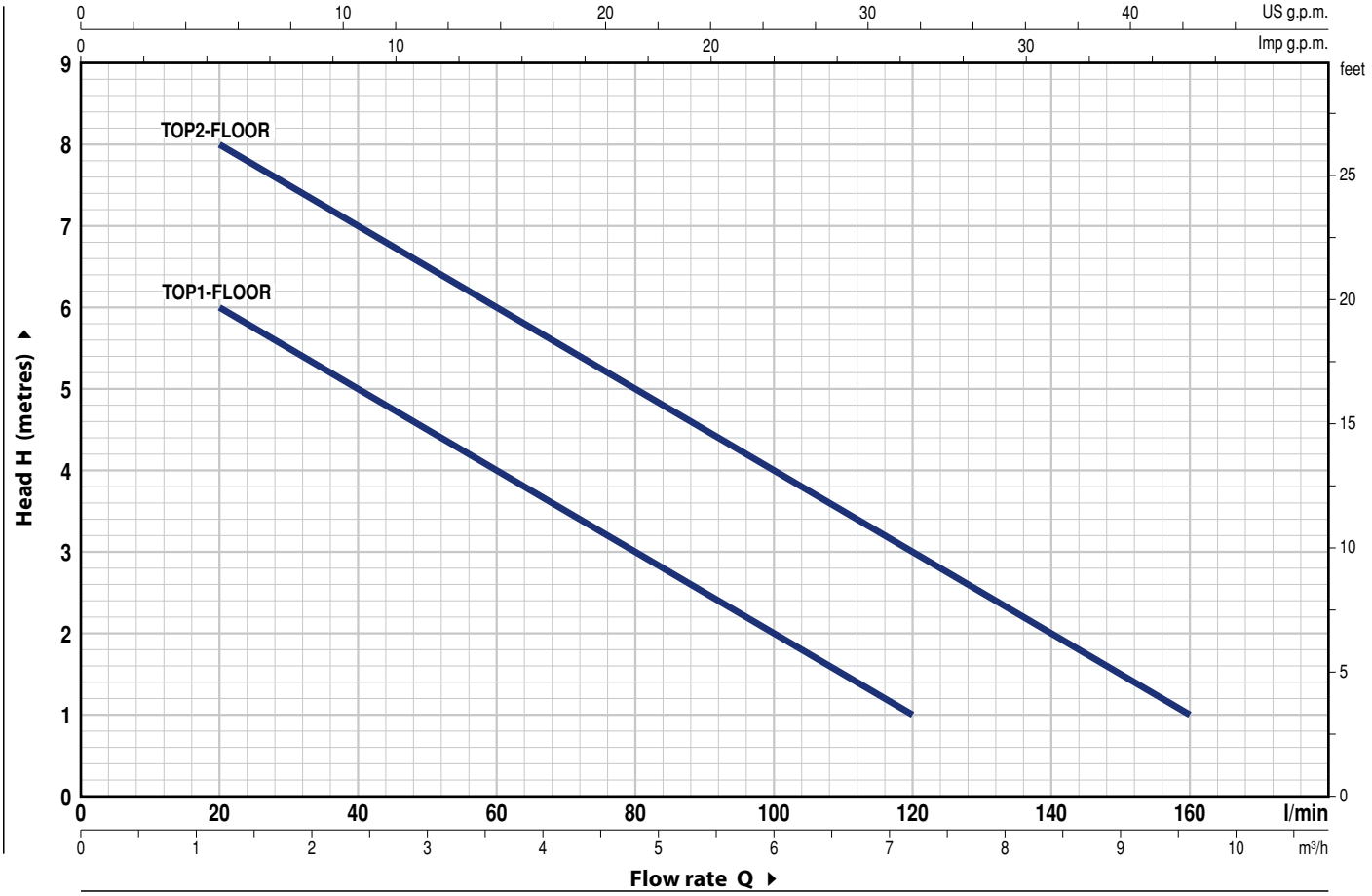
- Registered EU Design n. 342159-0011

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	POWER (P2)		Q									
Single-phase	kW	HP	m³/h	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6
			l/min	**0**	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**
TOP 1-FLOOR	0.25	0.33	**H** metres	7	6	5	4	3	2	1		
TOP 2-FLOOR	0.37	0.50		9	8	7	6	5	4	3	2	1

Q = Flow rate **H** = Total manometric head

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

TOP-FLOOR

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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

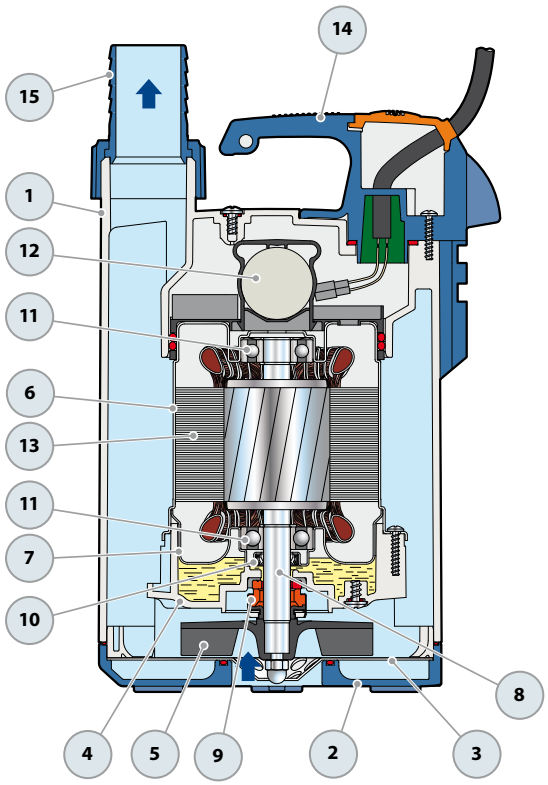
TOP-FLOOR: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding.
– Insulation: class F
– Protection: IP X8

14 HANDLE ASSEMBLY (resin sealed)

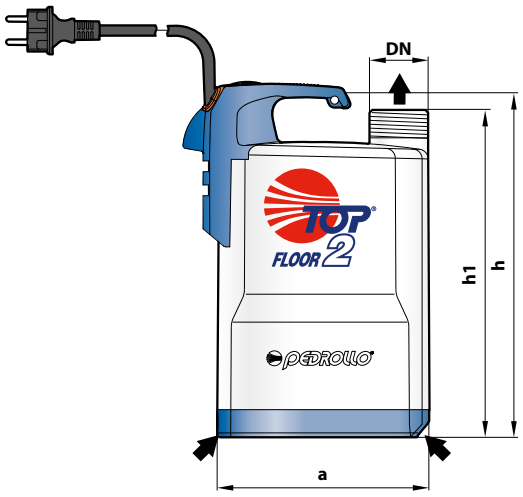
Complete with 5 metres long "H07 RN-F" **power c**able with Schuko plug

15 HOSE CONNECTOR WITH RING NUT

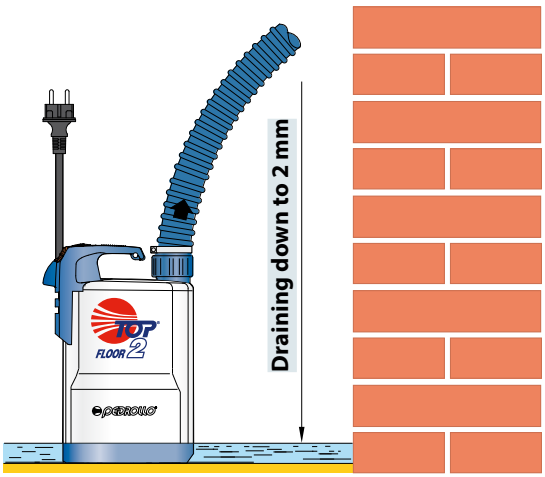
Ø 25 mm hose connection for TOP1 - FLOOR
Ø 35 mm hose connection for TOP2 - FLOOR



DIMENSIONS AND WEIGHT



Standard installation



MODEL	PORT	DIMENSIONS mm			Minimum drying level	kg
Single-phase	DN	a	h	h1		
TOP 1-FLOOR	1¼"	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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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

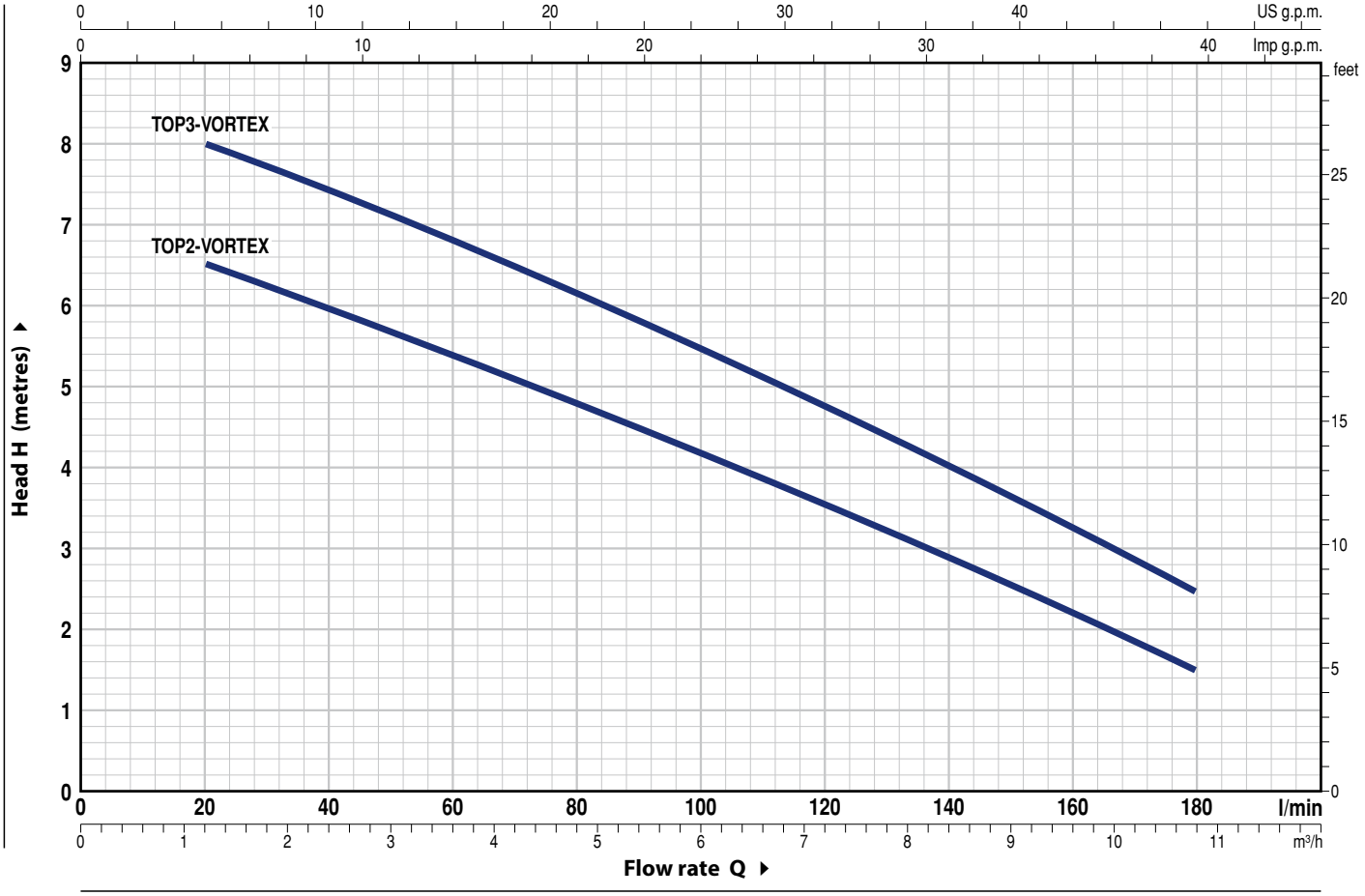
- Patent n. IT0001428923
- Registered EU Design n. 342159-0011

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	POWER (P2)		Q										
Single-phase	kW	HP	m³/h	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8
			l/min	**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

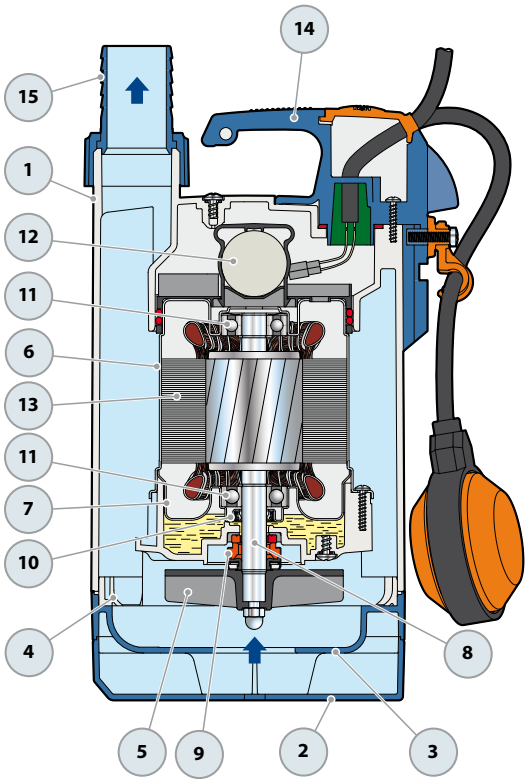
TOP-VORTEX: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding.
– Insulation: class F
– Protection: IP X8

14 HANDLE ASSEMBLY (resin sealed)

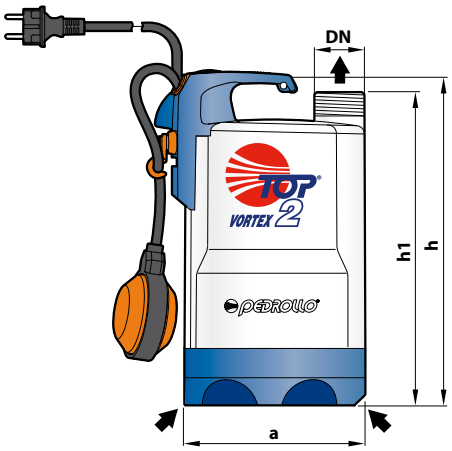
Complete with:
– **5 metres** long "H07 RN-F" power cable with Schuko plug
– Float switch
(Vertical float switch in the GM versions)

15 HOSE CONNECTOR WITH RING NUT

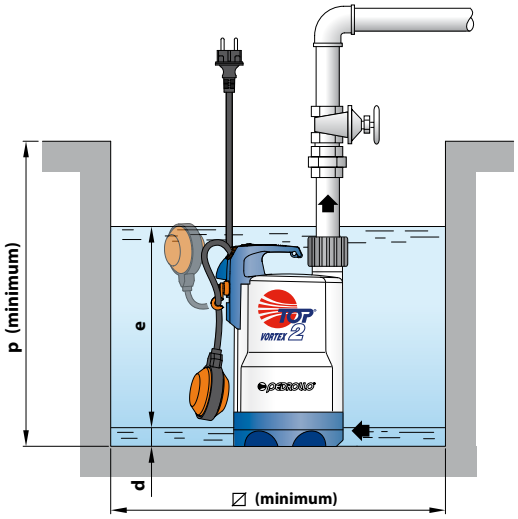
Hose connection **Ø 35** mm



DIMENSIONS AND WEIGHT

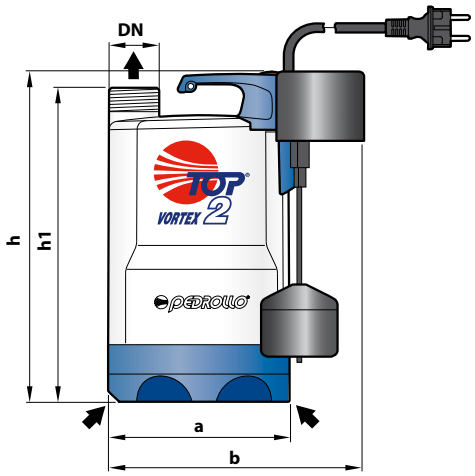


Standard installation

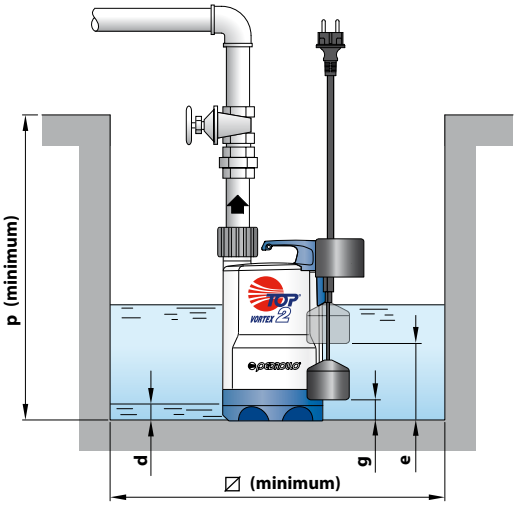


MODEL	PORT	DIMENSIONS mm							kg
Single-phase	DN	a	h	h1	d	e	p	⍁	
TOP 2 - VORTEX	1¼"	152	288	268	25	variable	350	350	5.3
TOP 3 - VORTEX			318	298					6.7

Version with vertical float switch



Standard installation



MODEL	PORT	DIMENSIONS mm									kg
Single-phase	DN	a	b	h	h1	d	e	g	p	⍁	
TOP 2 - VORTEX/GM	1¼"	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**

Submersible pumps

Sewage water

Domestic use

PERFORMANCE RANGE

- Flow rate up to **240 l/min** (14.4 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

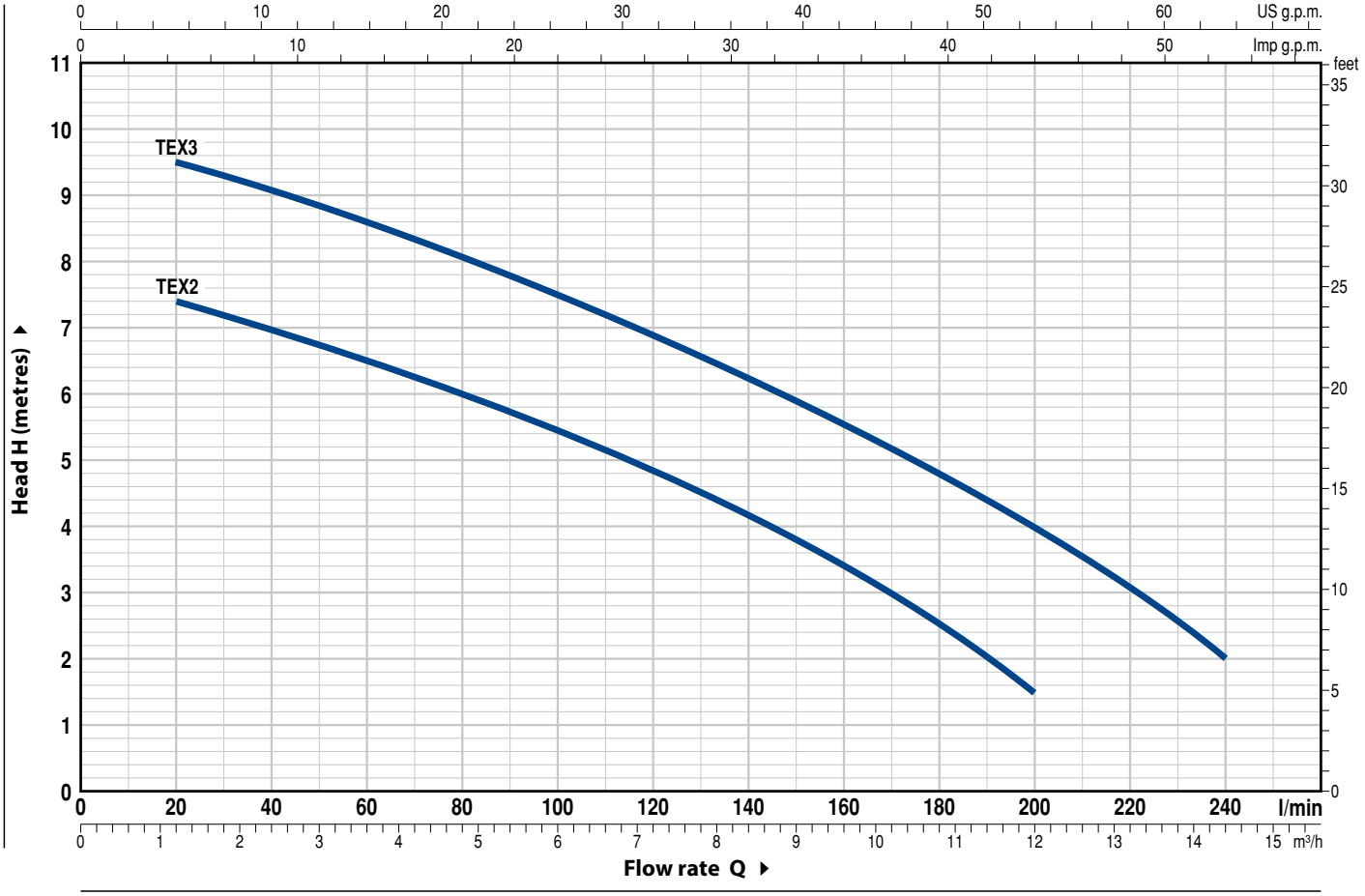
- Registered EU Design n. 005205556
- **TEX®** Registered Trade Mark n. 017884160

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	POWER (P2)		Q	m³/h	0	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0	14.4
Single-phase	**kW**	**HP**		l/min	**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

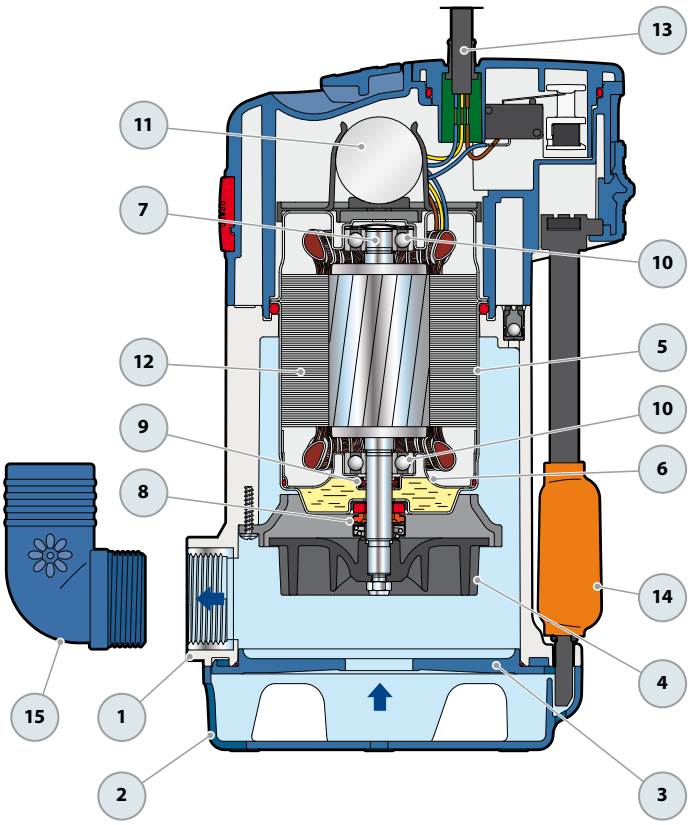
Standard length 5 metres

14 LEVEL FLOAT SWITCH

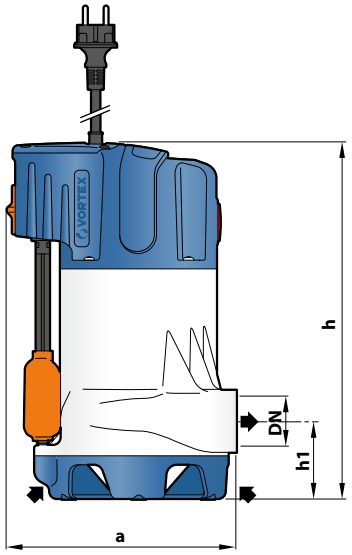
Liquid level vertical sliding magnetic float switch (adjustable)

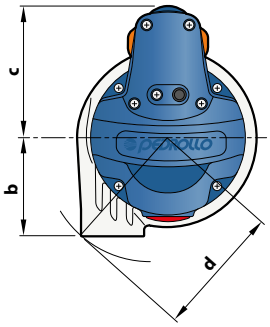
15 HOSE CONNECTION

Ø 40 mm

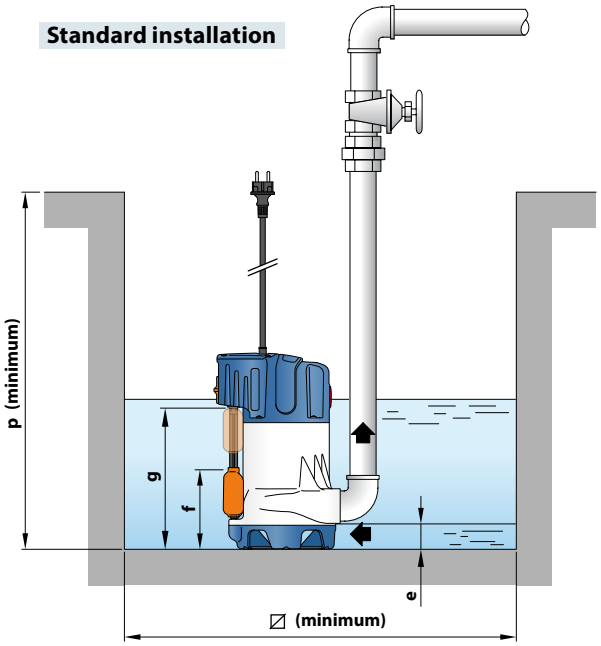


DIMENSIONS AND WEIGHT





Standard installation



MODEL	PORT	Passage of solids	DIMENSIONS mm											kg
Single-phase	DN		a	b	c	d	h1	h	e	f	g	p	⍁	1~
TEX 2	1¼"	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

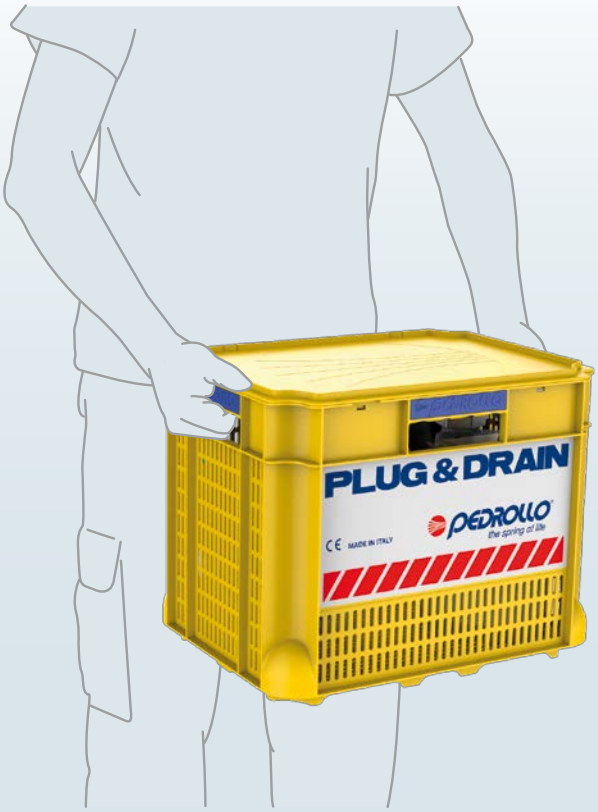
PALLETIZATION

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.

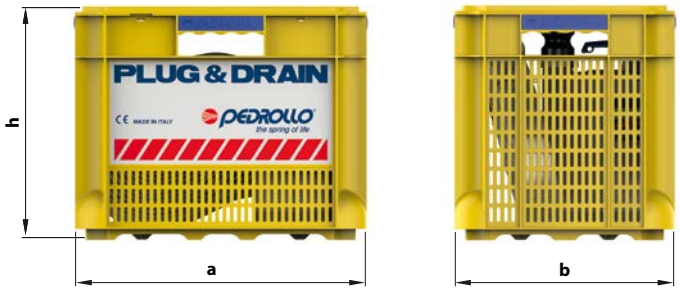
In order to drain the residual water disconnect the pump from the crate and place it on the floor. The pump will be able to drain down to a level of only 2 mm from the bottom.

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 **1¼"**

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

RX

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

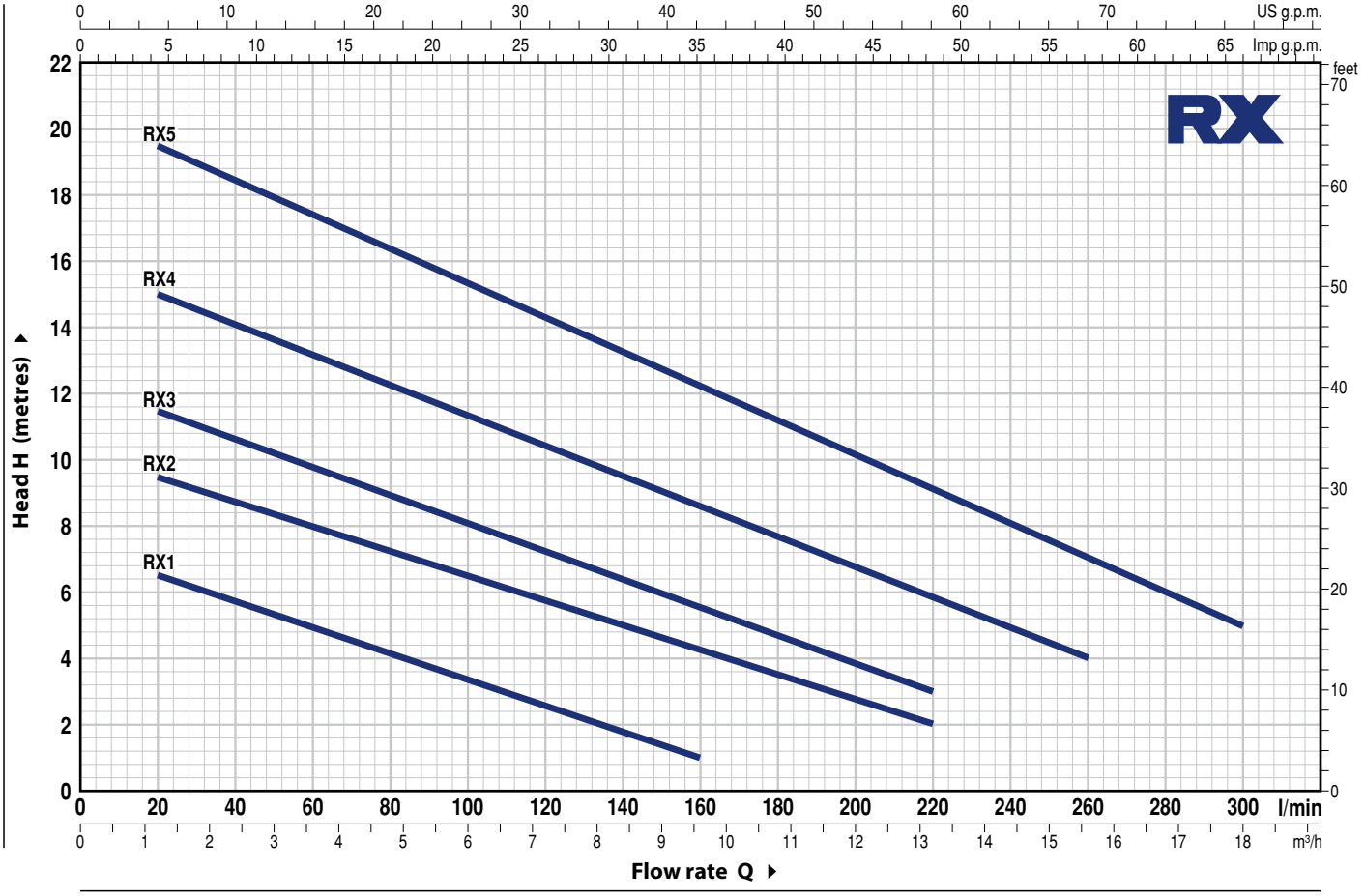
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q	m³/h	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**		l/min	**0**	**20**	**60**	**100**	**140**	**160**	**200**	**220**	**260**	**300**
RXm 1	**RX 1**	0.25	0.33	**H**	metres	7.5	6.5	5	3.5	2	1				
RXm 2	**RX 2**	0.37	0.50			10	9.5	8	6.5	5	4.5	2.5	2		
RXm 3	**RX 3**	0.55	0.75			12	11.5	9.5	8	6.5	5.5	3.5	3		
RXm 4	**RX 4**	0.75	1			16	15	13	11.5	9.5	8.5	6.5	5.5	4	
RXm 5	**RX 5**	1.1	1.5			20	19.5	17.5	15.5	13.5	12.5	10	9	7	5

Q = Flow rate **H** = Total manometric head

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

RX 1-2-3

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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

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)***	***(110 V)***
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

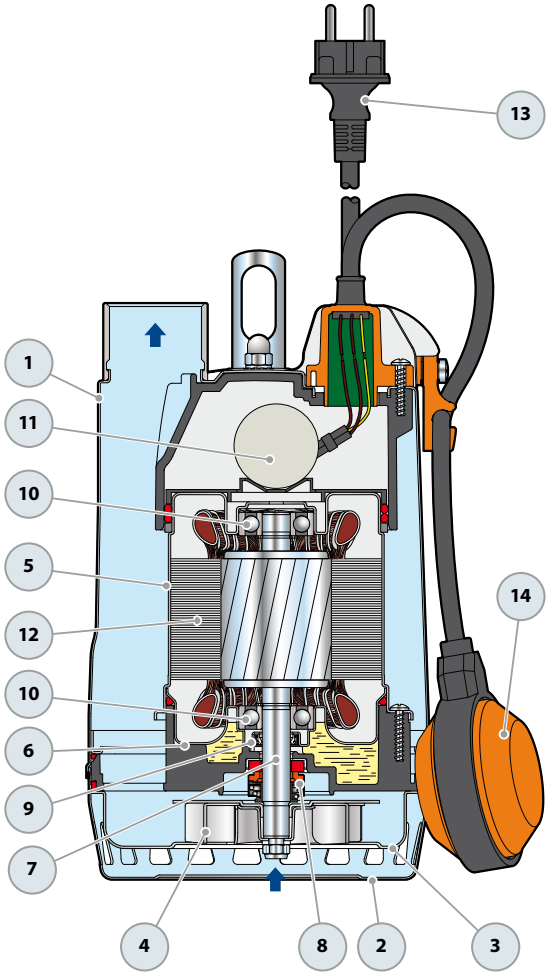
12 ELECTRIC MOTOR

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

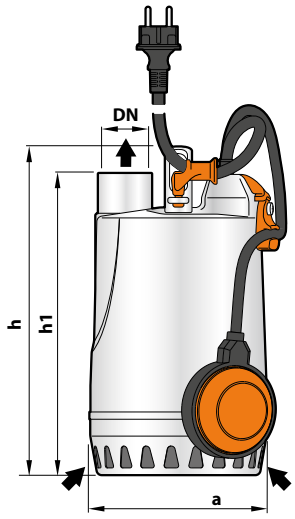
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres

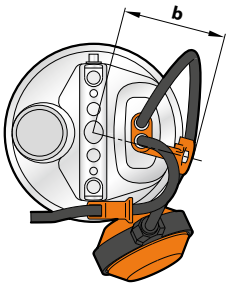
14 FLOAT SWITCH
(Only for single-phase versions)

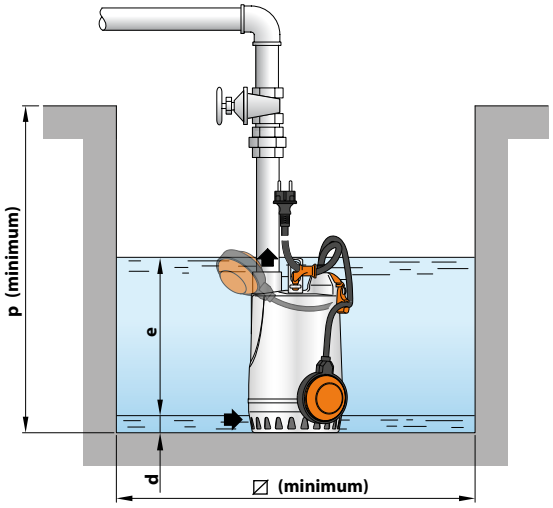


DIMENSIONS AND WEIGHT

Standard installation

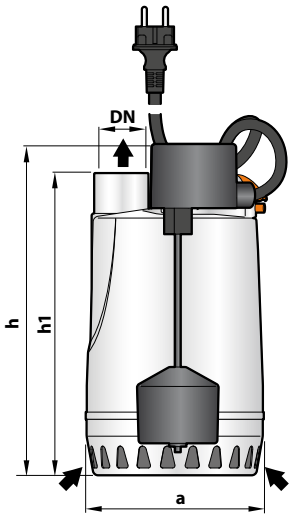


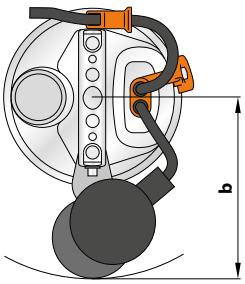




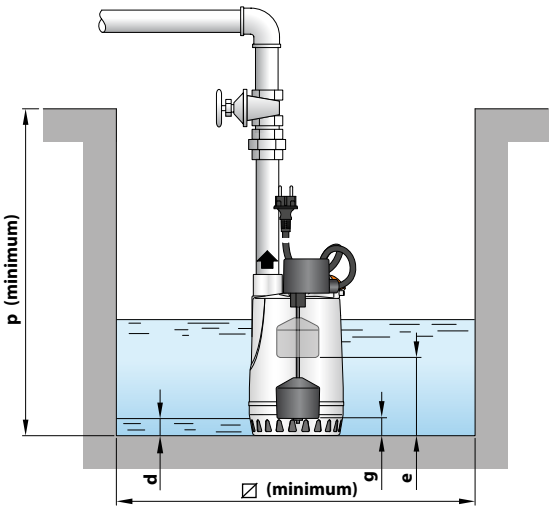
MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	⍁	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 1	RX 1	1¼"	147	24	269	246	14	variable	350	350	6.1	5.5	96	144
RXm 2	RX 2										6.1	5.6	96	144
RXm 3	RX 3				298	277					7.6	7.0	96	144

Version with vertical float switch





Standard installation



MODEL	PORT	DIMENSIONS mm									kg	PALLETIZATION	
Single-phase	DN	a	b	h	h1	d	e	g	p	⍁	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				300	277		175	45			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

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

9 BEARINGS **6203 ZZ-C3E / 6203 ZZ-C3E**

10 CAPACITOR

Pump	***Capacitance***	
Single-phase	***(230 V or 240 V)***	***(110 V)***
RXm 4	**20** µF 450 VL	**30** µF - 250 VL
RXm 5	**25** µF 450 VL	**30** µF - 250 VL

11 ELECTRIC MOTOR

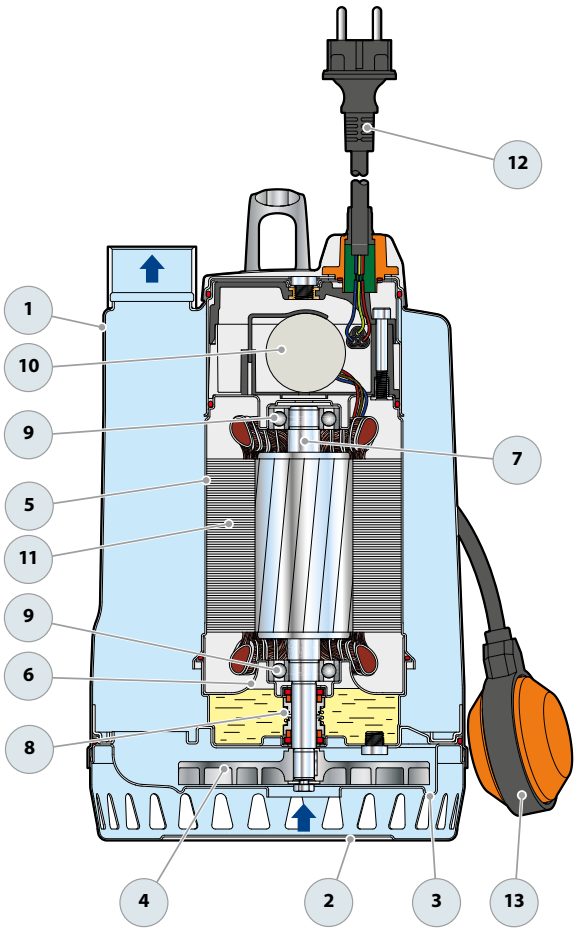
RXm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
RX: three-phase 400 V - 50 Hz
– Insulation: class F
– Protection: IP X8

12 POWER CABLE

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

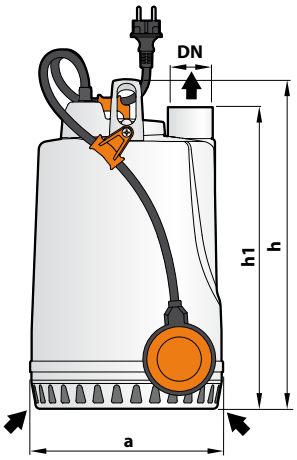
13 FLOAT SWITCH

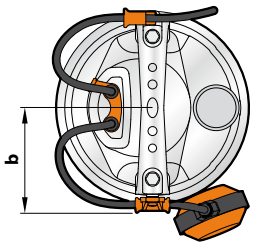
Only for single-phase versions
(Vertical float switch in the GM versions).

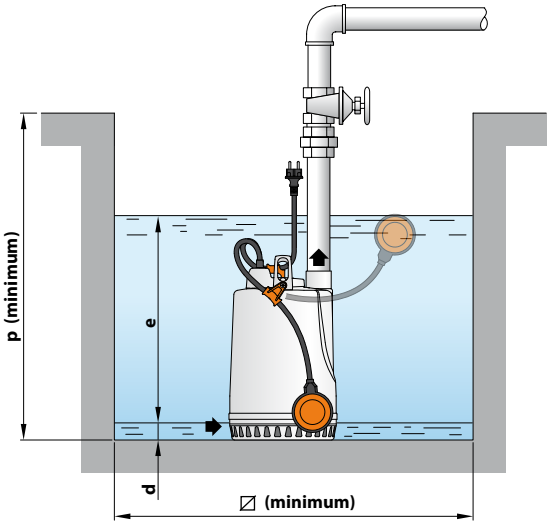


DIMENSIONS AND WEIGHT

Standard installation



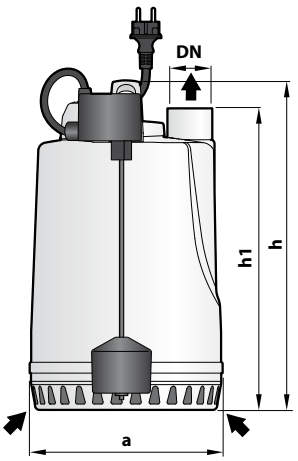


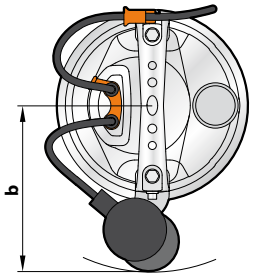


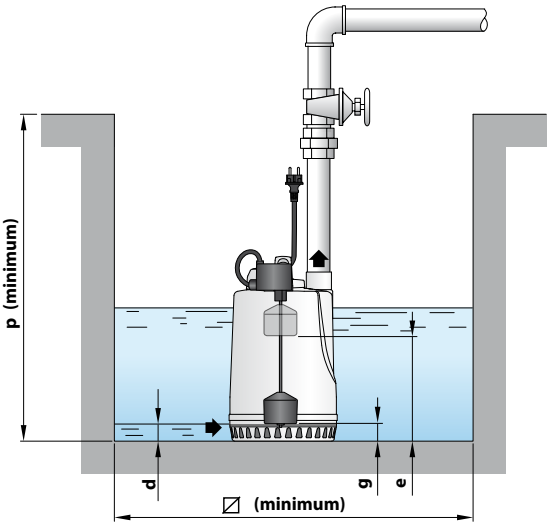
MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	⍁	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4	RX 4	1½"	220	118.5	370	336	25	variable	500	500	14.4	13.3	45	60
RXm 5	RX 5										15.4	14.4	45	60

Version with vertical float switch

Standard installation







MODEL	PORT	DIMENSIONS mm									kg	PALLETIZATION	
Single-phase	DN	a	b	h	h1	d	e	g	p	⍁	1~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4 - GM	1½"	220	186.5	370	336	25	250	50	500	300	16.7	45	60
RXm 5 - GM											15.8	45	60

ABSORPTION

MODEL	VOLTAGE	
Single-phase	230 V	240 V
RXm 4	**5.9** A	**5.9** A
RXm 5	**7.5** A	**7.5** A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
RX 4	**3.6** A	**2.1** A	**3.5** A	**2.0** A
RX 5	**6.1** A	**3.5** A	**5.9** A	**3.4** A

RX-VORTEX

Submersible pumps

Dirty water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **380 l/min** (22.8 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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

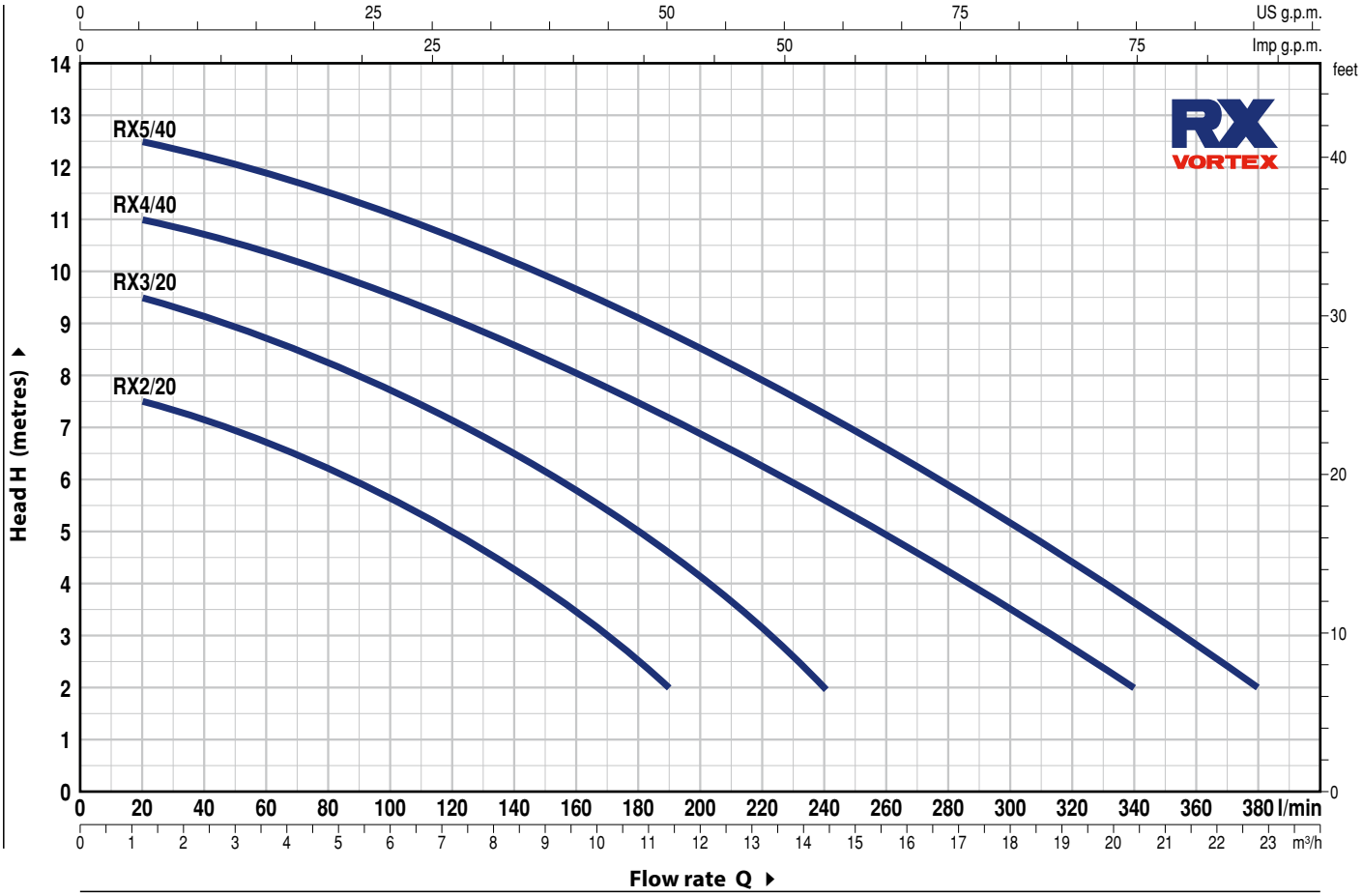
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q													
Single-phase	Three-phase	kW	HP	m³/h	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6	11.4	13.2	14.4	20.4	22.8
				l/min	**0**	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**	**190**	**220**	**240**	**340**	**380**
RXm 2/20	**RX 2/20**	0.37	0.50	**H** metres	8	7.5	7.1	6.7	6.2	5.7	5	4.3	3.4	2				
RXm 3/20	**RX 3/20**	0.55	0.75		10	9.5	9.1	8.7	8.2	7.7	7.1	6.5	5.8	4.6	3.2	2		
RXm 4/40	**RX 4/40**	0.75	1		11.2	11	10.7	10.4	10	9.5	9	8.5	8	7.1	6.2	5.6	2	
RXm 5/40	**RX 5/40**	1.1	1.5		13	12.5	12.2	11.9	11.5	11.1	10.6	10.1	9.6	8.8	7.9	7.3	3.6	2

Q = Flow rate **H** = Total manometric head

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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

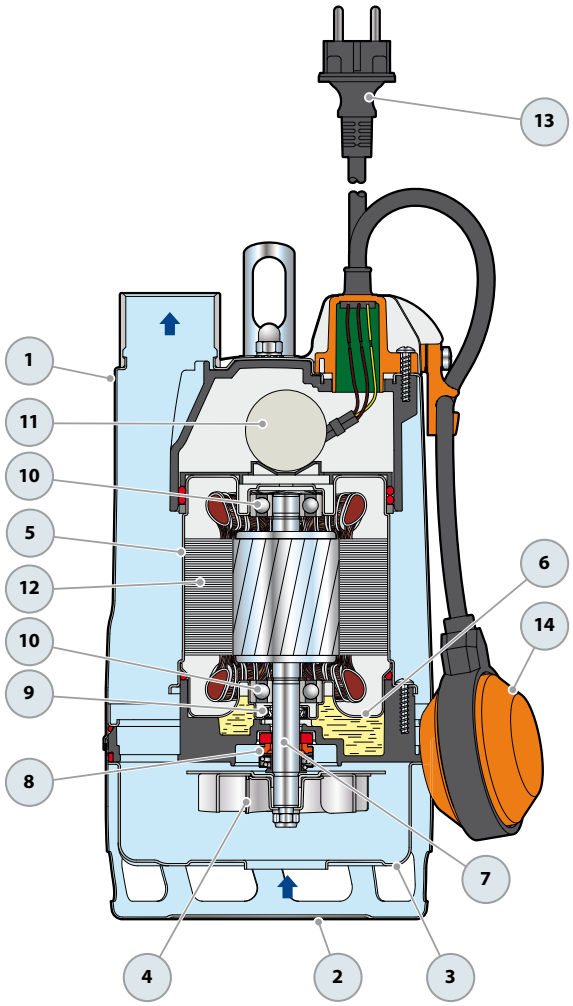
RXm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
RX: three-phase 400 V - 50 Hz

– Insulation: class F
– Protection: IP X8

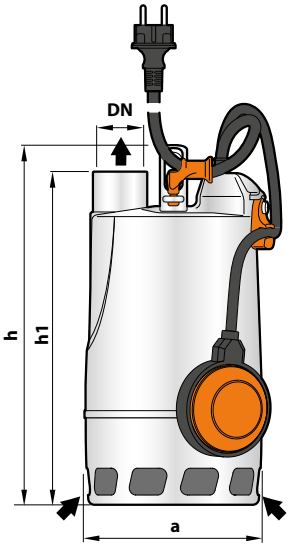
13 POWER CABLE

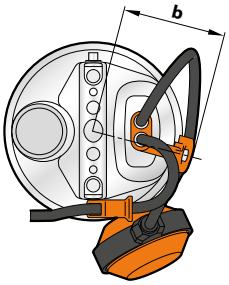
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres

14 FLOAT SWITCH
(Only for single-phase versions)

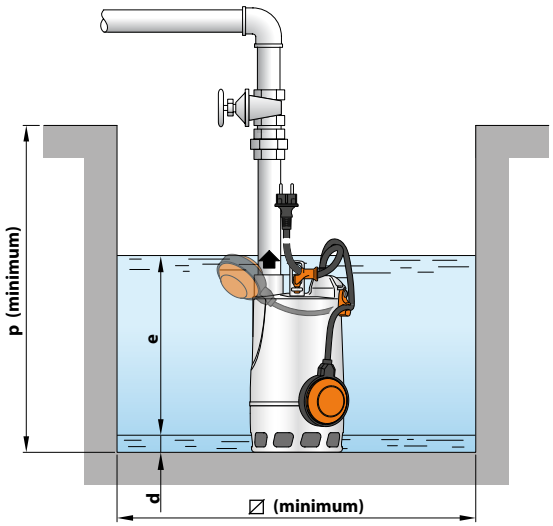


DIMENSIONS AND WEIGHT





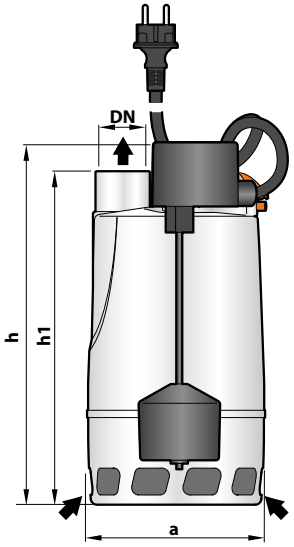
Standard installation

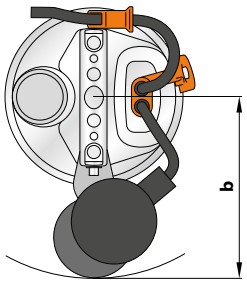


MODEL		PORT	DIMENSIONS mm								kg	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	⍁	1~	3~
RXm 2/20	RX 2/20	1¼"	147	83	302	278	25	variable	350	350	6.2	5.8
RXm 3/20	RX 3/20				330	308					7.3	7.0

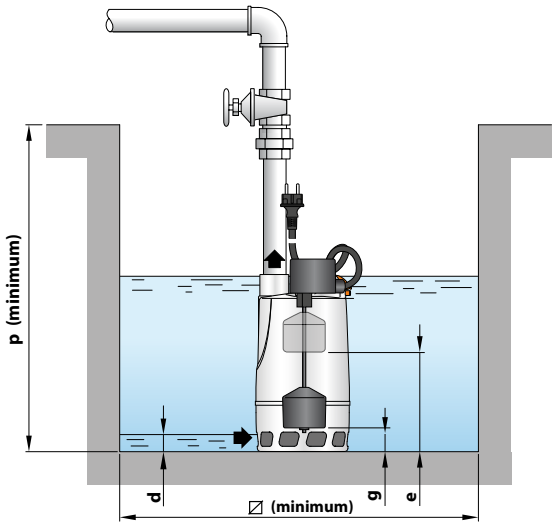
PALLETIZATION	
GROUPAGE n. pumps	CONTAINER n. pumps
96	144
96	144

Version with vertical float switch





Standard installation



MODEL	PORT	DIMENSIONS mm									kg
Single-phase	DN	a	b	h	h1	d	e	g	p	⍁	1~
RXm 2/20-GM	1¼"	147	150	300	278	25	180	50	350	240	6.3
RXm 3/20-GM				335	308		210	80			7.9

PALLETIZATION	
GROUPAGE n. pumps	CONTAINER n. pumps
96	144
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.	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 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

9 BEARINGS **6203 ZZ-C3E / 6203 ZZ-C3E**

10 CAPACITOR

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

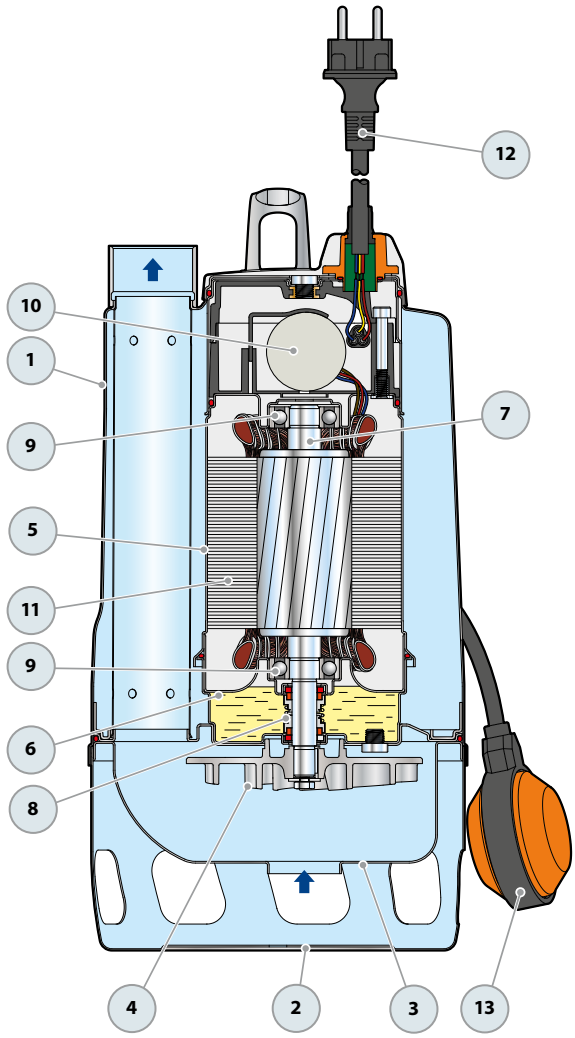
– Insulation: class F
– Protection: IP X8

12 POWER CABLE

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

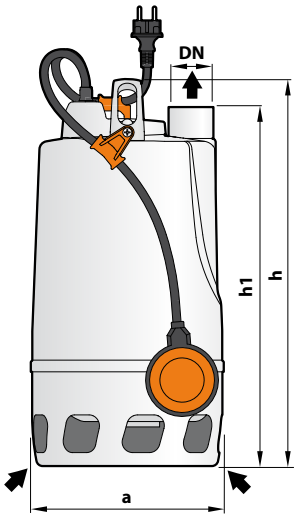
13 FLOAT SWITCH

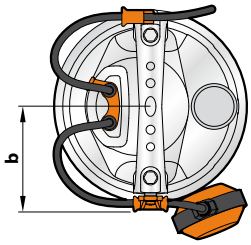
Only for single-phase versions
(Vertical float switch in the GM versions).

