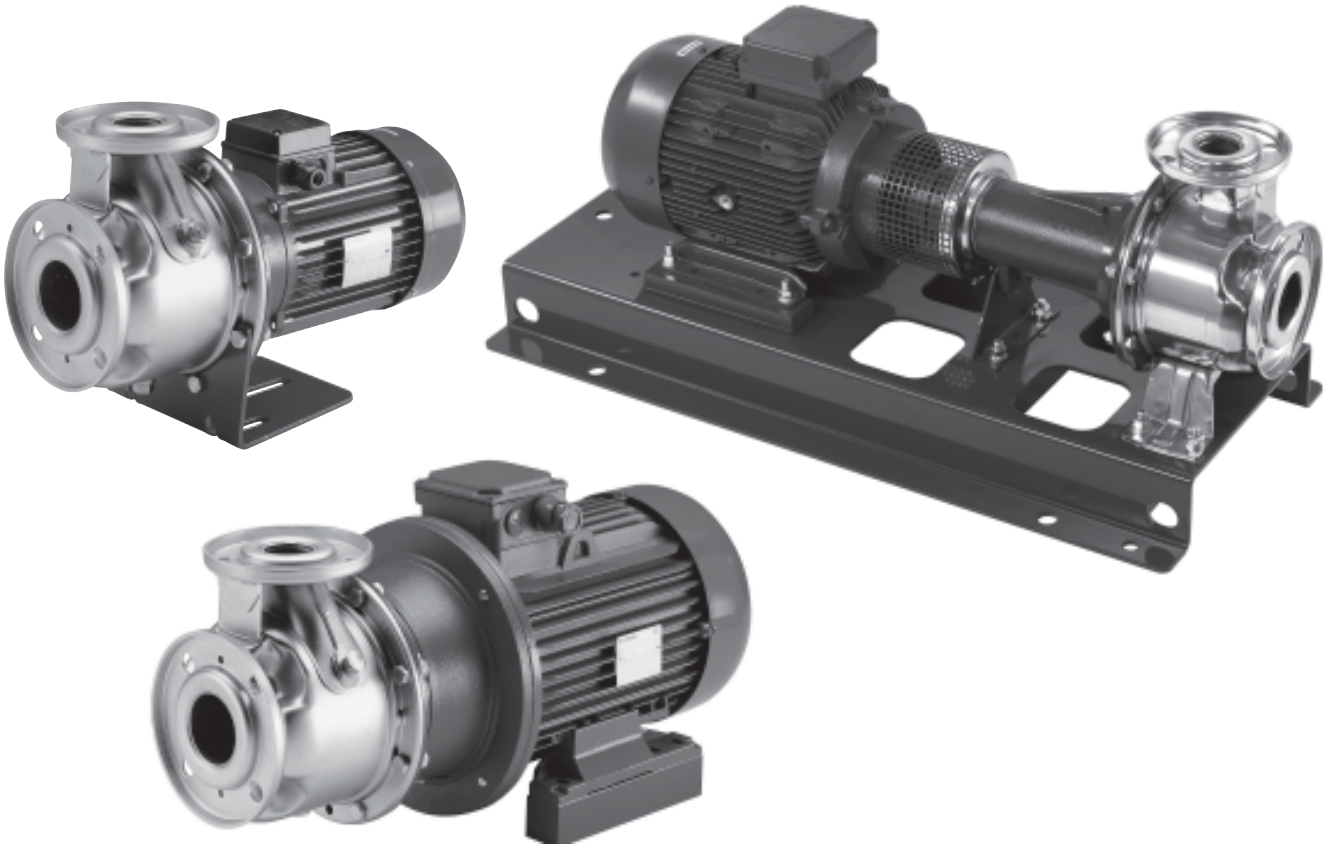
50 Hz



SH Series

CENTRIFUGAL ELECTRIC PUMPS MADE OF AISI 316 STAINLESS STEEL
IN COMPLIANCE WITH EN 733

ErP 2009/125/EC

Cod. 191002941 Rev.D Ed.08/2013

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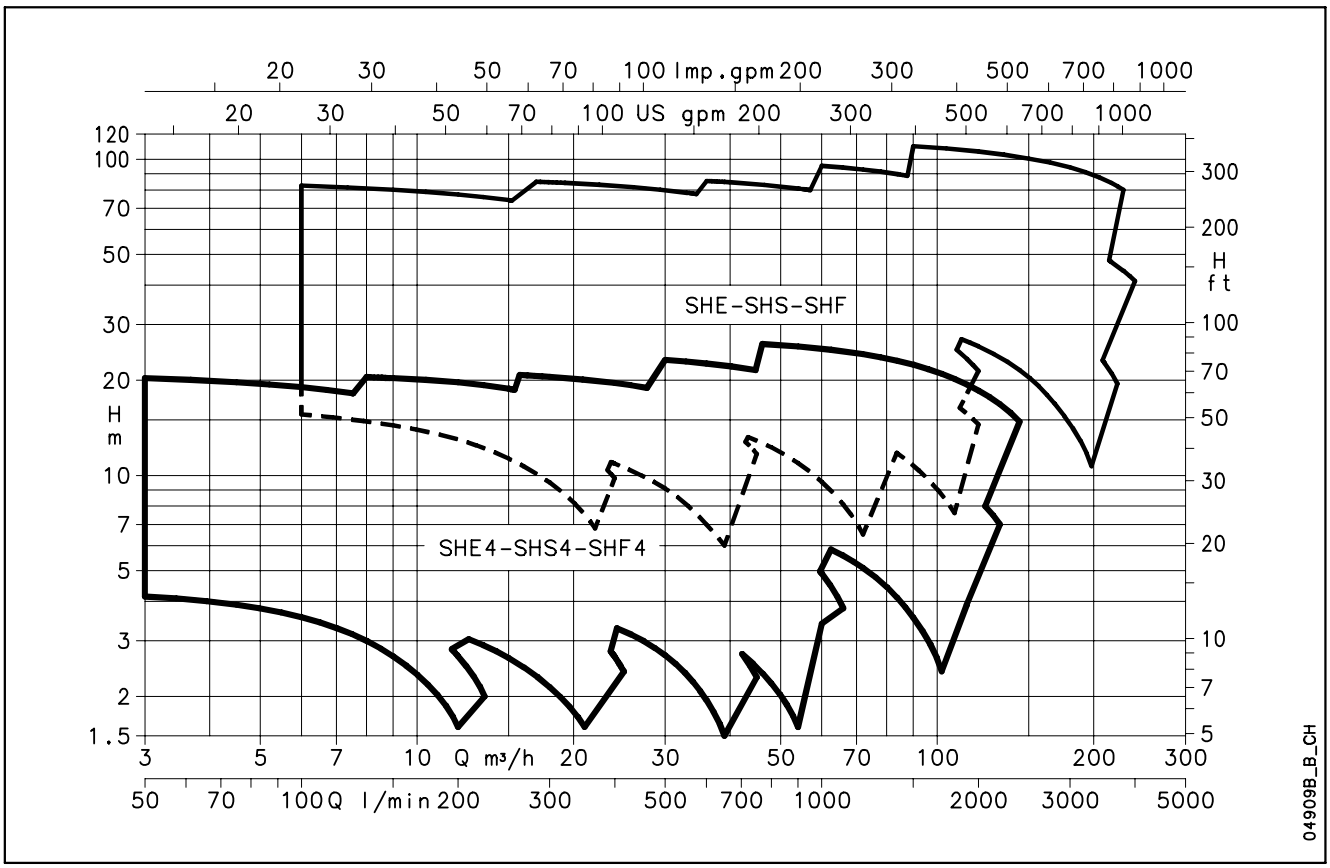
SH SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz



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CONTENTS

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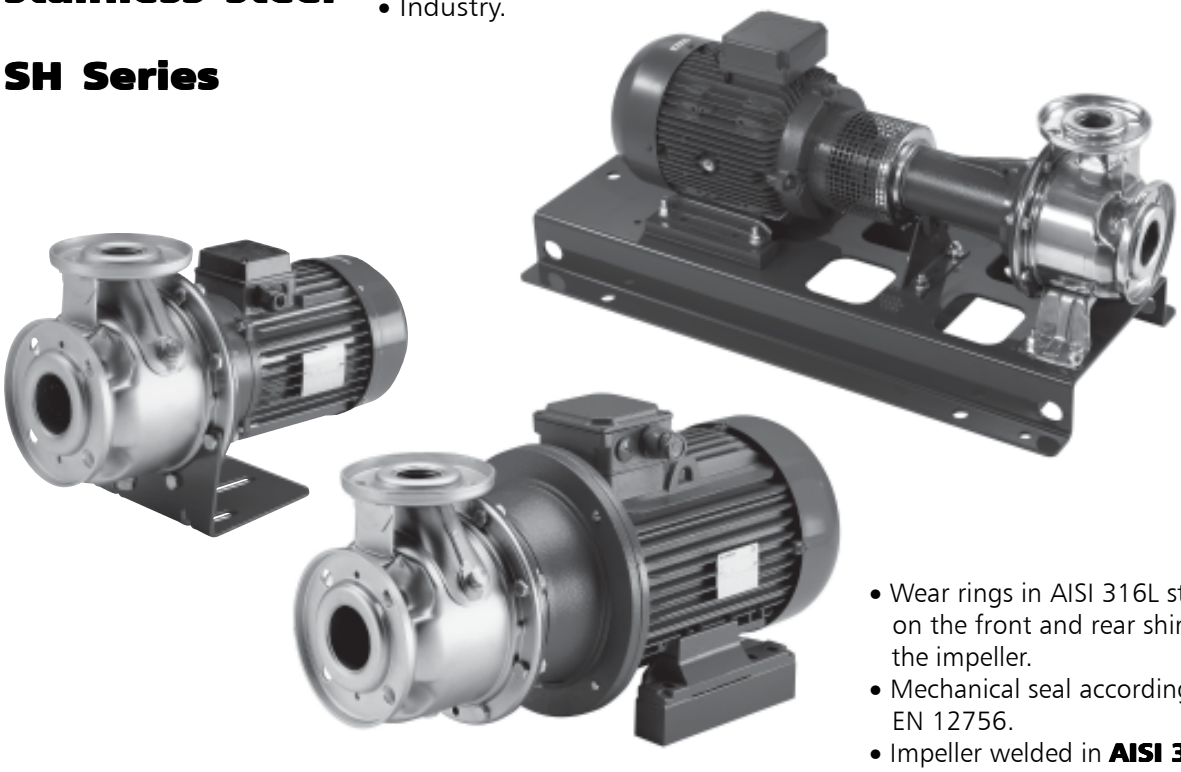
Centrifugal electric pumps in compliance with EN 733 made of AISI 316 stainless steel

SH Series

MARKET SECTORS
CIVIL, INDUSTRIAL.

APPLICATIONS
- Handling water and clean, chemically non-aggressive or moderately aggressive fluids.
- Water supply and pressure boosting.
- Water circulation in air conditioning systems.
- Washing systems.
- Industry.



SPECIFICATIONS
PUMP
- Delivery up to:
  240 m³/h for 2-pole range.
  130 m³/h for 4-pole range.
- Head up to:
  110 metri for 2-pole range.
  23 metri for 4-pole range.
- Temperature of pumped liquid:
  from -10°C to +120°C for standard version (gaskets in FPM).
  from -30°C to +120°C for special version on request (gaskets in EPDM).
- Maximum operating **pressure**:
  12 bar (PN 12) at 50°C, 10 bar at 120°C.
- Hydraulic performance compliant with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A).
- Anti-clockwise rotation when facing pump's suction port.
- Wear rings in AISI 316L stainless steel on the front and rear shim washers of the impeller.
- Mechanical seal according to EN 12756.
- Impeller welded in **AISI 316L** stainless steel with laser technology for SH 32, 40, 50, 65-160 (../40, ../55, ../75, ../05, ../07, ../11A);
  cast in **AISI 316** stainless steel for SH 65-160 (../92, ../110A, ../110, ../11, ../15), 65-200, 65-250, 80.

MOTOR
- Squirrel cage in short circuit enclosed construction with external ventilation.
- IP55 protection.
- Class 155 (F) insulation.
- Performances according to EN 60034-1.
- Standard voltage:
  - Single-phase version:
    220-240 V, 50 Hz.
  - 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.

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CONSTRUCTION CHARACTERISTICS

- Stainless steel centrifugal pump with end suction and radial discharge ports.
- Hydraulic sizes and nominal diameter of suction and discharge ports according to EN 733 (except for SH 25).
- Flanges according to EN 1092-2.
- Back pull-out design (impeller, bracket and motor can be extracted without disconnecting the pump body from the piping).

MOTOR-PUMP COUPLING

Three different motor-pump couplings are available:

- **SHE**: Close-coupled version with rotor directly splined onto the motor shaft protrusion and special coupling joint. The variant with single-phase motor (FHEM) is available for some models.
- **SHS**: Close-coupled version with rotor directly splined onto the rigid coupling connected to the shaft protrusion of a standardised motor, joint and coupling adapter.
- **SHF**: Version with rotor directly splined onto the rigid coupling connected to the shaft protrusion of a standardised motor by means of a flexible coupling, joint, coupling support with bearings, alignment base and anchor system.
  Just the bare shaft pump is available on request.
  The variant with elastic coupling and spacer (SHF..SC) is available.

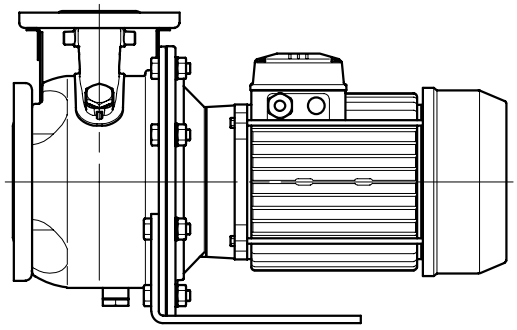
ACCESSORIES ON REQUEST

- Counter-flanges in galvanised steel or AISI 316 stainless steel and gaskets.
- Shims for pump and motor feet.

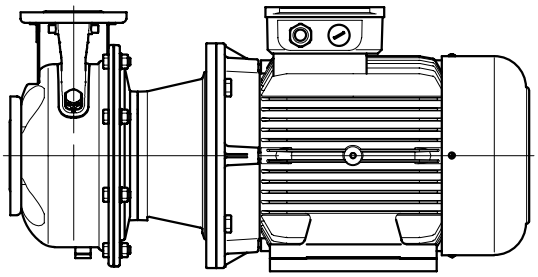
OPTIONAL FEATURES

- Different voltages.
- Frequency 60 Hz (see specific catalogue).
- Tropicalised motors.
- Special materials for mechanical seal and gaskets.
- Mechanical seal with anti-rotation locking ring.
- Mechanical seal internal flush tube.
- Mechanical seal external flush connector.
- Elastic coupling with spacer (SHF..SC).
- Pumps with diesel engine.
- Electric pumps with HYDROVAR™ control system.
- Pumps (SHF) and electric pumps (SHS, SHF) compliant with ATEX 94/9/CE for Group II, Category 3, Gas atmosphere (II3G .....).

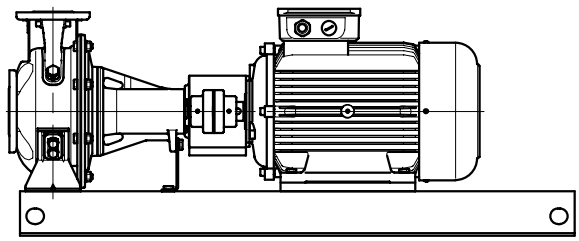
SHE – SHE4



SHS – SHS4



SHF – SHF4



04905_A_SC

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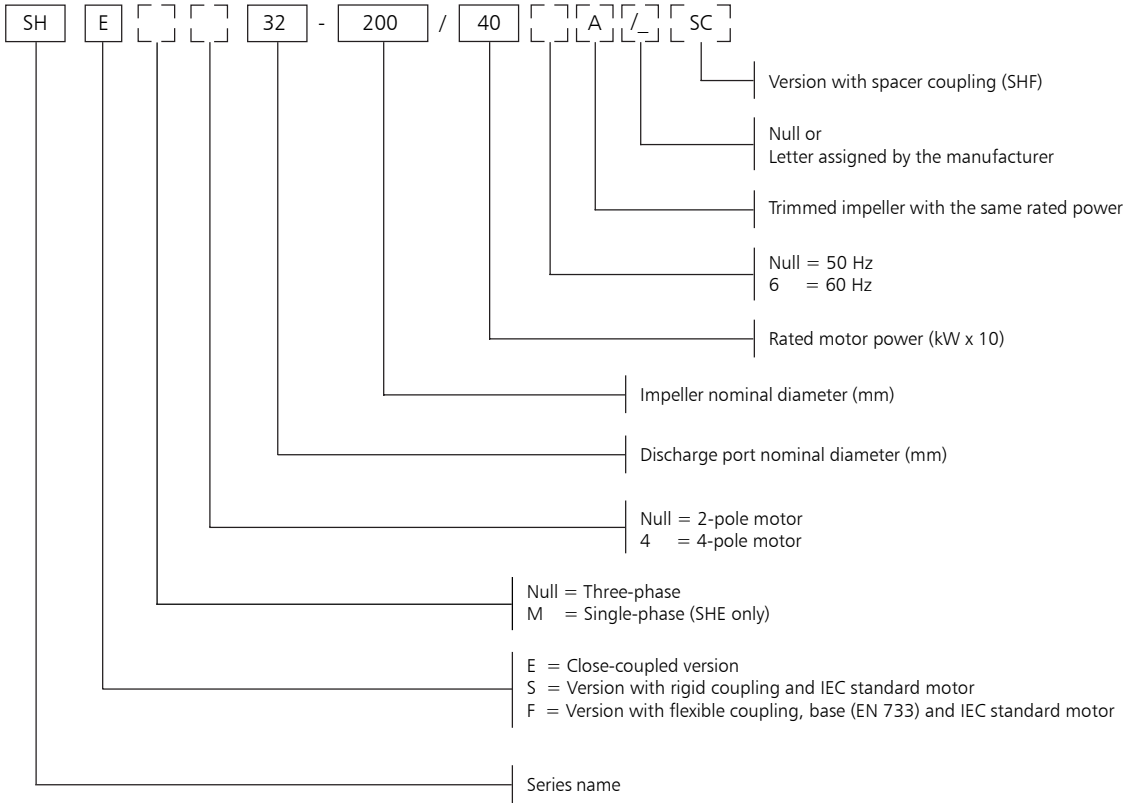
SH SERIES
IDENTIFICATION CODE



EXAMPLES:

SHF 65-200/220/C SC
Series SH electric pump, stainless steel impeller, version with base, three-phase, DN 65 discharge port, impeller nominal diameter 200 mm, rated motor power 22 kW, frequency 50 Hz, elastic coupling with spacer.

SHF 65-200/215
Series SH pump with bare shaft, stainless steel impeller, version with base, DN 65 discharge port, impeller nominal diameter 200 mm, impeller effective diameter 215 mm, frequency 50 Hz.

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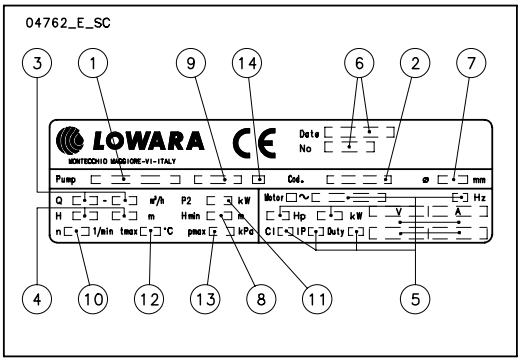
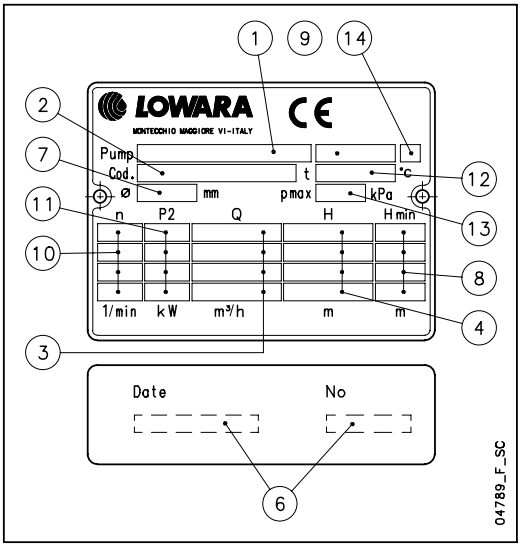
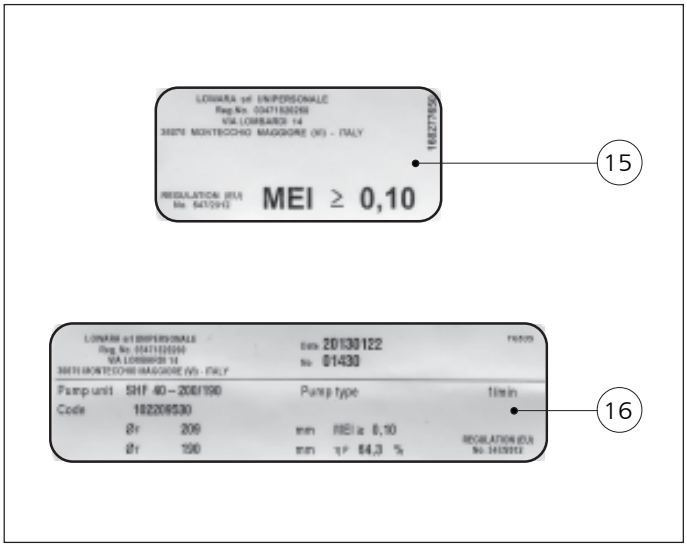
RATING PLATE
SHE - SHS (ELECTRIC PUMP)

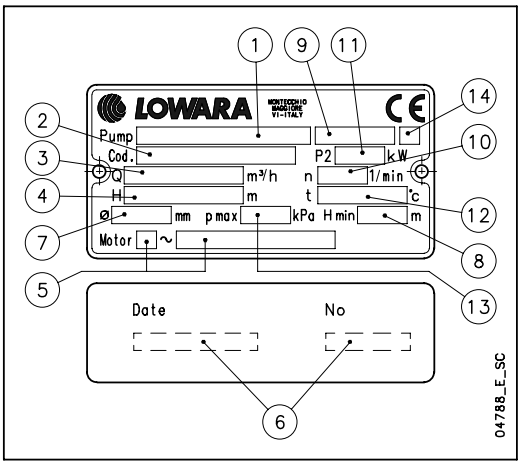


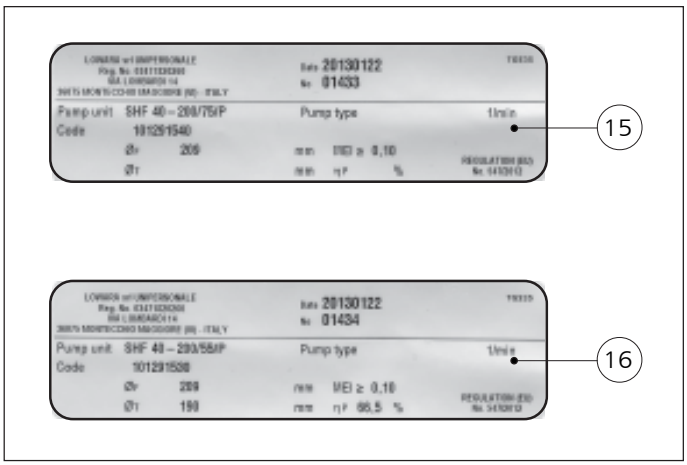
SHF (PUMP ONLY)





SHF (ELECTRIC PUMP)





LEGEND

1 - Pump / electric pump unit type
2 - Electric pump unit / pump part number
3 - Capacity range
4 - Head range
5 - Motor type
6 - Serial number (date + progressive number)
7 - Impeller diameter
8 - Minimum head (EN 60335-2-41)
9 - Mechanical seal material identification code
10 - Speed
11 - Rated power
12 - Maximum operating temperature
13 - Maximum operating pressure
14 - O-ring material identification code
15 - MEI label (Regulation (EU) n. 547/2012) for model with full impeller
16 - MEI label (Regulation (EU) n. 547/2012) for model with trimmed impeller

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SH SERIES
LIST OF MODELS AT 50 Hz, 2 POLES

SIZE	kW	VERSION				
		SHEM	SHE	SHS	SHF	SHF..SC
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	-	•	•	•	•
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	-	-	-	•	•

• = Available

she-shs-shf_2p50-en_c_tem

4 POLES

SIZE	kW	VERSION			
		SHE4	SHS4	SHF4	SHF4..SC
25-125/02A	0,25	•	-	•	-
25-125/02	0,25	•	-	•	-
25-160/02	0,25	•	-	•	-
25-160/03	0,37	•	-	•	-
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	•	-	•	-
32-160/02	0,25	•	-	•	-
32-160/03	0,37	•	-	•	-
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	•	-	•	-
40-125/03	0,37	•	-	•	-
40-160/03	0,37	•	-	•	-
40-160/05	0,5	•	-	•	-
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	•	•	•	-
50-125/03A	0,37	•	-	•	-
50-125/03	0,37	•	-	•	-
50-125/05	0,5	•	-	•	-
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	•	•	•	-
65-160/05	0,5	•	•	•	-
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

she4-shs4-shf4_4p50-en_d_tem

LEGEND

SHE : Close-coupled version. **SHEM** : Close-coupled version with single-phase motor.
SHS : Close coupled version with rigid coupling and standardised motor.
SHF : Version with elastic coupling, support, base and standardised motor.
SHF..SC : Version with elastic coupling and spacer, support, base and standardised motor.

