

50 Hz



e-NSC Series

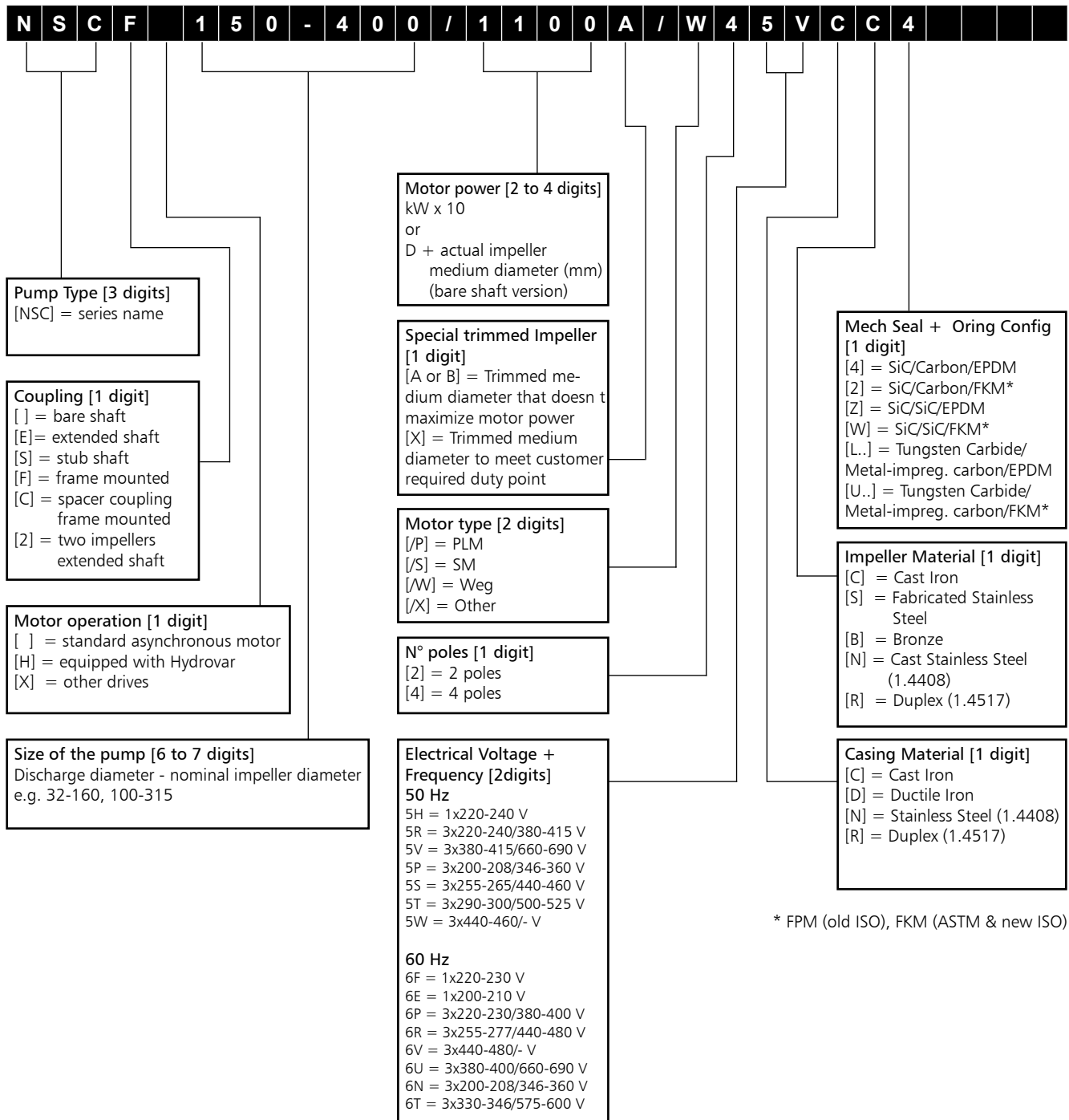
HORIZONTAL CENTRIFUGAL ELECTRIC PUMPS
EQUIPPED WITH **IE3** MOTORS

ErP 2009/125/EC

Cod. 191002951 Rev. F Ed.03/2016

 **LOWARA**
a xylem brand

e-NSC SERIES IDENTIFICATION CODE



EXAMPLES

NSCS 100-250/900/W25RCC4

End-suction, electric pump with stub shaft coupling, DN 100 nominal discharge port, 250 mm nominal impeller diameter, 90 kW rated motor power, WEG IE3 model, 2-pole, 50 Hz 220-240/380-415 V, cast iron casing, cast iron impeller, Silicon carbide/Carbon/EPDM mechanical seal.