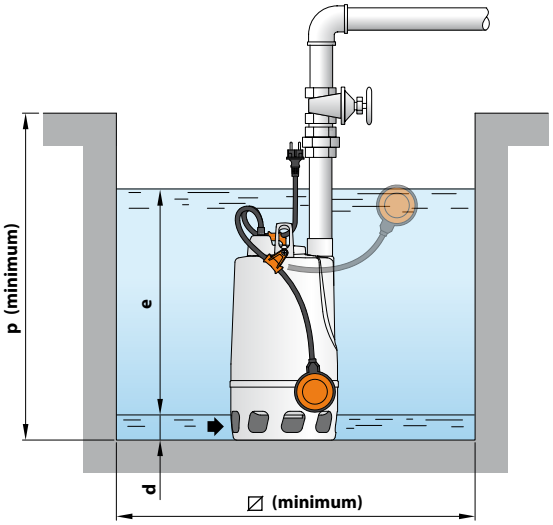


DIMENSIONS AND WEIGHT

Standard installation

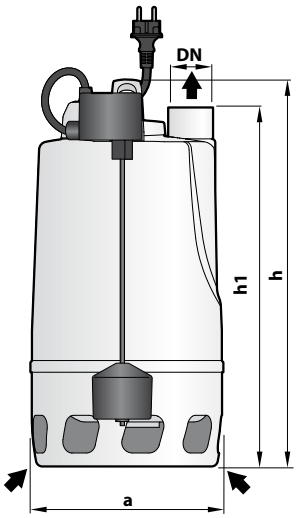


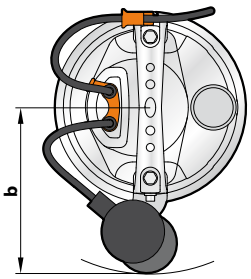




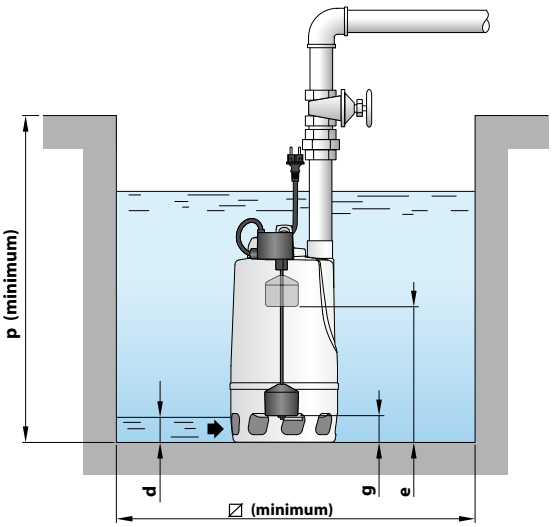
MODEL		PORT	DIMENSIONS mm								kg		PALLETIZATION	
Single-phase	Three-phase	DN	a	b	h	h1	d	e	p	⍁	1~	3~	GROUPAGE n. pumps	CONTAINER n. pumps
RXm 4/40	RX 4/40	1½"	215	115	433	400	50	variable	500	500	14.8	13.9	45	60
RXm 5/40	RX 5/40										16.0	15.1	45	60

Version with vertical float switch





Standard installation



MODEL	PORT	DIMENSIONS mm									kg	PALLETIZATION	
Single-phase	DN	a	b	h	h1	d	e	g	p	⍁	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

VX-ST

Submersible pumps in stainless steel

Sewage water
Domestic use
Civil use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **650 l/min** (39 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

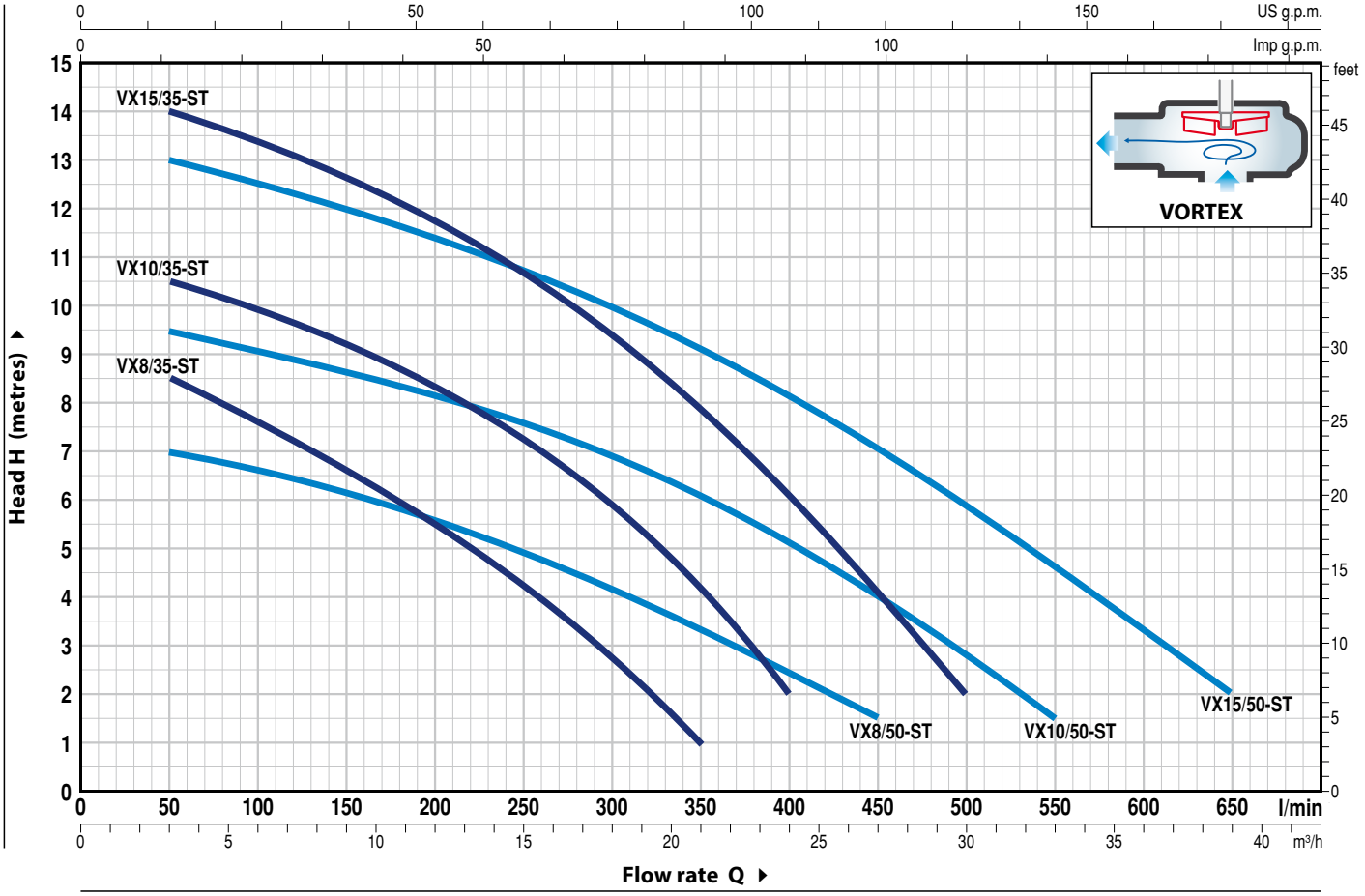
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q m³/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 -ST	**VX 8/35 -ST**	0.55	0.75		9.5	8.5	7.5	5.4	2.7	1						
VXm 10/35-ST	**VX 10/35-ST**	0.75	1		11.5	10.5	10	8.3	6	4	2					
VXm 15/35-ST	**VX 15/35-ST**	1.1	1.5		15	14	13.5	11.7	9.2	7.7	6	4.1	2			
VXm 8/50 -ST	**VX 8/50 -ST**	0.55	0.75	**H** metres	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 **VXm 8/50 -ST** **VXm 10/35-ST** **VXm 10/50-ST**	**20** µF 450 VL	**30** µF - 250 VL
VXm 15/35-ST **VXm 15/50-ST**	**25** µF 450 VL	–

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

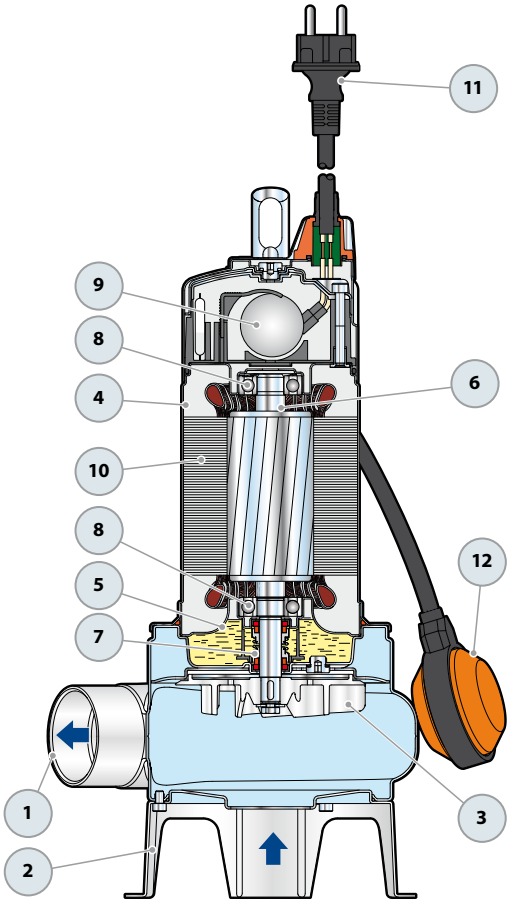
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

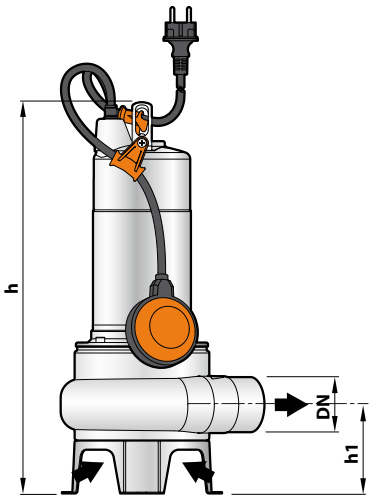
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 10 metres

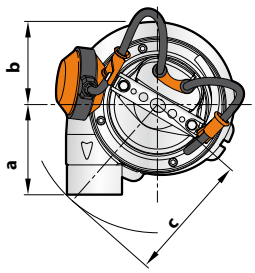
12 FLOAT SWITCH

(only for single-phase versions)

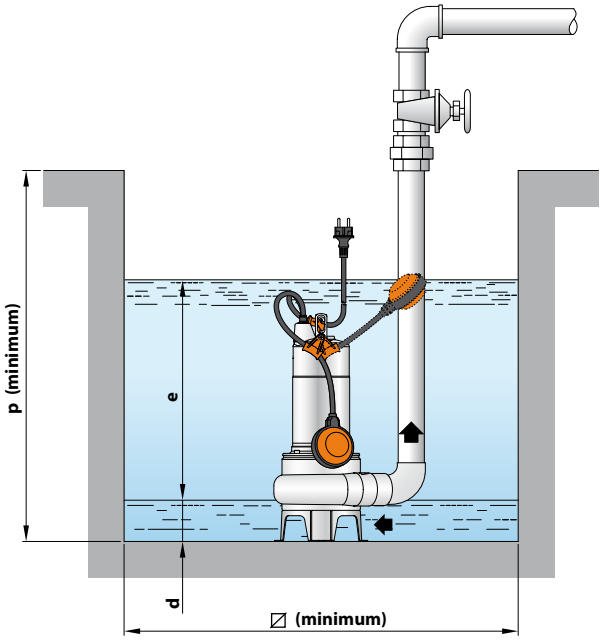


DIMENSIONS AND WEIGHT





Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		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												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		140	432	102	60				11.0	10.8
VXm 10/50-ST	VX 10/50-ST												11.0	10.8
VXm 15/50-ST	VX 15/50-ST						447						13.1	12.1

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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			
Three-phase	230 V	400 V	240 V	415 V
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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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**

BC-ST

DOUBLE-CHANNEL

Submersible pumps in stainless steel

Sewage water

Domestic use

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

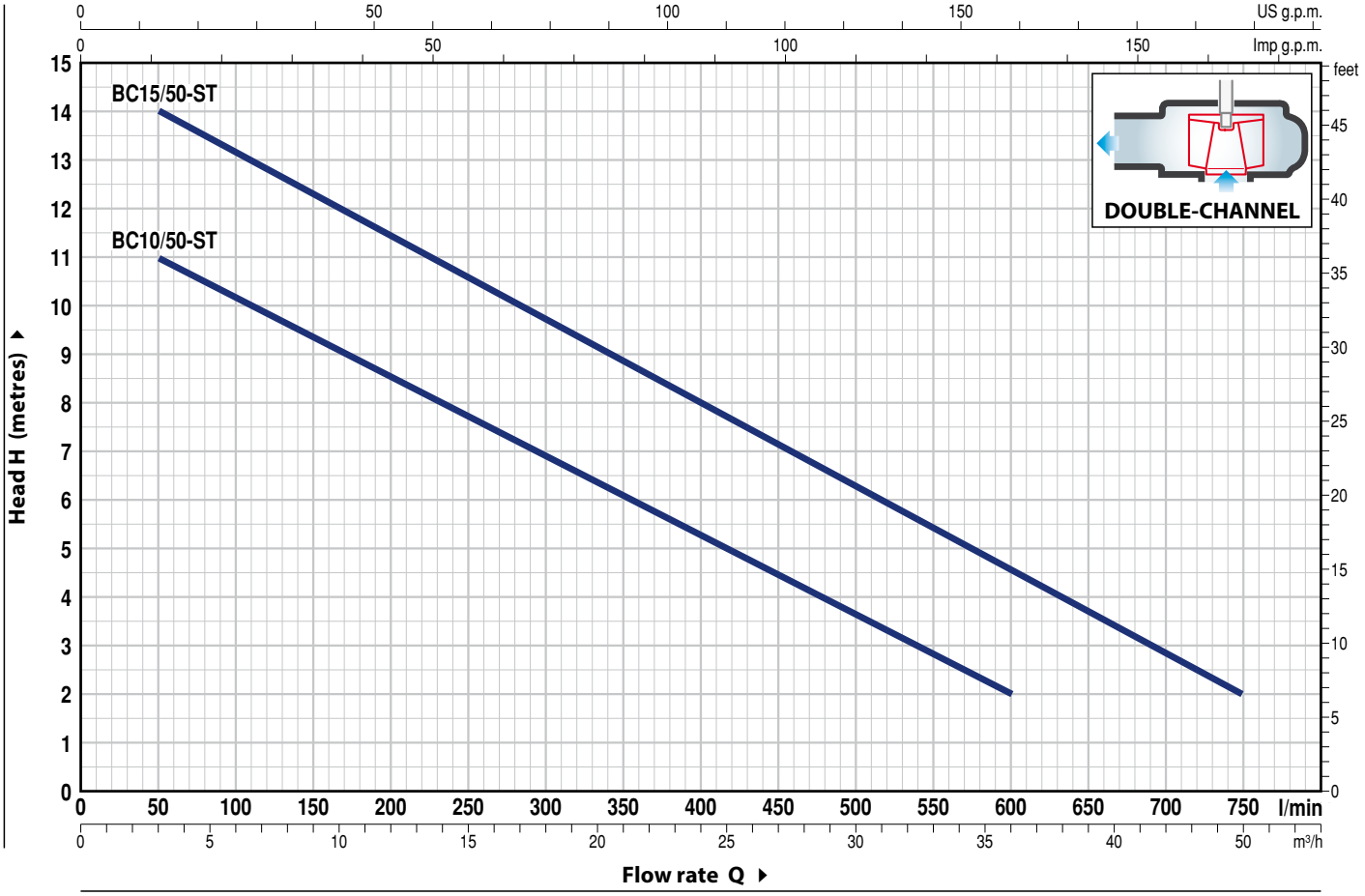
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q	m³/h	0	3	6	12	18	24	30	36	42	45
Single-phase	Three-phase	kW	HP		l/min	**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*	*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)*
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

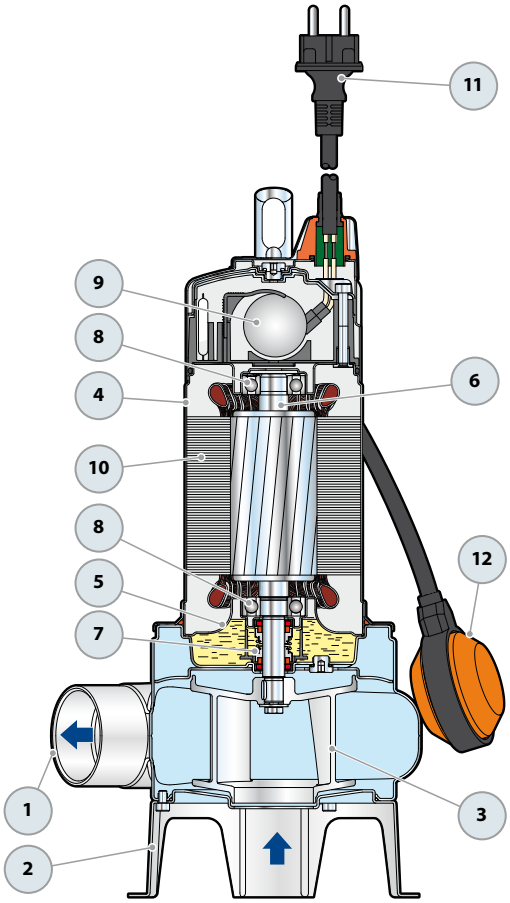
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

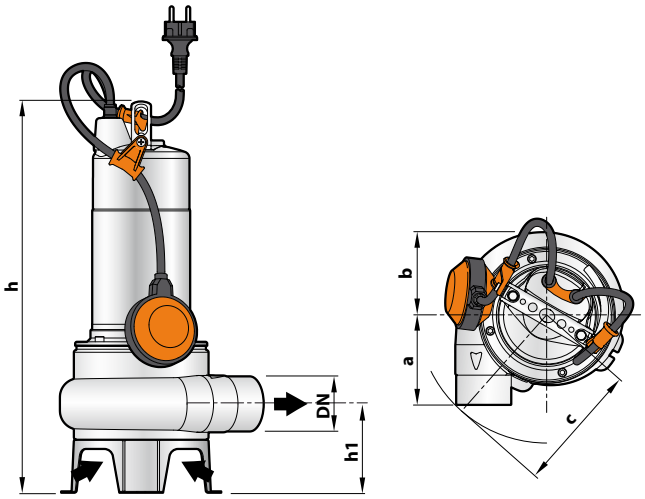
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 10 metres

12 FLOAT SWITCH

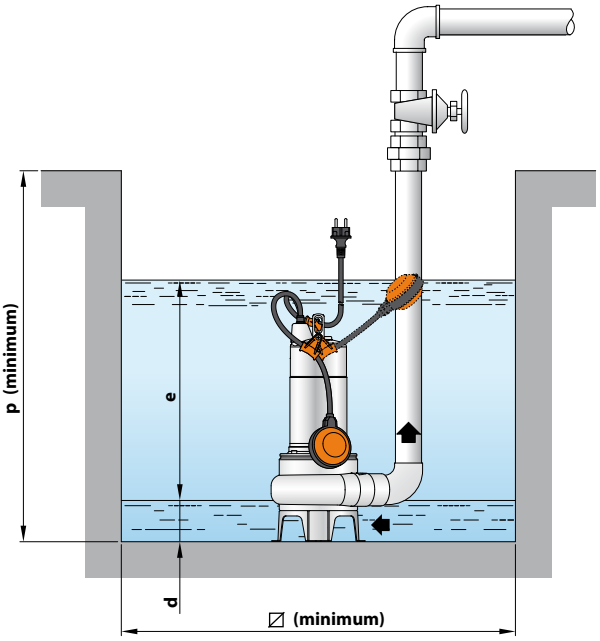
(only for single-phase versions)



DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		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		
Single-phase	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			
Three-phase	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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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) (B)

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

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"

In order to ensure stability, insert the intermediate support every 2 metres

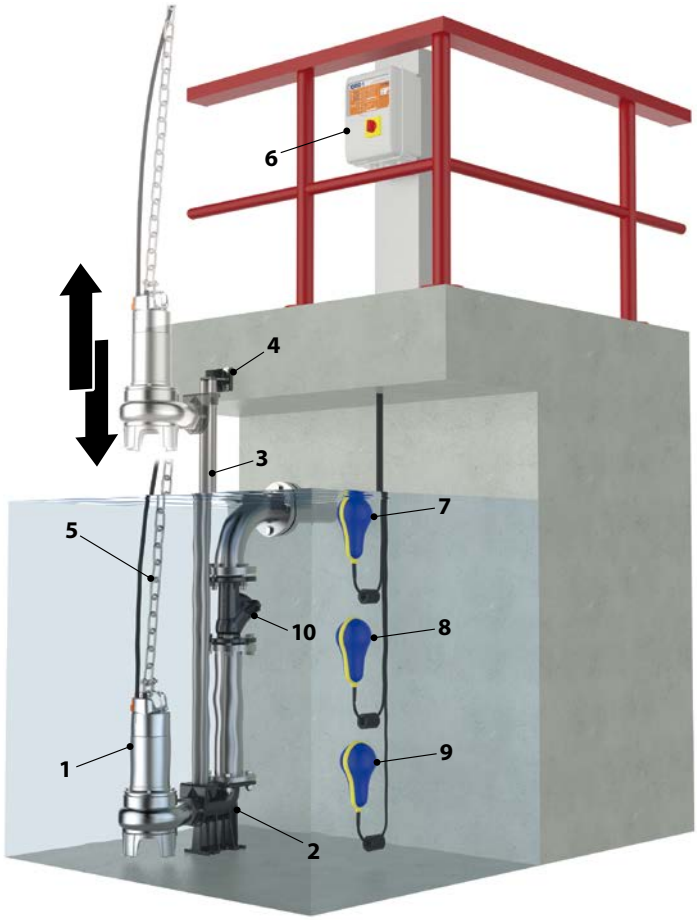
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG005	Ø ¾"

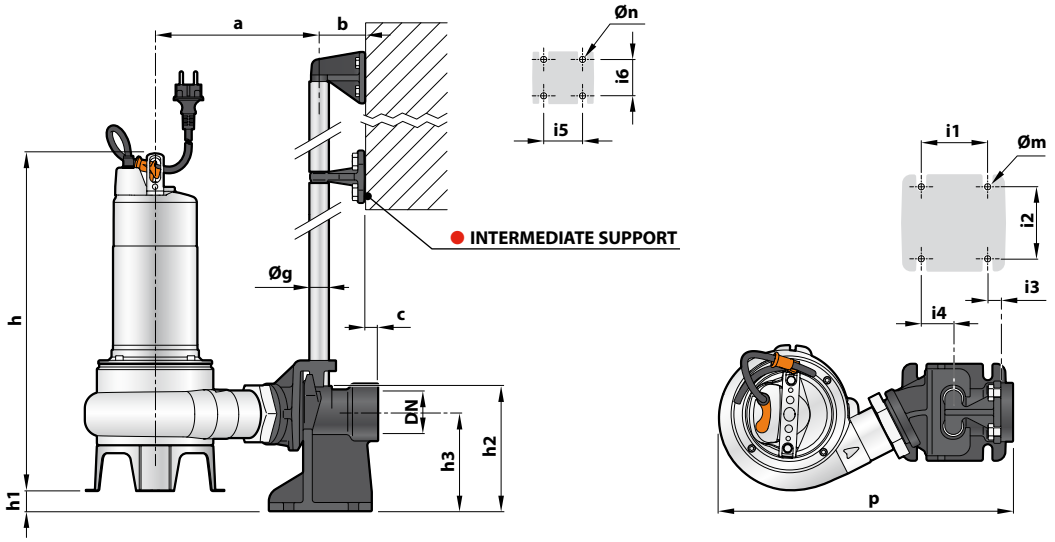
Maximum length of the tube plank: 6 metres

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

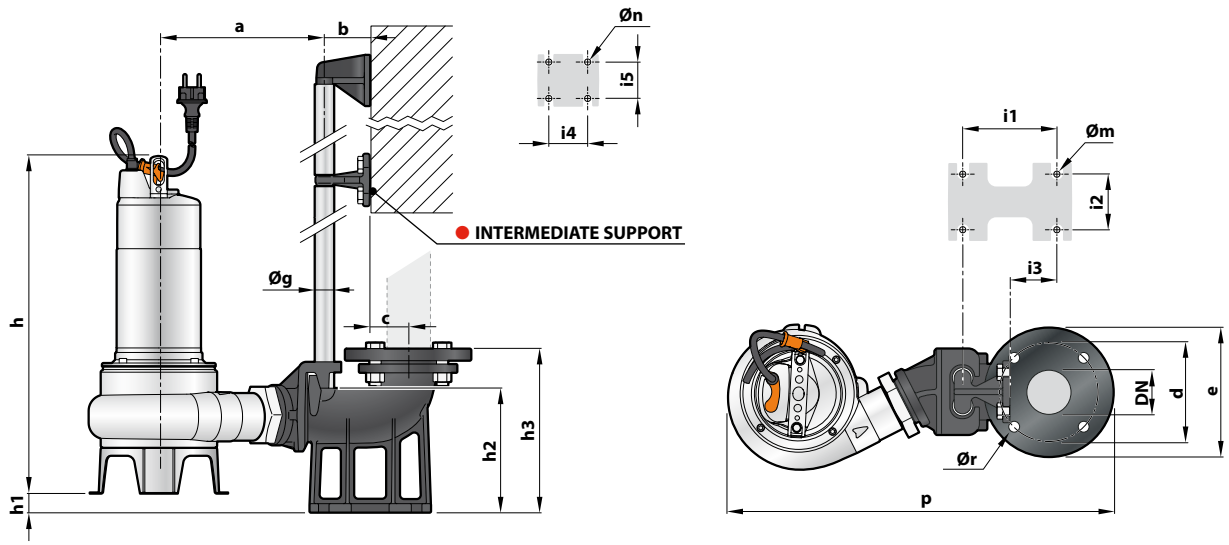


DIMENSIONS (Horizontal delivery version)



MODEL		Passage of solids	PORT	DIMENSIONS mm																
Single-phase	Three-phase	mm	DN	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	130	165	85	94	16	40	50	48	¾"	12	11
VXm 10/35 -ST	VX 10/35 -ST																			
VXm 15/35 -ST	VX 15/35 -ST							421												
VXm 8/50 -ST	VX 8/50 -ST	50	2"	217			388	430	28											
VXm 10/50 -ST	VX 10/50 -ST																			
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	PORT	DIMENSIONS mm																		
Single-phase	Three-phase	mm	DN	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	164	215	120	72	62	50	48	¾"	14	11	18
VXm 10/35 -ST	VX 10/35 -ST																					
VXm 15/35 -ST	VX 15/35 -ST									421												
VXm 8/50 -ST	VX 8/50 -ST	50		217					507	430	26											
VXm 10/50 -ST	VX 10/50 -ST																					
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												

VX-MF

Submersible pumps in stainless steel

Sewage water
Domestic use
Civil use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **650 l/min** (39 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

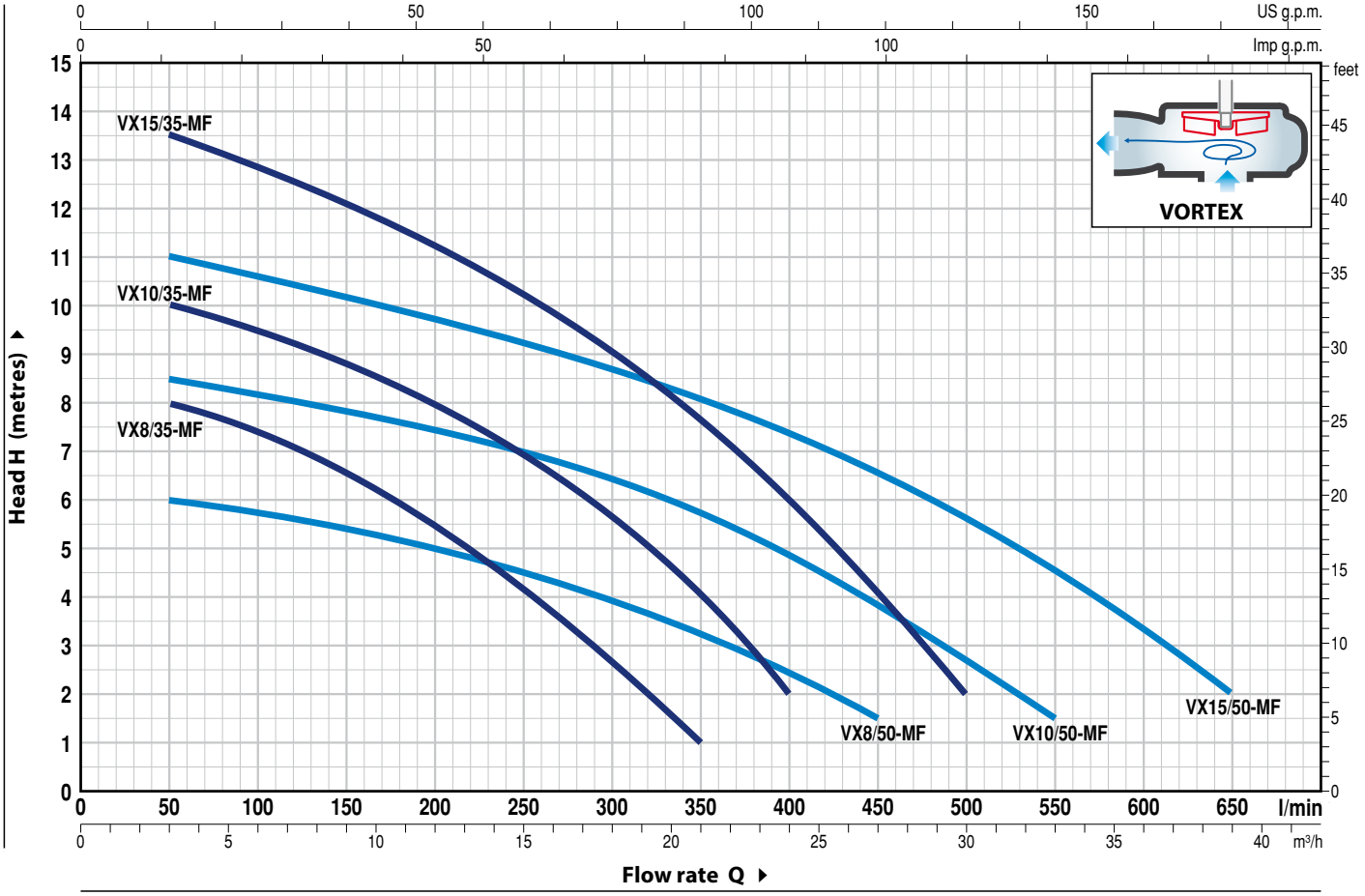
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q	m³/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

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 -MF **VXm 8/50 -MF** **VXm 10/35-MF** **VXm 10/50-MF**	**20** µF 450 VL	**30** µF - 250 VL
VXm 15/35-MF **VXm 15/50-MF**	**25** µF 450 VL	–

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

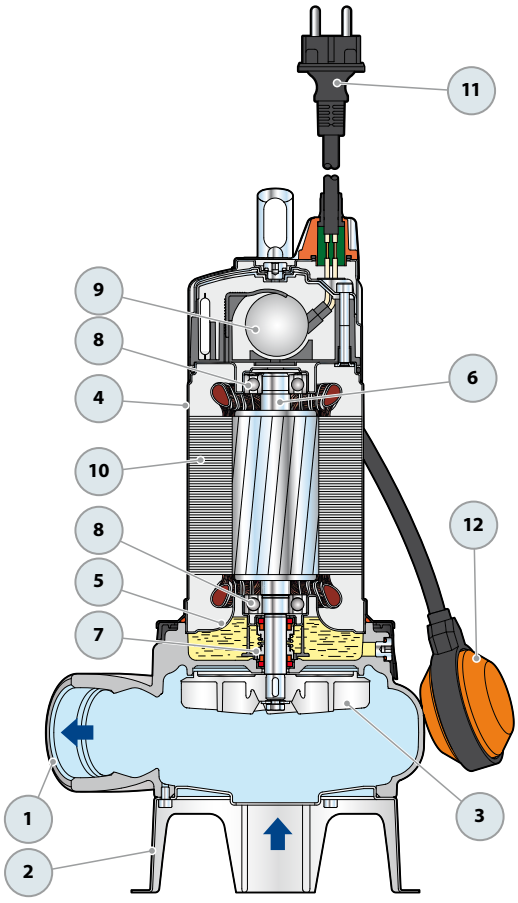
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

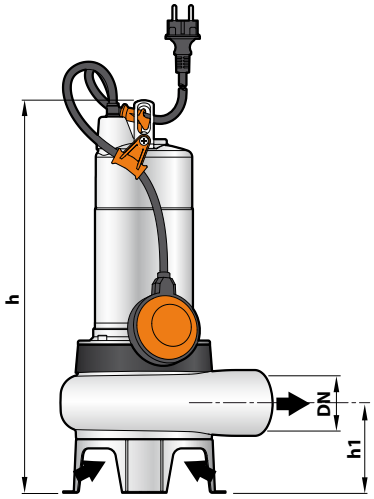
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 10 metres

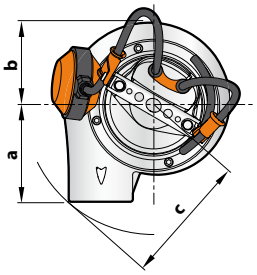
12 FLOAT SWITCH

(only for single-phase versions)

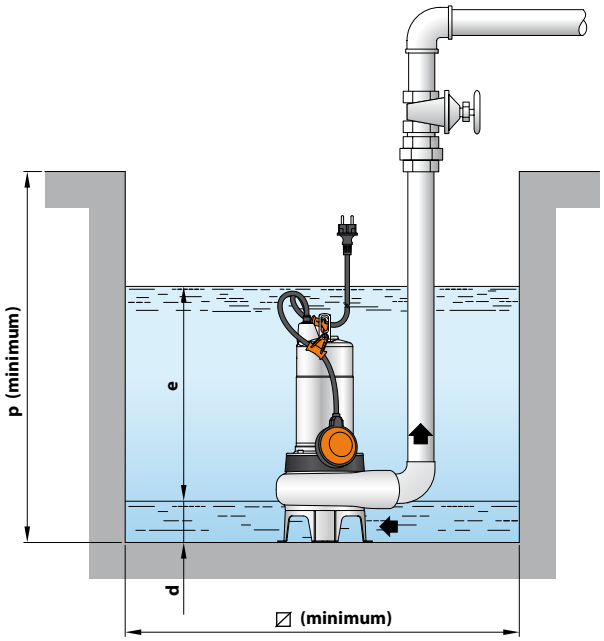


DIMENSIONS AND WEIGHT





Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		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												13.7	12.6
VXm 15/35-MF	VX 15/35-MF						421						15.0	14.0
VXm 8/50 -MF	VX 8/50 -MF	2"	Ø 50 mm	112			431	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						446						15.5	14.5

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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			
Three-phase	230 V	400 V	240 V	415 V
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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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

BC-MF

DOUBLE-CHANNEL

Submersible pumps in stainless steel

Sewage water

Domestic use

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

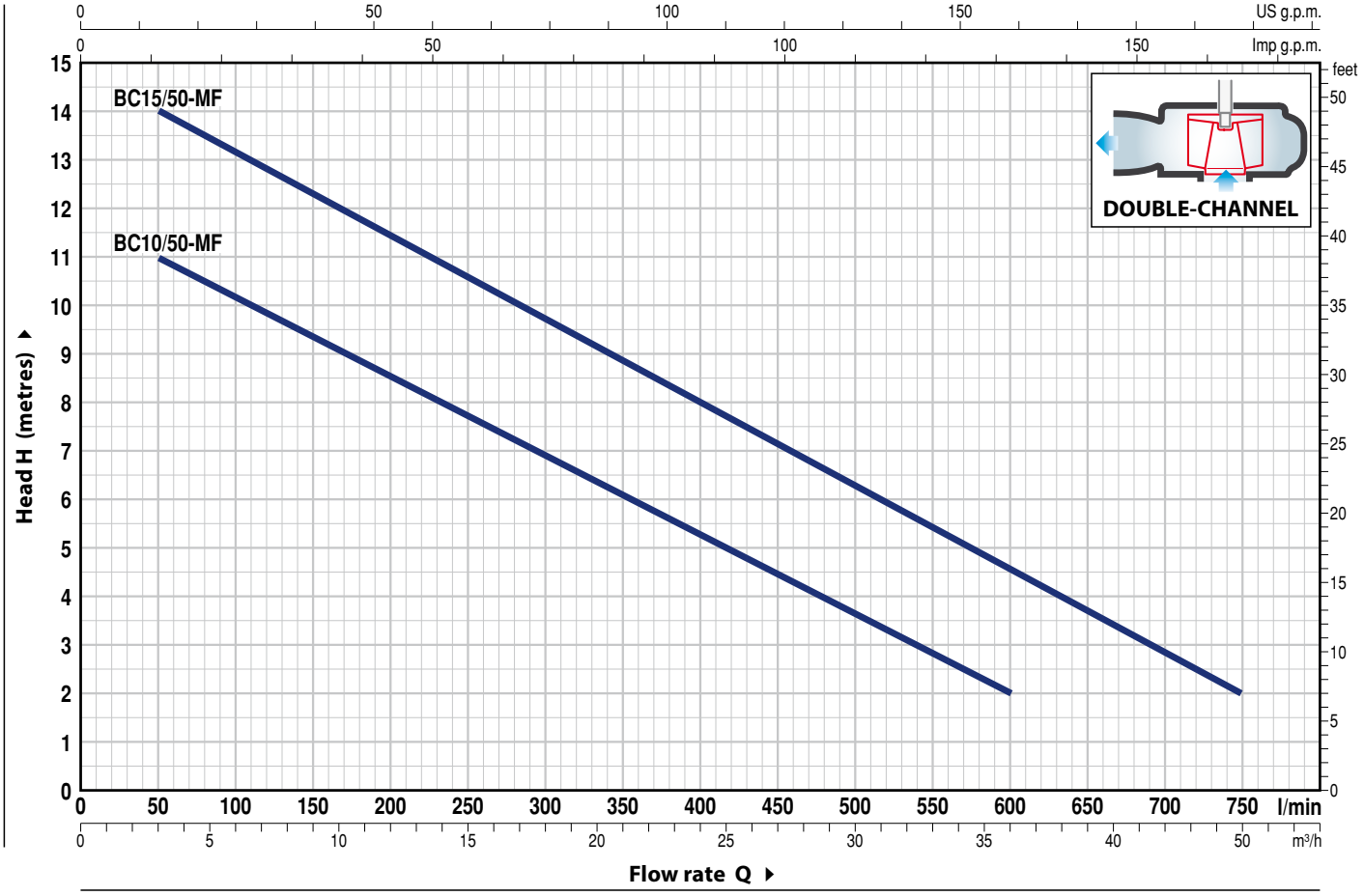
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q	m³/h	0	3	6	12	18	24	30	36	42	45
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**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.	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**	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*	*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)***
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

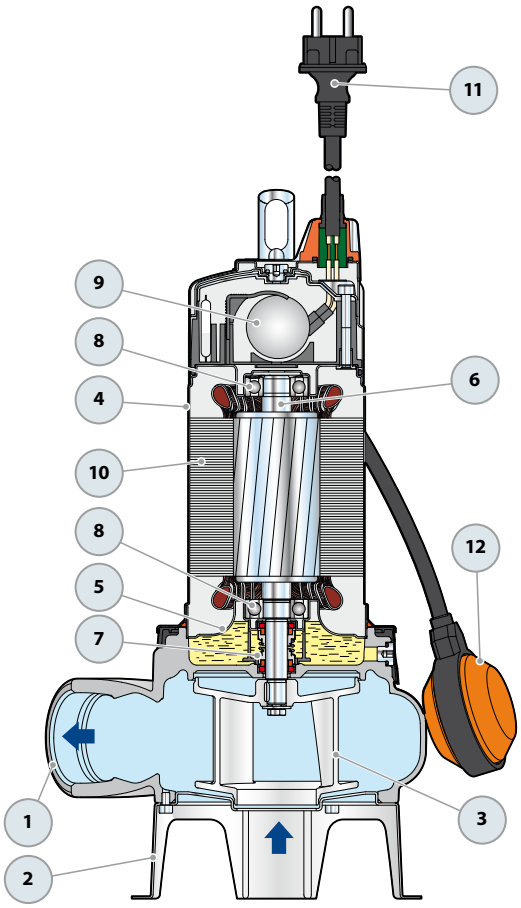
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

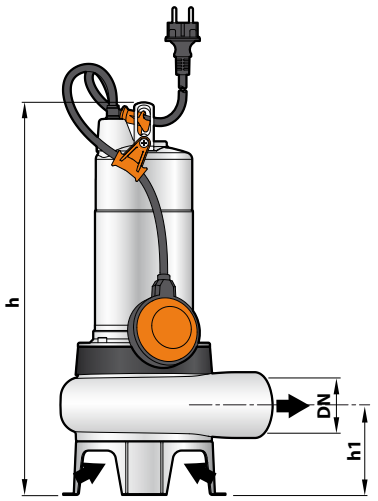
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 10 metres

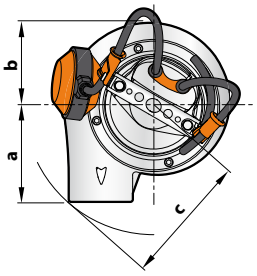
12 FLOAT SWITCH

(only for single-phase versions)

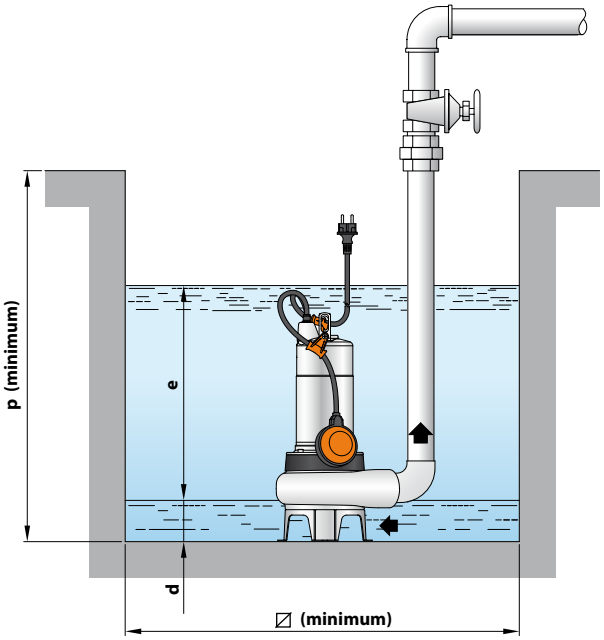


DIMENSIONS AND WEIGHT





Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		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		
Single-phase	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			
Three-phase	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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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 ¾" 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 ¾" 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"

In order to ensure stability, insert the intermediate support every 2 metres

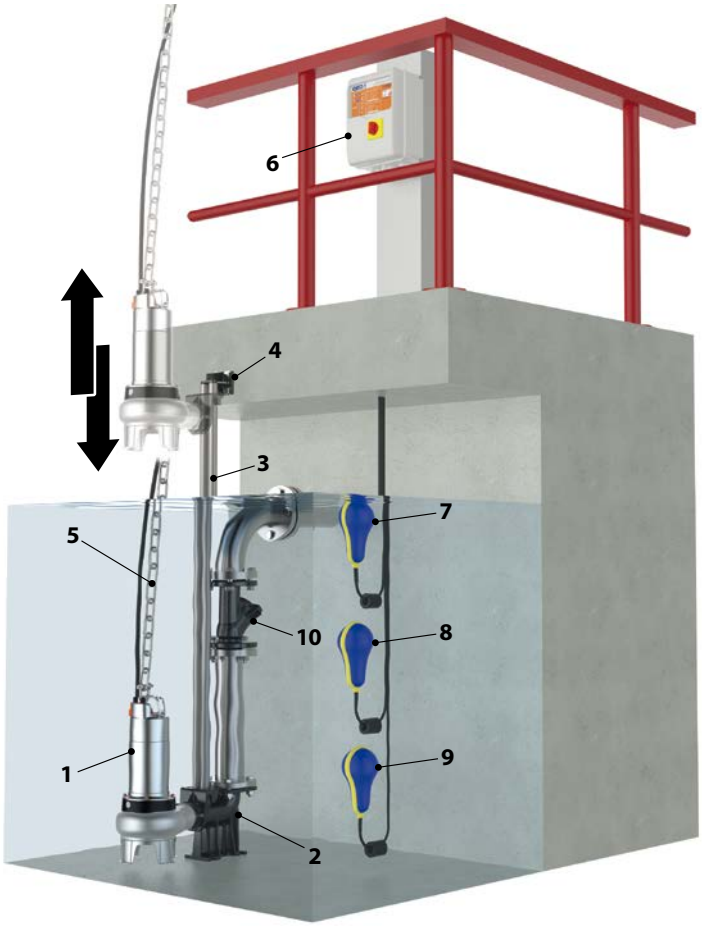
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG005	Ø ¾"

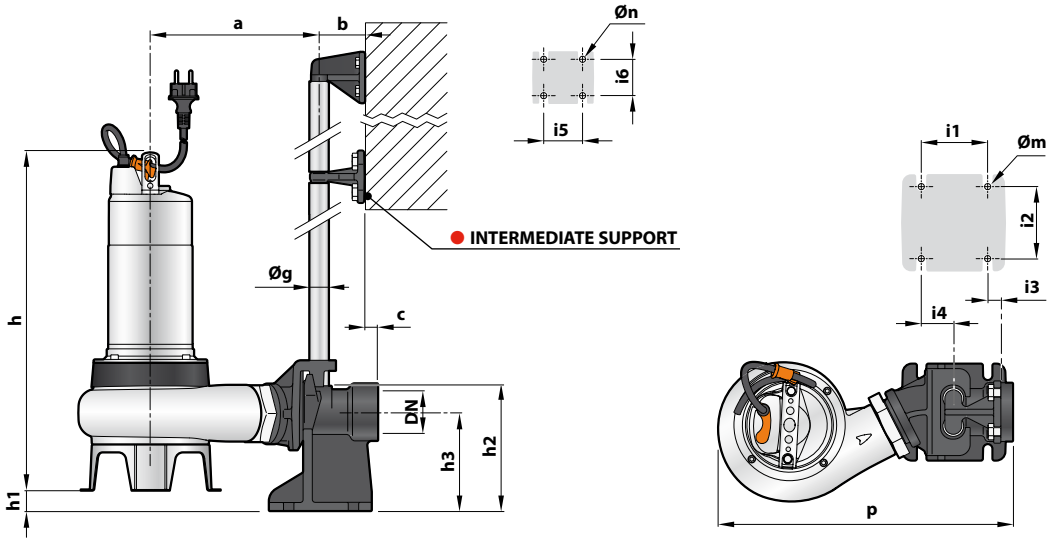
Maximum length of the tube plank: 6 metres

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

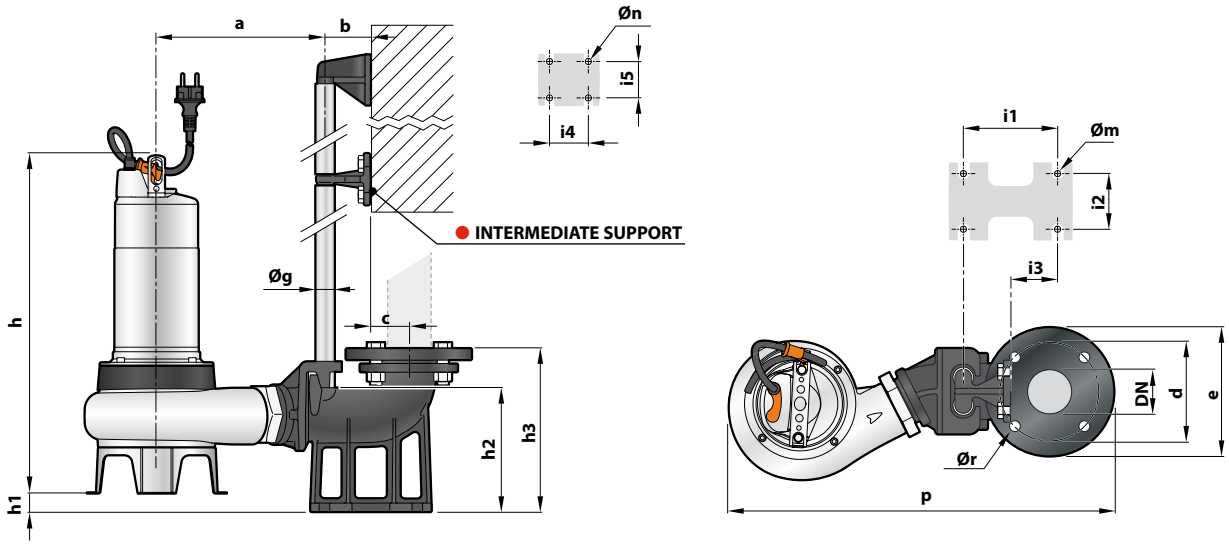


DIMENSIONS (Horizontal delivery version)



MODEL		Passage of solids	PORT	DIMENSIONS mm																
Single-phase	Three-phase	mm	DN	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							421												
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							445												
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	PORT	DIMENSIONS mm																		
Single-phase	Three-phase	mm	DN	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																					
VXm 15/35-MF	VX 15/35-MF									421												
VXm 8/50 -MF	VX 8/50 -MF	50	2½"						507	430	26											
VXm 10/50-MF	VX 10/50-MF																					
VXm 15/50-MF	VX 15/50-MF									445												
BCm 10/50-MF	BC 10/50-MF									430												
BCm 15/50-MF	BC 15/50-MF									445												

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

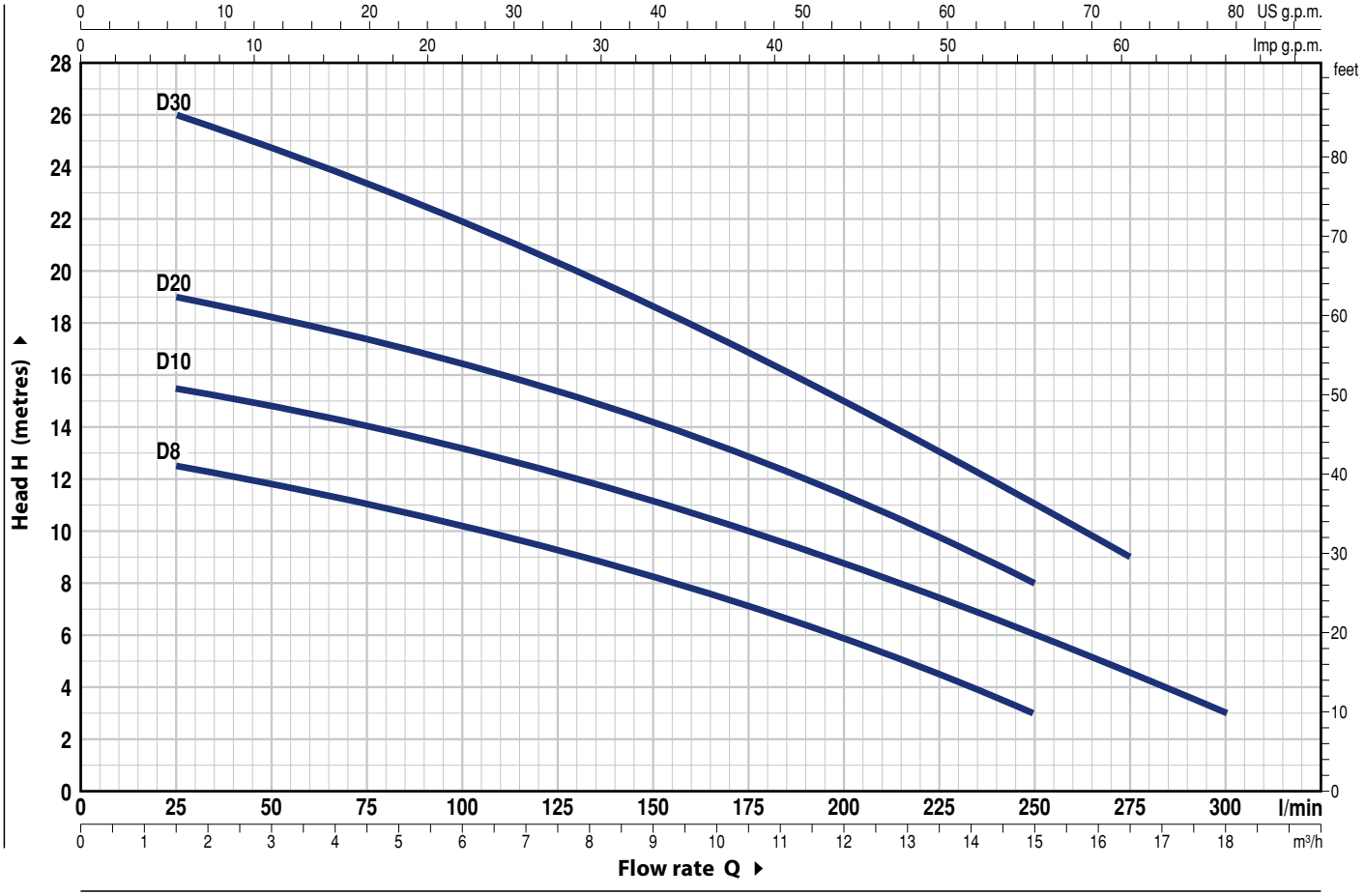
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		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

Pump ***Model***	***Seal*** ***Model***	***Shaft*** ***Diameter***	*Position*	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
D8 **D10** **D20**	**MG1-14D SIC**	**Ø 14** mm	Motor side	Silicon carbide	Graphite	NBR
			Pump side	Silicon carbide	Silicon carbide	NBR
(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

Pump ***Single-phase***	***Capacitance*** ***(230 V or 240 V)***	***(110 V)***
Dm8 **Dm10** **Dm20**	**20** µF 450 VL	**30** µF - 250 VL
Dm30	**25** µF 450 VL	–

11 ELECTRIC MOTOR

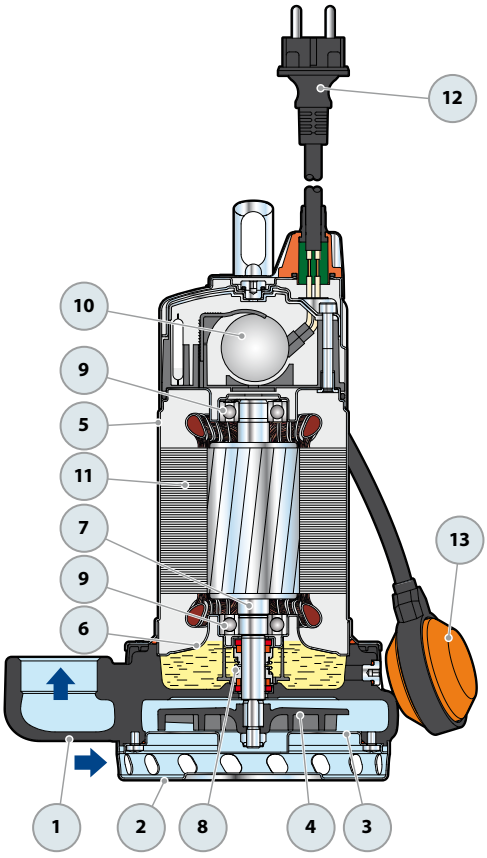
Dm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
D: three-phase 400 V - 50 Hz

– Insulation: class F
– Protection: IP X8

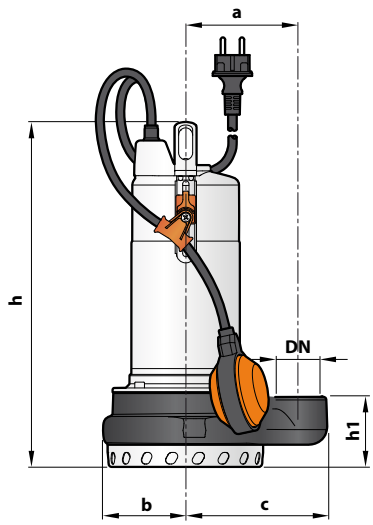
12 POWER CABLE

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

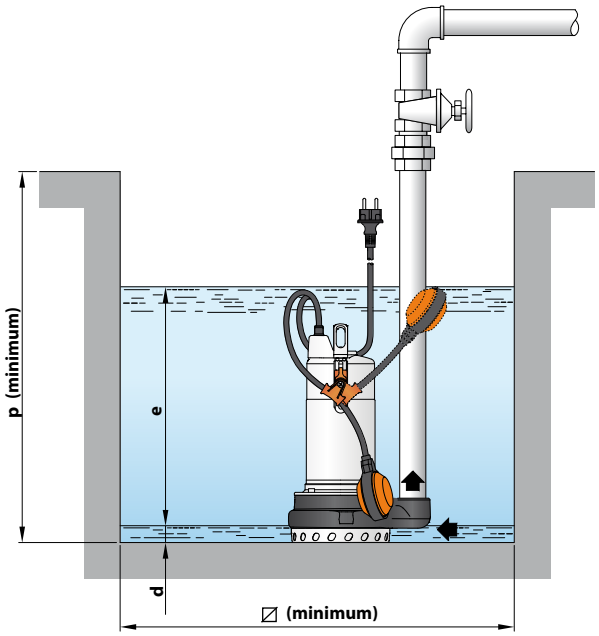
13 FLOAT SWITCH
(only for single-phase versions)



DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT	DIMENSIONS mm									kg	
Single-phase	**Three-phase**	**DN**	a	b	c	h	h1	d	e	p	⍁	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	CONTAINER
Single-phase	**Three-phase**	n. pumps	n. pumps
Dm 8	**D 8**	**60**	**80**
Dm 10	**D 10**	**60**	**80**
Dm 20	**D 20**	**60**	**80**
Dm 30	**D 30**	**60**	**80**

ZX2

VORTEX

Submersible pumps

Sewage water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

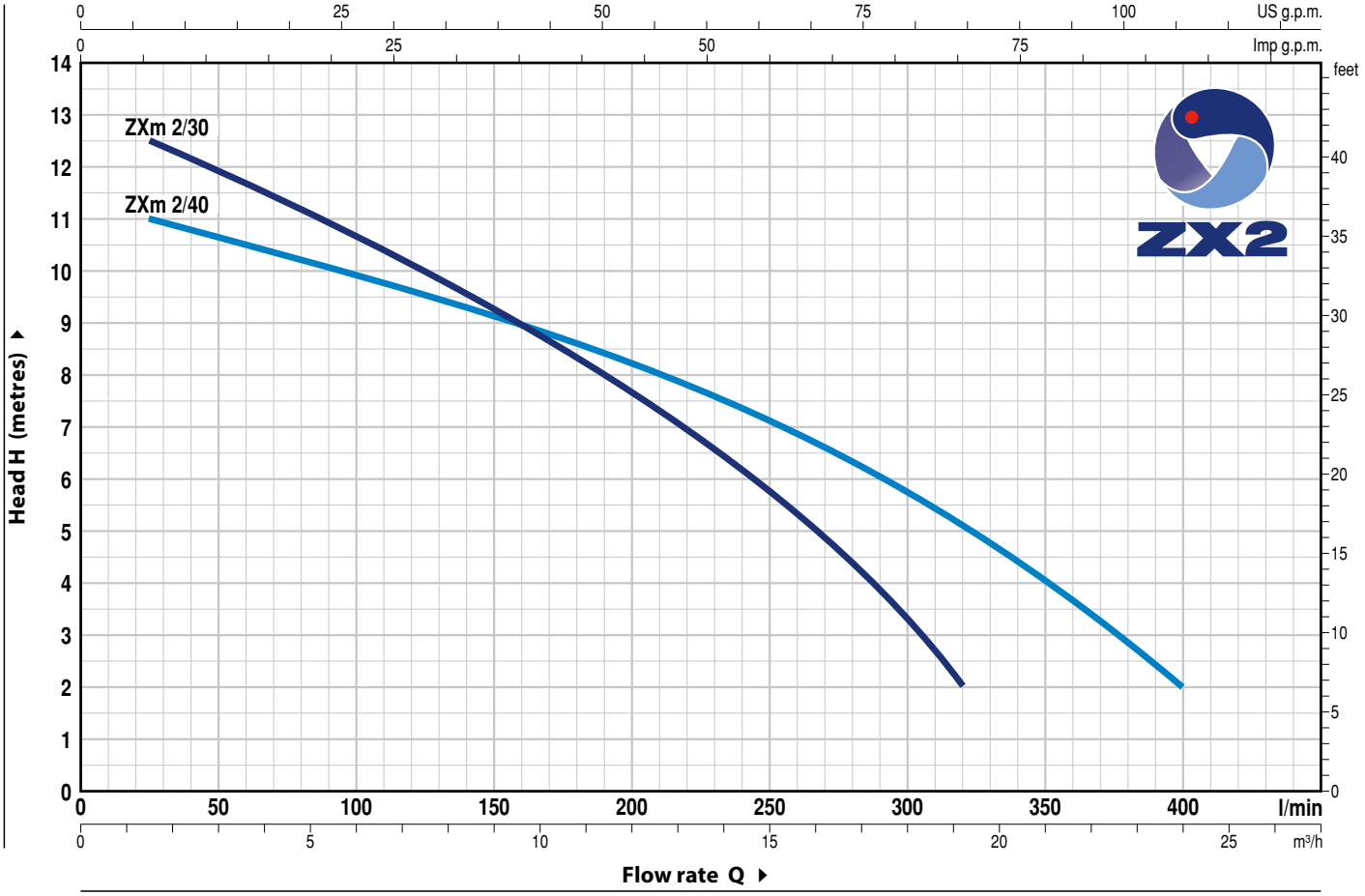
- Patent n. EP2313658
- Patent n. IT0001428923

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}

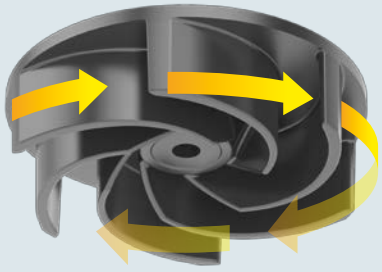


MODEL	POWER (P2)		Q	m³/h	0	1.5	3	6	9	12	15	18	19.2	21	24
Single-phase	**kW**	**HP**		l/min	**0**	**25**	**50**	**100**	**150**	**200**	**250**	**300**	**320**	**350**	**400**
ZXm 2/30	0.55	0.75	**H**	metres	13	12.5	11.8	10.6	9.3	7.6	5.8	3.3	2		
ZXm 2/40	0.55	0.75			11.5	11	10.6	9.8	9.2	8.2	7.2	5.7	5.2	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*	*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: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding

– Insulation: class F
– Protection: IP X8

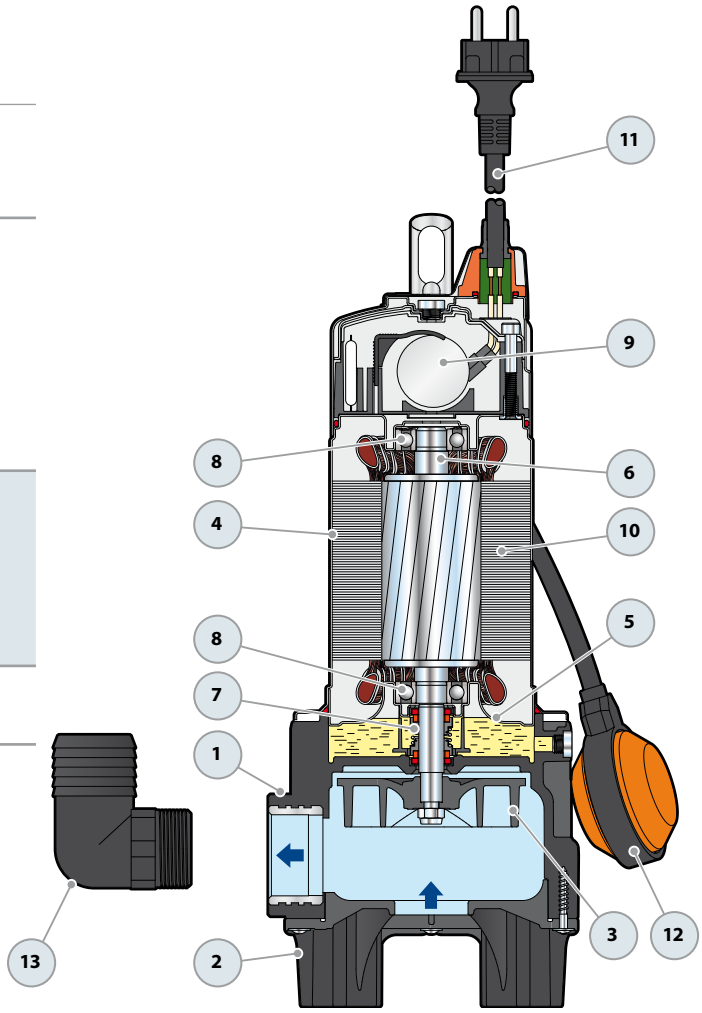
11 POWER CABLE

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

12 FLOAT SWITCH

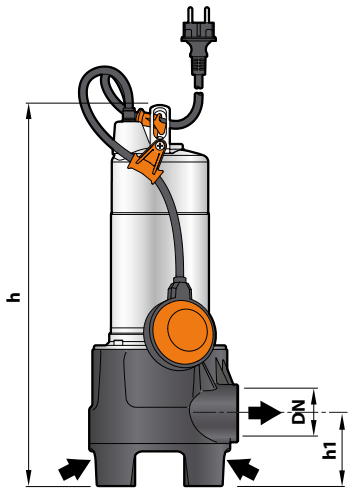
13 HOSE CONNECTION

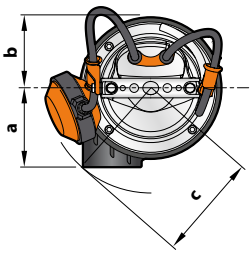
Ø 50 mm

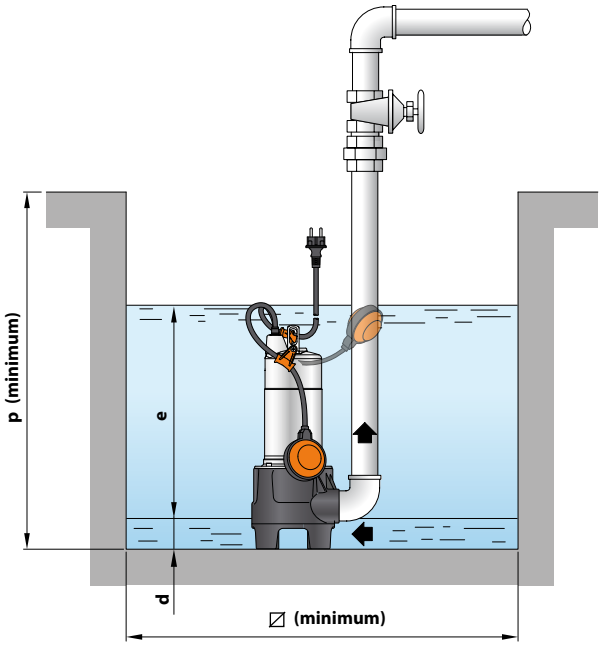


DIMENSIONS AND WEIGHT

Standard installation







MODEL Single-phase	PORT DN	Passage of solids	DIMENSIONS mm a	b	c	h	h1	d	e	p	⍁	kg 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**

ZX2-GM

Submersible pumps

Sewage water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

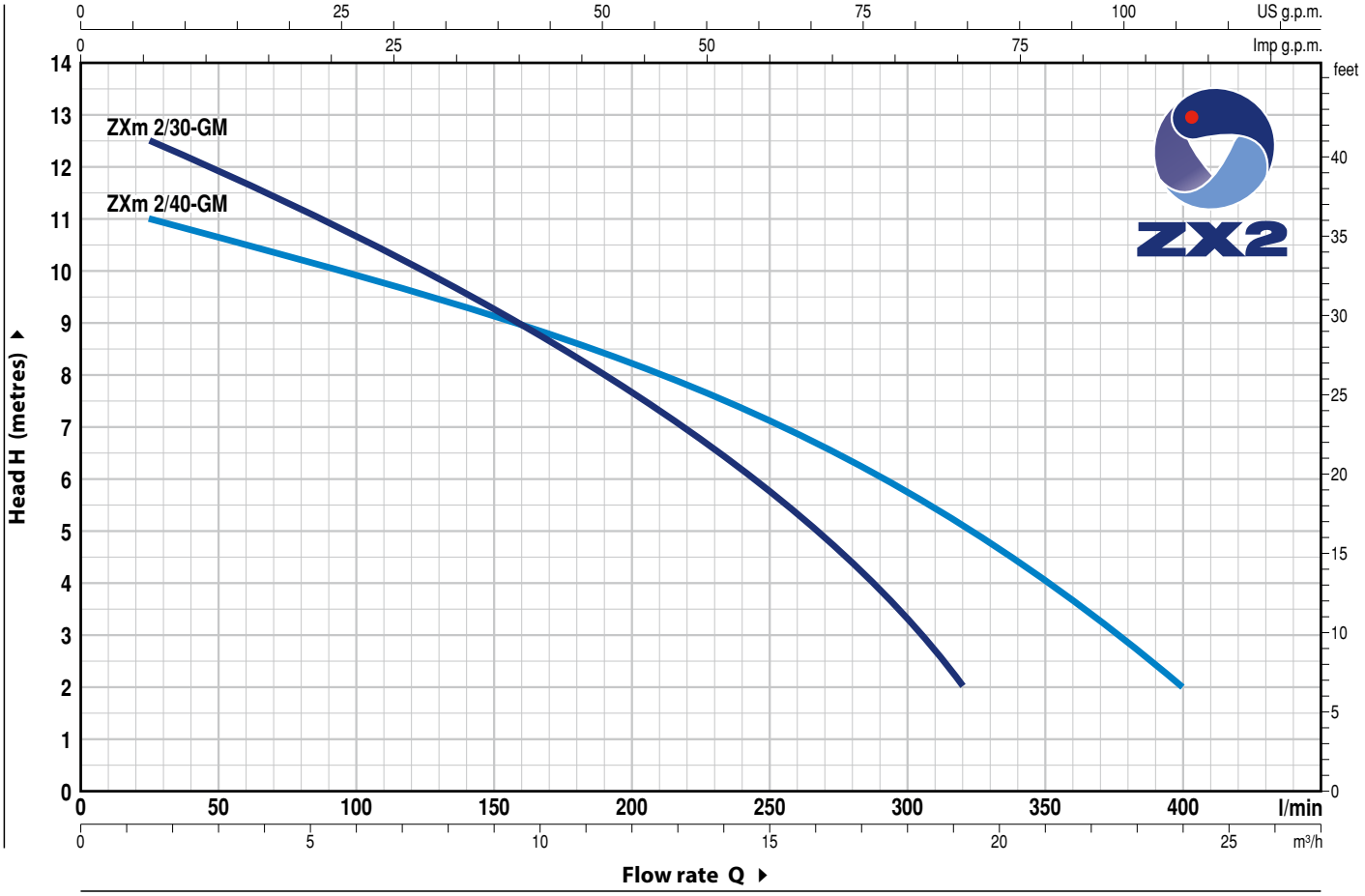
- Patent n. EP2313658
- Patent n. IT0001428923

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}

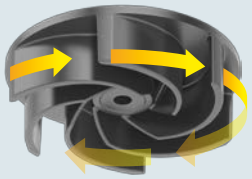


MODEL	POWER (P2)		Q	m³/h	0	1.5	3	6	9	12	15	18	19.2	21	24
Single-phase	kW	HP		l/min	**0**	**25**	**50**	**100**	**150**	**200**	**250**	**300**	**320**	**350**	**400**
ZXm 2/30-GM	0.55	0.75	**H**	metres	13	12.5	11.8	10.6	9.3	7.6	5.8	3.3	2		
ZXm 2/40-GM	0.55	0.75			11.5	11	10.6	9.8	9.2	8.2	7.2	5.7	5.2	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

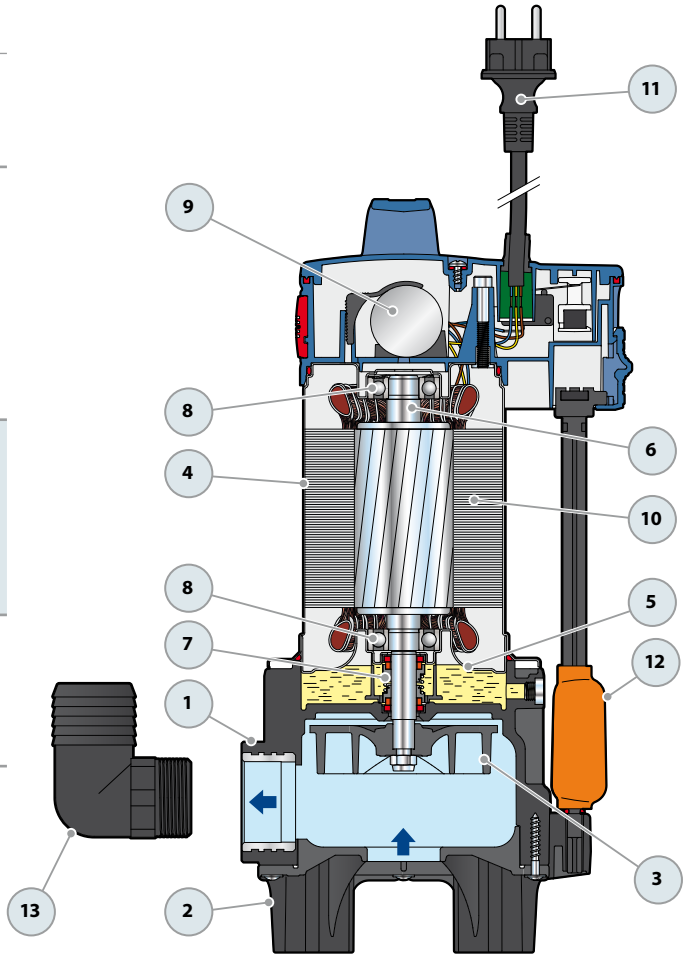
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres

12 LEVEL FLOAT SWITCH

Liquid level vertical sliding magnetic float switch (adjustable)

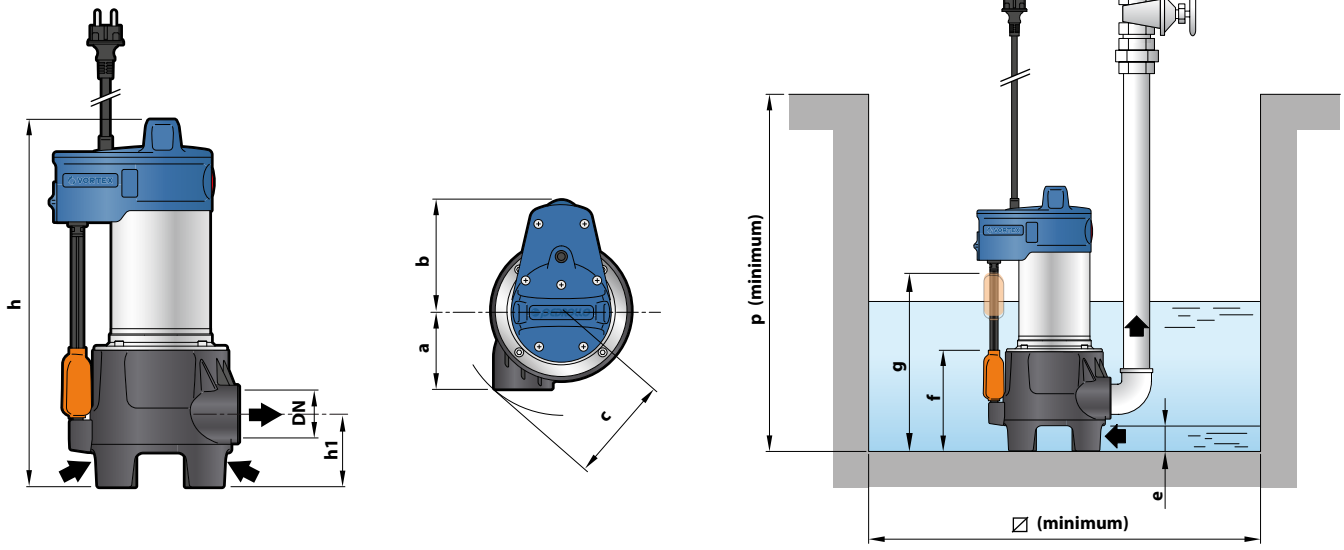
13 HOSE CONNECTION

Ø 50 mm



DIMENSIONS AND WEIGHT

Standard installation



MODEL	PORT	Passage of solids	DIMENSIONS mm										kg
Single-phase	DN		a	b	c	h	h1	e	f	g	p	⍁	1~
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	
Single-phase	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**

ZX1

Submersible pumps

Dirty water

Domestic use

PERFORMANCE RANGE

- Flow rate up to **400 l/min** (24 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

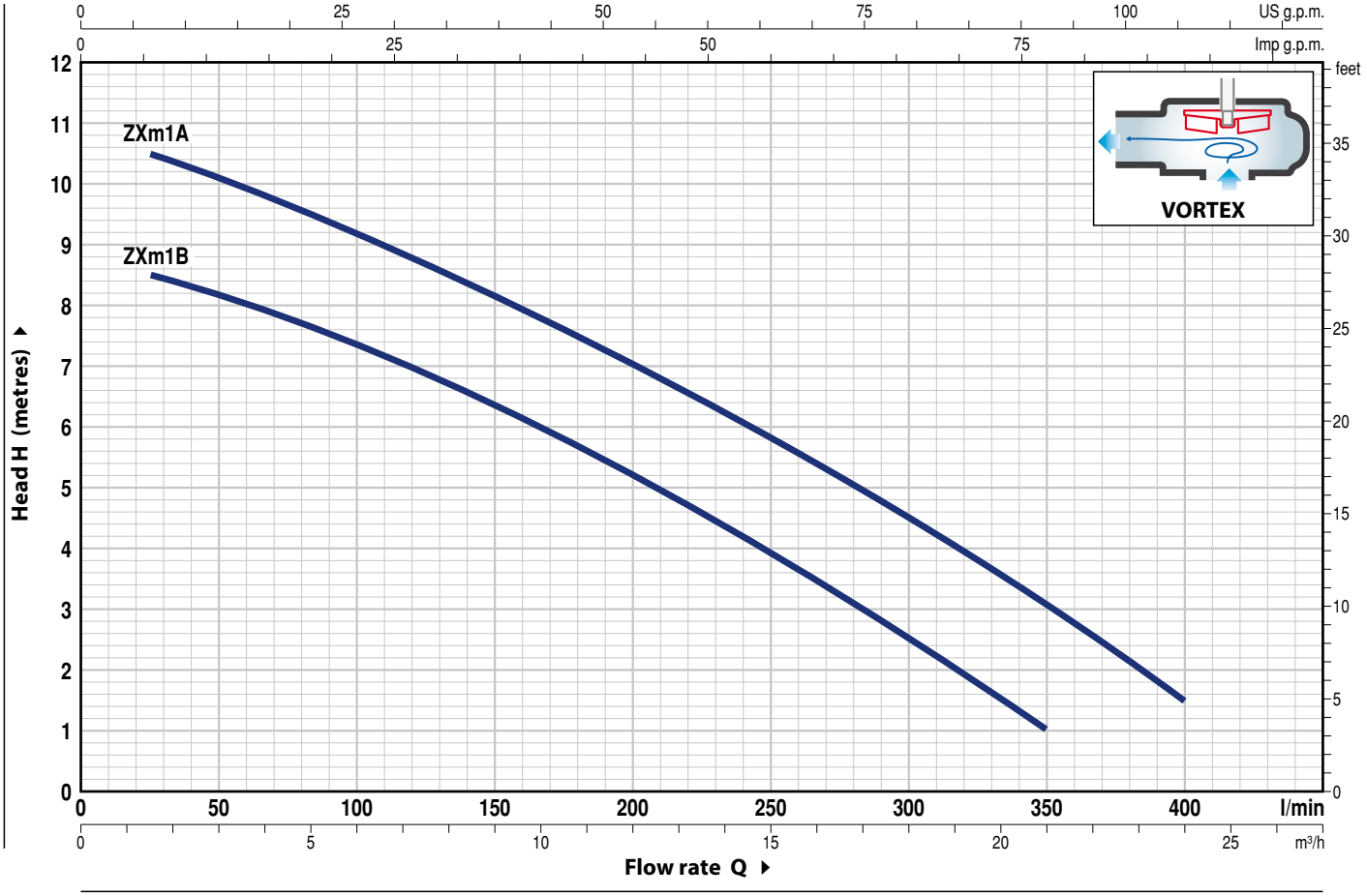
ZX series pumps are suitable for draining **dirty water** in domestic applications and for pumping dirty water containing suspended solids up to Ø 40 mm. They distinguish themselves for the ease with which they are installed and their reliability under automatic operating conditions in fixed installations.

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	POWER (P2)		Q											
Single-phase	kW	HP	m³/h	0	1.5	3.0	4.5	6.0	9.0	12.0	15.0	18.0	21.0	24.0
			l/min	**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

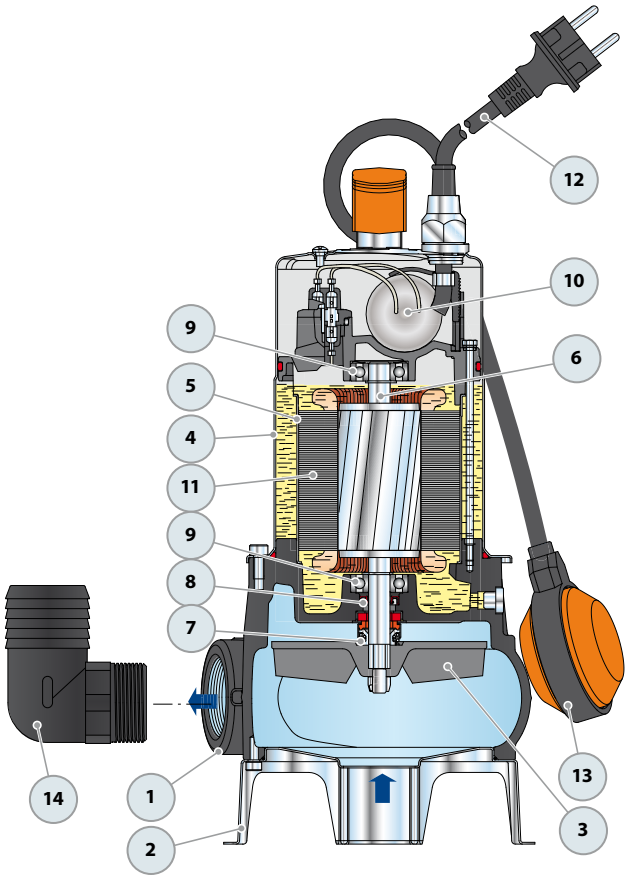
12 POWER CABLE

"H07 RN-F" with Schuko plug
Standard length 5 metres

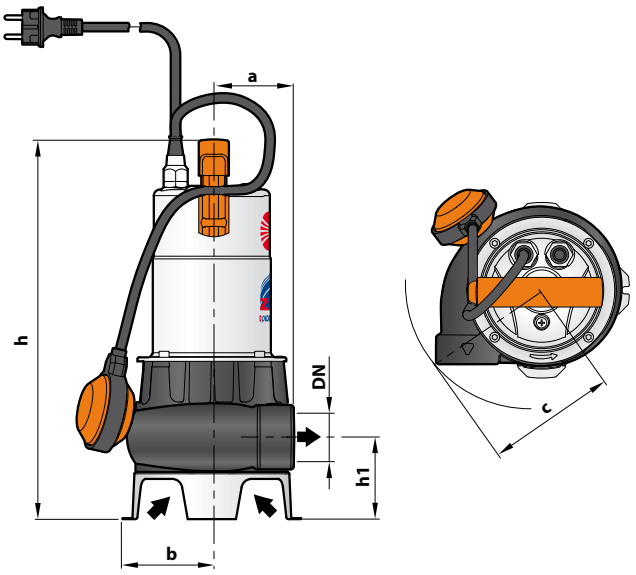
13 FLOAT SWITCH
(only for single-phase versions)

14 HOSE CONNECTION

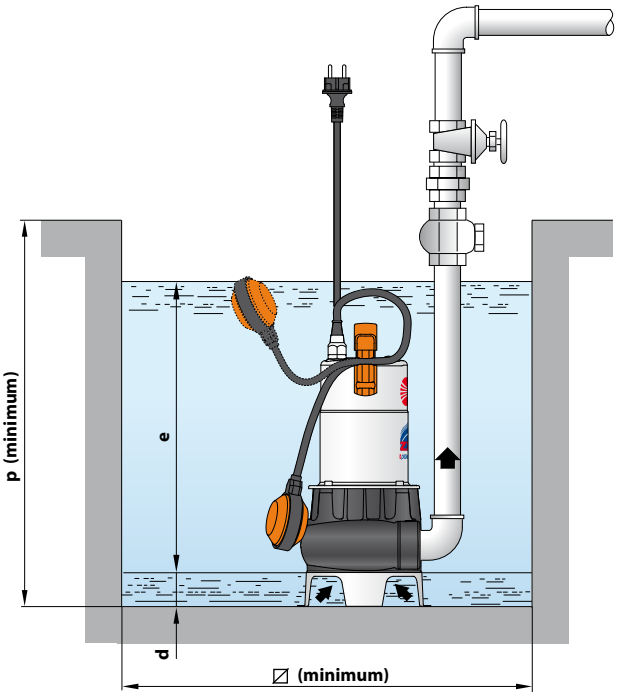
Ø 50 mm



DIMENSIONS AND WEIGHT



Standard installation



MODEL Single-phase	PORT DN	Passage of solids	DIMENSIONS mm a	b	c	h	h1	d	e	p	⍁	kg 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 Single-phase	VOLTAGE 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 Single-phase	GROUPAGE n. pumps	CONTAINER 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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

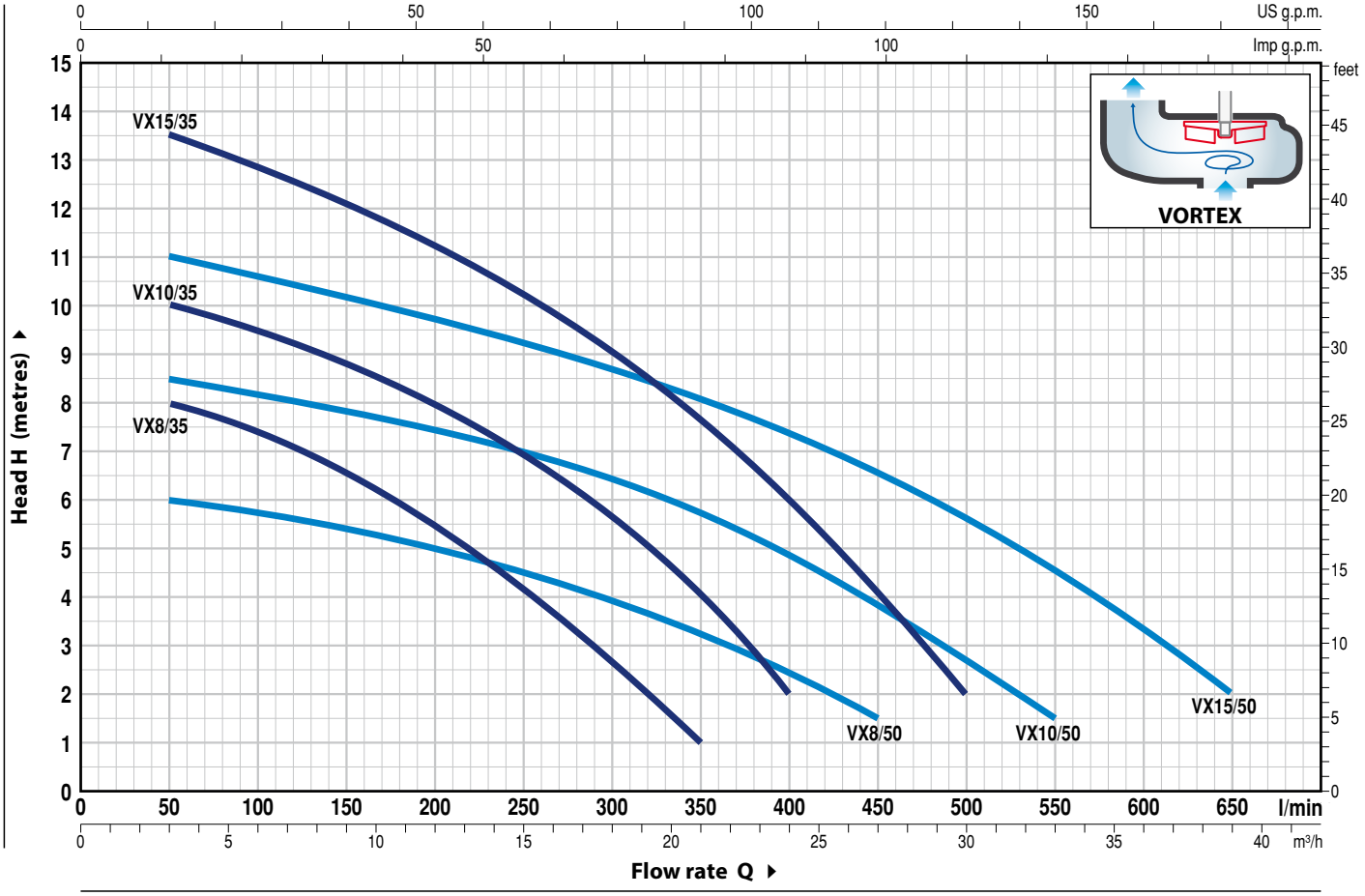
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q m³/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	**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

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 **VXm 8/50** **VXm 10/35** **VXm 10/50**	**20** µF 450 VL	**30** µF - 250 VL
VXm 15/35 **VXm 15/50**	**25** µF 450 VL	–

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

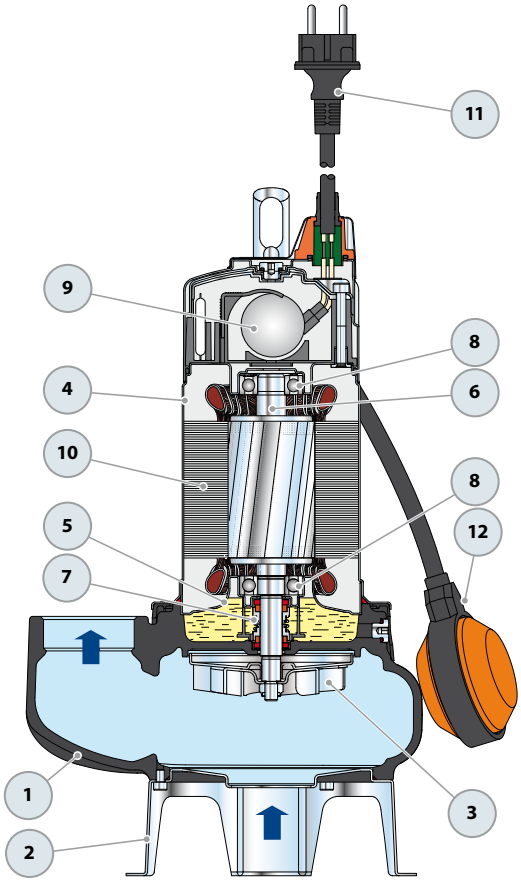
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

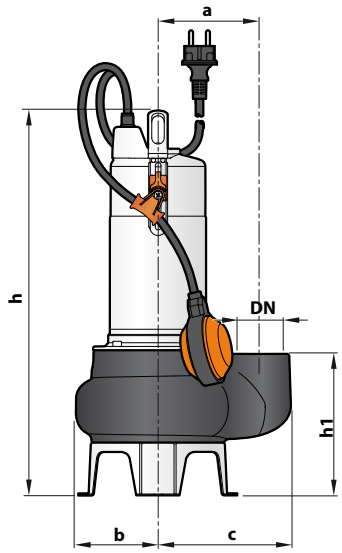
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres (**10 metres** for VX15/35-50)

12 FLOAT SWITCH

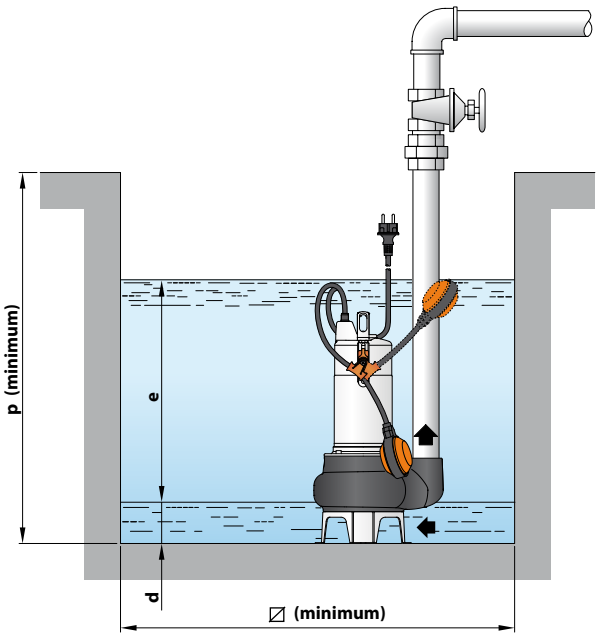
(only for single-phase versions)



DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		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												13.7	12.6
VXm 15/35	VX 15/35						421						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												14.3	13.1
VXm 15/50	VX 15/50						446						16.1	15.0

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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			
Three-phase	230 V	400 V	240 V	415 V
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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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**

BC

DOUBLE-CHANNEL

Submersible pumps

Sewage water

Domestic use

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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

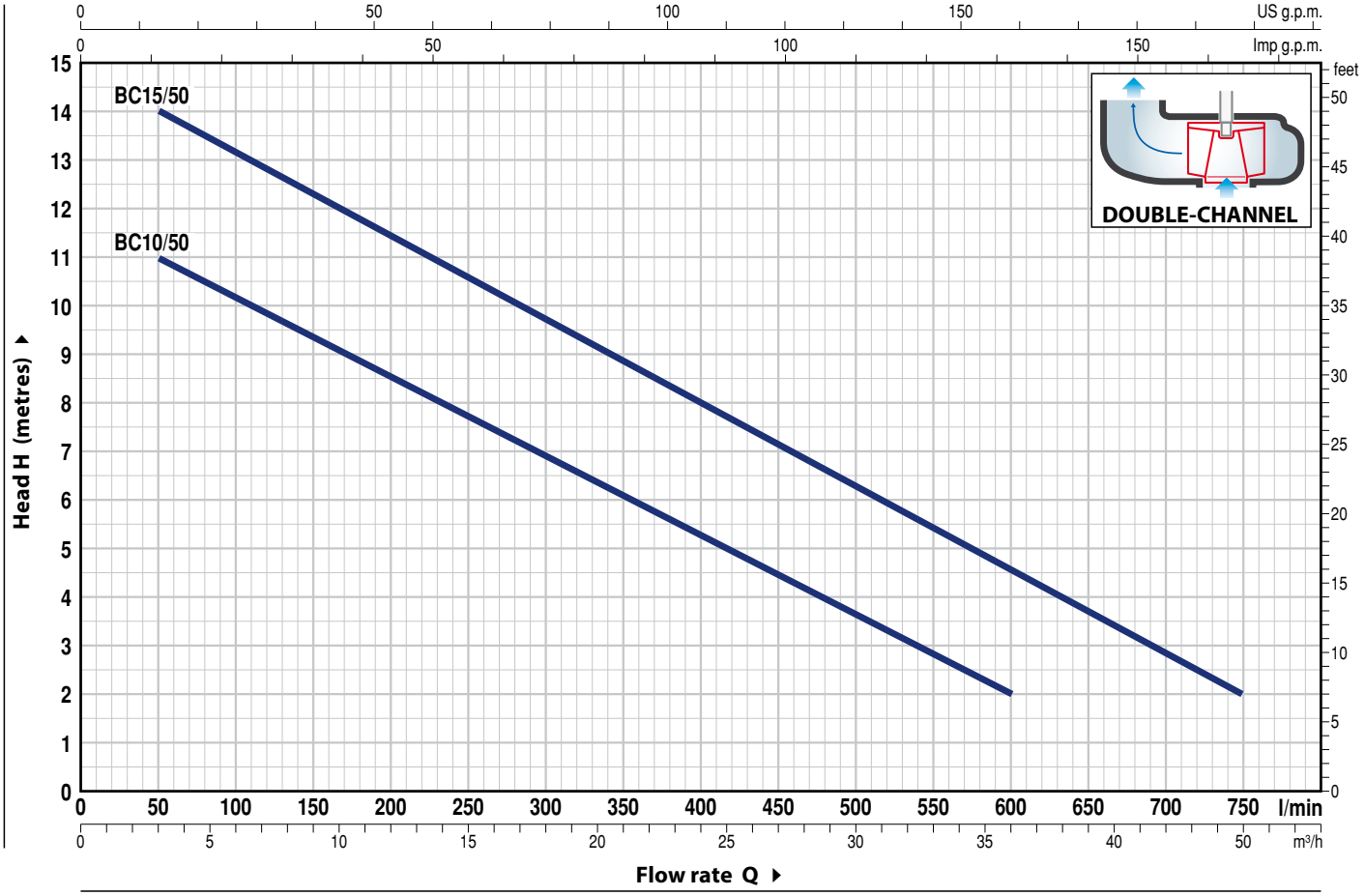
- Patent n. EP2313658
- Patent n. IT0001428923

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 (P2)		Q	m³/h	0	3	6	12	18	24	30	36	42	45
Single-phase	Three-phase	kW	HP		l/min	**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

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)***
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

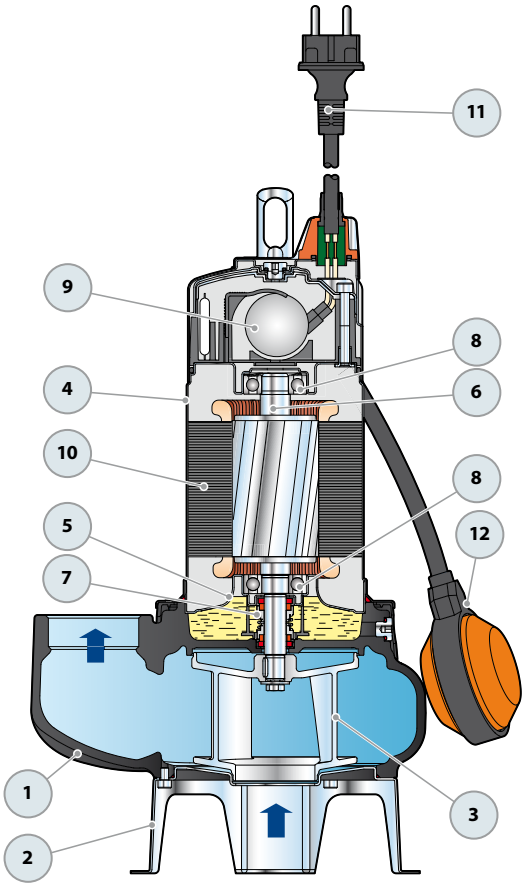
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

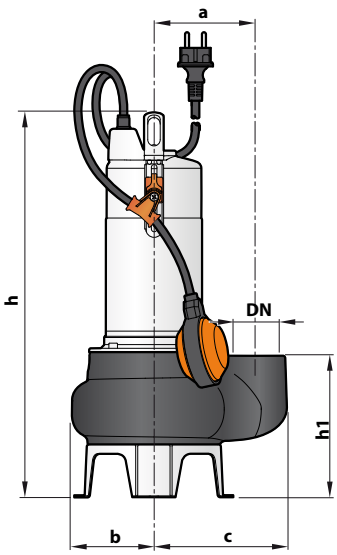
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 5 metres (**10 metres** for BC15/50)

12 FLOAT SWITCH

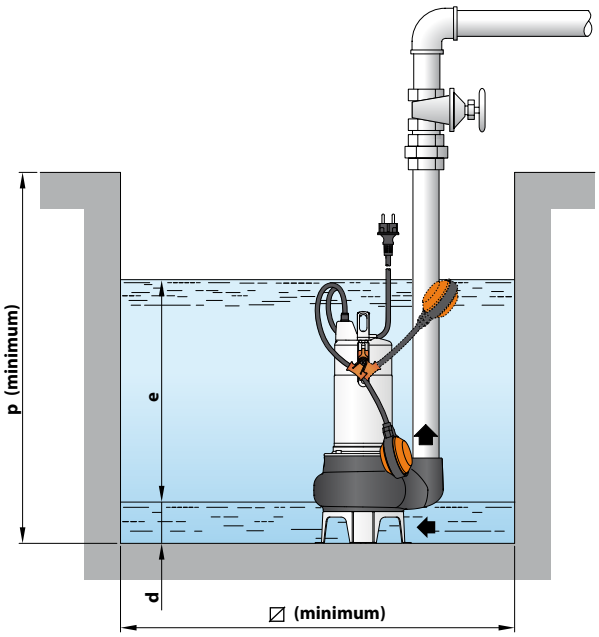
(only for single-phase versions)



DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		a	b	c	h	h1	d	e	p	⍁	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		
Single-phase	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			
Three-phase	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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
BCm 10/50	**BC 10/50**	**54**	**72**
BCm 15/50	**BC 15/50**	**54**	**72**

VXC

Submersible pumps

Sewage water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **650 l/min** (39 m^3/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

CE

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

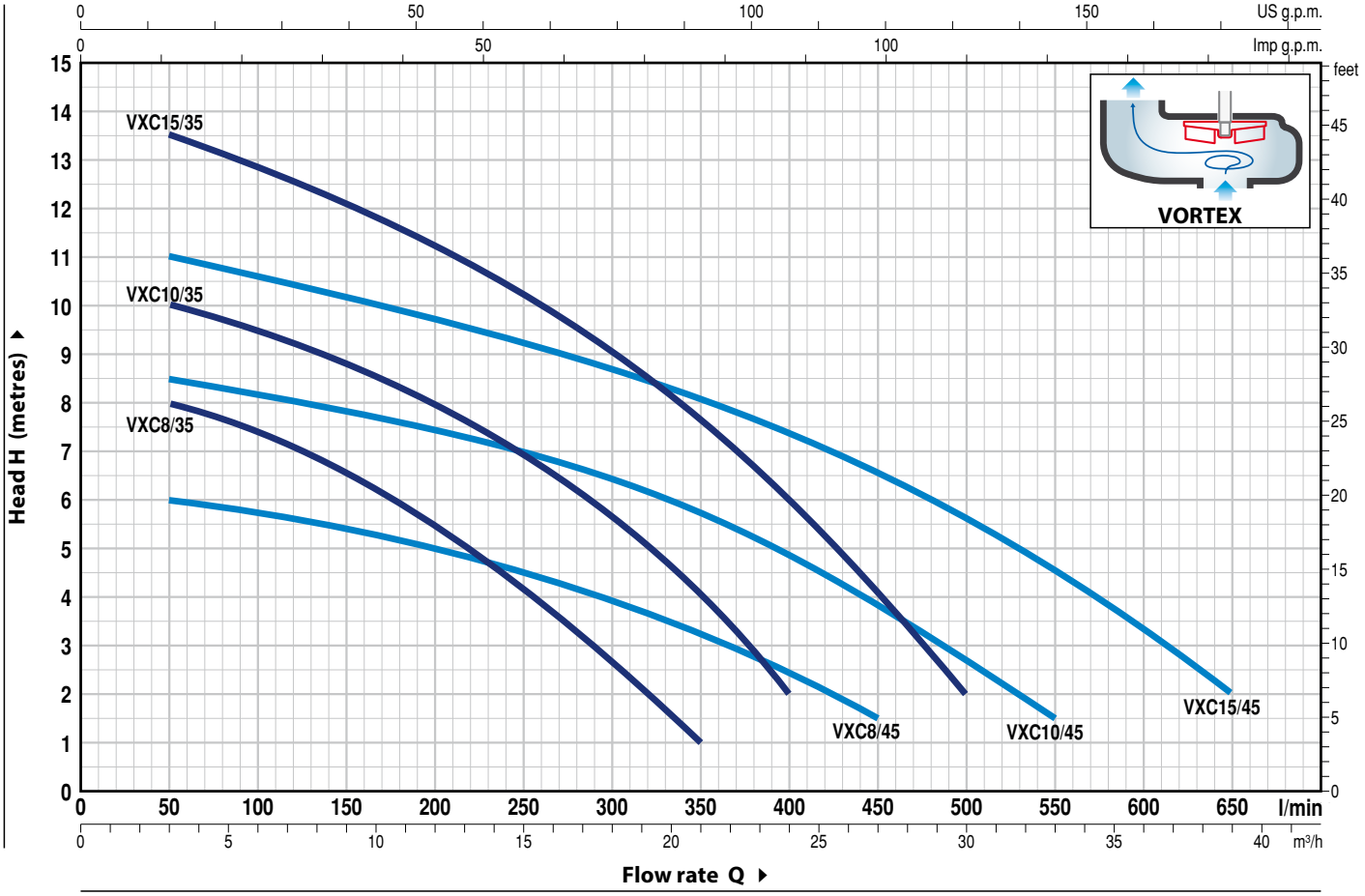
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

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 (P2)		Q	m³/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**
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 **VXCm 8/45** **VXCm 10/35** **VXCm 10/45**	**20** µF 450 VL	**30** µF - 250 VL
VXCm 15/35 **VXCm 15/45**	**25** µF 450 VL	–

10 ELECTRIC MOTOR

VXCm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
VXC: three-phase 400 V - 50 Hz

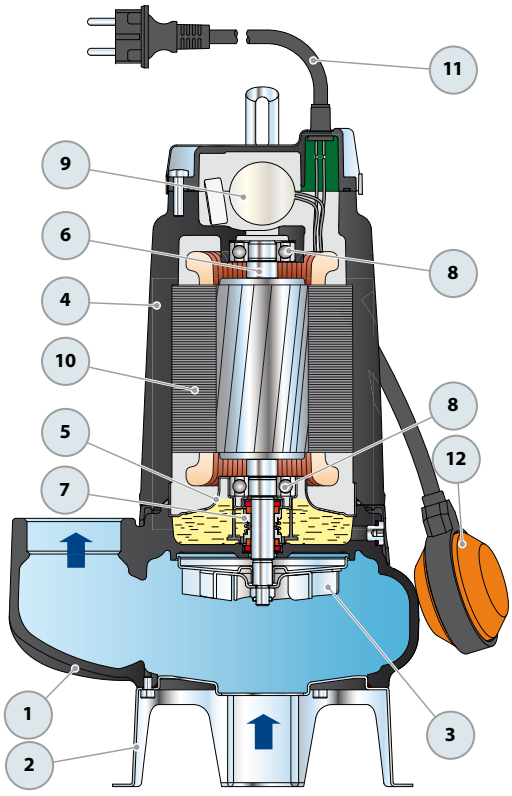
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

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

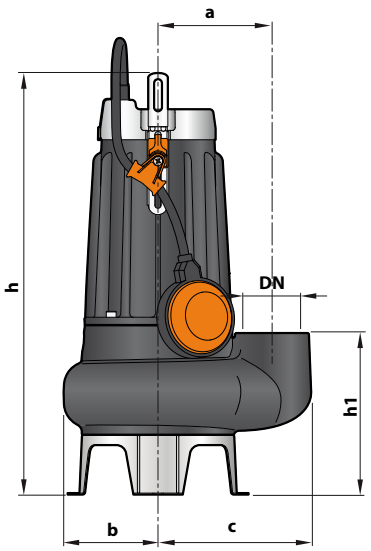
12 FLOAT SWITCH

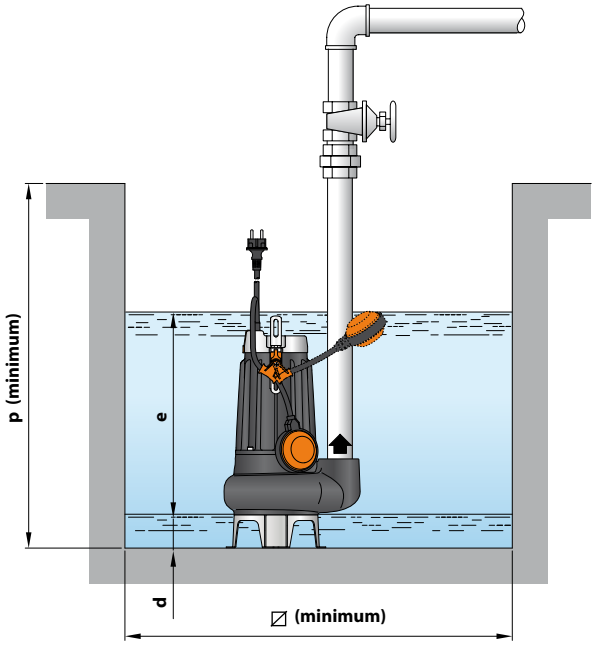
(only for single-phase versions)



DIMENSIONS AND WEIGHT

Standard installation





MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		a	b	c	h	h1	d	e	p	⍁	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												17.6	16.7
VXCm 15/35	VXC 15/35						403						19.3	18.2
VXCm 8/45	VXC 8/45	2"	Ø 50 mm			155	413	164	60				17.4	17.2
VXCm 10/45	VXC 10/45												18.3	17.2
VXCm 15/45	VXC 15/45						428						19.8	18.8

ABSORPTION

MODEL	VOLTAGE		
Single-phase	230 V	240 V	110 V
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			
Three-phase	230 V	400 V	240 V	415 V
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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
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

MC

DOUBLE-CHANNEL

Submersible pumps

Sewage water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **750 l/min** (45 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

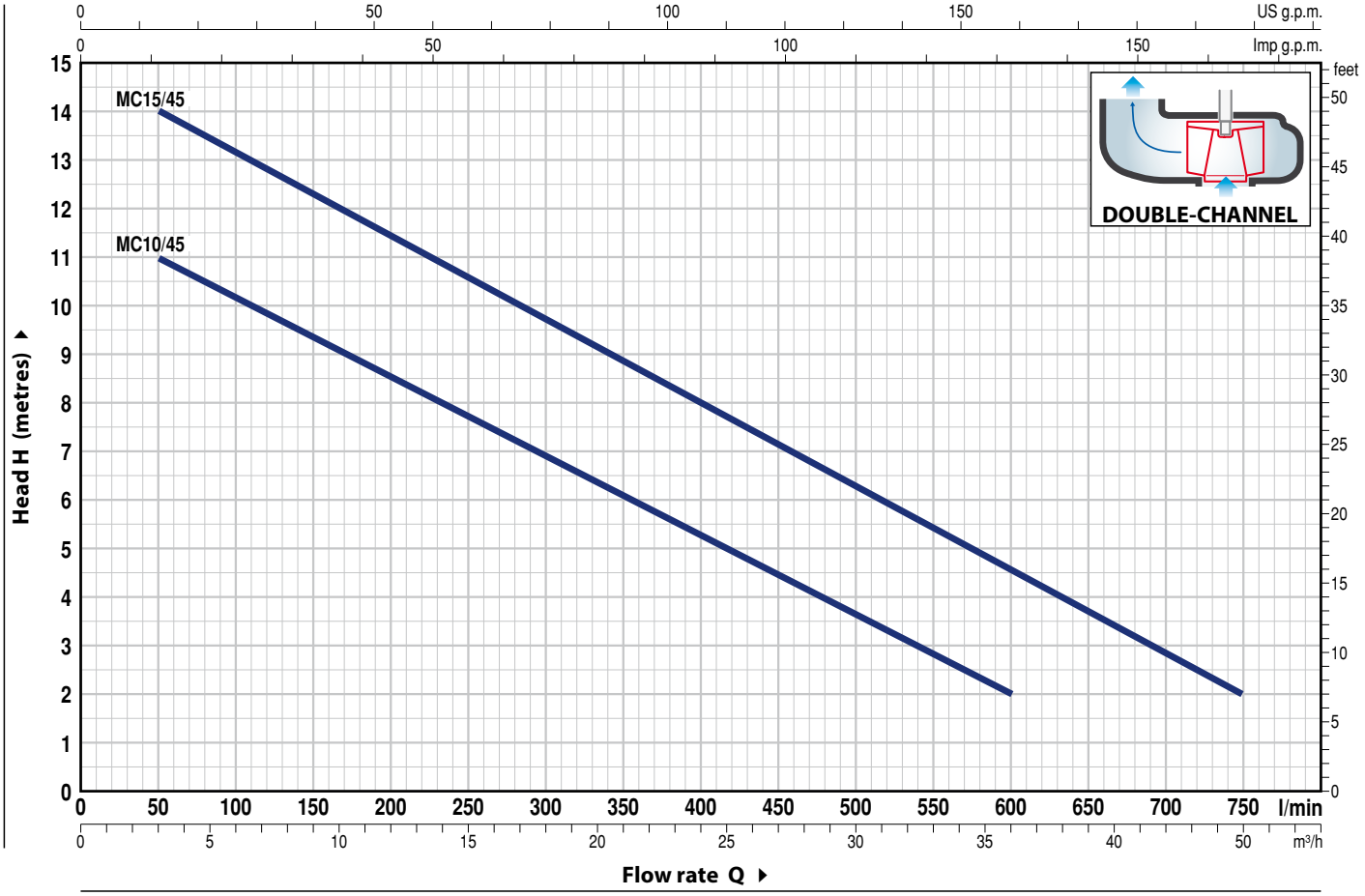
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

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 (P2)		Q	m³/h	0	3	6	12	18	24	30	36	42	45
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**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

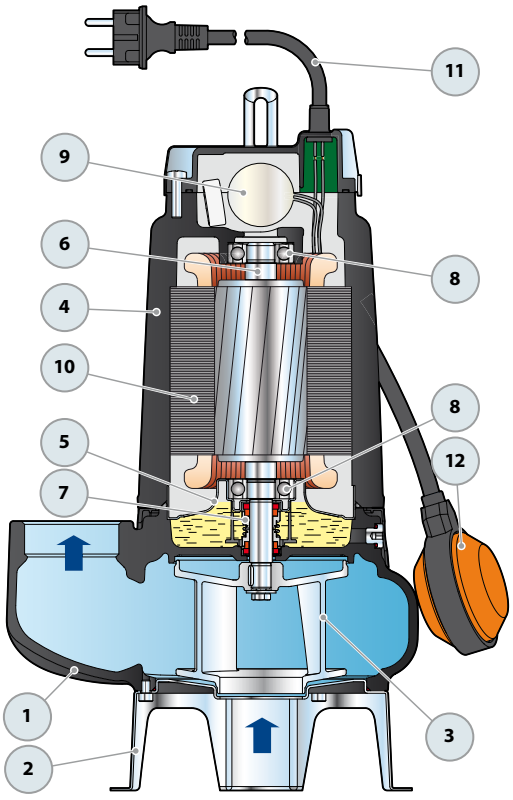
– Insulation: class F
– Protection: IP X8

