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

CE

EU REGULATION N. 547/2012

CERTIFICATIONS

Company with management system certified DNV
ISO 9001: QUALITY

INSTALLATION AND USE

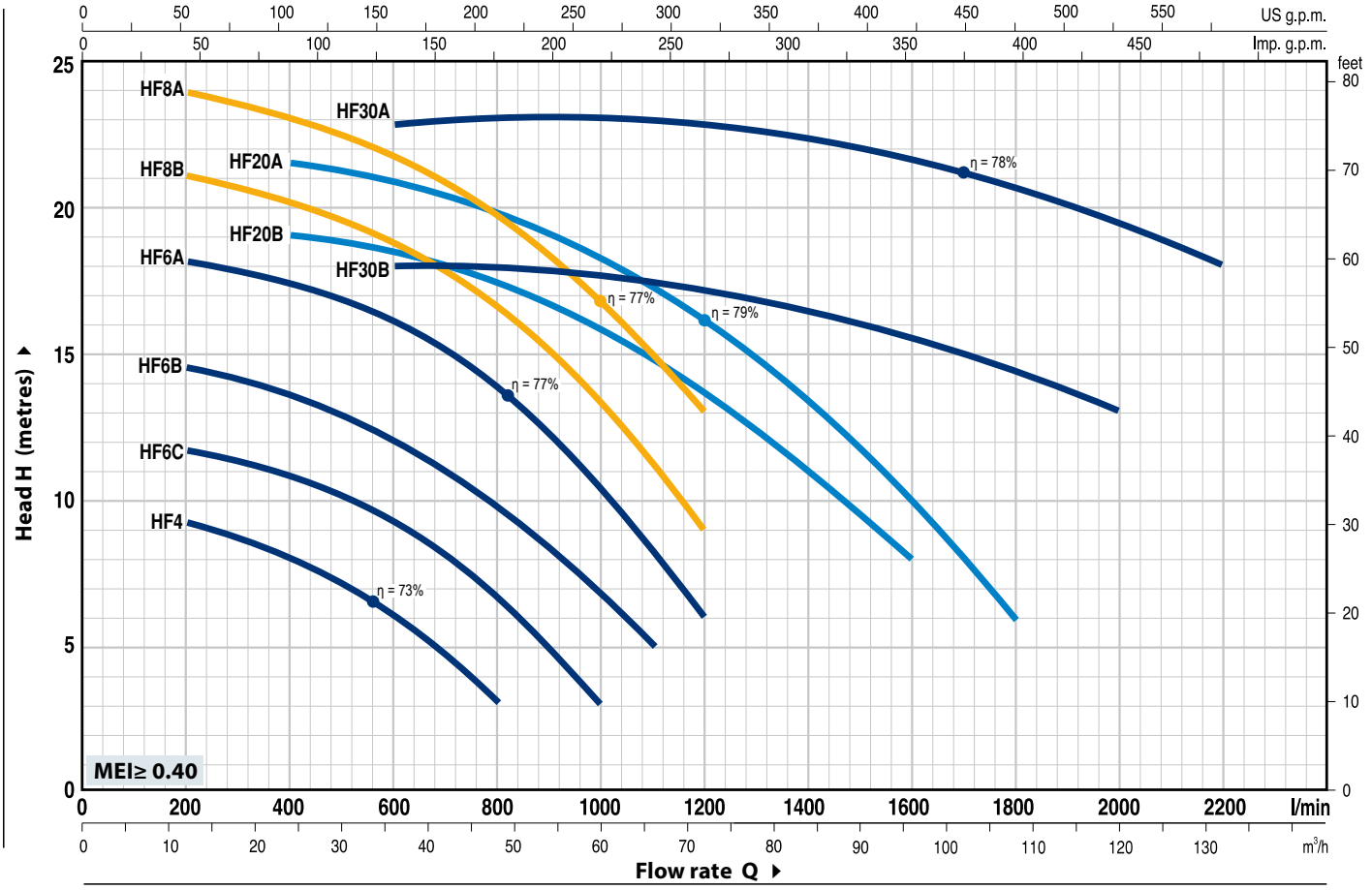
Suitable for use in civil and agricultural applications. The high efficiency and continuous duty capabilities makes these pumps ideal for use in activities such as flood and spray irrigation, drawing water from lakes, rivers and wells, or for any number of different industrial applications where the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

