

# SE1, SEV

1.1 to 11 kW

50 Hz



be  
think  
innovate

**GRUNDFOS** 

|  |           |
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## 1. Introduction

### Introduction

This data booklet deals with Grundfos submersible wastewater and sewage pumps, types SE1 and SEV.

Two types of pumps are available:

- SE1 pumps with S-tube® impeller
- SEV pumps with SuperVortex (free-flow) impeller.



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**Fig. 1** SE1 (S-tube®) and SEV (SuperVortex) pumps



The S-tube® impeller is the only impeller available in the wastewater market that does not compromise either efficiency or free passage through the pump.

The pumps are SuperVortex or S-tube® impeller pumps specifically designed for pumping sewage and wastewater in a wide range of municipal, private and industrial applications.

The pumps are made of wear-resistant materials, such as cast iron and stainless steel. These materials ensure long and reliable operation.

The pumps are fitted with IEC IE3 premium efficiency motors from 1.1 kW up to and including 11 kW. The motors are either 2- or 4-pole motors, depending on the motor size.

The free passage (spherical) in the pumps is 50 to 100 mm, depending on the pump type. All pump housings have a cast iron, PN 10 outlet flange, size DN 65 to DN 150, according to EN 1092-2.

The pumps are available for these types of installation:

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

### Applications

Typical applications are transfer of liquids such as:

- wastewater with a high content of fibres
- drainage and surface water
- domestic wastewater
- municipal wastewater
- industrial wastewater
- process and cooling water.

The pumps are ideal for pumping the above liquids from places such as:

- municipal network pumping stations
- inlet pumping stations in wastewater treatment plants
- primary clarification pits in wastewater treatment plants
- secondary clarification pits in wastewater treatment plants
- stormwater pumping stations
- public buildings
- residential buildings
- factories and industry.

## Smartdesign



**smartdesign**

**smartdesign** describes the functional design of our products that combines elegant appearance with smart features, created with customer needs in mind.

**smartdesign** does not only look good; the design also makes installation, operation and maintenance of the product easier and more user-friendly.

The **smartdesign** features of Grundfos SE1 and SEV pumps include the following:

- cooling jacket for internal cooling of the motor which makes the pumps suitable for dry and submerged installation without the need for external cooling
- moisture-proof cable plug connection made of corrosion-resistant stainless steel with conductors embedded in polyethane sealant
- stainless steel clamp connection between motor housing and pump housing for easy service
- double mechanical cartridge shaft seal for easy service and perfect seal face alignment
- power cable incorporating wires for thermal sensors in the motor windings
- no additional cable required for sensors in pumps with sensors
- monitoring of operating conditions for pumps with sensors
- moisture detector for continuous monitoring of motor enclosure and automatic cut-out in case of leakage
- heavy-duty bearings greased for life
- built for frequency converter operation
- smooth pump surface preventing dirt and impurities from sticking to the pump
- self-cleaning S-tube<sup>®</sup> impeller with a long vane reducing the risk of jamming or clogging, or SuperVortex impeller with high pumping efficiency and less downtime
- explosion-proof motors for potentially explosive environments
- motor insulation class F (155 °C)
- enclosure class IP68 with one thermal sensor in each phase.

## 2. Performance range

### Performance overview

Figure 2 shows the performance overview of SE pumps. Figures 3 and 4 shows the performance range of SE sewage and wastewater pumps. It gives an overview of the various sizes and impeller types.

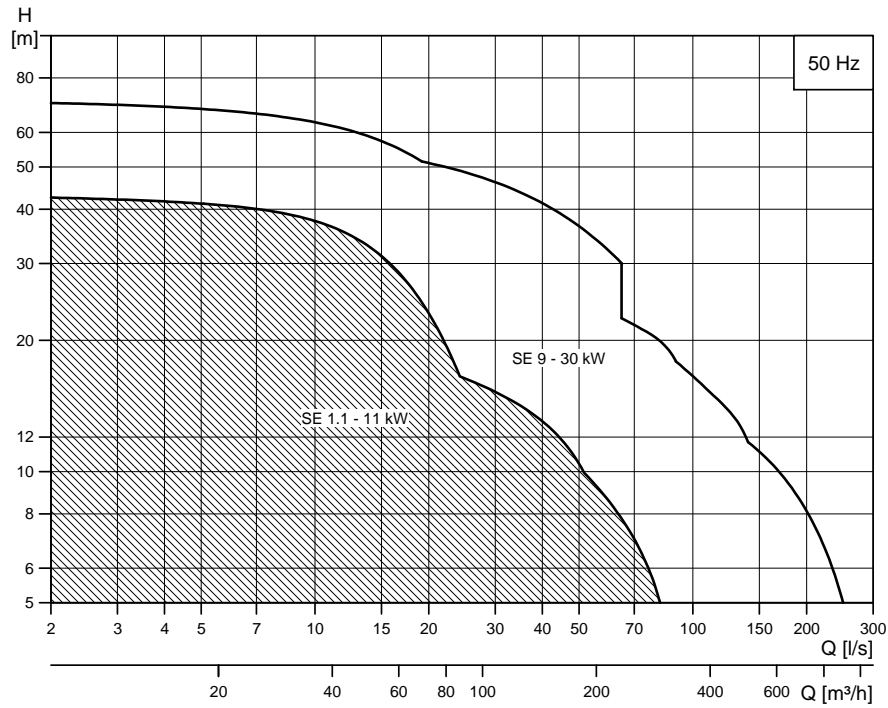


Fig. 2 Performance overview

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### Performance range

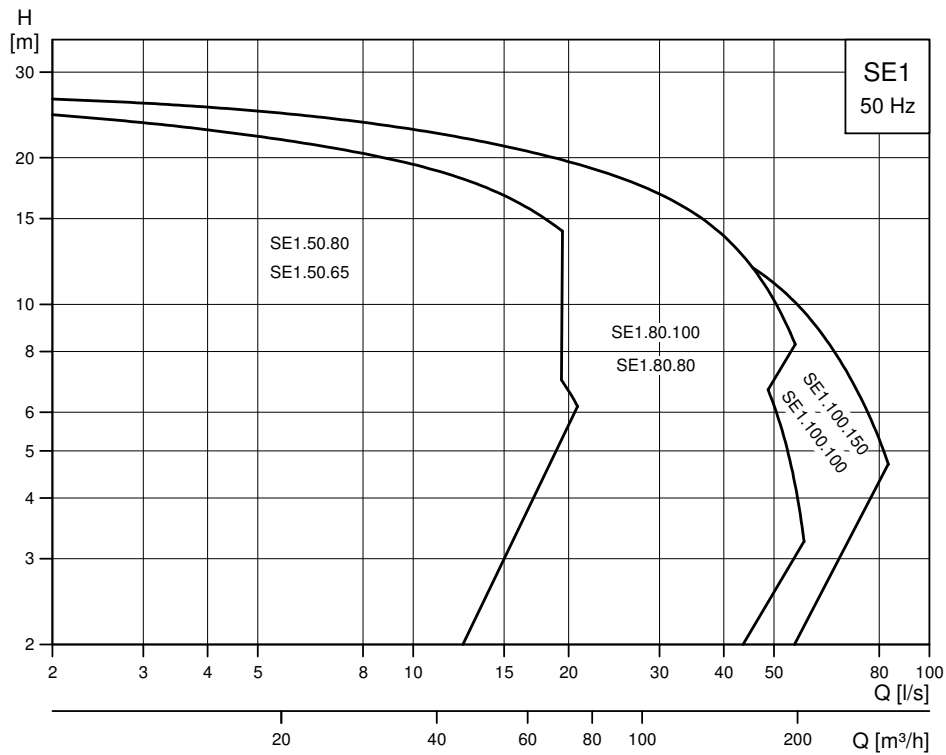
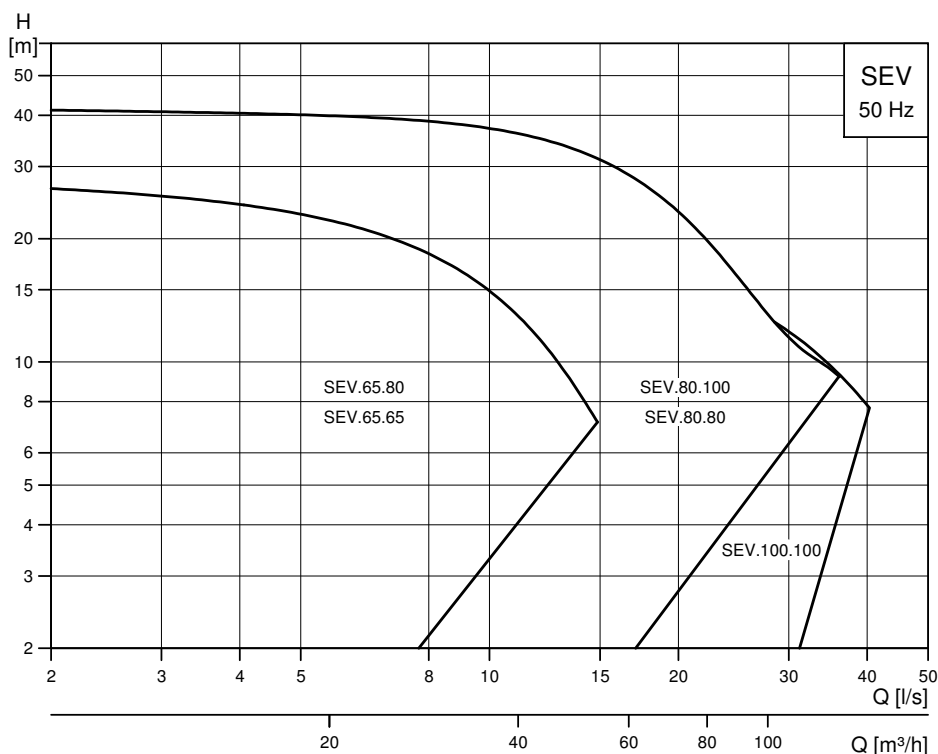


Fig. 3 Performance range of SE1 pumps

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Fig. 4 Performance range of SEV pumps

**Note:** For information about the performance range of each individual pump, see pages 38 to 91. If your required duty point exceeds the grey performance range below, please see the Grundfos SL(1/V), SE(1/V) and S range data booklets available in Grundfos Product Center.

### Performance curves and technical data

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## 3. Identification

### Type key

The pump can be identified by means of the type designation stated on the nameplate on the top cover of the pump.

Example: SE1.80.80.40.A.Ex.4.51D.B

| Code | Explanation  | Designation                 |
|------|--|-----------------------------|
| SE   | Grundfos sewage and wastewater pumps   | Pump type                   |
| 1    | S-tube® impeller   | Impeller type               |
| V    | SuperVortex impeller   |                             |
| 80   | Maximum solids size [mm]   | Pump passage                |
| 80   | Nominal diameter of pump outlet port [mm]  | Pump outlet                 |
| 40   | Output power P2/10   | Power [kW]                  |
| [ ]  | Standard, without sensor   | Sensor versions             |
| A    | Sensor version   |                             |
| [ ]  | Non-explosion proof pump, standard   | Pump version                |
| Ex   | Explosion-proof pump   |                             |
| 2    | 2-pole   | Number of poles             |
| 4    | 4-pole   |                             |
| 50   | 50 Hz  |                             |
| 0B   | 400-415 V, DOL   | Voltage and starting method |
| 0D   | 380-415 V, DOL   |                             |
| 1D   | 380-415 V, Y/D   |                             |
| 0E   | 220-240 V, DOL   |                             |
| 1E   | 220-240 V, Y/D   |                             |
| [ ]  | First generation   | Generation*                 |
| A    | Second generation  |                             |
| B    | Third generation   |                             |
| C    | Fourth generation  |                             |
| [ ]  | Cast-iron impeller, pump housing and top cover   | Pump materials              |
| Q    | Stainless steel impeller, cast-iron pump housing and top cover                                     |                             |
| R    | Entire pump of stainless steel   |                             |
| S    | Stainless steel pump housing, impeller and intermediate flange and cast-iron top cover, on request |                             |
| D    | Stainless steel  |                             |
| Z    | Custom-built products  | Customisation               |

\* The generation code distinguishes between pumps of different design, but with the same power rating.

### Nameplate

The nameplate is located on the top cover of the pump.

The extra nameplate supplied with the pump must be fixed at the installation site.

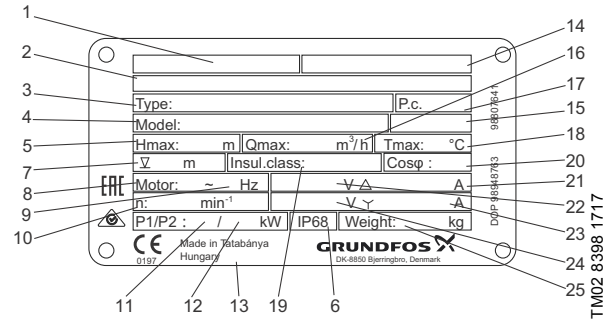


Fig. 5 Nameplate

| Pos. | Description   |
|------|---|
| 1    | Notified body and explosion protection classification                         |
| 2    | Explosion protection mark   |
| 3    | Type designation  |
| 4    | Product number and serial number  |
| 5    | Maximum head [m]  |
| 6    | Enclosure class to IEC 60529  |
| 7    | Maximum installation depth [m]  |
| 8    | Number of phases  |
| 9    | Frequency [Hz]  |
| 10   | Speed [min <sup>-1</sup> ]  |
| 11   | Motor input power P1 [kW]   |
| 12   | Motor output power P2 [kW]  |
| 13   | Country of production   |
| 14   | Explosion protection certificate number                                       |
| 15   | Standard for wastewater lifting stations for buildings and installation sites |
| 16   | Maximum flow rate [m <sup>3</sup> /h]   |
| 17   | Production code (year/week)   |
| 18   | Maximum liquid temperature [°C]   |
| 19   | Insulation class  |
| 20   | Power factor  |
| 21   | Rated current 1   |
| 22   | Rated voltage 1   |
| 23   | Rated current 2   |
| 24   | Rated voltage 2   |
| 25   | Weight without cable [kg]   |



## 4. Selection of product

### Ordering the product

When ordering a pump, take these aspects into consideration:

- pump type
- custom-built variation (optional)
- explosion-proof version
- accessories
- pump controller.

### Pump type

Use the table below to identify the pump type that best fulfils your needs. The table is for guidance only.

| Description  | SE1 | SEV |
|--|-----|-----|
| <b>Liquid and operating characteristics</b>        |     |     |
| Dry solids content up to 3 %                       | •   | •   |
| Dry solids content up to 5 %                       |     | •   |
| Relatively low content of fibres and solids        | •   | •   |
| Relatively high content of fibres and solids       |     | •   |
| Relatively low number of operating hours           | •   | •   |
| Relatively high number of operating hours          | •   |     |
| <b>Applications</b>                                |     |     |
| Stormwater   | •   | •   |
| Groundwater  | •   | •   |
| Drainage and surface water                         | •   | •   |
| Drainage and surface water with small impurities   | •   | •   |
| Abrasive surface water                             | •   | •   |
| Wastewater with long fibres e.g. from laundries    | •   | •   |
| Domestic wastewater with discharge from toilets    | •   | •   |
| Municipal sewage                                   | •   | •   |
| Sewage from commercial buildings                   | •   | •   |
| Industrial process water with fibres/solids        |     | •   |
| Industrial process water with solids               | •   | •   |
| Industrial process water without solids and fibres | •   |     |

When you have selected the pump type, use the sections *Product range* on page 10 and *Type key* on page 8 to identify the pump that best fulfils your needs. The list below is a detailed description of the product you get if you order this pump:

| Pump                      | Product No |
|---------------------------|------------|
| SE1.80.80.40.A.Ex.4.51D.B | 96177682   |

- pump as specified in the type key
- 10 m cable
- paint: NCS 9000N black (RAL 9005), gloss code 30, thickness 100 µm
- thermal switch in motor windings
- tested according to ISO 9906:2012 grade 3B.

See section *Performance curves and technical data* for selection of a standard pump.

**Note:** Product-specific data for the pump can also be seen in Grundfos Product Center, using the product number 96177682.

### Custom-built variants

The pumps can be customised to meet individual requirements. Many pump features and options are available for customisation, such as explosion-proof versions, various cable lengths and special materials. Variants can be seen in *List of variants* on page 16. For requirements or designs not included in the list, please contact Grundfos.

### Explosion-proof version

The entire range is available in explosion-proof versions.

For further information about explosion-proof pumps, see page 30.

### Accessories

Depending on installation type and pump variant, you may need to order accessories. See *Accessories* on page 92 for selection of the correct accessories.

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

### Controller

The following controllers are available:

- Dedicated Controls, DC control cabinets. See also page 31.
- LC/LCD 107 with air bells
- LC/LCD 108 with float switches
- LC/LCD 110 with electrodes.
- Grundfos Dedicated Controls.



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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 further information about Grundfos Dedicated Controls, see page 31.

## 5. Product range

### Standard pumps

#### SE1 pumps

Cast-iron impeller, pump housing and top cover

| Pump type      | Sensor |    | Number of poles | Voltage [V]     |                 |                 |                 |                 |
|----------------|--------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | Yes    | No |                 | 3 x 400-415 DOL | 3 x 380-415 DOL | 3 x 220-240 DOL | 3 x 380-415 Y/D | 3 x 220-240 Y/D |
|                |        |    |                 | [0B]            | [0D]            | [0E]            | [1D]            | [1E]            |
| SE1.50.65.22   |        | •  | 2               | 96048364        | 96047509        | 96047513        |                 |                 |
|                | •      |    | 2               | 96177735        | 96177629        | 96338698        |                 |                 |
| SE1.50.65.30   |        | •  | 2               | 96048368        | 96047517        | 96047521        |                 |                 |
|                | •      |    | 2               | 96177736        | 96177630        | 96338699        |                 |                 |
| SE1.50.65.40   |        | •  | 2               | 96048372        |                 |                 | 96047525        | 96047529        |
|                | •      |    | 2               | 96177737        |                 |                 | 96177631        | 96338700        |
| SE1.50.80.22   |        | •  | 2               | 96047399        | 96047981        | 96047985        |                 |                 |
|                | •      |    | 2               | 96177738        | 96177632        | 96338701        |                 |                 |
| SE1.50.80.30   |        | •  | 2               | 96047395        | 96047989        | 96047993        |                 |                 |
|                | •      |    | 2               | 96177739        | 96177633        | 96338702        |                 |                 |
| SE1.50.80.40   |        | •  | 2               | 96047391        |                 |                 | 96047997        | 96048001        |
|                | •      |    | 2               | 96177740        |                 |                 | 96177634        | 96338703        |
| SE1.80.80.15   |        | •  | 4               | 96048376        | 96047533        | 96047541        |                 |                 |
|                | •      |    | 4               | 96177741        | 96177635        | 96338704        |                 |                 |
| SE1.80.80.22   |        | •  | 4               | 96048384        | 96047549        | 96047557        |                 |                 |
|                | •      |    | 4               | 96177636        | 96338705        |                 |                 |                 |
| SE1.80.80.30   |        | •  | 4               | 96048392        | 96047565        | 96047581        |                 |                 |
|                | •      |    | 4               | 96177743        | 96177637        | 96338706        |                 |                 |
| SE1.80.80.40   |        | •  | 4               | 96048408        |                 |                 | 96047597        | 96047605        |
|                | •      |    | 4               | 96177744        |                 |                 | 96177638        | 96338707        |
| SE1.80.80.55   |        | •  | 4               | 96048416        |                 |                 | 96047613        | 96047621        |
|                | •      |    | 4               | 96177745        |                 |                 | 96177639        | 96338708        |
| SE1.80.80.75   |        | •  | 4               | 96048424        |                 |                 | 96047627        | 96047635        |
|                | •      |    | 4               | 96177746        |                 |                 | 96177640        | 96338709        |
| SE1.80.100.15  |        | •  | 4               | 96047387        | 96048005        | 96048013        |                 |                 |
|                | •      |    | 4               | 96177747        | 96177641        | 96338710        |                 |                 |
| SE1.80.100.22  |        | •  | 4               | 96047379        | 96048021        | 96048029        |                 |                 |
|                | •      |    | 4               | 96177748        | 96177642        | 96338711        |                 |                 |
| SE1.80.100.30  |        | •  | 4               | 96047371        | 96048037        | 96048061        |                 |                 |
|                | •      |    | 4               | 96177749        | 96177643        | 96338712        |                 |                 |
| SE1.80.100.40  |        | •  | 4               | 96047355        |                 |                 | 96048069        | 96048077        |
|                | •      |    | 4               | 96177750        |                 |                 | 96177644        | 96338713        |
| SE1.80.100.55  |        | •  | 4               | 96047347        |                 |                 | 96048085        | 96048093        |
|                | •      |    | 4               | 96177751        |                 |                 | 96177645        | 96338714        |
| SE1.80.100.75  |        | •  | 4               | 96047339        |                 |                 | 96048099        | 96048107        |
|                | •      |    | 4               | 96177752        |                 |                 | 96177646        | 96338715        |
| SE1.100.100.40 |        | •  | 4               | 96048432        |                 |                 | 96047641        | 96047649        |
|                | •      |    | 4               | 96177753        |                 |                 | 96177647        | 96338716        |
| SE1.100.100.55 |        | •  | 4               | 96048440        |                 |                 | 96047657        | 96047665        |
|                | •      |    | 4               | 96177754        |                 |                 | 96177648        | 96338717        |
| SE1.100.100.75 |        | •  | 4               | 96048448        |                 |                 | 96047671        | 96047679        |
|                | •      |    | 4               | 96177755        |                 |                 | 96177649        | 96338718        |
| SE1.100.150.40 |        | •  | 4               | 96047331        |                 |                 | 96048113        | 96048121        |
|                | •      |    | 4               | 96177756        |                 |                 | 96177650        | 96338719        |
| SE1.100.150.55 |        | •  | 4               | 96047323        |                 |                 | 96048129        | 96048137        |
|                | •      |    | 4               | 96177757        |                 |                 | 96177651        | 96782341        |
| SE1.100.150.75 |        | •  | 4               | 96047315        |                 |                 | 96048143        | 96048151        |
|                | •      |    | 4               | 96177758        |                 |                 | 96177652        | 96338721        |

## SEV

## Pump with cast-iron impeller, pump housing and top cover

| Pump type      | Sensor |    | Number of poles | Voltage [V]     |                 |                 |                 |                 |
|----------------|--------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                |        |    |                 | 3 x 400-415 DOL | 3 x 380-415 DOL | 3 x 220-240 DOL | 3 x 380-415 Y/D | 3 x 220-240 Y/D |
|                | Yes    | No |                 | [0B]            | [0D]            | [0E]            | [1D]            | [1E]            |
| SEV.65.65.22   |        | •  | 2               | 96048462        | 96047697        | 96047705        |                 |                 |
|                | •      |    | 2               | 96177759        | 96177653        | 96338746        |                 |                 |
| SEV.65.65.30   |        | •  | 2               | 96048470        | 96047713        | 96047721        |                 |                 |
|                | •      |    | 2               | 96177760        | 96177654        | 96338747        |                 |                 |
| SEV.65.65.40   |        | •  | 2               | 96048478        |                 |                 | 96047729        | 96047737        |
|                | •      |    | 2               |                 |                 |                 | 96177655        | 96338748        |
|                |        | •  | 2               | 96177761        |                 |                 | 96177655        | 96338748        |
| SEV.65.80.22   |        | •  | 2               | 96047301        | 96048169        | 96048177        |                 |                 |
|                | •      |    | 2               | 96177762        | 96177656        | 96338749        |                 |                 |
| SEV.65.80.30   |        | •  | 2               | 96047293        | 96048185        | 96048193        |                 |                 |
|                | •      |    | 2               | 96177763        | 96177657        | 96338750        |                 |                 |
| SEV.65.80.40   |        | •  | 2               | 96047285        |                 |                 | 96048201        | 96048209        |
|                | •      |    | 2               | 96177764        |                 |                 | 96177658        | 96338751        |
| SEV.80.80.11   |        | •  | 4               | 96048486        | 96047745        | 96047751        |                 |                 |
|                | •      |    | 4               | 96177765        | 96177659        | 96338752        |                 |                 |
| SEV.80.80.13   |        | •  | 4               | 96048492        | 96047757        | 96047763        |                 |                 |
|                | •      |    | 4               | 96177766        | 96177660        | 96338753        |                 |                 |
| SEV.80.80.15   |        | •  | 4               | 96048498        | 96047769        | 96047775        |                 |                 |
|                | •      |    | 4               | 96177767        | 96177661        | 96338754        |                 |                 |
| SEV.80.80.22   |        | •  | 4               | 96047497        | 96047781        | 96047789        |                 |                 |
|                | •      |    | 4               | 96177768        | 96177662        | 96338755        |                 |                 |
|                |        | •  | 2               | 96047473        |                 |                 | 96047829        | 96047837        |
| SEV.80.80.40   |        | •  | 4               | 96047489        |                 |                 | 96047797        | 96047813        |
|                | •      |    | 2               | 96177770        |                 |                 | 96177664        | 96338757        |
|                |        | •  | 4               | 96177769        |                 |                 | 96177663        | 96338756        |
| SEV.80.80.60   |        | •  | 2               | 96047465        |                 |                 | 96047845        | 96047853        |
|                | •      |    | 2               | 96177771        |                 |                 | 96177665        | 96338758        |
| SEV.80.80.75   |        | •  | 2               | 96047457        |                 |                 | 96047861        | 96047869        |
|                | •      |    | 2               | 96177772        |                 |                 | 96177666        | 96338759        |
| SEV.80.80.92   |        | •  | 2               | 96047201        |                 |                 | 96047207        | 96047195        |
|                | •      |    | 2               | 96177773        |                 |                 | 96177667        | 96338760        |
| SEV.80.80.110  |        | •  | 2               | 96047449        |                 |                 | 96047877        | 96047885        |
|                | •      |    | 2               | 96177774        |                 |                 | 96177668        | 96338761        |
| SEV.80.100.11  |        | •  | 4               | 96780761        | 96780674        | 96780675        |                 |                 |
|                | •      |    | 4               | 96780774        | 96780694        | 96780695        |                 |                 |
| SEV.80.100.13  |        | •  | 4               | 96780762        | 96780676        | 96780677        |                 |                 |
|                | •      |    | 4               | 96780775        | 96780696        | 96780697        |                 |                 |
| SEV.80.100.15  |        | •  | 4               | 96780763        | 96780678        | 96780679        |                 |                 |
|                | •      |    | 4               | 96780776        | 96780698        | 96780699        |                 |                 |
| SEV.80.100.22  |        | •  | 4               | 96780760        | 96780680        | 96780681        |                 |                 |
|                | •      |    | 4               | 96780777        | 96780700        | 96780701        |                 |                 |
|                |        | •  | 2               | 96780758        |                 |                 | 96780684        | 96780685        |
| SEV.80.100.40  |        | •  | 4               | 96780759        |                 |                 | 96780682        | 96780683        |
|                | •      |    | 2               | 96780779        |                 |                 | 96780704        | 96780705        |
|                |        | •  | 4               | 96780778        |                 |                 | 96780702        | 96780703        |
| SEV.80.100.60  |        | •  | 2               | 96780757        |                 |                 | 96780686        | 96780687        |
|                | •      |    | 2               | 96780780        |                 |                 | 96780706        | 96780707        |
| SEV.80.100.75  |        | •  | 2               | 96780756        |                 |                 | 96780688        | 96780689        |
|                | •      |    | 2               | 96780781        |                 |                 | 96780708        | 96780709        |
| SEV.80.100.92  |        | •  | 2               | 96780754        |                 |                 | 96780690        | 96780691        |
|                | •      |    | 2               | 96780782        |                 |                 | 96780710        | 96780711        |
| SEV.80.100.110 |        | •  | 2               | 96780755        |                 |                 | 96780692        | 96780693        |
|                | •      |    | 2               | 96780783        |                 |                 | 96780712        | 96780713        |
| SEV.100.100.30 |        | •  | 4               | 96047443        | 96047893        | 96047909        |                 |                 |
|                | •      |    | 4               | 96177775        | 96177669        | 96338762        |                 |                 |
| SEV.100.100.40 |        | •  | 4               | 96047427        |                 |                 | 96047925        | 96047933        |
|                | •      |    | 4               | 96177776        |                 |                 | 96177670        | 96338763        |
| SEV.100.100.55 |        | •  | 4               | 96047419        |                 |                 | 96047941        | 96047949        |
|                | •      |    | 4               | 96177777        |                 |                 | 96177671        | 96338764        |
| SEV.100.100.75 |        | •  | 4               | 96047411        |                 |                 | 96047957        | 96047965        |
|                | •      |    | 4               | 96177778        |                 |                 | 96177672        | 96338765        |

**Note:** The range is also available with trimmed impeller to meet a specific duty point. Contact Grundfos for more information.

## Entire pump of stainless steel

| Pump type      | Sensor |    | Number of poles | Voltage [V]     |                 |                 |                 |                 |
|----------------|--------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | Yes    | No |                 | 3 x 400-415 DOL | 3 x 380-415 DOL | 3 x 220-240 DOL | 3 x 380-415 Y/D | 3 x 220-240 Y/D |
|                |        |    |                 | [0B]            | [0D]            | [0E]            | [1D]            | [1E]            |
| SEV.65.65.22*  | •      | •  | 2               | 96962858        | 98489849        | 98489861        |                 |                 |
|                | •      |    | 2               | 96966549        | 98489871        | 98489873        |                 |                 |
| SEV.65.65.30*  | •      | •  | 2               | 96962859        | 98489850        | 98489862        |                 |                 |
|                | •      |    | 2               | 96966550        | 98489872        | 98489874        |                 |                 |
| SEV.65.65.40*  | •      | •  | 2               | 96962860        |                 |                 | 98489863        | 98489864        |
|                | •      |    | 2               | 96966551        |                 |                 | 98489875        | 98489876        |
| SEV.65.80.22*  | •      | •  | 2               | 96962867        | 98489865        | 98489867        |                 |                 |
|                | •      |    | 2               | 96966642        | 98489877        | 98489879        |                 |                 |
| SEV.65.80.30*  | •      | •  | 2               | 96962868        | 98489866        | 98489868        |                 |                 |
|                | •      |    | 2               | 96966643        | 98489878        | 98489880        |                 |                 |
| SEV.65.80.40*  | •      | •  | 2               | 96962869        |                 |                 | 98489869        | 98489870        |
|                | •      |    | 2               | 96966644        |                 |                 | 98489881        | 98489882        |
| SEV.80.80.11   | •      | •  | 4               | 96962883        | 96889323        | 97679507        |                 |                 |
|                | •      |    | 4               | 96966646        | 96962192        | 97683044        |                 |                 |
| SEV.80.80.13   | •      | •  | 4               | 96962885        | 96889324        | 97679508        |                 |                 |
|                | •      |    | 4               | 96966648        | 96962193        | 97683045        |                 |                 |
| SEV.80.80.15   | •      | •  | 4               | 96962886        | 96889325        | 97679509        |                 |                 |
|                | •      |    | 4               | 96966649        | 96962194        | 97683046        |                 |                 |
| SEV.80.80.22   | •      | •  | 4               | 96962887        | 96889326        | 97679510        |                 |                 |
|                | •      |    | 4               | 96966650        | 96962195        | 97683047        |                 |                 |
| SEV.80.80.40   | •      | •  | 2               | 96962888        |                 |                 | 96889328        | 97679512        |
|                | •      |    | 4               | 96962889        |                 |                 | 96889327        | 97679511        |
|                | •      |    | 2               | 96966651        |                 |                 | 96962197        | 97683049        |
|                | •      |    | 4               | 96966652        |                 |                 | 96962196        | 97683048        |
| SEV.80.80.60   | •      | •  | 2               | 96962890        |                 |                 | 96889329        | 97679513        |
|                | •      |    | 2               | 96966653        |                 |                 | 96962198        | 97683050        |
| SEV.80.80.75   | •      | •  | 2               | 96980890        |                 |                 | 96889330        | 97679514        |
|                | •      |    | 2               | 96966654        |                 |                 | 96962199        | 97683051        |
| SEV.80.80.92   | •      | •  | 2               | 96962891        |                 |                 | 96889331        | 97679515        |
|                | •      |    | 2               | 96966655        |                 |                 | 96962200        | 97683052        |
| SEV.80.80.110  | •      | •  | 2               | 96962892        |                 |                 | 96889332        | 97679516        |
|                | •      |    | 2               | 96966656        |                 |                 | 96962201        | 97683053        |
| SEV.80.100.11  | •      | •  | 4               | 96962934        | 96889333        | 97679517        |                 |                 |
|                | •      |    | 4               | 96966658        | 96970539        | 97683054        |                 |                 |
| SEV.80.100.13  | •      | •  | 4               | 96962935        | 96889334        | 97679518        |                 |                 |
|                | •      |    | 4               | 96966660        | 96970540        | 97683055        |                 |                 |
| SEV.80.100.15  | •      | •  | 4               | 96962936        | 96889335        | 97679519        |                 |                 |
|                | •      |    | 4               | 96966661        | 96970541        | 97683056        |                 |                 |
| SEV.80.100.22  | •      | •  | 4               | 96980821        | 96889336        | 97679520        |                 |                 |
|                | •      |    | 4               | 96966662        | 96970582        | 97683057        |                 |                 |
| SEV.80.100.40  | •      | •  | 2               | 96962937        |                 |                 | 96889338        | 97679522        |
|                | •      |    | 4               | 96962938        |                 |                 | 96889337        | 97679521        |
|                | •      |    | 2               | 96966663        |                 |                 | 96970584        | 97683059        |
|                | •      |    | 4               | 96966664        |                 |                 | 96970583        | 97683058        |
| SEV.80.100.60  | •      | •  | 2               | 96962939        |                 |                 | 96889339        | 97679523        |
|                | •      |    | 2               | 96966665        |                 |                 | 96970585        | 97683060        |
| SEV.80.100.75  | •      | •  | 2               | 96962940        |                 |                 | 96889340        | 97679524        |
|                | •      |    | 2               | 96966666        |                 |                 | 96970586        | 97683061        |
| SEV.80.100.92  | •      | •  | 2               | 96962941        |                 |                 | 96889341        | 97679525        |
|                | •      |    | 2               | 96966667        |                 |                 | 96970587        | 97683062        |
| SEV.80.100.110 | •      | •  | 2               | 96962942        |                 |                 | 96889342        | 97679526        |
|                | •      |    | 2               | 96966659        |                 |                 | 96970588        | 97683063        |
| SEV.100.100.30 | •      | •  | 4               | 96965899        | 96889343        | 97679527        |                 |                 |
|                | •      |    | 4               | 96966668        | 96962223        | 97683064        |                 |                 |
| SEV.100.100.40 | •      | •  | 4               | 96965900        |                 |                 | 96889344        | 97679528        |
|                | •      |    | 4               | 96966669        |                 |                 | 96962224        | 97683065        |
| SEV.100.100.55 | •      | •  | 4               | 96965901        |                 |                 | 96889345        | 97679529        |
|                | •      |    | 4               | 96966670        |                 |                 | 96962225        | 97683066        |
| SEV.100.100.75 | •      | •  | 4               | 96965932        |                 |                 | 96889346        | 97679530        |
|                | •      |    | 4               | 96966671        |                 |                 | 96962226        | 97683067        |

**Note:** The range is also available with trimmed impeller to meet a specific duty point. Contact Grundfos for more information.

## Stainless steel impeller, cast-iron pump housing and top cover

| Pump type      | Sensor |    | Number of poles | Voltage [V]     |                 |                 |                 |                 |
|----------------|--------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | Yes    | No |                 | 3 x 400-415 DOL | 3 x 380-415 DOL | 3 x 220-240 DOL | 3 x 380-415 Y/D | 3 x 220-240 Y/D |
|                |        |    |                 | [0B]            | [0D]            | [0E]            | [1D]            | [1E]            |
| SEV.65.65.22   | •      | •  | 2               | 98451161        | 98450865        | 98450867        |                 |                 |
|                | •      |    | 2               | 98451178        | 98450897        | 98450899        |                 |                 |
| SEV.65.65.30   | •      | •  | 2               | 98451162        | 98450866        | 98450868        |                 |                 |
|                | •      |    | 2               | 98451179        | 98450898        | 98450900        |                 |                 |
| SEV.65.65.40   | •      | •  | 2               | 98451163        |                 |                 | 98450869        | 98450870        |
|                | •      |    | 2               | 98451180        |                 |                 | 98450931        | 98450932        |
| SEV.65.80.22   | •      | •  | 2               | 98451164        | 98450871        | 98450873        |                 |                 |
|                | •      |    | 2               | 98451181        | 98450933        | 98450935        |                 |                 |
| SEV.65.80.30   | •      | •  | 2               | 98451165        | 98450872        | 98450874        |                 |                 |
|                | •      |    | 2               | 98451182        | 98450934        | 98450936        |                 |                 |
| SEV.65.80.40   | •      | •  | 2               | 98451166        |                 |                 | 98450875        | 98450876        |
|                | •      |    | 2               | 98451183        |                 |                 | 98450937        | 98450938        |
| SEV.80.80.11   | •      | •  | 4               | 97638245        | 97637756        | 97679037        |                 |                 |
|                | •      |    | 4               | 97638154        | 97638036        | 97679100        |                 |                 |
| SEV.80.80.13   | •      | •  | 4               | 97638246        | 97637757        | 97679038        |                 |                 |
|                | •      |    | 4               | 97638155        | 97638037        | 97679101        |                 |                 |
| SEV.80.80.15   | •      | •  | 4               | 97638247        | 97637758        | 97679039        |                 |                 |
|                | •      |    | 4               | 97638156        | 97638038        | 97679102        |                 |                 |
| SEV.80.80.22   | •      | •  | 4               | 97638248        | 97637759        | 97679040        |                 |                 |
|                | •      |    | 4               | 97638157        | 97638039        | 97679103        |                 |                 |
|                | •      | •  | 2               | 97638250        |                 |                 | 97637761        | 97679042        |
|                | •      |    | 4               | 97638249        |                 |                 | 97637760        | 97679041        |
| SEV.80.80.40   | •      | •  | 2               | 97638159        |                 |                 | 97638051        | 97679105        |
|                | •      |    | 4               | 97638158        |                 |                 | 97638040        | 97679104        |
| SEV.80.80.60   | •      | •  | 2               | 97638251        |                 |                 | 97637762        | 97679043        |
|                | •      |    | 2               | 97638160        |                 |                 | 97638052        | 97679106        |
| SEV.80.80.75   | •      | •  | 2               | 97638252        |                 |                 | 97637763        | 97679044        |
|                | •      |    | 2               | 97638161        |                 |                 | 97638053        | 97679107        |
| SEV.80.80.92   | •      | •  | 2               | 97638253        |                 |                 | 97637764        | 97679045        |
|                | •      |    | 2               | 97638162        |                 |                 | 97638054        | 97679108        |
| SEV.80.80.110  | •      | •  | 2               | 97638254        |                 |                 | 97637765        | 97679046        |
|                | •      |    | 2               | 97638163        |                 |                 | 97638055        | 97679109        |
| SEV.80.100.11  | •      | •  | 4               | 97638255        | 97637766        | 97679047        |                 |                 |
|                | •      |    | 4               | 97638164        | 97638056        | 97679110        |                 |                 |
| SEV.80.100.13  | •      | •  | 4               | 97638256        | 97637767        | 97679048        |                 |                 |
|                | •      |    | 4               | 97638165        | 97638057        | 97679111        |                 |                 |
| SEV.80.100.15  | •      | •  | 4               | 97638257        | 97637768        | 97679049        |                 |                 |
|                | •      |    | 4               | 97638166        | 97638058        | 97679112        |                 |                 |
| SEV.80.100.22  | •      | •  | 4               | 97638258        | 97637769        | 97679050        |                 |                 |
|                | •      |    | 4               | 97638167        | 97638059        | 97679113        |                 |                 |
|                | •      | •  | 2               | 97638260        |                 |                 | 97637771        | 97679052        |
| SEV.80.100.40  | •      | •  | 4               | 97638259        |                 |                 | 97637770        | 97679051        |
|                | •      |    | 2               | 97638169        |                 |                 | 97638061        | 97679115        |
|                | •      |    | 4               | 97638168        |                 |                 | 97638060        | 97679114        |
| SEV.80.100.60  | •      | •  | 2               | 97638261        |                 |                 | 97637772        | 97679053        |
|                | •      |    | 2               | 97638170        |                 |                 | 97638062        | 97679116        |
| SEV.80.100.75  | •      | •  | 2               | 97638262        |                 |                 | 97637773        | 97679054        |
|                | •      |    | 2               | 97638171        |                 |                 | 97638063        | 97679117        |
| SEV.80.100.92  | •      | •  | 2               | 97638263        |                 |                 | 97637774        | 97679055        |
|                | •      |    | 2               | 97638172        |                 |                 | 97638064        | 97679118        |
| SEV.80.100.110 | •      | •  | 2               | 97638264        |                 |                 | 97637775        | 97679056        |
|                | •      |    | 2               | 97638173        |                 |                 | 97638065        | 97679119        |
| SEV.100.100.30 | •      | •  | 4               | 97638265        | 97637776        | 97679057        |                 |                 |
|                | •      |    | 4               | 97638174        | 97638066        | 97679120        |                 |                 |
| SEV.100.100.40 | •      | •  | 4               | 97638266        |                 |                 | 97637777        | 97679058        |
|                | •      |    | 4               | 97638175        |                 |                 | 97638067        | 97679121        |
| SEV.100.100.55 | •      | •  | 4               | 97638267        |                 |                 | 97637778        | 97679059        |
|                | •      |    | 4               | 97638176        |                 |                 | 97638068        | 97679122        |
| SEV.100.100.75 | •      | •  | 4               | 97638268        |                 |                 | 97637779        | 97679060        |
|                | •      |    | 4               | 97638177        |                 |                 | 97638069        | 97679123        |

**Note:** The above range is also available with trimmed impeller to meet a specific duty point. Contact Grundfos for more information.

## Explosion-proof pumps

## SE1

## Cast-iron impeller, pump housing and top cover

| Pump type      | Sensor |    | Number of poles | Voltage [V]     |                 |                 |                 |                 |
|----------------|--------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | Yes    | No |                 | 3 x 400-415 DOL | 3 x 380-415 DOL | 3 x 220-240 DOL | 3 x 380-415 Y/D | 3 x 220-240 Y/D |
|                |        |    |                 | [0B]            | [0D]            | [0E]            | [1D]            | [1E]            |
| SE1.50.65.22   | •      | •  | 2               | 96102066        | 96047511        | 96047515        |                 |                 |
|                | •      |    | 2               |                 | 96177673        | 96338722        |                 |                 |
| SE1.50.65.30   | •      | •  | 2               | 96102068        | 96047519        | 96047523        |                 |                 |
|                |        |    | 2               |                 | 96177674        | 96338723        |                 |                 |
| SE1.50.65.40   | •      | •  | 2               | 96102071        |                 |                 | 96047527        | 96047531        |
|                | •      |    | 2               |                 |                 |                 | 96177675        | 96338724        |
| SE1.50.80.22   | •      | •  | 2               | 96102073        | 96047983        | 96047987        |                 |                 |
|                | •      |    | 2               |                 | 96177676        | 96338725        |                 |                 |
| SE1.50.80.30   | •      | •  | 2               | 96102075        | 96047991        | 96047995        |                 |                 |
|                | •      |    | 2               |                 | 96177677        | 96338726        |                 |                 |
| SE1.50.80.40   | •      | •  | 2               | 96102078        |                 |                 | 96047999        | 96048003        |
|                | •      |    | 2               |                 |                 |                 | 96177678        | 96338727        |
| SE1.80.80.15   | •      | •  | 4               | 96102080        | 96047537        | 96047545        |                 |                 |
|                | •      |    | 4               |                 | 96177679        | 96338728        |                 |                 |
| SE1.80.80.22   | •      | •  | 4               | 96102081        | 96047553        | 96047561        |                 |                 |
|                | •      |    | 4               |                 | 96177680        | 96338729        |                 |                 |
| SE1.80.80.30   | •      | •  | 4               | 96102082        | 96047569        | 96047593        |                 |                 |
|                | •      |    | 4               |                 | 96177681        | 96338730        |                 |                 |
| SE1.80.80.40   | •      | •  | 4               | 96102084        |                 |                 | 96047601        | 96047609        |
|                | •      |    | 4               |                 |                 |                 | 96177682        | 96338731        |
| SE1.80.80.55   | •      | •  | 4               | 96102087        |                 |                 | 96047617        | 96047624        |
|                | •      |    | 4               |                 |                 |                 | 96177683        | 96338732        |
| SE1.80.80.75   | •      | •  | 4               | 96102090        |                 |                 | 96047631        | 96047638        |
|                | •      |    | 4               |                 |                 |                 | 96177684        | 96338733        |
| SE1.80.100.15  | •      | •  | 4               | 96102092        | 96048009        | 96048017        |                 |                 |
|                | •      |    | 4               |                 | 96177685        | 96338734        |                 |                 |
| SE1.80.100.22  | •      | •  | 4               | 96102093        | 96048025        | 96048033        |                 |                 |
|                | •      |    | 4               |                 | 96177686        | 96338735        |                 |                 |
| SE1.80.100.30  | •      | •  | 4               | 96102094        | 96048041        | 96048057        |                 |                 |
|                | •      |    | 4               |                 | 96177687        | 96338736        |                 |                 |
| SE1.80.100.40  | •      | •  | 4               | 96102096        |                 |                 | 96048073        | 96048081        |
|                | •      |    | 4               |                 |                 |                 | 96177688        | 96338737        |
| SE1.80.100.55  | •      | •  | 4               | 96102099        |                 |                 | 96048089        | 96048096        |
|                | •      |    | 4               |                 |                 |                 | 96177689        | 96338738        |
| SE1.80.100.75  | •      | •  | 4               | 96102102        |                 |                 | 96048103        | 96048110        |
|                | •      |    | 4               |                 |                 |                 | 96177690        | 96338739        |
| SE1.100.100.40 | •      | •  | 4               | 96102105        |                 |                 | 96047645        | 96047653        |
|                | •      |    | 4               |                 |                 |                 | 96177691        | 96338740        |
| SE1.100.100.55 | •      | •  | 4               | 96102108        |                 |                 | 96047661        | 96047668        |
|                | •      |    | 4               |                 |                 |                 | 96177692        | 96338741        |
| SE1.100.100.75 | •      | •  | 4               | 96102111        |                 |                 | 96047675        | 96047682        |
|                | •      |    | 4               |                 |                 |                 | 96177693        | 96338742        |
| SE1.100.150.40 | •      | •  | 4               | 96102114        |                 |                 | 96048117        | 96048125        |
|                | •      |    | 4               |                 |                 |                 | 96177694        | 96338743        |
| SE1.100.150.55 | •      | •  | 4               | 96102117        |                 |                 | 96048133        | 96048140        |
|                | •      |    | 4               |                 |                 |                 | 96177695        | 96338744        |
| SE1.100.150.75 | •      | •  | 4               | 96102120        |                 |                 | 96048147        | 96048154        |
|                | •      |    | 4               |                 |                 |                 | 96177696        | 96338745        |

## SEV

## Cast-iron impeller, pumps housing and top cover

| Pump type      | Sensor |    | Number of poles | Voltage [V]     |                 |                 |                 |                 |
|----------------|--------|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                | Yes    | No |                 | 3 x 400-415 DOL | 3 x 380-415 DOL | 3 x 220-240 DOL | 3 x 380-415 Y/D | 3 x 220-240 Y/D |
|                |        |    |                 | [0B]            | [0D]            | [0E]            | [1D]            | [1E]            |
| SEV.65.65.22   |        | •  | 2               | 96102122        | 96047701        | 96047709        |                 |                 |
|                | •      |    | 2               |                 | 96177697        | 96338766        |                 |                 |
| SEV.65.65.30   |        | •  | 2               | 96102123        | 96047717        | 96047725        |                 |                 |
|                | •      |    | 2               |                 | 96177698        | 96338767        |                 |                 |
| SEV.65.65.40   |        | •  | 2               | 96102125        |                 |                 | 96047733        | 96047741        |
|                | •      |    | 2               |                 |                 |                 | 96177699        | 96338768        |
| SEV.65.80.22   |        | •  | 2               | 96102127        | 96048173        | 96048181        |                 |                 |
|                | •      |    | 2               |                 | 96177700        | 96338769        |                 |                 |
| SEV.65.80.30   |        | •  | 2               | 96102128        | 96048189        | 96048197        |                 |                 |
|                | •      |    | 2               |                 | 96177701        | 96338770        |                 |                 |
| SEV.65.80.40   |        | •  | 2               | 96102130        |                 |                 | 96048205        | 96048213        |
|                | •      |    | 2               |                 |                 |                 | 96177702        | 96338771        |
| SEV.80.80.11   |        | •  | 4               | 96102132        | 96047748        | 96047754        |                 |                 |
|                | •      |    | 4               |                 | 96177703        | 96338772        |                 |                 |
| SEV.80.80.13   |        | •  | 4               | 96102133        | 96047760        | 96047766        |                 |                 |
|                | •      |    | 4               |                 | 96177704        | 96338773        |                 |                 |
| SEV.80.80.15   |        | •  | 4               | 96102134        | 96047772        | 96047778        |                 |                 |
|                | •      |    | 4               |                 | 96177705        | 96338774        |                 |                 |
| SEV.80.80.22   |        | •  | 4               | 96102135        | 96047785        | 96047793        |                 |                 |
|                | •      |    | 4               |                 | 96177706        | 96338775        |                 |                 |
|                |        | •  | 2               | 96102138        |                 |                 | 96047833        | 96047841        |
|                |        | •  | 4               | 96102136        |                 |                 | 96047801        | 96047817        |
| SEV.80.80.40   |        | •  | 2               |                 |                 |                 | 96177708        | 96338777        |
|                | •      |    | 4               |                 |                 |                 | 96177707        | 96338776        |
| SEV.80.80.60   |        | •  | 2               | 96102141        |                 |                 | 96047849        | 96047857        |
|                | •      |    | 2               |                 |                 |                 | 96177709        | 96338778        |
| SEV.80.80.75   |        | •  | 2               | 96102144        |                 |                 | 96047865        | 96047873        |
|                | •      |    | 2               |                 |                 |                 | 96177710        | 96338779        |
| SEV.80.80.92   |        | •  | 2               | 96102147        |                 |                 | 96047204        | 96047192        |
|                | •      |    | 2               |                 |                 |                 | 96177711        | 96338780        |
| SEV.80.80.110  |        | •  | 2               | 96102150        |                 |                 | 96047881        | 96047889        |
|                | •      |    | 2               |                 |                 |                 | 96177712        | 96338781        |
| SEV.80.100.11  |        | •  | 4               | 96780764        | 96780714        | 96780715        |                 |                 |
|                | •      |    | 4               |                 | 96780734        | 96780735        |                 |                 |
| SEV.80.100.13  |        | •  | 4               | 96780765        | 96780716        | 96780717        |                 |                 |
|                | •      |    | 4               |                 | 96780736        | 96780737        |                 |                 |
| SEV.80.100.15  |        | •  | 4               | 96780766        | 96780718        | 96780719        |                 |                 |
|                | •      |    | 4               |                 | 96780738        | 96780739        |                 |                 |
| SEV.80.100.22  |        | •  | 4               | 96780767        | 96780720        | 96780721        |                 |                 |
|                | •      |    | 4               |                 | 96780740        | 96780741        |                 |                 |
|                |        | •  | 2               | 96780769        |                 |                 | 96780724        | 96780725        |
|                |        | •  | 4               | 96780768        |                 |                 | 96780722        | 96780723        |
| SEV.80.100.40  |        | •  | 2               |                 |                 |                 | 96780744        | 96780745        |
|                | •      |    | 4               |                 |                 |                 | 96780742        | 96780743        |
| SEV.80.100.60  |        | •  | 2               | 96780770        |                 |                 | 96780726        | 96780727        |
|                | •      |    | 2               |                 |                 |                 | 96780746        | 96780747        |
| SEV.80.100.75  |        | •  | 2               | 96780771        |                 |                 | 96780728        | 96780729        |
|                | •      |    | 2               |                 |                 |                 | 96780748        | 96780749        |
| SEV.80.100.92  |        | •  | 2               | 97685006        |                 |                 | 96780730        | 96780731        |
|                | •      |    | 2               |                 |                 |                 | 96780750        | 96047173        |
| SEV.80.100.110 |        | •  | 2               | 97685021        |                 |                 | 96780732        | 96780733        |
|                | •      |    | 2               |                 |                 |                 | 96780752        | 96780753        |
| SEV.100.100.30 |        | •  | 4               | 96102152        | 96047897        | 96047913        |                 |                 |
|                | •      |    | 4               |                 | 96177713        | 96338782        |                 |                 |
| SEV.100.100.40 |        | •  | 4               | 96102154        |                 |                 | 96047929        | 96047937        |
|                | •      |    | 4               |                 |                 |                 | 96177714        | 96338783        |
| SEV.100.100.55 |        | •  | 4               | 96102157        |                 |                 | 96047945        | 96047953        |
|                | •      |    | 4               |                 |                 |                 | 96177715        | 96338784        |
| SEV.100.100.75 |        | •  | 4               | 96102160        |                 |                 | 96047961        | 96047969        |
|                | •      |    | 4               |                 |                 |                 | 96177716        | 96338785        |

**Note:** The range is also available with trimmed impeller to meet a specific duty point. Contact Grundfos for more information.

**Note:** The range is also available in stainless steel variants, combined with Ex version with sensors. Contact Grundfos for more information.