11 POWER CABLE

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

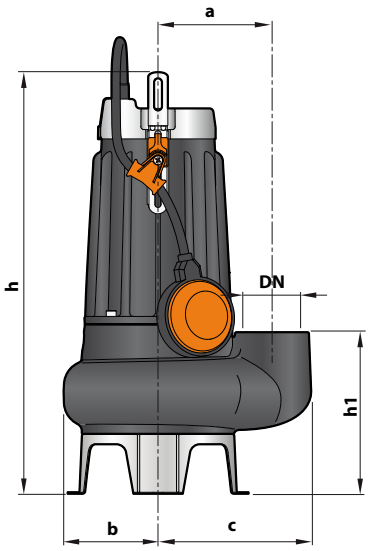
12 FLOAT SWITCH

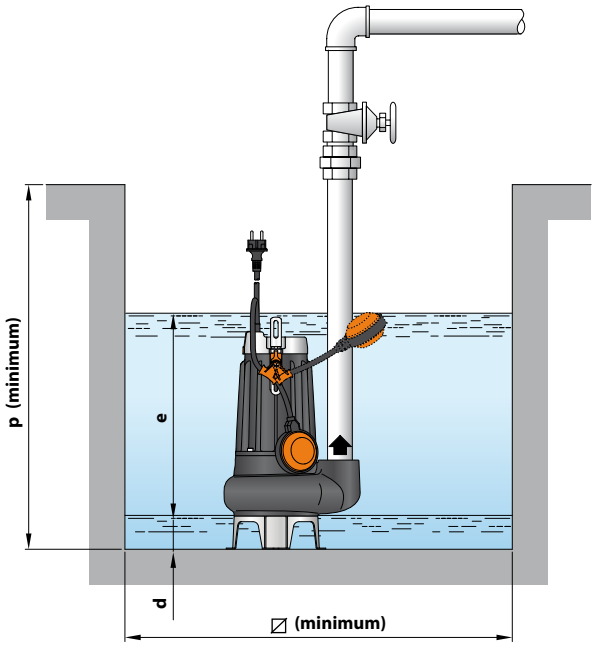
(only for single-phase versions)



DIMENSIONS AND WEIGHT

Standard installation





MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		a	b	c	h	h1	d	e	p	⍁	1~	3~
MCm 10/45	MC 10/45	2"	Ø 50 mm	115	95	155	413	164	60	variable	500	500	**18.8**	**17.7**
MCm 15/45	MC 15/45						428						**20.1**	**18.9**

ABSORPTION

MODEL	VOLTAGE		
Single-phase	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			
Three-phase	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	CONTAINER
Single-phase	Three-phase	n. pumps	n. pumps
MCm 10/45	MC 10/45	**54**	**72**
MCm 15/45	MC 15/45	**54**	**72**

DC

Submersible drainage pumps

Clear water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **300 l/min** (18 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

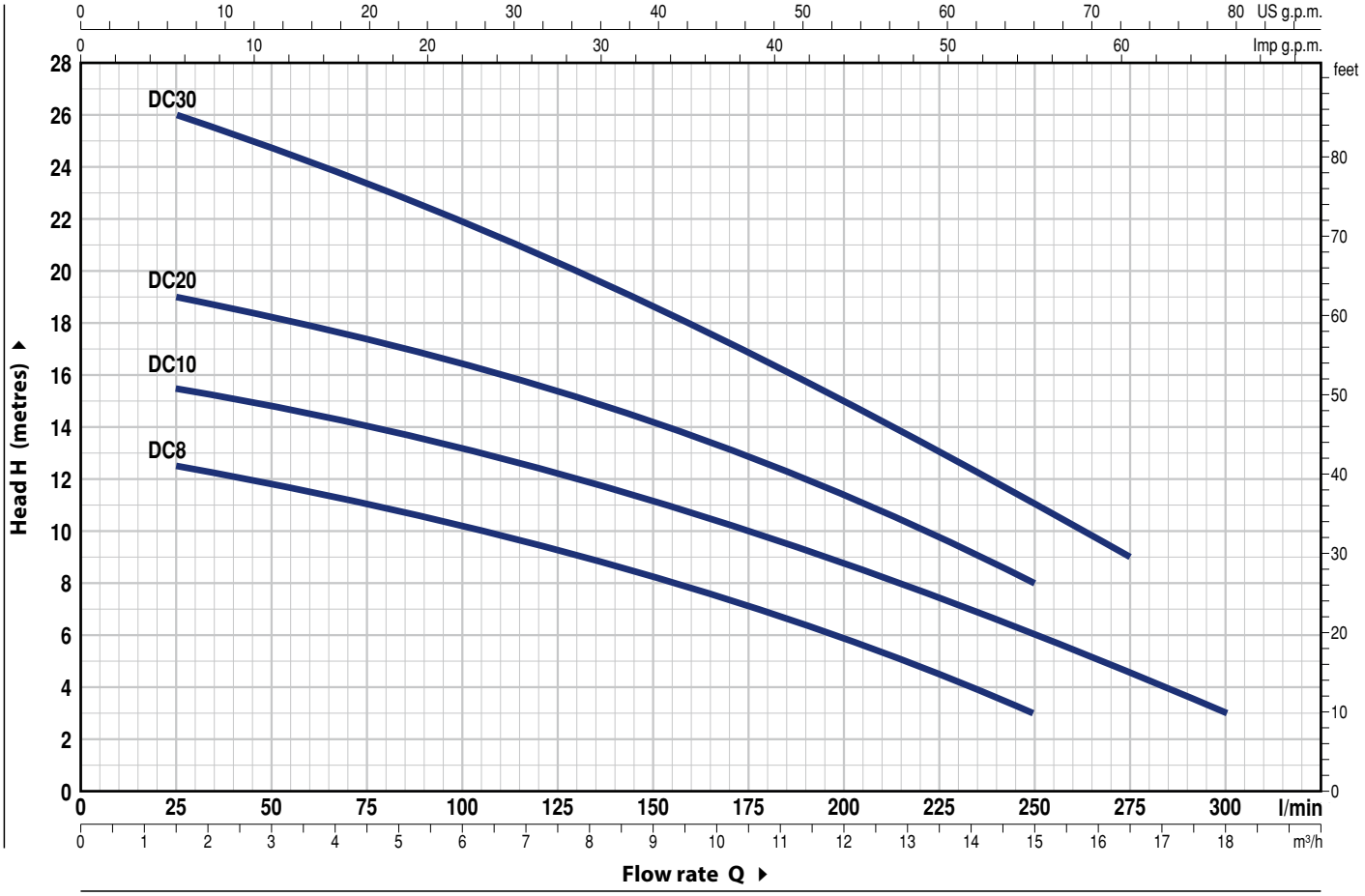
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0003

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 (P2)		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

Pump ***Model***	***Seal*** ***Model***	***Shaft*** ***Diameter***	*Position*	*Materials* *Stationary ring*	*Rotational ring*	*Elastomer*
DC8 **DC10** **DC20**	**MG1-14D SIC**	**Ø 14** mm	Motor side	Silicon carbide	Graphite	NBR
			Pump side	Silicon carbide	Silicon carbide	NBR
(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

Pump ***Single-phase***	***Capacitance*** ***(230 V or 240 V)***	***(110 V)***
DCm8 **DCm10** **DCm20**	**20** µF 450 VL	**30** µF - 250 VL
DCm30	**25** µF 450 VL	–

11 ELECTRIC MOTOR

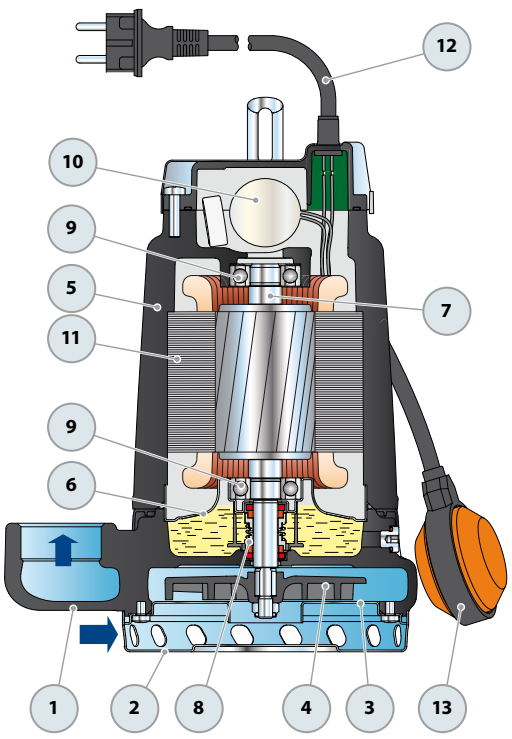
DCm: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding
DC: three-phase 400 V - 50 Hz

– Insulation: class F
– Protection: IP X8

12 POWER CABLE

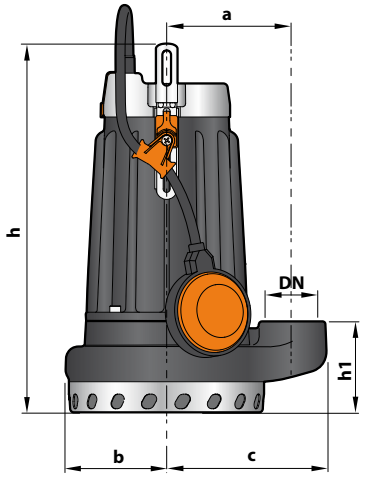
"H07 RN-F" type
(with Schuko plug for single-phase versions only)
Standard length 10 metres

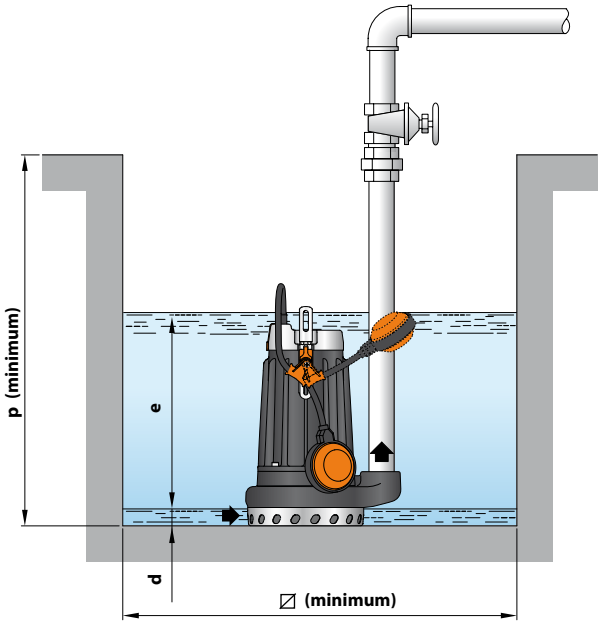
13 FLOAT SWITCH
(only for single-phase versions)



DIMENSIONS AND WEIGHT

Standard installation





MODEL		PORT	DIMENSIONS mm									kg	
Single-phase	**Three-phase**	**DN**	a	b	c	h	h1	d	e	p	⍁	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		
Single-phase	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			
Three-phase	230 V	400 V	240 V	415 V
DC 8	**2.8** A	**1.6** A	**2.6** A	**1.5** A
DC 10	**3.5** A	**2.0** A	**3.3** A	**1.9** A
DC 20	**4.2** A	**2.4** A	**4.0** A	**2.3** A
DC 30	**5.2** A	**3.0** A	**5.0** A	**2.9** A

PALLETIZATION

MODEL		GROUPAGE	CONTAINER
Single-phase	**Three-phase**	n. pumps	n. pumps
DCm 8	**DC 8**	**60**	**80**
DCm 10	**DC 10**	**60**	**80**
DCm 20	**DC 20**	**60**	**80**
DCm 30	**DC 30**	**60**	**80**

TRITUS

Submersible pumps with grinder

Sewage water

Domestic use

Civil use

PERFORMANCE RANGE

- Flow rate up to **260 l/min** (15.6 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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 refluent water from domestic and civil applications and conveys it under pressure into the sewers through small diameter pipes.

PATENTS - TRADE MARKS - MODELS

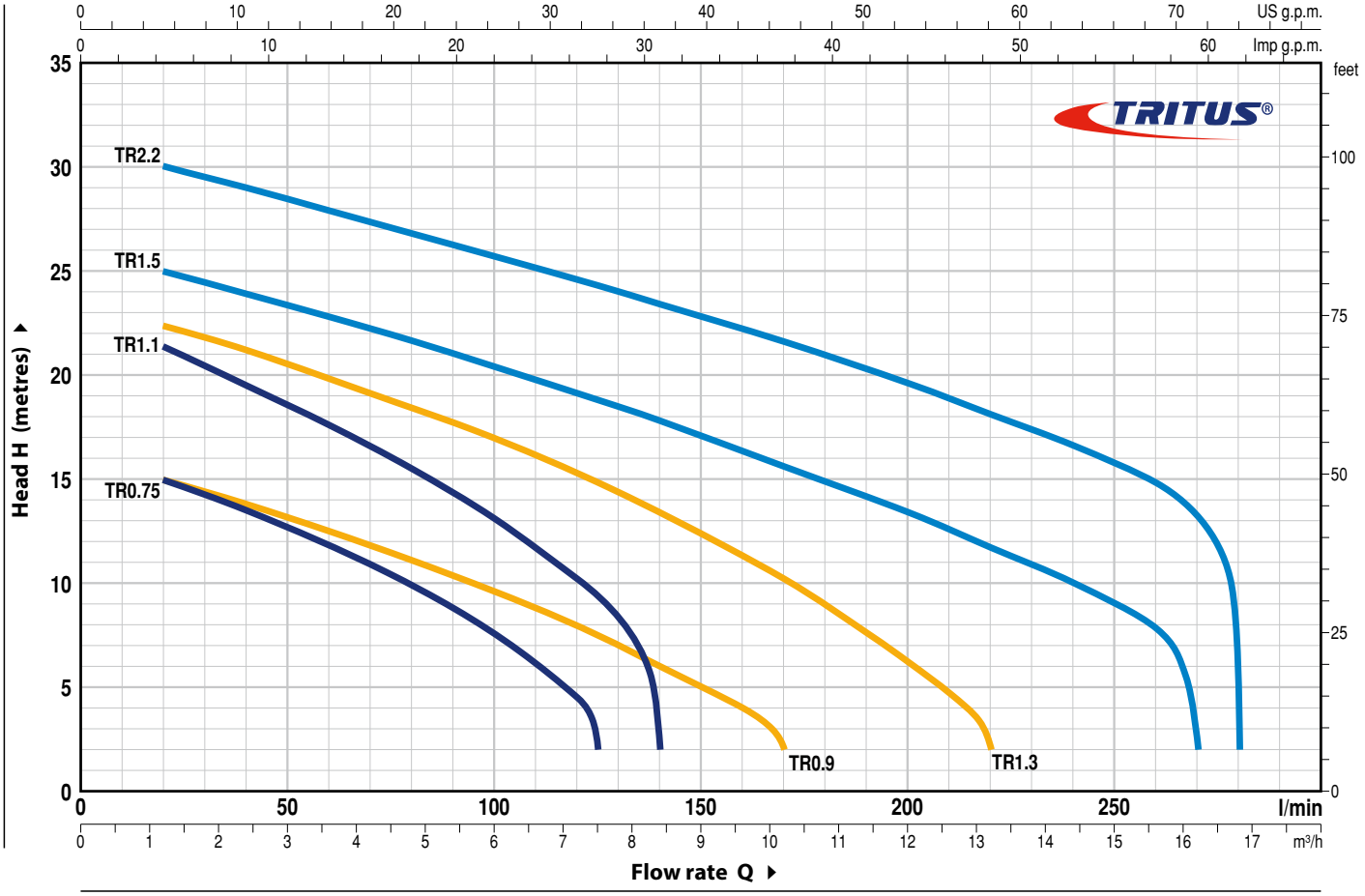
- Patent n. EP2313658
- Patent n. IT0001428923
- Registered EU Design n. 002501486-0002 (TR 0.75, TR 0.9, TR 1.1, TR 1.3)
- TRITUS® Registered trade mark n. 013017181

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 (P2)		Q	m³/h	0	1.2	2.4	3.6	4.8	6.0	7.5	8.4	10.2	12	13.2	14.4	16.2	16.8
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**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	*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

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

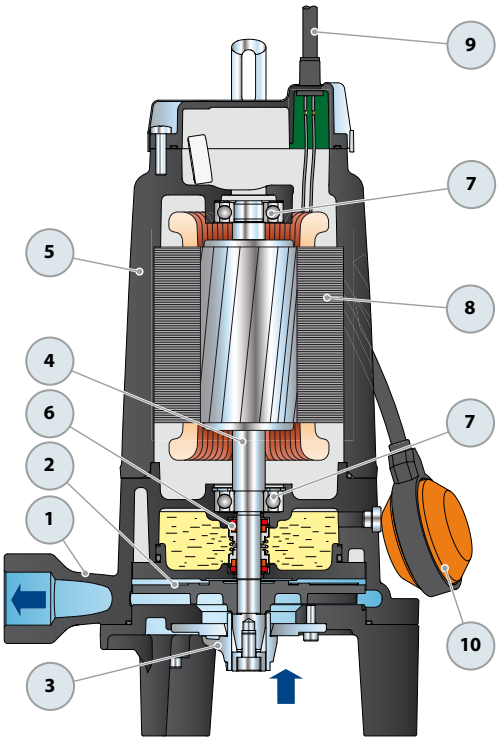
(only for single-phase versions)

11 CONTROL BOX

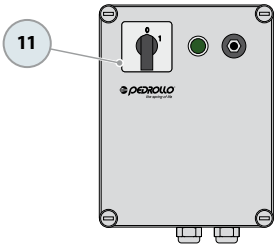
(only for single-phase versions)

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 **TRm 0.9** **TRm 1.1** **TRm 1.3**	**25** µF 450 VL	**80** µF 450 VL



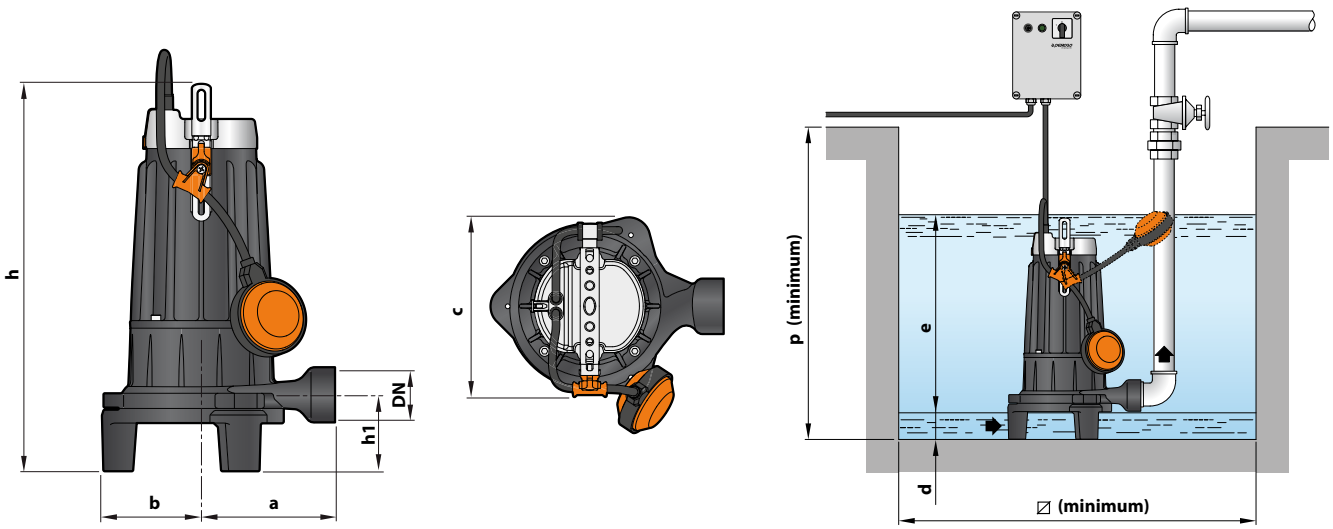
Standard features



Control box
(only for single-phase versions)

DIMENSIONS AND WEIGHT

Standard installation (for single-phase version)



MODEL		PORT	DIMENSIONS mm									kg *	
Single-phase	Three-phase	DN	a	b	c	h	h1	d	e	p	⍁	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	
Single-phase	230 V	240 V
TRm 0.75	**5.5** A	**5.4** A
TRm 0.9	**6.0** A	**5.8** A
TRm 1.1	**7.4** A	**7.1** A
TRm 1.3	**9.0** A	**8.6** A

MODEL	VOLTAGE			
Three-phase	230 V	400 V	240 V	415 V
TR 0.75	**4.3** A	**2.5** A	**4.2** A	**2.4** A
TR 0.9	**4.5** A	**2.6** A	**4.3** A	**2.5** A
TR 1.1	**5.2** A	**3.0** A	**5.0** A	**2.9** A
TR 1.3	**6.6** A	**3.8** A	**6.2** A	**3.6** A

PALLETIZATION

MODEL	GROUPAGE
Single-phase	n. pumps
TRm 0.75	**36**
TRm 0.9	**36**
TRm 1.1	**36**
TRm 1.3	**36**

MODEL	GROUPAGE
Three-phase	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
with thermal overload protector incorporated into the winding to be connected to the control box

– Insulation: class F
– Protection: IP X8

9 POWER CABLE

"H07 RN-F" type
Standard length 10 metres

10 FLOAT SWITCH

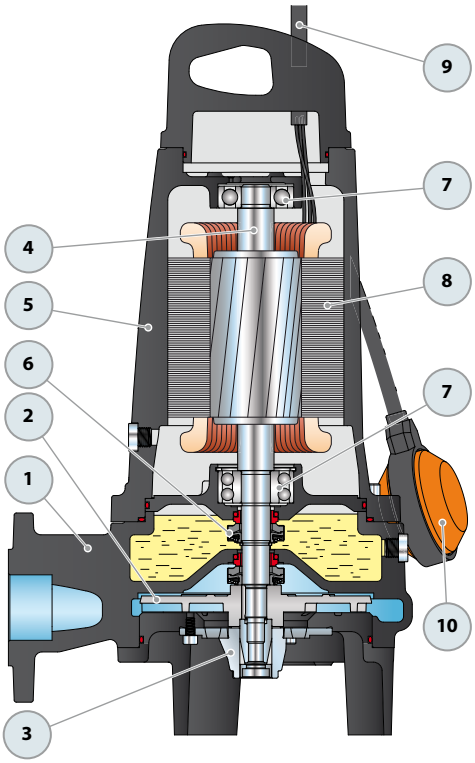
(only for single-phase versions)

11 CONTROL BOX

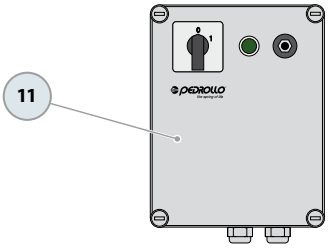
(only for single-phase versions)

With manual overload cut-out and with 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



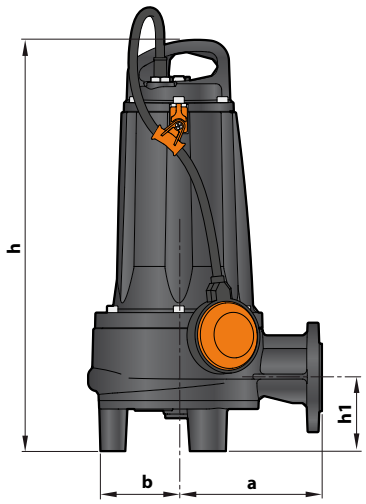
Standard features

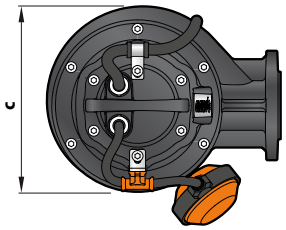


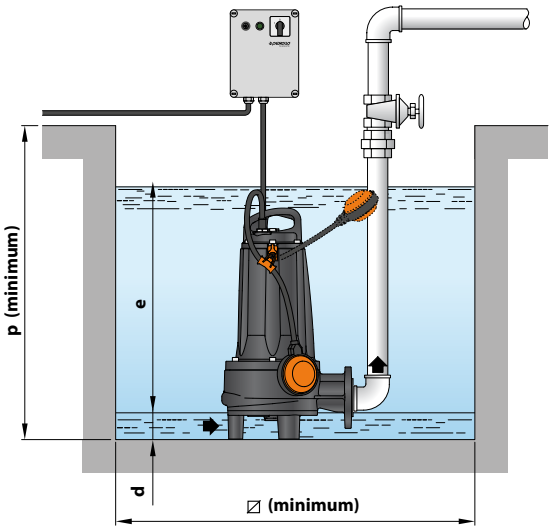
Control box
(only for single-phase versions)

DIMENSIONS AND WEIGHT

Standard installation (for single-phase version)



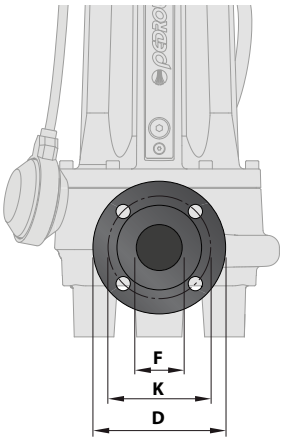




MODEL		DIMENSIONS mm									kg	
Single-phase	**Three-phase**	a	b	c	h	h1	d	e	p	⍁	1~	3~
TRm 1.5	**TR 1.5**	172	105	221	489	87.5	95	variable	800	800	**45.5**	**42.1**
–	**TR 2.2**										–	**44.4**

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

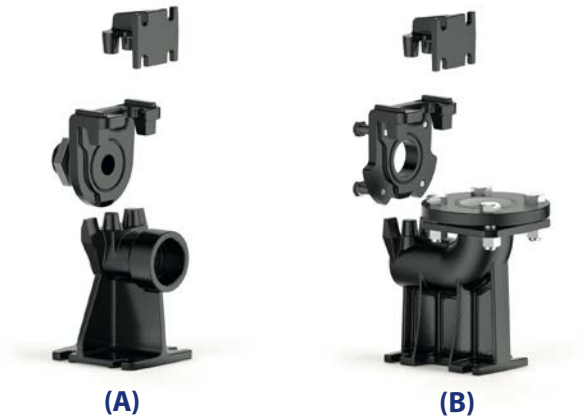
MODEL	VOLTAGE
Single-phase	230 V
TRm 1.5	**10.0** A

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) (B)

A) HORIZONTAL DELIVERY VERSION WITH ¾" 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 ¾" 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 **¾"** guide tubes

In order to ensure stability, insert one intermediate support every two metres of guide tube

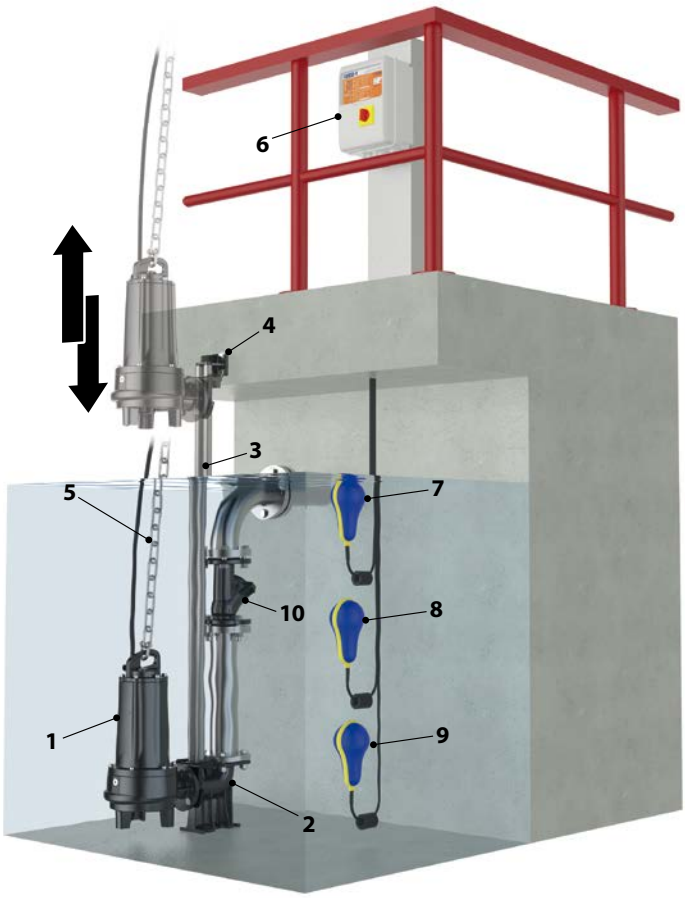
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG005	Ø **¾"**

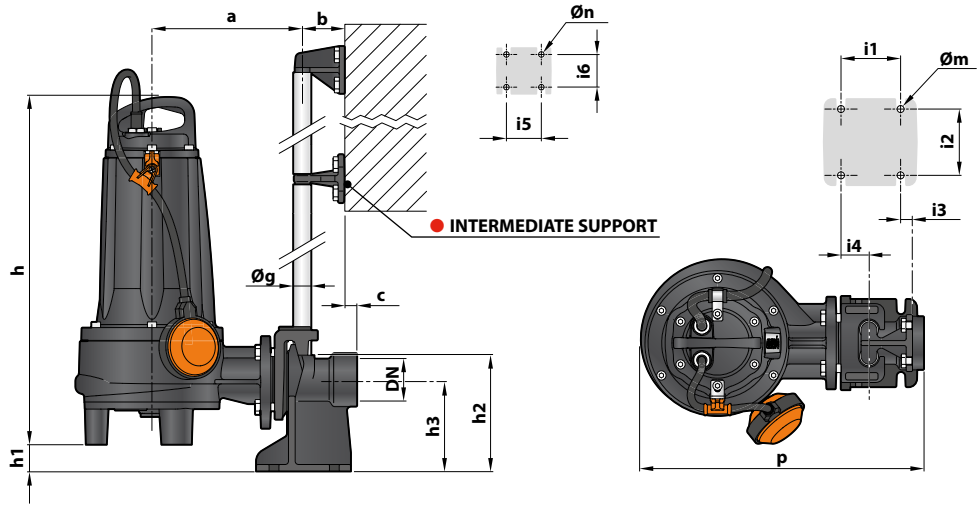
Maximum length of the tube plank: 6 metres

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

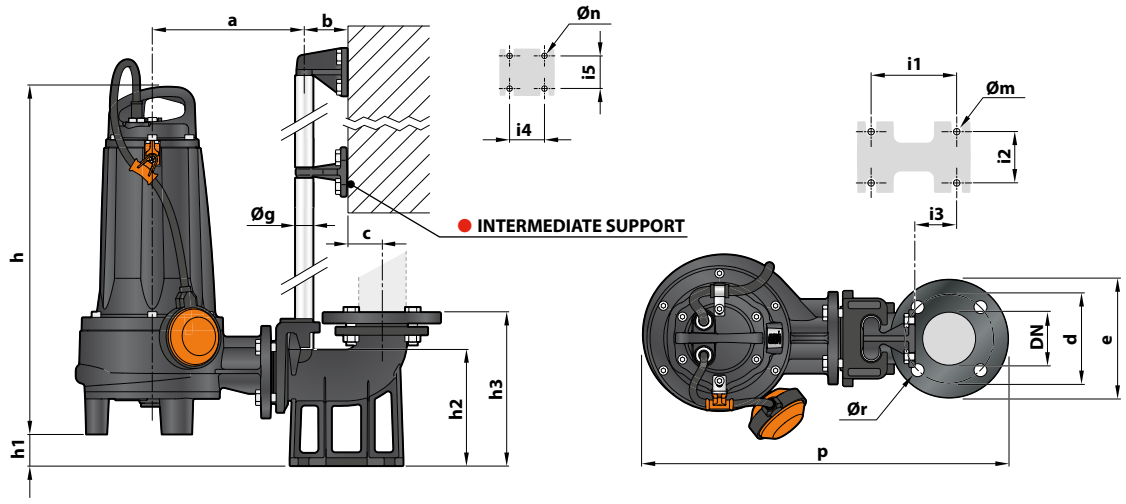


DIMENSIONS (Horizontal delivery version)



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																				

Submersible pumps

Sewage water
Domestic use
Civil use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **1200 l/min** (72 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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 refluent 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

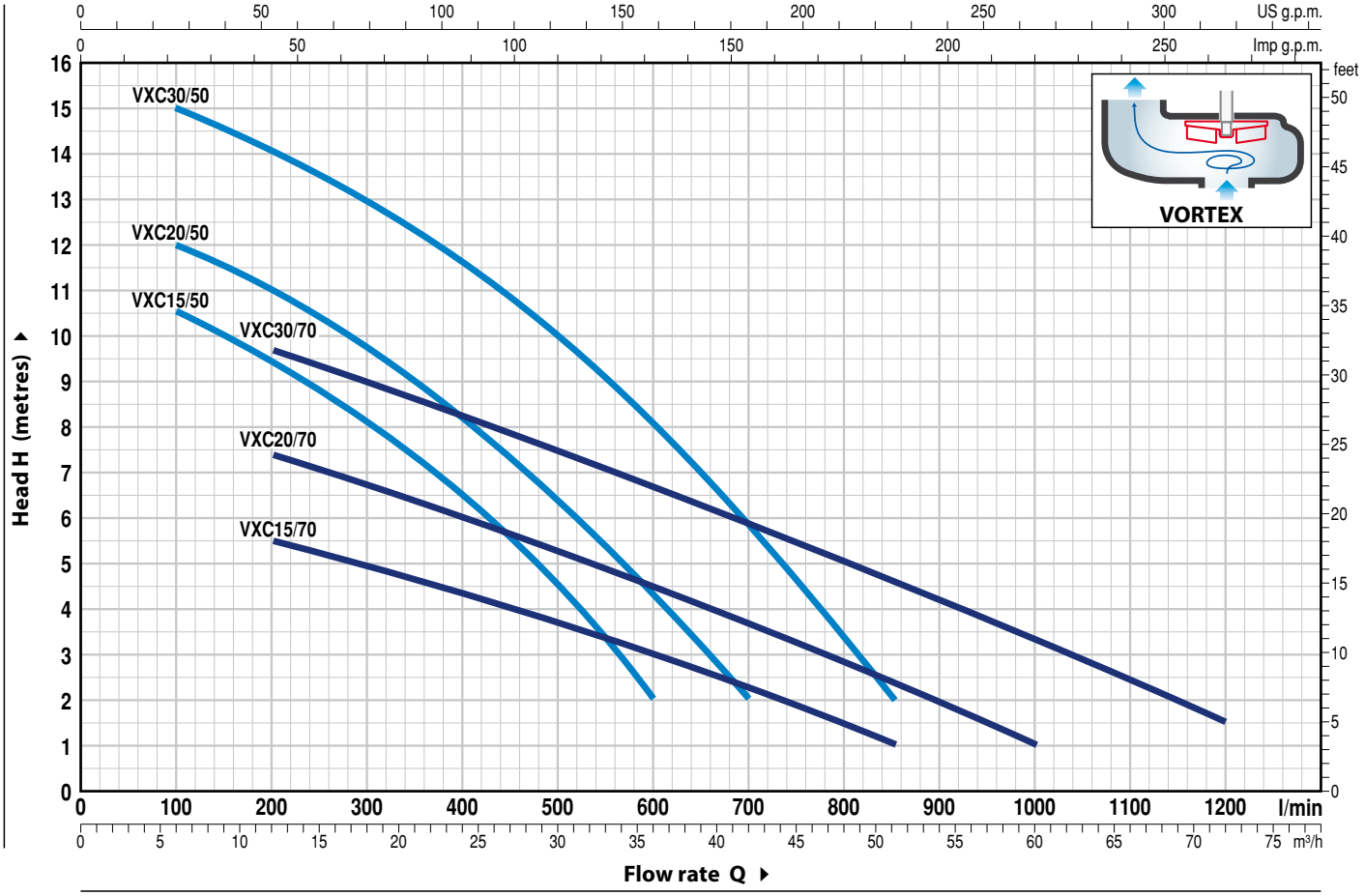
➠ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

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 (P2)		Q	m³/h	0	6	12	18	21	24	30	36	42	48	51	54	60	66	72
Single-phase	**Three-phase**	**kW**	**HP**		l/min	**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

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 **VXCm 15/70**	**31.5** µF 450 VL
VXCm 20/50 **VXCm 20/70**	**50** µF 450 VL
VXCm 30/50 **VXCm 30/70**	**60** µF 450 VL

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

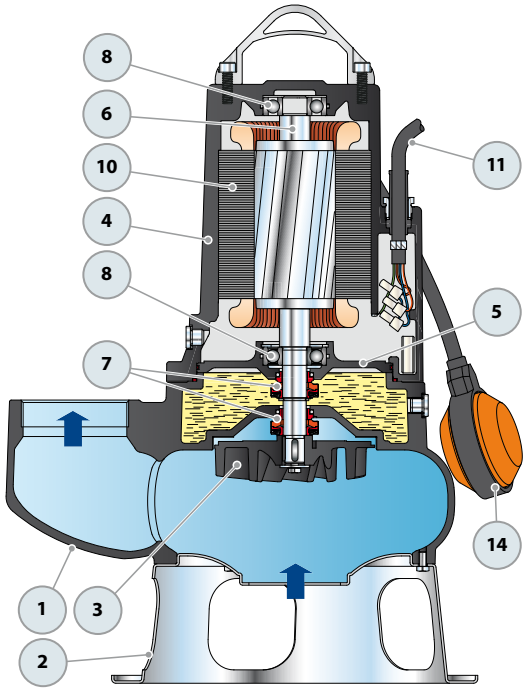
12 CONTROL BOX for VXCm 15-20
(only for single-phase versions)

Complete with capacitor and manual reset motor protector

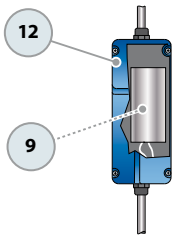
13 CONTROL BOX for VXCm 30
(only for single-phase versions)

QES 300 MONO series

14 FLOAT SWITCH
(only for single-phase versions)

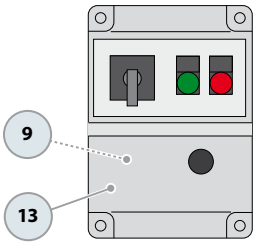


Standard features



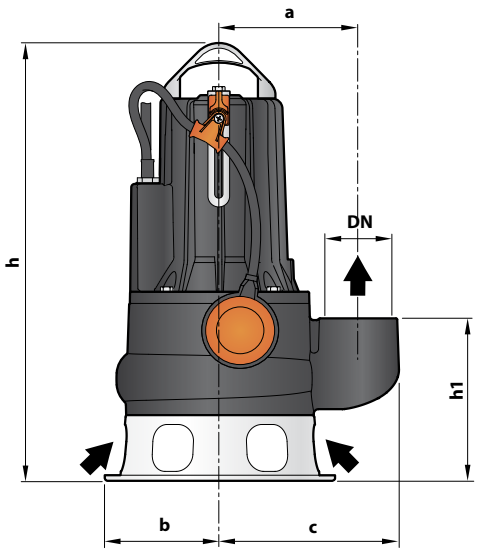
Control box for VXCm 15-20
(only for single-phase versions)

Standard features

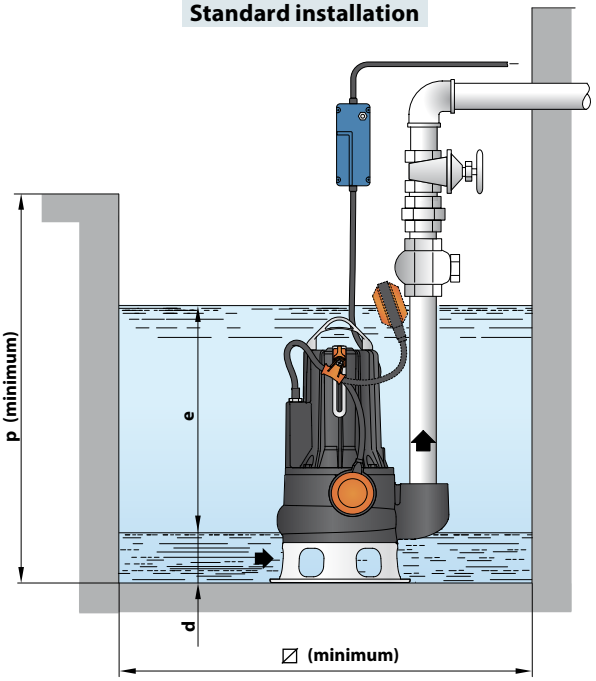


Control box for VXCm 30
(only for single-phase versions)

DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		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**												**38.4**	**36.7**
VXCm 30/50	**VXC 30/50**						537/524						**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**												**40.7**	**38.7**
VXCm 30/70	**VXC 30/70**						577/556						**45.0**	**42.0**

ABSORPTION

MODEL	VOLTAGE	
Single-phase	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		
Three-phase	230–240 V	400–415 V	690–720 V
VXC 15/50	**5.9** A	**3.4** A	**2.0** A
VXC 20/50	**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
Single-phase	Three-phase	n. pumps
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**

MC

DOUBLE-CHANNEL

Submersible pumps

Sewage water

Domestic use

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

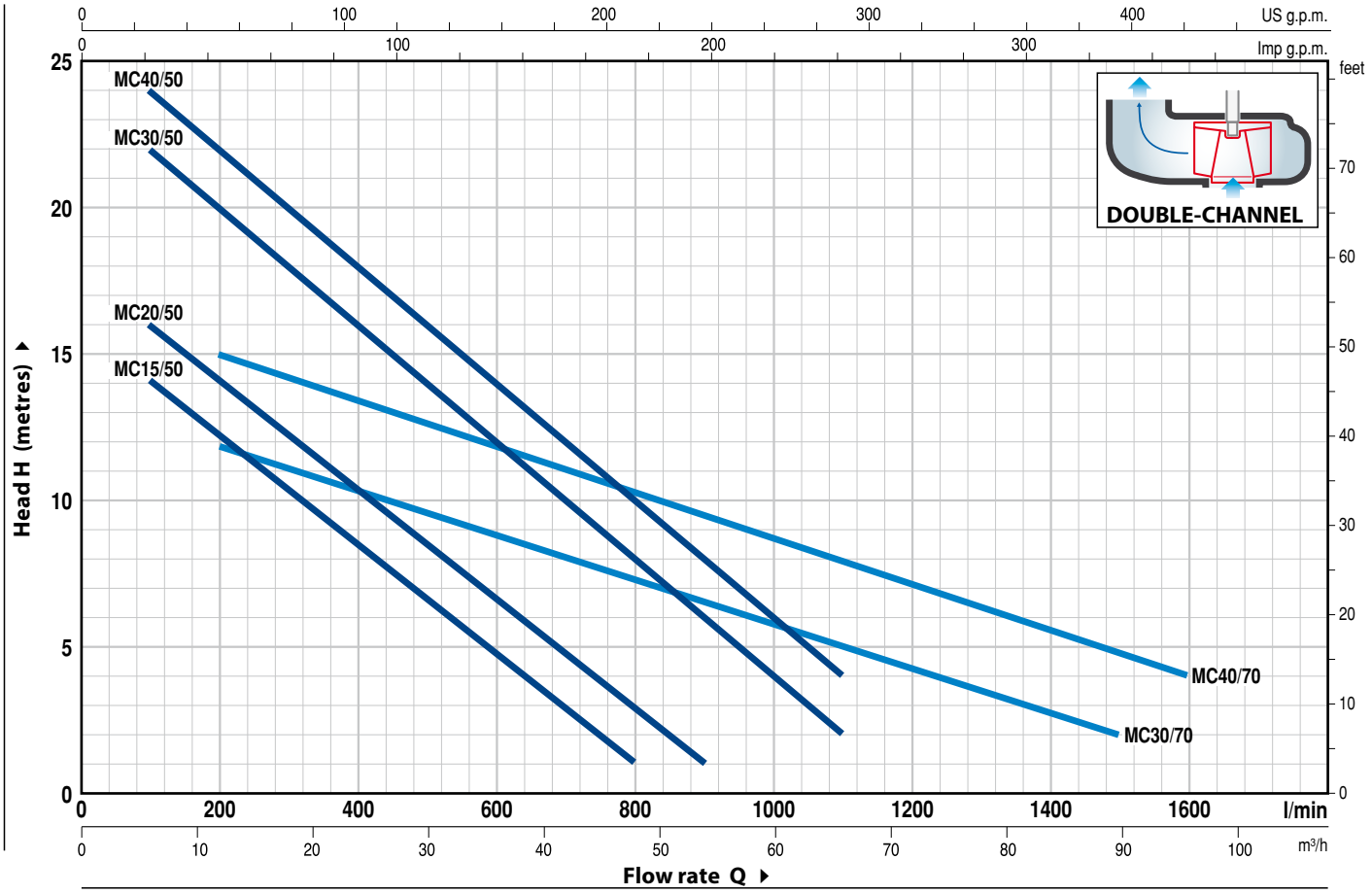
➠ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

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 (P2)		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	**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 **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

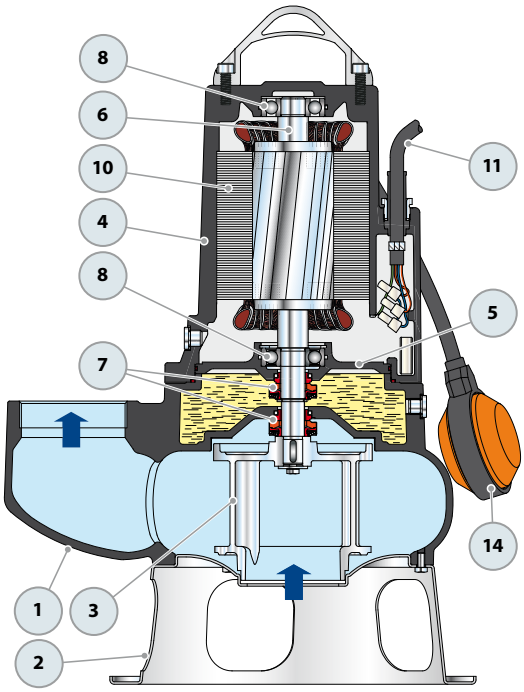
12 CONTROL BOX for MCm 15-20
(only for single-phase versions)

Complete with capacitor and manual reset motor protector

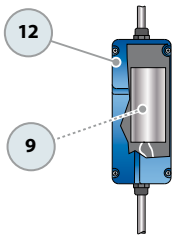
13 CONTROL BOX for MCm 30
(only for single-phase versions)

QES 300 MONO series

14 FLOAT SWITCH
(only for single-phase versions)

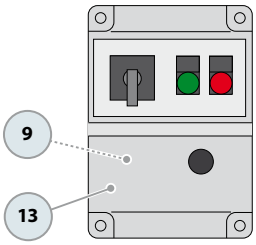


Standard features



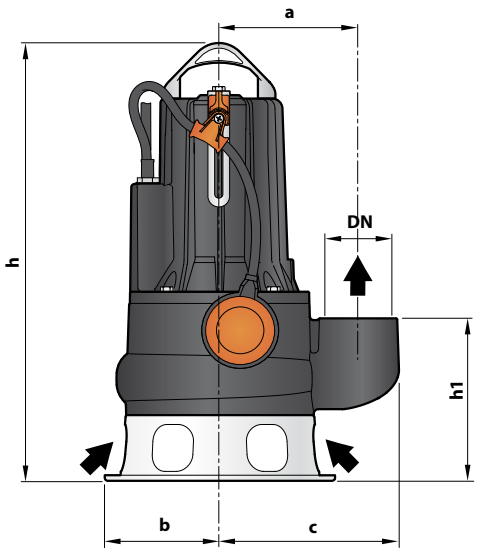
Control box for MCm 15-20
(only for single-phase versions)

Standard features

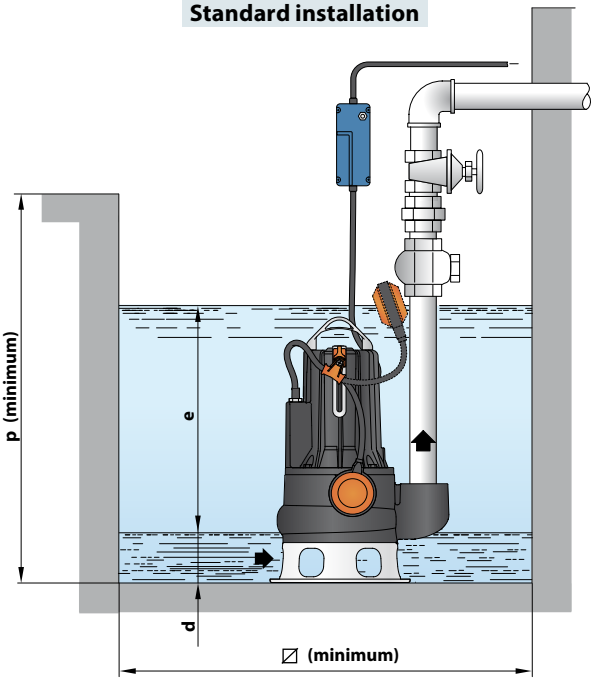


Control box for MCm 30
(only for single-phase versions)

DIMENSIONS AND WEIGHT



Standard installation



MODEL		PORT	Passage of solids	DIMENSIONS mm									kg	
Single-phase	Three-phase	DN		a	b	c	h	h1	d	e	p	⍁	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**												**38.6**	**37.2**
MCm 30/50	**MC 30/50**						517						**43.0**	**39.0**
–	**MC 40/50**						530						–	**43.4**
MCm 30/70	**MC 30/70**	**3"**	Ø 70 mm	180	150	237	577/563	233	85				**45.4**	**42.2**
–	**MC 40/70**						577						–	**46.3**

ABSORPTION

MODEL	VOLTAGE	
Single-phase	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		
Three-phase	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
Single-phase	Three-phase	n. pumps
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**

VXC-F

Submersible pumps

Sewage water
Domestic use
Civil use
Industrial use

PERFORMANCE RANGE

- Flow rate up to **1200 l/min** (72 m^3/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

CE

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

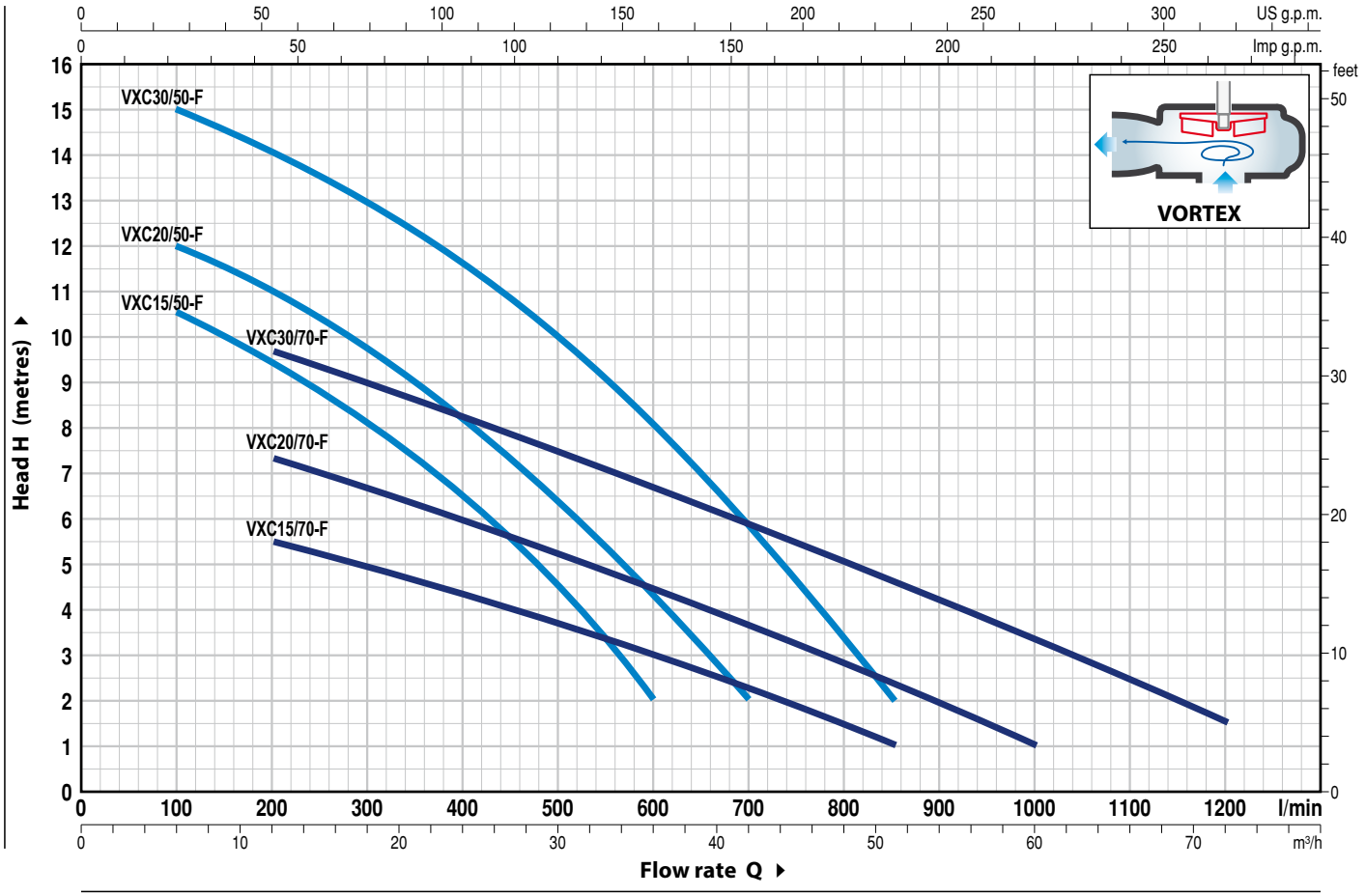
➠ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

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 (P2)		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

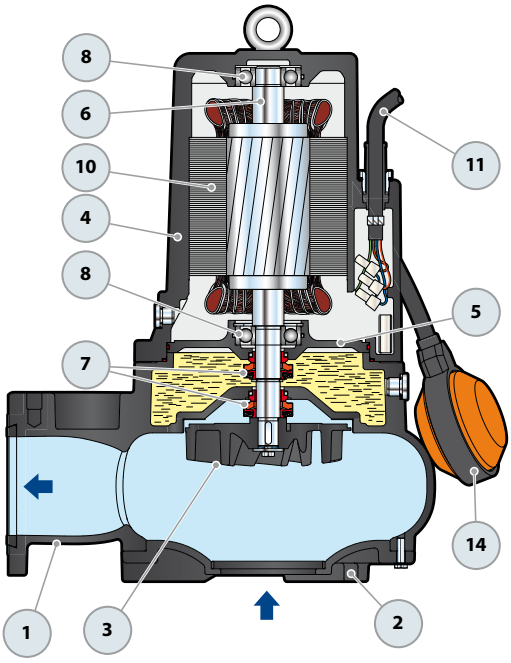
12 CONTROL BOX for VXCm 15-20-F
(only for single-phase versions)

Complete with capacitor and manual reset motor protector

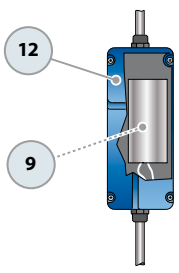
13 CONTROL BOX for VXCm 30-F
(only for single-phase versions)

QES 300 MONO series

14 FLOAT SWITCH
(only for single-phase versions)

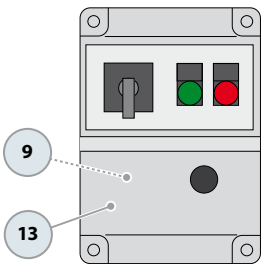


Standard features



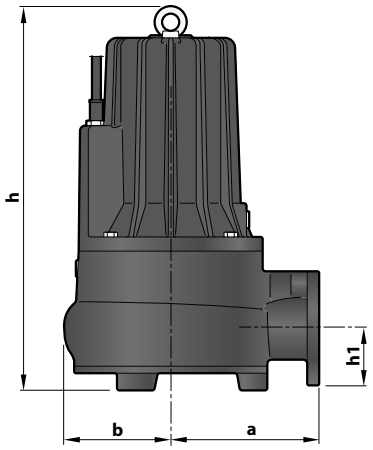
Control box
for VXCm 15-20-F (HP 1.5-2.0)
(only for single-phase versions)

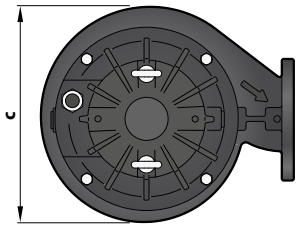
Standard features



Control box
for VXC 30-F (HP 3.0)
(only for single-phase versions)

DIMENSIONS AND WEIGHT

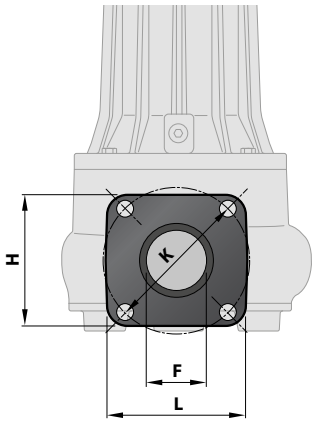




MODEL		Passage of solids	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
VXCm 15/50-F	VXC 15/50-F	Ø 50 mm	169	122	248	442	65	39.2	37.8
VXCm 20/50-F	VXC 20/50-F							40.0	38.5
VXCm 30/50-F	VXC 30/50-F					457 / 442		43.7	40.3
VXCm 15/70-F	VXC 15/70-F	Ø 70 mm	205	131	268	455	75	39.0	39.2
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°	HOLES 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

