



e-SH Series

HORIZONTAL CENTRIFUGAL ELECTRIC PUMPS

MADE IN AISI 316 STAINLESS STEEL AND EQUIPPED WITH **IE3** MOTORS

ErP 2009/125/CE

Xylect

Xylect is a pump solution software with an extensive online database of product information across the entire range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

Xylect can be available:

On the website – www.xylect.com



For more information, please, see page 120-121.

Ecodesign Directive (ErP)

Over last decade the European Commission with the 'Energy Efficiency Plan' pushed the European Parliament and the Council to adopt specific measures to the purpose of reducing energy consumption and further negative environmental impacts.

Through the Directives 2005/32/EC, energy-using products (EuP), and 2009/125/EC, energy-related products (ErP) a framework for **ecodesign** requirements was established.

The Commission Regulations (EC) No 640/2009 and (EU) No 4/2014 have implemented two directives with regard to ecodesign requirements for **three-phase 50 Hz electric motors** placed on the market and put into service inside EU zone as self-alone units or integrated in other products.

This regulation states that motors must have **efficiency level IE3** (or IE2 + Variable Speed Drive) from **1st January 2015 for 7,5 to 375 kW** rated powers and from **1st January 2017 for 0,75 to 375 kW** ones.

The Commission Regulation (EU) No 547/2012 has implemented two directives with regard to ecodesign requirements for some types of **clean water pumps** placed on the market and put into service inside EU zone as self-alone units or integrated in other products.

This regulation states that water pumps shall have **index MEI 0.4** as minimum from **1st January 2015**. That index comes from a dedicated formula which considers hydraulic efficiency values at 'best efficiency point' (BEP), 75 % of the flow at BEP (Part load – PL) and 110 % of the flow at BEP (Over load – OL).

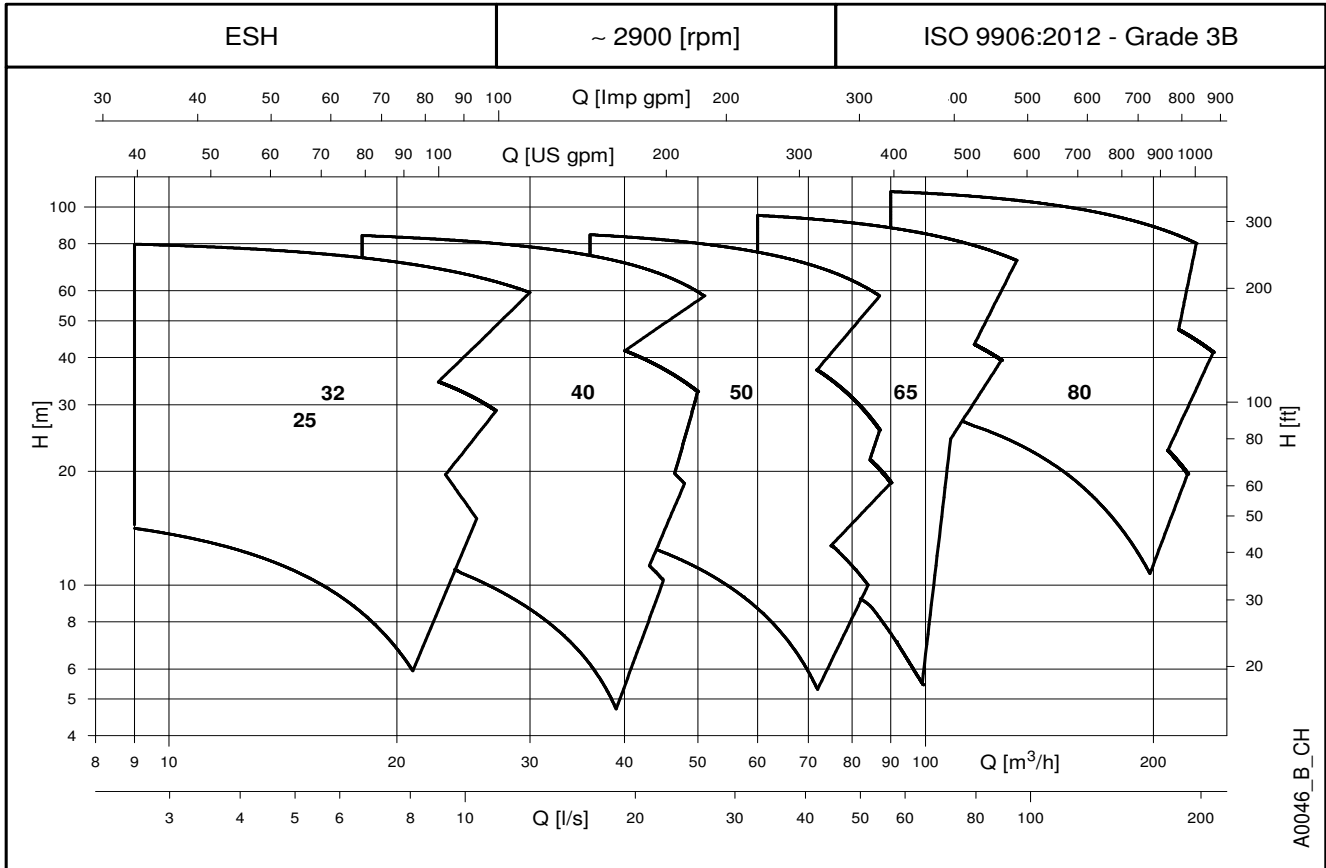
The Lowara e-SH series, for the models in the scope of the regulations above, is ErP compliant, having an index MEI equal or higher than 0,4 and IE3 motor efficiency.

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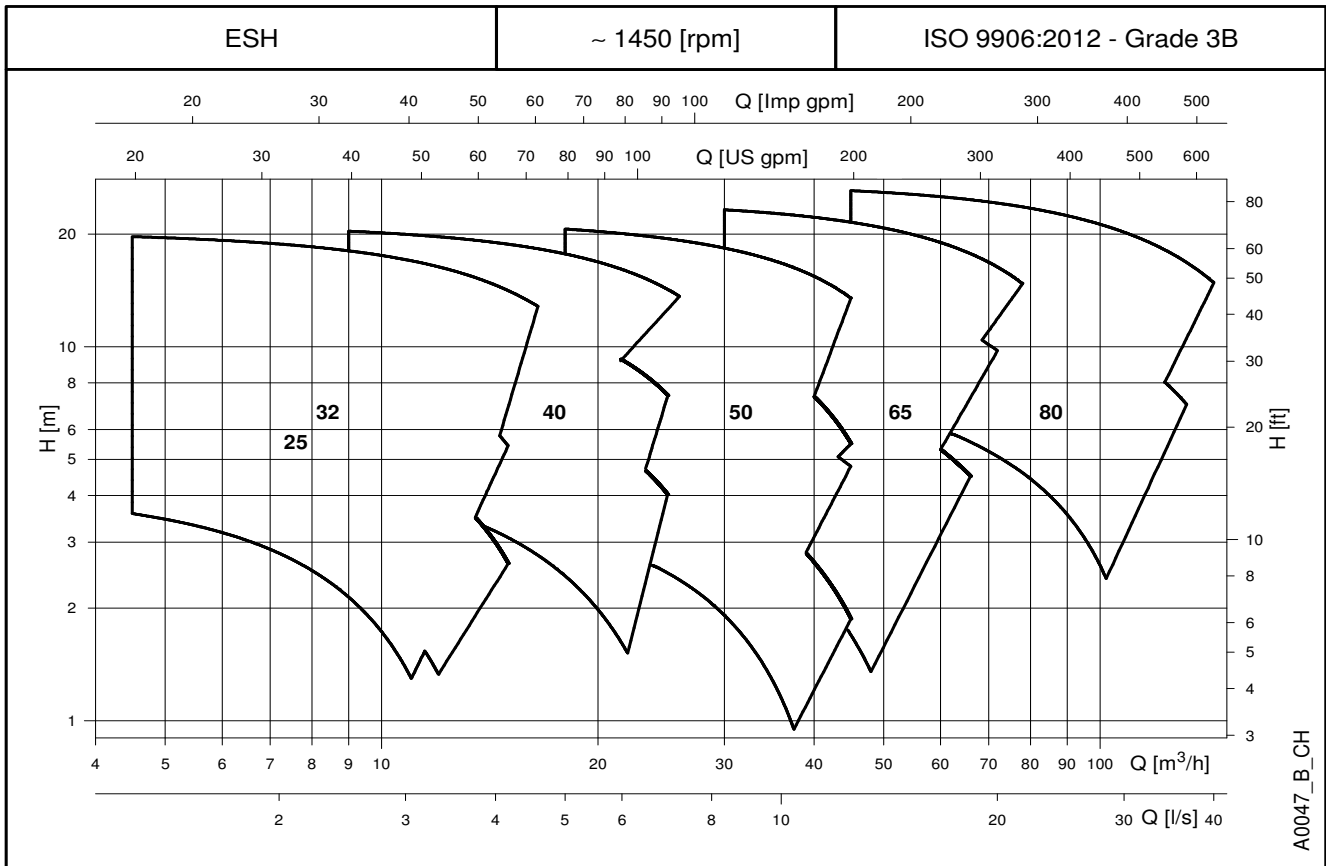
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e-SH SERIES

HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES



HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES



e-SH SERIES

GENERAL INTRODUCTION

The new and improved **Lowara e-SH Series** is a high performance stainless steel centrifugal end-suction electro-pump with single stage, axial flanged suction port, radial flanged discharge, and horizontal shaft. The **e-SH** is fully made in **AISI 316 stainless steel** which makes it suitable for handling water as well as non-aggressive or moderately aggressive fluids.

The pumps are equipped with interchangeable mechanical seals, **IE3 efficiency motors**, and have a back pull-out design (impeller, bracket and motor can be extracted without disconnecting the pump body from the piping). The **e-SH** series pumps are available in the following constructions:

Extended shaft

Close-coupled by means of an adaptor bracket with an impeller keyed directly to the special motor shaft extension.



Frame mounted (EN 733)

Flexible-coupled with bracket, support, flexing coupling (special version with spacer on demand), aligning and anchoring base.



Stub shaft

Rigid-coupled with a bracket, an adaptor and a rigid coupling keyed to the standard motor shaft extension.



Bare shaft pump (EN 733)

Version without driver suitable to be coupled with a standard electric motor.



Hydraulic specifications

- Maximum delivery: up to **240** m³/h for 2 poles range.
up to **144** m³/h for 4 poles range.
- Maximum head: up to **110** m for 2 poles range.
up to **27** m for 4 poles range.
- Hydraulic performance compliant with ISO 9906:2012 Grade 3B.
- Fluid temperature range:
 - standard version (with FKM* gaskets)
-10 to +120 °C
 - versions on request (with EPDM gaskets)
-30 to +120 °C.
- Maximum operating pressure:
12 bar @ 50 °C and **10,9 bar @ 120 °C**
- Connection dimensions according to EN 733 for bare shaft and frame mounted version (except for ESH 25 models)

* Fluoro-elastomer: FPM (old ISO), FKM (ASTM & new ISO).

Motor specifications

- Squirrel cage in short circuit enclosed construction with external ventilation (TEFC).
- 2-pole and 4-pole ranges.
- **IP55** protection degree as motor (EN 60034-5), IPX5 as electro-pump (EN 60529).
- Performances according to EN 60034-1.
- **IE3** efficiency level (three-phase 0,75 to 75 kW).
- **155 (F)** insulation class.
- Standard voltage:
 - 1 x 220-240 V 50 Hz for power up to 2,2 kW
 - 3 x 220-240/380-415 V 50 Hz for power up to 3 kW
 - 3 x 380-415/660-690 V 50 Hz for power above 3 kW
- Maximum ambient temperature:
 - single-phase version: 40 °C
 - three-phase version: 50 °C
 - (40°C for 4 poles models up to 0,75 kW)

Note

- Anti-clockwise rotation when facing pump's suction port.
- Pump does not include counter-flanges.

List of the Directives

- Machinery Directive MD 2006/42/EC
- Electromagnetic Compatibility Directive EMC 2004/108/EC
- Ecodesign requirements for energy-related products ErP 2009/125/EC, Regulation (EC) No 640/2009, Regulation (EU) No 4/2014, Regulation (EU) No 547/2012

and the main technical norms

- EN 809, EN 60204-1 (safety)
- EN 1092-1 (stainless steel flanges)
- EN 61000-6-1, EN 61000-6-3
- EN 60034-30:2009, EN 60034-30-1:2014 (electric motors)

e-SH SERIES COMMERCIAL BUILDING SERVICES (CBS) APPLICATIONS & BENEFITS

Applications

The **Lowara e-SH Series** is suitable for many different applications demanding reliable and efficient products that require constant or variable duty points in cost saving operation.

The Lowara e-SH Series can be used for the following CBS applications:

- **HVAC**
 - Liquid transfer in heating and air-conditioning systems.
 - Liquid transfer in ventilation systems.
 - Liquid transfer with mildly aggressive liquids or environment.
- **Water Supply**
 - Pressure boosting in commercial buildings.
 - Irrigation systems.
 - Water transfer for green houses.
- **Diverse OEM applications**



Benefits

The Lowara e-SH Series permit to achieve the following benefits.

- **Performances:** the e-SH pumps are ErP 2015 compliant, equipped with IE3 motors and provide improved performance vs. the old SH series of pumps. Its AISI 316 material configuration makes it ideal for pumping mildly aggressive liquids or pumping in aggressive environment. With a standard version designed for up to PN12 pressure rating, 120 °C maximum fluid temperature, and FKM elastomer, and easy maintenance, the e-SH provides the solution to many CBS needs.
- **Reliability:** the high quality in production, the robust construction and operation, the easily interchangeable mechanical seals, and wear rings guarantee a continuous operation without faults and a shorter down time for maintenance.
- **Total cost ownership:** the best hydraulic and electric efficiency, the HYDROVAR-equipped versions, the easy and quick maintenance, permit to reduce the operation and maintenance cost and to save energy when the pump is working.
- **Pre-post sales support:** we are continuously working close to our customers to help them in selecting the right pump for the specific application. An improved user-friendly selection software improved with many selection tools is available on the website, on DVD or on Apps for mobile phones. Experienced engineers are fully dedicated to big projects for Municipality.

Features

- Discharge ports DN25 to DN80.
- Wide performance range up to 110 m head and 240 m³/h flow.
- Nominal pressure of 12 bar.
- Wide range of temperatures for pumped liquids: -30°C to +120°C.
- Wide range of materials for many different kinds of pumped liquid.
- Wide range of voltages.
- High performance IE3 motors.
- Variable speed by optional HYDROVAR drive.

e-SH SERIES for INDUSTRY APPLICATIONS & BENEFITS

Applications

The **Lowara e-SH Series** is suitable for many different applications demanding reliable and efficient products. The reliability, robustness, and **AISI 316 material** configuration of the **e-SH** series makes it ideal for use in aggressive environments or for pumping of mildly aggressive fluids. Finally the **e-SH** series compactness and reliability allows for use in diverse OEM applications.

The Lowara e-SH Series can be used for the following Industry applications:

- **Process**
 - Process cooling and Process heating
 - Heat recovery
- **Water Supply**
 - Pressure boosting
 - Irrigation systems
 - Water transfer for green houses
 - Liquid transfer with mildly aggressive liquids or environment.
- **Water treatment**
 - Washing and cleaning
 - Water treatment.
- **Diverse OEM applications**

Benefits

The Lowara e-SH Series permit to achieve the following benefits:

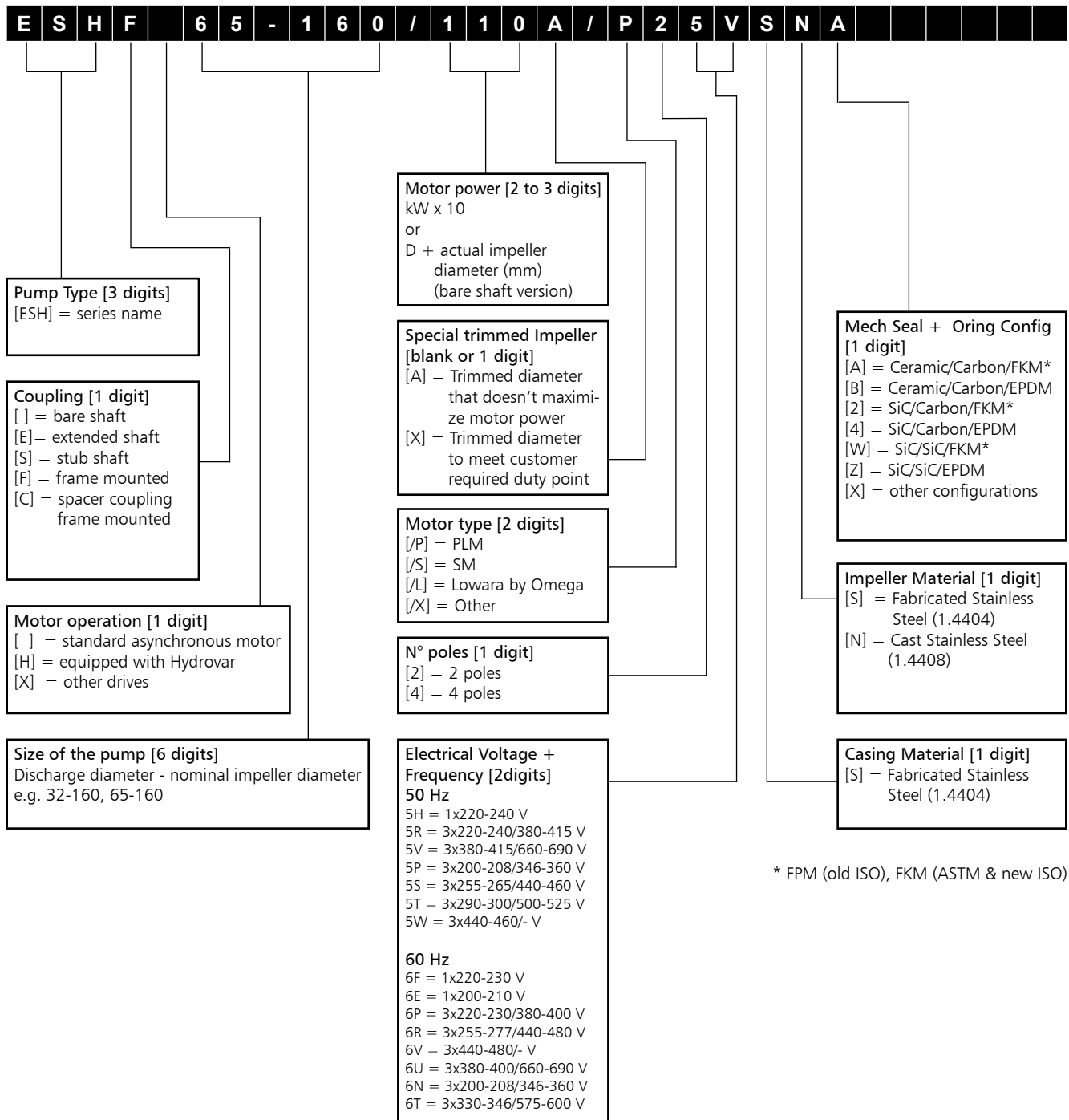
- **Performances:** the e-SH pumps are ErP 2015 compliant, equipped with IE3 motors and provide improved performance vs. the old SH series of pumps. Its AISI 316 material configuration makes it ideal for pumping mildly aggressive liquids or pumping in aggressive environment. With a standard version designed for up to PN12 pressure rating, 120 °C maximum fluid temperature, an FKM elastomer, and with easy maintenance, the e-SH provides the solution to many Industry needs.
- **Reliability:** the high quality in production, the robust construction and operation, the easily interchangeable mechanical seals, and wear rings guarantee a continuous operation without faults and a shorter down time for maintenance.
- **Know How:** the perfect configuration for an application can be made with the selection tool or with the support of our industrial experienced employees.
- **Pre- and post-sales support:** we are continuously working close to our customers to help them in selecting the right pump for the specific application. An improved user-friendly selection software improved with many selection tools is available on the website, on DVD or on Apps for mobile phones. Experienced engineers are fully dedicated to big projects for Municipality.



Features

- Discharge ports DN25 to DN80.
- Wide performance range up to 110 m head and 240 m³/h flow.
- Nominal pressure 12 bar.
- Wide range of temperatures for pumped liquids: -30°C to +120°C.
- Wide range of materials for many different kinds of pumped liquid.
- Wide range of voltages.
- High performance IE3 motors.
- Variable speed by optional HYDROVAR drive.

ESH SERIES IDENTIFICATION CODE



EXAMPLES

ESHS 80-200/300/L25VSN A

End-suction, electric pump with stub shaft coupling, DN 80 nominal discharge port, 200 mm nominal impeller diameter, 30 kW rated motor power, Lowara by Omega IE3 model, 2-pole, 50 Hz 380-415/660-690 V, fabricated stainless steel casing, cast stainless steel impeller, Ceramic/Carbon/FKM mechanical seal.

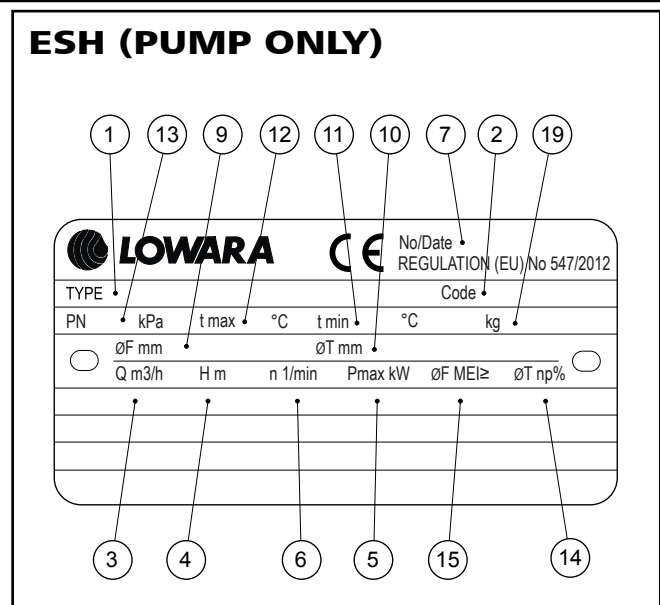
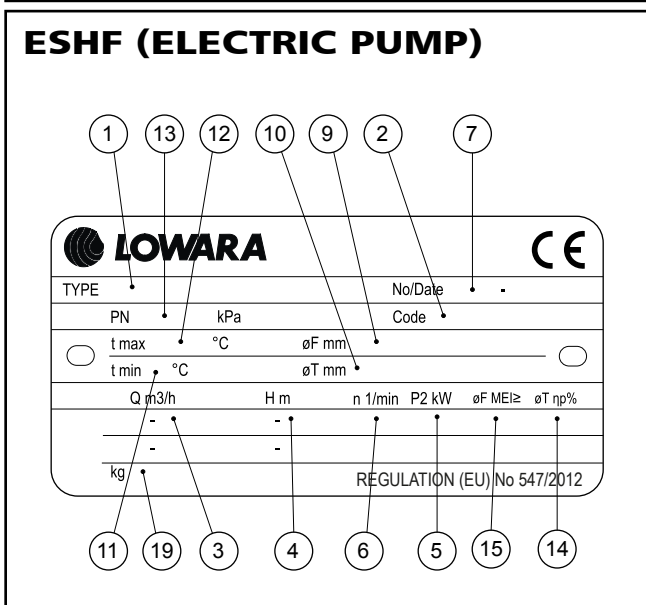
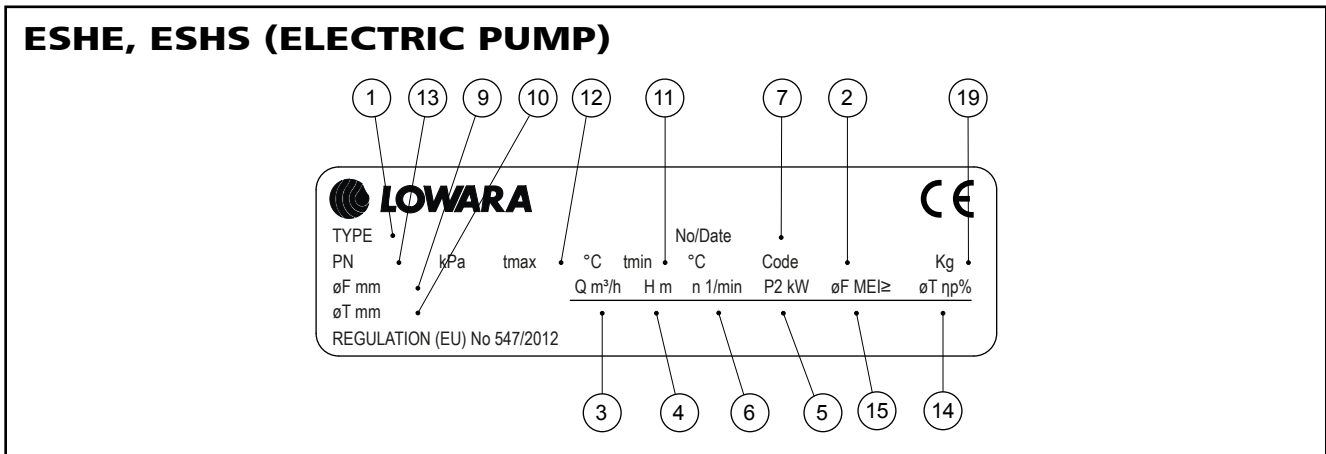
ESHF 80-160/22A/P45RSNA

End-suction, electric pump with frame mounted coupling, DN 80 nominal discharge port, 160 mm nominal impeller diameter, 2,2 kW rated motor power, trimmed impeller, PLM IE3 model, 4-pole, 50 Hz 220-240/380-415 V, fabricated stainless steel casing, cast stainless steel impeller, Ceramic/Carbon/FKM mechanical seal.

ESH 50-250/D224SSA

End-suction, bare shaft pump, DN 50 nominal discharge port, 250 mm nominal impeller diameter, 224 mm actual impeller diameter, fabricated stainless steel casing, fabricated stainless steel impeller, Ceramic/Carbon/FKM mechanical seal.

ESH SERIES RATING PLATE



LEGEND

- 1 - Electric pump unit type
- 2 - Electric pump unit code
- 3 - Flow range
- 4 - Head range
- 5 - Nominal or maximum pump power
- 6 - Speed
- 7 - Serial number, or order number + order position number
- 9 - Full impeller diameter (only filled in for trimmed impellers)
- 10 - Trimmed impeller diameter (only filled in for trimmed impellers)
- 11 - Minimum operating liquid temperature
- 12 - Maximum operating liquid temperature
- 13 - Maximum operating pressure
- 14 - Hydraulic efficiency in best efficiency point (50 Hz)
- 15 - Minimum efficiency index MEI, as per Regulation (EU) No 547/2012 (50 Hz)
- 19 - Weight

LEGEND

- 1 - Pump type
- 2 - Pump code
- 3 - Flow range
- 4 - Head range
- 5 - Maximum absorbed pump power
- 6 - Speed
- 7 - Serial number, or order number + order position number
- 9 - Full impeller diameter (only filled in for trimmed impellers)
- 10 - Trimmed impeller diameter (only filled in for trimmed impellers)
- 11 - Minimum operating liquid temperature
- 12 - Maximum operating liquid temperature
- 13 - Maximum operating pressure
- 14 - Hydraulic efficiency in best efficiency point (50 Hz)
- 15 - Minimum efficiency index MEI, as per Regulation (EU) No 547/2012 (50 Hz)
- 19 - Weight

Note for electric pump unit: refer to motor data plate for electrical data.

ESH SERIES

LIST OF MODELS AT 50 Hz, 2 POLES

| SIZE ESH..2 | kW | VERSION | | | |
|----------------|------|---------|------|------|------|
| | | ESHE | ESHS | ESHF | ESHC |
| 25-125/07(*) | 0,75 | • | • | • | - |
| 25-125/11(*) | 1,1 | • | • | • | - |
| 25-160/15(*) | 1,5 | • | • | • | - |
| 25-160/22(*) | 2,2 | • | • | • | - |
| 25-200/30 | 3 | • | • | • | - |
| 25-200/40 | 4 | • | • | • | - |
| 25-250/55 | 5,5 | • | • | • | - |
| 25-250/75 | 7,5 | • | • | • | - |
| 25-250/110 | 11 | • | • | • | - |
| 32-125/07(*) | 0,75 | • | • | • | • |
| 32-125/11(*) | 1,1 | • | • | • | • |
| 32-160/15(*) | 1,5 | • | • | • | • |
| 32-160/22(*) | 2,2 | • | • | • | • |
| 32-200/30 | 3 | • | • | • | • |
| 32-200/40 | 4 | • | • | • | • |
| 32-250/55 | 5,5 | • | • | • | • |
| 32-250/75 | 7,5 | • | • | • | • |
| 32-250/110 | 11 | • | • | • | • |
| 40-125/11(*) | 1,1 | • | • | • | • |
| 40-125/15(*) | 1,5 | • | • | • | • |
| 40-125/22(*) | 2,2 | • | • | • | • |
| 40-160/30 | 3 | • | • | • | • |
| 40-160/40 | 4 | • | • | • | • |
| 40-200/55 | 5,5 | • | • | • | • |
| 40-200/75 | 7,5 | • | • | • | • |
| 40-250/92 | 9,2 | • | - | - | - |
| 40-250/110A | 11 | - | • | • | • |
| 40-250/110 | 11 | • | • | • | • |
| 40-250/150 | 15 | • | • | • | • |
| 50-125/22(*) | 2,2 | • | • | • | • |
| 50-125/30 | 3 | • | • | • | • |
| 50-125/40 | 4 | • | • | • | • |
| 50-160/55 | 5,5 | • | • | • | • |
| 50-160/75 | 7,5 | • | • | • | • |
| 50-200/92 | 9,2 | • | - | - | - |
| 50-200/110A | 11 | - | • | • | • |
| 50-200/110 | 11 | • | • | • | • |
| 50-250/150 | 15 | • | • | • | • |
| 50-250/185 | 18,5 | • | • | • | • |
| 50-250/220 | 22 | • | • | • | • |

• = Available

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| SIZE ESH..2 | kW | VERSION | | | |
|----------------|------|---------|------|------|------|
| | | ESHE | ESHS | ESHF | ESHC |
| 65-160/40 | 4 | • | • | • | • |
| 65-160/55 | 5,5 | • | • | • | • |
| 65-160/75 | 7,5 | • | • | • | • |
| 65-160/92 | 9,2 | • | - | - | - |
| 65-160/110A | 11 | - | • | • | • |
| 65-160/110 | 11 | • | • | • | • |
| 65-200/150 | 15 | • | • | • | • |
| 65-200/185 | 18,5 | • | • | • | • |
| 65-200/220 | 22 | • | • | • | • |
| 65-250/300 | 30 | - | • | • | • |
| 65-250/370 | 37 | - | • | • | • |
| 80-160/110 | 11 | • | • | • | • |
| 80-160/150 | 15 | • | • | • | • |
| 80-160/185 | 18,5 | • | • | • | • |
| 80-200/220 | 22 | • | • | • | • |
| 80-200/300 | 30 | - | • | • | • |
| 80-200/370 | 37 | - | • | • | • |
| 80-250/450 | 45 | - | - | • | • |
| 80-250/550 | 55 | - | - | • | • |
| 80-250/750 | 75 | - | - | • | • |

(*) Models available also in single-phase version.

LEGEND

ESHE : Extended shaft.

ESHS : Stub shaft.

ESHF : Frame mounted.

ESHC : Frame mounted with spacer coupling.

ESH SERIES

LIST OF MODELS AT 50 Hz, 4 POLES

| SIZE | kW | VERSION | | | |
|------------|------|---------|------|------|------|
| | | ESH..4 | ESHE | ESHS | ESHF |
| 25-125/02A | 0,25 | • | - | • | - |
| 25-125/02 | 0,25 | • | - | • | - |
| 25-160/02A | 0,25 | • | - | • | - |
| 25-160/02 | 0,25 | • | - | • | - |
| 25-200/03 | 0,37 | • | - | • | - |
| 25-200/05 | 0,55 | • | - | • | - |
| 25-250/07 | 0,75 | • | • | • | - |
| 25-250/11 | 1,1 | • | • | • | - |
| 25-250/15 | 1,5 | • | • | • | - |
| 32-125/02A | 0,25 | • | - | • | - |
| 32-125/02 | 0,25 | • | - | • | - |
| 32-160/02A | 0,25 | • | - | • | - |
| 32-160/02 | 0,25 | • | - | • | - |
| 32-200/03 | 0,37 | • | - | • | - |
| 32-200/05 | 0,55 | • | - | • | - |
| 32-250/07 | 0,75 | • | • | • | - |
| 32-250/11 | 1,1 | • | • | • | - |
| 32-250/15 | 1,5 | • | • | • | - |
| 40-125/02A | 0,25 | • | - | • | - |
| 40-125/02 | 0,25 | • | - | • | - |
| 40-160/03 | 0,37 | • | - | • | - |
| 40-160/05 | 0,55 | • | - | • | - |
| 40-200/07 | 0,75 | • | • | • | - |
| 40-200/11 | 1,1 | • | • | • | - |
| 40-250/11 | 1,1 | • | • | • | - |
| 40-250/15 | 1,5 | • | • | • | - |
| 40-250/22 | 2,2 | • | • | • | - |
| 50-125/02 | 0,25 | • | - | • | - |
| 50-125/03 | 0,37 | • | - | • | - |
| 50-125/05 | 0,55 | • | - | • | - |
| 50-160/07 | 0,75 | • | • | • | - |
| 50-160/11 | 1,1 | • | • | • | - |
| 50-200/11 | 1,1 | • | • | • | - |
| 50-200/15 | 1,5 | • | • | • | - |
| 50-250/22A | 2,2 | • | • | • | - |
| 50-250/22 | 2,2 | • | • | • | - |
| 50-250/30 | 3 | • | • | • | - |

| SIZE | kW | VERSION | | | |
|------------|------|---------|------|------|------|
| | | ESH..4 | ESHE | ESHS | ESHF |
| 65-160/05 | 0,55 | • | • | • | - |
| 65-160/07 | 0,75 | • | • | • | - |
| 65-160/11A | 1,1 | • | • | • | - |
| 65-160/11 | 1,1 | • | • | • | - |
| 65-160/15 | 1,5 | • | • | • | - |
| 65-200/15 | 1,5 | • | • | • | - |
| 65-200/22 | 2,2 | • | • | • | - |
| 65-200/30 | 3 | • | • | • | - |
| 65-250/40 | 4 | • | • | • | - |
| 65-250/55 | 5,5 | • | • | • | - |
| 80-160/15 | 1,5 | • | • | • | - |
| 80-160/22A | 2,2 | • | • | • | - |
| 80-160/22 | 2,2 | • | • | • | - |
| 80-200/30 | 3 | • | • | • | - |
| 80-200/40 | 4 | • | • | • | - |
| 80-250/55 | 5,5 | • | • | • | - |
| 80-250/75 | 7,5 | • | • | • | - |
| 80-250/110 | 11 | • | • | • | - |

• = Available

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ESHE SERIES ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04906_C_DS

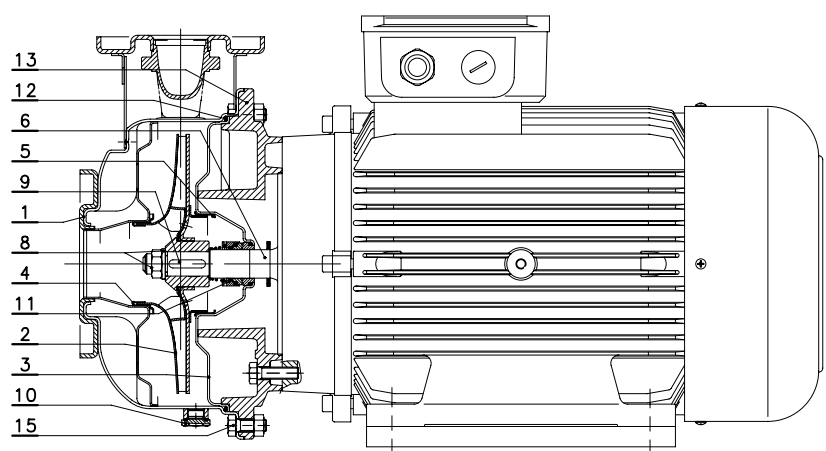
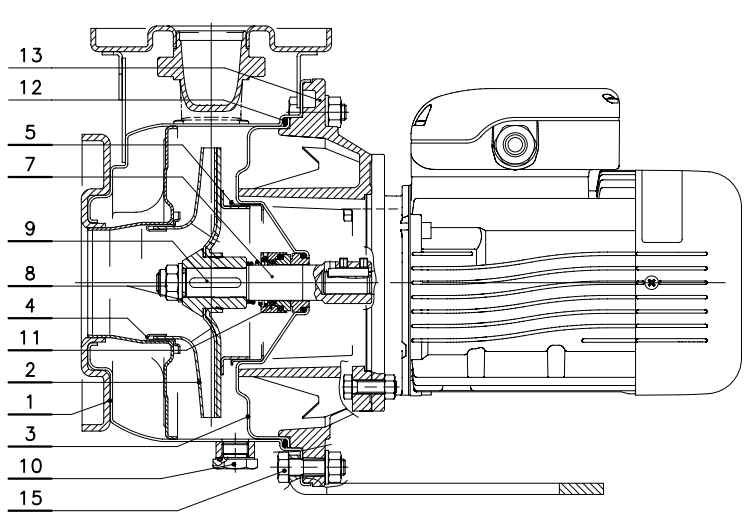
| (ESHE) VERSIONS | |
|-----------------|------------|
| 2 POLES | 4 POLES |
| 25-125/07 | 25-200/05 |
| 25-125/11 | 25-250/07 |
| 25-160/15 | 25-250/11 |
| 25-160/22 | 25-250/15 |
| 25-200/30 | 32-200/05 |
| 25-200/40 | 32-250/07 |
| 25-250/55 | 32-250/11 |
| 25-250/75 | 32-250/15 |
| 25-250/110 | 40-160/05 |
| 32-125/07 | 40-200/07 |
| 32-125/11 | 40-200/11 |
| 32-160/15 | 40-250/11 |
| 32-160/22 | 40-250/15 |
| 32-200/30 | 40-250/22 |
| 32-200/40 | 50-125/05 |
| 32-250/55 | 50-160/07 |
| 32-250/75 | 50-160/11 |
| 32-250/110 | 50-200/11 |
| 40-125/11 | 50-200/15 |
| 40-125/15 | 50-250/22A |
| 40-125/22 | 50-250/22 |
| 40-160/30 | 50-250/30 |
| 40-160/40 | 65-160/05 |
| 40-200/55 | 65-160/07 |
| 40-200/75 | 65-160/11A |
| 40-250/92 | 65-160/11 |
| 40-250/110 | 65-160/15 |
| 50-125/22 | 65-200/15 |
| 50-125/30 | 65-200/22 |
| 50-125/40 | 65-200/30 |
| 50-160/55 | 65-250/40 |
| 50-160/75 | 65-250/55 |
| 50-200/92 | 80-160/15 |
| 50-200/110 | 80-160/22A |
| 65-160/40 | 80-160/22 |
| 65-160/55 | 80-200/30 |
| 65-160/75 | 80-200/40 |
| 65-160/92 | 80-250/55 |
| 65-160/110 | 80-250/75 |
| 80-160/110 | |

ESHE-p-en_b_mo

| REF. N. | NAME | MATERIAL | REFERENCE STANDARDS | |
|---------|------------------------------------|---|--------------------------------------|---------------------------|
| | | | EUROPE | USA |
| 1 | Pump body | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 2 | Impeller | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| | Impeller (25-125, 32-125) | Stainless steel | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (cast AISI 316) |
| 3 | Seal housing | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 4 | Wear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 5 | Counterwear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 6 | Shaft extension | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 7 | Rigid shaft coupling | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 8 | Impeller locknut and washer | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 9 | Tab | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 10 | Fill/drain plugs | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 11 | Mechanical seal | Ceramic / Carbon / FKM (standard version) | | |
| 12 | Elastomers | FKM (standard version) | | |
| 13 | Adapter * | Aluminium | EN 1706-AC-AISI11Cu2 (Fe) (AC46100) | - |
| | Adapter | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 15 | Pump body fastening bolts & screws | Galvanized steel | | |

* 2/4 pole: 25/32/40-125, 25/32/40-160, 25/32/40-200

ESHE SERIES ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

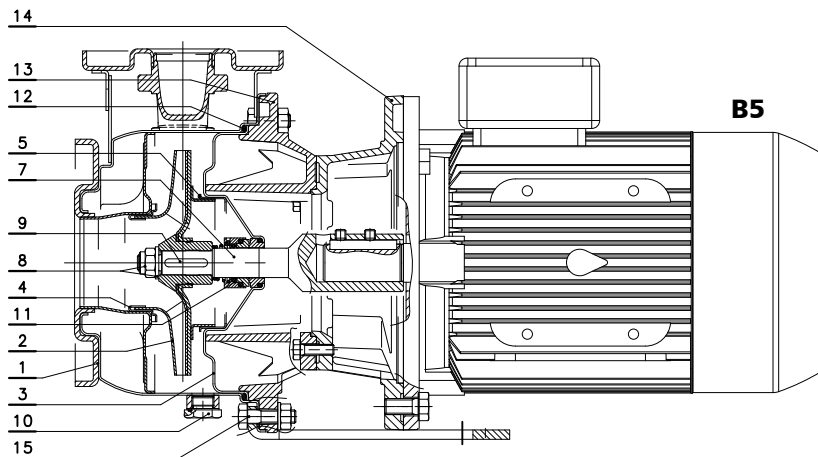
| <p>04902_B_DS</p>  | <table border="1"> <thead> <tr> <th colspan="2">(ESHE) VERSIONS</th> </tr> <tr> <th>2 POLES</th> <th>4 POLES</th> </tr> </thead> <tbody> <tr> <td>40-250/150</td> <td>80-250/110</td> </tr> <tr> <td>50-250/150</td> <td></td> </tr> <tr> <td>50-250/185</td> <td></td> </tr> <tr> <td>50-250/220</td> <td></td> </tr> <tr> <td>65-200/150</td> <td></td> </tr> <tr> <td>65-200/185</td> <td></td> </tr> <tr> <td>65-200/220</td> <td></td> </tr> <tr> <td>80-160/150</td> <td></td> </tr> <tr> <td>80-160/185</td> <td></td> </tr> <tr> <td>80-200/220</td> <td></td> </tr> </tbody> </table> <p>ESHE-s-en_a_mo</p> | (ESHE) VERSIONS | | 2 POLES | 4 POLES | 40-250/150 | 80-250/110 | 50-250/150 | | 50-250/185 | | 50-250/220 | | 65-200/150 | | 65-200/185 | | 65-200/220 | | 80-160/150 | | 80-160/185 | | 80-200/220 | |
|--|--|-----------------|--|---------|---------|------------|------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|--|------------|--|------------|--|------------|--|------------|--|
| (ESHE) VERSIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 POLES | 4 POLES | | | | | | | | | | | | | | | | | | | | | | | | |
| 40-250/150 | 80-250/110 | | | | | | | | | | | | | | | | | | | | | | | | |
| 50-250/150 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50-250/185 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50-250/220 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65-200/150 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65-200/185 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65-200/220 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-160/150 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-160/185 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80-200/220 | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | <table border="1"> <thead> <tr> <th colspan="2">(ESHE) VERSIONS</th> </tr> <tr> <th colspan="2">4 POLES</th> </tr> </thead> <tbody> <tr> <td>25-125/02A</td> <td>40-125/02A</td> </tr> <tr> <td>25-125/02</td> <td>40-125/02</td> </tr> <tr> <td>25-160/02A</td> <td>40-160/03</td> </tr> <tr> <td>25-160/02</td> <td>50-125/02</td> </tr> <tr> <td>25-200/03</td> <td>50-125/03</td> </tr> <tr> <td>32-125/02A</td> <td></td> </tr> <tr> <td>32-125/02</td> <td></td> </tr> <tr> <td>32-160/02A</td> <td></td> </tr> <tr> <td>32-160/02</td> <td></td> </tr> <tr> <td>32-200/03</td> <td></td> </tr> </tbody> </table> <p>ESHE4-p-en_a_mo</p> | (ESHE) VERSIONS | | 4 POLES | | 25-125/02A | 40-125/02A | 25-125/02 | 40-125/02 | 25-160/02A | 40-160/03 | 25-160/02 | 50-125/02 | 25-200/03 | 50-125/03 | 32-125/02A | | 32-125/02 | | 32-160/02A | | 32-160/02 | | 32-200/03 | |
| (ESHE) VERSIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 POLES | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25-125/02A | 40-125/02A | | | | | | | | | | | | | | | | | | | | | | | | |
| 25-125/02 | 40-125/02 | | | | | | | | | | | | | | | | | | | | | | | | |
| 25-160/02A | 40-160/03 | | | | | | | | | | | | | | | | | | | | | | | | |
| 25-160/02 | 50-125/02 | | | | | | | | | | | | | | | | | | | | | | | | |
| 25-200/03 | 50-125/03 | | | | | | | | | | | | | | | | | | | | | | | | |
| 32-125/02A | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32-125/02 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32-160/02A | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32-160/02 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32-200/03 | | | | | | | | | | | | | | | | | | | | | | | | | |

| REF. N. | NAME | MATERIAL | REFERENCE STANDARDS | |
|---------|------------------------------------|---|--------------------------------------|---------------------------|
| | | | EUROPE | USA |
| 1 | Pump body | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 2 | Impeller | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| | Impeller (25-125, 32-125) | Stainless steel | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (cast AISI 316) |
| 3 | Seal housing | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 4 | Wear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 5 | Counterwear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 6 | Shaft extension | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 7 | Rigid shaft coupling | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 8 | Impeller locknut and washer | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 9 | Tab | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 10 | Fill/drain plugs | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 11 | Mechanical seal | Ceramic / Carbon / FKM (standard version) | | |
| 12 | Elastomers | FKM (standard version) | | |
| 13 | Adapter * | Aluminium | EN 1706-AC-AISI11Cu2 (Fe) (AC46100) | - |
| | Adapter | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 15 | Pump body fastening bolts & screws | Galvanized steel | | |

* 2/4 pole: 25/32/40-125, 25/32/40-160, 25/32/40-200

ESHS SERIES ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04956_D_DS



| (ESHS) VERSIONS | |
|-----------------|------------|
| 2 POLES | 4 POLES |
| 25-125/07 | 25-250/07 |
| 25-125/11 | 25-250/11 |
| 25-160/15 | 25-250/15 |
| 25-160/22 | 32-250/07 |
| 25-200/30 | 32-250/11 |
| 25-200/40 | 32-250/15 |
| 25-250/55 | 40-200/07 |
| 25-250/75 | 40-200/11 |
| 32-125/07 | 40-250/11 |
| 32-125/11 | 40-250/15 |
| 32-160/15 | 40-250/22 |
| 32-160/22 | 50-160/07 |
| 32-200/30 | 50-160/11 |
| 32-200/40 | 50-200/11 |
| 32-250/55 | 50-200/15 |
| 32-250/75 | 50-250/22A |
| 40-125/11 | 50-250/22 |
| 40-125/15 | 50-250/30 |
| 40-125/22 | 65-160/05 |
| 40-160/30 | 65-160/07 |
| 40-160/40 | 65-160/11A |
| 40-200/55 | 65-160/11 |
| 40-200/75 | 65-160/15 |
| 50-125/22 | 65-200/15 |
| 50-125/30 | 65-200/22 |
| 50-125/40 | 65-200/30 |
| 50-160/55 | 65-250/40 |
| 50-160/75 | 65-250/55 |
| 65-160/40 | 80-160/15 |
| 65-160/55 | 80-160/22A |
| 65-160/75 | 80-160/22 |
| | 80-200/30 |
| | 80-200/40 |
| | 80-250/55 |
| | 80-250/75 |

ESHS-p-en_b_mo

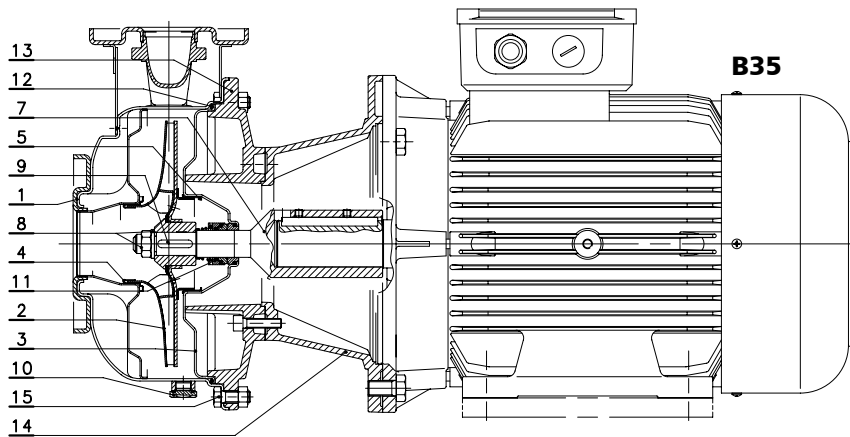
| REF. N. | NAME | MATERIAL | REFERENCE STANDARDS | |
|---------|------------------------------------|---|--------------------------------------|---------------------------|
| | | | EUROPE | USA |
| 1 | Pump body | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 2 | Impeller | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| | Impeller (25-125, 32-125) | Stainless steel | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (cast AISI 316) |
| 3 | Seal housing | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 4 | Wear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 5 | Counterwear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 7 | Rigid shaft coupling | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 8 | Impeller locknut and washer | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 9 | Tab | Acciaio inox | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 10 | Fill/drain plugs | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 11 | Mechanical seal | Ceramic / Carbon / FKM (standard version) | | |
| 12 | Elastomers | FKM (standard version) | | |
| 13 | Adapter * | Aluminium | EN 1706-AC-AISI11Cu2 (Fe) (AC46100) | - |
| | Adapter | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 14 | Adapter motor coupling | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 15 | Pump body fastening bolts & screws | Galvanized steel | | |

* 2/4 pole: 25/32/40-125, 25/32/40-160, 25/32/40-200

ESHS-en_c_tm

ESHS SERIES ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04952_B_DS



| (ESHS) VERSIONS | |
|-----------------|------------|
| 2 POLES | 4 POLES |
| 25-250/110 | 80-250/110 |
| 32-250/110 | |
| 40-250/110A | |
| 40-250/110 | |
| 40-250/150 | |
| 50-200/110A | |
| 50-200/110 | |
| 50-250/150 | |
| 50-250/185 | |
| 50-250/220 | |
| 65-160/110A | |
| 65-160/110 | |
| 65-200/150 | |
| 65-200/185 | |
| 65-200/220 | |
| 65-250/300 | |
| 65-250/370 | |
| 80-160/110 | |
| 80-160/150 | |
| 80-160/185 | |
| 80-200/220 | |
| 80-200/300 | |
| 80-200/370 | |

ESHS-s-en_a_mo

| REF. N. | NAME | MATERIAL | REFERENCE STANDARDS | |
|---------|------------------------------------|---|--------------------------------------|---------------------------|
| | | | EUROPE | USA |
| 1 | Pump body | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 2 | Impeller | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| | Impeller (25-125, 32-125) | Stainless steel | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (cast AISI 316) |
| 3 | Seal housing | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 4 | Wear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 5 | Counterwear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 7 | Rigid shaft coupling | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 8 | Impeller locknut and washer | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 9 | Tab | Acciaio inox | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 10 | Fill/drain plugs | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 11 | Mechanical seal | Ceramic / Carbon / FKM (standard version) | | |
| 12 | Elastomers | FKM (standard version) | | |
| 13 | Adapter * | Aluminium | EN 1706-AC-AISI11Cu2 (Fe) (AC46100) | - |
| | Adapter | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 14 | Adapter motor coupling | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 15 | Pump body fastening bolts & screws | Galvanized steel | | |

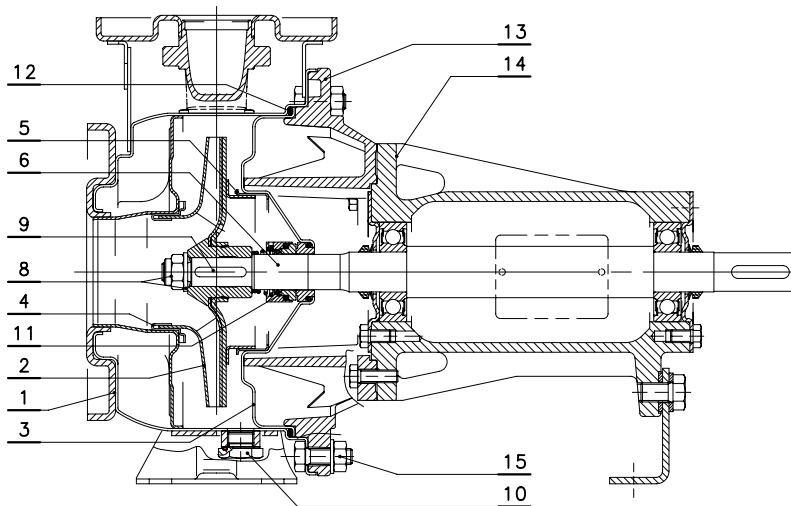
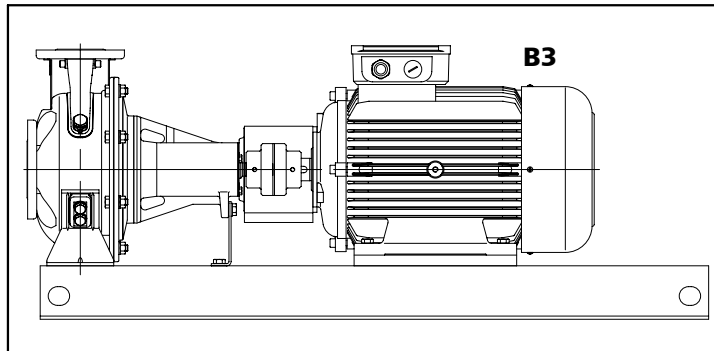
* 2/4 pole: 25/32/40-125, 25/32/40-160, 25/32/40-200

ESHS-en_c_tm

ESH, ESHF, ESHC SERIES

ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04979_C_DS



| VERSIONS | |
|-----------------|--|
| ESH, ESHF, ESHC | |
| 25-125 | |
| 25-160 | |
| 25-200 | |
| 25-250 | |
| 32-125 | |
| 32-160 | |
| 32-200 | |
| 32-250 | |
| 40-125 | |
| 40-160 | |
| 40-200 | |
| 40-250 | |
| 50-125 | |
| 50-160 | |
| 50-200 | |
| 50-250 | |
| 65-160 | |
| 65-200 | |
| 65-250 | |
| 80-160 | |
| 80-200 | |
| 80-250 | |

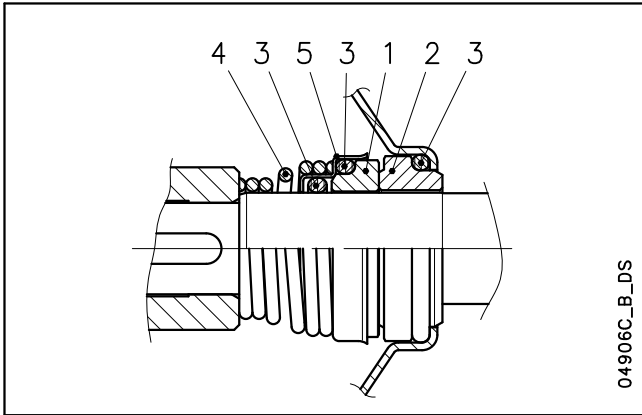
ESHF-p-en_a_mo

| REF. N. | NAME | MATERIAL | REFERENCE STANDARDS | |
|---------|------------------------------------|---|--------------------------------------|---------------------------|
| | | | EUROPE | USA |
| 1 | Pump body | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 2 | Impeller | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| | Impeller (25-125, 32-125) | Stainless steel | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (cast AISI 316) |
| 3 | Seal housing | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 4 | Wear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 5 | Counterwear ring | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 6 | Shaft extension | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 8 | Impeller locknut and washer | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 9 | Tab | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 10 | Fill/drain plugs | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 11 | Mechanical seal | Ceramic / Carbon / FKM (standard version) | | |
| 12 | Elastomers | FKM (standard version) | | |
| 13 | Adapter * | Aluminium | EN 1706-AC-AISI11Cu2 (Fe) (AC46100) | - |
| | Adapter | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 14 | Transmission support body | Cast iron | EN 1561-GJL-200 (JL1030) | ASTM Class 25 |
| 15 | Pump body fastening bolts & screws | Galvanized steel | | |

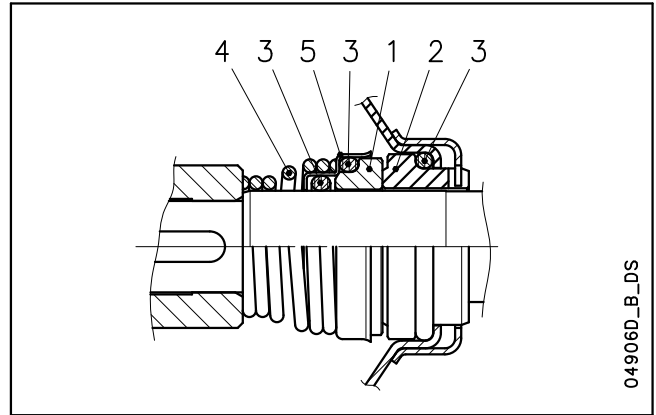
* 2/4 pole: 25/32/40-125, 25/32/40-160, 25/32/40-200

ESH SERIES MECHANICAL SEAL

(Mechanical seal with mounting dimensions according to EN 12756 and ISO 3069.)



Standard version



Version with fixed assembly anti-rotation

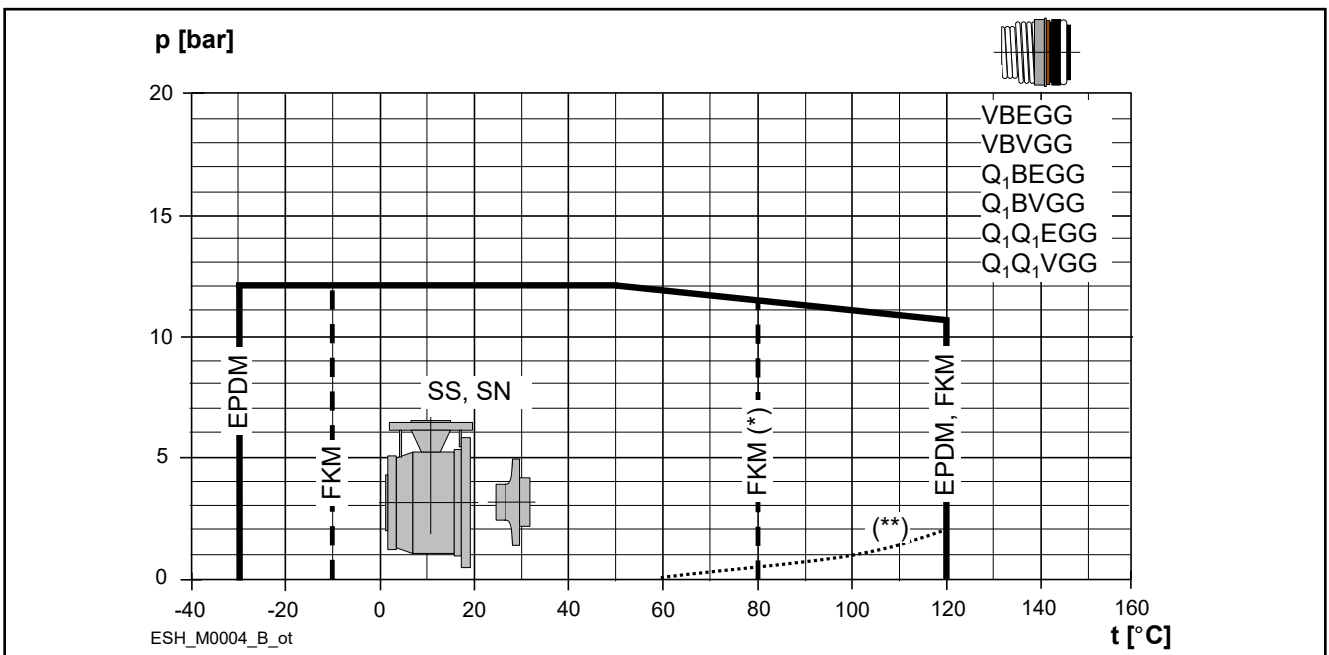
| POSITION 1 - 2 | POSITION 3 | POSITION 4 - 5 |
|--|----------------------|---------------------|
| B : Resin impregnated carbon | E : EPDM | G : AISI 316 |
| Q₁ : Silicon carbide | V : FKM (FPM) | |
| V : Ceramic | | |

sh_ten-mec-en_b_tm

| TYPE | POSITION | | | | | TEMPERATURE (°C) |
|------------------------------------|------------------------|---------------------|-----------------|--------------|-----------------------|---------------------|
| | 1 ROTATING ASSEMBLY | 2 FIXED ASSEMBLY | 3 ELASTOMERS | 4 SPRINGS | 5 OTHER COMPONENTS | |
| STANDARD MECHANICAL SEAL | | | | | | |
| VBVGG | V | B | V | G | G | -10 +120 |
| OTHER MECHANICAL SEAL TYPES | | | | | | |
| Q ₁ BVGG | Q ₁ | B | V | G | G | -10 +120 |
| Q ₁ Q ₁ VGG | Q ₁ | Q ₁ | V | G | G | -10 +120 |
| VBEGG | V | B | E | G | G | -30 +120 |
| Q ₁ BEGG | Q ₁ | B | E | G | G | -30 +120 |
| Q ₁ Q ₁ EGG | Q ₁ | Q ₁ | E | G | G | -30 +120 |

sh_tipi-ten-mec-en_a_tc

PRESSURE/TEMPERATURE APPLICATION LIMITS FOR COMPLETE PUMP



(*) hot water (**) minimum pressure required at mechanical seal (hot water; could be different in case of other liquids).

ESH SERIES MOTORS

With the "Energy using Products" (EuP 2005/32/EC) and "Energy related Products" (ErP 2009/125/EC) directives, the European Commission has established requirements for promoting the use of products with low power consumption.

The various products considered include **three-phase 50 Hz surface motors with power outputs ranging from 0,75 to 375 kW**, also when integrated with other products, with characteristics as defined by the specific **Regulations (EC) No 640/2009** and **(EU) No 4/2014** implementing the requirements of the EuP and ErP Directives.

In accordance with regulations, the **three-phase 50 Hz surface motors with power outputs ranging from 0,75 to 375 kW** have a IE3 as minimum level of efficiency or IE2 fitted with variable speed drive.