## 6. Variants

### List of variants

#### Motor

|                       |   |      |
|-----------------------|---|------|
| Various cable lengths | <b>Note:</b> When you use a cable length different from the standard length, calculate a new cable cross section. | 15 m |
|                       |   | 20 m |
|                       |   | 25 m |
|                       |   | 30 m |
|                       |   | 40 m |
|                       |   | 50 m |
| EMC power cables      | Screened power cables designed for frequency converter operation.   | 10 m |
|                       |   | 15 m |
|                       |   | 20 m |
|                       |   | 25 m |
|                       |   | 30 m |
|                       |   | 40 m |
|                       |   | 50 m |

#### Tests

**Note:** Specify all requests regarding test when you order the pump.

Test at specified duty on standard impeller curve

Trimmed impeller for specified duty test\*

Additional test of entire QH curve (including report) 5-10 duty points from the pump performance curve.

|                         |                                    |                                  |
|-------------------------|------------------------------------|----------------------------------|
| Different test standard | Efficiency guaranteed by Grundfos. | ISO 9906:2012 grade 1B tolerance |
|                         |                                    | ISO 9906:2012 grade 2B tolerance |

|                               |   |   |
|-------------------------------|---|---|
| Customer-requested duty point | Test according to the customer-specified duty point on standard pump curve. Contact Grundfos. | ISO 9906:2012 grades 1 and 2 tolerances |
|-------------------------------|---|---|

|                                   |   |
|-----------------------------------|---|
| Vibration test (including report) | According to the Grundfos factory quality standard. |
|-----------------------------------|---|

|             |                   |
|-------------|-------------------|
| String test | Contact Grundfos. |
|-------------|-------------------|

|              |                   |
|--------------|-------------------|
| Witness test | Contact Grundfos. |
|--------------|-------------------|

#### Certificates

|                           |  |
|---------------------------|--|
| ATEX-approved pump report | Special Grundfos report. Contact Grundfos. |
|---------------------------|--|

|                                      |                           |  |
|--------------------------------------|---------------------------|--|
| Certificate of compliance with order | According to EN10204 2.1. | According to ISO 9906:2012 grades 1, 2 and 3B. |
|--------------------------------------|---------------------------|--|

|                  |                           |  |
|------------------|---------------------------|--|
| Pump certificate | According to EN10204 2.2. | According to ISO 9906:2012 grades 1, 2 and 3B. |
|------------------|---------------------------|--|

|                        |                           |  |
|------------------------|---------------------------|--|
| Inspection certificate | According to EN10204 3.1. | According to ISO 9906:2012 grades 1, 2 and 3B. |
|------------------------|---------------------------|--|

|                               |                            |
|-------------------------------|----------------------------|
| Material specification report | According to EN10204 3.1B. |
|-------------------------------|----------------------------|

|                                  |                           |                                |
|----------------------------------|---------------------------|--------------------------------|
| Material report with certificate | According to EN10204 3.2. | Material supplier information. |
|----------------------------------|---------------------------|--------------------------------|

|   |                           |
|---|---------------------------|
| Inspection certificate, Lloyds Register | According to EN10204 3.2. |
|---|---------------------------|

|  |                           |
|--|---------------------------|
| Inspection certificate, DNV (Det Norske Veritas) | According to EN10204 3.2. |
|--|---------------------------|

|  |                           |
|--|---------------------------|
| Inspection certificate, Germanischer Lloyd | According to EN10204 3.2. |
|--|---------------------------|

|   |                           |
|---|---------------------------|
| Inspection certificate, American Bureau of Shipping | According to EN10204 3.2. |
|---|---------------------------|

|  |                           |
|--|---------------------------|
| Inspection certificate, Bureau Veritas | According to EN10204 3.2. |
|--|---------------------------|

|                                   |                           |
|-----------------------------------|---------------------------|
| Registro Italiano Navale Agenture | According to EN10204 3.2. |
|-----------------------------------|---------------------------|

|                                     |                   |
|-------------------------------------|-------------------|
| Other third-party test certificates | Contact Grundfos. |
|-------------------------------------|-------------------|



**Miscellaneous**

| Solution  | Customer benefits  |                   |
|---|--|-------------------|
| FKM sealing (optional)                                      | <ul style="list-style-type: none"> <li>Resistant to acids</li> <li>resistant to mineral oils and vegetable oils</li> <li>resistant to most solvents (toluene, petrol, trichloroethylene etc.).</li> </ul>                            | Contact Grundfos. |
| Cable protection hose                                       | <ul style="list-style-type: none"> <li>Resistant to acids</li> <li>resistant to most oils</li> <li>resistant to most solvents etc.</li> </ul>  | Contact Grundfos. |
| Heavy-duty wear ring kit                                    | <ul style="list-style-type: none"> <li>Wear and seal ring kit for the handling of abrasive media</li> <li>increased wear resistance of impeller in abrasive applications</li> <li>increased reliability and life of pump.</li> </ul> | Contact Grundfos. |
| Aluminium anodes  | <ul style="list-style-type: none"> <li>Increased life of pumps in aggressive environments such as maritime applications</li> <li>increased corrosion resistance.</li> </ul>  | Contact Grundfos. |
| Stainless steel SuperVortex impeller according to EN 1.4517 | Increased wear resistance  | Contact Grundfos. |
| Ceramic coating of impeller and pump housing                | <ul style="list-style-type: none"> <li>Reduced wear rate of cast-iron parts</li> <li>increased corrosion resistance</li> <li>beneficial in case of low number of operating hours.</li> </ul>   | Contact Grundfos. |
| Extra epoxy coating, 300 µm                                 |  | Contact Grundfos. |
| Top coating (black RAL9005, red RAL3000 and other colours)  |  | Contact Grundfos. |
| Special packaging   |  | Contact Grundfos. |
| Special nameplate   |  | Contact Grundfos. |
| Other variants  |  | Contact Grundfos. |

\* SEV impellers can be trimmed on request.

## 7. Construction

## SE1

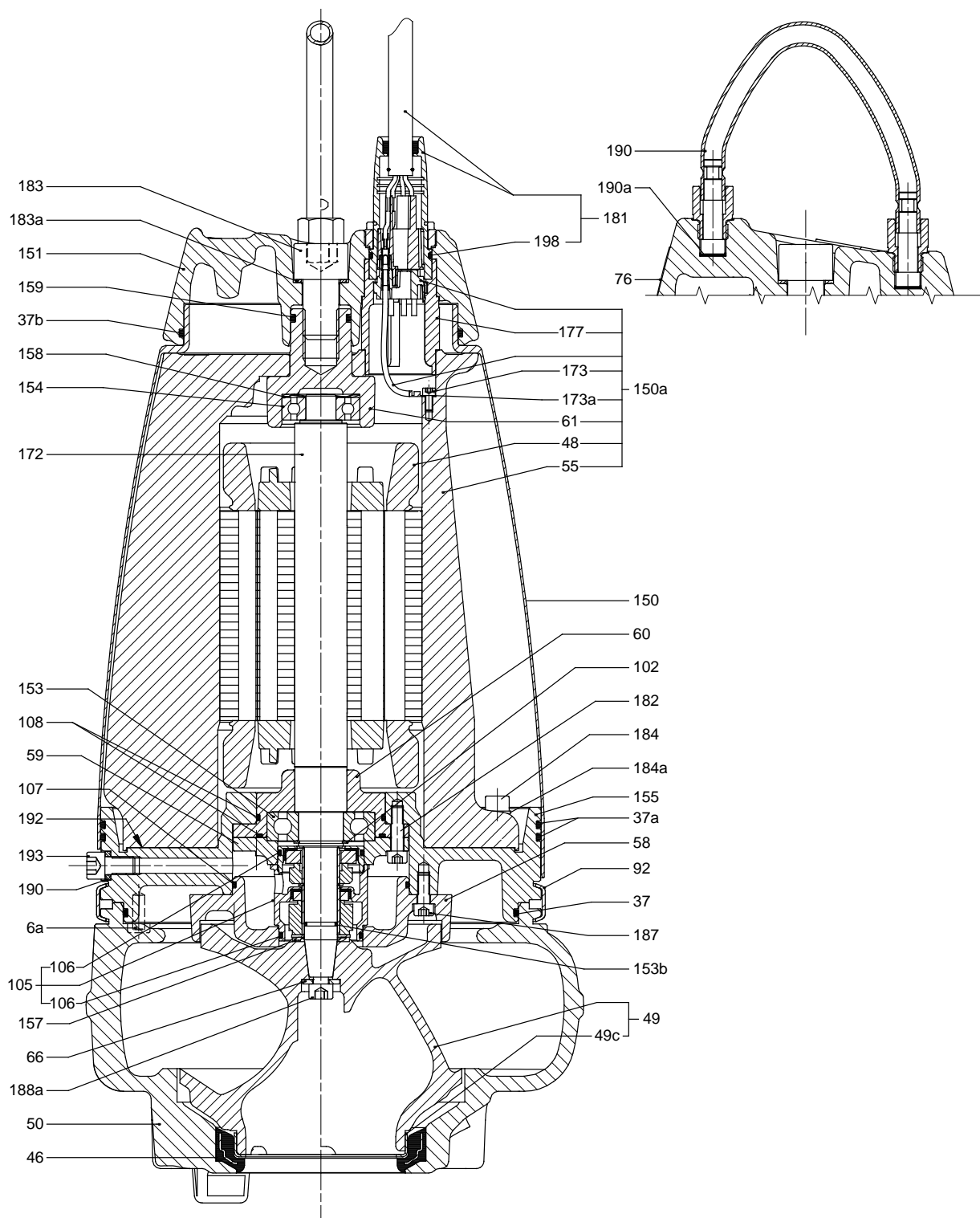


Fig. 6 Sectional drawing, SE1 pump with S-tube® impeller

TM02 8077 2404

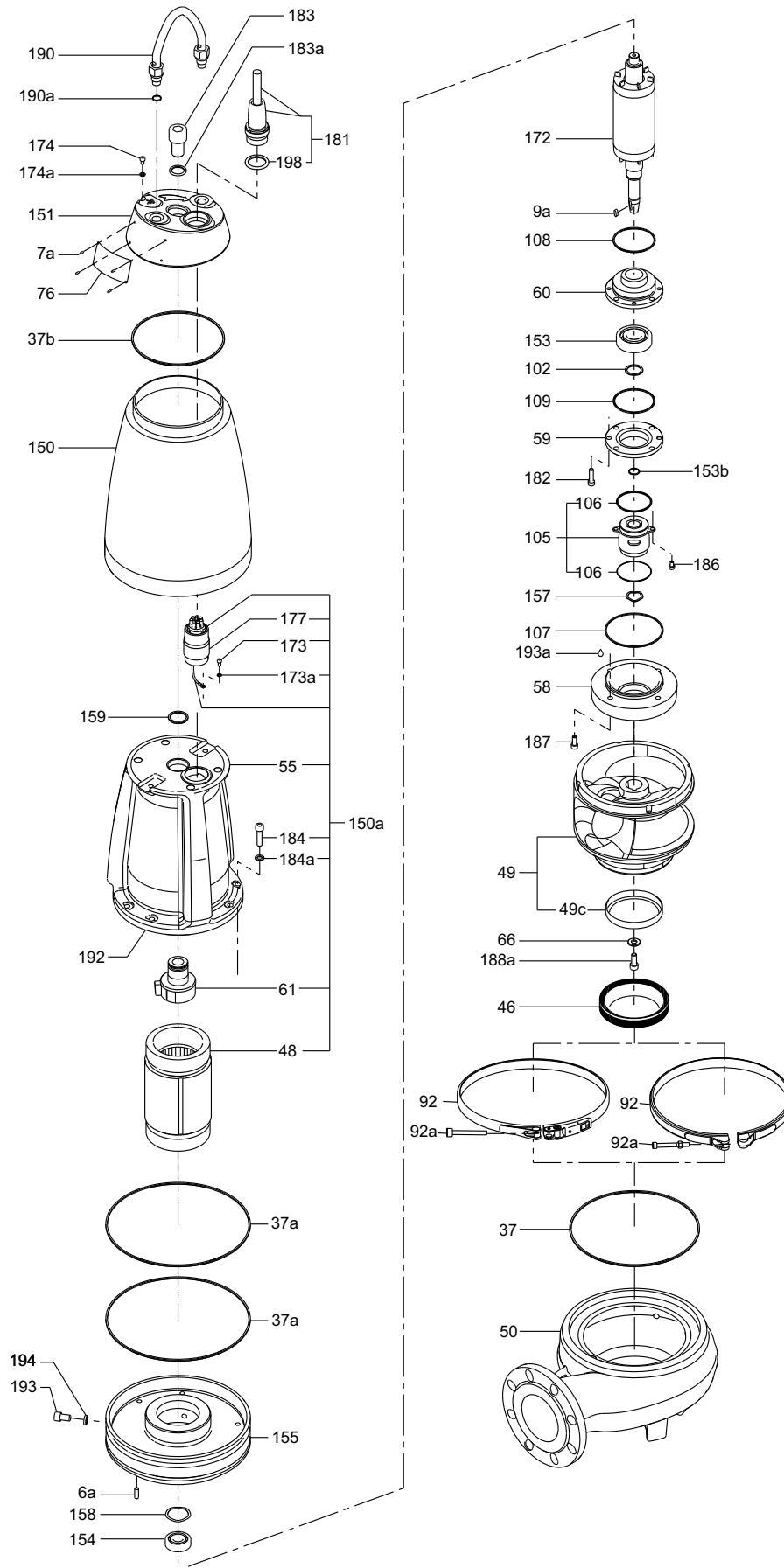
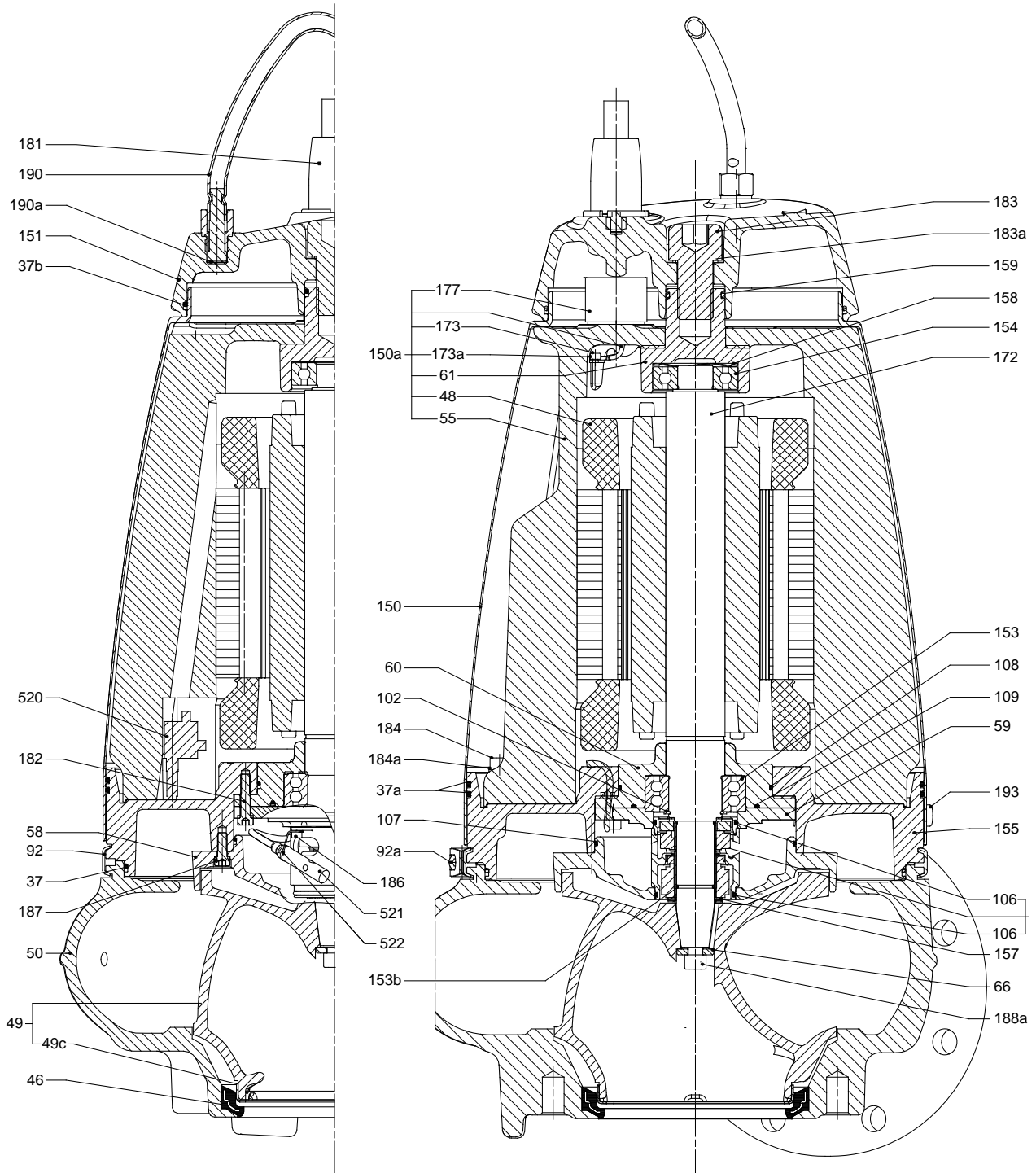


Fig. 7 Exploded view, SE1 pump with S-tube® impeller

TM06 5985 1717



TM03 1520 2305

Fig. 8 Sectional drawing, SE1 pump with S-tube<sup>®</sup> impeller, sensor version

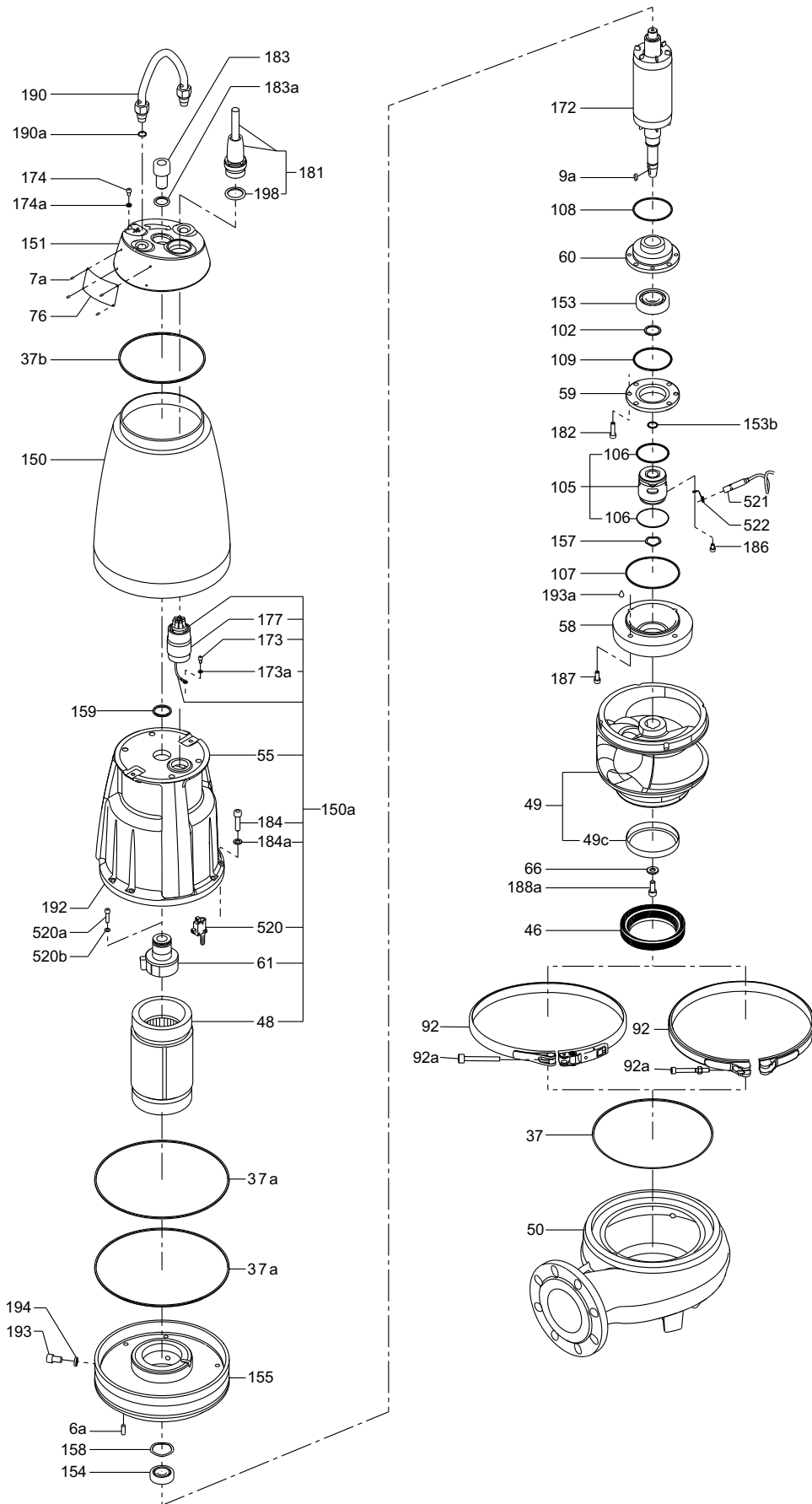


Fig. 9 Exploded view, SE1 pump with S-tube® impeller, sensor version

TM06 5986 1717

## SEV

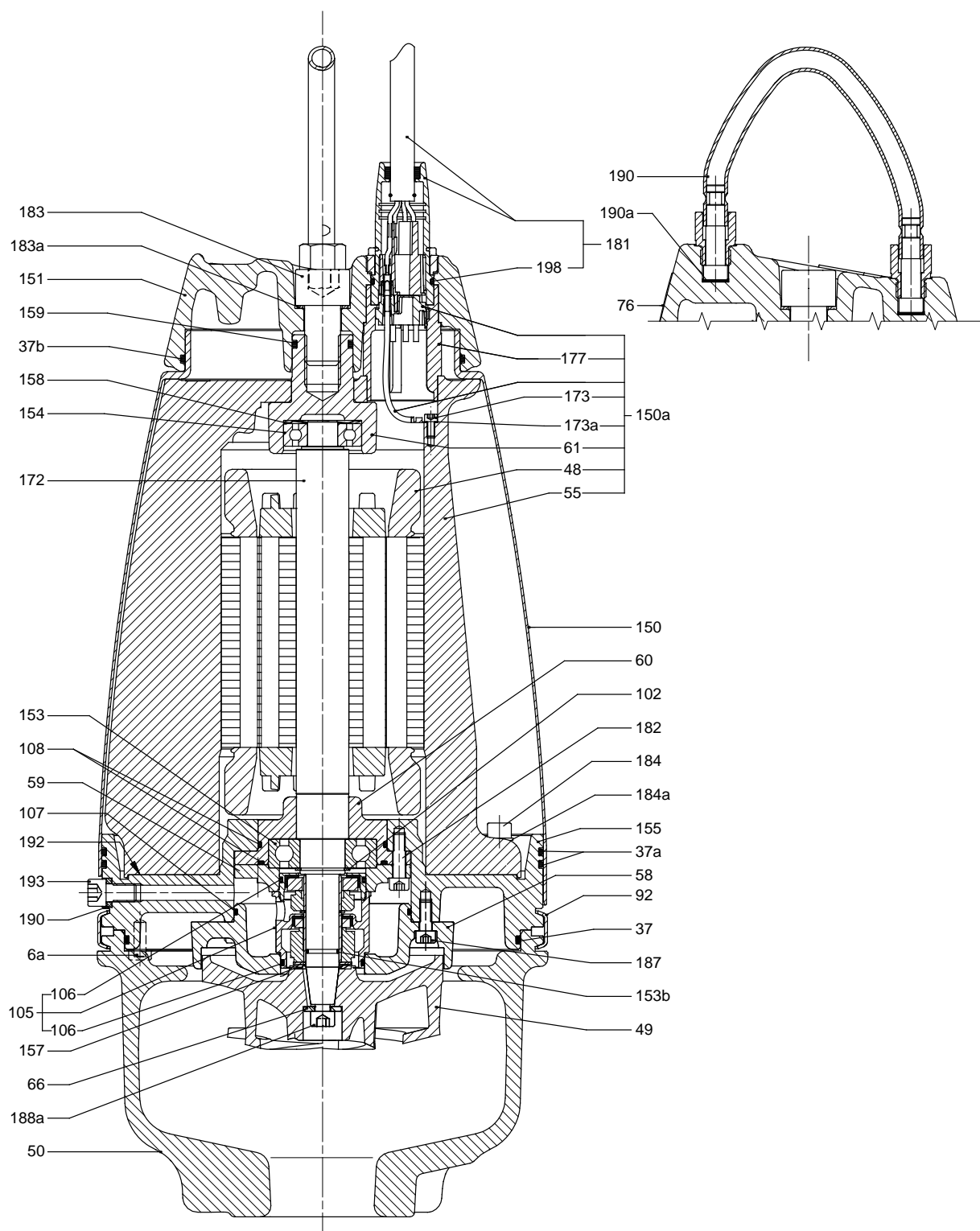


Fig. 10 Sectional drawing, SEV pump with SuperVortex impeller

TM02 8450 2404

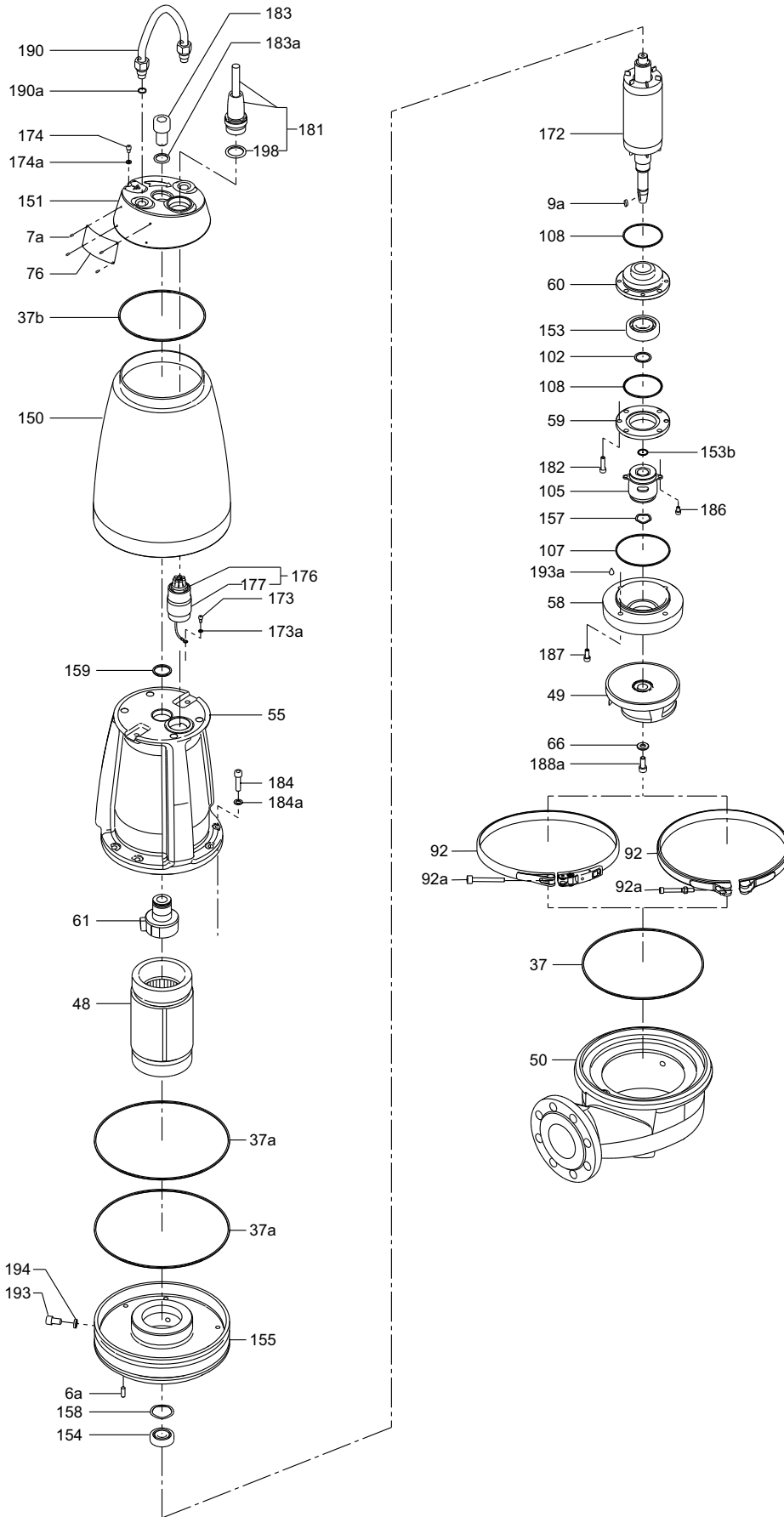


Fig. 11 Exploded view, SEV pump with SuperVortex impeller

TM06 5992 1717

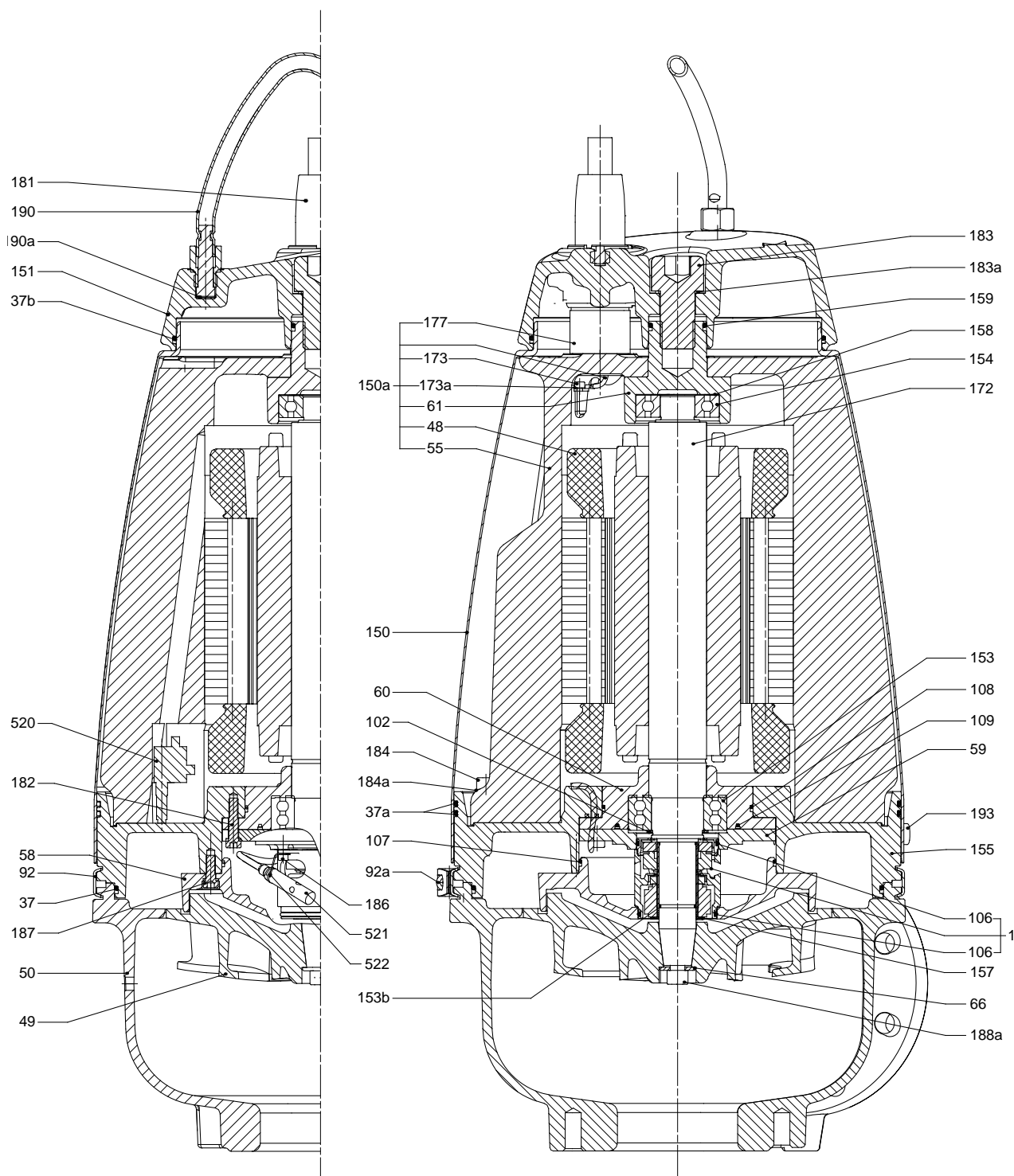


Fig. 12 Sectional drawing, SEV pump with SuperVortex impeller, sensor version

TM02 1519 2305



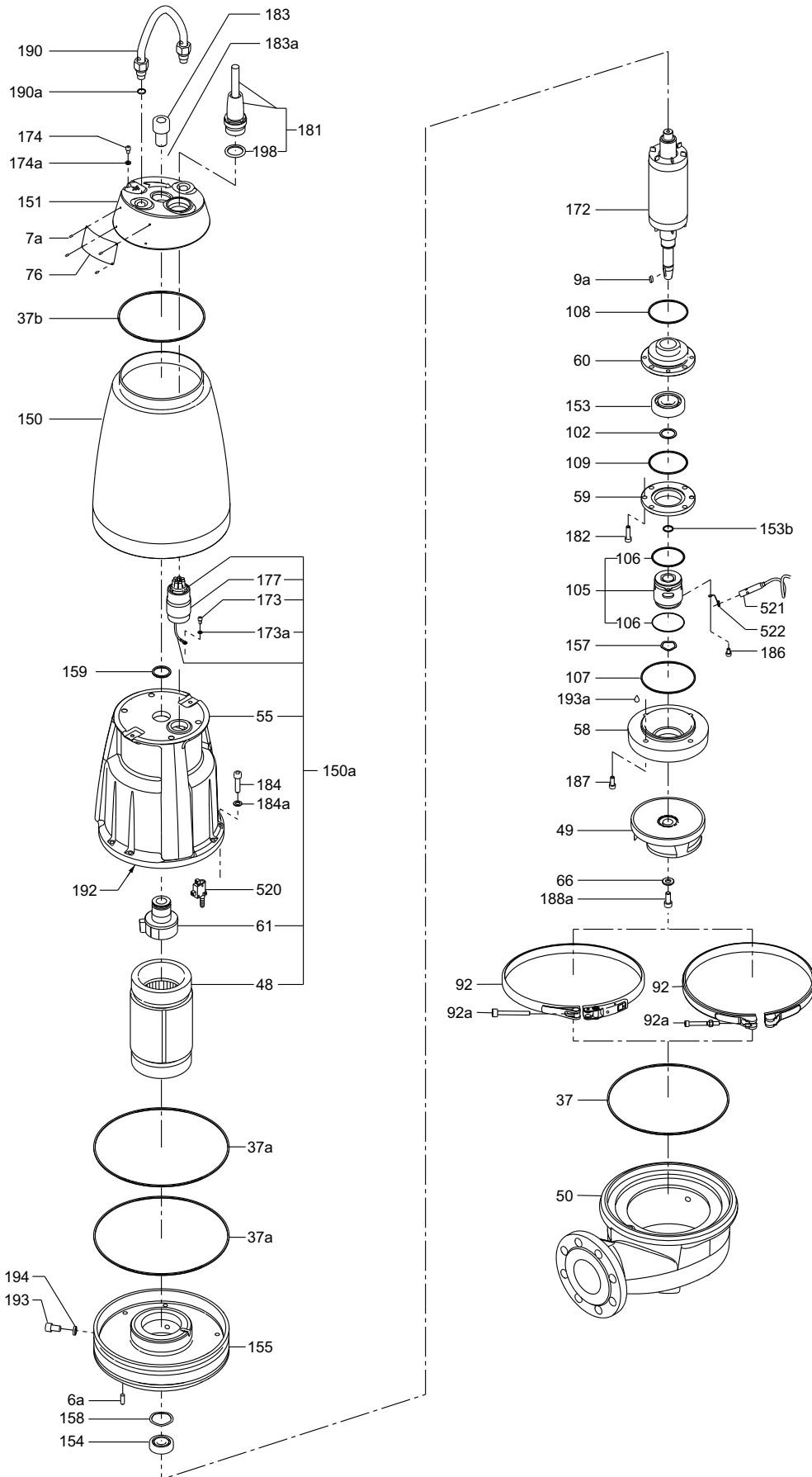


Fig. 13 Exploded view, SEV pump with SuperVortex impeller, sensor version

TM06 5993 1717

## Material specification

| Pos. | Designation                  | Material                                     | DIN W.-Nr./<br>EN standard     |
|------|------------------------------|--|--------------------------------|
| 6a   | Tubular pin                  | Stainless steel                              | 1.4301                         |
| 7a   | Blank rivet                  | Stainless steel                              | 1.4301                         |
| 9a   | Key                          | Stainless steel                              |                                |
| 37   | O-ring                       | NBR rubber                                   |                                |
| 37a  | O-ring                       | NBR rubber                                   |                                |
| 37b  | O-ring                       | NBR rubber                                   |                                |
| 46   | Seal ring, inlet             | Stainless steel                              | 1.4301                         |
| 48   | Stator package               |  |                                |
| 49   | SuperVortex impeller         | Cast iron/stainless steel                    | EN-GJL-200/<br>EN-GJL-250      |
|      | S-tube <sup>®</sup> impeller | Cast iron                                    | EN-GJL-250                     |
| 49c  | Wear ring                    | Stainless steel                              | 1.4301                         |
| 50   | Pump housing                 | Cast iron                                    | EN-GJL-200/<br>EN-JL1030       |
| 55   | Stator housing               | Aluminium                                    | EN AB-AISI 10 mg               |
| 58   | Cover for oil chamber        | Cast iron                                    | EN-GJL-200/<br>EN-JL1030       |
| 59   | Bearing cover                | Cast iron                                    | EN-GJL-250/<br>EN-JL1040       |
| 60   | Bearing retainer, lower      | Cast iron                                    | EN-GJL-250/<br>EN-JL1040       |
| 61   | Bearing retainer, upper      | Cast iron                                    | EN-GJS-450-10/E<br>N-JS1040    |
| 66   | Washer                       | Stainless steel                              | 1.4305                         |
| 76   | Nameplate                    | Stainless steel                              | 1.4401                         |
| 92   | Clamp                        | Stainless steel                              | 1.4401                         |
| 92a  | Screw                        | Stainless steel                              |                                |
| 102  | O-ring                       | NBR rubber                                   |                                |
| 105  | Shaft seal complete          | Primary seal,<br>stainless steel,<br>SiC/SiC |                                |
|      |                              | Secondary seal,<br>carbon/ceramics           |                                |
| 106  | O-ring                       | NBR rubber                                   |                                |
| 107  | O-ring                       | NBR rubber                                   |                                |
| 108  | O-ring                       | NBR rubber                                   |                                |
| 109  | O-ring                       | NBR rubber                                   |                                |
| 150  | Sleeve                       | Stainless steel                              | 1.4301/<br>(optionally 1.4401) |
| 150a | Stator housing complete      |  |                                |
| 151  | Motor top                    | Cast iron                                    | EN-GJL-250/<br>EN-JL1040       |
| 153  | Ball bearing, lower          | 6306.2CS.C4.STG                              |                                |
| 153b | Retaining ring               |  |                                |
| 154  | Ball bearing, upper          | 6304.2Z.C3.BQH                               |                                |
| 155  | Intermediate flange          | Cast iron                                    | EN-GJL-250/<br>EN-JL1040       |
| 157  | Corrugated spring            | Stainless steel                              |                                |
| 158  | Corrugated spring            | Carbon steel                                 | 1.1248                         |
| 159  | O-ring                       | NBR rubber                                   |                                |
| 172  | Shaft with rotor             | Carbon steel/<br>stainless steel             | 1.0432/<br>1.4401              |
| 173  | Earth screw                  | Stainless steel                              |                                |
| 173a | Lock washer                  | Stainless steel                              |                                |
| 174  | Earth screw, external        | Stainless steel                              |                                |
| 174a | Washer                       | Stainless steel                              |                                |
| 177  | Plug protector               | Stainless steel                              | 1.4408                         |
| 181  | Cable/outer plug part        | H07RN-F / -                                  |                                |
| 182  | Screw                        | Stainless steel                              |                                |
| 183  | Screw                        | Stainless steel                              |                                |
| 183a | Washer                       | Stainless steel                              |                                |
| 184  | Screw                        | Stainless steel                              |                                |
| 184a | Washer                       | Stainless steel                              |                                |
| 186  | Screw                        | Stainless steel                              |                                |
| 188  | Screw                        | Stainless steel                              |                                |
| 188a | Screw                        | Stainless steel                              |                                |
| 190  | Lifting bracket              | Stainless steel                              | 1.4301                         |
| 190a | Rubber sleeve                | NBR rubber                                   |                                |
| 192  | Cooling paste                |  |                                |
| 193  | Screw                        | Stainless steel                              |                                |
| 193a | Oil                          | Shell Ondina X420                            |                                |
| 194  | Gasket                       | Nylon  |                                |
| 198  | O-ring                       | NBR rubber                                   |                                |
| 520  | Moisture switch              |  |                                |
| 521  | Water-in-oil sensor          |  |                                |
| 522  | Bracket for WIO sensor       |  |                                |

Grey cast iron is manufactured according to EN 1561:2012.  
Cast stainless steel is manufactured according to EN 10283:2010.

Conversion to other standards, such as AISI/ASTM, is normative, and products are not manufactured according to these.

**Note:** Q and R variants with SuperVortex impeller are available on request, including O-rings of FKM and intermediate flange of stainless steel.

## 8. Product description

### Features

#### Ball bearings

The ball bearings are greased for life:

- Main bearings: Double-row angular contact ball bearing.
- Support bearings: Single-row deep-groove ball bearing.

#### Shaft seal



TM04 9827 0211

**Fig. 14** Double mechanical cartridge shaft seal

The shaft seal consists of two mechanical seals and separates the motor from the pumped liquid.

The shaft seal is a cartridge seal that enables easy service. The combination of the primary and secondary seals in a cartridge results in a shorter assembly length compared to conventional shaft seals.

Furthermore, this design minimises the risk of incorrect fitting.

The primary seal is SiC/SiC, and the secondary is carbon/ceramics.

#### Motor

The motor is a watertight, totally encapsulated motor:

- Insulation class: F (155 °C)
- Temperature rise class: F (105 °C)
- Enclosure class: IP68.

For motor protection and sensors, see *Sensors* on page 28.

#### Surface treatment

Grundfos SE1 and SEV pumps are given the following surface treatment:

Powder painting: NCS 9000N (black), gloss code 30, thickness 100 µm.

### Power supply cables

#### Standard cable

| Cable type [mm <sup>2</sup> ] | Outer cable diameter [mm] | Bending radius |           |
|-------------------------------|---------------------------|----------------|-----------|
|                               |                           | Fixed [cm]     | Free [cm] |
| Lyniflex 4 G 1.5 + 3 x 1      | 15.5 ± 0.5                | 60             | 90        |
| Lyniflex 4 G 2.5 + 3 x 1      | 17.0 ± 0.5                | 66             | 99        |
| Lyniflex 7 G 2.5 + 3 x 1      | 18.5 ± 0.5                | 74             | 111       |

#### EMC cable

| Cable type [mm <sup>2</sup> ] | Outer cable diameter [mm] | Bending radius |           |
|-------------------------------|---------------------------|----------------|-----------|
|                               |                           | Fixed [cm]     | Free [cm] |
| 3G3GC3G - F3 x 1AiC + 4 G 2.5 | 17.5 ± 0.5                | 85             | 170       |

The standard cable length is 10 m. Other cable lengths are available on request. See *List of variants*, page 16.

The cable dimensions depend on the motor size.

#### Cable entry



TM04 9826 0211

**Fig. 15** Moisture-proof cable plug

The stainless steel plug is fastened with a union nut. The nut and O-rings provide sealing against liquid penetration.

The plug is filled with a polyamide material which is cast into the plug around the conductors of the cable to prevent moisture from penetrating into the motor via the cable core.

## Sensors

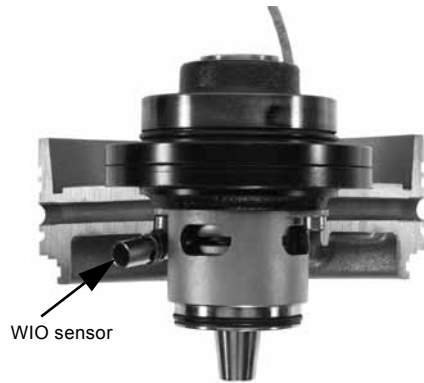


Fig. 16 Analog water-in-oil sensor

As standard, the pump has thermal switches in the stator windings.

#### Customised analog sensor options

- Pt1000 sensor in motor windings for stator temperature measurements.
- The WIO sensor fitted in the oil chamber of the pump monitors if water enters the pump from the liquid side  
The sensor measures the water content (0 to 20 %) in the oil and converts the value into an analog current signal which is sent to the IO 113 sensor module. 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. See fig. 16.
- The moisture switch fitted in the motor chamber monitors whether water enters the pump. If moisture is detected in the motor chamber, the moisture switch will trip out and send a signal to the IO 113 sensor module.

TM04 9836 0211

## IO 113 sensor module



Fig. 17 Grundfos IO 113 sensor module

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 detects a pump fault.

IO 113 can be connected to the Grundfos Dedicated Controls system which provides advanced monitoring functions:

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

**Note:** All pump versions with sensor come with an IO 113 sensor module. As standard, it is therefore not necessary to order an IO 113 separately.

TM05 4166 2112

## Operating conditions

The pumps are designed for intermittent operation (S3). When completely submerged, the pump can also operate continuously (S1).

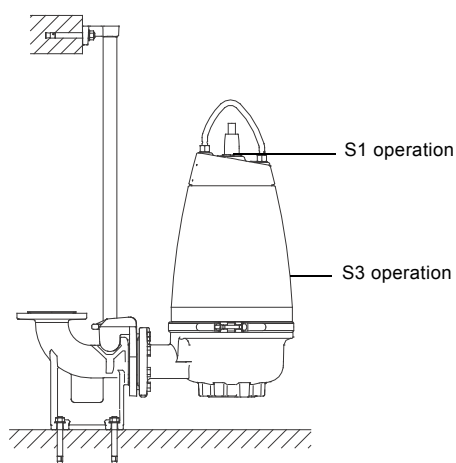


Fig. 18 Operating levels

### S3, intermittent operation

The S3 operating mode is a series of duty cycles each with a constant load for a period followed by a rest period. Thermal equilibrium is not reached during the cycle. Pumps running in intermittent operation S3 have a maximum of 20 starts per hour when submerged to the bottom of the cable plug. The pump must run for maximum 4 minutes and stop for minimum 6 minutes. See fig. 19.

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

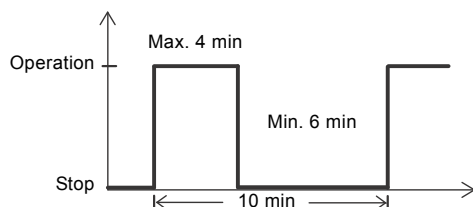


Fig. 19 S3 operation

### S1, continuous operation

In this operating mode, the pump can operate continuously without having to be stopped for cooling. Being completely submerged, the pump is sufficiently cooled by the surrounding liquid. See fig. 20.

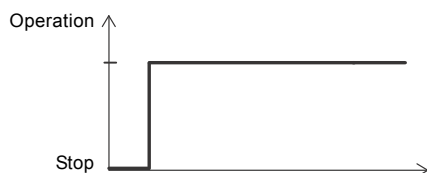


Fig. 20 S1 operation

## Pumped liquids

| Pump type | Material variant | Installation      | Material  | pH value |
|-----------|------------------|-------------------|---|----------|
| SE1/SEV   | Standard         | Dry and submerged | Cast-iron pump housing and motor top.                           | 6.5-14** |
| SEV       | Q                | Dry and submerged | Stainless steel impeller. Cast-iron pump housing and motor top. | 6-14**   |
| SEV       | S*               | Submerged         | Stainless steel impeller and pump housing;                      | 5.5-14** |
|           |                  | Dry               | cast-iron motor top.  | 1-14     |
| SEV       | R                | Dry and submerged | Complete pump in stainless steel                                | 1-14     |
| SEV       | D <sup>1)</sup>  | Dry and submerged | Stainless steel pump according to EN 1.4517/1.4539              | 0-14     |

\* Material variants S and D are available on request.

\*\* For fluctuating pH values, the range is 4 to 14 pH.

### 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.

For short periods of maximum 1 hour, a temperature of up to 60 °C is permissible. This only applies to non-Ex versions.

### Sound pressure level

The sound pressure level of the pump is lower than the limiting values stated in the EC Council directive 2006/42/EC relating to machinery (the EC Machinery Directive).

## Motor range

| Output power [kW] | Number of poles |
|-------------------|-----------------|
| 1.1               | 4               |
| 1.3               | 4               |
| 1.5               | 4               |
| 2.2               | 2/4             |
| 3                 | 2/4             |
| 4                 | 2/4             |
| 5.5               | 4               |
| 6                 | 2               |
| 7.5               | 2/4             |
| 9.2               | 2               |
| 11                | 2               |

## Approvals

Standard versions of SE1 and SEV have been tested by VDE. Explosion-proof versions have been approved by DEKRA according to the ATEX directive.

### Approval standards

Standard versions have been approved by LGA (notified body under the Construction Products Directive) according to EN 12050-1 or EN 12050-2, as specified on the pump nameplate.

### Explanation to the Ex approval

The SE1 and SEV pumps have the following explosion-protection classifications:

- Pumps without sensor:  
CE 0344 Ⓜ II2 GD Ex db h IIB T4, T3 Gb: Ex h tb  
IIIC T135 °C, T200 °C Db.
- Pumps with sensor:  
CE 0344 Ⓜ II2 GD Ex db h mb IIB T4, T3 Gb: Ex h  
mb tb IIIC T135 °C, T200 °C Db.

| Directive or standard                 | Code    | Description  |
|---------------------------------------|---------|--|
| ATEX                                  | CE 0344 | = CE marking of conformity according to the ATEX directive 2014/34/EU. The number "0344" is the number of the notified body which has certified the quality system for ATEX. |
|                                       | Ⓜ       | = Marking of explosion protection.   |
|                                       | II      | = Equipment group according to the ATEX directive, defining the requirements applicable to the equipment in this group.  |
|                                       | 2       | = Equipment category according to the ATEX directive, defining the requirements applicable to the equipment in this category.  |
|                                       | G       | = Explosive atmosphere caused by gases, vapours or mists.  |
|                                       | D       | = Explosive atmosphere caused by dust.   |
|                                       | Ex      | = The equipment conforms to the harmonised European standard.  |
|                                       | h       | = Constructional safety according to EN 80079-36 and 80079-37.   |
|                                       | db      | = Flameproof enclosure according to EN 60079-1.  |
| Harmonised European standard EN 50014 | mb      | = Encapsulation according to EN 60079-18.  |
|                                       | IIB     | = Classification of gases according to EN 60079-0. Gas group B includes gas group A.   |
|                                       | T4/T3   | = Maximum surface temperature is 135 °C in direct-drive pumps and 200 °C in pumps driven by frequency converter, according to EN 60079-0*.                                   |
|                                       | tb      | = Protection by enclosure EN 60079-31.   |

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

### Australia

Explosion-proof variants for Australia have been approved as Ex nA II T3 according to IEC 60079-15 (corresponding to AS 2380.9).

| Standard          | Code | Description   |
|-------------------|------|---|
| IEC 60079-15:1987 | Ex   | = Area classification according to AS 2430.1  |
|                   | nA   | = Non-sparking according to AS 2380.9:1991, section 3 (IEC 79-15:1987)  |
|                   | II   | = Suitable for use in explosive atmospheres (not mines)   |
|                   | T3   | = Maximum surface temperature is 200 °C   |
|                   | X    | The letter X in the certificate number indicates that the equipment is subject to special conditions for safe use. The conditions are mentioned in the certificate and the installation and operating instructions. |

## Controllers

The pumps must be connected to a control box with a motor protection relay with IEC trip class 10 or 15.

**Note:** Pumps for hazardous locations must be connected to a control box with a motor protection relay with IEC trip class 10.

## Frequency converter, CUE/VFD

All pump types are designed for speed-controlled operation to keep the energy consumption at a minimum.

To avoid the risk of sedimentation in the pipes, we recommend that you operate the speed-controlled pump within a speed range of 30 % to 100 % and at a flow rate above 1 m/s.

For more information, see installation and operating instructions for the relevant frequency converter on [www.grundfos.com](http://www.grundfos.com) (Grundfos Product Center).

### Additional features

- Anti-blocking
- automatic energy optimisation
- specific-energy test
- output frequency
- monitoring of:
  - voltage\*
  - current\*
  - phase sequence\*
  - power\*
  - energy\*
  - torque\*
- reverse start
- run flushing
- stop flushing
- PID control.

\* These functions are only available with a Grundfos CUE.

## Level controllers

Grundfos offers a wide range of pump controllers to keep a watchful eye on liquid levels in the wastewater collecting tank, ensuring correct operation and protection of the pumps.

Controller ranges:

- Dedicated Controls, DC control cabinets
- LC and LCD level controllers.

## Dedicated Controls



TM06 0918 1214

**Fig. 21** Dedicated Controls control cabinet

Grundfos Dedicated Controls is a control system that can control and monitor one to six Grundfos wastewater pumps and a mixer or a flush valve.

Dedicated Controls is used in installations requiring advanced control and data communication.

The main components of the Dedicated Controls system are as follows:

- CU 362 control unit
- IO 351B module (general I/O module).

Dedicated Controls is available either as separate components or as control cabinets.

The control system can be operated by the following:

- float switches
- a level sensor
- a level sensor and safety float switches.

The control cabinet is available for the following pump sizes and starting methods:

- pumps up to and including 9 kW, direct-on-line starting
- pumps up to and including 30 kW, star-delta starting
- pumps up to and including 30 kW, soft starter.

The separate control unit and modules can be built for practically any size of system.

The DC control cabinets can be fitted with various units:

- The CU 362 control unit, which is the "brain" of the Dedicated Controls system, is fitted in the cabinet front. CU 362 can be fitted with one of the Grundfos CIM communication modules mentioned below, depending on the monitoring needs or the SCADA system:
  - CIM 202 is a communication module used for the Modbus RTU fieldbus protocol.
  - CIM 252 is a communication module used for GSM/GPRS communication. CIM 252 establishes communication between CU 362 and a SCADA system, thereby allowing the application to be monitored and controlled remotely. This module also offers SMS messaging, for example status and alarm messages.
  - CIM 272 is a communication module for the Grundfos Remote Management system (GRM). CIM 272 establishes communication between CU 362 and GRM, thereby allowing the application to be monitored and controlled remotely.
- The IO 351B module is a general I/O module. IO 351B communicates with CU 362 via GENIbus.
- The MP 204 motor protector (optional) provides many electrical status values, for example voltage, current, power, insulation resistance and energy. MP 204 offers better protection of the pumps than a conventional motor protection device.
- CUE/VFD (optional), which is either a Grundfos variable-frequency converter or a general variable-frequency converter, (also) offers better pump protection and a more steady flow through the pit pipes, so the pumps are treated well and the energy consumption is kept at a minimum.

