

**50 Hz**



## e-LNE Series

SINGLE IN-LINE ELECTRIC PUMPS

**ErP 2009/125/EC**

Cod. 191007431 Rev. G Ed.05/2017

 **LOWARA**  
a xylem brand

## Xylect™

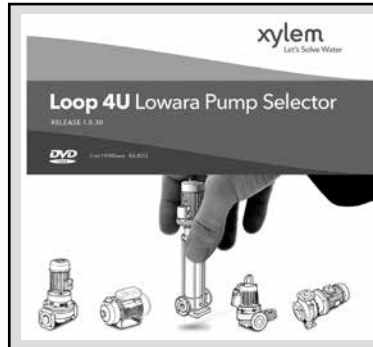
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On DVD – Loop 4U



On Mobile Apps



For more information, please, see page 145-146.

## 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 **1<sup>st</sup> January 2015 for 7,5 to 375 kW** rated powers and from **1<sup>st</sup> 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 **1<sup>st</sup> 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).

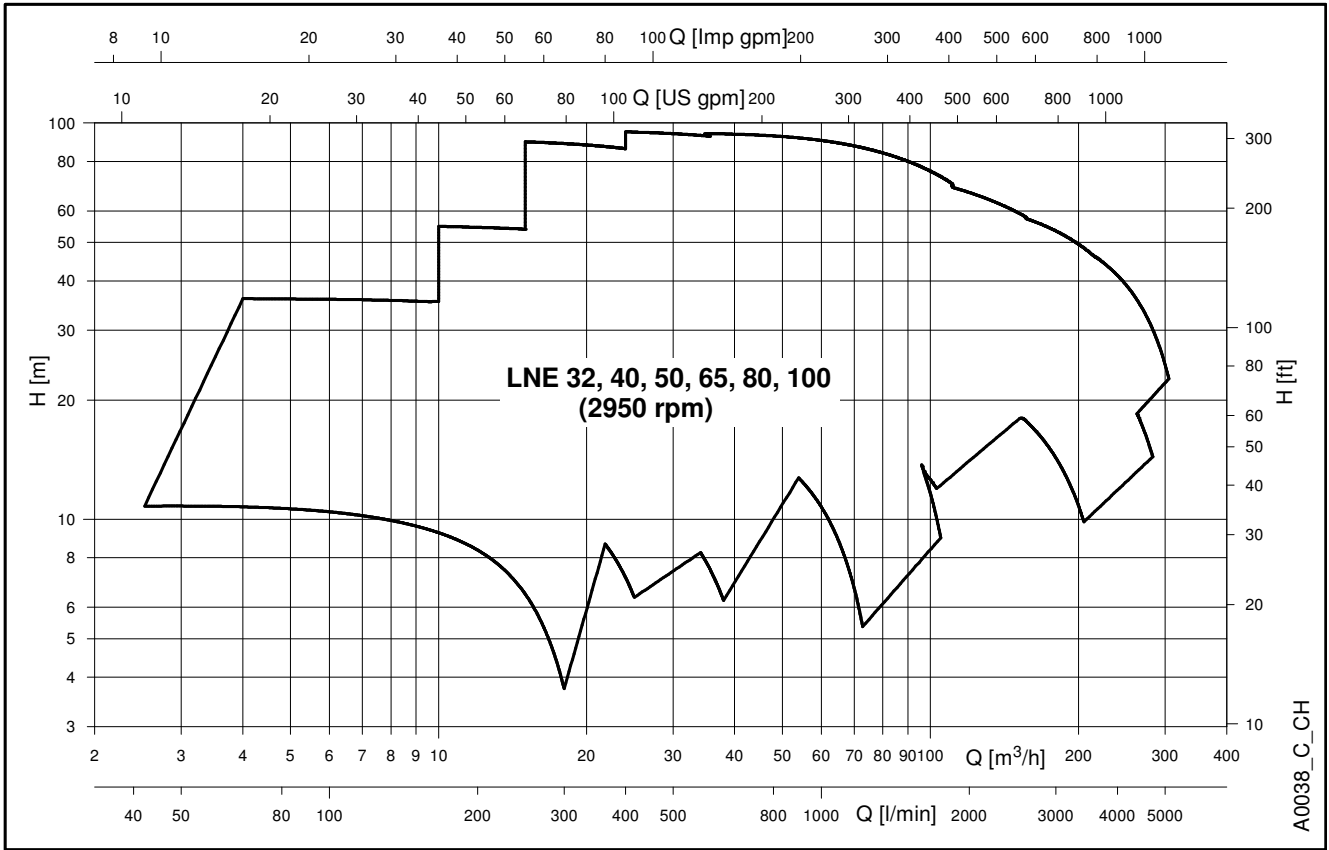
**The Lowara e-LNE series, for the models in the scope of the regulations above, is ErP compliant, having an index MEI equal or higher than 0,4 and IE3 motor efficiency.**

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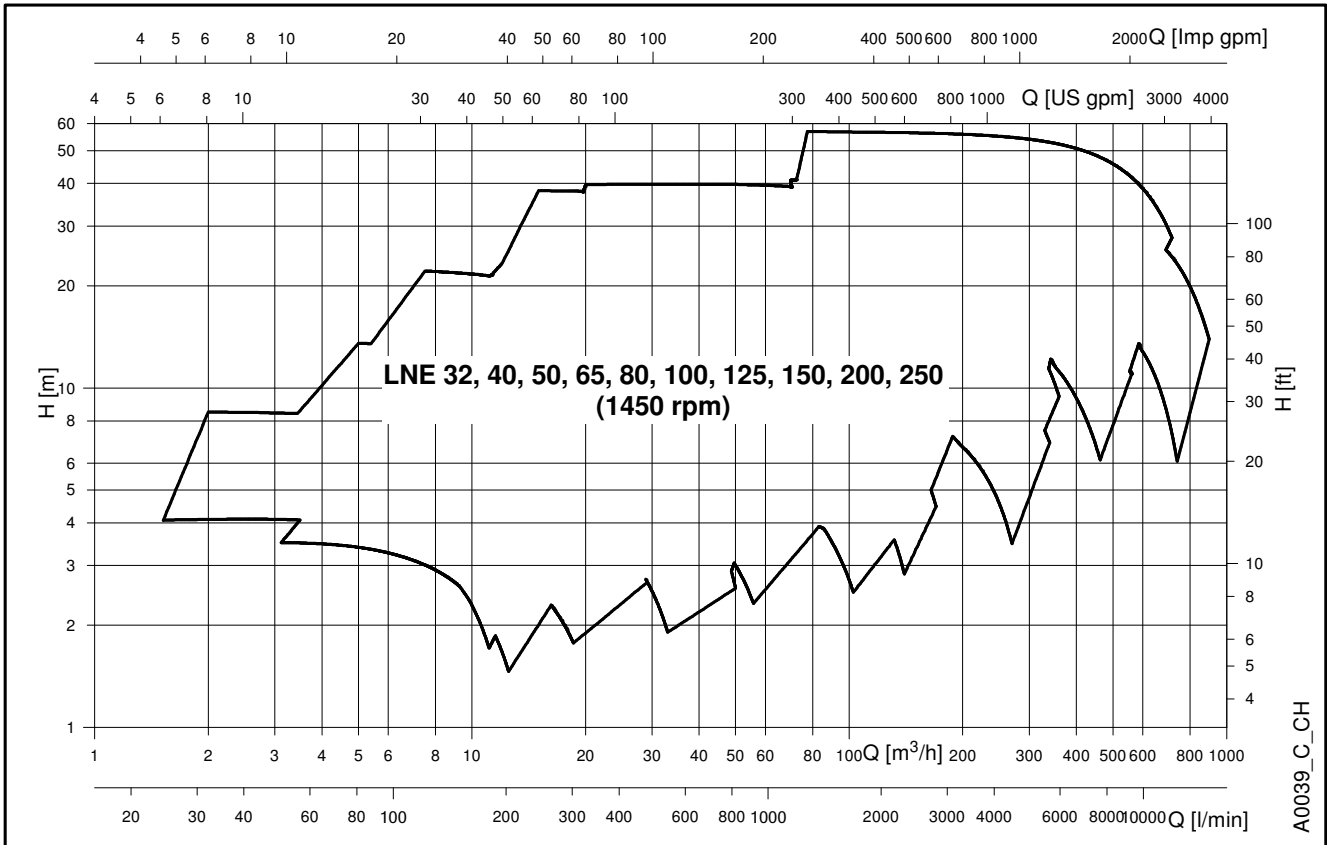
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**e-LNE SERIES**

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



**HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES**



## e-LNE SERIES GENERAL INTRODUCTION

The new **Lowara e-LNE Series** is the result of the close collaboration between our customers and us; the new range has been redesigned and improved to meet the Commercial Building Services (CBS) requirements, in terms of performances and energy saving.

In addition the new **Lowara e-LNE Series** can be customized to meet the needs of the Industry, keeping the best-in-class quality in production that affords our pumps continuous reliability and robustness in operation.

### Pump design

The new **Lowara e-LNE Series** is a single-impeller centrifugal pump with in-line suction and delivery flanges. The e-LNE Series has a "Back pull-out" design (impeller, adapter, and motor can be extracted without disconnecting the pump body from the piping system).

The pumps have cast iron casing as standard; the impeller standard material is cast iron but is also available in bronze and stainless steel.

The pumps are equipped with interchangeable mechanical seals and IE3 efficiency motors; and 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.



#### Stub shaft

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



### Hydraulic specifications

- Maximum delivery: **305** m<sup>3</sup>/h (2 poles range).  
**900** m<sup>3</sup>/h (4 poles range).
- Maximum head: **95** m (2 poles range).  
**57** m (4 poles range).
- Hydraulic performance compliant with ISO 9906:2012 – Grade 3B.  
Grade 2B and 1B available upon request.
- Fluid temperature range:
  - standard version (with mechanical seal BQ1EGG-WA and EPDM gasket) **-25 to +120 °C**
  - versions on request (depending on mechanical seal and gasket) **-20\* or -25 to +120 or +140 °C**.
- Maximum operating pressure:
  - standard version (with mechanical seal BQ1EGG-WA) **16 bar @ 90 °C** and **10 bar @ 120 °C**
  - versions on request (with other mechanical seals) **16 bar @ 120 °C** and **14,9 bar @ 140 °C**

\* 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 375 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: 40 °C.

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 EMCD 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 1092-2 (cast iron flanges)
- EN 61000-6-1, EN 61000-6-3
- EN 60034-30:2009, IEC 60034-30-1:2014 (electric motors)

## **e-LNE SERIES COMMERCIAL BUILDING SERVICES (CBS) APPLICATIONS & BENEFITS**

### **Applications**

The **Lowara e-LNE** Series is suitable for many different applications demanding variable duty points, reliable, and efficient products in cost saving operation.

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

- **HVAC**
  - Liquid transfer in heating systems.
  - Liquid transfer in air-conditioning systems.
  - Liquid transfer in ventilation systems.
- **Water Supply**
  - Pressure boosting in commercial buildings.
  - Irrigation systems.
  - Water transfer for green houses.



### **Benefits**

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

- **Performances:** the e-LNE pumps are ErP 2015 compliant, equipped with IE3 motors, and with hydraulic target points and coverage that satisfy the needs of CBS applications. The standard full cast iron version with PN16, 120 °C maximum fluid temperature, and EPDM elastomer is exactly what the CBS Market needs.
- **Reliability:** robust construction and high-quality standards in production, interchangeable mechanical seals and wear rings, guarantee a continuous operation without faults and a shorter down time for maintenance.
- **Versatility:** beside the standard offer, the Lowara e-LNE series is available in different construction as well as with different material configurations for impellers and elastomers. That helps in addressing a wide range of applications.
- **Total cost ownership:** the best-in-class hydraulic and electric efficiency, the HYDROVAR, the easy and quick maintenance, allow to reduce the operation and maintenance cost and to save energy when the pump is working or is at rest.
- **Pre-post sales support:** we are continuously working close to our customers to help them in selecting the right pump for the specific application. A user-friendly selection software is available on the website, on DVD, or on Apps for mobile phones. Experienced engineers are fully dedicated to big projects.
- **Potable water use:** All pumps are certified for drinking water use (ACS and D.M.174/04).

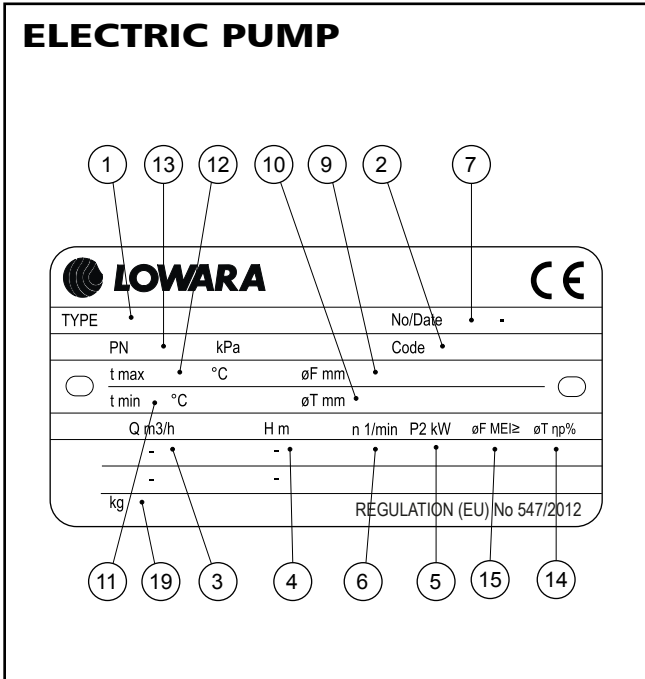








## e-LNE SERIES RATING PLATE

**ELECTRIC PUMP**



			
TYPE		No/Date	
PN	kPa	Code	
t max °C	øF mm		
t min °C	øT mm		
Q m <sup>3</sup> /h	H m	n 1/min	P <sub>2</sub> kW
			øF MEI ≥
			øT ηp %
kg	REGULATION (EU) No 547/2012		

### 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

**e-LNE SERIES**  
**LIST OF MODELS AT 50 Hz, 2 POLES**

SIZE LNE..2	kW	VERSION	
		LNEE	LNES
32-160/07A(*)	0.75	•	•
32-160/07(*)	0.75	•	•
32-160/11(*)	1.1	•	•
32-160/15(*)	1.5	•	•
32-160/22(*)	2.2	•	•
32-160/30	3	•	•
40-125/11(*)	1.1	•	•
40-125/15(*)	1.5	•	•
40-125/22(*)	2.2	•	•
40-125/30	3	•	•
40-160/22(*)	2.2	•	•
40-160/30	3	•	•
40-160/40	4	•	•
40-160/55	5.5	•	•
40-200/30	3	•	•
40-200/40	4	•	•
40-200/55	5.5	•	•
40-200/75	7.5	•	•
40-250/75	7.5	•	•
40-250/92	9.2	•	-
40-250/110A	11	-	•
40-250/110	11	•	•
40-250/150	15	•	•
50-125/15(*)	1.5	•	•
50-125/22(*)	2.2	•	•
50-125/30	3	•	•
50-125/40	4	•	•
50-160/30	3	•	•
50-160/40	4	•	•
50-160/55	5.5	•	•
50-160/75	7.5	•	•
50-200/55	5.5	•	•
50-200/75	7.5	•	•
50-200/92	9.2	•	-
50-200/110A	11	-	•
50-200/110	11	•	•
50-250/92	9.2	•	-
50-250/110A	11	-	•
50-250/110	11	•	•
50-250/150	15	•	•
50-250/185	18.5	•	•
50-250/220	22	•	•
65-125/30	3	•	•
65-125/40	4	•	•
65-125/55	5.5	•	•
65-125/75	7.5	•	•

• = Available

LNE\_models-2p50-en\_c\_sc

SIZE LNE..2	kW	VERSION	
		LNEE	LNES
65-160/55	5.5	•	•
65-160/75	7.5	•	•
65-160/92	9.2	•	-
65-160/110A	11	-	•
65-160/110	11	•	•
65-200/92	9.2	•	-
65-200/110A	11	-	•
65-200/110	11	•	•
65-200/150	15	•	•
65-200/185	18.5	•	•
65-250/150	15	•	•
65-250/185	18.5	•	•
65-250/220	22	•	•
65-250/300	30	-	•
80-125/40	4	•	•
80-125/110	11	•	•
80-160/55	5.5	•	•
80-160/75	7.5	•	•
80-160/92	9.2	•	-
80-160/110A	11	-	•
80-160/110	11	•	•
80-160/150	15	•	•
80-160/185	18.5	•	•
80-200/110	11	-	•
80-200/150	15	-	•
80-200/185	18.5	-	•
80-200/220	22	-	•
80-200/300	30	-	•
80-250/220	22	-	•
80-250/300	30	-	•
80-250/370	37	-	•
100-160/110	11	•	•
100-160/150	15	•	•
100-160/185	18.5	•	•
100-160/220	22	•	•
100-200/220	22	-	•
100-200/300	30	-	•
100-200/370	37	-	•
100-250/370	37	-	•

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

**LEGEND**

**LNEE** : Extended shaft (single version).

**LNES** : Stub shaft (single version).

**e-LNE SERIES**  
**LIST OF MODELS AT 50 Hz, 4 POLES**

SIZE LNE..4	kW	VERSION	
		LNEE	LNES
32-160/02A	0,25	•	-
32-160/02	0,25	•	-
32-160/03	0,37	•	-
40-125/02B	0,25	•	-
40-125/02A	0,25	•	-
40-125/02	0,25	•	-
40-125/03	0,37	•	-
40-160/02	0,25	•	-
40-160/03	0,37	•	-
40-160/05	0,55	•	•
40-160/07	0,75	•	•
40-200/05A	0,55	•	•
40-200/05	0,55	•	•
40-200/07	0,75	•	•
40-200/11	1,1	•	•
40-250/11	1,1	-	-
40-250/15B	1,5	•	-
40-250/15A	1,5	•	•
40-250/15	1,5	•	•
40-250/22	2,2	•	•
50-125/02A	0,25	•	-
50-125/02	0,25	•	-
50-125/03	0,37	•	-
50-125/05	0,55	•	•
50-160/03	0,37	•	-
50-160/05	0,55	•	•
50-160/07	0,75	•	•
50-160/11	1,1	•	•
50-200/07	0,75	•	•
50-200/11A	1,1	•	•
50-200/11	1,1	•	•
50-200/15	1,5	•	•
50-250/11	1,1	-	•
50-250/15A	1,5	•	-
50-250/15	1,5	•	•
50-250/22A	2,2	•	•
50-250/22	2,2	•	•
50-250/30	3	•	•
65-125/03	0,37	•	-
65-125/05	0,55	•	•
65-125/07	0,75	•	•
65-125/11	1,1	•	•
65-160/07	0,75	•	•
65-160/11A	1,1	•	•
65-160/11	1,1	•	•
65-160/15	1,5	•	•
65-200/11	1,1	-	•
65-200/15A	1,5	•	-
65-200/15	1,5	•	•
65-200/22A	2,2	•	•
65-200/22	2,2	•	•
65-250/22A	2,2	•	•
65-250/22	2,2	•	•
65-250/30	3	•	•
65-250/40	4	•	•
80-125/05	0,55	•	•
80-125/15	1,5	•	•
80-160/11B	1,1	-	•
80-160/15C	1,5	•	-
80-160/11A	1,1	-	•
80-160/15B	1,5	•	-
80-160/11	1,1	-	•
80-160/15A	1,5	•	-
80-160/15	1,5	•	•
80-160/22A	2,2	•	•
80-160/22	2,2	•	•

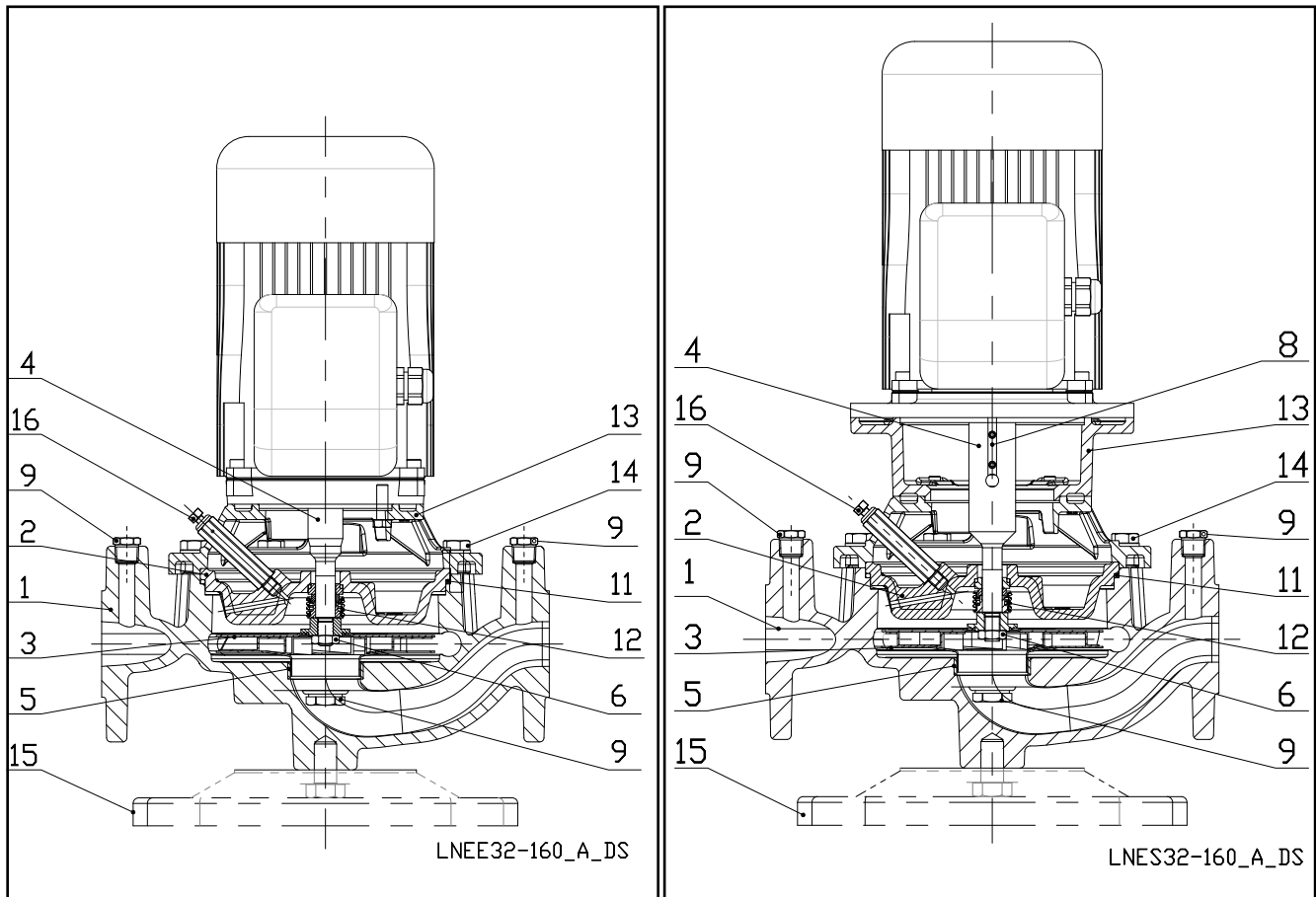
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SIZE LNE..4	kW	VERSION	
		LNEE	LNES
80-200/15	1,5	-	•
80-200/22A	2,2	-	•
80-200/22	2,2	-	•
80-200/30	3	-	•
80-200/40	4	-	•
80-250/30	3	-	•
80-250/40	4	-	•
80-250/55A	5,5	-	•
80-250/55	5,5	-	•
80-250/75	7,5	-	•
80-315/75	7,5	-	•
80-315/110	11	-	•
80-315/150	15	-	•
100-160/15	1,5	•	•
100-160/22A	2,2	•	•
100-160/22	2,2	•	•
100-160/30	3	•	•
100-200/30	3	-	•
100-200/40	4	-	•
100-200/55A	5,5	-	•
100-200/55	5,5	-	•
100-250/55A	5,5	-	•
100-250/55	5,5	-	•
100-250/75	7,5	-	•
100-250/110	11	-	•
100-315/110	11	-	•
100-315/150	15	-	•
100-315/185	18,5	-	•
100-315/220	22	-	•
125-160/22	2,2	-	•
125-160/30	3	-	•
125-160/40	4	-	•
125-200/55	5,5	-	•
125-200/75	7,5	-	•
125-250/75	7,5	-	•
125-250/110	11	-	•
125-315/150	15	-	•
125-315/185	18,5	-	•
125-315/220	22	-	•
125-315/300	30	-	•
150-200/55	5,5	-	•
150-200/75	7,5	-	•
150-200/110	11	-	•
150-250/110	11	-	•
150-250/150	15	-	•
150-315/185	18,5	-	•
150-315/220	22	-	•
150-315/300	30	-	•
150-315/370	37	-	•
200-250/150	15	-	•
200-250/185	18,5	-	•
200-250/220	22	-	•
200-250/300	30	-	•
200-315/300	30	-	•
200-315/370	37	-	•
200-315/450	45	-	•
200-315/550	55	-	•
200-400/550	55	-	•
200-400/750	75	-	•
200-400/900	90	-	•
250-315/300	30	-	•
250-315/370	37	-	•
250-315/450	45	-	•
250-315/550	55	-	•
250-315/750	75	-	•

## LNE 32-160

### ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

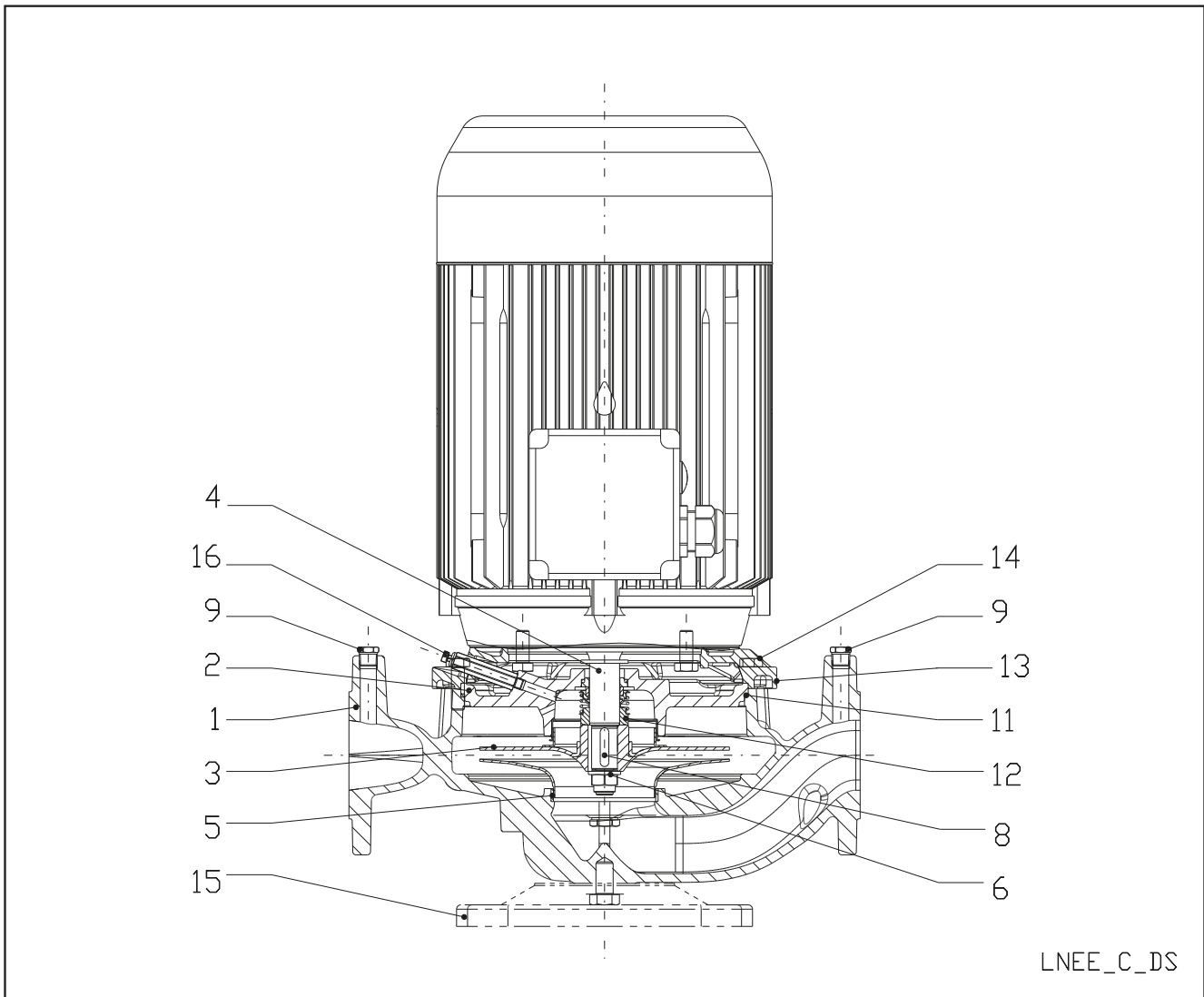


REF. N.	PART	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Volute casing	Cast iron	EN 1561 - GJL-250 (JL1040)	ASTM Class 35
2	Casing cover	Cast iron	EN 1561 - GJL-250 (JL1040)	ASTM Class 35
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Stub shaft	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (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	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303
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		
15	Pump base (optional)	Carbon steel	EN 10025-2 - 1.0038	
16	Air valve	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303

LNE32-160-en\_a\_tm

**e-LNEE SERIES**

**ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS**

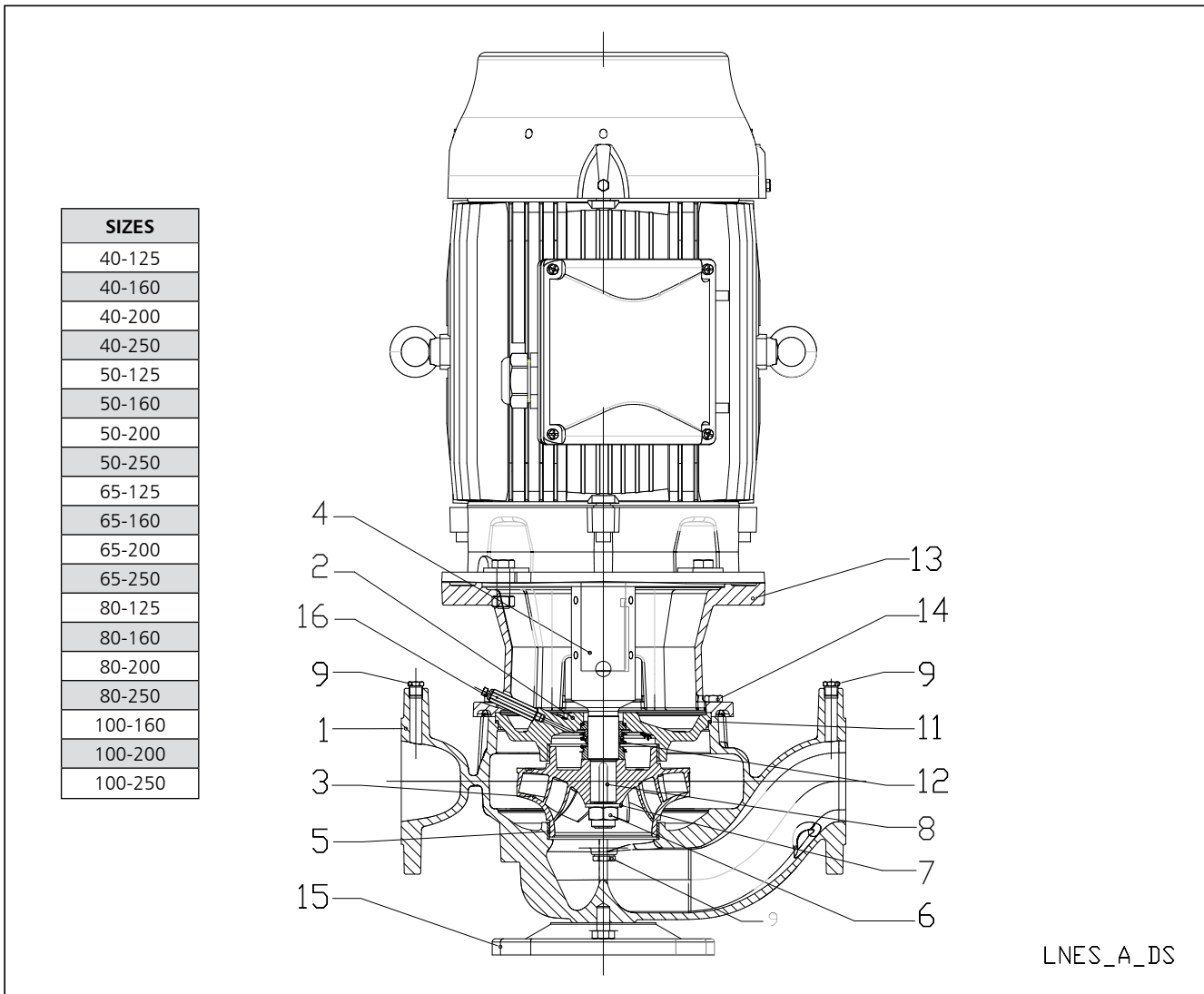


REF. N.	PART	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Volute casing	Cast iron	EN 1561 - GJL-250 (JL1040)	ASTM Class 35
2	Casing cover	Cast iron	EN 1561 - GJL-250 (JL1040)	ASTM Class 35
3	Impeller (40, 50, 65)	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (80, 100)	Cast iron	EN 1561 - GJL-200 (JL1030)	ASTM Class 30
	Impeller (80, 100)	Bronze	EN 1982 - CuSn10-C (CC480K)	UNS C90699
	Impeller (80, 100)	Stainless steel	EN 10283-1-GX5CrNiMo19-11-2 (1.4408)	ASTM 316 A743 CF-8M
4	Stub shaft	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	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303
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		
15	Pump base (optional)	Carbon steel	EN 10025-2 - 1.0038	
16	Air valve	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303

\* 2/4 pole: 40/50/65-125, 40/50-160

## e-LNES SERIES

### ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS



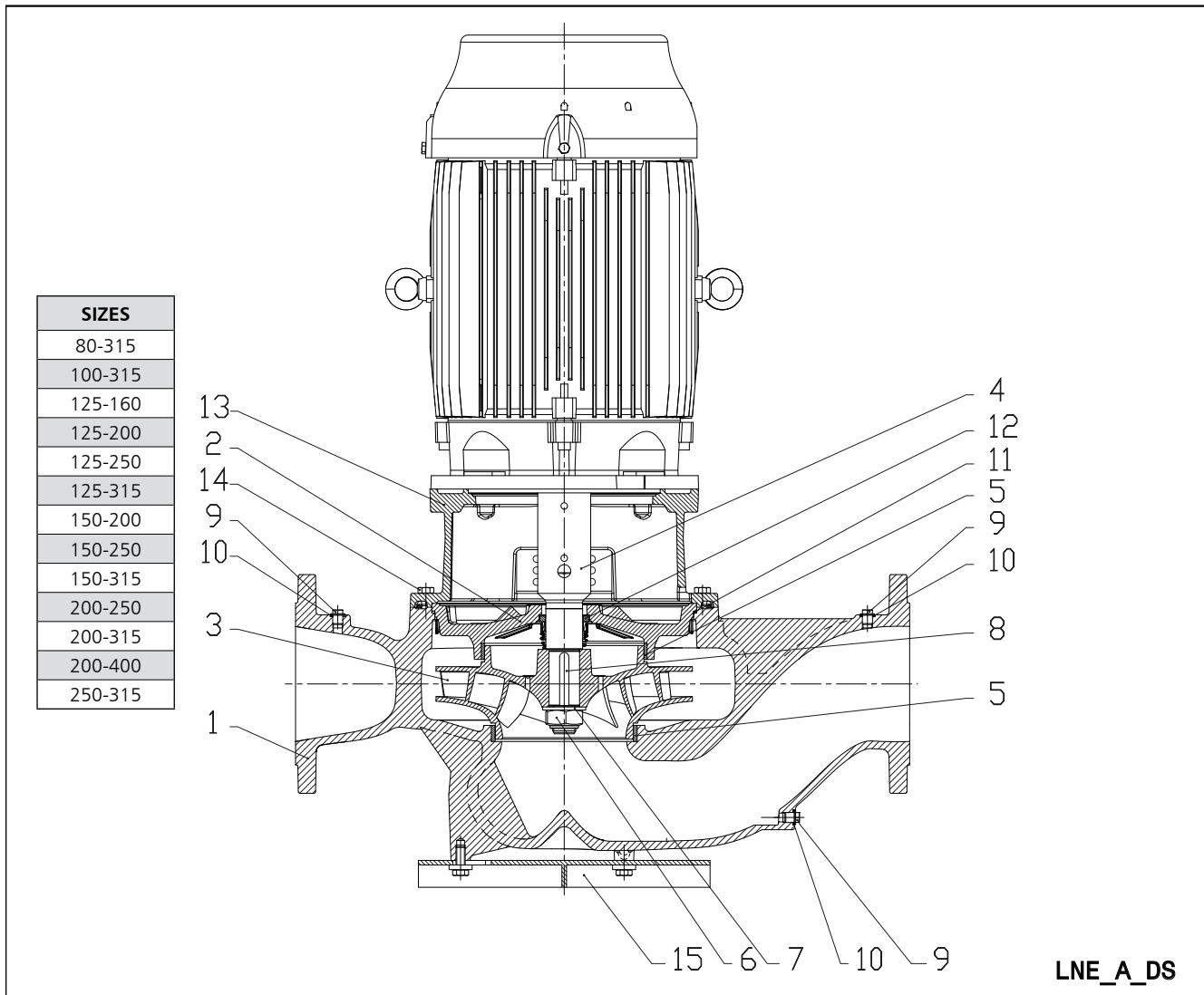
LNES\_A\_DS

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 (40, 50, 65)	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (80, 100)	Cast iron	EN 1561 - GJL-200 (JL1030)	ASTM Class 30
	Impeller (80, 100)	Bronze	EN 1982 - CuSn10-C (CC480K)	UNS C90699
	Impeller (80, 100)	Stainless steel	EN 10283-GX5CrNiMo19-11-2 (1.4408)	ASTM 316 A743 CF-8M
4	Stub shaft	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Stub shaft (80-250, 100-200, 100-250)	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 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
9	Plug	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303
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 screws	Carbon steel		
15	Pump base (optional)	Carbon steel	EN 10025-2 - 1.0038	
16	Air valve	Stainless steel	EN 10088-3-X8CrNiS18-9 (1.4305)	AISI 303

\* 2/4 pole: 40/50/65-125, 40/50-160

## e-LNES SERIES

### ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

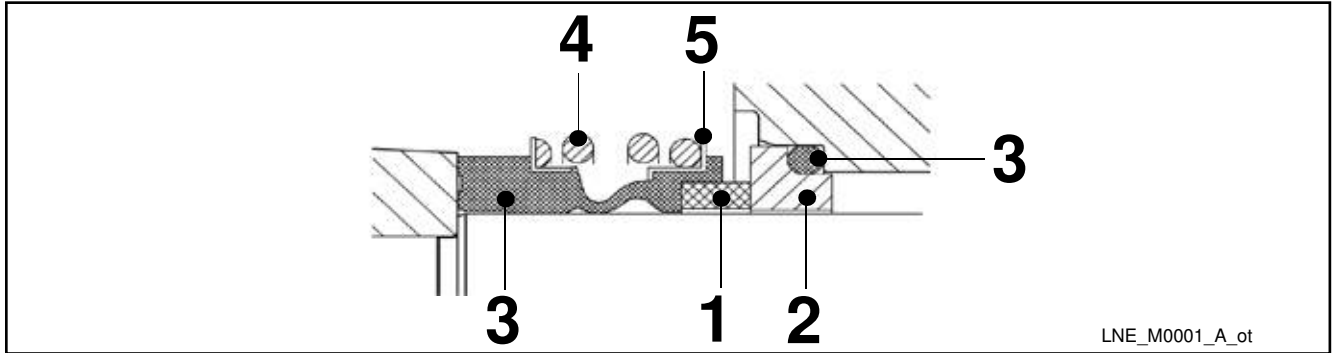


LNE\_A\_DS

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	Cast iron	EN 1561 - GJL-200 (JL1030)	ASTM Class 30
	Impeller	Bronze	EN 1982 - CuSn10-C (CC480K)	UNS C90699
	Impeller	Stainless steel	EN 10283-GX5CrNiMo19-11-2 (1.4408)	ASTM 316 A743 CF-8M
4	Stub shaft	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Stub shaft (125, 150)	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		
15	Pump base (optional)	Carbon steel	EN 10025-2 - 1.0038	

## e-LNE SERIES MECHANICAL SEALS

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



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### LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
<b>B</b> : Resin impregnated carbon	<b>E</b> : EPDM	<b>G</b> : AISI 316
<b>A</b> : Antimony impregnated carbon	<b>V</b> : FKM (FPM)	
<b>Q<sub>1</sub></b> : Silicon carbide		
<b>U<sub>3</sub></b> : Tungsten carbide		

lne-int\_ten-mec-en\_a\_tm

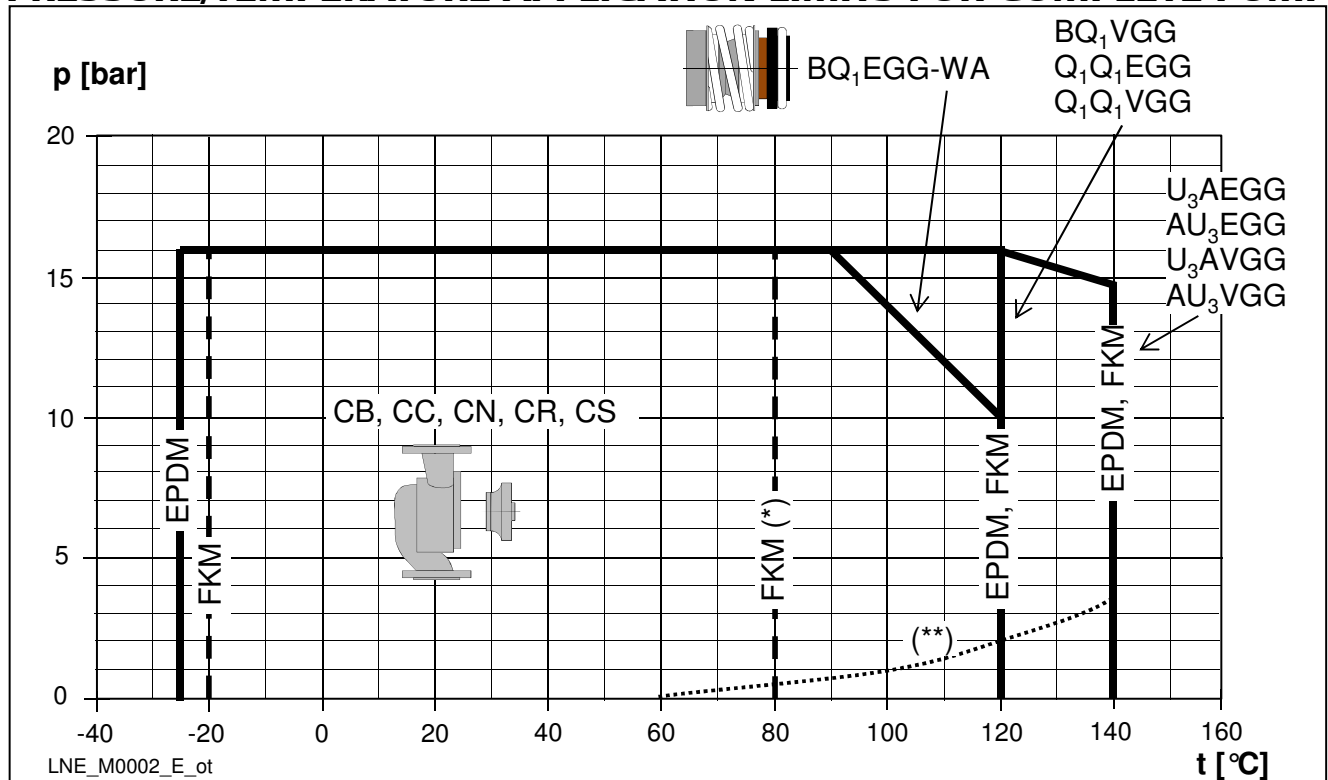
### TYPE OF SEAL

TYPE	POSITION					PRESSURE (bar)	TEMPERATURE (°C)
	1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS		
<b>STANDARD MECHANICAL SEAL</b>							
B Q <sub>1</sub> E G G - WA	B	Q <sub>1</sub>	E	G	G	16/10	-25 ... +90/+120
<b>OTHER TYPES OF MECHANICAL SEAL</b>							
B Q <sub>1</sub> V G G	B	Q <sub>1</sub>	V	G	G	16	-20 ... +120 <sup>*)</sup>
Q <sub>1</sub> Q <sub>1</sub> E G G	Q <sub>1</sub>	Q <sub>1</sub>	E	G	G	16	-25 ... +120
Q <sub>1</sub> Q <sub>1</sub> V G G	Q <sub>1</sub>	Q <sub>1</sub>	V	G	G	16	-20 ... +120 <sup>*)</sup>
U <sub>3</sub> A E G G	U <sub>3</sub>	A	E	G	G	16	-25 ... +140
U <sub>3</sub> A V G G	U <sub>3</sub>	A	V	G	G	16	-20 ... +140 <sup>*)</sup>

<sup>\*)</sup> for hot water: max. +90 °C

lne-int\_tipi-ten-mec-en\_b\_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).



## e-LNE 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 **Regulation (EC) No 640/2009** implementing the requirements of the EuP and ErP Directives which also establish the following deadline:

from	kW	minimum level of efficiency (IE)
1 <sup>st</sup> January 2017	0,75 ÷ 375	IE3
		IE2 fitted with variable speed drive <sup>1)</sup>

<sup>1)</sup> IE 2 motor can be supplied without frequency converter as the obligation to have that device is related to when motor works and not when is placed on the market.

- Short-circuit squirrel-cage motor, enclosed construction with external ventilation (TEFC).
- Rated power from 0,75 to 37 kW for 2-pole range and from 0,25 to 90 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 IEC 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 up to 1,5 kW. For higher powers the protection must be provided by the user.
- **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.
- **PTC included** as standard only for WEG motors (one per phase, 155°C).
- Maximum ambient temperature: 40 °C.

## e-LNEE SERIES SINGLE-PHASE MOTORS AT 50 Hz, 2 POLES

P <sub>N</sub> kW	MOTOR TYPE	IEC SIZE*	Construction Design	INPUT CURRENT I <sub>n</sub> (A) 220-240 V	CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE						
					μF	V	min <sup>-1</sup>	I <sub>s</sub> / I <sub>n</sub>	η %	cosφ	T <sub>n</sub> Nm	T <sub>s</sub> /T <sub>n</sub>	T <sub>m</sub> /T <sub>n</sub>
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.

LNEE-motm-2p50-en\_b\_te

## e-LNEE SERIES THREE-PHASE MOTORS AT 50 Hz, 2 POLES

P <sub>N</sub> kW	Efficiency $\eta_N$ %																		IE	Year of manufacture
	$\Delta$ 220 V Y 380 V			$\Delta$ 230 V Y 400 V			$\Delta$ 240 V Y 415 V			$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 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	Da 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 <sub>N</sub> kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage									
	Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>					
	Model															
0.75	SM90RB14S/307PE		90R	SPECIALE	2	50	0.78	7.38	2.48	3.57	3.75					
1.1	SM90RB14S2/311 PE		90R				0.79	8.31	3.63	3.95	3.95					
1.5	SM90RB14S2/315 PE		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					
	PLM90B5S2/330 E3															
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					
	PLM132B14S3/375 E3		132													
9.2	PLM132B14S2/392 E3		132									0.85	10.1	30.0	3.73	4.81
	PLM132B14S3/392 E3		132													
11	PLM132B14S2/3110 E3		132									0.86	9.89	35.9	3.46	4.59
	PLM132B14S3/3110 E3		132													
15	PLM160B14S3/3150 E3		160	0.88	9.51	48.6						2.73	4.32			
18.5	PLM160B14S3/3185 E3		160	0.88	9.81	59.9						2.81	4.53			
22	PLM160B14S3/3220 E3		160	0.85	10.9	71.1						3.26	5.12			

P <sub>N</sub> kW	Voltage U <sub>N</sub> V										$\eta_N$ min <sup>-1</sup>	Operating conditions **			
	$\Delta$			Y			$\Delta$			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 / 40	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.

LNEE-IE3-mott-2p50-en\_b\_te

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

## e-LNES SERIES THREE-PHASE MOTORS AT 50 Hz, 2 POLES

P <sub>N</sub> kW	Efficiency $\eta_N$ %																		IE	Year of manufacture
	$\Delta$ 220 V Y 380 V			$\Delta$ 230 V Y 400 V			$\Delta$ 240 V Y 415 V			$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 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	Da 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		
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	92.5	92.4	91.2	92.7	93.3	92.9	93.1	93.3	92.7		
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 <sub>N</sub> kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>
	Model										
0.75	SM80B5/307PE		80	B5	2	50	0.78	7.38	2.48	3.57	3.75
1.1	SM80B5/311 PE		80				0.79	8.31	3.63	3.95	3.95
1.5	SM90RB5/315 PE		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	PLM160RB5/3110 E3		160R				0.86	9.89	35.9	3.46	4.59
15	PLM160B5/3150 E3		160				0.88	9.51	48.6	2.73	4.32
18.5	PLM160B5/3185 E3		160				0.88	9.81	59.9	2.81	4.53
22	PLM180RB5/3220 E3		180R				0.85	10.9	71.1	3.26	5.12

P <sub>N</sub> kW	Voltage U <sub>N</sub> V										n <sub>N</sub> min <sup>-1</sup>	Operating conditions **				
	$\Delta$			Y			$\Delta$			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	
	I <sub>N</sub> (A)											Observe the regulations and codes locally in force regarding sorted waste disposal.	≤ 1000	-15 / 40	No	
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
1.1	4.19	4.14	4.16	2.42	2.39	2.4	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	8.0	7.9	8.0	4.6	4.56	4.61	4.57	4.54	4.57	2.64	2.62					2880 ÷ 2900
3	11.0	11	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	7.9	7.8	7.7	7.8	7.6	7.6	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	8.3	8.2					2920 ÷ 2935
11	35.7	35	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.

LNES-IE3-mott-2p50-en\_b\_te

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

**e-LNES SERIES**
**THREE-PHASE MOTORS AT 50 Hz, 2 POLES (from 30 to 37 kW)**

P <sub>N</sub> kW	Efficiency $\eta_N$ %									IE	Year of manufacture
	$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 415 V				
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
30	94,0	94,0	93,1	94,1	94,0	92,8	94,2	93,9	92,6	3	from 11/2014
37	94,4	94,0	93,5	94,6	94,0	93,3	94,7	93,9	93,1		

P <sub>N</sub> kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	WEG Equipamentos Eletricos S.A. Reg. No. 07.175.725/0010-50 Jaragua do Sul - SC (Brazil)						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>n</sub>
	Model										
30	W22 200L2-B5 30kW E3		200	B5	2	50	0,86	7,30	96,60	2,60	2,90
37	W22 200L2-B5 37kW E3		200				0,86	7,30	119,2	2,60	2,90

P <sub>N</sub> kW	Voltage U <sub>N</sub> V					n <sub>N</sub> min <sup>-1</sup>	See note.	Operating conditions **		
	$\Delta$			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	380 V	400 V	415 V	660 V	690 V					
	I <sub>N</sub> (A)									
30	55,1	53,5	52,7	31,7	31,0	2960 ÷ 2970	≤ 1000	-15 / +40	No	
37	67,7	65,6	64,7	39,0	38,0	2960 ÷ 2970				

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

LNES-IE3-mott37-2p50-en\_a\_te

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

## e-LNEE SERIES THREE-PHASE MOTORS AT 50 Hz, 4 POLES

P <sub>N</sub> kW	Efficiency $\eta_N$																		Year of manufacture			
	%																					
	$\Delta$ 220 V Y 380 V			$\Delta$ 230 V Y 400 V			$\Delta$ 240 V Y 415 V			$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 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	83,0	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			01/17	
1,1	84,9	85,7	84,7	85,3	85,5	83,8	85,3	85,0	82,7	84,9	85,0	82,7	84,9	85,0	82,7	84,9	85,0	82,7			11/14	
1,5	86,6	87,0	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				

P <sub>N</sub> kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>n</sub>
	Model										
0,25	SM471B5/302		71	B5	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	SPECIAL	4	50	0,67	3,95	3,77	2,45	2,38
		SM490RB5S2/305					90R	0,67	3,95	3,77	2,45
0,75	LLM490RB14S2/307		90R				0,8	6,38	5	2,73	3,13
	LLM490RB5S2/307		90R				0,71	6,22	7,28	2,75	3,44
1,1	PLM490B5S2/311 E3		90				0,68	6,92	9,89	3,29	4,01
1,5	PLM490B5S3/315 E3		90				0,78	7,47	14,5	2,38	3,69
2,2	PLM4100B5S3/322 E3		100				0,74	7,75	19,7	2,48	4,21
3	PLM4100B5S3/330 E3		100				0,79	8,32	26,3	3,19	4,02
4	PLM4112B5S3/340 E3		112								

P <sub>N</sub> kW	Voltage U <sub>N</sub> V											n <sub>N</sub> min <sup>-1</sup>	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	$\Delta$			Y			$\Delta$			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	3,1	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	3,70	3,70	3,65	3,68	3,69	2,11	2,13	1440 ÷ 1450				
2,2	8,19	8,04	7,97	4,73	4,64	4,60	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				

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

LNEE-IE3-mott-4p50-en\_b\_te

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

## e-LNES SERIES THREE-PHASE MOTORS AT 50 Hz, 4 POLES

P <sub>N</sub> kW	Efficiency $\eta_N$																		Year of manufacture	
	%																			
	$\Delta$ 220 V Y 380 V			$\Delta$ 230 V Y 400 V			$\Delta$ 240 V Y 415 V			$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 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		
0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2011
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		01/17
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		3 11/14
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	91,9	92,2	91,4		
15	92,2	92,2	90,8	92,2	92,2	90,8	92,2	92,2	90,8	92,5	93,0	92,7	92,5	92,7	91,8	92,2	92,2	90,8		

P <sub>N</sub> kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>
	Model										
0,55	SM480B5/305		80	B5	4	50	0,67	3,95	3,77	2,45	2,38
0,75	LLM480B5/307		80				0,80	6,38	5,00	2,73	3,31
1,1	PLM490B5/311 E3		90				0,71	6,22	7,28	2,75	3,44
1,5	PLM490B5/315 E3		90				0,68	6,92	9,89	3,29	4,01
2,2	PLM4100B5/322 E3		100				0,78	7,47	14,5	2,38	3,69
3	PLM4100B5/330 E3		100				0,74	7,75	19,7	2,48	4,21
4	PLM4112B5/340 E3		112				0,79	8,32	26,3	3,19	4,02
5,5	PLM4132B5/355 E3		132				0,76	7,64	35,9	2,85	3,65
7,5	PLM4132B5/375 E3		132				0,79	7,70	49,1	2,69	3,57
11	PLM4160B5/3110 E3		160				0,81	7,19	71,5	2,45	3,26
15	PLM4160B5/3150 E3		160				0,77	8,23	97,2	2,97	3,99

P <sub>N</sub> kW	Voltage U <sub>N</sub>											n <sub>N</sub> min <sup>-1</sup>	Operating conditions **			
	V												Observe the regulations and codes locally in force regarding sorted waste disposal.	Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	$\Delta$			Y			$\Delta$			Y						
	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V					
	I <sub>N</sub> (A)															
0,55	2,98	3,03	3,1	1,72	1,75	1,79	-	-	-	-	-	1380 ÷ 1400				
0,75	2,90	2,85	2,85	1,70	1,65	1,65	1,70	1,65	1,65	1,08	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				
15	51,8	52,0	52,7	29,9	30,0	30,4	30,5	30,7	31,4	17,6	17,7	1465 ÷ 1475				

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

**e-LNES SERIES**
**THREE-PHASE MOTORS AT 50 Hz, 4 POLES (from 18,5 to 90 kW)**

P <sub>N</sub> kW	Efficiency $\eta_N$ %									IE	Year of manufacture
	$\Delta$ 380 V Y 660 V			$\Delta$ 400 V Y 690 V			$\Delta$ 415 V				
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
18,5	93,1	92,9	92,5	93,3	92,9	92,2	93,4	92,8	91,8	3	from 11/2014
22	93,4	93,1	92,8	93,6	93,0	92,4	93,6	92,8	91,9		
30	94,1	94,1	93,5	94,2	94,0	93,0	94,2	93,9	92,5		
37	94,3	94,5	94,1	94,6	94,6	94,0	94,7	94,6	93,8		
45	94,7	94,7	94,3	94,8	94,8	94,2	94,8	94,8	94,0		
55	95,1	94,9	94,7	95,3	95,0	94,6	95,4	94,9	94,4		
75	95,4	95,2	94,8	95,6	95,2	94,7	95,7	95,2	94,6		
90	95,6	95,4	95,1	95,8	95,5	95,0	95,9	95,5	94,9		

P <sub>N</sub> kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	WEG Equipamentos Eletricos S.A. Reg. No. 07.175.725/0010-50 Jaragua do Sul - SC (Brazil)						cos $\phi$	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>
	Model										
18,5	W22 180M4-B5 18.5kW E3		180	B5	4	50	0,82	7,30	120,20	2,70	3,00
22	W22 180L4-B5 22kW E3		180				0,83	7,30	142,90	2,80	3,30
30	W22 200L4-B5 30kW E3		200				0,82	7,30	193,60	2,50	3,00
37	W22 225S/M4-B5 37kW E3		225				0,86	7,80	238,70	2,70	3,00
45	W22 225S/M4-B5 45kW E3		225				0,85	7,90	290,40	2,80	3,20
55	W22 250S/M4-B5 55kW E3		250				0,86	7,90	354,90	2,80	3,30
75	W22 280S/M4-B5 75kW E3		280				0,87	7,60	482,30	2,30	2,80
90	W22 280S/M4-B5 90kW E3		280				0,86	7,40	578,80	2,30	2,80

P <sub>N</sub> kW	Voltage U <sub>N</sub> V					n <sub>N</sub> min <sup>-1</sup>	Operating conditions **		
	$\Delta$			Y			Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	380 V	400 V	415 V	660 V	690 V				
	I <sub>N</sub> (A)								
18,5	35,90	34,90	34,40	20,70	20,20	1470	See note:  ≤ 1000	-15 / +40	No
22	42,10	40,90	40,40	24,20	23,70	1470			
30	57,70	56,10	55,40	33,20	32,50	1480			
37	68,50	65,60	63,90	39,40	38,00	1480			
45	83,90	79,40	78,60	48,30	46,00	1480			
55	100,0	96,90	94,40	57,60	56,20	1480			
75	136,0	130,0	127,0	78,30	75,40	1485			
90	164,0	158,0	154,0	94,40	91,60	1485			

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

LNES-IE3-mott90-4p50-en\_a\_te

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





## e-LNE SERIES PUMPS

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 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 in-line pumps (ESCCi 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 m<sup>3</sup>/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<sup>-1</sup> (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<sup>-1</sup> (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 LNEE and LNES versions correspond to the "end-suction close-coupled in-line 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).

