

## Centrifugal pumps

High flow

 Clean water

 Agricultural use

 Industrial use



### 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**

### 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 sheltered from inclement weather.

### OPTIONS AVAILABLE ON REQUEST

- Special mechanical seal
- Other voltages or 60 Hz frequency

### 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

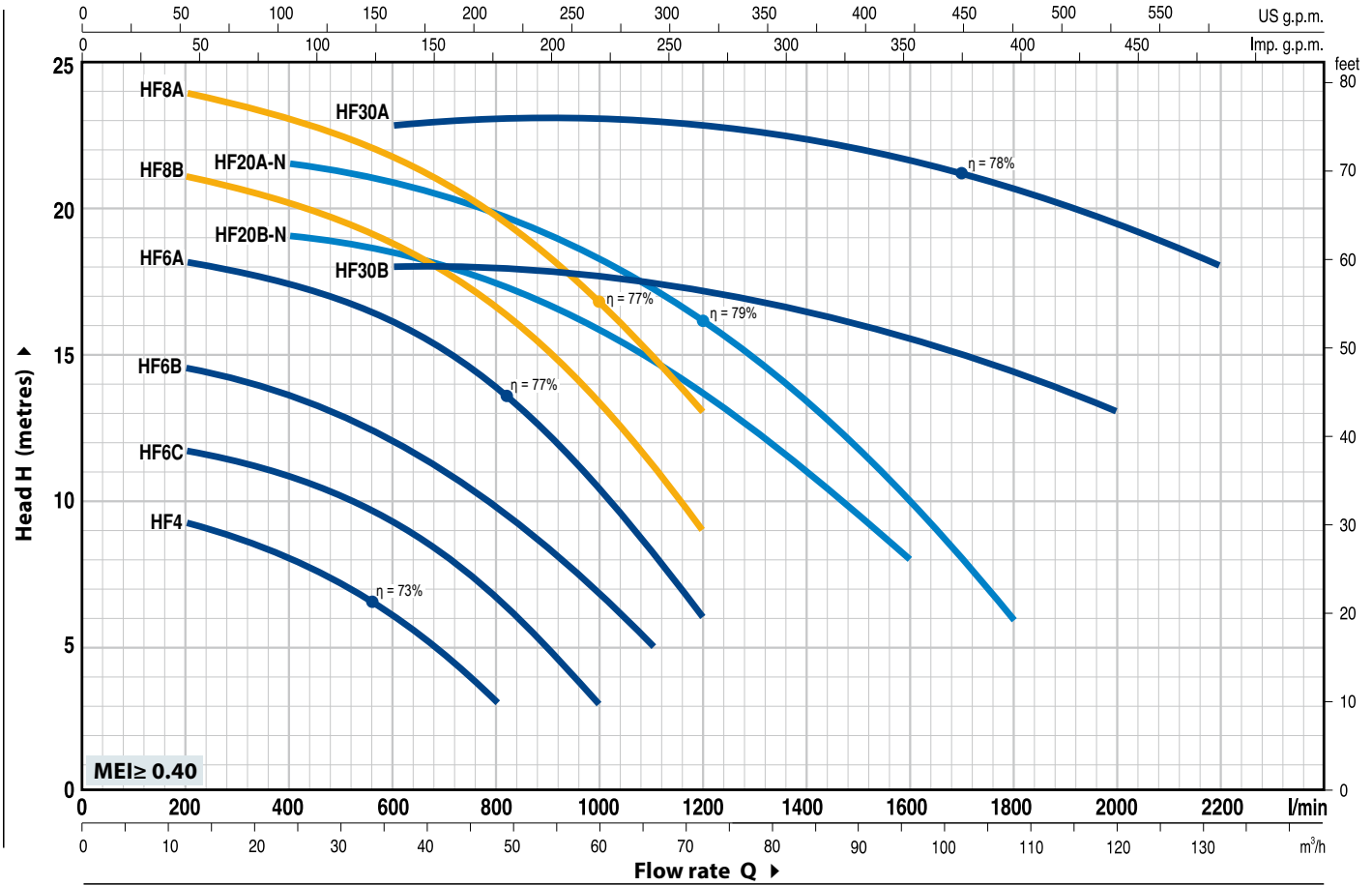
### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY  
ISO 14001: ENVIRONMENT AND SAFETY



### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 rpm HS= 0 m



MODEL		POWER (P <sub>2</sub> )		▲	Q	Flow rate (l/min)																		
Single-ph.	Three-ph.	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	IE2	H metres	10	9.3	8.7	8	7	6	4.7	3											
HFm 6C	HF 6C	1.1	1.5	IE2		11.9	11.7	11.3	10.7	10.2	9.2	8	6.7	5	3									
HFm 6B	HF 6B	1.5	2	IE3		14.7	14.5	14	13.5	12.8	12	11	9.7	8.2	6.7	5								
-	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	IE3		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-N	3	4	IE3		19	-	-	19	18.8	18.5	18	17.5	16.8	16	14.5	13.5	11	8					
-	HF 20A-N	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	IE3		18	-	-	-	-	18	18	18	18	18	17.5	17	16.5	15.5	15	14.5	13		
-	HF 30A	7.5	10			23	-	-	-	-	23	23	23	23	23	23	22.5	22.5	22.5	22	21.5	21	19.5	18

