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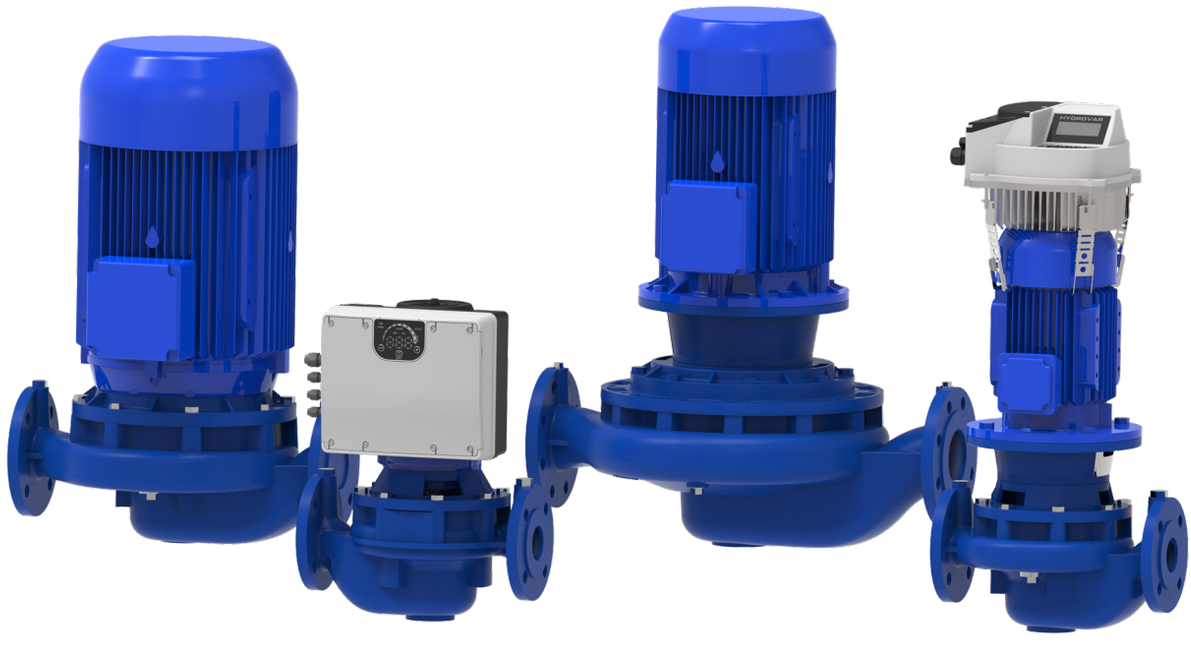
Let's Solve Water

50 Hz



e-LNE Series

SINGLE IN-LINE ELECTRIC PUMPS

ErP 2009/125/EC

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Cod. 191007431 Rev. K Ed.07/2023

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Directive 2009/125/EC of the European Union

The **Directive 2005/32/EC** on energy-using products (**EuP**) and the subsequent **Directive 2009/125/EC** on energy-related products (**ErP**) established the ecodesign requirements for products to reduce their energy consumption and consequently their environmental impact.

These requirements apply to products placed and used in the European Economic Area (European Union plus Iceland, Liechtenstein and Norway) as a stand-alone unit or as integrated parts in other products.

The following tables show the Regulations that define the requirements applicable to Lowara products.

- Some types of **pump** used for pumping clean water:

Regulations	From	Target
(EU) N. 547/2012 and subsequent updates	1 January 2015	**MEI** ≥ 0,4

- **Circulators** with a rated hydraulic output power of between 1 and 2500 W, designed for use in heating systems or in secondary circuits of cooling distribution systems:

Regulations	From	Target
(EC) N. 641/2009 and subsequent updates	1 August 2015	**EEI** < 0,23

- **Three-phase motors** with frequency 50 or 60 or 50/60 Hz and voltages between 50 and 1000 V (S1 and D.O.L.):

Regulations	From	Target
(EU) 2019/1781 and subsequent updates	1 July 2023	**IE2**: motors with a rated output ≥ 0,12 and < 0,75 kW **IE3**: motors with a rated output ≥ 0,75 and < 75 kW **IE4**: motors with a rated output ≥ 75 and < 201 kW **IE3**: motors with a rated output ≥ 201 and < 1000 kW

- **Single-phase motors** with frequency 50 or 60 or 50/60 Hz and voltages between 50 and 1000 V (S1 and D.O.L.):

Regulations	From	Target
(EU) 2019/1781and subsequent updates	1 July 2023	**IE2**: motors with a rated output ≥ 0,12

- **Variable speed drives** (VSD) with three-phase input and rated output power from 0,12 kW up to 1000 kW, rated for operating with motor included in the same regulations:

Regulations	From	Target
(EU) 2019/1781and subsequent updates	1 July 2021	**IE2**

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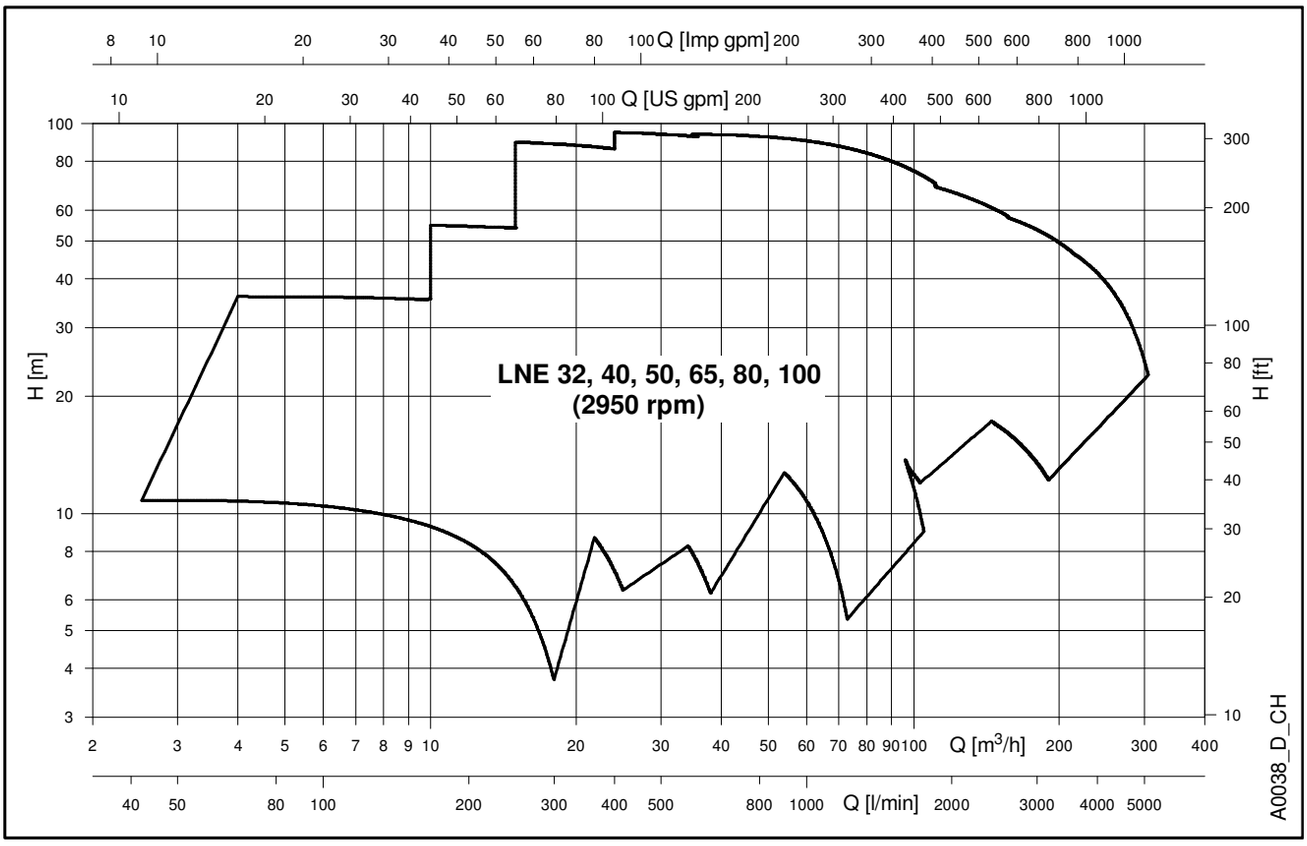
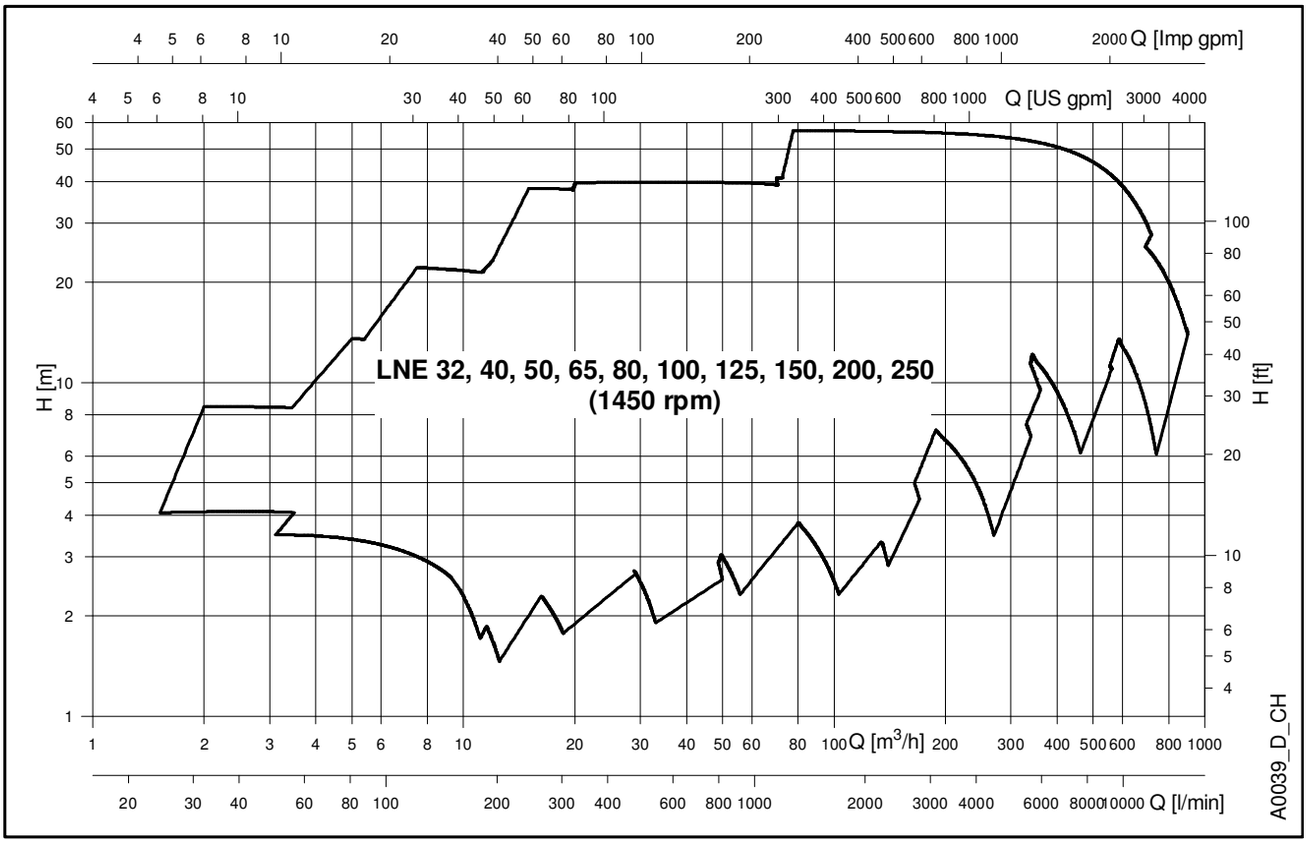
e-LNE SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES



HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES



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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 high efficiency motors; and are available in the following constructions:

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

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

Hydraulic specifications

- Maximum delivery: **305** m^3/h (2 poles range).
  900 m^3/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 BQ7EGG-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 BQ7EGG-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.
- **155 (F)** insulation class.
- Standard voltage:
  1 x 220-240 V 50 Hz for power up to 1,5 kW
  3 x 220-240/380-415 V 50 Hz for power up to 3 kW.
  3 x 380-415/660-690 V 50 Hz for power above 3 kW.
- Maximum ambient temperature:
  single-phase version: 45 °C
  three-phase version: 40 °C or 50 °C, depending on model and power.

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

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 high efficiency 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 or the e-SM drive equipped versions, 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. Experienced engineers are fully dedicated to big projects.

- **Potable water use**: all pumps equipped with standard mechanical seal are certified for drinking water use (ACS and D.M.174/04).

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e-LNE SERIES
IDENTIFICATION CODE

Pump Type [3 digits]
[LNE] = in-line single

Coupling [1 digit]
[E]= extended shaft
[S] = stub shaft

Motor operation [1 digit]
[ ] = standard asynchronous motor
[H] = equipped with Hydrovar
[E] = e-SM Drive
[X] = other drives

Size of the pump
[6 to 7 digits]
Discharge diameter - nominal impeller diameter
e.g. 40-160, 100-315

Motor power
[2 to 3 digits]
kW x 10

Special trimmed Impeller
[1 digit]
[ ] = standard impeller
[A, B or C] = trimmed medium diameter that doesn't maximize motor power
[X] = trimmed medium diameter to meet customer required duty point

Motor type [2 digits]
[/P] = PLM
[/S] = SM
[/L] = Lowara by Omega
[/X] = Other
[/E] = e-SM Drive
[/W] = Weg

N° poles [1 digit]
[2] = 2 poles
[4] = 4 poles
[P] = no poles with e-SM Drive

Electrical Voltage + Frequency [2digits]

50 Hz	60 Hz	e-SM Drive
[5H] = 1x220-240 V	[6P] = 3x220-230/380-400 V	[02] = 1x208-240 V
[5R] = 3x220-240/380-415 V	[6R] = 3x255-277/440-480 V	[04] = 3x380-460 V
[5V] = 3x380-415/660-690 V	[6V] = 3x440-480/- V	[05] = 3x208-240/380-460 V
[5P] = 3x200-208/346-360 V	[6U] = 3x380-400/660-690 V	
[5S] = 3x255-265/440-460 V	[6N] = 3x200-208/346-360 V	
[5T] = 3x290-300/500-525 V	[6T] = 3x330-346/575-600 V	
[5W] = 3x440-460/- V		

Casing Material
[1 digit]
[C] = cast iron

Additional Card [1 digit]
[ ] = No Card
[C] = Premium Card

Hydrovar power supply
[2 digit]
[ ] = standard asynchronous motor
[/2] = single-phase, 1 x 230 V
[/3] = three-phase, 3 x 230 V
[/4] = three-phase, 3 x 400 V

Mech Seal + Oring Config
[1 digit]
[4] = SiC/Carbon/EPDM
[2] = SiC/Carbon/FKM*
[Z] = SiC/SiC/EPDM
[W] = SiC/SiC/FKM*
[L] = Tungsten Carbide/ Metal-impreg. carbon/EPDM
[U] = Tungsten Carbide/ Metal-impreg. carbon/FKM*
[6] = Metal-impreg. carbon/ SiC/EPDM
[7] = Metal-impreg. carbon/ SiC/FKM*

Impeller Material [1 digit]
[C] = cast iron
[S] = fabricated stainless steel
[B] = bronze
[N] = cast stainless steel (1.4408)

* FPM (old ISO), FKM (ASTM & new ISO)

EXAMPLES

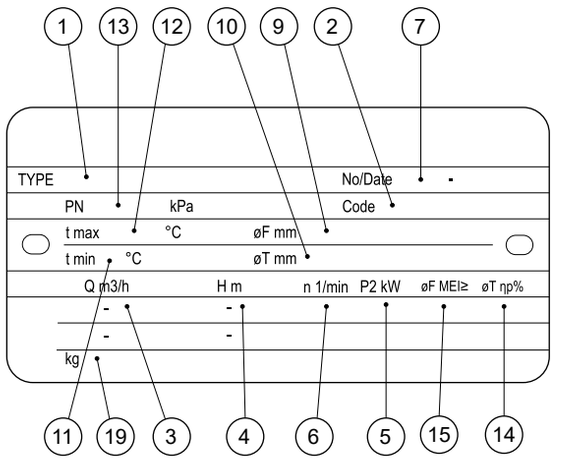
LNES 125-160/22/P45RCC4
In-line single, electric pump stub shaft coupling, DN125 nominal discharge port, 160 mm nominal impeller diameter, 2,2 kW rated motor power, PLM model, 4 pole, 50 Hz 220-240/380-415 V, cast iron casing, cast iron impeller, Silicon Carbide/Carbon/EPDM mechanical seal.

LNES 200-400/550/L45VCB4
In-line single, electric pump stub shaft coupling, DN200 nominal discharge port, 400 mm nominal impeller diameter, 55 kW rated motor power, Lowara by Omega IE3 model, 4 pole, 50 Hz 380-415/660-690 V, cast iron casing, bronze impeller, Silicon Carbide/Carbon/EPDM mechanical seal.

LNESE40-125/15/EP02CS4
In-line single, electric pump stub shaft coupling, e-SM drive coupling, DN40 nominal discharge port, 125 mm nominal impeller diameter, 1,5kW rated motor power, e-SM drive motor type, single-phase, 1x208-240 V, cast iron casing, fabricated stainless steel impeller, Silicon Carbide/Carbon/ EPDM mechanical seal.

e-LNE SERIES
RATING PLATE

ELECTRIC PUMP



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

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

SIZE	kW	VERSION	
LNE..2		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	•	•

SIZE	kW	VERSION	
LNE..2		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	-	•

• = Available

LNE_models-2p50-en_d_sc

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

LEGEND

LNEE : Extended shaft (single version).
LNES : Stub shaft (single version).

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

SIZE	kW	VERSION	
LNE..4		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	•	•

SIZE	kW	VERSION	
LNE..4		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	–	•

• = Available

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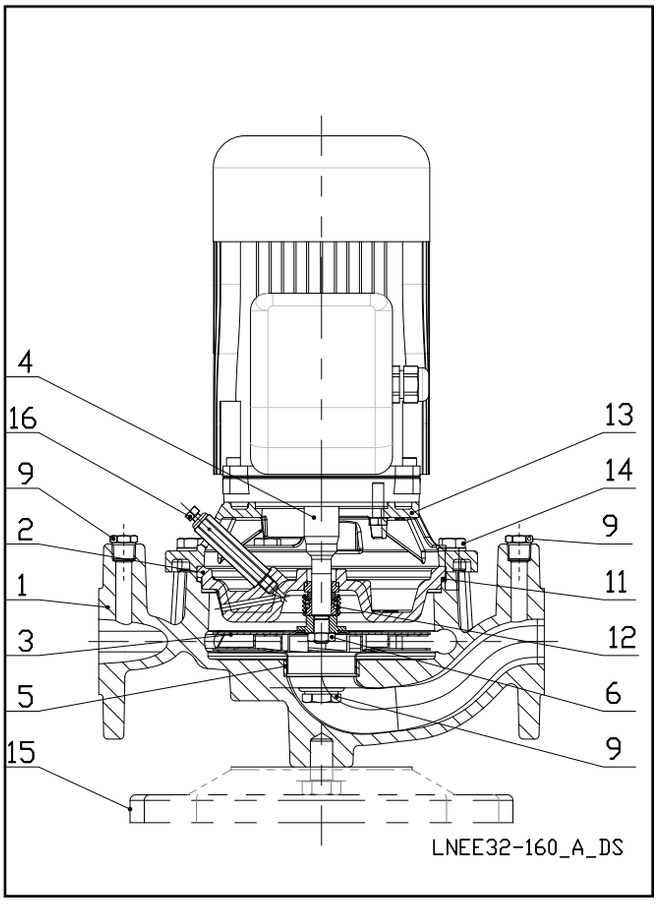
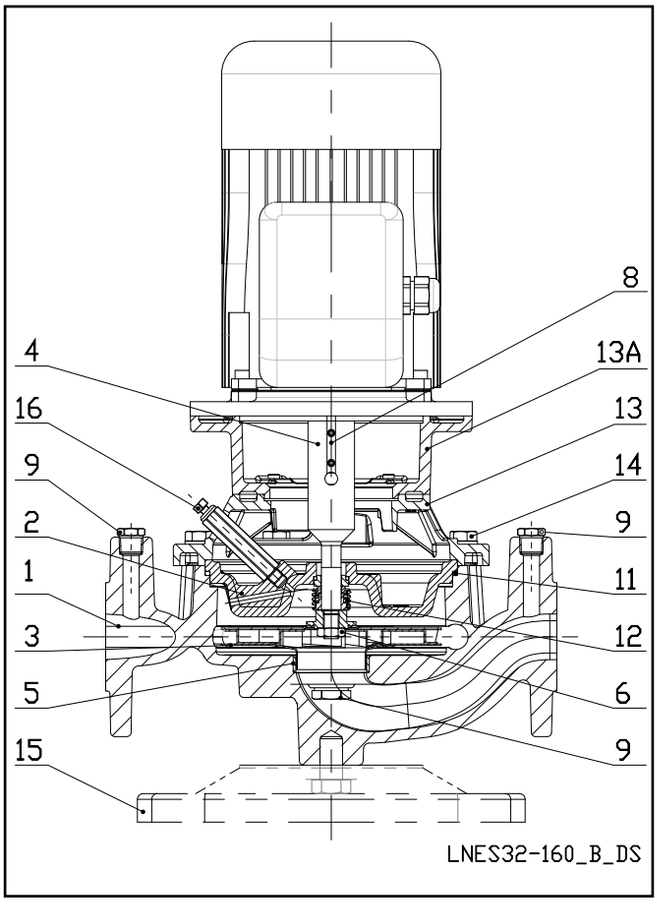
LNE 32-160
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

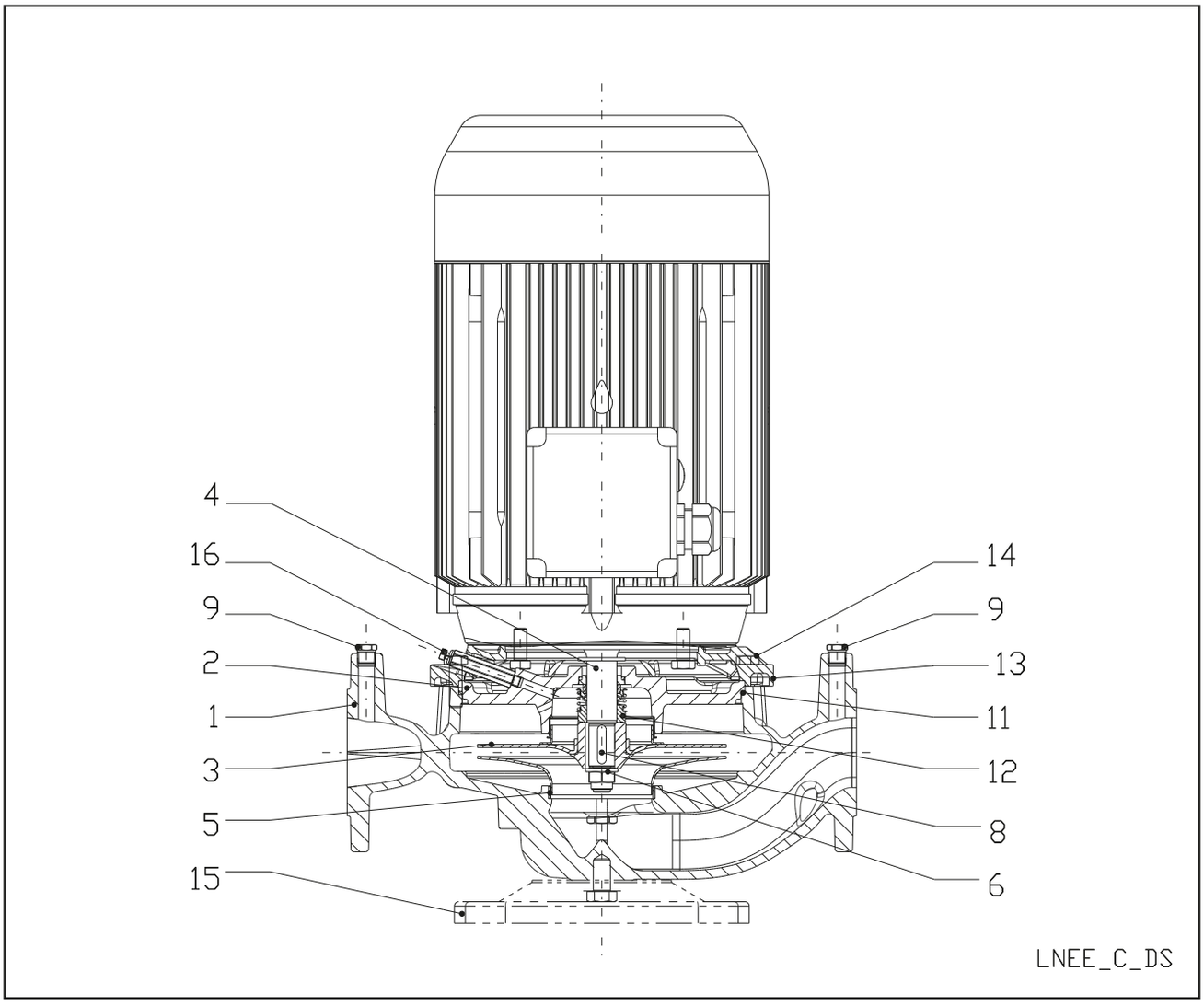




REF. N.	PART	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Volute casing	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Casing cover	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
3	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404	AISI 316L
4	Shaft extension (LNEE version)	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Stub shaft (LNES version)	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	Pump bracket	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
13A	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_b_tm

e-LNEE SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

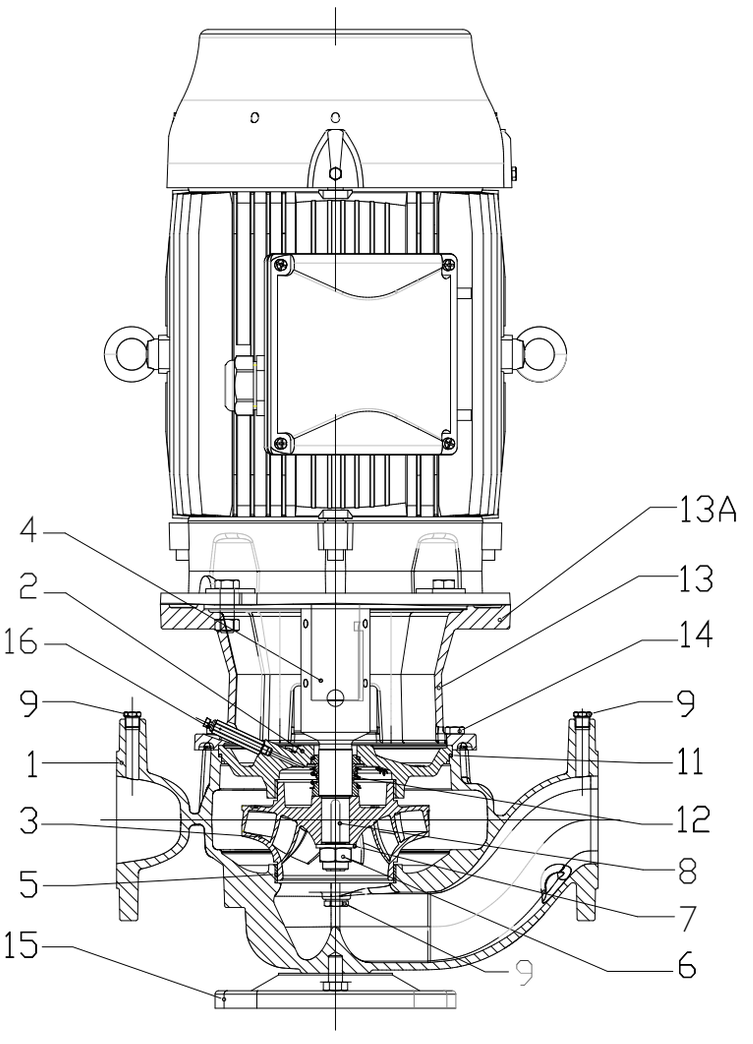


REF. N.	PART	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Volute casing	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Casing cover	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
3	Impeller (40, 50, 65)	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
	Impeller (80, 100)	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 30
	Impeller (80, 100)	Bronze	EN 1982-CuSn10-C (CC480K)	UNS C90700
	Impeller (80, 100)	Stainless steel	EN 10213-GX5CrNiMo19-11-2 (1.4408)	ASTM A743 CF-8M
4	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Wear ring	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Impeller lock nut and washer	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
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	Pump bracket *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Pump bracket	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

SIZES
40-125
40-160
40-200
40-250
50-125
50-160
50-200
50-250
65-125
65-160
65-200
65-250
80-125
80-160
80-200
80-250
100-160
100-200
100-250



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-X5CrNi18-10 (1.4301)	AISI 304
	Impeller (80, 100)	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 30
	Impeller (80, 100)	Bronze	EN 1982-CuSn10-C (CC480K)	UNS C90700
	Impeller (80, 100)	Stainless steel	EN 10213-GX5CrNiMo19-11-2 (1.4408)	ASTM 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 10088-1-X17CrNi16-2 (1.4057)	AISI 431
5	Wear ring	Stainless steel	EN 10088-1-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	Pump bracket *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Pump bracket	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
13A	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

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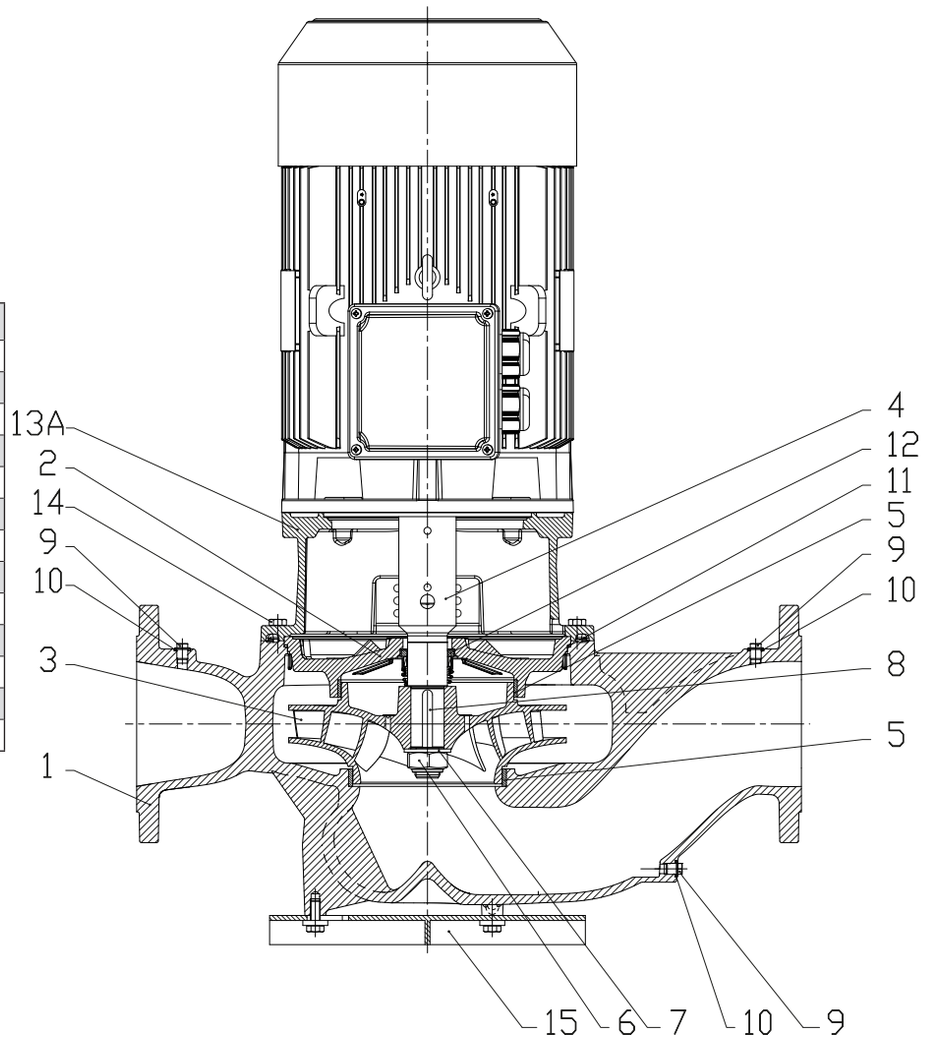
e-LNES SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

SIZES
80-315
100-315
125-160
125-200
125-250
125-315
150-200
150-250
150-315
200-250
200-315
200-400
250-315



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 C90700
	Impeller	Stainless steel	EN 10213-GX5CrNiMo19-11-2 (1.4408)	ASTM 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 10088-1-X17CrNi16-2 (1.4057)	AISI 431
5	Wear ring	Stainless steel	EN 10088-1-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-X6CrNiMoTi17-12-2 (1.4571)	AISI 316Ti
9	Plug	Stainless steel	EN 10088-1-X6CrNiMoTi17-12-2 (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)		
13A	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	

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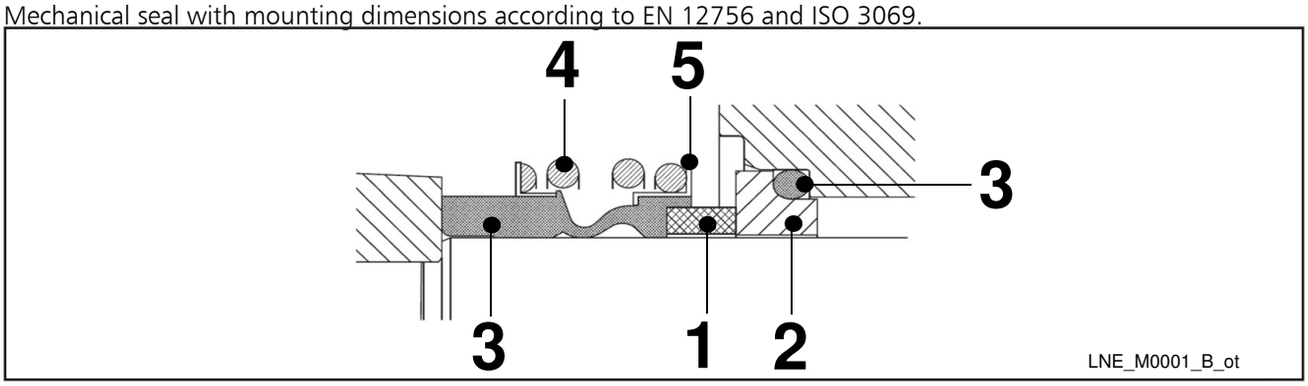
e-LNE SERIES
MECHANICAL SEALS

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



LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Resin impregnated carbon	**E** : EPDM	**G** : AISI 316
A : Antimony impregnated carbon	**V** : FKM (FPM)	
Q_7 : Silicon carbide		
U_3 : Tungsten carbide		

lne-lnt_ten-mec-en_b_tm

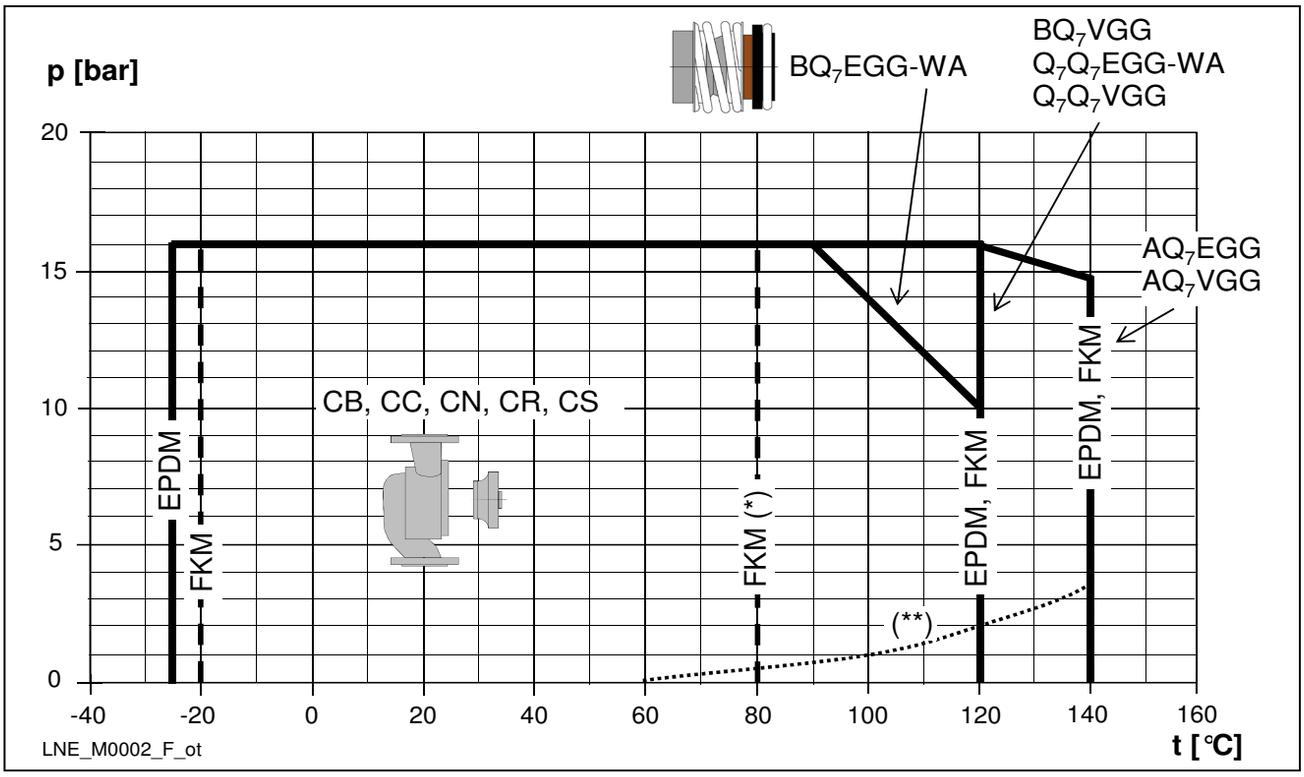
TYPE OF SEAL

TYPE	POSITION 1 ROTATING ASSEMBLY	2 FIXED ASSEMBLY	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	PRESSURE (bar)	TEMPERATURE (°C)
STANDARD MECHANICAL SEAL							
B Q_7 E G G - WA	B	Q_7	E	G	G	16/10	-25 ... +90/+120
OTHER TYPES OF MECHANICAL SEAL							
B Q_7 V G G	B	Q_7	V	G	G	16	-20 ... +120 *)
Q_7 Q_7 E G G - WA	Q_7	Q_7	E	G	G	16	-25 ... +120
Q_7 Q_7 V G G	Q_7	Q_7	V	G	G	16	-20 ... +120 *)
A Q_7 E G G	A	Q_7	E	G	G	16	-25 ... +140
A Q_7 V G G	A	Q_7	V	G	G	16	-20 ... +140 *)

*) for hot water: max. +80 °C

lne-lnt_tipi-ten-mec-en_c_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).

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e-LNE SERIES
MOTORS (ErP 2009/125/EC)

- 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)**.
- Electrical performances according to EN 60034-1.
- Supplied **single-phase** surface motors with **IE2** efficiency level
- Supplied **three-phase** surface motors with **IE2** efficiency level (power < 0,75 kW), **IE3** efficiency level (power < 75 kW) and **IE4** efficiency level (power < 201 kW).
- Metric cable gland according to EN 50262.
- PTC included in motors from 30 to 55 kW (one per phase, 155°C).
- **Single-phase** version:
  220-240 V 50 Hz
  Built-in automatic reset overload protection
  Maximum ambient temperature: 45 °C.
- **Three-phase** version:
  220-240/380-415 V 50 Hz for power up to 3 kW.
  380-415/660-690 V 50 Hz for power above 3 kW.
  Overload protection to be provided by the user.
  Maximum ambient temperature: 40 o 50 °C (depending on model and power)

From 1 July 2023 in accordance with the **Regulations (EU) 2019/1781 and 2021/341**, the three-phase 50 Hz, 60 Hz or 50/60 Hz **surface motors** with **power outputs ranging from 0,12 to 0,749 kW** must have a minimum level **IE2** efficiency. The motors with power outputs ranging **from 0,75 and 74,9 kW** must have a minimum level of **IE3** efficiency; the ones with power outputs ranging **from 75 and 200 kW** must have a minimum level of **IE4** efficiency. The single-phase **surface motors** with **power outputs ranging from 0,12 kW** must have a minimum level **IE2** efficiency.

The following tables also contain the mandatory information pursuant to Annex I, section 2, of the aforementioned Regulations.

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

P_N kW	MOTOR TYPE	IEC SIZE*	Construction Design	INPUT CURRENT In (A) 220-240 V	CAPACITOR µF	CAPACITOR V	DATA FOR 230 V 50 Hz VOLTAGE min^{-1}	Is / In	η %	cosφ	Tn Nm	Ts/Tn	Tm/Tn	Operating conditions ** Altitude above sea level (m)	T. amb min/max (°C)	ATEX
0,75	SM90RB14S8/1075 E2	90R	B14	4,38-4,27	25	450	2865	5,11	77,4	0,97	2,50	0,40	2,26	1000 VI	-15 / 45	NO
1,1	SM90RB14S8/1115 E2	90R	B14	6,26-5,93	30	450	2860	4,78	79,6	0,98	3,67	0,50	2,14			
1,5	PLM90B14S2/1155 E2	90	B14	8,41-7,87	50	450	2890	6,71	81,3	0,97	4,95	0,59	2,78			

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

LNEE-motm-2p50-en_d_te

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

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

P_N kW	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia — Model	IEC SIZE*	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,75	SM90RB14S/307 PE	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_N kW	Voltage U_N V: Δ 220 V	Δ 230 V	Δ 240 V	Y 380 V	Y 400 V	Y 415 V	Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	I_N (A)														
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98	2875 ÷ 2895	≤ 1000	-15 / 50	No
1,1	4,19	4,14	4,16	2,42	2,39	2,40	2,41	2,38	2,38	1,39	1,37	2870 ÷ 2900			
1,5	5,56	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			

P_N kW	Efficiency η_N % — Δ 220 V Y 380 V: 4/4	3/4	2/4	Δ 230 V Y 400 V: 4/4	3/4	2/4	Δ 240 V Y 415 V: 4/4	3/4	2/4	Δ 380 V Y 660 V: 4/4	3/4	2/4	Δ 400 V Y 690 V: 4/4	3/4	2/4	Δ 415 V: 4/4	3/4	2/4	IE
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
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	

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

LNEE-IE3-mott-2p50-en_d_te

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

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

P_N kW	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia — Model	IEC SIZE*	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,75	SM80B5/307 PE	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_N kW	Voltage U_N V: Δ 220 V	Δ 230 V	Δ 240 V	Y 380 V	Y 400 V	Y 415 V	Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	I_N (A)														
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98	2875 ÷ 2895	≤ 1000	-15 / 50	No
1,1	4,19	4,14	4,16	2,42	2,39	2,4	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			

P_N kW	Efficiency η_N % — Δ 220 V Y 380 V: 4/4	3/4	2/4	Δ 230 V Y 400 V: 4/4	3/4	2/4	Δ 240 V Y 415 V: 4/4	3/4	2/4	Δ 380 V Y 660 V: 4/4	3/4	2/4	Δ 400 V Y 690 V: 4/4	3/4	2/4	Δ 415 V: 4/4	3/4	2/4	IE
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
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	92,7	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	

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

LNES-IE3-mott-2p50-en_d_te

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

LOWARA
a xylem brand

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

P_N kW	Manufacturer / Model	IEC SIZE	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
30	3MAS 200LA2 V1 30KW E3	200	B5	2	50	0,89	7,80	96,90	2,60	3,10
37	3MAS 200LB2 V1 37KW	200				0,90	8,00	119,4	2,90	3,20

Manufacturer: OMEGA MOTOR SANAYI A.S. Dudullu Organize Sanayi Bölgesi 2. Cadde No: 10 34775 Ümraniye ISTANBUL/TURKEY Reg. No. 913733

P_N kW	Voltage U_N V: Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	I_N (A)								
30	55,3	52,2	50,8	31,8	30,3	2965	≤ 1000	-20 / 50	No
37	66,6	63,9	61,5	38,4	37,0	2965			

P_N kW	Efficiency η_N % — Δ 380 V Y 660 V: 4/4	3/4	2/4	Δ 400 V Y 690 V: 4/4	3/4	2/4	Δ 415 V: 4/4	3/4	2/4	IE
30	93,0	93,1	93,0	93,3	93,5	93,4	93,4	93,6	93,4	3
37	93,5	94,0	93,7	93,7	94,1	93,8	93,8	94,2	93,9	

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

LNES-IE3-mott37-2p50-en_c_te

LOWARA
a xylem brand

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

P_N kW	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia. Model	IEC SIZE*	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,25	LLM471B5/302	71	B5	4	50	0,77	3,90	1,80	1,80	2,00
0,37	LLM471B5/304	71	B5	4	50	0,70	4,60	2,60	2,70	2,20
0,55	LLM490RB14S2/305	90R	SPECIAL	4	50	0,76	4,40	3,80	2,30	2,40
0,55	LLM490RB5S2/305	90R	SPECIAL	4	50	0,76	4,40	3,80	2,30	2,40
0,75	LLM490RB14S2/307	90R	SPECIAL	4	50	0,80	6,38	5,00	2,73	3,13
0,75	LLM490RB5S2/307	90R	SPECIAL	4	50	0,80	6,38	5,00	2,73	3,13
1,1	PLM490B5S2/311 E3	90	SPECIAL	4	50	0,71	6,22	7,28	2,75	3,44
1,5	PLM490B5S3/315 E3	90	SPECIAL	4	50	0,68	6,92	9,89	3,29	4,01
2,2	PLM4100B5S3/322 E3	100	SPECIAL	4	50	0,78	7,47	14,50	2,38	3,69
3	PLM4100B5S3/330 E3	100	SPECIAL	4	50	0,74	7,75	19,70	2,48	4,21
4	PLM4112B5S3/340 E3	112	SPECIAL	4	50	0,79	8,32	26,30	3,19	4,02

P_N kW	Voltage U_N V: Δ 220 V	Δ 230 V	Δ 240 V	Y 380 V	Y 400 V	Y 415 V	Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	I_N (A)														
0,25	1,28	1,20	1,16	0,74	0,70	0,67	-	-	-	-	-	1390	≤ 1000	-15 / 40	No
0,37	1,82	1,80	1,66	1,05	1,00	0,96	-	-	-	-	-	1410	≤ 1000	-15 / 40	No
0,55	2,42	2,60	2,25	1,40	1,35	1,30	-	-	-	-	-	1420	≤ 1000	-15 / 40	No
0,75	2,90	2,85	2,85	1,70	1,65	1,65	1,70	1,65	1,65	0,98	0,95	1420 ÷ 1435	≤ 1000	-15 / 40	No
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	≤ 1000	-15 / 50	No
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	≤ 1000	-15 / 50	No
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	≤ 1000	-15 / 50	No
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	≤ 1000	-15 / 50	No
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	≤ 1000	-15 / 50	No

P_N kW	Efficiency η_N % — Δ 220 V Y 380 V: 4/4	3/4	2/4	Δ 230 V Y 400 V: 4/4	3/4	2/4	Δ 240 V Y 415 V: 4/4	3/4	2/4	Δ 380 V Y 660 V: 4/4	3/4	2/4	Δ 400 V Y 690 V: 4/4	3/4	2/4	Δ 415 V: 4/4	3/4	2/4	IE
0,25	70,6	72,5	70,8	70,9	71,5	69,0	71,8	71,5	67,1	-	-	-	-	-	-	-	-	-	2
0,37	75,9	76	72	75,8	74,6	70,1	75,2	73,4	68,1	-	-	-	-	-	-	-	-	-	2
0,55	78,8	80,3	78,9	79,0	79,7	77,6	79,6	79,6	76,7	-	-	-	-	-	-	-	-	-	2
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	3
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	3
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	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
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	3
4	88,6	89,1	87,9	88,6	89,1	87,9	88,6	89,1	87,9	88,6	89,2	88,9	88,6	89,2	88,4	88,8	89,1	87,9	3

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

LNEE-IE3-mott-4p50-en_e_te

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

LOWARA
a xylem brand

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

P_N kW	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia. Model	IEC SIZE	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,55	LLM480B5/305	80	B5	4	50	0,76	4,40	3,80	2,30	2,40
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_N kW	Voltage U_N V: Δ 220 V	Δ 230 V	Δ 240 V	Y 380 V	Y 400 V	Y 415 V	Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	I_N (A)														
0,55	2,42	2,34	2,25	1,40	1,35	1,30	-	-	-	-	-	1420	≤ 1000	-15 / +40	No
0,75	2,90	2,85	2,85	1,70	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		-15 / +50	
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			
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			

P_N kW	Efficiency η_N % — Δ 220 V Y 380 V: 4/4	3/4	2/4	Δ 230 V Y 400 V: 4/4	3/4	2/4	Δ 240 V Y 415 V: 4/4	3/4	2/4	Δ 380 V Y 660 V: 4/4	3/4	2/4	Δ 400 V Y 690 V: 4/4	3/4	2/4	Δ 415 V: 4/4	3/4	2/4	IE
0,55	78,8	80,3	78,9	79,0	79,7	77,6	79,6	79,6	76,7	-	-	-	-	-	-	-	-	-	2
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	3
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	
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	
5,5	90,4	90,9	89,7	90,4	90,9	89,7	90,4	90,9	89,7	90,4	91,0	90,5	90,9	91,1	90,2	90,9	90,9	89,7	
7,5	90,4	91,2	90,4	90,4	91,2	90,4	90,4	91,2	90,4	90,4	91,2	91,1	90,7	91,3	90,8	90,9	91,2	90,4	
11	91,5	92,2	91,4	91,5	92,2	91,4	91,5	92,2	91,4	91,5	92,4	92,4	91,9	92,5	92,0	91,9	92,2	91,4	
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	

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

LOWARA
a xylem brand

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

P_N kW	Manufacturer / Model	IEC SIZE	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
18,5	3MAS 180M4 B5 18.5kW E3	180	B5	4	50	0,81	7,10	119,6	2,80	3,10
22	3MAS 180L4 B5 22kW E3	180				0,81	7,20	142,8	2,60	3,20
30	3MAS 200L4 B5 30kW E3	200				0,87	7,50	194,3	2,60	3,10
37	3MAS 225S4 B5 37kW E3	225				0,86	7,50	238,2	2,60	3,10
45	3MAS 225M4 B5 45kW E3	225				0,85	7,60	289,5	2,70	3,10
55	3MGS 250M4 B5 55kW E3	250				0,86	7,50	353,5	2,80	3,00
75	3MGS 280S4 B5 75kW E4	280				0,84	8,50	481,7	3,20	3,20
90	3MGS 280M4 B5 90kW E4	280				0,86	8,10	577,6	2,50	3,00

P_N kW	Voltage U_N V: Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	I_N (A)								
18,5	37,20	35,60	35,00	21,50	20,90	1475	≤ 1000	-20 / +50	No
22	44,00	42,20	41,00	25,40	24,10	1478			
30	55,80	53,20	51,00	32,20	30,80	1482			
37	68,90	66,10	63,80	39,80	38,30	1480			
45	85,10	81,10	78,30	49,10	46,50	1484			
55	101,9	97,60	94,60	58,80	56,60	1487			
75	141,0	134,0	129,0	81,30	77,70	1490			
90	165,0	157,0	151,0	95,20	91,00	1490			

P_N kW	Efficiency η_N % — Δ 380 V Y 660 V: 4/4	3/4	2/4	Δ 400 V Y 690 V: 4/4	3/4	2/4	Δ 415 V: 4/4	3/4	2/4	IE
18,5	92,4	92,8	92,5	92,6	93,0	92,7	92,9	93,3	93,0	3
22	92,8	93,3	93,1	93,0	93,5	93,3	93,3	93,8	93,6	
30	93,4	94,0	94,1	93,6	94,2	94,3	94,0	94,6	94,7	
37	93,7	94,2	94,0	93,9	94,4	94,2	94,1	94,6	94,4	
45	94,0	94,5	94,2	94,2	94,7	94,4	94,4	94,9	94,6	
55	94,5	94,9	94,7	94,6	95,0	94,8	94,7	95,1	94,9	
75	96,0	95,9	95,2	96,0	95,9	95,2	96,0	95,9	95,2	4
90	96,1	96,2	95,7	96,1	96,1	96,2	96,1	96,2	95,7	

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

LNES-IE3-mott90-4p50-en_c_te

LOWARA
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e-LNE SERIES
AVAILABLE VOLTAGES FOR SM AND PLM MOTORS

SINGLE-PHASE	50 Hz	THREE-PAHSE	50/60 Hz		50 Hz							60 Hz							
P_N kW	1 x 220-240	P_N kW	3 x 230/400 50 Hz 3 x 265/460 60 Hz	3 x 400/690 50 Hz 3 x 460/- 60 Hz	3 x 220-230-240/380-400-415	3 x 380-400-415/660-690	3 x 200-208/346-360	3 x 255-265/440-460	3 x 290-300/500-525	3 x 440-460/-	3 x 500-525/-	3 x 220-230/380-400	3 x 255-265-277/440-460-480	3 x 380-400/660-690	3 x 440-460-480/-	3 x 110-115/190-200	3 x 200-208/346-360	3 x 330-346/575-600	3 x 575/-
0,75	s	0,37	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
1,1	s	0,55	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
1,5	s	0,75	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		1,1	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		1,5	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		2,2	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		3	s	o	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		4	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		5,5	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		7,5	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		11	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		15	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		18,5	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o
		22	o	s	o	o	o	o	o	o	o	s	o	o	o	o	o	o	o

s = Standard voltage o = Voltage upon request

lne-volt-lowa-en_b_te

For higher power motors special voltages available on request.

Tolerances on nominal voltages

- **50 Hz:**

± 10% on the single voltage value shown on the rating plate.
± 5% on voltage range shown on the rating plate.

- **60 Hz:**

± 10% on the voltage values shown on the rating plate.

e-LNE SERIES
MOTOR NOISE

The tables below show the mean sound pressure levels (Lp) measured at 1 meter distance in a free field according to EN ISO 11203.
The noise values are measured on 50 Hz motors and have a tolerance of 3 dB (A) according to EN ISO 4871.

LNEE, LNES MOTORS 2 POLES 50 Hz

POWER kW	MOTOR TYPE IEC SIZE *	NOISE LpA dB
0,75	80 - 90R	<70
1,1	80 - 90R	<70
1,5	90R	<70
2,2	90	<70
3	90 - 100R	<70
4	112R	<70
5,5	112 - 132R	<70
7,5	132	71
9,2	132	73
11	132 - 160R	73
15	160	71
18,5	160	73
22	160 - 180R	70
30	200	71
37	200	71

LNEE, LNES MOTORS 4 POLES 50 Hz

POWER kW	MOTOR TYPE IEC SIZE *	NOISE LpA dB
0,25	71	<70
0,37	71	<70
0,55	90R	<70
0,75	90R	<70
1,1	90	<70
1,5	90	<70
2,2	100	<70
3	100	<70
4	112	<70
5,5	132	<70
7,5	132	<70
11	160	<70
15	160	<70
18,5	180	<70
22	180	<70
30	200	<70
37	225	<70
45	225	<70
55	250	<70
75	280	<70
90	280	<70

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

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e-LNE SERIES
PUMPS (ErP 2009/125/EC)

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
- one impeller;
- a nominal pressure PN not higher than 16 bar (1600 kPa);
- a minimum nominal flow not less than 6 m^3/h;
- a maximum nominal power at the shaft not higher than 150 kW;
- a head not greater than 140 meters, with a speed of 2900 min^{-1}
a head not greater than 90 meters, with a speed of 1450 min^{-1}
- 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).

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)
1st January 2015	MEI ≥ 0,4

According to the definitions established in the Regulation LNEE and LNES versions correspond to the "end-suction close-coupled in-line pump" (ESCCi).

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: see date on rating plate (≥ 2014).
4) Manufacturer: Xylem Service Italia Srl - Via dott. Vittorio Lombardi 14, 36075 Montecchio Maggiore (VI), Italia - Reg. No 07520560967.
5) Product type: see the PUMP TYPE column in the tables in the *Hydraulic performance* section.
6) Hydraulic pump efficiency with trimmed impeller: see ηp and Ø columns in the tables in the *Hydraulic performance* section.
7) Pump performance curves, including the performance curve: see the *Operating Characteristics* graphs in the following pages.
8) The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
9) The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
10) Information relevant for disassembly, recycling or disposal at end-of-life: observe the current laws and by-laws governing sorted waste disposal. Consult the product operating manual.
11) "Designed for use below – 10 °C only": note not applicable to these products.
12) "Designed for use above 120 °C only": note not applicable to these products.
13) Specific instructions for pumps as per points 11 and 12: not applicable to these products.
14) "Information on benchmark efficiency is available at": www.europump.org (Ecodesign section).
15) The benchmark efficiency graphs with MEI = 0.7 and MEI = 0.4 are available at www.europump.org, (Ecodesign, Efficiency charts). Refer to "ESCCi 1450 rpm", "ESCC i2900 rpm".

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e-LNE SERIES
MINIMUM EFFICIENCY INDEX (MEI)

2-POLE		
PUMP SIZE	LNEE	LNES
32-160/156	≥0,40	≥0,40
40-125/145	≥0,40	≥0,40
40-160/171	≥0,40	≥0,40
40-200/205	≥0,40	≥0,40
40-250/259	≥0,40	≥0,40
50-125/135	≥0,40	≥0,40
50-160/165	≥0,40	≥0,40
50-200/199	≥0,40	≥0,40
50-250/257,5	≥0,40	≥0,40
65-125/148	≥0,40	≥0,40
65-160/176	≥0,40	≥0,40
65-200/209	≥0,40	≥0,40
65-250/256	≥0,40	≥0,40
80-125/148	≥0,40	≥0,40
80-160/180	≥0,40	≥0,40
80-200/220	≥0,40	≥0,40
80-250/229	≥0,40	≥0,40
80-250/229	≥0,40	≥0,40
100-160/177	≥0,40	≥0,40
100-200/208	≥0,40	≥0,40
100-250/214	≥0,40	≥0,40

4-POLE		
PUMP SIZE	LNEE	LNES
32-160/156	≥0,40	---
40-125/145	≥0,40	≥0,40
40-160/171	≥0,40	≥0,40
40-200/205	≥0,40	≥0,40
40-250/259	≥0,40	≥0,40
50-125/135	≥0,40	≥0,40
50-160/165	≥0,40	≥0,40
50-200/199	≥0,40	≥0,40
50-250/257,5	≥0,40	≥0,40
65-125/148	≥0,40	≥0,40
65-160/176	≥0,40	≥0,40
65-200/209	≥0,40	≥0,40
65-250/256	≥0,40	≥0,40
80-125/148	≥0,40	≥0,40
80-160/180	≥0,40	≥0,40
80-200/220	≥0,40	≥0,40
80-250/258	≥0,40	≥0,40
80-315/334	---	>0,70
100-160/177	≥0,40	≥0,40
100-200/219	≥0,40	≥0,40
100-250/259	≥0,40	≥0,40
100-315/334	---	>0,70
125-160/190	---	>0,70
125-200/229	---	>0,70
125-250/259	---	>0,70
125-315/334	---	>0,70
150-200/225	---	0,62
150-250/259	---	>0,70
150-315/334	---	>0,70
200-250/282	---	0,49
200-315/334	---	0,59
200-400/398	---	0,66
250-315/333	---	0,57

Lne-MEI-en_e_sc

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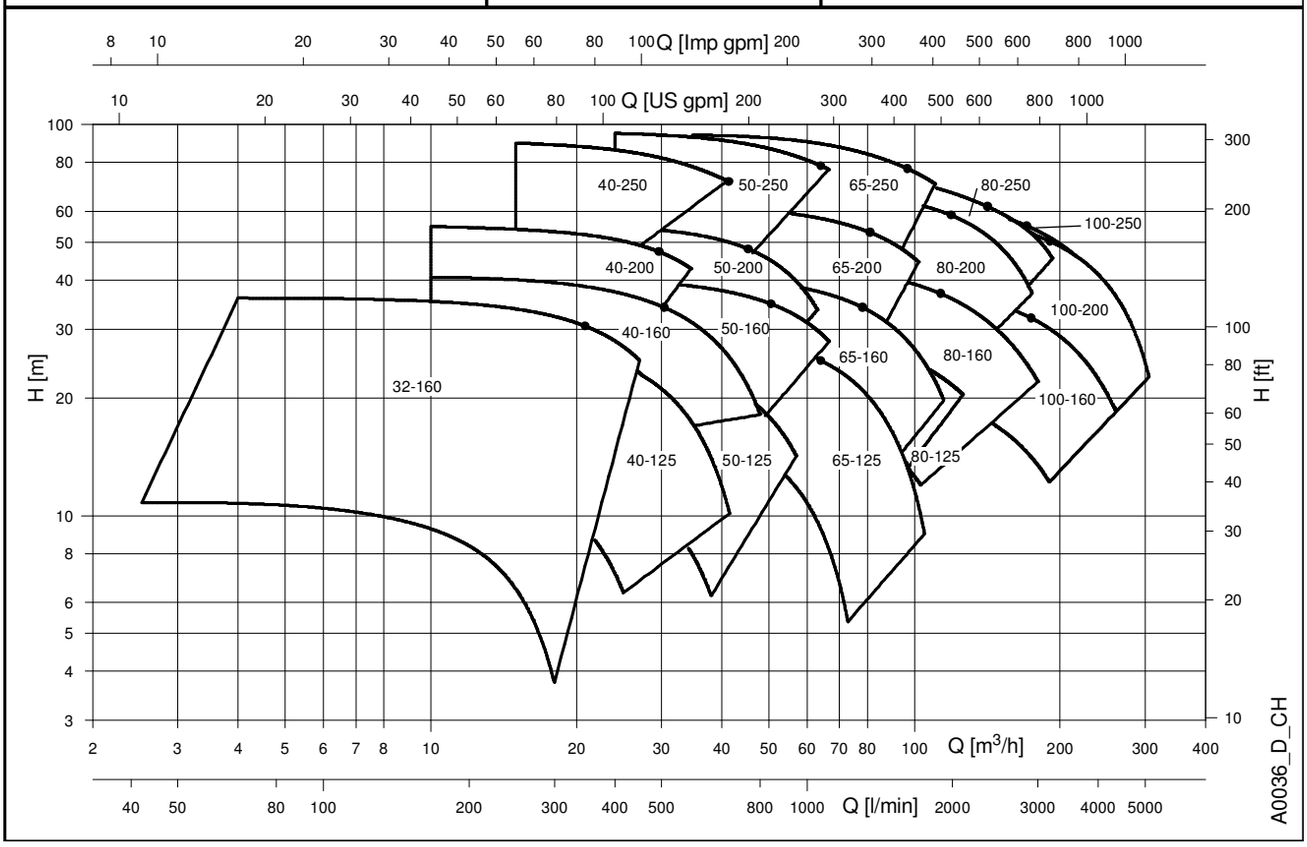
e-LNE SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES

LNE	~ 2950 [rpm]	ISO 9906:2012 - Grade 3B



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

PUMP TYPE	P_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	3	5	7	9	11	13	15	17	19	21	23	27
						H = TOTAL HEAD METRES COLUMN OF WATER												
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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	6	10	14	18	22	26	30	34	38	42	46	48
						H = TOTAL HEAD METRES COLUMN OF WATER												
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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	10	15	20	25	30	35	40	45	50	55	60	68
						H = TOTAL HEAD METRES COLUMN OF WATER												
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_b_th

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

*Available also in single-phase version.