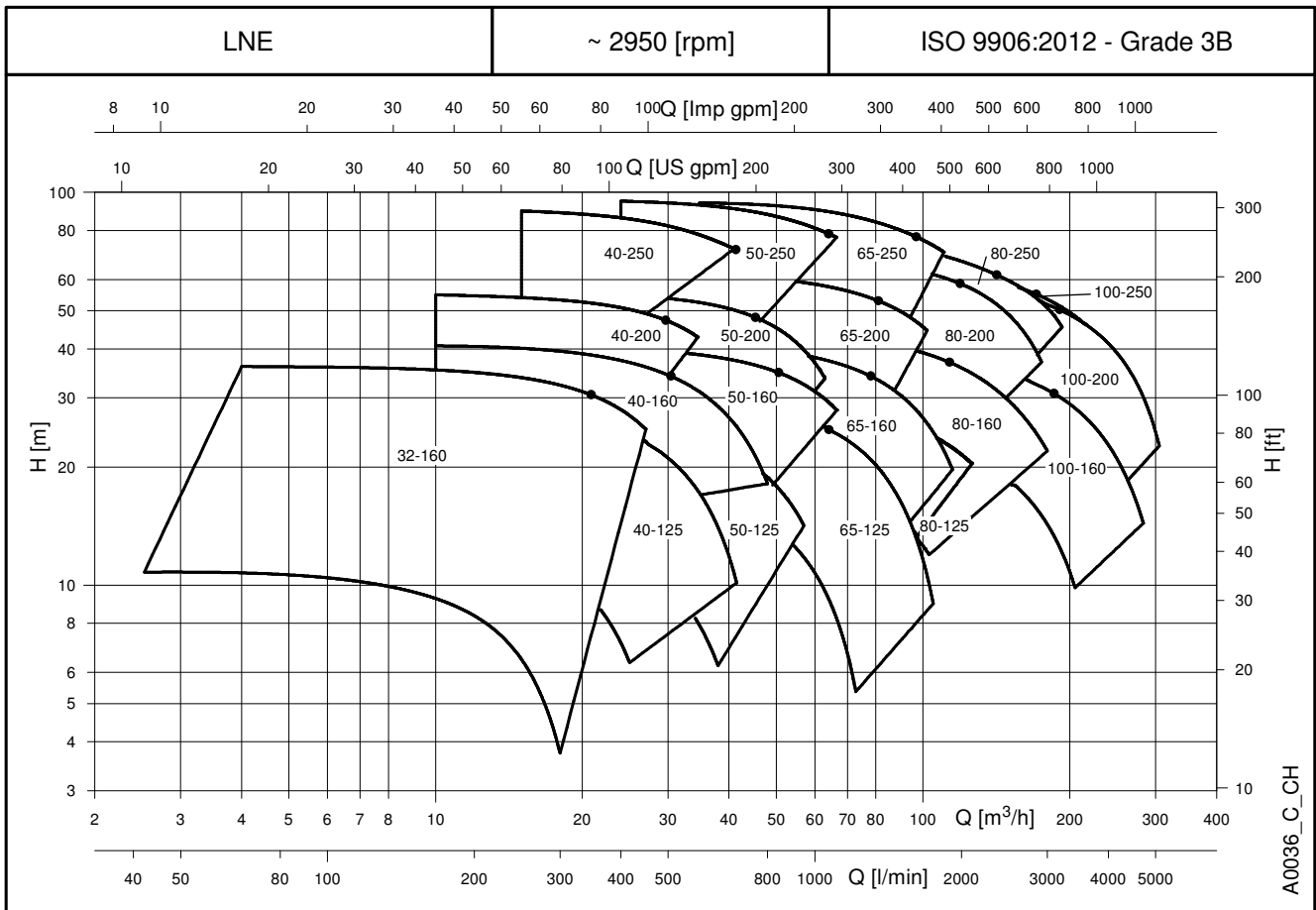
The Regulation also establishes the following deadline:

from	minimum efficiency index (MEI)
1 <sup>st</sup> 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  $\eta_p$  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](http://www.europump.org) (Ecodesign section).
- 15) The benchmark efficiency graphs with MEI = 0.7 and MEI = 0.4 are available at [www.europump.org/efficiencycharts](http://www.europump.org/efficiencycharts) or <http://europump.net/uploads/Fingerprints.pdf> (refer to "ESCCi 1450 rpm").



**e-LNE SERIES**
**HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES**


## e-LNE 32, 40, 50 SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	ηp %	0	0,8	1,4	1,9	2,5	3,1	3,6	4,2	4,7	5,3	5,8	6,4	7,5	
					H = TOTAL HEAD METRES COLUMN OF WATER														
					0	3	5	7	9	11	13	15	17	19	21	23	27		
32-160/07A*	0,75	92	-	○	53,8	10,4	10,8	10,6	10,2	9,6	8,8	7,8	6,5	4,7					
32-160/07*	0,75	104	-	○	55,2	12,8	13,1	13,0	12,6	12,0	11,2	10,1	8,7	7,0					
32-160/11*	1,1	115	-	○	57,9	16,3		17,0	16,8	16,4	15,7	14,8	13,7	12,3	10,7				
32-160/15*	1,5	126	-	○	60,2	21,1		21,5	21,3	21,0	20,4	19,6	18,6	17,3	15,9	14,2			
32-160/22*	2,2	138	-	○	63,5	26,1		27,0	27,1	26,9	26,5	25,8	24,9	23,8	22,6	21,2	19,6		
32-160/30	3	156	-	●	65,5	35,9		36,0	35,8	35,5	35,1	34,5	33,8	32,9	31,7	30,4	28,9	25,0	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	ηp %	0	1,7	2,8	3,9	5,0	6,1	7,2	8,3	9,4	10,6	11,7	12,8	13,3	
					H = TOTAL HEAD METRES COLUMN OF WATER														
					0	6	10	14	18	22	26	30	34	38	42	46	48		
40-125/11*	1,1	113	-	○	57,0	14,1		13,9	12,7	10,9	8,5								
40-125/15*	1,5	123	-	○	59,9	17,7		17,7	16,7	15,1	12,9	10,2							
40-125/22*	2,2	133	-	○	62,3	22,3		22,6	22,1	21,0	19,2	16,9	14,0	10,4					
40-125/30	3	145	-	●	66,8	27,5			27,8	26,9	25,6	23,6	21,1	17,9	14,0				
40-160/22*	2,2	137	-	○	60,0	23,1		23,3	22,7	21,6	19,9	17,6							
40-160/30	3	150	-	○	63,0	28,4		29,0	28,7	27,6	26,0	23,9	21,4	18,4					
40-160/40	4	160,5	-	○	63,6	33,7		34,4	34,2	33,3	31,8	29,8	27,4	24,8	21,6				
40-160/55	5,5	171	-	●	65,9	39,6			40,3	39,4	38,2	36,4	34,3	31,7	28,5	24,8	20,5	18,1	
40-200/30	3	158	-	○	53,2	31,6		30,9	30,0	28,2	25,5								
40-200/40	4	171	-	○	54,0	37,6		36,5	35,7	34,2	31,9	28,6							
40-200/55	5,5	186	-	○	54,9	45,5		44,0	43,2	42,0	40,2	37,5	33,8						
40-200/75	7,5	205	-	●	55,3	56,6		54,9	54,2	53,2	51,8	49,8	47,0	43,3					
40-250/75	7,5	214	-	○	52,2	59,1			57,4	56,2	54,6	52,1							
40-250/92	9,2	226,5	-	○	52,8	67,4			65,6	64,4	62,8	60,8	58,1						
40-250/110A	11	226,5	-	○	52,8	67,4			65,6	64,4	62,8	60,8	58,1						
40-250/110	11	239	-	○	53,0	75,3			74,1	72,8	71,1	68,8	66,0						
40-250/150	15	259	-	●	53,8	91,5				88,8	87,2	85,0	82,1	78,7	74,8				

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	ηp %	0	2,8	4,2	5,6	6,9	8,3	9,7	11,1	12,5	13,9	15,3	16,7	18,9	
					H = TOTAL HEAD METRES COLUMN OF WATER														
					0	10	15	20	25	30	35	40	45	50	55	60	68		
50-125/15*	1,5	105	-	○	59,8	14,4	14,3	13,8	13,0	11,7	10,0	7,8							
50-125/22*	2,2	118	-	○	64,6	18,9		18,0	17,4	16,4	15,0	13,1	10,7						
50-125/30	3	130	-	○	67,3	23,2		22,3	21,9	21,1	20,0	18,6	16,6	14,1	11,1				
50-125/40	4	135	-	●	70,4	26,6		25,6	25,3	24,8	24,1	23,2	21,8	20,1	17,9	15,3			
50-160/30	3	127	-	○	66,0	21,8	21,9	21,8	21,4	20,6	19,5	18,1	16,4						
50-160/40	4	139	-	○	68,1	26,8		26,7	26,5	25,9	25,1	23,9	22,5	20,7	18,4				
50-160/55	5,5	154	-	○	69,5	33,1		32,9	32,9	32,6	32,0	31,1	29,9	28,2	26,3	24,1			
50-160/75	7,5	165	-	●	70,5	39,9		39,9	39,9	39,6	39,1	38,3	37,2	35,9	34,2	32,4	30,2		
50-200/55	5,5	165	-	○	58,7	34,9		34,8	34,1	33,3	32,2	30,4	27,8	24,3					
50-200/75	7,5	179	-	○	59,0	42,6		42,8	42,1	41,1	39,9	38,4	36,3	33,5	29,7				
50-200/92	9,2	189	-	○	60,7	48,7			48,2	47,3	46,1	44,6	42,8	40,4	37,2	32,9			
50-200/110A	11	189	-	○	60,7	48,7			48,2	47,3	46,1	44,6	42,8	40,4	37,2	32,9			
50-200/110	11	199	-	●	62,3	55,0			54,7	54,1	53,1	51,7	49,9	47,4	44,3	40,5	35,9		
50-250/92	9,2	199	-	○	60,4	54,6			53,8	52,7	51,4	49,8	47,9	45,6					
50-250/110A	11	199	-	○	60,4	54,6			53,8	52,7	51,4	49,8	47,9	45,6					
50-250/110	11	210	-	○	60,6	60,6			58,8	57,8	56,6	55,2	53,6	51,6					
50-250/150	15	228	-	○	61,7	73,4				71,6	70,3	68,8	67,0	65,0	62,6	59,8			
50-250/185	18,5	243	-	○	62,4	84,0				83,1	81,9	80,4	78,6	76,5	74,0	71,2	68,1		
50-250/220	22	257,5	-	●	63,9	95,6				94,9	94,0	92,8	91,2	89,2	86,9	84,1	81,1		

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

LNE-32-40-50\_2p50-en\_a\_th

(1) STD = Cast iron/Stainless steel - B = Bronze (2) ● = Full impeller diameter - ○ = Trimmed impeller diameter (3) Hydraulic efficiency of pump.

\*Available also in single-phase version.

## e-LNE 65, 80, 100 SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)			η <sub>p</sub> % (3)	Q = DELIVERY													
		STD (1)	B (2)	● (2)		l/s 0	5,0	7,5	10,0	12,5	15,0	17,5	20,0	22,5	25,0	27,5	30,0	32,2	
						H = TOTAL HEAD METRES COLUMN OF WATER													
65-125/30	3	118	-	○	53,1	17,2			15,7	14,6	12,8								
65-125/40	4	130	-	○	59,8	21,9		20,2	19,2	17,8	15,8								
65-125/55	5,5	144	-	○	73,3	27,5		26,0	25,3	24,3	22,7	20,5	17,6						
65-125/75	7,5	148	-	●	73,7	31,0		29,0	28,4	27,6	26,5	24,8	22,6	19,7					
65-160/55	5,5	144	-	○	61,0	26,6		24,7	23,8	22,7	21,0	18,7	15,7	12,1					
65-160/75	7,5	159	-	○	71,2	33,4		31,6	31,0	29,9	28,5	26,6	24,1	21,1	17,6				
65-160/92	9,2	170	-	○	71,9	38,7		37,1	36,5	35,7	34,4	32,8	30,6	27,8	24,5	20,7	16,3		
65-160/110A	11	170	-	○	71,9	38,7		37,1	36,5	35,7	34,4	32,8	30,6	27,8	24,5	20,7	16,3		
65-160/110	11	176	-	●	72,5	43,0		40,9	40,2	39,4	38,2	36,8	34,8	32,4	29,5	26,1	22,0	18,0	
65-200/92	9,2	168	-	○	69,4	36,9		37,3	36,8	35,8	34,4	32,7	30,4						
65-200/110A	11	168	-	○	69,4	36,9		37,3	36,8	35,8	34,4	32,7	30,4						
65-200/110	11	179	-	○	69,5	42,5		43,2	42,5	41,4	39,9	38,1	35,7						
65-200/150	15	197	-	○	69,6	53,8		54,4	53,8	52,5	50,8	48,6	46,2	43,6	40,8				
65-200/185	18,5	209	-	●	70,0	62,5		62,4	61,8	60,7	59,1	57,1	54,8	52,3	49,6	46,4			
65-250/150	15	208	-	○	69,7	59,0		59,2	58,2	56,6	54,3	51,7	48,7						
65-250/185	18,5	220	-	○	70,2	67,2		67,5	66,6	65,0	62,9	60,2	57,3	54,0					
65-250/220	22	232	-	○	70,5	75,1			74,5	72,9	70,7	68,0	64,9	61,4	57,6				
65-250/300	30	256	-	●	71,4	92,4			93,6	92,7	91,3	89,5	87,1	84,1	80,6	76,5	71,8		

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)			η <sub>p</sub> % (3)	Q = DELIVERY													
		STD (1)	B (2)	● (2)		l/s 0	5,6	10,0	14,4	18,9	23,3	27,8	32,2	36,7	41,1	45,6	50,0	53,6	
						H = TOTAL HEAD METRES COLUMN OF WATER													
80-125/40	4	117,8	-	○	74,4	17,9		17,4	16,2	14,4	12,1								
80-125/110	11	148	144	●	79,1	31,1		31,0	30,1	28,8	27,0	24,8	22,2						
80-160/55	5,5	130,7	-	○	72,4	22,9		21,5	20,3	18,3	15,7	12,6							
80-160/75	7,5	145	144	○	74,9	28,3		27,3	25,9	24,0	21,8	19,1	16,0						
80-160/92	9,2	151	152	○	76,6	30,9		30,4	28,9	26,9	24,7	22,2	19,2	15,7					
80-160/110A	11	151	152	○	76,6	30,9		30,4	28,9	26,9	24,7	22,2	19,2	15,7					
80-160/110	11	159	160	○	77,9	34,7		33,7	32,5	30,7	28,4	25,6	22,3	18,7	14,6				
80-160/150	15	175	176	○	78,2	43,4		42,5	41,4	39,9	37,9	35,4	32,4	29,0	25,2	21,1			
80-160/185	18,5	180	180	●	79,7	46,6		45,1	44,1	42,9	41,2	39,1	36,5	33,4	29,9	26,1	22,0		
80-200/110	11	165	162	○	72,9	36,2		35,8	34,1	31,9	29,1	25,4							
80-200/150	15	177	177	○	73,5	43,2		43,2	41,7	39,6	37,1	33,8	29,2						
80-200/185	18,5	189	189	○	74,4	49,6		49,9	48,6	46,7	44,2	40,9	36,8	31,5					
80-200/220	22	199	199	○	74,5	55,0		55,8	54,6	52,7	50,3	47,4	43,6	38,8	32,4				
80-200/300	30	220	218	●	75,2	69,1			68,9	67,5	65,5	62,8	59,4	55,0	49,6	42,8			
80-250/220	22	195	192	○	73,9	51,6		53,5	52,8	51,3	49,0	46,2	42,8	38,8	33,7				
80-250/300	30	215	213	○	74,3	63,6		65,9	65,6	64,3	62,2	59,4	56,1	52,3	48,0	42,9			
80-250/370	37	229	226	●	76,3	73,3		76,1	76,5	75,7	73,8	71,1	67,7	64,0	60,1	55,8	50,8	45,4	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)			η <sub>p</sub> % (3)	Q = DELIVERY													
		STD (1)	B (2)	○ (2)		l/s 0	12,2	18,9	25,6	32,2	38,9	45,6	52,2	58,9	65,6	72,2	78,9	84,7	
						H = TOTAL HEAD METRES COLUMN OF WATER													
100-160/110	11	144	144	○	69,6	25,8			24,7	23,2	21,0	18,4	15,8	13,1					
100-160/150	15	158	158	○	74,0	31,8		30,4	29,3	27,8	25,7	23,1	20,0	16,6					
100-160/185	18,5	168	168	○	75,7	36,5		34,7	33,8	32,4	30,5	28,1	25,1	21,6	17,5				
100-160/220	22	177	177	●	80,8	41,6		39,4	38,6	37,6	36,1	33,9	31,0	27,6	23,8	19,7			
100-200/220	22	181	177	○	76,9	45,6		45,1	42,9	40,2	37,3	34,3	31,1	27,1	21,7				
100-200/300	30	195	192	○	77,3	53,7		53,7	52,1	49,9	47,0	43,8	40,5	36,9	32,8	27,6			
100-200/370	37	208	204	●	77,8	61,2		61,5	60,4	58,4	55,6	52,3	48,6	44,6	40,3	35,5	29,4	22,2	
100-250/370	37	214	211	●	78,8	65,2		64,8	63,6	61,7	59,0	55,8	52,0	47,8	43,1				

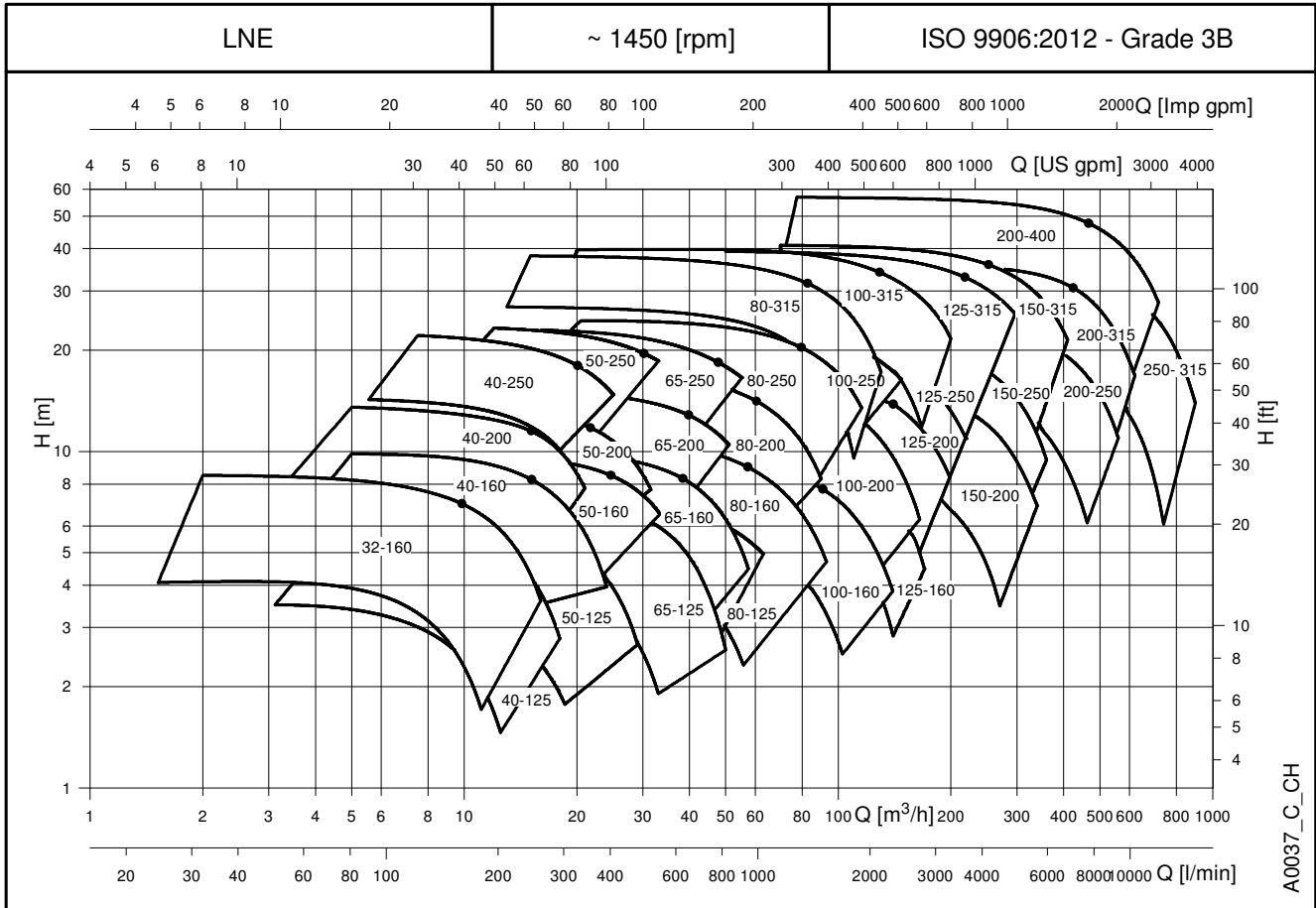
Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

LNE-65-80-100\_2p50-en\_a\_th

(1) STD = Cast iron/Stainless steel - B = Bronze (2) ● = Full impeller diameter - ○ = Trimmed impeller diameter (3) Hydraulic efficiency of pump.

**e-LNE SERIES**

**HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES**



### e-LNE 32, 40, 50 SERIES

### HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY												
		STD (1)	B (2)	● (3)	ηp % (3)	l/s	0.6	0.8	1.1	1.4	1.7	1.9	2.2	2.5	2.8	3.1	3.3	4.4
						m <sup>3</sup> /h	0	2	3	4	5	6	7	8	9	10	11	12
32-160/02A	0.25	115	-	○	54.2	3.9	4.1	4.1	4.0	3.9	3.7	3.5	3.1	2.7	2.3	1.8		
32-160/02	0.25	138	-	○	59.4	6.1	6.3	6.3	6.3	6.2	6.0	5.8	5.5	5.2	4.8	4.3	3.8	
32-160/03	0.37	156	-	●	63.8	8.5	8.5	8.4	8.4	8.2	8.1	7.8	7.6	7.3	6.9	6.5	6.1	3.6

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY												
		STD (1)	B (2)	● (3)	ηp % (3)	l/s	0.8	1.4	1.9	2.5	3.1	3.6	4.2	4.7	5.3	5.8	6.4	6.9
						m <sup>3</sup> /h	0	3	5	7	9	11	13	15	17	19	21	23
40-125/02B	0.25	113	-	○	56.7	3.4		3.4	3.1	2.7	2.1							
40-125/02A	0.25	123	-	○	59.6	4.3		4.3	4.0	3.6	3.1	2.4						
40-125/02	0.25	133	-	○	60.1	5.2		5.3	5.1	4.7	4.2	3.6	2.7					
40-125/03	0.37	145	-	●	61.2	6.5			6.4	6.1	5.6	5.0	4.2	3.3				
40-160/02	0.25	137	-	○	58.0	5.4		5.4	5.2	4.9	4.4	3.8						
40-160/03	0.37	150	-	○	60.4	6.8		6.8	6.6	6.3	5.8	5.2	4.5	3.6				
40-160/05	0.55	160.5	-	○	61.6	8.1		8.2	8.1	7.9	7.5	7.0	6.3	5.5	4.6			
40-160/07	0.75	171	-	●	63.6	9.6			9.8	9.6	9.3	8.9	8.3	7.6	6.7	5.7	4.6	
40-200/05A	0.55	158	-	○	51.7	7.7		7.4	7.2	6.7	6.1	5.2						
40-200/05	0.55	171	-	○	52.7	9.1		8.7	8.5	8.1	7.5	6.6	5.5					
40-200/07	0.75	186	-	○	53.5	11.1		10.8	10.6	10.2	9.8	9.1	8.2	7.0				
40-200/11	1.1	205	-	●	55.5	14.0		13.5	13.3	13.0	12.6	12.2	11.5	10.6	9.3	7.8		
40-250/11	1.1	214	-	○	51.1	14.6			14.1	13.8	13.3	12.7	11.9	10.8				
40-250/15B	1.5	214	-	○	51.1	14.6			14.1	13.8	13.3	12.7	11.9	10.8				
40-250/15A	1.5	226.5	-	○	51.5	16.9			16.1	15.9	15.5	15.0	14.3	13.4	12.3			
40-250/15	1.5	239	-	○	51.8	18.7			18.1	17.8	17.4	16.8	16.1	15.1	13.9	12.4		
40-250/22	2.2	259	-	●	53.2	22.8			21.9	21.4	20.9	20.3	19.5	18.5	17.4	16.2	14.7	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	ηp % (3)	l/s	0	1.4	1.9	2.5	3.1	3.9	4.7	5.6	6.4	7.2	7.8	8.3	9.2
						m <sup>3</sup> /h	0	5	7	9	11	14	17	20	23	26	28	30	33
50-125/02A	0.25	105	-	○	59.8	3.5	3.5	3.4	3.3	3.1	2.7	2.1							
50-125/02	0.25	118	-	○	64.8	4.5		4.3	4.2	4.0	3.7	3.2	2.5						
50-125/03	0.37	130	-	○	65.5	5.6		5.3	5.2	5.1	4.8	4.3	3.7	2.9					
50-125/05	0.55	135	-	●	69.1	6.5			6.1	6.0	5.8	5.5	5.0	4.4	3.6	3.0			
50-160/03	0.37	127	-	○	63.9	5.2	5.2	5.1	5.0	4.9	4.6	4.1	3.5						
50-160/05	0.55	139	-	○	64.5	6.5		6.4	6.3	6.2	6.0	5.6	5.1	4.5					
50-160/07	0.75	154	-	○	68.8	8.2		8.1	8.0	8.0	7.9	7.6	7.2	6.7	6.0	5.5			
50-160/11	1.1	165	-	●	70.8	9.9			9.8	9.7	9.6	9.4	9.0	8.6	8.1	7.7	7.2	6.3	
50-200/07	0.75	165	-	○	56.0	8.5		8.5	8.4	8.2	7.8	7.3	6.5						
50-200/11A	1.1	179	-	○	57.0	10.3		10.4	10.4	10.2	9.9	9.4	8.7	7.8	6.6				
50-200/11	1.1	189	-	○	57.8	11.7			11.7	11.5	11.2	10.7	10.1	9.2	8.1	7.2			
50-200/15	1.5	199	-	●	58.1	13.3			13.2	13.1	12.9	12.4	11.8	11.0	9.9	9.1	8.2		
50-250/11	1.1	199	-	○	59.5	13.3			13.0	12.8	12.4	11.9	11.3						
50-250/15A	1.5	199	-	○	59.5	13.3			13.0	12.8	12.4	11.9	11.3						
50-250/15	1.5	210	-	○	59.8	14.9			14.6	14.4	14.1	13.7	13.1	12.4	11.5				
50-250/22A	2.2	228	-	○	60.2	18.1				17.8	17.4	17.0	16.4	15.7	14.9	14.3			
50-250/22	2.2	243	-	○	60.7	20.7					19.9	19.4	18.9	18.2	17.4	16.8	16.1		
50-250/30	3	257.5	-	●	61.9	23.5					23.1	22.7	22.2	21.5	20.8	20.2	19.6	18.6	

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

LNE-32-40-50\_4p50-en\_a\_th

(1) STD = Cast iron/Stainless steel - B = Bronze (2) ● = Full impeller diameter - ○ = Trimmed impeller diameter (3) Hydraulic efficiency of pump.

## e-LNE 65, 80, 100 SERIES HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)			η <sub>p</sub> % (3)	Q = DELIVERY													
		STD (1)	B (2)	● (2)		l/s	0	2,5	3,9	5,3	6,7	8,1	9,4	10,8	12,2	13,6	15,0	16,4	16,7
						m <sup>3</sup> /h	0	9	14	19	24	29	34	39	44	49	54	59	60
H = TOTAL HEAD METRES COLUMN OF WATER																			
65-125/03	0,37	118	-	○	60,2	4,0	3,9	3,7	3,4	2,8	2,1								
65-125/05	0,55	130	-	○	64,6	5,3		4,9	4,6	4,1	3,5	2,7	1,7						
65-125/07	0,75	144	-	○	69,8	7,0		6,3	6,1	5,8	5,3	4,5	3,6	2,4					
65-125/11	1,1	148	-	●	70,8	7,9		7,1	6,9	6,6	6,2	5,7	4,9	3,8	2,6				
65-160/07	0,75	144	-	○	68,1	6,6		6,2	5,9	5,6	5,0	4,3	3,3						
65-160/11A	1,1	159	-	○	69,8	8,3		7,8	7,6	7,3	6,8	6,2	5,4	4,3					
65-160/11	1,1	170	-	○	70,9	9,5		9,0	8,8	8,4	8,0	7,5	6,7	5,8	4,7				
65-160/15	1,5	176	-	●	71,4	10,6		10,0	9,8	9,5	9,1	8,6	8,0	7,2	6,2	5,1			
65-200/11	1,1	168	-	○	66,2	8,9		8,9	8,8	8,4	7,9	7,3	6,4						
65-200/15A	1,5	168	-	○	66,2	8,9		8,9	8,8	8,4	7,9	7,3	6,4						
65-200/15	1,5	179	-	○	67,2	10,4		10,5	10,3	10,0	9,5	8,8	8,0	7,0					
65-200/22A	2,2	197	-	○	68,3	13,2		13,3	13,1	12,7	12,2	11,6	10,9	10,1					
65-200/22	2,2	209	-	●	68,5	15,1		15,1	14,9	14,5	14,0	13,3	12,5	11,7	10,8				
65-250/22A	2,2	208	-	○	68,2	14,5		14,6	14,3	13,7	13,0	12,2	11,4	10,3					
65-250/22	2,2	220	-	○	68,5	16,4		16,4	16,0	15,5	14,8	14,0	13,0	12,0	10,8				
65-250/30	3	232	-	○	68,9	18,5		18,5	18,1	17,6	16,9	16,0	15,0	14,0	12,8				
65-250/40	4	256	-	●	69,6	22,9			22,8	22,4	21,9	21,1	20,2	19,2	18,1	16,9	15,6	15,3	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)			η <sub>p</sub> % (3)	Q = DELIVERY													
		STD (1)	B (2)	● (2)		l/s	0	3,3	6,4	9,4	12,5	15,6	18,6	21,7	24,7	27,8	30,8	33,9	36,1
						m <sup>3</sup> /h	0	12	23	34	45	56	67	78	89	100	111	122	130
H = TOTAL HEAD METRES COLUMN OF WATER																			
80-125/05	1,1	117,8	-	○	71,0	4,4	4,4	4,0	3,4	2,6									
80-125/15	1,5	148	144	●	78,7	7,7		7,5	7,0	6,4	5,5								
80-160/11B	1,1	130,7	-	○	71,8	5,7	5,5	5,1	4,5	3,5									
80-160/15C	1,5	130,7	-	○	71,8	5,7	5,5	5,1	4,5	3,5									
80-160/11A	1,1	145	144	○	74,4	6,9		6,5	5,9	5,0	3,9	2,7							
80-160/15B	1,5	145	144	○	74,4	6,9		6,5	5,9	5,0	3,9	2,7							
80-160/11	1,1	151	152	○	75,2	7,5		7,1	6,5	5,7	4,7	3,5							
80-160/15A	1,5	151	152	○	75,2	7,5		7,1	6,5	5,7	4,7	3,5							
80-160/15	1,5	159	160	○	76,0	8,6		8,2	7,6	6,8	5,7	4,5							
80-160/22A	2,2	175	176	○	77,4	10,8		10,3	9,8	9,1	8,1	6,9	5,6	4,1					
80-160/22	2,2	180	180	●	77,7	11,5		11,1	10,6	10,0	9,1	8,0	6,8	5,3					
80-200/15	1,5	165	162	○	70,8	9,0	9,1	8,6	7,9	6,9	5,2								
80-200/22A	2,2	177	177	○	71,0	10,6		10,4	9,7	8,7	7,3								
80-200/22	2,2	189	189	○	72,6	12,3		12,0	11,3	10,4	9,1	7,3							
80-200/30	3	199	199	○	74,1	13,6		13,6	13,0	12,1	10,9	9,1							
80-200/40	4	220	218	●	76,1	17,1		17,1	16,7	15,9	14,7	13,1	11,0	8,5					
80-250/30	3	195	192	○	72,1	12,9		13,1	12,5	11,8	10,7	9,3	7,2						
80-250/40	4	215	213	○	73,0	15,7		16,1	15,6	14,9	13,8	12,5	10,8	8,6					
80-250/55A	5,5	229	226	○	75,1	18,3		18,8	18,5	17,8	16,9	15,7	14,2	12,4					
80-250/55	5,5	243	240	○	76,2	20,4		21,3	21,0	20,3	19,3	18,1	16,6	14,9	12,8				
80-250/75	7,5	258	255	●	77,5	23,8		24,5	24,2	23,7	22,9	21,9	20,6	18,9	17,0	14,6			
80-315/75	7,5	285	285	○	65,9	27,3		26,8	26,2	25,4	24,2	22,6	20,4	17,6	13,9				
80-315/110	11	315	315	○	66,5	33,6		33,2	32,6	31,9	30,8	29,4	27,6	25,3	22,3	18,5			
80-315/150	15	334	334	●	67,6	38,2		37,9	37,3	36,5	35,5	34,1	32,4	30,3	27,6	24,4	20,5	17,2	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)			η <sub>p</sub> % (3)	Q = DELIVERY													
		STD (1)	B (2)	● (2)		l/s	0	5,3	9,7	14,2	18,6	23,1	27,5	31,9	36,4	40,8	45,3	49,7	55,6
						m <sup>3</sup> /h	0	19	35	51	67	83	99	115	131	147	163	179	200
H = TOTAL HEAD METRES COLUMN OF WATER																			
100-160/15	1,5	144	144	○	70,6	6,3		5,9	5,4	4,7	3,8	2,9							
100-160/22A	2,2	158	158	○	74,6	7,9		7,5	7,1	6,5	5,7	4,7	3,5						
100-160/22	2,2	168	168	○	76,2	9,0		8,5	8,1	7,6	6,8	5,8	4,6						
100-160/30	3	177	177	●	79,5	10,2		9,8	9,5	9,0	8,3	7,3	6,2	4,8					
100-200/30	3	181	177	○	74,4	11,1		10,8	10,3	9,5	8,5	7,2	5,6						
100-200/40	4	195	192	○	78,1	13,2		12,9	12,5	11,8	10,8	9,6	8,1	6,3					
100-200/55A	5,5	208	204	○	78,8	15,1		15,1	14,7	14,0	13,0	11,8	10,4	8,6	6,6				
100-200/55	5,5	219	216	●	80,0	17,4		16,9	16,4	15,8	14,9	13,8	12,3	10,7	8,7	6,6			
100-250/55A	5,5	214	211	○	79,4	16,1		15,9	15,5	14,7	13,7	12,5							
100-250/55	5,5	227	224	○	79,6	18,3		18,1	17,7	17,0	16,0	14,7	13,2						
100-250/75	7,5	241	238	○	79,9	21,0		20,7	20,3	19,7	18,8	17,5	15,9	14,2					
100-250/110	11	259	256	●	81,4	24,6		24,0	23,6	23,1	22,4	21,3	20,0	18,3	16,4				
100-315/110	11	280	280	○	71,8	26,8	27,0	27,0	26,7	26,0	24,9	23,3	21,4	19,1	16,3	12,8			
100-315/150	15	304	304	○	72,5	32,0	32,2	32,3	32,1	31,5	30,5	29,1	27,4	25,3	22,8	19,9	16,2		
100-315/185	18,5	321	321	○	73,4	36,1		36,4	36,3	35,8	34,9	33,7	32,0	30,1	27,8	25,1	22,0		
100-315/220	22	334	334	●	74,5	39,6		39,8	39,7	39,3	38,5	37,2	35,7	33,8	31,6	29,1	26,2	21,6	

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

LNE-65-80-100\_4p50-en\_a\_th

(1) STD = Cast iron/Stainless steel - B = Bronze (2) ● = Full impeller diameter - ○ = Trimmed impeller diameter (3) Hydraulic efficiency of pump.



## e-LNE 125, 150, 200, 250 SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 4 POLES

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	η <sub>p</sub> %	l/s m <sup>3</sup> /h 0	0	5,0	13,1	21,1	29,2	37,2	45,3	53,3	61,4	69,4	77,5	85,6	94,4
H = TOTAL HEAD METRES COLUMN OF WATER																			
125-160/22	2,2	156	156	○	75,2	7,3	7,4	7,1	6,5	5,3	3,4								
125-160/30	3	176	176	○	78,2	9,5		9,3	8,7	7,5	5,5								
125-160/40	4	190	190	●	80,2	11,3		10,9	10,4	9,4	7,6	5,2							
125-200/55	5,5	213	213	○	81,1	14,6		14,5	14,2	13,3	11,6	9,1							
125-200/75	7,5	229	229	●	81,7	17,2		17,0	16,6	15,8	14,2	12,0	9,1						
125-250/75	7,5	234	234	○	79,9	18,0		17,9	17,3	16,2	14,5	12,3	9,5						
125-250/110	11	259	259	●	80,4	22,1		22,1	21,6	20,5	18,9	16,8	14,0	10,7					
125-315/150	15	276	276	○	78,1	26,6		26,2	25,6	24,7	23,6	22,1	20,2	17,8	14,9				
125-315/185	18,5	295	295	○	79,6	30,7		30,3	29,8	29,0	27,9	26,4	24,6	22,3	19,6	16,4			
125-315/220	22	310	310	○	80,4	34,0		33,7	33,2	32,4	31,4	30,0	28,3	26,1	23,5	20,4	16,8		
125-315/300	30	334	334	●	80,5	39,6		39,3	39,0	38,4	37,5	36,3	34,7	32,7	30,3	27,5	24,4	20,6	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	η <sub>p</sub> %	l/s m <sup>3</sup> /h 0	0	9,7	19,2	28,6	38,1	47,5	56,9	66,4	75,8	85,3	94,7	104,2	113,9
H = TOTAL HEAD METRES COLUMN OF WATER																			
150-200/55	5,5	179	179	○	75,2	9,9	10,0	9,7	9,2	8,5	7,6	6,5	5,1						
150-200/75	7,5	204	204	○	79,4	13,1		12,7	12,3	11,7	10,9	9,8	8,4	6,7					
150-200/110	11	225	225	●	81,6	15,8		15,5	15,2	14,8	14,3	13,6	12,5	10,9	8,9				
150-250/110	11	235	235	○	80,2	17,8		17,6	17,4	16,9	16,0	14,7	13,0	10,9	8,5				
150-250/150	15	259	259	●	83,4	22,0		21,7	21,4	21,0	20,3	19,3	17,9	16,1	13,8	11,1			
150-315/185	18,5	277	277	○	79,5	26,8		26,4	25,9	25,1	23,9	22,2	20,1	17,4	14,2				
150-315/220	22	290	290	○	81,2	30,0		29,7	29,3	28,6	27,5	26,1	24,2	21,9	19,0	15,6			
150-315/300	30	315	315	○	82,6	36,0		36,0	35,8	35,2	34,4	33,2	31,5	29,4	26,7	23,6	19,9		
150-315/370	37	334	334	●	82,7	40,8		41,0	40,7	40,2	39,3	38,1	36,6	34,6	32,1	29,2	25,7	21,4	

PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	η <sub>p</sub> %	l/s m <sup>3</sup> /h 0	0	15,6	32,2	48,9	65,6	82,2	98,9	115,6	132,2	148,9	165,6	182,2	199,2
H = TOTAL HEAD METRES COLUMN OF WATER																			
200-250/150	15	238	238	○	77,3	16,8		16,7	16,2	15,3	13,6	11,4	8,5						
200-250/185	18,5	253	253	○	79,6	19,4		19,0	18,6	17,9	16,6	14,6	12,0	8,7					
200-250/220	22	265	265	○	80,6	21,6		21,2	20,8	20,1	19,0	17,2	14,8	11,6					
200-250/300	30	282	282	●	81,2	24,8		24,2	23,8	23,2	22,2	20,6	18,5	15,6	12,1				
200-315/300	30	288	288	○	79,4	26,4		26,7	26,0	24,9	23,7	22,2	19,6	15,5	11,6				
200-315/370	37	310	310	○	81,7	31,2		31,1	30,7	30,1	29,1	27,6	25,2	21,8	17,5				
200-315/450	45	330	330	○	82,4	35,8		35,5	35,0	34,4	33,5	32,1	30,0	26,8	22,7	17,8			
200-315/550	55	334	334	●	82,5	36,7		36,4	35,9	35,3	34,5	33,1	31,0	27,8	23,7	18,8			
200-400/550	55	346	346	○	80,6	42,6		42,2	41,6	40,4	38,7	36,5	33,9	30,5	25,5	17,3			
200-400/750	75	377	377	○	81,1	50,9		50,3	50,0	49,1	47,6	45,6	43,0	39,8	35,7	30,3	22,9		
200-400/900	90	398	398	●	81,4	57,2		56,7	56,2	55,3	54,1	52,4	50,1	47,1	43,4	39,0	33,8	27,7	

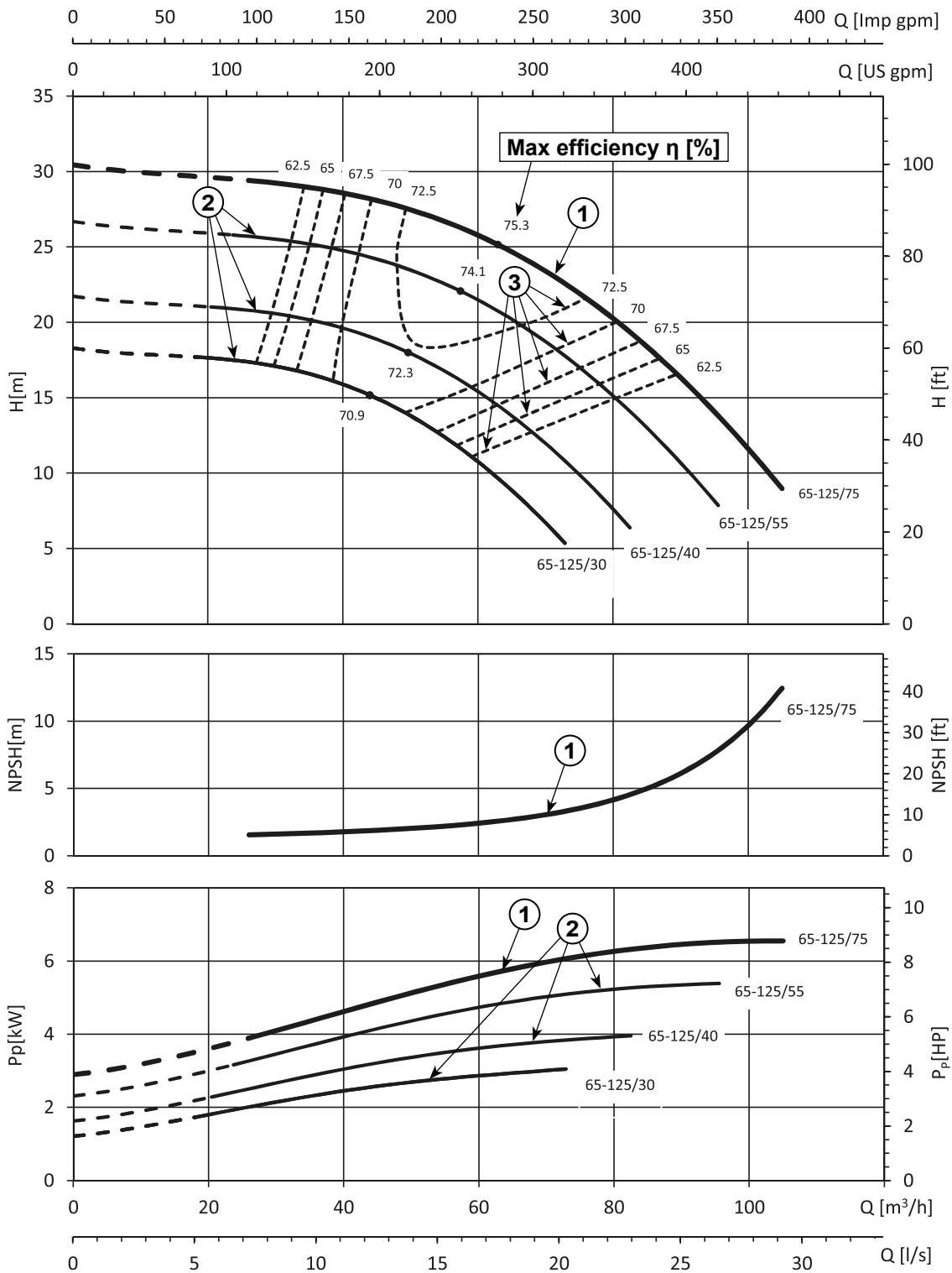
PUMP TYPE	P <sub>N</sub> kW	Ø Impeller (mm)				Q = DELIVERY													
		STD (1)	B (2)	● (3)	η <sub>p</sub> %	l/s m <sup>3</sup> /h 0	0	33,3	53,1	72,8	92,5	112,2	131,9	151,7	171,4	191,1	210,8	230,6	250,0
H = TOTAL HEAD METRES COLUMN OF WATER																			
250-315/300	30	260	260	○	76,9	19,8	19,7	19,4	18,4	17,4	16,9	16,3	14,9	11,9	8,4				
250-315/370	37	287	287	○	79,3	24,5		23,6	22,8	22,1	21,6	21,0	19,6	16,9	13,2	11,0			
250-315/450	45	306	306	○	81,7	28,3		27,1	26,6	26,3	25,9	25,2	23,8	21,5	18,4	14,8	11,2		
250-315/550	55	325	325	○	82,6	32,6		31,3	30,7	30,3	29,9	29,3	28,1	26,2	23,5	19,9	15,9		
250-315/750	75	333	333	●	83,0	34,5		33,1	32,5	32,0	31,6	31,0	29,9	28,2	25,6	22,2	18,1	13,9	

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

LNE-125-250\_4p50-en\_b\_th

(1) STD = Cast iron/Stainless steel - B = Bronze (2) ● = Full impeller diameter - ○ = Trimmed impeller diameter (3) Hydraulic efficiency of pump.

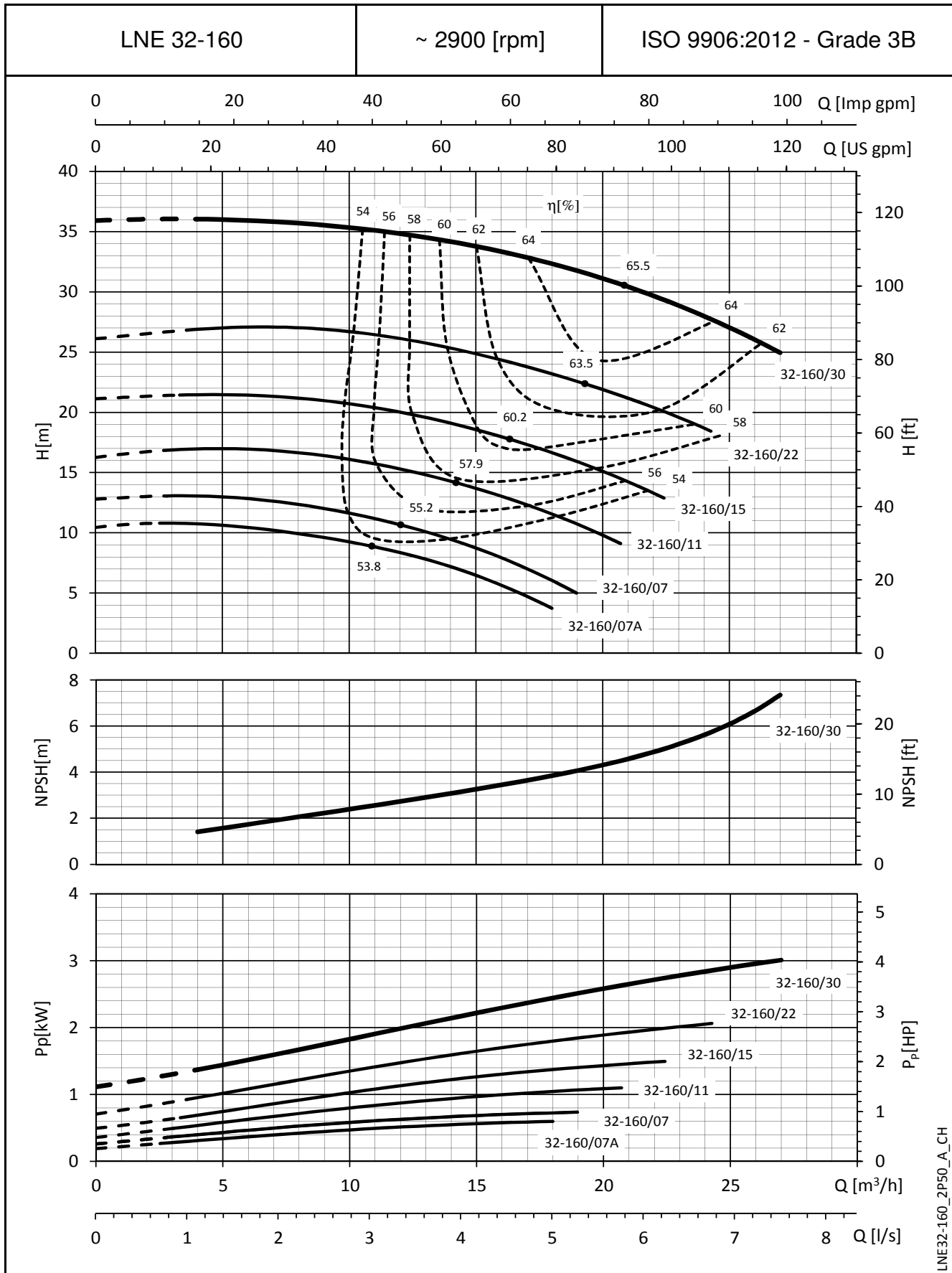
**e-LNE SERIES  
IDENTIFICATION OF GRAPH**



REF	TYPE	DESCRIPTION
①		Full Diameter impeller operating range
②		Trimmed diameter impeller operating range
③		ISO efficiency curves

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

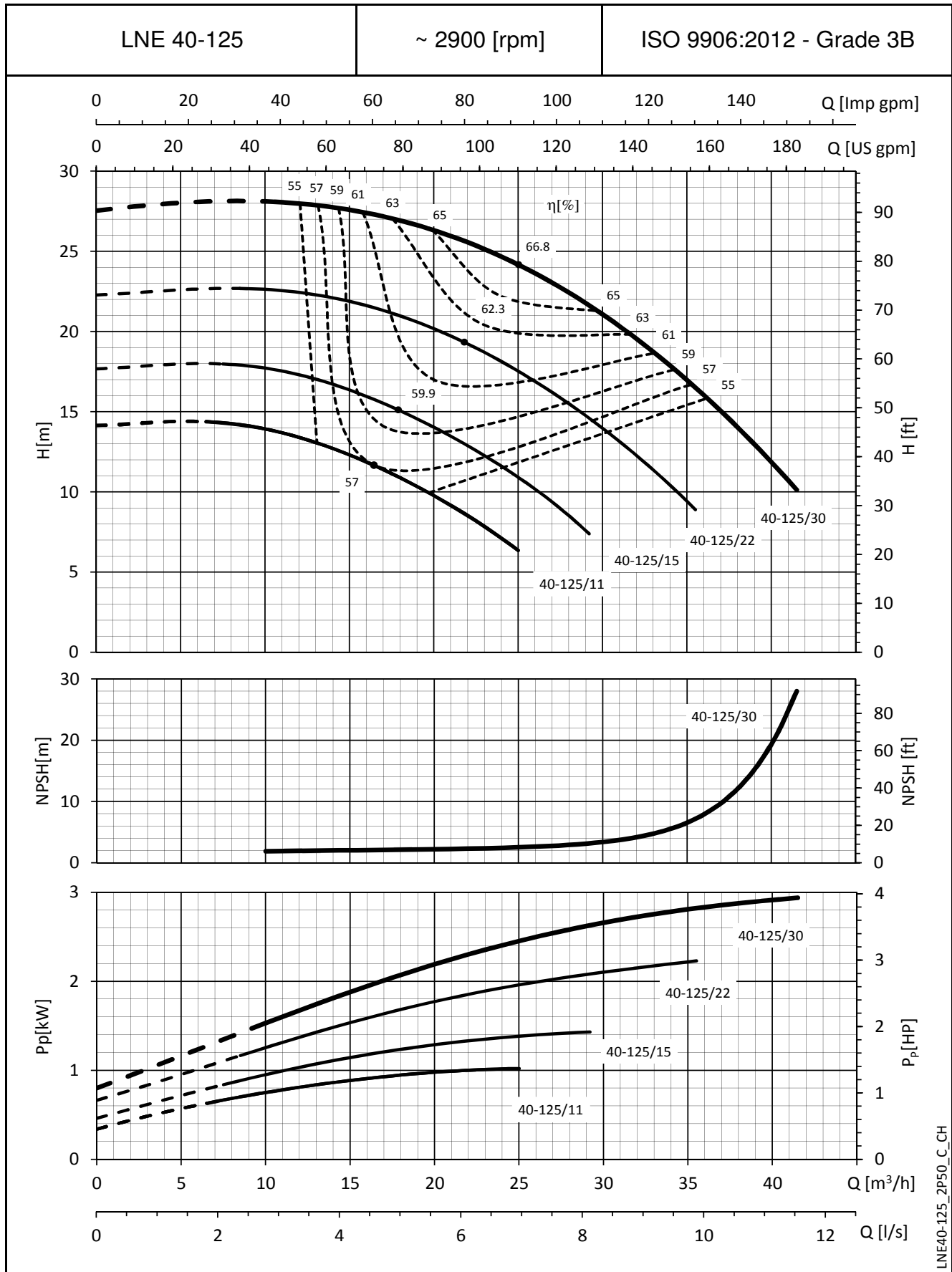


LNE32-160\_2P50\_A\_CH

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

**e-LNE SERIES**

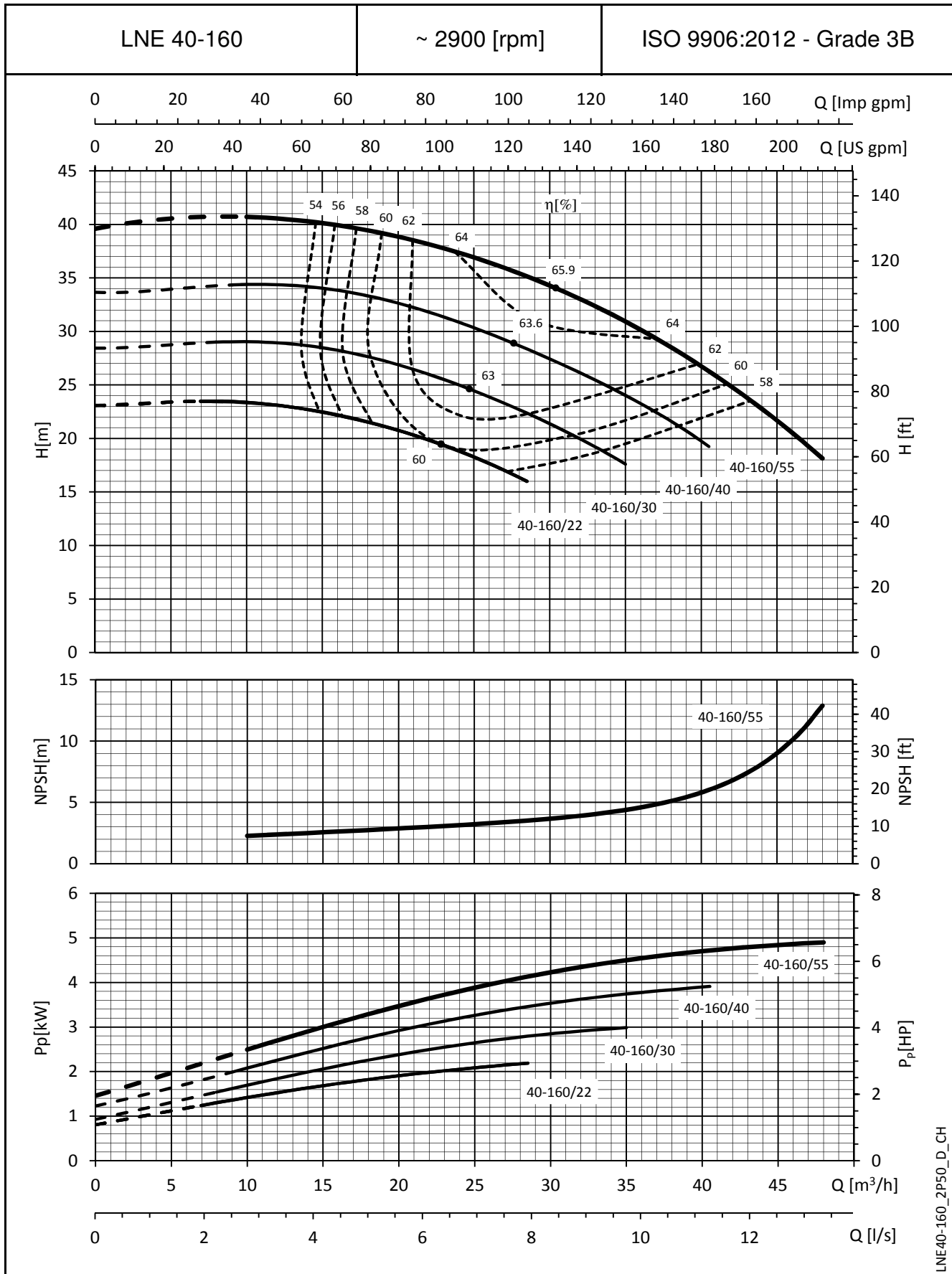
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



LNE40-125\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

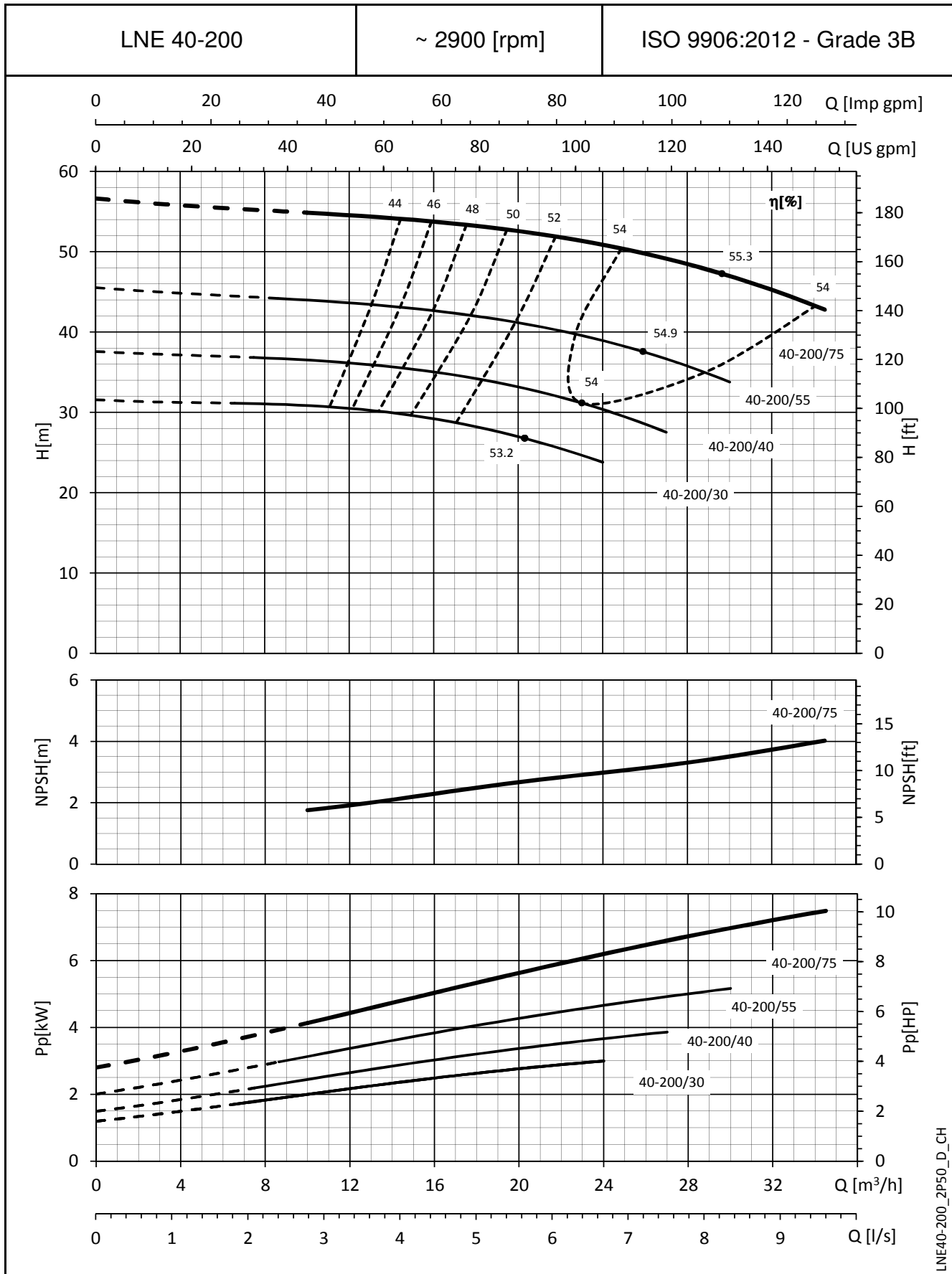
**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



