

# S pumps, range 62

15 to 50 kW; 50 Hz



|                                                            |           |                                                    |           |
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# 1. Introduction

## Introduction

This data booklet deals with Grundfos heavy-duty sewage pumps type S, range 62.



TM070218

*S pump, range 62*

S pumps, range 62, are a range of channel impeller pumps specifically designed for pumping sewage and wastewater in a wide range of municipal, private and industrial applications.

The pumps are made of resistant materials, such as cast iron and stainless steel. These materials ensure a proper operation.

The pumps are fitted with motors from 15 to 50 kW. The motors are either 4-, 8- or 12-pole motors, depending on the motor size.

The free passage in the pumps is 80 to 145 mm.

The pumps are available for these types of installation:

- submerged installation on auto-coupling system
- submerged installation, free-standing
- dry installation, vertical
- dry installation, horizontal.

## Applications

S pumps are designed for applications such as these:

- raw-water intake
- wastewater treatment plants
- municipal pumping stations
- public buildings
- blocks of flats
- industries
- garages
- underground car parks
- car-wash areas
- restaurants and hotels.

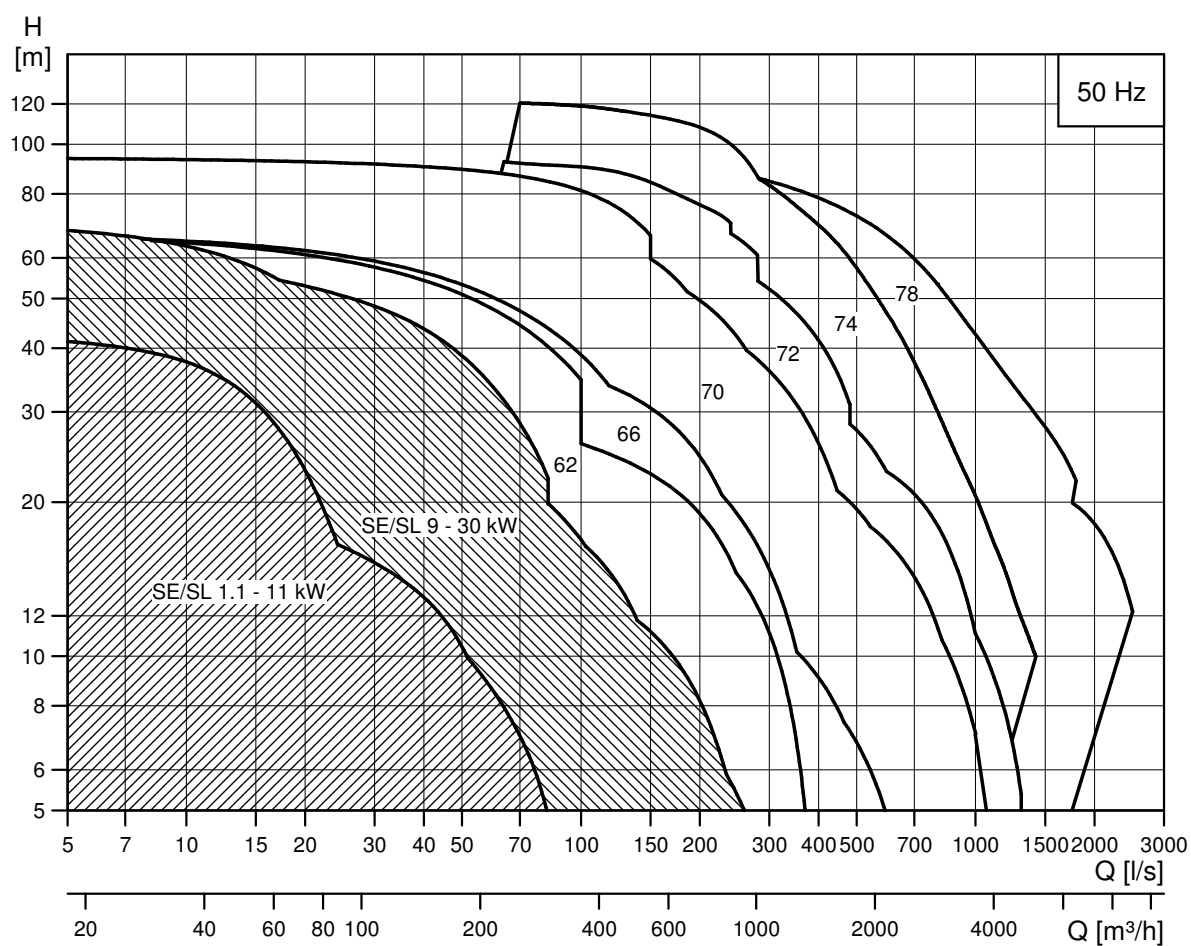
The pumps are suitable for both temporary and permanent installation. The lifting bracket fitted on the pumps facilitates easy transportation as well as installation at the installation site.

## Main constructional features

- Leak-proof connections via the Grundfos SmartSeal sealing system
- double mechanical shaft seal system for reliable sealing between pumped liquid and motor
- watertight cable entry
- moisture switch for continuous monitoring of motor housing and terminal box ensuring automatic cut-off of power in case of ingress of liquid
- self-cleaning channel impeller with long vanes reducing the risk of jamming or clogging
- SmartTrim system allowing easy adjustment of impeller clearance and maintaining maximum pump efficiency over pump lifetime
- motor in insulation class F (155 °C), enclosure class IP68 with three thermal sensors in stator windings
- shaft seal condition monitoring via water-in-oil sensor (optional)
- explosion-proof motors for applications involving potential risk of explosion
- three stainless steel versions for use in corrosive or aggressive liquids:
  - stainless steel impeller, cast iron pump and motor housing
  - stainless steel pump housing, flange and impeller, cast iron motor housing made entirely of corrosion-resistant stainless steel.

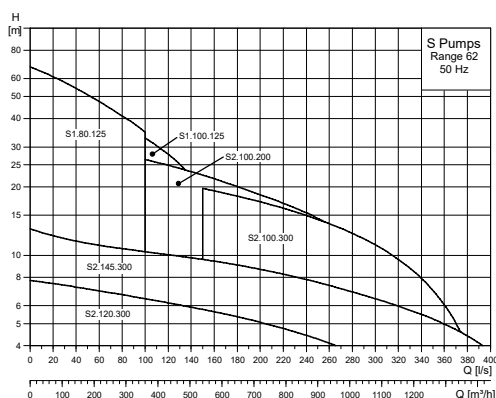
## 2. Performance range

### Performance range overview, S pumps



TM053391

## Performance range, S pumps, range 62



TM041876

## List of pump curves

## 3 x 400/690 V

| Pump type             | Pressure range | Curve chart                                                                                              |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------------|
| S3.120.300.xxx.12.62F | Super low      | <a href="#">S3.120.300.150.12</a>                                                                        |
| S2.145.300.xxx.8.62E  | Extra low      | <a href="#">S2.145.300.200.8</a> and <a href="#">S2.145.300.280.8</a>                                    |
| S2.100.300.xxx.4.62E  |                | <a href="#">S2.100.300.300.4</a> , <a href="#">S2.100.300.400.4</a> and <a href="#">S2.100.300.500.4</a> |
| S2.100.200.xxx.4.62L  |                | <a href="#">S2.100.200.400.4</a> and <a href="#">S2.100.200.500.4</a>                                    |
| S1.100.125.xxx.4.62M  | Medium         | <a href="#">S1.100.125.300.4</a> , <a href="#">S1.100.125.400.4</a> and <a href="#">S1.100.125.500.4</a> |
| S1.80.125.xxx.4.62H   | High           | <a href="#">S1.80.125.300.4</a> , <a href="#">S1.80.125.400.4</a> and <a href="#">S1.80.125.500.4</a>    |

## 3 x 415 V

| Pump type             | Pressure range | Curve chart                                                                                              |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------------|
| S3.120.300.xxx.12.62F | Super low      | <a href="#">S3.120.300.150.12</a>                                                                        |
| S2.145.300.xxx.8.62E  | Extra low      | <a href="#">S2.145.300.200.8</a> and <a href="#">S2.145.300.180.8</a>                                    |
| S2.100.300.xxx.4.62E  |                | <a href="#">S2.100.300.300.4</a> , <a href="#">S2.100.300.400.4</a> and <a href="#">S2.100.300.500.4</a> |
| S2.100.200.xxx.4.62L  |                | <a href="#">S2.100.200.400.4</a> and <a href="#">S2.100.200.500.4</a>                                    |
| S1.100.125.xxx.4.62M  | Medium         | <a href="#">S1.100.125.300.4</a> , <a href="#">S1.100.125.400.4</a> and <a href="#">S1.100.125.500.4</a> |
| S1.80.125.xxx.4.62H   | High           | <a href="#">S1.80.125.300.4</a> , <a href="#">S1.80.125.400.4</a> and <a href="#">S1.80.125.500.4</a>    |

## 3. Identification

### Type key

Please note that the pump type described in this booklet is not necessarily available in all variants.

Example: **S1.100.100.55.4.50M.S.205.G.N.D.511.Z**

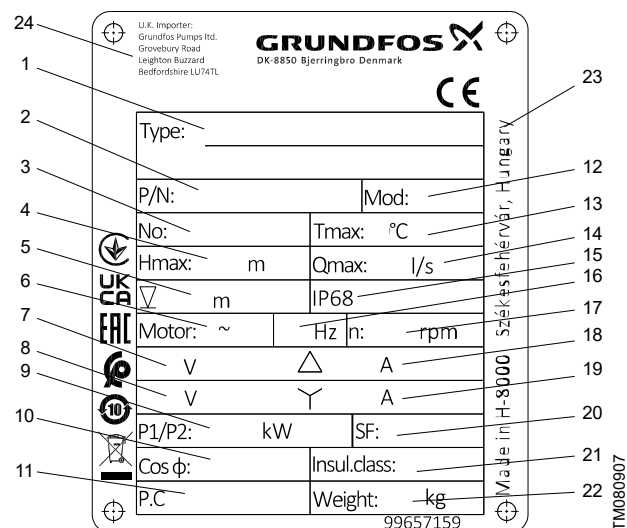
| Code | Explanation                                                                   | Designation                                                 |
|------|-------------------------------------------------------------------------------|-------------------------------------------------------------|
| S    | Grundfos sewage and wastewater pump                                           | Pump type                                                   |
| 1    | Single-channel impeller                                                       | Impeller type                                               |
| 2    | Two-channel impeller                                                          |                                                             |
| 3    | Three-channel impeller                                                        |                                                             |
| V    | SuperVortex impeller                                                          |                                                             |
| 100  | Maximum solid size [mm]                                                       | Pump passage                                                |
| 100  | Nominal diameter of pump outlet port [mm]                                     | Pump outlet, S-type                                         |
| 55   | P2 = Code number from type designation / 10                                   | Power output [kW] <sup>1</sup>                              |
| 2    | 2-pole motor                                                                  | Number of poles                                             |
| 4    | 4-pole motor                                                                  |                                                             |
| 6    | 6-pole motor                                                                  |                                                             |
| 8    | 8-pole motor                                                                  |                                                             |
| 10   | 10-pole motor                                                                 |                                                             |
| 12   | 12-pole motor                                                                 |                                                             |
| 50   | Range 50                                                                      | Pump range                                                  |
| 54   | Range 54                                                                      |                                                             |
| 58   | Range 58                                                                      |                                                             |
| 62   | Range 62                                                                      |                                                             |
| 66   | Range 66                                                                      |                                                             |
| 70   | Range 70                                                                      |                                                             |
| S    | Super-high                                                                    | Pressure version                                            |
| H    | High                                                                          |                                                             |
| M    | Medium                                                                        |                                                             |
| L    | Low                                                                           |                                                             |
| E    | Extra-low                                                                     |                                                             |
| F    | Super-low                                                                     |                                                             |
| S    | Submersible installation without cooling jacket                               | Installation type                                           |
| C    | Submersible installation with cooling jacket                                  |                                                             |
| D    | Dry installation, vertical                                                    |                                                             |
| H    | Dry installation, horizontal                                                  |                                                             |
| 205  | Impeller diameter [mm]                                                        | Impeller diameter (mean)                                    |
| G    | Cast-iron impeller, pump housing, and stator housing                          | Material code for impeller, pump housing and stator housing |
| Q    | Stainless-steel impeller, DIN W.-Nr. 1.4408                                   |                                                             |
| S    | Stainless-steel impeller and pump housing, DIN W.-Nr. 1.4408                  |                                                             |
| R    | Stainless steel-impeller, pump housing, and stator housing, DIN W.-Nr. 1.4408 |                                                             |
| N    | Non-explosion-proof pump                                                      | Pump version                                                |
| Ex   | Pump with explosion-proof motor                                               |                                                             |
| B    | S pump with built-in SM 113 <sup>2</sup>                                      | Sensor version                                              |
| C    | Not in use                                                                    |                                                             |
| D    | S pump without built-in SM 113                                                |                                                             |

| Code | Explanation                       | Designation                 |
|------|-----------------------------------|-----------------------------|
| 5    | 50 Hz                             | Frequency [Hz]              |
| 6    | 60 Hz                             |                             |
| 11   | 3 x 400 / 690 V, Y/D (50 Hz only) | Voltage code and connection |
|      | 3 x 460 V, Y/D (60 Hz only)       |                             |
| 13   | 3 x 415 V, Y/D (50 Hz only)       |                             |
| 15   | 3 x 380 / 660 V, Y/D (60 Hz only) |                             |
| GPA  | Pumps only for Australia          | Customisation               |
| Z    | Custom-built products             |                             |

<sup>1</sup> The power output (P2) indicated in the type key, which is used to indicate the motor size, can deviate from the actual power output.

<sup>2</sup> PTC sensors are connected directly to IO 113 or another PTC relay.

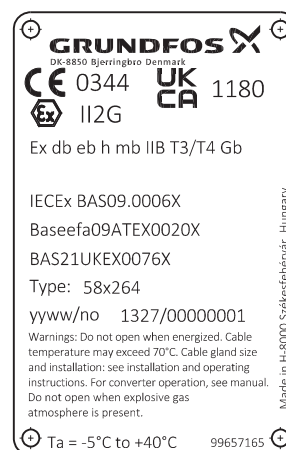
## Pump nameplate



Pump nameplate

| Pos. | Description                       |
|------|-----------------------------------|
| 1    | Type designation                  |
| 2    | Product number                    |
| 3    | Serial number                     |
| 4    | Maximum head [m]                  |
| 5    | Maximum installation depth [m]    |
| 6    | Number of phases                  |
| 7    | Voltage, delta connection         |
| 8    | Voltage, star connection          |
| 9    | Rated power input / output [kW]   |
| 10   | Cos φ, 1/1 load                   |
| 11   | Production code (YYWW)            |
| 12   | Production number                 |
| 13   | Maximum liquid temperature [°C]   |
| 14   | Maximum flow rate [l/s]           |
| 15   | Ingress Protection class          |
| 16   | Frequency [Hz]                    |
| 17   | Rated speed                       |
| 18   | Current, delta connection         |
| 19   | Current, star connection          |
| 20   | Safety factor                     |
| 21   | Insulation class                  |
| 22   | Net weight [kg]                   |
| 23   | Place of production               |
| 24   | UK importer address for UK market |

## Ex approval plate



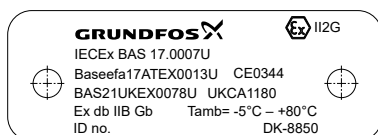
Approval plate of explosion-proof pumps, T3 and T4 classification

The approval plate provides the following details:

|      |                                                                                                                                                 |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Ex   | The equipment conforms to harmonised European standard.                                                                                         |
| II   | Equipment group (II = non-mining)                                                                                                               |
| 2    | Equipment category (high protection)                                                                                                            |
| G    | Type of explosive atmosphere (gas)                                                                                                              |
| CE   | CE mark                                                                                                                                         |
| UKCA | UKCA mark                                                                                                                                       |
| 0344 | Number of quality assurance notified body                                                                                                       |
| 1180 | Number of quality assurance notified body                                                                                                       |
| Ex   | Marking of explosion protection                                                                                                                 |
| db   | Flameproof enclosure, Zone 1                                                                                                                    |
| eb   | WIO sensor protection by increased safety                                                                                                       |
| h    | Constructional safety "c", Control of ignition sources "b" and Liquid immersion "k", according to EN ISO 80079-36:2016 and EN ISO 80079-37:2016 |
| mb   | WIO sensor protection by encapsulation                                                                                                          |
| IIB  | Gas group (ethylene)                                                                                                                            |
| T3   | The maximum surface temperature of the motor is 200 °C*.                                                                                        |
| T4   | The maximum surface temperature of the motor is 135 °C.                                                                                         |
| Gb   | Equipment protection level, zone 1                                                                                                              |

\* For motors operated by a frequency converter, the maximum surface temperature T3 is 200 °C.

## Cable entry approval plate



TM080590

### Cable entry approval plate

The cable entry approval plate provides the following details:

| Pos.                                                                              | Description                                             |
|-----------------------------------------------------------------------------------|---------------------------------------------------------|
| 0344                                                                              | Number of quality assurance notified body               |
|  | The equipment conforms to harmonised European standard. |
| II                                                                                | Equipment group (II = non-mining)                       |
| 2                                                                                 | Equipment category (high protection)                    |
| G                                                                                 | Type of explosive atmosphere (gas)                      |
| CE                                                                                | CE mark                                                 |
| UKCA                                                                              | UKCA mark                                               |
| 0344                                                                              | Number of quality assurance notified body               |
| 1180                                                                              | Number of quality assurance notified body               |
| Ex                                                                                | Marking of explosion protection                         |
| db                                                                                | Flameproof, Zone 1                                      |
| IIB                                                                               | Gas group (Ethylene)                                    |
| Gb                                                                                | Equipment protection level, zone 1                      |
| T <sub>amb</sub>                                                                  | Ambient temperature                                     |
| ID no                                                                             | Cable entry identification number                       |
| DK-8850                                                                           | Country and postcode (Bjerringbro, Denmark)             |

## 4. Selection of product

### Ordering the product

When ordering the product, you need to take the following four aspects into consideration:

1. pump
2. custom-built variation (option)
3. accessories
4. controller.

### Pump

Use [Product range](#) and [Type key](#) to identify the pump that best fulfils your needs. The list below is a detailed description of the product you get if you order the following pump:

| Pump                            | Product no |
|---------------------------------|------------|
| S1.80.125.300.4.62H.S.338.G.N.D | 95113209   |

- Pump as specified in the type key
- 10 m cable
- Paint: black, NCS 9000N/RAL 9005, gloss 30, thickness 150 µm
- Three thermal switches (Klixon) or three thermal sensors (PTC) in stator windings
- One moisture switch below the motor top cover (two moisture switches in explosion-proof versions: one below the motor top cover and one in the stator housing in the bottom of the motor)
- Test according to ISO 9906:2012, grade 3B.

See [Performance curves and technical data](#) for selection of a standard pump.

**Note:** Product-specific data for the pump can also be found in Grundfos Product Center using the product number 95113209 .

### Related information

[Type key](#)

### Custom-built variants

The S pumps can be customised to meet individual requirements. Many pump features and options are available for customisation, e.g. explosion-proof versions, various cable lengths or special materials.

Variants can be seen in List of variants. For requirements or designs not included in the list, contact Grundfos.

### Related information

[List of variants](#)

### Accessories

Depending on the installation type, you may need to order accessories.

**Note:** Ordered accessories are not fitted from factory.

### Controller

Grundfos Dedicated Controls (DC) is available.



Grundfos Dedicated Controls

Grundfos Dedicated Controls is a control system designed for installation in either commercial buildings or network pumping stations with one to six pumps.

As standard, the system is supplied with application-optimised software and can be configured to meet your specific pumping needs.

For more information about Grundfos Dedicated Controls, see Level controllers.

### Related information

[Level controllers](#)

## 5. Product range

### Standard pumps - cast iron, 3 x 400/690 V

| Pump type                            | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|--------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                      |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                      |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.S.338.G.N.D ...  | 10                  | 95113209 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.G.N.D ...  | 10                  | 95113210 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.H.338.G.N.D ...  | 10                  | 95113211 | 96787496                              | -                        | -                                    |
| S1.80.125.300.4.62H.D.338.G.N.D ...  | 10                  | 95113644 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.S.374.G.N.D ...  | 10                  | 95113212 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.C.374.G.N.D ...  | 10                  | 95113213 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.H.374.G.N.D ...  | 10                  | 95113214 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.D.374.G.N.D ...  | 10                  | 95113647 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.S.398.G.N.D ...  | 10                  | 95113215 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.G.N.D ...  | 10                  | 95113216 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.H.398.G.N.D ...  | 10                  | 95113217 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.D.398.G.N.D ...  | 10                  | 95113650 | -                                     | 96308238                 | -                                    |
| S1.100.125.300.4.62M.S.314.G.N.D ... | 10                  | 95113239 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.G.N.D ... | 10                  | 95113240 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.H.314.G.N.D ... | 10                  | 95113241 | 96787497                              | -                        | -                                    |
| S1.100.125.300.4.62M.D.314.G.N.D ... | 10                  | 95113659 | -                                     | 96094523                 | -                                    |
| S1.100.125.400.4.62M.S.345.G.N.D ... | 10                  | 95113242 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.G.N.D ... | 10                  | 95113243 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.H.345.G.N.D ... | 10                  | 95113244 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.D.345.G.N.D ... | 10                  | 96787705 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.S.367.G.N.D ... | 10                  | 95113245 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.G.N.D ... | 10                  | 95113246 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.H.367.G.N.D ... | 10                  | 95113247 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.D.367.G.N.D ... | 10                  | 96787709 | -                                     | 96094523                 | -                                    |
| S2.100.200.400.4.62L.S.285.G.N.D ... | 10                  | 95113224 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.C.285.G.N.D ... | 10                  | 95113225 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.H.285.G.N.D ... | 10                  | 95113226 | 96787498                              | -                        | -                                    |
| S2.100.200.400.4.62L.D.285.G.N.D ... | 10                  | 95113653 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.S.290.G.N.D ... | 10                  | 95113227 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.G.N.D ... | 10                  | 95113228 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.H.290.G.N.D ... | 10                  | 95113229 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.D.290.G.N.D ... | 10                  | 95113656 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.S.253.G.N.D ... | 10                  | 95113230 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.G.N.D ... | 10                  | 95113231 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.G.N.D ... | 10                  | 95113232 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.G.N.D ... | 10                  | 96783255 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.G.N.D ... | 10                  | 95113233 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.G.N.D ... | 10                  | 95113234 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.G.N.D ... | 10                  | 95113235 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.G.N.D ... | 10                  | 96783260 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.G.N.D ... | 10                  | 95113236 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.G.N.D ... | 10                  | 95113237 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.G.N.D ... | 10                  | 95113238 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.G.N.D ... | 10                  | 96783265 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.G.N.D ... | 10                  | 95113218 | -                                     | -                        | 96782484                             |

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.200.8.62E.C.388.G.N.D ...  | 10                  | 95113219 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.G.N.D ...  | 10                  | 95113220 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.G.N.D ...  | 10                  | 96783239 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.G.N.D ...  | 10                  | 95113221 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.C.421.G.N.D ...  | 10                  | 95113222 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.D.421.G.N.D ...  | 10                  | 95113223 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.G.N.D ...  | 10                  | 96783244 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.G.N.D ... | 10                  | 95113248 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.G.N.D ... | 10                  | 95113249 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.G.N.D ... | 10                  | 95113250 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.G.N.D ... | 10                  | 96783279 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

## Cast iron, 3 x 415 V

| Pump type                            | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|--------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                      |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                      |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.D.338.G.N.D ...  | 10                  | 96781861 | -                                     | 96308238                 | -                                    |
| S1.80.125.300.4.62H.S.338.G.N.D ...  | 10                  | 96783227 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.G.N.D ...  | 10                  | 96783228 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.H.338.G.N.D ...  | 10                  | 96783229 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.S.374.G.N.D ...  | 10                  | 96783230 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.D.374.G.N.D ...  | 10                  | 96781864 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.C.374.G.N.D ...  | 10                  | 96783231 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.H.374.G.N.D ...  | 10                  | 96783232 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.D.398.G.N.D ...  | 10                  | 96781867 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.S.398.G.N.D ...  | 10                  | 96783233 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.G.N.D ...  | 10                  | 96783234 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.H.398.G.N.D ...  | 10                  | 96783235 | 96787496                              | -                        | -                                    |
| S1.100.125.300.4.62M.D.314.G.N.D ... | 10                  | 96781876 | -                                     | 96094523                 | -                                    |
| S1.100.125.300.4.62M.S.314.G.N.D ... | 10                  | 96783267 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.G.N.D ... | 10                  | 96783268 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.H.314.G.N.D ... | 10                  | 96783269 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.S.345.G.N.D ... | 10                  | 96783270 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.G.N.D ... | 10                  | 96783271 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.H.345.G.N.D ... | 10                  | 96783272 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.D.345.G.N.D ... | 10                  | 96787707 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.S.367.G.N.D ... | 10                  | 96783273 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.G.N.D ... | 10                  | 96783274 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.H.367.G.N.D ... | 10                  | 96783275 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.D.367.G.N.D ... | 10                  | 96787710 | -                                     | 96094523                 | -                                    |
| S2.100.200.400.4.62L.S.285.G.N.D ... | 10                  | 96783246 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.D.285.G.N.D ... | 10                  | 96781870 | -                                     | 96094525                 | -                                    |
| S2.100.200.400.4.62L.C.285.G.N.D ... | 10                  | 96783247 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.H.285.G.N.D ... | 10                  | 96783248 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.D.290.G.N.D ... | 10                  | 96781873 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.S.290.G.N.D ... | 10                  | 96783249 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.G.N.D ... | 10                  | 96783250 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.H.290.G.N.D ... | 10                  | 96783251 | 96787498                              | -                        | -                                    |
| S2.100.300.300.4.62E.S.253.G.N.D ... | 10                  | 96783252 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.G.N.D ... | 10                  | 96783253 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.G.N.D ... | 10                  | 96783254 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.G.N.D ... | 10                  | 96783256 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.G.N.D ... | 10                  | 96783257 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.G.N.D ... | 10                  | 96783258 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.G.N.D ... | 10                  | 96783259 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.G.N.D ... | 10                  | 96783261 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.G.N.D ... | 10                  | 96783262 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.G.N.D ... | 10                  | 96783263 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.G.N.D ... | 10                  | 96783264 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.G.N.D ... | 10                  | 96783266 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.G.N.D ... | 10                  | 96783236 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.C.388.G.N.D ... | 10                  | 96783237 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.G.N.D ... | 10                  | 96783238 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.G.N.D ... | 10                  | 96783240 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.G.N.D ... | 10                  | 96783241 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.C.421.G.N.D ... | 10                  | 96783242 | -                                     | -                        | 96782484                             |

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.280.8.62E.D.421.G.N.D ...  | 10                  | 96783243 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.G.N.D ...  | 10                  | 96783245 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.G.N.D ... | 10                  | 96783276 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.G.N.D ... | 10                  | 96783277 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.G.N.D ... | 10                  | 96783278 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.G.N.D ... | 10                  | 96783280 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

**Cast iron, 3 x 415 V - Australia****Note:** Pumps with 15 m cable are installed with PTC thermal protection.

| Pump type                            | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|--------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                      |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                      |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.S.338.G.N.D ...  | 15                  | 96810422 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.G.N.D ...  | 15                  | 96810423 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.D.338.G.N.D ...  | 15                  | 96810424 | -                                     | 96308238                 | -                                    |
| S1.80.125.300.4.62H.H.338.G.N.D ...  | 15                  | 96810425 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.S.374.G.N.D ...  | 15                  | 96810426 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.C.374.G.N.D ...  | 15                  | 96810427 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.D.374.G.N.D ...  | 15                  | 96810428 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.H.374.G.N.D ...  | 15                  | 96810429 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.S.398.G.N.D ...  | 15                  | 96810430 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.G.N.D ...  | 15                  | 96810431 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.D.398.G.N.D ...  | 15                  | 96810432 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.H.398.G.N.D ...  | 15                  | 96810433 | 96787496                              | -                        | -                                    |
| S1.100.125.300.4.62M.S.314.G.N.D ... | 15                  | 96810462 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.G.N.D ... | 15                  | 96810463 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.D.314.G.N.D ... | 15                  | 96810465 | -                                     | 96094523                 | -                                    |
| S1.100.125.300.4.62M.H.314.G.N.D ... | 15                  | 96810466 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.S.345.G.N.D ... | 15                  | 96810467 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.G.N.D ... | 15                  | 96810468 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.D.345.G.N.D ... | 15                  | 96810469 | -                                     | 96094523                 | -                                    |
| S1.100.125.400.4.62M.H.345.G.N.D ... | 15                  | 96810470 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.S.367.G.N.D ... | 15                  | 96810471 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.G.N.D ... | 15                  | 96810472 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.D.367.G.N.D ... | 15                  | 96810473 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.H.367.G.N.D ... | 15                  | 96810474 | 96787497                              | -                        | -                                    |
| S2.100.200.400.4.62L.S.285.G.N.D ... | 15                  | 96810442 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.C.285.G.N.D ... | 15                  | 96810443 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.D.285.G.N.D ... | 15                  | 96810444 | -                                     | 96094525                 | -                                    |
| S2.100.200.400.4.62L.H.285.G.N.D ... | 15                  | 96810445 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.S.290.G.N.D ... | 15                  | 96810446 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.G.N.D ... | 15                  | 96810447 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.D.290.G.N.D ... | 15                  | 96810448 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.H.290.G.N.D ... | 15                  | 96810449 | 96787498                              | -                        | -                                    |
| S2.100.300.300.4.62E.S.253.G.N.D ... | 15                  | 96810450 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.G.N.D ... | 15                  | 96810451 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.G.N.D ... | 15                  | 96810452 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.G.N.D ... | 15                  | 96810453 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.G.N.D ... | 15                  | 96810454 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.G.N.D ... | 15                  | 96810455 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.G.N.D ... | 15                  | 96810456 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.G.N.D ... | 15                  | 96810457 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.G.N.D ... | 15                  | 96810458 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.G.N.D ... | 15                  | 96810459 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.G.N.D ... | 15                  | 96810460 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.G.N.D ... | 15                  | 96810461 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.G.N.D ... | 15                  | 96810434 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.C.388.G.N.D ... | 15                  | 96810435 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.G.N.D ... | 15                  | 96810436 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.G.N.D ... | 15                  | 96810437 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.G.N.D ... | 15                  | 96810438 | -                                     | -                        | 96782484                             |

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.280.8.62E.C.421.G.N.D ...  | 15                  | 96810439 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.D.421.G.N.D ...  | 15                  | 96810440 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.G.N.D ...  | 15                  | 96810441 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.G.N.D ... | 15                  | 96810475 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.G.N.D ... | 15                  | 96810476 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.G.N.D ... | 15                  | 96810477 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.G.N.D ... | 15                  | 96810478 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

## Stainless steel impeller, 3 x 400/690 V

| Pump type                            | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|--------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                      |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                      |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.S.338.Q.N.D ...  | 10                  | 96811580 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.Q.N.D ...  | 10                  | 96811581 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.D.338.Q.N.D ...  | 10                  | 96811592 | -                                     | 96308238                 | -                                    |
| S1.80.125.300.4.62H.H.338.Q.N.D ...  | 10                  | 96811593 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.S.374.Q.N.D ...  | 10                  | 96811594 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.C.374.Q.N.D ...  | 10                  | 96811595 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.D.374.Q.N.D ...  | 10                  | 96811596 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.H.374.Q.N.D ...  | 10                  | 96811597 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.S.398.Q.N.D ...  | 10                  | 96811598 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.Q.N.D ...  | 10                  | 96811599 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.D.398.Q.N.D ...  | 10                  | 96811600 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.H.398.Q.N.D ...  | 10                  | 96811601 | 96787496                              | -                        | -                                    |
| S1.100.125.300.4.62M.S.314.Q.N.D ... | 10                  | 96811625 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.Q.N.D ... | 10                  | 96811626 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.D.314.Q.N.D ... | 10                  | 96811627 | -                                     | 96094523                 | -                                    |
| S1.100.125.300.4.62M.H.314.Q.N.D ... | 10                  | 96811628 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.S.345.Q.N.D ... | 10                  | 96811629 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.Q.N.D ... | 10                  | 96811630 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.D.345.Q.N.D ... | 10                  | 96811631 | -                                     | 96094523                 | -                                    |
| S1.100.125.400.4.62M.H.345.Q.N.D ... | 10                  | 96811632 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.S.367.Q.N.D ... | 10                  | 96811633 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.Q.N.D ... | 10                  | 96811634 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.D.367.Q.N.D ... | 10                  | 96811635 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.H.367.Q.N.D ... | 10                  | 96811636 | 96787497                              | -                        | -                                    |
| S2.100.200.400.4.62L.S.285.Q.N.D ... | 10                  | 96811608 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.C.285.Q.N.D ... | 10                  | 96811609 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.D.285.Q.N.D ... | 10                  | 96811610 | -                                     | 96094525                 | -                                    |
| S2.100.200.400.4.62L.H.285.Q.N.D ... | 10                  | 96811611 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.S.290.Q.N.D ... | 10                  | 96811612 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.Q.N.D ... | 10                  | 96811613 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.D.290.Q.N.D ... | 10                  | 96811614 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.H.290.Q.N.D ... | 10                  | 96811615 | 96787498                              | -                        | -                                    |
| S2.100.300.300.4.62E.S.253.Q.N.D ... | 10                  | 96811616 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.Q.N.D ... | 10                  | 96811617 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.Q.N.D ... | 10                  | 96811618 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.Q.N.D ... | 10                  | 96811642 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.Q.N.D ... | 10                  | 96811619 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.Q.N.D ... | 10                  | 96811620 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.Q.N.D ... | 10                  | 96811621 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.Q.N.D ... | 10                  | 96811643 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.Q.N.D ... | 10                  | 96811622 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.Q.N.D ... | 10                  | 96811623 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.Q.N.D ... | 10                  | 96811624 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.Q.N.D ... | 10                  | 96811644 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.Q.N.D ... | 10                  | 96811602 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.C.388.Q.N.D ... | 10                  | 96811603 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.Q.N.D ... | 10                  | 96811604 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.Q.N.D ... | 10                  | 96811640 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.Q.N.D ... | 10                  | 96811605 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.C.421.Q.N.D ... | 10                  | 96811606 | -                                     | -                        | 96782484                             |

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.280.8.62E.D.421.Q.N.D ...  | 10                  | 96811607 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.Q.N.D ...  | 10                  | 96811641 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.Q.N.D ... | 10                  | 96811637 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.Q.N.D ... | 10                  | 96811638 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.Q.N.D ... | 10                  | 96811639 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.Q.N.D ... | 10                  | 96811645 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

## Explosion-proof pumps - cast iron, 3 x 400/690 V

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.S.338.G.EX.D ...  | 10                  | 95113260 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.G.EX.D ...  | 10                  | 95113261 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.H.338.G.EX.D ...  | 10                  | 95113262 | 96787496                              | -                        | -                                    |
| S1.80.125.300.4.62H.D.338.G.EX.D ...  | 10                  | 96788055 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.S.374.G.EX.D ...  | 10                  | 95113266 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.C.374.G.EX.D ...  | 10                  | 95113267 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.H.374.G.EX.D ...  | 10                  | 95113268 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.D.374.G.EX.D ...  | 10                  | 96788057 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.S.398.G.EX.D ...  | 10                  | 95113272 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.G.EX.D ...  | 10                  | 95113273 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.H.398.G.EX.D ...  | 10                  | 95113274 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.D.398.G.EX.D ...  | 10                  | 96788059 | -                                     | 96308238                 | -                                    |
| S1.100.125.300.4.62M.S.314.G.EX.D ... | 10                  | 95113263 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.G.EX.D ... | 10                  | 95113264 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.H.314.G.EX.D ... | 10                  | 95113265 | 96787497                              | -                        | -                                    |
| S1.100.125.300.4.62M.D.314.G.EX.D ... | 10                  | 96788056 | -                                     | 96094523                 | -                                    |
| S1.100.125.400.4.62M.S.345.G.EX.D ... | 10                  | 95113269 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.G.EX.D ... | 10                  | 95113270 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.H.345.G.EX.D ... | 10                  | 95113271 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.D.345.G.EX.D ... | 10                  | 96788058 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.S.367.G.EX.D ... | 10                  | 95113275 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.G.EX.D ... | 10                  | 95113276 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.H.367.G.EX.D ... | 10                  | 95113277 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.D.367.G.EX.D ... | 10                  | 96788060 | -                                     | 96094523                 | -                                    |
| S2.100.200.400.4.62L.S.285.G.EX.D ... | 10                  | 95113287 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.C.285.G.EX.D ... | 10                  | 95113288 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.H.285.G.EX.D ... | 10                  | 95113289 | 96787498                              | -                        | -                                    |
| S2.100.200.400.4.62L.D.285.G.EX.D ... | 10                  | 96788061 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.S.290.G.EX.D ... | 10                  | 95113293 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.G.EX.D ... | 10                  | 95113294 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.H.290.G.EX.D ... | 10                  | 95113295 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.D.290.G.EX.D ... | 10                  | 96788072 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.S.253.G.EX.D ... | 10                  | 95113284 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.G.EX.D ... | 10                  | 95113285 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.G.EX.D ... | 10                  | 95113286 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.G.EX.D ... | 10                  | 96784050 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.G.EX.D ... | 10                  | 95113290 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.G.EX.D ... | 10                  | 95113291 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.G.EX.D ... | 10                  | 95113292 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.G.EX.D ... | 10                  | 96784058 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.G.EX.D ... | 10                  | 95113296 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.G.EX.D ... | 10                  | 95113297 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.G.EX.D ... | 10                  | 95113298 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.G.EX.D ... | 10                  | 96784066 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.G.EX.D ... | 10                  | 95113278 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.C.388.G.EX.D ... | 10                  | 95113279 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.G.EX.D ... | 10                  | 95113280 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.G.EX.D ... | 10                  | 96784040 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.G.EX.D ... | 10                  | 95113281 | -                                     | -                        | 96782484                             |

| Pump type                              | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|----------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                        |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                        |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.280.8.62E.C.421.G.EX.D ...  | 10                  | 95113282 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.D.421.G.EX.D ...  | 10                  | 95113283 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.G.EX.D ...  | 10                  | 96784045 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.G.EX.D ... | 10                  | 95113299 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.G.EX.D ... | 10                  | 95113300 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.G.EX.D ... | 10                  | 95113301 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.G.EX.D ... | 10                  | 96784071 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

## Cast iron, 3 x 415 V

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.S.338.G.EX.D ...  | 10                  | 96783979 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.G.EX.D ...  | 10                  | 96783980 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.H.338.G.EX.D ...  | 10                  | 96783981 | 96787496                              | -                        | -                                    |
| S1.80.125.300.4.62H.D.338.G.EX.D ...  | 10                  | 96788073 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.S.374.G.EX.D ...  | 10                  | 96784025 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.C.374.G.EX.D ...  | 10                  | 96784026 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.H.374.G.EX.D ...  | 10                  | 96784027 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.D.374.G.EX.D ...  | 10                  | 96788075 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.S.398.G.EX.D ...  | 10                  | 96784031 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.G.EX.D ...  | 10                  | 96784032 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.H.398.G.EX.D ...  | 10                  | 96784033 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.D.398.G.EX.D ...  | 10                  | 96788077 | -                                     | 96308238                 | -                                    |
| S1.100.125.300.4.62M.S.314.G.EX.D ... | 10                  | 96784022 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.G.EX.D ... | 10                  | 96784023 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.H.314.G.EX.D ... | 10                  | 96784024 | 96787497                              | -                        | -                                    |
| S1.100.125.300.4.62M.D.314.G.EX.D ... | 10                  | 96788074 | -                                     | 96094523                 | -                                    |
| S1.100.125.400.4.62M.S.345.G.EX.D ... | 10                  | 96784028 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.G.EX.D ... | 10                  | 96784029 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.H.345.G.EX.D ... | 10                  | 96784030 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.D.345.G.EX.D ... | 10                  | 96788076 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.S.367.G.EX.D ... | 10                  | 96784034 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.G.EX.D ... | 10                  | 96784035 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.H.367.G.EX.D ... | 10                  | 96784036 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.D.367.G.EX.D ... | 10                  | 96788078 | -                                     | 96094523                 | -                                    |
| S2.100.200.400.4.62L.S.285.G.EX.D ... | 10                  | 96784052 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.C.285.G.EX.D ... | 10                  | 96784053 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.H.285.G.EX.D ... | 10                  | 96784054 | 96787498                              | -                        | -                                    |
| S2.100.200.400.4.62L.D.285.G.EX.D ... | 10                  | 96788079 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.S.290.G.EX.D ... | 10                  | 96784060 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.G.EX.D ... | 10                  | 96784061 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.H.290.G.EX.D ... | 10                  | 96784062 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.D.290.G.EX.D ... | 10                  | 96788080 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.S.253.G.EX.D ... | 10                  | 96784047 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.G.EX.D ... | 10                  | 96784048 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.G.EX.D ... | 10                  | 96784049 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.G.EX.D ... | 10                  | 96784051 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.G.EX.D ... | 10                  | 96784055 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.G.EX.D ... | 10                  | 96784056 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.G.EX.D ... | 10                  | 96784057 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.G.EX.D ... | 10                  | 96784059 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.G.EX.D ... | 10                  | 96784063 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.G.EX.D ... | 10                  | 96784064 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.G.EX.D ... | 10                  | 96784065 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.G.EX.D ... | 10                  | 96784067 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.G.EX.D ... | 10                  | 96784037 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.C.388.G.EX.D ... | 10                  | 96784038 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.G.EX.D ... | 10                  | 96784039 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.G.EX.D ... | 10                  | 96784041 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.G.EX.D ... | 10                  | 96784042 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.C.421.G.EX.D ... | 10                  | 96784043 | -                                     | -                        | 96782484                             |

| Pump type                              | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|----------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                        |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                        |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.280.8.62E.D.421.G.EX.D ...  | 10                  | 96784044 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.G.EX.D ...  | 10                  | 96784046 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.G.EX.D ... | 10                  | 96784068 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.G.EX.D ... | 10                  | 96784069 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.G.EX.D ... | 10                  | 96784070 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.G.EX.D ... | 10                  | 96784072 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

