

## Submersible pumps

-  Sewage water
-  Domestic use
-  Civil use
-  Industrial use



### PERFORMANCE RANGE

- Flow rate up to **1200 l/min** (72 m<sup>3</sup>/h)
- Head up to **16 m**

### APPLICATION LIMITS

- **10 m** maximum immersion depth (with a sufficiently long power cable)
- Maximum liquid temperature **+40 °C**
- Passage of solids:
  - up to **Ø 50 mm** for VXC /50-F
  - up to **Ø 70 mm** for VXC /70-F
- Minimum immersion depth for continuous service:
  - **390 mm** for VXC /50-F
  - **440 mm** for VXC /70-F

### CONSTRUCTION AND SAFETY STANDARDS

- **10 m** long power cable
- External float switch and control box for single-phase versions

EN 60335-1  
IEC 60335-1  
CEI 61-150

EN 60034-1  
IEC 60034-1  
CEI 2-3



### CERTIFICATIONS

Company with management system certified DNV  
ISO 9001: QUALITY



### INSTALLATION AND USE

The **VXC-F** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long lasting, are fitted with a VORTEX impeller and therefore suitable for drainage of **refluent water, water mixed with mud, liquids containing air or gas, and putrid muds**. They are recommended for fixed installations, when placed in suitable wells, in sewers, tunnels, wells, underground car parks, etc.

### OPTIONS AVAILABLE ON REQUEST

- Connection support KIT
- **QES** control box for three-phase pumps
- Single-phase pumps without float switch
- Other voltages or 60 Hz frequency