- Short-circuit squirrel-cage motor, enclosed construction with external ventilation (TEFC).
- Rated power from 0,75 to 75 kW for 2-pole range and from 0,25 to 11 kW for 4-pole range.
- **IP55** protection degree.
- Insulation class **155 (F)**.
- **Standard** three-phase surface motors $\geq 0,75$ kW supplied as **IE3**.
- IE efficiency level according to EN 60034-30:2009 and EN 60034-30-1:2014 ($\geq 0,75$ kW).
- Electrical performances according to EN 60034-1.
- Metric cable gland according to EN 50262.
- **Single-phase** version:
220-240 V 50 Hz
Built-in automatic reset overload protection.
Maximum ambient temperature: 40 °C.
- **Three-phase** version:
220-240/380-415 V 50 Hz for power up to 3 kW.
380-415/660-690 V 50 Hz for power above 3 kW.
Overload protection to be provided by the user.
Maximum ambient temperature: 50 °C
(40°C for 4 poles models up to 0,75 kW)

ESHE SERIES SINGLE-PHASE MOTORS AT 50 Hz, 2 POLES

| P _N kW | MOTOR TYPE | IEC SIZE* | Construction Design | INPUT CURRENT I _n (A) 220-240 V | CAPACITOR | | DATA FOR 230 V 50 Hz VOLTAGE | | | | | | |
|----------------------|-----------------|-----------|------------------------|---|-----------|-----|------------------------------|---------------------------------|------|------|----------------------|--------------------------------|--------------------------------|
| | | | | | μF | V | min ⁻¹ | I _s / I _n | η % | cosφ | T _n Nm | T _s /T _n | T _m /T _n |
| 0,75 | SM90RB14S2/1075 | 90R | B14 | 4,83-5,23 | 30 | 450 | 2875 | 5,28 | 71,8 | 0,92 | 2,49 | 0,70 | 2,59 |
| 1,1 | SM90RB14S2/1115 | 90R | B14 | 6,88-6,65 | 30 | 450 | 2800 | 3,89 | 74,7 | 0,96 | 3,75 | 0,46 | 1,72 |
| 1,5 | SM90RB14S2/1155 | 90R | B14 | 9,21-8,58 | 40 | 450 | 2810 | 4,00 | 76,1 | 0,98 | 5,15 | 0,39 | 1,74 |
| 2,2 | PLM90B14S2/1225 | 90 | B14 | 12,5-11,6 | 70 | 450 | 2825 | 4,47 | 82,4 | 0,97 | 7,43 | 0,53 | 1,87 |

* R = Reduced size of motor casing as compared to shaft extension and flange.

ESHE-motm-2p50-en_a_te

ESHE SERIES THREE-PHASE MOTORS AT 50 Hz, 2 POLES

| P _N kW | Efficiency η_N % | | | | | | | | | | | | | | | | | | IE | Year of manufacture |
|----------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|----|------------------------|
| | Δ 220 V Y 380 V | | | Δ 230 V Y 400 V | | | Δ 240 V Y 415 V | | | Δ 380 V Y 660 V | | | Δ 400 V Y 690 V | | | Δ 415 V | | | | |
| | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | | |
| 0,75 | 82,5 | 83,1 | 81,3 | 82,8 | 82,7 | 80,1 | 82,6 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 3 | from 11/2014 |
| 1,1 | 84,0 | 84,7 | 83,4 | 84,4 | 84,5 | 82,5 | 84,3 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | | |
| 1,5 | 85,6 | 86,5 | 85,8 | 85,9 | 86,4 | 84,9 | 86,0 | 86,0 | 84,0 | 85,6 | 86,0 | 84,0 | 85,6 | 86,0 | 84,0 | 85,6 | 86,0 | 84,0 | | |
| 2,2 | 86,5 | 87,4 | 86,8 | 86,4 | 86,9 | 85,7 | 86,6 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | | |
| 3 | 87,2 | 88,5 | 88,3 | 87,5 | 88,2 | 87,5 | 87,5 | 87,8 | 86,4 | 87,2 | 87,8 | 86,4 | 87,2 | 87,8 | 86,4 | 87,2 | 87,8 | 86,4 | | |
| 4 | 89,1 | 90,1 | 89,2 | 89,1 | 90,1 | 89,2 | 89,1 | 90,1 | 89,2 | 89,1 | 90,3 | 90,4 | 89,6 | 90,4 | 89,9 | 89,6 | 90,1 | 89,2 | | |
| 5,5 | 89,5 | 89,6 | 88,0 | 89,5 | 89,6 | 88,0 | 89,5 | 89,6 | 88,0 | 89,5 | 90,3 | 89,9 | 89,7 | 90,0 | 89,0 | 89,6 | 89,6 | 88,0 | | |
| 7,5 | 90,6 | 90,5 | 89,0 | 90,6 | 90,5 | 89,0 | 90,6 | 90,5 | 89,0 | 90,6 | 91,0 | 90,2 | 90,8 | 90,8 | 89,6 | 90,7 | 90,5 | 89,0 | | |
| 9,2 | 90,8 | 91,0 | 89,7 | 90,8 | 91,0 | 89,7 | 90,8 | 91,0 | 89,7 | 90,8 | 91,4 | 90,8 | 91,1 | 91,3 | 90,3 | 91,1 | 91,0 | 89,7 | | |
| 11 | 91,3 | 92,0 | 91,1 | 91,3 | 92,0 | 91,1 | 91,3 | 92,0 | 91,1 | 91,3 | 92,2 | 92,2 | 91,6 | 92,2 | 91,7 | 91,7 | 92,0 | 91,1 | | |
| 15 | 92,5 | 92,4 | 91,2 | 92,5 | 92,4 | 91,2 | 92,5 | 92,4 | 91,2 | 92,7 | 93,3 | 92,9 | 93,1 | 93,3 | 92,7 | 92,5 | 92,4 | 91,2 | | |
| 18,5 | 92,6 | 93,1 | 92,4 | 92,6 | 93,1 | 92,4 | 92,6 | 93,1 | 92,4 | 92,6 | 93,2 | 93,0 | 92,9 | 93,3 | 92,8 | 92,9 | 93,1 | 92,4 | | |
| 22 | 93,0 | 92,7 | 91,3 | 93,0 | 92,7 | 91,3 | 93,0 | 92,7 | 91,3 | 93,0 | 93,2 | 92,4 | 93,1 | 93,0 | 91,9 | 93,0 | 92,7 | 91,3 | | |

| P _N kW | Manufacturer | | IEC SIZE* | Construction Design | N. of Poles | f _N Hz | Data for 400 V / 50 Hz Voltage | | | | |
|----------------------|--|--|-----------|------------------------|----------------|----------------------|--------------------------------|---------------------------------|----------------------|--------------------------------|--------------------------------|
| | Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia | | | | | | cos ϕ | I _s / I _N | T _N Nm | T _s /T _N | T _m /T _N |
| | Model | | | | | | | | | | |
| 0,75 | SM90RB14S/307PE | | 90R | SPECIAL | 2 | 50 | 0,78 | 7,38 | 2,48 | 3,57 | 3,75 |
| 1,1 | SM90RB14S/311PE | | 90R | | | | 0,79 | 8,31 | 3,63 | 3,95 | 3,95 |
| 1,5 | SM90RB14S/315PE | | 90R | | | | 0,80 | 8,80 | 4,96 | 4,31 | 4,10 |
| 2,2 | PLM90B14S2/322 E3 | | 90 | | | | 0,80 | 8,77 | 7,28 | 3,72 | 3,70 |
| 3 | PLM90B14S2/330 E3 | | 90 | | | | 0,79 | 7,81 | 9,93 | 4,26 | 3,94 |
| 4 | PLM112RB14S2/340 E3 | | 112R | | | | 0,85 | 9,13 | 13,2 | 3,82 | 4,32 |
| 5,5 | PLM112B14S2/355 E3 | | 112 | | | | 0,85 | 10,5 | 18,1 | 4,74 | 5,11 |
| 7,5 | PLM132B14S2/375 E3 | | 132 | | | | 0,85 | 10,2 | 24,4 | 3,43 | 4,76 |
| 9,2 | PLM132B14S2/392 E3 | | 132 | | | | 0,85 | 10,1 | 30,0 | 3,73 | 4,81 |
| 11 | PLM132B14S2/3110 E3 | | 132 | | | | 0,86 | 9,89 | 35,90 | 3,46 | 4,59 |
| | PLM132B14S3/3110 E3 | | 132 | | | | | | | | |
| 15 | PLM160B34S3/3150 E3 | | 160 | | | | 0,88 | 9,51 | 48,6 | 2,73 | 4,32 |
| 18,5 | PLM160B34S3/3185 E3 | | 160 | | | | 0,88 | 9,81 | 59,9 | 2,81 | 4,53 |
| 22 | PLM160B34S3/3220 E3 | | 160 | | | | 0,85 | 10,9 | 71,1 | 3,26 | 5,12 |

| P _N kW | Voltage U _N V | | | | | | | | | | n _N min ⁻¹ | Observe the regulations and codes locally in force regarding sorted waste disposal. | Operating conditions ** | | |
|----------------------|-----------------------------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------------------------------------|--|------------------------------------|-------------------------|------|
| | Δ | | | Y | | | Δ | | | Y | | | Altitude Above Sea Level (m) | T. amb min/max °C | ATEX |
| | 220 V | 230 V | 240 V | 380 V | 400 V | 415 V | 380 V | 400 V | 415 V | 660 V | | | | | |
| 0,75 | 2,96 | 2,94 | 2,96 | 1,71 | 1,70 | 1,71 | 1,70 | 1,69 | 1,70 | 0,98 | 0,98 | 2875 ÷ 2895 | ≤ 1000 | -15 / 50 | No |
| 1,1 | 4,19 | 4,14 | 4,16 | 2,42 | 2,39 | 2,40 | 2,41 | 2,38 | 2,38 | 1,39 | 1,37 | 2870 ÷ 2900 | | | |
| 1,5 | 5,56 | 5,49 | 5,51 | 3,21 | 3,17 | 3,18 | 3,21 | 3,18 | 3,19 | 1,85 | 1,84 | 2870 ÷ 2895 | | | |
| 2,2 | 7,97 | 7,90 | 7,98 | 4,60 | 4,56 | 4,61 | 4,57 | 4,54 | 4,57 | 2,64 | 2,62 | 2880 ÷ 2900 | | | |
| 3 | 11,0 | 11,0 | 11,2 | 6,35 | 6,33 | 6,44 | 6,29 | 6,27 | 6,34 | 3,63 | 3,62 | 2865 ÷ 2895 | | | |
| 4 | 13,6 | 13,4 | 13,4 | 7,87 | 7,75 | 7,74 | 7,80 | 7,62 | 7,61 | 4,50 | 4,40 | 2885 ÷ 2910 | | | |
| 5,5 | 18,1 | 17,9 | 18,1 | 10,4 | 10,4 | 10,4 | 10,6 | 10,5 | 10,7 | 6,10 | 6,05 | 2880 ÷ 2910 | | | |
| 7,5 | 24,8 | 24,4 | 24,3 | 14,3 | 14,1 | 14,0 | 14,4 | 14,1 | 14,2 | 8,32 | 8,16 | 2920 ÷ 2935 | | | |
| 9,2 | 30,6 | 30,1 | 30,2 | 17,6 | 17,4 | 17,5 | 17,5 | 17,2 | 17,3 | 10,1 | 9,93 | 2920 ÷ 2935 | | | |
| 11 | 35,7 | 35,0 | 34,9 | 20,6 | 20,2 | 20,2 | 20,6 | 20,2 | 20,2 | 11,9 | 11,7 | 2910 ÷ 2930 | | | |
| 15 | 47,6 | 46,1 | 45,2 | 27,5 | 26,6 | 26,1 | 27,5 | 26,6 | 26,1 | 15,9 | 15,3 | 2940 ÷ 2950 | | | |
| 18,5 | 58,3 | 56,7 | 55,6 | 33,7 | 32,7 | 32,1 | 34,0 | 33,0 | 32,7 | 19,6 | 19,0 | 2940 ÷ 2950 | | | |
| 22 | 72,9 | 73,1 | 73,7 | 42,1 | 42,2 | 42,6 | 40,9 | 40,4 | 40,6 | 23,6 | 23,3 | 2950 ÷ 2960 | | | |

* R = Reduced size of motor casing as compared to shaft extension and flange.

ESHE-IE3-mott-2p50-en_b_te

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

ESHS SERIES

THREE-PHASE MOTORS AT 50 Hz, 2 POLES (up to 22 kW)

| P _N kW | Efficiency η_N % | | | | | | | | | | | | | | | | | | IE | Year of manufacture |
|----------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|----|------------------------|
| | Δ 220 V Y 380 V | | | Δ 230 V Y 400 V | | | Δ 240 V Y 415 V | | | Δ 380 V Y 660 V | | | Δ 400 V Y 690 V | | | Δ 415 V | | | | |
| | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | | |
| 0,75 | 82,5 | 83,1 | 81,3 | 82,8 | 82,7 | 80,1 | 82,6 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 3 | from 1/2014 |
| 1,1 | 84,0 | 84,7 | 83,4 | 84,4 | 84,5 | 82,5 | 84,3 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | | |
| 1,5 | 85,6 | 86,5 | 85,8 | 85,9 | 86,4 | 84,9 | 86,0 | 86,0 | 84,0 | 85,6 | 86,0 | 84,0 | 85,6 | 86,0 | 84,0 | 85,6 | 86,0 | 84,0 | | |
| 2,2 | 86,5 | 87,4 | 86,8 | 86,4 | 86,9 | 85,7 | 86,6 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | | |
| 3 | 87,2 | 88,5 | 88,3 | 87,5 | 88,2 | 87,5 | 87,5 | 87,8 | 86,4 | 87,2 | 87,8 | 86,4 | 87,2 | 87,8 | 86,4 | 87,2 | 87,8 | 86,4 | | |
| 4 | 89,1 | 90,1 | 89,2 | 89,1 | 90,1 | 89,2 | 89,1 | 90,1 | 89,2 | 89,1 | 90,3 | 90,4 | 89,6 | 90,4 | 89,9 | 89,6 | 90,1 | 89,2 | | |
| 5,5 | 89,5 | 89,6 | 88,0 | 89,5 | 89,6 | 88,0 | 89,5 | 89,6 | 88,0 | 89,5 | 90,3 | 89,9 | 89,7 | 90,0 | 89,0 | 89,6 | 89,6 | 88,0 | | |
| 7,5 | 90,6 | 90,5 | 89,0 | 90,6 | 90,5 | 89,0 | 90,6 | 90,5 | 89,0 | 90,6 | 91,0 | 90,2 | 90,8 | 90,8 | 89,6 | 90,7 | 90,5 | 89,0 | | |
| 11 | 91,8 | 92,3 | 91,5 | 91,8 | 92,3 | 91,5 | 91,8 | 92,3 | 91,5 | 91,8 | 92,3 | 91,9 | 92,2 | 92,5 | 91,8 | 92,3 | 92,4 | 91,5 | | |
| 15 | 92,5 | 92,4 | 91,2 | 92,5 | 92,4 | 91,2 | 92,5 | 92,4 | 91,2 | 92,7 | 93,3 | 92,9 | 93,1 | 93,3 | 92,7 | 92,5 | 92,4 | 91,2 | | |
| 18,5 | 92,6 | 93,1 | 92,4 | 92,6 | 93,1 | 92,4 | 92,6 | 93,1 | 92,4 | 92,6 | 93,2 | 93,0 | 92,9 | 93,3 | 92,8 | 92,9 | 93,1 | 92,4 | | |
| 22 | 93,0 | 92,7 | 91,3 | 93,0 | 92,7 | 91,3 | 93,0 | 92,7 | 91,3 | 93,0 | 93,2 | 92,4 | 93,1 | 93,0 | 91,9 | 93,0 | 92,7 | 91,3 | | |

| P _N kW | Manufacturer | | IEC SIZE* | Construction Design | N. of Poles | f _N Hz | Data for 400 V / 50 Hz Voltage | | | | |
|----------------------|--|--|-----------|------------------------|----------------|----------------------|--------------------------------|---------------------------------|----------------------|--------------------------------|--------------------------------|
| | Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia | | | | | | cos ϕ | I _s / I _N | T _N Nm | T _s /T _N | T _m /T _N |
| | Model | | | | | | | | | | |
| 0,75 | SM80B5/307PE | | 80 | B5 | 2 | 50 | 0,78 | 7,38 | 2,48 | 3,57 | 3,75 |
| 1,1 | SM80B5/311PE | | 80 | | | | 0,79 | 8,31 | 3,63 | 3,95 | 3,95 |
| 1,5 | SM90RB5/315PE | | 90R | | | | 0,80 | 8,80 | 4,96 | 4,31 | 4,10 |
| 2,2 | PLM90B5/322 E3 | | 90 | | | | 0,80 | 8,77 | 7,28 | 3,72 | 3,70 |
| 3 | PLM100RB5/330 E3 | | 100R | | | | 0,79 | 7,81 | 9,93 | 4,26 | 3,94 |
| 4 | PLM112RB5/340 E3 | | 112R | | | | 0,85 | 9,13 | 13,2 | 3,82 | 4,32 |
| 5,5 | PLM132RB5/355 E3 | | 132R | | | | 0,85 | 10,5 | 18,1 | 4,74 | 5,11 |
| 7,5 | PLM132B5/375 E3 | | 132 | | | | 0,85 | 10,2 | 24,4 | 3,43 | 4,76 |
| 11 | PLM160B35/3110 E3 | | 160 | | | | 0,88 | 8,59 | 35,6 | 2,36 | 4,14 |
| 15 | PLM160B35/3150 E3 | | 160 | | | | 0,88 | 9,51 | 48,6 | 2,73 | 4,32 |
| 18,5 | PLM160B35/3185 E3 | | 160 | | | | 0,88 | 9,81 | 59,9 | 2,81 | 4,53 |
| 22 | PLM180RB35/3220 E3 | | 180R | | | | 0,85 | 10,9 | 71,1 | 3,26 | 5,12 |

| P _N kW | Voltage U _N V | | | | | | | | | | η_N min ⁻¹ | Observe the regulations and codes locally in force regarding sorted waste disposal. | Operating conditions ** | | | |
|----------------------|-----------------------------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------------------------------|--|------------------------------------|-------------------------|------|-------|
| | Δ | | | Y | | | Δ | | | Y | | | Altitude Above Sea Level (m) | T. amb min/max °C | ATEX | |
| | 220 V | 230 V | 240 V | 380 V | 400 V | 415 V | 380 V | 400 V | 415 V | 660 V | | | | | | 690 V |
| 0,75 | 2,96 | 2,94 | 2,96 | 1,71 | 1,70 | 1,71 | 1,70 | 1,69 | 1,70 | 0,98 | 0,98 | 2875 ÷ 2895 | ≤ 1000 | -15 / 50 | No | |
| 1,1 | 4,19 | 4,14 | 4,16 | 2,42 | 2,39 | 2,40 | 2,41 | 2,38 | 2,38 | 1,39 | 1,37 | 2870 ÷ 2900 | | | | |
| 1,5 | 5,56 | 5,49 | 5,51 | 3,21 | 3,17 | 3,18 | 3,21 | 3,18 | 3,19 | 1,85 | 1,84 | 2870 ÷ 2895 | | | | |
| 2,2 | 7,97 | 7,90 | 7,98 | 4,6 | 4,56 | 4,61 | 4,57 | 4,54 | 4,57 | 2,64 | 2,62 | 2880 ÷ 2900 | | | | |
| 3 | 11,0 | 11,0 | 11,2 | 6,35 | 6,33 | 6,44 | 6,29 | 6,27 | 6,34 | 3,63 | 3,62 | 2865 ÷ 2895 | | | | |
| 4 | 13,6 | 13,4 | 13,4 | 7,87 | 7,75 | 7,74 | 7,80 | 7,62 | 7,61 | 4,50 | 4,40 | 2885 ÷ 2910 | | | | |
| 5,5 | 18,1 | 17,9 | 18,1 | 10,4 | 10,4 | 10,4 | 10,6 | 10,5 | 10,7 | 6,10 | 6,05 | 2880 ÷ 2910 | | | | |
| 7,5 | 24,8 | 24,4 | 24,3 | 14,3 | 14,1 | 14,0 | 14,4 | 14,1 | 14,2 | 8,32 | 8,16 | 2920 ÷ 2935 | | | | |
| 11 | 35,0 | 33,9 | 33,0 | 20,2 | 19,6 | 19,1 | 20,4 | 19,6 | 19,2 | 11,8 | 13,3 | 2935 ÷ 2950 | | | | |
| 15 | 47,6 | 46,1 | 45,2 | 27,5 | 26,6 | 26,1 | 27,5 | 26,6 | 26,1 | 15,9 | 15,3 | 2940 ÷ 2950 | | | | |
| 18,5 | 58,3 | 56,7 | 55,6 | 33,7 | 32,7 | 32,1 | 34,0 | 33,0 | 32,7 | 19,6 | 19,0 | 2940 ÷ 2950 | | | | |
| 22 | 72,9 | 73,1 | 73,7 | 42,1 | 42,2 | 42,6 | 40,9 | 40,4 | 40,6 | 23,6 | 23,3 | 2950 ÷ 2960 | | | | |

* R = Reduced size of motor casing as compared to shaft extension and flange.

ESHS-IE3-mott-2p50-en_b_te

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

ESHF, ESHC SERIES

THREE-PHASE MOTORS AT 50 Hz, 2 POLES (up to 18,5 kW)

| P _N kW | Efficiency η_N | | | | | | | | | | | | IE | Year of manufacture | | | | | | |
|----------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|------|---------------------|---------------------------|------|------|----------------|---|--|
| | % | | | | | | | | | | | | | | | | | | | |
| | Δ 220 V Y 380 V | | | Δ 230 V Y 400 V | | | Δ 240 V Y 415 V | | | Δ 380 V Y 660 V | | | | | Δ 400 V Y 690 V | | | Δ 415 V | | |
| | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | | |
| 0,75 | 82,5 | 83,1 | 81,3 | 82,8 | 82,7 | 80,1 | 82,6 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | 82,5 | 82,0 | 78,9 | | |
| 1,1 | 84,0 | 84,7 | 83,4 | 84,4 | 84,5 | 82,5 | 84,3 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | 84,0 | 84,0 | 81,4 | | |
| 1,5 | 84,6 | 85,8 | 85,4 | 85,5 | 86,3 | 85,2 | 85,9 | 86,2 | 84,8 | 84,6 | 85,8 | 84,8 | 84,6 | 85,8 | 84,8 | 84,6 | 85,8 | 84,8 | | |
| 2,2 | 86,5 | 87,4 | 86,8 | 86,4 | 86,9 | 85,7 | 86,6 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | 86,4 | 86,7 | 85,0 | | |
| 3 | 88,7 | 89,5 | 89,1 | 89,1 | 89,5 | 88,4 | 89,1 | 89,1 | 87,7 | 88,7 | 89,1 | 87,7 | 88,7 | 89,1 | 87,7 | 88,7 | 89,1 | 87,7 | | |
| 4 | 88,6 | 89,0 | 87,6 | 88,6 | 89,0 | 87,6 | 88,6 | 89,0 | 87,6 | 88,7 | 89,6 | 89,1 | 88,6 | 89,2 | 88,3 | 88,9 | 89,0 | 87,6 | 3 | |
| 5,5 | 90,1 | 89,8 | 88,0 | 90,1 | 89,8 | 88,0 | 90,1 | 89,8 | 88,0 | 90,2 | 90,5 | 89,5 | 90,3 | 90,2 | 88,8 | 90,1 | 89,8 | 88,0 | | |
| 7,5 | 90,6 | 90,5 | 89,0 | 90,6 | 90,5 | 89,0 | 90,6 | 90,5 | 89,0 | 90,6 | 91,0 | 90,2 | 90,8 | 90,8 | 89,6 | 90,7 | 90,5 | 89,0 | | |
| 11 | 91,8 | 92,3 | 91,5 | 91,8 | 92,3 | 91,5 | 91,8 | 92,3 | 91,5 | 91,8 | 92,3 | 91,9 | 92,2 | 92,5 | 91,8 | 92,3 | 92,4 | 91,5 | | |
| 15 | 92,5 | 92,4 | 91,2 | 92,5 | 92,4 | 91,2 | 92,5 | 92,4 | 91,2 | 92,7 | 93,3 | 92,9 | 93,1 | 93,3 | 92,7 | 92,5 | 92,4 | 91,2 | | |
| 18,5 | 92,6 | 93,1 | 92,4 | 92,6 | 93,1 | 92,4 | 92,6 | 93,1 | 92,4 | 92,6 | 93,2 | 93,0 | 92,9 | 93,3 | 92,8 | 92,9 | 93,1 | 92,4 | | |

| P _N kW | Manufacturer | | IEC SIZE | Construction Design | N. of Poles | f _N Hz | Data for 400 V / 50 Hz Voltage | | | | |
|----------------------|--|--|----------|---------------------|-------------|----------------------|--------------------------------|---------------------------------|----------------------|--------------------------------|--------------------------------|
| | Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia | | | | | | cos ϕ | I _s / I _N | T _N Nm | T _s /T _N | T _m /T _N |
| | Model | | | | | | | | | | |
| 0,75 | SM80B3/307PE | | 80 | B3 | 2 | 50 | 0,78 | 7,38 | 2,48 | 3,57 | 3,75 |
| 1,1 | SM80B3/311PE | | 80 | | | | 0,79 | 8,31 | 3,63 | 3,95 | 3,95 |
| 1,5 | PLM90B3/315 E3 | | 90 | | | | 0,86 | 8,04 | 4,96 | 3,34 | 3,27 |
| 2,2 | PLM90B3/322 E3 | | 90 | | | | 0,80 | 8,77 | 7,28 | 3,72 | 3,70 |
| 3 | PLM100B3/330 E3 | | 100 | | | | 0,84 | 9,65 | 9,84 | 3,59 | 4,26 |
| 4 | PLM112B3/340 E3 | | 112 | | | | 0,86 | 9,41 | 13,2 | 3,95 | 4,46 |
| 5,5 | PLM132B3/355 E3 | | 132 | | | | 0,83 | 10,0 | 17,9 | 3,33 | 4,65 |
| 7,5 | PLM132B3/375 E3 | | 132 | | | | 0,85 | 10,2 | 24,4 | 3,43 | 4,76 |
| 11 | PLM160B3/3110 E3 | | 160 | | | | 0,88 | 8,59 | 35,6 | 2,36 | 4,14 |
| 15 | PLM160B3/3150 E3 | | 160 | | | | 0,88 | 9,51 | 48,6 | 2,73 | 4,32 |
| 18,5 | PLM160B3/3185 E3 | | 160 | | | | 0,88 | 9,81 | 59,9 | 2,81 | 4,53 |

| P _N kW | Voltage U _N | | | | | | | | | | η_N min ⁻¹ | Observe the regulations and codes locally in force regarding sorted waste disposal. | Operating conditions ** | | |
|----------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------|---|------------------------------|-------------------|------|
| | Δ | | | | | Y | | | | | | | Altitude Above Sea Level (m) | T. amb min/max °C | ATEX |
| | 220 V | 230 V | 240 V | 380 V | 400 V | 415 V | 380 V | 400 V | 415 V | 660 V | | | | | |
| I _N (A) | | | | | | | | | | | | | | | |
| 0,75 | 2,96 | 2,94 | 2,96 | 1,71 | 1,70 | 1,71 | 1,70 | 1,69 | 1,70 | 0,98 | 0,98 | 2875 ÷ 2895 | ≤ 1000 | -15 / 50 | No |
| 1,1 | 4,19 | 4,14 | 4,16 | 2,42 | 2,39 | 2,40 | 2,41 | 2,38 | 2,38 | 1,39 | 1,37 | 2870 ÷ 2900 | | | |
| 1,5 | 5,35 | 5,11 | 5,04 | 3,09 | 2,95 | 2,91 | 3,09 | 2,96 | 2,91 | 1,78 | 1,71 | 2865 ÷ 2890 | | | |
| 2,2 | 7,97 | 7,90 | 7,98 | 4,60 | 4,56 | 4,61 | 4,57 | 4,54 | 4,57 | 2,64 | 2,62 | 2880 ÷ 2900 | | | |
| 3 | 10,2 | 10,0 | 10,1 | 5,91 | 5,79 | 5,82 | 5,94 | 5,83 | 5,87 | 3,43 | 3,37 | 2895 ÷ 2920 | | | |
| 4 | 13,3 | 13,1 | 13,1 | 7,69 | 7,56 | 7,55 | 7,70 | 7,56 | 7,57 | 4,45 | 4,36 | 2885 ÷ 2905 | | | |
| 5,5 | 18,9 | 18,8 | 18,9 | 10,9 | 10,9 | 10,9 | 10,7 | 10,6 | 10,7 | 6,20 | 6,14 | 2925 ÷ 2940 | | | |
| 7,5 | 24,8 | 24,4 | 24,3 | 14,3 | 14,4 | 14,0 | 14,4 | 14,1 | 14,2 | 8,32 | 8,16 | 2920 ÷ 2935 | | | |
| 11 | 35,0 | 33,9 | 33,0 | 20,2 | 19,6 | 19,1 | 20,4 | 19,6 | 19,2 | 11,8 | 11,3 | 2935 ÷ 2950 | | | |
| 15 | 47,6 | 46,1 | 45,2 | 27,5 | 26,6 | 26,1 | 27,5 | 26,6 | 26,1 | 15,9 | 15,3 | 2940 ÷ 2950 | | | |
| 18,5 | 58,3 | 56,7 | 55,6 | 33,7 | 32,7 | 32,1 | 34,0 | 33,0 | 32,7 | 19,6 | 19,0 | 2940 ÷ 2950 | | | |

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

ESHS SERIES (B35 from 30 to 37 kW)
ESHF SERIES (B3 from 22 to 75 kW)
THREE-PHASE MOTORS AT 50 Hz, 2 POLES

| P _N kW | Efficiency η_N % | | | | | | | | | IE | Year of manufacture |
|----------------------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|----|------------------------|
| | Δ 380 V Y 660 V | | | Δ 400 V Y 690 V | | | Δ 415 V | | | | |
| | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | | |
| 22 | 92,4 | 92,9 | 92,6 | 92,7 | 93,2 | 93,0 | 92,8 | 93,2 | 93,1 | 3 | from 04/2020 |
| 30 | 93,0 | 93,1 | 93,0 | 93,3 | 93,5 | 93,4 | 93,4 | 93,6 | 93,4 | | |
| 37 | 93,5 | 94,0 | 93,7 | 93,7 | 94,1 | 93,8 | 93,8 | 94,2 | 93,9 | | |
| 45 | 93,8 | 94,0 | 93,5 | 94,0 | 94,2 | 93,6 | 94,2 | 94,4 | 93,8 | | |
| 55 | 93,8 | 94,0 | 93,9 | 94,3 | 94,6 | 94,5 | 94,4 | 94,7 | 94,5 | | |
| 75 | 94,5 | 94,6 | 94,2 | 94,7 | 94,8 | 94,3 | 94,8 | 94,9 | 94,4 | | |

| P _N kW | Manufacturer | IEC SIZE | Construction Design | N. of Poles | f _N Hz | Data for 400 V / 50 Hz Voltage | | | | | |
|----------------------|---|----------|------------------------|----------------|----------------------|--------------------------------|------------|---------------------------------|----------------------|--------------------------------|--------------------------------|
| | OMEGA MOTOR SANAYI A.Ş. Dudullu Organize Sanayi Bölgesi 2. Cadde No: 10 34775 Ümraniye İSTANBUL/TURKEY | | | | | Model | cos ϕ | I _s / I _N | T _N Nm | T _s /T _N | T _m /T _N |
| | Model | | | | | | | | | | |
| 22 | 3MAS 180M2 B3 22KW E3 | 180 | B3 | 2 | 50 | 0,90 | 8,5 | 70,9 | 3,0 | 3,4 | |
| 30 | 3MAS 200LA2 B3 30KW E3 | 200 | B3 | | | 0,89 | 7,8 | 96,9 | 2,6 | 3,1 | |
| | 3MAS 200LA2 B35 30KW E3 | | B35 | | | | | | | | |
| 37 | 3MAS 200LB2 B3 37KW E3 | 200 | B3 | | | 0,90 | 8,0 | 119 | 2,9 | 3,2 | |
| | 3MAS 200LB2 B35 37KW E3 | | B35 | | | | | | | | |
| 45 | 3MAS 225M2 B3 45KW E3 | 225 | B3 | | | 0,91 | 8,2 | 144 | 2,7 | 3,3 | |
| 55 | 3MGS 250M2 B3 55KW E3 | 250 | | 0,90 | 7,6 | 176 | 2,5 | 3,0 | | | |
| 75 | 3MGS 280M2 B3 75KW E3 | 280 | | 0,89 | 8,7 | 240 | 2,8 | 3,5 | | | |

| P _N kW | Voltage U _N V | | | | | n _N min ⁻¹ | See note. | Operating conditions ** | | |
|----------------------|-----------------------------|-------|-------|-------|-------|-------------------------------------|-----------|------------------------------------|-------------------------|------|
| | Δ | | | Y | | | | Altitude Above Sea Level (m) | T. amb min/max °C | ATEX |
| | 380 V | 400 V | 415 V | 660 V | 690 V | | | | | |
| | I _N (A) | | | | | | | | | |
| 22 | 39,7 | 38,2 | 37,2 | 22,9 | 22,1 | 2955 | ≤ 1000 | -15 / 50 | No | |
| 30 | 55,3 | 52,2 | 50,8 | 31,8 | 30,3 | 2965 | | | | |
| 37 | 66,6 | 63,9 | 61,5 | 38,4 | 37,0 | 2965 | | | | |
| 45 | 80,6 | 75,9 | 73,7 | 46,4 | 44,0 | 2975 | | | | |
| 55 | 98,2 | 92,7 | 89,7 | 56,5 | 53,7 | 2975 | | | | |
| 75 | 133,0 | 128,4 | 123,5 | 76,6 | 74,4 | 2983 | | | | |

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

ESHF-IE3-mott75-2p50-en_b_te

Note: Observe the regulations and codes locally in force regarding sorted waste disposal.

ESHE SERIES THREE-PHASE MOTORS AT 50 Hz, 4 POLES

| P _N kW | Efficiency η_N % | | | | | | | | | | | | | | | | | | Year of manufacture | | | | | | | | | | | | |
|----------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|------------------------|------|-------|---------------------------|---|---|---|---|---|---|---|---|---|
| | Δ 220 V Y 380 V | | | Δ 230 V Y 400 V | | | Δ 240 V Y 415 V | | | Δ 380 V Y 660 V | | | Δ 400 V Y 690 V | | | Δ 415 V | | | | IE | | | | | | | | | | | |
| | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | | | | | | | | | | | | | |
| 0,25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 06/11 | | | | | | | | | | |
| 0,37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | | | | | | | | | |
| 0,55 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | - | | | | | | | | | |
| 0,75 | 83 | 84,3 | 83,5 | 83,4 | 84,1 | 82,6 | 83,8 | 84 | 81,9 | 83 | 84,3 | 83,5 | 83,4 | 84,1 | 82,6 | 83,8 | 84 | 81,9 | 83 | 84,3 | 83,5 | 01/17 From 11/2014 | | | | | | | | | |
| 1,1 | 84,9 | 85,7 | 84,7 | 85,3 | 85,5 | 83,8 | 85,3 | 85 | 82,7 | 84,9 | 85 | 82,7 | 84,9 | 85 | 82,7 | 84,9 | 85 | 82,7 | 84,9 | 85 | 82,7 | | 3 | | | | | | | | |
| 1,5 | 86,6 | 87 | 85,7 | 86,7 | 86,9 | 84,5 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | | | 3 | | | | | | | |
| 2,2 | 87,6 | 88,6 | 88,3 | 88,2 | 88,8 | 87,9 | 88,5 | 88,7 | 87,4 | 87,6 | 88,6 | 87,4 | 87,6 | 88,6 | 87,4 | 87,6 | 88,6 | 87,4 | 87,6 | 88,6 | 87,4 | | | | 3 | | | | | | |
| 3 | 88,5 | 89,2 | 88,5 | 88,6 | 88,9 | 87,6 | 88,6 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | | | | | 3 | | | | | |
| 4 | 88,6 | 89,1 | 87,9 | 88,6 | 89,1 | 87,9 | 88,6 | 89,1 | 87,9 | 88,6 | 89,2 | 88,9 | 88,6 | 89,2 | 88,4 | 88,8 | 89,1 | 87,9 | 88,6 | 89,2 | 88,4 | | | | | | 3 | | | | |
| 5,5 | 90,4 | 90,9 | 89,7 | 90,4 | 90,9 | 89,7 | 90,4 | 90,9 | 89,7 | 90,4 | 91,0 | 90,5 | 90,9 | 91,1 | 90,2 | 90,9 | 90,9 | 89,7 | 90,4 | 91,2 | 90,4 | | | | | | | 3 | | | |
| 7,5 | 90,4 | 91,2 | 90,4 | 90,4 | 91,2 | 90,4 | 90,4 | 91,2 | 90,4 | 90,4 | 91,2 | 91,1 | 90,7 | 91,3 | 90,8 | 90,9 | 91,2 | 90,4 | 90,4 | 91,2 | 90,4 | | | | | | | | 3 | | |
| 11 | 91,5 | 92,2 | 91,4 | 91,5 | 92,2 | 91,4 | 91,5 | 92,2 | 91,4 | 91,5 | 92,4 | 92,4 | 91,9 | 92,5 | 92,0 | 91,9 | 92,2 | 91,4 | 91,4 | 92,2 | 91,4 | | | | | | | | | 3 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| P _N kW | Manufacturer | | IEC SIZE* | Construction Design | N. of Poles | f _N Hz | Data for 400 V / 50 Hz Voltage | | | | |
|----------------------|--|--|-----------|---------------------|-------------|----------------------|--------------------------------|---------------------------------|----------------------|--------------------------------|--------------------------------|
| | Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia | | | | | | cos ϕ | I _s / I _N | T _N Nm | T _s /T _N | T _m /T _N |
| | Model | | | | | | | | | | |
| 0,25 | SM471B5/302 | | 71 | SPECIAL | 4 | 50 | 0,59 | 3,58 | 1,71 | 3,16 | 2,63 |
| 0,37 | SM471B5/304 | | 71 | | | | 0,60 | 3,39 | 2,57 | 3,40 | 2,47 |
| 0,55 | SM490RB14S2/305 | | 90R | | | | 0,67 | 3,95 | 3,77 | 2,45 | 2,38 |
| 0,75 | LLM490RB5S2/307 E3 | | 90R | | | | 0,8 | 6,38 | 5 | 2,73 | 3,13 |
| 1,1 | PLM490B5S2/311 E3 | | 90 | | | | 0,71 | 6,22 | 7,28 | 2,75 | 3,44 |
| 1,5 | PLM490B5S2/315 E3 | | 90 | | | | 0,68 | 6,92 | 9,89 | 3,29 | 4,01 |
| 2,2 | PLM4100B5S3/322 E3 | | 100 | | | | 0,78 | 7,47 | 14,5 | 2,38 | 3,69 |
| 3 | PLM4100B5S3/330 E3 | | 100 | | | | 0,74 | 7,75 | 19,7 | 2,48 | 4,21 |
| 4 | PLM4112B5S3/340 E3 | | 112 | | | | 0,79 | 8,32 | 26,3 | 3,19 | 4,02 |
| 5,5 | PLM4132B14S4/355 E3 | | 132 | | | | 0,76 | 7,64 | 35,9 | 2,85 | 3,65 |
| 7,5 | PLM4132B14S4/375 E3 | | 132 | | | | 0,79 | 7,70 | 49,1 | 2,69 | 3,57 |
| 11 | PLM4160B34S4/3110 E3 | | 160 | 0,81 | 7,19 | 71,5 | 2,45 | 3,26 | | | |

| P _N kW | Voltage U _N V | | | | | | | | | | η_N min ⁻¹ | Observe the regulations and codes locally in force regarding sorted waste disposal. | Operating conditions ** | | |
|----------------------|-----------------------------|-------|-------|-------|-------|-------|----------|-------|-------|-------|-------------------------------|--|------------------------------------|--------------------------|------|
| | Δ | | | Y | | | Δ | | | Y | | | Altitude Above Sea Level (m) | T. amb min/max °C | ATEX |
| | 220 V | 230 V | 240 V | 380 V | 400 V | 415 V | 380 V | 400 V | 415 V | 660 V | | | | | |
| 0,25 | 1,68 | 1,71 | 1,77 | 0,97 | 0,99 | 1,02 | - | - | - | - | - | 1375 ÷ 1400 | ≤ 1000 | -15 / 40 -15 / 50 | No |
| 0,37 | 2,46 | 2,53 | 2,62 | 1,42 | 1,46 | 1,51 | - | - | - | - | - | 1355 ÷ 1380 | | | |
| 0,55 | 2,98 | 3,03 | 3,1 | 1,72 | 1,75 | 1,79 | - | - | - | - | - | 1380 ÷ 1400 | | | |
| 0,75 | 2,90 | 2,85 | 2,85 | 1,7 | 1,65 | 1,65 | 1,70 | 1,65 | 1,65 | 0,98 | 0,95 | 1420 ÷ 1435 | | | |
| 1,1 | 4,61 | 4,59 | 4,62 | 2,66 | 2,65 | 2,67 | 2,64 | 2,63 | 2,65 | 1,53 | 1,52 | 1435 ÷ 1445 | | | |
| 1,5 | 6,34 | 6,41 | 6,41 | 3,66 | 3,7 | 3,7 | 3,65 | 3,68 | 3,69 | 2,11 | 2,13 | 1440 ÷ 1450 | | | |
| 2,2 | 8,19 | 8,04 | 7,97 | 4,73 | 4,64 | 4,6 | 4,70 | 4,62 | 4,56 | 2,71 | 2,67 | 1445 ÷ 1455 | | | |
| 3 | 11,5 | 11,5 | 11,5 | 6,66 | 6,62 | 6,67 | 6,63 | 6,59 | 6,63 | 3,83 | 3,81 | 1450 ÷ 1460 | | | |
| 4 | 14,8 | 14,6 | 14,5 | 8,52 | 8,40 | 8,36 | 8,40 | 8,23 | 8,19 | 4,85 | 4,75 | 1445 ÷ 1455 | | | |
| 5,5 | 20,0 | 19,7 | 19,4 | 11,6 | 11,4 | 11,2 | 11,7 | 11,5 | 11,4 | 6,75 | 6,62 | 1455 ÷ 1465 | | | |
| 7,5 | 26,6 | 26,1 | 25,8 | 15,4 | 15,1 | 14,9 | 15,5 | 15,2 | 15,1 | 8,95 | 8,75 | 1450 ÷ 1460 | | | |
| 11 | 38,3 | 37,3 | 37,5 | 22,1 | 21,8 | 21,7 | 21,9 | 21,4 | 21,3 | 12,6 | 12,3 | 1465 ÷ 1470 | | | |

* R = Reduced size of motor casing as compared to shaft extension and flange.

ESHE-IE3-mott-4p50-en_b_te

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

ESHS SERIES (B5/B35 from 0,55 to 11 kW)
ESHF SERIES (B3 from 0,25 to 11 kW)
THREE-PHASE MOTORS AT 50 Hz, 4 POLES

| P _N kW | Efficiency η_N | | | | | | | | | | | | | | | | | | Year of manufacture | |
|----------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|------------------------|----|
| | % | | | | | | | | | | | | | | | | | | | |
| | Δ 220 V Y 380 V | | | Δ 230 V Y 400 V | | | Δ 240 V Y 415 V | | | Δ 380 V Y 660 V | | | Δ 400 V Y 690 V | | | Δ 415 V | | | | IE |
| | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | 4/4 | 3/4 | 2/4 | | |
| 0,25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0,37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0,55 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 0,75 | 83,0 | 84,3 | 83,5 | 83,4 | 84,1 | 82,6 | 83,8 | 84,0 | 81,9 | 83,0 | 84,3 | 83,5 | 83,4 | 84,1 | 82,6 | 83,8 | 84,0 | 81,9 | | |
| 1,1 | 84,9 | 85,7 | 84,7 | 85,3 | 85,5 | 83,8 | 85,3 | 85 | 82,7 | 84,9 | 85 | 82,7 | 84,9 | 85 | 82,7 | 84,9 | 85 | 82,7 | | |
| 1,5 | 86,6 | 87 | 85,7 | 86,7 | 86,9 | 84,5 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | 86,4 | 85,9 | 83,3 | | |
| 2,2 | 87,6 | 88,6 | 88,3 | 88,2 | 88,8 | 87,9 | 88,5 | 88,7 | 87,4 | 87,6 | 88,6 | 87,4 | 87,6 | 88,6 | 87,4 | 87,6 | 88,6 | 87,4 | | |
| 3 | 88,5 | 89,2 | 88,5 | 88,6 | 88,9 | 87,6 | 88,6 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | 88,5 | 88,6 | 86,8 | | |
| 4 | 88,6 | 89,1 | 87,9 | 88,6 | 89,1 | 87,9 | 88,6 | 89,1 | 87,9 | 88,6 | 89,2 | 88,9 | 88,6 | 89,2 | 88,4 | 88,8 | 89,1 | 87,9 | | |
| 5,5 | 90,4 | 90,9 | 89,7 | 90,4 | 90,9 | 89,7 | 90,4 | 90,9 | 89,7 | 90,4 | 91,0 | 90,5 | 90,9 | 91,1 | 90,2 | 90,9 | 90,9 | 89,7 | | |
| 7,5 | 90,4 | 91,2 | 90,4 | 90,4 | 91,2 | 90,4 | 90,4 | 91,2 | 90,4 | 90,4 | 91,2 | 91,1 | 90,7 | 91,3 | 90,8 | 90,9 | 91,2 | 90,4 | | |
| 11 | 91,5 | 92,2 | 91,4 | 91,5 | 92,2 | 91,4 | 91,5 | 92,2 | 91,4 | 91,5 | 92,4 | 92,4 | 91,9 | 92,5 | 92,0 | 91,9 | 92,2 | 91,4 | | |

| P _N kW | Manufacturer | | IEC SIZE | Construction Design | N. of Poles | f _N Hz | Data for 400 V / 50 Hz Voltage | | | | |
|----------------------|--|--|----------|---------------------|-------------|----------------------|--------------------------------|---------------------------------|----------------------|--------------------------------|--------------------------------|
| | Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia | | | | | | cos ϕ | I _s / I _N | T _N Nm | T _s /T _N | T _m /T _N |
| | Model | | | | | | | | | | |
| 0,25 | SM471B3/302 | | 71 | B3 | 4 | 50 | 0,59 | 3,58 | 1,71 | 3,16 | 2,63 |
| 0,37 | SM471B3/304 | | 71 | B3 | | | 0,60 | 3,39 | 2,57 | 3,40 | 2,47 |
| 0,55 | SM480B3/305 | | 80 | B3 | | | 0,67 | 3,95 | 3,77 | 2,45 | 2,38 |
| | SM480B5/305 | | | B5 | | | | | | | |
| 0,75 | LLM480B3/307 | | 80 | B3 | | | 0,80 | 6,38 | 5,00 | 2,73 | 3,31 |
| | LLM480B5/307 | | | B5 | | | | | | | |
| 1,1 | PLM490B3/311 E3 | | 90 | B3 | | | 0,71 | 6,22 | 7,28 | 2,75 | 3,44 |
| | PLM490B5/311 E3 | | | B5 | | | | | | | |
| 1,5 | PLM490B3/315 E3 | | 90 | B3 | | | 0,68 | 6,92 | 9,89 | 3,29 | 4,01 |
| | PLM490B5/315 E3 | | | B5 | | | | | | | |
| 2,2 | PLM4100B3/322 E3 | | 100 | B3 | | | 0,78 | 7,47 | 14,5 | 2,38 | 3,69 |
| | PLM4100B5/322 E3 | | | B5 | | | | | | | |
| 3 | PLM4100B3/330 E3 | | 100 | B3 | | | 0,74 | 7,75 | 19,7 | 2,48 | 4,21 |
| | PLM4100B5/330 E3 | | | B5 | | | | | | | |
| 4 | PLM4112B3/340 E3 | | 112 | B3 | | | 0,79 | 8,32 | 26,3 | 3,19 | 4,02 |
| | PLM4112B5/340 E3 | | | B5 | | | | | | | |
| 5,5 | PLM4132B3/355 E3 | | 132 | B3 | 0,76 | 7,64 | 35,9 | 2,85 | 3,65 | | |
| | PLM4132B5/355 E3 | | | B5 | | | | | | | |
| 7,5 | PLM4132B3/375 E3 | | 132 | B3 | 0,79 | 7,70 | 49,1 | 2,69 | 3,57 | | |
| | PLM4132B5/375 E3 | | | B5 | | | | | | | |
| 11 | PLM4160B3/3110 E3 | | 160 | B3 | 0,81 | 7,19 | 71,5 | 2,45 | 3,26 | | |
| | PLM4160B35/3110 E3 | | | B35 | | | | | | | |

| P _N kW | Voltage U _N | | | | | | | | | | n _N min ⁻¹ | Operating conditions ** | | | |
|----------------------|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------|------------------------------------|-------------------------|----------|-------|
| | Δ | | | | | Y | | | | | | Altitude Above Sea Level (m) | T. amb min/max °C | ATEX | |
| | 220 V | 230 V | 240 V | 380 V | 400 V | 415 V | 380 V | 400 V | 415 V | 660 V | | | | | 690 V |
| 0,25 | 1,68 | 1,71 | 1,77 | 0,97 | 0,99 | 1,02 | - | - | - | - | - | 1375 ÷ 1400 | ≤ 1000 | -15 / 40 | No |
| 0,37 | 2,46 | 2,53 | 2,62 | 1,42 | 1,46 | 1,51 | - | - | - | - | - | 1355 ÷ 1380 | | | |
| 0,55 | 2,98 | 3,03 | 3,10 | 1,72 | 1,75 | 1,79 | - | - | - | - | - | 1380 ÷ 1400 | | | |
| 0,75 | 2,90 | 2,85 | 2,85 | 1,7 | 1,65 | 1,65 | 1,70 | 1,65 | 1,65 | 0,98 | 0,95 | 1420 ÷ 1435 | | | |
| 1,1 | 4,61 | 4,59 | 4,62 | 2,66 | 2,65 | 2,67 | 2,64 | 2,63 | 2,65 | 1,53 | 1,52 | 1435 ÷ 1445 | | | |
| 1,5 | 6,34 | 6,41 | 6,41 | 3,66 | 3,7 | 3,7 | 3,65 | 3,68 | 3,69 | 2,11 | 2,13 | 1440 ÷ 1450 | | | |
| 2,2 | 8,19 | 8,04 | 7,97 | 4,73 | 4,64 | 4,6 | 4,70 | 4,62 | 4,56 | 2,71 | 2,67 | 1445 ÷ 1455 | | | |
| 3 | 11,5 | 11,5 | 11,5 | 6,66 | 6,62 | 6,67 | 6,63 | 6,59 | 6,63 | 3,83 | 3,81 | 1450 ÷ 1460 | | | |
| 4 | 14,8 | 14,6 | 14,5 | 8,52 | 8,40 | 8,36 | 8,40 | 8,23 | 8,19 | 4,85 | 4,75 | 1445 ÷ 1455 | | | |
| 5,5 | 20,0 | 19,7 | 19,4 | 11,6 | 11,4 | 11,2 | 11,7 | 11,5 | 11,4 | 6,75 | 6,62 | 1455 ÷ 1465 | | | |
| 7,5 | 26,6 | 26,1 | 25,8 | 15,4 | 15,1 | 14,9 | 15,5 | 15,2 | 15,1 | 8,95 | 8,75 | 1450 ÷ 1460 | | | |
| 11 | 38,3 | 37,3 | 37,5 | 22,1 | 21,8 | 21,7 | 21,9 | 21,4 | 21,3 | 12,6 | 12,3 | 1465 ÷ 1470 | | | |

** Operating conditions to be referred to motor only. About electric pump, refer to limits in user's manual.

ESHF-IE3-mott11-4p50-en_b_te

ESH SERIES MOTOR NOISE

The tables below show the mean sound pressure levels (Lp) measured at 1 meter distance in a free field according to EN ISO 11203.

The noise values are measured on 50 Hz motors and have a tolerance of 3 dB (A) according to EN ISO 4871.

ESHE, ESHS MOTORS 2 POLES 50 Hz

| POWER | MOTOR TYPE | NOISE |
|-------|------------|-----------|
| kW | IEC SIZE* | LpA dB |
| 0,75 | 90R | <70 |
| 1,1 | 90R | <70 |
| 1,5 | 90R - 90 | <70 |
| 2,2 | 90 | <70 |
| 3 | 90 | <70 |
| 3 | 100R | <70 |
| 4 | 112R | <70 |
| 5,5 | 112 | <70 |
| 5,5 | 132R | <70 |
| 7,5 | 132 | 71 |
| 9,2 | 132 | 73 |
| 11 | 132 | 73 |
| 11 | 160R | 73 |
| 11 | 160 | 71 |
| 15 | 160 | 71 |
| 18,5 | 160 | 73 |
| 22 | 160 | 70 |
| 22 | 180R | 70 |
| 30 | 200 | 69 |
| 37 | 200 | 69 |

ESHF, ESHC MOTORS 2 POLES 50 Hz

| POWER | MOTOR TYPE | NOISE |
|-------|------------|-----------|
| kW | IEC SIZE | LpA dB |
| 0,75 | 80 | <70 |
| 1,1 | 80 | <70 |
| 1,5 | 90 | <70 |
| 2,2 | 90 | <70 |
| 3 | 100 | <70 |
| 4 | 112 | <70 |
| 5,5 | 132 | 71 |
| 7,5 | 132 | 71 |
| 11 | 160 | 71 |
| 15 | 160 | 71 |
| 18,5 | 160 | 73 |
| 22 | 180 | 67 |
| 30 | 200 | 69 |
| 37 | 200 | 69 |
| 45 | 225 | 74 |
| 55 | 250 | 74 |
| 75 | 280 | 77 |
| | | |
| | | |

ESHE MOTORS 4 POLES 50 Hz

| POWER | MOTOR TYPE | NOISE |
|-------|------------|-----------|
| kW | IEC SIZE* | LpA dB |
| 0,25 | 71 | <70 |
| 0,37 | 71 | <70 |
| 0,55 | 90R | <70 |
| 0,75 | 90R | <70 |
| 1,1 | 90 | <70 |
| 1,5 | 90 | <70 |
| 2,2 | 100 | <70 |
| 3 | 100 | <70 |
| 4 | 112 | <70 |
| 5,5 | 132 | <70 |
| 7,5 | 132 | <70 |
| 11 | 160 | <70 |

ESHS, ESHF MOTORS 4 POLES 50 Hz

| POWER | MOTOR TYPE | NOISE |
|-------|------------|-----------|
| kW | IEC SIZE | LpA dB |
| 0,25 | 71 | <70 |
| 0,37 | 71 | <70 |
| 0,55 | 80 | <70 |
| 0,75 | 80 | <70 |
| 1,1 | 90 | <70 |
| 1,5 | 90 | <70 |
| 2,2 | 100 | <70 |
| 3 | 100 | <70 |
| 4 | 112 | <70 |
| 5,5 | 132 | <70 |
| 7,5 | 132 | <70 |
| 11 | 160 | <70 |

*R=Reduced size of motor as compared to shaft extension and flange.

ESH_mott_a_tr

ESH SERIES PUMPS

With the “Energy using Products” (EuP 2005/32/EC) and “Energy related Products” (ErP 2009/125/EC) directives, the European Commission has established requirements for promoting the use of products with low power consumption.

The **Commission Regulation (EU) No 547/2012** has implemented two directives with regard to ecodesign requirements for **some types of clean water pumps** placed on the market and put into service inside EU zone as self-alone units or integrated in other products.

For end-suction close-coupled pumps (ESCC for the Regulation) and end-suction own-bearing pumps (ESOB for the Regulation) the efficiency assessment refers to:

- just the pump and not the pump and motor assembly (electric or combustion);
- pumps with just one impeller;
- pumps with a nominal pressure PN not higher than 16 bar (1600 kPa);
- pumps with a minimum nominal flow not less than 6 m³/h;
- pumps with a maximum nominal power at the shaft not higher than 150 kW;
- pumps designed to operate at a speed of 2900 min⁻¹ (for electric pumps this means 50 Hz 2-pole electric motors) and with a head not greater than 140 metres;
- pumps designed to operate at a speed of 1450 min⁻¹ (for electric pumps this means 50 Hz 4-pole electric motors) and with a head not greater than 90 metres;
- use with clean water at a temperature ranging from -10°C to 120°C (the test is performed with cold water at a temperature not higher than 40°C).

According to the definitions established in the Regulation ESHE and ESHS versions correspond to the “end-suction close-coupled pump” while ESH, ESHF and ESHC versions correspond to the “end-suction own bearing pump”. This regulation states that water pumps shall have a minimum index MEI coming from a dedicated formula which considers hydraulic efficiency values at ‘best efficiency point’ (BEP), 75 % of the flow at BEP (Part load – PL) and 110 % of the flow at BEP (Over load – OL).

| from | minimum efficiency index (MEI) |
|------------------------------|--------------------------------|
| 1 st January 2015 | MEI ≥ 0,4 |

Regulation (EU) n. 547/2012 – Annex II – point 2 (Product information requirements)

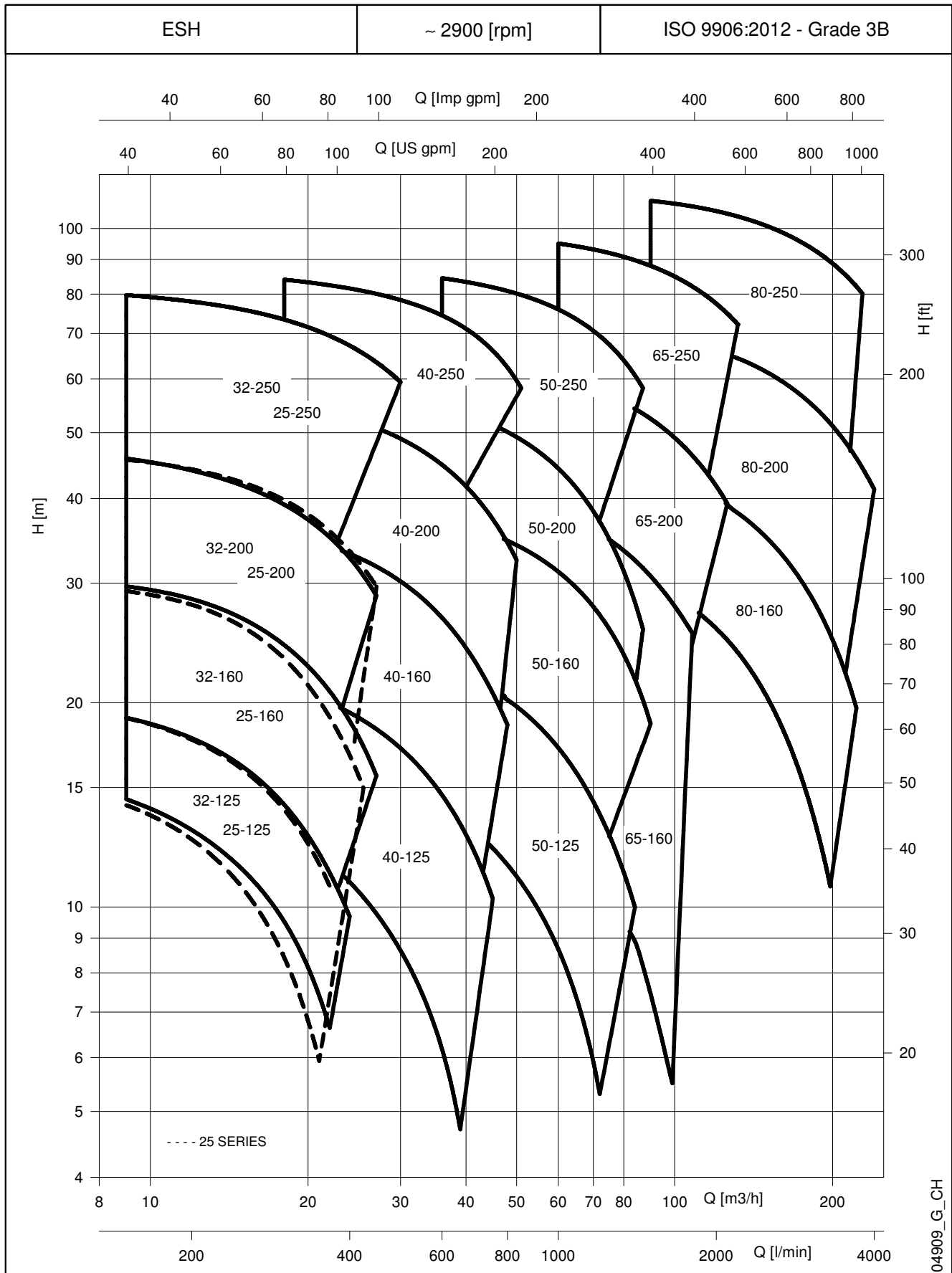
- 1) Minimum efficiency index: see MEI values in specific tables on following page.
- 2) “The benchmark for most efficient water pumps is MEI ≥ 0,70”.
- 3) Year of manufacture: 2014.
- 4) Manufacturer: Xylem Service Italia Srl - Reg. No 07520560967 - Montecchio Maggiore, Vicenza, Italy.
- 5) Product type: see the PUMP TYPE column in the tables in the *Hydraulic performance* section.
- 6) Hydraulic pump efficiency with trimmed impeller: see η_p and $\varnothing T$ columns in the tables in the *Hydraulic performance* section.
- 7) Pump performance curves, including the performance curve: see the *Operating Characteristics* graphs in the following pages.
- 8) “The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter”.
- 9) “The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system”.
- 10) Information relevant for disassembly, recycling or disposal at end-of-life: observe the current laws and by-laws governing sorted waste disposal. Consult the product operating manual.
- 11) “Designed for use below – 10 °C only”: note not applicable to these products.
- 12) “Designed for use above 120 °C only”: note not applicable to these products.
- 13) Specific instructions for pumps as per points 11 and 12: not applicable to these products.
- 14) “Information on benchmark efficiency is available at”: www.europump.org (Ecodesign section).
- 15) The benchmark efficiency graphs with MEI = 0.7 and MEI = 0.4 are available at www.europump.org, Ecodesign, Efficiency charts (refer to “ESCC 1450 rpm”, “ESCC 2900 rpm”, “ESOB 1450 rpm”, “ESOB 2900 rpm”).

