

# VESTAPOMP

Makes life comfortable



## SUBMERSIBLE SEWAGE PUMPS

### Handled Liquids

Domestic and industrial waste water, raw sewage, liquids with fibrous and solid substances.

### Technical Data

Discharge Flange \_\_\_\_\_ DN 50.....DN 300 mm

Capacity \_\_\_\_\_ up to 1600 m<sup>3</sup>/h

Head \_\_\_\_\_ up to 95 m

Speed \_\_\_\_\_ up to 2900 rpm

Design Temperature \_\_\_\_\_ up to +40 °C\*

Casing Pressure (Pmax) \_\_\_\_\_ 10 bar

(\*) For higher temperatures, please contact

### Design Features

- Vertical, wide volute casing, single stage, end suction submersible type centrifugal pump with enclosed, semi-open or vortex types impeller.

- 20 basic sizes covering wide range of operational area.

- Electric motor isolation class is IP 68.

- Discharge flanges conform to EN 1092-2 / PN 10. (EN 1092-1 / PN 10 for steel or stainless steel casing)

### Pump Designation

Pump Type \_\_\_\_\_

Discharge Nozzle (DN-mm) \_\_\_\_\_

Impeller Nominal Diameter (mm) \_\_\_\_\_

Impeller Type \_\_\_\_\_

## C 100 - 240 B



- All impellers are balanced dynamically or statically according to ISO 1940 class 6.3.

- Axial thrust is balanced by impeller back ribs.

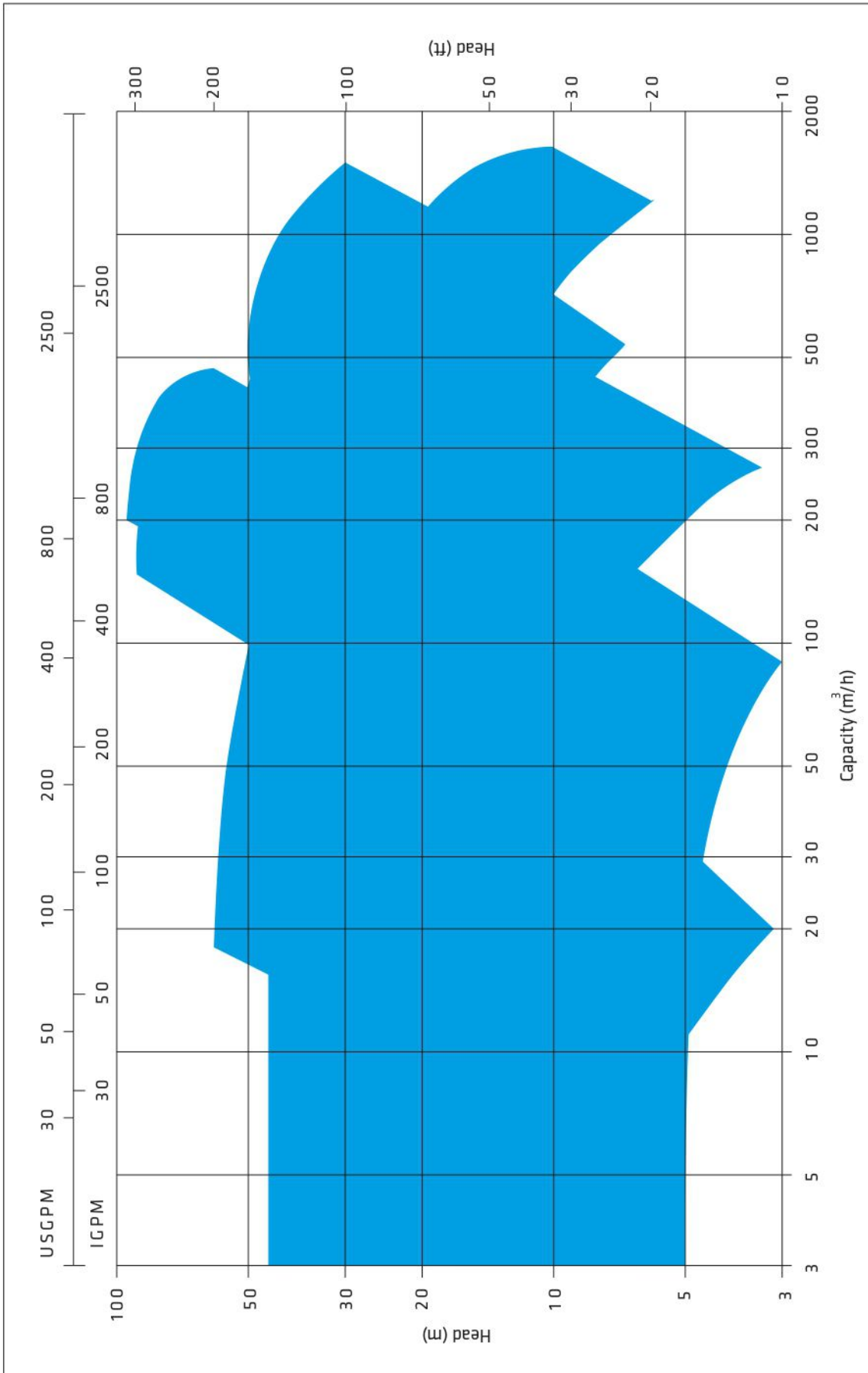
- In case of request motor cooling jacket is also applicable (for pumps having bigger than 200 frame motor)