LNE40-160\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES  
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

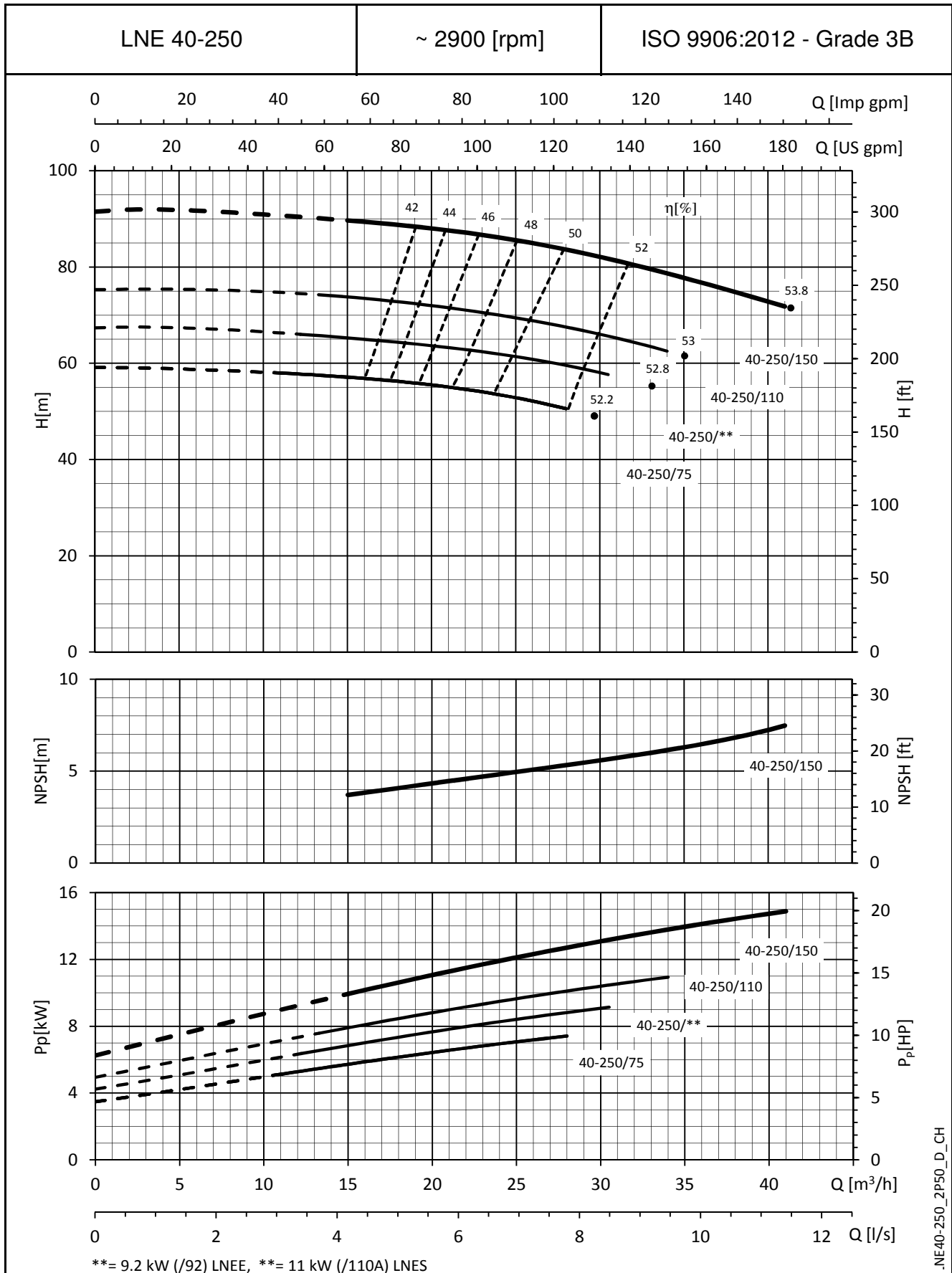


LNE40-200\_2P50\_D\_CH

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

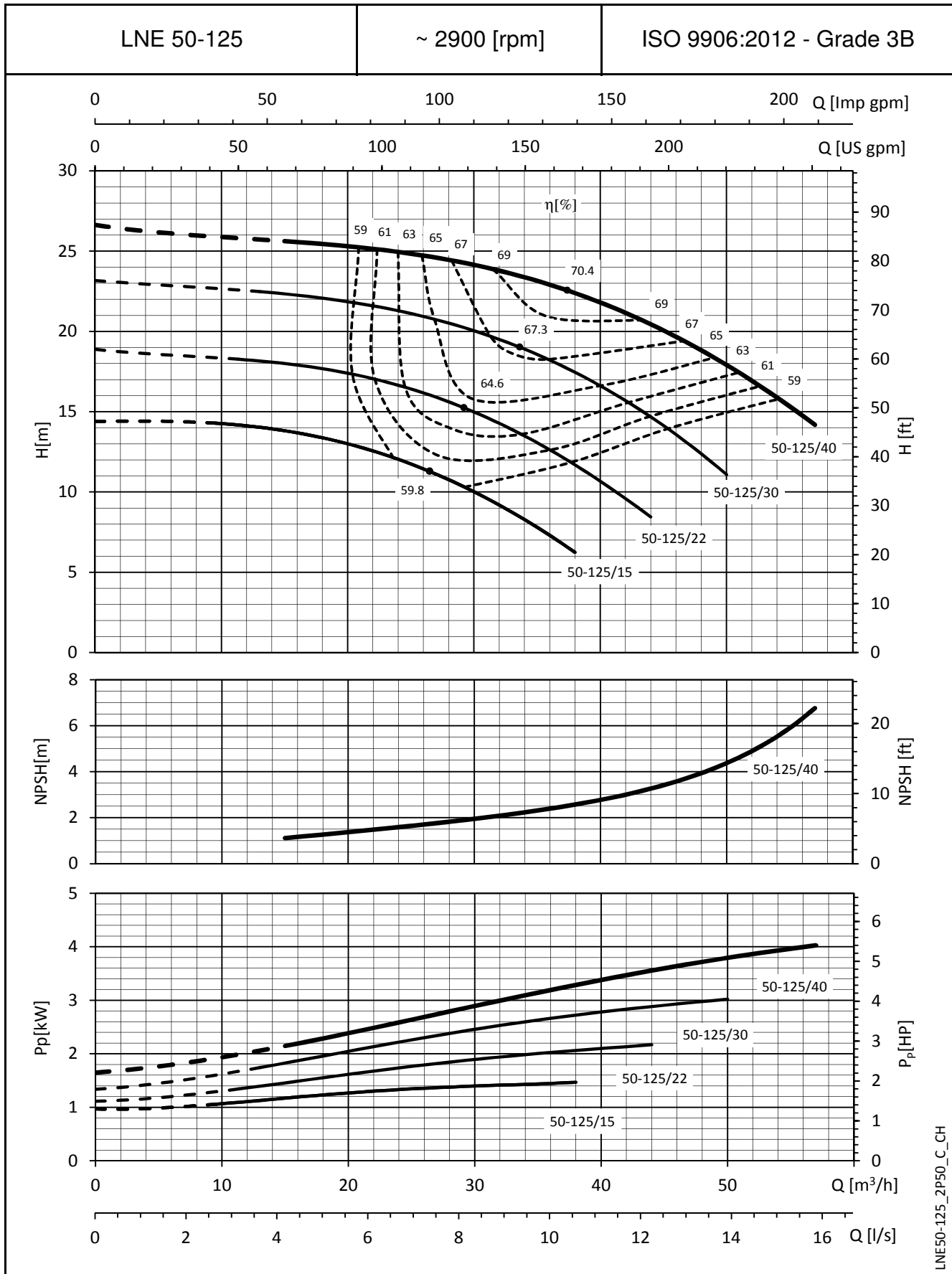
**e-LNE SERIES**

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

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

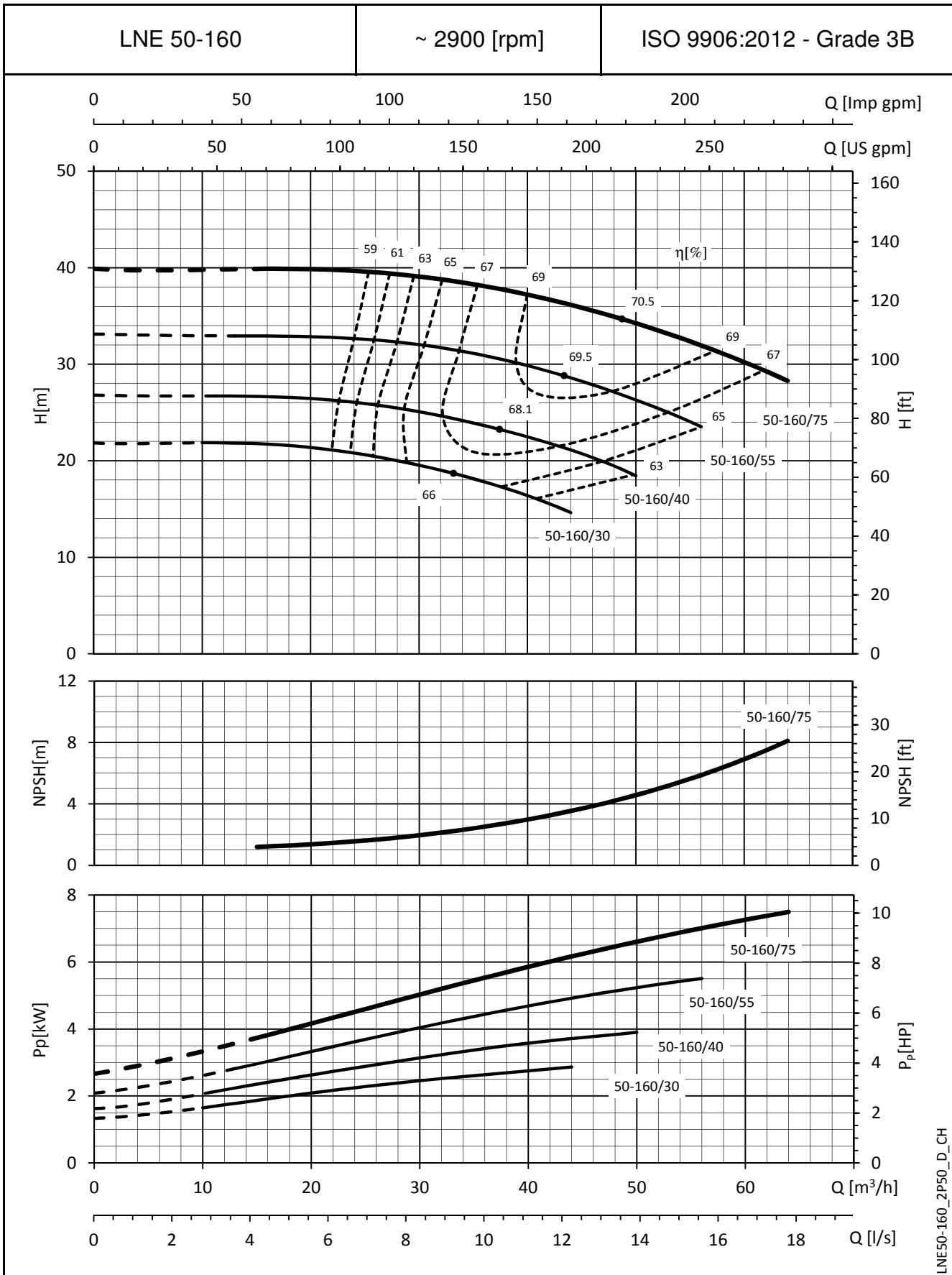


LNE50-125\_2P50\_C\_CH

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



**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

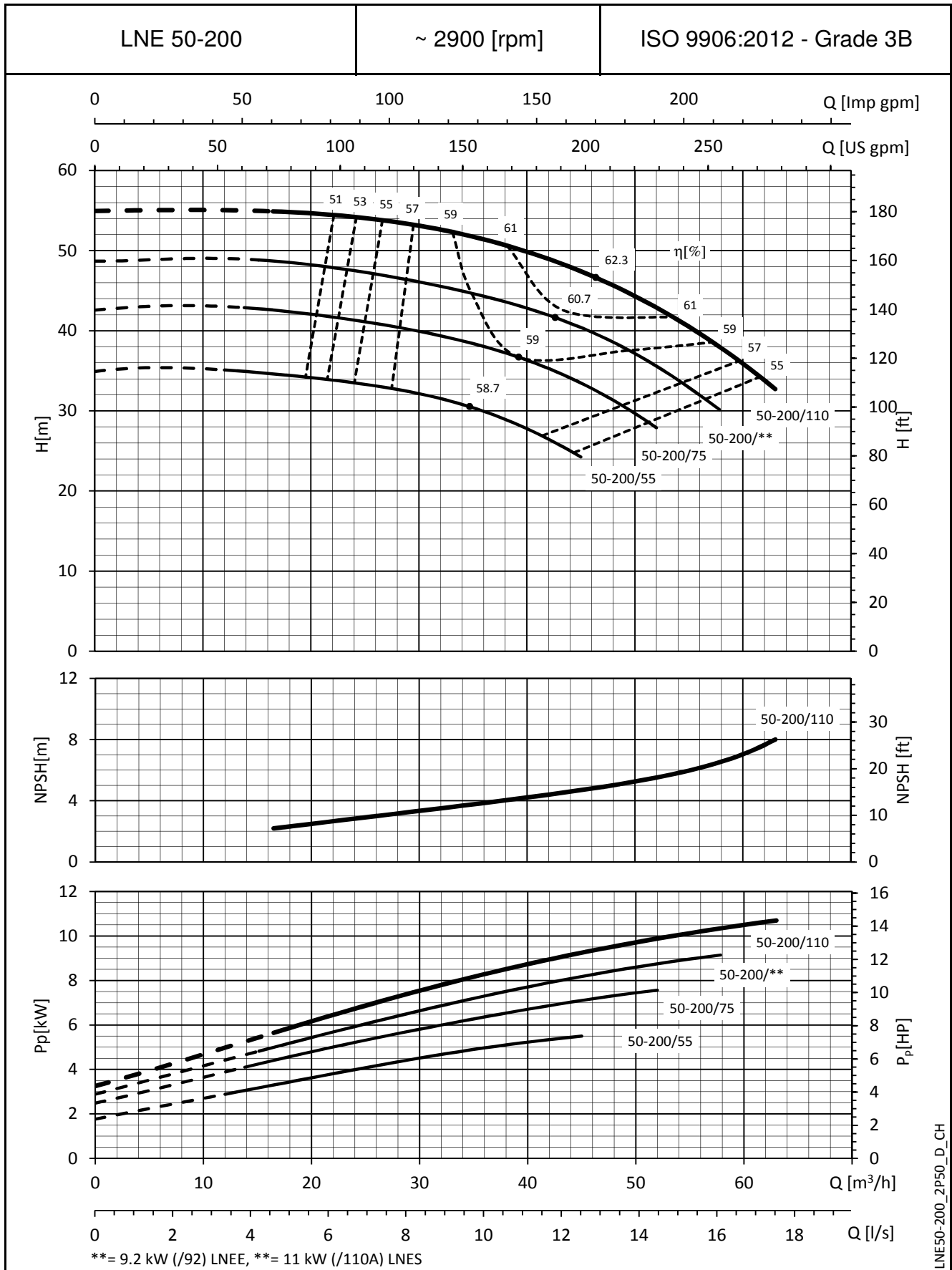


LNE50-160\_2P50\_D\_CH

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

**e-LNE SERIES**

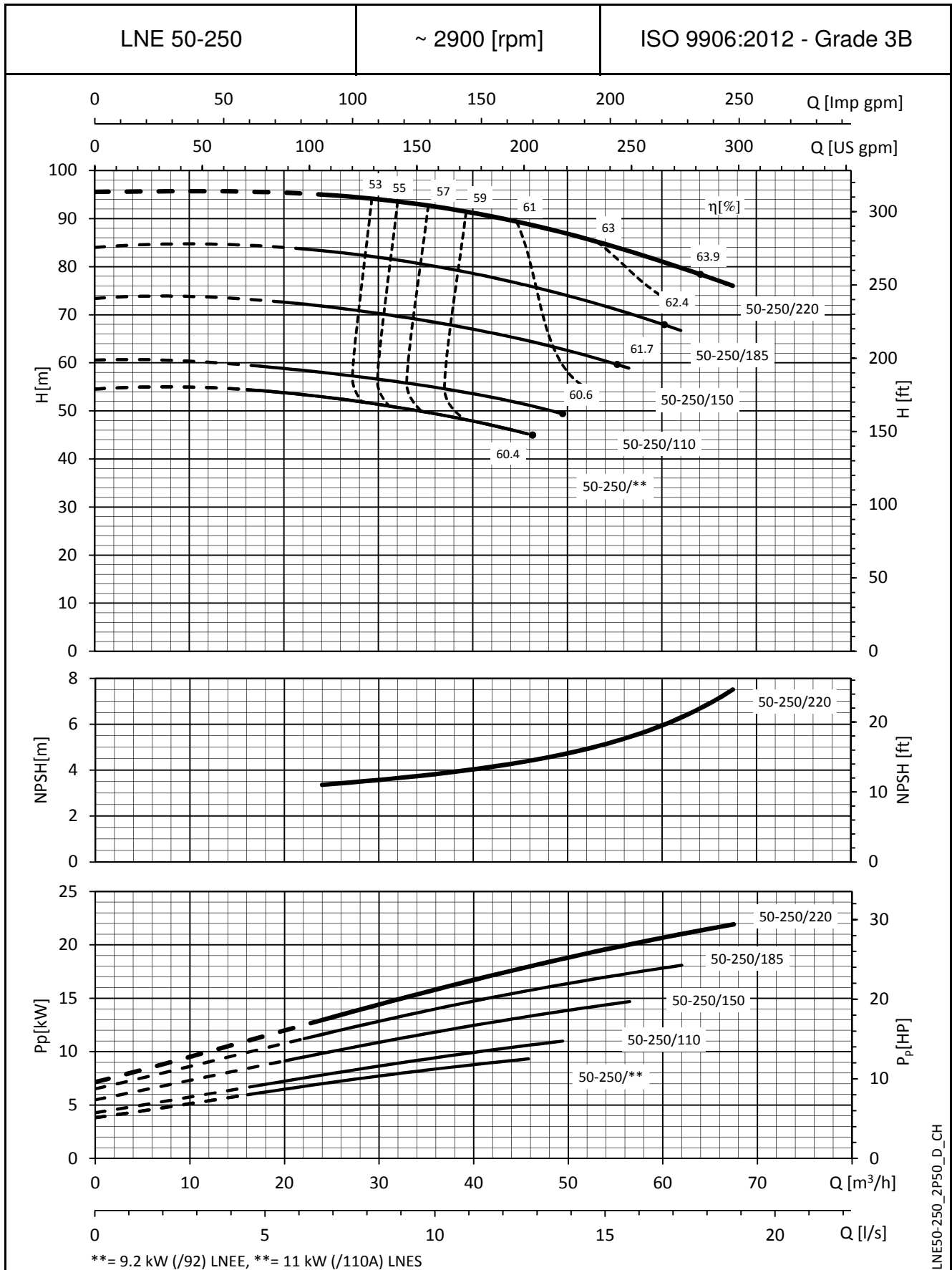
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

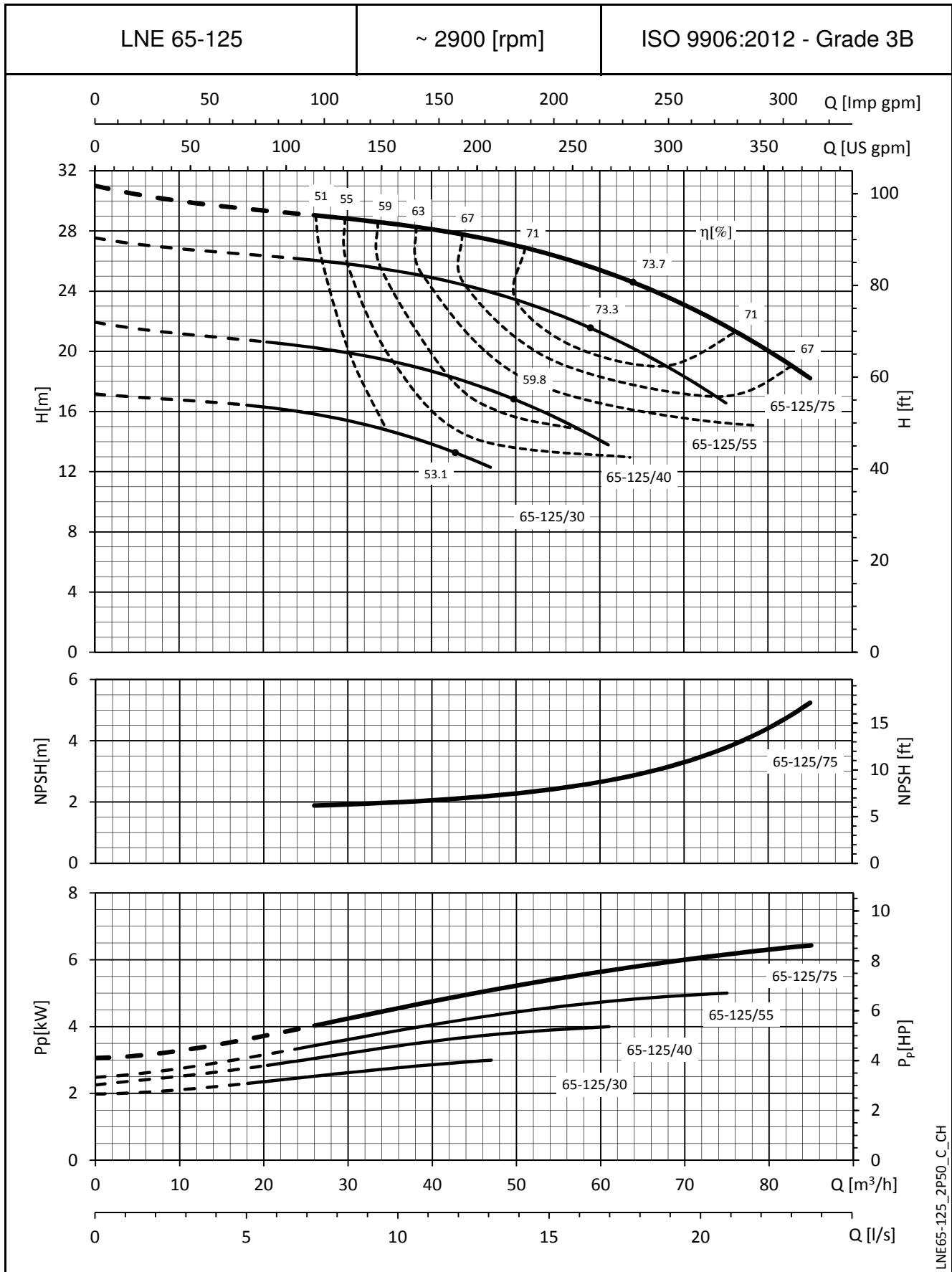
**e-LNE SERIES**

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

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

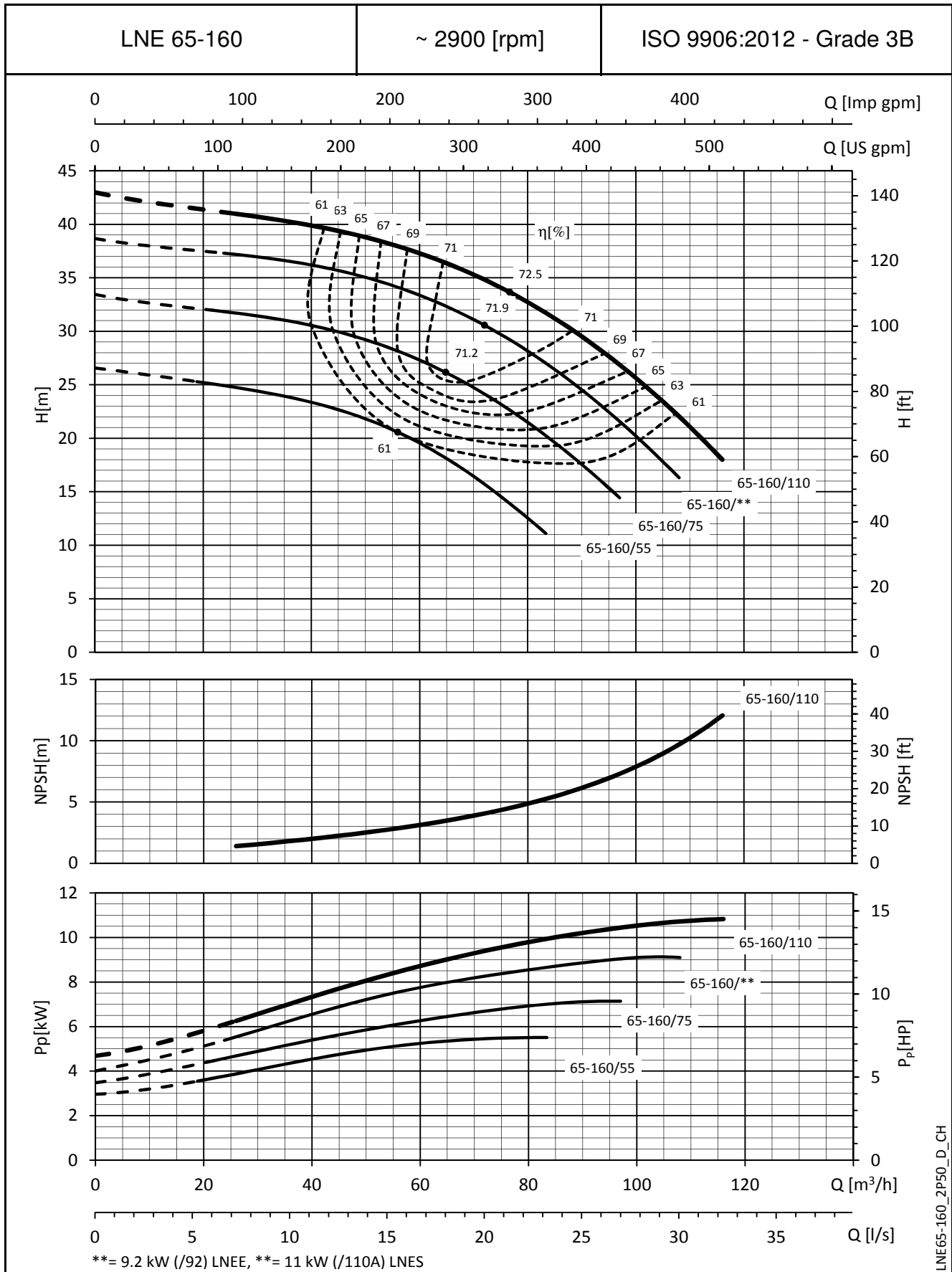


LNE65-125\_2P50\_C\_CH

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

**e-LNE SERIES**

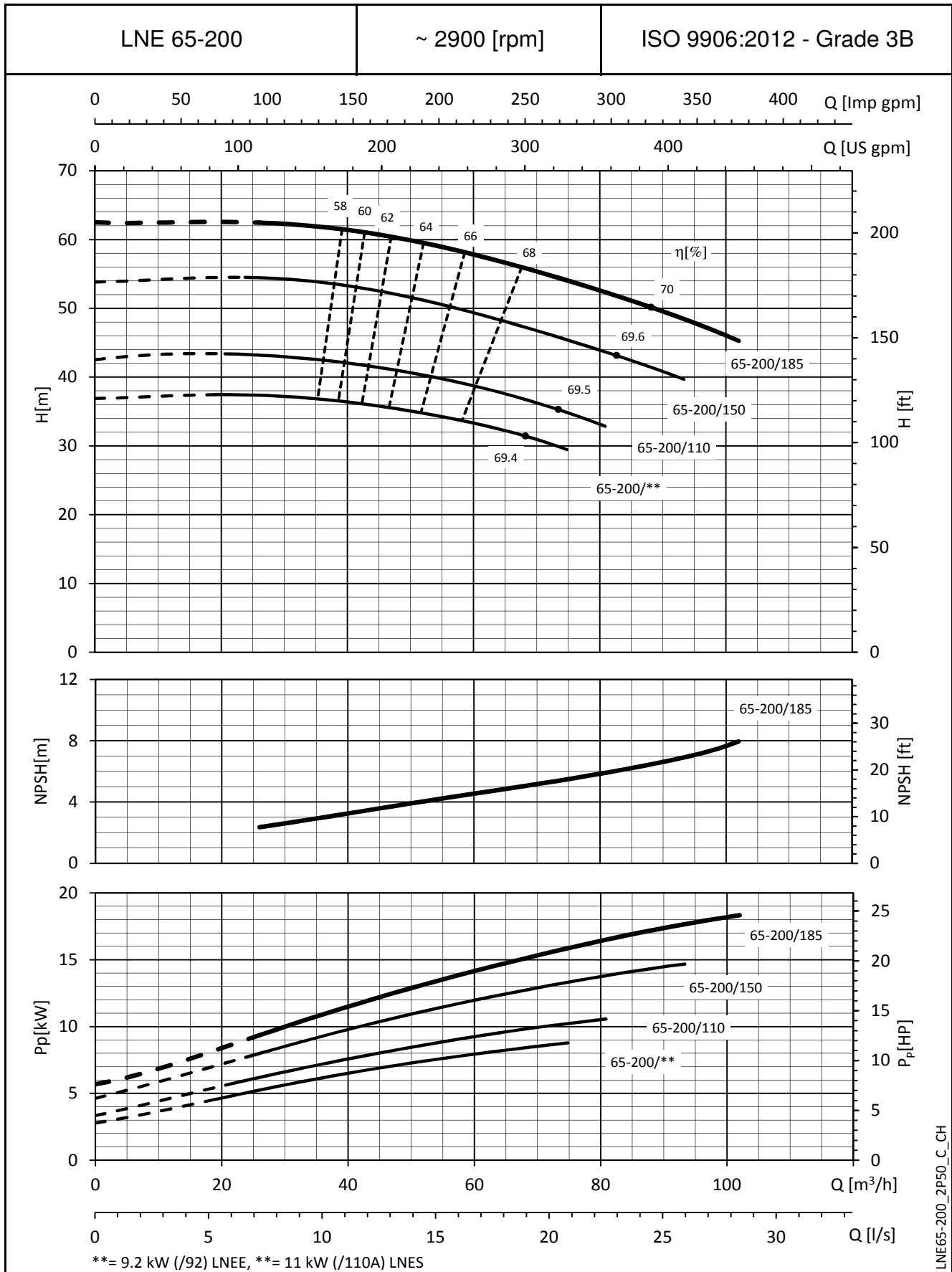
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

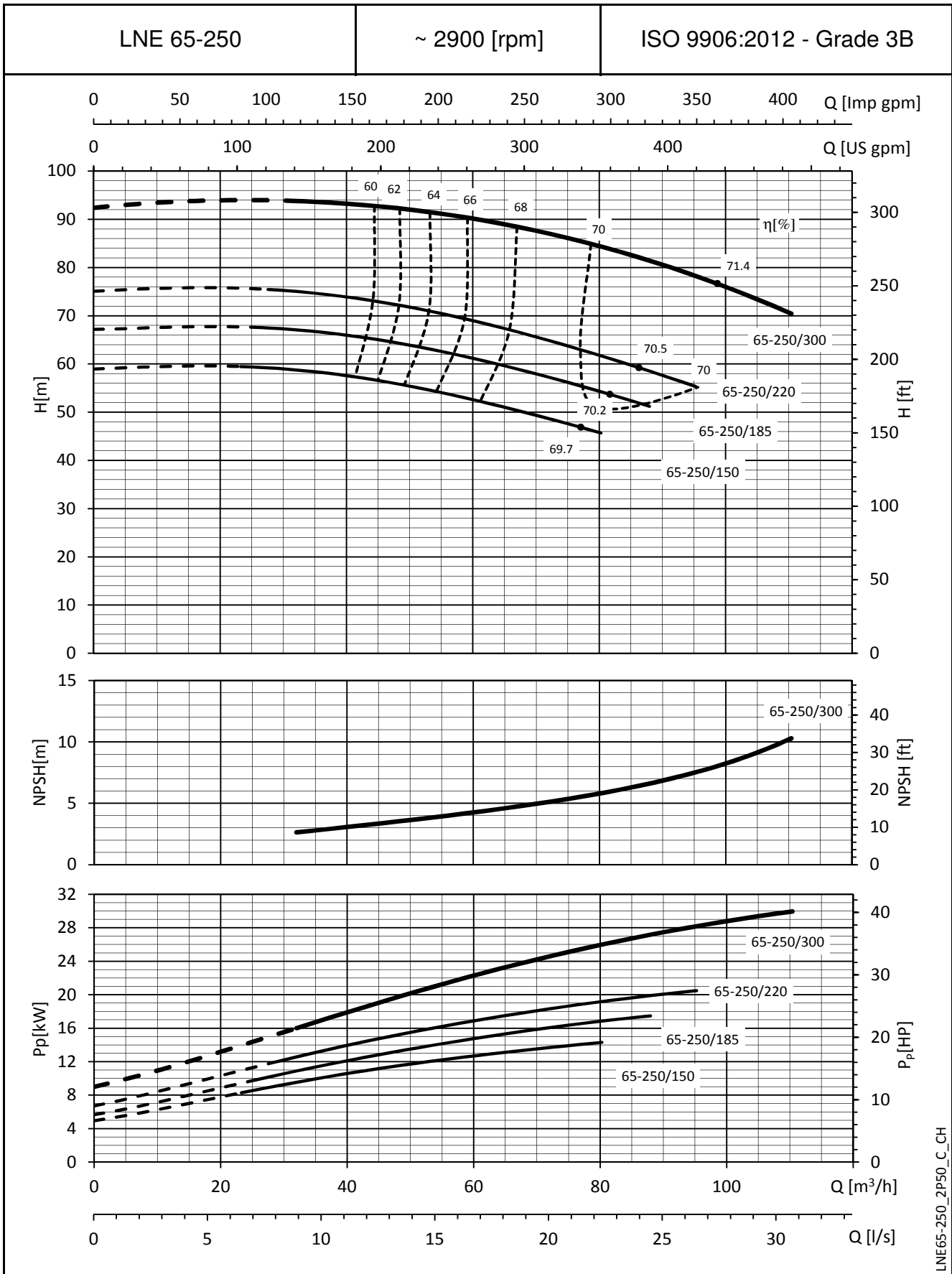
**e-LNE SERIES**

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

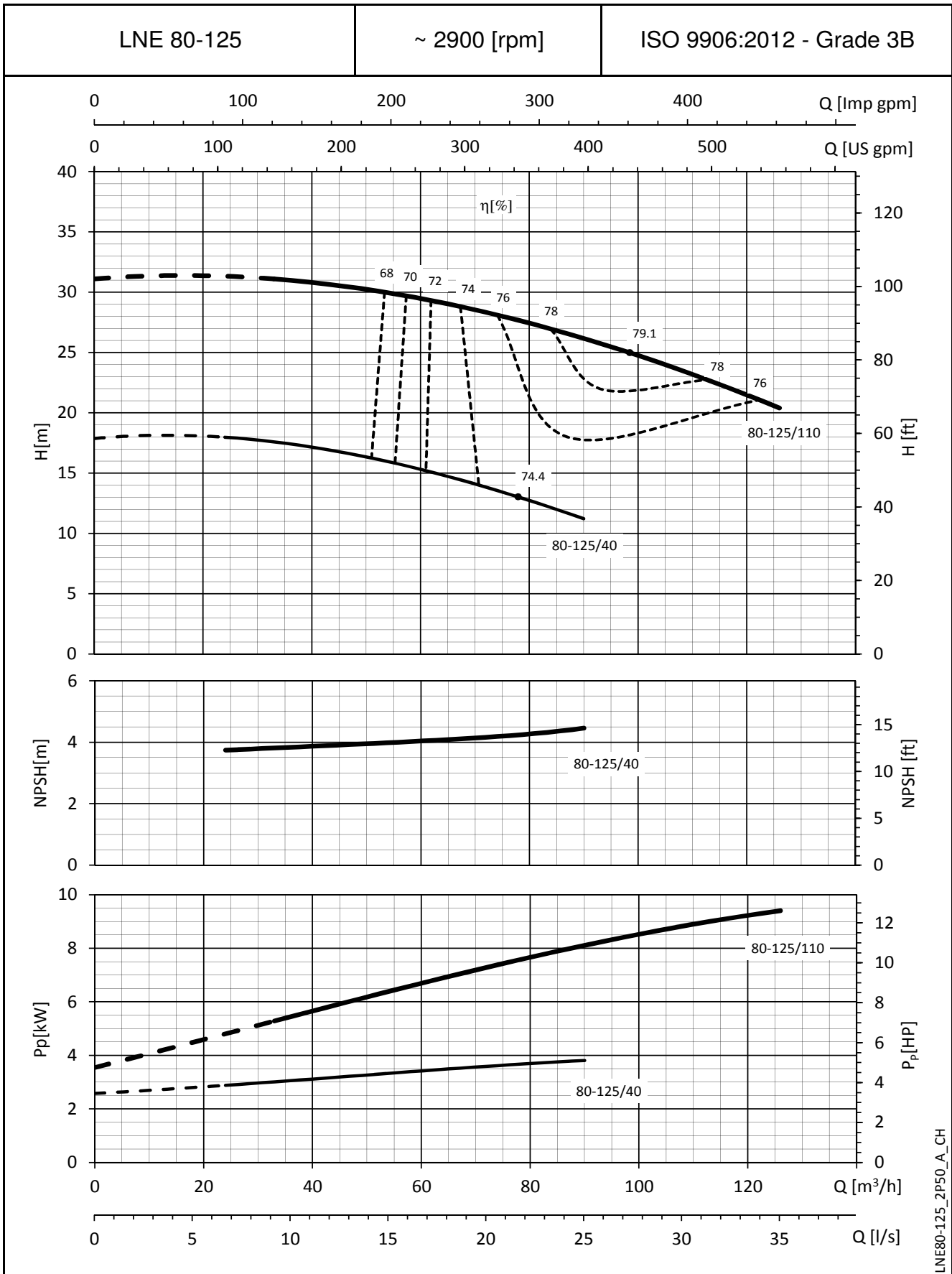
**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



LNE65-250\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



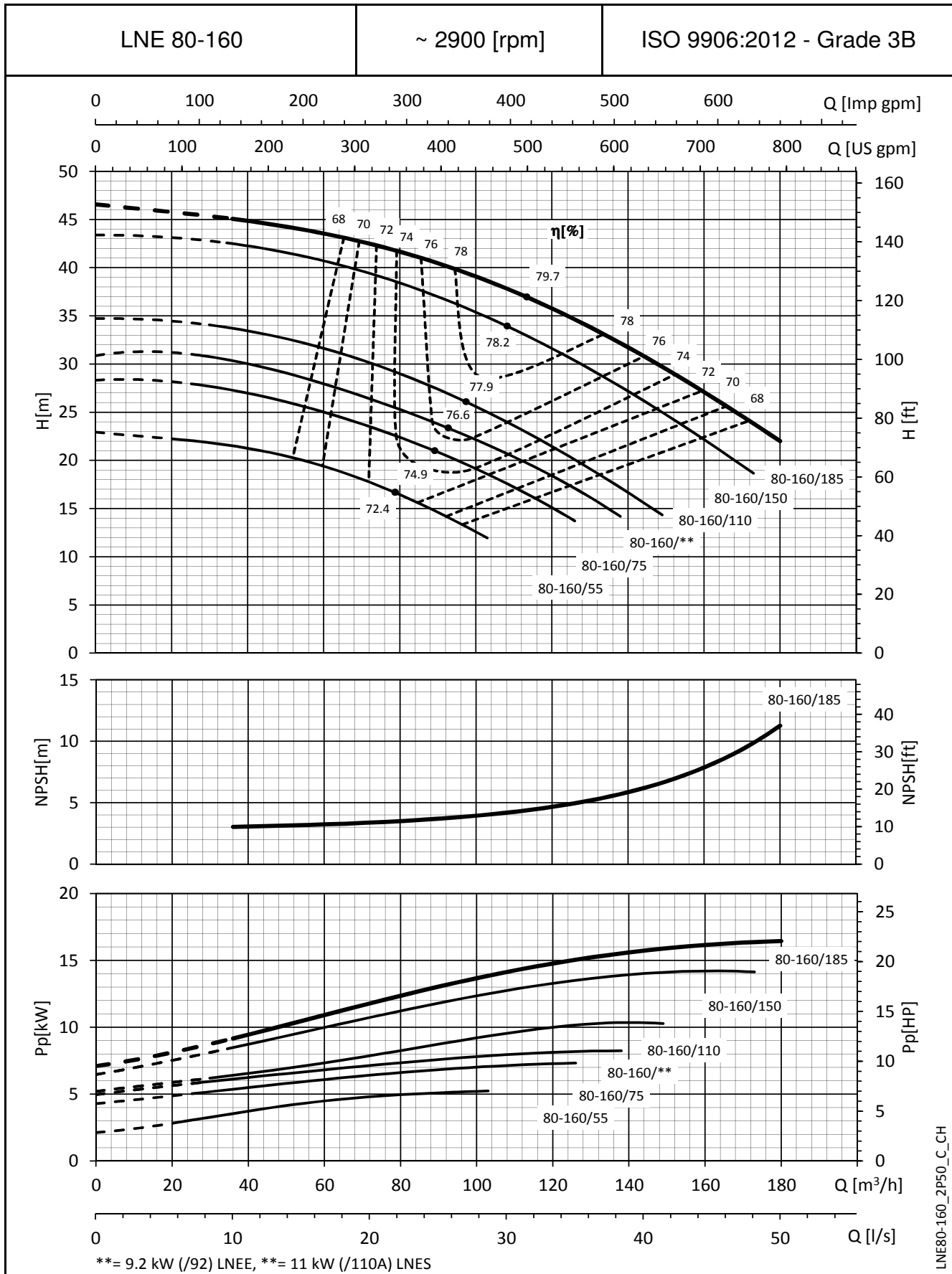
LNE80-125\_2P50\_A\_CH

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



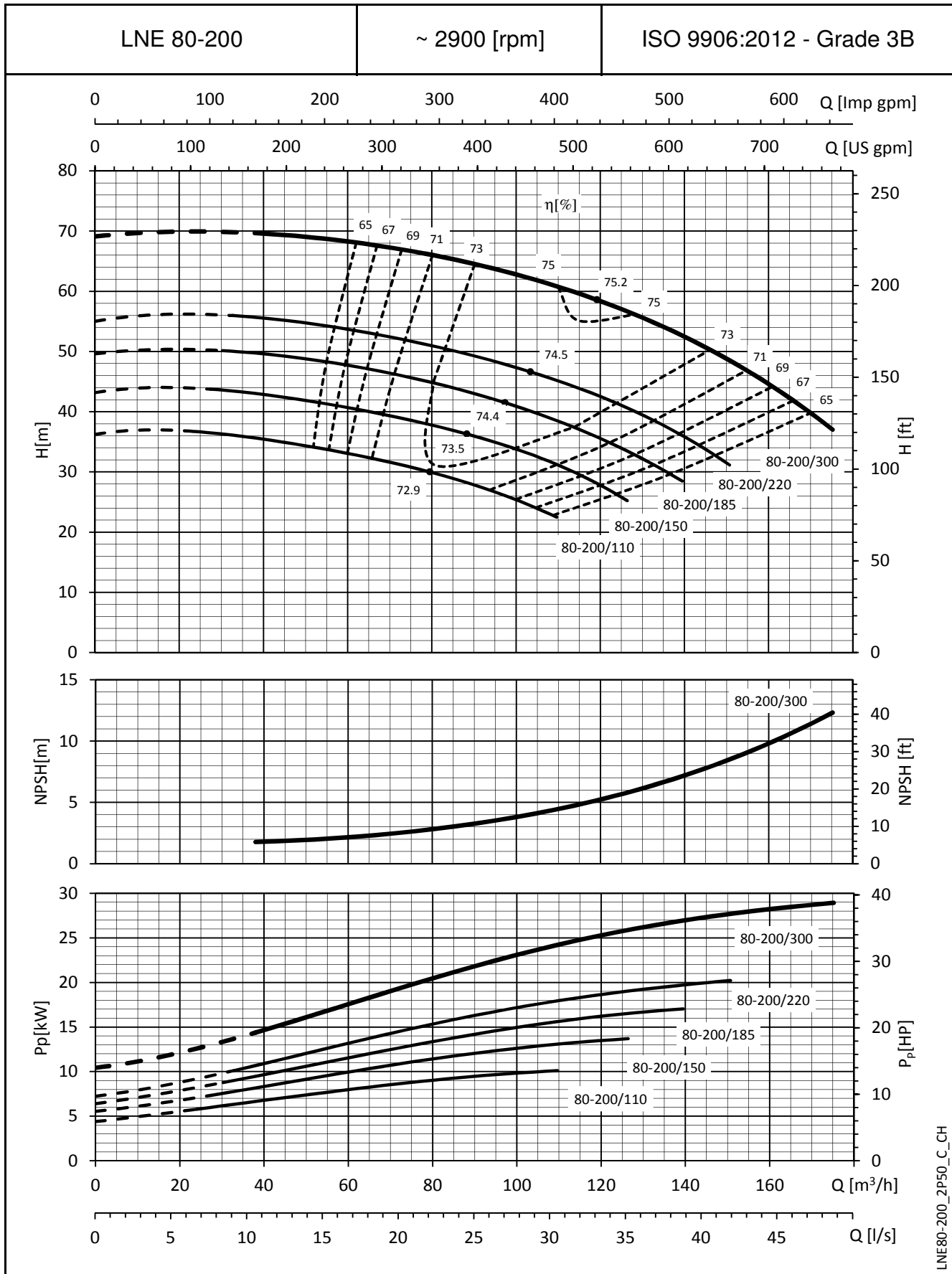
**e-LNE SERIES**

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

**e-LNE SERIES  
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

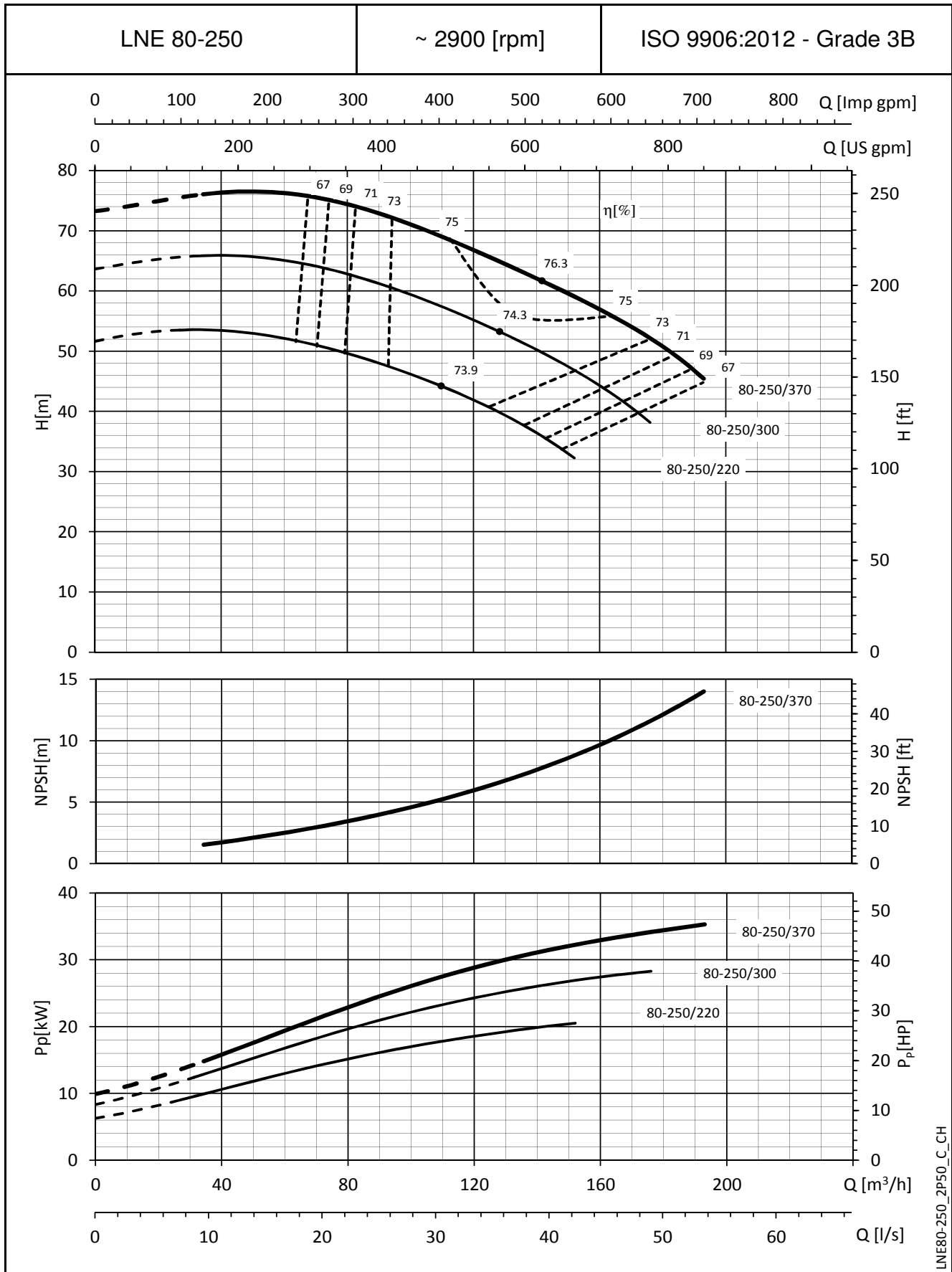


LNE80-200\_2P50\_C\_CH

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

**e-LNE SERIES**

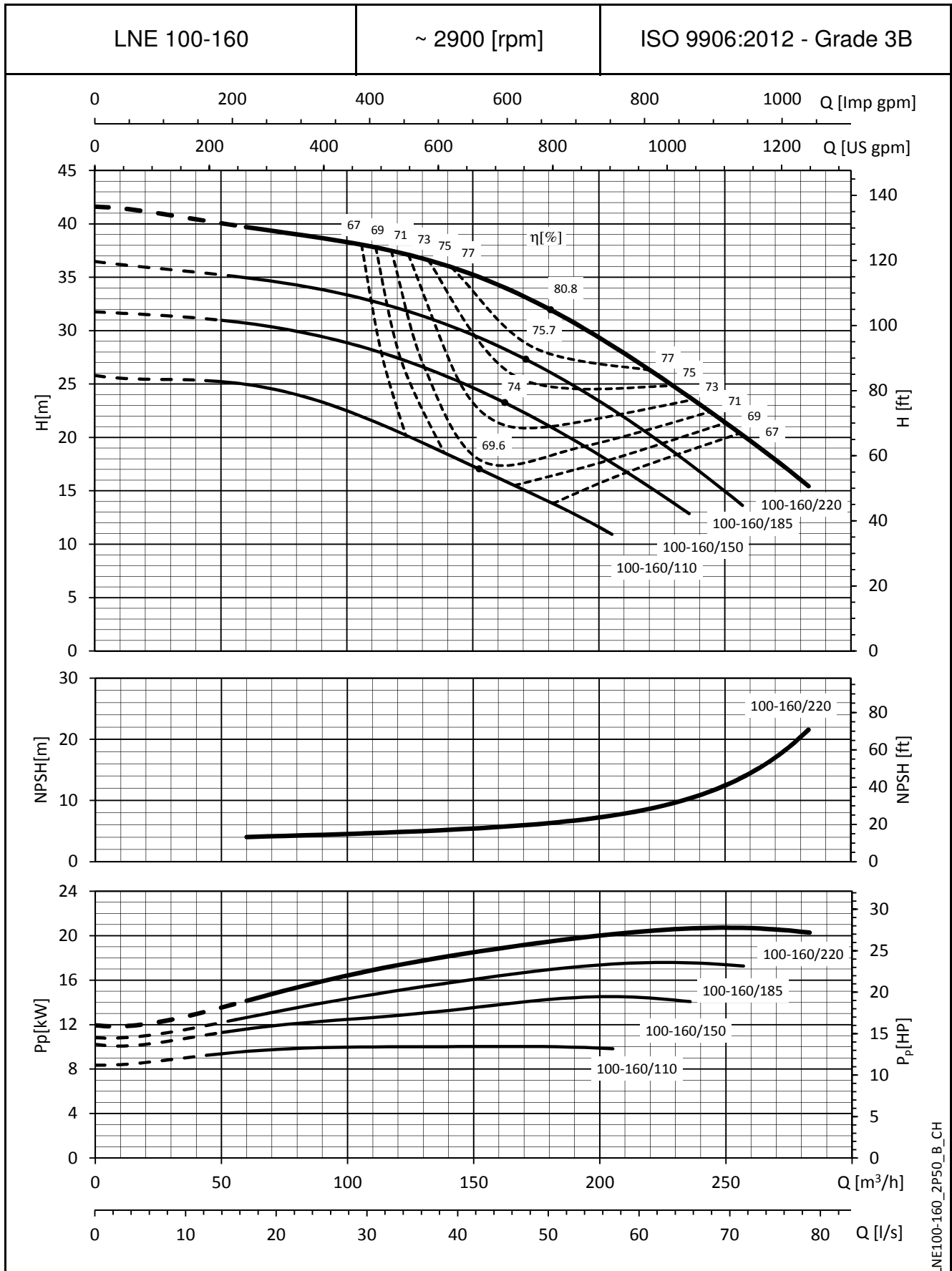
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

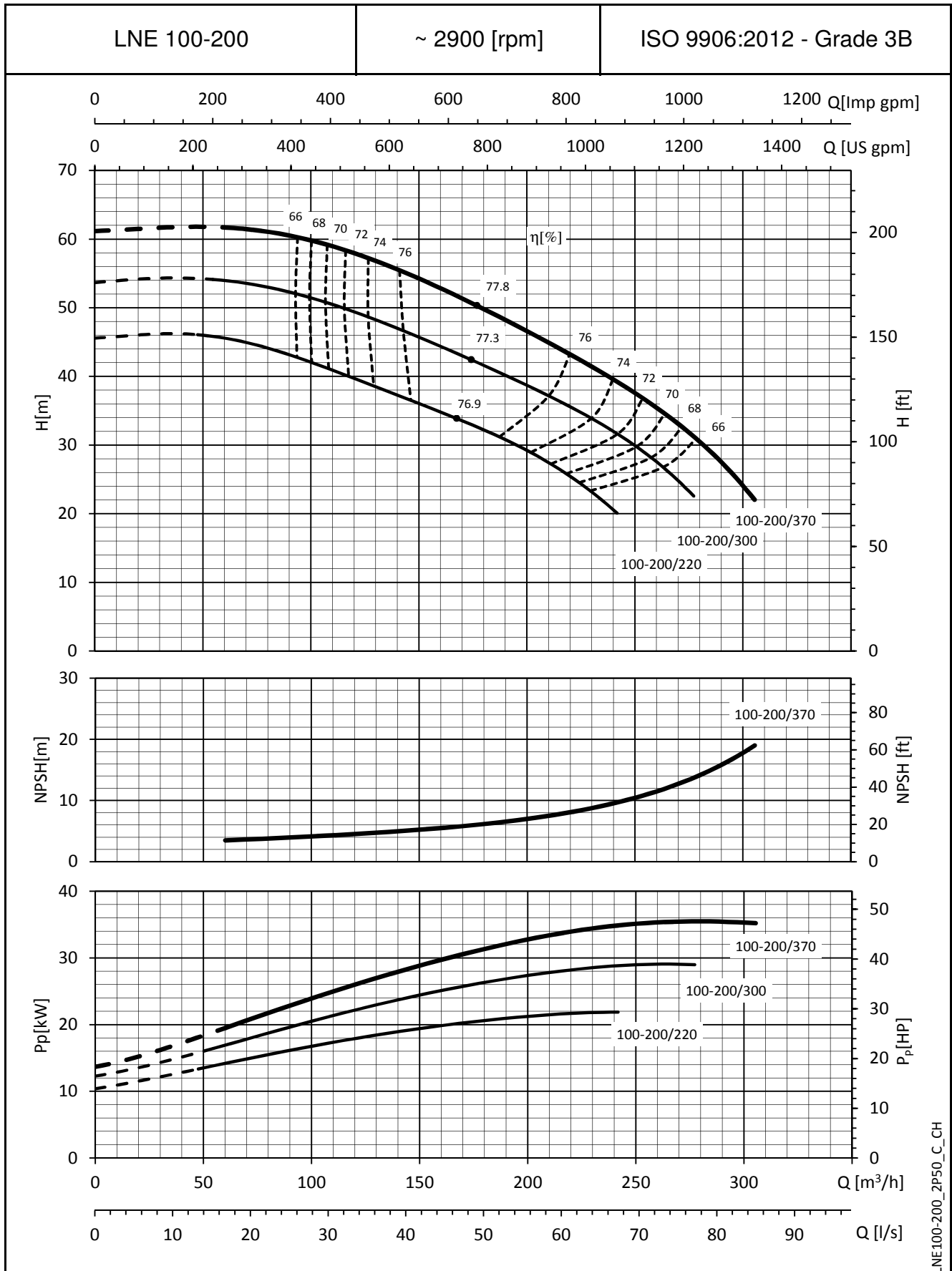


LNE100-160\_2P50\_B\_CH

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

**e-LNE SERIES**

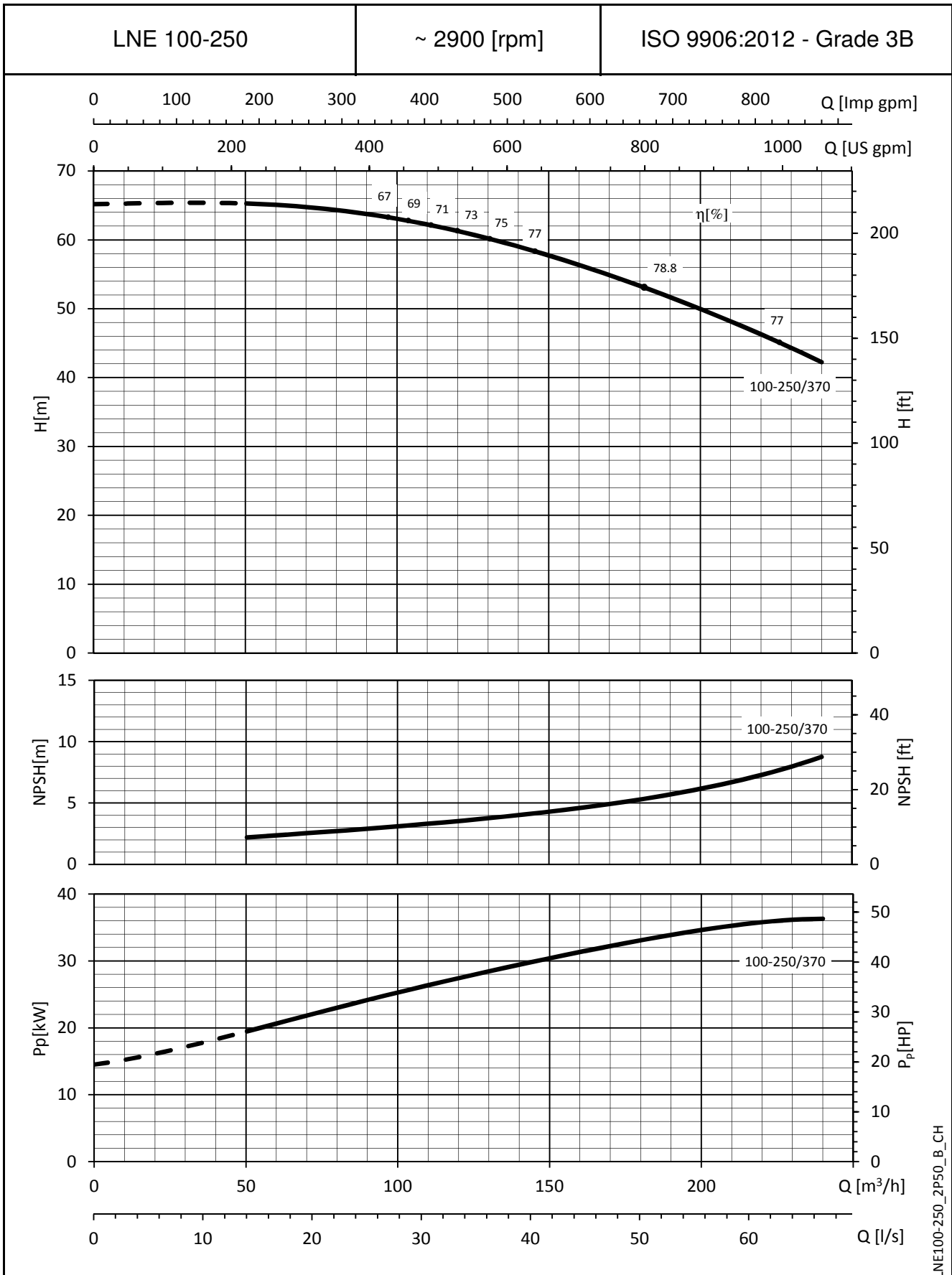
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