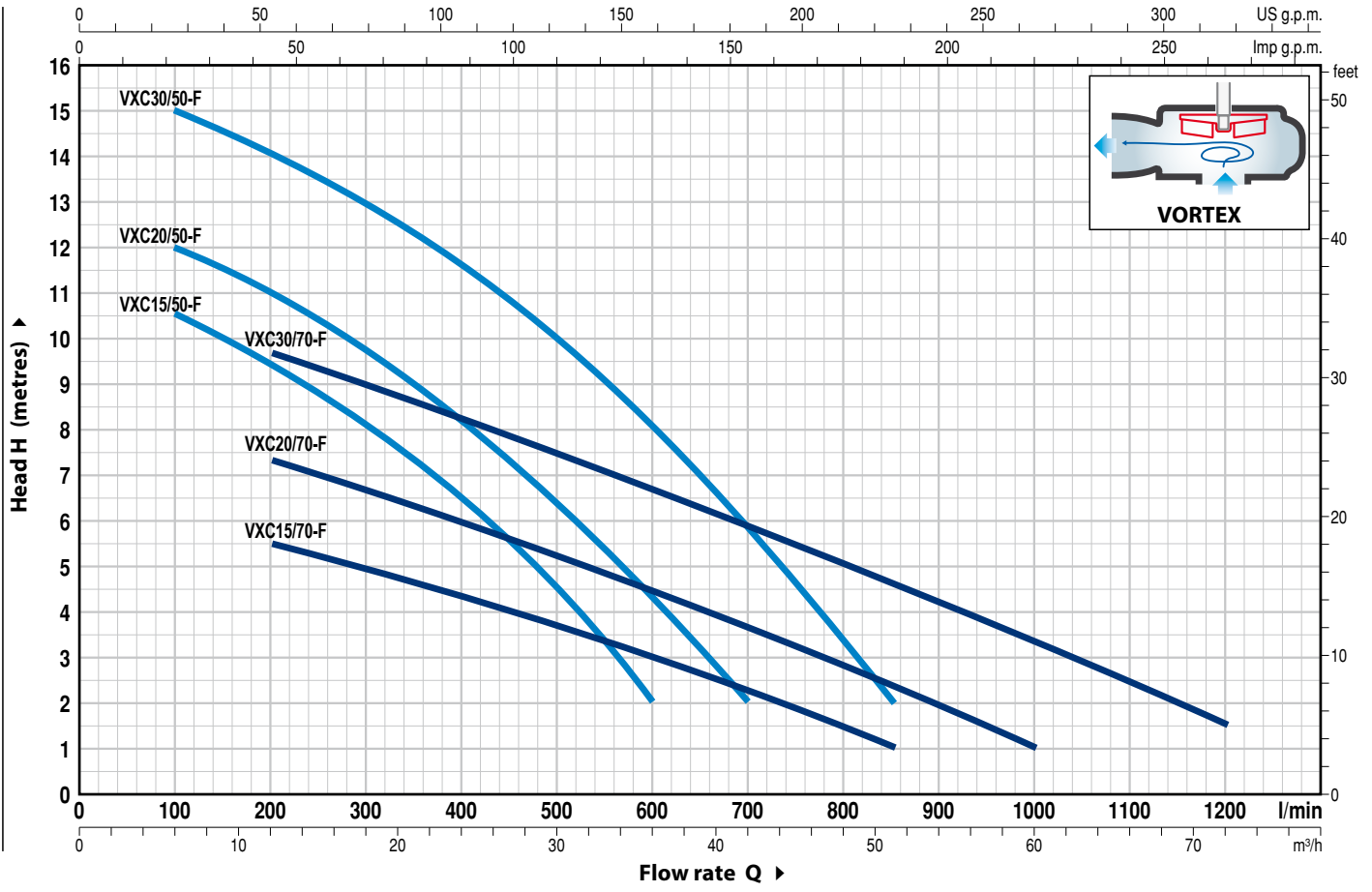
### GUARANTEE

➔ **For the following versions the incorporated thermal overload protector must be connected to the control box for the guarantee to be considered valid:**

|                |                     |
|----------------|---------------------|
| single-phase   | three-phase         |
| – VXCm 30/50-F | – VXC 15-20-30/50-F |
| – VXCm 30/70-F | – VXC 15-20-30/70-F |

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 min<sup>-1</sup>



| MODEL        |             | POWER (P <sub>2</sub> ) |     | Q     | H metres          |      |     |     |      |      |      |     |     |     |     |     |     |      |      |      |    |
|--------------|-------------|-------------------------|-----|-------|-------------------|------|-----|-----|------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|----|
| Single-phase | Three-phase | kW                      | HP  |       | m <sup>3</sup> /h | 0    | 6   | 12  | 18   | 21   | 24   | 27  | 30  | 36  | 42  | 48  | 51  | 54   | 60   | 66   | 72 |
|              |             |                         |     | l/min | 0                 | 100  | 200 | 300 | 350  | 400  | 450  | 500 | 600 | 700 | 800 | 850 | 900 | 1000 | 1100 | 1200 |    |
| VXCm 15/50-F | VXC 15/50-F | 1.1                     | 1.5 |       | 11.5              | 10.5 | 9.5 | 8.2 | 7.2  | 6.5  | 5.6  | 4.5 | 2   |     |     |     |     |      |      |      |    |
| VXCm 20/50-F | VXC 20/50-F | 1.5                     | 2   |       | 13                | 12   | 11  | 9.5 | 9    | 8    | 7.2  | 6.5 | 4.5 | 2   |     |     |     |      |      |      |    |
| VXCm 30/50-F | VXC 30/50-F | 2.2                     | 3   |       | 16                | 15   | 14  | 13  | 12.3 | 11.5 | 10.8 | 10  | 8   | 5.9 | 3.3 | 2   |     |      |      |      |    |
| VXCm 15/70-F | VXC 15/70-F | 1.1                     | 1.5 |       | 6.5               | -    | 5.5 | 5   | 4.7  | 4.4  | 4    | 3.7 | 3   | 2.2 | 1.5 | 1   |     |      |      |      |    |
| VXCm 20/70-F | VXC 20/70-F | 1.5                     | 2   |       | 8.5               | -    | 7.4 | 6.7 | 6.3  | 6    | 5.6  | 5.2 | 4.5 | 3.6 | 2.8 | 2.4 | 2   | 1    |      |      |    |
| VXCm 30/70-F | VXC 30/70-F | 2.2                     | 3   |       | 11                | -    | 9.7 | 9   | 8.6  | 8.2  | 7.8  | 7.5 | 6.7 | 5.8 | 5   | 4.6 | 4.2 | 3.3  | 2.5  | 1.5  |    |