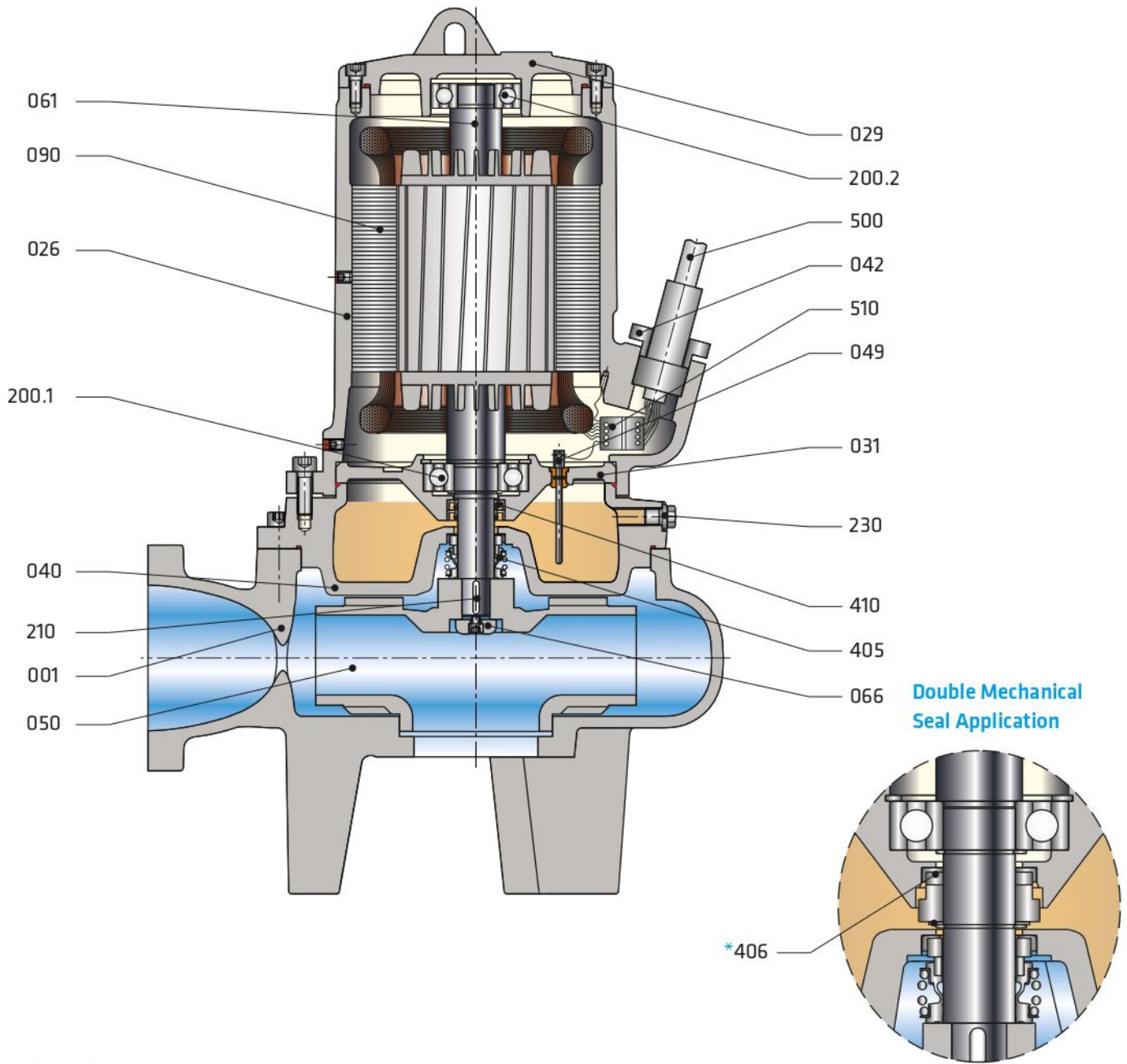
- Bearings of C type pumps are “life time grease lubricated” ball bearings.

### Shaft Sealing

- For pumps bigger than 12 HP, always double mechanical seal is applied while for pumps up to 12 HP, single mechanical seal is applied as standard.

- In case of request, double mechanical seal can also be applied for pumps up to 12HP.





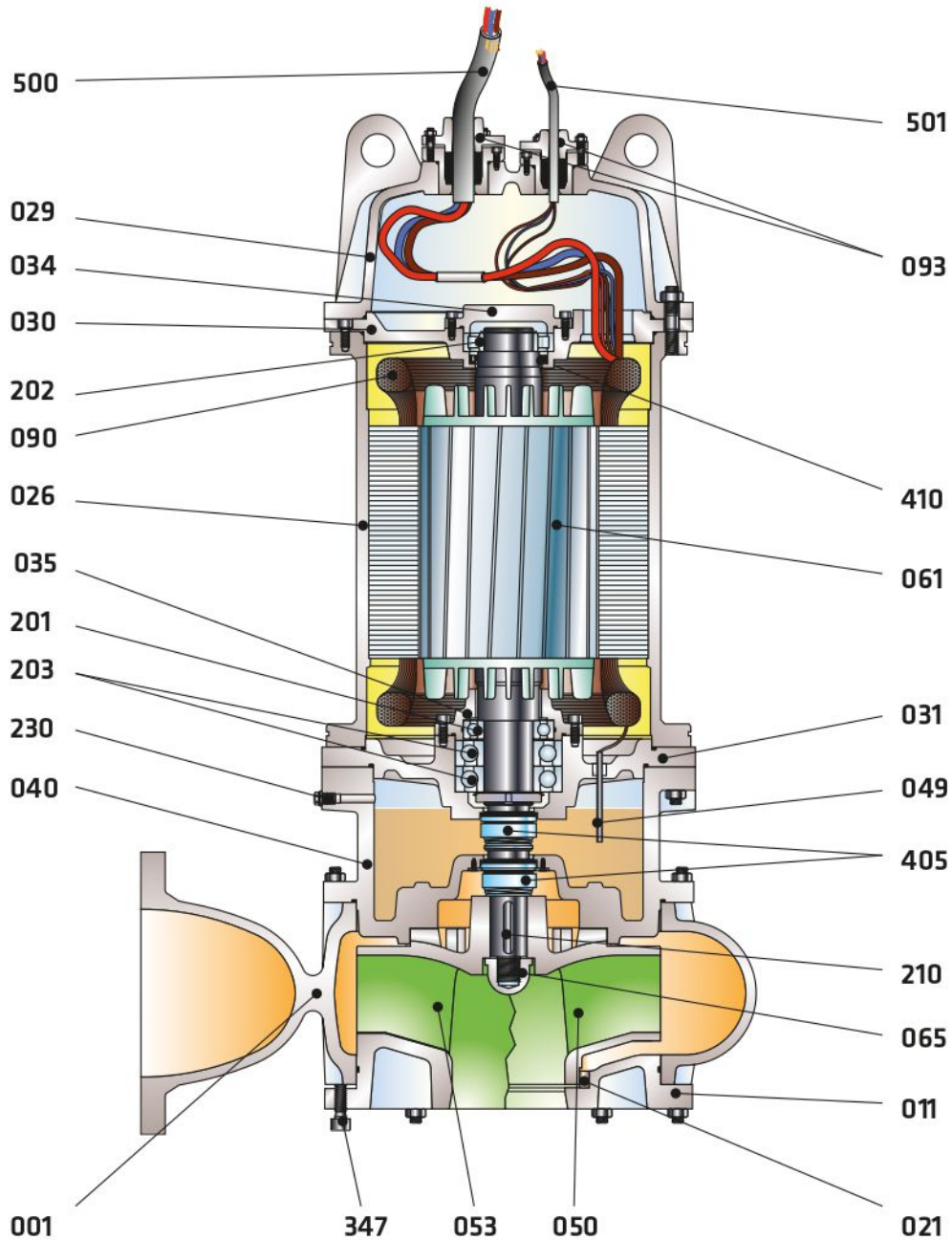
Part List

|     |                         |       |                                    |
|-----|-------------------------|-------|------------------------------------|
| 001 | Volute Casing           | 090   | Stator                             |
| 026 | Motor Casing            | 200.1 | Bottom Bearing                     |
| 029 | Top Cover               | 200.2 | Top Bearing                        |
| 031 | Bearing Housing         | 210   | Impeller Key                       |
| 040 | Oil Chamber             | 230   | Oil Plug                           |
| 042 | Gland                   | 405   | Mechanical Seal                    |
| 049 | Water Leakage Electrode | *406  | Mechanical Seal                    |
| 050 | Impeller                | 410   | Oil Seal                           |
| 061 | Rotor Shaft             | 500   | Energy and Control Cable with Plug |
| 066 | Impeller Nut            | 510   | Socket                             |