## Stainless steel impeller, 3 x 400/690 V

| Pump type                             | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|---------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                       |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                       |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S1.80.125.300.4.62H.S.338.Q.EX.D ...  | 10                  | 96811646 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.C.338.Q.EX.D ...  | 10                  | 96811648 | -                                     | -                        | 96782145                             |
| S1.80.125.300.4.62H.D.338.Q.EX.D ...  | 10                  | 96811649 | -                                     | 96308238                 | -                                    |
| S1.80.125.300.4.62H.H.338.Q.EX.D ...  | 10                  | 96811650 | 96787496                              | -                        | -                                    |
| S1.80.125.400.4.62H.S.374.Q.EX.D ...  | 10                  | 96811651 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.C.374.Q.EX.D ...  | 10                  | 96811652 | -                                     | -                        | 96782145                             |
| S1.80.125.400.4.62H.D.374.Q.EX.D ...  | 10                  | 96811653 | -                                     | 96308238                 | -                                    |
| S1.80.125.400.4.62H.H.374.Q.EX.D ...  | 10                  | 96811654 | 96787496                              | -                        | -                                    |
| S1.80.125.500.4.62H.S.398.Q.EX.D ...  | 10                  | 96811655 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.C.398.Q.EX.D ...  | 10                  | 96811656 | -                                     | -                        | 96782145                             |
| S1.80.125.500.4.62H.D.398.Q.EX.D ...  | 10                  | 96811657 | -                                     | 96308238                 | -                                    |
| S1.80.125.500.4.62H.H.398.Q.EX.D ...  | 10                  | 96811658 | 96787496                              | -                        | -                                    |
| S1.100.125.300.4.62M.S.314.Q.EX.D ... | 10                  | 96811682 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.C.314.Q.EX.D ... | 10                  | 96811683 | -                                     | -                        | 96782145                             |
| S1.100.125.300.4.62M.D.314.Q.EX.D ... | 10                  | 96811684 | -                                     | 96094523                 | -                                    |
| S1.100.125.300.4.62M.H.314.Q.EX.D ... | 10                  | 96811685 | 96787497                              | -                        | -                                    |
| S1.100.125.400.4.62M.S.345.Q.EX.D ... | 10                  | 96811686 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.C.345.Q.EX.D ... | 10                  | 96811687 | -                                     | -                        | 96782145                             |
| S1.100.125.400.4.62M.D.345.Q.EX.D ... | 10                  | 96811688 | -                                     | 96094523                 | -                                    |
| S1.100.125.400.4.62M.H.345.Q.EX.D ... | 10                  | 96811689 | 96787497                              | -                        | -                                    |
| S1.100.125.500.4.62M.S.367.Q.EX.D ... | 10                  | 96811690 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.C.367.Q.EX.D ... | 10                  | 96811691 | -                                     | -                        | 96782145                             |
| S1.100.125.500.4.62M.D.367.Q.EX.D ... | 10                  | 96811692 | -                                     | 96094523                 | -                                    |
| S1.100.125.500.4.62M.H.367.Q.EX.D ... | 10                  | 96811693 | 96787497                              | -                        | -                                    |
| S2.100.200.400.4.62L.S.285.Q.EX.D ... | 10                  | 96811665 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.C.285.Q.EX.D ... | 10                  | 96811666 | -                                     | -                        | 96641489                             |
| S2.100.200.400.4.62L.D.285.Q.EX.D ... | 10                  | 96811667 | -                                     | 96094525                 | -                                    |
| S2.100.200.400.4.62L.H.285.Q.EX.D ... | 10                  | 96811668 | 96787498                              | -                        | -                                    |
| S2.100.200.500.4.62L.S.290.Q.EX.D ... | 10                  | 96811669 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.C.290.Q.EX.D ... | 10                  | 96811670 | -                                     | -                        | 96641489                             |
| S2.100.200.500.4.62L.D.290.Q.EX.D ... | 10                  | 96811671 | -                                     | 96094525                 | -                                    |
| S2.100.200.500.4.62L.H.290.Q.EX.D ... | 10                  | 96811672 | 96787498                              | -                        | -                                    |
| S2.100.300.300.4.62E.S.253.Q.EX.D ... | 10                  | 96811673 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.C.253.Q.EX.D ... | 10                  | 96811674 | -                                     | -                        | 96782484                             |
| S2.100.300.300.4.62E.D.253.Q.EX.D ... | 10                  | 96811675 | -                                     | 96094525                 | -                                    |
| S2.100.300.300.4.62E.H.253.Q.EX.D ... | 10                  | 96811699 | 96787499                              | -                        | -                                    |
| S2.100.300.400.4.62E.S.281.Q.EX.D ... | 10                  | 96811676 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.C.281.Q.EX.D ... | 10                  | 96811677 | -                                     | -                        | 96782484                             |
| S2.100.300.400.4.62E.D.281.Q.EX.D ... | 10                  | 96811678 | -                                     | 96094525                 | -                                    |
| S2.100.300.400.4.62E.H.281.Q.EX.D ... | 10                  | 96811700 | 96787499                              | -                        | -                                    |
| S2.100.300.500.4.62E.S.289.Q.EX.D ... | 10                  | 96811679 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.C.289.Q.EX.D ... | 10                  | 96811680 | -                                     | -                        | 96782484                             |
| S2.100.300.500.4.62E.D.289.Q.EX.D ... | 10                  | 96811681 | -                                     | 96094525                 | -                                    |
| S2.100.300.500.4.62E.H.289.Q.EX.D ... | 10                  | 96811701 | 96787499                              | -                        | -                                    |
| S2.145.300.200.8.62E.S.388.Q.EX.D ... | 10                  | 96811659 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.C.388.Q.EX.D ... | 10                  | 96811660 | -                                     | -                        | 96782484                             |
| S2.145.300.200.8.62E.D.388.Q.EX.D ... | 10                  | 96811661 | -                                     | 96308239                 | -                                    |
| S2.145.300.200.8.62E.H.388.Q.EX.D ... | 10                  | 96811697 | 96787500                              | -                        | -                                    |
| S2.145.300.280.8.62E.S.421.Q.EX.D ... | 10                  | 96811662 | -                                     | -                        | 96782484                             |
| S2.145.300.280.8.62E.C.421.Q.EX.D ... | 10                  | 96811663 | -                                     | -                        | 96782484                             |

| Pump type                              | Cable length<br>[m] | Pump     | Accessories                           |                          |                                      |
|----------------------------------------|---------------------|----------|---------------------------------------|--------------------------|--------------------------------------|
|                                        |                     |          | Horizontal base<br>stand <sup>1</sup> | To be ordered separately |                                      |
|                                        |                     |          |                                       | Vertical base<br>stand   | Auto-coupling<br>system <sup>2</sup> |
| S2.145.300.280.8.62E.D.421.Q.EX.D ...  | 10                  | 96811664 | -                                     | 96308239                 | -                                    |
| S2.145.300.280.8.62E.H.421.Q.EX.D ...  | 10                  | 96811698 | 96787500                              | -                        | -                                    |
| S3.120.300.150.12.62F.S.449.Q.EX.D ... | 10                  | 96811694 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.C.449.Q.EX.D ... | 10                  | 96811695 | -                                     | -                        | 96782484                             |
| S3.120.300.150.12.62F.D.449.Q.EX.D ... | 10                  | 96811696 | -                                     | 96308239                 | -                                    |
| S3.120.300.150.12.62F.H.449.Q.EX.D ... | 10                  | 96811702 | 96787500                              | -                        | -                                    |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange.

## 6. Variants

### List of variants

| Motor                       |                                                 |                    |
|-----------------------------|-------------------------------------------------|--------------------|
| Various cable lengths       |                                                 | 15 m               |
|                             |                                                 | 25 m               |
|                             |                                                 | 50 m               |
|                             |                                                 | 10 m               |
| EMC power cables            | Screened power cables for variable-speed drives | 15 m               |
|                             |                                                 | 25 m               |
|                             |                                                 | 50 m               |
| Special motor               |                                                 | Insulation class H |
|                             |                                                 | Special voltage    |
| PTC thermistors in windings |                                                 |                    |
| Special oil                 | Non-toxic Shell Ondina X420 <sup>1</sup>        |                    |

<sup>1</sup> For pumps with WIO sensor Shell Ondina is not an option.

| Motor protection                                                                            |              |
|---------------------------------------------------------------------------------------------|--------------|
| Pt100 on lower bearing + Pt100 on upper bearing + Pt100 on windings                         | Sensor set 2 |
| Pt100 on lower bearing + Pt100 on upper bearing + Pt100 on windings + PVS3 vibration sensor | Sensor set 3 |
| External water-in-oil sensor                                                                | WIO          |

| Coating                                             |                                                   |
|-----------------------------------------------------|---------------------------------------------------|
| Special paint thickness                             | 300 µm (painted twice)                            |
|                                                     | 450 µm (painted three times)                      |
| Impeller (external surface)                         | Epoxy coating (NCS 900N/RAL 9005 gloss 30, black) |
|                                                     | Belzona 1321 coating (brush painted, blue)        |
| Impeller (internal surface)                         | Chesterton ARC 855 ceramic coating (grey)         |
|                                                     | Epoxy coating (NCS 900N/RAL 9005 gloss 30, black) |
| Pump housing (internal)                             | Belzona 1321 coating (brush painted, blue)        |
|                                                     | Chesterton ARC 855 ceramic coating (grey)         |
|                                                     | Epoxy coating (NCS 900N/RAL 9005 gloss 30, black) |
| Inlet cover                                         | Belzona 1321 coating (brush painted, blue)        |
|                                                     | Chesterton ARC 855 ceramic coating (grey)         |
| Zinc anodes (outside of inlet cover / pump housing) | 3 pcs.                                            |

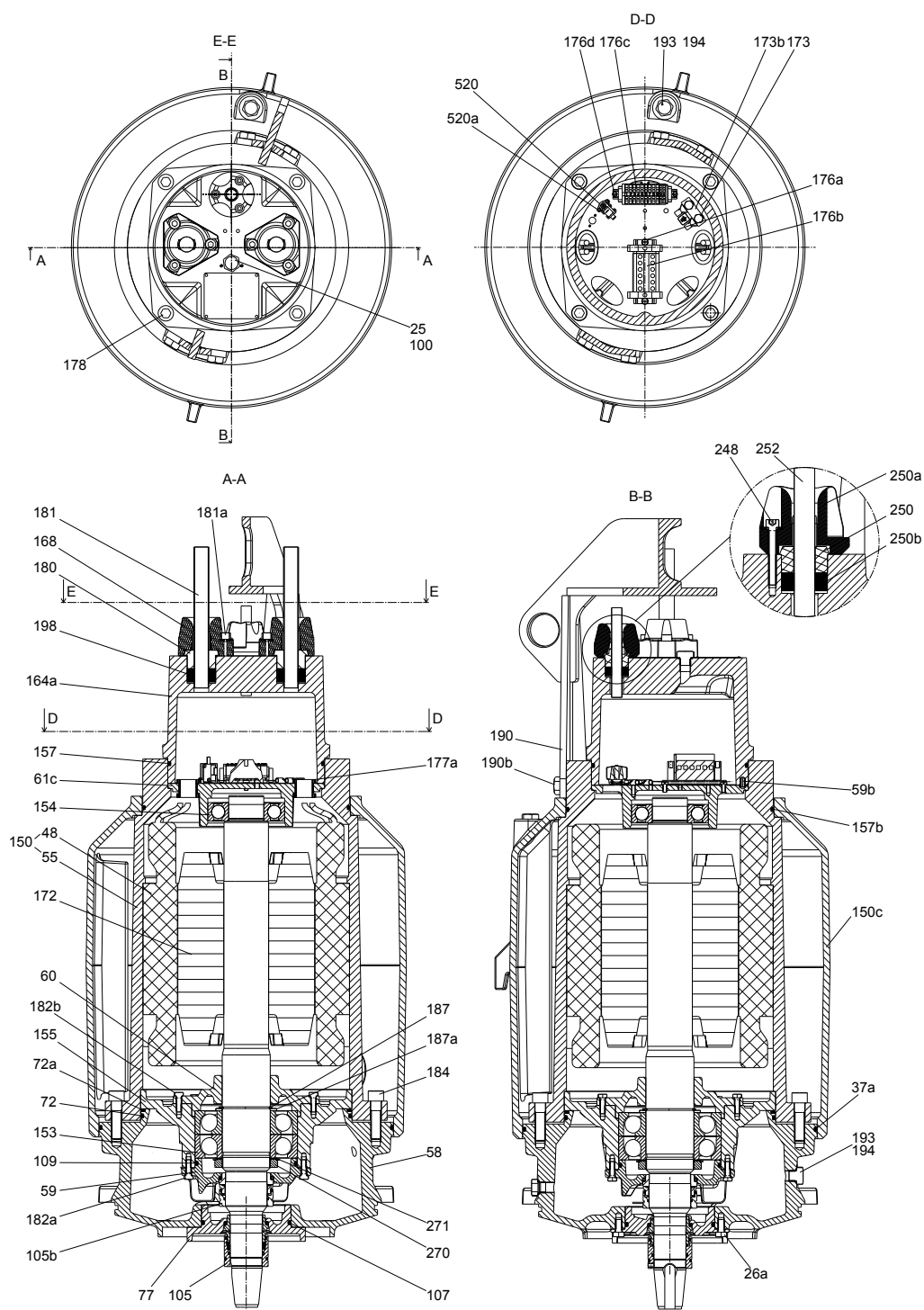
| Materials                       |                 |
|---------------------------------|-----------------|
| Stainless steel lifting bracket | AISI 316        |
| Stainless steel shaft           | AISI 329        |
| Impeller                        | Stainless steel |

| Shaft seals  |                       |                   |                       |
|--------------|-----------------------|-------------------|-----------------------|
| Standard     | Seal rings: RBSC/RBSC | Rubber parts: FKM | Metal parts: AISI316L |
| FPV option 1 | Seal rings: NiTC/NiTC | Rubber parts: FKM | Metal parts: AISI316L |
| FPV option 2 | Seal rings: SSiC/SSiC | Rubber parts: FKM | Metal parts: Duplex   |

| Tests                                                 |                                                      |                                      |
|-------------------------------------------------------|------------------------------------------------------|--------------------------------------|
| Test at specified duty on standard impeller curve     |                                                      |                                      |
| Trimmed impeller for specified duty test              |                                                      |                                      |
| Additional test of entire QH curve (including report) | 5-10 points base plate from pump performance curve   |                                      |
| Different test standard                               | Efficiency guaranteed by Grundfos                    | ISO 9906:2012 grade 1E tolerances    |
|                                                       |                                                      | ISO 9906:2012 grade 1B/1U tolerances |
|                                                       |                                                      | ISO 9906:2012 grade 2B/2U tolerances |
| Vibration test (including report)                     | According to Grundfos factory quality standard       |                                      |
| Performance test on dry test stand                    | Contact Grundfos                                     |                                      |
| NPSHr test                                            | Contact Grundfos                                     |                                      |
| String test                                           | Contact Grundfos                                     |                                      |
| Witness test                                          | Contact Grundfos                                     |                                      |
|                                                       |                                                      |                                      |
| Miscellaneous                                         |                                                      |                                      |
| Special packaging                                     | Contact Grundfos                                     |                                      |
| Special nameplate                                     | Contact Grundfos                                     |                                      |
| Old UK-guide shoe                                     | Contact Grundfos / order guide shoe installation kit |                                      |
| Other variants                                        | Contact Grundfos                                     |                                      |

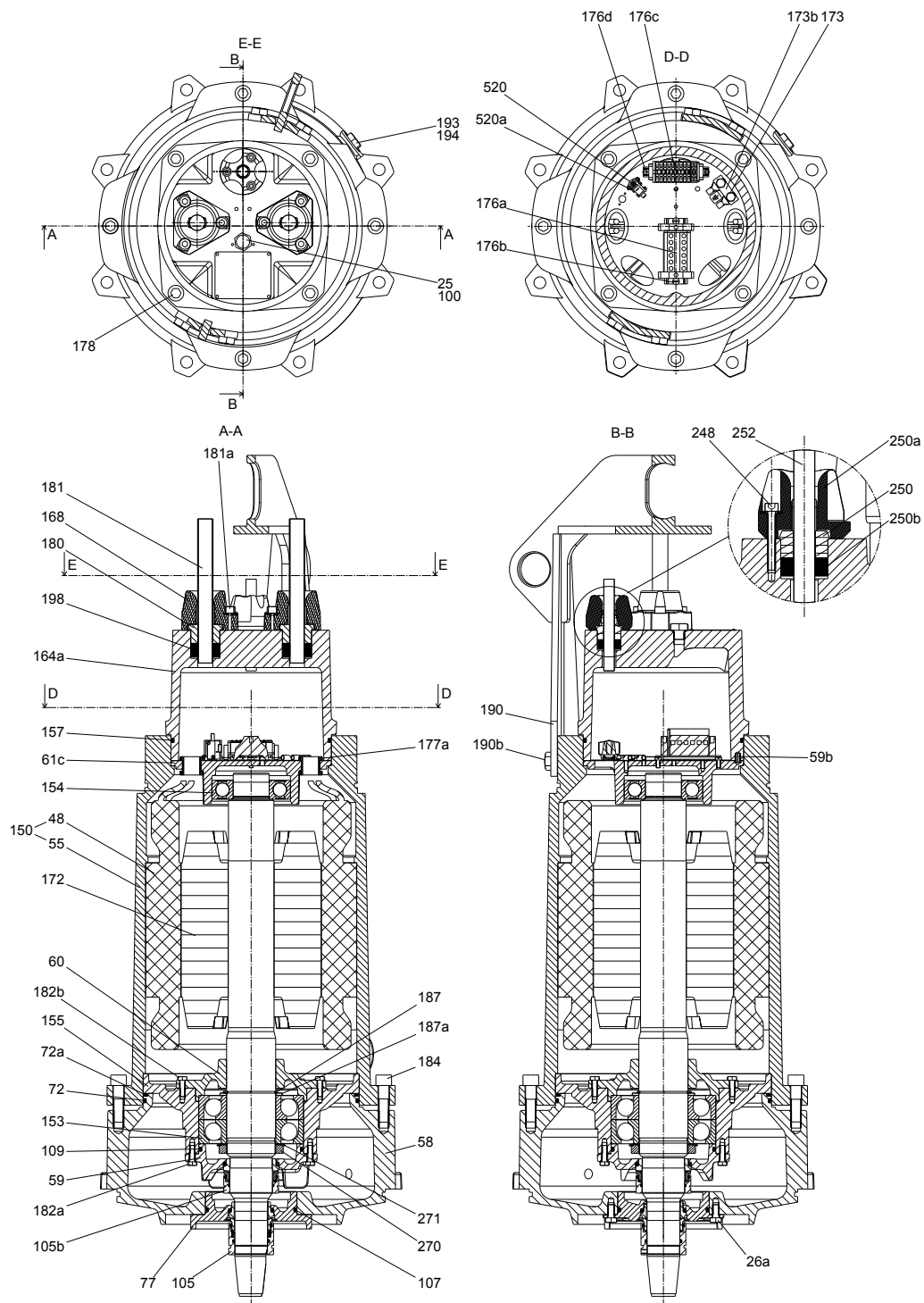
## 7. Construction

### Sectional drawings, motors



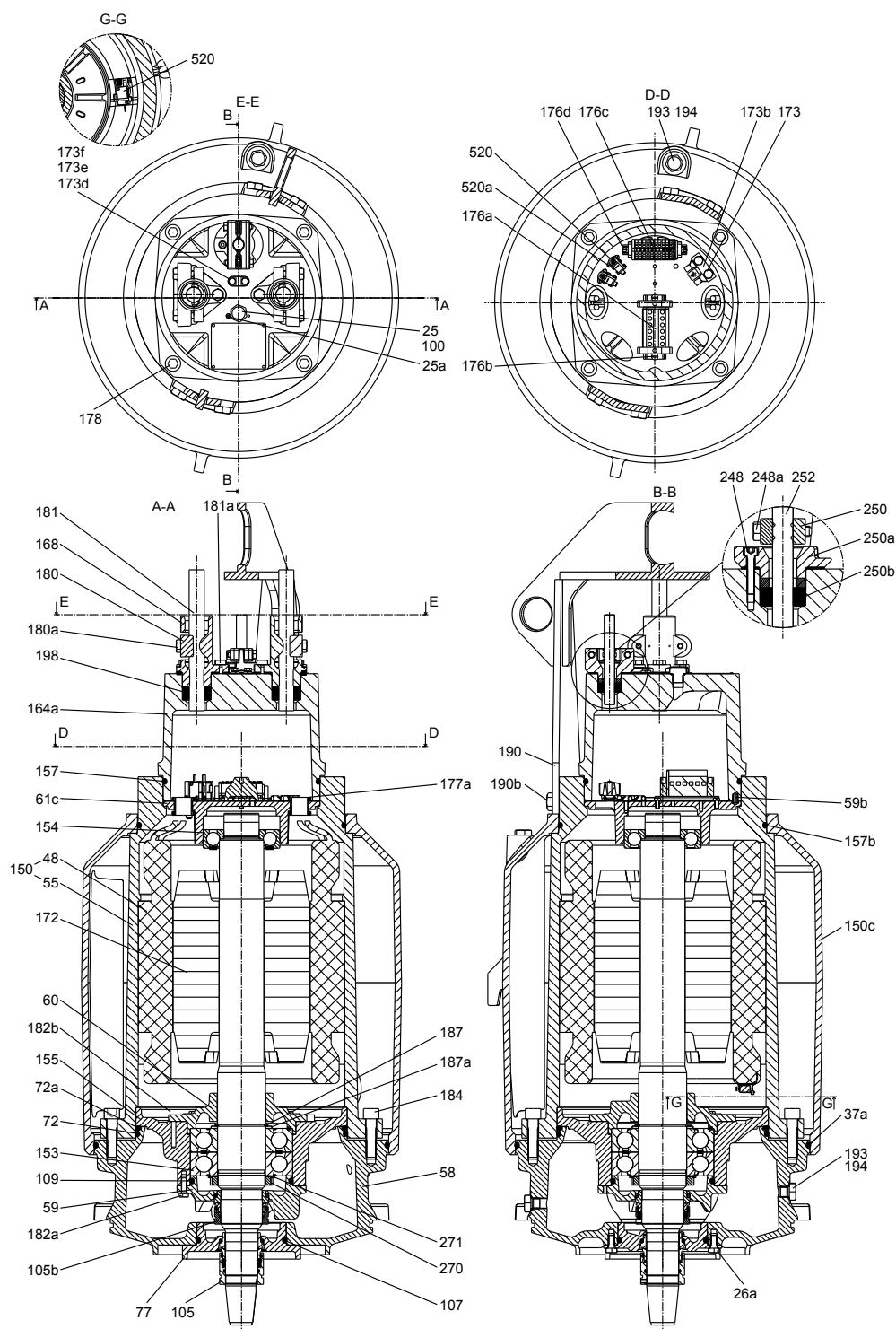
TM042306

*Non-explosion-proof motor without cooling jacket (installation type S)*



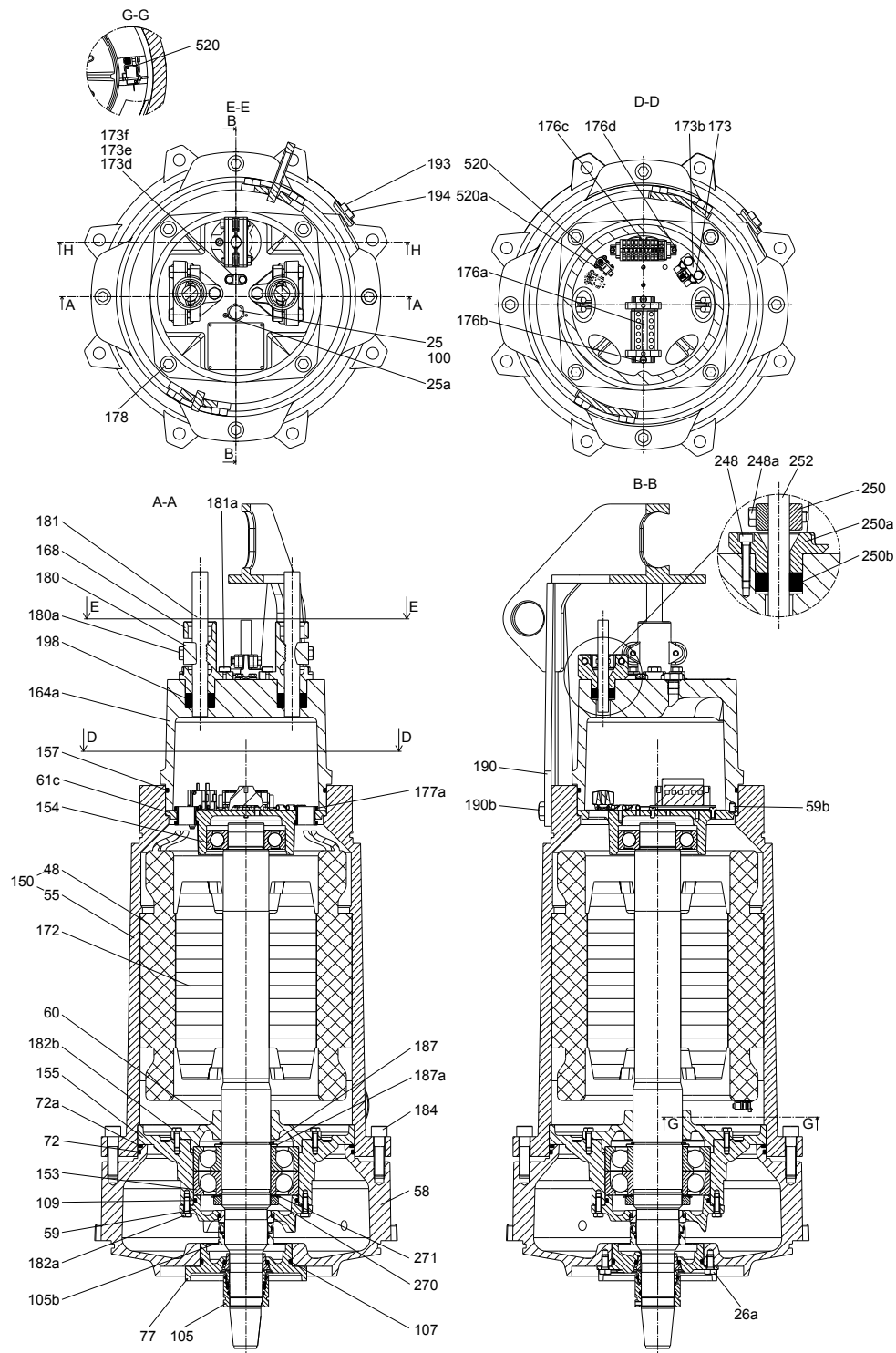
TM042307

*Non-explosion-proof motor with cooling jacket (installation types C, D and H)*



TM042309

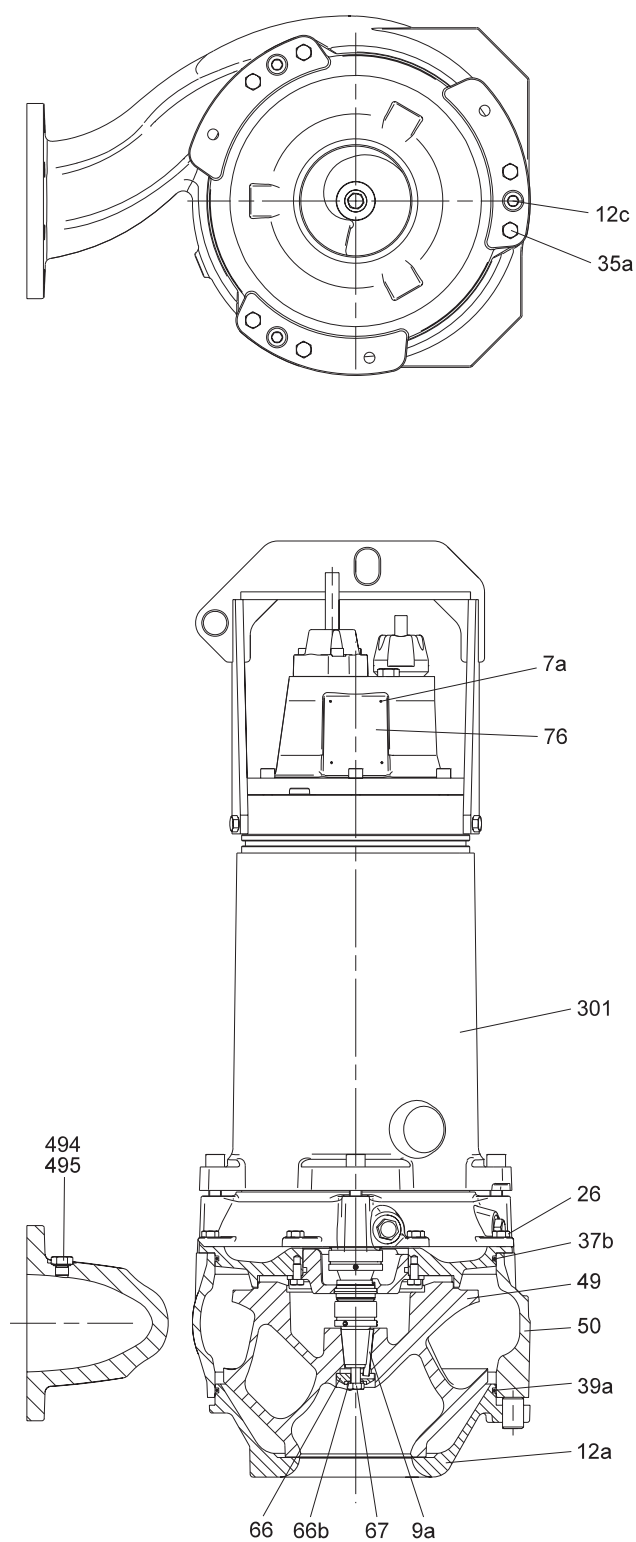
Explosion-proof motor with cooling jacket (installation type S)



TM042308

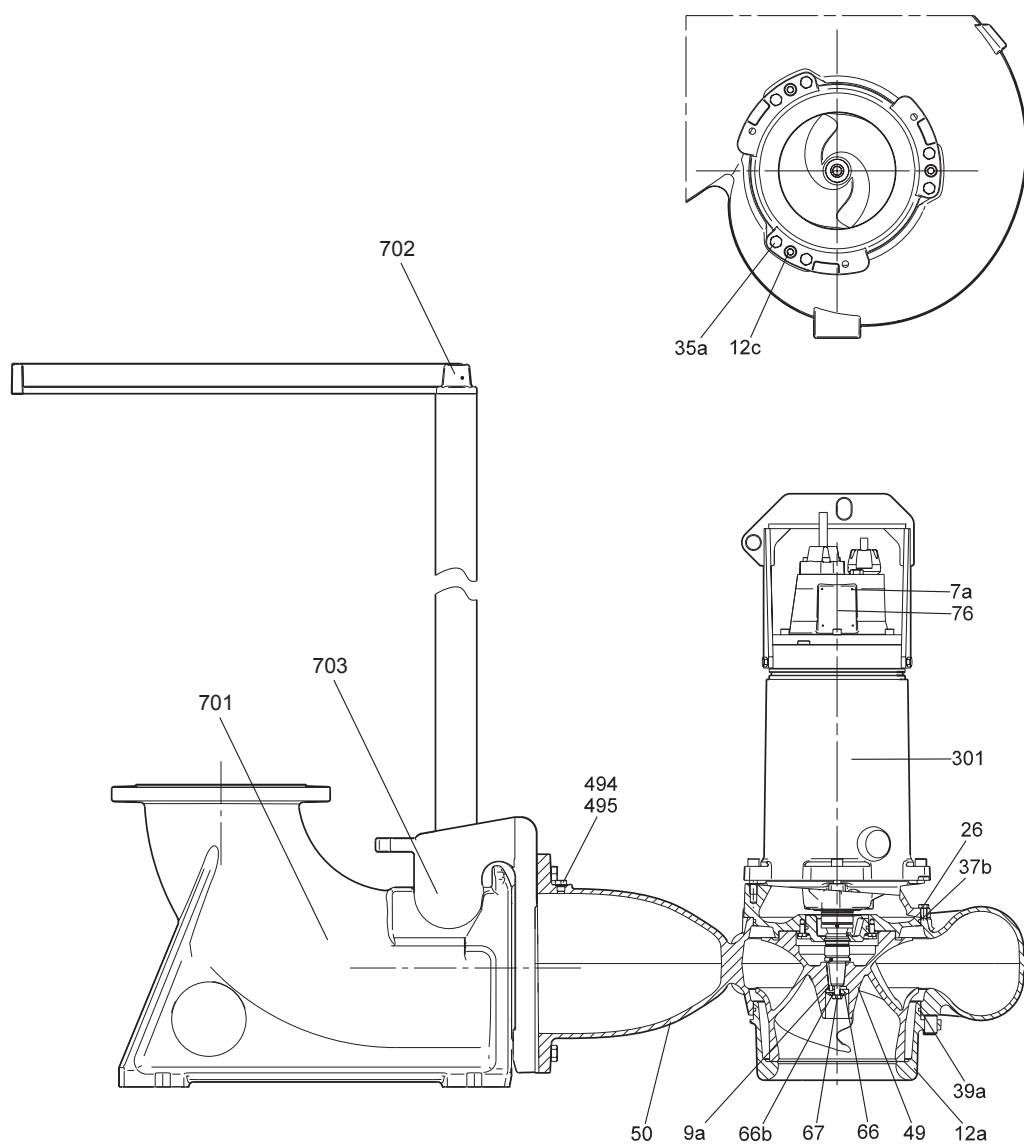
Explosion-proof motor without cooling jacket (installation types C, D and H)

## Sectional drawings, pumps



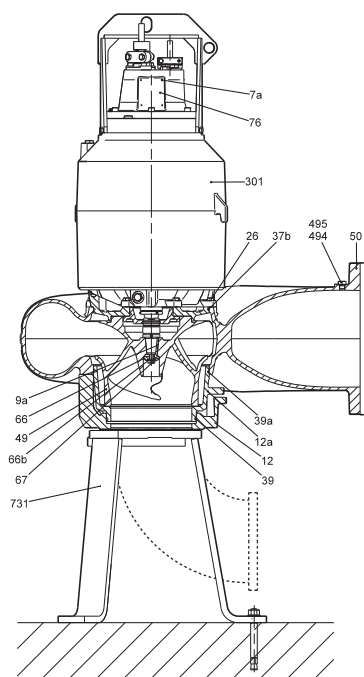
Basic pump, installation types S and C

TM042310



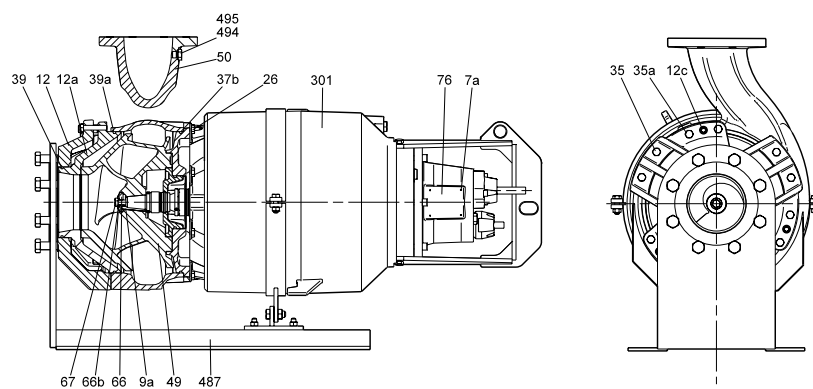
TM042315

*Installation types S and C pump on auto coupling*



TM042316

*Installation type D, dry, vertical installation on base stand*



TM042313

*Installation type H, dry, horizontal installation on base stand*

## Components and material specification

### Motor

| Pos. | Component                   | Material                     | DIN W.Nr./<br>EN standard | AISI/<br>ASTM |
|------|-----------------------------|------------------------------|---------------------------|---------------|
| 7a   | Rivet                       | Stainless steel              | 1.4436                    | 316           |
| 25   | Pressure-test plug          | Stainless steel              | 1.4436                    | 316           |
| 25a  | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 26a  | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 37a  | O-ring                      | NBR rubber                   |                           |               |
| 48   | Stator                      |                              |                           |               |
| 55   | Stator housing              | Cast iron <sup>1</sup>       | EN-JL-1040                | A48 30        |
| 58   | Seal housing                | Cast iron                    |                           |               |
| 59   | Lower bearing-bracket cover | Cast iron                    |                           |               |
| 59b  | Pin                         | Steel                        |                           |               |
| 60   | Bearing-bracket cover       | Cast iron                    |                           |               |
| 61c  | Upper bearing bracket       | Cast iron                    |                           |               |
| 72   | O-ring                      | NBR rubber                   |                           |               |
| 72a  | O-ring                      | NBR rubber                   |                           |               |
| 76a  | Approval plate              |                              |                           |               |
| 77   | Seal-housing cover          | Cast iron                    |                           |               |
| 100  | O-ring                      | NBR rubber                   |                           |               |
| 105  | Mechanical seal             | SiC/SiC or<br>SiC/carbon     |                           |               |
| 105b | Mechanical seal             | SiC/SiC or<br>SiC/carbon     |                           |               |
| 107  | O-ring                      | NBR rubber                   |                           |               |
| 109  | O-ring                      | NBR rubber                   |                           |               |
| 150  | Stator complete             |                              |                           |               |
| 150c | Cooling jacket              | Galvanised steel             |                           |               |
| 153  | Ball bearing                | Stainless steel              |                           |               |
| 154  | Ball bearing                | Stainless steel              |                           |               |
| 155  | Lower bearing bracket       | Cast iron <sup>1</sup>       |                           |               |
| 157  | O-ring                      | NBR rubber                   |                           |               |
| 157b | O-ring                      | NBR rubber                   |                           |               |
| 164a | Motor top cover             | Cast iron                    |                           |               |
| 168  | Cable entry                 | PA or cast iron <sup>2</sup> |                           |               |
| 172  | Shaft with rotor            | Stainless steel              | 1.4436                    | 316           |
| 173  | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 173b | Earth terminal              |                              |                           |               |
| 173c | Washer                      | Stainless steel              | 1.4436                    | 316           |
| 173d | Washer                      |                              |                           |               |
| 173e | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 173f | Spring washer               | Stainless steel              | 1.4436                    | 316           |
| 173g | Earth connector             |                              |                           |               |
| 176a | Terminal block              |                              |                           |               |
| 176b | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 176c | Terminal block              |                              |                           |               |
| 176d | Terminal block              |                              |                           |               |
| 177a | Protection sleeve           |                              |                           |               |
| 178  | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 180  | Cable clamp                 | PA or cast iron              |                           |               |
| 180a | Screw                       | Stainless steel              |                           |               |
| 181  | Cable                       | ATON                         |                           |               |
| 181a | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 182a | Screw                       |                              |                           |               |
| 182b | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 184  | Screw                       | Stainless steel              | 1.4436                    | 316           |
| 187  | Circlip                     |                              |                           |               |
| 187a | Washer                      | Stainless steel              | 1.4436                    | 316           |

| Pos. | Component                    | Material        | DIN W.Nr./<br>EN standard | AISI/<br>ASTM |
|------|------------------------------|-----------------|---------------------------|---------------|
| 188  | Circlip                      |                 |                           |               |
| 190  | Lifting bracket              | Steel           |                           |               |
| 190b | Screw                        | Stainless steel |                           |               |
| 193  | Plug                         | Stainless steel | 1.4408                    | 316           |
| 194  | O-ring                       | NBR rubber      |                           |               |
| 197  | Washer                       | Stainless steel | 1.4436                    | 316           |
| 198  | Rubber seal                  |                 |                           |               |
| 248  | Screw                        | Stainless steel | 1.4436                    | 316           |
| 248a | Screw                        | Stainless steel |                           |               |
| 250  | Cable clamp                  | PA or cast iron |                           |               |
| 250a | Cable entry                  | PA or cast iron |                           |               |
| 250b | Rubber seal                  |                 |                           |               |
| 250e | Moisture switch              |                 |                           |               |
| 252  | Cable                        | ATON            |                           |               |
| 270  | Nut                          |                 |                           |               |
| 271  | Lock washer                  |                 |                           |               |
| 520  | Moisture switch <sup>3</sup> |                 |                           |               |
| 520a | Screw                        | Stainless steel | 1.4436                    | 316           |

<sup>1</sup> Available in stainless steel (custom-built option).