Q = Flow rate H = Total manometric head

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

## POS. COMPONENT CONSTRUCTION CHARACTERISTICS

|   |                           |  |
|---|---------------------------|--|
| 1 | <b>PUMP BODY</b>          | Cast iron complete with flanged ports                            |
| 2 | <b>SUCTION PLATE</b>      | Cast iron  |
| 3 | <b>IMPELLER</b>           | VORTEX type in cast iron with an Epoxy Electro Coating treatment |
| 4 | <b>MOTOR CASING</b>       | Cast iron  |
| 5 | <b>MOTOR CASING PLATE</b> | Cast iron  |
| 6 | <b>MOTOR SHAFT</b>        | Stainless steel AISI 431   |

### 7 TWO MECHANICAL SEALS SEPARATED BY AN OIL CHAMBER

| Seal Model | Shaft Diameter | Position   | Materials       |                 |           |
|------------|----------------|------------|-----------------|-----------------|-----------|
|            |                |            | Stationary ring | Rotational ring | Elastomer |
| STA-20     | Ø 20 mm        | Motor side | Ceramic         | Graphite        | NBR       |
| STA-19     | Ø 19 mm        | Pump side  | Silicon carbide | Silicon carbide | NBR       |

### 8 BEARINGS 6304 ZZ - C3 / 6304 ZZ - C3

### 9 CAPACITOR

| Pump Single-phase | Capacitance (230 V or 240 V) |
|-------------------|------------------------------|
| VXCm 15/50-70-F   | 31.5 µF 450 VL               |
| VXCm 20/50-70-F   | 50 µF 450 VL                 |
| VXCm 30/50-70-F   | 60 µF 450 VL                 |

### 10 ELECTRIC MOTOR

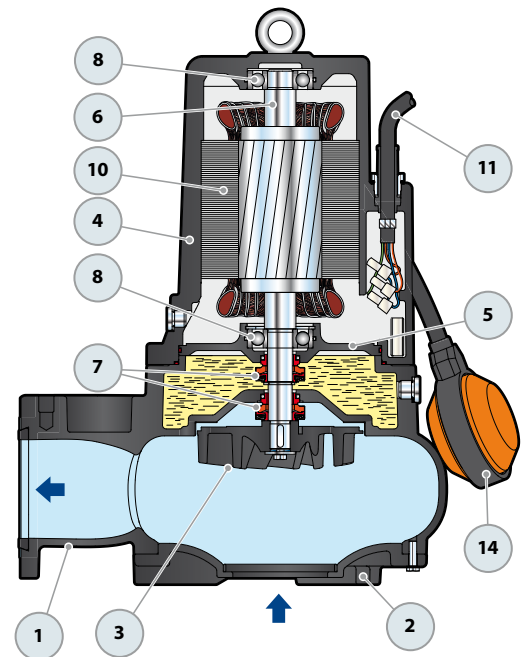
**VXCm 15-20-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

⇒ **VXCm 30-F:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box

⇒ **VXC-F:** three-phase 400 V - 50 Hz with thermal overload protector incorporated into the winding to be connected to the control box (supplied on demand)

– Insulation: class F

– Protection: IP X8



### 11 POWER CABLE

10 metres long "H07 RN-F" cable

### 12 CONTROL BOX for VXCm 15-20-F

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 13 CONTROL BOX for VXCm 30-F

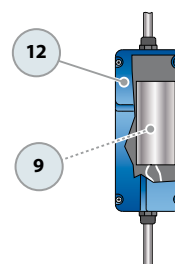
(only for single-phase versions)

QES 300 MONO series

### 14 FLOAT SWITCH

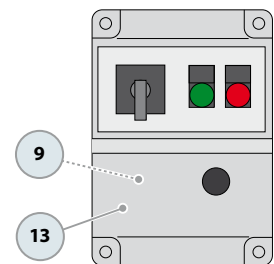
(only for single-phase versions)

#### Standard features



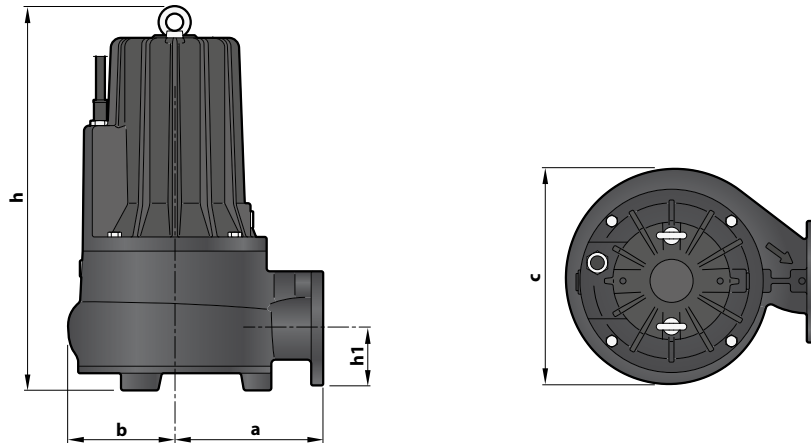
Control box for VXCm 15-20-F (HP 1.5-2.0) (only for single-phase versions)