ESH SERIES MINIMUM EFFICIENCY INDEX (MEI)

| PUMP SIZE | 2-POLE | |
|--------------|-------------------------|--------|
| | ESH, ESHE ESHF, ESHC | ESHS |
| 25-125/128 | ≥ 0,40 | ≥ 0,40 |
| 25-160/154 | ≥ 0,40 | ≥ 0,40 |
| 25-200/195 | ≥ 0,40 | ≥ 0,40 |
| 25-250/244,5 | ≥ 0,40 | ≥ 0,40 |
| 32-125/128 | ≥ 0,40 | ≥ 0,40 |
| 32-160/154 | ≥ 0,40 | ≥ 0,40 |
| 32-200/195 | ≥ 0,40 | ≥ 0,40 |
| 32-250/244,5 | ≥ 0,40 | ≥ 0,40 |
| 40-125/133 | ≥ 0,40 | ≥ 0,40 |
| 40-160/171 | ≥ 0,40 | ≥ 0,40 |
| 40-200/209 | ≥ 0,40 | ≥ 0,40 |
| 40-250/251 | ≥ 0,40 | ≥ 0,40 |
| 50-125/131 | ≥ 0,40 | ≥ 0,40 |
| 50-160/174 | ≥ 0,40 | ≥ 0,40 |
| 50-200/209 | ≥ 0,40 | ≥ 0,40 |
| 50-250/250 | ≥ 0,40 | ≥ 0,40 |
| 65-160/176 | ≥ 0,40 | ≥ 0,40 |
| 65-200/210 | ≥ 0,40 | ≥ 0,40 |
| 65-250/255 | ≥ 0,40 | ≥ 0,40 |
| 80-160/186 | ≥ 0,40 | ≥ 0,40 |
| 80-200/226 | ≥ 0,40 | ≥ 0,40 |
| 80-250/270 | ≥ 0,40 | ≥ 0,40 |
| | | |
| | | |

| PUMP SIZE | 4-POLE | |
|--------------|-------------------|--------|
| | ESH, ESHE ESHF | ESHS |
| 25-125/128 | ≥ 0,40 | ≥ 0,40 |
| 25-160/154 | ≥ 0,40 | ≥ 0,40 |
| 25-200/195 | ≥ 0,40 | ≥ 0,40 |
| 25-250/244,5 | ≥ 0,40 | ≥ 0,40 |
| 32-125/128 | ≥ 0,40 | ≥ 0,40 |
| 32-160/154 | ≥ 0,40 | ≥ 0,40 |
| 32-200/195 | ≥ 0,40 | ≥ 0,40 |
| 32-250/244,5 | ≥ 0,40 | ≥ 0,40 |
| 40-125/133 | ≥ 0,40 | ≥ 0,40 |
| 40-160/171 | ≥ 0,40 | ≥ 0,40 |
| 40-200/209 | ≥ 0,40 | ≥ 0,40 |
| 40-250/251 | ≥ 0,40 | ≥ 0,40 |
| 50-125/131 | ≥ 0,40 | ≥ 0,40 |
| 50-160/174 | ≥ 0,40 | ≥ 0,40 |
| 50-200/209 | ≥ 0,40 | ≥ 0,40 |
| 50-250/250 | ≥ 0,40 | ≥ 0,40 |
| 65-160/176 | ≥ 0,40 | ≥ 0,40 |
| 65-200/219 | ≥ 0,40 | ≥ 0,40 |
| 65-250/255 | ≥ 0,40 | ≥ 0,40 |
| 80-160/186 | ≥ 0,40 | ≥ 0,40 |
| 80-200/220 | ≥ 0,40 | ≥ 0,40 |
| 80-250/270 | ≥ 0,40 | ≥ 0,40 |
| | | |
| | | |

ESH-MEI-en_c_sc

**ESH SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES**


ESH 25, 32, 40, 50 SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | Q = DELIVERY | | | | | | | | | | | | | | |
|------------|----------------------|-----------------|-------------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | l/s m ³ /h | 0 | 1,9 | 2,5 | 3,1 | 3,6 | 4,2 | 4,7 | 5,3 | 6,1 | 6,7 | 7,2 | 7,8 | 8,3 | |
| | | | | H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | |
| 25-125/07* | 0,75 | 114 | ○ | 59,7 | 16,1 | | 14,1 | 13,1 | 12,0 | 10,7 | 9,2 | 7,6 | | | | | | |
| 25-125/11* | 1,1 | 128 | ● | 63,8 | 20,7 | | 19,0 | 18,1 | 17,1 | 16,0 | 14,6 | 13,2 | 10,7 | | | | | |
| 25-160/15* | 1,5 | 141 | ○ | 55,9 | 24,4 | | 23,0 | 22,0 | 20,7 | 19,2 | 17,4 | 15,4 | 12,1 | 9,7 | | | | |
| 25-160/22* | 2,2 | 154 | ● | 58,1 | 30,6 | | 29,2 | 28,4 | 27,3 | 25,9 | 24,2 | 22,2 | 19,0 | 16,7 | | | | |
| 25-200/30 | 3 | 178 | ○ | 55,0 | 38,8 | | 35,7 | 34,5 | 33,2 | 31,6 | 29,7 | 27,6 | 24,0 | 21,4 | | | | |
| 25-200/40 | 4 | 195 | ● | 57,6 | 48,4 | | 45,6 | 44,7 | 43,6 | 42,2 | 40,7 | 38,9 | 35,8 | 33,5 | 31,0 | | | |
| 25-250/55 | 5,5 | 203 | ○ | 50,3 | 53,0 | 51,5 | 50,7 | 49,8 | 48,7 | 47,4 | 45,8 | 44,1 | 41,0 | | | | | |
| 25-250/75 | 7,5 | 223,5 | ○ | 48,7 | 66,5 | | 64,4 | 63,4 | 62,1 | 60,7 | 59,0 | 57,0 | 53,8 | 51,3 | 48,6 | | | |
| 25-250/110 | 11 | 244,5 | ● | 49,0 | 82,4 | | 79,7 | 78,6 | 77,4 | 75,9 | 74,3 | 72,5 | 69,4 | 67,2 | 64,8 | 62,2 | 59,4 | |
| 32-125/07* | 0,75 | 114 | ○ | 62,4 | 16,0 | | 14,4 | 13,5 | 12,5 | 11,4 | 10,2 | 8,9 | 6,6 | | | | | |
| 32-125/11* | 1,1 | 128 | ● | 64,4 | 20,7 | | 19,0 | 18,2 | 17,2 | 16,1 | 14,8 | 13,5 | 11,2 | 9,7 | | | | |
| 32-160/15* | 1,5 | 141 | ○ | 57,2 | 24,6 | | 23,3 | 22,4 | 21,2 | 19,7 | 18,1 | 16,3 | 13,3 | 11,1 | | | | |
| 32-160/22* | 2,2 | 154 | ● | 60,7 | 30,8 | | 29,7 | 28,9 | 27,9 | 26,6 | 25,1 | 23,5 | 20,8 | 18,8 | 16,7 | | | |
| 32-200/30 | 3 | 178 | ○ | 56,8 | 39,4 | | 36,7 | 35,7 | 34,5 | 33,2 | 31,7 | 30,0 | 27,2 | 25,1 | | | | |
| 32-200/40 | 4 | 195 | ● | 56,4 | 49,0 | | 45,8 | 44,7 | 43,3 | 41,8 | 40,1 | 38,2 | 35,1 | 32,7 | 30,1 | | | |
| 32-250/55 | 5,5 | 203 | ○ | 50,7 | 53,0 | 51,7 | 51,0 | 50,1 | 49,0 | 47,8 | 46,3 | 44,6 | 41,6 | | | | | |
| 32-250/75 | 7,5 | 223,5 | ○ | 50,4 | 66,5 | | 64,8 | 63,9 | 62,8 | 61,5 | 60,0 | 58,2 | 55,1 | 52,8 | 50,1 | | | |
| 32-250/110 | 11 | 244,5 | ● | 50,1 | 82,1 | | 80,3 | 79,3 | 78,0 | 76,5 | 74,8 | 73,0 | 70,1 | 68,1 | 65,9 | 63,5 | 61,0 | |

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | Q = DELIVERY | | | | | | | | | | | | | | |
|-------------|----------------------|-----------------|-------------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | l/s m ³ /h | 0 | 3,9 | 4,7 | 5,8 | 6,7 | 7,5 | 8,6 | 9,4 | 10,6 | 11,4 | 12,2 | 13,3 | 14,2 | |
| | | | | H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | |
| 40-125/11* | 1,1 | 112 | ○ | 67,9 | 15,7 | 14,1 | 13,3 | 12,0 | 10,9 | 9,8 | 8,2 | 7,0 | 5,2 | | | | | |
| 40-125/15* | 1,5 | 125 | ○ | 71,7 | 19,9 | | 17,4 | 16,2 | 15,2 | 14,0 | 12,4 | 11,2 | 9,4 | 8,0 | | | | |
| 40-125/22* | 2,2 | 133 | ● | 70,5 | 23,4 | | | 20,3 | 19,4 | 18,3 | 16,8 | 15,6 | 13,8 | 12,3 | 10,8 | | | |
| 40-160/30 | 3 | 152 | ○ | 64,0 | 30,9 | | | 27,7 | 26,4 | 24,9 | 22,7 | 20,9 | 18,6 | 16,8 | 15,0 | | | |
| 40-160/40 | 4 | 171 | ● | 69,4 | 37,9 | | | 34,4 | 33,2 | 31,8 | 29,7 | 27,9 | 25,4 | 23,4 | 21,4 | 18,6 | | |
| 40-200/55 | 5,5 | 190 | ○ | 65,0 | 49,1 | | | 45,2 | 43,8 | 42,2 | 39,7 | 37,6 | 34,5 | 31,9 | 29,1 | 25,0 | | |
| 40-200/75 | 7,5 | 209 | ● | 66,5 | 58,2 | | | 53,9 | 52,4 | 50,8 | 48,4 | 46,3 | 43,3 | 40,9 | 38,2 | 34,4 | | |
| 40-250/92 | 9,2 | 218 | ○ | 59,0 | 64,9 | | | 60,9 | 59,6 | 58,1 | 55,6 | 53,3 | 49,5 | 45,9 | | | | |
| 40-250/110A | 11 | 218 | ○ | 59,0 | 64,9 | | | 60,9 | 59,6 | 58,1 | 55,6 | 53,3 | 49,5 | 45,9 | | | | |
| 40-250/110 | 11 | 233 | ○ | 58,5 | 74,6 | | | 70,3 | 69,0 | 67,6 | 65,2 | 63,1 | 59,6 | 56,4 | 52,7 | | | |
| 40-250/150 | 15 | 251 | ● | 58,0 | 87,7 | | | 82,9 | 81,6 | 80,1 | 77,8 | 75,9 | 72,9 | 70,2 | 67,2 | 62,4 | 58,2 | |

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | Q = DELIVERY | | | | | | | | | | | | | | |
|-------------|----------------------|-----------------|-------------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | l/s m ³ /h | 0 | 7,8 | 9,2 | 10,8 | 12,2 | 13,9 | 15,6 | 17,2 | 18,6 | 20,3 | 21,9 | 23,3 | 25,0 | |
| | | | | H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | |
| 50-125/22* | 2,2 | 114 | ○ | 73,1 | 17,5 | 15,5 | 14,7 | 13,6 | 12,5 | 11,2 | 9,7 | 8,1 | 6,7 | | | | | |
| 50-125/30 | 3 | 123 | ○ | 74,1 | 20,6 | | 18,5 | 17,4 | 16,3 | 14,9 | 13,4 | 11,7 | 10,3 | 8,6 | | | | |
| 50-125/40 | 4 | 131 | ● | 75,1 | 24,8 | | | 22,1 | 21,0 | 19,7 | 18,2 | 16,6 | 15,2 | 13,5 | 11,7 | 10,2 | | |
| 50-160/55 | 5,5 | 158 | ○ | 71,7 | 33,8 | | | 30,5 | 29,3 | 27,7 | 25,9 | 24,0 | 22,3 | 20,2 | 18,0 | 16,1 | | |
| 50-160/75 | 7,5 | 174 | ● | 74,0 | 40,7 | | | 36,8 | 35,6 | 34,1 | 32,4 | 30,6 | 28,8 | 26,5 | 24,0 | 21,7 | 18,6 | |
| 50-200/92 | 9,2 | 197 | ○ | 70,0 | 52,9 | | | 46,4 | 44,6 | 42,0 | 39,1 | 35,9 | 32,9 | 29,0 | 24,6 | 20,8 | | |
| 50-200/110A | 11 | 197 | ○ | 70,0 | 52,9 | | | 46,4 | 44,6 | 42,0 | 39,1 | 35,9 | 32,9 | 29,0 | 24,6 | 20,8 | | |
| 50-200/110 | 11 | 209 | ● | 72,0 | 59,7 | | | 53,5 | 51,7 | 49,3 | 46,4 | 43,2 | 40,2 | 36,3 | 32,0 | 28,1 | | |
| 50-250/150 | 15 | 224 | ○ | 69,5 | 70,2 | | | 65,9 | 64,6 | 62,7 | 60,3 | 57,3 | 54,3 | 50,0 | | | | |
| 50-250/185 | 18,5 | 237 | ○ | 68,4 | 79,9 | | | 74,1 | 72,7 | 70,6 | 68,2 | 65,4 | 62,7 | 58,9 | 54,4 | | | |
| 50-250/220 | 22 | 250 | ● | 67,3 | 88,9 | | | 83,7 | 82,2 | 80,2 | 77,8 | 75,0 | 72,4 | 68,8 | 64,7 | 60,7 | | |

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

ESH-25-32-40-50_2p50-en_c_th

(1) ● = Full impeller diameter - ○ = Trimmed impeller diameter (2) Hydraulic efficiency of pump.

*Available also in single-phase version.

ESH 65, 80 SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | | Q = DELIVERY | | | | | | | | | | | | |
|---------------------------------------|----------------------|-----------------|-------------------------|-------------------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | ○ ● (1) | η _p % (2) | l/s | 8,1 | 10,6 | 13,3 | 15,8 | 18,3 | 21,1 | 23,6 | 26,4 | 28,9 | 31,4 | 34,2 | 36,7 | |
| | | | | m ³ /h | 0 | 29 | 38 | 48 | 57 | 66 | 76 | 85 | 95 | 104 | 113 | 123 | 132 |
| H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | | | | |
| 65-160/40 | 4 | 127 | ○ | 71,0 | 19,1 | 18,7 | 17,8 | 16,5 | 14,9 | 13,0 | 10,9 | 8,6 | 6,4 | | | | |
| 65-160/55 | 5,5 | 140 | ○ | 75,1 | 24,6 | | 23,4 | 22,2 | 20,8 | 19,1 | 17,2 | 15,1 | 12,7 | 10,1 | 7,4 | | |
| 65-160/75 | 7,5 | 154 | ○ | 74,7 | 30,7 | | | 28,4 | 26,7 | 24,9 | 22,9 | 20,8 | 18,5 | 16,0 | 13,2 | | |
| 65-160/92 | 9,2 | 164 | ○ | 77,6 | 35,7 | | | 33,8 | 32,5 | 30,9 | 28,9 | 26,5 | 23,8 | 20,8 | 17,5 | | |
| 65-160/110A | 11 | 164 | ○ | 77,6 | 35,7 | | | 33,8 | 32,5 | 30,9 | 28,9 | 26,5 | 23,8 | 20,8 | 17,5 | | |
| 65-160/110 | 11 | 176 | ● | 76,0 | 41,6 | | | | 38,5 | 36,8 | 34,6 | 32,1 | 29,4 | 26,6 | | | |
| 65-200/150 | 15 | 192 | ○ | 70,0 | 53,6 | | | 50,0 | 48,1 | 45,9 | 43,2 | 40,3 | 37,0 | 33,4 | 29,7 | | |
| 65-200/185 | 18,5 | 203 | ○ | 71,5 | 60,7 | | | | 55,8 | 53,7 | 51,2 | 48,4 | 45,2 | 41,8 | 38,2 | | |
| 65-200/220 | 22 | 210 | ● | 71,5 | 63,9 | | | | 60,4 | 58,6 | 56,4 | 53,9 | 51,0 | 47,8 | 44,3 | 40,7 | |
| 65-250/300 | 30 | 240 | ○ | 74,5 | 83,7 | | | | | 80,7 | 78,8 | 76,5 | 73,8 | 70,7 | 67,0 | 62,9 | |
| 65-250/370 | 37 | 255 | ● | 73,5 | 96,5 | | | | | 93,8 | 91,8 | 89,4 | 86,7 | 83,6 | 80,1 | 76,3 | 72,2 |

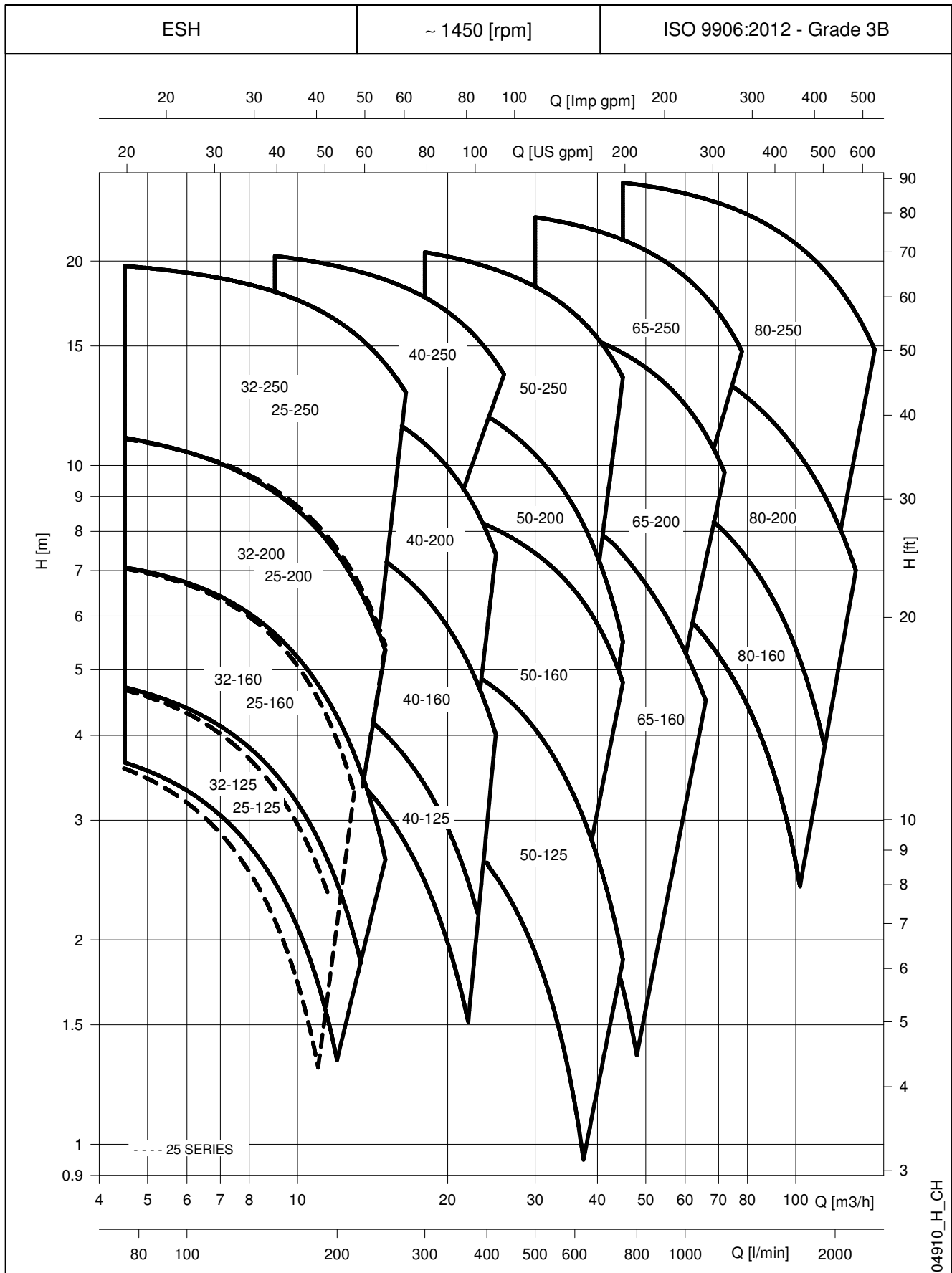
| PUMP TYPE | P _N kW | Ø Impeller (mm) | | | Q = DELIVERY | | | | | | | | | | | | |
|---------------------------------------|----------------------|-----------------|-------------------------|-------------------|--------------|------|------|-------|-------|-------|-------|------|------|------|------|------|------|
| | | ○ ● (1) | η _p % (2) | l/s | 20,0 | 24,2 | 28,6 | 32,8 | 36,9 | 41,1 | 45,6 | 49,7 | 53,9 | 58,1 | 62,5 | 66,7 | |
| | | | | m ³ /h | 0 | 72 | 87 | 103 | 118 | 133 | 148 | 164 | 179 | 194 | 209 | 225 | 240 |
| H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | | | | |
| 80-160/110 | 11 | 169x15° | ○ | 75,0 | 34,0 | 31,7 | 30,3 | 28,4 | 26,2 | 23,6 | 20,7 | 17,7 | 14,6 | 11,6 | | | |
| 80-160/150 | 15 | 177 | ○ | 76,5 | 40,8 | 38,6 | 37,2 | 35,4 | 33,3 | 30,7 | 27,9 | 24,9 | 21,7 | 18,4 | 15,3 | | |
| 80-160/185 | 18,5 | 186 | ● | 78,0 | 47,8 | 45,4 | 44,1 | 42,4 | 40,3 | 38,0 | 35,3 | 32,4 | 29,3 | 26,0 | 22,6 | | |
| 80-200/220 | 22 | 198 | ○ | 80,5 | 53,5 | 51,2 | 49,9 | 48,2 | 46,2 | 43,9 | 41,3 | 38,4 | 35,3 | 32,0 | 28,7 | | |
| 80-200/300 | 30 | 215 | ○ | 81,0 | 64,0 | 62,4 | 61,2 | 59,7 | 57,7 | 55,4 | 52,7 | 49,7 | 46,5 | 43,0 | 39,5 | 36,1 | |
| 80-200/370 | 37 | 226 | ● | 81,5 | 71,7 | 70,5 | 69,5 | 68,2 | 66,5 | 64,3 | 61,8 | 59,0 | 55,8 | 52,4 | 48,8 | 45,1 | 41,5 |
| 80-250/450 | 45 | 237 | ○ | 79,5 | 83,9 | | | 78,8 | 76,5 | 73,8 | 70,6 | 66,9 | 62,9 | 58,5 | 53,8 | | |
| 80-250/550 | 55 | 252 | ○ | 80,0 | 95,9 | | | 91,8 | 89,7 | 87,2 | 84,2 | 80,8 | 76,9 | 72,8 | 68,5 | | |
| 80-250/750 | 75 | 270 | ● | 78,0 | 112,2 | | | 108,4 | 106,5 | 104,1 | 101,2 | 98,0 | 94,3 | 90,2 | 85,9 | 81,4 | |

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

ESH-65-80_2p50-en_c_th

(1) ● = Full impeller diameter - ○ = Trimmed impeller diameter (2) Hydraulic efficiency of pump.

ESH SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES



ESH 25, 32, 40, 50 SERIES HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | Q = DELIVERY | | | | | | | | | | | | | | |
|------------|----------------------|-----------------|-------------------------|---------------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | 1/s m ³ /h | 0 | 0,8 | 1,4 | 1,7 | 1,9 | 2,2 | 2,5 | 3,1 | 3,3 | 3,6 | 3,9 | 4,2 | 4,4 | |
| | | | | H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | |
| 25-125/02A | 0,25 | 114 | ○ | 56,1 | 4,0 | | 3,5 | 3,2 | 2,9 | 2,5 | 2,1 | 1,3 | | | | | | |
| 25-125/02 | 0,25 | 128 | ● | 60,7 | 5,2 | | 4,6 | 4,3 | 4,0 | 3,7 | 3,3 | 2,6 | | | | | | |
| 25-160/02A | 0,25 | 141 | ○ | 53,8 | 5,9 | | 5,4 | 5,1 | 4,8 | 4,4 | 3,9 | 2,8 | 2,2 | | | | | |
| 25-160/02 | 0,25 | 154 | ● | 56,6 | 7,4 | | 6,9 | 6,7 | 6,4 | 6,0 | 5,6 | 4,5 | 3,9 | 3,3 | | | | |
| 25-200/03 | 0,37 | 178,0 | ○ | 52,3 | 9,4 | | 8,1 | 7,8 | 7,3 | 6,9 | 6,3 | 5,1 | 4,5 | 3,7 | | | | |
| 25-200/05 | 0,55 | 195 | ● | 54,5 | 12,0 | | 10,8 | 10,5 | 10,1 | 9,7 | 9,2 | 8,2 | 7,5 | 6,9 | 6,2 | | | |
| 25-250/07 | 0,75 | 203 | ○ | 46,6 | 13,0 | | 12,2 | 11,9 | 11,6 | 11,2 | 10,7 | 9,7 | 9,1 | 8,4 | 7,7 | 6,9 | | |
| 25-250/11 | 1,1 | 223,5 | ○ | 46,6 | 16,4 | | 15,8 | 15,5 | 15,1 | 14,6 | 14,1 | 12,9 | 12,3 | 11,6 | 10,8 | 10,1 | 9,3 | |
| 25-250/15 | 1,5 | 244,5 | ● | 46,7 | 20,4 | | 19,5 | 19,2 | 18,9 | 18,5 | 18,0 | 17,0 | 16,3 | 15,7 | 14,9 | 14,1 | 13,3 | |
| 32-125/02A | 0,25 | 114 | ○ | 58,5 | 4,1 | | 3,5 | 3,3 | 3,1 | 2,8 | 2,4 | 1,7 | 1,3 | | | | | |
| 32-125/02 | 0,25 | 128 | ● | 63,3 | 5,2 | | 4,6 | 4,4 | 4,1 | 3,8 | 3,5 | 2,8 | 2,4 | 2,0 | | | | |
| 32-160/02A | 0,25 | 141 | ○ | 55,2 | 6,0 | | 5,5 | 5,2 | 4,9 | 4,5 | 4,1 | 3,2 | 2,6 | | | | | |
| 32-160/02 | 0,25 | 154 | ● | 57,9 | 7,5 | | 7,0 | 6,7 | 6,4 | 6,1 | 5,7 | 4,8 | 4,3 | 3,8 | 3,2 | 2,6 | | |
| 32-200/03 | 0,37 | 178 | ○ | 53,7 | 9,4 | | 8,2 | 7,9 | 7,5 | 7,1 | 6,6 | 5,5 | 4,9 | 4,3 | | | | |
| 32-200/05 | 0,55 | 195 | ● | 53,9 | 12,0 | | 10,8 | 10,5 | 10,1 | 9,6 | 9,1 | 8,0 | 7,4 | 6,8 | 6,1 | 5,3 | | |
| 32-250/07 | 0,75 | 203 | ○ | 47,7 | 13,1 | | 12,3 | 12,0 | 11,7 | 11,3 | 10,9 | 9,9 | 9,3 | 8,7 | 8,0 | 7,3 | | |
| 32-250/11 | 1,1 | 223,5 | ○ | 47,7 | 16,4 | | 15,9 | 15,6 | 15,3 | 14,8 | 14,4 | 13,2 | 12,6 | 11,9 | 11,2 | 10,4 | 9,6 | |
| 32-250/15 | 1,5 | 244,5 | ● | 48,2 | 20,4 | | 19,6 | 19,3 | 19,0 | 18,6 | 18,2 | 17,3 | 16,7 | 16,1 | 15,4 | 14,7 | 13,9 | |

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | Q = DELIVERY | | | | | | | | | | | | | | |
|------------|----------------------|-----------------|-------------------------|---------------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | 1/s m ³ /h | 0 | 2,2 | 2,8 | 3,1 | 3,6 | 4,2 | 4,4 | 5,0 | 5,3 | 5,8 | 6,4 | 6,7 | 6,9 | |
| | | | | H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | |
| 40-125/02A | 0,25 | 125 | ○ | 69,2 | 4,9 | 4,3 | 4,0 | 3,8 | 3,5 | 3,1 | 2,9 | 2,4 | 2,2 | 1,7 | | | | |
| 40-125/02 | 0,25 | 133 | ● | 68,1 | 5,7 | | 4,9 | 4,7 | 4,4 | 4,0 | 3,8 | 3,4 | 3,2 | 2,7 | 2,2 | 1,9 | | |
| 40-160/03 | 0,37 | 152 | ○ | 61,4 | 7,4 | 6,6 | 6,2 | 6,0 | 5,5 | 5,0 | 4,7 | 4,1 | 3,8 | 3,2 | 2,5 | 2,2 | | |
| 40-160/05 | 0,55 | 171 | ● | 66,5 | 9,2 | | 8,3 | 8,1 | 7,7 | 7,2 | 7,0 | 6,4 | 6,1 | 5,5 | 4,8 | 4,4 | 4,0 | |
| 40-200/07 | 0,75 | 190 | ○ | 64,3 | 11,9 | | 11,0 | 10,8 | 10,3 | 9,7 | 9,3 | 8,6 | 8,2 | 7,3 | 6,3 | 5,8 | | |
| 40-200/11 | 1,1 | 209 | ● | 62,9 | 14,2 | | 13,1 | 12,9 | 12,4 | 11,8 | 11,5 | 10,8 | 10,4 | 9,5 | 8,5 | 8,0 | 7,4 | |
| 40-250/11 | 1,1 | 218 | ○ | 55,8 | 15,6 | | 14,4 | 14,2 | 13,7 | 13,0 | 12,7 | 11,9 | 11,4 | 10,3 | | | | |
| 40-250/15 | 1,5 | 233 | ○ | 57,0 | 18,1 | | 16,8 | 16,6 | 16,1 | 15,5 | 15,2 | 14,4 | 14,0 | 13,1 | 12,0 | 11,4 | | |
| 40-250/22 | 2,2 | 251 | ● | 58,1 | 21,5 | | 20,1 | 19,9 | 19,4 | 18,8 | 18,4 | 17,7 | 17,3 | 16,4 | 15,4 | 14,8 | 14,2 | |

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | Q = DELIVERY | | | | | | | | | | | | | | |
|------------|----------------------|-----------------|-------------------------|---------------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | 1/s m ³ /h | 0 | 4,2 | 5,0 | 5,6 | 6,4 | 7,2 | 8,1 | 8,6 | 9,4 | 10,3 | 11,1 | 11,7 | 12,5 | |
| | | | | H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | |
| 50-125/02 | 0,25 | 114 | ○ | 70,9 | 4,2 | 3,6 | 3,3 | 3,1 | 2,7 | 2,4 | 2,0 | 1,7 | 1,3 | 0,9 | | | | |
| 50-125/03 | 0,37 | 123 | ○ | 72,5 | 4,9 | | 4,2 | 4,0 | 3,6 | 3,2 | 2,8 | 2,6 | 2,1 | 1,7 | 1,2 | | | |
| 50-125/05 | 0,55 | 131 | ● | 72,2 | 6,0 | | 5,3 | 5,1 | 4,8 | 4,4 | 4,0 | 3,7 | 3,3 | 2,9 | 2,5 | 2,2 | 1,7 | |
| 50-160/07 | 0,75 | 158 | ○ | 71,3 | 8,2 | | 7,3 | 7,1 | 6,8 | 6,4 | 6,0 | 5,7 | 5,3 | 4,8 | 4,2 | 3,8 | | |
| 50-160/11 | 1,1 | 174 | ● | 73,0 | 9,8 | | 8,8 | 8,6 | 8,3 | 7,9 | 7,6 | 7,3 | 6,9 | 6,4 | 5,8 | 5,4 | 4,8 | |
| 50-200/11 | 1,1 | 197 | ○ | 69,1 | 12,8 | | 11,2 | 10,8 | 10,2 | 9,6 | 8,8 | 8,3 | 7,4 | 6,5 | 5,5 | 4,8 | | |
| 50-200/15 | 1,5 | 209 | ● | 70,1 | 14,7 | | 13,0 | 12,7 | 12,1 | 11,4 | 10,6 | 10,1 | 9,3 | 8,3 | 7,3 | 6,6 | 5,5 | |
| 50-250/22A | 2,2 | 224 | ○ | 70,0 | 17,4 | | 16,0 | 15,7 | 15,2 | 14,6 | 14,0 | 13,5 | 12,7 | 11,7 | 10,6 | 9,7 | | |
| 50/250/22 | 2,2 | 237 | ○ | 69,0 | 19,4 | | 17,8 | 17,5 | 17,0 | 16,4 | 15,7 | 15,2 | 14,4 | 13,5 | 12,4 | 11,6 | | |
| 50-250/30 | 3 | 250 | ● | 67,9 | 21,9 | | 20,6 | 20,3 | 19,8 | 19,2 | 18,6 | 18,1 | 17,3 | 16,4 | 15,4 | 14,7 | 13,5 | |

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

ESH-25-32-40-50_4p50-en_c_th

(1) ● = Full impeller diameter - ○ = Trimmed impeller diameter (2) Hydraulic efficiency of pump.

ESH 65, 80 SERIES

HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

| PUMP TYPE | P _N kW | Ø Impeller (mm) | | | Q = DELIVERY | | | | | | | | | | | | | |
|---------------------------------------|----------------------|-----------------|-------------------------|-------------------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | l/s | 0 | 4,2 | 5,6 | 7,2 | 8,9 | 10,6 | 11,9 | 13,6 | 15,3 | 16,9 | 18,3 | 20,0 | 21,7 | |
| | | | | m ³ /h | 0 | 15 | 20 | 26 | 32 | 38 | 43 | 49 | 55 | 61 | 66 | 72 | 78 | |
| H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | | | | | |
| 65-160/05 | 0,55 | 127 | ○ | 69,1 | 4,7 | 3,7 | 3,2 | 2,7 | 2,2 | 1,6 | | | | | | | | |
| 65-160/07 | 0,75 | 140 | ○ | 72,8 | 6,1 | 5,2 | 4,8 | 4,3 | 3,8 | 3,3 | 2,7 | | | | | | | |
| 65-160/11A | 1,1 | 154 | ○ | 74,7 | 7,7 | 6,8 | 6,4 | 5,9 | 5,4 | 4,8 | 4,2 | 3,5 | 2,8 | | | | | |
| 65-160/11 | 1,1 | 164 | ○ | 73,9 | 8,7 | 7,8 | 7,4 | 6,9 | 6,4 | 5,9 | 5,3 | 4,7 | 4,0 | | | | | |
| 65-160/15 | 1,5 | 176 | ● | 73,2 | 10,2 | 9,5 | 9,1 | 8,6 | 8,0 | 7,3 | 6,7 | 6,0 | 5,4 | 4,8 | | | | |
| 65-200/15 | 1,5 | 187 | ○ | 67,4 | 12,1 | 10,6 | 10,0 | 9,3 | 8,6 | 7,8 | 7,0 | 6,1 | 5,2 | | | | | |
| 65-200/22 | 2,2 | 203 | ○ | 68,9 | 14,6 | 13,2 | 12,6 | 12,0 | 11,3 | 10,5 | 9,7 | 8,8 | 7,9 | 7,0 | | | | |
| 65-200/30 | 3 | 219 | ● | 70,8 | 17,5 | 16,3 | 15,9 | 15,3 | 14,8 | 14,1 | 13,4 | 12,6 | 11,7 | 10,8 | 9,8 | | | |
| 65-250/40 | 4 | 240 | ○ | 71,9 | 20,4 | | 19,3 | 18,8 | 18,3 | 17,6 | 16,9 | 16,1 | 15,2 | 14,2 | 13,0 | | | |
| 65-250/55 | 5,5 | 255 | ● | 71,0 | 23,7 | | 23,1 | 22,6 | 22,0 | 21,4 | 20,7 | 19,9 | 19,1 | 18,1 | 17,1 | 16,0 | 14,7 | |

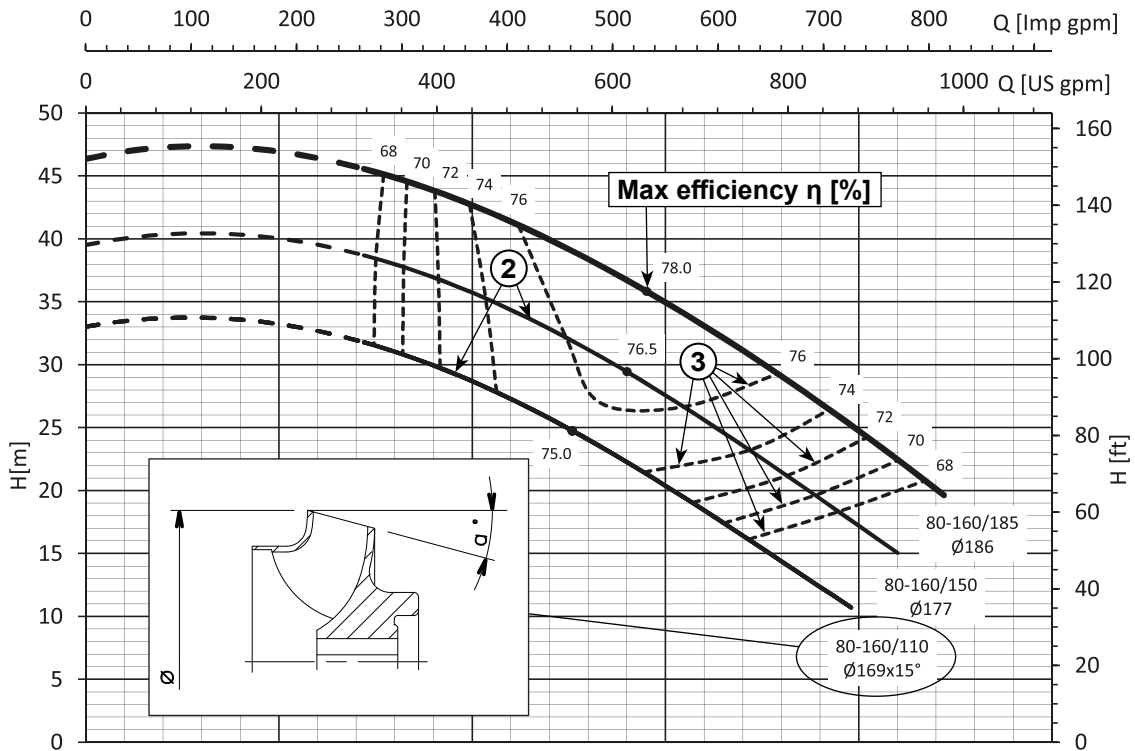
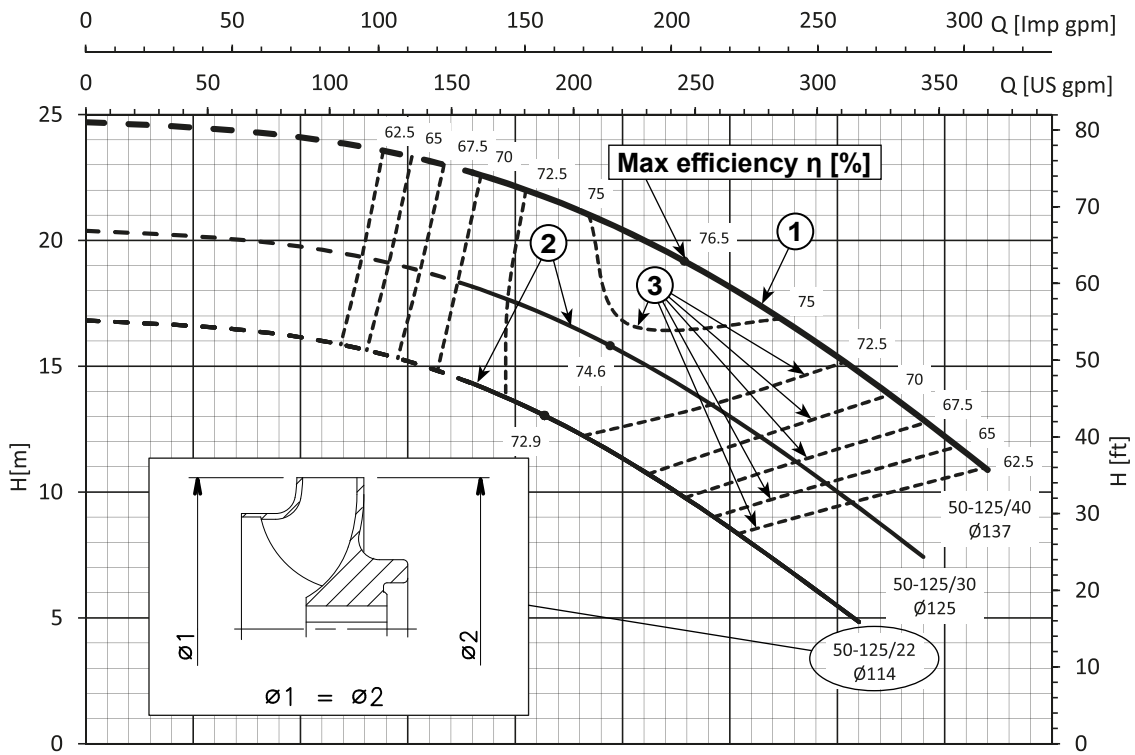
| PUMP TYPE | P _N kW | Ø Impeller (mm) | | | Q = DELIVERY | | | | | | | | | | | | | |
|---------------------------------------|----------------------|-----------------|-------------------------|-------------------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | | ○ ● (1) | η _p % (2) | l/s | 0 | 10,0 | 12,8 | 15,6 | 18,1 | 20,8 | 23,6 | 26,4 | 29,2 | 31,9 | 34,4 | 37,2 | 40,0 | |
| | | | | m ³ /h | 0 | 36 | 46 | 56 | 65 | 75 | 85 | 95 | 105 | 115 | 124 | 134 | 144 | |
| H = TOTAL HEAD METRES COLUMN OF WATER | | | | | | | | | | | | | | | | | | |
| 80-160/15 | 1,5 | 169x15° | ○ | 75,2 | 8,0 | 7,6 | 7,0 | 6,3 | 5,6 | 4,8 | 4,0 | 3,1 | | | | | | |
| 80-160/22A | 2,2 | 177 | ○ | 74,2 | 9,4 | 9,0 | 8,5 | 7,8 | 7,1 | 6,3 | 5,4 | 4,5 | 3,5 | | | | | |
| 80-160/22 | 2,2 | 186 | ● | 73,4 | 10,8 | 10,4 | 9,9 | 9,2 | 8,5 | 7,7 | 6,8 | 5,9 | 4,9 | | | | | |
| 80-200/30 | 3 | 198 | ○ | 80,5 | 12,3 | | 11,9 | 11,2 | 10,4 | 9,5 | 8,5 | 7,5 | 6,4 | 5,3 | | | | |
| 80-200/40 | 4 | 220 | ● | 78,3 | 15,4 | | 15,3 | 14,7 | 13,9 | 13,0 | 12,1 | 11,1 | 10,1 | 9,0 | 7,9 | | | |
| 80-250/55 | 5,5 | 237 | ○ | 77,5 | 20,3 | | 19,5 | 18,8 | 17,9 | 16,9 | 15,8 | 14,4 | 12,9 | 11,2 | 9,3 | | | |
| 80-250/75 | 7,5 | 252 | ○ | 76,7 | 23,1 | | 22,2 | 21,6 | 20,8 | 19,9 | 19,0 | 17,8 | 16,6 | 15,2 | 13,6 | | | |
| 80-250/110 | 11 | 270 | ● | 74,3 | 26,6 | | 26,1 | 25,5 | 24,7 | 23,9 | 22,9 | 21,8 | 20,6 | 19,3 | 17,9 | 16,4 | 14,8 | |

Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

ESH-65-80_4p50-en_c_th

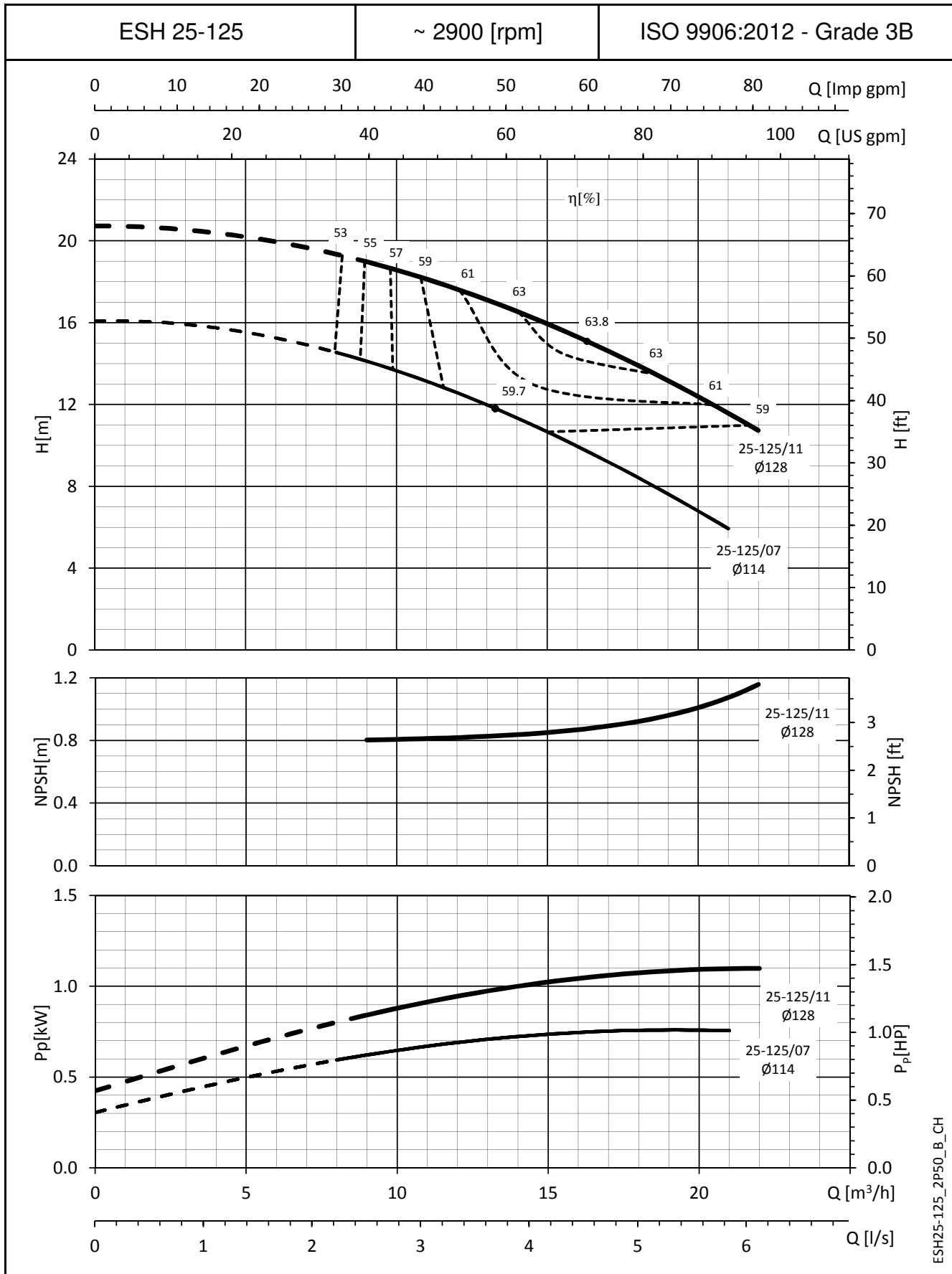
(1) ● = Full impeller diameter - ○ = Trimmed impeller diameter (2) Hydraulic efficiency of pump.

ESH SERIES IDENTIFICATION OF IMPELLER TYPOLOGY



| REF | TYPE | DESCRIPTION |
|-----|------|---|
| ① | | Full Diameter impeller operating range |
| ② | | Trimmed diameter impeller operating range |
| ③ | | Isoefficiency curves |

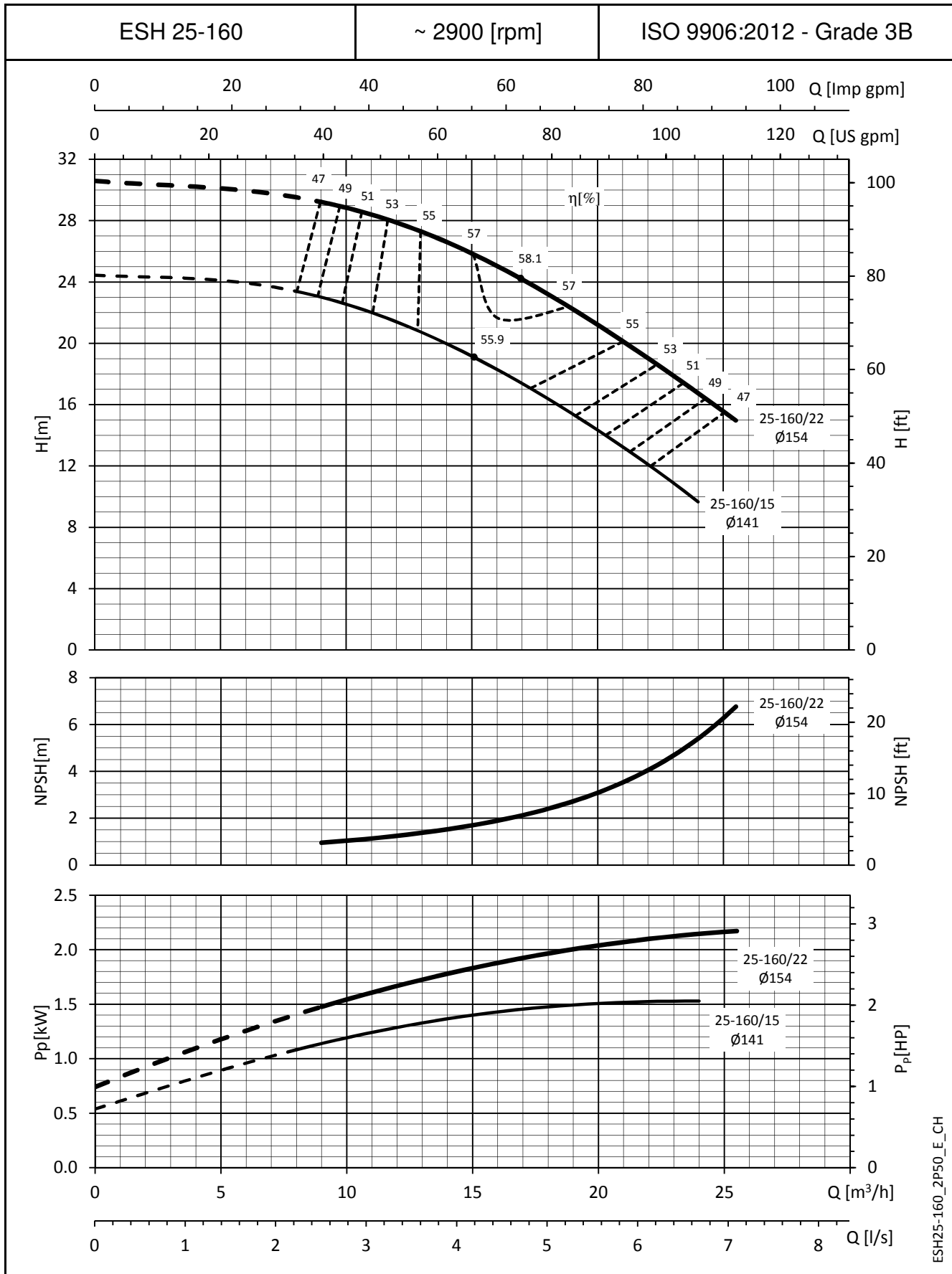
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH25-125_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

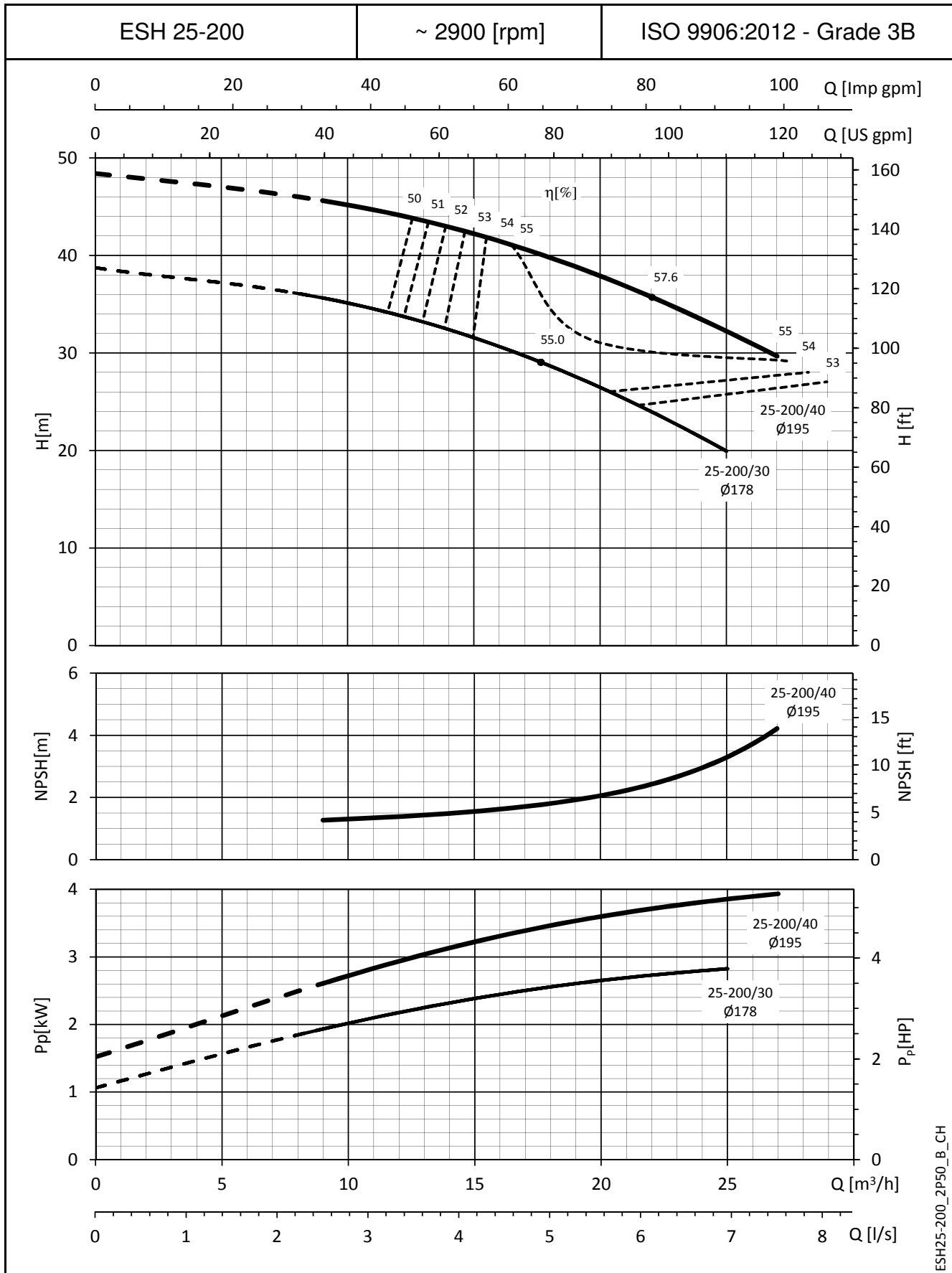
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH25-160_2P50_E_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

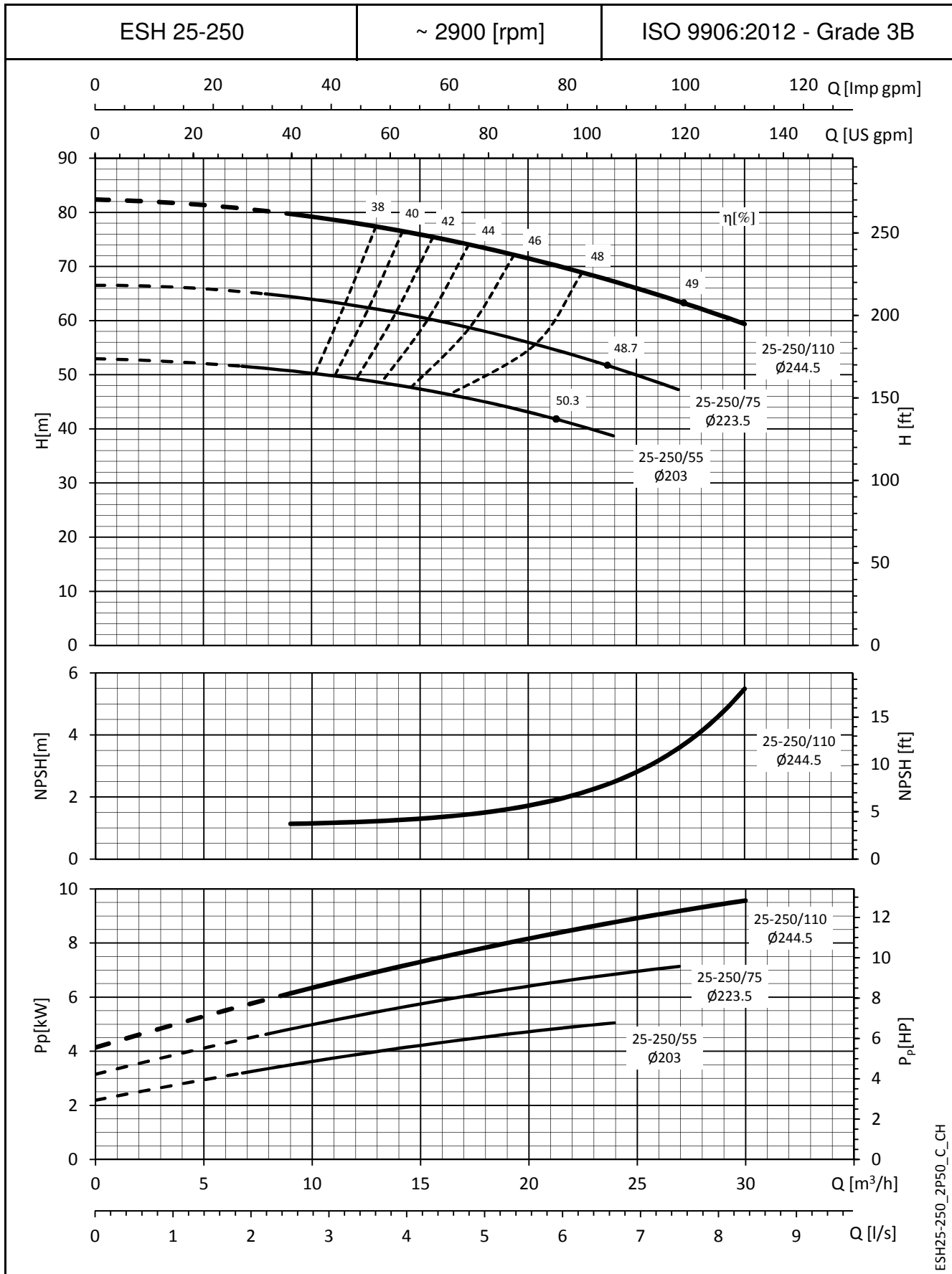
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH25-200_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

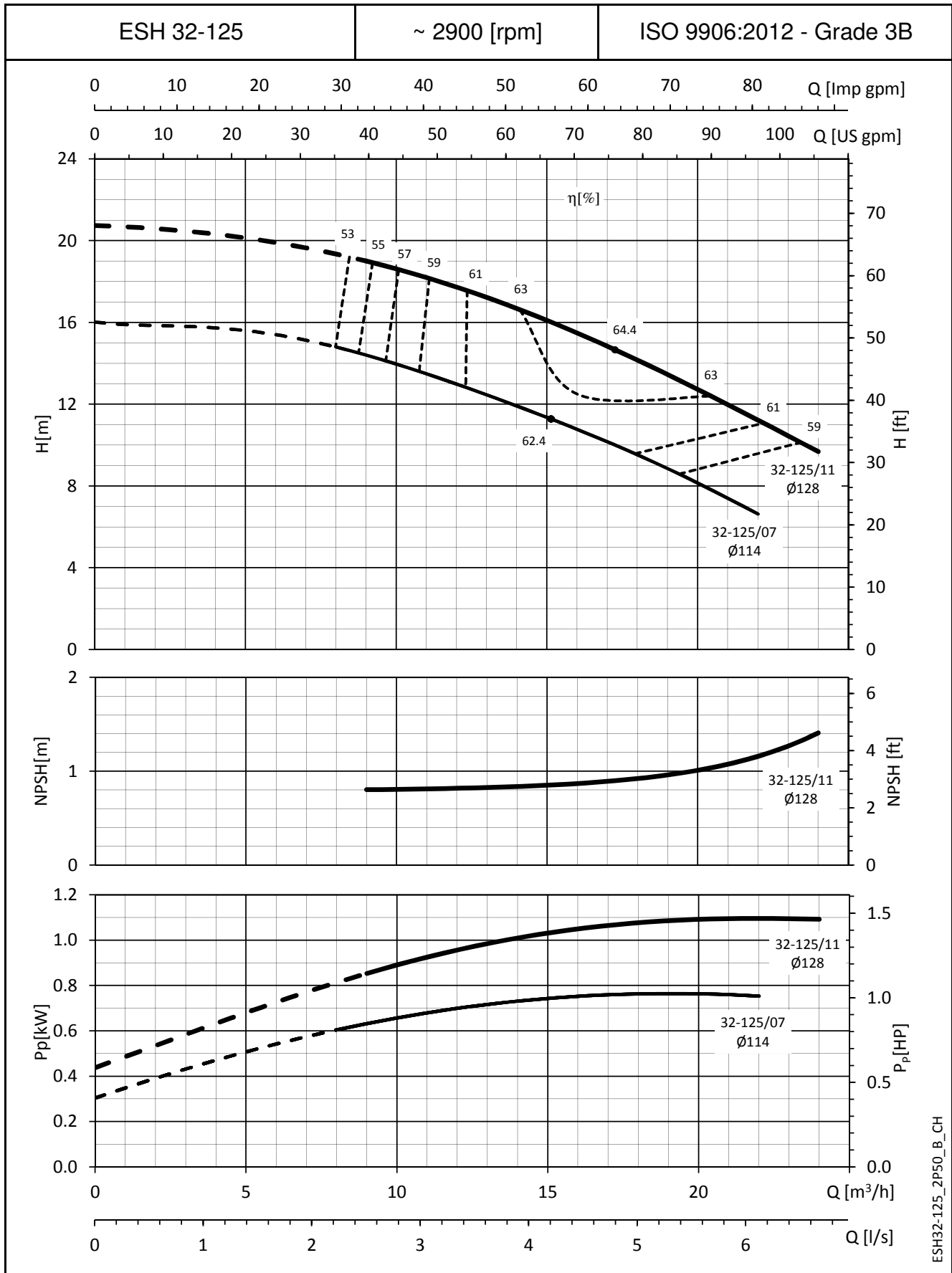
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH25-250_2P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