For further information, see the data booklet or installation and operating instructions for Dedicated Controls on [www.grundfos.com](http://www.grundfos.com) (Grundfos Product Center).

## LC and LCD

The Grundfos LC and LCD range of level controllers comprises three series with a total of six variants:

- LC and LCD 107 operated by air bells
- LC and LCD 108 operated by float switches
- LC and LCD 110 operated by electrodes.

All controllers are ideally suited for applications requiring up to 11 kW motors for direct-on-line starting. The LC and LCD can also be supplied with an integrated star-delta starter for applications requiring larger motors up to and including 30 kW.

## Features and benefits

- Control of one pump (LC) or two pumps (LCD).
- Automatic alternating operation of two pumps (LCD).
- Automatic test run (prevents shaft seals from becoming jammed in the event of long periods of inactivity).
- Water hammer protection.
- Starting delay after power supply failure.
- Automatic alarm resetting, if required.
- Automatic restarting, if required.
- Alarm output as NO and NC.



Fig. 22 LCD 110 for two-pump installations

When an SMS module (optional) is fitted in an LC or LCD controller, it acts as a time recorder for the pumps. When programmed by means of an ordinary mobile phone with text messaging facility, the SMS module can send text messages containing "high-level alarm" and "general alarm" information about operation and the number of times the pump has started. The SMS module is also available with battery and can thus send text messages that will inform you of power failure and when the power has been restored.

For further information, see the data booklet or installation and operating instructions for the LC and LCD controllers on [www.grundfos.com](http://www.grundfos.com) (Grundfos Product Center).

TM04 2360 2408

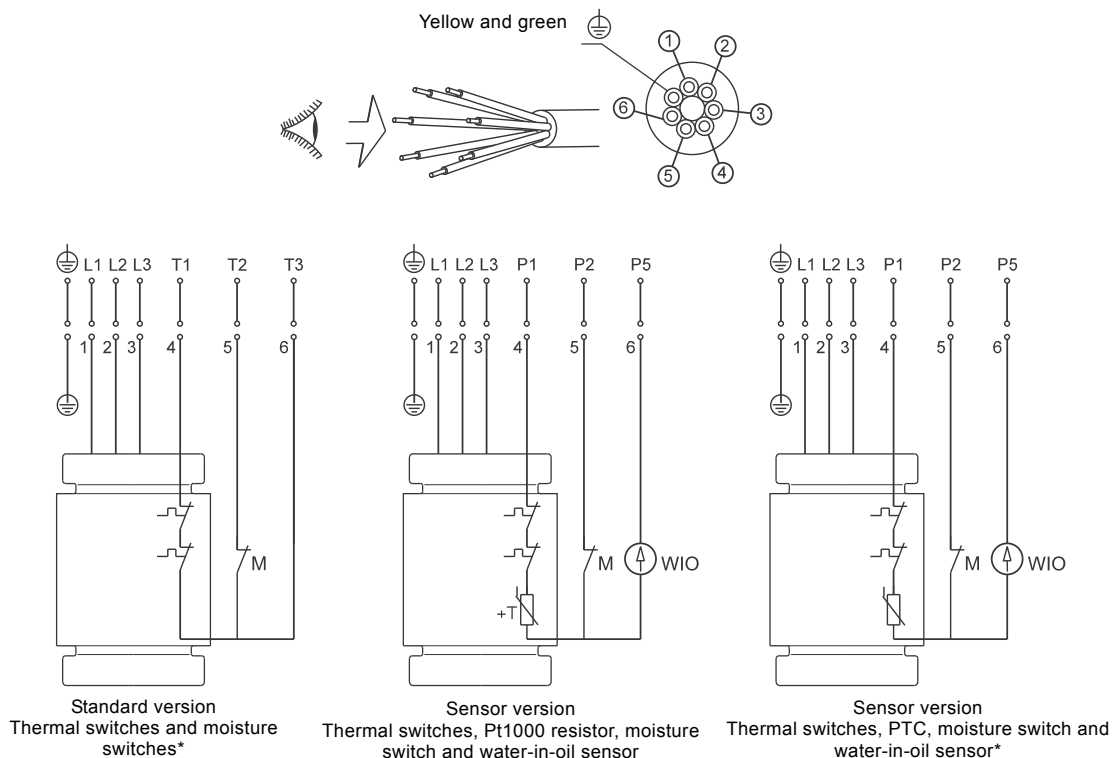


| Name   | DC              | LC              | LCD             |
|--|-----------------|-----------------|-----------------|
| <b>Application</b>                               |                 |                 |                 |
| One pump   | •               | •               | •               |
| Two pumps  | •               |                 | •               |
| Mixer  | •               |                 |                 |
| Battery backup                                   | •               |                 |                 |
| <b>Level sensor</b>                              |                 |                 |                 |
| Float switches                                   | •               | •               | •               |
| Electrodes                                       |                 | •               | •               |
| Air bells  |                 | •               | •               |
| Pressure sensor                                  | •               |                 |                 |
| Ultrasonic sensor                                | •               |                 |                 |
| Analog level sensor with safety float switches   | •               |                 |                 |
| <b>Starting method</b>                           |                 |                 |                 |
| Direct-on-line starting (DOL)                    | •               | •               | •               |
| Star-delta starting                              | •               | •               | •               |
| Soft starter                                     | •               |                 |                 |
| <b>Basic functions</b>                           |                 |                 |                 |
| Start and stop of pump(s)                        | •               | •               | •               |
| Pump alternation                                 | •               |                 | •               |
| High-level alarm                                 | •               | •               | •               |
| Dry-running-level alarm                          | •               | •               | •               |
| Flow measurement (calculated or via flow sensor) | •               |                 |                 |
| Pump statistics                                  | •               |                 |                 |
| Conflicting-levels alarm                         | •               |                 |                 |
| <b>Advanced functions</b>                        |                 |                 |                 |
| Start and stop delays (prevent water hammer)     | •               | •               | •               |
| Motor temperature sensor                         | •               | •               | •               |
| Test run/anti-seizing                            | •               | •               | •               |
| Daily emptying (emptying the pit once a day)     | •               |                 |                 |
| Water-in-oil sensor input                        | •               |                 |                 |
| <b>Communication</b>                             |                 |                 |                 |
| SMS messaging                                    | • <sup>1)</sup> | • <sup>2)</sup> | • <sup>2)</sup> |
| SCADA communication (GSM/GPRS)                   | • <sup>1)</sup> |                 |                 |
| <b>User interface</b>                            |                 |                 |                 |
| Level indication                                 | •               | •               | •               |
| Graphical display                                | •               |                 |                 |
| PC Tool WW Controls                              | •               |                 |                 |

<sup>1)</sup> This only applies if a CIM 250 GSM/GPRS module is fitted in the CU 362.

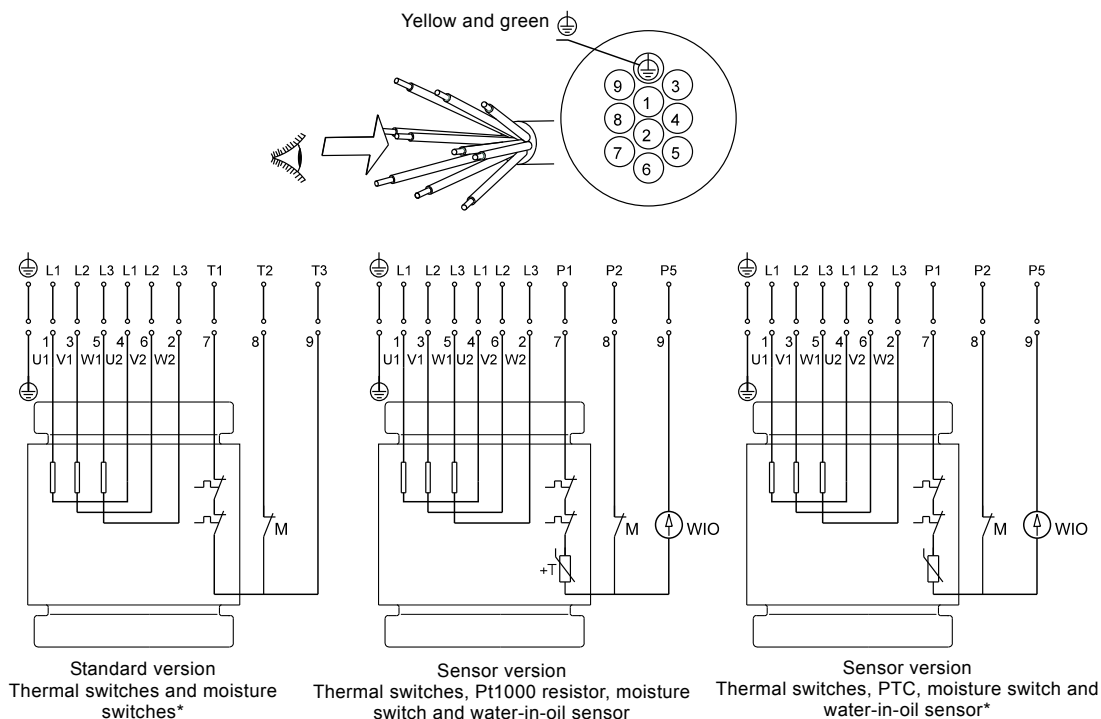
<sup>2)</sup> This only applies if an SMS module is fitted.

Wiring diagrams



\* Pumps from 4 kW and up sold in Australia and New Zealand are fitted with a PTC thermistor.

Fig. 23 Wiring diagram, 7-core cable, DOL

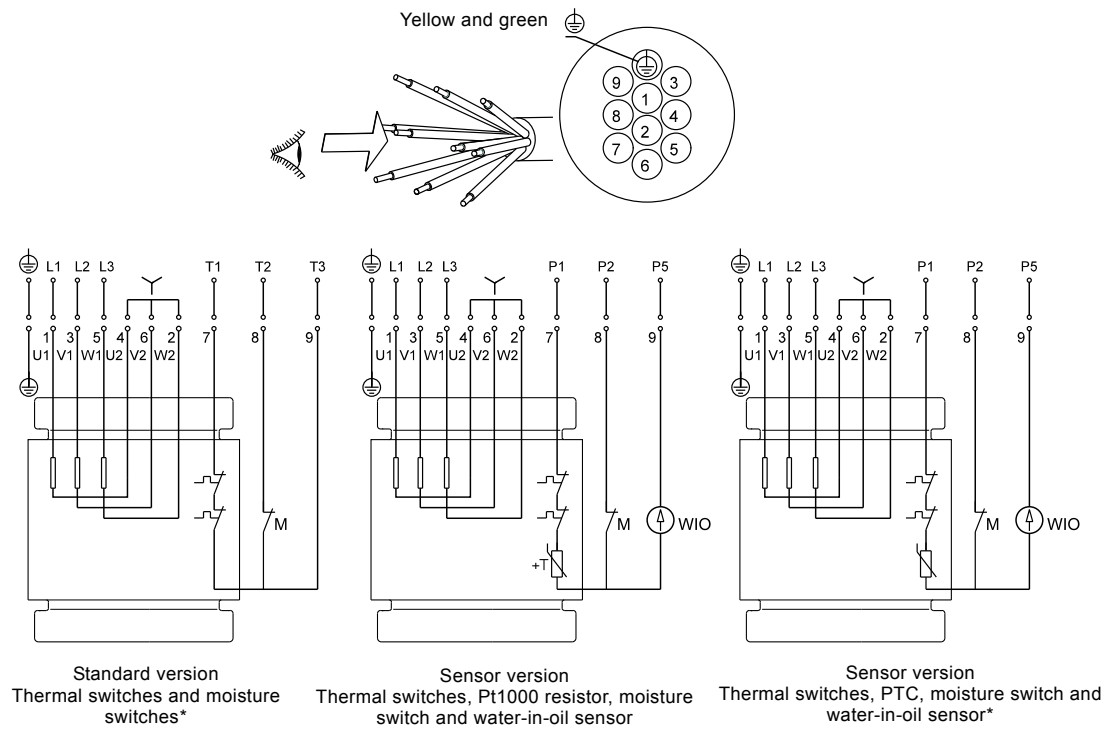


\* Pumps from 4 kW and up sold in Australia and New Zealand are fitted with a PTC thermistor.

Fig. 24 Wiring diagram, 10-core cable, star/delta (Y/D)

TM04 6884 1317

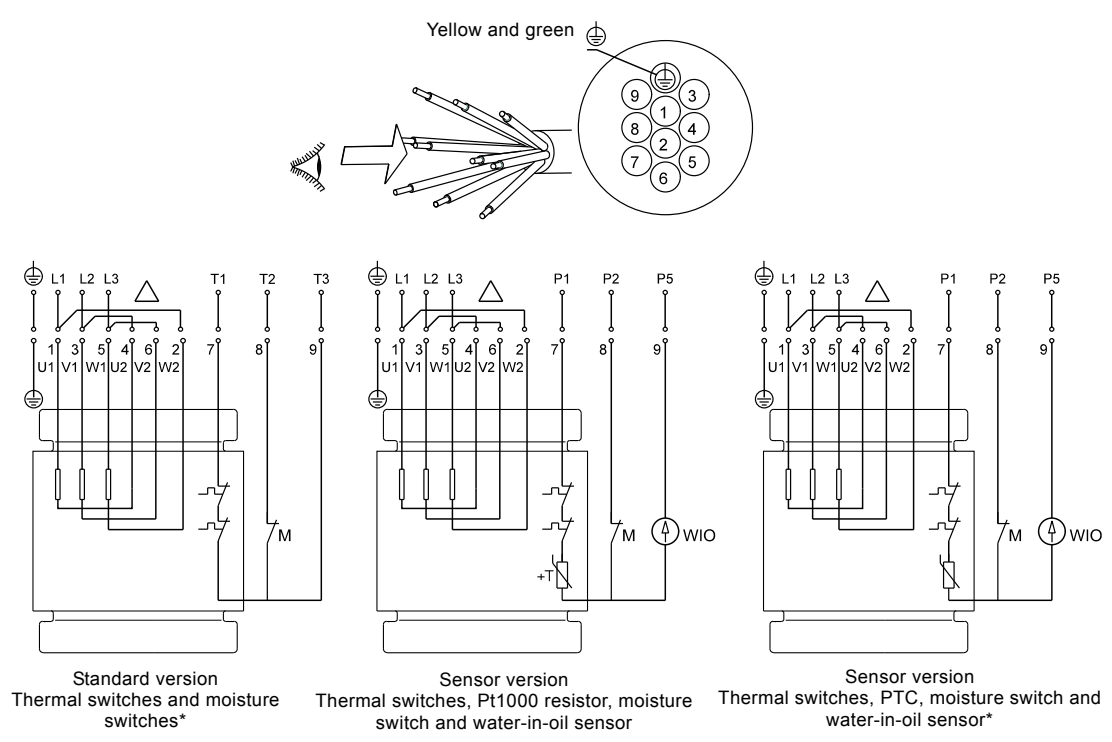
TM04 6885 1317



\* Pumps from 4 kW and up sold in Australia and New Zealand are fitted with a PTC thermistor.

**Fig. 25** Wiring diagram, 10-core cable, star-connected (Y)

TM04 6886 1317



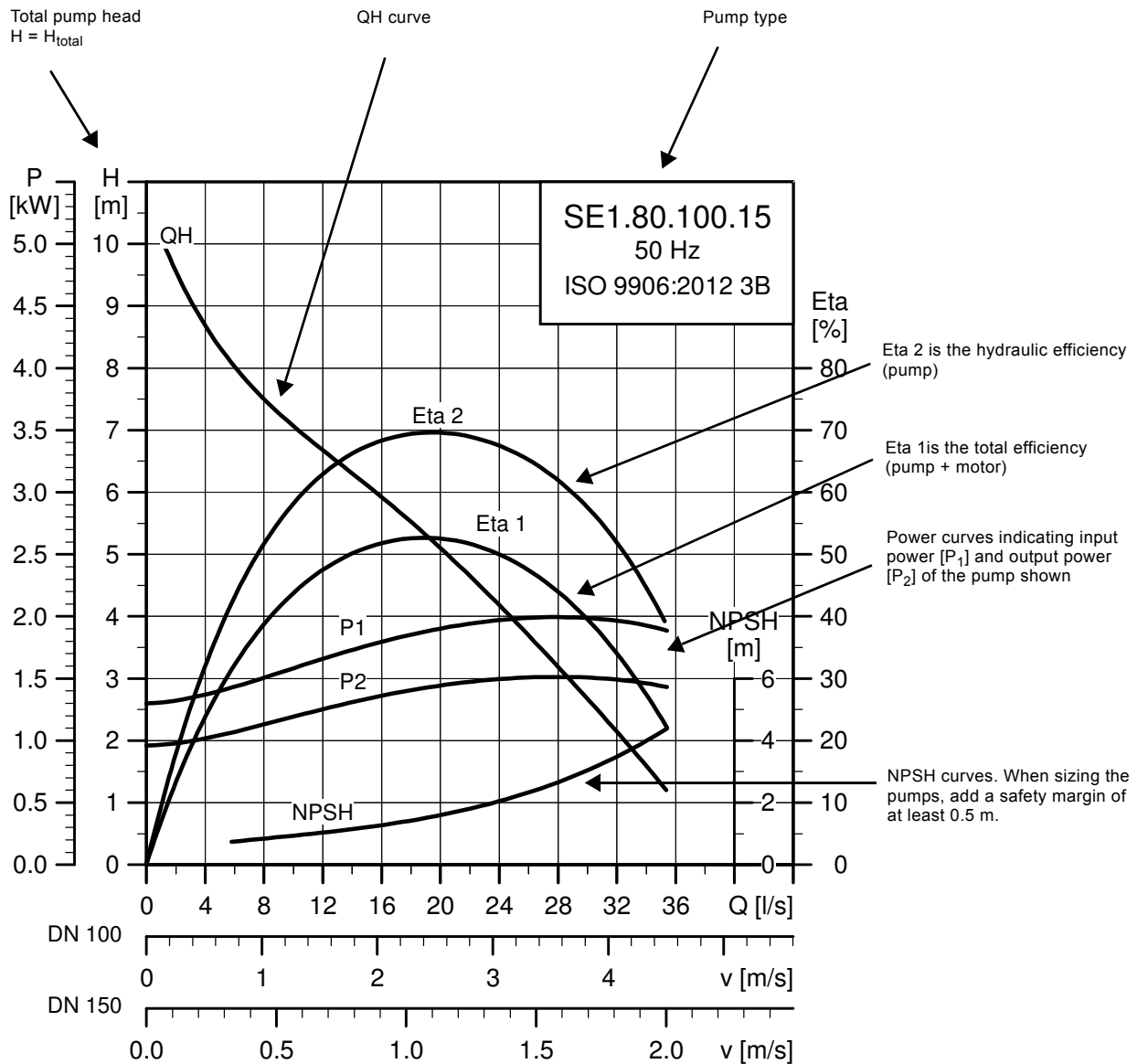
\* Pumps from 4 kW and up sold in Australia and New Zealand are fitted with a PTC thermistor.

**Fig. 26** Wiring diagram, 10-core cable, delta-connected (D)

TM04 6887 1317

## 9. Curve charts

### How to read the performance curves



TM02 7961 1817

**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 on pages 38 to 91.

- Tolerances are according to ISO 9906:2012, grade 3B.
- The curves show pump performance with different impeller diameters at the 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).
- The Eta curves show the efficiency of the pump for the different impeller diameters.
- The NPSH 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 the 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>, use motors with correspondingly higher outputs.

### 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 across the pump.  
 $H_{\text{dyn}}$ : Calculated values based on the velocity of the pumped liquid on the suction and discharge sides of the pump.

## Performance tests

Pumps are tested according to ISO 9906:2012 grade 3B.

Testing equipment and measuring instruments are designed and calibrated in accordance with mentioned standards.

The pump is approved according to tolerances for the entire curve, specified in grade 3B.

For customised duty point or other grades with 5-point test certificate, please contact Grundfos in order to agree on terms before ordering.

If the customer requires either more points on the curve to be checked or certain minimum performances or certificates, individual measurements must be made, and you can order a certificate.

## Certificates

Certificates have to be confirmed for every order and are available on request as follows:

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

## Witness test

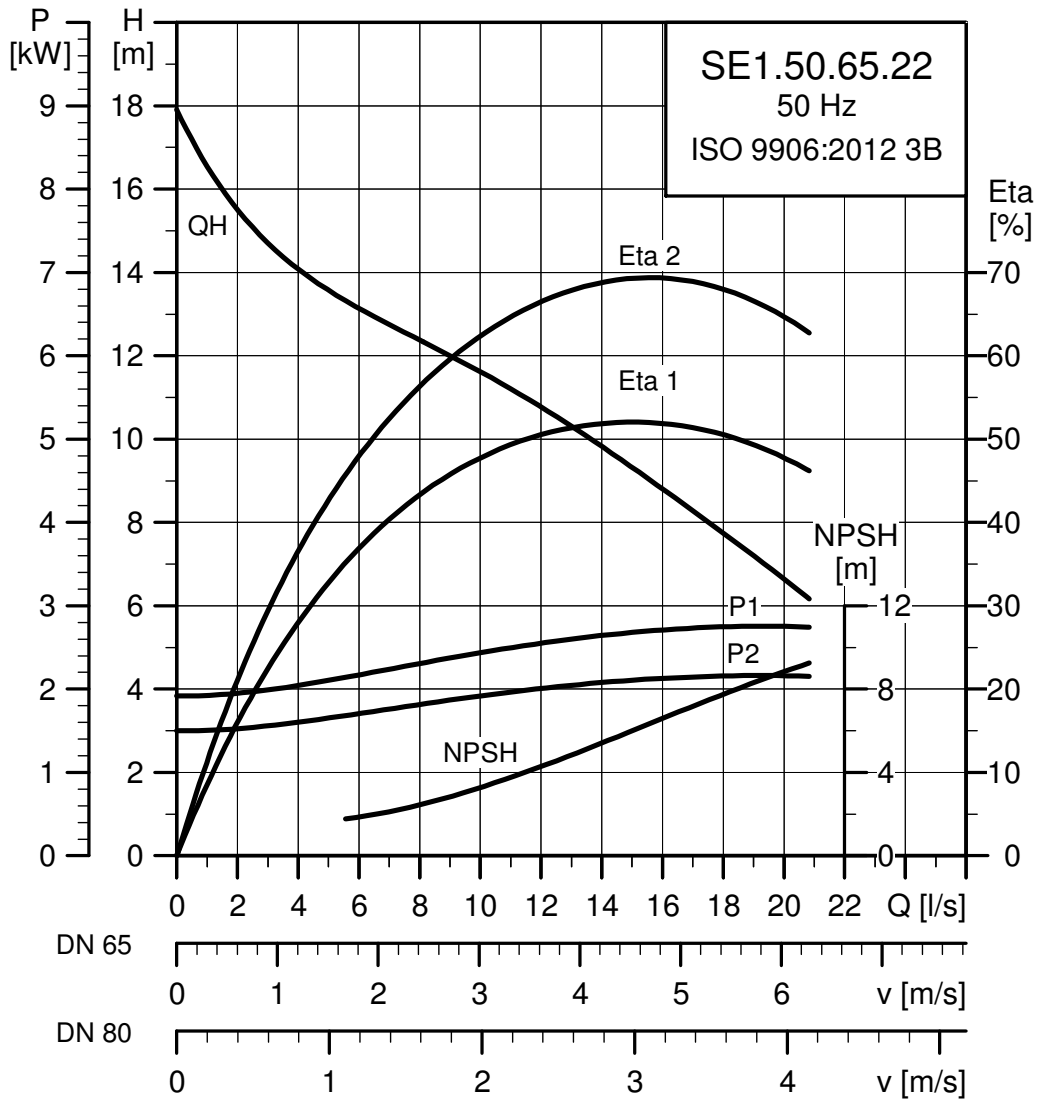
It is possible for the customer to witness the testing procedure according to ISO 9906:2012, grade 3B.

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

If the customer wants to carry out a witness test of the pump performance, such request must be stated on the order.

# 10. Performance curves and technical data

## SE1.50.65.22.(Ex).2



TM02 7955 1817

### Electrical data

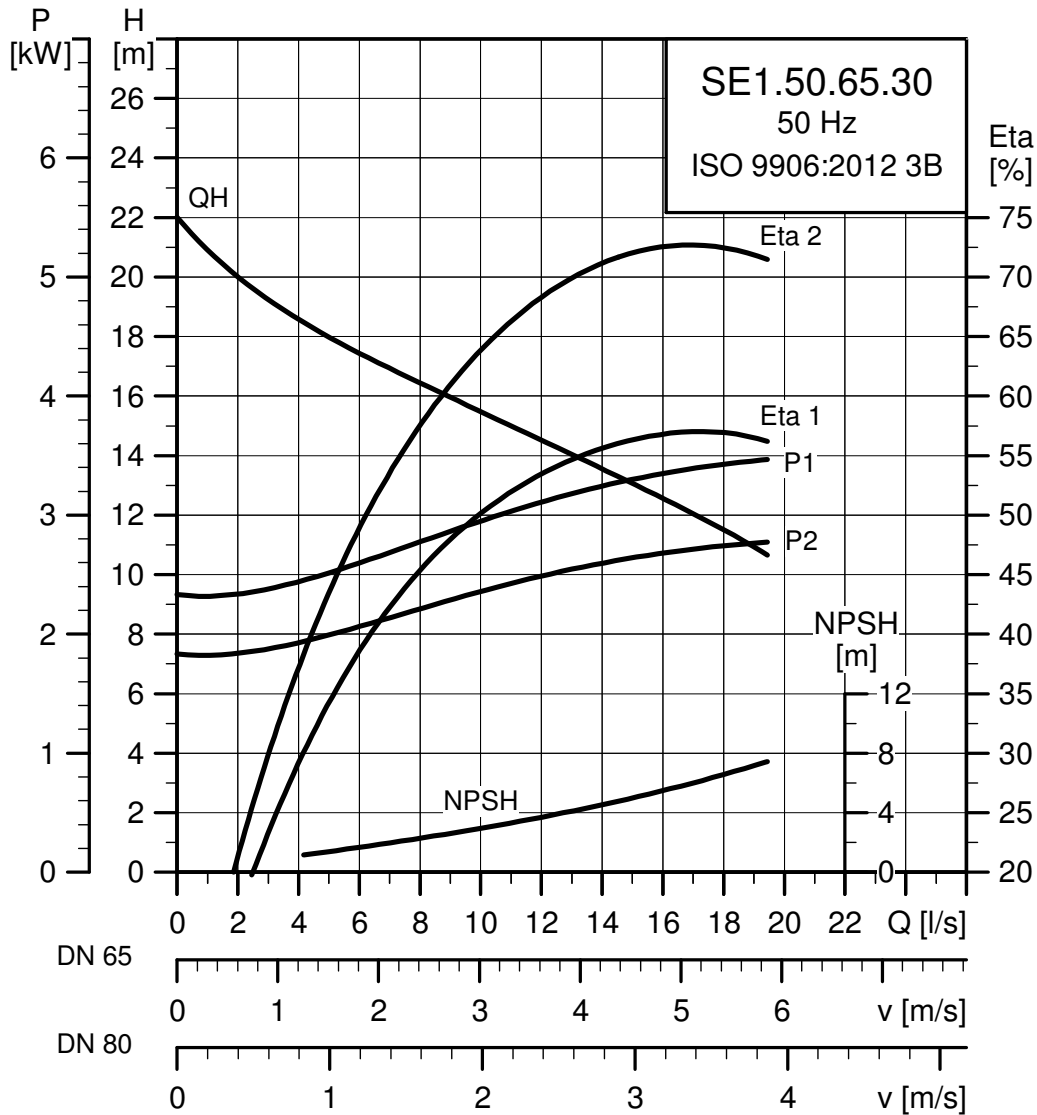
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$        |                    |                       | $\eta_{motor}$ [%]    |                       |                   | Cos $\phi$        |                   |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|----------------|--------------------|-----------------------|-----------------------|-----------------------|-------------------|-------------------|-------------------|--------|--|------------------------------------|
|                |            |            |                 |      |                 | $I_N^*$<br>[A] | $I_{start}$<br>[A] | $\eta_{motor}$<br>1/2 | $\eta_{motor}$<br>3/4 | $\eta_{motor}$<br>1/1 | Cos $\phi$<br>1/2 | Cos $\phi$<br>3/4 | Cos $\phi$<br>1/1 |        |  |                                    |
| 3 x 380-415    | 2.8        | 2.2        | 2               | 2895 | DOL             | 8.9 - 8.7      | 37                 | 73.5                  | 76.6                  | 77                    | 0.72              | 0.81              | 0.86              | 0.0102 | 23                                       |                                    |

\* Low voltage - high voltage.

### Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 50                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SE1.50.65.30.(Ex).2**



TM02 7956 1817

**Electrical data**

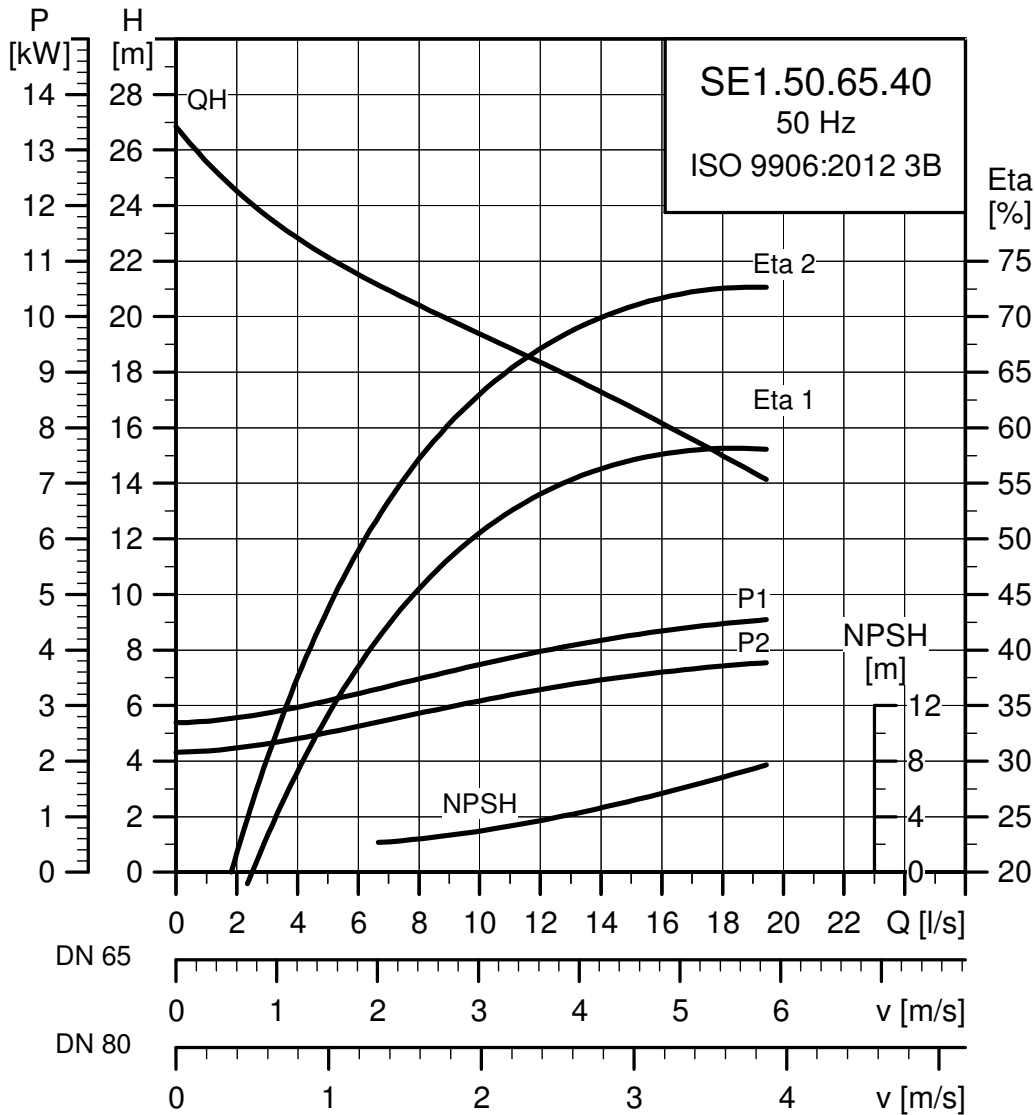
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 3.8        | 3.0        | 2                  | 2910 | DOL                | 11.8 - 11.2 | 51  |  | 75.1               | 78.5 | 79.6 | 0.74       | 0.83 | 0.87 | 0.0123                                      | 33                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 50                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.50.65.40.(Ex).2**



TM02 7958 1817

**Electrical data**

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$   |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------|-----|--|--------------------|------|------|------------|------|------|--|------------------------------------|
|                |            |            |                 |      |                 | [A]       | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |  |                                    |
| 3 x 380-415    | 4.8        | 4.0        | 2               | 2925 | Y/D             | 8.7 - 8.5 | 71  |  | 79.2               | 82.4 | 83.3 | 0.68       | 0.78 | 0.84 | 0.0194                                   | 54                                 |

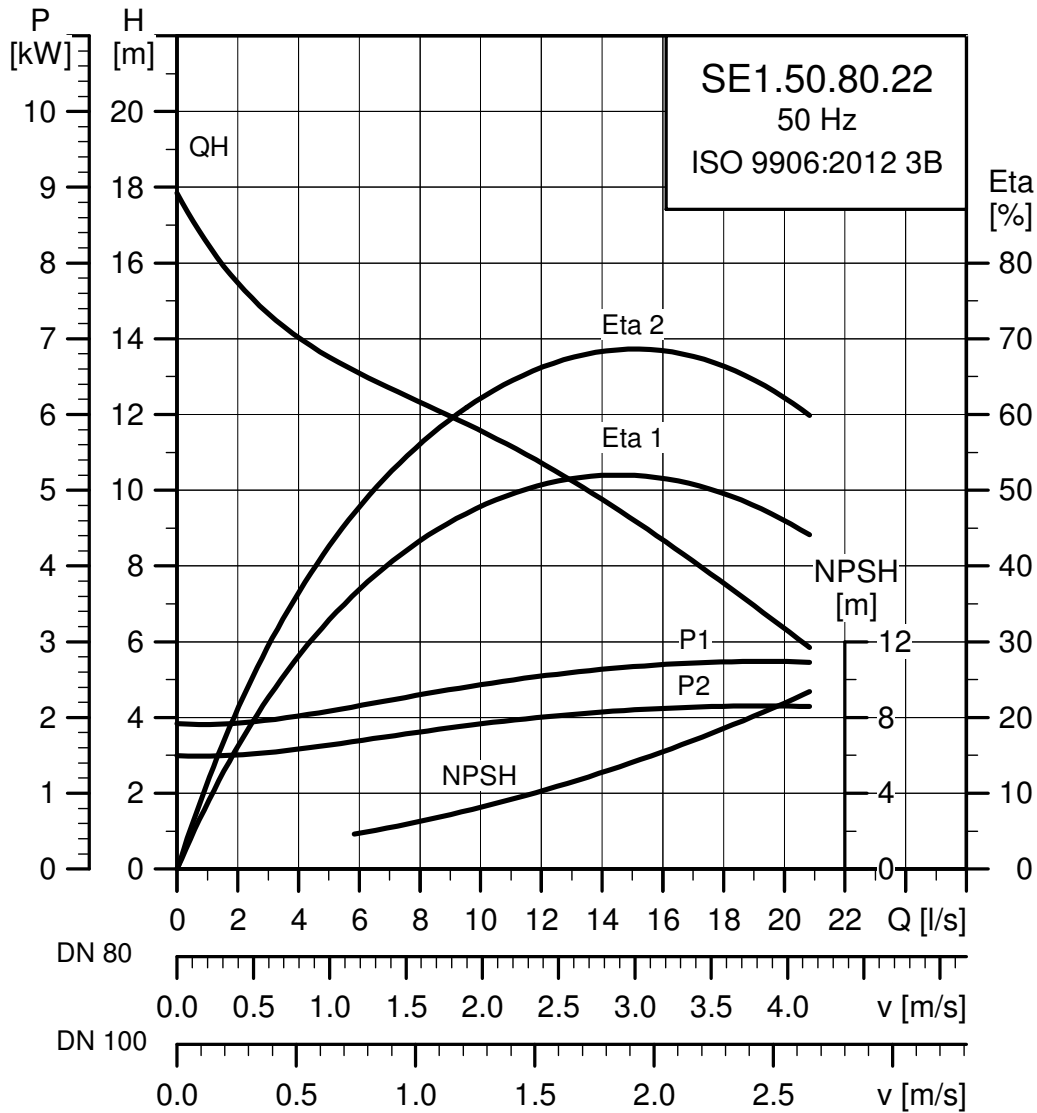
\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 50                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |



SE1.50.80.22.(Ex).2



TM02 7954 1817

Electrical data

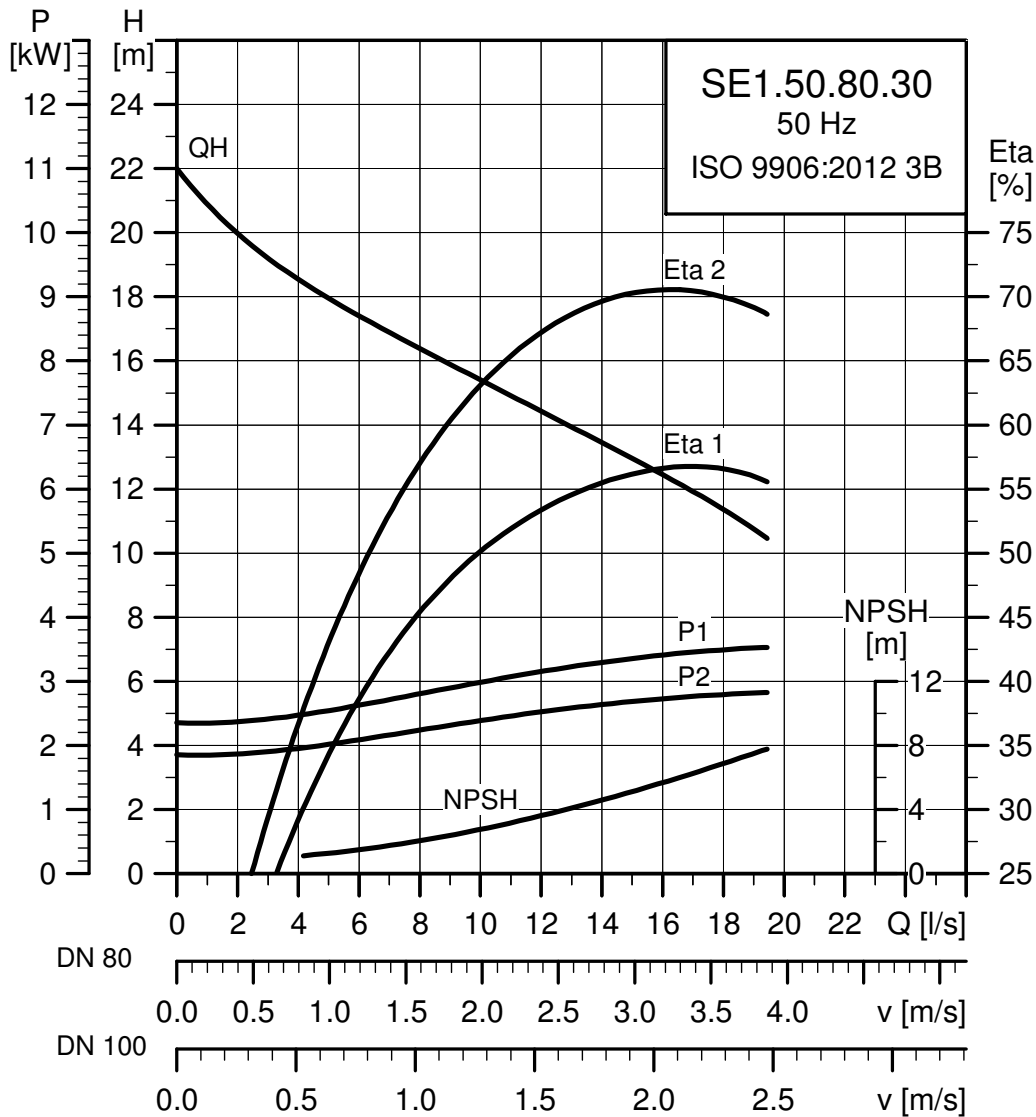
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |      | $\eta_{motor} [\%]$ |     |      | Cos $\varphi$ |      |        | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|------|---------------------|-----|------|---------------|------|--------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] | 1/2  | 3/4                 | 1/1 | 1/2  | 3/4           | 1/1  |        |   |                                       |
| 3 x 380-415    | 2.8        | 2.2        | 2                  | 2895 | DOL                | 8.9 - 8.7 | 37  | 73.5 | 76.6                | 77  | 0.72 | 0.81          | 0.86 | 0.0102 | 23  |                                       |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 50                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.50.80.30.(Ex).2**



TM02 7957 1817

**Electrical data**

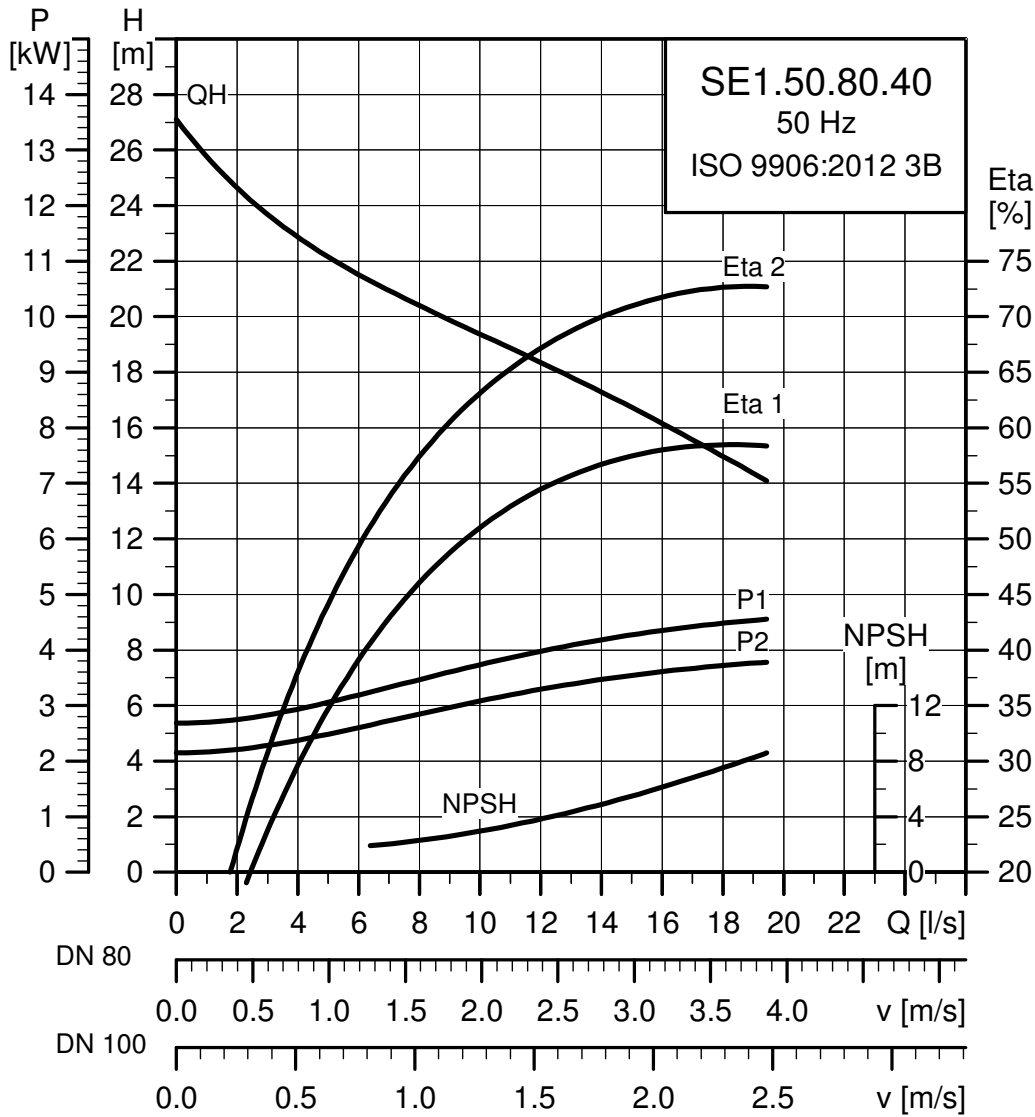
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 3.8        | 3.0        | 2               | 2910 | DOL             | 11.8 - 11.2 | 51  | 75.1 | 78.5        | 79.6 | 0.74 | 0.83               | 0.87 | 0.0123 | 33         |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 50                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

SE1.50.80.40.(Ex).2



TM02 79591817

Electrical data

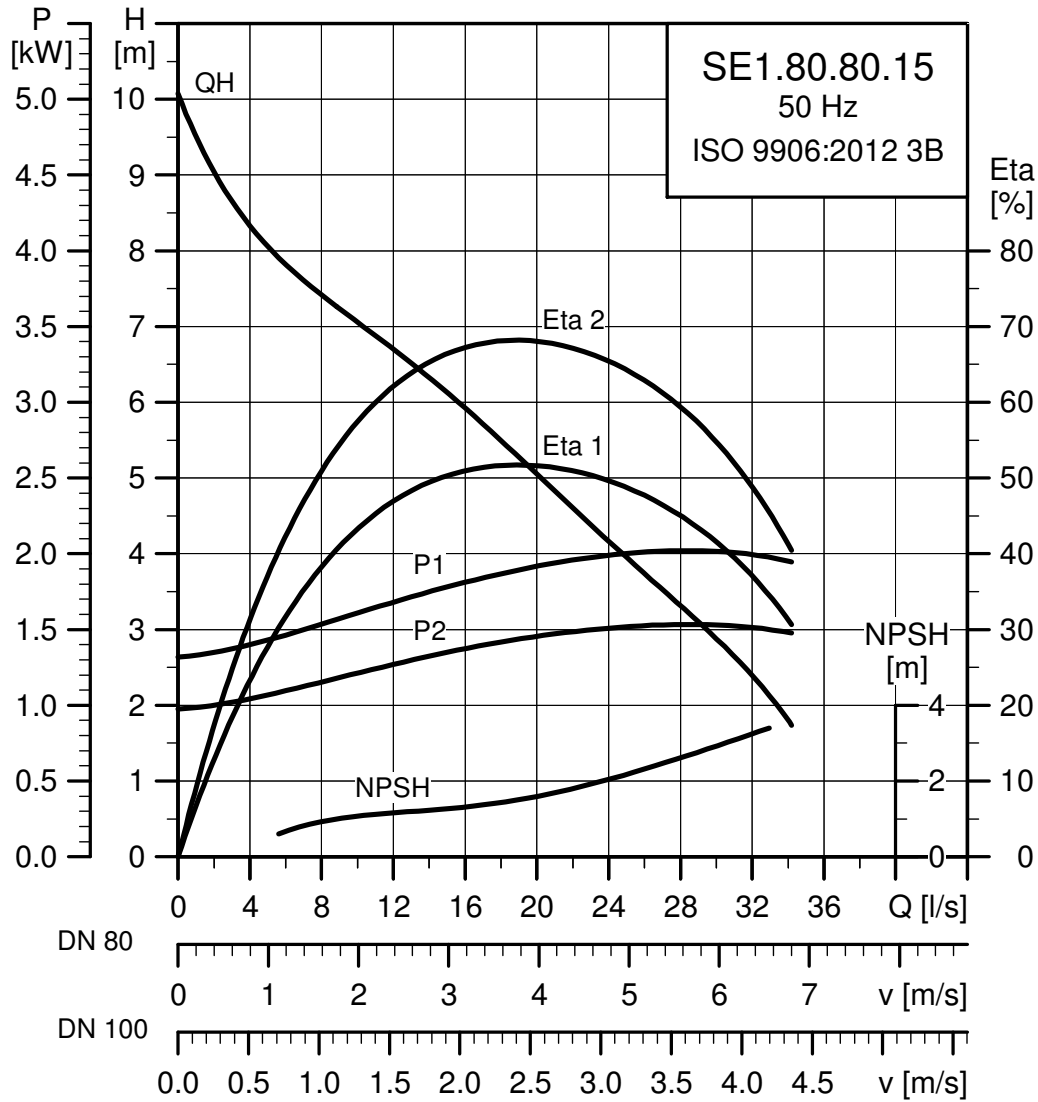
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$ |     |     | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|---------|-----|-----|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]     | [A] | [A] | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 4.8        | 4.0        | 2                  | 2925 | Y/D                | 8.7     | 8.5 | 71  | 79.2               | 82.4 | 83.3 | 0.68       | 0.78 | 0.84 | 0.0194                                      | 54                                    |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 50                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.80.80.15.(Ex).4**



TM02 7960 1817

**Electrical data**

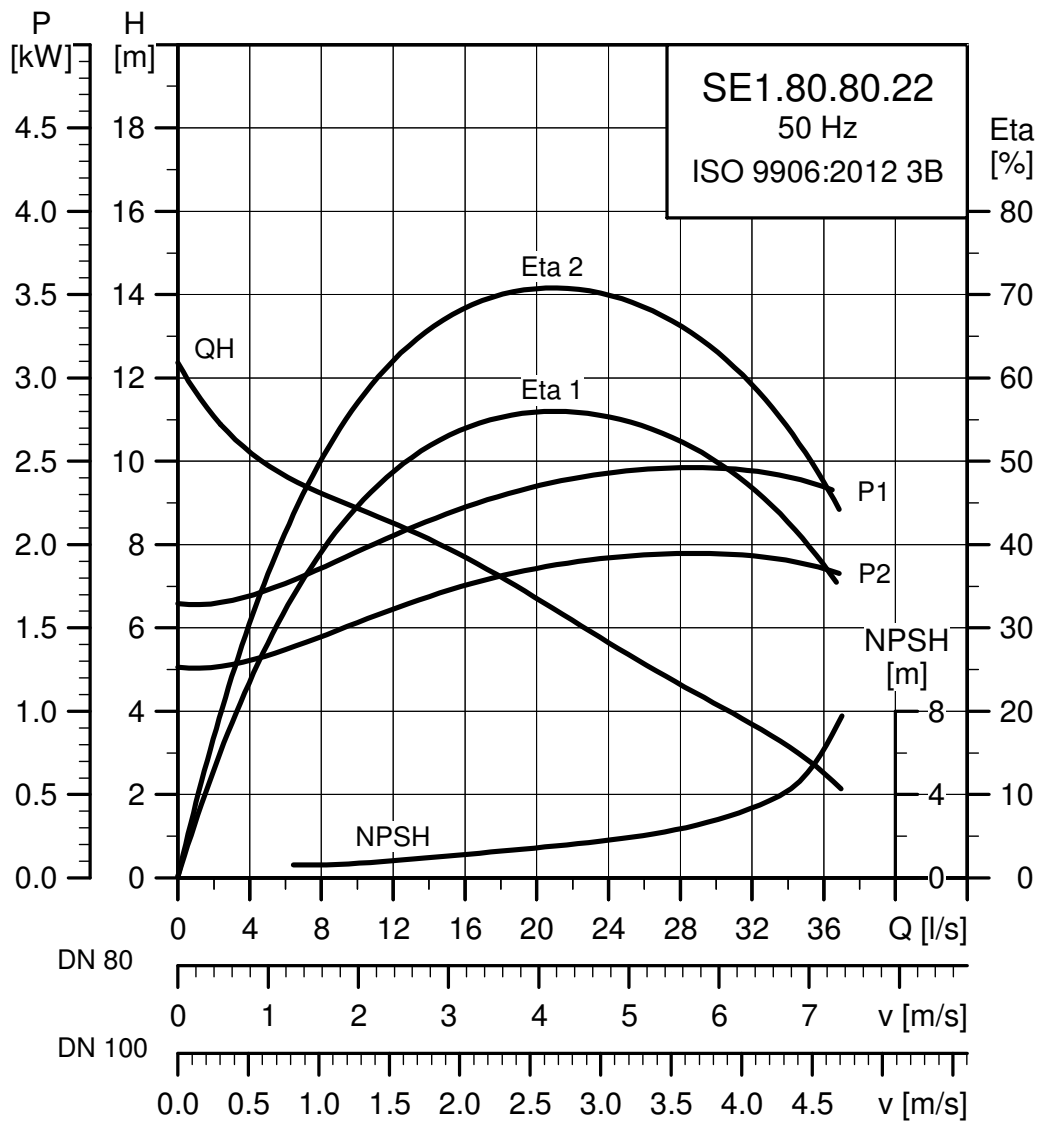
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$        |                    |  | $\eta_{motor}$ [%] |     |     | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$ .<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|----------------|--------------------|--|--------------------|-----|-----|------------|------|------|---|---|
|                |            |            |                    |      |                    | $I_N^*$<br>[A] | $I_{start}$<br>[A] |  | 1/2                | 3/4 | 1/1 | 1/2        | 3/4  | 1/1  |   |   |
| 3 x 380-415    | 2.1        | 1.5        | 4                  | 1435 | DOL                | 7.3 - 7.3      | 22                 |  | 67                 | 71  | 72  | 0.56       | 0.68 | 0.76 | 0.0492                                      | 28                                      |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