#### Standard features



Control box for VXC 30-F (HP 3.0) (only for single-phase versions)

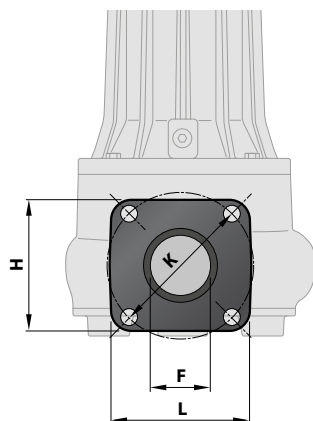
## DIMENSIONS AND WEIGHT



| MODEL        |             | Passage of solids | DIMENSIONS mm |     |     |           |    | kg   |      |
|--------------|-------------|-------------------|---------------|-----|-----|-----------|----|------|------|
| Single-phase | Three-phase |                   | a             | b   | c   | h         | h1 | 1~   | 3~   |
| VXCm 15/50-F | VXC 15/50-F | Ø 50 mm           | 169           | 122 | 248 | 442       | 65 | 39.2 | 37.8 |
| VXCm 20/50-F | VXC 20/50-F |                   |               |     |     | 457 / 442 |    | 40.0 | 38.5 |
| VXCm 30/50-F | VXC 30/50-F |                   |               |     |     |           |    | 43.7 | 40.3 |
| VXCm 15/70-F | VXC 15/70-F | Ø 70 mm           | 205           | 131 | 268 | 455       | 75 | 39.0 | 39.2 |
| VXCm 20/70-F | VXC 20/70-F |                   |               |     |     | 472 / 455 |    | 42.0 | 40.4 |
| VXCm 30/70-F | VXC 30/70-F |                   |               |     |     |           |    | 46.1 | 43.0 |

## PORT FLANGE

| MODEL     | F mm | K mm | L mm | H mm | HOLES |        |
|-----------|------|------|------|------|-------|--------|
|           |      |      |      |      | N°    | Ø (mm) |
| VXC /50-F | 58   | 145  | 140  | 130  | 4     | 17     |
| VXC /70-F | 76   |      | 140  | 140  |       |        |

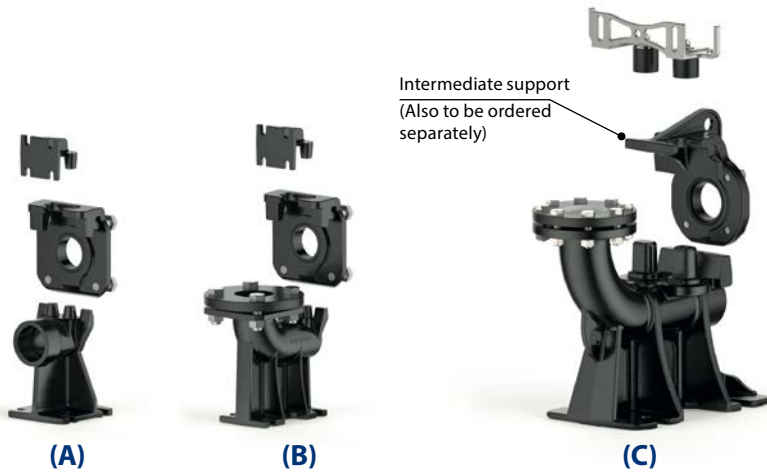


## ABSORPTION

| MODEL        | VOLTAGE |        |
|--------------|---------|--------|
| Single-phase | 230 V   | 240 V  |
| VXCm 15/50-F | 8.8 A   | 8.4 A  |
| VXCm 20/50-F | 10.2 A  | 9.8 A  |
| VXCm 30/50-F | 15.6 A  | 15.0 A |
| VXCm 15/70-F | 8.7 A   | 8.7 A  |
| VXCm 20/70-F | 10.0 A  | 9.6 A  |
| VXCm 30/70-F | 15.0 A  | 14.4 A |

