



## Materials

| Component                               | Material                                       |
|-----------------------------------------|------------------------------------------------|
| Pump casing<br>Impeller<br>Stage casing | PPO-GF20 (Noryl)                               |
| Motor jacket<br>Pump jacket             | Chrome-nickel steel 1.4301 EN 10088 (AISI 304) |
| Strainer<br>Handle                      | Polypropylene                                  |
| Shaft                                   | Chrome-nickel steel 1.4305 EN 10088 (AISI 303) |
| Mechanical seal                         | Ceramic alumina/Carbon/NBR                     |
| Seal lubrication oil                    | Oil for food/pharmaceutical machinery          |

## Construction

Multi-stage centrifugal submersible pumps with pump jacket in chrome-nickel stainless steel, with vertical delivery port.  
Motor cooled by the pumped water passing between the motor jacket and the external jacket.  
Double shaft seal with oil chamber.

## Applications

- For clean water containing solids up to 2 mm grain size.
- For draining rooms or emptying tanks.
- Extraction of water from ponds, streams or pits and for rainwater collection.
- For irrigation purposes.

For outdoor use a power supply cable of not less than 10 m should be used in accordance with: EN 60 335-2-41.

## Operating conditions

Liquid temperature up to 35° C.  
Maximum immersion depth: 5 m.  
Minimum water level with float 100 mm.  
Continuous duty.

## Motor

2-pole induction motor, 50 Hz ( $n \approx 2900$  rpm).

**MP:** three-phase 230 V  $\pm 10\%$ ;  
three-phase 400 V  $\pm 10\%$ ;

**MPM:** single-phase 230 V,  
with float switch and thermal protector.  
Incorporated capacitor.

Insulation class F.

Protection IP X8 (for continuous immersion)

Double impregnation humidity-proof dry winding.

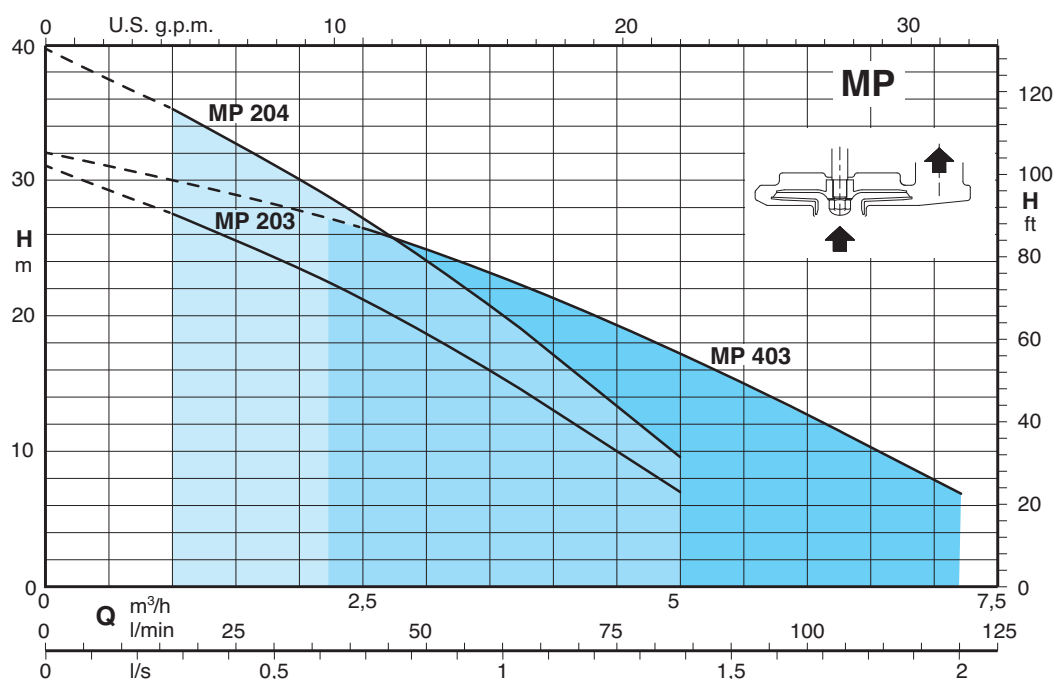
Constructed in accordance with: EN 60034-1;

EN 60335-1, EN 60335-2-41.