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

PUMP TYPE	P_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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
						m3/h 0	18	27	36	45	54	63	72	81	90	99	108	116
						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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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
						m^3/h 0	20	36	52	68	84	100	116	132	148	164	180	193
						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	162	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	176	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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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
						m^3/h 0	44	68	92	116	140	164	188	212	236	260	284	305
						H = TOTAL HEAD METRES COLUMN OF WATER												
100-160/110	11	144	144	○	72,0	25,3		23,0	21,5	19,8	17,7	15,3	12,4					
100-160/150	15	158	158	○	74,4	32,8		29,7	28,4	26,7	24,8	22,4	19,6	16,4				
100-160/185	18,5	168	168	○	77,6	36,8		34,1	33,1	31,8	30,1	27,9	25,1	21,7				
100-160/220	22	177	177	●	77,8	41,0		39,0	38,2	37,0	35,3	33,1	30,3	27,0	23,0			
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)

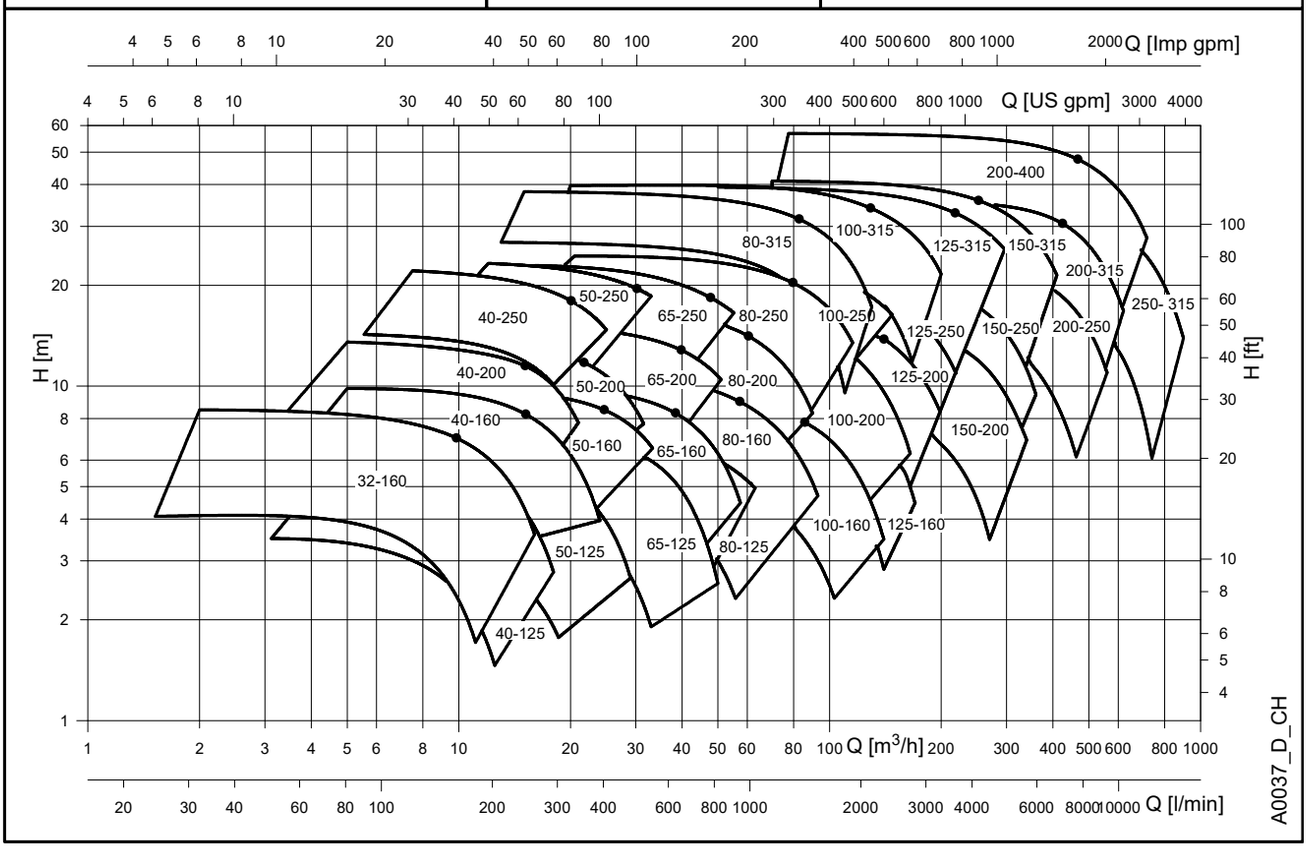
LNE-65-80-100_2p50-en_b_th

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

LOWARA
a xylem brand

e-LNE SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

LNE	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



LOWARA
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e-LNE 32, 40, 50 SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

PUMP TYPE	P_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 0	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^3/h 0	2	3	4	5	6	7	8	9	10	11	12	16
						H = TOTAL HEAD METRES COLUMN OF WATER												
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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 0	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^3/h 0	3	5	7	9	11	13	15	17	19	21	23	25
						H = TOTAL HEAD METRES COLUMN OF WATER												
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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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^3/h 0	5	7	9	11	14	17	20	23	26	28	30	33
						H = TOTAL HEAD METRES COLUMN OF WATER												
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 - **O** = Trimmed impeller diameter (3) Hydraulic efficiency of pump.

LOWARA
a xylem brand

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

PUMP TYPE	P_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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
						m3/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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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^3/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	162	160	○	76,0	8,6		8,2	7,6	6,8	5,7	4,5						
80-160/22A	2,2	176	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_N kW	Ø Impeller (mm) STD (1)	B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY 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^3/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	○	68,5	6,2		5,6	5,1	4,5	3,6	2,6						
100-160/22A	2,2	158	158	○	74,1	8,0		7,3	6,8	6,3	5,5	4,4	3,1					
100-160/22	2,2	168	168	○	75,8	9,1		8,3	7,9	7,4	6,7	5,6	4,2					
100-160/30	3	177	177	●	76,3	10,1		9,5	9,1	8,6	7,9	7,0	5,8	4,3				
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_b_th

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

LOWARA
a xylem brand

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

PUMP TYPE	P_N kW	Ø Impeller (mm) STD (1)	Ø Impeller (mm) B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	18	47	76	105	134	163	192	221	250	279	308	340
						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_N kW	Ø Impeller (mm) STD (1)	Ø Impeller (mm) B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	35	69	103	137	171	205	239	273	307	341	375	410
						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_N kW	Ø Impeller (mm) STD (1)	Ø Impeller (mm) B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	56	116	176	236	296	356	416	476	536	596	656	717
						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_N kW	Ø Impeller (mm) STD (1)	Ø Impeller (mm) B (1)	○ ● (2)	ηp % (3)	Q = DELIVERY l/s 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
						m^3/h 0	120	191	262	333	404	475	546	617	688	759	830	900
						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 - **O** = Trimmed impeller diameter (3) Hydraulic efficiency of pump.

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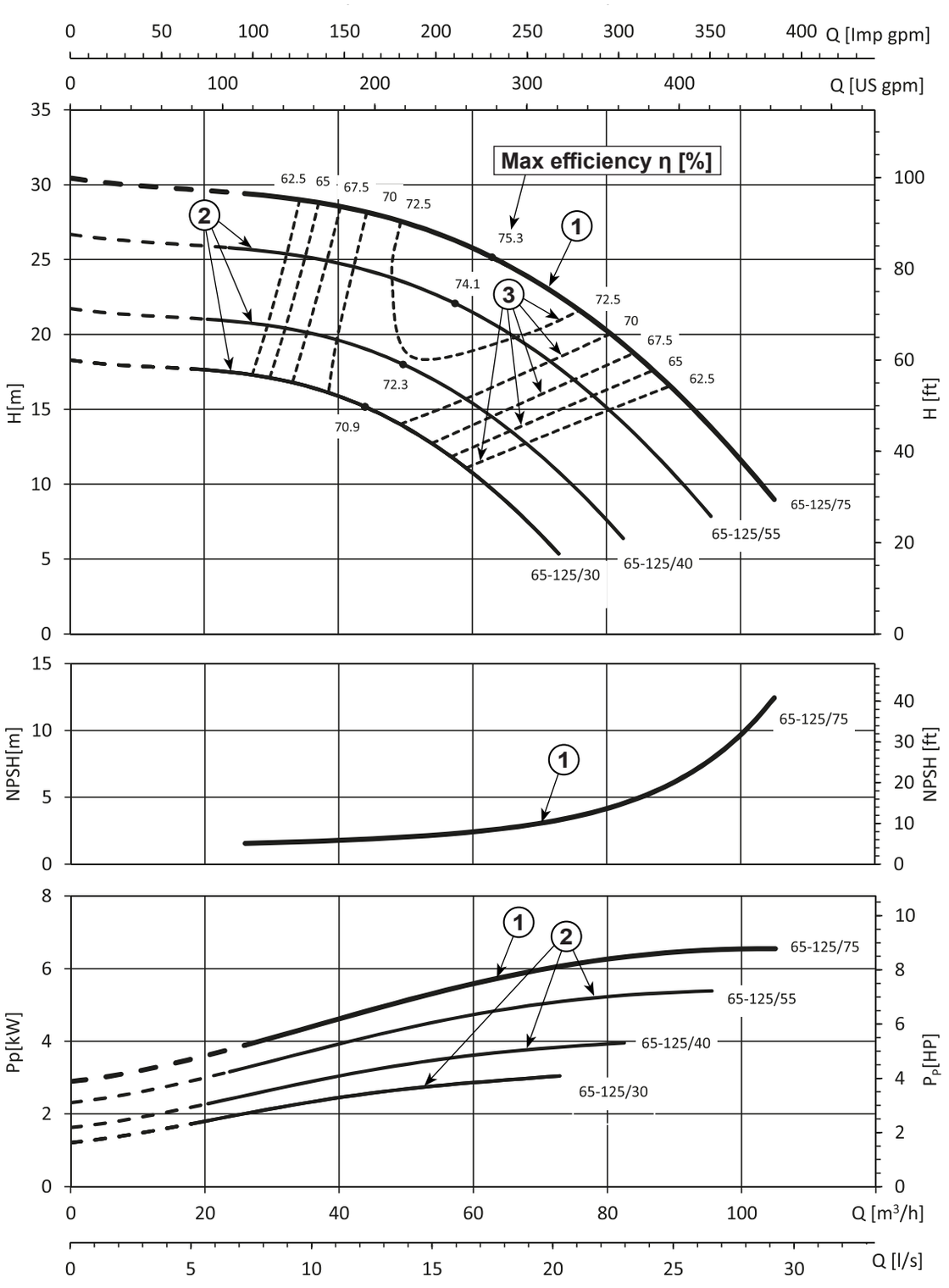
e-LNE SERIES
IDENTIFICATION OF GRAPH



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

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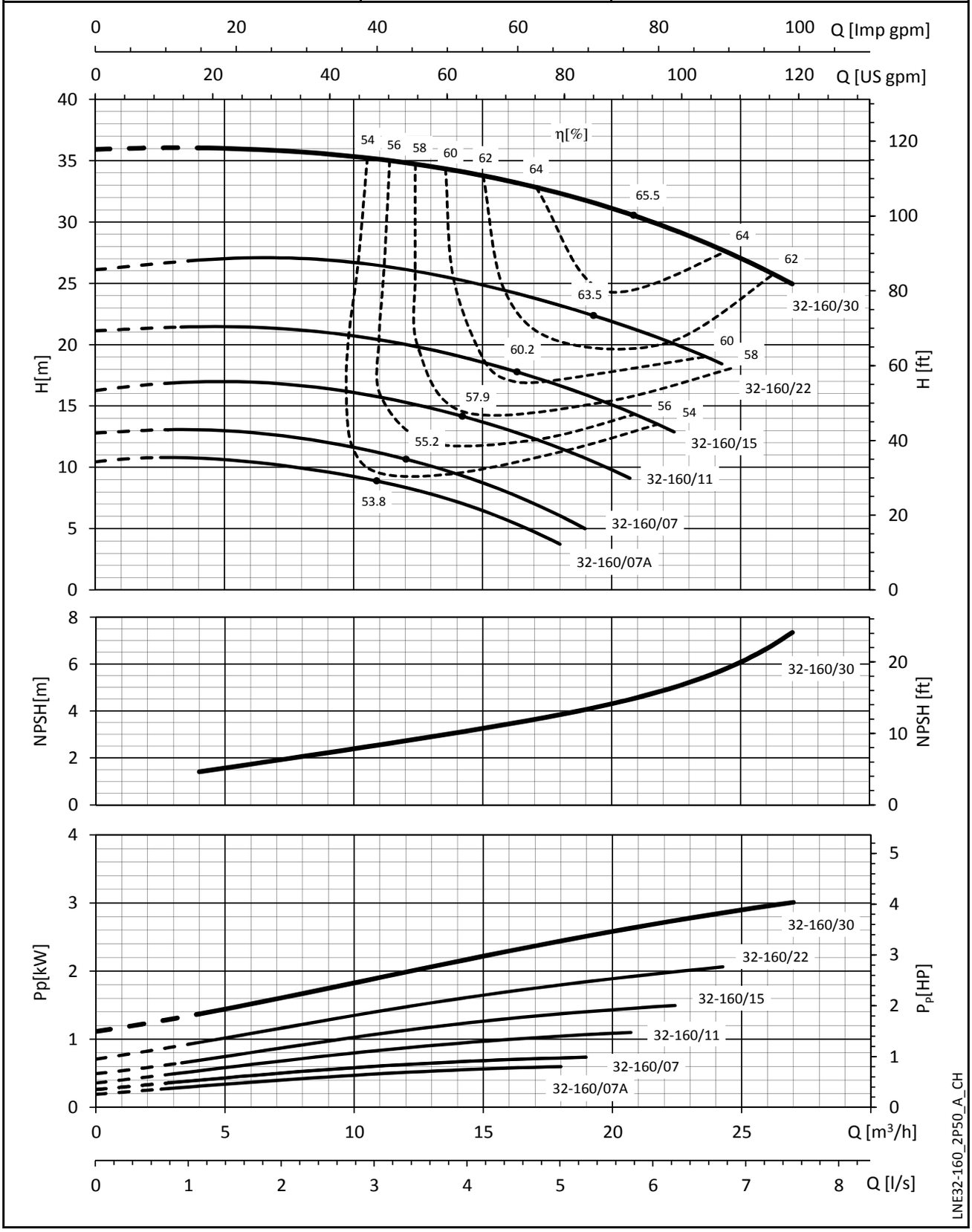
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 32-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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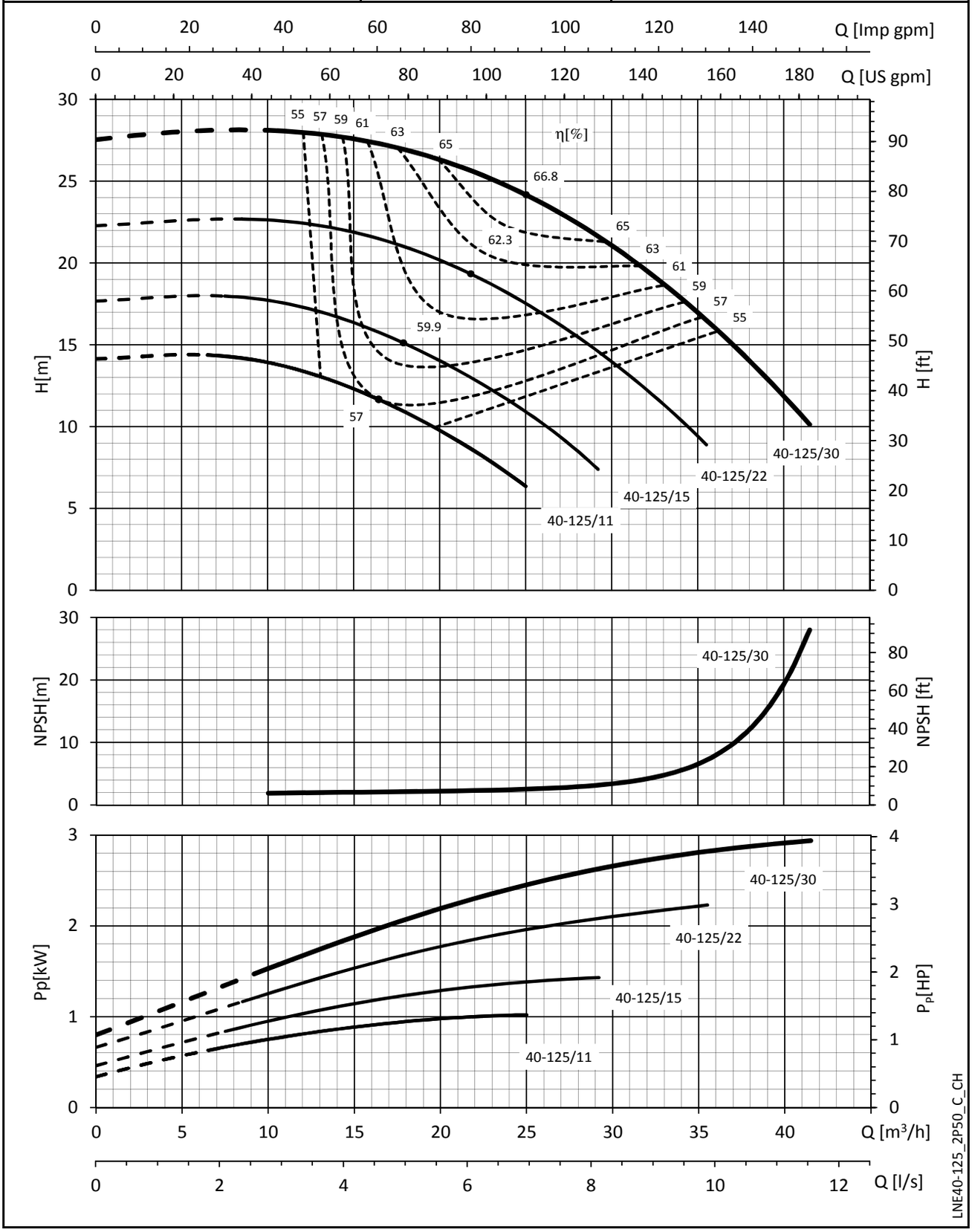
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 40-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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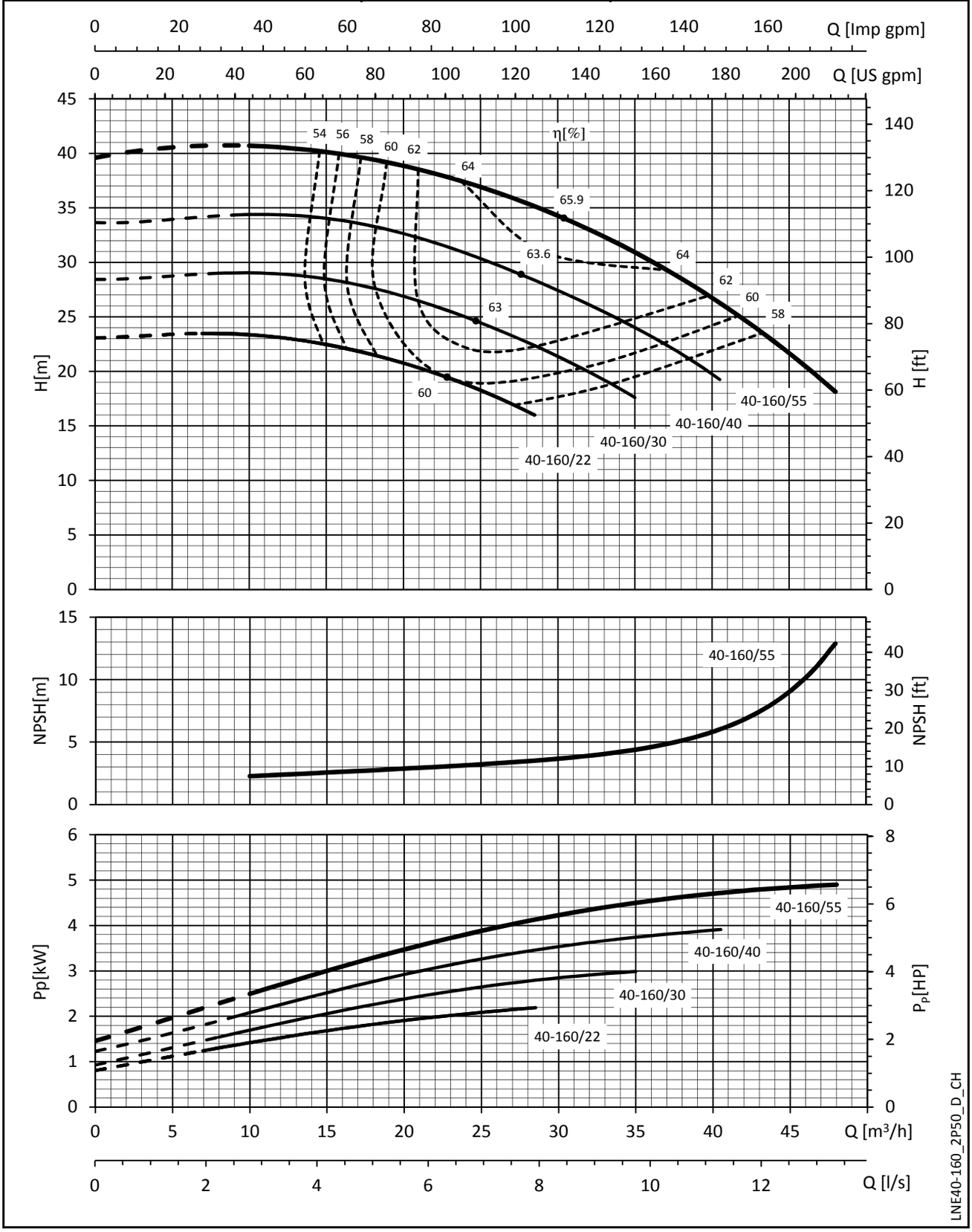
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 40-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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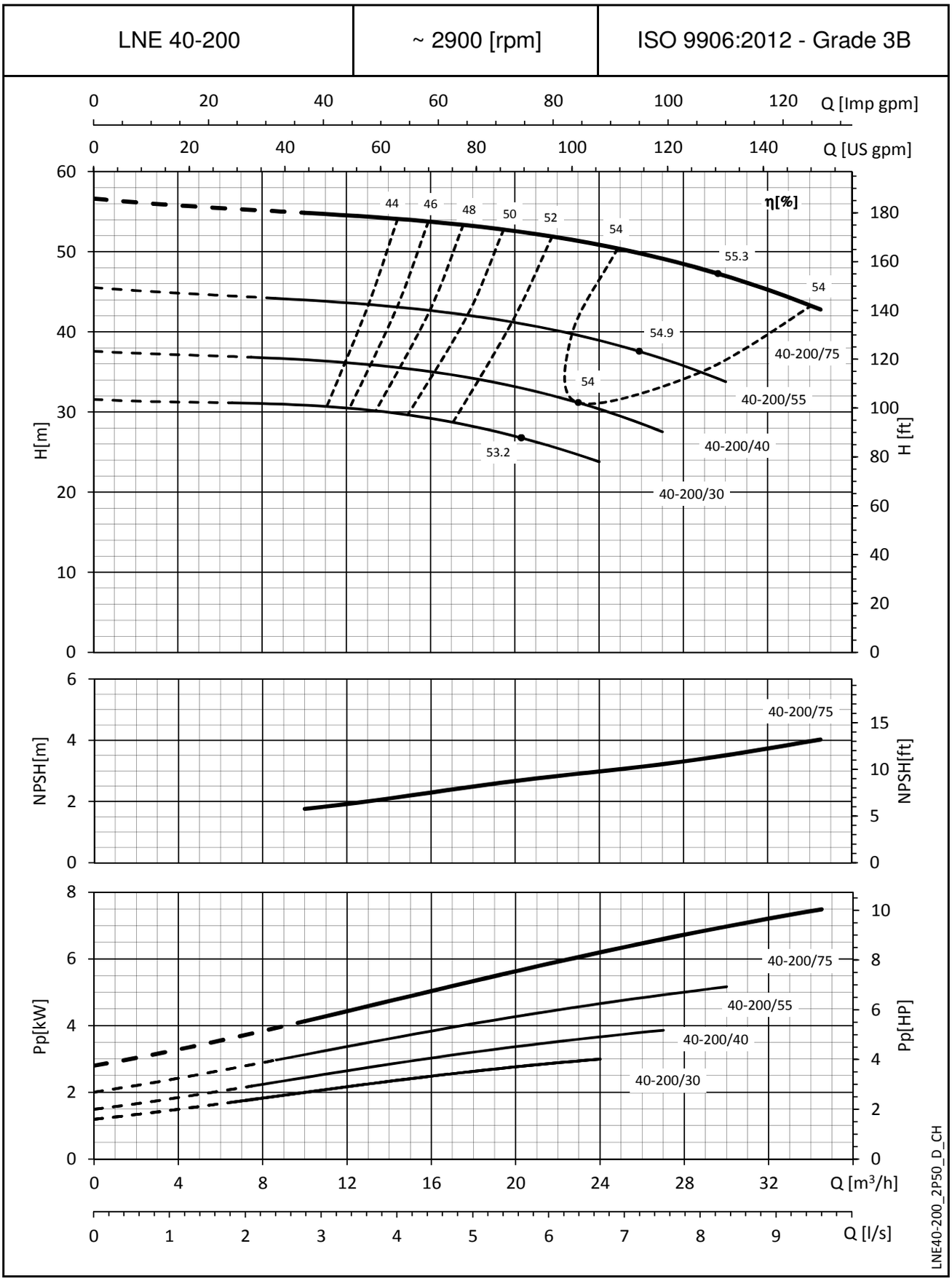
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 40-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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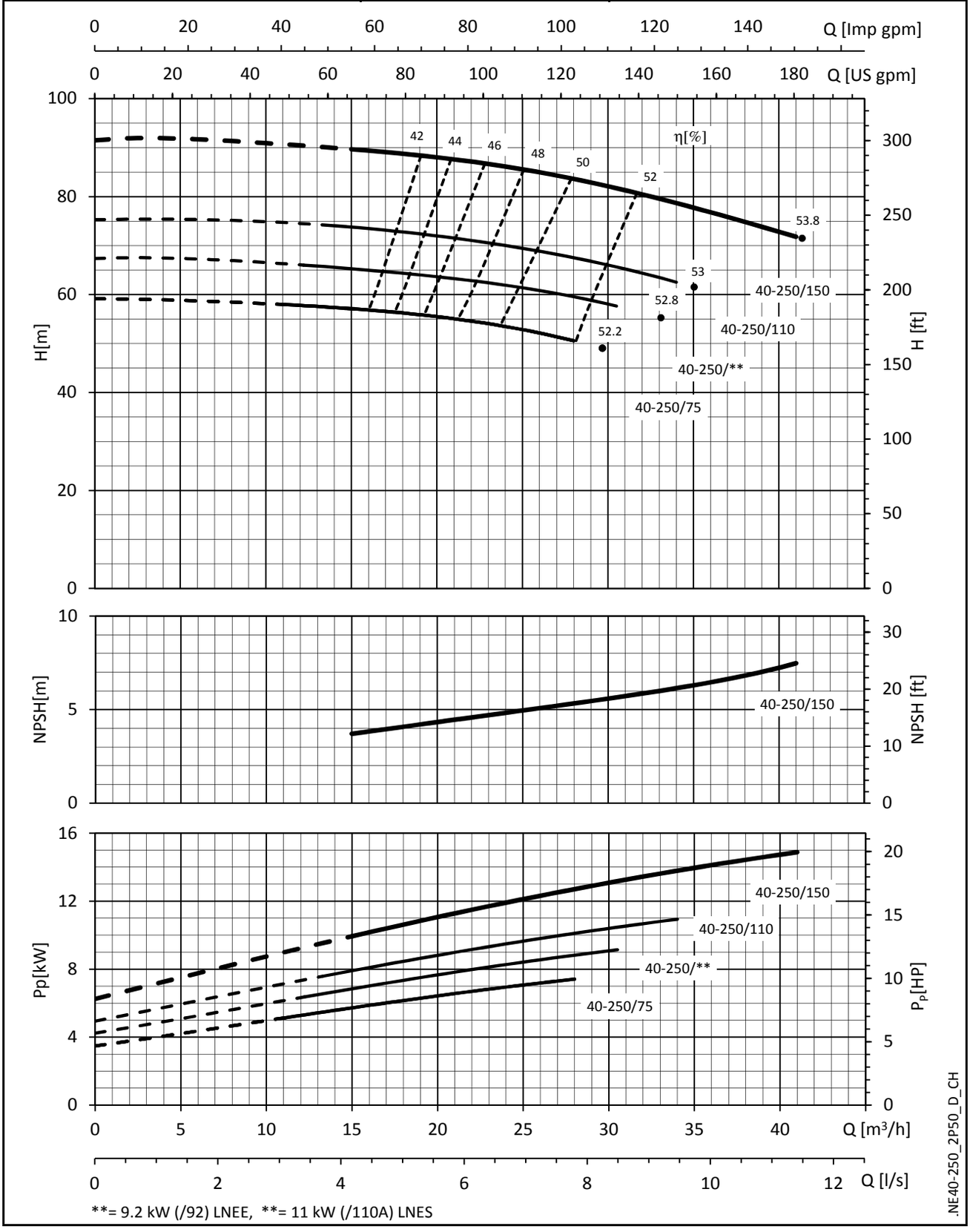
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 40-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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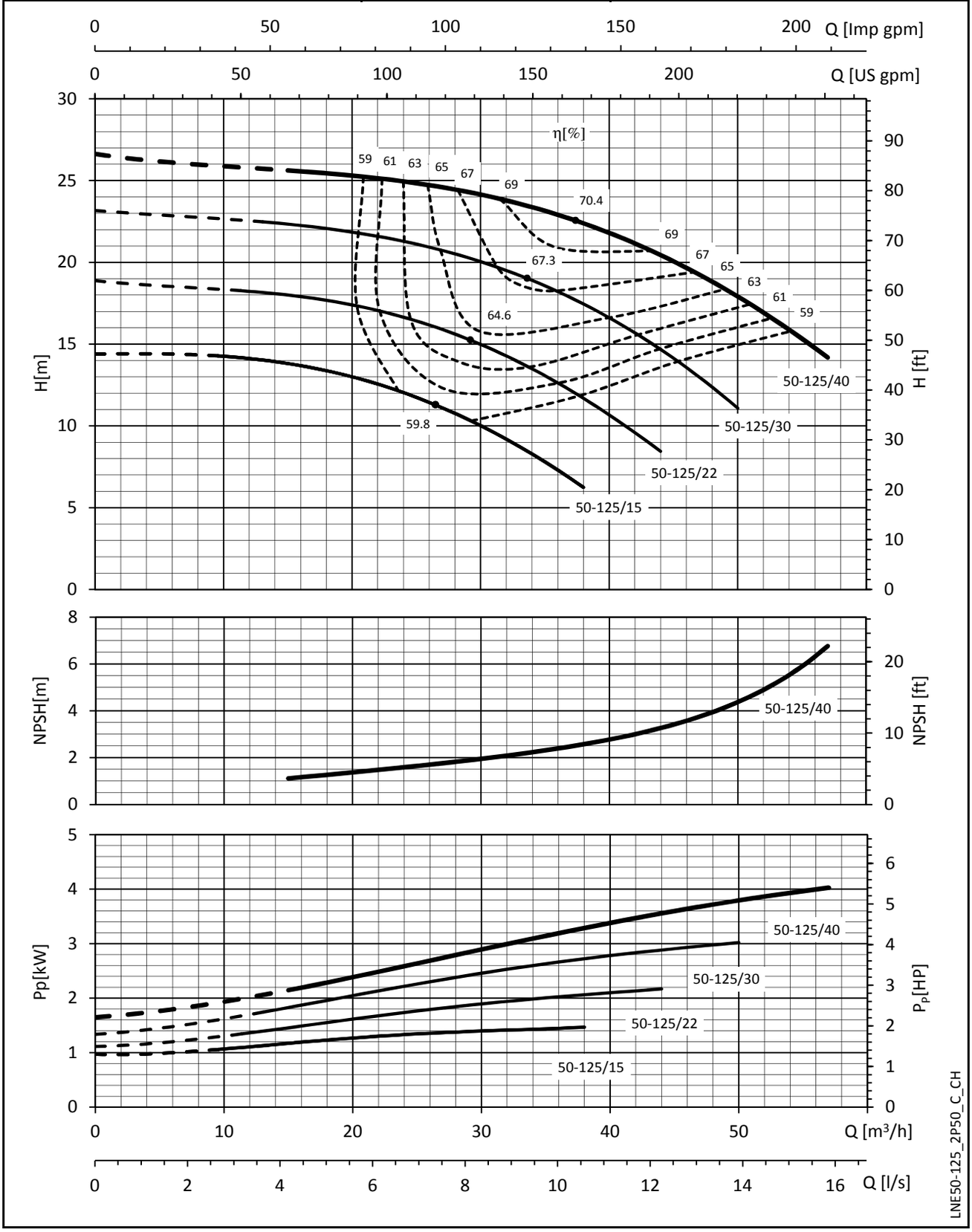
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 50-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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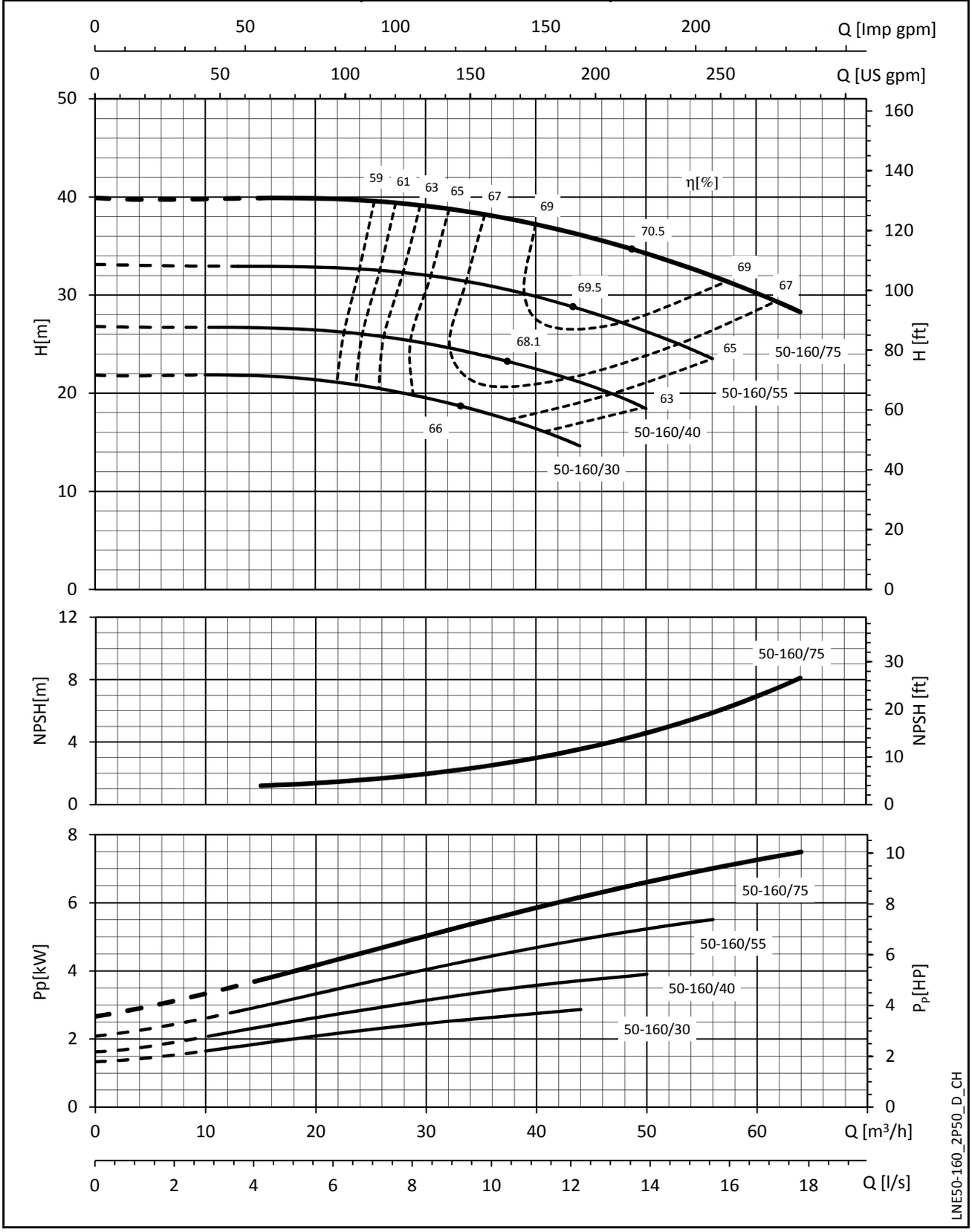
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 50-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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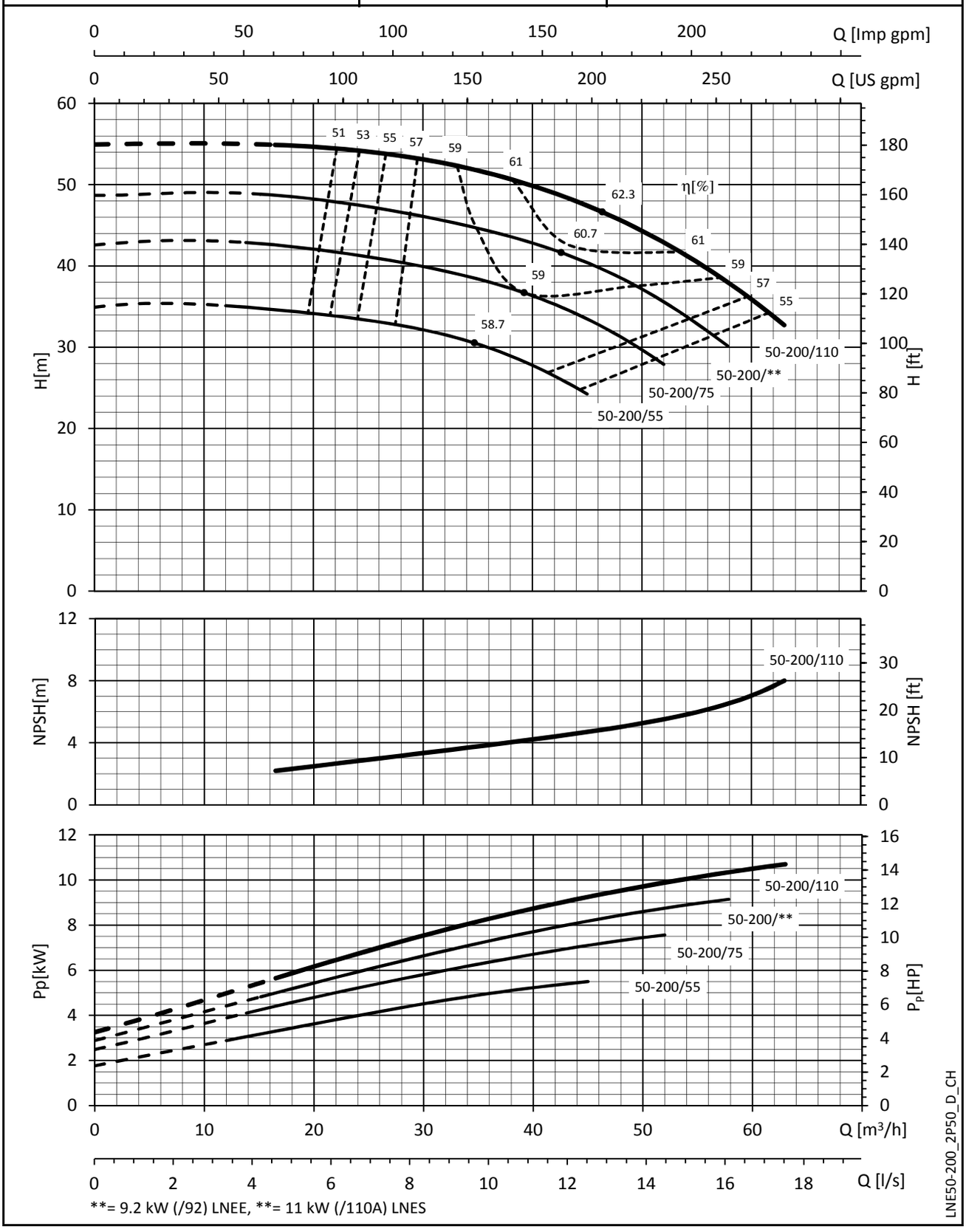
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 50-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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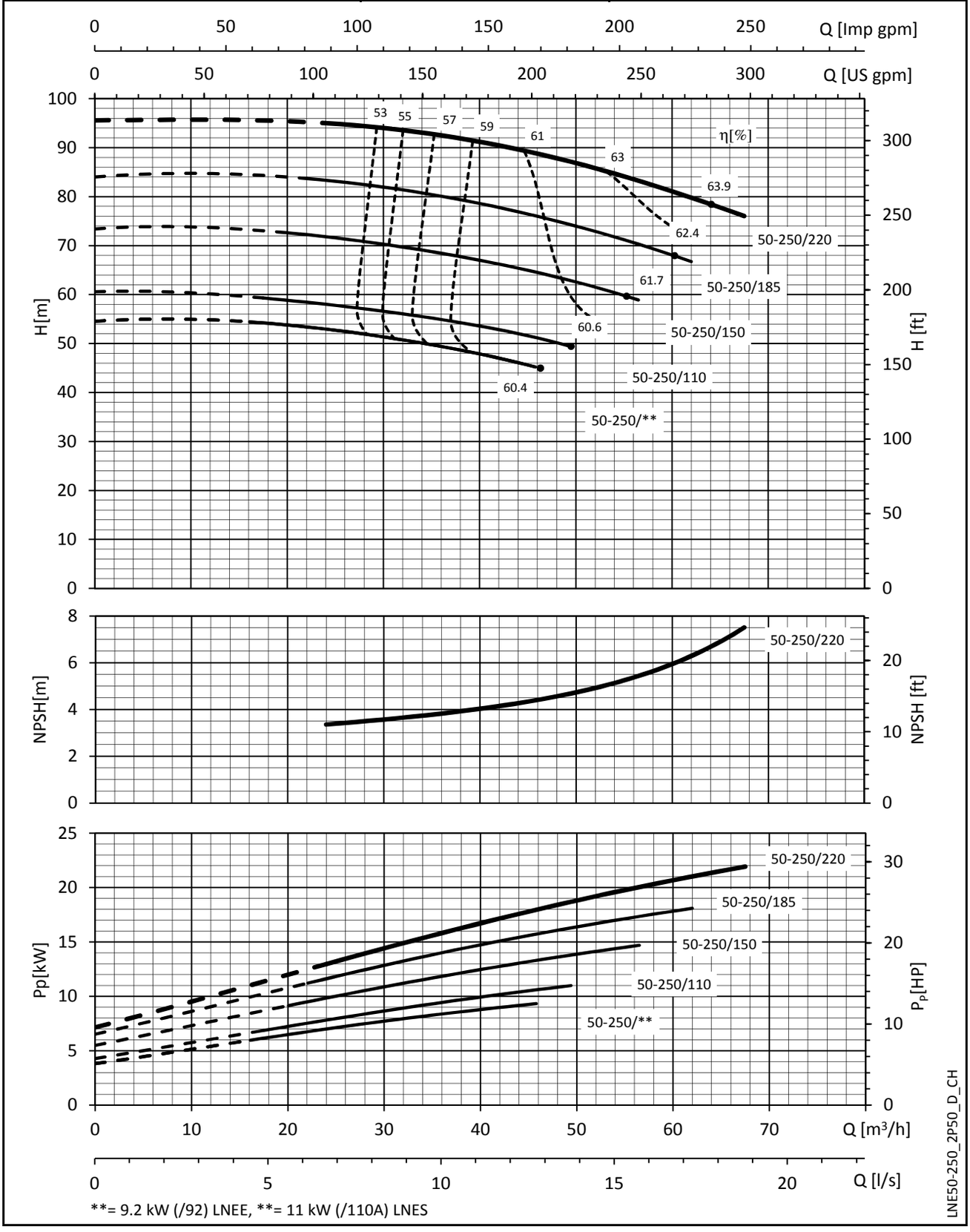
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 50-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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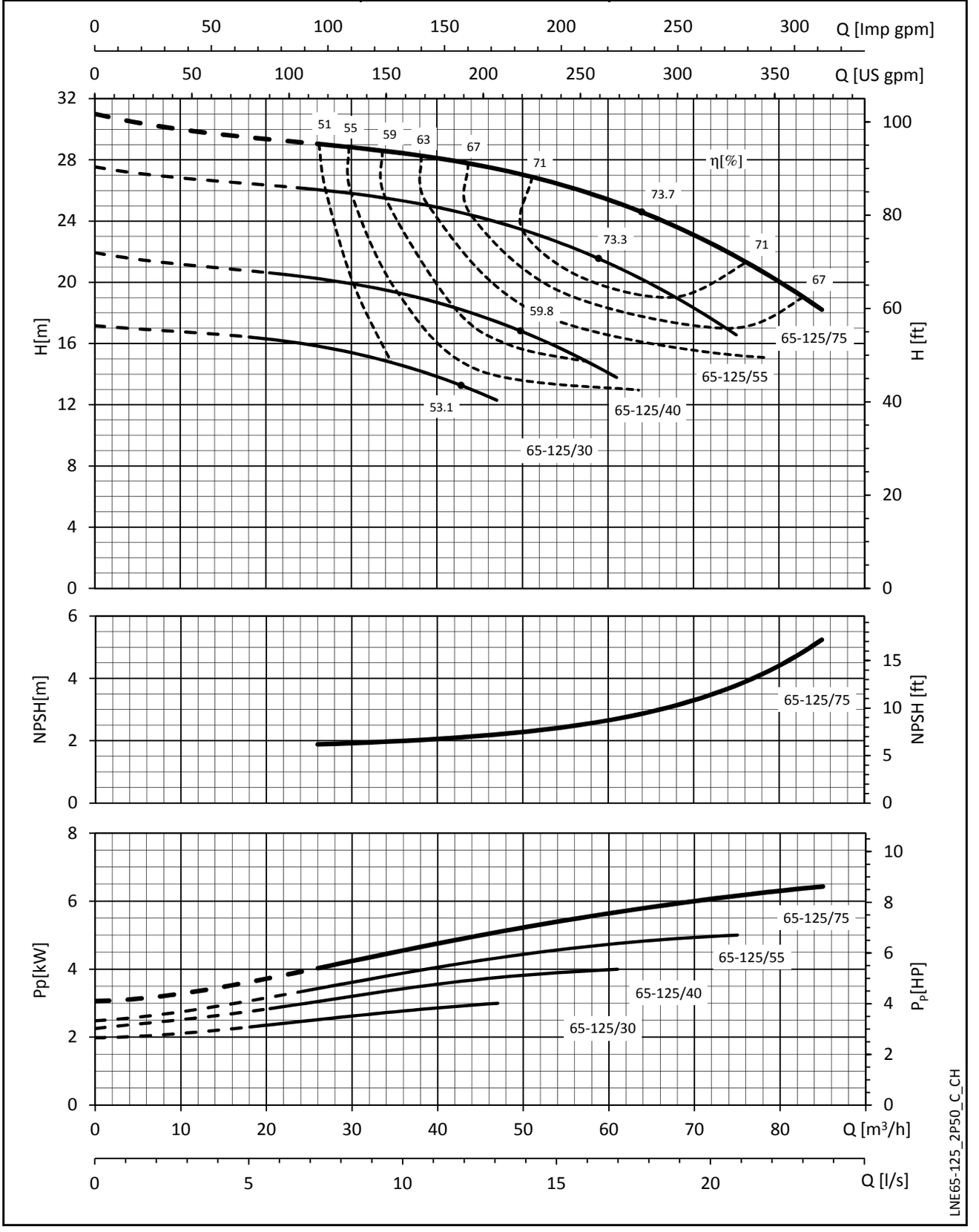
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 65-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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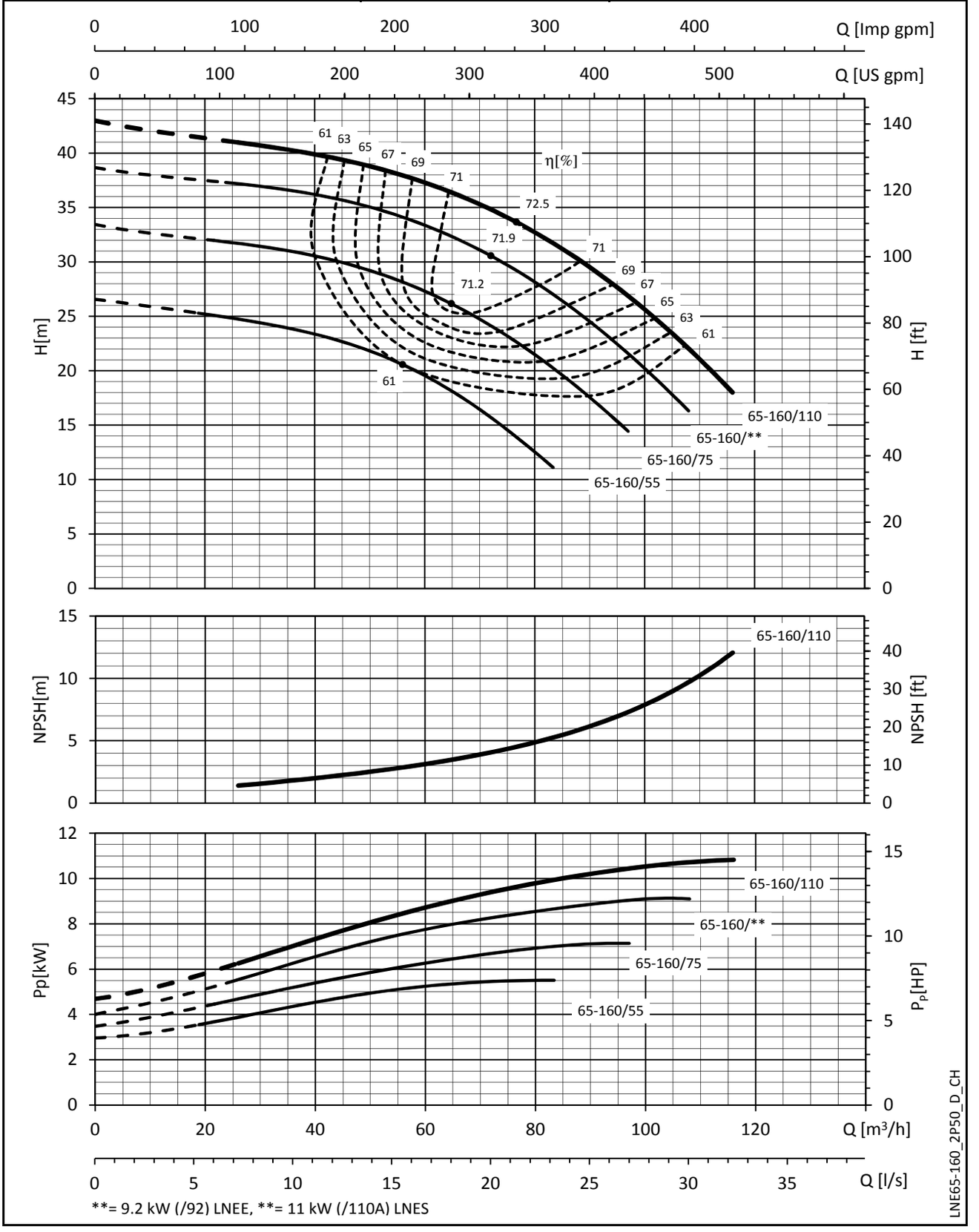
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 65-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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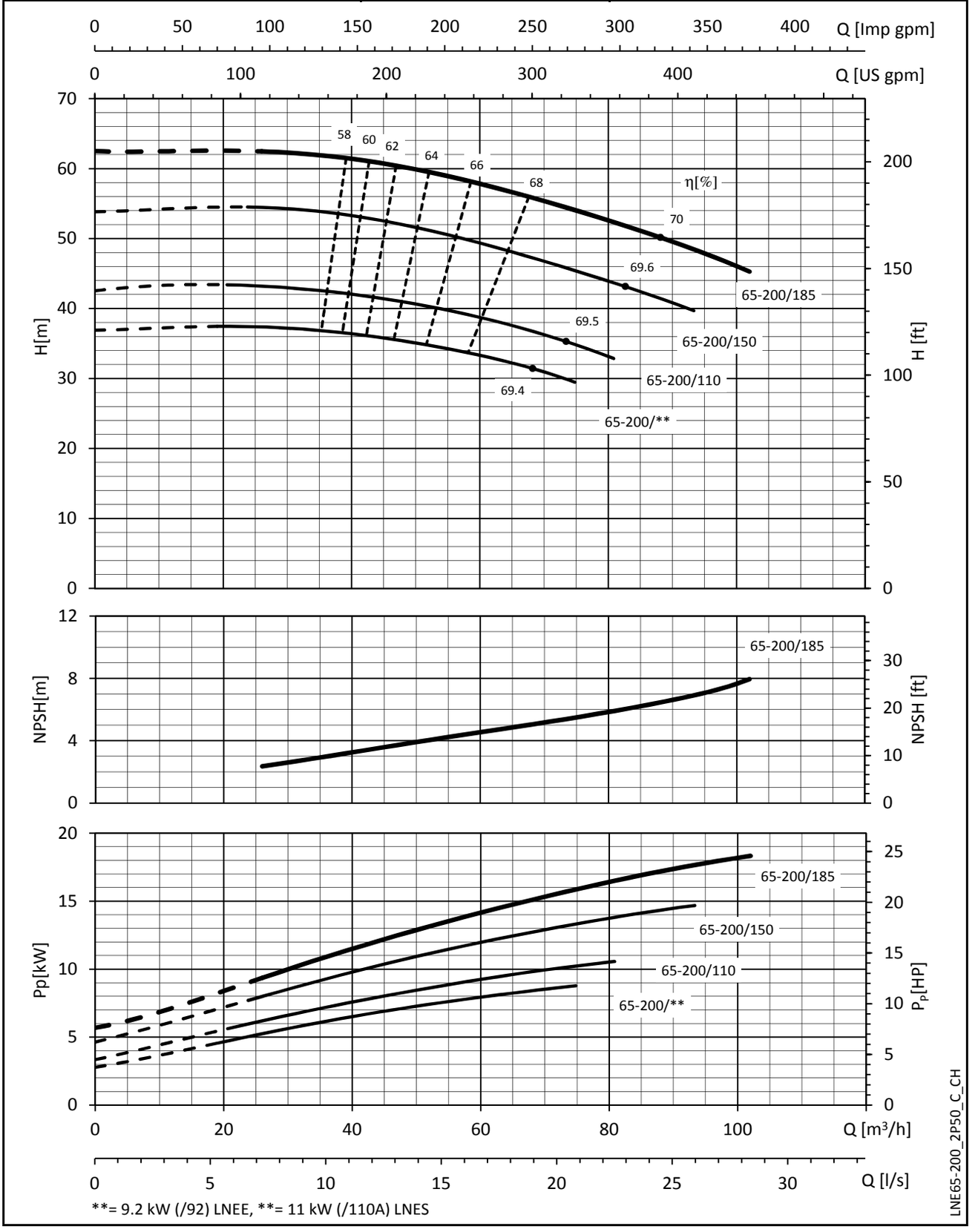
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 65-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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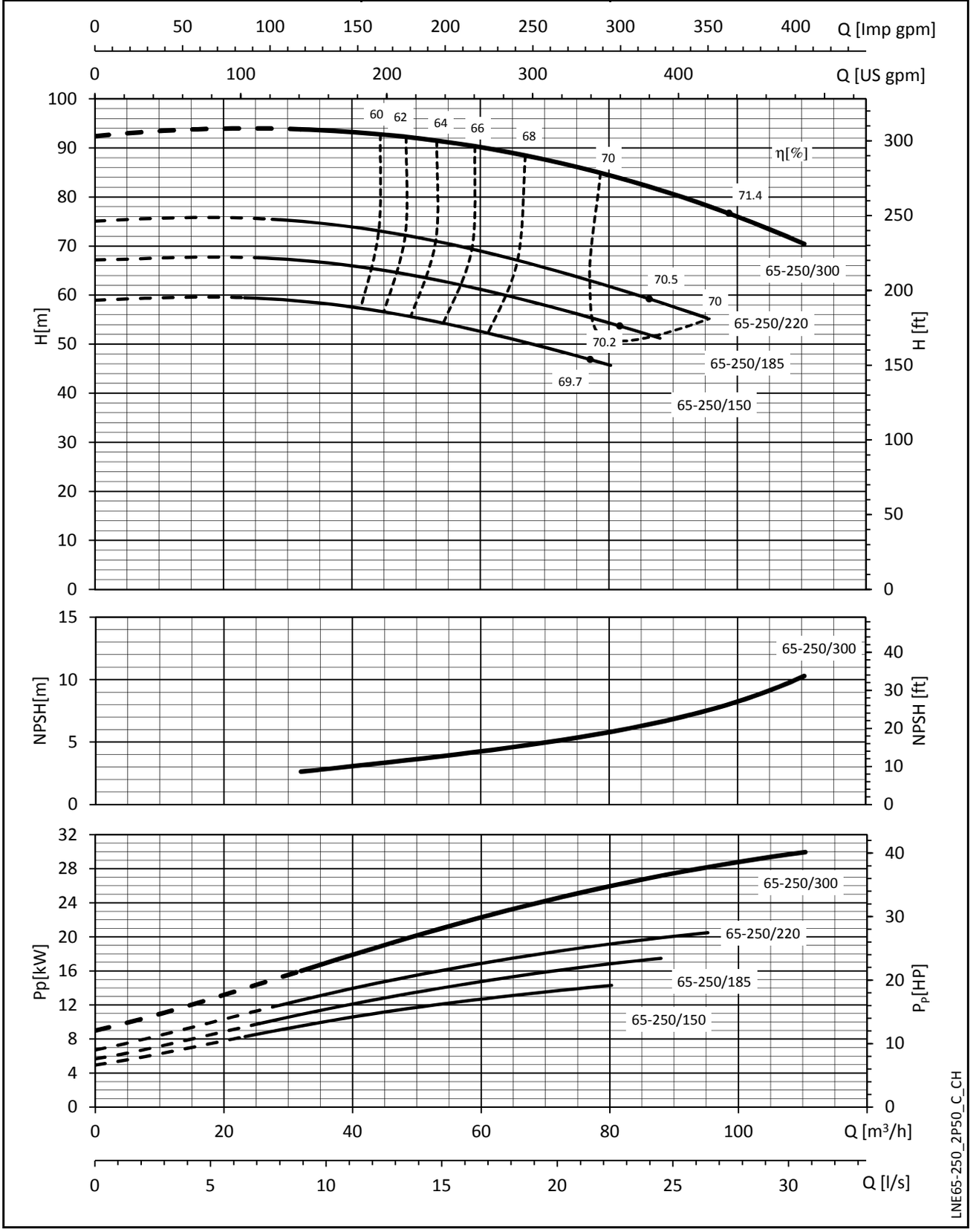
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 65-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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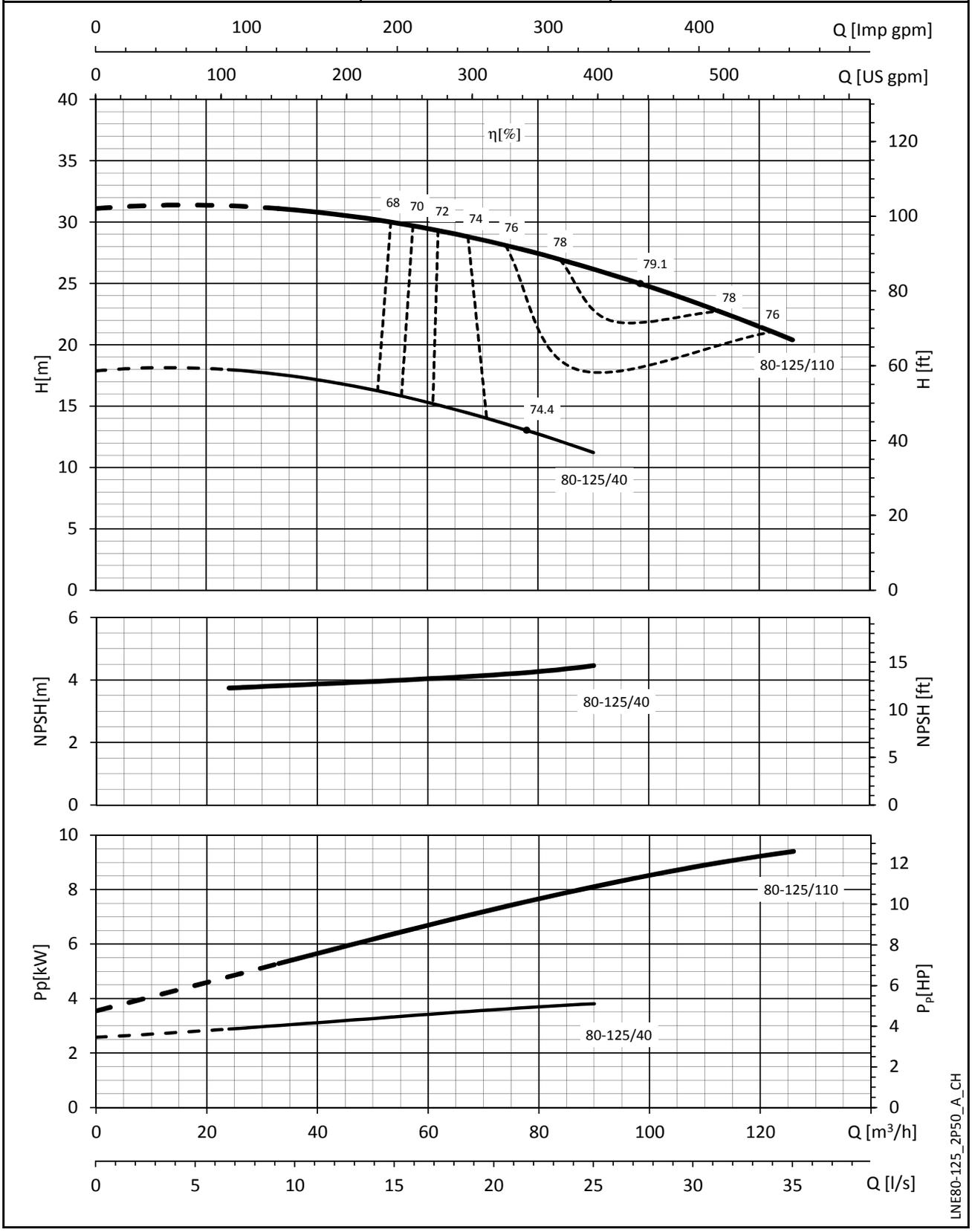
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 80-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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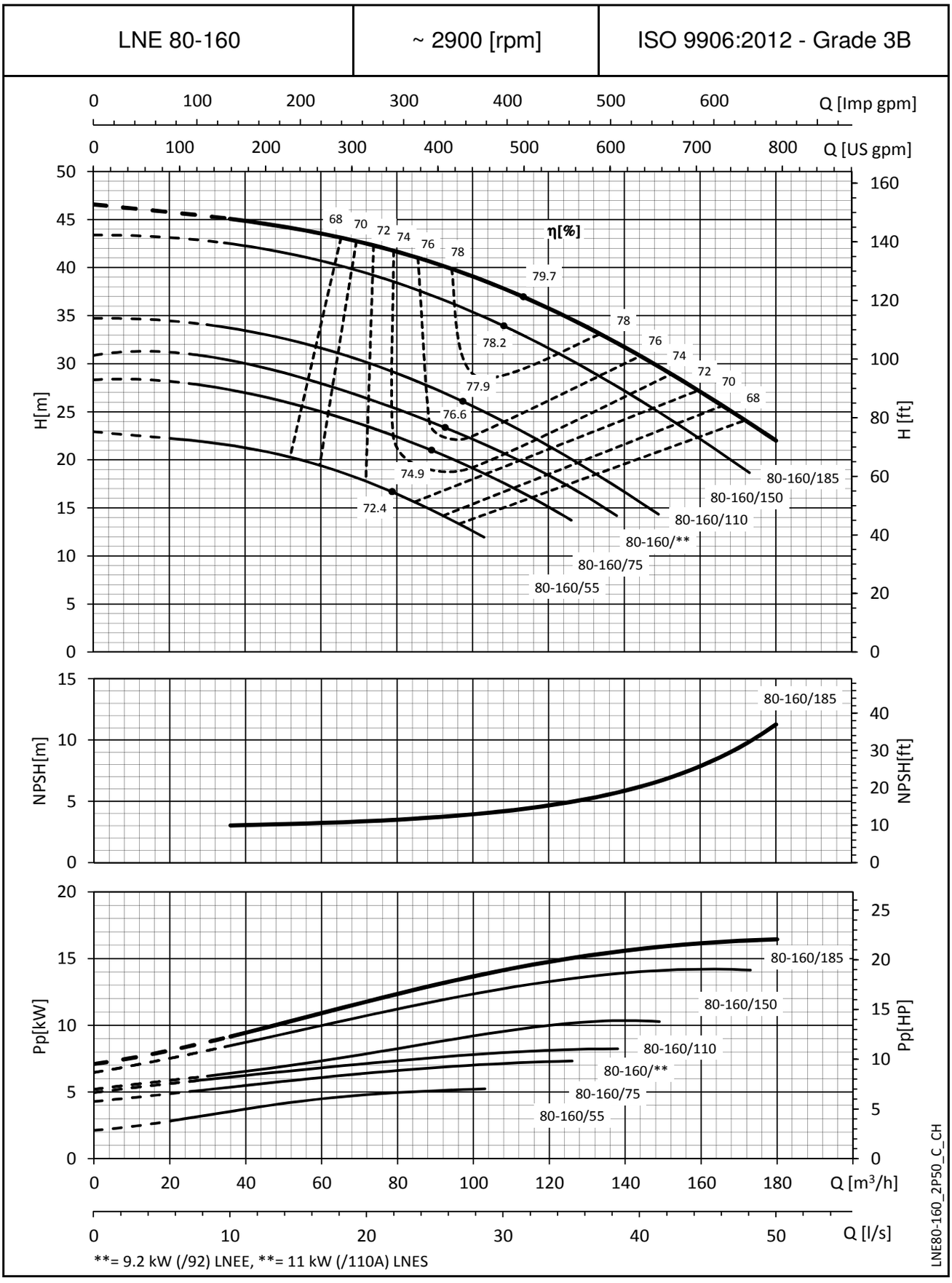
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 80-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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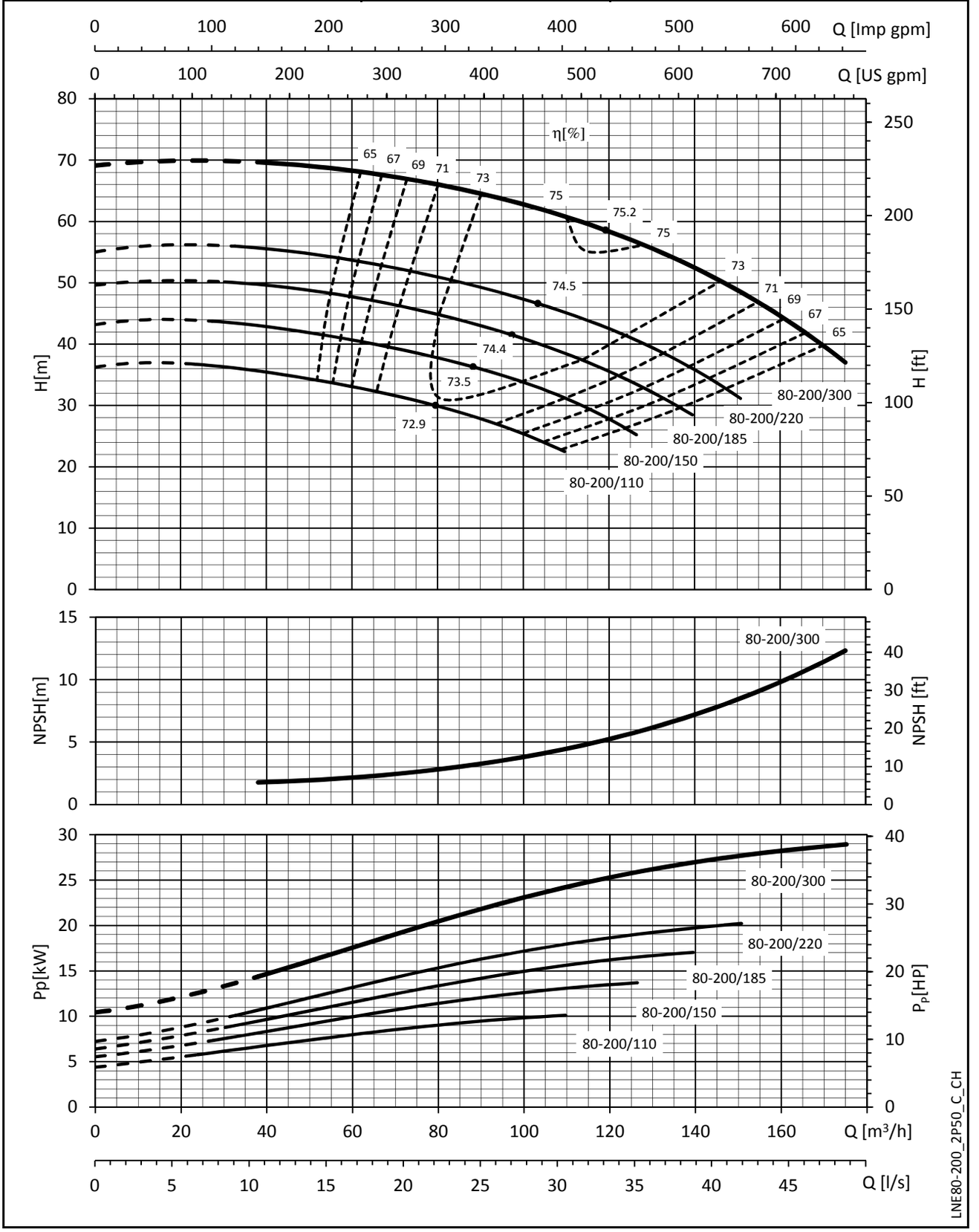
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 80-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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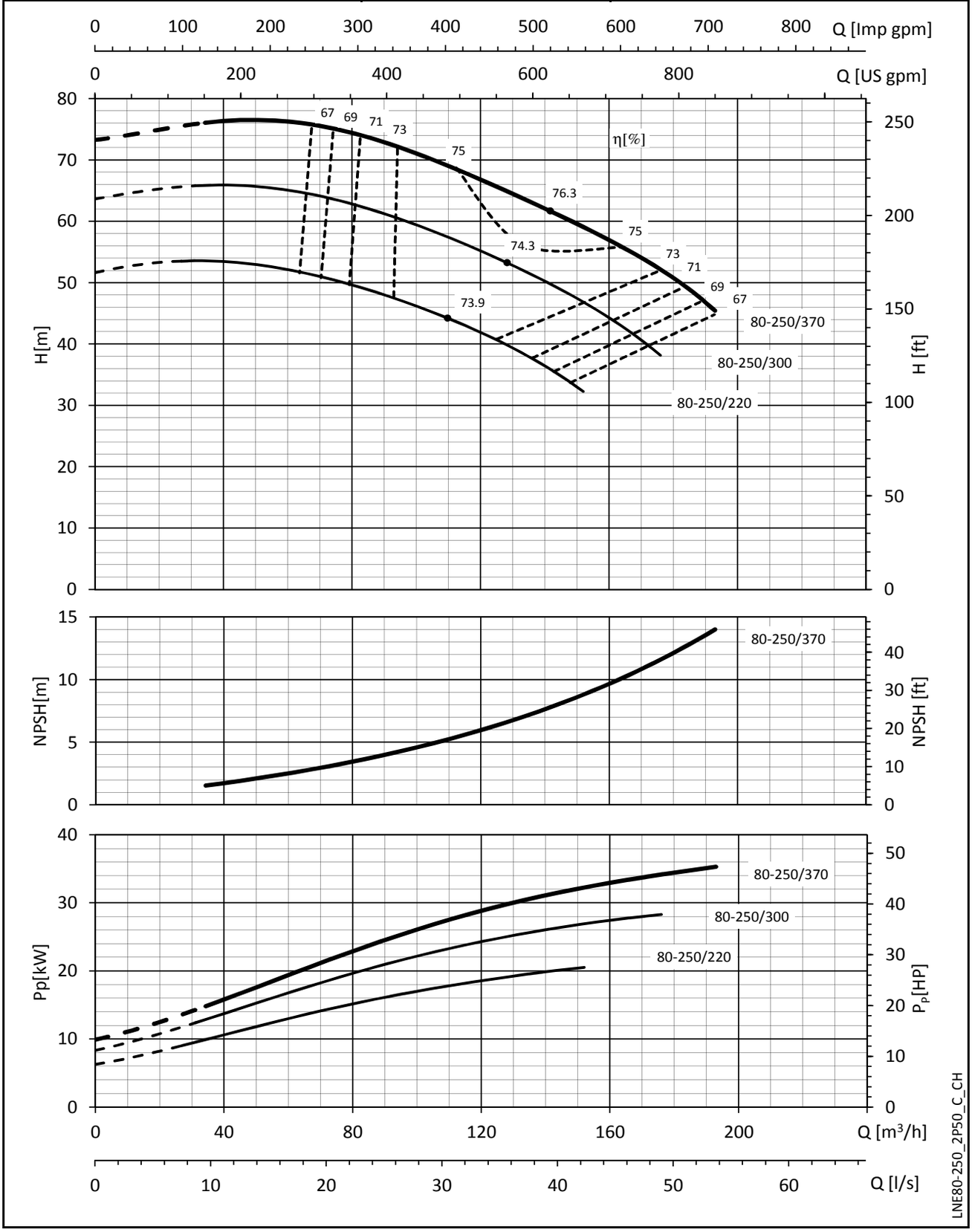
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