| MODEL       | VOLTAGE   |           |           |
|-------------|-----------|-----------|-----------|
| Three-phase | 230-240 V | 400-415 V | 690-720 V |
| VXC 15/50-F | 5.9 A     | 3.4 A     | 2.0 A     |
| VXC 20/50-F | 7.3 A     | 4.2 A     | 2.4 A     |
| VXC 30/50-F | 9.9 A     | 5.7 A     | 3.3 A     |
| VXC 15/70-F | 5.7 A     | 3.3 A     | 1.9 A     |
| VXC 20/70-F | 7.3 A     | 4.2 A     | 2.4 A     |
| VXC 30/70-F | 9.5 A     | 5.5 A     | 3.2 A     |

# SEWAGE LIFTING SYSTEM VXC-F – MC-F



## A) HORIZONTAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

|                                |                 |       |
|--------------------------------|-----------------|-------|
| For <b>VXC /50-F, MC /50-F</b> | Cod. ASSVXCF050 | DN 2" |
|--------------------------------|-----------------|-------|

Kit consisting of:

- footing connection
- slide guide with screws and seals
- support for the guide tubes

## B) VERTICAL DELIVERY VERSION WITH 3/4" GUIDE TUBES

|                                |                  |        |
|--------------------------------|------------------|--------|
| For <b>VXC /50-F, MC /50-F</b> | Cod. ASSVXCF050V | DN 2½" |
| For <b>VXC /70-F, MC /70-F</b> | Cod. ASSVXCF070V | DN 3"  |

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

## C) VERTICAL DELIVERY VERSION WITH 2" GUIDE TUBES

|                                |                   |       |
|--------------------------------|-------------------|-------|
| For <b>VXC /50-F, MC /50-F</b> | Cod. ASSVXCF0703V | DN 3" |
| For <b>VXC /70-F, MC /70-F</b> |                   |       |

Kit consisting of:

- footing connection complete with counterflange
- slide guide with screws and seals
- support for the guide tubes

### SLIDE GUIDE (Also to be ordered separately)

|                                |               |
|--------------------------------|---------------|
| For <b>VXC /50-F, MC /50-F</b> | Cod. ASSFL070 |
| For <b>VXC /70-F, MC /70-F</b> |               |

Complete with screws and seals

### ● INTERMEDIATE SUPPORT (To be ordered separately)

|                        |                    |
|------------------------|--------------------|
| For guide tubes Ø 3/4" | Cod. 859SV340INTFA |
|------------------------|--------------------|

|                      |                    |
|----------------------|--------------------|
| For guide tubes Ø 2" | Cod. 859SV349INTFA |
|----------------------|--------------------|

**In order to ensure stability, insert the intermediate support:**

- every 2 metres with 3/4" guide tubes (compulsory)
- every 3 metres with 2" guide tubes (recommended)

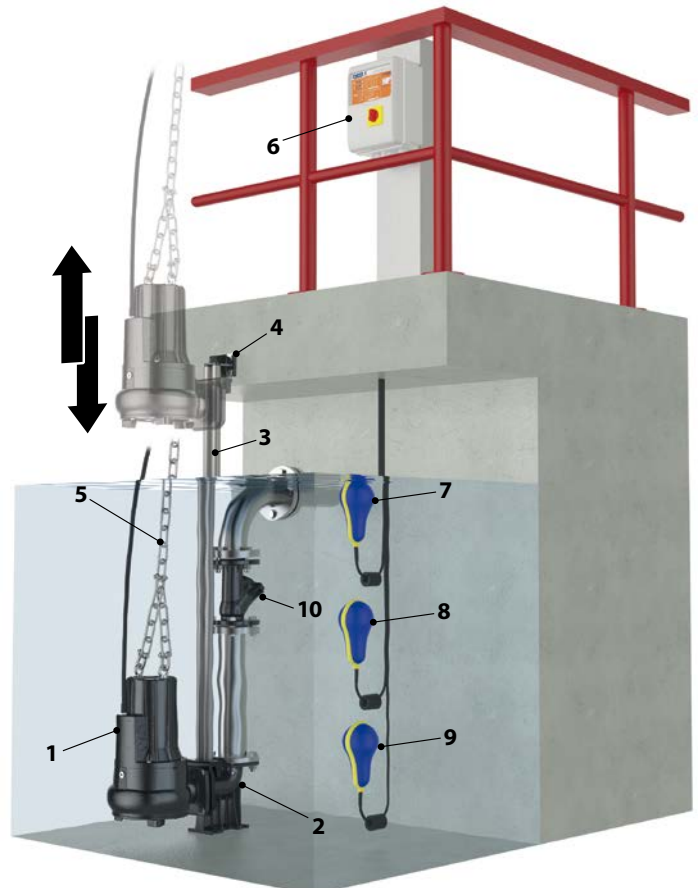
### GUIDE TUBES (AISI 304 stainless steel)