NSCF 150-400/1100A/W45VCC4

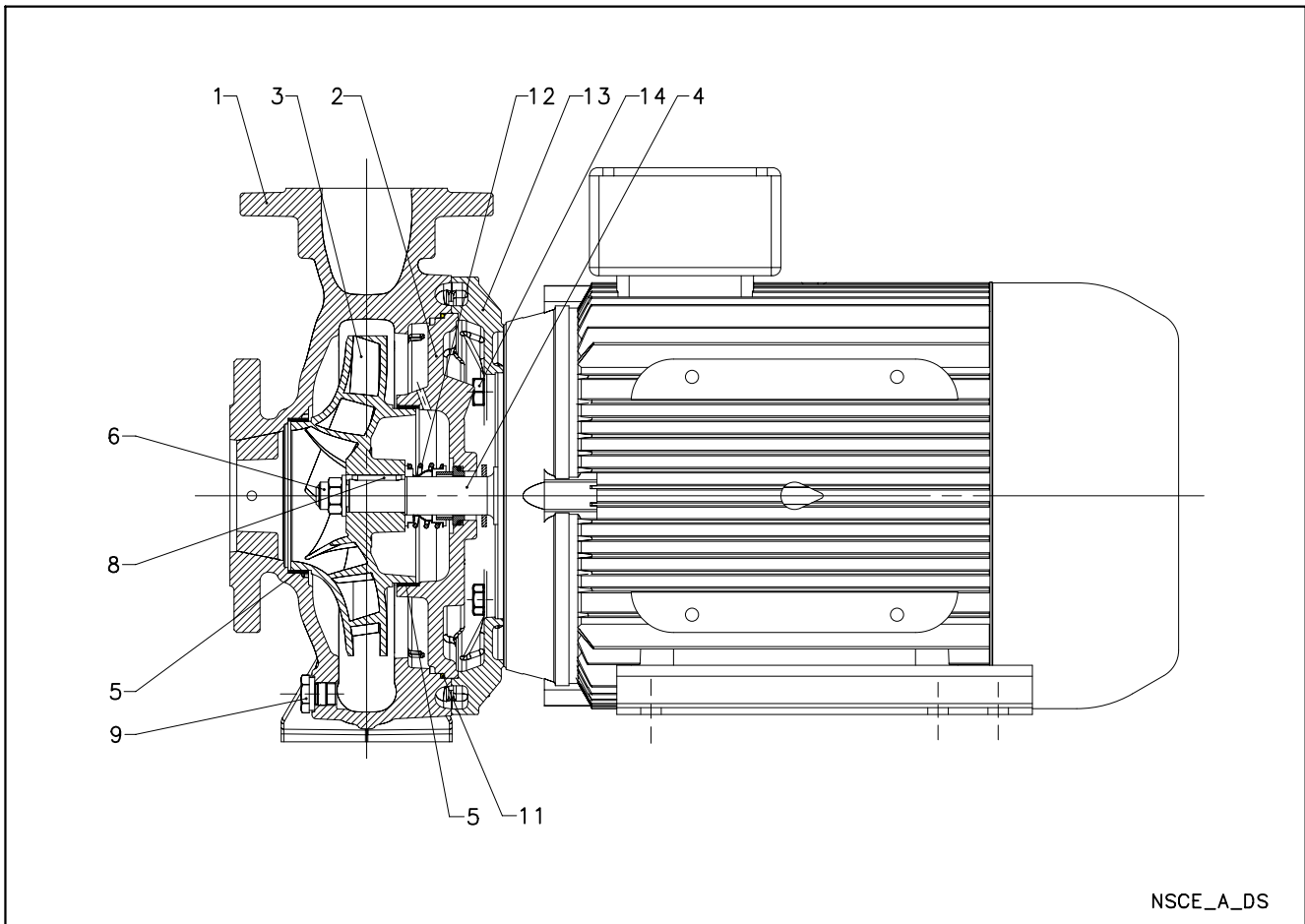
End-suction, electric pump with frame mounted coupling, DN 150 nominal discharge port, 400 mm nominal impeller diameter, 110 kW rated motor power, trimmed impeller, WEG IE3 model, 4-pole, 50 Hz 380-415/660-690 V, cast iron casing, cast iron impeller, Silicon carbide/Carbon/EPDM mechanical seal.