SE1.80.80.22.(Ex).4



TM02 7962 1817

Electrical data

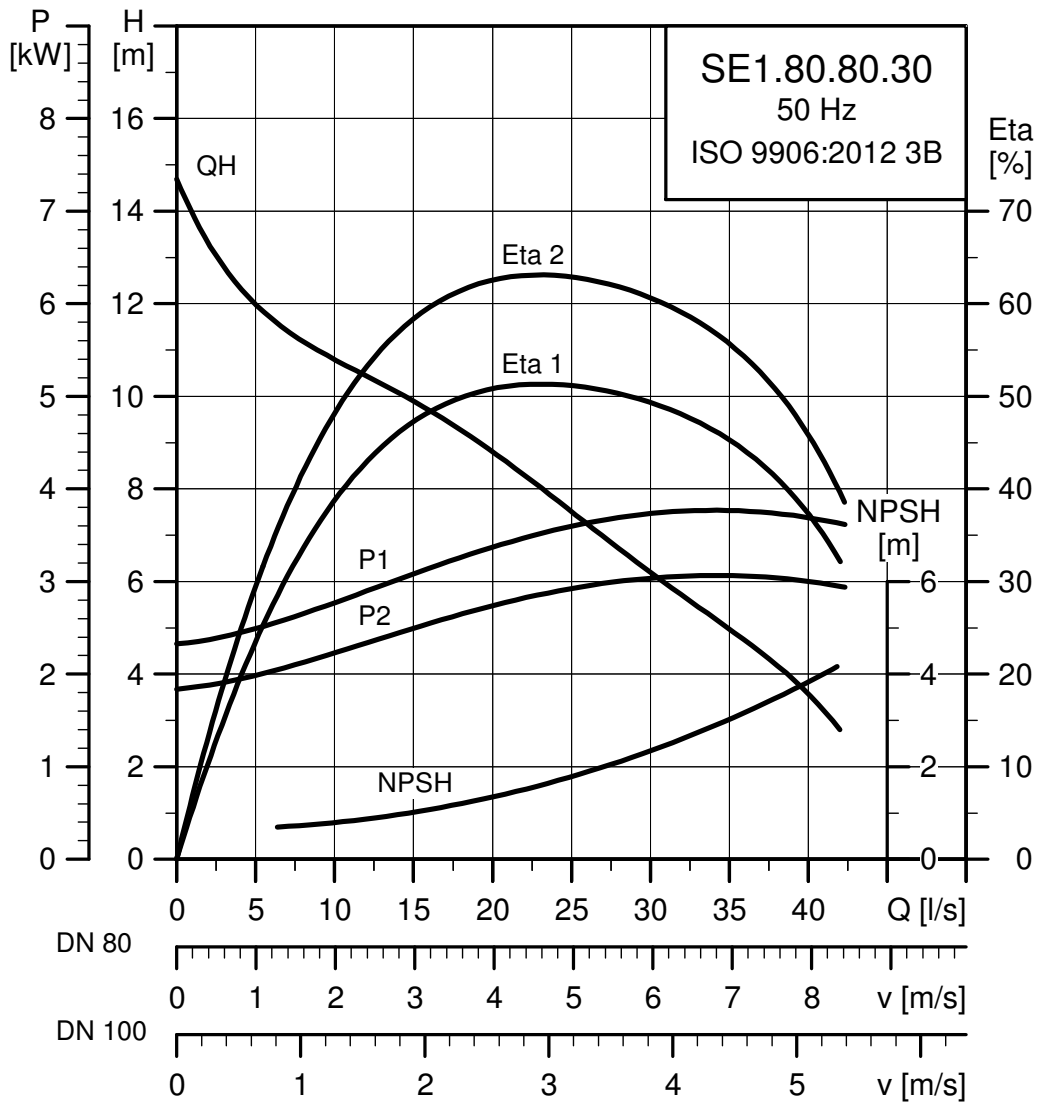
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | I <sub>N</sub> *<br>[A] |     |      | η <sub>motor</sub> [%] |      |      | Cos φ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque M <sub>max</sub> .<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------------------|-----|------|------------------------|------|------|-------|------|--------|--|---|
|                |            |            |                 |      |                 | I <sub>start</sub>      | 1/2 | 3/4  | 1/1                    | 1/2  | 3/4  | 1/1   |      |        |  |   |
| 3 x 380-415    | 2.9        | 2.2        | 4               | 1445 | DOL             | 10.3 - 10.3             | 32  | 70.9 | 75.2                   | 76.3 | 0.53 | 0.66  | 0.74 | 0.0570 | 45                                       |   |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 80                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SE1.80.80.30.(Ex).4**



TM02 7964 1817

**Electrical data**

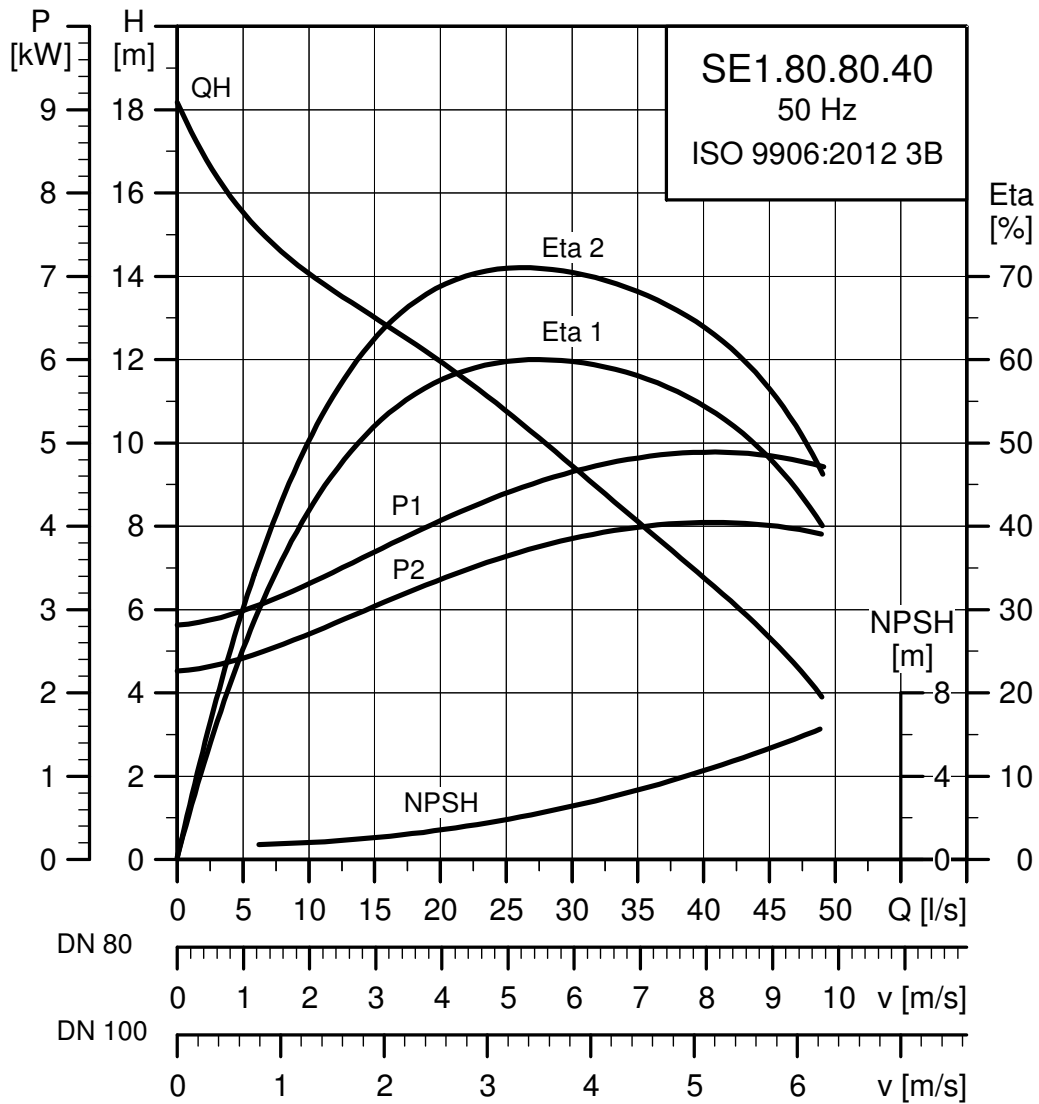
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |     | $\eta_{motor}$ [%] |      |        | Cos $\varphi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|-----|--------------------|------|--------|---------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1 | 1/2                | 3/4  | 1/1    |               |  |  |   |                                       |
| 3 x 380-415    | 3.7        | 3.0        | 4                  | 1455 | DOL                | 13.4 - 13.8 | 43  | 76.4 | 79.9        | 81.2 | 0.5 | 0.64               | 0.73 | 0.0966 | 71            |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.80.80.40.(Ex).4**



TM02 7966 1817

**Electrical data**

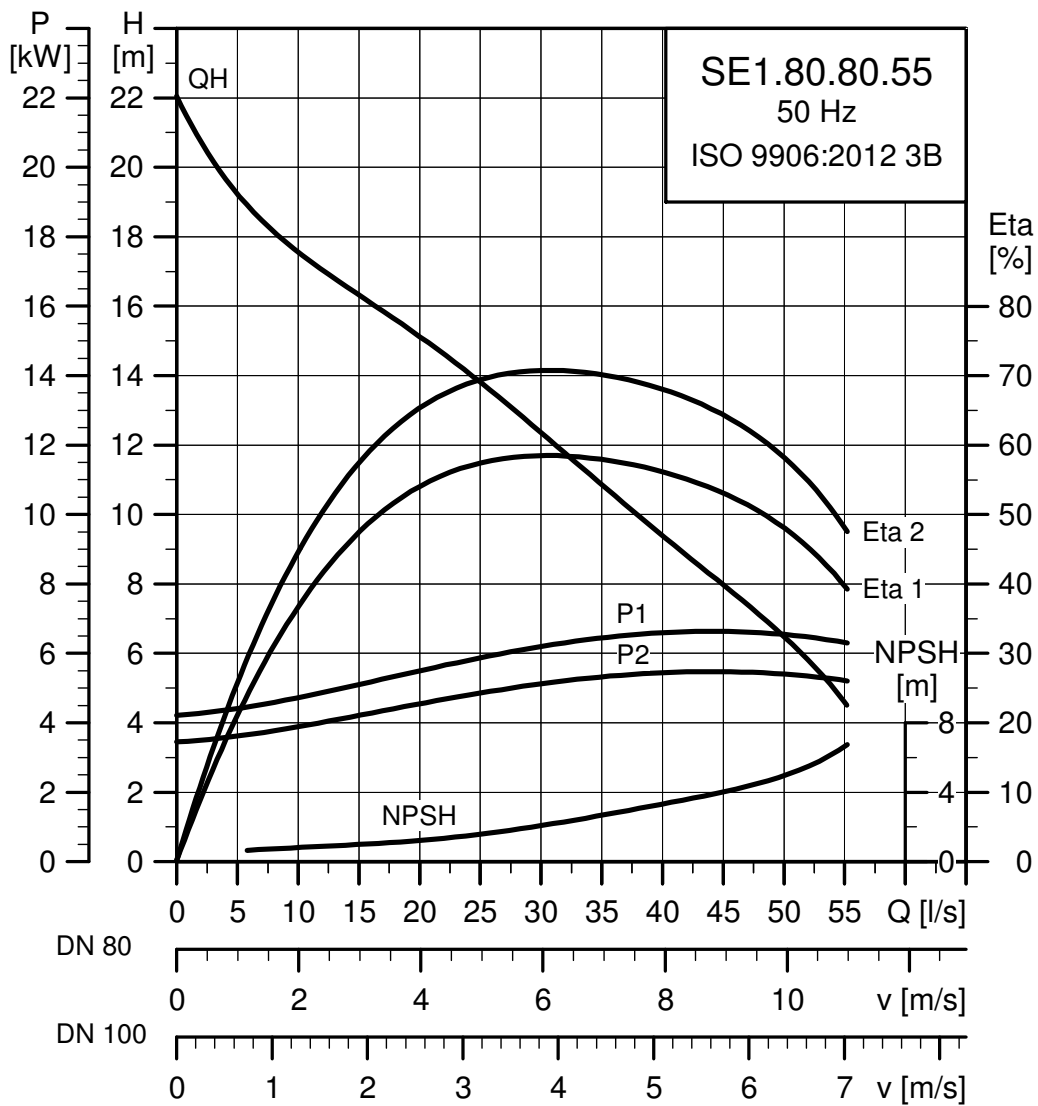
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | I <sub>N</sub> <sup>*</sup> |     |      | η <sub>motor</sub> [%] |      |      | Cos φ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque M <sub>max</sub><br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------------------------|-----|------|------------------------|------|------|-------|------|--------|--|---|
|                |            |            |                 |      |                 | [A]                         | [A] | [A]  | 1/2                    | 3/4  | 1/1  | 1/2   | 3/4  | 1/1    |  |   |
| 3 x 380-415    | 4.9        | 4.0        | 4               | 1460 | Y/D             | 10.0 - 10.2                 | 67  | 78.2 | 81.7                   | 82.2 | 0.52 | 0.65  | 0.73 | 0.1141 | 100                                      |   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 80                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SE1.80.80.55.(Ex).4**



TM02 7968 1817

**Electrical data**

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |     | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|-----|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A] | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 6.5        | 5.5        | 4               | 1455 | Y/D             | 13.3 - 13.8 | 87  | 81  | 83.3        | 83.9 | 0.52 | 0.65               | 0.74 | 0.1295 | 122        |  |  |  |                                    |

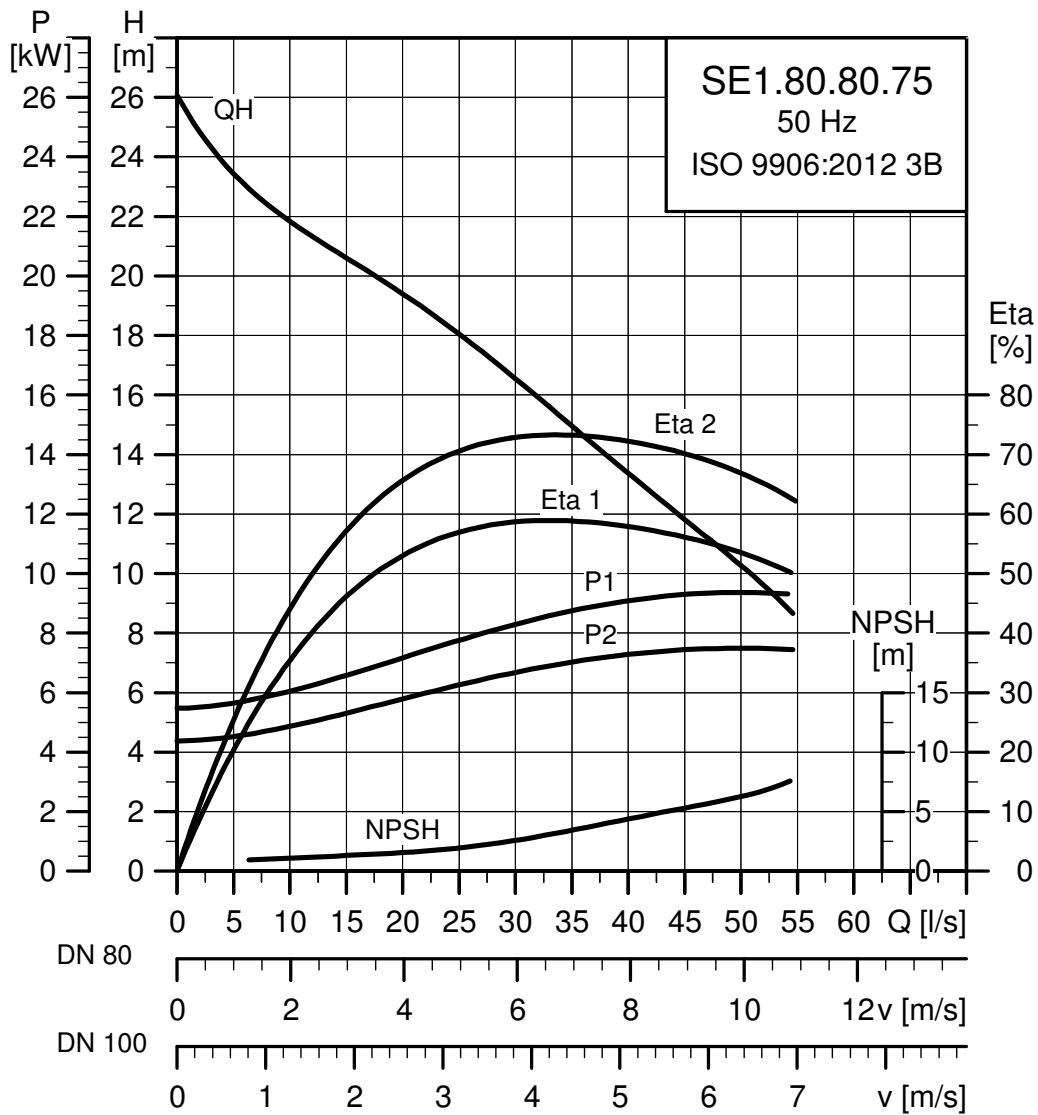
\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 80                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |



SE1.80.80.75.(Ex).4



TM02 7970 1817

Electrical data

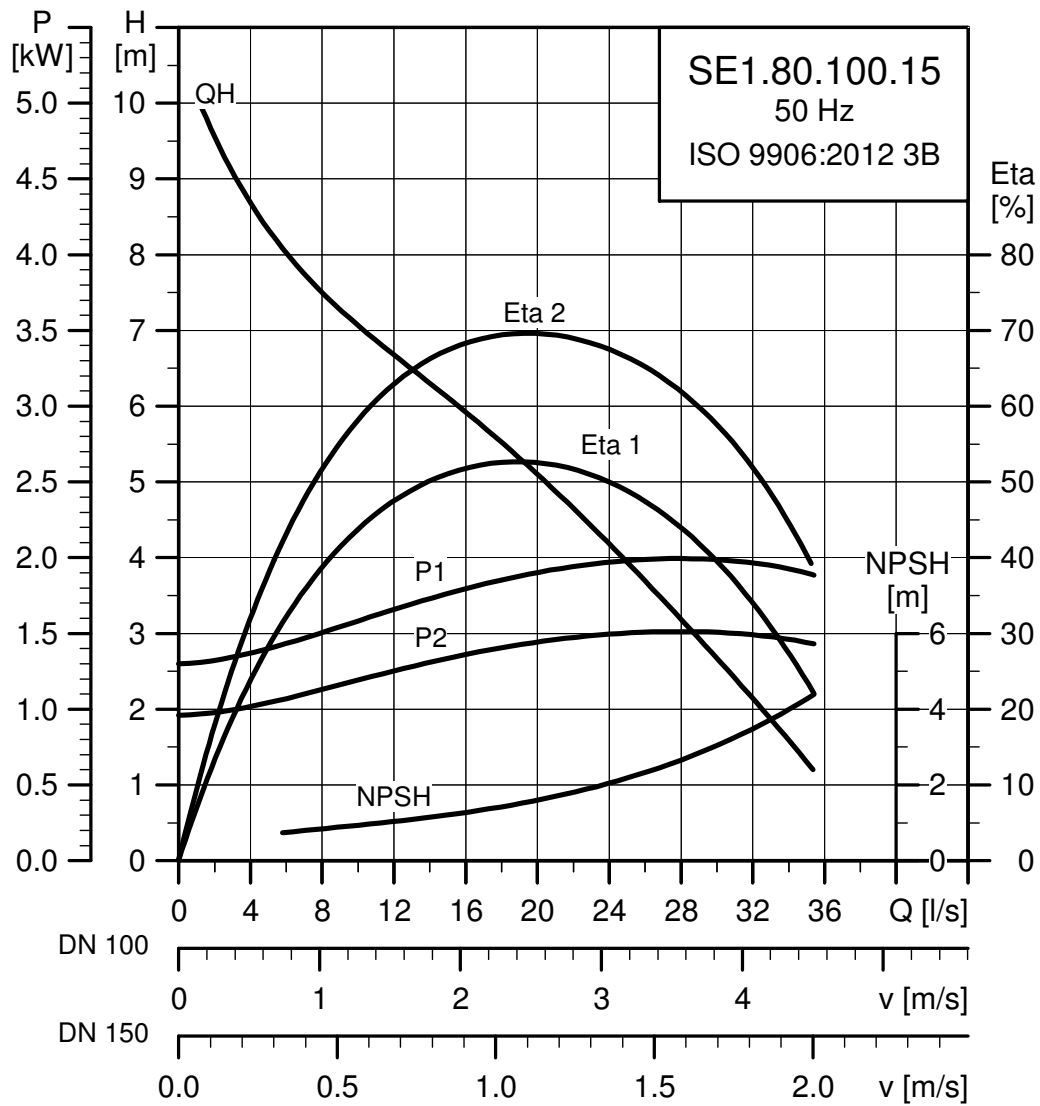
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor} [\%]$ |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|---------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                 | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 9.0        | 7.5        | 4                  | 1455 | Y/D                | 17.7 - 17.5 | 107 | 81.3 | 83.5        | 83.4 | 0.61 | 0.72                | 0.79 | 0.1618 | 141        |  |  |   |                                       |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.80.100.15.(Ex).4**



TM02 7961 1817

**Electrical data**

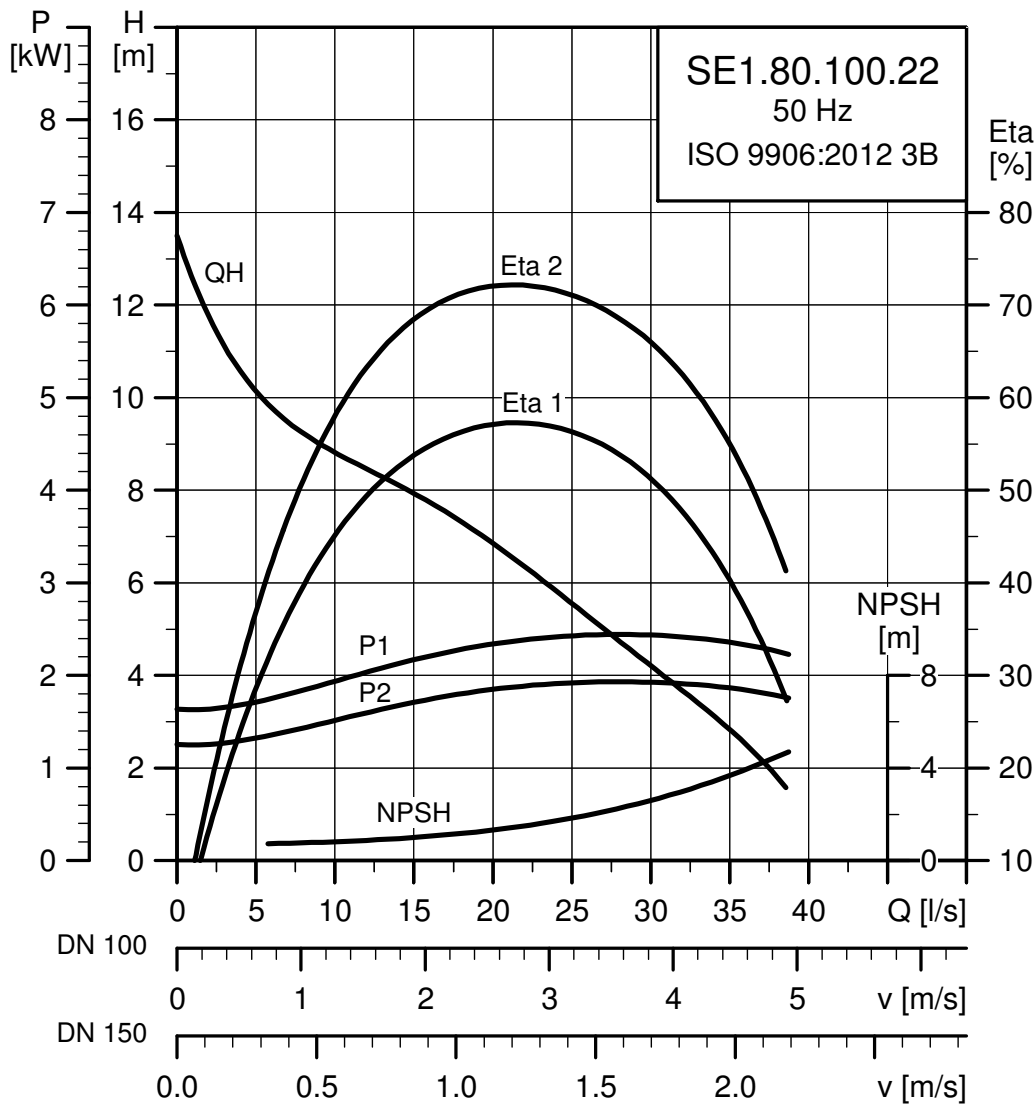
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$   |     |     | $I_{start}$ |     |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------|-----|-----|-------------|-----|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]       | [A] | [A] | 1/2         | 3/4 | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 2.1        | 1.5        | 4               | 1435 | DOL             | 7.3 - 7.3 | 22  | 67  | 71          | 72  | 0.56 | 0.68               | 0.76 | 0.0492 | 28         |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 80                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SE1.80.100.22.(Ex).4**



TM02 7963 1817

**Electrical data**

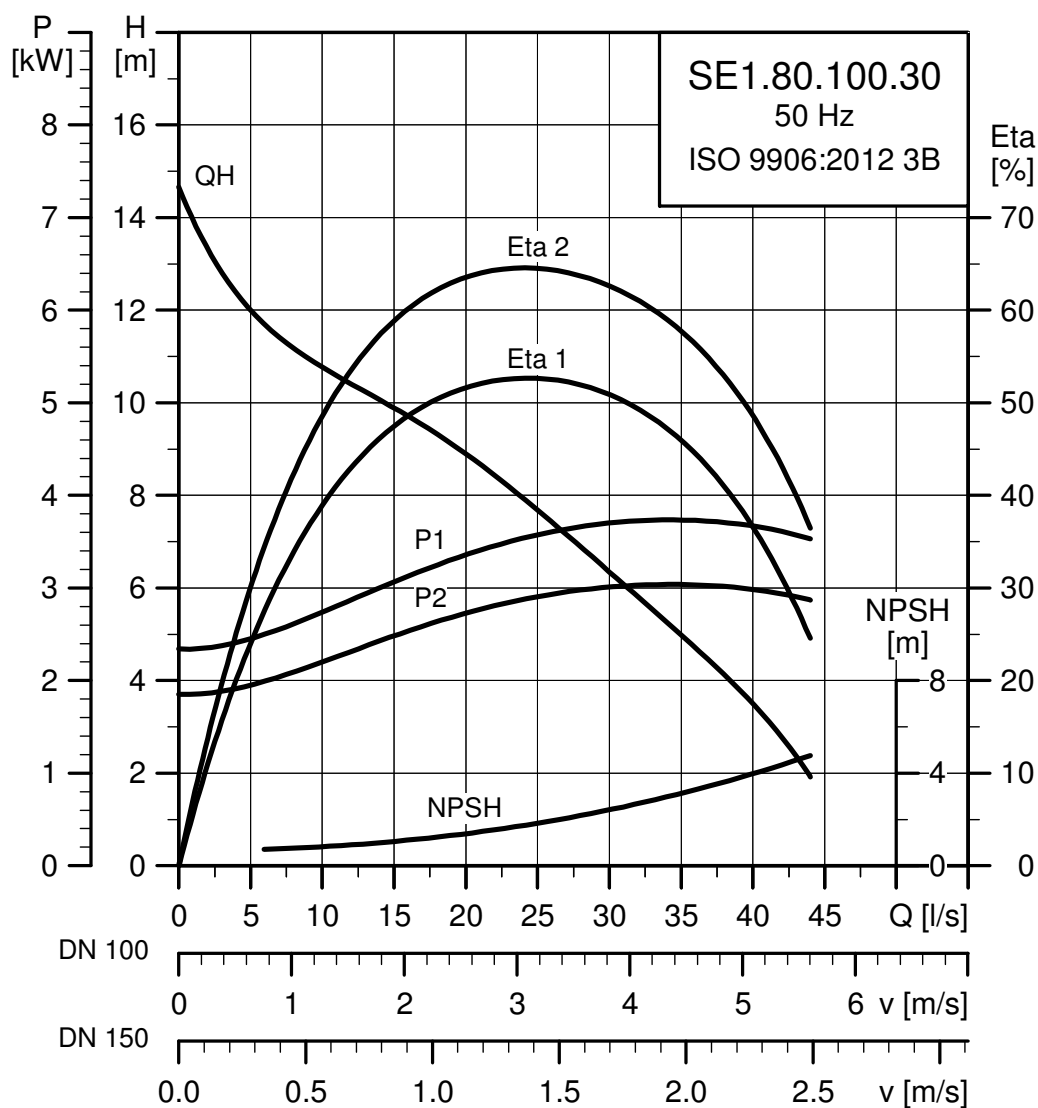
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 2.9        | 2.2        | 4                  | 1445 | DOL                | 10.3 - 10.3 | 32  |  | 70.9               | 75.2 | 76.3 | 0.53       | 0.66 | 0.74 | 0.0570                                      | 45                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

## SE1.80.100.30.(Ex).4



TM02 7965 1817

## Electrical data

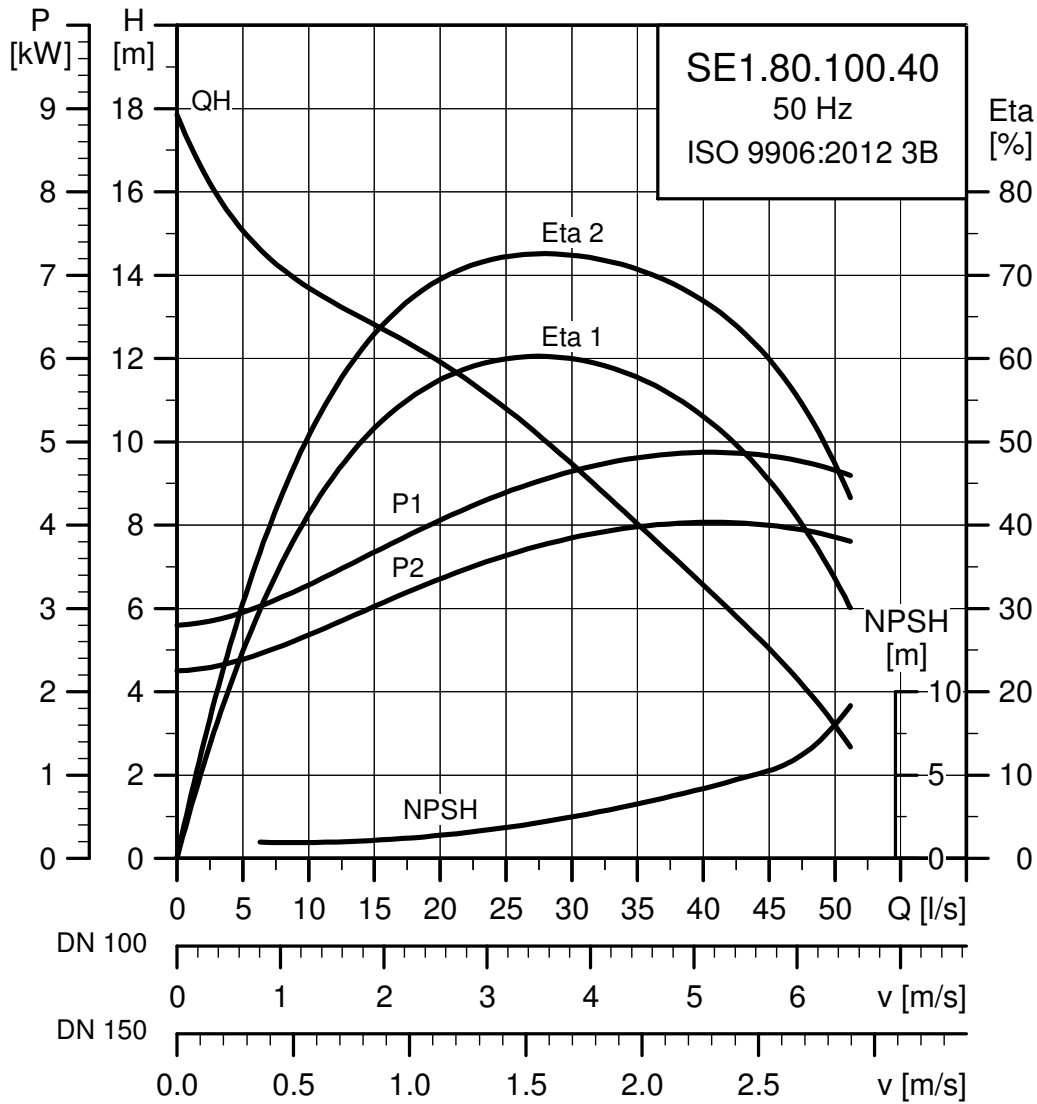
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{\text{motor}}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{\text{max}}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|---------------------------|------|------|------------|------|------|---|--|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                       | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |  |
| 3 x 380-415    | 3.7        | 3.0        | 4                  | 1455 | DOL                | 13.4 - 13.8 | 43  |  | 76.4                      | 79.9 | 81.2 | 0.5        | 0.64 | 0.73 | 0.0966                                      | 71   |

\* Low voltage - high voltage.

## Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.80.100.40.(Ex).4**



TM02 7967 1817

**Electrical data**

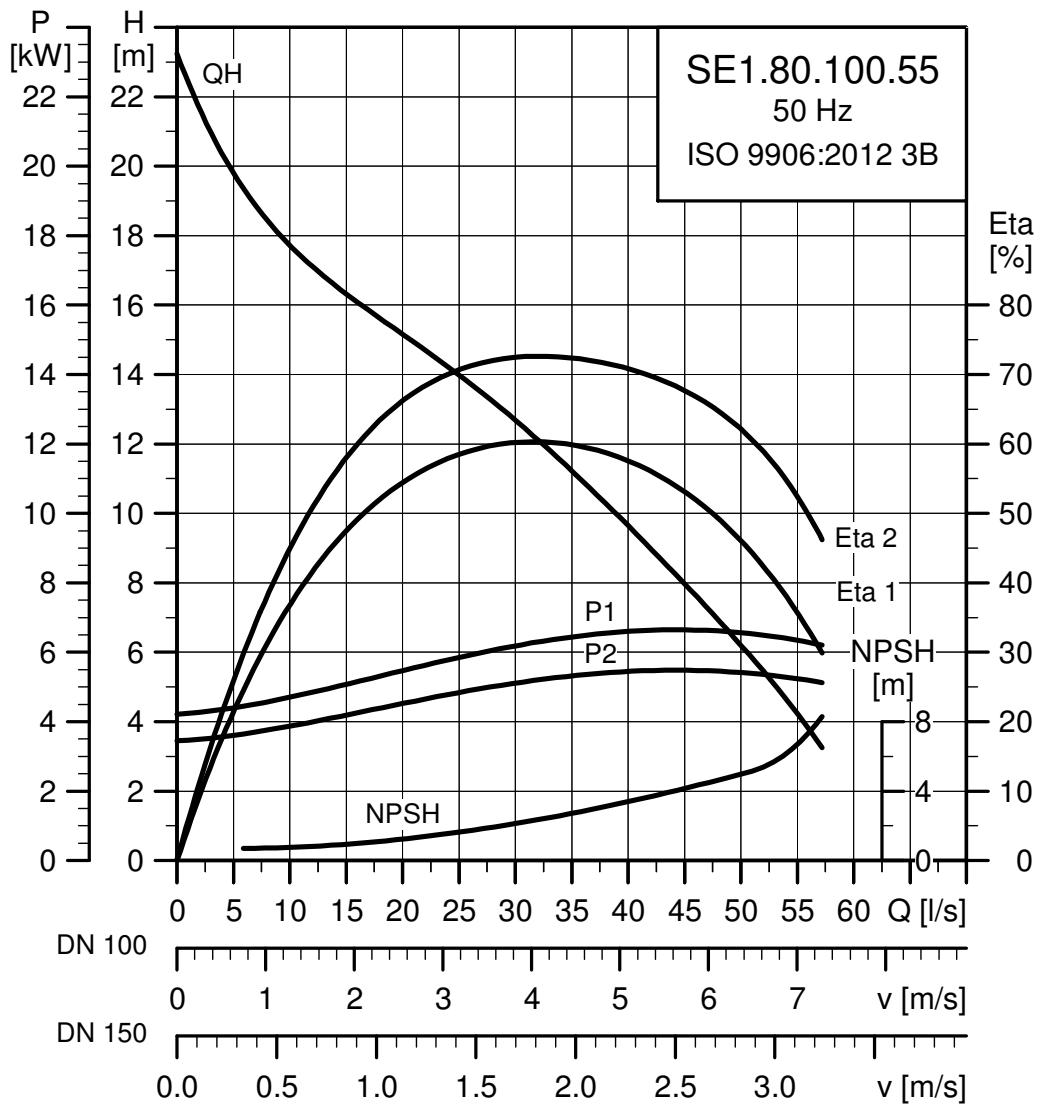
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 4.9        | 4.0        | 4                  | 1460 | Y/D                | 10.0 - 10.2 | 67  | 78.2 | 81.7        | 82.2 | 0.52 | 0.65               | 0.73 | 0.1141 | 100        |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.80.100.55.(Ex).4**



TM02 7969 1817

**Electrical data**

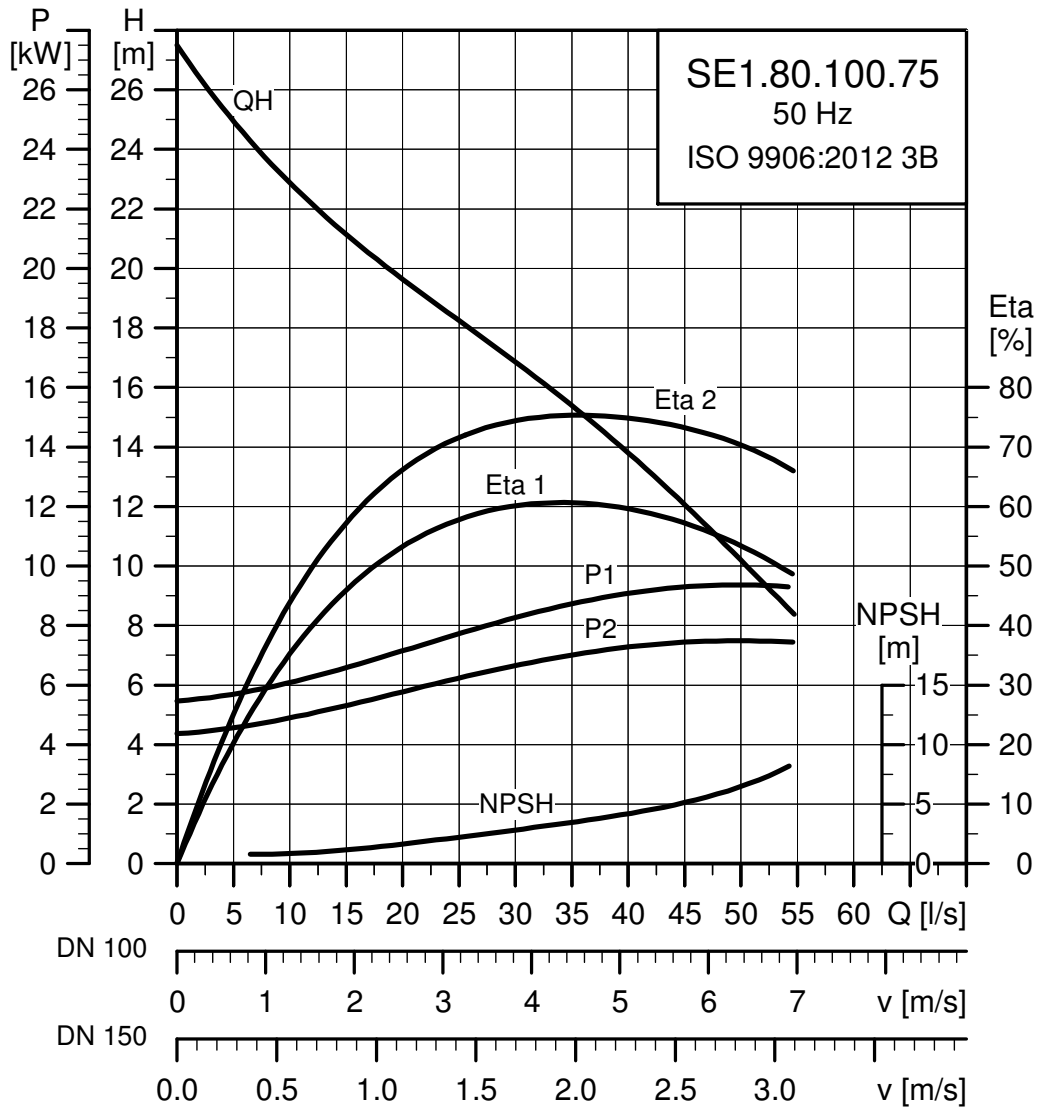
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |     | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|-----|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A] | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 6.5        | 5.5        | 4                  | 1455 | Y/D                | 13.3 - 13.8 | 87  | 81  | 83.3        | 83.9 | 0.52 | 0.65               | 0.74 | 0.1295 | 122        |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.80.100.75.(Ex).4**



TM02 7971 1817

**Electrical data**

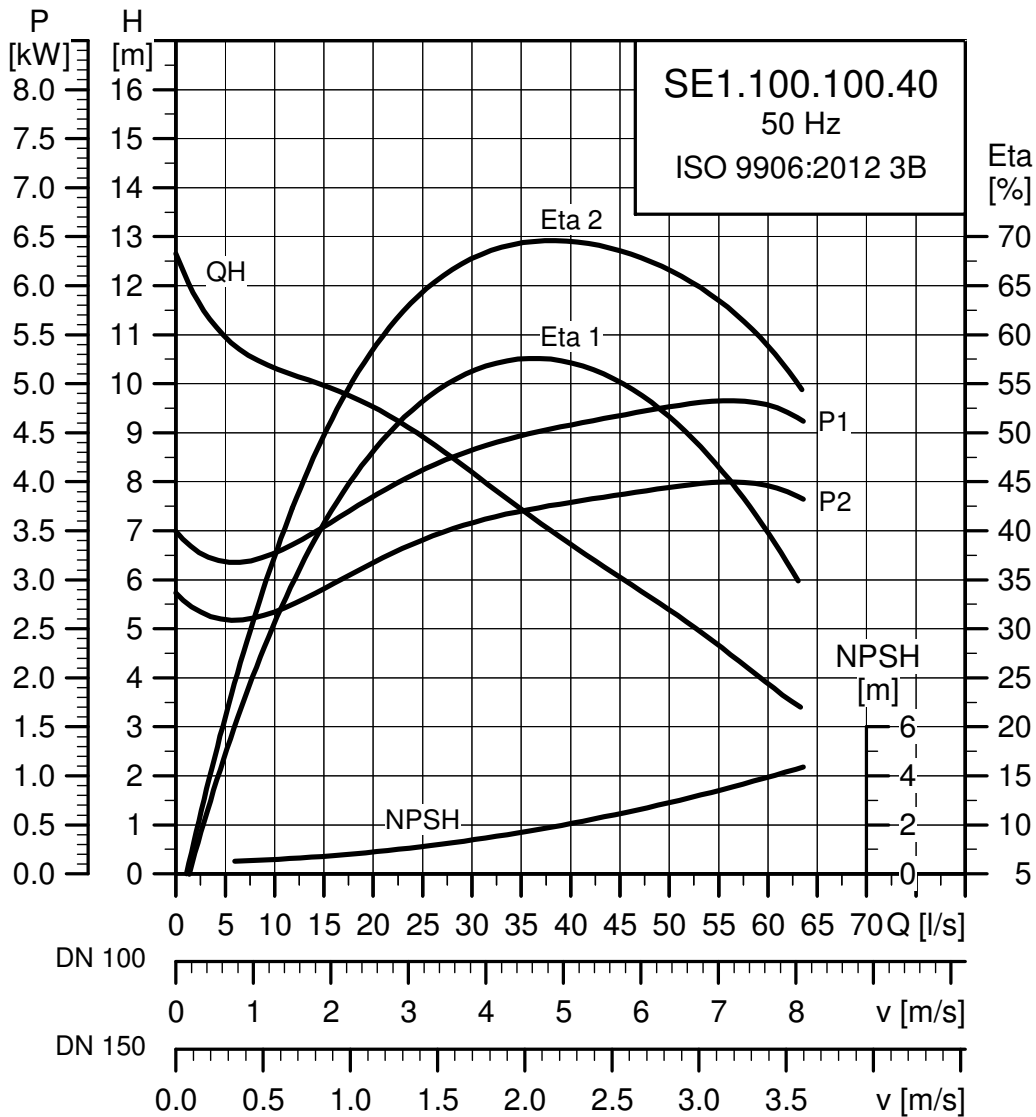
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|--------------------|------|------|------------|------|--------|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1    |  |                                    |
| 3 x 380-415    | 9.0        | 7.5        | 4               | 1445 | Y/D             | 17.7 - 17.5 | 107 | 81.3 | 83.5               | 83.4 | 0.61 | 0.72       | 0.79 | 0.1618 | 141                                      |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 80                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SE1.100.100.40.(Ex).4**



TM02 7991 1817

**Electrical data**

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 4.9        | 4.0        | 4                  | 1460 | Y/D                | 10.0 - 10.2 | 67  |  | 78.2               | 81.7 | 82.2 | 0.52       | 0.65 | 0.73 | 0.1222                                      | 100                                   |

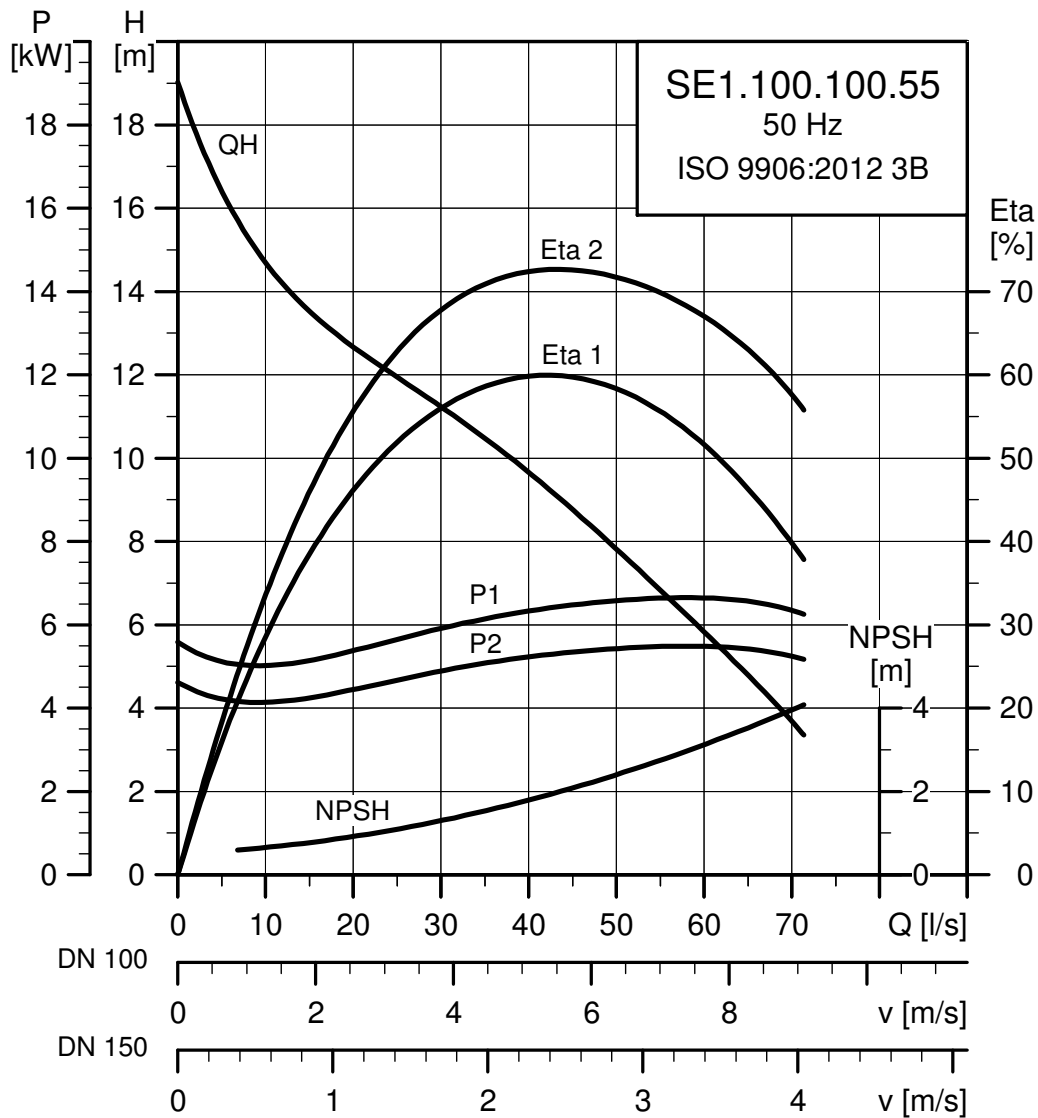
\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |



**SE1.100.100.55.(Ex).4**



TM02 7993 1817

**Electrical data**

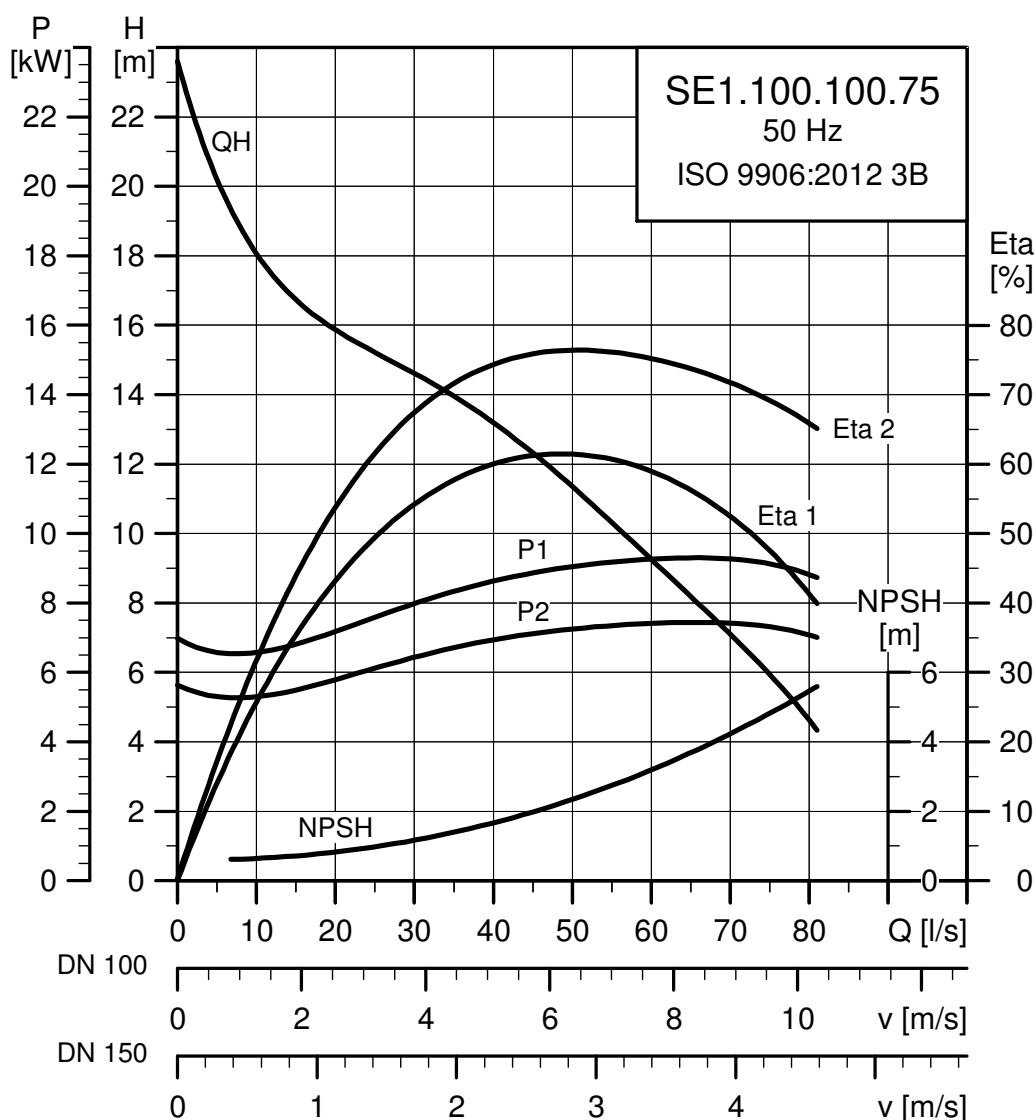
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 6.5        | 5.5        | 4                  | 1455 | Y/D                | 13.3 - 13.8 | 87  |  | 81                 | 83.3 | 83.9 | 0.52       | 0.65 | 0.74 | 0.1393                                      | 122                                   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

## SE1.100.100.75.(Ex).4



TM02 7995 1817

## Electrical data

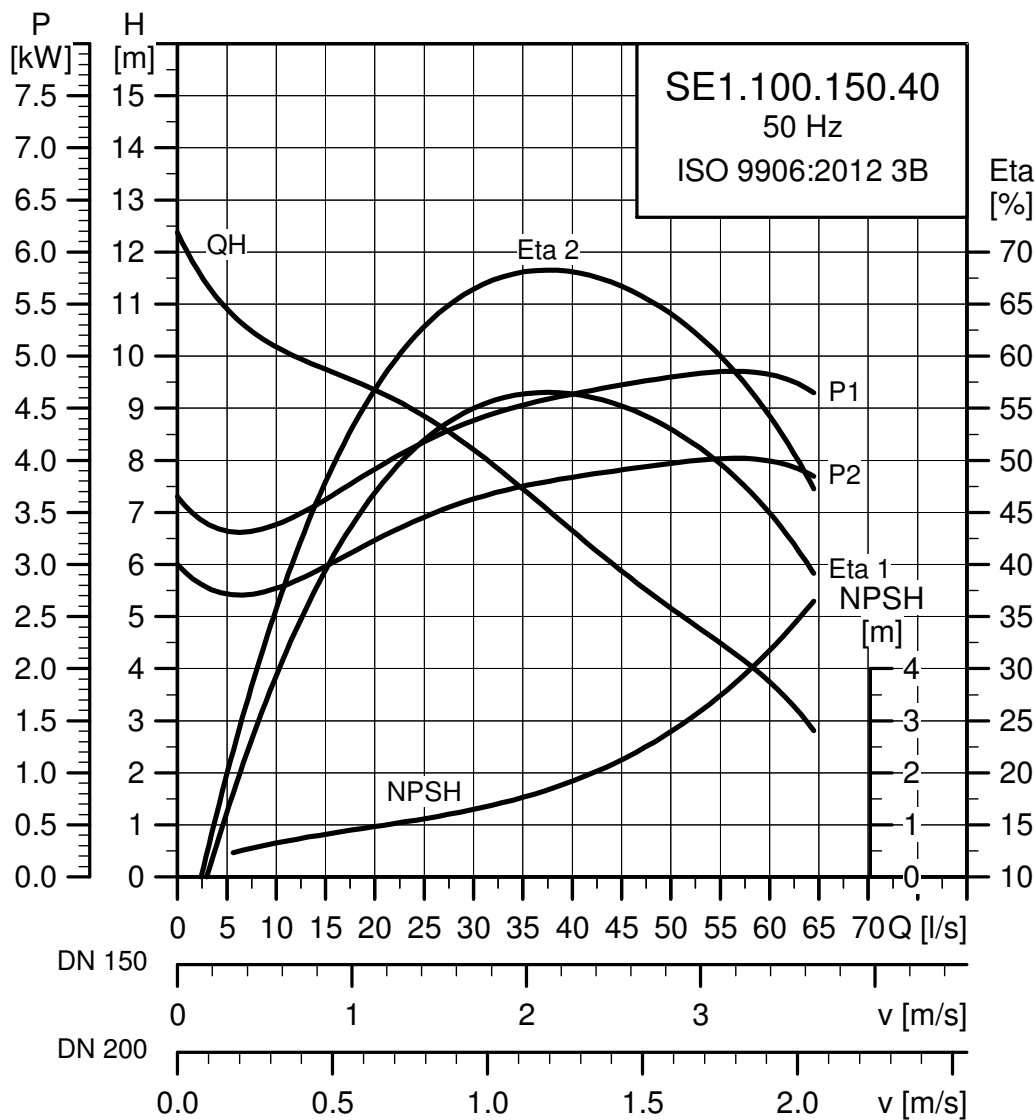
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\varphi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|---------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |               |  |  |   |                                       |
| 3 x 380-415    | 9.0        | 7.5        | 4                  | 1455 | Y/D                | 17.7 - 17.5 | 107 | 81.3 | 83.5        | 83.4 | 0.61 | 0.72               | 0.79 | 0.1860 | 141           |  |  |   |                                       |

\* Low voltage - high voltage.

## Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.100.150.40.(Ex).4**



TM02 7992 1817

**Electrical data**

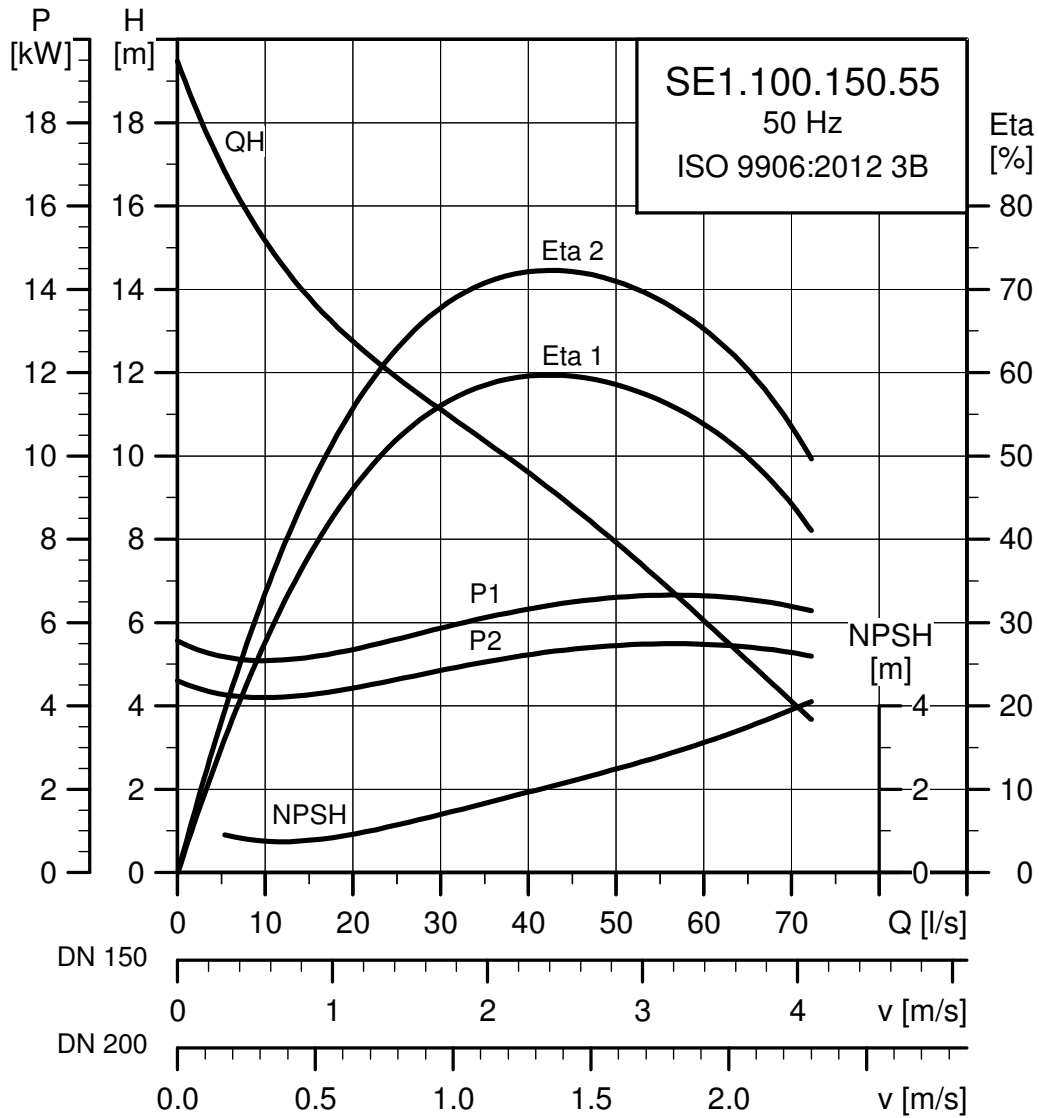
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 4.9        | 4.0        | 4               | 1460 | Y/D             | 10.0 - 10.2 | 67  | 78.2 | 81.7        | 82.2 | 0.52 | 0.65               | 0.73 | 0.1222 | 100        |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| S-tube®       | 100                      | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SE1.100.150.55.(Ex).4**



TM02 7994 1817

**Electrical data**

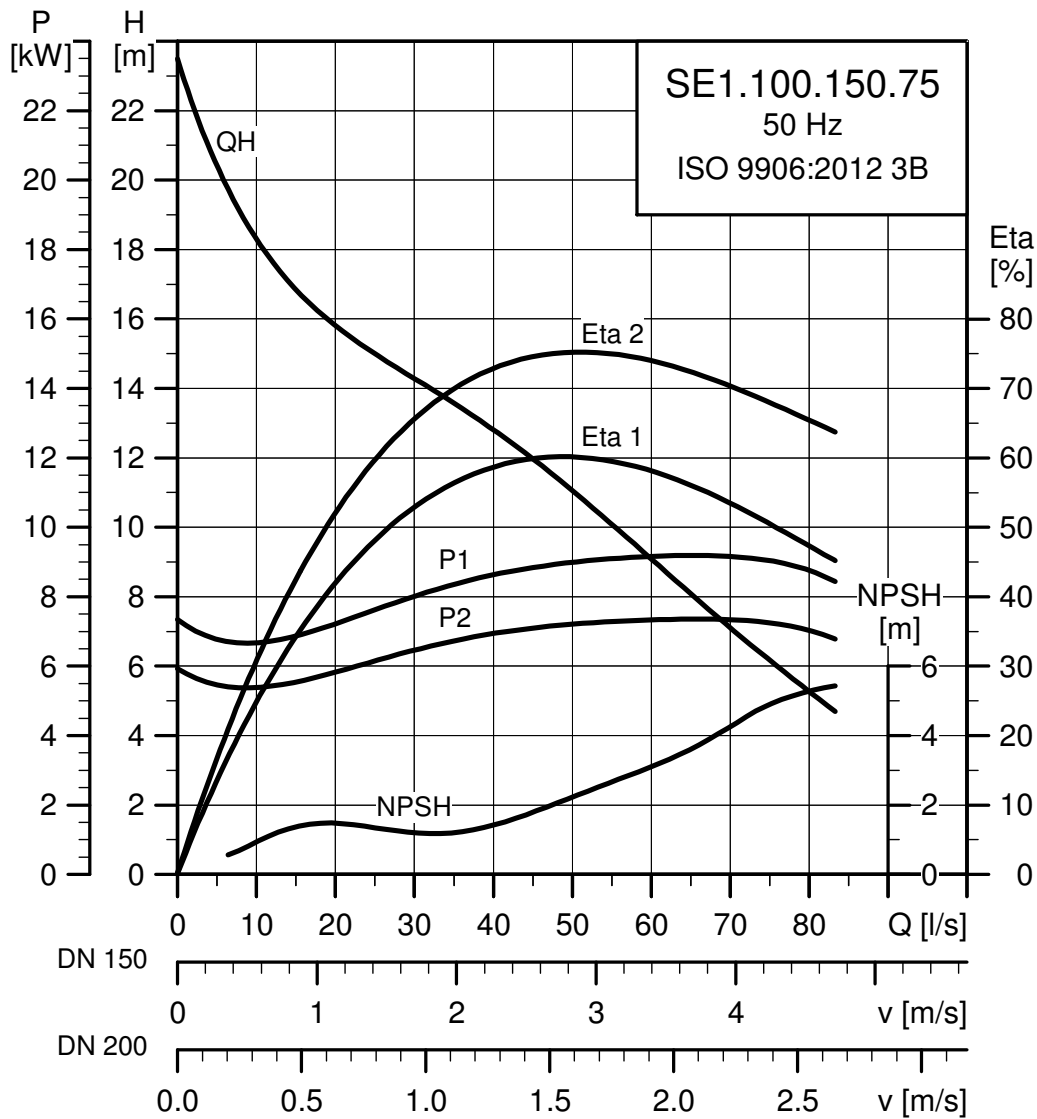
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 6.5        | 5.5        | 4                  | 1455 | Y/D                | 13.3 - 13.8 | 87  |  | 81                 | 83.3 | 83.9 | 0.52       | 0.65 | 0.74 | 0.1393                                      | 122                                   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SE1.100.150.75.(Ex).4**



TM02 7996 1817

**Electrical data**

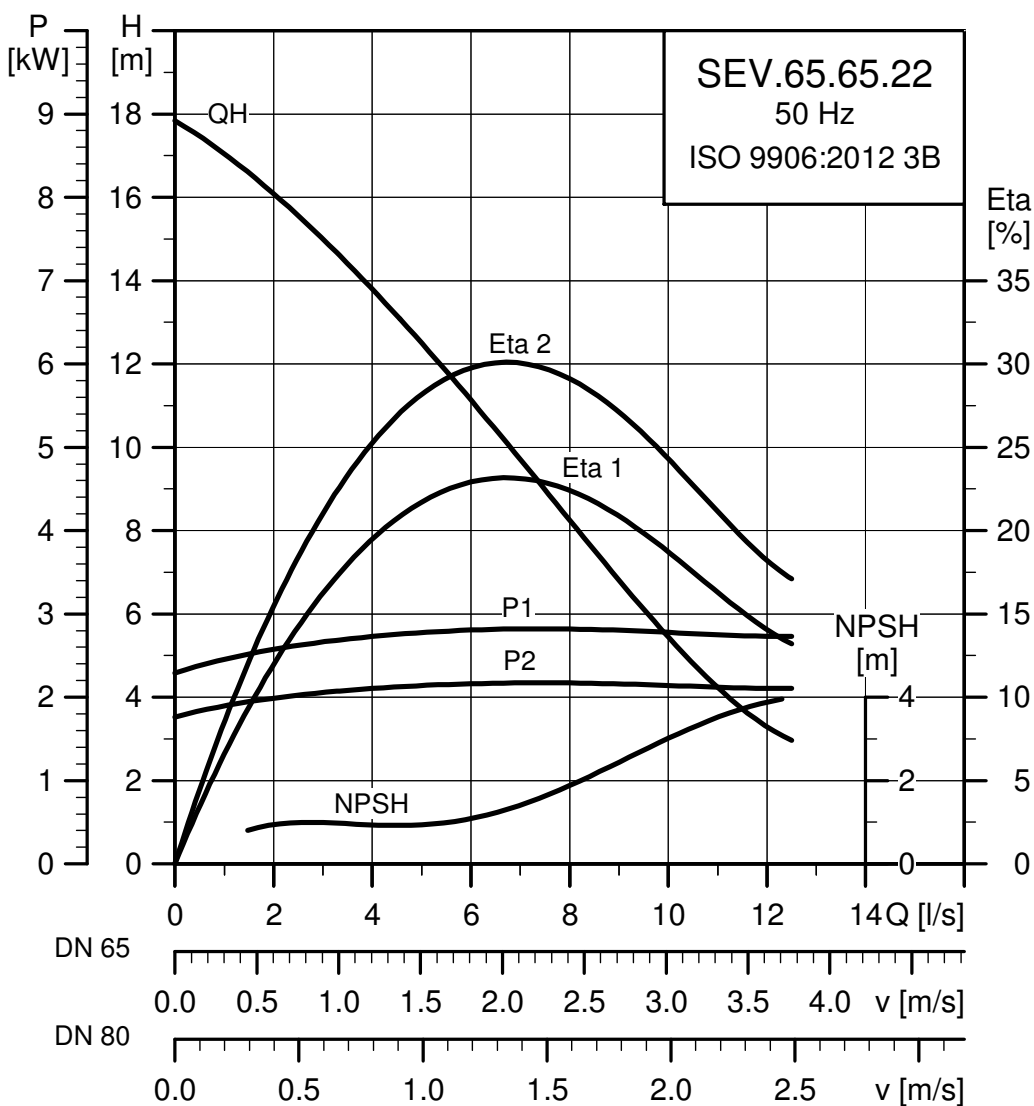
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |     | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |     |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|-----|-------------|------|------|--------------------|------|------|------------|-----|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A] | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1  |            |     |  |   |                                       |
| 3 x 380-415    | 9.0        | 7.5        | 4                  | 1455 | Y/D                | 17.7 - 17.5 | 107 |     | 81.3        | 83.5 | 83.4 | 0.61               | 0.72 | 0.79 | 0.1860     | 141 |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| S-tube®       | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SEV.65.65.22.(Ex).2**



TM02 7976 1817

**Electrical data**

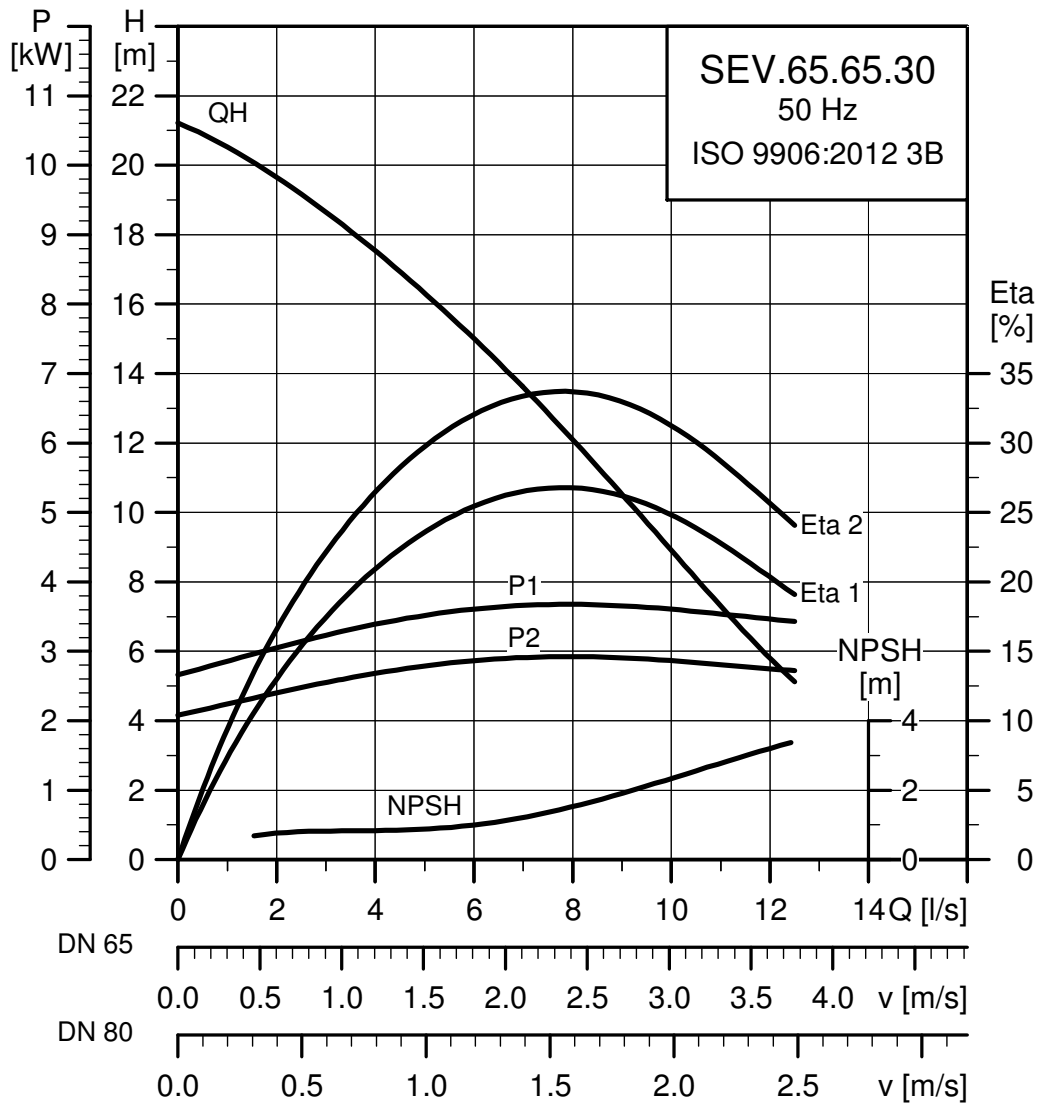
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | I <sub>N</sub> *<br>[A]   |     |      | η <sub>motor</sub> [%] |     |      | Cos φ |      |        | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|---------------------------|-----|------|------------------------|-----|------|-------|------|--------|---|--|
|                |            |            |                    |      |                    | I <sub>start</sub><br>[A] | 1/2 | 3/4  | 1/1                    | 1/2 | 3/4  | 1/1   |      |        |   |  |
| 3 x 380-415    | 2.8        | 2.2        | 2                  | 2895 | DOL                | 5.1 - 5.0                 | 37  | 73.5 | 76.6                   | 77  | 0.72 | 0.81  | 0.86 | 0.0088 | 23  |  |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| SuperVortex   | 65                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SEV.65.65.30.(Ex).2**



TM02 7977 1817

**Electrical data**

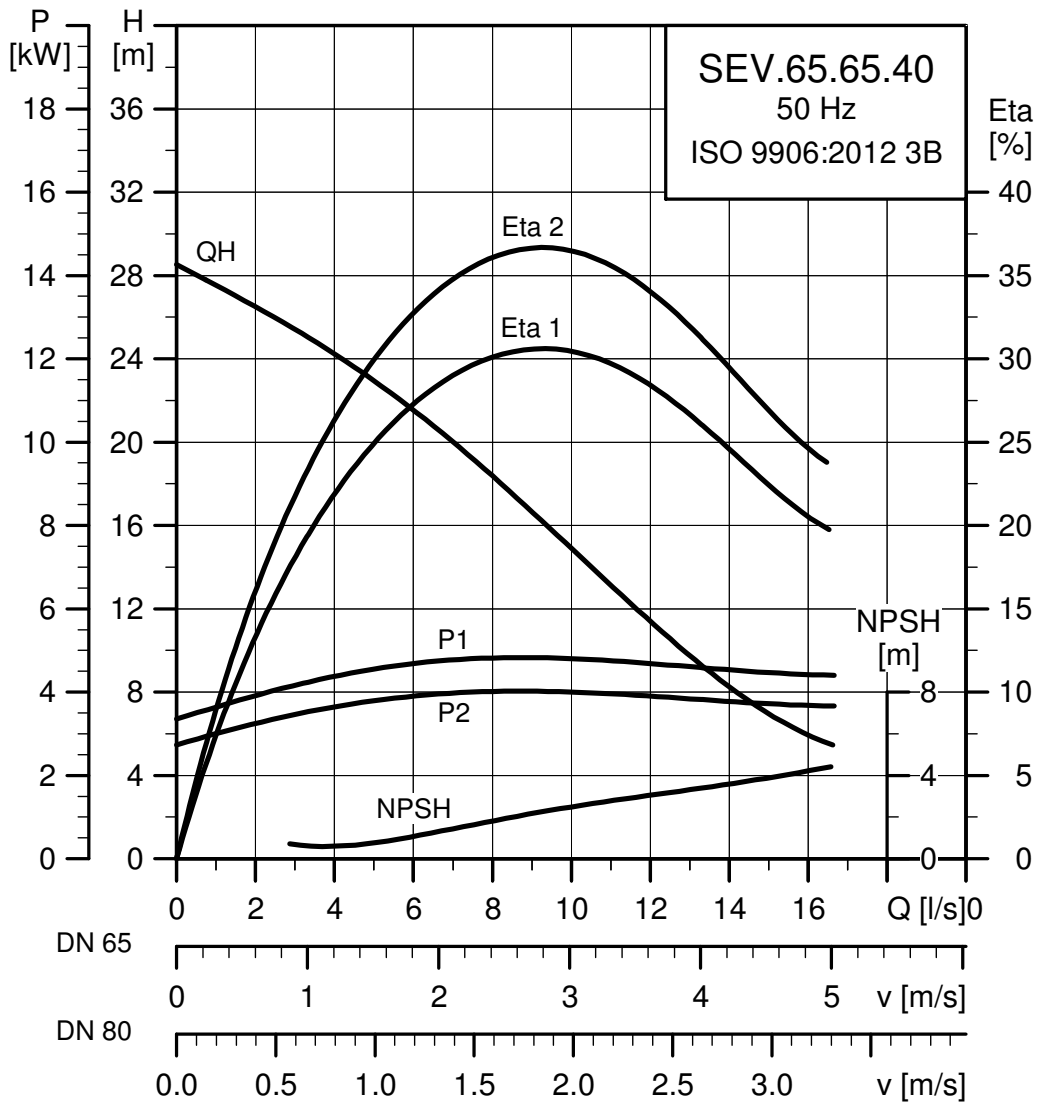
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$   |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]       | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 3.8        | 3.0        | 2               | 2910 | DOL             | 6.8 - 6.5 | 51  | 75.1 | 78.5        | 79.6 | 0.74 | 0.83               | 0.87 | 0.0098 | 33         |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| SuperVortex   | 65                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |

**SEV.65.65.40.(Ex).2**



TM02 7978 1817

**Electrical data**

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | I <sub>N</sub> <sup>*</sup> |     |      | η <sub>motor</sub> [%] |      |      | Cos φ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque M <sub>max.</sub><br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------------------------|-----|------|------------------------|------|------|-------|------|--------|--|--|
|                |            |            |                 |      |                 | [A]                         | [A] | [A]  | 1/2                    | 3/4  | 1/1  | 1/2   | 3/4  | 1/1    |  |  |
| 3 x 380-415    | 4.8        | 4.0        | 2               | 2925 | Y/D             | 8.7 - 8.5                   | 71  | 79.2 | 82.4                   | 83.3 | 0.68 | 0.78  | 0.84 | 0.0126 | 54                                       |  |

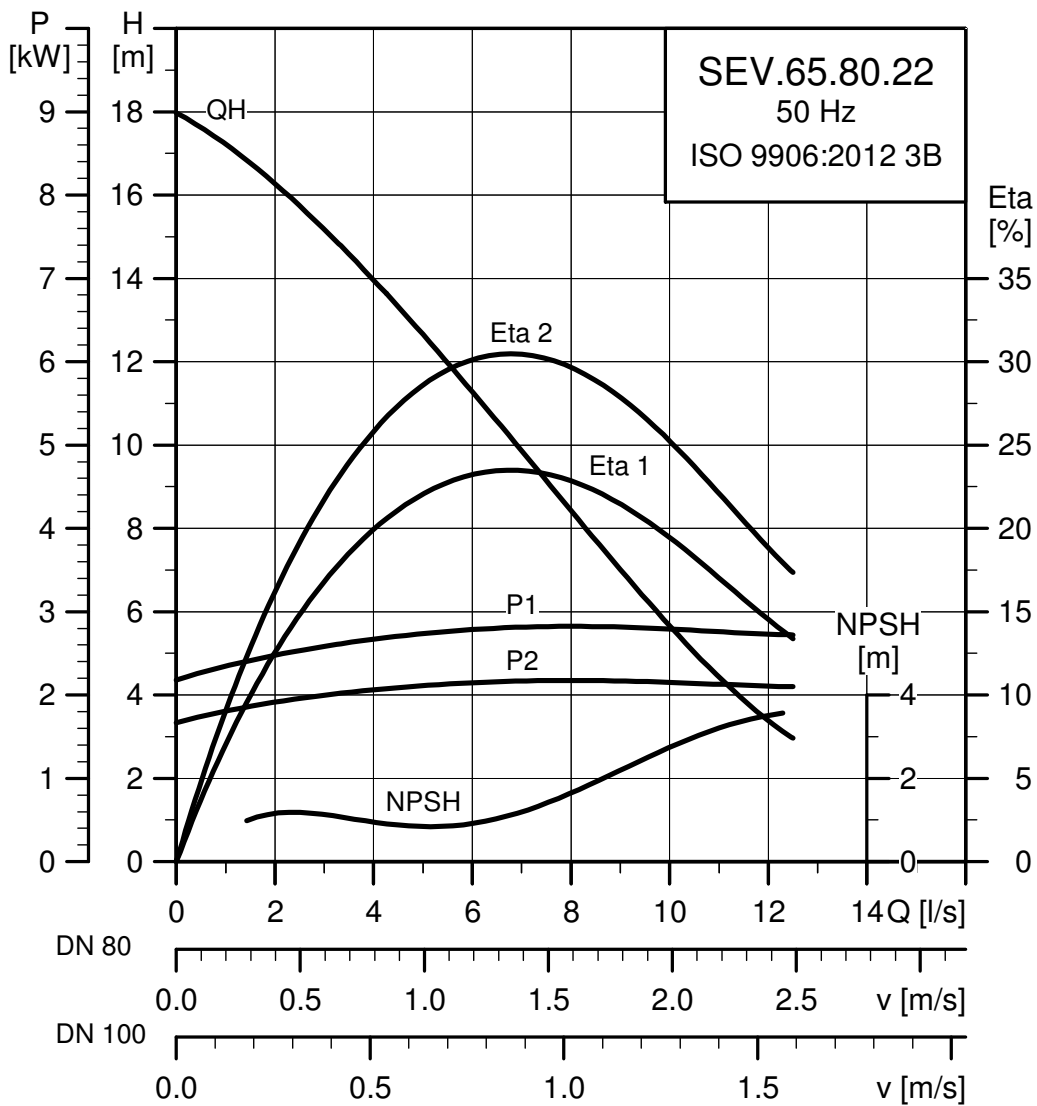
\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| SuperVortex   | 65                       | 20                             | 20                             | IP68            | F                | 40                              | 4-14 |



SEV.65.80.22.(Ex).2



TM02 7979 1817

Electrical data

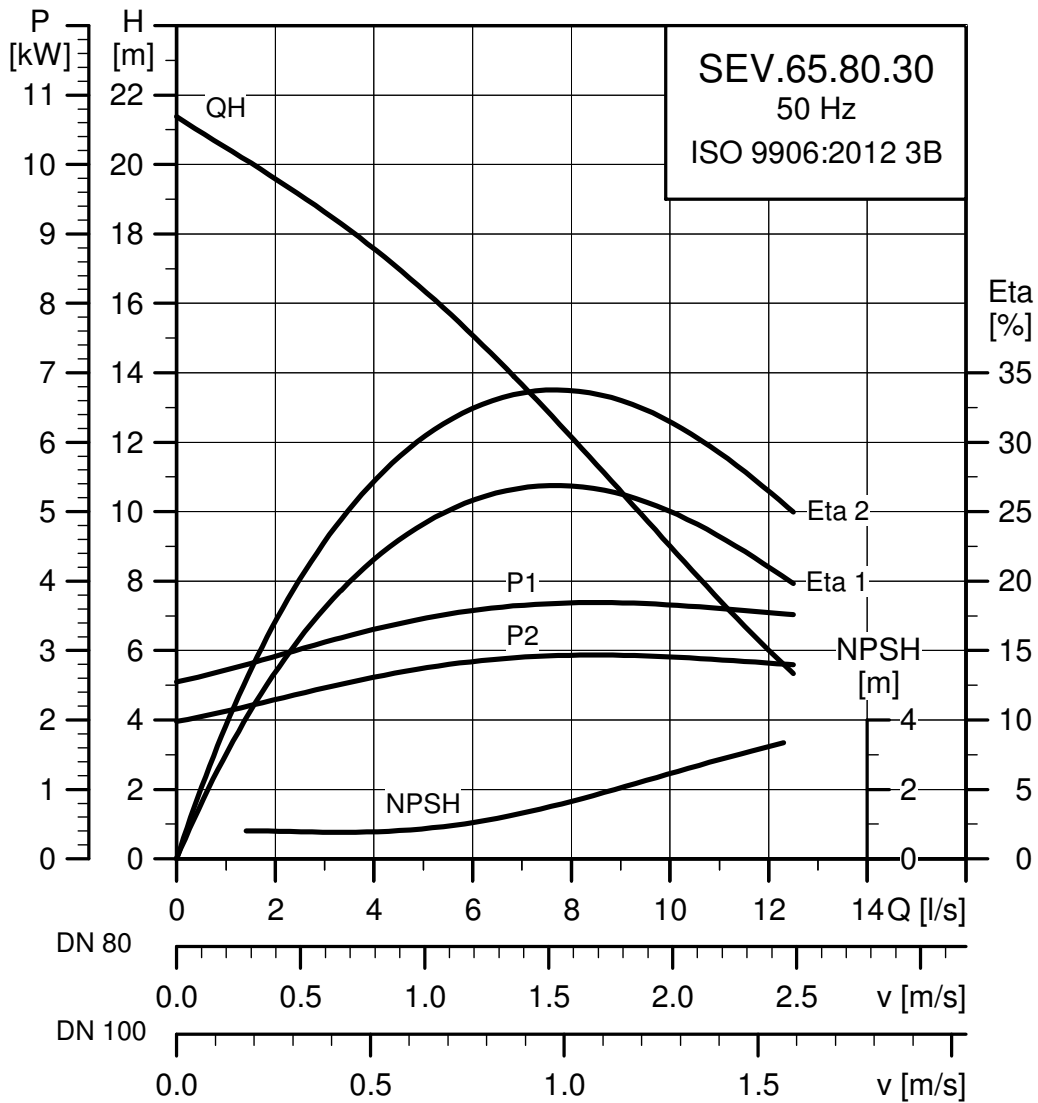
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |  | $\eta_{motor}$ [%] |      |     | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|--|--------------------|------|-----|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] |  | 1/2                | 3/4  | 1/1 | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 2.8        | 2.2        | 2                  | 2895 | DOL                | 5.1 - 5.0 | 37  |  | 73.5               | 76.6 | 77  | 0.72       | 0.81 | 0.86 | 0.0088                                      | 23                                    |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| SuperVortex   | 65                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SEV.65.80.30.(Ex).2**



TM02.7960.1817

**Electrical data**

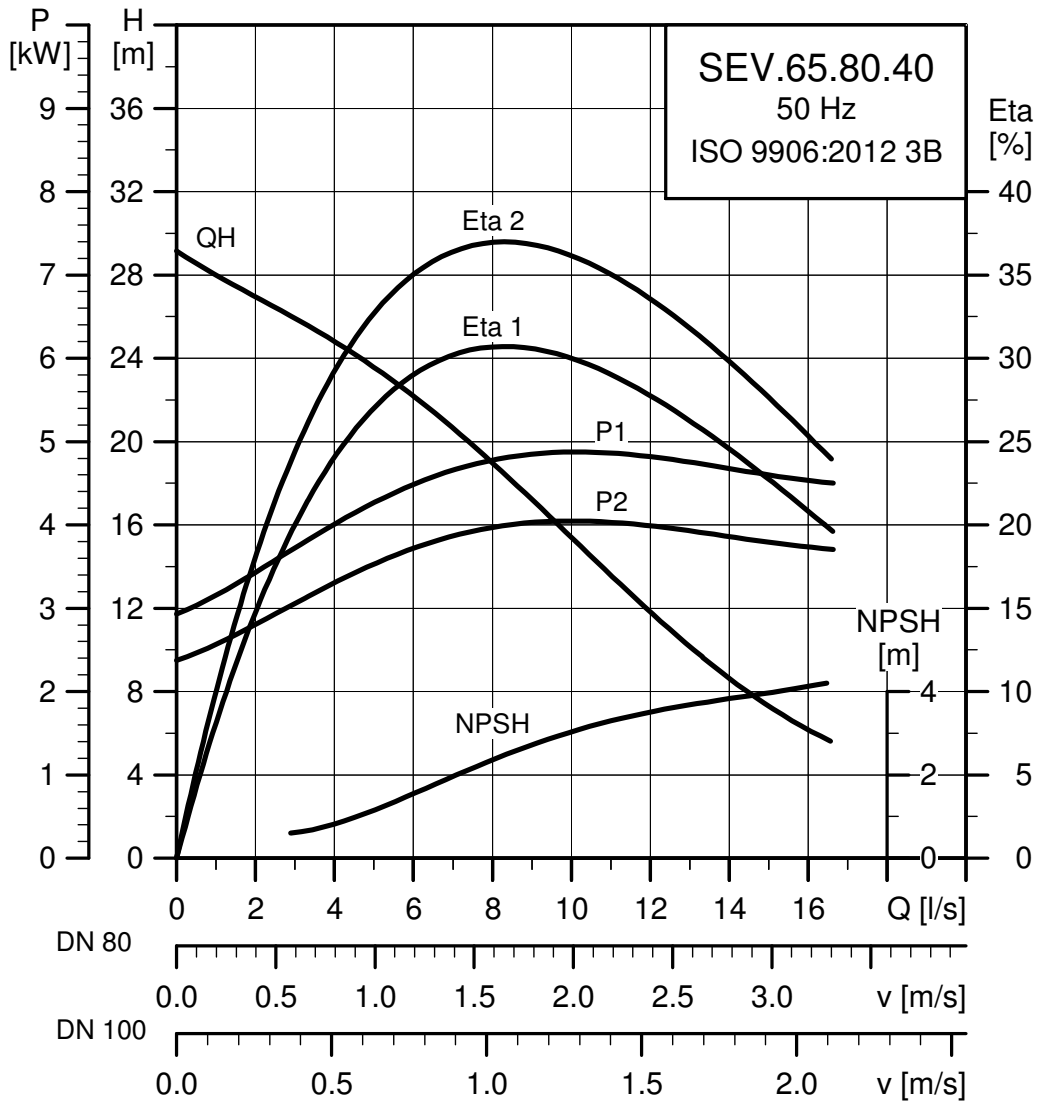
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |      | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |        | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$ .<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|------|--------------------|------|------|------------|------|--------|---|---|
|                |            |            |                    |      |                    | [A]       | [A] | 1/2  | 3/4                | 1/1  | 1/2  | 3/4        | 1/1  |        |   |   |
| 3 x 380-415    | 3.8        | 3.0        | 2                  | 2910 | DOL                | 6.8 - 6.5 | 51  | 75.1 | 78.5               | 79.6 | 0.74 | 0.83       | 0.87 | 0.0098 | 33  |   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size | Max. number of<br>starts per hour | Max. installation<br>depth | Enclosure class | Insulation class | Max. liquid<br>temperature | pH   |
|---------------|------------------|-----------------------------------|----------------------------|-----------------|------------------|----------------------------|------|
|               | [mm]             |                                   | [m]                        |                 |                  | [°C]                       |      |
| SuperVortex   | 65               | 20                                | 20                         | IP68            | F                | 40                         | 4-14 |

**SEV.65.80.40.(Ex).2**



TM02 7981 1817

**Electrical data**

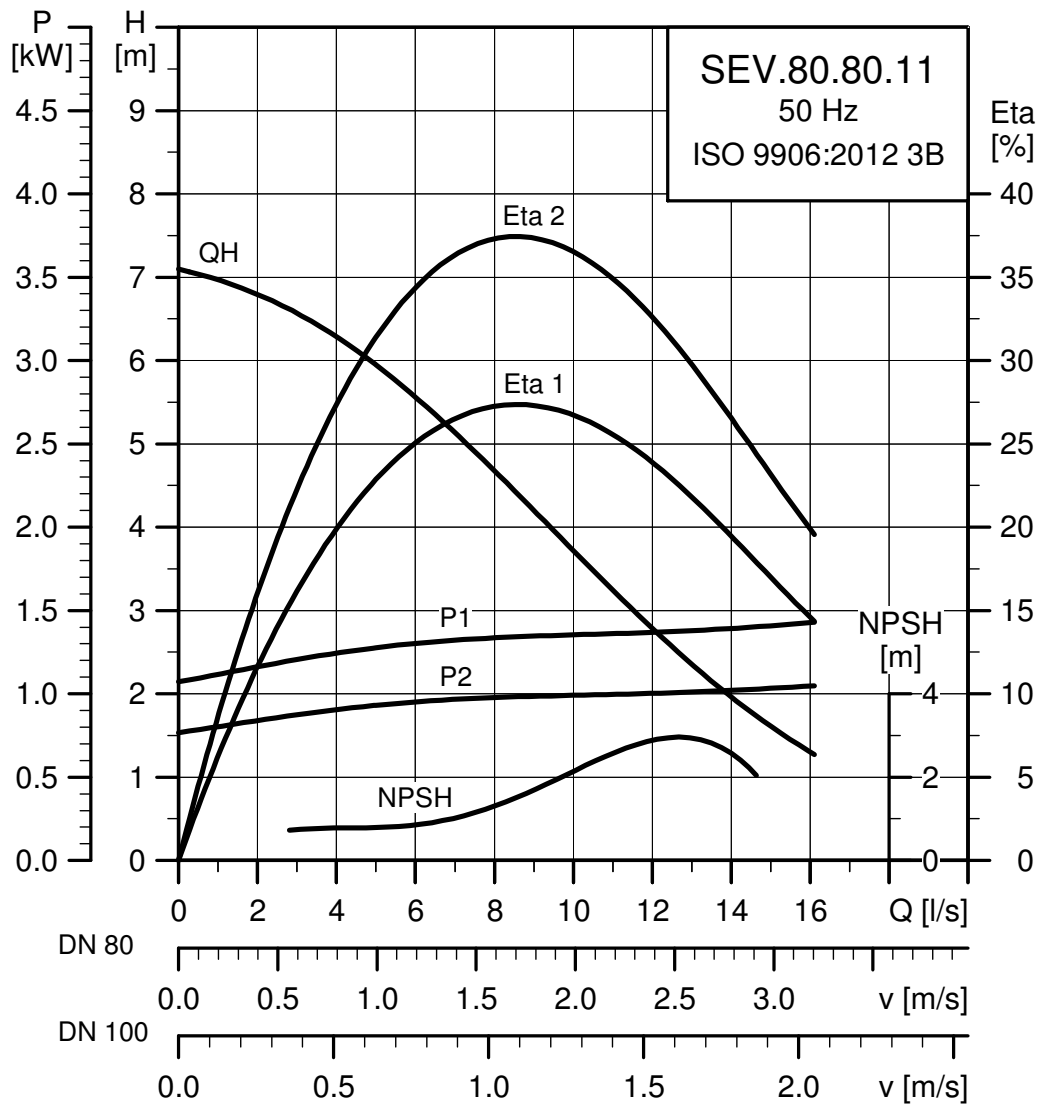
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |     |     | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|------|-------------|------|------|--------------------|------|--------|------------|-----|-----|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] |      | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    | 1/2        | 3/4 | 1/1 |   |                                       |
| 3 x 380-415    | 4.8        | 4.0        | 2                  | 2925 | Y/D                | 8.7 - 8.5 | 71  | 79.2 | 82.4        | 83.3 | 0.68 | 0.78               | 0.84 | 0.0126 | 54         |     |     |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH   |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|------|
| SuperVortex   | 65                       | 20                                | 20                                | IP68            | F                | 40                                 | 4-14 |

**SEV.80.80.11.(Ex).4**



TM02 7982 1817

**Electrical data**

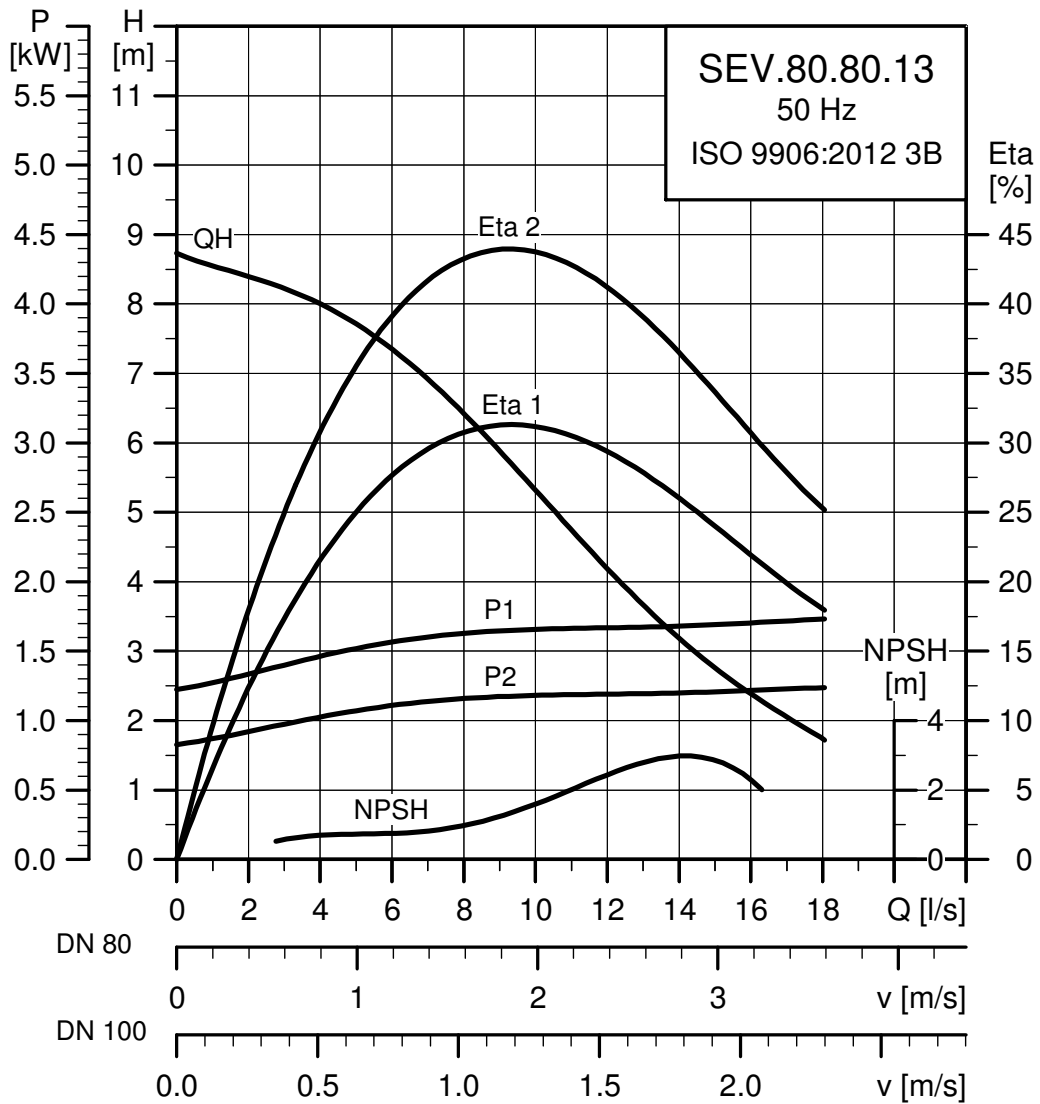
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | I <sub>N</sub> <sup>*</sup> |                         |                         | η <sub>motor</sub> [%] |      |      | Cos φ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque M <sub>max</sub><br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------------------------|-------------------------|-------------------------|------------------------|------|------|-------|------|--------|--|---|
|                |            |            |                 |      |                 | I <sub>start</sub><br>[A]   | I <sub>1/2</sub><br>[A] | I <sub>3/4</sub><br>[A] | 1/2                    | 3/4  | 1/1  | 1/2   | 3/4  | 1/1    |  |   |
| 3 x 380-415    | 1.5        | 1.1        | 4               | 1440 | DOL             | 2.8 - 2.9                   | 13                      | 65.6                    | 71.2                   | 73.2 | 0.52 | 0.64  | 0.73 | 0.0142 | 21                                       |   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.80.80.13.(Ex).4**



TM02 7972 1817

**Electrical data**

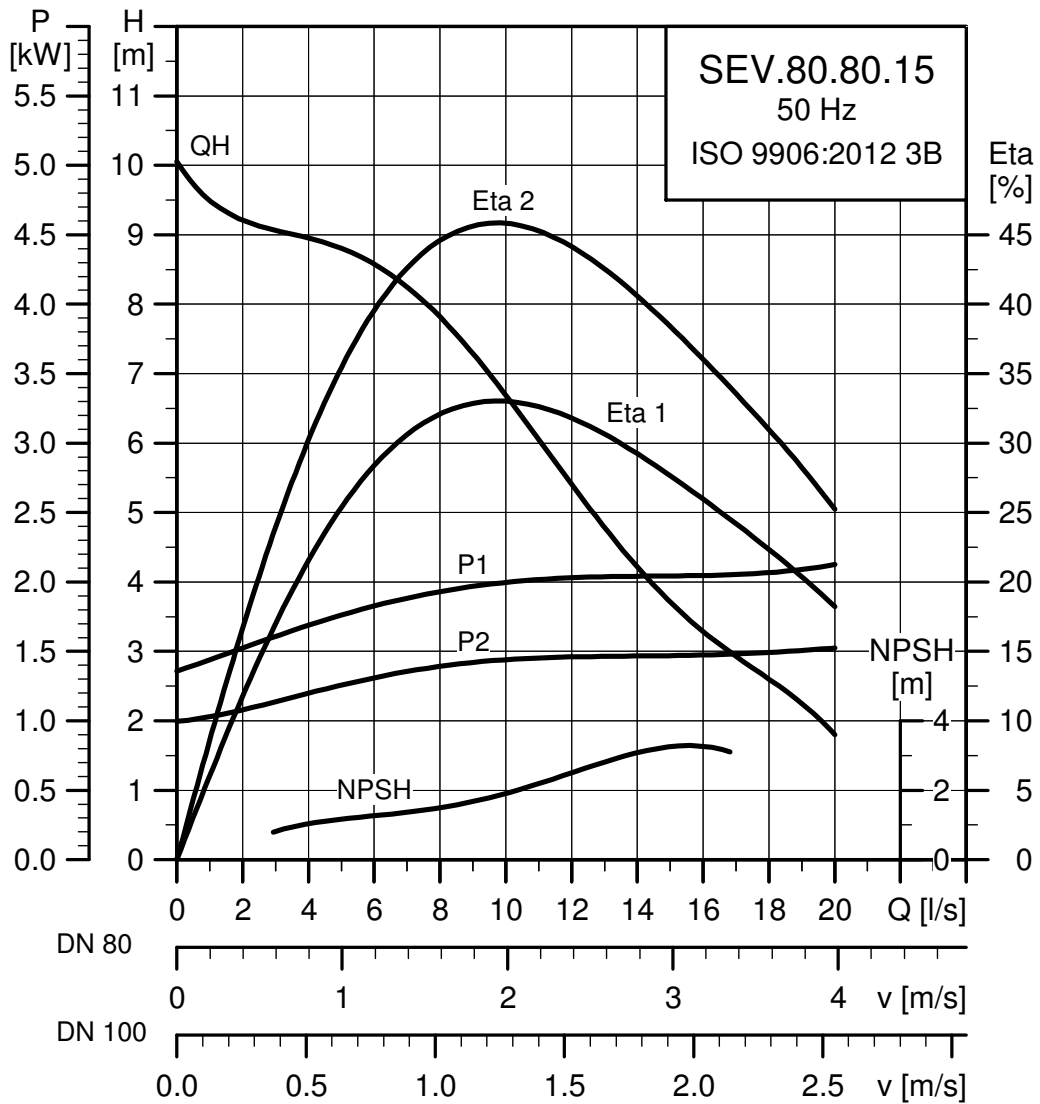
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 1.8        | 1.3        | 4                  | 1440 | DOL                | 3.8 - 3.9 | 22  |  | 63.9               | 69.6 | 71.7 | 0.51       | 0.63 | 0.72 | 0.0165                                      | 28                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.80.15.(Ex).4**



TM02 7973 1817

**Electrical data**

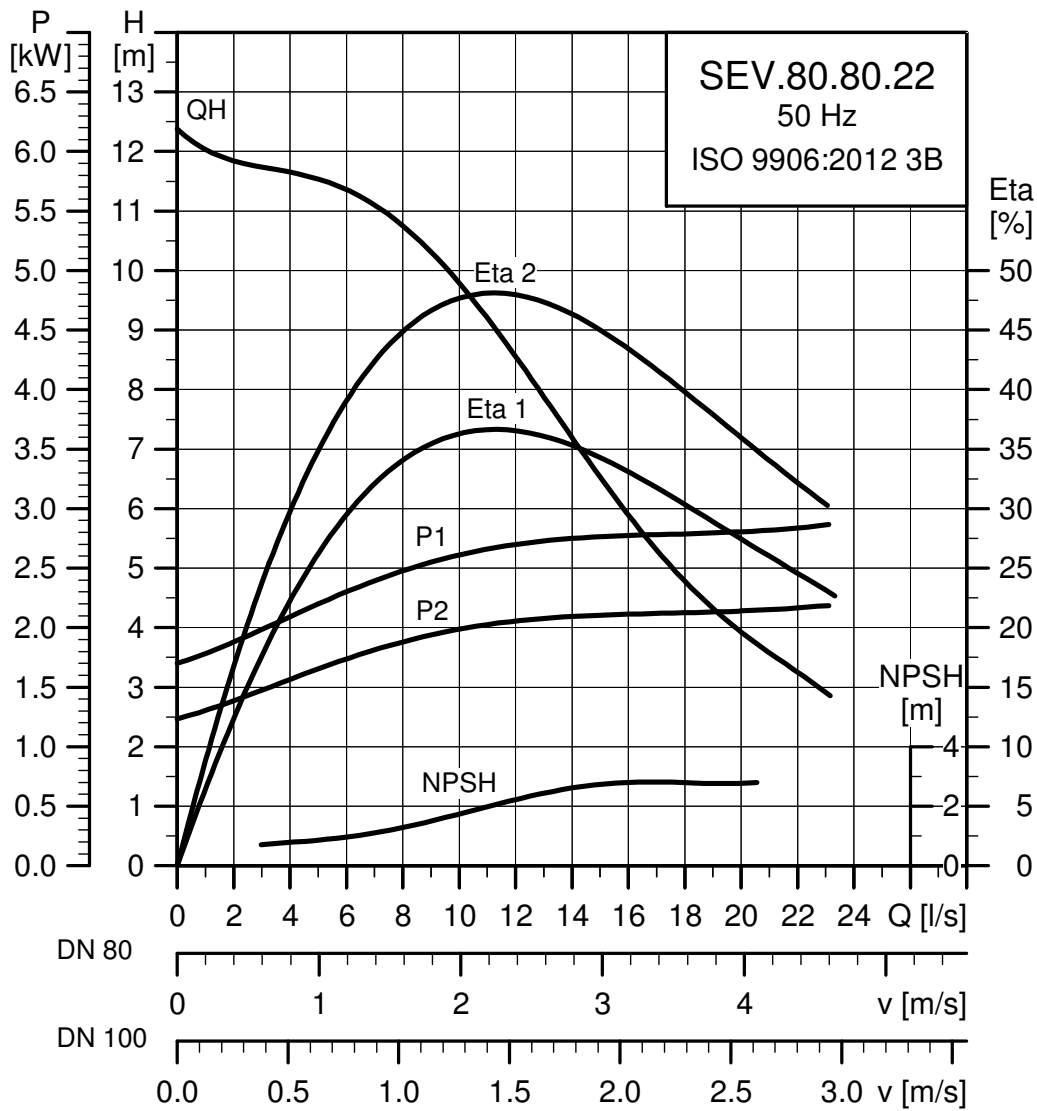
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | I <sub>N</sub> <sup>*</sup> |     |     | η <sub>motor</sub> [%] |     |      | Cos φ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque M <sub>max</sub><br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------------------------|-----|-----|------------------------|-----|------|-------|------|--------|--|---|
|                |            |            |                 |      |                 | [A]                         | [A] | [A] | 1/2                    | 3/4 | 1/1  | 1/2   | 3/4  | 1/1    |  |   |
| 3 x 380-415    | 2.1        | 1.5        | 4               | 1435 | DOL             | 4.2 - 4.2                   | 22  | 67  | 71                     | 72  | 0.56 | 0.68  | 0.76 | 0.0185 | 28                                       |   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.80.80.22.(Ex).4**