<sup>2</sup> Ex versions have cast iron cable entry.

<sup>3</sup> Ex versions have two moisture switches.

### Pump

| Pos. | Component              | Material                        | DIN W.Nr./<br>EN standard | AISI/ASTM |
|------|------------------------|---------------------------------|---------------------------|-----------|
| 7a   | Rivet                  | Stainless steel                 | 1.4436                    | 316       |
| 7b   | O-ring                 | NBR rubber                      |                           |           |
| 9a   | Key (for keyway)       | Stainless steel                 | 1.4436                    | 316       |
| 12   | Flange                 | Cast iron                       |                           |           |
| 12a  | Inlet cover            | Cast iron                       |                           |           |
| 12c  | Adjusting screw        | Stainless steel                 | 1.4436                    | 316       |
| 26   | Screw                  | Stainless steel                 | 1.4436                    | 316       |
| 26c  | Screw                  | Stainless steel                 |                           |           |
| 35   | Screw                  | Stainless steel                 |                           |           |
| 35a  | Screw                  | Stainless steel                 |                           |           |
| 37   | O-ring                 | NBR rubber                      |                           |           |
| 37b  | O-ring                 | NBR rubber                      |                           |           |
| 39   | O-ring                 | NBR rubber                      |                           |           |
| 39a  | O-ring                 | NBR rubber                      |                           |           |
| 49   | Impeller               | Cast iron <sup>1</sup>          | EN-JL-1050                |           |
| 50   | Pump housing           | Cast iron <sup>1</sup>          | EN-JL-1050                |           |
| 66   | Cap                    | Cast iron or<br>stainless steel |                           |           |
| 66b  | Washer                 |                                 |                           |           |
| 67   | Impeller screw         | Stainless steel                 | 1.4436                    | 316       |
| 76   | Nameplate              |                                 |                           |           |
| 76a  | Approval plate         |                                 |                           |           |
| 301  | Motor housing          |                                 |                           |           |
| 487  | Base stand, horizontal | Cast iron or steel              |                           |           |
| 494  | Plug                   | Stainless steel                 | 1.4436                    | 316       |
| 495  | O-ring                 | NBR rubber                      |                           |           |

<sup>1</sup> Available in stainless steel (custom-built option).

## Accessories

| Pos. | Component                           | Material               |
|------|-------------------------------------|------------------------|
| 487  | Base stand, horizontal <sup>1</sup> | Cast iron or steel     |
| 701  | Auto-coupling base unit             | Cast iron <sup>2</sup> |
| 702  | Guide rail bracket                  | Cast iron <sup>2</sup> |
| 703  | Guide claw <sup>3</sup>             | Cast iron <sup>2</sup> |
| 762  | Base stand , vertical               | Cast iron or steel     |

<sup>1</sup> Pumps of installation type H include the standard horizontal stand. Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand.

<sup>2</sup> Available in stainless steel (custom-built option).

<sup>3</sup> Guide claws for DN 250 outlets or bigger are factory-fitted.

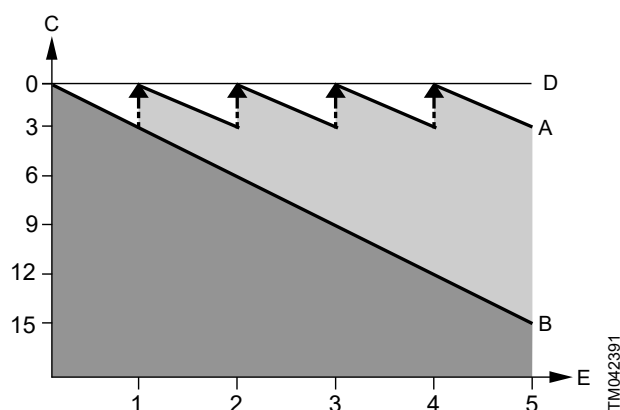
## 8. Product description

### Features

#### SmartTrim

On conventional pumps, maintaining factory-set impeller clearance is a time-consuming and costly task. The pumps need to be disconnected from the pipes and to be totally dismantled, and new parts need to be mounted in order to maintain full pumping efficiency. Not so with Grundfos SmartTrim!

All Grundfos heavy-duty channel-impeller pumps, whether for submerged or dry installation, are equipped with the unique SmartTrim impeller clearance adjustment system. This enables you to easily restore factory-set impeller clearance and maintain peak pumping efficiency. All you need to do is to tighten the adjustment screws on the exterior of the impeller housing. This can be done on site, quickly and easily, without dismantling the pump and without using special tools.



Impeller clearance adjustment cycle

| Pos. | Description                    |
|------|--------------------------------|
| C    | Efficiency drop in %           |
| D    | Factory-set impeller clearance |
| E    | Years                          |

**A:** With Grundfos SmartTrim impeller clearance adjustment system

**B:** Without impeller clearance adjustment system

#### SmartSeal

For pumps with DN 250 outlet and larger, the Grundfos SmartSeal auto-coupling sealing mounted on the pump outlet flange provides a completely leak-proof connection between the pump and the base unit of the auto-coupling system. This optimises the efficiency of the entire pumping system and keeps operating costs at a minimum.

#### Bearings

The bearings are greased for life.

**Main bearings:** Double-row angular contact ball bearing. Single or pair-mounted angular contact ball bearings for axial forces and cylindrical roller bearing for radial forces.

**Support bearings:** Single-row deep-groove ball bearing.

#### Shaft seals

The pumps have a primary and a secondary shaft seal.

The material combination of the primary shaft seal of all pump types is silicon carbide/silicon carbide. For the secondary shaft seal, the material combination is silicon carbide/carbon.

The shaft seals are placed in the oil chamber of the pump. The oil chamber provides reliable sealing between the pumped liquid and the motor.

The shaft seals have no springs or other parts in direct contact with the pumped liquid. This prevents rags and fibres from getting caught. The shaft seals are bidirectional, meaning that they can operate in either direction, thus allowing for opposite rotation caused by back-flow of liquid through the pump.

#### Motor

The motor is a watertight, totally encapsulated motor with:

- insulation class F (155 °C)
- temperature rise class F (105 K)
- enclosure class IP68.

For motor protection and sensors, see [Sensors](#).

#### Cables

The pumps have H07RN-F AT power cables as standard or screened ATON EMC VSCCB power cables on request.

The pumps have H07RN-F 450/750 V control cables as standard or screened ATON VSCB 450/750 V control cables on request.

The cables are 10 m long as standard. Other cable lengths are available on request. See [List of variants](#).

The number and dimension of cables depend on the motor size.

| Motor power [kW] | Voltage       | Cable size [power + control]                             |
|------------------|---------------|----------------------------------------------------------|
| 15               |               |                                                          |
| 20               |               | 2 x 4 x 6 mm <sup>2</sup> + 1 x 7 x 1.5 mm <sup>2</sup>  |
| 28               |               |                                                          |
| 30               | 3 x 415 V     |                                                          |
| 41               | 3 x 400/690 V | 2 x 4 x 10 mm <sup>2</sup> + 1 x 7 x 1.5 mm <sup>2</sup> |
| 43               |               |                                                          |
| 50               |               | 2 x 4 x 16 mm <sup>2</sup> + 1 x 7 x 1.5 mm <sup>2</sup> |

#### Power cable

| Cable type [mm <sup>2</sup> ] | Outer cable diameter [mm] | Weight [kg/m] | Bending radius [cm] |
|-------------------------------|---------------------------|---------------|---------------------|
| 4 x 6                         | 15.7 - 17.2               | 0.44          | 10                  |
| 4 x 10                        | 20.9 - 23.4               | 0.38          | 14                  |
| 4 x 16                        | 23.8 - 26.3               | 1.26          | 16                  |

#### Control cable

| Cable type [mm <sup>2</sup> ] | Outer cable diameter [mm] | Weight [kg/m] | Bending radius [cm] |
|-------------------------------|---------------------------|---------------|---------------------|
| 7 x 1.5                       | 14.4 - 16.4               | 0.35          | 10                  |

**Cable entry**

Watertight PA or cast iron cable entry with soft shape and sealing rings to prevent damage of the cable or leaks.

**Sensors**

A standard pump is equipped with these switches and sensors:

- Three thermal switches (Klixon) or three thermal protectors in the stator housing
- One moisture switch under the motor top cover.

An explosion-proof pump is equipped with these switches:

- Three thermal switches (Klixon) or three thermal protectors in the stator housing
- One moisture switch under the motor top cover and one in the stator housing in the dry end of the motor.

**Customised sensor options**

## 1. WIO (water-in-oil) sensor

The WIO sensor measures the water content in the oil and converts the value into an analog current signal. The two sensor conductors are for power supply as well as for carrying the signal to the measuring device or controller. The sensor measures the water content from 0 to 20 %. It also sends a signal if the water content is outside the normal range (warning), or if there is air in the oil chamber (alarm). The sensor is fitted in a stainless steel tube for mechanical protection. The sensor is either built-in with the motor (Ex) or installed as an accessory. If the sensor is installed externally, it is fitted in a plastic hose for mechanical protection. The WIO sensor is connected to Grundfos IO 113.

## 2. PVS3 (pump vibration sensor)

The vibration sensor monitors the vibration level of the pump by using measurements of three axes and combining them into a single measurement outputted in an analog current signal. The sensor acts only as a general indicator of changes in the vibration levels. PVS3 is to be connected to the Grundfos IO 113 and SM 113 modules. A substantial increase in vibration will trigger a warning or an alarm. An increase in vibrations can be caused by a clogged impeller, worn bearings, closed force main valves etc. indicating that service inspection must be carried out quickly in order to protect the pump or the pipe system from being damaged.

## 3. Bearing temperature sensor (Pt100).

Pt100 bearing temperature sensor installed within the motor housing. Sensors to be connected using a SM 113 and IO 113.

**Testing**

All pumps are tested before leaving the factory. The factory test report is based on ISO 9906:2012; grade 3B. Test reports can be ordered directly with the pump or can be ordered separately based on the pump serial number.

Other tests or third-party inspection certificates are available on request. See [List of variants](#).

**Related information**

[List of variants](#)

**Operating conditions****Pumps without cooling jacket in submerged installation (type S):**

- Continuous operation when the pump is completely submerged to the top of the motor.
- Intermittent operation with a maximum of 15 starts per hour when the pump is submerged to the middle of the motor and with short periods of operation down to the top of the pump housing.

**Warning:** A motor protection device must be used to cut off the power supply in case of overheating.

**Note:** Explosion-proof pumps must always be fully submerged.

**Pumps with cooling jacket in submerged and dry installation (types C, D and H):**

- Continuous and intermittent operation with a maximum of 15 starts per hour with the water level down to the top of the pump housing.

## Pumped liquids

**pH value:** 6-12

**Liquid temperature:** 0-40 °C

When pumping liquids with a density and/or a kinematic viscosity higher than that of water, use motors with correspondingly higher outputs.

## Sound pressure

The sound pressure level of the pump is lower than the limiting values stated in Machinery Directive, 2006/42/EC.

## Motor range

| Motor power [kW] | Number of poles |
|------------------|-----------------|
| 15               | 12              |
| 20               | 8               |
| 28               | 8               |
| 30               | 4               |
| 41               | 4               |
| 43               | 4               |
| 50               | 4               |

## Explosion-proof pumps

Use explosion-proof pumps in potentially explosive environments.

**Note:** All installations must be approved by the local authorities.

## Relevant standards/regulations

- EN ISO 80079-36
- EN ISO 80079-37
- EN 60079-0
- EN 60079-1
- IEC 60079-0
- IEC 60079-1

## Explosion protection classification (IECEX & ATEX/UKEX)

- Group II, Category 2, Gas or vapor environment
- Ex db eb h mb IIB T3 or T4 Gb ( $T_{amb} = -5^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ )

## Operation with frequency converter

Only temperature class T3.

## Notified body

SGS Baseefa for UKEX and IECEx.

SGS Fimko for ATEX.

## Level controllers

Grundfos offers dedicated pump controllers for monitoring liquid levels in the wastewater collecting tanks to ensure correct operation and protection of the pumps.

Grundfos pump controllers are ideally suited to Grundfos S pumps, and include:

- Grundfos Dedicated Controls (DC)
- Grundfos LC controllers

## Grundfos DC Controllers



Grundfos Dedicated Controls control cabinet

Grundfos Dedicated Controls (DC) is a control system designed for installation in municipal wastewater transport, commercial buildings or network pumping stations with up to six wastewater pumps and an optional mixer or a flush valve.

Advanced control and data communication are also possible with the Grundfos Dedicated Controls system. The control cabinets are delivered with a built-in main switch and thermal magnetic circuit breaker.

**Features and benefits:**

- advanced flow calculation
- automatic energy optimisation
- easy installation and configuration
- configuration wizard
- electrical overview
- advanced data communication
- advanced alarm and warning priority
- supports several languages
- daily emptying
- mixer control or flush valve
- user-defined functions
- anti-blocking
- start level variation
- advanced pump alternation with pump groups
- SMS scheduling
- communication to SCADA, BMS, GRM or cell phone.

Dedicated Controls is ordered either with or without a built-in communication interface module (CIM).

The communication module enables the possibility for fieldbus protocol (e.g. PROFIBUS DP, Modbus RTU and PROFINET IO/Modbus TCP) and the communication line.

For further information, see the Grundfos Product Center:

- Grundfos Dedicated Controls, brochure <http://net.grundfos.com/qr/i/96925597>
- Grundfos iSolutions, brochure <http://net.grundfos.com/qr/i/99249771>
- Grundfos Controls Guide, product guide <http://net.grundfos.com/qr/i/97954965>

**Additional features, CUE or VFD**

The CUE/VFD (optional), which is either a Grundfos variable frequency drive or a general variable frequency drive, offers better pump protection and a steadier flow through the pipe system.

**Features and benefits:**

- anti-blocking
- automatic energy optimisation
- specific-energy test
- output frequency
- monitoring of:
  - voltage<sup>1)</sup>
  - current<sup>1)</sup>
  - phase sequence<sup>1)</sup>
  - power<sup>1)</sup>
  - energy<sup>1)</sup>
  - torque<sup>1)</sup>
- reverse start<sup>2)</sup>
- run flushing
- stop flushing
- PID control.

<sup>1)</sup> These functions are only available with a Grundfos CUE.

<sup>2)</sup> Do not reverse at full speed at any time. When reduced reverse operation settings are set, make sure that constant torque is enabled in Variable Frequency Drive (VFD) (i.e. Grundfos CUE, Siemens Simatic, ABB, Schneider Electric or similar brands) to have maximum torque available when reversing.

**Grundfos LC controllers**

The LC 231 pump controller is designed for level control, monitoring and protection of Grundfos pumping stations featuring one pump or two pumps, starting direct-on-line. The LC 231 controller is integrated in a polymer cabinet.

The LC 241 is a modular pump controller that has a metal or polymer cabinet and can be customised according to your needs.

It is designed for level control, monitoring and protection of Grundfos pumping stations featuring one pump or two pumps, starting direct-on-line with 0-23 A, star-delta with 0-59 A or soft starter with 0-72 A.

**IO 113**

The IO 113 module is a protection module for Grundfos wastewater pumps.

IO 113 has inputs for digital and analog pump sensors and can stop the pump if a sensor indicates a pump fault.

IO 113 can be connected to the Grundfos Dedicated Controls system and allows advanced monitoring functions:

- motor temperature
- moisture in motor
- water in oil
- insulation resistance.

**SM 113**

The SM 113 module is used for collection and transfer of sensor data in pumps and includes a large number of sensors.

SM 113 can be placed either inside the pump (allowing fewer sensor conductors out of the pump) or in the control cabinet next to the pump installation.

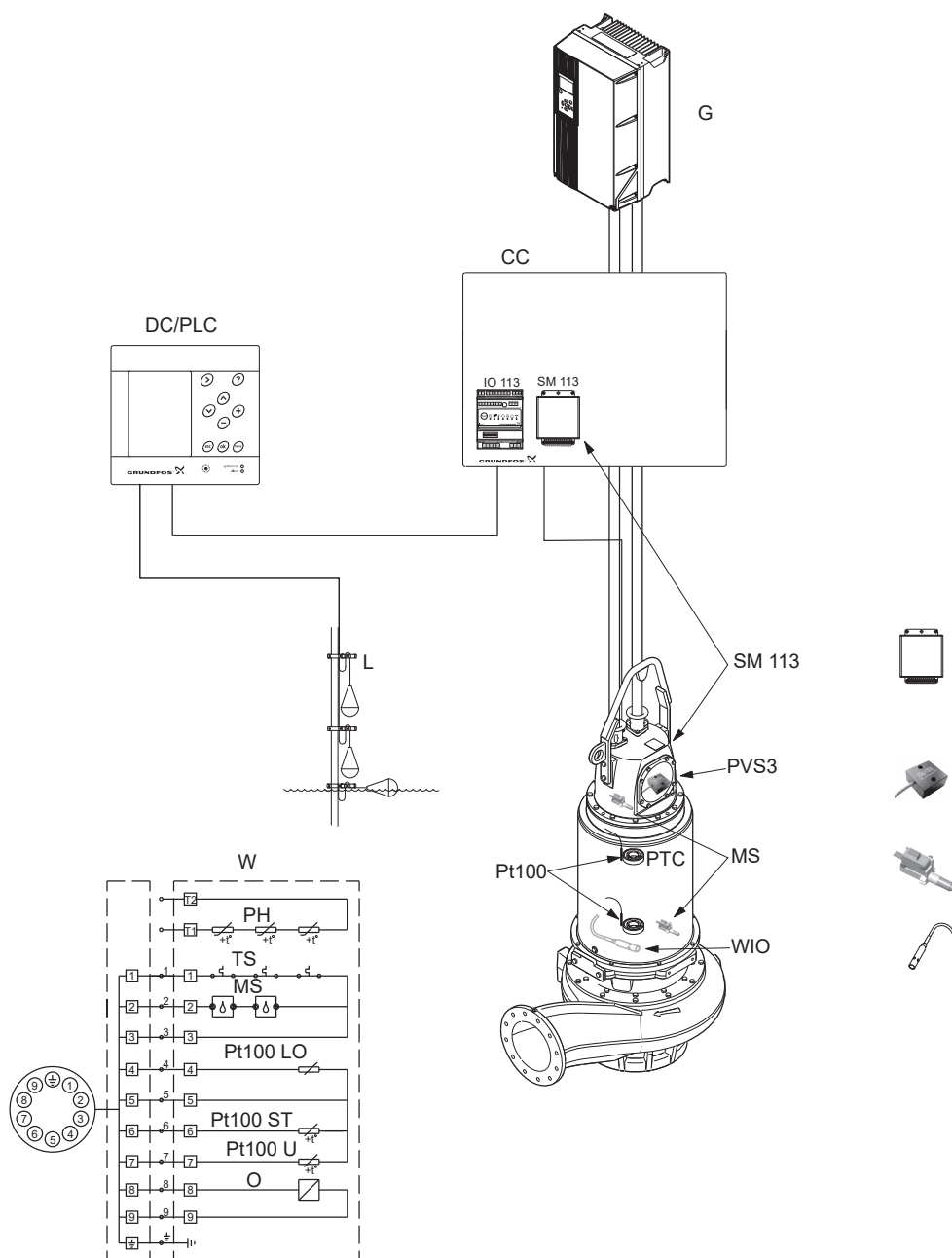
SM 113 works together with IO 113 through a power-line communication using the Grundfos GENIbus protocol.

SM 113 can collect data from:

- 3 current sensors, 4-20 mA
- 3 Pt100 thermal sensors or 3 Pt1000 thermal sensors
- 1 PTC thermal sensor
- 1 digital input.

### **MP 204**

The MP 204 control cabinet can be used as a stand-alone motor protector. MP 204 may also be incorporated in a Grundfos Dedicated Controls system in which it functions as a motor protector. The pump is protected secondarily by measuring the temperature with a Pt100 sensor and a PTC sensor or thermal switch.

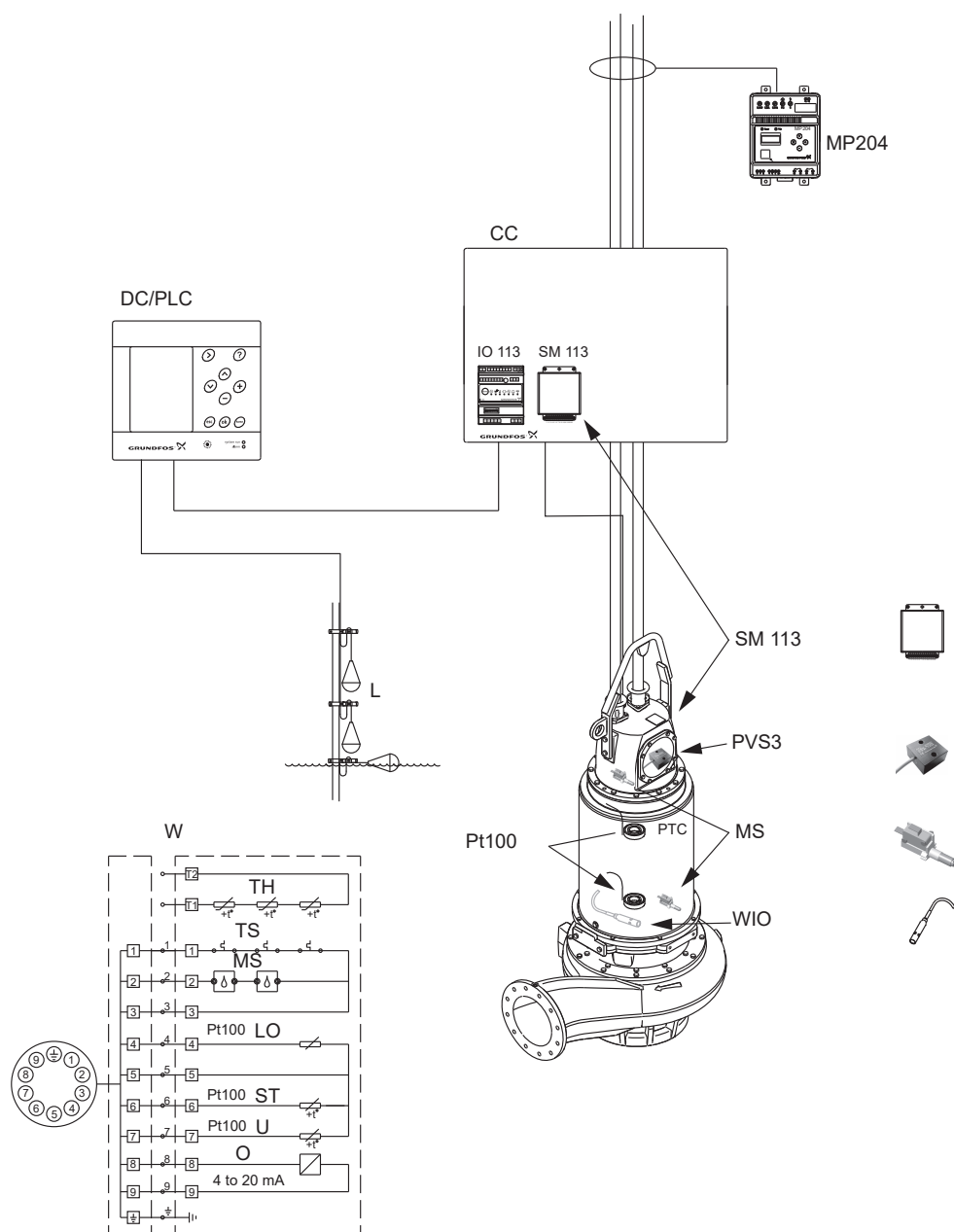


TM068753

### Pump with frequency converter operation

| Pos.   | Description                                             |
|--------|---------------------------------------------------------|
| G      | Grundfos CUE, < 250 kW, or another frequency converter. |
| CC     | Control cabinet                                         |
| DC/PLC | Dedicated Controls or PLC                               |
| L      | Level sensor                                            |
| SM 113 | SM 113, optional                                        |
| PVS3   | PVS3 sensor, optional                                   |
| MS     | Moisture switches                                       |
| WIO    | WIO sensor, optional                                    |

| Pos.     | Description              |
|----------|--------------------------|
| Pt100    | Pt100 sensor, optional   |
| W        | Wiring diagram           |
| PH       | Thermistor               |
| TS       | Thermal switches         |
| Pt100 LO | Pt100 in lower bearing   |
| Pt100 ST | Pt100 in stator          |
| Pt100 U  | Pt100 in upper bearing   |
| O        | Oil indicator 4 to 20 mA |



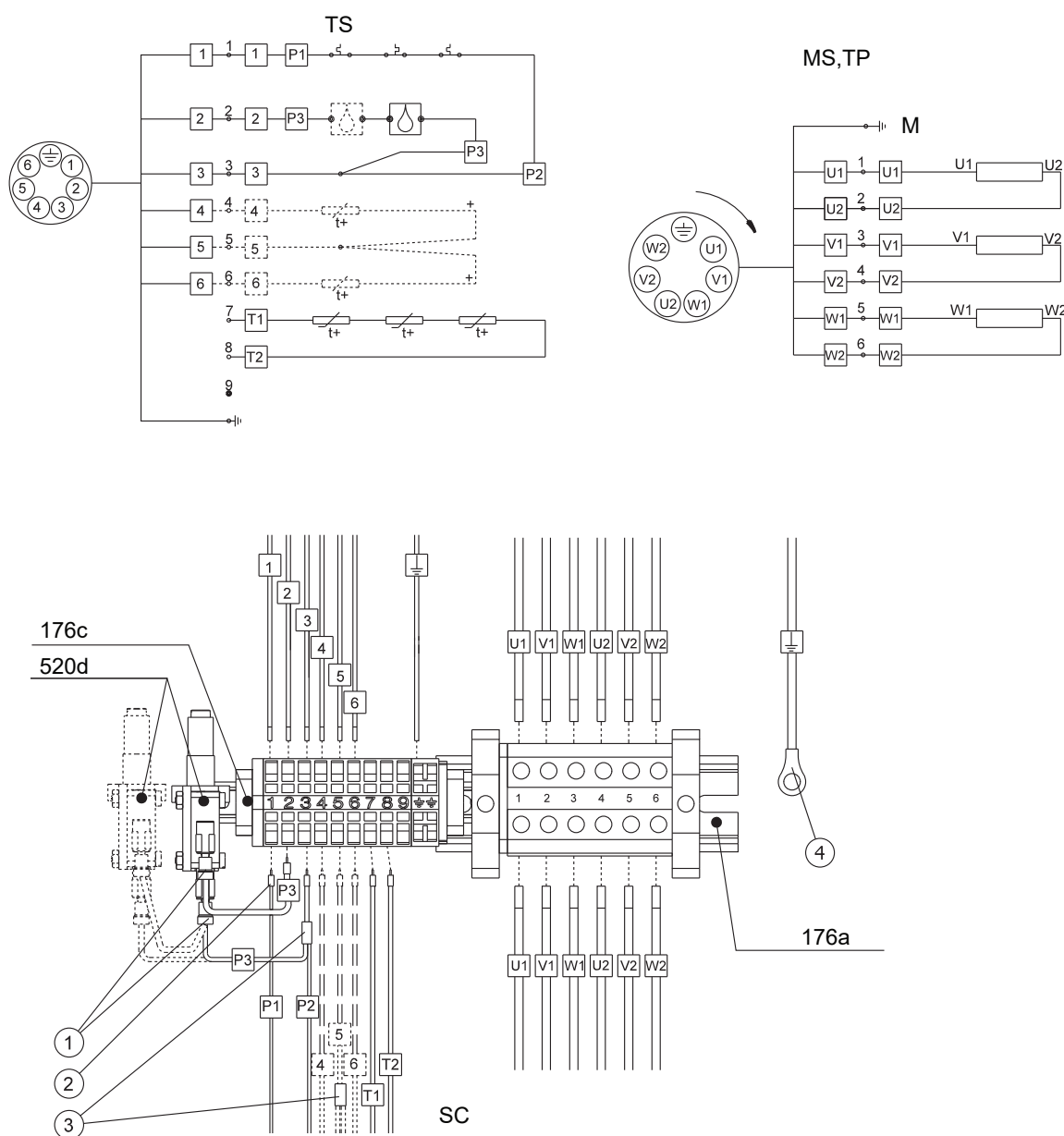
TM068754

### Pump with MP 204 motor protector

| Pos.     | Description               |
|----------|---------------------------|
| CC       | Control cabinet           |
| DC/PLC   | Dedicated Controls or PLC |
| L        | Level sensor              |
| SM 113   | SM 113, optional          |
| PVS3     | PVS3 sensor, optional     |
| MS       | Moisture switches         |
| WIO      | WIO sensor, optional      |
| Pt100    | Pt100 sensor, optional    |
| W        | Wiring diagram            |
| TH       | Thermistor                |
| TS       | Thermal switches          |
| Pt100 LO | Pt100 in lower bearing    |

| Pos.     | Description              |
|----------|--------------------------|
| Pt100 ST | Pt100 in stator          |
| Pt100 U  | Pt100 in upper bearing   |
| O        | Oil indicator 4 to 20 mA |

## Wiring diagrams



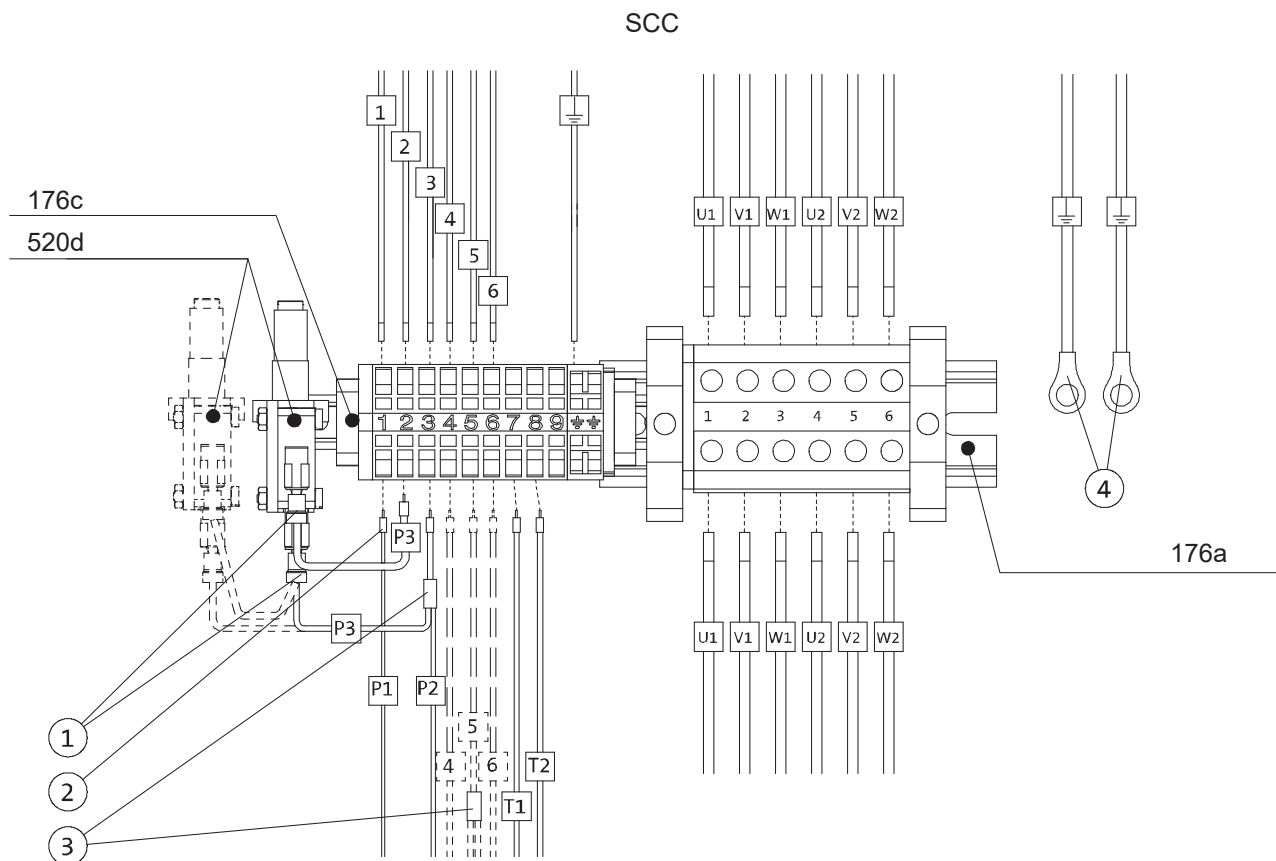
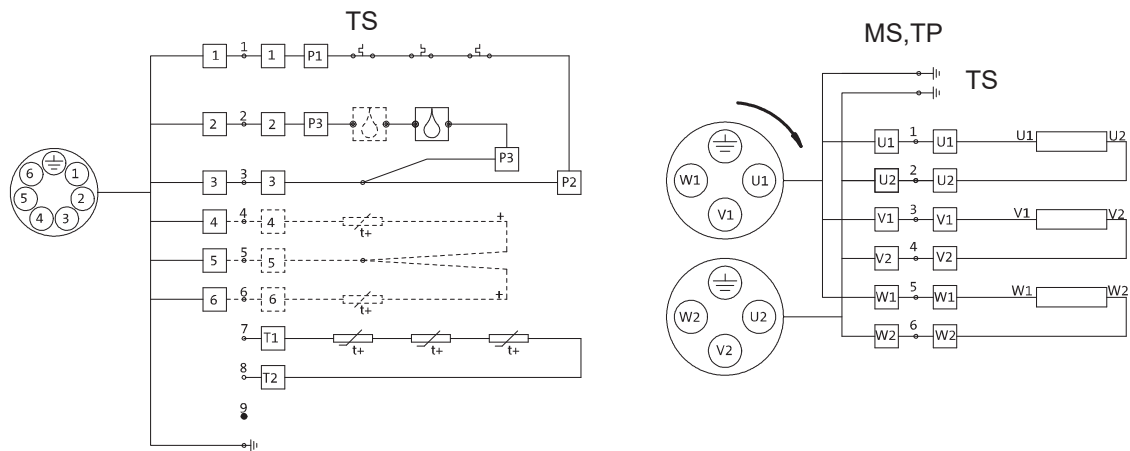
TM043729

## Wiring diagrams, pumps with one power cable

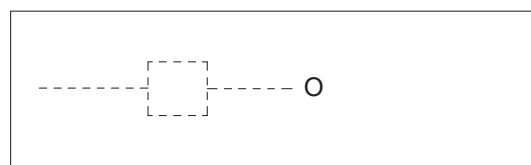
| Pos. | Description                     |
|------|---------------------------------|
| TS   | Thermal switch                  |
| MS   | In Ex pumps 2 moisture switches |
| PtL  | Pt100 in lower bearing          |
| PtS  | Pt100 in stator                 |
| TH   | Thermistor                      |
| M    | Motor                           |

| Pos.   | Description                            |
|--------|----------------------------------------|
| MS, TP | Moisture switch and thermal protectors |
| C      | Read clockwise from GND                |
| SCC    | Supply cable conductors                |
| O      | Optional equipment                     |
| SC     | Stator conductors                      |
| 1      | Female push-on connector               |
| 2      | Wire pin                               |
| 3      | Butt splice                            |

| Pos. | Description                              |
|------|------------------------------------------|
| 4    | Ring connector                           |
| 176a | Terminal block (power cable connections) |
| 176c | Terminal block (sensor connections)      |
| 520d | Moisture sensor                          |



STC



TM043274

Wiring diagrams, pumps with two power cables

| Pos. | Description    |
|------|----------------|
| TS   | Thermal switch |

| Pos.   | Description                              |
|--------|------------------------------------------|
| MS     | In Ex pumps 2 moisture switches          |
| TH     | Thermistor                               |
| PtL    | Pt100 in lower bearing                   |
| PtS    | Pt100 in stator                          |
| MS, TP | Moisture switch and thermal protectors   |
| C      | Read clockwise from GND                  |
| M      | Motor                                    |
| SCC    | Supply cable conductors                  |
| SC     | Stator conductors                        |
| O      | Optional equipment                       |
| 1      | Female push-on connector                 |
| 2      | Wire pin                                 |
| 3      | Butt splice                              |
| 4      | Ring connector                           |
| 176a   | Terminal block (power cable connections) |
| 176c   | Terminal block (sensor connections)      |
| 520d   | Moisture sensor                          |

## 9. Curve charts and technical data

The following many pages are divided into sections.

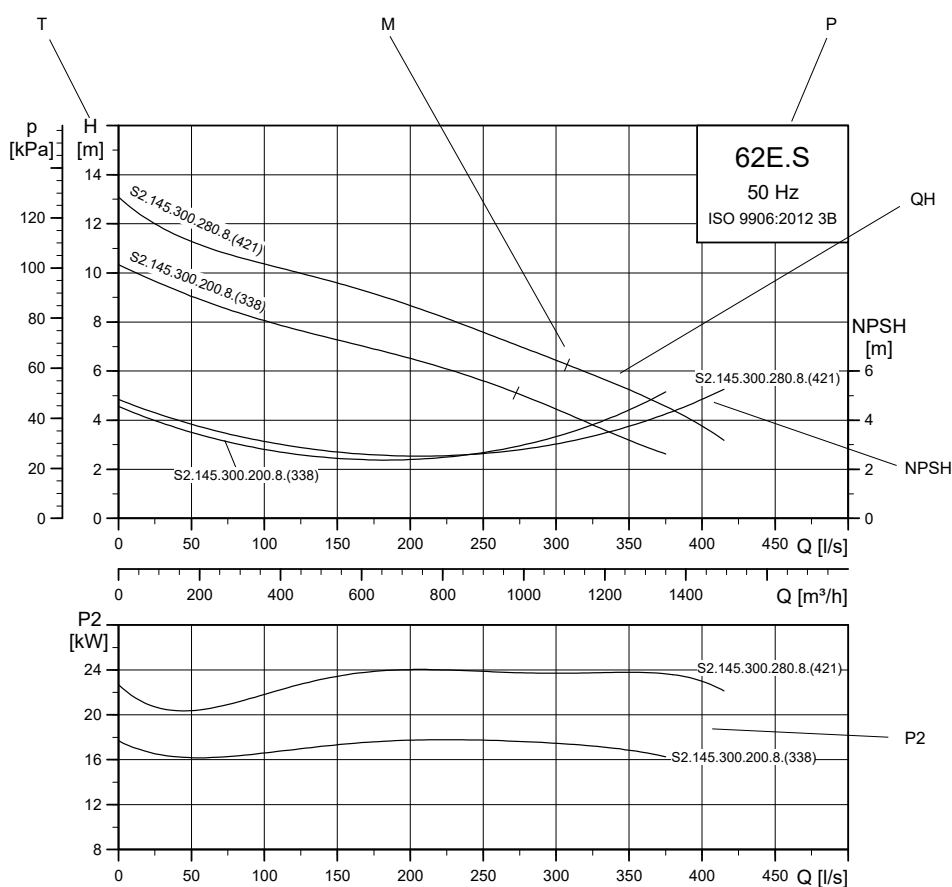
In [How to read the curve charts](#) and [Curve conditions](#) you will find a brief explanation of how to read the curve charts, the curve conditions, etc.

