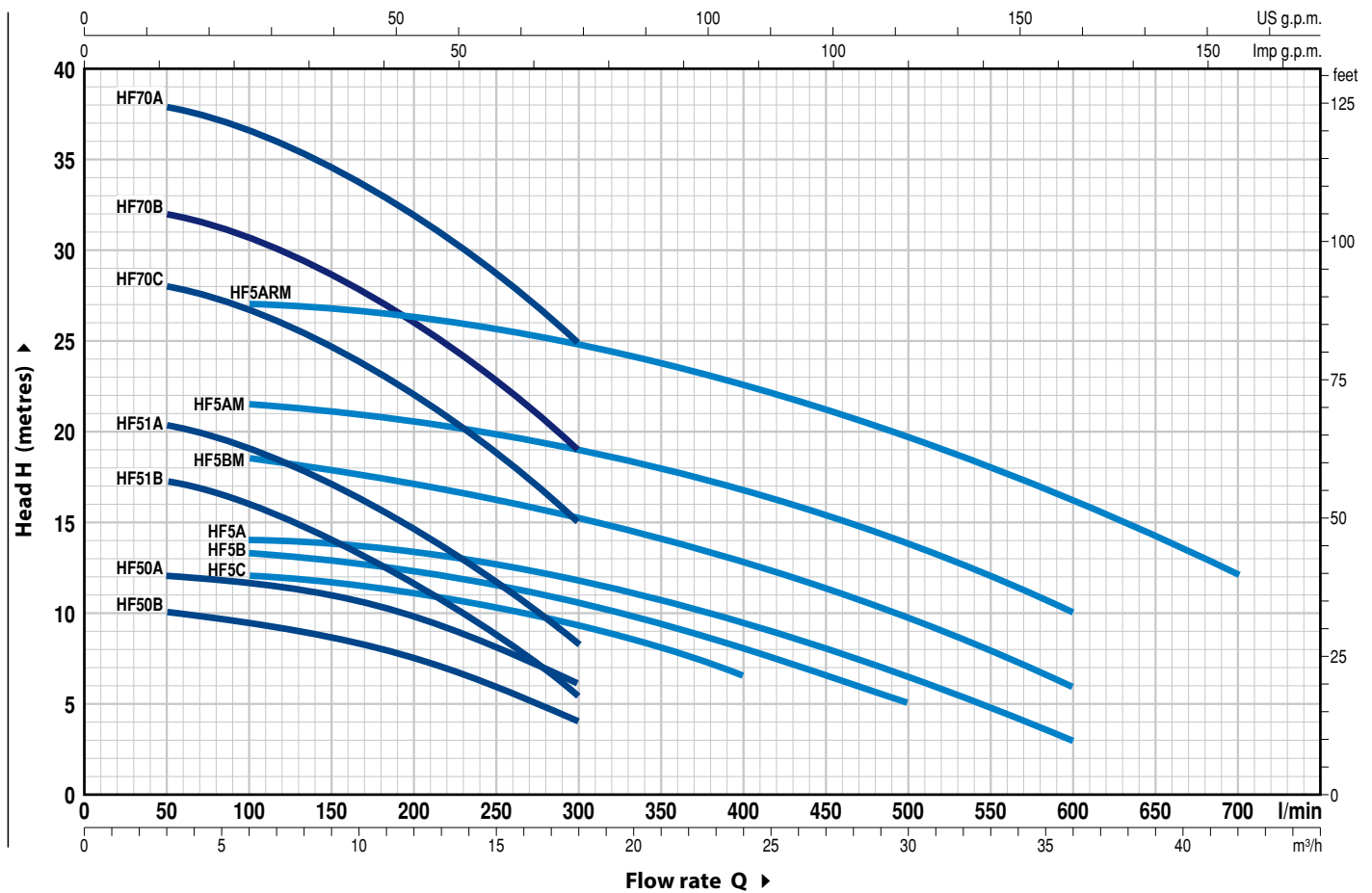




### CHARACTERISTIC CURVES AND PERFORMANCE DATA

60 Hz n = 3450 min<sup>-1</sup> HS = 0 m



MODEL		POWER (P <sub>2</sub> )		Q	Flow rate (l/min)													
Single-phase	Three-phase	kW	HP		0	3	6	9	12	15	18	21	24	30	36	42		
HFm 50B	HF 50B	0.37	0.50	IE2	10	33	31	28	24.5	19.5	4							
HFm 50A	HF 50A	0.55	0.75		12	39.5	37.5	36	31.5	26.5	6							
HFm 51B	HF 51B	0.60	0.85	IE3	18.2	56.5	52.5	46	37.5	29.5	5.4							
HFm 51A	HF 51A	0.75	1		21.2	66.5	62.5	56	47.5	38	8.4							
HFm 70C	HF 70C	1.1	1.5		29	92	87	80.5	72	60.5	15							
HFm 70B	HF 70B	1.5	2	IE3	33	105	100	93.5	85.5	74	19							
HFm 70A	HF 70A	2.2	3		39	124.5	120	113	105	93.5	25							