## Other features on request

- Other voltages.
- Frequency 60 Hz (as per 60 Hz data sheet).
- Other mechanical seal.
- Cable length 10 m.
- Vertical magnetic float switch.
- Motor suitable for operation with frequency converter.

## Coverage chart $n \approx 2900$ rpm



### Performance $n \approx 2900$ rpm

| 3~ 230V 400V |     |     | 1~ 230V Capacitor |     |      |     | P <sub>1</sub> | P <sub>2</sub> |     | Q $\frac{m^3}{h}$<br>l/min | 0    | 1    | 1,5  | 2    | 2,5  | 3    | 3,5  | 4  | 4,5  | 5   |
|--------------|-----|-----|-------------------|-----|------|-----|----------------|----------------|-----|----------------------------|------|------|------|------|------|------|------|----|------|-----|
| A            | A   |     | A                 | μf  | Vc   | kW  | kW             | HP             | 0   |                            | 16,6 | 25   | 33,3 | 41,6 | 50   | 58,3 | 66,6 | 75 | 83,3 |     |
| MP 203       | 2,3 | 1,3 | MPM 203           | 3,5 | 12,5 | 450 | 0,7            | 0,37           | 0,5 | H m                        | 31   | 27,5 | 25,5 | 23,5 | 21,2 | 18,6 | 16   | 13 | 10   | 7   |
| MP 204       | 2,8 | 1,6 | MPM 204           | 4,5 | 16   | 450 | 0,95           | 0,45           | 0,6 |                            | 39,5 | 35   | 32,5 | 30   | 27   | 24   | 20,5 | 17 | 13,5 | 9,5 |

| 3~ 230V 400V |     |     | 1~ 230V Capacitor |     |                |     | P <sub>1</sub> | P <sub>2</sub> |     | Q<br>m³/h<br>l/min | 0    | 2,25 | 3    | 3,5  | 4    | 4,5  | 5   | 6    | 7,2 | - |
|--------------|-----|-----|-------------------|-----|----------------|-----|----------------|----------------|-----|--------------------|------|------|------|------|------|------|-----|------|-----|---|
| A            | A   |     | A                 | µf  | V <sub>C</sub> | kW  | kW             | HP             | 0   |                    | 37,5 | 50   | 58,3 | 66,6 | 75   | 83,3 | 100 | 120  | -   |   |
| MP 403       | 2,8 | 1,6 | MPM 403           | 4,5 | 16             | 450 | 0,95           | 0,45           | 0,6 | H m                | 32   | 27,3 | 25   | 23,5 | 21,5 | 19,5 | 17  | 12,5 | 7   | - |

P<sub>1</sub> Max. power input.

P<sub>2</sub> Rated motor power output.

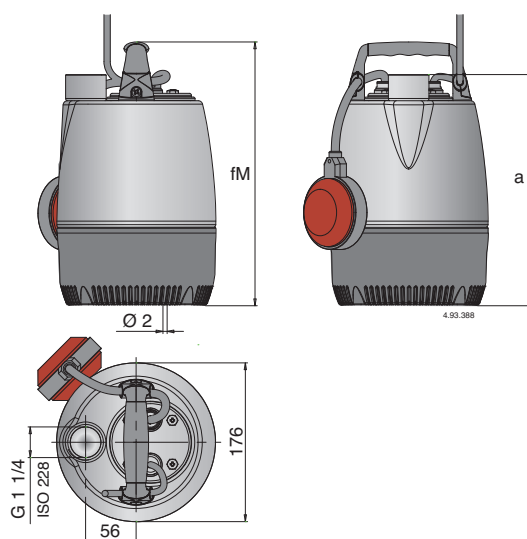
Density  $\rho = 1000$  kg/m<sup>3</sup>.

Kinematic viscosity  $\nu = \max 20$  mm<sup>2</sup>/sec.