TM02 7974 1817

**Electrical data**

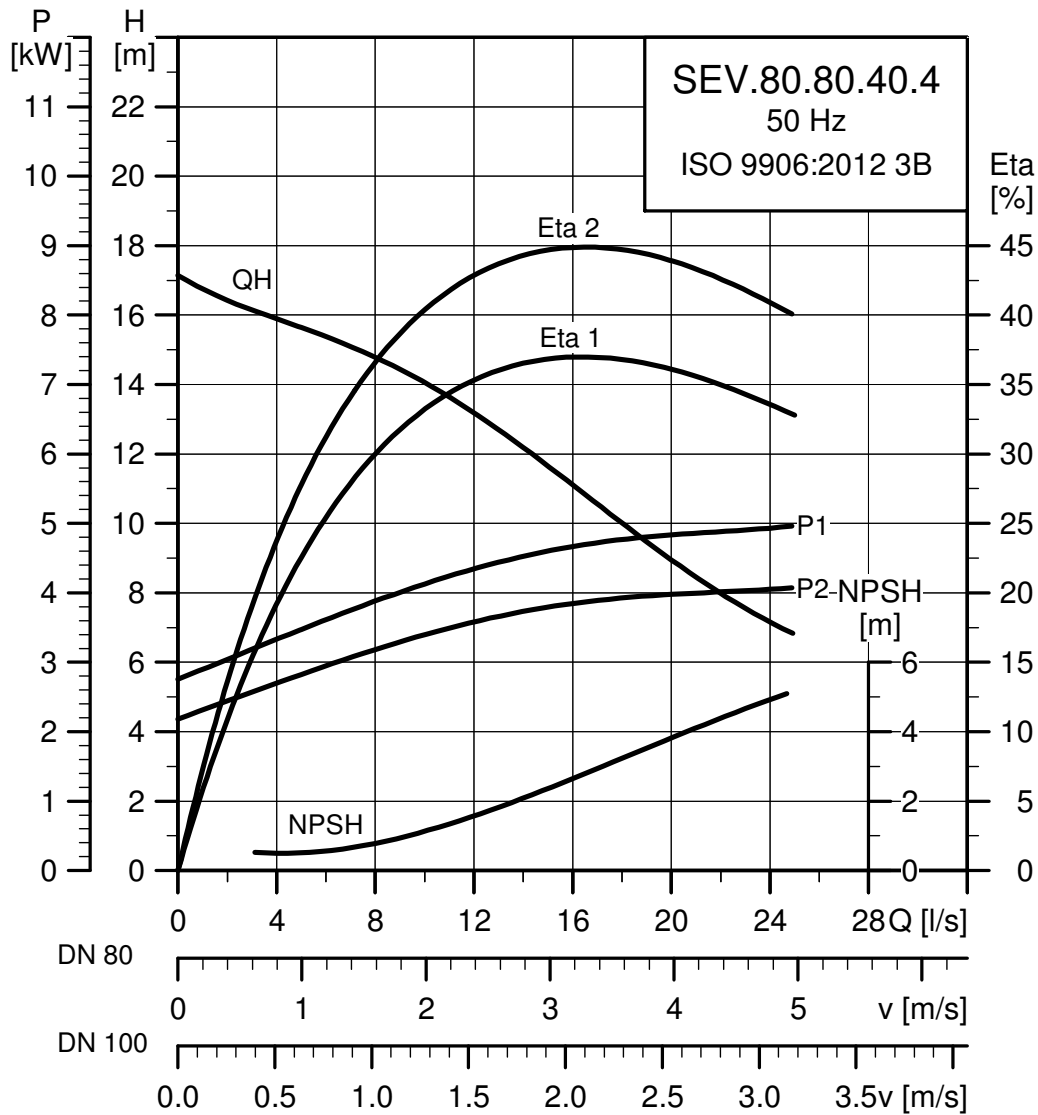
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 2.9        | 2.2        | 4                  | 1445 | DOL                | 6.0 - 6.0 | 32  |  | 70.9               | 75.2 | 76.3 | 0.53       | 0.66 | 0.74 | 0.0240                                      | 45                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.80.40.(Ex).4**



TM02 7975 1817

**Electrical data**

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 4.9        | 4.0        | 4               | 1460 | Y/D             | 10.0 - 10.2 | 67  | 78.2 | 81.7        | 82.2 | 0.52 | 0.65               | 0.73 | 0.0479 | 100        |  |  |  |                                    |

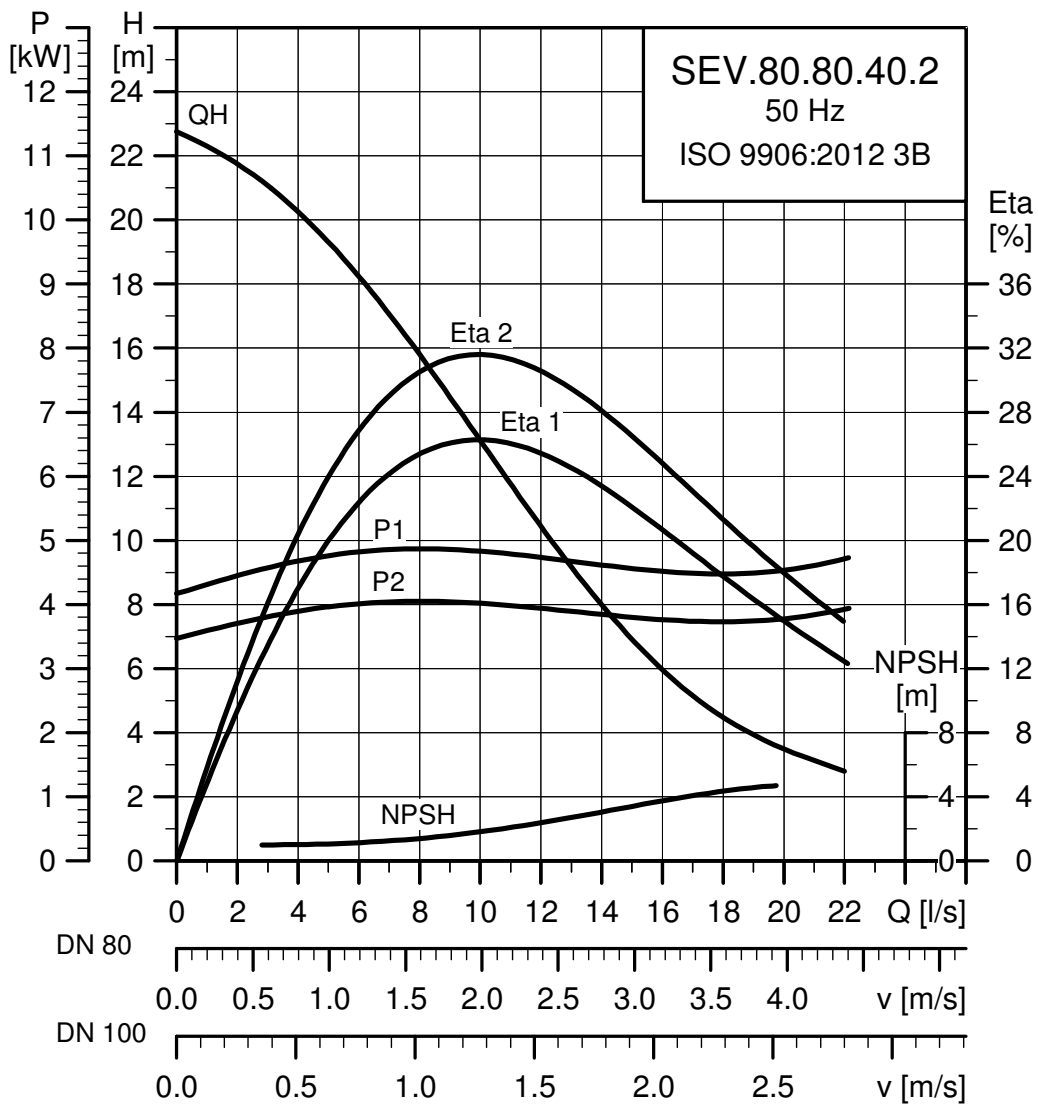
\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH   |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | 4-10 |



SEV.80.80.40.(Ex).2



TM02 7983 1817

Electrical data

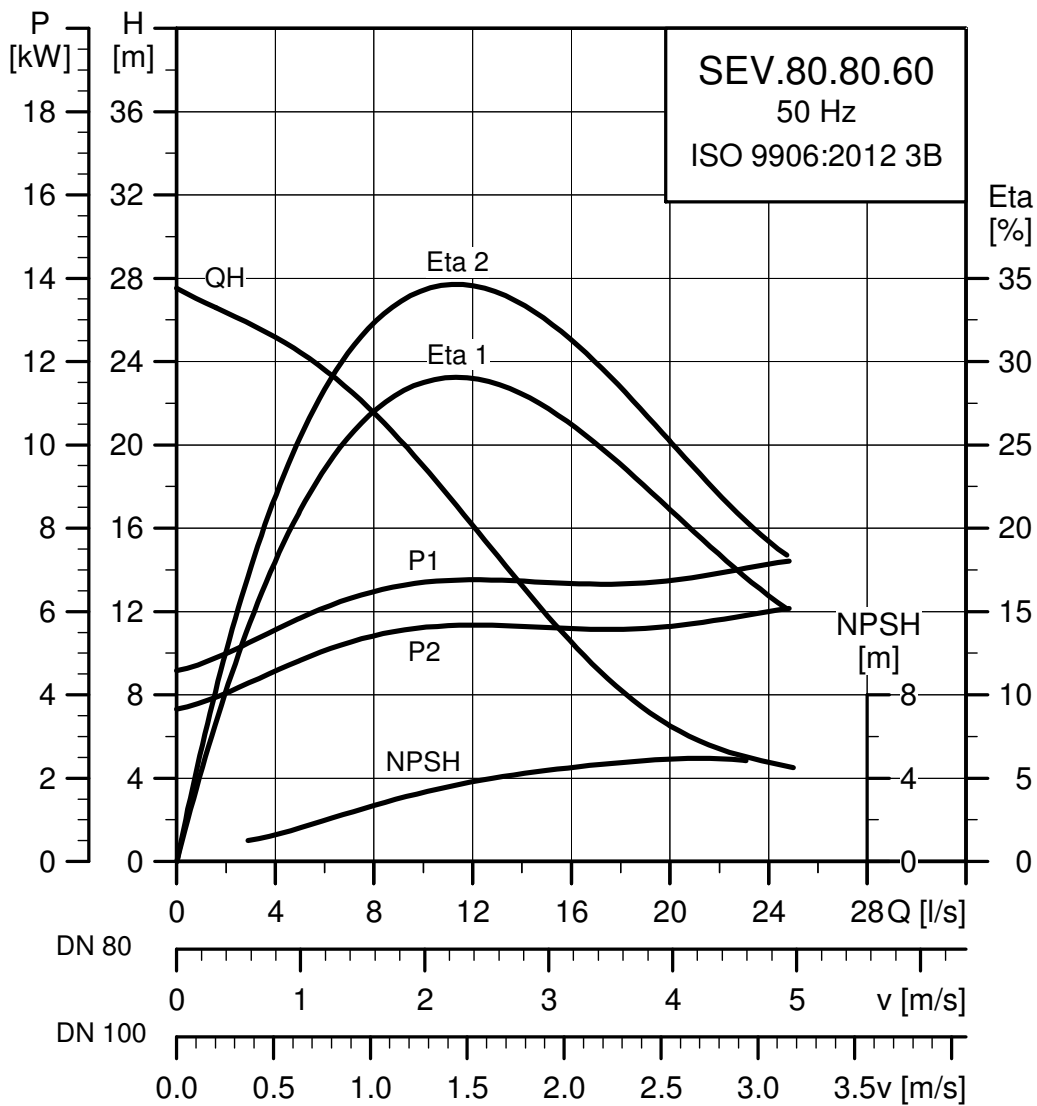
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | I <sub>N</sub> <sup>*</sup> |     |      | η <sub>motor</sub> [%] |      |      | Cos φ |      |        | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque M <sub>max</sub><br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------------------------|-----|------|------------------------|------|------|-------|------|--------|---|--|
|                |            |            |                    |      |                    | [A]                         | [A] | [A]  | 1/2                    | 3/4  | 1/1  | 1/2   | 3/4  | 1/1    |   |  |
| 3 x 380-415    | 4.8        | 4.0        | 2                  | 2925 | Y/D                | 8.7 - 8.5                   | 71  | 79.2 | 82.4                   | 83.3 | 0.68 | 0.78  | 0.84 | 0.0127 | 54  |  |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.80.60.(Ex).2**



TM02 7984 1817

**Electrical data**

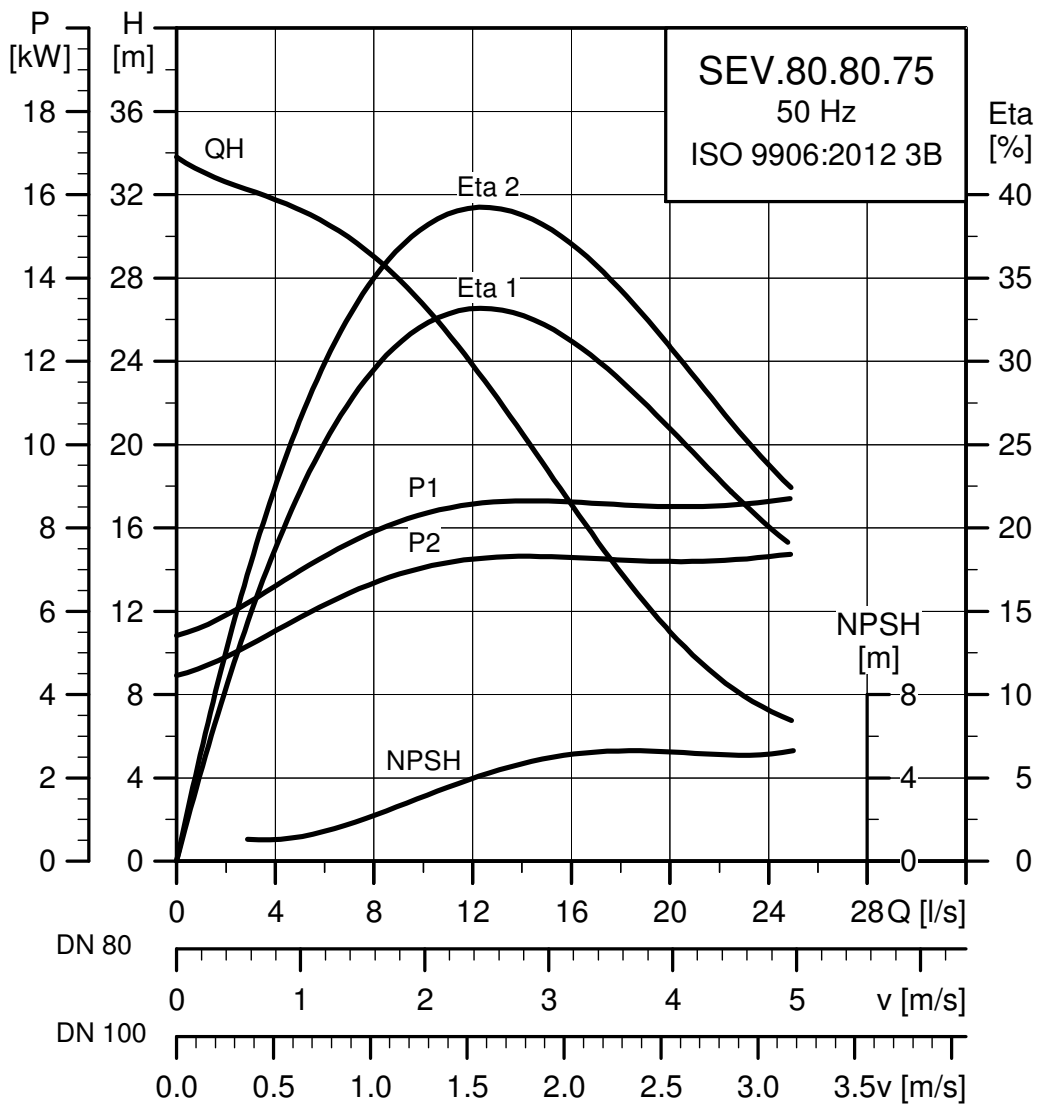
| Voltage [V] | P1 [kW] | P2 [kW] | Number of poles | Rpm  | Starting method | $I_N^*$ [A] |      |     | $I_{start}$ [A] |      |      | $\eta_{motor}$ [%] |     |      | Cos $\phi$ |     |  | Moment of inertia [kgm <sup>2</sup> ] | Breakdown torque M <sub>max</sub> [Nm] |
|-------------|---------|---------|-----------------|------|-----------------|-------------|------|-----|-----------------|------|------|--------------------|-----|------|------------|-----|--|---------------------------------------|--|
|             |         |         |                 |      |                 | 1/2         | 3/4  | 1/1 | 1/2             | 3/4  | 1/1  | 1/2                | 3/4 | 1/1  |            |     |  |                                       |  |
| 3 x 380-415 | 7.1     | 6.0     | 2               | 2945 | Y/D             | 13.7        | 14.2 | 148 | 77.5            | 82.2 | 84.1 | 0.58               | 0.7 | 0.78 | 0.0190     | 112 |  |                                       |  |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size [mm] | Max. number of starts per hour | Max. installation depth [m] | Enclosure class | Insulation class | Max. liquid temperature [°C] | pH          |
|---------------|-----------------------|--------------------------------|-----------------------------|-----------------|------------------|------------------------------|-------------|
| SuperVortex   | 80                    | 20                             | 20                          | IP68            | F                | 40                           | See page 29 |

**SEV.80.80.75.(Ex).2**



TM02 7985 1817

**Electrical data**

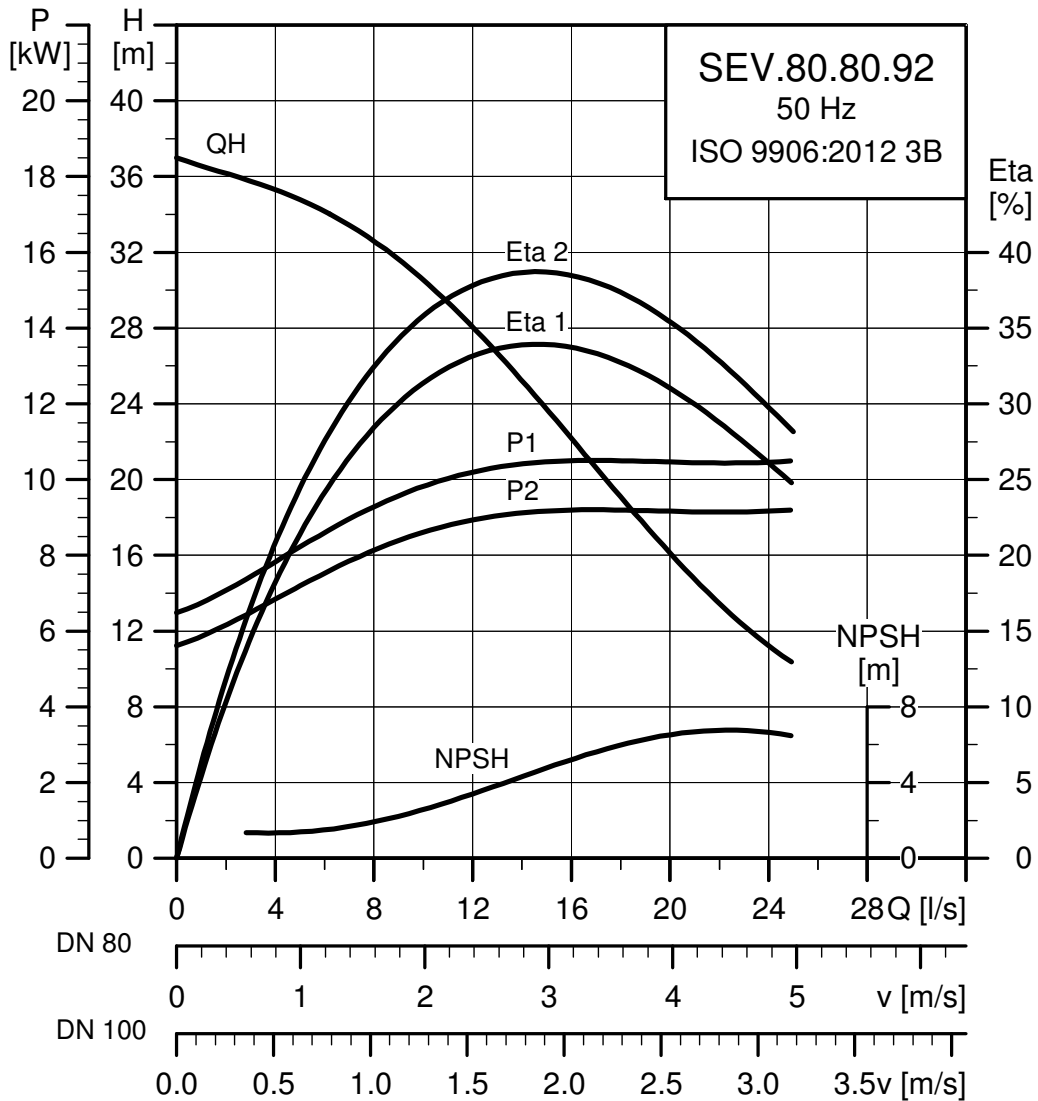
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 8.9        | 7.5        | 2                  | 2940 | Y/D                | 16.5 - 16.2 | 152 | 80.1 | 83.8        | 84.8 | 0.65 | 0.76               | 0.83 | 0.0215 | 112        |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.80.92.(Ex).2**



TM02 7986 1817

**Electrical data**

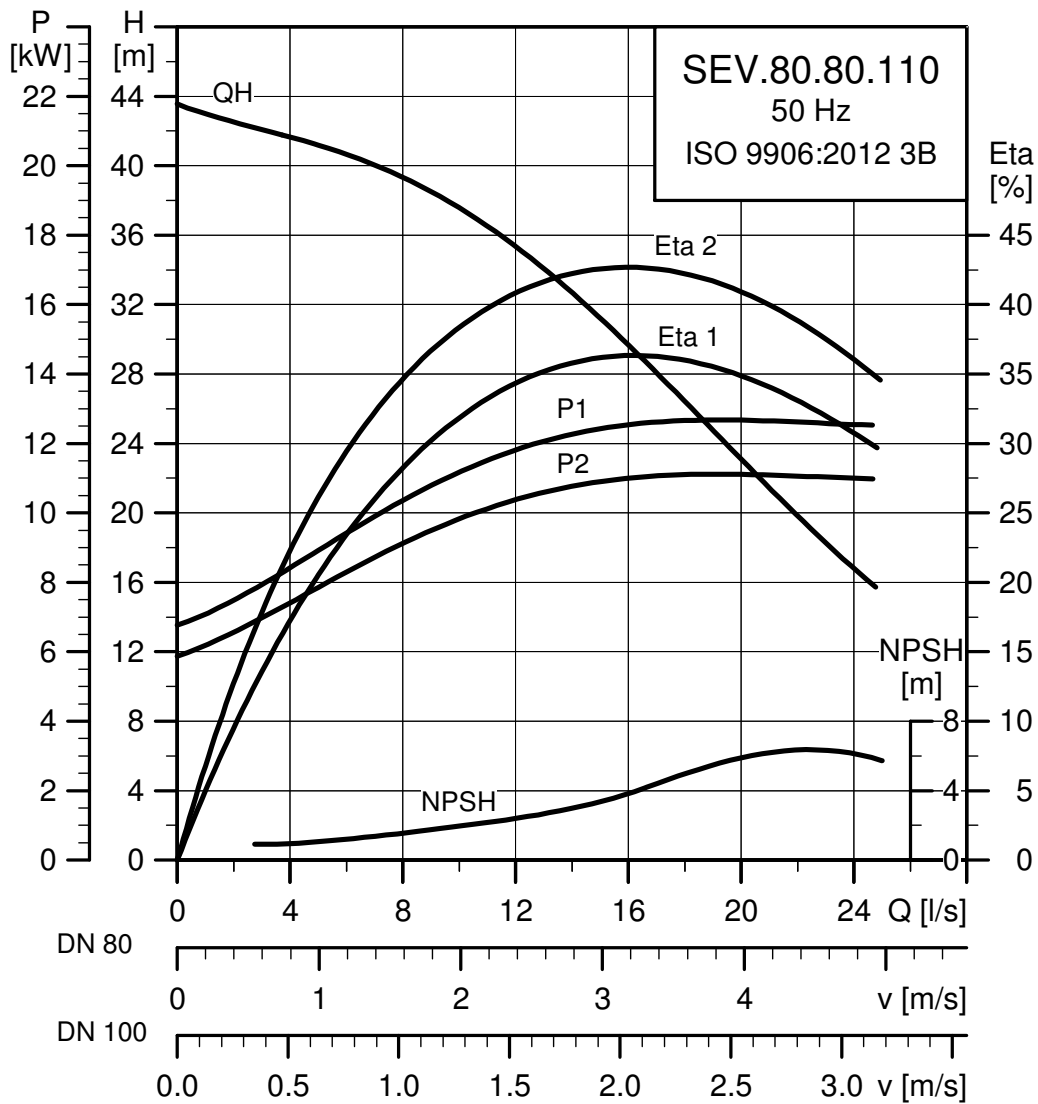
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 10.5       | 9.2        | 2                  | 2935 | Y/D                | 18.8 - 17.5 | 162 |  | 85.4               | 87.4 | 87.6 | 0.78       | 0.85 | 0.89 | 0.0334                                      | 99                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

SEV.80.80.110.(Ex).2



TM02 7987 1817

Electrical data

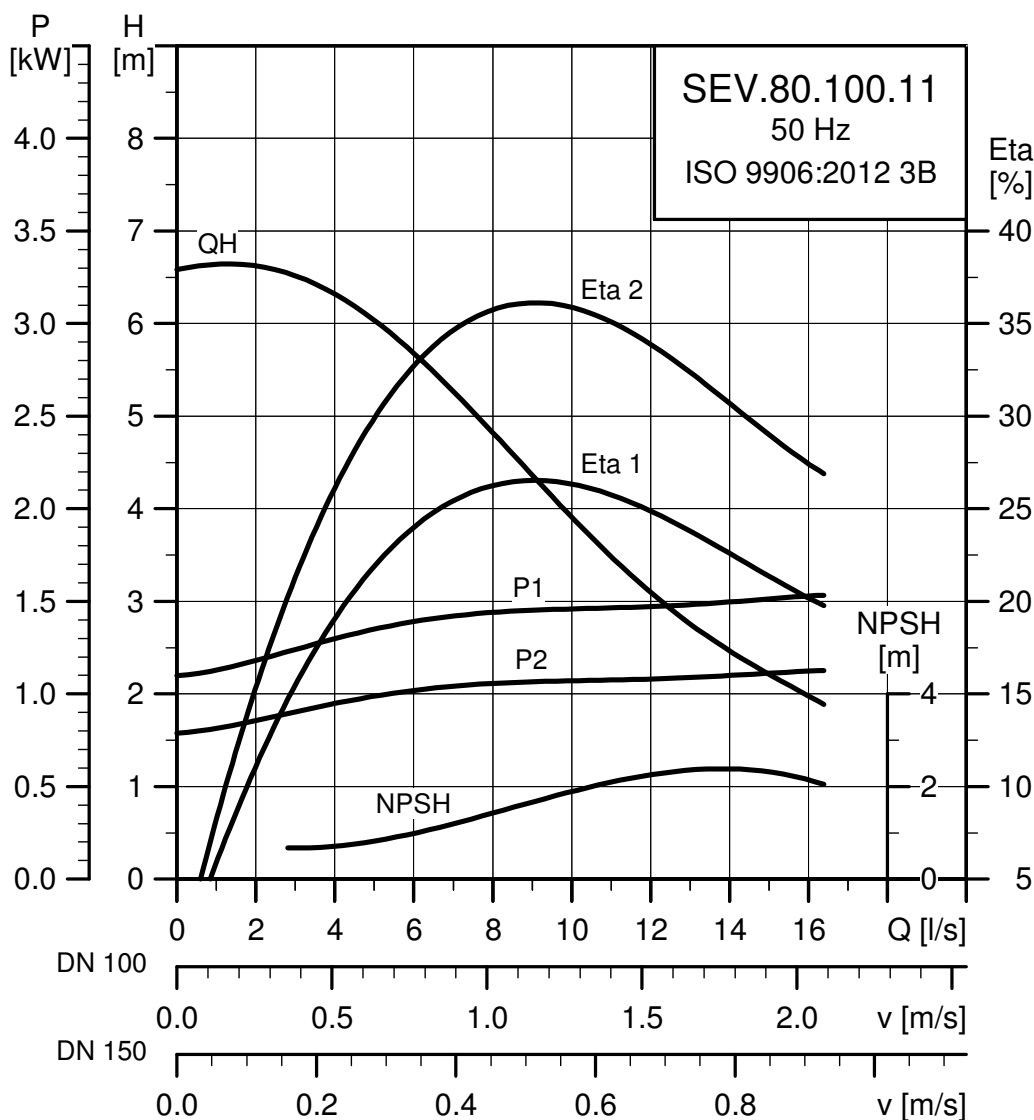
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 12.6       | 11.0       | 2                  | 2935 | Y/D                | 22.7 - 21.4 | 162 | 86.4 | 88.1        | 87.7 | 0.75 | 0.84               | 0.88 | 0.0368 | 118        |  |  |   |                                       |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.100.11.(Ex).4**



TM04 3463 1817

**Electrical data**

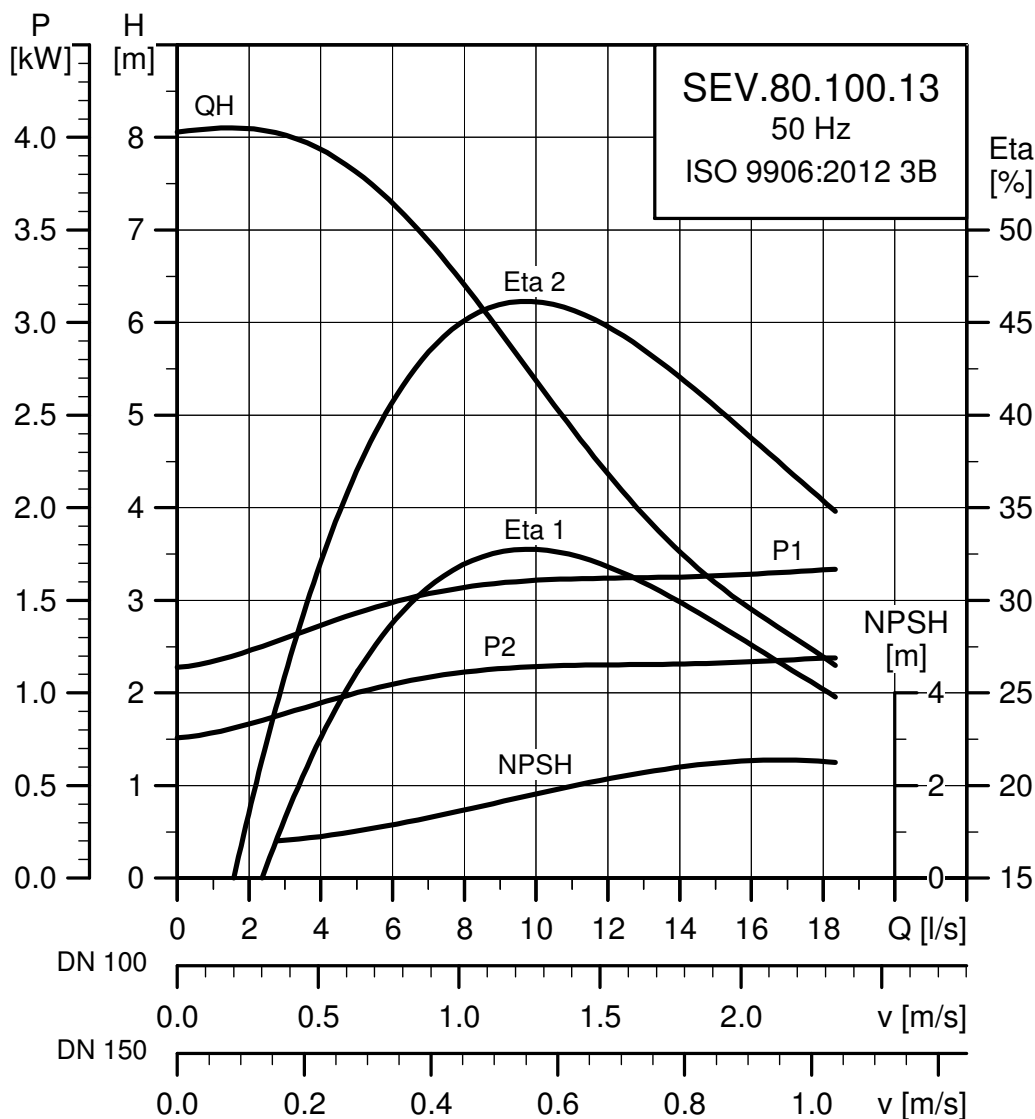
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 1.5        | 1.1        | 4                  | 1440 | DOL                | 2.8 - 2.9 | 12  | 65.6 | 71.2        | 73.2 | 0.52 | 0.64               | 0.73 | 0.0142 | 21         |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.100.13.(Ex).4**



TM04 3464 1817

**Electrical data**

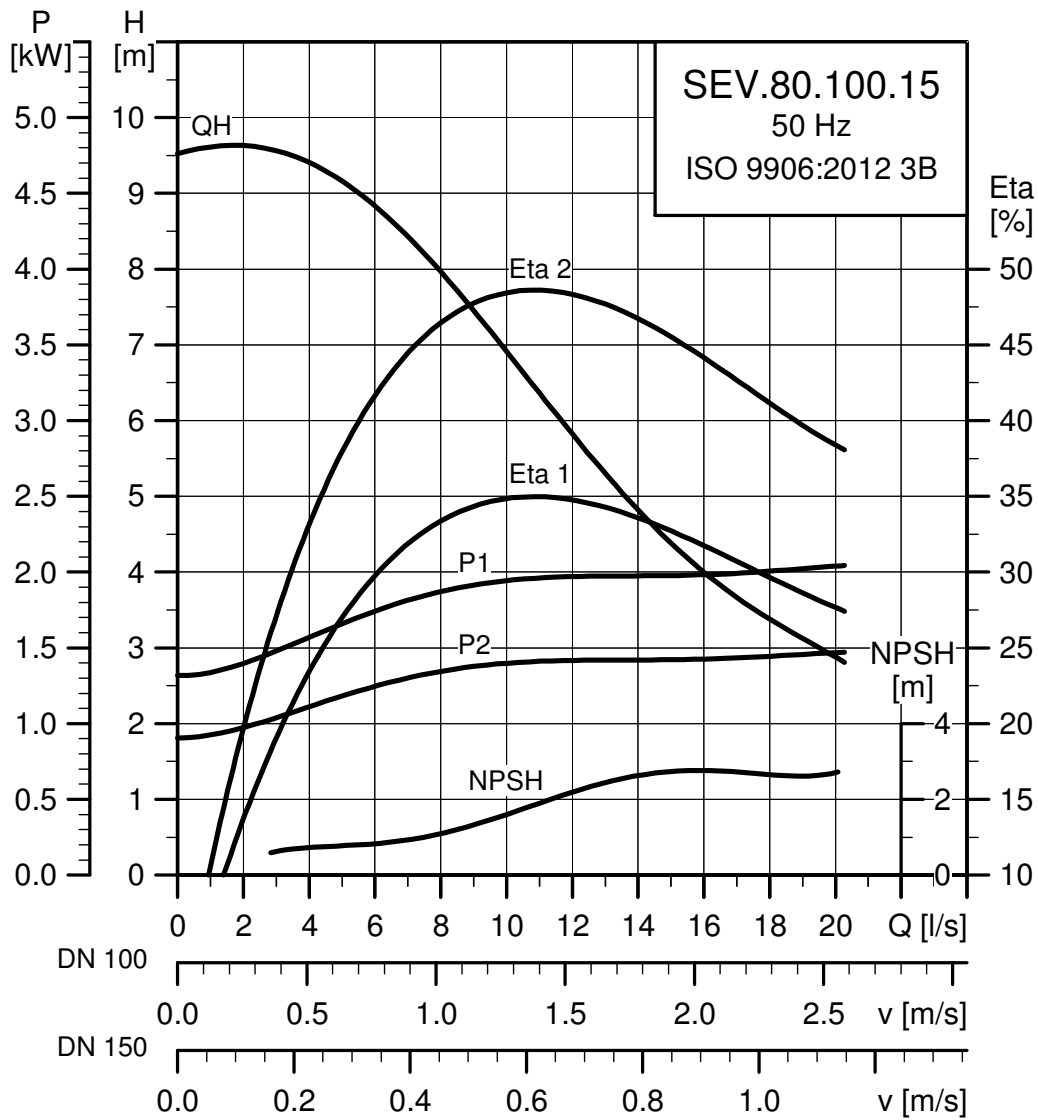
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$   |     |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------|-----|--|--------------------|------|------|------------|------|------|--|------------------------------------|
|                |            |            |                 |      |                 | [A]       | [A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |  |                                    |
| 3 x 380-415    | 1.8        | 1.3        | 4               | 1440 | DOL             | 3.8 - 3.9 | 21  |  | 63.9               | 69.6 | 71.7 | 0.51       | 0.63 | 0.72 | 0.0165                                   | 28                                 |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.80.100.15.(Ex).4**



TM04 3465 1817

**Electrical data**

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |     | $I_{start}$ |     |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|-----|-------------|-----|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]       | [A] | [A] | 1/2         | 3/4 | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 2.1        | 1.5        | 4                  | 1435 | DOL                | 4.2 - 4.3 | 21  | 67  | 71          | 72  | 0.56 | 0.68               | 0.76 | 0.0185 | 28         |  |  |   |                                       |

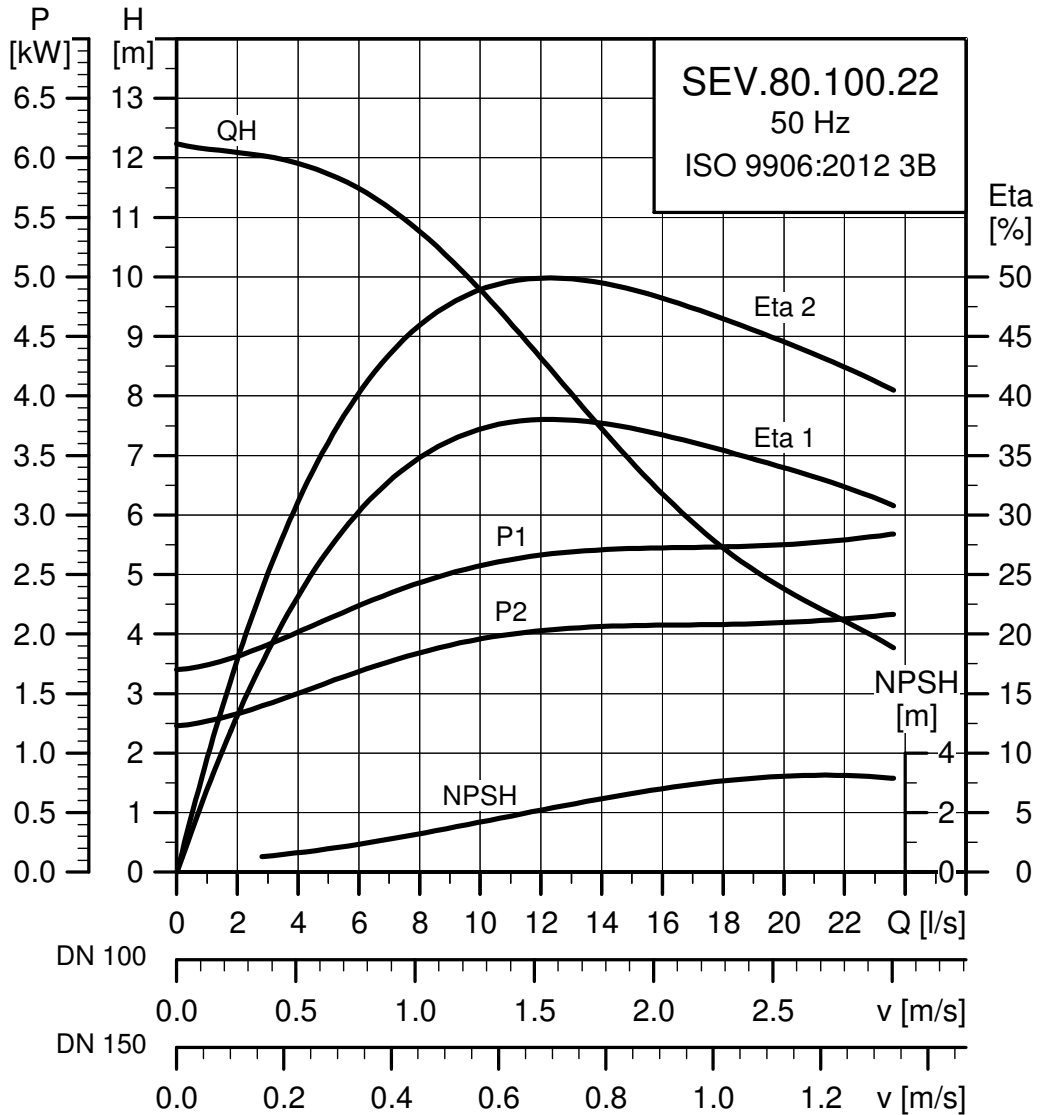
\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |



SEV.80.100.22.(Ex).4



TM04 3467 1817

Electrical data

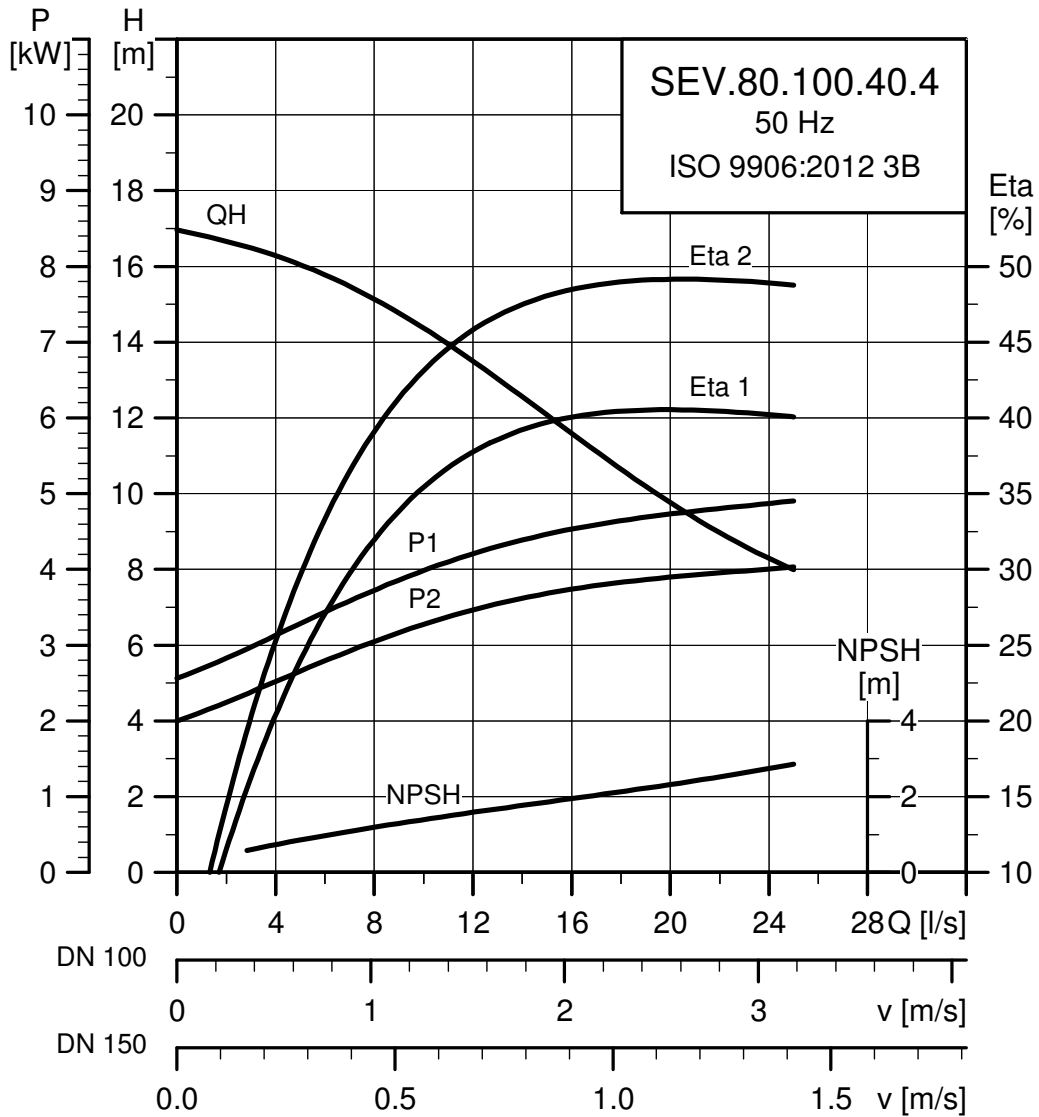
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$   |     |  | $\eta_{motor} [\%]$ |      |      | Cos $\varphi$ |      |      | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------|-----|--|---------------------|------|------|---------------|------|------|--|------------------------------------|
|                |            |            |                 |      |                 | [A]       | [A] |  | 1/2                 | 3/4  | 1/1  | 1/2           | 3/4  | 1/1  |  |                                    |
| 3 x 380-415    | 2.9        | 2.2        | 4               | 1445 | DOL             | 6.0 - 6.0 | 32  |  | 70.9                | 75.2 | 76.3 | 0.53          | 0.66 | 0.74 | 0.024                                    | 45                                 |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.80.100.40.(Ex).4**



TM04 3467 1817

**Electrical data**

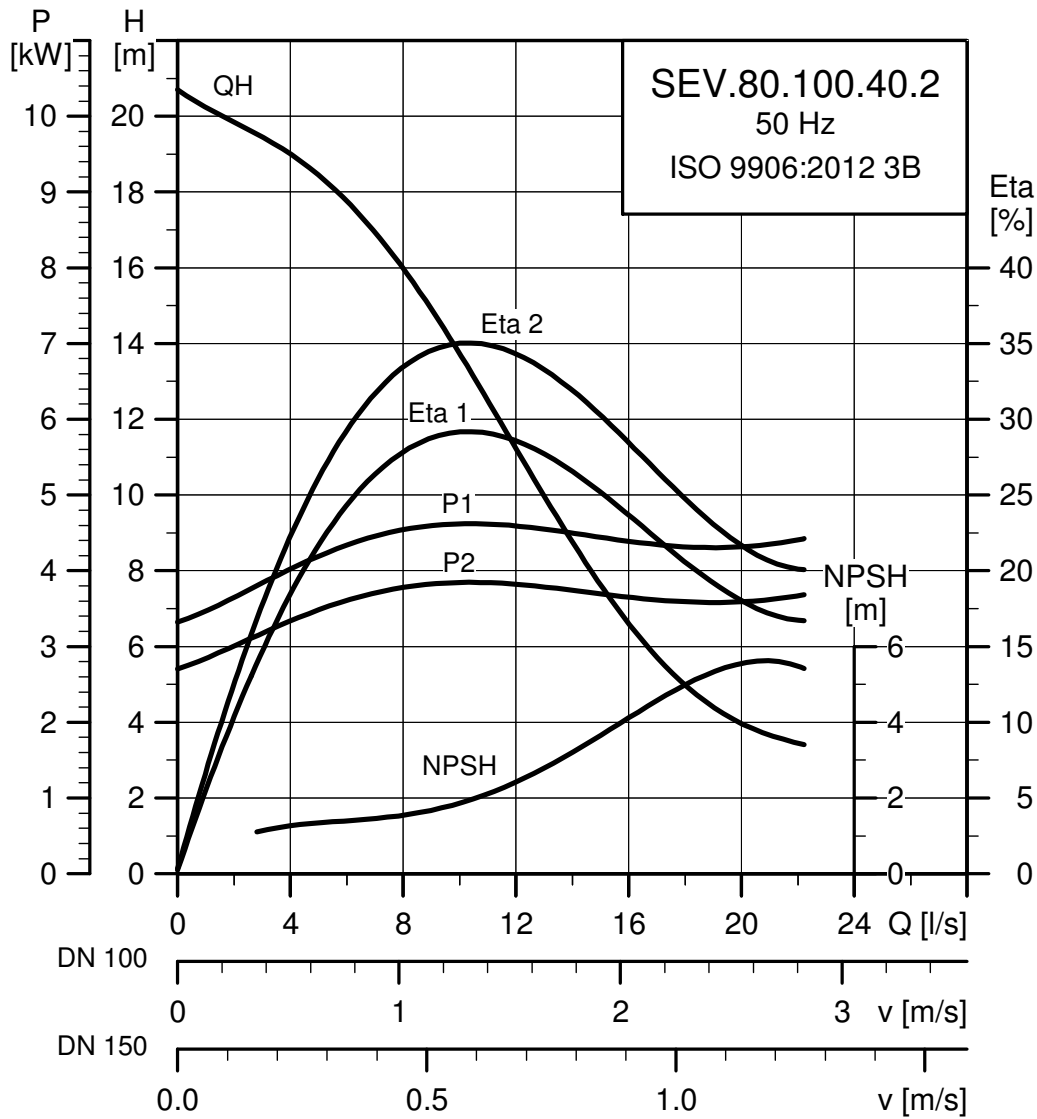
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$      |                    |  | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |      | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|--------------|--------------------|--|--------------------|------|------|------------|------|------|---|---------------------------------------|
|                |            |            |                    |      |                    | $I_N$<br>[A] | $I_{start}$<br>[A] |  | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1  |   |                                       |
| 3 x 380-415    | 4.9        | 4          | 4                  | 1460 | DOL                | 10.0 - 10.2  | 64                 |  | 78.2               | 81.7 | 82.2 | 0.52       | 0.65 | 0.73 | 0.0479                                      | 100                                   |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.100.40.(Ex).2**



TM04 3468 1817

**Electrical data**

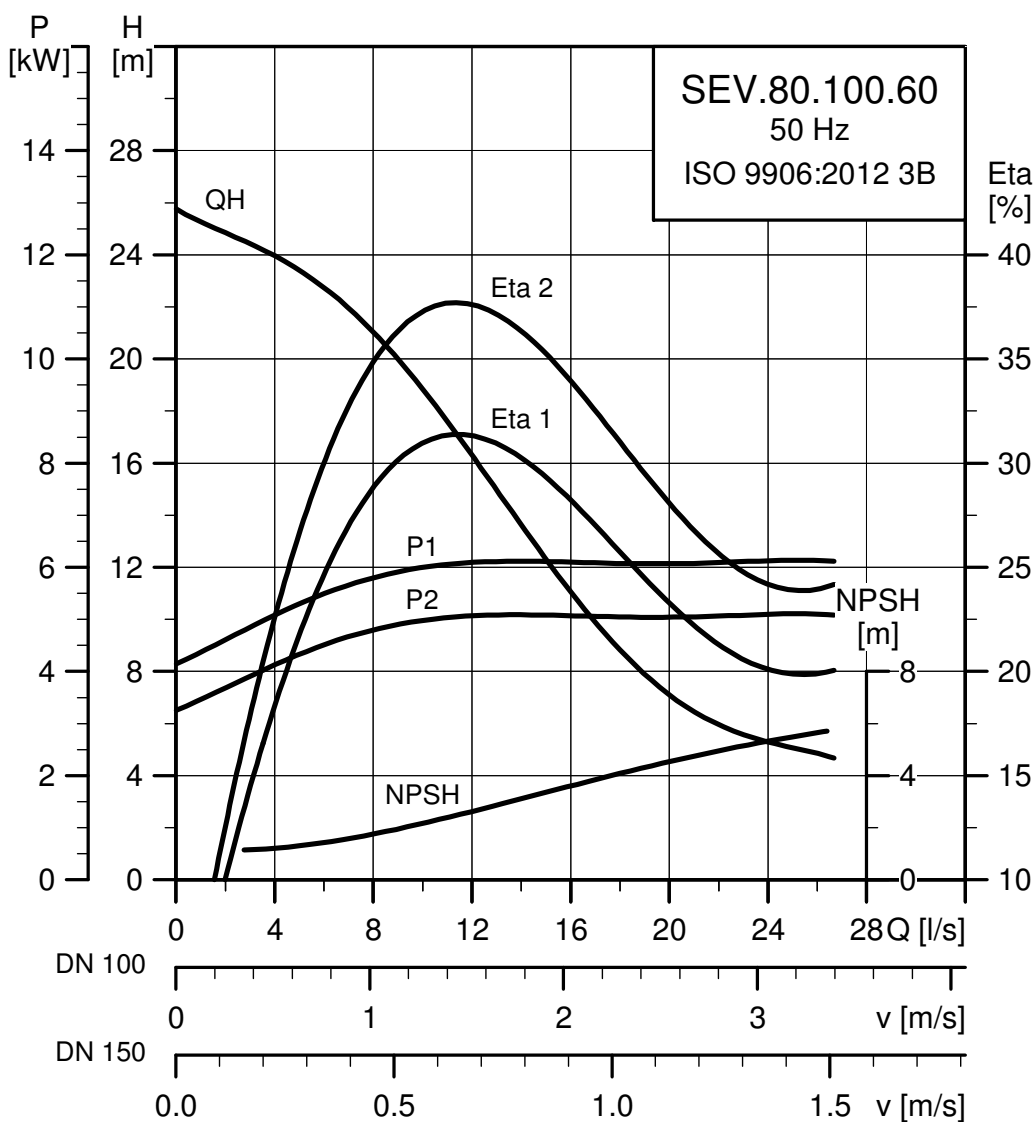
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$   |     |      | $\eta_{motor}$ [%] |      |      | Cos $\phi$ |      |        | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-----------|-----|------|--------------------|------|------|------------|------|--------|--|------------------------------------|
|                |            |            |                 |      |                 | [A]       | [A] |      | 1/2                | 3/4  | 1/1  | 1/2        | 3/4  | 1/1    |  |                                    |
| 3 x 380-415    | 4.9        | 4          | 2               | 2925 | DOL             | 8.7 - 8.5 | 68  | 79.2 | 82.4               | 83.3 | 0.68 | 0.78       | 0.84 | 0.0127 | 54                                       |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.80.100.60.(Ex).2**



