50 Hz



e-SH Series

HORIZONTAL CENTRIFUGAL ELECTRIC PUMPS ACCORDING TO EN 733
MADE IN AISI 316 STAINLESS STEEL AND EQUIPPED WITH IE3 MOTORS

ErP 2009/125/EC

Cod. G91002961 Rev. C Ed.07/2016

GOULDS WATER TECHNOLOGY
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Xylect™

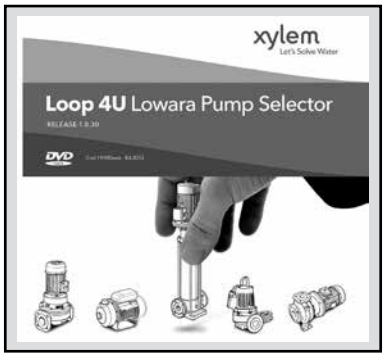
Xylect™ is a pump solution software with an extensive online database of product information across the entire range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

Xylect™ can be available:

On the website – www.xylect.com



On DVD – Loop 4U



On Mobile Apps



For more information, please, see page 114-115.

Ecodesign Directive (ErP)

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

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

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

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

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

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

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

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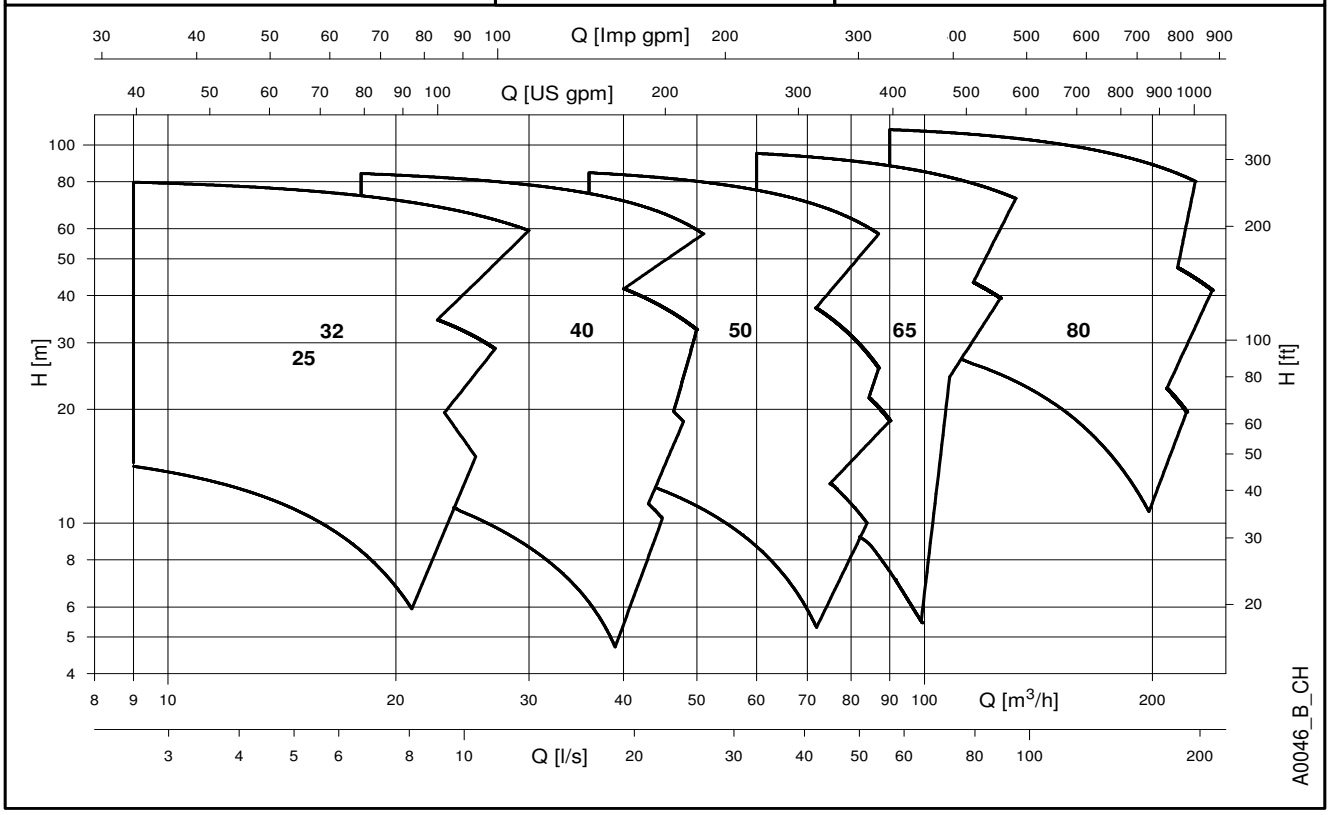
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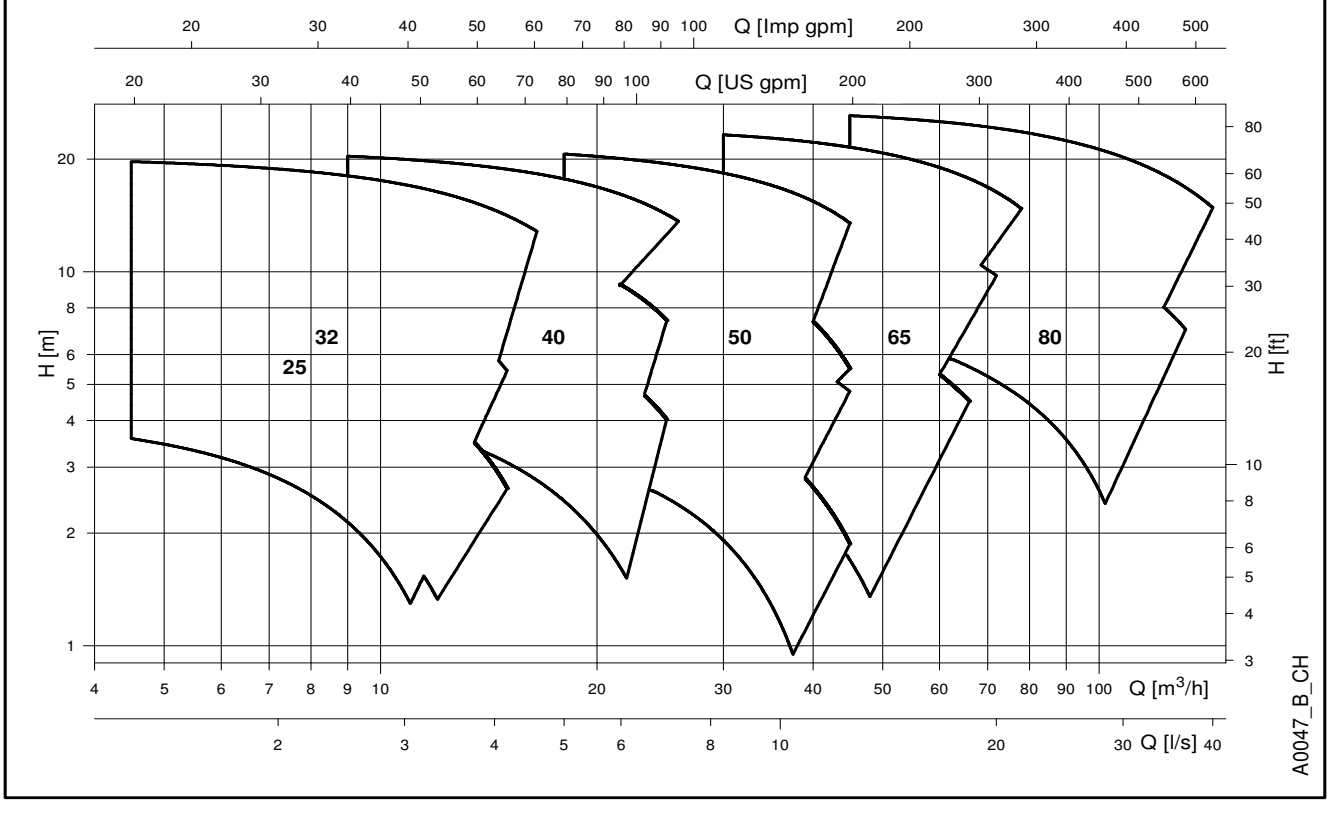
e-SH SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES

ESH	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

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



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e-SH SERIES
GENERAL INTRODUCTION

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

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

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



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



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



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



Hydraulic specifications
- Maximum delivery: up to **240** m^3/h for 2 poles range.
  up to **144** m^3/h for 4 poles range.
- Maximum head: up to **110** m for 2 poles range.
  up to **27** m for 4 poles range.
- Hydraulic performance compliant with ISO 9906:2012 Grade 3B.
- Fluid temperature range:
  - standard version (with FKM* gaskets)
  -20 to **+120 °C**
  - versions on request (with EPDM gaskets)
  -30 to **+120 °C**.
- Maximum operating pressure:
  12 bar @ 50 °C and 10,9 bar @ 120 °C
- Connection dimensions according to EN 733 (except for ESH 25 models)

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

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

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

List of the Directives	**and the main technical norms**
- Machinery Directive MD 2006/42/EC	EN 809, EN 60204-1 (safety) EN 1092-1 (stainless steel flanges)
- Electromagnetic Compatibility Directive EMCD 2004/108/EC	EN 61000-6-1, EN 61000-6-3
- Ecodesign requirements for energy-related products ErP 2009/125/EC, Regulation (EC) No 640/2009, Regulation (EU) No 4/2014, Regulation (EU) No 547/2012	EN 60034-30:2009, EN 60034-30-1:2014 (electric motors)

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

Applications

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

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



- **HVAC**
  - Liquid transfer in heating and air-conditioning systems.
  - Liquid transfer in ventilation systems.
  - Liquid transfer with mildly aggressive liquids or environment.

- **Water Supply**
  - Pressure boosting in commercial buildings.
  - Irrigation systems.
  - Water transfer for green houses.

- **Diverse OEM applications**

Benefits

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

- **Performances**: the e-SH pumps are ErP 2015 compliant, equipped with IE3 motors and provide improved performance vs. the old SH series of pumps. Its AISI 316 material configuration makes it ideal for pumping mildly aggressive liquids or pumping in aggressive environment. With a standard version designed for up to PN12 pressure rating, 120 °C maximum fluid temperature, and FKM elastomer, and easy maintenance, the e-SH provides the solution to many CBS needs.

- **Reliability**: the high quality in production, the robust construction and operation, the easily interchangeable mechanical seals, and wear rings guarantee a continuous operation without faults and a shorter down time for maintenance.

- **Total cost ownership**: the best hydraulic and electric efficiency, the HYDROVAR -equipped versions, the easy and quick maintenance, permit to reduce the operation and maintenance cost and to save energy when the pump is working.

- **Pre-post sales support**: we are continuously working close to our customers to help them in selecting the right pump for the specific application. An improved user-friendly selection software improved with many selection tools is available on the website, on DVD or on Apps for mobile phones. Experienced engineers are fully dedicated to big projects for Municipality.

Features

- Discharge ports DN25 to DN80.
- Wide performance range up to 110 m head and 240 m^3/h flow.
- Nominal pressure of 12 bar.
- Wide range of temperatures for pumped liquids: -30°C to +120°C.
- Wide range of materials for many different kinds of pumped liquid.
- Wide range of voltages.
- High performance IE3 motors.
- Variable speed by optional HYDROVAR drive.

e-SH SERIES
for INDUSTRY
APPLICATIONS & BENEFITS

Applications

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



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

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

Benefits

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

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

Features

- Discharge ports DN25 to DN80.
- Wide performance range up to 110 m head and 240 m^3/h flow.
- Nominal pressure 12 bar.
- Wide range of temperatures for pumped liquids: -30°C to +120°C.
- Wide range of materials for many different kinds of pumped liquid.
- Wide range of voltages.
- High performance IE3 motors.
- Variable speed by optional HYDROVAR drive.

GOULDS WATER TECHNOLOGY
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ESH SERIES
IDENTIFICATION CODE



Pump Type [3 digits]
[ESH] = series name

Coupling [1 digit]
[ ] = bare shaft
[E]= extended shaft
[S] = stub shaft
[F] = frame mounted
[C] = spacer coupling frame mounted

Motor operation [1 digit]
[ ] = standard asynchronous motor
[H] = equipped with Hydrovar
[X] = other drives

Size of the pump [6 digits]
Discharge diameter - nominal impeller diameter
e.g. 32-160, 65-160

Motor power [2 to 3 digits]
kW x 10
or
D + actual impeller diameter (mm)
(bare shaft version)

Special trimmed Impeller [blank or 1 digit]
[A] = Trimmed diameter that doesn't maximize motor power
[X] = Trimmed diameter to meet customer required duty point

Motor type [2 digits]
[/P] = PLM
[/S] = SM
[/W] = Weg
[/X] = Other

N° poles [1 digit]
[2] = 2 poles
[4] = 4 poles

Electrical Voltage + Frequency [2digits]
50 Hz
5H = 1x220-240 V
5R = 3x220-240/380-415 V
5V = 3x380-415/660-690 V
5P = 3x200-208/346-360 V
5S = 3x255-265/440-460 V
5T = 3x290-300/500-525 V
5W = 3x440-460/- V

60 Hz
6F = 1x220-230 V
6E = 1x200-210 V
6P = 3x220-230/380-400 V
6R = 3x255-277/440-480 V
6V = 3x440-480/- V
6U = 3x380-400/660-690 V
6N = 3x200-208/346-360 V
6T = 3x330-346/575-600 V

Mech Seal + Oring Config [1 digit]
[A] = Ceramic/Carbon/FKM*
[B] = Ceramic/Carbon/EPDM
[2] = SiC/Carbon/FKM*
[4] = SiC/Carbon/EPDM
[W] = SiC/SiC/FKM*
[Z] = SiC/SiC/EPDM
[X] = other configurations

Impeller Material [1 digit]
[S] = Fabricated Stainless Steel (1.4404)
[N] = Cast Stainless Steel (1.4408)

Casing Material [1 digit]
[S] = Fabricated Stainless Steel (1.4404)

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

EXAMPLES

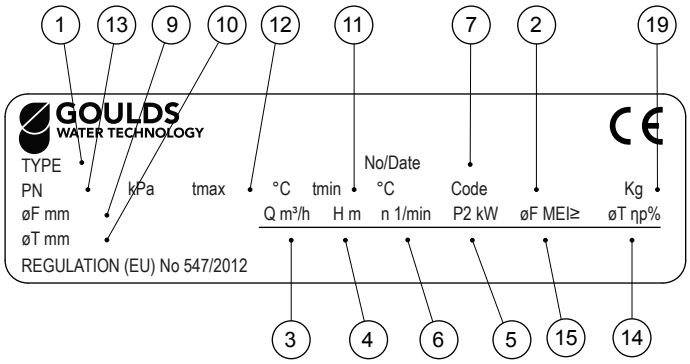
ESHS 80-200/300/W25VSNA
End-suction, electric pump with stub shaft coupling, DN 80 nominal discharge port, 200 mm nominal impeller diameter, 30 kW rated motor power, WEG IE3 model, 2-pole, 50 Hz 380-415/660-690 V, fabricated stainless steel casing, cast stainless steel impeller, Ceramic/Carbon/FKM mechanical seal.

ESHF 80-160/22A/P45RSNA
End-suction, electric pump with frame mounted coupling, DN 80 nominal discharge port, 160 mm nominal impeller diameter, 2,2 kW rated motor power, trimmed impeller, PLM IE3 model, 4-pole, 50 Hz 220-240/380-415 V, fabricated stainless steel casing, cast stainless steel impeller, Ceramic/Carbon/FKM mechanical seal.

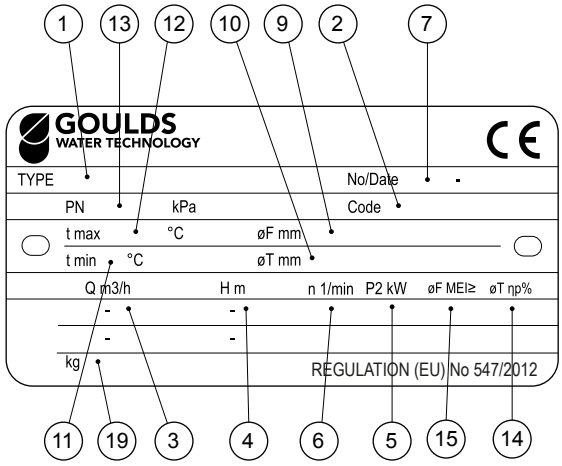
ESH 50-250/D224SSA
End-suction, bare shaft pump, DN 50 nominal discharge port, 250 mm nominal impeller diameter, 224 mm actual impeller diameter, fabricated stainless steel casing, fabricated stainless steel impeller, Ceramic/Carbon/FKM mechanical seal.

ESH SERIES
RATING PLATE

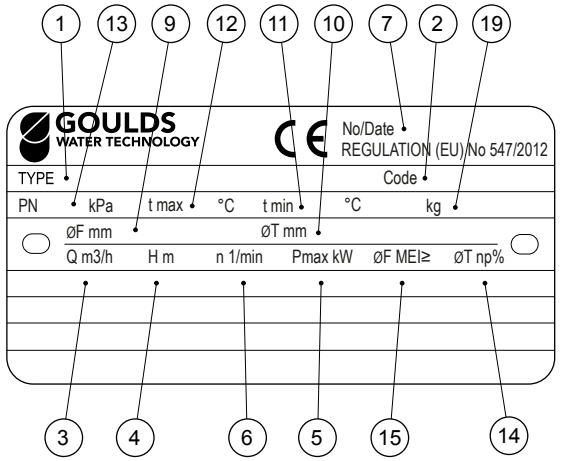
ESHE, ESHS (ELECTRIC PUMP)



ESHF (ELECTRIC PUMP)



ESH (PUMP ONLY)



LEGEND

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

LEGEND

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

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

ESH SERIES
LIST OF MODELS AT 50 Hz, 2 POLES

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

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

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

● = Available

ESH_models-2p50-en_b_sc

LEGEND

ESHE : Extended shaft.
ESHS : Stub shaft.
ESHF : Frame mounted.
ESHC : Frame mounted with spacer coupling.

ESH SERIES
LIST OF MODELS AT 50 Hz, 4 POLES

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

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

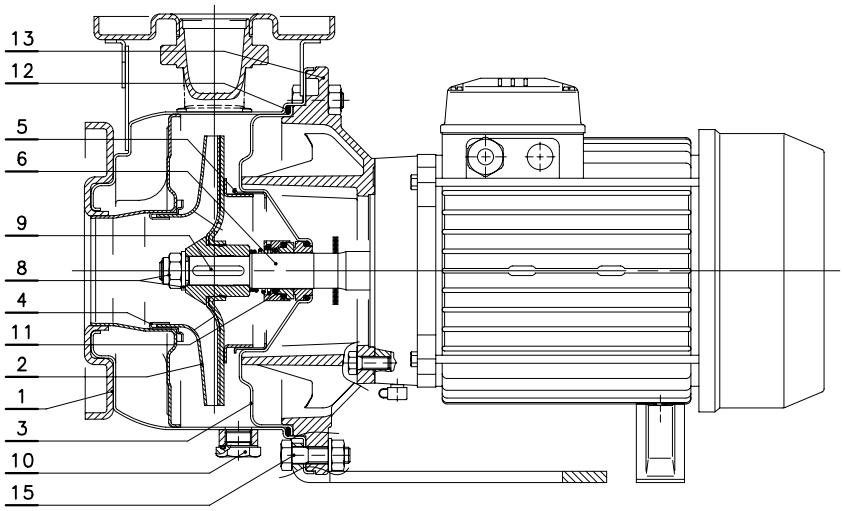
● = Available

ESH_models-4p50-en_b_sc

GOULDS WATER TECHNOLOGY
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ESHE SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04906_B_DS



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

ESHE-p-en_b_mo

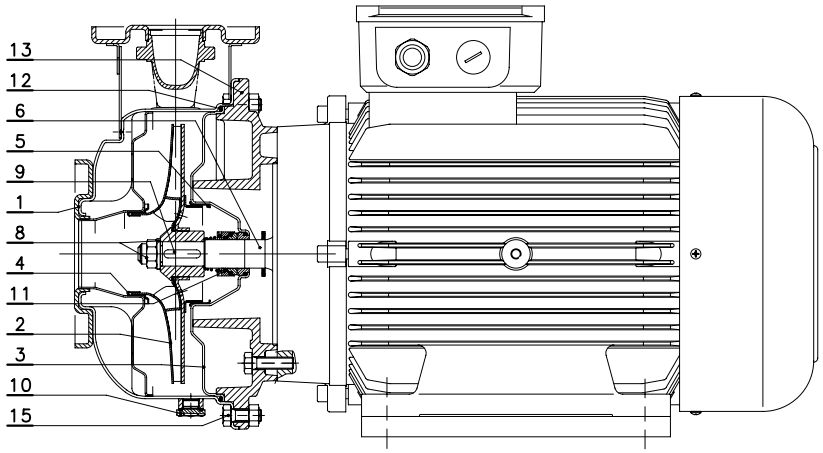
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (25-125, 32-125)	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (cast AISI 316)
3	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
6	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Rigid shaft coupling	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
8	Impeller locknut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Tab	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Mechanical seal	Ceramic / Carbon / FKM (standard version)		
12	Elastomers	FKM (standard version)		
13	Adapter *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

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

ESHE-en_c_tm

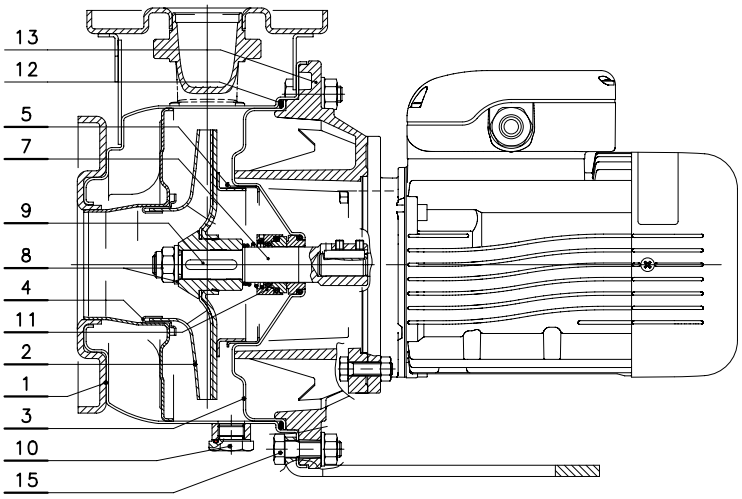
ESHE SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04902_B_DS



(ESHE) VERSIONS	
2 POLES	**4 POLES**
40-250/150	80-250/110
50-250/150	
50-250/185	
50-250/220	
65-200/150	
65-200/185	
65-200/220	
80-160/150	
80-160/185	
80-200/220	

ESHE-s-en_a_mo



(ESHE) VERSIONS	
4 POLES	
25-125/02A	40-125/02A
25-125/02	40-125/02
25-160/02A	40-160/03
25-160/02	50-125/02
25-200/03	50-125/03
32-125/02A	
32-125/02	
32-160/02A	
32-160/02	
32-200/03	

ESHE4-p-en_a_mo

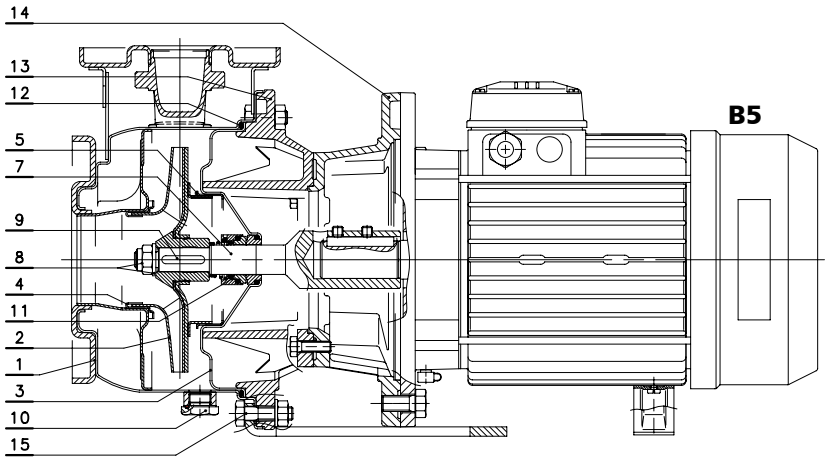
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (25-125, 32-125)	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (cast AISI 316)
3	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
6	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Rigid shaft coupling	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
8	Impeller locknut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Tab	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Mechanical seal	Ceramic / Carbon / FKM (standard version)		
12	Elastomers	FKM (standard version)		
13	Adapter *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

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

ESHE-en_c_tm

ESHS SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04956_C_DS



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

ESHS-p-en_b_mo

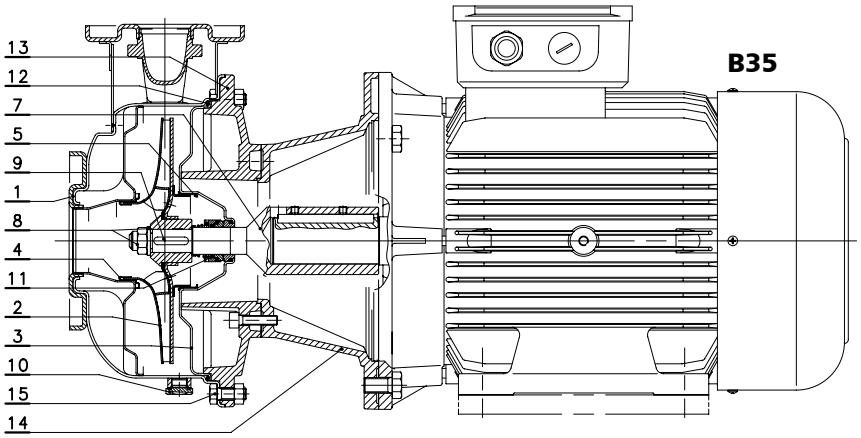
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (25-125, 32-125)	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (cast AISI 316)
3	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Rigid shaft coupling	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller locknut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Tab	Acciaio inox	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Mechanical seal	Ceramic / Carbon / FKM (standard version)		
12	Elastomers	FKM (standard version)		
13	Adapter *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
14	Adapter motor coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

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

ESHS-en_c_tm

ESHS SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04952_B_DS



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

ESHS-s-en_a_mo

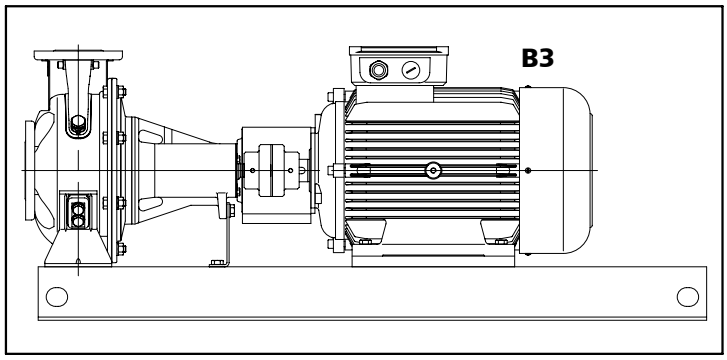
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (25-125, 32-125)	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (cast AISI 316)
3	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
7	Rigid shaft coupling	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller locknut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Tab	Acciaio inox	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Mechanical seal	Ceramic / Carbon / FKM (standard version)		
12	Elastomers	FKM (standard version)		
13	Adapter *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
14	Adapter motor coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

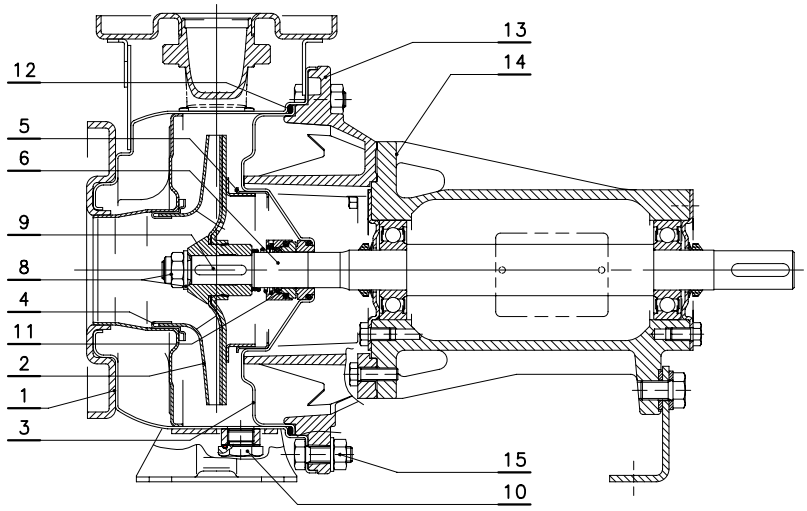
* 2/4 pole: 25/32/40-125, 25/32/40-160, 25/32/40-200

ESHS-en_c_tm

ESH, ESHF, ESHC SERIES
ELECTRIC PUMP CROSS-SECTION AND MAIN COMPONENTS

04979_C_DS





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

ESHF-p-en_a_mo

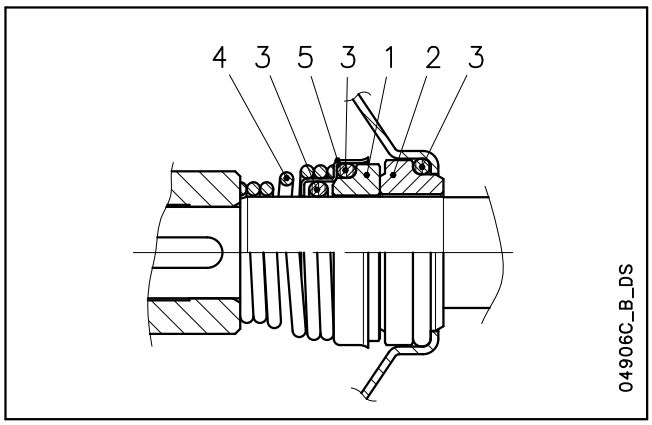
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller (25-125, 32-125)	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (cast AISI 316)
3	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Wear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Counterwear ring	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
6	Shaft extension	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
8	Impeller locknut and washer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
9	Tab	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Fill/drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
11	Mechanical seal	Ceramic / Carbon / FKM (standard version)		
12	Elastomers	FKM (standard version)		
13	Adapter *	Aluminium	EN 1706-AC-AlSi11Cu2 (Fe) (AC46100)	-
	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
14	Transmission support body	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

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

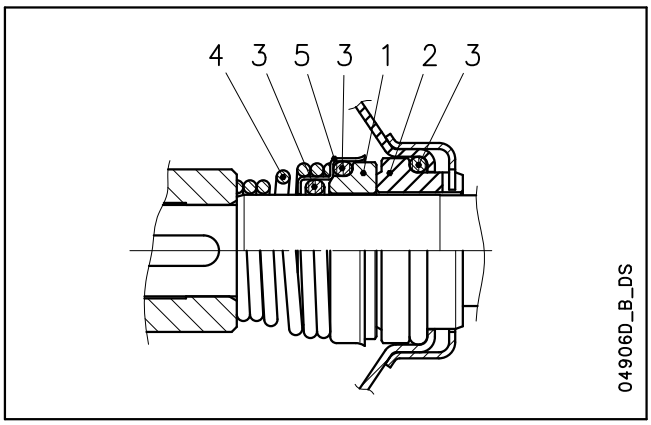
ESHF-en_c_tm

ESH SERIES
MECHANICAL SEAL

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



Standard version



Version with fixed assembly anti-rotation

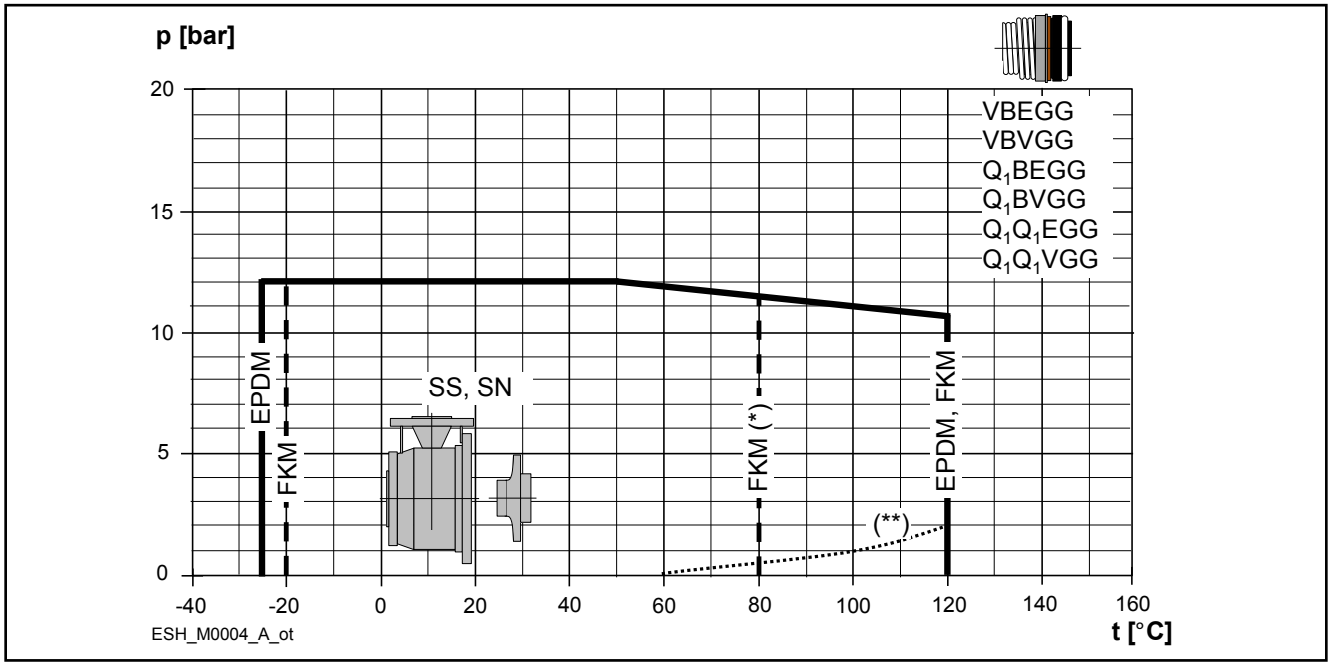
POSITION 1 - 2	POSITION 3	POSITION 4 - 5
B : Resin impregnated carbon	**E** : EPDM	**G** : AISI 316
Q_1 : Silicon carbide	**V** : FKM (FPM)	
V : Ceramic		

sh_ten-mec-en_b_tm

TYPE	POSITION					TEMPERATURE
	1	2	3	4	5	(°C)
	ROTATING ASSEMBLY	FIXED ASSEMBLY	ELASTOMERS	SPRINGS	OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
V B V G G	V	B	V	G	G	-10 +120
OTHER MECHANICAL SEAL TYPES						
Q_1 B V G G	Q_1	B	V	G	G	-10 +120
Q_1 Q_1 V G G	Q_1	Q_1	V	G	G	-10 +120
V B E G G	V	B	E	G	G	-30 +120
Q_1 B E G G	Q_1	B	E	G	G	-30 +120
Q_1 Q_1 E G G	Q_1	Q_1	E	G	G	-30 +120

sh_tipi-ten-mec-en_a_tc

PRESSURE/TEMPERATURE APPLICATION LIMITS FOR COMPLETE PUMP



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

ErP 2009/125/EC

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
MOTORS

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

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

from	kW	minimum level of efficiency (IE)
16th June 2011	0,75 ÷ 375	IE2
27th July 2014	0,75 ÷ 375	new exclusion criteria [1])
1st January 2015	< 7,5	IE2
	7,5 ÷ 375	IE3
		IE2 fitted with variable speed drive [2])
1st January 2017	0,75 ÷ 375	IE3
		IE2 fitted with variable speed drive [2])

[1]) Fixed by subsequent **Regulation (EU) No 4/2014**.
[2]) IE 2 motor can be supplied without frequency converter as the obligation to have that device is related to when motor works and not when is placed on the market.