(\*) Optional

## Sectional Drawing (bigger than 12 HP)

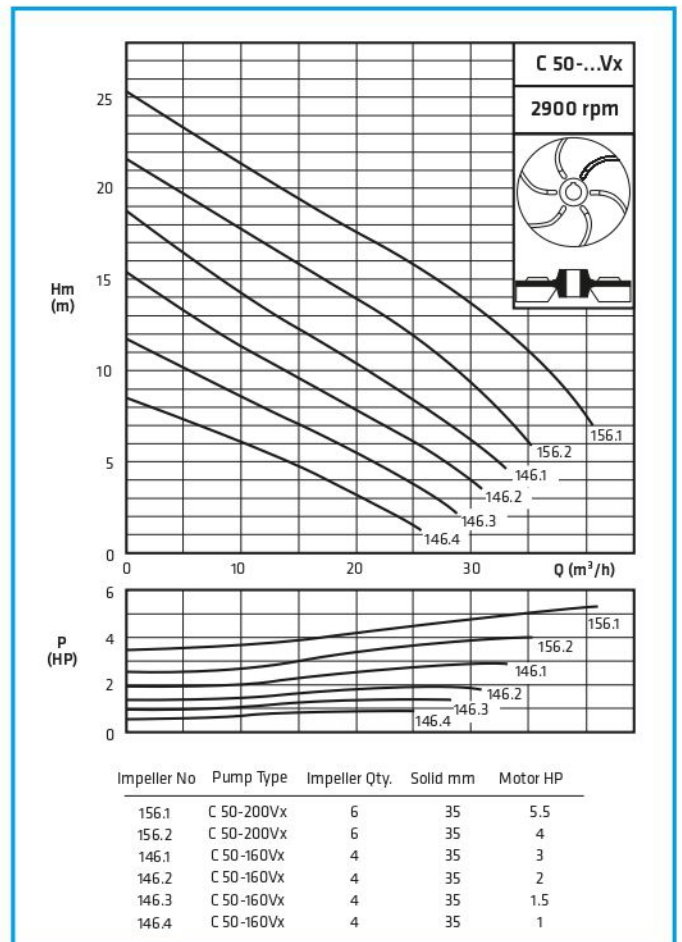
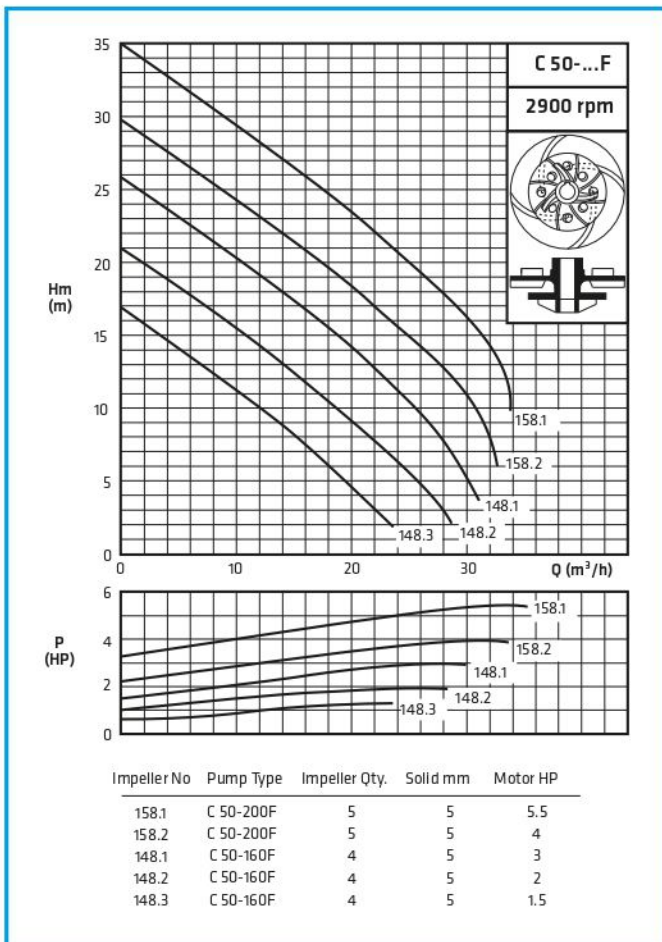
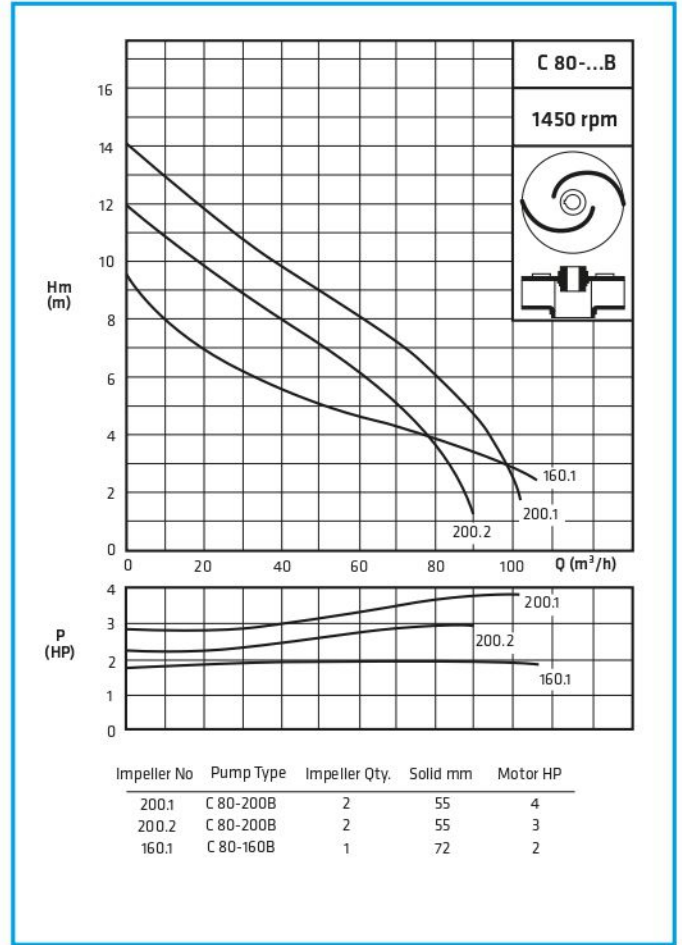
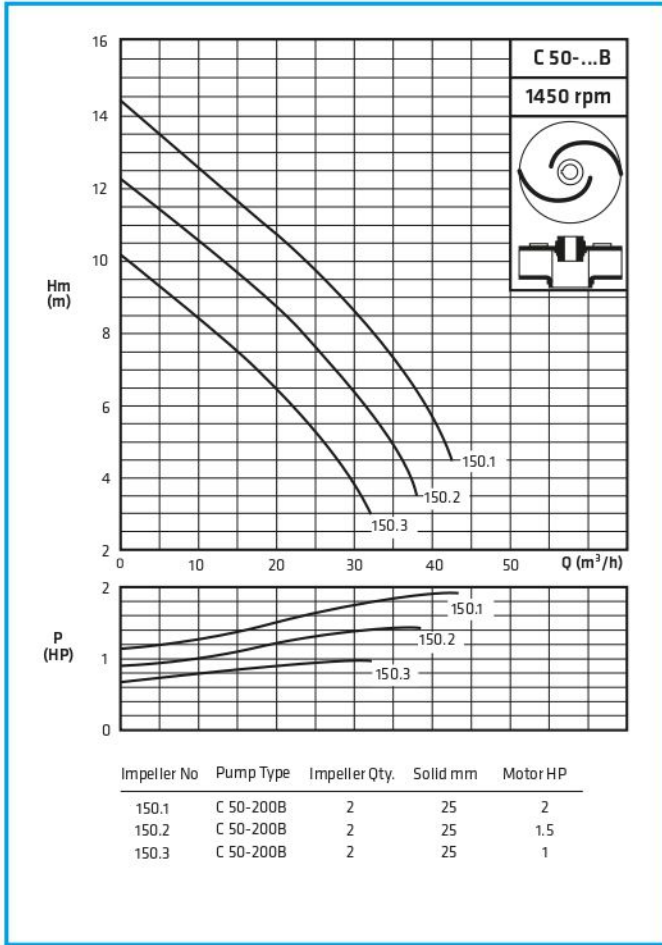