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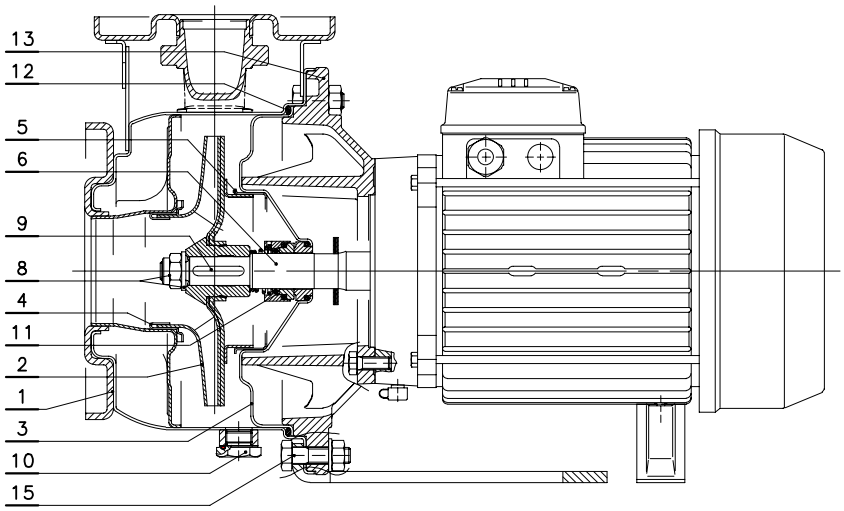
SHE - SHE4 SERIES
ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS

04906_B_DS



VERSIONS	
2 POLES	4 POLES
SHE 25-125/07	SHE4 25-200/05
SHE 25-125/11	SHE4 25-250/07
SHE 25-160/15	SHE4 25-250/11
SHE 25-160/22	SHE4 25-250/15
SHE 25-200/30	SHE4 32-200/05
SHE 25-200/40	SHE4 32-250/07
SHE 25-250/55	SHE4 32-250/11
SHE 25-250/75	SHE4 32-250/15
SHE 25-250/110	SHE4 40-160/05
SHE 32-125/07	SHE4 40-200/07
SHE 32-125/11	SHE4 40-200/11
SHE 32-160/15	SHE4 40-250/11
SHE 32-160/22	SHE4 40-250/15
SHE 32-200/30	SHE4 40-250/22
SHE 32-200/40	SHE4 50-125/05
SHE 32-250/55	SHE4 50-160/07
SHE 32-250/75	SHE4 50-160/11
SHE 32-250/110	SHE4 50-200/11
SHE 40-125/11	SHE4 50-200/15
SHE 40-125/15	SHE4 50-250/22A
SHE 40-125/22	SHE4 50-250/22
SHE 40-160/30	SHE4 50-250/30
SHE 40-160/40	SHE4 65-160/05
SHE 40-200/55	SHE4 65-160/07
SHE 40-200/75	SHE4 65-160/11A
SHE 40-250/92	SHE4 65-160/11
SHE 40-250/110	SHE4 65-160/15
SHE 50-125/22	SHE4 65-200/15
SHE 50-125/30	SHE4 65-200/22
SHE 50-125/40	SHE4 65-200/30
SHE 50-160/55	SHE4 65-250/40
SHE 50-160/75	SHE4 65-250/55
SHE 50-200/92	SHE4 80-160/15
SHE 50-200/110	SHE4 80-160/22A
SHE 65-160/40	SHE4 80-160/22
SHE 65-160/55	SHE4 80-200/30
SHE 65-160/75	SHE4 80-200/40
SHE 65-160/92	SHE4 80-250/55
SHE 65-160/110	SHE4 80-250/75
SHE 80-160/110	

sh-she-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 25-32-40-50-65(160)**	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller 65(160)***, 65(200-250)-80	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-X5CrNiMo17-12-2 (1.4401)	AISI 316
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 / FPM (standard version)		
12	Elastomers	FPM (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		

sh_she-en_d_tm

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

** 2 pole: 65-160/40, 65-160/55, 65-160/75; 4 pole: 65-160/05, 65-160/07, 65-160/11A

*** 2 pole: 65-160/92, 65-160/110A, 65-160/110; 4 pole: 65-160/11, 65-160/15

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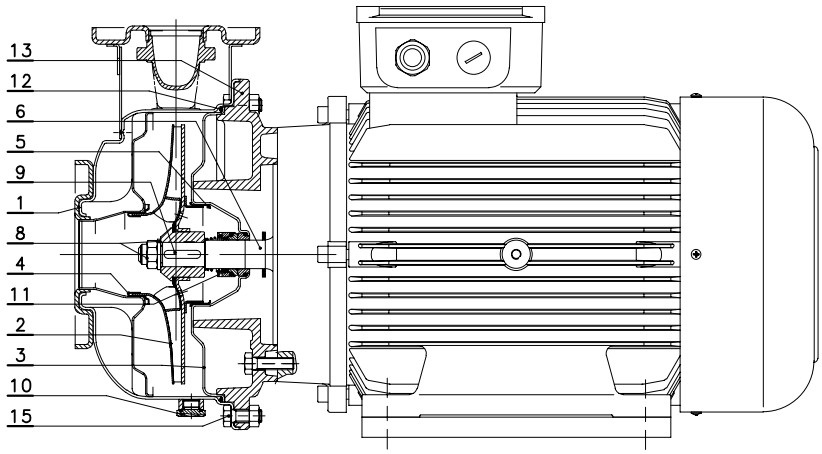
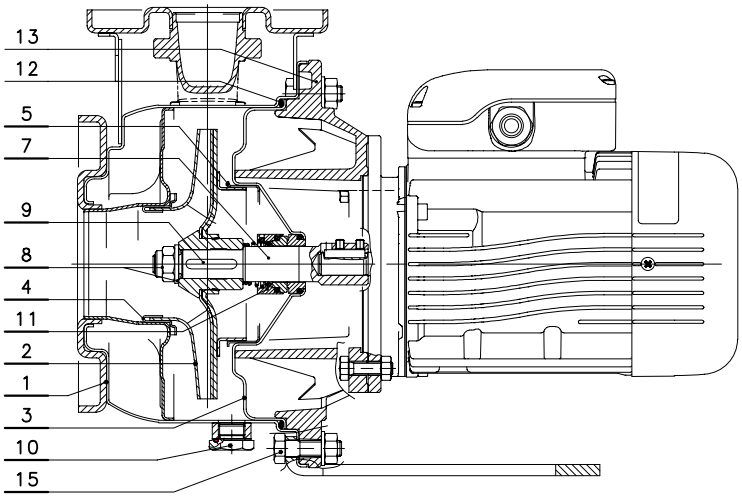
SHE - SHE4 SERIES
ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS

04902_B_DS



VERSIONS	
2 POLES	4 POLES
SHE 40-250/150	SHE4 80-250/110
SHE 50-250/150	
SHE 50-250/185	
SHE 50-250/220	
SHE 65-200/150	
SHE 65-200/185	
SHE 65-200/220	
SHE 80-160/150	
SHE 80-160/185	
SHE 80-200/220	

sh-she-s-en_b_mo



VERSIONS	
4 POLES	
SHE4 25-125/02A	SHE4 40-125/02A
SHE4 25-125/02	SHE4 40-125/02
SHE4 25-160/02	SHE4 40-125/03
SHE4 25-160/03	SHE4 40-160/03
SHE4 25-200/03	SHE4 50-125/03A
SHE4 32-125/02A	SHE4 50-125/03
SHE4 32-125/02	
SHE4 32-160/02	
SHE4 32-160/03	
SHE4 32-200/03	

sh-she4-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 25-32-40-50-65(160)**	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller 65(160)***, 65(200-250)-80	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-X5CrNiMo17-12-2 (1.4401)	AISI 316
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 / FPM (standard version)		
12	Elastomers	FPM (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

sh_she-en_d_tm

** 2 pole: 65-160/40, 65-160/55, 65-160/75; 4 pole: 65-160/05, 65-160/07, 65-160/11A

*** 2 pole: 65-160/92, 65-160/110A, 65-160/110; 4 pole: 65-160/11, 65-160/15

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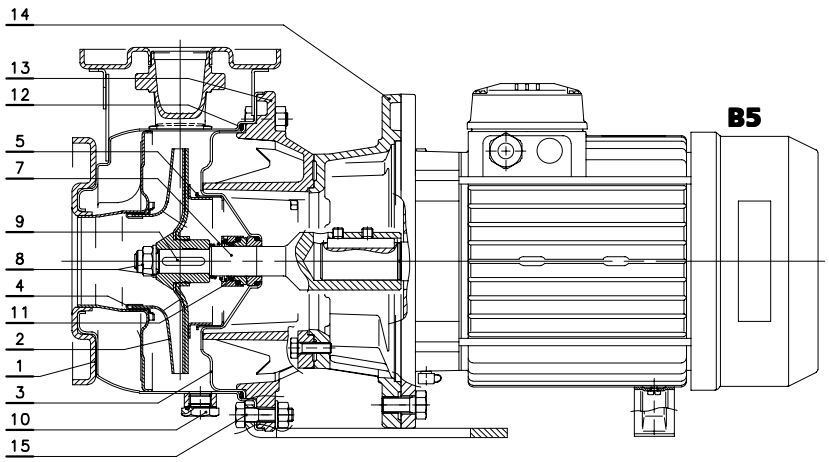
SHS - SHS4 SERIES
ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS

04956_C_DS



VERSIONS	
2 POLES	4 POLES
SHS 25-125/07	SHS4 25-250/07
SHS 25-125/11	SHS4 25-250/11
SHS 25-160/15	SHS4 25-250/15
SHS 25-160/22	SHS4 32-250/07
SHS 25-200/30	SHS4 32-250/11
SHS 25-200/40	SHS4 32-250/15
SHS 25-250/55	SHS4 40-200/07
SHS 25-250/75	SHS4 40-200/11
SHS 32-125/07	SHS4 40-250/11
SHS 32-125/11	SHS4 40-250/15
SHS 32-160/15	SHS4 40-250/22
SHS 32-160/22	SHS4 50-160/07
SHS 32-200/30	SHS4 50-160/11
SHS 32-200/40	SHS4 50-200/11
SHS 32-250/55	SHS4 50-200/15
SHS 32-250/75	SHS4 50-250/22A
SHS 40-125/11	SHS4 50-250/22
SHS 40-125/15	SHS4 50-250/30
SHS 40-125/22	SHS4 65-160/05
SHS 40-160/30	SHS4 65-160/07
SHS 40-160/40	SHS4 65-160/11A
SHS 40-200/55	SHS4 65-160/11
SHS 40-200/75	SHS4 65-160/15
SHS 50-125/22	SHS4 65-200/15
SHS 50-125/30	SHS4 65-200/22
SHS 50-125/40	SHS4 65-200/30
SHS 50-160/55	SHS4 65-250/40
SHS 50-160/75	SHS4 65-250/55
SHS 65-160/40	SHS4 80-160/15
SHS 65-160/55	SHS4 80-160/22A
SHS 65-160/75	SHS4 80-160/22
	SHS4 80-200/30
	SHS4 80-200/40
	SHS4 80-250/55
	SHS4 80-250/75

sh-shs-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 25-32-40-50-65(160)**	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller 65(160)***, 65(200-250)-80	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-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	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 / FPM (standard version)		
12	Elastomers	FPM (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

sh_shs-en_d_tm

** 2 pole: 65-160/40, 65-160/55, 65-160/75; 4 pole: 65-160/05, 65-160/07, 65-160/11A

*** 2 pole: 65-160/92, 65-160/110A, 65-160/110; 4 pole: 65-160/11, 65-160/15

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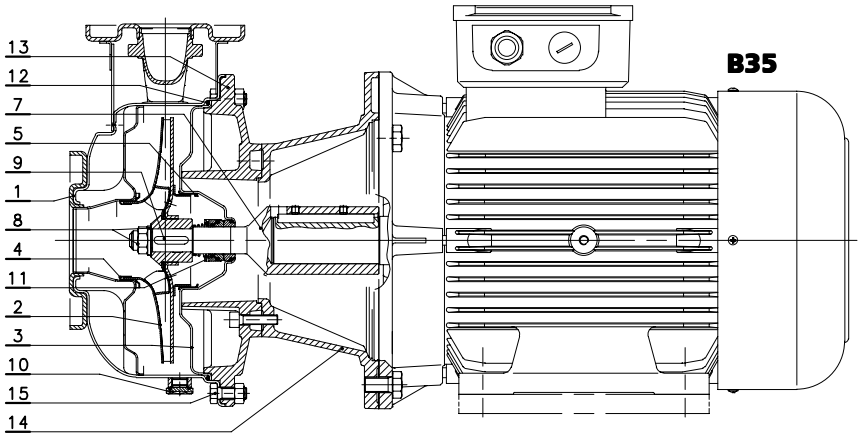
SHS SERIES
ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS

04952_B_DS



VERSIONS	
2 POLES	4 POLES
SHS 25-250/110	SHS4 80-250/110
SHS 32-250/110	
SHS 40-250/110A	
SHS 40-250/110	
SHS 40-250/150	
SHS 50-200/110A	
SHS 50-200/110	
SHS 50-250/150	
SHS 50-250/185	
SHS 50-250/220	
SHS 65-160/110A	
SHS 65-160/110	
SHS 65-200/150	
SHS 65-200/185	
SHS 65-200/220	
SHS 65-250/300	
SHS 65-250/370	
SHS 80-160/110	
SHS 80-160/150	
SHS 80-160/185	
SHS 80-200/220	
SHS 80-200/300	
SHS 80-200/370	

sh-shs-s-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 25-32-40-50-65(160)**	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller 65(160)***, 65(200-250)-80	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-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	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 / FPM (standard version)		
12	Elastomers	FPM (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

sh_shs-en_d_tm

** 2 pole: 65-160/40, 65-160/55, 65-160/75; 4 pole: 65-160/05, 65-160/07, 65-160/11A

*** 2 pole: 65-160/92, 65-160/110A, 65-160/110; 4 pole: 65-160/11, 65-160/15

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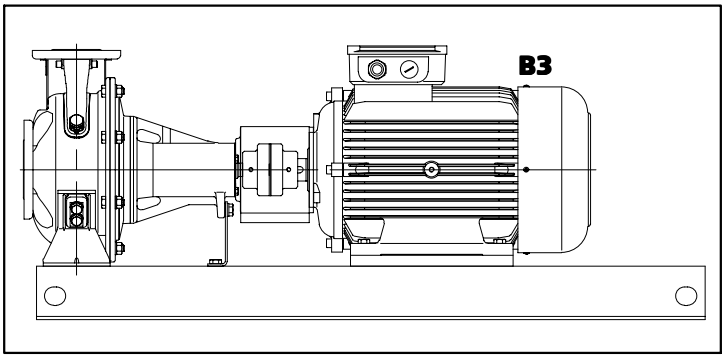
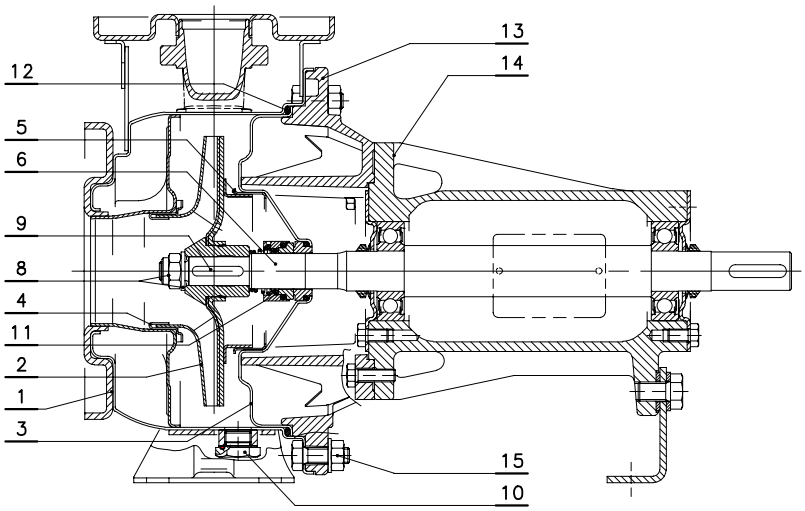
SHF BARE SHAFT SERIES
ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS

04979_C_DS





VERSIONS
SHF 25-125
SHF 25-160
SHF 25-200
SHF 25-250
SHF 32-125
SHF 32-160
SHF 32-200
SHF 32-250
SHF 40-125
SHF 40-160
SHF 40-200
SHF 40-250
SHF 50-125
SHF 50-160
SHF 50-200
SHF 50-250
SHF 65-160
SHF 65-200
SHF 65-250
SHF80-160
SHF 80-200
SHF 80-250

sh-shf-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 25-32-40-50-65(160)**	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller 65(160)***, 65(200-250)-80	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-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 / FPM (standard version)		
12	Elastomers	FPM (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

sh_shf-en_d_tm

** 2 pole: 65-160/40, 65-160/55, 65-160/75; 4 pole: 65-160/05, 65-160/07, 65-160/11A

*** 2 pole: 65-160/92, 65-160/110A, 65-160/110; 4 pole: 65-160/11, 65-160/15

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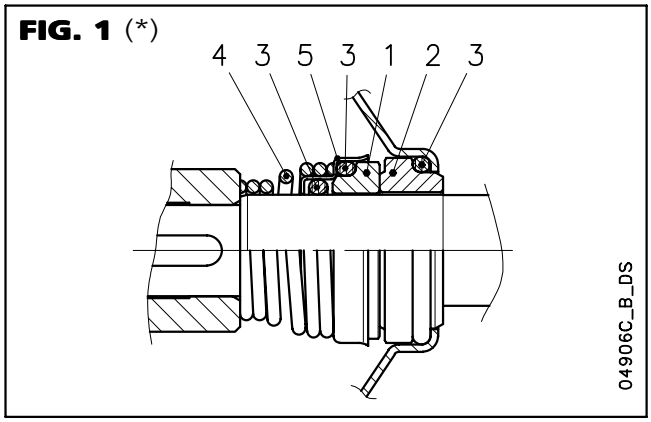
SH SERIES
MECHANICAL SEAL SERIES, ACCORDING TO EN 12756

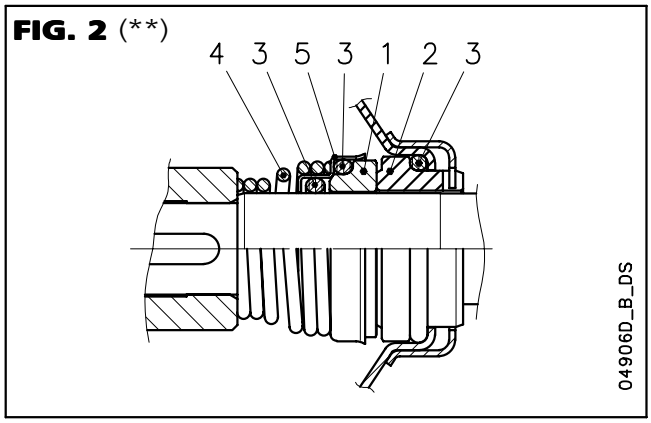
Mechanical seal with mounting dimensions according to EN12756 (ex DIN 24960) and ISO 3069.

FIG. 1 (*)



(*) Standard version

FIG. 2 (**)



(**) Version with fixed assembly anti-rotation

LIST OF MATERIALS

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

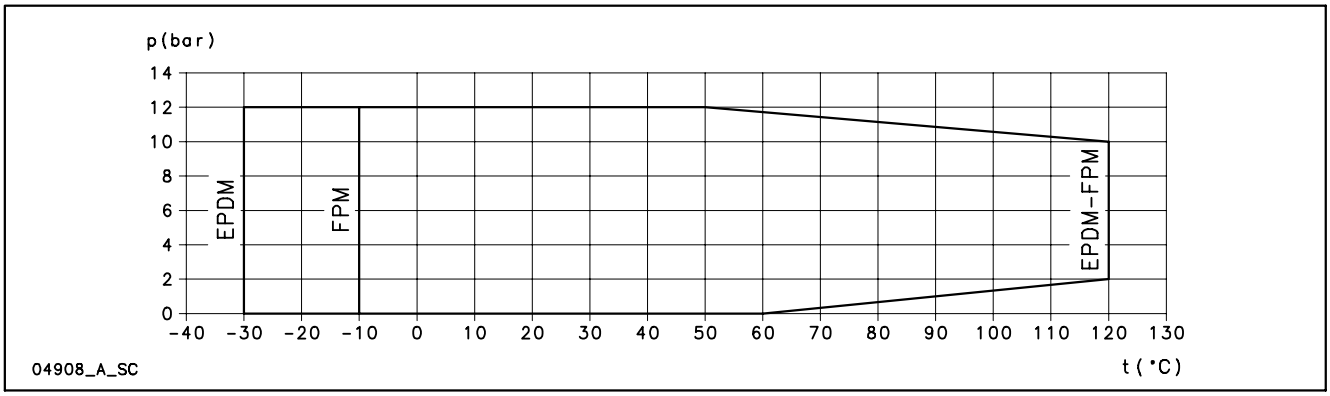
sh_ten-mec-en_a_tm

SEAL TYPES

TYPE	POSITION 1 ROTATING ASSEMBLY	POSITION 2 FIXED ASSEMBLY	POSITION 3 ELASTOMERS	POSITION 4 SPRINGS	POSITION 5 OTHER COMPONENTS	TEMPERATURE (°C)
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 APPLICATIONS LIMITS FOR COMPLETE PUMP (APPLICABLE WITH ANY OF THE SEALS LISTED ABOVE)



ErP 2009/125/EC

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SH SERIES
MOTORS

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

The various products considered include three-phase, 50 Hz surface motors, with power outputs ranging from 0,75 to 375 kW, also when integrated with other products, with characteristics as defined by the specific **Regulation (EC) n. 640/2009** 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
1st January 2015	< 7,5	IE2
	7,5 ÷ 375	IE3
		IE2 fitted with variable speed drive
1st January 2017	0,75 ÷ 375	IE3
		IE2 fitted with variable speed drive

- **Standard three-phase surface motors ≥ 0,75 kW supplied as IE2 or IE3**.
- Short-circuit squirrel-cage motor, enclosed construction with external ventilation (TEFC).
- IP55 protection degree.
- Insulation class 155 (F).
- Electrical performances according to EN 60034-1.
- IE efficiency according to EN 60034-30 (≥ 0,75 kW).
- Cable gland with metric according to EN 50262.
- **PTC included** in motors:
  2-pole from 30 to 37 kW (B35),
  from 22 to 75 kW (B3).

- **Single-phase** version:
  220-240 V 50 Hz
  Built-in automatic reset overload protection up to 1,5 kW.
  For higher powers the protection must be provided by the user.
- **Three-phase** version:
  220-240/380-415 V 50 Hz for power up to 3 kW.
  380-415/660-690 V 50 Hz for power above 3 kW.
  Overload protection to be provided by the user.

SHE 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	SM90RB14/107	90R	B14	4,83-5,23	30	450	2875	5,28	71,8	0,92	2,49	0,70	2,59
1,1	SM90RB14/111	90R	B14	6,88-6,65	30	450	2800	3,89	74,7	0,96	3,75	0,46	1,72
1,5	SM90RB14/115	90R	B14	9,21-8,58	40	450	2810	4,00	76,1	0,98	5,15	0,39	1,74
2,2	PLM90B14/122	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.

she-motm-2p50-en_e_te

LOWARA
a xylem brand

SHE 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		
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	3	from 03/2012
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	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7		
3	85,5	86,8	85,6	86,1	86,8	85,6	86,3	86,8	85,6	85,5	86,8	85,6	85,5	86,8	85,6	85,5	86,8	85,6		
4	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3		
5,5	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6		
7,5	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1		
9,2	89,3	88,8	88,8	89,3	88,8	88,8	89,3	88,8	88,8	89,3	88,8	88,8	89,3	88,8	88,8	89,3	88,8	88,8	2	from 06/2011
11	90,3	91,1	90,3	90,3	91,1	90,3	90,3	91,1	90,3	90,3	91,1	90,3	90,8	91,1	90,3	91,0	91,1	90,3		
15	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3		
18,5	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2		
22	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3		

P_N	Manufacturer: Lowara srl Unipersonale, Reg. No. 03471820260, 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	PLM90B14S/322	90				0,80	8,63	7,25	3,74	3,71
3	PLM90B14S/330	90				0,82	8,39	9,96	3,50	3,32
4	PLM112RB14S/340	112R				0,85	9,52	13,1	3,04	4,40
5,5	PLM112B14S/355	112				0,87	10,3	18,1	4,43	5,80
7,5	PLM132B14S/375	132				0,87	9,21	24,5	3,26	4,55
9,2	PLM132B14S/392	132				0,88	9,66	30,3	3,17	4,54
11	PLM132B14S/3110	132				0,87	9,72	36,0	3,46	4,56
15	PLM160B34S/3150	160				0,91	8,45	48,6	2,26	3,81
18,5	PLM160B34S/3185	160				0,88	9,75	59,8	2,82	4,53
22	PLM160B34S/3220	160				0,89	9,50	71,1	2,74	4,26

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	min^{-1}				
	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	8,05	8,04	8,09	4,65	4,64	4,67	4,62	4,61	4,63	2,67	2,66	2885 ÷ 2900				
3	10,8	10,6	10,6	6,23	6,14	6,12	6,18	6,10	6,06	3,57	3,52	2850 ÷ 2885				
4	13,6	13,5	13,5	7,88	7,77	7,79	7,80	7,63	7,65	4,51	4,41	2895 ÷ 2920				
5,5	18,3	18,0	17,9	10,6	10,4	10,3	10,6	10,4	10,5	6,14	6,02	2885 ÷ 2905		≤ 1000	-15 / 40	No
7,5	25,4	24,8	24,4	14,7	14,3	14,1	14,5	14,0	13,9	8,35	8,11	2920 ÷ 2935				
9,2	29,7	28,9	28,3	17,2	16,7	16,4	17,3	16,8	16,6	10,0	9,70	2910 ÷ 2930				
11	36,0	35,1	34,7	20,8	20,3	20,0	20,8	20,3	20,1	12,0	11,7	2910 ÷ 2925				
15	47,2	45,3	44,0	27,2	26,2	25,4	27,2	26,0	25,3	15,7	15,0	2940 ÷ 2950				
18,5	58,3	56,9	55,9	33,7	32,9	32,3	34,1	33,2	32,8	19,7	19,1	2945 ÷ 2955				
22	68,3	66,2	64,3	39,4	38,2	37,1	40,0	38,6	37,8	23,1	22,3	2945 ÷ 2955				

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

she-ie2-mott-2p50-en_c_te

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

LOWARA
a xylem brand

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

P_N kW	Efficiency η_N %																		IE	Year of manufacture
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 240 V Y 415 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V				
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
0,75	82,5	83,1	81,3	82,8	82,7	80,1	82,6	82,0	78,9	82,5	82,0	78,9	82,5	82,0	78,9	82,5	82,0	78,9	3	from 03/2012
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	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	2	from 06/2011
3	85,5	86,8	85,6	86,1	86,8	85,6	86,3	86,8	85,6	85,5	86,8	85,6	85,5	86,8	85,6	85,5	86,8	85,6		
4	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3		
5,5	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6	87,6		
7,5	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1		
11	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8		
15	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3		
18,5	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2		
22	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3	91,3		

P_N kW	Manufacturer: Lowara srl Unipersonale, Reg. No. 03471820260, Montecchio Maggiore Vicenza - Italia. Model	IEC SIZE*	Construction Design	N. of Poles	f_N Hz	Data for 400 V / 50 Hz Voltage: cosφ	Is / I_N	T_N Nm	Ts/T_N	Tm/Tn
0,75	SM80B5/307PE	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	90				0,80	8,63	7,25	3,74	3,71
3	PLM100RB5/330	100R				0,82	8,39	9,96	3,50	3,32
4	PLM112RB5/340	112R				0,85	9,52	13,1	3,04	4,40
5,5	PLM132RB5/355	132R				0,87	10,3	18,1	4,43	5,80
7,5	PLM132B5/375	132				0,87	9,21	24,5	3,26	4,55
11	PLM160B35/3110	160	B35			0,88	8,14	35,6	2,22	4,00
15	PLM160B35/3150	160				0,91	8,45	48,6	2,26	3,81
18,5	PLM160B35/3185	160				0,88	9,75	59,8	2,82	4,53
22	PLM180RB35/3220	180R				0,89	9,50	71,1	2,74	4,26

P_N kW	Voltage U_N V: Δ 220 V	Δ 230 V	Δ 240 V	Y 380 V	Y 400 V	Y 415 V	Δ 380 V	Δ 400 V	Δ 415 V	Y 660 V	Y 690 V	I_N (A)	n_N min^{-1}	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **: Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98		2875 ÷ 2895		≤ 1000	-15 / 40	No
1,1	4,19	4,14	4,16	2,42	2,39	2,40	2,41	2,38	2,38	1,39	1,37		2870 ÷ 2900				
1,5	5,56	5,49	5,51	3,21	3,17	3,18	3,21	3,18	3,19	1,85	1,84		2870 ÷ 2895				
2,2	8,05	8,04	8,09	4,65	4,64	4,67	4,62	4,61	4,63	2,67	2,66		2885 ÷ 2900				
3	10,8	10,6	10,6	6,23	6,14	6,12	6,18	6,10	6,06	3,57	3,52		2850 ÷ 2885				
4	13,6	13,5	13,5	7,88	7,77	7,79	7,80	7,63	7,65	4,51	4,41		2895 ÷ 2920				
5,5	18,3	18,0	17,9	10,6	10,4	10,3	10,6	10,4	10,5	6,14	6,02		2885 ÷ 2905				
7,5	25,4	24,8	24,4	14,7	14,3	14,1	14,5	14,0	13,9	8,35	8,11		2920 ÷ 2935				
11	35,5	34,3	33,4	20,5	19,8	19,3	20,6	19,9	19,5	11,9	11,5		2940 ÷ 2950				
15	47,2	45,3	44,0	27,2	26,2	25,4	27,2	26,0	25,3	15,7	15,0		2940 ÷ 2950				
18,5	58,3	56,9	55,9	33,7	32,9	32,3	34,1	33,2	32,8	19,7	19,1		2945 ÷ 2955				
22	68,3	66,2	64,3	39,4	38,2	37,1	40,0	38,6	37,8	23,1	22,3		2945 ÷ 2955				

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

shs-ie2-mott-2p50-en_b_te

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

LOWARA
a xylem brand

SHF SERIES (up to 18,5 kW)
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 03/2012
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	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	81,8	2	from 06/2011
2,2	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7	83,7		
3	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1	85,1		
4	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3	86,3		
5,5	87,6	87,6	87,0	87,6	87,6	87,0	87,6	87,6	87,0	87,6	87,6	87,0	87,6	87,6	87,0	87,6	87,6	87,0		
7,5	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1	88,6	88,1	88,1		
11	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8		
15	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3	90,3		
18,5	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2	91,2		

P_N	Manufacturer Lowara srl Unipersonale Reg. No. 03471820260 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	B3	2	50	0,78	7,38	2,48	3,57	3,75
1,1	SM80B3/311PE	80				0,79	8,31	3,63	3,95	3,95
1,5	PLM90B3/315	90				0,86	7,86	4,96	3,34	3,27
2,2	PLM90B3/322	90				0,80	8,63	7,25	3,74	3,71
3	PLM100B3/330	100				0,84	9,45	9,83	3,59	4,27
4	PLM112B3/340	112				0,87	9,16	13,2	3,60	4,59
5,5	PLM132B3/355	132				0,83	9,93	17,9	3,34	4,66
7,5	PLM132B3/375	132				0,87	9,21	24,5	3,26	4,55
11	PLM160B3/3110	160				0,88	8,14	35,6	2,22	4,00
15	PLM160B3/3150	160				0,91	8,45	48,6	2,26	3,81
18,5	PLM160B3/3185	160				0,88	9,75	59,8	2,82	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	5,53	5,23	5,13	3,19	3,02	2,96	3,19	3,03	2,96	1,84	1,75	2865 ÷ 2895				
2,2	8,05	8,04	8,09	4,65	4,64	4,67	4,62	4,61	4,63	2,67	2,66	2885 ÷ 2900				
3	10,4	10,2	10,3	5,98	5,91	5,92	6,01	5,95	5,96	3,47	3,44	2905 ÷ 2920				
4	13,3	13,0	12,9	7,67	7,50	7,43	7,68	7,51	7,45	4,44	4,34	2890 ÷ 2905				
5,5	19,2	19,1	19,2	11,1	11,0	11,1	10,9	10,8	10,8	6,30	6,22	2930 ÷ 2945				
7,5	25,4	24,8	24,4	14,7	14,3	14,1	14,5	14,0	13,9	8,35	8,11	2920 ÷ 2935				
11	35,5	34,3	33,4	20,5	19,8	19,3	20,6	19,9	19,5	11,9	11,5	2940 ÷ 2950				
15	47,2	45,3	44,0	27,2	26,2	25,4	27,2	26,0	25,3	15,7	15,0	2940 ÷ 2950				
18,5	58,3	56,9	55,9	33,7	32,9	32,3	34,1	33,2	32,8	19,7	19,1	2945 ÷ 2955				
													≤ 1000	-15 / 40	No