LNE100-200\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

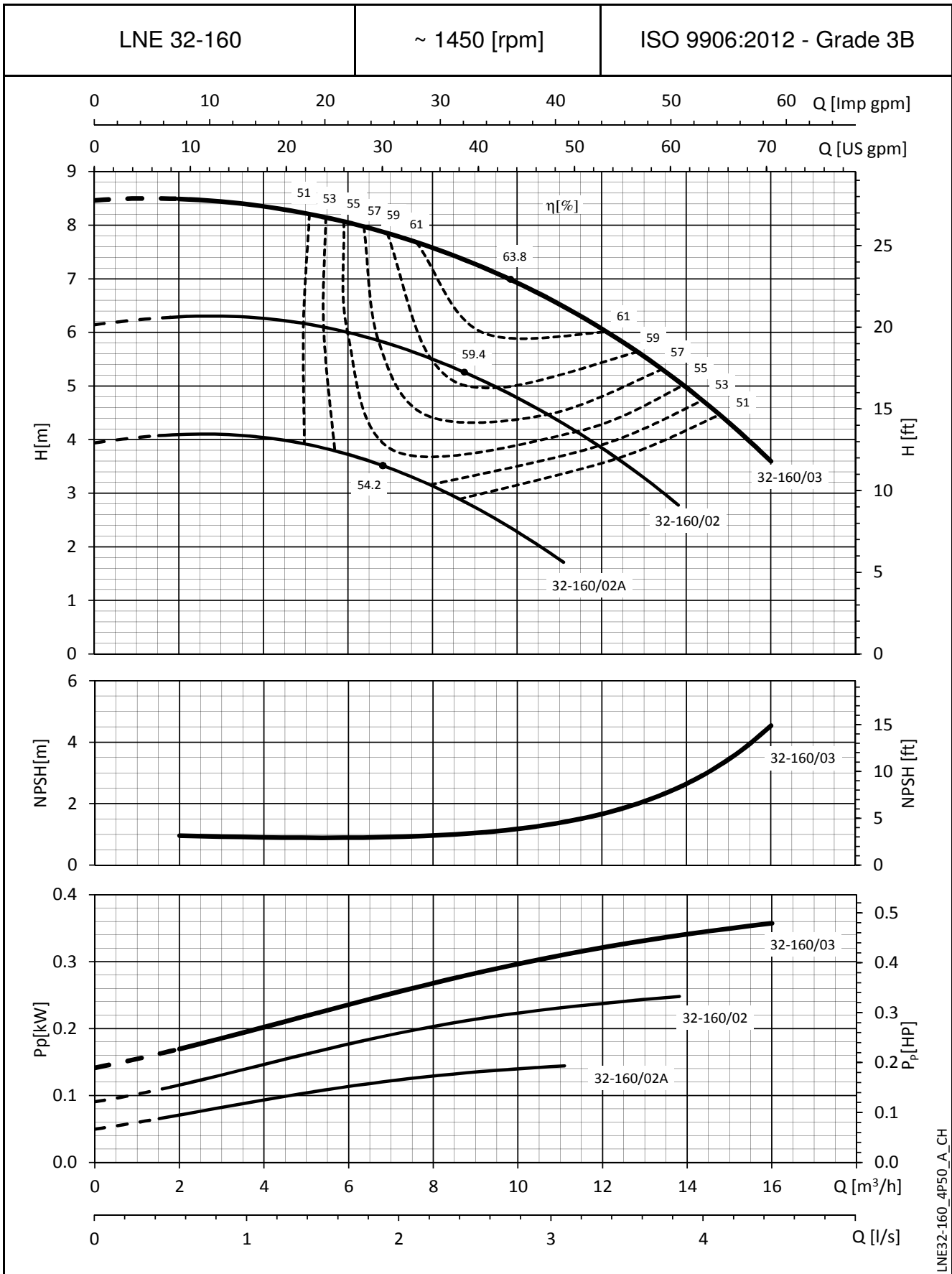
**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



LNE100-250\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

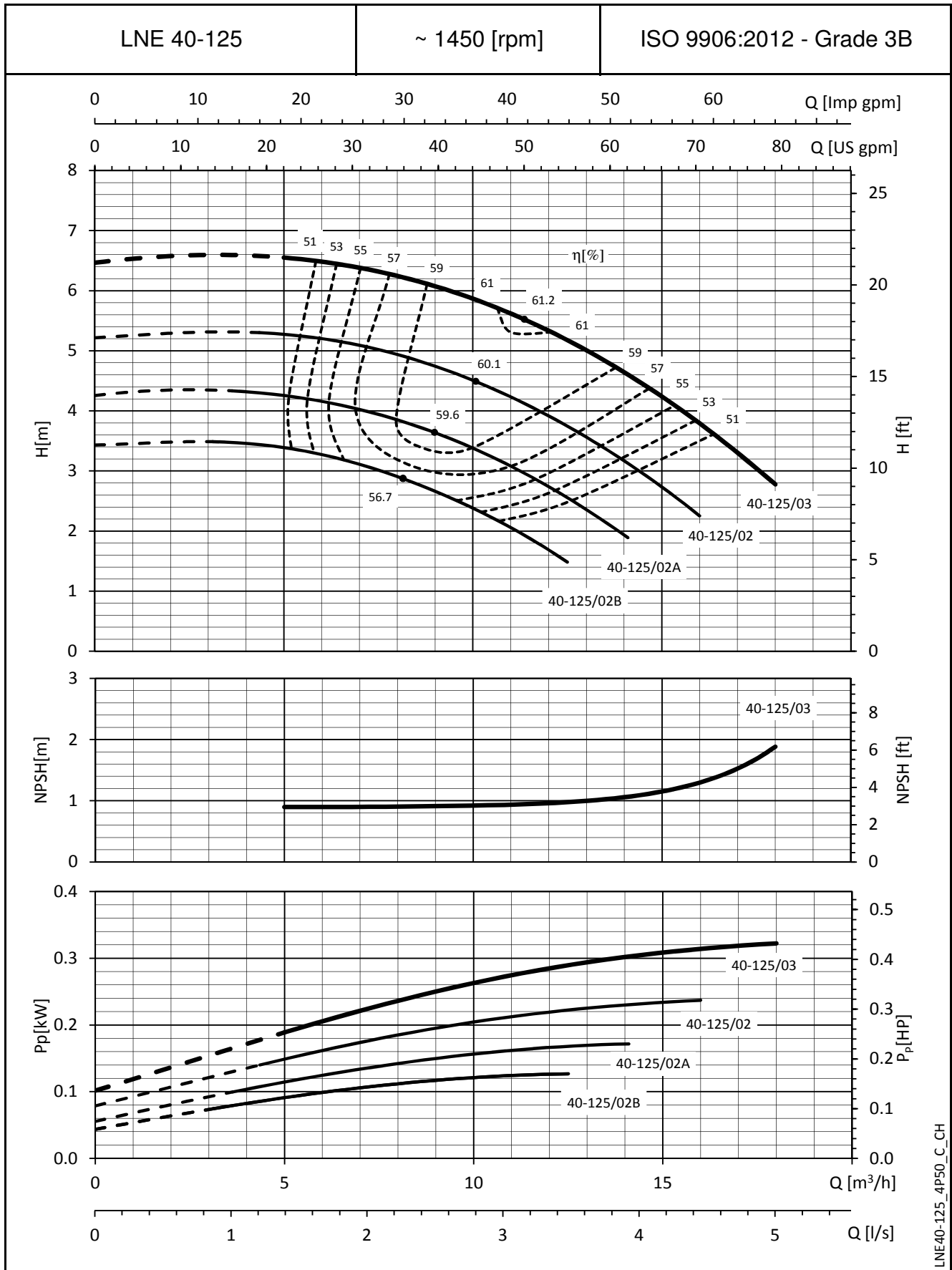


LNE32-160\_4P50\_A\_CH

I valori di NPSH sono di laboratorio; nell'impiego pratico si consiglia di aumentare il valore di 0,5 m.  
 Le prestazioni valgono per liquidi con densità  $\rho = 1.0 \text{ Kg/dm}^3$  ed una viscosità cinematica  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

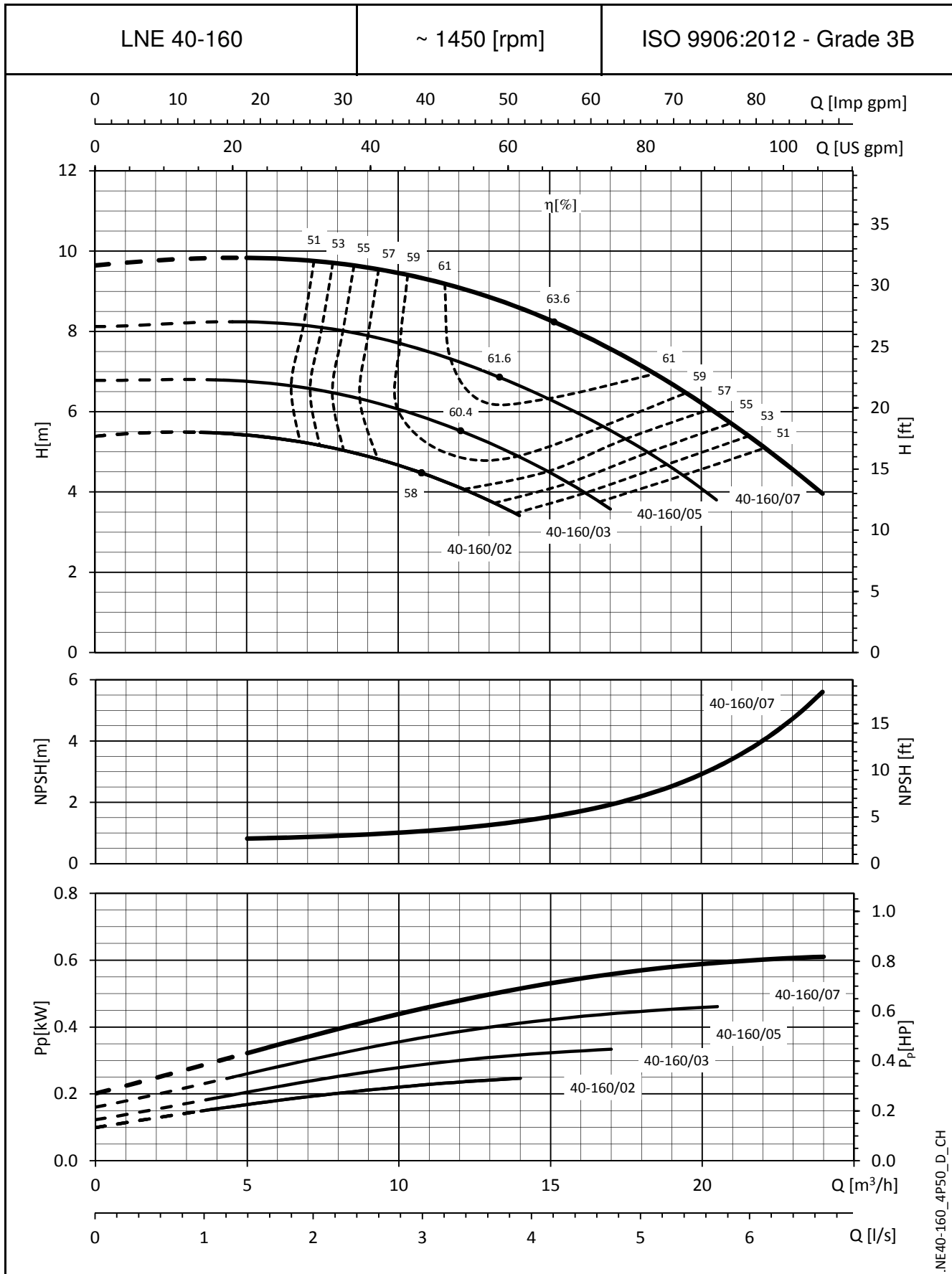


LNE40-125\_4P50\_C\_CH

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



**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

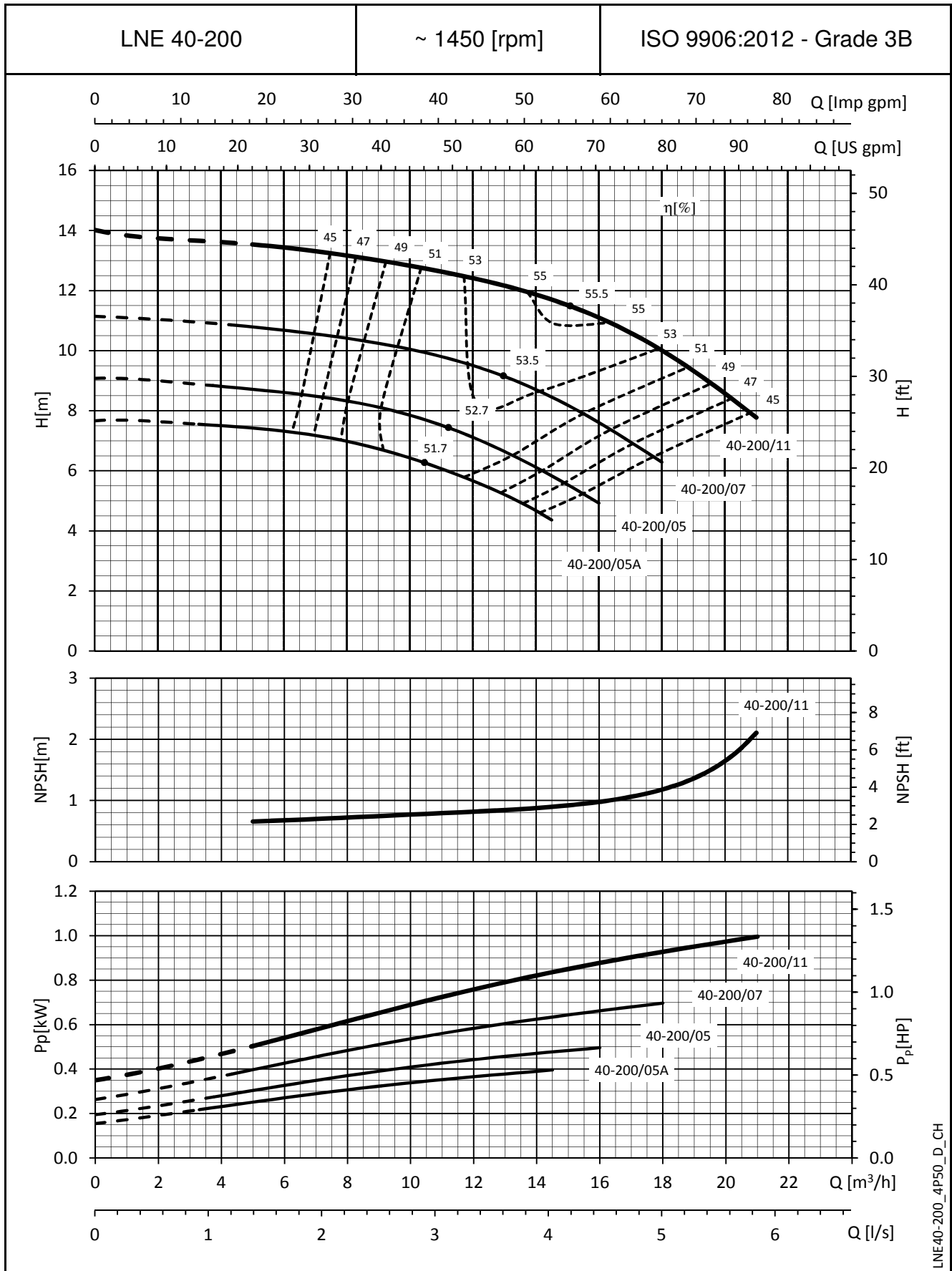


.NE40-160\_4P50\_D\_CH

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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

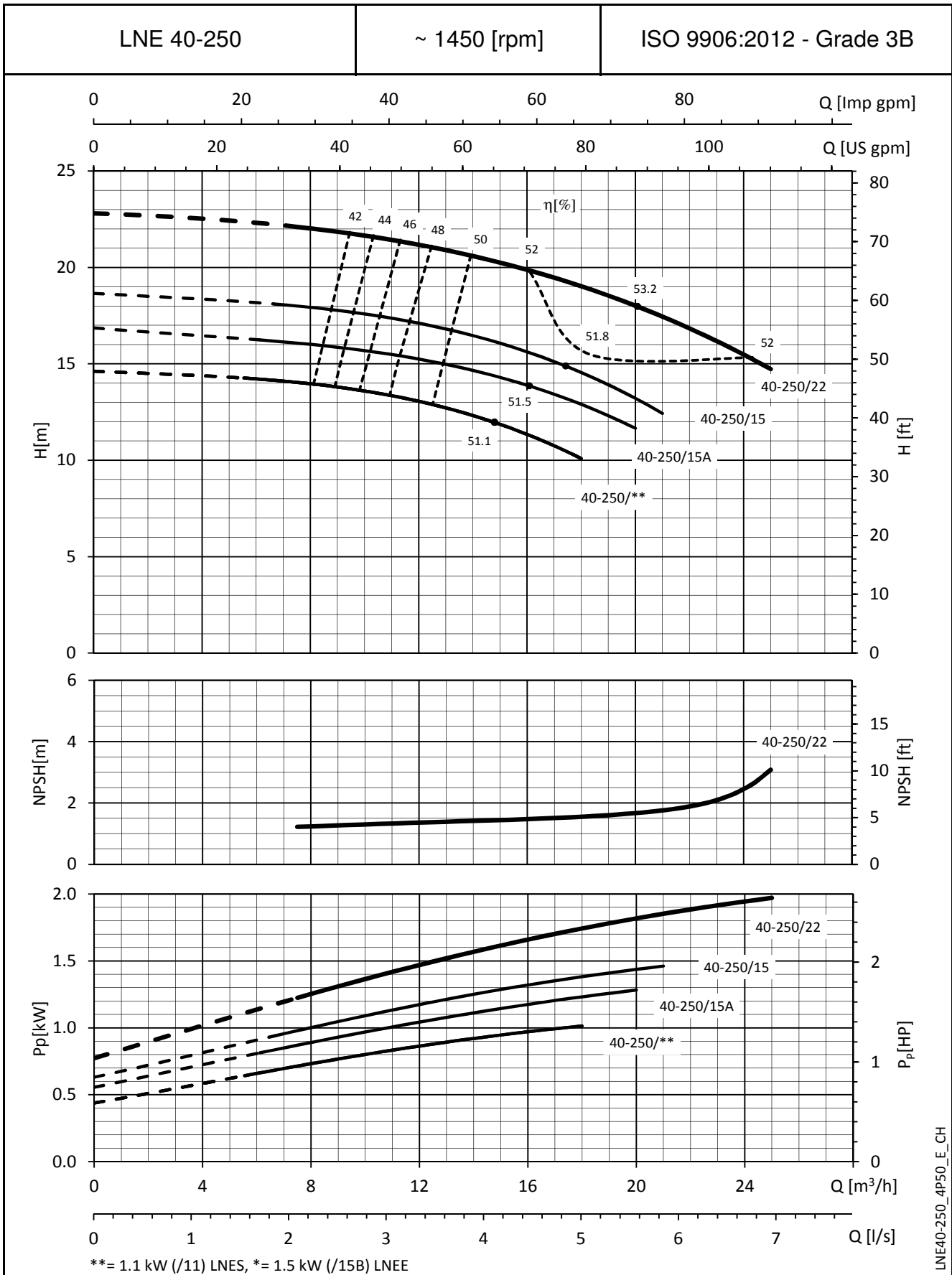


LNE40-200\_4P50\_D\_CH

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

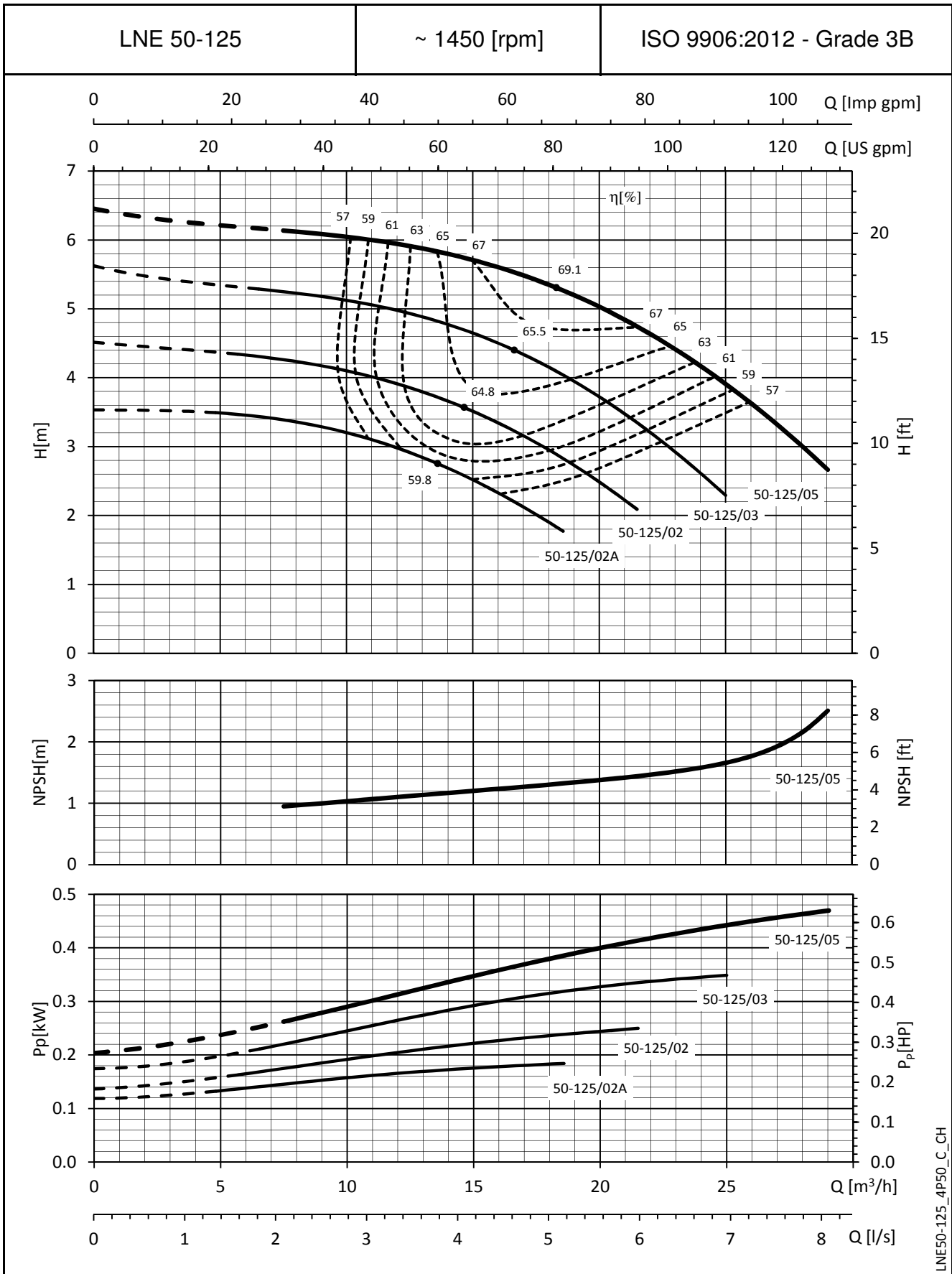
**e-LNE SERIES**

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

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

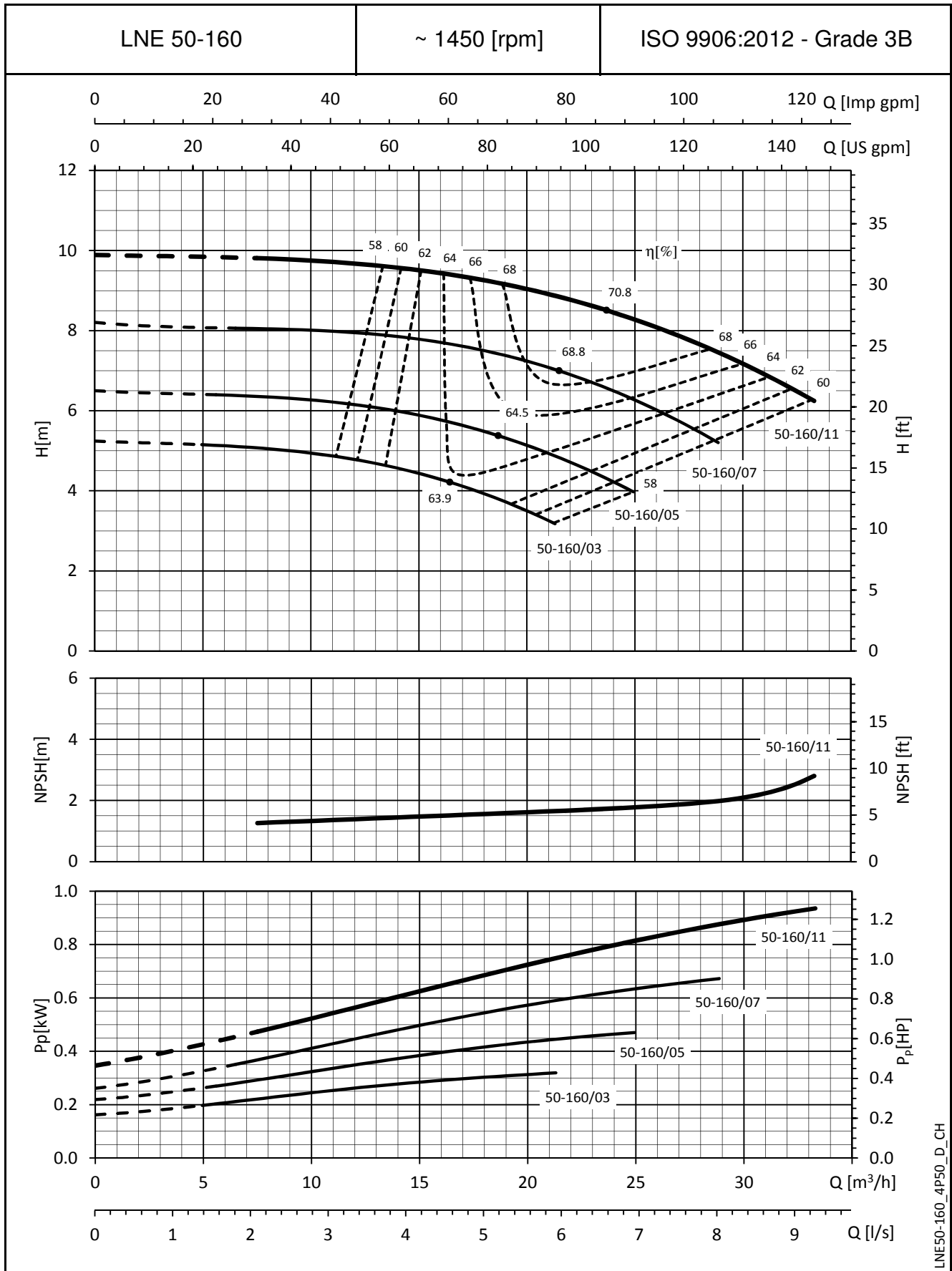


LNE50-125\_4P50\_C\_CH

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

**e-LNE SERIES**

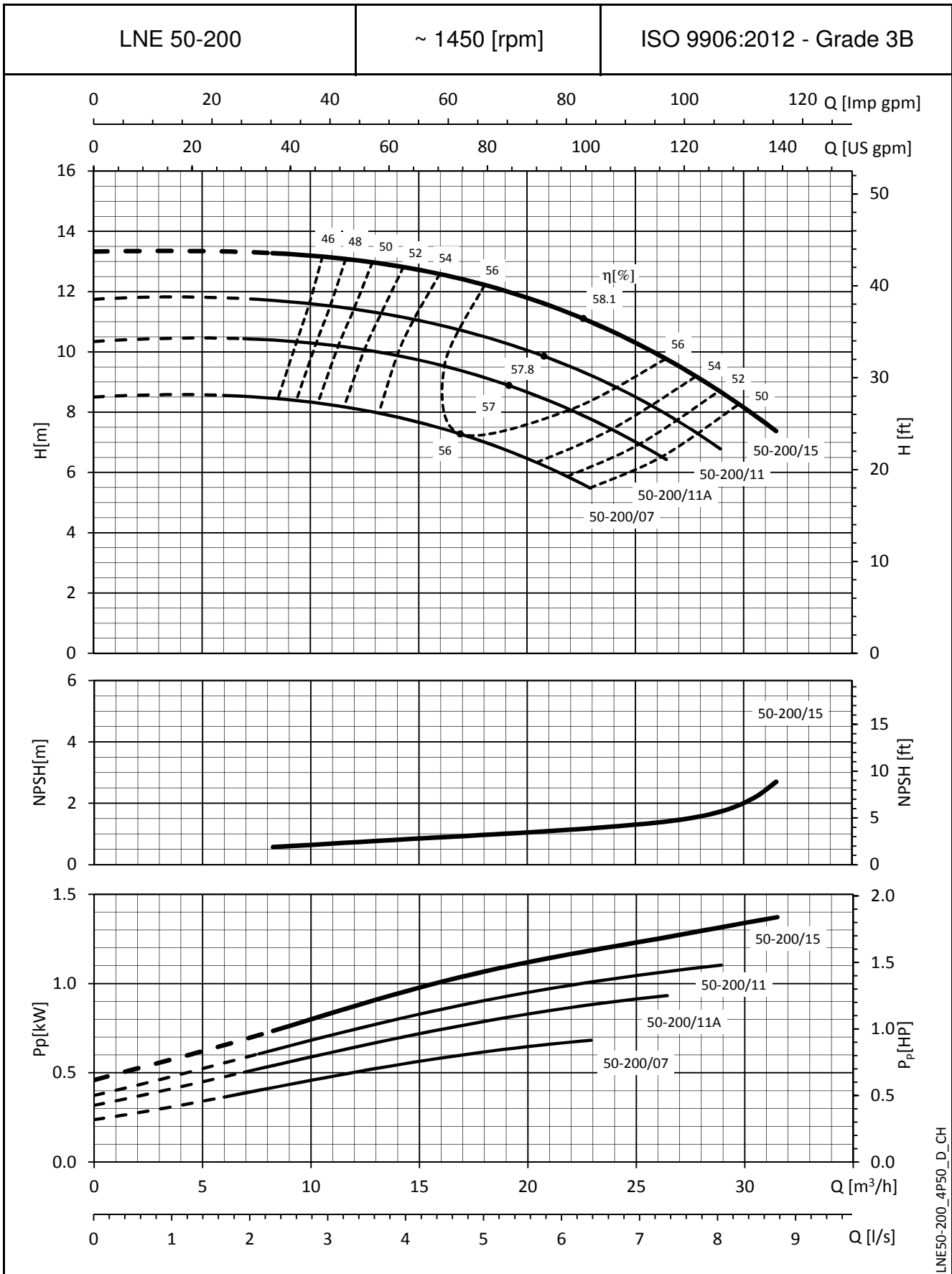
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



LNE50-160\_4P50\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

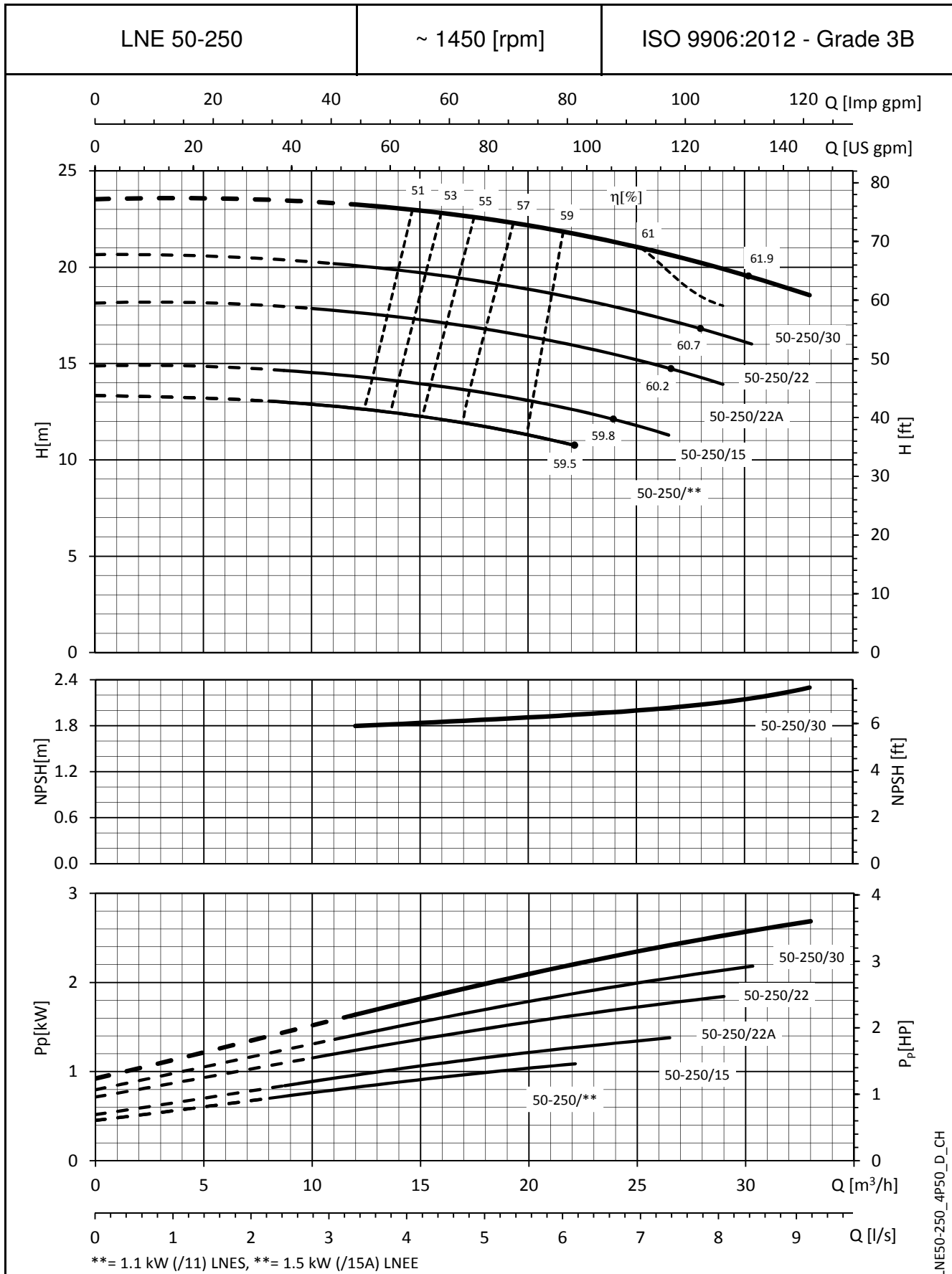
**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



LNE50-200\_4P50\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

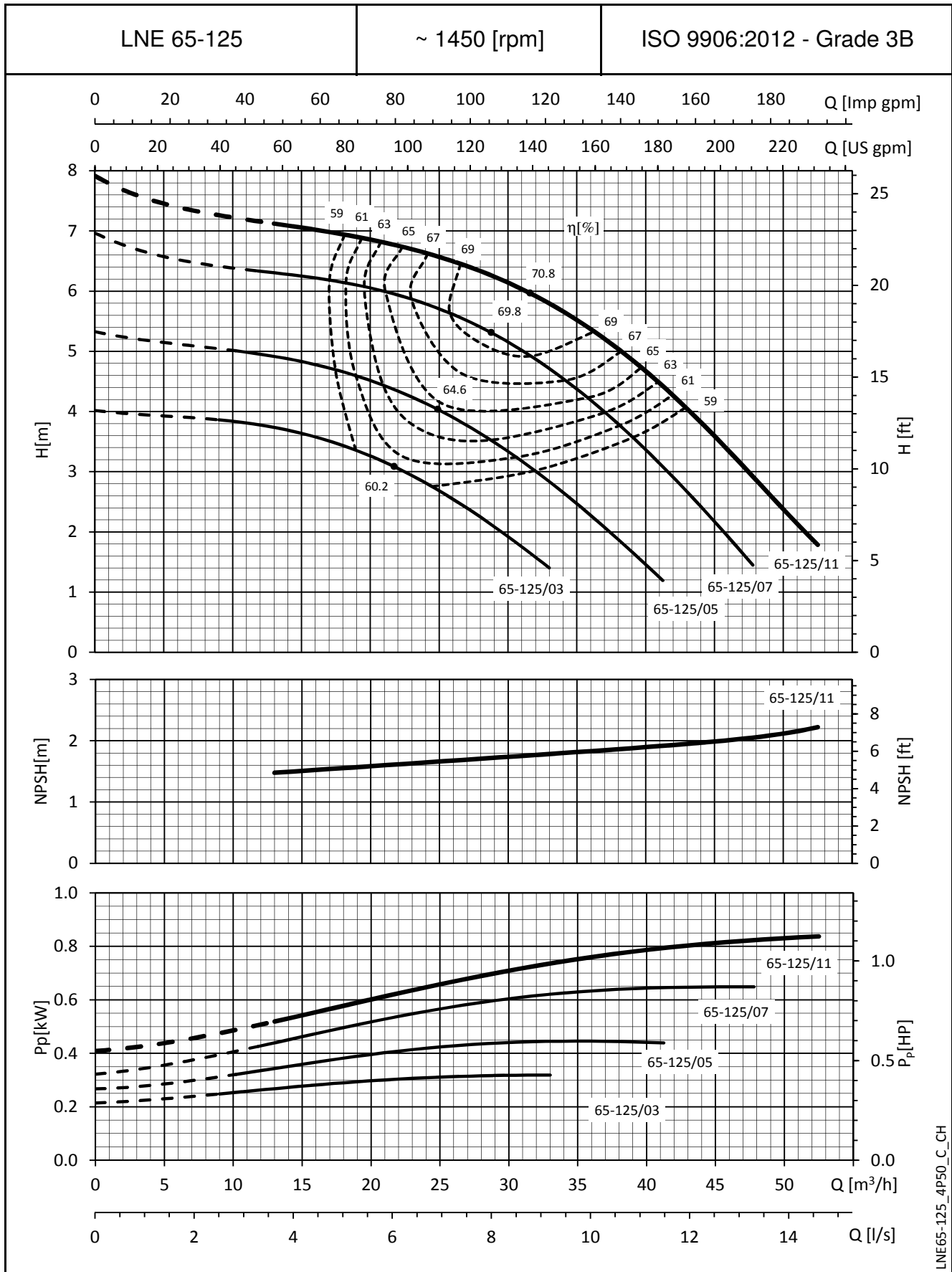


LNE50-250\_4P50\_D\_CH

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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

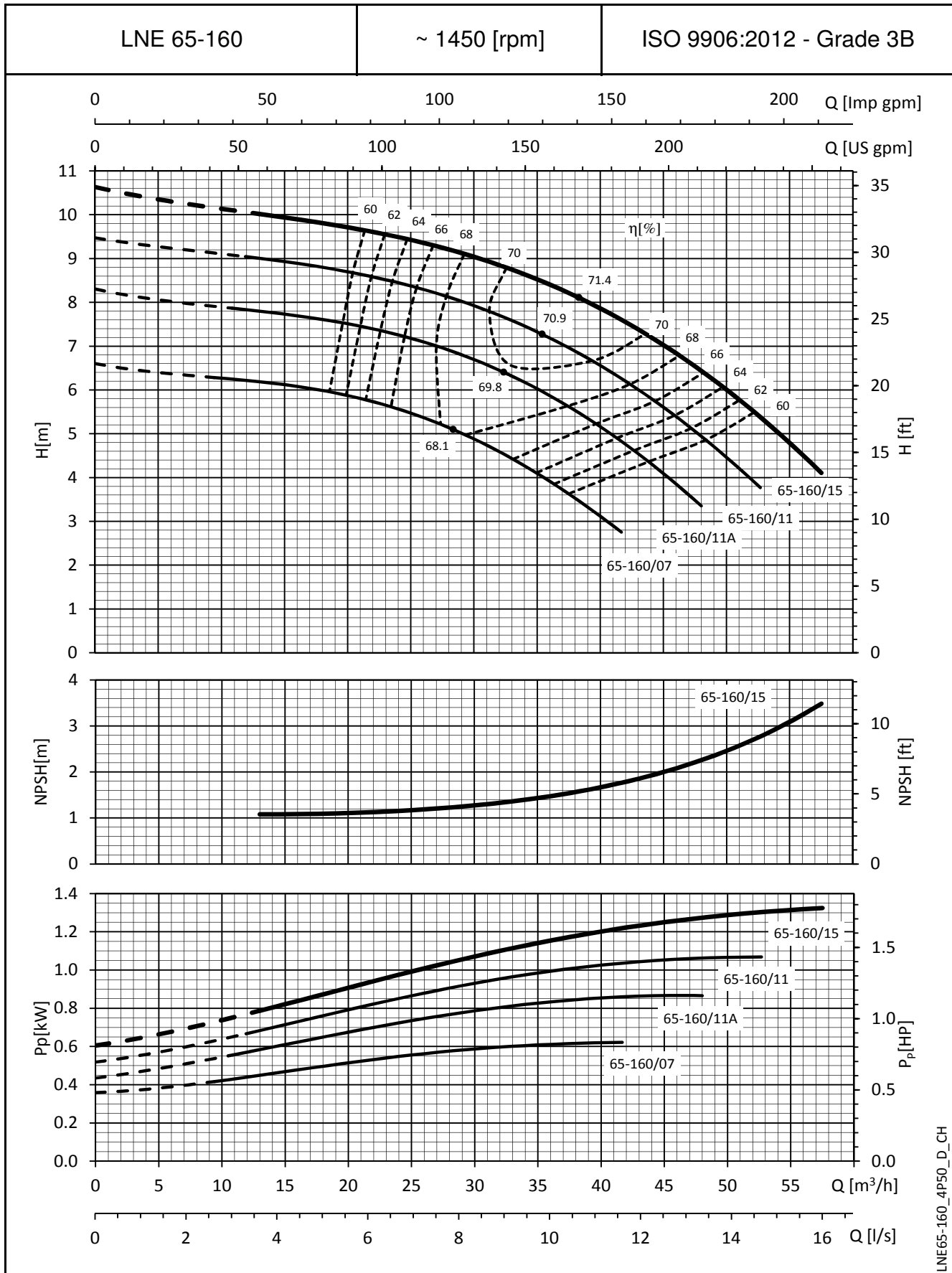


LNE65-125\_4P50\_C\_CH

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



**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

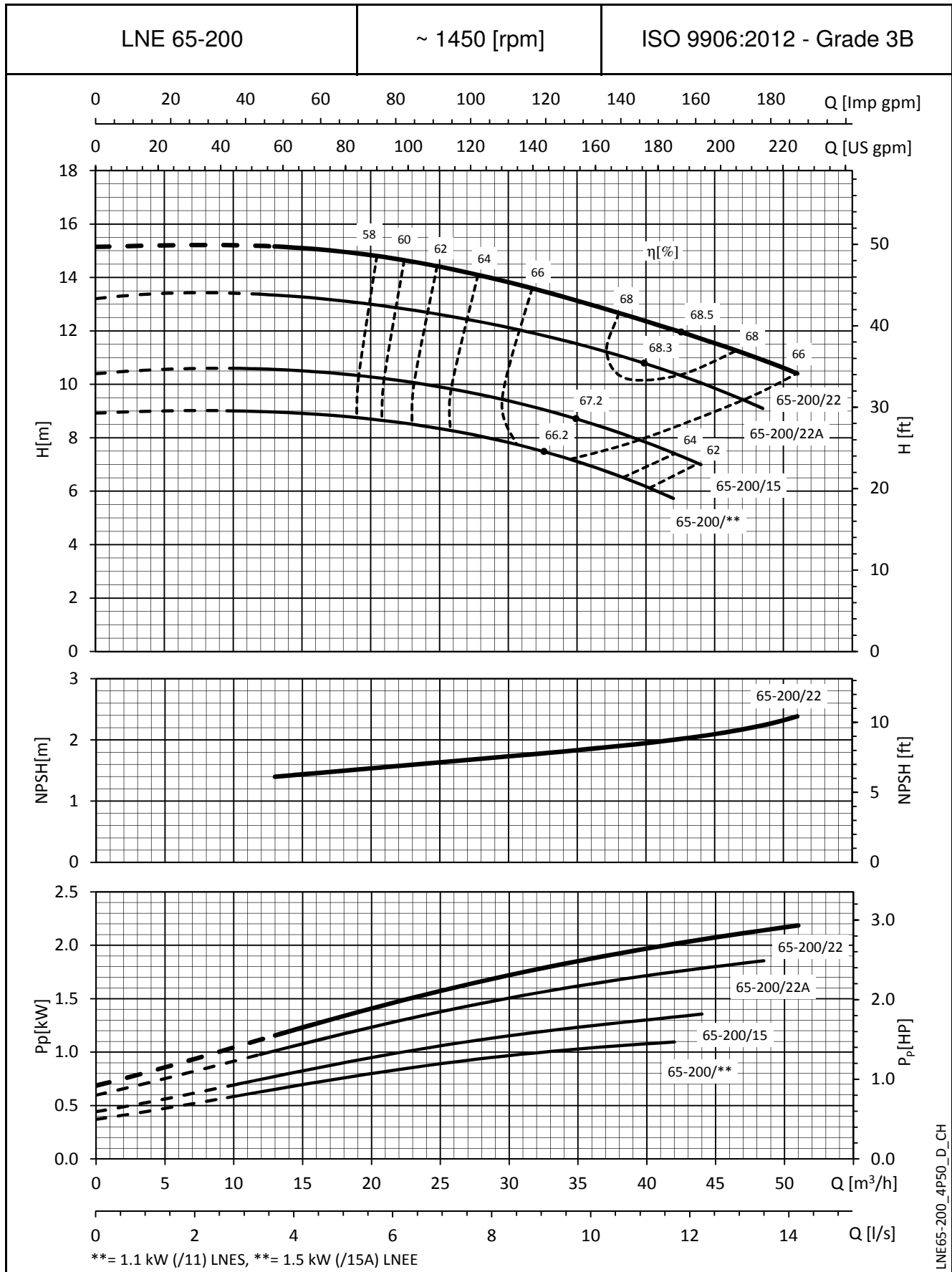


LNE65-160\_4P50\_D\_CH

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

**e-LNE SERIES**

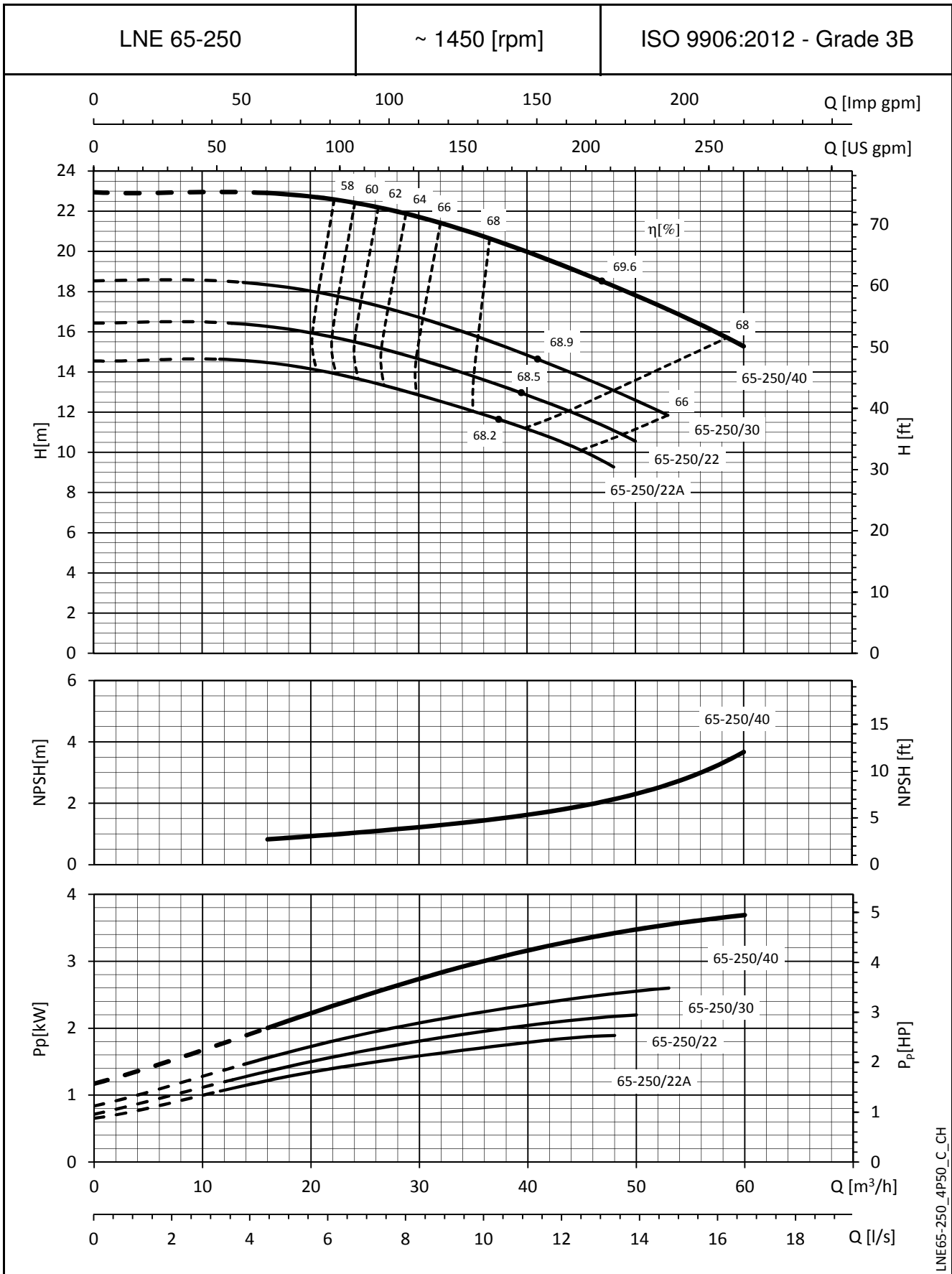
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



LNE65-200\_4P50\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

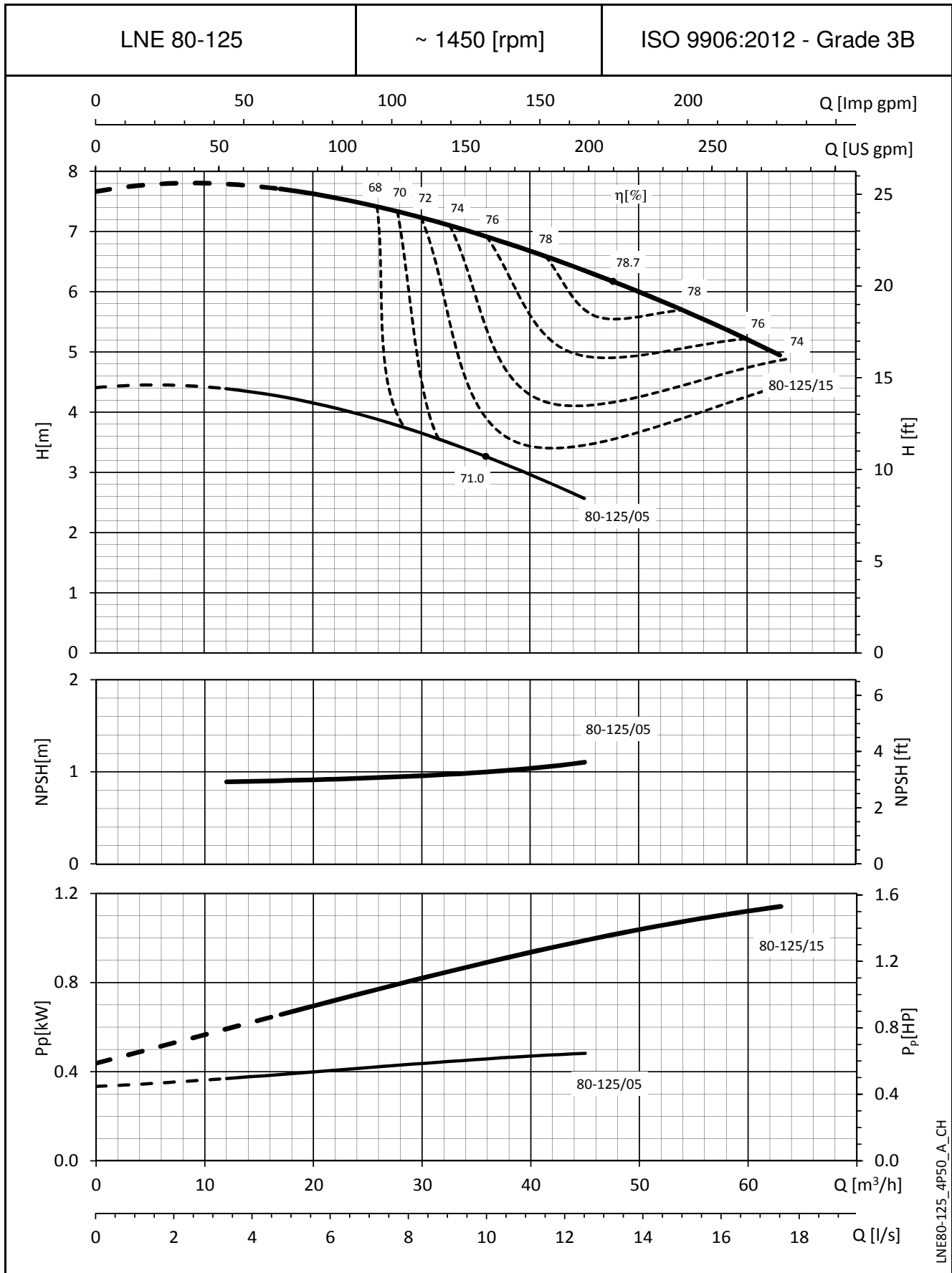


LNE65-250\_4P50\_C\_CH

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

**e-LNE SERIES**

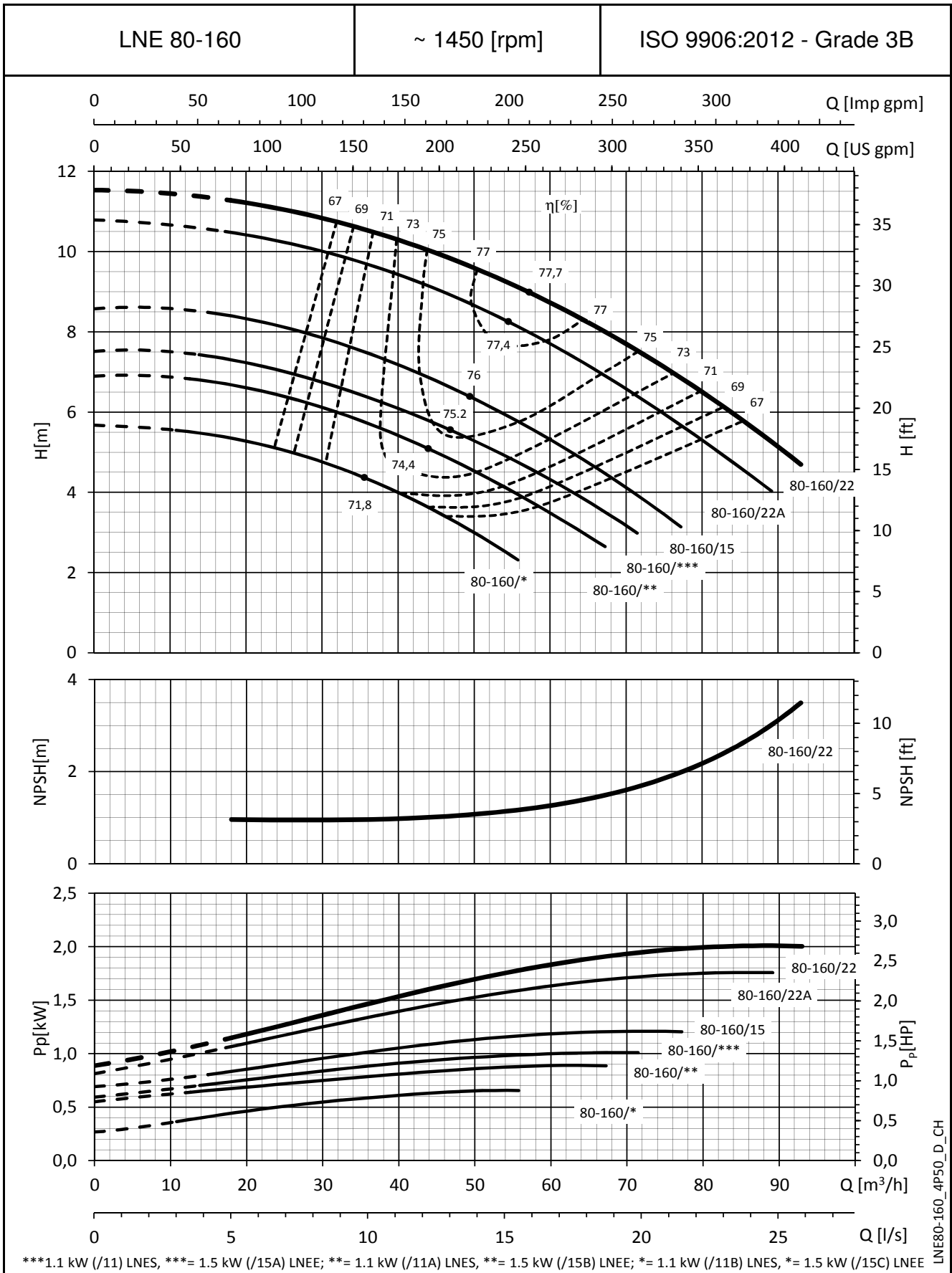
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