NSC 150-400/D423CCZ

End-suction, bare shaft pump, DN 150 nominal discharge port, 400 mm nominal impeller diameter, 423 mm actual impeller medium diameter, cast iron casing, cast iron impeller, Silicon carbide/ Silicon carbide/EPDM mechanical seal.

NSCE SERIES

ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS



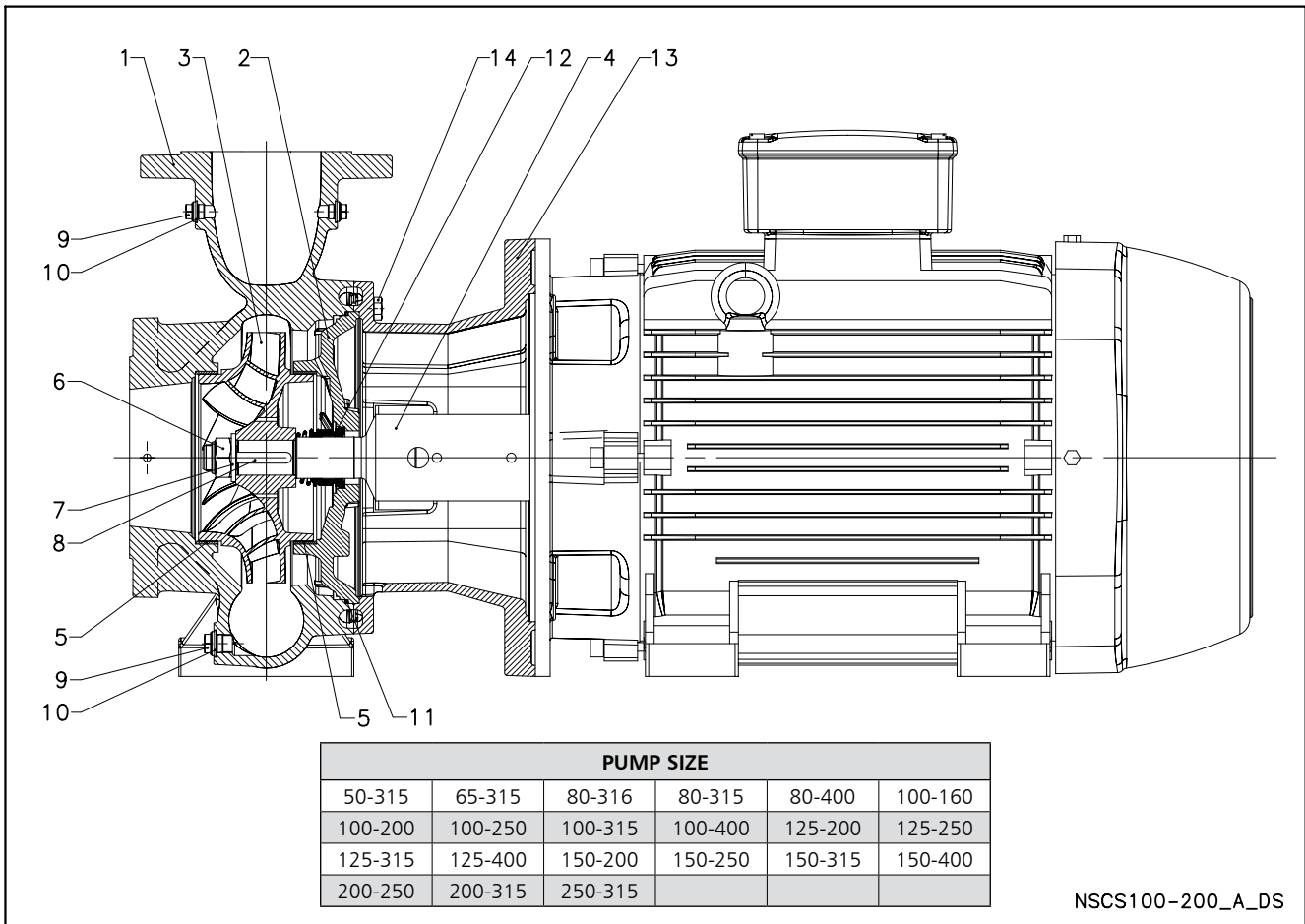
NSCE_A_DS

| REF. N. | PART | MATERIAL | REFERENCE STANDARDS | |
|---------|--|--|-------------------------------------|---------------|
| | | | EUROPE | USA |
| 1 | Volute casing | Cast iron | EN 1561 - GJL-250 (JL1040) | ASTM Class 35 |
| 2 | Casing cover | Cast iron | EN 1561 - GJL-250 (JL1040) | ASTM Class 35 |
| 3 | Impeller (32, 40, 50) | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| | Impeller (65, 80) | Cast iron | EN 1561 - GJL-200 (JL1030) | ASTM Class 30 |
| | Impeller (65, 80) | Bronze | EN 1982 - CuSn10-C (CC480K) | UNS C90700 |
| 4 | Shaft extension | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 5 | Wear ring | Stainless steel | EN 10088-X5CrNi18-10 (1.4301) | AISI 304 |
| 6 | Impeller lock nut and washer | Stainless steel | EN 10088-1-X5CrNiMo17-12-2 (1.4401) | AISI 316 |
| 8 | Impeller key | Stainless steel | EN 10088-1-X2CrNiMo17-12-2 (1.4404) | AISI 316L |
| 9 | Fill and drain plugs | Nickel-plated brass | EN 12164-CuZn39Pb3 (CW614N) | - |
| 11 | O-Ring | EPDM (standard version) | | |
| 12 | Mechanical seal | Carbon / Silicon carbide / EPDM (standard version) | | |
| 13 | Motor adapter * | Aluminium | EN 1706-AC-AISI11Cu2 (Fe) (AC46100) | - |
| | Motor adapter | Cast iron | EN 1561 - GJL-250 (JL1040) | ASTM Class 35 |
| 14 | Volute casing fastening bolts and screws | Galvanized steel | | |

* 2/4 pole: 32/40/50-125, 32/40-160

NSCS SERIES

ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS



| REF. N. | PART | MATERIAL | REFERENCE STANDARDS | |
|---------|---|--|-------------------------------------|--------------------|
| | | | EUROPE | USA |
| 1 | Volute casing | Cast iron | EN 1561 - GJL-250 (JL1040) | ASTM Class 35 |
| | Volute casing (200-250, 200-315, 250/315) | Cast ductile iron | EN 1563 - EN-GJS400-15 (EN-JS1030) | ASTM A536 40-60-18 |
| 2 | Casing cover | Cast iron | EN 1561 - GJL-250 (JL1040) | ASTM Class 35 |
| | Casing cover (200-250, 200-315, 250/315) | Cast ductile iron | EN 1563 - EN-GJS400-15 (EN-JS1030) | ASTM A536 40-60-18 |
| 3 | Impeller | Cast iron | EN 1561 - GJL-200 (JL1030) | ASTM Class 30 |
| | Impeller | Bronze | EN 1982 - CuSn10-C (CC480K) | UNS C90700 |
| 4 | Stub shaft | Stainless steel | EN 10088 - X17CrNi16-2 (1.4057) | AISI 431 |
| 5 | Wear ring | Stainless steel | EN 10088 - X5CrNi18-10 (1.4301) | AISI 304 |
| 6 | Impeller nut | Stainless steel | A4 (~ 1.4401) | |
| 7 | Impeller washer | Stainless steel | A4 (~ 1.4401) | |
| 8 | Impeller key | Stainless steel | EN 10088 - X6CrNiMo17-12-2 (1.4571) | AISI 316Ti |
| 9 | Plug | Stainless steel | EN 10088 - X6CrNiMo17-12-2 (1.4571) | AISI 316Ti |
| 10 | Gasket | Asbestos-free synthetic fiber AFM 34 | | |
| 11 | O-Ring | EPDM (standard version) | | |
| 12 | Mechanical seal | Carbon / Silicon carbide / EPDM (standard version) | | |
| 13 | Motor adapter | Cast iron | EN 1561 - GJL-250 (JL1040) | ASTM Class 35 |
| 14 | Volute - casing fastening screws | Carbon steel | | |

Nscs100-200-en_a_tm

e-NSC 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 NSCE and NSCS versions correspond to the end-suction close-coupled pump while NSC, NSCF and NSCC 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).