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

shf-ie2-mott18-2p50-en_b_te

LOWARA
a xylem brand

SHS SERIES (from 30 to 37 kW)
SHF SERIES (from 22 to 75 kW)
THREE-PHASE MOTORS AT 50 Hz, 2 POLES

P_N kW	Efficiency η_N %									IE	Year of manufacture
	Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V				
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
22	91,8	92,2	92,2	92,0	92,4	92,2	92,4	92,4	91,8	2	from 06/2011
30	92,6	92,9	92,7	92,5	93,0	92,9	93,0	93,0	92,3		
37	93,0	93,3	93,2	93,0	93,4	93,3	93,5	93,4	92,8		
45	93,2	93,5	93,4	93,3	93,6	93,6	93,8	93,6	93,1		
55	93,6	93,8	93,8	93,6	93,9	93,9	94,0	93,8	93,3		
75	94,1	94,3	93,6	93,4	94,3	94,3	94,3	94,2	93,2		

P_N kW	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 180M2-B3 22kW	180	B3	2	50	0,88	7,30	71,40	2,20	3,00
30	W22 200L2-B3 30kW	200	B3			0,87	6,50	97,00	2,40	2,70
	W22 200L2-B35 30kW		B35							
37	W22 200L2-B3 37kW	200	B3			0,87	6,80	120,0	2,40	2,60
	W22 200L2-B35 37kW		B35							
45	W22 225S/M2-B3 45kW	225	B3			0,89	7,00	145,0	2,20	2,80
55	W22 250S/M2-B3 55kW	250				0,89	7,00	178,0	2,20	2,80
75	W22 280S/M2-B3 75kW	280				0,89	7,00	241,0	2,00	2,80

P_N kW	Voltage U_N V					n_N min^{-1}	See note.	Operating conditions **		
	Δ			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	380 V	400 V	415 V	660 V	690 V					
	I_N (A)									
22	40,90	39,10	38,10	23,55	22,67	2940 ÷ 2950				
30	55,90	53,60	52,20	32,18	31,07	2950 ÷ 2960				
37	68,70	65,80	64,00	39,.55	38,14	2945 ÷ 2955		≤ 1000	-15 / 40	No
45	81,50	78,00	75,80	46,92	45,22	2955 ÷ 2960				
55	99,20	95,00	92,50	57,12	55,07	2955 ÷ 2960				
75	135,00	129,00	126,00	77-73	74,78	2970 ÷ 2975				

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

shf-ie2-mott75-2p50-en_b_te

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

LOWARA
a xylem brand

SHE4 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	from 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	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1		
1,5	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0		
2,2	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7		
3	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1		
4	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6		
5,5	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0		
7,5	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7		
11	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8		

P_N	Manufacturer: Lowara srl Unipersonale, Reg. No. 03471820260, 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	SM490RB14S/305	90R	SPECIAL			0,67	3,95	3,77	2,45	2,38
0,75	LLM490RB5S/307	90R				0,75	5,78	5,03	2,77	3,31
1,1	PLM490B5S/311	90				0,72	6,34	7,27	2,80	3,43
1,5	PLM490B5S/315	90				0,67	6,79	9,88	3,33	3,67
2,2	PLM4100B5S/322	100				0,77	7,50	14,4	2,71	3,97
3	PLM4100B5S/330	100				0,73	7,84	19,6	2,96	4,09
4	PLM4112B5S/340	112				0,78	7,91	26,3	2,86	3,94
5,5	PLM4132B14S/355	132				0,78	7,89	35,9	2,79	3,47
7,5	PLM4132B14S/375	132				0,78	7,71	49,1	2,75	3,63
11	PLM4160B34S/3110	160				0,83	6,94	71,6	2,34	3,02

P_N	Voltage U_N V											n_N min^{-1}	Observe the regulations and codes locally in force regarding sorted waste disposal.	Operating conditions **		
	Δ			Y			Δ			Y				Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
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	4,64	4,61	4,61	2,68	2,66	2,66	2,66	2,64	2,64	1,54	1,53	1435 ÷ 1445				
1,5	6,50	6,51	6,62	3,75	3,76	3,82	3,74	3,75	3,80	2,16	2,16	1440 ÷ 1450				
2,2	8,49	8,31	8,24	4,90	4,80	4,76	4,87	4,78	4,72	2,81	2,76	1445 ÷ 1455				
3	12,0	11,9	12,0	6,91	6,89	6,94	6,88	6,86	6,90	3,97	3,96	1455 ÷ 1465				
4	15,5	15,3	15,2	8,93	8,82	8,78	8,80	8,64	8,60	5,08	4,99	1445 ÷ 1455				
5,5	20,4	19,9	19,6	11,8	11,5	11,3	11,9	11,5	11,5	6,85	6,66	1455 ÷ 1465				
7,5	27,4	26,8	26,4	15,8	15,5	15,2	15,9	15,6	15,4	9,20	8,98	1450 ÷ 1460				
11	38,3	37,9	37,9	22,1	21,9	21,9	21,8	21,2	21,1	12,6	12,3	1465 ÷ 1470				
														⩽ 1000	-15 / 40	No

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

she-ie2-mott-4p50-en_b_te

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

LOWARA
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SHS4 SERIES (from 0,55 to 11 kW)
SHF4 SERIES (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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	from 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		
1,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1	81,4	81,4	81,1		
1,5	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0	83,1	83,1	82,0		
2,2	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7	84,7		
3	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	85,5	85,5	84,1	2	
4	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6	86,6		
5,5	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0	88,0		
7,5	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7	88,7		
11	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8	89,8		

P_N	Manufacturer: Lowara srl Unipersonale, Reg. No. 03471820260, 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	B3			0,60	3,39	2,57	3,40	2,47
0,55	SM480B3/305	80	B3			0,67	3,95	3,77	2,45	2,38
	SM480B5/305		B5							
0,75	LLM480B3/307	80	B3			0,75	5,78	5,03	2,77	3,31
	LLM480B5/307		B5							
1,1	PLM490B3/311	90	B3			0,72	6,34	7,27	2,80	3,43
	PLM490B5/311		B5							
1,5	PLM490B3/315	90	B3			0,67	6,79	9,88	3,33	3,67
	PLM490B5/315		B5							
2,2	PLM4100B3/322	100	B3			0,77	7,50	14,4	2,71	3,97
	PLM4100B5/322		B5							
3	PLM4100B3/330	100	B3			0,73	7,84	19,6	2,96	4,09
	PLM4100B5/330		B5							
4	PLM4112B3/340	112	B3			0,78	7,91	26,3	2,86	3,94
	PLM4112B5/340		B5							
5,5	PLM4132B3/355	132	B3			0,78	7,89	35,9	2,79	3,47
	PLM4132B5/355		B5							
7,5	PLM4132B3/375	132	B3			0,78	7,71	49,1	2,75	3,63
	PLM4132B5/375		B5							
11	PLM4160B3/3110	160	B3			0,83	6,94	71,6	2,34	3,02
	PLM4160B5/3110		B5							

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}				
0,25	1,68	1,71	1,77	0,97	0,99	1,02	-	-	-	-	-	1375 ÷ 1400		≤ 1000	-15 / 40	No
0,37	2,46	2,53	2,62	1,42	1,46	1,51	-	-	-	-	-	1355 ÷ 1380				
0,55	2,98	3,03	3,10	1,72	1,75	1,79	-	-	-	-	-	1380 ÷ 1400				
0,75	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	4,64	4,61	4,61	2,68	2,66	2,66	2,66	2,64	2,64	1,54	1,53	1435 ÷ 1445				
1,5	6,50	6,51	6,62	3,75	3,76	3,82	3,74	3,75	3,80	2,16	2,16	1440 ÷ 1450				
2,2	8,49	8,31	8,24	4,90	4,80	4,76	4,87	4,78	4,72	2,81	2,76	1445 ÷ 1455				
3	12,0	11,9	12,0	6,91	6,89	6,94	6,88	6,86	6,90	3,97	3,96	1455 ÷ 1465				
4	15,5	15,3	15,2	8,93	8,82	8,78	8,80	8,64	8,60	5,08	4,99	1445 ÷ 1455				
5,5	20,4	19,9	19,6	11,8	11,5	11,3	11,9	11,5	11,5	6,85	6,66	1455 ÷ 1465				
7,5	27,4	26,8	26,4	15,8	15,5	15,2	15,9	15,6	15,4	9,20	8,98	1450 ÷ 1460				
11	38,3	37,9	37,9	22,1	21,9	21,9	21,8	21,2	21,1	12,6	12,3	1465 ÷ 1470				

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

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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).

SHE-SHS 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	72
37	200	72

SHF 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	72
37	200	72
45	225	75
55	250	75
75	280	77

SHE4 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

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

SHS4-SHF4 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

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AVAILABLE VOLTAGES
SM and PLM MOTORS FOR SH SERIES, 2-POLE

P_N kW	SINGLE-PHASE 50 Hz: 1 x 220-240	1 x 100	1 x 110-120	60 Hz: 1 x 220-230	1 x 100	1x 110-115	1 x 120-127	1 x 200-210
0,75	s	-	o	s	-	o	-	o
1,1	s	-	o	s	-	o	-	o
1,5	s	-	-	s	-	o	-	o
2,2	s	-	-	s	-	-	-	-

P_N kW	THREE-PHASE 50 Hz: 3 x 220-230-240/380-400-415	3 x 380-400-415/660-690	3 x 200-208/346-360	3 x 255-265/440-460	3 x 290-300/500-525	3 x 440-460/-	3 x 500-525/-	60 Hz: 3 x 220-230/380-400	3 x 255-265-277/440-460-480	3 x 380-400/660-690	3 x 440-460-480/-	3 x 110-115/190-200	3 x 200-208/346-360	3 x 330-346/575-600	3 x 575/-	50/60 Hz: 3 x 230/400 50 Hz 3 x 265/460 60 Hz	3 x 400/690 50 Hz 3 x 460/- 60 Hz
0,75	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
1,1	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
1,5	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
2,2	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
3	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
4	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
5,5	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
7,5	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
9,2	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
11	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
15	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
18,5	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
22	o	s	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o

s = Standard voltage o = voltage upon request - = Not available

sh-volt-lowa-en_b_te

W22 MOTORS FOR SH SERIES, 2-POLE

P_N kW	THREE-PHASE 50 Hz: 3 x 220-230-240/380-400-415	3 x 380-400-415/660-690	3 x 110/190	3 x 200-208/346-360	3 x 255-265/440-460	3 x 290-300/500-525	3 x 440-460/-	3 x 500-525/-	60 Hz: 3 x 230/380	3 x 380-400/660-690	3 x 440-480/-	3 x 110-115/190-200	3 x 200-208/346-360	3 x 255-265-277/440-460-480	3 x 330-346/575-600	3 x 575/-	50/60 Hz: 3 x 230/400 50 Hz 3 x 265/460 60 Hz	3 x 400/690 50 Hz 3 x 460/- 60 Hz
22	o	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
30	o	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
37	o	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
45	o	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
55	o	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o
75	o	s	o	o	o	o	o	o	s	o	o	o	o	o	o	o	o	o

s = Standard voltage o = voltage upon request - = Not available

sh-volt-weg-en_c_te

ErP 2009/125/EC

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SH 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.
Among the various products considered there are also some typologies of pumps with the characteristics defined by the specific **Regulation (EU) n. 547/2012** implementing the requirements of Directives EuP and ErP.

For end-suction close-coupled pumps (ESCC for the Regulation) and own-bearing close-coupled 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 flow 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, the SHE and SHS versions correspond to the "end-suction close-coupled pump" while the SHF version corresponds to the "end-suction own bearing pump".

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 the MEI column in the tables in the *Hydraulic performance* section.
2) "The benchmark for most efficient water pumps is MEI ≥ 0,70".
3) Year of manufacture: from January 2013.
4) Manufacturer: Lowara srl Unipersonale - Reg. No. 03471820260 - 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/efficiencycharts (refer to "ESCC 1450 rpm", "ESCC 2900 rpm", "ESOB 1450 rpm", "ESOB 2900 rpm").

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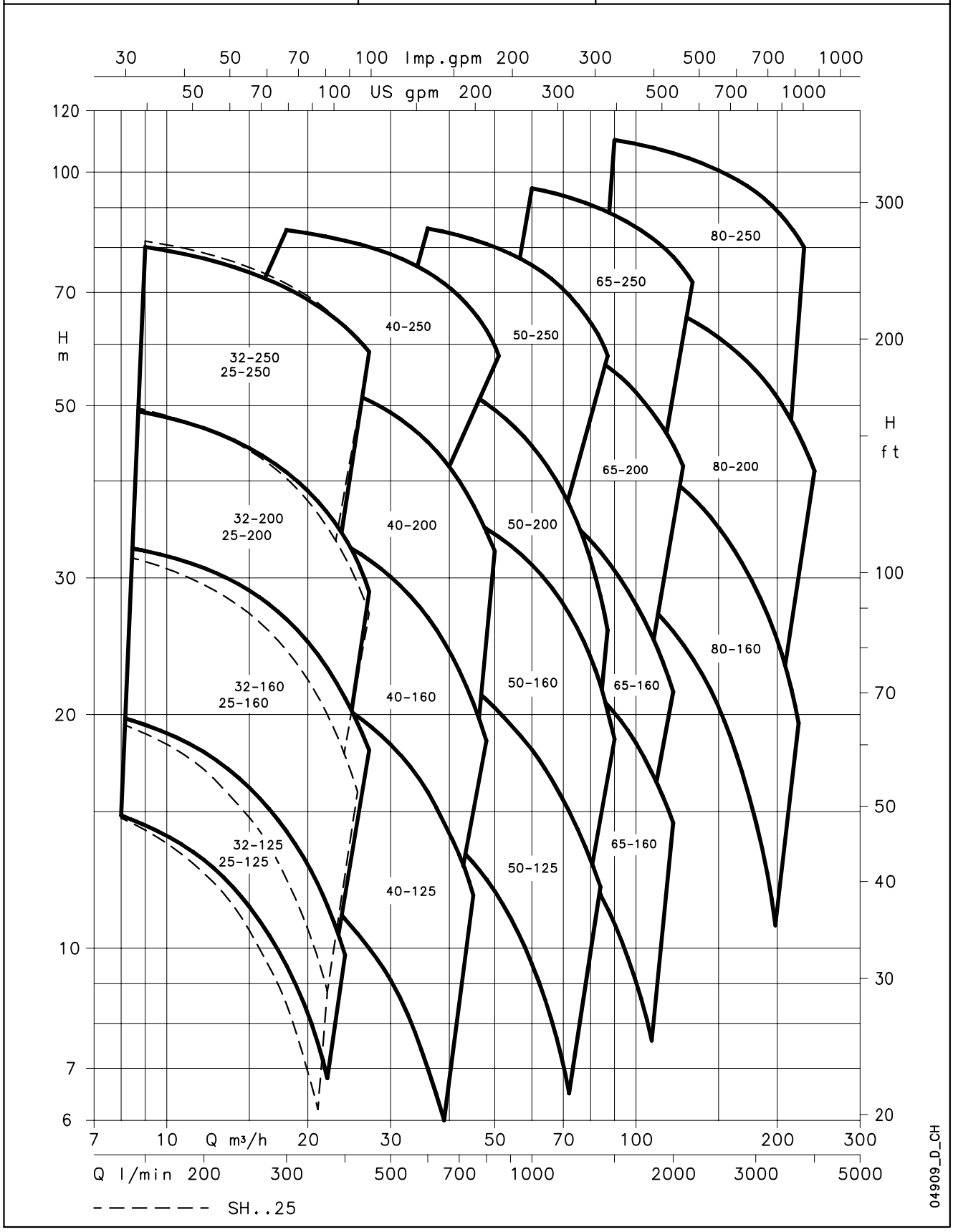
SHE-SHS-SHF SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES

SHE - SHS - SHF	~ 2900 rpm	ISO 9906:2012 - Grade 3B



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

LOWARA
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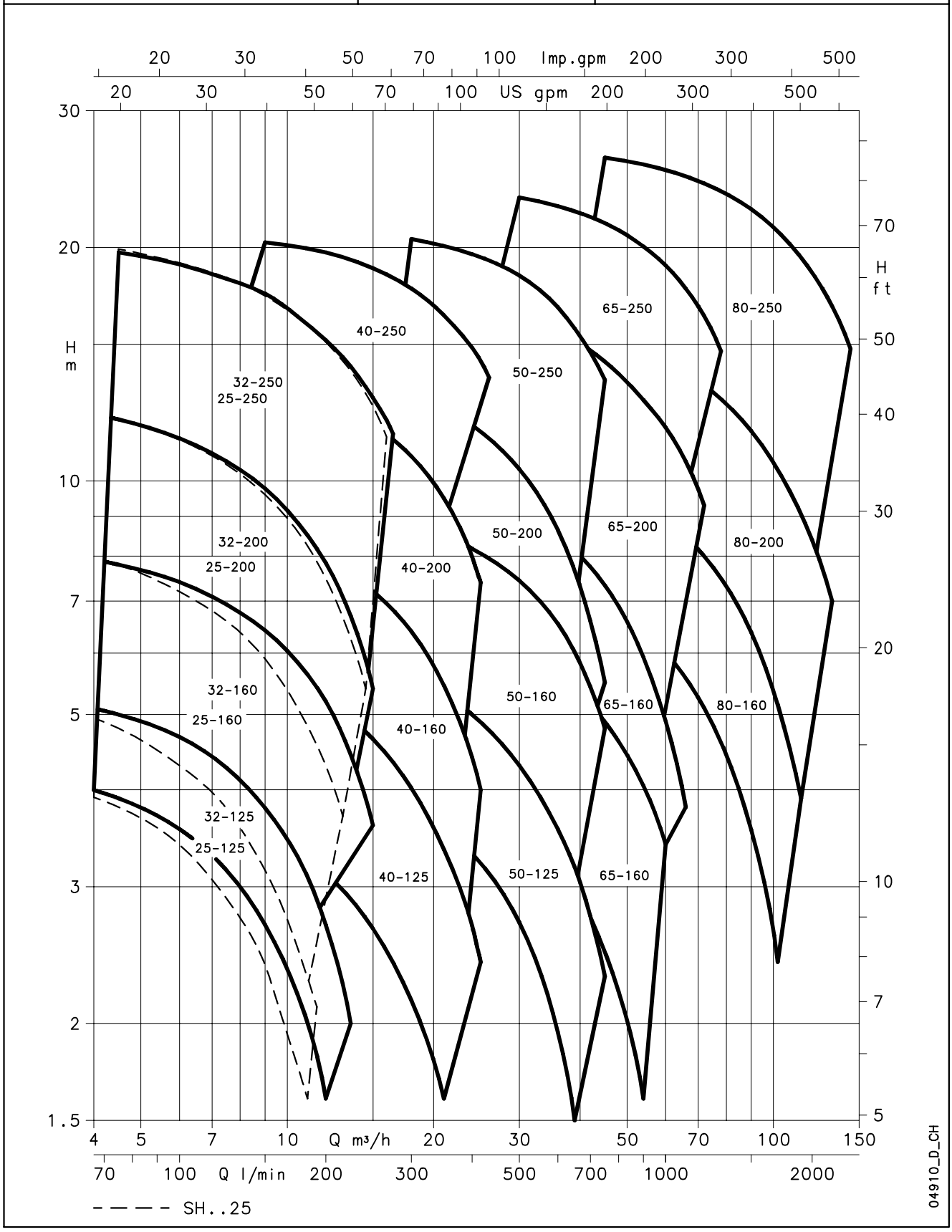
SHE4-SHS4-SHF4 SERIES
HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 4 POLES

SHE4 - SHS4 - SHF4	~ 1450 rpm	ISO 9906:2012 - Grade 3B



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

LOWARA
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SHE-SHS-SHF SERIES
TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY												
							l/min 0		150	200	250	300	350	366	400	416	425	450	500
							m^3/h 0		9	12	15	18	21	22	24	25	25,5	27	30
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER												
25-125/07 *	0,75	1	-	-	55,6	119	17,3		14,2	12,5	10,5	8,4	6.2						
25-125/11 *	1,1	1,5	0,10	136	56.5	-	22,3		18,9	17	14,7	12,3	9,7	8,8					
25-160/15 *	1,5	2	-	-	57,6	150	27,7		24,8	22,9	20,5	17,9	15	13,4	11,9				
25-160/22 *	2,2	3	0,10	164	55,4	-	34,6		31,5	29,4	27	24,2	21	20	17,7	16,5	15.9		
25-200/30	3	4	-	-	50,9	188	44,9		39,2	36,7	33,8	30,4	26,7	25,3	22,4	20,8			
25-200/40	4	5,5	0,10	204	52,9	-	54,5		49,4	46,8	43,8	40,3	36,3	34,9	31,9	30,3	29,5	27	
25.250/55	5,5	7,5	-	-	46,0	222	61,4		55,8	53,2	50,3	47	43,3	42	39,2				
25-250/75	7,5	10	-	-	44,7	242	75,9		69,3	66,5	63,2	59,6	55,6	54,1	51,1	49,6	48,7		
25-250/110	11	15	0,10	250	47,2	-	87,5		81,5	78,6	75,4	71,8	67,8	66,3	63,3	61,7	60,4	58,4	

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY												
							l/min 0		150	200	250	300	366	400	416	425	450	500	550
							m^3/h 0		9	12	15	18	22	24	25	25,5	27	30	33
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER												
32-125/07 *	0,75	1	-	-	54,9	119	16,6		14,4	13	11,3	9,5	6,8						
32-125/11 *	1,1	1,5	0,10	136	58.2	-	21,6		19,4	17,9	16,1	14,2	11,3	9,8					
32-160/15 *	1,5	2	-	-	57,8	150	27,6		24,6	22,7	20,6	18,1	14,5	12,7					
32-160/22 *	2,2	3	0,10	164	57,4	-	35,0		32,5	30,9	28,9	26,5	23	21	20	19,5	18		
32-200/30	3	4	-	-	50,5	188	43,7		38,5	35,9	33,1	29,9	25,2	22,5	21				
32-200/40	4	5,5	0,10	204	51,4	-	53,5		49	46,8	44,1	41	36,4	33,8	32,3	31,5	28,8		
32-250/55	5,5	7,5	-	-	46,9	222	61,7		56,7	54,2	51,2	47,9	42,8	40					
32-250/75	7,5	10	-	-	45,5	242	74,1		68,9	66,2	63,2	59,9	55	52,2	50,8	50,1			
32-250/110	11	15	0,10	256	47,1	-	86,2		80,1	77,4	74,3	70,9	65,9	63,2	61,7	61	58,7		

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY												
							l/min 0		300	400	500	600	650	700	750	766	800	833	850
							m^3/h 0		18	24	30	36	39	42	45	46	48	50	51
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER												
40-125/11 *	1,1	1,5	-	-	64,5	112	14,4		12,5	10,9	9	7	6						
40-125/15 *	1,5	2	-	-	66,0	122	17,5		16	14,4	12,4	10,2	9,1	8					
40-125/22 *	2,2	3	0,10	143	68,0	-	25,3		22,2	20,4	18,3	15,9	14,5	13,2	11.7				
40-160/30	3	4	-	-	67,5	159	32,2		29,5	26,9	24	20,8	19	17,1	15				
40-160/40	4	5,5	0,10	171	69,5	-	38,0		35,5	33,1	30,1	26,7	24,8	22,8	20,7	20	18,5		
40-200/55	5,5	7,5	-	-	66,5	190	49,1		46,4	43,7	40,3	36,2	33,7	31	28,1	27,1	25		
40-200/75	7,5	10	0,10	209	65,0	-	58,2		55,1	52,4	49	44.9	42,6	40	37,2	36,3	34,4	32.5	
40-250/ **	**	**	-	-	59,0	218	64,9		62	59,5	56,2	51,6	48,4	44,6					
40-250/110	11	15	-	-	58,5	233	74,7		71,4	68,9	66	61,4	58,6	55,2	51,3	49.8			
40-250/150	15	20	0,10	251	58,0	-	87,7		84,2	81,6	78,4	74,3	71,9	69,2	66,1	65	62.6	59,7	58

* A single-phase version (SHEM) is also available

sh-25-32-40_2p50-en_f_th

** SHE: ../92 = 9,2kW (12,5 HP); SHS, SHF: ../110A = 11kW (15 HP)

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

(1) MEI Minimal Efficiency Index (2) External diameter of full impeller (3) Hydraulic efficiency of pump (4) External diameter of trimmed impeller

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY													
							l/min 0		600	700	800	900	1000	1100	1200	1300	1383	1400	1450	1500
							m^3/h 0		36	42	48	54	60	66	72	78	82,98	84	87	90
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER													
50-125/22 *	2,2	3	-	-	72,5	119	17,2		14,6	13,5	12,3	10,9	9,5	8,1	6,5					
50-125/30	3	4	-	-	73,5	130	21,7		18,8	17,6	16,3	14,9	13,4	12	10,5	9				
50-125/40	4	5,5	0,10	139	75,0	-	25,7		23,3	22,2	20,9	19,4	18	16,5	15	13,5	12,2	12		
50-160/55	5,5	7,5	-	-	72,0	158	34,1		30,6	29,2	27,6	25,9	24	22	19,9	17,4	15,2	14,7		
50-160/75	7,5	10	0,10	174	74,0	-	40,8		37,5	36,2	34,7	33	31,2	29,2	27	24,6	22,3	21,8	20,2	18,6
50-200/ **	**	**	-	-	70,0	197	53,0		47,5	45,3	42,8	40	36,9	33,5	29,8	25,5	21,6	20,7		
50-200/110	11	15	0,10	209	72,0	-	60,1		55	52,8	50,3	47,5	44,4	41	37,3	33,2	29,3	28,4	25,7	
50-250/150	15	20	-	-	69,5	224	70,2		66,6	65	63,2	61	58,3	55,1	50,8	45,6				
50-250/185	18,5	25	-	-	68,4	327	80,0		75	73,3	71,3	69	66,4	63,3	59,6	55,2	50,8			
50-250/220	22	30	0,10	250	67,3	-	88,9		84,6	82,8	80,8	78,5	75,9	72,9	69,4	65,4	61,8	61	58	

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY													
							l/min 0		800	900	1000	1200	1400	1600	1800	1900	2000	2100	2200	2600
							m^3/h 0		48	54	60	72	84	96	108	114	120	126	132	156
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER													
65-160/40	4	5,5	-	-	69,5	119,5/114,5	19,6		16,8	16	15,2	13,5	11,7	9,7	7,6					
65-160/55	5,5	7,5	-	-	71,5	129	24,2		21,4	20,6	19,8	18	16,1	14,1	11,8	10,6				
65-160/75	7,5	10	0,10	137	72,5	-	28,2		26	25,3	24,5	22,9	21	19,1	16,9	15,7	14,5			
65-160/ **	**	**	-	-	75,0	168	38,2		35,4	34,3	33	30,1	27	23,7	20,1	18,1				
65-160/110	11	15	0,10	177	74,0	-	43,2		40,8	39,7	38,5	35,6	32,4	28,9	25,3	23,4	21,4			
65-200/150	15	20	-	-	70,0	192	53,0			48,8	47,5	44,3	40,6	36,4	32	29,3				
65-200/185	18,5	25	-	-	71,5	203	60,2			56,5	55,2	52,2	48,7	44,7	40,2	38	35,4			
65-200/220	22	30	0,10	215	70,5	-	68,0			64,4	63,1	60,2	57	53,4	49,1	46,9	44,5	41,8		
65-250/300	30	40	-	-	74,5	240	84,3				81,7	79,6	76,7	73,4	69,2	66,8	64,2	61,3		
65-250/370	37	50	0,10	255	73,5	-	98,0				95,3	92,8	89,7	86,2	82,3	80,2	77,8	75,1	72,1	

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY													
							l/min 0		1200	1500	1800	2000	2400	2800	3300	3500	3600	3700	3800	4000
							m^3/h 0		72	90	108	120	144	168	198	210	216	222	228	240
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER													
80-160/110	11	15	-	-	75,0	169x15°	33,6		31,9	30	27,5	25,6	21,5	16,9	10,7					
80-160/150	15	20	-	-	76,5	177	40,3		38,8	37	34,6	32,7	28,6	24,1	17,7	15				
80-160/185	18,5	25	0,10	186	78,0	-	47,2		45,7	43,9	41,7	40	35,9	31,4	25,4	22,6	21,1	19,5		
80-200/220	22	30	-	-	80,5	198	53,0			49,8	47,5	45,8	41,8	37,5	31,3	28,5	27			
80-200/300	30	40	-	-	81,0	215	63,6			61,2	59	57,3	53,3	48,8	42,3	39,5	38,1	36,6	35,1	
80-200/370	37	50	0,10	226	81,5	-	71,4			69,5	67,7	66,2	62,3	57,8	51,7	48,9	47,4	45,9	44,4	41,2
80-250/450***	45	60	-	-	79,5	237	83,5			80,5	78	76	71,2	65,9	57,7	53,7	51,5			
80-250/550***	55	75	-	-	80,0	252	95,7			93,6	91	89	84,6	79,9	72,1	68,4	66,5	64,6		
80-250/750***	75	100	0,10	270	78,0	-	112,0			110	108	106	102	96,9	89,7	86,2	84,2	82,1	80	