### Related information

[How to read the curve charts](#)

[Curve conditions](#)

### How to read the curve charts



| Pos. | Description                                                                                                        |
|------|--------------------------------------------------------------------------------------------------------------------|
| T    | Total pump head<br>$H = H_{\text{total}}$                                                                          |
| M    | Max. efficiency mark                                                                                               |
| P    | Pump type<br><b>62:</b> Range 62<br><b>E:</b> Pressure version (Extra-low pressure)<br><b>S:</b> Installation type |
| QH   | <b>QH curve</b> for each individual pump                                                                           |
| NPSH | <b>NPSH curve</b> for all variants shown. When sizing the pumps, add a safety margin of at least 0.5 m             |
| P2   | The <b>power curves</b> indicate the pump shaft power [P <sub>2</sub> ] for the pumps shown                        |

**Note:** The pumps are tested according to ISO 9906:2012 grade 3B tolerance. Testing equipment and measuring instruments are designed and calibrated according to the standards mentioned. The pumps are approved according to tolerances for entire curves, specified in grade 3B.

## Curve conditions

The guidelines below apply to the curves shown in the performance charts in [10. Performance curves and technical data](#).

- Tolerances according to: ISO 9906:2012, grade 3B.
- The curves show pump performance with different impeller diameters at rated speed.
- The curves apply to the pumping of airless water at a temperature of 20 °C and a kinematic viscosity of 1 mm<sup>2</sup>/s (1 cSt).
- **NPSH:** The curves show average values measured under the same conditions as the performance curves. When sizing the pump, add a safety margin of at least 0.5 m.
- In case of densities other than 1000 kg/m<sup>3</sup>, the outlet pressure is proportional to the density.
- When pumping liquids with a density higher than 1000 kg/m<sup>3</sup>, motors with correspondingly higher outputs must be used.

### Calculation of total head

The total pump head consists of the height difference between the measuring points + the differential head + the dynamic head.

$$H_{\text{total}} = H_{\text{geo}} + H_{\text{stat}} + H_{\text{dyn}}$$

$H_{\text{geo}}$ : Height difference between measuring points.

$H_{\text{stat}}$ : Differential head between the inlet and the outlet side of the pump.

$H_{\text{dyn}}$ : Calculated values based on the velocity of the pumped liquid on the inlet and the outlet side of the pump.

## Pump performance testing

S pump testers are all capable of performing hydraulic performance tests according to ISO 9906:2012 requirements.

ISO 9906:2012 sets standards for "rotodynamic pumps, Hydraulic performance acceptance tests, Grades 1, 2 and 3".

### Performance acceptance grades

Six-pump-performance-test acceptance grades, 3B, 2B, 2U, 1B, 1E and 1U are defined in ISO 9906:2012.

| Acceptance grade | Mandatory measurements |       | Optional measurements |         |
|------------------|------------------------|-------|-----------------------|---------|
|                  | Q                      | H     | P1                    | Eta-tot |
| 3B               | ± 9 %                  | ± 7 % | +9 %                  | -7 %    |
| 2B               | ± 8 %                  | ± 5 % | +8 %                  | -5 %    |
| 2U               | +16 %                  | +10 % | +16 %                 |         |
| 1B               | ± 5 %                  | ± 3 % | +4 %                  | -3 %    |
| 1E               | ± 5 %                  | ± 3 % | +4 %                  |         |
| 1U               | +10 %                  | +6 %  | +10 %                 | ≥ 0 %   |

Q: Flow rate

H: Head

P1: Total consumed power

Eta-tot: Total efficiency

These tolerance grades can be used in the contract between the pump manufacturer and the customer, or they can be used in a default tolerance factor which will apply if no specific tolerance grade has been agreed between the manufacturer and the customer.

The performance acceptance grades are explained in Specifying acceptance grades show the performance grades related to an ordinary pump curve.

### Related information

[Specifying acceptance grades](#)

[Acceptance grades and tolerances](#)

### The guarantee point

According to ISO 9906:2012, the acceptance-grade tolerance applies to one guarantee point.

A guarantee point is defined by a guaranteed flow rate and a guaranteed head.

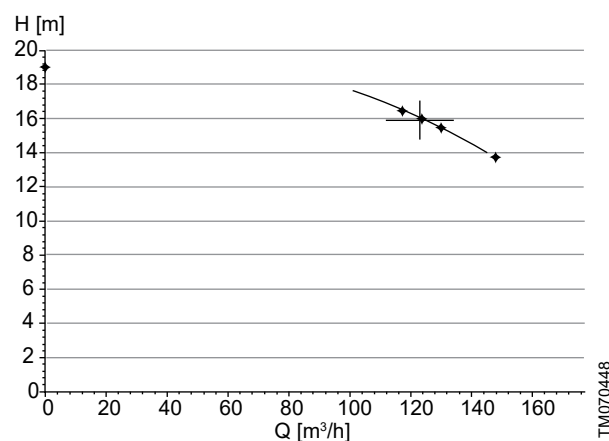
In addition, either minimum total efficiency or maximum total input power may be guaranteed at the specified conditions.

This means that the standard sets guidelines for a duty point guaranteed for the following:

- Q and H, or
- Q, H and total efficiency (Eta-total), or
- Q, H and total consumed power (P1).

The guarantee point is defined by a minimum of five measured test points.

Example of a duty point test living up to ISO 9906:2012 requirements

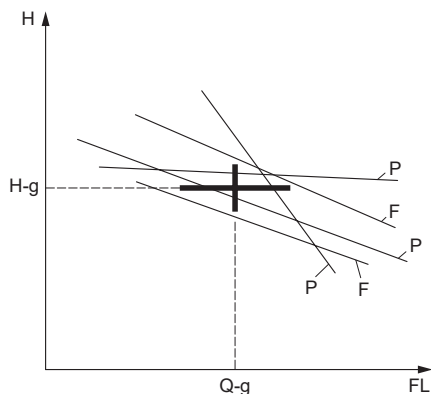


Five measured test points are used to verify one guarantee point

## Evaluation of performance

The test must show that the measured pump curve touches or passes through a tolerance surrounding the guarantee point, as defined by the selected acceptance grade.

Guarantee-point evaluation must be made at the rated speed, which for S pumps means 50 Hz or 60 Hz.



TM071544

*Pump curves that either pass or fail to cross the tolerance cross of the guarantee point*

| Pos. | Description  |
|------|--------------|
| H    | Head         |
| H-g  | H-guaranteed |
| P    | Pass         |
| F    | Fail         |
| Q-g  | Q-guaranteed |
| FL   | Flow         |

## Performance-test types for end-suction pumps

Two types of performance tests are available for S pumps:

- duty-point-verification test
- curve test.

### Tests carried out on S pumps

- Tests are saved for at least five years and can be traced using the pump's unique serial number.
- It is not possible to change acceptance grade on an already tested and supplied pump; if required, a re-test of the pump is made.
- Witness testing can be arranged.

### Duty-point-verification test, Grades 3B, 2B, 2U, 1B, 1E and 1U

This test method offers the possibility to perform a duty-point verification of the following:

- Q and H; or
- Q, H and total efficiency (Eta-tot); or
- Q, H and total consumed power (P1).

| Acceptance grade | Mandatory measurements |   | Optional measurements |         |
|------------------|------------------------|---|-----------------------|---------|
|                  | Q                      | H | P1                    | Eta-tot |
| 3B               | Standard               |   | On request            |         |
| 2B               | On request             |   | On request            |         |
| 2U               | On request             |   | On request            |         |
| 1B               | On request             |   | On request            |         |
| 1E               | On request             |   | On request            |         |
| 1U               | On request             |   | On request            |         |

What Grundfos is able to guarantee for the different acceptance grades will be evaluated on a case-by-case basis. Contact your local sales company on this.

Grundfos makes duty-point verification according to ISO 9906:2012 for one guarantee point at full speed, 50 or 60 Hz. The customer must tell Grundfos which duty point to verify.

The requested duty point is verified by five measured points.

### Grade 1U duty-point verification

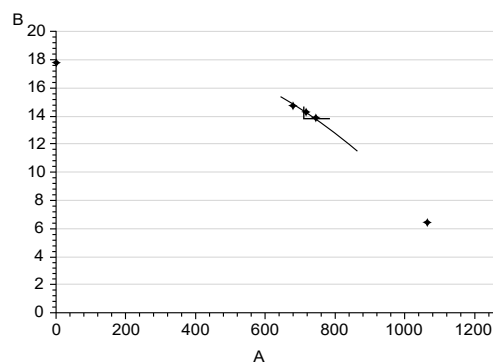
The following example illustrates performance testing according to Grade 1U.

Flow rate and head are mandatory, and efficiency or power consumption, P1, is optional.

Tolerances for a Grade 1U test are as follows:

- Flow rate: 10 %
- Head: 6 %
- Efficiency: 0 %, only equal to or better than the guaranteed value
- P1: 10 %

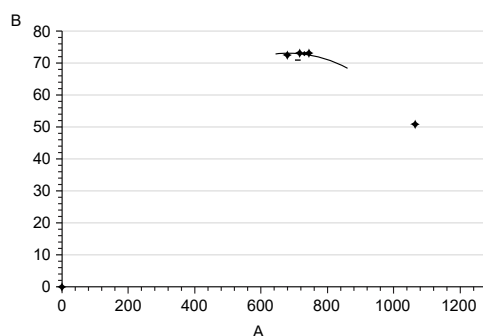
Q, H and Eta-tot are tested and verified



TM071542

*Measured values for flow rate and head*

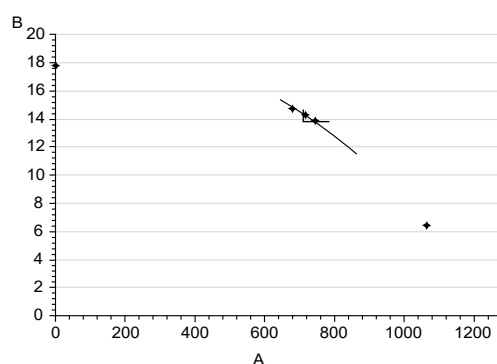
| Pos. | Description           |
|------|-----------------------|
| A    | Q [m <sup>3</sup> /h] |
| B    | H [m]                 |



Measured values for total efficiency

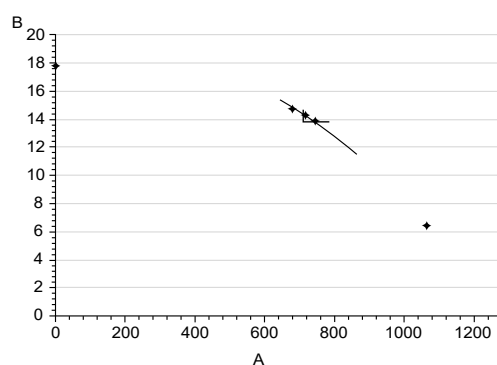
| Pos. | Description   |
|------|---------------|
| A    | Q [m³/h]      |
| B    | Eta-tot % [m] |

Q, H and P1 tested and verified



Measured values for flow rate and head

| Pos. | Description |
|------|-------------|
| A    | Q [m³/h]    |
| B    | H [m]       |



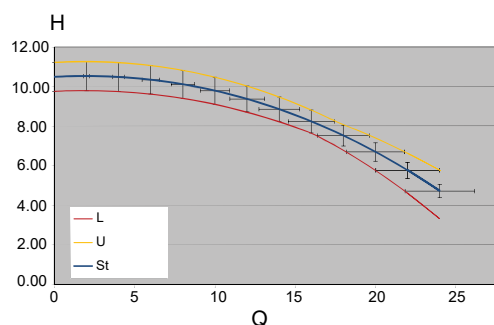
Measured values for consumed power

| Pos. | Description |
|------|-------------|
| A    | Q [m³/h]    |
| B    | P1 [kW]     |

Note that other points than the guarantee point can be measured and displayed in a curve-test report according to Grade 3B tolerances.

## Curve test, Grade 3B

This test method is developed by Grundfos and is based on ISO 9906:2012 performance acceptance grade 3B tolerances:  $Q = \pm 9\%$ ,  $H = \pm 7\%$ .



Q-H curve with tolerance crosses on complete performance range

| Pos. | Description    |
|------|----------------|
| Q    | [m³/h]         |
| H    | [m]            |
| L    | Lower limit    |
| U    | Upper limit    |
| St   | Standard curve |

In fig. *Q-H curve with tolerance crosses on complete performance range* tolerance crosses according to Grade 3B have been distributed across the complete performance range of a pump. We generate the upper and lower limit of the performance curve by drawing two curves at the outlines of these crosses.

When the pump is tested, and the measured point is located within the range between the upper and lower limit, it meets the ISO 9906:2012 Grade 3B tolerances. This way of qualifying the pump performance is stricter than a duty-point-verification test for Grade 3B.

## How does Grundfos perform curve testing for S pumps?

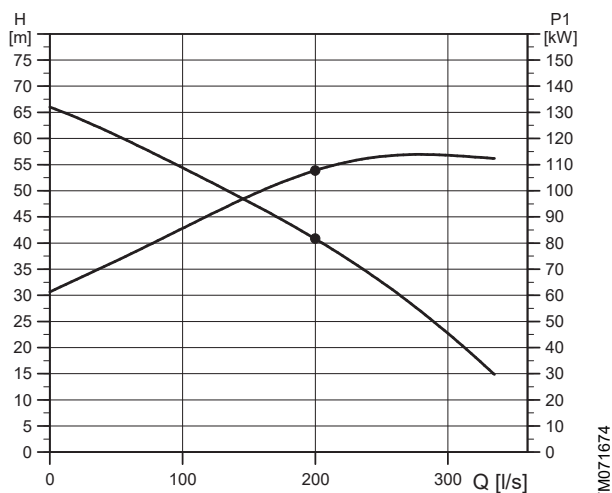
Grundfos applies two types of curve tests:

- a reference-curve test
- a performance-curve test.

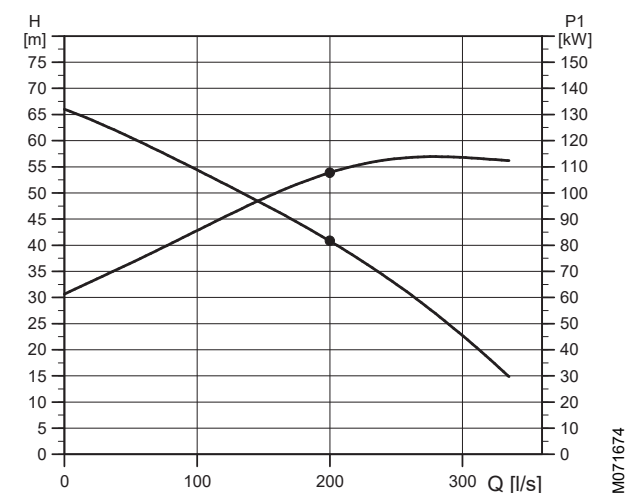
### Reference curve test, Grade 3B

A reference curve test is made when no curve test report is specified with the order. Three or four test points are measured depending on production site, and no curve test report is supplied with the pump.

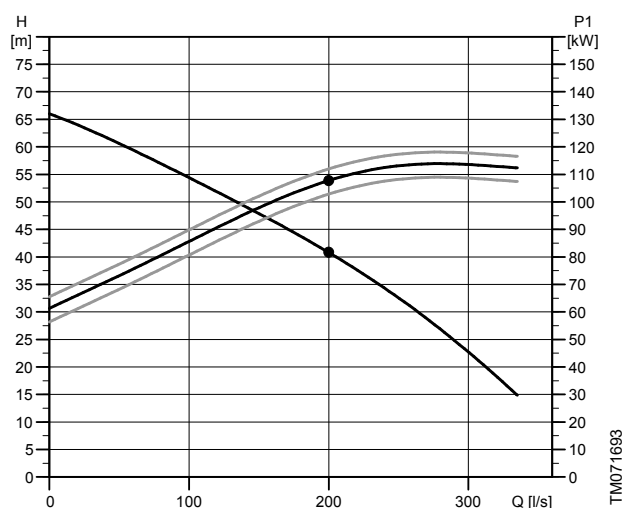
Measurements are made to maintain and observe continuous quality and to ensure that the supplied pump is within test grade tolerances. Test grade tolerances are set as for Grade 3B but without certification.

**Example of a reference curve test**

TM071674



TM071674

*Measured values for tested pump***Measured values for tested pump**

TM071693

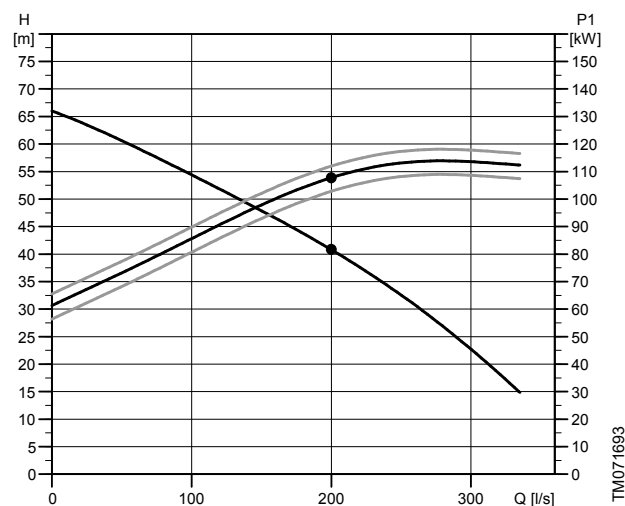
*The values in fig. calculated to reference speed for comparison to a reference performance curve*

If a pump performance report is requested at a later stage, only reference test data are available.

**Performance curve test, grade 3B**

A performance curve test is carried out when a curve test report is specified with the order.

The pump is tested at pre-specified flow rates and test grade tolerances are set as for Grade 3B but without certification.

**Example of an S pump curve test**

TM071693

*The values in fig. calculated to a reference speed for comparison to a reference performance*

If the customer requires more points on the curve to be checked, individual measurements must be made, which is not part of the performance curve test.

**Static high pressure test**

All produced pumps undergo a static high pressure test of 1.5 x PN (nominal pressure of the pump).

**Specifying acceptance grades**

The graphs in the table in Acceptance grades and tolerances show the tolerances as stated in the standard, related to an ordinary pump curve. The graphs also show which pump performance to expect if the customer, having the same pump to start with, orders a pump with the same guarantee point for different tolerances (B, E or U) within the acceptance grades.

In some cases, it will not be possible to fulfil the same guarantee point for a unilateral tolerance as it will for a bilateral tolerance. This is indicated by the lower curve for 'E' and 'U' grades.

If the requested guarantee point is the same for a Grade U pump as for a Grade B pump, the consequence of the production tolerances could be that a larger pump is required to obtain the requested duty point.

What Grundfos is able to guarantee for the different acceptance grades will be evaluated on a case-by-case basis. Contact your local sales company on this.

**Related information**

[\*Acceptance grades and tolerances\*](#)

## Acceptance grades and tolerances

### Acceptance grade B

This acceptance grade refers to grades with a bilateral tolerance on flow rate and head and with a tolerance on efficiency.

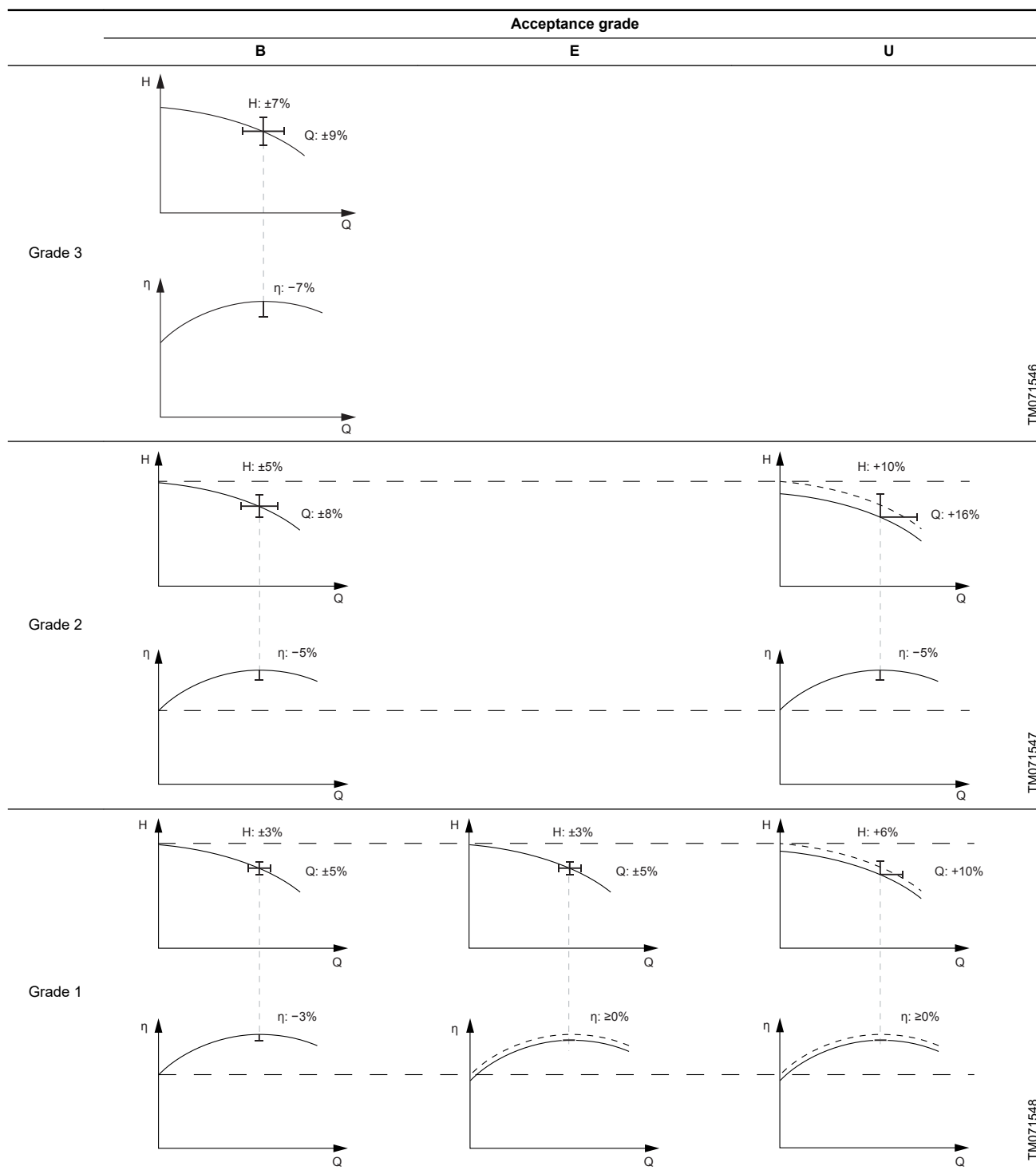
### Acceptance grade E

This acceptance grade refers to a grade with a bilateral tolerance on flow rate and head but without tolerance on efficiency.

### Acceptance grade U

This acceptance grade refers to a grade with a unilateral tolerance on flow rate and head. For the 2U grade there is a tolerance on efficiency. For the 1U grade there is no tolerance on efficiency.

Note that if the acceptance grade changes from Grade 1B to 1U, the customer does not necessarily get a better pump with a higher efficiency. More likely, he gets a pump where the performance is always to the positive side of the guarantee point.



## Certificates

Certificates must be confirmed for each order and are available on request:

- certificate of compliance with the order (EN 10204 2.1)
- pump test sheet.

## Witness test

When the pumps are being tested or are tested with a certification, it is possible for the customer to witness the testing procedure according to ISO 9906:2012.

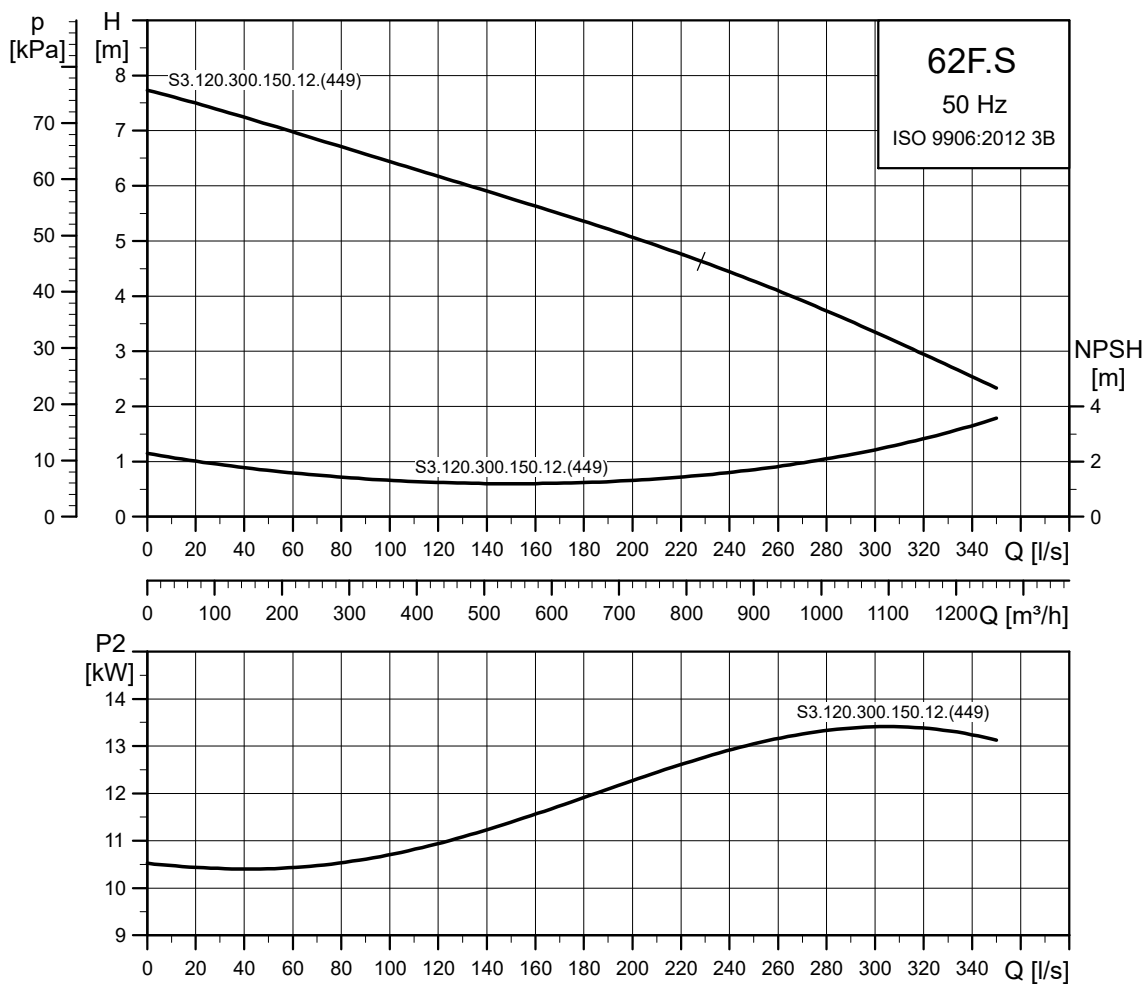
The witness test is not a certificate and will not result in a written statement from Grundfos. The witness itself is the only guarantee that everything is carried out as prescribed in the testing procedure.

If the customer wants to witness the test, place this request on the order.

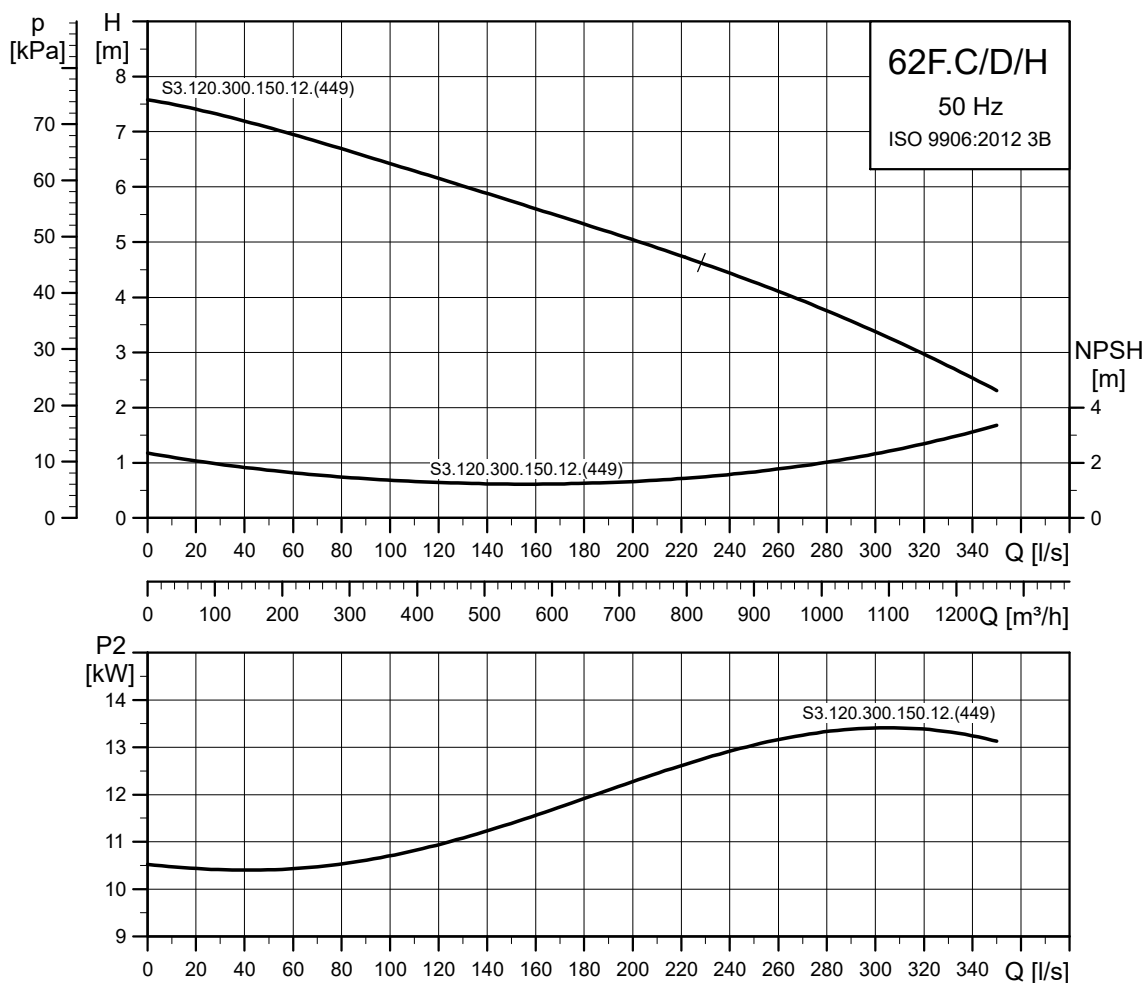
## 10. Performance curves and technical data

Super-low pressure - 3 x 400/690 V

S3.120.300.150.12



TM040665



TM040666

### Motor data

| Pump type                      | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM | Starting<br>method | I <sub>N</sub> <sup>1</sup> | I <sub>start</sub> | η <sub>motor</sub> [%] |     |     |      | Cos φ |      |        | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|--------------------------------|------------|------------|-----------------|-----|--------------------|-----------------------------|--------------------|------------------------|-----|-----|------|-------|------|--------|---------------------------------------------|----------------------------------------------|
|                                |            |            |                 |     |                    | [A]                         | [A]                | 1/2                    | 3/4 | 1/1 | 1/2  | 3/4   | 1/1  |        |                                             |                                              |
| S3.120.300.150.12.62F.S.449... | 18         | 15         | 12              | 485 | Y/D                | 37/22                       | 147                | 83                     | 85  | 84  | 0.54 | 0.65  | 0.70 | 0.6500 | 581                                         |                                              |
| S3.120.300.150.12.62F.C.449... | 18         | 15         | 12              | 485 | Y/D                | 37/22                       | 147                | 83                     | 85  | 84  | 0.54 | 0.65  | 0.70 | 0.6500 | 581                                         |                                              |
| S3.120.300.150.12.62F.D.449... | 18         | 15         | 12              | 485 | Y/D                | 37/22                       | 147                | 83                     | 85  | 84  | 0.54 | 0.65  | 0.70 | 0.6500 | 581                                         |                                              |
| S3.120.300.150.12.62F.H.449... | 18         | 15         | 12              | 485 | Y/D                | 37/22                       | 147                | 83                     | 85  | 84  | 0.54 | 0.65  | 0.70 | 0.6500 | 581                                         |                                              |

<sup>1</sup> Low /high voltage (400/690 V).

**Note:** Enclosure class: IP68

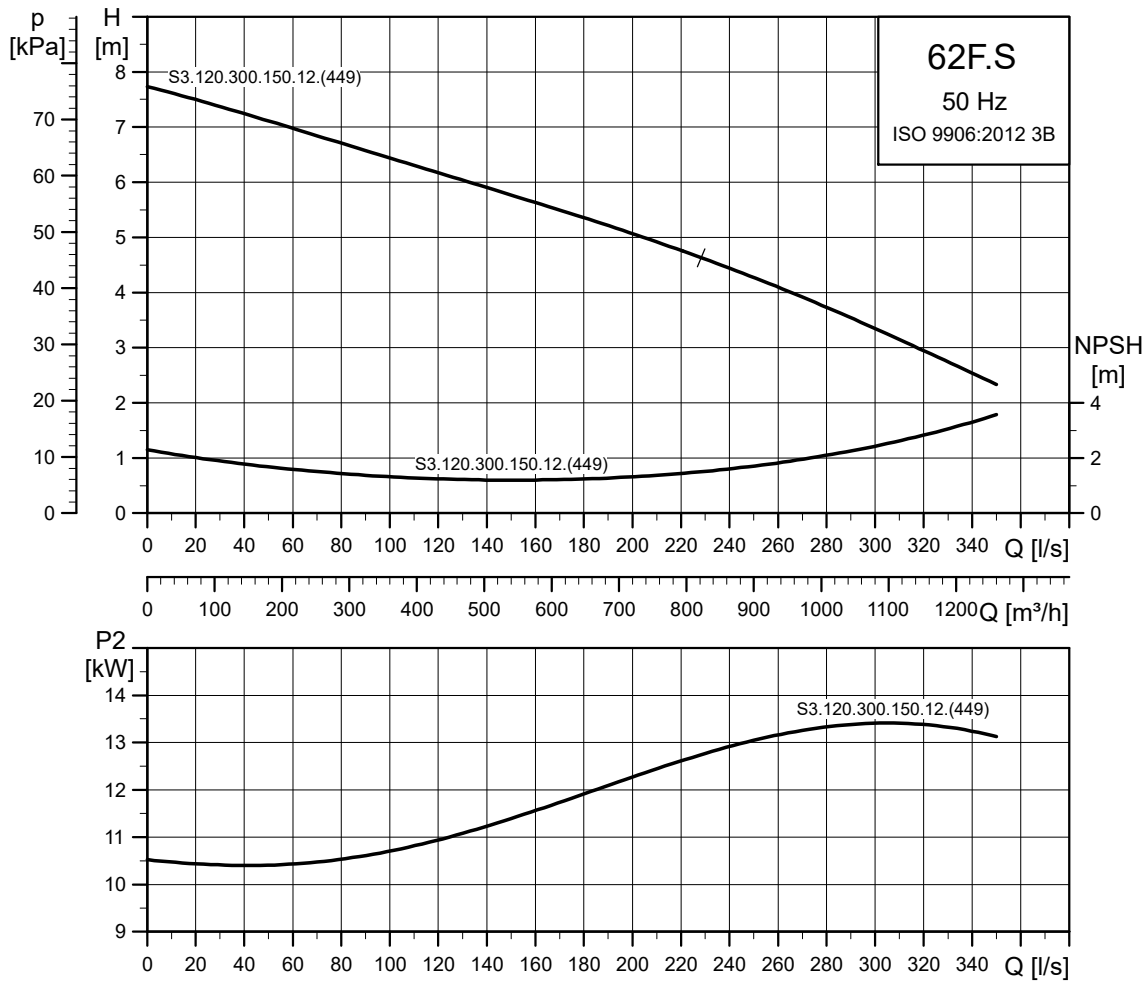
### Pump data

| Pump type                            | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia*  |
|--------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|---------------------|
|                                      | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm <sup>2</sup> ] |
| S3.120.300.150.12.62F.S/C/D/H.449... | 449                  | 120                    | 10                       | 20                            | 1,5293              |

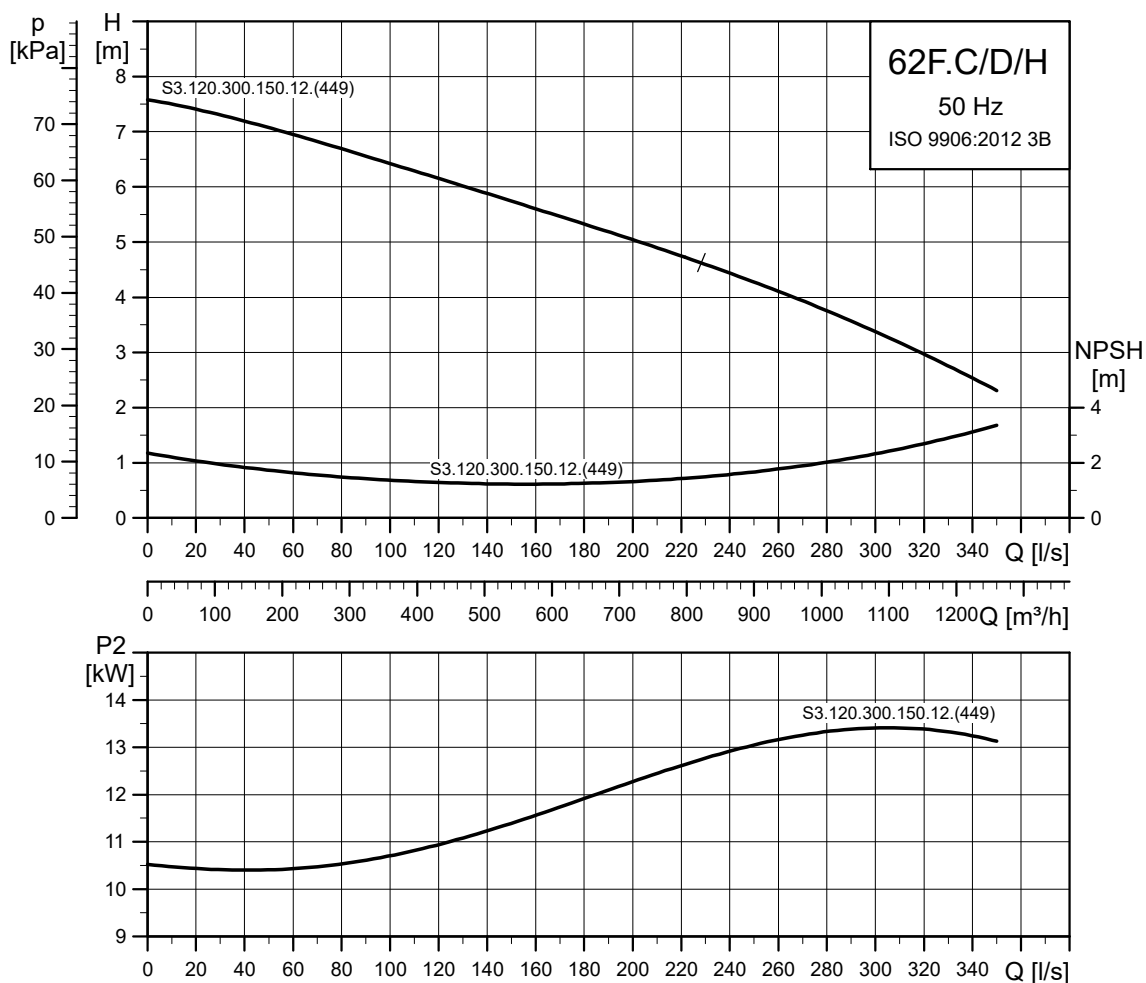
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Super-low pressure - 3 x 415 V

