

## Centrifugal pumps

High flow rates



### PERFORMANCE RANGE

- Flow rate up to **2200 l/min** (132 m<sup>3</sup>/h)
- Head up to **24.5 m**

### APPLICATION LIMITS

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

### CONSTRUCTION AND SAFETY STANDARDS

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



REGULATION (EU) N. 547/2012

### CERTIFICATIONS



### 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. The pump should be installed in an enclosed environment, or at least sheltered from inclement weather.

### OPTIONALS AVAILABLE ON REQUEST

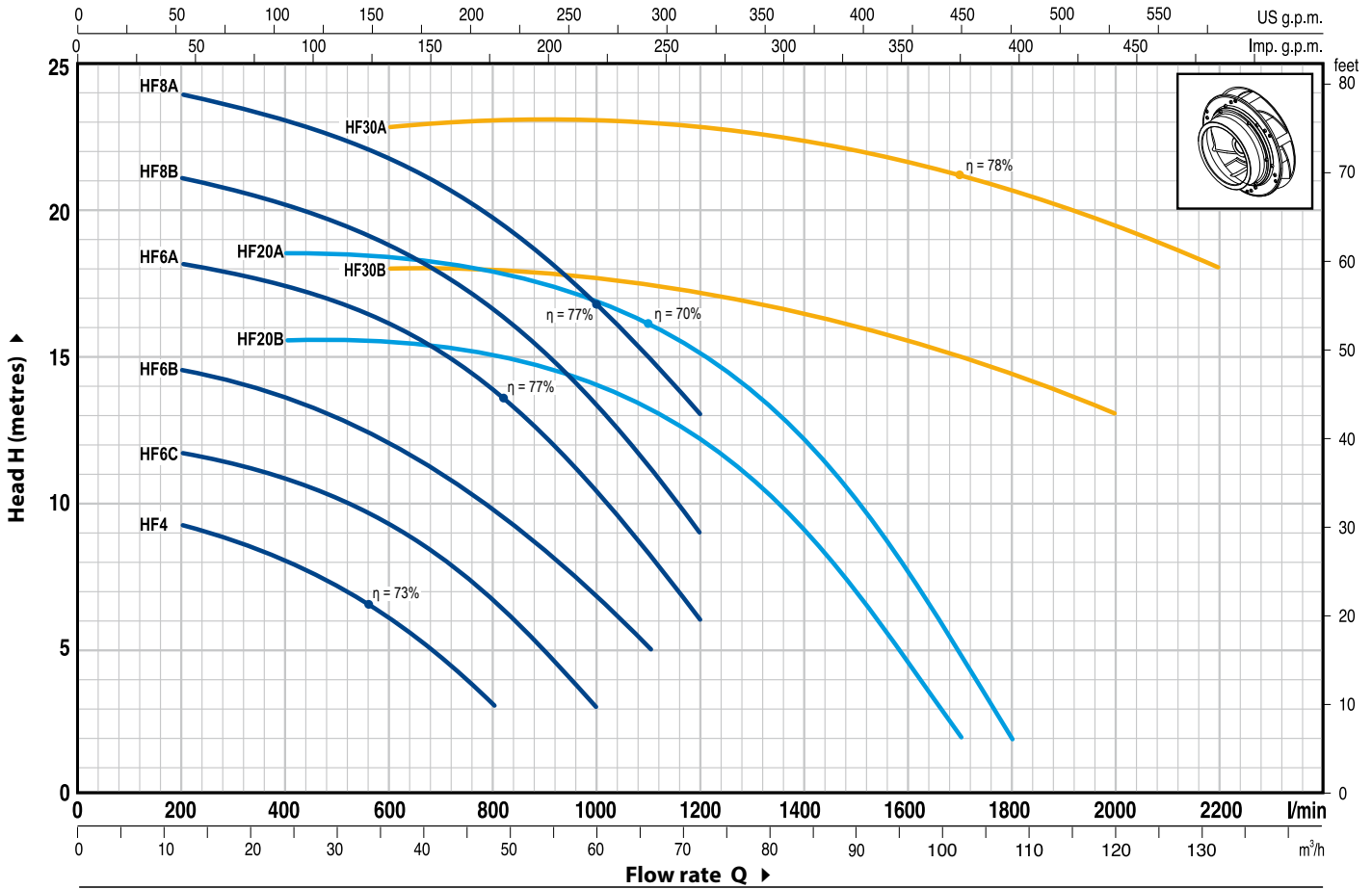
- Special mechanical seal
- Other voltages or 60 Hz frequency