* A single-phase version (SHEM) is also available

sh-50-65-80_2p50-en_f_th

** SHE: ../92 = 9,2kW (12,5 HP); SHS, SHF: ../110A = 11kW (15 HP)

*** Only available in the SHF version

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

(1) MEI Minimum Efficiency Index (2) External diameter of full impeller (3) Hydraulic efficiency of pump (4) External diameter of trimmed impeller

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 4 POLES

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY														
							l/min 0		75	100	125	150	183	191	200	216	225	241	250	266	275
							m^3/h 0		4,5	6	7,5	9	10,98	11,5	12	12,96	13,5	14,5	15	15,96	16,5
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER														
25-125/02A *	0,25	0,33	-	-	55,1	119	4,4		3,8	3,4	2,9	2,4	1,6								
25-125/02 *	0,25	0,33	0,10	136	53,6	-	5,6		4,8	4,3	3,8	3,2	2,3	2,1							
25-160/02 *	0,25	0,33	-	-	57,5	150	6,9		6,1	5,6	5,1	4,4	3,4	3,2	2,9						
25-160/03 *	0,37	0,5	0,10	164	55,2	-	8,6		7,8	7,2	6,6	5,9	4,9	4,6	4,3	3,7					
25-200/03 *	0,37	0,5	-	-	50,9	188	11,0		9,4	8,7	8	7,1	5,8	5,4	5,1	4,3	3,9				
25-200/05 *	0,55	0,75	0,10	204	52,8	-	13,4		12	11,3	10,5	9,6	8,3	7,9	7,5	6,7	6,3	5,4			
25-250/07	0,75	1	-	-	46,0	222	14,9		13,3	12,6	11,9	11	9,7	9,4	9	8,3	7,9	7,1	6,7		
25-250/11	1,1	1,5	-	-	44,5	242	18,8		17,1	16,3	15,5	14,6	13,2	12,8	12,4	11,6	11,2	10,3	9,9	8,9	
25-250/15	1,5	2	0,10	256	47,1	-	21,5		19,9	19,1	18,3	17,3	15,8	15,5	15,1	14,3	13,9	13,1	12,6	11,8	11,4

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY														
							l/min 0		75	100	125	150	175	200	225	250	266	275	300	350	400
							m^3/h 0		4,5	6	7,5	9	10,5	12	13,5	15	16	16,5	18	21	24
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER														
32-125/02A *	0,25	0,33	-	-	56,5	119	4,4		3,9	3,6	3,1	2,7	2,2	1,6							
32-125/02 *	0,25	0,33	0,10	136	58,9	-	5,5		5	4,7	4,3	3,8	3,3	2,7	2						
32-160/02 *	0,25	0,33	-	-	56,4	150	6,9		5,9	5,4	4,9	4,4	3,7	2,9							
32-160/03 *	0,37	0,5	0,10	164	59,2	-	8,6		7,8	7,4	6,9	6,4	5,8	5,2	4	3,6					
32-200/03 *	0,37	0,5	-	-	48,2	188	10,8		9,4	8,7	7,9	7	6,1	5,1	3,9						
32-200/05 *	0,55	0,75	0,10	204	50,5	-	13,2		12	11,3	10,6	9,8	8,8	7,8	6,7	5,4					
32-250/07	0,75	1	-	-	43,7	222	14,5		13	12,3	11,6	10,8	9,9	8,9	7,7	6,5					
32-250/11	1,1	1,5	-	-	44,7	242	18,4		16,8	16,1	15,3	14,4	13,5	12,5	11,4	10,1	9,3				
32-250/15	1,5	2	0,10	256	45,2	-	21,3		19,7	19	18,2	17,5	16,3	15,2	14	12,8	12	11,5			

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY														
							l/min 0		150	175	200	225	250	300	350	366	400	416	433	450	500
							m^3/h 0		9	10,5	12	13,5	15	18	21	21,96	24	25	25,98	27	30
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER														
40-125/02A *	0,25	0,33	-	-	60,0	112	3,5		3	2,9	2,7	2,5	2,3	1,8	1,3						
40-125/02 *	0,25	0,33	-	-	68,1	135	5,4		4,8	4,6	4,4	4,1	3,9	3,3	2,7	2,4	2				
40-125/03 *	0,37	0,5	0,10	143	68,8	-	6,3		5,7	5,5	5,2	4,9	4,7	4	3,3	3,1	2,7	2,4			
40-160/03 *	0,37	0,5	-	-	67,6	159	8,0		7,2	6,9	6,6	6,3	5,9	5,1	4,2	3,8	3,1				
40-160/05 *	0,55	0,75	0,10	171	66,5	-	9,2		8,5	8,2	7,9	7,6	7,2	6,4	5,4	5,1	4,4	4			
40-200/07	0,75	1	-	-	64,3	190	11,9		11,2	10,9	10,5	10,1	9,6	8,6	7,3	6,8	5,8				
40-200/11	1,1	1,5	0,10	209	62,9	-	14,2		13,3	13	12,7	12,3	11,8	10,8	9,5	9	8	7,4			
40-250/11	1,1	1,5	-	-	55,8	218	15,7		14,6	14,3	13,9	13,5	13	11,9	10,3	9,7					
40-250/15	1,5	2	-	-	57,0	233	18,1		17	16,7	16,4	16	15,5	14,5	13,1	12,5	11,4				
40-250/22	2,2	3	0,10	251	58,1	-	21,5		20,3	20	19,7	19,3	18,8	17,7	16,3	15,9	14,9	14,3	13,6		

* SHS4 version is not available.

sh4-25-32-40_4p50-en_g_th

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

(1) MEI Minimum Efficiency Index (2) External diameter of full impeller (3) Hydraulic efficiency of pump (4) External diameter of trimmed impeller

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 4 POLES

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY														
							l/min 0	300	350	400	450	500	550	600	650	700	725	750	800	900	
							m^3/h 0	18	21	24	27	30	33	36	39	42	43,5	45	48	54	
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER														
50-125/03A *	0,37	0,5	-	-	72,1	119	4,4	3,8	3,6	3,3	3	2,7	2,3	1,9	1,5						
50-125/03 *	0,37	0,5	-	-	73,3	130	5,4	4,6	4,3	4	3,7	3,3	3	2,6	2,2	1,8					
50-125/05 *	0,55	0,75	0,10	139	74,2	-	6,4	5,6	5,3	5	4,7	4,3	3,9	3,6	3,2	2,7	2,5	2,3			
50-160/07	0,75	1	-	-	71,3	158	8,2	7,3	7	6,6	6,3	5,9	5,4	4,9	4,4	3,8					
50-160/11	1,1	1,5	0,10	174	73,0	-	9,9	8,8	8,5	8,2	7,8	7,4	7	6,5	6	5,4	5,1	4,8			
50-200/11	1,1	1,5	-	-	69,1	197	12,8	11,2	10,6	10	9,3	8,6	7,7	6,8	5,8	4,8					
50-200/15	1,5	2	0,10	209	70,1	-	14,7	13	12,4	11,8	11,1	10,4	9,5	8,6	7,7	6,6	6,1	5,5			
50-250/22A	2,2	3	-	-	70,0	224	17,5	16	15,5	15	14,4	13,8	13	12,1	11	9,7					
50-250/22	2,2	3	-	-	69,0	237	19,4	17,8	17,3	16,8	16,2	15,5	14,7	13,8	12,8	11,6	10,9				
50-250/30	3	4	0,10	250	67,9	-	21,9	20,5	20	19,6	19	18,4	17,6	16,8	15,7	14,7	14,1	13,5			

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY														
							l/min 0	400	450	500	600	700	800	900	950	1000	1100	1200	1300	1400	
							m^3/h 0	24	27	30	36	42	48	54	57	60	66	72	78	84	
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER														
65-160/05	0,55	0,75	-	-	67,3	119,5/114,5	5,4	4,2	4	3,7	3,2	2,7	2,2	1,6							
65-160/07	0,75	1	-	-	69,3	129	6,4	5,3	5,1	4,8	4,4	3,9	3,4	2,8	2,4						
65-160/11A	1,1	1,5	0,10	139,5	70,2	-	7,6	6,5	6,3	6,1	5,6	5,2	4,6	4,1	3,7	3,4					
65-160/ 11	1,1	1,5	-	-	72,7	168	9,4	8,5	8,2	7,9	7,2	6,4	5,4	4,4	3,9	3,4					
65-160/15	1,5	2	0,10	177	71,6	-	10,6	9,7	9,4	9,2	8,5	7,8	6,9	5,9	5,4	4,9	3,8				
65-200/15	1,5	2	-	-	67,4	187	11,9		10,6	10,2	9,4	8,4	7,4	6,3	5,7	5,1					
65-200/22	2,2	3	-	-	68,9	203	14,4		13,2	12,8	12	11,1	10	9	8,4	7,8	6,6				
65-200/30	3	4	0,10	222	70,5	-	17,5		16,6	16,3	15,6	14,7	13,7	12,7	12,2	11,7	10,6	9,3			
65-250/40	4	5,5	-	-	71,9	240	20,7			19,5	18,9	18,1	17,2	16,3	15,7	15,1	13,7	12			
65-250/55	5,5	7,5	0,10	255	71,0	-	24,0			23,2	22,6	21,9	21	20	19,5	19	17,7	16,3	14,7		

PUMP TYPE	RATED POWER		MEI ≥	ØF	ηp %	ØT	Q = DELIVERY														
							l/min 0	600	750	1000	1200	1400	1600	1700	1800	1900	2000	2100	2200	2400	
							m^3/h 0	36	45	60	72	84	96	102	108	114	120	126	132	144	
	kW	HP	(1)	(2)	(3)	(4)	H = TOTAL HEAD METRES COLUMN OF WATER														
80-160/15	1,5	2	-	-	75,2	169x15°	8,3	7,6	7,1	6	5,1	4,1	3	2,4							
80-160/22A	2,2	3	-	-	74,2	177	9,6	9	8,5	7,5	6,5	5,5	4,4	3,8	3,2						
80-160/22	2,2	3	0,10	186	73,4	-	11,0	10,4	9,9	8,9	8	7	5,8	5,1	4,5	3,9					
80-200/30	3	4	-	-	80,5	198	12,9		12	10,9	9,8	8,6	7,4	6,8	6,1	5,4	4,6				
80-200/40	4	5,5	0,10	220	78,3	-	16,1		15,4	14,3	13,3	12,2	11	10,3	9,7	9	8,4	7,7	7		
80-250/55	5,5	7,5	-	-	77,5	237	20,3		19,5	18,5	17,3	16	14,3	13,4	12,3	11,3	10,2	9			
80-250/75	7,5	1	-	-	76,7	252	23,1		22,2	21,3	20,3	19,1	17,7	16,9	16,1	15,2	14,3	13,2	12,2		
80-250/110	11	15	0,10	270	74,3	-	26,7		26,1	25,2	24,2	23	21,7	21	20,2	19,4	18,6	17,7	16,8	14,8	

* SHS4 version is not available.

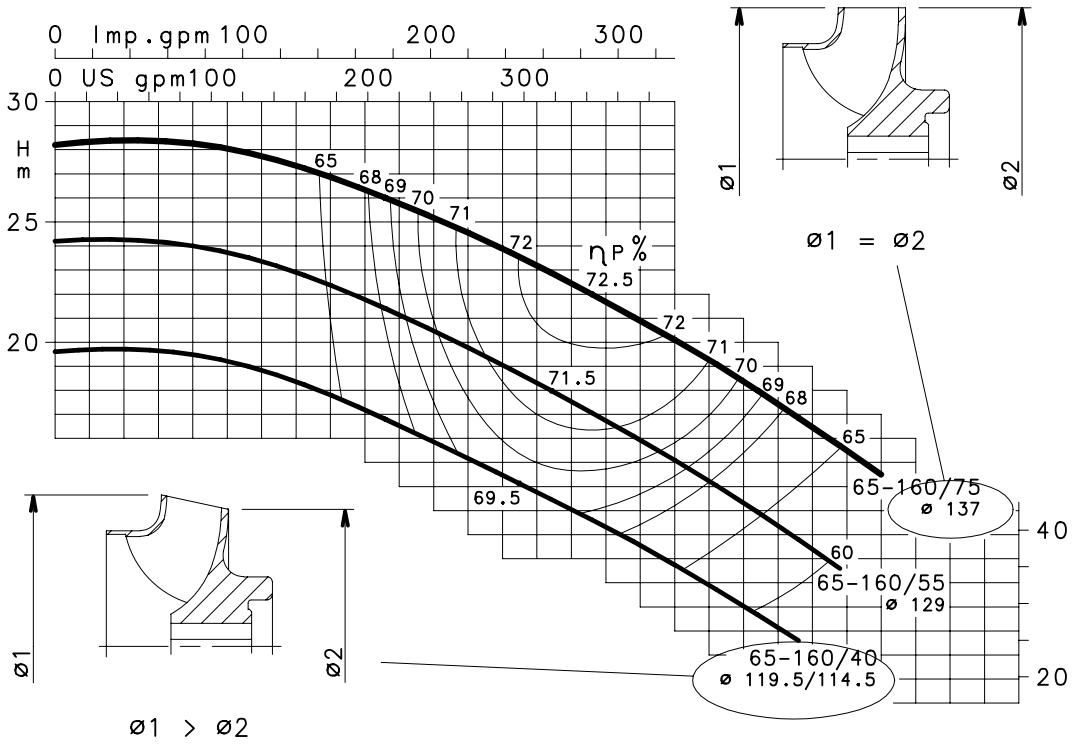
sh4-50-65-80_4p50-en_g_th

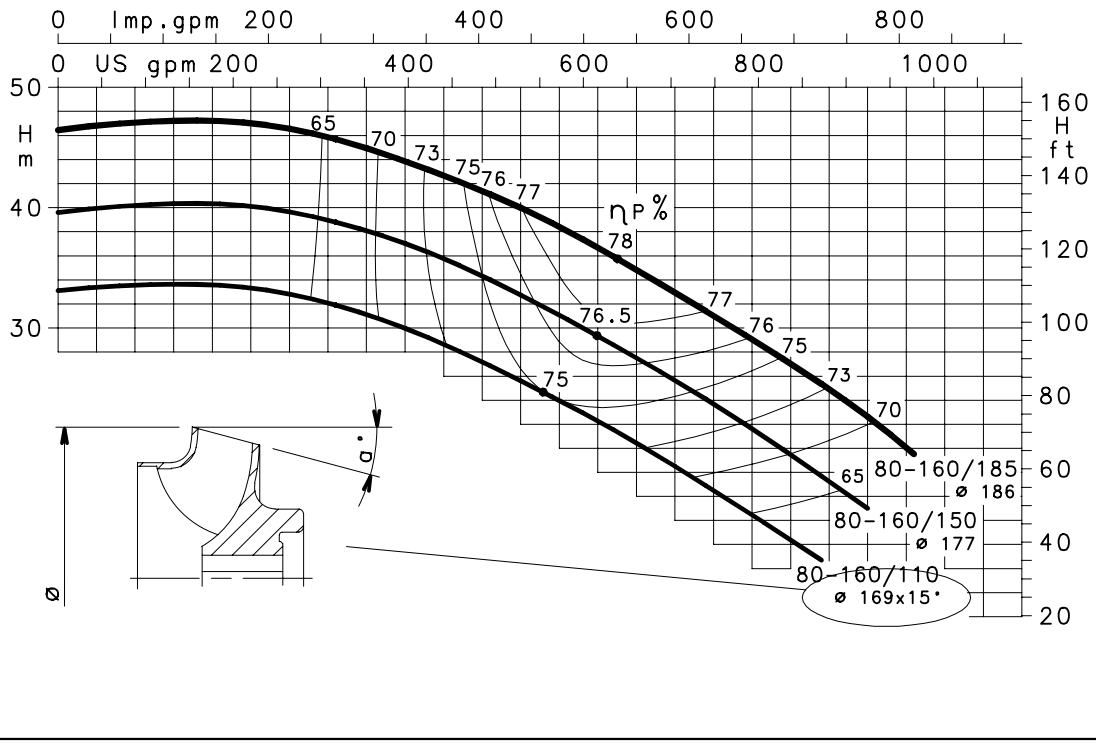
Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

(1) MEI Minimum Efficiency Index (2) External diameter of full impeller (3) Hydraulic efficiency of pump (4) External diameter of trimmed impeller

LOWARA
a xylem brand

SH SERIES
IDENTIFICATION OF IMPELLER TYPOLOGY



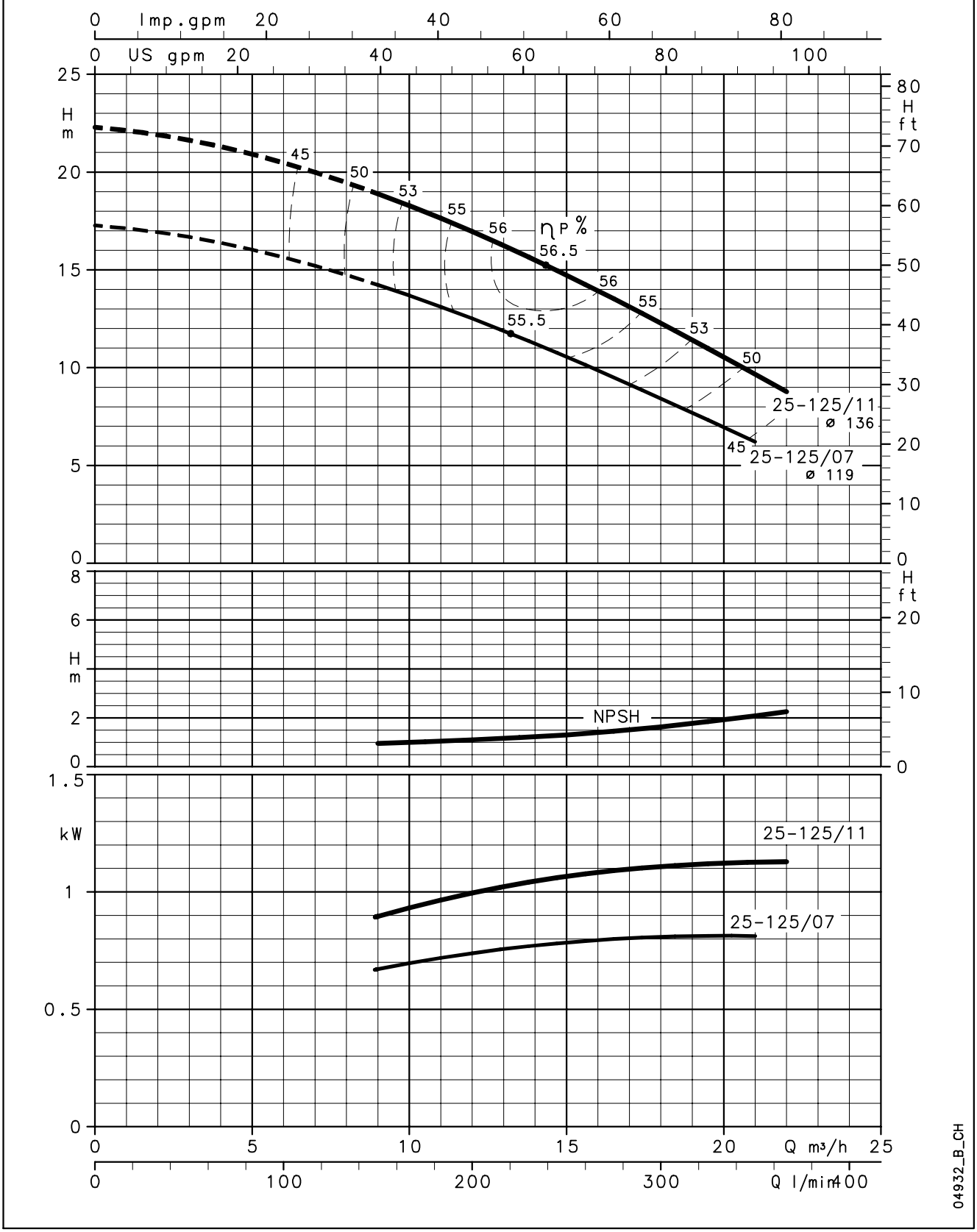


04940_A_SC

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 25-125	~ 2900 rpm	ISO 9906:2012 - Grade 3B

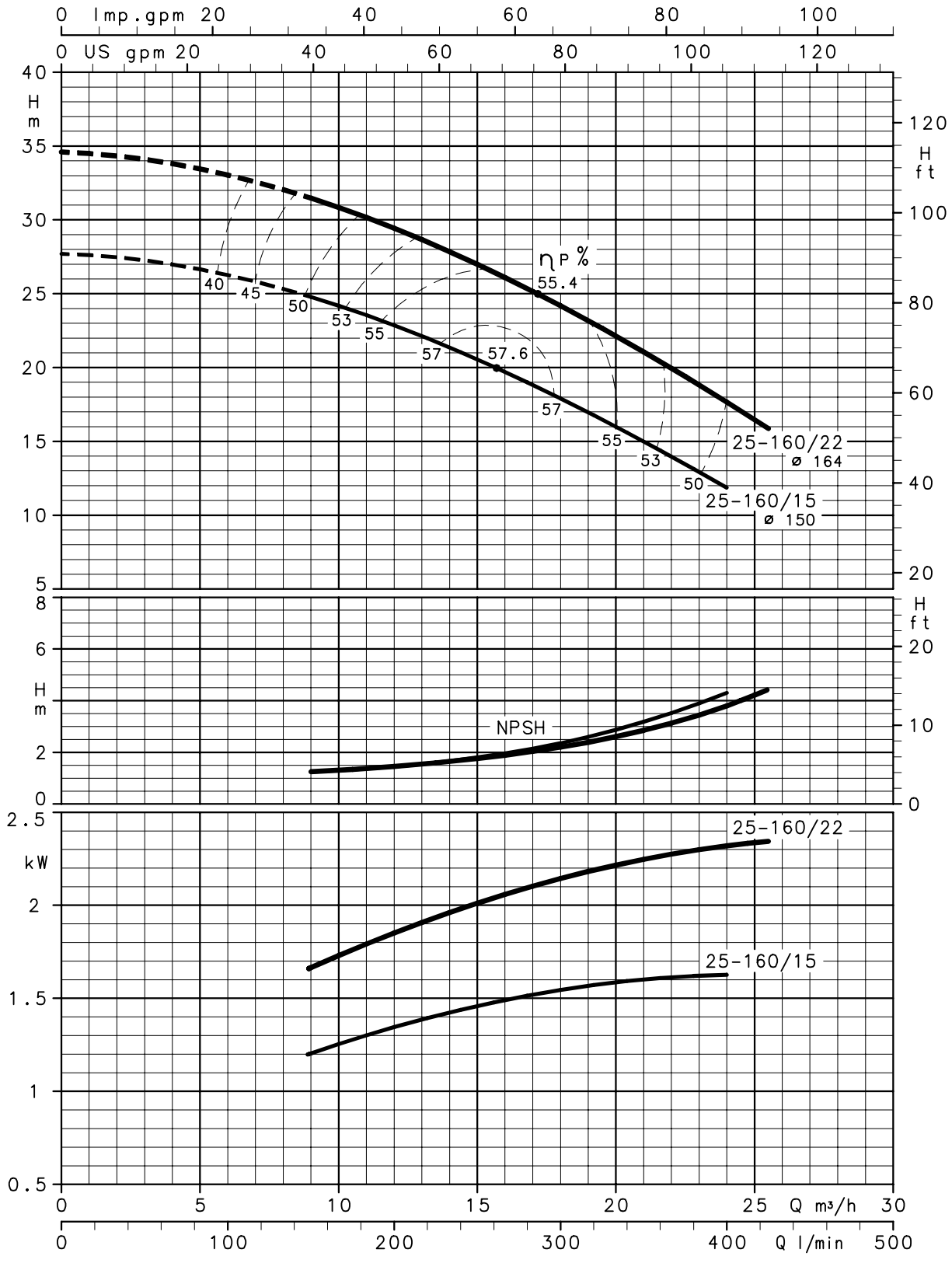


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 25-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B

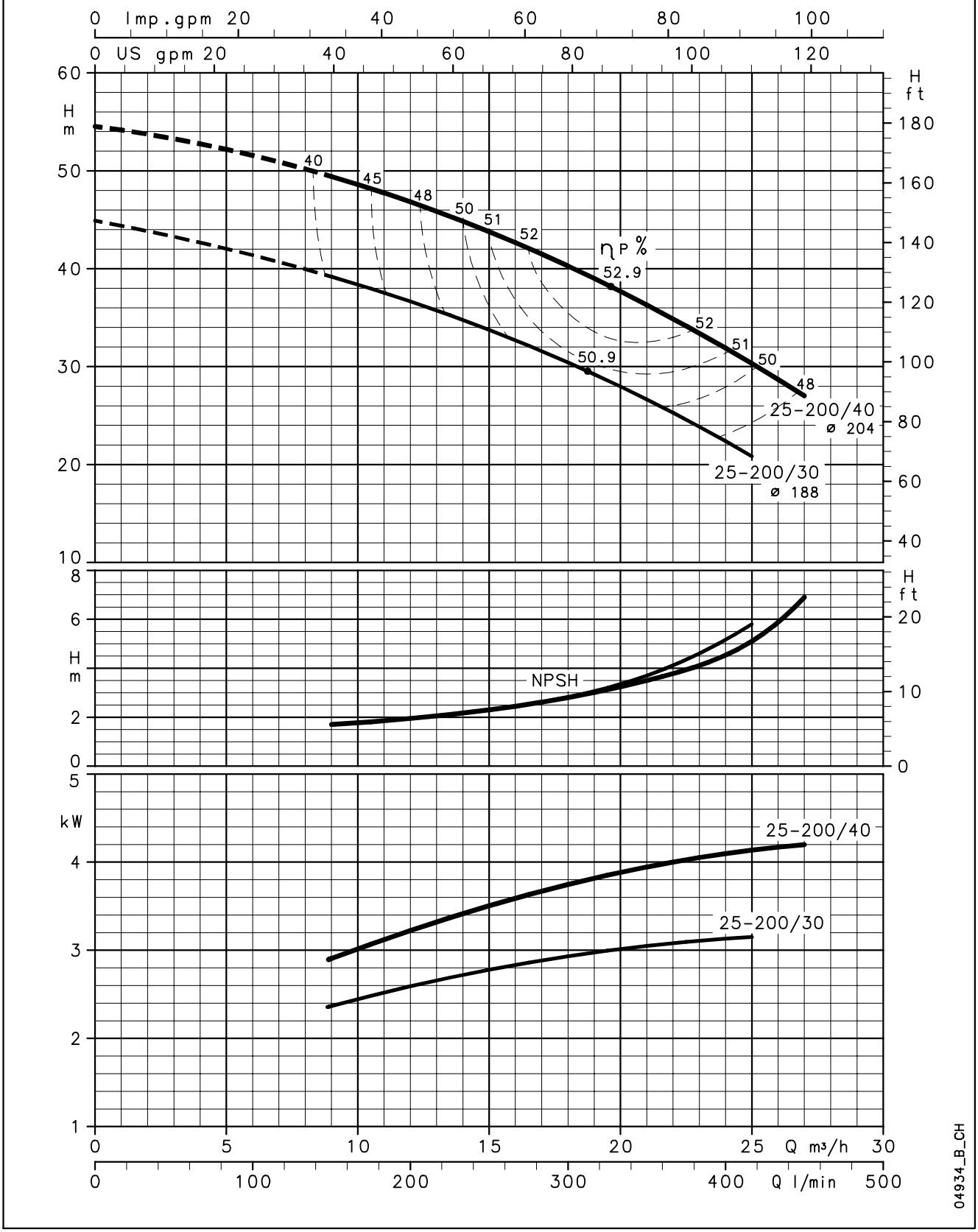


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 25-200	~ 2900 rpm	ISO 9906:2012 - Grade 3B