Tolerances according to UNI EN ISO 9906:2012

| Pump type       | Power supply cable |                     |        |                 | Float switch   |                     |
|-----------------|--------------------|---------------------|--------|-----------------|----------------|---------------------|
|                 | Cable material     | Section             | Length | Plug CEE 7(VII) | Cable material | Section             |
| MPM 203,204,403 | H07RN-F            | 3G1 mm <sup>2</sup> | 5 m    | SI              | H07RN-F        | 3G1 mm <sup>2</sup> |
| MP 203,204,403  | H07RN-F            | 4G1 mm <sup>2</sup> | 5 m    | NO              | NO             | -                   |

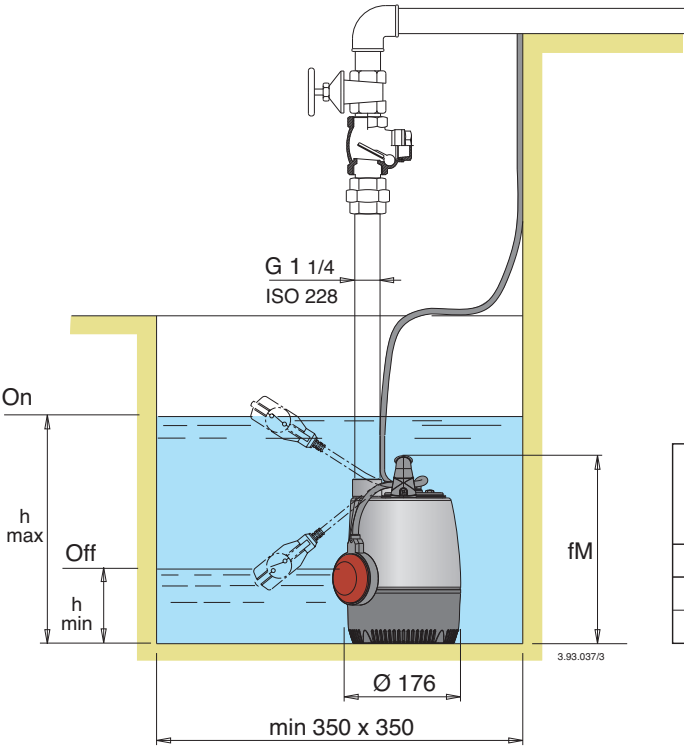
### Dimensions and weights



| TYPE             | Dimensions mm |       | (1) kg |     |
|------------------|---------------|-------|--------|-----|
|                  | fM            | a     | MP     | MPM |
| MP 203 - MPM 203 | 350           | 315   | 6,4    | 6,7 |
| MP 204 - MPM 204 | 382,5         | 346,5 | 8,1    | 8,1 |
| MP 403 - MPM 403 | 382,5         | 346,5 | 8      | 8   |

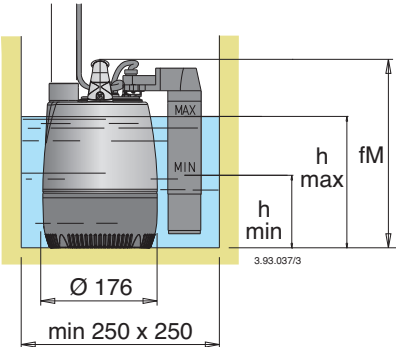
(1) With cable length: 5 m

Installation examples



| TYPE    | mm    |       |
|---------|-------|-------|
|         | h min | h max |
| MPM 203 | 185   | 395   |
| MPM 204 | 218   | 428   |
| MPM 403 | 218   | 428   |

Installation examples with vertical magnetic float switch



| TYPE       | mm    |       |
|------------|-------|-------|
|            | h min | h max |
| MPM 203 GF | 185   | 275   |
| MPM 204 GF | 218   | 308   |
| MPM 403 GF | 218   | 308   |

**Features**

G 1 1/4 vertical, upward delivery port for installation in small pits, without the need for an elbow on the pump.

Handle in polypropylene.

Easy inspection of the capacitor area.

Easy adjustment of the float switch: to allow the adjustment of start/stop pump levels.

Shaft in chrome-nickel stainless steel.

Motor cooled by the pumped water passing between the motor jacket and the external jacket.

Ceramic stainless steel shaft sleeve.

Oil chamber.

Suction strainer that allows the passage of solids up to 2 mm.

Stage casing and Impeller in PPO-GF20 (Noryl)

The double shaft seal with oil chamber separates the motor from the water and provides further protection against accidental operation when dry.