The Regulation also establishes the following deadlines.

| from | minimum efficiency index (MEI) |
|------------------------------|--------------------------------|
| 1 st January 2013 | MEI ≥ 0,1 |
| 1 st January 2015 | MEI ≥ 0,4 |

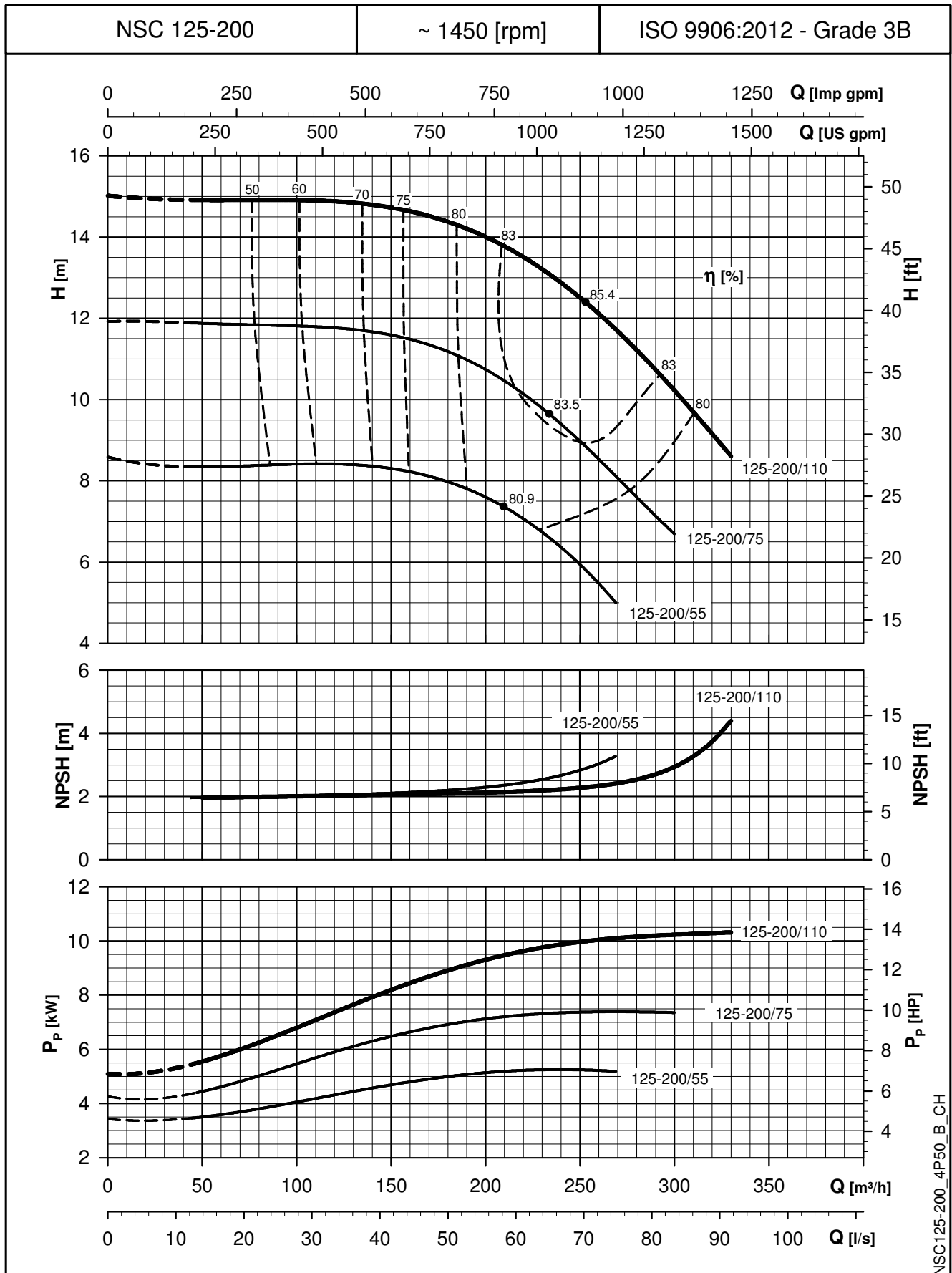
NSC2 models are out of the scope of the Regulation.