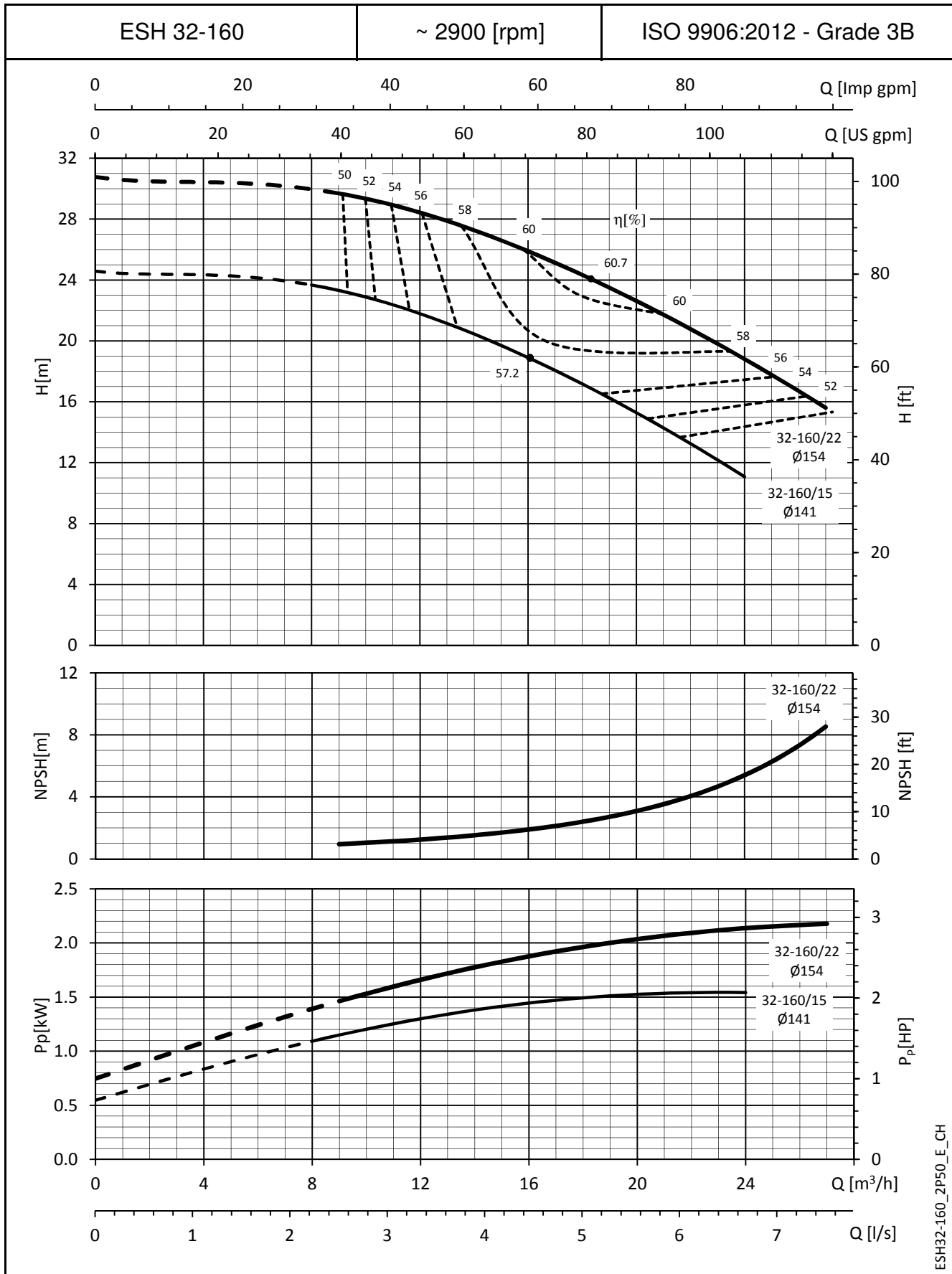
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH32-125_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

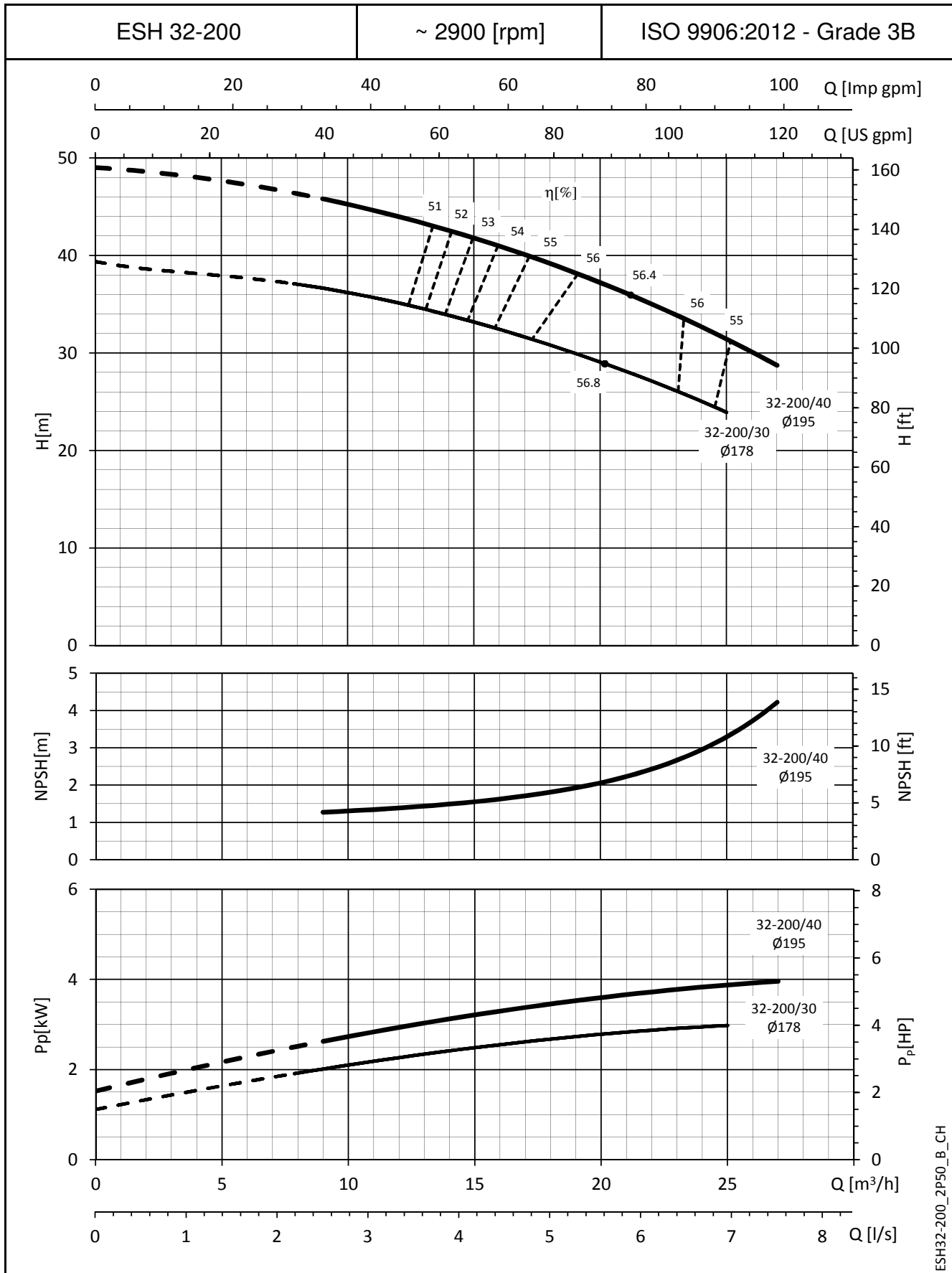
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH32-160_2P50_E_CH

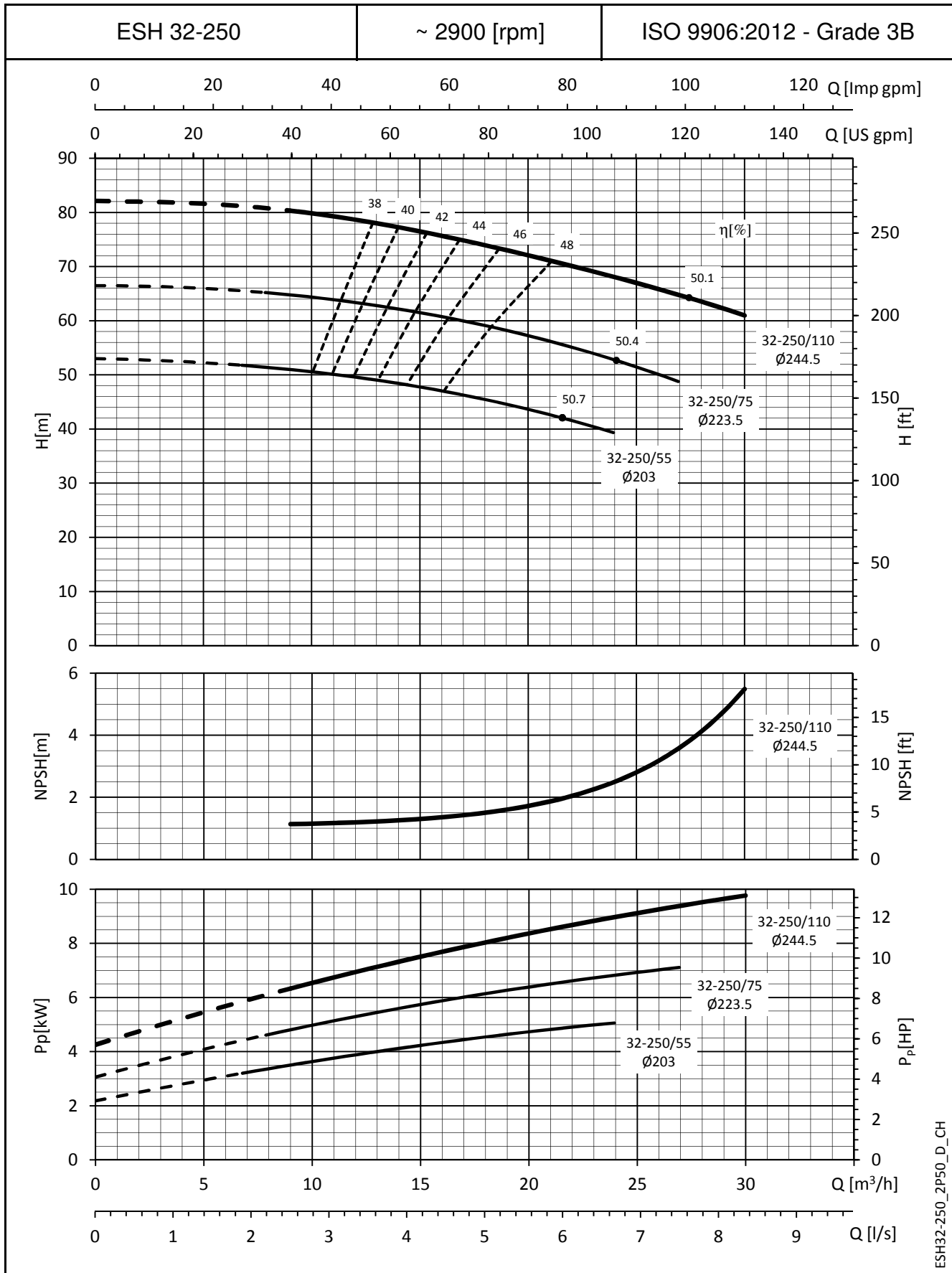
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ESH SERIES OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

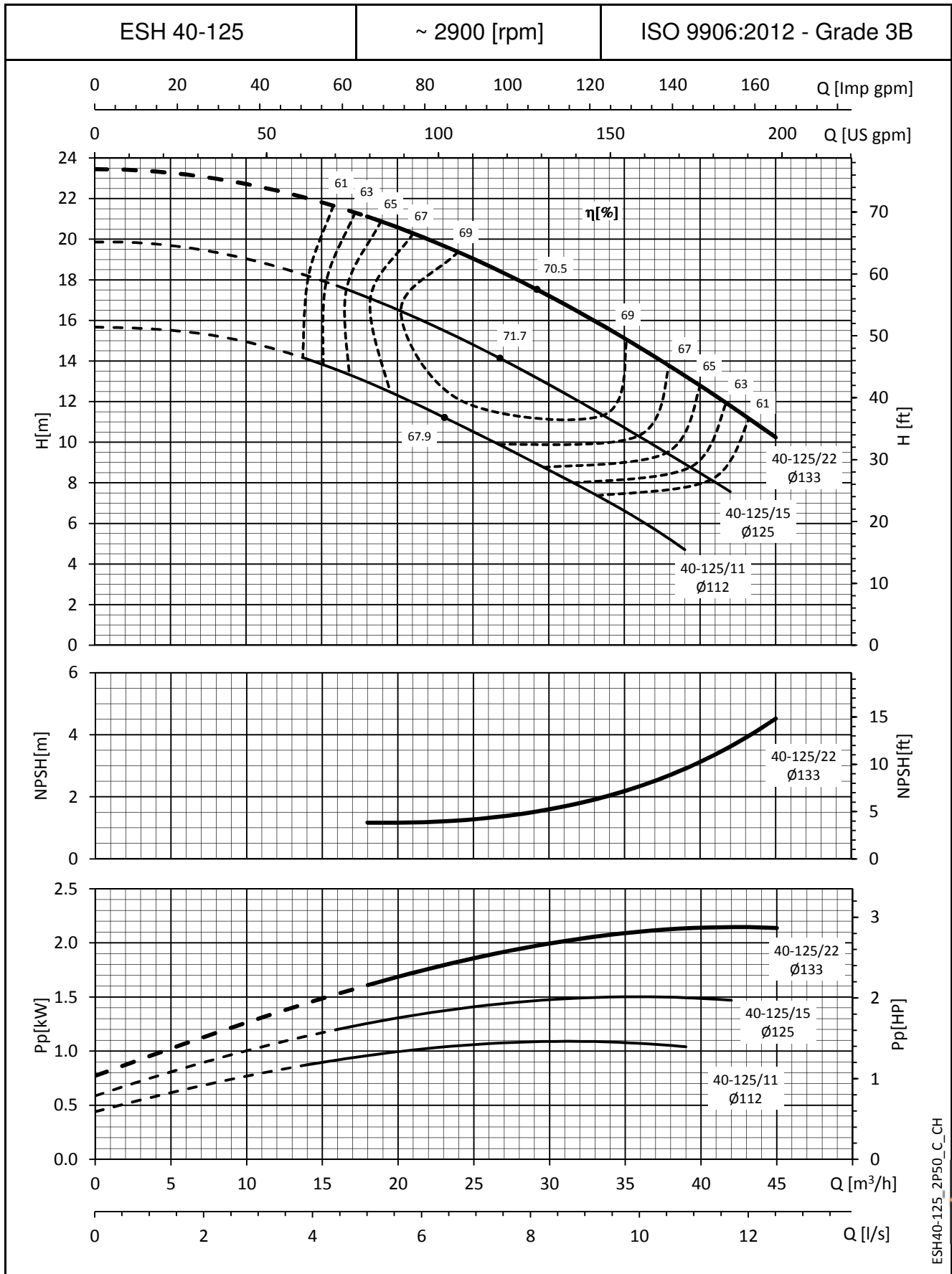
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH32-250_2P50_D_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

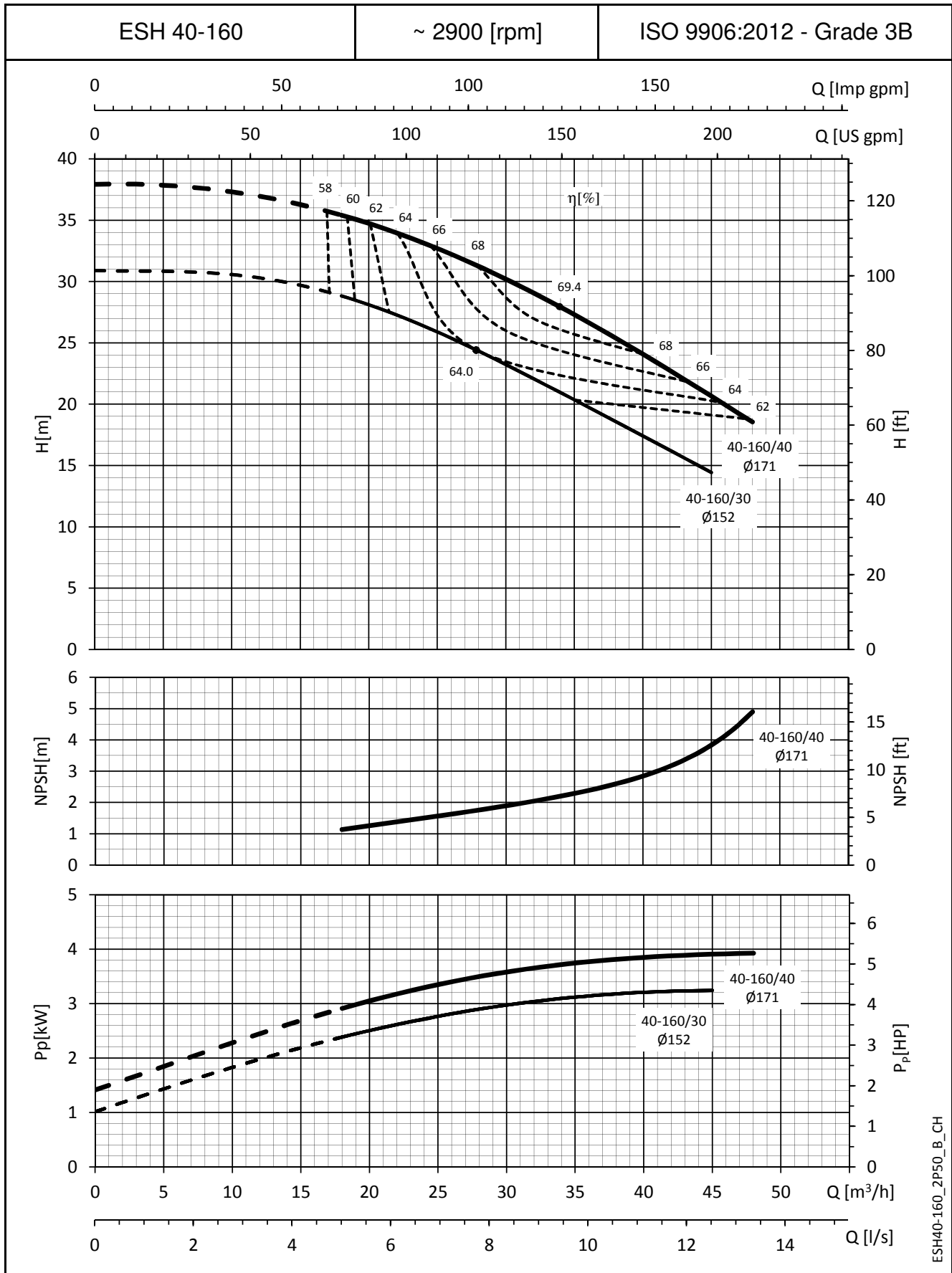
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH40-125_2P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

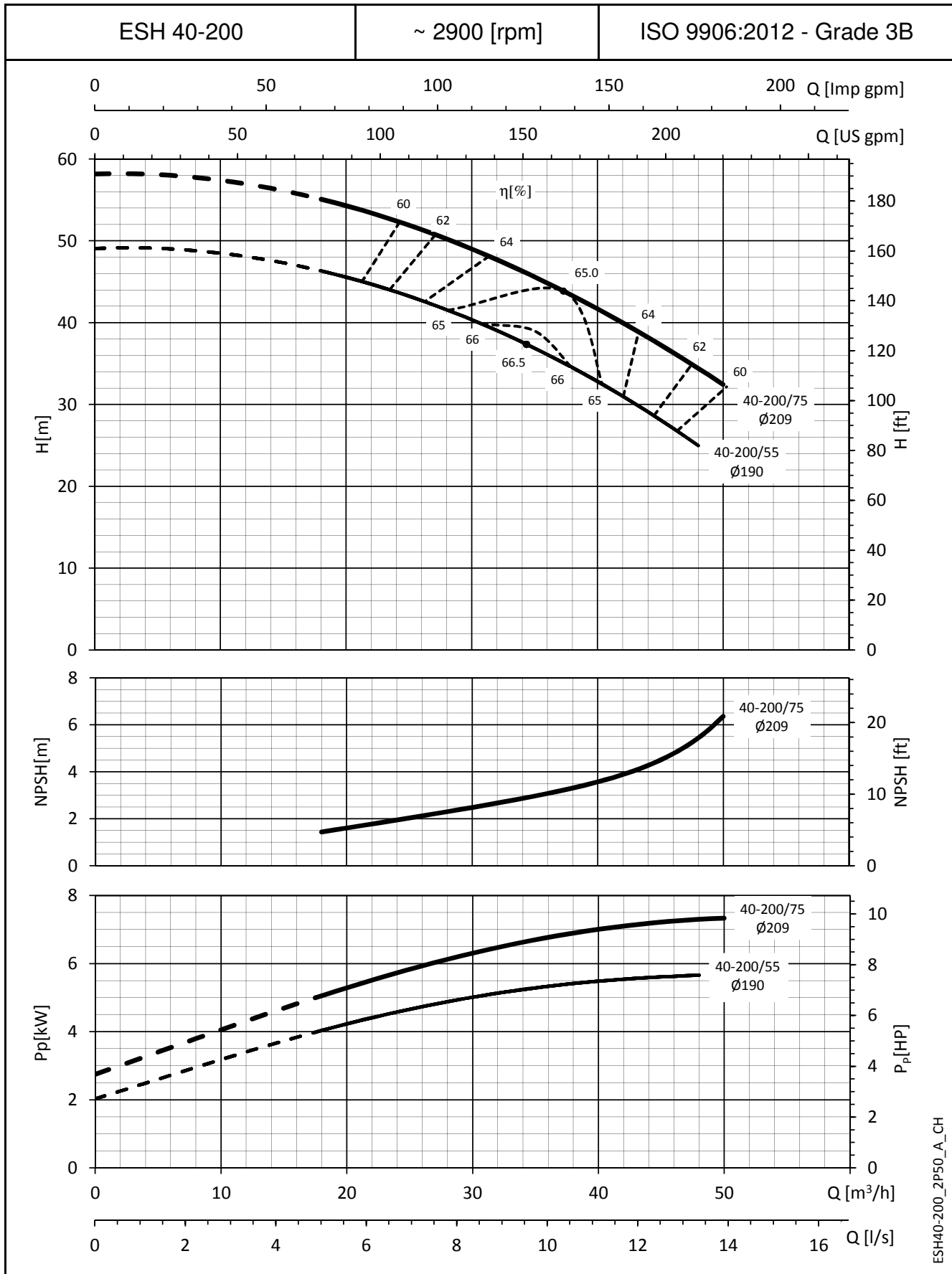
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH40-160_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

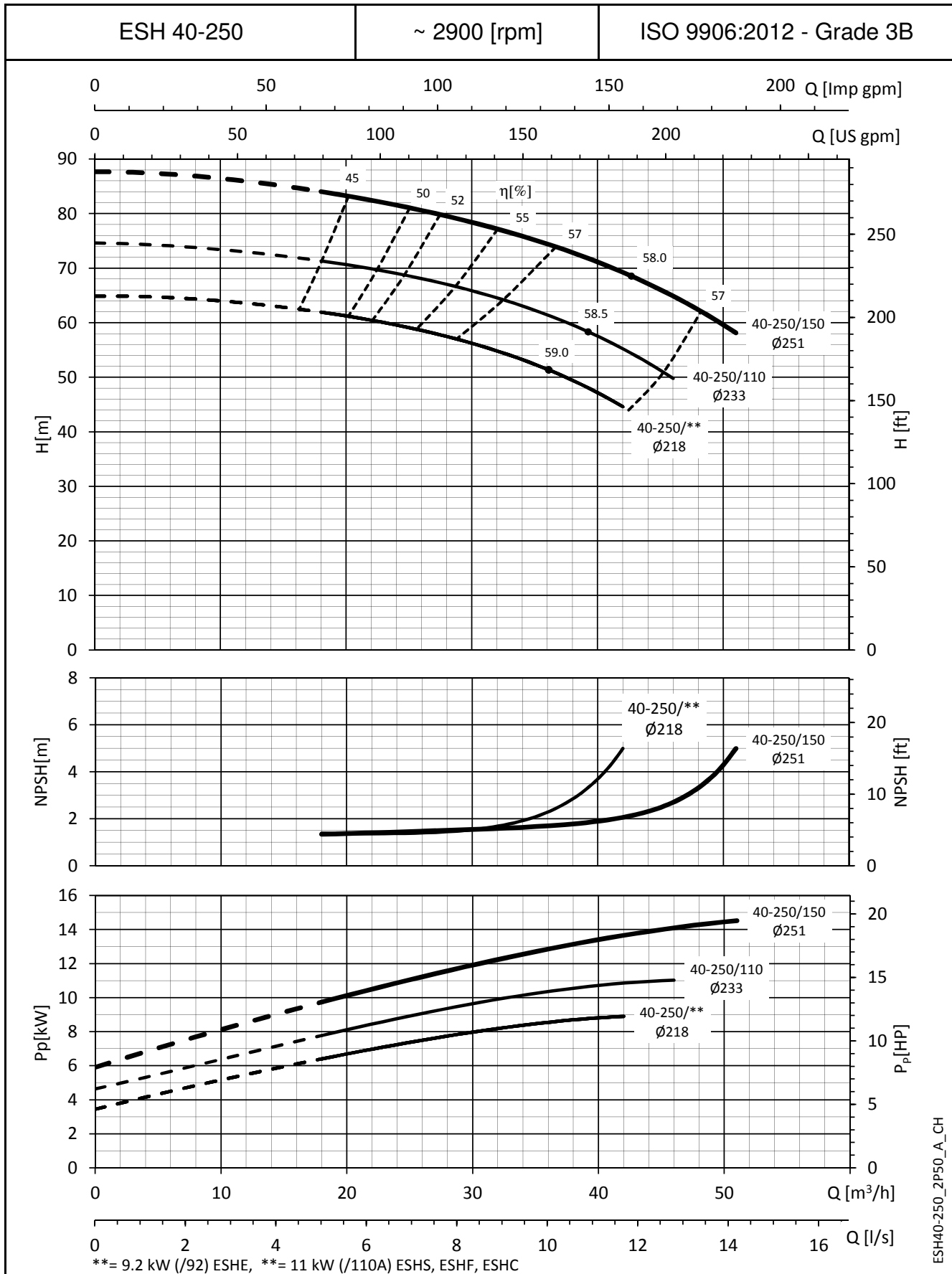
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH40-200_2P50_A_CH

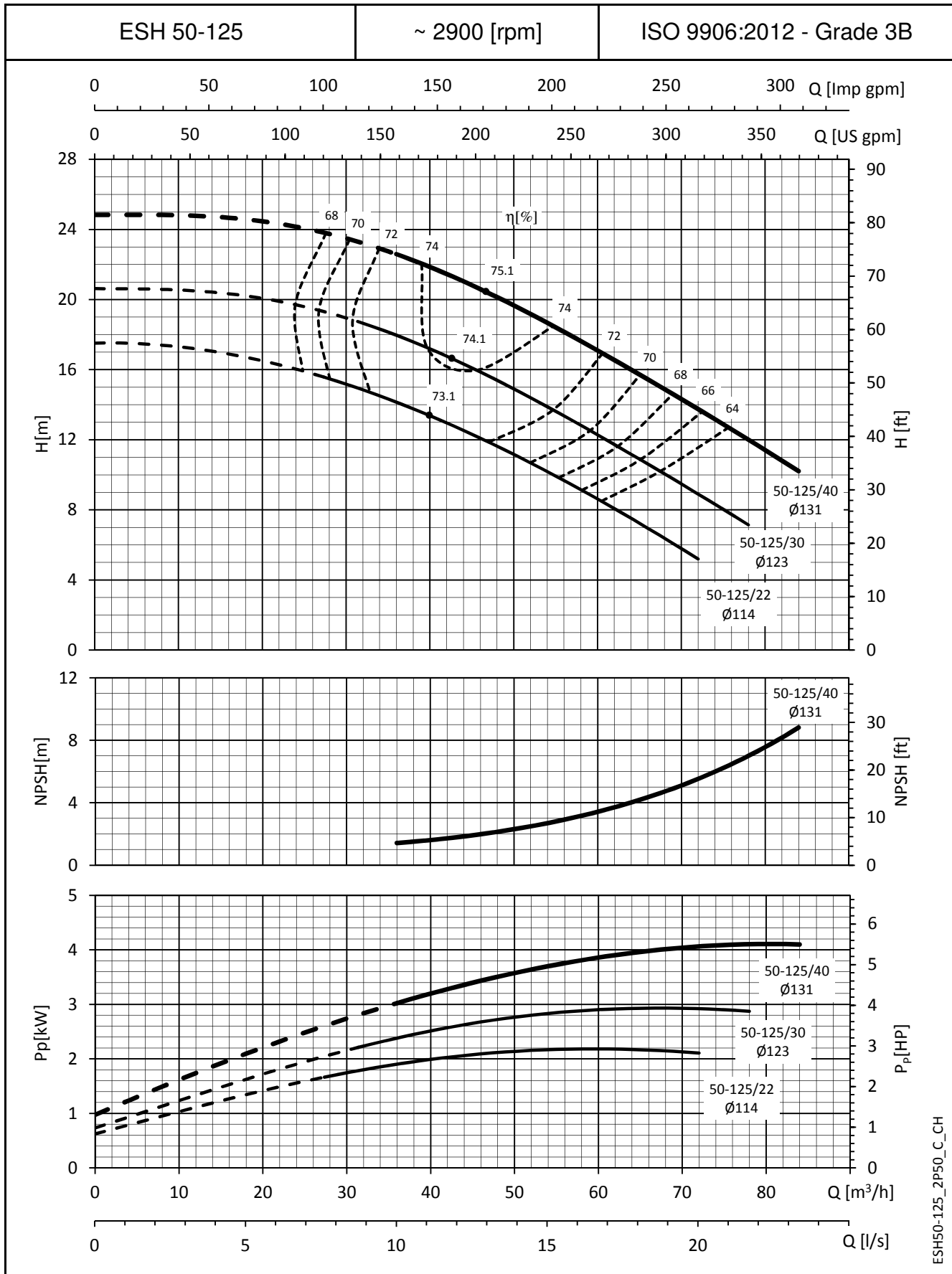
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

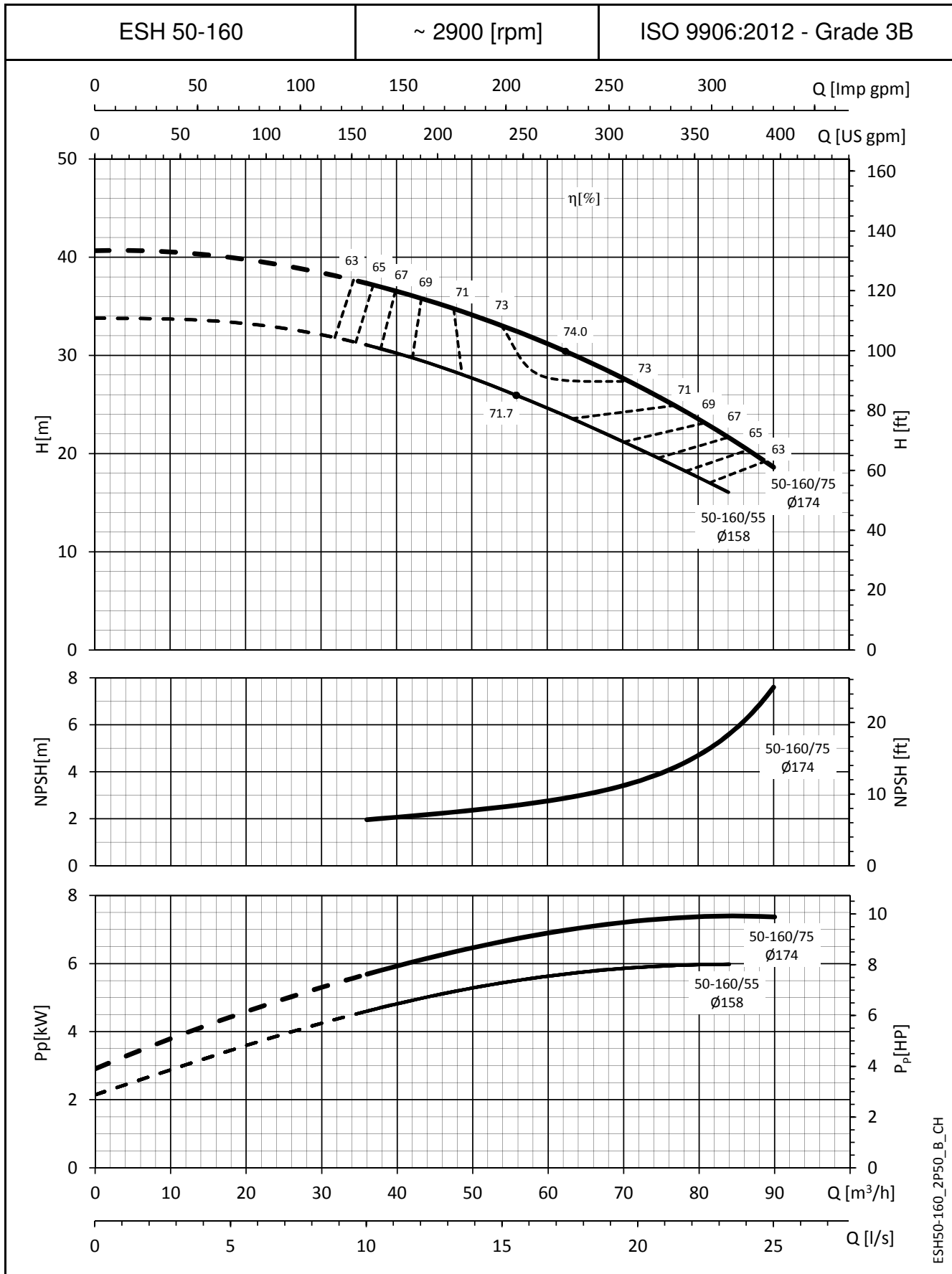
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH50-125_2P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

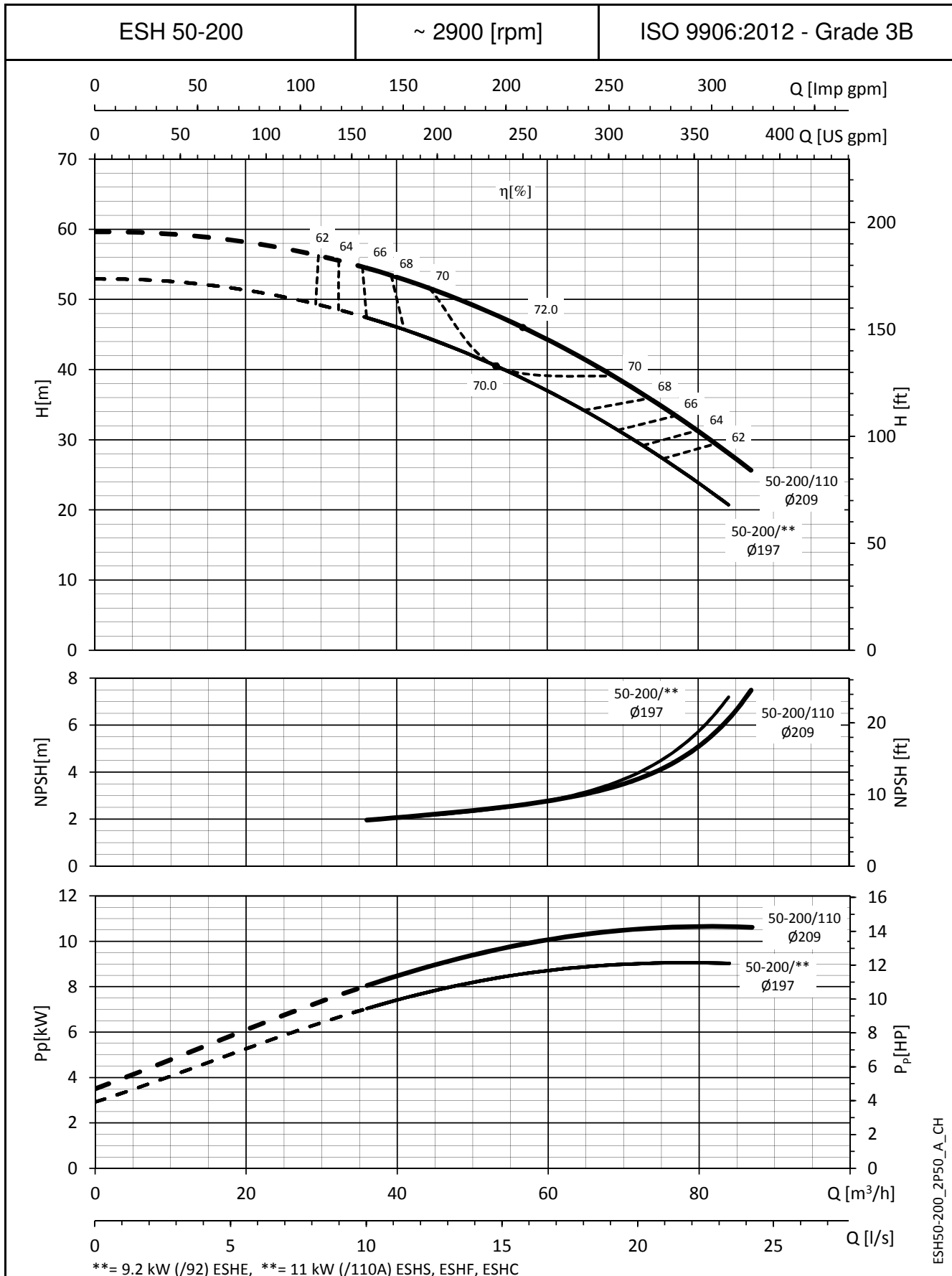
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH50-160_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

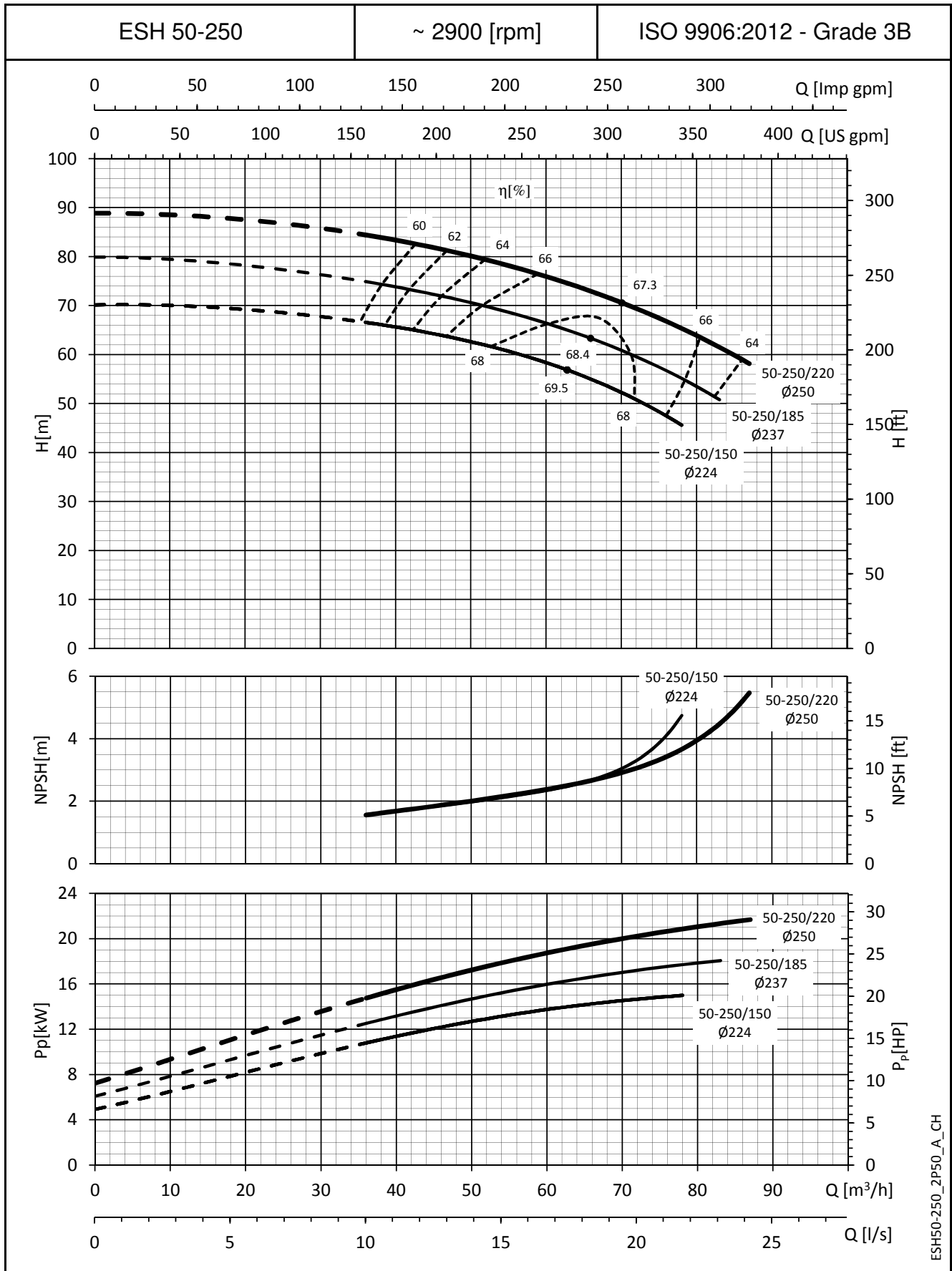
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



**= 9.2 kW (/92) ESHE, **= 11 kW (/110A) ESHS, ESHF, ESHC

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

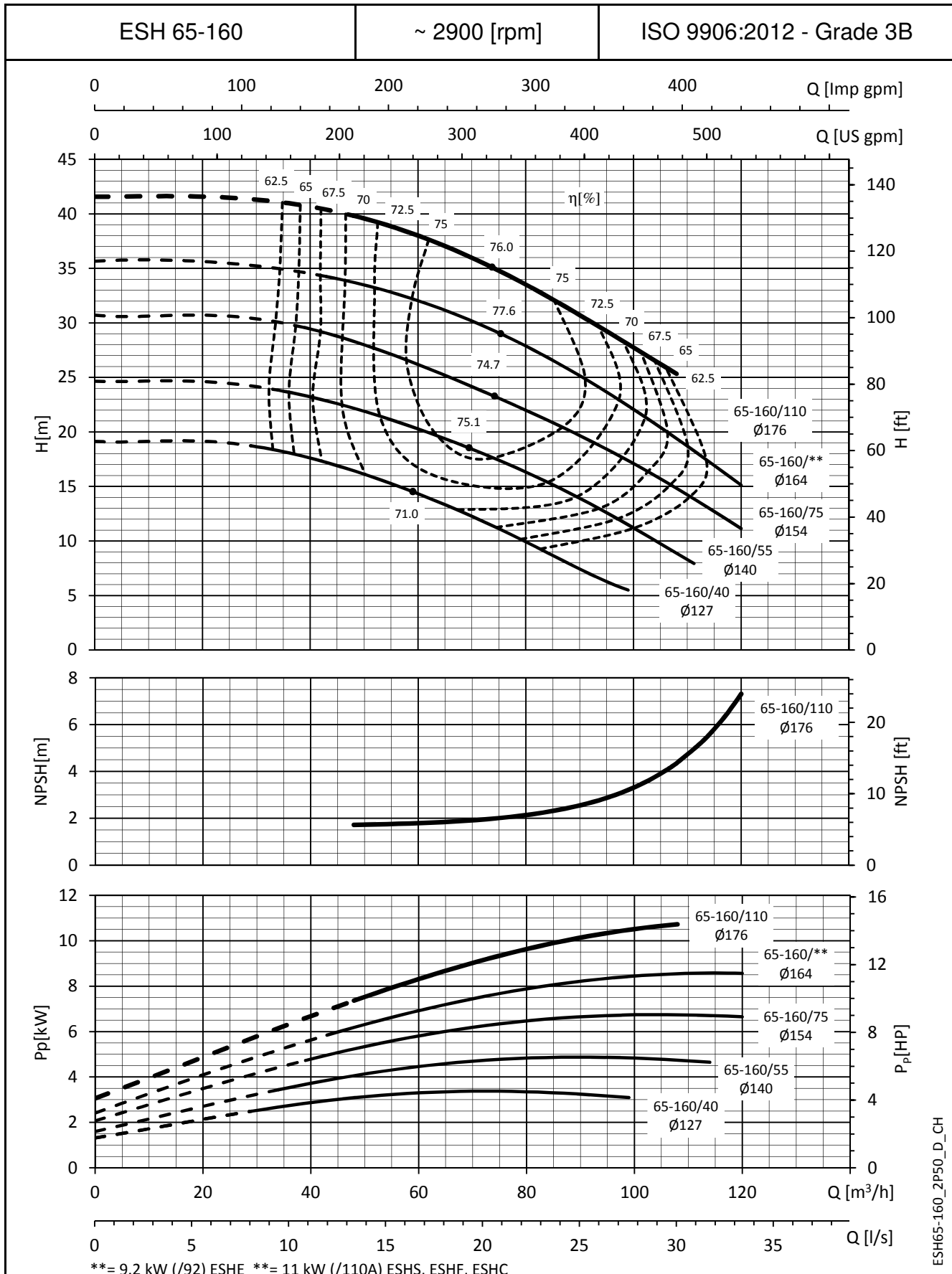
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH50-250_2P50_A_CH

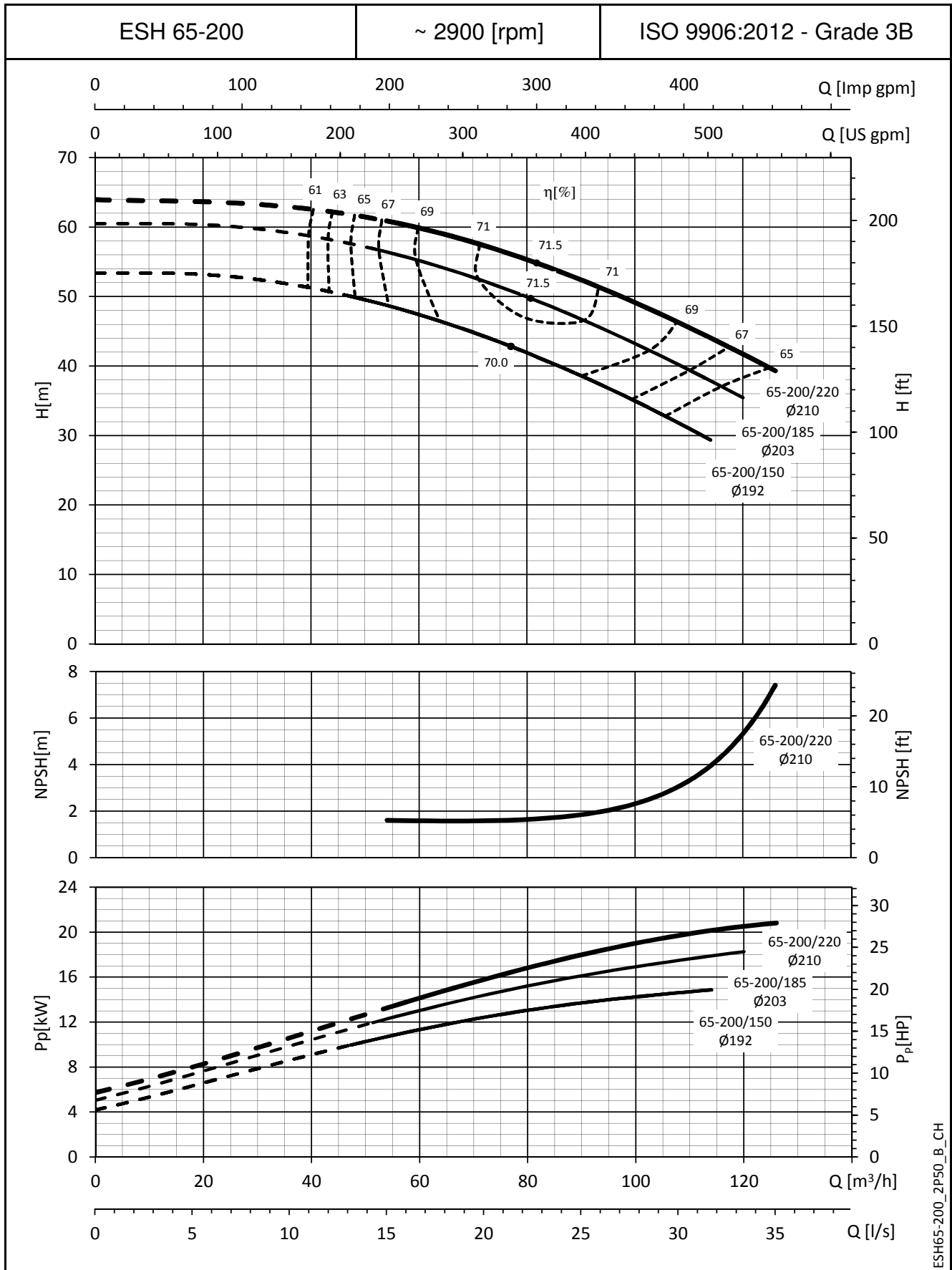
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ESH SERIES OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

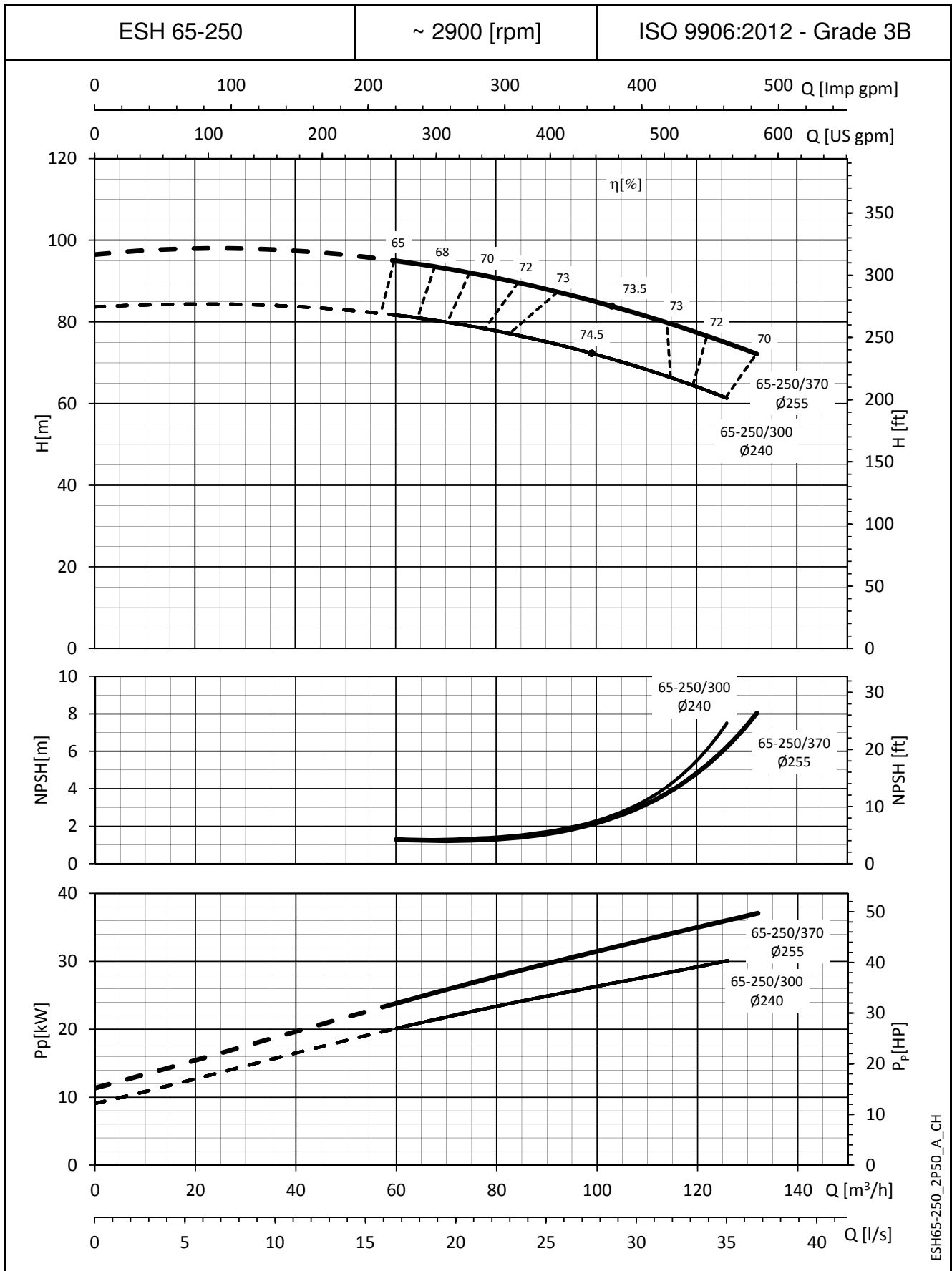
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH65-200_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

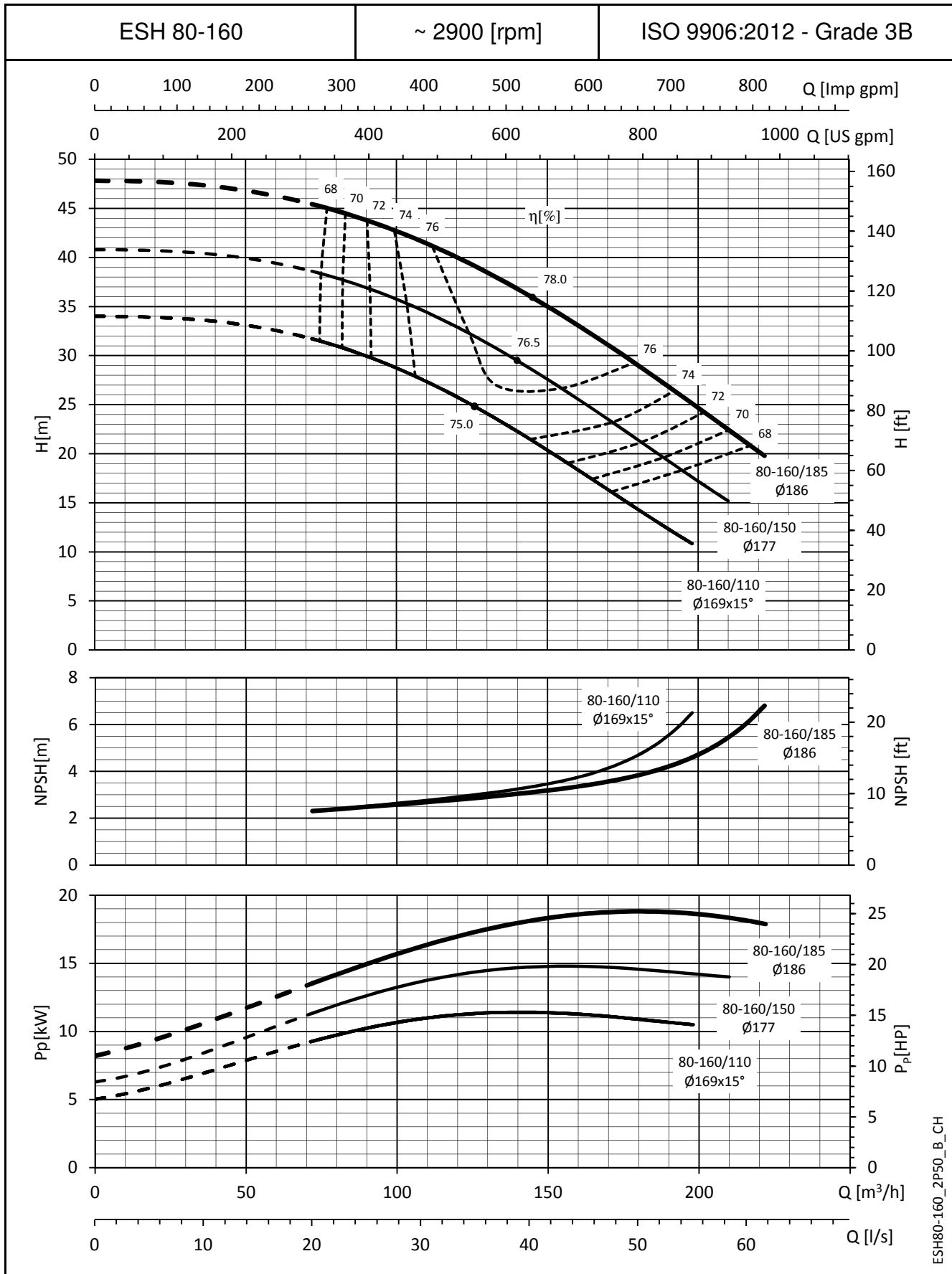
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH65-250_2P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

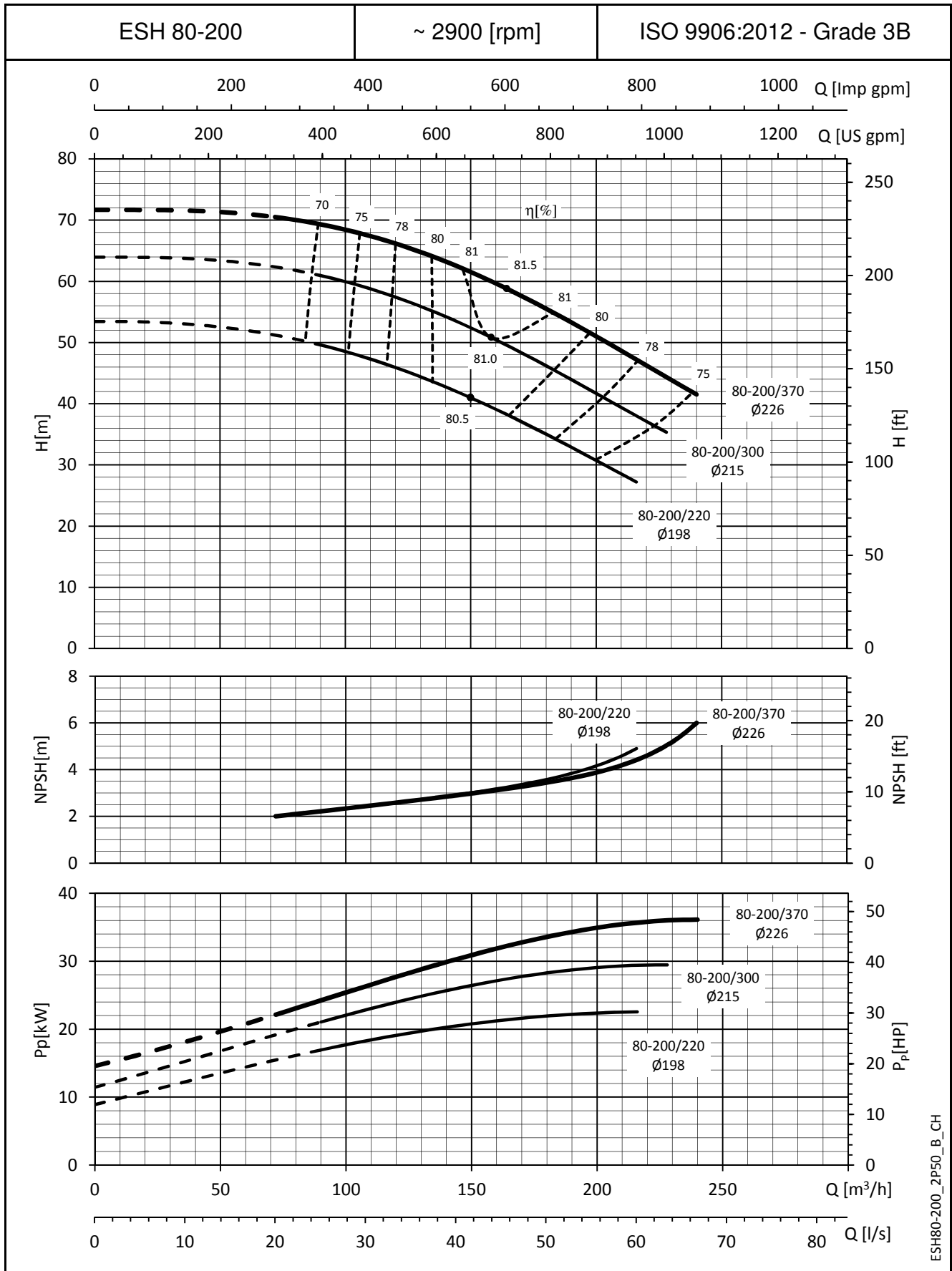
ESH SERIES OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH80-160_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

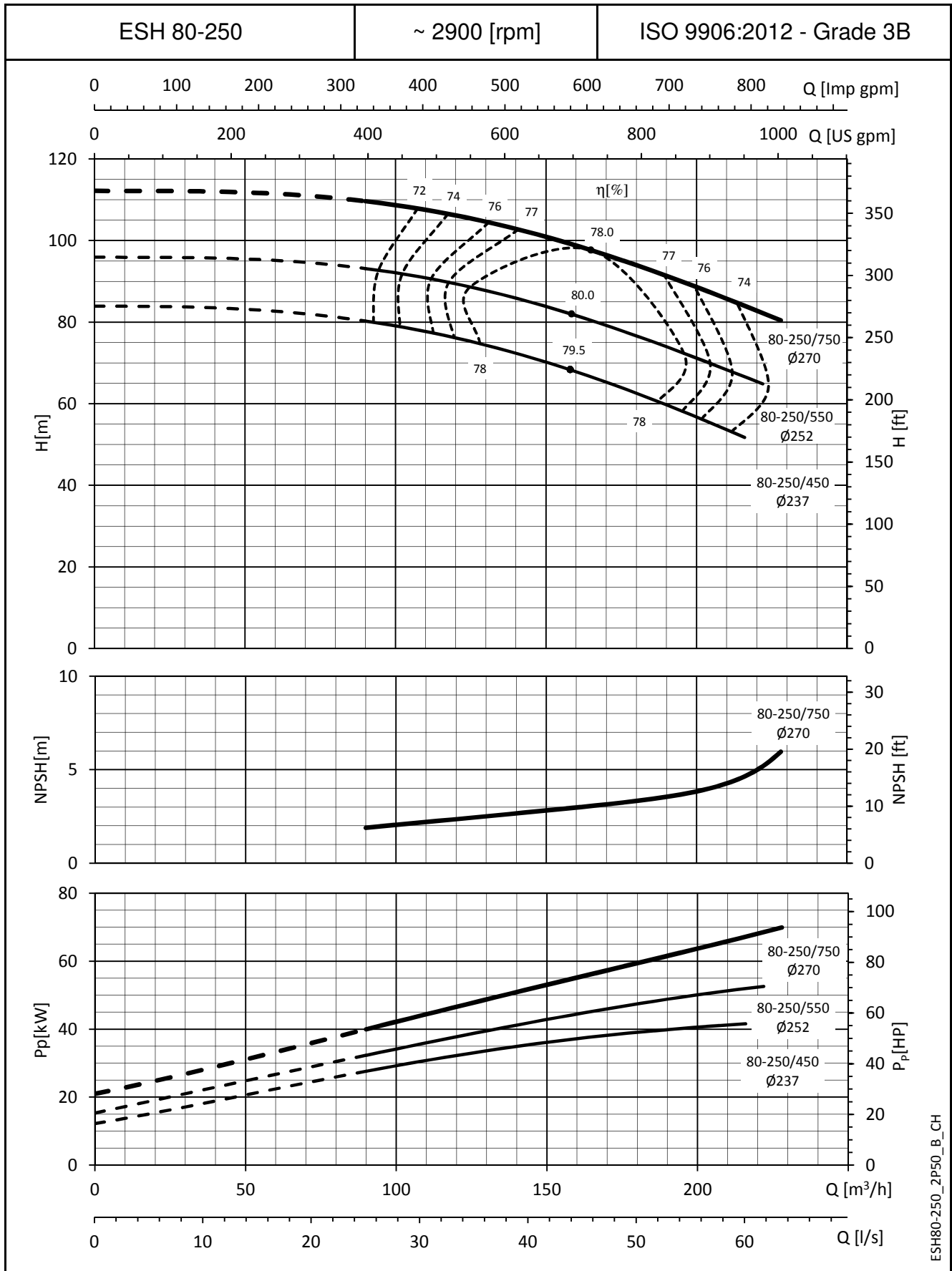
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH80-200_2P50_P_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