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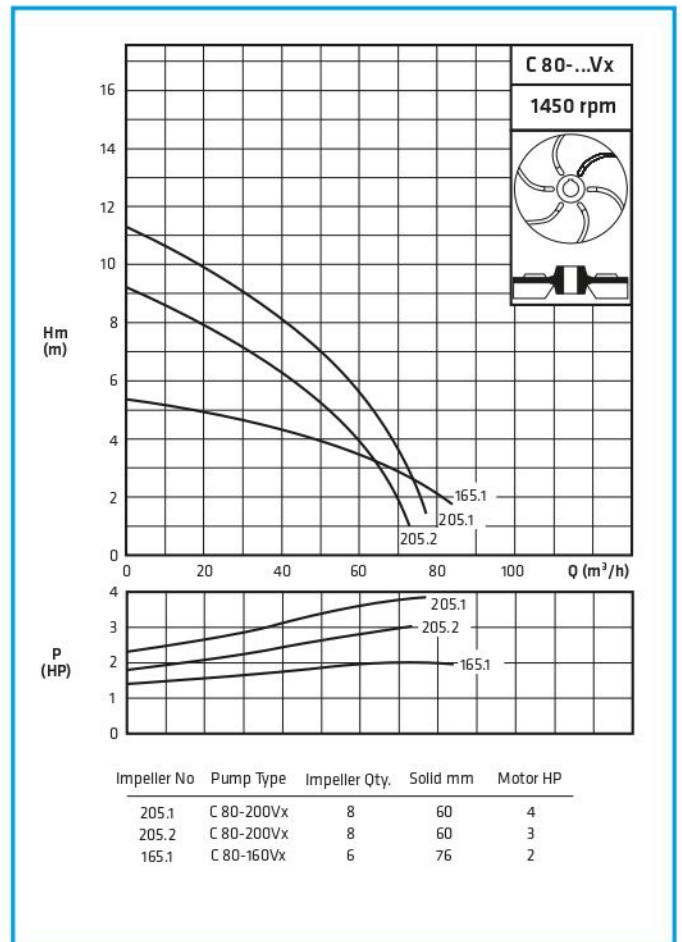
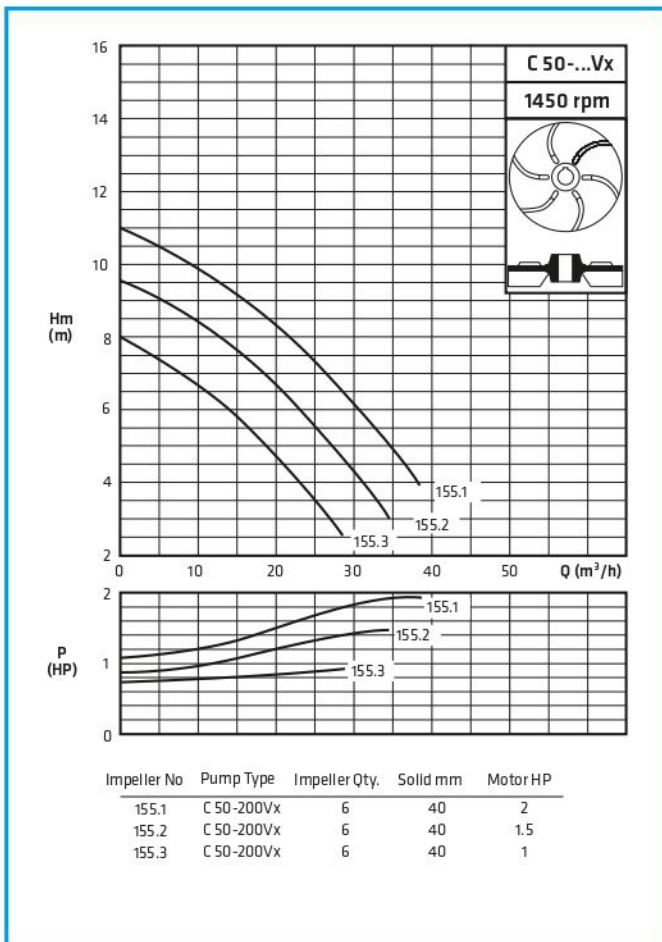
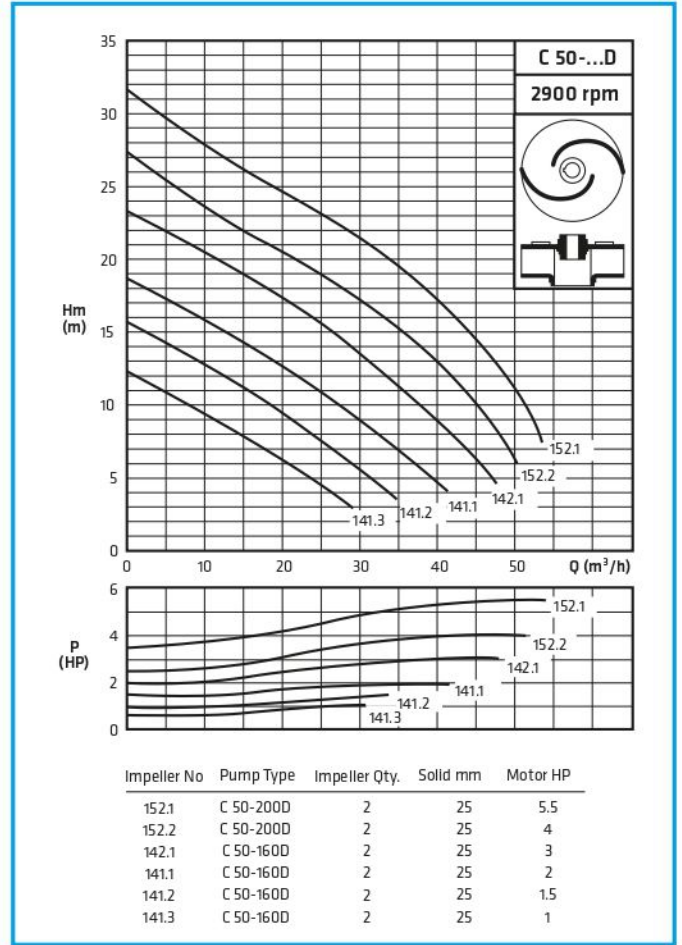
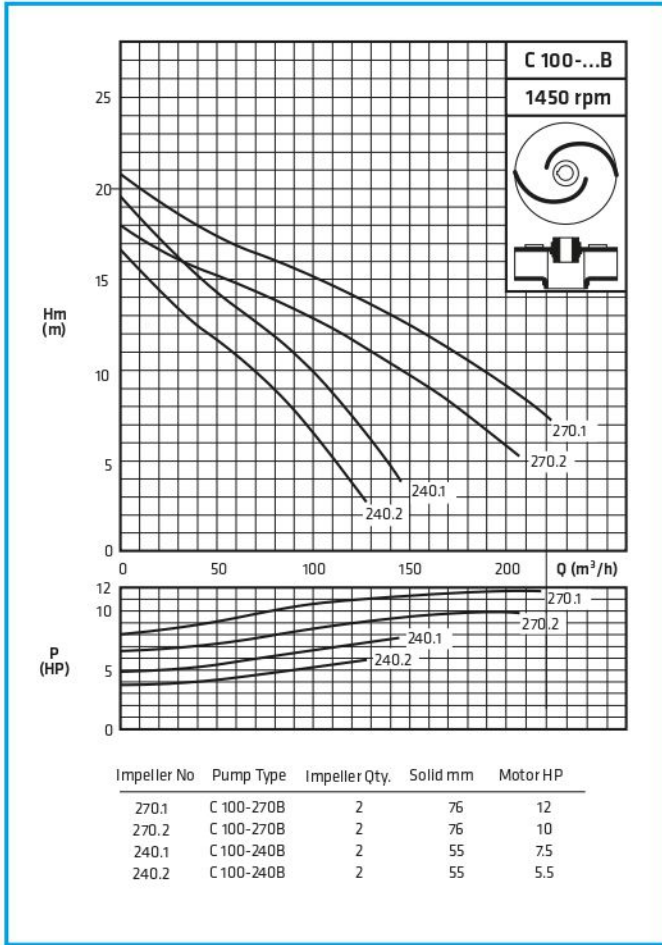