LNE 80-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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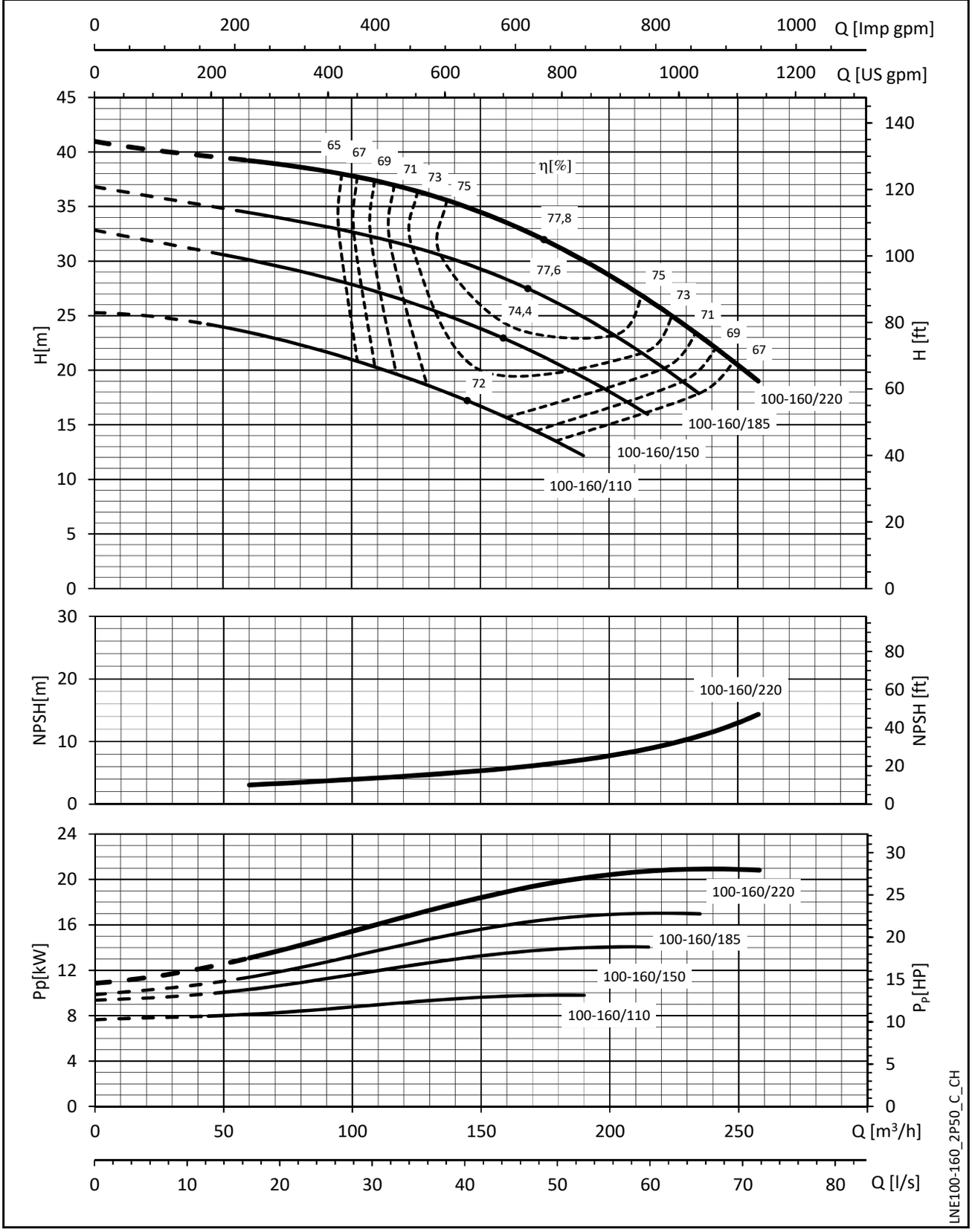
a xylem brand

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

LNE 100-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

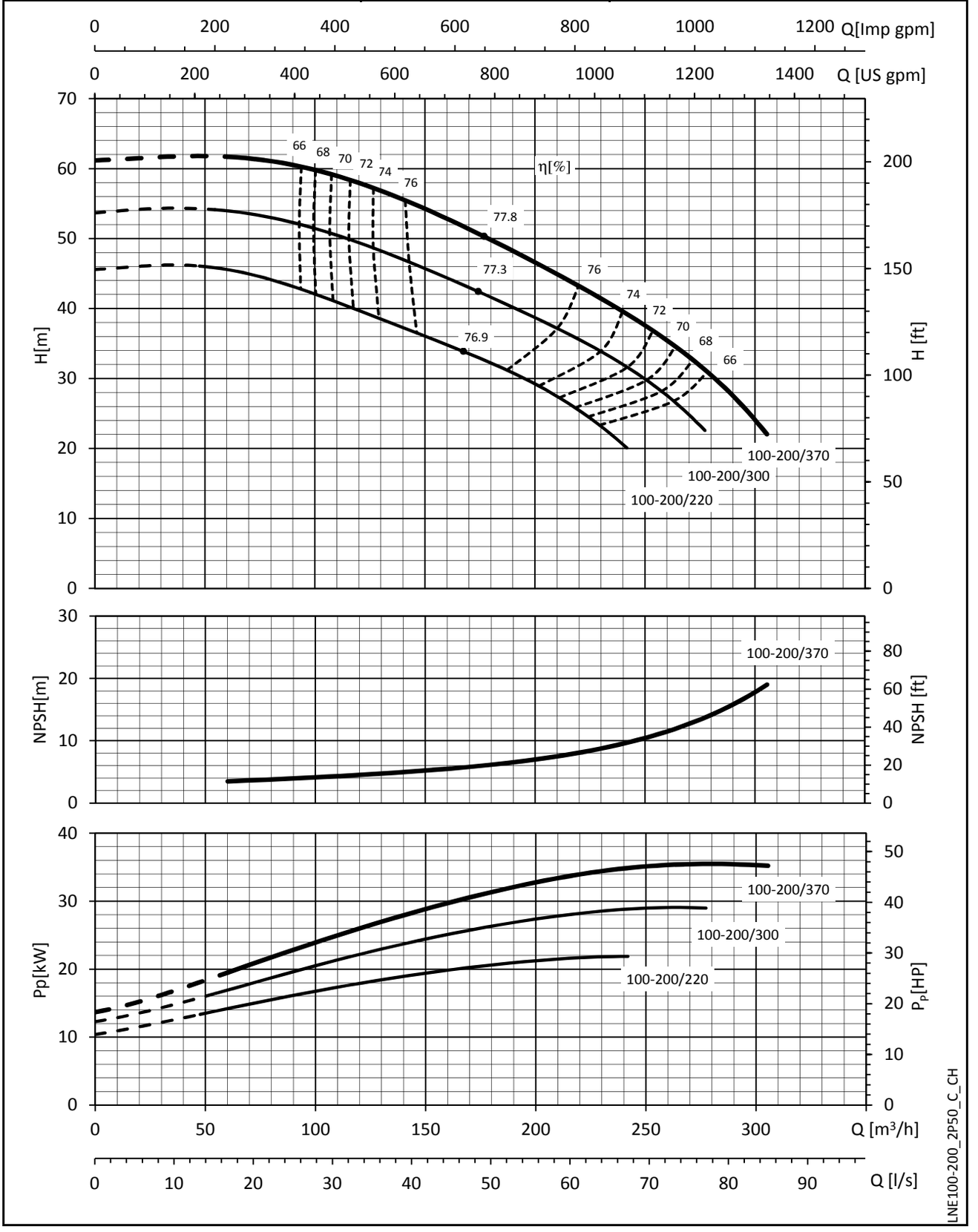


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 100-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

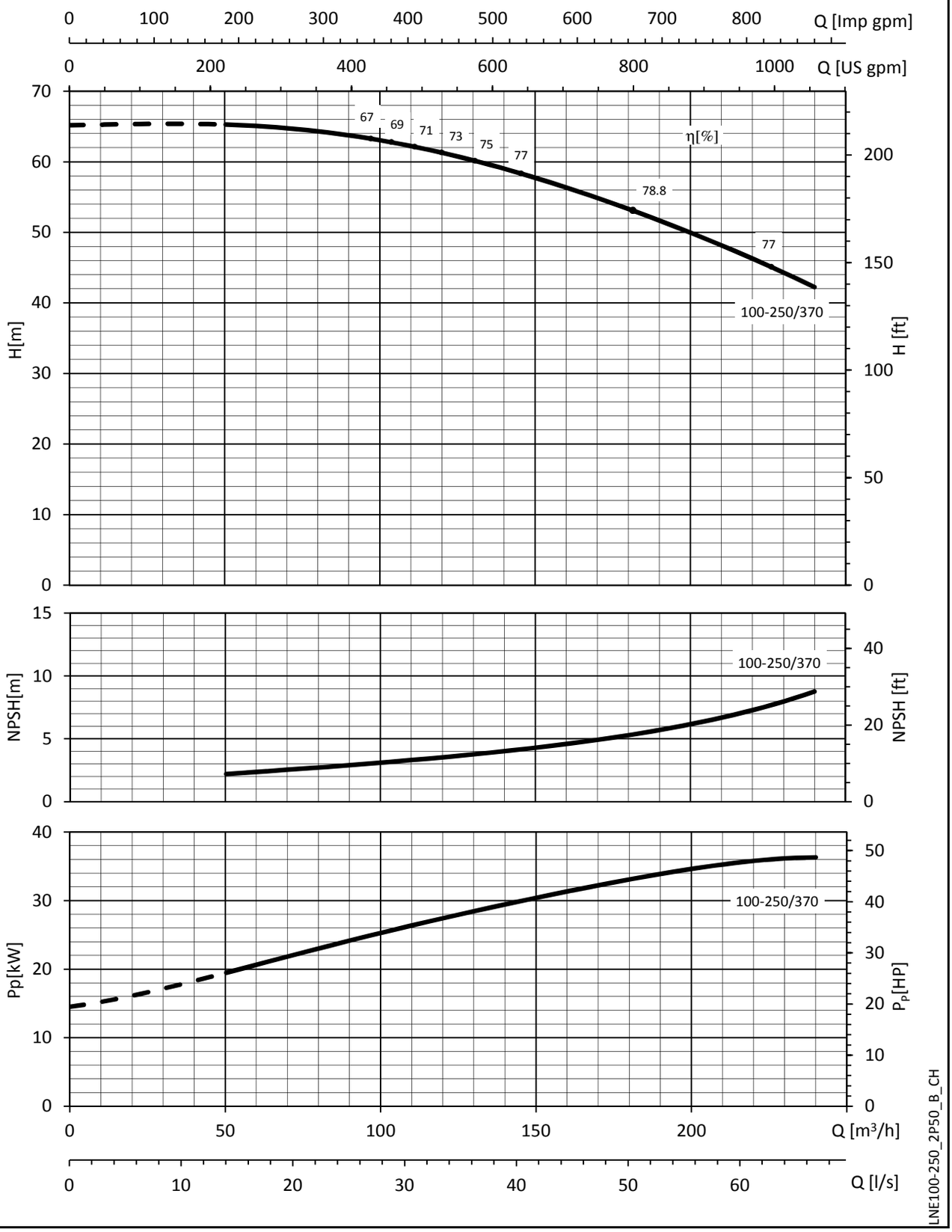


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 100-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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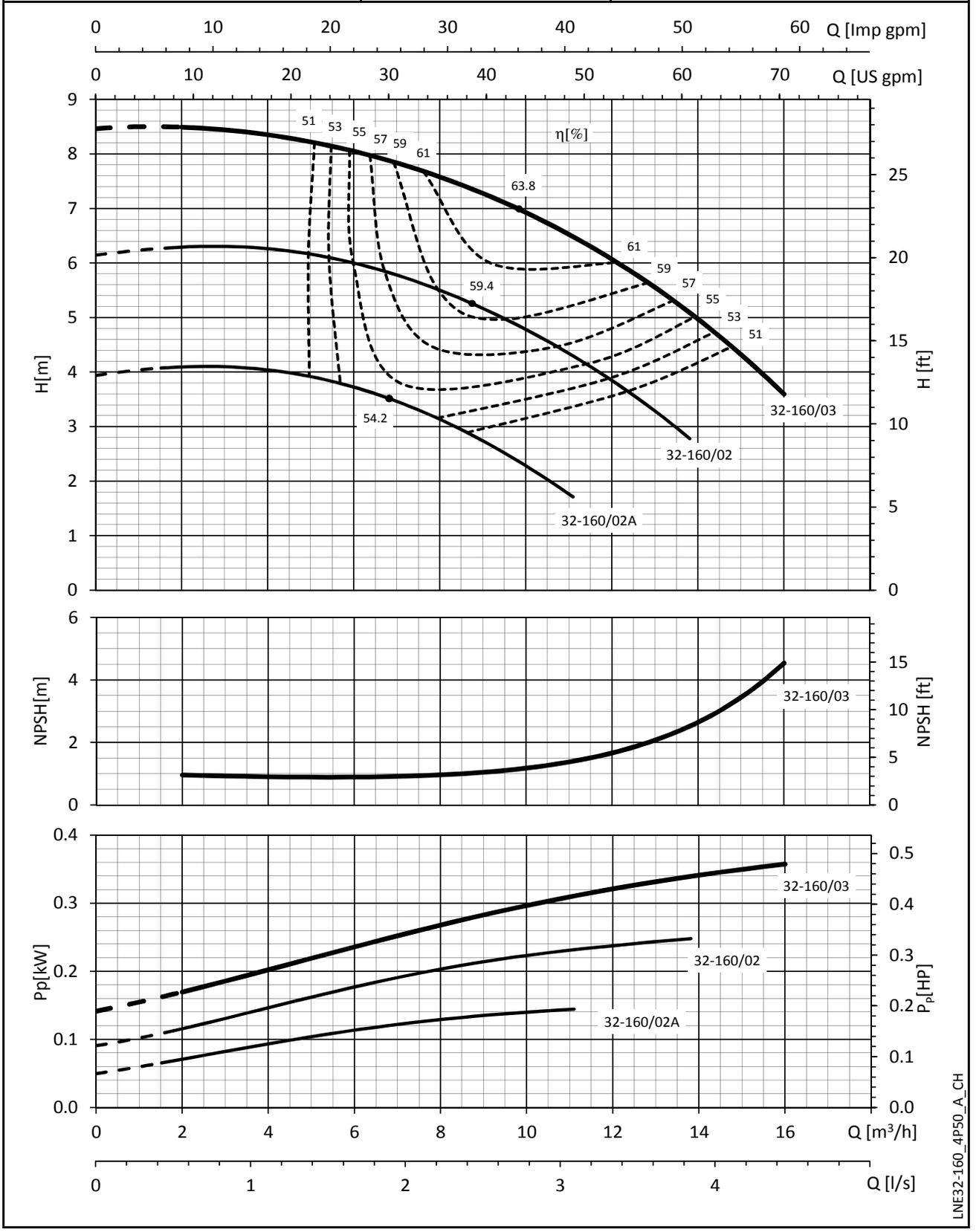
e-LNE SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

LNE 32-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



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 ρ = 1.0 Kg/dm³ ed una viscosità cinematica ν = 1 mm²/sec.

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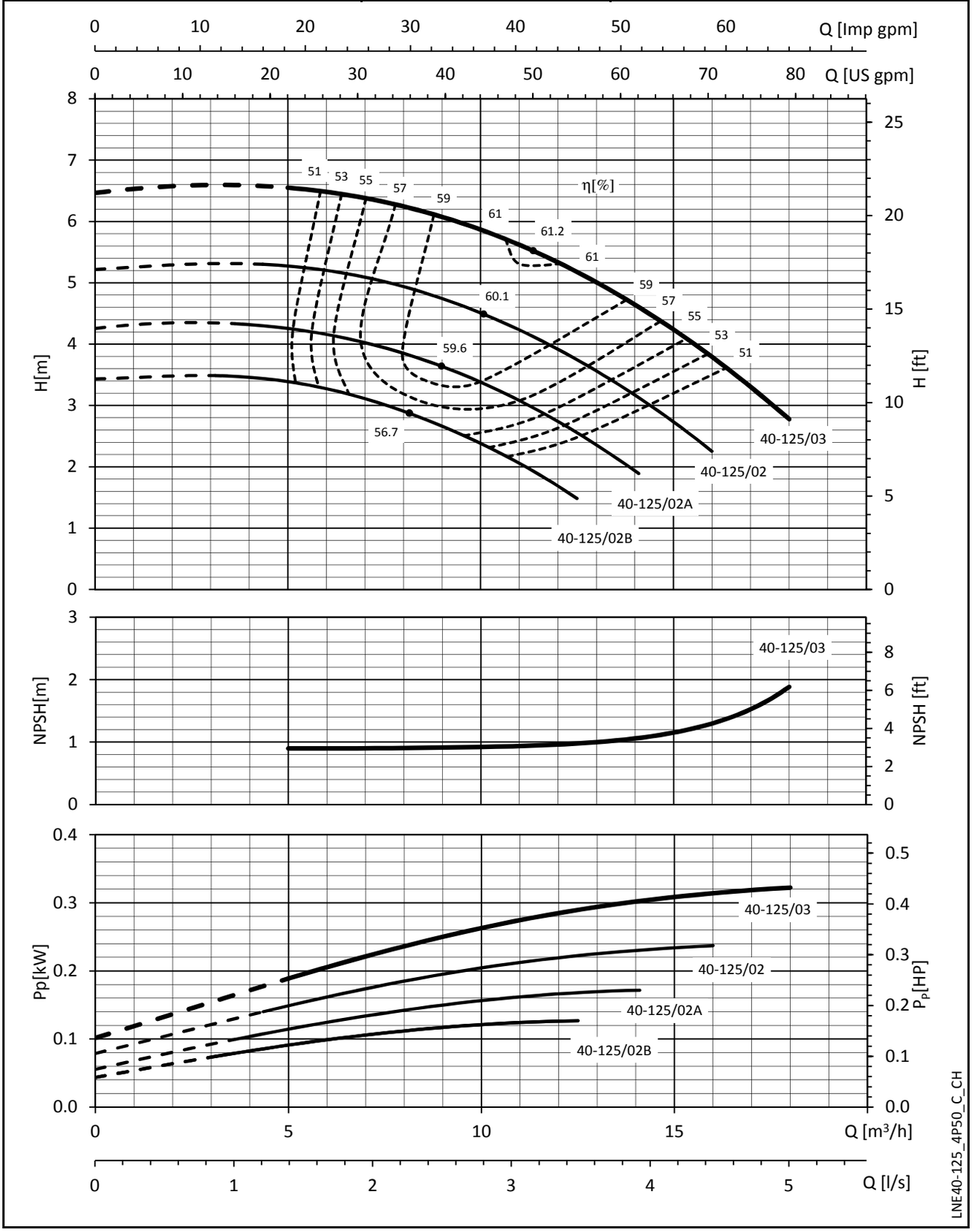
a xylem brand

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

LNE 40-125	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

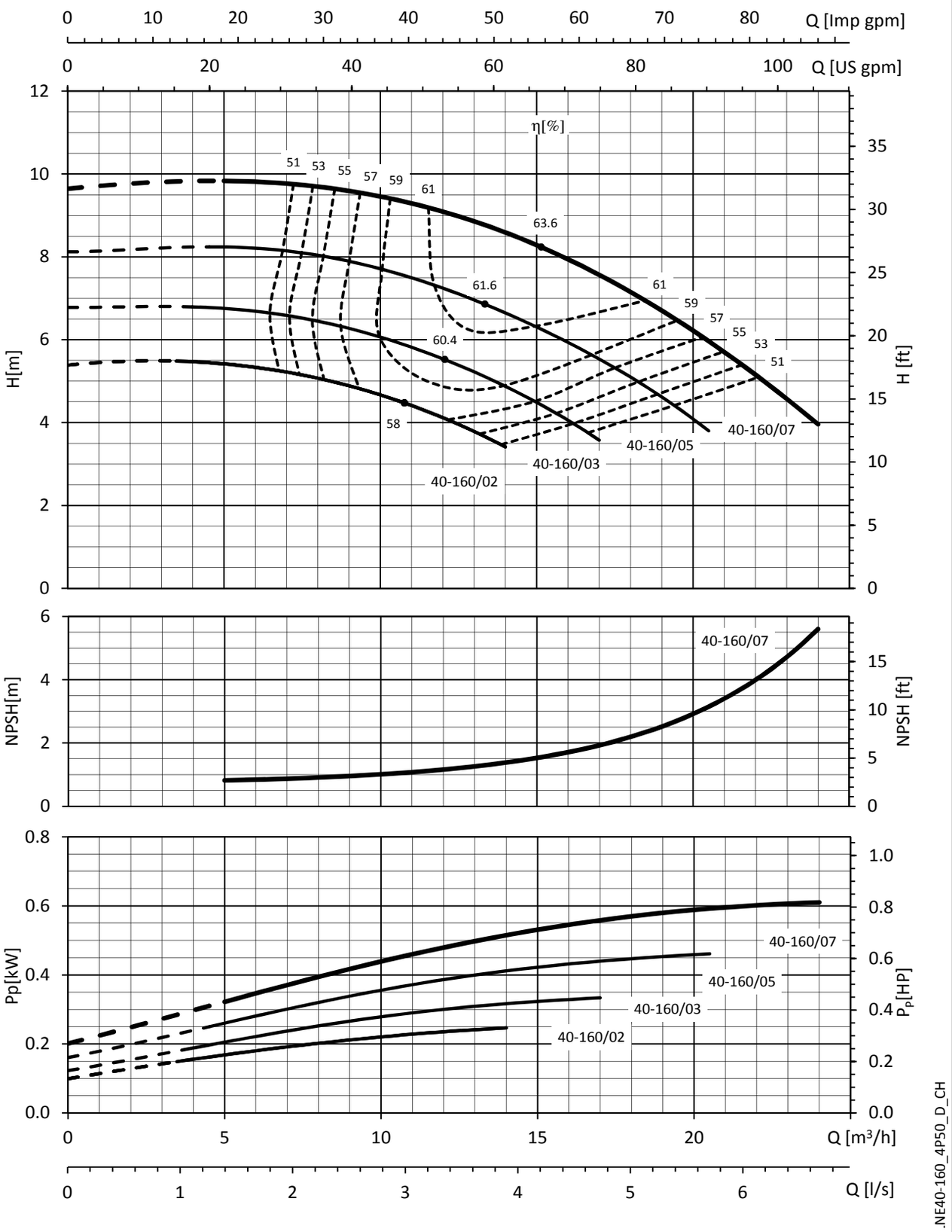


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 40-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

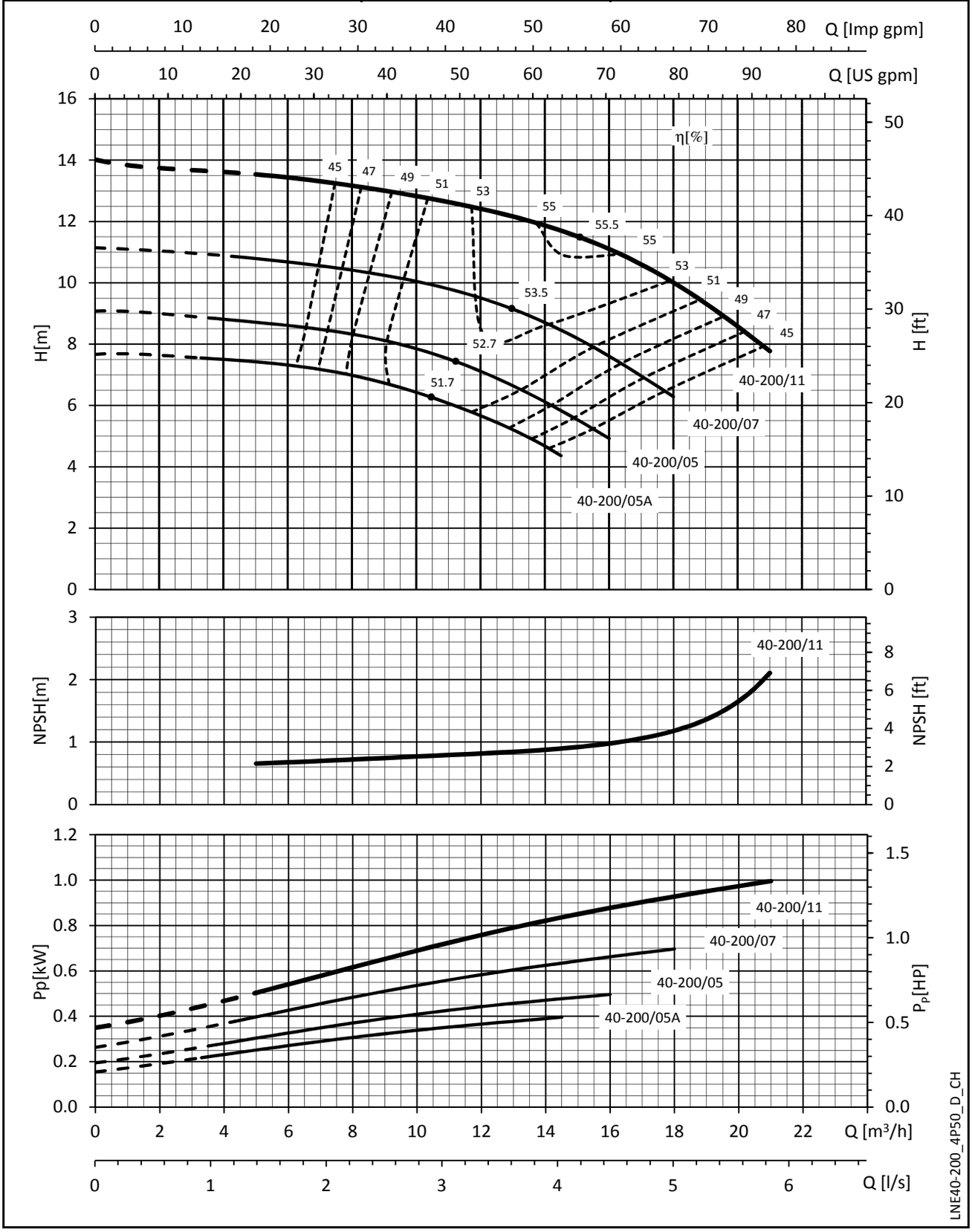


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 40-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

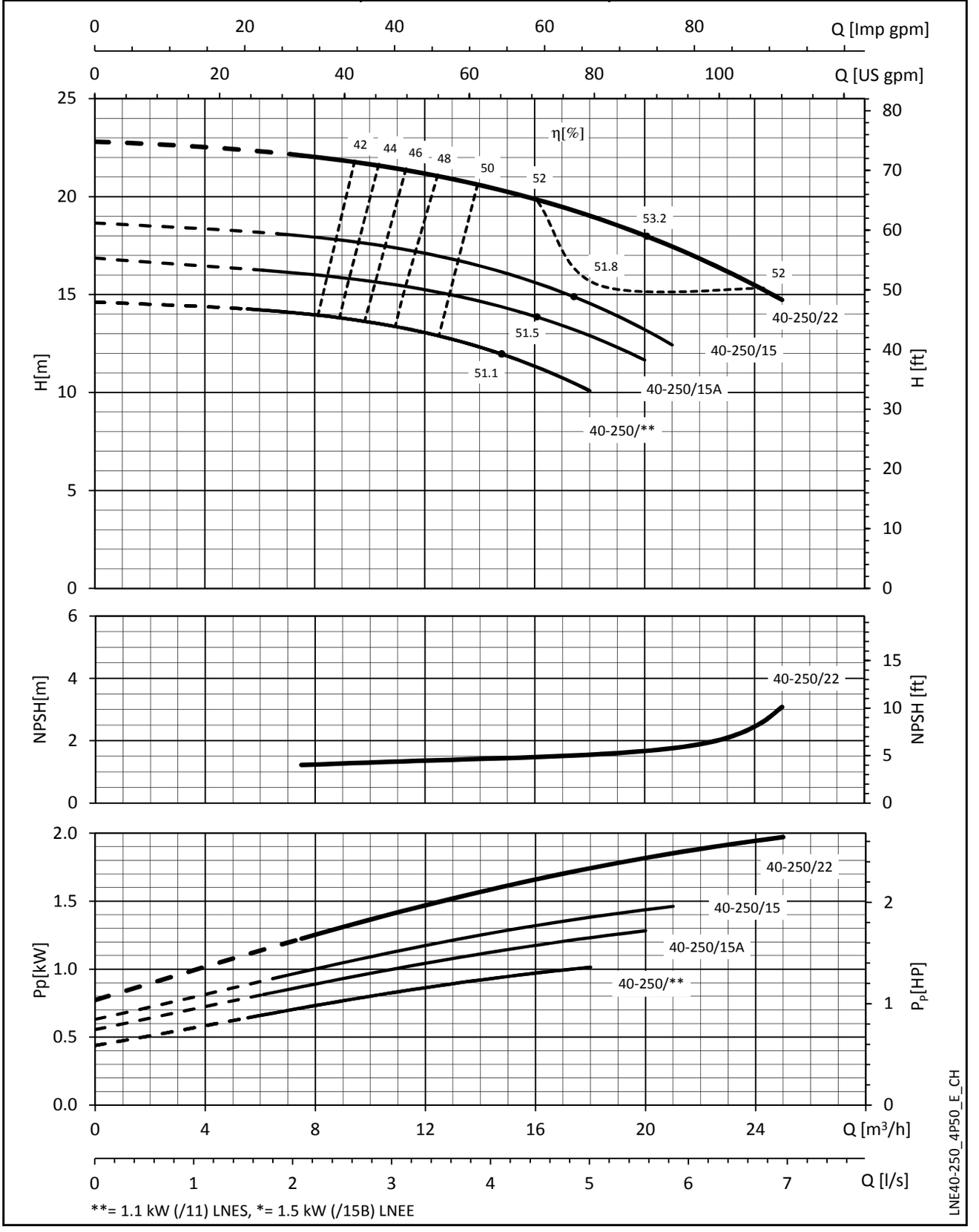


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 40-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

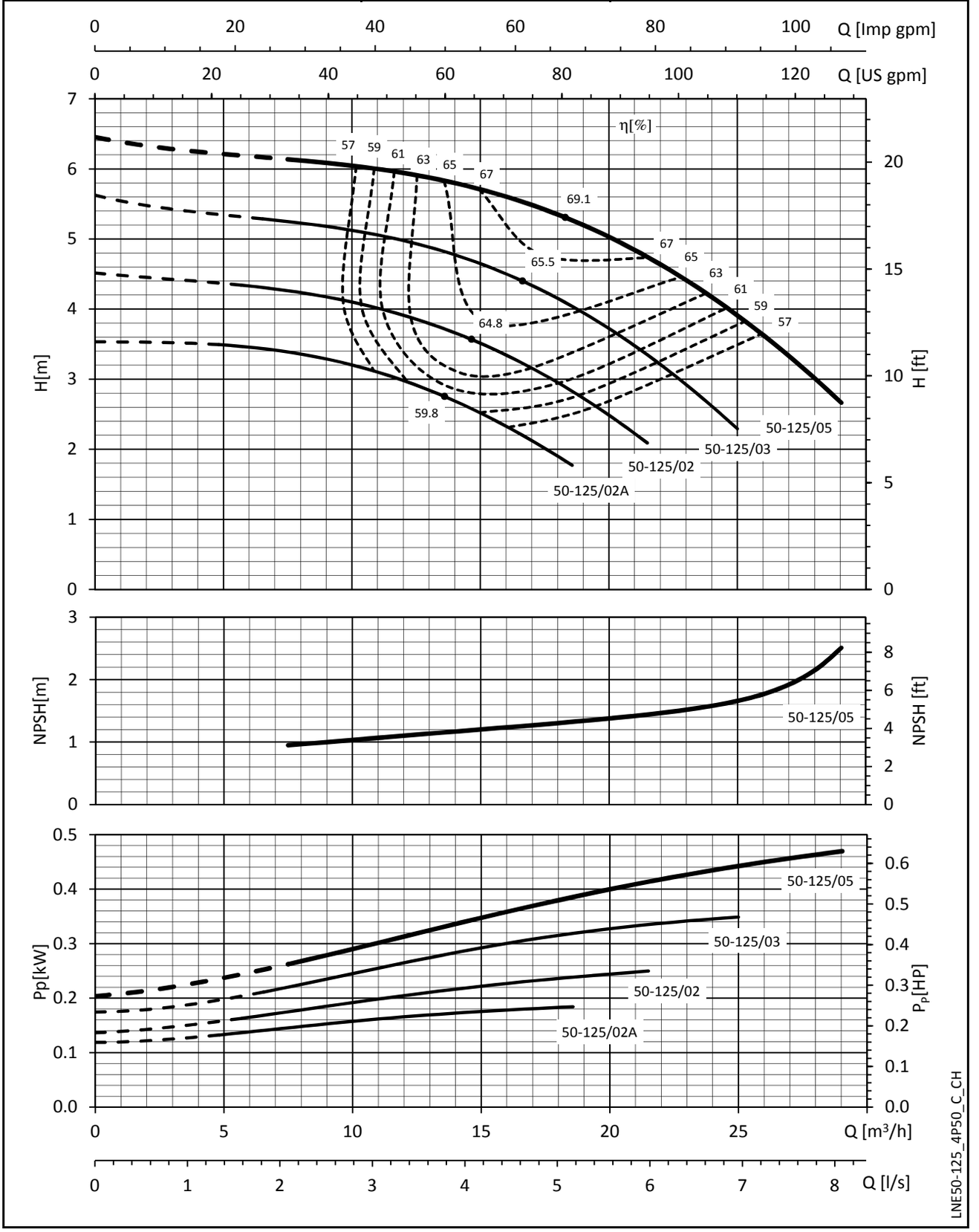


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 50-125	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

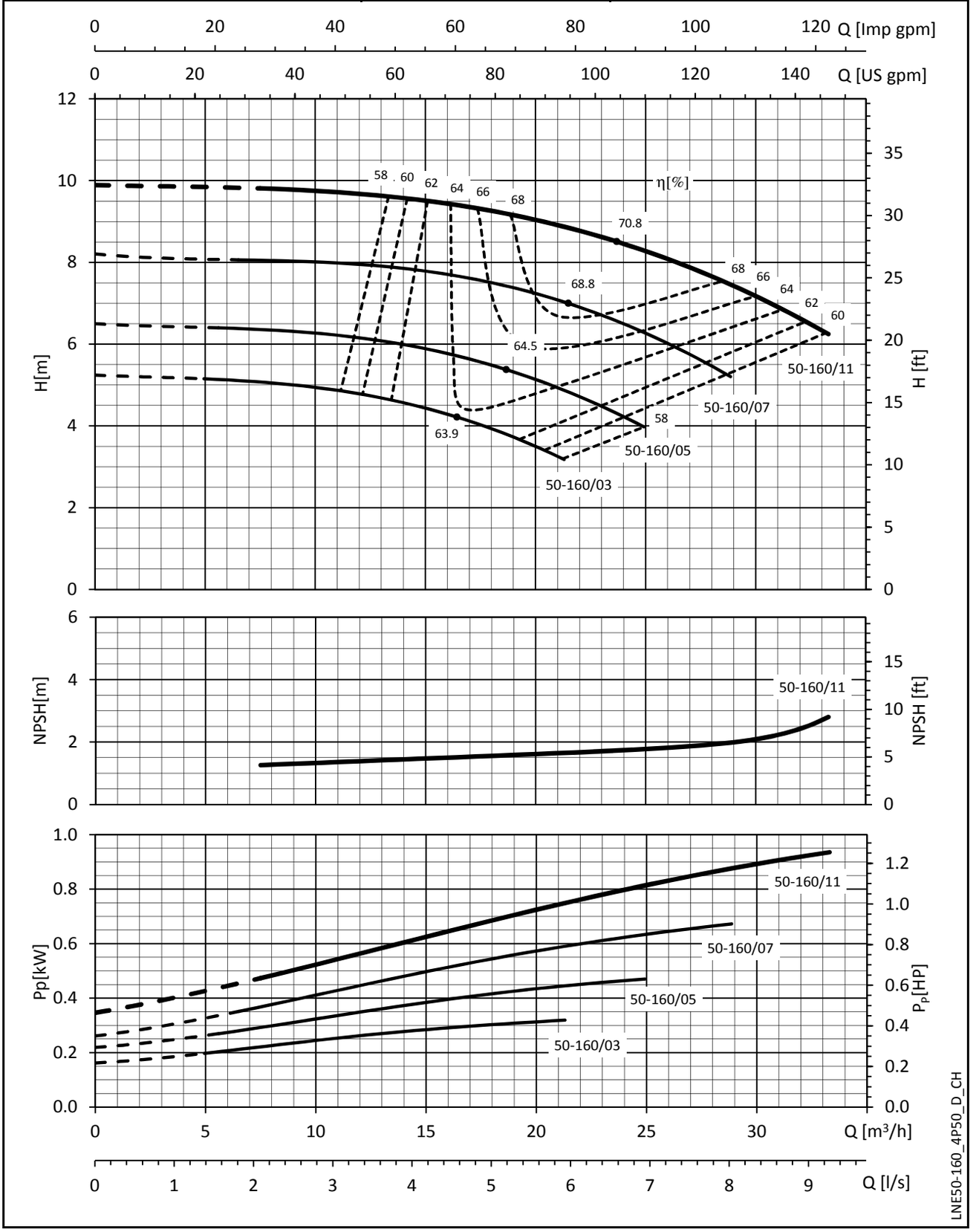


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 50-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

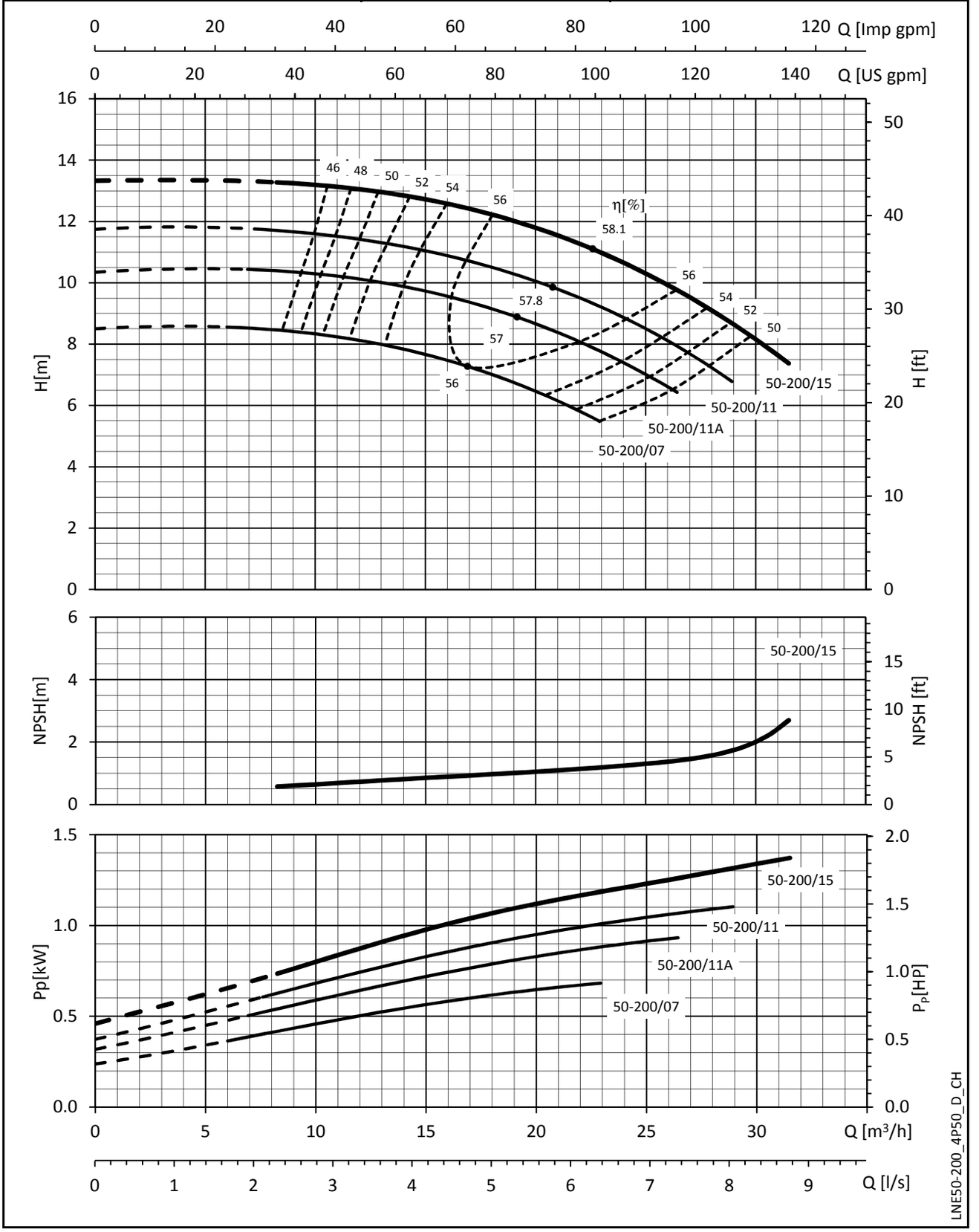


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 50-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

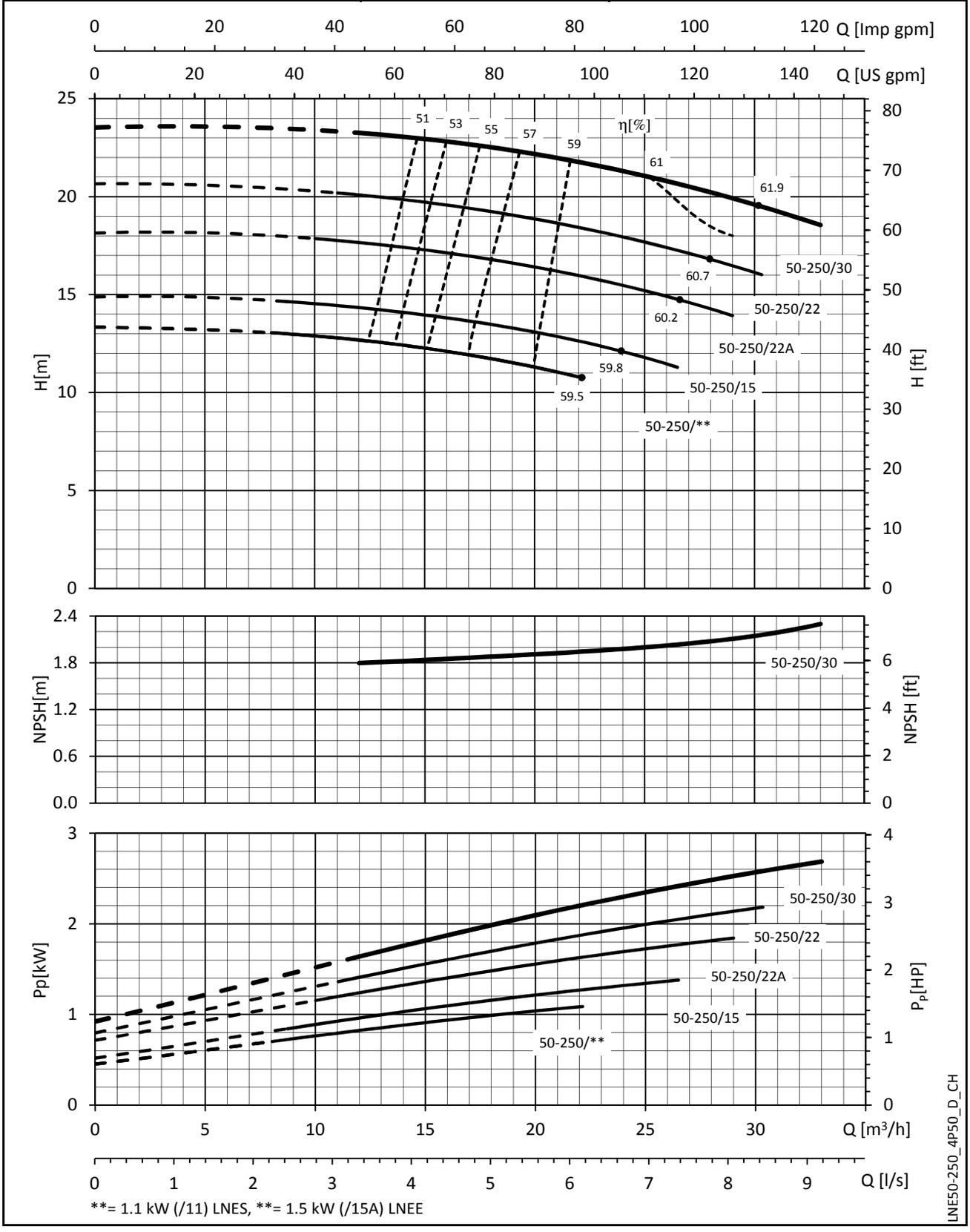


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 50-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

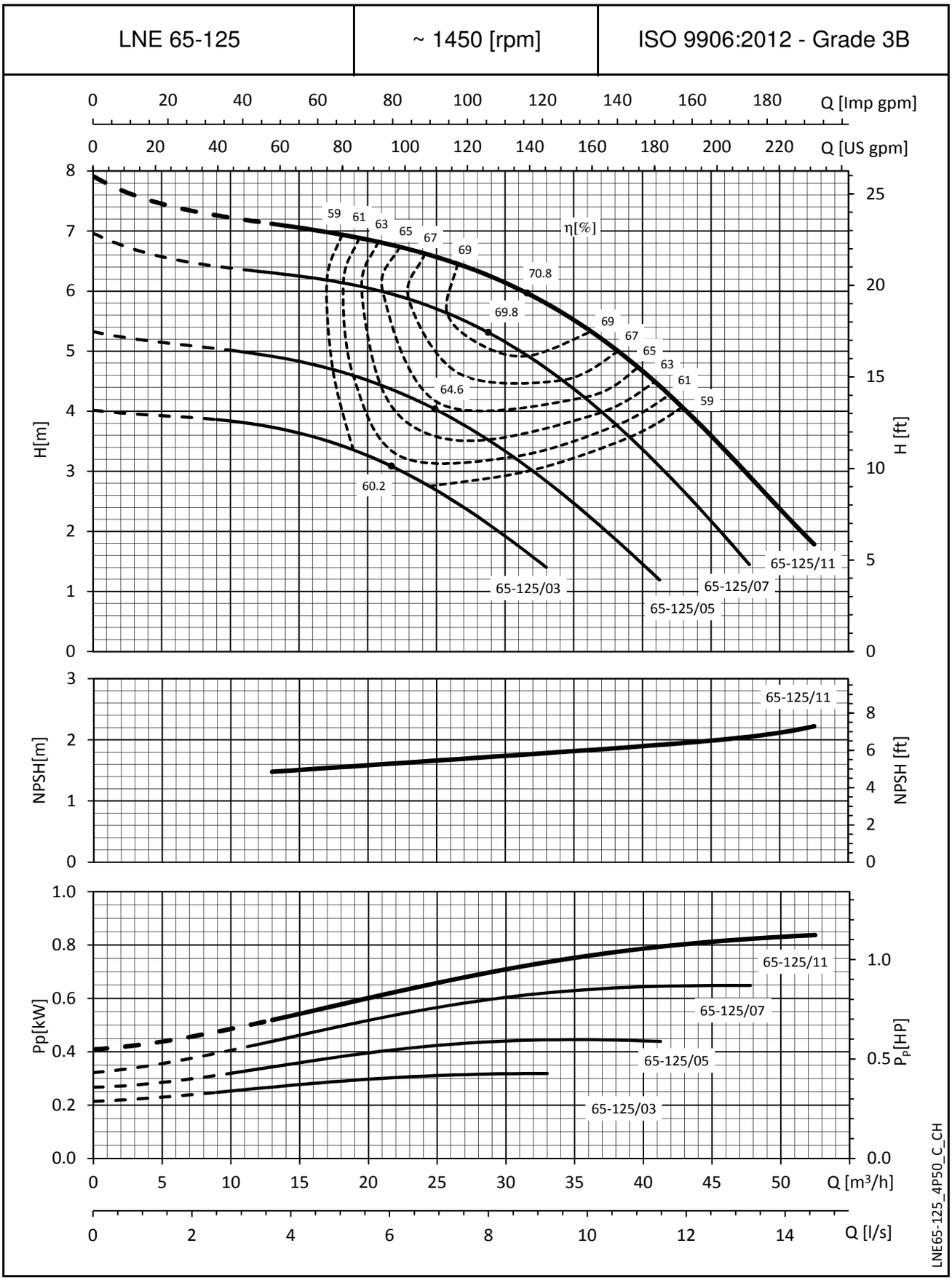


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 65-125	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