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

ESHE 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
0,75	SM90RB14S2/1075	90R	B14	4,83-5,23	30	450	2875	5,28	71,8	0,92	2,49	0,70	2,59
1,1	SM90RB14S2/1115	90R	B14	6,88-6,65	30	450	2800	3,89	74,7	0,96	3,75	0,46	1,72
1,5	SM90RB14S2/1155	90R	B14	9,21-8,58	40	450	2810	4,00	76,1	0,98	5,15	0,39	1,74
2,2	PLM90B14S2/1225	90	B14	12,5-11,6	70	450	2825	4,47	82,4	0,97	7,43	0,53	1,87

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

ESHE-motm-2p50-en_a_te

GOULDS WATER TECHNOLOGY
a xylem brand

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

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

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

P_N	Voltage U_N V											n_N	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	Δ			Y			Δ			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
kW	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V	I_N (A)	min^{-1}					
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98	2875 ÷ 2895				
1,1	4,19	4,14	4,16	2,42	2,39	2,40	2,41	2,38	2,38	1,39	1,37	2870 ÷ 2900				
1,5	5,56	5,49	5,51	3,21	3,17	3,18	3,21	3,18	3,19	1,85	1,84	2870 ÷ 2895				
2,2	7,97	7,90	7,98	4,6	4,56	4,61	4,57	4,54	4,57	2,64	2,62	2880 ÷ 2900				
3	11,0	11,0	11,2	6,35	6,33	6,44	6,29	6,27	6,34	3,63	3,62	2865 ÷ 2895				
4	13,6	13,4	13,4	7,87	7,75	7,74	7,80	7,62	7,61	4,50	4,40	2885 ÷ 2910				
5,5	18,1	17,9	18,1	10,4	10,4	10,4	10,6	10,5	10,7	6,10	6,05	2880 ÷ 2910		⩽ 1000	-15 / 40	No
7,5	24,8	24,4	24,3	14,3	14,1	14,0	14,4	14,1	14,2	8,32	8,16	2920 ÷ 2935				
9,2	30,6	30,1	30,2	17,6	17,4	17,5	17,5	17,2	17,3	10,1	9,93	2920 ÷ 2935				
11	35,7	35,0	34,9	20,6	20,2	20,2	20,6	20,2	20,2	11,9	11,7	2910 ÷ 2930				
15	47,6	46,1	45,2	27,5	26,6	26,1	27,5	26,6	26,1	15,9	15,3	2940 ÷ 2950				
18,5	58,3	56,7	55,6	33,7	32,7	32,1	34,0	33,0	32,7	19,6	19,0	2940 ÷ 2950				
22	72,9	73,1	73,7	42,1	42,2	42,6	40,9	40,4	40,6	23,6	23,3	2950 ÷ 2960				

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

ESHE-IE3-mott-2p50-en_a_te

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

GOULDS WATER TECHNOLOGY
a xylem brand

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

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

P_N	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia	IEC SIZE*	Construction Design	N. of Poles	f_N	Data for 400 V / 50 Hz Voltage				
kW	Model				Hz	cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,75	SM80B5/307PE	80	B5	2	50	0,78	7,38	2,48	3,57	3,75
1,1	SM80B5/311PE	80				0,79	8,31	3,63	3,95	3,95
1,5	SM90RB5/315PE	90R				0,80	8,80	4,96	4,31	4,10
2,2	PLM90B5/322 E3	90				0,80	8,77	7,28	3,72	3,70
3	PLM100RB5/330 E3	100R				0,79	7,81	9,93	4,26	3,94
4	PLM112RB5/340 E3	112R				0,85	9,13	13,2	3,82	4,32
5,5	PLM132RB5/355 E3	132R				0,85	10,5	18,1	4,74	5,11
7,5	PLM132B5/375 E3	132				0,85	10,2	24,4	3,43	4,76
11	PLM160B35/3110 E3	160	B35			0,88	8,59	35,6	2,36	4,14
15	PLM160B35/3150 E3	160				0,88	9,51	48,6	2,73	4,32
18,5	PLM160B35/3185 E3	160				0,88	9,81	59,9	2,81	4,53
22	PLM180RB35/3220 E3	180R				0,85	10,9	71,1	3,26	5,12

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

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

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

GOULDS WATER TECHNOLOGY
a xylem brand

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

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

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

P_N	Voltage U_N V											n_N	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	Δ			Y			Δ			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
kW	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V					
	I_N (A)											min^{-1}				
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98	2875 ÷ 2895				
1,1	4,19	4,14	4,16	2,42	2,39	2,40	2,41	2,38	2,38	1,39	1,37	2870 ÷ 2900				
1,5	5,35	5,11	5,04	3,09	2,95	2,91	3,09	2,96	2,91	1,78	1,71	2865 ÷ 2890				
2,2	7,97	7,90	7,98	4,60	4,56	4,61	4,57	4,54	4,57	2,64	2,62	2880 ÷ 2900				
3	10,2	10,0	10,1	5,91	5,79	5,82	5,94	5,83	5,87	3,43	3,37	2895 ÷ 2920				
4	13,3	13,1	13,1	7,69	7,56	7,55	7,70	7,56	7,57	4,45	4,36	2885 ÷ 2905				
5,5	18,9	18,8	18,9	10,9	10,9	10,9	10,7	10,6	10,7	6,20	6,14	2925 ÷ 2940				
7,5	24,8	24,4	24,3	14,3	14,4	14,0	14,4	14,1	14,2	8,32	8,16	2920 ÷ 2935				
11	35,0	33,9	33,0	20,2	19,6	19,1	20,4	19,6	19,2	11,8	11,3	2935 ÷ 2950				
15	47,6	46,1	45,2	27,5	26,6	26,1	27,5	26,6	26,1	15,9	15,3	2940 ÷ 2950				
18,5	58,3	56,7	55,6	33,7	32,7	32,1	34,0	33,0	32,7	19,6	19,0	2940 ÷ 2950				
														≤ 1000	-15 / 40	No

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

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

P_N	Efficiency η_N %									IE	Year of manufacture
	Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V				
kW	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
22	93,4	93,2	92,7	93,7	93,3	92,5	93,8	93,3	92,3	3	from 11/2014
30	94,0	94,0	93,1	94,1	94,0	92,8	94,2	93,9	92,6		
37	94,4	94,0	93,5	94,6	94,0	93,3	94,7	93,9	93,1		
45	94,8	94,9	94,6	95,1	95,1	94,6	95,3	95,2	94,5		
55	95,1	95,0	94,9	95,4	95,3	94,9	95,5	95,3	94,8		
75	95,4	95,2	94,6	95,6	95,3	94,5	95,7	95,3	94,4		

P_N	Manufacturer: WEG Equipamentos Eletricos S.A. Reg. No. 07.175.725/0010-50 Jaragua do Sul - SC (Brazil) 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
22	W22 180M B3 22KW E3	180	B3	2	50	0,87	8,00	71,10	2,50	3,30
30	W22 200L B3 30KW E3	200	B3			0,86	7,30	96,60	2,60	2,90
	W22 200L B35 30KW E3		B35							
37	W22 200L B3 37KW E3	200	B3			0,86	7,30	119,2	2,60	2,90
	W22 200L B35 37KW E3		B35							
45	W22 225S/M B3 45KW E3	225	B3			0,88	8,00	144,7	2,70	3,20
55	W22 250S/M B3 55KW E3	250				0,89	7,90	177,1	2,80	2,90
75	W22 280S/M B3 75KW E3	280				0,90	7,60	240,3	2,30	2,90

P_N	Voltage U_N V: Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	n_N min^{-1}	See note.	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
kW	I_N (A)									
22	40,70	39,00	37,90	23,40	22,60	2950 ÷ 2960				
30	55,10	53,50	52,70	31,70	31,00	2960 ÷ 2970				
37	67,70	65,60	64,70	39,00	38,00	2960 ÷ 2970		≤ 1000	-15 / 40	No
45	80,10	77,60	74,60	46,10	45,00	2965 ÷ 2970				
55	97,60	93,50	91,00	56,20	54,20	2960 ÷ 2965				
75	131,0	126,0	121,0	75,40	73,00	2975 ÷ 2980				

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

ESHF-IE3-mott75-2p50-en_a_te

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

GOULDS WATER TECHNOLOGY
a xylem brand

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

P_N	Efficiency η_N %																		IE	Year of manufacture
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 240 V Y 415 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V				
kW	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
0,25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	06/2011
0,37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,75	80,4	81,3	79,8	81,1	81,4	79,1	81,4	81,2	78,4	80,4	81,2	78,4	80,4	81,2	78,4	80,4	81,2	78,4	2	
1,1	84,9	85,7	84,7	85,3	85,5	83,8	85,3	85	82,7	84,9	85	82,7	84,9	85	82,7	84,9	85	82,7	3	from 11/2014
1,5	86,6	87	85,7	86,7	86,9	84,5	86,4	85,9	83,3	86,4	85,9	83,3	86,4	85,9	83,3	86,4	85,9	83,3		
2,2	87,6	88,6	88,3	88,2	88,8	87,9	88,5	88,7	87,4	87,6	88,6	87,4	87,6	88,6	87,4	87,6	88,6	87,4		
3	88,5	89,2	88,5	88,6	88,9	87,6	88,6	88,6	86,8	88,5	88,6	86,8	88,5	88,6	86,8	88,5	88,6	86,8		
4	88,6	89,1	87,9	88,6	89,1	87,9	88,6	89,1	87,9	88,6	89,2	88,9	88,6	89,2	88,4	88,8	89,1	87,9		
5,5	90,4	90,9	89,7	90,4	90,9	89,7	90,4	90,9	89,7	90,4	91,0	90,5	90,9	91,1	90,2	90,9	90,9	89,7		
7,5	90,4	91,2	90,4	90,4	91,2	90,4	90,4	91,2	90,4	90,4	91,2	91,1	90,7	91,3	90,8	90,9	91,2	90,4		
11	91,5	92,2	91,4	91,5	92,2	91,4	91,5	92,2	91,4	91,5	92,4	92,4	91,9	92,5	92,0	91,9	92,2	91,4		

P_N	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia	IEC SIZE*	Construction Design	N. of Poles	f_N	Data for 400 V / 50 Hz Voltage				
kW	Model				Hz	cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,25	SM471B5/302	71	B5	4	50	0,59	3,58	1,71	3,16	2,63
0,37	SM471B5/304	71				0,60	3,39	2,57	3,40	2,47
0,55	SM490RB14S2/305	90R	SPECIAL			0,67	3,95	3,77	2,45	2,38
0,75	LLM490RB5S2/307 IE2	90R				0,75	5,78	5,03	2,77	3,31
1,1	PLM490B5S2/311 E3	90				0,71	6,22	7,28	2,75	3,44
1,5	PLM490B5S2/315 E3	90				0,68	6,92	9,89	3,29	4,01
2,2	PLM4100B5S3/322 E3	100				0,78	7,47	14,5	2,38	3,69
3	PLM4100B5S3/330 E3	100				0,74	7,75	19,7	2,48	4,21
4	PLM4112B5S3/340 E3	112				0,79	8,32	26,3	3,19	4,02
5,5	PLM4132B14S4/355 E3	132				0,76	7,64	35,9	2,85	3,65
7,5	PLM4132B14S4/375 E3	132				0,79	7,70	49,1	2,69	3,57
11	PLM4160B34S4/3110 E3	160				0,81	7,19	71,5	2,45	3,26

P_N	Voltage U_N V											n_N	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	Δ			Y			Δ			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
kW	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V	I_N (A)				
0,25	1,68	1,71	1,77	0,97	0,99	1,02	-	-	-	-	-	1375 ÷ 1400				
0,37	2,46	2,53	2,62	1,42	1,46	1,51	-	-	-	-	-	1355 ÷ 1380				
0,55	2,98	3,03	3,1	1,72	1,75	1,79	-	-	-	-	-	1380 ÷ 1400				
0,75	3,08	3,03	3,01	1,78	1,75	1,74	1,78	1,75	1,74	1,03	1,01	1410 ÷ 1430				
1,1	4,61	4,59	4,62	2,66	2,65	2,67	2,64	2,63	2,65	1,53	1,52	1435 ÷ 1445				
1,5	6,34	6,41	6,41	3,66	3,7	3,7	3,65	3,68	3,69	2,11	2,13	1440 ÷ 1450				
2,2	8,19	8,04	7,97	4,73	4,64	4,6	4,70	4,62	4,56	2,71	2,67	1445 ÷ 1455				
3	11,5	11,5	11,5	6,66	6,62	6,67	6,63	6,59	6,63	3,83	3,81	1450 ÷ 1460				
4	14,8	14,6	14,5	8,52	8,40	8,36	8,40	8,23	8,19	4,85	4,75	1445 ÷ 1455				
5,5	20,0	19,7	19,4	11,6	11,4	11,2	11,7	11,5	11,4	6,75	6,62	1455 ÷ 1465				
7,5	26,6	26,1	25,8	15,4	15,1	14,9	15,5	15,2	15,1	8,95	8,75	1450 ÷ 1460				
11	38,3	37,3	37,5	22,1	21,8	21,7	21,9	21,4	21,3	12,6	12,3	1465 ÷ 1470				
														≤ 1000	-15 / 40	No

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

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

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

P_N	Efficiency η_N %																		IE	Year of manufacture
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 240 V Y 415 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V				
kW	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
0,25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	06/2011
0,37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0,75	80,4	81,3	79,8	81,1	81,4	79,1	81,4	81,2	78,4	80,4	81,2	78,4	80,4	81,2	78,4	80,4	81,2	78,4	2	
1,1	84,9	85,7	84,7	85,3	85,5	83,8	85,3	85	82,7	84,9	85	82,7	84,9	85	82,7	84,9	85	82,7	3	from 11/2014
1,5	86,6	87	85,7	86,7	86,9	84,5	86,4	85,9	83,3	86,4	85,9	83,3	86,4	85,9	83,3	86,4	85,9	83,3		
2,2	87,6	88,6	88,3	88,2	88,8	87,9	88,5	88,7	87,4	87,6	88,6	87,4	87,6	88,6	87,4	87,6	88,6	87,4		
3	88,5	89,2	88,5	88,6	88,9	87,6	88,6	88,6	86,8	88,5	88,6	86,8	88,5	88,6	86,8	88,5	88,6	86,8		
4	88,6	89,1	87,9	88,6	89,1	87,9	88,6	89,1	87,9	88,6	89,2	88,9	88,6	89,2	88,4	88,8	89,1	87,9		
5,5	90,4	90,9	89,7	90,4	90,9	89,7	90,4	90,9	89,7	90,4	91,0	90,5	90,9	91,1	90,2	90,9	90,9	89,7		
7,5	90,4	91,2	90,4	90,4	91,2	90,4	90,4	91,2	90,4	90,4	91,2	91,1	90,7	91,3	90,8	90,9	91,2	90,4		
11	91,5	92,2	91,4	91,5	92,2	91,4	91,5	92,2	91,4	91,5	92,4	92,4	91,9	92,5	92,0	91,9	92,2	91,4		

P_N	Manufacturer: Xylem Service Italia Srl, Reg. No. 07520560967, Montecchio Maggiore Vicenza - Italia	IEC SIZE	Construction Design	N. of Poles	f_N	Data for 400 V / 50 Hz Voltage				
kW	Model				Hz	cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,25	SM471B3/302	71	B3	4	50	0,59	3,58	1,71	3,16	2,63
0,37	SM471B3/304	71				0,60	3,39	2,57	3,40	2,47
0,55	SM480B3/305	80	B3			0,67	3,95	3,77	2,45	2,38
	SM480B5/305		B5							
0,75	LLM480B3/307 IE2	80	B3			0,75	5,78	5,03	2,77	3,31
	LLM480B5/307 IE2		B5							
1,1	PLM490B3/311 E3	90	B3			0,71	6,22	7,28	2,75	3,44
	PLM490B5/311 E3		B5							
1,5	PLM490B3/315 E3	90	B3			0,68	6,92	9,89	3,29	4,01
	PLM490B5/315 E3		B5							
2,2	PLM4100B3/322 E3	100	B3			0,78	7,47	14,5	2,38	3,69
	PLM4100B5/322 E3		B5							
3	PLM4100B3/330 E3	100	B3			0,74	7,75	19,7	2,48	4,21
	PLM4100B5/330 E3		B5							
4	PLM4112B3/340 E3	112	B3			0,79	8,32	26,3	3,19	4,02
	PLM4112B5/340 E3		B5							
5,5	PLM4132B3/355 E3	132	B3			0,76	7,64	35,9	2,85	3,65
	PLM4132B5/355 E3		B5							
7,5	PLM4132B3/375 E3	132	B3			0,79	7,70	49,1	2,69	3,57
	PLM4132B5/375 E3		B5							
11	PLM4160B3/3110 E3	160	B3			0,81	7,19	71,5	2,45	3,26
	PLM4160B35/3110 E3		B35							

P_N	Voltage U_N V											n_N	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	Δ			Y			Δ			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V					
kW	I_N (A)											min^{-1}				
0,25	1,68	1,71	1,77	0,97	0,99	1,02	-	-	-	-	-	1375 ÷ 1400				
0,37	2,46	2,53	2,62	1,42	1,46	1,51	-	-	-	-	-	1355 ÷ 1380				
0,55	2,98	3,03	3,10	1,72	1,75	1,79	-	-	-	-	-	1380 ÷ 1400				
0,75	3,08	3,03	3,01	1,78	1,75	1,74	1,78	1,75	1,74	1,03	1,01	1410 ÷ 1430				
1,1	4,61	4,59	4,62	2,66	2,65	2,67	2,64	2,63	2,65	1,53	1,52	1435 ÷ 1445				
1,5	6,34	6,41	6,41	3,66	3,7	3,7	3,65	3,68	3,69	2,11	2,13	1440 ÷ 1450				
2,2	8,19	8,04	7,97	4,73	4,64	4,6	4,70	4,62	4,56	2,71	2,67	1445 ÷ 1455				
3	11,5	11,5	11,5	6,66	6,62	6,67	6,63	6,59	6,63	3,83	3,81	1450 ÷ 1460				
4	14,8	14,6	14,5	8,52	8,40	8,36	8,40	8,23	8,19	4,85	4,75	1445 ÷ 1455				
5,5	20,0	19,7	19,4	11,6	11,4	11,2	11,7	11,5	11,4	6,75	6,62	1455 ÷ 1465				
7,5	26,6	26,1	25,8	15,4	15,1	14,9	15,5	15,2	15,1	8,95	8,75	1450 ÷ 1460				
11	38,3	37,3	37,5	22,1	21,8	21,7	21,9	21,4	21,3	12,6	12,3	1465 ÷ 1470				
														≤ 1000	-15 / 40	No

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

MOTOR NOISE

The tables below show the mean sound pressure levels (Lp) measured at 1 meter's distance in a free field according to the A curve (ISO 1680 standard).
The noise values are measured with idling 50 Hz motor with a tolerance of 3 dB (A).

ESHE, ESHS MOTORS 2 POLES 50 Hz

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

ESHF, ESHC MOTORS 2 POLES 50 Hz

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

ESHE MOTORS 4 POLES 50 Hz

POWER 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

ESHS, ESHF MOTORS 4 POLES 50 Hz

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

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

ESH_mott_a_tr

ErP 2009/125/EC

GOULDS WATER TECHNOLOGY
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ESH SERIES
PUMPS

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

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

For end-suction close-coupled pumps (ESCC for the Regulation) and end-suction own-bearing pumps (ESOB for the Regulation) the efficiency assessment refers to:
- just the pump and not the pump and motor assembly (electric or combustion);
- pumps with just one impeller;
- pumps with a nominal pressure PN not higher than 16 bar (1600 kPa);
- pumps with a minimum nominal flow not less than 6 m^3/h;
- pumps with a maximum nominal power at the shaft not higher than 150 kW;
- pumps designed to operate at a speed of 2900 min^{-1} (for electric pumps this means 50 Hz 2-pole electric motors) and with a head not greater than 140 metres;
- pumps designed to operate at a speed of 1450 min^{-1} (for electric pumps this means 50 Hz 4-pole electric motors) and with a head not greater than 90 metres;
- use with clean water at a temperature ranging from -10°C to 120°C (the test is performed with cold water at a temperature not higher than 40°C).

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

The Regulation also establishes the following deadlines.

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

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

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

GOULDS WATER TECHNOLOGY
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ESH SERIES
MINIMUM EFFICIENCY INDEX (MEI)

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

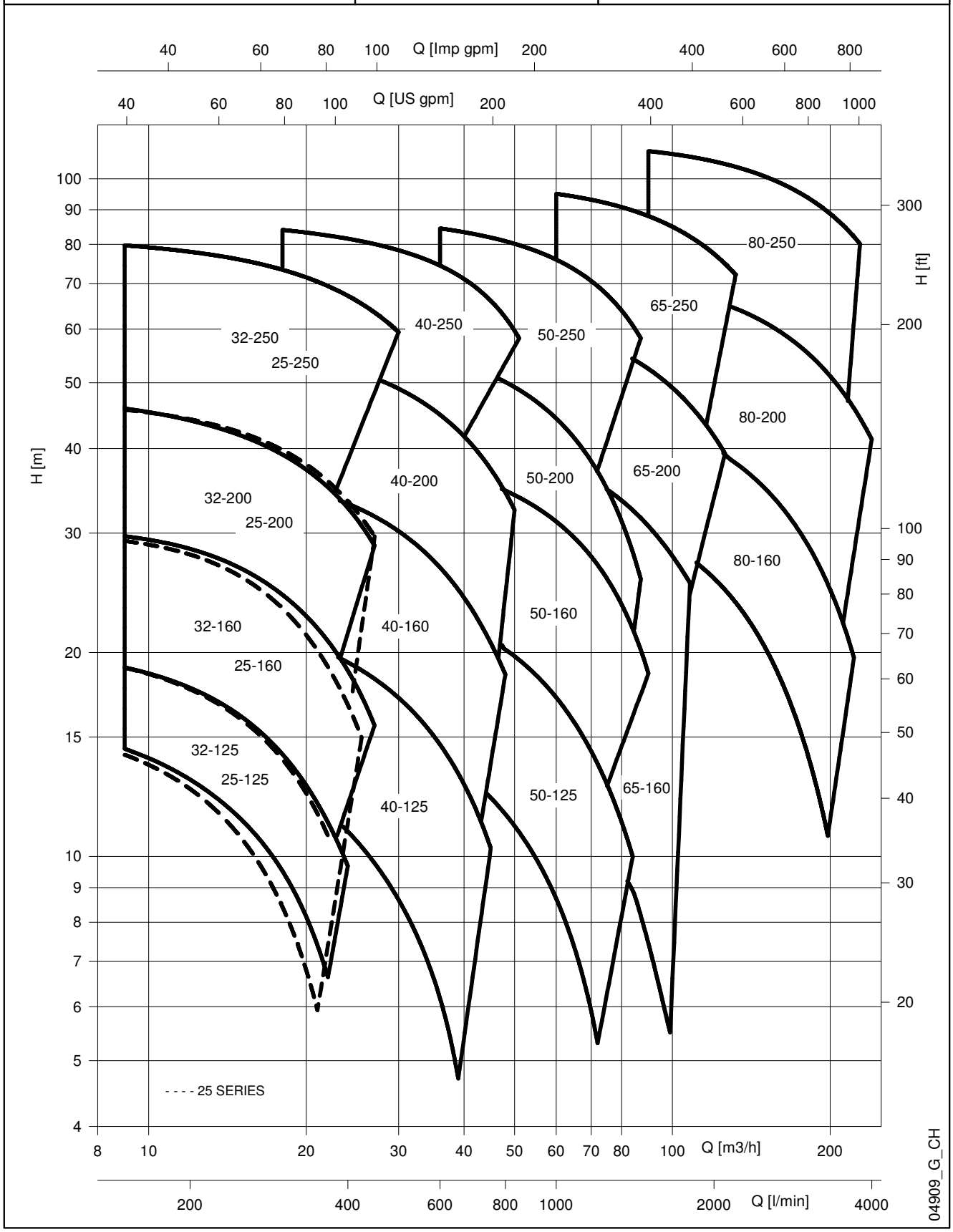
4-POLE		
PUMP SIZE	ESH, ESHE ESHF	ESHS
25-125/128	≥0,40	≥0,40
25-160/154	≥0,40	≥0,40
25-200/195	≥0,40	≥0,40
25-250/244,5	≥0,40	≥0,40
32-125/128	≥0,40	≥0,40
32-160/154	≥0,40	≥0,40
32-200/195	≥0,40	≥0,40
32-250/244,5	≥0,40	≥0,40
40-125/133	≥0,40	≥0,40
40-160/171	≥0,40	≥0,40
40-200/209	≥0,40	≥0,40
40-250/251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

ESH-MEI-en_c_sc

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES

ESH	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



GOULDS WATER TECHNOLOGY
a xylem brand

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

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

PUMP TYPE	P_N kW	Ø Impeller (mm)	○ ● (1)	ηp % (2)	Q = DELIVERY l/s 0	3,9	4,7	5,8	6,7	7,5	8,6	9,4	10,6	11,4	12,2	13,3	14,2
					m^3/h 0	14	17	21	24	27	31	34	38	41	44	48	51
					H = TOTAL HEAD METRES COLUMN OF WATER												
40-125/11*	1,1	112	○	67,9	15,7	14,1	13,3	12,0	10,9	9,8	8,2	7,0	5,2				
40-125/15*	1,5	125	○	71,7	19,9		17,4	16,2	15,2	14,0	12,4	11,2	9,4	8,0			
40-125/22*	2,2	133	●	70,5	23,4			20,3	19,4	18,3	16,8	15,6	13,8	12,3	10,8		
40-160/30	3	152	○	64,0	30,9			27,7	26,4	24,9	22,7	20,9	18,6	16,8	15,0		
40-160/40	4	171	●	69,4	37,9			34,4	33,2	31,8	29,7	27,9	25,4	23,4	21,4	18,6	
40-200/55	5,5	190	○	65,0	49,1			45,2	43,8	42,2	39,7	37,6	34,5	31,9	29,1	25,0	
40-200/75	7,5	209	●	66,5	58,2			53,9	52,4	50,8	48,4	46,3	43,3	40,9	38,2	34,4	
40-250/92	9,2	218	○	59,0	64,9			60,9	59,6	58,1	55,6	53,3	49,5	45,9			
40-250/110A	11	218	○	59,0	64,9			60,9	59,6	58,1	55,6	53,3	49,5	45,9			
40-250/110	11	233	○	58,5	74,6			70,3	69,0	67,6	65,2	63,1	59,6	56,4	52,7		
40-250/150	15	251	●	58,0	87,7			82,9	81,6	80,1	77,8	75,9	72,9	70,2	67,2	62,4	58,2

PUMP TYPE	P_N kW	Ø Impeller (mm)	○ ● (1)	ηp % (2)	Q = DELIVERY l/s 0	7,8	9,2	10,8	12,2	13,9	15,6	17,2	18,6	20,3	21,9	23,3	25,0
					m^3/h 0	28	33	39	44	50	56	62	67	73	79	84	90
					H = TOTAL HEAD METRES COLUMN OF WATER												
50-125/22*	2,2	114	○	73,1	17,5	15,5	14,7	13,6	12,5	11,2	9,7	8,1	6,7				
50-125/30	3	123	○	74,1	20,6		18,5	17,4	16,3	14,9	13,4	11,7	10,3	8,6			
50-125/40	4	131	●	75,1	24,8			22,1	21,0	19,7	18,2	16,6	15,2	13,5	11,7	10,2	
50-160/55	5,5	158	○	71,7	33,8			30,5	29,3	27,7	25,9	24,0	22,3	20,2	18,0	16,1	
50-160/75	7,5	174	●	74,0	40,7			36,8	35,6	34,1	32,4	30,6	28,8	26,5	24,0	21,7	18,6
50-200/92	9,2	197	○	70,0	52,9			46,4	44,6	42,0	39,1	35,9	32,9	29,0	24,6	20,8	
50-200/110A	11	197	○	70,0	52,9			46,4	44,6	42,0	39,1	35,9	32,9	29,0	24,6	20,8	
50-200/110	11	209	●	72,0	59,7			53,5	51,7	49,3	46,4	43,2	40,2	36,3	32,0	28,1	
50-250/150	15	224	○	69,5	70,2			65,9	64,6	62,7	60,3	57,3	54,3	50,0			
50-250/185	18,5	237	○	68,4	79,9			74,1	72,7	70,6	68,2	65,4	62,7	58,9	54,4		
50-250/220	22	250	●	67,3	88,9			83,7	82,2	80,2	77,8	75,0	72,4	68,8	64,7	60,7	

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

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

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

*Available also in single-phase version.

GOULDS WATER TECHNOLOGY
a xylem brand

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

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

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

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

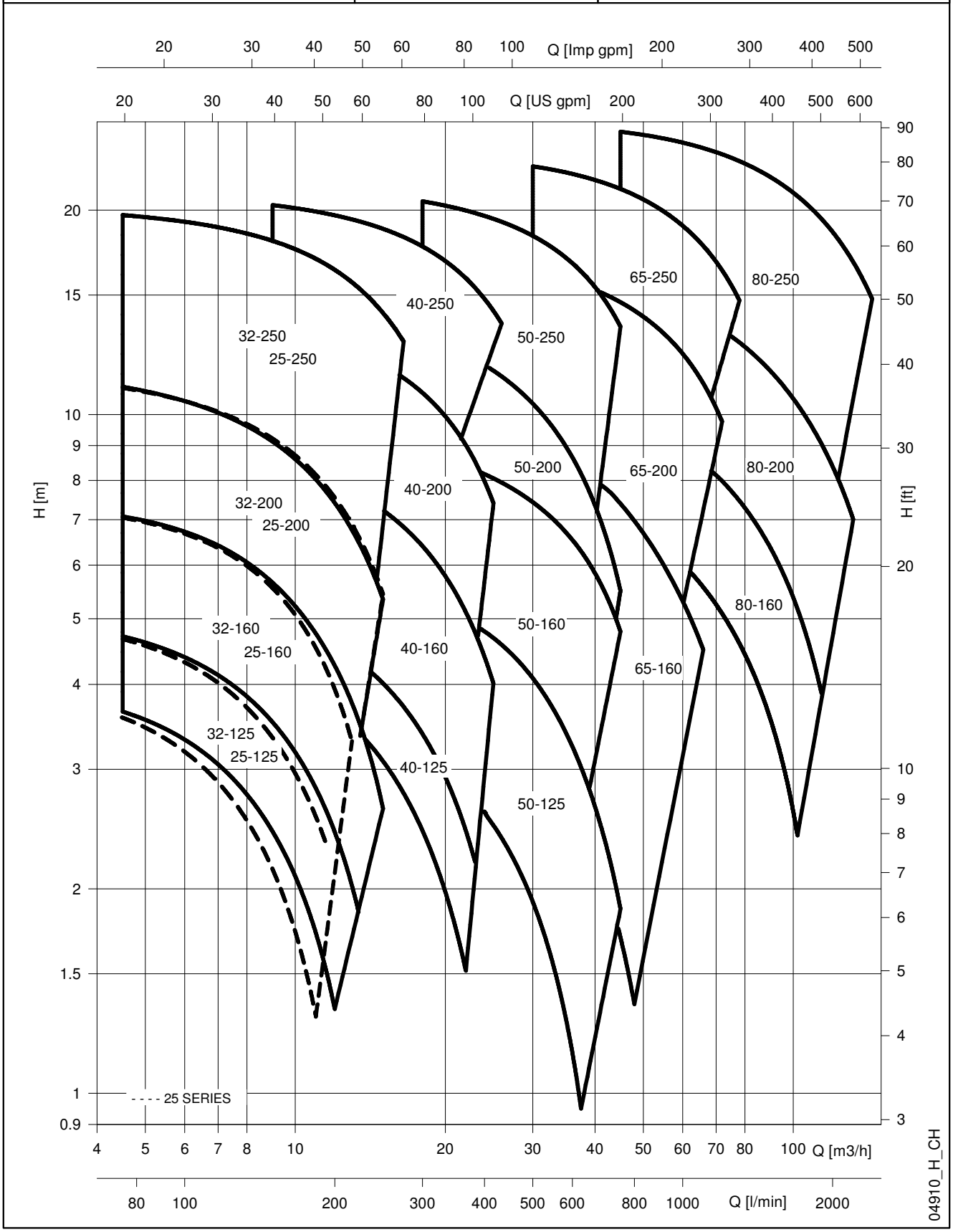
ESH-65-80_2p50-en_c_th

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

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

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



GOULDS WATER TECHNOLOGY
a xylem brand

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

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

PUMP TYPE	P_N kW	Ø Impeller (mm)	○ ● (1)	ηp % (2)	Q = DELIVERY l/s 0	2,2	2,8	3,1	3,6	4,2	4,4	5,0	5,3	5,8	6,4	6,7	6,9
					m^3/h 0	8	10	11	13	15	16	18	19	21	23	24	25
					H = TOTAL HEAD METRES COLUMN OF WATER												
40-125/02A	0,25	125	○	69,2	4,9	4,3	4,0	3,8	3,5	3,1	2,9	2,4	2,2	1,7			
40-125/02	0,25	133	●	68,1	5,7		4,9	4,7	4,4	4,0	3,8	3,4	3,2	2,7	2,2	1,9	
40-160/03	0,37	152	○	61,4	7,4	6,6	6,2	6,0	5,5	5,0	4,7	4,1	3,8	3,2	2,5	2,2	
40-160/05	0,55	171	●	66,5	9,2		8,3	8,1	7,7	7,2	7,0	6,4	6,1	5,5	4,8	4,4	4,0
40-200/07	0,75	190	○	64,3	11,9		11,0	10,8	10,3	9,7	9,3	8,6	8,2	7,3	6,3	5,8	
40-200/11	1,1	209	●	62,9	14,2		13,1	12,9	12,4	11,8	11,5	10,8	10,4	9,5	8,5	8,0	7,4
40-250/11	1,1	218	○	55,8	15,6		14,4	14,2	13,7	13,0	12,7	11,9	11,4	10,3			
40-250/15	1,5	233	○	57,0	18,1		16,8	16,6	16,1	15,5	15,2	14,4	14,0	13,1	12,0	11,4	
40-250/22	2,2	251	●	58,1	21,5		20,1	19,9	19,4	18,8	18,4	17,7	17,3	16,4	15,4	14,8	14,2

PUMP TYPE	P_N kW	Ø Impeller (mm)	○ ● (1)	ηp % (2)	Q = DELIVERY l/s 0	4,2	5,0	5,6	6,4	7,2	8,1	8,6	9,4	10,3	11,1	11,7	12,5
					m^3/h 0	15	18	20	23	26	29	31	34	37	40	42	45
					H = TOTAL HEAD METRES COLUMN OF WATER												
50-125/02	0,25	114	○	70,9	4,2	3,6	3,3	3,1	2,7	2,4	2,0	1,7	1,3	0,9			
50-125/03	0,37	123	○	72,5	4,9		4,2	4,0	3,6	3,2	2,8	2,6	2,1	1,7	1,2		
50-125/05	0,55	131	●	72,2	6,0		5,3	5,1	4,8	4,4	4,0	3,7	3,3	2,9	2,5	2,2	1,7
50-160/07	0,75	158	○	71,3	8,2		7,3	7,1	6,8	6,4	6,0	5,7	5,3	4,8	4,2	3,8	
50-160/11	1,1	174	●	73,0	9,8		8,8	8,6	8,3	7,9	7,6	7,3	6,9	6,4	5,8	5,4	4,8
50-200/11	1,1	197	○	69,1	12,8		11,2	10,8	10,2	9,6	8,8	8,3	7,4	6,5	5,5	4,8	
50-200/15	1,5	209	●	70,1	14,7		13,0	12,7	12,1	11,4	10,6	10,1	9,3	8,3	7,3	6,6	5,5
50-250/22A	2,2	224	○	70,0	17,4		16,0	15,7	15,2	14,6	14,0	13,5	12,7	11,7	10,6	9,7	
50/250/22	2,2	237	○	69,0	19,4		17,8	17,5	17,0	16,4	15,7	15,2	14,4	13,5	12,4	11,6	
50-250/30	3	250	●	67,9	21,9		20,6	20,3	19,8	19,2	18,6	18,1	17,3	16,4	15,4	14,7	13,5

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

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

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

GOULDS WATER TECHNOLOGY
a xylem brand

ESH 65, 80 SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

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

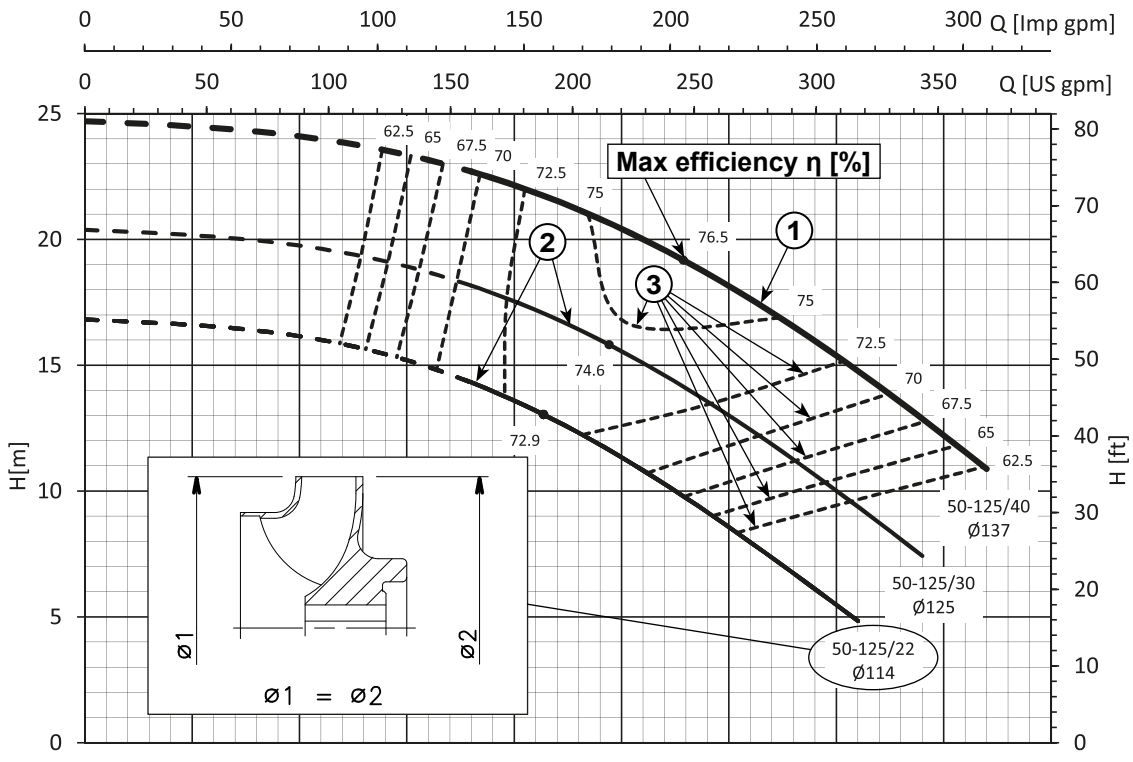
PUMP TYPE	P_N kW	Ø Impeller (mm)	○ ● (1)	ηp % (2)	Q = DELIVERY l/s 0	10,0	12,8	15,6	18,1	20,8	23,6	26,4	29,2	31,9	34,4	37,2	40,0
					m^3/h 0	36	46	56	65	75	85	95	105	115	124	134	144
					H = TOTAL HEAD METRES COLUMN OF WATER												
80-160/15	1,5	169x15°	○	75,2	8,0	7,6	7,0	6,3	5,6	4,8	4,0	3,1		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

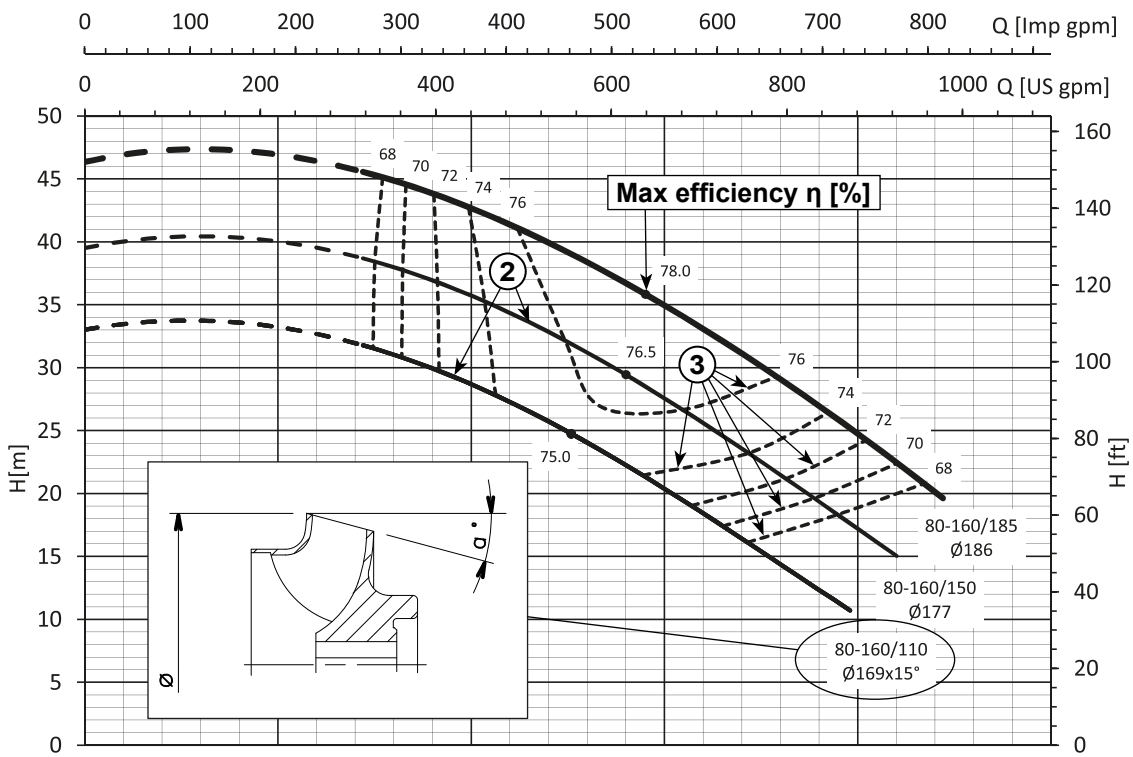
Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

ESH-65-80_4p50-en_c_th

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

ESH SERIES
IDENTIFICATION OF IMPELLER TYPOLOGY





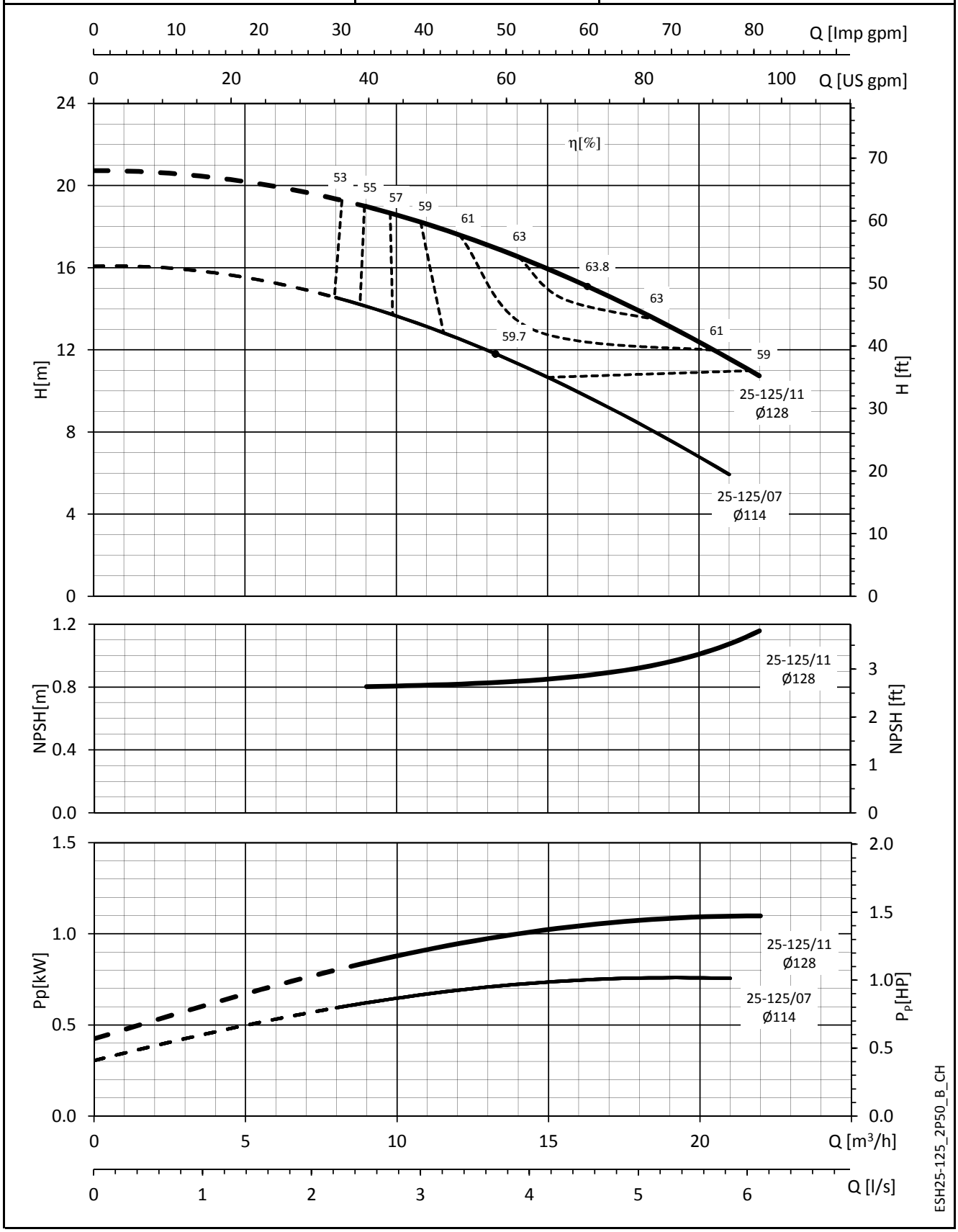
REF	TYPE	DESCRIPTION
①	———	Full Diameter impeller operating range
②	———	Trimmed diameter impeller operating range
③	- - - - -	Isoefficiency curves

04940_C_SC

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 25-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