MC-F

DOUBLE-CHANNEL

Submersible pumps

Sewage water

Domestic use

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **1600 l/min** (96 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

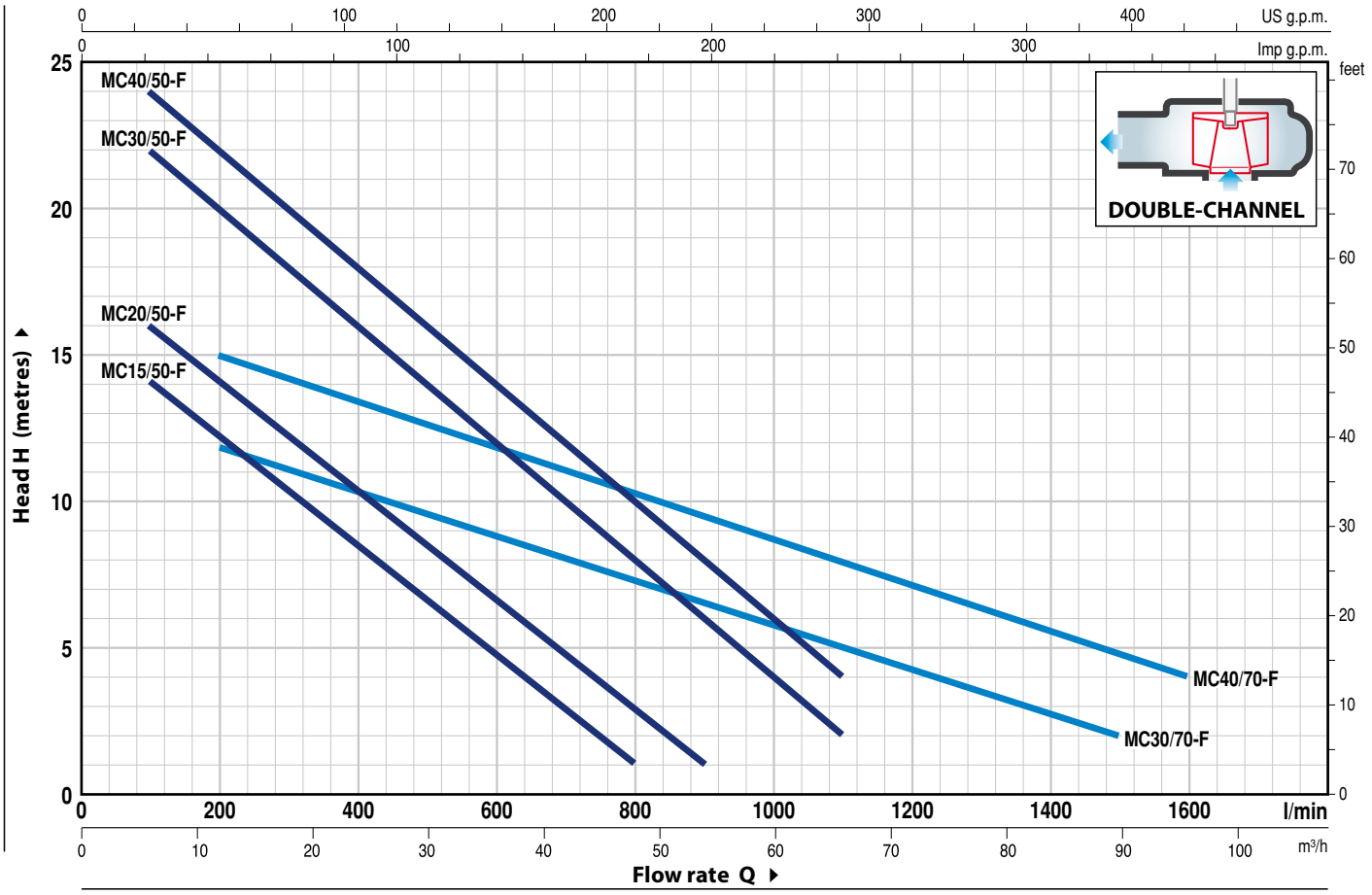
➠ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

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 (P2)		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	*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-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

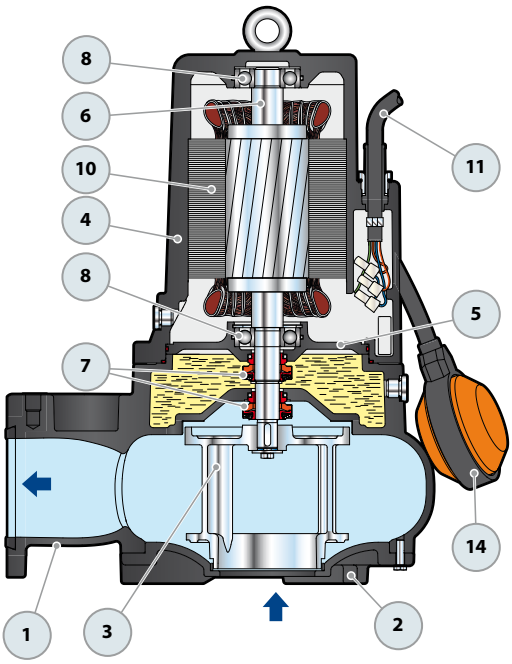
12 CONTROL BOX for MCm 15-20-F
(only for single-phase versions)

Complete with capacitor and manual reset motor protector

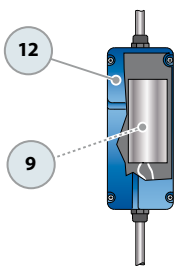
13 CONTROL BOX for MCm 30-F
(only for single-phase versions)

QES 300 MONO series

14 FLOAT SWITCH
(only for single-phase versions)

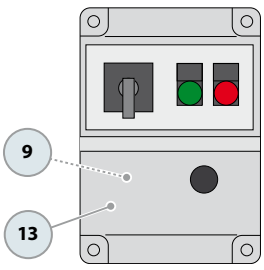


Standard features



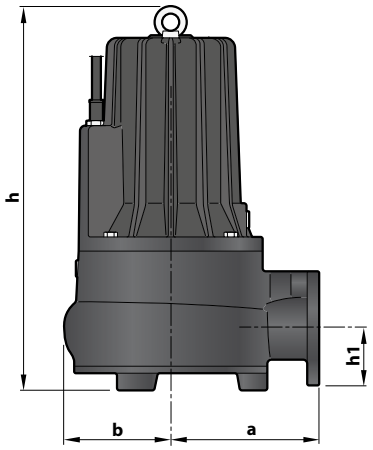
Control box
for MCm 15-20-F (HP 1.5-2.0)
(only for single-phase versions)

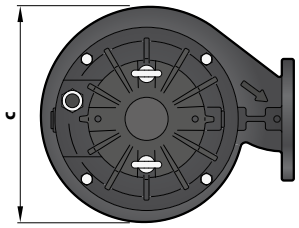
Standard features



Control box
for MCm 30-F (HP 3.0)
(only for single-phase versions)

DIMENSIONS AND WEIGHT

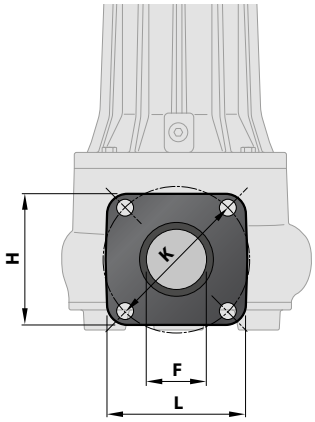




MODEL		Passage of solids	DIMENSIONS mm					kg	
Single-phase	Three-phase		a	b	c	h	h1	1~	3~
MCm 15/50-F	MC 15/50-F	Ø 50 mm	169	122	248	442	65	39.5	38.4
MCm 20/50-F	MC 20/50-F							41.8	39.0
MCm 30/50-F	MC 30/50-F					457 / 442		44.8	41.4
–	MC 40/50-F					457		–	45.4
MCm 30/70-F	MC 30/70-F	Ø 70 mm	205	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°	HOLES Ø (mm)
MC /50-F	58	145	140	130	4	17
MC /70-F	76		140	140		

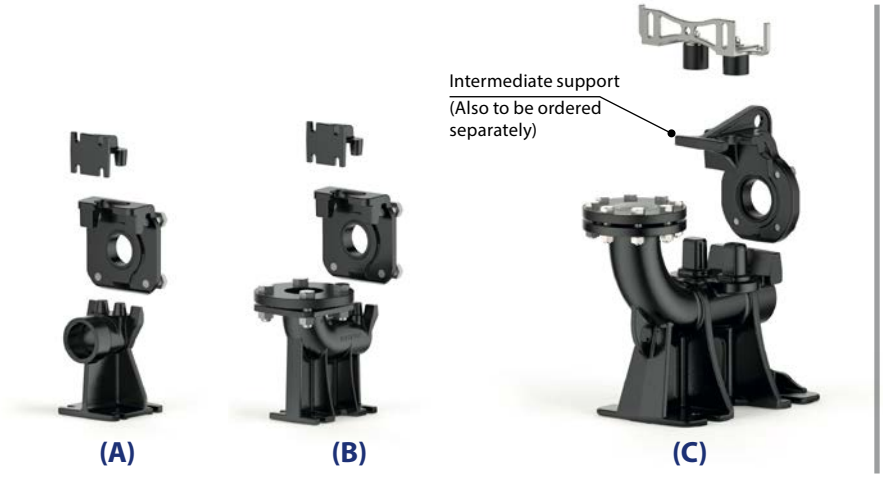


ABSORPTION

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 ¾" GUIDE TUBES

For **VXC /50-F, MC /50-F**	Cod. ASSVXCF050	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 **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** For **VXC /70-F, MC /70-F**	Cod. ASSVXCF0703V	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 **VXC /50-F, MC /50-F** For **VXC /70-F, MC /70-F**	Cod. ASSFL070

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)

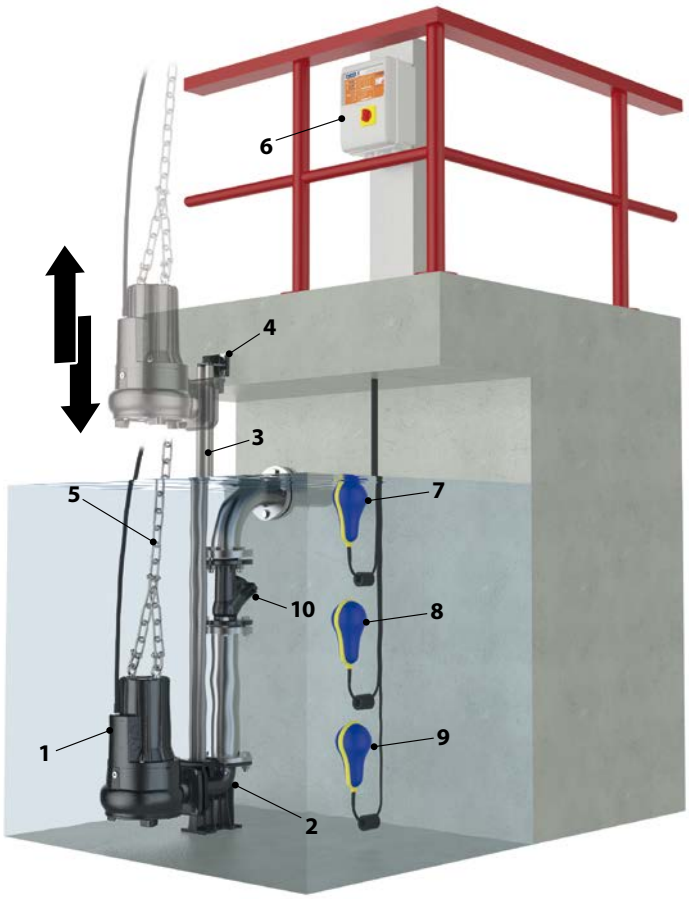
GUIDE TUBES (AISI 304 stainless steel)

Guide tube Ø **¾"**	Cod. 54SARTG005
Guide tube Ø **2"**	Cod. 54SARTG006

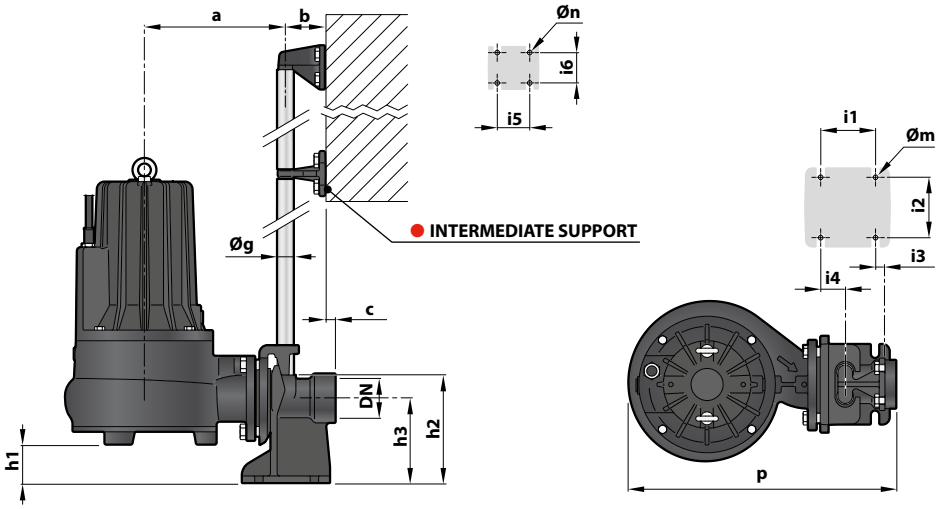
Maximum length of the tube plank: 6 metres

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

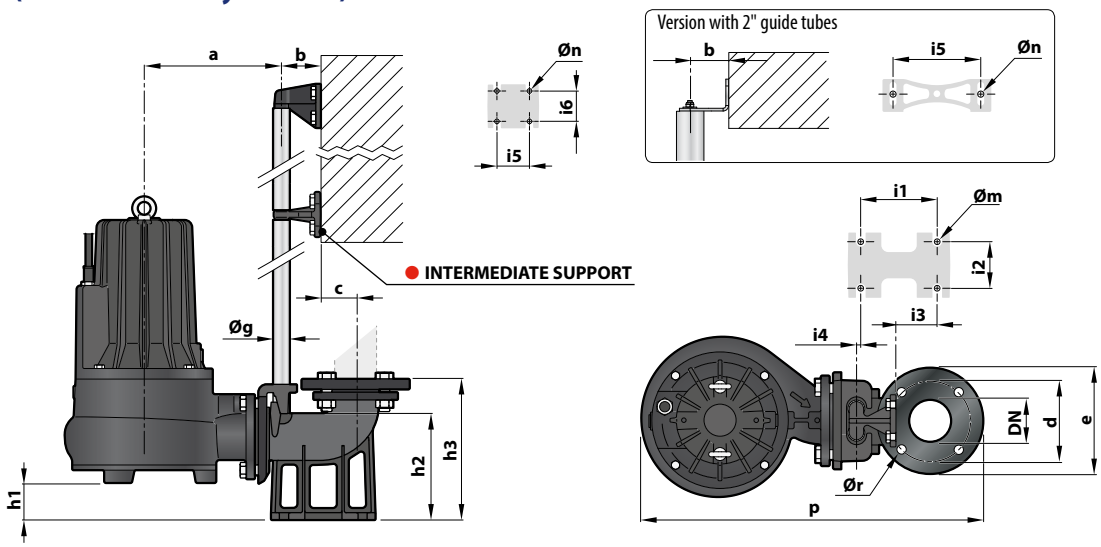


DIMENSIONS (Horizontal delivery version)



MODEL	Passage of solids	PORT	DIMENSIONS mm															
	mm	DN	a	b	c	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn
VXC /50-F MC /50-F	Ø 50	2"	215	61	17	414	60	165	130	85	94	16	40	50	48	¾"	12	11

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 MC /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
VXC /70-F MC /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

● 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 MC /50-F	Ø 50	3" (PN10)	318	86	95	160	200	720	137	265	392	250	150	34	–	187	–	2"	22	13	18
VXC /70-F MC /70-F	Ø 70	3" (PN10)	354	86	95	160	200	765	132	265	392	250	150	34	–	187	–	2"	22	13	18

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 m^3/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

CE

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 refluent 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

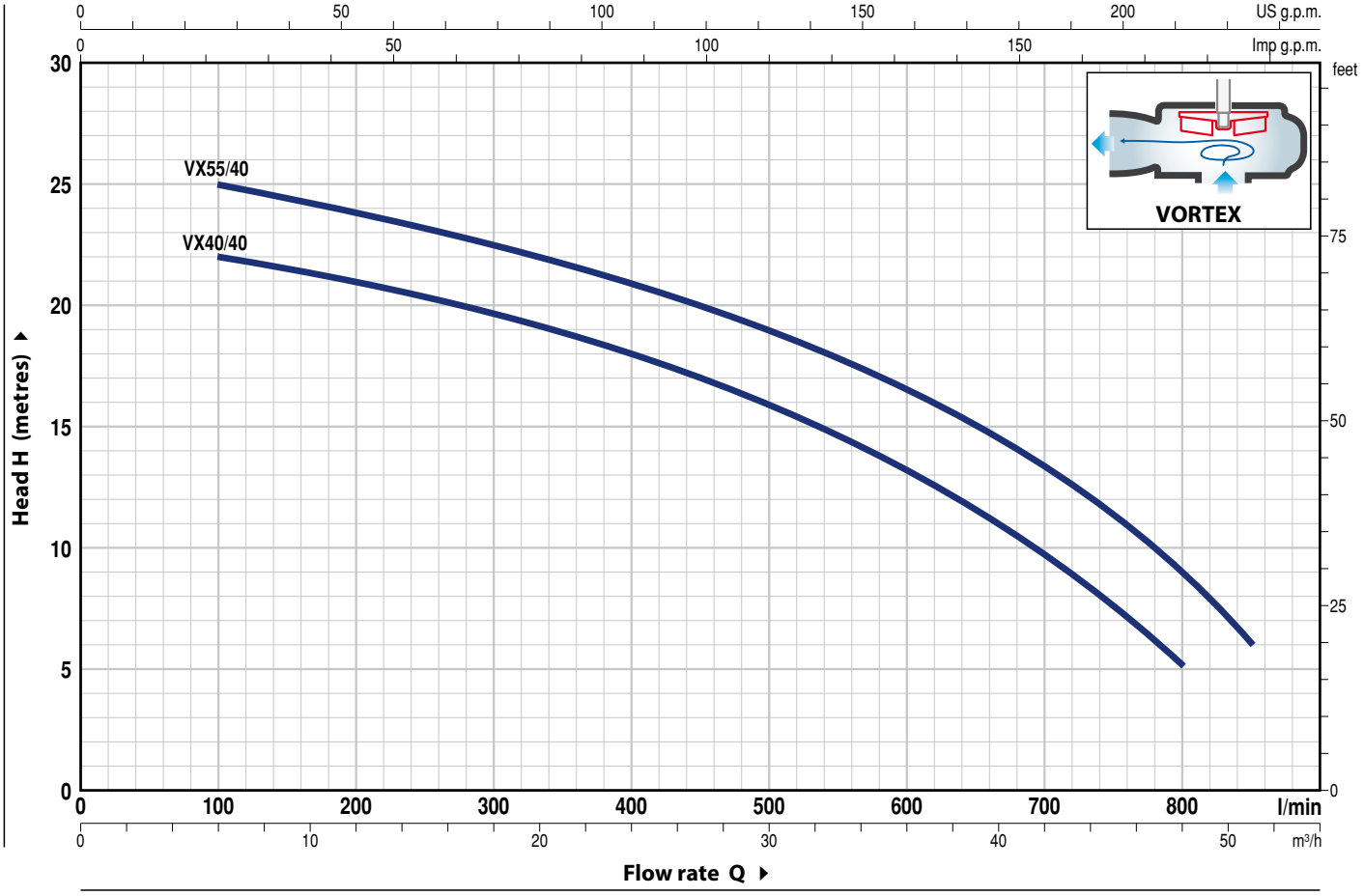
- Registered EU Design n. 003863158-0002

OPTIONS AVAILABLE ON REQUEST

- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



MODEL	POWER (P2)		Q								
Three-phase	kW	HP	m³/h	0	6	12	24	36	42	48	54
			l/min	**0**	**100**	**200**	**400**	**600**	**700**	**800**	**850**
VX 40/40	3	4	**H** metres	23	22	21	18	13	9.5	5	
VX 55/40	4	5.5		26	25	23.8	21	16.5	11.5	9	6

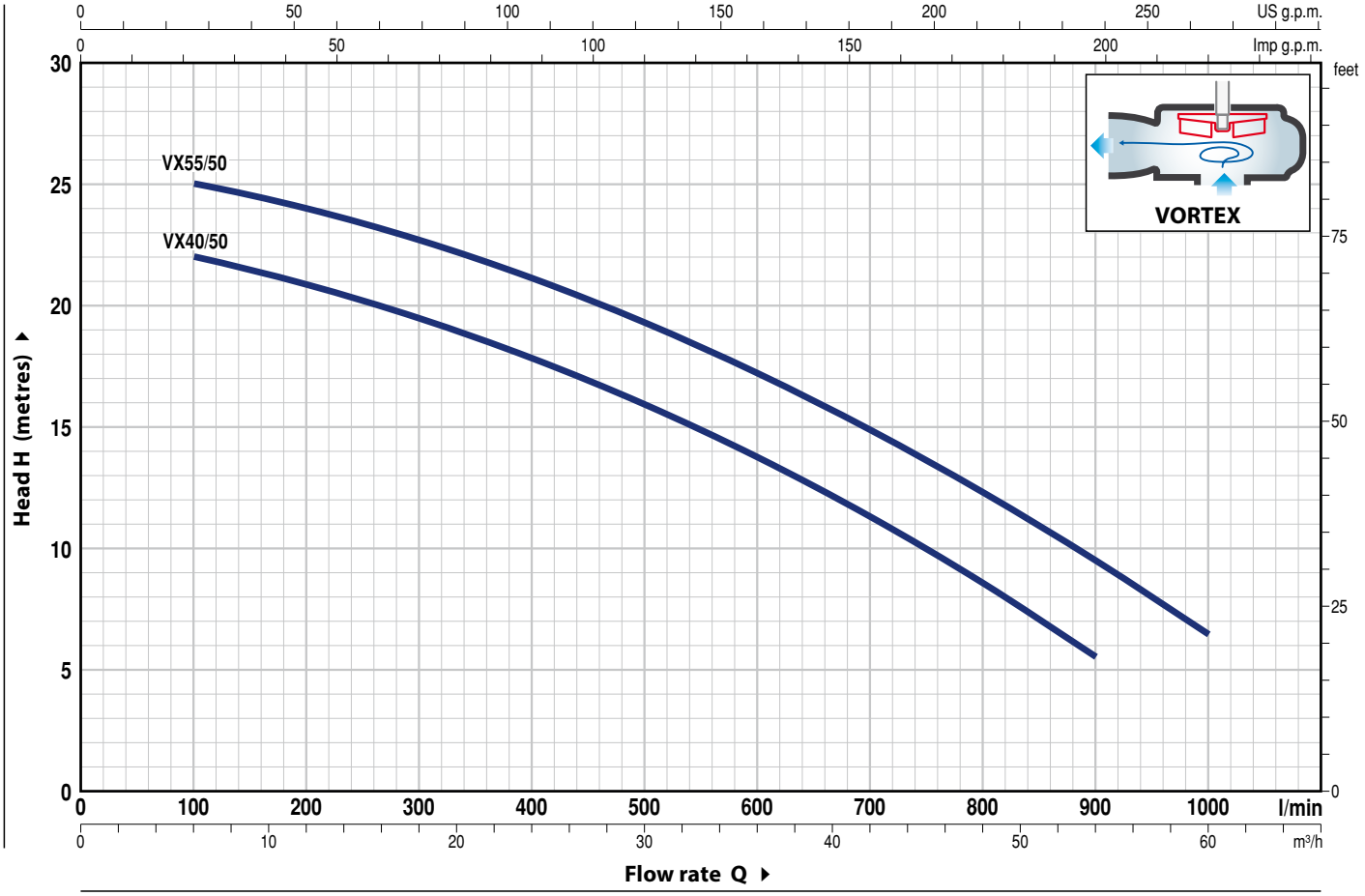
Q = Flow rate **H** = Total manometric head

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

VX 50

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



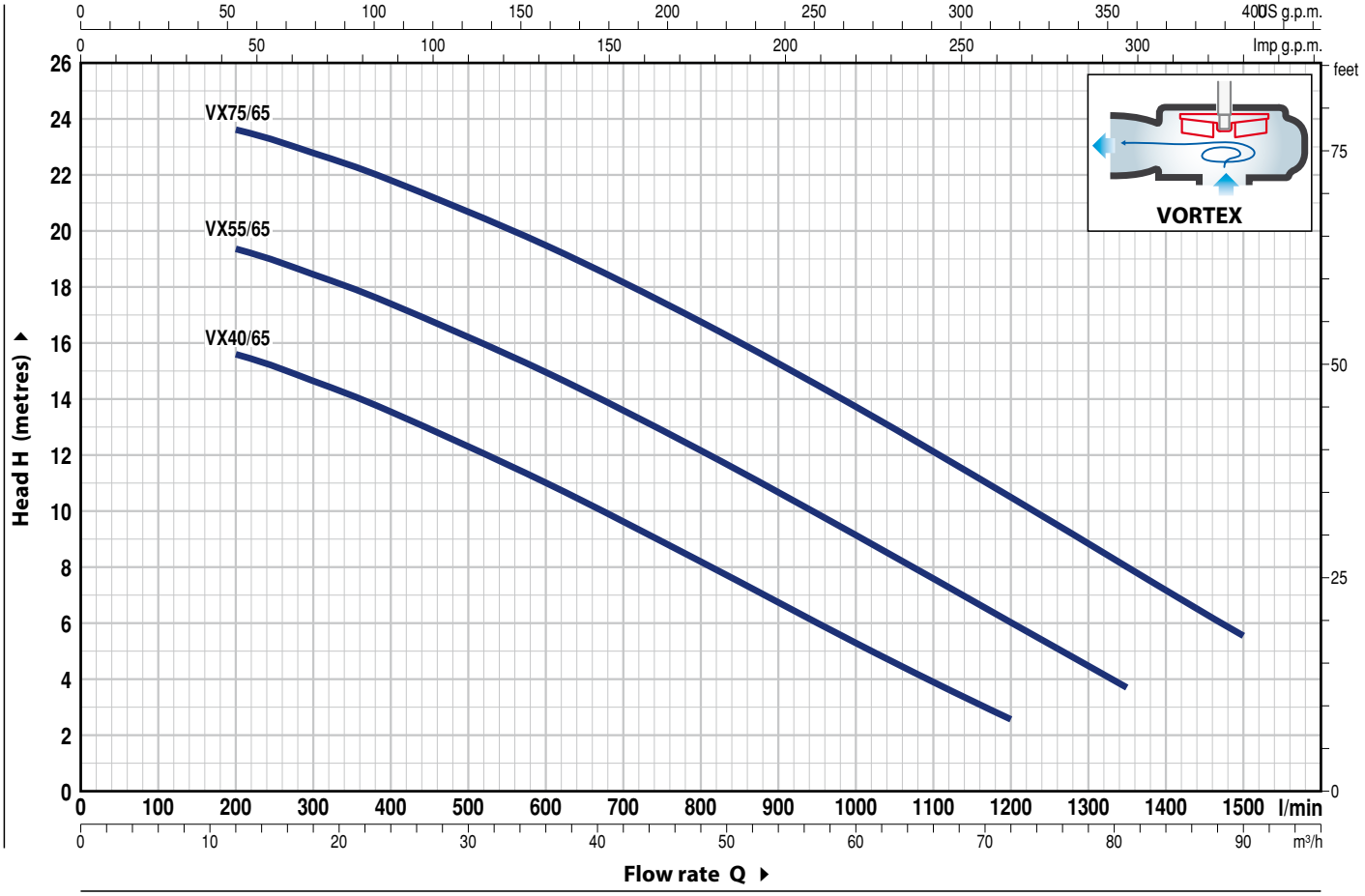
MODEL	POWER (P2)		Q	m³/h	0	6	12	24	36	42	48	54	60
Three-phase	kW	HP		l/min	**0**	**100**	**200**	**400**	**600**	**700**	**800**	**900**	**1000**
VX 40/50	3	4	**H**	metres	23	22	21	18	14	11.5	7	5.5	
VX 55/50	4	5.5			26	25	24	21.5	17.5	15	11	8	6.5

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	POWER (P2)		Q												
				m³/h	0	6	12	24	36	42	48	54	60	72	81	90
Three-phase	kW	HP		l/min	**0**	**100**	**200**	**400**	**600**	**700**	**800**	**900**	**1000**	**1200**	**1350**	**1500**
VX 40/65	3	4			17	–	15.6	13.5	11	9.5	8.2	7	5.3	2.5		
VX 55/65	4	5.5	**H**	metres	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

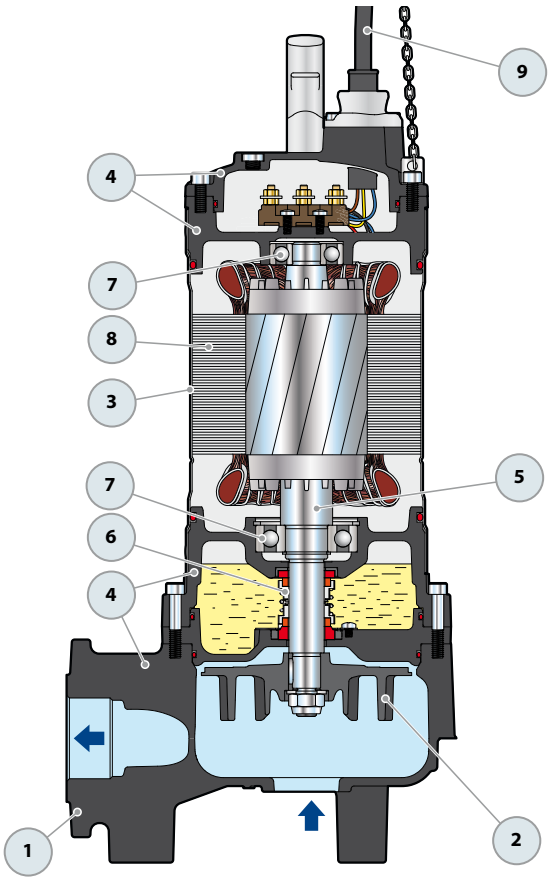
Q = Flow rate **H** = Total manometric head

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

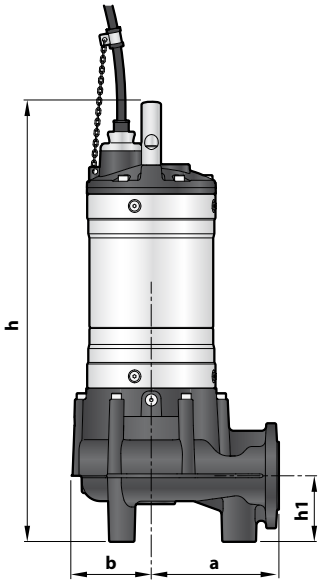
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	**IMPELLER**	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	**MOTOR CASING**	Stainless steel AISI 304
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431
6	**TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**	

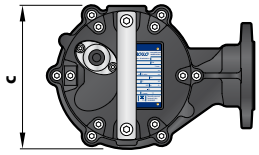
Seal	***Shaft***	*Position*	*Materials*		
Model	***Diameter***		*Stationary ring*	*Rotational ring*	*Elastomer*
ED560-25	**Ø 25** mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

7	**BEARINGS**	**6306 ZZ C3 / 6304 ZZ C3**
8	**ELECTRIC MOTOR**	Three-phase 400 V - 50 Hz with thermal overload protector incorporated into the winding – Insulation: class F – Protection: IP X8
9	**POWER CABLE**	Type "H07 RN-F" **Standard length 10 metres**

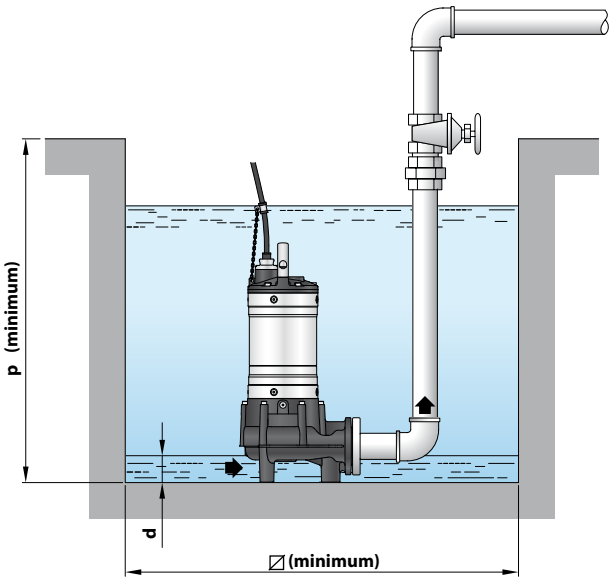


DIMENSIONS AND WEIGHT





Standard installation



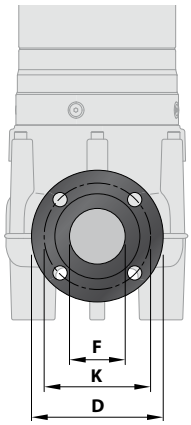
MODEL Three-phase	Passage of solids	DIMENSIONS mm								kg
		a	b	c	h	h1	d	p	⍁	3~
VX 40/40	**Ø 40 mm**	170	107	192	587	88	55	700	500	**48.3**
VX 55/40					627					**54.3**

PORT FLANGE

MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
VX 40/40	**50** (PN6)	2"	110	140	4	14
VX 55/40						

ABSORPTION

MODEL Three-phase	VOLTAGE 400 V
VX 40/40	**5.8** A
VX 55/40	**7.0** A



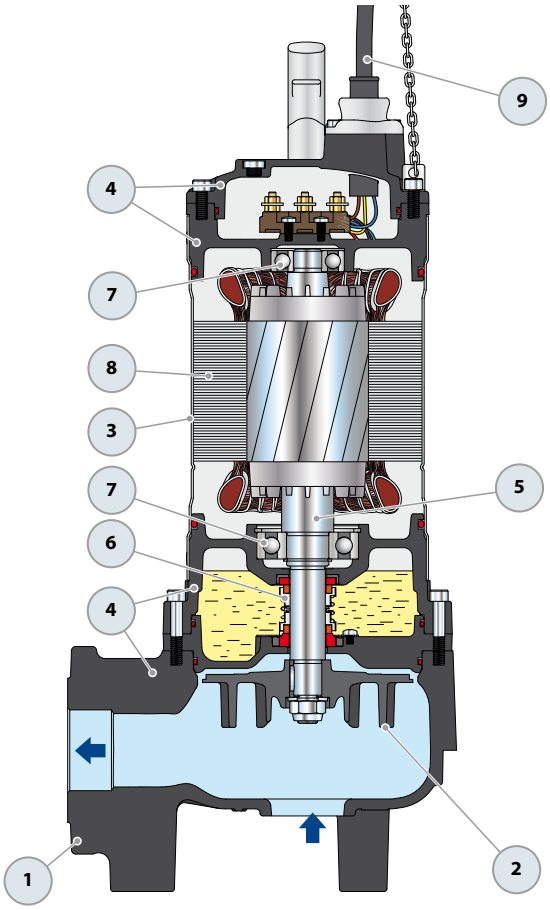
PALLETIZATION

MODEL Three-phase	GROUPAGE n. pumps
VX 40/40	**10**
VX 55/40	**10**

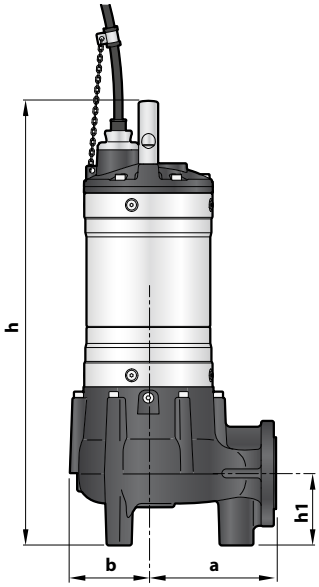
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	**IMPELLER**	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	**MOTOR CASING**	Stainless steel AISI 304
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431
6	**TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**	

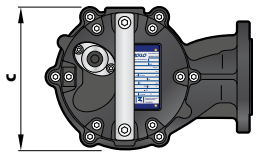
Seal	***Shaft***	*Position*	*Materials*		
Model	***Diameter***		*Stationary ring*	*Rotational ring*	*Elastomer*
ED560-25	**Ø 25** mm	Motor side	Silicon carbide	Graphite	NBR
		Pump side	Silicon carbide	Silicon carbide	NBR

7	**BEARINGS**	**6306 ZZ C3 / 6304 ZZ C3**
8	**ELECTRIC MOTOR**	Three-phase 400 V - 50 Hz with thermal overload protector incorporated into the winding – Insulation: class F – Protection: IP X8
9	**POWER CABLE**	H07 RN-F" type **Standard length 10 metres**

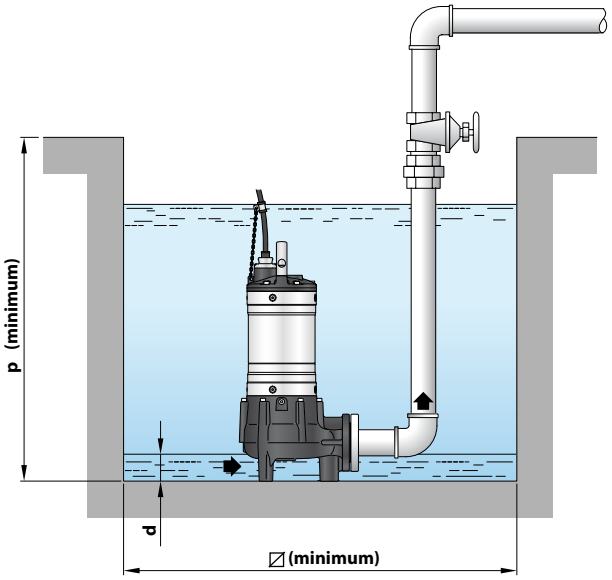


DIMENSIONS AND WEIGHT





Standard installation



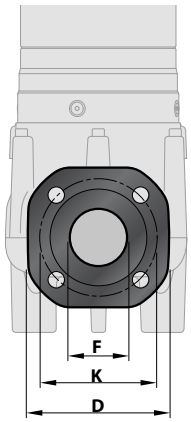
MODEL Three-phase	Passage of solids	DIMENSIONS mm								kg
		a	b	c	h	h1	d	p	⍁	3~
VX 40/50	**Ø 50 mm**	170	106	193	602	100	55	700	500	**50.0**
VX 55/50					642					**58.2**

PORT FLANGE

MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
VX 40/50	**50** (PN10)	2"	125	150	4	18
VX 55/50						

ABSORPTION

MODEL Three-phase	VOLTAGE 400 V
VX 40/50	**5.8** A
VX 55/50	**7.0** A



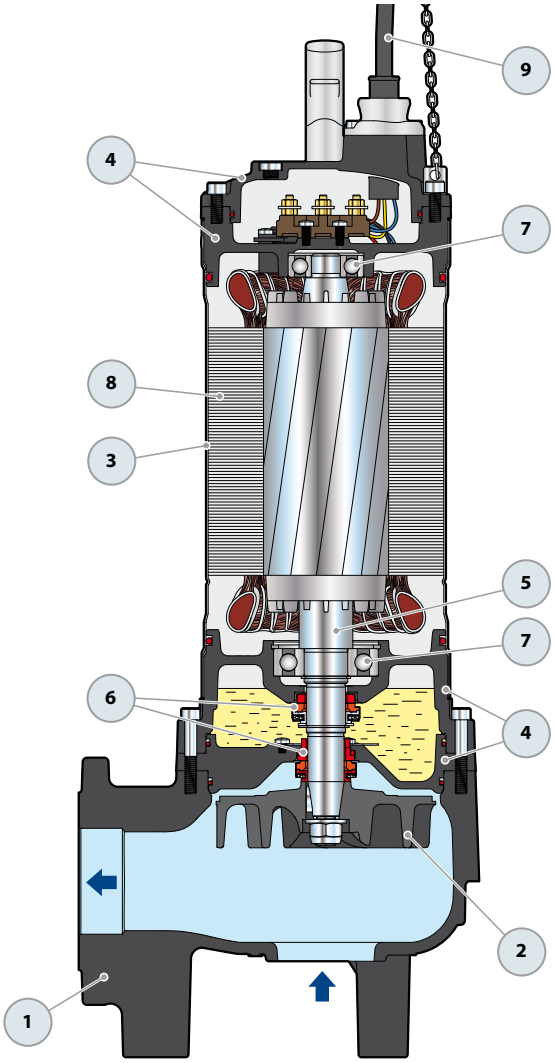
PALLETIZATION

MODEL Three-phase	GROUPAGE n. pumps
VX 40/50	**10**
VX 55/50	**12**

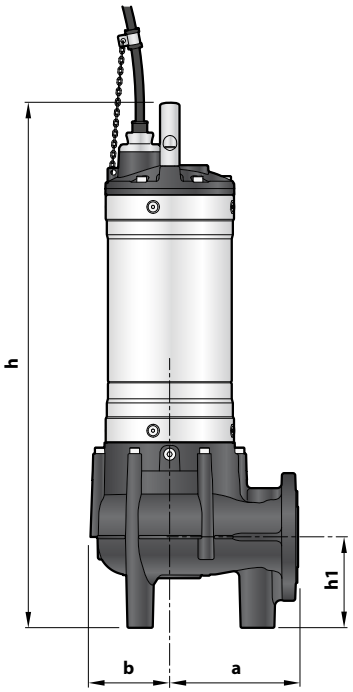
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an Epoxy Electro Coating treatment, with threaded port in compliance with ISO 228/1
2	**IMPELLER**	VORTEX type in cast iron with an Epoxy Electro Coating treatment
3	**MOTOR CASING**	Stainless steel AISI 304
4	**MOTOR CASING PLATE**	Cast iron with an Epoxy Electro Coating treatment
5	**MOTOR SHAFT**	Stainless steel AISI 431
6	**TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER**	

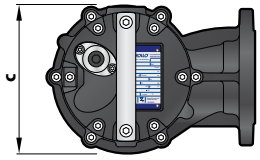
Seal	***Shaft***	*Position*	*Materials*		
Model	***Diameter***		*Stationary ring*	*Rotational ring*	*Elastomer*
AR-27	**Ø 27 mm**	Motor side	Silicon carbide	Graphite	NBR
AR-25	**Ø 25 mm**	Pump side	Silicon carbide	Silicon carbide	NBR

7	**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**

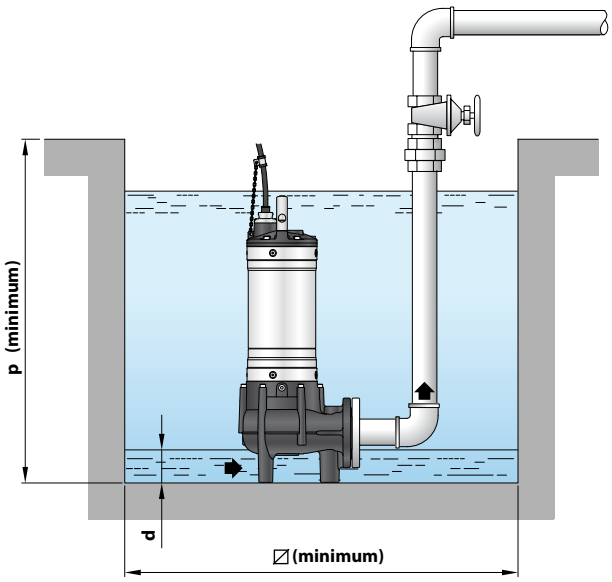


DIMENSIONS AND WEIGHT





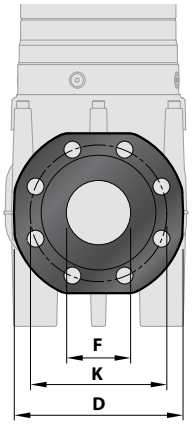
Standard installation



MODEL Three-phase	Passage of solids	DIMENSIONS mm a	b	c	h	h1	d	p	⍁	3~
VX 40/65					630					**53.3**
VX 55/65	**Ø 65 mm**	170	107	196	670	121	70	800	500	**60.0**
VX 75/65					700					**65.0**

PORT FLANGE

MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
VX 40/65						
VX 55/65	**65** (PN10)	2½"	145	185	8	18
VX 75/65						



ABSORPTION

MODEL Three-phase	VOLTAGE 400 V
VX 40/65	**6.2** A
VX 55/65	**7.7** A
VX 75/65	**12.7** A

PALLETIZATION

MODEL Three-phase	GROUPAGE n. pumps
VX 40/65	**12**
VX 55/65	**12**
VX 75/65	**12**

BC 35

DOUBLE-CHANNEL

Submersible pumps

Sewage water

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **1900 l/min** (114 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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 refluent 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

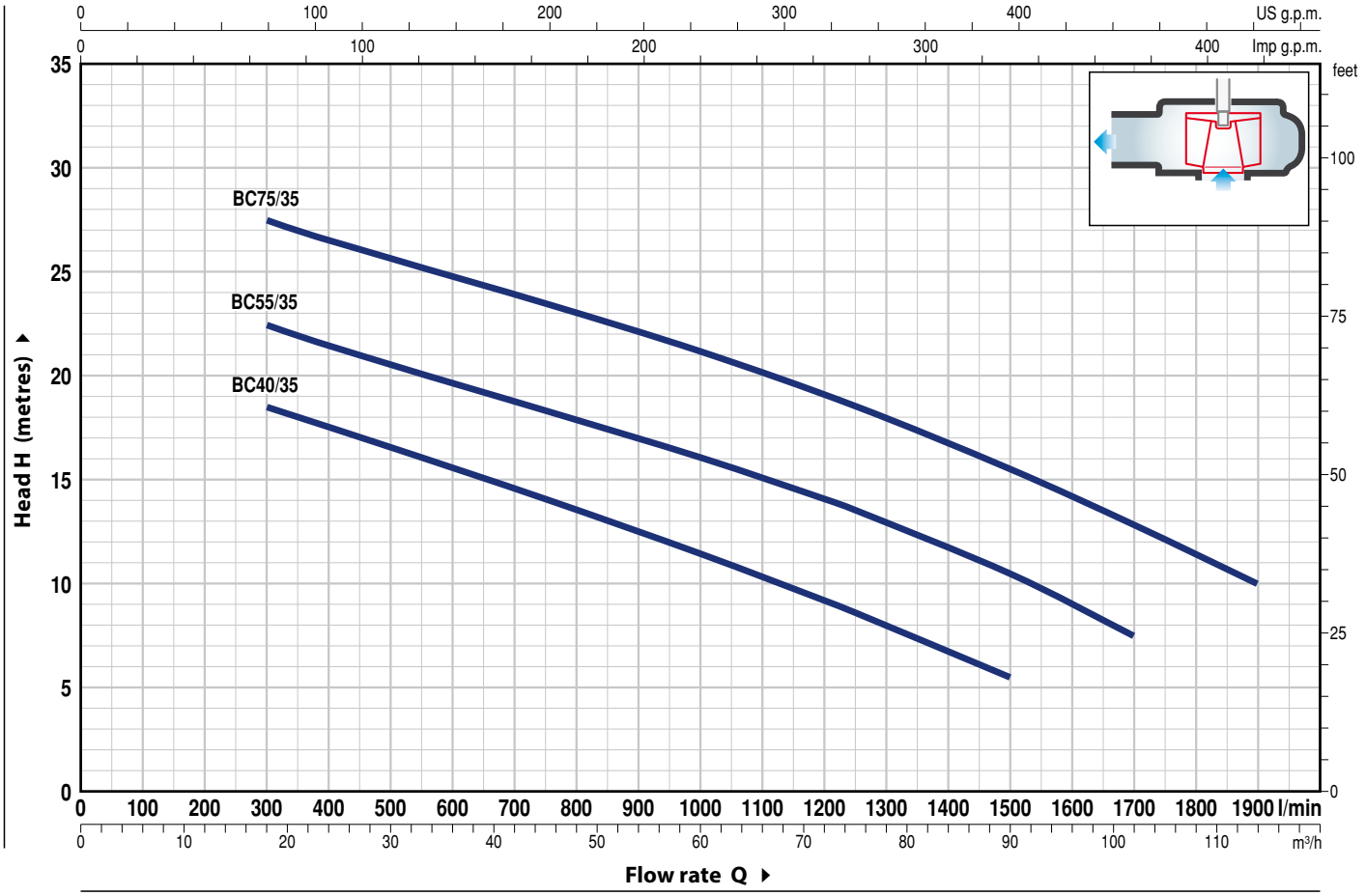
- Registered EU Design n. 003863158-0001

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



MODEL	POWER (P2)		Q	m³/h	0	18	36	54	72	90	102	114
Three-phase	kW	HP		l/min	**0**	**300**	**600**	**900**	**1200**	**1500**	**1700**	**1900**
BC 40/35	3	4			21.4	18.5	15.5	12.5	9	5.5		
BC 55/35	4	5.5	**H**	metres	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.	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**	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 BEARINGS **6306 ZZ C3 / 6304 ZZ C3**

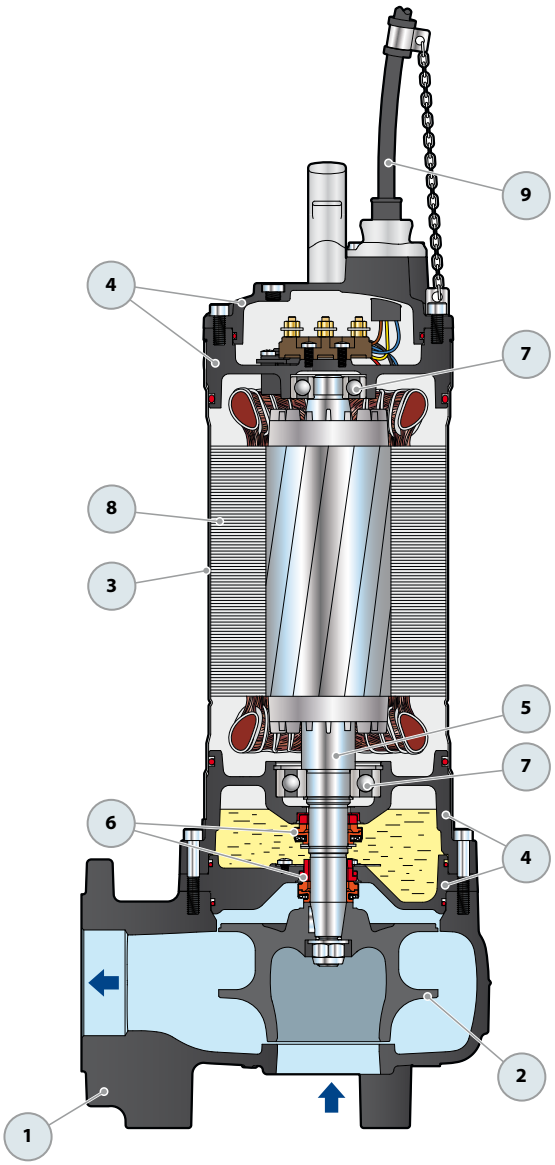
8 ELECTRIC MOTOR

BC 35: three-phase 400 V - 50 Hz
with thermal overload protector incorporated into the winding

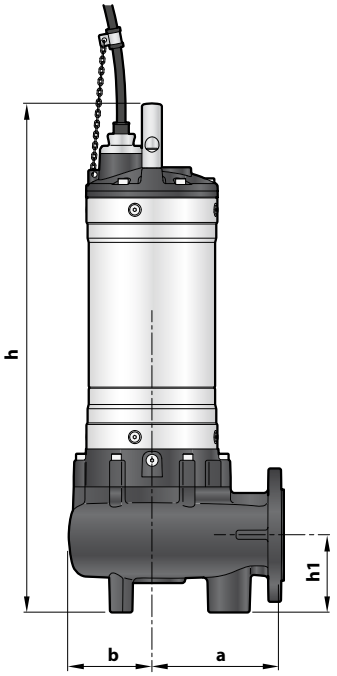
– Insulation: class F
– Protection: IP X8

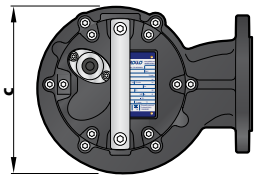
9 POWER CABLE

"H07 RN-F" type
Standard length 10 metres

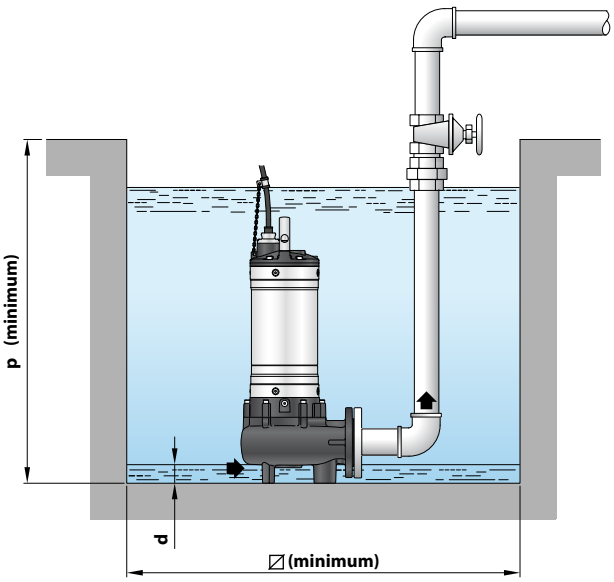


DIMENSIONS AND WEIGHT





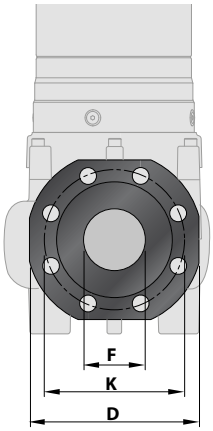
Standard installation



MODEL Three-phase	Passage of solids	DIMENSIONS mm a	b	c	h	h1	d	p	⍁	3~
BC 40/35					595					**56.0**
BC 55/35	**Ø 35 mm**	170	113	225	635	100	40	800	500	**62.2**
BC 75/35					665					**67.0**

PORT FLANGE

MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
BC 40/35						
BC 55/35	**65** (PN10)	2½"	145	185	4	18
BC 75/35						



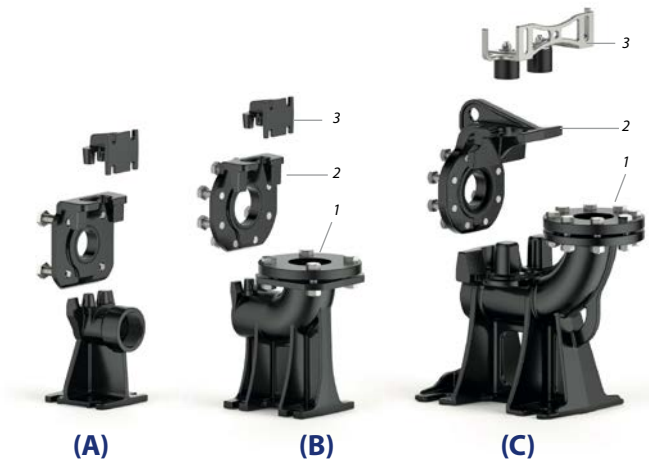
ABSORPTION

MODEL Three-phase	VOLTAGE 400 V
BC 40/35	**6.2** A
BC 55/35	**8.3** A
BC 75/35	**13.5** A

PALLETIZATION

MODEL Three-phase	GROUPAGE n. pumps
BC 40/35	**12**
BC 55/35	**12**
BC 75/35	**12**

SEWAGE LIFTING SYSTEM VX40 – VX50 – VX65 – BC35



1 - Footing connection
2 - Slide guide
(Also to be ordered separately)
3 - Support for the guide tubes

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)

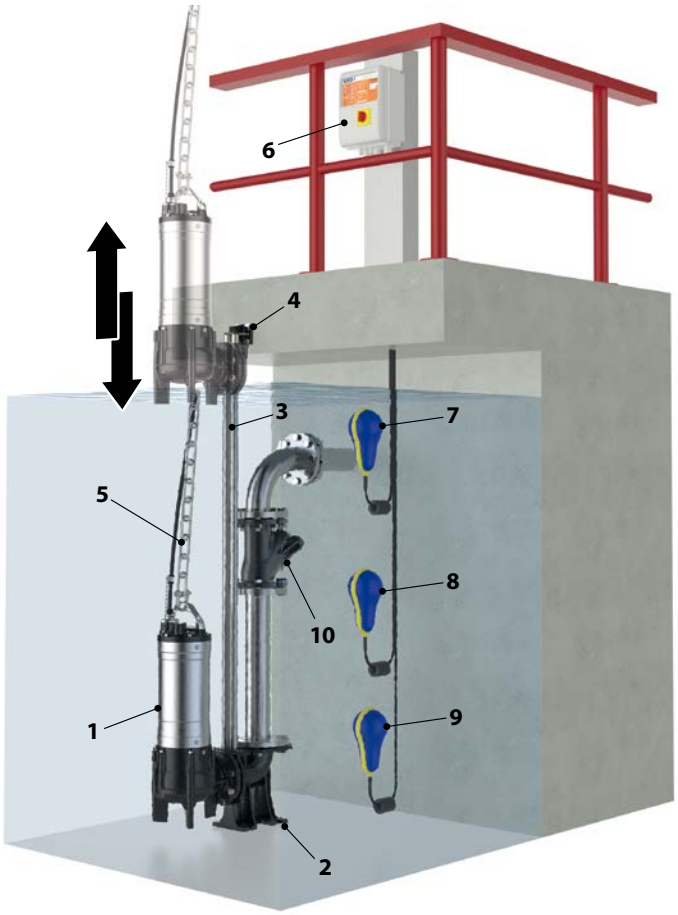
GUIDE TUBES (AISI 304 stainless steel)