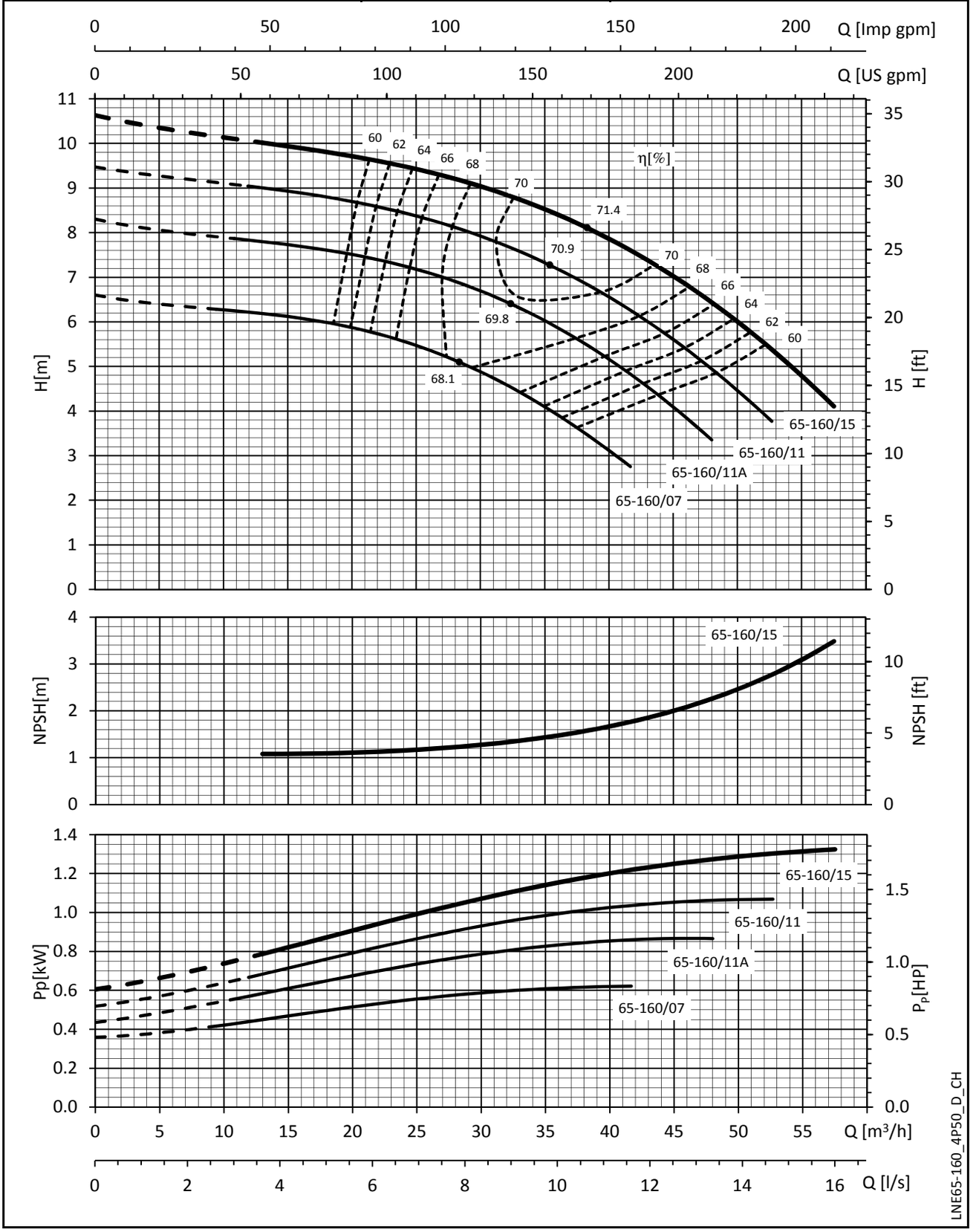


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 65-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

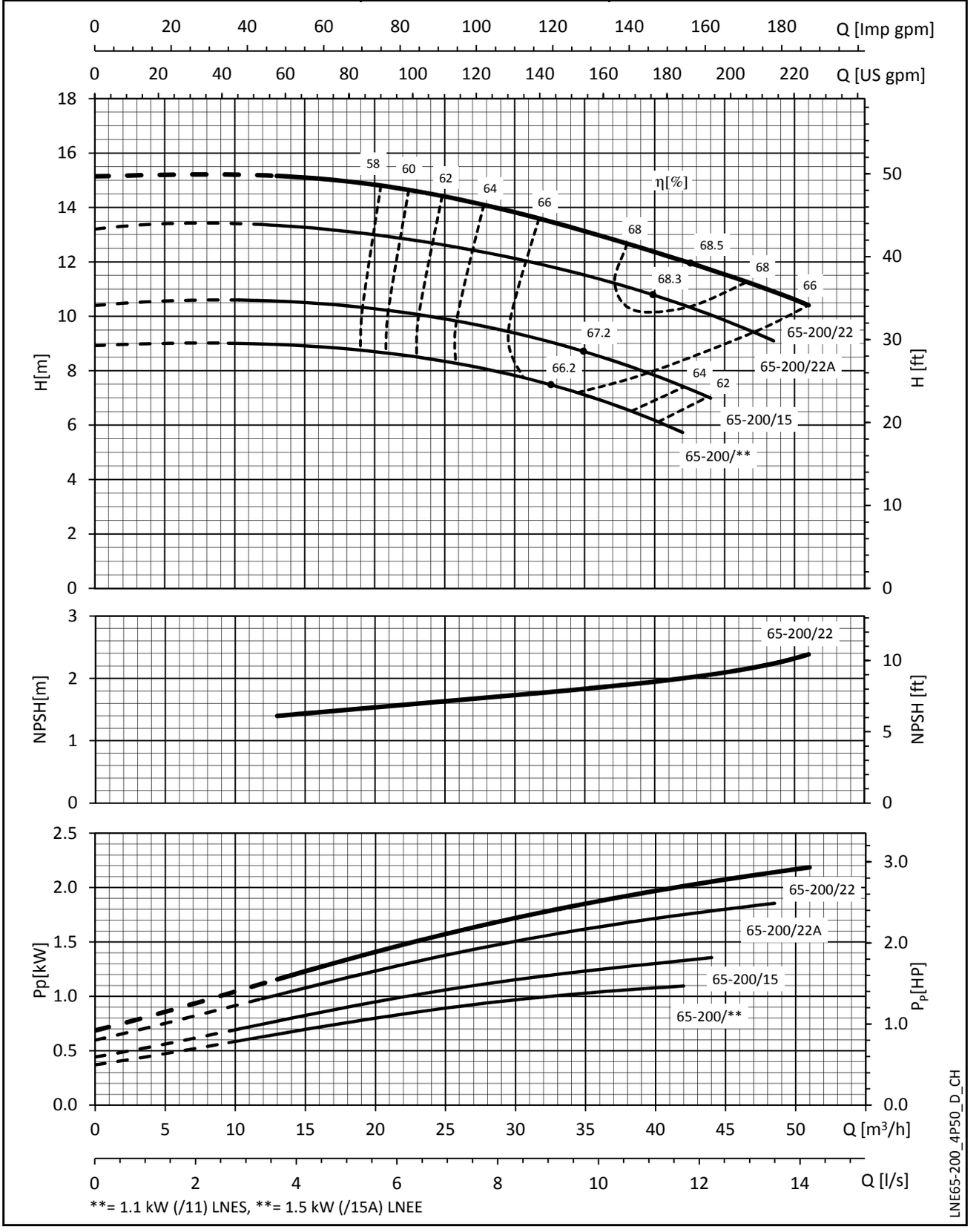


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 65-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

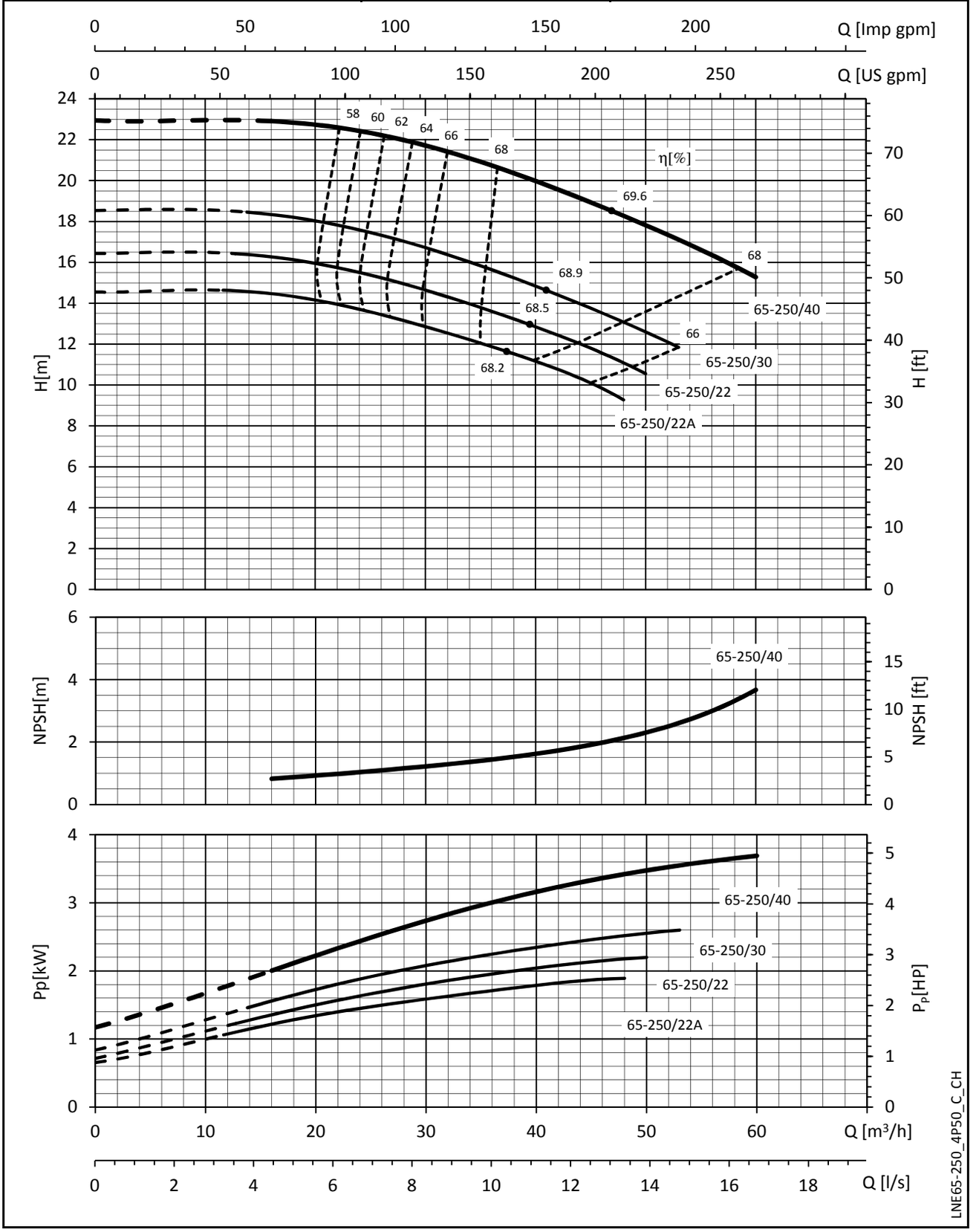


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 65-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

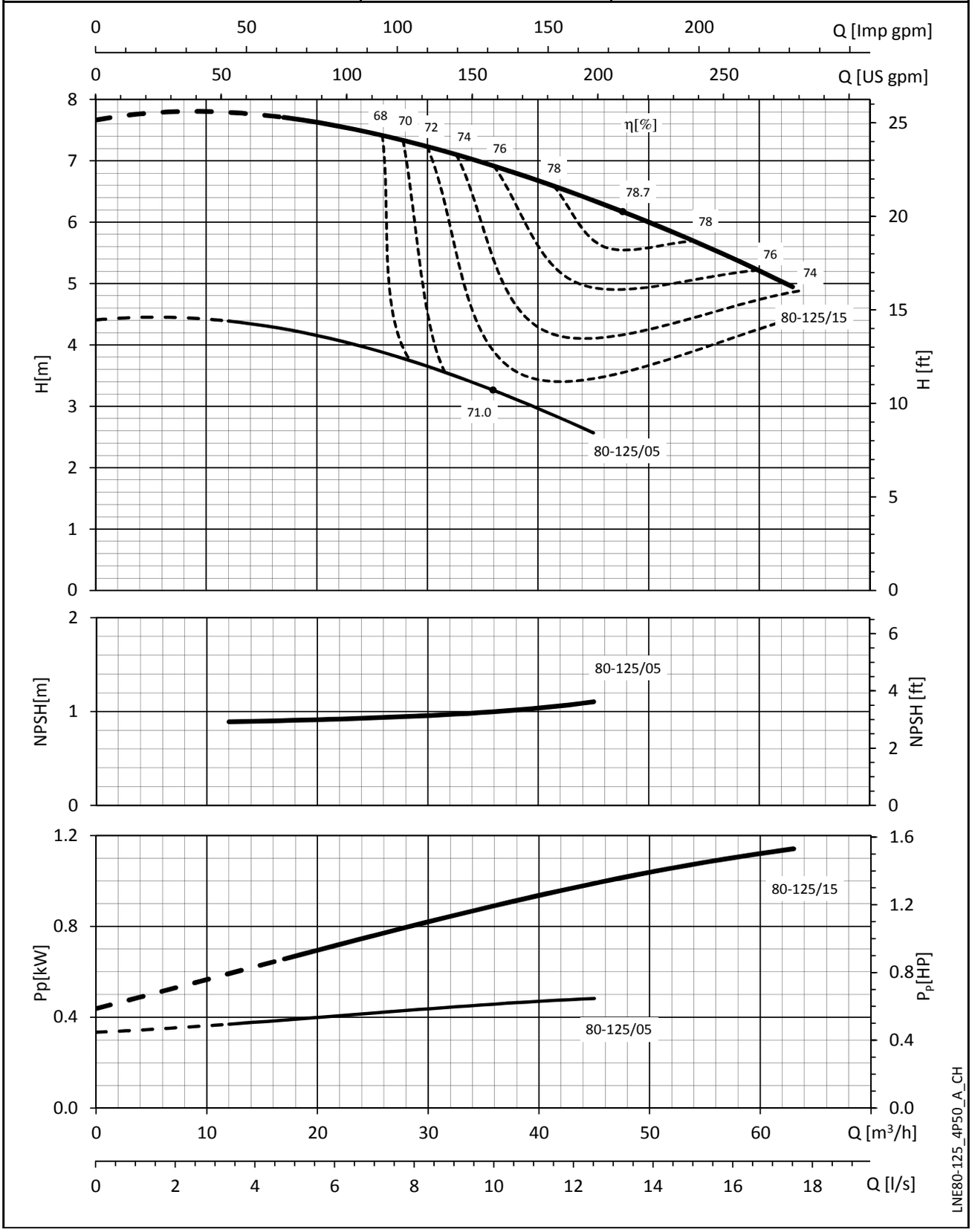


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 80-125	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

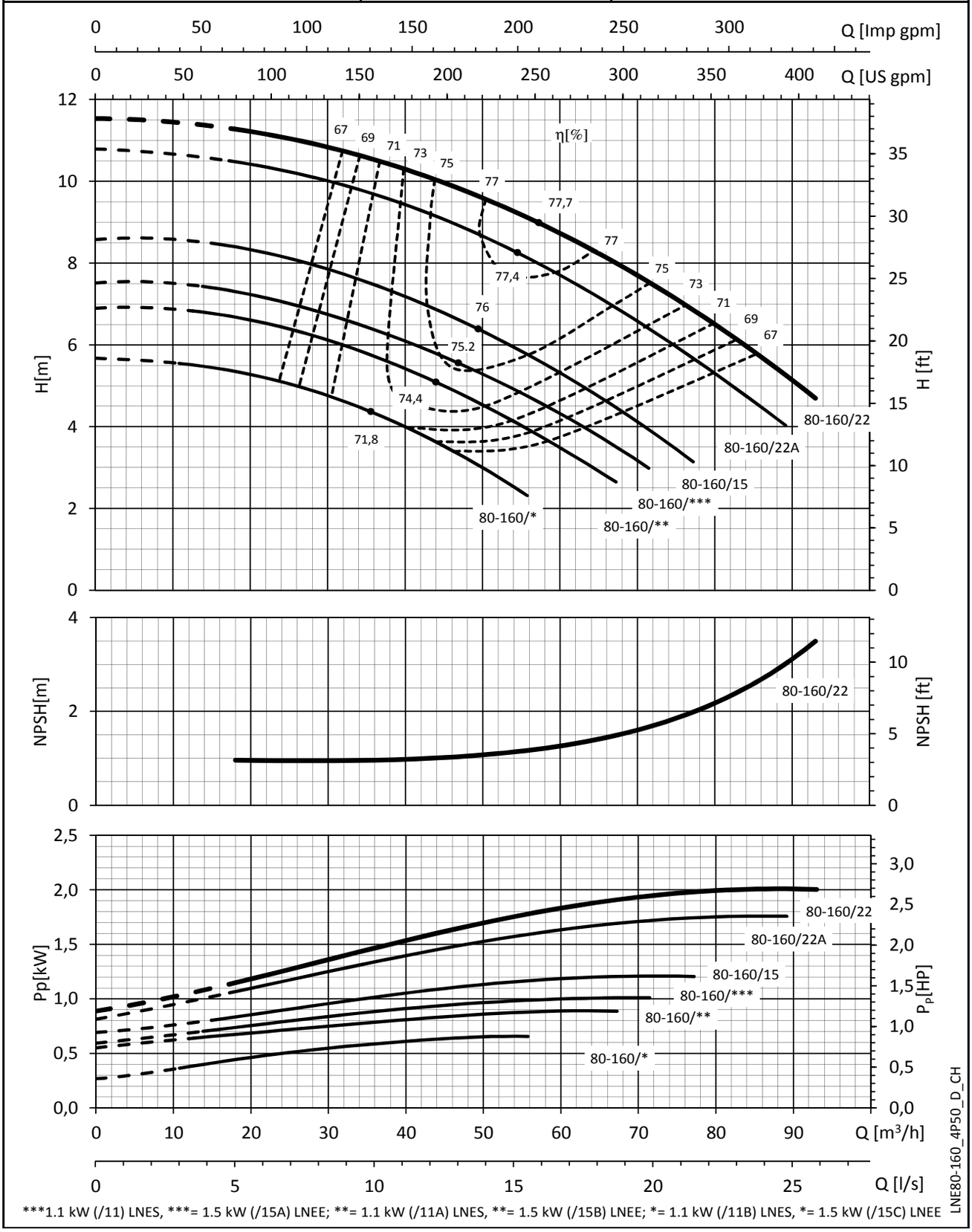


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 80-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



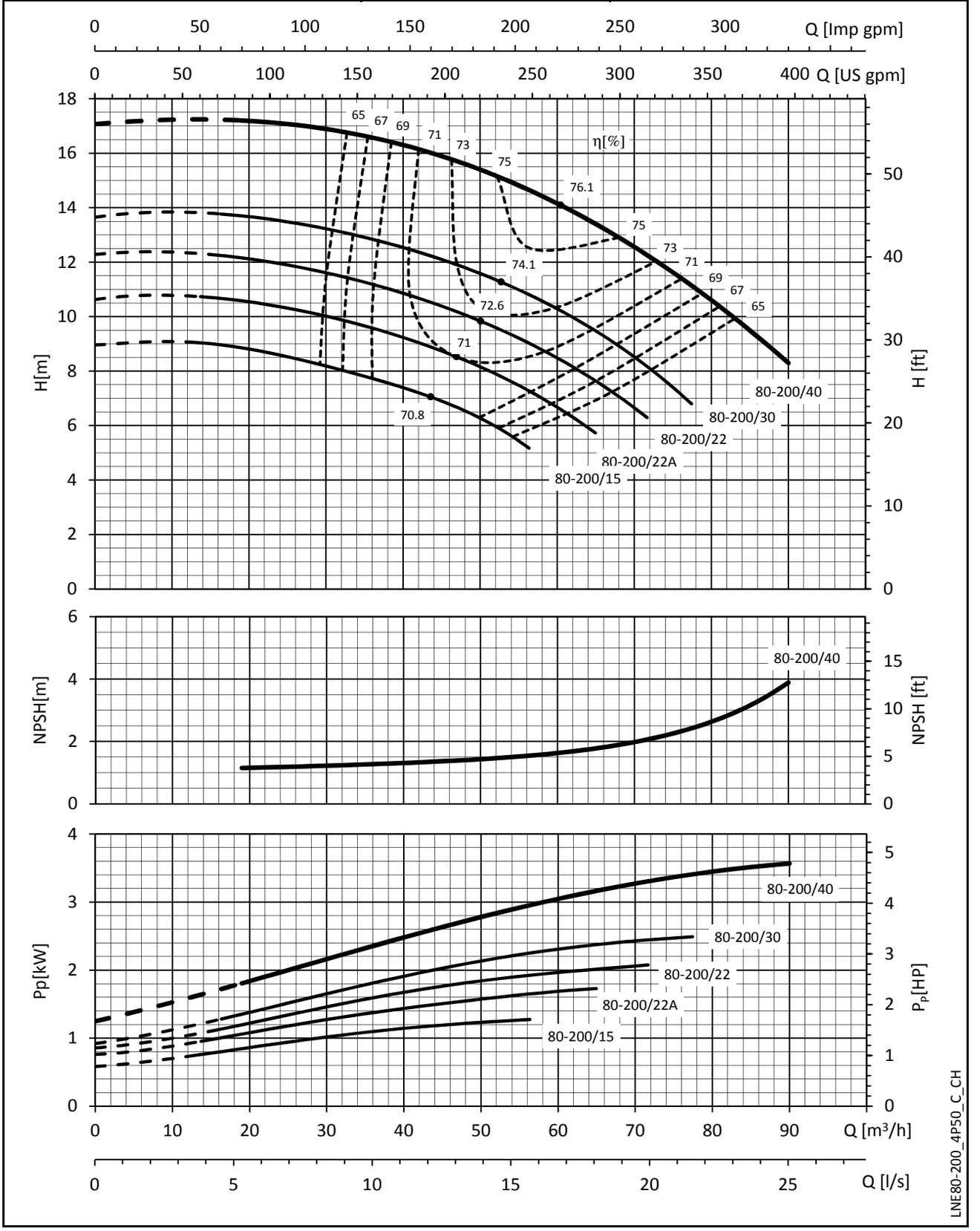
***1.1 kW (/11) LNES, ***= 1.5 kW (/15A) LNEE; **= 1.1 kW (/11A) LNES, **= 1.5 kW (/15B) LNEE; *= 1.1 kW (/11B) LNES, *= 1.5 kW (/15C) LNEE

The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 80-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

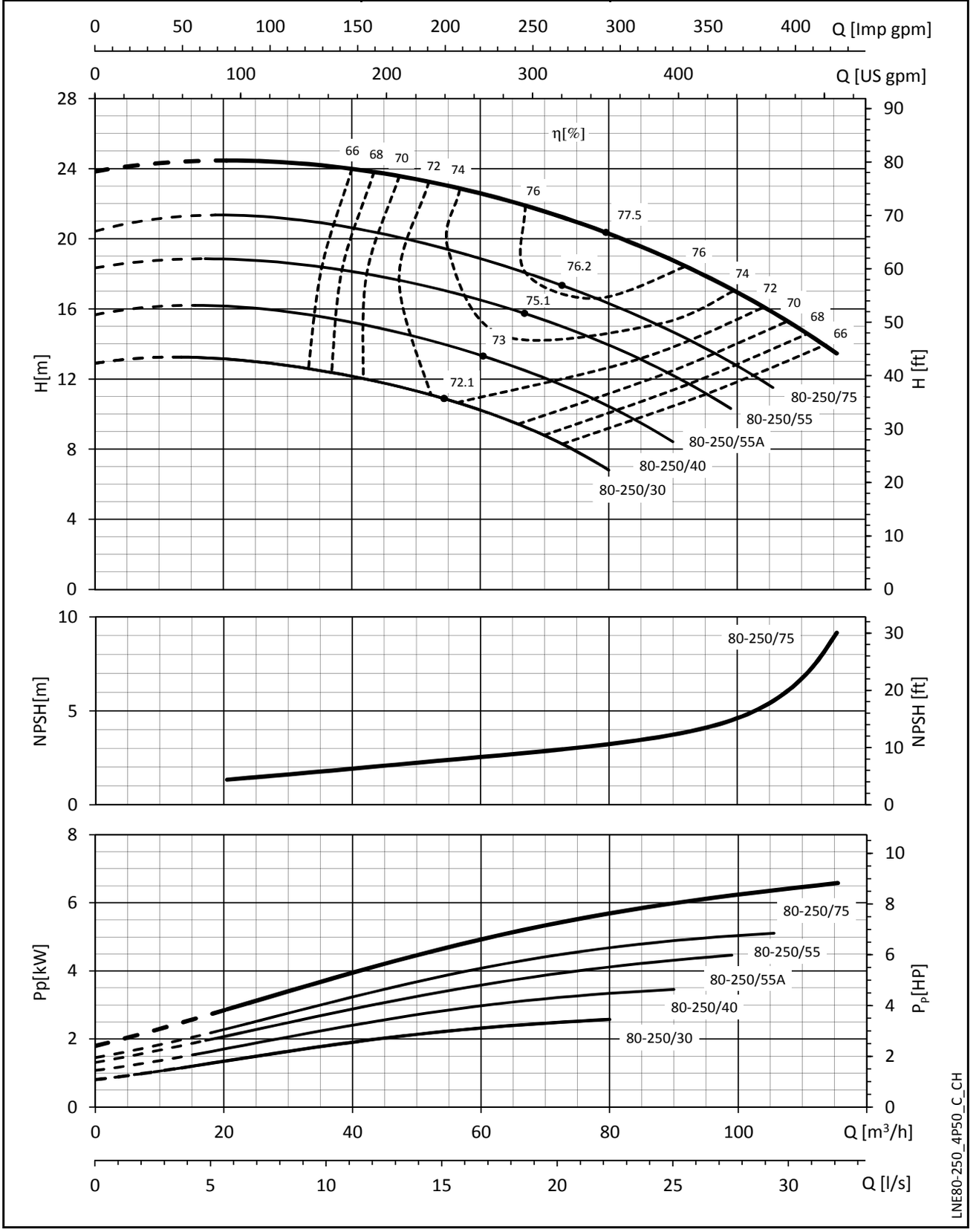


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 80-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

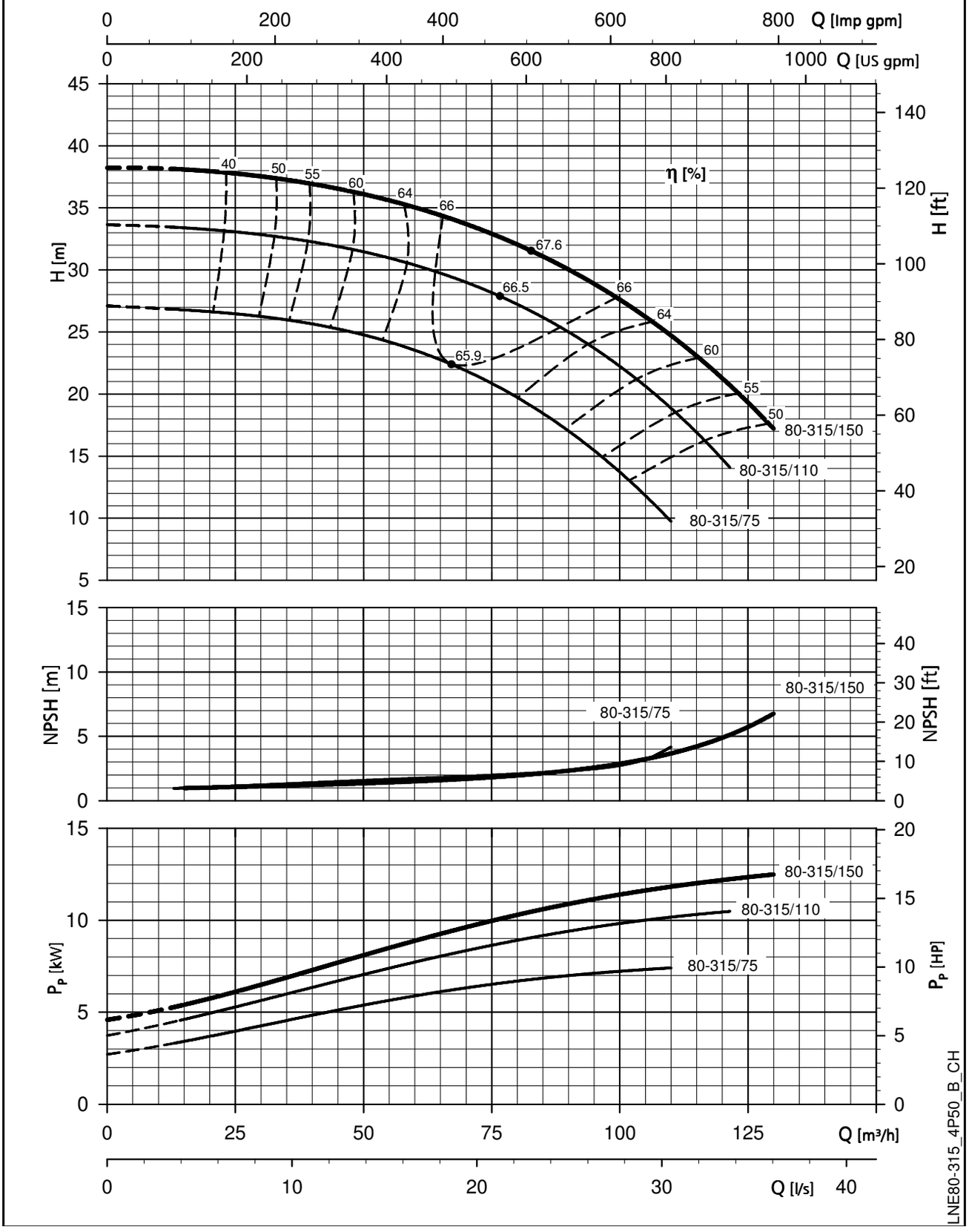


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 80-315	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

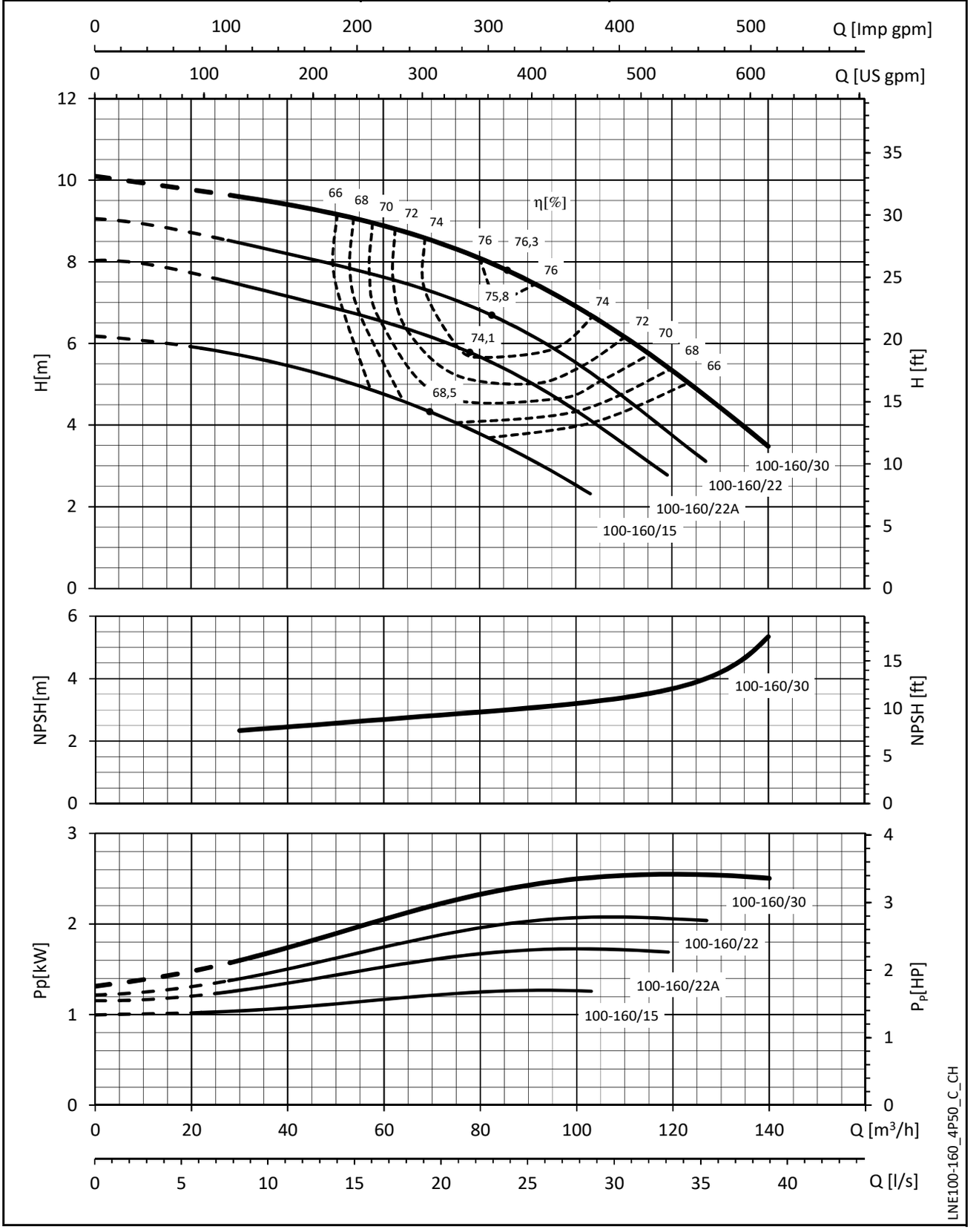


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 100-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

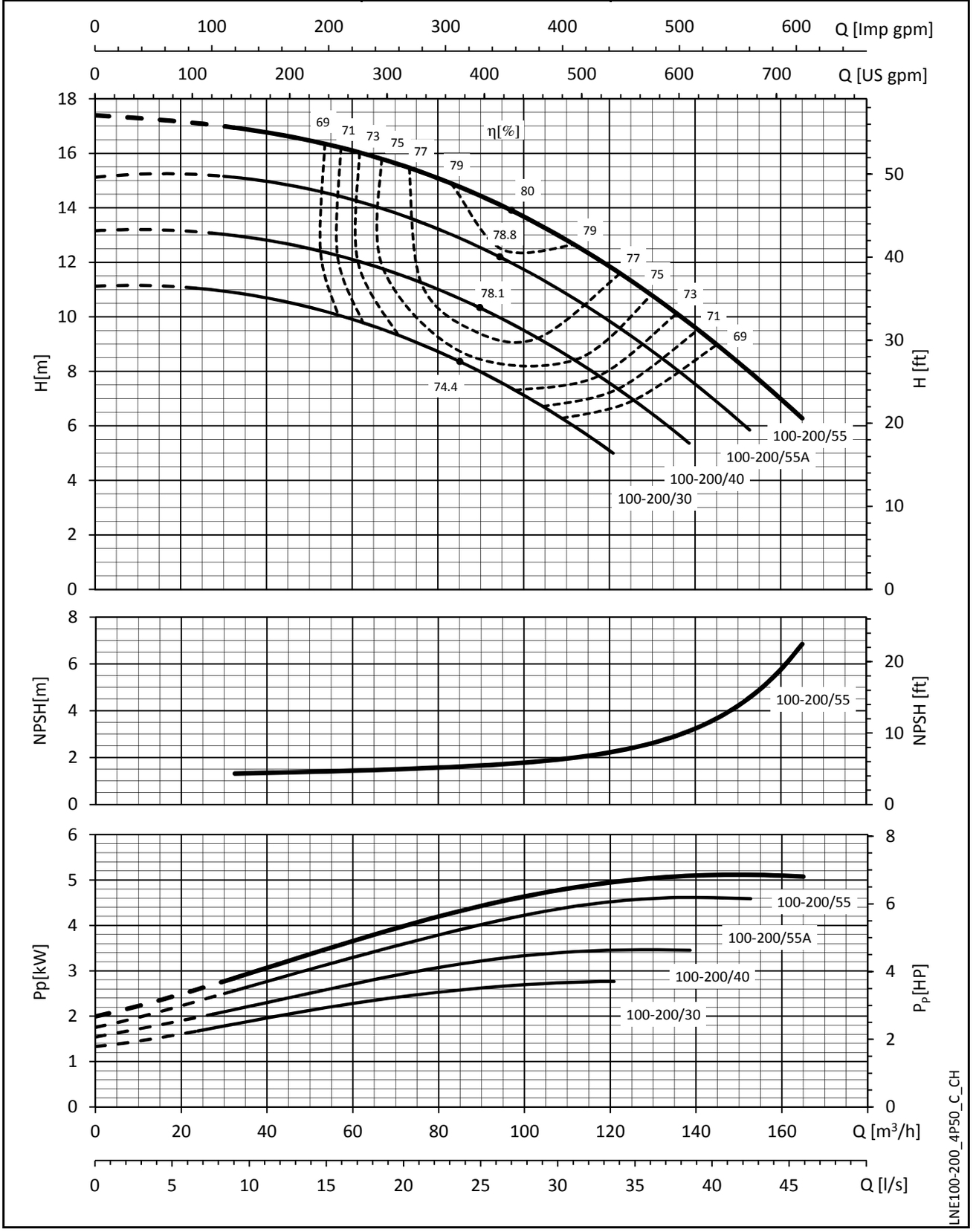


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 100-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

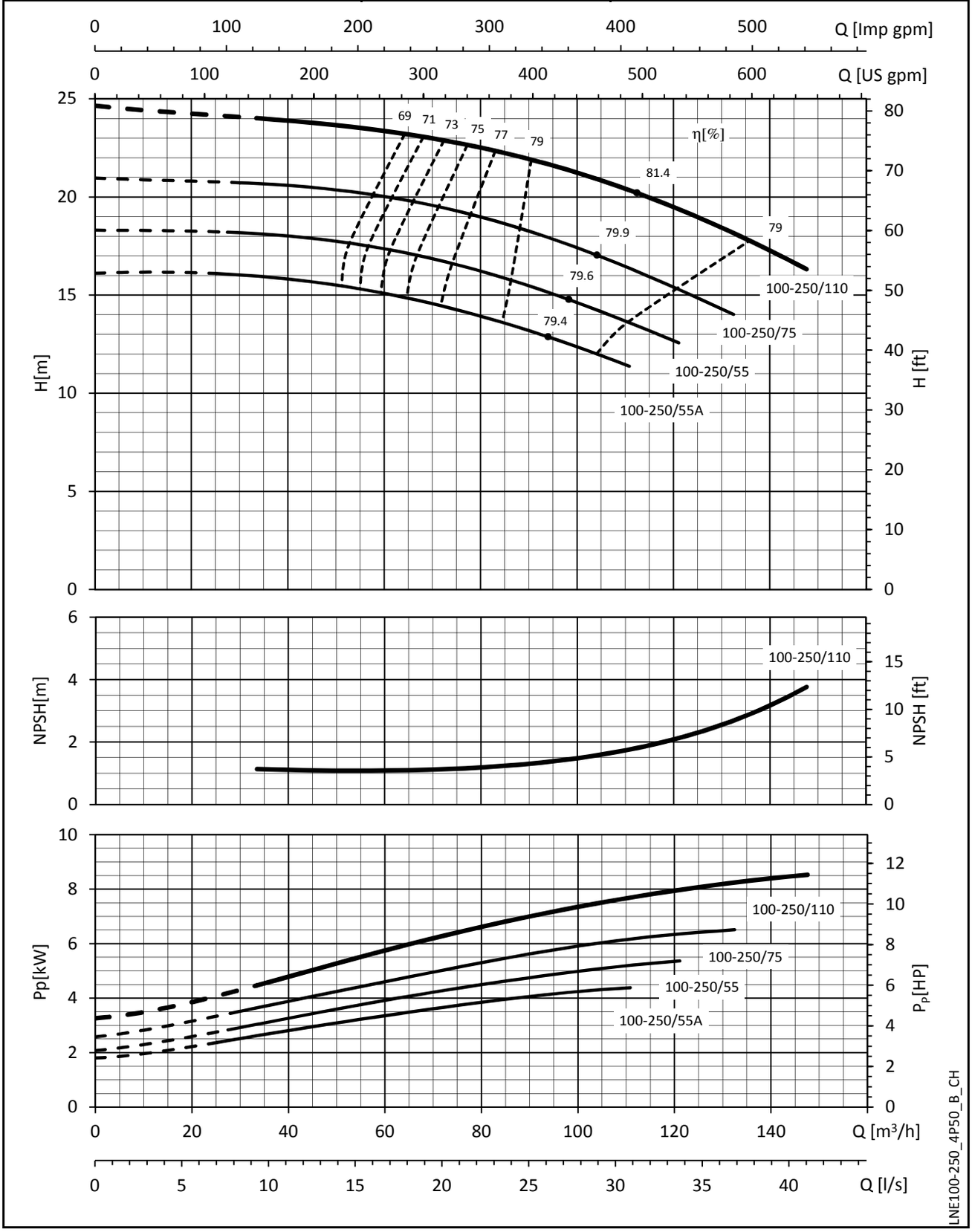


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 100-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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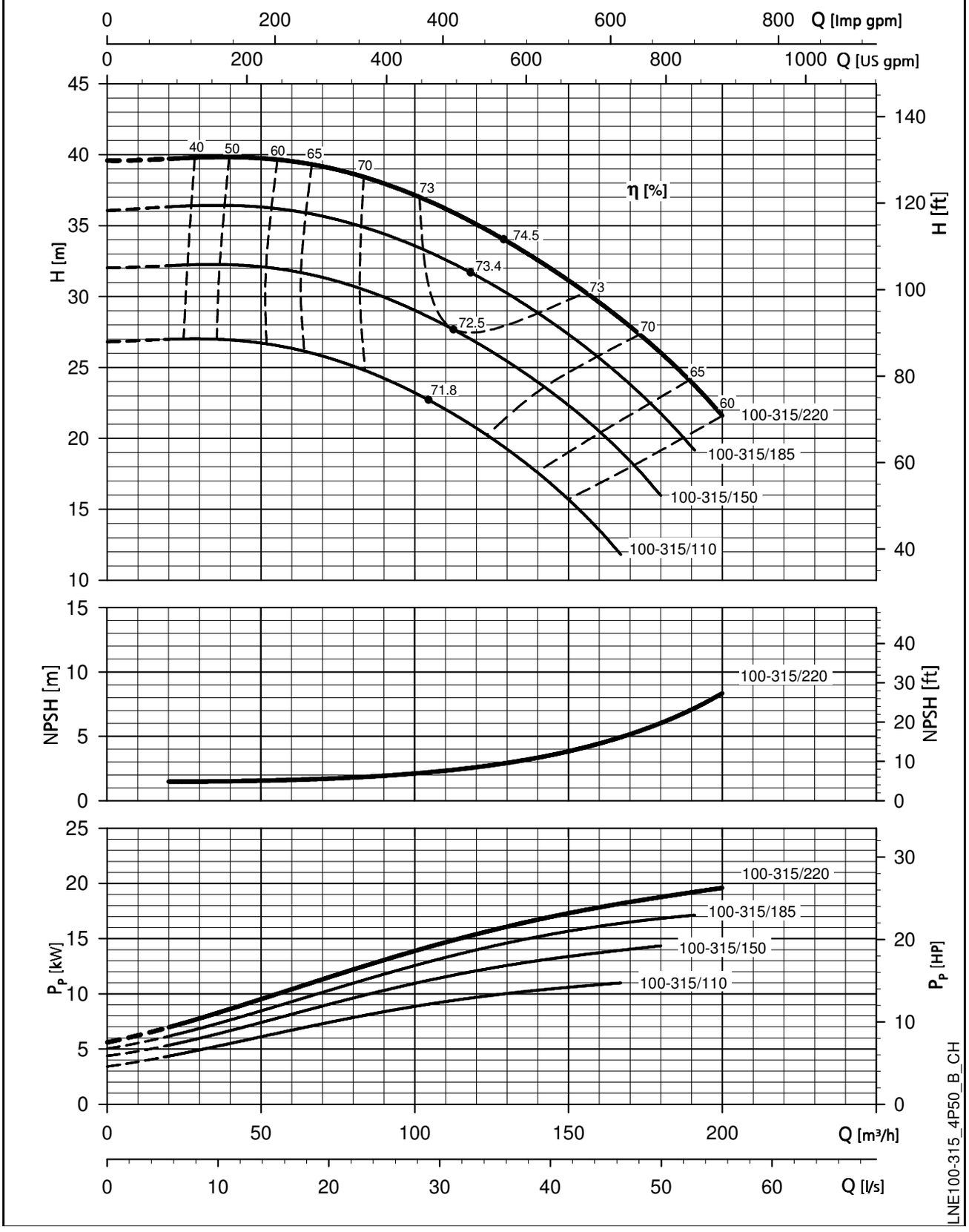
a xylem brand

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

LNE 100-315	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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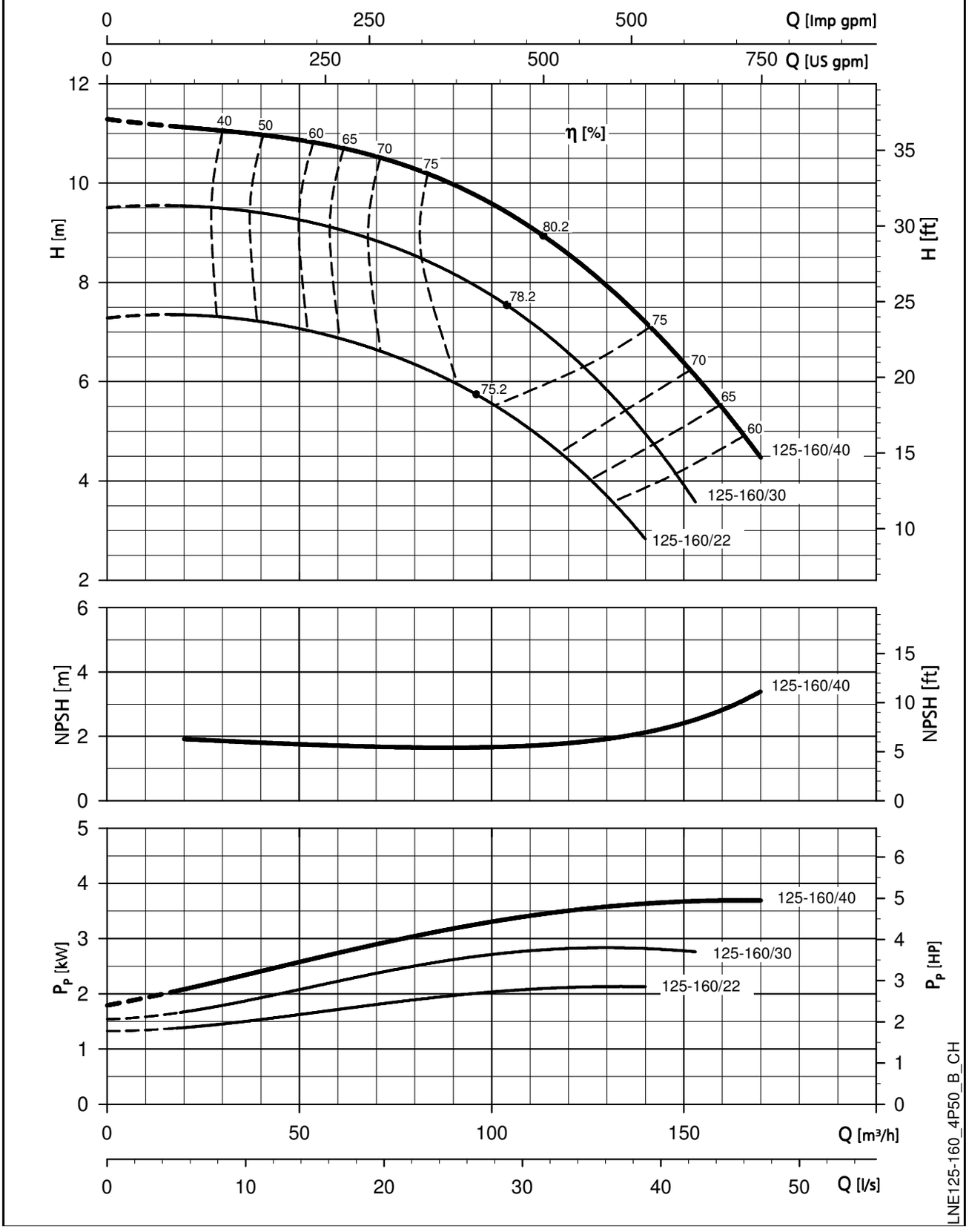
a xylem brand

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

LNE 125-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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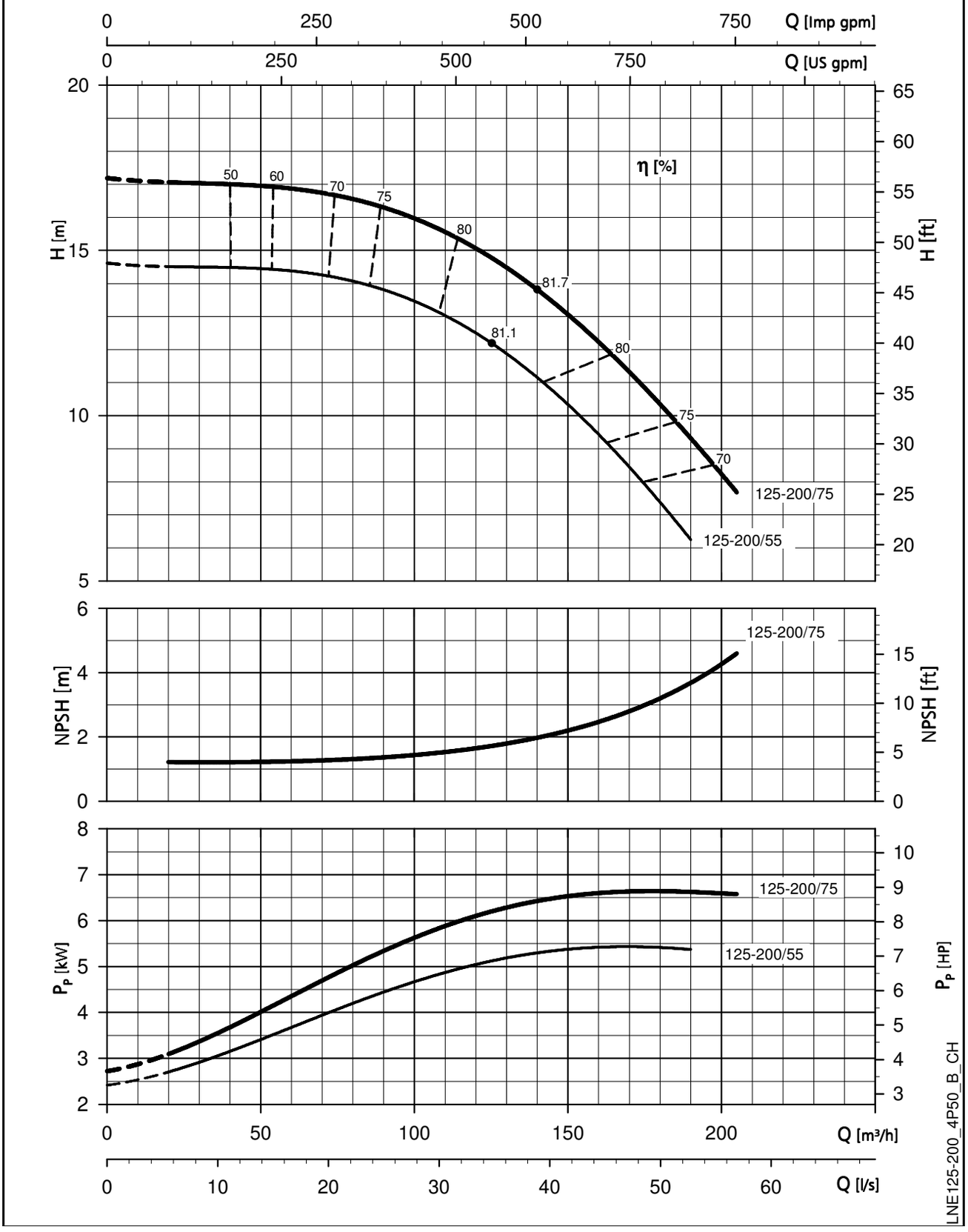
a xylem brand

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

LNE 125-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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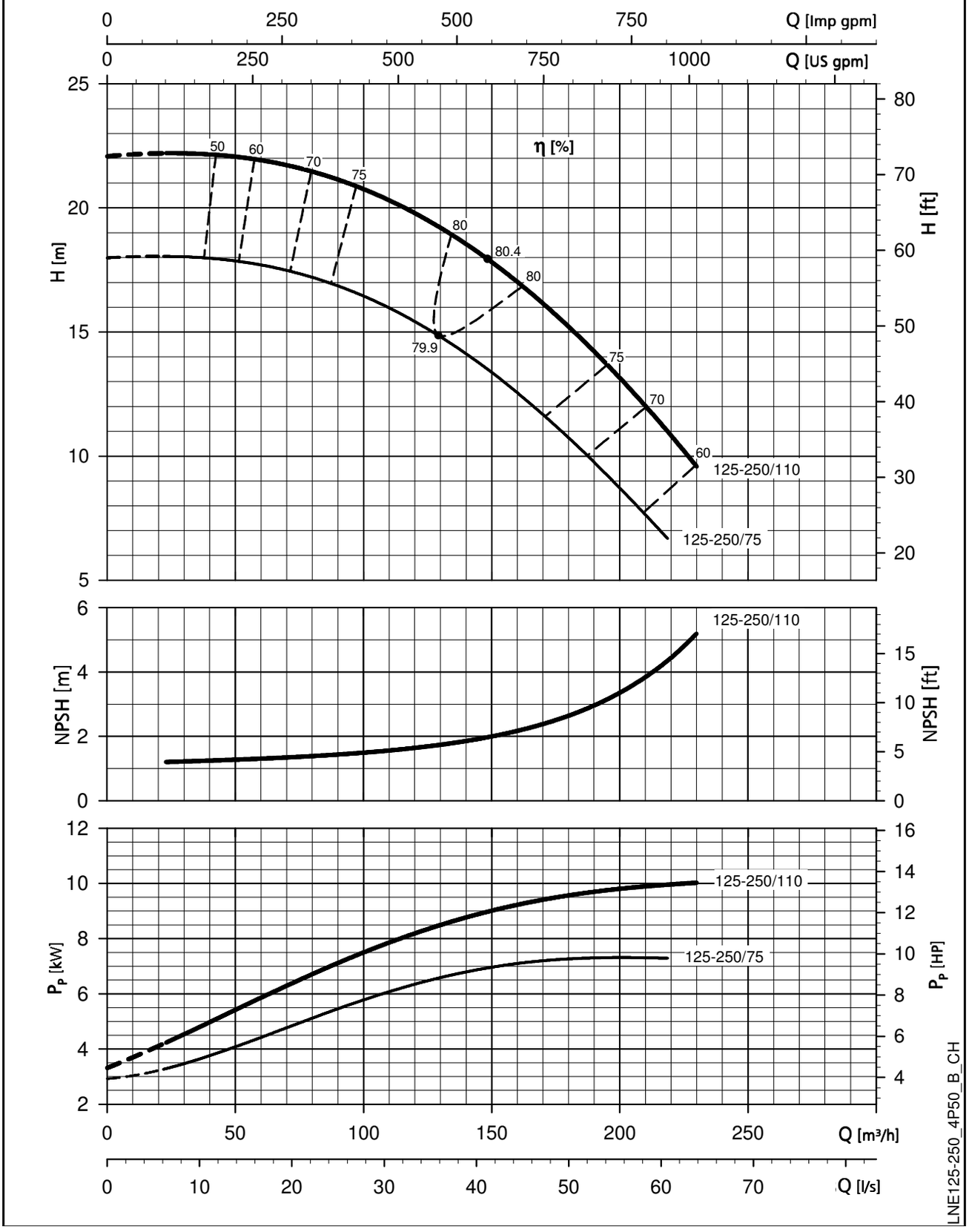
a xylem brand

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

LNE 125-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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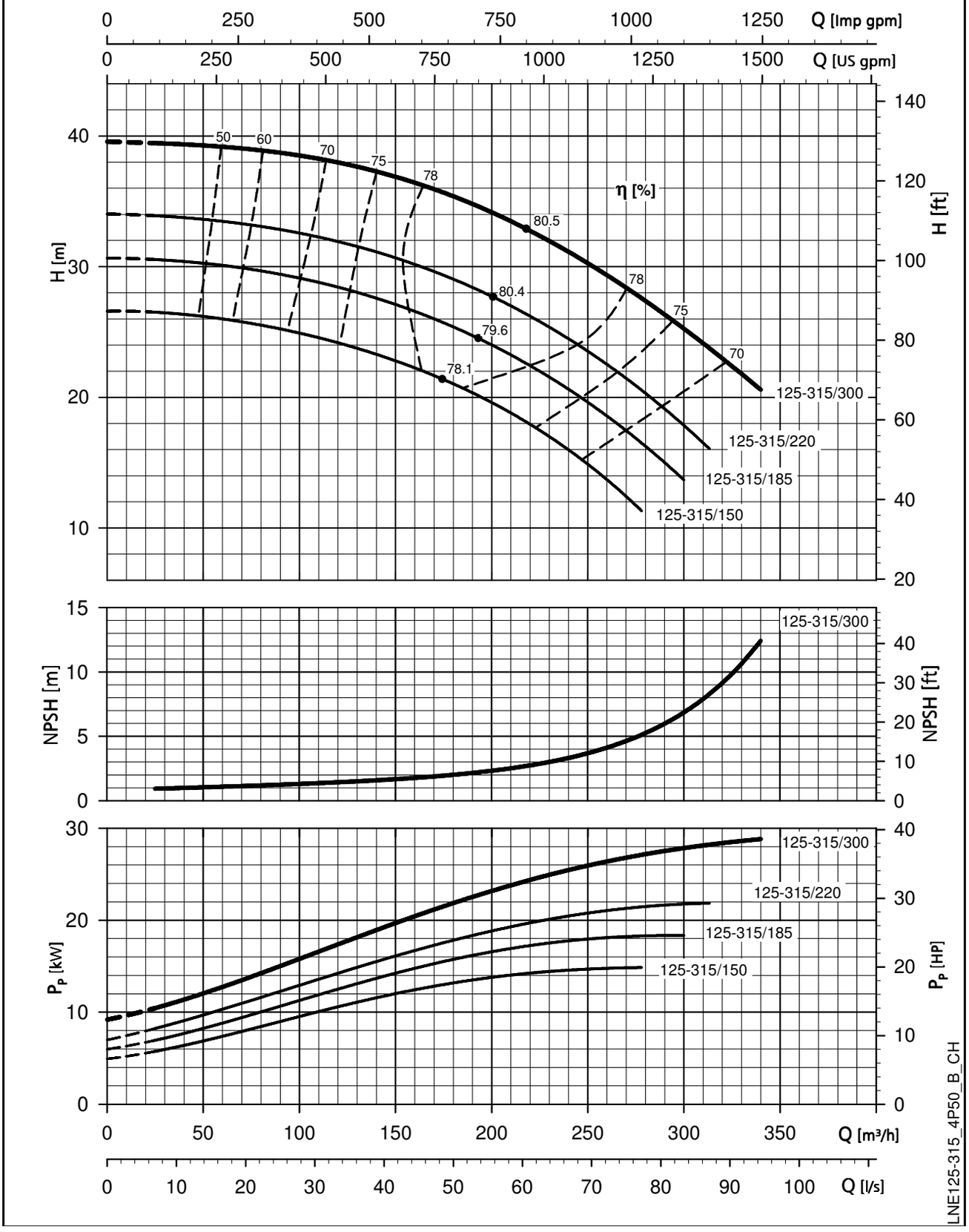
a xylem brand