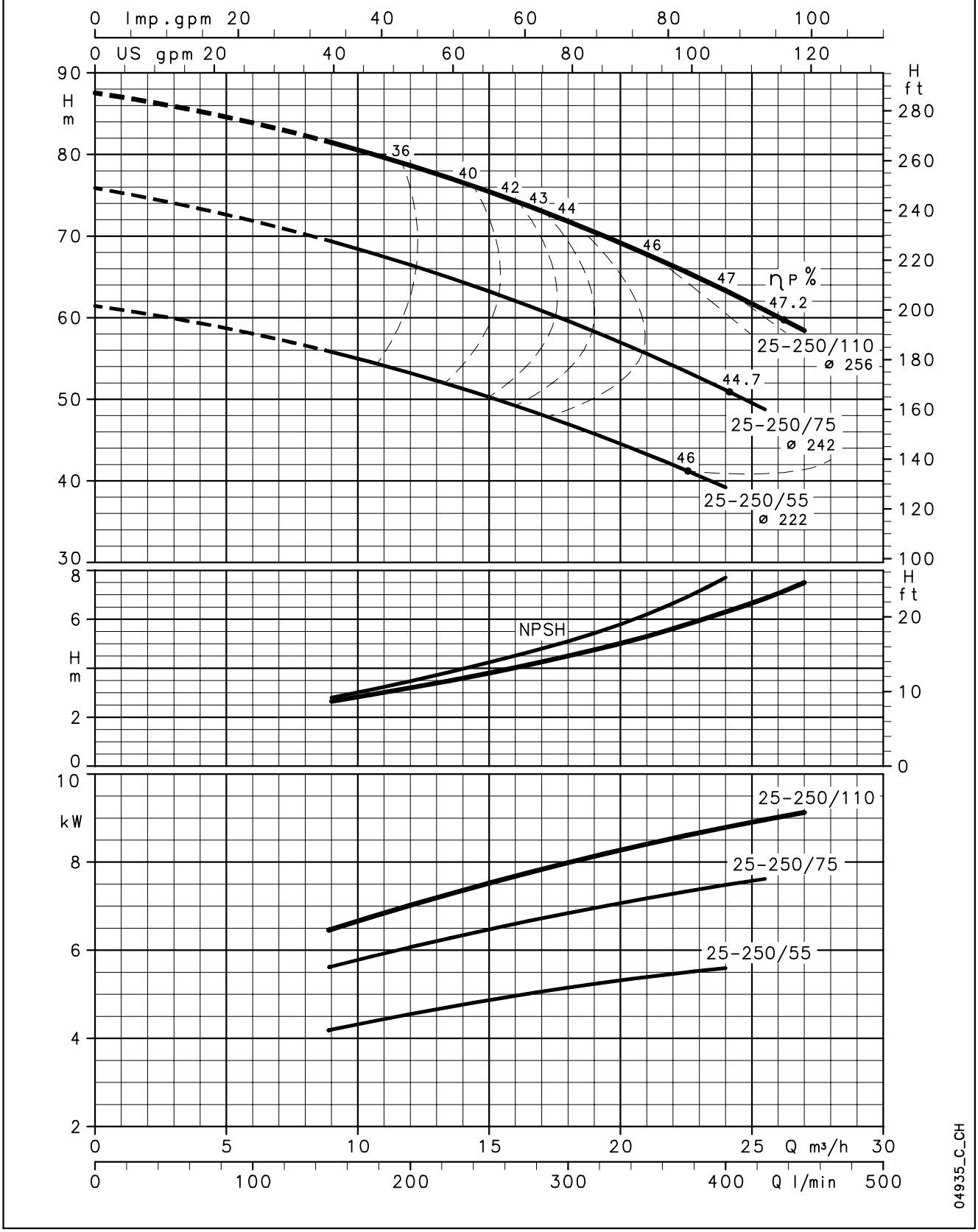


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 25-250	~ 2900 rpm	ISO 9906:2012 - Grade 3B

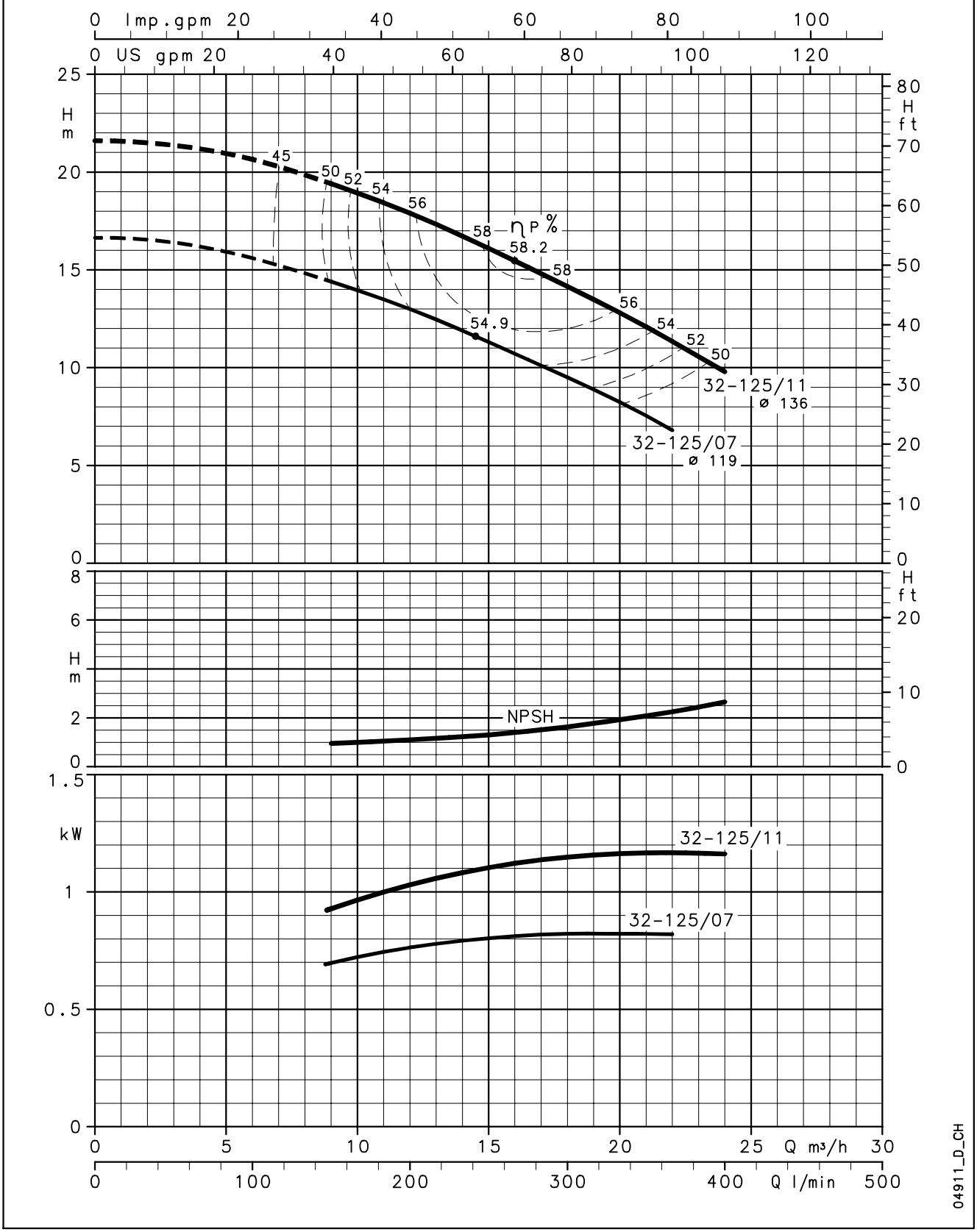


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 32-125	~ 2900 rpm	ISO 9906:2012 - Grade 3B

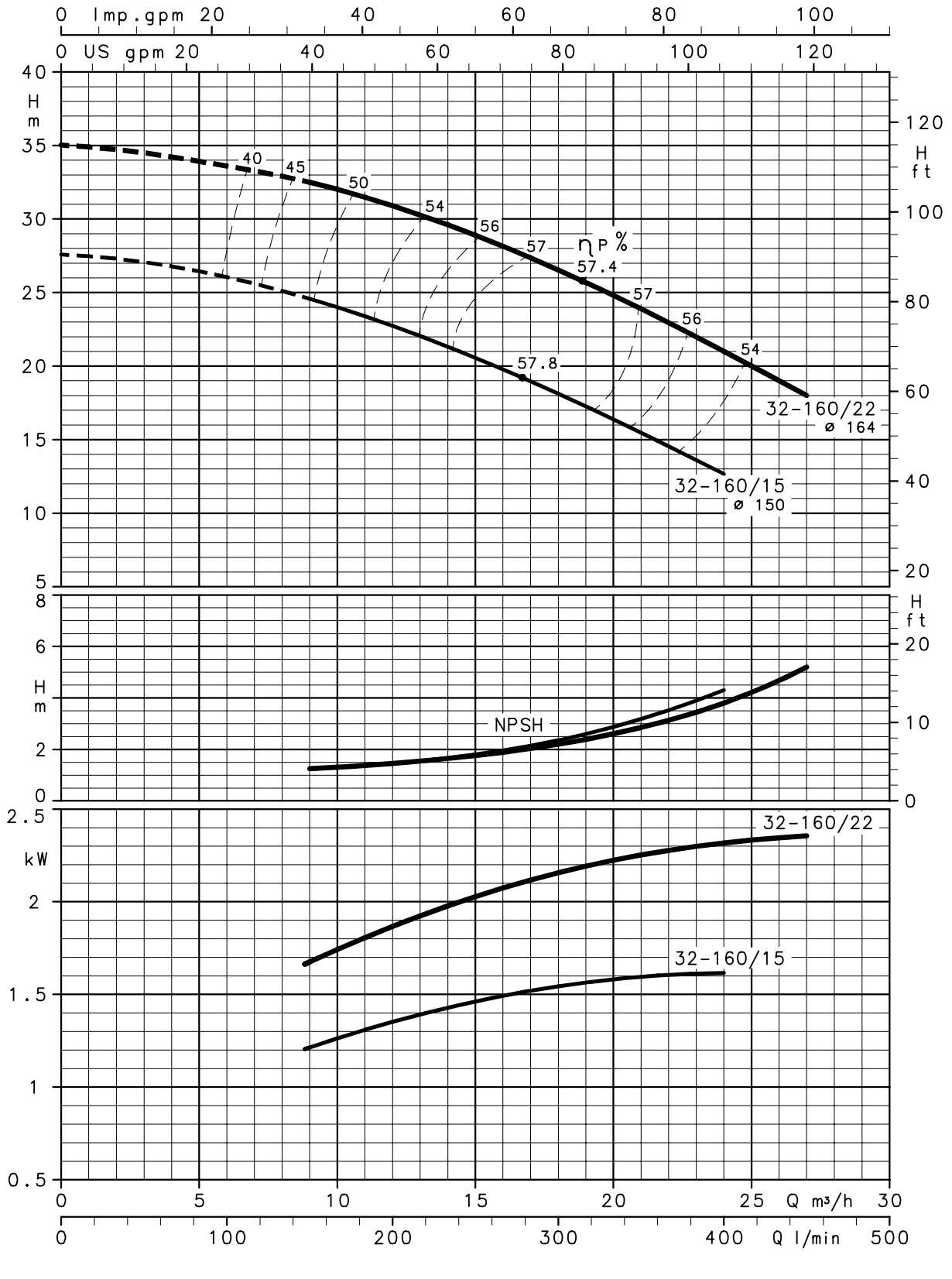


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 32-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B

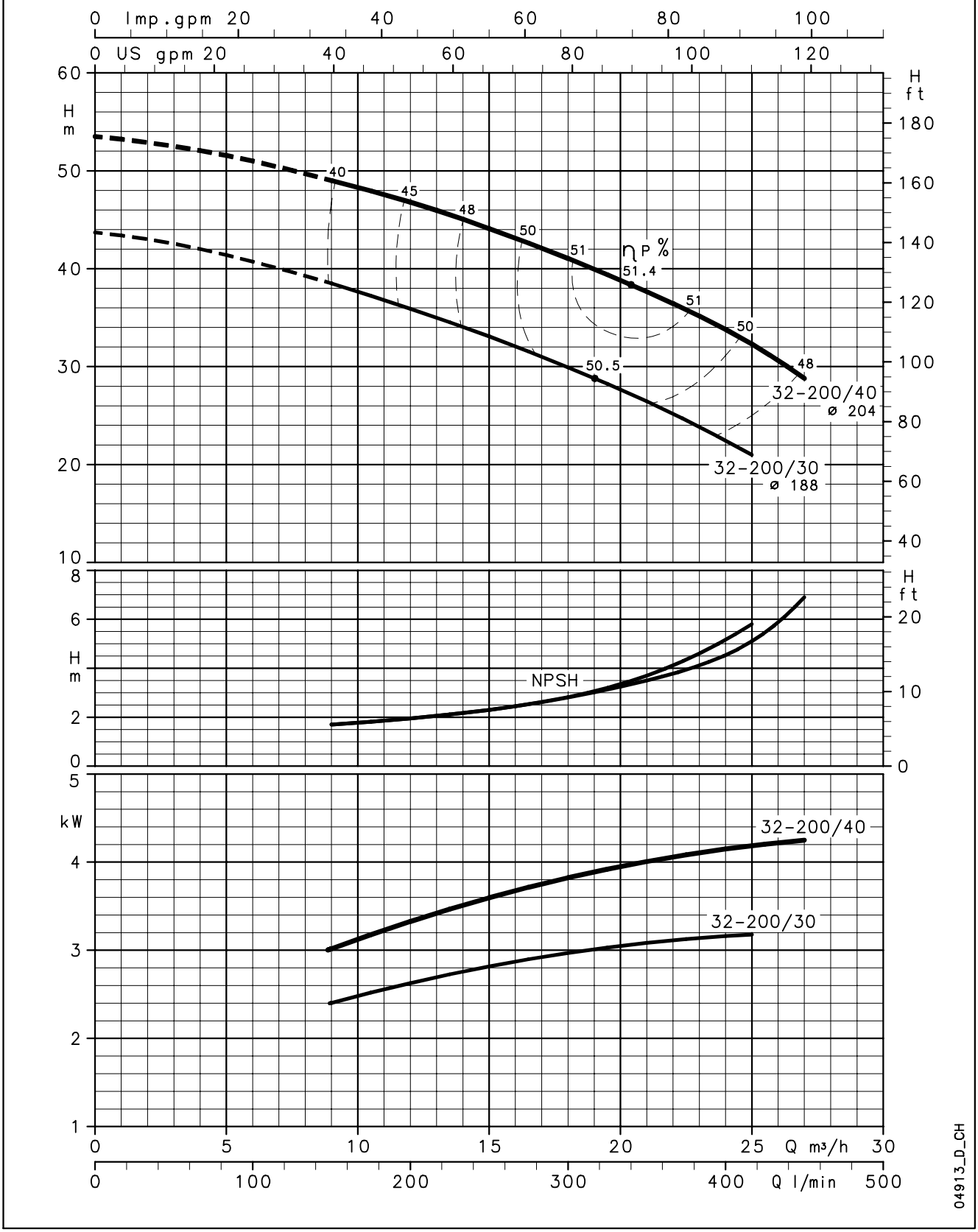


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 32-200	~ 2900 rpm	ISO 9906:2012 - Grade 3B

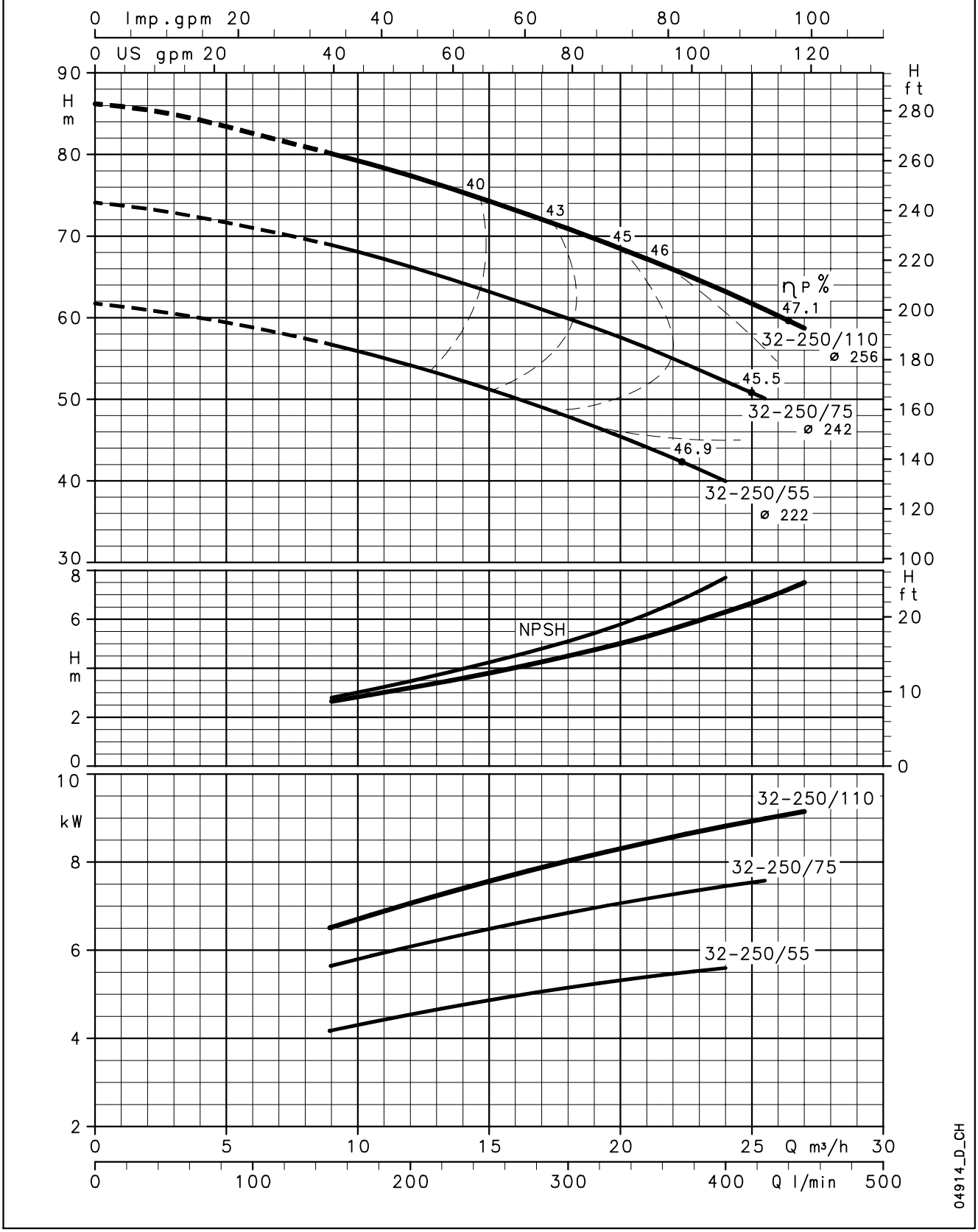


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 32-250	~ 2900 rpm	ISO 9906:2012 - Grade 3B

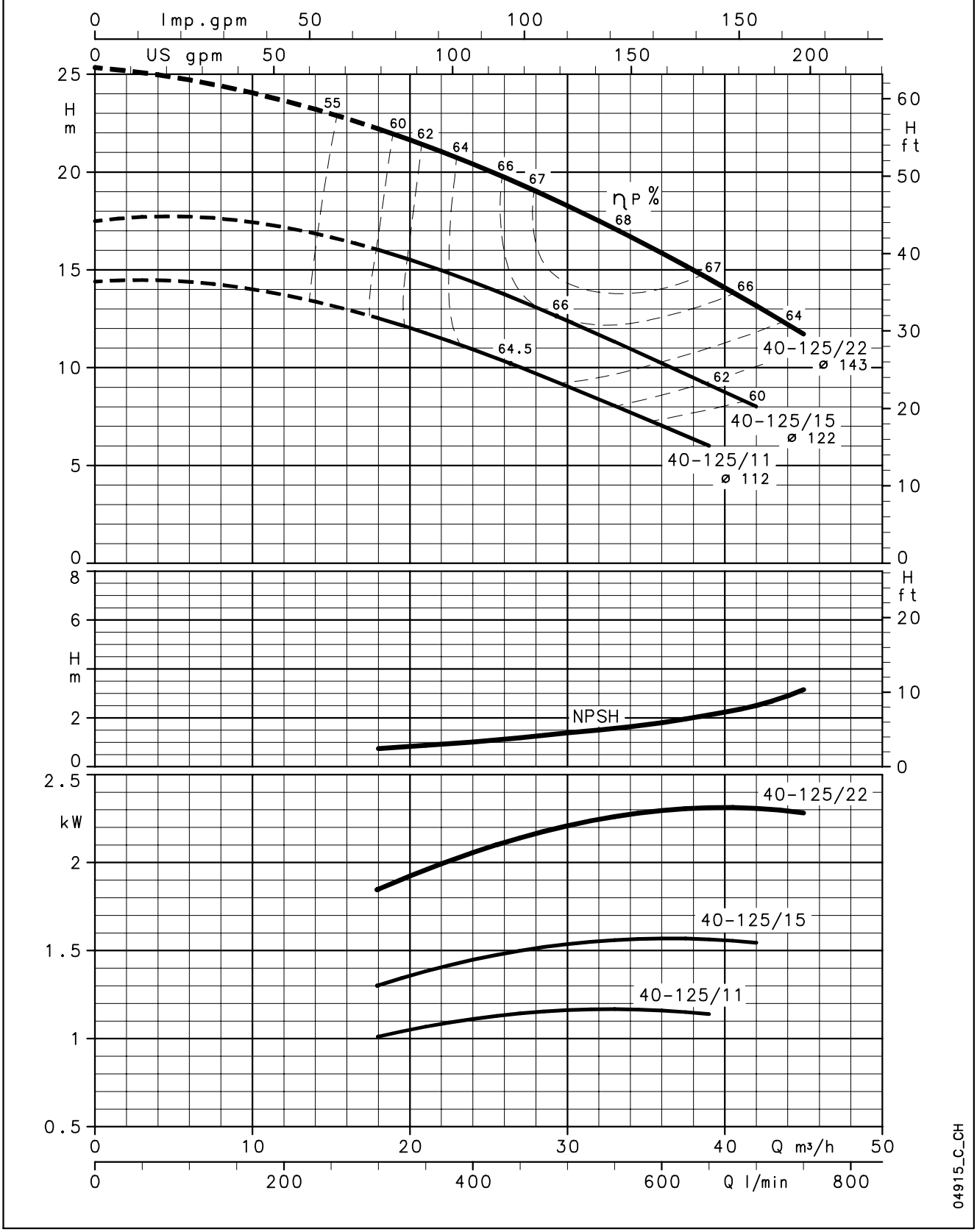


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 40-125	~ 2900 rpm	ISO 9906:2012 - Grade 3B

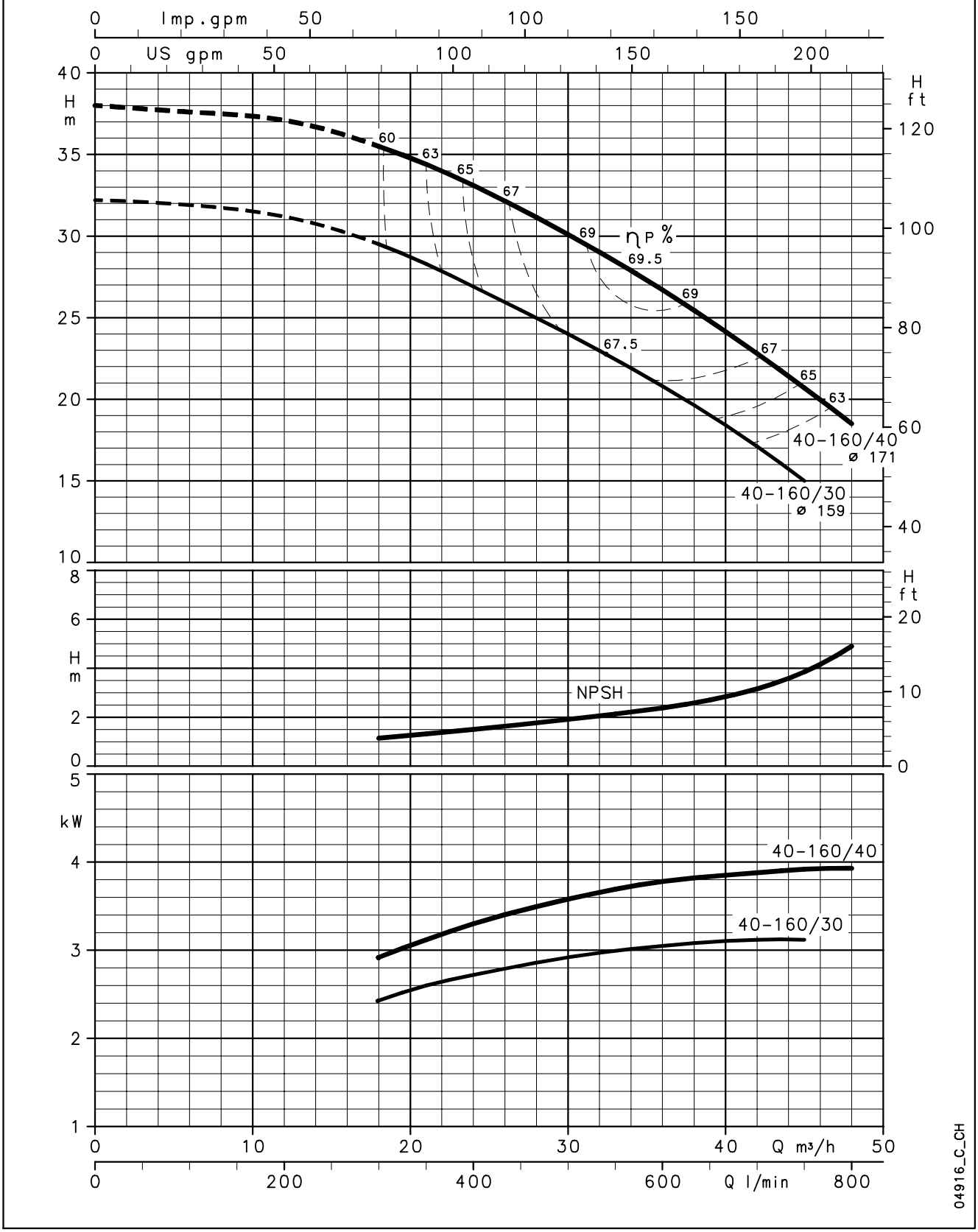


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 40-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B

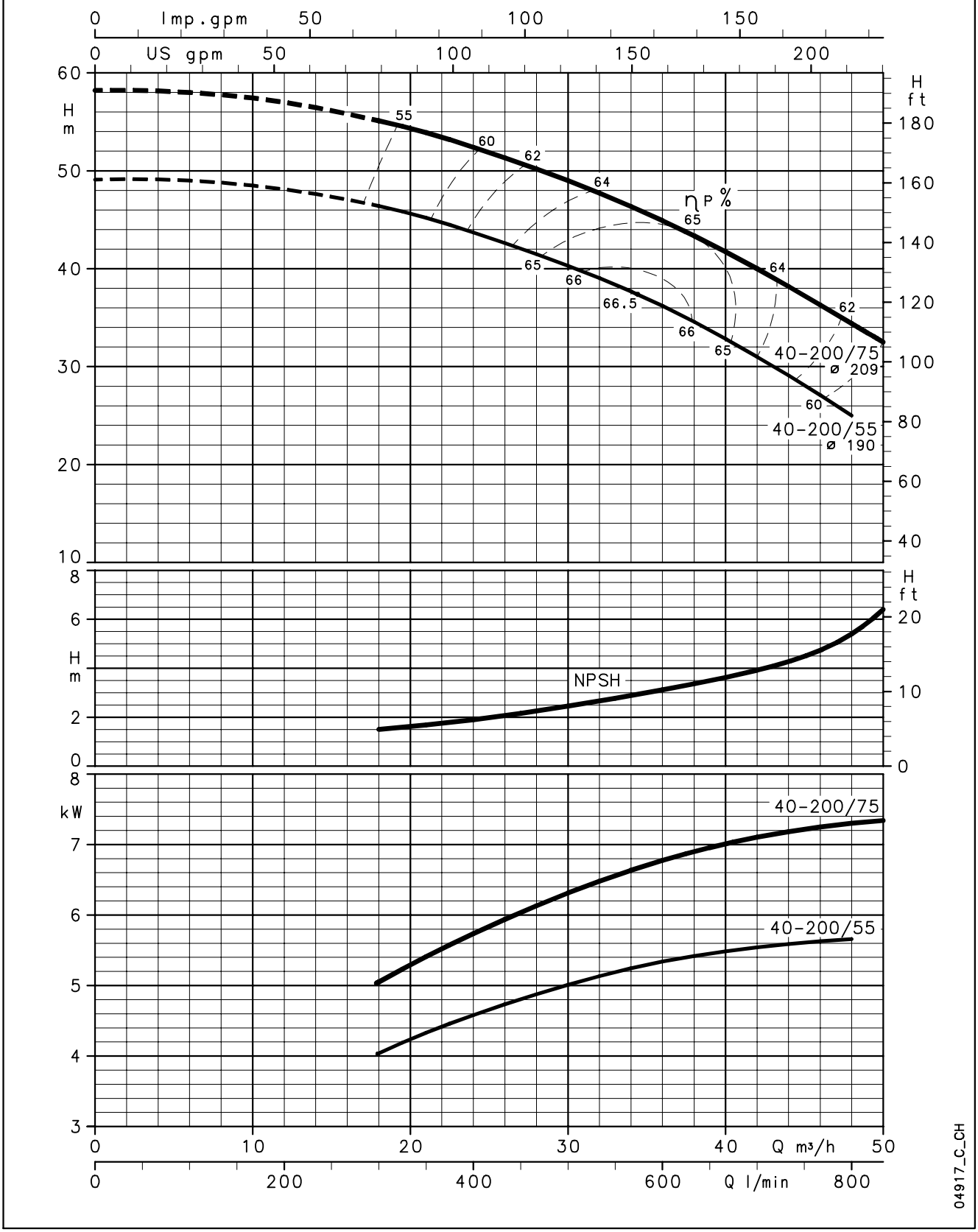


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 40-200	~ 2900 rpm	ISO 9906:2012 - Grade 3B

