

## 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

COMPANY WITH MANAGEMENT SYSTEM  
CERTIFIED BY DNV  
ISO 9001: QUALITY  
ISO 14001: ENVIRONMENT AND SAFETY



### 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

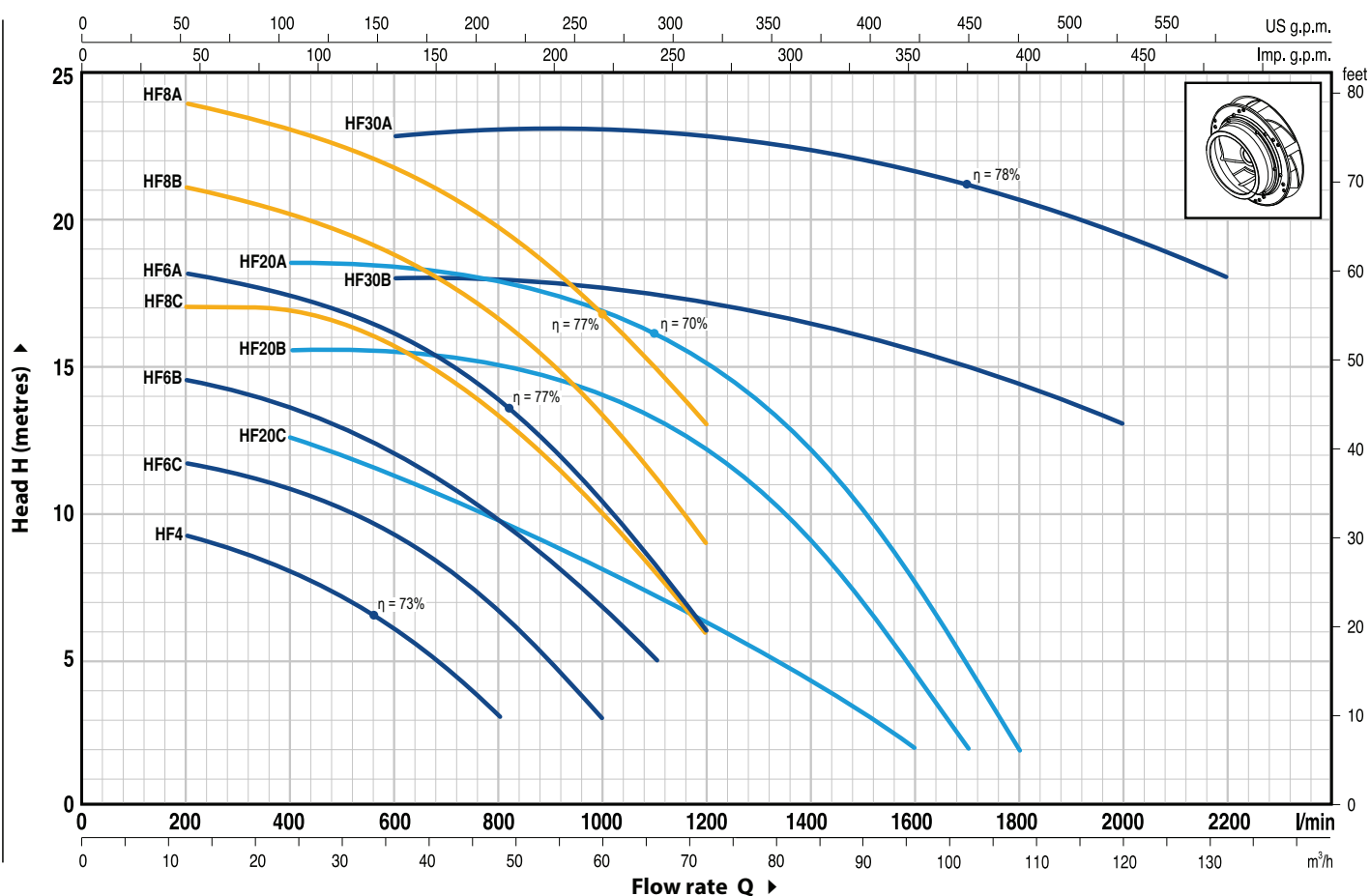
- Special mechanical seal
- Other voltages or 60 Hz frequency