### Part List

|     |                        |     |                         |     |                              |
|-----|------------------------|-----|-------------------------|-----|------------------------------|
| 001 | Volute Casing          | 040 | Oil Chamber             | 202 | Bottom Bearing               |
| 011 | Bottom Cover           | 049 | Water Leakage Electrode | 203 | Angular Contact Ball Bearing |
| 021 | Wear Ring              | 050 | Closed Impeller         | 210 | Impeller Key                 |
| 026 | Motor Casing           | 053 | Semi-open Impeller      | 230 | Oil Plug                     |
| 029 | Top Cover              | 061 | Rotor Shaft             | 347 | Adjustment Bolt              |
| 030 | Top Bearing Housing    | 065 | Impeller Nut            | 405 | Mechanical Seal              |
| 031 | Bottom Bearing Housing | 090 | Stator                  | 410 | Oil Seal                     |
| 034 | Top Bearing Cover      | 093 | Gasket Compress Cover   | 500 | Energy Cable                 |
| 035 | Bottom Bearing Cover   | 201 | Bottom Bearing          | 501 | Control Cable                |

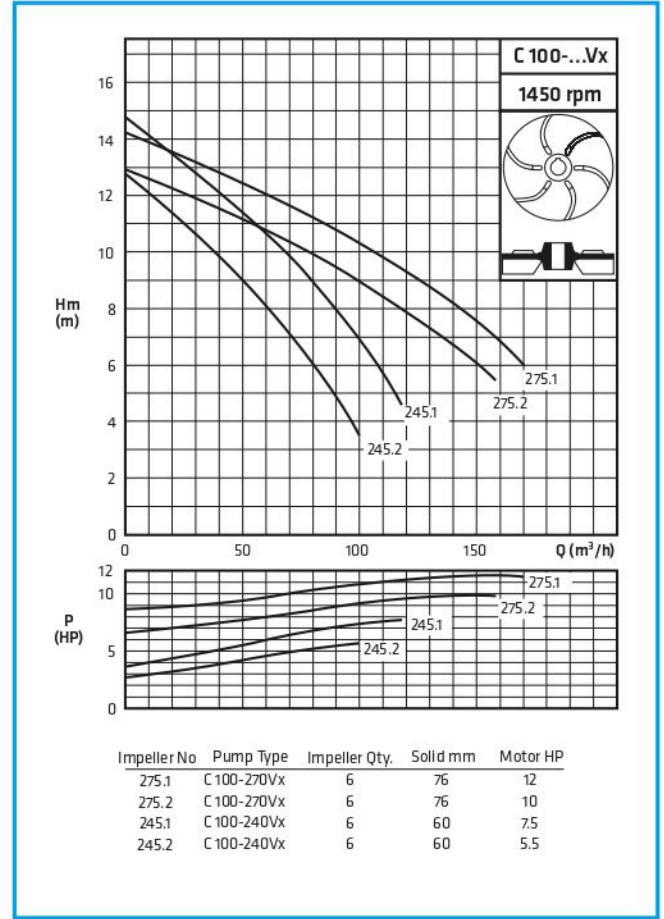
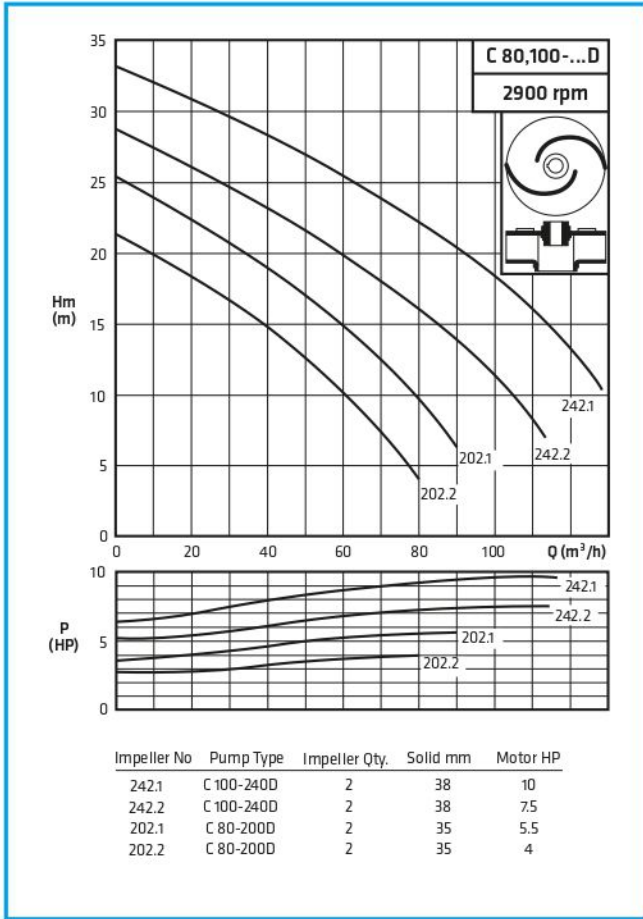