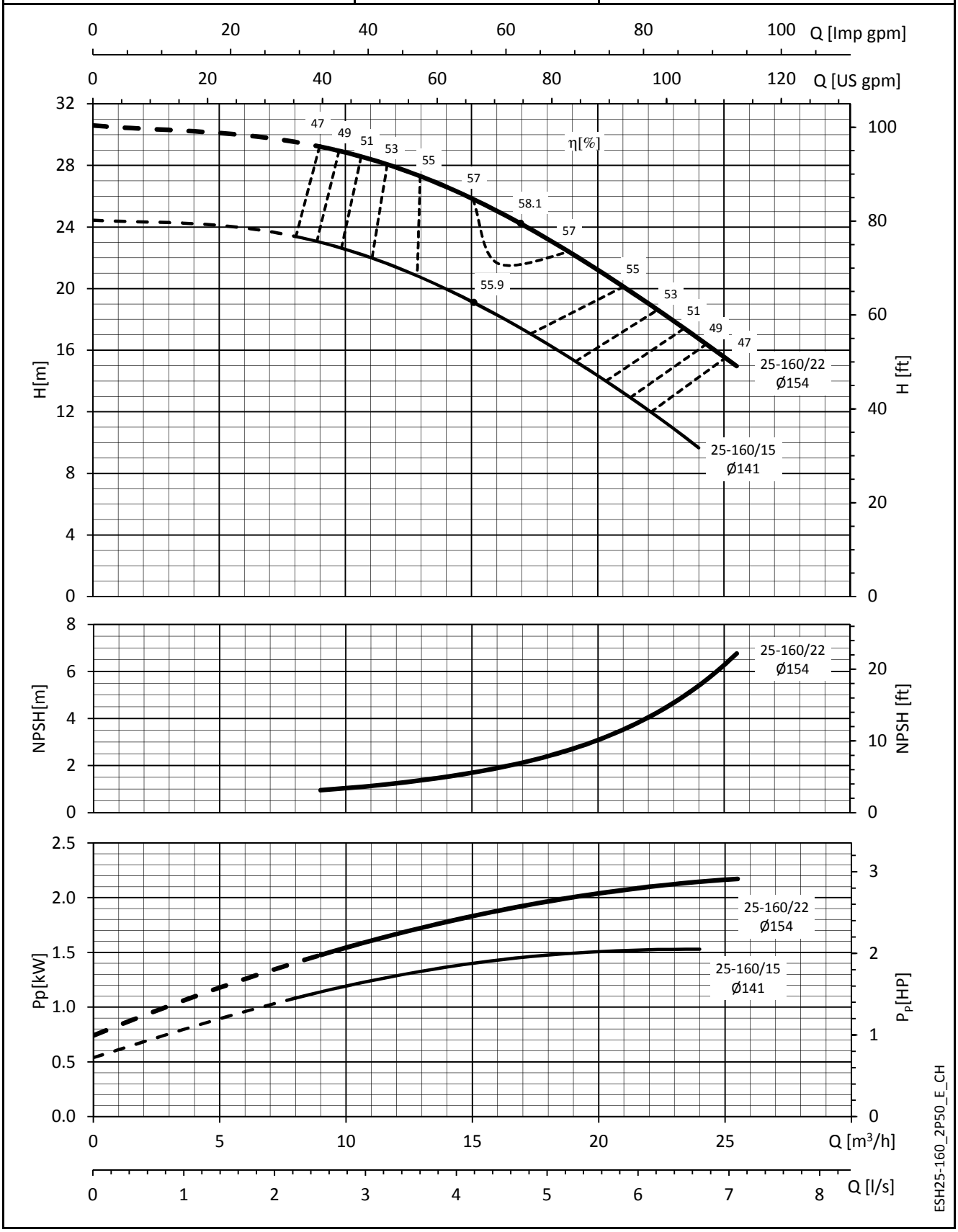


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 25-160	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

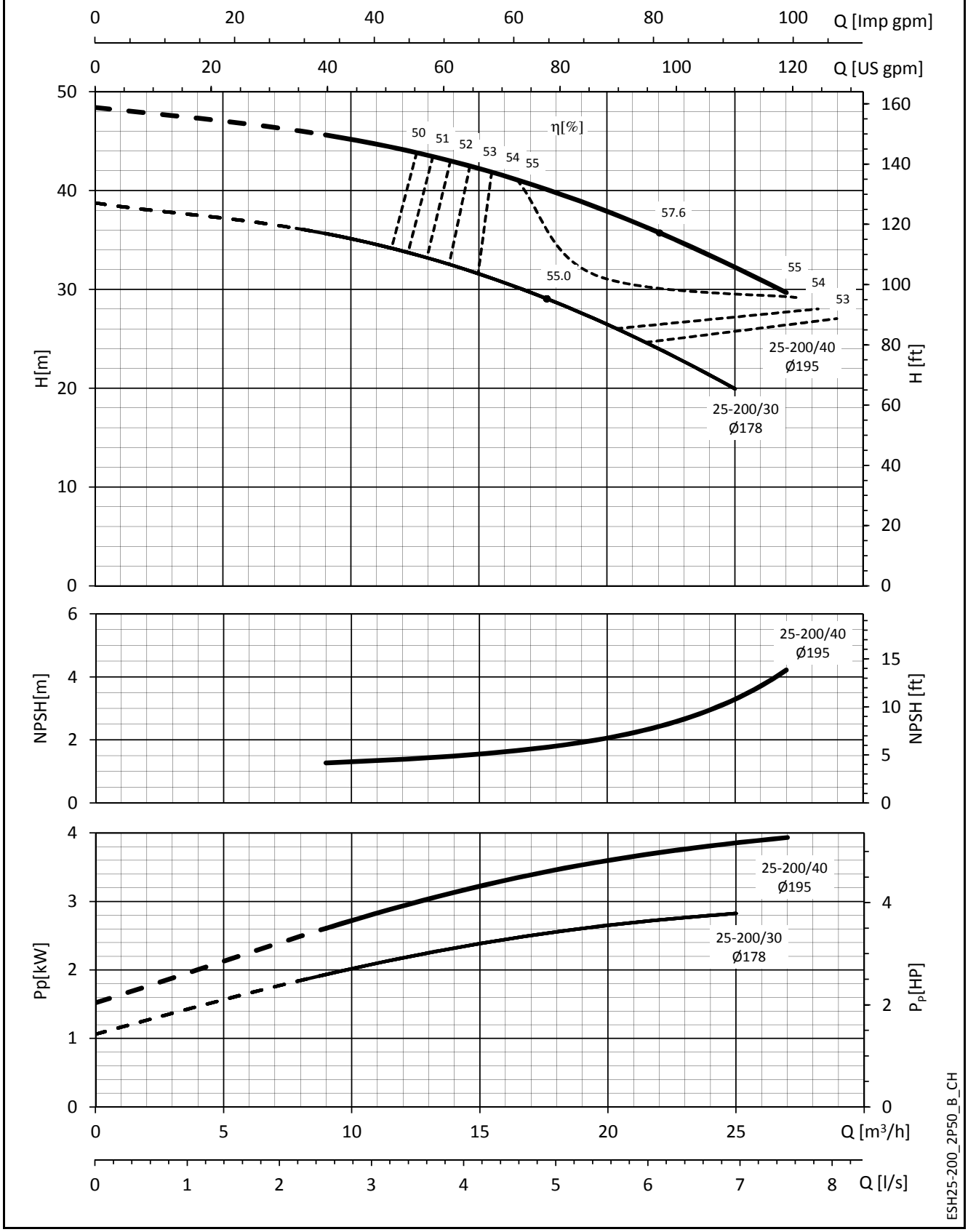


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 25-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

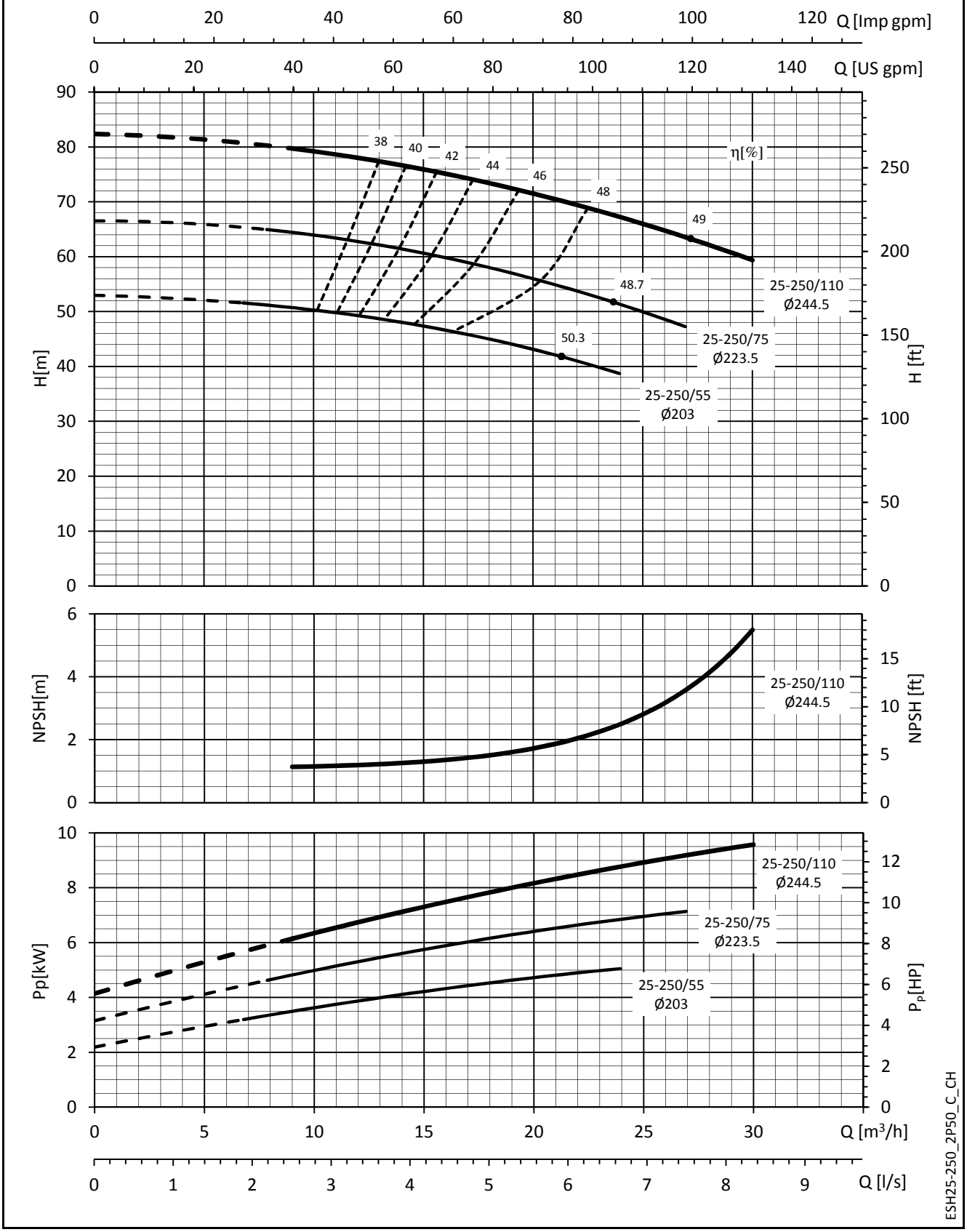


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 25-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

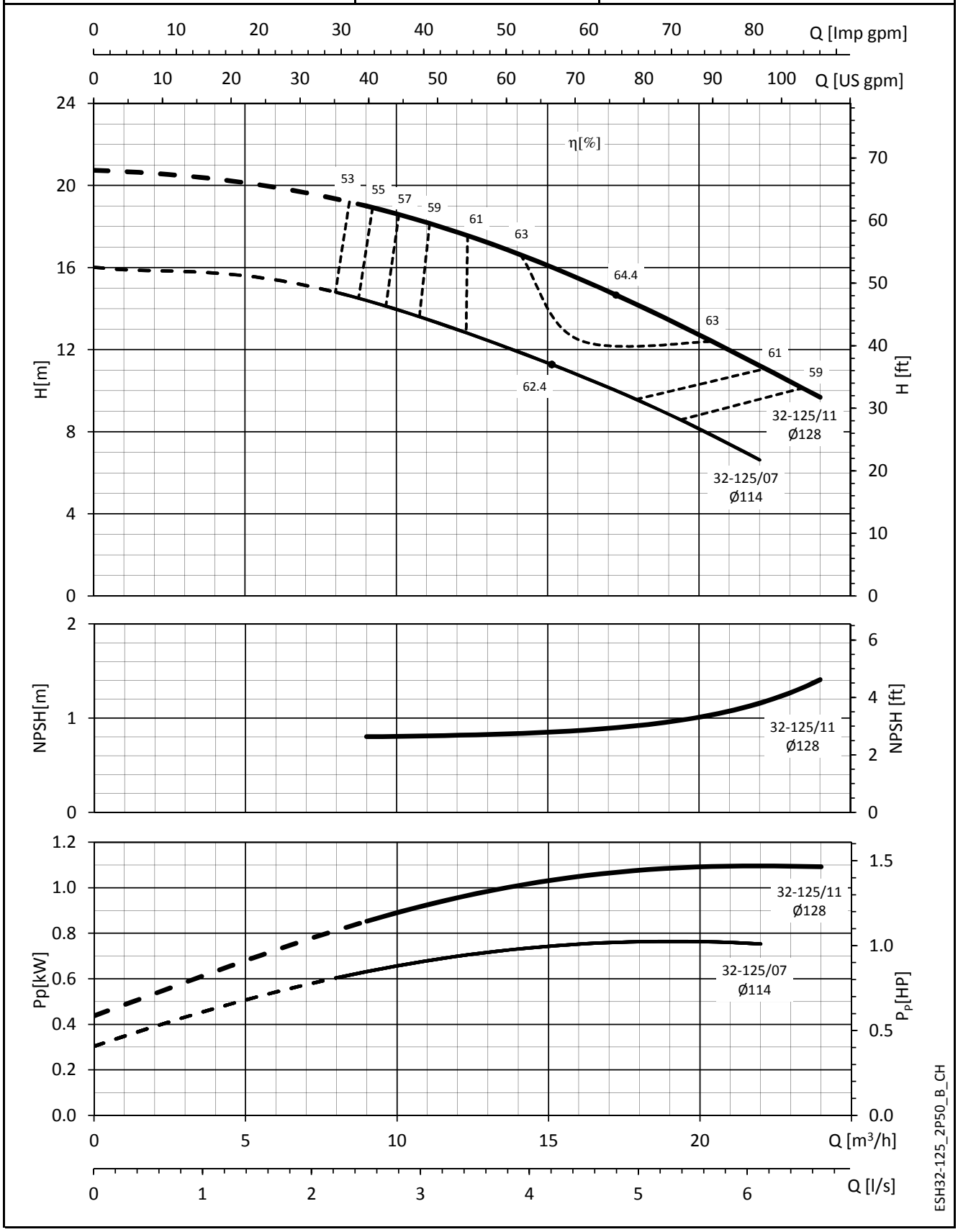


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 32-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

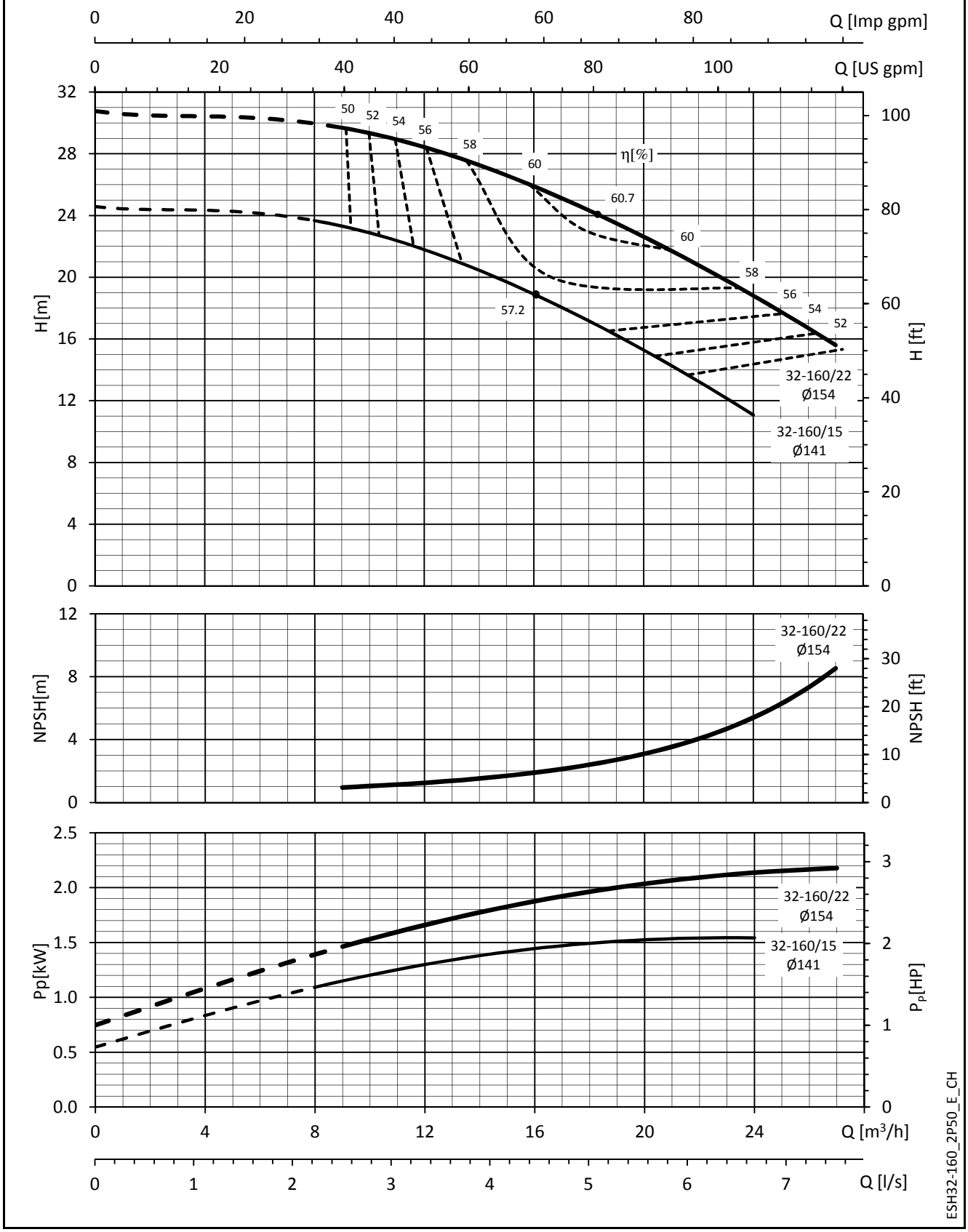


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

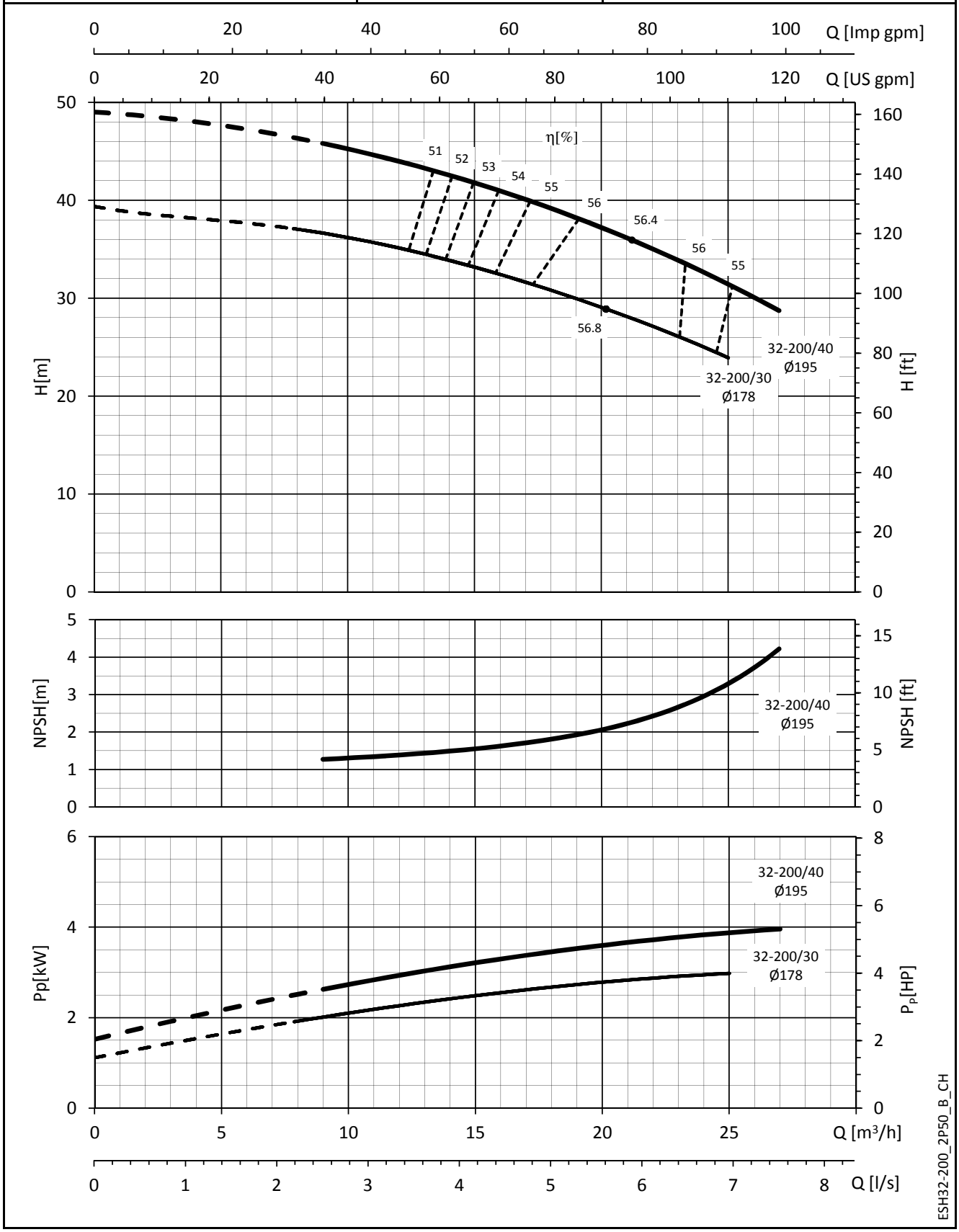


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 32-200	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

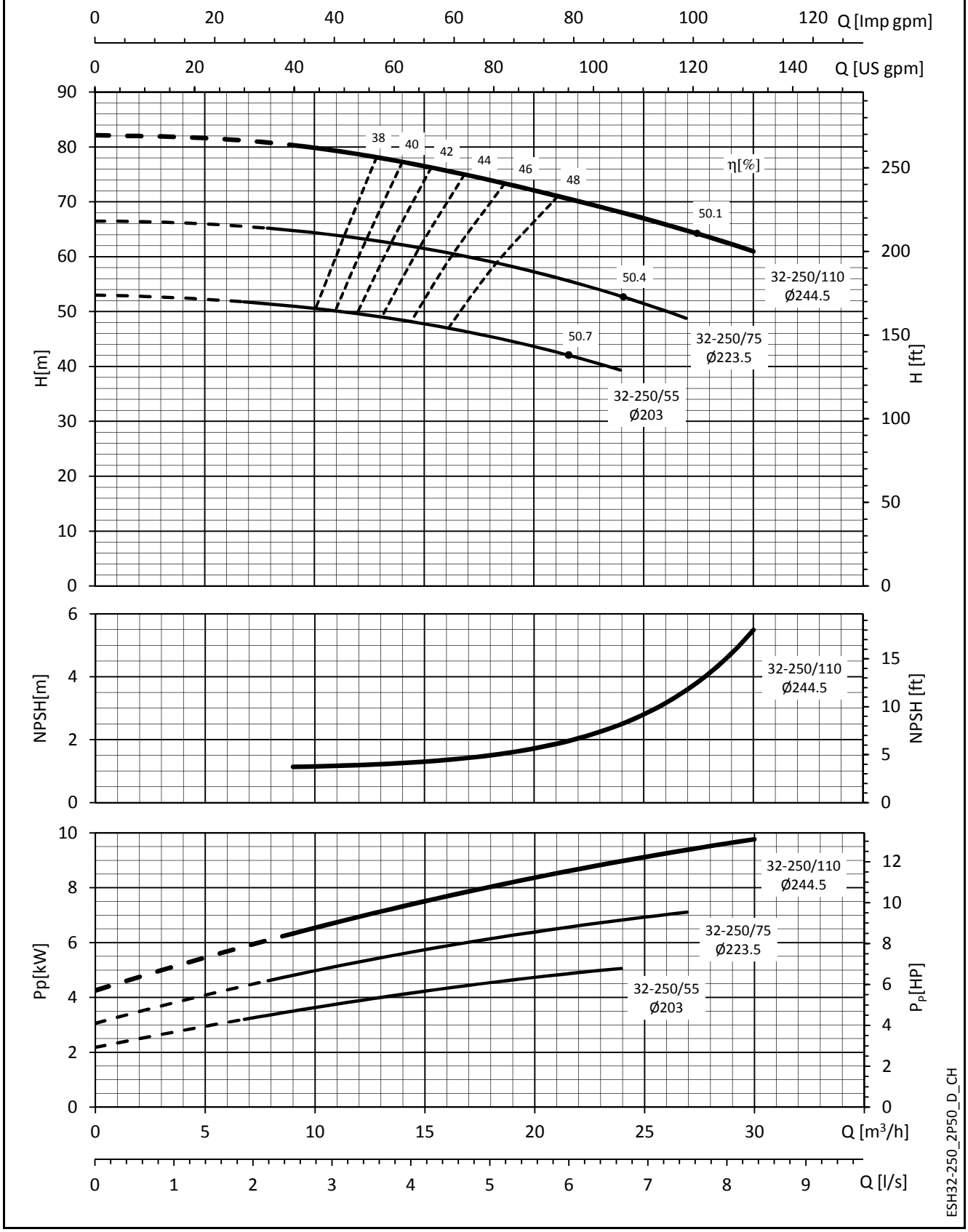


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

ESH 32-250	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B

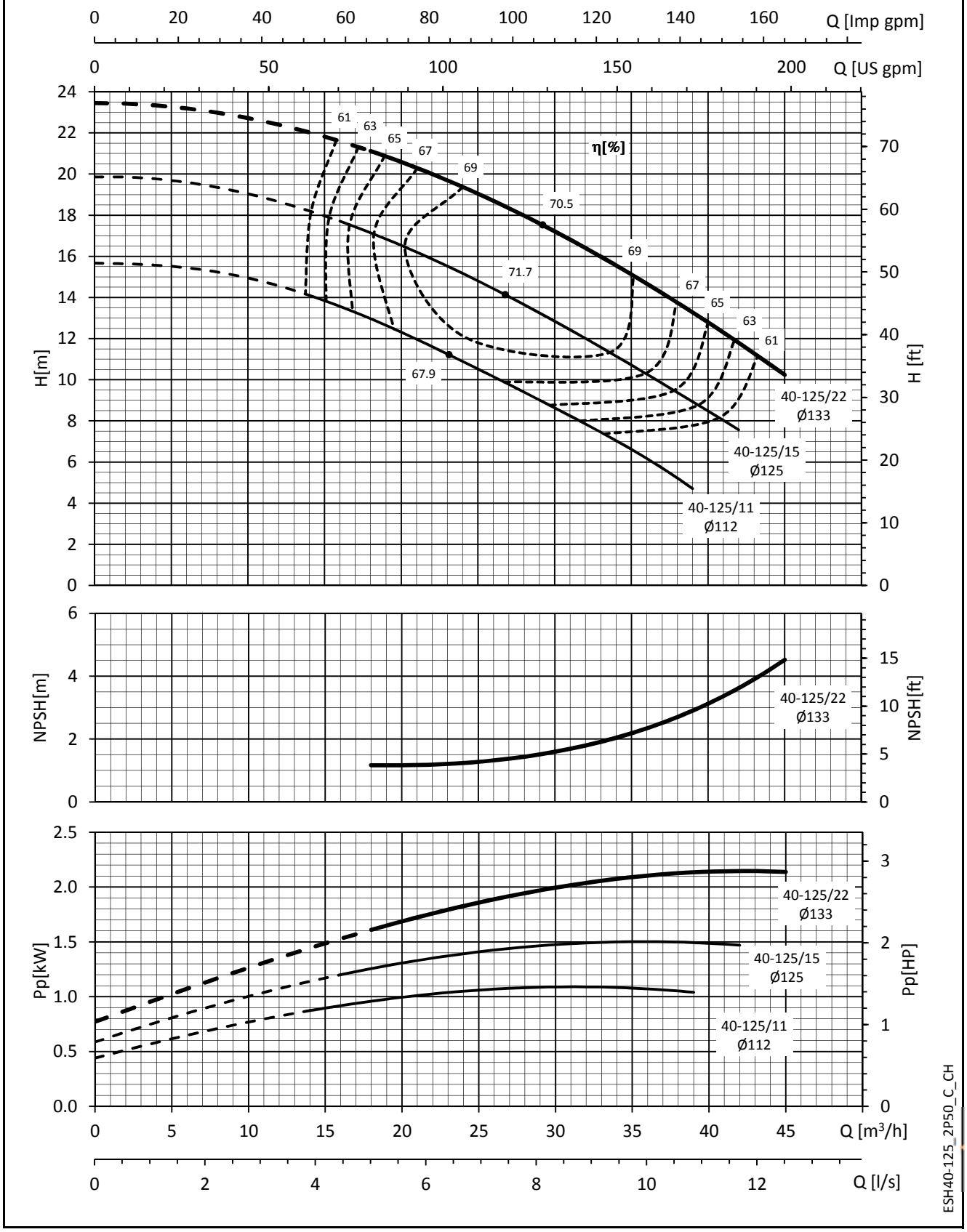


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

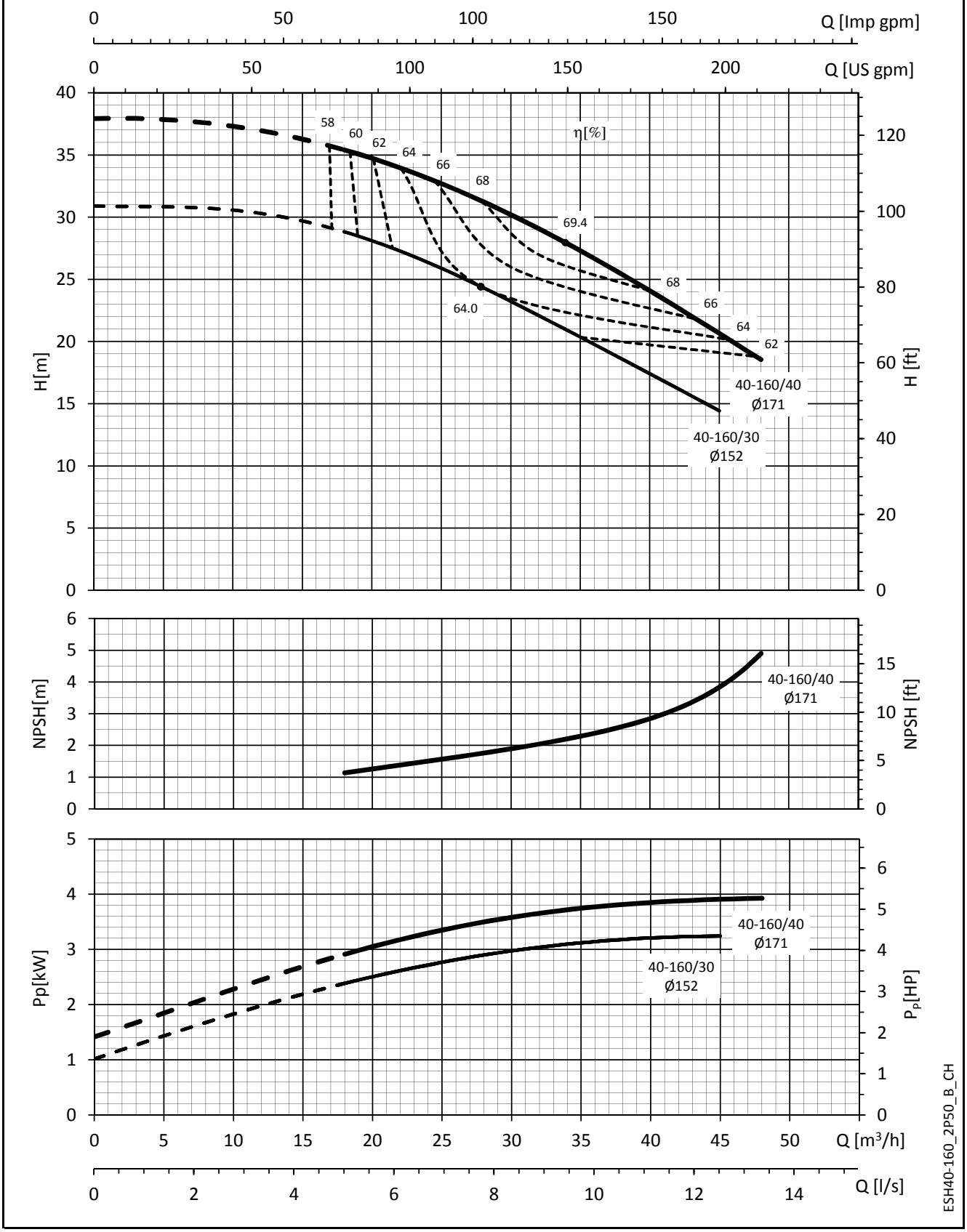


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

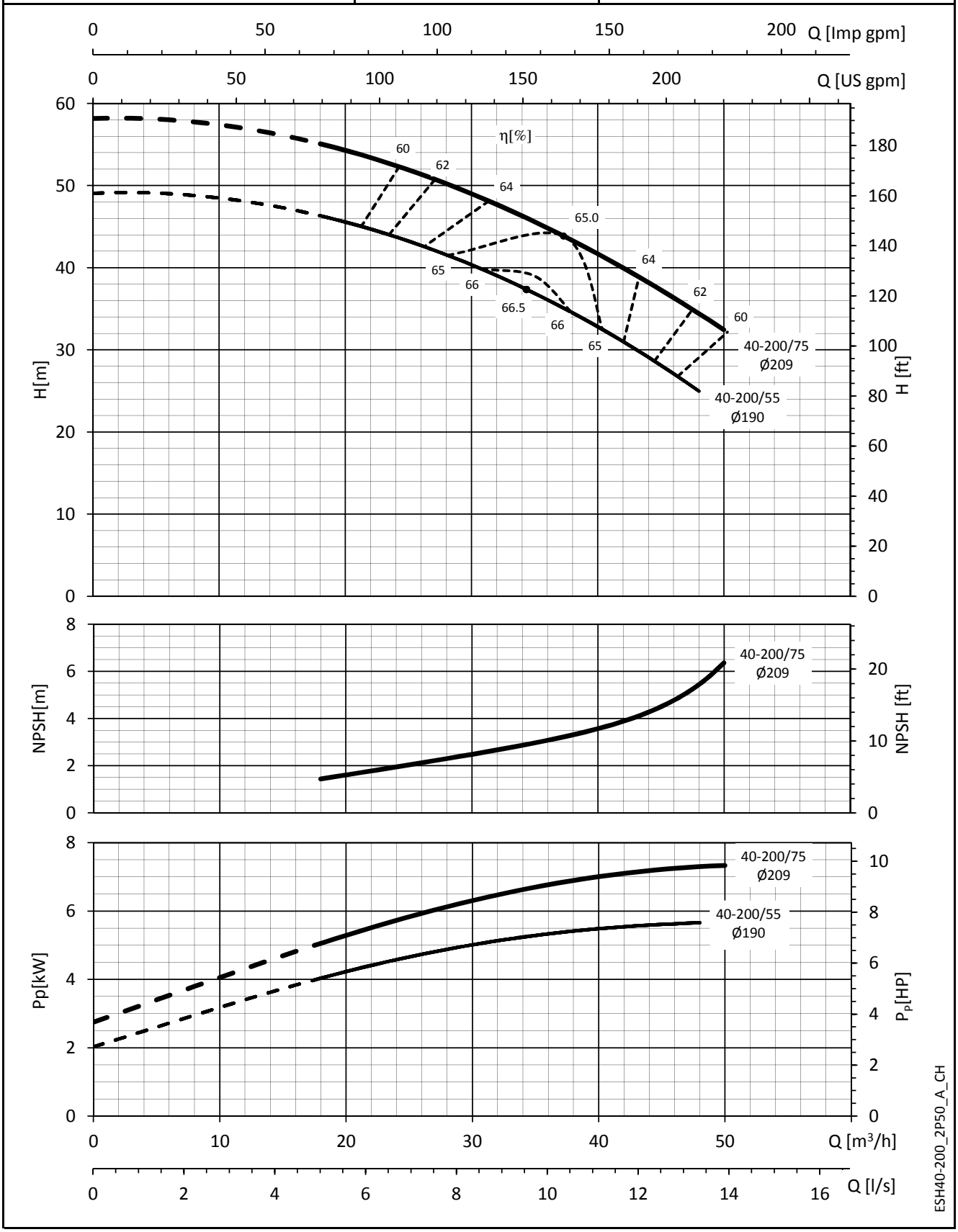


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These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