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).

e-NSC SERIES

OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

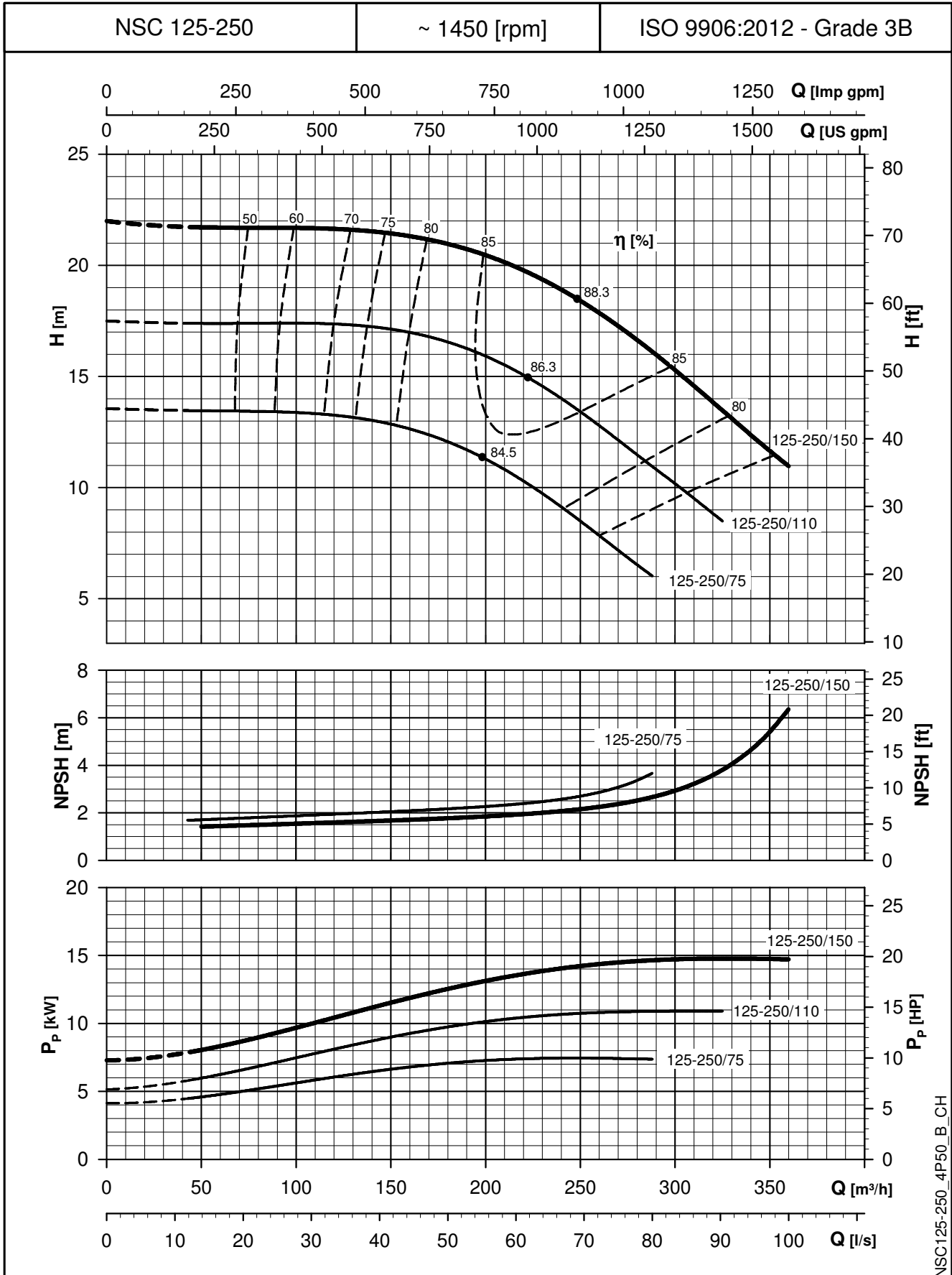


NSC125-200_4P50_B_CH

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 $\nu = 1 \text{ mm}^2/\text{sec}$.