Guide tube **Ø ¾"**	Cod. 54SARTG005
Guide tube **Ø 2"**	Cod. 54SARTG006

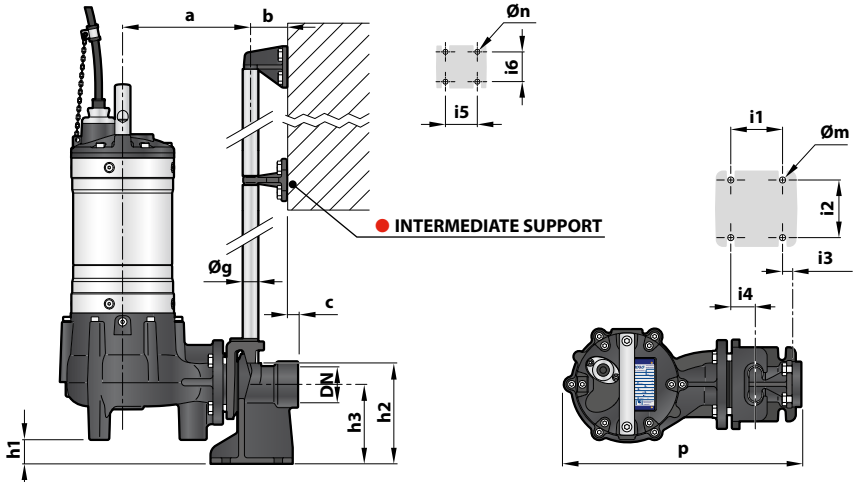
Maximum length of the tube plank: 6 metres

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

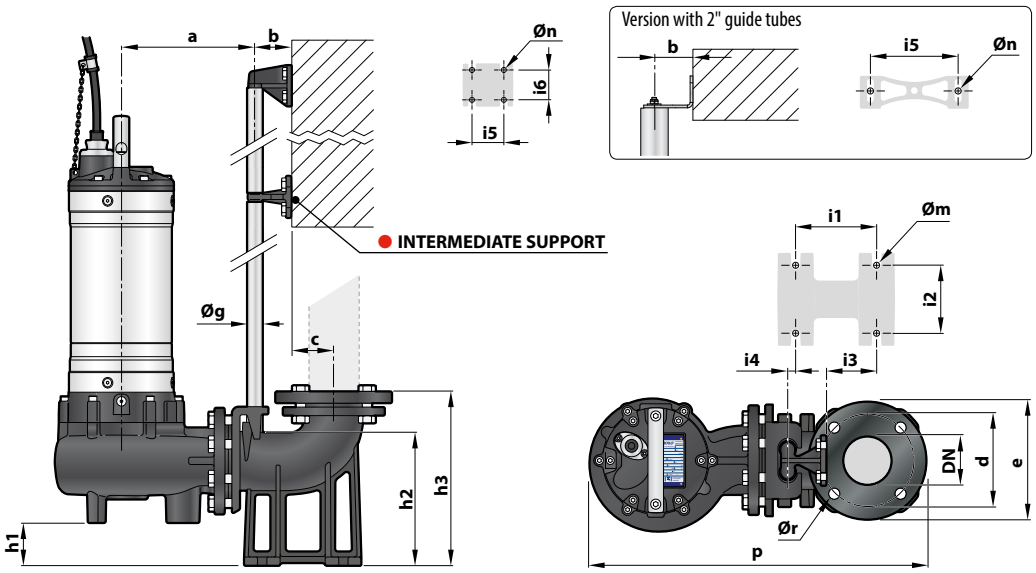


DIMENSIONS (Horizontal delivery version)



MODEL	Passage of solids	PORT	DIMENSIONS mm															
	mm	DN	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	PORT	DIMENSIONS mm																		
	mm	DN	a	b	c	d	e	p	h1	h2	h3	i1	i2	i3	i4	i5	i6	Øg	Øm	Øn	Ør
VX /40	Ø 40	2½"	211	61	52	125	165	506	40	164	216	120	72	62	3	50	48	¾"	14	11	18
VX /50	Ø 50								28												
VX /65	Ø 65	3"	213		69	150	190	537	48	216	280	130	112	84	15						
BC /35	Ø 35		231					550	69												

● 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
VX /50	Ø 50	3"	319	86	95	160	200	706	107	264	392	250	150	34	–	186	–	2"	22	13.5	18
VX /65	Ø 65							697	86												
BC /35	Ø 35							710	107												

VXC4

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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 refluent 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

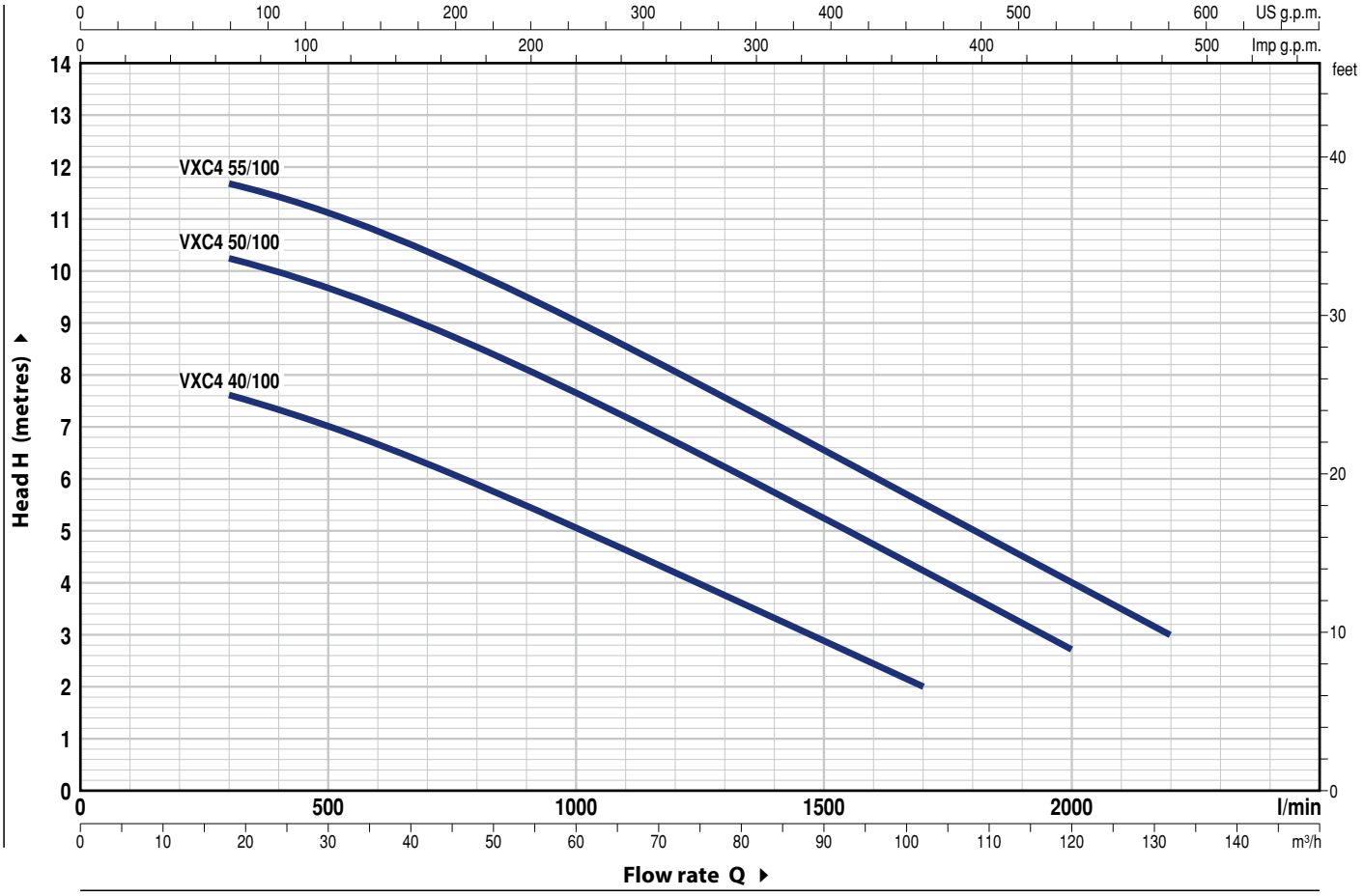
- Registered EU Design n. 003863158-0003

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	POWER (P2)		Q	m³/h	0	18	30	45	60	75	90	102	120	132
Three-phase	kW	HP		l/min	**0**	**300**	**500**	**750**	**1000**	**1250**	**1500**	**1700**	**2000**	**2200**
VXC4 40/100	3	4			8.3	7.6	7	6.1	5.1	4	2.9	2		
VXC4 50/100	3.7	5	**H**	metres	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	***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

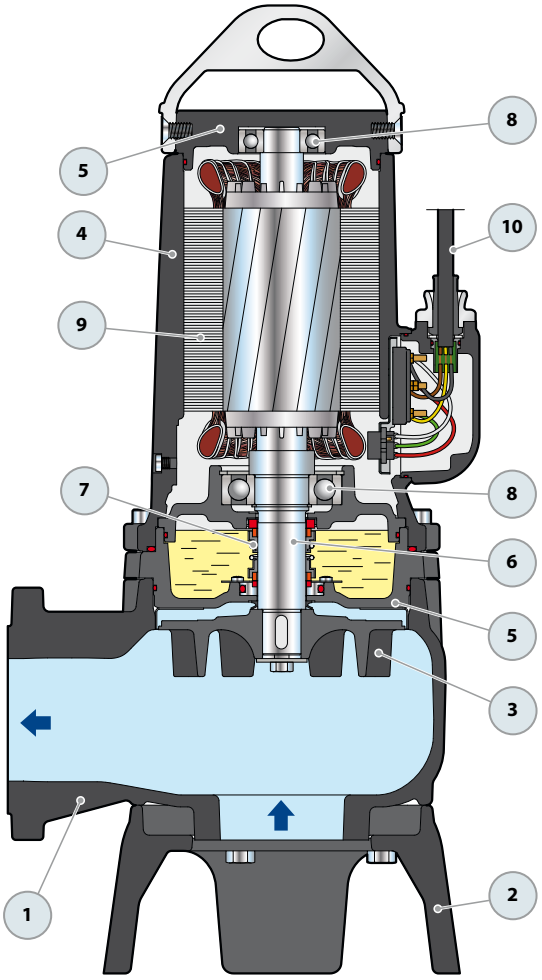
8 BEARINGS **6309 ZZ-C3 / 6306 ZZ-C3**

9 ELECTRIC MOTOR

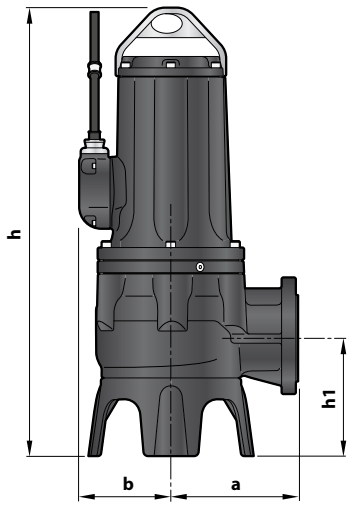
– three-phase 400 V - 50 Hz
with thermal overload protector incorporated into the winding
– Insulation: class F
– Protection: IP X8

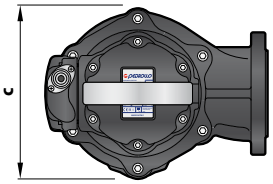
10 POWER CABLE

"H07 RN-F" type
Standard length 10 metres

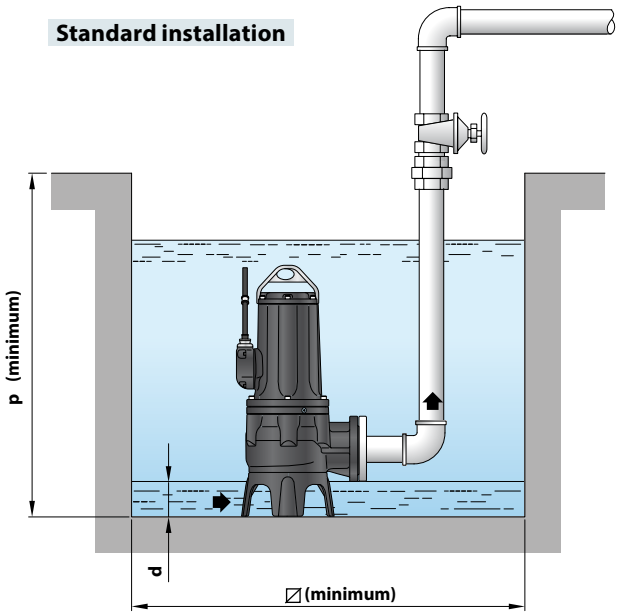


DIMENSIONS AND WEIGHT



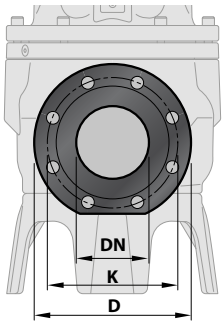


Standard installation



MODEL Three-phase	Passage of solids	DIMENSIONS mm a	b	c	h	h1	d	p	⍁	kg 3~
VXC4 40/100										**129.1**
VXC4 50/100	**Ø 100 mm**	228	165	302	806	211	140	1000	1000	**129.0**
VXC4 55/100										**132.0**

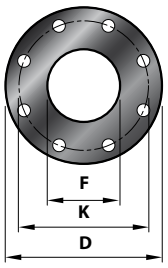
FLANGED PORT



MODEL Three-phase	FLANGE DN	K mm	D mm	HOLES N°	 Ø (mm)
VXC4 40/100					
VXC4 50/100	**100** (PN10)	180	220	8	18
VXC4 55/100					

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
VXC4 40/100						
VXC4 50/100	**100**	4"	180	220	8	18
VXC4 55/100						

ABSORPTION

MODEL Three-phase	VOLTAGE 400 V
VXC4 40/100	**5.5** A
VXC4 50/100	**7.7** A
VXC4 55/100	**9.0** A

PALLETIZATION

MODEL Three-phase	GROUPAGE n. pumps
VXC4 40/100	**4**
VXC4 50/100	**4**
VXC4 55/100	**4**

MC4

DOUBLE-CHANNEL

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

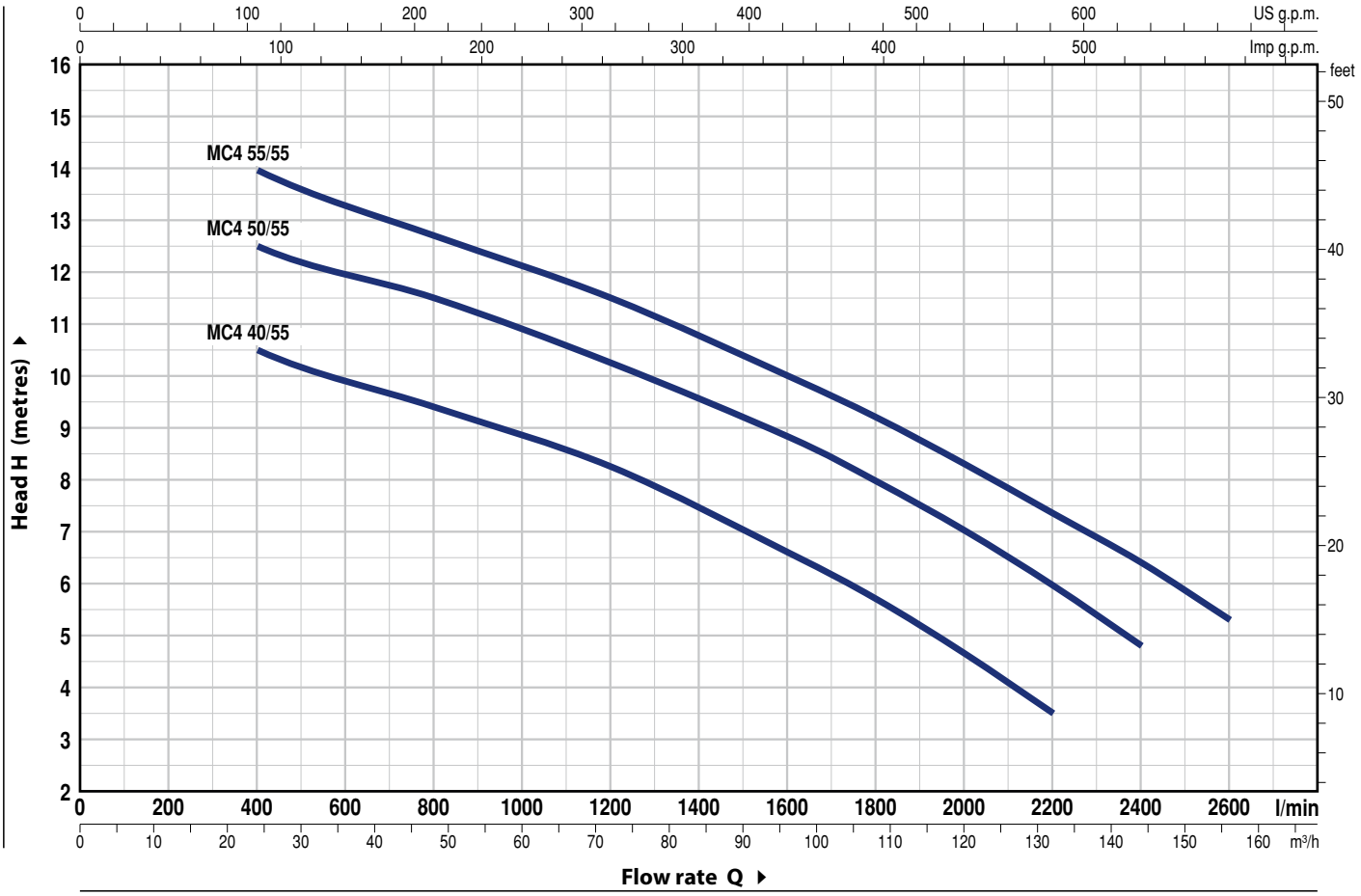
- Registered EU Design n. 003863158-0004

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	POWER (P2)		Q	m³/h	0	24	48	72	96	108	120	132	144	156
Three-phase	kW	HP		l/min	**0**	**400**	**800**	**1200**	**1600**	**1800**	**2000**	**2200**	**2400**	**2600**
MC4 40/55	3	4			12.5	10.5	9.4	8.3	6.6	5.7	4.7	3.5		
MC4 50/55	3.7	5	**H**	metres	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

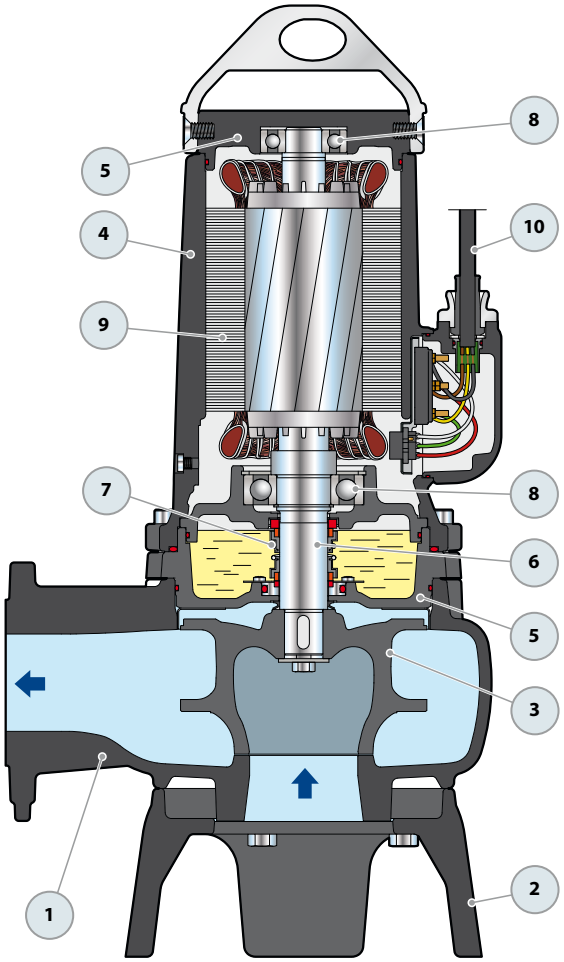
8 BEARINGS **6309 ZZ-C3 / 6306 ZZ-C3**

9 ELECTRIC MOTOR

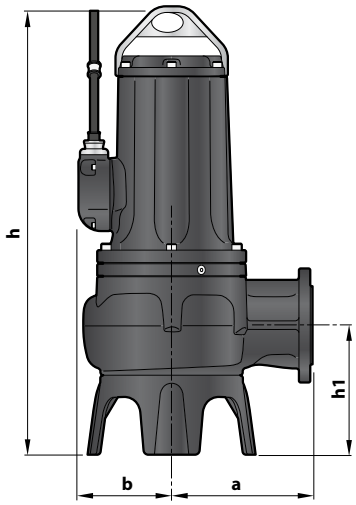
– three-phase 400 V - 50 Hz
with thermal overload protector incorporated into the winding
– Insulation: class F
– Protection: IP X8

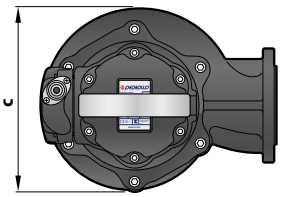
10 POWER CABLE

"H07 RN-F" type
Standard length 10 metres

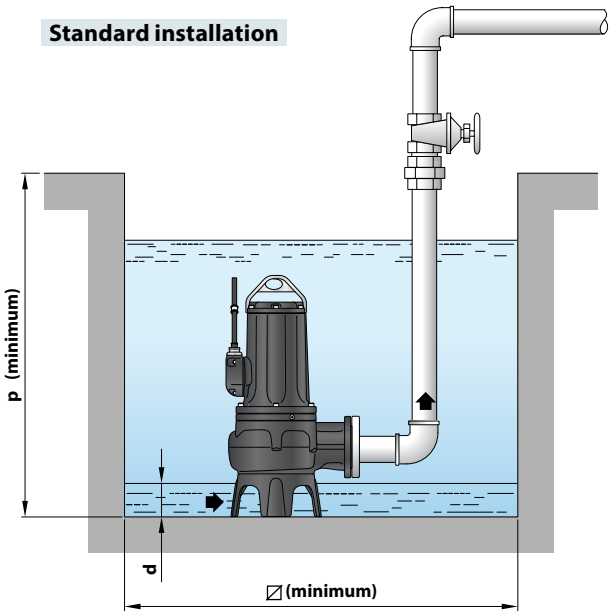


DIMENSIONS AND WEIGHT



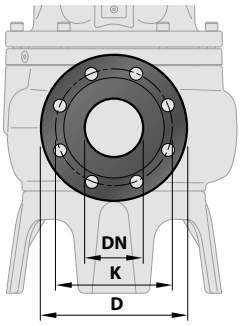


Standard installation



MODEL Three-phase	Passage of solids	DIMENSIONS mm a	b	c	h	h1	d	p	⍁	kg 3~
MC4 40/55										**125.2**
MC4 50/55	**Ø 55 mm**	248	165	320	792	228	140	1000	1000	**133.0**
MC4 55/55										**136.0**

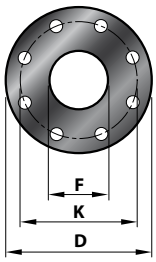
FLANGED PORT



MODEL Three-phase	FLANGE DN	K mm	D mm	HOLES N°	 Ø (mm)
MC4 40/55					
MC4 50/55	**80** (PN10)	160	200	8	18
MC4 55/55					

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
MC4 40/55						
MC4 50/55	**80**	3"	160	200	8	18
MC4 55/55						

ABSORPTION

MODEL Three-phase	VOLTAGE 400 V
MC4 40/55	**5.5** A
MC4 50/55	**7.7** A
MC4 55/55	**8.3** A

PALLETIZATION

MODEL Three-phase	GROUPAGE 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

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)

Gide tube Ø **2"**	Cod. 859SV349INTFA

In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended)

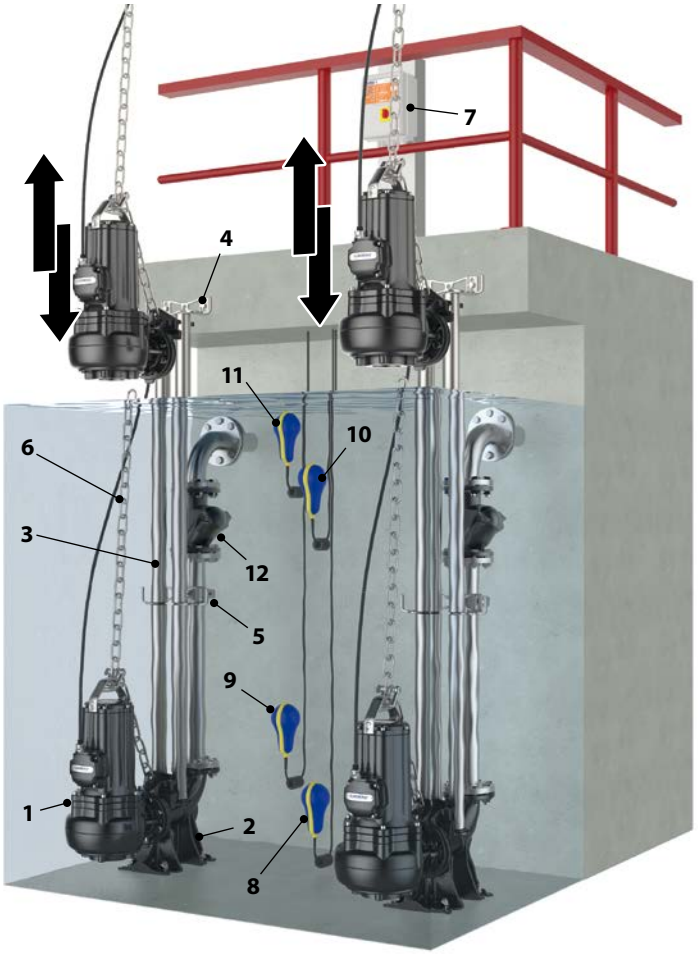
GUIDE TUBES (AISI 304 stainless steel)

Gide tube Ø **2"**	Cod. 54SARTG006

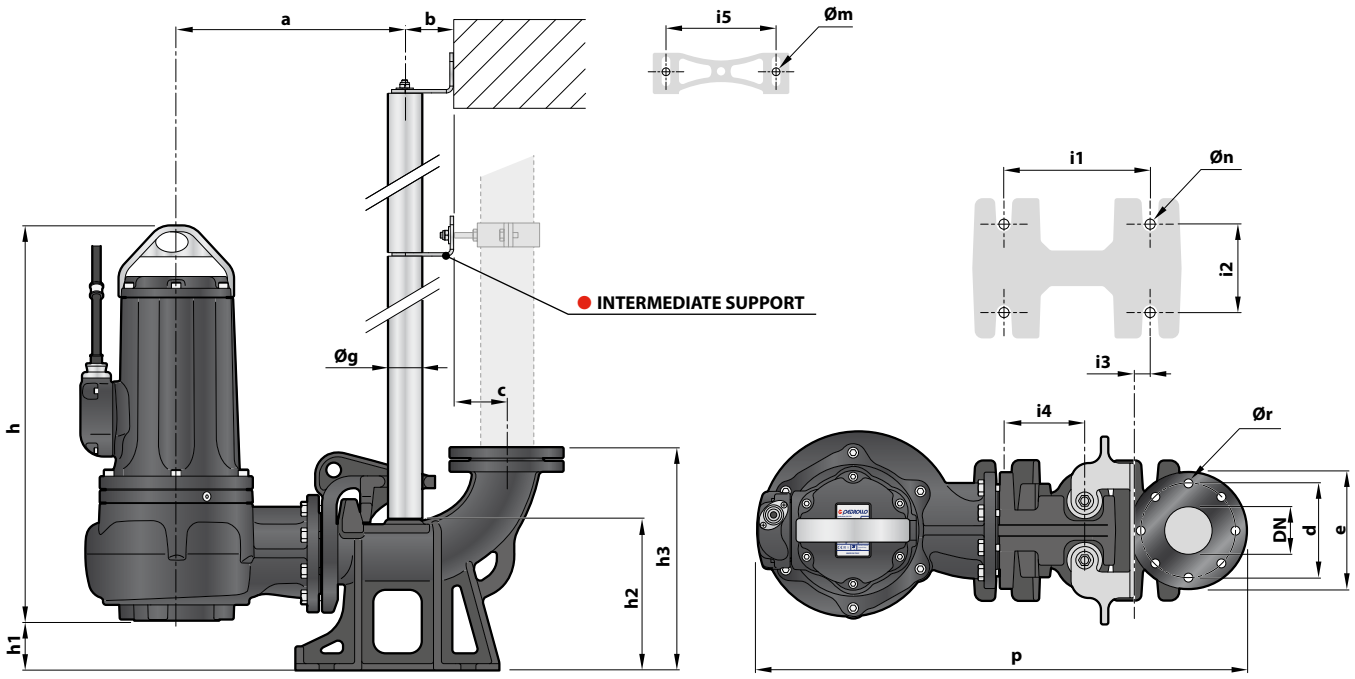
Maximum length of the tube plank: 6 metres

STANDARD INSTALLATION

1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. 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



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"	396	85	95	160	200	841	680	92	256	592	250	150	34	130	186	2"	13	16	18
MC4 50/55																					
MC4 55/55																					

VXC4

Submersible pumps

High flow

Sewage water

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **5000 l/min** (300 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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 refluent 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

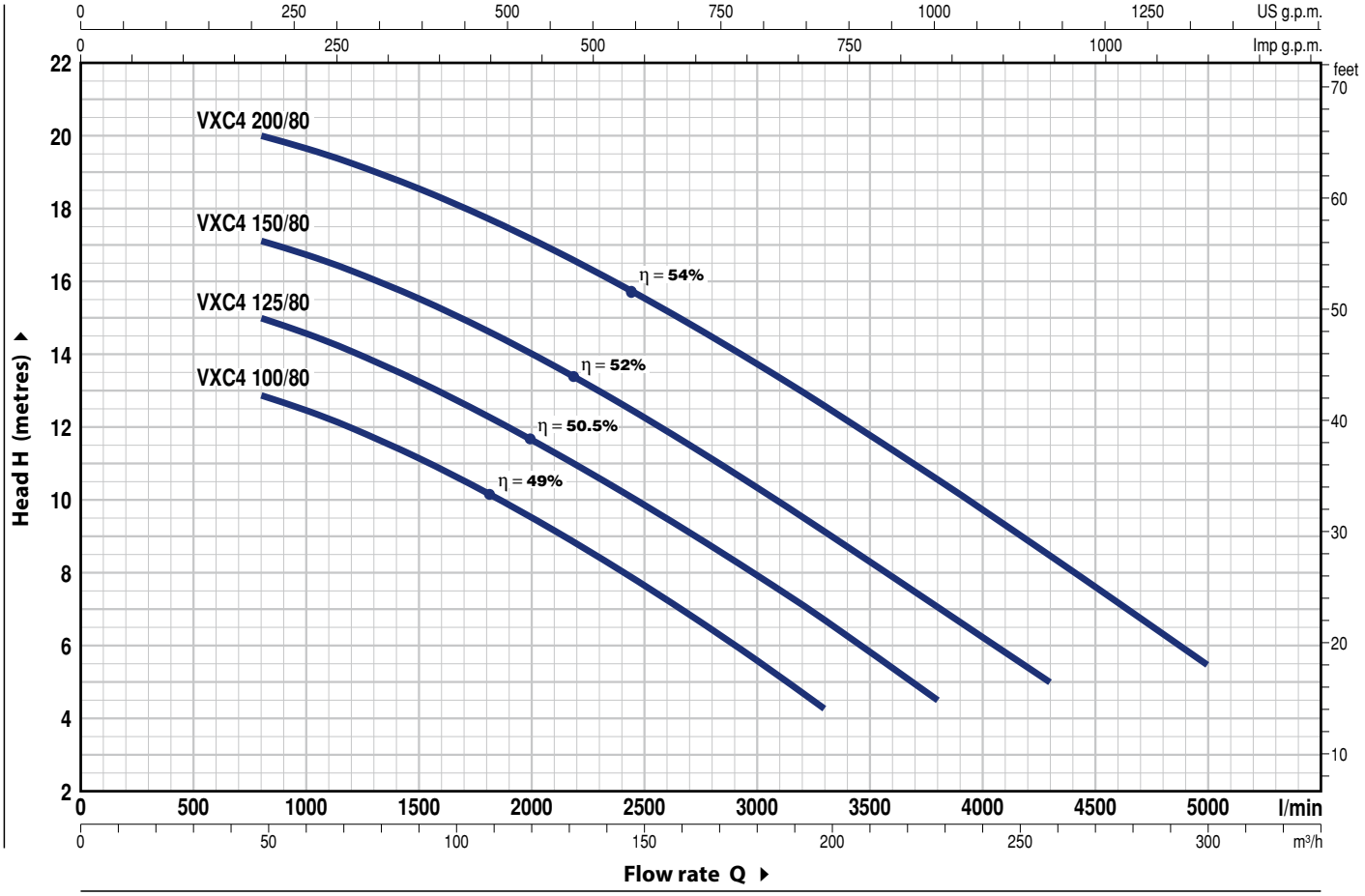
- Registered EU Design n. 003863158-0003

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min^{-1}



MODEL	POWER (P2)		Q	m³/h	0	48	60	90	120	150	180	198	228	258	300
Three-phase	kW	HP		l/min	**0**	**800**	**1000**	**1500**	**2000**	**2500**	**3000**	**3300**	**3800**	**4300**	**5000**
VXC4 100/80	7.5	10	H	metres	13.7	12.9	12.5	11.2	9.6	7.7	5.6	4.3			
VXC4 125/80	9.2	12.5			15.8	15	14.6	13.3	11.7	9.9	7.9	6.7	4.5		
VXC4 150/80	11	15			18	17.2	16.8	15.6	14.1	12.3	10.4	9.2	7.1	5	
VXC4 200/80	15	20			20.8	20	19.7	18.6	17.2	15.6	13.8	12.6	10.6	8.5	5.5

Q = Flow rate **H** = Total manometric head

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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

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**

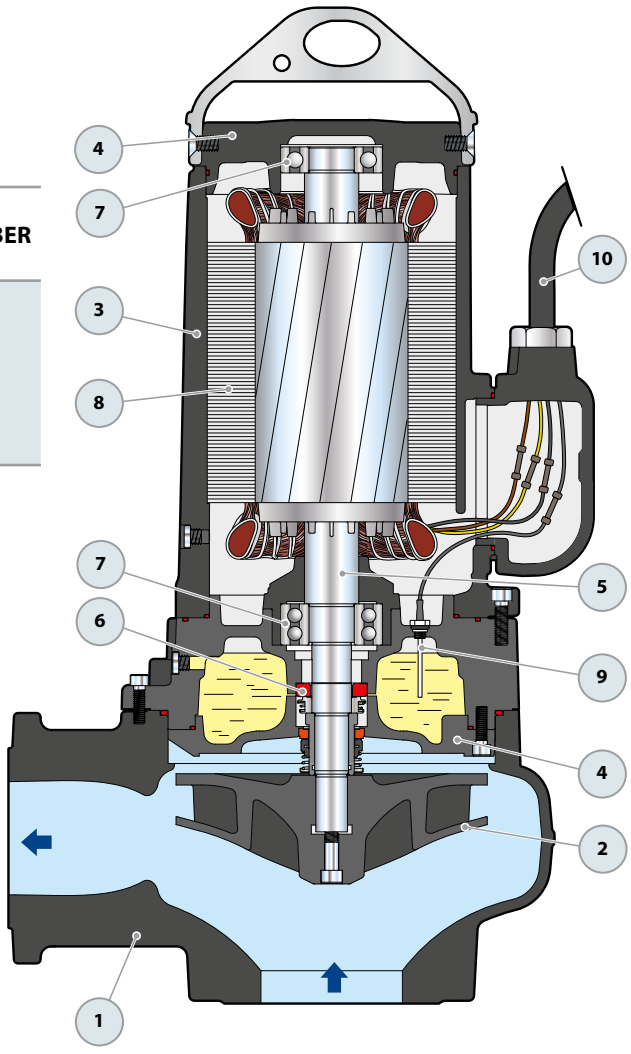
8 ELECTRIC MOTOR

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

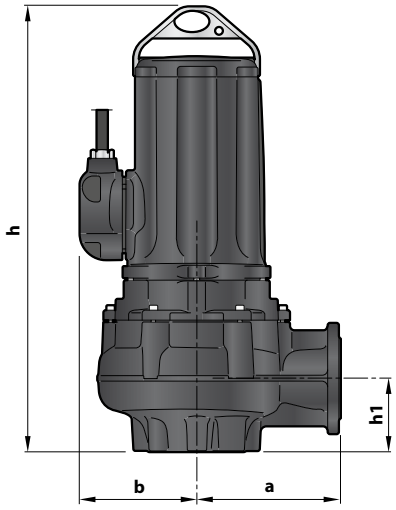
9 PROBE DETECTING THE PRESENCE OF WATER IN THE OIL CHAMBER

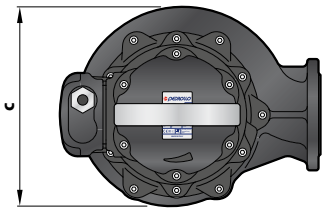
10 POWER CABLE

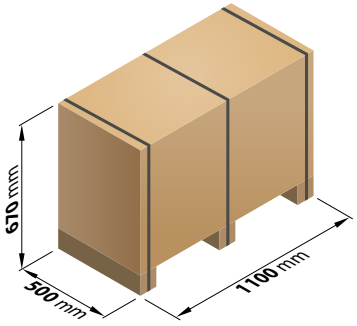
"H07 RN-F" type
Standard length 10 metres



DIMENSIONS AND WEIGHT

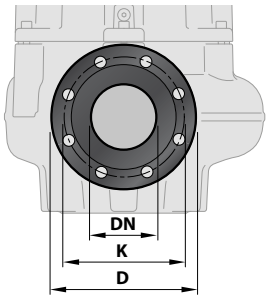






MODEL Three-phase	Passage of solids	DIMENSIONS mm a	b	c	h	h1	kg 3~
VXC4 100/80	**Ø 80**	285	232	395	870	145	**215**
VXC4 125/80							**217**
VXC4 150/80							**227**
VXC4 200/80							**237**

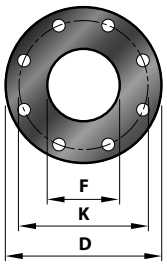
FLANGED PORT



MODEL Three-phase	FLANGE DN	K mm	D mm	HOLES N°	 Ø (mm)
VXC4 100/80 **VXC4 125/80** **VXC4 150/80** **VXC4 200/80**	**100** (PN10)	180	220	8	18

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



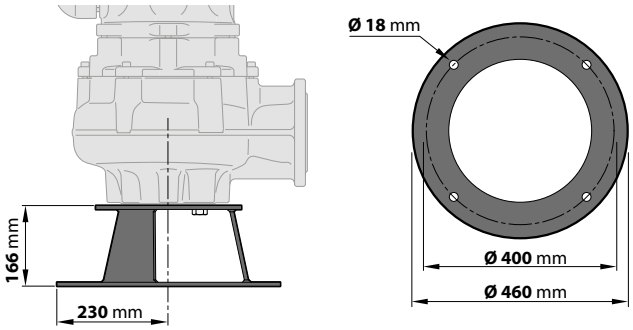
MODEL Three-phase	FLANGE DN	F	K mm	D mm	HOLES N°	 Ø (mm)
VXC4 100/80 **VXC4 125/80** **VXC4 150/80** **VXC4 200/80**	**100**	4"	180	220	8	18

ABSORPTION

MODEL Three-phase	VOLTAGE 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)



MC4

DOUBLE-CHANNEL

Submersible pumps

High flow

Sewage water

Civil use

Industrial use

PERFORMANCE RANGE

- Flow rate up to **5000 l/min** (300 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

INSTALLATION AND USE

MC4 series pumps, made from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a DOUBLE-CHANNEL impeller and are capable of pumping liquids containing short fibred suspended solids. They are ideal for pumping **sewage, waste water, water mixed with mud, groundwater and surface water** in locations such as blocks of flats, public buildings, factories, multi-storey and underground car parks, washing areas, etc.

PATENTS - TRADE MARKS - MODELS

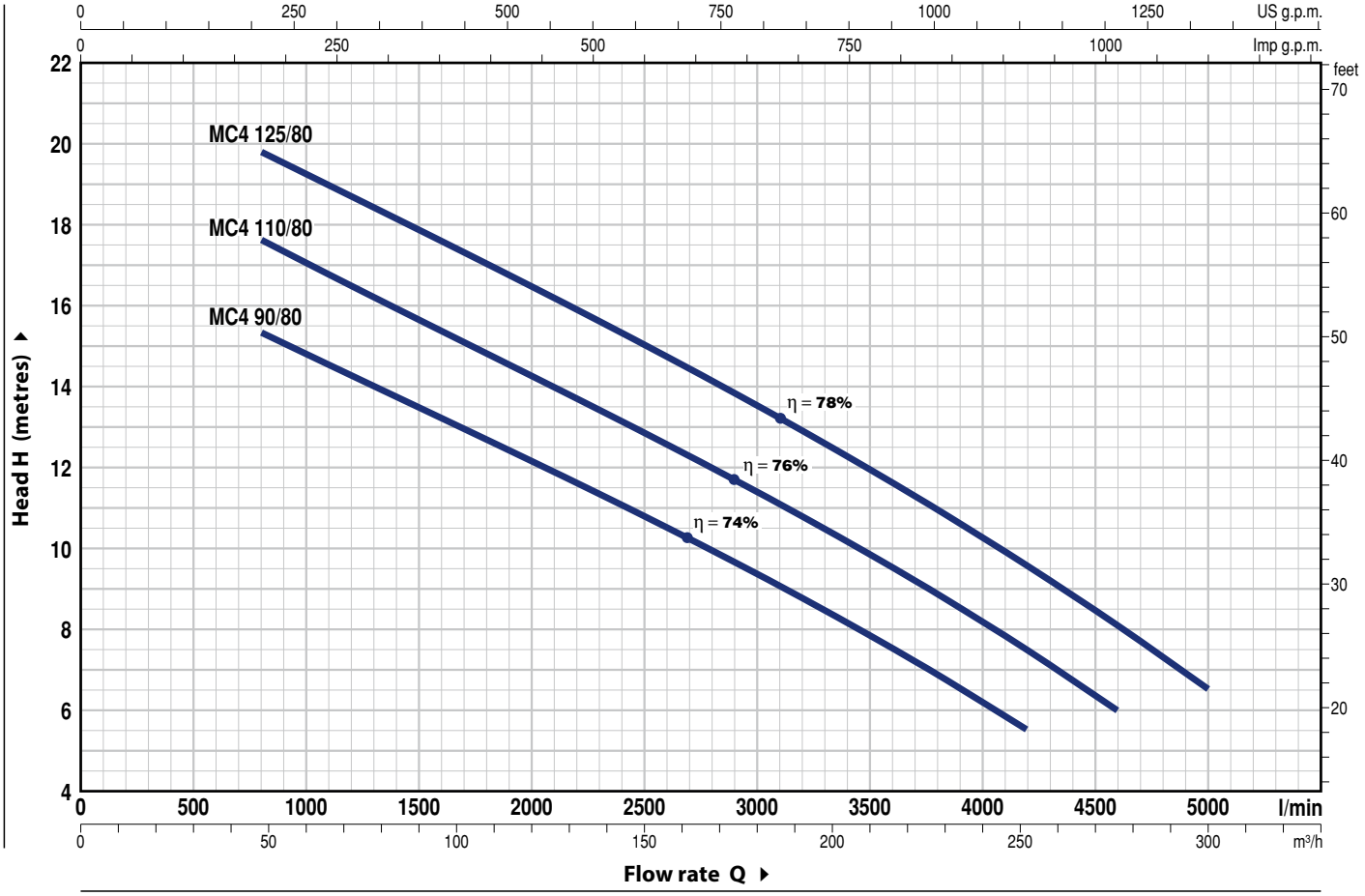
- Registered EU Design n. 003863158-0004

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 1450 min^{-1}



MODEL	POWER (P2)		Q	m³/h	0	48	60	90	120	150	180	210	240	252	276	300
Three-phase	kW	HP		l/min	**0**	**800**	**1000**	**1500**	**2000**	**2500**	**3000**	**3500**	**4000**	**4200**	**4600**	**5000**
MC4 90/80	6.7	9			17.5	15.3	14.8	13.4	12.1	10.8	9.3	7.8	6.2	5.5		
MC4 110/80	8	11	**H**	metres	20	17.6	17	15.6	14.2	12.8	11.4	9.8	8.2	7.5	6	
MC4 125/80	9.2	12.5			22	19.8	19.2	17.8	16.4	15	13.5	11.9	10.2	9.5	8.1	6.5

Q = Flow rate **H** = Total manometric head

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**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**

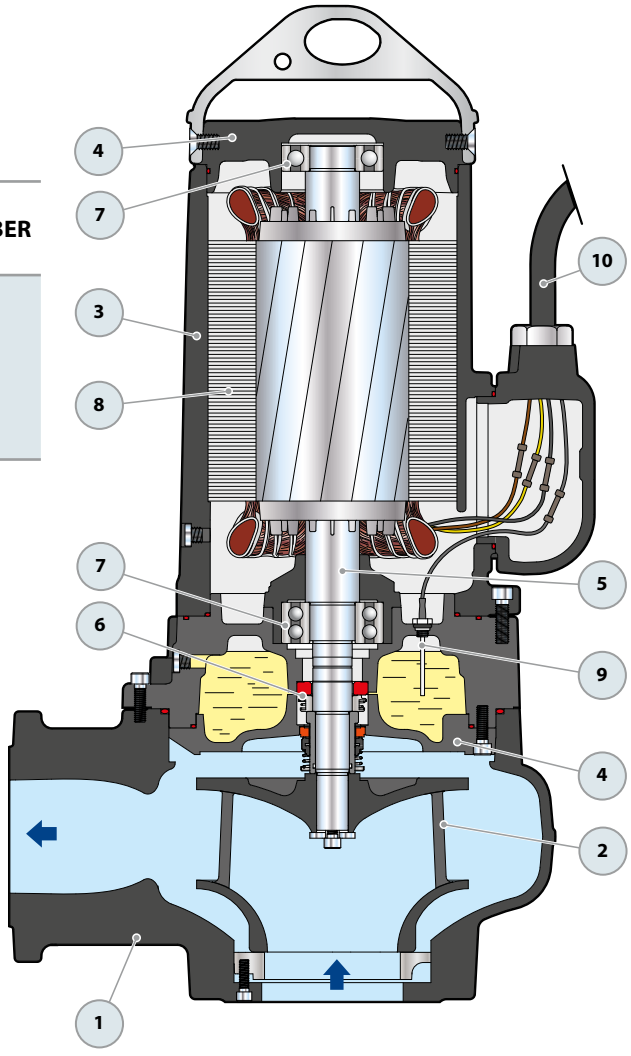
8 ELECTRIC MOTOR

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

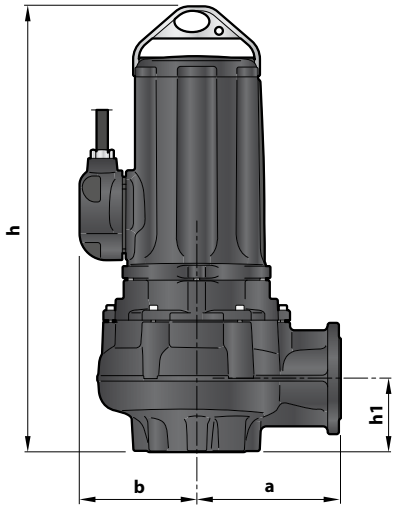
9 PROBE DETECTING THE PRESENCE OF WATER IN THE OIL CHAMBER

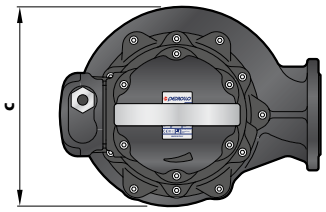
10 POWER CABLE

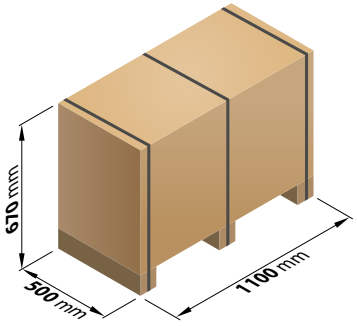
"H07 RN-F" type
Standard length 10 metres



DIMENSIONS AND WEIGHT

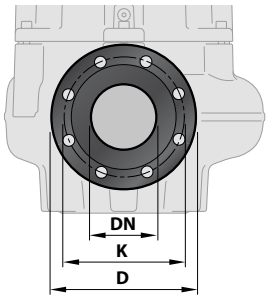






MODEL	Passage of solids	DIMENSIONS mm					kg
Three-phase		a	b	c	h	h1	3~
MC4 90/80	Ø 80	285	232	395	870	145	219
MC4 110/80							220
MC4 125/80							230

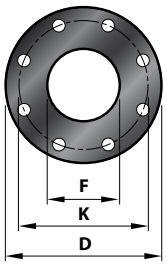
FLANGED PORT



MODEL	FLANGE	K	D	HOLES	
Three-phase	DN	mm	mm	N°	Ø (mm)
MC4 90/80 MC4 110/80 MC4 125/80	100 (PN10)	180	220	8	18

COUNTERFLANGE

(TO BE ORDERED SEPARATELY)



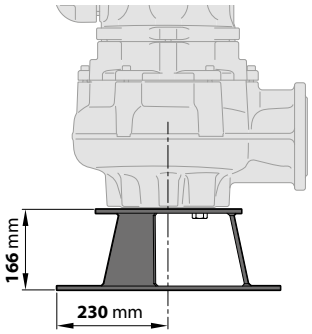
MODEL	FLANGE	F	K	D	HOLES	
Three-phase	DN		mm	mm	N°	Ø (mm)
MC4 90/80 MC4 110/80 MC4 125/80	100	4"	180	220	8	18

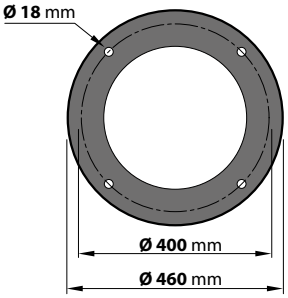
ABSORPTION

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"**

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 **VXC4, MC4**	Cod. ASSFL100

Complete with screws and seals

● **INTERMEDIATE SUPPORT** (To be ordered separately)

Cod. 859SV349INTFA	Gide tube Ø **2"**

In order to ensure stability, insert the intermediate support every three metres of guide tube (recommended

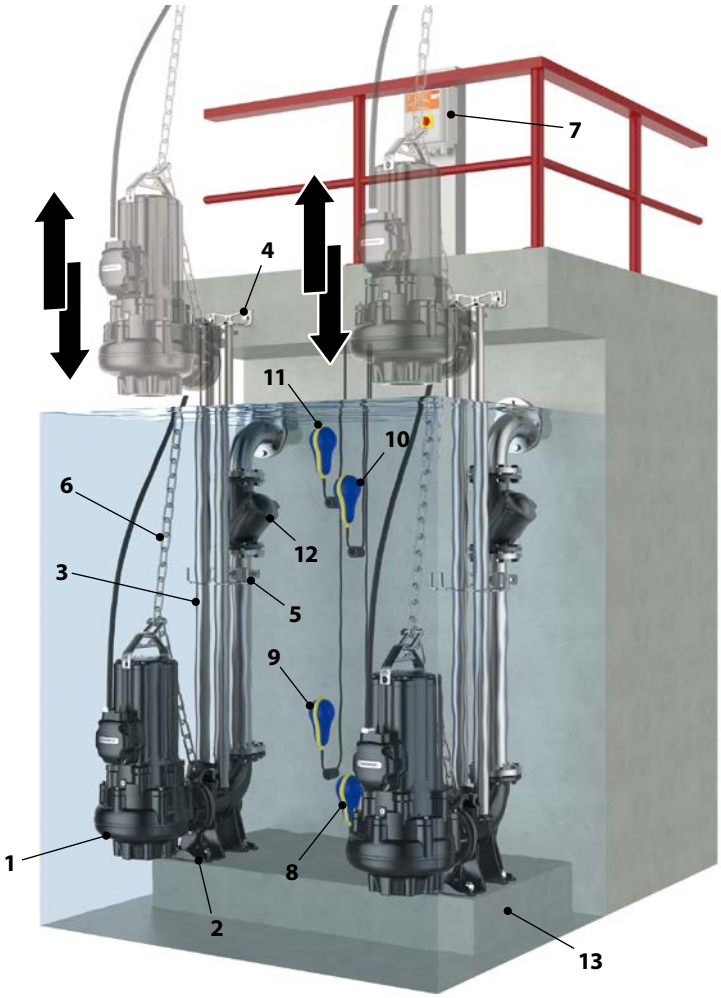
GUIDE TUBES (AISI 304 stainless steel)

Cod. 54SARTG006	Ø **2"**

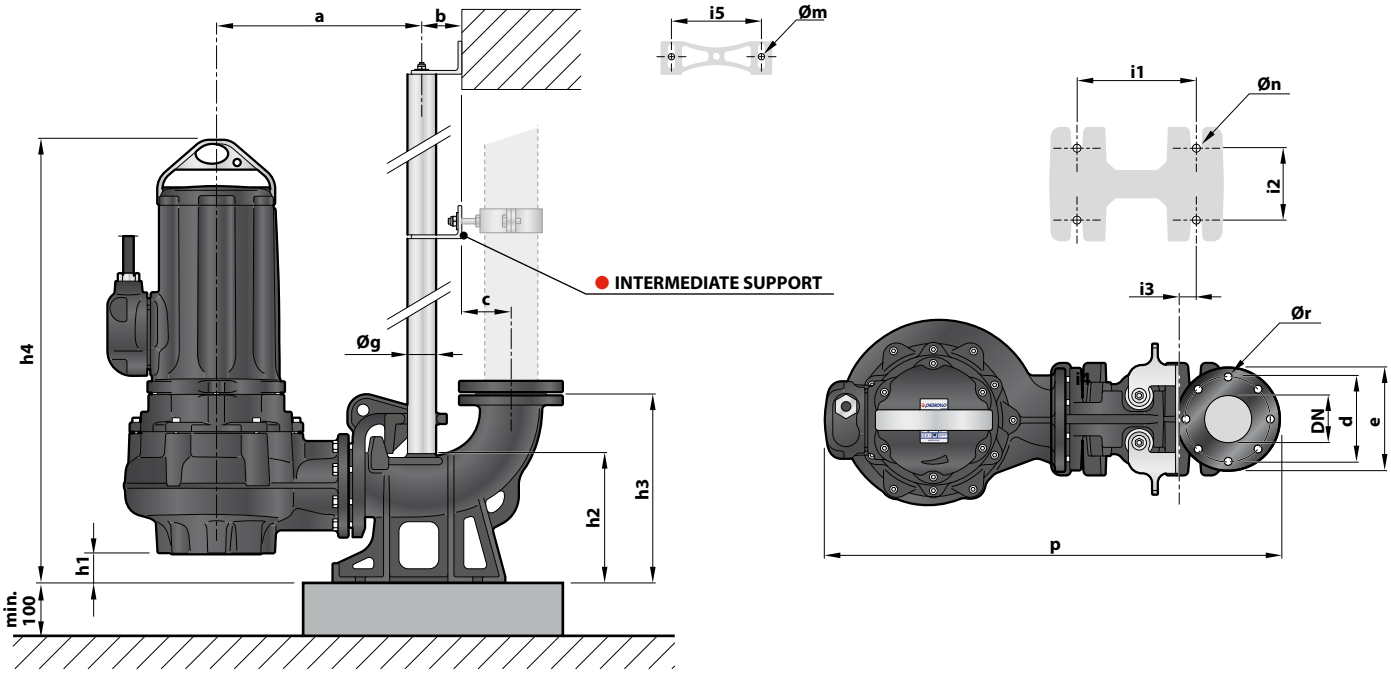
Maximum length of the tube plank: 6 metres

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



DIMENSIONS



MODEL	Passage of solids	PORT	DIMENSIONS mm																	
Three-phase	mm	DN	a	b	c	d	e	p	h1	h2	h3	h4	i1	i2	i3	i5	Øg	Øm	Øn	Ør
VXC4 /80 MC4 /80	Ø 80	100	435	85.5	104.5	180	220	965	62	275	400	930	250	150	34	187	2"	13.5	22	18