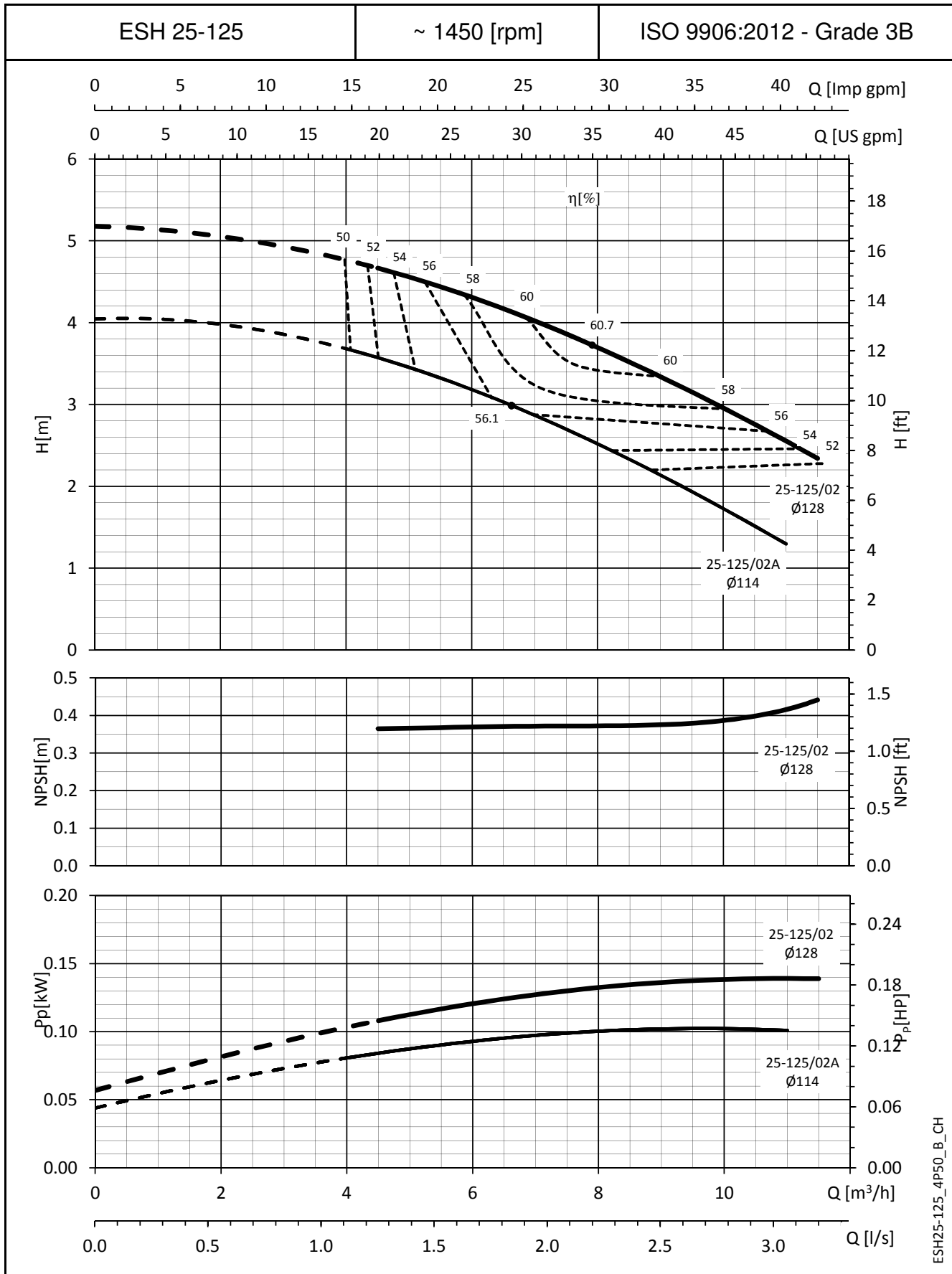
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



ESH80-250_2P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

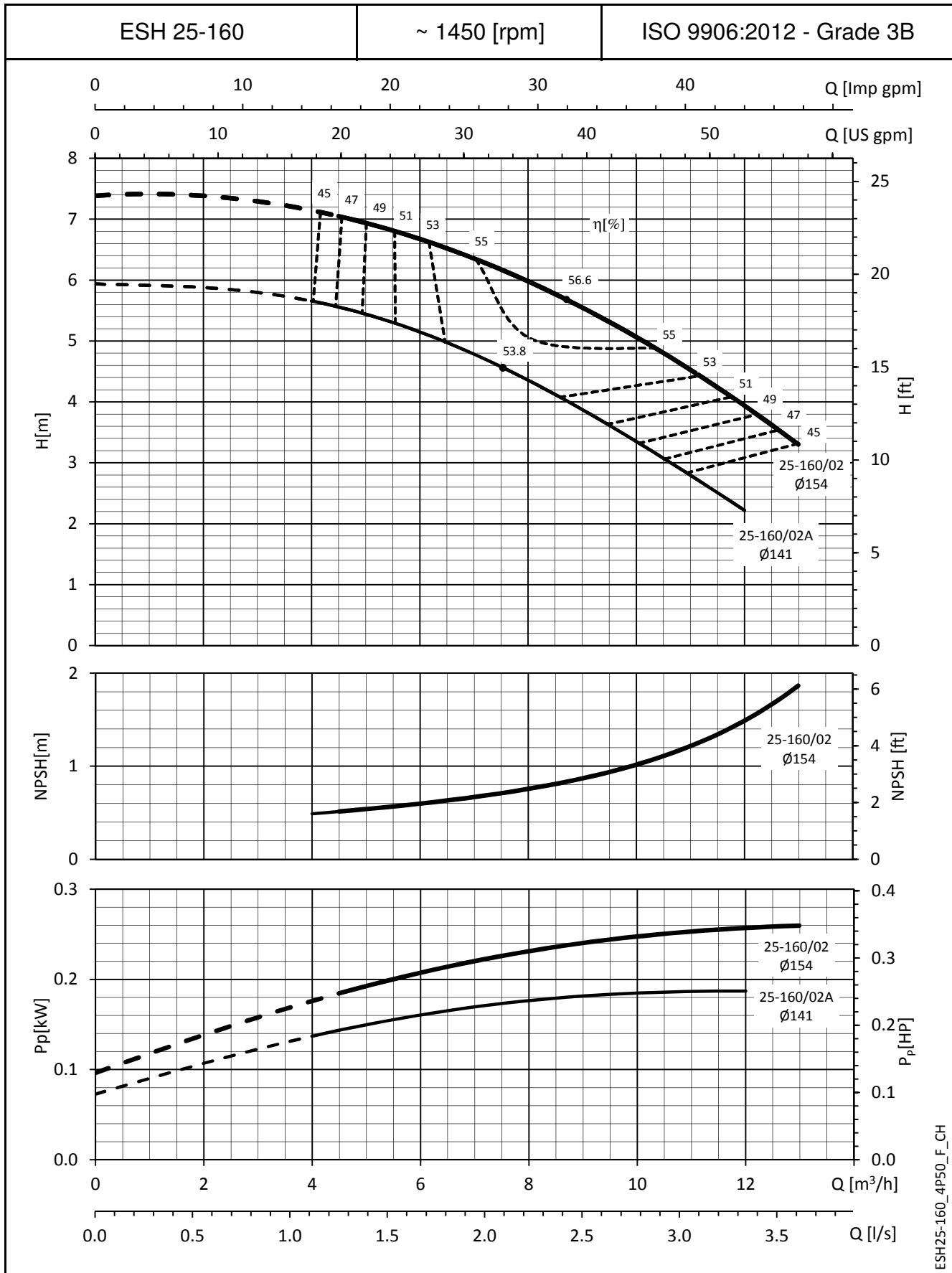
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH25-125_4P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

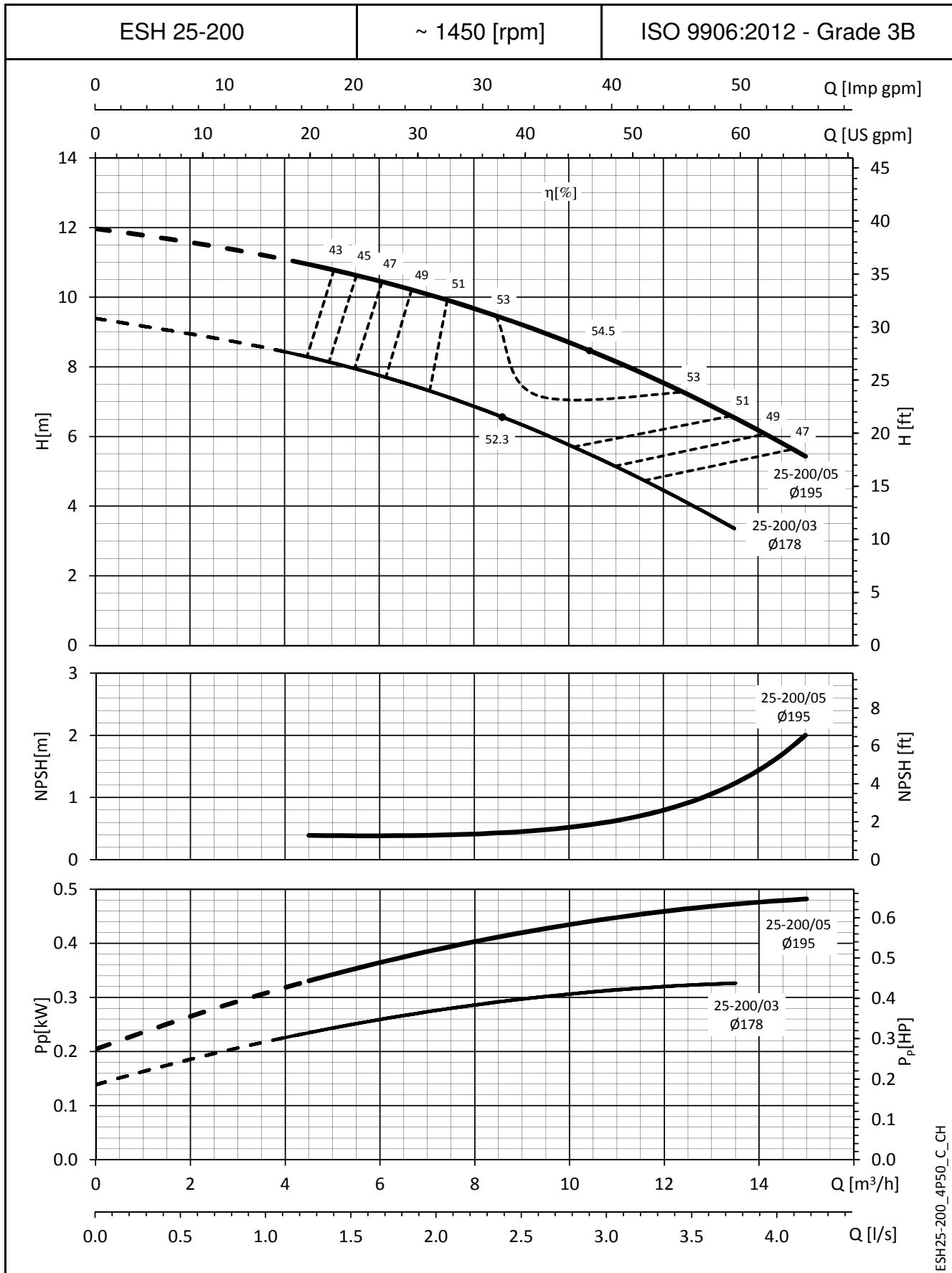
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH25-160_4P50_F_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

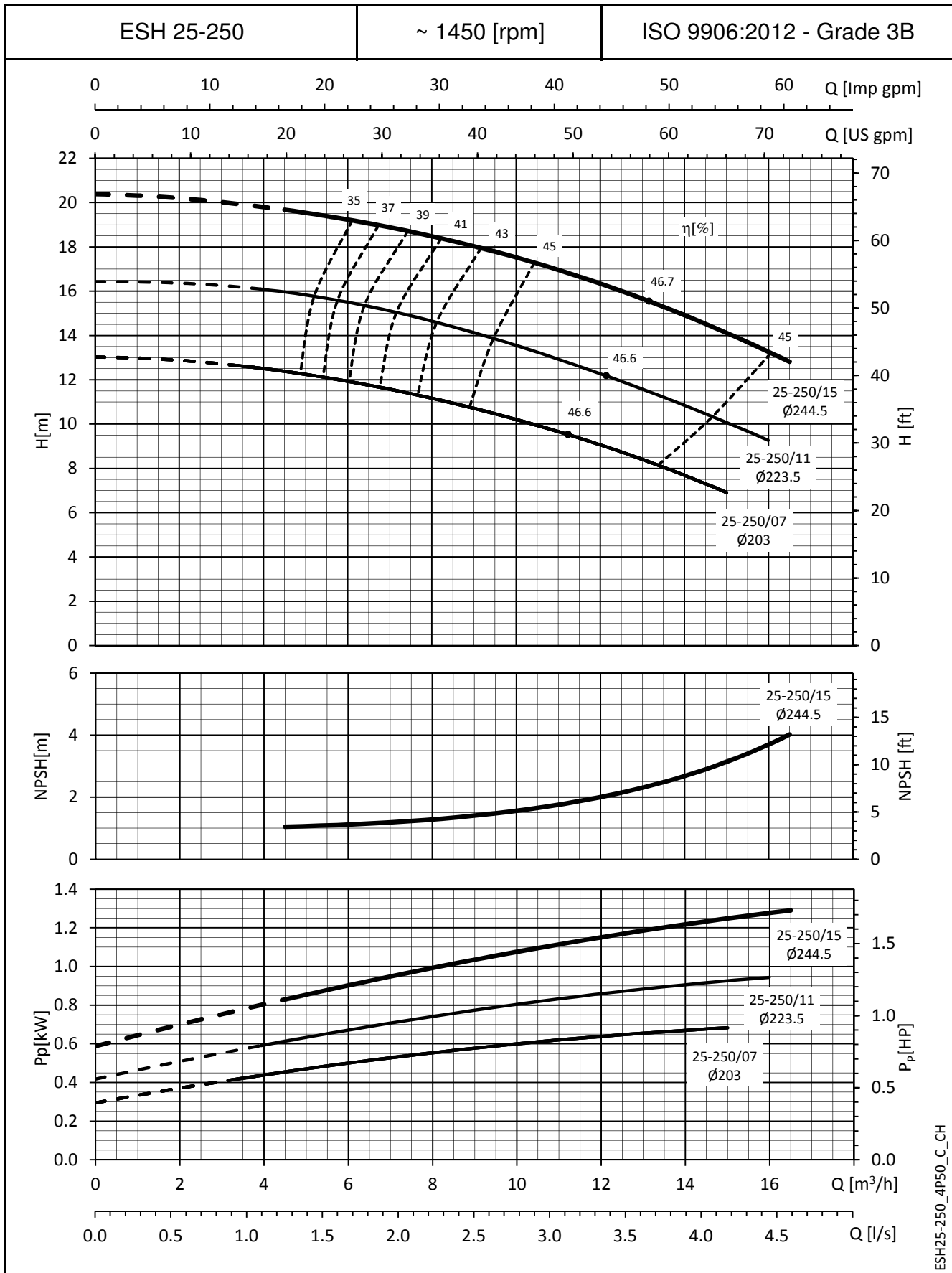
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH25-200_4P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

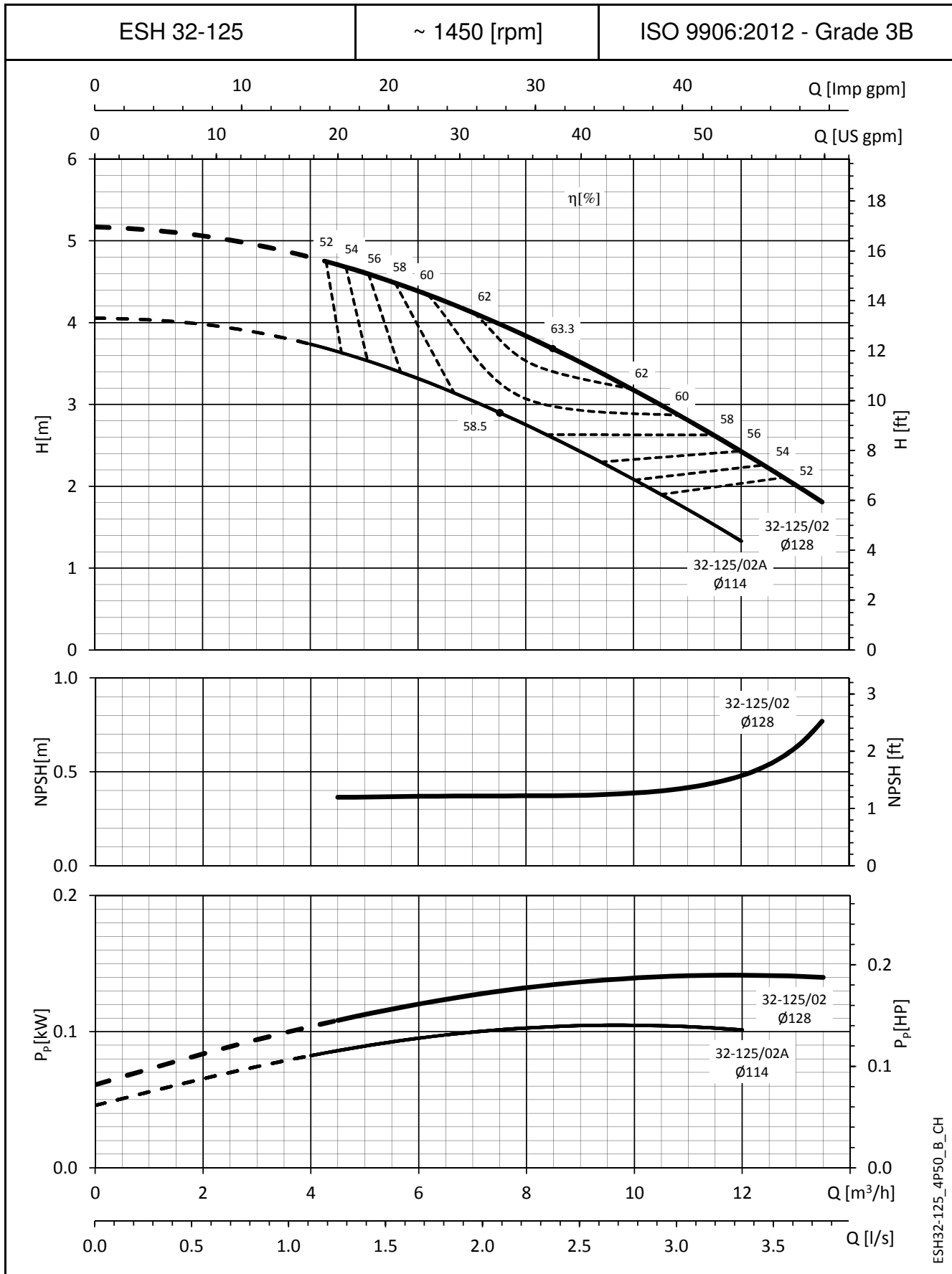
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH25-250_4P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

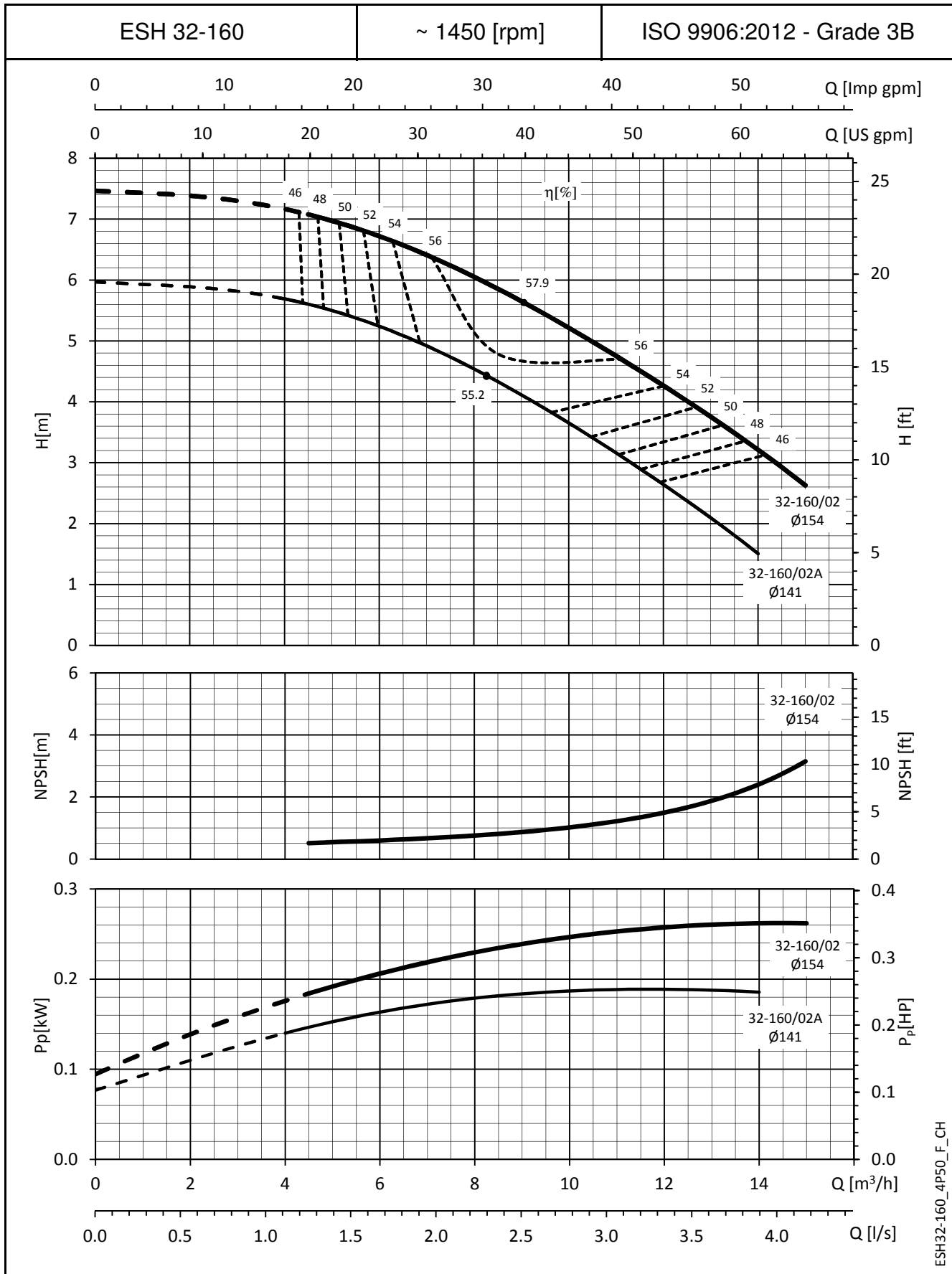
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH32-125_4P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

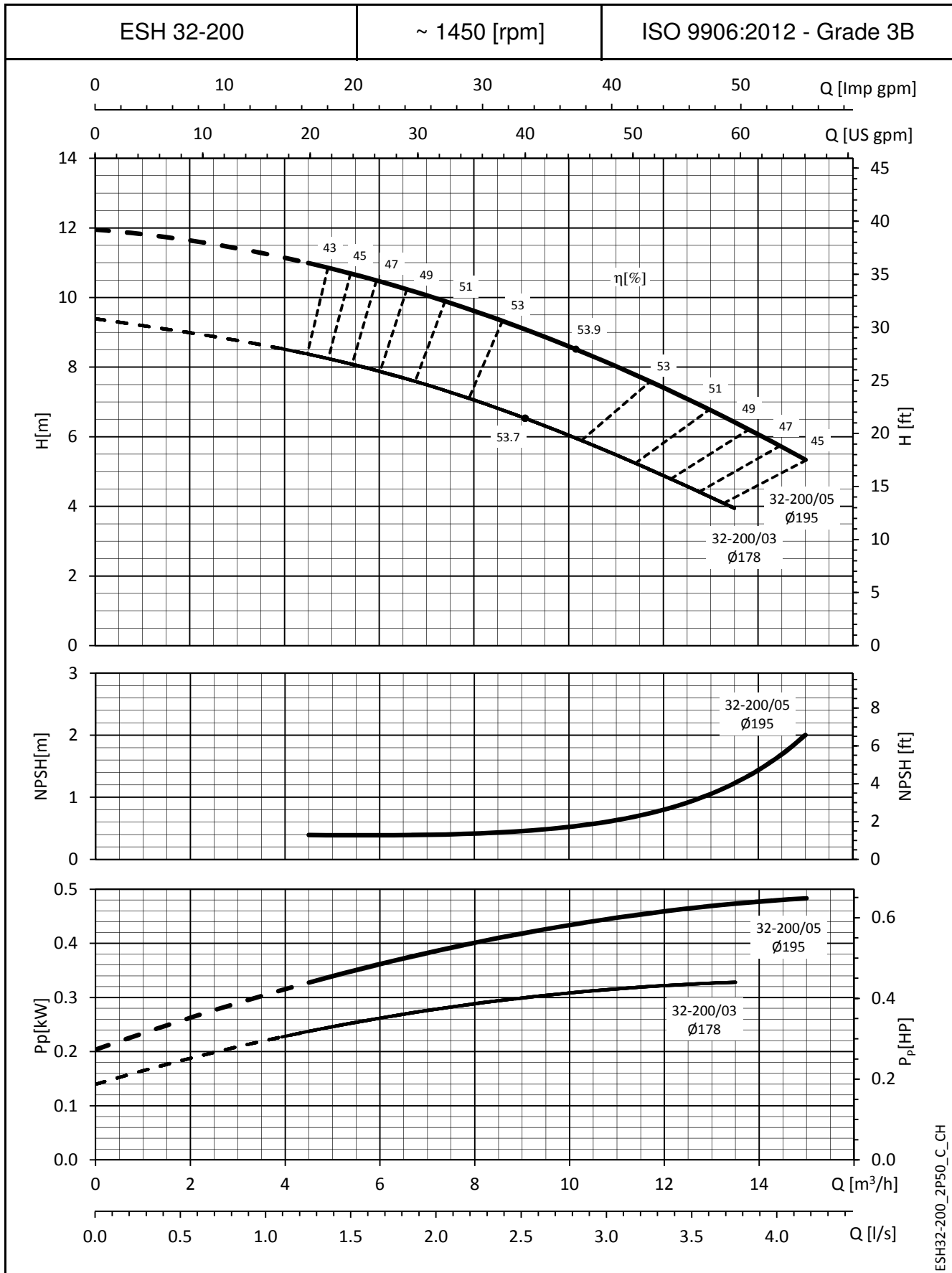
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH32-160_4P50_F_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

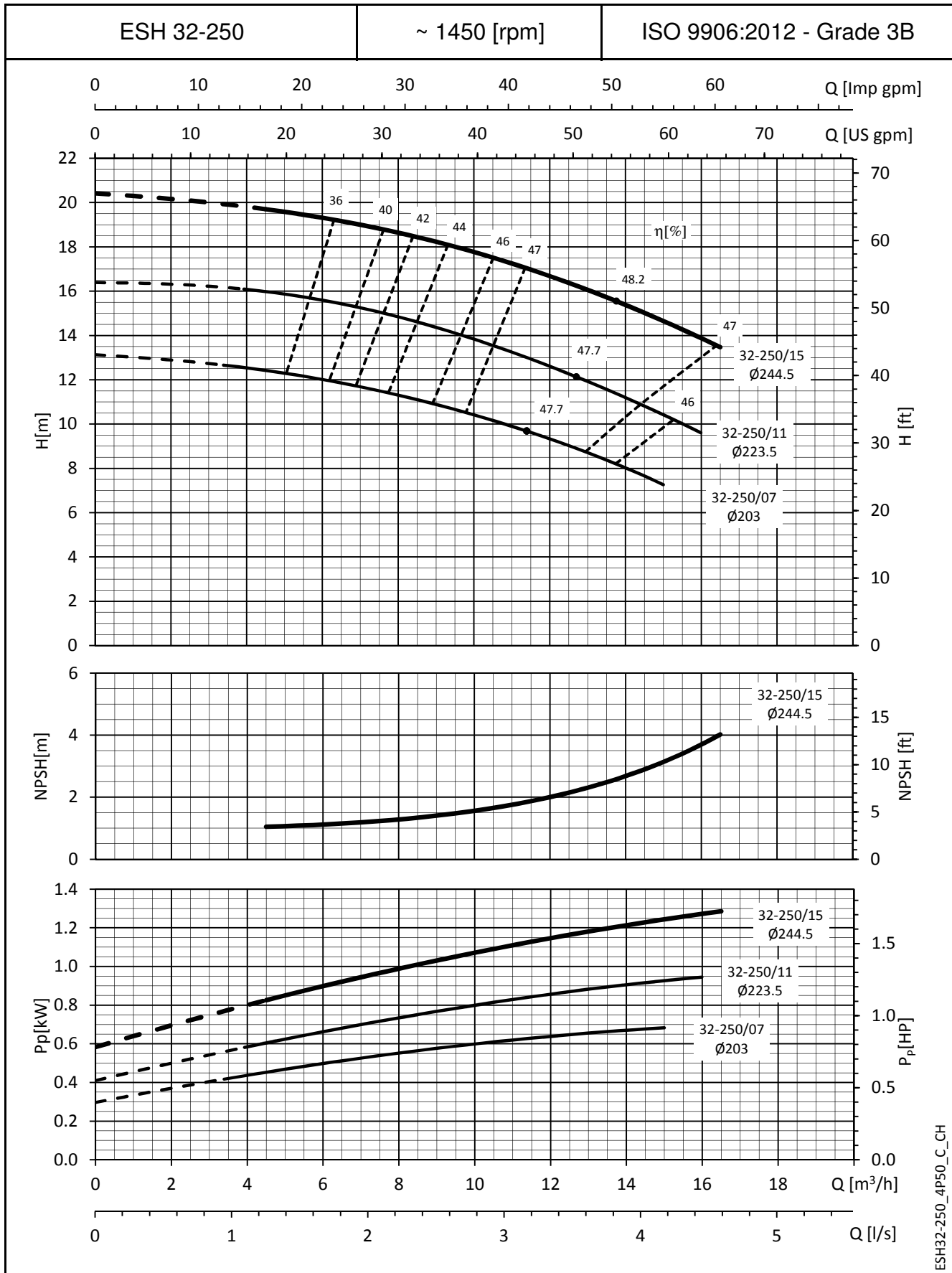
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH32-200_2P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

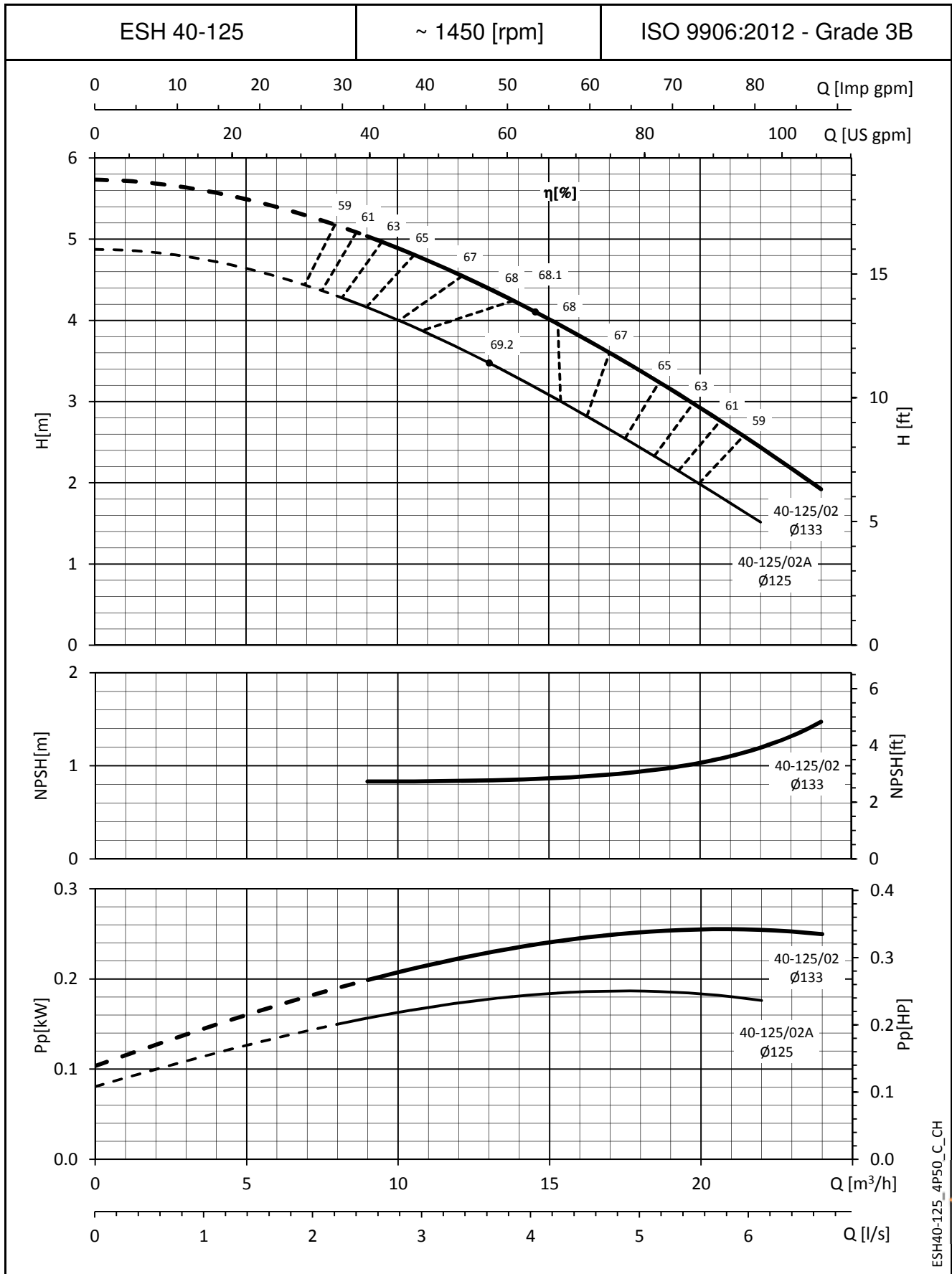
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH32-250_4P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

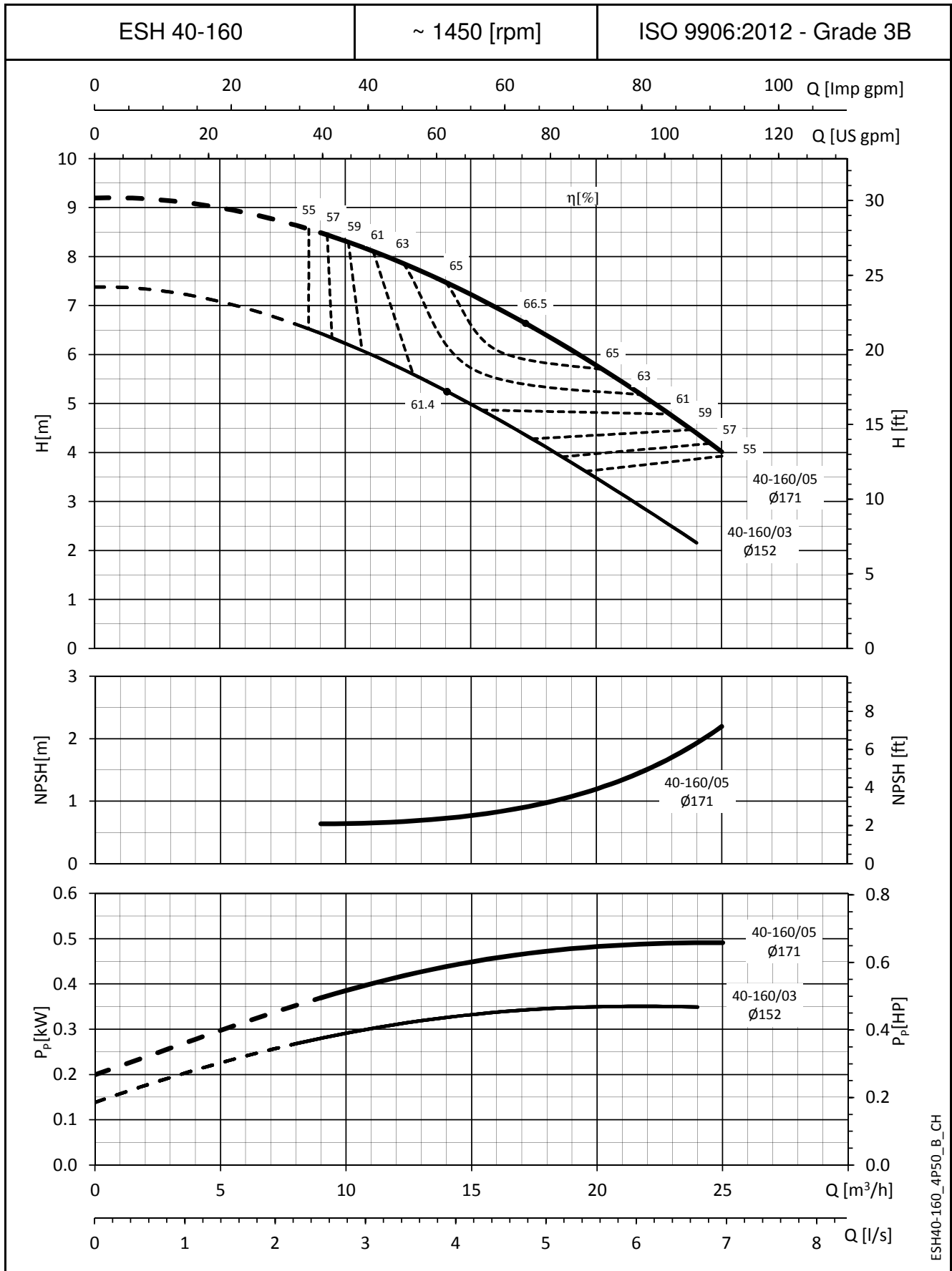
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH40-125_4P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

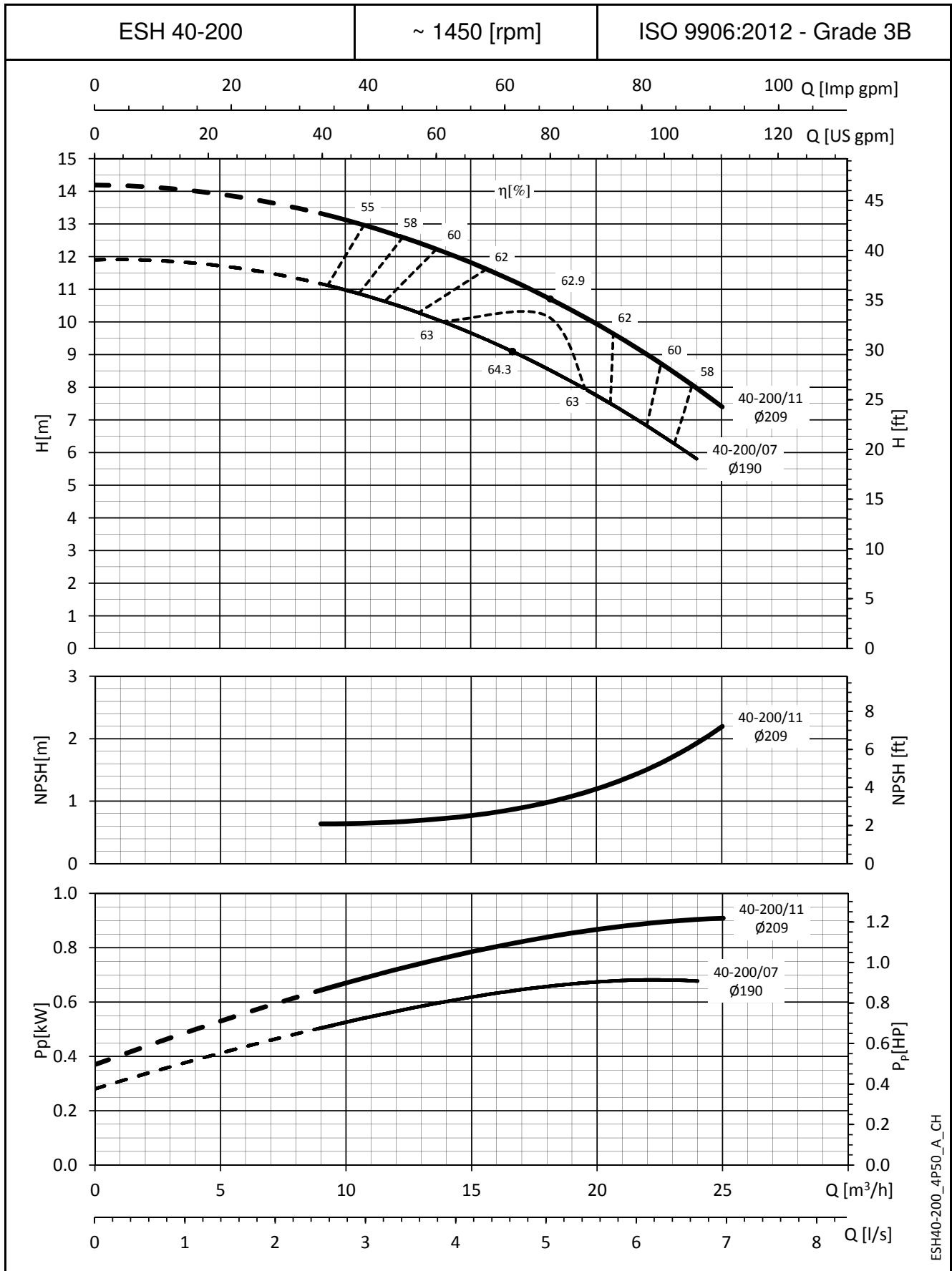
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH40-160_4P50_B_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

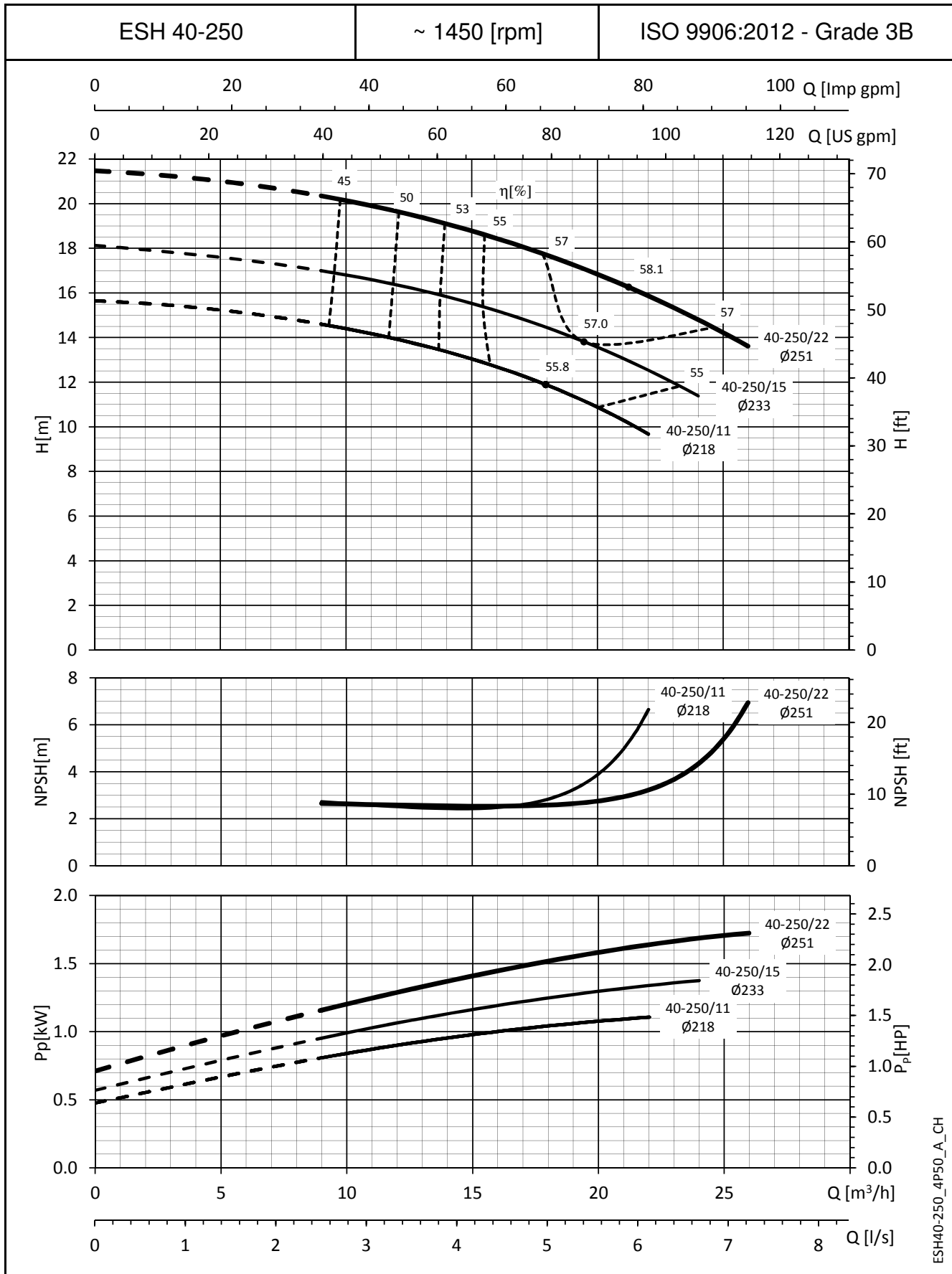
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH40-200_4P50_A_CH

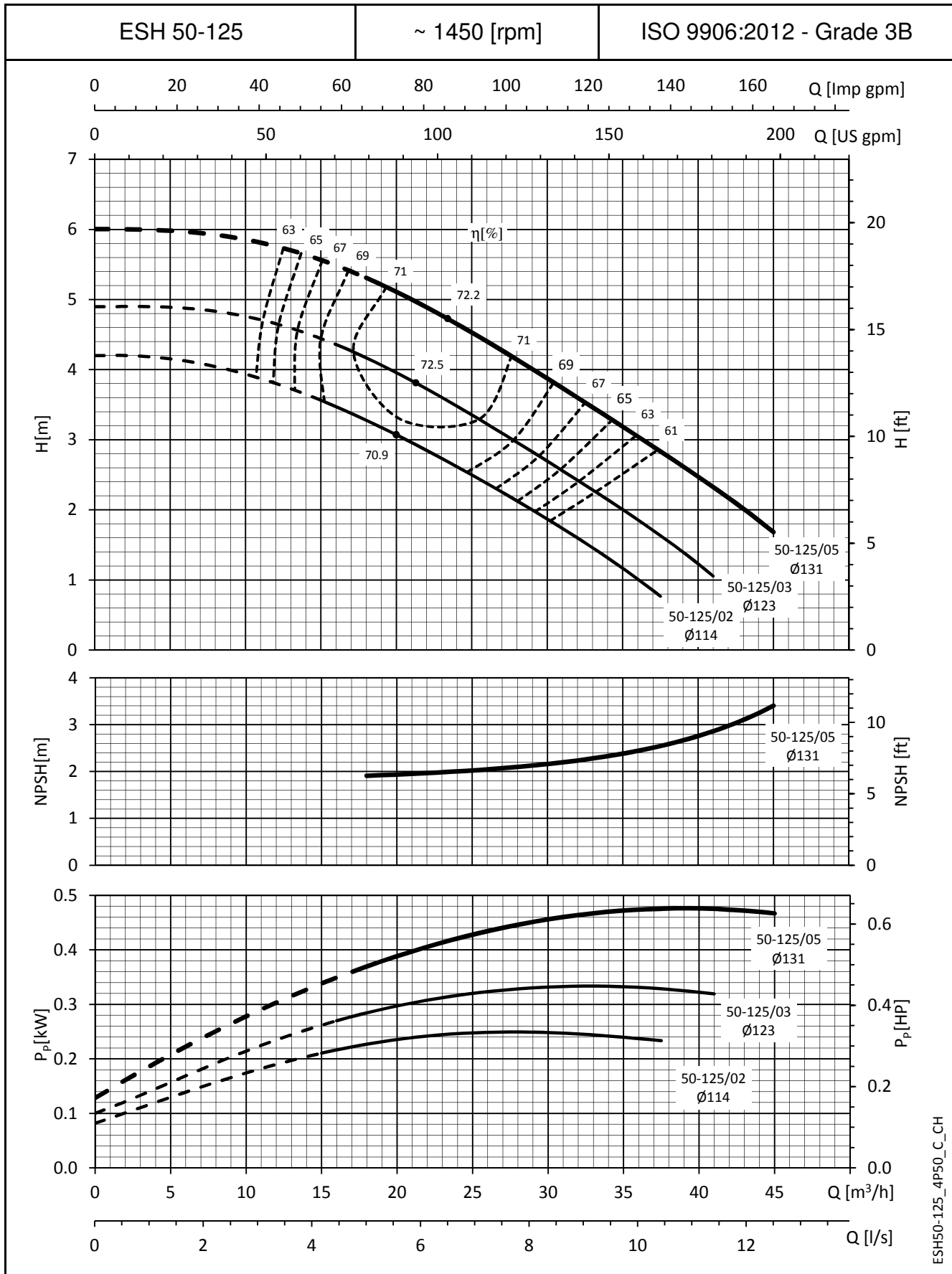
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

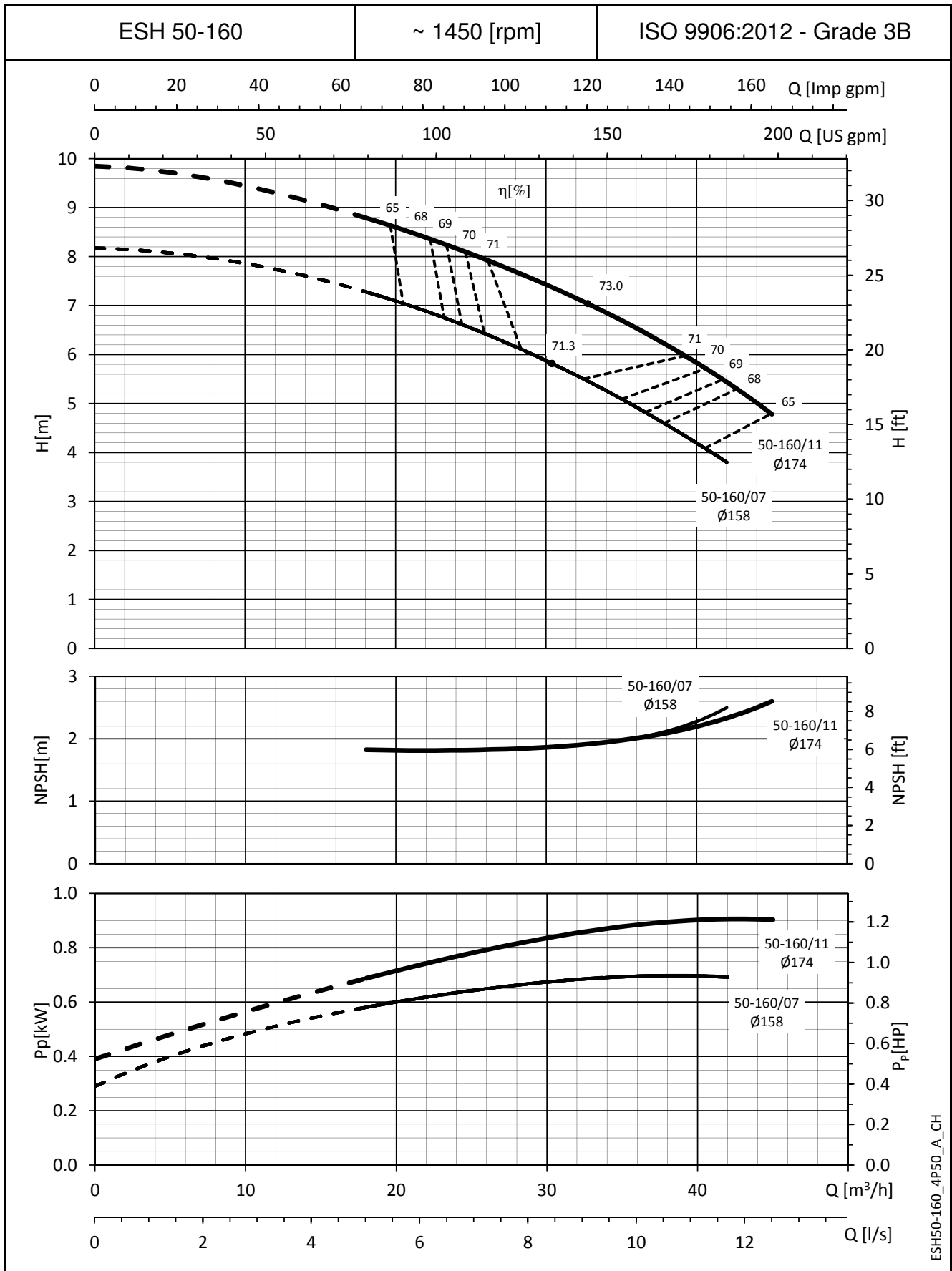
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH50-125_4P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

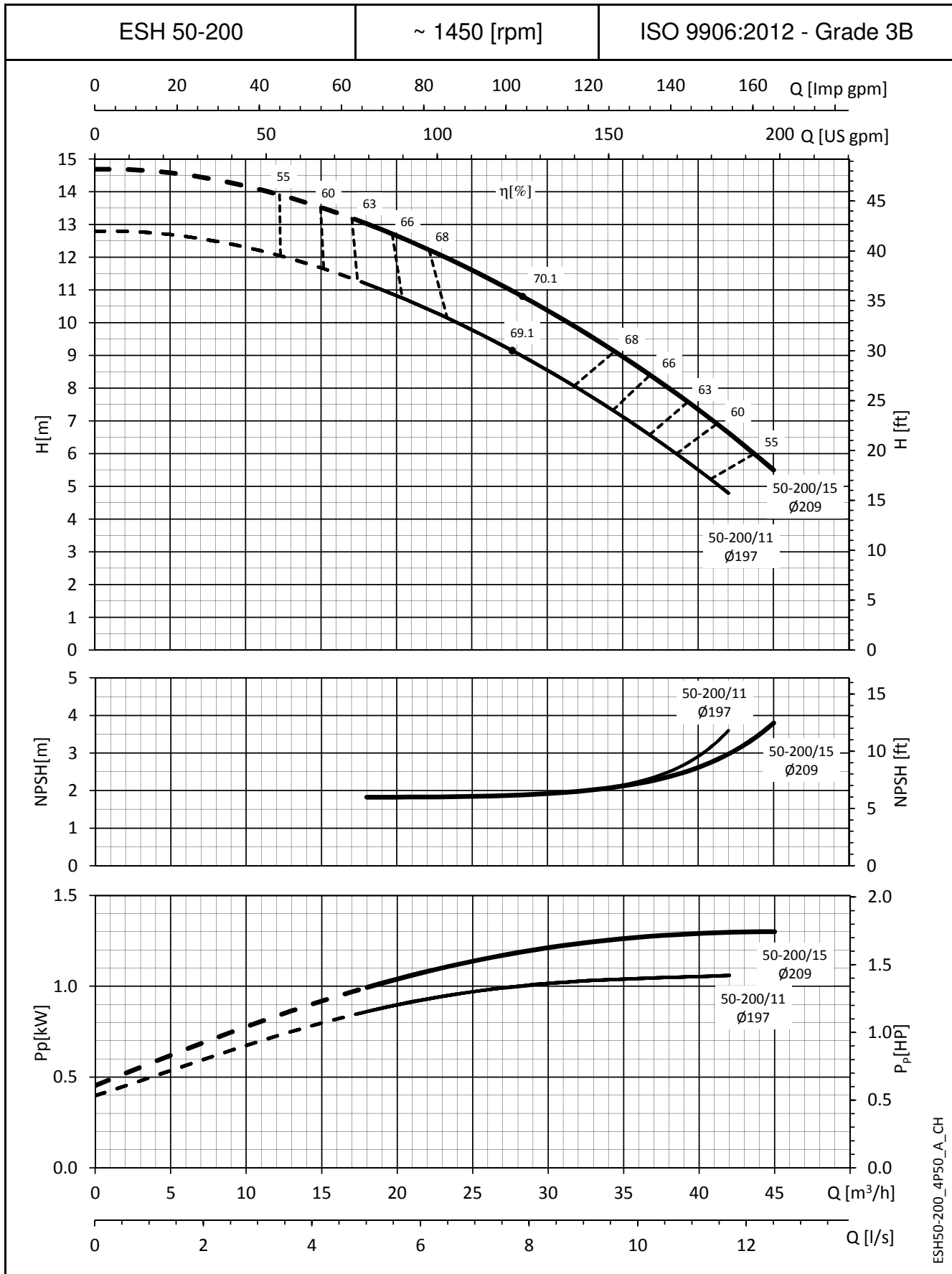
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH50-160_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

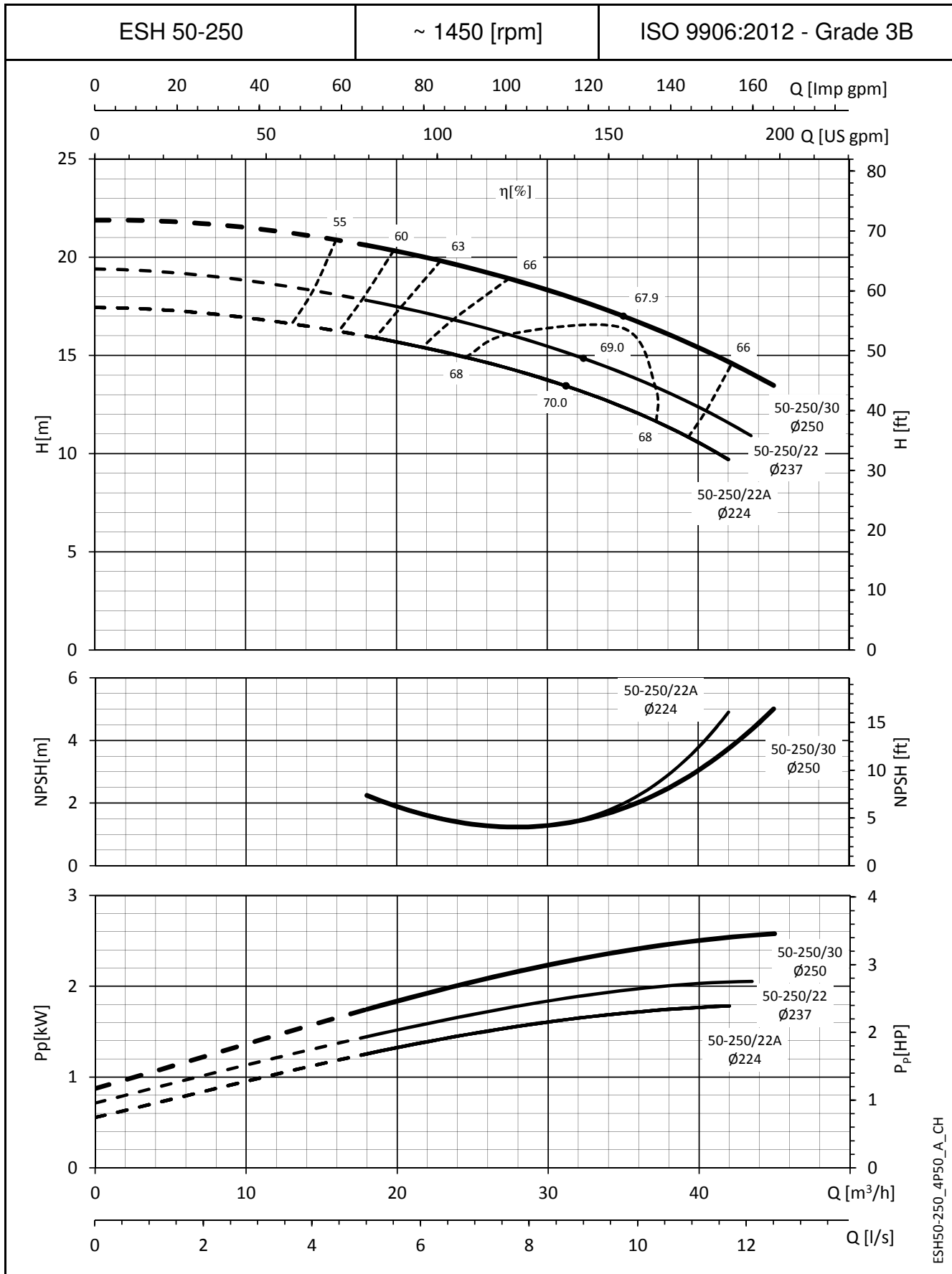
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH50-200_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

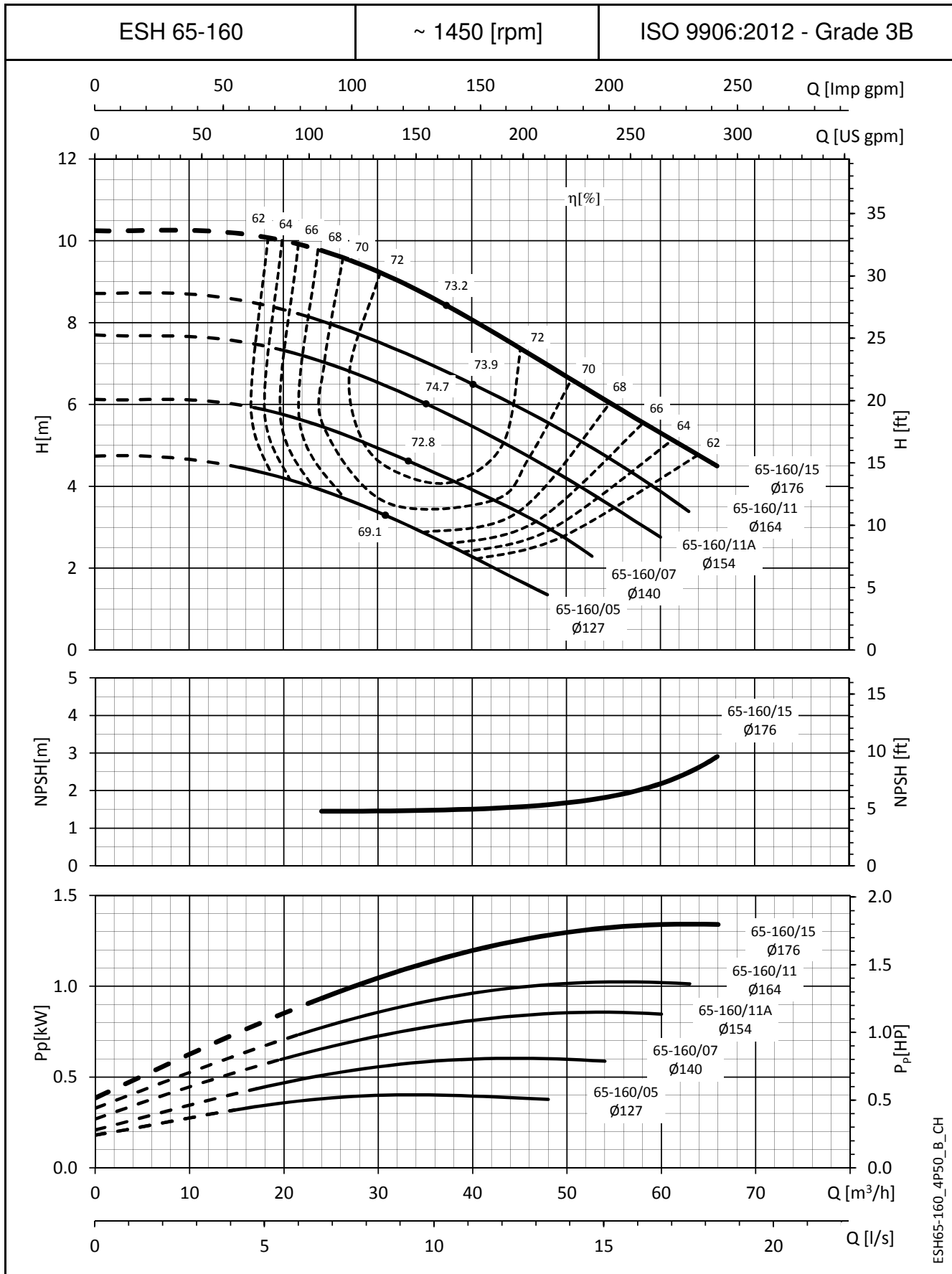
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH50-250_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