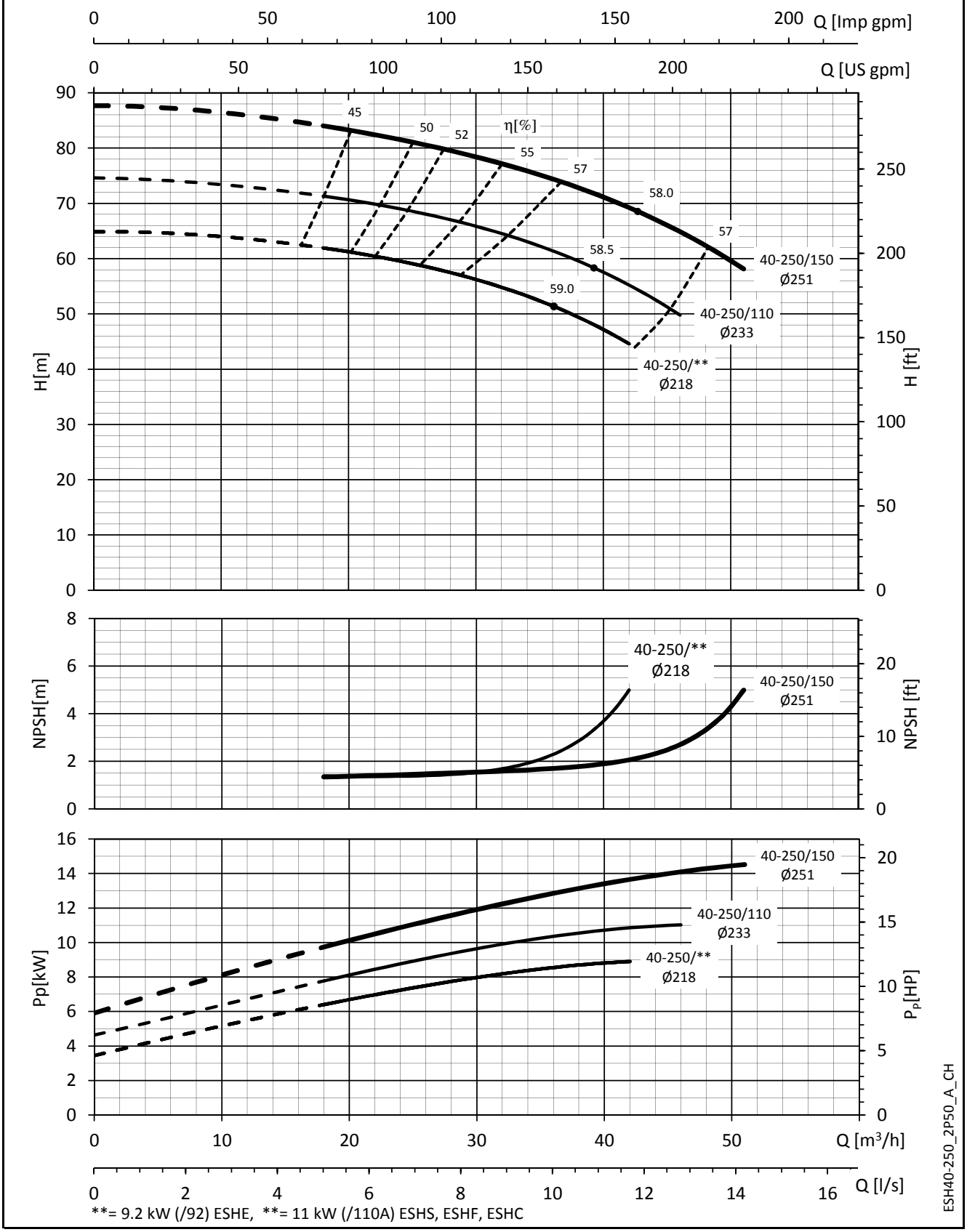


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

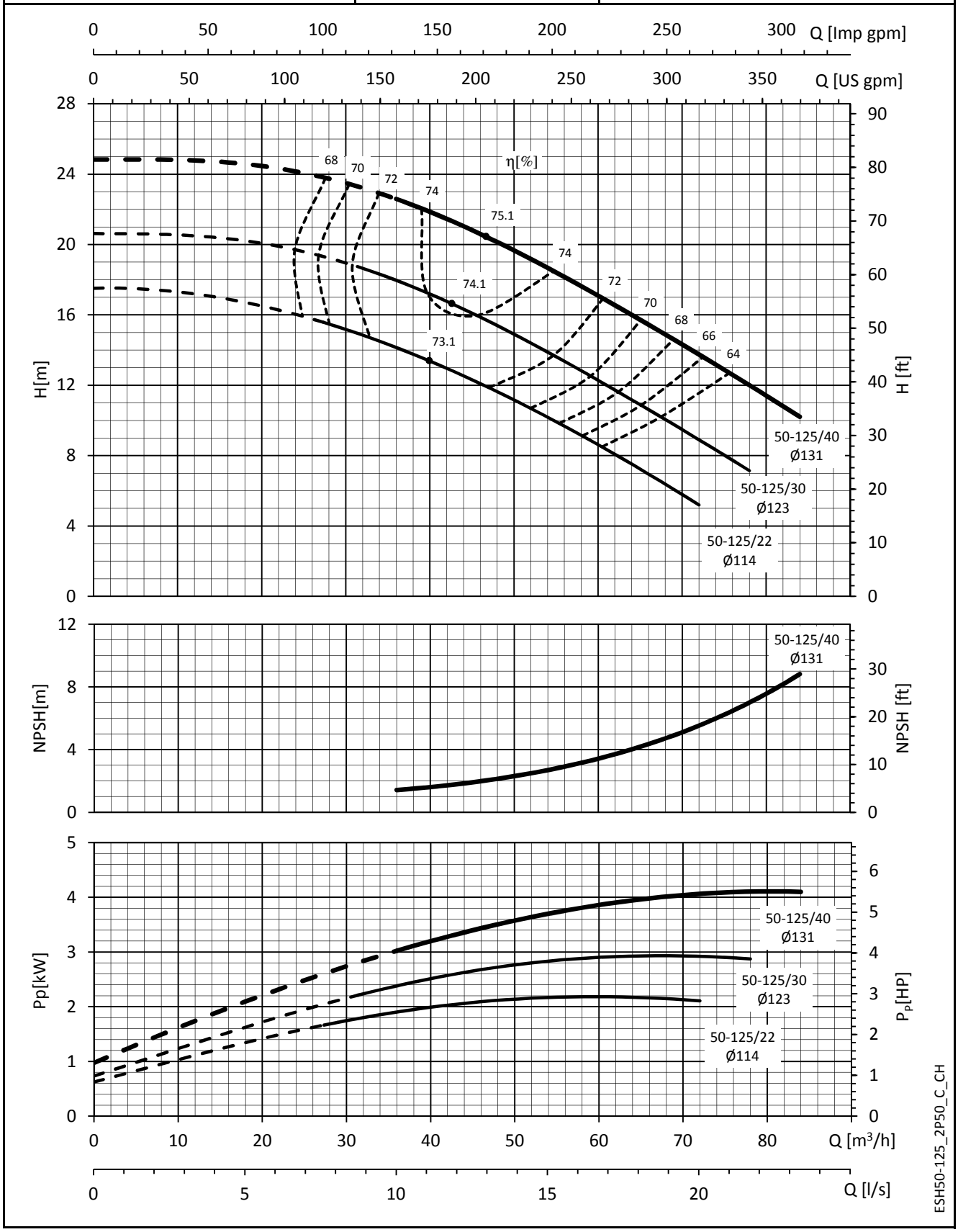


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

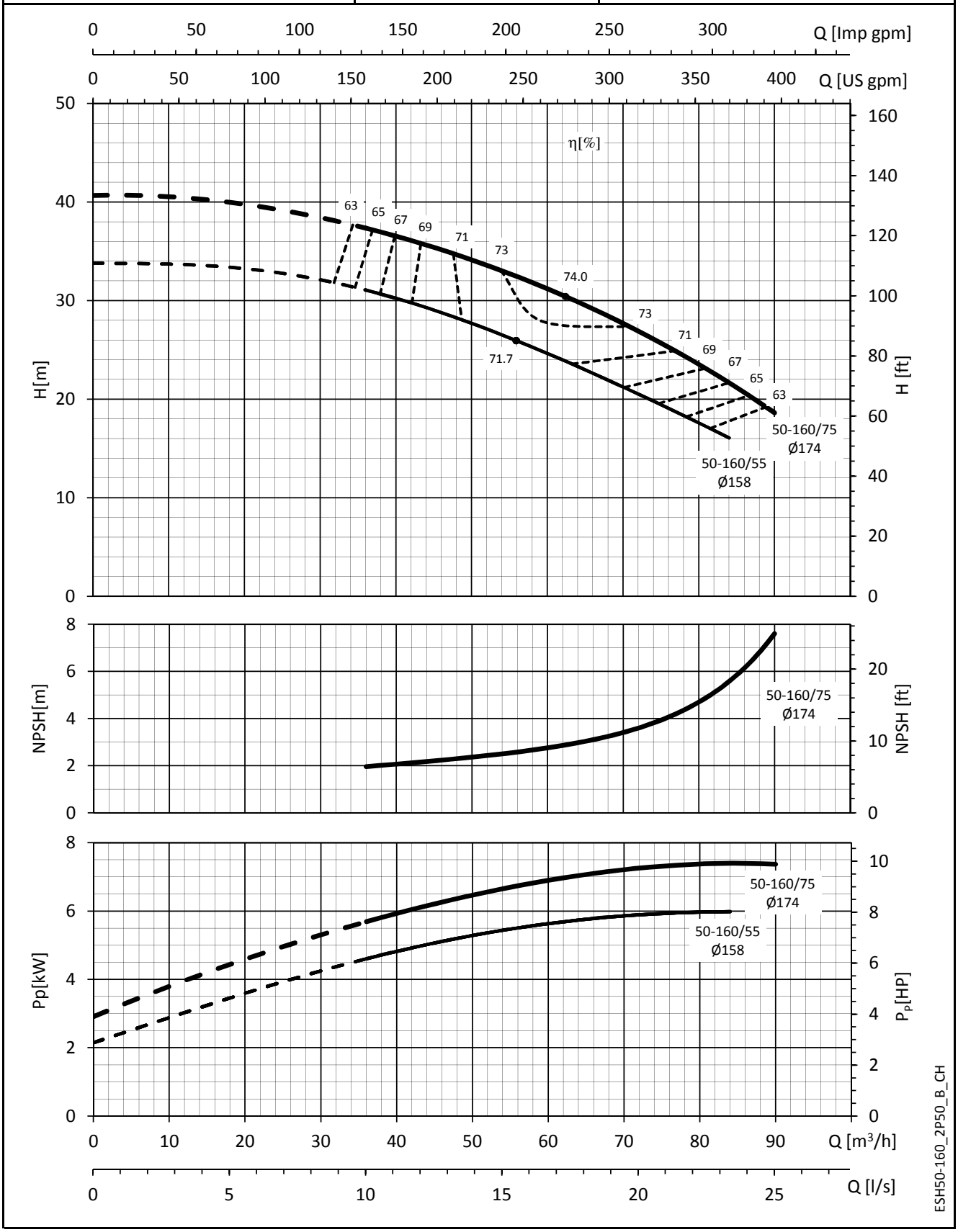
ESH 50-125	~ 2900 [rpm]	ISO 9906:2012 - Grade 3B



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.

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

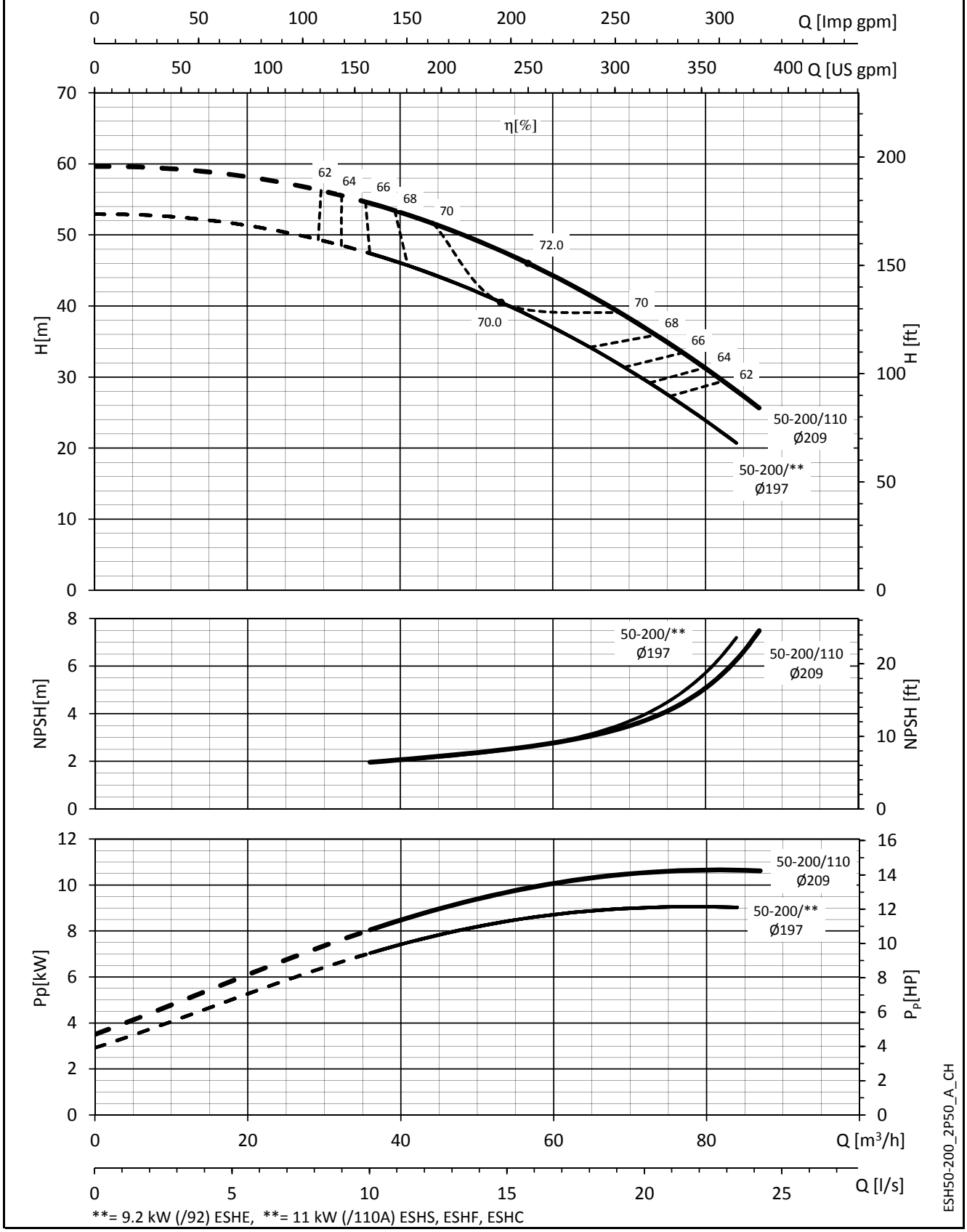


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

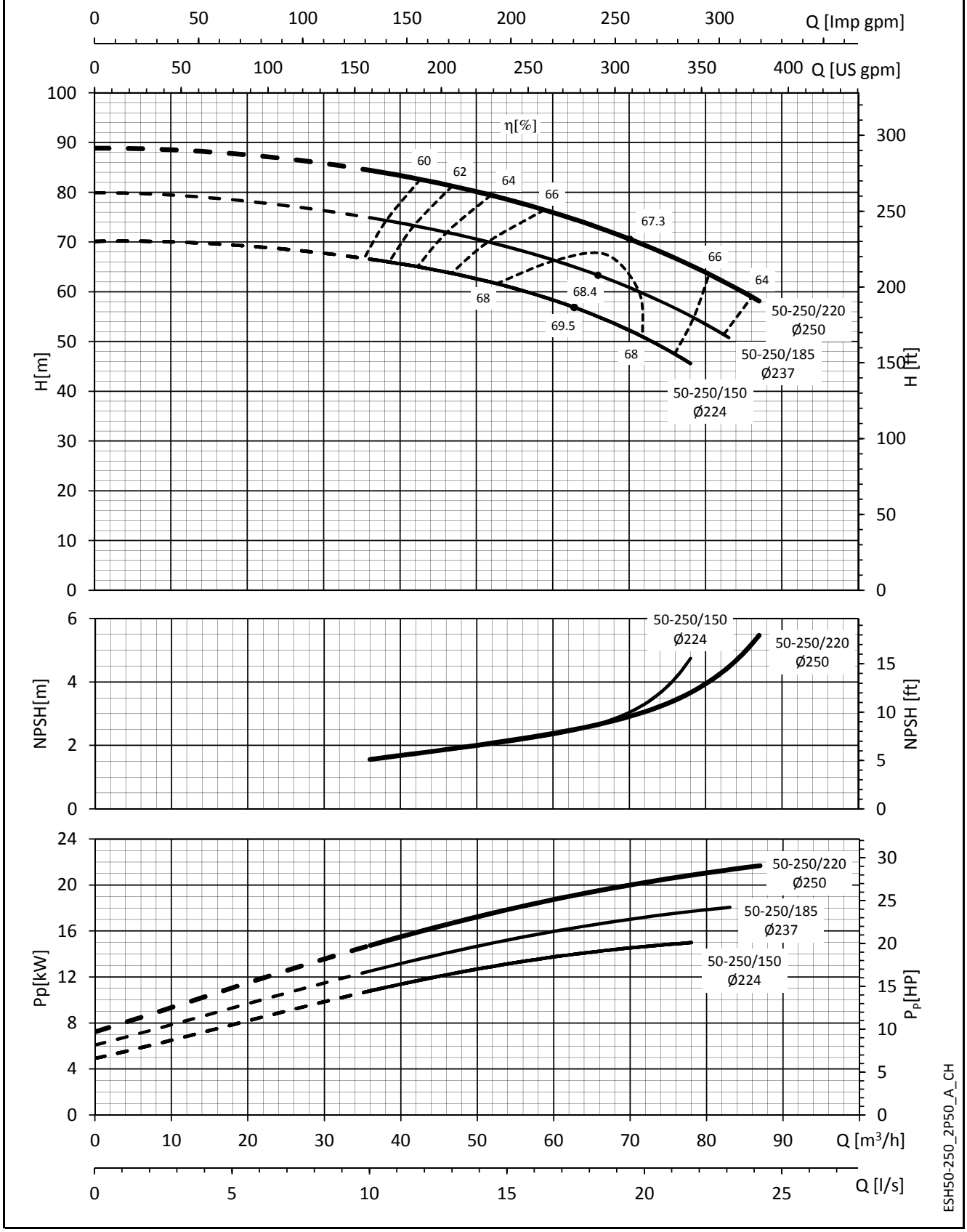


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

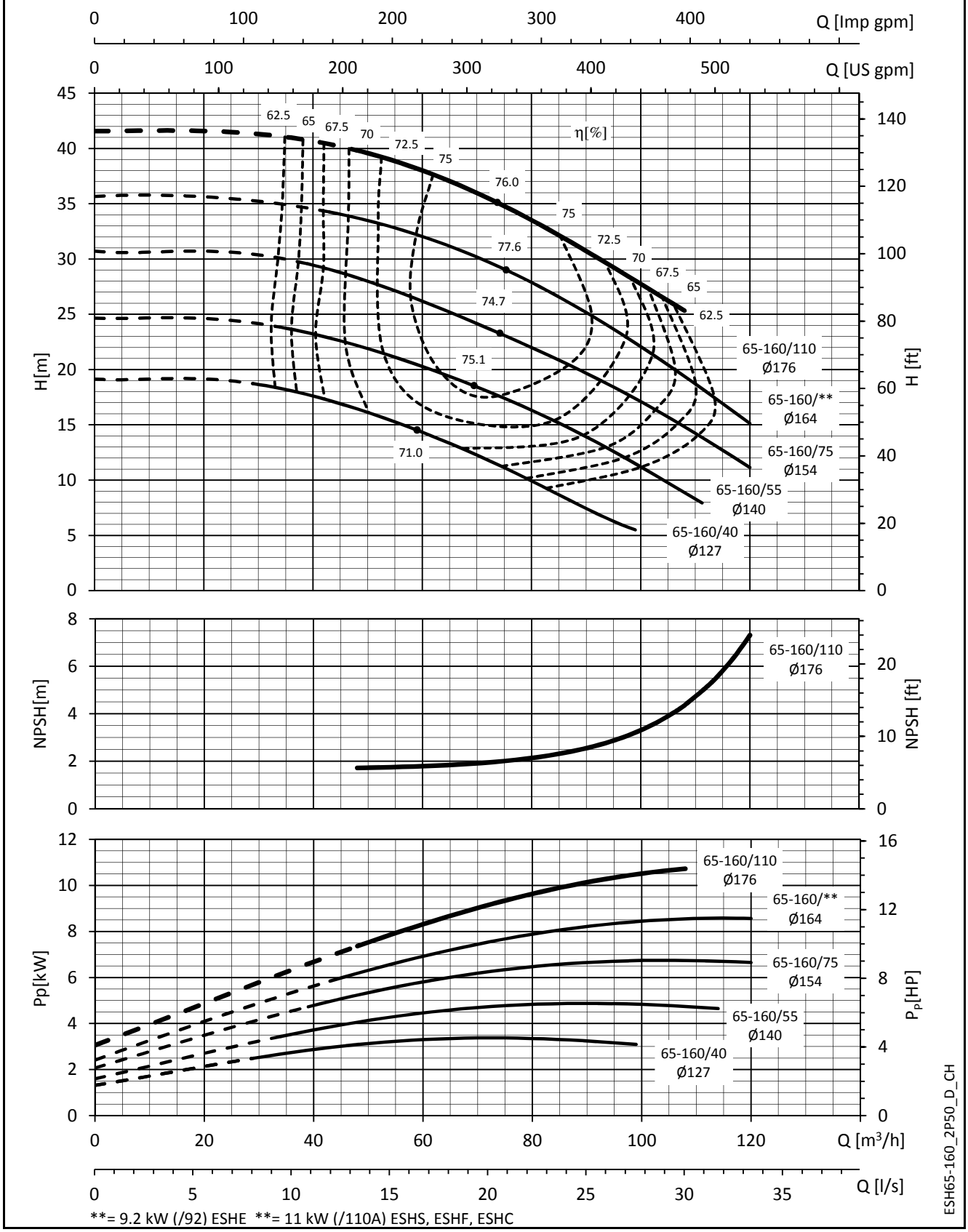


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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



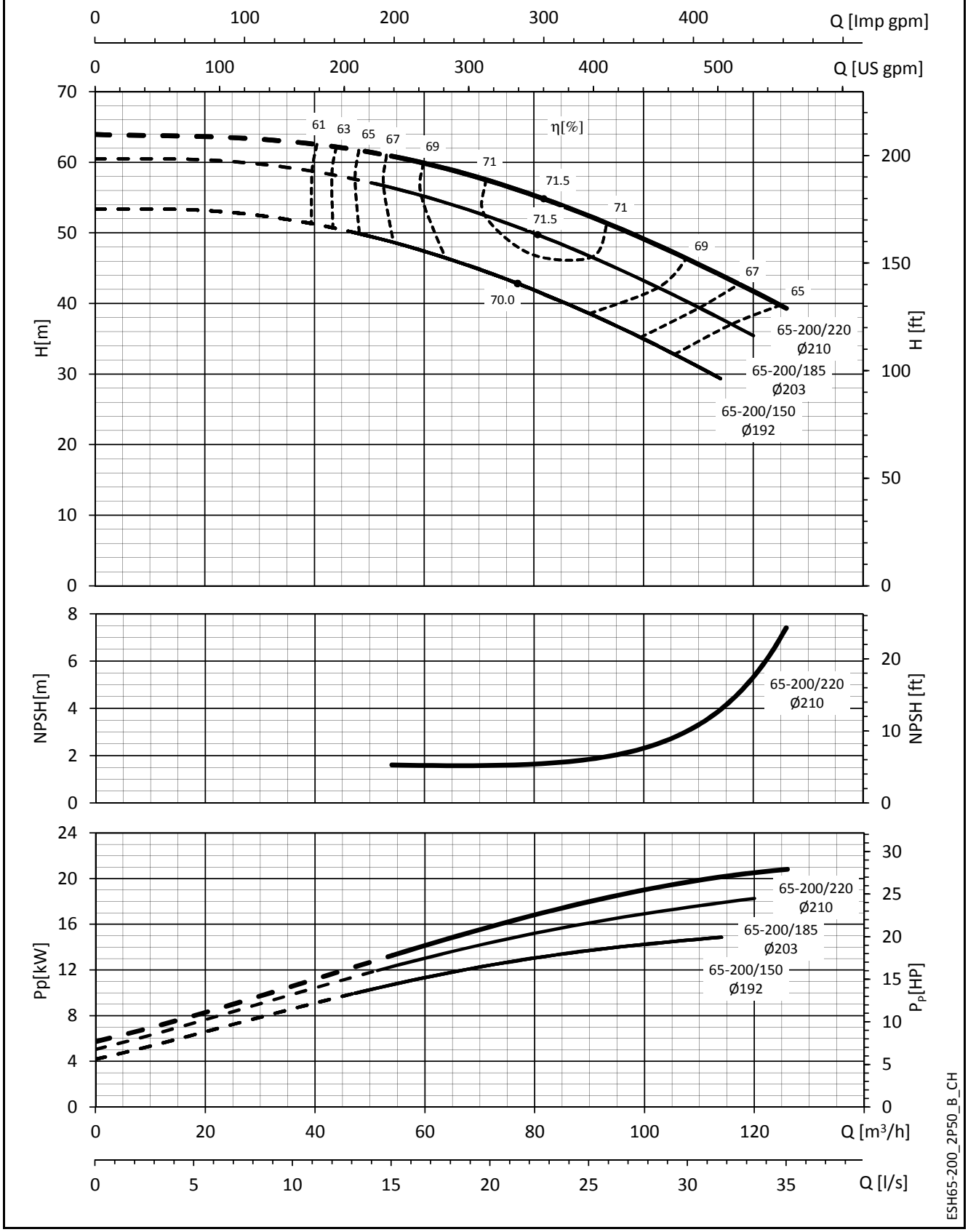
**= 9.2 kW (/92) ESHE **= 11 kW (/110A) ESHS, ESHF, ESHC

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

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

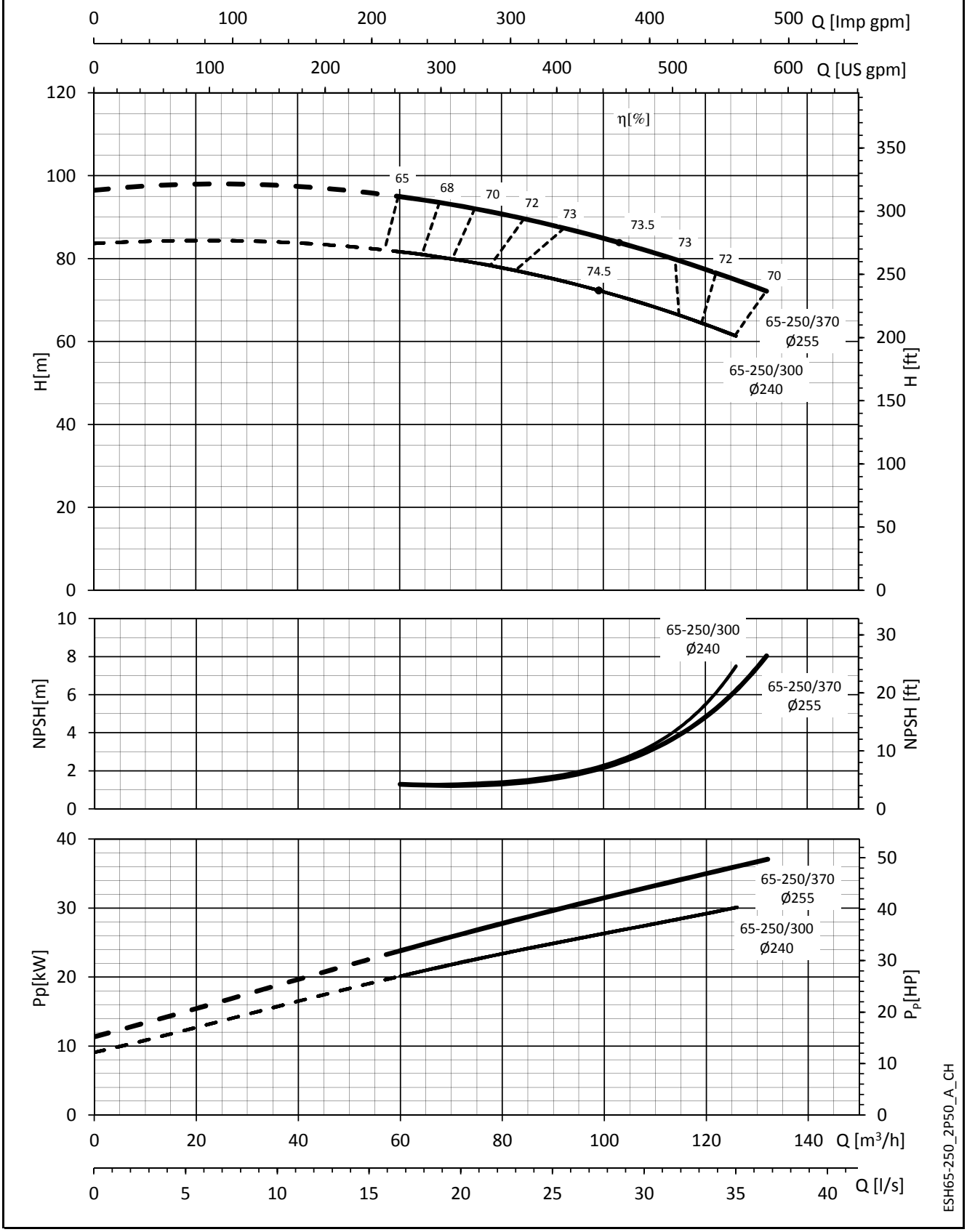


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

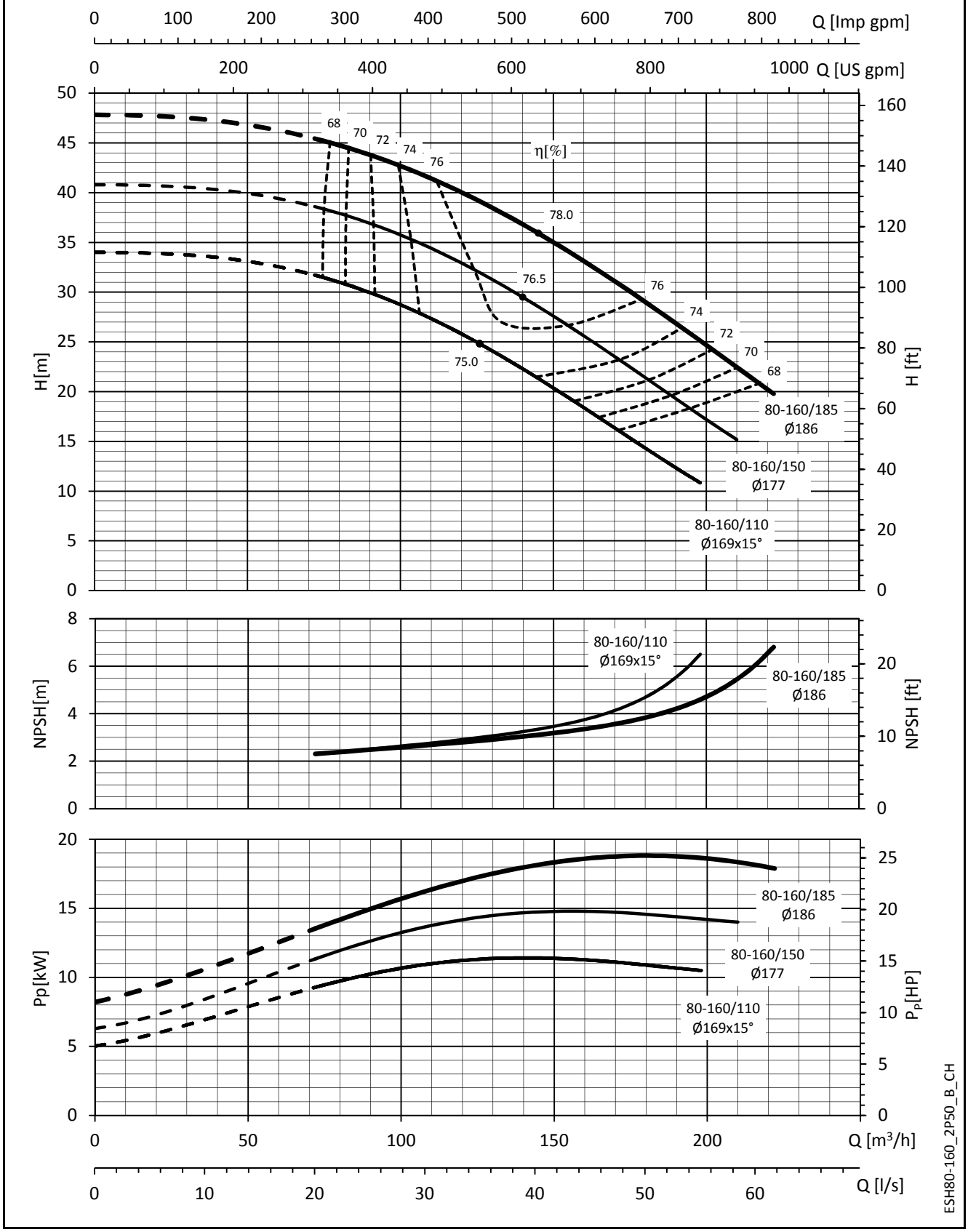


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

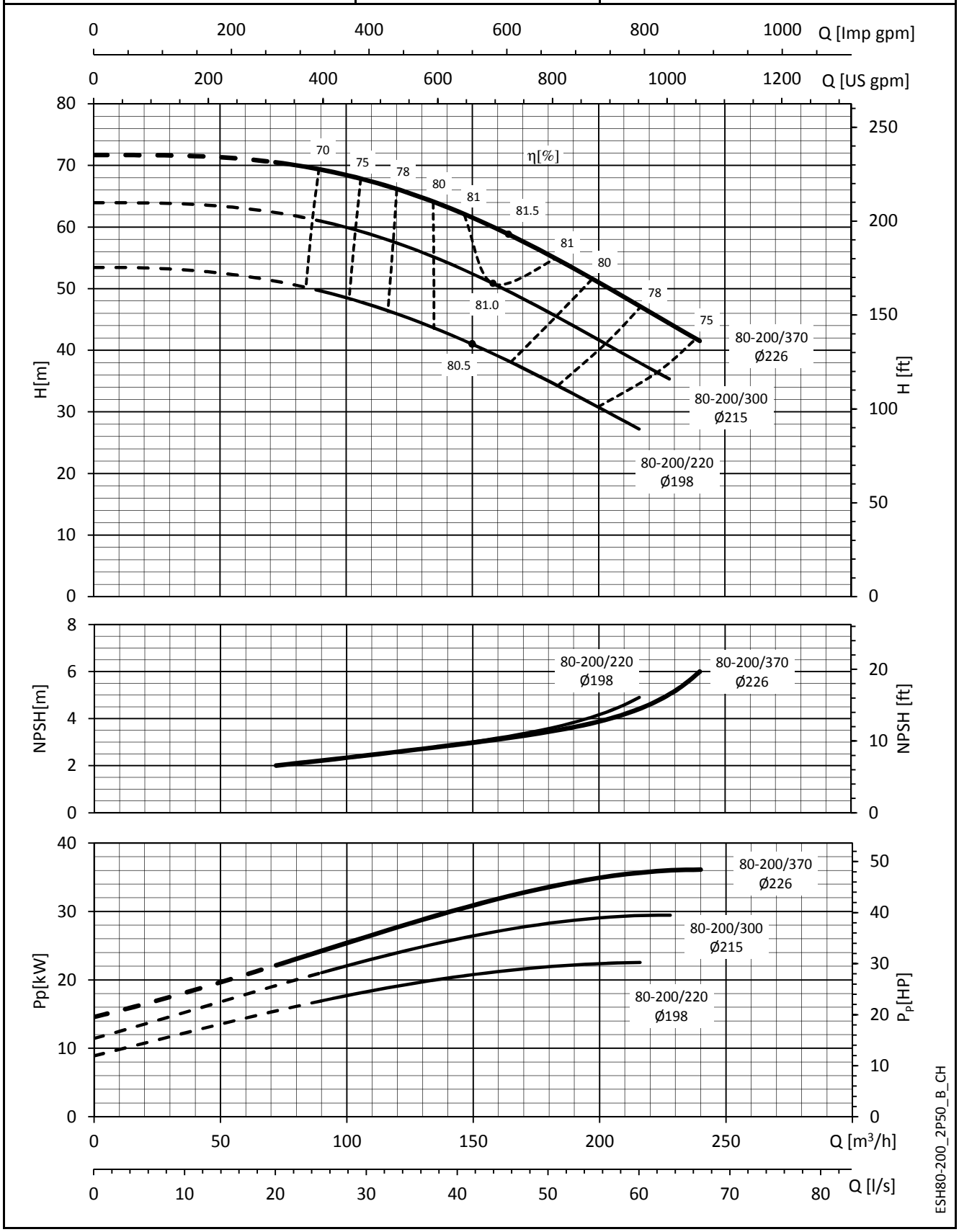


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

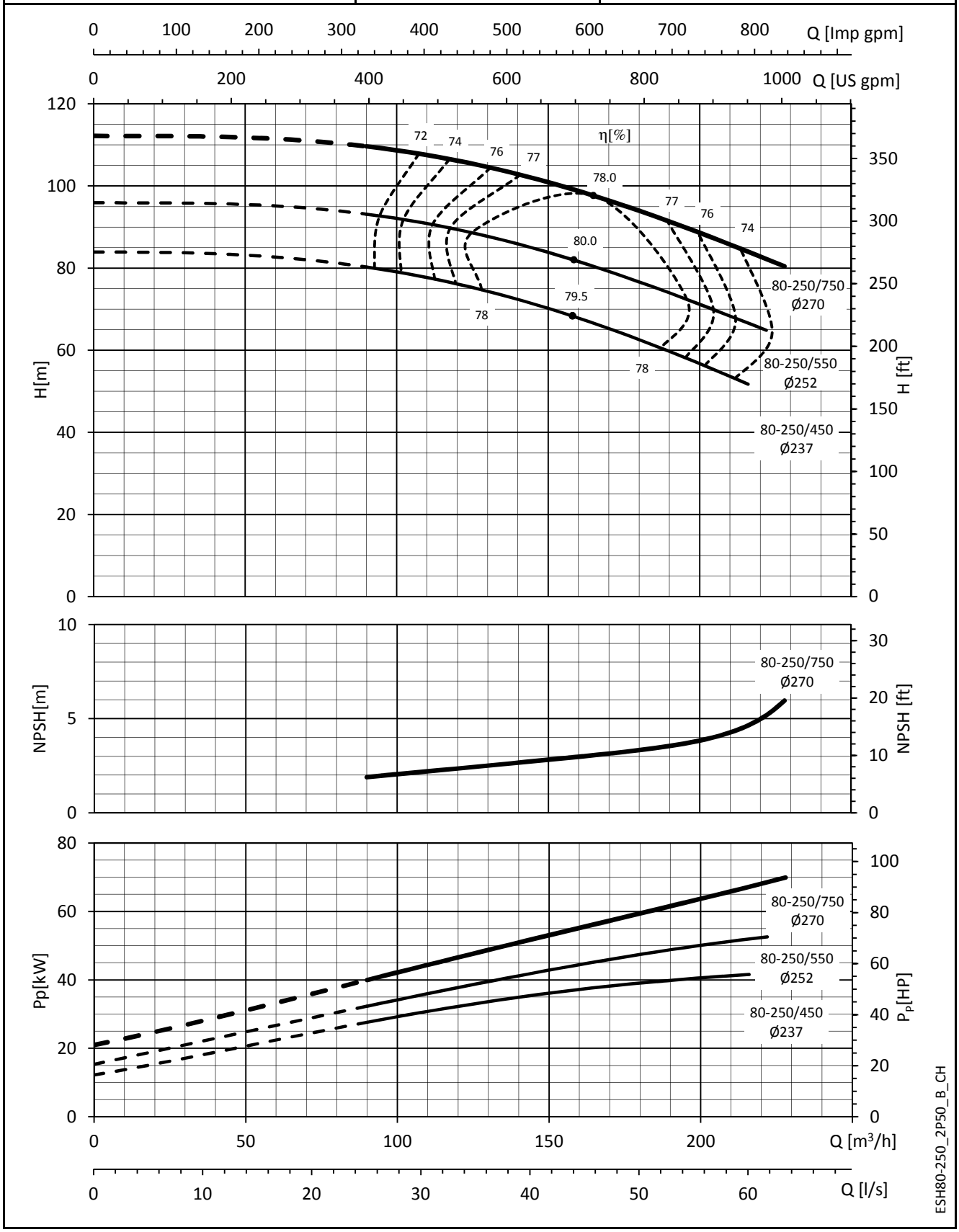


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

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

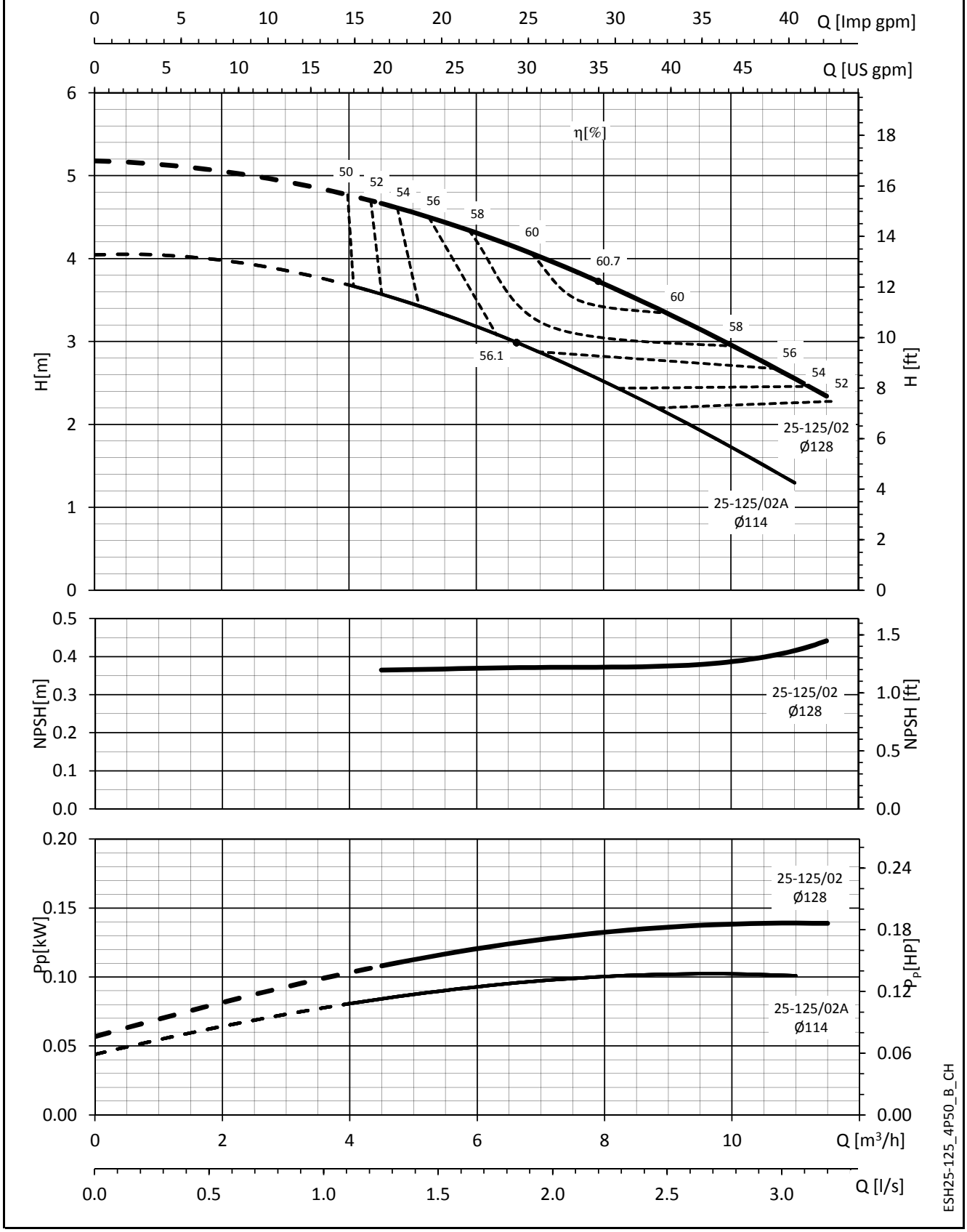


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 25-125	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