## Field Chart

C



## Material Options

| PART LIST       | 0.6025 | 0.7040 | 1.0619 | 1.4308 | 1.4309 | 1.4408 | 1.4409 | 1.4517 | 1.4317 | 2.1050.01 | 2.0975.01 | 1.4021 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|-----------|--------|
| Volute Casing   | ●      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         |           |        |
| Motor Casing    | ●      | ○      |        | ○      | ○      | ○      |        |        |        |           |           |        |
| Impeller        | ●      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○      | ○         | ○         |        |
| Rotor Shaft     |        |        |        |        |        |        |        |        |        |           |           | ●      |
| Oil Chamber     | ●      | ○      |        |        |        |        |        |        |        |           |           |        |
| Mechanical Seal |        |        |        |        |        |        |        |        |        |           |           |        |

EN 12756 / DIN 24960

● Standard manufacturing  
○ Optional

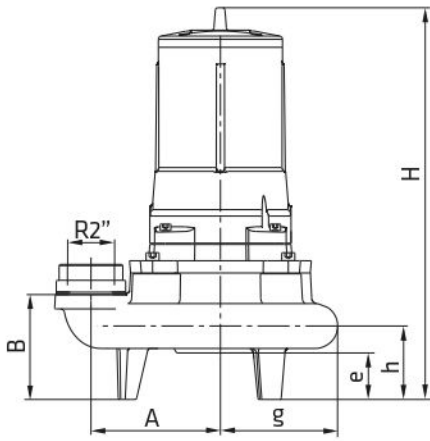
## Material Equivalents

| Description                                      |           | DIN / EN              | AISI / SAE / ASTM |
|--|-----------|-----------------------|-------------------|
| Cast Iron  | 0.6025    | EN-GJL-250 (GG25)     | A48 Class 40B     |
| Nodular Cast Iron                                | 0.7040    | EN-GJS-400-15 (GGG40) | A536 60-40-18     |
| Cast Steel                                       | 1.0619    | GP240GHGS-C25         | A216 WCB          |
| Chrome Nickel Cast Steel                         | 1.4308    | GX5CrNi19-10          | A351 CF8          |
| Chrome Nickel Cast Steel (low carbon)            | 1.4309    | GX2CrNi19-11          | A351 CF3          |
| Chrome Nickel Molybdenum Cast Steel              | 1.4408    | GX5CrNiMo19-11-2      | A351 CF8M         |
| Chrome Nickel Molybdenum Cast Steel (low carbon) | 1.4409    | GX2CrNiMo19-11-2      | A351 CF3M         |
| Austenitic - Ferritic Cast Steel (duplex)        | 1.4517    | GX2CrNiMoCuN25-6-3-3  | A890 CD4MCuN      |
| Martenzitic Stainless Cast Steel                 | 1.4317    | GX4CrNi13-4           | A352 CA6NM        |
| Cast Bronze (tin alloy)                          | 2.1050.01 | G-CuSn10              | B427 C90700       |
| Cast Bronze (nickel alloy)                       | 2.0975.01 | G-CuAl10Ni            | B584 C83600       |
| Chrome Steel                                     | 1.4021    | X20Cr13               | A276 Type 420     |

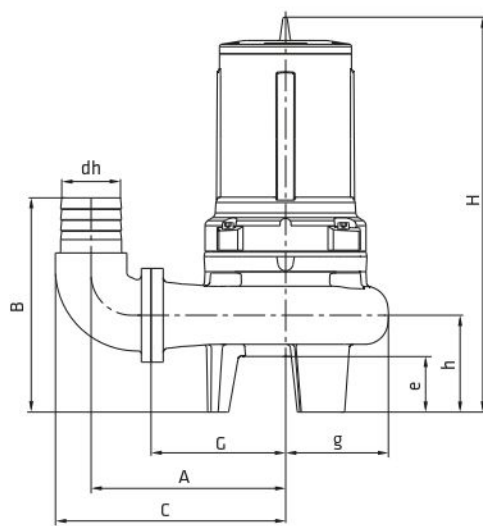


# Technical Data (up to 12 HP) According to TS 12599

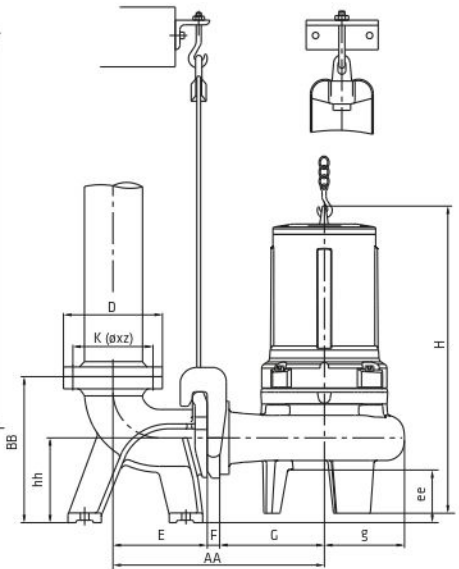
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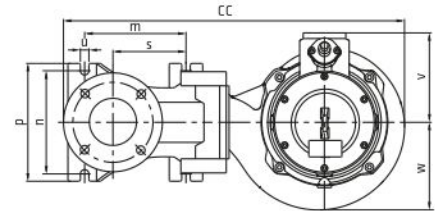
C 50 Hose Connection