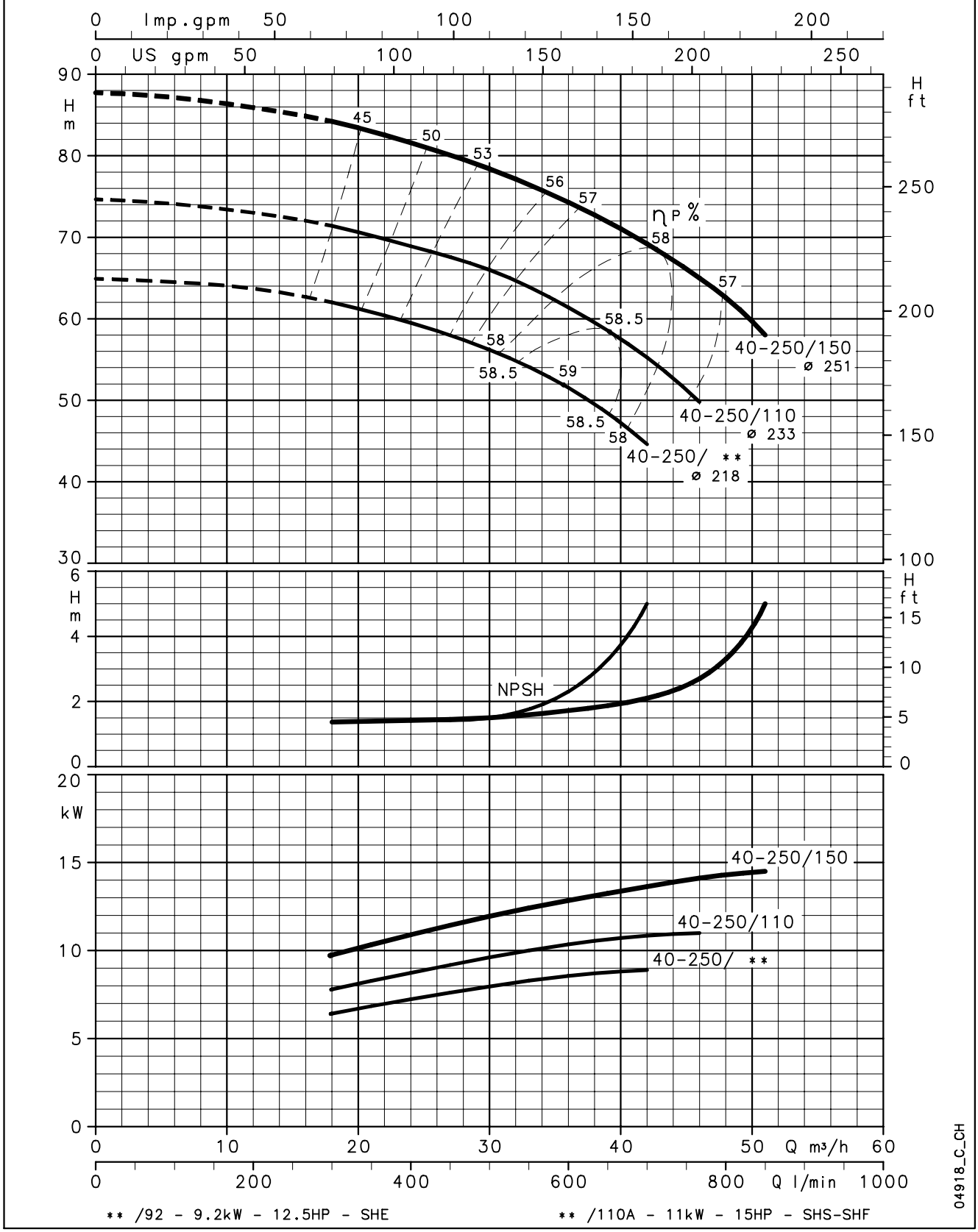


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 40-250	~ 2900 rpm	ISO 9906:2012 - Grade 3B

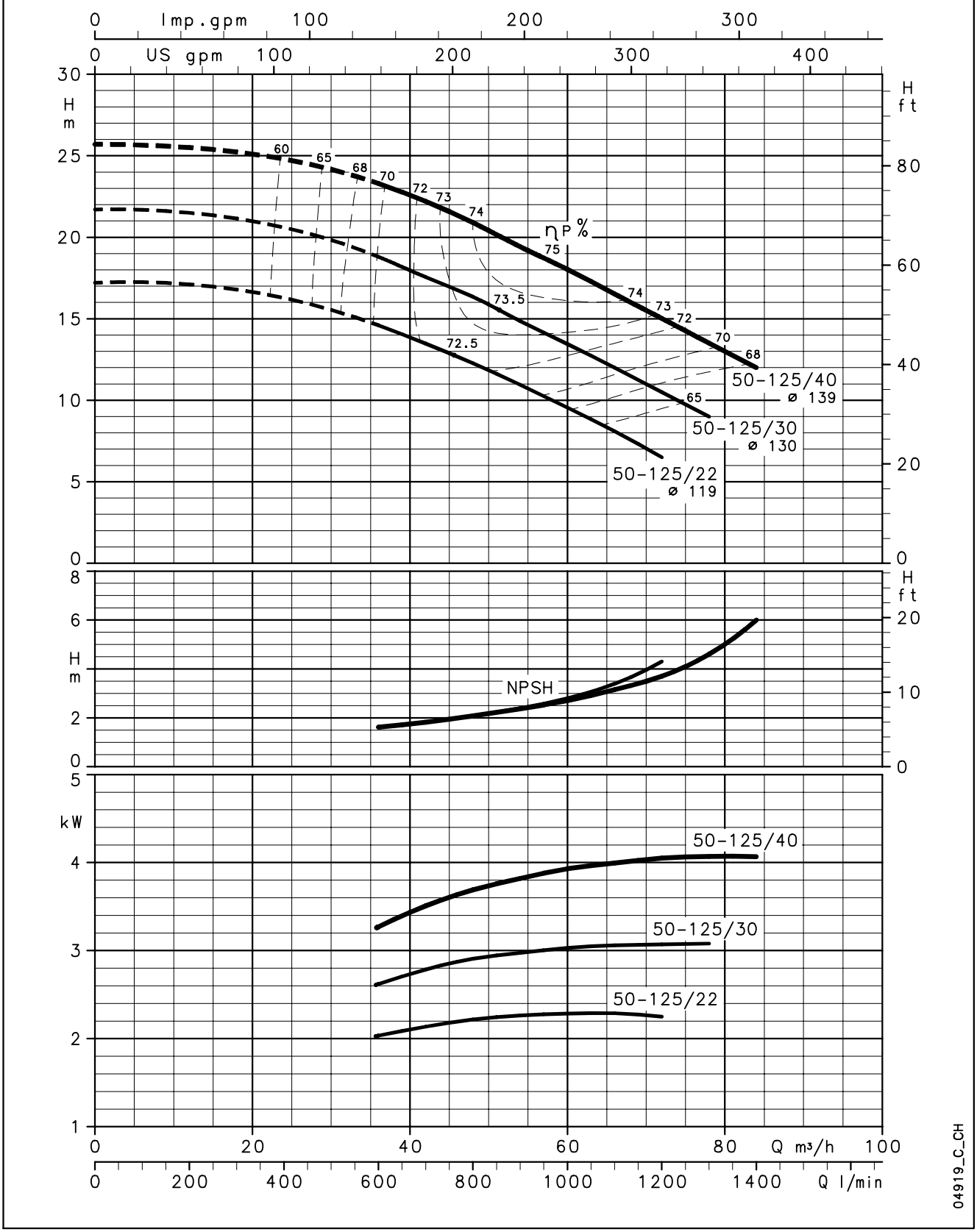


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 50-125	~ 2900 rpm	ISO 9906:2012 - Grade 3B

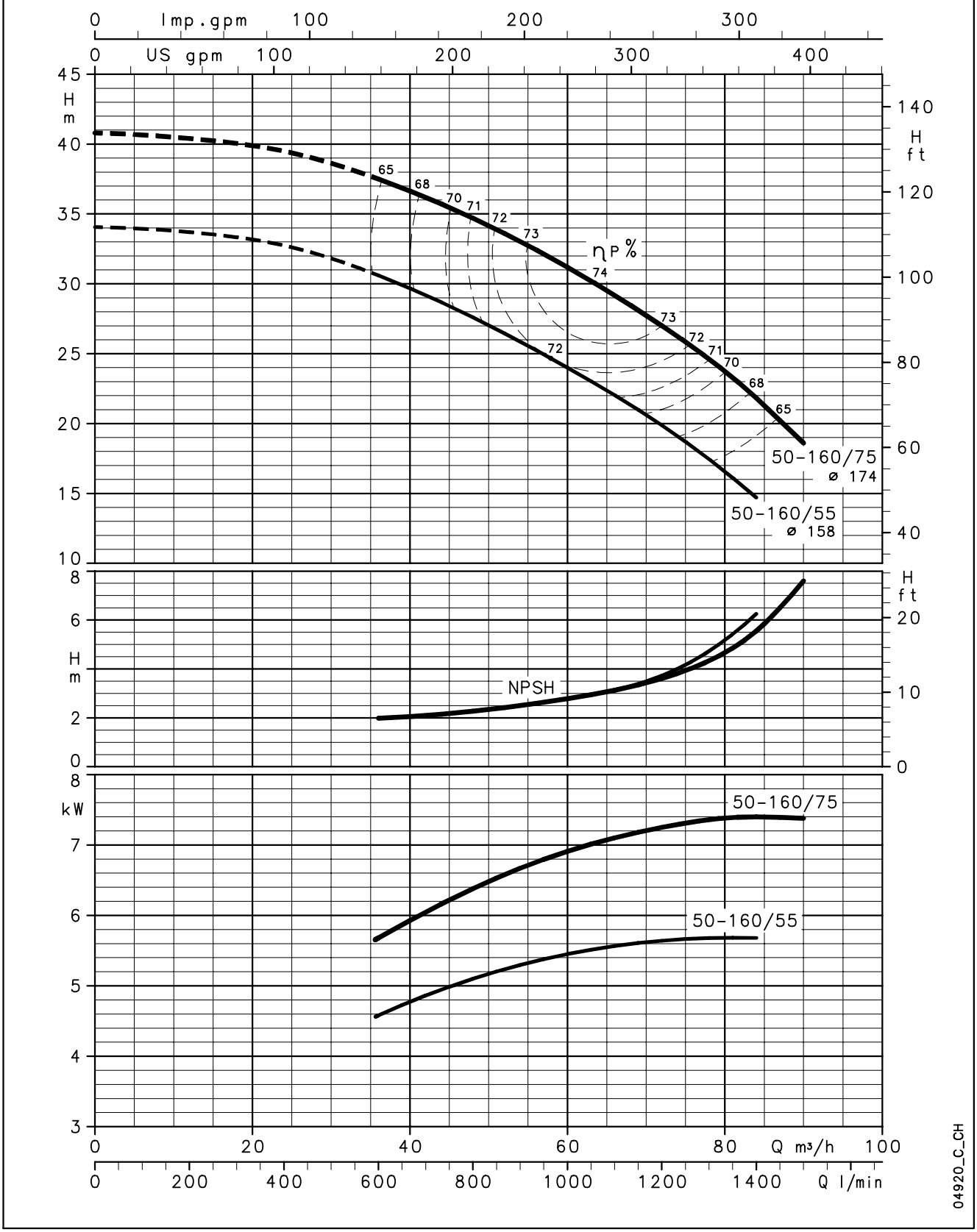


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 50-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B



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

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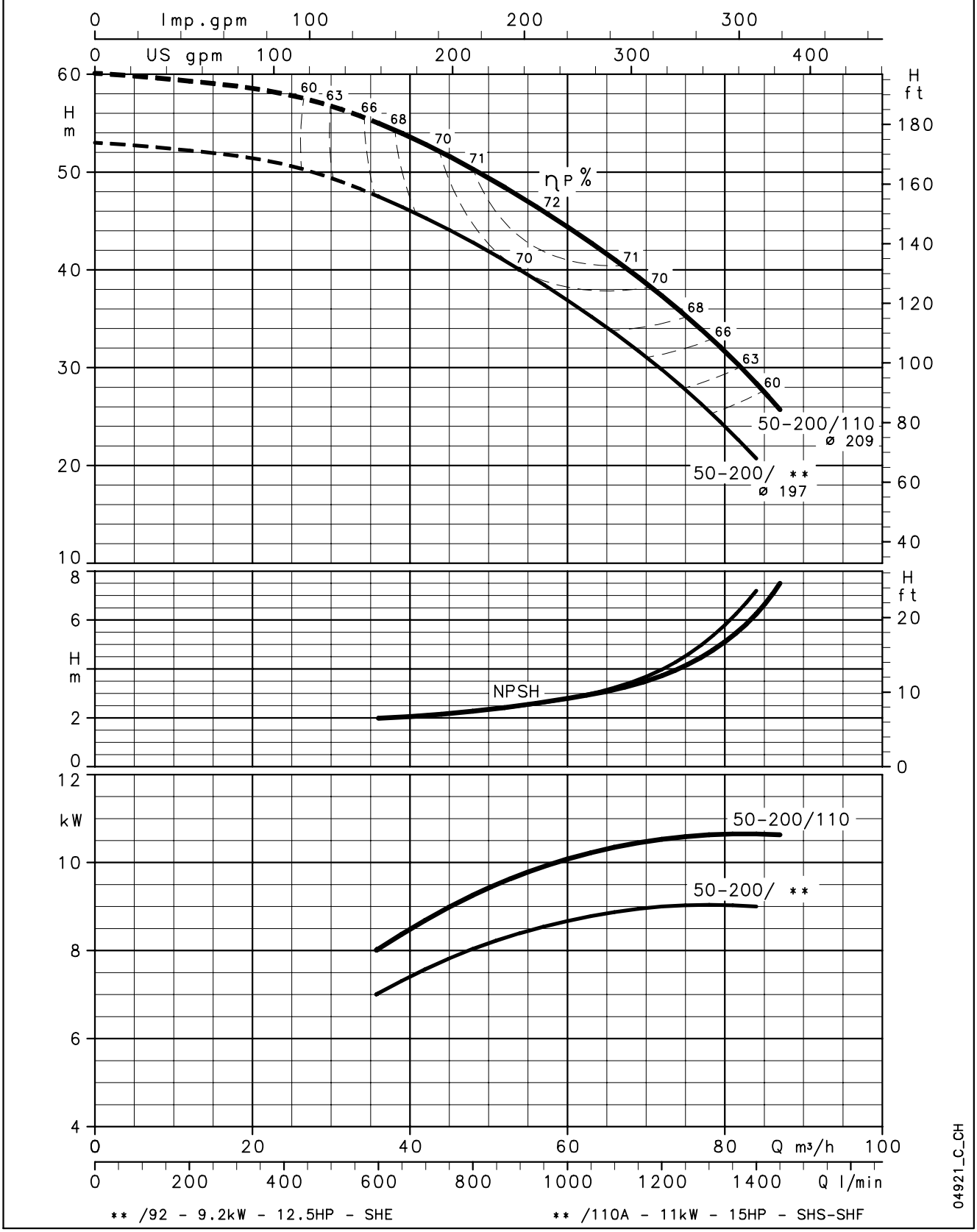
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 50-200	~ 2900 rpm	ISO 9906:2012 - Grade 3B



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

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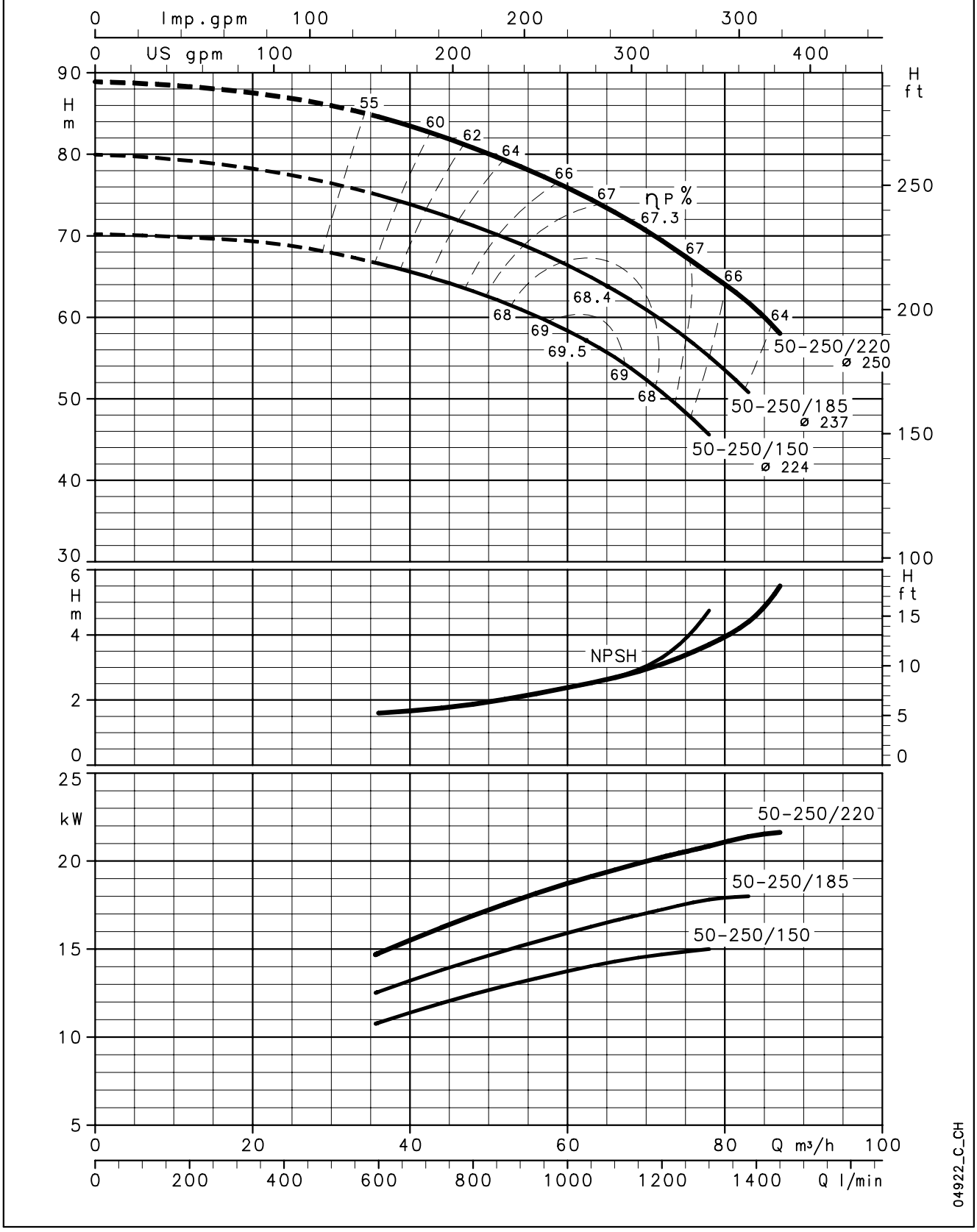
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 50-250	~ 2900 rpm	ISO 9906:2012 - Grade 3B



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

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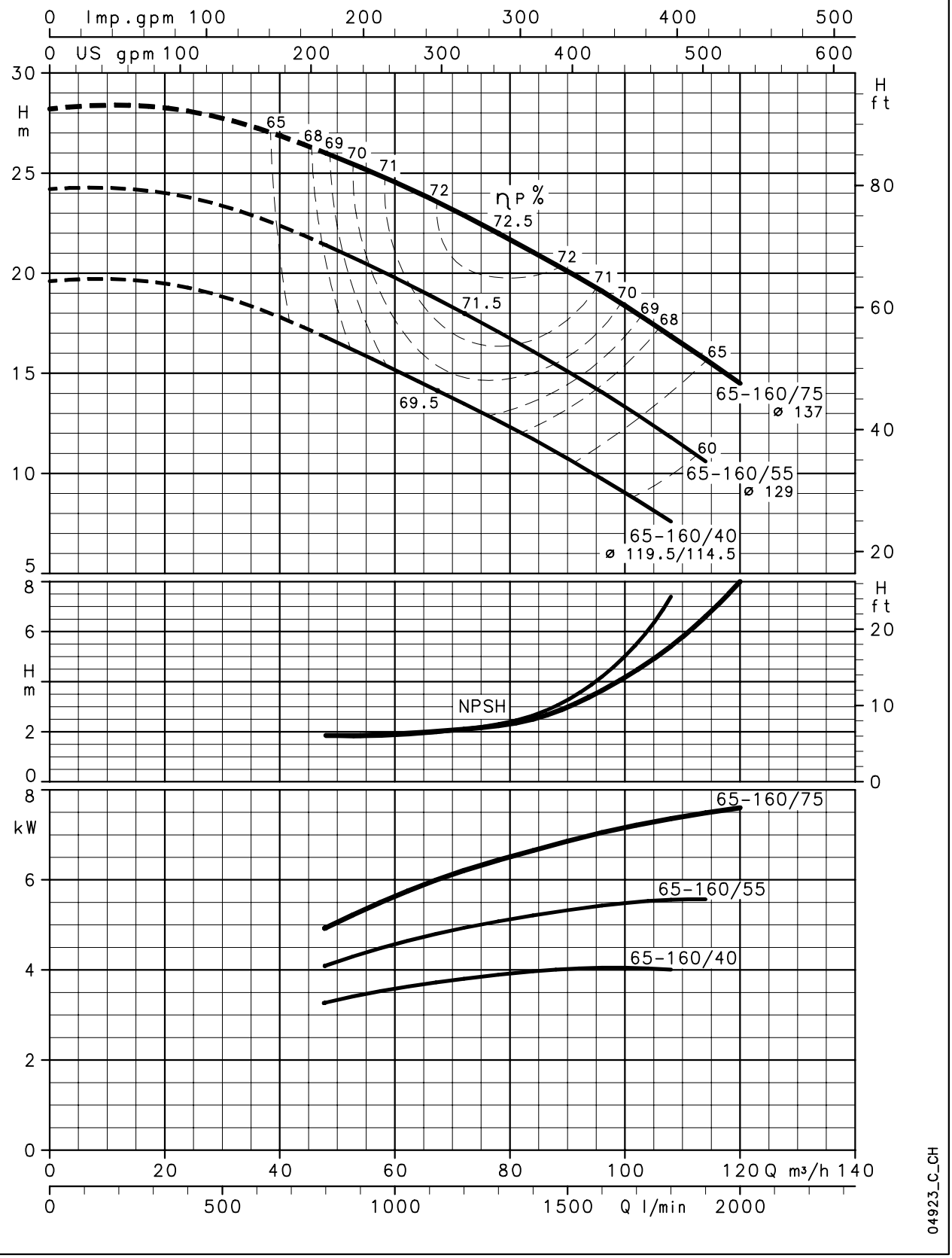
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 65-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B

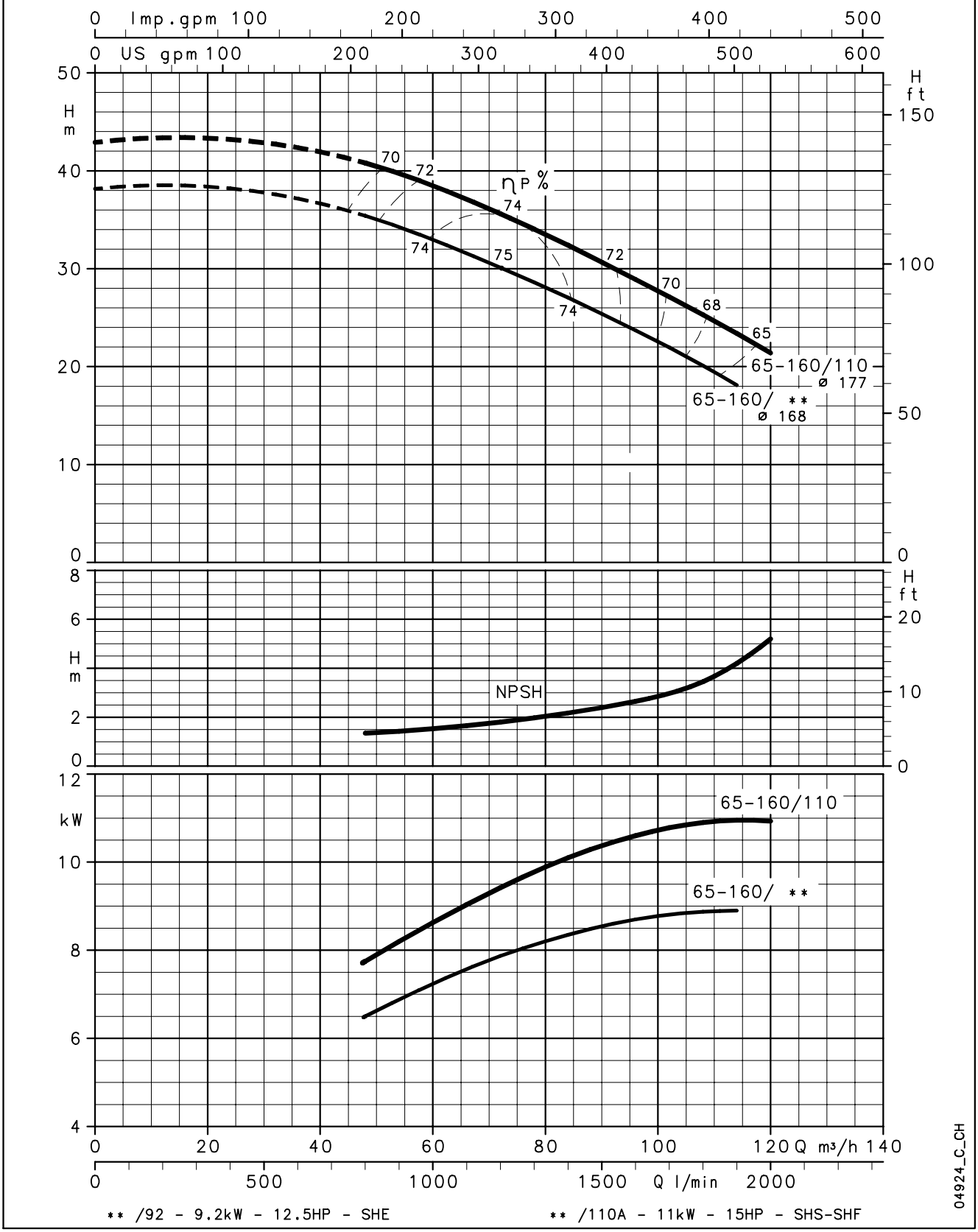


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 65-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B

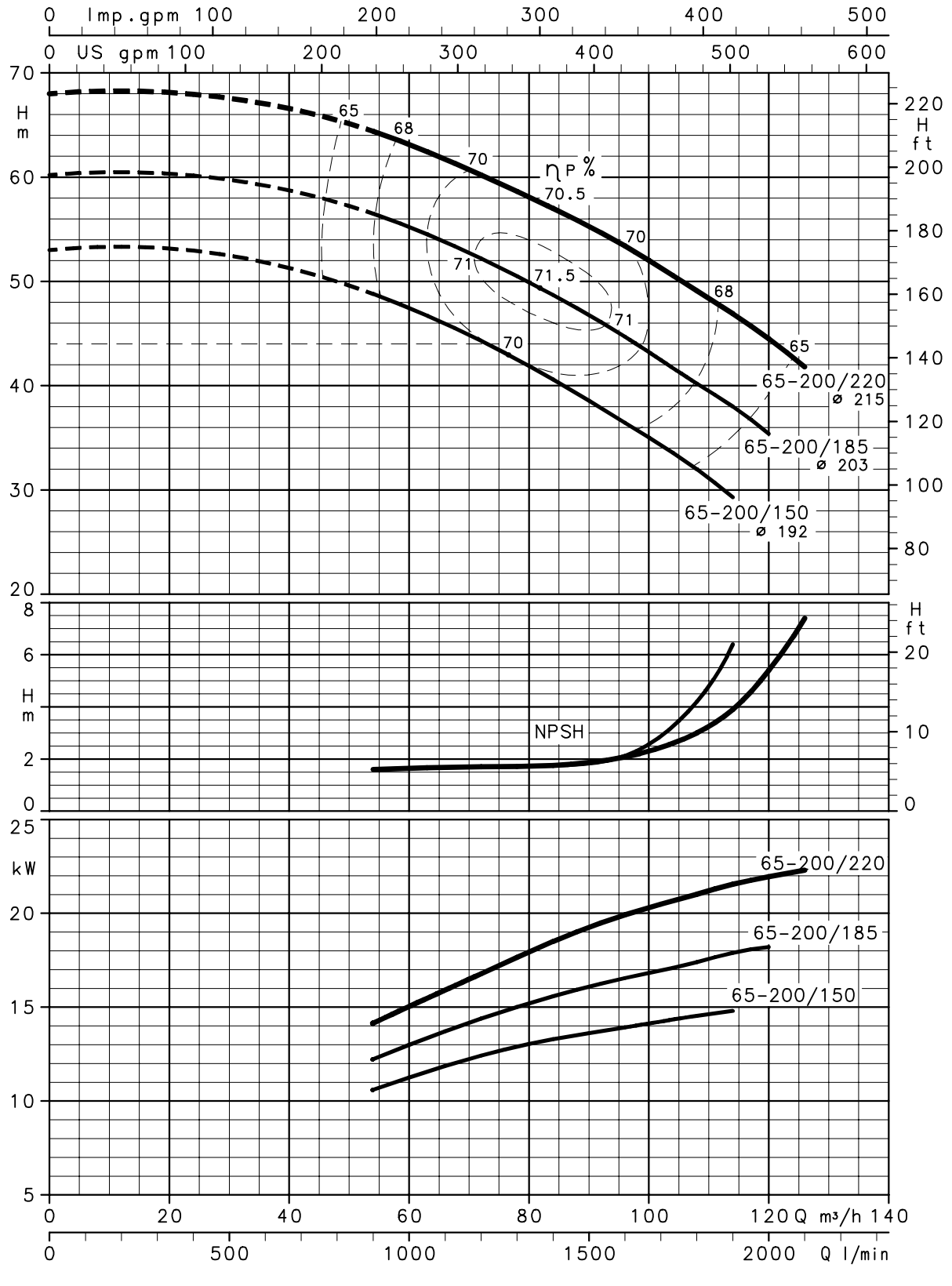


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 65-200	~ 2900 rpm	ISO 9906:2012 - Grade 3B