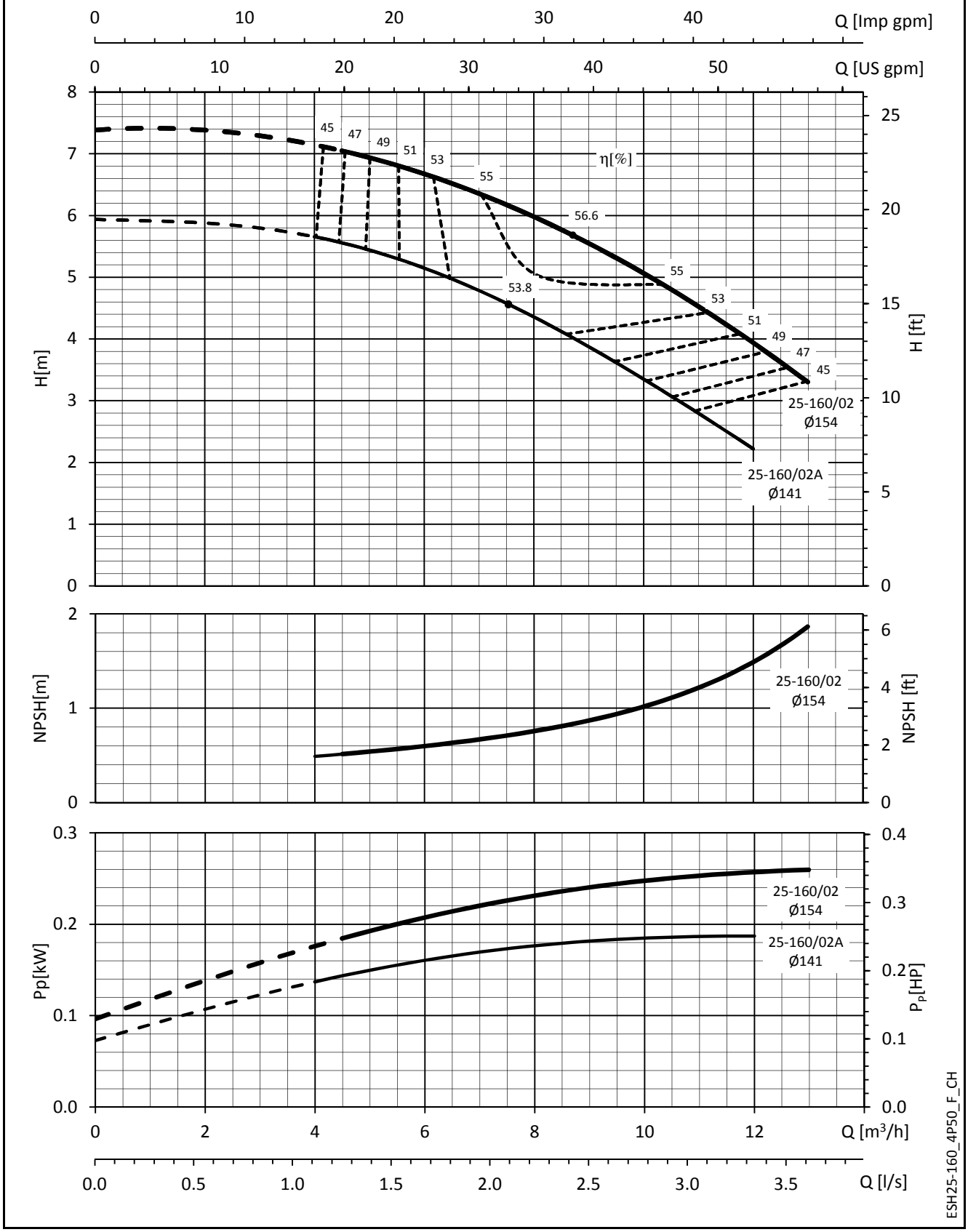


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 25-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

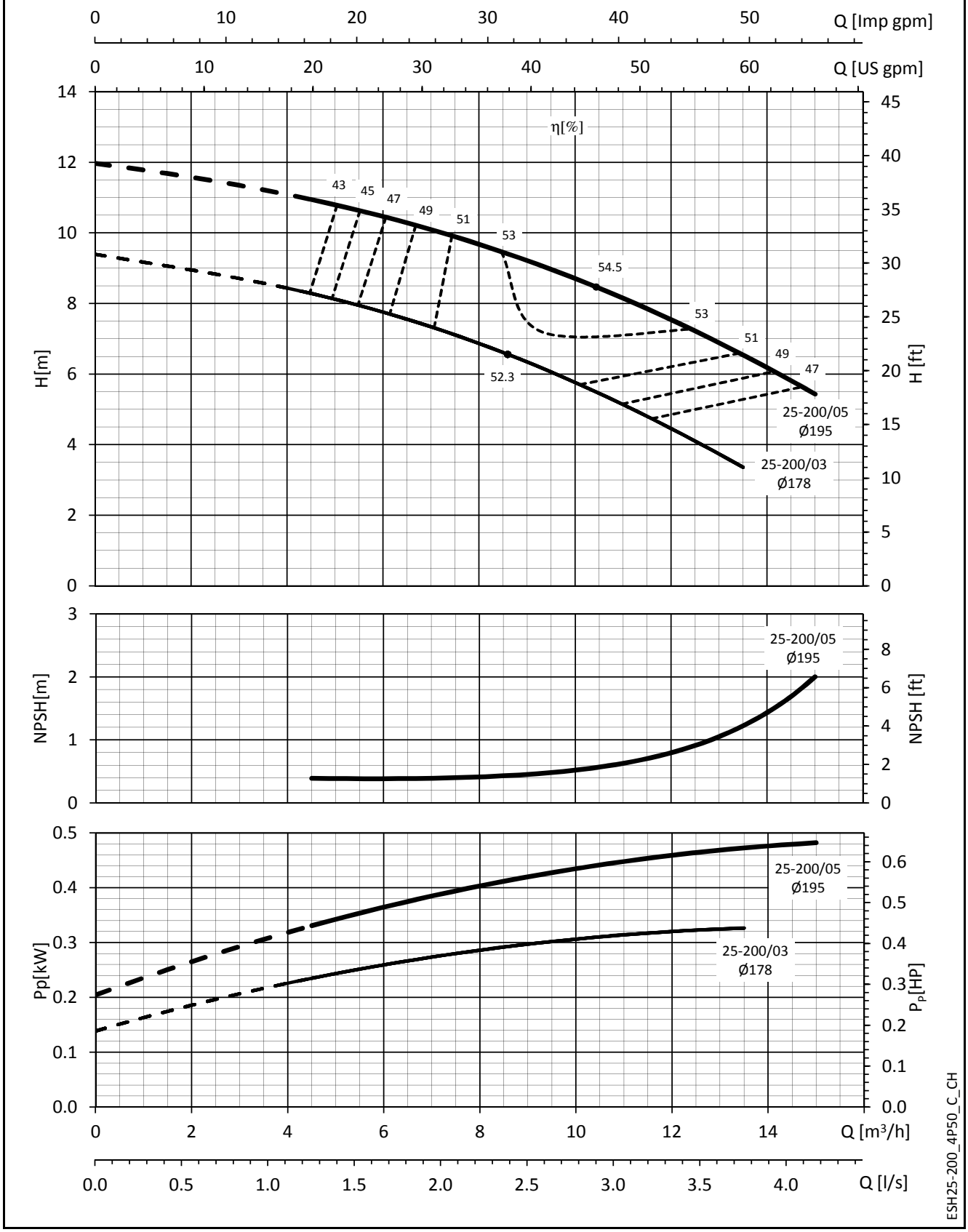


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 25-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

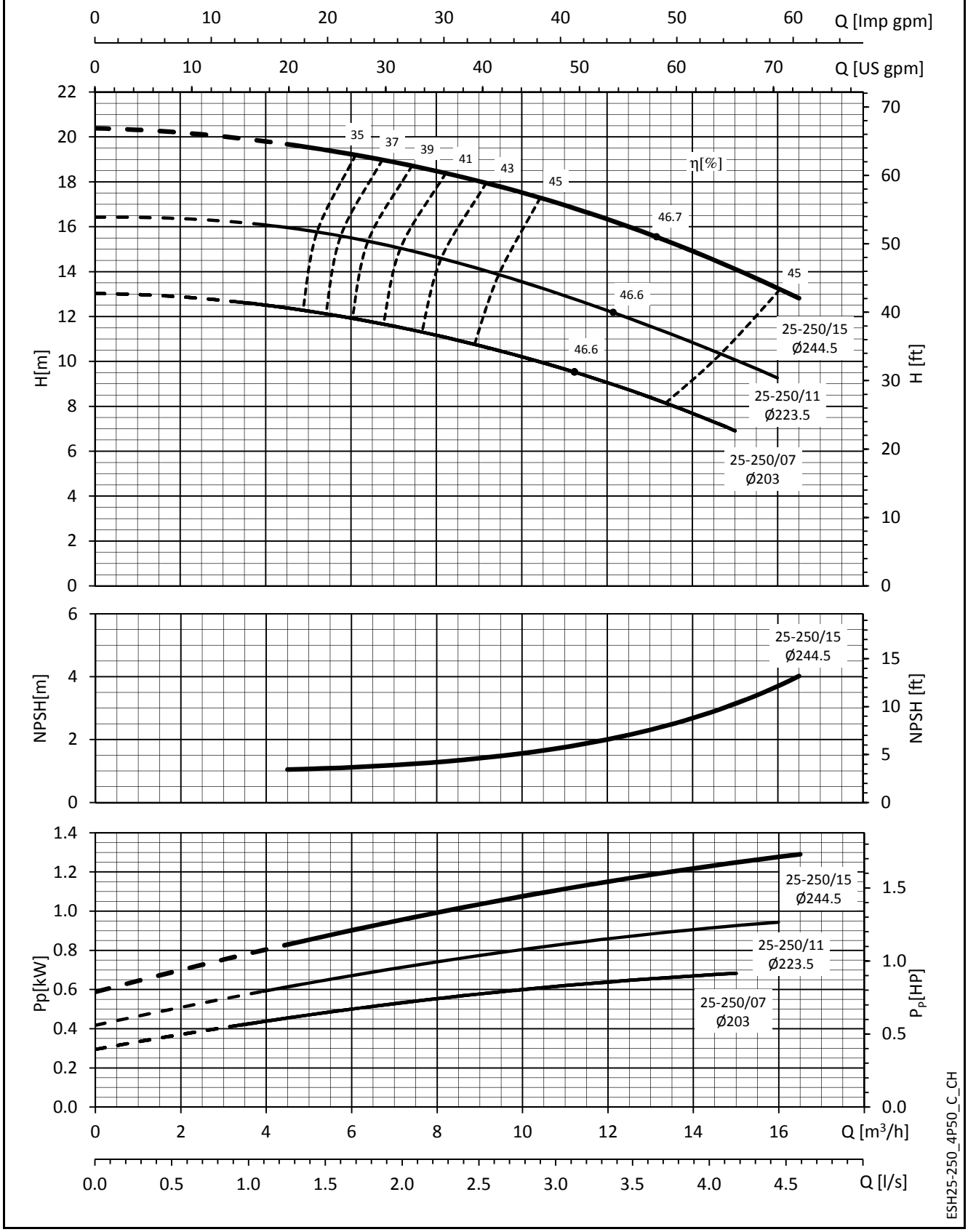


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 25-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

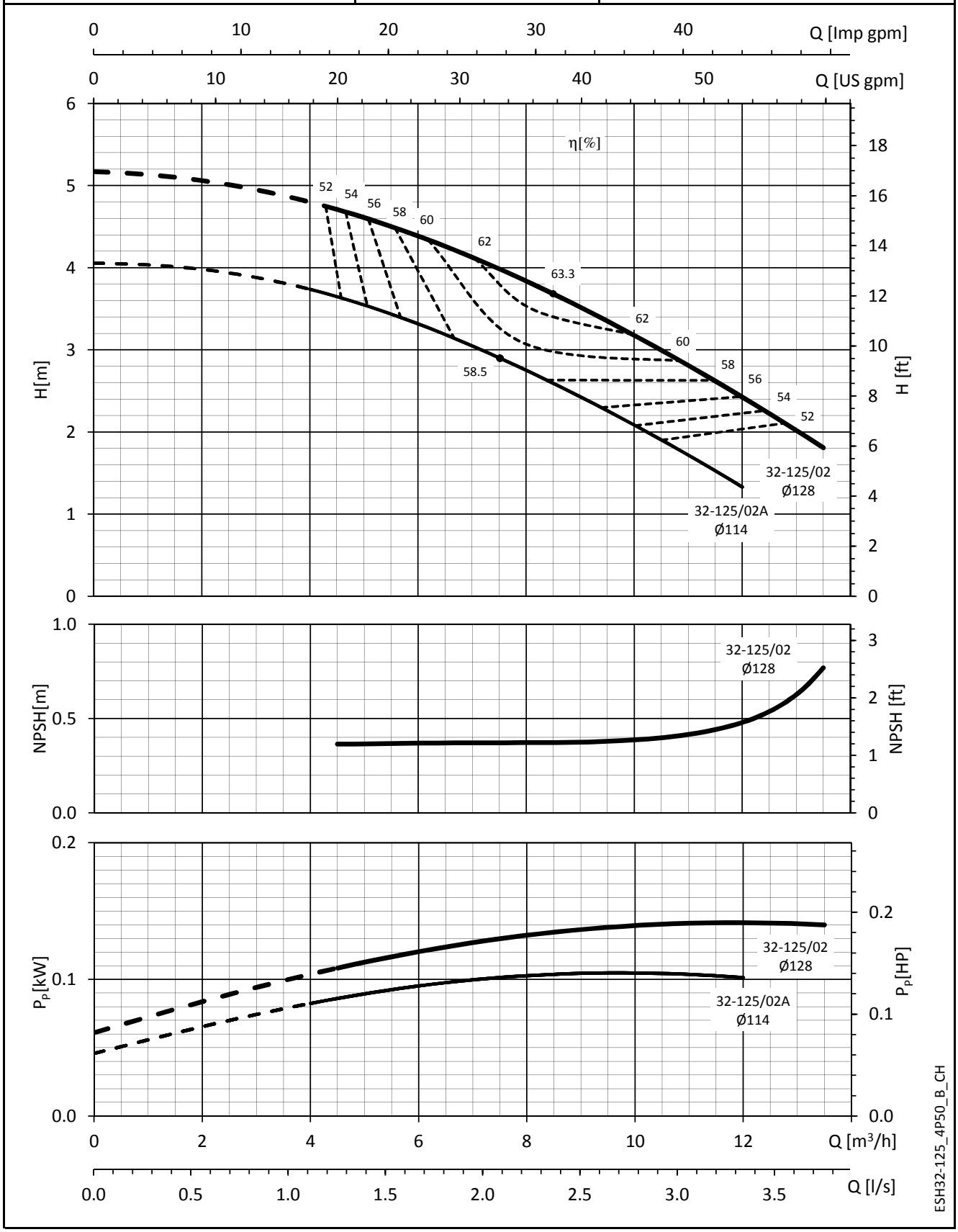


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These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 32-125	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

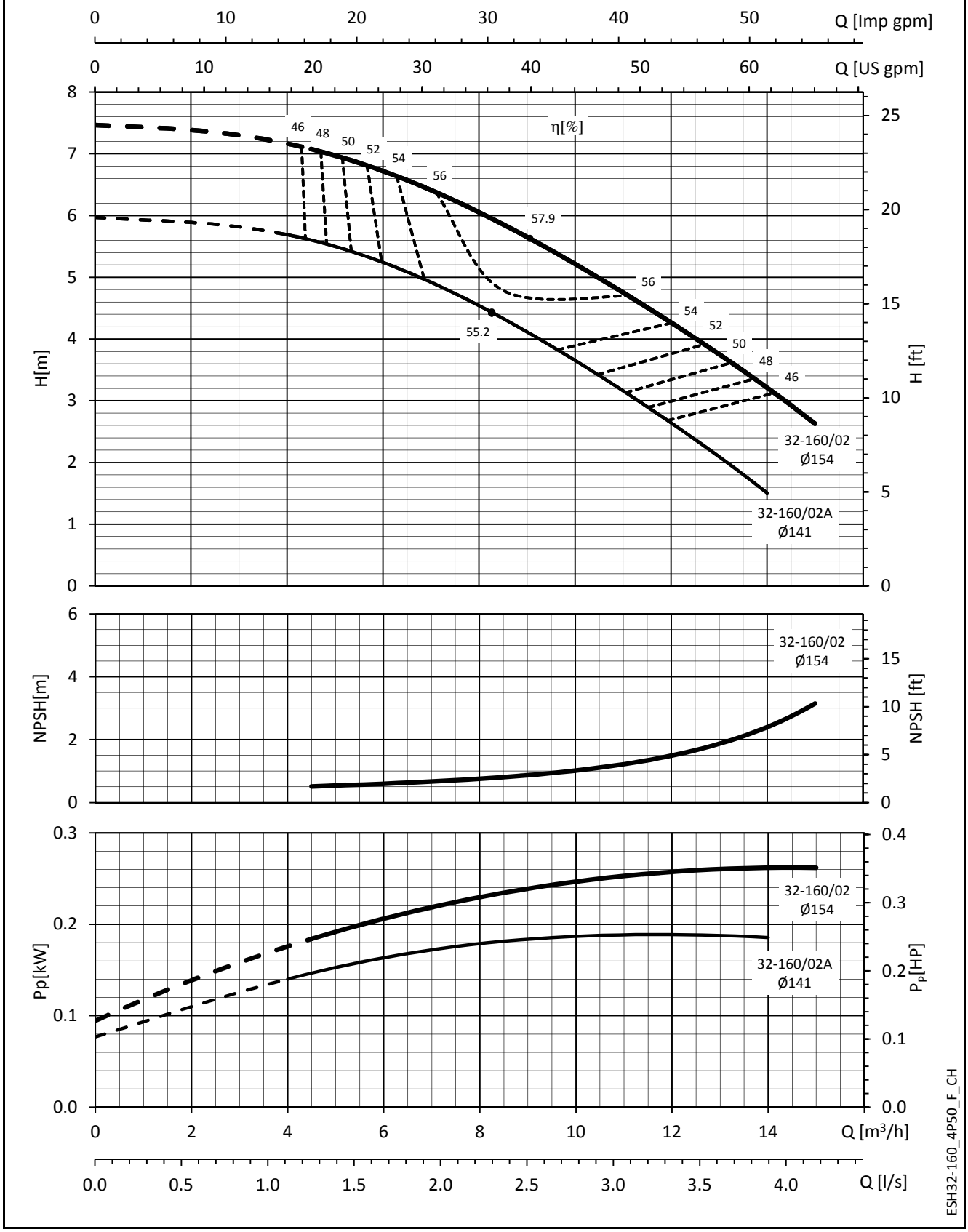


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These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

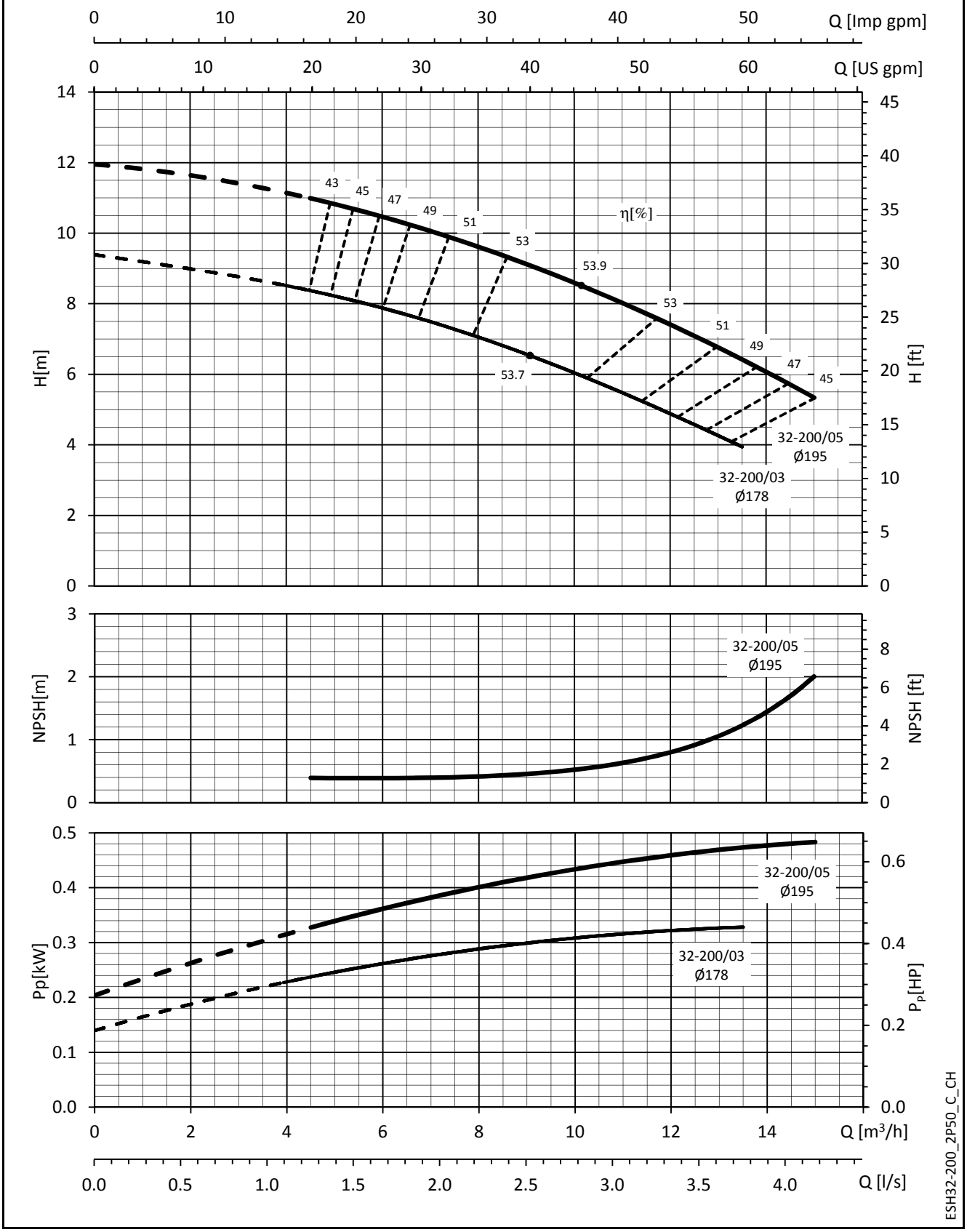
ESH 32-160	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B



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.

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 32-200	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