C 80-100 Hose Connection



C 50-80-100 Auto Coupling Connection



| Pump Type | Impeller Type | MOTOR      |        |      | DISCHARGE |    | PUMP DIMENSIONS (mm) |     |     |    |     |     |     |     |     |     | Oil (ml) | Weight (kg) |
|-----------|---------------|------------|--------|------|-----------|----|----------------------|-----|-----|----|-----|-----|-----|-----|-----|-----|----------|-------------|
|           |               | Power - HP | IEC No | 2900 | DN        | R" | A                    | B   | C   | e  | h   | H   | G   | g   | v   | w   |          |             |
| 50-160    | Vx            | -          | 1      | 80   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 430 | 185 | 114 | 130 | 125 | 750      | 29          |
| 50-160    | Vx            | -          | 1,5    | 80   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 430 | 185 | 114 | 130 | 125 | 750      | 34          |
| 50-160    | Vx            | -          | 2      | 90   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 475 | 185 | 114 | 138 | 125 | 750      | 38          |
| 50-160    | Vx            | -          | 3      | 90   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 475 | 185 | 114 | 138 | 125 | 750      | 41          |
| 50-160    | D             | -          | 1      | 80   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 430 | 185 | 114 | 130 | 125 | 750      | 32          |
| 50-160    | D             | -          | 1,5    | 80   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 430 | 185 | 114 | 130 | 125 | 750      | 34          |
| 50-160    | D             | -          | 2      | 90   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 475 | 185 | 114 | 138 | 125 | 750      | 39          |
| 50-160    | D             | -          | 3      | 90   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 475 | 185 | 114 | 138 | 125 | 750      | 41          |
| 50-160    | F             | -          | 1,5    | 80   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 412 | 185 | 114 | 130 | 125 | 750      | 33          |
| 50-160    | F             | -          | 2      | 90   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 457 | 185 | 114 | 138 | 125 | 750      | 38          |
| 50-160    | F             | -          | 3      | 90   | 50        | 2" | 139                  | 131 | -   | 55 | 90  | 457 | 185 | 114 | 138 | 125 | 750      | 40          |
| 50-200    | Vx            | 1          | -      | 80   | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 438 | 205 | 144 | 130 | 152 | 750      | 41          |
| 50-200    | Vx            | 1,5        | -      | 90   | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 483 | 205 | 144 | 138 | 152 | 750      | 45          |
| 50-200    | Vx            | 2          | -      | 90   | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 483 | 205 | 144 | 138 | 152 | 750      | 47          |
| 50-200    | Vx            | -          | 4      | 100  | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 524 | 205 | 144 | 148 | 152 | 1000     | 54          |
| 50-200    | Vx            | -          | 5,5    | 112  | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 529 | 205 | 144 | 158 | 152 | 1000     | 59          |
| 50-200    | B             | 1          | -      | 80   | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 438 | 205 | 144 | 130 | 152 | 750      | 41          |
| 50-200    | B             | 1,5        | -      | 90   | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 483 | 205 | 144 | 138 | 152 | 750      | 46          |
| 50-200    | B             | 2          | -      | 90   | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 483 | 205 | 144 | 138 | 152 | 750      | 48          |
| 50-200    | D             | -          | 4      | 100  | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 524 | 205 | 144 | 148 | 152 | 1000     | 54          |
| 50-200    | D             | -          | 5,5    | 112  | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 529 | 205 | 144 | 158 | 152 | 1000     | 60          |
| 50-200    | F             | -          | 4      | 100  | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 496 | 205 | 144 | 138 | 152 | 1000     | 52          |
| 50-200    | F             | -          | 5,5    | 112  | 50        | 2" | 160                  | 129 | -   | 57 | 90  | 501 | 205 | 144 | 135 | 152 | 1000     | 58          |
| 80-160    | Vx            | 2          | -      | 90   | 80        | -  | 262                  | 287 | 304 | 62 | 133 | 540 | 180 | 130 | 138 | 146 | 1000     | 58          |
| 80-160    | B             | 2          | -      | 90   | 80        | -  | 262                  | 287 | 304 | 62 | 133 | 540 | 180 | 130 | 138 | 146 | 1000     | 58          |
| 80-200    | Vx            | 4          | -      | 100  | 80        | -  | 282                  | 286 | 324 | 70 | 132 | 573 | 200 | 150 | 148 | 168 | 1000     | 62          |
| 80-200    | Vx            | 3          | -      | 100  | 80        | -  | 282                  | 286 | 324 | 70 | 132 | 573 | 200 | 150 | 148 | 168 | 1000     | 58          |
| 80-200    | B             | 4          | -      | 100  | 80        | -  | 282                  | 286 | 324 | 70 | 132 | 573 | 200 | 150 | 148 | 168 | 1000     | 64          |
| 80-200    | B             | 3          | -      | 100  | 80        | -  | 282                  | 286 | 324 | 70 | 132 | 573 | 200 | 150 | 148 | 168 | 1000     | 60          |
| 80-200    | D             | -          | 4      | 100  | 80        | -  | 282                  | 286 | 324 | 70 | 132 | 573 | 200 | 150 | 148 | 168 | 1000     | 59          |
| 80-200    | D             | -          | 5,5    | 112  | 80        | -  | 282                  | 286 | 324 | 70 | 132 | 578 | 200 | 150 | 158 | 168 | 1000     | 65          |
| 100-240   | Vx            | 5,5        | -      | 112  | 100       | -  | 324                  | 356 | 383 | 94 | 162 | 608 | 225 | 170 | 158 | 186 | 1000     | 80          |
| 100-240   | Vx            | 7,5        | -      | 132  | 100       | -  | 324                  | 356 | 383 | 94 | 162 | 657 | 225 | 170 | 190 | 186 | 2000     | 101         |
| 100-240   | B             | 5,5        | -      | 112  | 100       | -  | 324                  | 356 | 383 | 94 | 162 | 608 | 225 | 170 | 158 | 186 | 1000     | 82          |
| 100-240   | B             | 7,5        | -      | 132  | 100       | -  | 324                  | 356 | 383 | 94 | 162 | 657 | 225 | 170 | 190 | 186 | 2000     | 104         |
| 100-240   | D             | -          | 7,5    | 132  | 100       | -  | 324                  | 356 | 383 | 94 | 162 | 657 | 225 | 170 | 190 | 186 | 2000     | 94          |
| 100-240   | D             | -          | 10     | 132  | 100       | -  | 324                  | 356 | 383 | 94 | 162 | 657 | 225 | 170 | 190 | 186 | 2000     | 103         |
| 100-270   | Vx            | 10         | -      | 132  | 100       | -  | 359                  | 364 | 418 | 88 | 170 | 678 | 260 | 211 | 198 | 228 | 2000     | 123         |
| 100-270   | Vx            | 12         | -      | 132  | 100       | -  | 359                  | 364 | 418 | 88 | 170 | 678 | 260 | 211 | 198 | 228 | 2500     | 123         |
| 100-270   | B             | 10         | -      | 132  | 100       | -  | 359                  | 364 | 418 | 88 | 170 | 678 | 260 | 211 | 198 | 228 | 2500     | 126         |
| 100-270   | B             | 12         | -      | 132  | 100       | -  | 359                  | 364 | 418 | 88 | 170 | 678 | 260 | 211 | 198 | 228 | 2500     | 126         |



## Impeller Type

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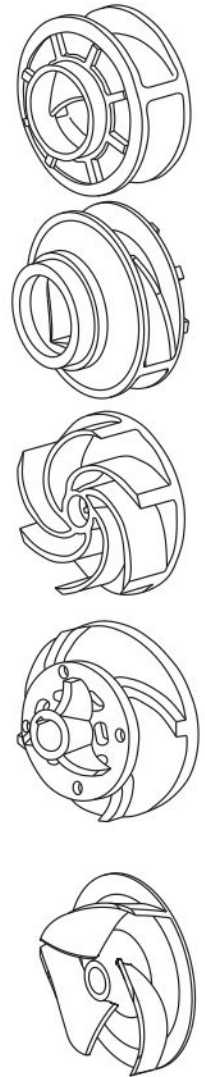
**B Type Impeller:** Enclosed type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is mainly used for 4 pole motors.