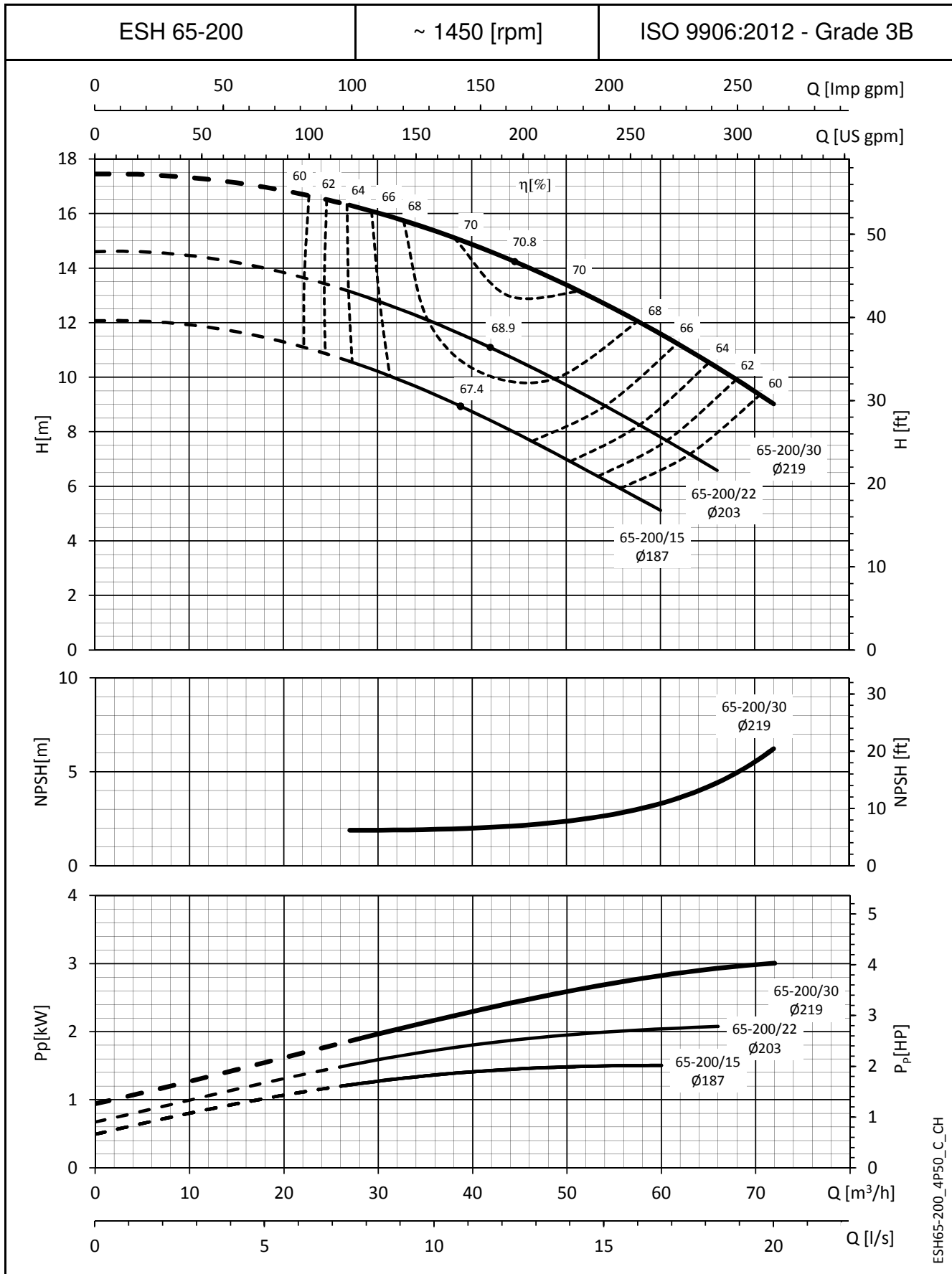
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH65-160_4P50_P_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

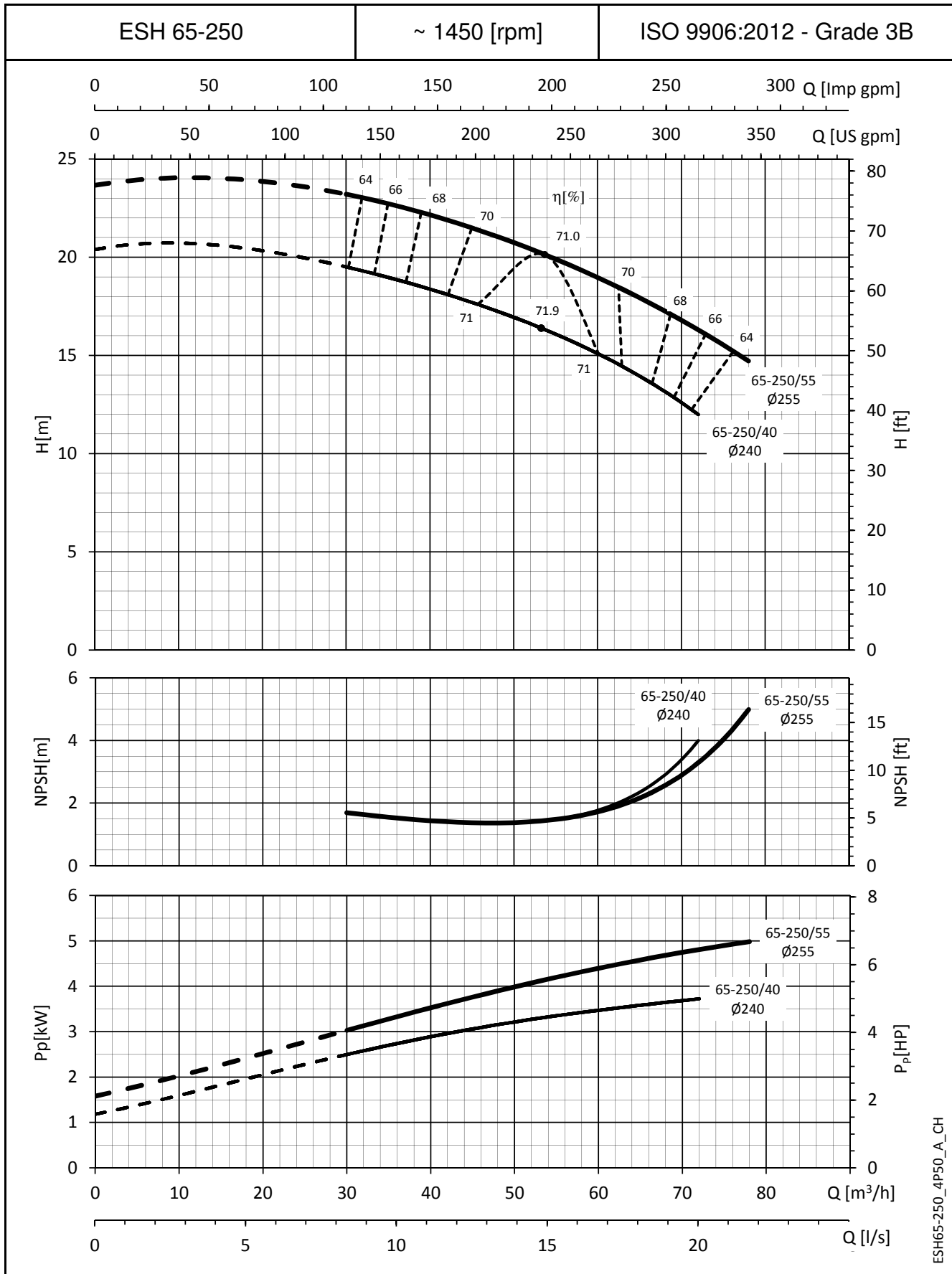
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH65-200_4P50_C_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

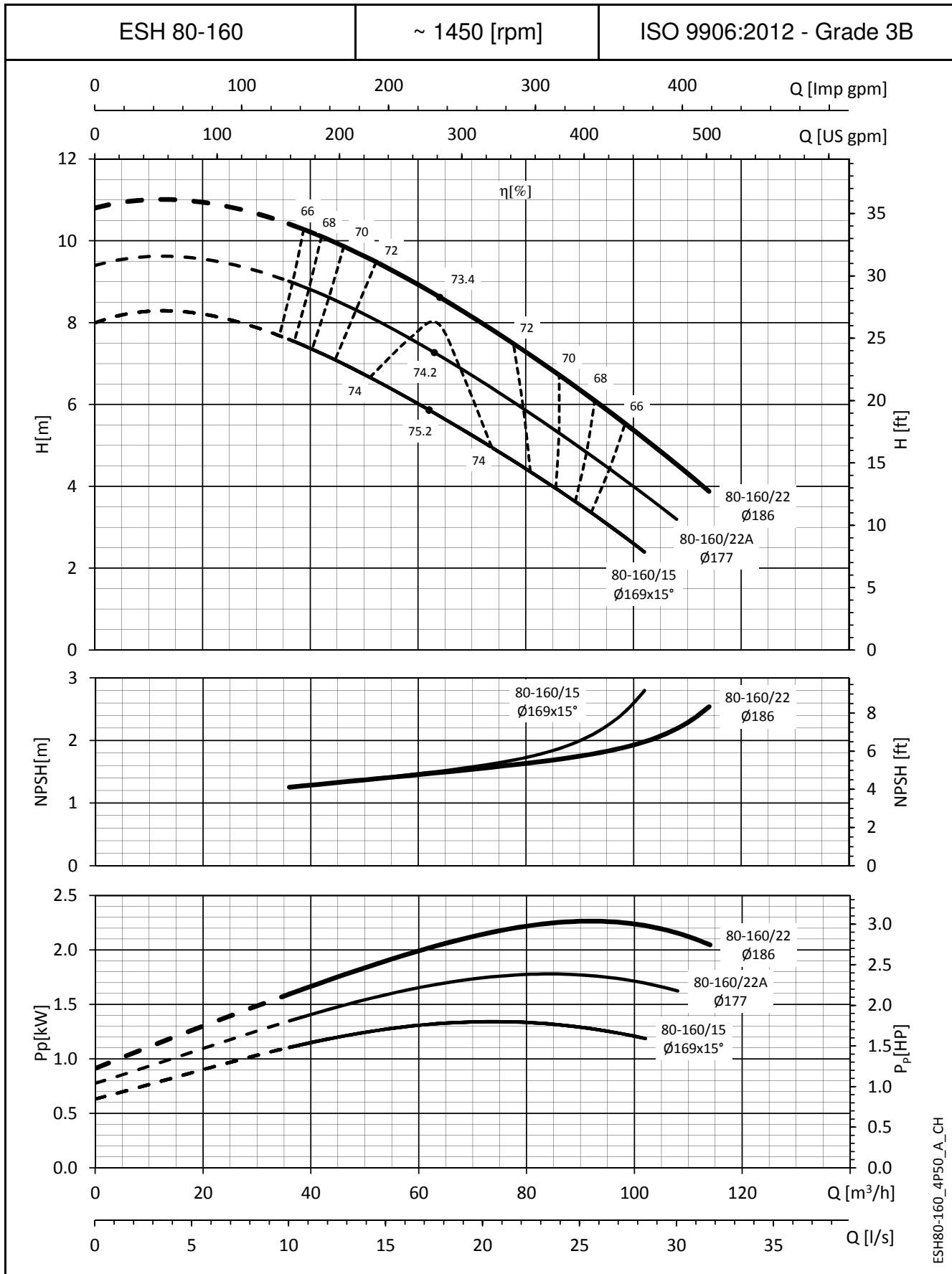
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH65-250_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

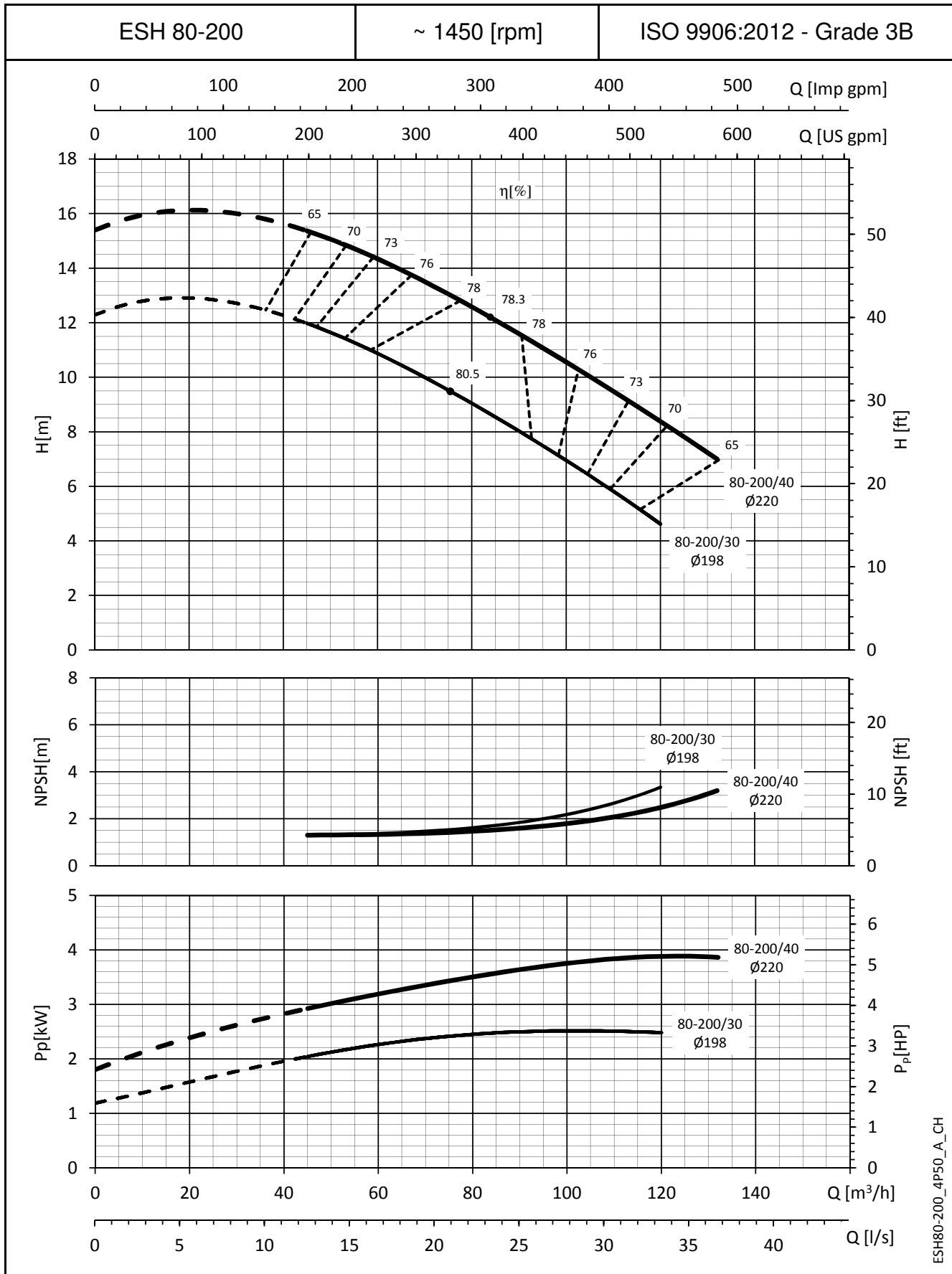
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH80-160_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

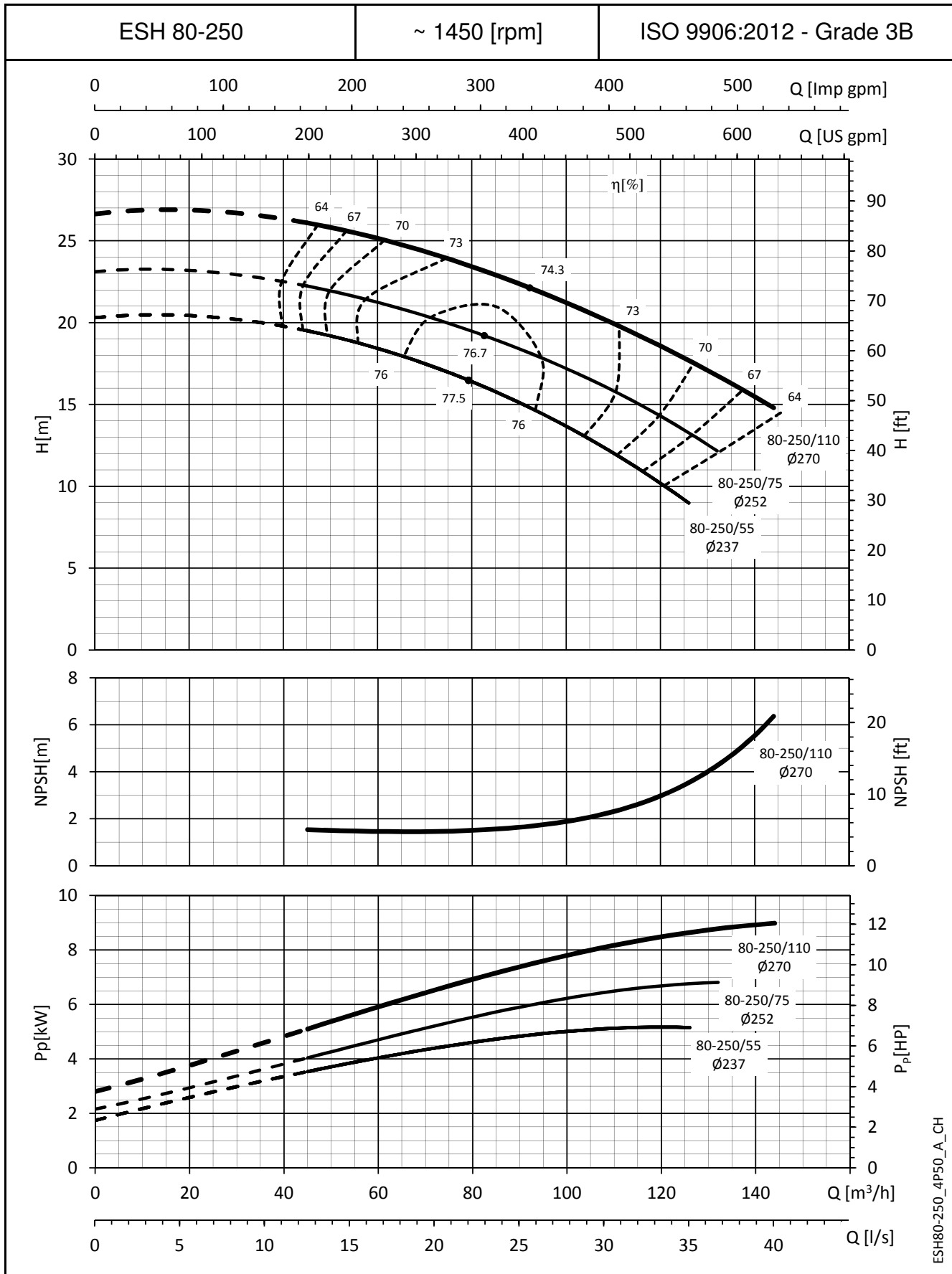
ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



ESH80-200_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

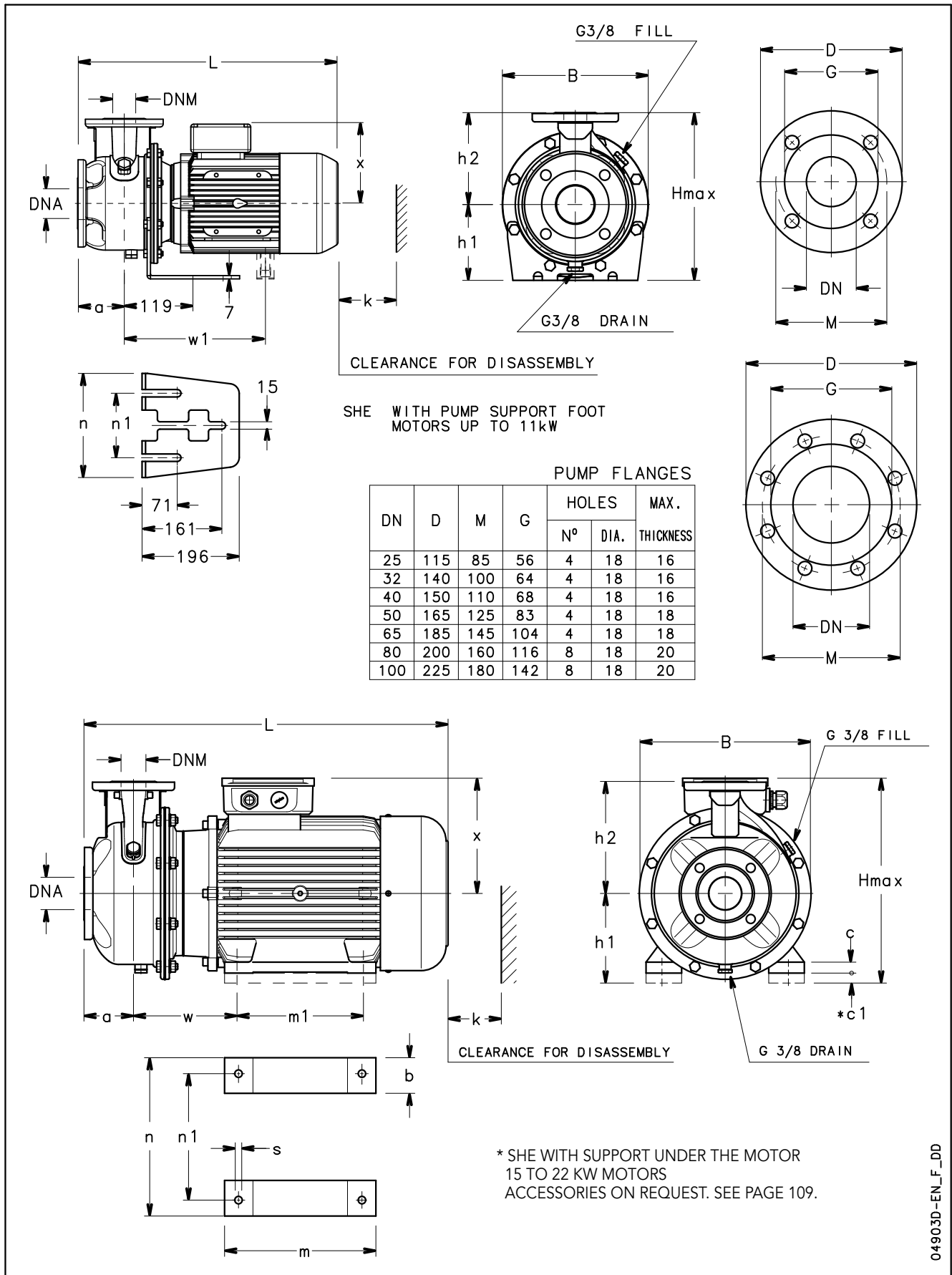


ESH80-250_4P50_A_CH

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

DIMENSIONS AND WEIGHTS

ESHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



04903D-EN_F_DD

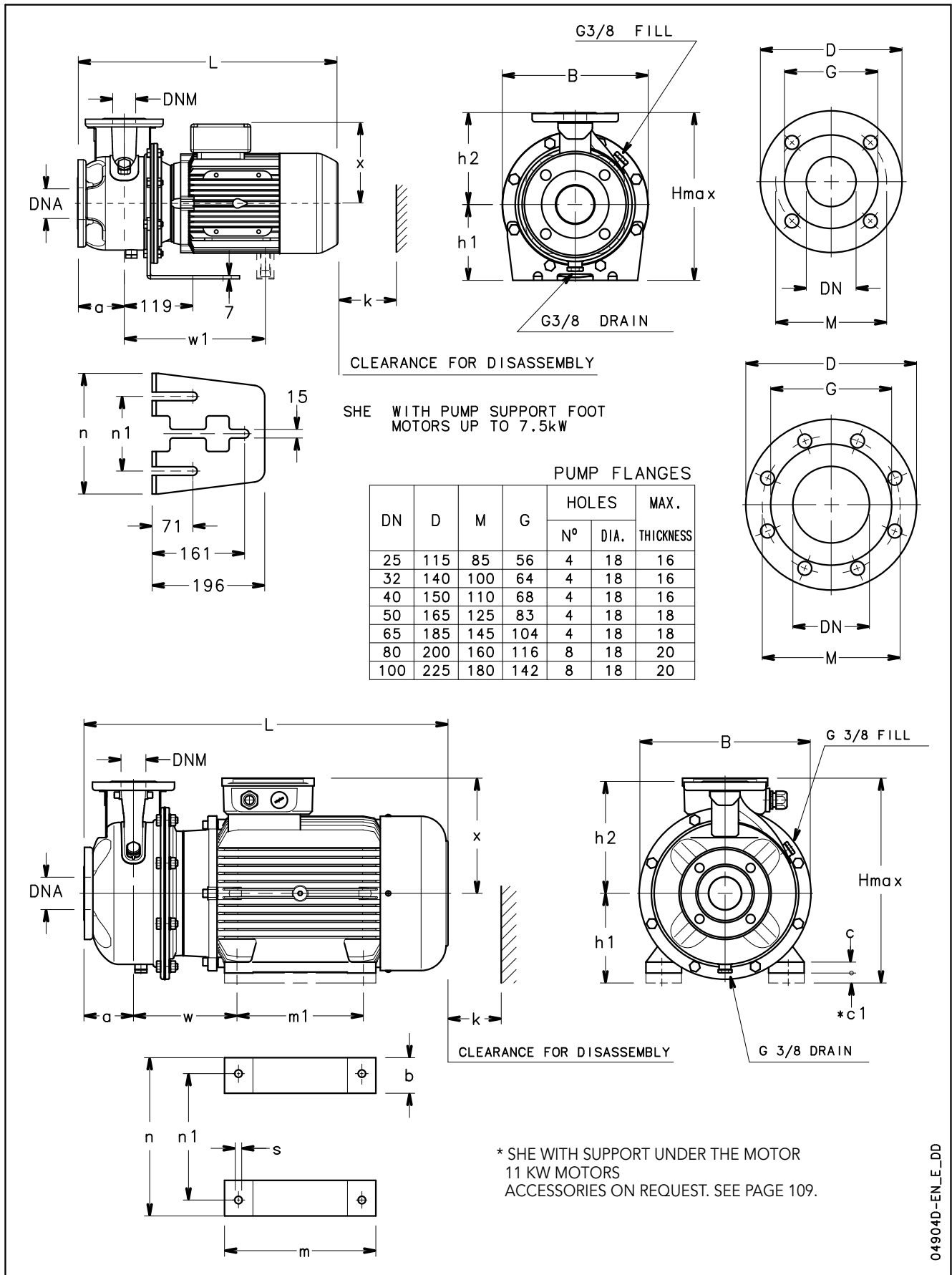
ESHE SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

| PUMP TYPE ESHE..2 | DIMENSIONS (mm) | | | | | | | | | | | | | | | B | H max | L | k | WEIGHT kg | |
|----------------------|-----------------|-----|------|-----|-----|-----|-----|---------|---|-----|-----|-----|-----|-----|-----|----|----------|-----|-----|--------------|------|
| | DNM | DNA | PUMP | | | | | SUPPORT | | | | | s | | | | | | | | |
| | | | a | h2 | w | w1 | x | b | c | *c1 | h1 | m | m1 | n | n1 | | | | | | |
| 25-125/07/S | 25 | 50 | 80 | 140 | - | - | 129 | - | - | - | 160 | - | - | 190 | 130 | - | 218 | 300 | 443 | 98 | 18,6 |
| 25-125/11/S | 25 | 50 | 80 | 140 | - | - | 129 | - | - | - | 160 | - | - | 190 | 130 | - | 218 | 300 | 443 | 98 | 20,6 |
| 25-160/15/S | 25 | 50 | 80 | 160 | - | - | 129 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 320 | 443 | 98 | 24,4 |
| 25-160/22/P | 25 | 50 | 80 | 160 | - | - | 134 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 320 | 478 | 98 | 29 |
| 25-200/30/P | 25 | 50 | 80 | 180 | - | - | 134 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 478 | 98 | 38 |
| 25-200/40/P | 25 | 50 | 80 | 180 | - | - | 154 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 499 | 98 | 41 |
| 25-250/55/P | 25 | 50 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 98 | 66 |
| 25-250/75/P | 25 | 50 | 100 | 225 | - | 305 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 567 | 98 | 84 |
| 25-250/110/P | 25 | 50 | 100 | 225 | - | 343 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 605 | 98 | 92 |
| 32-125/07/S | 32 | 50 | 80 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 443 | 98 | 18,6 |
| 32-125/11/S | 32 | 50 | 80 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 443 | 98 | 20,6 |
| 32-160/15/S | 32 | 50 | 80 | 160 | - | - | 129 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 443 | 98 | 24,4 |
| 32-160/22/P | 32 | 50 | 80 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 478 | 98 | 29 |
| 32-200/30/P | 32 | 50 | 80 | 180 | - | - | 134 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 478 | 98 | 38 |
| 32-200/40/P | 32 | 50 | 80 | 180 | - | - | 154 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 499 | 98 | 41 |
| 32-250/55/P | 32 | 50 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 98 | 66 |
| 32-250/75/P | 32 | 50 | 100 | 225 | - | 305 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 567 | 98 | 84 |
| 32-250/110/P | 32 | 50 | 100 | 225 | - | 343 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 605 | 98 | 92 |
| 40-125/11/S | 40 | 65 | 80 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 443 | 100 | 21,6 |
| 40-125/15/S | 40 | 65 | 80 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 443 | 100 | 22,4 |
| 40-125/22/P | 40 | 65 | 80 | 140 | - | - | 134 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 478 | 100 | 30 |
| 40-160/30/P | 40 | 65 | 80 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 478 | 100 | 32 |
| 40-160/40/P | 40 | 65 | 80 | 160 | - | - | 154 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 499 | 100 | 40 |
| 40-200/55/P | 40 | 65 | 100 | 180 | - | - | 168 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 553 | 100 | 52 |
| 40-200/75/P | 40 | 65 | 100 | 180 | - | 305 | 191 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 567 | 100 | 65 |
| 40-250/92/P | 40 | 65 | 100 | 225 | - | 343 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 605 | 107 | 89 |
| 40-250/110/P | 40 | 65 | 100 | 225 | - | 343 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 605 | 107 | 94 |
| 40-250/150/P | 40 | 65 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 345 | 420 | 694 | 107 | 130 |
| 50-125/22/P | 50 | 65 | 100 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 498 | 104 | 30 |
| 50-125/30/P | 50 | 65 | 100 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 498 | 104 | 33 |
| 50-125/40/P | 50 | 65 | 100 | 160 | - | - | 154 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 519 | 104 | 40 |
| 50-160/55/P | 50 | 65 | 100 | 180 | - | - | 168 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 340 | 553 | 104 | 52 |
| 50-160/75/P | 50 | 65 | 100 | 180 | - | 305 | 191 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 351 | 567 | 104 | 67 |
| 50-200/92/P | 50 | 65 | 100 | 200 | - | 343 | 191 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 605 | 104 | 84 |
| 50-200/110/P | 50 | 65 | 100 | 200 | - | 343 | 191 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 605 | 104 | 88 |
| 50-250/150/P | 50 | 65 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 345 | 420 | 694 | 107 | 131 |
| 50-250/185/P | 50 | 65 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 345 | 420 | 694 | 107 | 144 |
| 50-250/220/P | 50 | 65 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 345 | 420 | 694 | 107 | 147 |
| 65-160/40/P | 65 | 80 | 100 | 200 | - | - | 154 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 519 | 130 | 56 |
| 65-160/55/P | 65 | 80 | 100 | 200 | - | - | 168 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 553 | 130 | 63 |
| 65-160/75/P | 65 | 80 | 100 | 200 | - | 305 | 191 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 567 | 130 | 80 |
| 65-160/92/P | 65 | 80 | 100 | 200 | - | 343 | 191 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 605 | 130 | 95 |
| 65-160/110/P | 65 | 80 | 100 | 200 | - | 343 | 191 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 605 | 130 | 102 |
| 65-200/150/P | 65 | 80 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 310 | 420 | 694 | 130 | 131 |
| 65-200/185/P | 65 | 80 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 310 | 420 | 694 | 130 | 141 |
| 65-200/220/P | 65 | 80 | 100 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 310 | 420 | 694 | 130 | 151 |
| 80-160/110/P | 80 | 100 | 125 | 225 | - | 343 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 630 | 160 | 94 |
| 80-160/150/P | 80 | 100 | 125 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 345 | 420 | 719 | 160 | 128 |
| 80-160/185/P | 80 | 100 | 125 | 225 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 345 | 420 | 719 | 160 | 139 |
| 80-200/220/P | 80 | 100 | 125 | 250 | 208 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 345 | 430 | 719 | 160 | 156 |

* Motor shim on request

ESHE_2p50-en_a_td

ESHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES



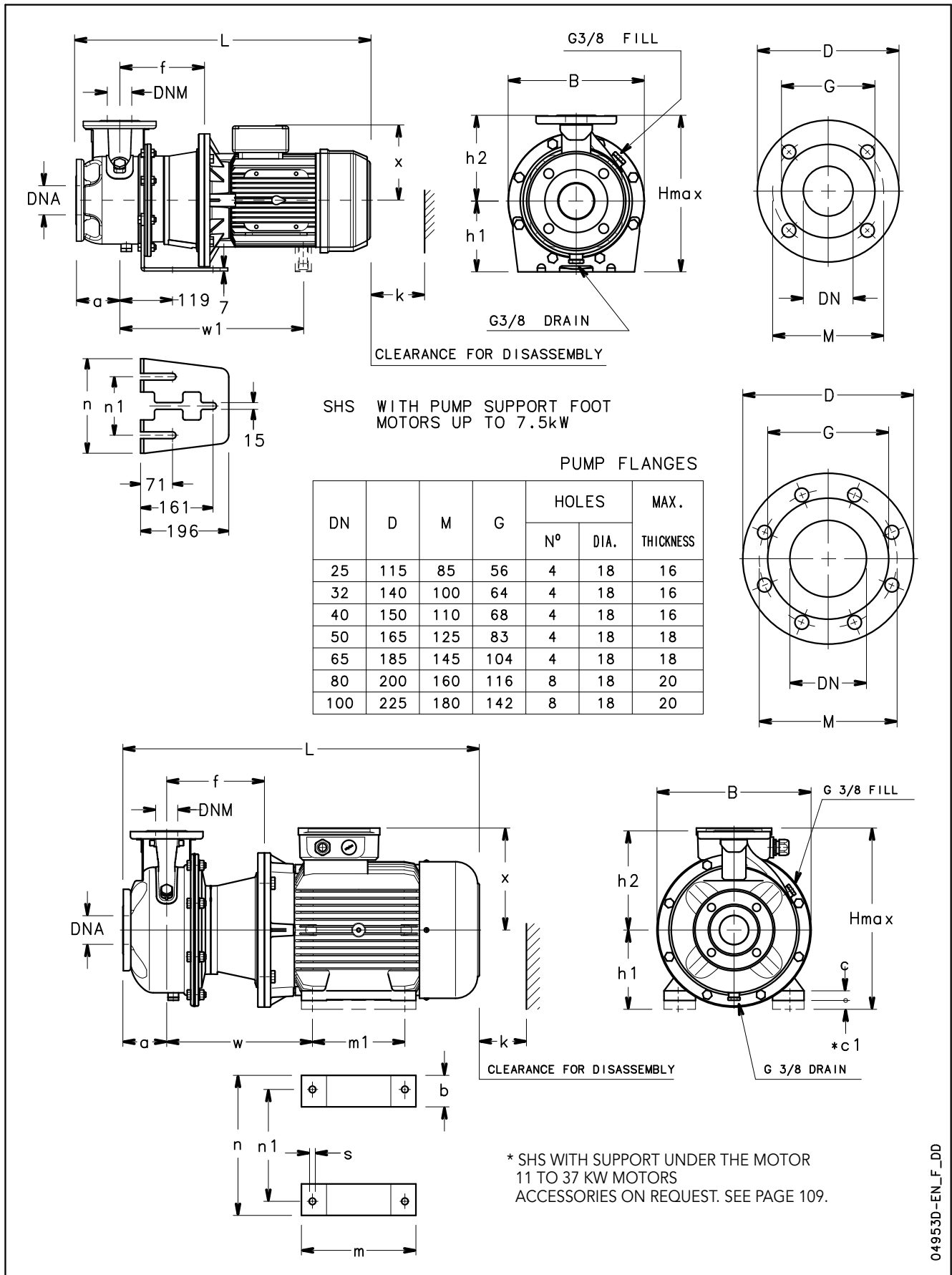
04904D-EN_E_DD

ESHE SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

| PUMP TYPE ESHE..4 | DIMENSIONS (mm) | | | | | | | | | | | | | | | B | H max | L | k | WEIGHT kg | |
|----------------------|-----------------|-----|------|-----|-----|-----|-----|---------|---|-----|-----|-----|-----|-----|-----|----|----------|-----|-----|--------------|-----|
| | DNM | DNA | PUMP | | | | | SUPPORT | | | | | s | | | | | | | | |
| | | | a | h2 | w | w1 | x | b | c | *c1 | h1 | m | m1 | n | n1 | | | | | | |
| 25-125/02A/S | 25 | 50 | 80 | 140 | - | - | 121 | - | - | - | 160 | - | - | 190 | 130 | - | 218 | 300 | 411 | 98 | 15 |
| 25-125/02/S | 25 | 50 | 80 | 140 | - | - | 121 | - | - | - | 160 | - | - | 190 | 130 | - | 218 | 300 | 411 | 98 | 16 |
| 25-160/02A/S | 25 | 50 | 80 | 160 | - | - | 121 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 320 | 411 | 98 | 18 |
| 25-160/02/S | 25 | 50 | 80 | 160 | - | - | 121 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 320 | 411 | 98 | 19 |
| 25-200/03/S | 25 | 50 | 80 | 180 | - | - | 121 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 411 | 98 | 26 |
| 25-200/05/S | 25 | 50 | 80 | 180 | - | - | 129 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 443 | 98 | 27 |
| 25-250/07/X | 25 | 50 | 100 | 225 | - | - | 128 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 431 | 98 | 42 |
| 25-250/11/P | 25 | 50 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 498 | 98 | 49 |
| 25-250/15/P | 25 | 50 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 498 | 98 | 51 |
| 32-125/02A/S | 32 | 50 | 80 | 140 | - | - | 121 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 411 | 98 | 15 |
| 32-125/02/S | 32 | 50 | 80 | 140 | - | - | 121 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 411 | 98 | 16 |
| 32-160/02A/S | 32 | 50 | 80 | 160 | - | - | 121 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 411 | 98 | 18 |
| 32-160/02/S | 32 | 50 | 80 | 160 | - | - | 121 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 411 | 98 | 19 |
| 32-200/03/S | 32 | 50 | 80 | 180 | - | - | 121 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 411 | 98 | 26 |
| 32-200/05/S | 32 | 50 | 80 | 180 | - | - | 129 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 443 | 98 | 27 |
| 32-250/07/X | 32 | 50 | 100 | 225 | - | - | 128 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 431 | 98 | 42 |
| 32-250/11/P | 32 | 50 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 498 | 98 | 49 |
| 32-250/15/P | 32 | 50 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 498 | 98 | 51 |
| 40-125/02A/S | 40 | 65 | 80 | 140 | - | - | 121 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 411 | 100 | 16 |
| 40-125/02/S | 40 | 65 | 80 | 140 | - | - | 121 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 411 | 100 | 17 |
| 40-160/03/S | 40 | 65 | 80 | 160 | - | - | 121 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 411 | 100 | 20 |
| 40-160/05/S | 40 | 65 | 80 | 160 | - | - | 129 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 443 | 100 | 24 |
| 40-200/07/X | 40 | 65 | 100 | 180 | - | - | 128 | - | - | - | 160 | - | - | 230 | 130 | - | 285 | 340 | 431 | 100 | 27 |
| 40-200/11/P | 40 | 65 | 100 | 180 | - | - | 134 | - | - | - | 160 | - | - | 230 | 130 | - | 285 | 340 | 498 | 100 | 35 |
| 40-250/11/P | 40 | 65 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 498 | 107 | 47 |
| 40-250/15/P | 40 | 65 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 498 | 107 | 61 |
| 40-250/22/P | 40 | 65 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 522 | 107 | 65 |
| 50-125/02/S | 50 | 65 | 100 | 160 | - | - | 121 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 431 | 104 | 20 |
| 50-125/03/S | 50 | 65 | 100 | 160 | - | - | 121 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 431 | 104 | 20 |
| 50-125/05/S | 50 | 65 | 100 | 160 | - | - | 129 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 463 | 104 | 26 |
| 50-160/07/X | 50 | 65 | 100 | 180 | - | - | 128 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 340 | 431 | 104 | 30 |
| 50-160/11/P | 50 | 65 | 100 | 180 | - | - | 134 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 340 | 498 | 104 | 40 |
| 50-200/11/P | 50 | 65 | 100 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 498 | 104 | 48 |
| 50-200/15/P | 50 | 65 | 100 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 498 | 104 | 51 |
| 50-250/22A/P | 50 | 65 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 522 | 107 | 56 |
| 50-250/22/P | 50 | 65 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 522 | 107 | 56 |
| 50-250/30/P | 50 | 65 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 107 | 62 |
| 65-160/05/S | 65 | 80 | 100 | 200 | - | - | 129 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 463 | 130 | 32 |
| 65-160/07/X | 65 | 80 | 100 | 200 | - | - | 128 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 431 | 130 | 36 |
| 65-160/11A/P | 65 | 80 | 100 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 498 | 130 | 44 |
| 65-160/11/P | 65 | 80 | 100 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 498 | 130 | 45 |
| 65-160/15/P | 65 | 80 | 100 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 498 | 130 | 48 |
| 65-200/15/P | 65 | 80 | 100 | 225 | - | - | 134 | - | - | - | 180 | - | - | 245 | 130 | - | 310 | 405 | 498 | 130 | 56 |
| 65-200/22/P | 65 | 80 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 245 | 130 | - | 310 | 405 | 522 | 130 | 64 |
| 65-200/30/P | 65 | 80 | 100 | 225 | - | - | 168 | - | - | - | 180 | - | - | 245 | 130 | - | 310 | 405 | 553 | 130 | 64 |
| 65-250/40/P | 65 | 80 | 100 | 250 | - | 315 | 168 | - | - | - | 200 | - | - | 265 | 130 | - | 345 | 450 | 598 | 140 | 84 |
| 65-250/55/P | 65 | 80 | 100 | 250 | - | 343 | 191 | - | - | - | 200 | - | - | 265 | 130 | - | 345 | 450 | 605 | 140 | 97 |
| 80-160/15/P | 80 | 100 | 125 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 523 | 160 | 55 |
| 80-160/22A/P | 80 | 100 | 125 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 547 | 160 | 63 |
| 80-160/22/P | 80 | 100 | 125 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 547 | 160 | 66 |
| 80-200/30/P | 80 | 100 | 125 | 250 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 430 | 578 | 160 | 69 |
| 80-200/40/P | 80 | 100 | 125 | 250 | - | 315 | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 430 | 623 | 160 | 88 |
| 80-250/55/P | 80 | 100 | 125 | 280 | - | 343 | 191 | - | - | - | 200 | - | - | 303 | 210 | - | 383 | 480 | 630 | 160 | 102 |
| 80-250/75/P | 80 | 100 | 125 | 280 | - | 343 | 191 | - | - | - | 200 | - | - | 303 | 210 | - | 383 | 480 | 630 | 160 | 106 |
| 80-250/110/P | 80 | 100 | 125 | 280 | 208 | - | 240 | 49 | 5 | 40 | 200 | 304 | 210 | 304 | 254 | 15 | 383 | 480 | 719 | 160 | 145 |

* Motor shim on request

ESHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



04953D-EN_F_DD

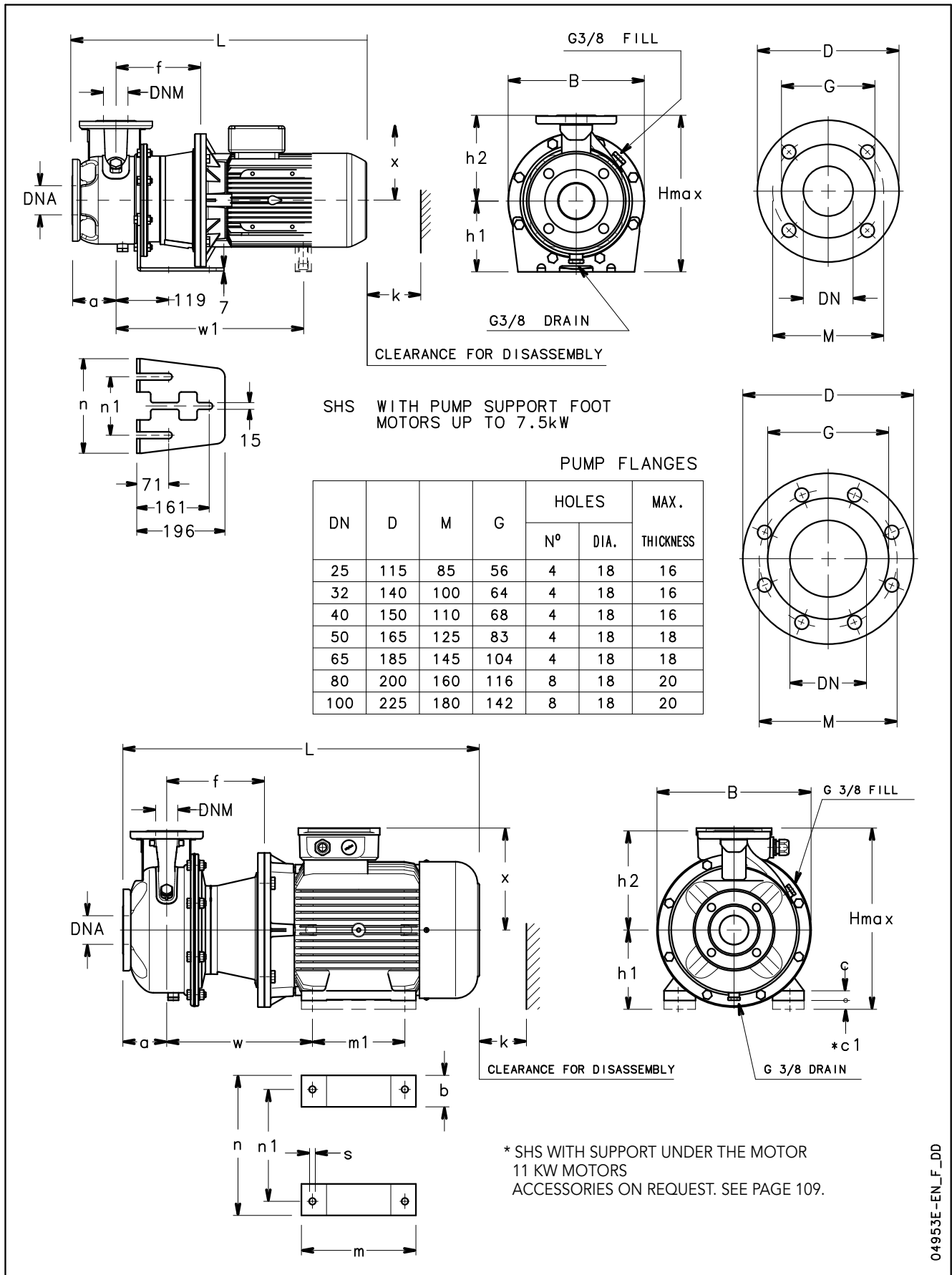
ESHS SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

| PUMP TYPE ESHS..2 | DIMENSIONS (mm) | | | | | | | | | | | | | | | | B | H max | L | k | WEIGHT kg | |
|----------------------|-----------------|-----|------|-----|-----|-----|-----|-----|---------|----|----|-----|-----|-----|-----|-----|----|----------|-----|-----|--------------|-----|
| | DNM | DNA | PUMP | | | | | | SUPPORT | | | | | | | | | | | | | |
| | a | f | h2 | w | w1 | x | b | c | *c1 | h1 | m | m1 | n | n1 | s | | | | | | | |
| 25-125/07/S | 25 | 50 | 80 | 155 | 140 | - | - | 129 | - | - | - | 160 | - | - | 190 | 130 | - | 218 | 300 | 498 | 98 | 24 |
| 25-125/11/S | 25 | 50 | 80 | 155 | 140 | - | - | 129 | - | - | - | 160 | - | - | 190 | 130 | - | 218 | 300 | 498 | 98 | 25 |
| 25-160/15/S | 25 | 50 | 80 | 155 | 160 | - | - | 129 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 320 | 498 | 98 | 27 |
| 25-160/22/P | 25 | 50 | 80 | 155 | 160 | - | - | 134 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 320 | 533 | 98 | 33 |
| 25-200/30/P | 25 | 50 | 80 | 165 | 180 | - | - | 134 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 543 | 98 | 44 |
| 25-200/40/P | 25 | 50 | 80 | 165 | 180 | - | - | 154 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 564 | 98 | 51 |
| 25-250/55/P | 25 | 50 | 100 | 192 | 225 | - | 399 | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 667 | 98 | 77 |
| 25-250/75/P | 25 | 50 | 100 | 192 | 225 | - | 397 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 659 | 98 | 91 |
| 25-250/110/P | 25 | 50 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 98 | 130 |
| 32-125/07/S | 32 | 50 | 80 | 155 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 498 | 98 | 24 |
| 32-125/11/S | 32 | 50 | 80 | 155 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 498 | 98 | 25 |
| 32-160/15/S | 32 | 50 | 80 | 155 | 160 | - | - | 129 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 498 | 98 | 27 |
| 32-160/22/P | 32 | 50 | 80 | 155 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 533 | 98 | 33 |
| 32-200/30/P | 32 | 50 | 80 | 165 | 180 | - | - | 134 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 543 | 98 | 44 |
| 32-200/40/P | 32 | 50 | 80 | 165 | 180 | - | - | 154 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 564 | 98 | 51 |
| 32-250/55/P | 32 | 50 | 100 | 192 | 225 | - | 399 | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 667 | 98 | 77 |
| 32-250/75/P | 32 | 50 | 100 | 192 | 225 | - | 397 | 191 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 659 | 98 | 91 |
| 32-250/110/P | 32 | 50 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 98 | 130 |
| 40-125/11/S | 40 | 65 | 80 | 155 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 498 | 100 | 26 |
| 40-125/15/S | 40 | 65 | 80 | 155 | 140 | - | - | 129 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 498 | 100 | 26 |
| 40-125/22/P | 40 | 65 | 80 | 155 | 140 | - | - | 134 | - | - | - | 112 | - | - | 190 | 130 | - | 218 | 252 | 533 | 100 | 32 |
| 40-160/30/P | 40 | 65 | 80 | 165 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 543 | 100 | 42 |
| 40-160/40/P | 40 | 65 | 80 | 165 | 160 | - | - | 154 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 564 | 100 | 48 |
| 40-200/55/P | 40 | 65 | 100 | 192 | 180 | - | 399 | 168 | - | - | - | 160 | - | - | 230 | 130 | - | 300 | 340 | 667 | 100 | 63 |
| 40-200/75/P | 40 | 65 | 100 | 192 | 180 | - | 397 | 191 | - | - | - | 160 | - | - | 230 | 130 | - | 300 | 351 | 659 | 100 | 80 |
| 40-250/110A/P | 40 | 65 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 107 | 129 |
| 40-250/110/P | 40 | 65 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 107 | 129 |
| 40-250/150/P | 40 | 65 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 107 | 142 |
| 50-125/22/P | 50 | 65 | 100 | 155 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 553 | 104 | 36 |
| 50-125/30/P | 50 | 65 | 100 | 165 | 160 | - | - | 134 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 563 | 104 | 37 |
| 50-125/40/P | 50 | 65 | 100 | 165 | 160 | - | - | 154 | - | - | - | 132 | - | - | 210 | 130 | - | 253 | 292 | 584 | 104 | 48 |
| 50-160/55/P | 50 | 65 | 100 | 192 | 180 | - | 399 | 168 | - | - | - | 160 | - | - | 210 | 130 | - | 300 | 340 | 667 | 104 | 62 |
| 50-160/75/P | 50 | 65 | 100 | 192 | 180 | - | 397 | 191 | - | - | - | 160 | - | - | 210 | 130 | - | 300 | 351 | 659 | 104 | 81 |
| 50-200/110A/P | 50 | 65 | 100 | 222 | 200 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 104 | 126 |
| 50-200/110/P | 50 | 65 | 100 | 222 | 200 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 104 | 130 |
| 50-250/150/P | 50 | 65 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 107 | 148 |
| 50-250/185/P | 50 | 65 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 350 | 420 | 816 | 107 | 156 |
| 50-250/220/P | 50 | 65 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 350 | 420 | 816 | 107 | 162 |
| 65-160/40/P | 65 | 80 | 100 | 165 | 200 | - | - | 154 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 584 | 130 | 60 |
| 65-160/55/P | 65 | 80 | 100 | 192 | 200 | - | 399 | 168 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 667 | 130 | 78 |
| 65-160/75/P | 65 | 80 | 100 | 192 | 200 | - | 397 | 191 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 659 | 130 | 93 |
| 65-160/110A/P | 65 | 80 | 100 | 222 | 200 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 130 | 116 |
| 65-160/110/P | 65 | 80 | 100 | 222 | 200 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 130 | 120 |
| 65-200/150/P | 65 | 80 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 816 | 130 | 147 |
| 65-200/185/P | 65 | 80 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 350 | 420 | 816 | 130 | 153 |
| 65-200/220/P | 65 | 80 | 100 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 350 | 420 | 816 | 130 | 167 |
| 65-250/300/L | 65 | 80 | 100 | 228 | 250 | 361 | - | 285 | 69 | 27 | - | 200 | 355 | 305 | 408 | 318 | 19 | 408 | 485 | 999 | 140 | 260 |
| 65-250/370/L | 65 | 80 | 100 | 228 | 250 | 361 | - | 285 | 69 | 27 | - | 200 | 355 | 305 | 408 | 318 | 19 | 408 | 485 | 999 | 140 | 276 |
| 80-160/110/P | 80 | 100 | 125 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 841 | 160 | 116 |
| 80-160/150/P | 80 | 100 | 125 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 210 | 304 | 254 | 15 | 350 | 420 | 841 | 160 | 152 |
| 80-160/185/P | 80 | 100 | 125 | 222 | 225 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 350 | 420 | 841 | 160 | 160 |
| 80-200/220/P | 80 | 100 | 125 | 222 | 250 | 330 | - | 240 | 49 | 5 | 20 | 180 | 304 | 254 | 304 | 254 | 15 | 350 | 430 | 841 | 160 | 162 |
| 80-200/300/L | 80 | 100 | 125 | 228 | 250 | 361 | - | 285 | 69 | 27 | - | 200 | 355 | 305 | 408 | 318 | 19 | 408 | 485 | 999 | 160 | 260 |
| 80-200/370/L | 80 | 100 | 125 | 228 | 250 | 361 | - | 285 | 69 | 27 | - | 200 | 355 | 305 | 408 | 318 | 19 | 408 | 485 | 999 | 160 | 276 |

* Motor shim on request

ESHS_2p50-en_b_td

ESHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES



04953E-EN_F_DD

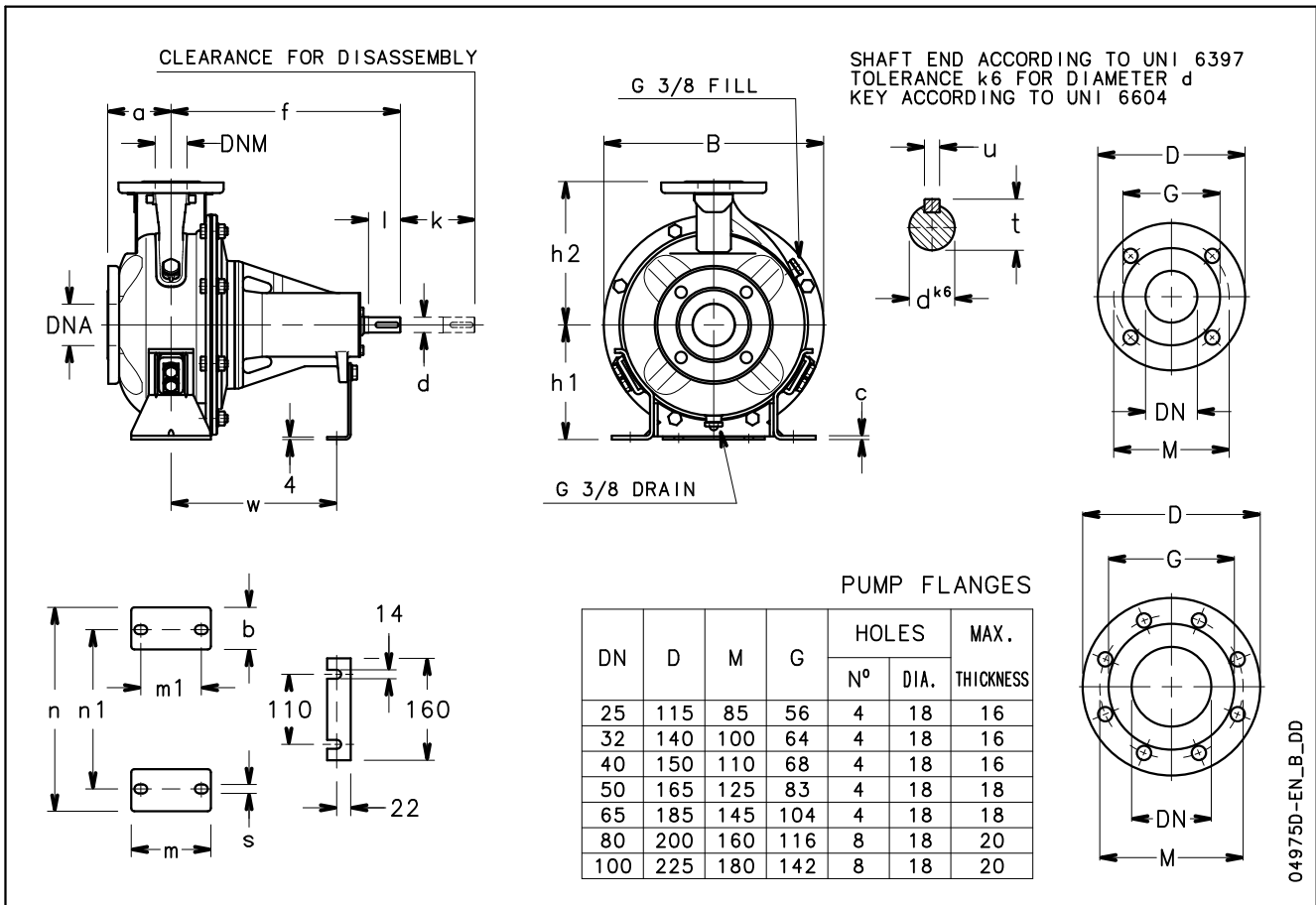
ESHS SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

| PUMP TYPE ESHS..4 | DIMENSIONS (mm) | | | | | | | | | | | | | | | | | | | WEIGHT kg | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----|-----|-----|----|---|-----|-----|-----|-----|-----|---------|----|-----|-----|--------------|----------|-----|---|
| | PUMP | | | | | | | | | | | | | | | SUPPORT | | | B | | H max | L | k |
| | DNM | DNA | a | f | h2 | w | w1 | x | b | c | *c1 | h1 | m | m1 | n | n1 | s | | | | | | |
| 25-250/07/X | 25 | 50 | 100 | 155 | 225 | - | - | 128 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 486 | 98 | 42 | |
| 25-250/11/P | 25 | 50 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 98 | 49 | |
| 25-250/15/P | 25 | 50 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 98 | 50 | |
| 32-250/07/X | 32 | 50 | 100 | 155 | 225 | - | - | 128 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 486 | 98 | 42 | |
| 32-250/11/P | 32 | 50 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 98 | 49 | |
| 32-250/15/P | 32 | 50 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 98 | 50 | |
| 40-200/07/X | 40 | 65 | 100 | 155 | 180 | - | - | 128 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 486 | 100 | 31 | |
| 40-200/11/P | 40 | 65 | 100 | 155 | 180 | - | - | 134 | - | - | - | 160 | - | - | 230 | 130 | - | 284 | 340 | 553 | 100 | 37 | |
| 40-250/11/P | 40 | 65 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 107 | 51 | |
| 40-250/15/P | 40 | 65 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 553 | 107 | 64 | |
| 40-250/22/P | 40 | 65 | 100 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 587 | 107 | 68 | |
| 50-160/07/X | 50 | 65 | 100 | 155 | 180 | - | - | 128 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 340 | 486 | 104 | 30 | |
| 50-160/11/P | 50 | 65 | 100 | 155 | 180 | - | - | 134 | - | - | - | 160 | - | - | 210 | 130 | - | 253 | 340 | 553 | 104 | 36 | |
| 50-200/11/P | 50 | 65 | 100 | 155 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 553 | 104 | 49 | |
| 50-200/15/P | 50 | 65 | 100 | 155 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 553 | 104 | 52 | |
| 50-250/22A/P | 50 | 65 | 100 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 587 | 107 | 58 | |
| 50-250/22/P | 50 | 65 | 100 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 587 | 107 | 59 | |
| 50-250/30/P | 50 | 65 | 100 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 618 | 107 | 65 | |
| 65-160/05/S | 65 | 80 | 100 | 155 | 200 | - | - | 129 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 518 | 130 | 34 | |
| 65-160/07/X | 65 | 80 | 100 | 155 | 200 | - | - | 128 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 486 | 130 | 38 | |
| 65-160/11A/P | 65 | 80 | 100 | 155 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 553 | 130 | 46 | |
| 65-160/11/P | 65 | 80 | 100 | 155 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 553 | 130 | 48 | |
| 65-160/15/P | 65 | 80 | 100 | 155 | 200 | - | - | 134 | - | - | - | 160 | - | - | 245 | 130 | - | 310 | 360 | 553 | 130 | 51 | |
| 65-200/15/P | 65 | 80 | 100 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 245 | 130 | - | 310 | 405 | 553 | 130 | 54 | |
| 65-200/22/P | 65 | 80 | 100 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 245 | 130 | - | 310 | 405 | 587 | 130 | 71 | |
| 65-200/30/P | 65 | 80 | 100 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 245 | 130 | - | 310 | 405 | 618 | 130 | 72 | |
| 65-250/40/P | 65 | 80 | 100 | 165 | 250 | - | 380 | 168 | - | - | - | 200 | - | - | 265 | 130 | - | 345 | 450 | 663 | 140 | 97 | |
| 65-250/55/P | 65 | 80 | 100 | 192 | 250 | - | 435 | 191 | - | - | - | 200 | - | - | 265 | 130 | - | 345 | 450 | 697 | 140 | 104 | |
| 80-160/15/P | 80 | 100 | 125 | 155 | 225 | - | - | 134 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 578 | 160 | 59 | |
| 80-160/22A/P | 80 | 100 | 125 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 612 | 160 | 67 | |
| 80-160/22/P | 80 | 100 | 125 | 165 | 225 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 405 | 612 | 160 | 67 | |
| 80-200/30/P | 80 | 100 | 125 | 165 | 250 | - | - | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 430 | 643 | 160 | 72 | |
| 80-200/40/P | 80 | 100 | 125 | 165 | 250 | - | 380 | 168 | - | - | - | 180 | - | - | 265 | 130 | - | 345 | 430 | 688 | 160 | 88 | |
| 80-250/55/P | 80 | 100 | 125 | 192 | 280 | - | 435 | 191 | - | - | - | 200 | - | - | 303 | 210 | - | 383 | 480 | 722 | 160 | 107 | |
| 80-250/75/P | 80 | 100 | 125 | 192 | 280 | - | 435 | 191 | - | - | - | 200 | - | - | 303 | 210 | - | 383 | 480 | 722 | 160 | 113 | |
| 80-250/110/P | 80 | 100 | 125 | 222 | 280 | 330 | - | 240 | 49 | 5 | 40 | 200 | 304 | 210 | 304 | 254 | 15 | 383 | 480 | 841 | 160 | 153 | |