### GUARANTEE

1 year subject to terms and conditions

CHARACTERISTIC CURVES AND PERFORMANCE DATA

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

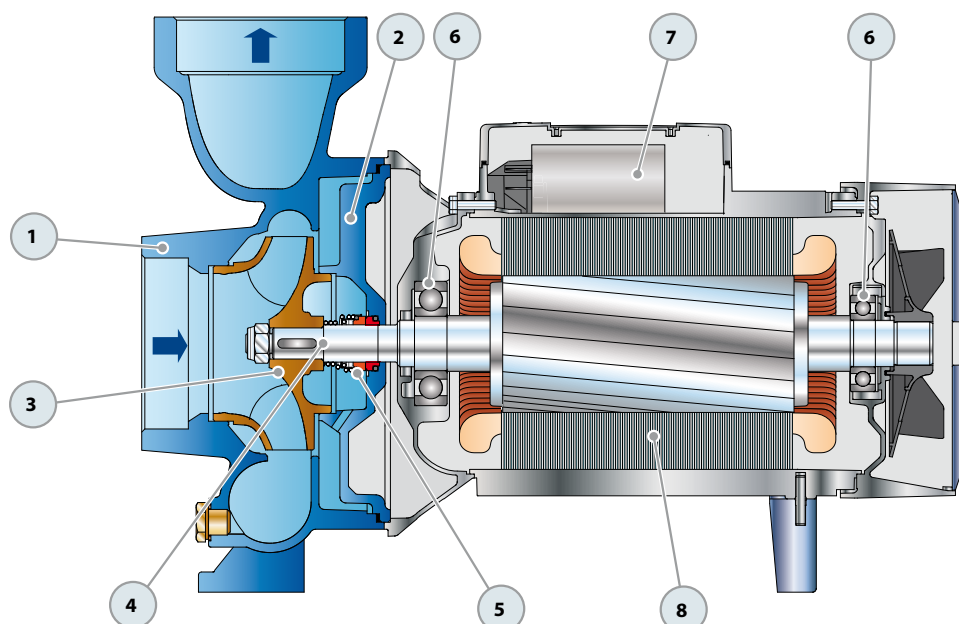


| MODEL        |             | POWER |     | Q        | m³/h  | 0    | 12   | 18   | 24   | 30   | 36   | 42   | 48   | 54   | 60   | 66   | 72   | 84   | 96   | 102  | 108  | 120  | 132  |
|--------------|-------------|-------|-----|----------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Single-phase | Three-phase | 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   | 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    |      |      |      |      |      |      |      |      |
| –            | 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    |      |      |      |      |      |      |      |
| HFm 8C       | –           | 2.2   | 3   |          | 17    | 17   | 16.9 | 16.8 | 16.5 | 15.5 | 14.5 | 13.5 | 11.8 | 10   | 8    | 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   |      |      |      |      |      |      |      |
| HFm 20C      | –           | 2.2   | 3   |          | 12.5  | -    | -    | 12.5 | 12   | 11.5 | 10.5 | 9.8  | 9    | 8.1  | 7.2  | 6.3  | 4.3  | 2    |      |      |      |      |      |
| –            | HF 20B      | 3     | 4   |          | 16    | -    | -    | 15.5 | 15.4 | 15.3 | 15.2 | 15   | 14.5 | 14   | 13   | 12   | 9    | 4.8  | 2    |      |      |      |      |
| –            | HF 20A      | 4     | 5.5 |          | 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 |          | 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   |

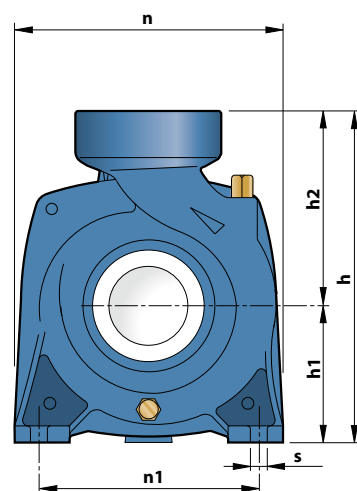
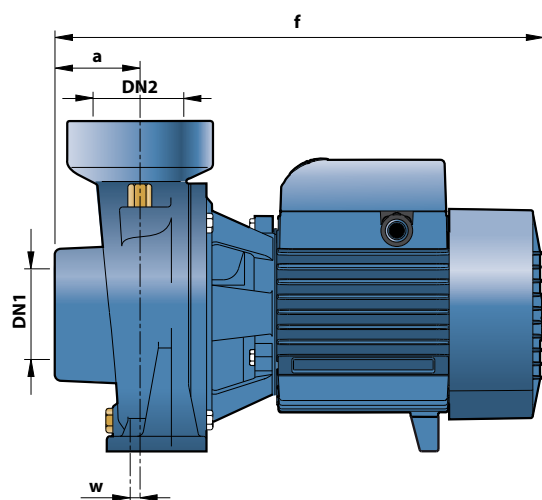
Q = Flow rate H = Total manometric head HS = Suction height