|                   |                 |
|-------------------|-----------------|
| Guide tube Ø 3/4" | Cod. 54SARTG005 |
| Guide tube Ø 2"   | Cod. 54SARTG006 |

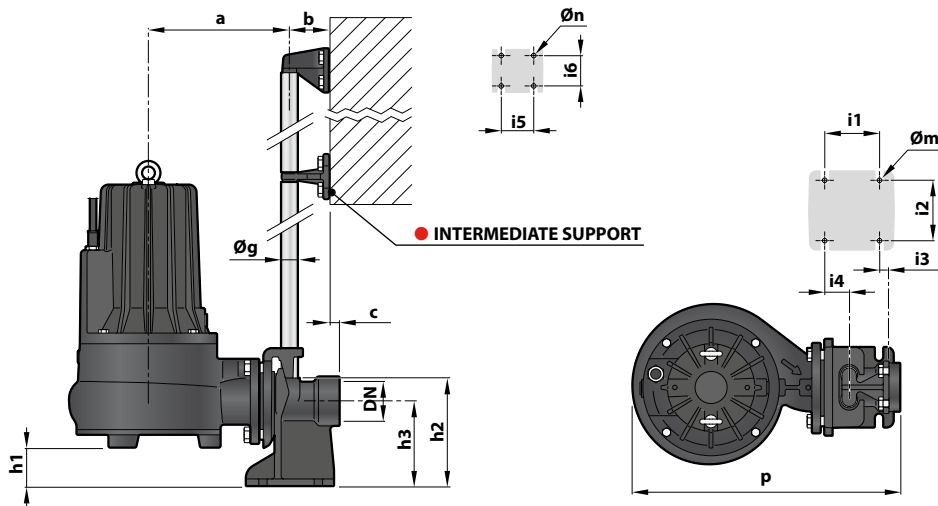
Maximum length of the tube plank: 6 metres

## STANDARD INSTALLATION

1. Pump
2. Footing connection
3. Guide tubes
4. Support for the guide tubes
5. Lifting chain
6. Control box
7. Alarm float switch
8. Starting float switch
9. Stop float switch
10. Non-return valve