* Motor shim on request

ESHS_4p50-en_b_td

ESH SERIES DIMENSIONS AND WEIGHTS (BARE SHAFT)

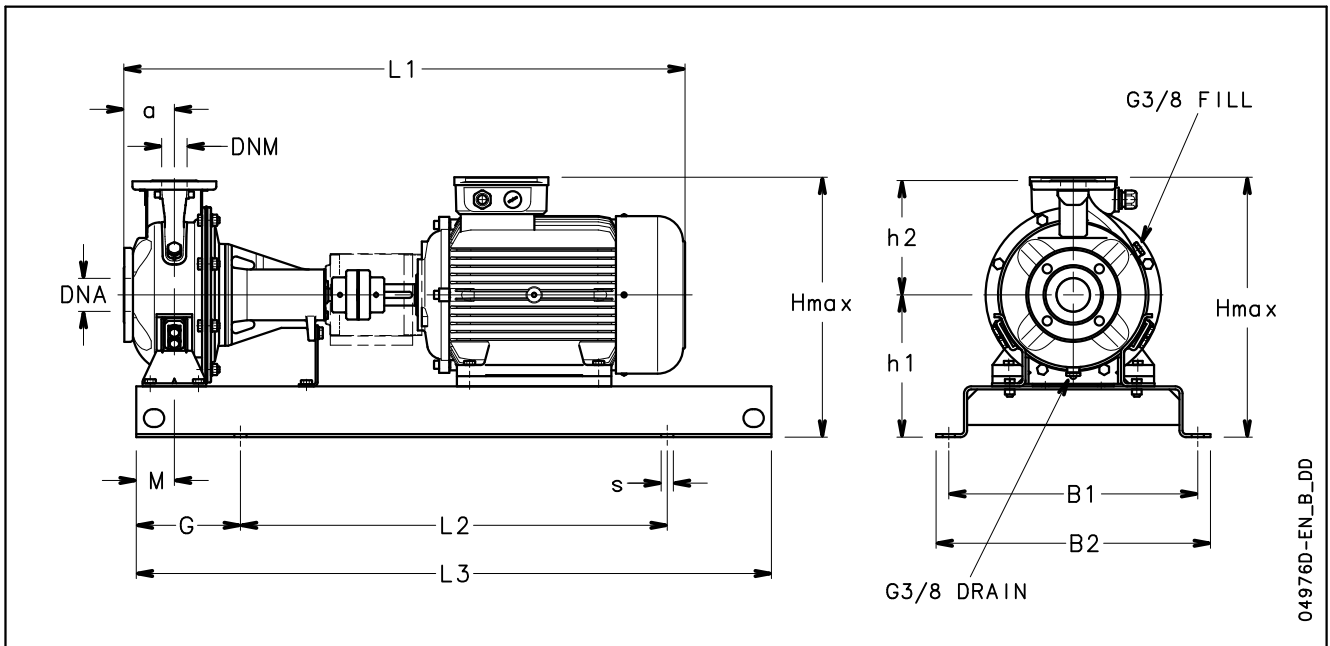


ESH SERIES DIMENSIONS AND WEIGHTS (BARE SHAFT)

| PUMP TYPE ESH (BARE SHAFT) | DIMENSIONS (mm) | | | | | | | | | | | | | | | | | | | B | k | WEIGHT kg |
|----------------------------------|-----------------|-----|------|-----|-----|-----|---------|----|-----|-----|-----|-----|----|-------|----|----|----|----|-----|-----|----|--------------|
| | DNM | DNA | PUMP | | | | SUPPORT | | | | | | | SHAFT | | | | | | | | |
| | | | a | f | h1 | h2 | b | c | m | m1 | n | n1 | s | w | d | l | t | u | | | | |
| 25-125 | 25 | 50 | 80 | 360 | 112 | 140 | 47 | 3 | 100 | 70 | 190 | 140 | 14 | 260 | 24 | 50 | 27 | 8 | 218 | 98 | 14 | |
| 25-160 | 25 | 50 | 80 | 360 | 132 | 160 | 48 | 3 | 100 | 70 | 240 | 190 | 14 | 260 | 24 | 50 | 27 | 8 | 253 | 98 | 17 | |
| 25-200 | 25 | 50 | 80 | 360 | 160 | 180 | 47 | 3 | 100 | 70 | 240 | 190 | 14 | 260 | 24 | 50 | 27 | 8 | 284 | 98 | 20 | |
| 25-250 | 25 | 50 | 100 | 360 | 180 | 225 | 54 | 6 | 125 | 95 | 320 | 250 | 14 | 260 | 24 | 50 | 27 | 8 | 345 | 98 | 34 | |
| 32-125 | 32 | 50 | 80 | 360 | 112 | 140 | 47 | 3 | 100 | 70 | 190 | 140 | 14 | 260 | 24 | 50 | 27 | 8 | 218 | 98 | 14 | |
| 32-160 | 32 | 50 | 80 | 360 | 132 | 160 | 48 | 3 | 100 | 70 | 240 | 190 | 14 | 260 | 24 | 50 | 27 | 8 | 253 | 98 | 17 | |
| 32-200 | 32 | 50 | 80 | 360 | 160 | 180 | 47 | 3 | 100 | 70 | 240 | 190 | 14 | 260 | 24 | 50 | 27 | 8 | 284 | 98 | 20 | |
| 32-250 | 32 | 50 | 100 | 360 | 180 | 225 | 54 | 6 | 125 | 95 | 320 | 250 | 14 | 260 | 24 | 50 | 27 | 8 | 345 | 98 | 34 | |
| 40-125 | 40 | 65 | 80 | 360 | 112 | 140 | 47 | 3 | 100 | 70 | 210 | 160 | 14 | 260 | 24 | 50 | 27 | 8 | 218 | 100 | 16 | |
| 40-160 | 40 | 65 | 80 | 360 | 132 | 160 | 48 | 3 | 100 | 70 | 240 | 190 | 14 | 260 | 24 | 50 | 27 | 8 | 253 | 100 | 18 | |
| 40-200 | 40 | 65 | 100 | 360 | 160 | 180 | 50 | 3 | 100 | 70 | 265 | 212 | 14 | 260 | 24 | 50 | 27 | 8 | 284 | 100 | 20 | |
| 40-250 | 40 | 65 | 100 | 360 | 180 | 225 | 54 | 6 | 125 | 95 | 320 | 250 | 14 | 260 | 24 | 50 | 27 | 8 | 345 | 107 | 33 | |
| 50-125 | 50 | 65 | 100 | 360 | 132 | 160 | 48 | 3 | 100 | 70 | 240 | 190 | 14 | 260 | 24 | 50 | 27 | 8 | 253 | 104 | 17 | |
| 50-160 | 50 | 65 | 100 | 360 | 160 | 180 | 48 | 3 | 100 | 70 | 265 | 212 | 14 | 260 | 24 | 50 | 27 | 8 | 253 | 104 | 24 | |
| 50-200 | 50 | 65 | 100 | 360 | 160 | 200 | 40 | 6 | 100 | 70 | 265 | 212 | 14 | 260 | 24 | 50 | 27 | 8 | 310 | 104 | 30 | |
| 50-250 | 50 | 65 | 100 | 360 | 180 | 225 | 54 | 6 | 125 | 95 | 320 | 250 | 14 | 260 | 24 | 50 | 27 | 8 | 345 | 107 | 37 | |
| 65-160 | 65 | 80 | 100 | 360 | 160 | 200 | 48 | 6 | 125 | 95 | 280 | 212 | 14 | 260 | 24 | 50 | 27 | 8 | 310 | 130 | 31 | |
| 65-200 | 65 | 80 | 100 | 360 | 180 | 225 | 65 | 15 | 125 | 95 | 320 | 250 | 14 | 260 | 24 | 50 | 27 | 8 | 310 | 130 | 42 | |
| 65-250 | 65 | 80 | 100 | 470 | 200 | 250 | 80 | 18 | 160 | 120 | 360 | 280 | 18 | 340 | 32 | 80 | 35 | 10 | 345 | 140 | 55 | |
| 80-160 | 80 | 100 | 125 | 360 | 180 | 225 | 54 | 6 | 125 | 95 | 320 | 250 | 14 | 260 | 24 | 50 | 27 | 8 | 345 | 160 | 37 | |
| 80-200 | 80 | 100 | 125 | 470 | 180 | 250 | 65 | 15 | 125 | 95 | 345 | 280 | 14 | 340 | 32 | 80 | 35 | 10 | 345 | 160 | 55 | |
| 80-250 | 80 | 100 | 125 | 470 | 200 | 280 | 80 | 18 | 160 | 120 | 400 | 315 | 18 | 340 | 32 | 80 | 35 | 10 | 383 | 160 | 67 | |

ESHbs-en_a_td

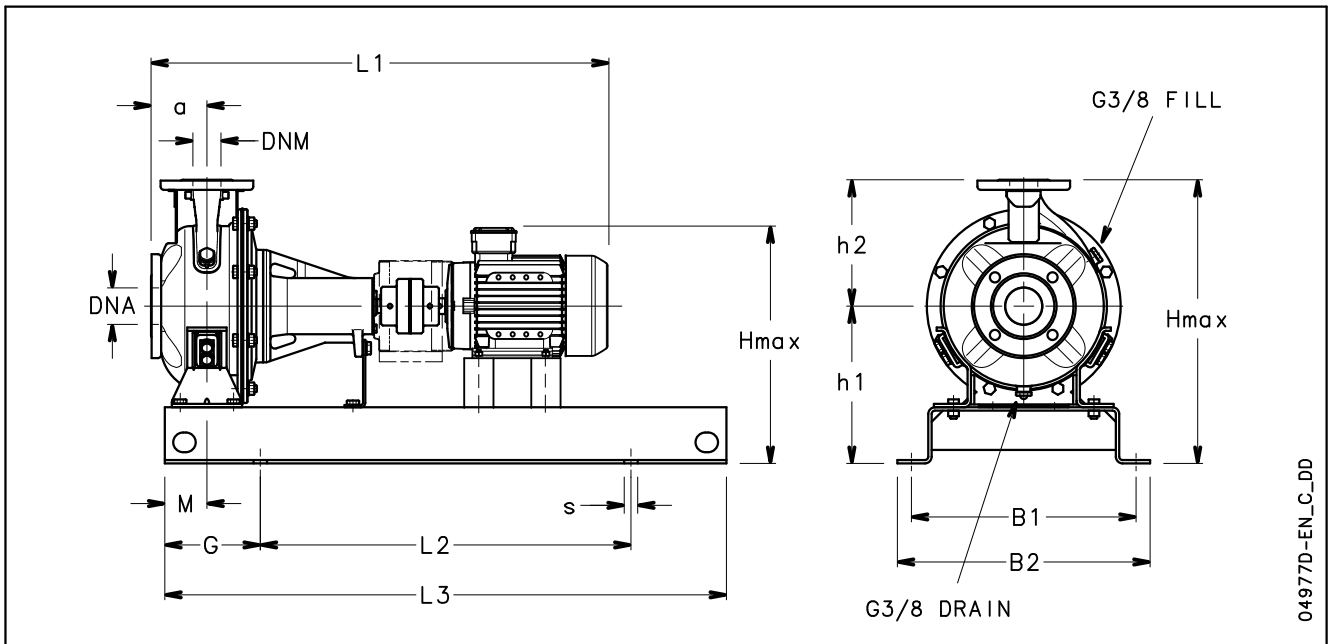
**ESHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



ESHF SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

| PUMP TYPE ESHF..2 | DIMENSIONS (mm) | | | | | | | | | | | | | S FOR SCREWS | WEIGHT kg | COUPLING TYPE |
|----------------------|-----------------|-----|-----|-----|-----|------|------|------|-----|----|-----|-----|------|--------------------|--------------|------------------|
| | DNM | DNA | a | B1 | B2 | L1 | L2 | L3 | G | M | h1 | h2 | Hmax | | | |
| 25-125/07/S | 25 | 50 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 67 | A2 |
| 25-125/11/S | 25 | 50 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 69 | A2 |
| 25-160/15/P | 25 | 50 | 80 | 350 | 390 | 791 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 73 | A3 |
| 25-160/22/P | 25 | 50 | 80 | 350 | 390 | 791 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 75 | A3 |
| 25-200/30/P | 25 | 50 | 80 | 350 | 390 | 822 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 95 | B1 |
| 25-200/40/P | 25 | 50 | 80 | 350 | 390 | 825 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 97 | B1 |
| 25-250/55/P | 25 | 50 | 100 | 440 | 490 | 910 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 130 | C1 |
| 25-250/75/P | 25 | 50 | 100 | 440 | 490 | 910 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 134 | C1 |
| 25-250/110/P | 25 | 50 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 181 | C2 |
| 32-125/07/S | 32 | 50 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 67 | A2 |
| 32-125/11/S | 32 | 50 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 69 | A2 |
| 32-160/15/P | 32 | 50 | 80 | 350 | 390 | 791 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 73 | A3 |
| 32-160/22/P | 32 | 50 | 80 | 350 | 390 | 791 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 75 | A3 |
| 32-200/30/P | 32 | 50 | 80 | 350 | 390 | 822 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 95 | B1 |
| 32-200/40/P | 32 | 50 | 80 | 350 | 390 | 825 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 97 | B1 |
| 32-250/55/P | 32 | 50 | 100 | 440 | 490 | 910 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 130 | C1 |
| 32-250/75/P | 32 | 50 | 100 | 440 | 490 | 910 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 134 | C1 |
| 32-250/110/P | 32 | 50 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 181 | C2 |
| 40-125/11/S | 40 | 65 | 80 | 350 | 390 | 746 | 600 | 900 | 150 | 60 | 212 | 140 | 352 | M16 | 70 | A2 |
| 40-125/15/P | 40 | 65 | 80 | 350 | 390 | 791 | 600 | 900 | 150 | 60 | 212 | 140 | 352 | M16 | 74 | A3 |
| 40-125/22/P | 40 | 65 | 80 | 350 | 390 | 791 | 600 | 900 | 150 | 60 | 212 | 140 | 352 | M16 | 77 | A3 |
| 40-160/30/P | 40 | 65 | 80 | 350 | 390 | 822 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 92 | B1 |
| 40-160/40/P | 40 | 65 | 80 | 350 | 390 | 825 | 600 | 900 | 150 | 60 | 232 | 160 | 400 | M16 | 96 | B1 |
| 40-200/55/P | 40 | 65 | 100 | 400 | 450 | 910 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | M20 | 123 | C1 |
| 40-200/75/P | 40 | 65 | 100 | 400 | 450 | 910 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | M20 | 128 | C1 |
| 40-250/110A/P | 40 | 65 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 167 | C2 |
| 40-250/110/P | 40 | 65 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 170 | C2 |
| 40-250/150/P | 40 | 65 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 175 | C2 |
| 50-125/22/P | 50 | 65 | 100 | 350 | 390 | 811 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 84 | A3 |
| 50-125/30/P | 50 | 65 | 100 | 350 | 390 | 842 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | M16 | 92 | B1 |
| 50-125/40/P | 50 | 65 | 100 | 350 | 390 | 845 | 600 | 900 | 150 | 60 | 232 | 160 | 400 | M16 | 95 | B1 |
| 50-160/55/P | 50 | 65 | 100 | 400 | 450 | 910 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | M20 | 120 | C1 |
| 50-160/75/P | 50 | 65 | 100 | 400 | 450 | 910 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | M20 | 122 | C1 |
| 50-200/110A/P | 50 | 65 | 100 | 440 | 490 | 1067 | 740 | 1120 | 190 | 60 | 260 | 200 | 500 | M20 | 145 | C2 |
| 50-200/110/P | 50 | 65 | 100 | 440 | 490 | 1067 | 740 | 1120 | 190 | 60 | 260 | 200 | 500 | M20 | 150 | C2 |
| 50-250/150/P | 50 | 65 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 165 | C2 |
| 50-250/185/P | 50 | 65 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 170 | C2 |
| 50-250/220/L | 50 | 65 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 533 | M20 | 235 | D1 |
| 65-160/40/P | 65 | 80 | 100 | 400 | 450 | 845 | 660 | 1000 | 170 | 75 | 260 | 200 | 460 | M20 | 133 | B1 |
| 65-160/55/P | 65 | 80 | 100 | 440 | 490 | 910 | 740 | 1120 | 190 | 75 | 260 | 200 | 460 | M20 | 155 | C1 |
| 65-160/75/P | 65 | 80 | 100 | 440 | 490 | 910 | 740 | 1120 | 190 | 75 | 260 | 200 | 460 | M20 | 159 | C1 |
| 65-160/110A/P | 65 | 80 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 260 | 200 | 500 | M20 | 162 | C2 |
| 65-160/110/P | 65 | 80 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 260 | 200 | 500 | M20 | 162 | C2 |
| 65-200/150/P | 65 | 80 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 185 | C2 |
| 65-200/185/P | 65 | 80 | 100 | 490 | 540 | 1067 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 190 | C2 |
| 65-200/220/L | 65 | 80 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 533 | M20 | 235 | D1 |
| 65-250/300/L | 65 | 80 | 100 | 550 | 610 | 1354 | 940 | 1400 | 230 | 90 | 310 | 250 | 595 | M24 | 315 | E1 |
| 65-250/370/L | 65 | 80 | 100 | 550 | 610 | 1354 | 940 | 1400 | 230 | 90 | 310 | 250 | 595 | M24 | 330 | E1 |
| 80-160/110/P | 80 | 100 | 125 | 490 | 540 | 1092 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 198 | C2 |
| 80-160/150/P | 80 | 100 | 125 | 490 | 540 | 1092 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 209 | C2 |
| 80-160/185/P | 80 | 100 | 125 | 490 | 540 | 1092 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | M20 | 220 | C2 |
| 80-200/220/L | 80 | 100 | 125 | 490 | 540 | 1299 | 840 | 1250 | 205 | 75 | 280 | 250 | 533 | M20 | 235 | D2 |
| 80-200/300/L | 80 | 100 | 125 | 550 | 610 | 1379 | 940 | 1400 | 230 | 75 | 310 | 250 | 595 | M24 | 315 | E1 |
| 80-200/370/L | 80 | 100 | 125 | 550 | 610 | 1379 | 940 | 1400 | 230 | 75 | 310 | 250 | 595 | M24 | 330 | E1 |
| 80-250/450/L | 80 | 100 | 125 | 550 | 610 | 1409 | 940 | 1400 | 230 | 90 | 365 | 280 | 674 | M24 | 395 | E1 |
| 80-250/550/L | 80 | 100 | 125 | 600 | 660 | 1505 | 1060 | 1600 | 270 | 90 | 390 | 280 | 752 | M24 | 601 | F1 |
| 80-250/750/L | 80 | 100 | 125 | 670 | 730 | 1611 | 1200 | 1800 | 300 | 90 | 420 | 280 | 819 | M24 | 750 | G1 |

**ESHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



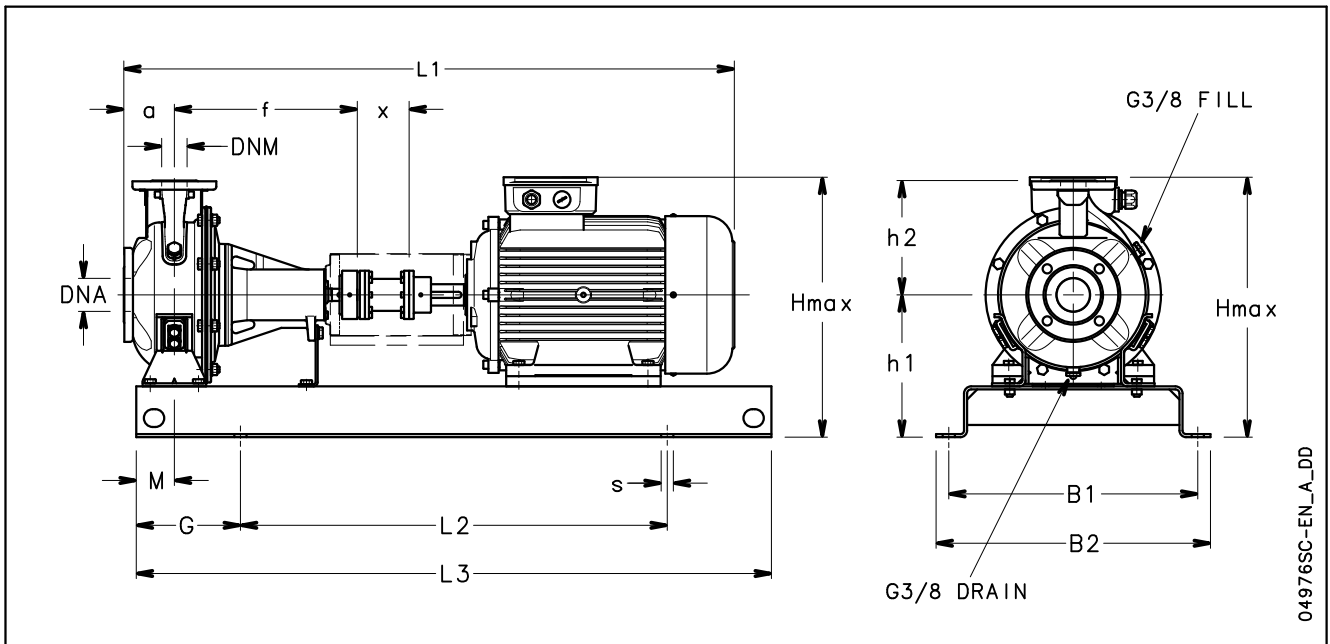
04977D-EN_C-DD

ESHF SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

| PUMP TYPE ESHF..4 | DIMENSIONS (mm) | | | | | | | | | | | | | s FOR SCREWS | WEIGHT kg | COUPLING TYPE |
|----------------------|-----------------|-----|-----|-----|-----|------|-----|------|-----|----|-----|-----|------|--------------------|--------------|------------------|
| | DNM | DNA | a | B1 | B2 | L1 | L2 | L3 | G | M | h1 | h2 | Hmax | | | |
| 25-125/02A/S | 25 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 72 | A1 |
| 25-125/02/S | 25 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 72 | A1 |
| 25-160/02A/S | 25 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 74 | A1 |
| 25-160/02/S | 25 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 74 | A1 |
| 25-200/03/S | 25 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 260 | 180 | 440 | M16 | 78 | A1 |
| 25-200/05/S | 25 | 50 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 260 | 180 | 440 | M16 | 80 | A2 |
| 25-250/07/X | 25 | 50 | 100 | 400 | 450 | 734 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 98 | A2 |
| 25-250/11/P | 25 | 50 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 106 | A3 |
| 25-250/15/P | 25 | 50 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 108 | A3 |
| 32-125/02A/S | 32 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 72 | A1 |
| 32-125/02/S | 32 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 72 | A1 |
| 32-160/02A/S | 32 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 74 | A1 |
| 32-160/02/S | 32 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 74 | A1 |
| 32-200/03/S | 32 | 50 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 260 | 180 | 440 | M16 | 78 | A1 |
| 32-200/05/S | 32 | 50 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 260 | 180 | 440 | M16 | 80 | A2 |
| 32-250/07/X | 32 | 50 | 100 | 400 | 450 | 734 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 98 | A2 |
| 32-250/11/P | 32 | 50 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 106 | A3 |
| 32-250/15/P | 32 | 50 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 108 | A3 |
| 40-125/02A/S | 40 | 65 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 57 | A1 |
| 40-125/02/S | 40 | 65 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | M16 | 57 | A1 |
| 40-160/03/S | 40 | 65 | 80 | 320 | 360 | 704 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 60 | A1 |
| 40-160/05/S | 40 | 65 | 80 | 320 | 360 | 746 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 62 | A2 |
| 40-200/07/X | 40 | 65 | 100 | 350 | 390 | 734 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 70 | A2 |
| 40-200/11/P | 40 | 65 | 100 | 350 | 390 | 811 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 78 | A3 |
| 40-250/11/P | 40 | 65 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 105 | A3 |
| 40-250/15/P | 40 | 65 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 108 | A3 |
| 40-250/22/P | 40 | 65 | 100 | 400 | 450 | 888 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 131 | B1 |
| 50-125/02/S | 50 | 65 | 100 | 320 | 360 | 724 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 59 | A1 |
| 50-125/03/S | 50 | 65 | 100 | 320 | 360 | 724 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 59 | A1 |
| 50-125/05/S | 50 | 65 | 100 | 320 | 360 | 766 | 540 | 800 | 130 | 60 | 232 | 160 | 392 | M16 | 61 | A2 |
| 50-160/07/X | 50 | 65 | 100 | 350 | 390 | 734 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 69 | A2 |
| 50-160/11/P | 50 | 65 | 100 | 350 | 390 | 811 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | M16 | 77 | A3 |
| 50-200/11/P | 50 | 65 | 100 | 350 | 390 | 811 | 600 | 900 | 150 | 60 | 260 | 200 | 460 | M16 | 88 | A3 |
| 50-200/15/P | 50 | 65 | 100 | 350 | 390 | 811 | 600 | 900 | 150 | 60 | 260 | 200 | 460 | M16 | 91 | A3 |
| 50-250/22A/P | 50 | 65 | 100 | 400 | 450 | 888 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 132 | B1 |
| 50-250/22/P | 50 | 65 | 100 | 400 | 450 | 888 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 132 | B1 |
| 50-250/30/P | 50 | 65 | 100 | 400 | 450 | 888 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 136 | B1 |
| 65-160/05/S | 65 | 80 | 100 | 350 | 390 | 766 | 600 | 900 | 150 | 75 | 260 | 200 | 460 | M16 | 84 | A2 |
| 65-160/07/X | 65 | 80 | 100 | 350 | 390 | 734 | 600 | 900 | 150 | 75 | 260 | 200 | 460 | M16 | 86 | A2 |
| 65-160/11A/P | 65 | 80 | 100 | 400 | 450 | 811 | 600 | 1000 | 170 | 75 | 260 | 200 | 460 | M20 | 94 | A3 |
| 65-160/11/P | 65 | 80 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 260 | 200 | 460 | M20 | 94 | A3 |
| 65-160/15/P | 65 | 80 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 260 | 200 | 460 | M20 | 97 | A3 |
| 65-200/15/P | 65 | 80 | 100 | 400 | 450 | 811 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 109 | A3 |
| 65-200/22/P | 65 | 80 | 100 | 440 | 490 | 888 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 133 | B1 |
| 65-200/30/P | 65 | 80 | 100 | 440 | 490 | 888 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 137 | B1 |
| 65-250/40/P | 65 | 80 | 100 | 440 | 490 | 1031 | 740 | 1120 | 190 | 90 | 310 | 250 | 550 | M20 | 178 | C3 |
| 65-250/55/P | 65 | 80 | 100 | 440 | 490 | 1058 | 740 | 1120 | 190 | 90 | 310 | 250 | 550 | M20 | 193 | C4 |
| 80-160/15/P | 80 | 100 | 125 | 400 | 450 | 836 | 660 | 1000 | 170 | 75 | 280 | 225 | 505 | M20 | 127 | A3 |
| 80-160/22A/P | 80 | 100 | 125 | 440 | 490 | 913 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 143 | B1 |
| 80-160/22/P | 80 | 100 | 125 | 440 | 490 | 913 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | M20 | 143 | B1 |
| 80-200/30/P | 80 | 100 | 125 | 440 | 490 | 1023 | 740 | 1120 | 190 | 75 | 280 | 250 | 530 | M20 | 162 | C3 |
| 80-200/40/P | 80 | 100 | 125 | 440 | 490 | 1056 | 740 | 1120 | 190 | 75 | 280 | 250 | 530 | M20 | 171 | C3 |
| 80-250/55/P | 80 | 100 | 125 | 490 | 540 | 1083 | 840 | 1250 | 205 | 90 | 310 | 280 | 590 | M20 | 194 | C4 |
| 80-250/75/P | 80 | 100 | 125 | 490 | 540 | 1083 | 840 | 1250 | 205 | 90 | 310 | 280 | 590 | M20 | 198 | C4 |
| 80-250/110/P | 80 | 100 | 125 | 490 | 540 | 1202 | 840 | 1250 | 205 | 90 | 310 | 280 | 590 | M20 | 256 | C5 |

**ESHC SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**

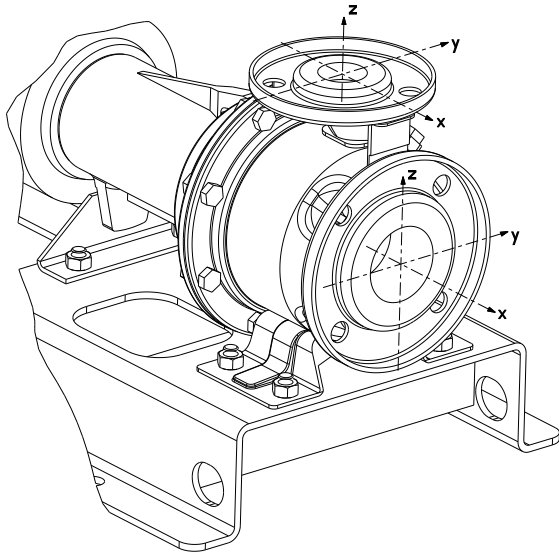


ESHG SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

| PUMP TYPE ESHG...2 | DIMENSIONS (mm) | | | | | | | | | | | | | | | s FOR SCREWS | WEIGHT kg | COUPLING TYPE |
|-----------------------|-----------------|-----|-----|-----|-----|------|------|------|-----|----|-----|-----|------|-----|-----|--------------------|--------------|------------------|
| | DNM | DNA | a | B1 | B2 | L1 | L2 | L3 | G | M | h1 | h2 | Hmax | f | x | | | |
| 32-125/07/S | 32 | 50 | 80 | 320 | 360 | 845 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | 360 | 100 | M16 | 69 | A2S |
| 32-125/11/S | 32 | 50 | 80 | 320 | 360 | 845 | 540 | 800 | 130 | 60 | 212 | 140 | 352 | 360 | 100 | M16 | 71 | A2S |
| 32-160/15/P | 32 | 50 | 80 | 350 | 390 | 889 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | 360 | 100 | M16 | 75 | A3S |
| 32-160/22/P | 32 | 50 | 80 | 350 | 390 | 889 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | 360 | 100 | M16 | 77 | A3S |
| 32-200/30/P | 32 | 50 | 80 | 350 | 390 | 920 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | 360 | 100 | M16 | 97 | B1S |
| 32-200/40/P | 32 | 50 | 80 | 350 | 390 | 923 | 600 | 900 | 150 | 60 | 260 | 180 | 440 | 360 | 100 | M16 | 99 | B1S |
| 32-250/55/P | 32 | 50 | 100 | 440 | 490 | 1007 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | 360 | 100 | M20 | 132 | C1S |
| 32-250/75/P | 32 | 50 | 100 | 440 | 490 | 1007 | 740 | 1120 | 190 | 75 | 280 | 225 | 505 | 360 | 100 | M20 | 136 | C1S |
| 32-250/110/P | 32 | 50 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 183 | C2S |
| 40-125/11/S | 40 | 65 | 80 | 350 | 390 | 845 | 600 | 900 | 150 | 60 | 212 | 140 | 352 | 360 | 100 | M16 | 72 | A2S |
| 40-125/15/P | 40 | 65 | 80 | 350 | 390 | 889 | 600 | 900 | 150 | 60 | 212 | 140 | 352 | 360 | 100 | M16 | 76 | A3S |
| 40-125/22/P | 40 | 65 | 80 | 350 | 390 | 889 | 600 | 900 | 150 | 60 | 212 | 140 | 352 | 360 | 100 | M16 | 79 | A3S |
| 40-160/30/P | 40 | 65 | 80 | 350 | 390 | 920 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | 360 | 100 | M16 | 94 | B1S |
| 40-160/40/P | 40 | 65 | 80 | 350 | 390 | 923 | 600 | 900 | 150 | 60 | 232 | 160 | 400 | 360 | 100 | M16 | 98 | B1S |
| 40-200/55/P | 40 | 65 | 100 | 400 | 450 | 1007 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | 360 | 100 | M20 | 125 | C1S |
| 40-200/75/P | 40 | 65 | 100 | 400 | 450 | 1007 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | 360 | 100 | M20 | 130 | C1S |
| 40-250/110A/P | 40 | 65 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 169 | C2S |
| 40-250/110/P | 40 | 65 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 172 | C2S |
| 40-250/150/P | 40 | 65 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 177 | C2S |
| 50-125/22/P | 50 | 65 | 100 | 350 | 390 | 909 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | 360 | 100 | M16 | 86 | A3S |
| 50-125/30/P | 50 | 65 | 100 | 350 | 390 | 940 | 600 | 900 | 150 | 60 | 232 | 160 | 392 | 360 | 100 | M16 | 94 | B1S |
| 50-125/40/P | 50 | 65 | 100 | 350 | 390 | 943 | 600 | 900 | 150 | 60 | 232 | 160 | 400 | 360 | 100 | M16 | 97 | B1S |
| 50-160/55/P | 50 | 65 | 100 | 400 | 450 | 1007 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | 360 | 100 | M20 | 122 | C1S |
| 50-160/75/P | 50 | 65 | 100 | 400 | 450 | 1007 | 660 | 1000 | 170 | 60 | 260 | 180 | 451 | 360 | 100 | M20 | 124 | C1S |
| 50-200/110A/P | 50 | 65 | 100 | 440 | 490 | 1164 | 740 | 1120 | 190 | 60 | 260 | 200 | 500 | 360 | 100 | M20 | 147 | C2S |
| 50-200/110/P | 50 | 65 | 100 | 440 | 490 | 1164 | 740 | 1120 | 190 | 60 | 260 | 200 | 500 | 360 | 100 | M20 | 152 | C2S |
| 50-250/150/P | 50 | 65 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 167 | C2S |
| 50-250/185/P | 50 | 65 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 172 | C2S |
| 50-250/220/L | 50 | 65 | 100 | 490 | 540 | 1298 | 840 | 1250 | 205 | 75 | 280 | 225 | 533 | 360 | 100 | M20 | 243 | D1S |
| 65-160/40/P | 65 | 80 | 100 | 400 | 450 | 943 | 660 | 1000 | 170 | 75 | 260 | 200 | 460 | 360 | 100 | M20 | 135 | B1S |
| 65-160/55/P | 65 | 80 | 100 | 440 | 490 | 1007 | 740 | 1120 | 190 | 75 | 260 | 200 | 460 | 360 | 100 | M20 | 157 | C1S |
| 65-160/75/P | 65 | 80 | 100 | 440 | 490 | 1007 | 740 | 1120 | 190 | 75 | 260 | 200 | 460 | 360 | 100 | M20 | 161 | C1S |
| 65-160/110A/P | 65 | 80 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 260 | 200 | 500 | 360 | 100 | M20 | 164 | C2S |
| 65-160/110/P | 65 | 80 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 260 | 200 | 500 | 360 | 100 | M20 | 164 | C2S |
| 65-200/150/P | 65 | 80 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 187 | C2S |
| 65-200/185/P | 65 | 80 | 100 | 490 | 540 | 1164 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 192 | C2S |
| 65-200/220/L | 65 | 80 | 100 | 490 | 540 | 1298 | 840 | 1250 | 205 | 75 | 280 | 225 | 533 | 360 | 100 | M20 | 243 | D1S |
| 65-250/300/L | 65 | 80 | 100 | 550 | 610 | 1505 | 940 | 1400 | 230 | 90 | 310 | 250 | 595 | 470 | 140 | M24 | 323 | E1S |
| 65-250/370/L | 65 | 80 | 100 | 550 | 610 | 1505 | 940 | 1400 | 230 | 90 | 310 | 250 | 595 | 470 | 140 | M24 | 338 | E1S |
| 80-160/110/P | 80 | 100 | 125 | 490 | 540 | 1189 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 200 | C2S |
| 80-160/150/P | 80 | 100 | 125 | 490 | 540 | 1189 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 211 | C2S |
| 80-160/185/P | 80 | 100 | 125 | 490 | 540 | 1189 | 840 | 1250 | 205 | 75 | 280 | 225 | 520 | 360 | 100 | M20 | 222 | C2S |
| 80-200/220/L | 80 | 100 | 125 | 490 | 540 | 1433 | 840 | 1250 | 205 | 75 | 280 | 250 | 533 | 470 | 100 | M20 | 243 | D2S |
| 80-200/300/L | 80 | 100 | 125 | 550 | 610 | 1530 | 940 | 1400 | 230 | 75 | 310 | 250 | 595 | 470 | 140 | M24 | 323 | E1S |
| 80-200/370/L | 80 | 100 | 125 | 550 | 610 | 1530 | 940 | 1400 | 230 | 75 | 310 | 250 | 595 | 470 | 140 | M24 | 338 | E1S |
| 80-250/450/L | 80 | 100 | 125 | 550 | 610 | 1500 | 940 | 1400 | 230 | 90 | 365 | 280 | 674 | 470 | 140 | M24 | 403 | E1S |
| 80-250/550/L | 80 | 100 | 125 | 600 | 660 | 1583 | 1060 | 1600 | 270 | 90 | 390 | 280 | 752 | 470 | 140 | M24 | 609 | F1S |
| 80-250/750/L | 80 | 100 | 125 | 670 | 730 | 1688 | 1200 | 1800 | 300 | 90 | 420 | 280 | 819 | 470 | 140 | M24 | 758 | G1S |

ESHG_2p50-en_c_td

ESH SERIES
FORCES AND MOMENTS AT PUMP FLANGES
Valid for pump standing on the support foot



Forces at the pump flanges calculated according to EN ISO 5199:2002.

When the applied loads do not all attain the maximum values allowed, one of these loads may exceed the normal limit, provided that the following supplementary conditions are satisfied:

- any component of a force or of a moment shall be limited to 1,4 times the maximum allowable value;
- the actual forces and moments acting on each flange are governed by the following formula:

$$\left(\frac{\sum |F_{x,y,z}|}{\sum |F_{max}|}\right)^2 + \left(\frac{\sum |M_{x,y,z}|}{\sum |M_{max}|}\right)^2 \leq 2$$

ESH SERIES
FORCES AND MOMENTS AT PUMP FLANGES
Valid for pump standing on the support foot

| Size | Suction | | | | | | | | |
|--------|---------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|
| | DNS | Fx max [N] | Fy max [N] | Fz max [N] | ΣF max [N] | Mx max [Nm] | My max [Nm] | Mz max [Nm] | ΣM max [Nm] |
| 25-125 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 25-160 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 25-200 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 25-250 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 32-125 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 32-160 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 32-200 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 32-250 | 50 | 413 | 375 | 338 | 652 | 350 | 250 | 288 | 517 |
| 40-125 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 40-160 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 40-200 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 40-250 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 50-125 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 50-160 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 50-200 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 50-250 | 65 | 519 | 469 | 425 | 819 | 375 | 269 | 306 | 554 |
| 65-160 | 80 | 625 | 563 | 513 | 985 | 400 | 288 | 325 | 590 |
| 65-200 | 80 | 625 | 563 | 513 | 985 | 400 | 288 | 325 | 590 |
| 65-250 | 80 | 625 | 563 | 513 | 985 | 400 | 288 | 325 | 590 |
| 80-160 | 100 | 838 | 750 | 675 | 1311 | 438 | 313 | 363 | 648 |
| 80-200 | 100 | 838 | 750 | 675 | 1311 | 438 | 313 | 363 | 648 |
| 80-250 | 100 | 838 | 750 | 675 | 1311 | 438 | 313 | 363 | 648 |

| Size | Discharge | | | | | | | | |
|--------|-----------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|
| | DND | Fx max [N] | Fy max [N] | Fz max [N] | ΣF max [N] | Mx max [Nm] | My max [Nm] | Mz max [Nm] | ΣM max [Nm] |
| 25-125 | 25 | 138 | 125 | 156 | 243 | 163 | 113 | 131 | 238 |
| 25-160 | 25 | 138 | 125 | 156 | 243 | 163 | 113 | 131 | 238 |
| 25-200 | 25 | 138 | 125 | 156 | 243 | 163 | 113 | 131 | 238 |
| 25-250 | 25 | 138 | 125 | 156 | 243 | 163 | 113 | 131 | 238 |
| 32-125 | 32 | 176 | 160 | 200 | 311 | 208 | 144 | 168 | 304 |
| 32-160 | 32 | 176 | 160 | 200 | 311 | 208 | 144 | 168 | 304 |
| 32-200 | 32 | 176 | 160 | 200 | 311 | 208 | 144 | 168 | 304 |
| 32-250 | 32 | 176 | 160 | 200 | 311 | 208 | 144 | 168 | 304 |
| 40-125 | 40 | 220 | 200 | 250 | 388 | 260 | 180 | 210 | 380 |
| 40-160 | 40 | 220 | 200 | 250 | 388 | 260 | 180 | 210 | 380 |
| 40-200 | 40 | 220 | 200 | 250 | 388 | 260 | 180 | 210 | 380 |
| 40-250 | 40 | 220 | 200 | 250 | 388 | 260 | 180 | 210 | 380 |
| 50-125 | 50 | 300 | 270 | 330 | 521 | 280 | 200 | 230 | 414 |
| 50-160 | 50 | 300 | 270 | 330 | 521 | 280 | 200 | 230 | 414 |
| 50-200 | 50 | 300 | 270 | 330 | 521 | 280 | 200 | 230 | 414 |
| 50-250 | 50 | 300 | 270 | 330 | 521 | 280 | 200 | 230 | 414 |
| 65-160 | 65 | 375 | 340 | 415 | 655 | 300 | 215 | 245 | 443 |
| 65-200 | 65 | 375 | 340 | 415 | 655 | 300 | 215 | 245 | 443 |
| 65-250 | 65 | 375 | 340 | 415 | 655 | 300 | 215 | 245 | 443 |
| 80-160 | 80 | 450 | 410 | 500 | 788 | 320 | 230 | 260 | 472 |
| 80-200 | 80 | 450 | 410 | 500 | 788 | 320 | 230 | 260 | 472 |
| 80-250 | 80 | 450 | 410 | 500 | 788 | 320 | 230 | 260 | 472 |

ESH..H

ESH WITH HYDROVAR

ESH..H SERIES ESH WITH HYDROVAR

Background and context

For all pumping needs in commercial or residential building and in industry applications, the demand for intelligent pumping systems is constantly growing. Controlled systems offer many advantages: reduced operating costs for the lifetime of the pump, lower environmental impact, longer lifetime of piping systems and networks.

For this reason, Lowara has developed the ESH..H: an intelligent pumping system which assures high level performance with energy consumption tailored to the system's demand.

Benefits of ESH with HYDROVAR

Saving: ESH..H transforms the ESH pumps into variable speed intelligent pumping systems. Thanks to the HYDROVAR, the speed of each pump varies so as to maintain a constant flow, a constant pressure, or a differential pressure. In doing so, at any point in time, the pump only receives the energy required. This in turns allows for considerable savings, especially for systems that have varying loads throughout the day.

Easy installation and space-saving: ESH..H saves time and space during installation. The Hydrovar is delivered already mounted on the motor (for models up to 22kW). The hydrovar is kept cool by the motor fan and does not require a control panel. In order to function, only fuses on the supply line are needed (Check your local electrical installation regulations). A wall-mounted HYDROVAR version is available for higher power outputs (up to 45 kW).

Standard motors: ESH..H models are fitted with three-phase standard TEFC motors with insulation class 155 (F).

Key Features of the HYDROVAR

- **No need for additional pressure sensors:**
The ESH..H is fitted as standard with a pressure transmitter.
- **No need for special pumps or motors.**
- **ESH..H is already pre-wired.**
- **No need for IN LINE filters.**
HYDROVAR already includes the THDi filter embedded as standard.
- **No need for bypass or safety systems:**
The ESH..H will immediately switch off when demand drops to zero or when it exceeds maximum pump capacity; thus making installation of additional safety devices unnecessary.
- **Anti-condensation device:**
The HYDROVAR is fitted with anti-condensation devices which switch on when the pump is in standby in order to prevent condensation forming in the unit.

Identification code:

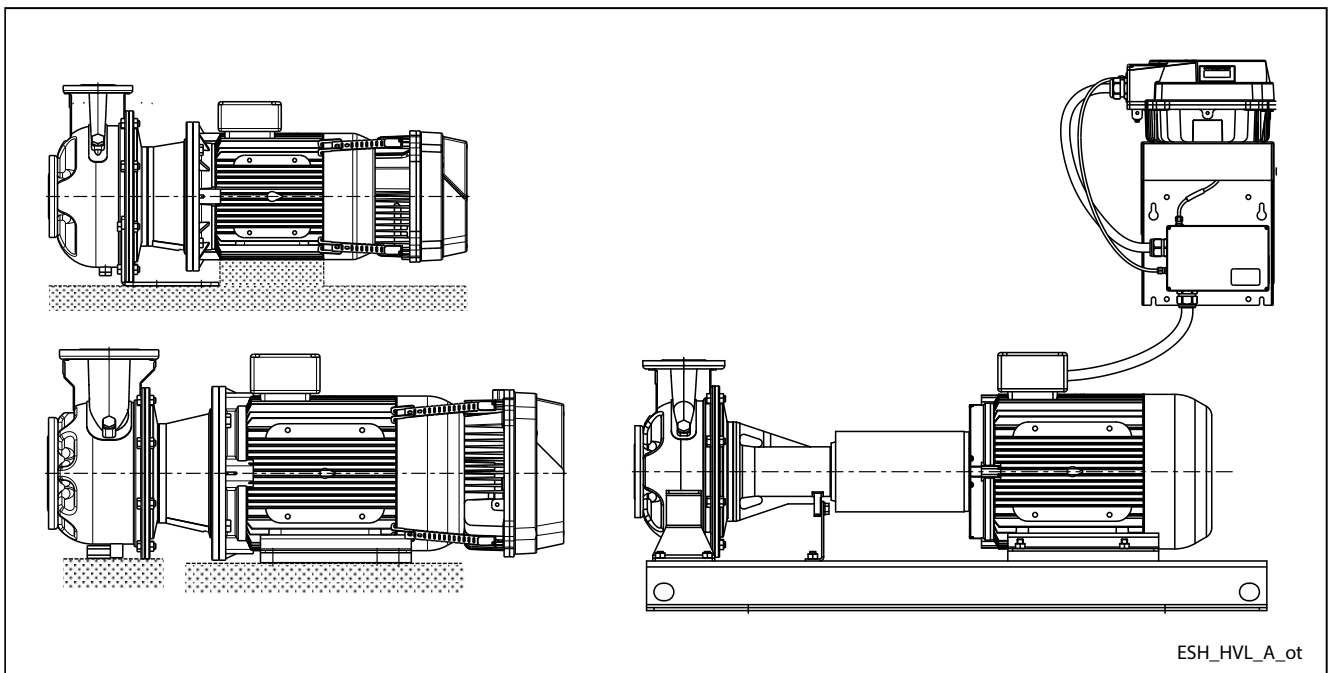
ESH..H models are identified by the letter "H" and "12", "13" or "14" in the standard identification code of the e-SH product range.

Example:

ESH**H**40-250/110/P25VSS4 /**4**

H = with integrated HYDROVAR

/4 = HYDROVAR HVL**4**.110 [3~ 380-460 V (50/60 Hz)].



ESH_HVL_A_ot

ESH..H SERIES ESH WITH HYDROVAR

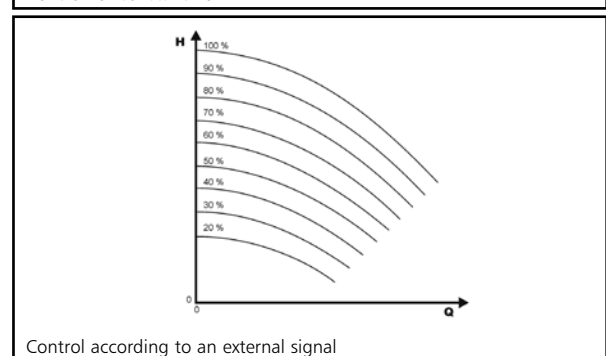
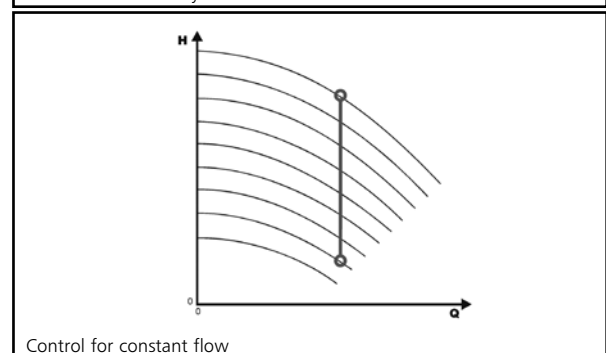
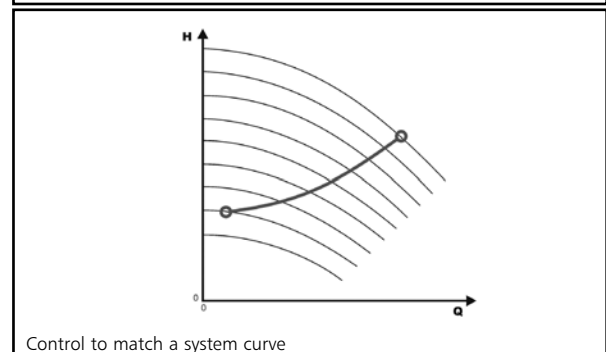
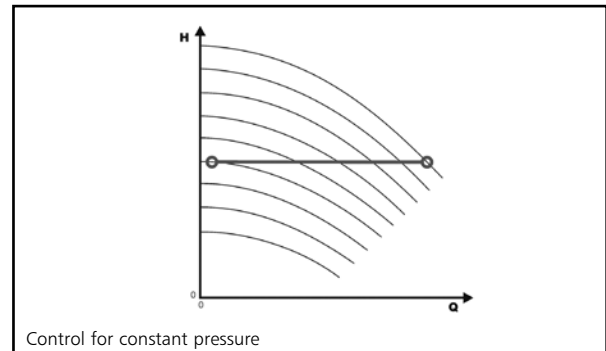
The basic function of the HYDROVAR device is to control the pump to meet the system demands.

HYDROVAR performs these functions by:

- 1) Measuring the system pressure or flow via a transmitter mounted on the pump's delivery side.
- 2) Calculating the motor speed to maintain the correct flow or pressure.
- 3) Sending out a signal to the pump to start the motor, increase speed, decrease speed or stop.
- 4) In the case of multiple pump installations, HYDROVAR will automatically provide for the cyclic changeover of the pumps' starting sequence.

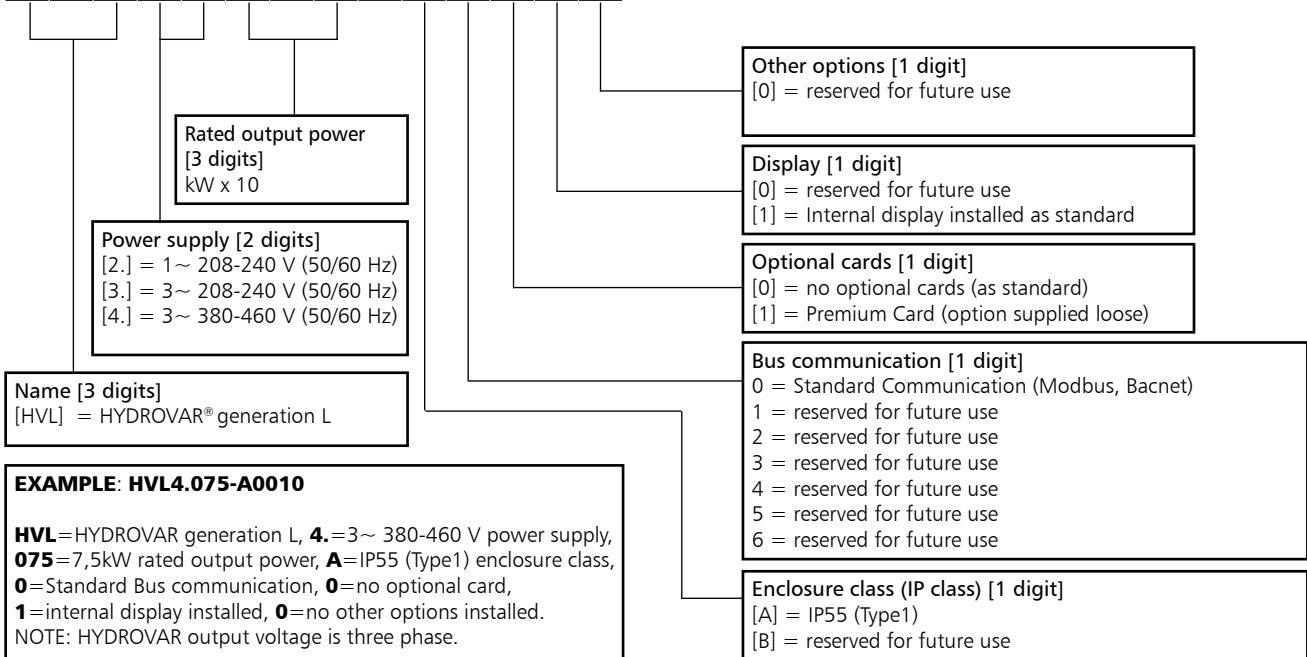
In addition to these basic functions, HYDROVAR can perform controls only manageable by the most advanced computerized control systems. Some examples are:

- Stop the pump(s) at zero demand.
- Stop the pump(s) in case of water failure on the suction side (protection against dry running).
- Stop the pump if the required delivery exceeds the pump's capacity (protection against cavitation caused by excessive demand), or automatically switch on the next pump in a multiple series.
- Protect the pump and motor from over-voltage, under-voltage, overload, and earth fault.
- Vary the pump speed: acceleration and deceleration time.
- Compensate for increased flow resistance at high flow rates.
- Conduct automatic tests at set intervals.
- Monitor the converter and motor operating hours.
- Display the energy consumption (kWh).
- Display all functions on an LCD in different languages (Italian, English, French, German, Spanish, Portuguese, Dutch, etc...).
- Send a signal to a remote control system which is proportional to the pressure and frequency.
- Communicate with external control system via Modbus (RS 485 interface) and Bacnet as standard.



HYDROVAR HVL IDENTIFICATION CODE

H V L 4 . 0 7 5 - A 0 0 1 0



DIMENSIONS AND WEIGHTS



| TYPE | MODELS | | | DIMENSIONS (mm) | | | | WEIGHT Kg |
|--------|------------------|------------------|------------------|-----------------|-----|-----|-----|--------------|
| | /2 | /3 | /4 | L | B | H | X | |
| SIZE A | HVL2.015 ÷ 2.022 | HVL3.015 ÷ 3.022 | HVL4.015 ÷ 4.040 | 216 | 205 | 170 | 243 | 5,6 |
| SIZE B | HVL2.030 ÷ 2.040 | HVL3.030 ÷ 3.055 | HVL4.055 ÷ 4.110 | 276 | 265 | 185 | 305 | 10,5 |
| SIZE C | - | HVL3.075 ÷ 3.110 | HVL4.150 ÷ 4.220 | 366 | 337 | 200 | 407 | 15,6 |

HVL_dim-en_b_td

HYDROVAR HVL EMC COMPATIBILITY

EMC requirements

HYDROVAR fulfills the product standard EN61800-3:2004 + A1:2012, which defines categories (C1 to C4) for device application areas.

Depending on the motor cable length, a classification of HYDROVAR by category (based on EN61800-3) is reported in the following tables:

| HVL | HYDROVAR classification by categories based on EN61800-3 |
|---------------|--|
| 2.015 ÷ 2.040 | C1 (*) |
| 3.015 ÷ 3.110 | C2 (*) |
| 4.015 ÷ 4.220 | C2 (*) |

(*) 0,75 motor cable length; contact Xylem for further information

En-Rev_A

CARD

Premium Card HYDROVAR (optional)

For the ESH series, the Premium Card comes fitted as option on the standalone HYDROVAR.

This allows to control up to five fix speed pumps via an external panel.

The Premium Card will allow additional features listed below:

- 2 additional Analog Inputs
- 2 Analog Outputs
- 1 additional digital input
- 5 relays.



OPTIONAL COMPONENTS

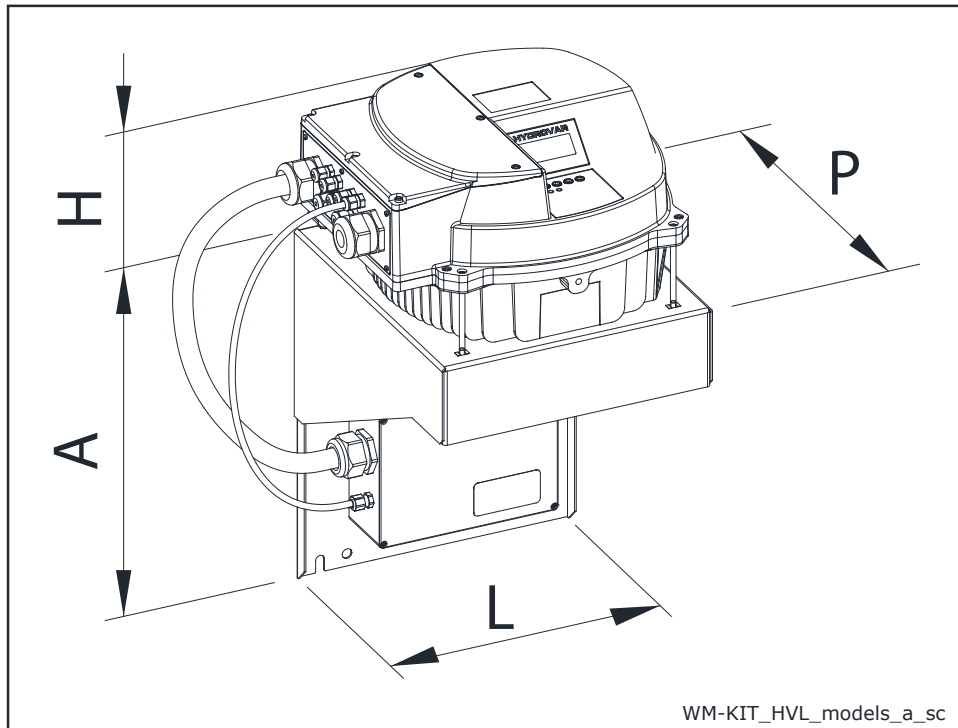
Sensors

The following sensors are available for HYDROVAR:

- a. Pressure-transducer
- b. Differential pressure-transducer
- c. Temperature-sensor
- d. Flow indicator (orifice plate, inductive flow meter)
- e. Level-sensor.

HYDROVAR HVL (WALL MOUNTING KIT) DIMENSIONS AND WEIGHTS

As an option a HYDROVAR wall mounting kit is also available, this is used where mounting on the pump unit is impossible or where you would like the controls in another location, these are available for the new generation HYDROVAR HVL 2.015-4.220 (22 kW). The speed of the cooling fan modulates with the HYDROVAR usage which optimizes energy consumption and also reduces noise.

