

## Submersible pumps

-  Filthy 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
  - up to **Ø 70 mm** for VXC /70
- Minimum immersion depth for continuous service:
  - **390 mm** for VXC /50
  - **430 mm** for VXC /70

### 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  
ISO 14001: ENVIRONMENT AND SAFETY



### INSTALLATION AND USE

The **VXC** series of pumps, manufactured from heavy gauge robust cast iron, resistant to abrasion and long-lasting, are fitted with a VORTEX impeller and are therefore suitable for draining **dirty, filthy and reflux water, and water mixed with putrid mud**. They are suitable for installation in sewers, tunnels, excavations, canals, underground car parks, etc.

### PATENTS - TRADE MARKS - MODELS

- Registered EU Design n. 342159-0017

### OPTIONS AVAILABLE ON REQUEST

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

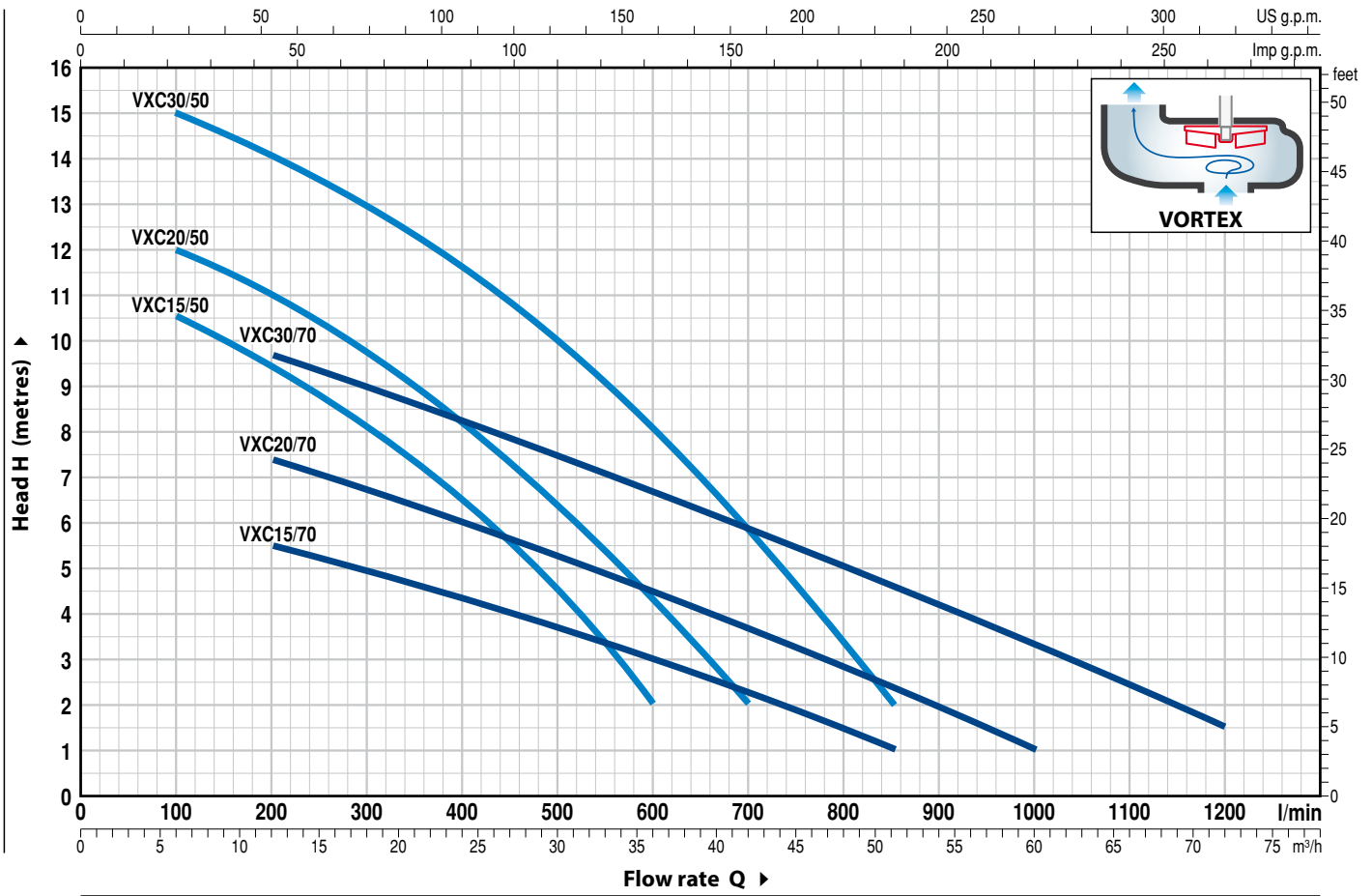
### GUARANTEE

➔ **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 | – VXC 15-20-30/50 |
| – VXCm 30/70 | – VXC 15-20-30/70 |