HFm 5C	HF 5C	0.55	0.75		IE2	12.5	-	39.5	38.5	36	33.5	30	8	6.5				
HFm 5B	HF 5B	0.75	1	IE3	13.7	-	43.5	42.5	41	38	10.5	9.2	8	5				
HFm 5A	HF 5A	1.1	1.5		14.5	-	13.8	44.5	43.5	41.5	11.8	10.5	9.2	6.5	3			
HFm 5BM	HF 5BM	1.1	1.5		19	-	45.5	59	56	52.5	15.2	14	12.8	9.7	6			
HFm 5AM	HF 5AM	1.5	2	IE3	22	-	70.5	69	67.5	65	19	18	16.8	13.8	10			
HFm 5ARM	HF 5ARM	2.2	3		27	-	88.5	88	86.5	84	24.8	23.8	22.5	19.8	16.2	12		

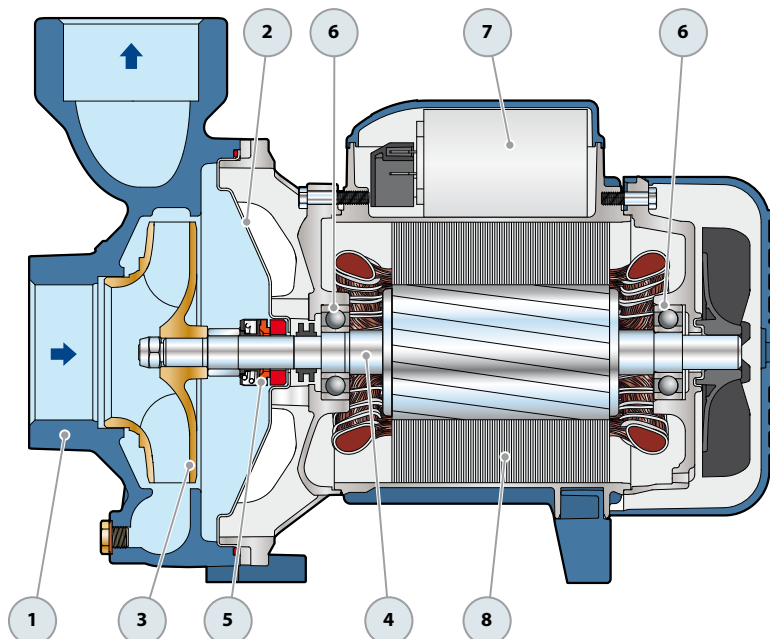
Q = Flow rate H = Total manometric head HS = Suction height

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

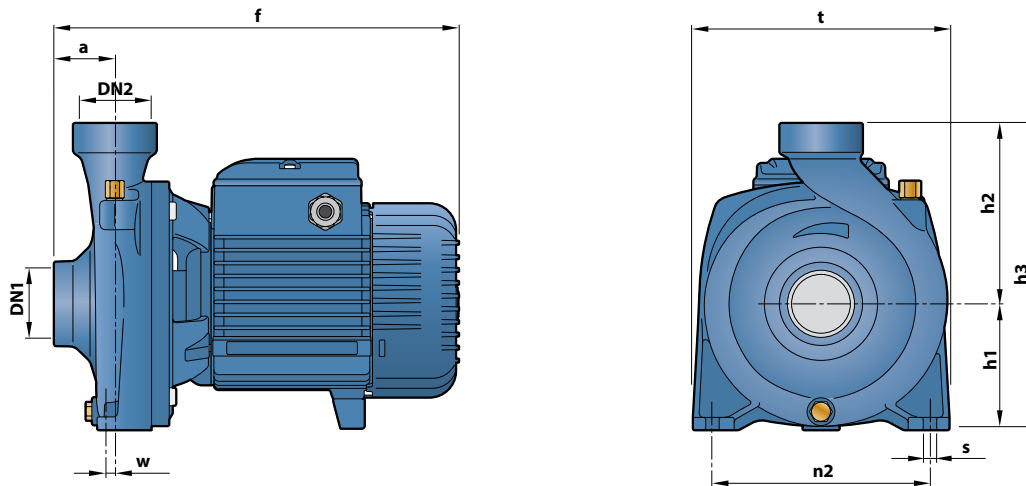
▲ Three-phase motor efficiency class (IEC 60034-30-1)