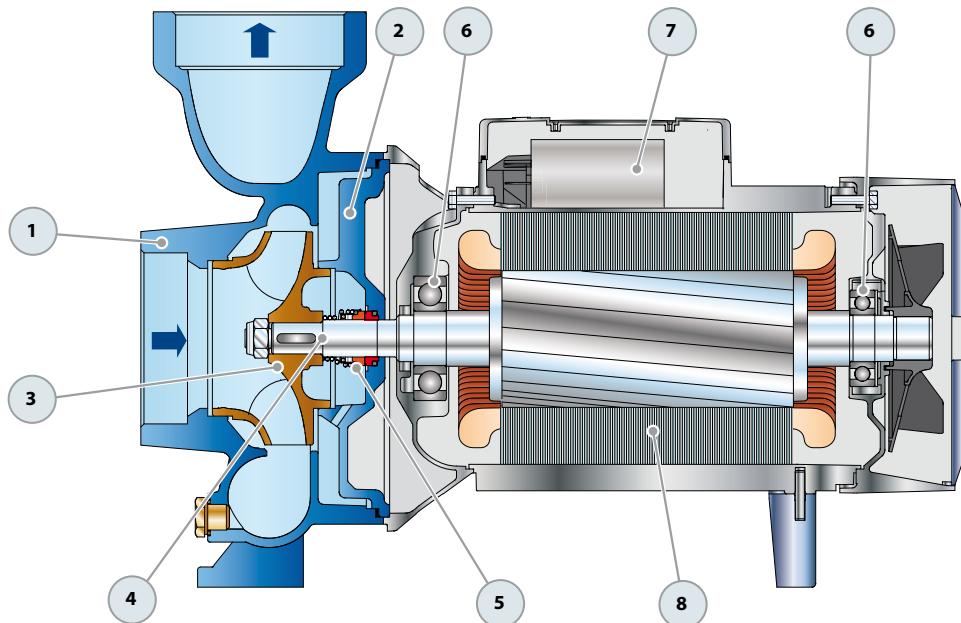
Q = Flow rate H = Total manometric head HS = Suction height

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

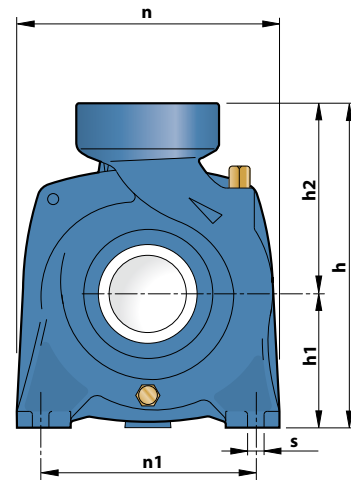
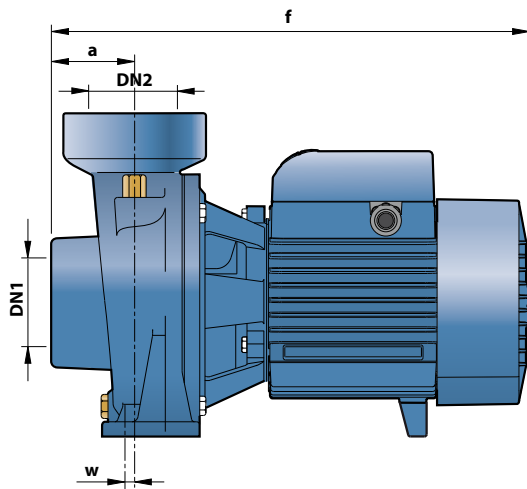
▲ Performance class of the three-phase motor (IEC-60034-30)

## 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 Cast iron for HF 20, 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>
		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	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		HF 4	6203 ZZ / 6203 ZZ				
		HF 6	6304 ZZ / 6204 ZZ				
		HF 8B, HF 20B-N	6206 ZZ - C3 / 6205 ZZ				
		HF 8A, HF 20A-N	6306 ZZ - C3 / 6206 ZZ - C3				
HF 30	6307 ZZ - C3 / 6206 ZZ - C3						
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>			
		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			
8	<b>ELECTRIC MOTOR</b>	<p>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.</p> <p>➔ <b>The three-phase pumps are fitted with high performance motors up to P2=1.1kW in class IE2 and from P2=1.5kW in class IE3 (IEC 60034-30)</b></p> <ul style="list-style-type: none"> <li>- Insulation: class F</li> <li>- Protection: IP X4</li> </ul>					



## DIMENSIONS AND WEIGHT



MODEL		PORTS		DIMENSIONS mm									kg	
Single-phase	Three-phase	DN1	DN2	a	f	h	h1	h2	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	445	312	132	180	245	190	30	14	-	26.7
-	HF 8B												-	35.0
-	HF 8A												-	40.0
-	HF 20B-N												-	36.0
-	HF 20A-N												-	41.0
-	HF 30B												-	60.9
-	HF 30A	82	585	370	160	210	292	212	-	65.2				

## ABSORPTION

MODEL	VOLTAGE		
	230 V	240 V	110 V
Single-phase	230 V	240 V	110 V
HFm 4	5.9 A	5.3 A	11.8 A
HFm 6C	8.8 A	8.0 A	17.6 A
HFm 6B	10.8 A	9.8 A	21.0 A

MODEL	VOLTAGE					
	230 V	400 V	690 V	240 V	415 V	720 V
Three-phase	230 V	400 V	690 V	240 V	415 V	720 V
HF 4	4.3 A	2.5 A	1.4 A	4.0 A	2.3 A	1.3 A
HF 6C	6.2 A	3.6 A	2.1 A	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	12.1 A	7.0 A	4.1 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-N	12.1 A	7.0 A	4.1 A	11.8 A	6.8 A	3.9 A
HF 20A-N	15.8 A	9.1 A	5.3 A	15.2 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