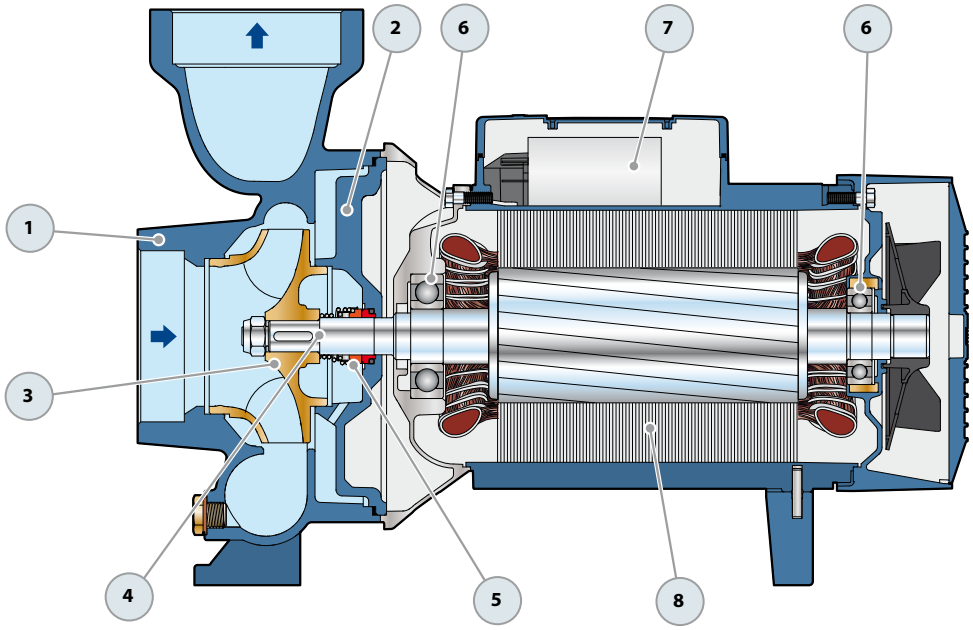
Pump	*Capacitance*	
Single-phase	*(230 V or 240 V)*	*(110 V)*
HFm 4	**20** µF - 450 VL	**60** µF - 300 VL
HFm 6C	**31.5** µF - 450 VL	**60** µF - 250 VL
HFm 6B	**45** µF - 450 VL	**80** µF - 250 VL
HFm 6A	**50** µF - 450 VL	–

8 ELECTRIC MOTOR

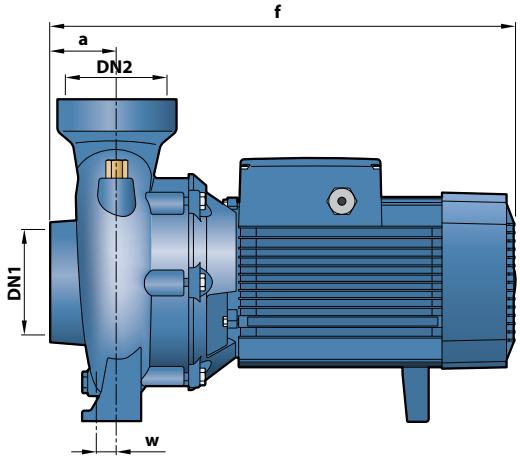
HFm: single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding.
HF: three-phase 230/400 V - 50 Hz up to 4 kW
400/690 V - 50 Hz from 5.5 to 7.5 kW.

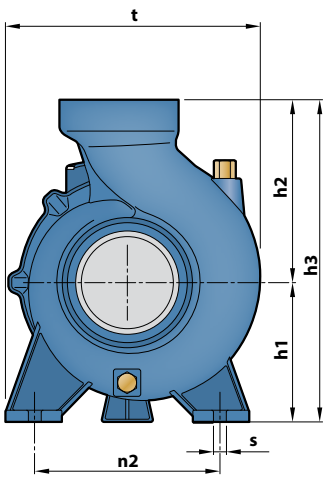
➠ **The three-phase pump is fitted with a high performance motor in class IE3 (IEC 60034-30-1)**

– 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