TMD4 3469 1817

**Electrical data**

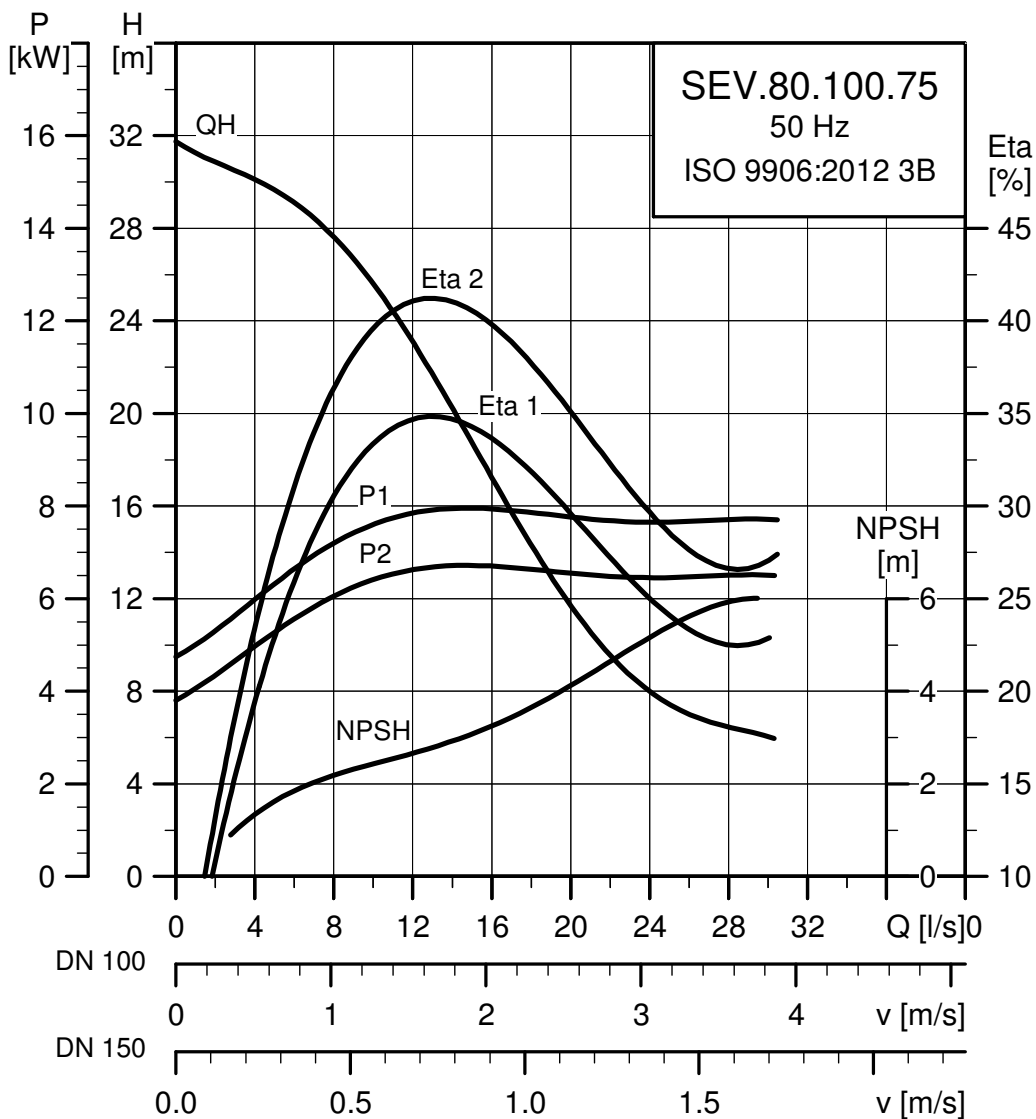
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |       | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|--------------------|------|-------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1   |            |  |  |   |                                       |
| 3 x 380-415    | 7.1        | 6          | 2                  | 2945 | DOL                | 13.7 - 14.2 | 143 | 77.5 | 82.2        | 84.1 | 0.58 | 0.7                | 0.78 | 0.019 | 112        |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 80                       | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

**SEV.80.100.75.(Ex).2**



TM04 3470 1817

**Electrical data**

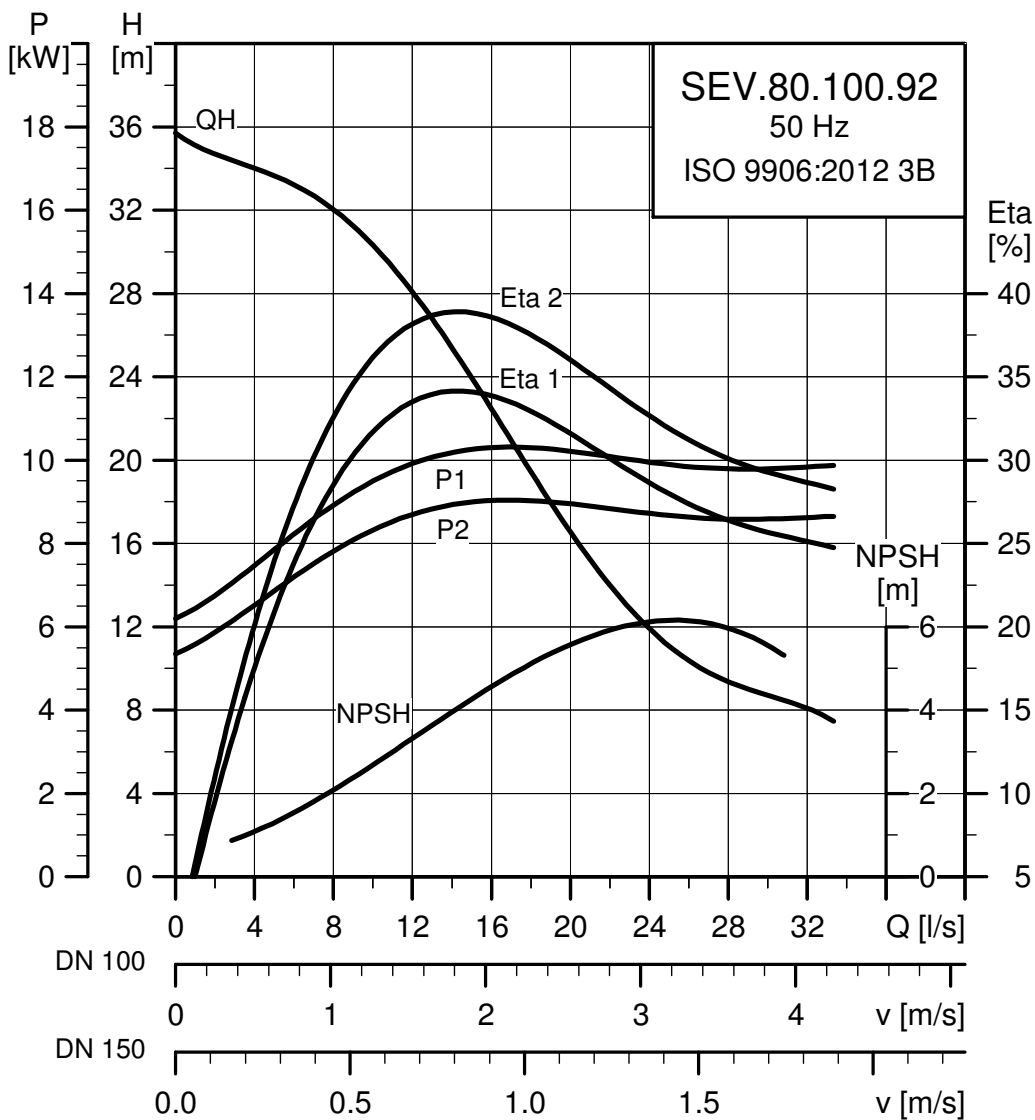
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 8.9        | 7.5        | 2               | 2940 | DOL             | 16.5 - 16.2 | 146 | 80.1 | 83.8        | 84.8 | 0.65 | 0.76               | 0.83 | 0.0215 | 112        |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

SEV.80.100.92.(Ex).2



TM04 3471 1817

Electrical data

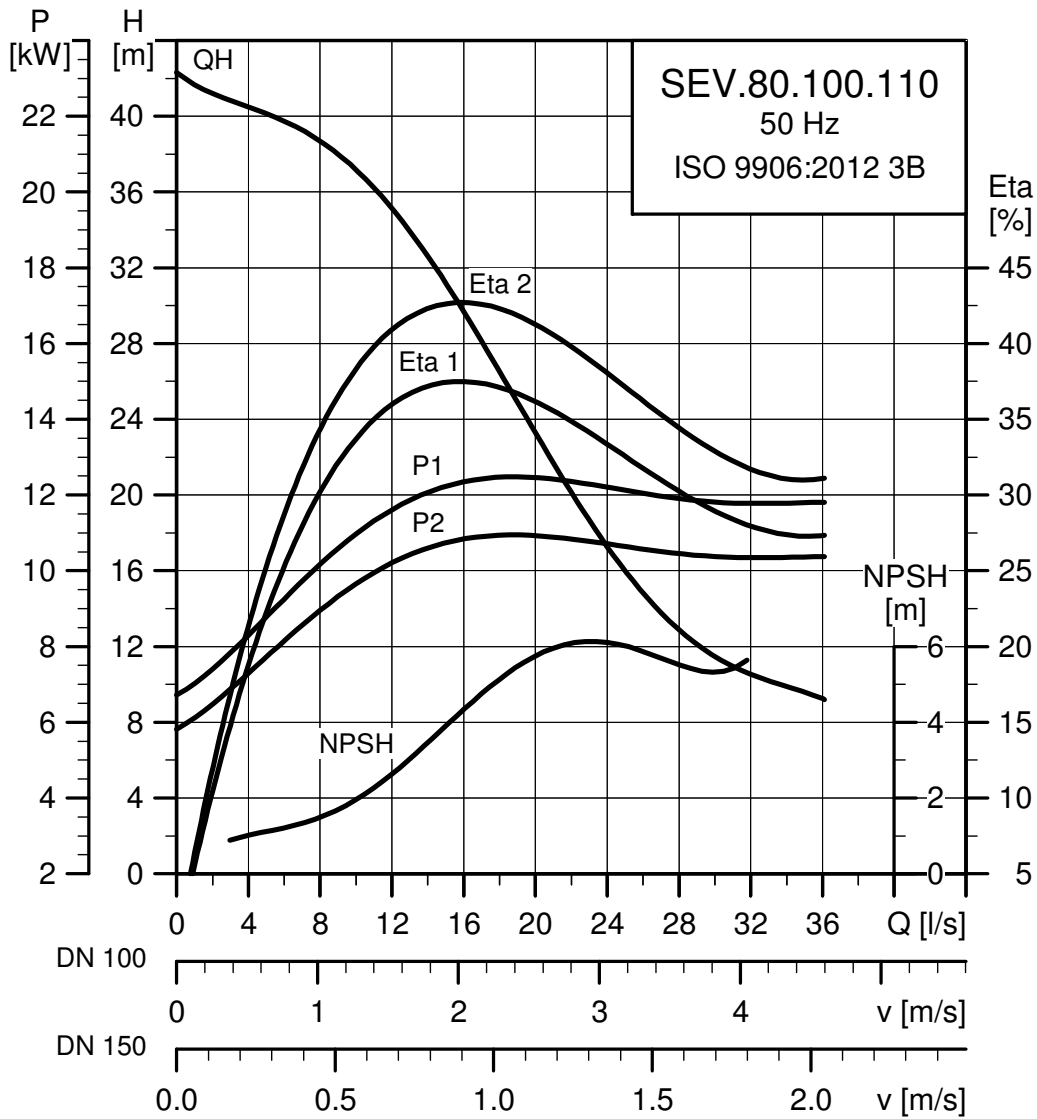
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 10.5       | 9.2        | 2               | 2935 | DOL             | 18.8 - 17.5 | 156 | 85.4 | 87.4        | 87.6 | 0.78 | 0.85               | 0.89 | 0.0334 | 99         |  |  |  |                                    |

\* Low voltage - high voltage.

Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.80.100.110.(Ex).2**



TM04 3472 1817

**Electrical data**

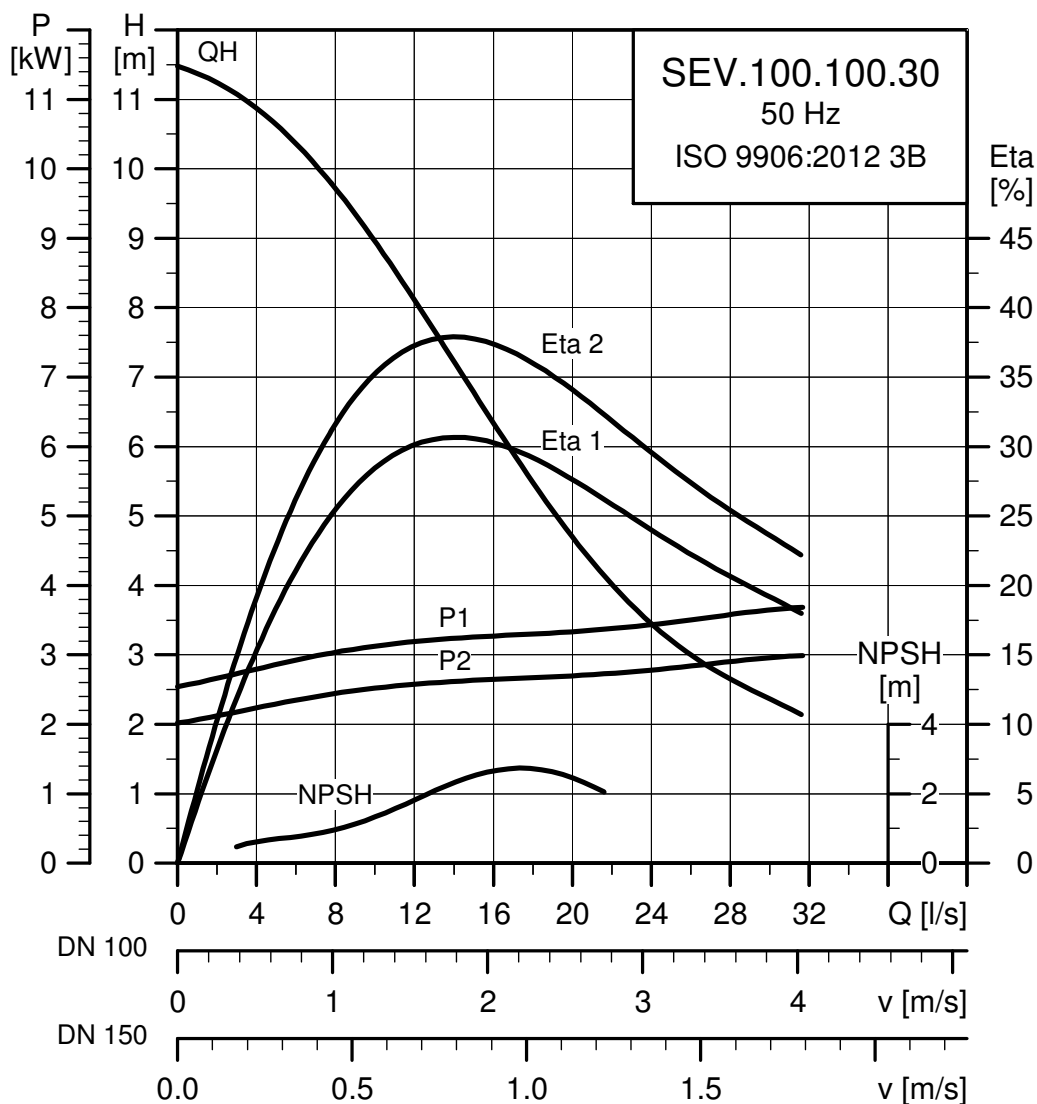
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 12.6       | 11         | 2               | 2935 | DOL             | 22.7 - 21.4 | 155 | 86.4 | 88.1        | 87.7 | 0.75 | 0.84               | 0.88 | 0.0368 | 118        |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 80                       | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

## SEV.100.100.30.(Ex).4



TM02 7988 1817

## Electrical data

| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$   |     |      | $\eta_{\text{motor}} [\%]$ |      |     | Cos $\phi$ |      |        | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{\text{max}}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-----------|-----|------|----------------------------|------|-----|------------|------|--------|---|--|
|                |            |            |                    |      |                    | [A]       | [A] | 1/2  | 3/4                        | 1/1  | 1/2 | 3/4        | 1/1  |        |   |  |
| 3 x 380-415    | 3.7        | 3.0        | 4                  | 1455 | DOL                | 7.8 - 8.0 | 74  | 76.4 | 79.9                       | 81.2 | 0.5 | 0.64       | 0.73 | 0.0450 | 71  |  |

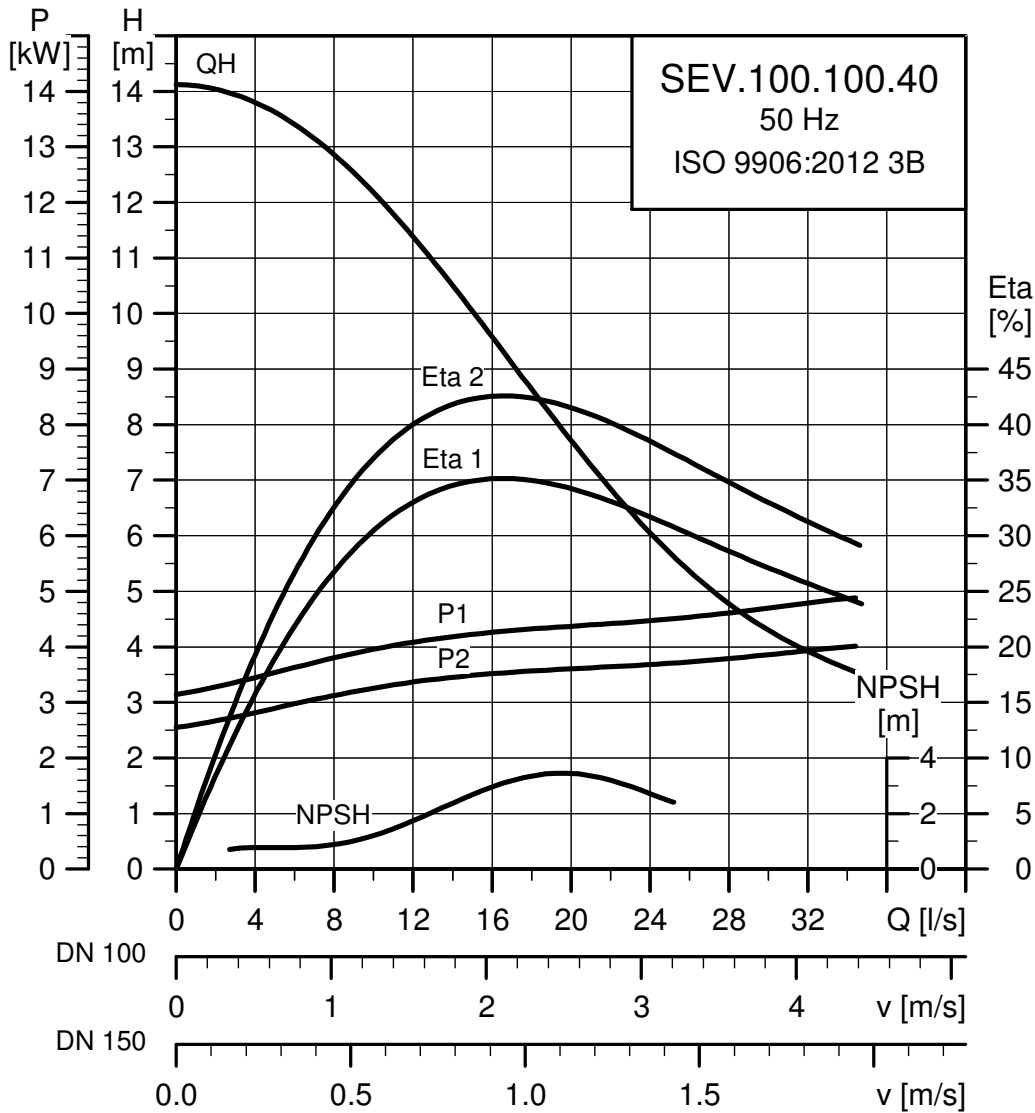
\* Low voltage - high voltage.

## Pump data

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |



**SEV.100.100.40.(Ex).4**



TM02 7989 1817

**Electrical data**

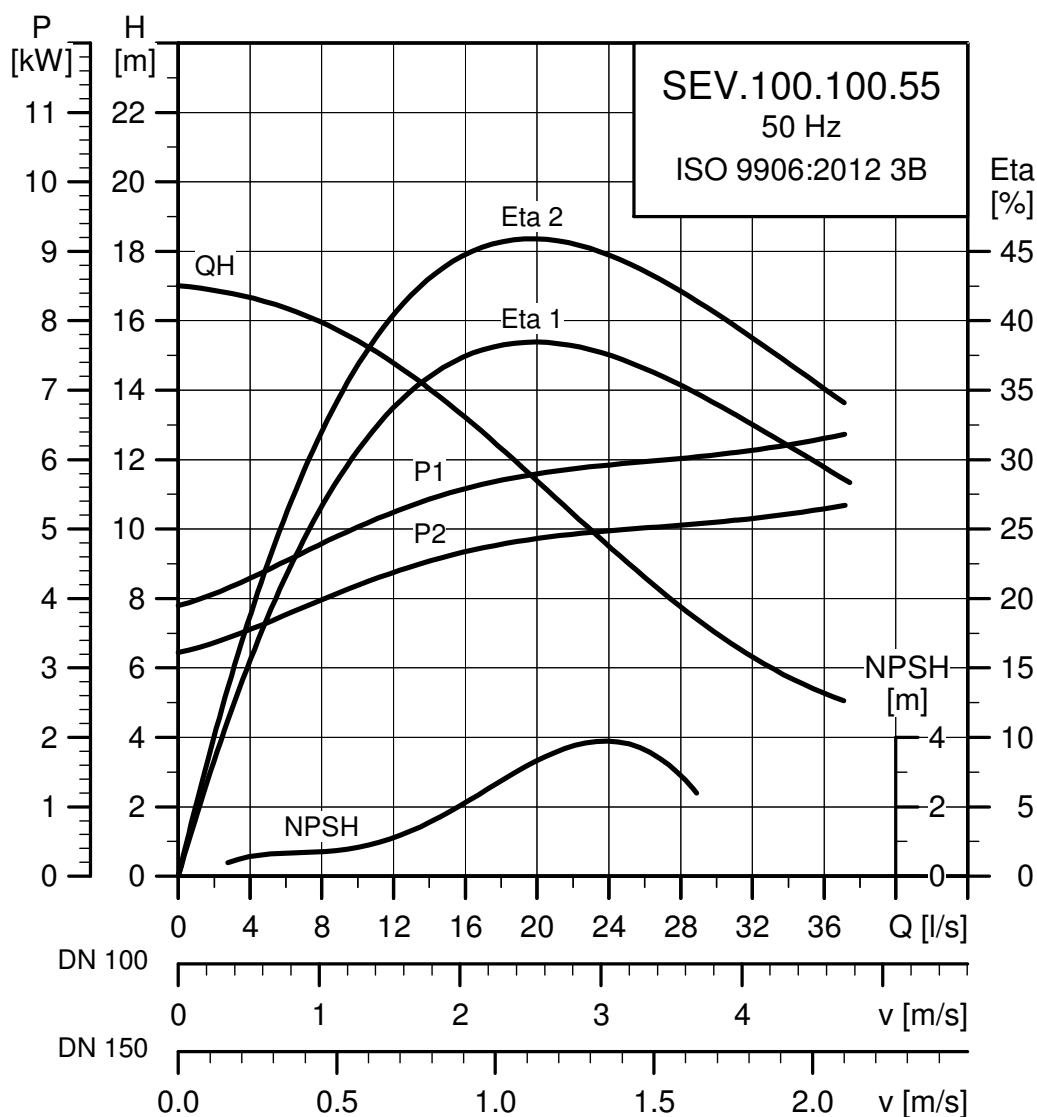
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number of poles | Rpm  | Starting method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of inertia<br>[kgm <sup>2</sup> ] | Breakdown torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|-----------------|------|-----------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|--|------------------------------------|
|                |            |            |                 |      |                 | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |  |                                    |
| 3 x 380-415    | 4.9        | 4.0        | 4               | 1460 | Y/D             | 10.0 - 10.2 | 67  | 78.2 | 81.7        | 82.2 | 0.52 | 0.65               | 0.73 | 0.0501 | 100        |  |  |  |                                    |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of starts per hour | Max. installation depth<br>[m] | Enclosure class | Insulation class | Max. liquid temperature<br>[°C] | pH          |
|---------------|--------------------------|--------------------------------|--------------------------------|-----------------|------------------|---------------------------------|-------------|
| SuperVortex   | 100                      | 20                             | 20                             | IP68            | F                | 40                              | See page 29 |

**SEV.100.100.55.(Ex).4**



TM02 7990 1817

**Electrical data**

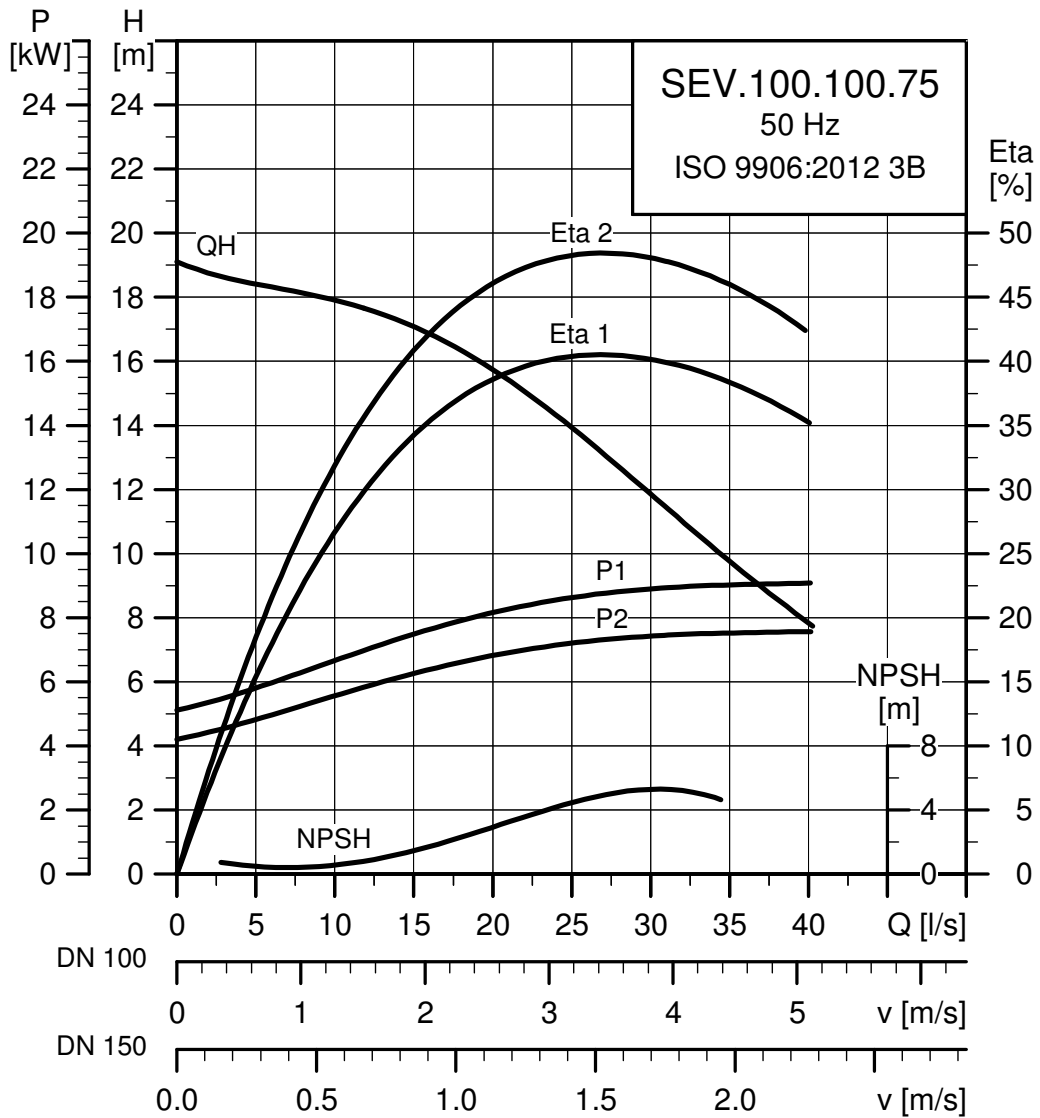
| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |     | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|-----|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A] | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 6.5        | 5.5        | 4                  | 1455 | Y/D                | 13.3 - 13.8 | 87  | 81  | 83.3        | 83.9 | 0.52 | 0.65               | 0.74 | 0.0552 | 122        |  |  |   |                                       |

\* Low voltage - high voltage.

**Pump data**

| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

SEV.100.100.75.(Ex).4



TM02 7997 1817

Electrical data






| Voltage<br>[V] | P1<br>[kW] | P2<br>[kW] | Number<br>of poles | Rpm  | Starting<br>method | $I_N^*$     |     |      | $I_{start}$ |      |      | $\eta_{motor}$ [%] |      |        | Cos $\phi$ |  |  | Moment of<br>inertia<br>[kgm <sup>2</sup> ] | Breakdown<br>torque $M_{max}$<br>[Nm] |
|----------------|------------|------------|--------------------|------|--------------------|-------------|-----|------|-------------|------|------|--------------------|------|--------|------------|--|--|---|---------------------------------------|
|                |            |            |                    |      |                    | [A]         | [A] | [A]  | 1/2         | 3/4  | 1/1  | 1/2                | 3/4  | 1/1    |            |  |  |   |                                       |
| 3 x 380-415    | 9.0        | 7.5        | 4                  | 1455 | Y/D                | 17.7 - 17.5 | 107 | 81.3 | 83.5        | 83.4 | 0.61 | 0.72               | 0.79 | 0.0692 | 141        |  |  |   |                                       |



Pump data


| Impeller type | Max. solids size<br>[mm] | Max. number of<br>starts per hour | Max. installation<br>depth<br>[m] | Enclosure class | Insulation class | Max. liquid<br>temperature<br>[°C] | pH          |
|---------------|--------------------------|-----------------------------------|-----------------------------------|-----------------|------------------|------------------------------------|-------------|
| SuperVortex   | 100                      | 20                                | 20                                | IP68            | F                | 40                                 | See page 29 |

# 11. Accessories

## Installation systems

| Picture   | Description   | Dimensions  | Material  | SE1.50.65                  | SE1.50.80               | SE1.80.80 | SE1.80.100 | SE1.100.100 | SE1.100.150 | SEV.65.65 | SEV.65.80 | SEV.80.80 | SEV.80.100 | SEV.100.100 | Product number |          |          |
|---|---|---|---|----------------------------|-------------------------|-----------|------------|-------------|-------------|-----------|-----------|-----------|------------|-------------|----------------|----------|----------|
|   |   |   |   |                            |                         |           |            |             |             |           |           |           |            |             |                |          |          |
|    | Complete auto-coupling system, including guide claw, base plate and upper guide rail bracket. Cast iron, epoxy-coated. With bolts, nuts, gaskets and anchor bolts.<br><br><b>Note:</b> If your guide rails exceed 4 metres, consider using intermediate guide rail brackets to support your system. | DN 65   | Cast iron   | •                          |                         |           |            |             |             | •         |           |           |            |             | 96090992       |          |          |
|   |   | DN 80   |   |                            | •                       | •         |            |             |             |           |           | •         | •          |             |                | 96090993 |          |
|   |   | DN 80 / DN 65   |   | •                          |                         |           |            |             |             |           |           | •         |            |             |                | 96102238 |          |
|   |   | DN 100  |   |                            |                         | •         | •          |             |             |           |           |           |            | •           | •              | 96090994 |          |
|   |   | DN 100 / DN 80  |   |                            | •                       | •         |            |             |             |           |           |           | •          | •           |                | 96102240 |          |
|   |   | DN 150  |   |                            |                         |           |            |             |             | •         |           |           |            |             |                | 96090995 |          |
|   |   | DN 150 / DN 100   |   |                            |                         |           |            | •           | •           |           |           |           |            |             | •              | •        | 96102241 |
|   |   | DN 65   |   | Stainless steel, EN 1.4408 | •                       |           |            |             |             |           |           | •         |            |             |                |          | 96825104 |
|   |   | DN 80   |   |                            | •                       | •         |            |             |             |           |           | •         | •          |             |                |          | 96825106 |
|   |   | DN 100  |   |                            |                         |           | •          | •           |             |           |           |           |            |             | •              | •        | 96825108 |
| DN 150  |   |   |   |                            |                         |           | •          |             |             |           |           |           |            | 96945381    |                |          |          |
|    | Intermediate guide rail brackets in stainless steel.  | DN 65   | Stainless steel   | •                          |                         |           |            |             |             | •         |           |           |            |             | 96825119       |          |          |
|   |   | DN 80   |   |                            | •                       |           |            |             |             |           | •         | •         |            |             | 96825142       |          |          |
|   |   | DN 100  |   |                            |                         | •         | •          |             |             |           |           |           | •          | •           | 96825161       |          |          |
|   |   | DN 150  |   |                            |                         |           |            |             | •           |           |           |           |            |             |                | 96887674 |          |
|  | Ring stand with flanged 90 ° elbow and hose connection. With bolts, nuts, gaskets and anchor bolts.   | DN 65 / DN 65   | Cast iron, epoxy-coated   | •                          |                         |           |            |             |             |           |           |           |            |             | 96102253       |          |          |
|   |   | DN 65 / DN 80   |   |                            | •                       |           |            |             |             |           |           |           |            |             |                | 96102378 |          |
|   |   | DN 80 / DN 65   |   |                            |                         |           |            |             |             |           | •         |           |            |             |                | 96102439 |          |
|   |   | DN 80 / DN 80   |   |                            |                         |           |            |             |             |           |           | •         | •          |             |                | 96102254 |          |
|   |   | DN 100 / DN 80  |   |                            | •                       |           |            |             |             |           |           |           |            |             |                | 96102313 |          |
|   |   | DN 80 / DN 100  |   |                            |                         |           |            |             |             |           |           |           | •          |             | 96943236       |          |          |
|   |   | DN 100 / DN 100   | Galvanised steel  |                            |                         | •         |            |             |             |           |           |           |            | •           |                | 96102255 |          |
|   |   | DN 150 / DN 100   |   |                            |                         |           | •          |             |             |           |           |           |            |             |                | 96102314 |          |
|   |   | DN 150 / DN 150   |   |                            |                         |           |            |             | •           |           |           |           |            |             |                | 96102256 |          |
|   |   |  | Ring stand with flanged 90 ° elbow and outside thread connection. With bolts, nuts, gaskets and anchor bolts. | DN 65 / DN 65              | Cast iron, epoxy-coated | •         |            |             |             |           |           |           |            |             |                |          | 96102379 |
| DN 65 / DN 80   |   |   |   | •                          |                         |           |            |             |             |           |           |           |            |             |                | 96102380 |          |
| DN 80 / DN 65   |   |   |   |                            |                         |           |            |             |             |           | •         |           |            |             |                | 96102440 |          |
| DN 80 / DN 80   |   |   |   |                            |                         |           |            |             |             |           |           | •         | •          |             |                | 96102381 |          |
| DN 100 / DN 80  |   |   |   | •                          |                         |           |            |             |             |           |           |           |            |             |                | 96102382 |          |
| DN 80 / DN 100  |   |   |   |                            |                         |           |            |             |             |           |           |           | •          |             | 96943236       |          |          |
| DN 100 / DN 100   |   |   |   |                            | •                       |           |            |             |             |           |           |           |            | •           |                | 96102383 |          |
| DN 150 / DN 100   | Galvanised steel  |   |   |                            |                         |           | •          |             |             |           |           |           |            |             |                | 96102384 |          |
| DN 150 / DN 150   |   |   |   |                            |                         |           |            |             | •           |           |           |           |            |             |                | 96102385 |          |
|  | Base stand for vertical dry installation, including 90 ° elbow. Galvanised steel. With bolts, gaskets and anchor bolts.   | DN 65   | Stainless steel EN 1.4408   | •                          | •                       |           |            |             |             |           |           |           |            |             | 96102257       |          |          |
|   |   | DN 80   |   |                            |                         |           |            |             |             | •         | •         | •         | •          |             |                | 96102258 |          |
|   |   | DN 100 / DN 80  |   |                            |                         |           |            |             |             |           | •         | •         | •          | •           |                | 96567174 |          |
|   |   | DN 100  |   |                            | •                       | •         |            |             |             |           |           |           |            | •           |                | 96102259 |          |
|   |   | DN 150 / DN 100   |   |                            | •                       | •         |            |             |             |           |           |           |            |             |                | 96567175 |          |
|   |   | DN 150  |   |                            |                         |           | •          | •           |             |           |           |           |            |             |                |          | 96102260 |
|   |   | DN 200 / DN 150   |   |                            |                         |           | •          | •           |             |           |           |           |            |             |                |          | 96567176 |

| Picture   | Description  | Dimensions                        | Material         | SE1.50.65 | SE1.50.80 | SE1.80.80 | SE1.80.100 | SE1.100.100 | SE1.100.150 | SEV.65.65 | SEV.65.80 | SEV.80.80 | SEV.80.100 | SEV.100.100 | Product number |          |
|---|--|-----------------------------------|------------------|-----------|-----------|-----------|------------|-------------|-------------|-----------|-----------|-----------|------------|-------------|----------------|----------|
|   |  |                                   |                  |           |           |           |            |             |             |           |           |           |            |             |                |          |
|  | TM04 4494 1409<br>Brackets for horizontal dry installation.<br>With bolts, gaskets and anchor bolts. | DN 65<br>(2.2 to 3 kW, 2-pole)    | Galvanised steel | •         | •         |           |            |             |             |           |           |           |            |             | 96102261       |          |
|   |  | DN 65<br>(4 kW, 2-pole)           |                  | •         | •         |           |            |             |             |           |           |           |            |             | 96102262       |          |
|   |  | DN 80<br>(2.2 to 3 kW, 2-pole)    |                  |           |           |           |            |             |             | •         | •         |           |            |             |                | 96101912 |
|   |  | DN 80<br>(1.1 to 2.2 kW, 4-pole)  |                  |           |           |           |            |             |             |           |           |           | •          | •           |                | 96101912 |
|   |  | DN 80<br>(4 to 7.5 kW, 2-pole)    |                  |           |           |           |            |             |             |           |           | •         | •          | •           | •              | 96102200 |
|  | TM04 4506 1409   | DN 80<br>(4 kW, 4-pole)           |                  |           |           |           |            |             |             |           |           |           | •          | •           |                | 96102200 |
|   |  | DN 80<br>(9.2 to 11 kW, 2-pole)   |                  |           |           |           |            |             |             |           |           |           | •          | •           |                | 96102386 |
|   |  | DN 100<br>(1.5 to 2.2 kW, 4-pole) |                  |           |           | •         | •          |             |             |           |           |           |            |             |                | 96102201 |
|   |  | DN 100<br>(3 to 5.5 kW, 4-pole)   |                  |           |           | •         | •          |             |             |           |           |           |            |             | •              | 96101917 |
|   |  | DN 100<br>(7.5 kW, 4-pole)        |                  |           |           | •         | •          |             |             |           |           |           |            |             | •              | 96102202 |
|   |  | DN 150<br>(4 to 5.5 kW, 4-pole)   |                  |           |           |           |            |             | •           | •         |           |           |            |             | 96102263       |          |
|   |  | DN 150<br>(7.5 kW, 4-pole)        |                  |           |           |           |            |             | •           | •         |           |           |            |             | 96102250       |          |

| Picture   | Description  | Dimensions and weights | Product number |
|---|--|------------------------|----------------|
|  | 4 m galvanised lifting chain with lifting link and safety hook. With certificates.       |                        | 96735550       |
|   | 6 m galvanised lifting chain with lifting link and safety hook. With certificates.       |                        | 96735553       |
|   | 8 m galvanised lifting chain with lifting link and safety hook. With certificates.       | 800 kg                 | 96735554       |
|   | 10 m galvanised lifting chain with lifting link and safety hook. With certificates.      |                        | 96735556       |
|   | 12 m galvanised lifting chain with lifting link and safety hook. With certificates.      |                        | 96735557       |
|   | 4 m stainless steel lifting chain with lifting link and safety hook. With certificates.  |                        | 96735559       |
|   | 6 m stainless steel lifting chain with lifting link and safety hook. With certificates.  |                        | 96735564       |
|   | 8 m stainless steel lifting chain with lifting link and safety hook. With certificates.  | 800 kg                 | 96735566       |
|   | 10 m stainless steel lifting chain with lifting link and safety hook. With certificates. |                        | 96735567       |
|   | 12 m stainless steel lifting chain with lifting link and safety hook. With certificates. |                        | 96735569       |
|   | Cable protection hose in polyolefin material.  | 5 m x 1"               | 96002084       |

## 12. Dimensions and weights

### Dimensions

#### Pumps without accessories

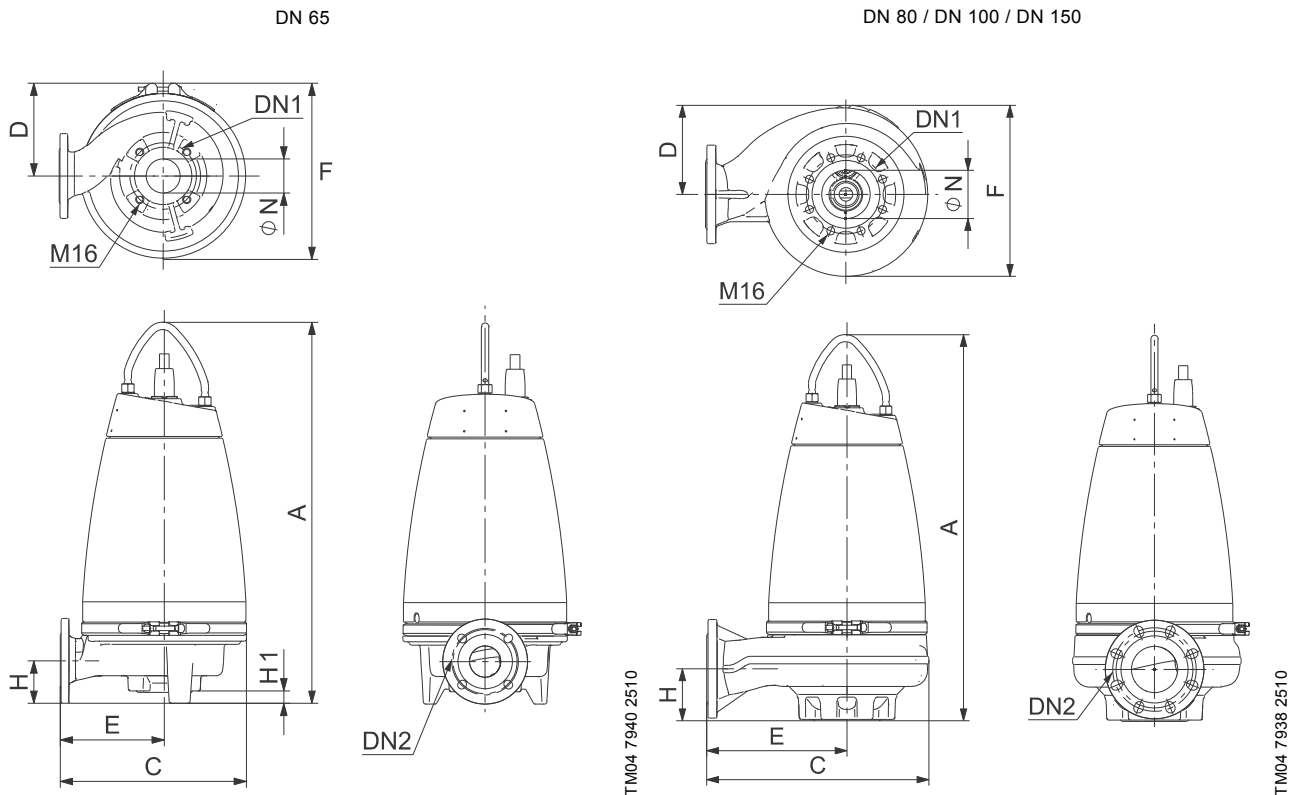


Fig. 27 SE1

#### SE1.50, DN 65 or DN 80 outlet

| Pump type      | A   | C   | D   | E   | F   | H   | H1 | ØN | DN1 | DN2 |
|----------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| SE1.50.65.22.2 | 753 | 366 | 171 | 216 | 321 | 93  | 26 | 50 | 65  | 65  |
| SE1.50.65.30.2 | 753 | 366 | 171 | 216 | 321 | 93  | 26 | 50 | 65  | 65  |
| SE1.50.65.40.2 | 831 | 407 | 200 | 227 | 379 | 93  | 24 | 50 | 65  | 65  |
| SE1.50.80.22.2 | 760 | 366 | 171 | 216 | 321 | 100 | 33 | 50 | 65  | 80  |
| SE1.50.80.30.2 | 760 | 366 | 171 | 216 | 321 | 100 | 33 | 50 | 65  | 80  |
| SE1.50.80.40.2 | 838 | 407 | 200 | 227 | 379 | 100 | 31 | 50 | 65  | 80  |

#### SE1.80, DN 80 outlet

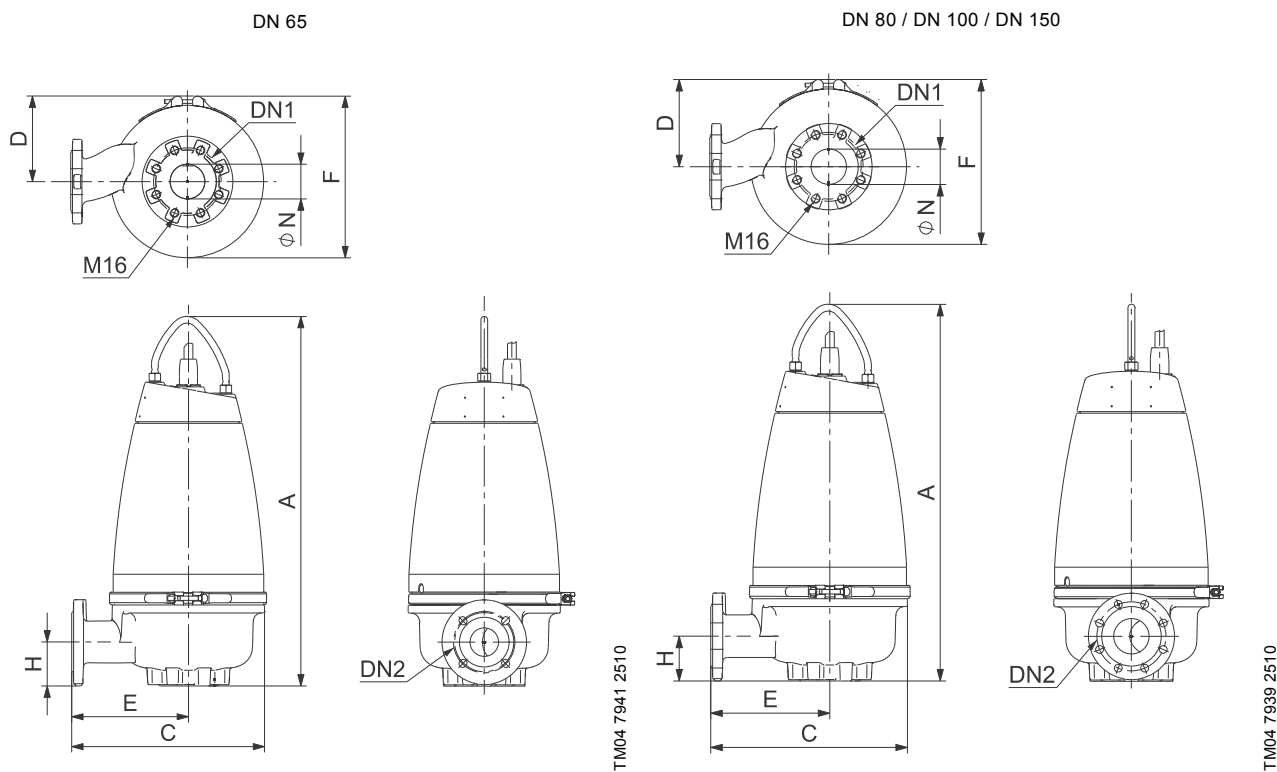
| Pump type      | A   | C   | D   | E   | F   | H   | H1 | ØN | DN1 | DN2 |
|----------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| SE1.80.80.15.4 | 776 | 435 | 171 | 272 | 347 | 100 | 8  | 80 | 100 | 80  |
| SE1.80.80.22.4 | 776 | 435 | 171 | 272 | 347 | 100 | 8  | 80 | 100 | 80  |
| SE1.80.80.30.4 | 878 | 505 | 200 | 319 | 397 | 118 | 0  | 80 | 100 | 80  |
| SE1.80.80.40.4 | 878 | 505 | 200 | 319 | 397 | 118 | 0  | 80 | 100 | 80  |
| SE1.80.80.55.4 | 878 | 505 | 200 | 319 | 397 | 118 | 0  | 80 | 100 | 80  |
| SE1.80.80.75.4 | 924 | 530 | 217 | 328 | 423 | 118 | 0  | 80 | 100 | 80  |

**SE1.80, DN 100 outlet**

| Pump type       | A   | C   | D   | E   | F   | H   | H1 | ØN | DN1 | DN2 |
|-----------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| SE1.80.100.15.4 | 788 | 435 | 171 | 272 | 347 | 112 | 20 | 80 | 100 | 100 |
| SE1.80.100.22.4 | 788 | 435 | 171 | 272 | 347 | 112 | 20 | 80 | 100 | 100 |
| SE1.80.100.30.4 | 878 | 505 | 200 | 319 | 397 | 118 | 0  | 80 | 100 | 100 |
| SE1.80.100.40.4 | 878 | 505 | 200 | 319 | 397 | 118 | 0  | 80 | 100 | 100 |
| SE1.80.100.55.4 | 878 | 505 | 200 | 319 | 397 | 118 | 0  | 80 | 100 | 100 |
| SE1.80.100.75.4 | 924 | 530 | 217 | 328 | 423 | 118 | 0  | 80 | 100 | 100 |

**SE1.100, DN 100 or DN 150 outlet**

| Pump type        | A   | C   | D   | E   | F   | H   | H1 | ØN  | DN1 | DN2 |
|------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| SE1.100.100.40.4 | 885 | 541 | 200 | 320 | 438 | 115 | 0  | 100 | 150 | 100 |
| SE1.100.100.55.4 | 885 | 541 | 200 | 320 | 438 | 115 | 0  | 100 | 150 | 100 |
| SE1.100.100.75.4 | 932 | 541 | 217 | 312 | 462 | 115 | 0  | 100 | 150 | 100 |
| SE1.100.150.40.4 | 900 | 541 | 200 | 320 | 440 | 143 | 32 | 100 | 150 | 150 |
| SE1.100.150.55.4 | 900 | 541 | 200 | 320 | 440 | 143 | 32 | 100 | 150 | 150 |
| SE1.100.150.75.4 | 948 | 541 | 217 | 306 | 472 | 143 | 32 | 100 | 150 | 150 |



**SEV.65, DN 65 or DN 80 outlet**

| Pump type      | A   | C   | D   | E   | F   | H   | H1 | ØN | DN1 | DN2 |
|----------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| SEV.65.65.22.2 | 771 | 396 | 171 | 246 | 321 | 102 | 0  | 65 | 80  | 65  |
| SEV.65.65.30.2 | 771 | 396 | 171 | 246 | 321 | 102 | 0  | 65 | 80  | 65  |
| SEV.65.65.40.2 | 848 | 456 | 200 | 276 | 380 | 106 | 0  | 65 | 80  | 65  |
| SEV.65.80.22.2 | 771 | 397 | 171 | 247 | 321 | 103 | 0  | 65 | 80  | 80  |
| SEV.65.80.30.2 | 771 | 397 | 171 | 247 | 321 | 103 | 0  | 65 | 80  | 80  |
| SEV.65.80.40.2 | 848 | 455 | 200 | 276 | 379 | 106 | 0  | 65 | 80  | 80  |

**SEV.80, DN 80 outlet**

| Pump type       | A   | C   | D   | E   | F   | H   | H1 | ØN | DN1 | DN2 |
|-----------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| SEV.80.80.11.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 80  |
| SEV.80.80.13.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 80  |
| SEV.80.80.15.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 80  |
| SEV.80.80.22.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 80  |
| SEV.80.80.40.2  | 874 | 456 | 200 | 276 | 380 | 104 | 0  | 80 | 80  | 80  |
| SEV.80.80.60.2  | 874 | 456 | 200 | 276 | 380 | 104 | 0  | 80 | 80  | 80  |
| SEV.80.80.75.2  | 874 | 456 | 200 | 276 | 380 | 104 | 0  | 80 | 80  | 80  |
| SEV.80.80.92.2  | 922 | 489 | 217 | 293 | 413 | 123 | 0  | 80 | 80  | 80  |
| SEV.80.80.110.2 | 922 | 489 | 217 | 293 | 413 | 123 | 0  | 80 | 80  | 80  |

**SEV.80, DN 100 outlet**

| Pump type        | A   | C   | D   | E   | F   | H   | H1 | ØN | DN1 | DN2 |
|------------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|
| SEV.80.100.11.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 100 |
| SEV.80.100.13.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 100 |
| SEV.80.100.15.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 100 |
| SEV.80.100.22.4  | 798 | 409 | 171 | 241 | 339 | 109 | 0  | 80 | 80  | 100 |
| SEV.80.100.40.2  | 874 | 466 | 200 | 286 | 380 | 104 | 0  | 80 | 80  | 100 |
| SEV.80.100.60.2  | 874 | 466 | 200 | 286 | 380 | 104 | 0  | 80 | 80  | 100 |
| SEV.80.100.75.2  | 874 | 466 | 200 | 286 | 380 | 104 | 0  | 80 | 80  | 100 |
| SEV.80.100.92.2  | 922 | 499 | 217 | 303 | 413 | 123 | 0  | 80 | 80  | 100 |
| SEV.80.100.110.2 | 922 | 499 | 217 | 303 | 413 | 123 | 0  | 80 | 80  | 100 |