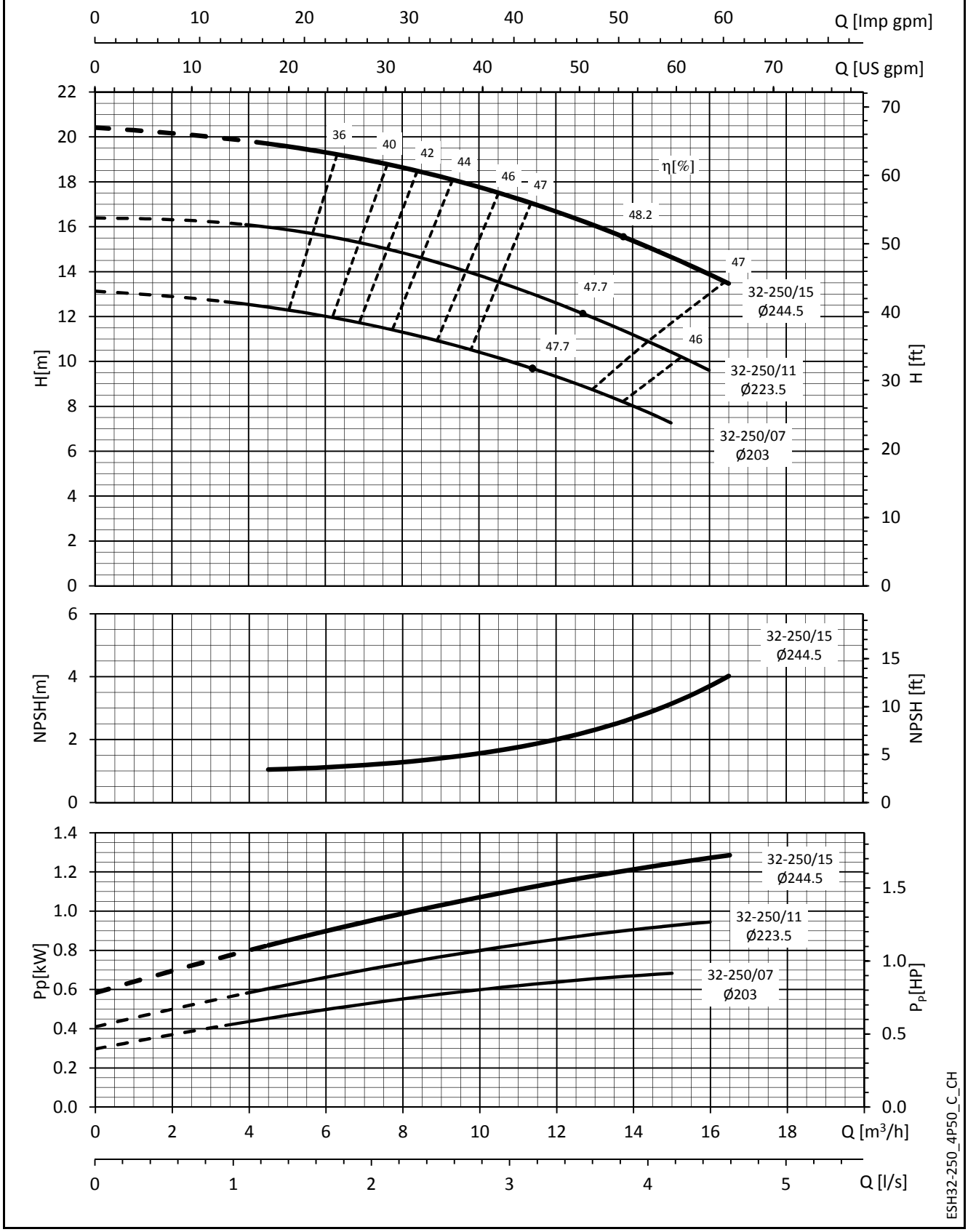


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

ESH 32-250	~ 1450 [rpm]	ISO 9906:2012 - Grade 3B

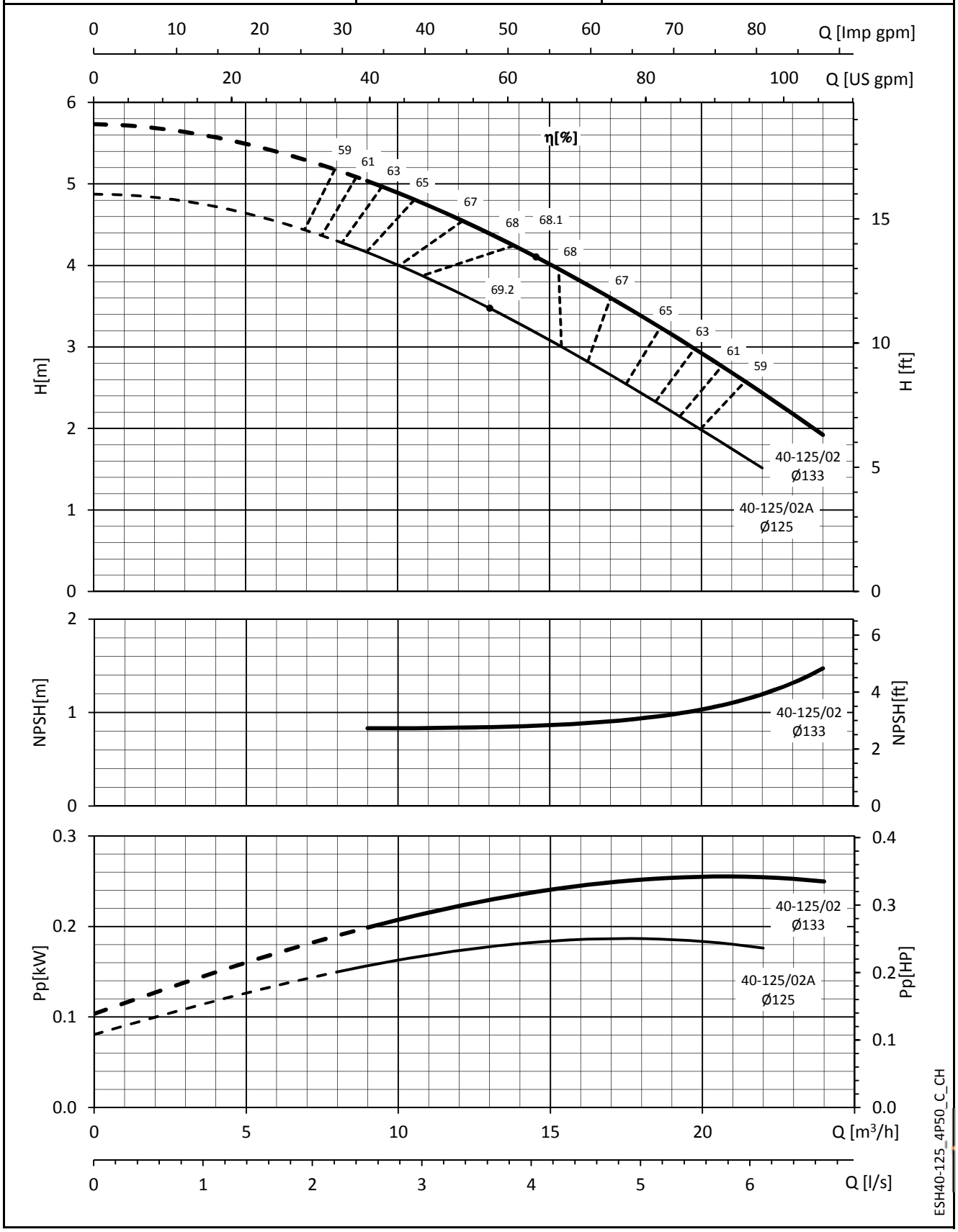


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

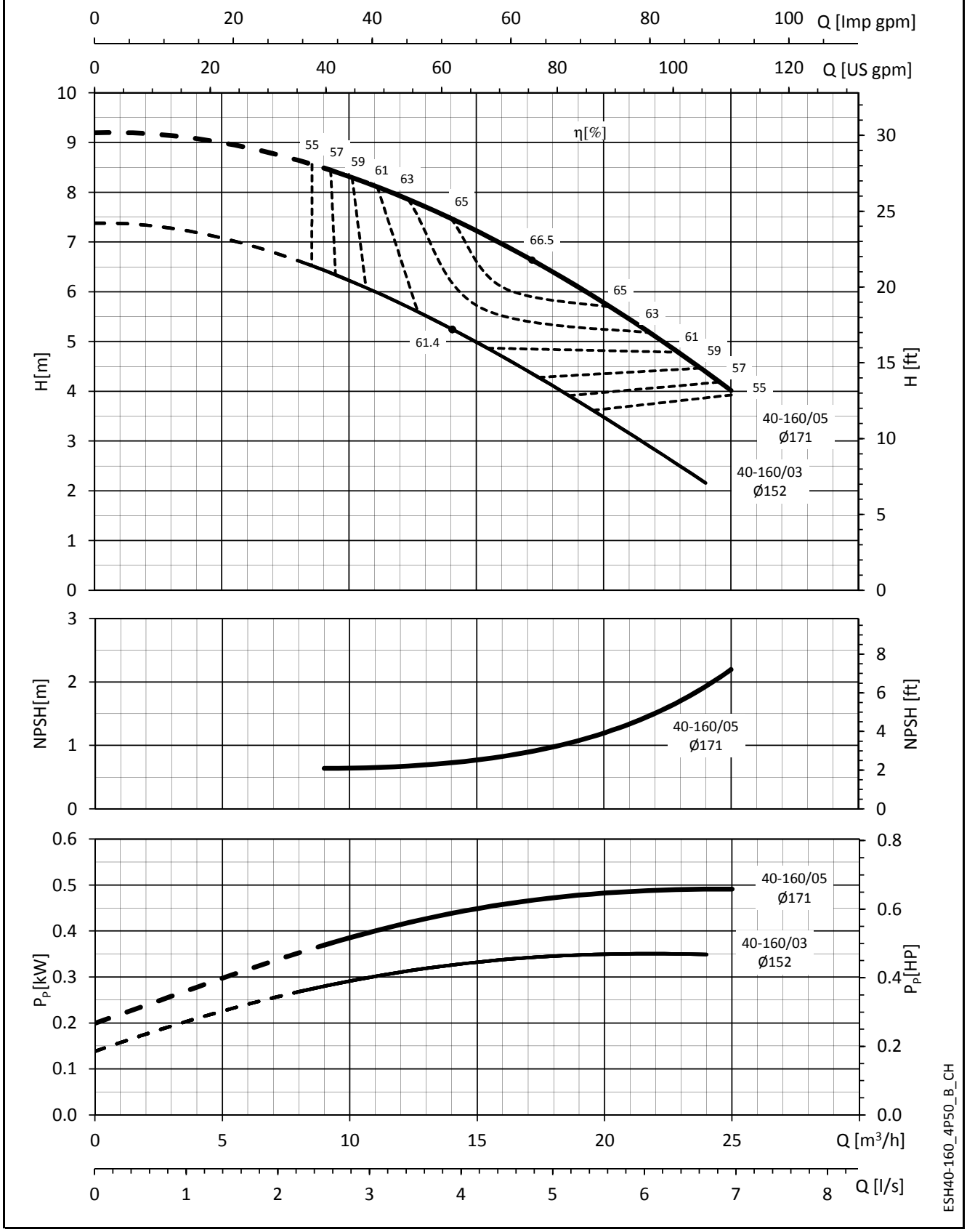


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

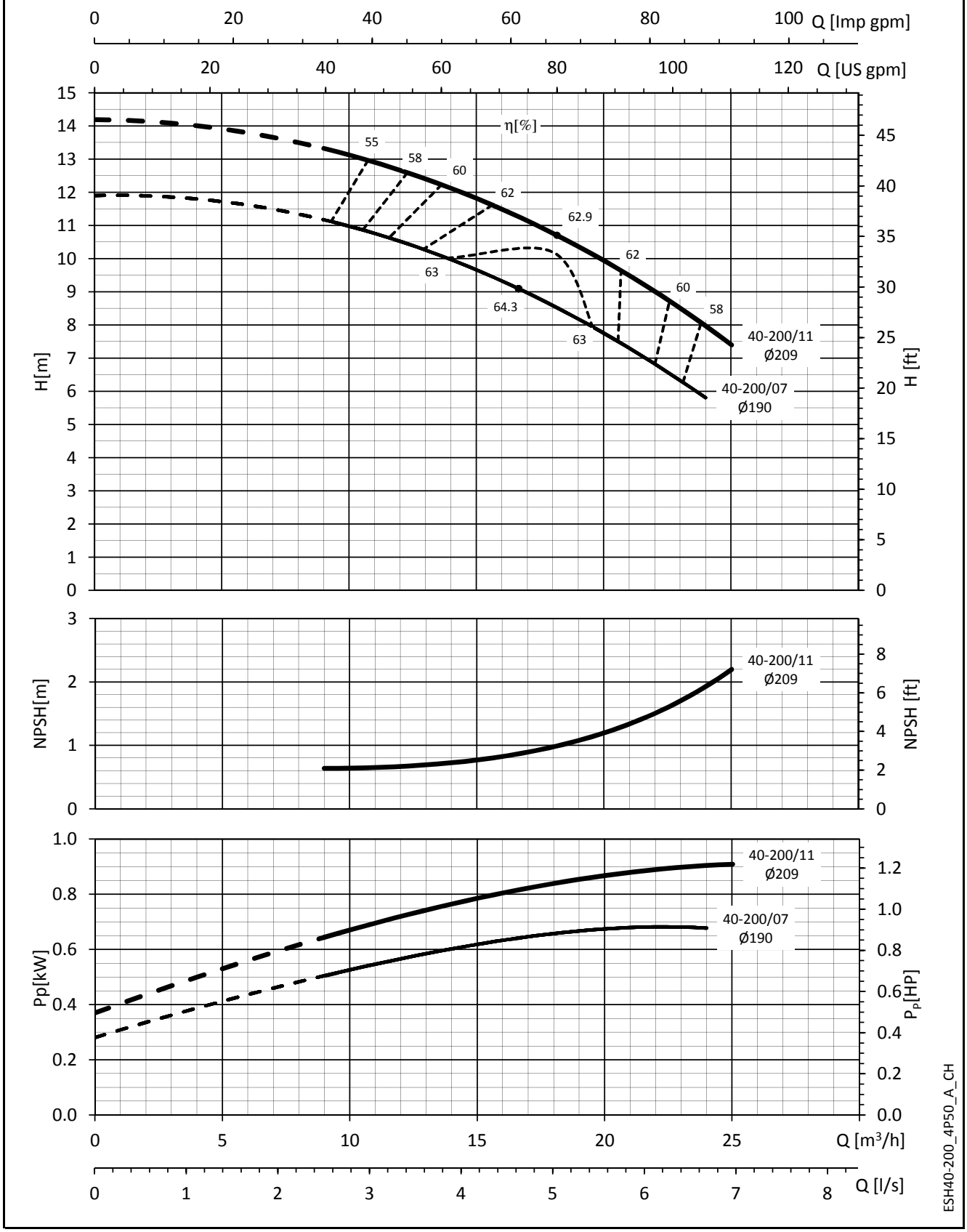


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

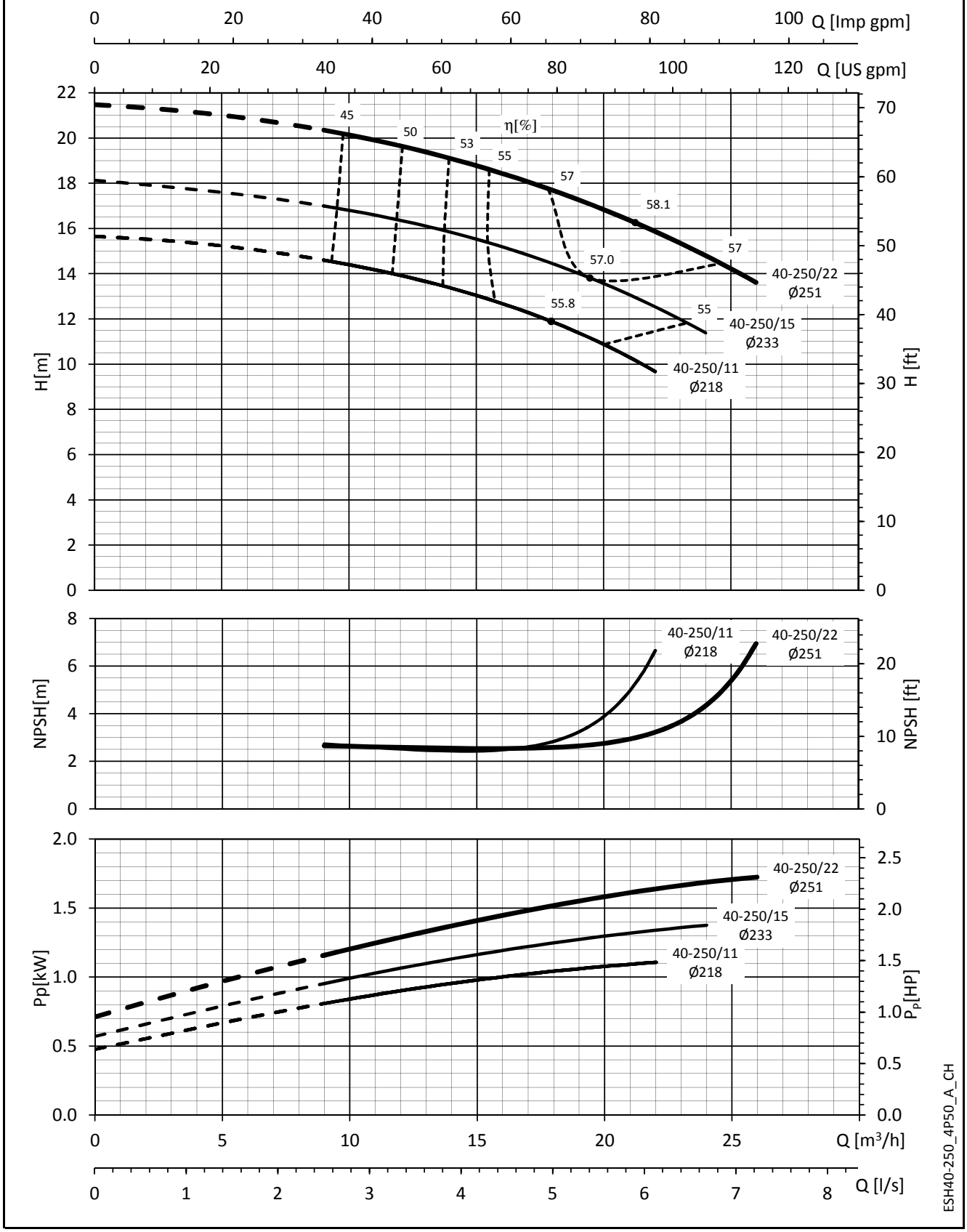


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

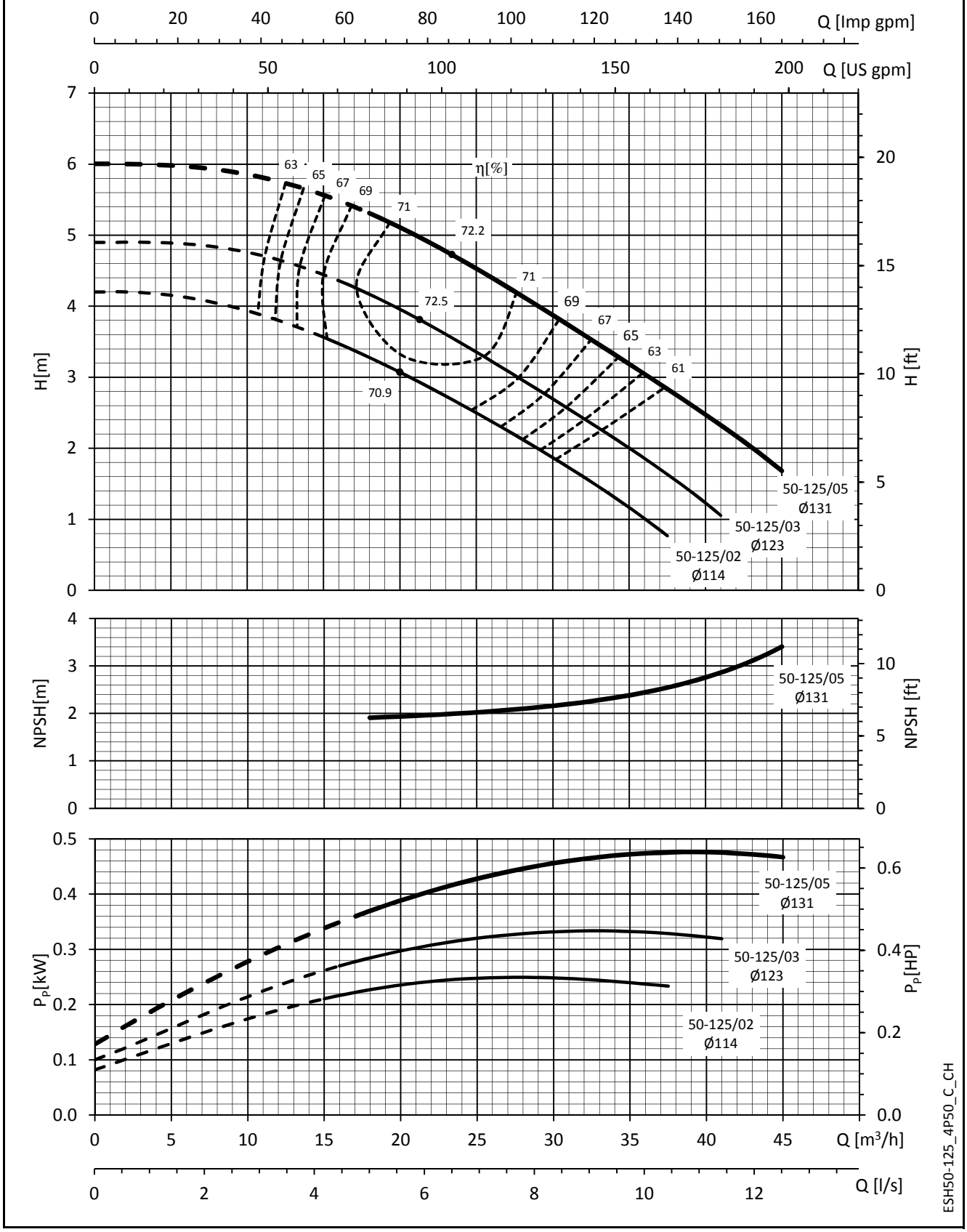


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

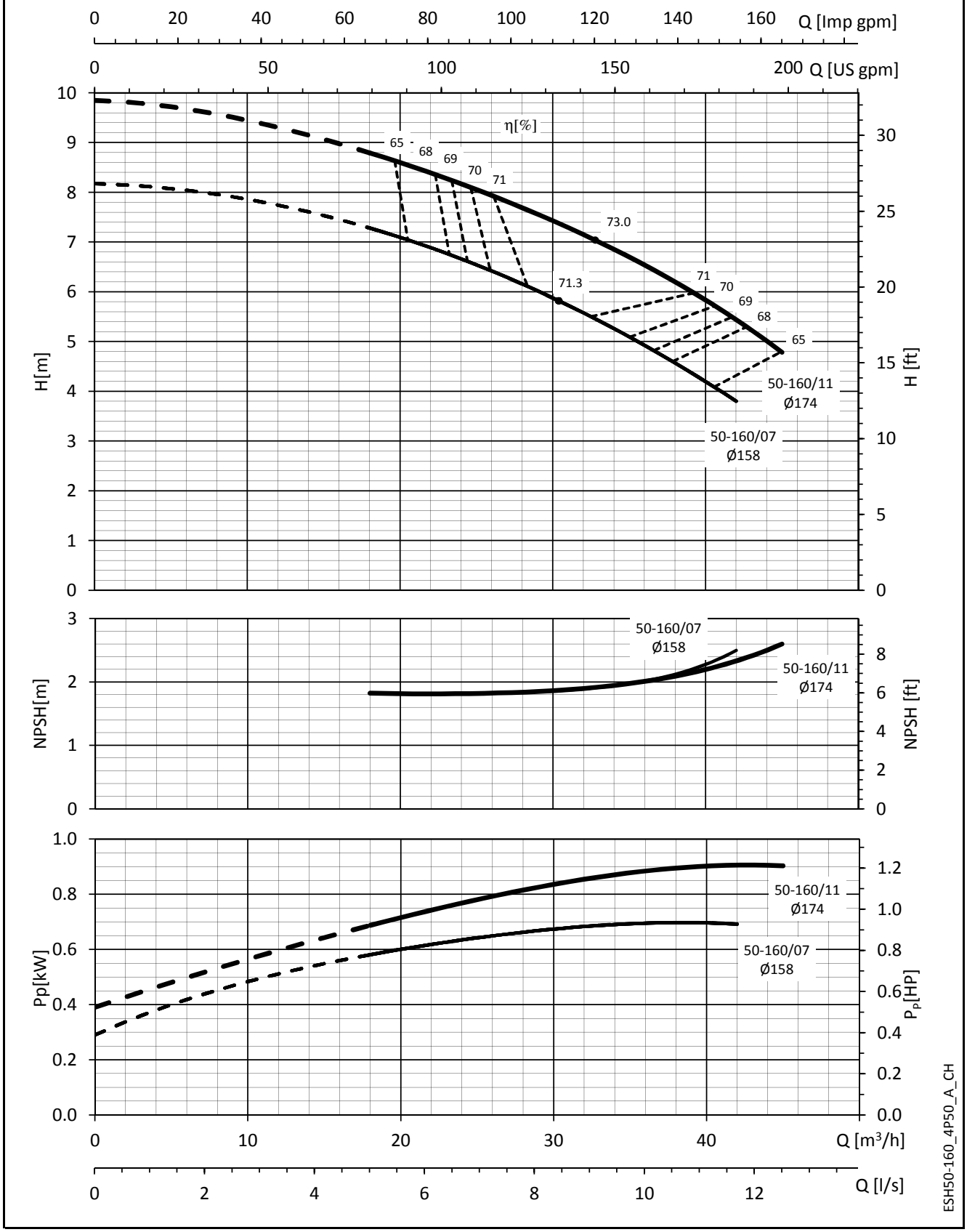


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

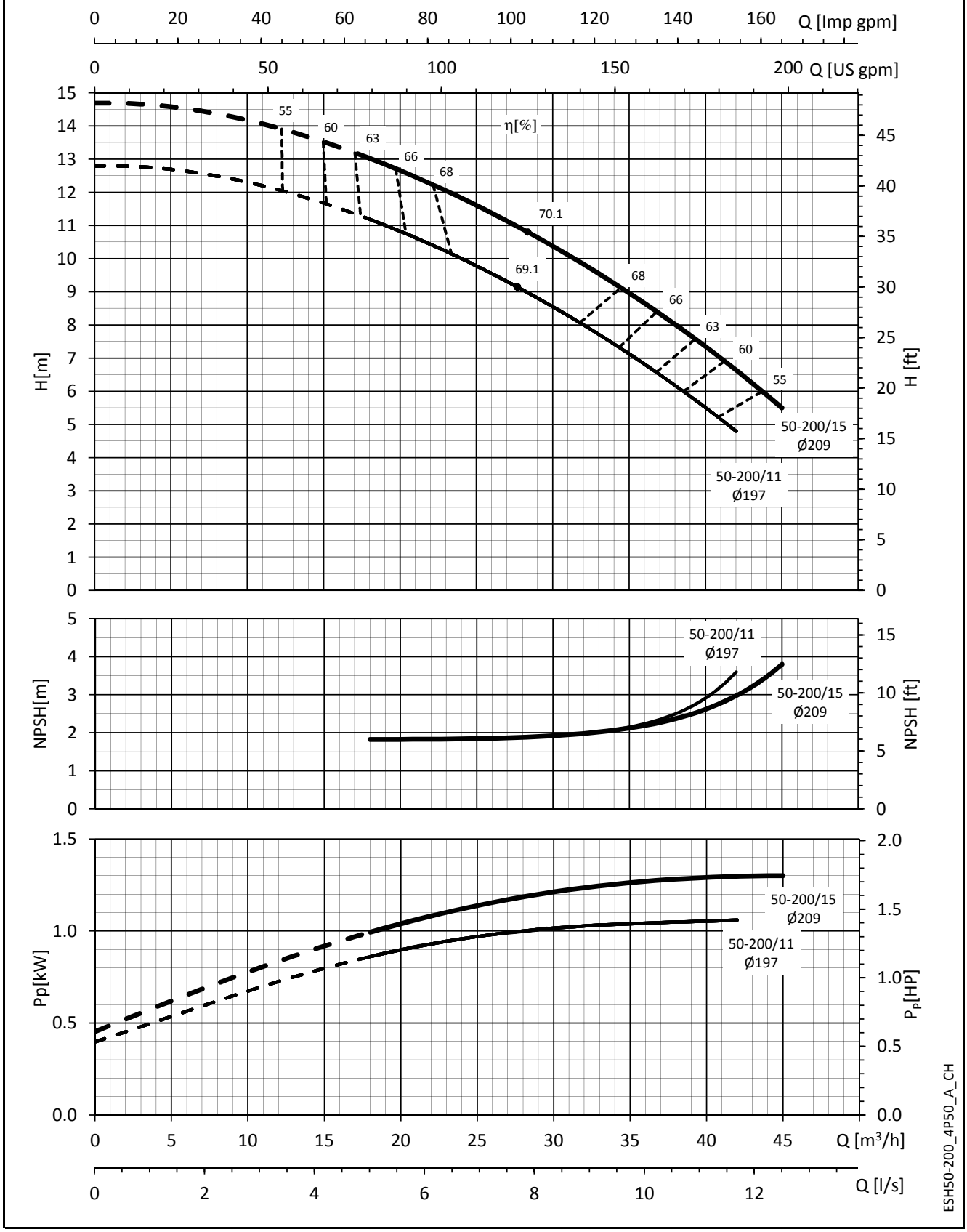


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

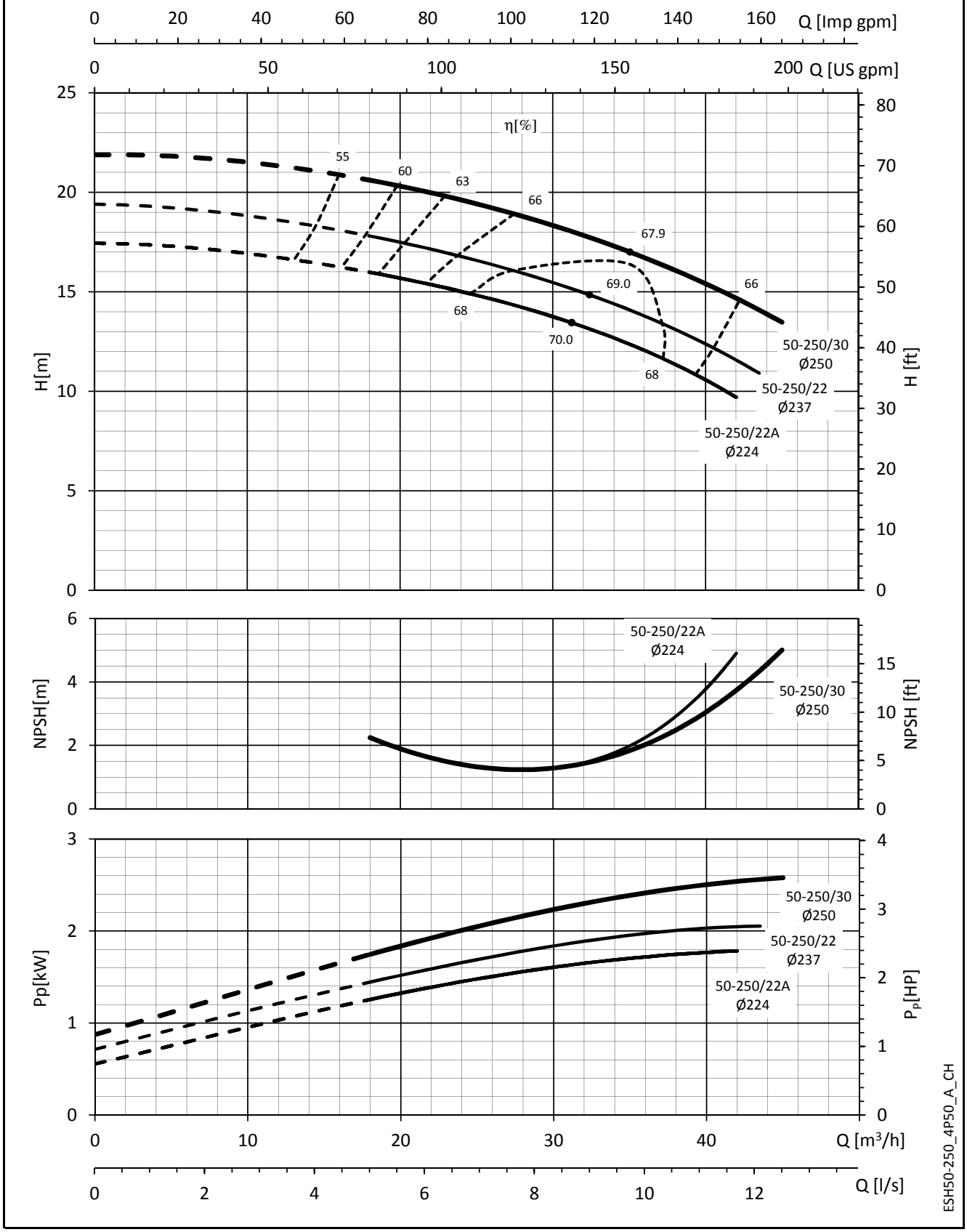


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

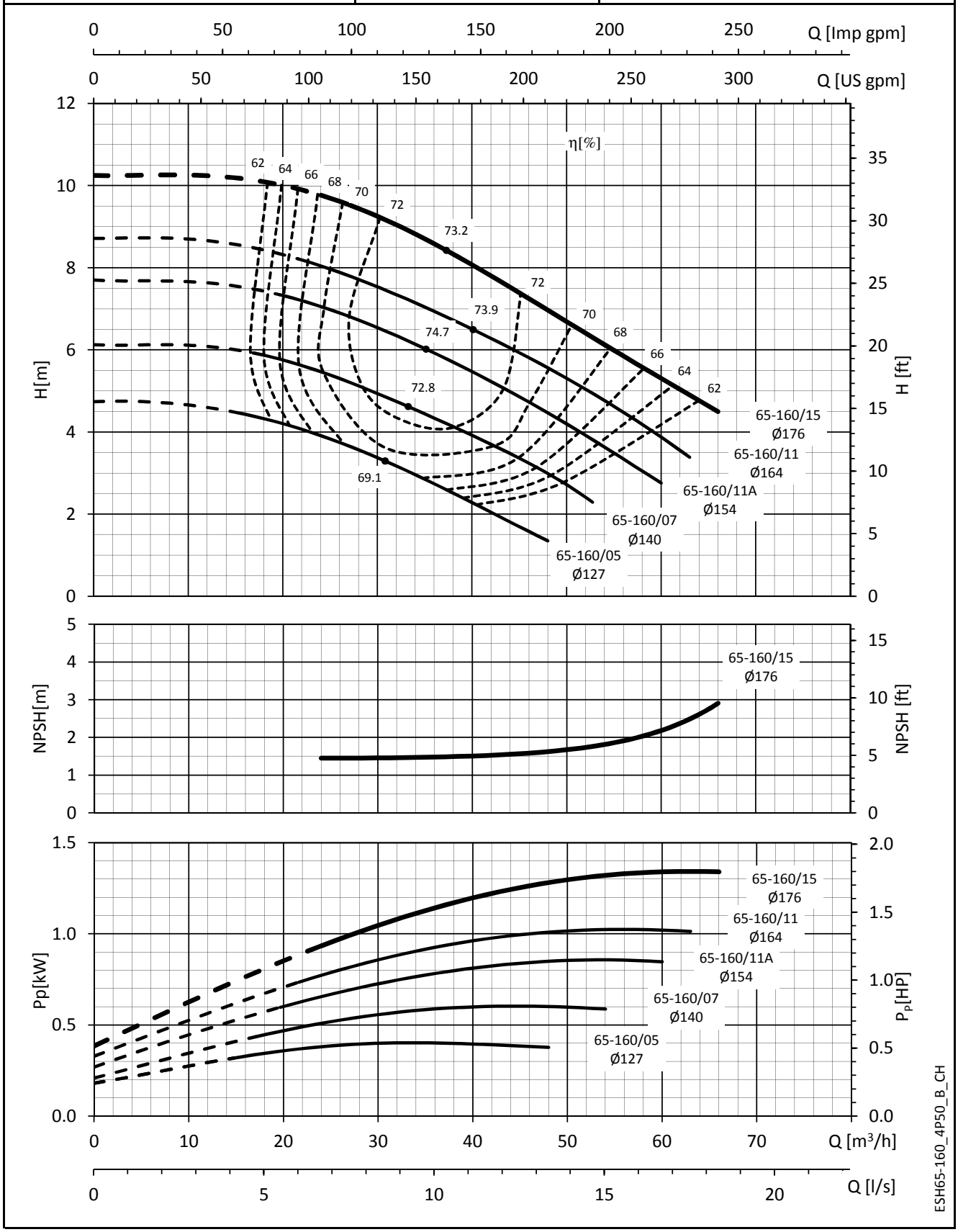


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

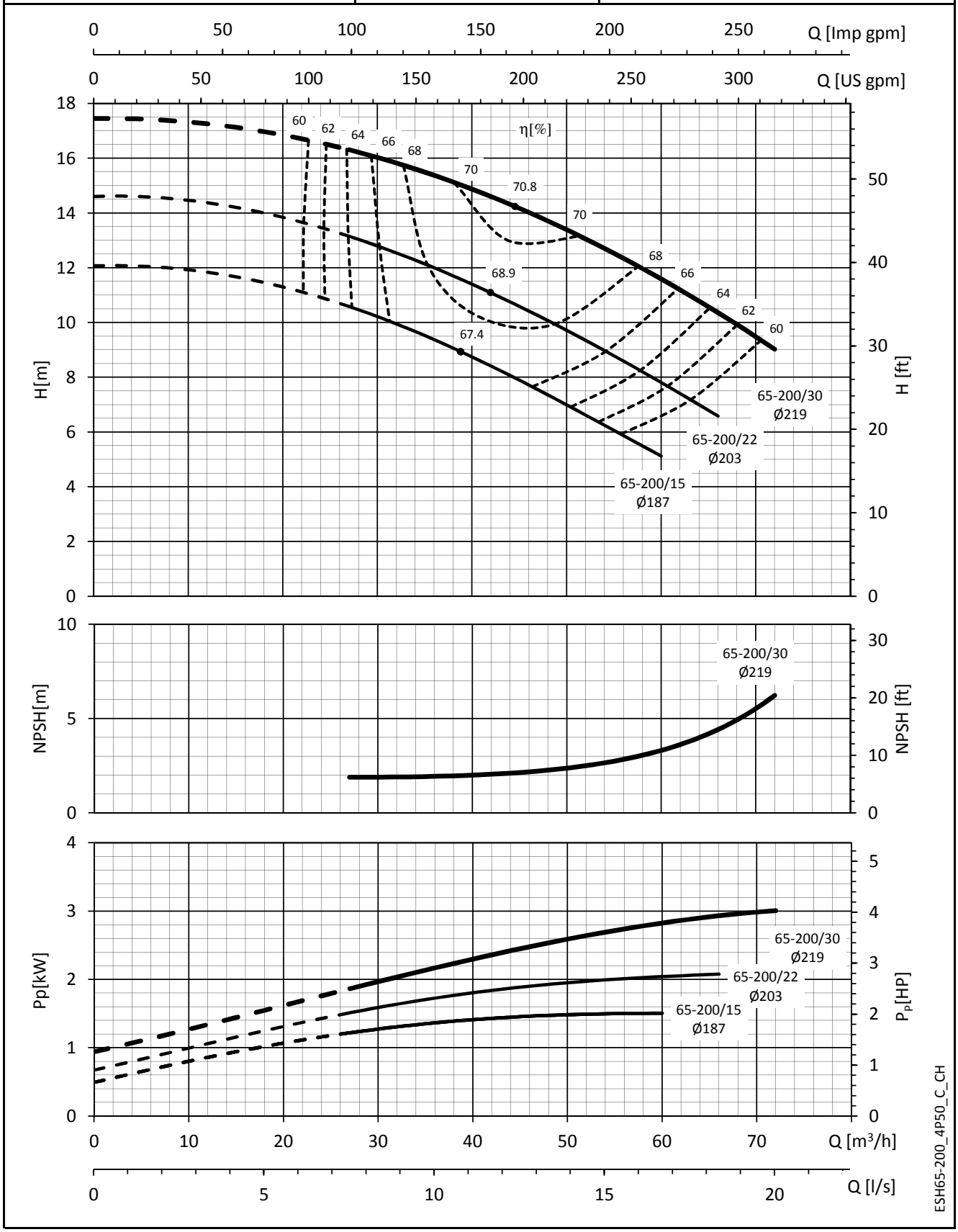


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

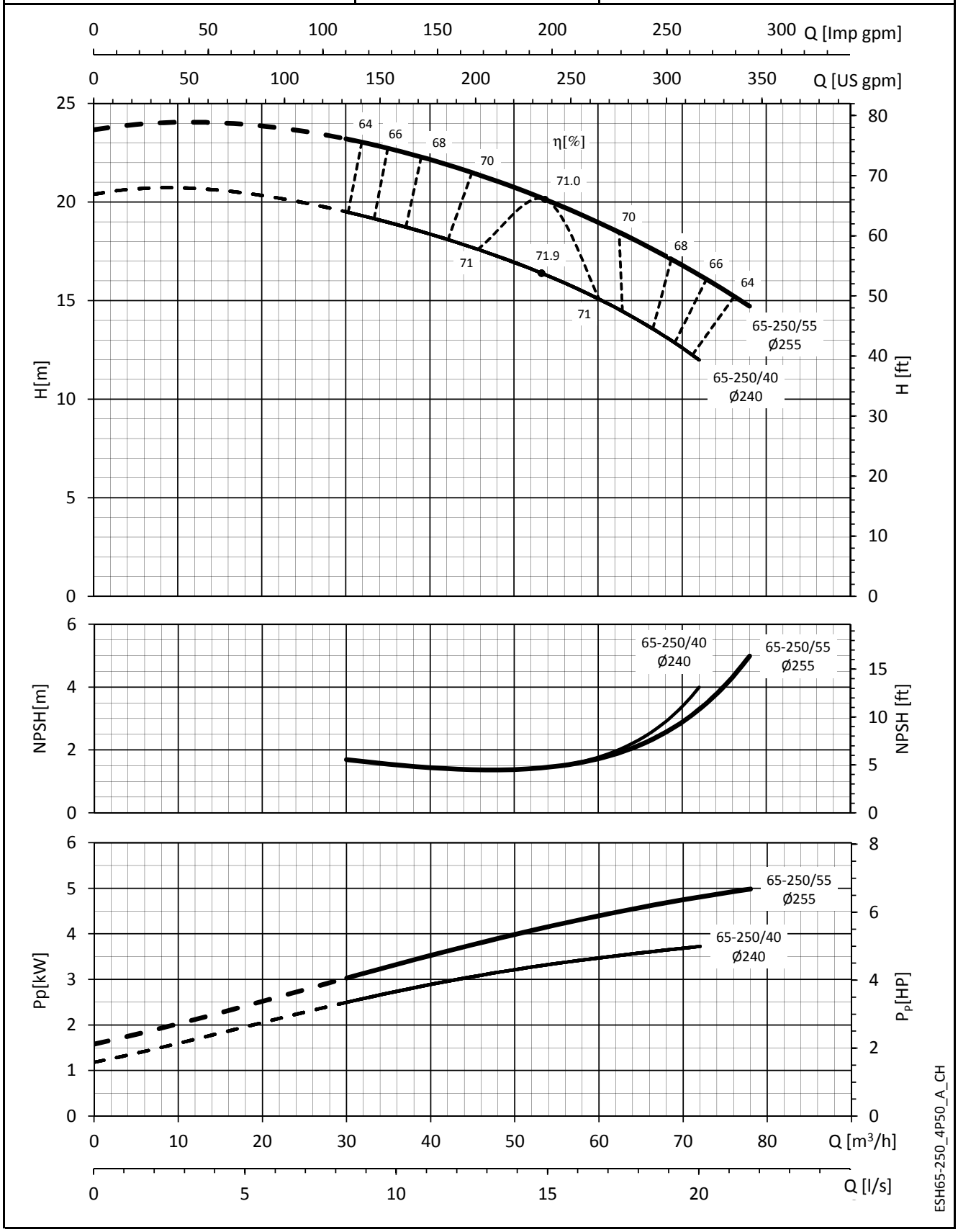


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

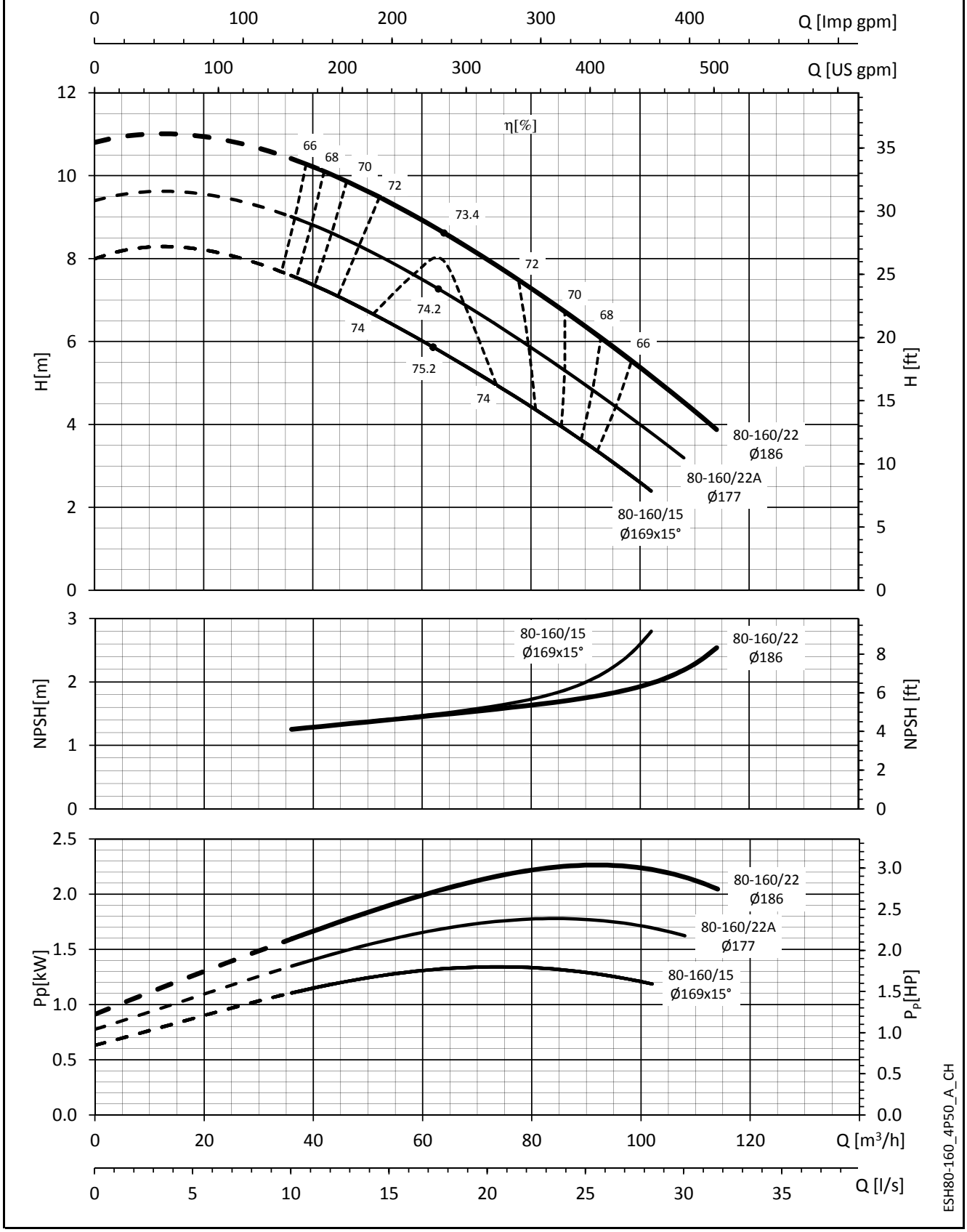


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

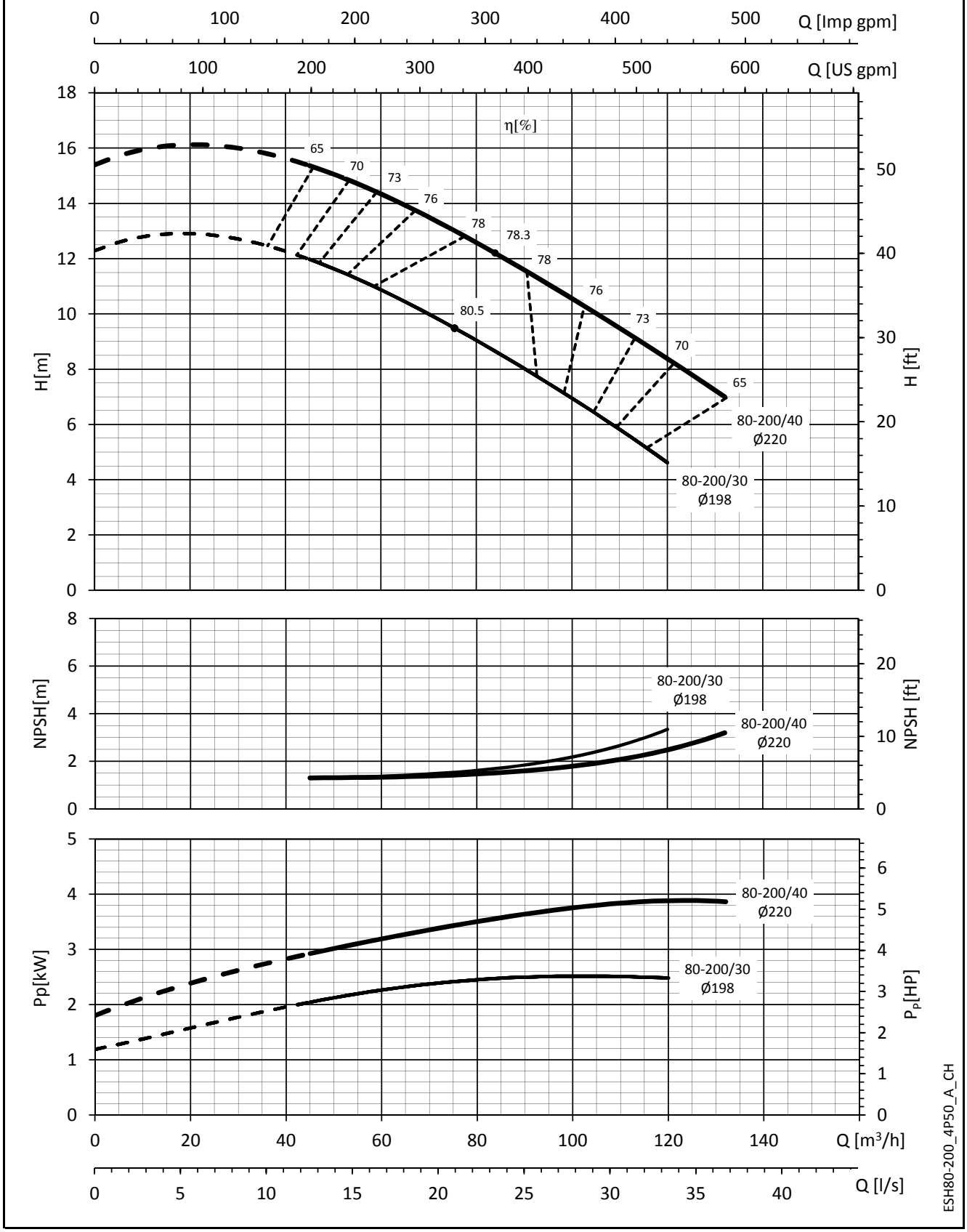


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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

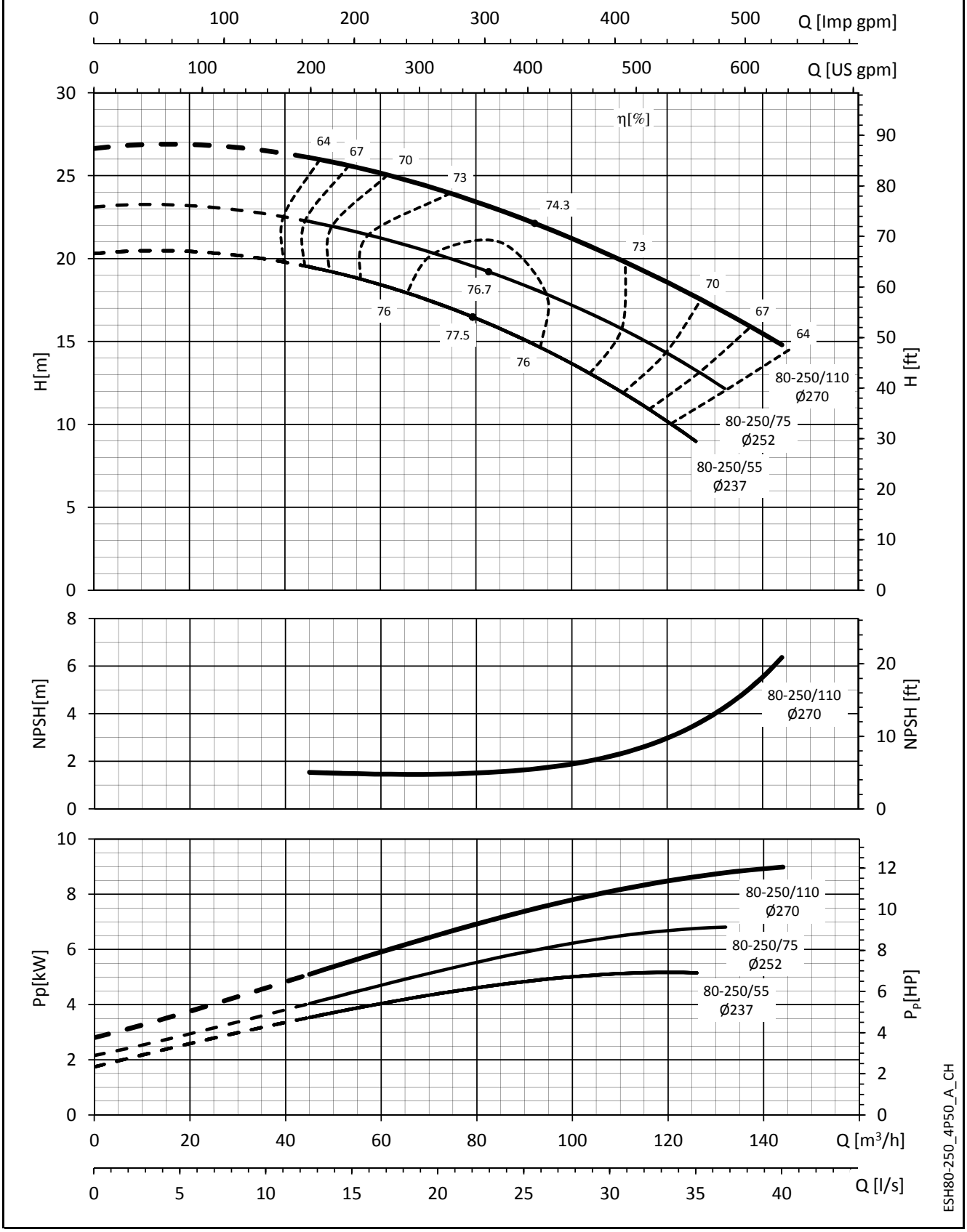


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

GOULDS WATER TECHNOLOGY
a xylem brand

ESH SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

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



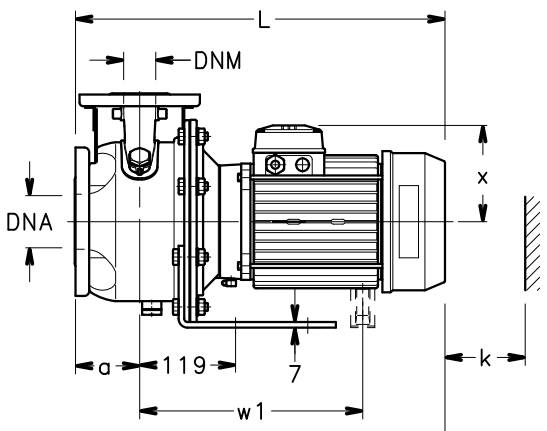
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

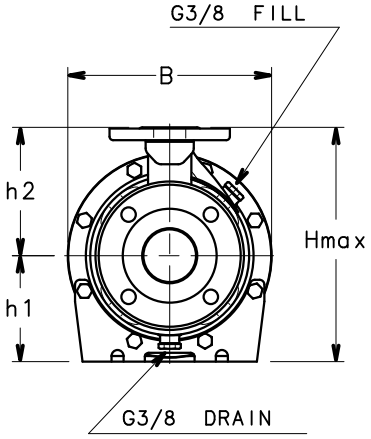
GOULDS WATER TECHNOLOGY
a xylem brand

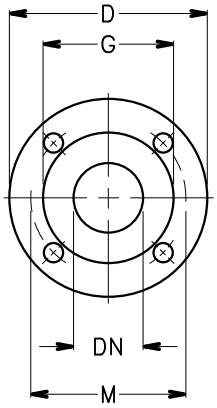
DIMENSIONS AND WEIGHTS

GOULDS WATER TECHNOLOGY
a xylem brand

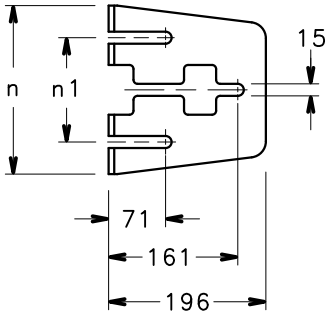
ESHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



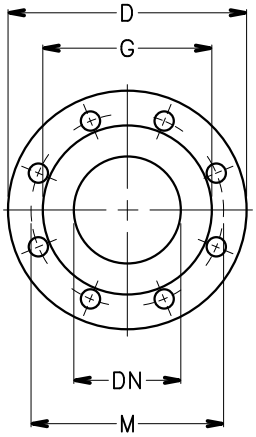




CLEARANCE FOR DISASSEMBLY

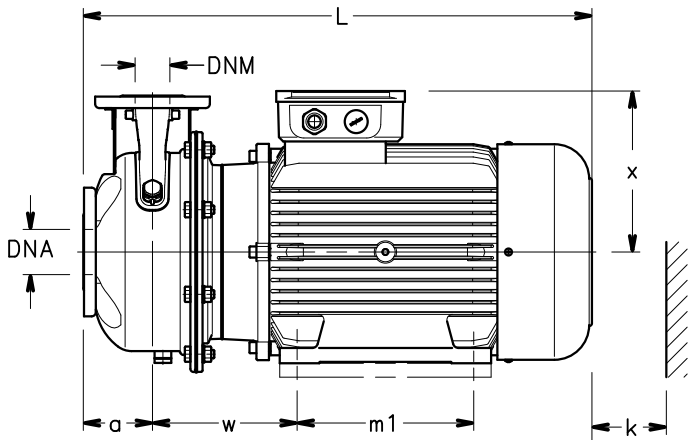


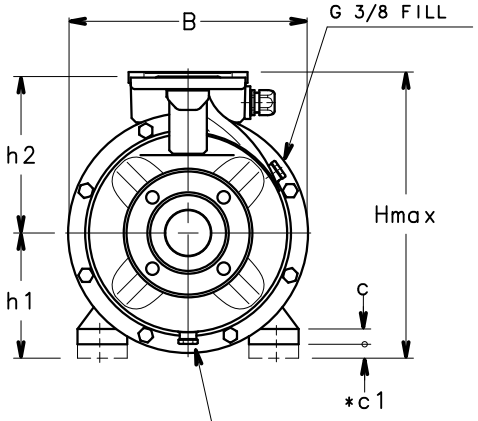
SHE WITH PUMP SUPPORT FOOT
MOTORS UP TO 11kW



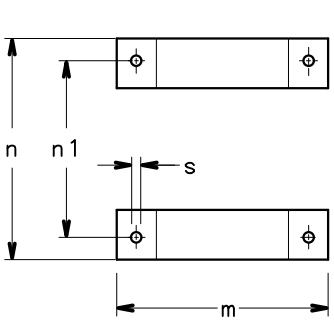
PUMP FLANGES

DN	D	M	G	HOLES		MAX.
				N°	DIA.	THICKNESS
25	115	85	56	4	18	16
32	140	100	64	4	18	16
40	150	110	68	4	18	16
50	165	125	83	4	18	18
65	185	145	104	4	18	18
80	200	160	116	8	18	20
100	225	180	142	8	18	20





CLEARANCE FOR DISASSEMBLY



* SHE WITH SUPPORT UNDER THE MOTOR
15 TO 22kW MOTORS

04903D-EN_E_DD

GOULDS WATER TECHNOLOGY
a xylem brand

ESHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

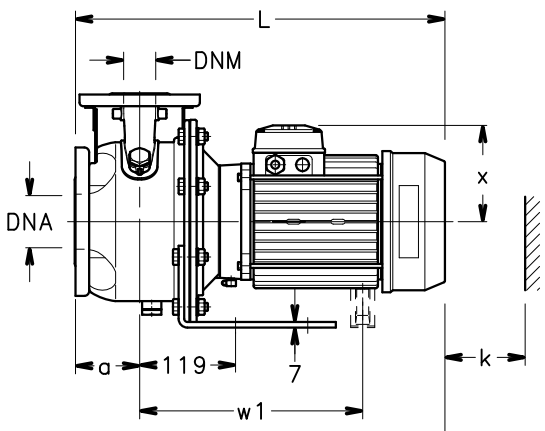
PUMP TYPE ESHE..2	DIMENSIONS (mm)																				WEIGHT
	PUMP							SUPPORT									B	H	L	k	
	DNM	DNA	a	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s		max			kg
25-125/07/S	25	50	80	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	443	98	18,6
25-125/11/S	25	50	80	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	443	98	20,6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