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

LNE 125-315	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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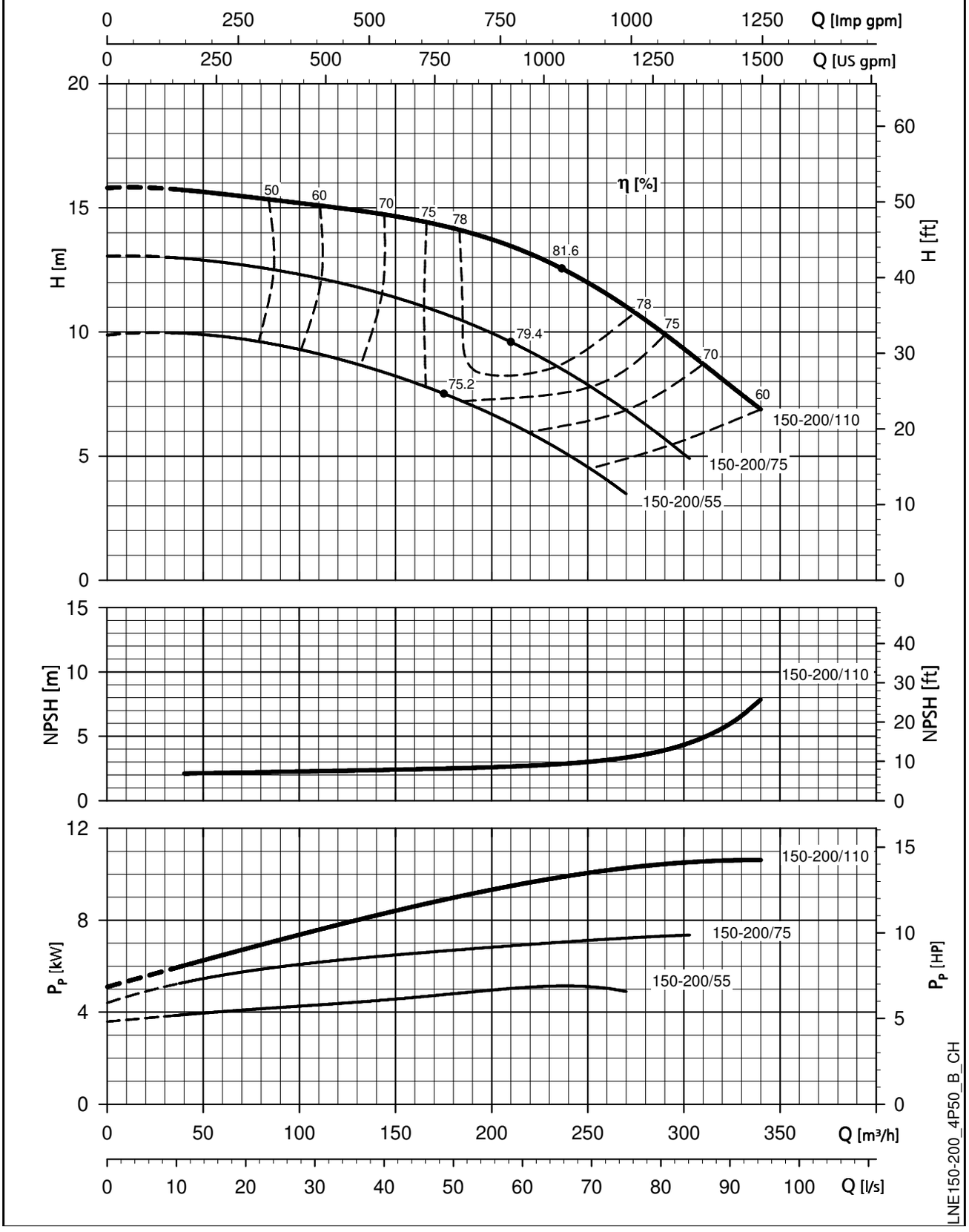
a xylem brand

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

LNE 150-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

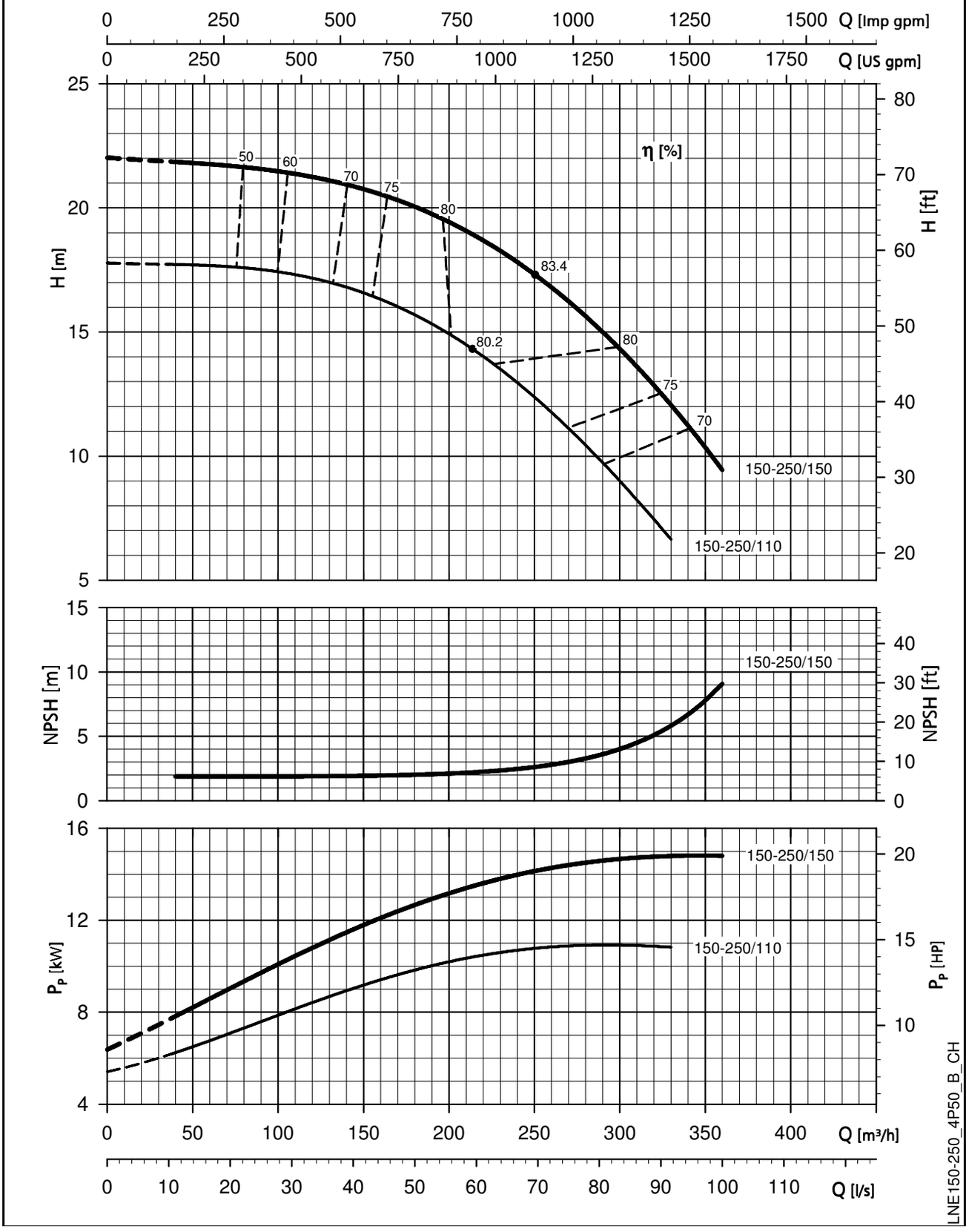


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 150-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

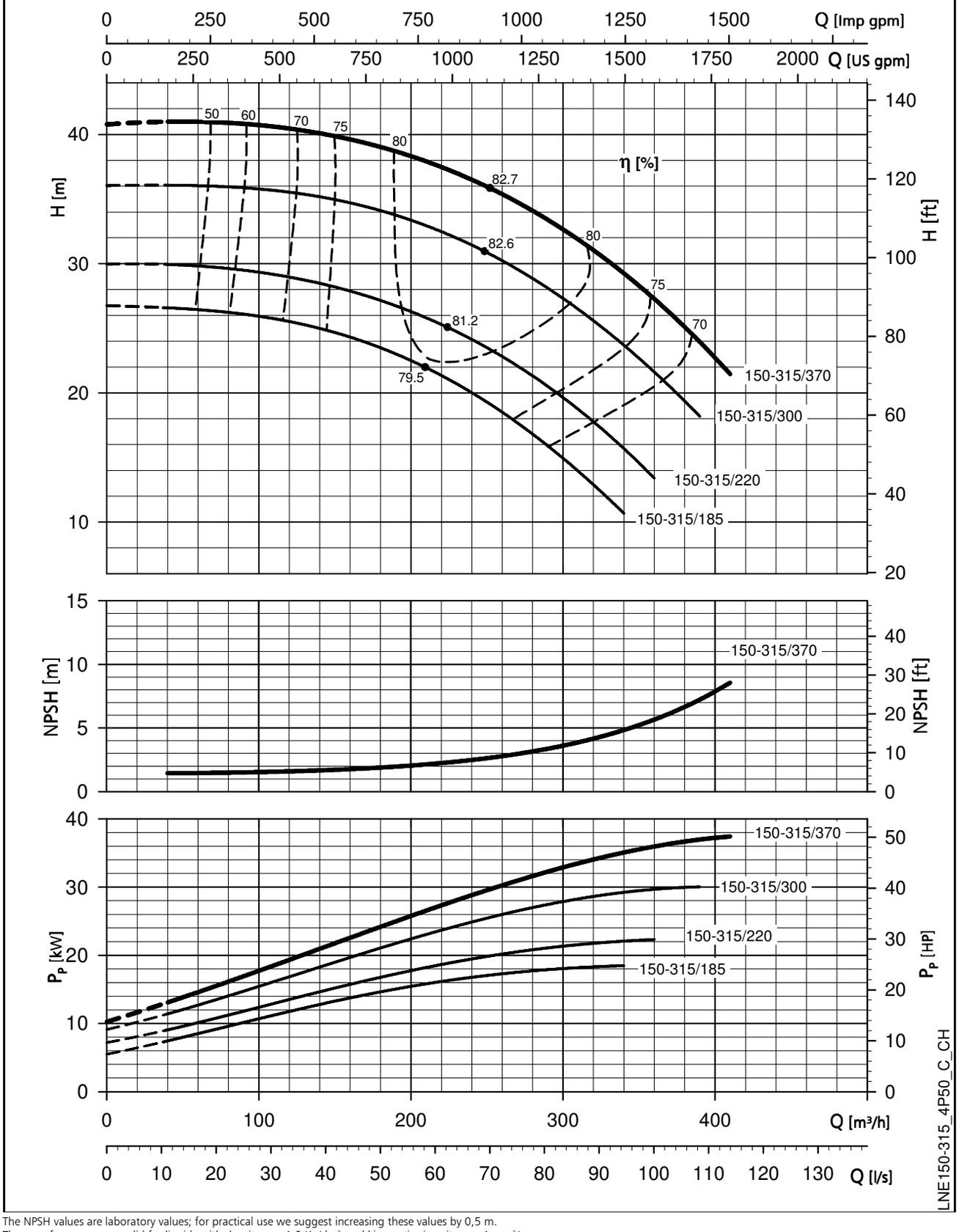


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 150-315	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

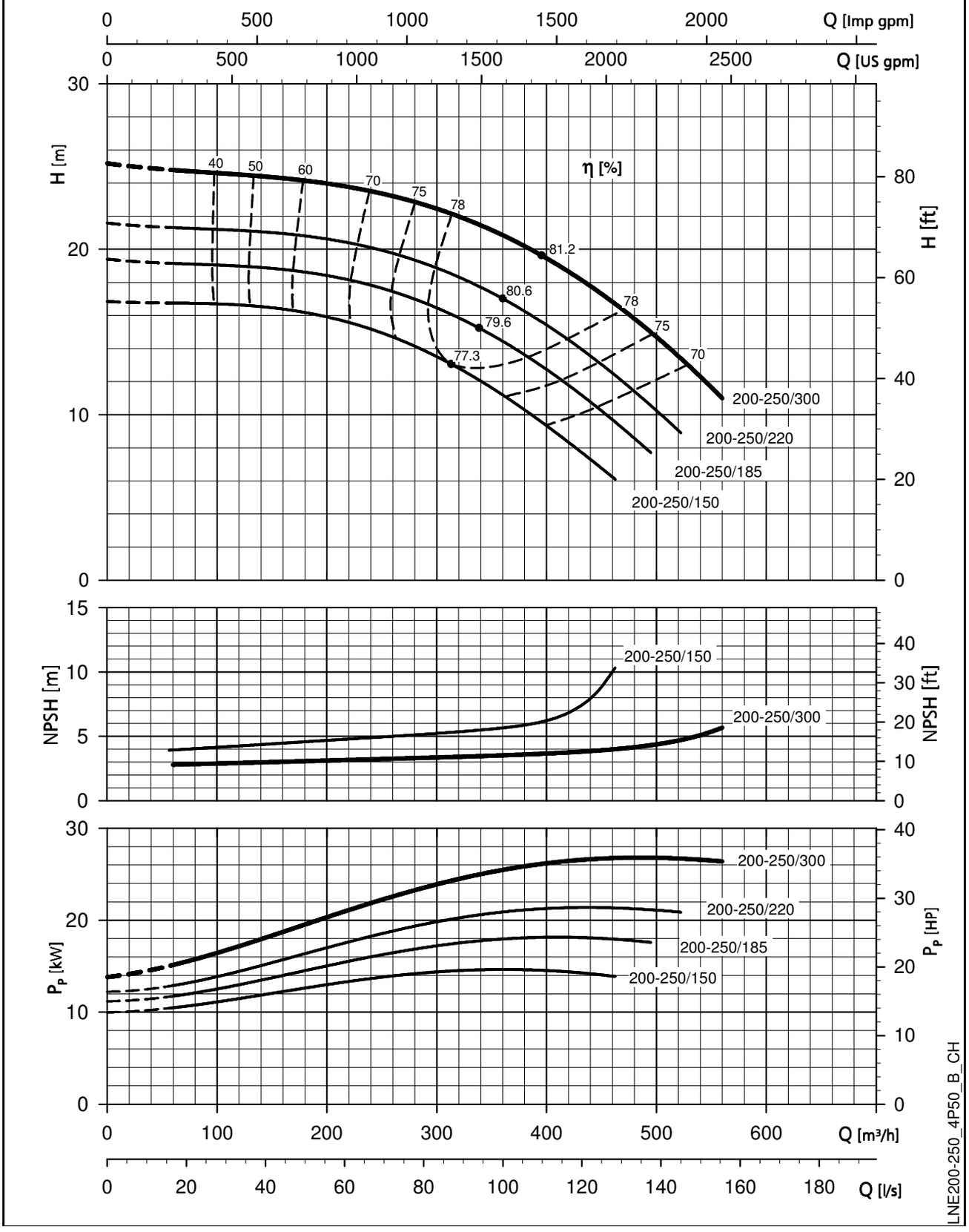


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 200-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

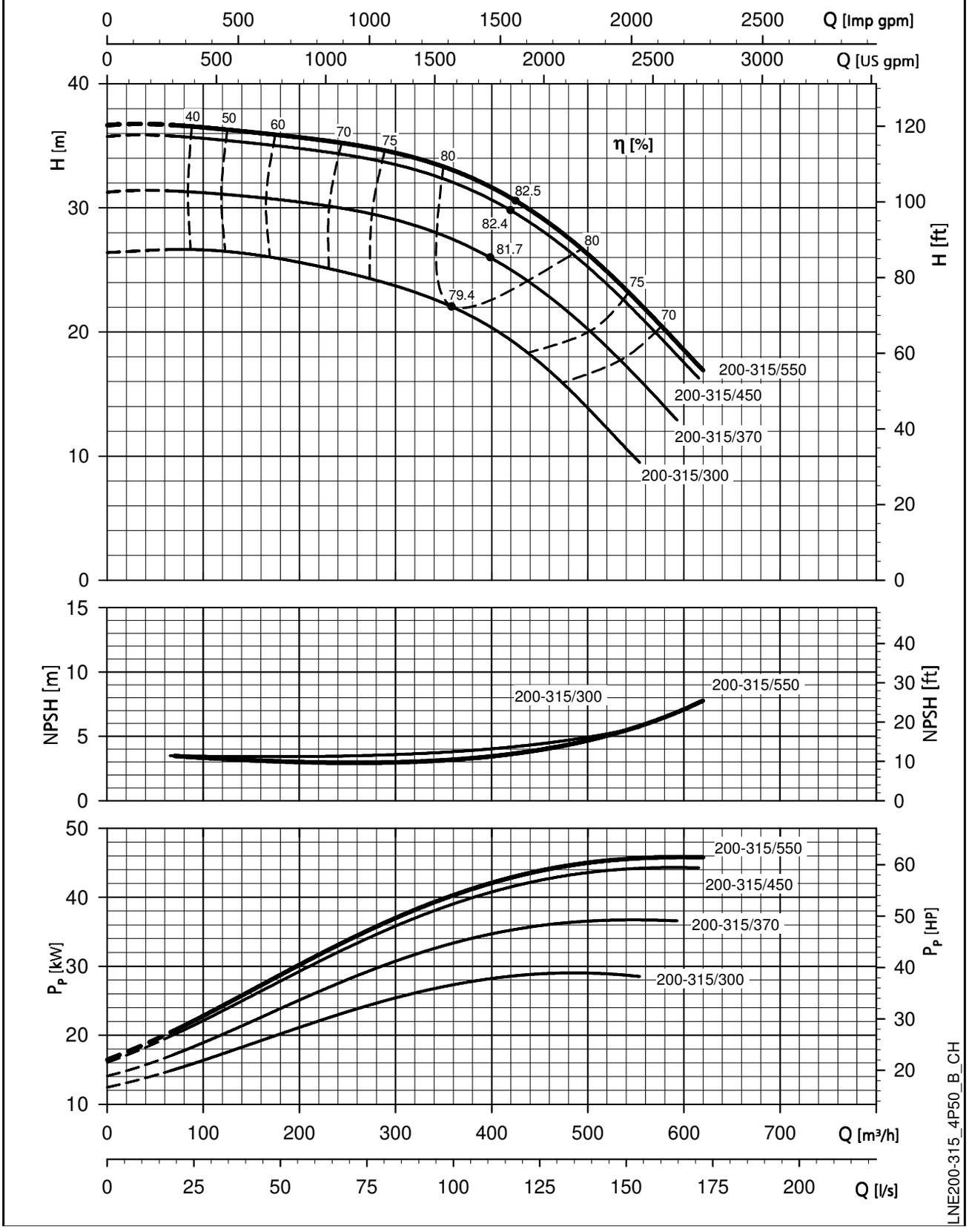


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 200-315	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

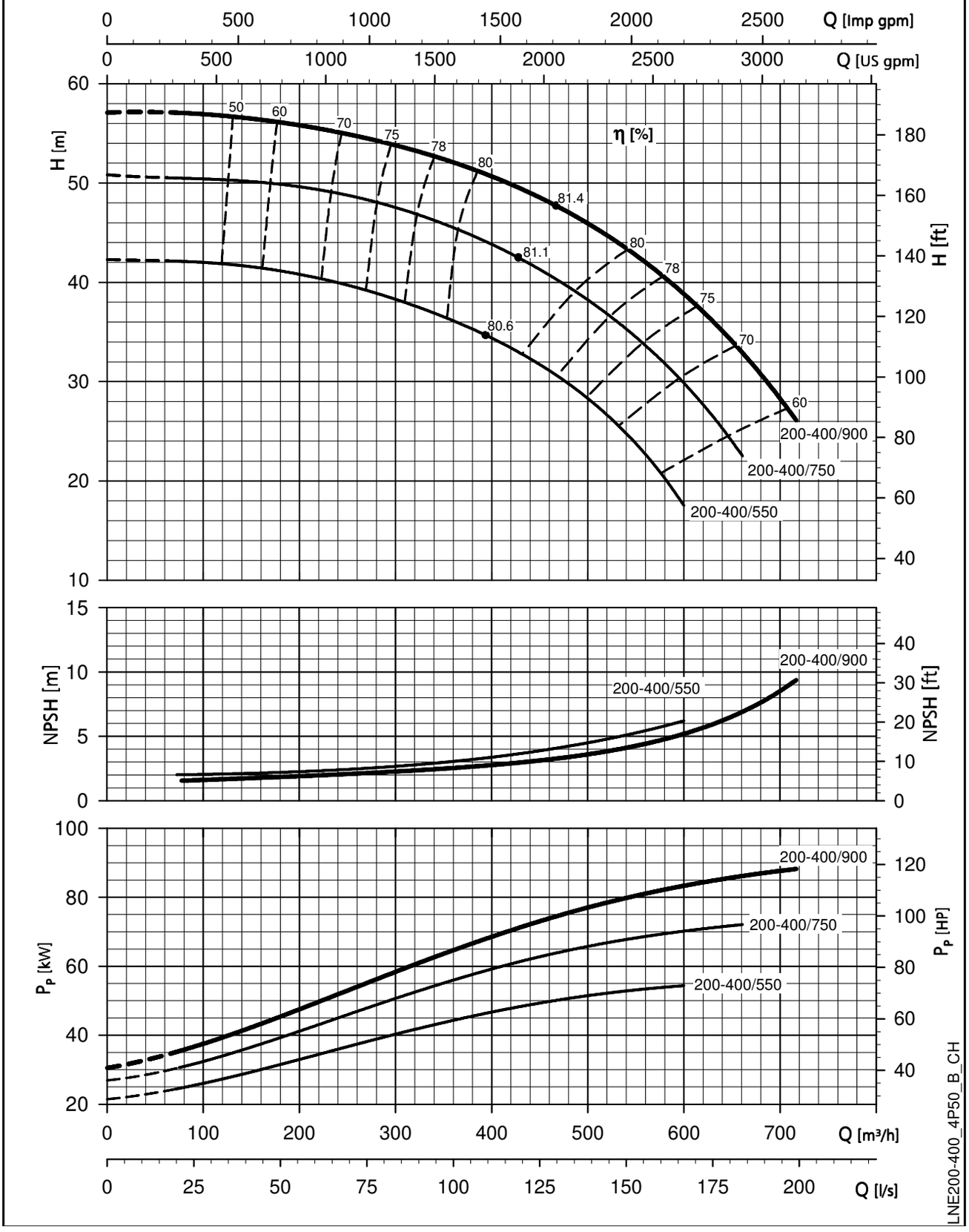


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 200-400	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

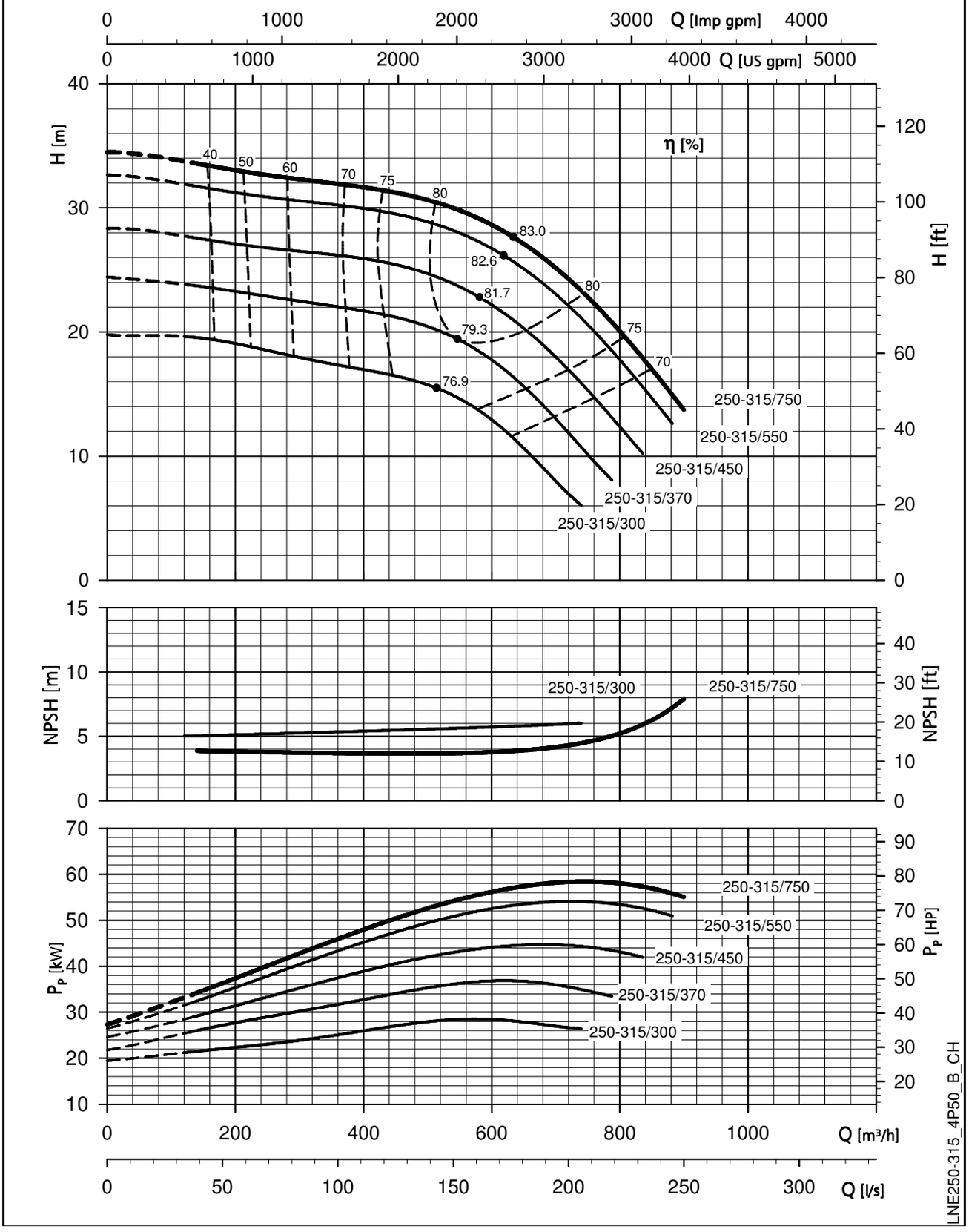


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

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

LNE 250-315	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

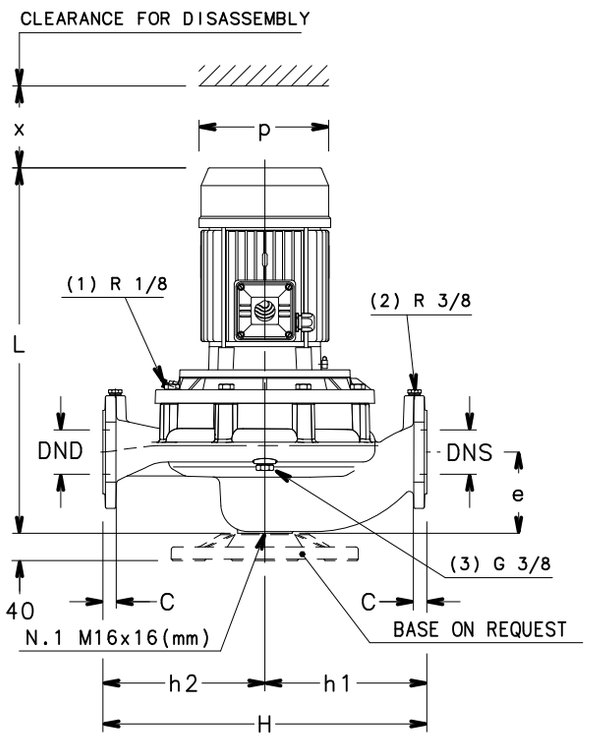


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

DIMENSIONS AND WEIGHTS

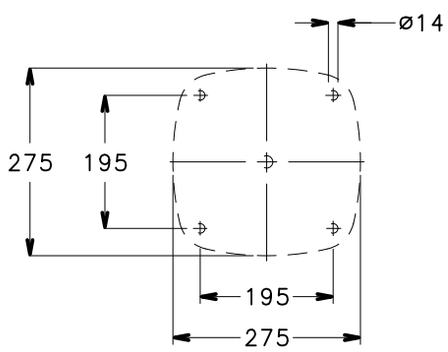
e-LNEE 32, 40, 50, 65, 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

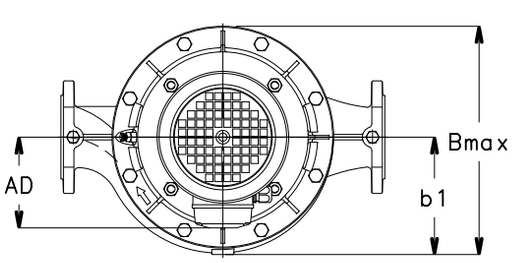


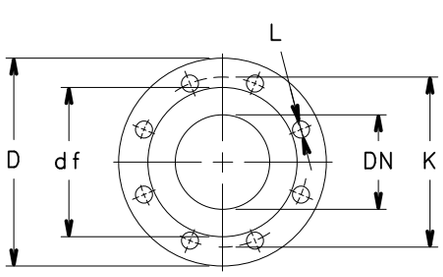
(1) R 1/8 AIR VALVE

(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.

A0016-EN_A_DD

LOWARA
a xylem brand

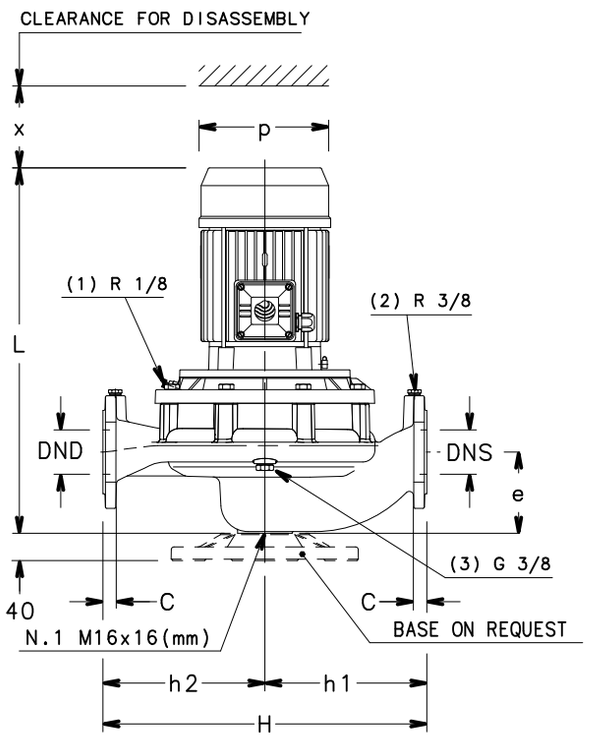
e-LNEE 32, 40, 50, 65, 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE LNEE..2	DIMENSIONS (mm)								B	H	L	x	WEIGHT
	DND	DNS	e	h1	h2	AD	b1	p	max				kg
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	171	256	359	500	665	123	123
100-160/150/P	100	100	140	260	240	240	171	313	408	500	754	123	163
100-160/185/P	100	100	140	260	240	240	171	313	408	500	754	123	174
100-160/220/P	100	100	140	260	240	240	171	313	408	500	754	123	183

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

LNEE-32-100_2p50-en_b_td

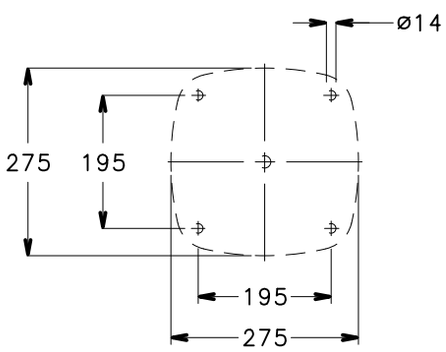
e-LNEE 32, 40, 50, 65, 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

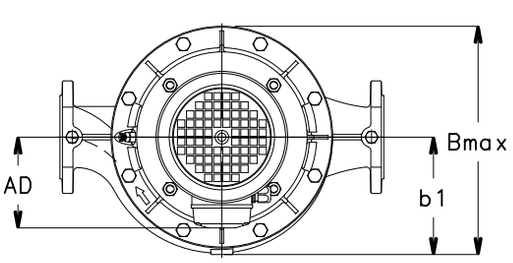


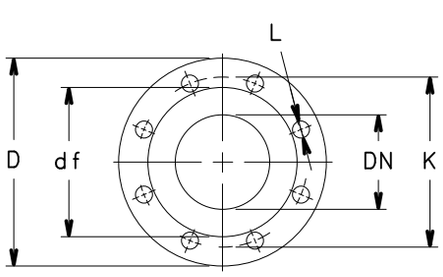
(1) R 1/8 AIR VALVE

(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.

A0016-EN_A_DD

LOWARA
a xylem brand

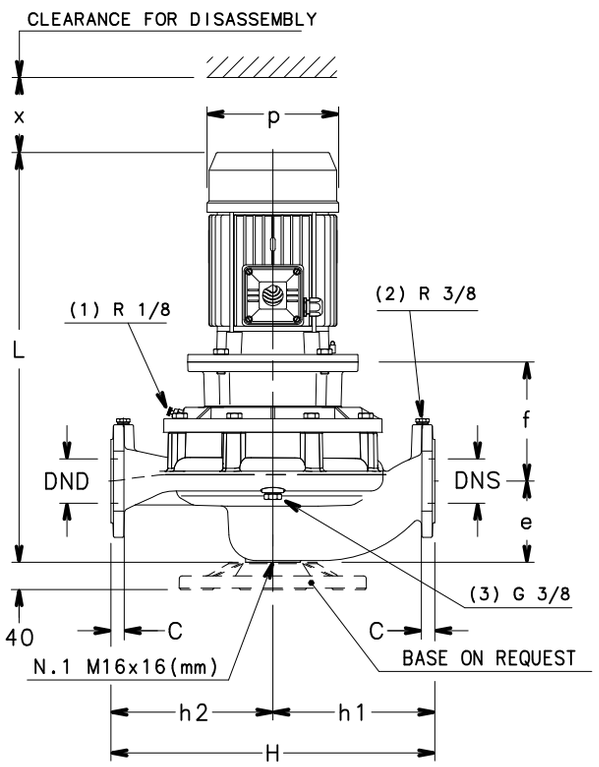
e-LNEE 32, 40, 50, 65, 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNEE..4	DIMENSIONS (mm)								B	H	L	x	WEIGHT
	DND	DNS	e	h1	h2	AD	b1	p	max				kg
32-160/02A/X	32	32	90	160	160	110	123	138	243	320	403	75	24,6
32-160/02/X	32	32	90	160	160	110	123	138	243	320	403	75	24,6
32-160/03/X	32	32	90	160	160	110	123	138	243	320	403	75	24,7
40-125/02B/X	40	40	100	160	160	110	128	138	248	320	423	94	25,6
40-125/02A/X	40	40	100	160	160	110	128	138	248	320	423	94	25,6
40-125/02/X	40	40	100	160	160	110	128	138	248	320	423	94	25,6
40-125/03/X	40	40	100	160	160	110	128	138	248	320	423	94	25,7
40-160/02/X	40	40	100	160	160	110	128	138	248	320	423	94	25,6
40-160/03/X	40	40	100	160	160	110	128	138	248	320	423	94	25,7
40-160/05/X	40	40	100	160	160	128	128	159	249	320	441	94	37,5
40-160/07/X	40	40	100	160	160	128	128	159	248	320	441	94	42
40-200/05A/X	40	40	110	220	220	128	168	159	336	440	441	104	45,5
40-200/05/X	40	40	110	220	220	128	168	159	336	440	441	104	45,5
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/X	50	50	116	180	160	110	128	138	246	340	429	96	29,6
50-125/02/X	50	50	116	180	160	110	128	138	246	340	429	96	29,6
50-125/03/X	50	50	116	180	160	110	128	138	246	340	429	96	29,7
50-125/05/X	50	50	116	180	160	128	128	159	247	340	447	96	32,5
50-160/03/X	50	50	116	180	160	110	128	138	246	340	429	96	29,7
50-160/05/X	50	50	116	180	160	128	128	159	247	340	447	96	32,5
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/X	65	65	105	190	170	110	148	138	296	360	443	100	41,7
65-125/05/X	65	65	105	190	170	128	148	159	296	360	461	100	44,5
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/X	80	80	114	215	205	128	168	159	336	420	460	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	171	174	347	500	558	123	82
100-160/22A/P	100	100	140	260	240	168	171	214	347	500	582	123	92
100-160/22/P	100	100	140	260	240	168	171	214	347	500	582	123	92
100-160/30/P	100	100	140	260	240	168	171	214	347	500	613	123	96

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

LNEE-32-100_4p50-en_c_td

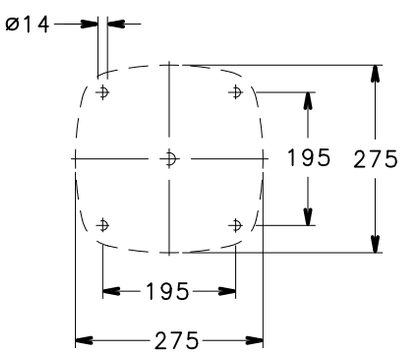
e-LNES 32, 40, 50, 65 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

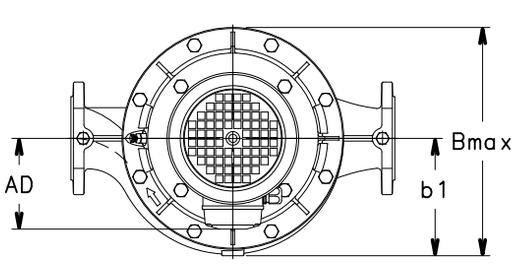


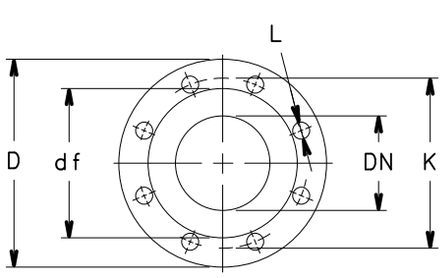
(1) R 1/8 AIR VALVE

(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.

A0017-EN_B_DD

LOWARA
a xylem brand

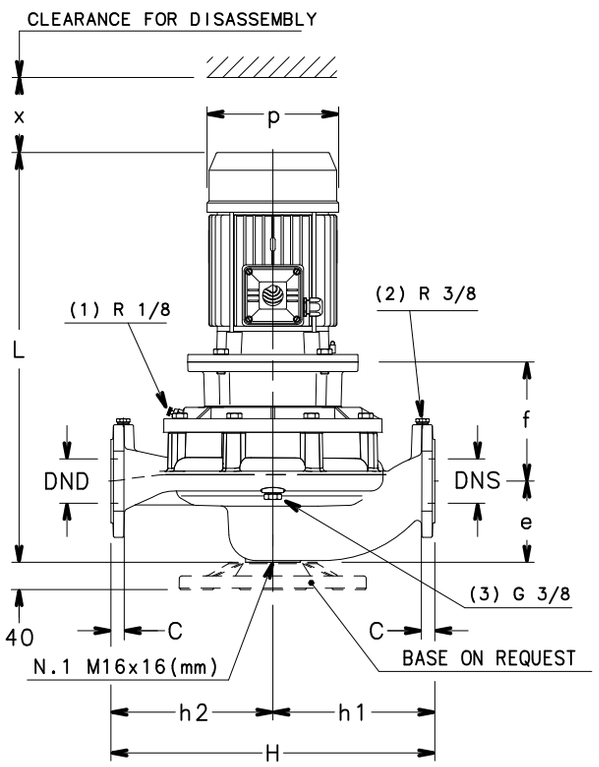
e-LNES 32, 40, 50, 65 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE LNES..2	DIMENSIONS (mm)									B	H	L	x	WEIGHT
	DND	DNS	e	f	h1	h2	AD	b1	p	max				kg
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	238	238	191	178	256	360	475	768	105	125
65-200/110/P	65	65	118	222	238	238	191	178	256	360	475	768	105	125
65-200/150/P	65	65	118	222	238	238	240	178	313	409	475	834	105	158
65-200/185/P	65	65	118	222	238	238	240	178	313	409	475	834	105	167
65-250/150/P	65	65	118	222	238	238	240	178	313	409	475	834	105	158
65-250/185/P	65	65	118	222	238	238	240	178	313	409	475	834	105	167
65-250/220/P	65	65	118	222	238	238	240	178	313	409	475	834	105	178
65-250/300/L	65	65	118	228	238	238	285	178	408	486	475	1017	105	240

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

LNES-32-65_2p50-en_b_td

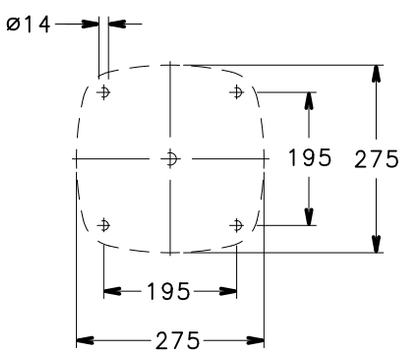
e-LNES 40, 50, 65 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

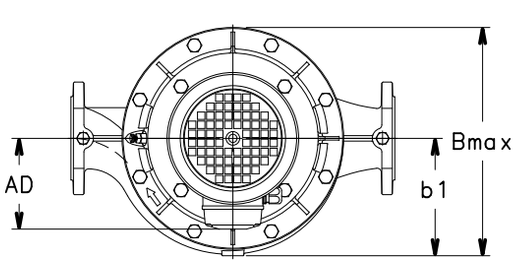


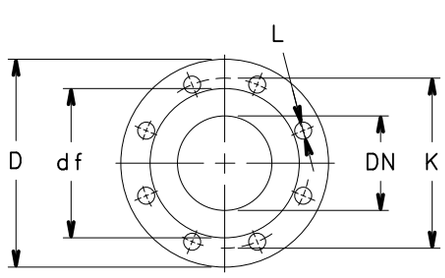
(1) R 1/8 AIR VALVE

(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.

A0017-EN_B_DD

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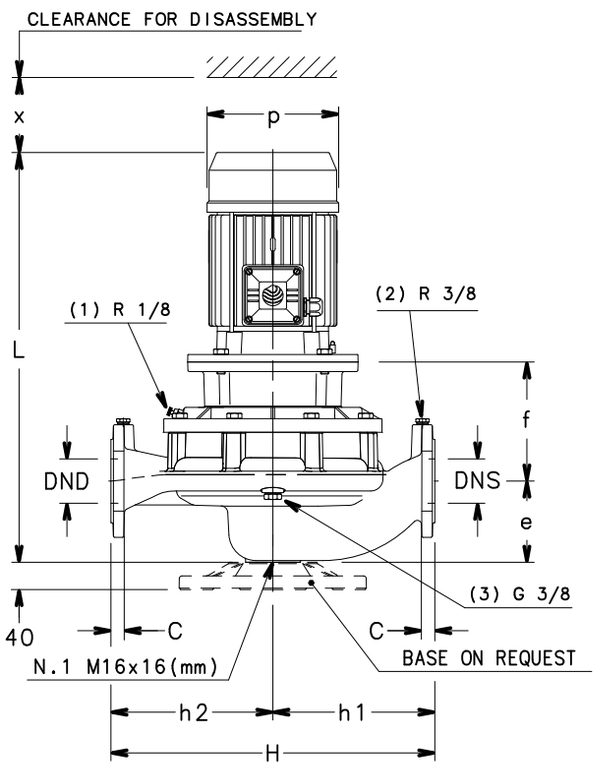
e-LNES 40, 50, 65 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE LNES..4	DIMENSIONS (mm)									B	H	L	x	WEIGHT
	DND	DNS	e	f	h1	h2	AD	b1	p	max				kg
40-160/05/X	40	40	100	165	160	160	128	128	159	249	320	496	94	32
40-160/07/X	40	40	100	165	160	160	128	128	159	248	320	496	94	36
40-200/05A/X	40	40	110	155	220	220	128	168	159	336	440	496	104	49
40-200/05/X	40	40	110	155	220	220	128	168	159	336	440	496	104	49
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/X	50	50	116	155	180	160	128	128	159	247	340	502	96	36
50-160/05/X	50	50	116	155	180	160	128	128	159	247	340	502	96	36
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/X	65	65	105	180	190	170	128	148	159	296	360	516	100	48
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_e_td

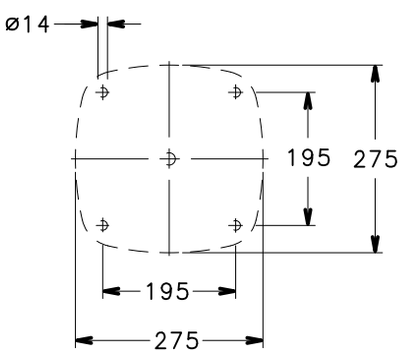
e-LNES 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

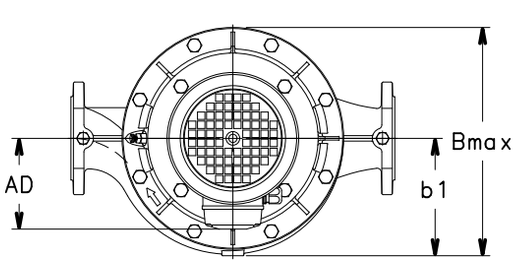


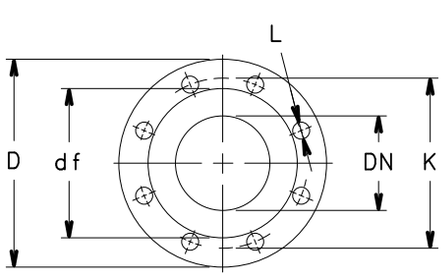
(1) R 1/8 AIR VALVE

(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.

A0017-EN_B_DD

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

PUMP TYPE LNES..2	DIMENSIONS (mm)									B	H	L	x	WEIGHT
	DND	DNS	e	f	h1	h2	AD	b1	p	max				kg
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/L	80	80	132	246	265	235	285	185	408	486	500	1049	130	242
80-250/220/P	80	80	132	240	265	235	240	185	313	408	500	866	130	180
80-250/300/L	80	80	132	246	265	235	285	185	408	486	500	1049	130	242
80-250/370/L	80	80	132	246	265	235	285	185	408	486	500	1049	130	251
100-160/110/P	100	100	140	240	260	240	191	171	256	359	500	810	123	140
100-160/150/P	100	100	140	240	260	240	240	171	313	408	500	876	123	173
100-160/185/P	100	100	140	240	260	240	240	171	313	408	500	876	123	182
100-160/220/P	100	100	140	240	260	240	240	171	313	408	500	876	123	193
100-200/220/P	100	100	175	240	300	250	240	201	313	410	550	909	152	196
100-200/300/L	100	100	175	246	300	250	285	201	408	486	550	1092	152	258
100-200/370/L	100	100	175	246	300	250	285	201	408	486	550	1092	152	267
100-250/370/L	100	100	175	246	300	250	285	201	408	486	550	1092	152	267

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

LNES-80-100_2p50-en_f_td

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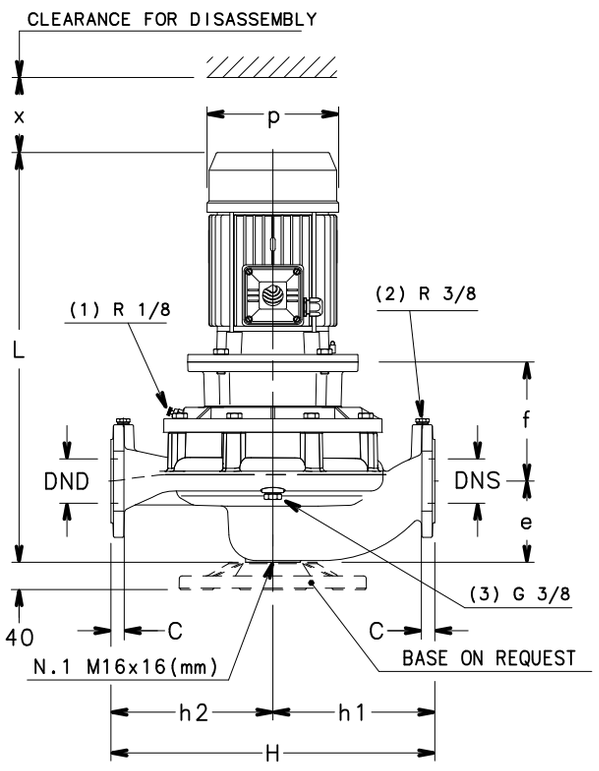
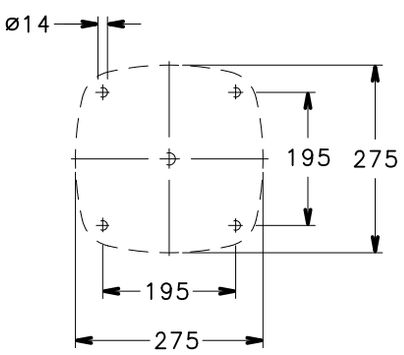
e-LNES 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

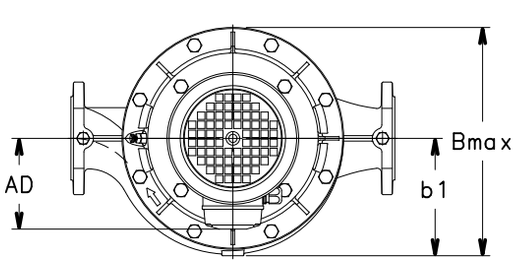


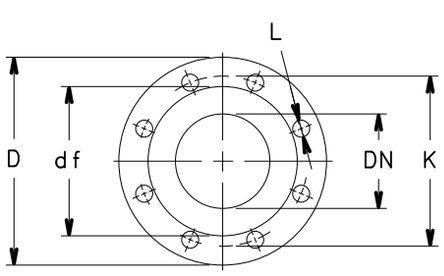
(1) R 1/8 AIR VALVE

(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.

A0017-EN_B_DD

LOWARA
a xylem brand

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

PUMP TYPE LNES..4	DIMENSIONS (mm)													WEIGHT
	DND	DNS	e	f	h1	h2	AD	b1	p	B max	H	L	x	kg
80-125/05/X	80	80	114	170	215	205	128	168	159	336	420	515	111	60
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	171	174	347	500	613	123	85
100-160/22A/P	100	100	140	185	260	240	168	171	214	347	500	647	123	96
100-160/22/P	100	100	140	185	260	240	168	171	214	347	500	647	123	96
100-160/30/P	100	100	140	185	260	240	168	171	214	347	500	678	123	100
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/L	100	100	175	240	360	310	253	244	358	451	670	1006	140	247
100-315/220/L	100	100	175	240	360	310	253	244	358	451	670	1006	140	252

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

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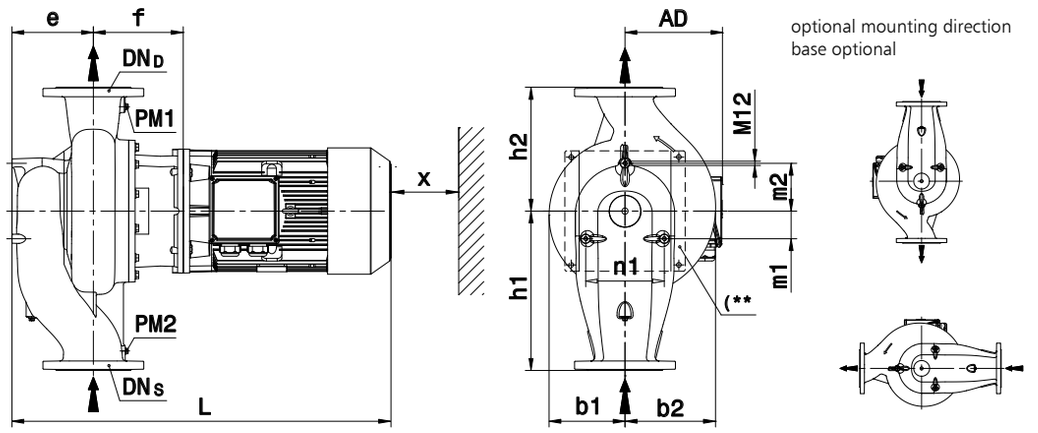
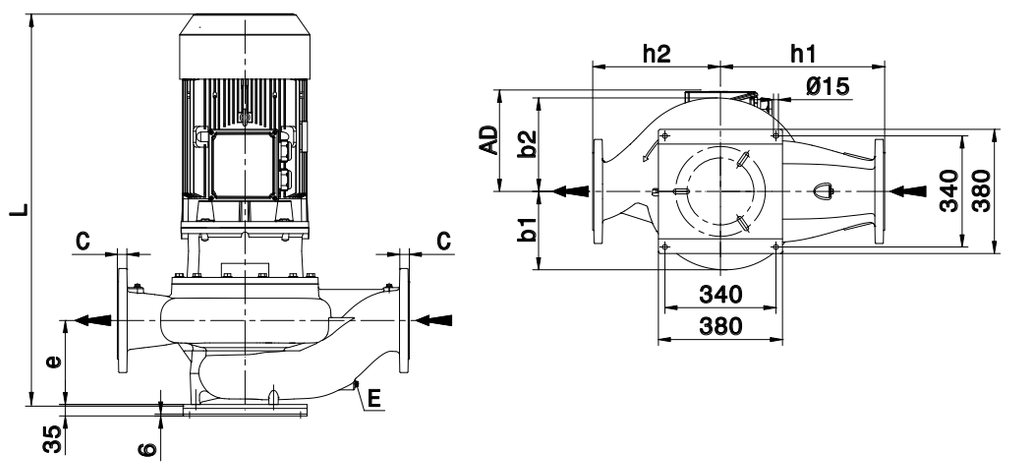
e-LNES 125, 150, 200, 250 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

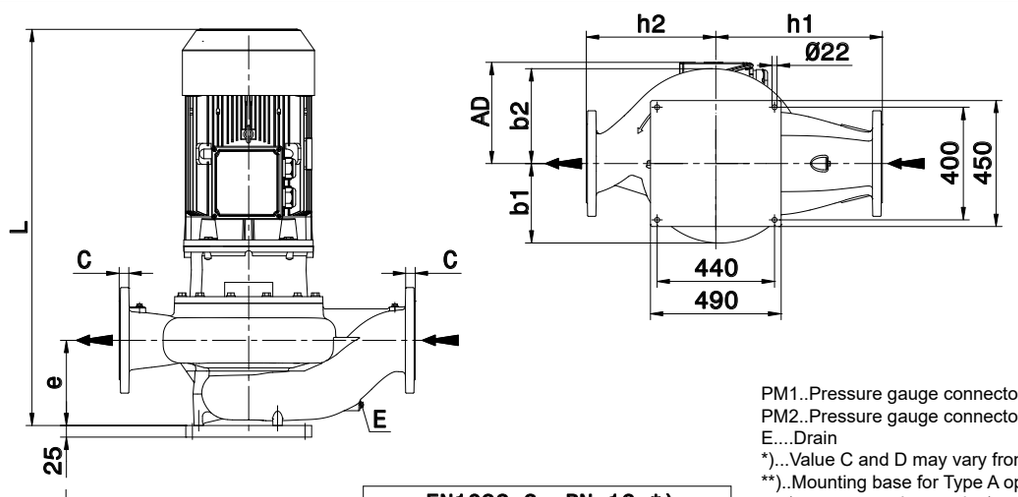
A



B

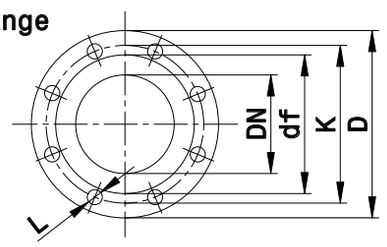


C



PM1..Pressure gauge connector
PM2..Pressure gauge connector
E....Drain
*)...Value C and D may vary from standard
**)..Mounting base for Type A optional 8kg
(see accessories section)

Flange



EN1092-2, PN 16 *)					
DN	D	K	C	df	L
125	255	210	26	184	8x19
150	285	240	26	211	8x23
200	345	295	30	266	12x23
250	405	355	32	319	12x28

Connections		
	$DN_D \leq 150$	$DN_D \geq 200$
PM1 / PM2	1/4"	1/2"
E	1/4"	1/2"

LNES_D_DD

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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/L	B	125	125	230	245	450	350	63	110	180	223	275	140	253	1066	271
125-315/220/L	B	125	125	230	245	450	350	63	110	180	223	275	140	253	1066	288
125-315/300/L	B	125	125	230	251	450	350	63	110	180	223	275	140	285	1152	349
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/L	B	150	150	230	254	450	350	78	135	222	215	257	140	253	1075	277
150-315/220/L	B	150	150	230	254	450	350	78	135	222	215	257	140	253	1075	294
150-315/300/L	B	150	150	230	254	450	350	78	135	222	215	257	140	285	1155	352
150-315/370/L	B	150	150	230	284	450	350	78	135	222	215	257	140	309	1215	398
200-250/150/P	C	200	200	308	254	475	355	73	145	250	247	305	140	240	1056	360
200-250/185/L	C	200	200	308	254	475	355	73	145	250	247	305	140	253	1153	353
200-250/220/L	C	200	200	308	254	475	355	73	145	250	247	305	140	253	1153	370
200-250/300/L	C	200	200	308	254	475	355	73	145	250	247	305	140	285	1233	428
200-315/300/L	C	200	200	260	254	500	400	73	145	250	236	305	140	285	1185	425
200-315/370/L	C	200	200	260	284	500	400	73	145	250	236	305	140	309	1245	471
200-315/450/L	C	200	200	260	284	500	400	73	145	250	236	305	140	309	1245	509
200-315/550/L	C	200	200	260	284	500	400	73	145	250	236	305	140	362	1311	614
200-400/550/L	C	200	200	280	284	625	475	73	145	250	273	344	140	362	1331	681
200-400/750/L	C	200	200	280	284	625	475	73	145	250	273	344	140	399	1461	871
200-400/900/L	C	200	200	280	284	625	475	73	145	250	273	344	140	399	1461	1023
250-315/300/L	C	250	250	320	254	550	400	90	180	312	285	351	140	285	1245	504
250-315/370/L	C	250	250	320	284	550	400	90	180	312	285	351	140	309	1305	551
250-315/450/L	C	250	250	320	284	550	400	90	180	312	285	351	140	309	1305	589
250-315/550/L	C	250	250	320	284	550	400	90	180	312	285	351	140	362	1371	693
250-315/750/L	C	250	250	320	284	550	400	90	180	312	285	351	140	399	1501	883

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

LNES-4p50-en_g_td

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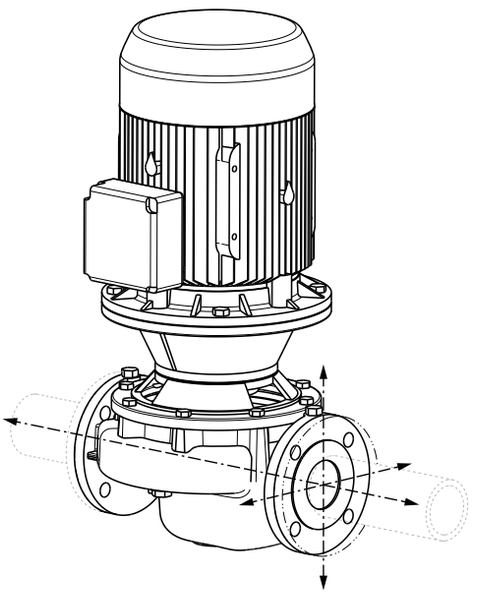
e-LNE SERIES
FORCES AND MOMENTS AT PUMP FLANGES
Valid for pump hanging in the piping



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	Suction - Discharge								
	DNS-DND	Fx max [N]	Fy max [N]	Fz max [N]	ΣF max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	ΣM max [Nm]
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

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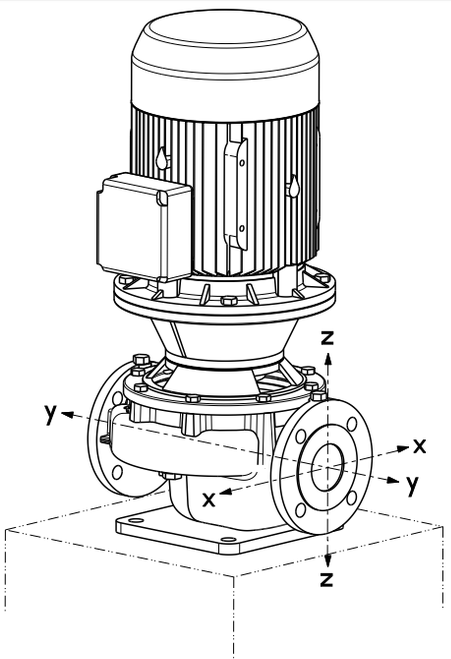
e-LNE SERIES
FORCES AND MOMENTS AT PUMP FLANGES
Valid for pump standing on the support foot



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	Suction - Discharge								
	DNS-DND	Fx max [N]	Fy max [N]	Fz max [N]	ΣF max [N]	Mx max [Nm]	My max [Nm]	Mz max [Nm]	ΣM max [Nm]
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

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e-LNE..H
e-LNE 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.

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:
LNEE**H**50-125/22/P25VCS4 **/2**
LNEE**H**50-125/22/P25VCS4 **/3**
LNEE**H**50-125/22/P25VCS4 **/4C**

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:
C = Premium Card.

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

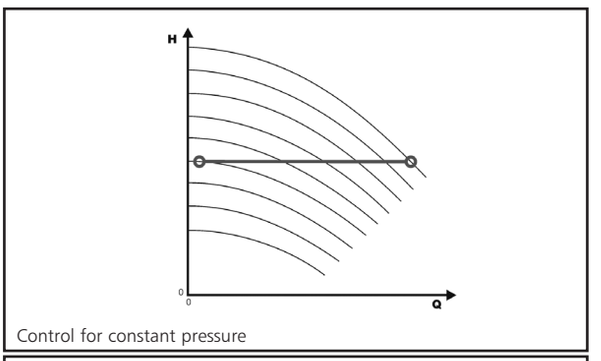
The basic function of the HYDROVAR device is to control the pump to meet the system demands.