### GUARANTEE

2 years subject to terms and conditions

**CHARACTERISTIC CURVES AND PERFORMANCE DATA**

**50 Hz n= 2900 1/min HS= 0 m**

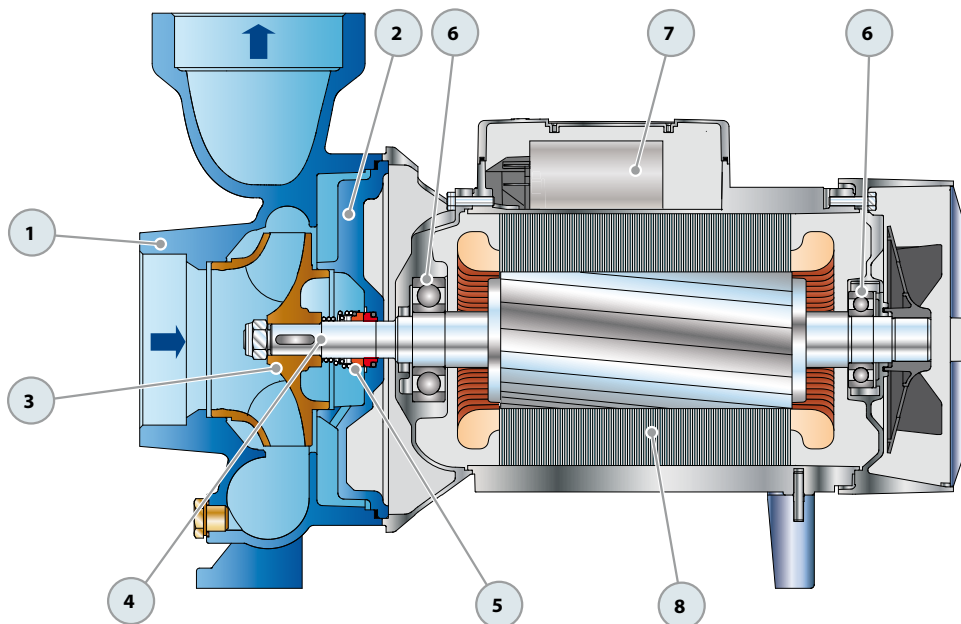


MODEL		POWER		Q	Flow rate (m³/h)																			
Single-phase	Three-phase	kW	HP		0	12	18	24	30	36	42	48	54	60	66	72	84	96	102	108	120	132		
HFm 4	HF 4	0.75	1	0	10	9.3	8.7	8	7	6	4.7	3												
HFm 6C	HF 6C	1.1	1.5	0	11.9	11.7	11.3	10.7	10.2	9.2	8	6.7	5	3										
HFm 6B	HF 6B	1.5	2	0	14.7	14.5	14	13.5	12.8	12	11	9.7	8.2	6.7	5									
-	HF 6A	2.2	3	0	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	0	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	0	24.5	24	23.5	23	22.5	21.8	20.8	19.5	18.3	16.8	15	13								
-	HF 20B	3	4	0	16	-	-	15.5	15.4	15.3	15.2	15	14.5	14	13	12	9	4.8	2					
-	HF 20A	4	5.5	0	19	-	-	18.5	18.4	18.3	18.2	18	17.5	17	16.2	15.2	12	7.8	5	2				
-	HF 30B	5.5	7.5	0	18	-	-	-	-	18	18	18	18	18	17.5	17	16.5	15.5	15	14.5	13			
-	HF 30A	7.5	10	0	23	-	-	-	-	23	23	23	23	23	23	22.5	22.5	22.5	22	21.5	21	19.5	18	