## S3.120.300.150.12



TM040665



TM040666

**Motor data**

| Pump type                      | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM | Starting<br>method | I <sub>N</sub>        |                           | η <sub>motor</sub> [%] |     |     | Cos φ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|--------------------------------|------------|------------|-----------------|-----|--------------------|-----------------------|---------------------------|------------------------|-----|-----|-------|------|------|---------------------------------------------|----------------------------------------------|
|                                |            |            |                 |     |                    | I <sub>N</sub><br>[A] | I <sub>start</sub><br>[A] | 1/2                    | 3/4 | 1/1 | 1/2   | 3/4  | 1/1  |                                             |                                              |
| S3.120.300.150.12.62F.S.449... | 18         | 15         | 12              | 485 | Y/D                | 36                    | 142                       | 83                     | 85  | 84  | 0.54  | 0.65 | 0.70 | 0.6500                                      | 581                                          |
| S3.120.300.150.12.62F.C.449... | 18         | 15         | 12              | 485 | Y/D                | 36                    | 142                       | 83                     | 85  | 84  | 0.54  | 0.65 | 0.70 | 0.6500                                      | 581                                          |
| S3.120.300.150.12.62F.D.449... | 18         | 15         | 12              | 485 | Y/D                | 36                    | 142                       | 83                     | 85  | 84  | 0.54  | 0.65 | 0.70 | 0.6500                                      | 581                                          |
| S3.120.300.150.12.62F.H.449... | 18         | 15         | 12              | 485 | Y/D                | 36                    | 142                       | 83                     | 85  | 84  | 0.54  | 0.65 | 0.70 | 0.6500                                      | 581                                          |

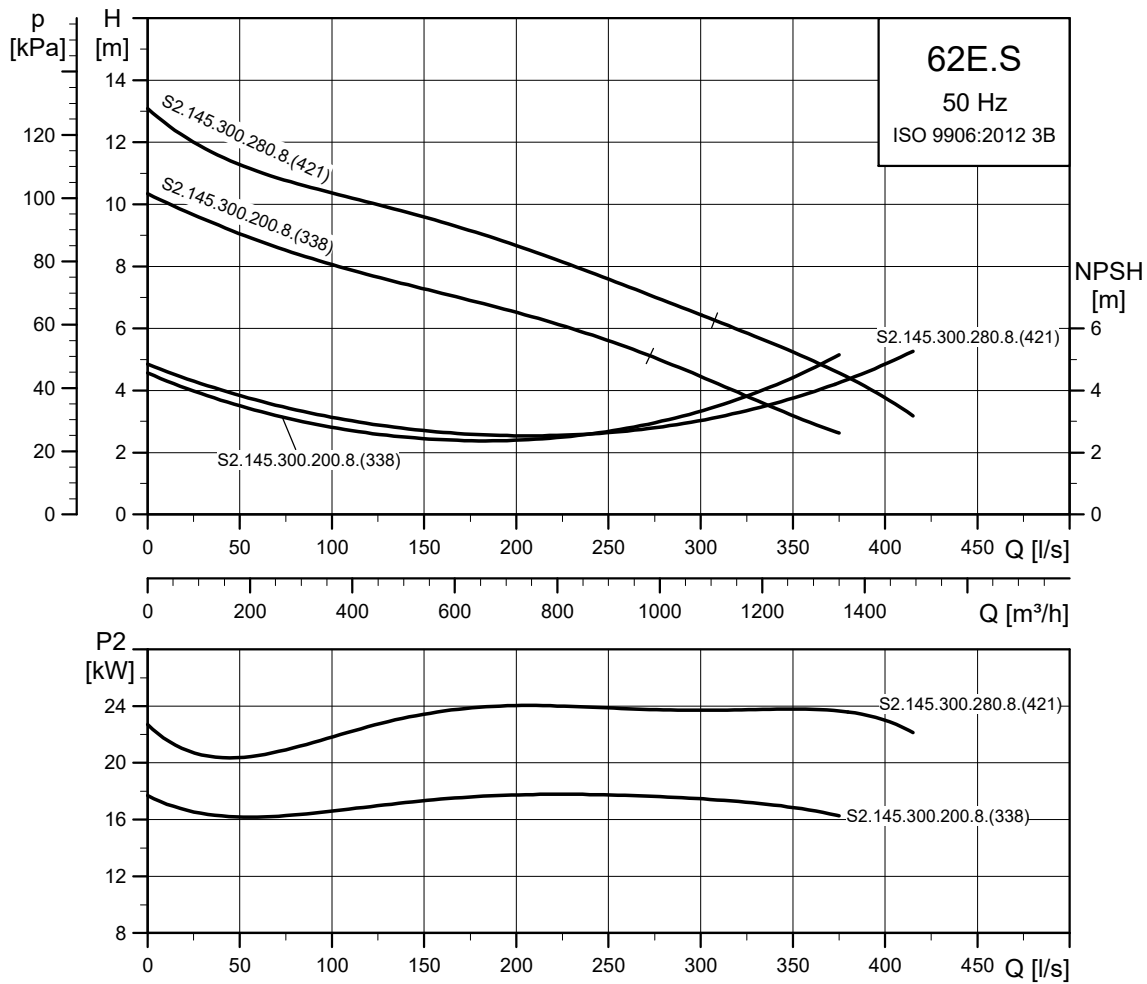
**Note:** Enclosure class: IP68**Pump data**

| Pump type                            | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia*  |
|--------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|---------------------|
|                                      | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm <sup>2</sup> ] |
| S3.120.300.150.12.62F.S/C/D/H.449... | 449                  | 120                    | 10                       | 20                            | 1,5293              |

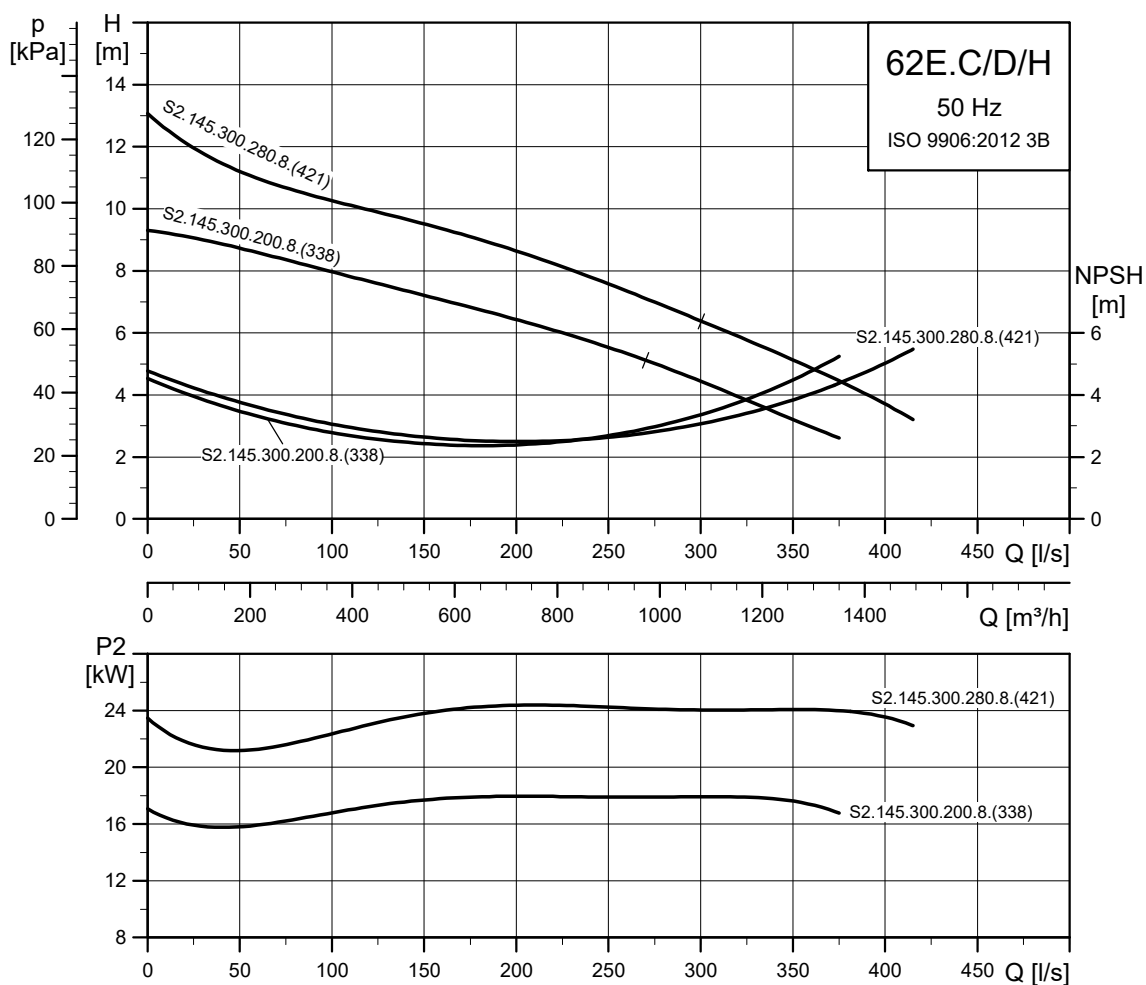
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Extra-low pressure - 3 x 400/690 V

S2.145.300.200.8 and S2.145.300.280.8



TM040661



TM040662

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM | Starting<br>method | I <sub>N</sub> <sup>1</sup> |     | I <sub>start</sub> |     |     | η <sub>motor</sub> [%] |      |      | Cos φ  |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|-----|--------------------|-----------------------------|-----|--------------------|-----|-----|------------------------|------|------|--------|-----|--|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |     |                    | [A]                         | [A] | 1/2                | 3/4 | 1/1 | 1/2                    | 3/4  | 1/1  |        |     |  |                                             |                                              |
| S2.145.300.200.8.62E.S.388... | 23         | 20         | 8               | 735 | Y/D                | 41/24                       | 268 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.200.8.62E.C.388... | 23         | 20         | 8               | 735 | Y/D                | 41/24                       | 268 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.200.8.62E.D.388... | 23         | 20         | 8               | 735 | Y/D                | 41/24                       | 268 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.200.8.62E.H.388... | 23         | 20         | 8               | 735 | Y/D                | 41/24                       | 268 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.S.421... | 32         | 28         | 8               | 726 | Y/D                | 56/33                       | 268 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.C.421... | 32         | 28         | 8               | 726 | Y/D                | 56/33                       | 268 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.D.421... | 32         | 28         | 8               | 726 | Y/D                | 56/33                       | 268 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.H.421... | 32         | 28         | 8               | 726 | Y/D                | 56/33                       | 268 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |

<sup>1</sup> Low /high voltage (400/690 V).

**Note:** Enclosure class: IP68

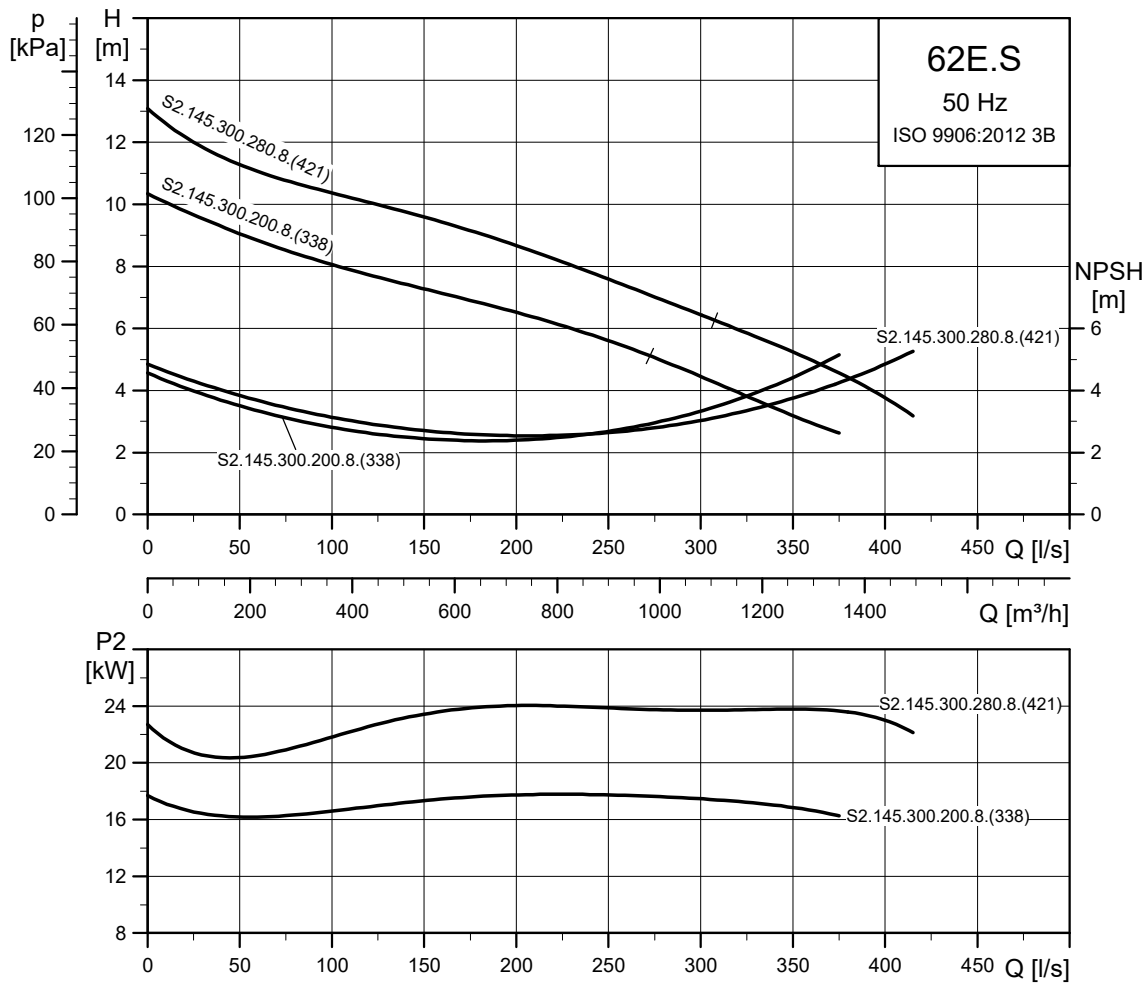
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia* |
|-------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|--------------------|
|                                     | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm²]             |
| S2.145.300.200.8.62E.S/C/D/H.388... | 388                  | 145                    | 10                       | 20                            | 0,9543             |
| S2.145.300.280.8.62E.S/C/D/H.421... | 421                  |                        |                          |                               | 1,2090             |

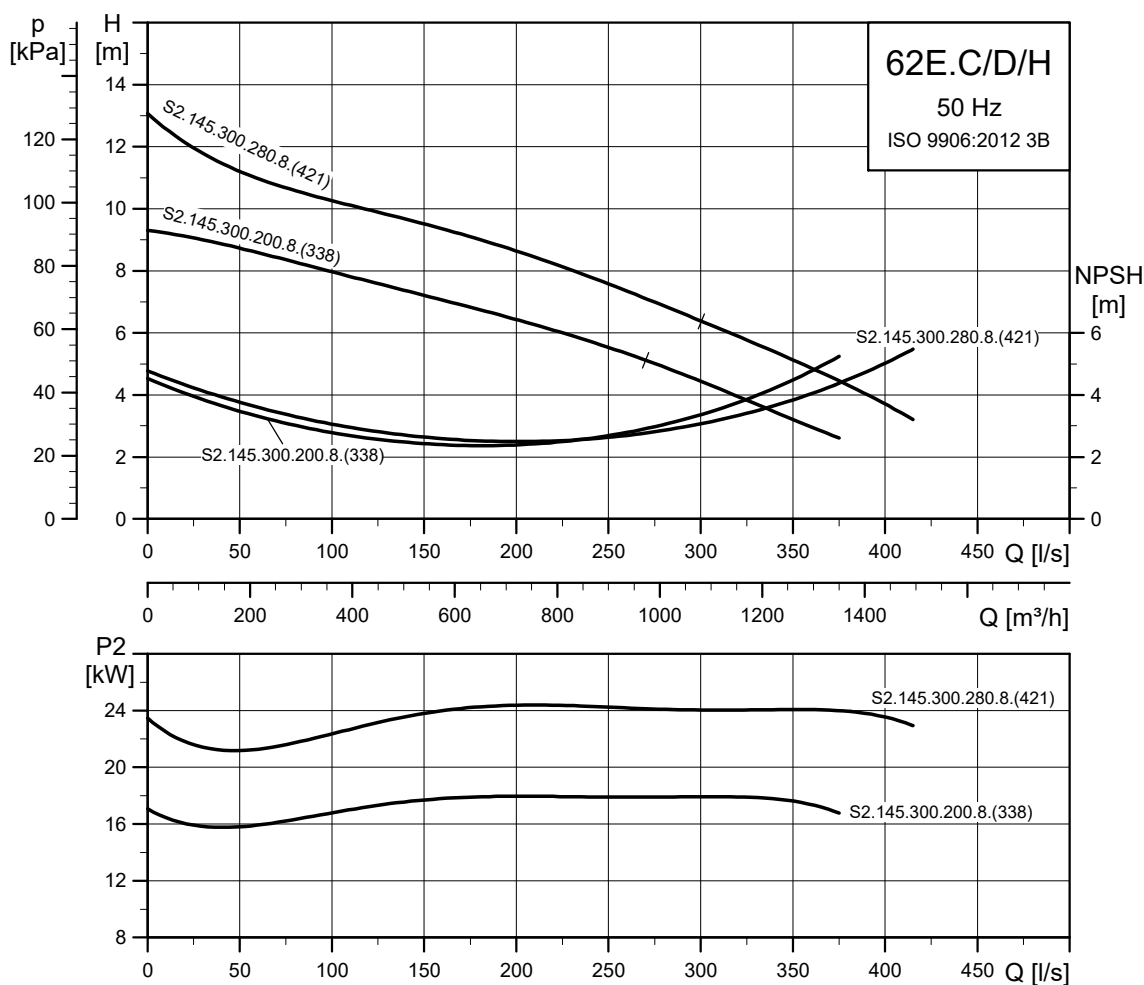
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Extra-low pressure - 3 x 415 V

S2.145.300.200.8 and S2.145.300.180.8



TM040661



TM040662

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM | Starting<br>method | I <sub>n</sub> |     | I <sub>start</sub> |     |     | η <sub>motor</sub> [%] |      |      | Cos φ  |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|-----|--------------------|----------------|-----|--------------------|-----|-----|------------------------|------|------|--------|-----|--|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |     |                    | [A]            | [A] | [A]                | [A] | 1/2 | 3/4                    | 1/1  | 1/2  | 3/4    | 1/1 |  |                                             |                                              |
| S2.145.300.200.8.62E.S.388... | 23         | 20         | 8               | 735 | Y/D                | 40             | 258 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.200.8.62E.C.388... | 23         | 20         | 8               | 735 | Y/D                | 40             | 258 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.200.8.62E.D.388... | 23         | 20         | 8               | 735 | Y/D                | 40             | 258 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.200.8.62E.H.388... | 23         | 20         | 8               | 735 | Y/D                | 40             | 258 | 85                 | 88  | 89  | 0.62                   | 0.73 | 0.80 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.S.421... | 32         | 28         | 8               | 726 | Y/D                | 54             | 258 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.C.421... | 32         | 28         | 8               | 726 | Y/D                | 54             | 258 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.D.421... | 32         | 28         | 8               | 726 | Y/D                | 54             | 258 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |
| S2.145.300.280.8.62E.H.421... | 32         | 28         | 8               | 726 | Y/D                | 54             | 258 | 87                 | 89  | 87  | 0.71                   | 0.81 | 0.84 | 0.5600 | 700 |  |                                             |                                              |

**Note:** Enclosure class: IP68

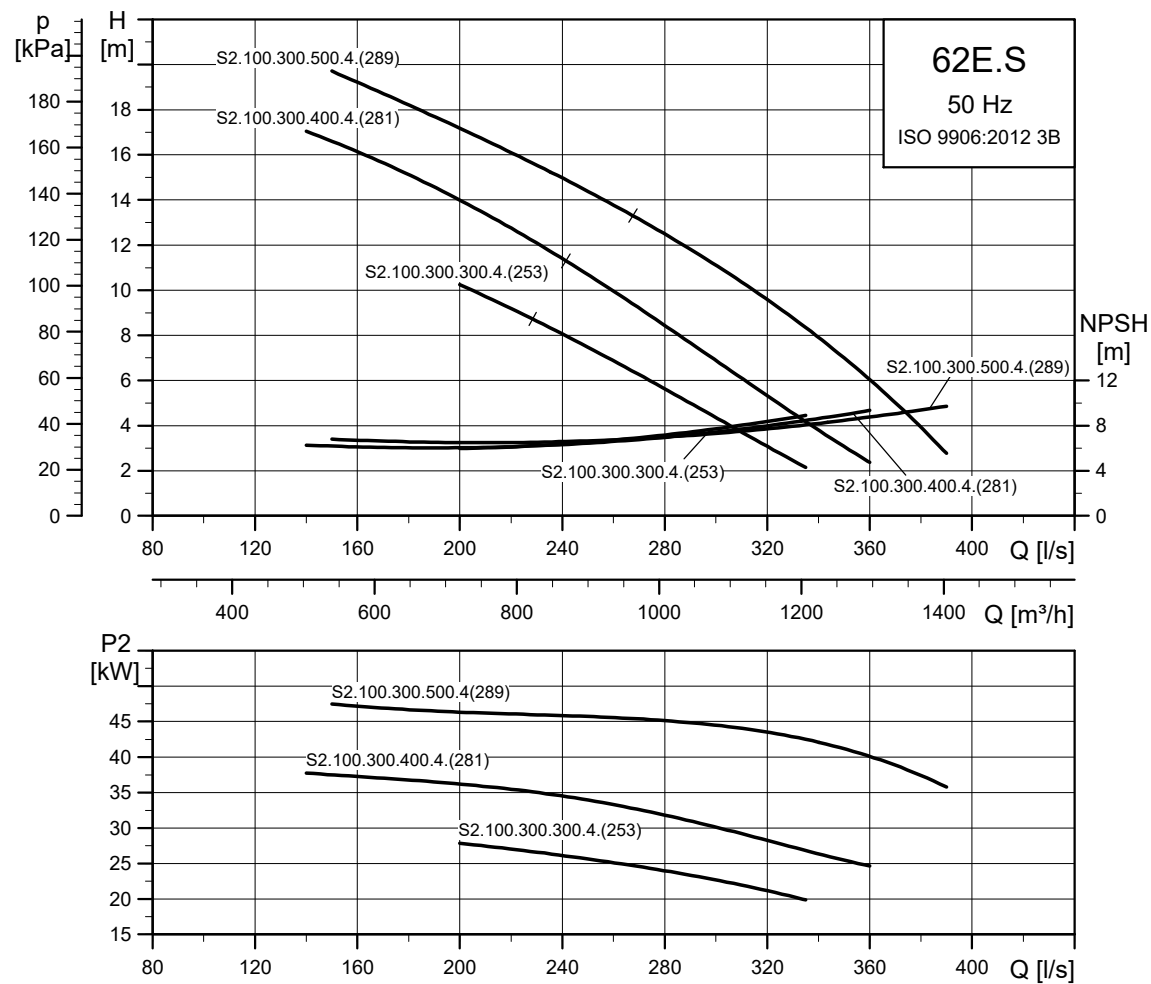
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia* |
|-------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|--------------------|
|                                     | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm²]             |
| S2.145.300.200.8.62E.S/C/D/H.388... | 388                  | 145                    | 10                       | 20                            | 0,9543             |
| S2.145.300.280.8.62E.S/C/D/H.421... | 421                  |                        |                          |                               | 1,2090             |

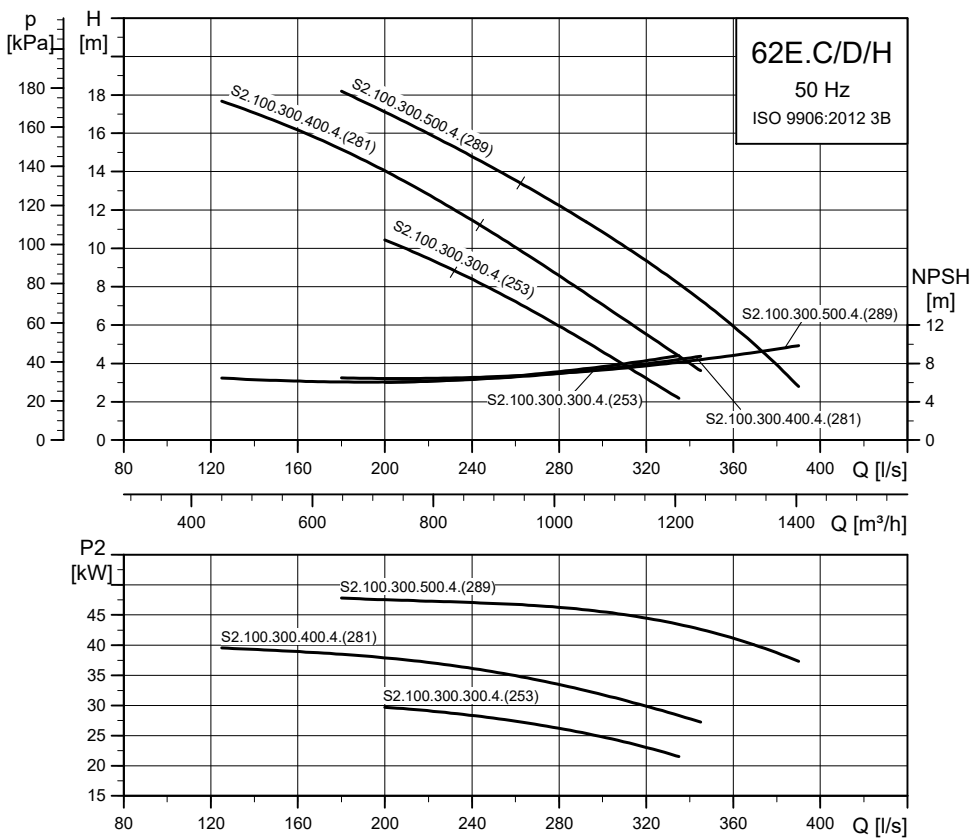
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Extra-low pressure - 3 x 400/690 V

S2.100.300.300.4, S2.100.300.400.4 and S2.100.300.500.4



TM040663



TM040664

Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> <sup>1</sup> | I <sub>start</sub> | η <sub>motor</sub> [%] |     |     | Cos φ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|------|--------------------|-----------------------------|--------------------|------------------------|-----|-----|-------|------|------|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |      |                    | [A]                         | [A]                | 1/2                    | 3/4 | 1/1 | 1/2   | 3/4  | 1/1  |                                             |                                              |
| S2.100.300.300.4.62E.S.253... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S2.100.300.300.4.62E.C.253... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S2.100.300.300.4.62E.D.253... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S2.100.300.300.4.62E.H.253... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.S.281... | 46         | 41         | 4               | 1464 | Y/D                | 84/49                       | 460                | 86                     | 89  | 89  | 0.61  | 0.74 | 0.80 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.C.281... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.D.281... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.H.281... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S2.100.300.500.4.62E.S.289... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S2.100.300.500.4.62E.C.289... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S2.100.300.500.4.62E.D.289... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S2.100.300.500.4.62E.H.289... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |

<sup>1</sup> Low /high voltage (400/690 V).

**Note:** Enclosure class: IP68

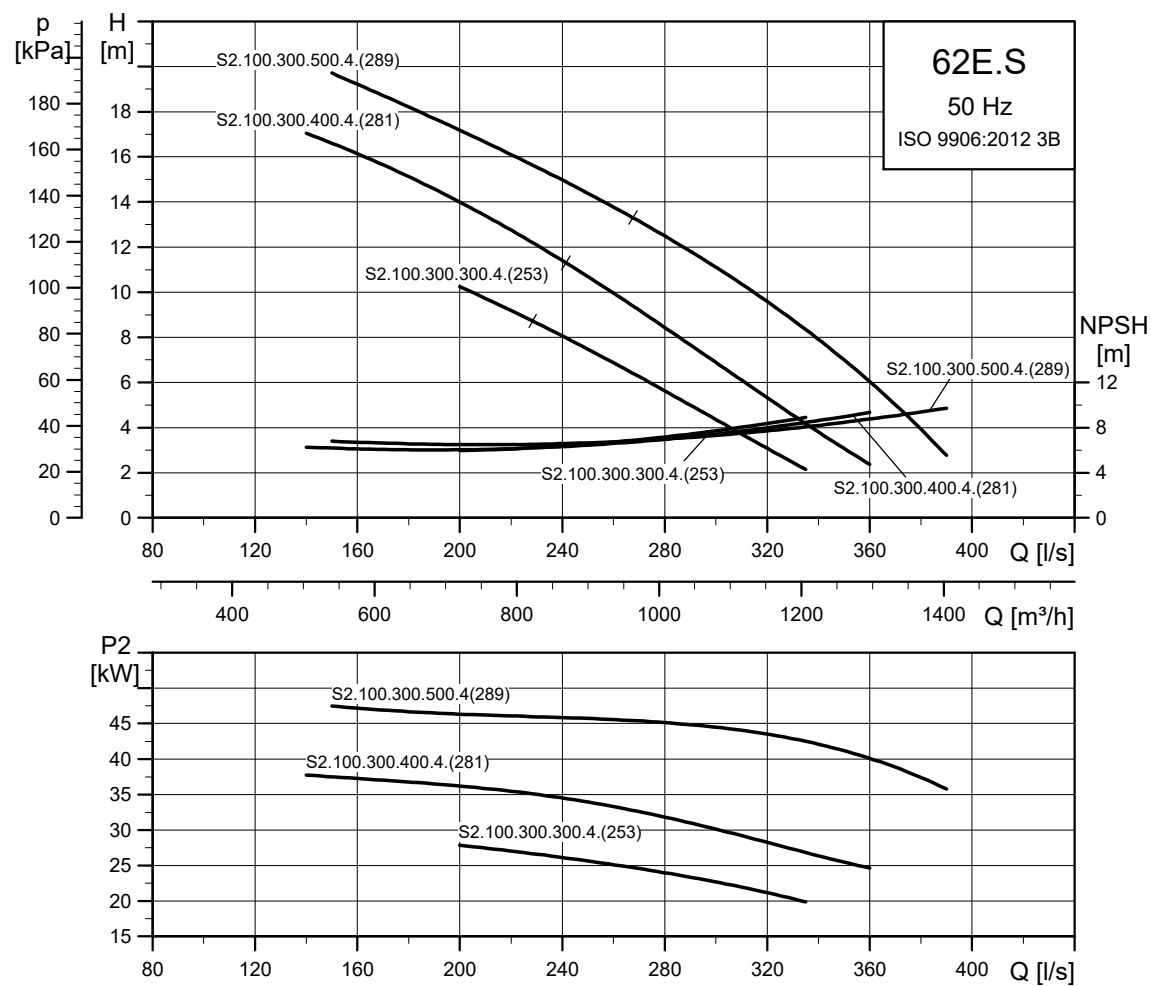
Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia* |
|-------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|--------------------|
|                                     | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm²]             |
| S2.100.300.300.4.62E.S/C/D/H.253... | 253                  |                        |                          |                               | 0,4070             |
| S2.100.300.400.4.62E.S/C/D/H.281... | 281                  | 100                    | 10                       | 20                            | 0,4680             |
| S2.100.300.500.4.62E.S/C/D/H.289... | 289                  |                        |                          |                               | 0,5010             |

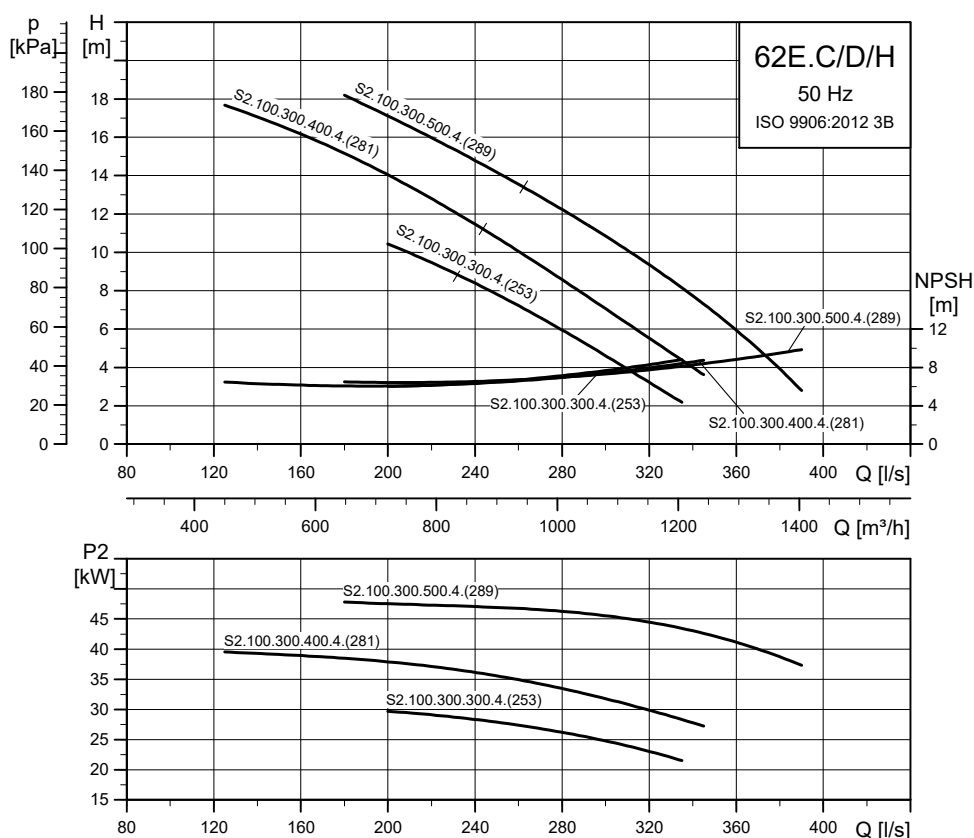
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Extra-low pressure - 3 x 415 V

S2.100.300.300.4, S2.100.300.400.4 and S2.100.300.500.4



TM040663



TM040664

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> | I <sub>start</sub> | η <sub>motor</sub> [%] |     |     | Cos φ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|------|--------------------|----------------|--------------------|------------------------|-----|-----|-------|------|------|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |      |                    | [A]            | [A]                | 1/2                    | 3/4 | 1/1 | 1/2   | 3/4  | 1/1  |                                             |                                              |
| S2.100.300.300.4.62E.S.253... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437                | 84                     | 87  | 89  | 0.52  | 0.65 | 0.74 | 0.3000                                      | 700                                          |
| S2.100.300.300.4.62E.C.253... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437                | 84                     | 87  | 89  | 0.52  | 0.65 | 0.74 | 0.3000                                      | 700                                          |
| S2.100.300.300.4.62E.D.253... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437                | 84                     | 87  | 89  | 0.52  | 0.65 | 0.74 | 0.3000                                      | 700                                          |
| S2.100.300.300.4.62E.H.253... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437                | 84                     | 87  | 89  | 0.52  | 0.65 | 0.74 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.S.281... | 46         | 41         | 4               | 1464 | Y/D                | 82             | 437                | 87                     | 89  | 89  | 0.62  | 0.75 | 0.79 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.C.281... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437                | 87                     | 89  | 89  | 0.64  | 0.76 | 0.79 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.D.281... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437                | 87                     | 89  | 89  | 0.64  | 0.76 | 0.79 | 0.3000                                      | 700                                          |
| S2.100.300.400.4.62E.H.281... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437                | 87                     | 89  | 89  | 0.64  | 0.76 | 0.79 | 0.3000                                      | 700                                          |
| S2.100.300.500.4.62E.S.289... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S2.100.300.500.4.62E.C.289... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S2.100.300.500.4.62E.D.289... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S2.100.300.500.4.62E.H.289... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |

**Note:** Enclosure class: IP68

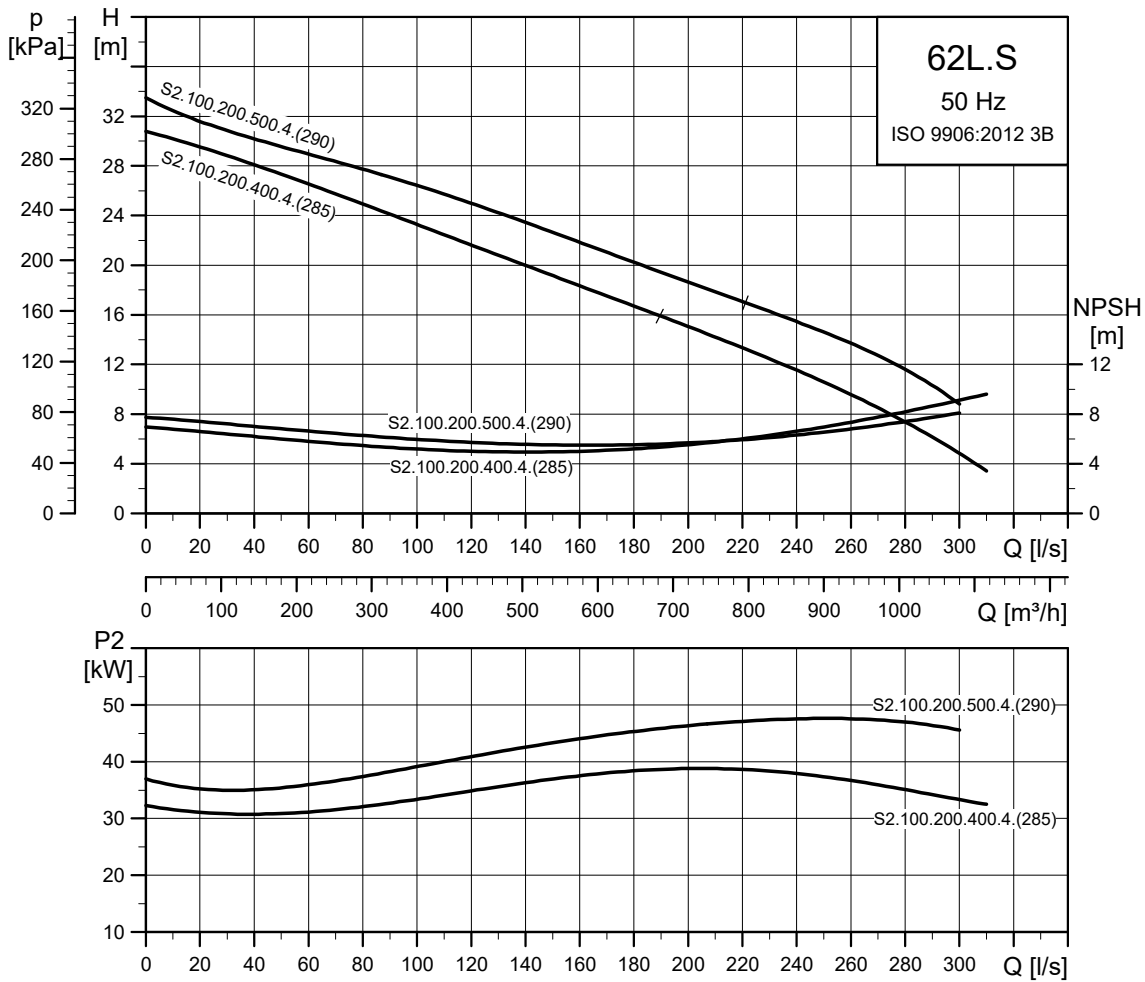
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia* |
|-------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|--------------------|
|                                     | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm²]             |
| S2.100.300.300.4.62E.S/C/D/H.253... | 253                  |                        |                          |                               | 0,4070             |
| S2.100.300.400.4.62E.S/C/D/H.281... | 281                  | 100                    | 10                       | 20                            | 0,4680             |
| S2.100.300.500.4.62E.S/C/D/H.289... | 289                  |                        |                          |                               | 0,5010             |

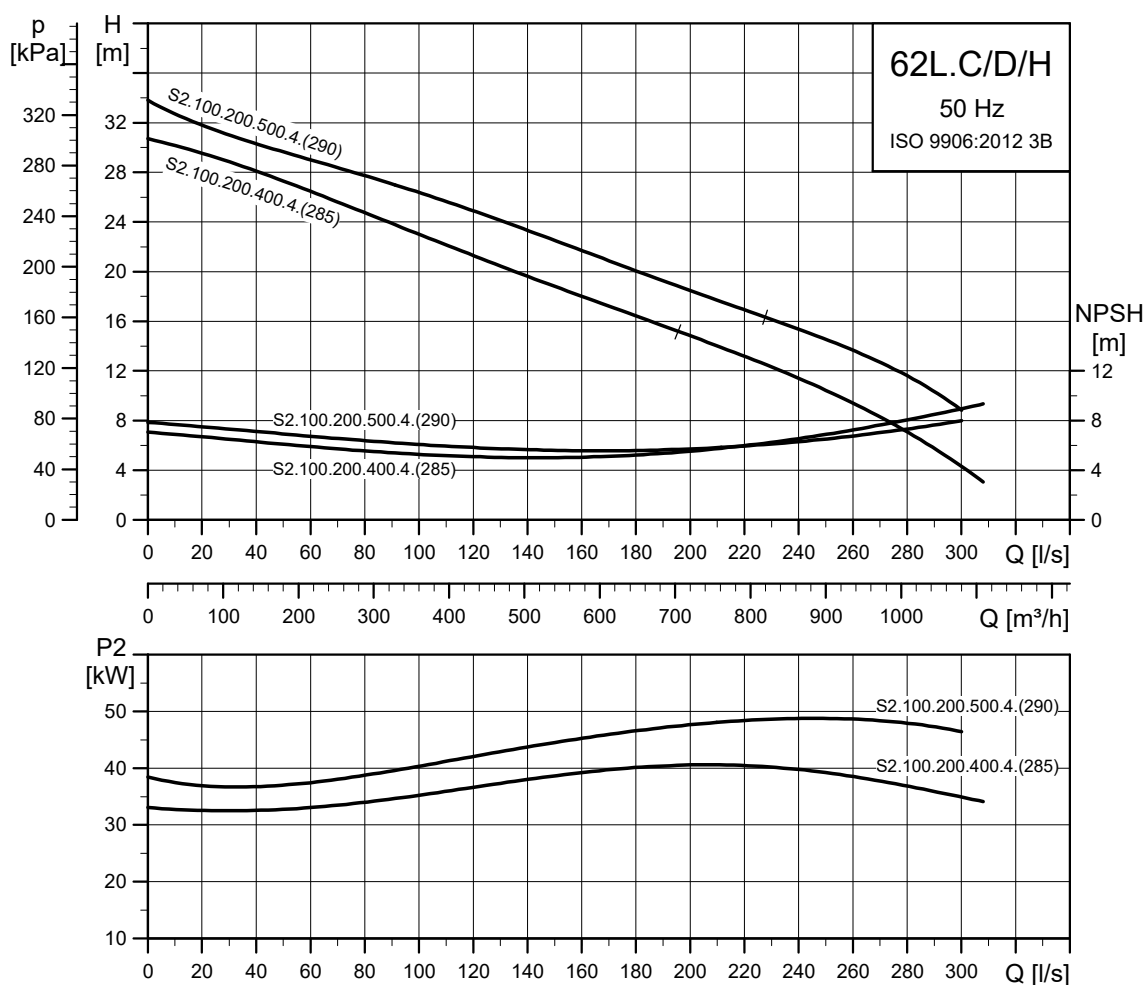
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Low pressure - 3 x 400/690 V

## S2.100.200.400.4 and S2.100.200.500.4



TM040669



TM040670

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> <sup>1</sup> |     | I <sub>start</sub> |     |     | η <sub>motor</sub> [%] |      |      | Cos φ  |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|------|--------------------|-----------------------------|-----|--------------------|-----|-----|------------------------|------|------|--------|-----|--|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |      |                    | [A]                         | [A] | 1/2                | 3/4 | 1/1 | 1/2                    | 3/4  | 1/1  |        |     |  |                                             |                                              |
| S2.100.200.400.4.62L.S.285... | 46         | 41         | 4               | 1464 | Y/D                | 84/49                       | 460 | 86                 | 89  | 89  | 0.61                   | 0.74 | 0.80 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.400.4.62L.C.285... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460 | 87                 | 89  | 89  | 0.63                   | 0.75 | 0.80 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.400.4.62L.H.285... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460 | 87                 | 89  | 89  | 0.63                   | 0.75 | 0.80 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.400.4.62L.D.285... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460 | 87                 | 89  | 89  | 0.63                   | 0.75 | 0.80 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.500.4.62L.S.290... | 56         | 50         | 4               | 1470 | Y/D                | 102                         | 527 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S2.100.200.500.4.62L.C.290... | 56         | 50         | 4               | 1470 | Y/D                | 102                         | 527 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S2.100.200.500.4.62L.H.290... | 56         | 50         | 4               | 1470 | Y/D                | 102                         | 527 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S2.100.200.500.4.62L.D.290... | 56         | 50         | 4               | 1470 | Y/D                | 102                         | 527 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |

<sup>1</sup> Low /high voltage (400/690 V).