HYDROVAR performs these functions by:

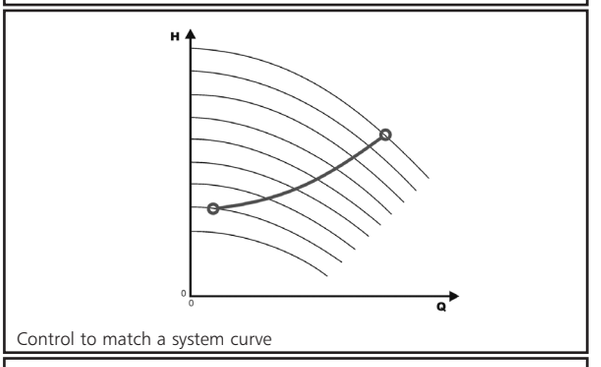
1) Measuring the system pressure or flow via a transmitter mounted on the pump's delivery side.
2) Calculating the motor speed to maintain the correct flow or pressure.
3) Sending out a signal to the pump to start the motor, increase speed, decrease speed or stop.
4) In the case of multiple pump installations, 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:

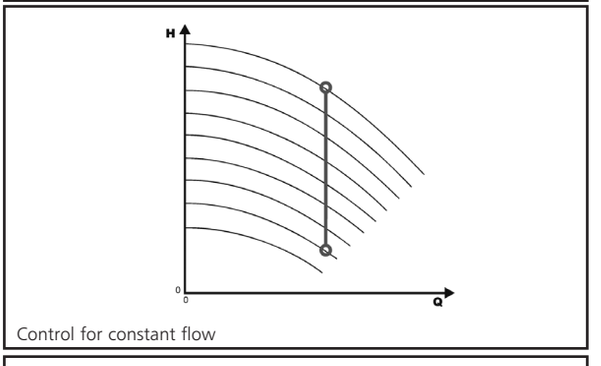
- Stop the pump(s) at zero demand.
- Stop the pump(s) in case of water failure on the suction side (protection against dry running).
- Stop the pump if the required delivery exceeds the pump's capacity (protection against cavitation caused by excessive demand), or automatically switch on the next pump 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.



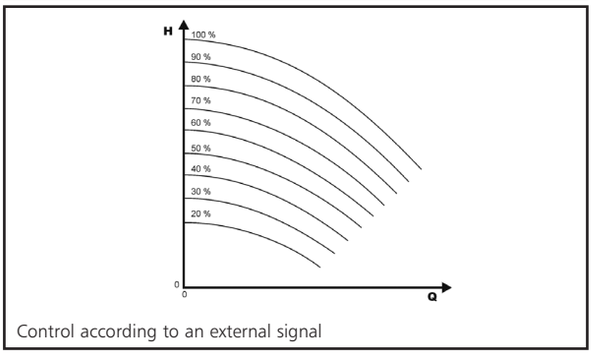
Control for constant pressure



Control to match a system curve



Control for constant flow



Control according to an external signal

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e-LNE..H SERIES
HYDROVAR (ErP 2009/125/EC)

From 1 July 2021 in accordance with the new **Regulations (EU) 2019/1781** and **2021/341** the **variance speed drives** with **three-phase input/output current**, rated voltage between **100 V** and **1000 V**, rated for operating with motors included in the same regulation (**0,12- 1000 kW**), must have efficiency level **IE2**.
The tables below also contain the mandatory information pursuant to Annex I, section 4, of the Regulations.

PN	Phase	UNin	Pa	Power losses (PL) with 10 KHz frequency % Pa (% rated speed; % rated torque)									
kW		V	kVA	stand-by	0;25	0;50	0;100	50;25	50;50	50;100	90;50	90;100	IE
1,5	~1	208-240	not included in regulation										
2,2													
3													
4													
1,5	~3	208-240	2,45	0,4%	1,3%	1,6%	1,9%	1,4%	1,7%	2,5%	2,0%	3,1%	2
2,2			3,46	0,3%	1,3%	1,6%	2,4%	1,4%	1,8%	2,7%	2,0%	3,3%	
3			5,15	0,2%	1,1%	1,4%	2,2%	1,3%	1,7%	2,6%	1,9%	3,2%	
4			6,00	0,2%	1,1%	1,3%	2,1%	1,3%	1,6%	2,5%	1,9%	3,1%	
5,5			7,90	0,1%	0,9%	1,1%	1,8%	1,0%	1,4%	2,4%	1,7%	3,2%	
7,5			10,1	0,1%	0,7%	0,9%	1,5%	0,8%	1,1%	2,1%	1,4%	3,1%	
11			15,1	0,1%	0,7%	0,9%	1,7%	0,8%	1,2%	2,3%	1,4%	3,0%	
1,5		380-460	2,56	0,4%	1,2%	1,5%	1,8%	1,3%	1,6%	2,1%	1,6%	2,3%	
2,2			3,67	0,3%	1,2%	1,3%	1,7%	1,3%	1,5%	2,1%	1,6%	2,3%	
3			5,00	0,2%	1,1%	1,1%	1,5%	1,2%	1,4%	2,1%	1,5%	2,2%	
4			6,20	0,2%	1,0%	0,9%	1,4%	1,1%	1,4%	2,0%	1,4%	2,2%	
5,5			8,30	0,2%	0,8%	0,8%	1,3%	0,9%	1,2%	1,9%	1,3%	2,2%	
7,5			10,7	0,1%	0,7%	0,6%	1,2%	0,7%	1,0%	1,8%	1,2%	2,3%	
11			15,9	0,1%	0,6%	0,6%	1,2%	0,7%	1,0%	1,8%	1,2%	2,2%	
15			21,5	0,1%	0,5%	0,6%	1,2%	0,6%	0,9%	1,6%	1,1%	2,0%	
18,5			25,6	0,1%	0,5%	0,6%	1,2%	0,6%	0,8%	1,6%	1,0%	1,9%	
22			29,4	0,0%	0,5%	0,7%	1,3%	0,6%	0,9%	1,6%	1,0%	2,1%	

hvl-pl-en_a_te

P_N	~	U_{Nin}	Manufacturer: Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore (VI) - Italia	f_{Nin}	I_{Nin}	U_{nout}	f_{Nout}	I_{nout}	Operating conditions*		ATEX
									Altitude	T.amb	
kW		V	Model	Hz	max A	V	Hz	max A	asl m	min/max °C	
1,5	1	208-240	HVL 2.015-..	50/60	11,6	0-100% U_{Nin}	15-70	7,5	≤1000	-15/40	No
2,2			HVL 2.022-..		1			15,1			
3			HVL 2.030-..		22,3			14,3			
4			HVL 2.040-..		27,6			16,7			
1,5	3	208-240	HVL 3.015-..		7			7,5			
2,2			HVL 3.022-..		9,1			10			
3			HVL 3.030-..		13,3			14,3			
4			HVL 3.040-..		16,5			16,7			
5,5			HVL 3.055-..		23,5			24,2			
7,5			HVL 3.075-..		29,6			31			
11			HVL 3.110-..		3			43,9			
1,5		380-460	HVL 4.015-..		3,9			4,1			
2,2			HVL 4.022-..		5,3			5,7			
3			HVL 4.030-..		7,2			7,3			
4			HVL 4.040-..		10,1			10			
5,5			HVL 4.055-..		12,8			13,5			
7,5			HVL 4.075-..		16,9			17			
11			HVL 4.110-..		24,2			24			
15			HVL 4.150-..		33,3			32			
18,5			HVL 4.185-..		38,1			38			
22			HVL 4.220-..		44,7			44			

*up to 2000 meters or maximum 55°C reducing the supplied power

hvl-en_b_te

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HYDROVAR HVL
IDENTIFICATION CODE

HVL4.075-A0010

Name [3 digits]
[HVL] = HYDROVAR generation L

Power supply [2 digits]
[2.] = 1~ 208-240 V (50/60 Hz)
[3.] = 3~ 208-240 V (50/60 Hz)
[4.] = 3~ 380-460 V (50/60 Hz)

Rated output power
[3 digits]
kW x 10

Other options [1 digit]
[0] = reserved for future use

Display [1 digit]
[0] = reserved for future use
[1] = Internal display installed as standard

Optional cards [1 digit]
[0] = no optional cards (as standard)
[1] = Premium Card (option supplied loose)

Bus communication [1 digit]
0 = Standard Communication (Modbus, Bacnet)
1 = reserved for future use
2 = reserved for future use
3 = reserved for future use
4 = reserved for future use
5 = reserved for future use
6 = reserved for future use

Enclosure class (IP class) [1 digit]
[A] = IP55 (Type1)
[B] = reserved for future use

EXAMPLE: **HVL4.075-A0010**

HVL=HYDROVAR generation L, **4.**=3~ 380-460 V power supply, **075**=7,5kW rated output power, **A**=IP55 (Type1) enclosure class, **0**=Standard Bus communication, **0**=no optional card, **1**=internal display installed, **0**=no other options installed.
NOTE: HYDROVAR output voltage is three phase.

DIMENSIONS AND WEIGHTS

TYPE	MODELS			DIMENSIONS (mm)				WEIGHT
	/2	/3	/4	L	B	H	X	Kg
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

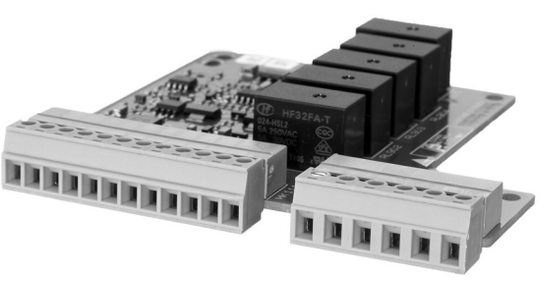
En-Rev_A

CARD

Premium Card HYDROVAR

For the e-LNE..H and e-LNT..H series, the Premium Card comes fitted as option on the standalone HYDROVAR.
This allows to control up to five fix speed pumps via an external panel.
The Premium Card will allow additional features listed below:

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



OPTIONAL COMPONENTS

Sensors

The following sensors are available for HYDROVAR:

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

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

SIZE LNE..H	kW	VERSION LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 3~ 400V
32-160/07	0,75	A	A	A	A	A	A
32-160/11	1,1	A	A	A	A	A	A
32-160/15	1,5	A	A	A	A	A	A
32-160/22	2,2	A	A	A	A	A	A
32-160/30	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_e_sc

SIZE LNE..H	kW	VERSION LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 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	-	-	-
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	-	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.

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

SIZE LNE..H	kW	VERSION LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 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
65-160/07	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 LNE..H	kW	VERSION LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 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

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

SIZE LNE..H	kW	INPUT CURRENT (A) LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 3~ 400V
32-160/07	0,75	4,0	2,4	1,4	4,0	2,4	1,4
32-160/11	1,1	5,8	3,5	2,1	5,8	3,5	2,1
32-160/15	1,5	8,0	4,8	2,8	8,0	4,8	2,8
32-160/22	2,2	11,7	7,1	4,1	11,7	7,1	4,1
32-160/30	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 LNE..H	kW	INPUT CURRENT (A) LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 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_c_te

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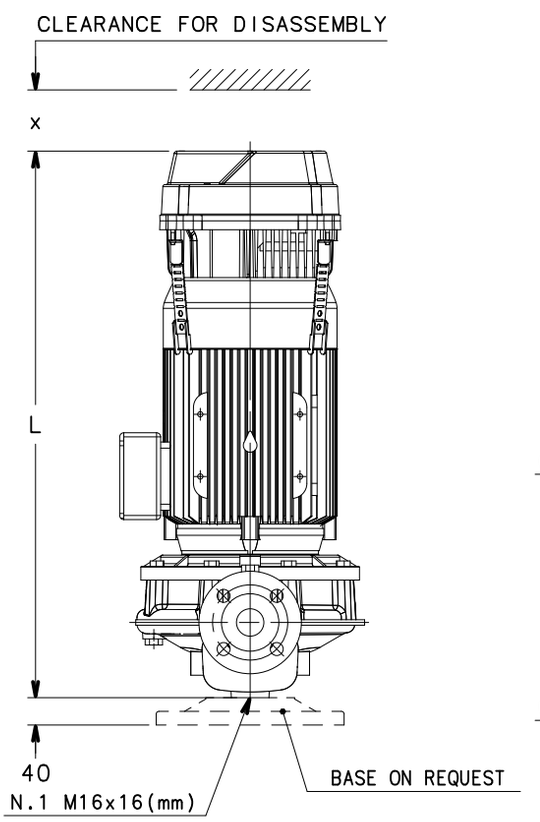
e-LNE..H SERIES
ELECTRICAL DATA TABLE AT 50 Hz, 4 POLES

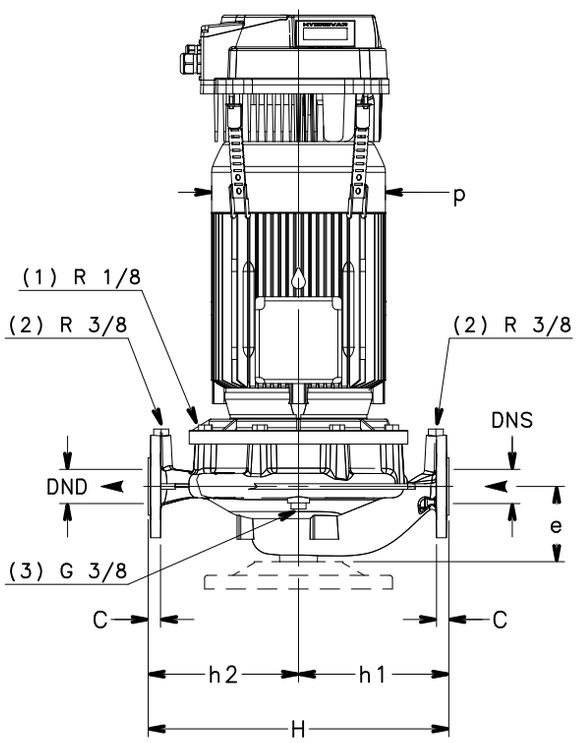
SIZE LNE..H	kW	INPUT CURRENT (A) LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 3~ 400V
40-160/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
40-160/07	0,75	4,27	2,71	1,76	4,27	2,71	1,76
40-200/05	0,55	3,13	1,99	1,29	3,13	1,99	1,29
40-200/07	0,75	4,27	2,71	1,76	4,27	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

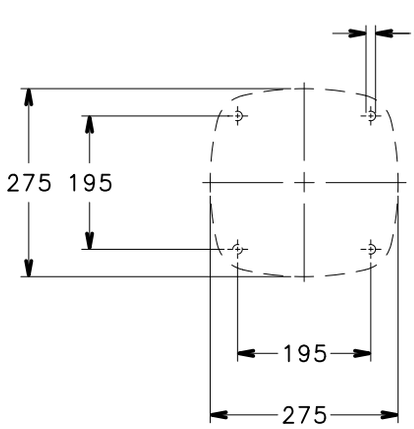
SIZE LNE..H	kW	INPUT CURRENT (A) LNEEH /2 1~ 230V	LNEEH /3 3~ 230V	LNEEH /4 3~ 400V	LNESH /2 1~ 230V	LNESH /3 3~ 230V	LNESH /4 3~ 400V
80-250/30	3	-	-	-	17,09	9,59	5,59
80-250/40	4	-	-	-	22,79	12,79	7,41
80-250/55	5,5	-	-	-	-	17,26	10,12
80-250/75	7,5	-	-	-	-	23,53	13,71
80-315/75	7,5	-	-	-	-	23,53	13,71
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

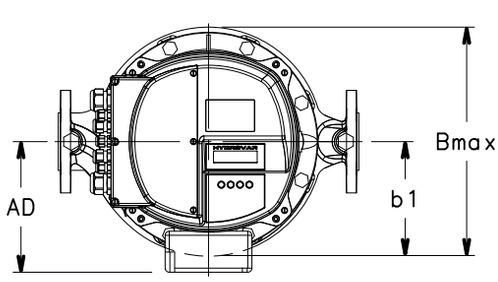
LNEH-HVL-4p50-en_b_te

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

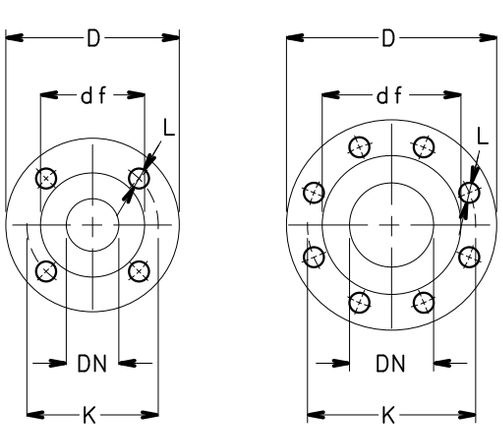








(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



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.

A0032HVL-EN_B_DD

LOWARA
a xylem brand

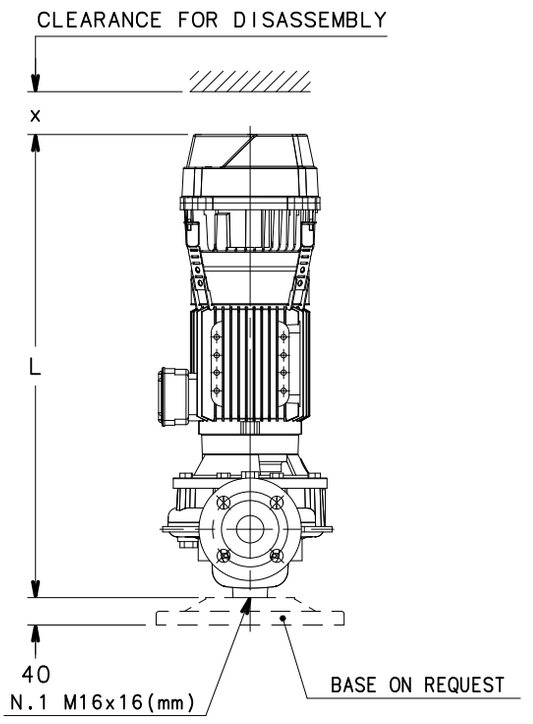
e-LNEEH 32, 40, 50, 65, 80 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

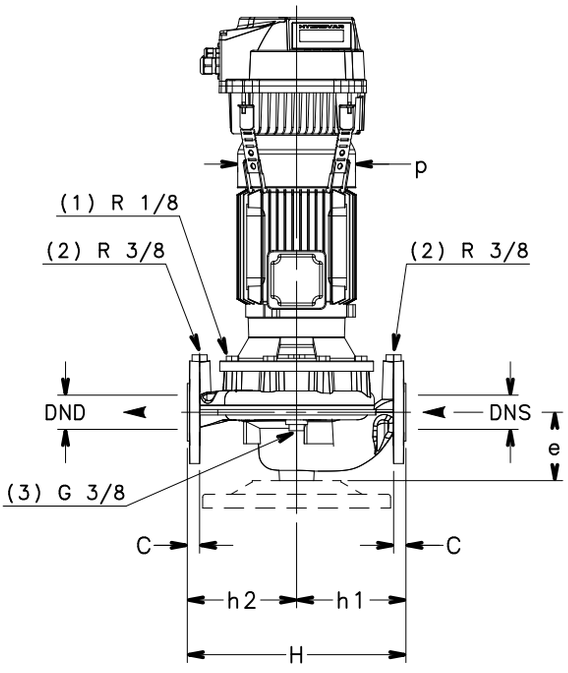
PUMP TYPE LNEEH..	DIMENSIONS (mm)								B	H	L			x	WEIGHT (kg)		
											/2	/3	/4		/2	/3	/4
	DND	DNS	e	h1	h2	AD	b1	p	max	H	1~ 230V	3~ 230V	3~ 400V	≥	1~ 230V	3~ 230V	3~ 400V
32-160/07/S	32	32	90	160	160	129	123	155	249	320	623	623	623	300	36,6	36,6	36,6
32-160/11/S	32	32	90	160	160	129	123	155	249	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	171	256	359	500	-	865	850	300	-	139	134
100-160/150/P	100	100	140	260	240	240	171	313	408	500	-	-	954	300	-	-	179
100-160/185/P	100	100	140	260	240	240	171	313	408	500	-	-	954	300	-	-	190
100-160/220/P	100	100	140	260	240	240	171	313	408	500	-	-	954	300	-	-	199

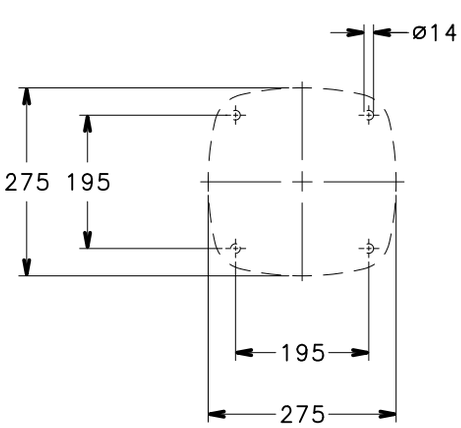
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

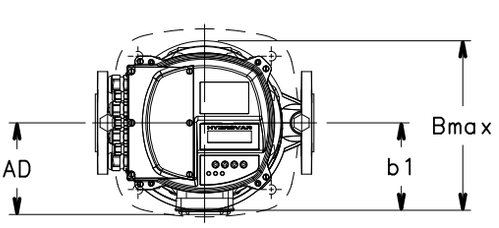
LNEEH-HVL-32-100_2p50-en_c_td

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

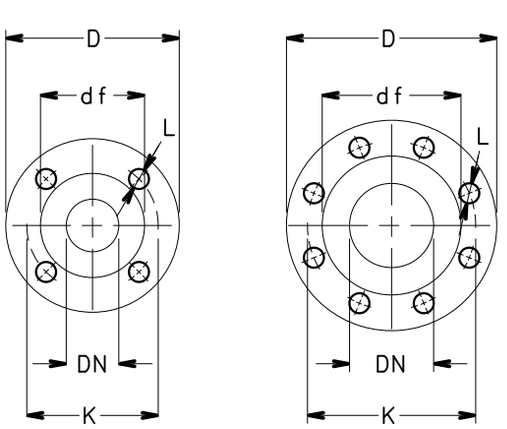








(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



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.

A0031HVL-EN_A_DD

LOWARA
a xylem brand

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

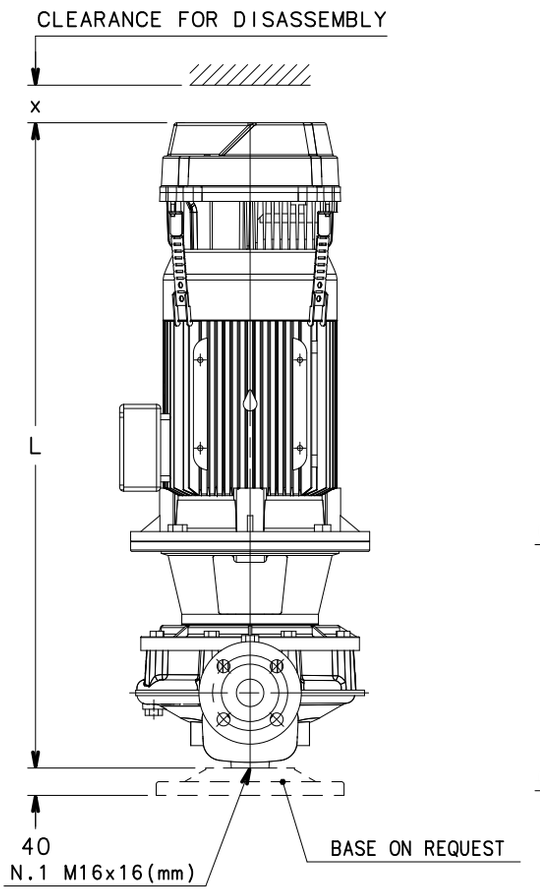
PUMP TYPE LNEEH..	DIMENSIONS (mm)								B	H	L			x	WEIGHT (kg)		
											/2	/3	/4		/2	/3	/4
	DND	DNS	e	h1	h2	AD	b1	p	max		1~ 230V	3~ 230V	3~ 400V	≥	1~ 230V	3~ 230V	3~ 400V
40-160/05/X	40	40	100	160	160	128	128	159	249	320	611	611	611	300	43,1	43,1	43,1
40-160/07/X	40	40	100	160	160	128	128	159	248	320	611	611	611	300	47,6	47,6	47,6
40-200/05/X	40	40	110	220	220	128	168	159	336	440	611	611	611	300	51,1	51,1	51,1
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/X	50	50	116	180	160	128	128	159	247	340	617	617	617	300	38,1	38,1	38,1
50-160/05/X	50	50	116	180	160	128	128	159	247	340	617	617	617	300	38,1	38,1	38,1
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/X	65	65	105	190	170	128	148	159	296	360	631	631	631	300	50,1	50,1	50,1
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/X	80	80	114	215	205	128	168	159	336	420	630	630	630	630	60,1	60,1	60,1
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	171	174	347	500	728	728	728	300	87,9	86,6	86,6
100-160/22/P	100	100	140	260	240	168	171	214	347	500	752	752	752	300	97,9	96,6	96,6
100-160/30/P	100	100	140	260	240	168	171	214	347	500	798	798	783	300	106,8	105,5	100,6

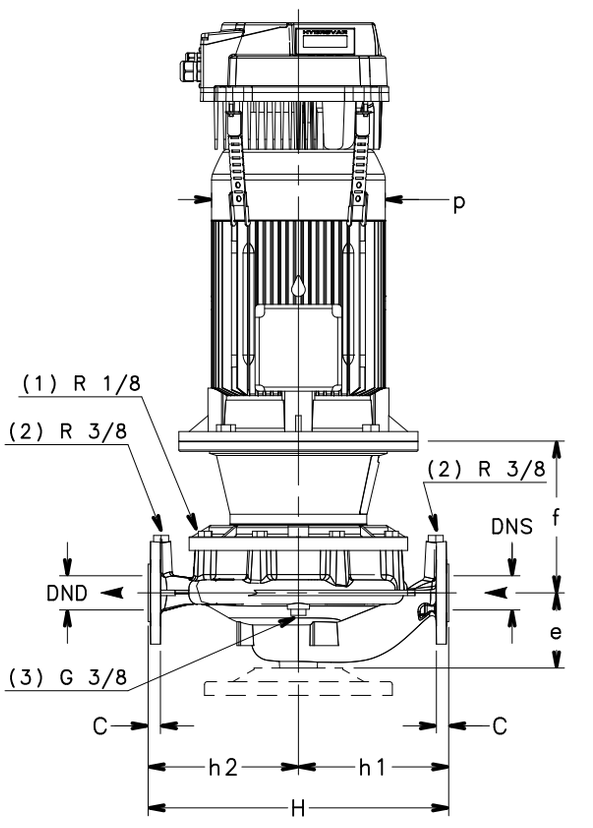
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

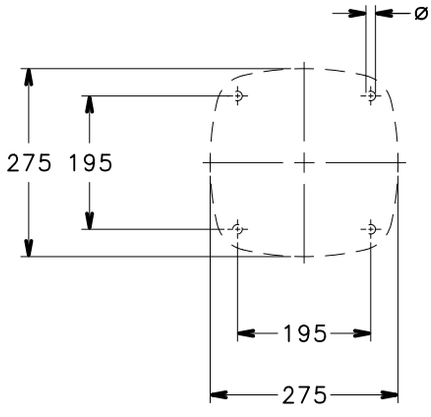
LNEEH-HVL-40-100_4p50-en_d_td

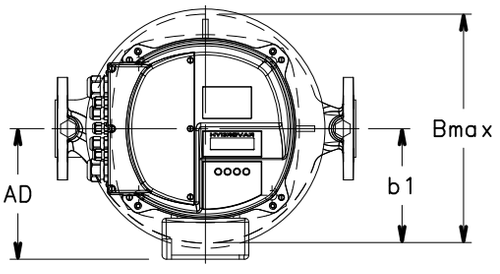
LOWARA
a xylem brand

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

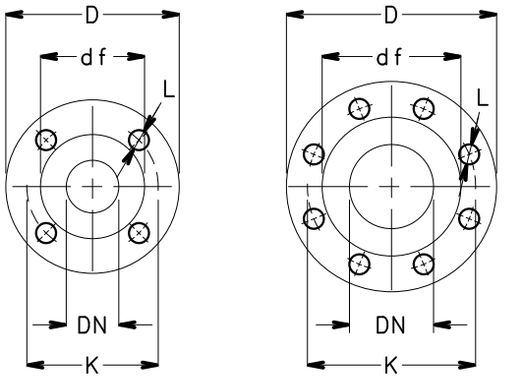








(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



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.

A0034HVL-EN_B_DD

LOWARA
a xylem brand

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

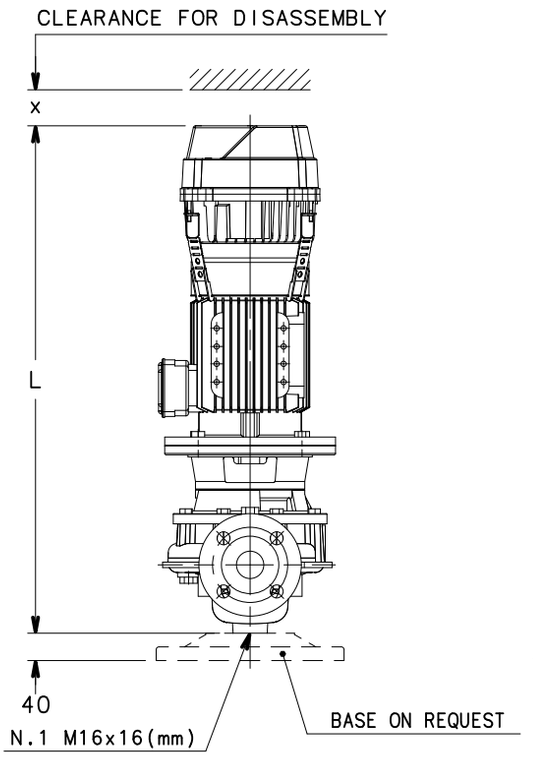
PUMP TYPE LNESH..	DIMENSIONS (mm)									B	H	L			x	WEIGHT (kg)		
												/2	/3	/4		/2	/3	/4
	DND	DNS	e	f	h1	h2	AD	b1	p	max		1~ 230V	3~ 230V	3~ 400V	≥	1~ 230V	3~ 230V	3~ 400V
32-160/07/S	32	32	90	155	160	160	129	123	155	249	320	678	678	678	300	38,6	38,6	38,6
32-160/11/S	32	32	90	155	160	160	129	123	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

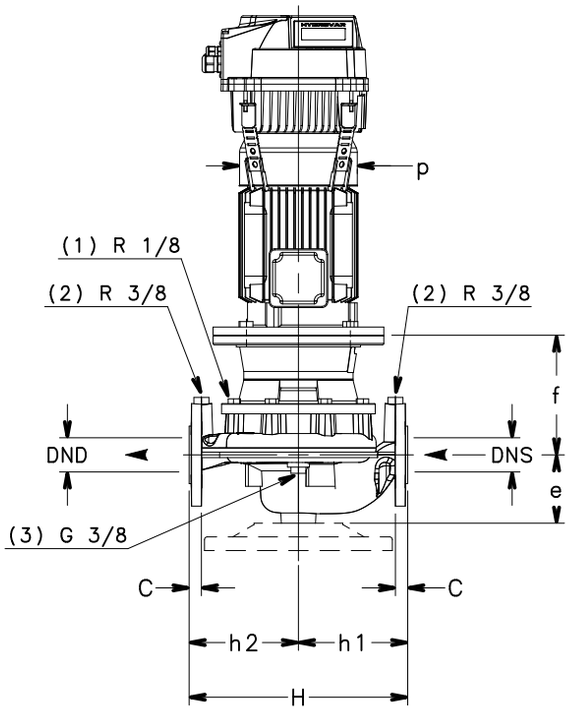
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

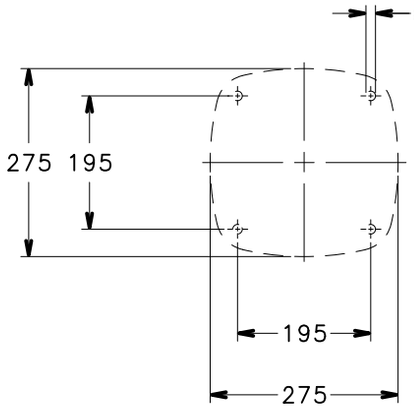
LNESH-HVL-32-65_2p50-en_a_td

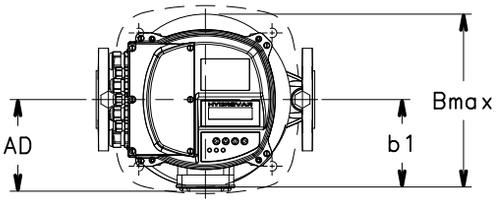
LOWARA
a xylem brand

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

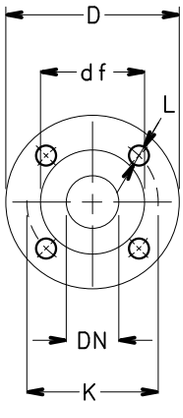


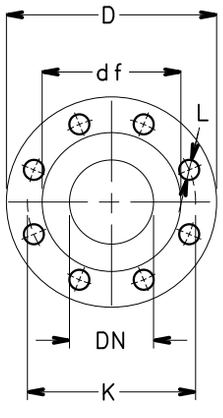






(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN





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.

A0033HVL-EN_A_DD

LOWARA
a xylem brand

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

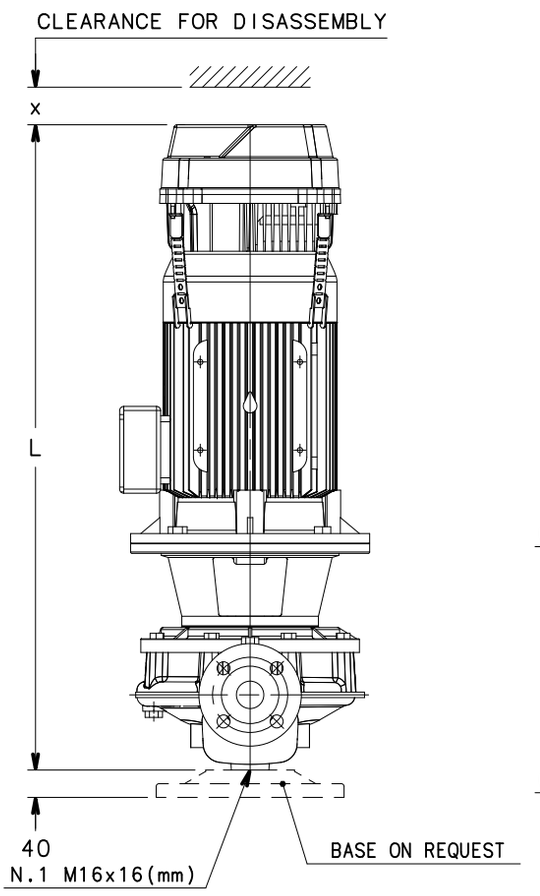
PUMP TYPE LNESH..	DIMENSIONS (mm)									B	H	L			x	WEIGHT (kg)		
												/2	/3	/4		/2	/3	/4
	DND	DNS	e	f	h1	h2	AD	b1	p	max		1~ 230V	3~ 230V	3~ 400V	≥	1~ 230V	3~ 230V	3~ 400V
40-160/05/X	40	40	100	165	160	160	128	128	159	249	320	666	666	666	300	37	37	37
40-160/07/X	40	40	100	165	160	160	128	128	159	248	320	666	666	666	300	41,6	41,6	41,6
40-200/05/X	40	40	110	155	220	220	128	168	159	336	440	666	666	666	300	54	54	54
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/X	50	50	116	155	180	160	128	128	159	247	340	672	672	672	300	41	41	41
50-160/05/X	50	50	116	155	180	160	128	128	159	247	340	672	672	672	300	41	41	41
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/X	65	65	105	180	190	170	128	148	159	296	360	686	686	686	300	53	53	53
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

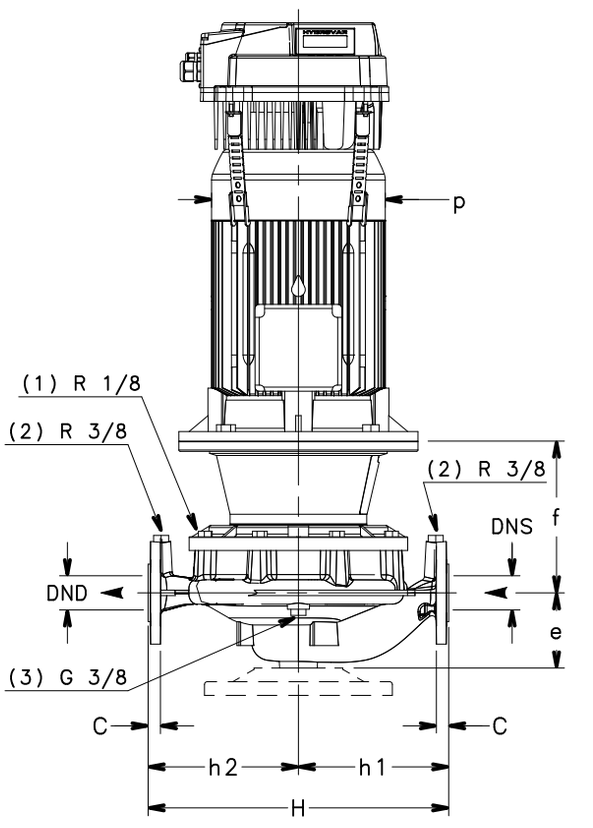
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

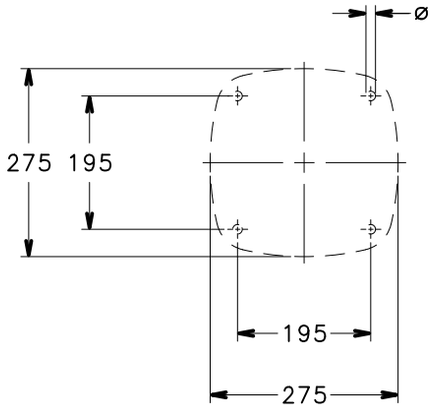
LNESH-HVL-40-50-65_4p50-en_d_td

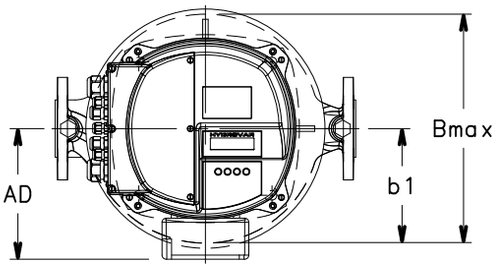
LOWARA
a xylem brand

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

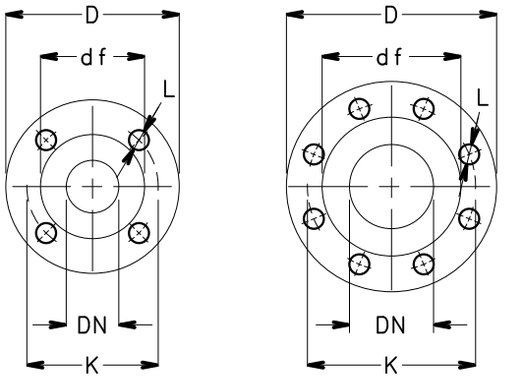








(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



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.

A0034HVL-EN_B_DD

LOWARA
a xylem brand

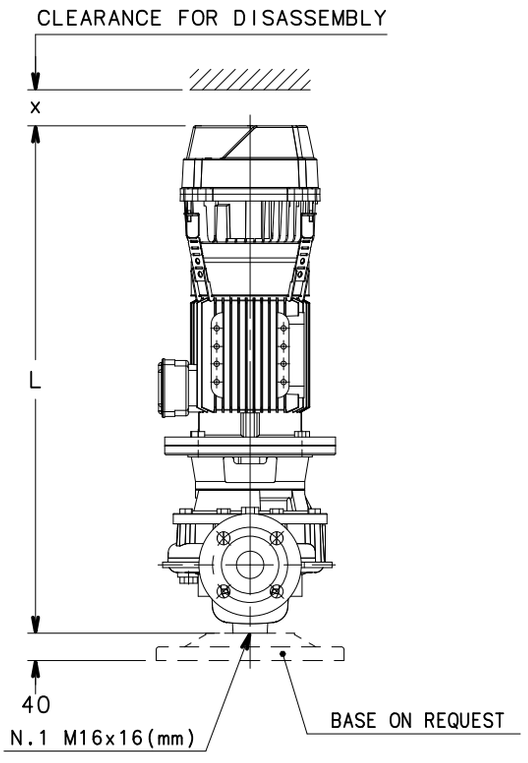
e-LNESH 80, 100 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

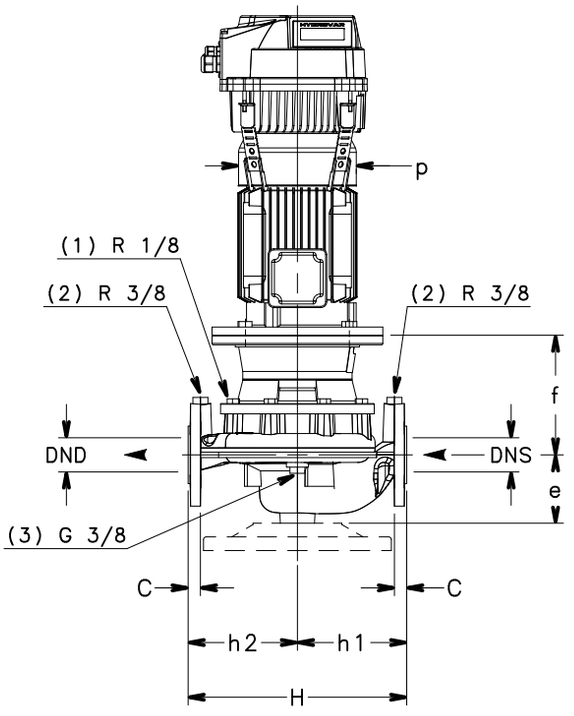
PUMP TYPE LNESH..	DIMENSIONS (mm)									B	H	L			x	WEIGHT (kg)		
												/2	/3	/4		/2	/3	/4
	DND	DNS	e	f	h1	h2	AD	b1	p	max		1~ 230V	3~ 230V	3~ 400V	≥	1~ 230V	3~ 230V	3~ 400V
80-125/40/P	80	80	114	180	215	205	154	168	197	336	420	798	798	783	300	89,5	89,5	84,6
80-125/110/P	80	80	114	237	215	205	191	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	171	256	359	500	-	1010	995	300	-	156	151
100-160/150/P	100	100	140	240	260	240	240	171	313	408	500	-	-	1076	300	-	-	189
100-160/185/P	100	100	140	240	260	240	240	171	313	408	500	-	-	1076	300	-	-	198
100-160/220/P	100	100	140	240	260	240	240	171	313	408	500	-	-	1076	300	-	-	209
100-200/220/P	100	100	175	240	300	250	240	201	313	410	550	-	-	1109	300	-	-	211,6

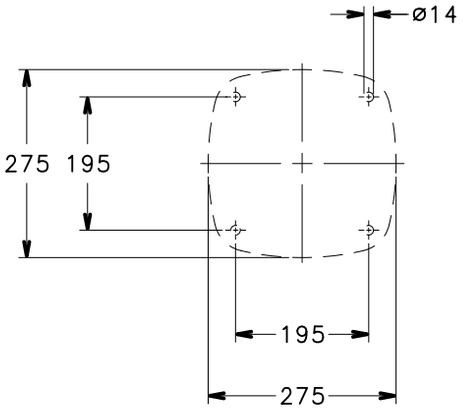
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

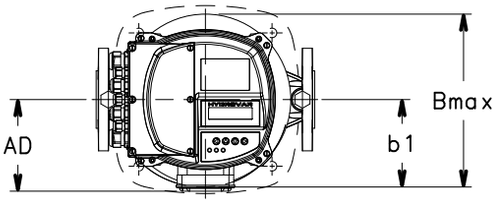
LNESH-HVL-80-100_2p50-en_c_td

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

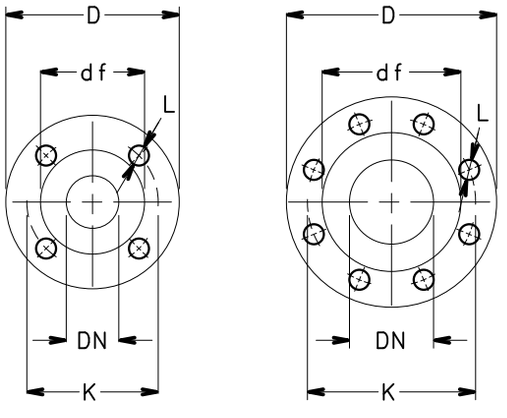








(1) AIR VALVE
(2) PRESSURE GAUGE CONNECTOR
(3) DRAIN



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.

A0033HVL-EN_A_DD

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

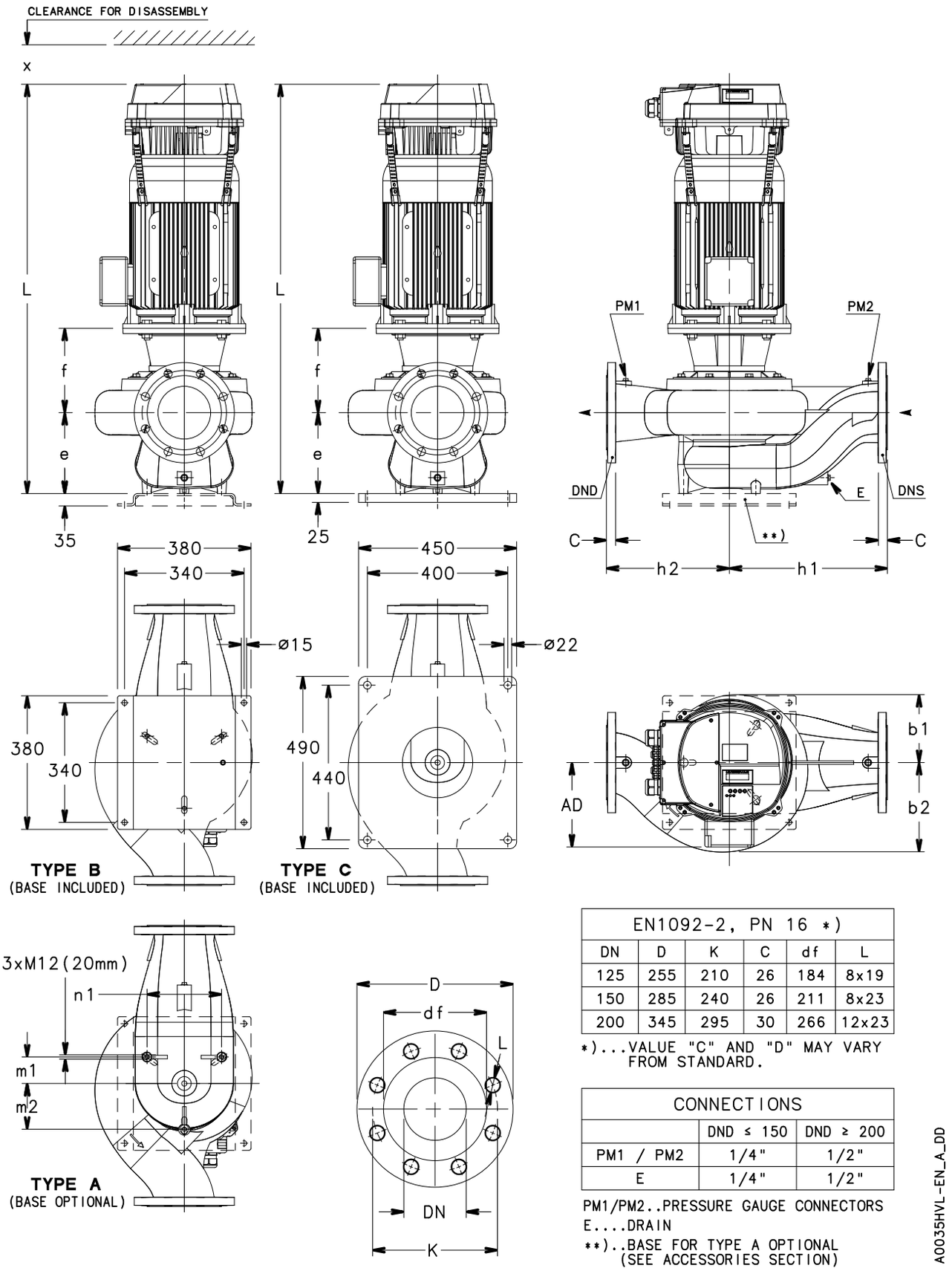
PUMP TYPE LNESH..	DIMENSIONS (mm)									B	H	L			x	WEIGHT (kg)		
												/2	/3	/4		/2	/3	/4
	DND	DNS	e	f	h1	h2	AD	b1	p	max		1~ 230V	3~ 230V	3~ 400V	≥	1~ 230V	3~ 230V	3~ 400V
80-125/05/X	80	80	114	170	215	205	128	168	159	336	420	685	685	685	300	65,1	65,1	65,1
80-125/15/P	80	80	114	170	215	205	134	168	174	336	420	752	752	752	300	77,6	77,6	77,6
80-160/11/P	80	80	114	170	215	205	134	168	174	336	420	752	752	752	300	73,6	73,6	73,6
80-160/15/P	80	80	114	170	215	205	134	168	174	336	420	752	752	752	300	77,6	77,6	77,6
80-160/22/P	80	80	114	180	215	205	168	168	214	336	420	786	786	786	300	90,6	90,6	90,6
80-200/15/P	80	80	132	173	265	235	134	185	174	353	500	773	773	773	300	77,6	77,6	77,6
80-200/22/P	80	80	132	183	265	235	168	185	214	353	500	807	807	807	300	88,6	88,6	88,6
80-200/30/P	80	80	132	183	265	235	168	185	214	353	500	853	853	838	300	97,5	97,5	92,6
80-200/40/P	80	80	132	183	265	235	168	185	214	353	500	882	882	867	300	116,5	116,5	111,6
80-250/30/P	80	80	132	183	265	235	168	185	214	353	500	853	853	838	300	97,5	97,5	92,6
80-250/40/P	80	80	132	183	265	235	168	185	214	353	500	882	882	867	300	116,5	116,5	111,6
80-250/55/P	80	80	132	210	265	235	191	185	256	359	500	-	932	932	300	-	127,5	127,5
80-250/75/P	80	80	132	210	265	235	191	185	256	359	500	-	947	932	300	-	136,6	131,5
80-315/75/P	80	80	140	215	325	295	191	229	256	439	620	-	960	945	300	-	174,6	169,5
80-315/110/P	80	80	140	245	325	295	240	229	256	439	620	-	1079	1064	300	-	238,6	233,5
80-315/150/P	80	80	140	245	325	295	240	229	256	439	620	-	-	1079	300	-	-	242,6
100-160/15/P	100	100	140	175	260	240	134	171	174	347	500	783	783	783	300	90,9	90,9	90,9
100-160/22/P	100	100	140	185	260	240	168	171	214	347	500	817	817	817	300	101,9	101,9	101,9
100-160/30/P	100	100	140	185	260	240	168	171	214	347	500	863	863	848	300	110,8	110,8	105,9
100-200/30/P	100	100	175	183	300	250	134	201	174	371	550	896	896	881	300	113,5	113,5	108,6
100-200/40/P	100	100	175	183	300	250	168	201	214	371	550	925	925	910	300	132,5	132,5	127,6
100-200/55/P	100	100	175	210	300	250	168	201	214	371	550	-	975	975	300	-	143,5	143,5
100-250/55/P	100	100	175	210	300	250	191	201	256	371	550	-	975	975	300	-	143,5	143,5
100-250/75/P	100	100	175	210	300	250	191	201	256	371	550	-	990	975	300	-	152,6	147,5
100-250/110/P	100	100	175	240	300	250	240	201	313	410	550	-	1109	1094	300	-	216,6	211,5
100-315/110/P	100	100	175	240	360	310	240	244	256	451	670	-	1109	1094	300	-	253,6	248,5
100-315/150/P	100	100	175	240	360	310	240	244	256	451	670	-	-	1109	300	-	-	257,6
100-315/185/L	100	100	175	240	360	310	253	244	358	425	670	-	-	1206	300	-	-	262,6
100-315/220/L	100	100	175	240	360	310	253	244	358	425	670	-	-	1206	300	-	-	267,6

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

LNESH-HVL-80-100_4p50-en_f_td

LOWARA
a xylem brand

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



EN1092-2, PN 16 *)					
DN	D	K	C	df	L
125	255	210	26	184	8x19
150	285	240	26	211	8x23
200	345	295	30	266	12x23

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

CONNECTIONS		
	DND ≤ 150	DND ≥ 200
PM1 / PM2	1/4"	1/2"
E	1/4"	1/2"

PM1/PM2..PRESSURE GAUGE CONNECTORS
E....DRAIN
**)..BASE FOR TYPE A OPTIONAL (SEE ACCESSORIES SECTION)

A0035HVL-EN_A_DD

LOWARA
a xylem brand

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

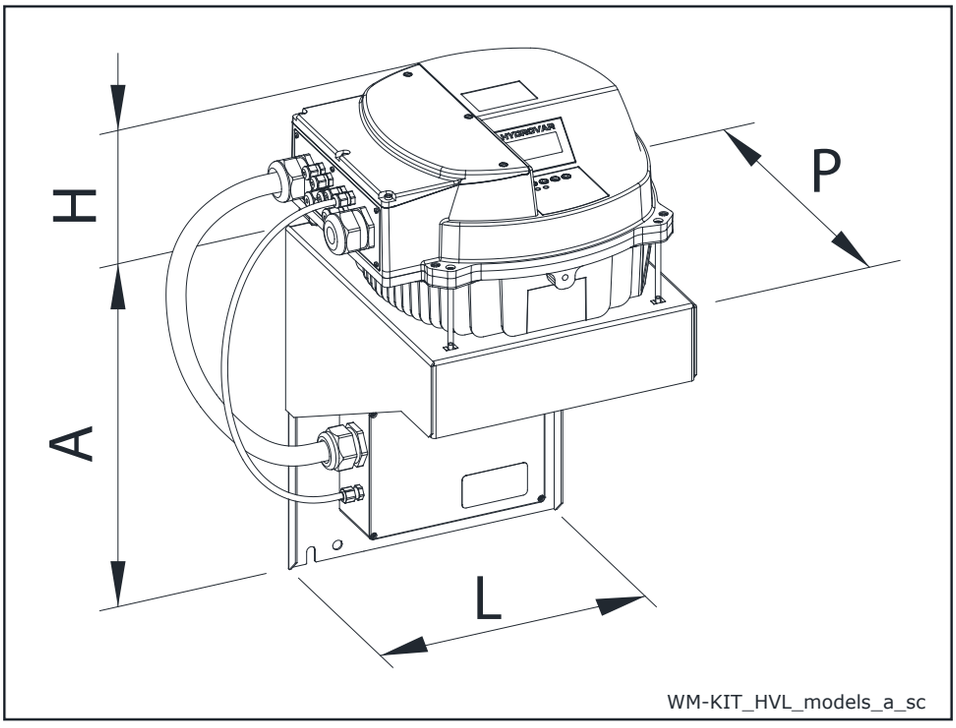
PUMP TYPE LNESH..	TYPE	DIMENSIONS (mm)												L			x	WEIGHT (kg)		
														/2	/3	/4		/2	/3	/4
		DND	DNS	e	f	h1	h2	m1	m2	n1	b1	b2	AD	1 ~ 230V	3 ~ 230V	3 ~ 400V	≥	1 ~ 230V	3 ~ 230V	3 ~ 400V
125-160/22/P	A	125	125	215	183	340	280	60	105	172	166	212	168	890	890	890	300	120,6	120,6	120,6
125-160/30/P	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/L	B	125	125	230	245	450	350	63	110	180	223	275	253	-	-	1266	300	-	-	286,6
125-315/220/L	B	125	125	230	245	450	350	63	110	180	223	275	253	-	-	1266	300	-	-	303,6
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/L	B	150	150	230	254	450	350	78	135	222	215	257	253	-	-	1275	300	-	-	292,6
150-315/220/L	B	150	150	230	254	450	350	78	135	222	215	257	253	-	-	1275	300	-	-	309,6
200-250/150/P	C	200	200	308	254	475	355	73	145	250	247	305	240	-	-	1256	300	-	-	375,6
200-250/185/L	C	200	200	308	254	475	355	73	145	250	247	305	253	-	-	1353	300	-	-	368,6
200-250/220/L	C	200	200	308	254	475	355	73	145	250	247	305	253	-	-	1353	300	-	-	385,6

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

LNESH-HVL-125-200_4p50-en_c_td

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 TIPE	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			240	175	258	290	10,5	8,2
WM KIT HVL 3.075	7,5		C	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	8,2
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			320	175	288	305	10,5	5,4
WM KIT HVL 4.150	15		C	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

LOWARA
a xylem brand

e-LNE..E VERSION WITH DRIVE AND PERMANENT MAGNET MOTOR (e-SM Drive)

e-LNE..E SERIES (e-LNE SMART)

Background and context

In every sector, from construction and industry to agriculture and building services the need for intelligent, compact and high-efficiency pumping systems is constantly growing.
That's why Lowara has developed the e-LNE series: an integrated intelligent pumping system with electronically driven, permanent magnet motor (IE5 efficiency level).
The integrated control system, combined with the high performance, power and efficiency from the motor and hydraulics, guarantees impressively low operating costs. You also benefit from flexibility, precision and its ultra-compact size.

Savings

The electronics and permanent magnet motor are highly efficient and minimize power losses while transferring maximum energy to the hydraulic parts of the pump.
The refined control system with integrated microprocessor adjusts the motor speed, matching the required operating point of the pump or system requirements.
This reduces demand on electricity according to the required working conditions.
This creates economies, especially in systems where pump demand varies over time.

Flexibility

The compact size, low loss and increased control make the e-LNE Smart series a good choice in applications and systems where fixed speed pumps are commonly used.
The e-LNE Smart series is easy to integrate in control and regulation loops thanks to the wide availability of compatible communication protocols, including analog and digital inputs.
The pump is supplied as sensorless solution, as standard. This ensures an easier, faster and cheaper installation. Additional pressure sensors can be provided as accessories.

Ease of use and commissioning

e-LNE Smart has an intuitive interface that guides the user through the installation, and a practical area to assist with connections.
The control system is integrated and no additional external electrical panel is required.

Application sectors

- Water supply systems in residential buildings
- Air conditioning
- Water treatment plants
- Industrial installations
- Domestic hot water systems

e-SM System

- IES2 efficiency level (IEC 61800-9-2)
- 230V +/- 10% single phase power supply, 50/60 Hz
- Three phase power supply:
  - from 0,37kW to 1,5kW: 230/400V +/- 10%, 50/60 Hz
  - 2,2kW: 400V +/- 10%, 50/60 Hz
- Power up to 2,2 kW
- Protection class IP55
- Dry-run protection
- The system is protected against over temperature

Pump

- Flow rate: up to 44 m^3/h
- Head: up to 41 m
- Environment temperature: -20°C to +50°C with no performance derating
- Temperature* of pumped liquid: up to +140°C
- Maximum operating pressure* 16 bar (PN 16)
- The hydraulic performances meet the tolerances specified in ISO 9906:2012

Motor

- IE5 efficiency level (IEC TS 60034-30-2:2016)
- Synchronous electric motor with permanent magnets, closed structure, air-cooled (TEFC)
- Insulation class 155 (F)
- Overload protection and locked rotor with automatic reset incorporated

Regulations (EU) 2019/1781 e 2021/341 Annex I – point 4

(Product information)

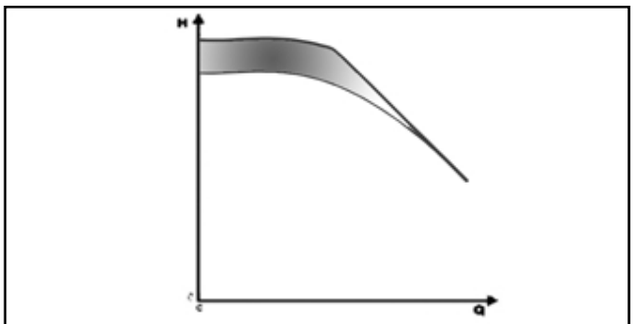
The requirements shall not apply to these variable speed drives, as they are integrated to permanent magnet motors, that aren't covered by the same regulations.

* Pressure/temperature limits for e-LNE Smart are the same as the pump unit (page 16).

e-LNE..E SERIES
(e-LNE SMART)

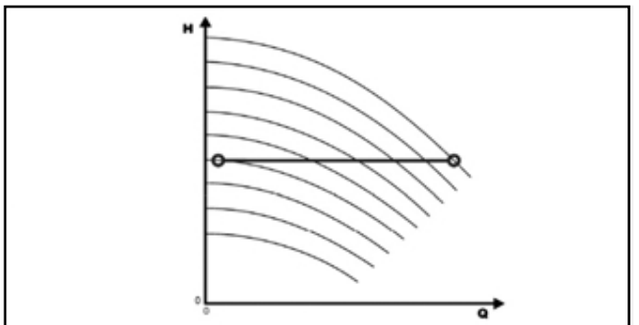
e-LNE Smart series is equipped with an intelligent control that optimizes hydraulic performance while minimizing waste.

Integrated intelligence: The electronic control of the motor enables a 20% increase in performance compared to an equivalent fixed speed pump (area highlighted in figure "Integrated intelligence").

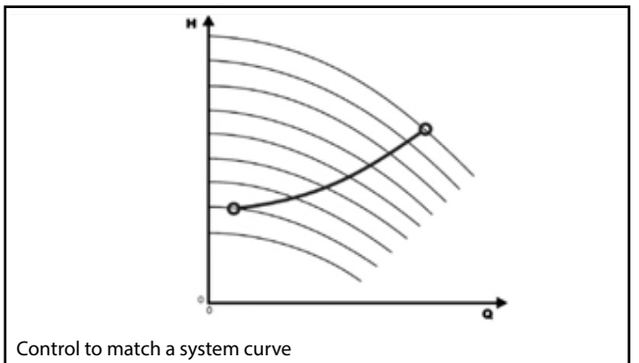


Integrated intelligence

Adjustment: This is possible both at constant pressure and according to the characteristic curve of the system, based on the customer's preferences. Another option is according to an external signal or at a preset speed.