### CHARACTERISTIC CURVES AND PERFORMANCE DATA

50 Hz n= 2900 rpm



| 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  | 30  | 36  | 42  | 48  | 51  | 54   | 60   | 66   | 72 |  |
|              |             |                         |     | l/min    | 0                 | 100  | 200 | 300 | 350  | 400  | 500 | 600 | 700 | 800 | 850 | 900 | 1000 | 1100 | 1200 |    |  |
| VXCm 15/50   | VXC 15/50   | 1.1                     | 1.5 | H metres | 11.5              | 10.5 | 9.5 | 8.2 | 7.2  | 6.5  | 4.5 | 2   |     |     |     |     |      |      |      |    |  |
| VXCm 20/50   | VXC 20/50   | 1.5                     | 2   |          | 13                | 12   | 11  | 9.5 | 9    | 8    | 6.5 | 4.5 | 2   |     |     |     |      |      |      |    |  |
| VXCm 30/50   | VXC 30/50   | 2.2                     | 3   |          | 16                | 15   | 14  | 13  | 12.3 | 11.5 | 10  | 8   | 5.9 | 3.3 | 2   |     |      |      |      |    |  |
| VXCm 15/70   | VXC 15/70   | 1.1                     | 1.5 |          | 6.5               | -    | 5.5 | 5   | 4.7  | 4.4  | 3.7 | 3   | 2.2 | 1.5 | 1   |     |      |      |      |    |  |
| VXCm 20/70   | VXC 20/70   | 1.5                     | 2   |          | 8.5               | -    | 7.4 | 6.7 | 6.3  | 6    | 5.2 | 4.5 | 3.6 | 2.8 | 2.4 | 2   | 1    |      |      |    |  |
| VXCm 30/70   | VXC 30/70   | 2.2                     | 3   |          | 11                | -    | 9.7 | 9   | 8.6  | 8.2  | 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 with threaded port in compliance with ISO 228/1        |
| 2 | <b>BASE</b>               | Stainless steel AISI 304   |
| 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        | 31.5 µF 450 VL               |
| VXCm 15/70        |                              |
| VXCm 20/50        | 50 µF 450 VL                 |
| VXCm 20/70        |                              |
| VXCm 30/50        | 60 µF 450 VL                 |
| VXCm 30/70        |                              |

### 10 ELECTRIC MOTOR

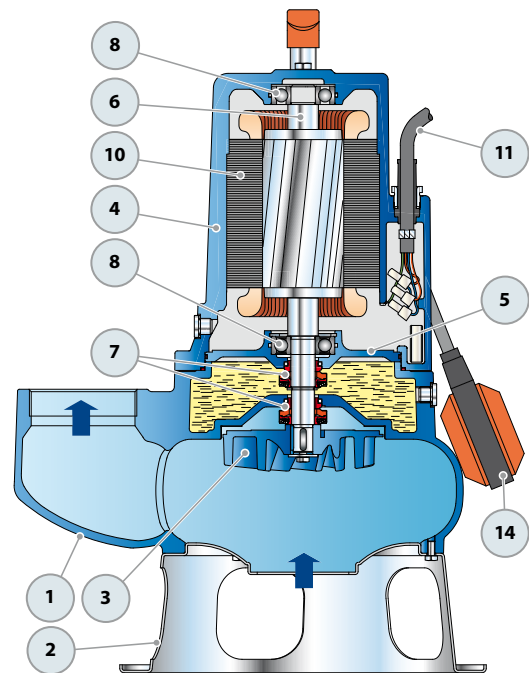
**VXCm 15-20:** single-phase 230 V - 50 Hz with thermal overload protector incorporated into the winding

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

⇒ **VXC:** 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

(only for single-phase versions)

Complete with capacitor and manual reset motor protector

### 13 CONTROL BOX for VXCm 30

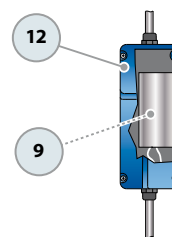
(only for single-phase versions)

QES 300 MONO series

### 14 FLOAT SWITCH

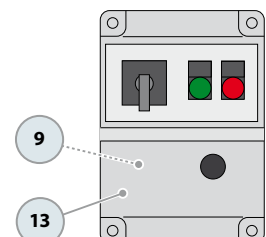
(only for single-phase versions)