LNE80-125\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

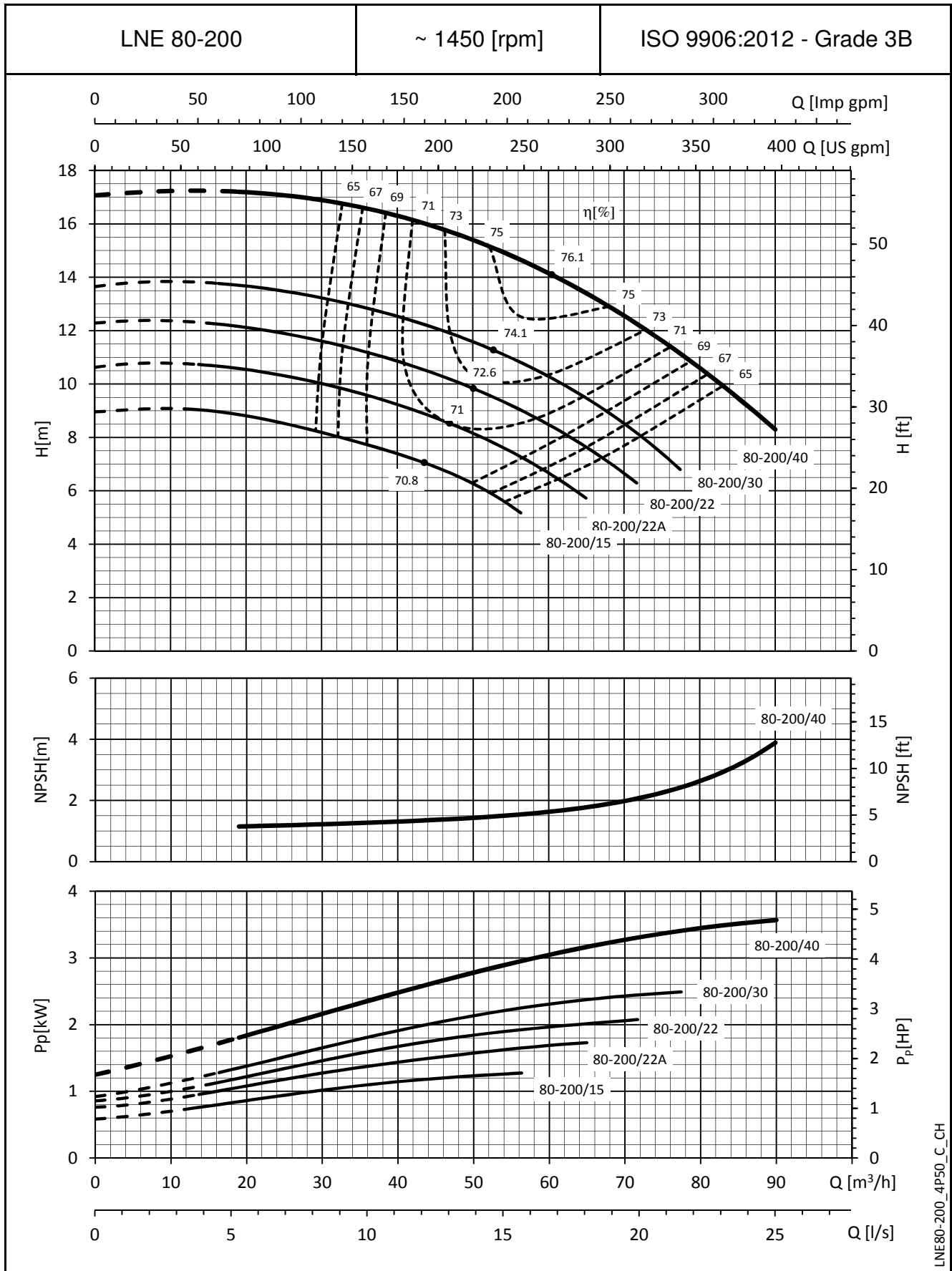


LNE80-160\_4P50\_D\_CH

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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

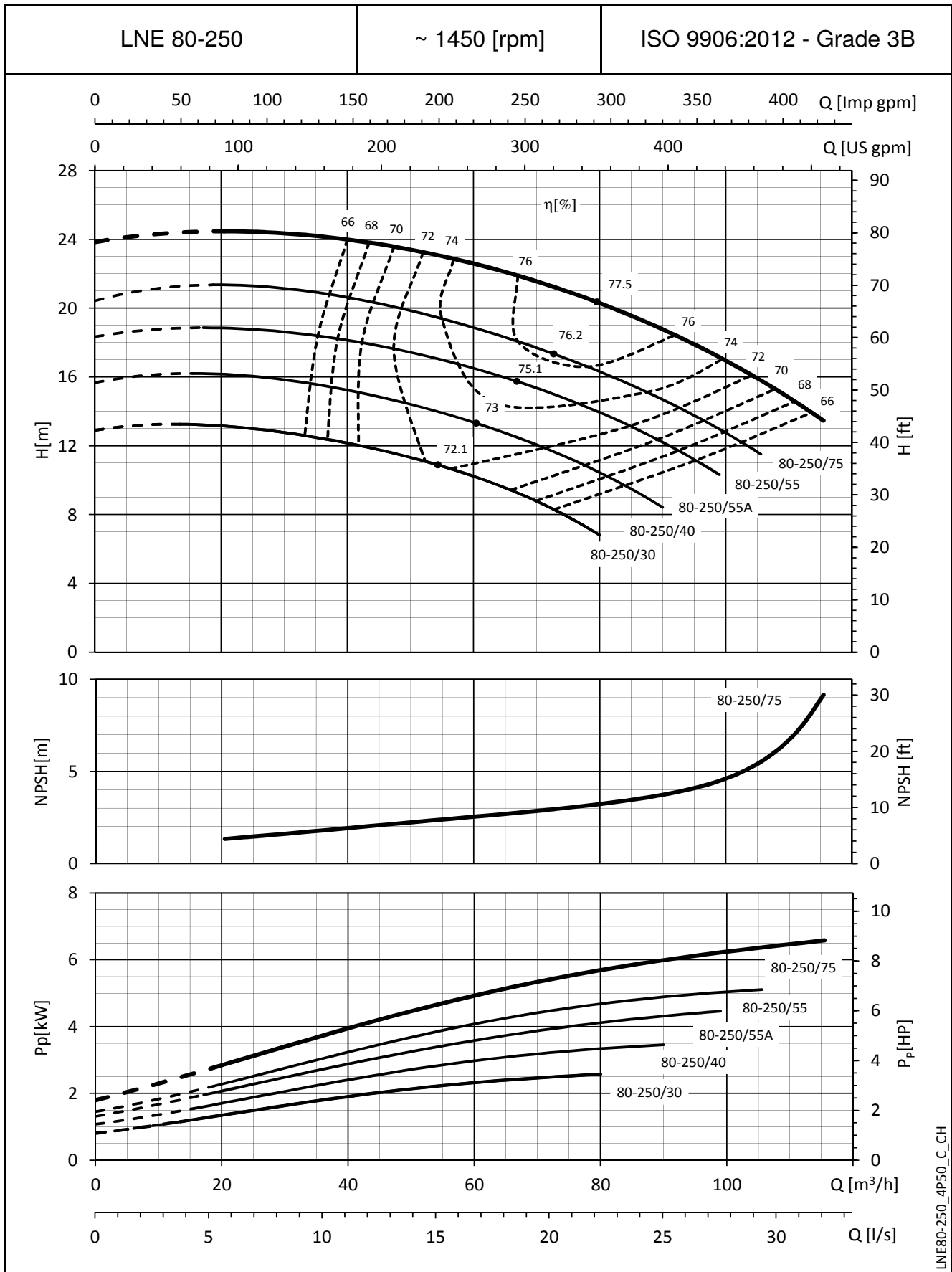


LNE80-200\_4P50\_C\_CH

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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

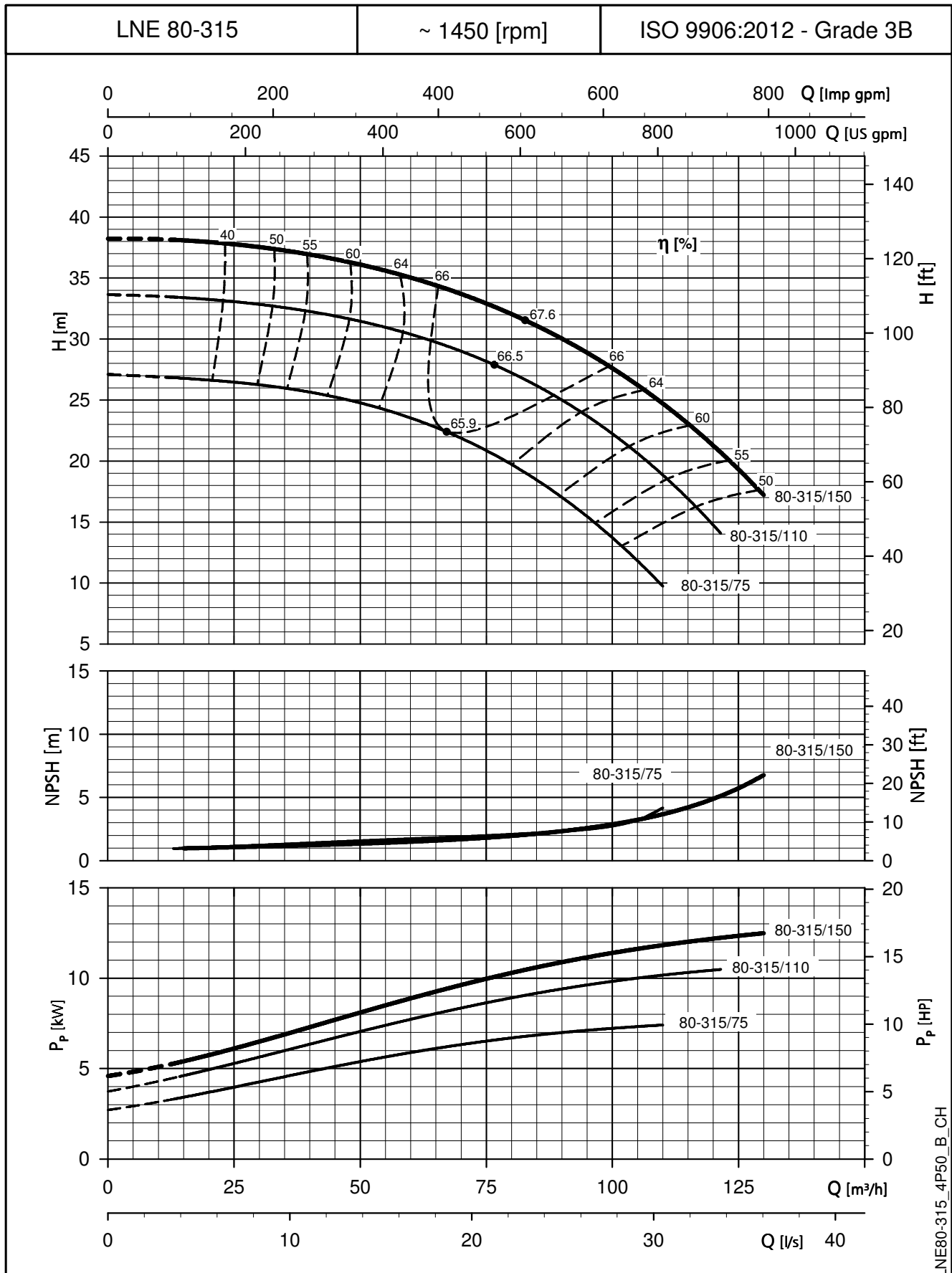


LNE80-250\_4P50\_C\_CH

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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



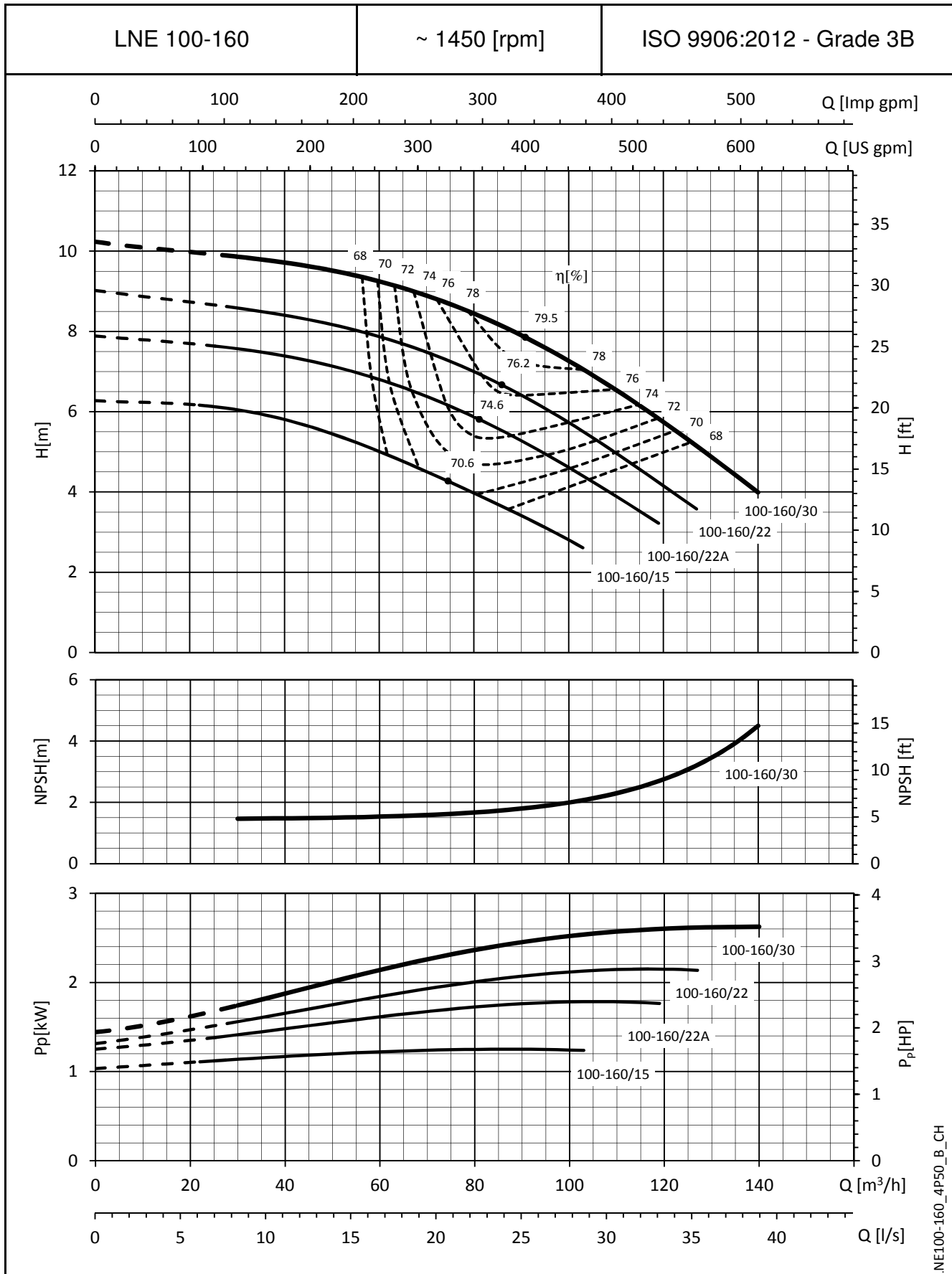
LNE80-315\_4P50\_B\_CH

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-LNE SERIES**

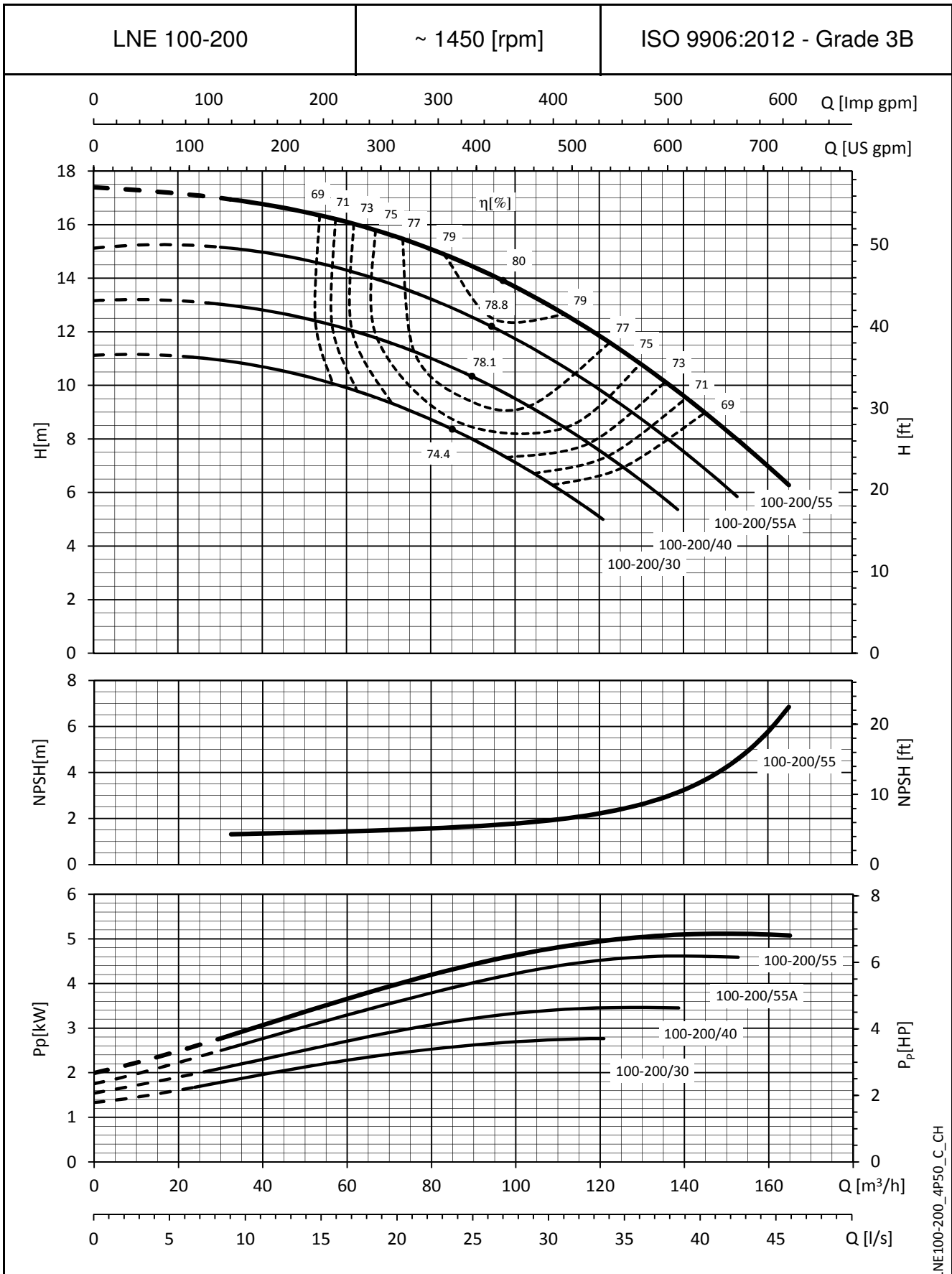
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



.NE100-160\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

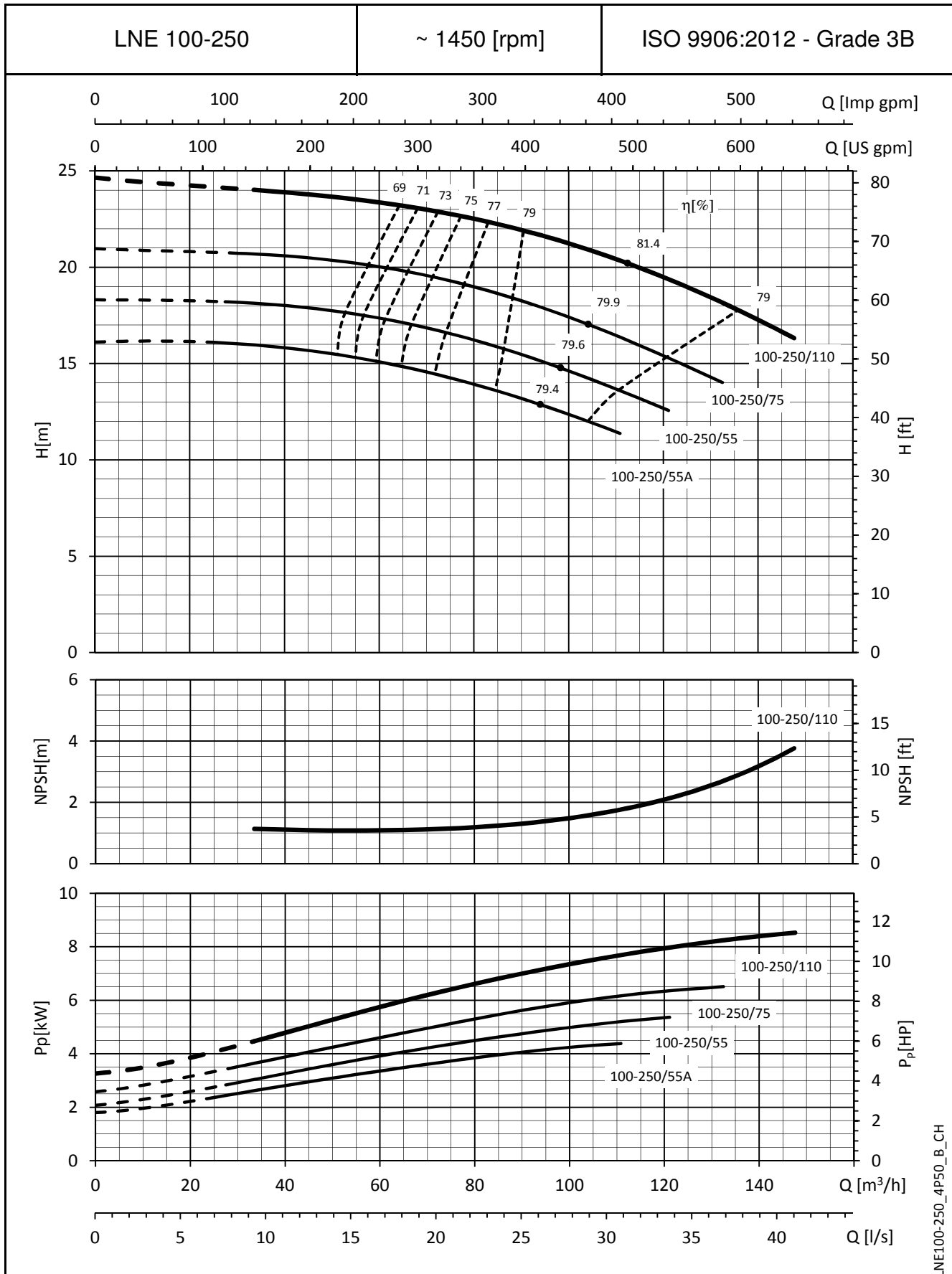
**e-LNE SERIES  
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



LNE100-200\_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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

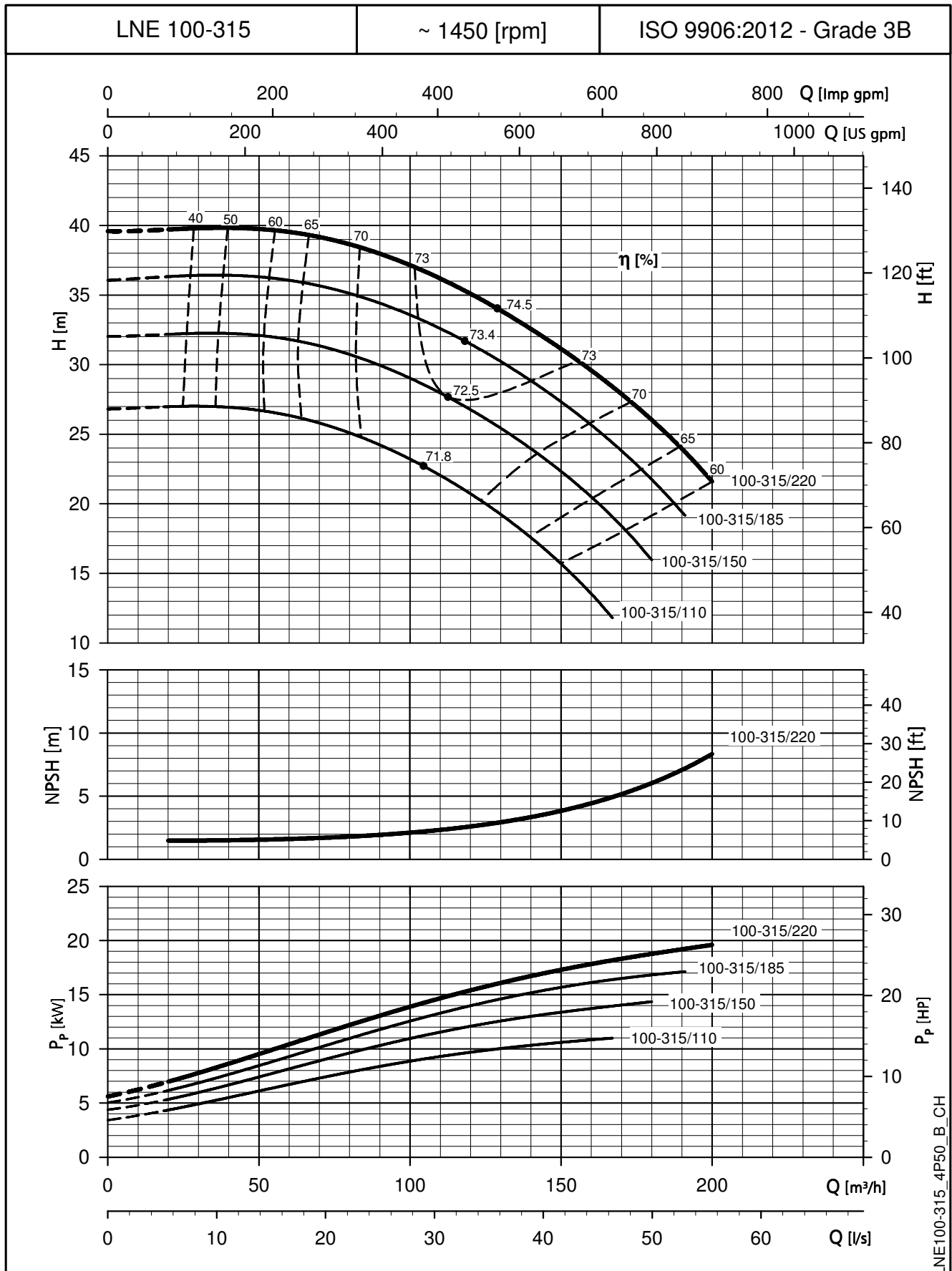


LNE100-250\_4P50\_B\_CH

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  $\rho = 1,0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

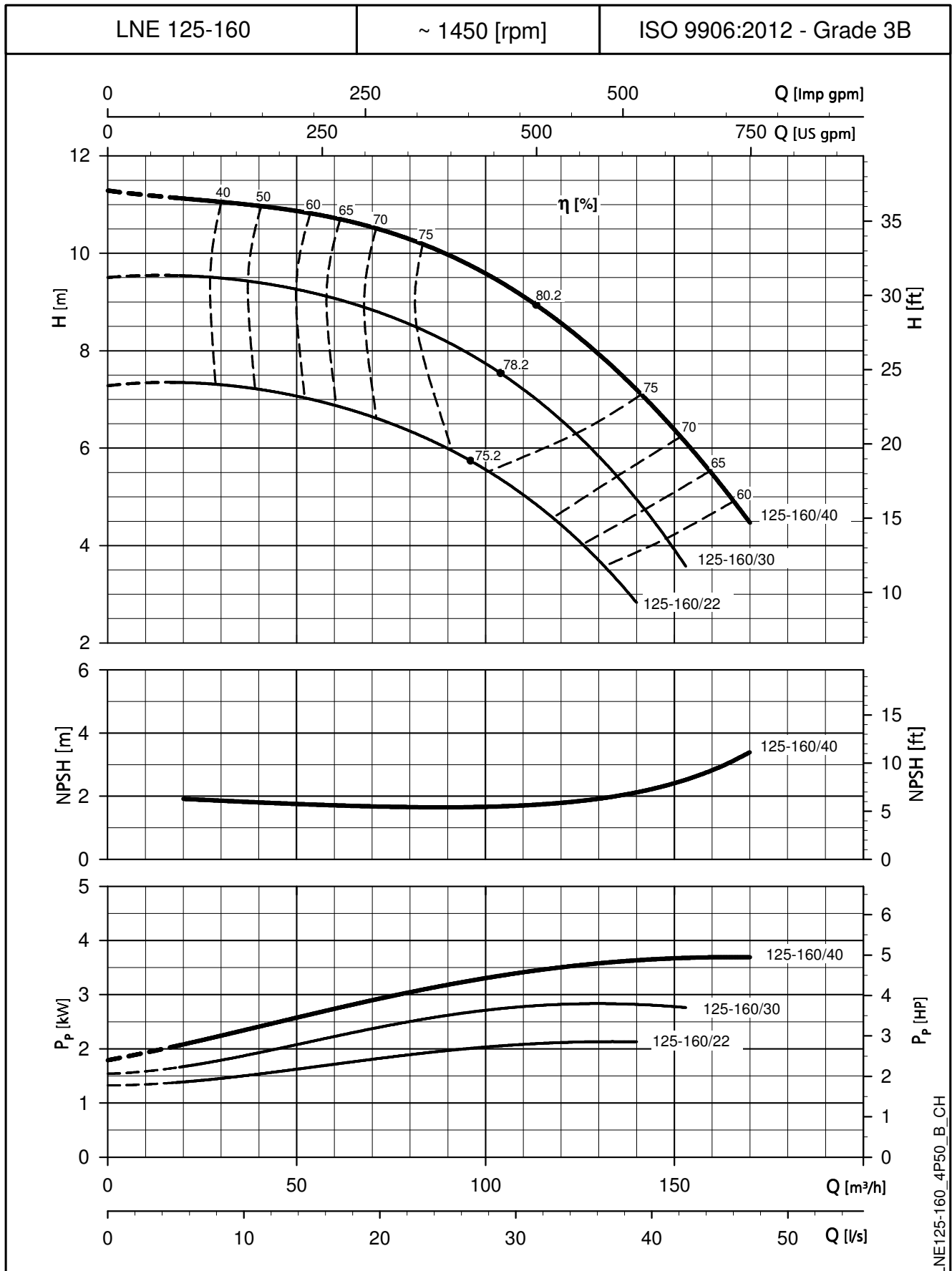


LNE100-315\_4P50\_B\_CH

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-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

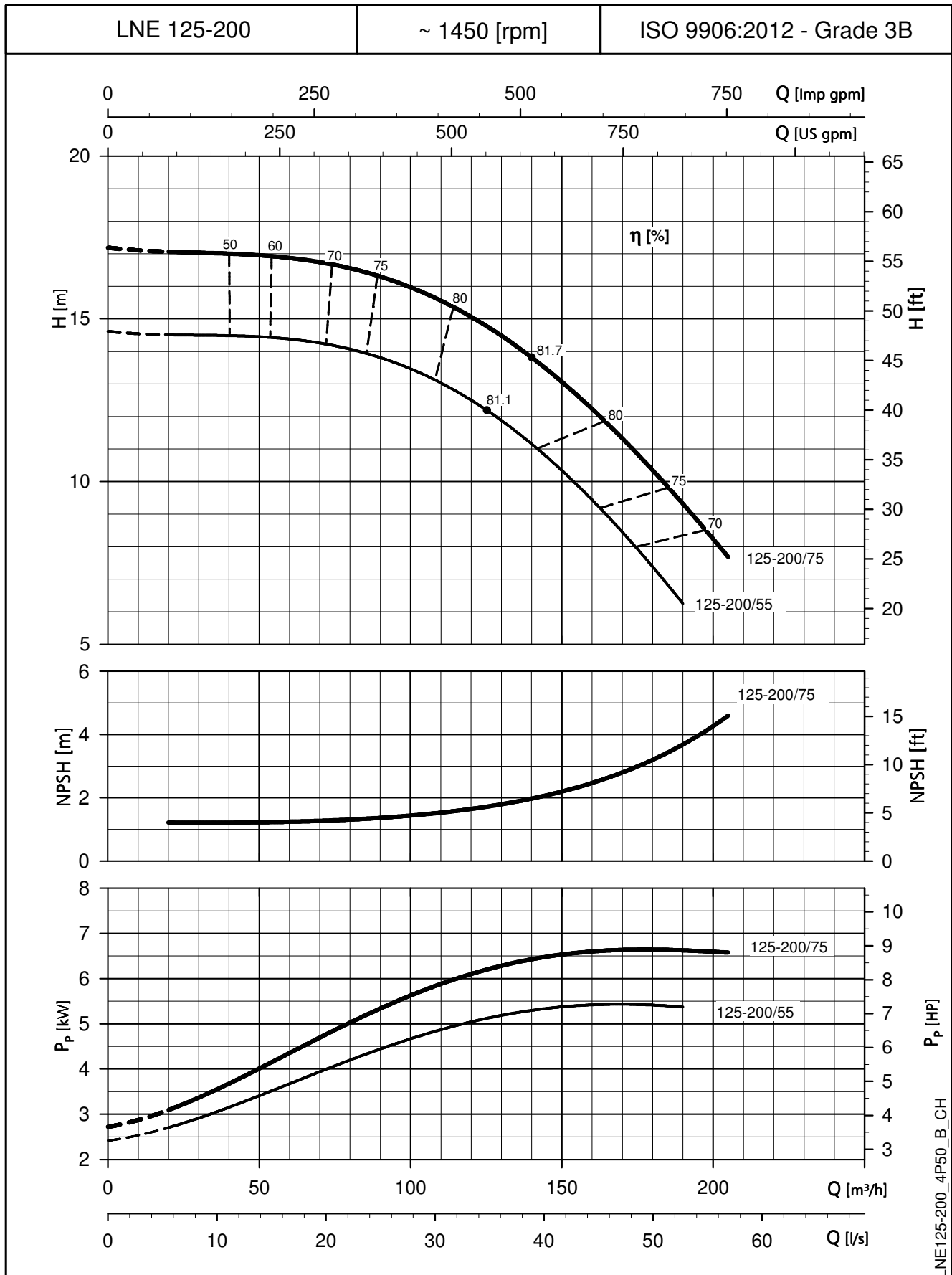


LNE125-160\_4P50\_B\_CH

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

**e-LNE SERIES**

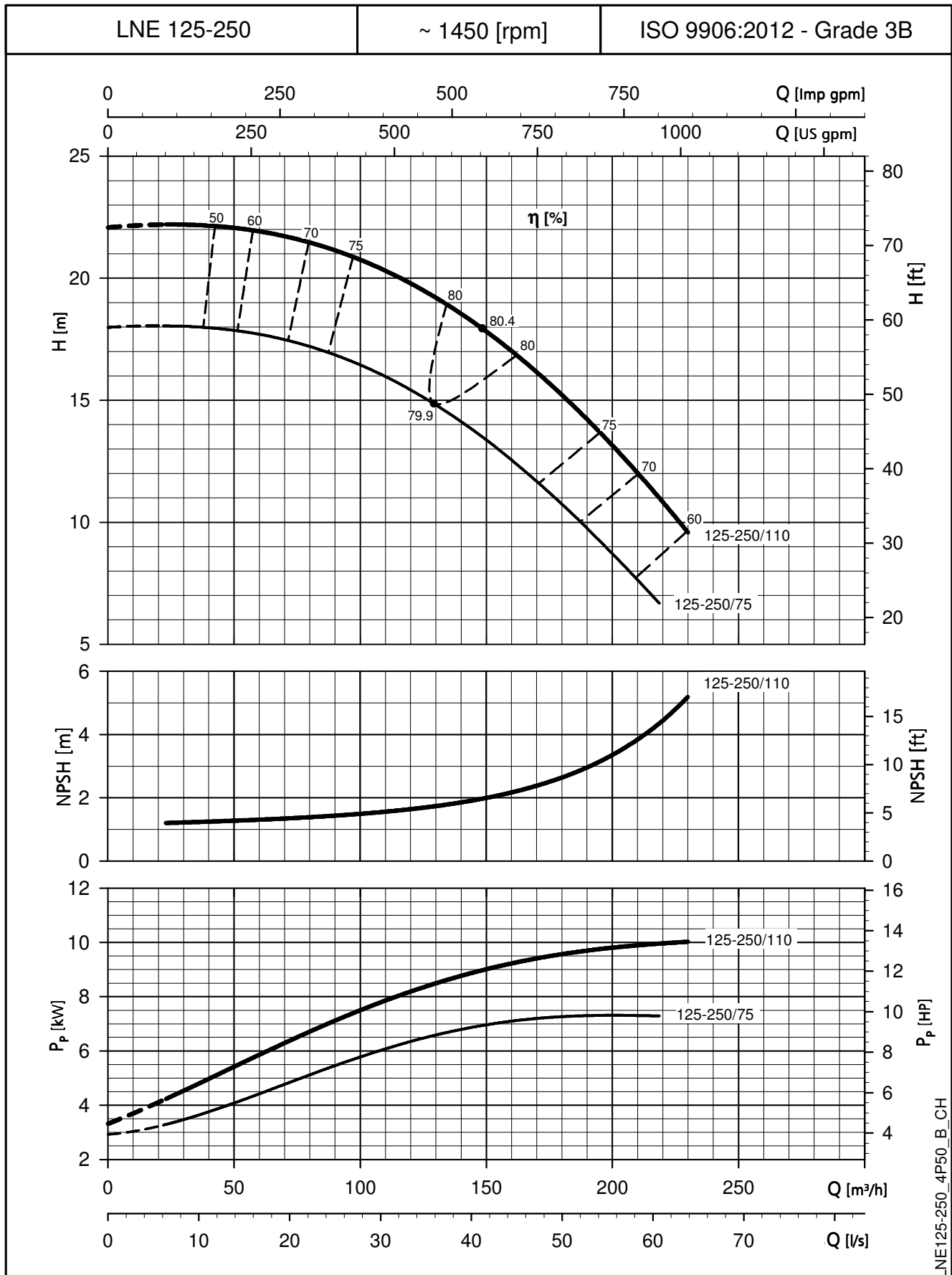
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

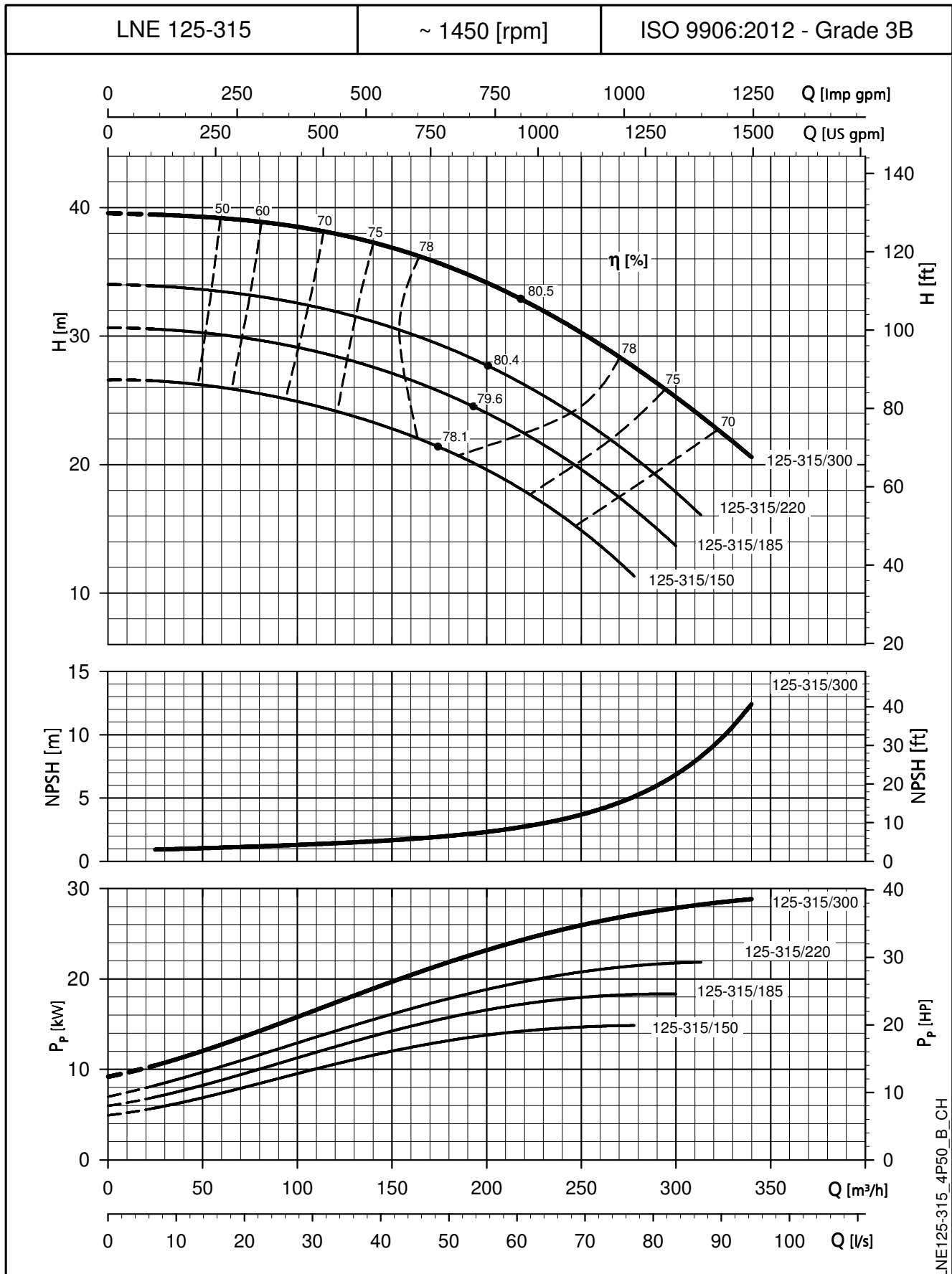


LNE125-250\_4P50\_B\_CH

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  $\rho = 1,0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

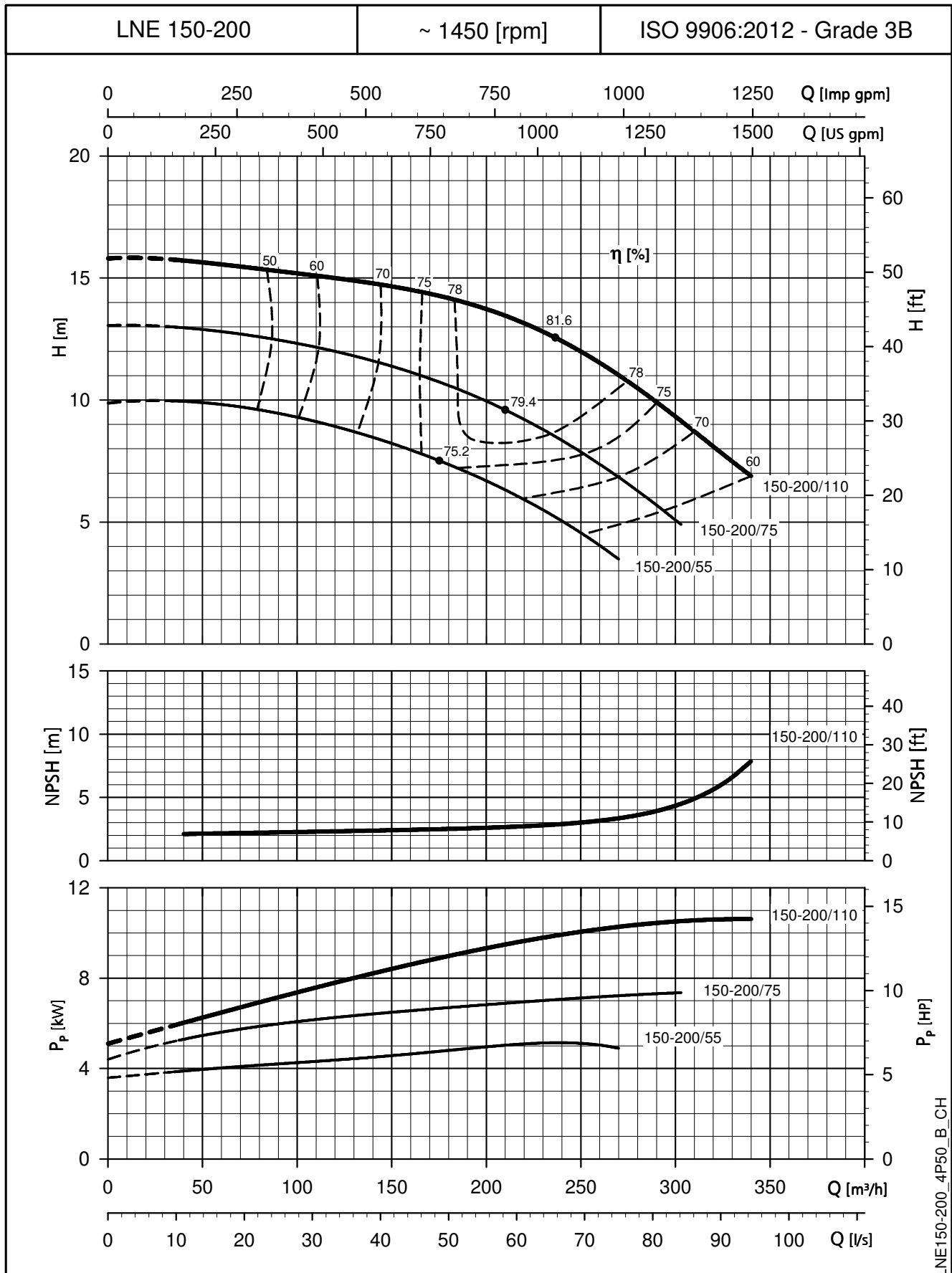


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.  
 These performances are valid for liquids with density  $\rho = 1,0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .



**e-LNE SERIES**

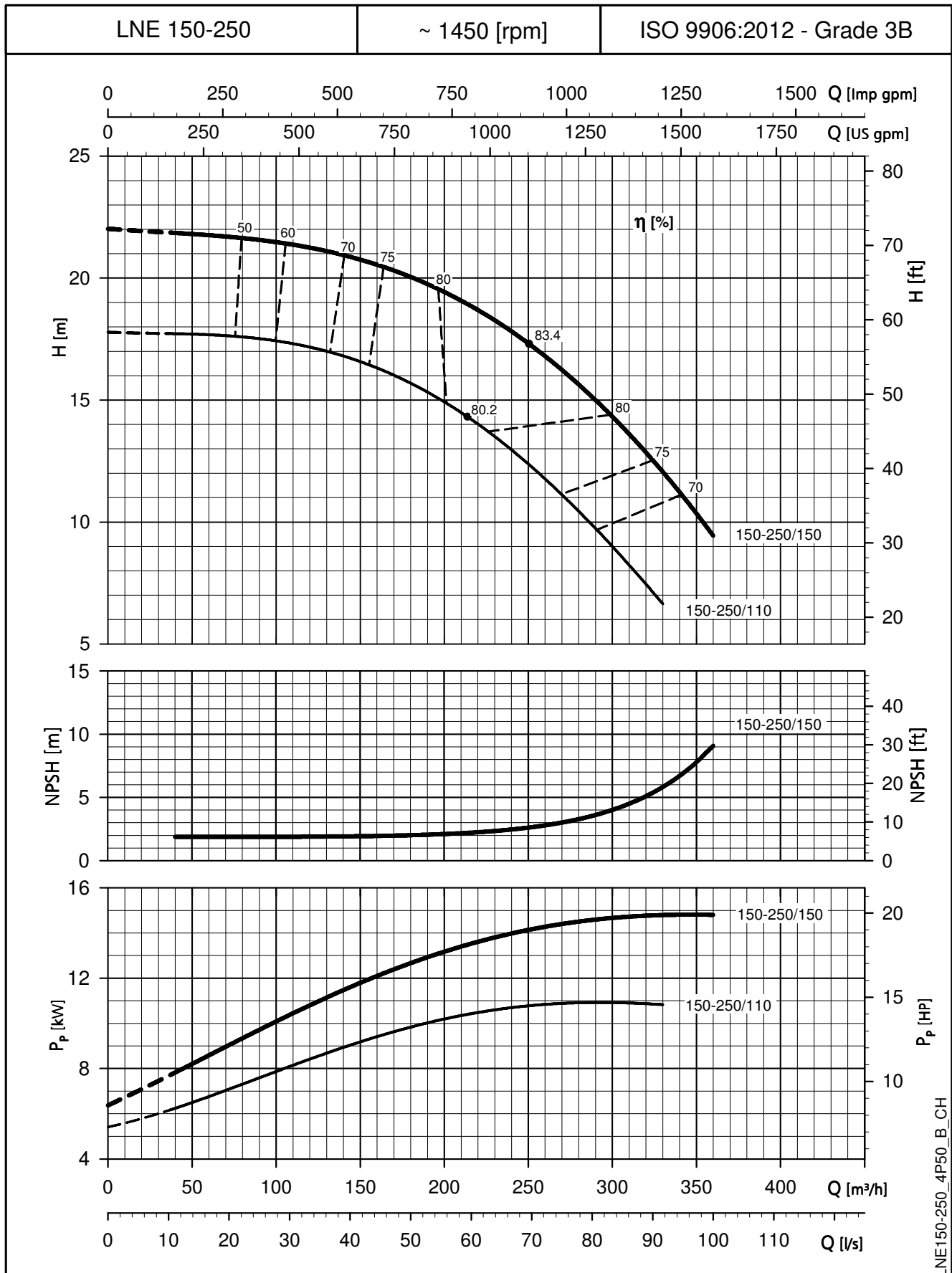
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



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

**e-LNE SERIES**

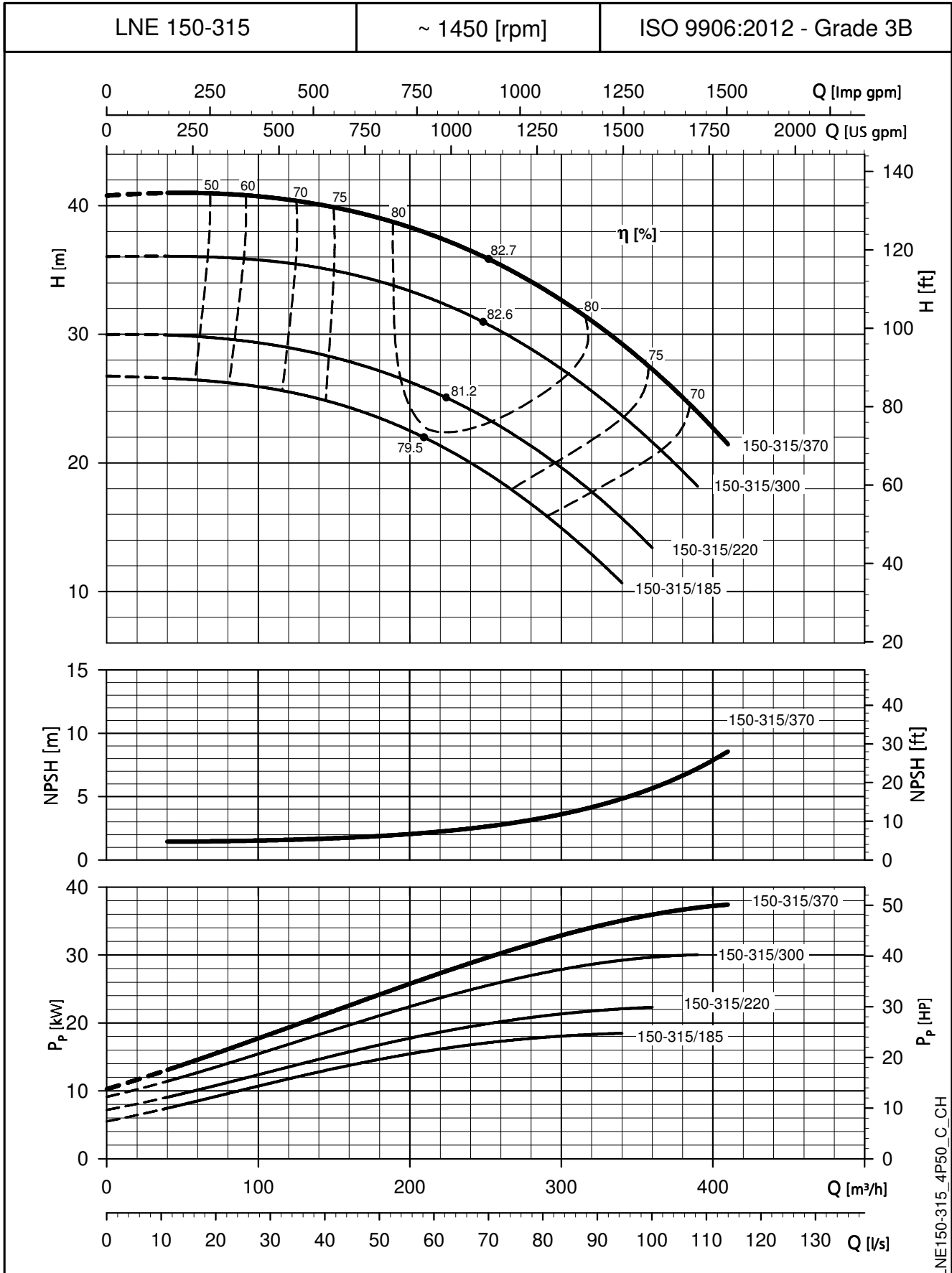
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

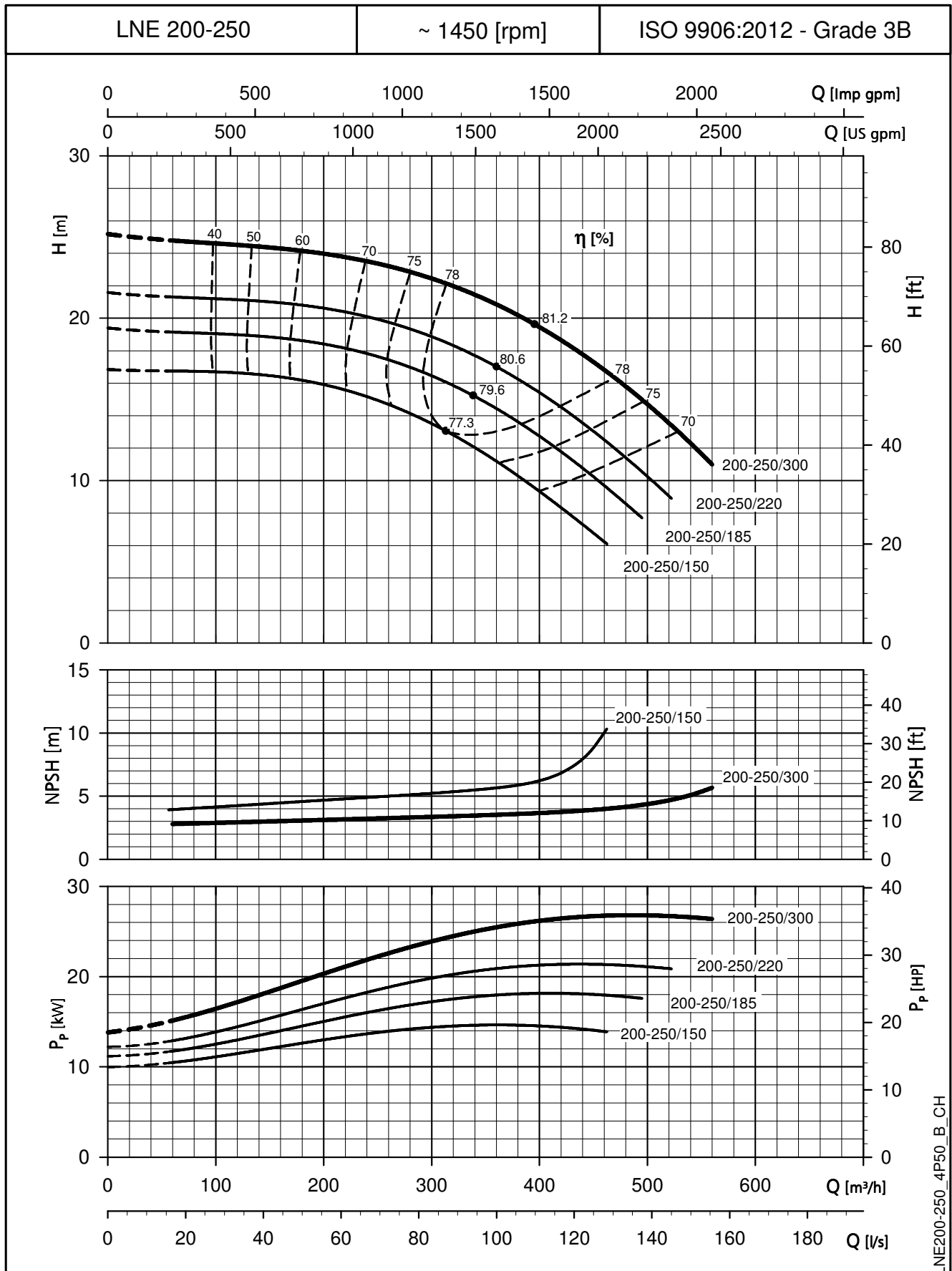


LNE150-315\_4P50\_C\_CH

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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

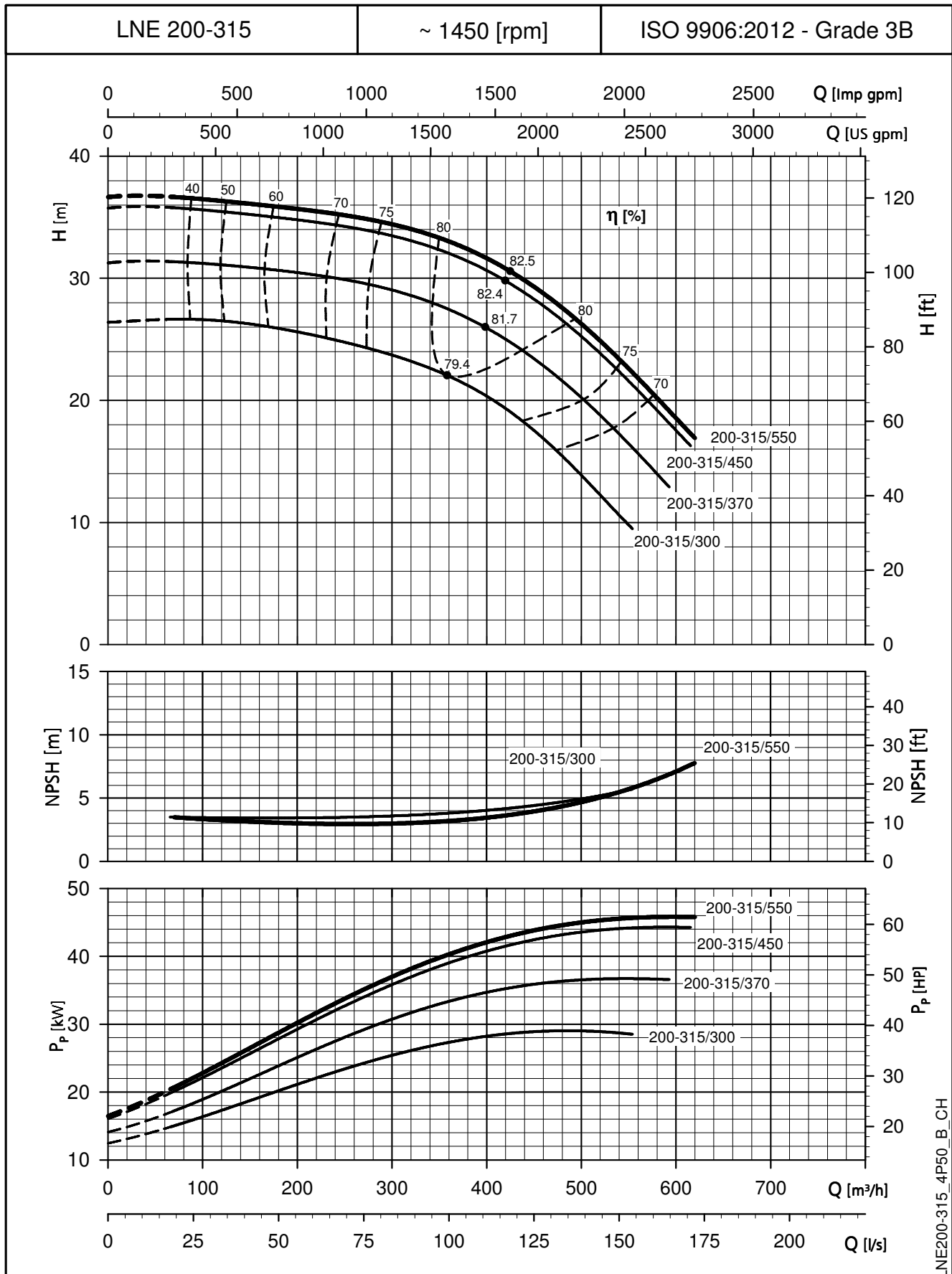


LNE200-250\_4P50\_B\_CH

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  $\rho = 1,0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**