SAR Accumulation and lifting stations

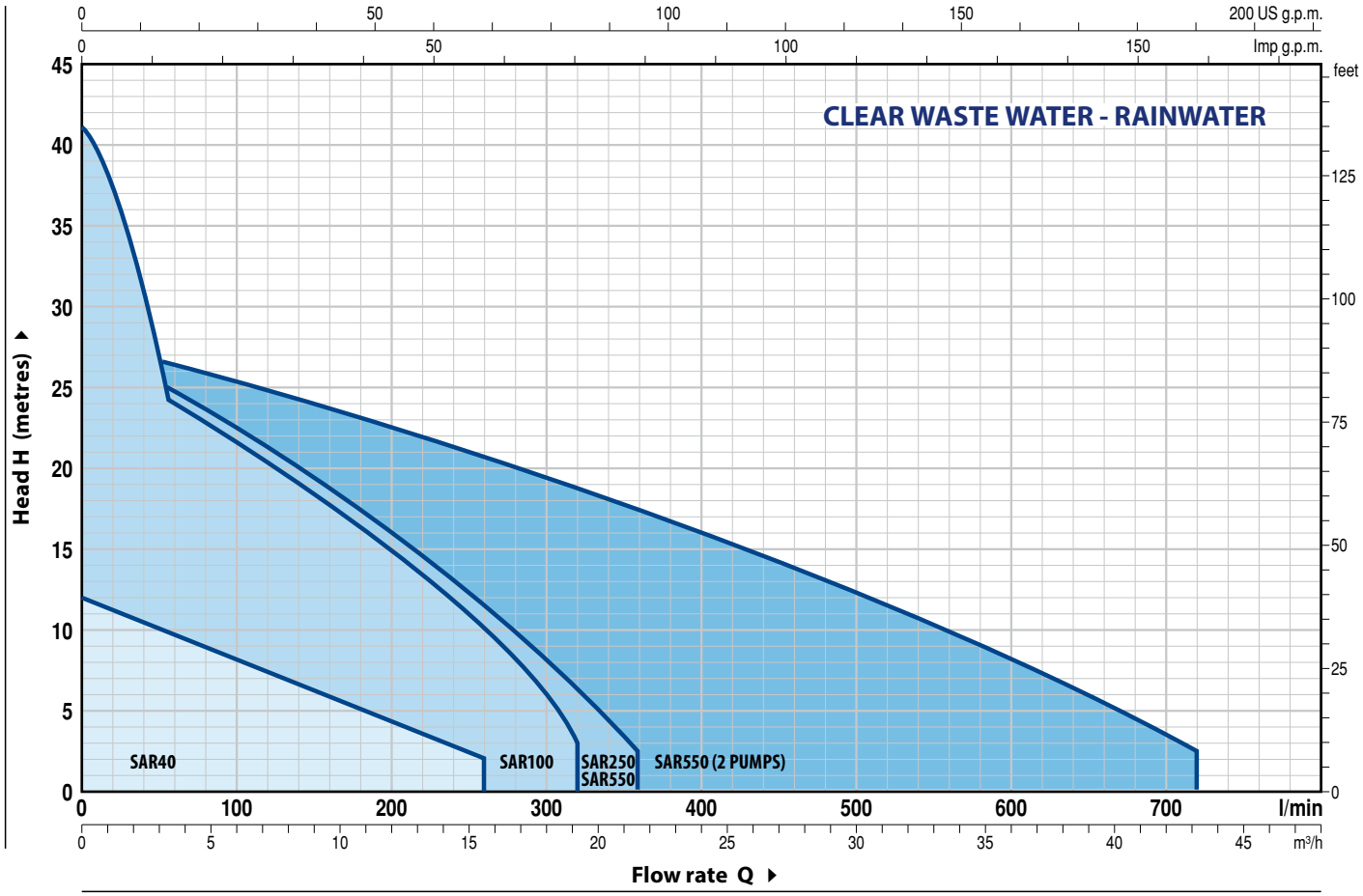
Domestic use

Agricultural use

Civil use

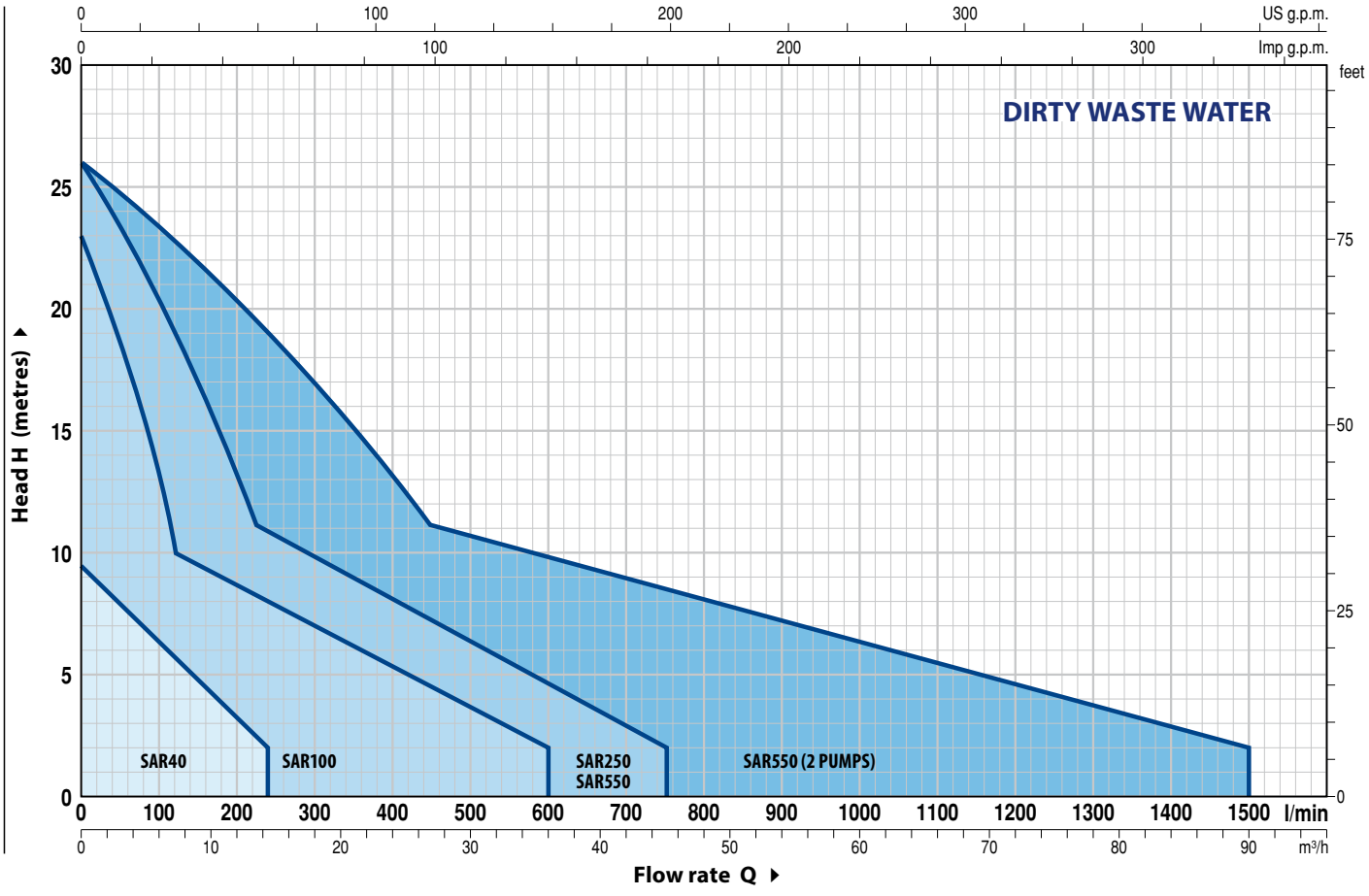
PERFORMANCE RANGE

50 Hz n= 2900 min^{-1}



PERFORMANCE RANGE

50 Hz n= 2900 min^{-1}



SAR 40

CLEAR WASTE WATER - RAINWATER

MODEL	POWER (P_2)		TANK CAPACITY	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	litres/min	metres
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	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	litres/min	metres
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 (P2)		TANK CAPACITY	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	litres/min	metres
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 (P2)		TANK CAPACITY	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	litres/min	metres
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

SAR 250

CLEAR WASTE WATER - RAINWATER

MODEL	POWER (P2)		TANK CAPACITY	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	litres/min	metres
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 (P2)		TANK CAPACITY	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	litres/min	metres
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**

SAR 550

CLEAR WASTE WATER - RAINWATER

MODEL	POWER (P_2)		TANK CAPACITY	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	(1 pump) litres/min	metres
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	MAXIMUM FLOW RATE	MAXIMUM HEAD
	kW	HP	litres	(1 pump) litres/min	metres
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

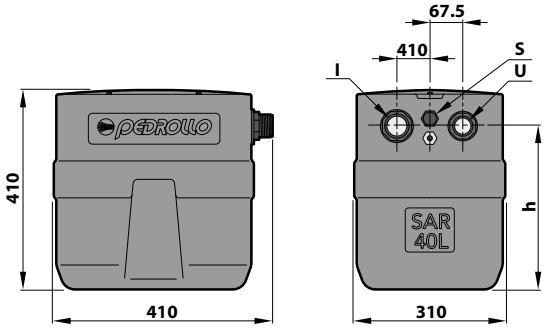
- **300 mm extension kit** (Cod. KSKIT-308MA)
  Kit includes: extension kit for the installation of the polyethylene "SAR" tank at greater depths
  ATTENTION: the tank is fitted with two lids

- **"SAR" stations with ball check valves and ball valve in the discharge pipe**

DIMENSIONS AND WEIGHT

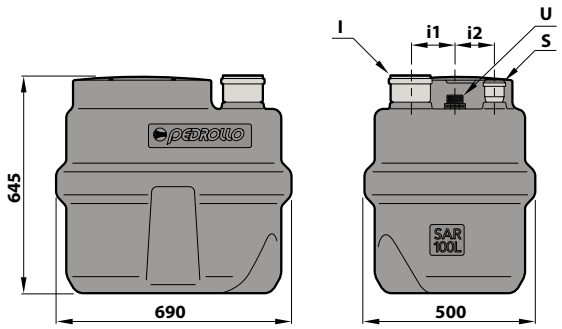
MODEL	PORTS			h	kg
	I	U(1)	S		
SAR 40 - TOP 1	1½"	1¼"	½"	305	14.0
SAR 40 - TOP 2					14.7
SAR 40 - TOP 3				335	16.1
SAR 40 - RXm 1				305	14.2
SAR 40 - RXm 2					15.3
SAR 40 - RXm 3				335	16.9
SAR 40 - TOP 2-VORTEX					14.6
SAR 40 - TEX 2					15.8
SAR 40 - TEX 3					16.5
SAR 40 - RXm 2/20					15.6

(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						29.6
SAR 100 - Dm 10		1½"				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						38.4
SAR 100 - TRm 0.75		1¼"				46.0
SAR 100 - TRm 1.1						47.6

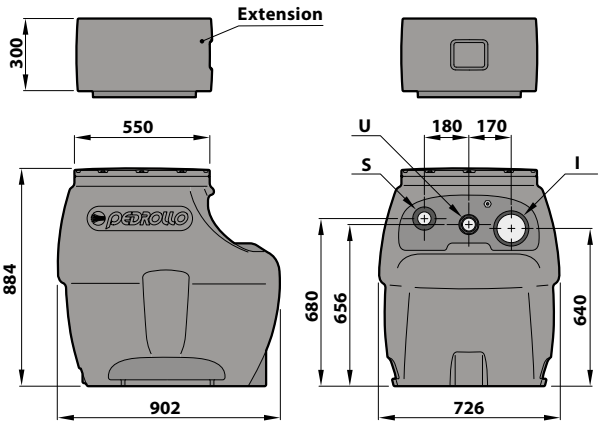
(1) Male threaded fitting



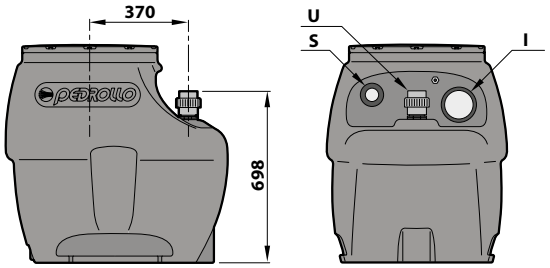
DIMENSIONS AND WEIGHT

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				46.2
SAR 250 - RXm 3		1¼"		47.0
SAR 250 - RXm 4		1½"		50.0
SAR 250 - RXm 5				51.0
SAR 250 - Dm 10				51.2
SAR 250 - Dm 20				53.5
SAR 250 - Dm 30				51.2
SAR 250 - TOP 2-VORTEX		1¼"		44.0
SAR 250 - TOP 3-VORTEX				46.0
SAR 250 - RXm 3/20				45.0
SAR 250 - RXm 4/40		1½"		53.0
SAR 250 - RXm 5/40				53.0
SAR 250 - VXm10/35-ST		2"		60.0
SAR 250 - VXm10/50-ST				60.0
SAR 250 - BCm10/50-ST				60.5
SAR 250 - VXm 10/35		1½"		53.0
SAR 250 - VXm 15/35				54.0
SAR 250 - VXm 10/50		2"		53.0
SAR 250 - VXm 15/50				53.0
SAR 250 - BCm 10/50				53.5
SAR 250 - BCm 15/50			DN 75	55.0
SAR 250 - TRm 0.75		1¼"	DN 50	62.0
SAR 250 - TRm 1.1				64.0
SAR 250 - TRm 1.5		1½"		79.0

(1) Male threaded fitting (female for VX-ST and BC-ST)

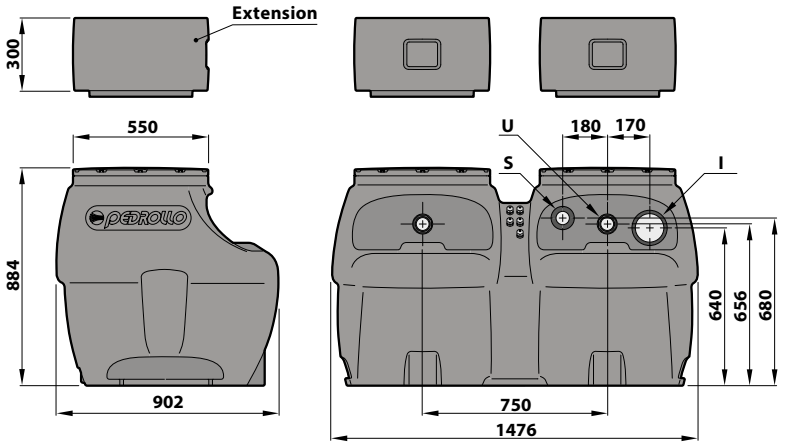


Only for VX-ST, BC-ST versions

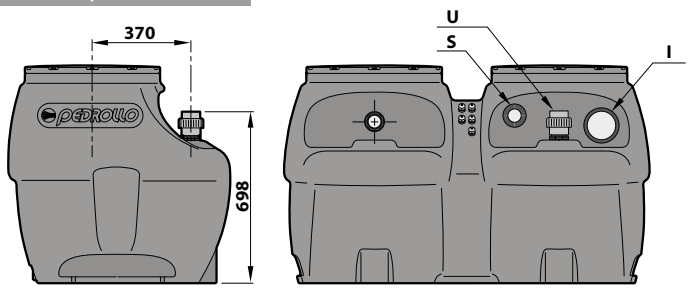


MODEL	PORTS			kg
	I	U(1)	S	
SAR 550 - TOP 4	DN 110	1½"	DN 50	96.0
SAR 550 - TOP 5				95.2
SAR 550 - RXm 4				103.0
SAR 550 - RXm 5				105.0
SAR 550 - Dm 10				101.2
SAR 550 - Dm 20				101.2
SAR 550 - Dm 30				105.7
SAR 550 - RXm 4/40				105.0
SAR 550 - RXm 5/40				106.0
SAR 550 - VXm 10/35-ST		2"	DN 75	120.0
SAR 550 - VXm 10/50-ST				121.0
SAR 550 - BCm10/50-ST				122.0
SAR 550 - VXm 10/35		1½"		105.0
SAR 550 - VXm 15/35				106.0
SAR 550 - VXm 10/50		2"		105.1
SAR 550 - VXm 15/50				108.0
SAR 550 - VX 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



PQ-EKO

INDUSTRIAL USE

Pump with peripheral impeller

Clean water

Industrial use

PERFORMANCE RANGE

- Flow rate up to **32 l/min** (1.92 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

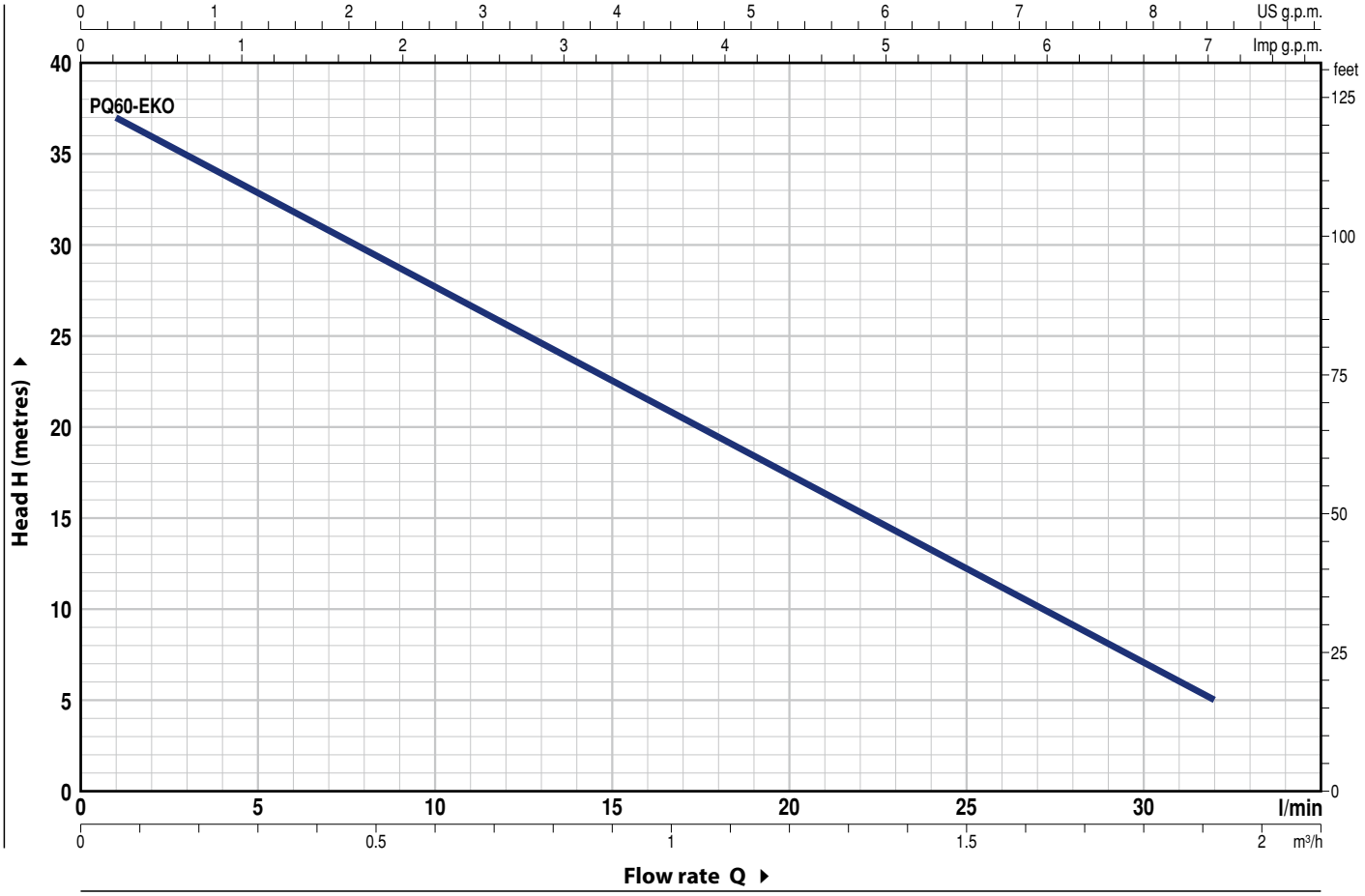
- Motor bracket: patent n. IT1243605
- Patent Pending n. 102018000010750

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 (P2)			Q	m³/h	0	0.06	0.3	0.6	0.9	1.2	1.5	1.8	1.92
Single-phase	**Three-phase**	**kW**	**HP**	**▲**		l/min	**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)

PQ-EKO

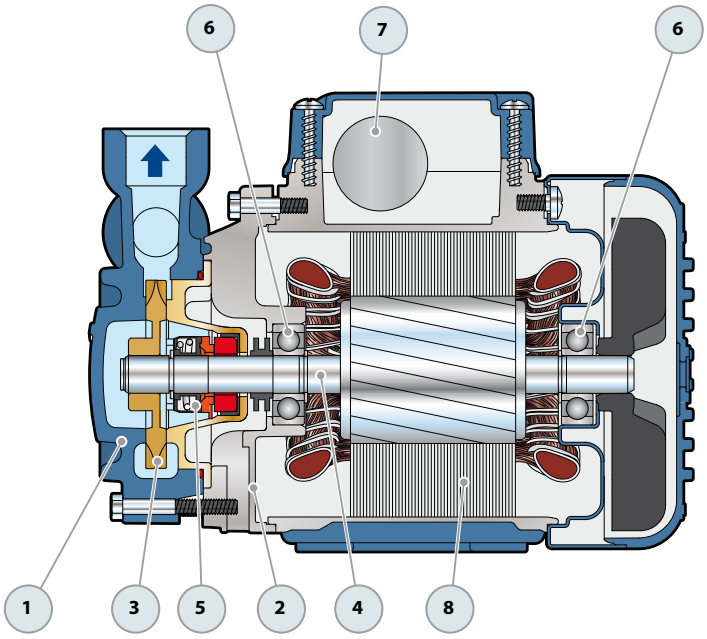
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with threaded ports in compliance with ISO 228/1
2	**MOTOR BRACKET**	Aluminium with brass insert (patented), reduces the risk of impeller seizure
3	**IMPELLER**	Brass with peripheral radial vanes
4	**MOTOR SHAFT**	Stainless steel AISI 431
5	**MECHANICAL SEAL**	

Seal	***Shaft***		*Materials*	
Model	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*
AR-12	**Ø 12** mm	Ceramic	Graphite	NBR

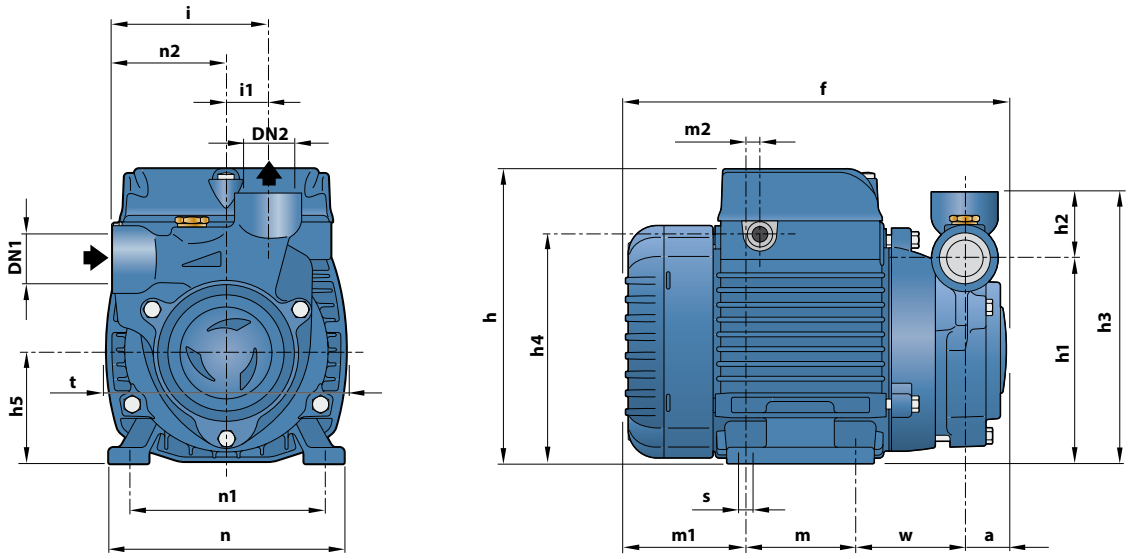
6	**BEARINGS**	**6201 ZZ / 6201 ZZ**

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**	**½"**	**½"**	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

PQ-PRO

Pumps with peripheral impeller

Clean water

Industrial use

PERFORMANCE RANGE

- Flow rate up to **15 l/min** (0.9 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

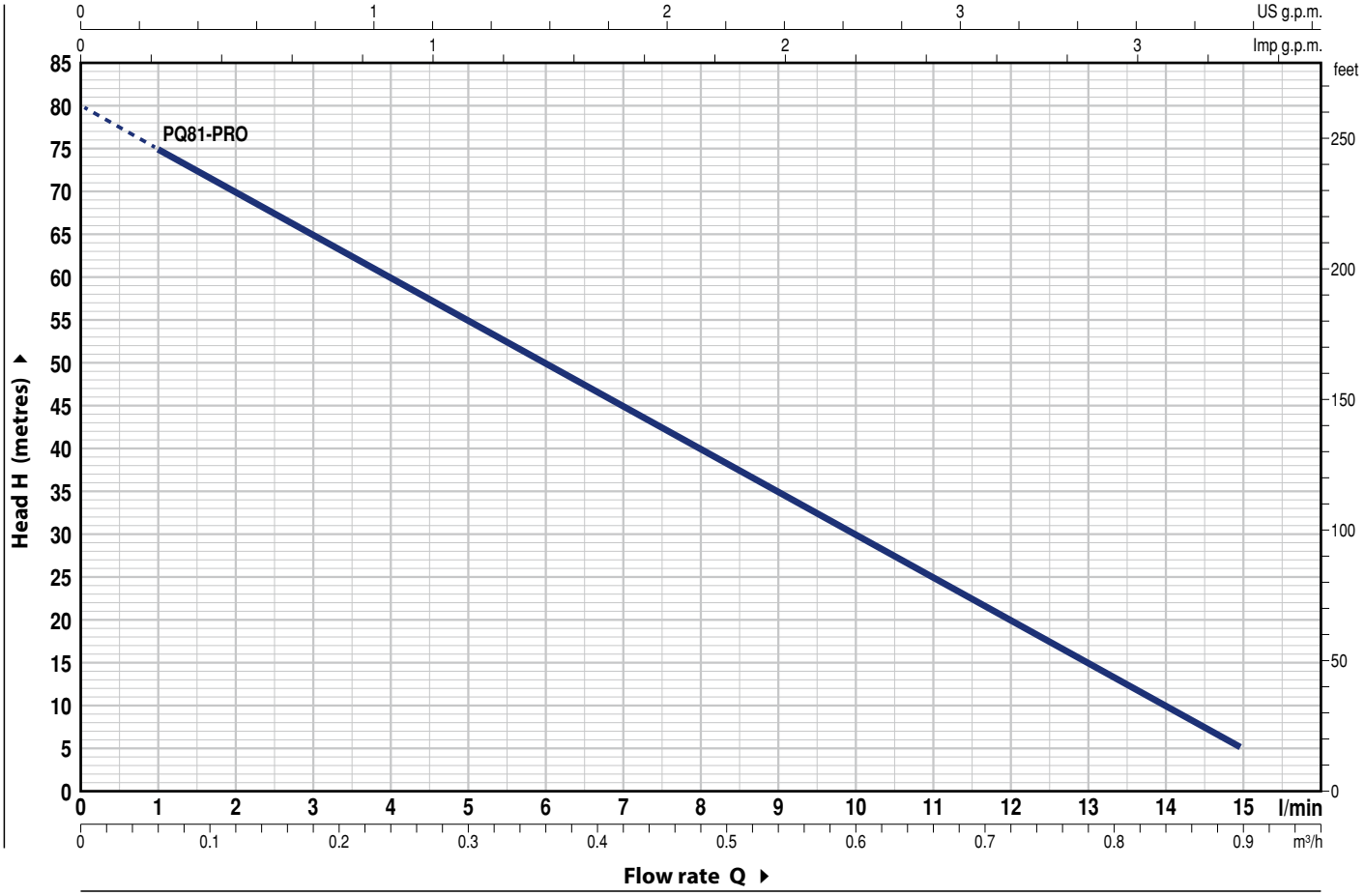
- Motor bracket: patent n. IT1243605

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 (P2)			Q	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
Single-phase	**Three-phase**	**kW**	**HP**	▲		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)

PQ-PRO

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	Cast iron with an anti-block treatment and threaded ports in compliance with ISO 228/1
2	**MOTOR BRACKET**	Aluminium with brass insert (patented), reduces the risk of impeller seizure
3	**IMPELLER**	Brass with peripheral radial vanes
4	**MOTOR SHAFT**	Stainless steel AISI 431
5	**MECHANICAL SEAL**	***Seal*** ***Shaft*** *Materials*

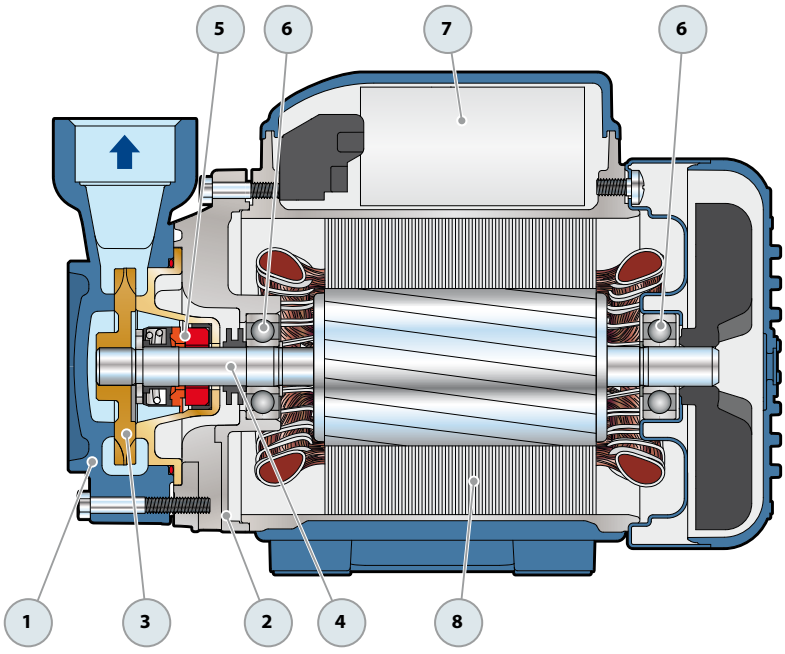
Model	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*
ST1-12	**Ø 12** mm	Silicon carbide	Graphite	NBR

6	**BEARINGS**	**6201 ZZ / 6201 ZZ**

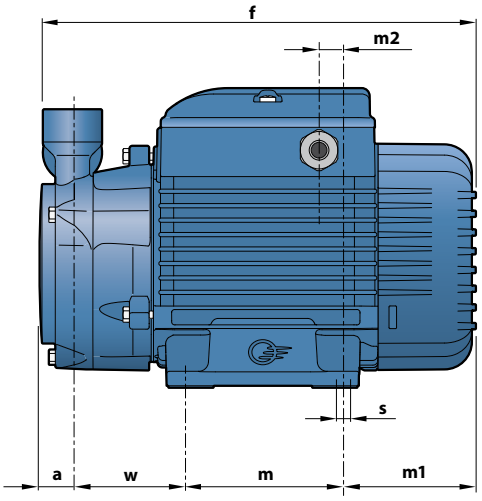
7	**CAPACITOR**	***Capacitance***

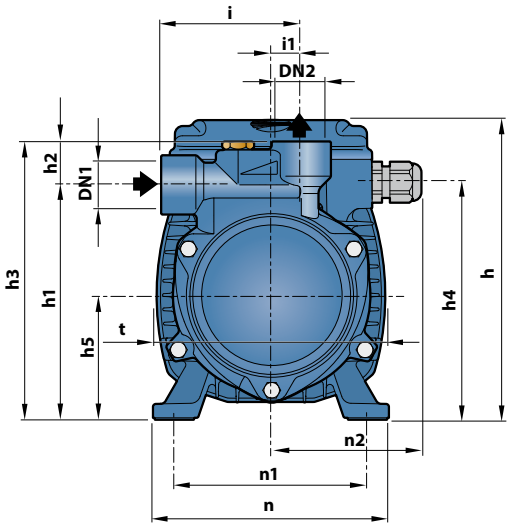
(230 V or 240 V)	***(110 V)***
12.5 µF - 450 VL	**25** µF - 250 VL

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

PQ-Bs

Peripheral pumps with brass pump body

Clean water

Industrial use

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

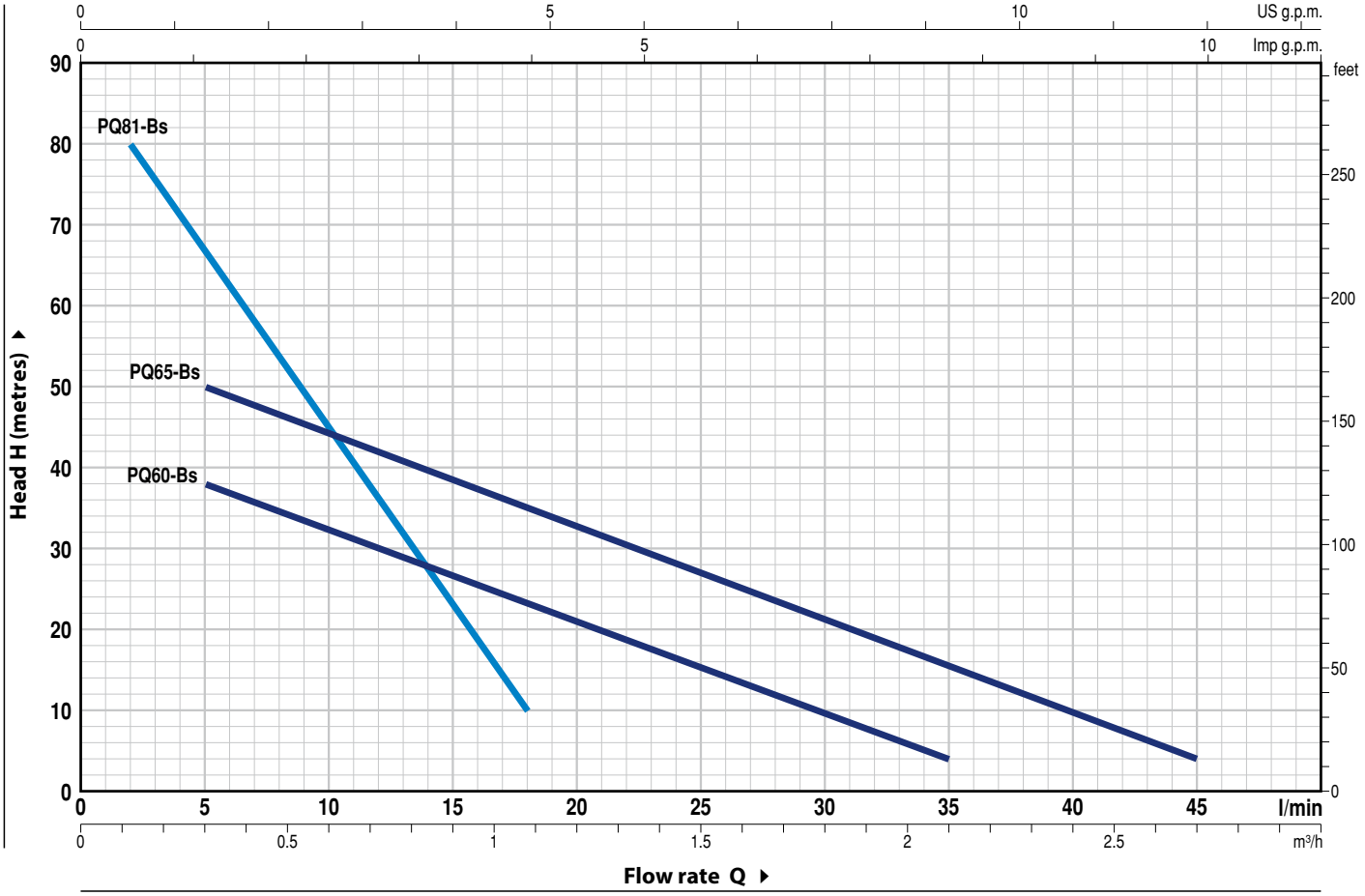
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PQ60-Bs, PQ65-Bs)
- Registered EU Design n. 002146548

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 (P2)			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**
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	4

MODEL		POWER (P2)			Q	m³/h	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**	▲		l/min	**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)

PQ-Bs

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

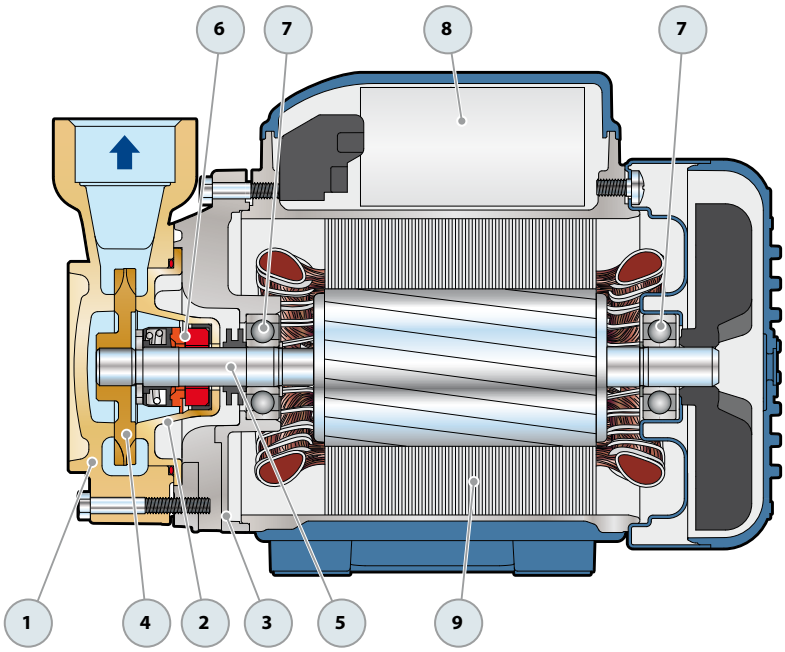
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
PQm 60-Bs	**10** µF - 450 VL	**25** µF - 250 VL
PQm 65-Bs	**14** µF - 450 VL	**25** µF - 250 VL
PQm 81-Bs	**14** µF - 450 VL	**25** µF - 250 VL

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.

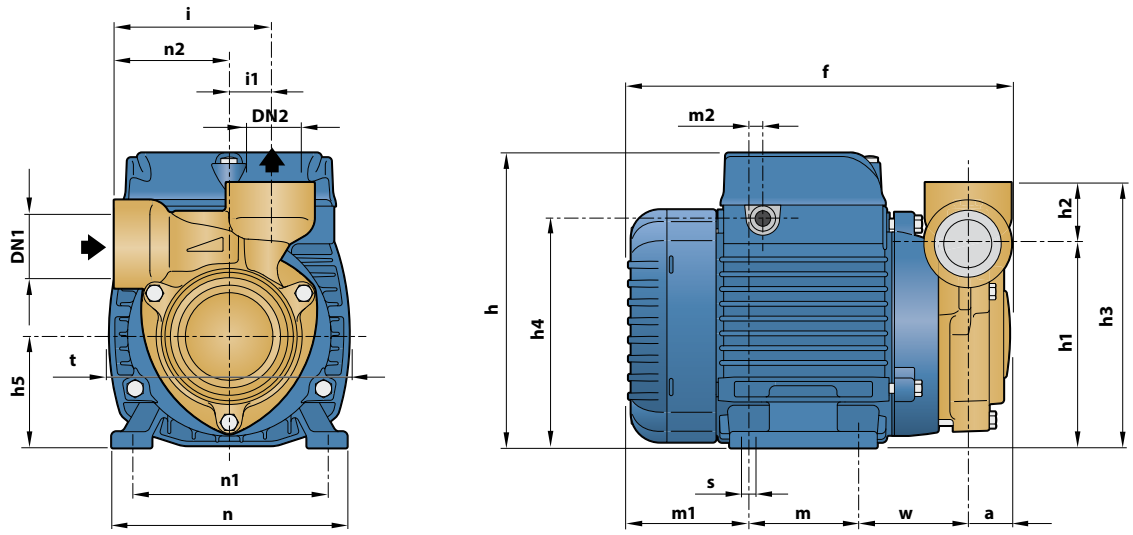
➠ **The pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)**

– Insulation: class F
– Protection: IP X4

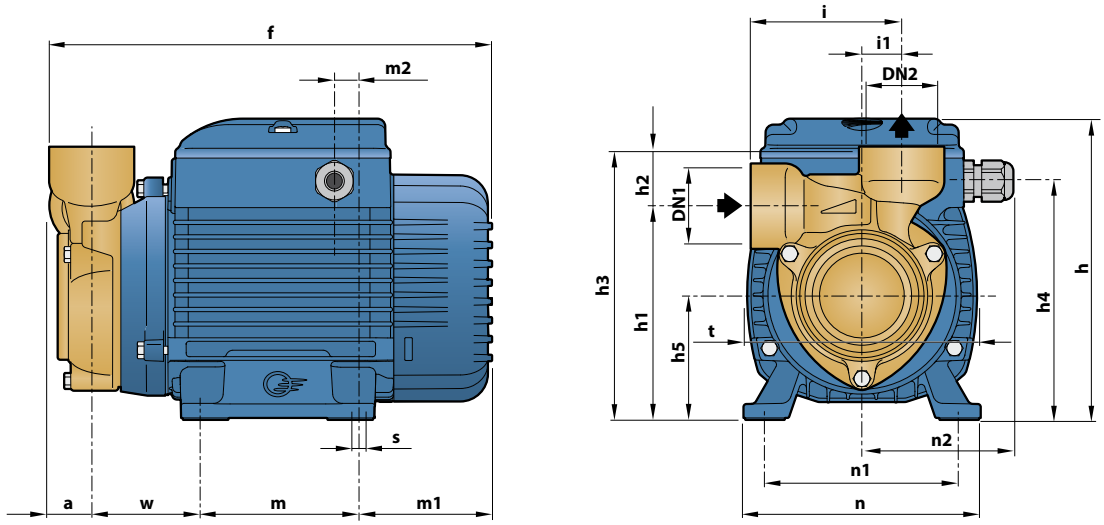


DIMENSIONS AND WEIGHT

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								56		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

PQA

INDUSTRIAL USE

Pumps with peripheral impeller

Clean water

Industrial use

PQA 50 - PQA 60

PQA 70 - PQA 72 - PQA 70 - PQA 90

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3.0 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV ISO 9001: QUALITY

EAC

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

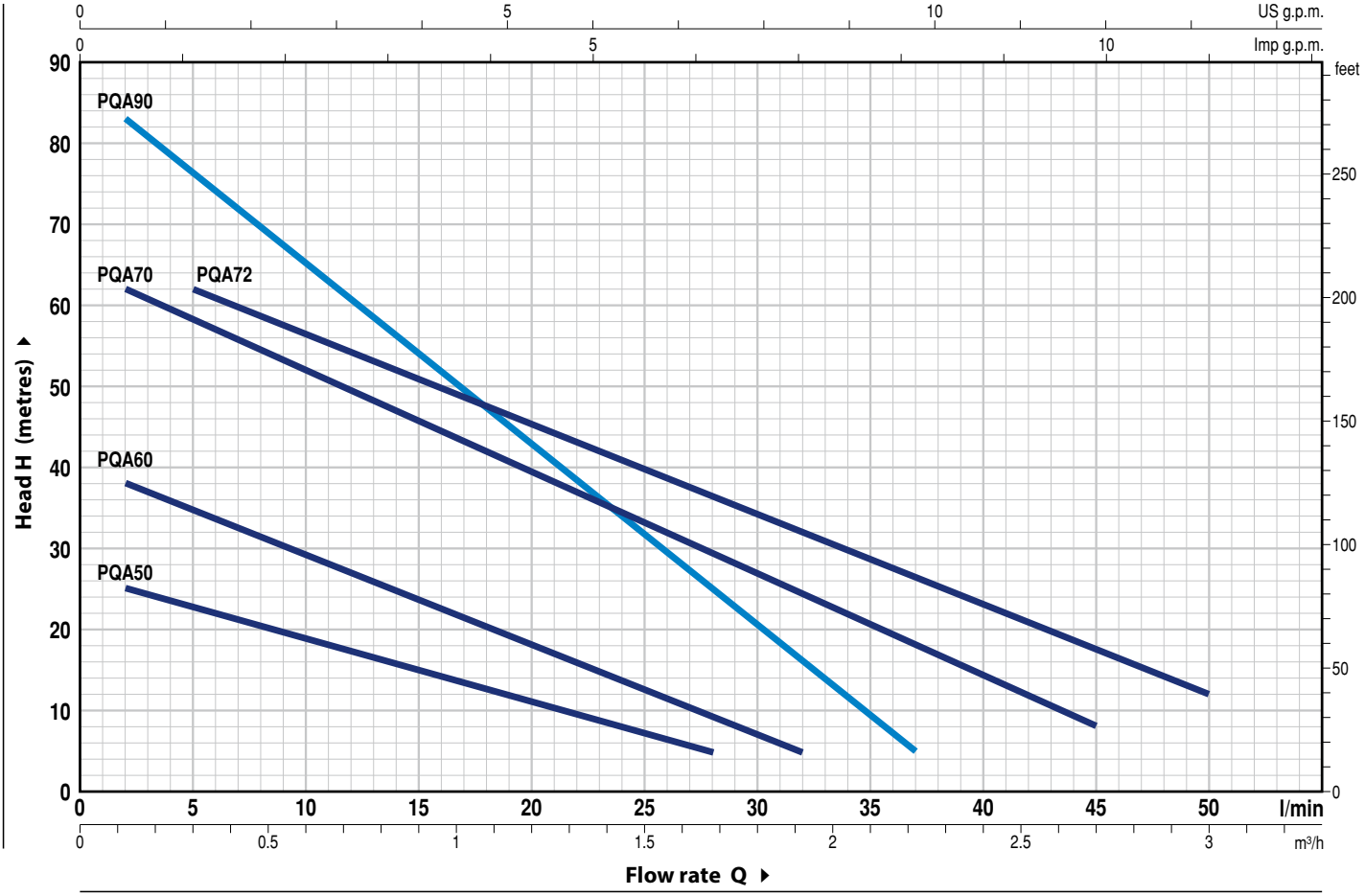
- Motor bracket: patent n. IT1243605
- Shaft: patent n. 0000275945 (PQA 50-60)

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 (P2)			Q	m³/h	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**	**▲**		l/min	**0**	**2**	**5**	**10**	**15**	**20**	**25**	**28**	**30**	**32**	**37**	**45**	**50**
PQAm 50	**PQA 50**	0.18	0.25				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	**IE3**	**H**	metres	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)

PQA

POS. COMPONENT — CONSTRUCTION CHARACTERISTICS

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

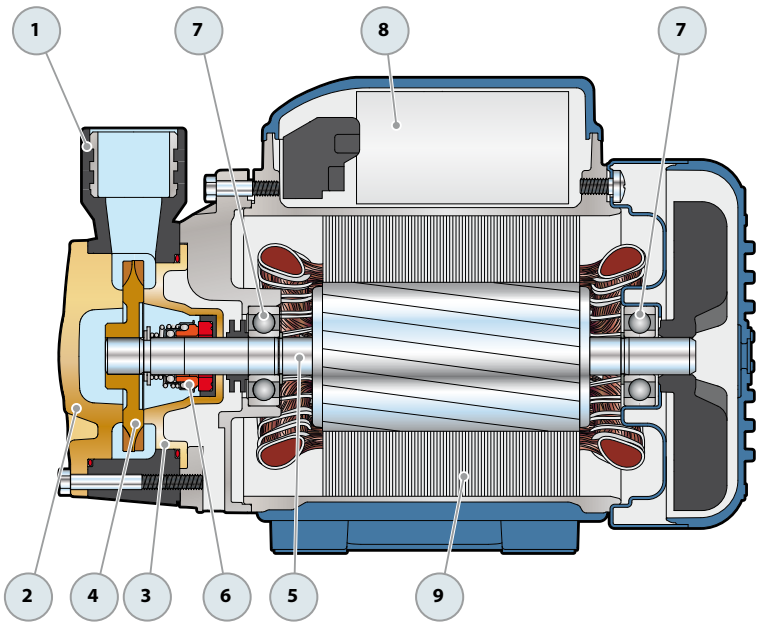
Pump	*Capacitance*	
Single-phase	***(230 V or 240 V)***	***(110 V)***
PQAm 50-60	**10** µF - 450 VL	**25** µF - 250 VL
PQAm 70-72	**16** µF - 450 VL	**60** µF - 300 VL
PQAm 90	**20** µF - 450 VL	**60** µF - 300 VL

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.

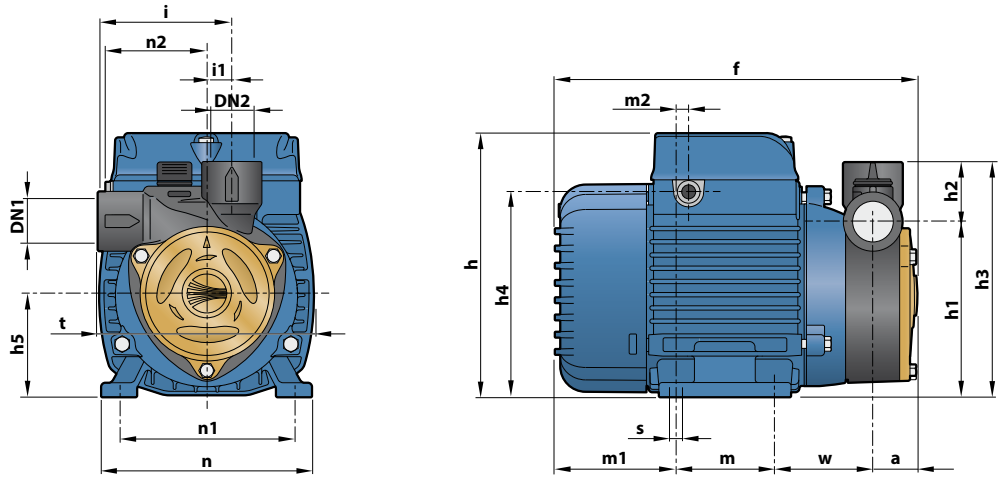
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

– Insulation: class F
– Protection: IP X4

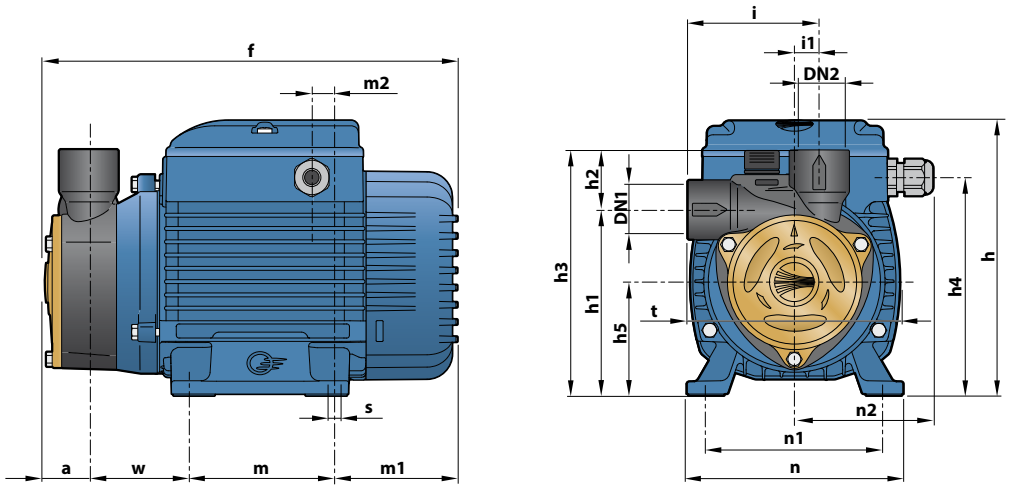


DIMENSIONS AND WEIGHT

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	179	116.5	32.5	149	139	71	72.5	13.5	90	80.5	22	134	112	78	142	62.5		**9.3**	**9.3**
PQAm 72	**PQA 72**	1"	1"				121	30	151			83	20										**9.3**	**9.3**
PQAm 90	**PQA 90**	½"	½"	26.5	260			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

PQ 3000

INDUSTRIAL USE

Pump with peripheral impeller

Clean water

Industrial use

PQ 3000

PQ 3000-MF

PERFORMANCE RANGE

- Flow rate up to **50 l/min** (3 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

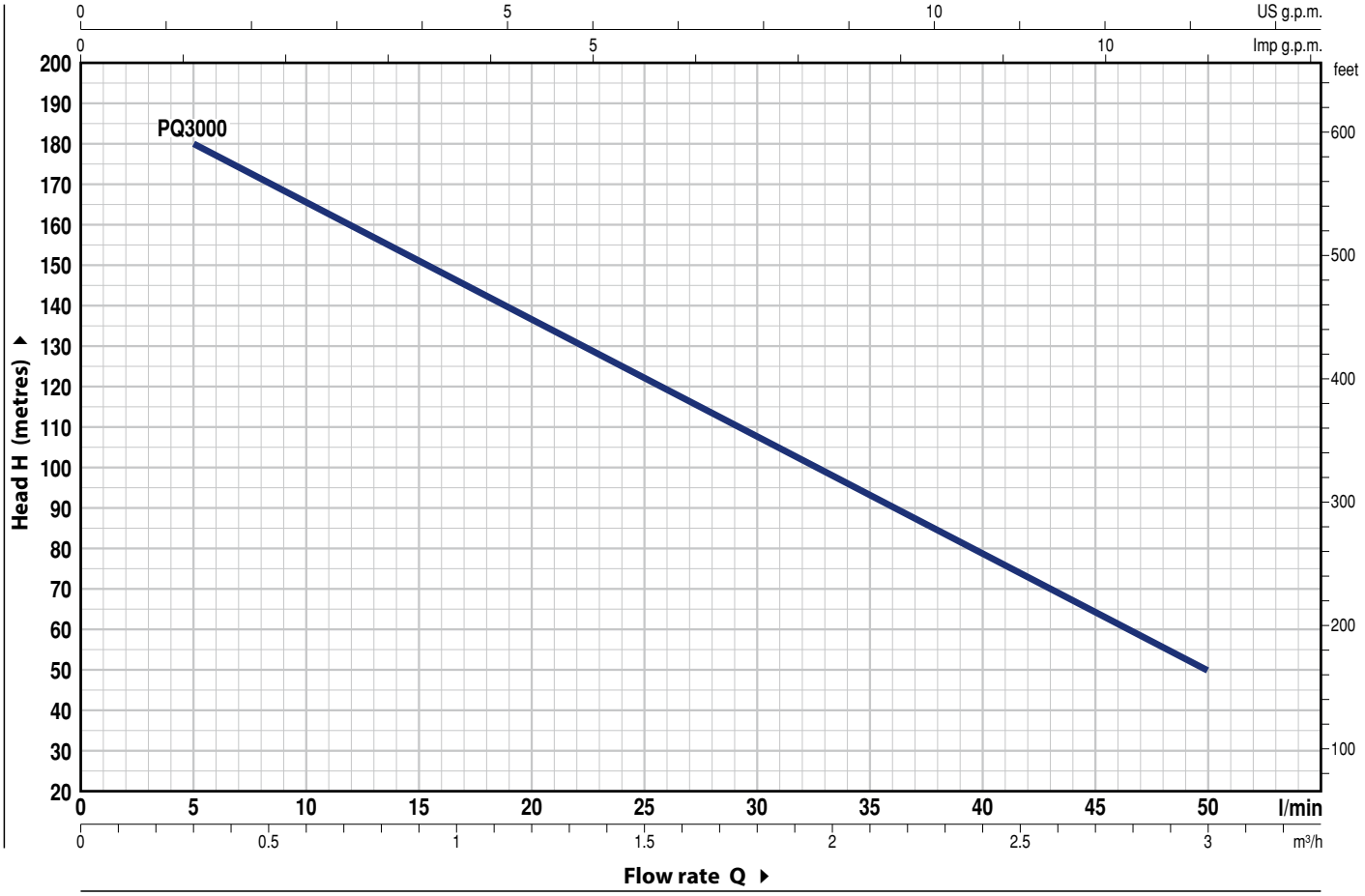
- Registered EU Design n. 002714469

OPTIONS AVAILABLE ON REQUEST

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

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz **n= 2900 min^{-1}** HS= 0 m



MODEL	POWER (P2)			Q	m³/h	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
Three-phase	kW	HP	▲		l/min	**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.