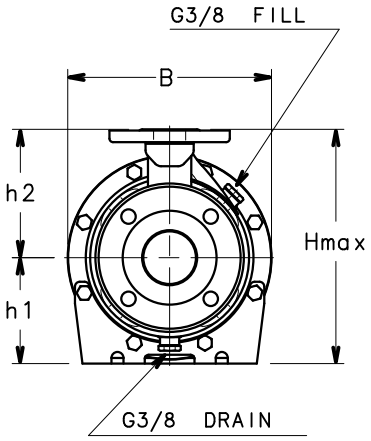
* Motor shim on request

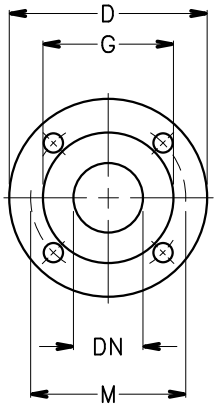
ESHE_2p50-en_a_td

GOULDS WATER TECHNOLOGY
a xylem brand

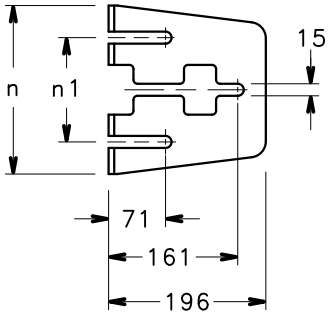
ESHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES



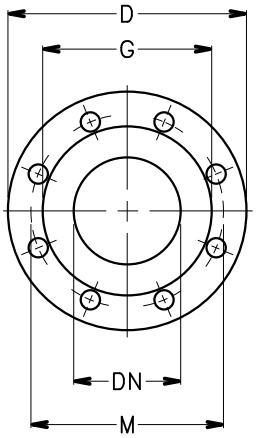




CLEARANCE FOR DISASSEMBLY

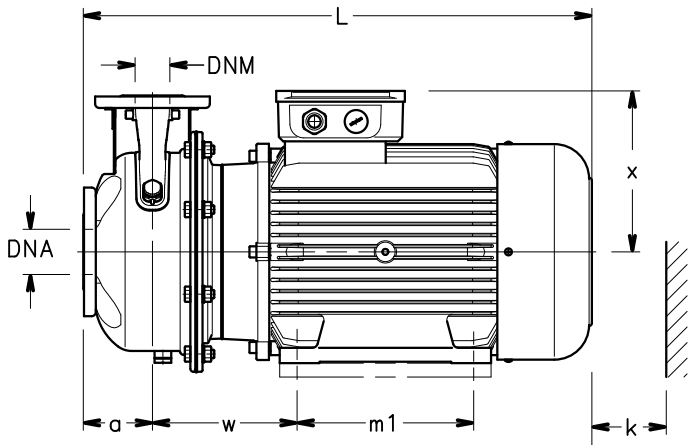


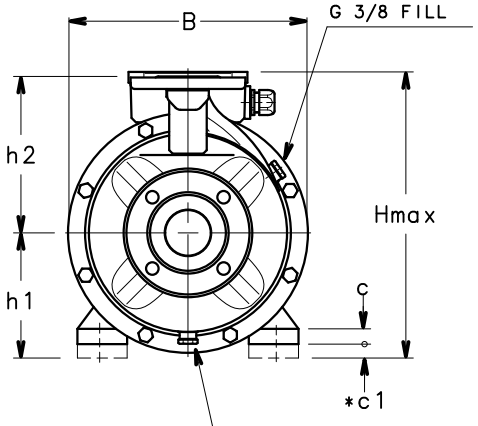
SHE WITH PUMP SUPPORT FOOT
MOTORS UP TO 7.5kW



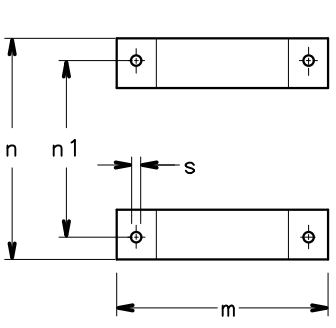
PUMP FLANGES

DN	D	M	G	HOLES		MAX.
				N°	DIA.	THICKNESS
25	115	85	56	4	18	16
32	140	100	64	4	18	16
40	150	110	68	4	18	16
50	165	125	83	4	18	18
65	185	145	104	4	18	18
80	200	160	116	8	18	20
100	225	180	142	8	18	20





CLEARANCE FOR DISASSEMBLY



SHE WITH SUPPORT UNDER THE MOTOR
11kW MOTORS

04904D-EN_D_DD

GOULDS WATER TECHNOLOGY
a xylem brand

ESHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

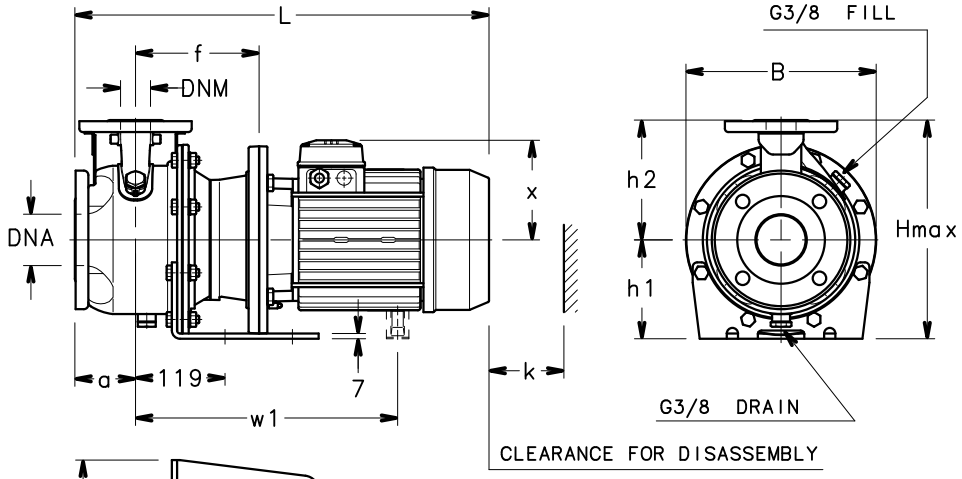
PUMP TYPE ESHE..4	DIMENSIONS (mm)																				WEIGHT
	PUMP							SUPPORT									B	H	L	k	
	DNM	DNA	a	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s		max			kg
25-125/02A/S	25	50	80	140	-	-	121	-	-	-	160	-	-	190	130	-	218	300	411	98	15
25-125/02/S	25	50	80	140	-	-	121	-	-	-	160	-	-	190	130	-	218	300	411	98	16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

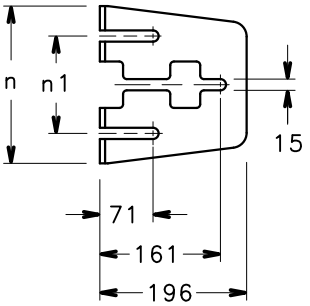
* Motor shim on request

ESHE_4p50-en_b_td

GOULDS WATER TECHNOLOGY
a xylem brand

ESHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

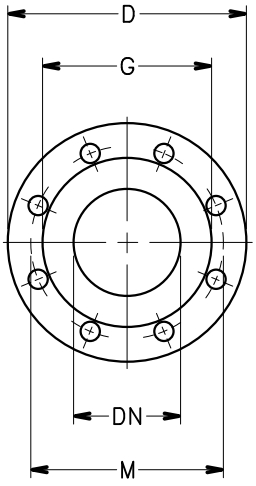


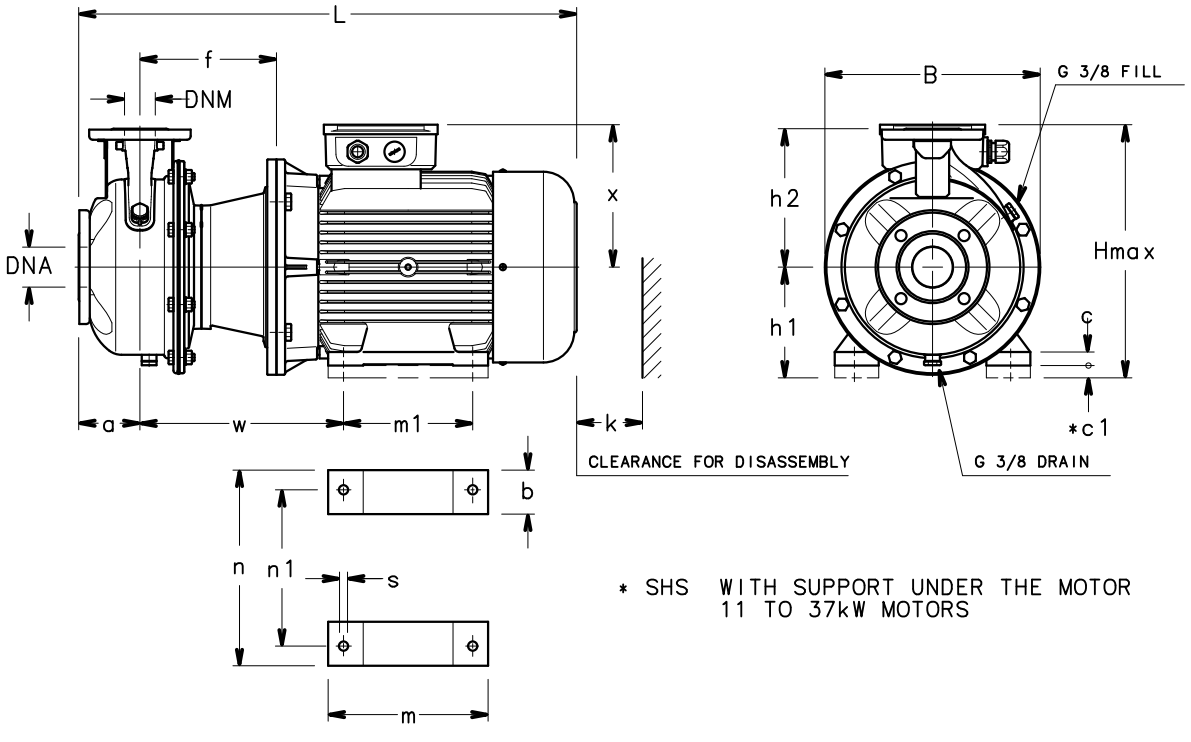


SHS WITH PUMP SUPPORT FOOT
MOTORS UP TO 7.5kW

PUMP FLANGES

DN	D	M	G	HOLES		MAX.
				N°	DIA.	THICKNESS
25	115	85	56	4	18	16
32	140	100	64	4	18	16
40	150	110	68	4	18	16
50	165	125	83	4	18	18
65	185	145	104	4	18	18
80	200	160	116	8	18	20
100	225	180	142	8	18	20





* SHS WITH SUPPORT UNDER THE MOTOR
11 TO 37kW MOTORS

04953D-EN_E_DD

GOULDS WATER TECHNOLOGY
a xylem brand

ESHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

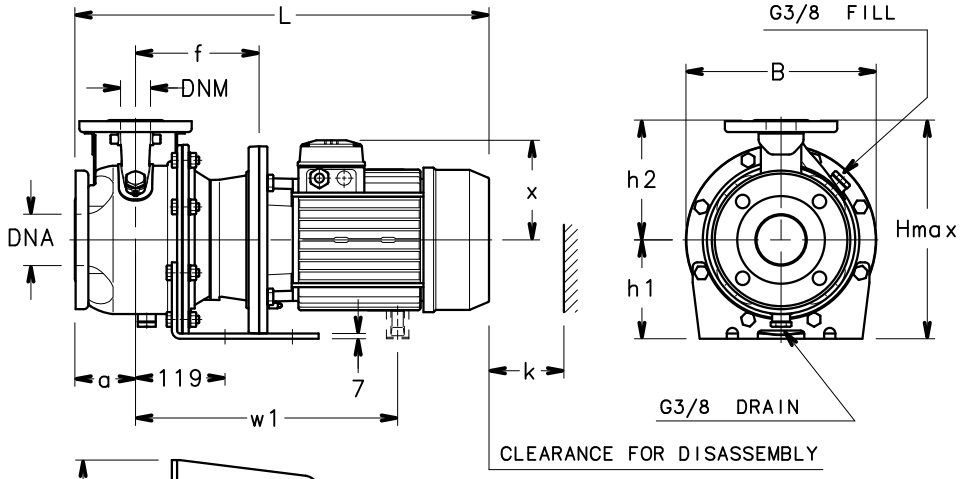
PUMP TYPE ESHS..2	DIMENSIONS (mm)																					WEIGHT
	PUMP								SUPPORT									B	H	L	k	
	DNM	DNA	a	f	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s		max			kg
25-125/07/S	25	50	80	155	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	498	98	24
25-125/11/S	25	50	80	155	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	498	98	25
25-160/15/S	25	50	80	155	160	-	-	129	-	-	-	160	-	-	210	130	-	253	320	498	98	27
25-160/22/P	25	50	80	155	160	-	-	134	-	-	-	160	-	-	210	130	-	253	320	533	98	33
25-200/30/P	25	50	80	165	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	543	98	44
25-200/40/P	25	50	80	165	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	564	98	51
25-250/55/P	25	50	100	192	225	-	399	168	-	-	-	180	-	-	265	130	-	345	405	667	98	77
25-250/75/P	25	50	100	192	225	-	397	191	-	-	-	180	-	-	265	130	-	345	405	659	98	91
25-250/110/P	25	50	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	98	130
32-125/07/S	32	50	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	98	24
32-125/11/S	32	50	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	98	25
32-160/15/S	32	50	80	155	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	498	98	27
32-160/22/P	32	50	80	155	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	533	98	33
32-200/30/P	32	50	80	165	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	543	98	44
32-200/40/P	32	50	80	165	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	564	98	51
32-250/55/P	32	50	100	192	225	-	399	168	-	-	-	180	-	-	265	130	-	345	405	667	98	77
32-250/75/P	32	50	100	192	225	-	397	191	-	-	-	180	-	-	265	130	-	345	405	659	98	91
32-250/110/P	32	50	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	98	130
40-125/11/S	40	65	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	100	26
40-125/15/S	40	65	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	100	26
40-125/22/P	40	65	80	155	140	-	-	134	-	-	-	112	-	-	190	130	-	218	252	533	100	32
40-160/30/P	40	65	80	165	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	543	100	42
40-160/40/P	40	65	80	165	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	564	100	48
40-200/55/P	40	65	100	192	180	-	399	168	-	-	-	160	-	-	230	130	-	300	340	667	100	63
40-200/75/P	40	65	100	192	180	-	397	191	-	-	-	160	-	-	230	130	-	300	351	659	100	80
40-250/110A/P	40	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	129
40-250/110/P	40	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	129
40-250/150/P	40	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	142
50-125/22/P	50	65	100	155	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	553	104	36
50-125/30/P	50	65	100	165	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	563	104	37
50-125/40/P	50	65	100	165	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	584	104	48
50-160/55/P	50	65	100	192	180	-	399	168	-	-	-	160	-	-	210	130	-	300	340	667	104	62
50-160/75/P	50	65	100	192	180	-	397	191	-	-	-	160	-	-	210	130	-	300	351	659	104	81
50-200/110A/P	50	65	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	104	126
50-200/110/P	50	65	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	104	130
50-250/150/P	50	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	148
50-250/185/P	50	65	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	107	156
50-250/220/P	50	65	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	107	162
65-160/40/P	65	80	100	165	200	-	-	154	-	-	-	160	-	-	245	130	-	310	360	584	130	60
65-160/55/P	65	80	100	192	200	-	399	168	-	-	-	160	-	-	245	130	-	310	360	667	130	78
65-160/75/P	65	80	100	192	200	-	397	191	-	-	-	160	-	-	245	130	-	310	360	659	130	93
65-160/110A/P	65	80	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	130	116
65-160/110/P	65	80	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	130	120
65-200/150/P	65	80	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	130	147
65-200/185/P	65	80	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	130	153
65-200/220/P	65	80	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	130	167
65-250/300/W	65	80	100	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	140	290
65-250/370/W	65	80	100	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	140	322
80-160/110/P	80	100	125	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	841	160	116
80-160/150/P	80	100	125	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	841	160	152
80-160/185/P	80	100	125	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	841	160	160
80-200/220/P	80	100	125	222	250	330	-	240	49	5	20	180	304	254	304	254	15	350	430	841	160	162
80-200/300/W	80	100	125	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	160	312
80-200/370/W	80	100	125	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	160	317

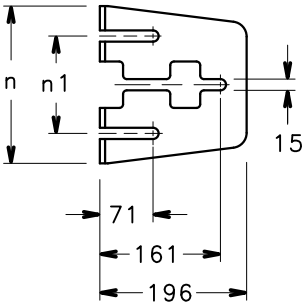
* Motor shim on request

ESHS_2p50-en_a_td

GOULDS WATER TECHNOLOGY
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ESHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

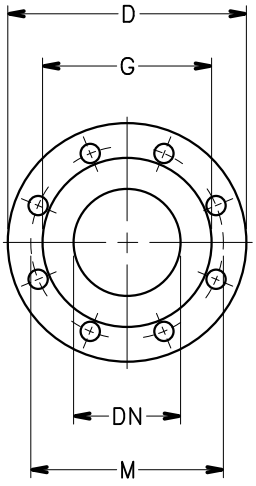


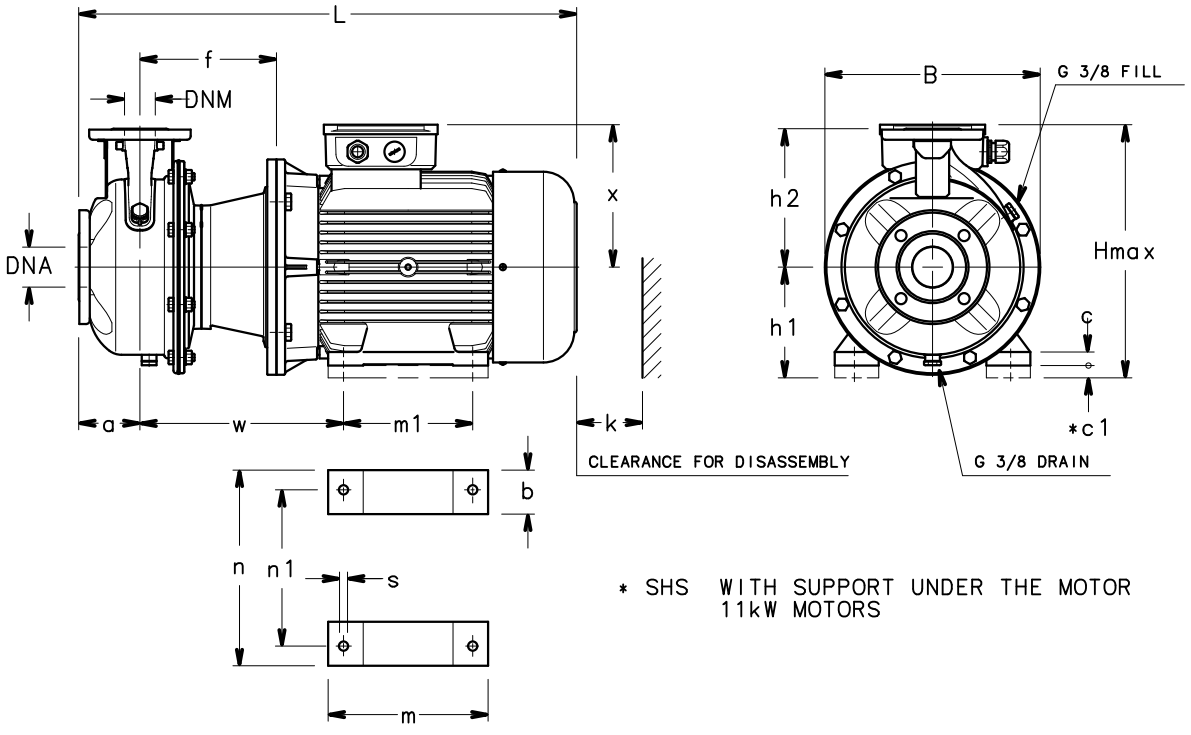


SHS WITH PUMP SUPPORT FOOT
MOTORS UP TO 7.5kW

PUMP FLANGES

DN	D	M	G	HOLES		MAX.
				N°	DIA.	THICKNESS
25	115	85	56	4	18	16
32	140	100	64	4	18	16
40	150	110	68	4	18	16
50	165	125	83	4	18	18
65	185	145	104	4	18	18
80	200	160	116	8	18	20
100	225	180	142	8	18	20





* SHS WITH SUPPORT UNDER THE MOTOR
11kW MOTORS

04953E-EN_E_DD

GOULDS WATER TECHNOLOGY
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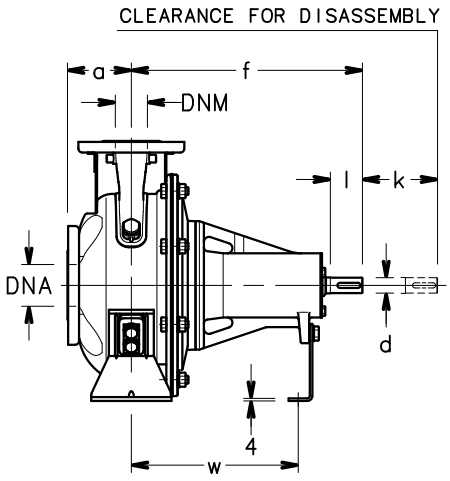
ESHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

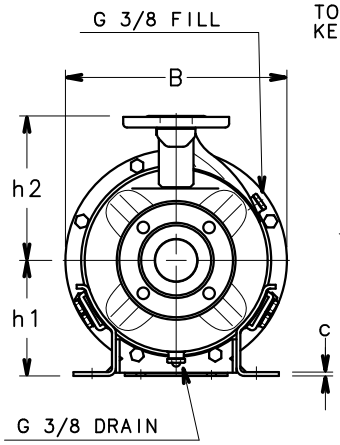
PUMP TYPE ESHS..4	DIMENSIONS (mm)																					WEIGHT
	PUMP								SUPPORT									B	H	L	k	
	DNM	DNA	a	f	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s		max			kg
25-250/07/X	25	50	100	155	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	486	98	42
25-250/11/P	25	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345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

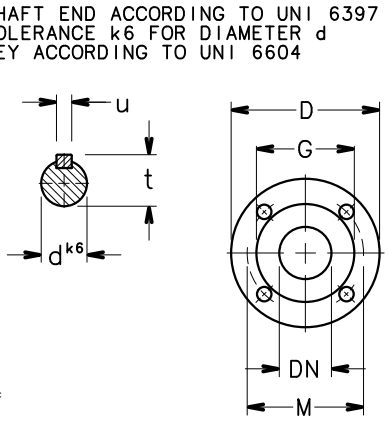
* Motor shim on request

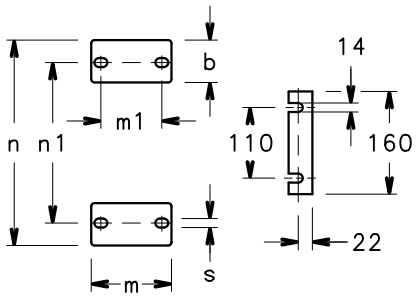
ESHS_4p50-en_b_td

ESH SERIES
DIMENSIONS AND WEIGHTS (BARE SHAFT)



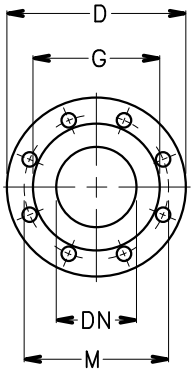






PUMP FLANGES

DN	D	M	G	HOLES		MAX.
				Nº	DIA.	THICKNESS
25	115	85	56	4	18	16
32	140	100	64	4	18	16
40	150	110	68	4	18	16
50	165	125	83	4	18	18
65	185	145	104	4	18	18
80	200	160	116	8	18	20
100	225	180	142	8	18	20



04975D-EN_B_DD

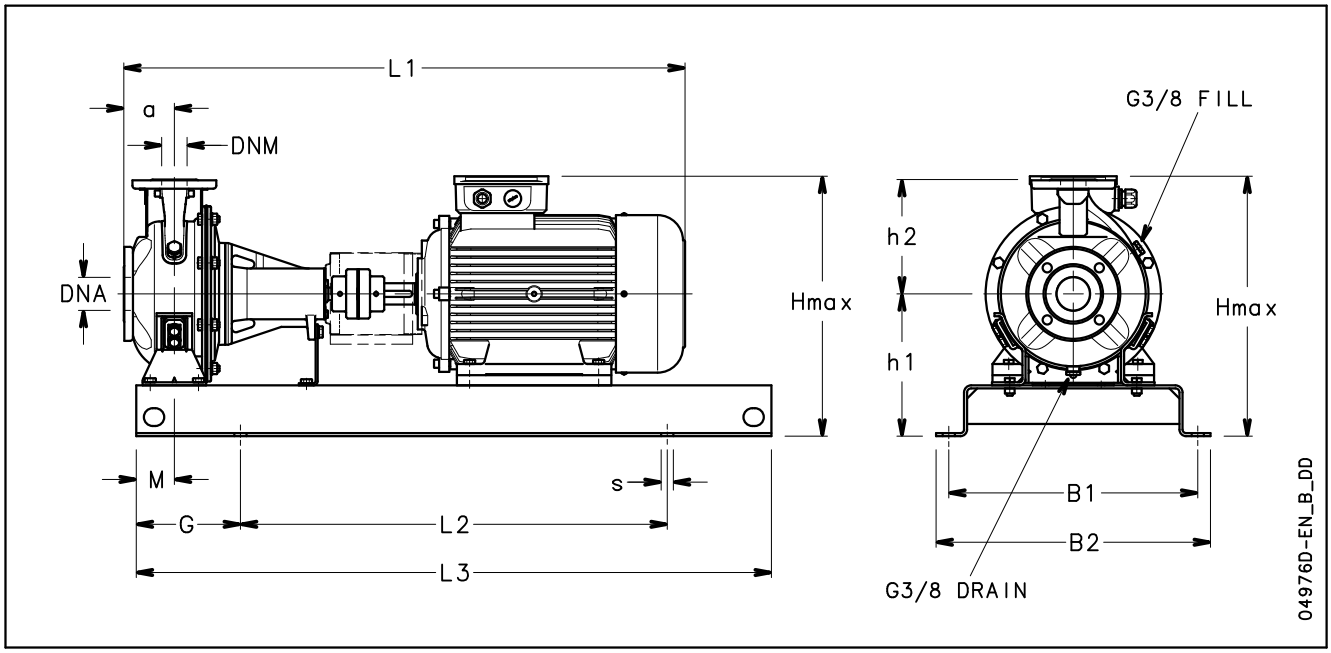
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ESH SERIES
DIMENSIONS AND WEIGHTS (BARE SHAFT)

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

ESHbs-en_a_td

ESHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



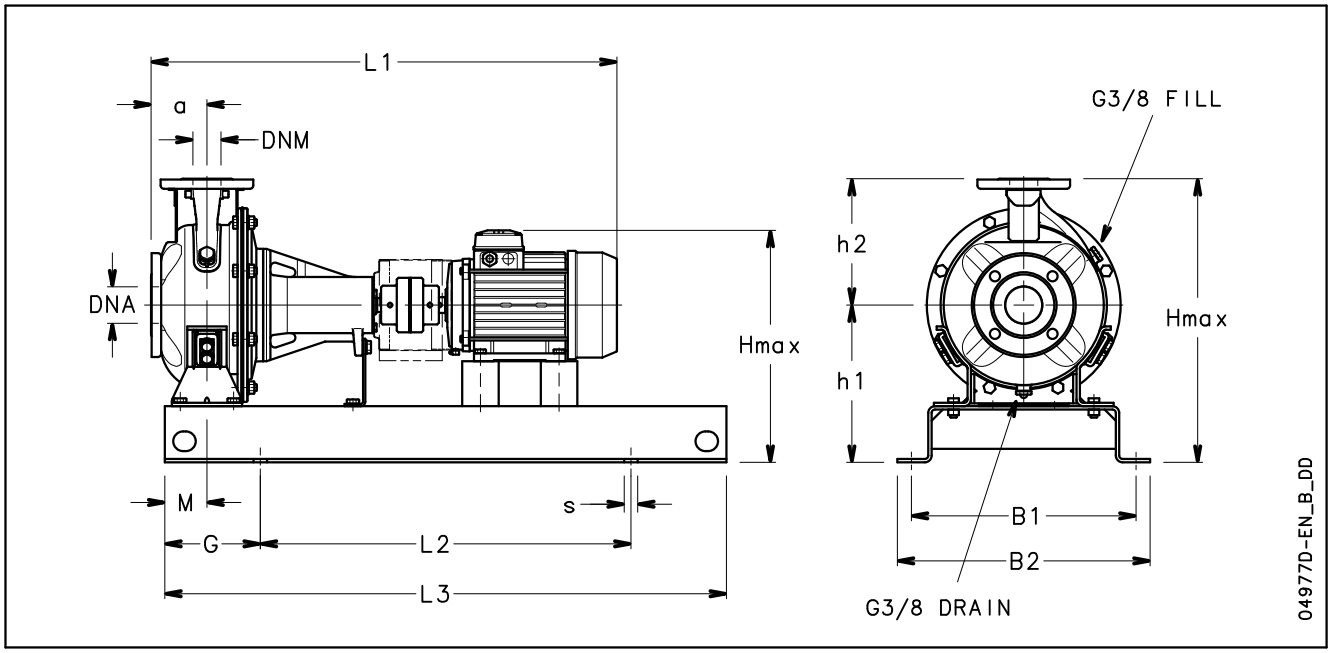
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ESHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE ESHF..2	DIMENSIONS (mm)													S FOR SCREWS	WEIGHT kg	COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax			
25-125/07/S	25	50	80	320	360	746	540	800	130	60	212	140	352	M16	67	A2
25-125/11/S	25	50	80	320	360	746	540	800	130	60	212	140	352	M16	69	A2
25-160/15/P	25	50	80	350	390	791	600	900	150	60	232	160	392	M16	73	A3
25-160/22/P	25	50	80	350	390	791	600	900	150	60	232	160	392	M16	75	A3
25-200/30/P	25	50	80	350	390	822	600	900	150	60	260	180	440	M16	95	B1
25-200/40/P	25	50	80	350	390	825	600	900	150	60	260	180	440	M16	97	B1
25-250/55/P	25	50	100	440	490	910	740	1120	190	75	280	225	505	M20	130	C1
25-250/75/P	25	50	100	440	490	910	740	1120	190	75	280	225	505	M20	134	C1
25-250/110/P	25	50	100	490	540	1067	840	1250	205	75	280	225	520	M20	181	C2
32-125/07/S	32	50	80	320	360	746	540	800	130	60	212	140	352	M16	67	A2
32-125/11/S	32	50	80	320	360	746	540	800	130	60	212	140	352	M16	69	A2
32-160/15/P	32	50	80	350	390	791	600	900	150	60	232	160	392	M16	73	A3
32-160/22/P	32	50	80	350	390	791	600	900	150	60	232	160	392	M16	75	A3
32-200/30/P	32	50	80	350	390	822	600	900	150	60	260	180	440	M16	95	B1
32-200/40/P	32	50	80	350	390	825	600	900	150	60	260	180	440	M16	97	B1
32-250/55/P	32	50	100	440	490	910	740	1120	190	75	280	225	505	M20	130	C1
32-250/75/P	32	50	100	440	490	910	740	1120	190	75	280	225	505	M20	134	C1
32-250/110/P	32	50	100	490	540	1067	840	1250	205	75	280	225	520	M20	181	C2
40-125/11/S	40	65	80	350	390	746	600	900	150	60	212	140	352	M16	70	A2
40-125/15/P	40	65	80	350	390	791	600	900	150	60	212	140	352	M16	74	A3
40-125/22/P	40	65	80	350	390	791	600	900	150	60	212	140	352	M16	77	A3
40-160/30/P	40	65	80	350	390	822	600	900	150	60	232	160	392	M16	92	B1
40-160/40/P	40	65	80	350	390	825	600	900	150	60	232	160	400	M16	96	B1
40-200/55/P	40	65	100	400	450	910	660	1000	170	60	260	180	451	M20	123	C1
40-200/75/P	40	65	100	400	450	910	660	1000	170	60	260	180	451	M20	128	C1
40-250/110A/P	40	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	167	C2
40-250/110/P	40	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	170	C2
40-250/150/P	40	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	175	C2
50-125/22/P	50	65	100	350	390	811	600	900	150	60	232	160	392	M16	84	A3
50-125/30/P	50	65	100	350	390	842	600	900	150	60	232	160	392	M16	92	B1
50-125/40/P	50	65	100	350	390	845	600	900	150	60	232	160	400	M16	95	B1
50-160/55/P	50	65	100	400	450	910	660	1000	170	60	260	180	451	M20	120	C1
50-160/75/P	50	65	100	400	450	910	660	1000	170	60	260	180	451	M20	122	C1
50-200/110A/P	50	65	100	440	490	1067	740	1120	190	60	260	200	500	M20	145	C2
50-200/110/P	50	65	100	440	490	1067	740	1120	190	60	260	200	500	M20	150	C2
50-250/150/P	50	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	165	C2
50-250/185/P	50	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	170	C2
50-250/220/W	50	65	100	490	540	1127	840	1250	205	75	280	225	559	M20	272	D1
65-160/40/P	65	80	100	400	450	845	660	1000	170	75	260	200	460	M20	133	B1
65-160/55/P	65	80	100	440	490	910	740	1120	190	75	260	200	460	M20	155	C1
65-160/75/P	65	80	100	440	490	910	740	1120	190	75	260	200	460	M20	159	C1
65-160/110A/P	65	80	100	490	540	1067	840	1250	205	75	260	200	500	M20	162	C2
65-160/110/P	65	80	100	490	540	1067	840	1250	205	75	260	200	500	M20	162	C2
65-200/150/P	65	80	100	490	540	1067	840	1250	205	75	280	225	520	M20	185	C2
65-200/185/P	65	80	100	490	540	1067	840	1250	205	75	280	225	520	M20	190	C2
65-200/220/W	65	80	100	490	540	1127	840	1250	205	75	280	225	559	M20	265	D1
65-250/300/W	65	80	100	550	610	1340	940	1400	230	90	310	250	627	M24	359	E1
65-250/370/W	65	80	100	550	610	1340	940	1400	230	90	310	250	627	M24	375	E1
80-160/110/P	80	100	125	490	540	1092	840	1250	205	75	280	225	520	M20	198	C2
80-160/150/P	80	100	125	490	540	1092	840	1250	205	75	280	225	520	M20	209	C2
80-160/185/P	80	100	125	490	540	1092	840	1250	205	75	280	225	520	M20	220	C2
80-200/220/W	80	100	125	490	540	1262	840	1250	205	75	280	250	559	M20	278	D2
80-200/300/W	80	100	125	550	610	1365	940	1400	230	75	310	250	627	M24	359	E1
80-200/370/W	80	100	125	550	610	1365	940	1400	230	75	310	250	627	M24	375	E1
80-250/450/W	80	100	125	550	610	1454	940	1400	230	90	365	280	749	M24	549	E1
80-250/550/W	80	100	125	600	660	1563	1060	1600	270	90	390	280	792	M24	702	F1
80-250/750/W	80	100	125	670	730	1670	1200	1800	300	90	420	280	892	M24	979	G1

ESHF_2p50-en_b_td

ESHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

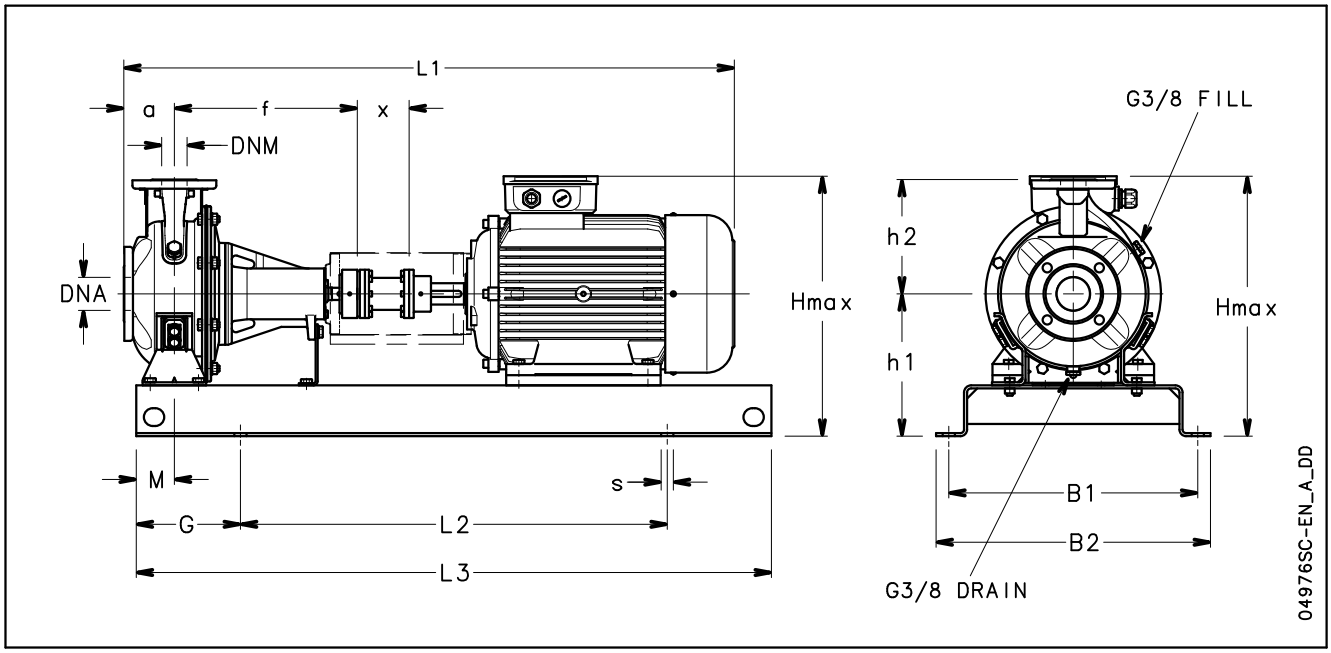


GOULDS WATER TECHNOLOGY
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ESHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

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

ESHC SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



GOULDS WATER TECHNOLOGY
a xylem brand

ESHC SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE ESHC..2	DIMENSIONS (mm)															s FOR	WEIGHT	COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax	f	x	SCREWS	kg	
32-125/07/S	32	50	80	320	360	845	540	800	130	60	212	140	352	360	100	M16	69	A2S
32-125/11/S	32	50	80	320	360	845	540	800	130	60	212	140	352	360	100	M16	71	A2S
32-160/15/P	32	50	80	350	390	889	600	900	150	60	232	160	392	360	100	M16	75	A3S
32-160/22/P	32	50	80	350	390	889	600	900	150	60	232	160	392	360	100	M16	77	A3S
32-200/30/P	32	50	80	350	390	920	600	900	150	60	260	180	440	360	100	M16	97	B1S
32-200/40/P	32	50	80	350	390	923	600	900	150	60	260	180	440	360	100	M16	99	B1S
32-250/55/P	32	50	100	440	490	1007	740	1120	190	75	280	225	505	360	100	M20	132	C1S
32-250/75/P	32	50	100	440	490	1007	740	1120	190	75	280	225	505	360	100	M20	136	C1S
32-250/110/P	32	50	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	183	C2S
40-125/11/S	40	65	80	350	390	845	600	900	150	60	212	140	352	360	100	M16	72	A2S
40-125/15/P	40	65	80	350	390	889	600	900	150	60	212	140	352	360	100	M16	76	A3S
40-125/22/P	40	65	80	350	390	889	600	900	150	60	212	140	352	360	100	M16	79	A3S
40-160/30/P	40	65	80	350	390	920	600	900	150	60	232	160	392	360	100	M16	94	B1S
40-160/40/P	40	65	80	350	390	923	600	900	150	60	232	160	400	360	100	M16	98	B1S
40-200/55/P	40	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	125	C1S
40-200/75/P	40	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	130	C1S
40-250/110A/P	40	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	169	C2S
40-250/110/P	40	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	172	C2S
40-250/150/P	40	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	177	C2S
50-125/22/P	50	65	100	350	390	909	600	900	150	60	232	160	392	360	100	M16	86	A3S
50-125/30/P	50	65	100	350	390	940	600	900	150	60	232	160	392	360	100	M16	94	B1S
50-125/40/P	50	65	100	350	390	943	600	900	150	60	232	160	400	360	100	M16	97	B1S
50-160/55/P	50	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	122	C1S
50-160/75/P	50	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	124	C1S
50-200/110A/P	50	65	100	440	490	1164	740	1120	190	60	260	200	500	360	100	M20	147	C2S
50-200/110/P	50	65	100	440	490	1164	740	1120	190	60	260	200	500	360	100	M20	152	C2S
50-250/150/P	50	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	167	C2S
50-250/185/P	50	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	172	C2S
50-250/220/W	50	65	100	490	540	1224	840	1250	205	75	280	225	559	360	100	M20	274	D1S
65-160/40/P	65	80	100	400	450	943	660	1000	170	75	260	200	460	360	100	M20	135	B1S
65-160/55/P	65	80	100	440	490	1007	740	1120	190	75	260	200	460	360	100	M20	157	C1S
65-160/75/P	65	80	100	440	490	1007	740	1120	190	75	260	200	460	360	100	M20	161	C1S
65-160/110A/P	65	80	100	490	540	1164	840	1250	205	75	260	200	500	360	100	M20	164	C2S
65-160/110/P	65	80	100	490	540	1164	840	1250	205	75	260	200	500	360	100	M20	164	C2S
65-200/150/P	65	80	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	187	C2S
65-200/185/P	65	80	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	192	C2S
65-200/220/W	65	80	100	490	540	1224	840	1250	205	75	280	225	559	360	100	M20	267	D1S
65-250/300/W	65	80	100	550	610	1477	940	1400	230	90	310	250	627	470	140	M24	362	E1S
65-250/370/W	65	80	100	550	610	1477	940	1400	230	90	310	250	627	470	140	M24	378	E1S
80-160/110/P	80	100	125	490	540	1189	840	1250	205	75	280	225	520	360	100	M20	200	C2S
80-160/150/P	80	100	125	490	540	1189	840	1250	205	75	280	225	520	360	100	M20	211	C2S
80-160/185/P	80	100	125	490	540	1189	840	1250	205	75	280	225	520	360	100	M20	222	C2S
80-200/220/W	80	100	125	490	540	1359	840	1250	205	75	280	250	559	470	100	M20	280	D2S
80-200/300/W	80	100	125	550	610	1502	940	1400	230	75	310	250	627	470	140	M24	362	E1S
80-200/370/W	80	100	125	550	610	1502	940	1400	230	75	310	250	627	470	140	M24	378	E1S
80-250/450/W	80	100	125	550	610	1591	940	1400	230	90	365	280	749	470	140	M24	552	E1S
80-250/550/W	80	100	125	600	660	1700	1060	1600	270	90	390	280	792	470	140	M24	707	F1S
80-250/750/W	80	100	125	670	730	1807	1200	1800	300	90	420	280	892	470	140	M24	985	G1S

ESHC_2p50-en_b_td

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ESH..H with HYDROVAR® (HVL range)

ESH..H SERIES
(ESH WITH HYDROVAR)

Background and context

For all pumping needs in commercial or residential building and in industry applications, the demand for intelligent pumping systems is constantly growing. Controlled systems offer many advantages: reduced operating costs for the lifetime of the pump, lower environmental impact, longer lifetime of piping systems and networks.
For this reason, we have developed the ESH..H: an intelligent pumping system which assures high level performance with energy consumption tailored to the system's demand.