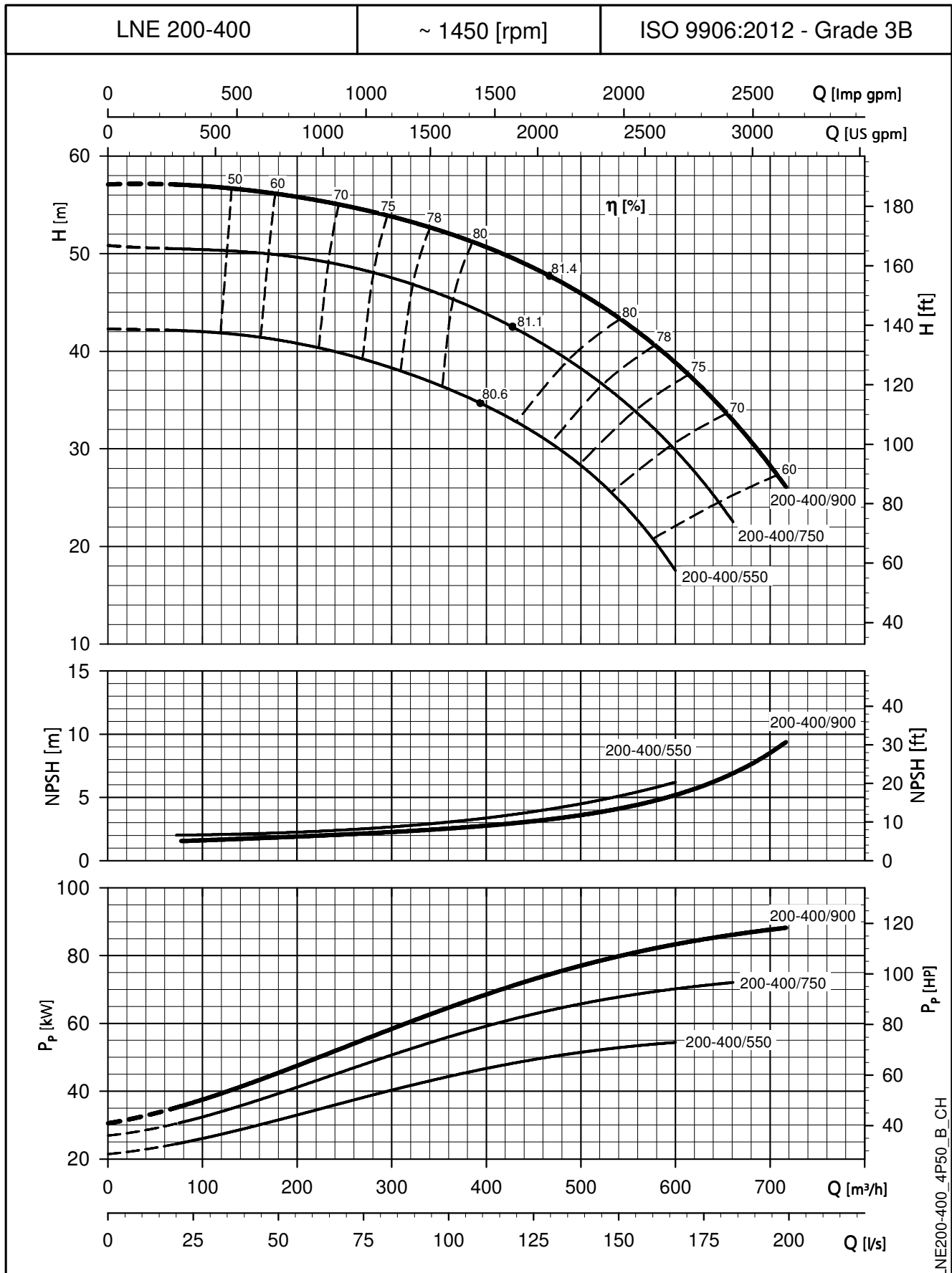


LNE200-315\_4P50\_B\_CH

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-LNE SERIES**

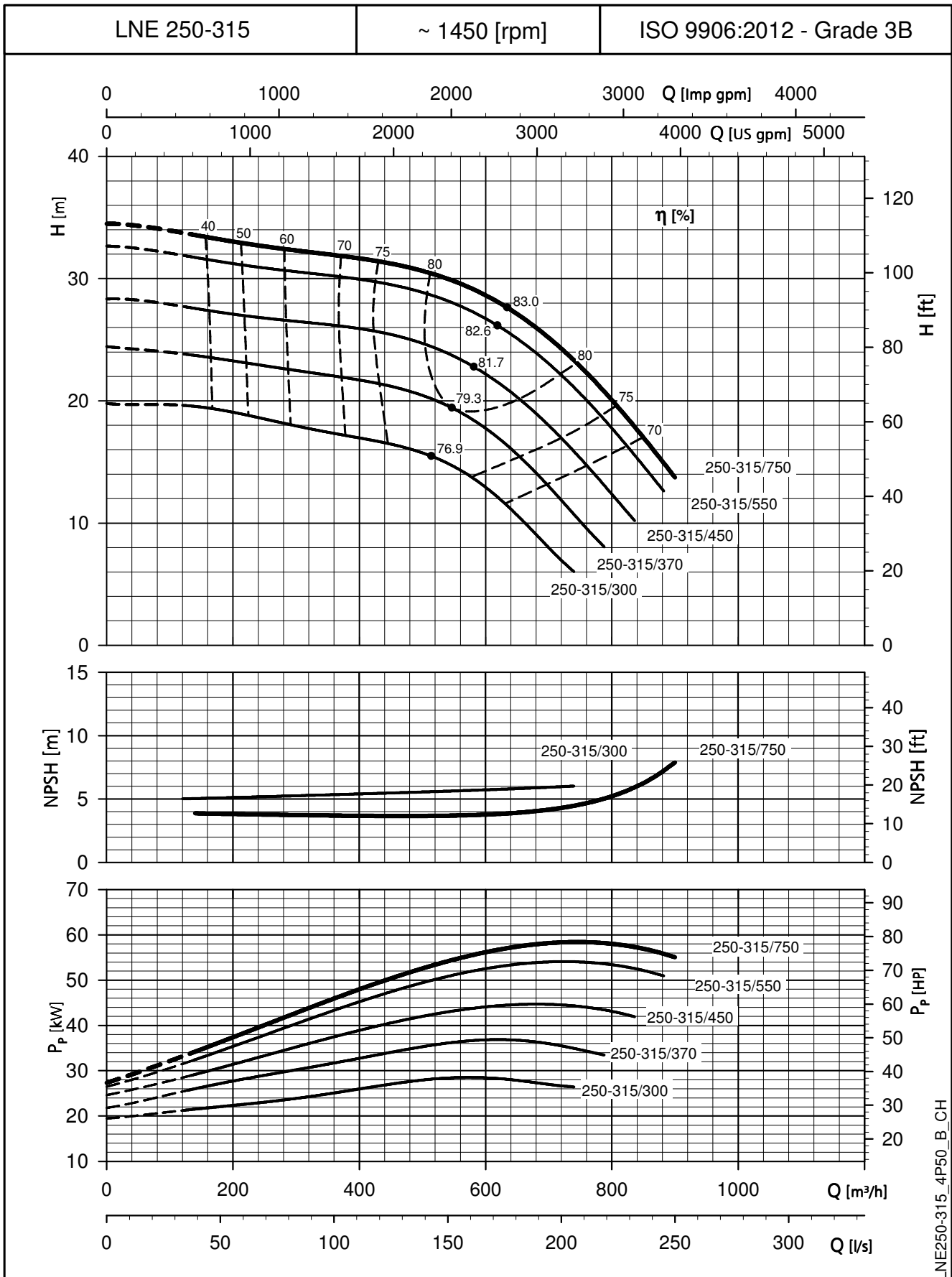
**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



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

**e-LNE SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES**



LNE250-315\_4P50\_B\_CH

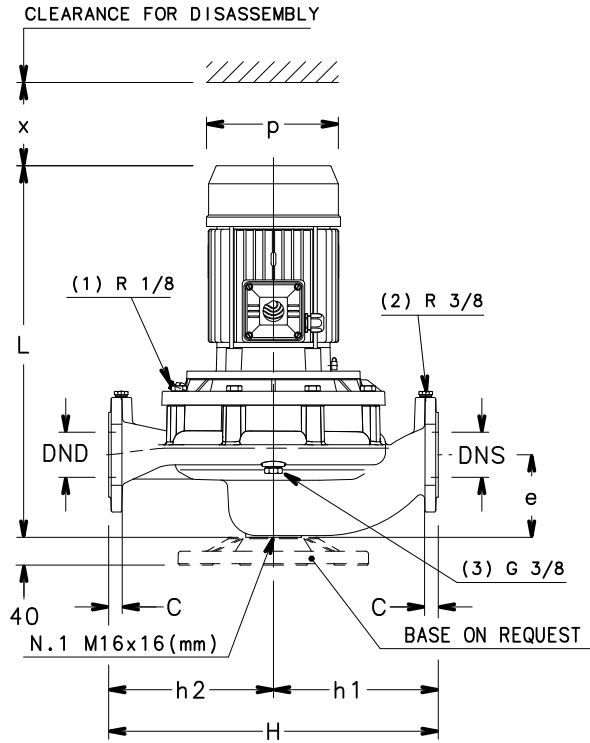
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.  
 These performances are valid for liquids with density  $\rho = 1,0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .



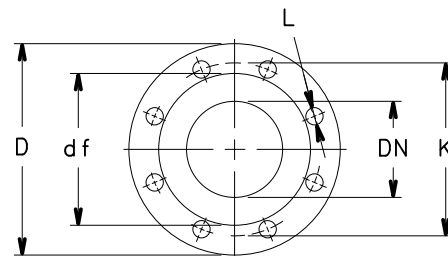
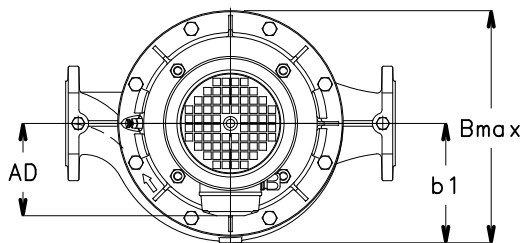
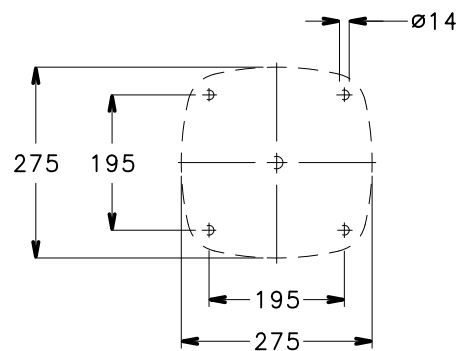


# **DIMENSIONS AND WEIGHTS**

**e-LNEE 32, 40, 50, 65, 80, 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



- (1) R 1/8 AIR VALVE
- (2) R 3/8 PRESSURE GAUGE CONNECTOR
- (3) G 3/8 DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

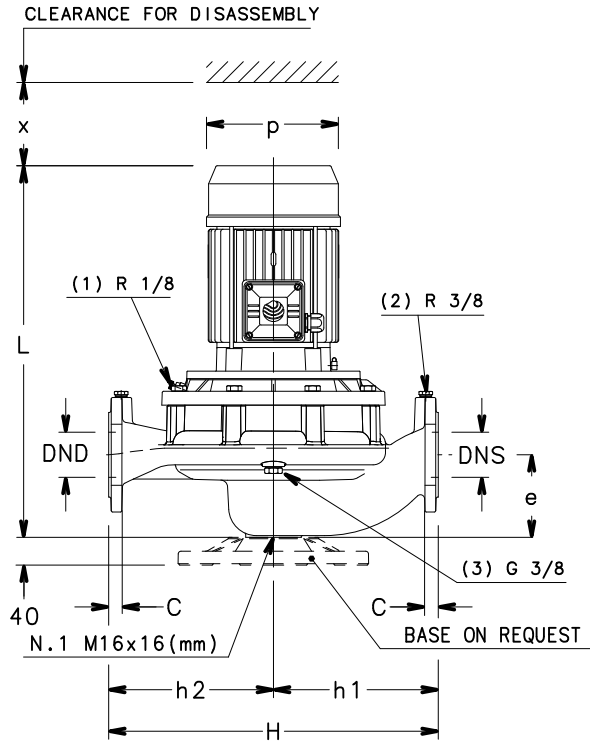
## e-LNEE 32, 40, 50, 65, 80, 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE LNEE..2	DIMENSIONS (mm)									B max	H	L	x	WEIGHT kg
	DND	DNS	e	h1	h2	AD	b1	p						
32-160/07A/S	32	32	90	160	160	129	123	155	249	320	453	75	31	
32-160/07/S	32	32	90	160	160	129	123	155	249	320	453	75	31	
32-160/11/S	32	32	90	160	160	129	123	155	249	320	453	75	32	
32-160/15/S	32	32	90	160	160	129	123	155	249	320	453	75	33	
32-160/22/P	32	32	90	160	160	134	123	174	254	320	488	75	40	
32-160/30/P	32	32	90	160	160	134	123	174	254	320	488	75	41	
40-125/11/S	40	40	100	160	160	129	128	155	249	320	473	94	33	
40-125/15/S	40	40	100	160	160	129	128	155	249	320	473	94	34	
40-125/22/P	40	40	100	160	160	134	128	174	254	320	508	94	41	
40-125/30/P	40	40	100	160	160	134	128	174	254	320	508	94	42	
40-160/22/P	40	40	100	160	160	134	128	174	254	320	508	94	41	
40-160/30/P	40	40	100	160	160	134	128	174	254	320	508	94	42	
40-160/40/P	40	40	100	160	160	154	128	197	274	320	529	94	47	
40-160/55/P	40	40	100	160	160	168	128	214	288	320	563	94	56	
40-200/30/P	40	40	110	220	220	134	168	174	336	440	508	104	60	
40-200/40/P	40	40	110	220	220	154	168	197	336	440	529	104	64	
40-200/55/P	40	40	110	220	220	168	168	214	336	440	563	104	73	
40-200/75/P	40	40	110	220	220	191	168	256	359	440	577	104	92	
40-250/75/P	40	40	110	220	220	191	168	256	359	440	577	104	92	
40-250/92/P	40	40	110	220	220	191	168	256	359	440	615	104	98	
40-250/110/P	40	40	110	220	220	191	168	256	359	440	615	104	101	
40-250/150/P	40	40	110	220	220	240	168	313	408	440	704	104	141	
50-125/15/S	50	50	116	180	160	129	128	155	247	340	479	96	38	
50-125/22/P	50	50	116	180	160	134	128	174	252	340	514	96	45	
50-125/30/P	50	50	116	180	160	134	128	174	252	340	514	96	46	
50-125/40/P	50	50	116	180	160	154	128	197	272	340	535	96	51	
50-160/30/P	50	50	116	180	160	134	128	174	252	340	514	96	46	
50-160/40/P	50	50	116	180	160	154	128	197	272	340	535	96	51	
50-160/55/P	50	50	116	180	160	168	128	214	286	340	569	96	60	
50-160/75/P	50	50	116	180	160	191	128	256	319	340	583	96	81	
50-200/55/P	50	50	111	220	220	168	168	214	336	440	564	108	76	
50-200/75/P	50	50	111	220	220	191	168	256	359	440	578	108	95	
50-200/92/P	50	50	111	220	220	191	168	256	359	440	616	108	101	
50-200/110/P	50	50	111	220	220	191	168	256	359	440	616	108	104	
50-250/92/P	50	50	111	220	220	191	168	256	359	440	616	108	101	
50-250/110/P	50	50	111	220	220	191	168	256	359	440	616	108	104	
50-250/150/P	50	50	111	220	220	240	168	313	408	440	705	108	144	
50-250/185/P	50	50	111	220	220	240	168	313	408	440	705	108	155	
50-250/220/P	50	50	111	220	220	240	168	313	408	440	705	108	164	
65-125/30/P	65	65	105	190	170	134	148	174	296	360	528	100	58	
65-125/40/P	65	65	105	190	170	154	148	197	302	360	549	100	63	
65-125/55/P	65	65	105	190	170	168	148	214	316	360	583	100	72	
65-125/75/P	65	65	105	190	170	191	148	256	339	360	597	100	91	
65-160/55/P	65	65	105	190	170	168	148	214	316	360	583	94	72	
65-160/75/P	65	65	105	190	170	191	148	256	339	360	597	94	91	
65-160/92/P	65	65	105	190	170	191	148	256	339	360	635	94	97	
65-160/110/P	65	65	105	190	170	191	148	256	339	360	635	94	100	
65-200/92/P	65	65	118	237,5	237,5	191	178	256	360	475	623	105	105	
65-200/110/P	65	65	118	237,5	237,5	191	178	256	360	475	623	105	108	
65-200/150/P	65	65	118	237,5	237,5	240	178	313	409	475	712	105	148	
65-200/185/P	65	65	118	237,5	237,5	240	178	313	409	475	712	105	159	
65-250/150/P	65	65	118	237,5	237,5	240	178	313	409	475	712	105	148	
65-250/185/P	65	65	118	237,5	237,5	240	178	313	409	475	712	105	159	
65-250/220/P	65	65	118	237,5	237,5	240	178	313	409	475	712	105	168	
80-125/40/P	80	80	114	215	205	154	168	197	336	420	548	111	75	
80-125/110/P	80	80	114	215	205	191	168	256	359	420	634	111	112	
80-160/55/P	80	80	114	215	205	168	168	214	336	420	582	111	84	
80-160/75/P	80	80	114	215	205	191	168	256	359	420	596	111	103	
80-160/92/P	80	80	114	215	205	191	168	256	359	420	634	111	109	
80-160/110/P	80	80	114	215	205	191	168	256	359	420	634	111	112	
80-160/150/P	80	80	114	215	205	240	168	313	408	420	723	111	152	
80-160/185/P	80	80	114	215	205	240	168	313	408	420	723	111	163	
100-160/110/P	100	100	140	260	240	191	179	256	359	500	665	123	122	
100-160/150/P	100	100	140	260	240	240	179	313	408	500	754	123	162	
100-160/185/P	100	100	140	260	240	240	179	313	408	500	754	123	173	
100-160/220/P	100	100	140	260	240	240	179	313	408	500	754	123	182	

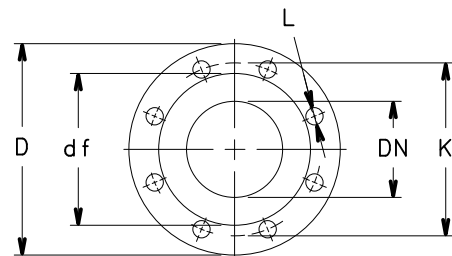
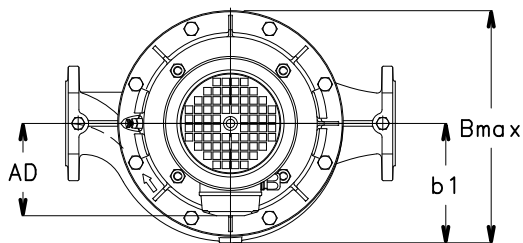
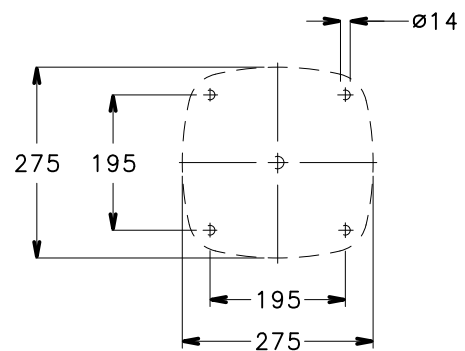
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNEE-32-100\_2p50-en\_a\_ld

**e-LNEE 32, 40, 50, 65, 80, 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



- (1) R 1/8 AIR VALVE
- (2) R 3/8 PRESSURE GAUGE CONNECTOR
- (3) G 3/8 DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

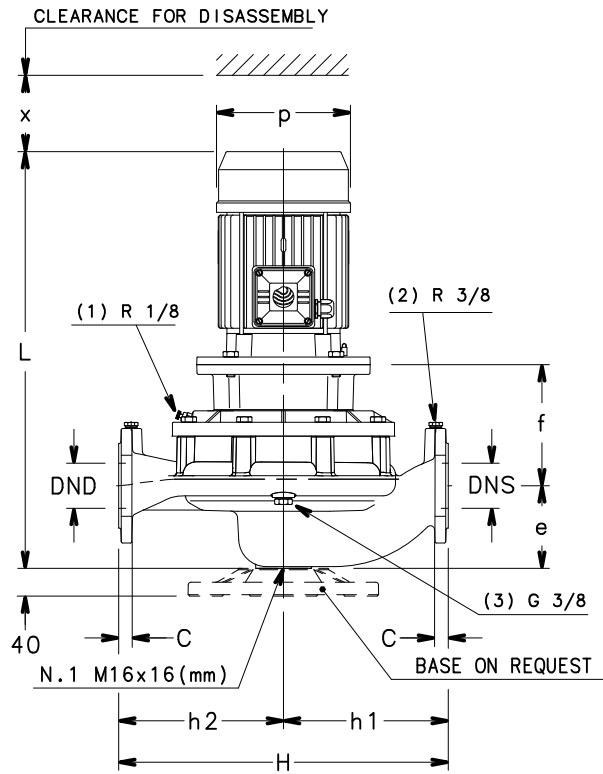
## e-LNEE 32, 40, 50, 65, 80, 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNEE..4	DIMENSIONS (mm)									B max	H	L	x	WEIGHT kg
	DND	DNS	e	h1	h2	AD	b1	p						
32-160/02A/S	32	32	90	160	160	121	123	140	243	320	421	75	26	
32-160/02/S	32	32	90	160	160	121	123	140	243	320	421	75	26	
32-160/03/S	32	32	90	160	160	121	123	140	243	320	421	75	27	
40-125/02B/S	40	40	100	160	160	121	128	140	248	320	441	94	27	
40-125/02A/S	40	40	100	160	160	121	128	140	248	320	441	94	27	
40-125/02/S	40	40	100	160	160	121	128	140	248	320	441	94	27	
40-125/03/S	40	40	100	160	160	121	128	140	248	320	441	94	28	
40-160/02/S	40	40	100	160	160	121	128	140	248	320	441	94	27	
40-160/03/S	40	40	100	160	160	121	128	140	248	320	441	94	28	
40-160/05/S	40	40	100	160	160	129	128	155	249	320	473	94	39	
40-160/07/X	40	40	100	160	160	128	128	159	248	320	441	94	42	
40-200/05A/S	40	40	110	220	220	129	168	155	336	440	473	104	47	
40-200/05/S	40	40	110	220	220	129	168	155	336	440	473	104	47	
40-200/07/X	40	40	110	220	220	128	168	159	336	440	441	104	50	
40-200/11/P	40	40	110	220	220	134	168	174	336	440	508	104	56	
40-250/15B/P	40	40	110	220	220	134	168	174	336	440	508	104	60	
40-250/15A/P	40	40	110	220	220	134	168	174	336	440	508	104	60	
40-250/15/P	40	40	110	220	220	134	168	174	336	440	508	104	60	
40-250/22/P	40	40	110	220	220	168	168	214	336	440	532	104	70	
50-125/02A/S	50	50	116	180	160	121	128	140	246	340	447	96	31	
50-125/02/S	50	50	116	180	160	121	128	140	246	340	447	96	31	
50-125/03/S	50	50	116	180	160	121	128	140	246	340	447	96	32	
50-125/05/S	50	50	116	180	160	129	128	155	247	340	479	96	34	
50-160/03/S	50	50	116	180	160	121	128	140	246	340	447	96	32	
50-160/05/S	50	50	116	180	160	129	128	155	247	340	479	96	34	
50-160/07/X	50	50	116	180	160	128	128	159	246	340	447	96	37	
50-160/11/P	50	50	116	180	160	134	128	174	252	340	514	96	45	
50-200/07/X	50	50	111	220	220	128	168	159	336	440	442	108	53	
50-200/11A/P	50	50	111	220	220	134	168	174	336	440	509	108	59	
50-200/11/P	50	50	111	220	220	134	168	174	336	440	509	108	59	
50-200/15/P	50	50	111	220	220	134	168	174	336	440	509	108	63	
50-250/15A/P	50	50	111	220	220	134	168	174	336	440	509	108	59	
50-250/15/P	50	50	111	220	220	134	168	174	336	440	509	108	63	
50-250/22A/P	50	50	111	220	220	168	168	214	336	440	533	108	73	
50-250/22/P	50	50	111	220	220	168	168	214	336	440	533	108	73	
50-250/30/P	50	50	111	220	220	168	168	214	336	440	564	108	77	
65-125/03/S	65	65	105	190	170	121	148	140	296	360	461	100	44	
65-125/05/S	65	65	105	190	170	129	148	155	296	360	493	100	46	
65-125/07/X	65	65	105	190	170	128	148	159	296	360	461	100	49	
65-125/11/P	65	65	105	190	170	134	148	174	296	360	528	100	55	
65-160/07/X	65	65	105	190	170	128	148	159	296	360	461	94	49	
65-160/11A/P	65	65	105	190	170	134	148	174	296	360	528	94	55	
65-160/11/P	65	65	105	190	170	134	148	174	296	360	528	94	55	
65-160/15/P	65	65	105	190	170	134	148	174	296	360	528	94	59	
65-200/15A/P	65	65	118	237,5	237,5	134	178	174	347	475	516	105	63	
65-200/15/P	65	65	118	237,5	237,5	134	178	174	347	475	516	105	67	
65-200/22A/P	65	65	118	237,5	237,5	168	178	214	347	475	540	105	77	
65-200/22/P	65	65	118	237,5	237,5	168	178	214	347	475	540	105	77	
65-250/22A/P	65	65	118	237,5	237,5	168	178	214	347	475	540	105	77	
65-250/22/P	65	65	118	237,5	237,5	168	178	214	347	475	540	105	77	
65-250/30/P	65	65	118	237,5	237,5	168	178	214	347	475	571	105	81	
65-250/40/P	65	65	118	237,5	237,5	168	178	214	347	475	600	105	100	
80-125/05/S	80	80	114	215	205	129	168	155	336	420	492	111	56	
80-125/15/P	80	80	114	215	205	134	168	174	336	420	527	111	67	
80-160/15C/P	80	80	114	215	205	134	168	174	336	420	527	111	67	
80-160/15B/P	80	80	114	215	205	134	168	174	336	420	527	111	67	
80-160/15A/P	80	80	114	215	205	134	168	174	336	420	527	111	67	
80-160/15/P	80	80	114	215	205	134	168	174	336	420	527	111	67	
80-160/22A/P	80	80	114	215	205	168	168	214	336	420	551	111	78	
80-160/22/P	80	80	114	215	205	168	168	214	336	420	551	111	78	
100-160/15/P	100	100	140	260	240	134	179	174	347	500	558	123	81	
100-160/22A/P	100	100	140	260	240	168	179	214	347	500	582	123	91	
100-160/22/P	100	100	140	260	240	168	179	214	347	500	582	123	91	
100-160/30/P	100	100	140	260	240	168	179	214	347	500	613	123	95	

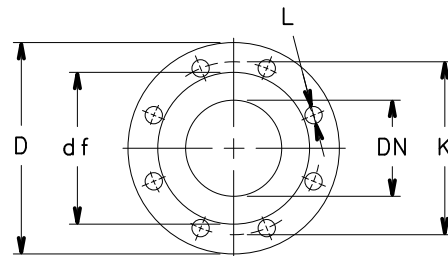
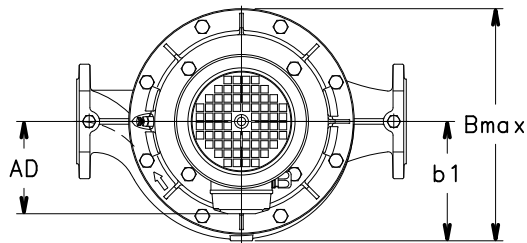
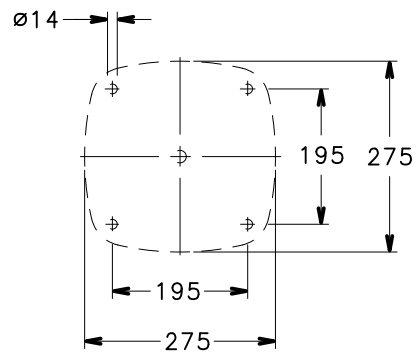
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNEE-32-100\_4p50-en\_a\_td

**e-LNES 32, 40, 50, 65 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



- (1) R 1/8 AIR VALVE
- (2) R 3/8 PRESSURE GAUGE CONNECTOR
- (3) G 3/8 DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

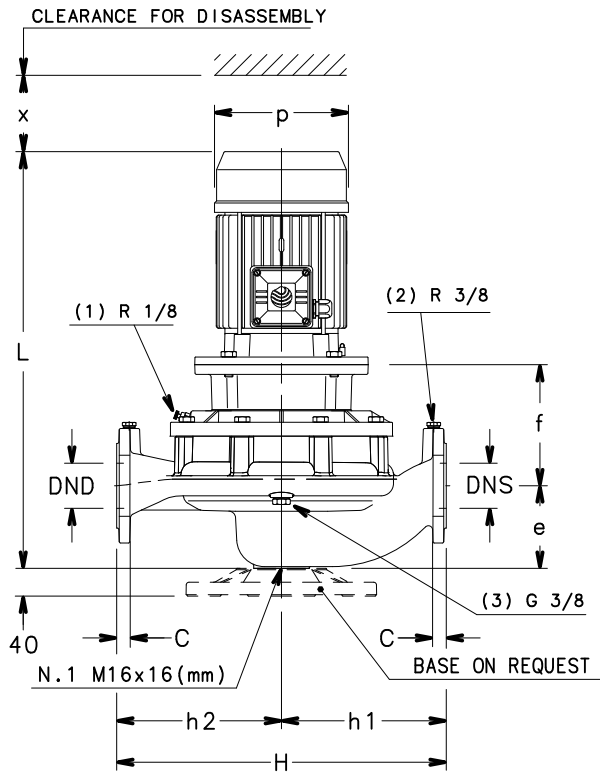
## e-LNES 32, 40, 50, 65 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE LNES..2	DIMENSIONS (mm)										B max	H	L	x	WEIGHT kg
	DND	DNS	e	f	h1	h2	AD	b1	p						
32-160/07A/S	32	32	90	155	160	160	129	123	155	249	320	508	75	33	
32-160/07/S	32	32	90	155	160	160	129	123	155	249	320	508	75	33	
32-160/11/S	32	32	90	155	160	160	129	123	155	249	320	508	75	34	
32-160/15/S	32	32	90	155	160	160	129	123	155	249	320	508	75	36	
32-160/22/P	32	32	90	155	160	160	134	123	174	254	320	543	75	43	
32-160/30/P	32	32	90	165	160	160	134	123	174	254	320	553	75	48	
40-125/11/S	40	40	100	165	160	160	129	128	155	249	320	528	94	33	
40-125/15/S	40	40	100	165	160	160	129	128	155	249	320	528	94	37	
40-125/22/P	40	40	100	165	160	160	134	128	174	254	320	563	94	44	
40-125/30/P	40	40	100	175	160	160	134	128	174	254	320	573	94	49	
40-160/22/P	40	40	100	165	160	160	134	128	174	254	320	563	94	44	
40-160/30/P	40	40	100	175	160	160	134	128	174	254	320	573	94	49	
40-160/40/P	40	40	100	175	160	160	154	128	197	274	320	594	94	52	
40-160/55/P	40	40	100	202	160	160	168	128	214	288	320	677	94	65	
40-200/30/P	40	40	110	165	220	220	134	168	174	336	440	573	104	66	
40-200/40/P	40	40	110	165	220	220	154	168	197	336	440	594	104	69	
40-200/55/P	40	40	110	192	220	220	168	168	214	336	440	677	104	82	
40-200/75/P	40	40	110	192	220	220	191	168	256	359	440	669	104	101	
40-250/75/P	40	40	110	192	220	220	191	168	256	359	440	669	104	101	
40-250/110A/P	40	40	110	222	220	220	191	168	256	359	440	760	104	118	
40-250/110/P	40	40	110	222	220	220	191	168	256	359	440	760	104	118	
40-250/150/P	40	40	110	222	220	220	240	168	313	408	440	826	104	151	
50-125/15/S	50	50	116	155	180	160	129	128	155	247	340	534	96	41	
50-125/22/P	50	50	116	155	180	160	134	128	174	252	340	569	96	48	
50-125/30/P	50	50	116	165	180	160	134	128	174	252	340	579	96	52	
50-125/40/P	50	50	116	165	180	160	154	128	197	272	340	600	96	55	
50-160/30/P	50	50	116	165	180	160	134	128	174	252	340	579	96	52	
50-160/40/P	50	50	116	165	180	160	154	128	197	272	340	600	96	55	
50-160/55/P	50	50	116	192	180	160	168	128	214	286	340	683	96	65	
50-160/75/P	50	50	116	192	180	160	191	128	256	319	340	675	96	84	
50-200/55/P	50	50	111	192	220	220	168	168	214	336	440	678	108	85	
50-200/75/P	50	50	111	192	220	220	191	168	256	359	440	670	108	104	
50-200/110A/P	50	50	111	222	220	220	191	168	256	359	440	761	108	121	
50-200/110/P	50	50	111	222	220	220	191	168	256	359	440	761	108	121	
50-250/110A/P	50	50	111	222	220	220	191	168	256	359	440	761	108	121	
50-250/110/P	50	50	111	222	220	220	191	168	256	359	440	761	108	121	
50-250/150/P	50	50	111	222	220	220	240	168	313	408	440	827	108	154	
50-250/185/P	50	50	111	222	220	220	240	168	313	408	440	827	108	163	
50-250/220/P	50	50	111	222	220	220	240	168	313	408	440	827	108	174	
65-125/30/P	65	65	105	190	190	170	134	148	174	296	360	593	100	60	
65-125/40/P	65	65	105	190	190	170	154	148	197	302	360	614	100	63	
65-125/55/P	65	65	105	217	190	170	168	148	214	316	360	697	100	72	
65-125/75/P	65	65	105	217	190	170	191	148	256	339	360	689	100	95	
65-160/55/P	65	65	105	217	190	170	168	148	214	316	360	697	94	77	
65-160/75/P	65	65	105	217	190	170	191	148	256	339	360	689	94	96	
65-160/110A/P	65	65	105	247	190	170	191	148	256	339	360	780	94	117	
65-160/110/P	65	65	105	247	190	170	191	148	256	339	360	780	94	117	
65-200/110A/P	65	65	118	222	237,5	237,5	191	178	256	360	475	768	105	125	
65-200/110/P	65	65	118	222	237,5	237,5	191	178	256	360	475	768	105	125	
65-200/150/P	65	65	118	222	237,5	237,5	240	178	313	409	475	834	105	158	
65-200/185/P	65	65	118	222	237,5	237,5	240	178	313	409	475	834	105	167	
65-250/150/P	65	65	118	222	237,5	237,5	240	178	313	409	475	834	105	158	
65-250/185/P	65	65	118	222	237,5	237,5	240	178	313	409	475	834	105	167	
65-250/220/P	65	65	118	222	237,5	237,5	240	178	313	409	475	834	105	178	
65-250/300/W	65	65	118	228	237,5	237,5	317	178	402	518	475	1003	105	287	

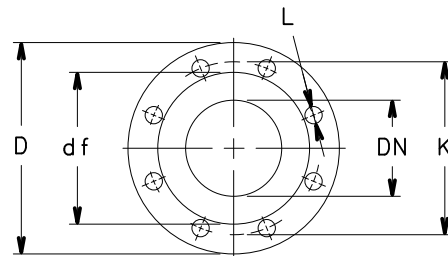
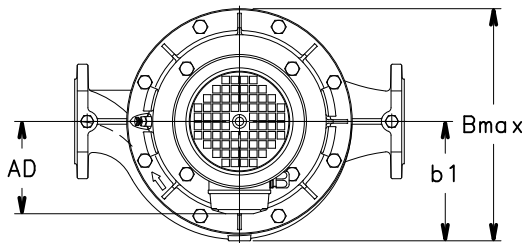
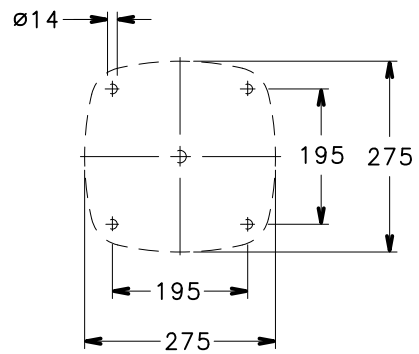
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNES-32-65 2p50-en a td

**e-LNES 40, 50, 65 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



- (1) R 1/8 AIR VALVE
- (2) R 3/8 PRESSURE GAUGE CONNECTOR
- (3) G 3/8 DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.



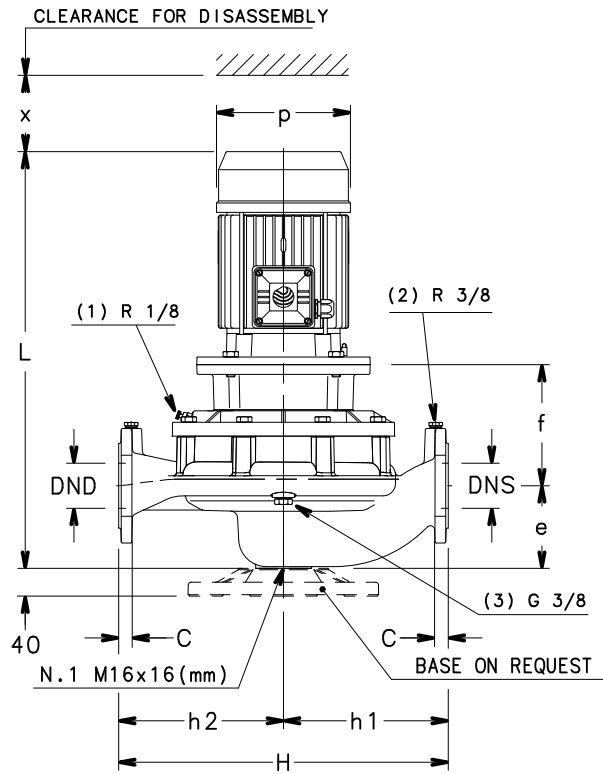
## e-LNES 40, 50, 65 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNES..4	DIMENSIONS (mm)									B max	H	L	x	WEIGHT kg
	DND	DNS	e	f	h1	h2	AD	b1	p					
40-160/05/S	40	40	100	165	160	160	129	128	155	249	320	528	94	33
40-160/07/X	40	40	100	165	160	160	128	128	159	248	320	496	94	36
40-200/05A/S	40	40	110	155	220	220	129	168	155	336	440	528	104	50
40-200/05/S	40	40	110	155	220	220	129	168	155	336	440	528	104	50
40-200/07/X	40	40	110	155	220	220	128	168	159	336	440	496	104	53
40-200/11/P	40	40	110	155	220	220	134	168	174	336	440	563	104	59
40-250/11/P	40	40	110	155	220	220	134	168	174	336	440	563	104	59
40-250/15A/P	40	40	110	155	220	220	134	168	174	336	440	563	104	63
40-250/15/P	40	40	110	155	220	220	134	168	174	336	440	563	104	63
40-250/22/P	40	40	110	165	220	220	168	168	214	336	440	597	104	74
50-125/05/S	50	50	116	155	180	160	129	128	155	247	340	534	96	37
50-160/05/S	50	50	116	155	180	160	129	128	155	247	340	534	96	37
50-160/07/X	50	50	116	155	180	160	128	128	159	246	340	502	96	40
50-160/11/P	50	50	116	155	180	160	134	128	174	252	340	569	96	46
50-200/07/X	50	50	111	155	220	220	128	168	159	336	440	497	108	56
50-200/11A/P	50	50	111	155	220	220	134	168	174	336	440	564	108	62
50-200/11/P	50	50	111	155	220	220	134	168	174	336	440	564	108	62
50-200/15/P	50	50	111	155	220	220	134	168	174	336	440	564	108	66
50-250/11/P	50	50	111	155	220	220	134	168	174	336	440	564	108	62
50-250/15/P	50	50	111	155	220	220	134	168	174	336	440	564	108	66
50-250/22A/P	50	50	111	165	220	220	168	168	214	336	440	598	108	77
50-250/22/P	50	50	111	165	220	220	168	168	214	336	440	598	108	77
50-250/30/P	50	50	111	165	220	220	168	168	214	336	440	629	108	81
65-125/05/S	65	65	105	180	190	170	129	148	155	296	360	548	100	49
65-125/07/X	65	65	105	180	190	170	128	148	159	296	360	516	100	52
65-125/11/P	65	65	105	180	190	170	134	148	174	296	360	583	100	58
65-160/07/X	65	65	105	180	190	170	128	148	159	296	360	516	94	52
65-160/11A/P	65	65	105	180	190	170	134	148	174	296	360	583	94	58
65-160/11/P	65	65	105	180	190	170	134	148	174	296	360	583	94	58
65-160/15/P	65	65	105	180	190	170	134	148	174	296	360	583	94	62
65-200/11/P	65	65	118	155	237,5	237,5	134	178	174	347	475	571	105	66
65-200/15/P	65	65	118	155	237,5	237,5	134	178	174	347	475	571	105	70
65-200/22A/P	65	65	118	165	237,5	237,5	168	178	214	347	475	605	105	81
65-200/22/P	65	65	118	165	237,5	237,5	168	178	214	347	475	605	105	81
65-250/22A/P	65	65	118	165	237,5	237,5	168	178	214	347	475	605	105	81
65-250/22/P	65	65	118	165	237,5	237,5	168	178	214	347	475	605	105	81
65-250/30/P	65	65	118	165	237,5	237,5	168	178	214	347	475	636	105	85
65-250/40/P	65	65	118	165	237,5	237,5	168	178	214	347	475	665	105	104

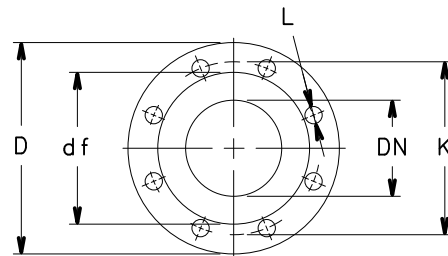
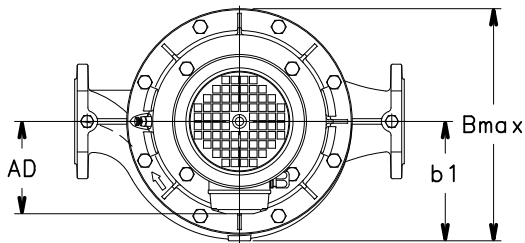
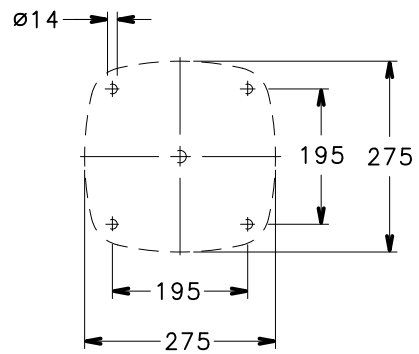
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNES-40-50-65\_4p50-en\_d\_td

**e-LNES 80, 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



- (1) R 1/8 AIR VALVE
- (2) R 3/8 PRESSURE GAUGE CONNECTOR
- (3) G 3/8 DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

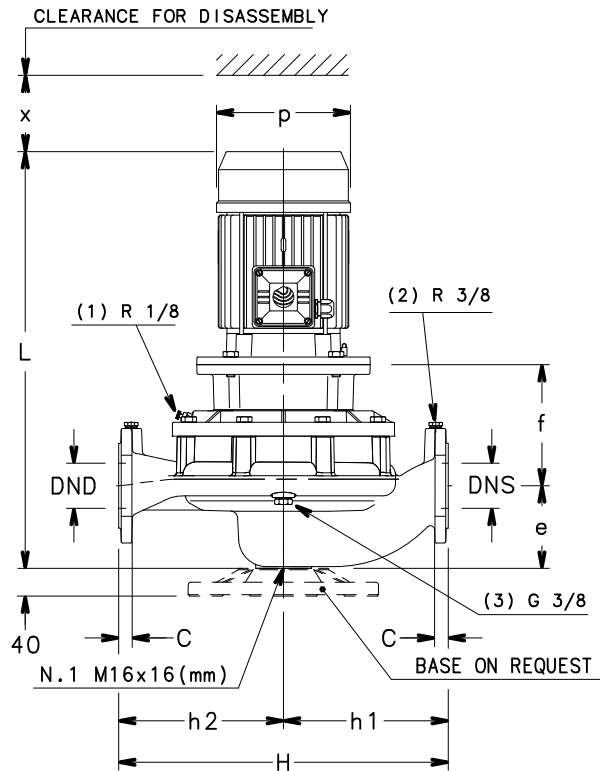
## e-LNES 80, 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE LNES..2	DIMENSIONS (mm)									B max	H	L	x	WEIGHT kg
	DND	DNS	e	f	h1	h2	AD	b1	p					
80-125/40/P	80	80	114	207	215	205	154	168	197	336	420	613	111	79
80-125/110/P	80	80	114	237	215	205	191	168	256	359	420	779	111	129
80-160/55/P	80	80	114	207	215	205	168	168	214	336	420	696	111	89
80-160/75/P	80	80	114	207	215	205	191	168	256	359	420	688	111	108
80-160/110A/P	80	80	114	237	215	205	191	168	256	359	420	779	111	129
80-160/110/P	80	80	114	237	215	205	191	168	256	359	420	779	111	129
80-160/150/P	80	80	114	237	215	205	240	168	313	408	420	845	111	162
80-160/185/P	80	80	114	237	215	205	240	168	313	408	420	845	111	171
80-200/110/P	80	80	132	240	265	235	191	185	256	359	500	800	130	127
80-200/150/P	80	80	132	240	265	235	240	185	313	408	500	866	130	160
80-200/185/P	80	80	132	240	265	235	240	185	313	408	500	866	130	169
80-200/220/P	80	80	132	240	265	235	240	185	313	408	500	866	130	180
80-200/300/W	80	80	132	246	265	235	317	185	402	518	500	1035	130	289
80-250/220/P	80	80	132	240	265	235	240	185	313	408	500	866	130	180
80-250/300/W	80	80	132	246	265	235	317	185	402	518	500	1035	130	289
80-250/370/W	80	80	132	246	265	235	317	185	402	518	500	1035	130	304
100-160/110/P	100	100	140	240	260	240	191	179	256	359	500	810	123	139
100-160/150/P	100	100	140	240	260	240	240	179	313	408	500	876	123	172
100-160/185/P	100	100	140	240	260	240	240	179	313	408	500	876	123	181
100-160/220/P	100	100	140	240	260	240	240	179	313	408	500	876	123	192
100-200/220/P	100	100	175	240	300	250	240	201	313	410	550	909	152	196
100-200/300/W	100	100	175	246	300	250	317	201	402	518	550	1078	152	305
100-200/370/W	100	100	175	246	300	250	317	201	402	518	550	1078	152	320
100-250/370/W	100	100	175	246	300	250	317	201	402	518	550	1078	152	320

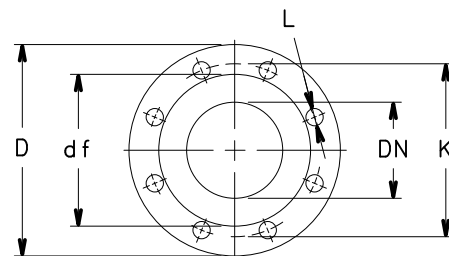
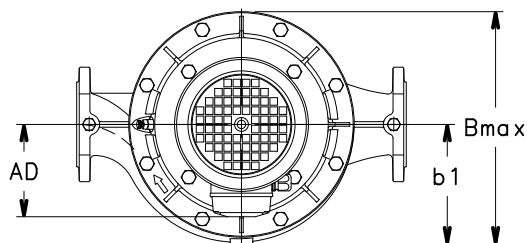
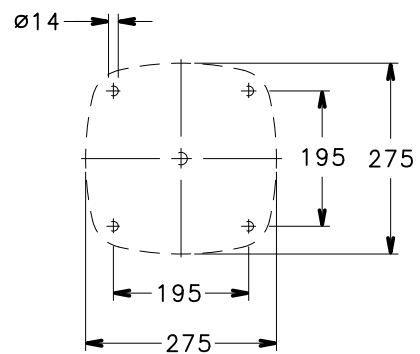
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNES-80-100\_2p50-en\_d\_td

**e-LNES 80, 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



- (1) R 1/8 AIR VALVE
- (2) R 3/8 PRESSURE GAUGE CONNECTOR
- (3) G 3/8 DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

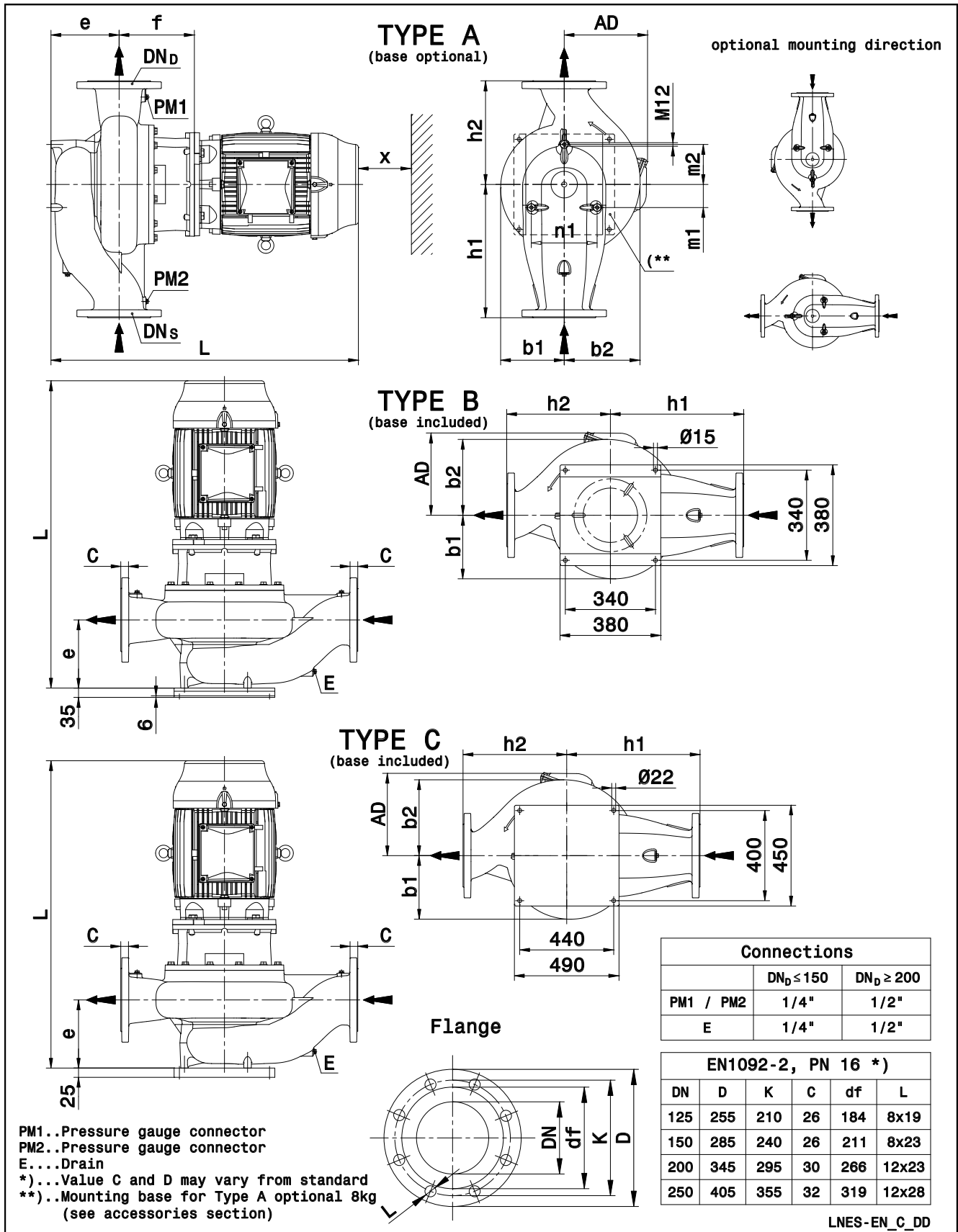
## e-LNES 80, 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNES..4	DIMENSIONS (mm)									B max	H	L	x	WEIGHT kg
	DND	DNS	e	f	h1	h2	AD	b1	p					
80-125/05/S	80	80	114	170	215	205	129	168	155	336	420	547	111	61
80-125/15/P	80	80	114	170	215	205	134	168	174	336	420	582	111	72
80-160/11B/P	80	80	114	170	215	205	134	168	174	336	420	582	111	68
80-160/11A/P	80	80	114	170	215	205	134	168	174	336	420	582	111	68
80-160/11/P	80	80	114	170	215	205	134	168	174	336	420	582	111	68
80-160/15/P	80	80	114	170	215	205	134	168	174	336	420	582	111	72
80-160/22A/P	80	80	114	170	215	205	168	168	214	336	420	616	111	85
80-160/22/P	80	80	114	180	215	205	168	168	214	336	420	616	111	85
80-200/15/P	80	80	132	173	265	235	134	185	174	353	500	603	130	72
80-200/22A/P	80	80	132	183	265	235	168	185	214	353	500	637	130	83
80-200/22/P	80	80	132	183	265	235	168	185	214	353	500	637	130	83
80-200/30/P	80	80	132	183	265	235	168	185	214	353	500	668	130	87
80-200/40/P	80	80	132	183	265	235	168	185	214	353	500	697	130	106
80-250/30/P	80	80	132	183	265	235	168	185	214	353	500	668	130	87
80-250/40/P	80	80	132	183	265	235	168	185	214	353	500	697	130	106
80-250/55A/P	80	80	132	210	265	235	191	185	256	359	500	747	130	117
80-250/55/P	80	80	132	210	265	235	191	185	256	359	500	747	130	117
80-250/75/P	80	80	132	210	265	235	191	185	256	359	500	747	130	121
80-315/75/P	80	80	140	215	325	295	191	229	256	439	620	760	140	159
80-315/110/P	80	80	140	245	325	295	240	229	256	439	620	879	140	223
80-315/150/P	80	80	140	245	325	295	240	229	256	439	620	879	140	227
100-160/15/P	100	100	140	175	260	240	134	179	174	347	500	613	123	84
100-160/22A/P	100	100	140	185	260	240	168	179	214	347	500	647	123	95
100-160/22/P	100	100	140	185	260	240	168	179	214	347	500	647	123	95
100-160/30/P	100	100	140	185	260	240	168	179	214	347	500	678	123	99
100-200/30/P	100	100	175	183	300	250	134	201	174	371	550	711	152	103
100-200/40/P	100	100	175	183	300	250	168	201	214	371	550	740	152	122
100-200/55A/P	100	100	175	210	300	250	168	201	214	371	550	790	152	133
100-200/55/P	100	100	175	210	300	250	168	201	214	371	550	790	152	133
100-250/55A/P	100	100	175	210	300	250	191	201	256	371	550	790	152	133
100-250/55/P	100	100	175	210	300	250	191	201	256	371	550	790	152	133
100-250/75/P	100	100	175	210	300	250	191	201	256	371	550	790	152	137
100-250/110/P	100	100	175	240	300	250	240	201	313	410	550	909	152	201
100-315/110/P	100	100	175	240	360	310	240	244	256	451	670	909	140	238
100-315/150/P	100	100	175	240	360	310	240	244	256	451	670	909	140	242
100-315/185/W	100	100	175	240	360	310	279	244	360	451	670	969	140	281
100-315/220/W	100	100	175	240	360	310	279	244	360	451	670	1007	140	298

NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNES-80-100\_4p50-en\_f\_td

**e-LNES 125, 150, 200, 250 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



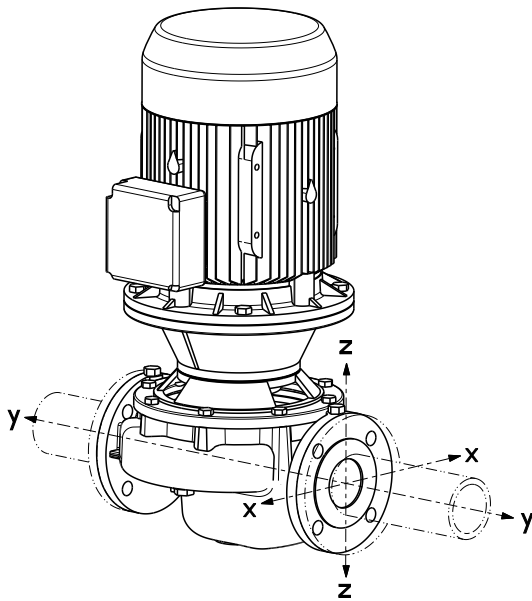
## e-LNES 125, 150, 200, 250 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNES...4	TYPE	DIMENSIONS (mm)														WEIGHT (kg)
		DND	DNS	e	f	h1	h2	m1	m2	n1	b1	b2	x	AD	L	G
125-160/22/P	A	125	125	215	183	340	280	60	105	172	166	212	140	168	720	115
125-160/30/P	A	125	125	215	183	340	280	60	105	172	166	212	140	168	751	122
125-160/40/P	A	125	125	215	183	340	280	60	105	172	166	212	140	168	780	140
125-200/55/P	A	125	125	215	210	340	280	60	105	172	166	212	140	191	830	145
125-200/75/P	A	125	125	215	210	340	280	60	105	172	166	212	140	191	830	150
125-250/75/P	A	125	125	230	215	450	350	63	110	180	223	275	140	191	850	185
125-250/110/P	B	125	125	230	245	450	350	63	110	180	223	275	140	240	969	257
125-315/150/P	B	125	125	230	245	450	350	63	110	180	223	275	140	240	969	278
125-315/185/W	B	125	125	230	245	450	350	63	110	180	223	275	140	279	1029	317
125-315/220/W	B	125	125	230	245	450	350	63	110	180	223	275	140	279	1067	334
125-315/300/W	B	125	125	230	251	450	350	63	110	180	223	275	140	317	1138	381
150-200/55/P	A	150	150	230	225	450	350	75	130	212	182	253	140	191	860	178
150-200/75/P	A	150	150	230	225	450	350	75	130	212	182	253	140	191	860	183
150-200/110/P	B	150	150	230	255	450	350	75	130	212	182	253	140	240	979	255
150-250/110/P	B	150	150	230	240	450	350	75	130	212	193	255	140	240	964	261
150-250/150/P	B	150	150	230	240	450	350	75	130	212	193	255	140	240	964	265
150-315/185/W	B	150	150	230	254	450	350	78	135	222	215	257	140	279	1038	323
150-315/220/W	B	150	150	230	254	450	350	78	135	222	215	257	140	279	1076	340
150-315/300/W	B	150	150	230	254	450	350	78	135	222	215	257	140	317	1141	384
150-315/370/W	B	150	150	230	284	450	350	78	135	222	215	257	140	384	1260	530
200-250/150/P	C	200	200	308	254	475	355	73	145	250	247	305	140	240	1056	360
200-250/185/W	C	200	200	308	254	475	355	73	145	250	247	305	140	279	1116	399
200-250/220/W	C	200	200	308	254	475	355	73	145	250	247	305	140	279	1154	416
200-250/300/W	C	200	200	308	254	475	355	73	145	250	247	305	140	317	1219	460
200-315/300/W	C	200	200	260	254	500	400	73	145	250	236	305	140	317	1171	457
200-315/370/W	C	200	200	260	284	500	400	73	145	250	236	305	140	384	1290	603
200-315/450/W	C	200	200	260	284	500	400	73	145	250	236	305	140	384	1290	638
200-315/550/W	C	200	200	260	284	500	400	73	145	250	236	305	140	402	1369	688
200-400/550/W	C	200	200	280	284	625	475	73	145	250	273	344	140	402	1389	755
200-400/750/W	C	200	200	280	284	625	475	73	145	250	273	344	140	472	1495	947
200-400/900/W	C	200	200	280	284	625	475	73	145	250	273	344	140	472	1495	1017
250-315/300/W	C	250	250	320	254	550	400	90	180	312	285	351	140	317	1231	536
250-315/370/W	C	250	250	320	284	550	400	90	180	312	285	351	140	384	1350	683
250-315/450/W	C	250	250	320	284	550	400	90	180	312	285	351	140	384	1350	718
250-315/550/W	C	250	250	320	284	550	400	90	180	312	285	351	140	402	1429	767
250-315/750/W	C	250	250	320	284	550	400	90	180	312	285	351	140	472	1535	959

NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNES-4p50-en\_e\_td

## e-LNE SERIES FORCES AND MOMENTS AT PUMP FLANGES Valid for pump hanging in the piping



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:

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

### Cast Iron Casing: EN-GJL-250

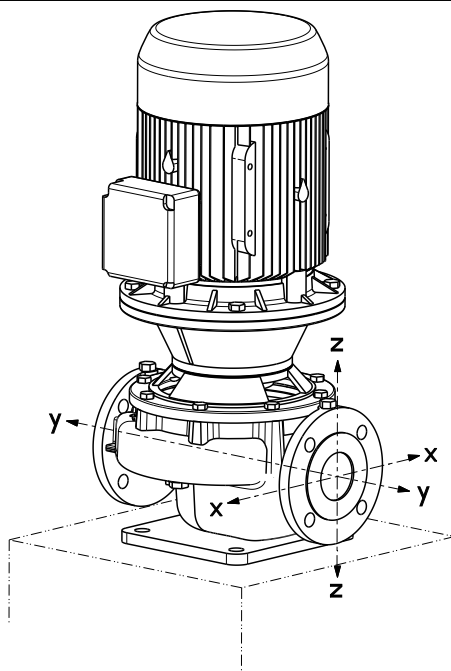
Size	DNS-DND	Suction - Discharge							
		Fx max [N]	Fy max [N]	Fz max [N]	ΣF max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	ΣM max [N]
32-160	32	450	530	430	820	550	380	430	800
40-125	40	550	630	500	980	650	450	530	960
40-160	40	550	630	500	980	650	450	530	960
40-200	40	550	630	500	980	650	450	530	960
40-250	40	550	630	500	980	650	450	530	960
50-125	50	750	830	680	1310	700	500	580	1040
50-160	50	750	830	680	1310	700	500	580	1040
50-200	50	750	830	680	1310	700	500	580	1040
50-250	50	750	830	680	1310	700	500	580	1040
65-125	65	930	1050	850	1650	750	550	600	1110
65-160	65	930	1050	850	1650	750	550	600	1110
65-200	65	930	1050	850	1650	750	550	600	1110
65-250	65	930	1050	850	1650	750	550	600	1110
80-160	80	1130	1250	1030	1980	800	580	650	1190
80-200	80	1130	1250	1030	1980	800	580	650	1190
80-250	80	1130	1250	1030	1980	800	580	650	1190
80-315	80	1130	1250	1030	1980	800	580	650	1190
100-160	100	1500	1680	1350	2630	880	630	730	1310
100-200	100	1500	1680	1350	2630	880	630	730	1310
100-250	100	1500	1680	1350	2630	880	630	730	1310
100-315	100	1500	1680	1350	2630	880	630	730	1310
125-160	125	1780	1980	1600	3110	1050	750	950	1610
125-200	125	1780	1980	1600	3110	1050	750	950	1610
125-250	125	1780	1980	1600	3110	1050	750	950	1610
125-315	125	1780	1980	1600	3110	1050	750	950	1610
150-200	150	2250	2500	2030	3930	1250	880	1030	1850
150-250	150	2250	2500	2030	3930	1250	880	1030	1850
150-315	150	2250	2500	2030	3930	1250	880	1030	1850
200-250	200	3000	3350	2700	5250	1630	1150	1330	2400
200-315	200	3000	3350	2700	5250	1630	1150	1330	2400
200-400	200	3000	3350	2700	5250	1630	1150	1330	2400
250-315	250	3000	3350	2700	5250	1630	1150	1330	2400



## e-LNE 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:

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

Cast Iron Casing: EN-GJL-250

Size	DNS-DND	Suction - Discharge							
		Fx max [N]	Fy max [N]	Fz max [N]	ΣF max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	ΣM max [N]
32-160	32	340	400	320	620	300	130	180	380
40-125	40	420	470	380	740	400	200	280	530
40-160	40	420	470	380	740	400	200	280	530
40-200	40	420	470	380	740	400	200	280	530
40-250	40	420	470	380	740	400	200	280	530
50-125	50	570	620	510	990	450	250	330	620
50-160	50	570	620	510	990	450	250	330	620
50-200	50	570	620	510	990	450	250	330	620
50-250	50	570	620	510	990	450	250	330	620
65-125	65	700	790	640	1240	500	300	350	680
65-160	65	700	790	640	1240	500	300	350	680
65-200	65	700	790	640	1240	500	300	350	680
65-250	65	700	790	640	1240	500	300	350	680
80-160	80	850	940	770	1490	550	330	400	760
80-200	80	850	940	770	1490	550	330	400	760
80-250	80	850	940	770	1490	550	330	400	760
80-315	80	850	940	770	1490	550	330	400	760
100-160	100	1130	1260	1020	1980	630	380	480	880
100-200	100	1130	1260	1020	1980	630	380	480	880
100-250	100	1130	1260	1020	1980	630	380	480	880
100-315	100	1130	1260	1020	1980	630	380	480	880
125-160	125	1330	1480	1200	2330	800	500	700	1180
125-200	125	1330	1480	1200	2330	800	500	700	1180
125-250	125	1330	1480	1200	2330	800	500	700	1180
125-315	125	1330	1480	1200	2330	800	500	700	1180
150-200	150	1690	1880	1520	2950	1000	630	780	1420
150-250	150	1690	1880	1520	2950	1000	630	780	1420
150-315	150	1690	1880	1520	2950	1000	630	780	1420
200-250	200	2250	2520	2030	3950	1380	900	1080	1970
200-315	200	2250	2520	2030	3950	1380	900	1080	1970
200-400	200	2250	2520	2030	3950	1380	900	1080	1970
250-315	250	2250	2520	2030	3950	1380	900	1080	1970



# **e-LNE WITH VARIABLE FREQUENCY DRIVE**

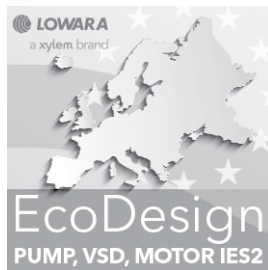
## **ECODESIGN DIRECTIVE (ErP)**

The Ecodesign directive was put in place in 2011 and introduced minimum requirements for the efficiency of **AC motors and pumps**. Over the last few years, these requirements have been gradually intensified.