**Note:** Enclosure class: IP68

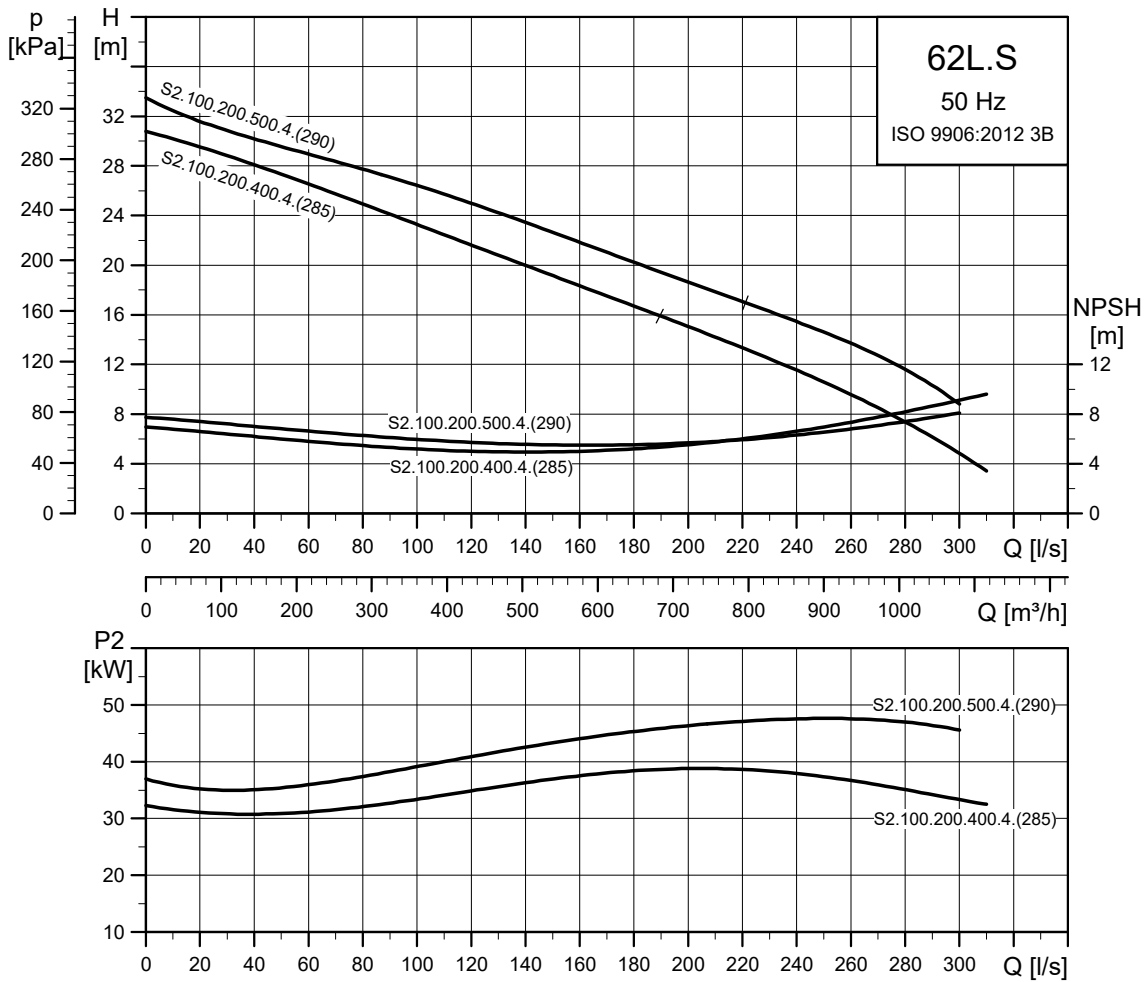
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of<br>inertia* |
|-------------------------------------|----------------------|---------------------|--------------------------|-------------------------------|-----------------------|
|                                     | [mm]                 | [mm]                | PN                       | [m]                           | [kgm <sup>2</sup> ]   |
| S2.100.200.400.4.62L.S/C/D/H.285... | 285                  | 100                 | 10                       | 20                            | 0,4977                |
| S2.100.200.500.4.62L.S/C/D/H.290... | 290                  |                     |                          |                               | 0,4853                |

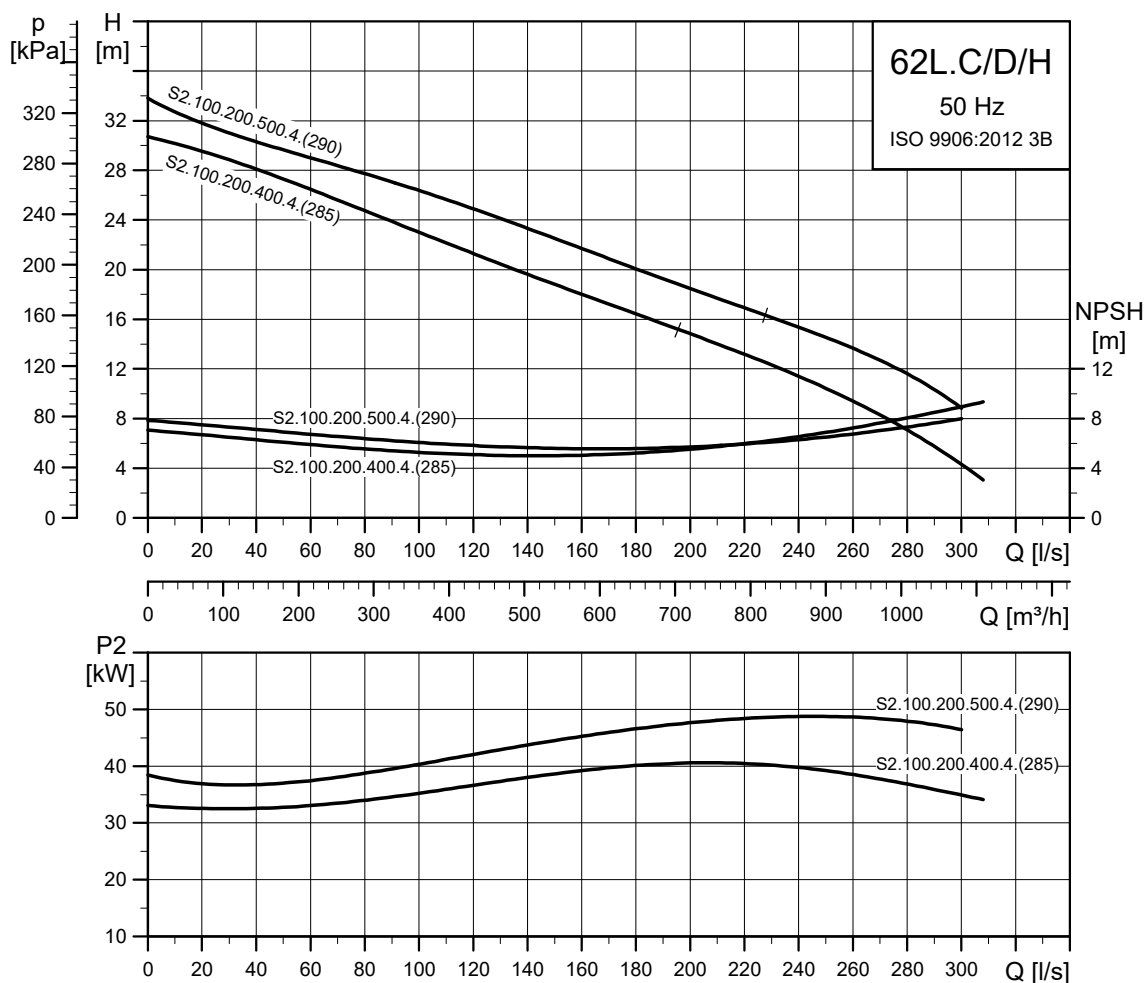
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Low pressure - 3 x 415 V

## S2.100.200.400.4 and S2.100.200.500.4



TM040669



TM040670

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> |     | I <sub>start</sub> |     |     | η <sub>motor</sub> [%] |      |      | Cos φ  |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|------|--------------------|----------------|-----|--------------------|-----|-----|------------------------|------|------|--------|-----|--|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |      |                    | [A]            | [A] | 1/2                | 3/4 | 1/1 | 1/2                    | 3/4  | 1/1  |        |     |  |                                             |                                              |
| S2.100.200.400.4.62L.S.285... | 46         | 41         | 4               | 1464 | Y/D                | 82             | 437 | 87                 | 89  | 89  | 0.62                   | 0.75 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.400.4.62L.C.285... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.400.4.62L.D.285... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.400.4.62L.H.285... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S2.100.200.500.4.62L.S.290... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S2.100.200.500.4.62L.C.290... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S2.100.200.500.4.62L.D.290... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S2.100.200.500.4.62L.H.290... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |

**Note:** Enclosure class: IP68

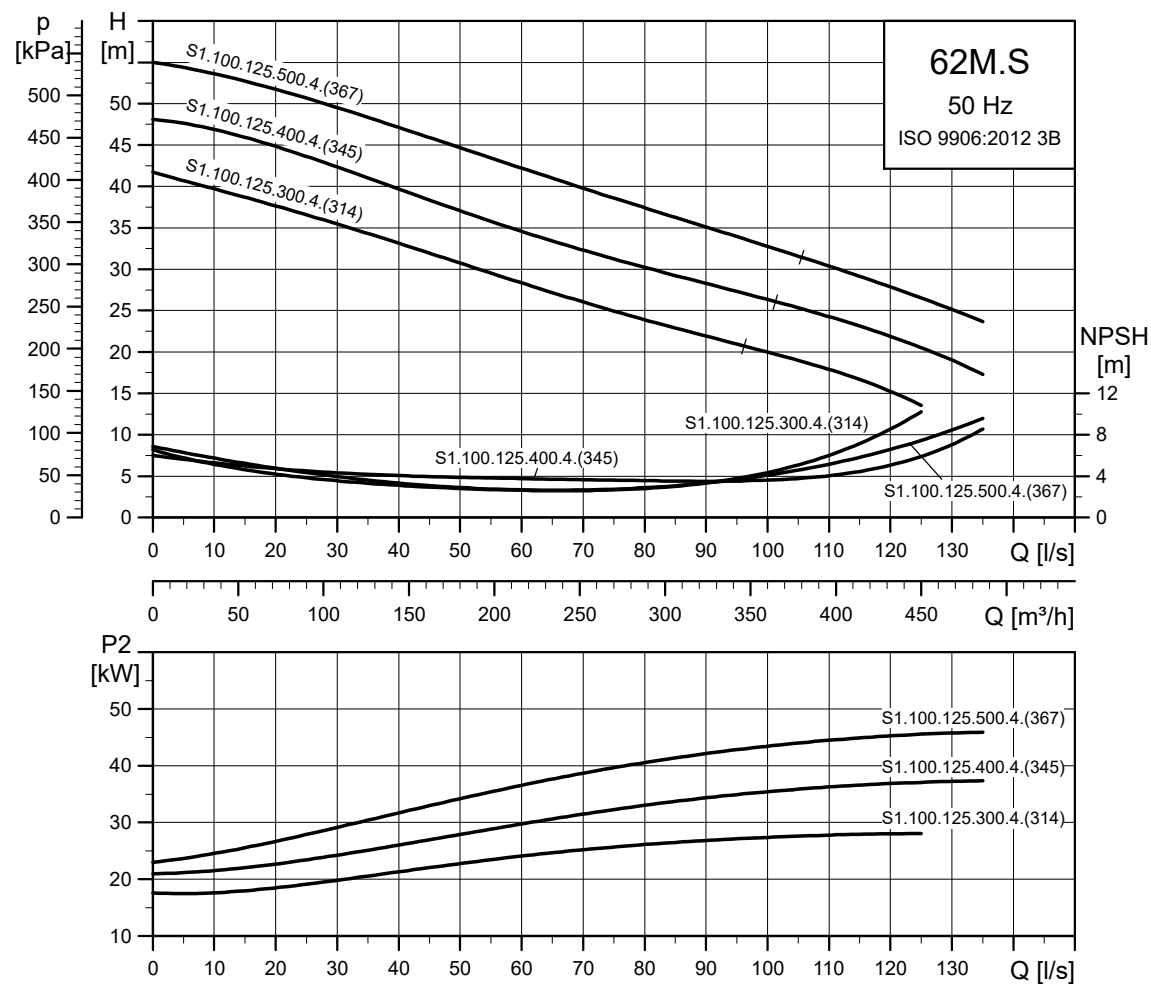
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of<br>inertia* |
|-------------------------------------|----------------------|---------------------|--------------------------|-------------------------------|-----------------------|
|                                     | [mm]                 | [mm]                | PN                       | [m]                           | [kgm <sup>2</sup> ]   |
| S2.100.200.400.4.62L.S/C/D/H.285... | 285                  | 100                 | 10                       | 20                            | 0,4977                |
| S2.100.200.500.4.62L.S/C/D/H.290... | 290                  |                     |                          |                               | 0,4853                |

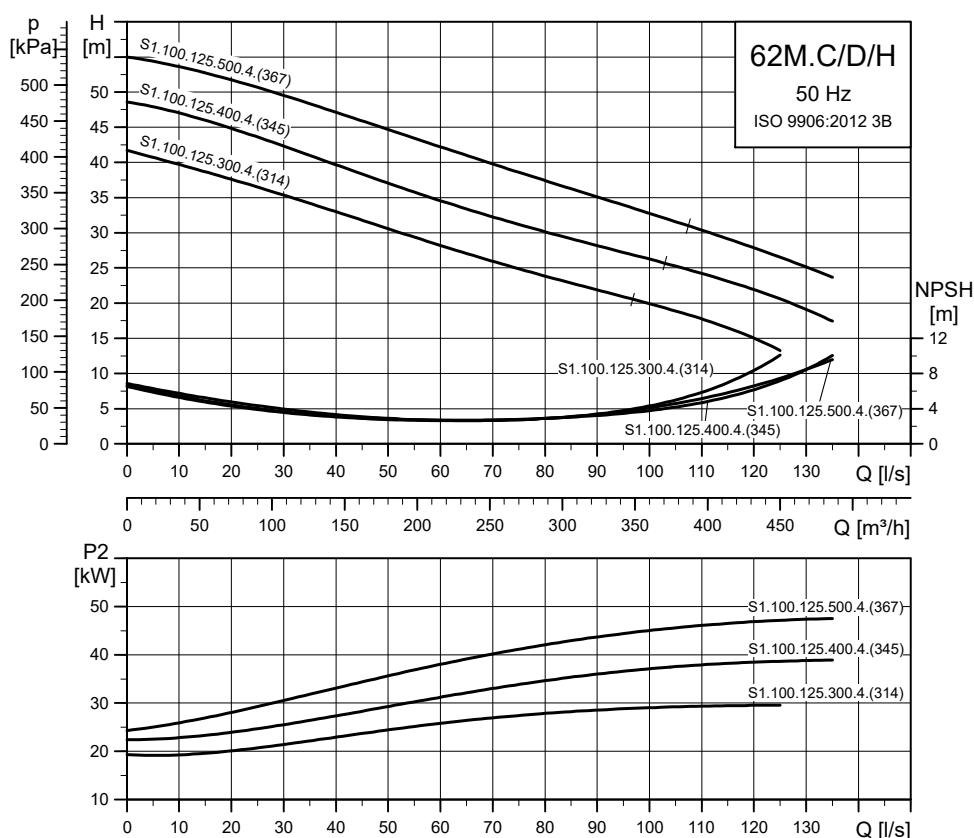
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Medium pressure - 3 x 400/690 V

## S1.100.125.300.4, S1.100.125.400.4 and S1.100.125.500.4



TM040671



TM040672

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> <sup>1</sup> | I <sub>start</sub> | η <sub>motor</sub> [%] |     |     | Cos φ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|------|--------------------|-----------------------------|--------------------|------------------------|-----|-----|-------|------|------|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |      |                    | [A]                         | [A]                | 1/2                    | 3/4 | 1/1 | 1/2   | 3/4  | 1/1  |                                             |                                              |
| S1.100.125.300.4.62M.S.314... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.100.125.300.4.62M.C.314... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.100.125.300.4.62M.D.314... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.100.125.300.4.62M.H.314... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.100.125.400.4.62M.S.345... | 46         | 41         | 4               | 1464 | Y/D                | 84/49                       | 460                | 86                     | 89  | 89  | 0.61  | 0.74 | 0.80 | 0.3000                                      | 700                                          |
| S1.100.125.400.4.62M.C.345... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S1.100.125.400.4.62M.D.345... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S1.100.125.400.4.62M.H.345... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S1.100.125.500.4.62M.S.367... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S1.100.125.500.4.62M.C.367... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S1.100.125.500.4.62M.D.367... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S1.100.125.500.4.62M.H.367... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |

<sup>1</sup> Low /high voltage (400/690 V).

**Note:** Enclosure class: IP68

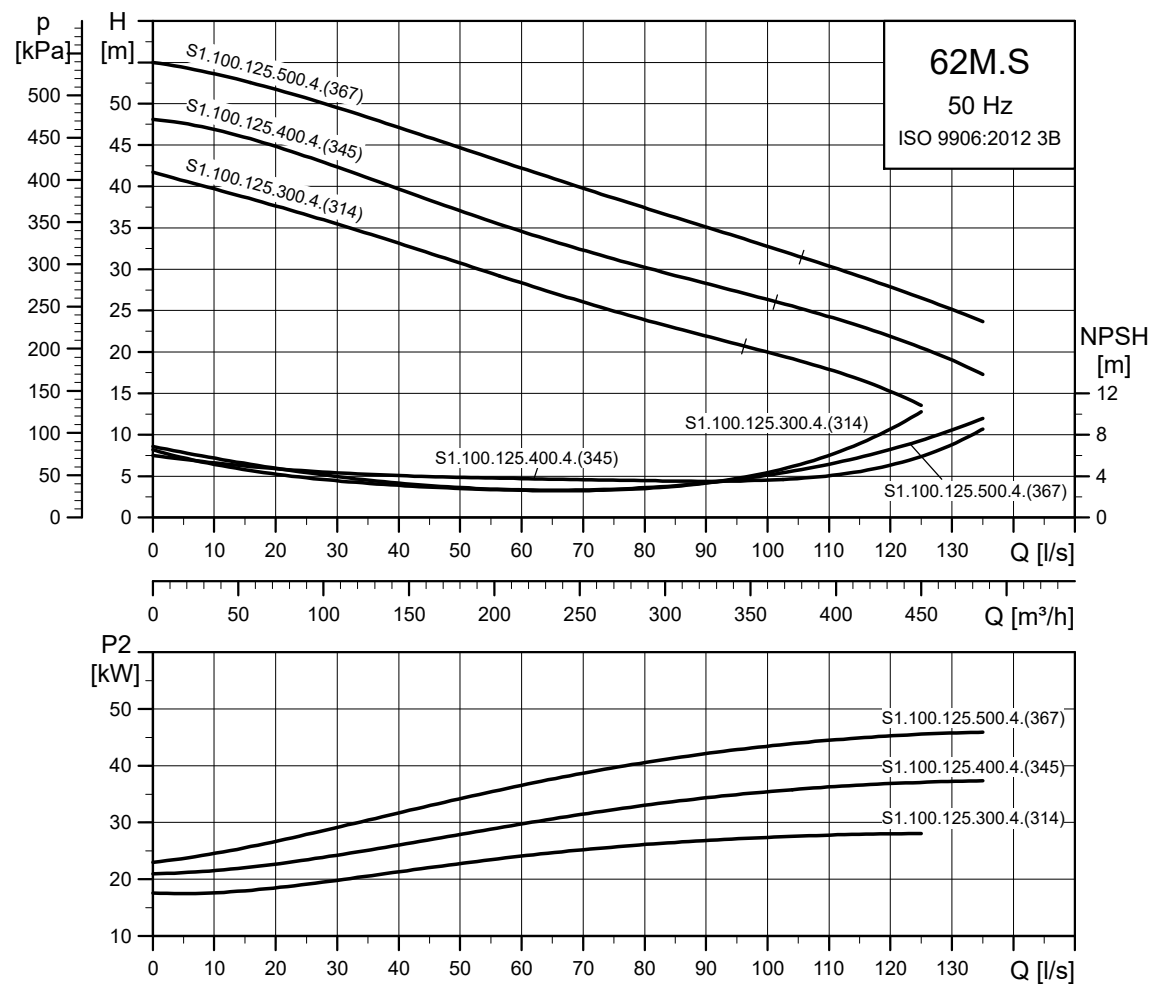
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia*  |
|-------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|---------------------|
|                                     | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm <sup>2</sup> ] |
| S1.100.125.300.4.62M.S/C/D/H.314... | 314                  |                        |                          |                               | 0,5120              |
| S1.100.125.400.4.62M.S/C/D/H.345... | 345                  | 100                    | 10                       | 20                            | 0,6417              |
| S1.100.125.500.4.62M.S/C/D/H.367... | 367                  |                        |                          |                               | 0,7450              |

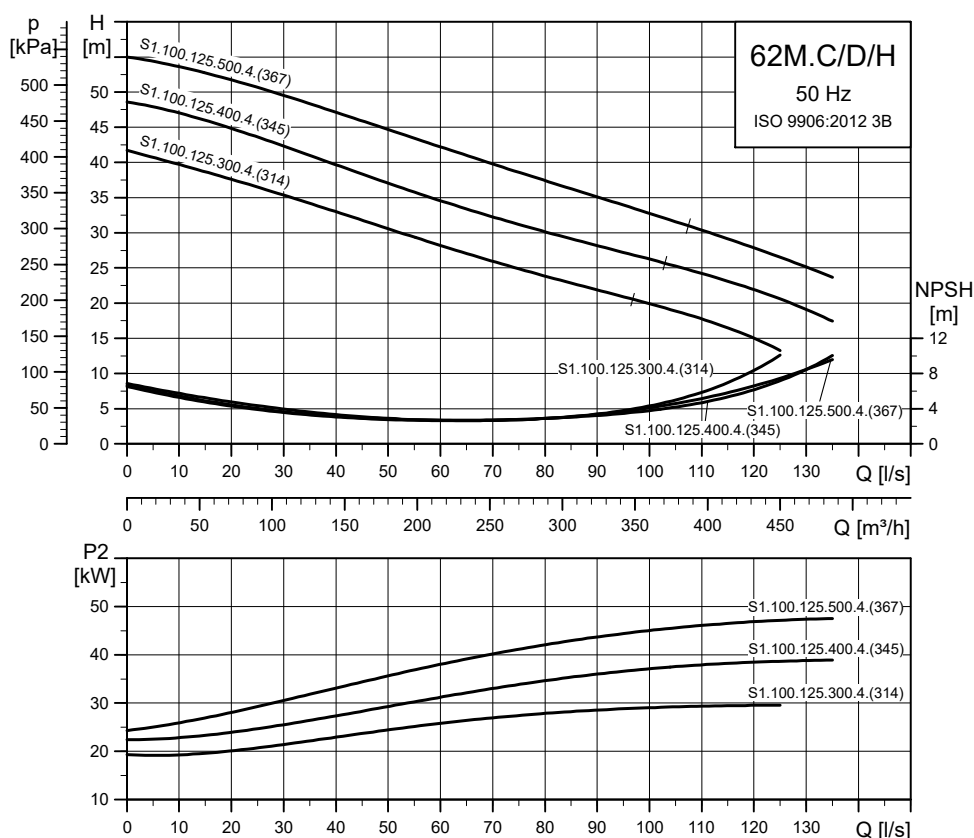
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## Medium pressure - 3 x 415 V

## S1.100.125.300.4, S1.100.125.400.4 and S1.100.125.500.4



TM040671



TM040672

### Motor data

| Pump type                     | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> |     | I <sub>start</sub> |     |     | η <sub>motor</sub> [%] |      |      | Cos φ  |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|-------------------------------|------------|------------|-----------------|------|--------------------|----------------|-----|--------------------|-----|-----|------------------------|------|------|--------|-----|--|---------------------------------------------|----------------------------------------------|
|                               |            |            |                 |      |                    | [A]            | [A] | 1/2                | 3/4 | 1/1 | 1/2                    | 3/4  | 1/1  |        |     |  |                                             |                                              |
| S1.100.125.300.4.62M.S.314... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.300.4.62M.C.314... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.300.4.62M.D.314... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.300.4.62M.H.314... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.400.4.62M.S.345... | 46         | 41         | 4               | 1464 | Y/D                | 82             | 437 | 87                 | 89  | 89  | 0.62                   | 0.75 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.400.4.62M.C.345... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.400.4.62M.D.345... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.400.4.62M.H.345... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.100.125.500.4.62M.S.367... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S1.100.125.500.4.62M.C.367... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S1.100.125.500.4.62M.D.367... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S1.100.125.500.4.62M.H.367... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |

**Note:** Enclosure class: IP68

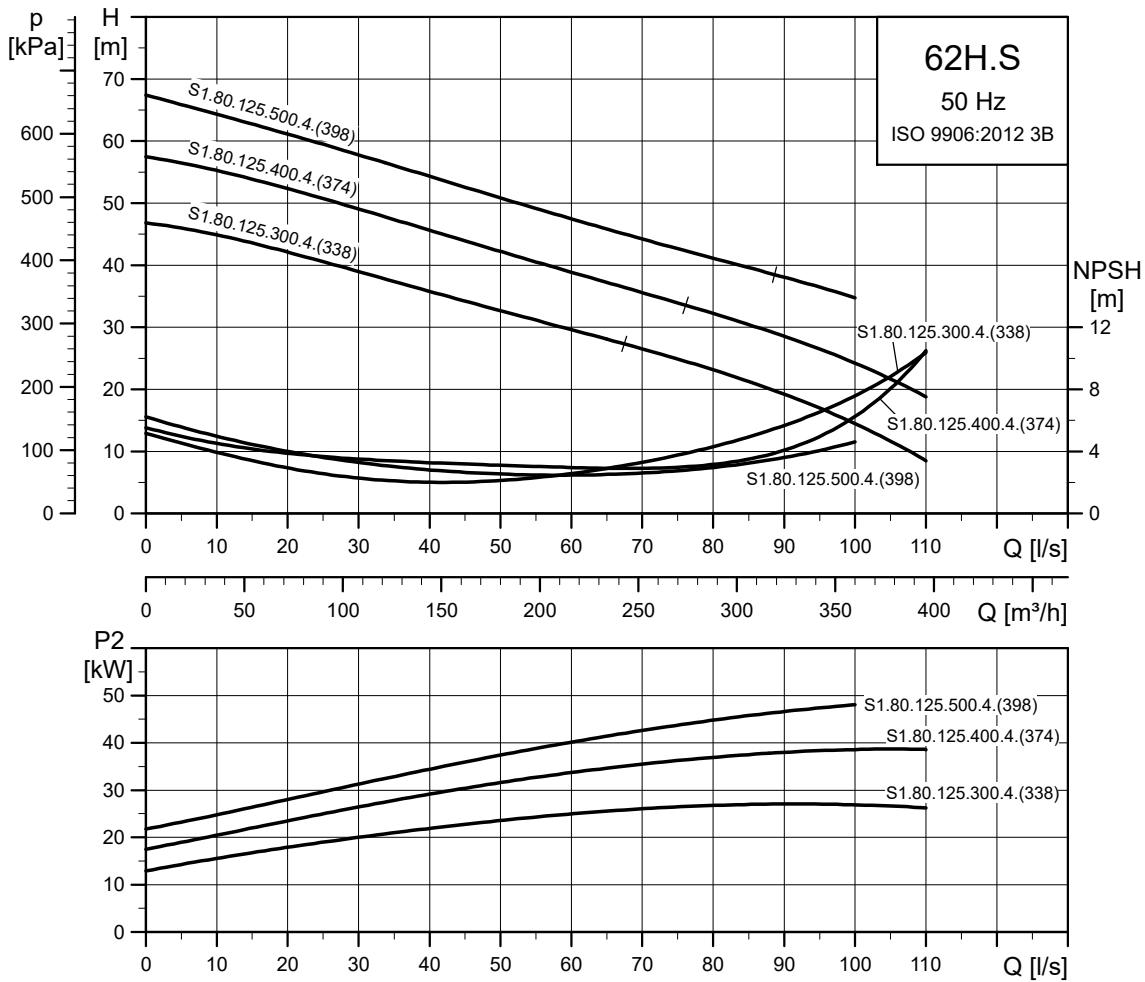
### Pump data

| Pump type                           | Impeller<br>diameter | Maximum solids<br>size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of inertia*  |
|-------------------------------------|----------------------|------------------------|--------------------------|-------------------------------|---------------------|
|                                     | [mm]                 | [mm]                   | PN                       | [m]                           | [kgm <sup>2</sup> ] |
| S1.100.125.300.4.62M.S/C/D/H.314... | 314                  | 100                    | 10                       | 20                            | 0,5120              |
| S1.100.125.400.4.62M.S/C/D/H.345... | 345                  |                        |                          |                               | 0,6417              |
| S1.100.125.500.4.62M.S/C/D/H.367... | 367                  |                        |                          |                               | 0,7450              |

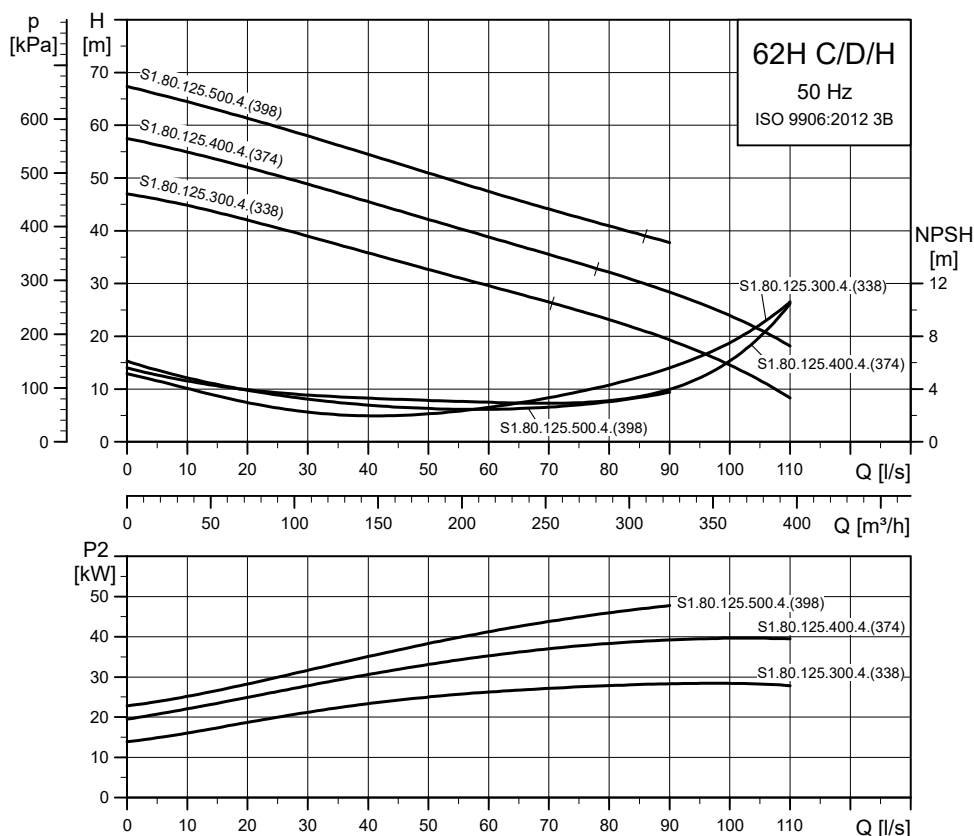
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## High pressure - 3 x 400/690 V

S1.80.125.300.4, S1.80.125.400.4 and S1.80.125.500.4



TM040667



### Motor data

| Pump type                    | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> <sup>1</sup> | I <sub>start</sub> | η <sub>motor</sub> [%] |     |     | Cos φ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|------------------------------|------------|------------|-----------------|------|--------------------|-----------------------------|--------------------|------------------------|-----|-----|-------|------|------|---------------------------------------------|----------------------------------------------|
|                              |            |            |                 |      |                    | [A]                         | [A]                | 1/2                    | 3/4 | 1/1 | 1/2   | 3/4  | 1/1  |                                             |                                              |
| S1.80.125.300.4.62H.S.338... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.80.125.300.4.62H.C.338... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.80.125.300.4.62H.D.338... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.80.125.300.4.62H.H.338... | 34         | 30         | 4               | 1482 | Y/D                | 67/39                       | 460                | 84                     | 87  | 89  | 0.52  | 0.64 | 0.73 | 0.3000                                      | 700                                          |
| S1.80.125.400.4.62H.S.374... | 46         | 41         | 4               | 1464 | Y/D                | 84/49                       | 460                | 86                     | 89  | 89  | 0.61  | 0.74 | 0.80 | 0.3000                                      | 700                                          |
| S1.80.125.400.4.62H.C.374... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S1.80.125.400.4.62H.D.374... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S1.80.125.400.4.62H.H.374... | 48         | 43         | 4               | 1464 | Y/D                | 88/51                       | 460                | 87                     | 89  | 89  | 0.63  | 0.75 | 0.80 | 0.3000                                      | 700                                          |
| S1.80.125.500.4.62H.S.398... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S1.80.125.500.4.62H.C.398... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S1.80.125.500.4.62H.D.398... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |
| S1.80.125.500.4.62H.H.398... | 56         | 50         | 4               | 1470 | Y/D                | 102/59                      | 527                | 89                     | 90  | 89  | 0.63  | 0.74 | 0.80 | 0.3800                                      | 718                                          |

<sup>1</sup> Low /high voltage (400/690 V).