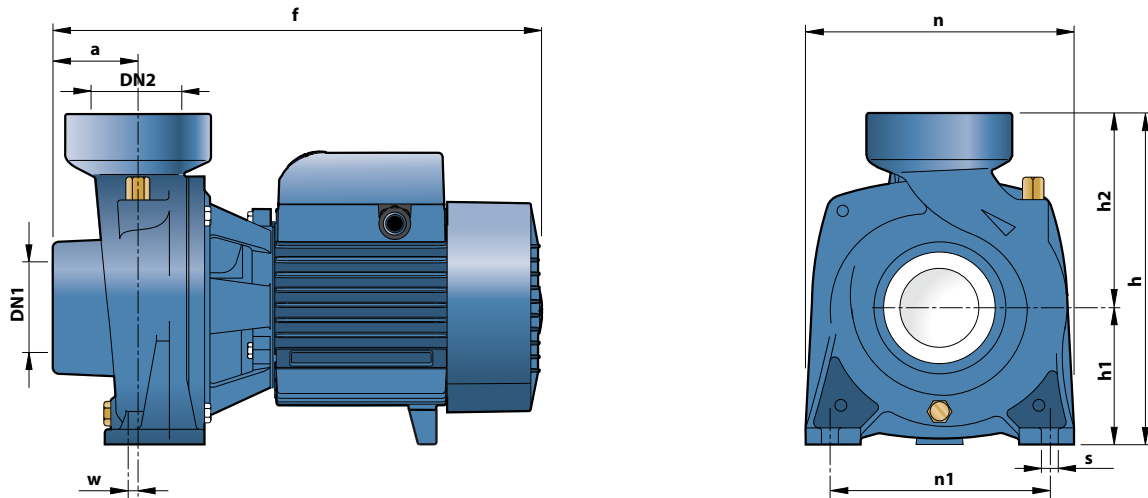
Q = Flow rate H = Total manometric head HS = Suction height

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

POS.	COMPONENT	CONSTRUCTION CHARACTERISTICS					
1	<b>PUMP BODY</b>	Cast iron, complete with threaded ports in compliance with ISO 228/1					
2	<b>BODY BACKPLATE</b>	Cast iron (stainless steel AISI 304 for HF 4)					
3	<b>IMPELLER</b>	Brass for HF 4, HF 6, HF 8, HF 20 Cast iron for HF 30					
4	<b>MOTOR SHAFT</b>	Stainless steel EN 10088-3 - 1.4104					
5	<b>MECHANICAL SEAL</b>	<i>Pump</i>	<i>Seal</i>	<i>Shaft</i>	<i>Materials</i>		
		<i>Model</i>	<i>Model</i>	<i>Diameter</i>	<i>Stationary ring</i>	<i>Rotational ring</i>	<i>Elastomer</i>
		<b>HF 4</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR
		<b>HF 6</b>	<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR
		<b>HF 8-20</b>	<b>FN-20</b>	<b>Ø 20 mm</b>	Graphite	Ceramic	NBR
		<b>HF 30</b>	<b>FN-24</b>	<b>Ø 24 mm</b>	Graphite	Ceramic	NBR
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		<b>HF 4</b>	<b>6203 ZZ / 6203 ZZ</b>				
		<b>HF 6</b>	<b>6304 ZZ / 6204 ZZ</b>				
		<b>HF 8B-20B</b>	<b>6206 ZZ - C3 / 6205 ZZ</b>				
		<b>HF 8A-20A</b>	<b>6306 ZZ - C3 / 6206 ZZ - C3</b>				
		<b>HF 30</b>	<b>6307 ZZ - C3 / 6206 ZZ - C3</b>				
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>				
		<i>Single-phase</i>	<i>(230 V or 240 V)</i>		<i>(110 V)</i>		
		<b>HFm 4</b>	<b>20 µF 450 VL</b>	<b>60 µF 300 VL</b>			
		<b>HFm 6C</b>	<b>31.5 µF 450 VL</b>	<b>60 µF 250 VL</b>			
		<b>HFm 6B</b>	<b>45 µF 450 VL</b>	<b>80 µF 250 VL</b>			
8	<b>ELECTRIC MOTOR</b>	<b>HFm:</b> single-phase 230 V - 50 Hz with thermal overload protector built-in to the winding. <b>HF:</b> three-phase 230/400 V - 50 Hz up to 4 kW, 400/690 V - 50 Hz from 5.5 to 7.5 kW <b>→ Pumps fitted with the three-phase motor option offer IE2 (IEC 60034-30) class high performance</b> – Insulation: F class. – Protection: IP X4.					



### DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	n	n1	w	s	1~	3~
HFm 4	HF 4	2½"	2½"	47	317	240	97	143	198	155	-68	10	14.5	13.2
HFm 6C	HF 6C	3"	3"	68	411	312	120	192	240	190	6	12	25.5	24.2
HFm 6B	HF 6B												26.5	25.5
-	HF 6A	4"	4"	80	450	312	132	180	245	190	30	14	-	26.7
-	HF 8B												-	35.0
-	HF 8A												-	40.0
-	HF 20B												-	35.0
-	HF 20A												-	40.0
-	HF 30B	82	585	370	160	210	292	212	-	-	-	-	-	60.9
-	HF 30A												-	65.2

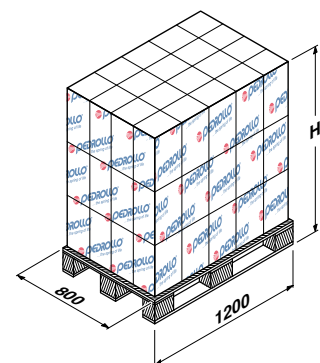
### ABSORPTION

MODEL	VOLTAGE (single-phase)		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
HFm 4	5.9 A	5.3 A	11.8 A
HFm 6C	8.8 A	8.0 A	17.6 A
HFm 6B	10.8 A	9.8 A	21.6 A

MODEL	VOLTAGE (three-phase)					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
HF 4	4.3 A	2.5 A	1.4 A	4.0 A	2.3 A	1.3 A
HF 6C	6.2 A	3.6 A	2.1 A	6.0 A	3.5 A	2.0 A
HF 6B	8.0 A	4.6 A	2.7 A	7.4 A	4.3 A	2.5 A
HF 6A	9.0 A	5.2 A	3.0 A	8.3 A	4.8 A	2.8 A
HF 8B	11.8 A	6.8 A	3.9 A	12.1 A	7.0 A	4.0 A
HF 8A	15.8 A	9.1 A	5.3 A	15.2 A	8.8 A	5.1 A
HF 20B	13.0 A	7.5 A	4.3 A	13.4 A	7.7 A	4.4 A
HF 20A	15.2 A	8.8 A	5.1 A	15.3 A	8.8 A	5.1 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

### PALLETIZATION

MODEL		GROUPAGE				CONTAINER			
Single-phase	Three-phase	n° pumps	H (mm)	kg		n° pumps	H (mm)	kg	
				1~	3~			1~	3~
HFm 4	HF 4	60	1540	890	830	84	2100	1240	1150
HFm 6C	HF 6C	36	1480	940	890	54	2150	1400	1330
HFm 6B	HF 6B	36	1480	970	940	54	2150	1450	1400
-	HF 6A	36	1480	-	980	54	2150	-	1460
-	HF 8B	18	1430	-	650	24	1860	-	860
-	HF 8A	18	1430	-	740	24	1860	-	980
-	HF 20B	18	1430	-	650	24	1860	-	860
-	HF 20A	18	1430	-	740	24	1860	-	980
-	HF 30B	12	1570	-	750	16	2040	-	990
-	HF 30A	12	1570	-	800	16	2040	-	1060



## **REGULATION (EU) N. 547/2012**

- Minimum efficiency index  $MEI \geq 0,10$  for water pumps according to the (EU) Regulation current from the 1th of January 2013.
- The benchmark for most efficient water pumps is  $MEI \geq 0,70$ .
- The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- Information on benchmark efficiency is available [www.europump.org/efficiencycharts](http://www.europump.org/efficiencycharts).