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

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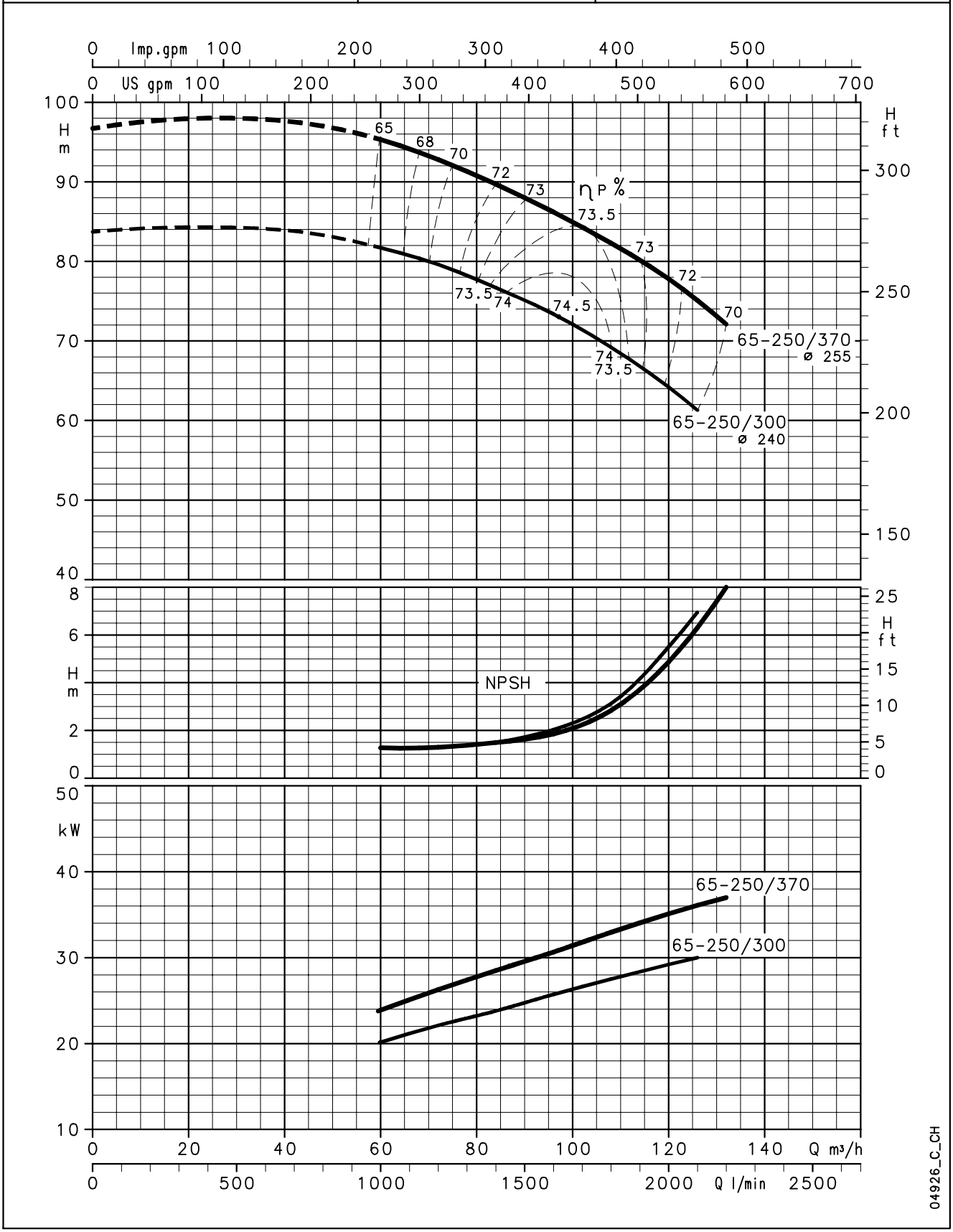
a xylem brand

SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHS-SHF 65-250	~ 2900 rpm	ISO 9906:2012 - Grade 3B



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

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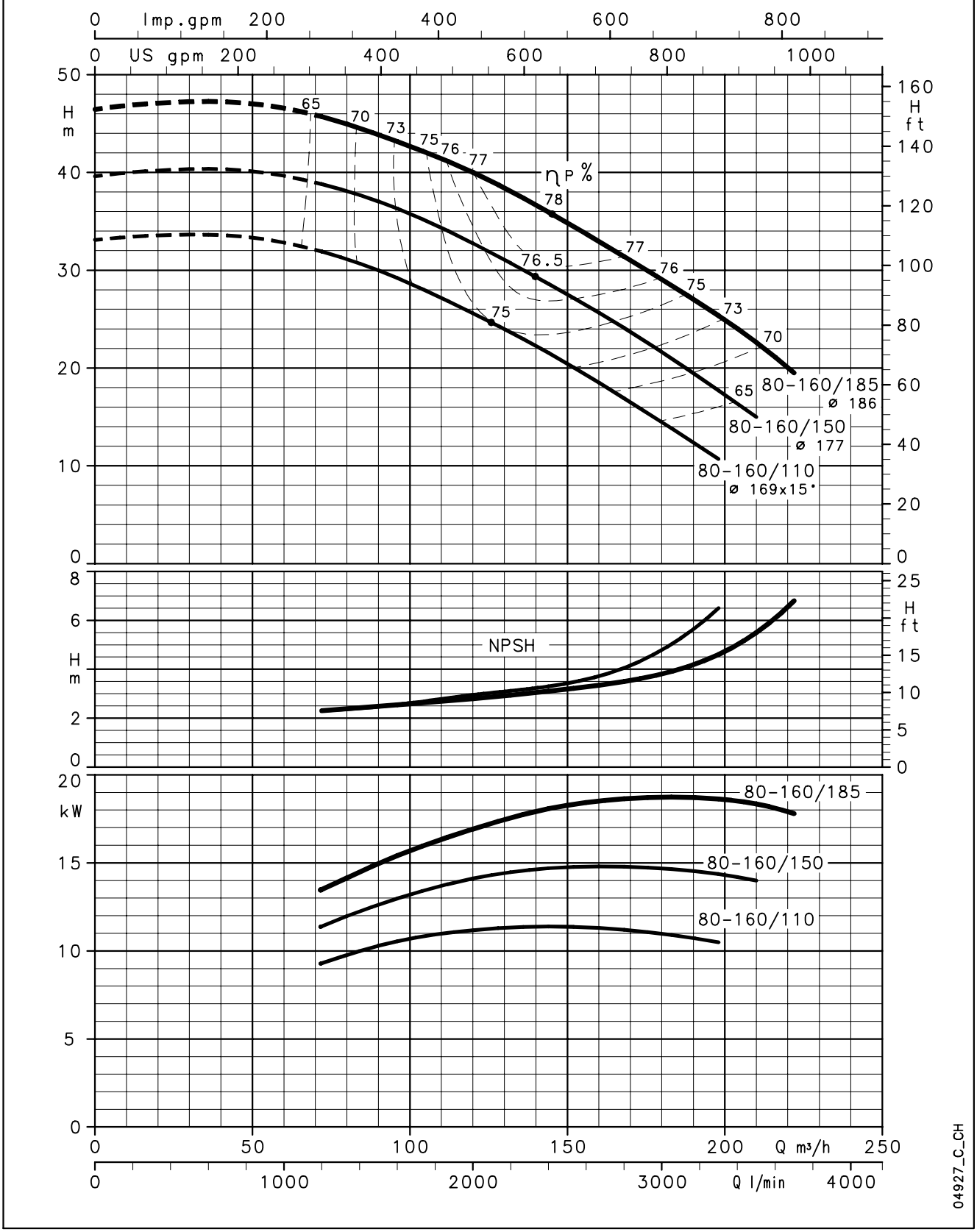
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 80-160	~ 2900 rpm	ISO 9906:2012 - Grade 3B

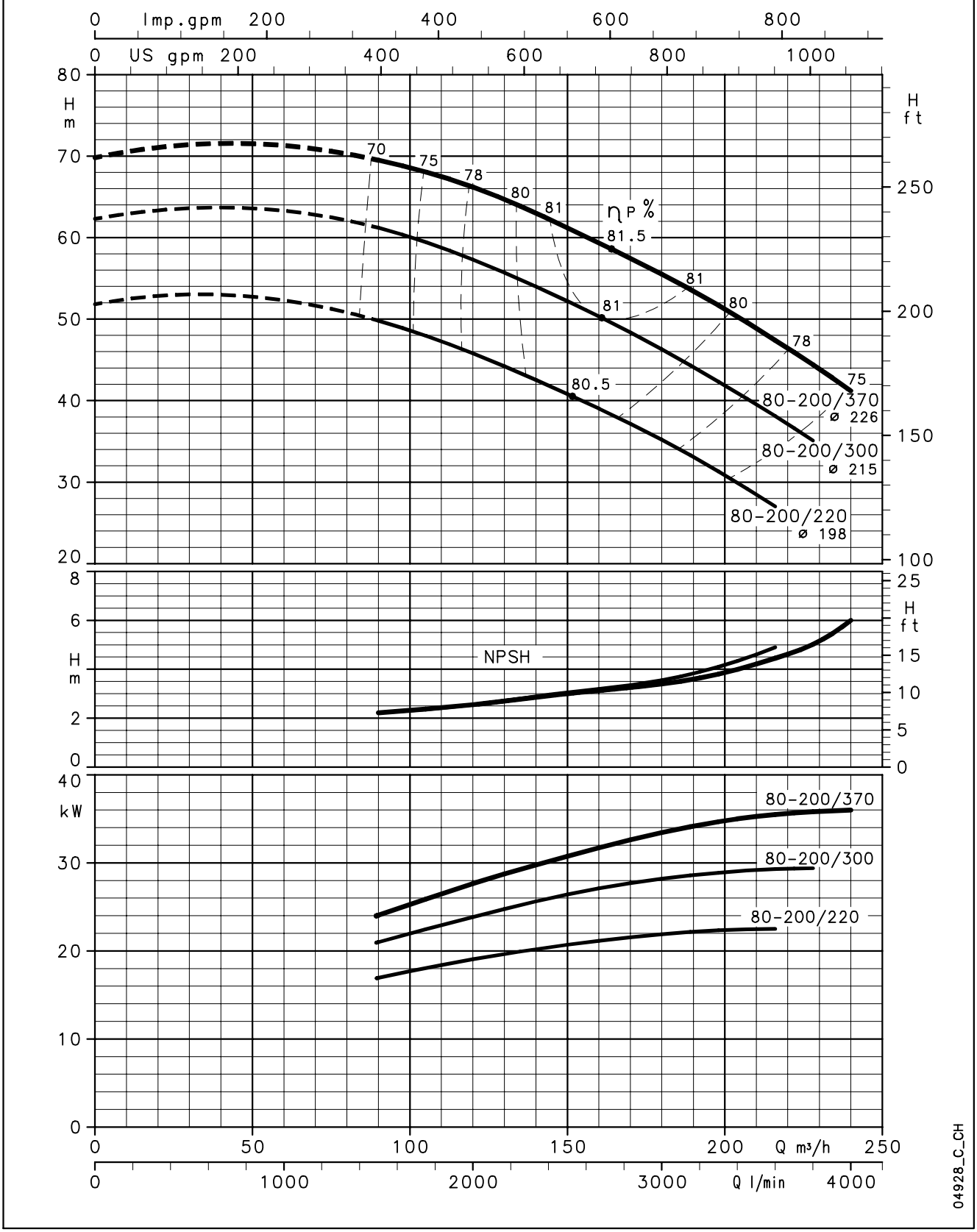


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHE-SHS-SHF 80-200	~ 2900 rpm	ISO 9906:2012 - Grade 3B

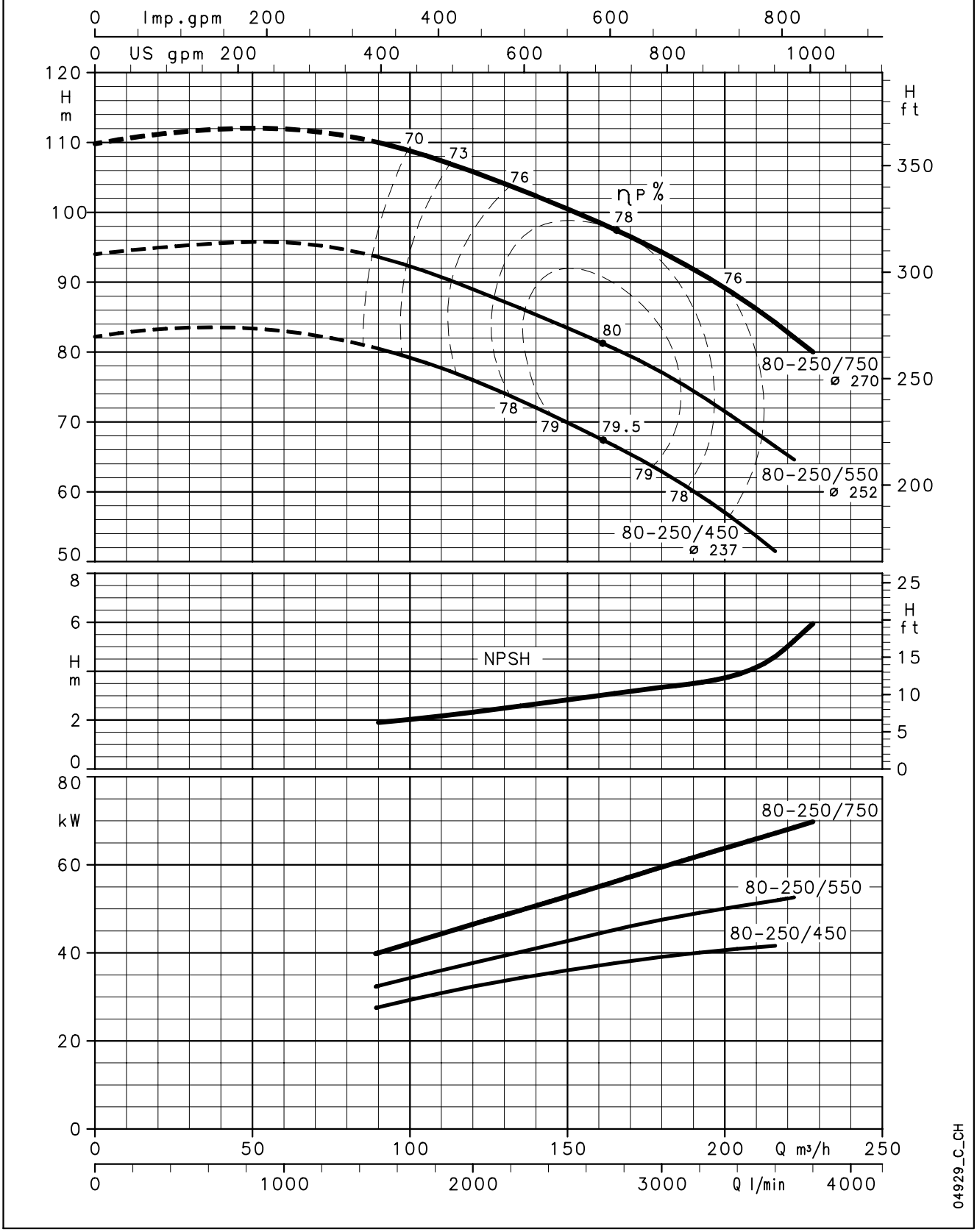


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHF SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES

SHF 80-250	~ 2900 rpm	ISO 9906:2012 - Grade 3B

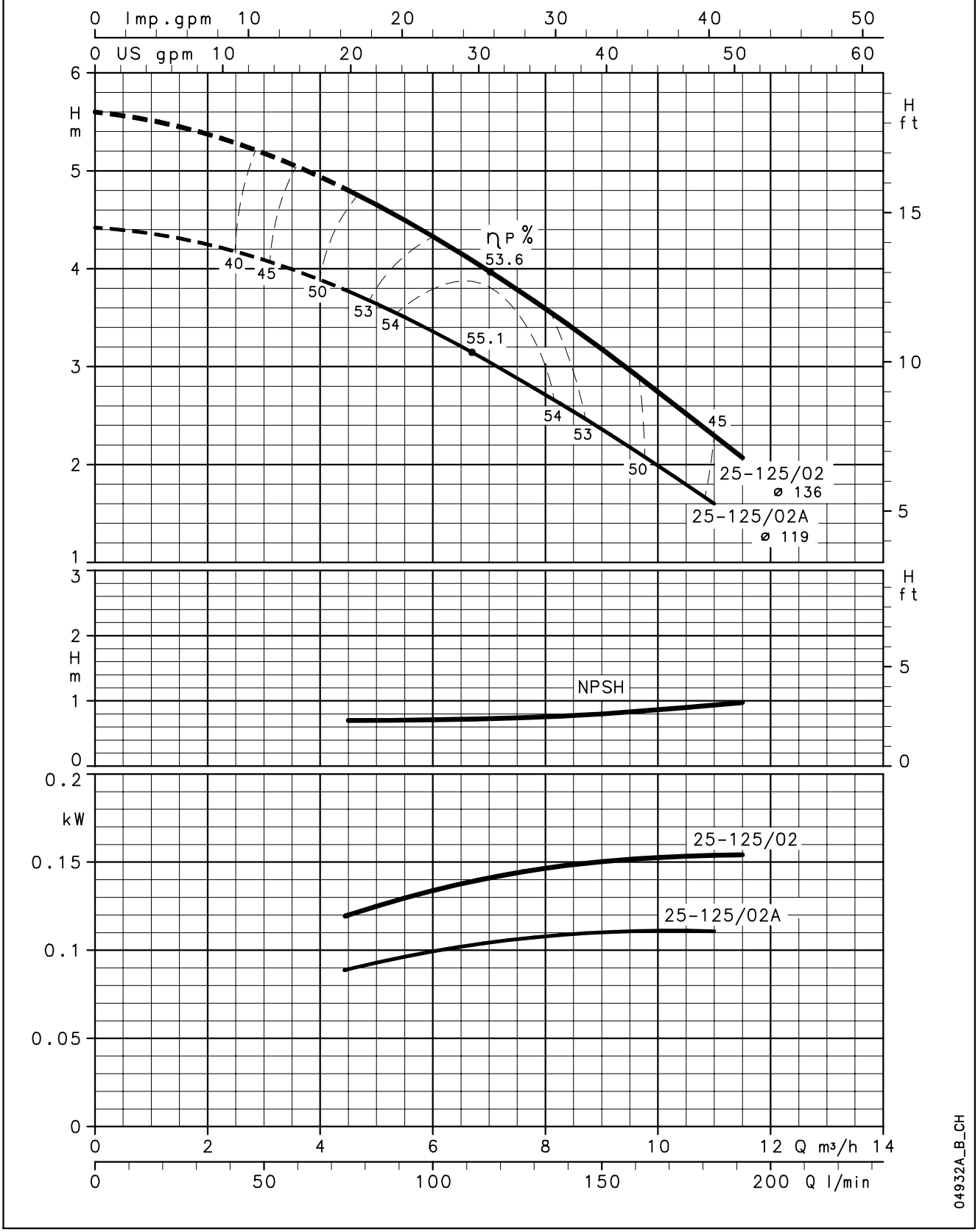


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 25-125	~ 1450 rpm	ISO 9906:2012 - Grade 3B

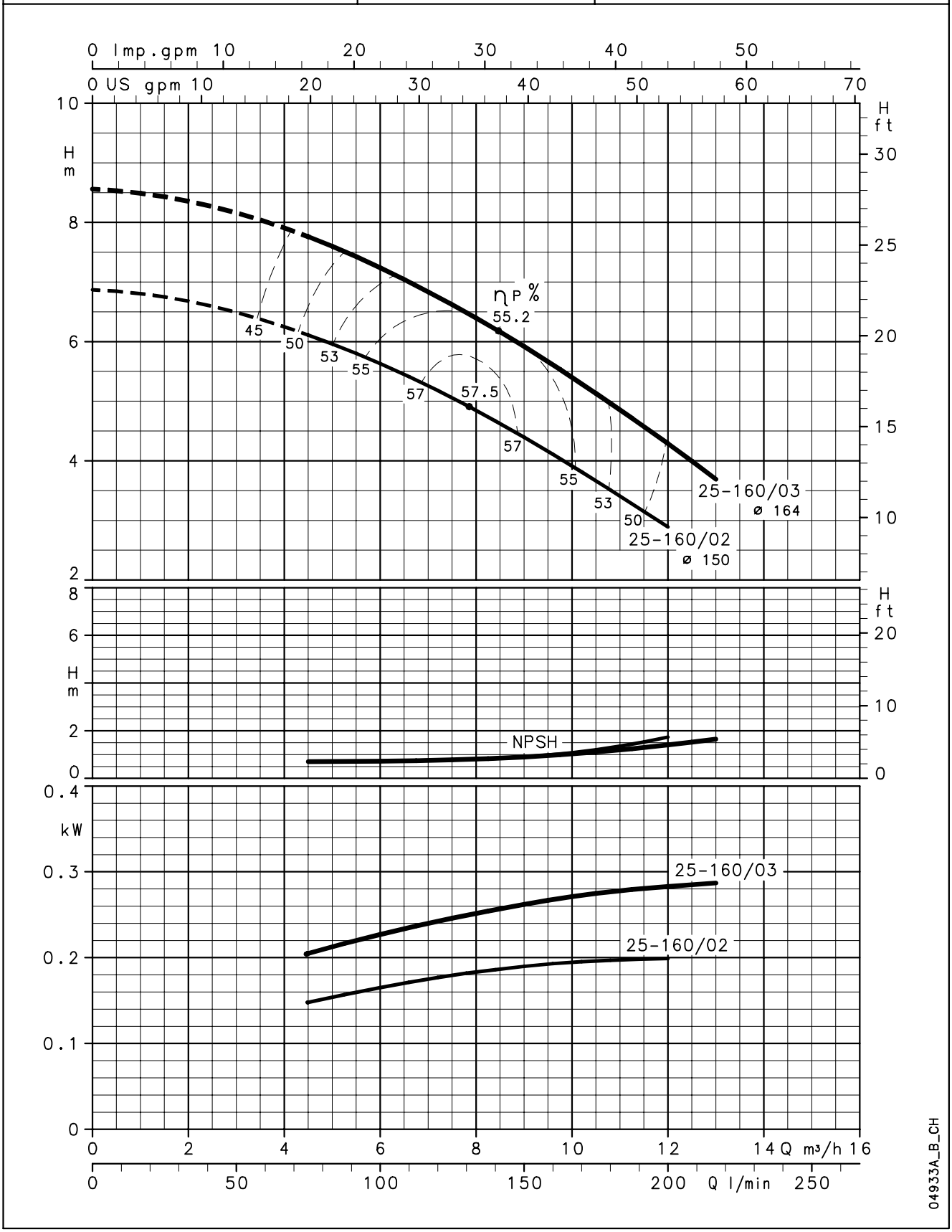


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 25-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

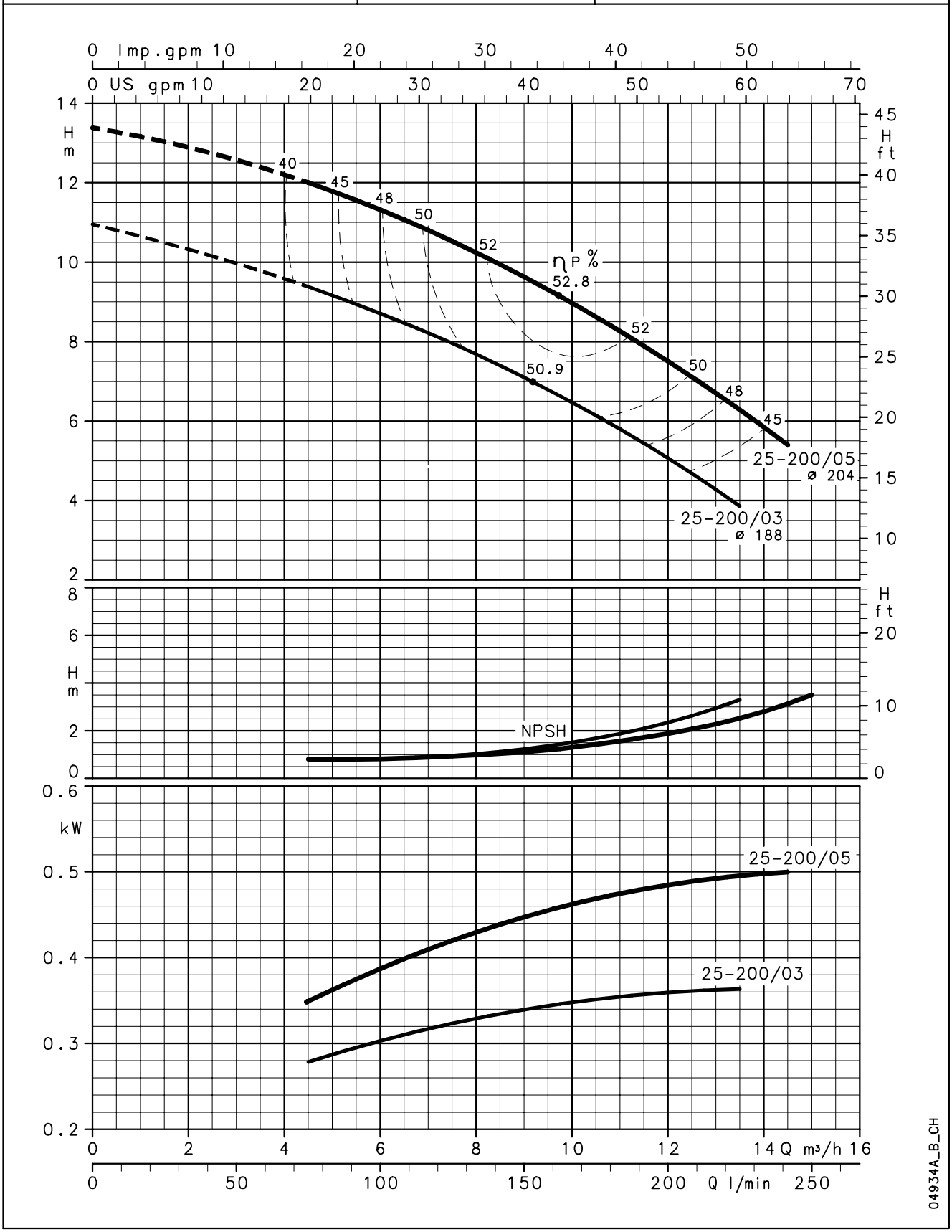


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 25-200	~ 1450 rpm	ISO 9906:2012 - Grade 3B