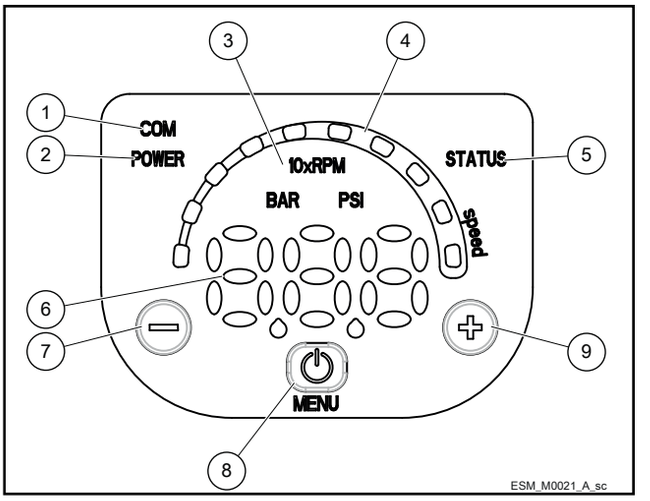
Control for constant pressure



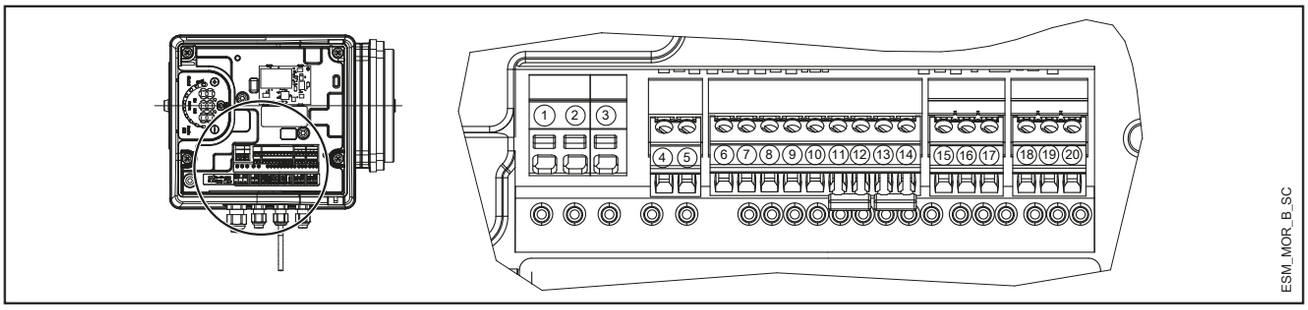
Control to match a system curve

Intuitive and simple interface: You can control the unit from just three buttons, with an easy to read display for parameters and alarms, designed for complete control of system operation.

1. Communication LED
2. Power on LED
3. Unit of measure LED
4. Speed LED bar
5. Status LED
6. Numeric display
7. Decrease key
8. On/off and menu key
9. Increase key



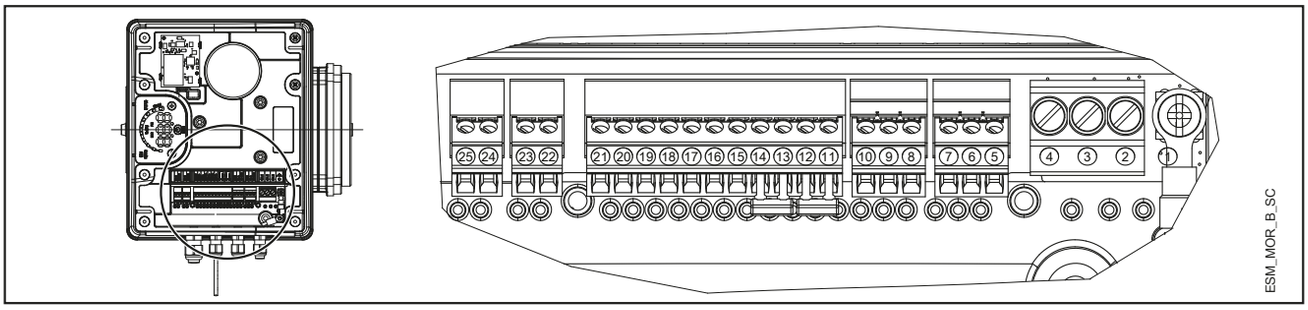
e-LNE..E SERIES
SINGLE-PHASE TERMINAL BOARD



REF.	ITEM	DESCRIPTION
4	Fault Signal	COM - error status relay
5		NO - error status relay
6	Auxiliary Voltage Supply	Auxiliary voltage supply +15 VDC
7	Analog input 0-10V	Actuator mode 0-10 V input
8		GND for 0-10 V input
9	External Pressure sensor [also Differential]	Power supply external sensor +15 VDC
10		External sensor 4-20 mA input
11	External Start/Stop	External ON/OFF input reference
12		External ON/OFF input
13	External Lack of Water	Low water input
14		Low water reference
15	Communication bus	RS485 port 1: RS485-1N B (-)
16		RS485 port 1: RS485-1P A (+)
17		Electronic GND
18	Communication bus	RS485 port 2: RS485 port 2: RS485-2N B (-) active only with optional module
19		RS485 port 2: RS485 port 2: RS485-2P A (+) active only with optional module
20		Electronic GND

MorsM-en_a_sc

THREE-PHASE TERMINAL BOARD



REF.	ITEM	DESCRIPTION
5	Communication bus	Electronic GND
6		RS485 port 1: RS485-1P A (+)
7		RS485 port 1: RS485-1N B (-)
8	Communication bus	Electronic GND
9		RS485 port 2: RS485 port 2: RS485-2P A (+) active only with optional module
10		RS485 port 2: RS485 port 2: RS485-2N B (-) active only with optional module
11	External Lack of Water	Low water reference
12		Low water input
13	External Start/Stop	External ON/OFF input reference
14		External ON/OFF input
15	External Pressure sensor	External sensor 4-20 mA input
16		Power supply external sensor +15 VDC
17	External Pressure sensor [also Differential]	External sensor 4-20 mA input
18		Power supply external sensor +15 VDC
19	Analog input 0-10V	GND for 0-10 V input
20		Actuator mode 0-10 V input
21	Auxiliary Voltage Supply	Auxiliary voltage supply +15 VDC
22	Motor running signal	Normally open contact
23		Common contact
24	Fault Signal	NO - error status relay
25		COM - error status relay

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e-LNE..E SERIES
HYDRAULIC PERFORMANCE TABLE
SINGLE-PHASE VERSION

PUMP	MOTOR		e-SM SET		Q = DELIVERY							
TYPE				* I	l/min 0	53,3	106,7	160,0	213,3	266,7	320,0	366,7
LNE..E	P_N	TYPE	* P_1	220-240 V	m^3/h 0	3,2	6,4	9,6	12,8	16,0	19,2	22,0
Single-phase	kW	1x230 V	kW	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
32-160/03	0,37	ESM90R../103	0,49	2,23	10,4	10,8	10,8	8,3	5,8	2,9		
32-160/05	0,55	ESM90R../105	0,70	3,14	14,7	15,3	15,3	12,1	9,2	6,3		
32-160/07	0,75	ESM90R../107	0,87	3,88	24,3	22,4	18,6	15,1	11,9	8,8		
32-160/15	1,5	ESM90R../115	1,47	6,47	34,5	33,8	29,2	24,9	21,2	17,8	14,3	10,9

PUMP	MOTOR		e-SM SET		Q = DELIVERY							
TYPE				* I	l/min 0	66,7	133,3	200,0	266,7	333,3	400,0	466,7
LNE..E	P_N	TYPE	* P_1	220-240 V	m^3/h 0	4,0	8,0	12,0	16,0	20,0	24,0	28,0
Single-phase	kW	1x230 V	kW	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
40-125/03	0,37	ESM90R../103	0,34	1,56	8,0	8,6	6,4	4,5	2,5			
40-125/05	0,55	ESM90R../105	0,65	2,89	16,9	14,5	11,6	9,0	6,6	4,1		
40-125/11	1,1	ESM90R../111	1,10	4,84	21,9	22,3	18,6	15,3	12,3	9,4	6,3	
40-125/15	1,5	ESM90R../115	1,73	7,60	26,0	26,5	26,9	23,0	19,4	15,9	12,5	8,8

PUMP	MOTOR		e-SM SET		Q = DELIVERY							
TYPE				* I	l/min 0	90,0	180,0	270,0	360,0	450,0	540,0	633,3
LNE..E	P_N	TYPE	* P_1	220-240 V	m^3/h 0	5,4	10,8	16,2	21,6	27,0	32,4	38,0
Single-phase	kW	1x230 V	kW	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
50-125/05	0,55	ESM90R../105	0,58	2,62	8,1	8,1	7,3	6,0	4,4			
50-125/11	1,1	ESM90R../111	1,10	4,84	13,7	13,5	12,4	10,9	9,1	7,0	4,4	
50-125/15	1,5	ESM90R../115	1,73	7,60	18,8	18,7	17,6	15,9	14,0	11,8	9,3	6,1

* Maximum value in specified range: P1 = input power; I = input current.

32-40-50lne-esm-2p50-en_b_th

THREE-PHASE VERSION

PUMP	MOTOR		e-SM SET			Q = DELIVERY							
TYPE				* I		l/min 0	60,0	120,0	180,0	240,0	300,0	360,0	416,7
LNE..E	P_N	TYPE	* P_1	220-240 V	380-460 V	m^3/h 0	3,6	7,2	10,8	14,4	18,0	21,6	25,0
Three-phase	kW	1x230 V	kW	A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
32-160/03	0,37	ESM90R../303	0,57	1,90	1,62	10,4	10,9	10,4	7,4	4,5			
32-160/05	0,55	ESM90R../305	0,76	2,70	2,04	14,7	15,4	14,5	11,0	7,8	4,1		
32-160/07	0,75	ESM90R../307	0,93	3,35	2,40	24,3	22,0	17,7	13,8	10,3	6,7		
32-160/15	1,5	ESM90R../315	1,55	5,53	3,84	34,5	33,2	28,1	23,5	19,4	15,7	11,4	
32-160/22	2,2	ESM90R../322	2,54	-	5,88	38,7	39,7	40,6	38,0	32,7	27,9	23,4	18,7

PUMP	MOTOR		e-SM SET			Q = DELIVERY							
TYPE				* I		l/min 0	86,7	173,3	260,0	346,7	433,3	520,0	600,0
LNE..E	P_N	TYPE	* P_1	220-240 V	380-460 V	m^3/h 0	5,2	10,4	15,6	20,8	26,0	31,2	36,0
Three-phase	kW	1x230 V	kW	A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
40-125/03	0,37	ESM90R../303	0,44	1,24	1,31	8,0	7,9	5,3	2,7				
40-125/05	0,55	ESM90R../305	0,72	2,48	1,94	16,9	13,5	10,0	6,9	3,5			
40-125/11	1,1	ESM90R../311	1,16	4,29	2,96	21,9	21,1	16,6	12,6	8,8			
40-125/15	1,5	ESM90R../315	1,79	6,27	4,35	26,0	26,7	24,5	19,7	15,2	10,7		
40-125/22	2,2	ESM90R../322	2,41	-	5,62	32,8	33,3	33,0	27,5	22,5	17,6	12,3	6,6

PUMP	MOTOR		e-SM SET			Q = DELIVERY							
TYPE				* I		l/min 0	103,3	206,7	310,0	413,3	516,7	620,0	733,3
LNE..E	P_N	TYPE	* P_1	220-240 V	380-460 V	m^3/h 0	6,2	12,4	18,6	24,8	31,0	37,2	44,0
Three-phase	kW	1x230 V	kW	A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
50-125/05	0,55	ESM90R../305	0,66	2,19	1,81	8,1	8,1	7,0	5,3				
50-125/11	1,1	ESM90R../311	1,16	4,29	2,96	13,7	13,4	12,0	10,1	7,9	5,2		
50-125/15	1,5	ESM90R../315	1,79	6,28	4,36	18,8	18,6	17,1	15,1	12,7	10,0	6,6	
50-125/22	2,2	ESM90R../322	2,45	-	5,70	26,5	26,2	24,9	22,2	19,3	16,1	12,5	7,9

* Maximum value in specified range: P1 = input power; I = input current.

32-40-50lne-esm3-2p50-en_a_th

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e-LNE..E SERIES - SINGLE-PHASE VERSION
ELECTRICAL DATA TABLE

In the range 3000-3600 rpm the nominal motor power is guaranteed. Above 3600 rpm it is not possible work and the motor is automatically limited; below 3000 rpm the motor works partially load.

P_N	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED	INPUT CURRENT	DATA RELATED TO THE VOLTAGE OF 230V						
				(RPM)**	I (A)	In	cosφ	Tn	η %			IES
kW				min^{-1}	208-240 V	A		Nm	4/4	3/4	2/4	
0,37	ESM90R/103 LNEE	90R	Special	3000	2,28-1,99	2,08	0,95	1,18	81,3	79,1	74,3	2
				3600	2,30-2,02	2,10		0,98	80,6	77,5	72,0	
	ESM90RS8/103 LNEE			3000	2,28-1,99	2,08	0,95	1,18	81,3	79,1	74,3	2
				3600	2,30-2,02	2,10		0,98	80,6	77,5	72,0	
	ESM90RS8/103 LNEE		B5	3000	2,28-1,99	2,08	0,95	1,18	81,3	79,1	74,3	2
				3600	2,30-2,02	2,10		0,98	80,6	77,5	72,0	
0,55	ESM90R/105 LNEE	90R	Special	3000	3,27-2,85	2,96	0,97	1,75	83,3	82,2	78,8	2
				3600	3,27-2,85	2,96		1,46	83,3	81,5	77,5	
	ESM90RS8/105 LNEE			3000	3,27-2,85	2,96	0,97	1,75	83,3	82,2	78,8	2
				3600	3,27-2,85	2,96		1,46	83,3	81,5	77,5	
	ESM90RS8/105 LNEE		B5	3000	3,27-2,85	2,96	0,97	1,75	83,3	82,2	78,8	2
				3600	3,27-2,85	2,96		1,46	83,3	81,5	77,5	
0,75	ESM90R/107 LNEE	90R	Special	3000	4,43-3,84	4,00	0,98	2,39	83,3	83,3	81,5	2
				3600	4,38-3,79	3,94		1,99	84,5	83,5	80,6	
	ESM90RS8/107 LNEE			3000	4,43-3,84	4,00	0,98	2,39	83,3	83,3	81,5	2
				3600	4,38-3,79	3,94		1,99	84,5	83,5	80,6	
	ESM90RS8/107 LNEE		B5	3000	4,43-3,84	4,00	0,98	2,39	83,3	83,3	81,5	2
				3600	4,38-3,79	3,94		1,99	84,5	83,5	80,6	
1,10	ESM90R/111 LNEE	90R	Special	3000	6,26-5,35	5,64	0,99	3,50	85,7	85,1	82,7	2
				3600	6,20-5,32	5,63		2,92	85,9	84,6	81,4	
	ESM90RS8/111 LNEE			3000	6,26-5,35	5,64	0,99	3,50	85,7	85,1	82,7	2
				3600	6,20-5,32	5,63		2,92	85,9	84,6	81,4	
	ESM90RS8/111 LNEE		B5	3000	6,26-5,35	5,64	0,99	3,50	85,7	85,1	82,7	2
				3600	6,20-5,32	5,63		2,92	85,9	84,6	81,4	
1,50	ESM90R/115 LNEE	90R	Special	3000	8,57-7,32	7,69	0,99	4,77	85,6	85,7	84,7	2
				3600	8,42-7,25	7,62		3,98	86,3	85,9	84,0	
	ESM90RS8/115 LNEE			3000	8,57-7,32	7,69	0,99	4,77	85,6	85,7	84,7	2
				3600	8,42-7,25	7,62		3,98	86,3	85,9	84,0	
	ESM90RS8/115 LNEE		B5	3000	8,57-7,32	7,69	0,99	4,77	85,6	85,7	84,7	2
				3600	8,42-7,25	7,62		3,98	86,3	85,9	84,0	

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

LNE_Smart-motm_en_a_te

** The indicated rotational speed are representing the upper and lower limits of the rated power operational speed range.

Note. **IES** refers to the efficiency class for frequency converter + motor systems (known as power drive system – PDS) with power between 0.12 kW and 1000 kW and between 100 V and 1000 V, according to the standard **IEC 61800-9-2:2017**.

e-LNE..E SERIES - THREE-PHASE VERSION
ELECTRICAL DATA TABLE

In the range 3000-3600 rpm the nominal motor power is guaranteed. Above 3600 rpm it is not possible work and the motor is automatically limited; below 3000 rpm the motor works partially load.

P_N	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED	INPUT CURRENT	DATA RELATED TO THE VOLTAGE OF 400V						
				(RPM)**	I (A)	In	cosφ	Tn	η %			IES
kW				min^{-1}	208-240/380-460 V	A		Nm	4/4	3/4	2/4	
0,37	ESM90R/303 LNEE	90R	Special	3000	2,01-1,85/1,41-1,28	1,42	0,48	1,18	78,6	75,6	70,1	2
				3600	2,13-1,83/1,43-1,33	1,36		0,98	83,1	80,7	76,1	
	ESM90RS8/303 LNEE			3000	2,01-1,85/1,41-1,28	1,42	0,48	1,18	78,6	75,6	70,1	2
				3600	2,13-1,83/1,43-1,33	1,36		0,98	83,1	80,7	76,1	
	ESM90R/303 B5		B5	3000	2,01-1,85/1,41-1,28	1,42	0,48	1,18	78,6	75,6	70,1	2
				3600	2,13-1,83/1,43-1,33	1,36		0,98	83,1	80,7	76,1	
0,55	ESM90R/305 LNEE	90R	Special	3000	2,81-2,57/1,89-1,69	1,88	0,52	1,75	81,1	79,3	75,5	2
				3600	2,90-2,52/1,90-1,73	1,80		1,46	85,4	83,8	80,6	
	ESM90RS8/305 LNEE			3000	2,81-2,57/1,89-1,69	1,88	0,52	1,75	81,1	79,3	75,5	2
				3600	2,90-2,52/1,90-1,73	1,80		1,46	85,4	83,8	80,6	
	ESM90R/305 B5		B5	3000	2,81-2,57/1,89-1,69	1,88	0,52	1,75	81,1	79,3	75,5	2
				3600	2,90-2,52/1,90-1,73	1,80		1,46	85,4	83,8	80,6	
0,75	ESM90R/307 LNEE	90R	Special	3000	3,70-3,37/2,44-2,17	2,41	0,55	2,39	81,9	81,2	78,6	2
				3600	3,74-3,28/2,43-2,20	2,31		1,99	86,1	85,5	83,1	
	ESM90RS8/307 LNEE			3000	3,70-3,37/2,44-2,17	2,41	0,55	2,39	81,9	81,2	78,6	2
				3600	3,74-3,28/2,43-2,20	2,31		1,99	86,1	85,5	83,1	
	ESM90R/307 B5		B5	3000	3,70-3,37/2,44-2,17	2,41	0,55	2,39	81,9	81,2	78,6	2
				3600	3,74-3,28/2,43-2,20	2,31		1,99	86,1	85,5	83,1	
1,10	ESM90R/311 LNEE	90R	Special	3000	5,12-4,73/3,41-3,01	3,35	0,57	3,50	82,8	81,3	77,7	2
				3600	5,15-4,69/3,45-3,06	3,32		2,92	83,5	81,6	77,6	
	ESM90RS8/311 LNEE			3000	5,12-4,73/3,41-3,01	3,35	0,57	3,50	82,8	81,3	77,7	2
				3600	5,15-4,69/3,45-3,06	3,32		2,92	83,5	81,6	77,6	
	ESM90R/311 B5		B5	3000	5,12-4,73/3,41-3,01	3,35	0,57	3,50	82,8	81,3	77,7	2
				3600	5,15-4,69/3,45-3,06	3,32		2,92	83,5	81,6	77,6	
1,50	ESM90R/315 LNEE	90R	Special	3000	6,73-6,17/4,49-3,95	4,39	0,59	4,77	83,1	82,8	80,6	2
				3600	6,69-6,08/4,48-3,97	4,32		3,98	84,6	83,6	80,8	
	ESM90RS8/315 LNEE			3000	6,73-6,17/4,49-3,95	4,39	0,59	4,77	83,1	82,8	80,6	2
				3600	6,69-6,08/4,48-3,97	4,32		3,98	84,6	83,6	80,8	
	ESM90R/315 B5		B5	3000	6,73-6,17/4,49-3,95	4,39	0,59	4,77	83,1	82,8	80,6	2
				3600	6,69-6,08/4,48-3,97	4,32		3,98	84,6	83,6	80,8	
2,20	ESM90R/322 LNEE	90R	Special	3000	- /6,03-5,32	5,81	0,62	7	87,6	87,4	85,9	2
				3600	- /5,93-5,24	5,74		5,84	88,9	88,2	86,3	
	ESM90RS8/322 LNEE			3000	- /6,03-5,32	5,81	0,62	7	87,6	87,4	85,9	2
				3600	- /5,93-5,24	5,74		5,84	88,9	88,2	86,3	
	ESM90R/322 B5		B5	3000	- /6,03-5,32	5,81	0,62	7	87,6	87,4	85,9	2
				3600	- /5,93-5,24	5,74		5,84	88,9	88,2	86,3	

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

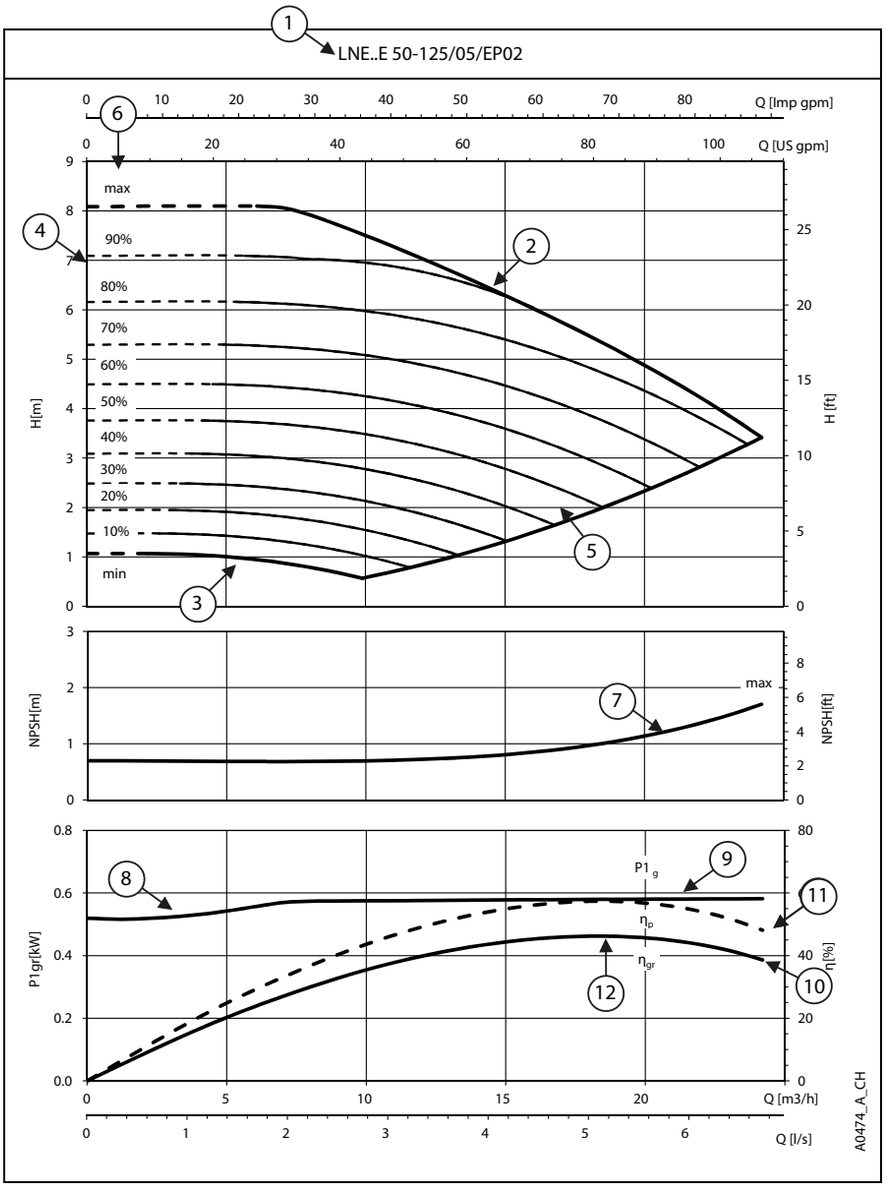
LNE_Smart-mott_en_a_te

** The indicated rotational speed are representing the upper and lower limits of the rated power operational speed range.

Note. **IES** refers to the efficiency class for frequency converter + motor systems (known as power drive system – PDS) with power between 0.12 kW and 1000 kW and between 100 V and 1000 V, according to the standard **IEC 61800-9-2:2017**.

e-LNE..E SERIES
HOW TO READ SMART PUMP SERIES CURVES

To exploit to the maximum potential of Smart Pumps it is important to properly read working curves:



① **Pump model**

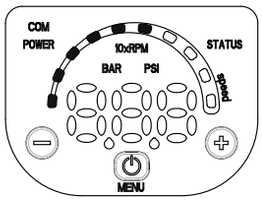
② **Maximum speed curve**: equal to 3600 rpm or pump running at nominal power.

③ **Minimum speed curve**: it refers to the minimum rpm level the motor can work at, it is calculated depending on the model of pump maximizing for each one the working area and allowing the highest system flexibility.

④ The **area with dotted lines** is where he pump can only operate intermittently for short periods of time.

⑤ Each **intermediate curve** between max and min speed shows the percentage of load the pump+motor+drive system is working at; it's easy to read also from the LED speed bar on the HMI keypad: at 90% there will be 9 led, at 80% there will be 8 and so on.

Example: at 60% there will be 6 lit leds



⑥ The **part load percentage** is calculated depending on maximum speed (*max*, 100%) and minimum speed (*min*, equal to 0%, which is the minimum part load step, below it the drive stays powered up but cannot work).

⑦ **NPSH**: is the net positive suction head of pump+motor+drive system working at maximum speed.

⑧ **$P1_{gr}$** is the power absorption in kW of pump+motor+drive system working at maximum speed.

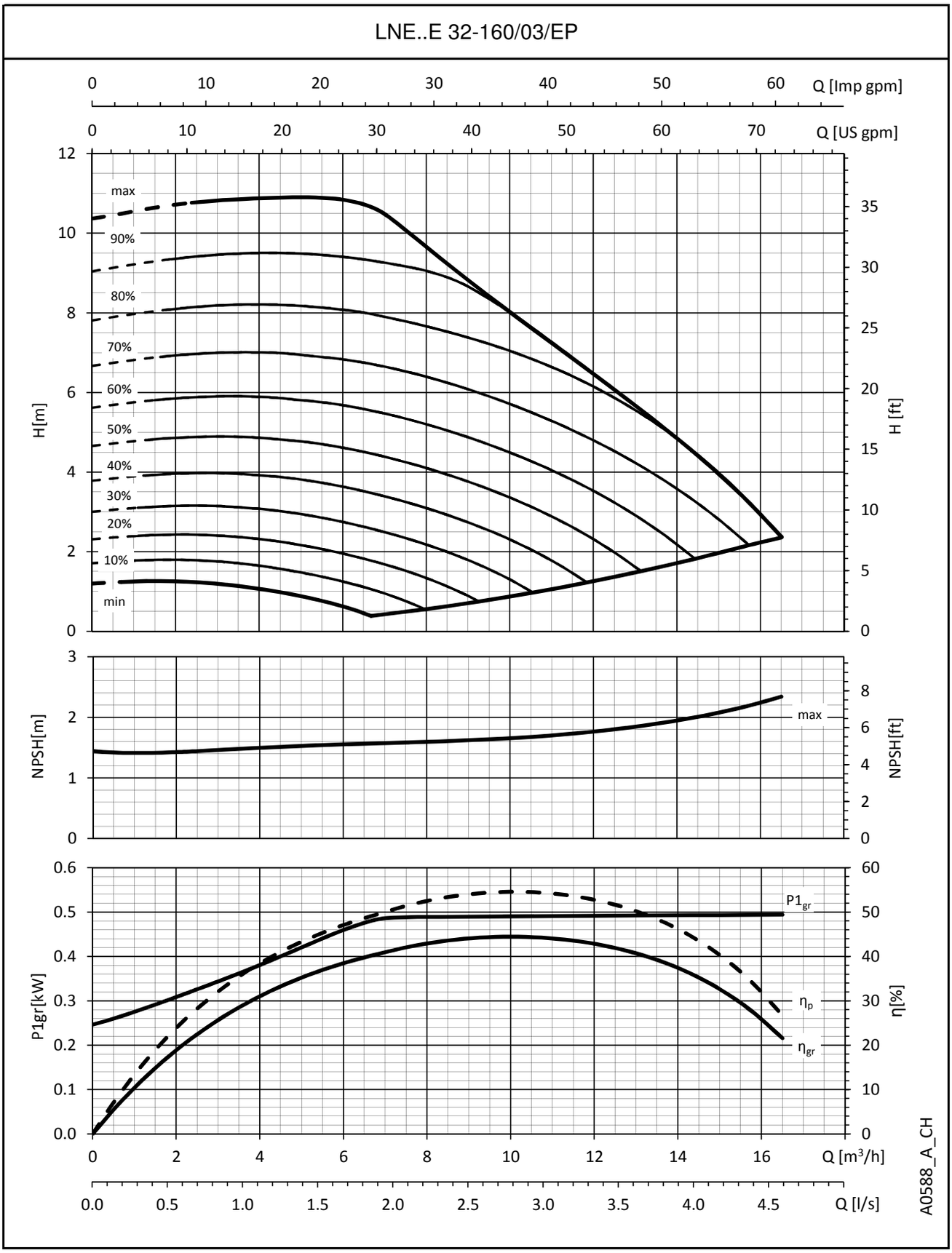
⑨ **Load control**: the Smart Pump controls and limits power consumption at high flow/low head, in this way the motor stays protected from overload and ensure a longer life of pump+motor+drive system.

⑩ **η_{gr}** is the efficiency of the pump+motor+drive system, working at maximum speed.

⑪ **η_p** is the efficiency of hydraulic part, working at maximum speed.

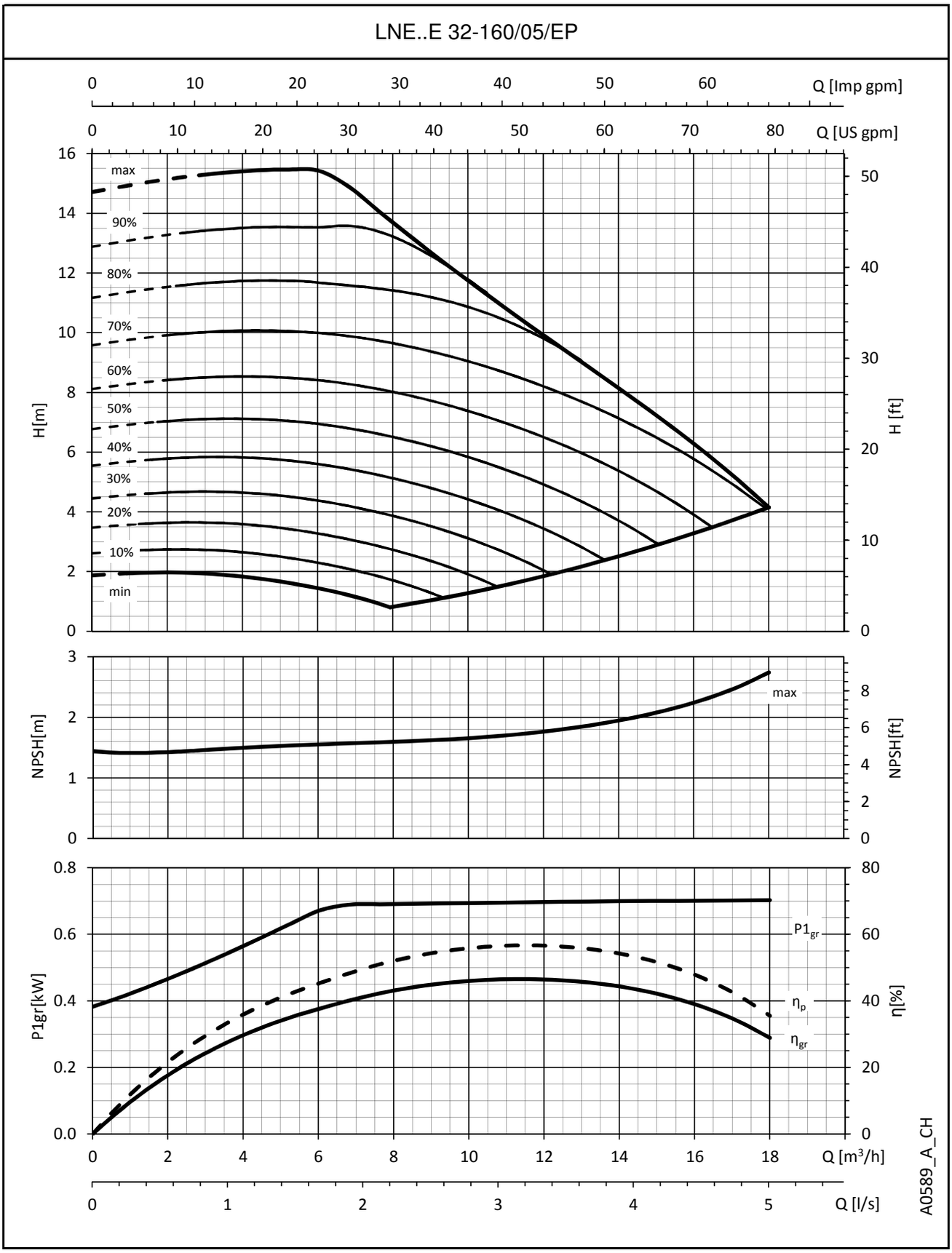
⑫ **Working point**: it's important to make sure the pump is working at the best working point, the one at highest efficiency.
It's easy to find it: it's the highest point of the hp pump efficiency curve; once you found it, you can learn also flow values from x-axis called Q and head values from y-axis called H which allow the system to work at the best working point.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



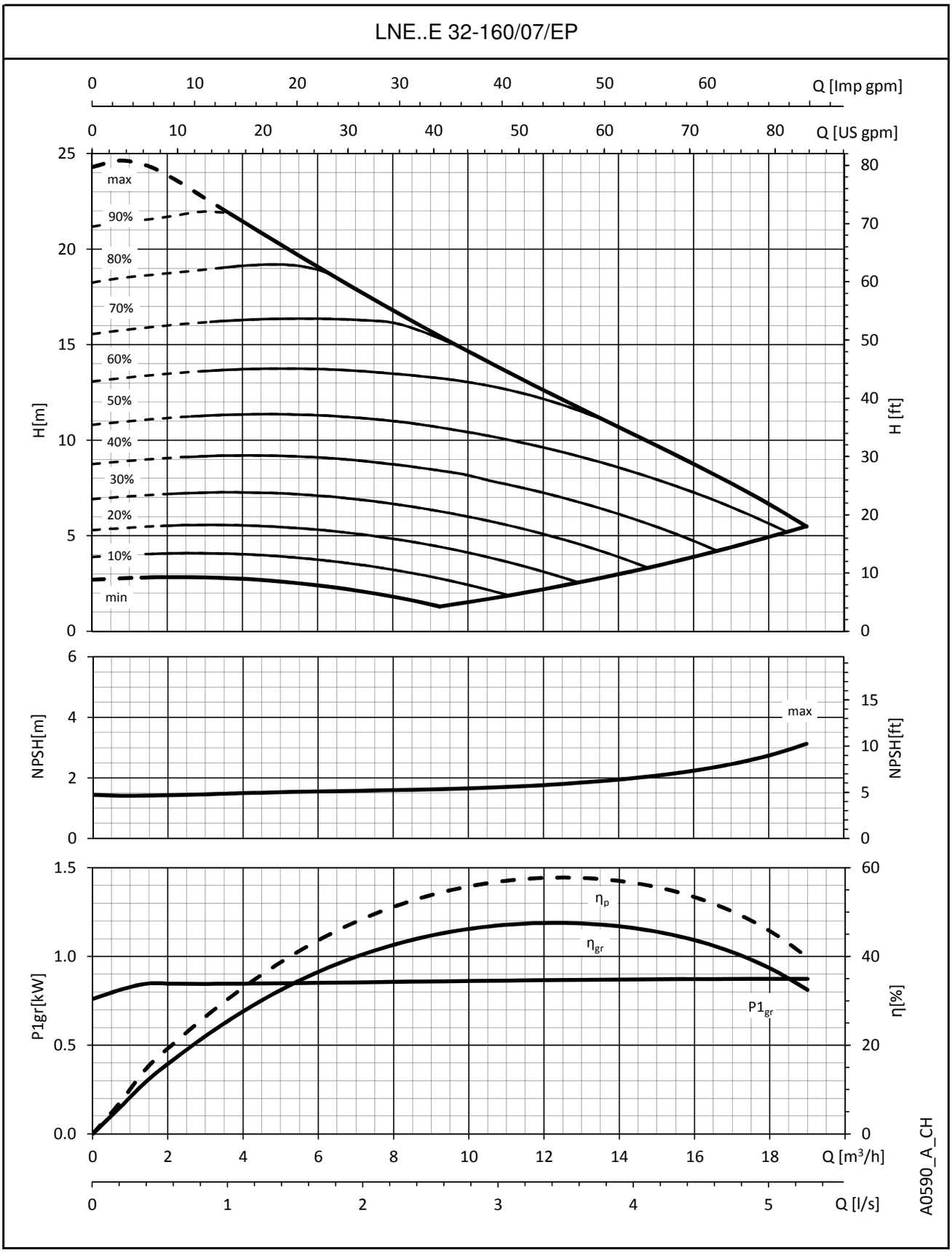
The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



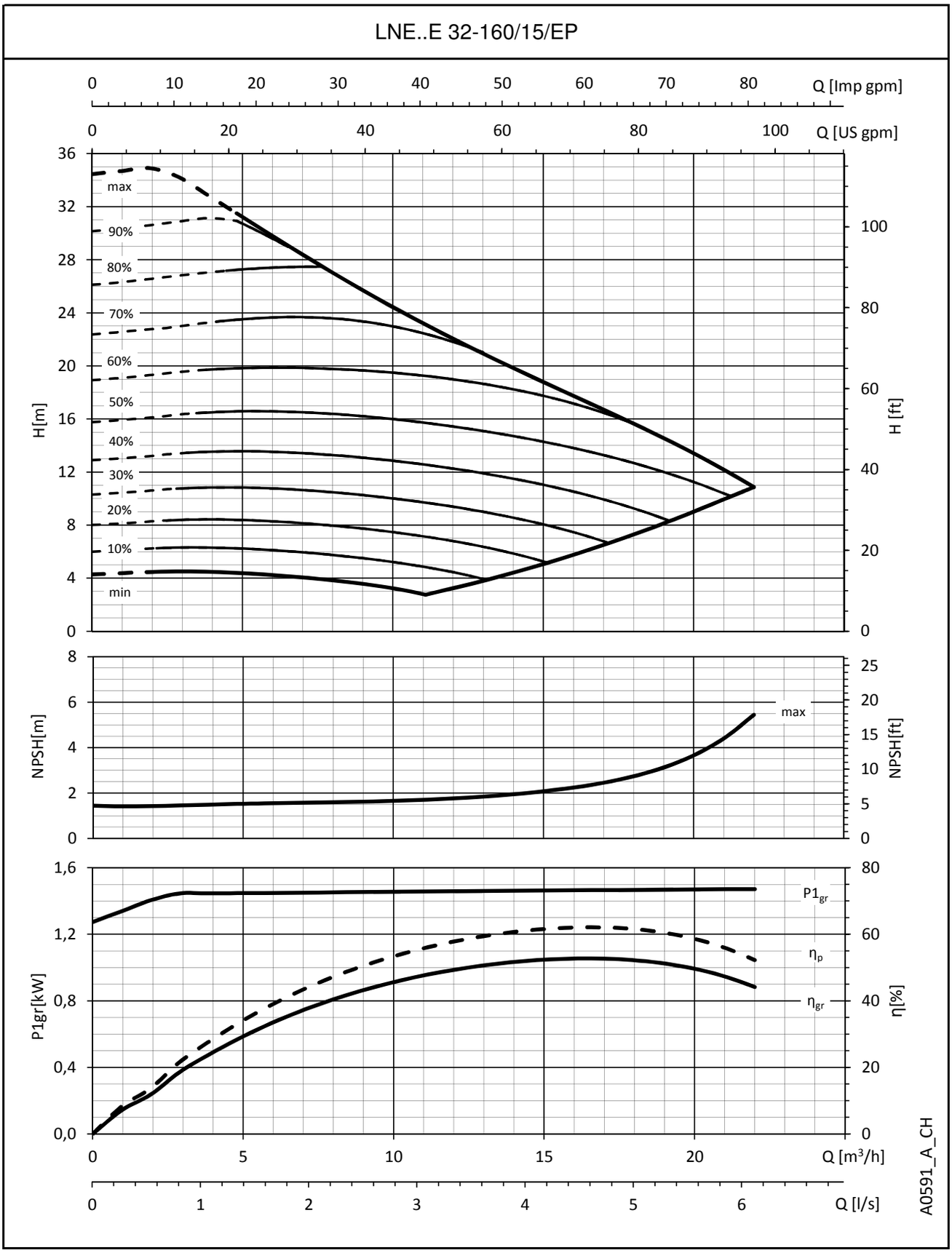
The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
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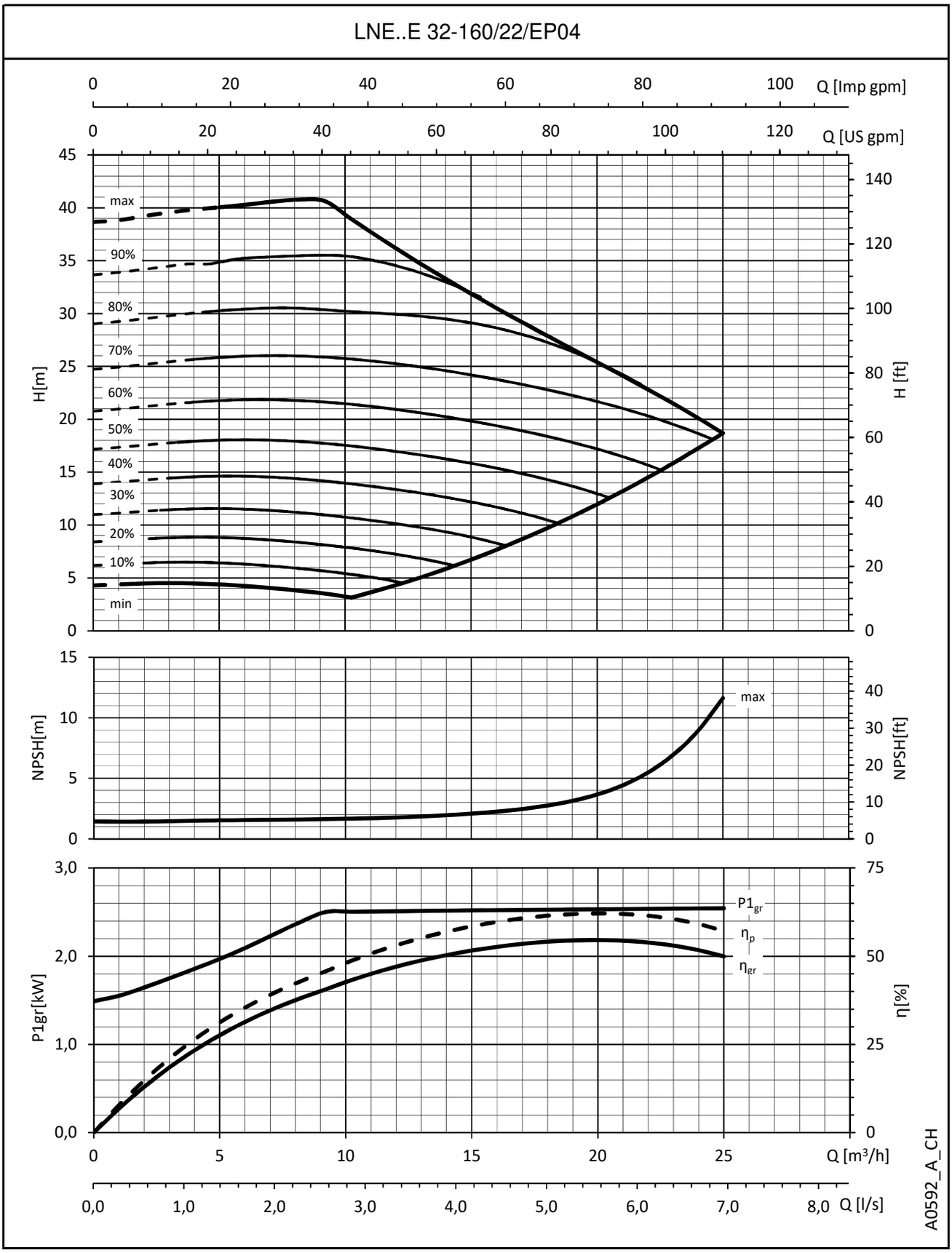
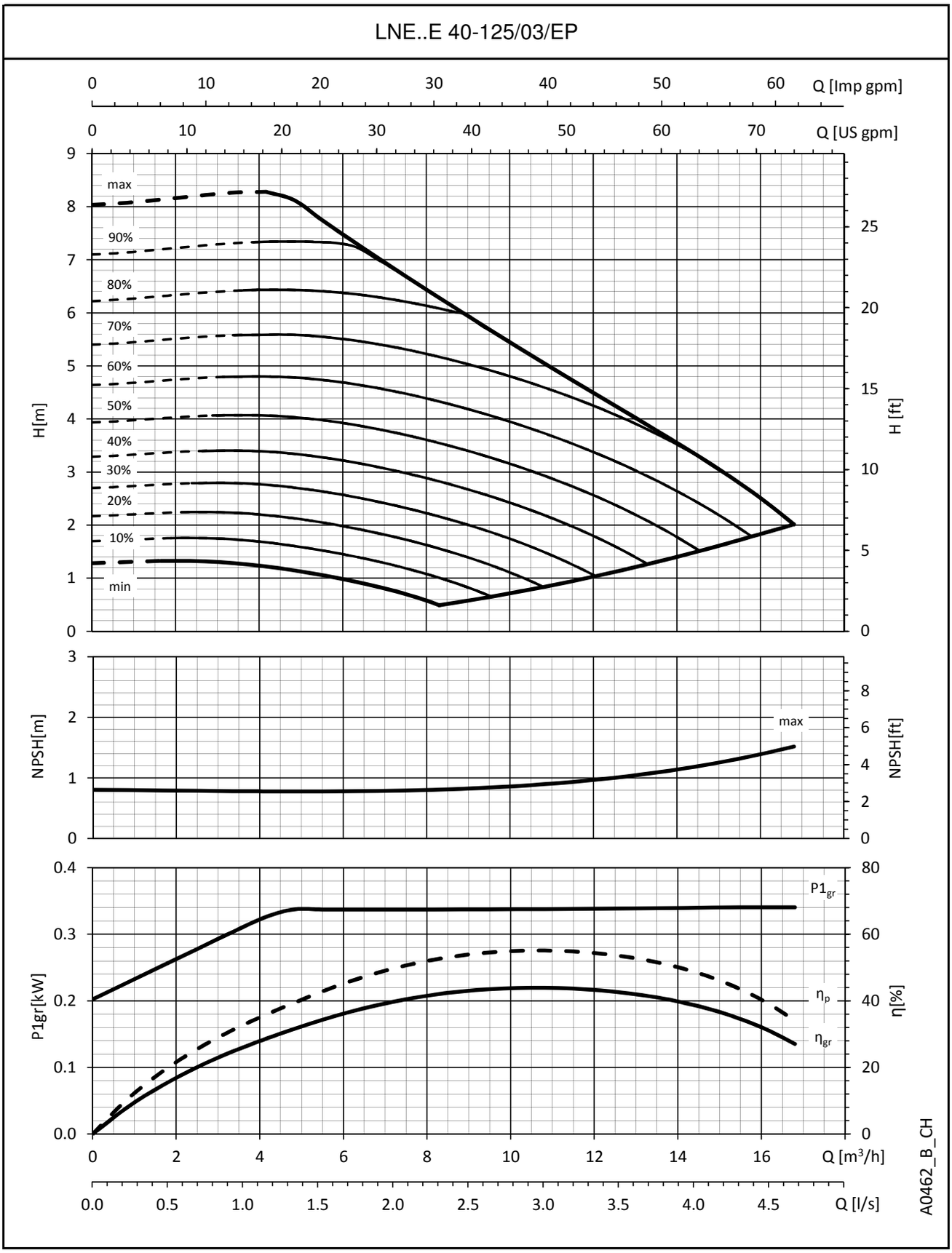
e-LNE..E SERIES
OPERATING CHARACTERISTICS



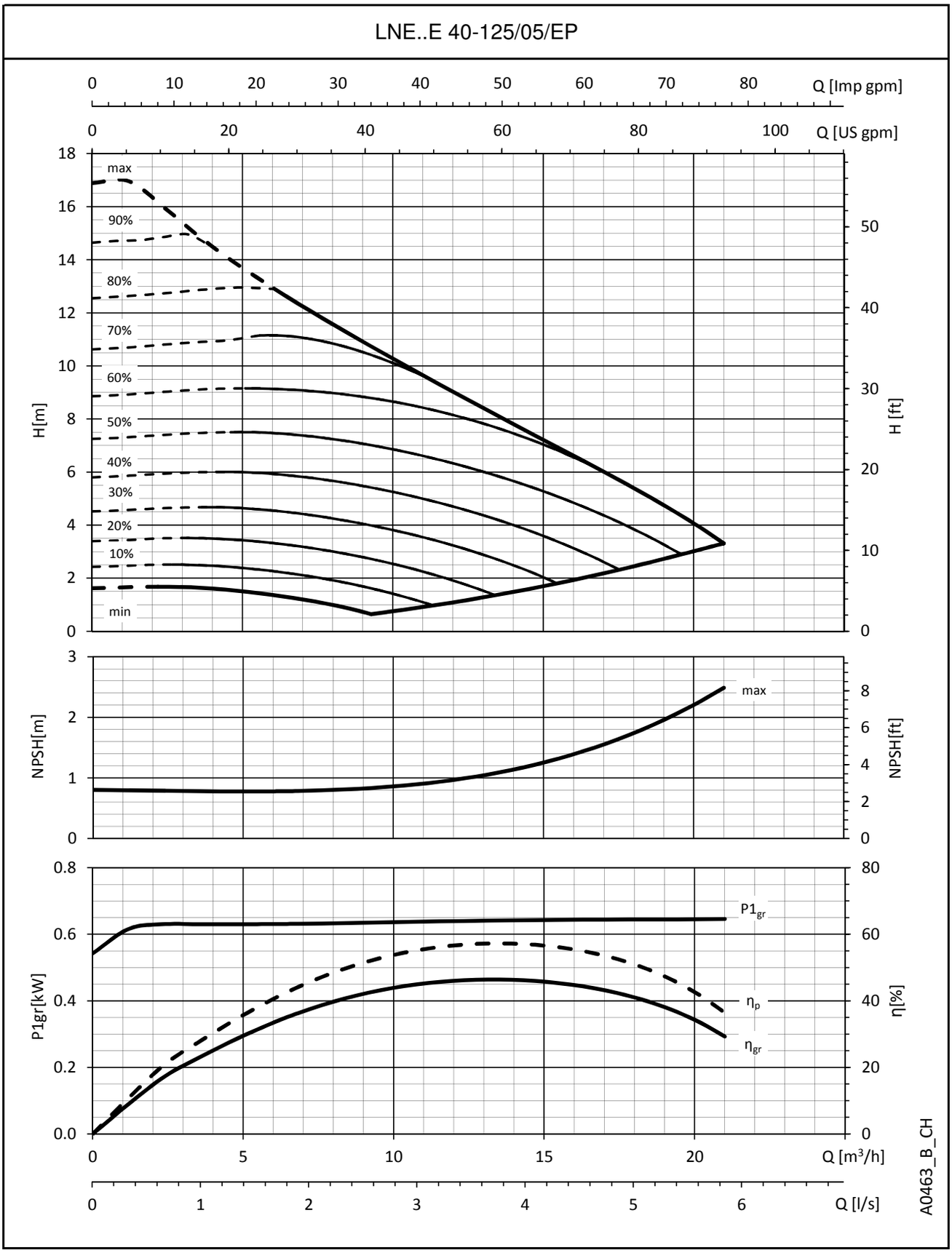
The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

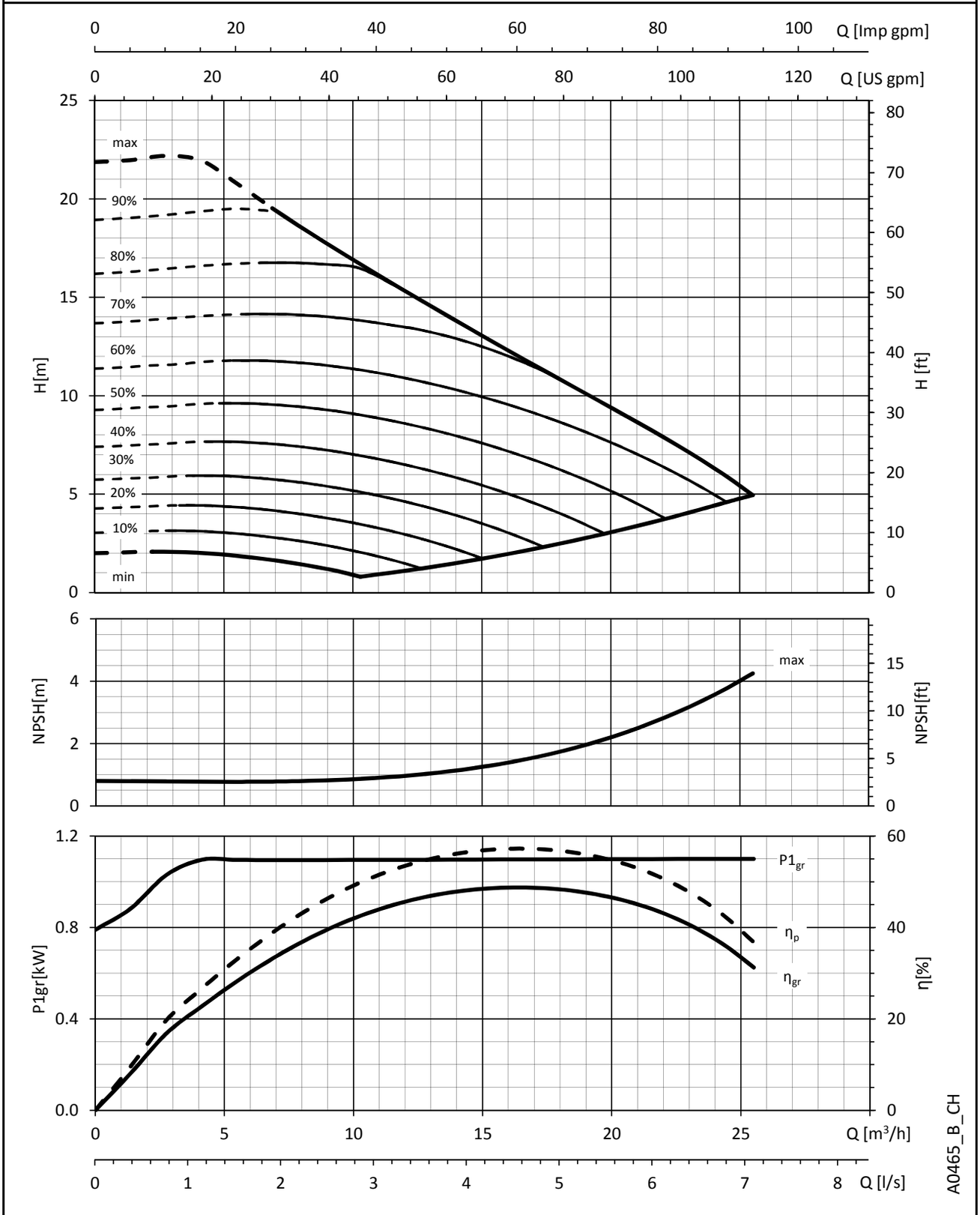
e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

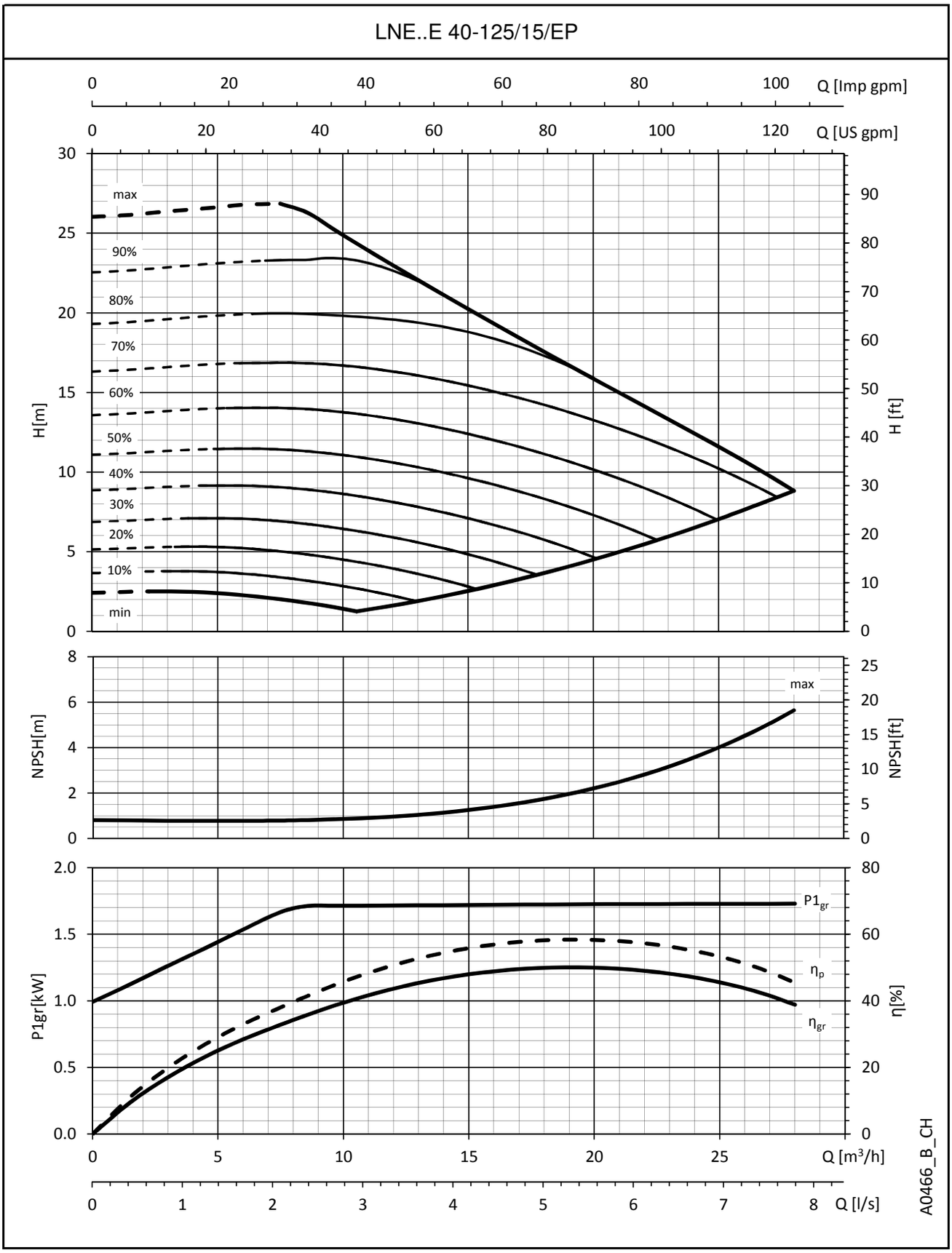
e-LNE..E SERIES
OPERATING CHARACTERISTICS