In 2014, with the standard EN 50598, there was a switch in the definition of efficiency class from an individual component approach towards an overall system one; which is the basic point for the "Extended product approach" (EPA).

Taking this concept further, the EN50598-2 introduced IES efficiency classes for frequency converters + motor systems (known as power drive systems-PDS) with power rating **from 0.12 kW to 1000kW and from 100V to 1000V**. For Power Drive System (PDS) the defined efficiency classes are IES0, IES1, IES2. If a PDS has 20% greater losses than the reference value of IES1 then it is classified as IES0; if it has 20% lower losses than the reference value of IES1 then it is classified as IES2.

- **With the HYDROVAR connected to a Lowara IE3 motor, the system achieves the highest IES class – IES2.**



**The e-LNE pump series is therefore already ready for the 2020 EU Ecodesign energy efficiency objectives.**

# **e-LNE..H WITH HYDROVAR**

## e-LNE..H SERIES

### e-LNE 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 e-LNE..H: an intelligent pumping system which assures high level performance with energy consumption tailored to the system's demand.

According to the EN 50598-2 standard the LNE..H is an IES2 power drive system, the highest efficiency class defined for this category.

#### Benefits of e-LNE with HYDROVAR

**Saving:** e-LNE..H transforms the e-LNE 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:** e-LNE..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).

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

#### Identification code:

e-LNE..H models are identified by the letter "**H**" and the last two characters.

Examples:

LNEEH50-125/22/P25VCS4 /**2**

LNEEH50-125/22/P25VCS4 /**3**

LNEEH50-125/22/P25VCS4 /**4X**

**H** = with integrated HYDROVAR

**/2** = HYDROVAR HVL**2**.022 1~ 208-240 V (50/60 Hz)

**/3** = HYDROVAR HVL**3**.022 3~ 208-240 V (50/60 Hz)

**/4** = HYDROVAR HVL**4**.022 3~ 380-460 V (50/60 Hz)

Other options:

**X** = Wi-fi Card included.

(Premium Card already included as standard).

#### Key Features of the HYDROVAR

- **No need for additional pressure sensors:**

The e-LNE..H is fitted as standard with two pressure transmitters, normally are fitted on the flanges.

- **No need for special pumps or motors.**

- **e-LNE..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 e-LNE..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.



## e-LNE..H SERIES (e-LNE WITH HYDROVAR)

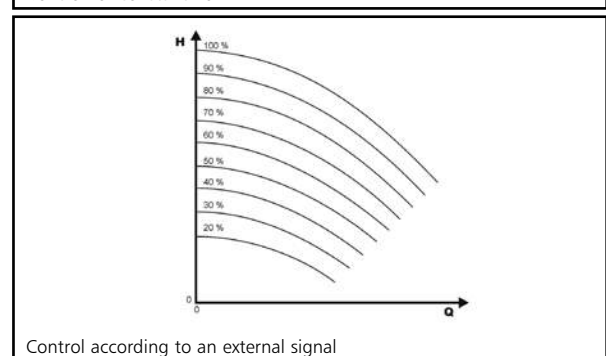
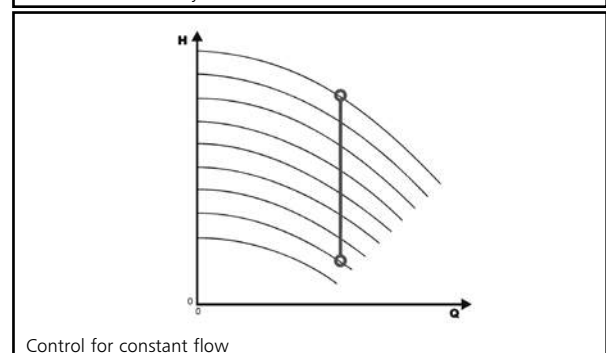
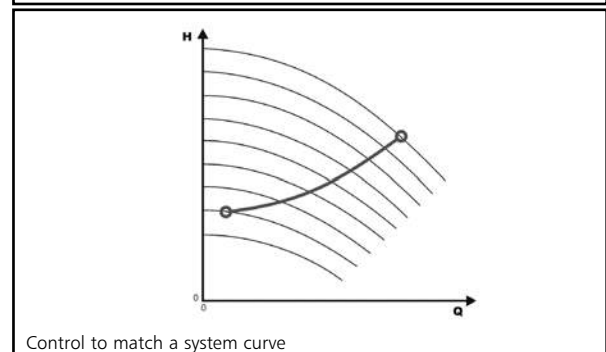
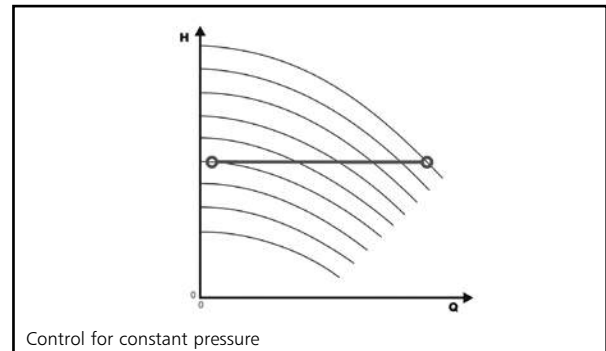
The basic function of the HYDROVAR device is to control the pump to meet the system demands.

### 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.

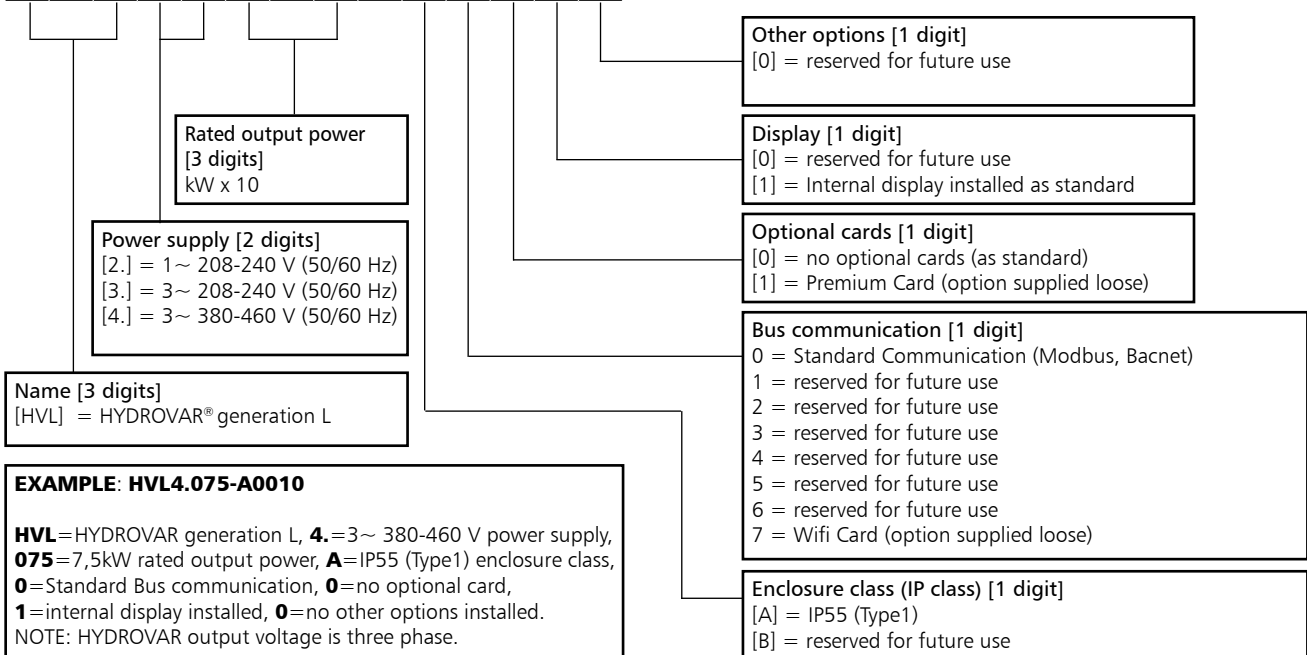
In addition to these basic functions, HYDROVAR can perform controls only manageable by the most advanced computerized control systems. Some examples are:

- 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

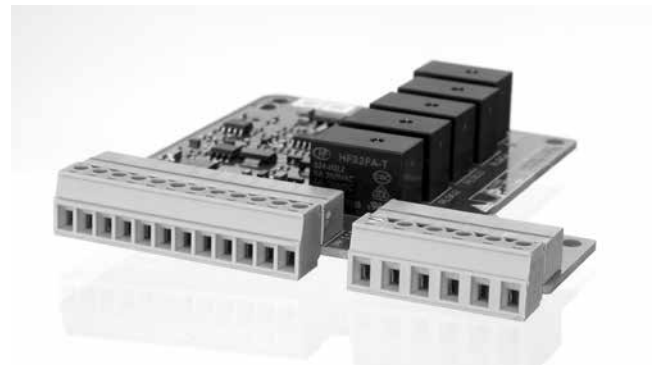
## CARD

### Premium Card HYDROVAR

For the e-LNE..H and e-LNT..H series, the Premium Card comes fitted as standard on the standalone HYDROVAR. This allows to control up to five fix speed pumps via an external panel.

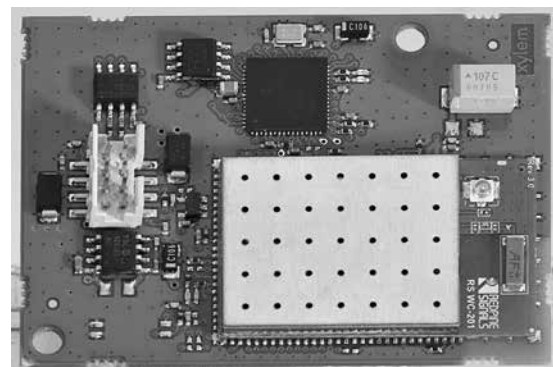
The Premium Card will allow additional features listed below:

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



### Wi-Fi Card HYDROVAR (optional)

With the WiFi card fitted in the Hydrovar, the unit can will allow you to be connected to a wireless network.



## OPTIONAL COMPONENTS

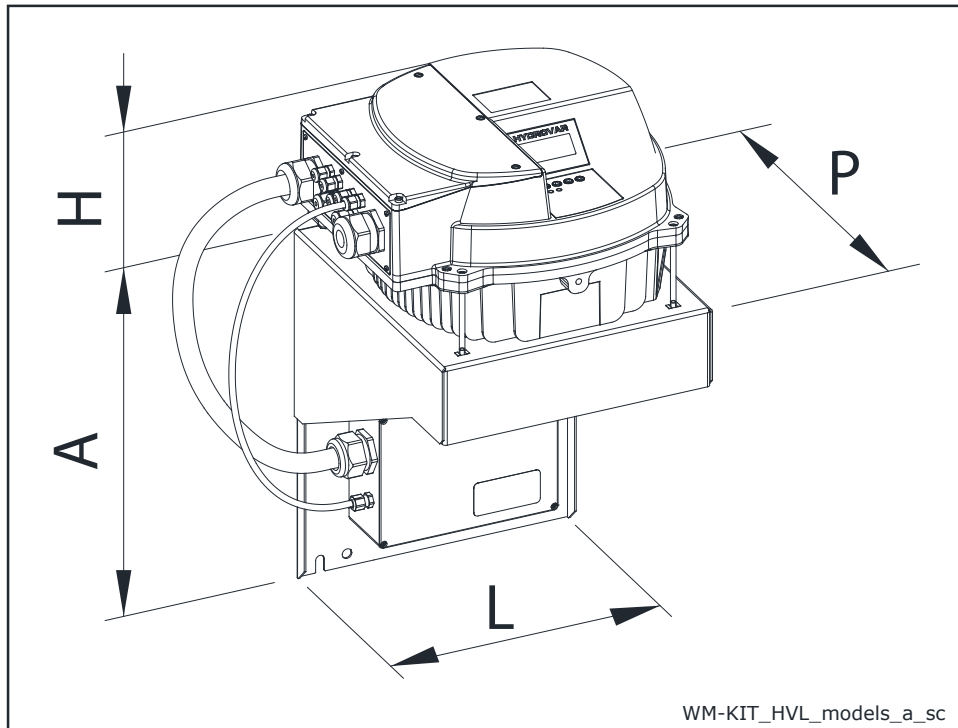
### Sensors

The following sensors are available for HYDROVAR:

- Pressure-transducer
- Differential pressure-transducer
- Temperature-sensor
- Flow indicator (orifice plate, inductive flow meter)
- 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

**e-LNE..H SERIES**  
**LIST OF MODELS AT 50 Hz, 2 POLES**

SIZE	kW	VERSION					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
32-160/07/S	0.75	A	A	A	A	A	A
32-160/11/S	1.1	A	A	A	A	A	A
32-160/15/S	1.5	A	A	A	A	A	A
32-160/22/P	2.2	A	A	A	A	A	A
32-160/30/P	3	B	B	A	B	B	A
40-125/11	1.1	A	A	A	A	A	A
40-125/15	1.5	A	A	A	A	A	A
40-125/22	2.2	A	A	A	A	A	A
40-125/30	3	B	B	A	B	B	A
40-160/22	2.2	A	A	A	A	A	A
40-160/30	3	B	B	A	B	B	A
40-160/40	4	B	B	A	B	B	A
40-160/55	5.5	-	B	B	-	B	B
40-200/30	3	B	B	A	B	B	A
40-200/40	4	B	B	A	B	B	A
40-200/55	5.5	-	B	B	-	B	B
40-200/75	7.5	-	C	B	-	C	B
40-250/75	7.5	-	C	B	-	C	B
40-250/92	9.2	-	C	B	-	-	-
40-250/110	11	-	C	B	-	C	B
40-250/150	15	-	-	C	-	-	C
50-125/15	1.5	A	A	A	A	A	A
50-125/22	2.2	A	A	A	A	A	A
50-125/30	3	B	B	A	B	B	A
50-125/40	4	B	B	A	B	B	A
50-160/30	3	B	B	A	B	B	A
50-160/40	4	B	B	A	B	B	A
50-160/55	5.5	-	B	B	-	B	B
50-160/75	7.5	-	C	B	-	C	B
50-200/55	5.5	-	B	B	-	B	B
50-200/75	7.5	-	C	B	-	C	B
50-200/92	9.2	-	C	B	-	-	-
50-200/110	11	-	C	B	-	C	B
50-250/92	9.2	-	C	B	-	-	-
50-250/110	11	-	C	B	-	C	B
50-250/150	15	-	-	C	-	-	C
50-250/185	18.5	-	-	C	-	-	C
50-250/220	22	-	-	C	-	-	C

LNEH-HVL\_models-2p50-en\_c\_sc

SIZE	kW	VERSION					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
65-125/30	3	B	B	A	B	B	A
65-125/40	4	B	B	A	B	B	A
65-125/55	5.5	-	B	B	-	B	B
65-125/75	7.5	-	C	B	-	C	B
65-160/55	5.5	-	B	B	-	B	B
65-160/75	7.5	-	C	B	-	C	B
65-160/92	9.2	-	C	B	-	-	-
65-160/110	11	-	C	B	-	C	B
65-200/92	9.2	-	C	B	-	B	B
65-200/110	11	-	C	B	-	C	B
65-200/150	15	-	-	C	-	-	C
65-200/185	18.5	-	-	C	-	-	C
65-250/150	15	-	-	C	-	-	C
65-250/185	18.5	-	-	C	-	-	C
65-250/220	22	-	-	C	-	-	C
80-125/40	4	B	B	A	B	B	A
80-125/110	11	-	C	B	-	C	B
80-160/55	5.5	-	B	B	-	-	-
80-160/75	7.5	-	C	B	-	C	B
80-160/92	9.2	-	C	B	-	-	-
80-160/110	11	-	C	B	-	C	B
80-160/150	15	-	-	C	-	-	C
80-160/185	18.5	-	-	C	-	-	C
80-200/110	11	-	-	-	-	C	B
80-200/150	15	-	-	-	-	-	C
80-200/185	18.5	-	-	-	-	-	C
80-200/220	22	-	-	-	-	-	C
80-250/220	22	-	-	-	-	-	C
100-160/110	11	-	C	B	-	C	B
100-160/150	15	-	-	C	-	-	C
100-160/185	18.5	-	-	C	-	-	C
100-160/220	22	-	-	C	-	-	C
100-200/220	22	-	-	-	-	-	C

**LEGEND**

**LNEEH** : Extended shaft with HYDROVAR (single version).

**LNESH** : Stub shaft with HYDROVAR (single version).

**A, B, C** : are the mechanical size of HYDROVAR, refer to "HYDROVAR DIMENSIONS AND WEIGHTS" table in the previous pages.

**e-LNE..H SERIES**  
**LIST OF MODELS AT 50 Hz, 4 POLES**

SIZE	kW	VERSION					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
40-160/05	0,55	A	A	A	A	A	A
40-160/07	0,75	A	A	A	A	A	A
40-200/05	0,55	A	A	A	A	A	A
40-200/07	0,75	A	A	A	A	A	A
40-200/11	1,1	A	A	A	A	A	A
40-250/11	1,1	-	-	-	A	A	A
40-250/15	1,5	A	A	A	A	A	A
40-250/22	2,2	A	A	A	A	A	A
50-125/05	0,55	A	A	A	A	A	A
50-160/05	0,55	A	A	A	A	A	A
50-160/07	0,75	A	A	A	A	A	A
50-160/11	1,1	A	A	A	A	A	A
50-200/07	0,75	A	A	A	A	A	A
50-200/11	1,1	A	A	A	A	A	A
50-200/15	1,5	A	A	A	A	A	A
50-250/11	1,1	-	-	-	A	A	A
50-250/15	1,5	A	A	A	A	A	A
50-250/22	2,2	A	A	A	A	A	A
50-250/30	3	B	B	A	B	B	A
65-125/05	0,55	A	A	A	A	A	A
65-125/07	0,75	A	A	A	A	A	A
65-125/11	1,1	A	A	A	A	A	A
60-160/07	0,75	A	A	A	A	A	A
65-160/11	1,1	A	A	A	A	A	A
65-160/15	1,5	A	A	A	A	A	A
65-200/11	1,1	-	-	-	A	A	A
65-200/15	1,5	A	A	A	A	A	A
65-200/22	2,2	A	A	A	A	A	A
65-250/22	2,2	A	A	A	A	A	A
65-250/30	3	B	B	A	B	B	A
65-250/40	4	B	B	A	B	B	A
80-125/05	0,55	A	A	A	A	A	A
80-125/15	1,5	A	A	A	A	A	A
80-160/11	1,1	-	-	-	A	A	A
80-160/15	1,5	A	A	A	A	A	A
80-160/22	2,2	A	A	A	A	A	A
80-200/15	1,5	-	-	-	A	A	A
80-200/22	2,2	-	-	-	A	A	A
80-200/30	3	-	-	-	B	B	A
80-200/40	4	-	-	-	B	B	A

SIZE	kW	VERSION					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
80-250/30	3	-	-	-	B	B	A
80-250/40	4	-	-	-	B	B	A
80-250/55	5,5	-	-	-	-	B	B
80-250/75	7,5	-	-	-	-	C	B
80-315/75	7,5	-	-	-	-	C	B
80-315/110	11	-	-	-	-	C	B
80-315/150	15	-	-	-	-	-	C
100-160/15	1,5	A	A	A	A	A	A
100-160/22	2,2	A	A	A	A	A	A
100-160/30	3	B	B	A	B	B	A
100-200/30	3	-	-	-	B	B	A
100-200/40	4	-	-	-	B	B	A
100-200/55	5,5	-	-	-	-	B	B
100-250/55	5,5	-	-	-	-	B	B
100-250/75	7,5	-	-	-	-	C	B
100-250/110	11	-	-	-	-	C	B
100-315/110	11	-	-	-	-	C	B
100-315/150	15	-	-	-	-	-	C
100-315/185	18,5	-	-	-	-	-	C
100-315/220	22	-	-	-	-	-	C
125-160/22	2,2	-	-	-	A	A	A
125-160/30	3	-	-	-	B	B	A
125-160/40	4	-	-	-	B	B	A
125-200/55	5,5	-	-	-	-	B	B
125-200/75	7,5	-	-	-	-	C	B
125-250/75	7,5	-	-	-	-	C	B
125-250/110	11	-	-	-	-	C	B
125-315/150	15	-	-	-	-	-	C
125-315/185	18,5	-	-	-	-	-	C
125-315/220	22	-	-	-	-	-	C
150-200/55	5,5	-	-	-	-	B	B
150-200/75	7,5	-	-	-	-	C	B
150-200/110	11	-	-	-	-	C	B
150-250/110	11	-	-	-	-	C	B
150-250/150	15	-	-	-	-	-	C
150-315/185	18,5	-	-	-	-	-	C
150-315/220	22	-	-	-	-	-	C
200-250/150	15	-	-	-	-	-	C
200-250/185	18,5	-	-	-	-	-	C
200-250/220	22	-	-	-	-	-	C

LNEH-HVL\_models-4p50-en\_c\_sc

**e-LNE..H SERIES**  
**ELECTRICAL DATA TABLE AT 50 Hz, 2 POLES**

SIZE	kW	INPUT CURRENT (A)					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V	3~ 400V
32-160/07/S	0.75	4.0	2.4	1.4	4.0	2.4	1.4
32-160/11/S	1.1	5.8	3.5	2.1	5.8	3.5	2.1
32-160/15/S	1.5	8.0	4.8	2.8	8.0	4.8	2.8
32-160/22/P	2.2	11.7	7.1	4.1	11.7	7.1	4.1
32-160/30/P	3	15.9	9.6	5.6	15.9	9.6	5.6
40-125/11	1.1	5.8	3.5	2.1	5.8	3.5	2.1
40-125/15	1.5	8.0	4.8	2.8	8.0	4.8	2.8
40-125/22	2.2	11.7	7.1	4.1	11.7	7.1	4.1
40-125/30	3	15.9	9.6	5.6	15.9	9.6	5.6
40-160/22	2.2	11.7	7.1	4.1	11.7	7.1	4.1
40-160/30	3	15.9	9.6	5.6	15.9	9.6	5.6
40-160/40	4	21.2	12.6	7.3	21.2	12.6	7.3
40-160/55	5.5	-	17.3	10.1	-	17.3	10.1
40-200/30	3	15.9	9.6	5.6	15.9	9.6	5.6
40-200/40	4	21.2	12.6	7.3	21.2	12.6	7.3
40-200/55	5.5	-	17.3	10.1	-	17.3	10.1
40-200/75	7.5	-	23.1	13.7	-	23.1	13.7
40-250/75	7.5	-	23.1	13.7	-	23.1	13.7
40-250/92	9.2	-	28.4	16.2	-	-	-
40-250/110	11	-	34.0	19.4	-	34.0	19.4
40-250/150	15	-	-	26.1	-	-	26.1
50-125/15	1.5	8.0	4.8	2.8	8.0	4.8	2.8
50-125/22	2.2	11.7	7.1	4.1	11.7	7.1	4.1
50-125/30	3	15.9	9.6	5.6	15.9	9.6	5.6
50-125/40	4	21.2	12.6	7.3	21.2	12.6	7.3
50-160/30	3	15.9	9.6	5.6	15.9	9.6	5.6
50-160/40	4	21.2	12.6	7.3	21.2	12.6	7.3
50-160/55	5.5	-	17.3	10.1	-	17.3	10.1
50-160/75	7.5	-	23.1	13.7	-	23.1	13.7
50-200/55	5.5	-	17.3	10.1	-	17.3	10.1
50-200/75	7.5	-	23.1	13.7	-	23.1	13.7
50-200/92	9.2	-	28.4	16.2	-	-	-
50-200/110	11	-	34.0	19.4	-	34.0	19.4
50-250/92	9.2	-	28.4	16.2	-	-	-
50-250/110	11	-	34.0	19.4	-	34.0	19.4
50-250/150	15	-	-	26.1	-	-	26.1
50-250/185	18.5	-	-	32.1	-	-	32.1
50-250/220	22	-	-	38.1	-	-	38.1

SIZE	kW	INPUT CURRENT (A)					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V	3~ 400V
65-125/30	3	15.9	9.6	5.6	15.9	9.6	5.6
65-125/40	4	21.2	12.6	7.3	21.2	12.6	7.3
65-125/55	5.5	-	17.3	10.1	-	17.3	10.1
65-125/75	7.5	-	23.1	13.7	-	23.1	13.7
65-160/55	5.5	-	17.3	10.1	-	17.3	10.1
65-160/75	7.5	-	23.1	13.7	-	23.1	13.7
65-160/92	9.2	-	28.4	16.2	-	-	-
65-160/110	11	-	34.0	19.4	-	34.0	19.4
65-200/92	9.2	-	28.4	16.2	-	-	-
65-200/110	11	-	34.0	19.4	-	34.0	19.4
65-200/150	15	-	-	26.1	-	-	26.1
65-200/185	18.5	-	-	32.1	-	-	32.1
65-250/150	15	-	-	26.1	-	-	26.1
65-250/185	18.5	-	-	32.1	-	-	32.1
65-250/220	22	-	-	38.1	-	-	38.1
80-125/40	4	21.2	12.6	7.3	21.2	12.6	7.3
80-125/110	11	-	34.0	19.4	-	34.0	19.4
80-160/55	5.5	-	17.3	10.1	-	17.3	10.1
80-160/75	7.5	-	23.1	13.7	-	23.1	13.7
80-160/92	9.2	-	28.4	16.2	-	-	-
80-160/110	11	-	34.0	19.4	-	34.0	19.4
80-160/150	15	-	-	26.1	-	-	26.1
80-160/185	18.5	-	-	32.1	-	-	32.1
80-200/110	11	-	-	-	-	34.0	19.4
80-200/150	15	-	-	-	-	-	26.1
80-200/185	18.5	-	-	-	-	-	32.1
80-200/220	22	-	-	-	-	-	38.1
80-250/220	22	-	-	-	-	-	38.1
100-160/110	11	-	34.0	19.4	-	34.0	19.4
100-160/150	15	-	-	26.1	-	-	26.1
100-160/185	18.5	-	-	32.1	-	-	32.1
100-160/220	22	-	-	38.1	-	-	38.1
100-200/220	22	-	-	-	-	-	38.1

LNEH-HVL-2p50-en\_b\_te

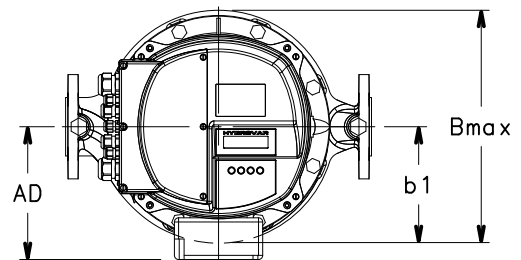
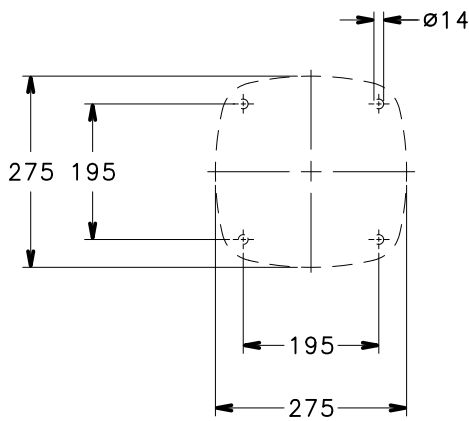
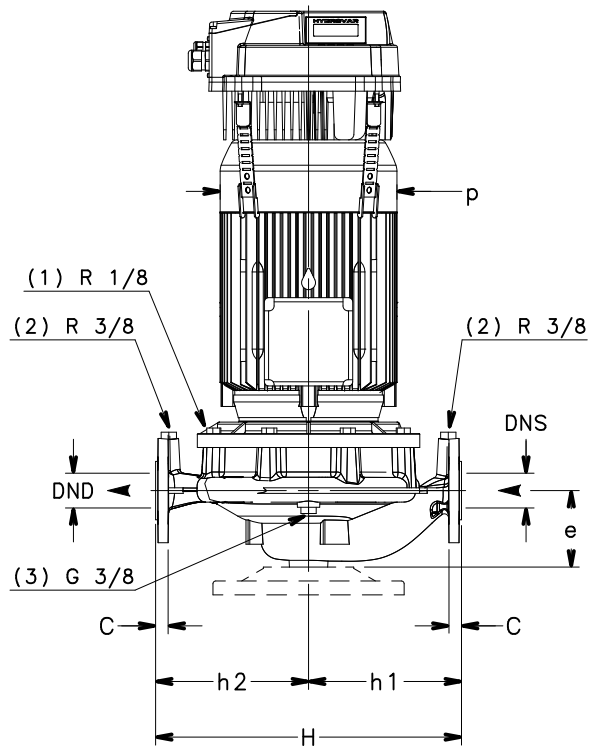
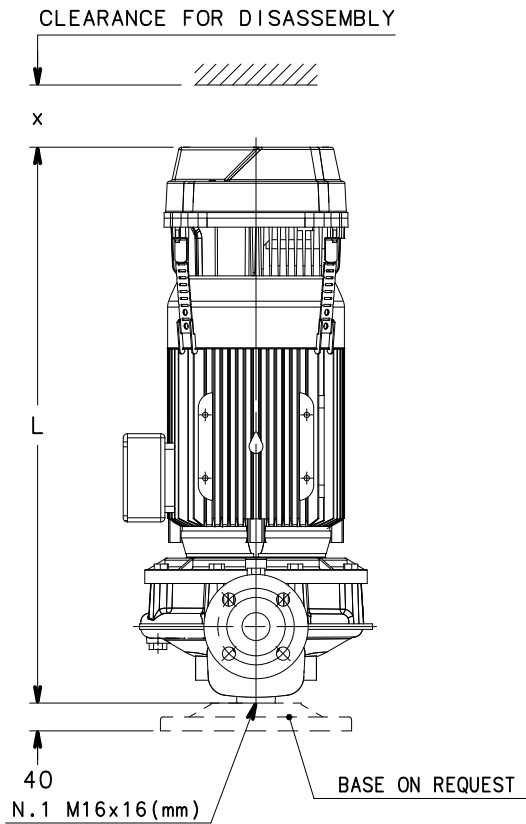
**e-LNE..H SERIES**  
**ELECTRICAL DATA TABLE AT 50 Hz, 4 POLES**

SIZE	kW	INPUT CURRENT (A)					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V	3~ 400V
40-160/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
40-160/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
40-200/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
40-200/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
40-200/11	1,1	6,27	3,98	2,58	6,27	3,98	2,58
40-250/11	1,1	-	-	-	6,27	3,98	2,58
40-250/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
40-250/22	2,2	12,53	7,04	5,15	12,53	7,04	5,15
50-125/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
50-160/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
50-160/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
50-160/11	1,1	6,27	3,98	2,58	6,27	3,98	2,58
50-200/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
50-200/11	1,1	6,27	3,98	2,58	6,27	3,98	2,58
50-200/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
50-250/11	1,1	-	-	-	6,27	3,98	2,58
50-250/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
50-250/22	2,2	12,53	7,04	5,15	12,53	7,04	5,15
50-250/30	3	17,09	9,59	5,59	17,09	9,59	5,59
65-125/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
65-125/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
65-125/11	1,1	6,27	3,98	2,58	6,27	3,98	2,58
60-160/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
65-160/11	1,1	6,27	3,98	2,58	6,27	3,98	2,58
65-160/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
65-200/11	1,1	-	-	-	6,27	3,98	2,58
65-200/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
65-200/22	2,2	12,53	7,04	5,15	12,53	7,04	5,15
65-250/22	2,2	12,53	7,04	5,15	12,53	7,04	5,15
65-250/30	3	17,09	9,59	5,59	17,09	9,59	5,59
65-250/40	4	22,79	12,79	7,41	22,79	12,79	7,41
80-125/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
80-125/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
80-160/11	1,1	-	-	-	6,27	3,98	2,58
80-160/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
80-160/22	2,2	12,53	7,04	5,15	12,53	7,04	5,15
80-200/15	1,5	-	-	-	8,55	4,96	3,51
80-200/22	2,2	-	-	-	12,53	7,04	5,15
80-200/30	3	-	-	-	17,09	9,59	5,59
80-200/40	4	-	-	-	22,79	12,79	7,41

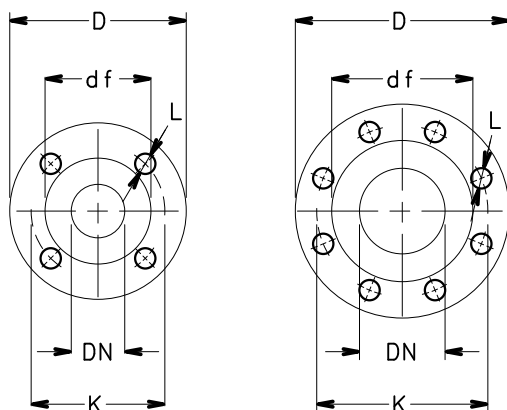
SIZE	kW	INPUT CURRENT (A)					
		LNEEH			LNESH		
		/2	/3	/4	/2	/3	/4
LNE..H		1~ 230V	3~ 230V	3~ 400V	1~ 230V	3~ 230V	3~ 400V
80-250/30	3	-	-	-	17,09	9,59	5,59
80-250/40	4	-	-	-	22,79	12,79	7,41
80-250/55	5,5	-	-	-	-	17,26	10,12
80-250/75	7,5	-	-	-	-	23,53	13,71
80-315/75	7,5	-	-	-	-	23,53	13,71
80-315/110	11	-	-	-	-	34,52	19,35
80-315/150	15	-	-	-	-	-	26,18
100-160/15	1,5	8,55	4,96	3,51	8,55	4,96	3,51
100-160/22	2,2	12,53	7,04	5,15	12,53	7,04	5,15
100-160/30	3	17,09	9,60	5,59	17,09	9,60	5,59
100-200/30	3	-	-	-	17,09	9,60	5,59
100-200/40	4	-	-	-	22,79	12,79	7,41
100-200/55	5,5	-	-	-	-	17,26	10,12
100-250/55	5,5	-	-	-	-	17,26	10,12
100-250/75	7,5	-	-	-	-	23,53	13,71
100-250/110	11	-	-	-	-	34,52	19,35
100-315/110	11	-	-	-	-	34,52	19,35
100-315/150	15	-	-	-	-	-	26,18
100-315/185	18,5	-	-	-	-	-	32,29
100-315/220	22	-	-	-	-	-	38,79
125-160/22	2,2	-	-	-	12,53	7,04	5,15
125-160/30	3	-	-	-	17,09	9,60	5,59
125-160/40	4	-	-	-	22,79	12,79	7,41
125-200/55	5,5	-	-	-	-	17,26	10,12
125-200/75	7,5	-	-	-	-	23,53	13,71
125-250/75	7,5	-	-	-	-	23,53	13,71
125-250/110	11	-	-	-	-	34,52	19,35
125-315/150	15	-	-	-	-	-	26,18
125-315/185	18,5	-	-	-	-	-	32,29
125-315/220	22	-	-	-	-	-	38,79
150-200/55	5,5	-	-	-	-	17,26	10,12
150-200/75	7,5	-	-	-	-	23,53	13,71
150-200/110	11	-	-	-	-	34,52	19,35
150-250/110	11	-	-	-	-	34,52	19,35
150-250/150	15	-	-	-	-	-	26,18
150-315/185	18,5	-	-	-	-	-	32,29
150-315/220	22	-	-	-	-	-	38,79
200-250/150	15	-	-	-	-	-	26,18
200-250/185	18,5	-	-	-	-	-	32,29
200-250/220	22	-	-	-	-	-	38,79

LNEH-HVL-4p50-en\_b\_te

**e-LNEEH 32, 40, 50, 65, 80 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



- (1) AIR VALVE
- (2) PRESSURE GAUGE CONNECTOR
- (3) DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

## e-LNEEH 32, 40, 50, 65, 80 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

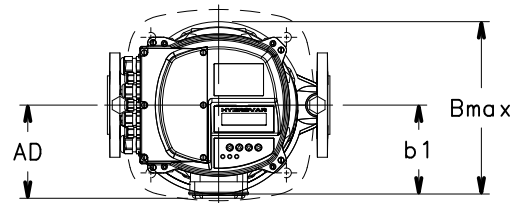
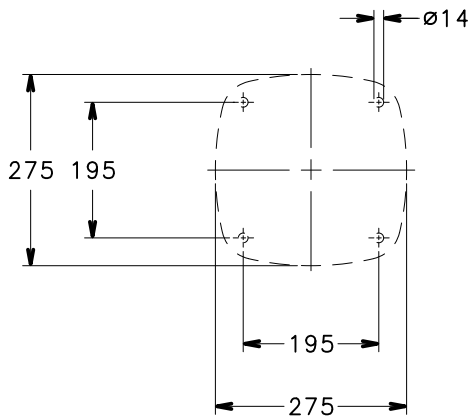
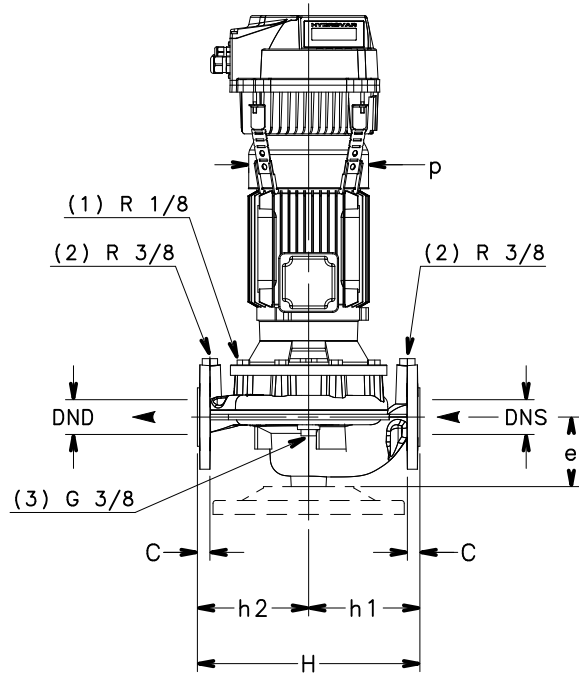
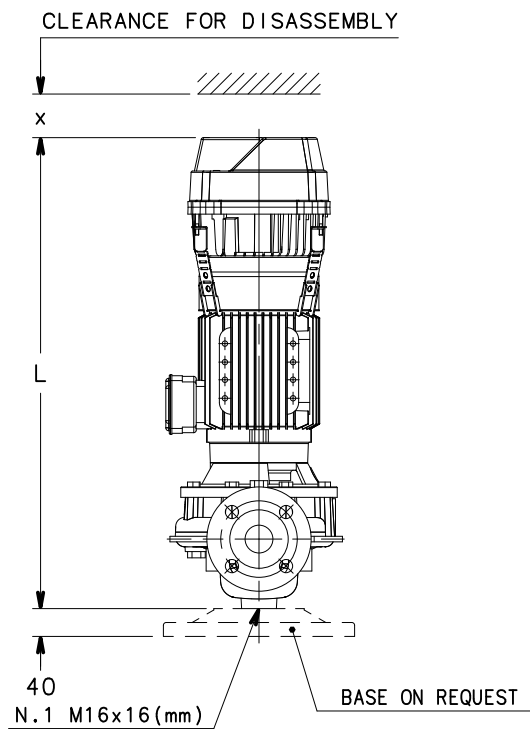
PUMP TYPE LNEEH..	DIMENSIONS (mm)									B max	H	L			x ≥	WEIGHT (kg)		
	DND	DNS	e	h1	h2	AD	b1	p	/2			/3	/4	/2		/3	/4	
									1~230V			3~230V	3~400V	1~230V		3~230V	3~400V	
32-160/07/S	32	32	90	160	160	129	123	155	249	320	623	623	623	300	36,6	36,6	36,6	
32-160/11/S	32	32	90	160	160	129	123	155	249	320	623	623	623	300	37,6	37,6	37,6	
32-160/15/S	32	32	90	160	160	129	123	155	249	320	623	623	623	300	38,6	38,6	38,6	
32-160/22/P	32	32	90	160	160	134	123	174	254	320	658	658	658	300	45,6	45,6	45,6	
32-160/30/P	32	32	90	160	160	134	123	174	254	320	673	673	658	300	51,5	51,5	46,6	
40-125/11/S	40	40	100	160	160	129	128	155	249	320	643	643	643	300	38,6	38,6	38,6	
40-125/15/S	40	40	100	160	160	129	128	155	249	320	643	643	643	300	39,6	39,6	39,6	
40-125/22/P	40	40	100	160	160	134	128	174	254	320	678	678	678	300	46,6	46,6	46,6	
40-125/30/P	40	40	100	160	160	134	128	174	254	320	693	693	678	300	52,5	52,5	47,6	
40-160/22/P	40	40	100	160	160	134	128	174	254	320	678	678	678	300	46,6	46,6	46,6	
40-160/30/P	40	40	100	160	160	134	128	174	254	320	693	693	678	300	52,5	52,5	47,6	
40-160/40/P	40	40	100	160	160	154	128	197	274	320	714	714	699	300	57,5	57,5	52,6	
40-160/55/P	40	40	100	160	160	168	128	214	288	320	-	748	748	300	-	66,5	66,5	
40-200/30/P	40	40	110	220	220	134	168	174	336	440	693	693	678	300	70,5	70,5	65,6	
40-200/40/P	40	40	110	220	220	154	168	197	336	440	714	714	699	300	74,5	74,5	69,6	
40-200/55/P	40	40	110	220	220	168	168	214	336	440	-	748	748	300	-	83,5	83,5	
40-200/75/P	40	40	110	220	220	191	168	256	359	440	-	777	762	300	-	107,6	102,5	
40-250/75/P	40	40	110	220	220	191	168	256	359	440	-	777	762	300	-	107,6	102,5	
40-250/92/P	40	40	110	220	220	191	168	256	359	440	-	815	800	300	-	113,6	108,5	
40-250/110/P	40	40	110	220	220	191	168	256	359	440	-	815	800	300	-	116,6	111,5	
40-250/150/P	40	40	110	220	220	240	168	313	408	440	-	-	904	300	-	-	156,6	
50-125/15/S	50	50	116	180	160	129	128	155	247	340	649	649	649	300	43,6	43,6	43,6	
50-125/22/P	50	50	116	180	160	134	128	174	252	340	684	684	684	300	50,6	50,6	50,6	
50-125/30/P	50	50	116	180	160	134	128	174	252	340	699	699	684	300	56,5	56,5	51,6	
50-125/40/P	50	50	116	180	160	154	128	197	272	340	720	720	705	300	61,5	61,5	56,6	
50-160/30/P	50	50	116	180	160	134	128	174	252	340	699	699	684	300	56,5	56,5	51,6	
50-160/40/P	50	50	116	180	160	154	128	197	272	340	720	720	705	300	61,5	61,5	56,6	
50-160/55/P	50	50	116	180	160	168	128	214	286	340	-	754	754	300	-	70,5	70,5	
50-160/75/P	50	50	116	180	160	191	128	256	319	340	-	783	768	300	-	96,6	91,5	
50-200/55/P	50	50	111	220	220	168	168	214	336	440	-	749	749	300	-	86,5	86,5	
50-200/75/P	50	50	111	220	220	191	168	256	359	440	-	778	763	300	-	110,6	105,5	
50-200/92/P	50	50	111	220	220	191	168	256	359	440	-	816	801	300	-	116,6	111,5	
50-200/110/P	50	50	111	220	220	191	168	256	359	440	-	816	801	300	-	119,6	114,5	
50-250/92/P	50	50	111	220	220	191	168	256	359	440	-	816	801	300	-	116,6	111,5	
50-250/110/P	50	50	111	220	220	191	168	256	359	440	-	816	801	300	-	119,6	114,5	
50-250/150/P	50	50	111	220	220	240	168	313	408	440	-	-	905	300	-	-	159,6	
50-250/185/P	50	50	111	220	220	240	168	313	408	440	-	-	905	300	-	-	170,6	
50-250/220/P	50	50	111	220	220	240	168	313	408	440	-	-	905	300	-	-	179,6	
65-125/30/P	65	65	105	190	170	134	148	174	296	360	713	713	698	300	68,5	68,5	63,6	
65-125/40/P	65	65	105	190	170	154	148	197	302	360	734	734	719	300	73,5	73,5	68,6	
65-125/55/P	65	65	105	190	170	168	148	214	316	360	-	768	768	300	-	82,5	82,5	
65-125/75/P	65	65	105	190	170	191	148	256	339	360	-	797	782	300	-	106,6	101,5	
65-160/55/P	65	65	105	190	170	168	148	214	316	360	-	768	768	300	-	82,5	82,5	
65-160/75/P	65	65	105	190	170	191	148	256	339	360	-	797	782	300	-	106,6	101,5	
65-160/92/P	65	65	105	190	170	191	148	256	339	360	-	835	820	300	-	112,6	107,5	
65-160/110/P	65	65	105	190	170	191	148	256	339	360	-	835	820	300	-	115,6	110,5	
65-200/92/P	65	65	118	238	238	191	178	256	360	475	-	823	808	300	-	120,6	115,5	
65-200/110/P	65	65	118	238	238	191	178	256	360	475	-	823	808	300	-	123,6	118,5	
65-200/150/P	65	65	118	238	238	240	178	313	409	475	-	-	912	300	-	-	163,6	
65-200/185/P	65	65	118	238	238	240	178	313	409	475	-	-	912	300	-	-	174,6	
65-250/150/P	65	65	118	238	238	240	178	313	409	475	-	-	912	300	-	-	163,6	
65-250/185/P	65	65	118	238	238	240	178	313	409	475	-	-	912	300	-	-	174,6	
65-250/220/P	65	65	118	238	238	240	178	313	409	475	-	-	912	300	-	-	183,6	
80-125/40/P	80	80	114	215	205	154	168	197	336	420	733	733	718	300	85,5	85,5	80,6	
80-125/110/P	80	80	114	215	205	191	168	256	359	420	-	834	819	300	-	127,6	122,5	
80-160/55/P	80	80	114	215	205	168	168	214	336	420	-	767	767	300	-	94,5	94,5	
80-160/75/P	80	80	114	215	205	191	168	256	359	420	-	796	781	300	-	118,6	113,5	
80-160/92/P	80	80	114	215	205	191	168	256	359	420	-	834	819	300	-	124,6	119,5	
80-160/110/P	80	80	114	215	205	191	168	256	359	420	-	834	819	300	-	127,6	122,5	
80-160/150/P	80	80	114	215	205	240	168	313	408	420	-	-	923	300	-	-	167,6	
80-160/185/P	80	80	114	215	205	240	168	313	408	420	-	-	923	300	-	-	178,6	
100-160/110/P	100	100	140	260	240	191	179	256	359	500	-	865	850	300	-	137,6	132,5	
100-160/150/P	100	100	140	260	240	240	179	313	408	500	-	-	954	300	-	-	177,6	
100-160/185/P	100	100	140	260	240	240	179	313	408	500	-	-	954	300	-	-	188,6	
100-160/220/P	100	100	140	260	240	240	179	313	408	500	-	-	954	300	-	-	197,6	

NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

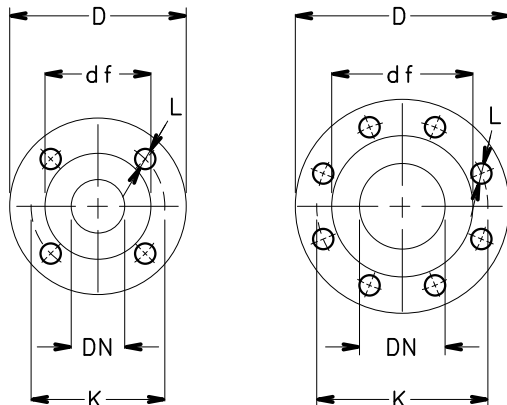
LNEEH-HVL-32-100\_2p50-en\_a\_td



**e-LNEEH 40, 50, 65, 80 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



- (1) AIR VALVE
- (2) PRESSURE GAUGE CONNECTOR
- (3) DRAIN



FLANGE  
EN1092-2, PN 16 \*)

DN	D	K	C	df	L
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*) ...VALUE "C" AND "D" MAY VARY FROM STANDARD.