**D Type Impeller:** It is also enclosed type like B type but suitable for high speed motors (2 pole). It is convenient for high pressure, small capacity and smaller size solid particles.

**VX Type Impeller:** Semi-open free vortex type impeller is placed on top of the volute. It creates a forced vortex motion in the casing. It is mostly suitable for fibrous materials. They are suitable for low head applications but pump efficiency is lower compare to other impeller types. The increased clearances limit the head that can be generated and reduce the attainable efficiency. Recessed type impellers are also possible for some models. With this type of design solid particles up to pump flanges size can pass through the pump. Please ask for more information.

**F Type Impeller:** Semi-open type impeller with cutter. The cutting system is placed in front of the impeller and it breaks up the solid particles into smaller sizes that makes passing possible through the smaller pipes without sticking. F type impeller is suitable for small capacity, high pressure, but the pump efficiency is also low.

**AB Type Impeller:** Semi-open type impellers with wide channels capable of pumping large size solid particles without clogging, for big capacity and low pressure. It is more suitable for 4 pole motors. Designed for aggressive applications. Impeller works against a wear plate. Clearance between the wear plate and impeller blades is between 0.25 - 0.40 mm.



1 - Temperature **SENSOR** (130°C) in F class winding head protection for overheating.

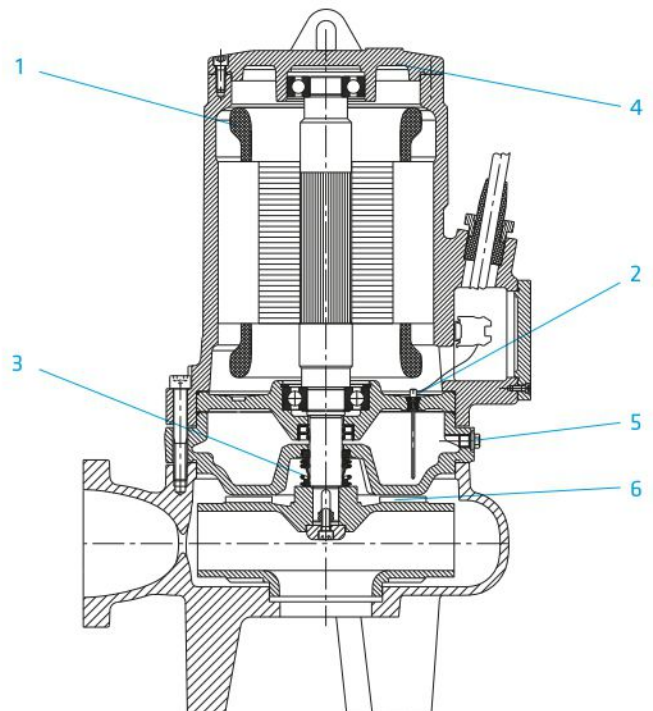
2 - Signaling **ELECTRODE** in case of leakage into the motor or into the oil chamber.

3 - **MECHANICAL SEAL** running in pumping liquid.

4 - Demountable **TOP COVER** for easy motor winding.

5 - Oil filling and inspection **PLUG**.

6 - **BACK VANES** for reducing axial load and sealing pressure.



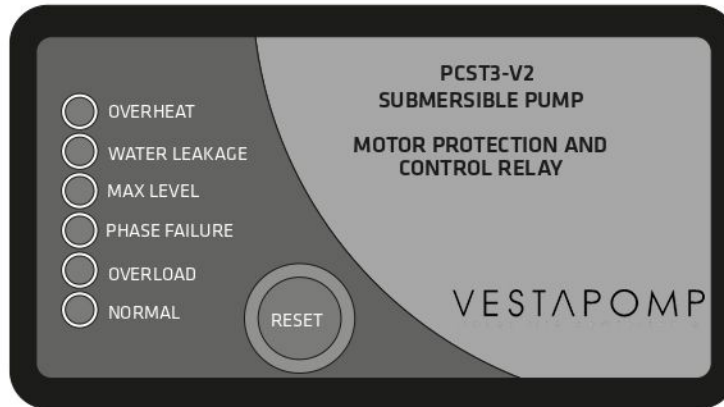
## PCST3-V2 MOTOR PROTECTION AND CONTROL RELAY

C

Standart PCST3-V2 Motor Protection and Control Relay is an indispensable part of Standart C type pumps. It is supplied with the pump and it shall be used to secure smooth operation of motor and the pump.

### FUNCTION:

When the device is switched on, all indicator lights blink in order and the control unit makes a self-check. If there is not any failure, NORMAL indicator light switches on in green indicating it is ready to run the motor.



### OVER HEAT

In case of overheating of motor windings, in which the temperature exceeds 130°C, the red indicator light switches on and the relay shuts down the motor. Indicator light blinks in short periods at alarming position. When motor has cooled down, relay restarts the motor while alarming goes on until the RESET button is pressed. Pressing the RESET button disables the alarm relay and indicator light stops blinking.

### WATER LEAKAGE

In case of water leakage into the motor casing or oil chamber, red indicator light switches on and the relay shuts down the motor. Alarm relay becomes activated and until the RESET button is pressed, alarming goes on by blinking of red indicator light in short periods. When this failure occurs, the pump needs to be overhauled.

### MAX LEVEL

When water level reaches the maximum level, which is set by the user, float switch sends an alarm signal and yellow indicator light starts blinking. This alarm does not affect the current state (run or stop) of the pump. Pressing the RESET button disables the alarm relay and indicator light stops blinking.

### PHASE FAILURE

An external phase protection relay, mounted in the control panel, is connected to PCST3-V2 for checking phase sequence and phase failures. When there is a failure in mains voltage or in phase sequence, the motor is shut down by the relay and red indicator light starts blinking. By the time the failure is fixed, the motor restarts automatically while alarming goes on until the RESET button is pressed.

### OVERLOAD

The relay shuts down the motor, if the current overload limit is exceeded. Meanwhile, alarm relay becomes activated and red indicator light starts blinking. As the failure is fixed, pressing the RESET button will disable the overload and the alarm relay, so the system turns back to normal conditions.

### NORMAL

By the time all red indicator lights on PCST3-V2 switch off, green indicator light switches on, meaning that it is ready to run the motor. In case of failure, green indicator light switches off and the relay shuts down the motor.

PCST3-V2 is an indispensable part of Standart C type pumps. If it is damaged, do not try to operate the motor without it.

## Waste Water Pump Station

Submersible pump and pumps in cabinet are type packages that contain vanes level control equipments and unit control systems. They offer an ideal for low level waste water pump stations.

This cabinet designs prevent groundwater pollution to a great extent and also prevent smelling.

### Technical Specifications

- Cabin Volume : 500 liters
- Quantity of Pump: 1 main + 1 spare
- Piping Diameter: DN 50
- Material : Polyester fiberglass composite
- Connection pipes, skid pipes, vane and checkvalves, including grid basket.
- Pipe Connections 2"
- Falling protection