## 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>	Stainless steel AISI 304 (cast iron for HF 5M-70)					
3	<b>IMPELLER</b>	Brass					
4	<b>MOTOR SHAFT</b>	Stainless steel AISI 431					
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 50</b>	<b>AR-12</b>	<b>Ø 12 mm</b>	Ceramic	Graphite	NBR
		<b>HF 5-51</b>	<b>AR-14</b>	<b>Ø 14 mm</b>	Ceramic	Graphite	NBR
	<b>HF 5M-70</b>	<b>FN-18</b>	<b>Ø 18 mm</b>	Graphite	Ceramic	NBR	
6	<b>BEARINGS</b>	<i>Pump</i>	<i>Model</i>				
		<b>HF 50</b>	<b>6201 ZZ / 6201 ZZ</b>				
		<b>HF 5-51</b>	<b>6203 ZZ / 6203 ZZ</b>				
		<b>HF 5M-70</b>	<b>6204 ZZ / 6204 ZZ</b>				
7	<b>CAPACITOR</b>	<i>Pump</i>	<i>Capacitance</i>				
		<i>Single-phase</i>	<i>(220 V)</i>	<i>(110 V or 127 V)</i>			
		<b>HFm 50B</b>	<b>10 µF - 450 VL</b>	<b>25 µF - 250 VL</b>			
		<b>HFm 50A</b>	<b>14 µF - 450 VL</b>	<b>25 µF - 250 VL</b>			
		<b>HFm 51B</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 51A</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 70C</b>	<b>25 µF - 450 VL</b>	<b>60 µF - 250 VL</b>			
		<b>HFm 70B</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>			
		<b>HFm 5C</b>	<b>16 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 5B</b>	<b>20 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 5A</b>	<b>25 µF - 450 VL</b>	<b>60 µF - 300 VL</b>			
		<b>HFm 5BM</b>	<b>25 µF - 450 VL</b>	<b>60 µF - 250 VL</b>			
		<b>HFm 5AM</b>	<b>45 µF - 450 VL</b>	<b>80 µF - 250 VL</b>			
8	<b>ELECTRIC MOTOR</b>	<b>HFm:</b> single-phase 220 V - 60 Hz with thermal overload protector incorporated into the winding.					
		<b>HF:</b> three-phase 220/380 V - 60 Hz or 220/240 V - 60 Hz.					
		<p>⇒ <b>The three-phase pumps are fitted with high performance motors up to P<sub>2</sub>=0.55 kW in class IE2 and from P<sub>2</sub>=0.75 kW in class IE3 (IEC 60034-30-1)</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	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
HFm 70A	HF 70A													24.4	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			59	386	110	150	260	208	208	12.5	11	14.6	14.7	
HFm 5BM	HF 5BM												19.2	20.3	
HFm 5AM	HF 5AM												21.6	21.6	
HFm 5ARM	HF 5ARM			22.3	21.5										

## ABSORPTION

MODEL	VOLTAGE		
	220 V	110 V	127 V
<b>Single-phase</b>	220 V	110 V	127 V
HFm 50B	2.5 A	5.0 A	4.3 A
HFm 50A	3.9 A	7.8 A	6.8 A
HFm 51B	4.6 A	9.2 A	8.0 A
HFm 51A	5.7 A	11.4 A	9.9 A
HFm 70C	8.0 A	16.0 A	13.9 A
HFm 70B	9.0 A	18.0 A	15.6 A
HFm 70A	14.5 A	29.0 A	25.1 A
HFm 5C	4.2 A	8.4 A	7.3 A
HFm 5B	5.2 A	10.4 A	9.0 A
HFm 5A	6.5 A	13.0 A	11.3 A
HFm 5BM	7.4 A	14.8 A	12.8 A
HFm 5AM	10.2 A	20.5 A	17.7 A
HFm 5ARM	13.0 A	26.0 A	22.5 A

MODEL	VOLTAGE			
	220 V	380 V	220 V	440 V
<b>Three-phase</b>	220 V	380 V	220 V	440 V
HF 50B	1.9 A	1.1 A	2.0 A	1.2 A
HF 50A	3.3 A	1.9 A	3.5 A	2.0 A
HF 51B	4.2 A	2.4 A	3.1 A	1.8 A
HF 51A	4.4 A	2.6 A	4.2 A	2.3 A
HF 70C	5.7 A	3.3 A	4.5 A	2.6 A
HF 70B	7.4 A	4.3 A	6.0 A	3.5 A
HF 70A	10.2 A	5.9 A	9.0 A	5.0 A
HF 5C	3.6 A	2.1 A	3.8 A	2.2 A
HF 5B	4.0 A	2.3 A	3.1 A	1.8 A
HF 5A	5.7 A	3.3 A	4.5 A	2.6 A
HF 5BM	5.9 A	3.4 A	4.8 A	2.8 A
HF 5AM	9.6 A	5.6 A	6.0 A	3.4 A
HF 5ARM	10.0 A	5.8 A	7.5 A	4.3 A