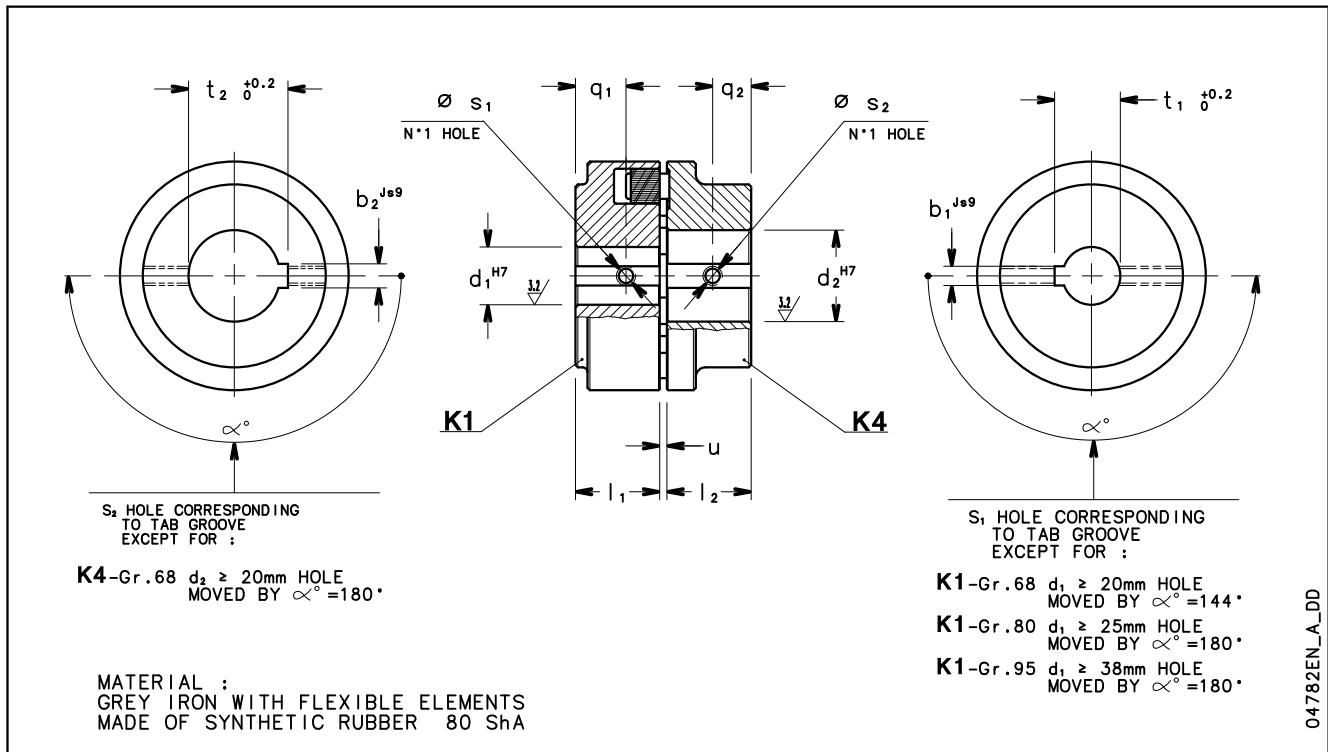


| WM KIT TYPE | kW | WM KIT POWER SUPPLY | HVL SIZE | DIMENSIONS (mm) | | | | WEIGHT (kg) | |
|------------------|------|---------------------|----------|-----------------|-----|-----|------|-------------|--------|
| | | | | A | H | L | P | HVL | WM KIT |
| WM KIT HVL 2.015 | 1,5 | 1~ 230V | A | 220 | 170 | 202 | 232 | 5,6 | 2,6 |
| WM KIT HVL 2.022 | 2,2 | | | 220 | 170 | 202 | 232 | 5,6 | 2,6 |
| WM KIT HVL 2.030 | 3 | | B | 240 | 175 | 258 | 290 | 10,5 | 8,2 |
| WM KIT HVL 2.040 | 4 | | | 320 | 175 | 288 | 305 | 10,5 | 5,4 |
| WM KIT HVL 3.015 | 1,5 | 3~ 230V | A | 220 | 170 | 202 | 232 | 5,6 | 2,6 |
| WM KIT HVL 3.022 | 2,2 | | | 220 | 170 | 202 | 232 | 5,6 | 2,6 |
| WM KIT HVL 3.030 | 3 | | B | 240 | 175 | 258 | 290 | 10,5 | 8,2 |
| WM KIT HVL 3.040 | 4 | | | 240 | 175 | 258 | 290 | 10,5 | 8,2 |
| WM KIT HVL 3.055 | 5,5 | | C | 240 | 175 | 258 | 290 | 10,5 | 8,2 |
| WM KIT HVL 3.075 | 7,5 | | | 400 | 200 | 325 | 365 | 15,6 | 11,6 |
| WM KIT HVL 3.110 | 11 | | 400 | 200 | 325 | 365 | 15,6 | 11,6 | |
| WM KIT HVL 4.015 | 1,5 | | 3~ 400V | A | 240 | 170 | 258 | 290 | 5,6 |
| WM KIT HVL 4.022 | 2,2 | 240 | | | 170 | 258 | 290 | 5,6 | 8,2 |
| WM KIT HVL 4.030 | 3 | 240 | | | 170 | 258 | 290 | 5,6 | 8,2 |
| WM KIT HVL 4.040 | 4 | 240 | | | 170 | 258 | 290 | 5,6 | 8,2 |
| WM KIT HVL 4.055 | 5,5 | B | | 240 | 175 | 258 | 290 | 10,5 | 8,2 |
| WM KIT HVL 4.075 | 7,5 | | | 240 | 175 | 258 | 290 | 10,5 | 8,2 |
| WM KIT HVL 4.110 | 11 | C | | 320 | 175 | 288 | 305 | 10,5 | 5,4 |
| WM KIT HVL 4.150 | 15 | | | 400 | 200 | 325 | 365 | 15,6 | 11,6 |
| WM KIT HVL 4.185 | 18,5 | | | 400 | 200 | 325 | 365 | 15,6 | 11,6 |
| WM KIT HVL 4.220 | 22 | | | 400 | 200 | 325 | 365 | 15,6 | 11,6 |

WM-KIT_HVL_models-EN_b_td

ACCESSORIES

FLEXIBLE COUPLING DIMENSIONS

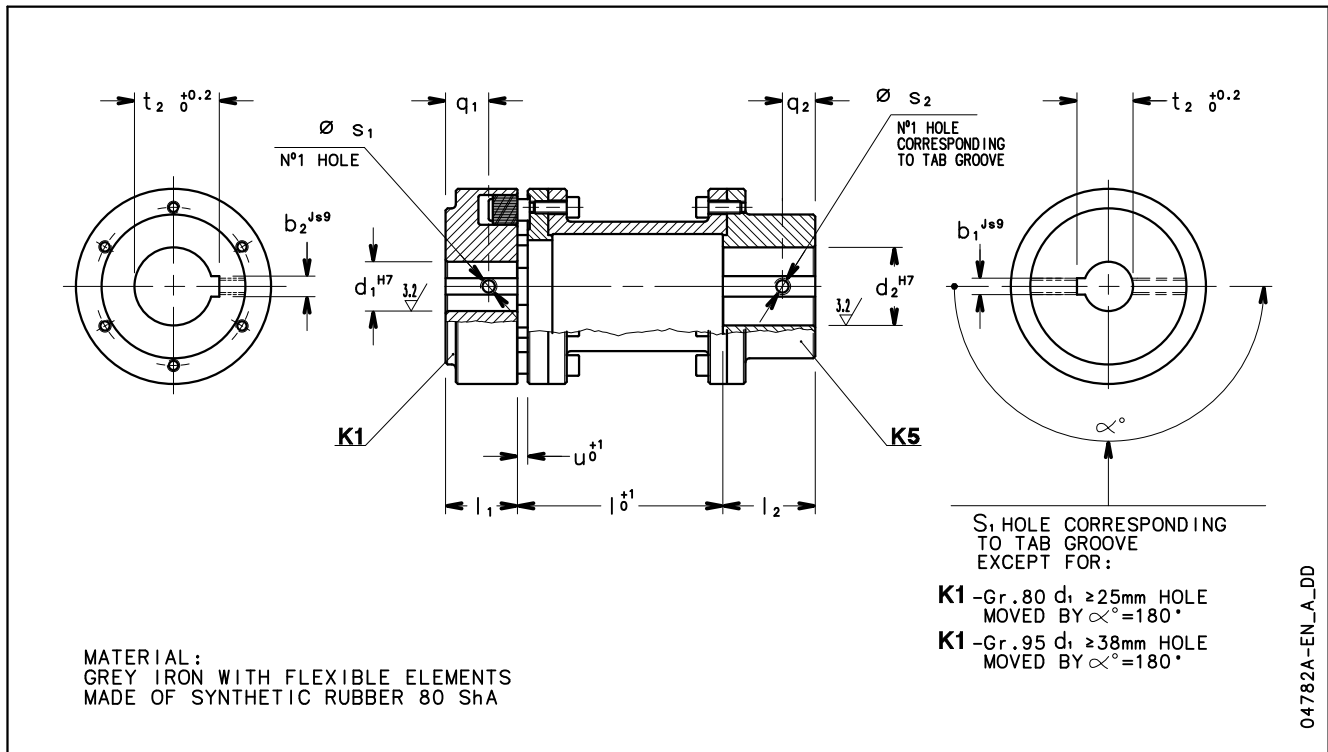


| REF. | DENOMINATION | DIMENSIONS (mm) | | | | | | | | | | | | |
|------|-----------------|--|------------------------------|----------------|-------------------------------|----------------------------------|----------------|--------------------------------|----|------------------------------|----------------|-------------------------------|----------------------------------|----------------|
| | | K1 PUMP-SIDE HALF COUPLING | | | | | | K4 MOTOR-SIDE HALF COUPLING | | | | | | |
| | | SIZE x d ₁ x d ₂ | d ₁ ^{H7} | l ₁ | b ₁ ^{js9} | t _{1 0} ^{+0.2} | s ₁ | q ₁ | u | d ₂ ^{H7} | l ₂ | b ₂ ^{js9} | t _{2 0} ^{+0.2} | s ₂ |
| A1 | B 68 x 24 x 14 | 24 | 20 | 8 | 27,3 | M6 | 10 | 2÷4 | 14 | 20 | 5 | 16,3 | M6 | 8 |
| A2 | B 68 x 24 x 19 | 24 | 20 | 8 | 27,3 | M6 | 10 | 2÷4 | 19 | 20 | 6 | 21,8 | M6 | 8 |
| A3 | B 68 x 24 x 24 | 24 | 20 | 8 | 27,3 | M6 | 10 | 2÷4 | 24 | 20 | 8 | 27,3 | M6 | 8 |
| B1 | B 80 x 24 x 28 | 24 | 30 | 8 | 27,3 | M6 | 19 | 2÷4 | 28 | 30 | 8 | 31,3 | M6 | 12 |
| C1 | B 95 x 24 x 38 | 24 | 35 | 8 | 27,3 | M6 | 20 | 2÷4 | 38 | 35 | 10 | 41,3 | M6 | 15 |
| C2 | B 95 x 24 x 42 | 24 | 35 | 8 | 27,3 | M6 | 20 | 2÷4 | 42 | 35 | 12 | 45,3 | M6 | 15 |
| C3 | B 95 x 32 x 28 | 32 | 35 | 10 | 35,3 | M6 | 20 | 2÷4 | 28 | 35 | 8 | 31,3 | M6 | 15 |
| C4 | B 95 x 32 x 38 | 32 | 35 | 10 | 35,3 | M6 | 20 | 2÷4 | 38 | 35 | 10 | 41,3 | M6 | 15 |
| C5 | B 95 x 32 x 42 | 32 | 35 | 10 | 35,3 | M6 | 20 | 2÷4 | 42 | 35 | 12 | 45,3 | M6 | 15 |
| D1 | B 110 x 24 x 48 | 24 | 40 | 8 | 27,3 | M6 | 22 | 2÷4 | 48 | 40 | 14 | 51,8 | M6 | 18 |
| D2 | B 110 x 32 x 48 | 32 | 40 | 10 | 35,3 | M6 | 22 | 2÷4 | 48 | 40 | 14 | 51,8 | M6 | 18 |
| E1 | B 125 x 32 x 55 | 32 | 50 | 10 | 35,3 | M8 | 30 | 2÷4 | 55 | 50 | 16 | 59,3 | M8 | 20 |
| F1 | B 140 x 32 x 60 | 32 | 55 | 10 | 35,3 | M8 | 13 | 2÷4 | 60 | 55 | 18 | 64,4 | M8 | 22 |
| G1 | B 160 x 32 x 65 | 32 | 60 | 10 | 35,3 | M10 | 13 | 2÷6 | 65 | 60 | 18 | 69,4 | M10 | 25 |

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N.B.: Non-ATEX version.

SPACER COUPLING DIMENSIONS



| REF. | DENOMINATION | DIMENSIONS (mm) | | | | | | | | | | | | | |
|--|------------------------------|------------------------------|----------------|-------------------------------|----------------------------------|----------------|----------------|----|------------------------------|----------------|-------------------------------|----------------------------------|----------------|----------------|----|
| | | K1 | | | | | | | K5 | | | | | | |
| | | PUMP-SIDE HALF COUPLING | | | | | | | MOTOR-SIDE HALF COUPLING | | | | | | |
| SIXE x l x d ₁ x d ₂ | l ₀ ⁺¹ | d ₁ ^{H7} | l ₁ | b ₁ ^{js9} | t _{1 0} ^{+0.2} | s ₁ | q ₁ | u | d ₂ ^{H7} | l ₂ | b ₂ ^{js9} | t _{2 0} ^{+0.2} | s ₂ | q ₂ | |
| A2S | H 80-100 x 24 x 19 | 100 | 24 | 30 | 8 | 27,3 | M6 | 19 | 5 | 19 | 45 | 6 | 21,8 | M6 | 15 |
| A3S | H 80-100 x 24 x 24 | 100 | 24 | 30 | 8 | 27,3 | M6 | 19 | 5 | 24 | 45 | 8 | 27,3 | M6 | 15 |
| B1S | H 80-100 x 24 x 28 | 100 | 24 | 30 | 8 | 27,3 | M6 | 19 | 5 | 28 | 45 | 8 | 31,3 | M6 | 15 |
| C1S | H 95-100 x 24 x 38 | 100 | 24 | 35 | 8 | 27,3 | M6 | 20 | 5 | 38 | 45 | 10 | 41,3 | M6 | 20 |
| C2S | H 95-100 x 24 x 42 | 100 | 24 | 35 | 8 | 27,3 | M6 | 20 | 5 | 42 | 45 | 12 | 45,3 | M6 | 20 |
| D1S | H 110-100 x 24 x 48 | 100 | 24 | 40 | 8 | 27,3 | M6 | 22 | 5 | 48 | 50 | 14 | 51,8 | M6 | 25 |
| D2S | H 110-100 x 32 x 48 | 100 | 32 | 40 | 10 | 35,3 | M6 | 22 | 5 | 48 | 50 | 14 | 51,8 | M6 | 25 |
| E1S | H 125-140 x 32 x 55 | 140 | 32 | 50 | 10 | 35,3 | M8 | 30 | 5 | 55 | 50 | 16 | 59,3 | M8 | 25 |
| F1S | H 140-140 x 32 x 60 | 140 | 32 | 55 | 10 | 35,3 | M8 | 13 | 5 | 60 | 65 | 18 | 64,4 | M8 | 30 |
| G1S | H 160-140 x 32 x 65 | 140 | 32 | 60 | 10 | 35,3 | M10 | 13 | 6 | 65 | 70 | 18 | 69,4 | M10 | 35 |

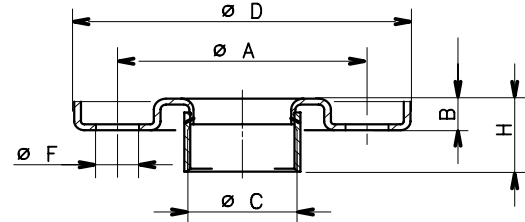
N.B.: Non-ATEX version.

sh-giunto-elastico-con-sp-en_c_td

ESH SERIES (DIMENSIONS OF ROUND THREADED COUNTERFLANGES ACCORDING TO EN 1092-1)

| DN | ø C | DIMENSIONS (mm) | | | | HOLES | | PN |
|-----|-------|-----------------|----|-----|----|-------|----|----|
| | | ø A | B | ø D | H | ø F | N° | |
| 25 | Rp 1 | 85 | 16 | 115 | 32 | 14 | 4 | 16 |
| 32 | Rp 1¼ | 100 | 16 | 140 | 35 | 18 | 4 | 16 |
| 40 | Rp 1½ | 110 | 16 | 150 | 37 | 18 | 4 | 16 |
| 50 | Rp 2 | 125 | 18 | 165 | 42 | 18 | 4 | 16 |
| 65 | Rp 2½ | 145 | 18 | 185 | 47 | 18 | 4 | 16 |
| 80 | Rp 3 | 160 | 20 | 200 | 53 | 18 | 8 | 16 |
| 100 | Rp 4 | 180 | 20 | 225 | 59 | 18 | 8 | 16 |

sh-ctf-tonde-f-en_c_td

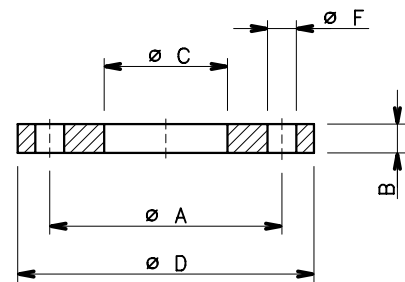


04430ESH_C_DD

ESH SERIES (DIMENSIONS OF ROUND WELD COUNTERFLANGES ACCORDING TO EN 1092-1)

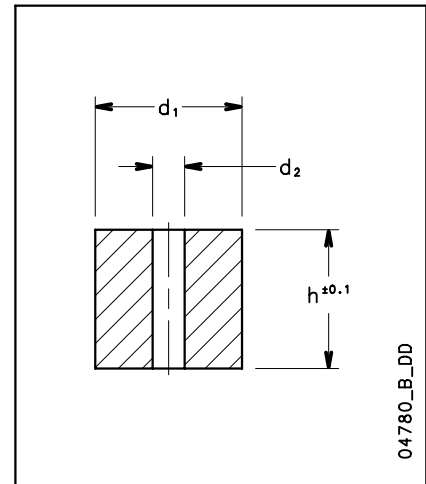
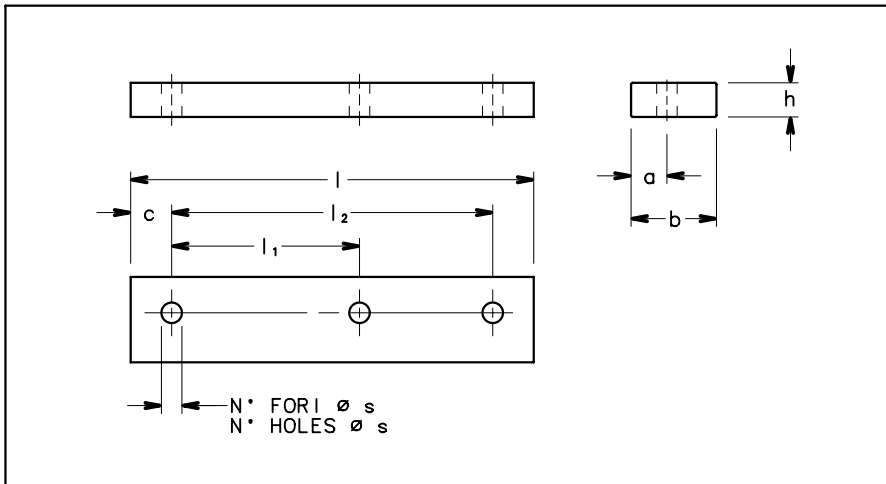
| DN | ø C | DIMENSIONS (mm) | | | HOLES | | PN |
|-----|-------|-----------------|----|-----|-------|----|----|
| | | ø A | B | ø D | ø F | N° | |
| 65 | 77 | 145 | 18 | 185 | 18 | 4 | 16 |
| 80 | 90 | 160 | 20 | 200 | 18 | 8 | 16 |
| 100 | 115,5 | 180 | 22 | 220 | 18 | 8 | 16 |

sh-ctf-tonde-s-en_b_td



04431_A_DD

ESH SERIES SHIM FOR MOTOR FEET



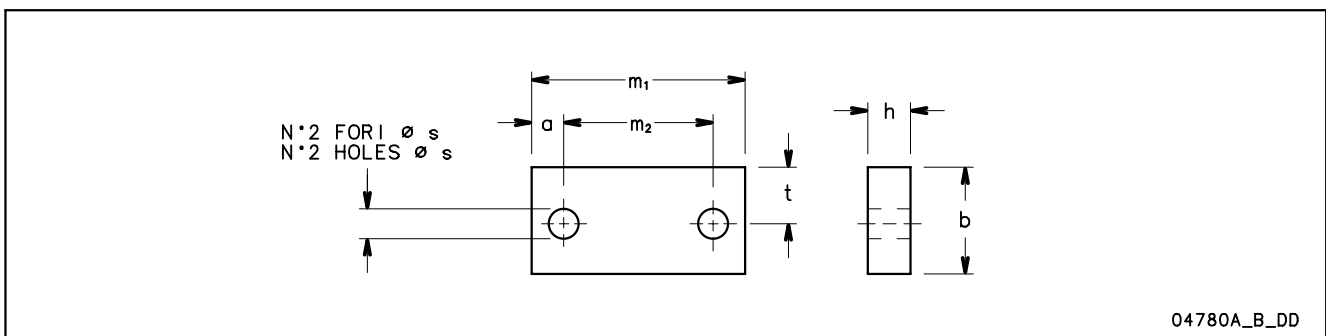
04780_B_DD

| DENOMINATION | | | | | DIMENSIONS (mm) | | | | | HOLES | |
|--------------|----|-----|---|---|-----------------|----------------|----------------|------|----|-------|--|
| b | x | h | x | l | a | l ₁ | l ₂ | c | N° | ø s | |
| 35 | 20 | 125 | | | 17 | 100 | - | 12,5 | 2 | 10 | |
| 40 | 10 | 155 | | | 20 | 100 | 125 | 15 | 3 | 10 | |
| 40 | 12 | 155 | | | 20 | 100 | 125 | 15 | 3 | 10 | |
| 40 | 12 | 180 | | | 17 | 140 | - | 20 | 2 | 14 | |
| 40 | 20 | 180 | | | 17 | 140 | - | 20 | 2 | 14 | |
| 40 | 30 | 155 | | | 20 | 100 | 125 | 15 | 3 | 10 | |
| 40 | 40 | 180 | | | 17 | 140 | - | 20 | 2 | 14 | |
| 50 | 8 | 226 | | | 21 | 140 | 178 | 24 | 3 | 14 | |
| 50 | 20 | 226 | | | 21 | 140 | 178 | 24 | 3 | 14 | |
| 50 | 20 | 304 | | | 25 | 210 | 254 | 25 | 3 | 14 | |
| 50 | 30 | 304 | | | 25 | 210 | 254 | 25 | 3 | 14 | |
| 100 | 30 | 467 | | | 50 | 311 | 349 | 59 | 3 | 22 | |

| DENOMINATION | | | DIMENSIONS (mm) | |
|----------------|---|-----|-----------------|--|
| d ₁ | x | h | d ₂ | |
| 45 | | 41 | 10 | |
| 45 | | 61 | 10 | |
| 45 | | 89 | 10 | |
| 55 | | 52 | 12 | |
| 55 | | 70 | 12 | |
| 55 | | 80 | 12 | |
| 55 | | 90 | 12 | |
| 55 | | 100 | 12 | |
| 65 | | 60 | 16 | |
| 65 | | 68 | 16 | |
| 65 | | 78 | 16 | |
| 65 | | 80 | 16 | |
| 65 | | 88 | 16 | |

sp-mot-shs-shf-en_d_td

SHIM FOR PUMP FEET (ESHF)



04780A_B_DD

| DESIGNATION | | | | | DIMENSIONS (mm) | | | | |
|-------------|---|----|---|----------------|-----------------|----------------|-----|------|--|
| b | x | h | x | m ₁ | a | m ₂ | ø s | t | |
| 40 | | 10 | | 160 | 25 | 110 | 14 | 16,5 | |
| 40 | | 20 | | 160 | 25 | 110 | 14 | 16,5 | |
| 40 | | 25 | | 160 | 25 | 110 | 14 | 16,5 | |
| 40 | | 30 | | 160 | 25 | 110 | 14 | 16,5 | |
| 70 | | 20 | | 125 | 15 | 95 | 14 | 37,5 | |
| 80 | | 10 | | 160 | 20 | 120 | 18 | 42,5 | |
| 80 | | 25 | | 160 | 20 | 120 | 18 | 42,5 | |
| 80 | | 30 | | 160 | 20 | 120 | 18 | 42,5 | |

sp-pompa-shf-en_b_td

REPORTS AND DECLARATIONS

REPORTS AND DECLARATIONS

i) Test reports

a) Factory Test Report

(not available for all pump types; contact Customer Service in advance)

- Test report compiled at the end of the assembly line, including flow-head performance test (ISO 9906:2012 – Grade 3B) and tightness test.

b) Audit Test Report

- Test report for electric pumps compiled in the test room, comprising flow-head-pump input-pump efficiency performance test (ISO 9906:2012 – Grade 3B)

c) NPSH Test Report

- Test report for electric pumps compiled in the test room, comprising flow-NPSH performance test (ISO 9906:2012 – Grade 3B)

d) Noise Test Report

- Report indicating sound pressure and power measurements (EN ISO 20361, EN ISO 11203, EN ISO 4871)

e) Vibration Test Report

(unavailable for submerged or submergible pumps)

- Report indicating vibration measurements (ISO 10816-1)

ii) Declaration of product conformity with the technical requirements indicated in the order

a) EN 10204:2004 - type 2.1

- does not include test results on supplied or similar products.

b) EN 10204:2004 - type 2.2

- includes test results (materials certificates) on similar products.

iii) Issue of a further EC Declaration of Conformity,

- in addition to the one accompanying the product, it comprises references to European law and the main technical standards (e.g.: MD 2006/42/EC, EMC 2004/108/EC, ErP 2009/125/EC).

N.B.: if the request is made after receipt of the product, communicate the code (name) and serial number (date + progressive number).

iv) Manufacturer's declaration of conformity

- relative to one of more types of products without indicating specific codes and serial numbers.

v) Other certificates and/or documentation on request

- subject to availability or feasibility.

vi) Duplication of certificates and/or documentation on request

- subject to availability or feasibility.

TECHNICAL APPENDIX

ESH SERIES TYPICAL APPLICATIONS

Water Purification:

De-ionized water
Water Treatment
Filtration
Commercial Pools

Food and Drink:

Food processing
Bottle washing
Citrus Processing
Dish washing
Brewing
Sanitary ware

Medical:

Laser cooling
Medical chillers
Sanitary equipment

Heating, Ventilating & Air Conditioning (HVAC)

Condensate return
Air scrubbers
Water re-circulation
Cooling towers
Cooling systems
Temperature control
Chillaer
Induction heating
Heat exchangers
Water heating
Booster packages

Graphics:

Film washing
Cooling of presses

Plastics:

Extrusion machines
Temperature control
Manufacture of polymers

Waste Management:

Waste treatment
Pollution control

Machine Tools:

Degreasing
Parts washing
Machine centres
Chemical treatment
Heat treatment

Vehicle Maintenance:

Car washing
Lorry or Truck wash
Wheel or tyre washing
Airplane washing

Marine:

Water on board ships
Boat design (wave machines)

Agriculture:

Irrigation
Greenhouses
Poultry Washing
Cotton humidifiers

Computers:

Washing of circuit boards

Laundry:

Commercial washing

General Industry:

Spray Booths
Light chemical transfer
Booster systems
Fire fighting

NPSH

The minimum operating values that can be reached at the pump suction end are limited by the onset of cavitation.

Cavitation is the formation of vapour-filled cavities within liquids where the pressure is locally reduced to a critical value, or where the local pressure is equal to, or just below the vapour pressure of the liquid.

The vapour-filled cavities flow with the current and when they reach a higher pressure area the vapour contained in the cavities condenses. The cavities collide, generating pressure waves that are transmitted to the walls. These, being subjected to stress cycles, gradually become deformed and yield due to fatigue. This phenomenon, characterized by a metallic noise produced by the hammering on the pipe walls, is called incipient cavitation.

The damage caused by cavitation may be magnified by electrochemical corrosion and a local rise in temperature due to the plastic deformation of the walls. The materials that offer the highest resistance to heat and corrosion are alloy steels, especially austenitic steel. The conditions that trigger cavitation may be assessed by calculating the total net suction head, referred to in technical literature with the acronym NPSH (Net Positive Suction Head).

The NPSH represents the total energy (expressed in m.) of the liquid measured at suction under conditions of incipient cavitation, excluding the vapour pressure (expressed in m.) that the liquid has at the pump inlet.

To find the static height h_z at which to install the machine under safe conditions, the following formula must be verified:

$$h_p + h_z \geq (NPSH_r + 0.5) + h_f + h_{pv} \quad \textcircled{1}$$

where:

- h_p** is the absolute pressure applied to the free liquid surface in the suction tank, expressed in m. of liquid; h_p is the quotient between the barometric pressure and the specific weight of the liquid.
- h_z** is the suction lift between the pump axis and the free liquid surface in the suction tank, expressed in m.; h_z is negative when the liquid level is lower than the pump axis.
- h_f** is the flow resistance in the suction line and its accessories, such as: fittings, foot valve, gate valve, elbows, etc.
- h_{pv}** is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid. h_{pv} is the quotient between the P_v vapour pressure and the liquid's specific weight.
- 0,5** is the safety factor.

The maximum possible suction head for installation depends on the value of the atmospheric pressure (i.e. the elevation above sea level at which the pump is installed) and the temperature of the liquid.

To help the user, with reference to water temperature (4° C) and to the elevation above sea level, the following tables show the drop in hydraulic pressure head in relation to the elevation above sea level, and the suction loss in relation to temperature.

| Water temperature (°C) | 20 | 40 | 60 | 80 | 90 | 110 | 120 |
|------------------------|-----|-----|-----|-----|-----|------|------|
| Suction loss (m) | 0,2 | 0,7 | 2,0 | 5,0 | 7,4 | 15,4 | 21,5 |

| Elevation above sea level (m) | 500 | 1000 | 1500 | 2000 | 2500 | 3000 |
|-------------------------------|------|------|------|------|------|------|
| Suction loss (m) | 0,55 | 1,1 | 1,65 | 2,2 | 2,75 | 3,3 |

Friction loss is shown in the tables Flow Resistance of this catalogue. To reduce it to a minimum, especially in cases of high suction head (over 4-5 m.) or within the operating limits with high flow rates, we recommend using a suction line having a larger diameter than that of the pump's suction port. It is always a good idea to position the pump as close as possible to the liquid to be pumped.

Make the following calculation:

Liquid: water at ~15°C $\gamma = 1 \text{ kg/dm}^3$

Flow rate required: 25 m³/h

Head for required delivery: 70 m.

Suction lift: 3,5 m.

The selection is an 33SV3G075T pump whose NPSH required value is, at 25 m³/h, of 2 m.

For water at 15 °C

$$h_p = P_a / \gamma = 10,33\text{m}, h_{pv} = P_v / \gamma = 0,174\text{m} (0,01701 \text{ bar})$$

The H_f flow resistance in the suction line with foot valves is ~ 1,2 m.

By substituting the parameters in formula $\textcircled{1}$ with the numeric values above, we have:

$$10,33 + (-3,5) \geq (2 + 0,5) + 1,2 + 0,17$$

from which we have: 6,8 > 3,9

The relation is therefore verified.

VAPOUR PRESSURE

VAPOUR PRESSURE p_s AND ρ DENSITY OF WATER TABLE

| t | T | p_s | ρ | t | T | p_s | ρ | t | T | p_s | ρ |
|----|--------|---------|--------------------|-----|--------|---------|--------------------|--------|--------|--------|--------------------|
| °C | K | bar | kg/dm ³ | °C | K | bar | kg/dm ³ | °C | K | bar | kg/dm ³ |
| 0 | 273,15 | 0,00611 | 0,9998 | 55 | 328,15 | 0,15741 | 0,9857 | 120 | 393,15 | 1,9854 | 0,9429 |
| 1 | 274,15 | 0,00657 | 0,9999 | 56 | 329,15 | 0,16511 | 0,9852 | 122 | 395,15 | 2,1145 | 0,9412 |
| 2 | 275,15 | 0,00706 | 0,9999 | 57 | 330,15 | 0,17313 | 0,9846 | 124 | 397,15 | 2,2504 | 0,9396 |
| 3 | 276,15 | 0,00758 | 0,9999 | 58 | 331,15 | 0,18147 | 0,9842 | 126 | 399,15 | 2,3933 | 0,9379 |
| 4 | 277,15 | 0,00813 | 1,0000 | 59 | 332,15 | 0,19016 | 0,9837 | 128 | 401,15 | 2,5435 | 0,9362 |
| 5 | 278,15 | 0,00872 | 1,0000 | 60 | 333,15 | 0,1992 | 0,9832 | 130 | 403,15 | 2,7013 | 0,9346 |
| 6 | 279,15 | 0,00935 | 1,0000 | 61 | 334,15 | 0,2086 | 0,9826 | 132 | 405,15 | 2,867 | 0,9328 |
| 7 | 280,15 | 0,01001 | 0,9999 | 62 | 335,15 | 0,2184 | 0,9821 | 134 | 407,15 | 3,041 | 0,9311 |
| 8 | 281,15 | 0,01072 | 0,9999 | 63 | 336,15 | 0,2286 | 0,9816 | 136 | 409,15 | 3,223 | 0,9294 |
| 9 | 282,15 | 0,01147 | 0,9998 | 64 | 337,15 | 0,2391 | 0,9811 | 138 | 411,15 | 3,414 | 0,9276 |
| 10 | 283,15 | 0,01227 | 0,9997 | 65 | 338,15 | 0,2501 | 0,9805 | 140 | 413,15 | 3,614 | 0,9258 |
| 11 | 284,15 | 0,01312 | 0,9997 | 66 | 339,15 | 0,2615 | 0,9799 | 145 | 418,15 | 4,155 | 0,9214 |
| 12 | 285,15 | 0,01401 | 0,9996 | 67 | 340,15 | 0,2733 | 0,9793 | 155 | 428,15 | 5,433 | 0,9121 |
| 13 | 286,15 | 0,01497 | 0,9994 | 68 | 341,15 | 0,2856 | 0,9788 | 160 | 433,15 | 6,181 | 0,9073 |
| 14 | 287,15 | 0,01597 | 0,9993 | 69 | 342,15 | 0,2984 | 0,9782 | 165 | 438,15 | 7,008 | 0,9024 |
| 15 | 288,15 | 0,01704 | 0,9992 | 70 | 343,15 | 0,3116 | 0,9777 | 170 | 443,15 | 7,920 | 0,8973 |
| 16 | 289,15 | 0,01817 | 0,9990 | 71 | 344,15 | 0,3253 | 0,9770 | 175 | 448,15 | 8,924 | 0,8921 |
| 17 | 290,15 | 0,01936 | 0,9988 | 72 | 345,15 | 0,3396 | 0,9765 | 180 | 453,15 | 10,027 | 0,8869 |
| 18 | 291,15 | 0,02062 | 0,9987 | 73 | 346,15 | 0,3543 | 0,9760 | 185 | 458,15 | 11,233 | 0,8815 |
| 19 | 292,15 | 0,02196 | 0,9985 | 74 | 347,15 | 0,3696 | 0,9753 | 190 | 463,15 | 12,551 | 0,8760 |
| 20 | 293,15 | 0,02337 | 0,9983 | 75 | 348,15 | 0,3855 | 0,9748 | 195 | 468,15 | 13,987 | 0,8704 |
| 21 | 294,15 | 0,24850 | 0,9981 | 76 | 349,15 | 0,4019 | 0,9741 | 200 | 473,15 | 15,550 | 0,8647 |
| 22 | 295,15 | 0,02642 | 0,9978 | 77 | 350,15 | 0,4189 | 0,9735 | 205 | 478,15 | 17,243 | 0,8588 |
| 23 | 296,15 | 0,02808 | 0,9976 | 78 | 351,15 | 0,4365 | 0,9729 | 210 | 483,15 | 19,077 | 0,8528 |
| 24 | 297,15 | 0,02982 | 0,9974 | 79 | 352,15 | 0,4547 | 0,9723 | 215 | 488,15 | 21,060 | 0,8467 |
| 25 | 298,15 | 0,03166 | 0,9971 | 80 | 353,15 | 0,4736 | 0,9716 | 220 | 493,15 | 23,198 | 0,8403 |
| 26 | 299,15 | 0,03360 | 0,9968 | 81 | 354,15 | 0,4931 | 0,9710 | 225 | 498,15 | 25,501 | 0,8339 |
| 27 | 300,15 | 0,03564 | 0,9966 | 82 | 355,15 | 0,5133 | 0,9704 | 230 | 503,15 | 27,976 | 0,8273 |
| 28 | 301,15 | 0,03778 | 0,9963 | 83 | 356,15 | 0,5342 | 0,9697 | 235 | 508,15 | 30,632 | 0,8205 |
| 29 | 302,15 | 0,04004 | 0,9960 | 84 | 357,15 | 0,5557 | 0,9691 | 240 | 513,15 | 33,478 | 0,8136 |
| 30 | 303,15 | 0,04241 | 0,9957 | 85 | 358,15 | 0,5780 | 0,9684 | 245 | 518,15 | 36,523 | 0,8065 |
| 31 | 304,15 | 0,04491 | 0,9954 | 86 | 359,15 | 0,6011 | 0,9678 | 250 | 523,15 | 39,776 | 0,7992 |
| 32 | 305,15 | 0,04753 | 0,9951 | 87 | 360,15 | 0,6249 | 0,9671 | 255 | 528,15 | 43,246 | 0,7916 |
| 33 | 306,15 | 0,05029 | 0,9947 | 88 | 361,15 | 0,6495 | 0,9665 | 260 | 533,15 | 46,943 | 0,7839 |
| 34 | 307,15 | 0,05318 | 0,9944 | 89 | 362,15 | 0,6749 | 0,9658 | 265 | 538,15 | 50,877 | 0,7759 |
| 35 | 308,15 | 0,05622 | 0,9940 | 90 | 363,15 | 0,7011 | 0,9652 | 270 | 543,15 | 55,058 | 0,7678 |
| 36 | 309,15 | 0,05940 | 0,9937 | 91 | 364,15 | 0,7281 | 0,9644 | 275 | 548,15 | 59,496 | 0,7593 |
| 37 | 310,15 | 0,06274 | 0,9933 | 92 | 365,15 | 0,7561 | 0,9638 | 280 | 553,15 | 64,202 | 0,7505 |
| 38 | 311,15 | 0,06624 | 0,9930 | 93 | 366,15 | 0,7849 | 0,9630 | 285 | 558,15 | 69,186 | 0,7415 |
| 39 | 312,15 | 0,06991 | 0,9927 | 94 | 367,15 | 0,8146 | 0,9624 | 290 | 563,15 | 74,461 | 0,7321 |
| 40 | 313,15 | 0,07375 | 0,9923 | 95 | 368,15 | 0,8453 | 0,9616 | 295 | 568,15 | 80,037 | 0,7223 |
| 41 | 314,15 | 0,07777 | 0,9919 | 96 | 369,15 | 0,8769 | 0,9610 | 300 | 573,15 | 85,927 | 0,7122 |
| 42 | 315,15 | 0,08198 | 0,9915 | 97 | 370,15 | 0,9094 | 0,9602 | 305 | 578,15 | 92,144 | 0,7017 |
| 43 | 316,15 | 0,09639 | 0,9911 | 98 | 371,15 | 0,9430 | 0,9596 | 310 | 583,15 | 98,70 | 0,6906 |
| 44 | 317,15 | 0,09100 | 0,9907 | 99 | 372,15 | 0,9776 | 0,9586 | 315 | 588,15 | 105,61 | 0,6791 |
| 45 | 318,15 | 0,09582 | 0,9902 | 100 | 373,15 | 1,0133 | 0,9581 | 320 | 593,15 | 112,89 | 0,6669 |
| 46 | 319,15 | 0,10086 | 0,9898 | 102 | 375,15 | 1,0878 | 0,9567 | 325 | 598,15 | 120,56 | 0,6541 |
| 47 | 320,15 | 0,10612 | 0,9894 | 104 | 377,15 | 1,1668 | 0,9552 | 330 | 603,15 | 128,63 | 0,6404 |
| 48 | 321,15 | 0,11162 | 0,9889 | 106 | 379,15 | 1,2504 | 0,9537 | 340 | 613,15 | 146,05 | 0,6102 |
| 49 | 322,15 | 0,11736 | 0,9884 | 108 | 381,15 | 1,3390 | 0,9522 | 350 | 623,15 | 165,35 | 0,5743 |
| 50 | 323,15 | 0,12335 | 0,9880 | 110 | 383,15 | 1,4327 | 0,9507 | 360 | 633,15 | 186,75 | 0,5275 |
| 51 | 324,15 | 0,12961 | 0,9876 | 112 | 385,15 | 1,5316 | 0,9491 | 370 | 643,15 | 210,54 | 0,4518 |
| 52 | 325,15 | 0,13613 | 0,9871 | 114 | 387,15 | 1,6362 | 0,9476 | 374,15 | 647,30 | 221,20 | 0,3154 |
| 53 | 326,15 | 0,14293 | 0,9862 | 116 | 389,15 | 1,7465 | 0,9460 | | | | |
| 54 | 327,15 | 0,15002 | 0,9862 | 118 | 391,15 | 1,8628 | 0,9445 | | | | |

G-at_npsb_b-3c

TABLE OF FLOW RESISTANCE IN 100 m OF STRAIGHT CAST IRON PIPELINE (HAZEN-WILLIAMS FORMULA C=100)

| FLOW RATE | | NOMINAL DIAMETER in mm and inches | | | | | | | | | | | | | | | | | | |
|-------------------|-------|-----------------------------------|------|-------|------|--------|--------|-------|--------|------|-------|------|------|------|------|-----|-----|-----|-----|--|
| m ³ /h | l/min | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 175 | 200 | 250 | 300 | 350 | 400 | |
| | | | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2 | 2 1/2" | 3" | 4" | 5" | 6" | 7" | 8" | 10" | 12" | 14" | 16" | |
| 0,6 | 10 | v | 0,94 | 0,53 | 0,34 | 0,21 | 0,13 | | | | | | | | | | | | | |
| | | hr | 16 | 3,94 | 1,33 | 0,40 | 0,13 | | | | | | | | | | | | | |
| 0,9 | 15 | v | 1,42 | 0,80 | 0,51 | 0,31 | 0,20 | | | | | | | | | | | | | |
| | | hr | 33,9 | 8,35 | 2,82 | 0,85 | 0,29 | | | | | | | | | | | | | |
| 1,2 | 20 | v | 1,89 | 1,06 | 0,68 | 0,41 | 0,27 | 0,17 | | | | | | | | | | | | |
| | | hr | 57,7 | 14,21 | 4,79 | 1,44 | 0,49 | 0,16 | | | | | | | | | | | | |
| 1,5 | 25 | v | 2,36 | 1,33 | 0,85 | 0,52 | 0,33 | 0,21 | | | | | | | | | | | | |
| | | hr | 87,2 | 21,5 | 7,24 | 2,18 | 0,73 | 0,25 | | | | | | | | | | | | |
| 1,8 | 30 | v | 2,83 | 1,59 | 1,02 | 0,62 | 0,40 | 0,25 | | | | | | | | | | | | |
| | | hr | 122 | 30,1 | 10,1 | 3,05 | 1,03 | 0,35 | | | | | | | | | | | | |
| 2,1 | 35 | v | 3,30 | 1,86 | 1,19 | 0,73 | 0,46 | 0,30 | | | | | | | | | | | | |
| | | hr | 162 | 40,0 | 13,5 | 4,06 | 1,37 | 0,46 | | | | | | | | | | | | |
| 2,4 | 40 | v | | 2,12 | 1,36 | 0,83 | 0,53 | 0,34 | 0,20 | | | | | | | | | | | |
| | | hr | | 51,2 | 17,3 | 5,19 | 1,75 | 0,59 | 0,16 | | | | | | | | | | | |
| 3 | 50 | v | | 2,65 | 1,70 | 1,04 | 0,66 | 0,42 | 0,25 | | | | | | | | | | | |
| | | hr | | 77,4 | 26,1 | 7,85 | 2,65 | 0,89 | 0,25 | | | | | | | | | | | |
| 3,6 | 60 | v | | 3,18 | 2,04 | 1,24 | 0,80 | 0,51 | 0,30 | | | | | | | | | | | |
| | | hr | | 108 | 36,6 | 11,0 | 3,71 | 1,25 | 0,35 | | | | | | | | | | | |
| 4,2 | 70 | v | | 3,72 | 2,38 | 1,45 | 0,93 | 0,59 | 0,35 | | | | | | | | | | | |
| | | hr | | 144 | 48,7 | 14,6 | 4,93 | 1,66 | 0,46 | | | | | | | | | | | |
| 4,8 | 80 | v | | 4,25 | 2,72 | 1,66 | 1,06 | 0,68 | 0,40 | | | | | | | | | | | |
| | | hr | | 185 | 62,3 | 18,7 | 6,32 | 2,13 | 0,59 | | | | | | | | | | | |
| 5,4 | 90 | v | | | 3,06 | 1,87 | 1,19 | 0,76 | 0,45 | 0,30 | | | | | | | | | | |
| | | hr | | | 77,5 | 23,3 | 7,85 | 2,65 | 0,74 | 0,27 | | | | | | | | | | |
| 6 | 100 | v | | | 3,40 | 2,07 | 1,33 | 0,85 | 0,50 | 0,33 | | | | | | | | | | |
| | | hr | | | 94,1 | 28,3 | 9,54 | 3,22 | 0,90 | 0,33 | | | | | | | | | | |
| 7,5 | 125 | v | | | 4,25 | 2,59 | 1,66 | 1,06 | 0,63 | 0,41 | | | | | | | | | | |
| | | hr | | | 142 | 42,8 | 14,4 | 4,86 | 1,36 | 0,49 | | | | | | | | | | |
| 9 | 150 | v | | | | 3,11 | 1,99 | 1,27 | 0,75 | 0,50 | 0,32 | | | | | | | | | |
| | | hr | | | | 59,9 | 20,2 | 6,82 | 1,90 | 0,69 | 0,23 | | | | | | | | | |
| 10,5 | 175 | v | | | | 3,63 | 2,32 | 1,49 | 0,88 | 0,58 | 0,37 | | | | | | | | | |
| | | hr | | | | 79,7 | 26,9 | 9,07 | 2,53 | 0,92 | 0,31 | | | | | | | | | |
| 12 | 200 | v | | | | 4,15 | 2,65 | 1,70 | 1,01 | 0,66 | 0,42 | | | | | | | | | |
| | | hr | | | | 102 | 34,4 | 11,6 | 3,23 | 1,18 | 0,40 | | | | | | | | | |
| 15 | 250 | v | | | | 5,18 | 3,32 | 2,12 | 1,26 | 0,83 | 0,53 | 0,34 | | | | | | | | |
| | | hr | | | | 154 | 52,0 | 17,5 | 4,89 | 1,78 | 0,60 | 0,20 | | | | | | | | |
| 18 | 300 | v | | | | 3,98 | 2,55 | 1,51 | 1,00 | 0,64 | 0,41 | | | | | | | | | |
| | | hr | | | | 72,8 | 24,6 | 8,85 | 2,49 | 0,84 | 0,28 | | | | | | | | | |
| 24 | 400 | v | | | | 5,31 | 3,40 | 2,01 | 1,33 | 0,85 | 0,54 | 0,38 | | | | | | | | |
| | | hr | | | | 124 | 41,8 | 11,66 | 4,24 | 1,43 | 0,48 | 0,20 | | | | | | | | |
| 30 | 500 | v | | | | 6,63 | 4,25 | 2,51 | 1,66 | 1,06 | 0,68 | 0,47 | | | | | | | | |
| | | hr | | | | 187 | 63,2 | 17,6 | 6,41 | 2,16 | 0,73 | 0,30 | | | | | | | | |
| 36 | 600 | v | | | | | 5,10 | 3,02 | 1,99 | 1,27 | 0,82 | 0,57 | 0,42 | | | | | | | |
| | | hr | | | | | 88,6 | 24,7 | 8,98 | 3,03 | 1,02 | 0,42 | 0,20 | | | | | | | |
| 42 | 700 | v | | | | | 5,94 | 3,52 | 2,32 | 1,49 | 0,95 | 0,66 | 0,49 | | | | | | | |
| | | hr | | | | | 118 | 32,8 | 11,9 | 4,03 | 1,36 | 0,56 | 0,26 | | | | | | | |
| 48 | 800 | v | | | | | 6,79 | 4,02 | 2,65 | 1,70 | 1,09 | 0,75 | 0,55 | | | | | | | |
| | | hr | | | | | 151 | 42,0 | 15,3 | 5,16 | 1,74 | 0,72 | 0,34 | | | | | | | |
| 54 | 900 | v | | | | | 7,64 | 4,52 | 2,99 | 1,91 | 1,22 | 0,85 | 0,62 | | | | | | | |
| | | hr | | | | | 188 | 52,3 | 19,0 | 6,41 | 2,16 | 0,89 | 0,42 | | | | | | | |
| 60 | 1000 | v | | | | | 5,03 | 3,32 | 2,12 | 1,36 | 0,94 | 0,69 | 0,53 | | | | | | | |
| | | hr | | | | | 63,5 | 23,1 | 7,79 | 2,63 | 1,08 | 0,51 | 0,27 | | | | | | | |
| 75 | 1250 | v | | | | | 6,28 | 4,15 | 2,65 | 1,70 | 1,18 | 0,87 | 0,66 | | | | | | | |
| | | hr | | | | | 96,0 | 34,9 | 11,8 | 3,97 | 1,63 | 0,77 | 0,40 | | | | | | | |
| 90 | 1500 | v | | | | | 7,54 | 4,98 | 3,18 | 2,04 | 1,42 | 1,04 | 0,80 | | | | | | | |
| | | hr | | | | | 134 | 48,9 | 16,5 | 5,57 | 2,29 | 1,08 | 0,56 | | | | | | | |
| 105 | 1750 | v | | | | | 8,79 | 5,81 | 3,72 | 2,38 | 1,65 | 1,21 | 0,93 | | | | | | | |
| | | hr | | | | | 179 | 65,1 | 21,9 | 7,40 | 3,05 | 1,44 | 0,75 | | | | | | | |
| 120 | 2000 | v | | | | | 6,63 | 4,25 | 2,72 | 1,89 | 1,39 | 1,06 | 0,68 | | | | | | | |
| | | hr | | | | | 83,3 | 28,1 | 9,48 | 3,90 | 1,84 | 0,96 | 0,32 | | | | | | | |
| 150 | 2500 | v | | | | | 8,29 | 5,31 | 3,40 | 2,36 | 1,73 | 1,33 | 0,85 | | | | | | | |
| | | hr | | | | | 126 | 42,5 | 14,3 | 5,89 | 2,78 | 1,45 | 0,49 | | | | | | | |
| 180 | 3000 | v | | | | | | 6,37 | 4,08 | 2,83 | 2,08 | 1,59 | 1,02 | 0,71 | | | | | | |
| | | hr | | | | | | 59,5 | 20,1 | 8,26 | 3,90 | 2,03 | 0,69 | 0,28 | | | | | | |
| 210 | 3500 | v | | | | | | 7,43 | 4,76 | 3,30 | 2,43 | 1,86 | 1,19 | 0,83 | | | | | | |
| | | hr | | | | | | 79,1 | 26,7 | 11,0 | 5,18 | 2,71 | 0,91 | 0,38 | | | | | | |
| 240 | 4000 | v | | | | | | 8,49 | 5,44 | 3,77 | 2,77 | 2,12 | 1,36 | 0,94 | | | | | | |
| | | hr | | | | | | 101 | 34,2 | 14,1 | 6,64 | 3,46 | 1,17 | 0,48 | | | | | | |
| 300 | 5000 | v | | | | | | | 6,79 | 4,72 | 3,47 | 2,65 | 1,70 | 1,18 | | | | | | |
| | | hr | | | | | | | 51,6 | 21,2 | 10,0 | 5,23 | 1,77 | 0,73 | | | | | | |
| 360 | 6000 | v | | | | | | | 8,15 | 5,66 | 4,16 | 3,18 | 2,04 | 1,42 | | | | | | |
| | | hr | | | | | | | 72,3 | 29,8 | 14,1 | 7,33 | 2,47 | 1,02 | | | | | | |
| 420 | 7000 | v | | | | | | | 6,61 | 4,85 | 3,72 | 2,38 | 1,65 | 1,21 | | | | | | |
| | | hr | | | | | | | 39,6 | 18,7 | 9,75 | 3,29 | 1,35 | 0,64 | | | | | | |
| 480 | 8000 | v | | | | | | | 7,55 | 5,55 | 4,25 | 2,72 | 1,89 | 1,39 | | | | | | |
| | | hr | | | | | | | 50,7 | 23,9 | 12,49 | 4,21 | 1,73 | 0,82 | | | | | | |
| 540 | 9000 | v | | | | | | | 8,49 | 6,24 | 4,78 | 3,06 | 2,12 | 1,56 | 1,19 | | | | | |
| | | hr | | | | | | | 63,0 | 29,8 | 15,5 | 5,24 | 2,16 | 1,02 | 0,53 | | | | | |
| 600 | 10000 | v | | | | | | | | 6,93 | 5,31 | 3,40 | 2,36 | 1,73 | 1,33 | | | | | |
| | </ | | | | | | | | | | | | | | | | | | | |

FLOW RESISTANCE TABLE OF FLOW RESISTANCE IN BENDS, VALVES AND GATES

The flow resistance is calculated using the equivalent pipeline length method according to the table below:

| ACCESSORY TYPE | DN | | | | | | | | | | | |
|--------------------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| | Equivalent pipeline length (m) | | | | | | | | | | | |
| 45° bend | 0,2 | 0,2 | 0,4 | 0,4 | 0,6 | 0,6 | 0,9 | 1,1 | 1,5 | 1,9 | 2,4 | 2,8 |
| 90° bend | 0,4 | 0,6 | 0,9 | 1,1 | 1,3 | 1,5 | 2,1 | 2,6 | 3,0 | 3,9 | 4,7 | 5,8 |
| 90° smooth bend | 0,4 | 0,4 | 0,4 | 0,6 | 0,9 | 1,1 | 1,3 | 1,7 | 1,9 | 2,8 | 3,4 | 3,9 |
| Union tee or cross | 1,1 | 1,3 | 1,7 | 2,1 | 2,6 | 3,2 | 4,3 | 5,3 | 6,4 | 7,5 | 10,7 | 12,8 |
| Gate valve | - | - | - | 0,2 | 0,2 | 0,2 | 0,4 | 0,4 | 0,6 | 0,9 | 1,1 | 1,3 |
| Foot check valve | 1,1 | 1,5 | 1,9 | 2,4 | 3,0 | 3,4 | 4,7 | 5,9 | 7,4 | 9,6 | 11,8 | 13,9 |
| Non return valve | 1,1 | 1,5 | 1,9 | 2,4 | 3,0 | 3,4 | 4,7 | 5,9 | 7,4 | 9,6 | 11,8 | 13,9 |

G-a-pcv-en_b_th

The table is valid for the Hazen Williams coefficient $C=100$ (cast iron pipework);

for steel pipework, multiply the values by 1,41;

for stainless steel, copper and coated cast iron pipework, multiply the values by 1,85;

When the **equivalent pipeline length** has been determined, the flow resistance is obtained from the table of flow resistance.

The values given are guideline values which are bound to vary slightly according to the model, especially for gate valves and non-return valves, for which it is a good idea to check the values supplied by manufacturers.

VOLUMETRIC CAPACITY

| Litres per minute l/min | Cubic metres per hour m ³ /h | Cubic feet per hour ft ³ /h | Cubic feet per minute ft ³ /min | Imperial gallon per minute Imp. gal/min | U.S. gallon per minute US gal/min |
|-------------------------------|---|--|--|---|---|
| 1,000 | 0,0600 | 2,1189 | 0,0353 | 0,2200 | 0,2642 |
| 16,6667 | 1,0000 | 35,3147 | 0,5886 | 3,6662 | 4,4029 |
| 0,4719 | 0,0283 | 1,0000 | 0,0167 | 0,1038 | 0,1247 |
| 28,3168 | 1,6990 | 60,0000 | 1,0000 | 6,2288 | 7,4805 |
| 4,5461 | 0,2728 | 9,6326 | 0,1605 | 1,0000 | 1,2009 |
| 3,7854 | 0,2271 | 8,0208 | 0,1337 | 0,8327 | 1,0000 |

PRESSURE AND HEAD

| Newton per square metre N/m ² | kilo Pascal kPa | bar bar | Pound force per square inch psi | Metre of water m H ₂ O | Millimetre of mercury mm Hg |
|--|--------------------|----------------------|---------------------------------------|---|-----------------------------------|
| 1,0000 | 0,0010 | 1 x 10 ⁻⁵ | 1,45 x 10 ⁻⁴ | 1,02 x 10 ⁻⁴ | 0,0075 |
| 1 000,0000 | 1,0000 | 0,0100 | 0,1450 | 0,1020 | 7,5006 |
| 1 x 10 ⁵ | 100,0000 | 1,0000 | 14,5038 | 10,1972 | 750,0638 |
| 6 894,7570 | 6,8948 | 0,0689 | 1,0000 | 0,7031 | 51,7151 |
| 9 806,6500 | 9,8067 | 0,0981 | 1,4223 | 1,0000 | 73,5561 |
| 133,3220 | 0,1333 | 0,0013 | 0,0193 | 0,0136 | 1,0000 |

LENGTH

| Millimetre mm | Centimetre cm | Metre m | Inch in | Foot ft | Yard yd |
|------------------|------------------|---------------|---------------|---------------|---------------|
| 1,0000 | 0,1000 | 0,0010 | 0,0394 | 0,0033 | 0,0011 |
| 10,0000 | 1,0000 | 0,0100 | 0,3937 | 0,0328 | 0,0109 |
| 1 000,0000 | 100,0000 | 1,0000 | 39,3701 | 3,2808 | 1,0936 |
| 25,4000 | 2,5400 | 0,0254 | 1,0000 | 0,0833 | 0,0278 |
| 304,8000 | 30,4800 | 0,3048 | 12,0000 | 1,0000 | 0,3333 |
| 914,4000 | 91,4400 | 0,9144 | 36,0000 | 3,0000 | 1,0000 |

VOLUME

| Cubic metre m ³ | Litre L | Millilitre ml | Imperial gallon imp. gal. | U.S. gallon US gal. | Cubic foot ft ³ |
|-------------------------------|---------------|---------------------|------------------------------|--------------------------|-------------------------------|
| 1,0000 | 1 000,0000 | 1 x 10 ⁶ | 219,9694 | 264,1720 | 35,3147 |
| 0,0010 | 1,0000 | 1 000,0000 | 0,2200 | 0,2642 | 0,0353 |
| 1 x 10 ⁻⁶ | 0,0010 | 1,0000 | 2,2 x 10 ⁻⁴ | 2,642 x 10 ⁻⁴ | 3,53 x 10 ⁻⁵ |
| 0,0045 | 4,5461 | 4 546,0870 | 1,0000 | 1,2009 | 0,1605 |
| 0,0038 | 3,7854 | 3 785,4120 | 0,8327 | 1,0000 | 0,1337 |
| 0,0283 | 28,3168 | 28 316,8466 | 6,2288 | 7,4805 | 1,0000 |

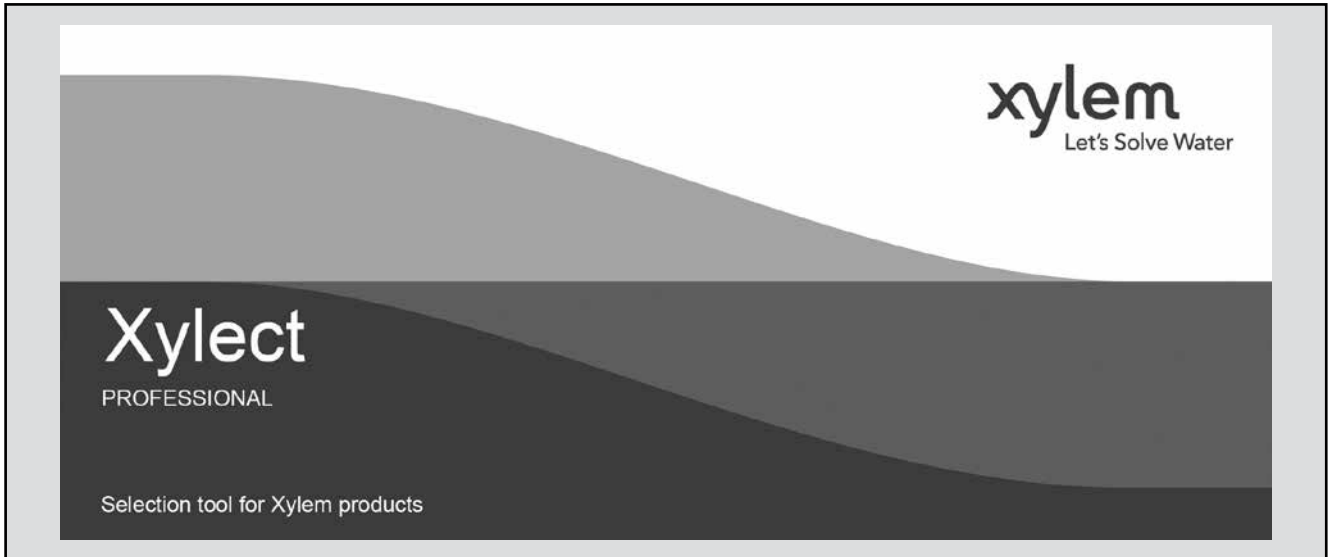
TEMPERATURE

| Water | Kelvin K | Celsius °C | Fahrenheit °F | $^{\circ}\text{F} = ^{\circ}\text{C} \times \frac{9}{5} + 32$ $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times \frac{5}{9}$ |
|---------|-------------|---------------|------------------|--|
| icing | 273,1500 | 0,0000 | 32,0000 | |
| boiling | 373,1500 | 100,0000 | 212,0000 | |

G-at_pp-en_b_sc

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect



Xylect is pump solution selection software with an extensive online database of product information across the entire Lowara range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

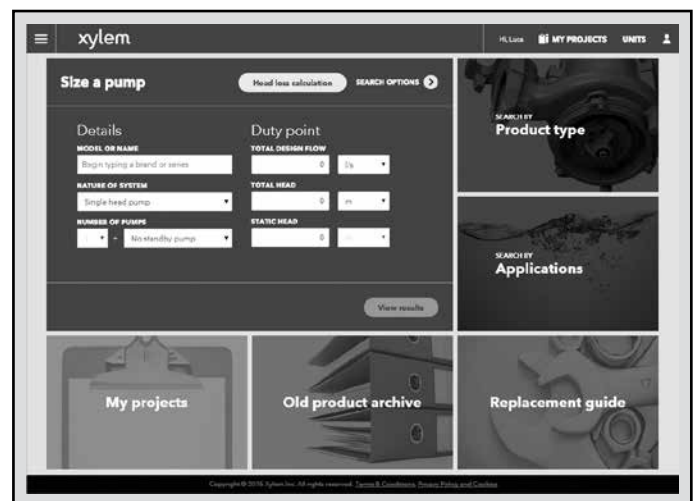
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect gives a detailed output:

- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



The search by application guides users not familiar with the product range to the right choice.

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect



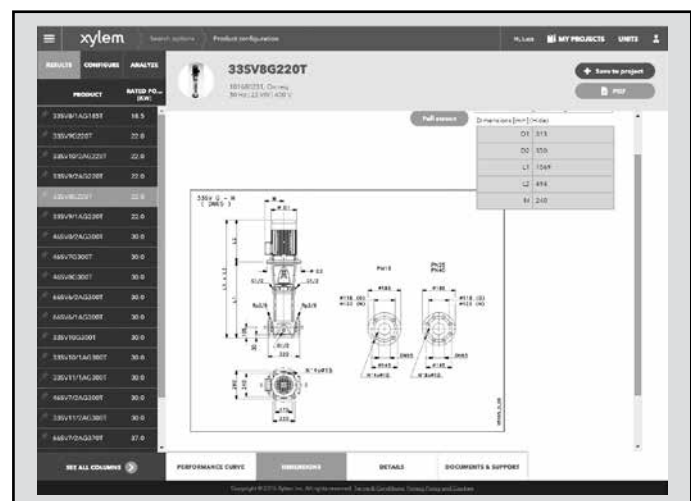
The detailed output makes it easy to select the optimal pump from the given alternatives.

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- Set own standard units
- Create and save projects
- Share projects with other Xylect users

Every registered user has a proper space, where all projects are saved.

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Dimensional drawings appear on the screen and can be downloaded in dxf format.

Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

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