**Note:** Enclosure class: IP68

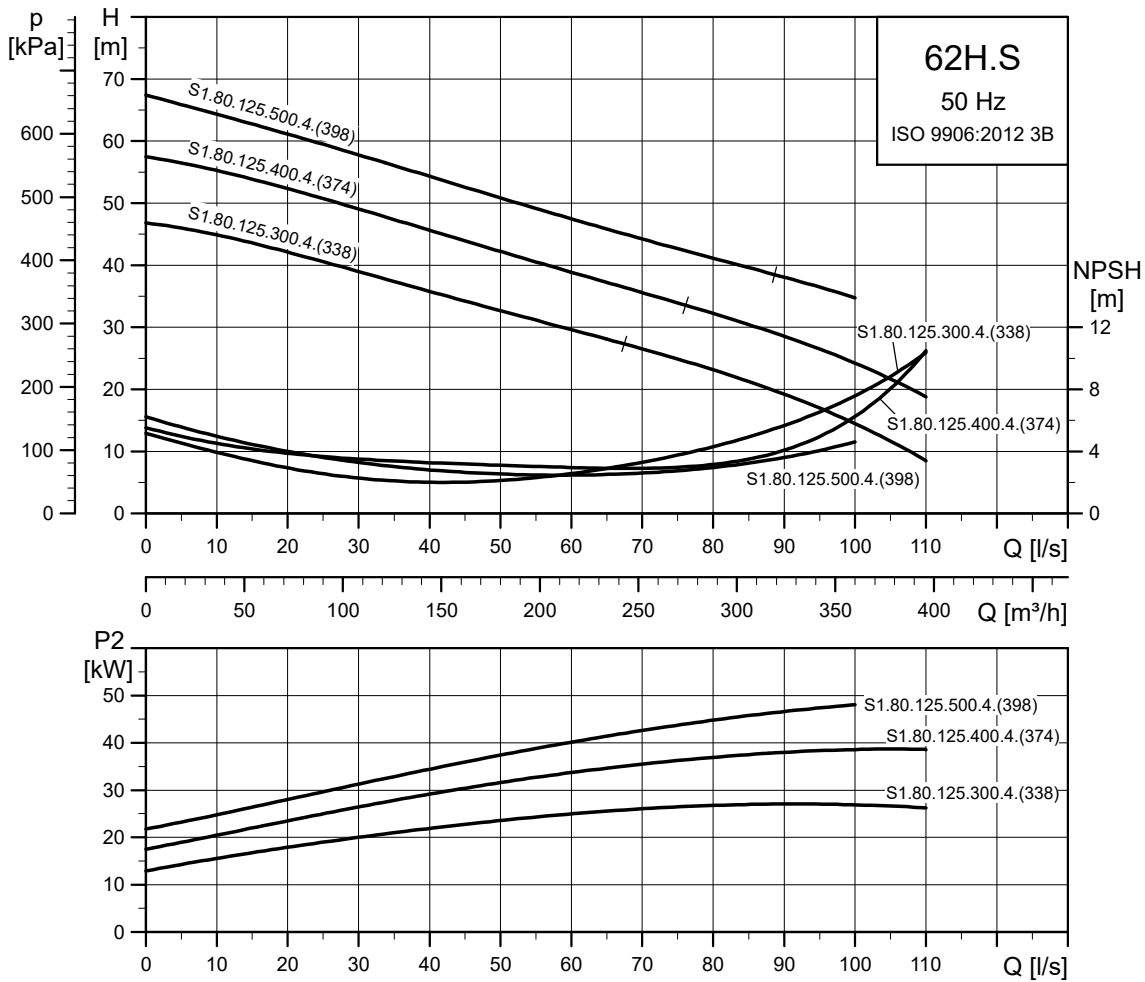
### Pump data

| Pump type                          | Impeller<br>diameter | Maximum solids size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of<br>inertia* |
|------------------------------------|----------------------|---------------------|--------------------------|-------------------------------|-----------------------|
|                                    | [mm]                 | [mm]                | PN                       | [m]                           | [kgm <sup>2</sup> ]   |
| S1.80.125.300.4.62H.S/C/D/H.338... | 338                  |                     |                          |                               | 0,8605                |
| S1.80.125.400.4.62H.S/C/D/H.374... | 374                  | 80                  | 10                       | 20                            | 0,7360                |
| S1.80.125.500.4.62H.S/C/D/H.398... | 398                  |                     |                          |                               | 0,9210                |

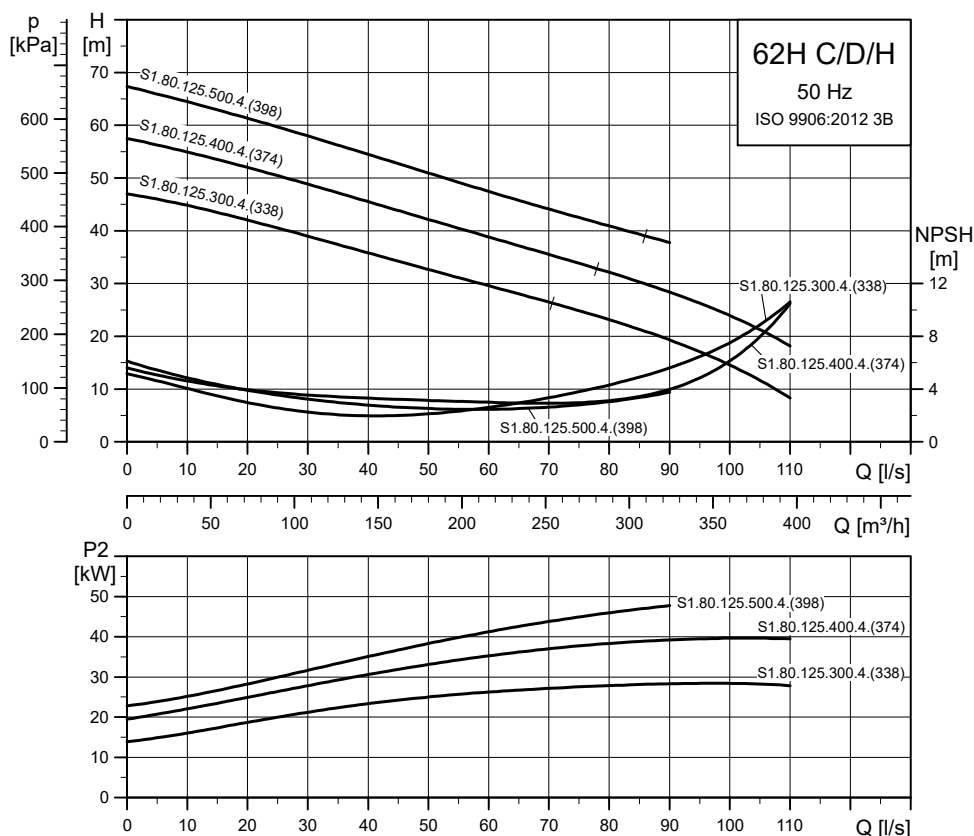
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## High pressure - 3 x 415 V

S1.80.125.300.4, S1.80.125.400.4 and S1.80.125.500.4



TM040667



TM040668

### Motor data

| Pump type                    | P1<br>[kW] | P2<br>[kW] | No. of<br>poles | RPM  | Starting<br>method | I <sub>N</sub> |     | I <sub>start</sub> |     |     | η <sub>motor</sub> [%] |      |      | Cos φ  |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|------------------------------|------------|------------|-----------------|------|--------------------|----------------|-----|--------------------|-----|-----|------------------------|------|------|--------|-----|--|---------------------------------------------|----------------------------------------------|
|                              |            |            |                 |      |                    | [A]            | [A] | [A]                | [A] | 1/2 | 3/4                    | 1/1  | 1/2  | 3/4    | 1/1 |  |                                             |                                              |
| S1.80.125.300.4.62H.S.338... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.300.4.62H.C.338... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.300.4.62H.D.338... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.300.4.62H.H.338... | 34         | 30         | 4               | 1482 | Y/D                | 64             | 437 | 84                 | 87  | 89  | 0.52                   | 0.65 | 0.74 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.400.4.62H.S.374... | 46         | 41         | 4               | 1464 | Y/D                | 82             | 437 | 87                 | 89  | 89  | 0.62                   | 0.75 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.400.4.62H.C.374... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.400.4.62H.D.374... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.400.4.62H.H.374... | 49         | 43         | 4               | 1464 | Y/D                | 86             | 437 | 87                 | 89  | 89  | 0.64                   | 0.76 | 0.79 | 0.3000 | 700 |  |                                             |                                              |
| S1.80.125.500.4.62H.S.398... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S1.80.125.500.4.62H.C.398... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S1.80.125.500.4.62H.D.398... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |
| S1.80.125.500.4.62H.H.398... | 56         | 50         | 4               | 1470 | Y/D                | 98             | 508 | 89                 | 90  | 89  | 0.63                   | 0.74 | 0.80 | 0.3800 | 718 |  |                                             |                                              |

**Note:** Enclosure class: IP68

### Pump data

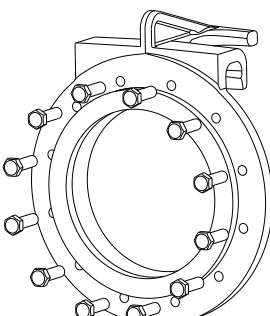
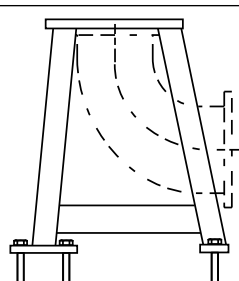
| Pump type                          | Impeller<br>diameter | Maximum solids size | Pump housing<br>pressure | Maximum installation<br>depth | Moment of<br>inertia* |
|------------------------------------|----------------------|---------------------|--------------------------|-------------------------------|-----------------------|
|                                    | [mm]                 |                     |                          |                               |                       |
| S1.80.125.300.4.62H.S/C/D/H.338... | 338                  | 80                  | 10                       | 20                            | 0,8605                |
| S1.80.125.400.4.62H.S/C/D/H.374... | 374                  |                     |                          |                               | 0,7360                |
| S1.80.125.500.4.62H.S/C/D/H.398... | 398                  |                     |                          |                               | 0,9210                |

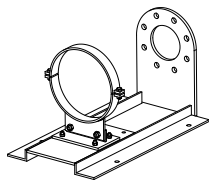
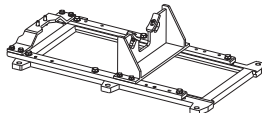
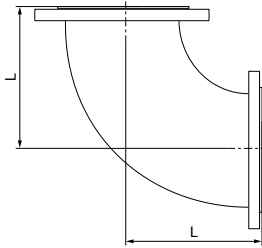
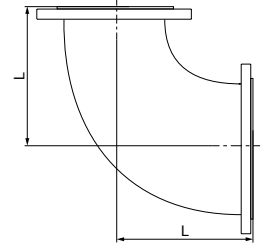
\* Applies to material code G (see Type key). For other material codes, please contact Grundfos.

## 11. Accessories

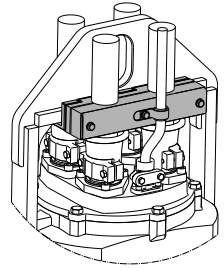
### Accessories (for installation)

| Pump type           | Installation accessories                                                                                                                                                                                                                                      |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range 50-70 S and C | DN 80-DN 200 without guide claw (guide claw included in auto-coupling kit)                                                                                                                                                                                    |
| Range 50-70 S and C | DN 250-DN 600 with a guide claw mounted on the pump                                                                                                                                                                                                           |
| Range 50-70 D       | Pump without installation accessories (available as separate kit)                                                                                                                                                                                             |
| Range 50-70 H       | Base stand for horizontal, dry installation supplied together with the pump.<br>Pumps with material code G or Q include a painted-steel stand. If another horizontal stand is required, order a pump of installation type D together with the required stand. |

| Pictures                                                                                                                                     | Description                                                                                                                                           | Size                         | Weight [kg] | PN | Product number |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------|----|----------------|
| <br>TM069868                                               | Cast iron, epoxy-coated auto-coupling system complete with:<br>guide claw <sup>1</sup><br>base unit<br>upper guide rail bracket<br>gaskets and bolts. | DN 150/DN 125                | 104         | 10 | 96782145       |
|                                                                                                                                              |                                                                                                                                                       | DN 200                       | 250         |    | 96641489       |
|                                                                                                                                              | Cast iron, epoxy-coated auto-coupling system complete with:<br>base unit<br>upper guide rail bracket.                                                 | DN 300                       | 276         |    | 96782484       |
| <sup>1</sup> Installation type S and C pumps with outlet flange size DN 250 and higher are supplied with a guide claw mounted on the flange. |                                                                                                                                                       |                              |             |    |                |
| Intermediate guide rail bracket                                                                                                              | For guide rails longer than 6 m                                                                                                                       | DN 125/DN 150                | 3           |    | 96829331       |
|                                                                                                                                              |                                                                                                                                                       | DN 200-DN 600                | 8           |    | 96255842       |
| Guide rails                                                                                                                                  | Standard pipes.<br>Not supplied by Grundfos                                                                                                           |                              |             |    |                |
| <br>TM069923                                              | Adapter for Flygt auto coupling with:<br>flange seal<br>bolts.                                                                                        | Grundfos flange/Flygt flange |             | 10 |                |
|                                                                                                                                              |                                                                                                                                                       | DN 200/DN 200 - 3"           | 25          |    | 97908872       |
|                                                                                                                                              |                                                                                                                                                       | DN 300/DN 300 - 3"           | 120         |    | 97908892       |
|                                                                                                                                              |                                                                                                                                                       | DN 300/DN 300 - 4"           | 120         |    | 97908893       |
| <br>TM044035                                              | Vertical base stand (without bend).                                                                                                                   | DN 150                       | 51          |    | 96308238       |
|                                                                                                                                              |                                                                                                                                                       | DN 200                       | 100         |    | 96094523       |
|                                                                                                                                              |                                                                                                                                                       | DN 250                       | 135         |    | 96094525       |
|                                                                                                                                              |                                                                                                                                                       |                              |             | 10 |                |
|                                                                                                                                              |                                                                                                                                                       | DN 300                       | 191         |    | 96308239       |

| Pictures                                                                            | Description                                                                                                  | Size                | Weight [kg] | PN | Product number   |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------|-------------|----|------------------|
|    | Steel.<br>Base stand for horizontal, dry installation with:<br>bolts<br>gaskets<br>anchor bolts.<br>TM044156 | DN 150              | 50          | 10 | 96787496         |
|                                                                                     |                                                                                                              | DN 200              | 50          |    | 96787497         |
|                                                                                     |                                                                                                              | DN 250 <sup>1</sup> | 89          |    | 96787498         |
|                                                                                     |                                                                                                              | DN 250 <sup>2</sup> | 67          |    | 96787499         |
|                                                                                     |                                                                                                              | DN 300              | 73          |    | 96787500         |
| <sup>1</sup> Pumps with L-hydraulic.<br><sup>2</sup> Pumps with E-hydraulic.        |                                                                                                              |                     |             |    |                  |
|    | Special base stand for horizontal, dry installation with customized height.<br>TM064971                      | DN 250              | -           |    | Contact Grundfos |
|    | Bend                                                                                                         | Pipe/pump inlet     |             | 10 |                  |
|                                                                                     | Cast iron, epoxy-coated                                                                                      |                     |             |    |                  |
|                                                                                     | L = 220 mm                                                                                                   | DN 150              | 33          |    | 99035997         |
|                                                                                     | L = 260 mm                                                                                                   | DN 200              | 45          |    | 99026266         |
|                                                                                     | L = 350 mm                                                                                                   | DN 250              | 64          |    | 99035998         |
|                                                                                     | L = 400 mm                                                                                                   | DN 300              | 81          |    | 99035999         |
|  | Reducing bend                                                                                                | Pipe/pump inlet     |             | 10 |                  |
|                                                                                     | Cast iron, epoxy-coated                                                                                      |                     |             |    |                  |
|                                                                                     | L = 250 mm                                                                                                   | DN 150/DN 100       | 34          |    | 99036005         |
|                                                                                     | L = 250 mm                                                                                                   | DN 150/DN 125       | 34          |    | 99036006         |
|                                                                                     | L = 300 mm                                                                                                   | DN 200/DN 150       | 64          |    | 99036007         |
|                                                                                     | L = 350 mm                                                                                                   | DN 250/DN 200       | 58          |    | 99036008         |
|                                                                                     | L = 400 mm                                                                                                   | DN 300/DN 200       | 100         |    | 99036009         |
|                                                                                     | L = 400 mm                                                                                                   | DN 300/DN 250       | 76          |    | 99036011         |
|                                                                                     | L = 450 mm                                                                                                   | DN 350/DN 250       | 93          |    | 99036012         |
|                                                                                     | L = 500 mm                                                                                                   | DN 400/DN 200       | 119         |    | 99036010         |
|                                                                                     | L = 500 mm                                                                                                   | DN 400/DN 250       | 118         |    | 99036013         |
|                                                                                     | L = 500 mm                                                                                                   | DN 400/DN 300       | 128         |    | 99036014         |

## Other accessories

| Pictures                                                                                        | Description                                                                                                         | Size       | Product number   |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------|------------------|
| <br>TM026126   | Galvanised lifting chain with lifting link and safety hook.<br>Certified.<br>Maximum lifting capacity 3200 kg.      | 4 m        | 98425788         |
|                                                                                                 |                                                                                                                     | 6 m        | 98425789         |
|                                                                                                 |                                                                                                                     | 8 m        | 98425790         |
|                                                                                                 |                                                                                                                     | 10 m       | 98425791         |
|                                                                                                 | Stainless steel lifting chain with lifting link and safety hook.<br>Certified.<br>Maximum lifting capacity 3200 kg. | 4 m        | 98425805         |
|                                                                                                 |                                                                                                                     | 6 m        | 98425806         |
|                                                                                                 |                                                                                                                     | 8 m        | 98425807         |
|                                                                                                 |                                                                                                                     | 10 m       | 98425808         |
| <br>TM064974   | Cable support bracket (case by case)                                                                                |            | Contact Grundfos |
| <br>TM028862  | AMD.07.18.1430 mixer, 3 x 400 V, 50 Hz                                                                              |            | 99018155         |
|                                                                                                 | Bracket for wall mounting                                                                                           | 2" thread  | 96115291         |
|                                                                                                 | Bracket for floor mounting                                                                                          | 2" thread  | 96115292         |
|                                                                                                 | Bracket for suspended mounting                                                                                      | 2" thread  | 96115293         |
|                                                                                                 | Tube for suspended mounting, length 3 m                                                                             | 2" thread  | 96115294         |
| <br>TM016982 | Float switch                                                                                                        | 10 m cable | 96003332         |
|                                                                                                 |                                                                                                                     | 20 m cable | 96003695         |
|                                                                                                 |                                                                                                                     | 10 m cable | 96003421         |
|                                                                                                 | Float switch for use in potentially explosive environments.                                                         | 20 m cable | 96003536         |
| <br>TM028862 | Bracket for float switches                                                                                          |            | 96003338         |

| Pictures                                                                          | Description                                                               | Size                    | Product number |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------|----------------|
|  | Float switches with bracket                                               |                         |                |
|                                                                                   | 2 switches, 1 pump without alarm                                          | 10 m cable              | 62500013       |
|                                                                                   | 3 switches, 1 pump with alarm                                             |                         | 62500014       |
|                                                                                   | 3 switches, 2 pumps with alarm                                            |                         | 62500014       |
|                                                                                   | 3 switches, 2 pumps with alarm                                            |                         | 62500015       |
|                                                                                   | Float switches with bracket for use in potentially explosive environments |                         |                |
|                                                                                   | 2 switches, 1 pump without alarm                                          | 10 m cable              | 62500016       |
|                                                                                   | 3 switches, 1 pump with alarm                                             |                         | 62500017       |
|                                                                                   | 3 switches, 2 pumps with alarm                                            |                         | 62500017       |
|                                                                                   | 3 switches, 2 pumps with alarm                                            |                         | 62500018       |
|  | Bracket for level electrodes                                              | For 38 mm mounting pipe | 91713196       |
|                                                                                   |                                                                           |                         |                |

## 12. Dimensions

### Recommendation for pump foundations

**Note:** This applies only to pumps above 15 kW.

All rotating equipment generates vibrations as a mass, such as an impeller or rotor, is turning at high speeds. Proper installation and anchorage of Grundfos pumps and installation accessories is critical to limit vibrations and achieve reliable, trouble-free installation. It is important to note that all mechanically connected pipes, fittings and supports of the pump are part of a single system.

The rotating mass of the entire pump, together with the forces from the motor and hydraulics, will generate disturbances related to the speed of the motor. Unbalance and impeller vane pass in hydraulics are the two most important frequencies affecting vibration.

When these frequencies coincide with the natural frequency of the entire mechanical system, the vibration level will increase substantially.

Pumps from Grundfos are designed and produced according to the highest quality standards. The method and grade of balancing is specified by the manufacturer in order to achieve acceptable vibration levels. Although the pump itself can withstand rather high vibration levels under operating conditions without considerable lifetime reduction, the pipes and supportive structure might suffer and crack if vibration levels are too high. Furthermore, noticeable noise levels might be generated.

The likelihood of high vibration levels occurring is increased in variable-speed applications where the pump is operated over a range of speeds rather than at a single constant speed. Most variable-speed drives provide the possibility to exclude certain frequency ranges to avoid operating areas with high vibrations.

To ensure acceptable vibration levels in the field, all parts of the system must be sufficiently stiff and firmly anchored to minimise vibrations:

- The foundation and concrete must be of adequate strength to support the weight of the pump including accessories, the weight of the liquid passing through the pump and the forces generated by the pump.
- As a rule of thumb, the mass of the concrete foundation must be a minimum of three to five times the mass of the supported equipment and must have sufficient rigidity to withstand the axial, transverse and torsional loadings generated by the equipment.
- The foundation must be 15 cm wider than the base plate for pumps up to 350 kW and 25 cm wider for larger pumps.
- The concrete used in the foundation must have a minimum tensile strength of 250 N/cm<sup>2</sup>. Epoxy grout must always be used to secure the pump base plate to the foundation.

### Pull-out strengths for anchor bolts

Submerged installation on auto coupling (type S and C):

| Auto-coupling base unit    | Bolts   | Pull-out resistance [kN] |
|----------------------------|---------|--------------------------|
| DN 100                     | 4 x M16 | 5                        |
| DN 125/DN 150 <sup>1</sup> |         | 8                        |
| DN 200                     | 4 x M24 | 16                       |
| DN 250                     |         | 30                       |
| DN 300                     |         | 40                       |
| DN 500                     | 6 x M30 | 40                       |
| DN 600                     |         | 40                       |

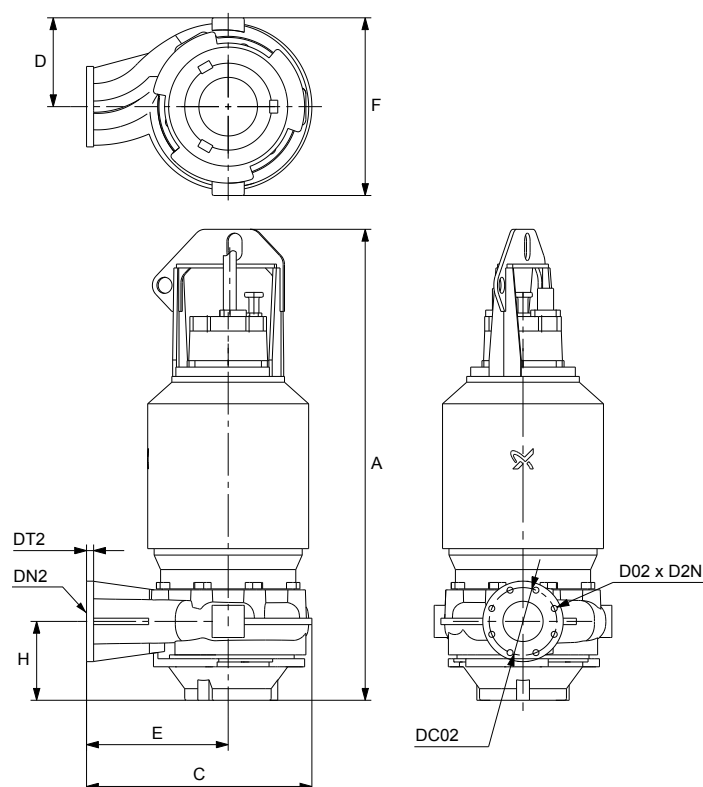
<sup>1</sup> Pump outlet DN 125 and base plate outlet DN 150.

Dry installation (type H and D):

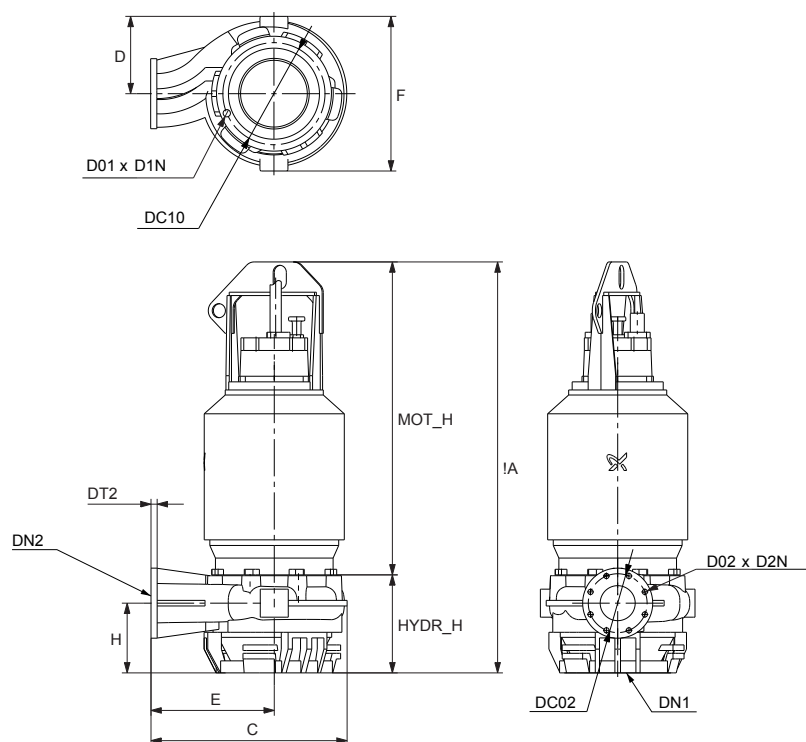
| Dry installation           | Anchor bolts | Pull-out resistance [kN] |
|----------------------------|--------------|--------------------------|
| DN 100                     | 3 x M20      | 18                       |
| DN 150                     | 6 x M20      | 18                       |
| DN 200                     |              | 18                       |
| DN 250                     | 6 x M24      | 25                       |
| DN 300                     |              | 25                       |
| DN 500/DN 400 <sup>1</sup> |              | 25                       |
| DN 500                     |              | 25                       |

<sup>1</sup> Base plate inlet DN 500 and pump inlet DN 400.

## Basic pump



## Installation types S and C



## Installation types D and H

**Note:** Dimensions D01, D1N, DC10 and DN1 are equal to zero for installation types C and S because of the inlet type.

TM046361

TM046360

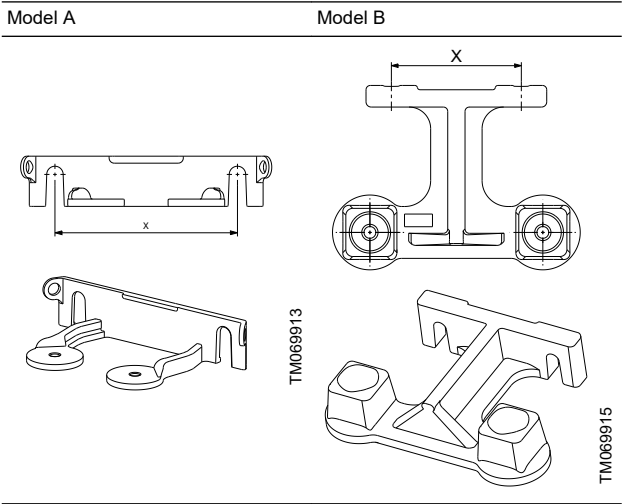
| Pump type                 | A    | C    | D   | D01 | D02 | D1N | D2N | DC02 | DC10 |
|---------------------------|------|------|-----|-----|-----|-----|-----|------|------|
| S1.80.125.300.4.62H.C/S   | 1460 | 687  | 260 | -   | 19  | -   | 8   | 210  | -    |
| S1.80.125.300.4.62H.D/H   | 1502 | 690  | 260 | M20 | 19  | 8   | 8   | 210  | 240  |
| S1.80.125.400.4.62H.C/S   | 1460 | 687  | 260 | -   | 19  | -   | 8   | 210  | -    |
| S1.80.125.400.4.62H.D/H   | 1502 | 690  | 260 | M20 | 19  | 8   | 8   | 210  | 240  |
| S1.80.125.500.4.62H.C/S   | 1460 | 687  | 260 | -   | 19  | -   | 8   | 210  | -    |
| S1.80.125.500.4.62H.D/H   | 1502 | 690  | 260 | M20 | 19  | 8   | 8   | 210  | 240  |
| S1.100.125.300.4.62M.C/S  | 1488 | 690  | 276 | -   | 19  | -   | 8   | 210  | -    |
| S1.100.125.300.4.62M.D/H  | 1492 | 690  | 276 | M20 | 19  | 8   | 8   | 210  | 295  |
| S1.100.125.400.4.62M.C/S  | 1488 | 690  | 276 | -   | 19  | -   | 8   | 210  | -    |
| S1.100.125.400.4.62M.D/H  | 1492 | 690  | 276 | M20 | 19  | 8   | 8   | 210  | 295  |
| S1.100.125.500.4.62M.C/S  | 1488 | 690  | 276 | -   | 19  | -   | 8   | 210  | -    |
| S1.100.125.500.4.62M.D/H  | 1492 | 690  | 276 | M20 | 19  | 8   | 8   | 210  | 295  |
| S2.100.200.400.4.62L.C/S  | 1496 | 960  | 356 | -   | 24  | -   | 8   | 295  | -    |
| S2.100.200.400.4.62L.D/H  | 1519 | 960  | 356 | M20 | 24  | 12  | 8   | 295  | 350  |
| S2.100.200.500.4.62L.C/S  | 1496 | 960  | 356 | -   | 24  | -   | 8   | 295  | -    |
| S2.100.200.500.4.62L.D/H  | 1519 | 960  | 356 | M20 | 24  | 12  | 8   | 295  | 350  |
| S2.100.300.300.4.62E.C/S  | 1525 | 1235 | 484 | -   | 24  | -   | 12  | 400  | -    |
| S2.100.300.300.4.62E.D/H  | 1561 | 1235 | 484 | M20 | 24  | 12  | 12  | 400  | 350  |
| S2.100.300.400.4.62E.C/S  | 1525 | 1235 | 484 | -   | 24  | -   | 12  | 400  | -    |
| S2.100.300.400.4.62E.D/H  | 1561 | 1235 | 484 | M20 | 24  | 12  | 12  | 400  | 350  |
| S2.100.300.500.4.62E.C/S  | 1525 | 1235 | 484 | -   | 24  | -   | 12  | 400  | -    |
| S2.100.300.500.4.62E.D/H  | 1561 | 1235 | 484 | M20 | 24  | 12  | 12  | 400  | 350  |
| S2.145.300.200.8.62E.C/S  | 1515 | 1139 | 522 | -   | 24  | -   | 12  | 400  | -    |
| S2.145.300.200.8.62E.D/H  | 1569 | 1139 | 522 | M20 | 24  | 12  | 12  | 400  | 400  |
| S2.145.300.280.8.62E.C/S  | 1515 | 1139 | 522 | -   | 24  | -   | 12  | 400  | -    |
| S2.145.300.280.8.62E.D/H  | 1569 | 1139 | 522 | M20 | 24  | 12  | 12  | 400  | 400  |
| S3.120.300.150.12.62F.C/S | 1515 | 1139 | 522 | -   | 24  | -   | 12  | 400  | -    |
| S3.120.300.150.12.62F.D/H | 1569 | 1139 | 522 | M20 | 24  | 12  | 12  | 400  | 400  |

| Pump type                | DN1    | DN2    | DT2 | E   | F   | H   | HYDR H | MOT H |
|--------------------------|--------|--------|-----|-----|-----|-----|--------|-------|
| S1.80.125.300.4.62H.C/S  | -      | DN 125 | 22  | 440 | 523 | 230 | 315    | 1145  |
| S1.80.125.300.4.62H.D/H  | DN 150 | DN 125 | 22  | 440 | 523 | 272 | 357    | 1145  |
| S1.80.125.400.4.62H.C/S  | -      | DN 125 | 22  | 440 | 523 | 230 | 315    | 1145  |
| S1.80.125.400.4.62H.D/H  | DN 150 | DN 125 | 22  | 440 | 523 | 272 | 357    | 1145  |
| S1.80.125.500.4.62H.C/S  | -      | DN 125 | 22  | 440 | 523 | 230 | 315    | 1145  |
| S1.80.125.500.4.62H.D/H  | DN 150 | DN 125 | 22  | 440 | 523 | 272 | 357    | 1145  |
| S1.100.125.300.4.62M.C/S | -      | DN 125 | 22  | 440 | 552 | 245 | 343    | 1145  |
| S1.100.125.300.4.62M.D/H | DN 200 | DN 125 | 22  | 440 | 552 | 249 | 347    | 1145  |
| S1.100.125.400.4.62M.C/S | -      | DN 125 | 22  | 440 | 552 | 245 | 343    | 1145  |
| S1.100.125.400.4.62M.D/H | DN 200 | DN 125 | 22  | 440 | 552 | 249 | 347    | 1145  |
| S1.100.125.500.4.62M.C/S | -      | DN 125 | 22  | 440 | 552 | 245 | 343    | 1145  |
| S1.100.125.500.4.62M.D/H | DN 200 | DN 125 | 22  | 440 | 552 | 249 | 347    | 1145  |
| S2.100.200.400.4.62L.C/S | -      | DN 200 | 26  | 660 | 646 | 240 | 351    | 1145  |
| S2.100.200.400.4.62L.D/H | DN 250 | DN 200 | 26  | 660 | 646 | 263 | 374    | 1145  |
| S2.100.200.500.4.62L.C/S | -      | DN 200 | 26  | 660 | 646 | 240 | 351    | 1145  |
| S2.100.200.500.4.62L.D/H | DN 250 | DN 200 | 26  | 660 | 646 | 263 | 374    | 1145  |
| S2.100.300.300.4.62E.C/S | -      | DN 300 | 33  | 800 | 869 | 266 | 380    | 1145  |
| S2.100.300.300.4.62E.D/H | DN 250 | DN 300 | 33  | 800 | 869 | 302 | 416    | 1145  |
| S2.100.300.400.4.62E.C/S | -      | DN 300 | 33  | 800 | 869 | 266 | 380    | 1145  |
| S2.100.300.400.4.62E.D/H | DN 250 | DN 300 | 33  | 800 | 869 | 302 | 416    | 1145  |
| S2.100.300.500.4.62E.C/S | -      | DN 300 | 33  | 800 | 869 | 266 | 380    | 1145  |
| S2.100.300.500.4.62E.D/H | DN 250 | DN 300 | 33  | 800 | 869 | 302 | 416    | 1145  |
| S2.145.300.200.8.62E.C/S | -      | DN 300 | 33  | 700 | 907 | 225 | 370    | 1145  |

| Pump type                 | DN1    | DN2    | DT2 | E   | F   | H   | HYDR<br>H | MOT<br>H |
|---------------------------|--------|--------|-----|-----|-----|-----|-----------|----------|
| S2.145.300.200.8.62E.D/H  | DN 300 | DN 300 | 33  | 700 | 907 | 279 | 424       | 1145     |
| S2.145.300.280.8.62E.C/S  | -      | DN 300 | 33  | 700 | 907 | 225 | 370       | 1145     |
| S2.145.300.280.8.62E.D/H  | DN 300 | DN 300 | 33  | 700 | 907 | 279 | 424       | 1145     |
| S3.120.300.150.12.62F.C/S | -      | DN 300 | 33  | 700 | 907 | 225 | 370       | 1145     |
| S3.120.300.150.12.62F.D/H | DN 300 | DN 300 | 33  | 700 | 907 | 279 | 424       | 1145     |

Installation on auto-coupling system

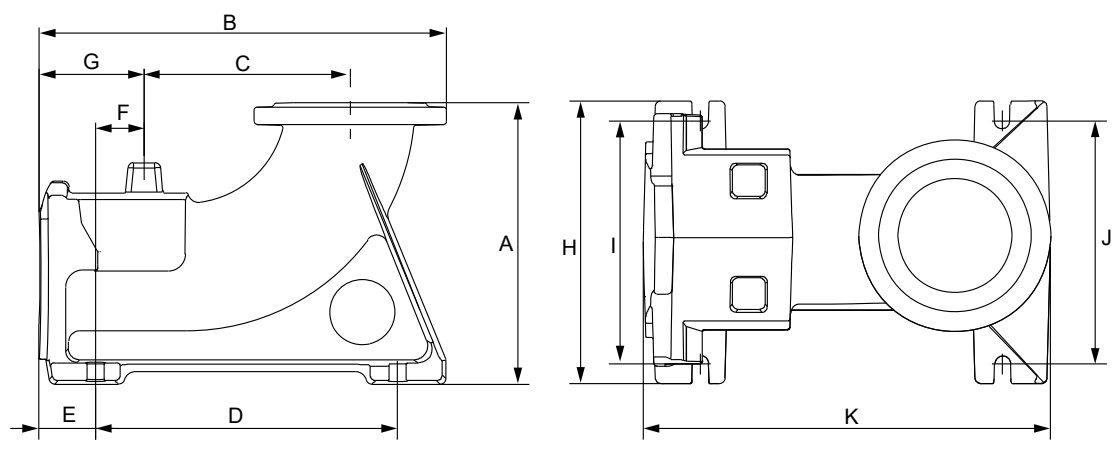
Upper guide rail bracket dimensions



Installation dimensions for upper guide rail bracket

| Auto coupling  |       |               | X    |
|----------------|-------|---------------|------|
| Product number | Model | Size          | [mm] |
| 96782145       | A     | DN 125/DN 150 | 210  |
| 96641489       | B     | DN 200        | 150  |
| 96782484       |       | DN 300        |      |

Auto-coupling dimensions



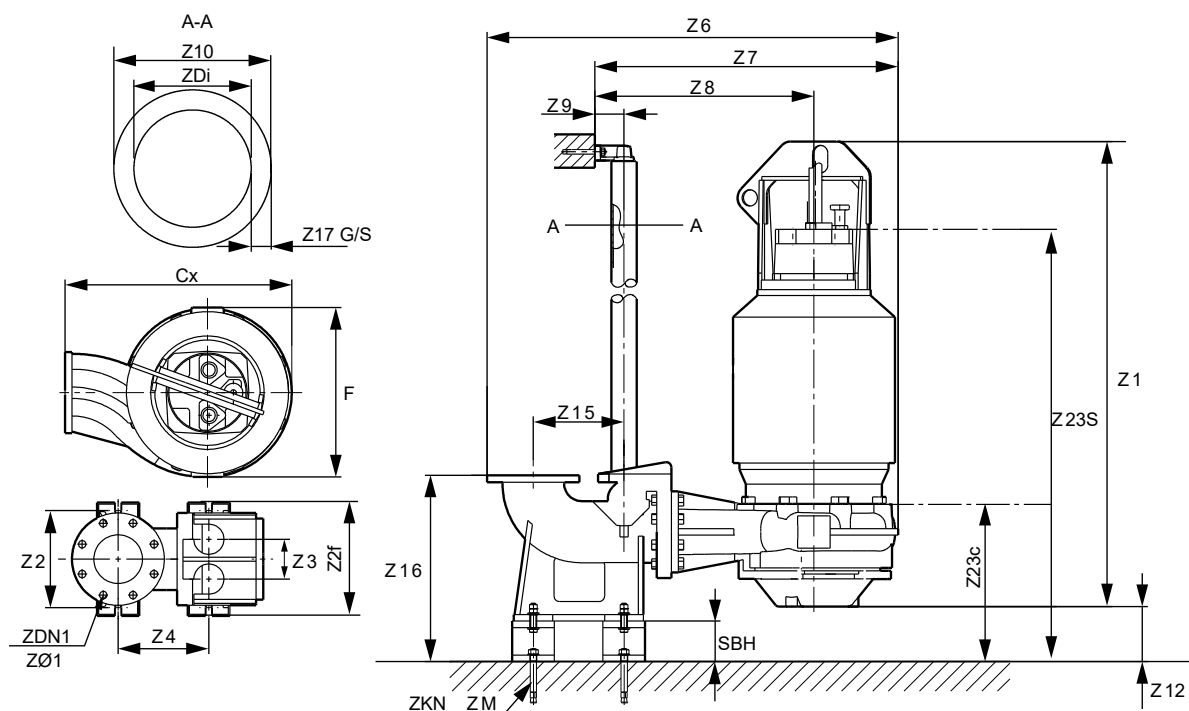
Dimension for cast-iron base unit

| Product number | Size          | Dimensions [mm] |      |     |                       |     |    |     |     |     |     |      |
|----------------|---------------|-----------------|------|-----|-----------------------|-----|----|-----|-----|-----|-----|------|
|                |               | A               | B    | C   | D                     | E   | F  | G   | H   | I   | J   | K    |
| 96782145       | DN 125/DN 150 | 450             | 502  | 280 | 280                   | 78  | 0  | 78  | 340 | 300 | 300 | 420  |
| 96641489       | DN 200        | 485             | 710  | 365 | 535                   | 89  | 86 | 175 | 500 | 430 | 430 | 710  |
| 96782484       | DN 300        | 1050            | 1260 | 614 | 830 /160 <sup>1</sup> | 127 | 99 | 226 | 780 | 710 | 710 | 1230 |

<sup>1</sup> Six-bolt installation: distance between the front bolt hole and the middle bolt hole / distance between the middle bolt hole and the back bolt hole.

TM066497

## Pump installation dimensions



TM046372

Installation on auto-coupling system - version 1 (with support block)

| Pos.  | Description               |
|-------|---------------------------|
| S Ex  | Installation S Ex pumps   |
| S Std | Installation S Std. pumps |
| C     | Installation C            |
| SBH   | Support block height      |

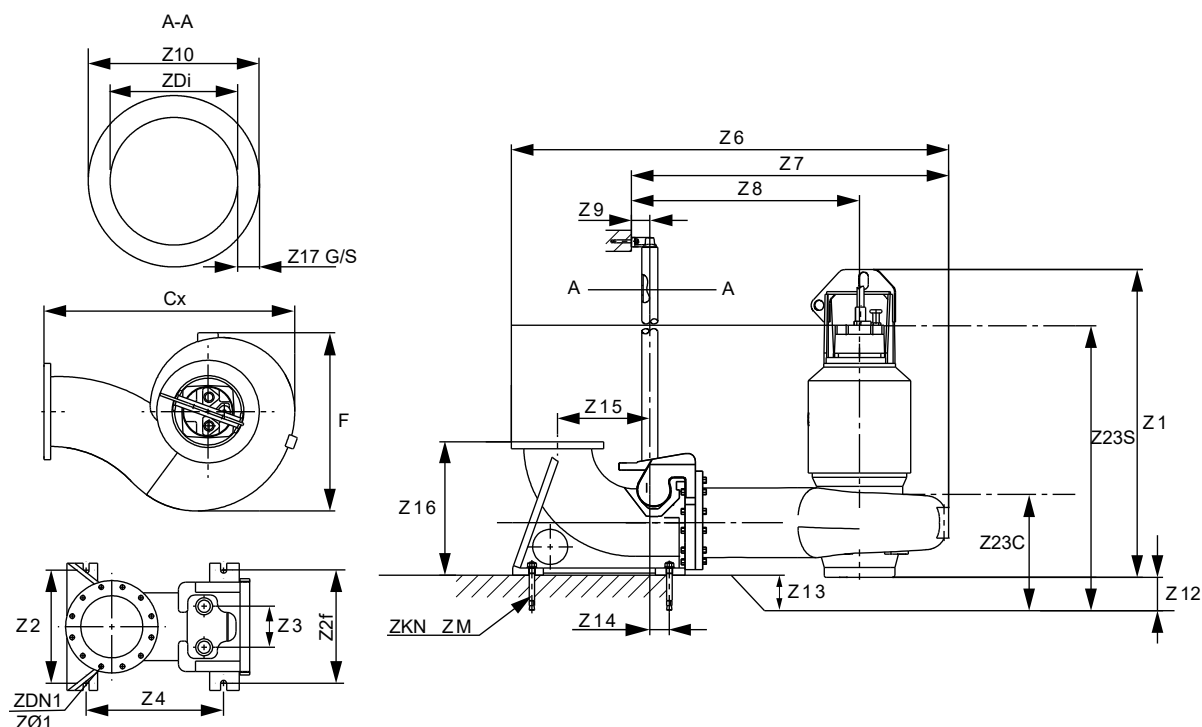
**Note:** Height of the support block = 125 mm.