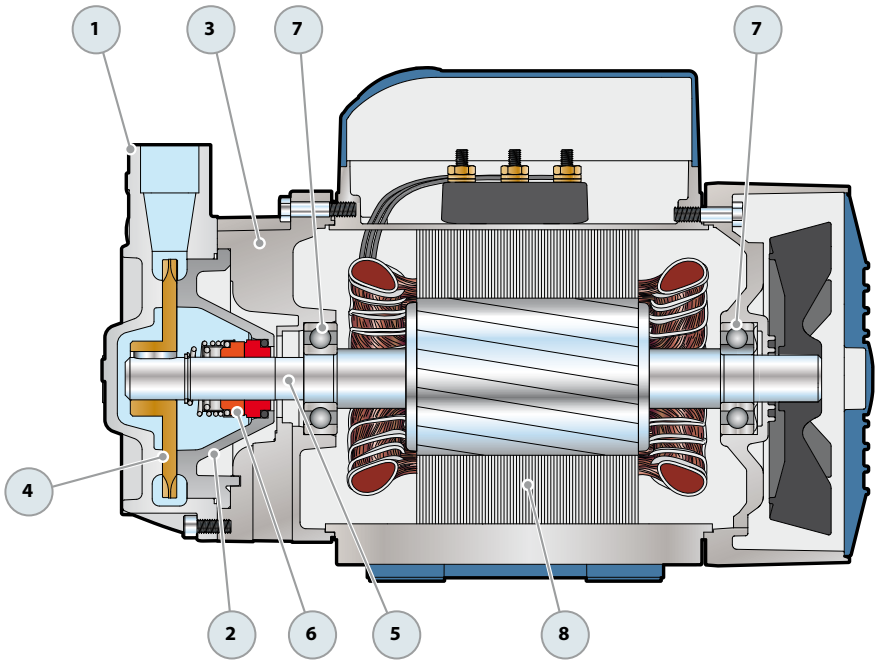
▲ Three-phase motor efficiency class (IEC 60034-30-1)

PQ 3000

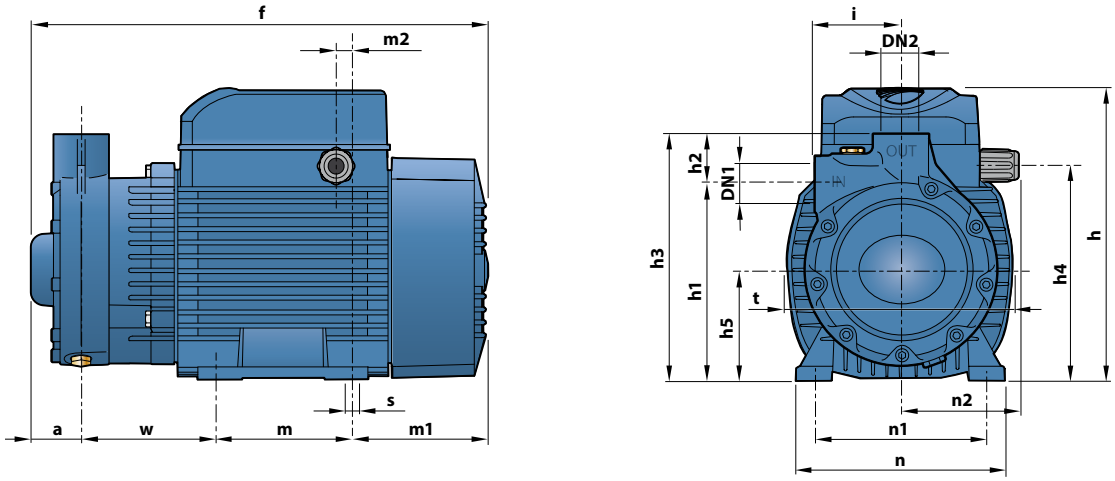
POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS
1	**PUMP BODY**	**PQ 3000**: cast iron with anti-block treatment complete with threaded ports in compliance with ISO 228/1 **PQ 3000-MF**: AISI 316 cast stainless steel complete with threaded ports in compliance with ISO 228/1
2	**PUMP BODY BACK PLATE**	Stainless 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

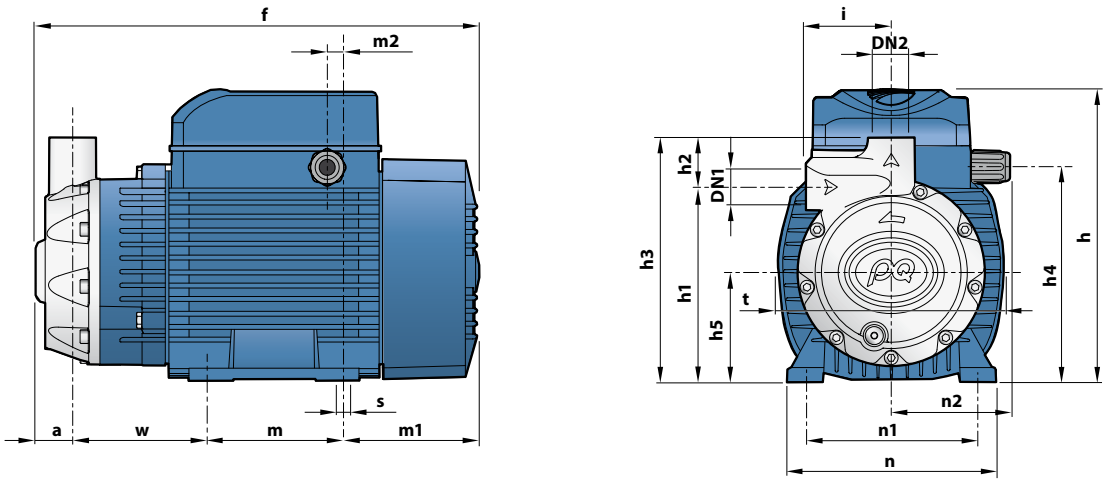
7	**BEARINGS**	**6204 ZZ - C3 / 6204 ZZ - C3**
8	**ELECTRIC MOTOR**	**PQ 3000**: three-phase 230/400 V - 50 Hz. ➠ **The pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)** – Insulation: class H – Protection: IP X5



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 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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

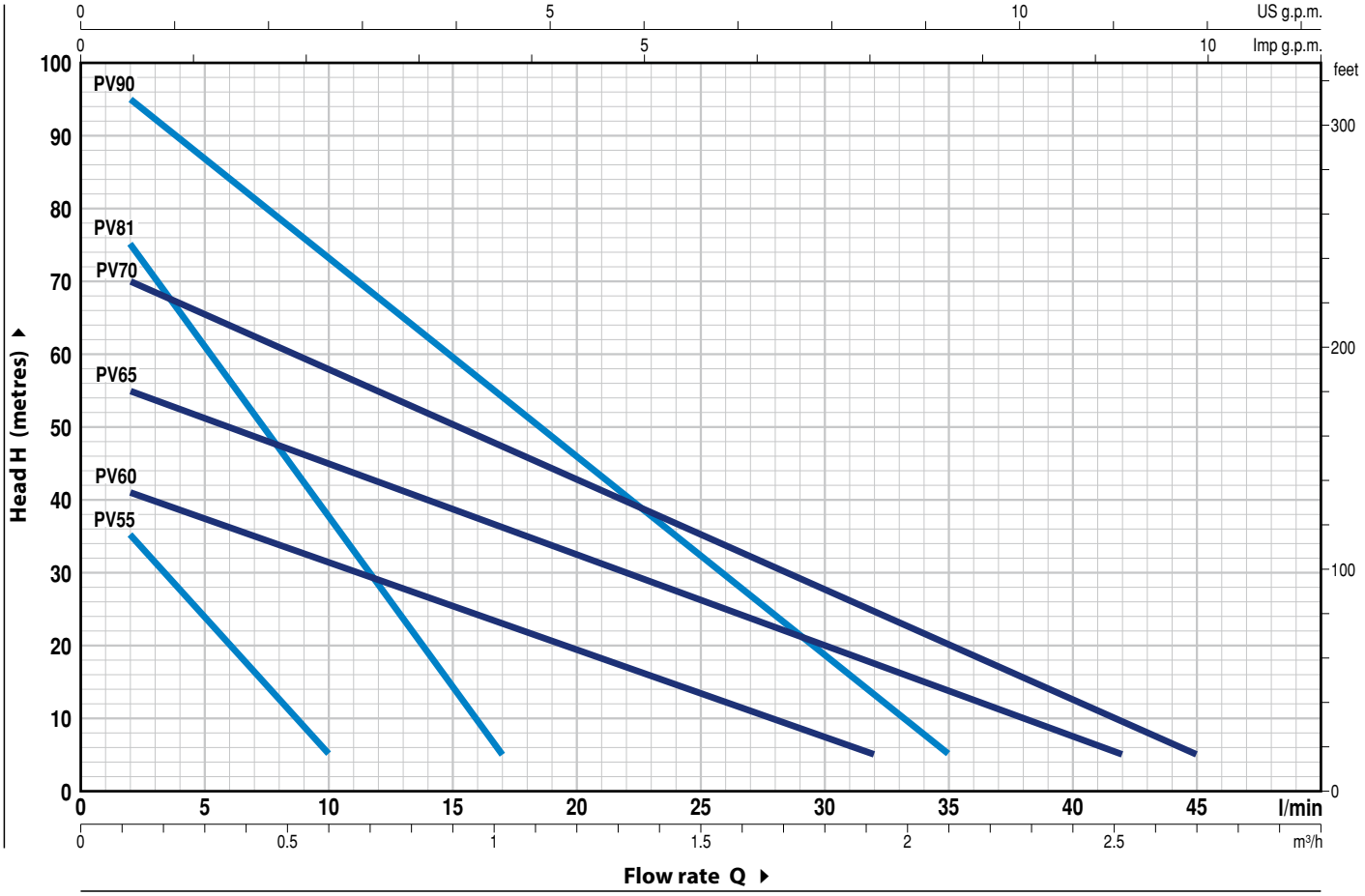
- Shaft: patent n. 0000275945 (PV55)

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 (P2)			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 (P2)			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				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	**IE3**	**H** metres		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

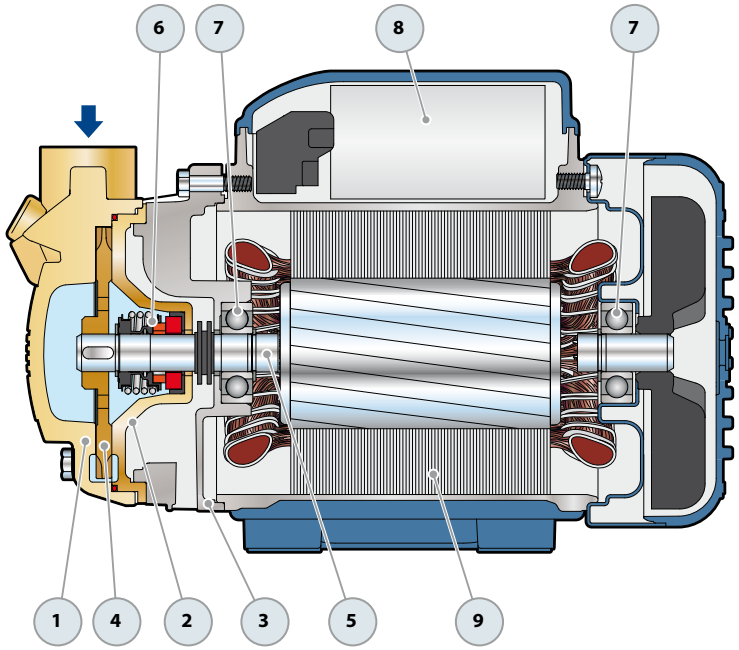
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
PVm 55	**10** µF - 450 VL	**25** µF - 250 VL
PVm 60	**10** µF - 450 VL	**25** µF - 250 VL
PVm 81	**14** µF - 450 VL	**25** µF - 250 VL
PVm 65	**14** µF - 450 VL	**25** µF - 250 VL
PVm 70	**25** µF - 450 VL	**60** µF - 300 VL
PVm 90	**25** 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).

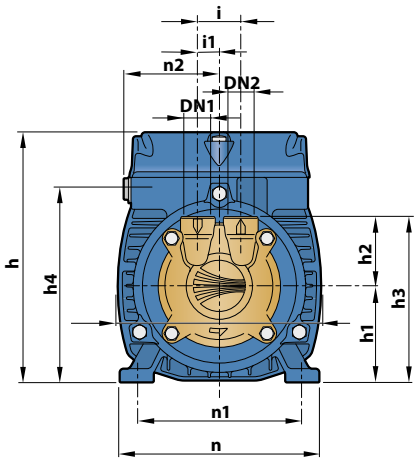
➠ **The three-phase pumps are fitted with high performance motors in class IE3 (IEC 60034-30-1)**

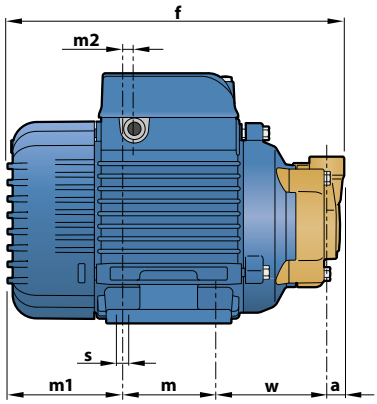
– Insulation: class F
– Protection: IP X4



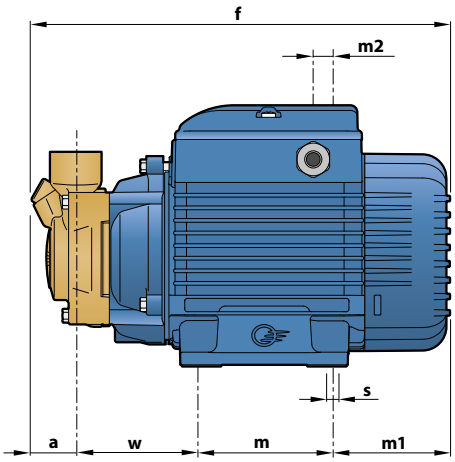
DIMENSIONS AND WEIGHT

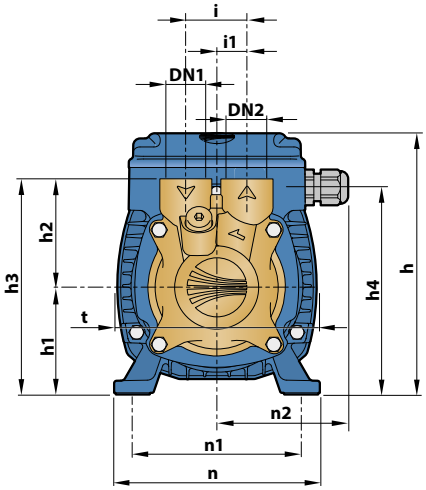
PV 55

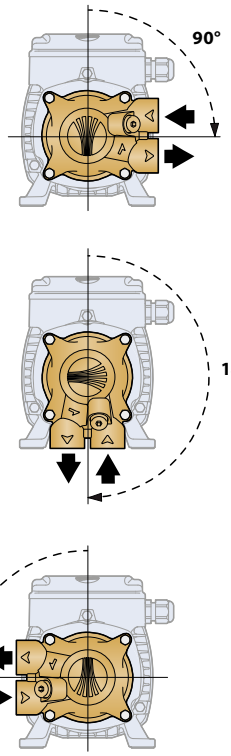




PV 60-81-65-70-90







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**	**¼"**	**¼"**	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**	**½"**	**½"**	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**	**¾"**	**¾"**	27	243.5	180 *	71	66	129	132	45	22.5	90	80.5	22	134	110/114	72	141	67		**6.8**	**6.8**
PVm 70	**PV 70**			26.5	276				137											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

TOP MULTI-AD

Submersible multi-stage pumps designed to pump AdBlue®

Industrial use

PERFORMANCE RANGE

- Flow rate up to **70 l/min** (4.2 m^3/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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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).

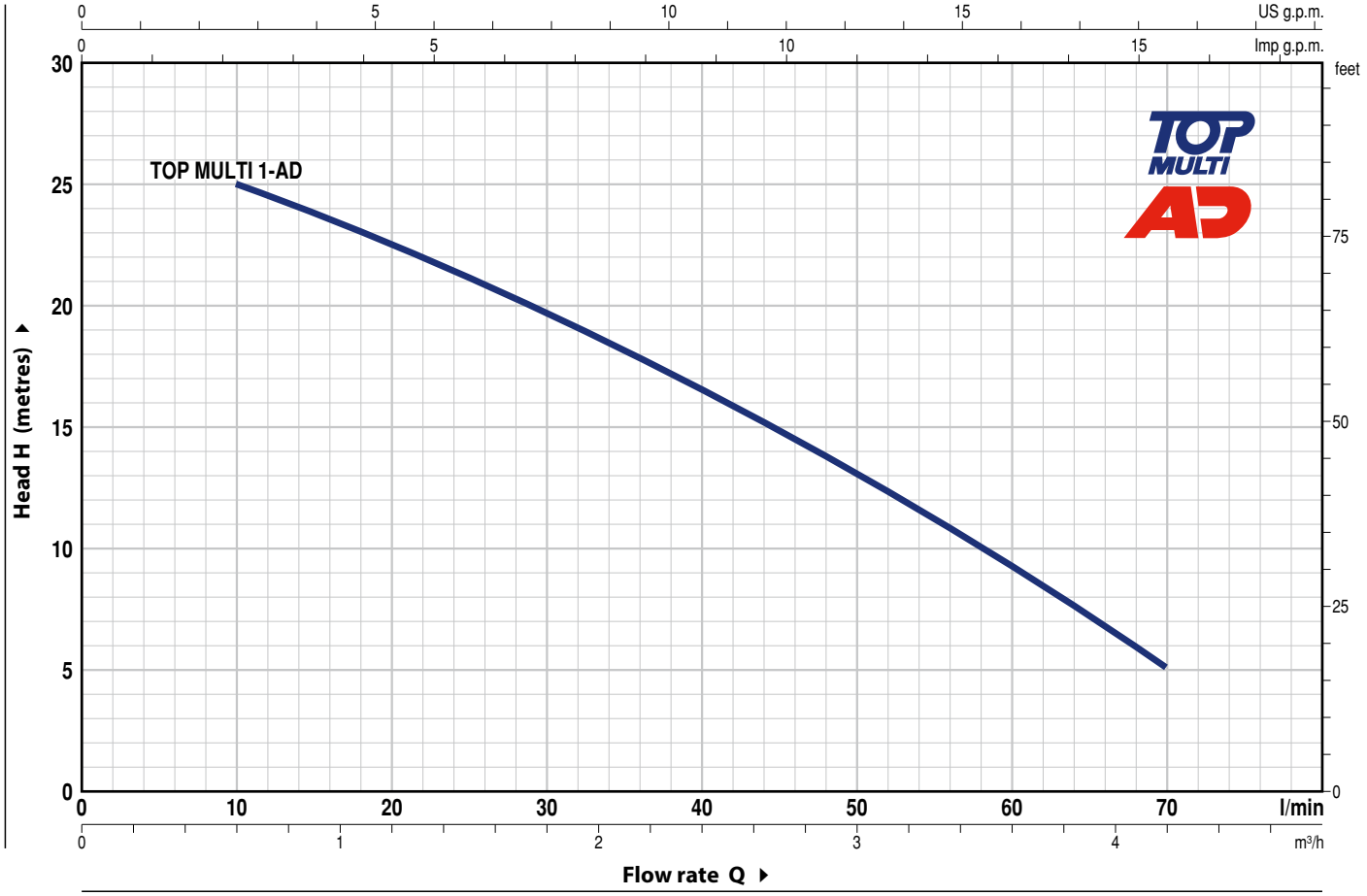
Multistage submersible pumps **TOP MULTI-AD** are designed using materials compliant to this liquid; their use is subjected to local laws and directives.

OPTIONS AVAILABLE ON REQUEST

- Other voltages or 60 Hz frequency

CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min^{-1}



MODEL	POWER (P2)		Q	m³/h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2
Single-phase	kW	HP		l/min	**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

Seal	***Shaft***	*Materials*			
Model	***Diameter***	*Stationary ring*	*Rotational ring*	*Elastomer*	*Metals*
STA-12R SGE	**Ø 12** mm	Silicon carbide	Graphite	EPDM	AISI 304

11 LIP SEAL **Ø 12** x **Ø 19** x **H 5** mm

12 BEARINGS **6201 ZZ - C3E / 6201 ZZ - C3E**

13 CAPACITOR

Capacitance	
(230 V or 240 V)	***(110 V)***
10 µF 450 VL	**16** µF 250 VL

14 ELECTRIC MOTOR

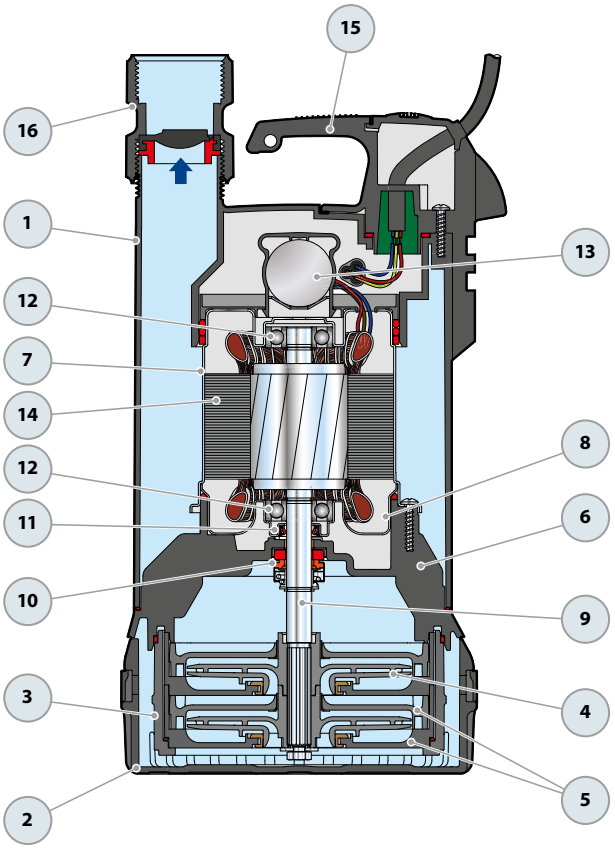
TOP MULTI 1-AD: single-phase 230 V - 50 Hz
with thermal overload protector incorporated into the winding.
– Insulation: class F
– Protection: IP X8

15 HANDLE ASSEMBLY (resin sealed)

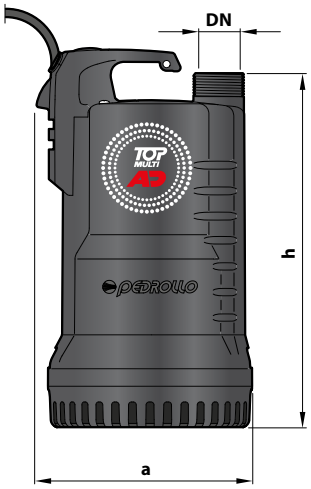
Complete with **5 metres** long "H07BN4-F" power cable

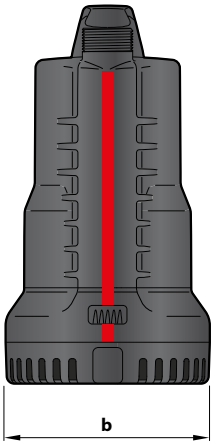
16 PIPE COUPLING
Threaded 1¼" in compliance with ISO 228/1, complete with flap-check valve

(Included in the equipment)

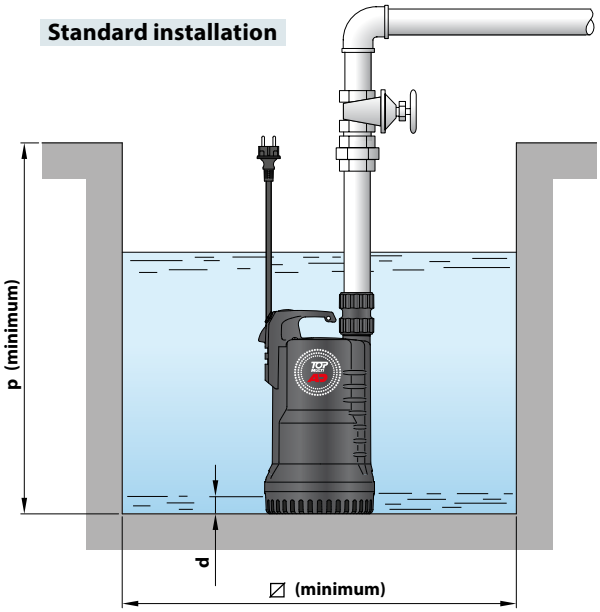


DIMENSIONS AND WEIGHT





Standard installation



MODEL	PORT	N. STAGES	DIMENSIONS mm					kg
Single-phase	DN		a	b	h	d	⍁	
TOP MULTI 1-AD	**1¼"**	2	180	170	295	25	220	**5.8**

ABSORPTION

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

PALLETIZATION

MODEL	GROUPAGE	CONTAINER
Single-phase	n. pumps	n. pumps
TOP MULTI 1-AD	**60**	**100**

AUTOMATIC PRESSURE BOOSTING SETS (AUTOCLAVES)

HYDROFRESH 05 VT

HYDROFRESH 24 SF

HYDROFRESH 24 CL

HYDROFRESH 60 CL

PERFORMANCE

MODEL	POWER (P2)		FLOW RATE (1)	SETTING (2)
	kW	HP	litres/min	bar
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

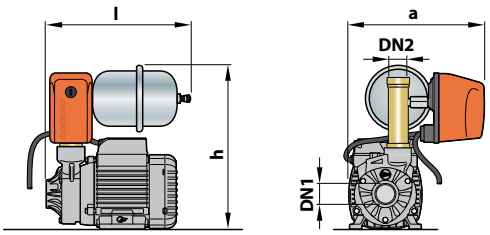
COMPONENTS:

- 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

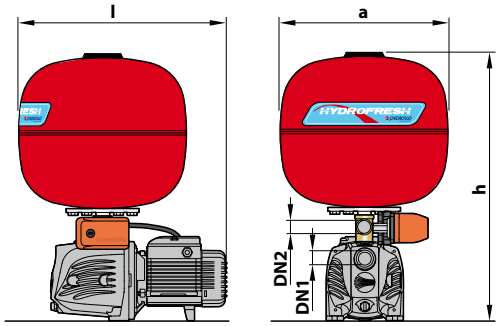
(1) Maximum flow rate at the minimum recommended pressure switch pressure

(2) Recommended pressure range

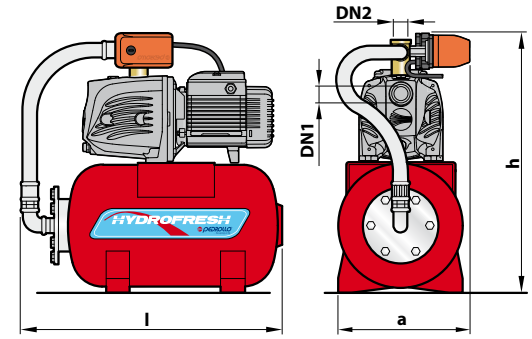
DIMENSIONS AND WEIGHT



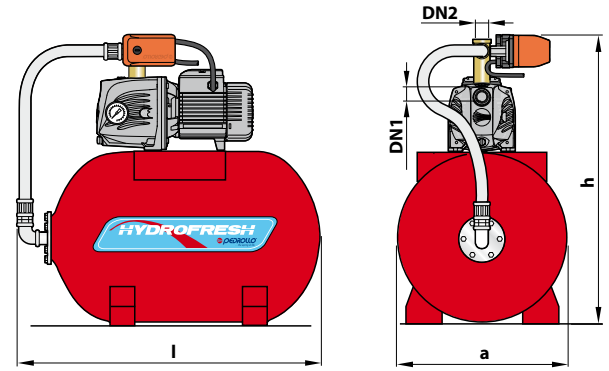
MODEL	PORTS		DIMENSIONS mm			WEIGHT
	DN1	DN2	l	a	h	kg
PKm 60 - 05 VT	1"	1"	212	210	240	6.8
JSWm1 CX - 05 VT	1"	1"	357	210	270	11.4
JSWm1 BX - 05 VT	1"	1"	357	210	270	11.5
JSWm1 AX - 05 VT	1"	1"	357	210	270	12.1



MODEL	PORTS		DIMENSIONS mm			WEIGHT
	DN1	DN2	l	a	h	kg
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
	DN1	DN2	l	a	h	kg
PKm 60 - 24 CL	1"	1"	535	255	500	13.7
PKm 65 - 24 CL	1"	1"	535	255	510	15.3
CPm 158 - 24 CL	1"	1"	535	255	600	21.3
CPm 170 - 24 CL	1¼"	1"	535	255	620	27.8
JCRm 1B - 24 CL	1"	1"	535	255	560	15.2
JCRm 1A - 24 CL	1"	1"	535	255	560	16.0
JCRm 2C - 24 CL	1"	1"	535	255	570	18.4
JCRm 2A - 24 CL	1"	1"	535	255	570	19.8
JSWm 1BX - 24 CL	1"	1"	535	255	520	18.0
JSWm 1AX - 24 CL	1"	1"	535	255	520	18.6
JSWm 2CX - 24 CL	1"	1"	535	255	530	20.9
JSWm 2BX - 24 CL	1"	1"	535	255	530	21.6
JSWm 2AX - 24 CL	1"	1"	535	255	530	21.9
PLURIJETm 3/80X - 24 CL	1"	1"	535	255	560	15.7
PLURIJETm 4/80X - 24 CL	1"	1"	535	255	560	16.7
PLURIJETm 3/100X - 24 CL	1"	1"	535	255	560	16.3
PLURIJETm 4/100X - 24 CL	1"	1"	535	255	560	19.0



MODEL	PORTS		DIMENSIONS mm			WEIGHT
	DN1	DN2	l	a	h	kg
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

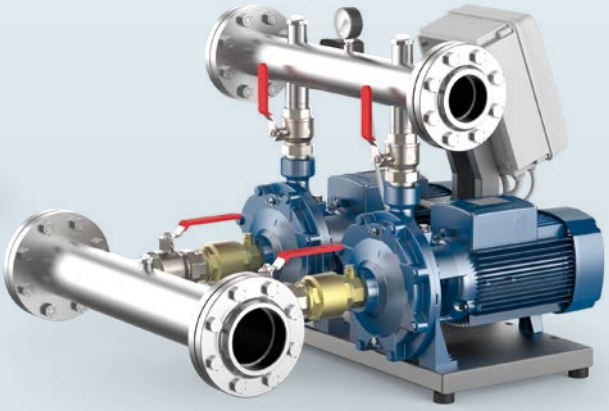
COMBIPRESS "CB2"

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

CE

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

EAC

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	1~	3~	POWER (P2) kW	HP	▲	Q* m³/h	0	1.2	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6
						l/min	**0**	**20**	**40**	**80**	**120**	**160**	**200**	**240**	**280**	**320**	**360**
CB2 - MK 3/3	●	●	2 x 0.75	2x1			52	50	49	45	38	28					
CB2 - MK 3/4	●	●	2x1.1	2x1.5	**IE3**		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			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	**IE3**	**H** metres	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			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	**IE3**		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 (P2) kW	HP	▲	Q* m³/h	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
						l/min	**0**	**10**	**20**	**40**	**60**	**80**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**
CB2 - 4CP 100	●		2 x 0.75	2x1	**IE3**	**H** metres	50	50	49	47	45	42	37	34	30.5	26.5	22	17	11	5

MODEL	1~	3~	POWER (P2) kW	HP	▲	Q* m³/h	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
						l/min	**0**	**10**	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**
CB2 - 3CRm80	●		2x0.45	2x0.60	IE2		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		**H** metres	67	66	64	59	53	45.5	37.5	29.5	20.5	12					
CB2 - 4CRm100	●		2x0.75	2x1	**IE3**		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 (P2) kW	HP	▲	Q* m³/h	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
						l/min	**0**	**40**	**80**	**120**	**160**	**200**	**220**	**240**	**280**	**320**	**360**	**400**	**500**	**600**	**700**	**800**
CB2 - 2CP 25/130	●	●	2x0.75	2x1			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	**IE3**		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			70	–	66.5	65	63	60.5	59	58	55	52	49.5	46.5	36			
CB2 - 2CP 32/200B		●	2x4	2x5.5		**H** metres	85	–	81	79	77	75	74	72	69	66	62	58	49			
CB2 - 2CP 32/210B		●	2x5.5	2x7.5	**IE3**		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			64	–	–	–	–	62	61.3	60.5	59	57.5	56	54.5	49	43	35	
CB2 - 2CP 40/180B		●	2x5.5	2x7.5	**IE3**		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

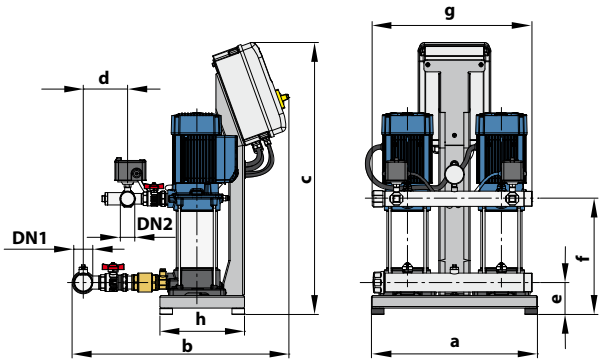
Tolerance of characteristic curves in compliance with EN ISO 9906 Grade 3B.

*** Maximum flow rate of the pressure boosting set with both pumps running**

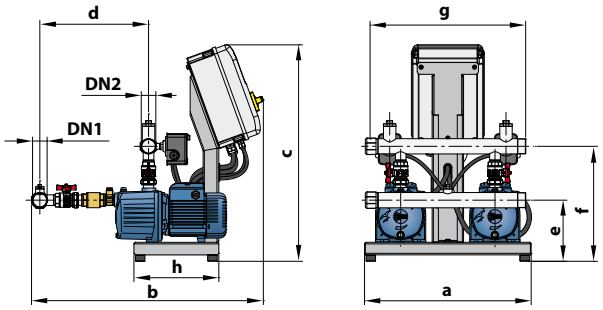
▲ Three-phase motor efficiency class (IEC 60034-30-1)

COMBIPRESS "CB2"

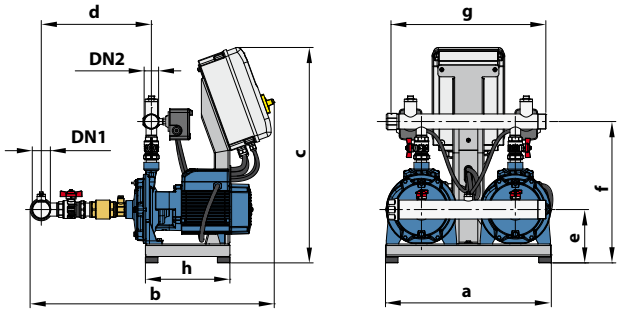
DIMENSIONS AND WEIGHT



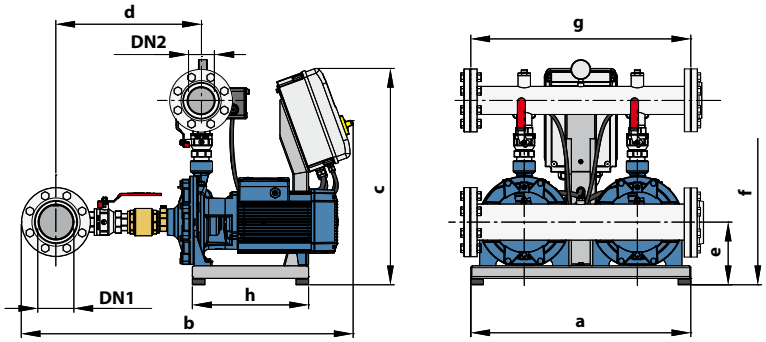
CB2 - MK



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								251			**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	**2"**	**1½"**	530	695	868	140	102	275	500	270	**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								261			**67.0**	**65.0**
–	CB2 - MK 8/5	**2½"**	**1½"**	530	742	868	178	102	288	500	270	–	**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	–				764		349					**39.8**	–
CB2 - 4CRm80	–	**1½"**	**1½"**									**41.8**	–
CB2 - 5CRm80	–			530	789	689	374	192	372	500	270	**46.6**	–
CB2 - 4CRm100	–	**2"**	**2"**		837		412					**52.9**	–
CB2 - 5CRm100	–											**53.7**	–
CB2 - 2CPm 25/130	CB2 - 2CP 25/130	**1½"**	**1½"**	530	746	688	343	152	394	500	270	**52.5**	**51.0**
CB2 - 2CPm 25/14B	CB2 - 2CP 25/14B				771			153	417			**70.5**	**70.0**
CB2 - 2CPm 25/16C	CB2 - 2CP 25/16C	**2"**	**1½"**	530		688	352			500	270	**70.5**	**70.0**
CB2 - 2CPm 25/16B	CB2 - 2CP 25/16B				780			170	452			**79.5**	**79.0**
–	CB2 - 2CP 25/16A											–	**82.0**
–	CB2 - 2CP 32/200C				982		450	192	535			–	**112.0**
–	CB2 - 2CP 32/200B	**3"**	**2"**	700		688				700	370	–	**118.0**
–	CB2 - 2CP 32/210B				987		454	199	565			–	**149.0**
–	CB2 - 2CP 32/210A											–	**156.0**
–	CB2 - 2CP 40/180C	**4"**	**3"**									–	**168.0**
–	CB2 - 2CP 40/180B			700	1056	688	463	199	587	700	370	–	**178.0**
–	CB2 - 2CP 40/180A	DN **100**	DN **80**									–	**188.0**

EASYPUMP

Pumps with electronic pressure regulator

Domestic use

MODEL	POWER (P2)	
Single-phase	kW	HP
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.

EASYPRESS®

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 **+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

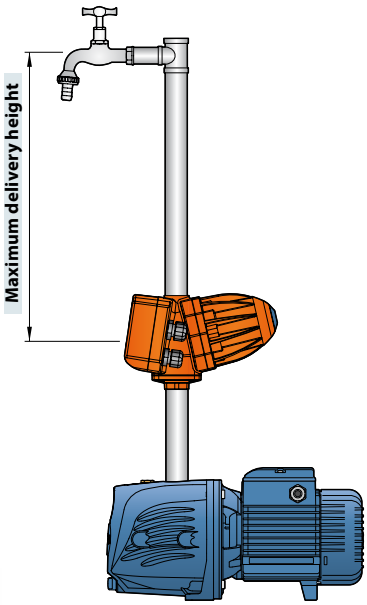
- EASYPRESS-1 version with restarting pressure **0.8 bar** 🟡
- EASYPRESS-2 version with restarting pressure **2.2 bar** 🔴
- Version with 1" NPT
- Version with cable and Schuko plug and socket

STARTING PRESSURE

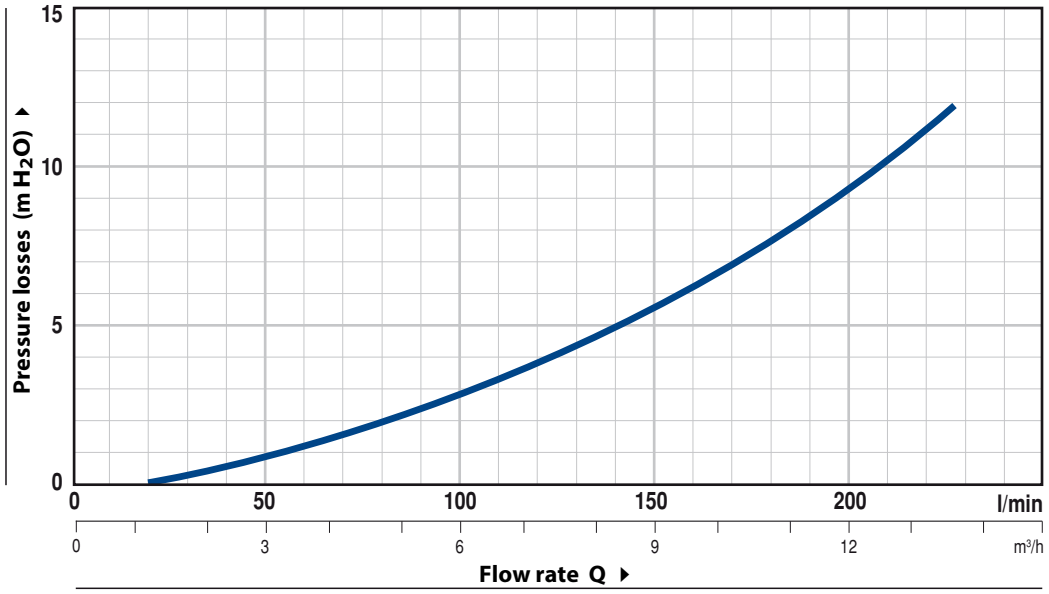
There are three different models available, each with a different starting pressure and easily identified by the coloured cap positioned at the rear of the EASYPRESS, for installations requiring delivery at various heights.

Maximum delivery height

2.2 bar version	🔴 =	**18 m**
1.5 bar version	🔵 =	**11 m**
0.8 bar version	🟡 =	**5 m**

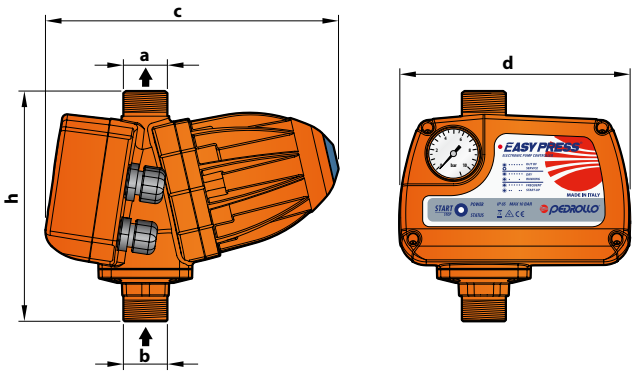


PRESSURE LOSSES



MODEL	POWER (P2)		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
Single-phase	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)

GSR

PALLETIZATION

MODEL	
Single-phase	n. EASYPRESS
EASYPRESS	**147**

EASYSMALL®

COMPACT

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 Single-phase	POWER (P2) kW	HP	Volt	Hz	Current
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 compatibiliy (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

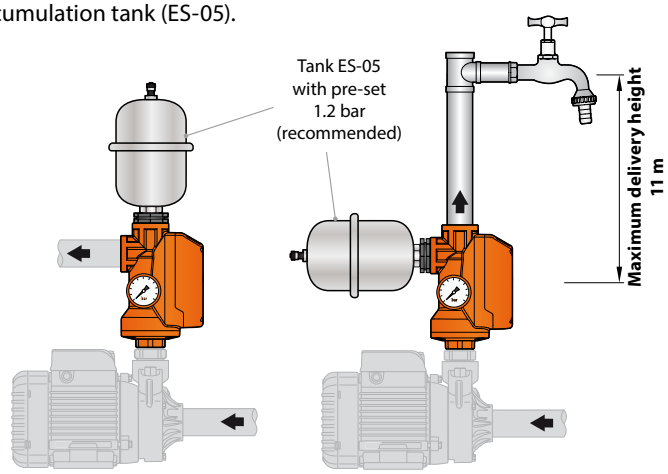
Flow and pressure sensing device for control and protection of single-phase pumps up to 2 HP (for domestic applications).
It starts the pump when there is a drop in system pressure (e.g. when opening a tap) and stops the pump when the flow drops below 2 l/min (tap closed).

PATENTS - TRADE MARKS - MODELS

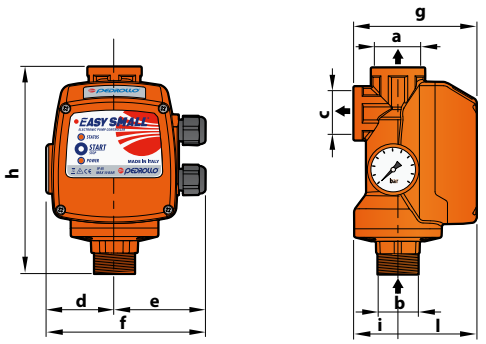
- Registered EU Design n. 001774928
- EASYSMALL® registered Trade Mark n. 0001511131

STANDARD INSTALLATION

In order to avoid frequent restarts we advise installing a small accumulation tank (ES-05).



DIMENSIONS AND WEIGHT



MODEL	PORTS a	b	c	DIMENSIONS mm d	e	f	g	h	i	l	kg
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)

ES-05 **GSR**

EASYPRO®

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 (P2) kW	HP	Volt	Hz	Current
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.**

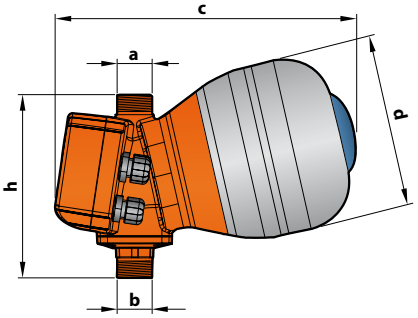
PUMP START PRESSURE

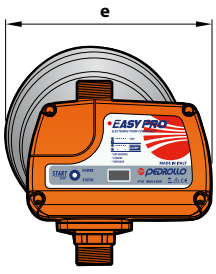
EASYPRO® enables you to select the restart pressure of the pump, between **1** and **5** bar.
The pressure is selected using the control button and following the instructions on the LCD display. One model covers a wide range of installation requirements.

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 a	b	DIMENSIONS mm c	d	e	h	kg
EASYPRO	**1"**	**1"**	304	162	193	174	**2.43**

ACCESSORIES

- **GSR** Special three-piece joint with an o-ring seal (1" M)

GSR

ACCESSORIES

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

KSP-24

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

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

- 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

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 refluent 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"**	½" x ¼" (male/female)
NA 1.25	50023/1	**1¼"** x **1¼"**	½" x ¼" (male/female)
NA 1.50	50023/2	**1½"** x **1½"**	½" x ¼" (male/female)
NA 2.00	50023/3	**2"** x **2"**	½" x ¼" (male/female)

- 3-way brass fittings for connections with air feeders (AIRFLO)

PSG

FSG

PRESSURE SWITCHES

MODEL	CODE	FITTING	STANDARD SETTING (*)
PSG-1	50018/8	**¼"** female	1.4 – 2.8 bar
PSG-1M	50018/8M	**¼"** male	1.4 – 2.8 bar
FSG 2	50018	**¼"** female	1.4 – 2.8 bar
FYG 22	50018/1	**¼"** female	5.4 – 7.0 bar
FYG 32	50018/2	**¼"** female	8 – 10.5 bar
PT/5 SK (Three-ph.)	50018/8T	**¼"** female	1.4 – 2.8 bar

- **PSG** Registered EU Design n. 002248955

(*) Adjustable

MC

MR

MCG

MRG

PRESSURE GAUGES

MODEL	CODE	FITTING	DIAMETER	SCALE
MC 6	50015/2	**¼"** - central	**50** mm	0 – 6 bar
MR 6	50015	**¼"** - radial	**63** mm	0 – 6 bar
MR 10	50015/0	**¼"** - radial	**63** mm	0 – 10 bar

GLYCERIN FILLED PRESSURE GAUGES

MODEL	CODE	FITTING	DIAMETER	SCALE
MCG 6	50015/2G	**¼"** - central	**50** mm	0 – 6 bar
MRG 6	50015G	**¼"** - radial	**63** mm	0 – 6 bar
MRG 10	50015/0G	**¼"** - radial	**63** mm	0 – 10 bar

ACCESSORIES

R 5

R 4

R 3

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 ½" G and ¼" G connections
- **R 5**: five-way brass fittings with 1" G and ¼" 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	¾"	**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	**1¼"**
FASTFIT 1.5	5027150	Ø 38 mm	**1½"**
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	**¾"**
RP 1	50211	Ø 30 mm	**1"**
RP 1.25	50212	Ø 35 mm	**1¼"**
RP 1.5	50213	Ø 40 mm	**1½"**
RP 2	50214	Ø 50 mm	**2"**
RPG 0.75	50220	Ø 25 mm	**¾"**
RPG 1	50221	Ø 30 mm	**1"**
RPG 1.25	50222	Ø 35 mm	**1¼"**
RPG 1.5	50223	Ø 40 mm	**1½"**
RPG 2	50224	Ø 50 mm	**2"**

- Nylon fittings

VF - *FOOT VALVES*

MODEL	CODE	FITTING
VF 0.5	50100	**½"**
VF 0.75	50101	**¾"**
VF 1	50102	**1"**
VF 1.25	50103	**1¼"**
VF 1.5	50104	**1½"**
VF 2	50105	**2"**

- Brass foot valves, stainless steel suction filter

VR - *CHECK VALVES*

MODEL	CODE	FITTINGS
VR 0.5	50110	**½"**
VR 0.75	50111	**¾"**
VR 1	50112	**1"**
VR 1.25	50113	**1¼"**
VR 1.5	50114	**1½"**
VR 2	50115	**2"**

- Brass check valves

VR-FT - *BALL CHECK VALVES*

MODEL	CODE	FITTINGS
VR-FT 1.25	501201	**1¼"**
VR-FT 1.5	501202	**1½"**
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) **2½"**
VR-FF/DN 80 - FLANGED	501212	**DN 65** (PN16) **2½"**
VR-FF/DN 100 - FLANGED	501214	**DN 65** (PN16) **2½"**

- 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 mm²	1.9 kg
CSL-200	117FE00C02	**200 m**	1.5 mm²	3.8 kg
CSL-500	117FE00C05	**500 m**	1.5 mm²	9.5 kg
CSL-1500	117FE00C15	**1500 m**	1.5 mm²	28.5 kg

POWER CABLES FOR SUBMERSIBLE PUMPS

MODEL	CODE	MODEL	WEIGHT PER METRE
4 x 1 mm²	117G100AN	H07 RN-F	0.165 kg
4 x 1.5 mm²	117G150AN	H07 RN-F	0.205 kg
4 x 2.5 mm²	117G200AN	H07 RN-F	0.290 kg
4 x 4 mm²	117G250AN	H07 RN-F	0.420 kg
4 x 6 mm²	117G300AN	H07 RN-F	0.505 kg
4 x 10 mm²	117G350AN	H07 RN-F	1.030 kg
4 x 16 mm²	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** mm²	150 cm	SCHUKO
H07 RN-F (NEOPRENE)	117GLA21G	**3 x 1** mm²	150 cm	SCHUKO

POWER CABLES FOR PHOTOVOLTAIC INSTALLATIONS

MODEL FG21M21	CODE	WEIGHT PER METRE
1 x 4 mm² red	117SF104R	0.060 kg
1 x 4 mm² black	117SF104N	0.060 kg
1 x 6 mm² red	117SF106R	0.080 kg
1 x 6 mm² black	117SF106N	0.080 kg

F - *FILTER HOLDERS WITH PLASTIC HEAD*

MODEL	CODE	THREADED FITTINGS	CARTRIDGE HEIGHT
MEDIUM - F 0.75	504F075M	**¾"**	5"
MEDIUM - F 1	504F100M	**1"**	5"
JUNIOR - F 0.75	504F075J	**¾"**	7"
JUNIOR - F 1	504F100J	**1"**	7"
SENIOR - F 0.75	504F075S	**¾"**	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**

ACCESSORIES

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

POWER CABLE RESIN JOINT KIT

(RECOMMENDED)

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

POWER CABLE HEAT-SHRINK JOINT KIT

(ECONOMIC)

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

ACCESSORIES

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 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** µF	450 VL	50 – 60 Hz
10 FC *	111010FC	**10** µF	450 VL	50 – 60 Hz
12 F	111012F	**12.5** µF	450 VL	50 – 60 Hz
14 F	111014F	**14** µF	450 VL	50 – 60 Hz
16 F - 500	111016F5	**16** µF	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** µF	500 VL	50 – 60 Hz
20 F - 450	111020F		450 VL	50 – 60 Hz
25 F - 450	111025F	**25** µF	450 VL	50 – 60 Hz
25 F - 250	112025F		250 VL	50 – 60 Hz
30 F - 250	112030F	**30** µF	250 VL	50 – 60 Hz
31 F	111031F	**31.5** µF	450 VL	50 – 60 Hz
35 F	111035F	**35** µF	450 VL	50 – 60 Hz
35 FC *	111035F1	**35** µF	450 VL	50 – 60 Hz
40 F	111040F	**40** µF	450 VL	50 – 60 Hz
45 F	111045F	**45** µF	450 VL	50 – 60 Hz
50 F	111050F	**50** µF	450 VL	50 – 60 Hz
60 F - 450	111060F	**60** µF	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** µF	450 VL	50 – 60 Hz
80 F	112080F	**80** µF	250 VL	50 – 60 Hz
90 F	111090F	**90** µF	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** µF	450 VL	50 – 60 Hz
12 C	1110122F	**12.5** µF	450 VL	50 – 60 Hz
16 C - 500	1110162F5	**16** µF	500 VL	50 – 60 Hz
16 C - 450	1110162F		450 VL	50 – 60 Hz
20 C - 500	1110202F5	**20** µF	500 VL	50 – 60 Hz
20 C - 450	1110202F		450 VL	50 – 60 Hz
25 C - 450	1110252F	**25** µF	450 VL	50 – 60 Hz
30 C - 250	1120302F	**30** µF	250 VL	50 – 60 Hz
31 C - 500	1110312F5	**31.5** µF	500 VL	50 – 60 Hz
31 C - 450	1110312F		450 VL	50 – 60 Hz
35 C - 500	1110352F5	**35** µF	500 VL	50 – 60 Hz
35 C - 450	1110352F		450 VL	50 – 60 Hz
35 CC * - 450	1110352F1	**35** µF	450 VL	50 – 60 Hz
40 C	1110402F	**40** µF	450 VL	50 – 60 Hz
50 C	1110502F	**50** µF	450 VL	50 – 60 Hz
60 C	1120602F	**60** µF	250 VL	50 – 60 Hz
70 C - 450	1110702F	**70** µF	450 VL	50 – 60 Hz
70 C - 250	1120702F5	**70** µF	250 VL	50 – 60 Hz
75 C	1110752F	**75** µF	450 VL	50 – 60 Hz
80 C	1120802F	**80** µF	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 µF**	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 (P2)		CAPACITOR	RATED CURRENT
Single-phase		kW	HP	CAPACITANCE	A
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 (P2)		CAPACITOR	RATED CURRENT
Single-phase		kW	HP	CAPACITANCE	A
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 (P2)		RATED CURRENT
Three-phase		kW	HP	A
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 (P2)		CAPACITOR	RATED CURRENT
Single-phase		kW	HP	CAPACITANCE	A
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 (P2)		RATED CURRENT
Three-phase		kW	HP	A
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 φ 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 (P2)		CAPACITOR	RATED CURRENT
Single-phase		kW	HP	CAPACITANCE	A
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 (P2)		RATED CURRENT
Three-phase		kW	HP	A
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 (P2)		cable section in mm²						
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 (P2)		cable section in mm²									
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

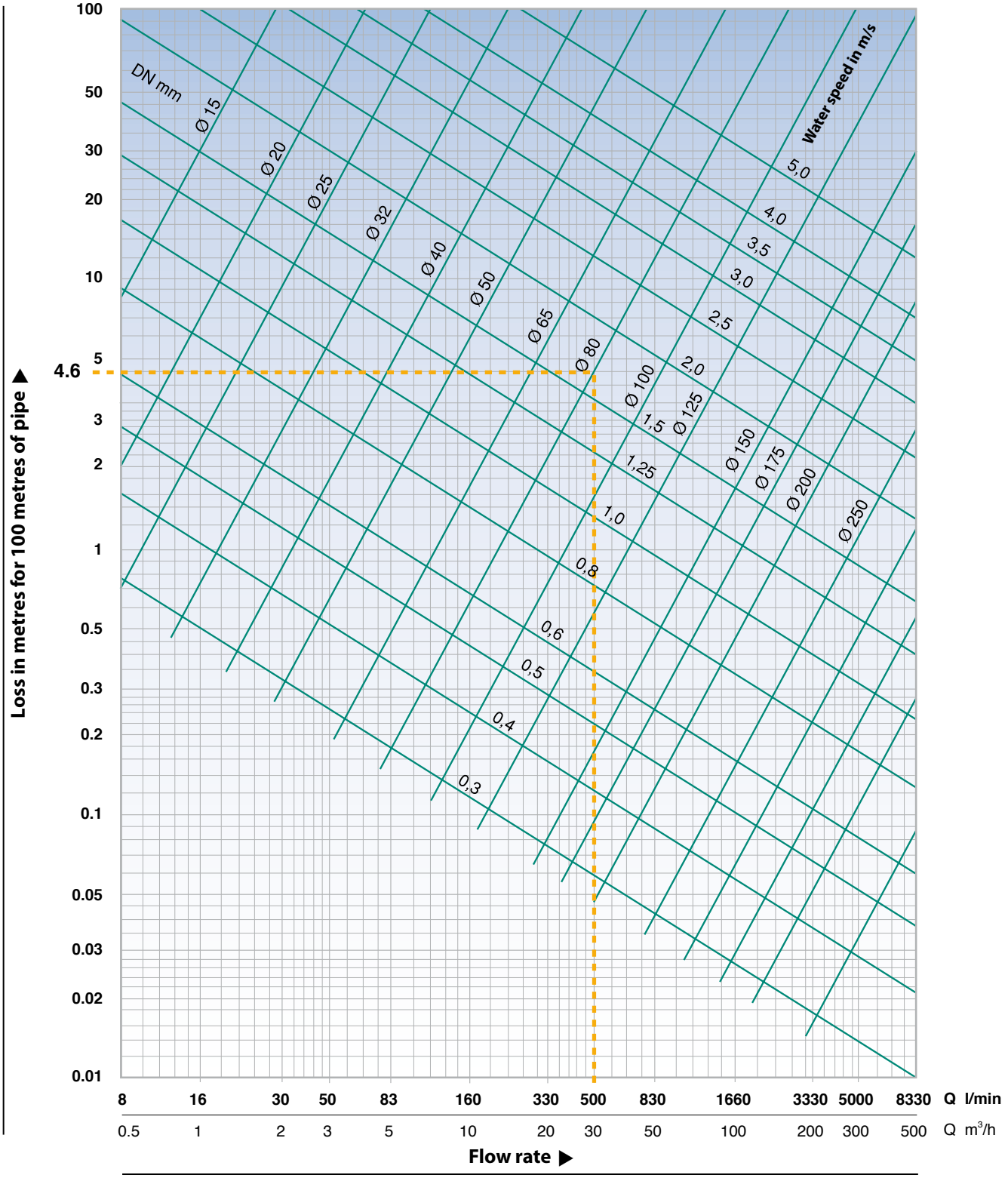
THREE-PHASE 400 V - 50 Hz

MOTOR POWER (P2)		cable section in mm²									
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 (hv) 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 Ø 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.
hv = 4,6 m for every 100 m of pipe.
hv1 = 4,6 x 0.8 = 3.68 m/100 (steel pipe).
Considering the real length of the pipe:
hv2 = 3,68 x 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	1×10^6	220	264.2	35.3147
0.001	1	1000	0.22	0.2642	0.0353
1×10^{-6}	0.001	1	2.2×10^{-4}	2.642×10^{-4}	3.53×10^{-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	9.84×10^{-4}	0.0011
0.454	1	0.0089	4.54×10^{-4}	4.46×10^{-4}	5.0×10^{-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 l/s	litres minute l/min	cubic metres hour m^3/h	cubic feet hour ft^3/h	cubic feet minute ft^3/min	Imp. gal. minute Imp. gal/min	US gal. minute US gal/min	US barrel day (crude oil) US barrel/g
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_20	metres of water m H_20	millimetre mercury mm Hg	inch mercury In Hg
1	0.001	1×10^{-5}	1.02×10^{-5}	1.45×10^{-4}	3.35×10^{-4}	1.02×10^{-4}	0.0075	2.95×10^{-4}
1000	1	0.01	1.02×10^{-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

The features and specifications herein stated are in no way binding for the manufacturer. The manufacturer is free to modify the product at any time without notice.

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the spring of life

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