e-NSC SERIES

OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

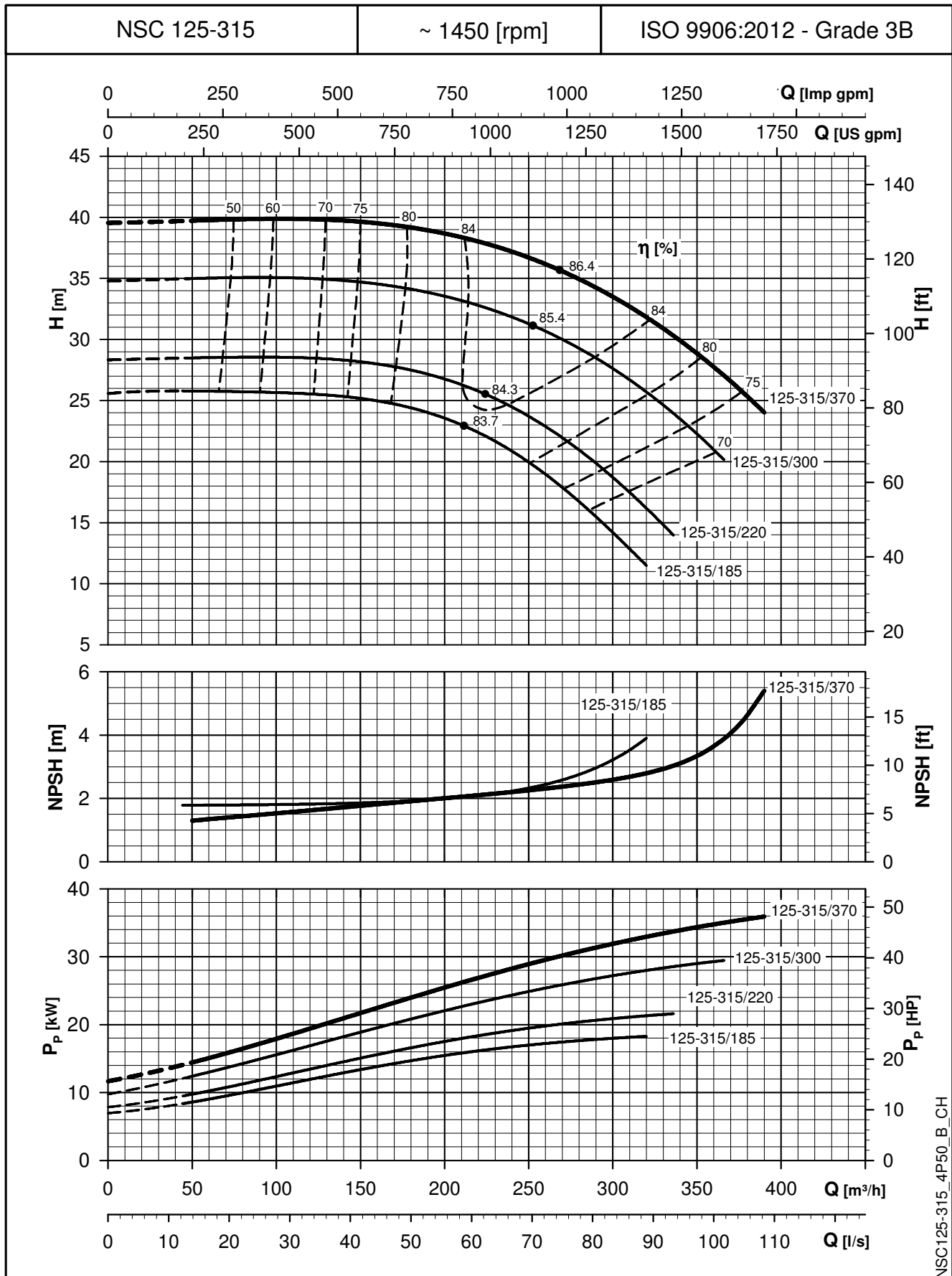


NSC125-250_4P50_B_CH

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 ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-NSC SERIES

OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

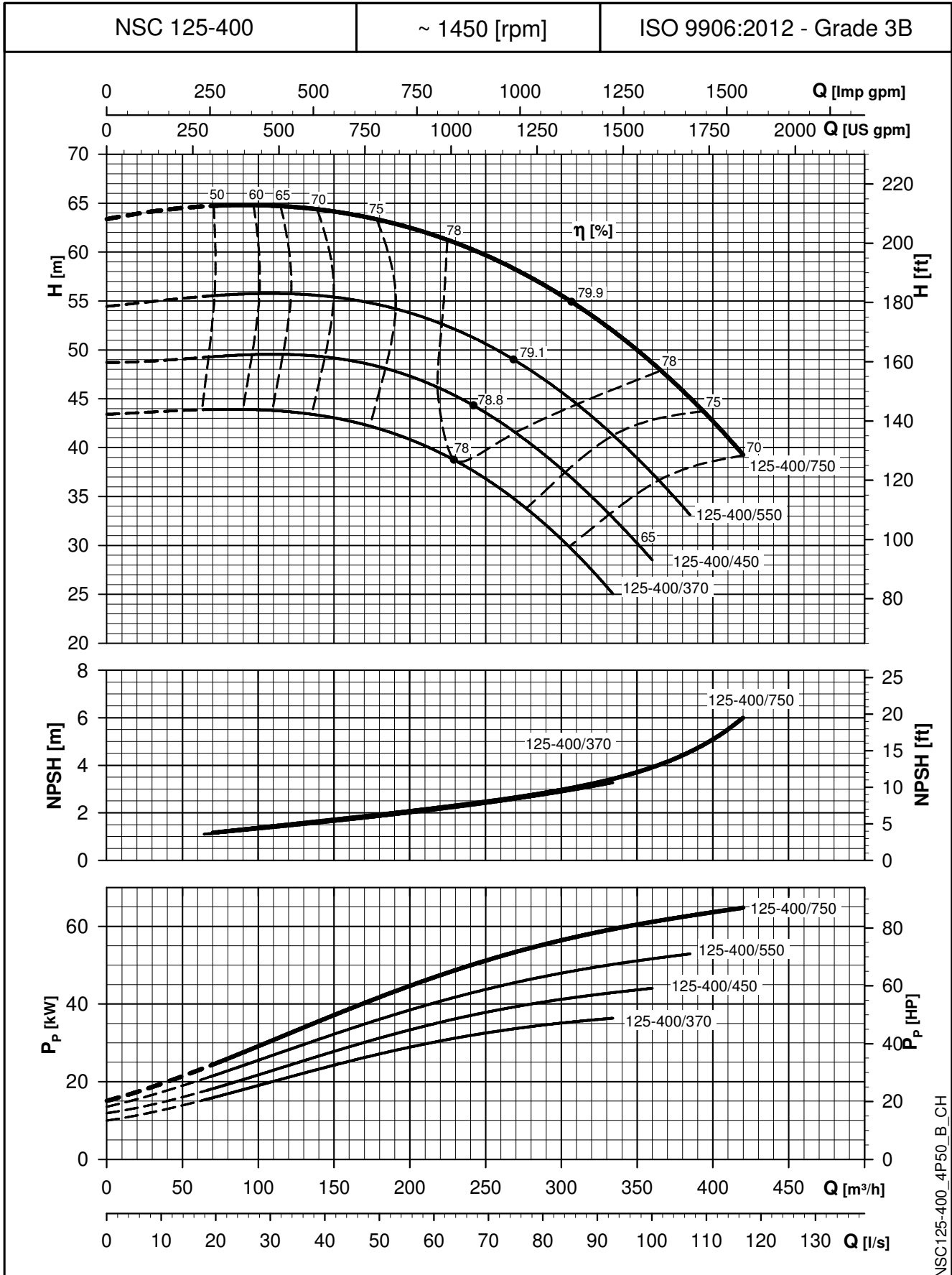


NSC125-315_4P50_B_CH

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 $\nu = 1 \text{ mm}^2/\text{sec}$.

e-NSC SERIES

OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES



NSC125-400_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 $\nu = 1 \text{ mm}^2/\text{sec}$.

**NSCS 100, 125, 150, 200, 250 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**