**Note:** Distance between the centre of the anchor bolt hole to the edge of the screw hole = 10 mm.

| Pump type                      | C   | F   | Z01    | Z1   | Z2  | Z3  | Z4  | Z6   | Z7  | Z8  | Z9  | Z10 | Z11  | Z12A | Z12B |
|--------------------------------|-----|-----|--------|------|-----|-----|-----|------|-----|-----|-----|-----|------|------|------|
| S1.80.125.300.4.62H.C.xxx.G/Q  | 690 | 523 | 8 x 23 | 1485 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1655 | 80   | 400  |
| S1.80.125.300.4.62H.S.xxx.G/Q  | 690 | 523 | 8 x 23 | 1485 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1655 | 80   | 400  |
| S1.80.125.400.4.62H.C.xxx.G/Q  | 690 | 523 | 8 x 23 | 1485 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1655 | 80   | 400  |
| S1.80.125.400.4.62H.S.xxx.G/Q  | 690 | 523 | 8 x 23 | 1485 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1655 | 80   | 400  |
| S1.80.125.500.4.62H.C.xxx.G/Q  | 690 | 523 | 8 x 23 | 1485 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1655 | 80   | 400  |
| S1.80.125.500.4.62H.S.xxx.G/Q  | 690 | 523 | 8 x 23 | 1485 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1605 | 80   | 400  |
| S1.100.125.300.4.62M.C.xxx.G/Q | 690 | 552 | 8 x 23 | 1513 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1668 | 100  | 400  |
| S1.100.125.300.4.62M.S.xxx.G/Q | 690 | 552 | 8 x 23 | 1513 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1668 | 100  | 400  |
| S1.100.125.400.4.62M.C.xxx.G/Q | 690 | 552 | 8 x 23 | 1513 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1668 | 100  | 400  |
| S1.100.125.400.4.62M.S.xxx.G/Q | 690 | 552 | 8 x 23 | 1513 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1668 | 100  | 400  |
| S1.100.125.500.4.62M.C.xxx.G/Q | 690 | 552 | 8 x 23 | 1513 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1668 | 100  | 400  |
| S1.100.125.500.4.62M.S.xxx.G/Q | 690 | 552 | 8 x 23 | 1513 | 300 | 123 | 280 | 1261 | 947 | 697 | 110 | 88  | 1668 | 100  | 400  |

| Pump type                     | Z15 | Z16 | Z17 |   | Z23  |      | S3OPR |      | ZDC1 | ZDN1   | ZDT1 | ZL1 | ZL2 | ZM      |
|-------------------------------|-----|-----|-----|---|------|------|-------|------|------|--------|------|-----|-----|---------|
|                               |     |     | G   | S | Std. | Ex   | Std.  | Ex   |      |        |      |     |     |         |
| S1.80.125.300.4.62H.C.xxx.G/Q | 280 | 575 | 3   | 3 | 435  | 435  | 605   | 605  | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.80.125.300.4.62H.S.xxx.G/Q | 280 | 575 | 3   | 3 | 717  | 1158 | 887   | 1328 | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.80.125.400.4.62H.C.xxx.G/Q | 280 | 575 | 3   | 3 | 435  | 435  | 605   | 605  | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.80.125.400.4.62H.S.xxx.G/Q | 280 | 575 | 3   | 3 | 717  | 1158 | 887   | 1328 | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.80.125.500.4.62H.C.xxx.G/Q | 280 | 575 | 3   | 3 | 435  | 435  | 605   | 605  | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.80.125.500.4.62H.S.xxx.G/Q | 280 | 575 | 3   | 3 | 717  | 1158 | 887   | 1328 | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |

| Pump type                      | Z15 | Z16 | Z17 |   | Z23  |      | S3OPR |      | ZDC1 | ZDN1   | ZDT1 | ZL1 | ZL2 | ZM      |
|--------------------------------|-----|-----|-----|---|------|------|-------|------|------|--------|------|-----|-----|---------|
|                                |     |     | G   | S | Std. | Ex   | Std.  | Ex   |      |        |      |     |     |         |
| S1.100.125.300.4.62M.C.xxx.G/Q | 280 | 575 | 3   | 3 | 463  | 463  | 618   | 618  | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.100.125.300.4.62M.S.xxx.G/Q | 280 | 575 | 3   | 3 | 745  | 1186 | 900   | 1341 | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.100.125.400.4.62M.C.xxx.G/Q | 280 | 575 | 3   | 3 | 463  | 463  | 618   | 618  | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.100.125.400.4.62M.S.xxx.G/Q | 280 | 575 | 3   | 3 | 745  | 1186 | 900   | 1341 | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.100.125.500.4.62M.C.xxx.G/Q | 280 | 575 | 3   | 3 | 463  | 463  | 618   | 618  | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |
| S1.100.125.500.4.62M.S.xxx.G/Q | 280 | 575 | 3   | 3 | 745  | 1186 | 900   | 1341 | 240  | DN 150 | 25   | 571 | 147 | 4 x M16 |



TM046377

Installation on auto-coupling system - version 2 (without support block)

| Pos.  | Description               |
|-------|---------------------------|
| S Ex  | Installation S Ex pumps   |
| S Std | Installation S Std. pumps |
| C     | Installation C            |

**Note:** Z12A is the minimum recommended distance from pit bottom to bottom of pump inlet port.

**Note:** Z11 is the total height of the pump installed on Grundfos installation accessory in the pit.

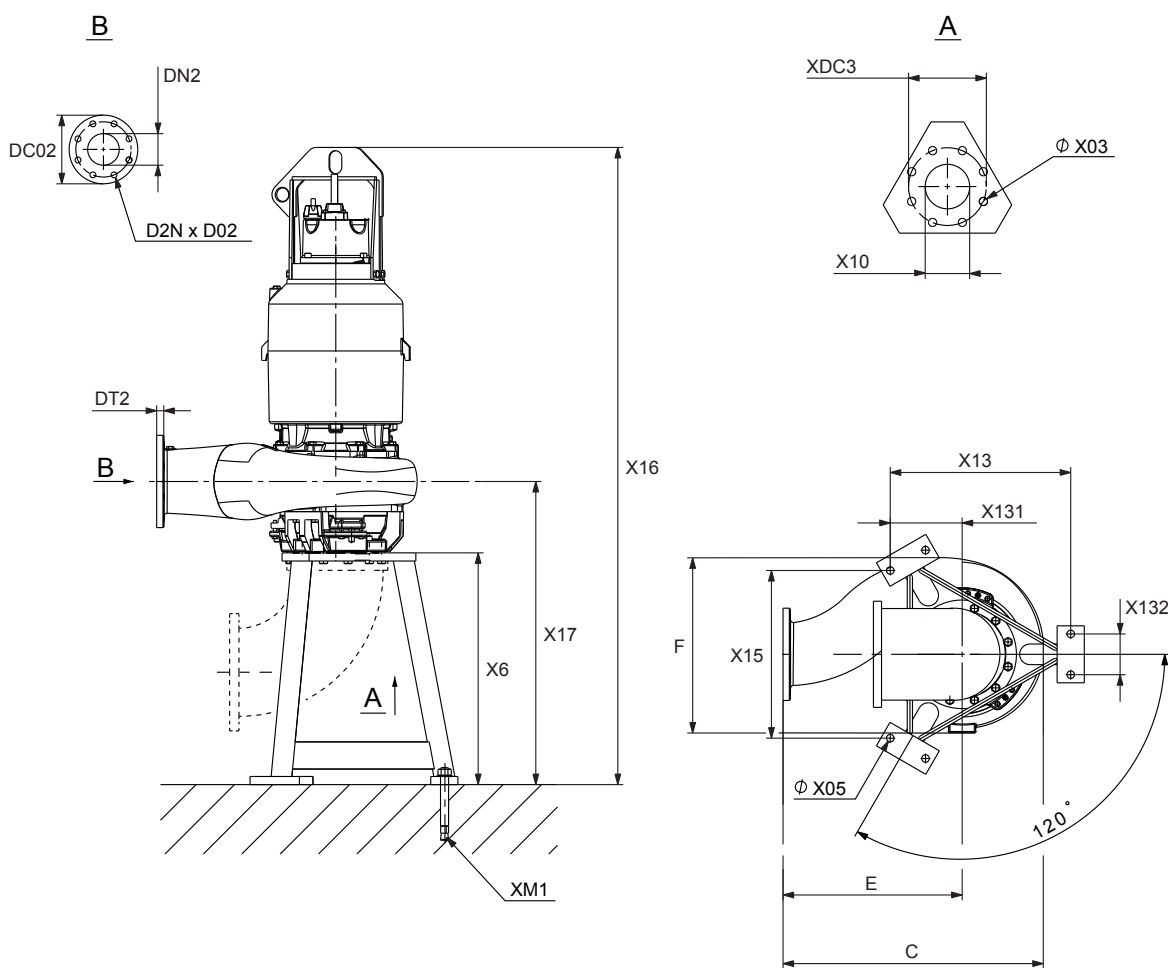
**Note:** The pump in this figure might not be equal to Z12A + Z1.

| Pump type                      | C    | F   | Z01     | Z1   | Z2  | Z3  | Z4  | Z6   | Z7   | Z8   | Z9  | Z10 | Z11  | Z12A | Z12B |
|--------------------------------|------|-----|---------|------|-----|-----|-----|------|------|------|-----|-----|------|------|------|
| S2.100.200.400.4.62L.C.xxx.G/Q | 960  | 646 | 8 x 23  | 1521 | 430 | 200 | 535 | 1721 | 1352 | 1052 | 170 | 88  | 1627 | 106  | 196  |
| S2.100.200.400.4.62L.S.xxx.G/Q | 960  | 646 | 8 x 23  | 1521 | 430 | 200 | 535 | 1721 | 1352 | 1052 | 170 | 88  | 1627 | 106  | 196  |
| S2.100.200.500.4.62L.C.xxx.G/Q | 960  | 646 | 8 x 23  | 1521 | 430 | 200 | 535 | 1721 | 1352 | 1052 | 170 | 88  | 1677 | 156  | 196  |
| S2.100.200.500.4.62L.S.xxx.G/Q | 960  | 646 | 8 x 23  | 1521 | 430 | 200 | 535 | 1721 | 1352 | 1052 | 170 | 88  | 1677 | 156  | 196  |
| S2.100.300.300.4.62E.C.xxx.G/Q | 1235 | 869 | 12 x 23 | 1550 | 551 | 200 | 670 | 2130 | 1627 | 1192 | 170 | 88  | 1690 | 140  | 256  |
| S2.100.300.300.4.62E.S.xxx.G/Q | 1235 | 869 | 12 x 23 | 1550 | 551 | 200 | 670 | 2130 | 1627 | 1192 | 170 | 88  | 1690 | 140  | 256  |
| S2.100.300.400.4.62L.C.xxx.G/Q | 1235 | 869 | 12 x 23 | 1550 | 551 | 200 | 670 | 2130 | 1627 | 1192 | 170 | 88  | 1690 | 140  | 256  |
| S2.100.300.400.4.62L.S.xxx.G/Q | 1235 | 869 | 12 x 23 | 1550 | 551 | 200 | 670 | 2130 | 1627 | 1192 | 170 | 88  | 1690 | 140  | 256  |
| S2.100.300.500.4.62E.C.xxx.G/Q | 1235 | 869 | 12 x 23 | 1550 | 551 | 200 | 670 | 2130 | 1627 | 1192 | 170 | 88  | 1690 | 140  | 256  |
| S2.100.300.500.4.62E.S.xxx.G/Q | 1235 | 869 | 12 x 23 | 1550 | 551 | 200 | 670 | 2130 | 1627 | 1192 | 170 | 88  | 1690 | 140  | 256  |
| S2.145.300.200.8.62E.C.xxx.G/Q | 1139 | 907 | 12 x 23 | 1540 | 551 | 200 | 670 | 2034 | 1531 | 1092 | 170 | 88  | 1721 | 181  | 256  |
| S2.145.300.200.8.62E.S.xxx.G/Q | 1139 | 907 | 12 x 23 | 1540 | 551 | 200 | 670 | 2034 | 1531 | 1092 | 170 | 88  | 1721 | 181  | 256  |
| S2.145.300.280.8.62E.C.xxx.G/Q | 1139 | 907 | 12 x 23 | 1540 | 551 | 200 | 670 | 2034 | 1531 | 1092 | 170 | 88  | 1721 | 181  | 256  |

| Pump type                       | C    | F   | Z01     | Z1   | Z2  | Z3  | Z4  | Z6   | Z7   | Z8   | Z9  | Z10 | Z11  | Z12A | Z12B |
|---------------------------------|------|-----|---------|------|-----|-----|-----|------|------|------|-----|-----|------|------|------|
| S2.145.300.280.8.62E.S.xxx.G/Q  | 1139 | 907 | 12 x 23 | 1540 | 551 | 200 | 670 | 2034 | 1531 | 1092 | 170 | 88  | 1721 | 181  | 256  |
| S3.120.300.150.12.62F.S.xxx.G/Q | 1139 | 907 | 12 x 23 | 1540 | 551 | 200 | 670 | 2034 | 1531 | 1092 | 170 | 88  | 1671 | 131  | 256  |
| S3.120.300.150.12.62F.S.xxx.G/Q | 1139 | 907 | 12 x 23 | 1540 | 551 | 200 | 670 | 2034 | 1531 | 1092 | 170 | 88  | 1671 | 131  | 256  |

| Pump type                       | Z13 | Z14 | Z15 | Z16 | Z17 |   | Z23  |      | S3OPR |      | ZDC1 | ZDN1   | ZDT1 | ZL1 | ZL2 | ZM      |
|---------------------------------|-----|-----|-----|-----|-----|---|------|------|-------|------|------|--------|------|-----|-----|---------|
|                                 |     |     |     |     | G   | S | Std. | Ex   | Std.  | Ex   |      |        |      |     |     |         |
| S2.100.200.400.4.62L.C.xxx.G/Q  | 150 | 86  | 365 | 485 | 3   | 3 | 471  | 471  | 427   | 427  | 295  | DN 200 | 31   | 761 | 222 | 4 x M24 |
| S2.100.200.400.4.62L.S.xxx.G/Q  | 150 | 86  | 365 | 485 | 3   | 3 | 753  | 1194 | 709   | 1150 | 295  | DN 200 | 31   | 761 | 222 | 4 x M24 |
| S2.100.200.500.4.62L.C.xxx.G/Q  | 200 | 86  | 365 | 485 | 3   | 3 | 471  | 471  | 427   | 427  | 295  | DN 200 | 31   | 761 | 222 | 4 x M24 |
| S2.100.200.500.4.62L.S.xxx.G/Q  | 200 | 86  | 365 | 485 | 3   | 3 | 753  | 1194 | 709   | 1150 | 295  | DN 200 | 31   | 761 | 222 | 4 x M24 |
| S2.100.300.300.4.62E.C.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 500  | 500  | 490   | 490  | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.100.300.300.4.62E.S.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 782  | 1223 | 772   | 1213 | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.100.300.400.4.62L.C.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 500  | 500  | 490   | 490  | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.100.300.400.4.62L.S.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 782  | 1223 | 772   | 1213 | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.100.300.500.4.62E.C.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 500  | 500  | 490   | 490  | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.100.300.500.4.62E.S.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 782  | 1223 | 772   | 1213 | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.145.300.200.8.62E.C.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 490  | 490  | 521   | 521  | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.145.300.200.8.62E.S.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 772  | 1213 | 803   | 1244 | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.145.300.280.8.62E.C.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 490  | 490  | 521   | 521  | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S2.145.300.280.8.62E.S.xxx.G/Q  | 150 | 95  | 450 | 650 | 3   | 3 | 772  | 1213 | 803   | 1244 | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S3.120.300.150.12.62F.S.xxx.G/Q | 100 | 95  | 450 | 650 | 3   | 3 | 490  | 490  | 521   | 521  | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |
| S3.120.300.150.12.62F.S.xxx.G/Q | 100 | 95  | 450 | 650 | 3   | 3 | 772  | 1213 | 803   | 1244 | 400  | DN 300 | 32   | 901 | 222 | 4 x M24 |

### Dry, vertical installation on base stand



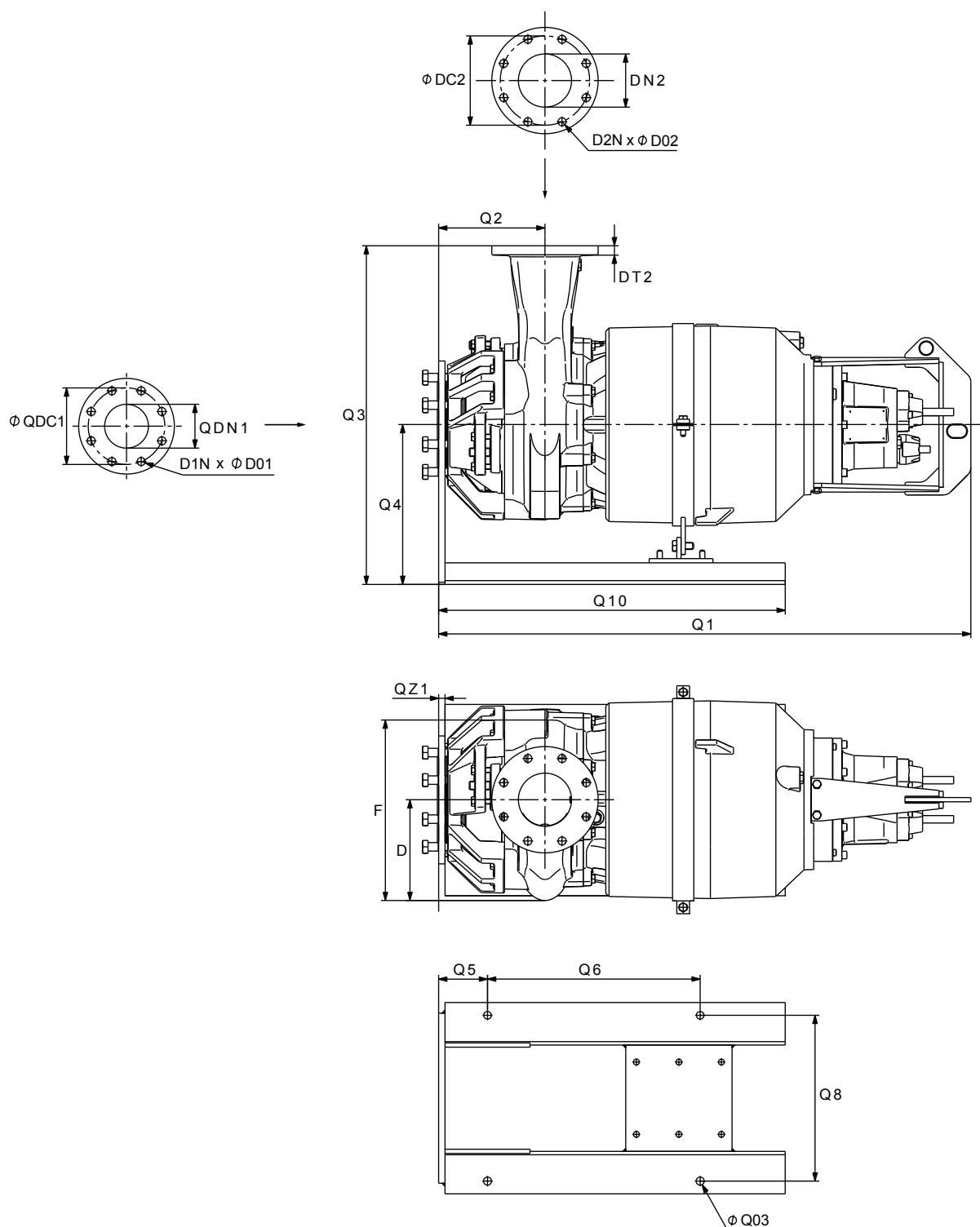
TM067982

*Dry, vertical installation on base stand*

| Pump type               | C    | E   | F   | X03 | X05 | X6  | X10    | X13 | X131 | X132 | X14 | X15 |
|-------------------------|------|-----|-----|-----|-----|-----|--------|-----|------|------|-----|-----|
| S1.80.125.300.4.62H.D   | 690  | 440 | 523 | 24  | 24  | 621 | DN 150 | 450 | 150  | 120  | 290 | 520 |
| S1.80.125.400.4.62H.D   | 690  | 440 | 523 | 24  | 24  | 621 | DN 150 | 450 | 150  | 120  | 290 | 520 |
| S1.80.125.500.4.62H.D   | 690  | 440 | 523 | 24  | 24  | 621 | DN 150 | 450 | 150  | 120  | 290 | 520 |
| S1.100.125.300.4.62M.D  | 690  | 440 | 552 | 24  | 24  | 719 | DN 200 | 520 | 170  | 120  | 350 | 344 |
| S1.100.125.400.4.62M.D  | 690  | 440 | 552 | 24  | 24  | 719 | DN 200 | 520 | 170  | 120  | 350 | 344 |
| S1.100.125.500.4.62M.D  | 690  | 440 | 552 | 24  | 24  | 719 | DN 200 | 520 | 170  | 120  | 350 | 344 |
| S2.100.200.400.4.62L.D  | 960  | 660 | 646 | 24  | 28  | 854 | DN 250 | 600 | 200  | 150  | 460 | 692 |
| S2.100.200.500.4.62L.D  | 960  | 660 | 646 | 24  | 28  | 854 | DN 250 | 600 | 200  | 150  | 460 | 692 |
| S2.100.300.300.4.62E.D  | 1235 | 800 | 646 | 24  | 28  | 854 | DN 250 | 600 | 200  | 150  | 460 | 692 |
| S2.100.300.400.4.62E.D  | 1235 | 800 | 646 | 24  | 28  | 854 | DN 250 | 600 | 200  | 150  | 460 | 692 |
| S2.100.300.500.4.62E.D  | 1235 | 800 | 646 | 24  | 28  | 854 | DN 250 | 600 | 200  | 150  | 460 | 692 |
| S2.145.300.200.8.62E.D  | 1139 | 700 | 907 | 24  | 28  | 882 | DN 300 | 675 | 225  | 150  | 475 | 780 |
| S2.145.300.280.8.62E.D  | 1139 | 700 | 907 | 24  | 28  | 882 | DN 300 | 675 | 225  | 150  | 475 | 780 |
| S3.120.300.150.12.62F.D | 1139 | 700 | 907 | 24  | 28  | 882 | DN 300 | 675 | 225  | 150  | 475 | 780 |

| Pump type              | X16  | X17 | XDC3 | DN2    | DC02 | D02 | D2N | DT2 | XM1     |
|------------------------|------|-----|------|--------|------|-----|-----|-----|---------|
| S1.80.125.300.4.62H.D  | 2098 | 893 | 240  | DN 125 | 210  | 19  | 8   | 24  | 6 x M24 |
| S1.80.125.400.4.62H.D  | 2098 | 893 | 240  | DN 125 | 210  | 19  | 8   | 24  | 6 x M24 |
| S1.80.125.500.4.62H.D  | 2098 | 893 | 240  | DN 125 | 210  | 19  | 8   | 24  | 6 x M24 |
| S1.100.125.300.4.62M.D | 2186 | 968 | 295  | DN 125 | 210  | 19  | 8   | 26  | 6 x M24 |

| Pump type               | X16  | X17  | XDC3 | DN2    | DC02 | D02 | D2N | DT2 | XM1     |
|-------------------------|------|------|------|--------|------|-----|-----|-----|---------|
| S1.100.125.400.4.62M.D  | 2186 | 968  | 295  | DN 125 | 210  | 19  | 8   | 26  | 6 x M24 |
| S1.100.125.500.4.62M.D  | 2186 | 968  | 295  | DN 125 | 210  | 19  | 8   | 26  | 6 x M24 |
| S2.100.200.400.4.62L.D  | 2348 | 1117 | 350  | DN 200 | 295  | 24  | 8   | 26  | 6 x M24 |
| S2.100.200.500.4.62L.D  | 2348 | 1117 | 350  | DN 200 | 295  | 24  | 8   | 26  | 6 x M24 |
| S2.100.300.300.4.62E.D  | 2390 | 1117 | 350  | DN 200 | 295  | 24  | 8   | 26  | 6 x M24 |
| S2.100.300.400.4.62E.D  | 2390 | 1117 | 350  | DN 200 | 295  | 24  | 8   | 26  | 6 x M24 |
| S2.100.300.500.4.62E.D  | 2390 | 1117 | 350  | DN 200 | 295  | 24  | 8   | 26  | 6 x M24 |
| S2.145.300.200.8.62E.D  | 2426 | 1161 | 400  | DN 300 | 400  | 24  | 12  | 33  | 6 x M24 |
| S2.145.300.280.8.62E.D  | 2426 | 1161 | 400  | DN 300 | 400  | 24  | 12  | 33  | 6 x M24 |
| S3.120.300.150.12.62F.D | 2426 | 1161 | 400  | DN 300 | 400  | 24  | 12  | 33  | 6 x M24 |



TM042414

*Dry, horizontal installation on base stand*

| Pump type              | D   | F   | $\phi Q03$ | Q1   | Q2  | Q3   | Q4  | Q5  | Q6  | Q8  | Q10  | QDC1 |
|------------------------|-----|-----|------------|------|-----|------|-----|-----|-----|-----|------|------|
| S1.80.125.300.4.62H.H  | 260 | 523 | 18         | 1495 | 290 | 815  | 375 | 115 | 500 | 390 | 815  | 240  |
| S1.80.125.400.4.62H.H  | 260 | 523 | 18         | 1495 | 290 | 815  | 375 | 115 | 500 | 390 | 815  | 240  |
| S1.80.125.500.4.62H.H  | 260 | 523 | 18         | 1495 | 290 | 815  | 375 | 115 | 500 | 390 | 815  | 240  |
| S1.100.125.300.4.62M.H | 276 | 552 | 18         | 1485 | 267 | 815  | 375 | 115 | 500 | 390 | 815  | 295  |
| S1.100.125.400.4.62M.H | 276 | 552 | 18         | 1485 | 267 | 815  | 375 | 115 | 500 | 390 | 815  | 295  |
| S1.100.125.500.4.62M.H | 276 | 552 | 18         | 1485 | 267 | 815  | 375 | 115 | 500 | 390 | 815  | 295  |
| S2.100.200.400.4.62L.H | 356 | 646 | 18         | 1512 | 281 | 1035 | 375 | 115 | 500 | 390 | 1015 | 350  |

| Pump type               | D   | F   | Ø Q03 | Q1   | Q2  | Q3   | Q4  | Q5  | Q6  | Q8  | Q10  | QDC1 |
|-------------------------|-----|-----|-------|------|-----|------|-----|-----|-----|-----|------|------|
| S2.100.200.500.4.62L.H  | 356 | 646 | 18    | 1512 | 281 | 1035 | 375 | 115 | 500 | 390 | 1015 | 350  |
| S2.100.300.300.4.62E.H  | 484 | 869 | 19    | 1554 | 320 | 1350 | 550 | 115 | 500 | 390 | 865  | 350  |
| S2.100.300.400.4.62E.H  | 484 | 869 | 19    | 1554 | 320 | 1350 | 550 | 115 | 500 | 390 | 865  | 350  |
| S2.100.300.500.4.62E.H  | 484 | 869 | 19    | 1554 | 320 | 1350 | 550 | 115 | 500 | 390 | 865  | 350  |
| S2.145.300.200.8.62E.H  | 522 | 907 | 19    | 1567 | 302 | 1250 | 550 | 120 | 500 | 500 | 870  | 400  |
| S2.145.300.280.8.62E.H  | 522 | 907 | 19    | 1567 | 302 | 1250 | 550 | 120 | 500 | 500 | 870  | 400  |
| S3.120.300.150.12.62F.H | 522 | 907 | 19    | 1567 | 302 | 1250 | 550 | 120 | 500 | 500 | 870  | 400  |

| Pump type               | DN1    | Q01 | D1N | QZ1 | DN2 | D2N | D02 | DC2 | DT2 | QZ1 |
|-------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| S1.80.125.300.4.62H.H   | DN 150 | M20 | 8   | 18  | 125 | 8   | 19  | 210 | 22  | 18  |
| S1.80.125.400.4.62H.H   | DN 150 | M20 | 8   | 18  | 125 | 8   | 19  | 210 | 22  | 18  |
| S1.80.125.500.4.62H.H   | DN 150 | M20 | 8   | 18  | 125 | 8   | 19  | 210 | 22  | 18  |
| S1.100.125.300.4.62M.H  | DN 200 | M20 | 8   | 18  | 125 | 8   | 19  | 210 | 22  | 18  |
| S1.100.125.400.4.62M.H  | DN 200 | M20 | 8   | 18  | 125 | 8   | 19  | 210 | 22  | 18  |
| S1.100.125.500.4.62M.H  | DN 200 | M20 | 8   | 18  | 125 | 8   | 19  | 210 | 22  | 18  |
| S2.100.200.400.4.62L.H  | DN 250 | M20 | 12  | 18  | 200 | 8   | 24  | 295 | 26  | 18  |
| S2.100.200.500.4.62L.H  | DN 250 | M20 | 12  | 18  | 200 | 8   | 24  | 295 | 26  | 18  |
| S2.100.300.300.4.62E.H  | DN 250 | M20 | 12  | 18  | 300 | 12  | 24  | 400 | 33  | 18  |
| S2.100.300.400.4.62E.H  | DN 250 | M20 | 12  | 18  | 300 | 12  | 24  | 400 | 33  | 18  |
| S2.100.300.500.4.62E.H  | DN 250 | M20 | 12  | 18  | 300 | 12  | 24  | 400 | 33  | 18  |
| S2.145.300.200.8.62E.H  | DN 300 | M20 | 12  | 23  | 300 | 12  | 24  | 400 | 33  | 23  |
| S2.145.300.280.8.62E.H  | DN 300 | M20 | 12  | 23  | 300 | 12  | 24  | 400 | 33  | 23  |
| S3.120.300.150.12.62F.H | DN 300 | M20 | 12  | 23  | 300 | 12  | 24  | 400 | 33  | 23  |

## 13. Weights

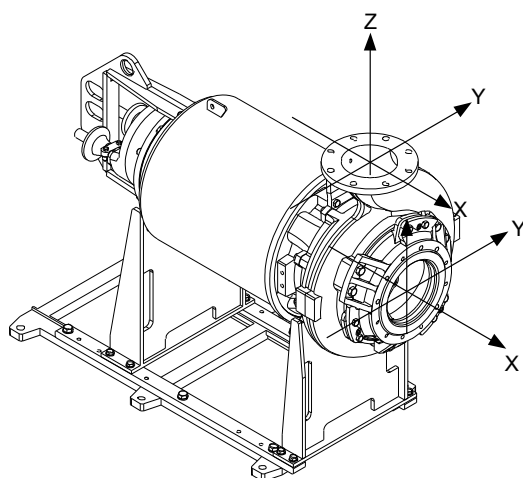
Weights include 10 m cable.

| Pump type                     | Weight [kg] |
|-------------------------------|-------------|
| S1.80.125.300.4.62H.S.338...  | 600         |
| S1.80.125.300.4.62H.C.338...  | 660         |
| S1.80.125.300.4.62H.D.338...  | 720         |
| S1.80.125.300.4.62H.H.338...  | 720         |
| S1.80.125.400.4.62H.S.374...  | 600         |
| S1.80.125.400.4.62H.C.374...  | 660         |
| S1.80.125.400.4.62H.D.374...  | 720         |
| S1.80.125.400.4.62H.H.374...  | 720         |
| S1.80.125.500.4.62H.S.398...  | 620         |
| S1.80.125.500.4.62H.C.398...  | 680         |
| S1.80.125.500.4.62H.D.398...  | 740         |
| S1.80.125.500.4.62H.H.398...  | 740         |
| S1.100.125.300.4.62M.S.314... | 600         |
| S1.100.125.300.4.62M.C.314... | 660         |
| S1.100.125.300.4.62M.D.314... | 650         |
| S1.100.125.300.4.62M.H.314... | 720         |
| S1.100.125.400.4.62M.S.345... | 600         |
| S1.100.125.400.4.62M.C.345... | 660         |
| S1.100.125.400.4.62M.D.345... | 635         |
| S1.100.125.400.4.62M.H.345... | 720         |
| S1.100.125.500.4.62M.S.367... | 620         |
| S1.100.125.500.4.62M.C.367... | 680         |
| S1.100.125.500.4.62M.D.367... | 740         |
| S1.100.125.500.4.62M.H.367... | 740         |
| S2.100.200.400.4.62L.S.285... | 640         |
| S2.100.200.400.4.62L.C.285... | 700         |
| S2.100.200.400.4.62L.H.285... | 770         |
| S2.100.200.400.4.62L.D.285... | 770         |
| S2.100.200.500.4.62L.S.290... | 660         |
| S2.100.200.500.4.62L.C.290... | 730         |
| S2.100.200.500.4.62L.H.290... | 790         |
| S2.100.200.500.4.62L.D.290... | 790         |
| S2.100.300.300.4.62E.S.253... | 760         |
| S2.100.300.300.4.62E.C.253... | 840         |
| S2.100.300.300.4.62E.D.253... | 800         |
| S2.100.300.300.4.62E.H.253... | 840         |
| S2.100.300.400.4.62E.S.281... | 760         |
| S2.100.300.400.4.62E.C.281... | 840         |
| S2.100.300.400.4.62E.D.281... | 800         |
| S2.100.300.400.4.62E.H.281... | 840         |
| S2.100.300.500.4.62E.S.289... | 780         |
| S2.100.300.500.4.62E.C.289... | 860         |
| S2.100.300.500.4.62E.D.289... | 820         |
| S2.100.300.500.4.62E.H.289... | 800         |
| S2.145.300.200.8.62E.S.388... | 820         |
| S2.145.300.200.8.62E.C.388... | 900         |
| S2.145.300.200.8.62E.D.388... | 860         |
| S2.145.300.200.8.62E.H.388... | 900         |
| S2.145.300.280.8.62E.S.421... | 820         |
| S2.145.300.280.8.62E.C.421... | 900         |

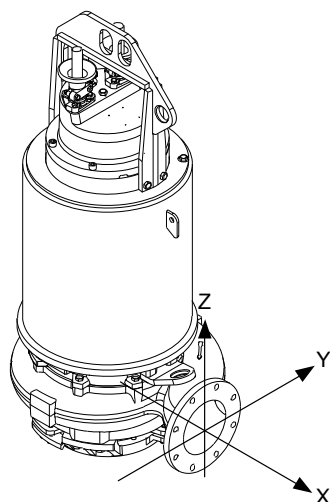
| Pump type                      | Weight [kg] |
|--------------------------------|-------------|
| S2.145.300.280.8.62E.D.421...  | 860         |
| S2.145.300.280.8.62E.H.421...  | 900         |
| S3.120.300.150.12.62F.S.449... | 820         |
| S3.120.300.150.12.62F.C.449... | 900         |
| S3.120.300.150.12.62F.D.449... | 860         |
| S3.120.300.150.12.62F.H.449... | 980         |

## 14. Flange forces

### Pump characteristics

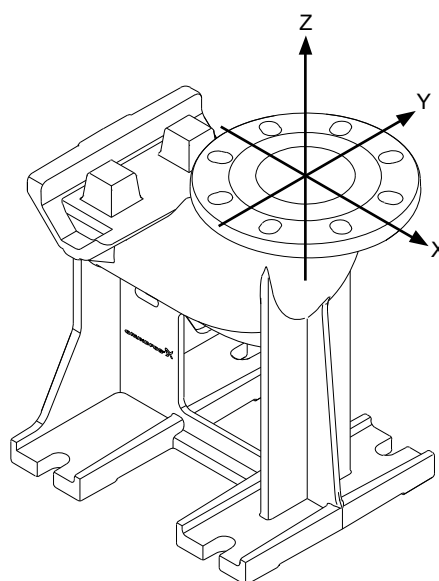


Horizontal installations



Vertical installations

TM064902



TM064901

### Base unit

The flange forces and moments are according to EN ISO 5199.

Forces can be found for both horizontal and vertical installations in Table B.3 in EN ISO 5199 by selecting the correct flange dimension. Forces cannot be used directly for end-suction wastewater pumps without using a coefficient which can be found in Table B.5 in EN ISO 5199 by selecting the correct pump family.

For Grundfos wastewater pumps, the pump families and coefficients are as stated below.

Horizontally installed pumps

Pump family A4 = Coefficient 0.35

Vertically installed pumps

Pump family 10A = Coefficient 0.30

TM064903

# 15. Grundfos Product Center

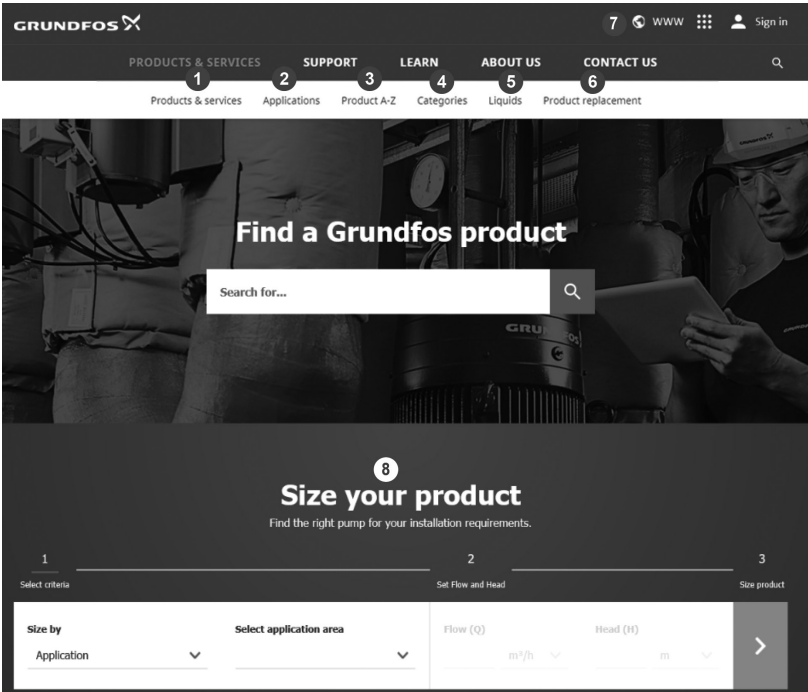
Online search and sizing tool to help you make the right choice.  
From the international view, you can select your specific country to view the product range available to you.  
International view: <https://product-selection.grundfos.com>

**All the information you need in one place**

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

**Downloads**

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc., in PDF format.



When you select your country, you will see the menus below. Note that some menus may not be available depending on the country.

Example: <https://product-selection.grundfos.com/uk>

| Pos. | Description                                                                                                                             |
|------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1    | <b>Products &amp; services</b> enables you to find products and documents by typing a product number or name into the search field.     |
| 2    | <b>Applications</b> enables you to choose an application to see how Grundfos can help you design and optimise your system.              |
| 3    | <b>Products A-Z</b> enables you to look through a list of all the Grundfos products.                                                    |
| 4    | <b>Categories</b> enables you to look for a product category.                                                                           |
| 5    | <b>Liquids</b> enables you to find pumps designed for aggressive, flammable or other special liquids.                                   |
| 6    | <b>Product replacement</b> enables you to find a suitable replacement.                                                                  |
| 7    | <b>WWW</b> enables you to select the country, which changes the language, the available product range and the structure of the website. |
| 8    | <b>Sizing</b> enables you to size a product based on your application and operating conditions.                                         |

|                 |                |
|-----------------|----------------|
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| ECM: 1395661    |                |

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