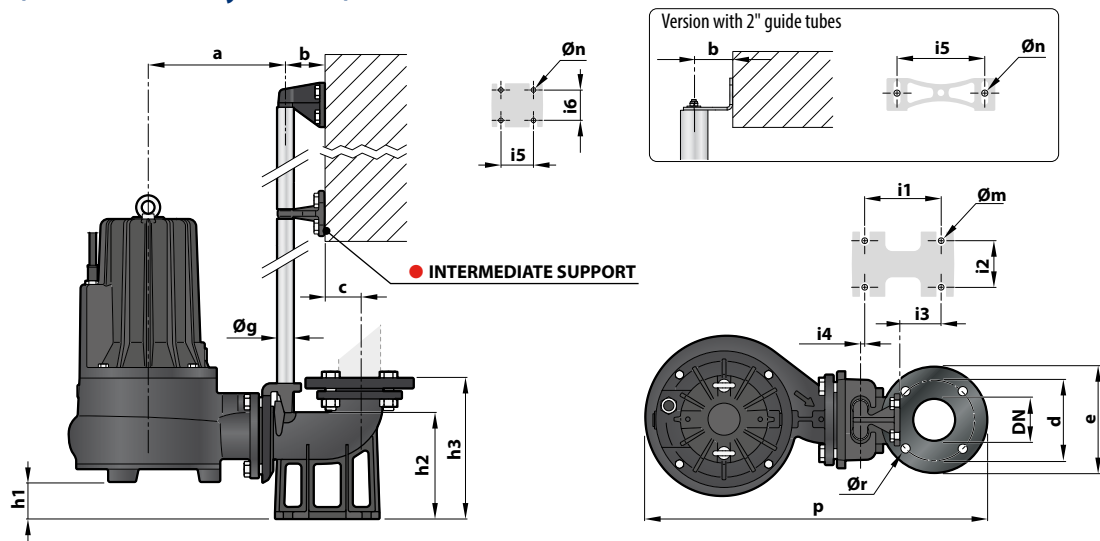


### DIMENSIONS (Horizontal delivery version)



| MODEL     | Passage of solids<br>mm | PORT<br>DN | DIMENSIONS mm |    |    |     |    |     |     |    |    |    |    |    |    |    |    |    |  |
|-----------|-------------------------|------------|---------------|----|----|-----|----|-----|-----|----|----|----|----|----|----|----|----|----|--|
|           |                         |            | a             | b  | c  | p   | h1 | h2  | h3  | i1 | i2 | i3 | i4 | i5 | i6 | Øg | Øm | Øn |  |
| VXC /50-F | Ø 50                    | 2"         | 215           | 61 | 17 | 414 | 60 | 165 | 130 | 85 | 94 | 16 | 40 | 50 | 48 | ¾" | 12 | 11 |  |
| MC /50-F  |                         |            |               |    |    |     |    |     |     |    |    |    |    |    |    |    |    |    |  |

### DIMENSIONS (Vertical delivery version)



● Version with ¾" guide tubes

| MODEL     | Passage of solids<br>mm | PORT<br>DN    | DIMENSIONS mm |    |    |     |     |     |    |     |     |     |     |    |    |    |    |    |    |    |    |
|-----------|-------------------------|---------------|---------------|----|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|
|           |                         |               | a             | b  | c  | d   | e   | p   | h1 | h2  | h3  | i1  | i2  | i3 | i4 | i5 | i6 | Øg | Øm | Øn | Ør |
| VXC /50-F | Ø 50                    | 2½"<br>(PN10) | 212           | 61 | 52 | 125 | 165 | 528 | 57 | 164 | 215 | 120 | 72  | 62 | 3  | 50 | 48 | ¾" | 14 | 11 | 18 |
| MC /50-F  |                         |               |               |    |    |     |     |     |    |     |     |     |     |    |    |    |    |    |    |    |    |
| VXC /70-F | Ø 70                    | 3"<br>(PN6)   | 247           | 61 | 69 | 150 | 190 | 603 | 94 | 216 | 279 | 130 | 112 | 84 | 15 | 50 | 48 | ¾" | 14 | 11 | 18 |
| MC /70-F  |                         |               |               |    |    |     |     |     |    |     |     |     |     |    |    |    |    |    |    |    |    |

● Version with 2" guide tubes

| MODEL     | Passage of solids<br>mm | PORT<br>DN   | DIMENSIONS mm |    |    |     |     |     |     |     |     |     |     |    |    |     |    |    |    |    |    |
|-----------|-------------------------|--------------|---------------|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|----|----|----|----|----|
|           |                         |              | a             | b  | c  | d   | e   | p   | h1  | h2  | h3  | i1  | i2  | i3 | i4 | i5  | i6 | Øg | Øm | Øn | Ør |
| VXC /50-F | Ø 50                    | 3"<br>(PN10) | 318           | 86 | 95 | 160 | 200 | 720 | 137 | 265 | 392 | 250 | 150 | 34 | -  | 187 | -  | 2" | 22 | 13 | 18 |
| MC /50-F  |                         |              |               |    |    |     |     |     |     |     |     |     |     |    |    |     |    |    |    |    |    |
| VXC /70-F | Ø 70                    | 3"<br>(PN10) | 354           | 86 | 95 | 160 | 200 | 765 | 132 | 265 | 392 | 250 | 150 | 34 | -  | 187 | -  | 2" | 22 | 13 | 18 |
| MC /70-F  |                         |              |               |    |    |     |     |     |     |     |     |     |     |    |    |     |    |    |    |    |    |