LNE..E 40-125/11/EP



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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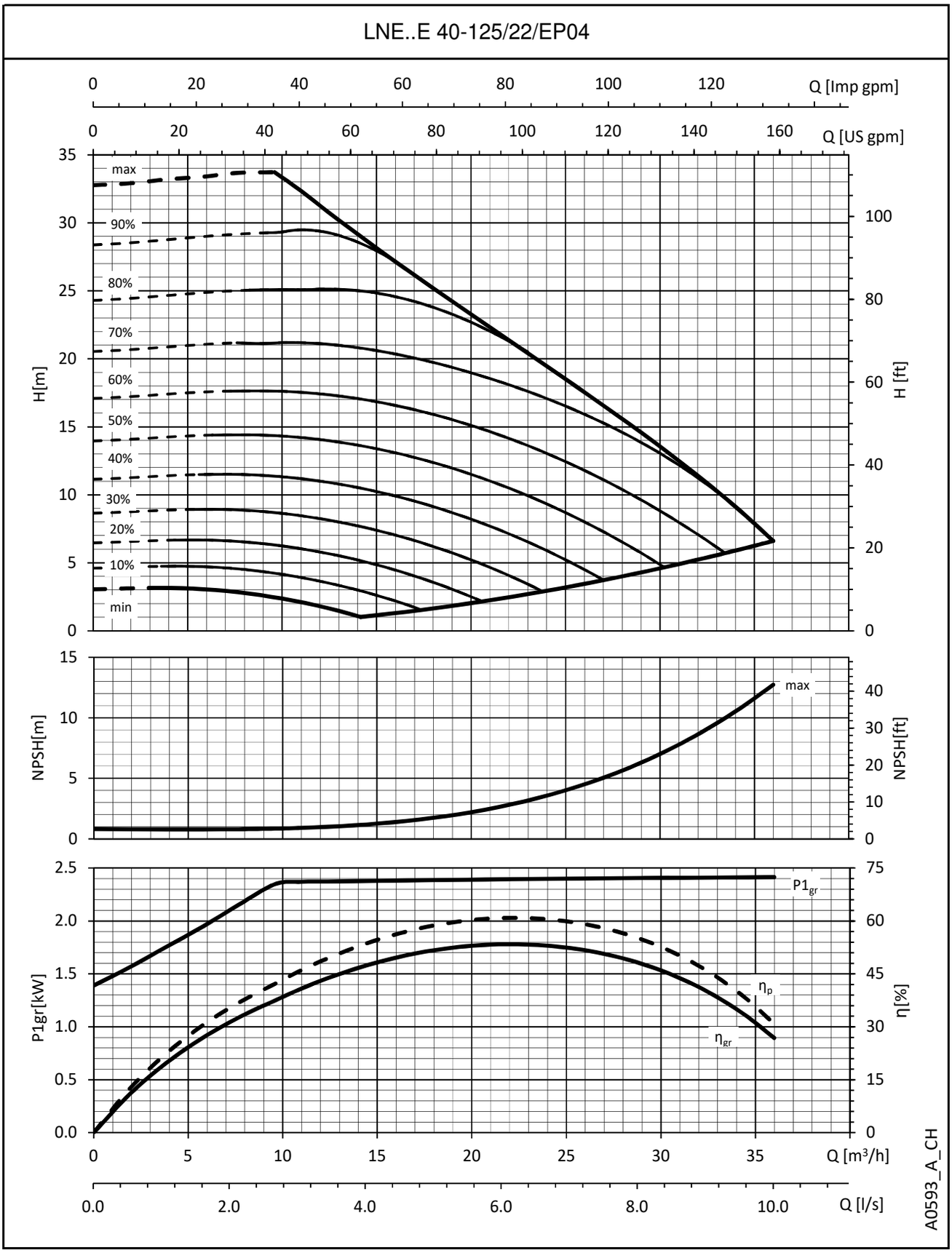
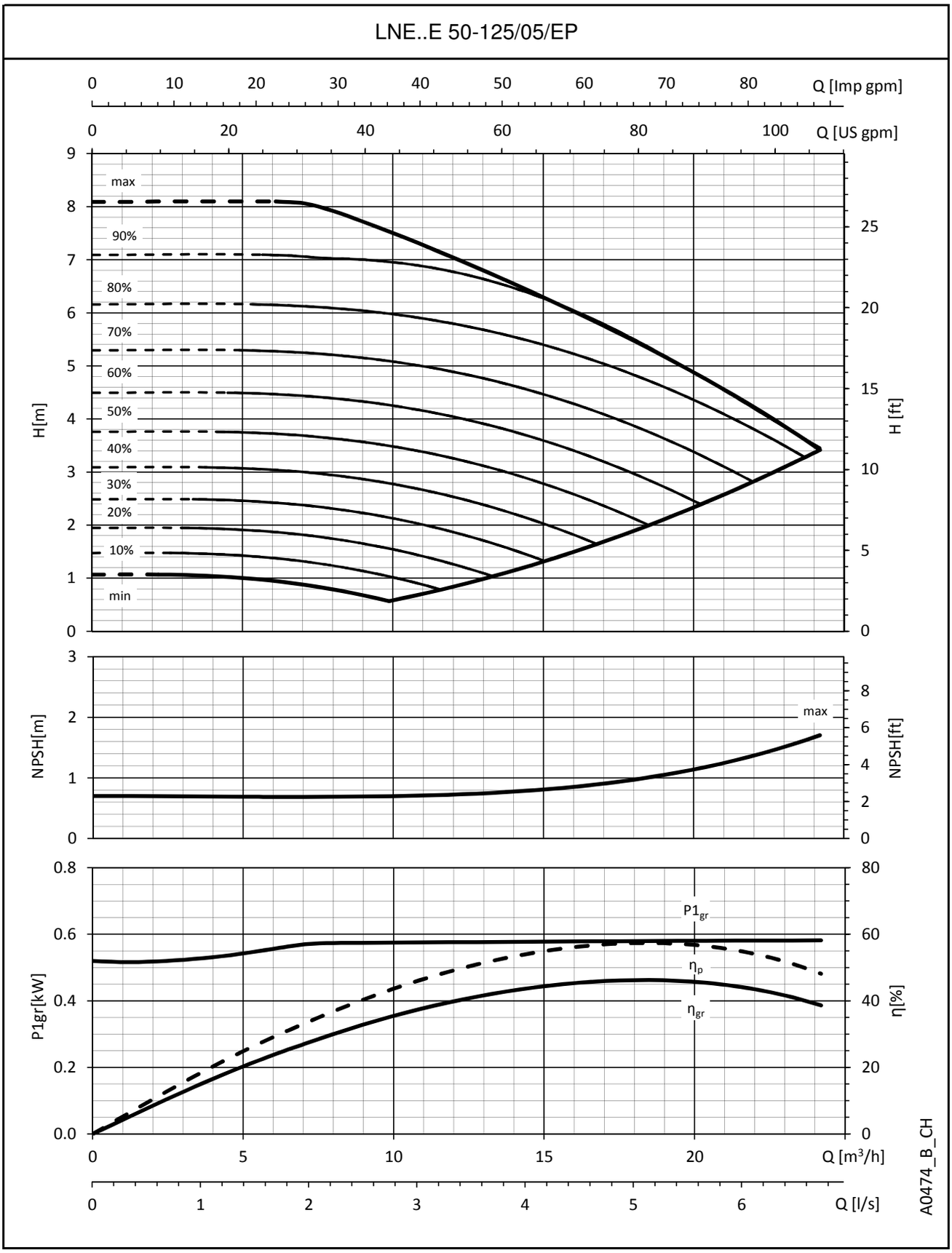
e-LNE..E SERIES
OPERATING CHARACTERISTICS



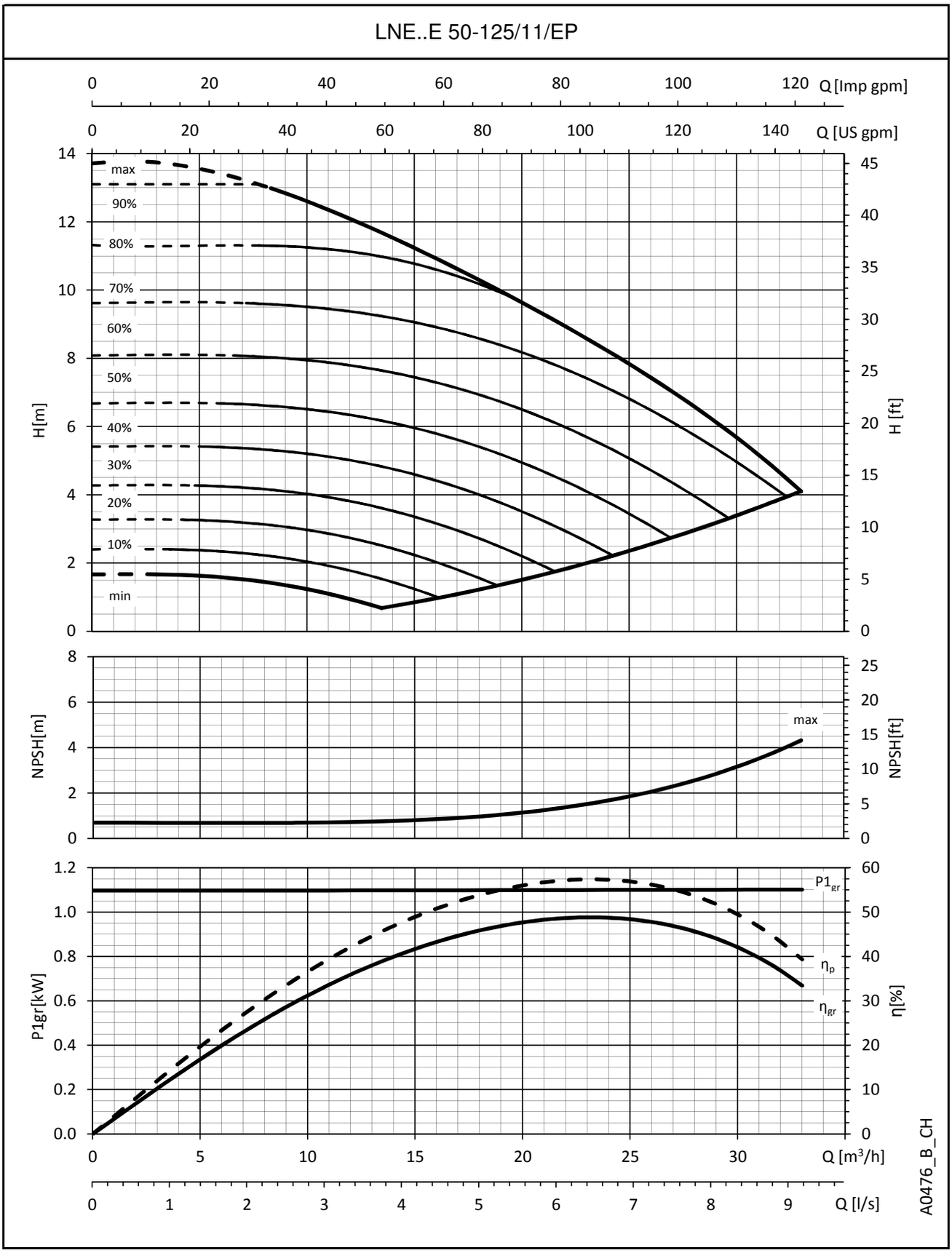
The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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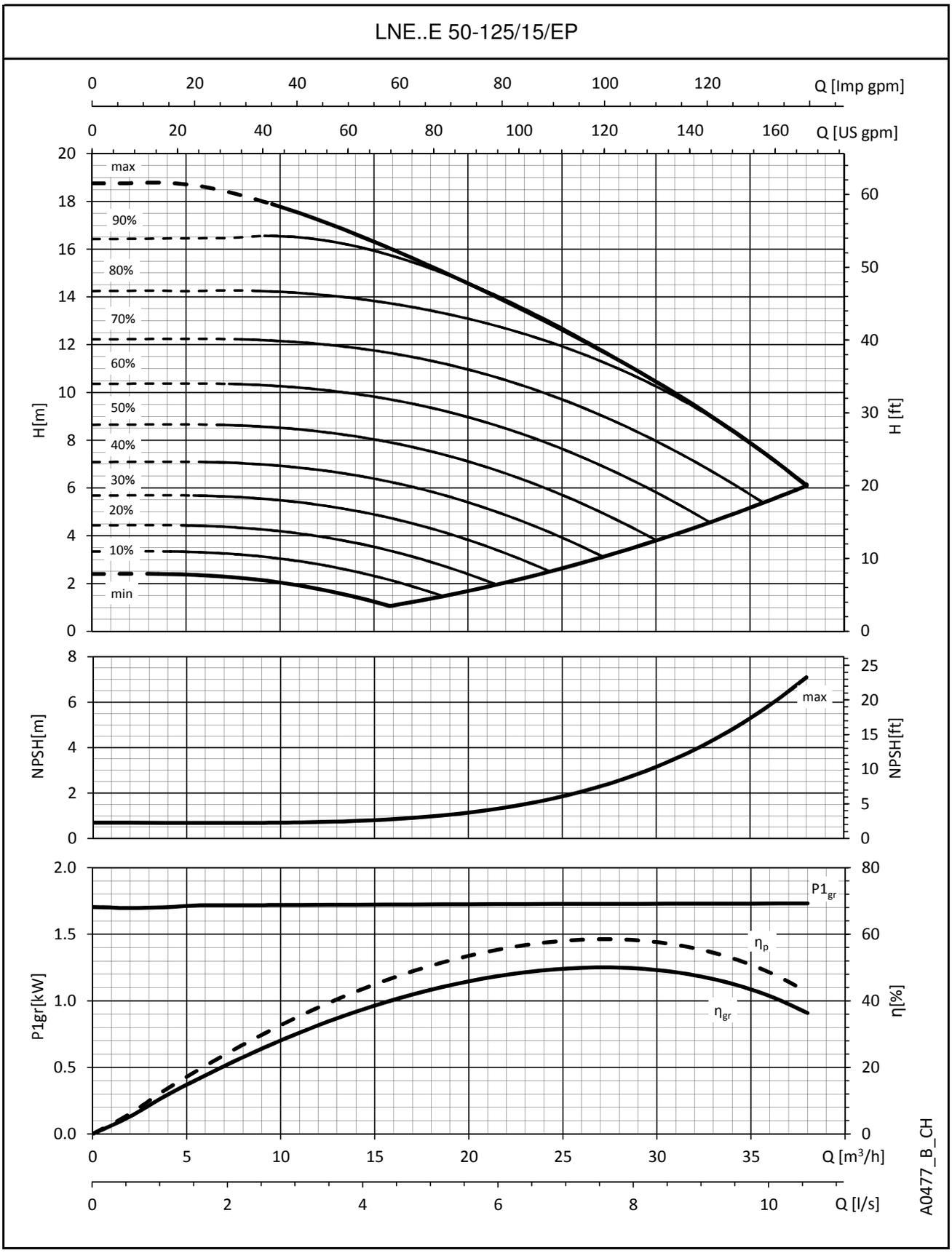
e-LNE..E SERIES
OPERATING CHARACTERISTICS

LNE..E 50-125/15/EP



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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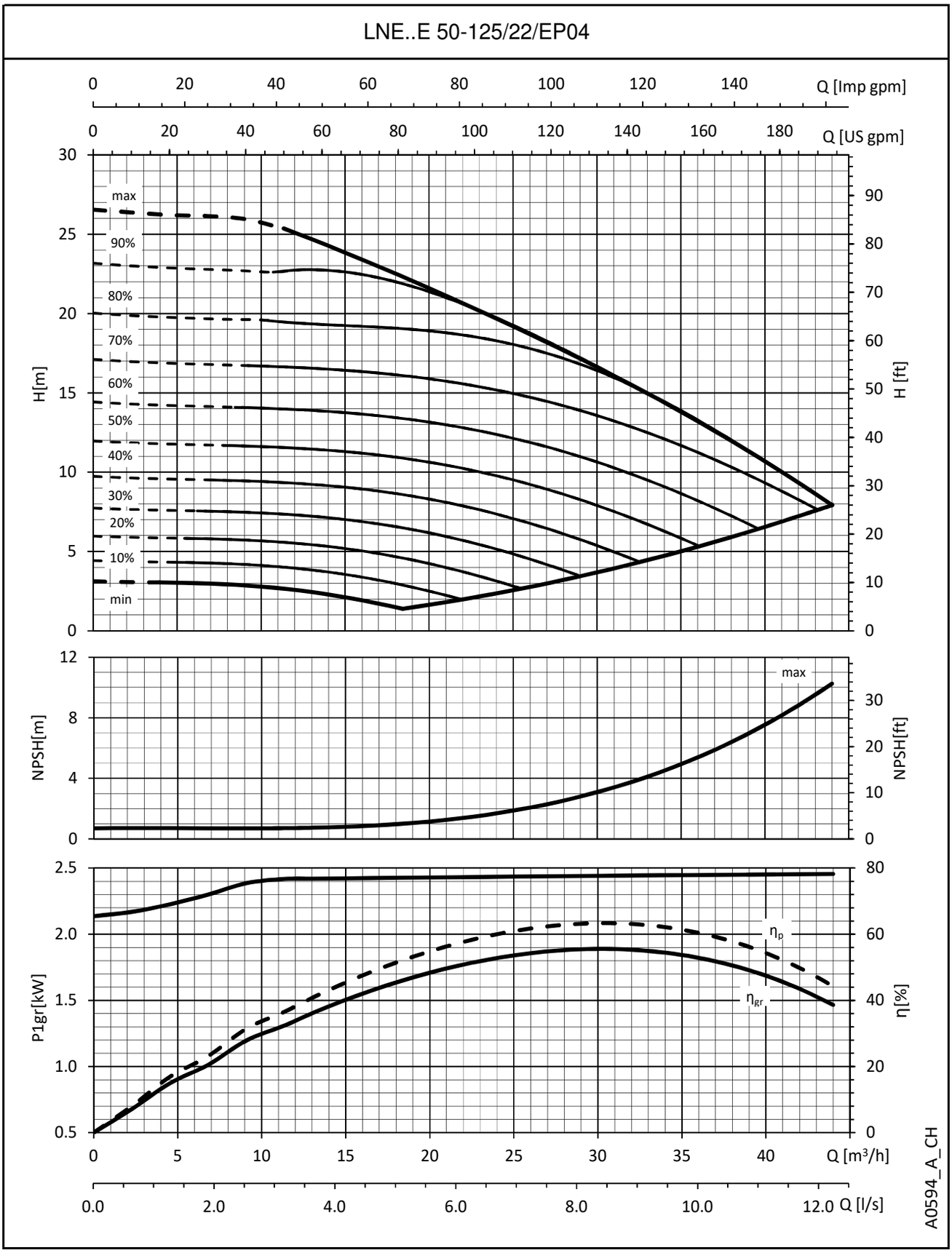
e-LNE..E SERIES
OPERATING CHARACTERISTICS



The performances are valid for liquid with density ρ = 1.0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

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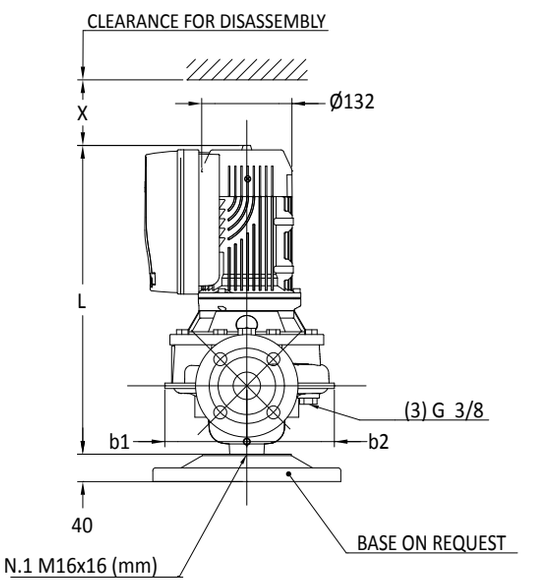
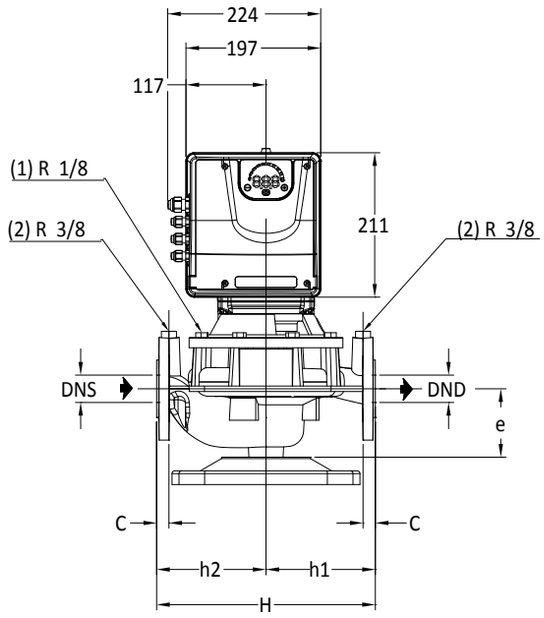
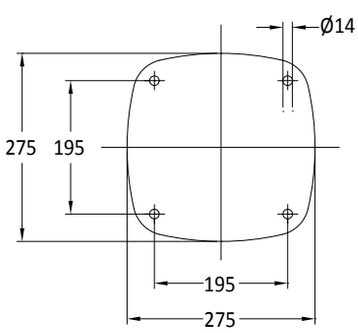
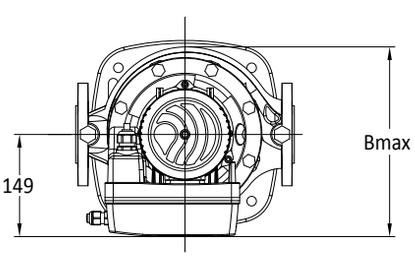
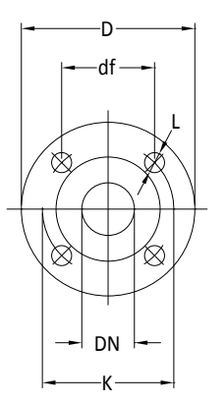
e-LNEEE SERIES - SINGLE-PHASE VERSION
DIMENSIONS AND WEIGHTS











(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

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

A0031eSM-EN_A_DD

PUMP TYPE	VERSION	MOTOR		DIMENSIONS (mm)							B	H	L	x	WEIGHT
LNEEE (e-SM)		kW	Size	DND	DNS	b1	b2	e	h1	h2	max				kg
32-160/03/EP02	SINGLE-PHASE	0,37	90	32	32	123	121	90	160	160	270	320	432	260	25
32-160/05/EP02		0,55	90	32	32	123	121	90	160	160	270	320	432	260	25
32-160/07/EP02		0,75	90	32	32	123	121	90	160	160	270	320	432	260	25
32-160/15/EP02		1,5	90	32	32	123	121	90	160	160	270	320	432	260	25
40-125/03/EP02		0,37	90	40	40	128	120	100	160	160	269	320	452	260	27
40-125/05/EP02		0,55	90	40	40	128	120	100	160	160	269	320	452	260	27
40-125/11/EP02		1,1	90	40	40	128	120	100	160	160	269	320	452	260	27
40-125/15/EP02		1,5	90	40	40	128	120	100	160	160	269	320	452	260	28
50-125/05/EP02		0,55	90	50	50	128	118	116	180	160	267	340	458	260	32
50-125/11/EP02		1,1	90	50	50	128	118	116	180	160	267	340	458	260	32
50-125/15/EP02		1,5	90	50	50	128	118	116	180	160	267	340	458	260	32

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

LNEEE-32-50esm-en_a_td

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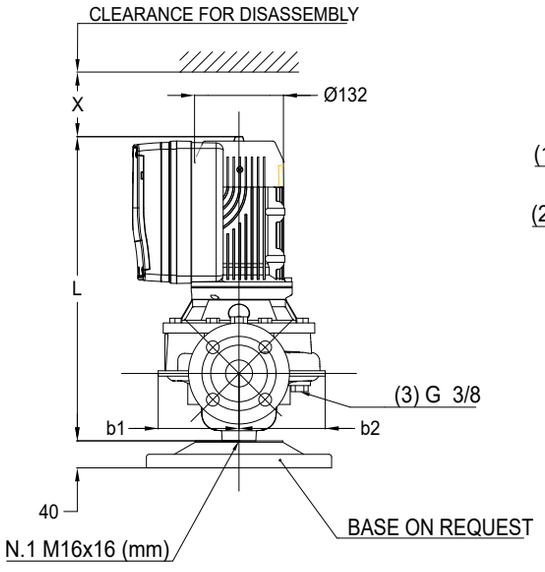
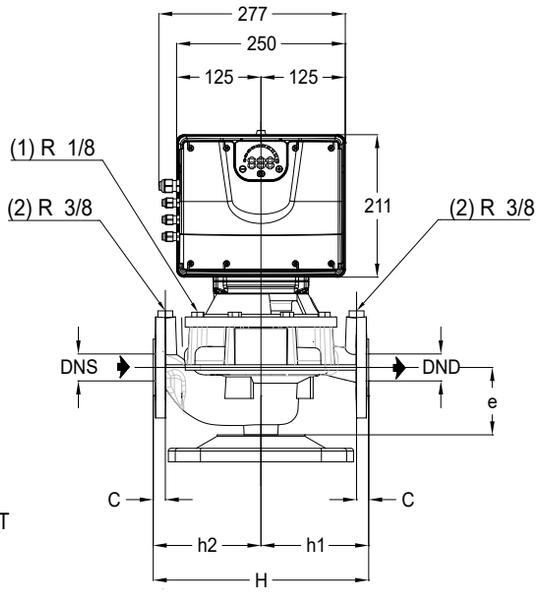
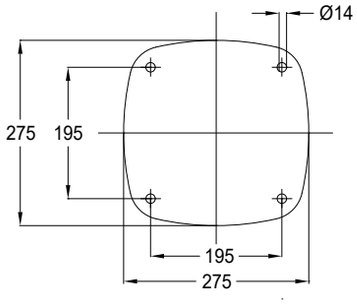
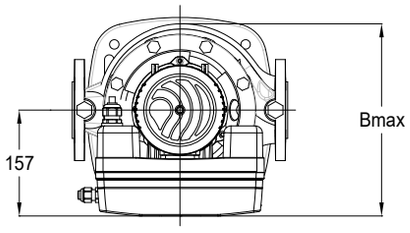
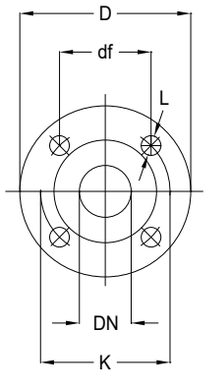
e-LNEEE SERIES - THREE-PHASE VERSION
DIMENSIONS AND WEIGHTS











(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

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

A0031eSM-T-EN_A_DD

PUMP TYPE	VERSION	MOTOR		DIMENSIONS (mm)							B	H	L	x	WEIGHT
LNEEE (e-SM)		kW	Size	DND	DNS	b1	b2	e	h1	h2	max				kg
32-160/03/EP05	THREE-PHASE	0.37	90	32	32	123	121	90	160	160	280	320	432	260	31
32-160/05/EP05		0.55	90	32	32	123	121	90	160	160	280	320	432	260	31
32-160/07/EP05		0.75	90	32	32	123	121	90	160	160	280	320	432	260	31
32-160/15/EP05		1.5	90	32	32	123	121	90	160	160	280	320	432	260	32
32-160/22/EP04		2.2	90	32	32	123	121	90	160	160	280	320	432	260	34
40-125/03/EP05		0.37	90	40	40	128	120	100	160	160	285	320	452	260	33
40-125/05/EP05		0.55	90	40	40	128	120	100	160	160	285	320	452	260	33
40-125/11/EP05		1.1	90	40	40	128	120	100	160	160	285	320	452	260	34
40-125/15/EP05		1.5	90	40	40	128	120	100	160	160	285	320	452	260	34
40-125/22/EP04		2.2	90	40	40	128	120	100	160	160	285	320	452	260	36
50-125/05/EP05		0.55	90	50	50	128	118	116	180	160	285	340	458	260	38
50-125/11/EP05		1.1	90	50	50	128	118	116	180	160	285	340	458	260	39
50-125/15/EP05		1.5	90	50	50	128	118	116	180	160	285	340	458	260	39
50-125/22/EP04		2.2	90	50	50	128	118	116	180	160	285	340	458	260	41

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

LNEEE-32-50esmT-en_a_td

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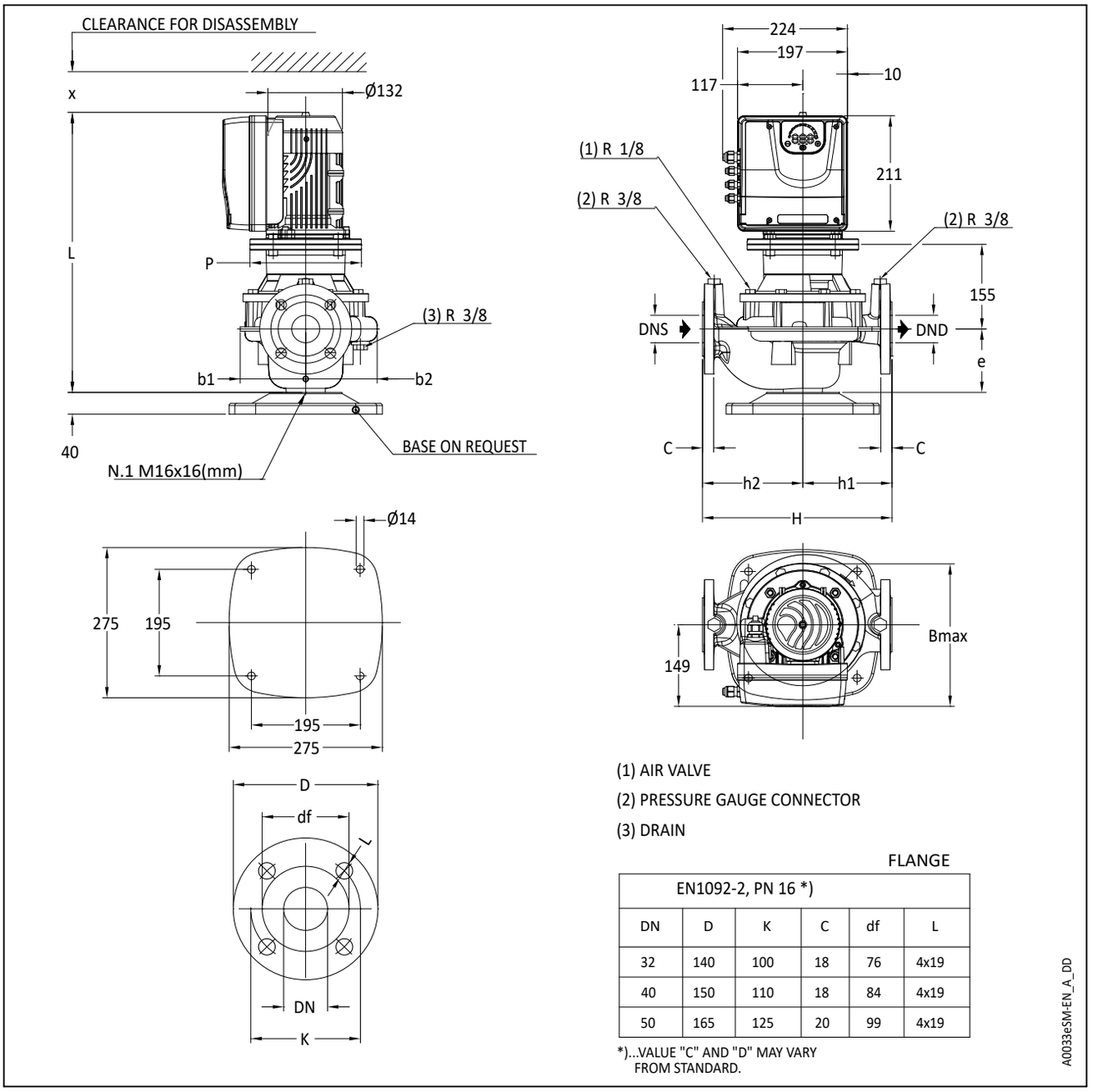
e-LNESE SERIES - SINGLE-PHASE VERSION
DIMENSIONS AND WEIGHTS



(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

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

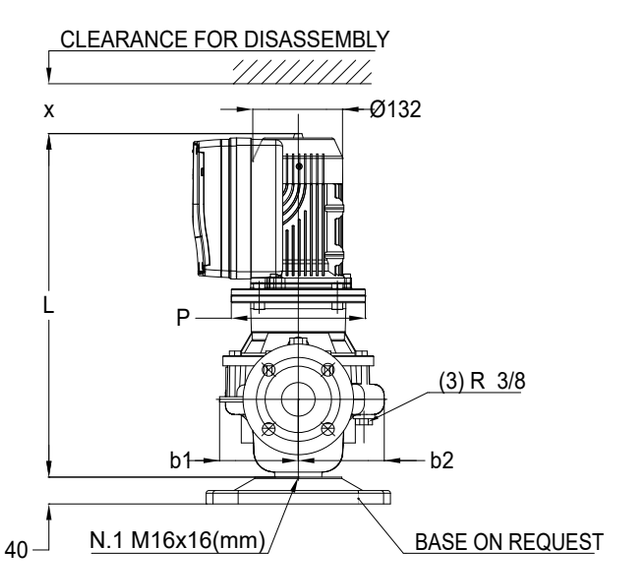
A0033eSM-EN_A_DD

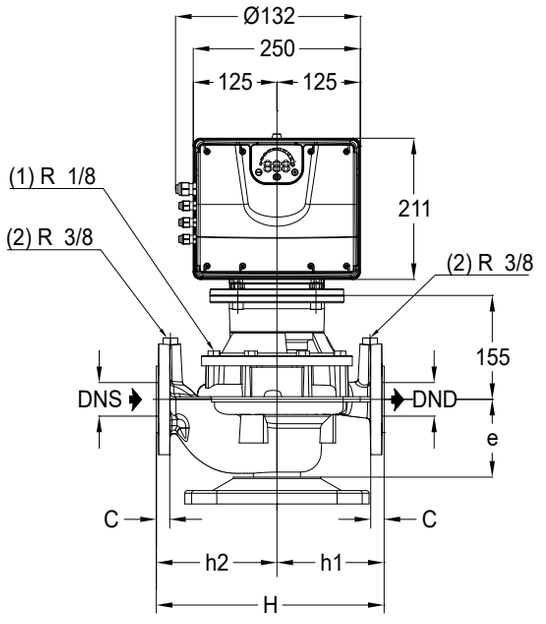
PUMP TYPE	VERSION	MOTOR		DIMENSIONS (mm)								B	H	L	x	WEIGHT
LNESE (e-SM)		kW	Size	DND	DNS	b1	b2	e	h1	h2	P	max				kg
32-160/03/EP02	SINGLE-PHASE	0,37	90	32	32	123	121	90	160	160	200	270	320	487	260	28
32-160/05/EP02		0,55	90	32	32	123	121	90	160	160	200	270	320	487	260	28
32-160/07/EP02		0,75	90	32	32	123	121	90	160	160	200	270	320	487	260	28
32-160/15/EP02		1,5	90	32	32	123	121	90	160	160	200	270	320	487	260	28
40-125/03/EP02		0,37	90	40	40	128	120	100	160	160	200	269	320	506	260	30
40-125/05/EP02		0,55	90	40	40	128	120	100	160	160	200	269	320	506	260	30
40-125/11/EP02		1,1	90	40	40	128	120	100	160	160	200	269	320	506	260	30
40-125/15/EP02		1,5	90	40	40	128	120	100	160	160	200	269	320	506	260	31
50-125/05/EP02		0,55	90	50	50	128	118	116	180	160	200	267	340	513	260	35
50-125/11/EP02		1,1	90	50	50	128	118	116	180	160	200	267	340	513	260	35
50-125/15/EP02		1,5	90	50	50	128	118	116	180	160	200	267	340	513	260	35

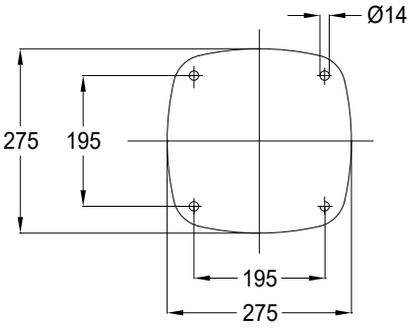
NOTE: Pumps supplied with flanges according to EN 1092-2 as standard. For flanges dimensions see drawing.

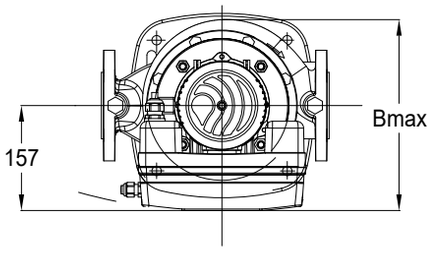
LNESE-32-50esm-en_a_td

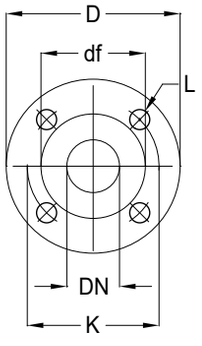
e-LNESE SERIES - THREE-PHASE VERSION
DIMENSIONS AND WEIGHTS











(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

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

A0033eSM-T-EN_A_DD

PUMP TYPE	VERSION	MOTOR		DIMENSIONS (mm)								B	H	L	x	WEIGHT
LNESE (e-SM)		kW	Size	DND	DNS	b1	b2	e	h1	h2	P	max				kg
32-160/03/EP05	THREE-PHASE	0,37	90	32	32	123	121	90	160	160	200	280	320	487	260	34
32-160/05/EP05		0,55	90	32	32	123	121	90	160	160	200	280	320	487	260	34
32-160/07/EP05		0,75	90	32	32	123	121	90	160	160	200	280	320	487	260	34
32-160/15/EP05		1,5	90	32	32	123	121	90	160	160	200	280	320	487	260	35
32-160/22/EP04		2,2	90	32	32	123	121	90	160	160	200	280	320	487	260	36
40-125/03/EP05		0,37	90	40	40	128	120	100	160	160	200	285	320	506	260	36
40-125/05/EP05		0,55	90	40	40	128	120	100	160	160	200	285	320	506	260	36
40-125/11/EP05		1,1	90	40	40	128	120	100	160	160	200	285	320	506	260	37
40-125/15/EP05		1,5	90	40	40	128	120	100	160	160	200	285	320	506	260	37
40-125/22/EP04		2,2	90	40	40	128	120	100	160	160	200	285	320	506	260	39
50-125/05/EP05		0,55	90	50	50	128	118	116	180	160	200	285	340	513	260	39
50-125/11/EP05		1,1	90	50	50	128	118	116	180	160	200	285	340	513	260	41
50-125/15/EP05		1,5	90	50	50	128	118	116	180	160	200	285	340	513	260	41
50-125/22/EP04		2,2	90	50	50	128	118	116	180	160	200	285	340	513	260	42

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

LNESE-32-50esmT-en_a_td

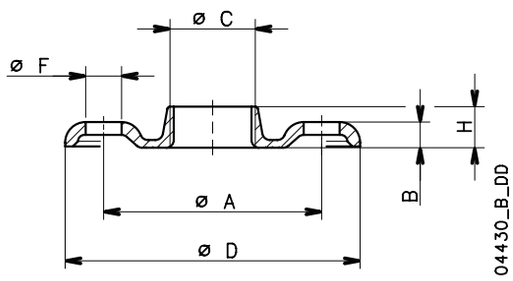
LOWARA
a xylem brand

ACCESSORIES

e-LNE SERIES
ROUND THREADED COUNTERFLANGES KIT ACCORDING TO EN 1092-1

DN	CODE KIT	ø C	DIMENSIONS (mm) ø A	B	ø D	H	HOLES ø F	N°	PN
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

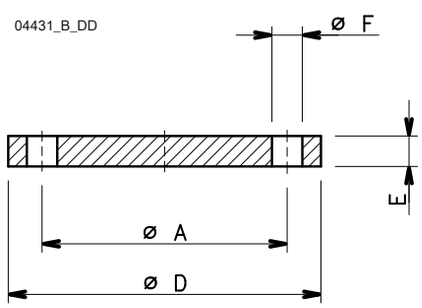
Lne-Lnt-ctf-tonde-f-en_b_td



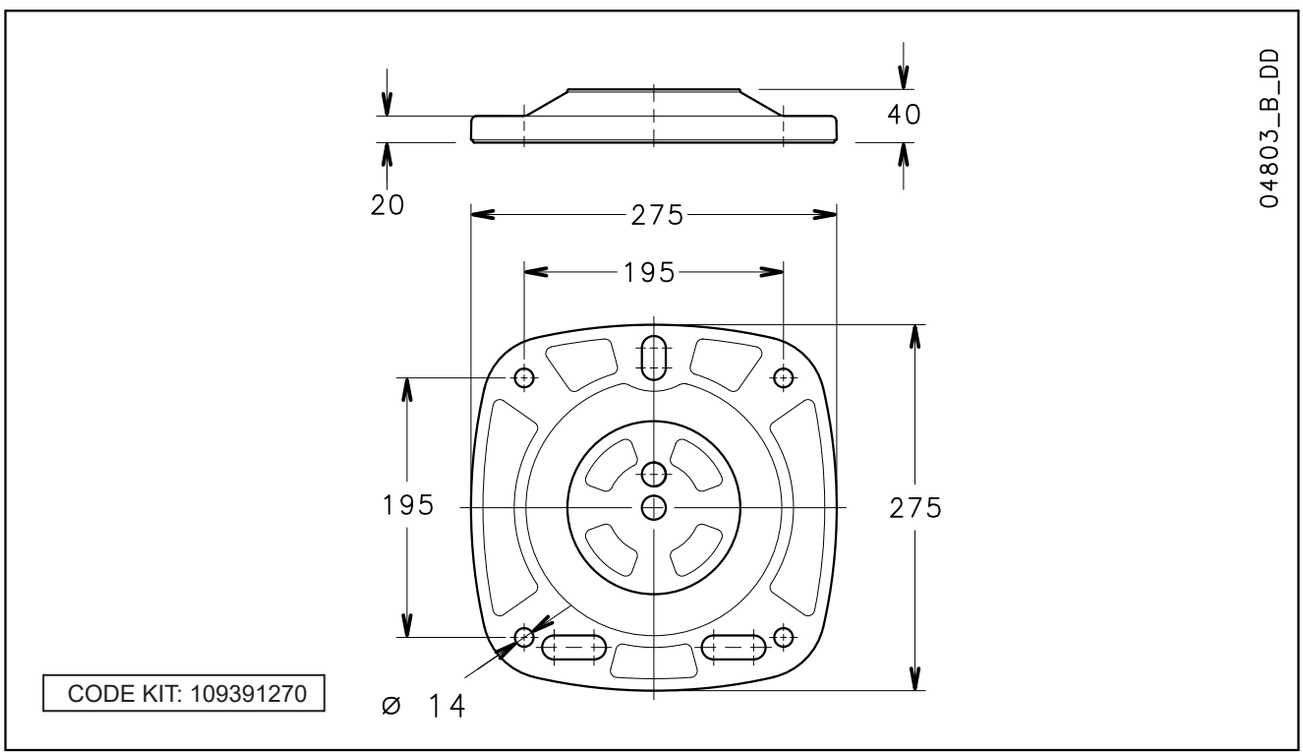
e-LNE SERIES
ROUND WELD COUNTERFLANGES KIT ACCORDING TO EN 1092-1

DN	CODE KIT	ø C	DIMENSIONS (mm) ø A	B	ø D	HOLES ø F	N°	PN
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

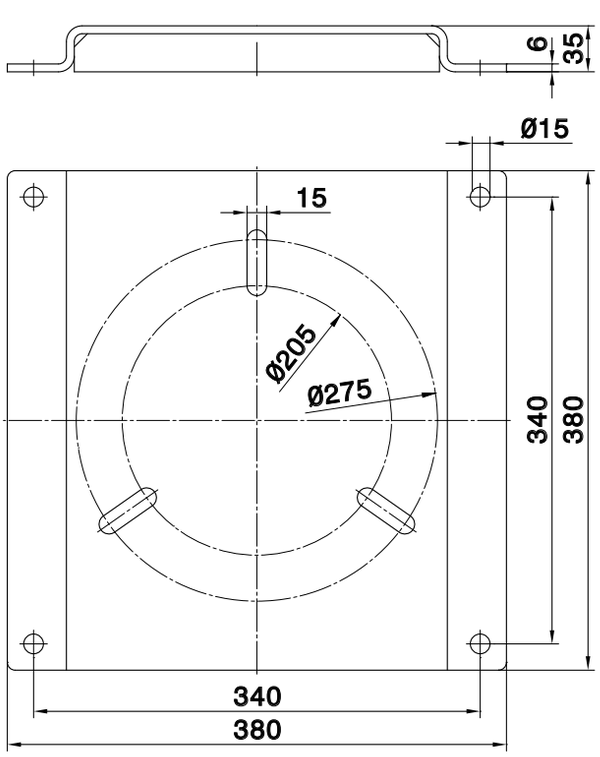
Lne-Lnt-ctf-tonde-s-en_b_td



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



e-LNE 125, 150 SERIES
MOUNTING BASE KIT

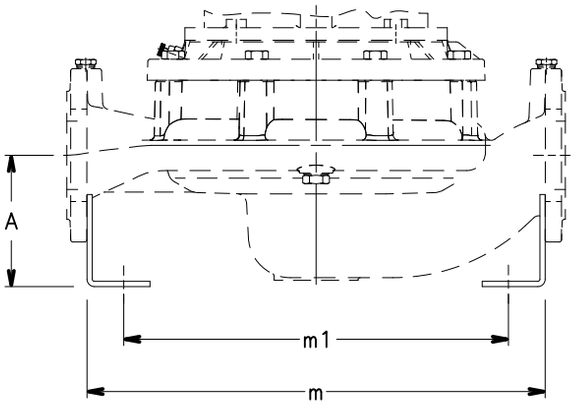


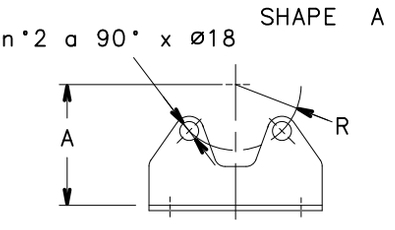
LNES MOUNTING BASE KIT 4-POLE			
PUMP TYPE	CODE	STANDARD	OPTION
125-160/22	743660220		X
125-160/30			X
125-160/40			X
125-200/55			X
125-200/75			X
125-250/75			X
125-250/110		X	
125-315/150		X	
125-315/185		X	
125-315/220		X	
125-315/300		X	
150-200/55			X
150-200/75			X
150-200/110		X	
150-250/110		X	
150-250/150		X	
150-315/185		X	
150-315/220		X	
150-315/300		X	
150-315/370		X	

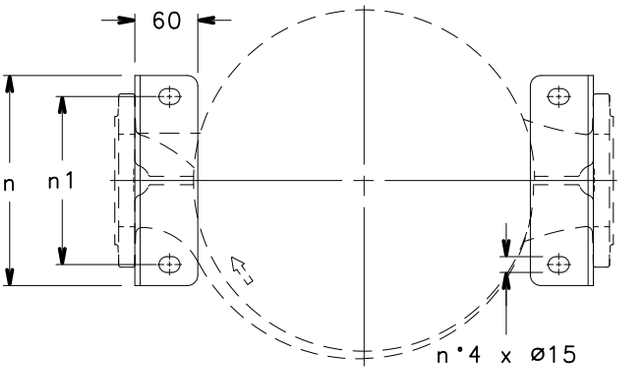
LNES-BASE-EN_C_DD

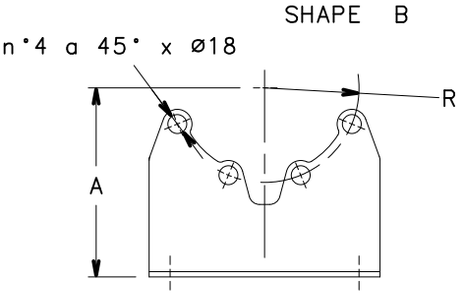
e-LNE 32, 40, 50, 65, 80, 100 SERIES
BRACKETS KIT

04855-EN_B_DD









CODE	PUMP TYPE		SHAPE	DIMENSIONS (mm)				
KIT	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						

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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 submersible 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 2014/30/EU, 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.

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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 hz at which to install the machine under safe conditions, the following formula must be verified:

hp + hz $\geq$ **(NPSHr + 0.5) + hf + hpv** ①

where:

hp is the absolute pressure applied to the free liquid surface in the suction tank, expressed in m. of liquid; hp is the quotient between the barometric pressure and the specific weight of the liquid.

hz is the suction lift between the pump axis and the free liquid surface in the suction tank, expressed in m.; hz is negative when the liquid level is lower than the pump axis.

hf is the flow resistance in the suction line and its accessories, such as: fittings, foot valve, gate valve, elbows, etc.

hpv is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid. hpv is the quotient between the Pv 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 $\gamma = 1$ kg/dm^3
Flow rate required: 25 m^3/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^3/h, of 2 m.

For water at 15 °C

hp = Pa / γ = 10,33m, hpv = Pv / γ = 0,174m (0,01701 bar)

The Hf flow resistance in the suction line with foot valves is ~ 1,2 m.
By substituting the parameters in formula 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 ps AND ρ DENSITY OF WATER TABLE

t	T	ps	ρ
°C	K	bar	kg/dm³
0	273,15	0,00611	0,9998
1	274,15	0,00657	0,9999
2	275,15	0,00706	0,9999
3	276,15	0,00758	0,9999
4	277,15	0,00813	1,0000
5	278,15	0,00872	1,0000
6	279,15	0,00935	1,0000
7	280,15	0,01001	0,9999
8	281,15	0,01072	0,9999
9	282,15	0,01147	0,9998
10	283,15	0,01227	0,9997
11	284,15	0,01312	0,9997
12	285,15	0,01401	0,9996
13	286,15	0,01497	0,9994
14	287,15	0,01597	0,9993
15	288,15	0,01704	0,9992
16	289,15	0,01817	0,9990
17	290,15	0,01936	0,9988
18	291,15	0,02062	0,9987
19	292,15	0,02196	0,9985
20	293,15	0,02337	0,9983
21	294,15	0,24850	0,9981
22	295,15	0,02642	0,9978
23	296,15	0,02808	0,9976
24	297,15	0,02982	0,9974
25	298,15	0,03166	0,9971
26	299,15	0,03360	0,9968
27	300,15	0,03564	0,9966
28	301,15	0,03778	0,9963
29	302,15	0,04004	0,9960
30	303,15	0,04241	0,9957
31	304,15	0,04491	0,9954
32	305,15	0,04753	0,9951
33	306,15	0,05029	0,9947
34	307,15	0,05318	0,9944
35	308,15	0,05622	0,9940
36	309,15	0,05940	0,9937
37	310,15	0,06274	0,9933
38	311,15	0,06624	0,9930
39	312,15	0,06991	0,9927
40	313,15	0,07375	0,9923
41	314,15	0,07777	0,9919
42	315,15	0,08198	0,9915
43	316,15	0,09639	0,9911
44	317,15	0,09100	0,9907
45	318,15	0,09582	0,9902
46	319,15	0,10086	0,9898
47	320,15	0,10612	0,9894
48	321,15	0,11162	0,9889
49	322,15	0,11736	0,9884
50	323,15	0,12335	0,9880
51	324,15	0,12961	0,9876
52	325,15	0,13613	0,9871
53	326,15	0,14293	0,9862
54	327,15	0,15002	0,9862

t	T	ps	ρ
°C	K	bar	kg/dm³
55	328,15	0,15741	0,9857
56	329,15	0,16511	0,9852
57	330,15	0,17313	0,9846
58	331,15	0,18147	0,9842
59	332,15	0,19016	0,9837
60	333,15	0,1992	0,9832
61	334,15	0,2086	0,9826
62	335,15	0,2184	0,9821
63	336,15	0,2286	0,9816
64	337,15	0,2391	0,9811
65	338,15	0,2501	0,9805
66	339,15	0,2615	0,9799
67	340,15	0,2733	0,9793
68	341,15	0,2856	0,9788
69	342,15	0,2984	0,9782
70	343,15	0,3116	0,9777
71	344,15	0,3253	0,9770
72	345,15	0,3396	0,9765
73	346,15	0,3543	0,9760
74	347,15	0,3696	0,9753
75	348,15	0,3855	0,9748
76	349,15	0,4019	0,9741
77	350,15	0,4189	0,9735
78	351,15	0,4365	0,9729
79	352,15	0,4547	0,9723
80	353,15	0,4736	0,9716
81	354,15	0,4931	0,9710
82	355,15	0,5133	0,9704
83	356,15	0,5342	0,9697
84	357,15	0,5557	0,9691
85	358,15	0,5780	0,9684
86	359,15	0,6011	0,9678
87	360,15	0,6249	0,9671
88	361,15	0,6495	0,9665
89	362,15	0,6749	0,9658
90	363,15	0,7011	0,9652
91	364,15	0,7281	0,9644
92	365,15	0,7561	0,9638
93	366,15	0,7849	0,9630
94	367,15	0,8146	0,9624
95	368,15	0,8453	0,9616
96	369,15	0,8769	0,9610
97	370,15	0,9094	0,9602
98	371,15	0,9430	0,9596
99	372,15	0,9776	0,9586
100	373,15	1,0133	0,9581
102	375,15	1,0878	0,9567
104	377,15	1,1668	0,9552
106	379,15	1,2504	0,9537
108	381,15	1,3390	0,9522
110	383,15	1,4327	0,9507
112	385,15	1,5316	0,9491
114	387,15	1,6362	0,9476
116	389,15	1,7465	0,9460
118	391,15	1,8628	0,9445

t	T	ps	ρ
°C	K	bar	kg/dm³
120	393,15	1,9854	0,9429
122	395,15	2,1145	0,9412
124	397,15	2,2504	0,9396
126	399,15	2,3933	0,9379
128	401,15	2,5435	0,9362
130	403,15	2,7013	0,9346
132	405,15	2,867	0,9328
134	407,15	3,041	0,9311
136	409,15	3,223	0,9294
138	411,15	3,414	0,9276
140	413,15	3,614	0,9258
145	418,15	4,155	0,9214
155	428,15	5,433	0,9121
160	433,15	6,181	0,9073
165	438,15	7,008	0,9024
170	433,15	7,920	0,8973
175	448,15	8,924	0,8921
180	453,15	10,027	0,8869
185	458,15	11,233	0,8815
190	463,15	12,551	0,8760
195	468,15	13,987	0,8704
200	473,15	15,550	0,8647
205	478,15	17,243	0,8588
210	483,15	19,077	0,8528
215	488,15	21,060	0,8467
220	493,15	23,198	0,8403
225	498,15	25,501	0,8339
230	503,15	27,976	0,8273
235	508,15	30,632	0,8205
240	513,15	33,478	0,8136
245	518,15	36,523	0,8065
250	523,15	39,776	0,7992
255	528,15	43,246	0,7916
260	533,15	46,943	0,7839
265	538,15	50,877	0,7759
270	543,15	55,058	0,7678
275	548,15	59,496	0,7593
280	553,15	64,202	0,7505
285	558,15	69,186	0,7415
290	563,15	74,461	0,7321
295	568,15	80,037	0,7223
300	573,15	85,927	0,7122
305	578,15	92,144	0,7017
310	583,15	98,70	0,6906
315	588,15	105,61	0,6791
320	593,15	112,89	0,6669
325	598,15	120,56	0,6541
330	603,15	128,63	0,6404
340	613,15	146,05	0,6102
350	623,15	165,35	0,5743
360	633,15	186,75	0,5275
370	643,15	210,54	0,4518
374,15	647,30	221,20	0,3154

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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^3/h	l/min		15 1/2"	20 3/4"	25 1"	32 1 1/4"	40 1 1/2"	50 2	65 2 1/2"	80 3"	100 4"	125 5"	150 6"	175 7"	200 8"	250 10"	300 12"	350 14"	400 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
		hr												36,2	18,9	6,36	2,62	1,24	0,65

The hr values must be multiplied by:

0,71 for galvanized or painted steel pipes

0,54 for stainless steel or copper pipes

0,47 for PVC or PE pipes

hr = flow resistance for 100 m of straight pipeline (m)

V = water speed (m/s)

G-at-pct-en_b_th

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

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

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

G-a-pcv-en_b_th

The table is valid for the Hazen Williams coefficient C=100 (cast iron pipework);
for steel pipework, multiply the values by 1,41;
for stainless steel, copper and coated cast iron pipework, multiply the values by 1,85;
When the **equivalent pipeline length** has been determined, the flow resistance is obtained from the table of flow resistance.
The values given are guideline values which are bound to vary slightly according to the model, especially for gate valves and non-return valves, for which it is a good idea to check the values supplied by manufacturers.

VOLUMETRIC CAPACITY

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

PRESSURE AND HEAD

Newton per square metre N/m^2	kilo Pascal kPa	bar bar	Pound force per square inch psi	Metre of water m H_2O	Millimetre of mercury mm Hg
1,0000	0,0010	1×10^{-5}	$1,45 \times 10^{-4}$	$1,02 \times 10^{-4}$	0,0075
1 000,0000	**1,0000**	0,0100	0,1450	0,1020	7,5006
1×10^5	100,0000	**1,0000**	14,5038	10,1972	750,0638
6 894,7570	6,8948	0,0689	**1,0000**	0,7031	51,7151
9 806,6500	9,8067	0,0981	1,4223	**1,0000**	73,5561
133,3220	0,1333	0,0013	0,0193	0,0136	**1,0000**

LENGTH

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

VOLUME

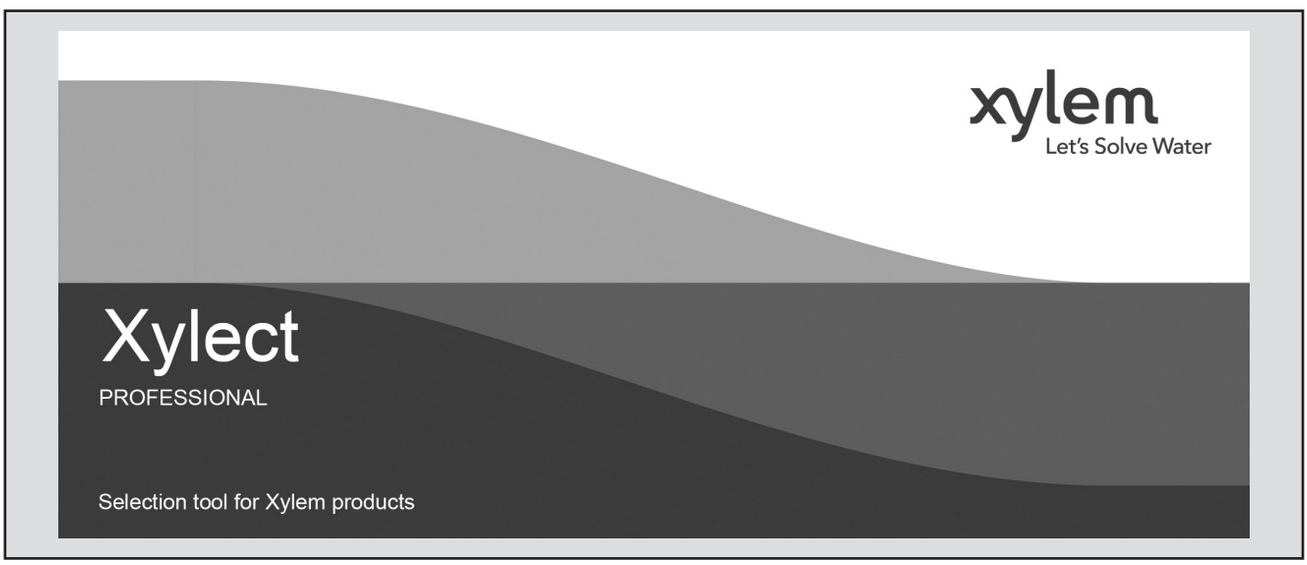
Cubic metre m^3	Litre L	Millilitre ml	Imperial gallon imp. gal.	U.S. gallon US gal.	Cubic foot ft^3
1,0000	1 000,0000	1×10^6	219,9694	264,1720	35,3147
0,0010	**1,0000**	1 000,0000	0,2200	0,2642	0,0353
1×10^{-6}	0,0010	**1,0000**	$2,2 \times 10^{-4}$	$2,642 \times 10^{-4}$	$3,53 \times 10^{-5}$
0,0045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

TEMPERATURE

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

G-at_pp-en_b_sc

FURTHER PRODUCT SELECTION AND DOCUMENTATION
Xylect



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

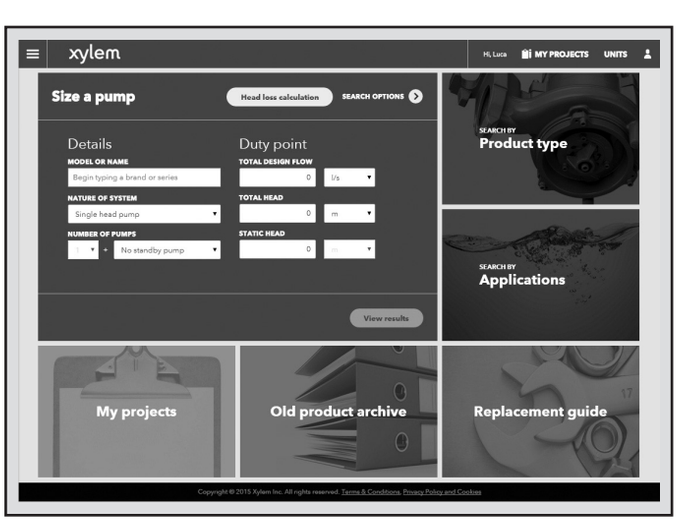
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect gives a detailed output:

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



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

FURTHER PRODUCT SELECTION AND DOCUMENTATION
Xylect

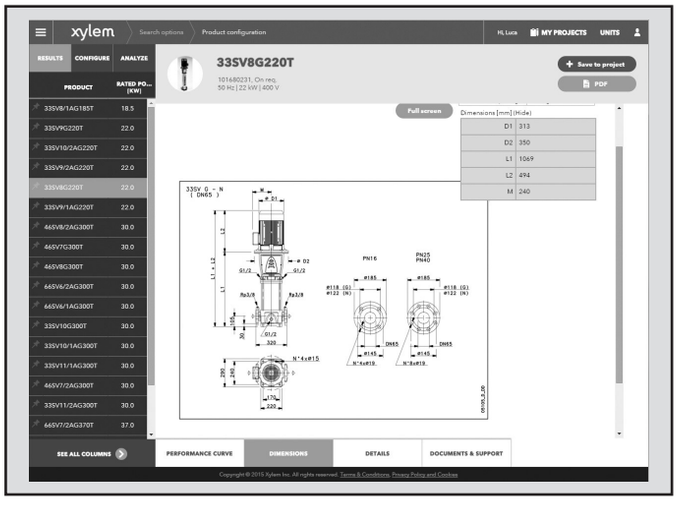
The detailed output makes it easy to select the optimal pump from the given alternatives.

The best way to work with Xylect is to create a personal account. This makes it possible to:

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

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

For more information about Xylect please contact our sales network or visit www.xylect.com.



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

Xylem |'zīləm|

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

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com.

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