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

| 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, HF 20<br>Cast iron for HF 30                                                                                                                                                                                                                                                                                            |                             |                 |                        |                        |                  |
| 4    | MOTOR SHAFT     | Stainless steel EN 10088-3 - 1.4104                                                                                                                                                                                                                                                                                                                 |                             |                 |                        |                        |                  |
| 5    | MECHANICAL SEAL | <b>Pump</b>                                                                                                                                                                                                                                                                                                                                         | <b>Seal</b>                 | <b>Shaft</b>    | <b>Materials</b>       |                        |                  |
|      |                 | <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 8-20                                                                                                                                                                                                                                                                                                                                             | FN-20                       | Ø 20 mm         | Graphite               | Ceramic                | NBR              |
|      |                 | HF 30                                                                                                                                                                                                                                                                                                                                               | FN-24                       | Ø 24 mm         | Graphite               | Ceramic                | NBR              |
| 6    | BEARINGS        | <b>Pump</b>                                                                                                                                                                                                                                                                                                                                         | <b>Model</b>                |                 |                        |                        |                  |
|      |                 | HF 4                                                                                                                                                                                                                                                                                                                                                | 6203 ZZ / 6203 ZZ           |                 |                        |                        |                  |
|      |                 | HF 6                                                                                                                                                                                                                                                                                                                                                | 6304 ZZ / 6204 ZZ           |                 |                        |                        |                  |
|      |                 | HFm 8C-20C<br>HF 8B-20B                                                                                                                                                                                                                                                                                                                             | 6206 ZZ - C3 / 6205 ZZ      |                 |                        |                        |                  |
|      |                 | HFm 8B-20B<br>HF 8A-20A                                                                                                                                                                                                                                                                                                                             | 6306 ZZ - C3 / 6206 ZZ - C3 |                 |                        |                        |                  |
|      |                 | HF 30                                                                                                                                                                                                                                                                                                                                               | 6307 ZZ - C3 / 6206 ZZ - C3 |                 |                        |                        |                  |
| 7    | CAPACITOR       | <b>Pump</b>                                                                                                                                                                                                                                                                                                                                         | <b>Capacitance</b>          |                 |                        |                        |                  |
|      |                 | <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           |                        |                  |
|      |                 | HFm 8C                                                                                                                                                                                                                                                                                                                                              | 70 µF 450 VL                |                 | –                      |                        |                  |
|      |                 | HFm 8B                                                                                                                                                                                                                                                                                                                                              | 60 µF 450 VL                |                 | –                      |                        |                  |
|      |                 | HFm 20C                                                                                                                                                                                                                                                                                                                                             | 70 µF 450 VL                |                 | –                      |                        |                  |
|      |                 | HFm 20B                                                                                                                                                                                                                                                                                                                                             | 60 µF 450 VL                |                 | –                      |                        |                  |
| 8    | ELECTRIC MOTOR  | HFm: single-phase 230 V - 50 Hz with thermal overload protector built-in to the winding (up to 1.5 kW).<br>HF: three-phase 230/400 V - 50 Hz up to 4 kW, 400/690 V - 50 Hz from 5.5 to 7.5 kW<br>► Pumps fitted with the three-phase motor option offer IE2 (IEC 60034-30) class high performance<br>– Insulation: F class.<br>– 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       |       |     |               |         |      |     |     |     |     |     |    | -    | 26.7 |
| HFm 8C       | -           | 4"    | 4"  | 80            | 445     | 312  | 132 | 180 | 245 | 190 | 30  | 14 | 35.0 | -    |
| HFm 8B       | HF 8B       |       |     |               | 465/445 |      |     |     |     |     |     |    | 40.0 | 35.0 |
| -            | HF 8A       |       |     |               | 465     |      |     |     |     |     |     |    | -    | 40.0 |
| HFm 20C      | -           |       |     |               | 450     |      |     |     |     |     |     |    | 35.0 | -    |
| HFm 20B      | HF 20B      |       |     |               | 465/450 |      |     |     |     |     |     |    | 40.0 | 35.0 |
| -            | HF 20A      |       |     | 465           | -       | 40.0 |     |     |     |     |     |    |      |      |
| -            | HF 30B      | 4"    | 4"  | 82            | 585     | 370  | 160 | 210 | 292 | 212 | 30  | 14 | -    | 60.9 |
| -            | HF 30A      |       |     |               |         |      |     |     |     |     |     |    | -    | 65.2 |

## ABSORPTION

| MODEL        | VOLTAGE (single-phase) |        |        |
|--------------|------------------------|--------|--------|
| 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 |
| HFm 8C       | 15.0 A                 | 14.5 A | -      |
| HFm 8B       | 20.0 A                 | 19.0 A | -      |
| HFm 20C      | 14.5 A                 | 14.0 A | -      |
| HFm 20B      | 20.0 A                 | 19.0 A | -      |

| MODEL       | VOLTAGE (three-phase) |        |       |        |        |       |
|-------------|-----------------------|--------|-------|--------|--------|-------|
| 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 1~ 3~ | n° pumps  | H (mm) | kg 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    |  |
| HFm 8C       | HF 8B       | 18       | 1430   | - 650    | 24        | 1860   | - 860     |  |
| HFm 8B       | HF 8A       | 18       | 1430   | - 740    | 24        | 1860   | - 980     |  |
| HFm 20C      | HF 20B      | 18       | 1430   | - 650    | 24        | 1860   | - 860     |  |
| HFm 20B      | HF 20A      | 18       | 1430   | - 740    | 24        | 1860   | - 980     |  |
| -            | HF 30B      | 12       | 1570   | - 750    | 16        | 2040   | - 990     |  |
| -            | HF 30A      | 12       | 1570   | - 800    | 16        | 2040   | - 1060    |  |