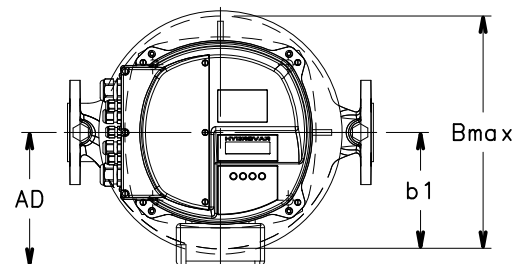
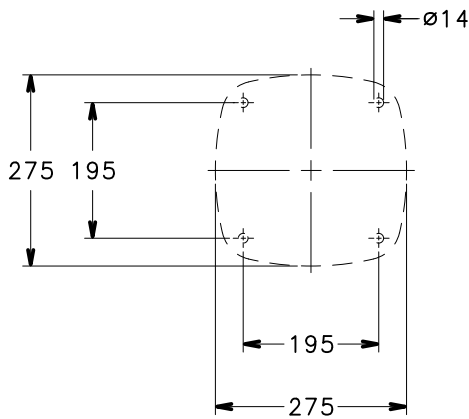
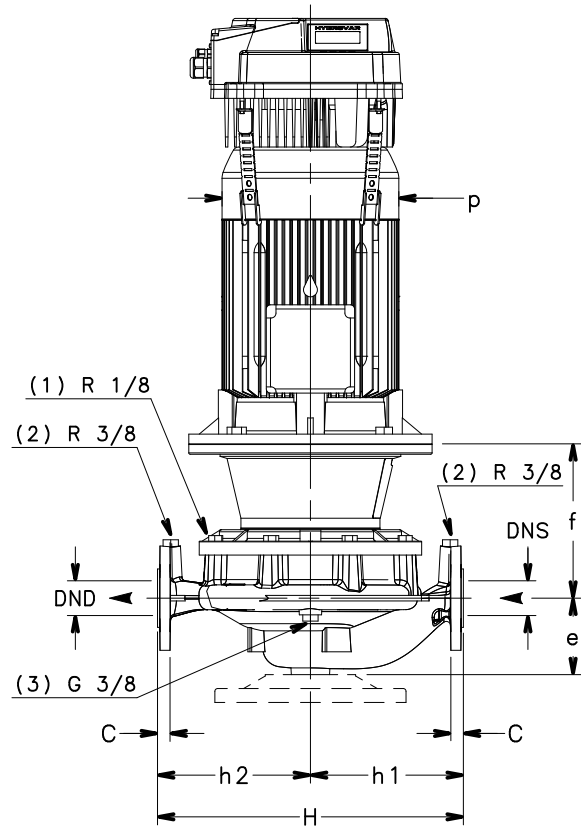
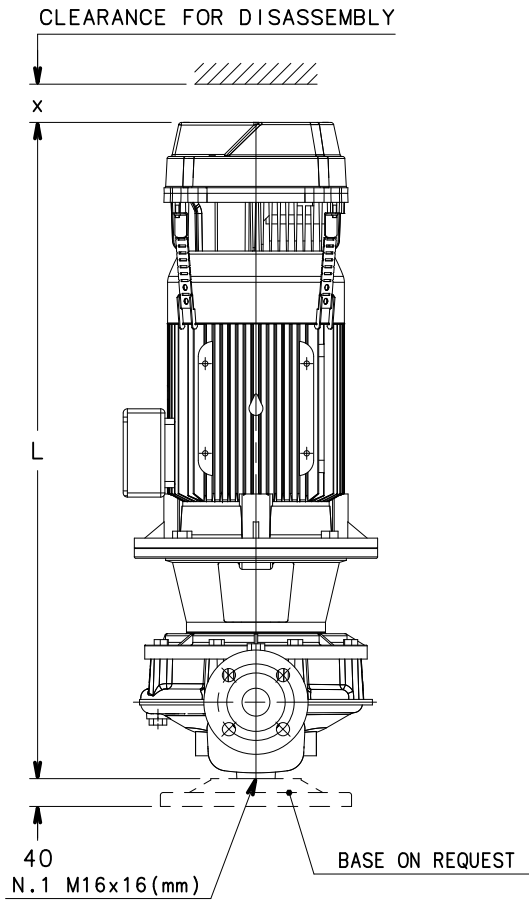
## e-LNEEH 40, 50, 65, 80 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNEEH..	DIMENSIONS (mm)									B max	H	L			x IV	WEIGHT (kg)		
	DND	DNS	e	h1	h2	AD	b1	p	/2			/3	/4	/2		/3	/4	
									1~230V			3~230V	3~400V	1~230V		3~230V	3~400V	
40-160/05/S	40	40	100	160	160	129	128	155	249	320	643	643	643	300	44,6	44,6	44,6	
40-160/07/X	40	40	100	160	160	128	128	159	248	320	611	611	611	300	47,6	47,6	47,6	
40-200/05/S	40	40	110	220	220	129	168	155	336	440	643	643	643	300	52,6	52,6	52,6	
40-200/07/X	40	40	110	220	220	128	168	159	336	440	611	611	611	300	55,6	55,6	55,6	
40-200/11/P	40	40	110	220	220	134	168	174	336	440	678	678	678	300	61,6	61,6	61,6	
40-250/15/P	40	40	110	220	220	134	168	174	336	440	678	678	678	300	65,6	65,6	65,6	
40-250/22/P	40	40	110	220	220	168	168	214	336	440	702	702	702	300	75,6	75,6	75,6	
50-125/05/S	50	50	116	180	160	129	128	155	247	340	649	649	649	300	39,6	39,6	39,6	
50-160/05/S	50	50	116	180	160	129	128	155	247	340	649	649	649	300	39,6	39,6	39,6	
50-160/07/X	50	50	116	180	160	128	128	159	246	340	617	617	617	300	42,6	42,6	42,6	
50-160/11/P	50	50	116	180	160	134	128	174	252	340	684	684	684	300	50,6	50,6	50,6	
50-200/07/X	50	50	111	220	220	128	168	159	336	440	612	612	612	300	58,6	58,6	58,6	
50-200/11/P	50	50	111	220	220	134	168	174	336	440	679	679	679	300	64,6	64,6	64,6	
50-200/15/P	50	50	111	220	220	134	168	174	336	440	679	679	679	300	68,6	68,6	68,6	
50-250/15/P	50	50	111	220	220	134	168	174	336	440	679	679	679	300	68,6	68,6	68,6	
50-250/22/P	50	50	111	220	220	168	168	214	336	440	703	703	703	300	78,6	78,6	78,6	
50-250/30/P	50	50	111	220	220	168	168	214	336	440	749	749	734	300	87,5	87,5	82,6	
65-125/05/S	65	65	105	190	170	129	148	155	296	360	663	663	663	300	51,6	51,6	51,6	
65-125/07/X	65	65	105	190	170	128	148	159	296	360	631	631	631	300	54,6	54,6	54,6	
65-125/11/P	65	65	105	190	170	134	148	174	296	360	698	698	698	300	60,6	60,6	60,6	
65-160/07/X	65	65	105	190	170	128	148	159	296	360	631	631	631	300	54,6	54,6	54,6	
65-160/11/P	65	65	105	190	170	134	148	174	296	360	698	698	698	300	60,6	60,6	60,6	
65-160/15/P	65	65	105	190	170	134	148	174	296	360	698	698	698	300	64,6	64,6	64,6	
65-200/15/P	65	65	118	238	238	134	178	174	347	475	686	686	686	300	72,6	72,6	72,6	
65-200/22/P	65	65	118	238	238	168	178	214	347	475	710	710	710	300	82,6	82,6	82,6	
65-250/22/P	65	65	118	238	238	168	178	214	347	475	710	710	710	300	82,6	82,6	82,6	
65-250/30/P	65	65	118	238	238	168	178	214	347	475	756	756	741	300	91,5	91,5	86,6	
65-250/40/P	65	65	118	238	238	168	178	214	347	475	785	785	770	300	110,5	110,5	105,6	
80-125/05/S	80	80	114	215	205	129	168	155	336	420	662	662	662	300	61,6	61,6	61,6	
80-125/15/P	80	80	114	215	205	134	168	174	336	420	697	697	697	300	72,6	72,6	72,6	
80-160/15/P	80	80	114	215	205	134	168	174	336	420	697	697	697	300	72,6	72,6	72,6	
80-160/22/P	80	80	114	215	205	168	168	214	336	420	721	721	721	300	83,6	83,6	83,6	
100-160/15/P	100	100	140	260	240	134	179	174	347	500	728	728	728	300	86,6	86,6	86,6	
100-160/22/P	100	100	140	260	240	168	179	214	347	500	752	752	752	300	96,6	96,6	96,6	
100-160/30/P	100	100	140	260	240	168	179	214	347	500	798	798	783	300	105,5	105,5	100,6	

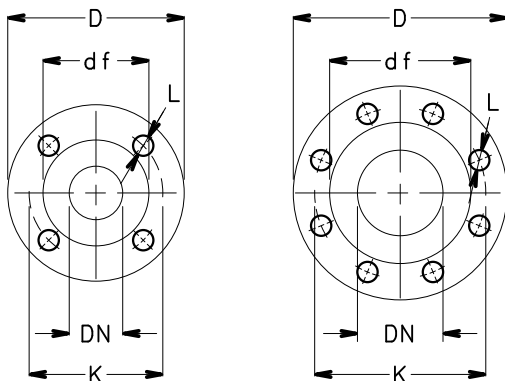
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNEEH-HVL-40-100\_4p50-en\_c\_td

**e-LNESH 32, 40, 50, 65 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



- (1) AIR VALVE
- (2) PRESSURE GAUGE CONNECTOR
- (3) DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

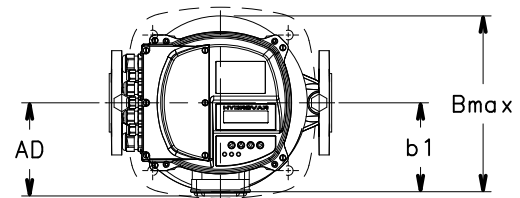
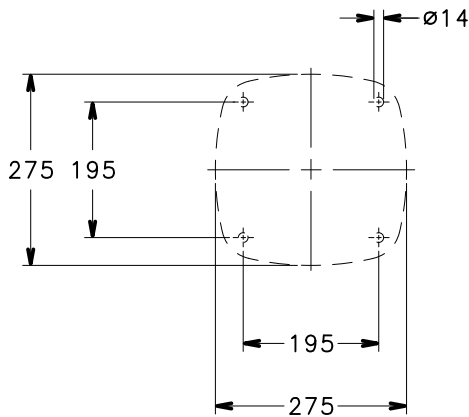
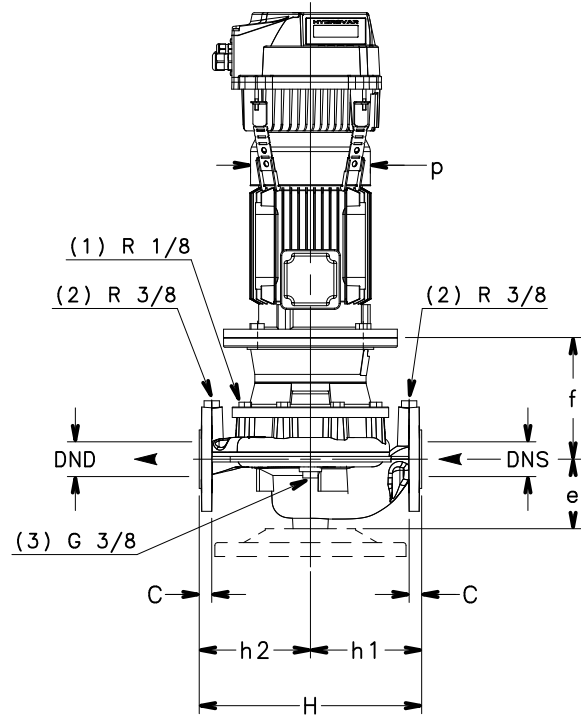
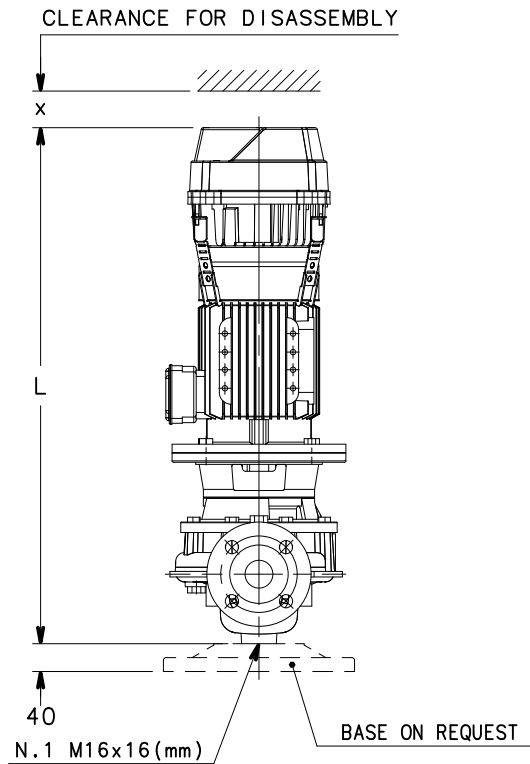
## e-LNESH 32, 40, 50, 65 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE LNESH..	DIMENSIONS (mm)										B max	H	L			x ≧	WEIGHT (kg)		
	DND	DNS	e	f	h1	h2	AD	b1	p	/2			/3	/4	/2		/3	/4	
										1~230V			3~230V	3~400V	1~230V		3~230V	3~400V	
32-160/07/S	32	32	90	155	160	160	129	123	155	249	320	678	678	678	300	38.6	38.6	38.6	
32-160/11/S	32	32	90	155	160	160	129	123	155	249	320	678	678	678	300	39.6	39.6	39.6	
32-160/15/S	32	32	90	155	160	160	129	123	155	249	320	678	678	678	300	41.6	41.6	41.6	
32-160/22/P	32	32	90	155	160	160	134	123	174	254	320	713	713	713	300	48.6	48.6	48.6	
32-160/30/P	32	32	90	165	160	160	134	123	174	254	320	738	738	723	300	58.5	58.5	53.6	
40-125/11/S	40	40	100	165	160	160	129	128	155	249	320	698	698	698	300	38.6	38.6	38.6	
40-125/15/S	40	40	100	165	160	160	129	128	155	249	320	698	698	698	300	42.6	42.6	42.6	
40-125/22/P	40	40	100	165	160	160	134	128	174	254	320	733	733	733	300	49.6	49.6	49.6	
40-125/30/P	40	40	100	175	160	160	134	128	174	254	320	758	758	743	300	59.5	59.5	54.6	
40-160/22/P	40	40	100	165	160	160	134	128	174	254	320	733	733	733	300	49.6	49.6	49.6	
40-160/30/P	40	40	100	175	160	160	134	128	174	254	320	758	758	743	300	59.5	59.5	54.6	
40-160/40/P	40	40	100	175	160	160	154	128	197	274	320	779	779	764	300	62.5	62.5	57.6	
40-160/55/P	40	40	100	202	160	160	168	128	214	288	320	-	862	862	300	-	75.5	75.5	
40-200/30/P	40	40	110	165	220	220	134	168	174	336	440	758	758	743	300	76.5	76.5	71.6	
40-200/40/P	40	40	110	165	220	220	154	168	197	336	440	779	779	764	300	79.5	79.5	74.6	
40-200/55/P	40	40	110	192	220	220	168	168	214	336	440	-	862	862	300	-	92.5	92.5	
40-200/75/P	40	40	110	192	220	220	191	168	256	359	440	-	869	854	300	-	116.6	111.5	
40-250/75/P	40	40	110	192	220	220	191	168	256	359	440	-	869	854	300	-	116.6	111.5	
40-250/110/P	40	40	110	222	220	220	191	168	256	359	440	-	960	945	300	-	133.6	128.5	
40-250/150/P	40	40	110	222	220	220	240	168	313	408	440	-	-	1026	300	-	-	166.6	
50-125/15/S	50	50	116	155	180	160	129	128	155	247	340	704	704	704	300	46.6	46.6	46.6	
50-125/22/P	50	50	116	155	180	160	134	128	174	252	340	739	739	739	300	53.6	53.6	53.6	
50-125/30/P	50	50	116	165	180	160	134	128	174	252	340	764	764	749	300	62.5	62.5	57.6	
50-125/40/P	50	50	116	165	180	160	154	128	197	272	340	785	785	770	300	65.5	65.5	60.6	
50-160/30/P	50	50	116	165	180	160	134	128	174	252	340	764	764	749	300	62.5	62.5	57.6	
50-160/40/P	50	50	116	165	180	160	154	128	197	272	340	785	785	770	300	65.5	65.5	60.6	
50-160/55/P	50	50	116	192	180	160	168	128	214	286	340	-	868	868	300	-	75.5	75.5	
50-160/75/P	50	50	116	192	180	160	191	128	256	319	340	-	875	860	300	-	99.6	94.5	
50-200/55/P	50	50	111	192	220	220	168	168	214	336	440	-	863	863	300	-	95.5	95.5	
50-200/75/P	50	50	111	192	220	220	191	168	256	359	440	-	870	855	300	-	119.6	114.5	
50-200/110/P	50	50	111	222	220	220	191	168	256	359	440	-	961	946	300	-	136.6	131.5	
50-250/110/P	50	50	111	222	220	220	191	168	256	359	440	-	961	946	300	-	136.6	131.5	
50-250/150/P	50	50	111	222	220	220	240	168	313	408	440	-	-	1027	300	-	-	169.6	
50-250/185/P	50	50	111	222	220	220	240	168	313	408	440	-	-	1027	300	-	-	178.6	
50-250/220/P	50	50	111	222	220	220	240	168	313	408	440	-	-	1027	300	-	-	189.6	
65-125/30/P	65	65	105	190	190	170	134	148	174	296	360	778	778	763	300	70.5	70.5	65.6	
65-125/40/P	65	65	105	190	190	170	154	148	197	302	360	799	799	784	300	73.5	73.5	68.6	
65-125/55/P	65	65	105	217	190	170	168	148	214	316	360	-	882	882	300	-	82.5	82.5	
65-125/75/P	65	65	105	217	190	170	191	148	256	339	360	-	889	874	300	-	110.6	105.5	
65-160/55/P	65	65	105	217	190	170	168	148	214	316	360	-	882	882	300	-	87.5	87.5	
65-160/75/P	65	65	105	217	190	170	191	148	256	339	360	-	889	874	300	-	111.6	106.5	
65-160/110/P	65	65	105	247	190	170	191	148	256	339	360	-	980	965	300	-	132.6	127.5	
65-200/110/P	65	65	118	222	238	238	191	178	256	360	475	-	968	953	300	-	140.6	135.5	
65-200/150/P	65	65	118	222	238	238	240	178	313	409	475	-	-	1034	300	-	-	173.6	
65-200/185/P	65	65	118	222	238	238	240	178	313	409	475	-	-	1034	300	-	-	182.6	
65-250/150/P	65	65	118	222	238	238	240	178	313	409	475	-	-	1034	300	-	-	173.6	
65-250/185/P	65	65	118	222	238	238	240	178	313	409	475	-	-	1034	300	-	-	182.6	
65-250/220/P	65	65	118	222	238	238	240	178	313	409	475	-	-	1034	300	-	-	193.6	

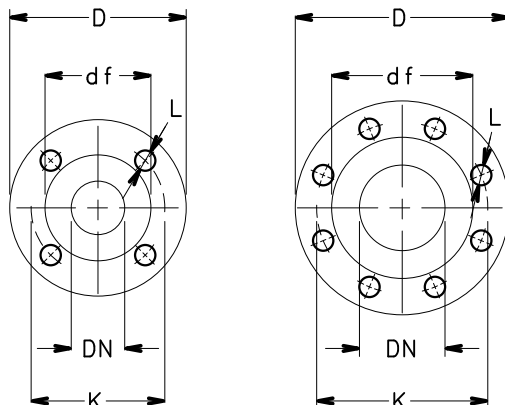
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNESH-HVL-32-65\_2p50-en\_a\_td

**e-LNESH 40, 50, 65 SERIES  
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



- (1) AIR VALVE
- (2) PRESSURE GAUGE CONNECTOR
- (3) DRAIN



FLANGE  
EN1092-2, PN 16 \*)

DN	D	K	C	df	L
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

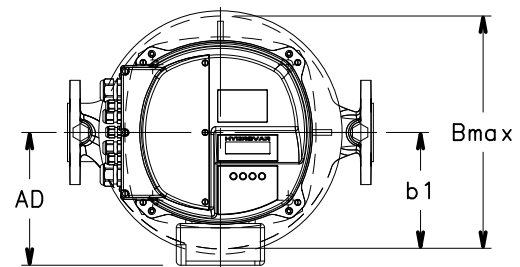
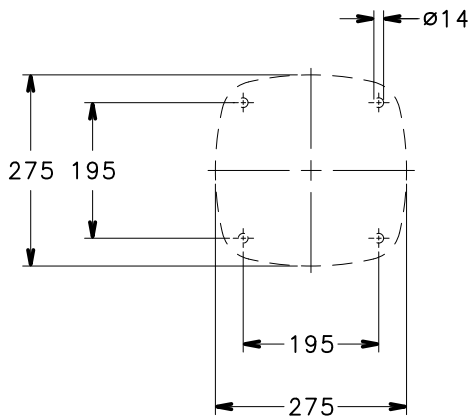
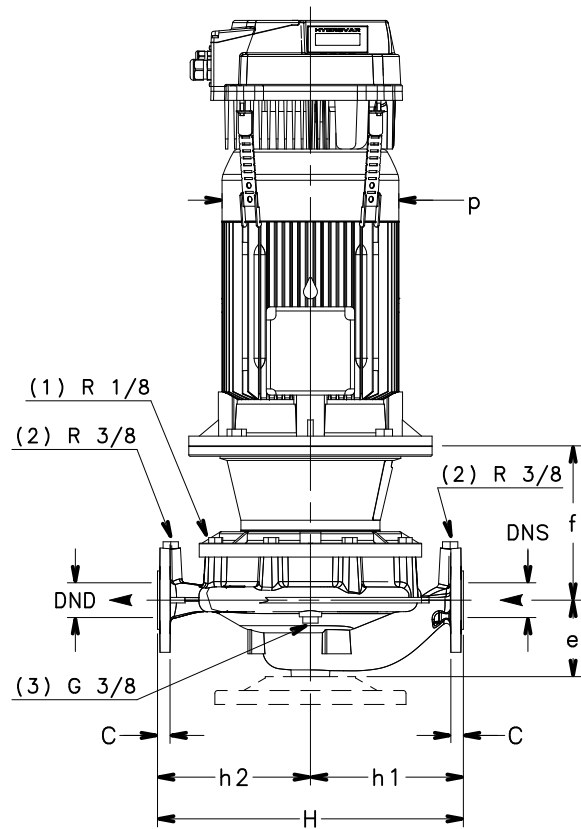
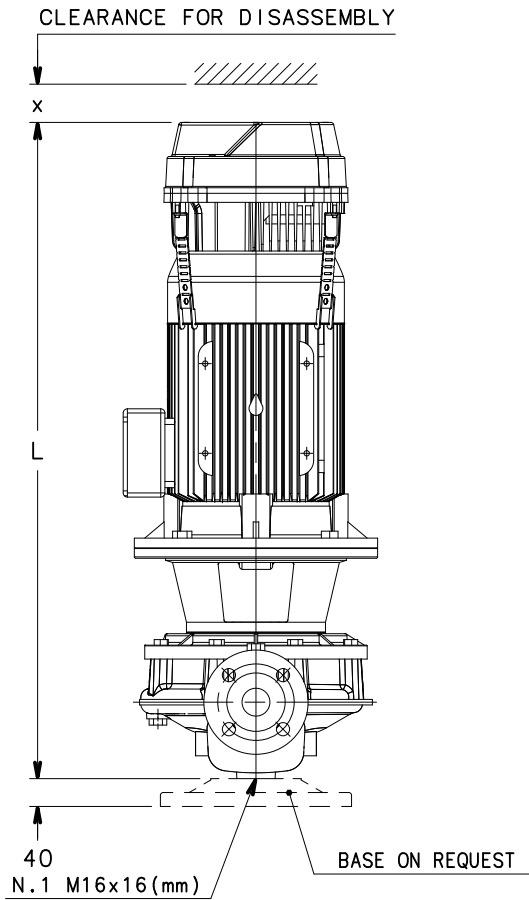
## e-LNESH 40, 50, 65 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNESH..	DIMENSIONS (mm)										B max	H	L			x ≅	WEIGHT (kg)		
	DND	DNS	e	f	h1	h2	AD	b1	p	/2			/3	/4	/2		/3	/4	
										1~ 230V			3~ 230V	3~ 400V	1~ 230V		3~ 230V	3~ 400V	
40-160/05/S	40	40	100	165	160	160	129	128	155	249	320	698	698	698	300	38.6	38.6	38.6	
40-160/07/X	40	40	100	165	160	160	128	128	159	248	320	666	666	666	300	41.6	41.6	41.6	
40-200/05/S	40	40	110	155	220	220	129	168	155	336	440	698	698	698	300	55.6	55.6	55.6	
40-200/07/X	40	40	110	155	220	220	128	168	159	336	440	666	666	666	300	58.6	58.6	58.6	
40-200/11/P	40	40	110	155	220	220	134	168	174	336	440	733	733	733	300	64.6	64.6	64.6	
40-250/11/P	40	40	110	155	220	220	134	168	174	336	440	733	733	733	300	64.6	64.6	64.6	
40-250/15/P	40	40	110	155	220	220	134	168	174	336	440	733	733	733	300	68.6	68.6	68.6	
40-250/22/P	40	40	110	165	220	220	168	168	214	336	440	767	767	767	300	79.6	79.6	79.6	
50-125/05/S	50	50	116	155	180	160	129	128	155	247	340	704	704	704	300	42.6	42.6	42.6	
50-160/05/S	50	50	116	155	180	160	129	128	155	247	340	704	704	704	300	42.6	42.6	42.6	
50-160/07/X	50	50	116	155	180	160	128	128	159	246	340	672	672	672	300	45.6	45.6	45.6	
50-160/11/P	50	50	116	155	180	160	134	128	174	252	340	739	739	739	300	51.6	51.6	51.6	
50-200/07/X	50	50	111	155	220	220	128	168	159	336	440	667	667	667	300	61.6	61.6	61.6	
50-200/11/P	50	50	111	155	220	220	134	168	174	336	440	734	734	734	300	67.6	67.6	67.6	
50-200/15/P	50	50	111	155	220	220	134	168	174	336	440	734	734	734	300	71.6	71.6	71.6	
50-250/11/P	50	50	111	155	220	220	134	168	174	336	440	734	734	734	300	67.6	67.6	67.6	
50-250/15/P	50	50	111	155	220	220	134	168	174	336	440	734	734	734	300	71.6	71.6	71.6	
50-250/22/P	50	50	111	165	220	220	168	168	214	336	440	768	768	768	300	82.6	82.6	82.6	
50-250/30/P	50	50	111	165	220	220	168	168	214	336	440	814	814	799	300	91.5	91.5	86.6	
65-125/05/S	65	65	105	180	190	170	129	148	155	296	360	718	718	718	300	54.6	54.6	54.6	
65-125/07/X	65	65	105	180	190	170	128	148	159	296	360	686	686	686	300	57.6	57.6	57.6	
65-125/11/P	65	65	105	180	190	170	134	148	174	296	360	753	753	753	300	63.6	63.6	63.6	
65-160/07/X	65	65	105	180	190	170	128	148	159	296	360	686	686	686	300	57.6	57.6	57.6	
65-160/11/P	65	65	105	180	190	170	134	148	174	296	360	753	753	753	300	63.6	63.6	63.6	
65-160/15/P	65	65	105	180	190	170	134	148	174	296	360	753	753	753	300	67.6	67.6	67.6	
65-200/11/P	65	65	118	155	238	238	134	178	174	347	475	741	741	741	300	71.6	71.6	71.6	
65-200/15/P	65	65	118	155	238	238	134	178	174	347	475	741	741	741	300	75.6	75.6	75.6	
65-200/22/P	65	65	118	165	238	238	168	178	214	347	475	775	775	775	300	86.6	86.6	86.6	
65-250/22/P	65	65	118	165	238	238	168	178	214	347	475	775	775	775	300	86.6	86.6	86.6	
65-250/30/P	65	65	118	165	238	238	168	178	214	347	475	821	821	806	300	95.5	95.5	90.6	
65-250/40/P	65	65	118	165	238	238	168	178	214	347	475	850	850	835	300	114.5	114.5	109.6	

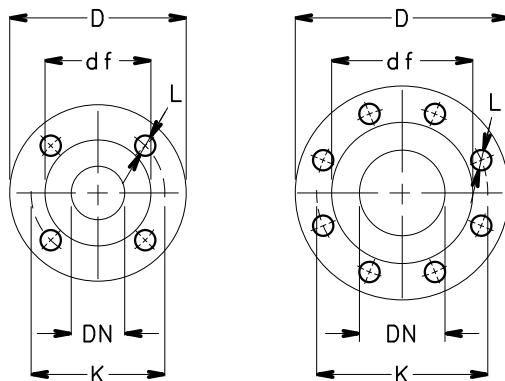
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNESH-HVL-40-50-65\_4p50-en\_c\_td

**e-LNESH 80, 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



- (1) AIR VALVE
- (2) PRESSURE GAUGE CONNECTOR
- (3) DRAIN



FLANGE

EN1092-2, PN 16 *)					
DN	D	K	C	df	L
32	140	100	18	76	4x19
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

**e-LNESH 80, 100 SERIES  
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**

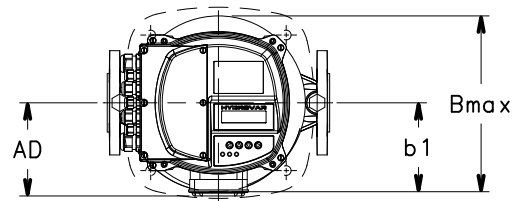
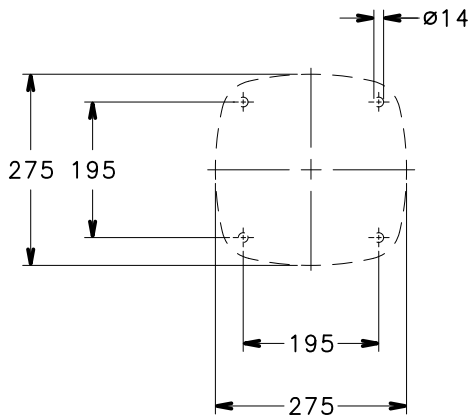
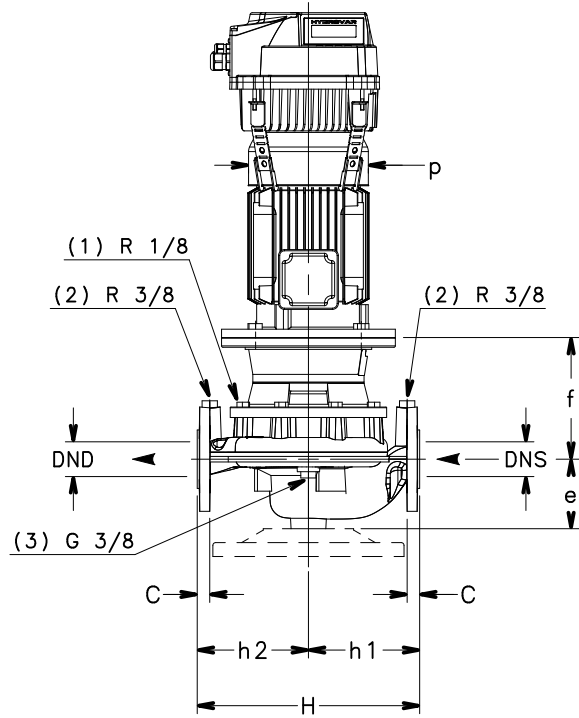
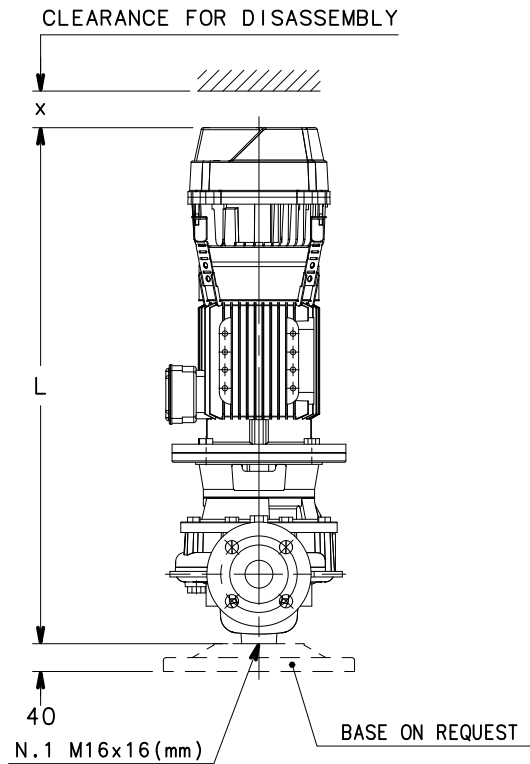
PUMP TYPE LNESH..	DIMENSIONS (mm)										B max	H	L			x ≅	WEIGHT (kg)		
	DND	DNS	e	f	h1	h2	AD	b1	p	/2			/3	/4	/2		/3	/4	
										1~ 230V			3~ 230V	3~ 400V	1~ 230V		3~ 230V	3~ 400V	
80-125/40/P	80	80	114	207	215	205	154	168	197	336	420	798	798	783	300	89.5	89.5	84.6	
80-125/110/P	80	80	114	237	215	205	191	168	256	359	420	-	979	964	300	-	144.6	139.5	
80-160/55/P	80	80	114	207	215	205	168	168	214	336	420	-	881	881	300	-	99.5	99.5	
80-160/75/P	80	80	114	207	215	205	191	168	256	359	420	-	888	873	300	-	123.6	118.5	
80-160/110/P	80	80	114	237	215	205	191	168	256	359	420	-	979	964	300	-	144.6	139.5	
80-160/150/P	80	80	114	237	215	205	240	168	313	408	420	-	-	1045	300	-	-	177.6	
80-160/185/P	80	80	114	237	215	205	240	168	313	408	420	-	-	1045	300	-	-	186.6	
80-200/110/P	80	80	132	240	265	235	191	185	256	359	500	-	1000	985	300	-	142.6	137.5	
80-200/150/P	80	80	132	240	265	235	240	185	313	408	500	-	-	1066	300	-	-	175.6	
80-200/185/P	80	80	132	240	265	235	240	185	313	408	500	-	-	1066	300	-	-	184.6	
80-200/220/P	80	80	132	240	265	235	240	185	313	408	500	-	-	1066	300	-	-	195.6	
80-250/220/P	80	80	132	240	265	235	240	185	313	408	500	-	-	1066	0	-	-	195.6	
100-160/110/P	100	100	140	240	260	240	191	179	256	359	500	-	1010	995	300	-	154.6	149.5	
100-160/150/P	100	100	140	240	260	240	240	179	313	408	500	-	-	1076	300	-	-	187.6	
100-160/185/P	100	100	140	240	260	240	240	179	313	408	500	-	-	1076	300	-	-	196.6	
100-160/220/P	100	100	140	240	260	240	240	179	313	408	500	-	-	1076	300	-	-	207.6	
100-200/220/P	100	100	175	240	300	250	240	201	313	410	550	-	-	1109	300	-	-	211.6	

NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

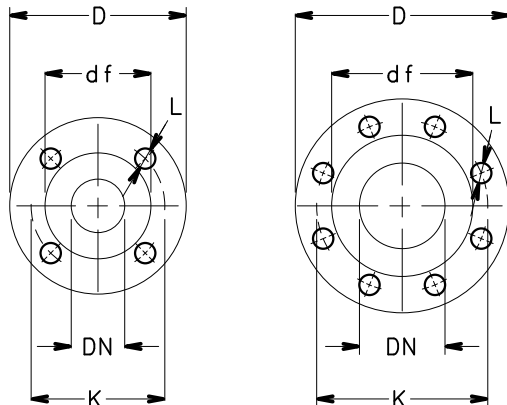
LNESH-HVL-80-100\_2p50-en\_b\_td



**e-LNESH 80, 100 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



- (1) AIR VALVE
- (2) PRESSURE GAUGE CONNECTOR
- (3) DRAIN



FLANGE  
EN1092-2, PN 16 \*)

DN	D	K	C	df	L
40	150	110	18	84	4x19
50	165	125	20	99	4x19
65	185	145	20	118	4x19
80	200	160	22	132	8x19
100	230	180	24	157	8x19

\*)...VALUE "C" AND "D" MAY VARY FROM STANDARD.

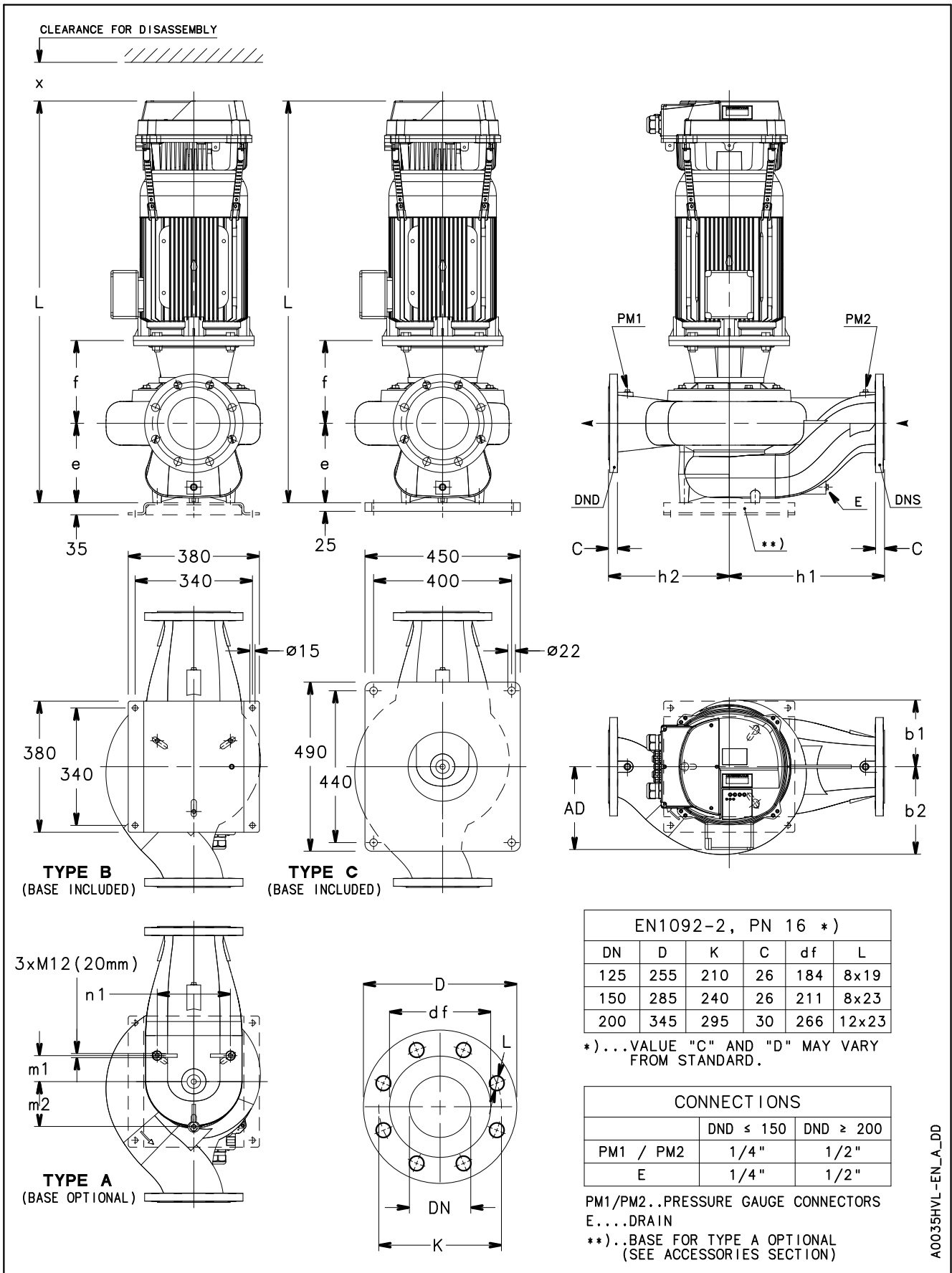
## e-LNESH 80, 100 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNESH..4	DIMENSIONS (mm)										B max	H	L	x ≥	ØF	WEIGHT kg
	DND	DNS	e	f	h1	h2	AD	b1	p							
80-160/11A/P	80	80	114	170	215	205	134	168	174	336	420	752	300	225	72,4	
80-160/11/P	80	80	114	170	215	205	134	168	174	336	420	752	300	225	72,4	
80-160/15/P	80	80	114	170	215	205	134	168	174	336	420	752	300	225	76,4	
80-160/22A/P	80	80	114	170	215	205	168	168	214	336	420	786	300	225	89,4	
80-160/22/P	80	80	114	180	215	205	168	168	214	336	420	786	300	225	89,4	
80-200/22/P	80	80	132	183	265	235	168	185	214	353	500	807	300	225	87,4	
80-200/30/P	80	80	132	183	265	235	168	185	214	353	500	838	300	225	91,4	
80-200/40/P	80	80	132	183	265	235	168	185	214	353	500	867	300	225	110,4	
80-250/55A/P	80	80	132	210	265	235	191	185	256	359	500	917	300	286	125,1	
80-250/55/P	80	80	132	210	265	235	191	185	256	359	500	917	300	286	125,1	
80-250/75/P	80	80	132	210	265	235	191	185	256	359	500	917	300	286	129,1	
80-315/75/P	80	80	140	215	325	295	191	229	256	439	620	930	300	286	167,1	
80-315/110/P	80	80	140	245	325	295	240	229	256	439	620	1049	300	286	231,1	
80-315/150/P	80	80	140	245	325	295	240	229	256	439	620	1089	300	404	241	
100-160/15/P	100	100	140	175	260	240	134	179	174	347	500	783	300	225	88,4	
100-160/22A/P	100	100	140	185	260	240	168	179	214	347	500	817	300	225	99,4	
100-160/22/P	100	100	140	185	260	240	168	179	214	347	500	817	300	225	99,4	
100-160/30/P	100	100	140	185	260	240	168	179	214	347	500	848	300	225	103,4	
100-200/30/P	100	100	175	183	300	250	134	201	174	371	550	881	300	225	107,4	
100-200/40/P	100	100	175	183	300	250	168	201	214	371	550	910	300	225	126,4	
100-200/55A/P	100	100	175	210	300	250	168	201	214	371	550	960	300	286	141,1	
100-200/55/P	100	100	175	210	300	250	168	201	214	371	550	960	300	286	141,1	
100-250/55A/P	100	100	175	210	300	250	191	201	256	371	550	960	300	286	141,1	
100-250/55/P	100	100	175	210	300	250	191	201	256	371	550	960	300	286	141,1	
100-250/75/P	100	100	175	210	300	250	191	201	256	371	550	960	300	286	145,1	
100-250/110/P	100	100	175	240	300	250	240	201	313	410	550	1079	300	286	209,1	
100-315/110/P	100	100	175	240	360	310	240	244	256	451	670	1079	300	286	246,1	
100-315/150/P	100	100	175	240	360	310	240	244	256	451	670	1119	300	404	256	
100-315/185/W	100	100	175	240	360	310	279	244	360	451	670	1179	300	404	295	
100-315/220/W	100	100	175	240	360	310	279	244	360	451	670	1217	300	404	312	

NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNESH-80-100\_4p50-en\_d\_td

**e-LNESH 125, 150, 200 SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES**



## e-LNESH 125, 150, 200 SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNESH..	TYPE	DIMENSIONS (mm)													L			x ≥	WEIGHT (kg)		
		DND	DNS	e	f	h1	h2	m1	m2	n1	b1	b2	AD	/2	/3	/4	/2		/3	/4	
														1-230V	3-230V	3-400V	1-230V		3-230V	3-400V	
125-160/22/P	A	125	125	215	183	340	280	60	105	172	166	212	168	890	890	890	300	120,6	120,6	120,6	
125-160/30/P	A	125	125	215	183	340	280	60	105	172	166	212	168	936	936	921	300	132,5	132,5	127,6	
125-160/40/P	A	125	125	215	183	340	280	60	105	172	166	212	168	965	965	950	300	150,5	150,5	145,6	
125-200/55/P	A	125	125	215	210	340	280	60	105	172	166	212	191	-	1015	1015	300	-	155,5	155,5	
125-200/75/P	A	125	125	215	210	340	280	60	105	172	166	212	191	-	1030	1015	300	-	165,6	160,5	
125-250/75/P	A	125	125	230	215	450	350	63	110	180	223	275	191	-	1050	1035	300	-	200,6	195,5	
125-250/110/P	B	125	125	230	245	450	350	63	110	180	223	275	240	-	1169	1154	300	-	272,6	267,5	
125-315/150/P	B	125	125	230	245	450	350	63	110	180	223	275	240	-	-	1169	300	-	-	293,6	
125-315/185/W	B	125	125	230	245	450	350	63	110	180	223	275	279	-	-	1229	300	-	-	332,6	
125-315/220/W	B	125	125	230	245	450	350	63	110	180	223	275	279	-	-	1267	300	-	-	349,6	
150-200/55/P	A	150	150	230	225	450	350	75	130	212	182	253	191	-	1045	1045	300	-	188,5	188,5	
150-200/75/P	A	150	150	230	225	450	350	75	130	212	182	253	191	-	1060	1045	300	-	198,6	193,5	
150-200/110/P	B	150	150	230	255	450	350	75	130	212	182	253	240	-	1179	1164	300	-	270,6	265,5	
150-250/110/P	B	150	150	230	240	450	350	75	130	212	193	255	240	-	1164	1149	300	-	276,6	271,5	
150-250/150/P	B	150	150	230	240	450	350	75	130	212	193	255	240	-	-	1164	300	-	-	280,6	
150-315/185/W	B	150	150	230	254	450	350	78	135	222	215	257	279	-	-	1238	300	-	-	338,6	
150-315/220/W	B	150	150	230	254	450	350	78	135	222	215	257	279	-	-	1276	300	-	-	355,6	
200-250/150/W	C	200	200	308	254	475	355	73	145	250	247	305	240	-	-	1256	300	-	-	375,6	
200-250/185/W	C	200	200	308	254	475	355	73	145	250	247	305	279	-	-	1316	300	-	-	414,6	
200-250/220/W	C	200	200	308	254	475	355	73	145	250	247	305	279	-	-	1354	300	-	-	431,6	

NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

LNESH-HVL-125-200\_4p50-en\_b\_td

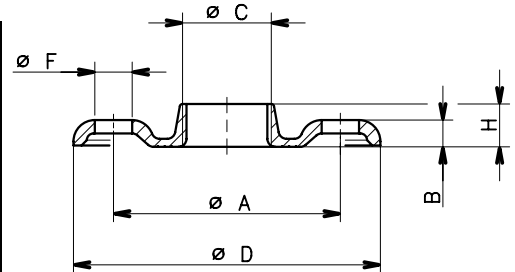
# ACCESSORIES

### e-LNE SERIES

### ROUND THREADED COUNTERFLANGES KIT ACCORDING TO EN 1092-1

DN	CODE		DIMENSIONS (mm)				HOLES			PN
	KIT	$\varnothing C$	$\varnothing A$	B	$\varnothing D$	H	$\varnothing F$	N°		
32	109398010	Rp 1¼	100	13	140	16	18	4	16	
40	109398020	Rp 1½	110	14	150	19	18	4	16	
50	109398030	Rp 2	125	16	165	24	18	4	16	
65	109392710	Rp 2½	145	16	185	23	18	4	16	
80	109392720	Rp 3	160	17	200	27	18	8	16	
100	109392730	Rp 4	180	18	220	31	18	8	16	

Lne-Lnt-ctf-tonde-f-en\_b\_td



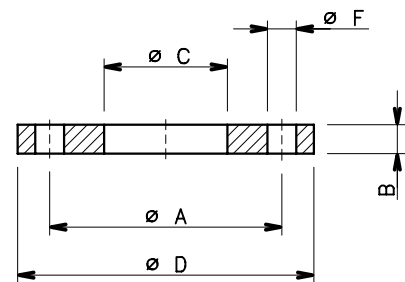
04430\_B\_DD

### e-LNE SERIES

### ROUND WELD COUNTERFLANGES KIT ACCORDING TO EN 1092-1

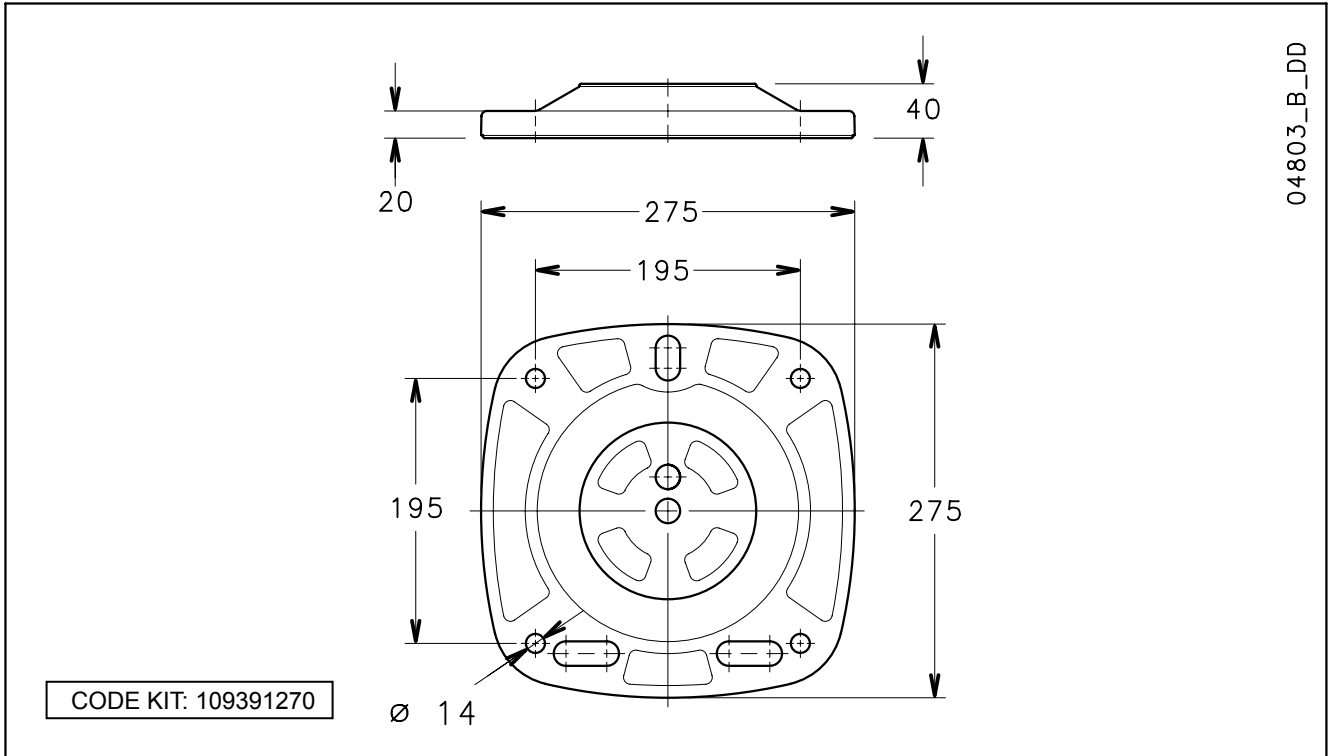
DN	CODE		DIMENSIONS (mm)				HOLES		PN
	KIT	$\varnothing C$	$\varnothing A$	B	$\varnothing D$	$\varnothing F$	N°		
32	109395832	43	100	18	140	18	4	16	
40	109390662	49.5	110	18	150	18	4	16	
50	109390692	61.5	125	20	165	18	4	16	
65	109390732	77.5	145	20	185	18	4	16	
80	109390762	90.5	160	20	200	18	8	16	
100	109390772	116	180	22	220	18	8	16	
125	707941320	141.5	210	22	250	18	8	16	
150	707941330	170.5	240	24	285	22	8	16	

Lne-Lnt-ctf-tonde-s-en\_b\_td

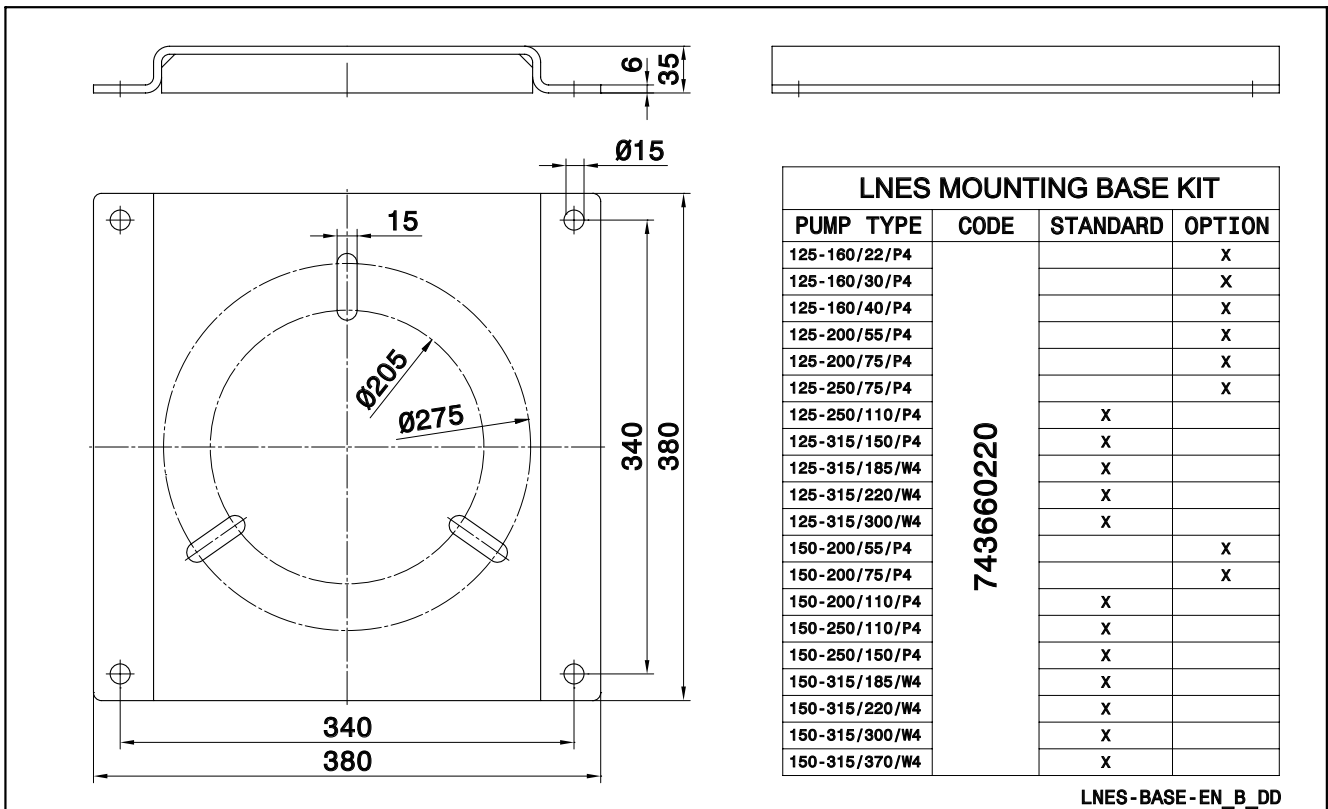


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**e-LNE 32, 40, 50, 65, 80, 100 SERIES  
MOUNTING BASE KIT**



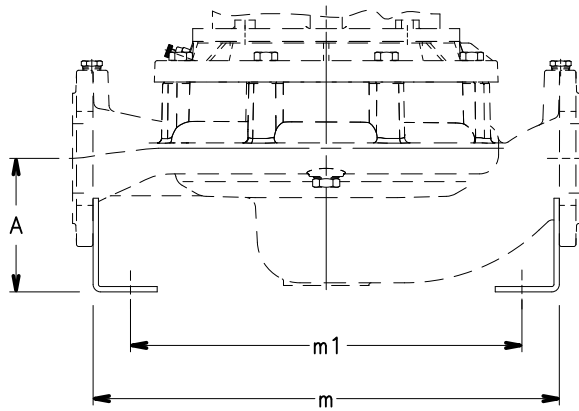
**e-LNE 125, 150 SERIES  
MOUNTING BASE KIT**



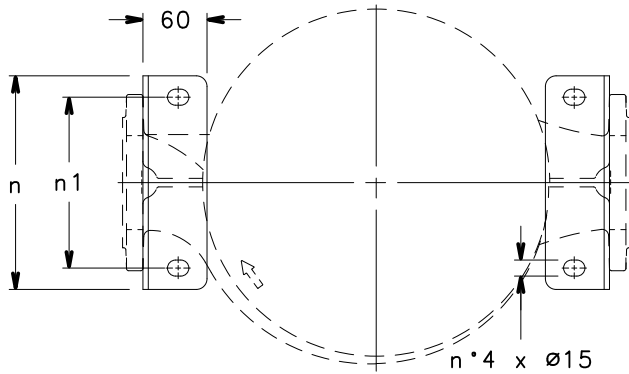
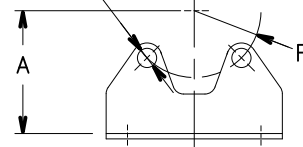
LNES-BASE-EN\_B\_DD

**e-LNE 32, 40, 50, 65, 80, 100 SERIES  
BRACKETS KIT**

04855-EN\_B\_DD

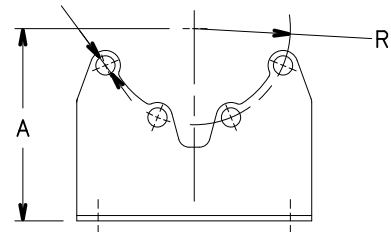


n\*2 a 90° x ø18 SHAPE A



SHAPE B

n\*4 a 45° x ø18



CODE KIT	PUMP TYPE		SHAPE	DIMENSIONS (mm)				
	2-POLE	4-POLE		A	m	m1	n	n1
109398640	LNEE 32-160	LNEE 32-160	A	95	284	210	140	100
	LNES 32-160	LNES 32-160						
109398650	LNEE 40-125 / LNEE 40-160	LNEE 40-125 / LNEE 40-160	A	115	284	210	150	110
	LNES 40-125 / LNES 40-160							
109398650	LNEE 40-200 / LNEE 40-250	LNEE 40-200 / LNEE 40-250	A	115	404	330	150	110
	LNES 40-200 / LNES 40-250	LNES 40-200 / LNES 40-250						
109398660	LNEE 50-125 / LNEE 50-160	LNEE 50-125 / LNEE 50-160	A	120	300	230	165	125
	LNES 50-125 / LNES 50-160							
109398660	LNEE 50-200 / LNEE 50-250	LNEE 50-200 / LNEE 50-250	A	120	400	330	165	125
	LNES 50-200 / LNES 50-250	LNES 50-200 / LNES 50-250						
109398670	LNEE 65-125 / LNEE 65-160	LNEE 65-125 / LNEE 65-160	A	125	320	250	185	145
	LNES 65-125 / LNES 65-160	LNES 65-160						
109398670	LNEE 65-200 / LNEE 65-250	LNEE 65-200 / LNEE 65-250	A	125	435	365	185	145
	LNES 65-200 / LNES 65-250	LNES 65-200 / LNES 65-250						
109398680	LNEE 80-125 / LNEE 80-160	LNEE 80-125	B	135	376	310	200	160
	LNES 80-125 / LNES 80-160	LNES 80-125						
109398680	LNEE 80-200	LNEE 80-200 / LNEE 80-250	B	135	456	390	200	160
	LNES 80-200	LNES 80-200 / LNES 80-250						
109398690	LNEE 100-160	LNEE 100-160	B	180	452	380	220	180
	LNES 100-160	LNES 100-160						
109398690	LNEE 100-200	LNEE 100-200 / LNEE 100-250	B	180	502	430	220	180
	LNES 100-200	LNES 100-200 / LNES 100-250						

LNE\_staffe-en\_b\_td



# **REPORTS AND DECLARATIONS**

## REPORTS AND DECLARATIONS

### i) Test reports

#### a) Factory Test Report

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

#### b) Audit Test Report

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

#### c) NPSH Test Report

- Test report for electric pumps compiled in the test room, comprising flow-NPSH performance test (according to ISO 9906:2012)

#### 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

## 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 m<sup>3</sup>/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 m<sup>3</sup>/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  $\rho$  DENSITY OF WATER TABLE**

t °C	T K	$p_s$ bar	$\rho$ kg/dm <sup>3</sup>	t °C	T K	$p_s$ bar	$\rho$ kg/dm <sup>3</sup>	t °C	T K	$p_s$ bar	$\rho$ kg/dm <sup>3</sup>
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				

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## 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 <sup>3</sup> /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	6,85	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	-	-	-	0,2	0,2	0,2	0,4	0,4	0,6	0,9	1,1	1,3
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

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

## PRESSURE AND HEAD

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

## LENGTH

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

## VOLUME

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

## 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	

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## 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.

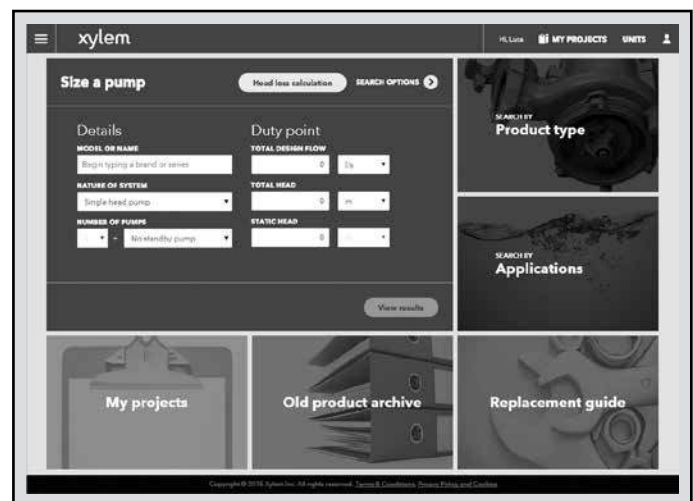
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

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™



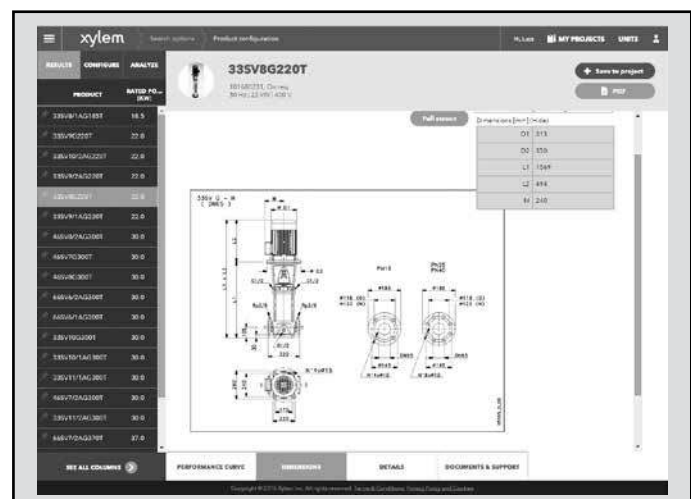
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- Set own standard units
- Create and save projects
- Share projects with other Xylect™ users

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



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- 2) a leading global water technology company.

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