**SEV.100, DN 100 outlet**

| Pump type        | A   | C   | D   | E   | F   | H   | H1 | ØN  | DN1 | DN2 |
|------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| SEV.100.100.30.4 | 889 | 457 | 200 | 277 | 380 | 134 | 0  | 100 | 100 | 100 |
| SEV.100.100.40.4 | 889 | 457 | 200 | 277 | 380 | 134 | 0  | 100 | 100 | 100 |
| SEV.100.100.55.4 | 889 | 457 | 200 | 277 | 380 | 134 | 0  | 100 | 100 | 100 |
| SEV.100.100.75.4 | 948 | 490 | 217 | 294 | 413 | 145 | 0  | 100 | 100 | 100 |



Free-standing submerged pump on ring stand

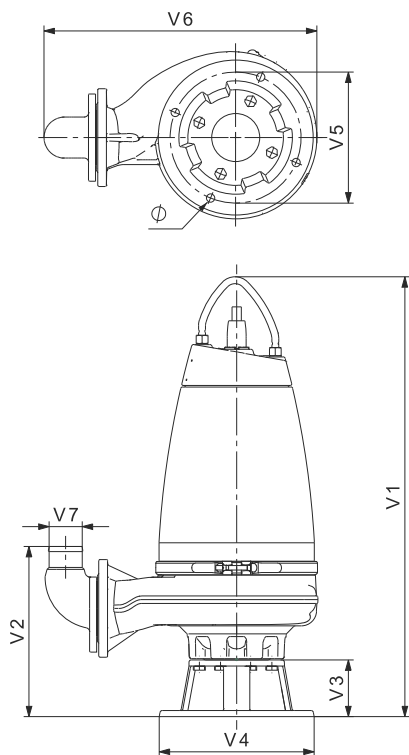


Fig. 29 SE1

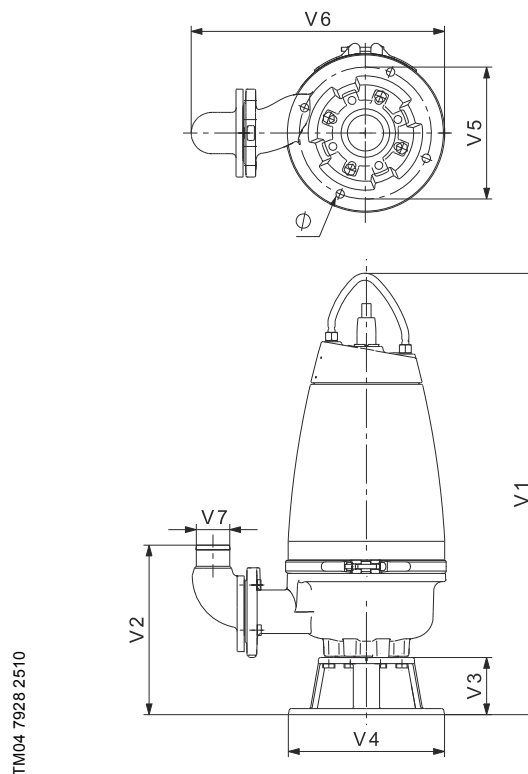


Fig. 30 SEV

SE1.50, DN 65 and DN 80 outlet

| Pump type      | V1  | V2  | V3  | V4  | V5  | V6  | V7 | Ø  |
|----------------|-----|-----|-----|-----|-----|-----|----|----|
| SE1.50.65.22.2 | 857 | 339 | 130 | 325 | 270 | 491 | 65 | 18 |
| SE1.50.65.30.2 | 857 | 339 | 130 | 325 | 270 | 491 | 65 | 18 |
| SE1.50.65.40.2 | 937 | 341 | 130 | 325 | 270 | 519 | 65 | 18 |
| SE1.50.80.22.2 | 857 | 339 | 130 | 325 | 270 | 496 | 80 | 18 |
| SE1.50.80.30.2 | 857 | 339 | 130 | 325 | 270 | 496 | 80 | 18 |
| SE1.50.80.40.2 | 937 | 341 | 130 | 325 | 270 | 525 | 80 | 18 |

SE1.80, DN 80 outlet

| Pump type      | V1   | V2  | V3  | V4  | V5  | V6  | V7 | Ø  |
|----------------|------|-----|-----|-----|-----|-----|----|----|
| SE1.80.80.15.4 | 898  | 364 | 130 | 355 | 300 | 567 | 80 | 19 |
| SE1.80.80.22.4 | 898  | 364 | 130 | 355 | 300 | 567 | 80 | 19 |
| SE1.80.80.30.4 | 1008 | 390 | 130 | 355 | 300 | 623 | 80 | 19 |
| SE1.80.80.40.4 | 1008 | 390 | 130 | 355 | 300 | 623 | 80 | 19 |
| SE1.80.80.55.4 | 1008 | 390 | 130 | 355 | 300 | 623 | 80 | 19 |
| SE1.80.80.75.4 | 1054 | 390 | 130 | 355 | 300 | 648 | 80 | 19 |

**SE1.80, DN 100 outlet**

| Pump type       | V1   | V2  | V3  | V4  | V5  | V6  | V7  | Ø  |
|-----------------|------|-----|-----|-----|-----|-----|-----|----|
| SE1.80.100.15.4 | 898  | 369 | 130 | 355 | 300 | 591 | 100 | 19 |
| SE1.80.100.22.4 | 898  | 369 | 130 | 355 | 300 | 591 | 100 | 19 |
| SE1.80.100.30.4 | 1008 | 395 | 130 | 355 | 300 | 647 | 100 | 19 |
| SE1.80.100.40.4 | 1008 | 395 | 130 | 355 | 300 | 647 | 100 | 19 |
| SE1.80.100.55.4 | 1008 | 395 | 130 | 355 | 300 | 647 | 100 | 19 |
| SE1.80.100.75.4 | 1054 | 395 | 130 | 355 | 300 | 672 | 100 | 19 |

**SE1.100, DN 100 or DN 150 outlet**

| Pump type        | V1   | V2  | V3  | V4  | V5  | V6  | V7  | Ø  |
|------------------|------|-----|-----|-----|-----|-----|-----|----|
| SE1.100.100.40.4 | 1071 | 445 | 186 | 450 | 400 | 711 | 100 | 22 |
| SE1.100.100.55.4 | 1071 | 445 | 186 | 450 | 400 | 711 | 100 | 22 |
| SE1.100.100.75.4 | 1118 | 445 | 186 | 450 | 400 | 706 | 100 | 22 |
| SE1.100.150.40.4 | 1054 | 555 | 186 | 450 | 400 | 807 | 150 | 22 |
| SE1.100.150.55.4 | 1054 | 555 | 186 | 450 | 400 | 807 | 150 | 22 |
| SE1.100.150.75.4 | 1102 | 555 | 186 | 450 | 400 | 803 | 150 | 22 |

**SEV.65, DN 65 or DN 80 outlet**

| Pump type      | V1  | V2  | V3  | V4  | V5  | V6  | V7 | Ø  |
|----------------|-----|-----|-----|-----|-----|-----|----|----|
| SEV.65.65.22.2 | 899 | 372 | 128 | 330 | 280 | 524 | 65 | 18 |
| SEV.65.65.30.2 | 899 | 372 | 128 | 330 | 280 | 524 | 65 | 18 |
| SEV.65.65.40.2 | 976 | 376 | 128 | 330 | 280 | 568 | 65 | 18 |
| SEV.65.80.22.2 | 899 | 373 | 128 | 330 | 280 | 530 | 80 | 18 |
| SEV.65.80.30.2 | 899 | 373 | 128 | 330 | 280 | 530 | 80 | 18 |
| SEV.65.80.40.2 | 976 | 376 | 128 | 330 | 280 | 573 | 80 | 18 |

**SEV.80, DN 80 outlet**

| Pump type      | V1   | V2  | V3  | V4  | V5  | V6  | V7 | Ø  |
|----------------|------|-----|-----|-----|-----|-----|----|----|
| SEV.80.80.11.4 | 926  | 379 | 128 | 330 | 280 | 527 | 80 | 18 |
| SEV.80.80.13.4 | 926  | 379 | 128 | 330 | 280 | 527 | 80 | 18 |
| SEV.80.80.15.4 | 926  | 379 | 128 | 330 | 280 | 527 | 80 | 18 |
| SEV.80.80.22.4 | 926  | 379 | 128 | 330 | 280 | 527 | 80 | 18 |
| SEV.80.80.40.2 | 1002 | 374 | 128 | 330 | 280 | 574 | 80 | 18 |
| SEV.80.80.60.2 | 1002 | 374 | 128 | 330 | 280 | 574 | 80 | 18 |
| SEV.80.80.75.2 | 1002 | 374 | 128 | 330 | 280 | 574 | 80 | 18 |
| SEV.80.80.92.2 | 1050 | 393 | 128 | 330 | 280 | 607 | 80 | 18 |

**SEV.80, DN 100 outlet**

| Pump type        | V1   | V2  | V3  | V4  | V5  | V6  | V7  | Ø  |
|------------------|------|-----|-----|-----|-----|-----|-----|----|
| SEV.80.100.11.4  | 926  | 379 | 128 | 330 | 280 | 551 | 100 | 19 |
| SEV.80.100.13.4  | 926  | 379 | 128 | 330 | 280 | 551 | 100 | 19 |
| SEV.80.100.15.4  | 926  | 379 | 128 | 330 | 280 | 551 | 100 | 19 |
| SEV.80.100.22.4  | 926  | 379 | 128 | 330 | 280 | 551 | 100 | 19 |
| SEV.80.100.40.2  | 1002 | 379 | 128 | 330 | 280 | 608 | 100 | 19 |
| SEV.80.100.60.2  | 1002 | 379 | 128 | 330 | 280 | 608 | 100 | 19 |
| SEV.80.100.75.2  | 1002 | 379 | 128 | 330 | 280 | 608 | 100 | 19 |
| SEV.80.100.92.2  | 1050 | 398 | 128 | 330 | 280 | 641 | 100 | 19 |
| SEV.80.100.110.2 | 1050 | 398 | 128 | 330 | 280 | 641 | 100 | 19 |
| SEV.80.100.92.2  | 1050 | 398 | 128 | 330 | 280 | 641 | 100 | 19 |
| SEV.80.100.110.2 | 1050 | 398 | 128 | 330 | 280 | 641 | 100 | 19 |

**SEV.100, DN 100 outlet**

| Pump type        | V1   | V2  | V3  | V4  | V5  | V6  | V7  | Ø  |
|------------------|------|-----|-----|-----|-----|-----|-----|----|
| SEV.100.100.30.4 | 1019 | 411 | 130 | 355 | 300 | 599 | 100 | 19 |
| SEV.100.100.40.4 | 1019 | 411 | 130 | 355 | 300 | 599 | 100 | 19 |
| SEV.100.100.55.4 | 1019 | 411 | 130 | 355 | 300 | 599 | 100 | 19 |
| SEV.100.100.75.4 | 1078 | 422 | 130 | 355 | 300 | 632 | 100 | 19 |

**Submerged pump on auto coupling**

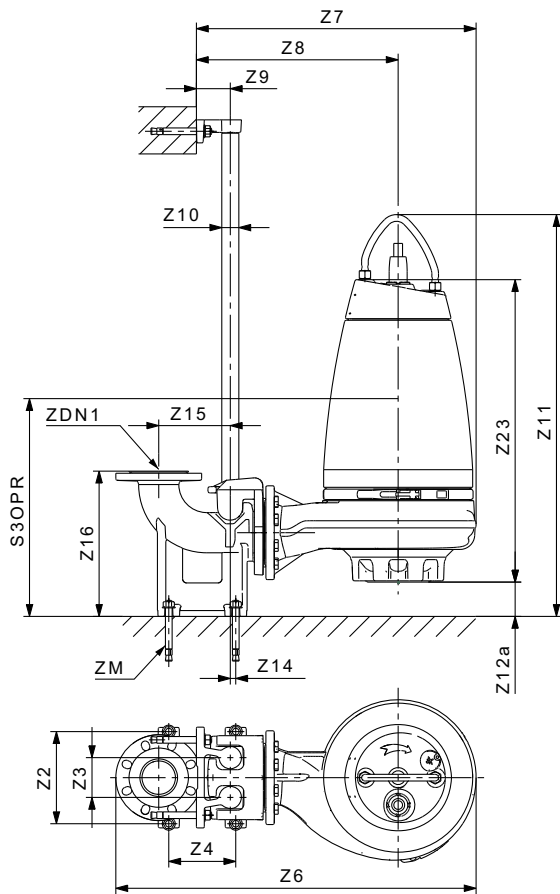


Fig. 31 SE1

TM04 7931 1317

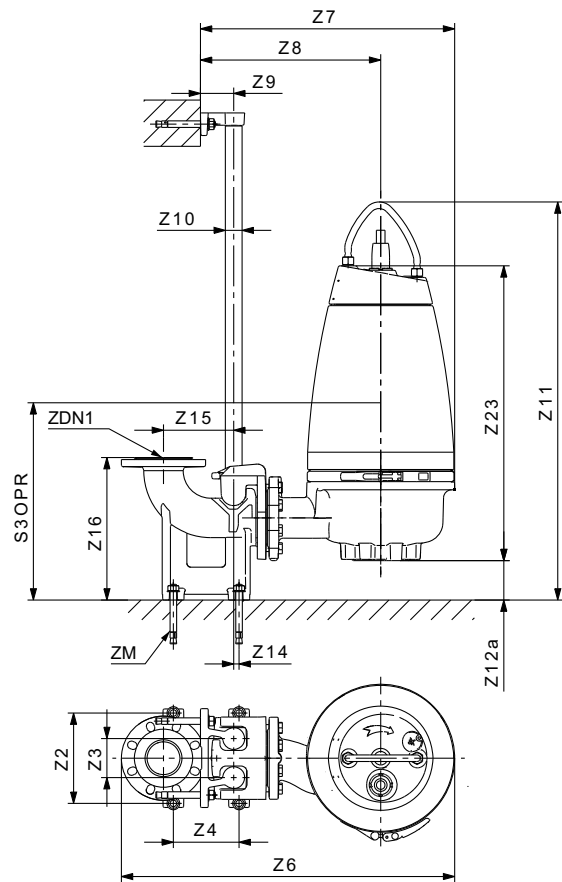


Fig. 32 SEV

TM04 7935 1317

**SE1.50, DN 65 or DN 80 outlet**

| Pump type      | Z2  | Z3 | Z4  | Z6  | Z7  | Z8  | Z9 | Z10    | Z11 | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|----------------|-----|----|-----|-----|-----|-----|----|--------|-----|------|-----|-----|-----|-----|-----|------|-------|
| SE1.50.65.22.2 | 210 | 95 | 140 | 700 | 513 | 363 | 81 | 1 1/2" | 826 | 99   | 1   | 175 | 266 | 608 | M16 | 65   | 236   |
| SE1.50.65.30.2 | 210 | 95 | 140 | 700 | 513 | 363 | 81 | 1 1/2" | 826 | 99   | 1   | 175 | 266 | 608 | M16 | 65   | 236   |
| SE1.50.65.40.2 | 210 | 95 | 140 | 741 | 554 | 375 | 81 | 1 1/2" | 904 | 97   | 1   | 175 | 266 | 664 | M16 | 65   | 235   |
| SE1.50.80.22.2 | 220 | 95 | 160 | 719 | 526 | 376 | 81 | 1 1/2" | 860 | 133  | 13  | 171 | 345 | 608 | M16 | 80   | 270   |
| SE1.50.80.30.2 | 220 | 95 | 160 | 719 | 526 | 376 | 81 | 1 1/2" | 860 | 133  | 13  | 171 | 345 | 608 | M16 | 80   | 270   |
| SE1.50.80.40.2 | 220 | 95 | 160 | 760 | 567 | 387 | 81 | 1 1/2" | 938 | 132  | 13  | 171 | 345 | 663 | M16 | 80   | 269   |

**SE1.80, DN 80 outlet**

| Pump type      | Z2  | Z3 | Z4  | Z6  | Z7  | Z8  | Z9 | Z10    | Z11  | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|----------------|-----|----|-----|-----|-----|-----|----|--------|------|------|-----|-----|-----|-----|-----|------|-------|
| SE1.80.80.15.4 | 220 | 95 | 160 | 788 | 595 | 432 | 81 | 1 1/2" | 876  | 108  | 13  | 171 | 345 | 649 | M16 | 80   | 291   |
| SE1.80.80.22.4 | 220 | 95 | 160 | 788 | 595 | 432 | 81 | 1 1/2" | 876  | 108  | 13  | 171 | 345 | 649 | M16 | 80   | 291   |
| SE1.80.80.30.4 | 220 | 95 | 160 | 858 | 666 | 480 | 81 | 1 1/2" | 960  | 82   | 13  | 171 | 345 | 735 | M16 | 80   | 292   |
| SE1.80.80.40.4 | 220 | 95 | 160 | 858 | 666 | 480 | 81 | 1 1/2" | 960  | 82   | 13  | 171 | 345 | 735 | M16 | 80   | 292   |
| SE1.80.80.55.4 | 220 | 95 | 160 | 858 | 666 | 480 | 81 | 1 1/2" | 960  | 82   | 13  | 171 | 345 | 735 | M16 | 80   | 292   |
| SE1.80.80.75.4 | 220 | 95 | 160 | 883 | 690 | 489 | 81 | 1 1/2" | 1006 | 82   | 13  | 171 | 345 | 780 | M16 | 80   | 293   |

**SE1.80, DN 100 outlet**

| Pump type       | Z2  | Z3  | Z4  | Z6  | Z7  | Z8  | Z9  | Z10 | Z11  | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|
| SE1.80.100.15.4 | 260 | 110 | 220 | 878 | 652 | 489 | 110 | 2"  | 916  | 148  | 0   | 220 | 413 | 649 | M16 | 100  | 330   |
| SE1.80.100.22.4 | 260 | 110 | 220 | 878 | 652 | 489 | 110 | 2"  | 916  | 148  | 0   | 220 | 413 | 649 | M16 | 100  | 330   |
| SE1.80.100.30.4 | 260 | 110 | 220 | 948 | 722 | 536 | 110 | 2"  | 1000 | 122  | 0   | 220 | 413 | 735 | M16 | 100  | 335   |
| SE1.80.100.40.4 | 260 | 110 | 220 | 948 | 722 | 536 | 110 | 2"  | 1000 | 122  | 0   | 220 | 413 | 735 | M16 | 100  | 335   |
| SE1.80.100.55.4 | 260 | 110 | 220 | 948 | 722 | 536 | 110 | 2"  | 1000 | 122  | 0   | 220 | 413 | 735 | M16 | 100  | 335   |
| SE1.80.100.75.4 | 260 | 110 | 220 | 972 | 747 | 545 | 110 | 2"  | 1046 | 122  | 0   | 220 | 413 | 790 | M16 | 100  | 332   |

**SE1.100, DN 100 or DN 150 outlet**

| Pump type        | Z2  | Z3  | Z4  | Z6   | Z7  | Z8  | Z9  | Z10 | Z11  | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|------------------|-----|-----|-----|------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|
| SE1.100.100.40.4 | 260 | 110 | 220 | 983  | 758 | 537 | 110 | 2"  | 1009 | 125  | 0   | 220 | 413 | 741 | M16 | 100  | 347   |
| SE1.100.100.55.4 | 260 | 110 | 220 | 983  | 758 | 537 | 110 | 2"  | 1009 | 125  | 0   | 220 | 413 | 741 | M16 | 100  | 347   |
| SE1.100.100.75.4 | 260 | 110 | 220 | 983  | 758 | 529 | 110 | 2"  | 1057 | 125  | 0   | 220 | 413 | 788 | M16 | 100  | 341   |
| SE1.100.150.40.4 | 300 | 110 | 280 | 1093 | 780 | 559 | 110 | 2"  | 1033 | 164  | 0   | 280 | 450 | 726 | M16 | 150  | 386   |
| SE1.100.150.55.4 | 300 | 110 | 280 | 1093 | 780 | 559 | 110 | 2"  | 1033 | 164  | 0   | 280 | 450 | 726 | M16 | 150  | 386   |
| SE1.100.150.75.4 | 300 | 110 | 280 | 1093 | 780 | 545 | 110 | 2"  | 1081 | 164  | 0   | 280 | 450 | 773 | M16 | 150  | 380   |

**SEV.65, DN 65 or DN 80 outlet**

| Pump type      | Z2  | Z3 | Z4  | Z6  | Z7  | Z8  | Z9 | Z10    | Z11 | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|----------------|-----|----|-----|-----|-----|-----|----|--------|-----|------|-----|-----|-----|-----|-----|------|-------|
| SEV.65.65.22.2 | 210 | 95 | 140 | 730 | 543 | 394 | 81 | 1 1/2" | 834 | 63   | 1   | 175 | 266 | 652 | M16 | 65   | 255   |
| SEV.65.65.30.2 | 210 | 95 | 140 | 730 | 543 | 394 | 81 | 1 1/2" | 834 | 63   | 1   | 175 | 266 | 652 | M16 | 65   | 255   |
| SEV.65.65.40.2 | 210 | 95 | 140 | 790 | 604 | 424 | 81 | 1 1/2" | 908 | 60   | 1   | 175 | 266 | 705 | M16 | 65   | 251   |
| SEV.65.80.22.2 | 220 | 95 | 160 | 750 | 557 | 408 | 81 | 1 1/2" | 868 | 97   | 13  | 171 | 345 | 652 | M16 | 80   | 288   |
| SEV.65.80.30.2 | 220 | 95 | 160 | 750 | 557 | 408 | 81 | 1 1/2" | 868 | 97   | 13  | 171 | 345 | 652 | M16 | 80   | 288   |
| SEV.65.80.40.2 | 220 | 95 | 160 | 808 | 616 | 437 | 81 | 1 1/2" | 942 | 94   | 13  | 171 | 345 | 705 | M16 | 80   | 285   |

**SEV.80, DN 80 outlet**

| Pump type       | Z2  | Z3 | Z4  | Z6  | Z7  | Z8  | Z9 | Z10    | Z11 | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|-----------------|-----|----|-----|-----|-----|-----|----|--------|-----|------|-----|-----|-----|-----|-----|------|-------|
| SEV.80.80.11.4  | 220 | 95 | 160 | 762 | 569 | 402 | 81 | 1 1/2" | 889 | 91   | 13  | 171 | 345 | 679 | M16 | 80   | 301   |
| SEV.80.80.13.4  | 220 | 95 | 160 | 762 | 569 | 402 | 81 | 1 1/2" | 889 | 91   | 13  | 171 | 345 | 679 | M16 | 80   | 301   |
| SEV.80.80.15.4  | 220 | 95 | 160 | 762 | 569 | 402 | 81 | 1 1/2" | 889 | 91   | 13  | 171 | 345 | 679 | M16 | 80   | 301   |
| SEV.80.80.22.4  | 220 | 95 | 160 | 762 | 569 | 402 | 81 | 1 1/2" | 889 | 91   | 13  | 171 | 345 | 679 | M16 | 80   | 301   |
| SEV.80.80.40.2  | 220 | 95 | 160 | 809 | 617 | 437 | 81 | 1 1/2" | 970 | 96   | 13  | 171 | 345 | 731 | M16 | 80   | 312   |
| SEV.80.80.60.2  | 220 | 95 | 160 | 809 | 617 | 437 | 81 | 1 1/2" | 970 | 96   | 13  | 171 | 345 | 731 | M16 | 80   | 312   |
| SEV.80.80.75.2  | 220 | 95 | 160 | 809 | 617 | 437 | 81 | 1 1/2" | 970 | 96   | 13  | 171 | 345 | 731 | M16 | 80   | 312   |
| SEV.80.80.92.2  | 220 | 95 | 160 | 842 | 650 | 454 | 81 | 1 1/2" | 999 | 77   | 13  | 171 | 345 | 778 | M16 | 80   | 290   |
| SEV.80.80.110.2 | 220 | 95 | 160 | 842 | 650 | 454 | 81 | 15     | 999 | 77   | 13  | 171 | 345 | 778 | M16 | 80   | 290   |

**SEV.80, DN 100 outlet**

| Pump type        | Z2  | Z3  | Z4  | Z6  | Z7  | Z8  | Z9  | Z10 | Z11  | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|
| SEV.80.100.11.4  | 260 | 110 | 220 | 796 | 625 | 458 | 110 | 2"  | 929  | 131  | 0   | 220 | 413 | 679 | M16 | 100  | 344   |
| SEV.80.100.13.4  | 260 | 110 | 220 | 796 | 625 | 458 | 110 | 2"  | 929  | 131  | 0   | 220 | 413 | 679 | M16 | 100  | 344   |
| SEV.80.100.15.4  | 260 | 110 | 220 | 796 | 625 | 458 | 110 | 2"  | 929  | 131  | 0   | 220 | 413 | 679 | M16 | 100  | 344   |
| SEV.80.100.22.4  | 260 | 110 | 220 | 796 | 625 | 458 | 110 | 2"  | 929  | 131  | 0   | 220 | 413 | 679 | M16 | 100  | 344   |
| SEV.80.100.40.2  | 260 | 110 | 220 | 899 | 673 | 493 | 110 | 2"  | 1010 | 136  | 0   | 220 | 413 | 731 | M16 | 100  | 345   |
| SEV.80.100.60.2  | 260 | 110 | 220 | 899 | 673 | 493 | 110 | 2"  | 1010 | 136  | 0   | 220 | 413 | 731 | M16 | 100  | 345   |
| SEV.80.100.75.2  | 260 | 110 | 220 | 899 | 673 | 493 | 110 | 2"  | 1010 | 136  | 0   | 220 | 413 | 731 | M16 | 100  | 345   |
| SEV.80.100.92.2  | 260 | 110 | 220 | 943 | 706 | 510 | 110 | 2"  | 1039 | 117  | 0   | 220 | 413 | 778 | M16 | 100  | 326   |
| SEV.80.100.110.2 | 260 | 110 | 220 | 943 | 706 | 510 | 110 | 2"  | 1039 | 117  | 0   | 220 | 413 | 778 | M16 | 100  | 326   |

**SEV.100, DN 100 outlet**

| Pump type        | Z2  | Z3  | Z4  | Z6  | Z7  | Z8  | Z9  | Z10 | Z11  | Z12a | Z14 | Z15 | Z16 | Z23 | ZM  | ZDN1 | S3OPR |
|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|
| SEV.100.100.30.4 | 260 | 110 | 220 | 900 | 674 | 494 | 110 | 2"  | 996  | 106  | 0   | 220 | 413 | 747 | M16 | 100  | 332   |
| SEV.100.100.40.4 | 260 | 110 | 220 | 900 | 674 | 494 | 110 | 2"  | 996  | 106  | 0   | 220 | 413 | 747 | M16 | 100  | 332   |
| SEV.100.100.55.4 | 260 | 110 | 220 | 900 | 674 | 494 | 110 | 2"  | 996  | 106  | 0   | 220 | 413 | 747 | M16 | 100  | 332   |
| SEV.100.100.75.4 | 260 | 110 | 220 | 933 | 707 | 511 | 110 | 2"  | 1043 | 95   | 0   | 220 | 413 | 804 | M16 | 100  | 320   |

## Horizontal dry installation with brackets

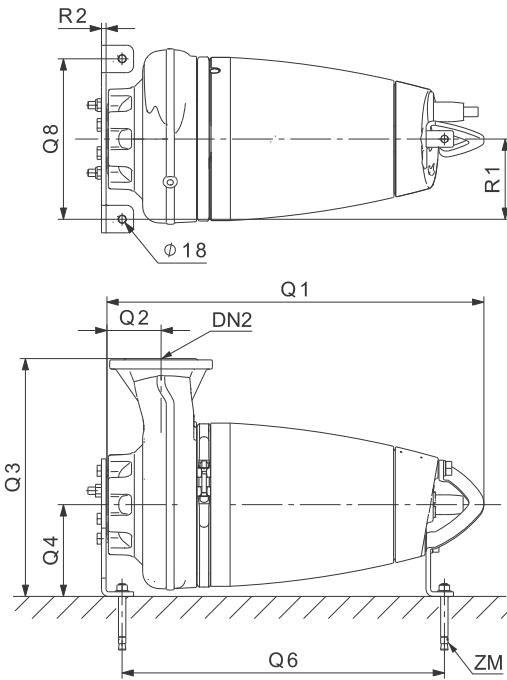


Fig. 33 SE1

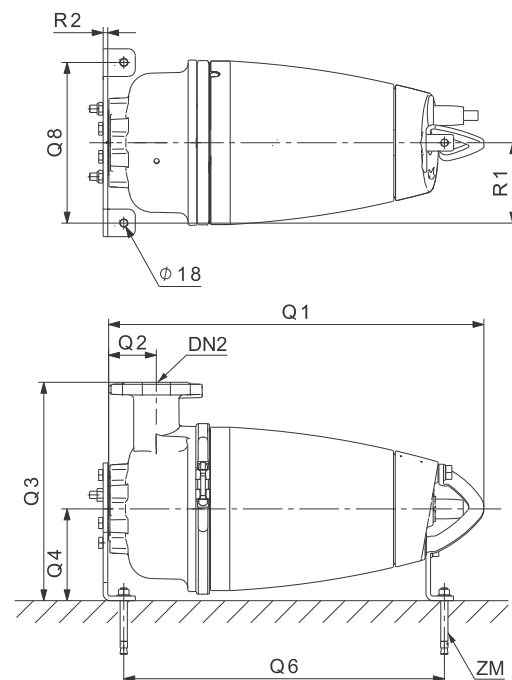


Fig. 34 SEV

## SE1.50, DN 65 or DN 80 outlet

| Pump type      | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SE1.50.65.22.2 | 175 | 10 | 682 | 93  | 416 | 200 | 579 | 350 | M16 | 65  |
| SE1.50.65.30.2 | 175 | 10 | 682 | 93  | 416 | 200 | 579 | 350 | M16 | 65  |
| SE1.50.65.40.2 | 175 | 10 | 749 | 93  | 427 | 200 | 659 | 350 | M16 | 65  |
| SE1.50.80.22.2 | 175 | 10 | 682 | 100 | 416 | 200 | 579 | 350 | M16 | 80  |
| SE1.50.80.30.2 | 175 | 10 | 682 | 100 | 416 | 200 | 579 | 350 | M16 | 80  |
| SE1.50.80.40.2 | 175 | 10 | 749 | 100 | 427 | 200 | 659 | 350 | M16 | 80  |

## SE1.80, DN 80 outlet

| Pump type      | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SE1.80.80.15.4 | 175 | 10 | 723 | 100 | 472 | 200 | 620 | 350 | M16 | 80  |
| SE1.80.80.22.4 | 175 | 10 | 723 | 100 | 472 | 200 | 620 | 350 | M16 | 80  |
| SE1.80.80.30.4 | 175 | 10 | 820 | 118 | 519 | 200 | 699 | 350 | M16 | 80  |
| SE1.80.80.40.4 | 175 | 10 | 820 | 118 | 519 | 200 | 699 | 350 | M16 | 80  |
| SE1.80.80.55.4 | 175 | 10 | 820 | 118 | 519 | 200 | 699 | 350 | M16 | 80  |
| SE1.80.80.75.4 | 175 | 10 | 876 | 118 | 528 | 210 | 741 | 350 | M16 | 80  |

## SE1.80, DN 100 outlet

| Pump type       | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|-----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SE1.80.100.15.4 | 175 | 10 | 723 | 112 | 472 | 200 | 620 | 350 | M16 | 100 |
| SE1.80.100.22.4 | 175 | 10 | 723 | 112 | 472 | 200 | 620 | 350 | M16 | 100 |
| SE1.80.100.30.4 | 175 | 10 | 820 | 118 | 519 | 200 | 699 | 350 | M16 | 100 |
| SE1.80.100.40.4 | 175 | 10 | 820 | 118 | 519 | 200 | 699 | 350 | M16 | 100 |
| SE1.80.100.55.4 | 175 | 10 | 820 | 118 | 519 | 200 | 699 | 350 | M16 | 100 |
| SE1.80.100.75.4 | 175 | 10 | 876 | 118 | 528 | 210 | 741 | 350 | M16 | 100 |

**SE1.100, DN 100 or DN 150 outlet**

| Pump type        | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|------------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SE1.100.100.40.4 | 250 | 12 | 827 | 115 | 620 | 300 | 706 | 500 | M16 | 100 |
| SE1.100.100.55.4 | 250 | 12 | 827 | 115 | 620 | 300 | 706 | 500 | M16 | 100 |
| SE1.100.100.75.4 | 250 | 12 | 884 | 115 | 612 | 300 | 749 | 500 | M16 | 100 |
| SE1.100.150.40.4 | 250 | 12 | 811 | 143 | 620 | 300 | 690 | 500 | M16 | 150 |
| SE1.100.150.55.4 | 250 | 12 | 811 | 143 | 620 | 300 | 690 | 500 | M16 | 150 |
| SE1.100.150.75.4 | 250 | 12 | 868 | 143 | 606 | 300 | 733 | 500 | M16 | 150 |

**SEV.65, DN 65 or DN 80 outlet**

| Pump type      | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SEV.65.65.22.2 | 175 | 10 | 725 | 102 | 446 | 200 | 623 | 350 | M16 | 65  |
| SEV.65.65.30.2 | 175 | 10 | 725 | 102 | 446 | 200 | 623 | 350 | M16 | 65  |
| SEV.65.65.40.2 | 175 | 10 | 790 | 106 | 476 | 200 | 700 | 350 | M16 | 65  |
| SEV.65.80.22.2 | 175 | 10 | 726 | 103 | 447 | 200 | 623 | 350 | M16 | 80  |
| SEV.65.80.30.2 | 175 | 10 | 726 | 103 | 447 | 200 | 623 | 350 | M16 | 80  |
| SEV.65.80.40.2 | 175 | 10 | 791 | 106 | 476 | 200 | 700 | 350 | M16 | 80  |

**SEV.80, DN 80 outlet**

| Pump type       | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|-----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SEV.80.80.11.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 80  |
| SEV.80.80.13.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 80  |
| SEV.80.80.15.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 80  |
| SEV.80.80.22.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 80  |
| SEV.80.80.40.2  | 175 | 10 | 816 | 104 | 476 | 200 | 726 | 350 | M16 | 80  |
| SEV.80.80.60.2  | 175 | 10 | 816 | 104 | 476 | 200 | 695 | 350 | M16 | 80  |
| SEV.80.80.75.2  | 175 | 10 | 816 | 104 | 476 | 200 | 695 | 350 | M16 | 80  |
| SEV.80.80.92.2  | 175 | 10 | 874 | 123 | 493 | 200 | 739 | 350 | M16 | 80  |
| SEV.80.80.110.2 | 175 | 10 | 874 | 123 | 493 | 200 | 739 | 350 | M16 | 80  |

**SEV.80, DN 100 outlet**

| Pump type        | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|------------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SEV.80.100.11.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 100 |
| SEV.80.100.13.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 100 |
| SEV.80.100.15.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 100 |
| SEV.80.100.22.4  | 175 | 10 | 752 | 109 | 441 | 200 | 650 | 350 | M16 | 100 |
| SEV.80.100.40.2  | 175 | 10 | 816 | 104 | 486 | 200 | 728 | 350 | M16 | 100 |
| SEV.80.100.60.2  | 175 | 10 | 816 | 104 | 486 | 200 | 728 | 350 | M16 | 100 |
| SEV.80.100.75.2  | 175 | 10 | 816 | 104 | 486 | 200 | 728 | 350 | M16 | 100 |
| SEV.80.100.92.2  | 175 | 10 | 874 | 123 | 503 | 200 | 739 | 350 | M16 | 100 |
| SEV.80.100.110.2 | 175 | 10 | 874 | 123 | 503 | 200 | 739 | 350 | M16 | 100 |

**SEV.100, DN 100 outlet**

| Pump type        | R1  | R2 | Q1  | Q2  | Q3  | Q4  | Q6  | Q8  | ZM  | DN2 |
|------------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| SEV.100.100.30.4 | 175 | 10 | 832 | 134 | 477 | 200 | 711 | 350 | M16 | 100 |
| SEV.100.100.40.4 | 175 | 10 | 832 | 134 | 477 | 200 | 711 | 350 | M16 | 100 |
| SEV.100.100.55.4 | 175 | 10 | 832 | 134 | 477 | 200 | 711 | 350 | M16 | 100 |
| SEV.100.100.75.4 | 175 | 10 | 900 | 145 | 494 | 210 | 765 | 350 | M16 | 100 |

## Vertical dry installation

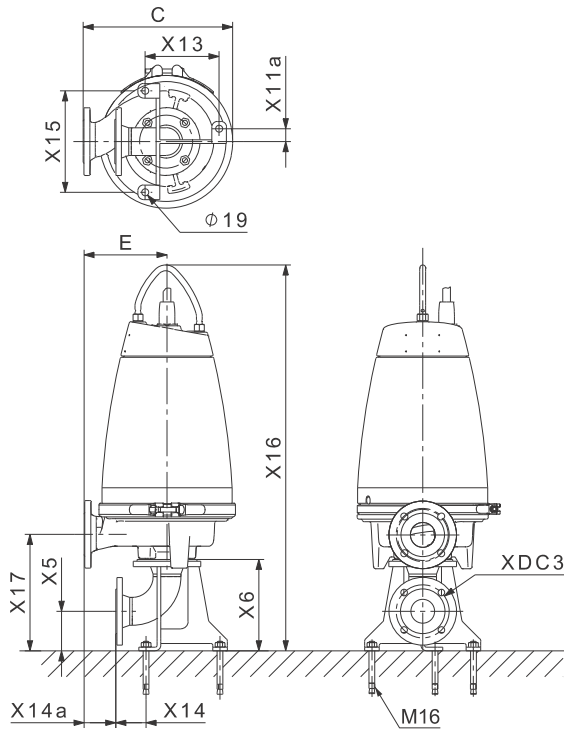


Fig. 35 SE1

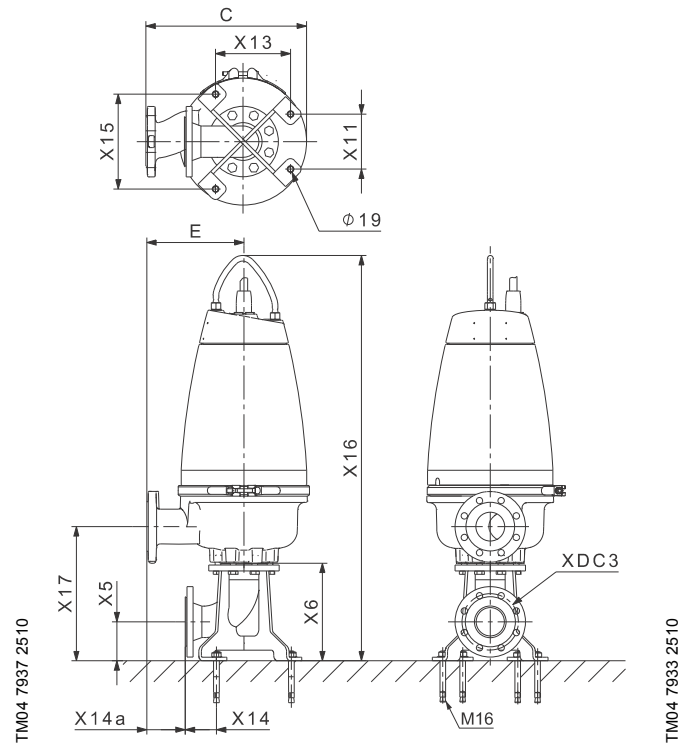


Fig. 36 SEV

## SE1.50, DN 65 or DN 80 outlet

| Pump type      | C   | E   | X5  | X6  | X11a | X13 | X14 | X14a | X16  | X17 | XDC3 |
|----------------|-----|-----|-----|-----|------|-----|-----|------|------|-----|------|
| SE1.50.65.22.2 | 366 | 216 | 108 | 248 | 30   | 202 | 62  | 76   | 975  | 315 | 65   |
| SE1.50.65.30.2 | 366 | 216 | 108 | 248 | 30   | 202 | 62  | 76   | 975  | 315 | 65   |
| SE1.50.65.40.2 | 407 | 227 | 108 | 248 | 30   | 202 | 62  | 87   | 1055 | 317 | 65   |
| SE1.50.80.22.2 | 366 | 216 | 108 | 248 | 30   | 202 | 62  | 76   | 975  | 315 | 65   |
| SE1.50.80.30.2 | 366 | 216 | 108 | 248 | 30   | 202 | 62  | 76   | 975  | 315 | 65   |
| SE1.50.80.40.2 | 407 | 227 | 108 | 248 | 30   | 202 | 62  | 87   | 1055 | 317 | 65   |

## SE1.80, DN 80 outlet

| Pump type      | C   | E   | X5  | X6  | X11a* | X13 | X14 | X14a | X16  | X17 | XDC3 |
|----------------|-----|-----|-----|-----|-------|-----|-----|------|------|-----|------|
| SE1.80.80.15.4 | 435 | 272 | 136 | 341 | 99    | 255 | 106 | 67   | 1109 | 433 | 100  |
| SE1.80.80.22.4 | 435 | 272 | 136 | 341 | 99    | 255 | 106 | 67   | 1109 | 433 | 100  |
| SE1.80.80.30.4 | 505 | 319 | 136 | 341 | 99    | 255 | 106 | 115  | 1218 | 458 | 100  |
| SE1.80.80.40.4 | 505 | 319 | 136 | 341 | 99    | 255 | 106 | 115  | 1218 | 458 | 100  |
| SE1.80.80.55.4 | 505 | 319 | 136 | 341 | 99    | 255 | 106 | 115  | 1218 | 458 | 100  |
| SE1.80.80.75.4 | 530 | 328 | 136 | 341 | 99    | 255 | 106 | 124  | 1265 | 459 | 100  |

\* Base plate DN 150 or DN 100, X11a = 177.5 mm.



**SE1.80, DN 100 outlet**

| Pump type       | C   | E   | X5  | X6  | X11a* | X13 | X14 | X14a | X16  | X17 | XDC3 |
|-----------------|-----|-----|-----|-----|-------|-----|-----|------|------|-----|------|
| SE1.80.100.15.4 | 435 | 272 | 136 | 341 | 99    | 255 | 106 | 67   | 1109 | 433 | 100  |
| SE1.80.100.22.4 | 435 | 272 | 136 | 341 | 99    | 255 | 106 | 67   | 1109 | 433 | 100  |
| SE1.80.100.30.4 | 505 | 319 | 136 | 341 | 99    | 255 | 106 | 115  | 1218 | 459 | 100  |
| SE1.80.100.40.4 | 505 | 319 | 136 | 341 | 99    | 255 | 106 | 115  | 1218 | 459 | 100  |
| SE1.80.100.55.4 | 505 | 319 | 136 | 341 | 99    | 255 | 106 | 115  | 1218 | 459 | 100  |
| SE1.80.100.75.4 | 530 | 328 | 136 | 341 | 99    | 255 | 106 | 124  | 1265 | 459 | 100  |

\* Base plate DN 150 or DN 100, X11a = 177.5 mm.

**SE1.100, DN 100 or DN 150 outlet**

| Pump type        | C   | E   | X5  | X6  | X11a* | X13 | X14 | X14a | X16  | X17 | XDC3 |
|------------------|-----|-----|-----|-----|-------|-----|-----|------|------|-----|------|
| SE1.100.100.40.4 | 541 | 320 | 159 | 443 | 99    | 339 | 135 | 37   | 1327 | 558 | 150  |
| SE1.100.100.55.4 | 541 | 320 | 159 | 443 | 99    | 339 | 135 | 37   | 1327 | 558 | 150  |
| SE1.100.100.75.4 | 541 | 312 | 159 | 443 | 99    | 339 | 135 | 29   | 1375 | 558 | 150  |
| SE1.100.150.40.4 | 541 | 320 | 159 | 443 | 99    | 339 | 135 | 37   | 1311 | 553 | 150  |
| SE1.100.150.55.4 | 541 | 320 | 159 | 443 | 99    | 339 | 135 | 37   | 1311 | 553 | 150  |
| SE1.100.150.75.4 | 541 | 306 | 159 | 443 | 99    | 339 | 135 | 23   | 1359 | 553 | 150  |

\* Base plate DN 200 or DN 150, X11a = 230.5 mm.

**SEV.65, DN 65 or DN 80 outlet**

| Pump type      | C   | E   | X5  | X6  | X11 | X13 | X14 | X14a | X16  | X17 | XDC3 |
|----------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|
| SEV.65.65.22.2 | 396 | 246 | 111 | 276 | 156 | 213 | 76  | 82   | 1046 | 378 | 80   |
| SEV.65.65.30.2 | 396 | 246 | 111 | 276 | 156 | 213 | 76  | 82   | 1046 | 378 | 80   |
| SEV.65.65.40.2 | 456 | 276 | 111 | 276 | 156 | 213 | 76  | 112  | 1123 | 381 | 80   |
| SEV.65.80.22.2 | 397 | 247 | 111 | 276 | 156 | 213 | 76  | 83   | 1047 | 379 | 80   |
| SEV.65.80.30.2 | 397 | 247 | 111 | 276 | 156 | 213 | 76  | 83   | 1047 | 379 | 80   |
| SEV.65.80.40.2 | 455 | 276 | 111 | 276 | 156 | 213 | 76  | 112  | 1124 | 382 | 80   |

**SEV.80, DN 80 outlet**

| Pump type       | C   | E   | X5  | X6  | X11 | X13 | X14 | X14a | X16  | X17 | XDC3 |
|-----------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|
| SEV.80.80.11.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 80   |
| SEV.80.80.13.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 80   |
| SEV.80.80.15.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 80   |
| SEV.80.80.22.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 80   |
| SEV.80.80.40.2  | 456 | 276 | 111 | 276 | 156 | 213 | 76  | 112  | 1149 | 380 | 80   |
| SEV.80.80.60.2  | 456 | 276 | 111 | 276 | 156 | 213 | 76  | 112  | 1149 | 380 | 80   |
| SEV.80.80.75.2  | 456 | 276 | 111 | 276 | 156 | 213 | 76  | 112  | 1149 | 380 | 80   |
| SEV.80.80.92.2  | 489 | 293 | 111 | 276 | 156 | 213 | 76  | 129  | 1198 | 399 | 80   |
| SEV.80.80.110.2 | 489 | 293 | 111 | 276 | 156 | 213 | 76  | 129  | 1198 | 399 | 80   |

**SEV.80, DN 100 outlet**

| Pump type        | C   | E   | X5  | X6  | X11 | X13 | X14 | X14a | X16  | X17 | XDC3 |
|------------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|
| SEV.80.100.11.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 100  |
| SEV.80.100.13.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 100  |
| SEV.80.100.15.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 100  |
| SEV.80.100.22.4  | 409 | 241 | 111 | 276 | 156 | 213 | 76  | 77   | 1073 | 385 | 100  |
| SEV.80.100.40.2  | 466 | 286 | 111 | 276 | 156 | 213 | 76  | 122  | 1149 | 385 | 100  |
| SEV.80.100.60.2  | 466 | 286 | 111 | 276 | 156 | 213 | 76  | 122  | 1149 | 385 | 100  |
| SEV.80.100.75.2  | 466 | 286 | 111 | 276 | 156 | 213 | 76  | 122  | 1149 | 385 | 100  |
| SEV.80.100.92.2  | 499 | 303 | 111 | 276 | 156 | 213 | 76  | 139  | 1198 | 399 | 100  |
| SEV.80.100.110.2 | 499 | 303 | 111 | 276 | 156 | 213 | 76  | 139  | 1198 | 399 | 100  |

**SEV.100, DN 100 outlet**

| Pump type        | C   | E   | X5  | X6  | X11 | X13 | X14 | X14a | X16  | X17 | XDC3 |
|------------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|------|
| SEV.100.100.30.4 | 457 | 277 | 136 | 341 | 198 | 255 | 106 | 73   | 1230 | 474 | 100  |
| SEV.100.100.40.4 | 457 | 277 | 136 | 341 | 198 | 255 | 106 | 73   | 1230 | 474 | 100  |
| SEV.100.100.55.4 | 457 | 277 | 136 | 341 | 198 | 255 | 106 | 73   | 1230 | 474 | 100  |
| SEV.100.100.75.4 | 490 | 294 | 136 | 341 | 198 | 255 | 106 | 89   | 1288 | 485 | 100  |

**Weights**

| Pump type        | Outlet | Weight [kg] |
|------------------|--------|-------------|
| SE1.50.65.22.2   | DN 65  | 86          |
| SE1.50.65.30.2   |        | 90          |
| SE1.50.65.40.2   |        | 122         |
| SE1.50.80.22.2   | DN 80  | 87          |
| SE1.50.80.30.2   |        | 91          |
| SE1.50.80.40.2   |        | 123         |
| SE1.80.80.15.4   |        | 100         |
| SE1.80.80.22.4   |        | 102         |
| SE1.80.80.30.4   |        | 143         |
| SE1.80.80.40.4   | DN 100 | 152         |
| SE1.80.80.55.4   |        | 157         |
| SE1.80.80.75.4   |        | 205         |
| SE1.80.100.15.4  |        | 101         |
| SE1.80.100.22.4  |        | 103         |
| SE1.80.100.30.4  |        | 145         |
| SE1.80.100.40.4  |        | 153         |
| SE1.80.100.55.4  | DN 150 | 158         |
| SE1.80.100.75.4  |        | 207         |
| SE1.100.100.40.4 |        | 157         |
| SE1.100.100.55.4 | DN 65  | 161         |
| SE1.100.100.75.4 |        | 207         |
| SE1.100.150.40.4 |        | 164         |
| SE1.100.150.55.4 | DN 80  | 169         |
| SE1.100.150.75.4 |        | 213         |
| SEV.65.65.22.2   |        | 89          |
| SEV.65.65.30.2   | DN 65  | 92          |
| SEV.65.65.40.2   |        | 128         |
| SEV.65.80.22.2   |        | 90          |
| SEV.65.80.30.2   | DN 80  | 94          |
| SEV.65.80.40.2   |        | 126         |
| SEV.80.80.11.4   |        | 95          |
| SEV.80.80.13.4   |        | 103         |
| SEV.80.80.15.4   |        | 103         |
| SEV.80.80.22.4   |        | 106         |
| SEV.80.80.40.2   | DN 80  | 131         |
| SEV.80.80.60.2   |        | 141         |
| SEV.80.80.75.2   |        | 142         |
| SEV.80.80.92.2   |        | 190         |
| SEV.80.80.110.2  |        | 195         |

| Pump type        | Outlet | Weight [kg] |
|------------------|--------|-------------|
| SEV.80.100.11.4  | DN 100 | 94          |
| SEV.80.100.13.4  |        | 102         |
| SEV.80.100.15.4  |        | 102         |
| SEV.80.100.22.4  |        | 105         |
| SEV.80.100.40.2  |        | 133         |
| SEV.80.100.60.2  |        | 143         |
| SEV.80.100.75.2  |        | 144         |
| SEV.80.100.92.2  |        | 191         |
| SEV.80.100.110.2 |        | 196         |
| SEV.100.100.30.4 |        | 134         |
| SEV.100.100.40.4 | 141    |             |
| SEV.100.100.55.4 | 146    |             |
| SEV.100.100.75.4 | 190    |             |

## 13. Grundfos Product Center

Online search and sizing tool to help you make the right choice.

<http://product-selection.grundfos.com>



"SIZING" enables you to size a pump based on entered data and selection choices.

"REPLACEMENT" enables you to find a replacement product. Search results will include information on the following:

- the lowest purchase price
- the lowest energy consumption
- the lowest total life cycle cost.

The screenshot shows the Grundfos Product Center website. At the top, there is a navigation bar with the logo and menu items: HOME, FIND PRODUCT, COMPARE, YOUR PROJECTS, SAVED ITEMS, HELP. Below the navigation bar is a search bar with a magnifying glass icon and a 'SEARCH' button. The main content area is divided into four sections: SIZING (Enter pump sizing), CATALOGUE (Products and services), REPLACEMENT (Replace an old pump with a new), and LIQUIDS (Find pump by liquid). Below these sections is a 'QUICK SIZING' form with input fields for 'Flow (Q)\*' (m³/h) and 'Head (H)\*' (m), and radio buttons for 'Select what to size by': 'Size by application', 'Size by pump design', and 'Size by pump family'. A 'START SIZING' button is located to the right of the form. At the bottom of the form, there are options for 'ADVANCED SIZING' with checkboxes for 'Advanced sizing by application' and 'Guided selection'. Callouts point to the SIZING, CATALOGUE, REPLACEMENT, and LIQUIDS sections, providing detailed descriptions of each feature.

www.grundfos.com Login

**GRUNDFOS** | PRODUCT CENTER Product range: United Kingdom | 50 Hz | Language: English  
Change settings

HOME FIND PRODUCT COMPARE YOUR PROJECTS SAVED ITEMS HELP 1.4.23

**FIND PRODUCTS AND SOLUTIONS**

Input product number or a whole or partial product name

**SIZING**  
Enter pump sizing

**CATALOGUE**  
Products and services

**REPLACEMENT**  
Replace an old pump with a new

**LIQUIDS**  
Find pump by liquid

**QUICK SIZING**

Enter duty point:

Flow (Q)\*  m<sup>3</sup>/h

Head (H)\*  m

Select what to size by:

Size by application

Size by pump design

Size by pump family

**START SIZING**

ADVANCED SIZING:  Advanced sizing by application  Guided selection

"SIZING" enables you to size a pump based on entered data and selection choices.

"REPLACEMENT" enables you to find a replacement product. Search results will include information on the following:

- the lowest purchase price
- the lowest energy consumption
- the lowest total life cycle cost.

"CATALOGUE" gives you access to the Grundfos product catalogue.

"LIQUIDS" enables you to find pumps designed for aggressive, flammable or other special liquids.

### 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.

Subject to alterations.

be think innovate

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ECM: 1208451

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