Standard features



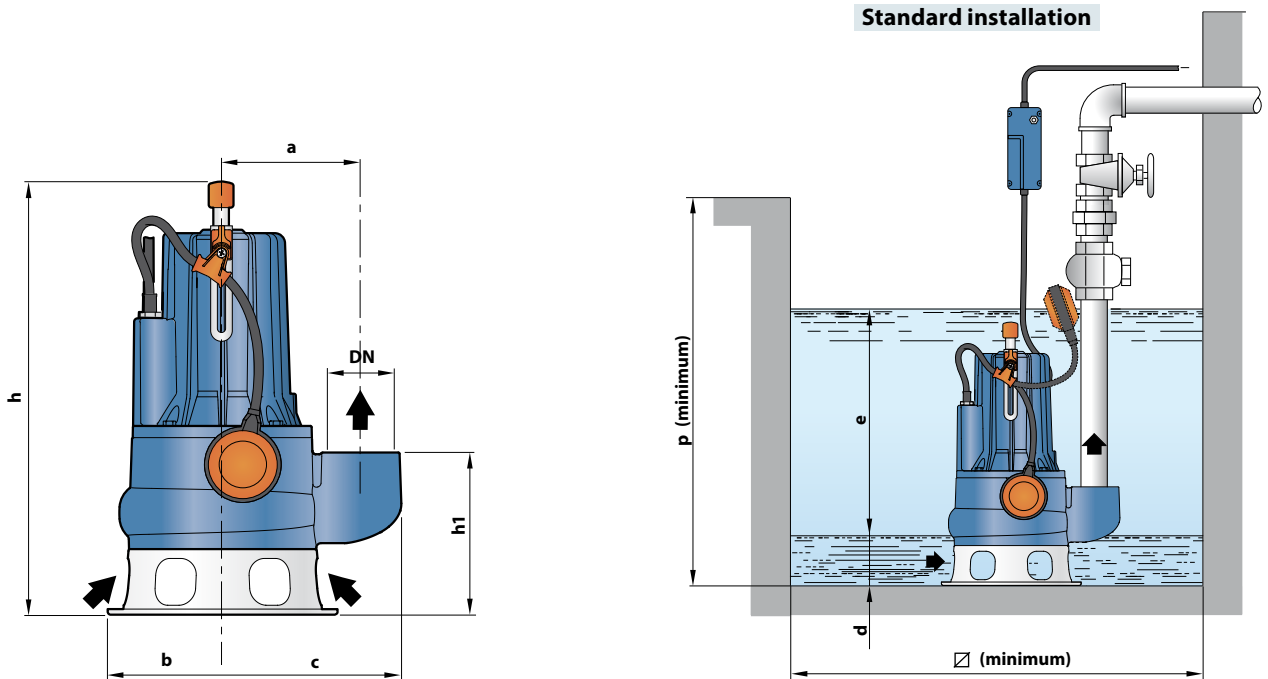
Control box for VXCm 15-20 (only for single-phase versions)

Standard features



Control box for VXCm 30 (only for single-phase versions)

## DIMENSIONS AND WEIGHT



| MODEL        |             | PORT<br>DN | Passage<br>of solids | DIMENSIONS mm |     |     |         |     |    |          |     |     | kg   |      |
|--------------|-------------|------------|----------------------|---------------|-----|-----|---------|-----|----|----------|-----|-----|------|------|
| Single-phase | Three-phase |            |                      | a             | b   | c   | h       | h1  | d  | e        | p   | Ø   | 1~   | 3~   |
| VXCm 15/50   | VXC 15/50   | 2½"        | Ø 50 mm              | 162           | 135 | 210 | 509     | 191 | 75 | variable | 800 | 800 | 36.2 | 34.9 |
| VXCm 20/50   | VXC 20/50   |            |                      |               |     |     | 522/509 |     |    |          |     |     | 37.3 | 36.0 |
| VXCm 30/50   | VXC 30/50   |            |                      |               |     |     | 522/509 |     |    |          |     |     | 41.2 | 38.0 |
| VXCm 15/70   | VXC 15/70   | 3"         | Ø 70 mm              | 180           | 150 | 237 | 548     | 233 | 85 | variable | 800 | 800 | 39.0 | 37.7 |
| VXCm 20/70   | VXC 20/70   |            |                      |               |     |     | 562/548 |     |    |          |     |     | 40.1 | 38.8 |
| VXCm 30/70   | VXC 30/70   |            |                      |               |     |     | 562/548 |     |    |          |     |     | 44.0 | 40.8 |

## ABSORPTION

| MODEL               | VOLTAGE |        |
|---------------------|---------|--------|
|                     | 230 V   | 240 V  |
| <b>Single-phase</b> |         |        |
| VXCm 15/50          | 8.8 A   | 8.7 A  |
| VXCm 20/50          | 10.2 A  | 10.1 A |
| VXCm 30/50          | 15.6 A  | 15.5 A |
| VXCm 15/70          | 8.7 A   | 8.6 A  |
| VXCm 20/70          | 10.0 A  | 9.9 A  |
| VXCm 30/70          | 15.0 A  | 14.9 A |

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

## PALLETIZATION

| MODEL        |             | GROUPAGE<br>n. pumps | CONTAINER<br>n. pumps |
|--------------|-------------|----------------------|-----------------------|
| Single-phase | Three-phase |                      |                       |
| VXCm 15/50   | VXC 15/50   | 16                   | 24                    |
| VXCm 20/50   | VXC 20/50   | 16                   | 24                    |
| VXCm 30/50   | VXC 30/50   | 16                   | 24                    |
| VXCm 15/70   | VXC 15/70   | 12                   | 12                    |
| VXCm 20/70   | VXC 20/70   | 12                   | 12                    |
| VXCm 30/70   | VXC 30/70   | 12                   | 12                    |