Benefits of ESH with HYDROVAR

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

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

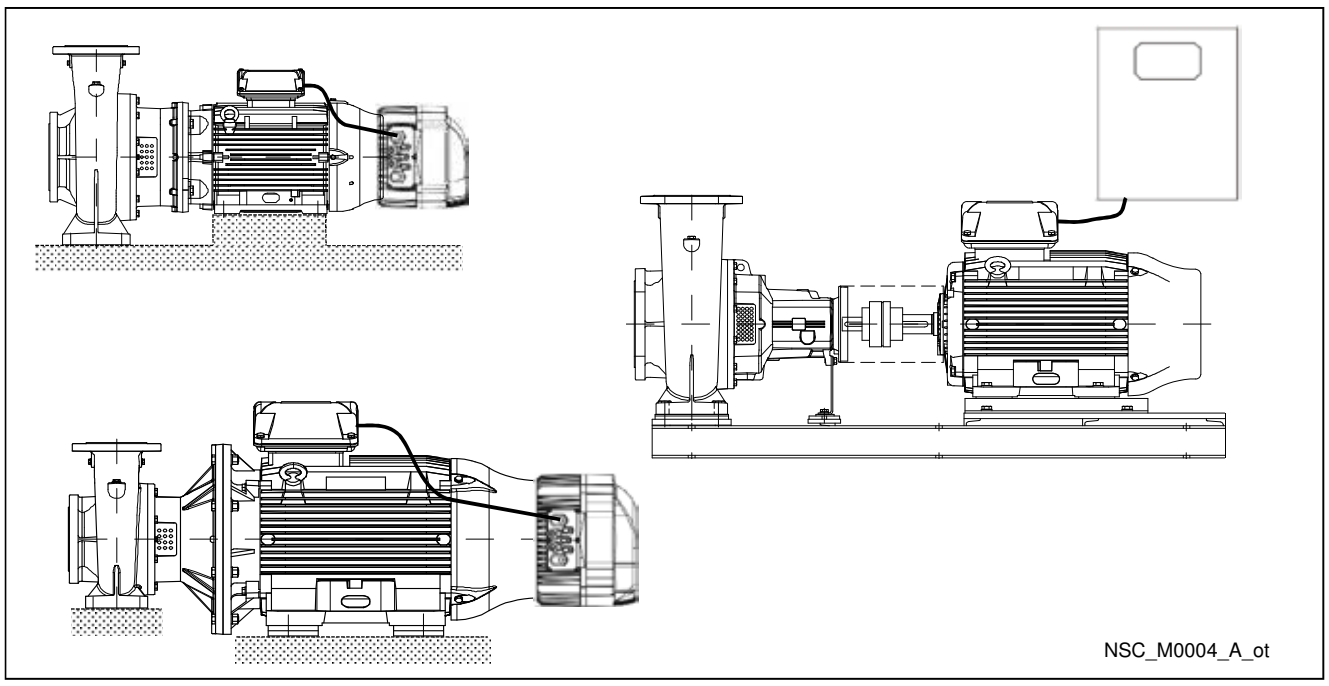
Standard motors: ESH..H models are fitted with three-phase standard TEFC motors with insulation class 155 (F).

Key Features of the HYDROVAR

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

Identification code:
ESH..H models are identified by the letter "**H**" and "**/2**", "**/3**" or "**/4**" in the standard identification code of the e-SH product range.

Example:
ESHS**H**40-250/110/P25VSS4 **/4**
H = with integrated HYDROVAR
/4 = HYDROVAR HVL**4**.110 [3~ 380-460 V (50/60 Hz)].



ESH..H SERIES
(ESH WITH HYDROVAR)

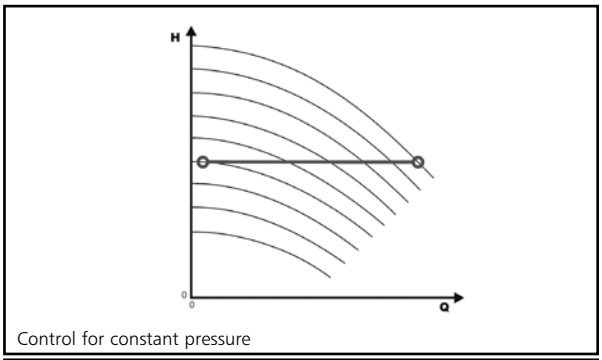
The basic function of the HYDROVAR device is to control the pump to meet the system demands.

HYDROVAR performs these functions by:

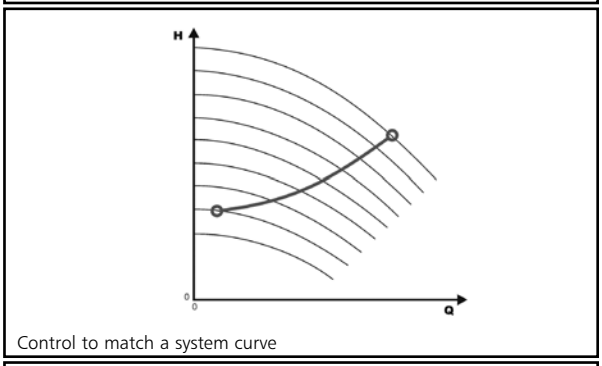
1) Measuring the system pressure or flow via a transmitter mounted on the pump's delivery side.
2) Calculating the motor speed to maintain the correct flow or pressure.
3) Sending out a signal to the pump to start the motor, increase speed, decrease speed or stop.
4) In the case of multiple pump installations,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

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

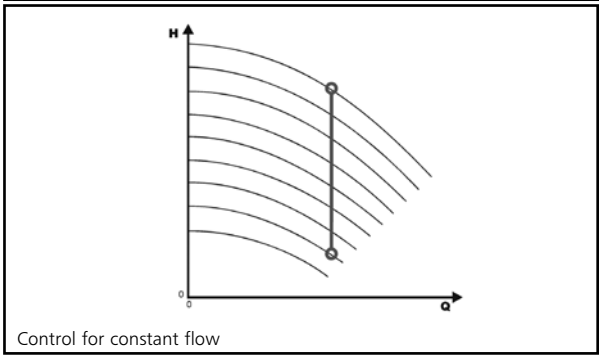
- Stop the pump(s) at zero demand.
- Stop the pump(s) in case of water failure on the suction side (protection against dry running).
- Stop the pump if the required delivery exceeds the pump's capacity (protection against cavitation caused by excessive demand), or automatically switch on the next pump in a multiple series.
- Protect the pump and motor from over-voltage, under-voltage, overload, and earth fault.
- Vary the pump speed: acceleration and deceleration time.
- Compensate for increased flow resistance at high flow rates.
- Conduct automatic tests at set intervals.
- Monitor the converter and motor operating hours.
- Display 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.



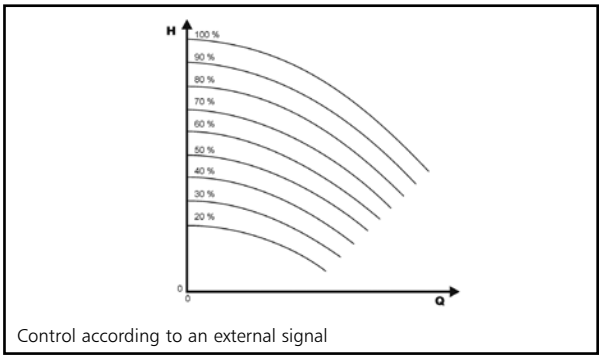
Control for constant pressure



Control to match a system curve



Control for constant flow



Control according to an external signal

HYDROVAR HVL IDENTIFICATION CODE

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

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

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.

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

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
7 = Wifi Card (option supplied loose)

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

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

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

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

* = models not yet available.

HVL_dim-en_a_td

HYDROVAR HVL
EMC COMPATIBILITY

EMC requirements

HYDROVAR fulfills the product standard EN61800-3:2004 + A1:2012, which defines categories (C1 to C4) for device application areas.
Depending on the motor cable length, a classification of HYDROVAR by category (based on EN61800-3) is reported in the following tables:

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

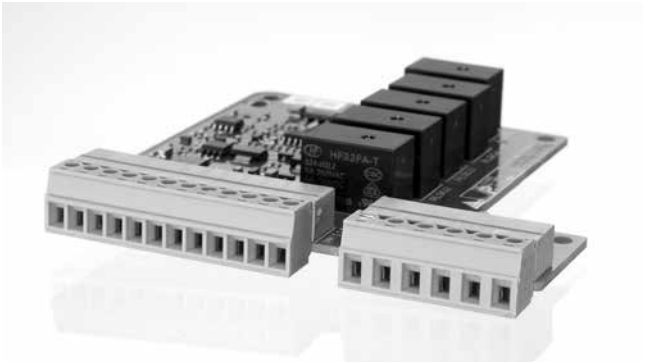
(*) 0,75 motor cable length; contact Xylem for further information En-Rev_A

CARD

Premium Card HYDROVAR (optional)

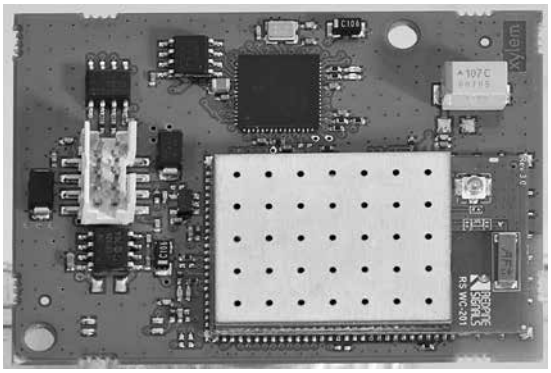
For the ESH series, the Premium Card comes fitted as option on the standalone HYDROVAR.
This allows to control up to five fix speed pumps via an external panel.
The Premium Card will allow additional features listed below:

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



Wi-Fi Card HYDROVAR (optional)

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



OPTIONAL COMPONENTS

Sensors

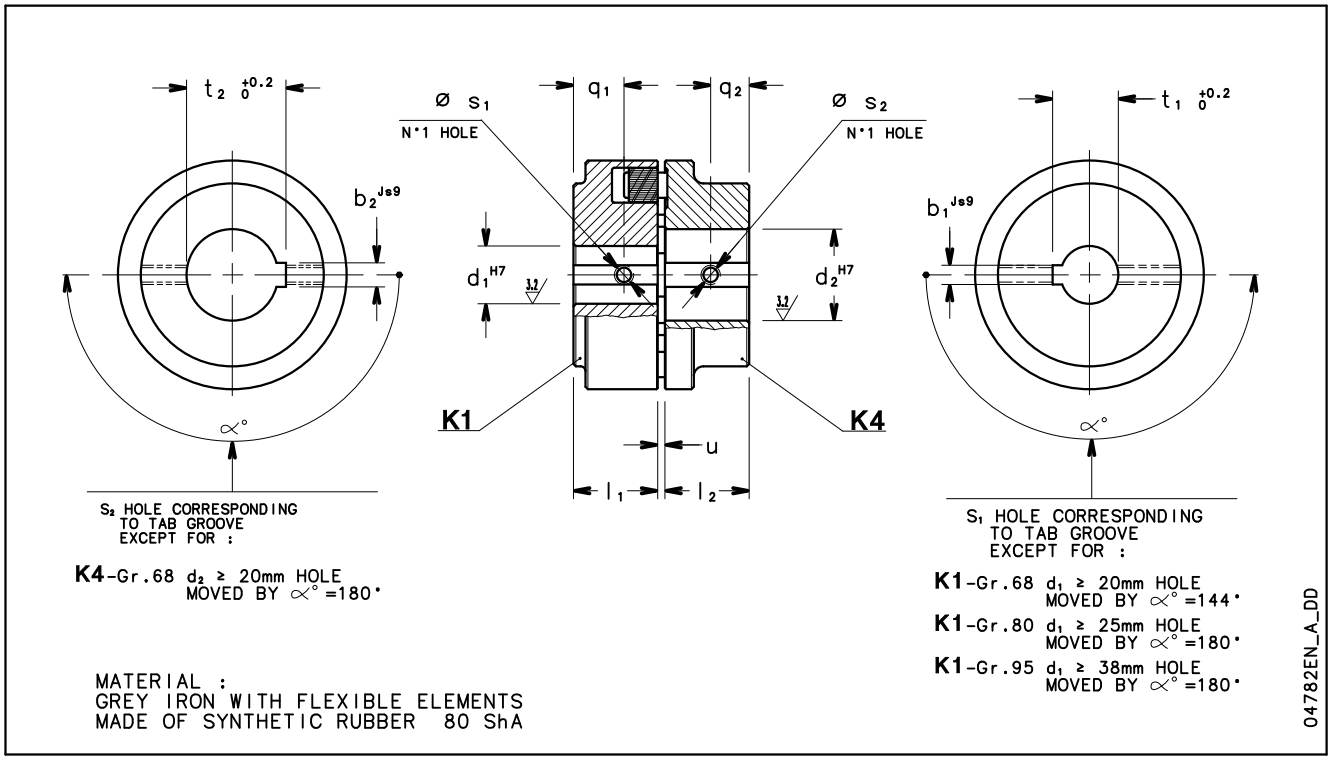
The following sensors are available for HYDROVAR:

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

GOULDS WATER TECHNOLOGY
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ACCESSORIES

FLEXIBLE COUPLING DIMENSIONS

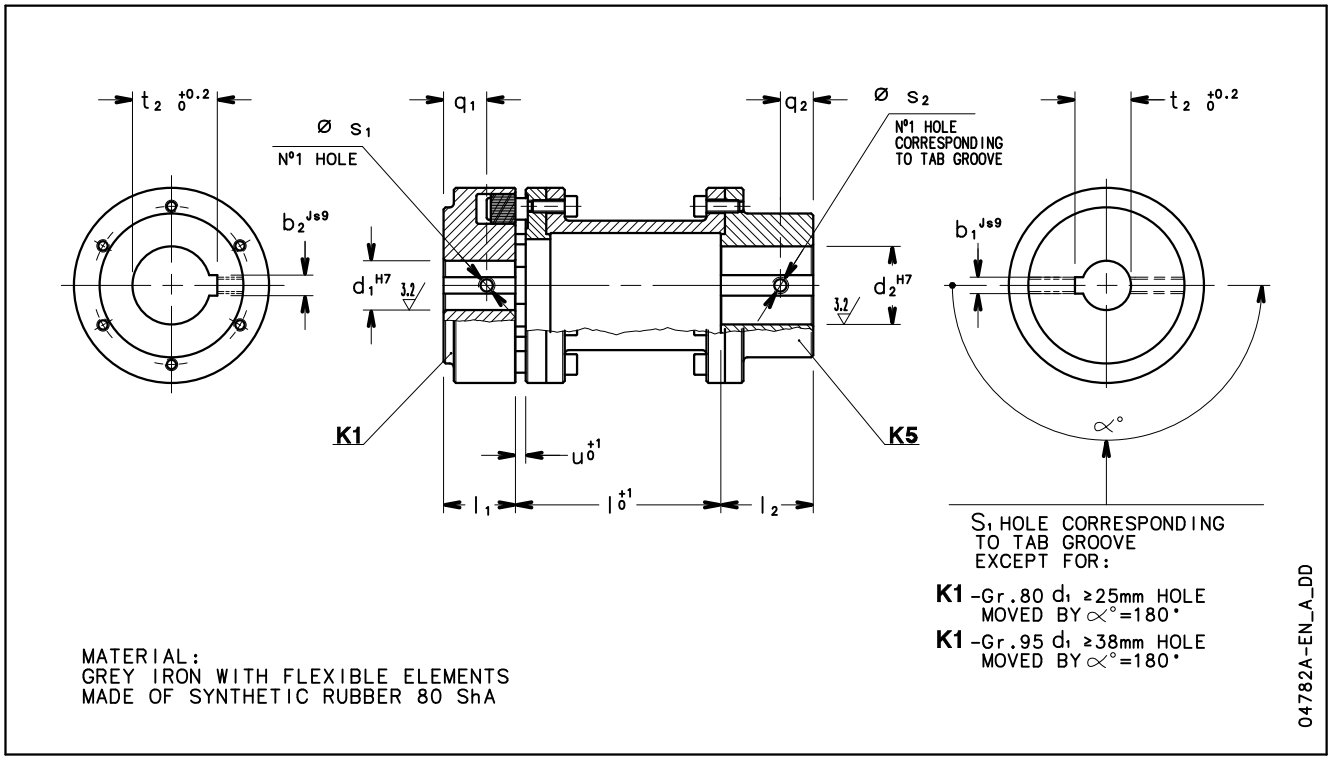


REF.	DENOMINATION	DIMENSIONS (mm)												
		K1 PUMP-SIDE HALF COUPLING						K4 MOTOR-SIDE HALF COUPLING						
	SIZE x d_1 x d_2	d_1^{H7}	l_1	b_1^{js9}	$t_1{}_0^{+0.2}$	s_1	q_1	u	d_2^{H7}	l_2	b_2^{js9}	$t_2{}_0^{+0.2}$	s_2	q_2
A1	B 68 x 24 x 14	24	20	8	27,3	M6	10	2÷4	14	20	5	16,3	M6	8
A2	B 68 x 24 x 19	24	20	8	27,3	M6	10	2÷4	19	20	6	21,8	M6	8
A3	B 68 x 24 x 24	24	20	8	27,3	M6	10	2÷4	24	20	8	27,3	M6	8
B1	B 80 x 24 x 28	24	30	8	27,3	M6	19	2÷4	28	30	8	31,3	M6	12
C1	B 95 x 24 x 38	24	35	8	27,3	M6	20	2÷4	38	35	10	41,3	M6	15
C2	B 95 x 24 x 42	24	35	8	27,3	M6	20	2÷4	42	35	12	45,3	M6	15
C3	B 95 x 32 x 28	32	35	10	35,3	M6	20	2÷4	28	35	8	31,3	M6	15
C4	B 95 x 32 x 38	32	35	10	35,3	M6	20	2÷4	38	35	10	41,3	M6	15
C5	B 95 x 32 x 42	32	35	10	35,3	M6	20	2÷4	42	35	12	45,3	M6	15
D1	B 110 x 24 x 48	24	40	8	27,3	M6	22	2÷4	48	40	14	51,8	M6	18
D2	B 110 x 32 x 48	32	40	10	35,3	M6	22	2÷4	48	40	14	51,8	M6	18
E1	B 125 x 32 x 55	32	50	10	35,3	M8	30	2÷4	55	50	16	59,3	M8	20
F1	B 140 x 32 x 60	32	55	10	35,3	M8	13	2÷4	60	55	18	64,4	M8	22
G1	B 160 x 32 x 65	32	60	10	35,3	M10	13	2÷6	65	60	18	69,4	M10	25

shf-giunto-elastico-en_c_td

N.B.: Non-ATEX version.

SPACER COUPLING DIMENSIONS



REF.	DENOMINATION	DIMENSIONS (mm)													
		K1 PUMP-SIDE HALF COUPLING							K5 MOTOR-SIDE HALF COUPLING						
	SIXE x l x d_1 x d_2	l_0^{+1}	d_1^{H7}	l_1	b_1^{js9}	$t_{1\,0}^{+0.2}$	s_1	q_1	u	d_2^{H7}	l_2	b_2^{js9}	$t_{2\,0}^{+0.2}$	s_2	q_2
A2S	H 80-100 x 24 x 19	100	24	30	8	27,3	M6	19	5	19	45	6	21,8	M6	15
A3S	H 80-100 x 24 x 24	100	24	30	8	27,3	M6	19	5	24	45	8	27,3	M6	15
B1S	H 80-100 x 24 x 28	100	24	30	8	27,3	M6	19	5	28	45	8	31,3	M6	15
C1S	H 95-100 x 24 x 38	100	24	35	8	27,3	M6	20	5	38	45	10	41,3	M6	20
C2S	H 95-100 x 24 x 42	100	24	35	8	27,3	M6	20	5	42	45	12	45,3	M6	20
D1S	H 110-100 x 24 x 48	100	24	40	8	27,3	M6	22	5	48	50	14	51,8	M6	25
D2S	H 110-100 x 32 x 48	100	32	40	10	35,3	M6	22	5	48	50	14	51,8	M6	25
E1S	H 125-140 x 32 x 55	140	32	50	10	35,3	M8	30	5	55	50	16	59,3	M8	25
F1S	H 140-140 x 32 x 60	140	32	55	10	35,3	M8	13	5	60	65	18	64,4	M8	30
G1S	H 160-140 x 32 x 65	140	32	60	10	35,3	M10	13	6	65	70	18	69,4	M10	35

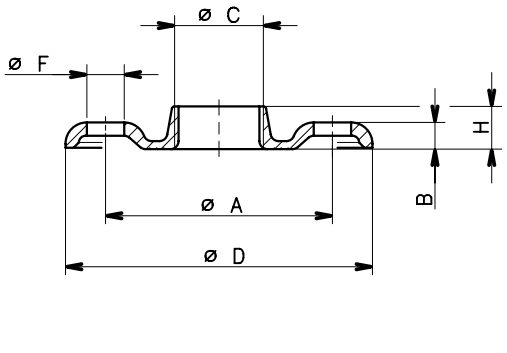
sh-giunto-elastico-con-sp-en_c_td

N.B.: Non-ATEX version.

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

		DIMENSIONS (mm)				HOLES		
DN	ø C	ø A	B	ø D	H	ø F	N°	PN
25	Rp 1	85	10	115	16	14	4	16
32	Rp 1¼	100	13	140	16	18	4	16
40	Rp 1½	110	14	150	19	18	4	16
50	Rp 2	125	16	165	24	18	4	16
65	Rp 2½	145	16	185	23	18	4	16
80	Rp 3	160	17	200	27	18	8	16
100	Rp 4	180	18	220	31	18	8	16

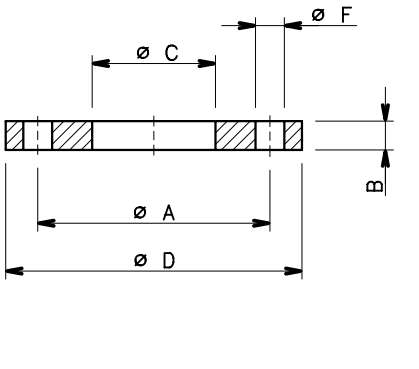
sh-ctf-tonde-f-en_b_td



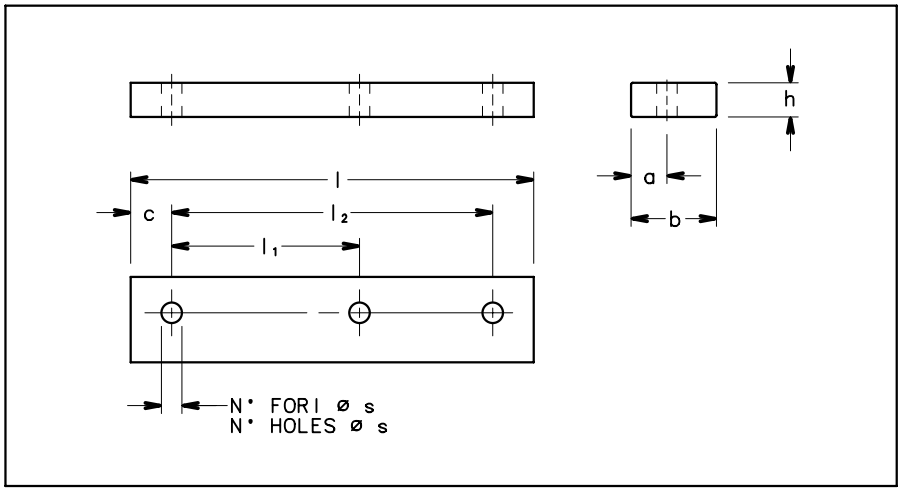
ESH SERIES (DIMENSIONS OF ROUND WELD COUNTERFLANGES ACCORDING TO EN 1092-1)

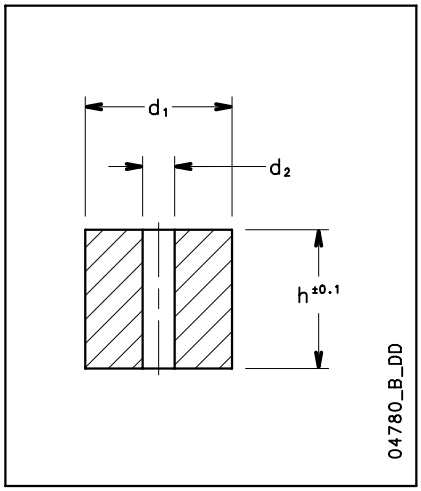
		DIMENSIONS (mm)			HOLES		
DN	ø C	ø A	B	ø D	ø F	N°	PN
65	77	145	18	185	18	4	16
80	90	160	20	200	18	8	16
100	115,5	180	22	220	18	8	16

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ESH SERIES
SHIM FOR MOTOR FEET



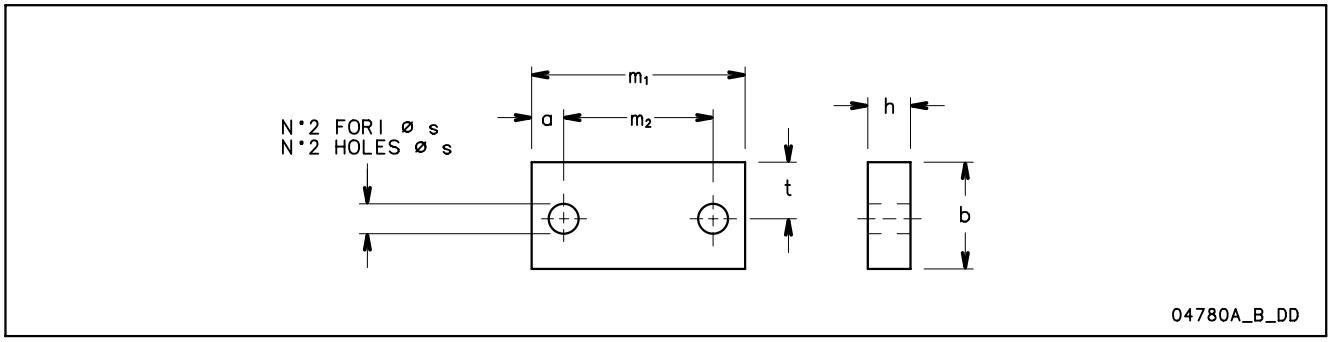


DIMENSIONS (mm)								
DENOMINATION							HOLES	
b	x h	x l	a	l_1	l_2	c	N°	ø s
35	20	125	17	100	-	12,5	2	10
40	10	155	20	100	125	15	3	10
40	12	155	20	100	125	15	3	10
40	12	180	17	140	-	20	2	14
40	20	180	17	140	-	20	2	14
40	30	155	20	100	125	15	3	10
40	40	180	17	140	-	20	2	14
50	8	226	21	140	178	24	3	14
50	20	226	21	140	178	24	3	14
50	20	304	25	210	254	25	3	14
50	30	304	25	210	254	25	3	14
100	30	467	50	311	349	59	3	22

DIMENSIONS (mm)		
DENOMINATION		
d_1 x h		d_2
45	41	10
45	61	10
45	89	10
55	52	12
55	70	12
55	80	12
55	90	12
55	100	12
65	60	16
65	68	16
65	78	16
65	80	16
65	88	16

sp-mot-shs-shf-en_d_td

SHIM FOR PUMP FEET (ESHF)



DIMENSIONS (mm)							
DESIGNATION							
b	x h	x m_1	a	m_2	ø s	t	
40	10	160	25	110	14	16,5	
40	20	160	25	110	14	16,5	
40	25	160	25	110	14	16,5	
40	30	160	25	110	14	16,5	
70	20	125	15	95	14	37,5	
80	10	160	20	120	18	42,5	
80	25	160	20	120	18	42,5	
80	30	160	20	120	18	42,5	

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REPORTS AND DECLARATIONS

REPORTS AND DECLARATIONS

i) Test reports

a) **Factory Test Report**
(not available for all pump types; contact Customer Service in advance)
- Test report compiled at the end of the assembly line, including flow-head performance test (ISO 9906:2012 – Grade 3B) and tightness test.

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

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

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

e) **Vibration Test Report**
(unavailable for submerged or submergible pumps)
- Report indicating vibration measurements (ISO 10816-1)

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

a) **EN 10204:2004 - type 2.1**
- does not include test results on supplied or similar products.

b) **EN 10204:2004 - type 2.2**
- includes test results (materials certificates) on similar products.

iii) Issue of a further EC Declaration of Conformity,
- in addition to the one accompanying the product, it comprises references to European law and the main technical standards (e.g.: MD 2006/42/EC, EMCD 2004/108/EC, ErP 2009/125/EC).

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

iv) Manufacturer's declaration of conformity
- relative to one of more types of products without indicating specific codes and serial numbers.

v) Other certificates and/or documentation on request
- subject to availability or feasibility.

vi) Duplication of certificates and/or documentation on request
- subject to availability or feasibility.

GOULDS WATER TECHNOLOGY
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TECHNICAL APPENDIX

ESH SERIES
TYPICAL APPLICATIONS

Water Purification:
De-ionized water
Water Treatment
Filtration
Commercial Pools

Food and Drink:
Food processing
Bottle washing
Citrus Processing
Dish washing
Brewing
Sanitary ware

Medical:
Laser cooling
Medical chillers
Sanitary equipment

Heating, Ventilating & Air Conditioning (HVAC)
Condensate return
Air scrubbers
Water re-circulation
Cooling towers
Cooling systems
Temperature control
Chillaer
Induction heating
Heat exchangers
Water heating
Booster packages

Graphics:
Film washing
Cooling of presses

Plastics:
Extrusion machines
Temperature control
Manufacture of polymers

Waste Management:
Waste treatment
Pollution control

Machine Tools:
Degreasing
Parts washing
Machine centres
Chemical treatment
Heat treatment

Vehicle Maintenance:
Car washing
Lorry of Truck wash
Wheel or tyre washing
Airplane washing

Marine:
Water on board ships
Boat design (wave machines)

Agriculture:
Irrigation
Greenhouses
Poultry Washing
Cotton humidifiers

Computers:
Washing of circuit boards

Laundry:
Commercial washing

General Industry:
Spray Booths
Light chemical transfer
Booster systems
Fire fighting

NPSH

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

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

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

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

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

To find the static height 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

G-at_npsh_b_sc

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

FLOW RATE			NOMINAL DIAMETER in mm and inches																
m^3/h	l/min		15	20	25	32	40	50	65	80	100	125	150	175	200	250	300	350	400
			1/2"	3/4"	1"	1 1/4"	1 1/2"	2	2 1/2"	3"	4"	5"	6"	7"	8"	10"	12"	14"	16"
0,6	10	v	0,94	0,53	0,34	0,21	0,13												
		hr	16	3,94	1,33	0,40	0,13												
0,9	15	v	1,42	0,80	0,51	0,31	0,20												
		hr	33,9	8,35	2,82	0,85	0,29												
1,2	20	v	1,89	1,06	0,68	0,41	0,27	0,17											
		hr	57,7	14,21	4,79	1,44	0,49	0,16											
1,5	25	v	2,36	1,33	0,85	0,52	0,33	0,21											
		hr	87,2	21,5	7,24	2,18	0,73	0,25											
1,8	30	v	2,83	1,59	1,02	0,62	0,40	0,25											
		hr	122	30,1	10,1	3,05	1,03	0,35											
2,1	35	v	3,30	1,86	1,19	0,73	0,46	0,30											
		hr	162	40,0	13,5	4,06	1,37	0,46											
2,4	40	v		2,12	1,36	0,83	0,53	0,34	0,20										
		hr		51,2	17,3	5,19	1,75	0,59	0,16										
3	50	v		2,65	1,70	1,04	0,66	0,42	0,25										
		hr		77,4	26,1	7,85	2,65	0,89	0,25										
3,6	60	v		3,18	2,04	1,24	0,80	0,51	0,30										
		hr		108	36,6	11,0	3,71	1,25	0,35										
4,2	70	v		3,72	2,38	1,45	0,93	0,59	0,35										
		hr		144	48,7	14,6	4,93	1,66	0,46										
4,8	80	v		4,25	2,72	1,66	1,06	0,68	0,40										
		hr		185	62,3	18,7	6,32	2,13	0,59										
5,4	90	v			3,06	1,87	1,19	0,76	0,45	0,30									
		hr			77,5	23,3	7,85	2,65	0,74	0,27									
6	100	v			3,40	2,07	1,33	0,85	0,50	0,33									
		hr			94,1	28,3	9,54	3,22	0,90	0,33									
7,5	125	v			4,25	2,59	1,66	1,06	0,63	0,41									
		hr			142	42,8	14,4	4,86	1,36	0,49									
9	150	v				3,11	1,99	1,27	0,75	0,50	0,32								
		hr				59,9	20,2	6,82	1,90	0,69	0,23								
10,5	175	v				3,63	2,32	1,49	0,88	0,58	0,37								
		hr				79,7	26,9	9,07	2,53	0,92	0,31								
12	200	v				4,15	2,65	1,70	1,01	0,66	0,42								
		hr				102	34,4	11,6	3,23	1,18	0,40								
15	250	v				5,18	3,32	2,12	1,26	0,83	0,53	0,34							
		hr				154	52,0	17,5	4,89	1,78	0,60	0,20							
18	300	v					3,98	2,55	1,51	1,00	0,64	0,41							
		hr					72,8	24,6	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

G-at-pct-en_a_th

hr = flow resistance for 100 m of straight pipeline (m)
V = water speed (m/s)

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

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

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

G-a-pcv-en_a_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

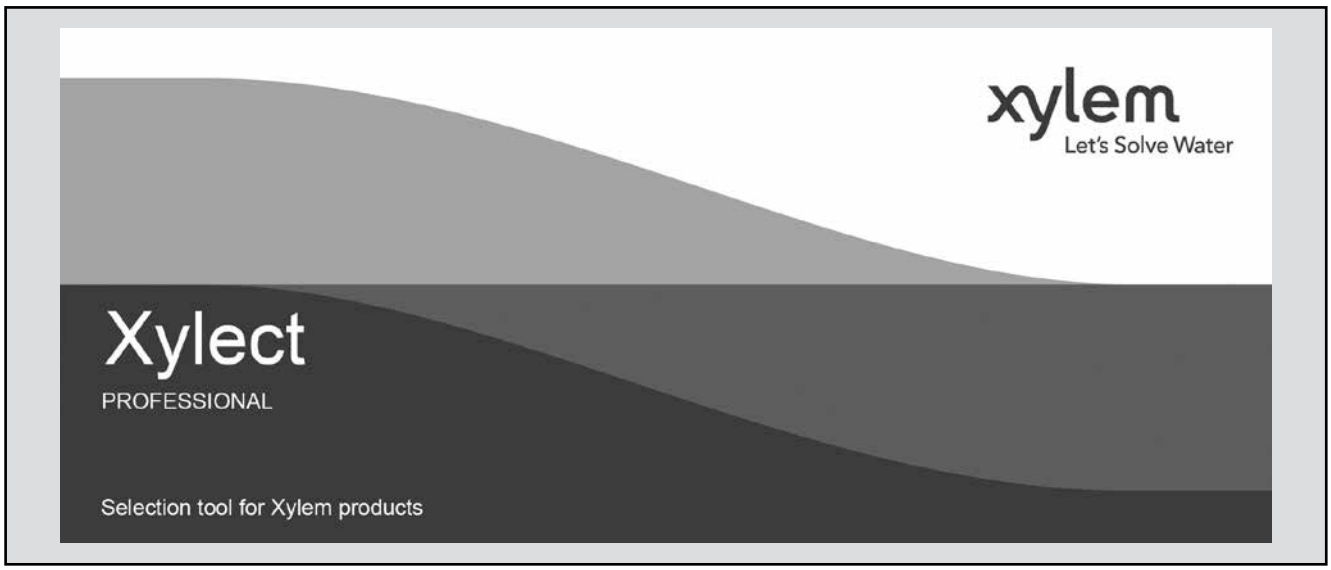
Cubic metre m^3	Litre L	Millilitre ml	Imperial gallon imp. gal.	U.S. gallon US gal.	Cubic foot ft^3
1,0000	1 000,0000	1×10^6	219,9694	264,1720	35,3147
0,0010	**1,0000**	1 000,0000	0,2200	0,2642	0,0353
1×10^{-6}	0,0010	**1,0000**	$2,2 \times 10^{-4}$	$2,642 \times 10^{-4}$	$3,53 \times 10^{-5}$
0,0045	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 Goulds 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.

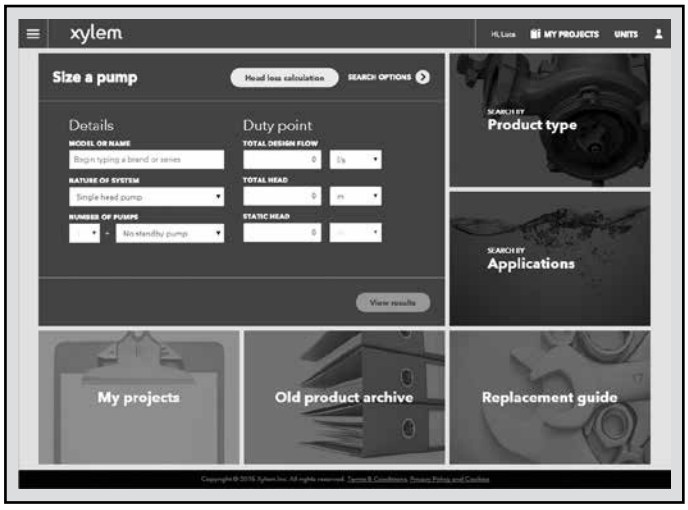
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Goulds products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect™ gives a detailed output:

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



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

FURTHER PRODUCT SELECTION AND DOCUMENTATION
Xylect™



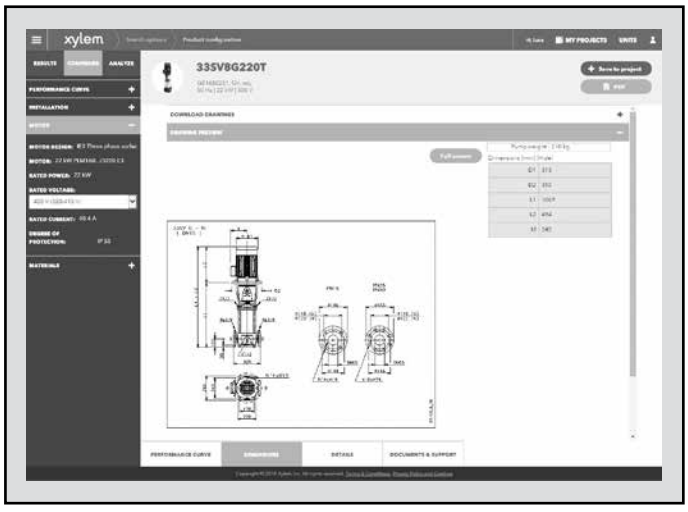
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- Set own standard units
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Dimensional drawings appear on the screen and can be downloaded in dxf format.

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2) a leading global water technology company.

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xylem
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Sales office:
Xylem Water Solutions
Middle East Region FZCO
Plot S20120, Jebel Ali Free Zone South
P.O. Box 262678, Dubai
United Arab Emirates
Phone: +971 4 806 1103
Fax: +971 4 880 6045
Email: info.uae@xyleminc.com
middleeast.xylemappliedwater.com/gwt

For information and
technical support:
Xylem Service Italia Srl
Via Dottor Vittorio Lombardi 14
36075 - Montecchio Maggiore (VI)
Italy
Tel. (+39) 0444 707111
Fax (+39) 0444 491043

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