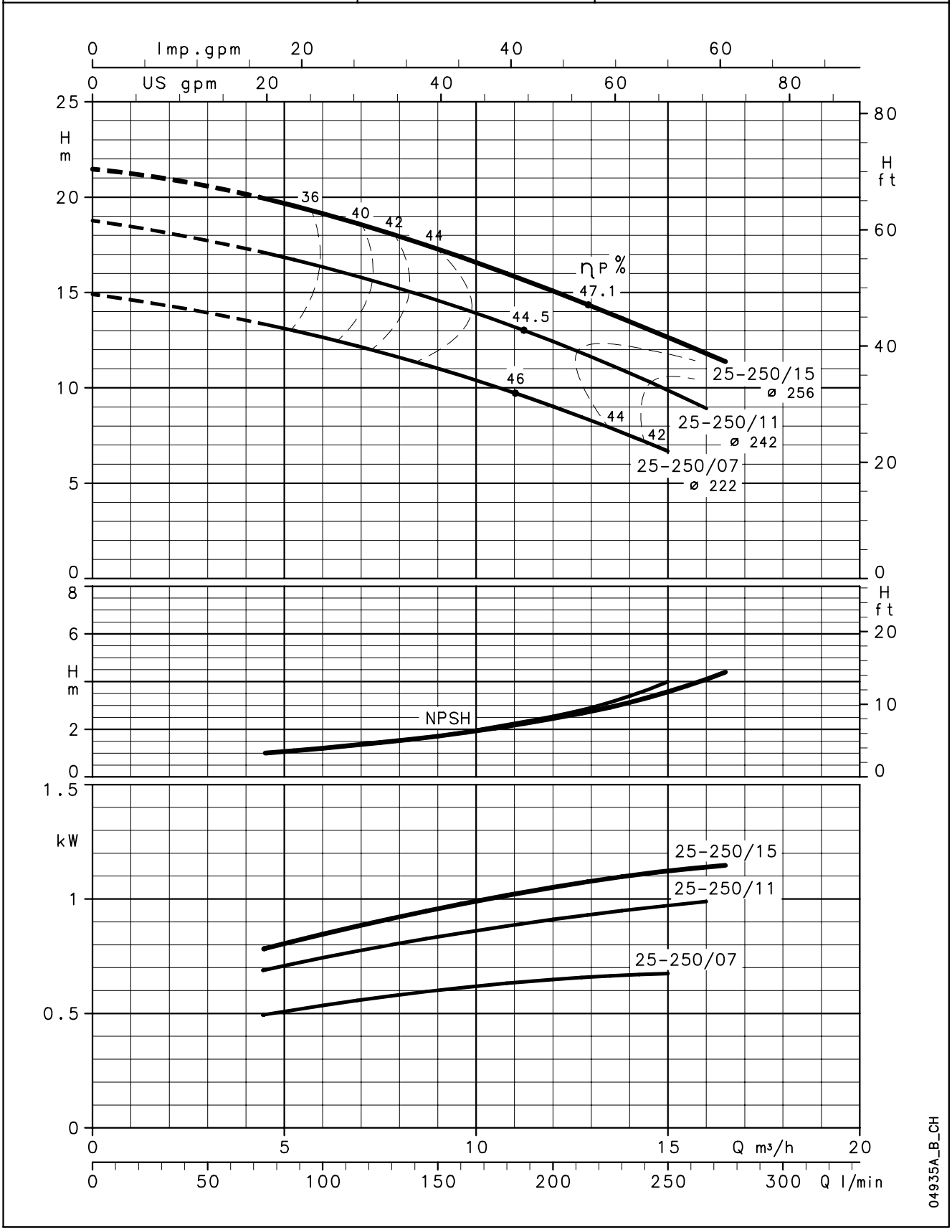


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 25-250	~ 1450 rpm	ISO 9906:2012 - Grade 3B

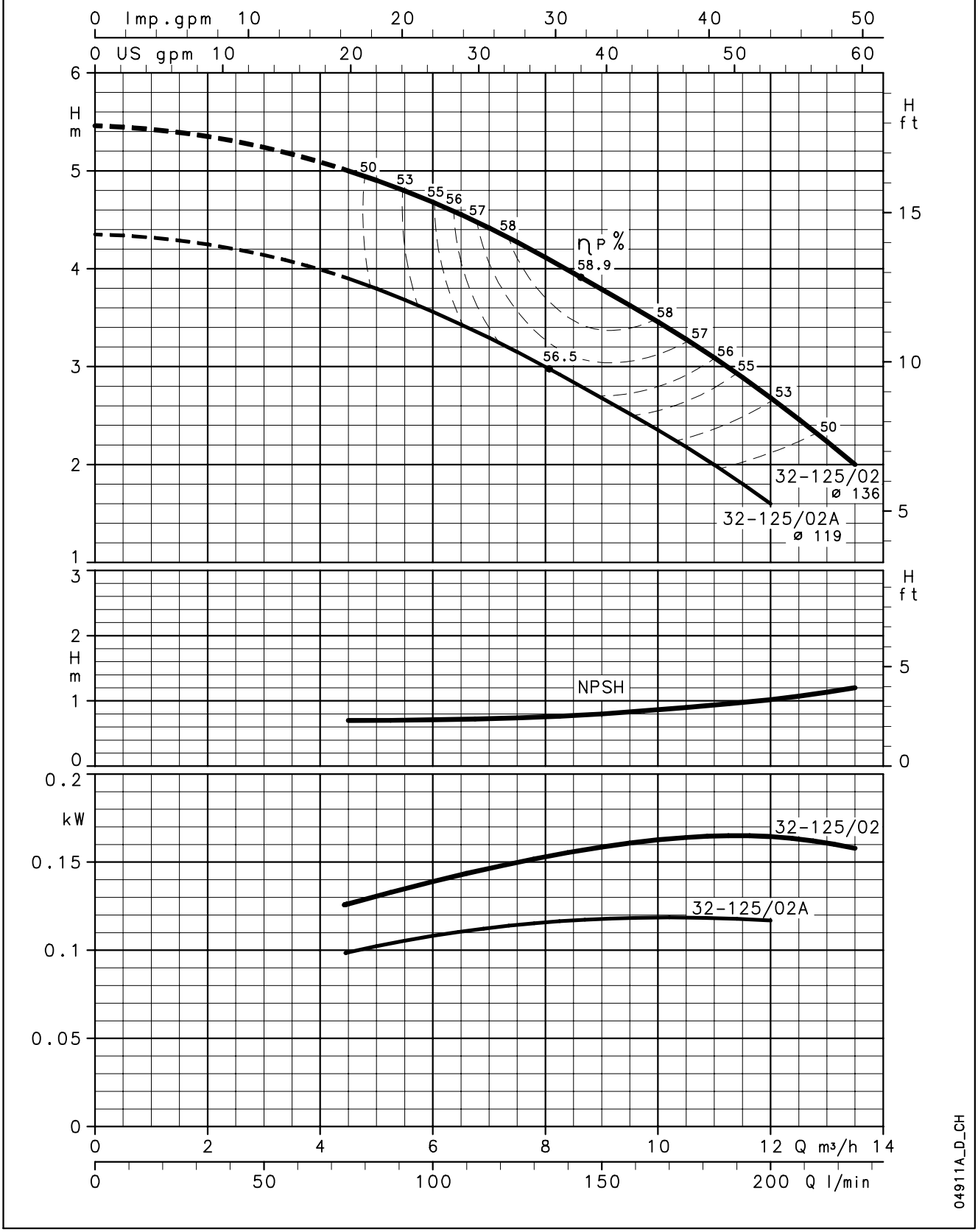


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 32-125	~ 1450 rpm	ISO 9906:2012 - Grade 3B

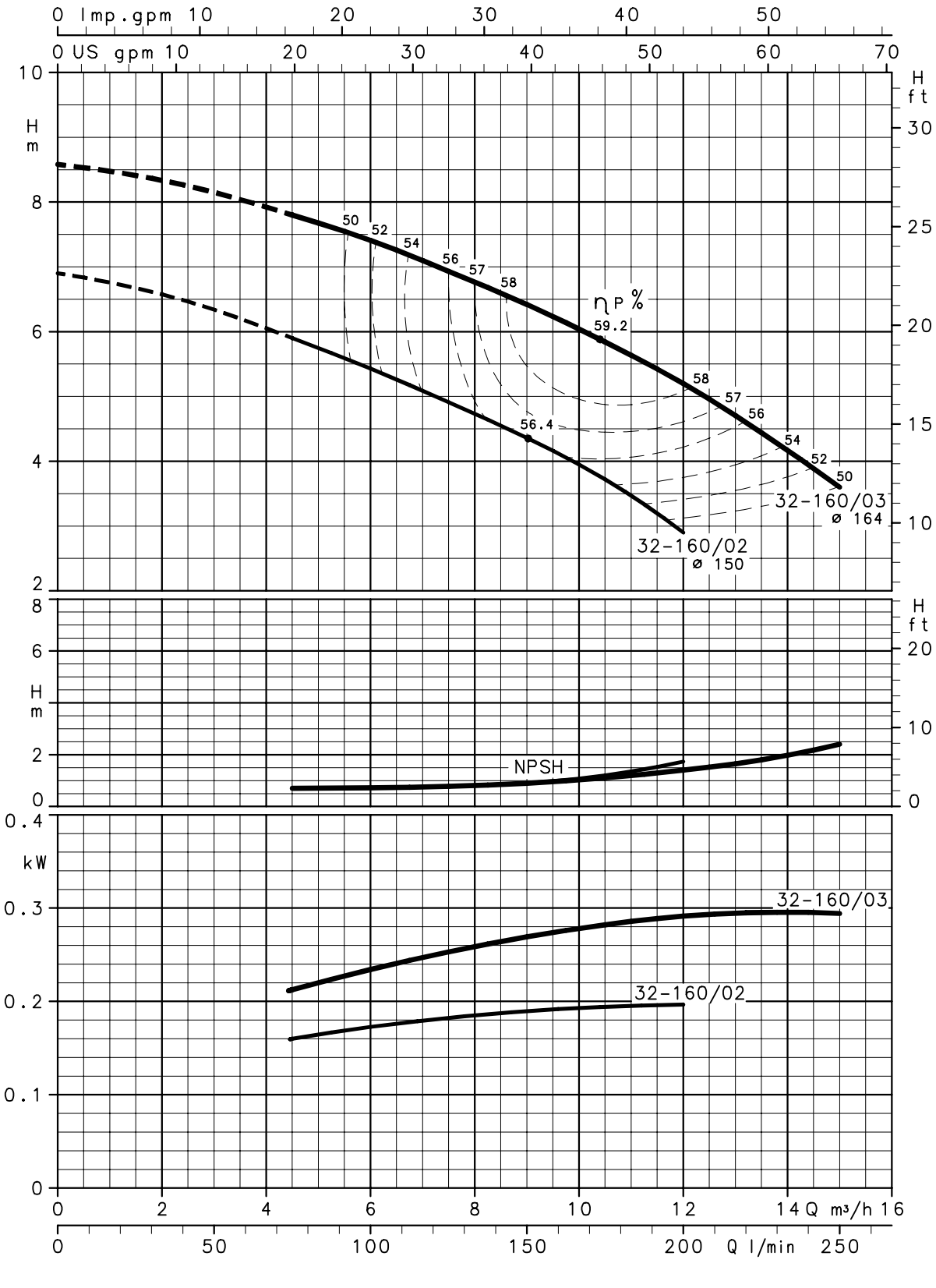


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 32-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

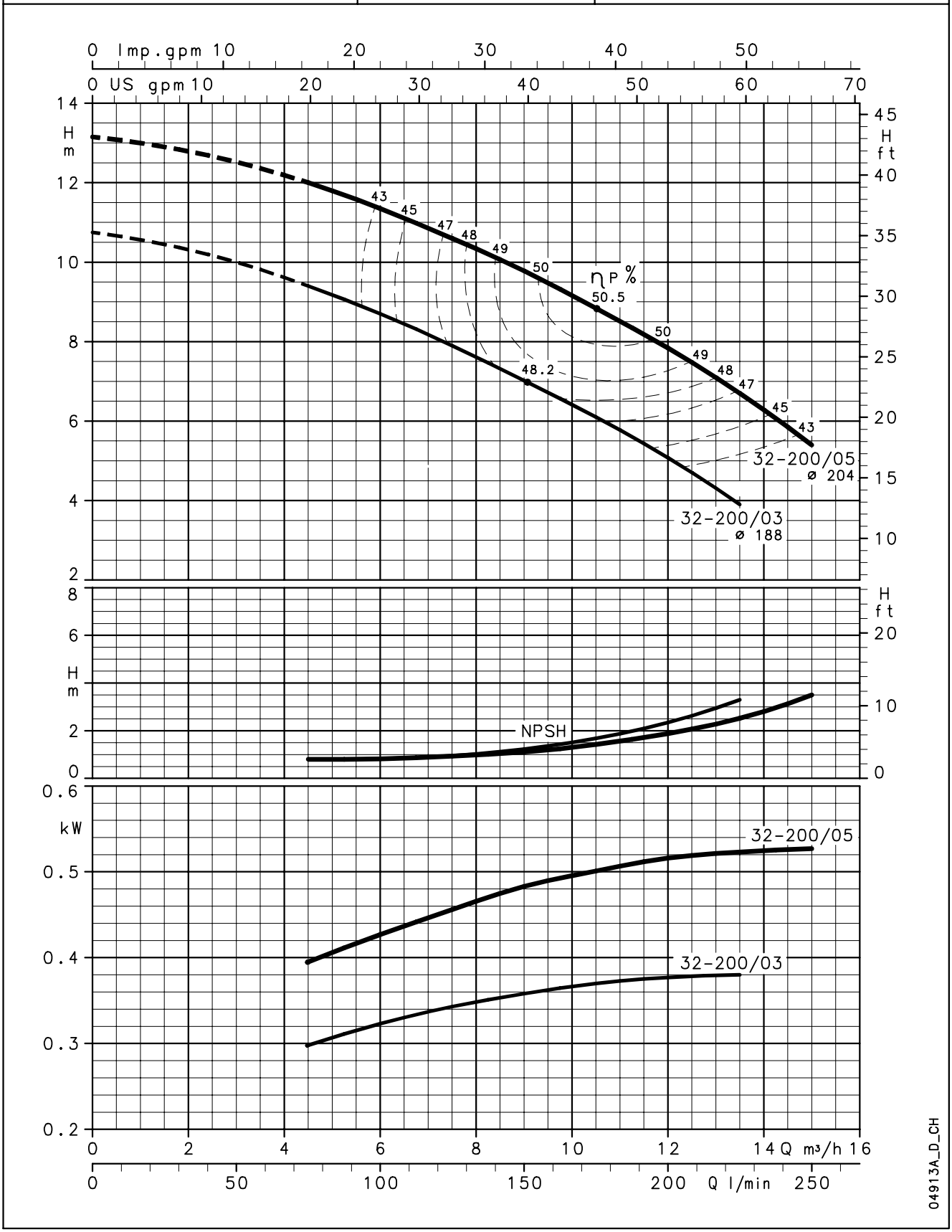


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 32-200	~ 1450 rpm	ISO 9906:2012 - Grade 3B

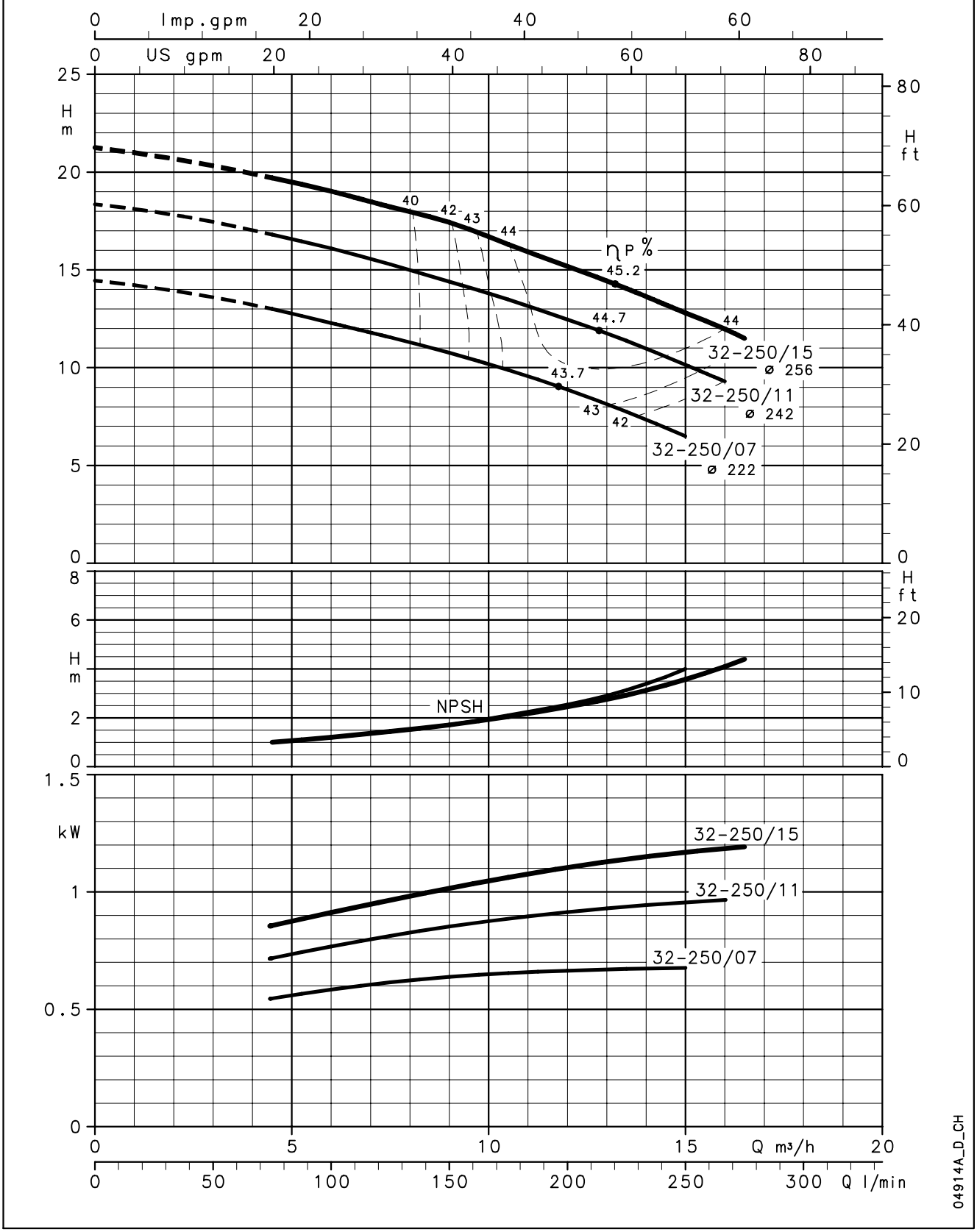


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 32-250	~ 1450 rpm	ISO 9906:2012 - Grade 3B

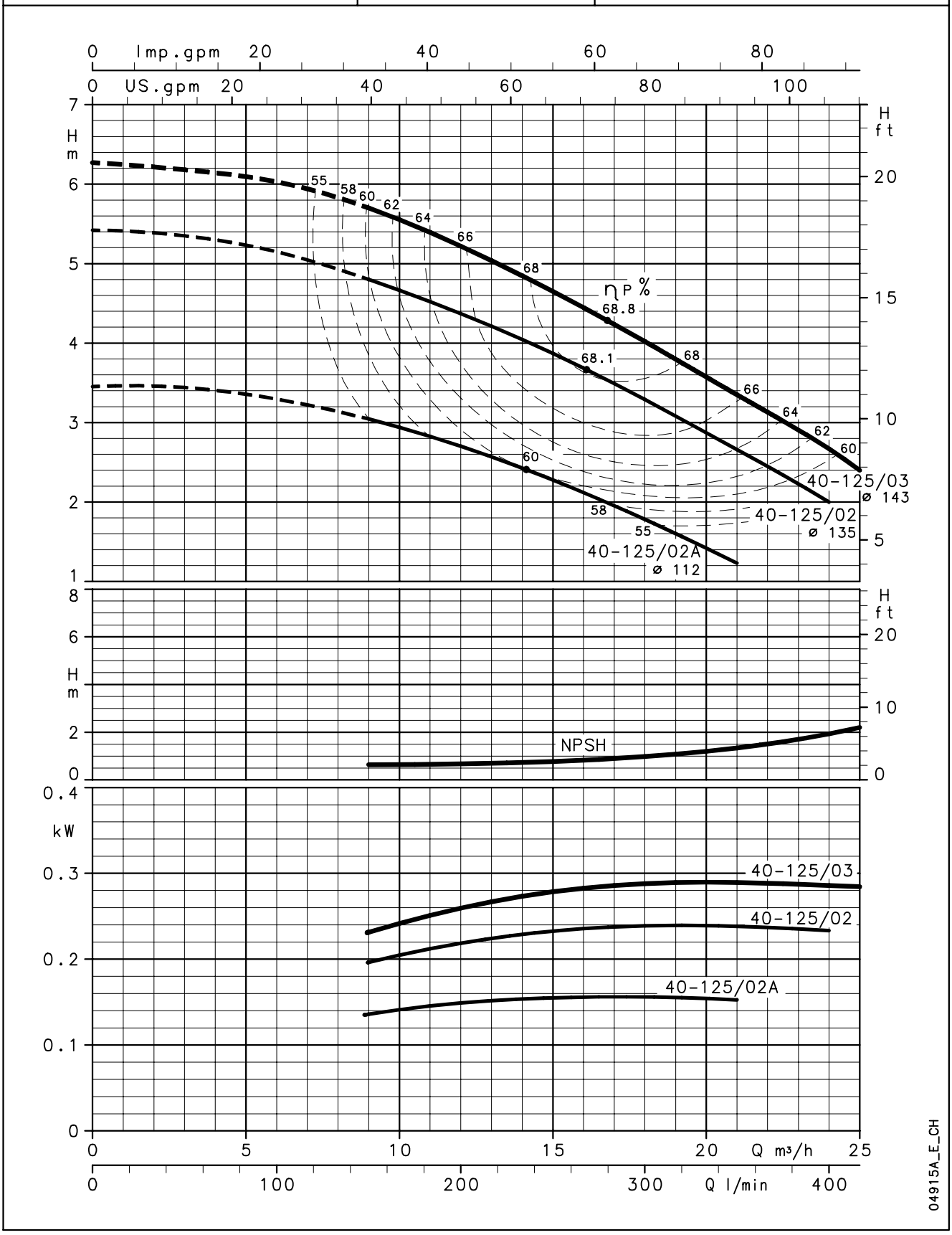


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 40-125	~ 1450 rpm	ISO 9906:2012 - Grade 3B

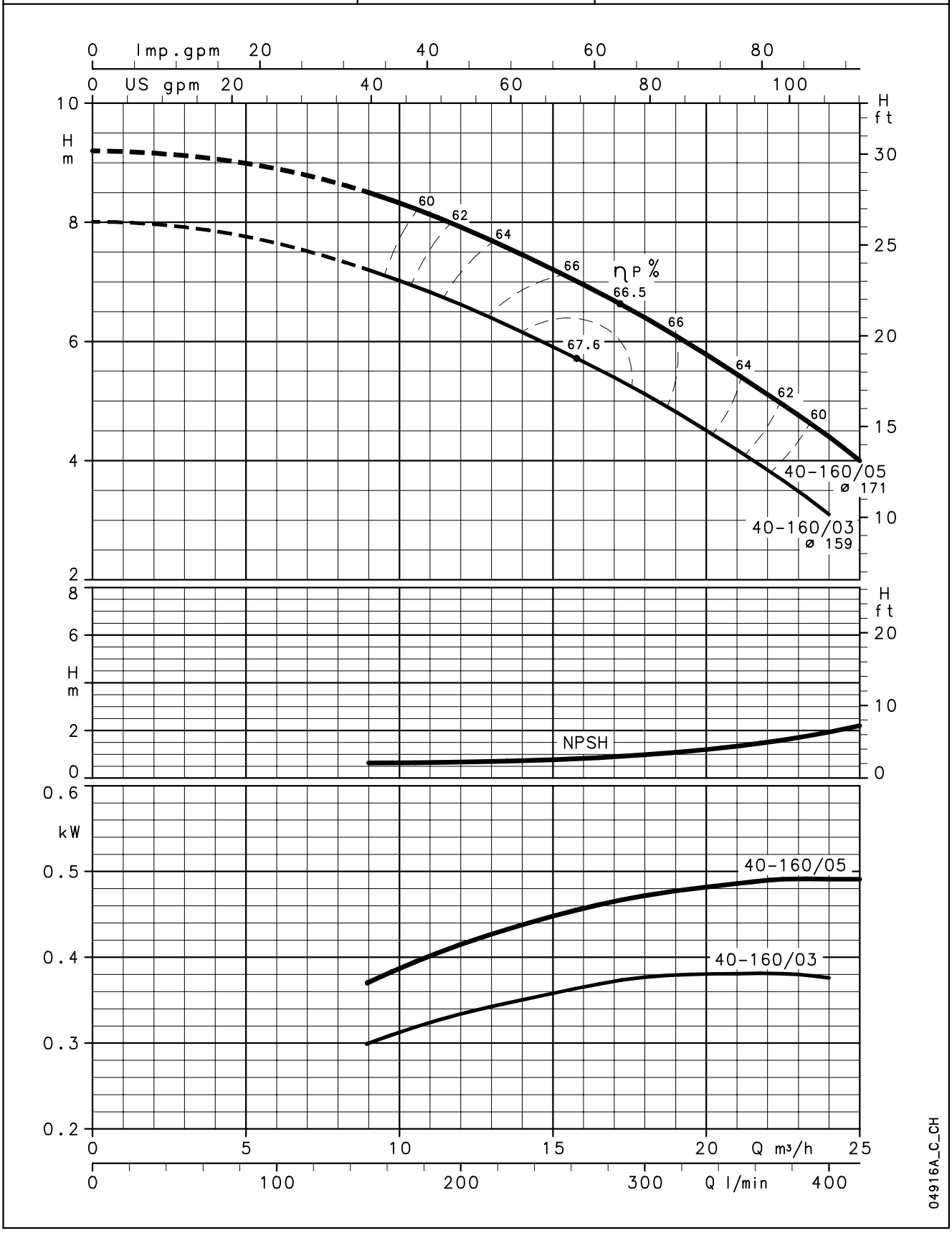


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 40-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

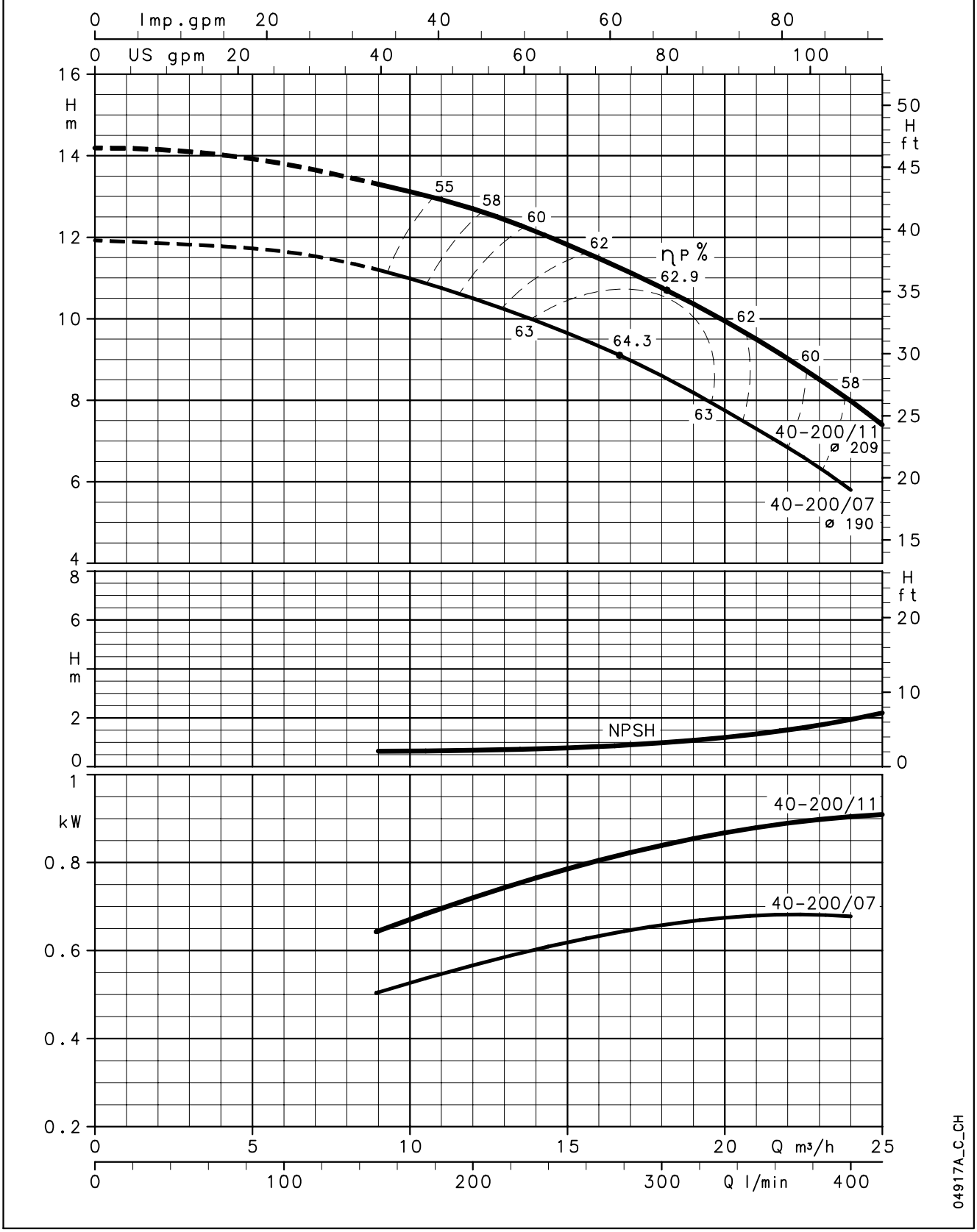


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 40-200	~ 1450 rpm	ISO 9906:2012 - Grade 3B

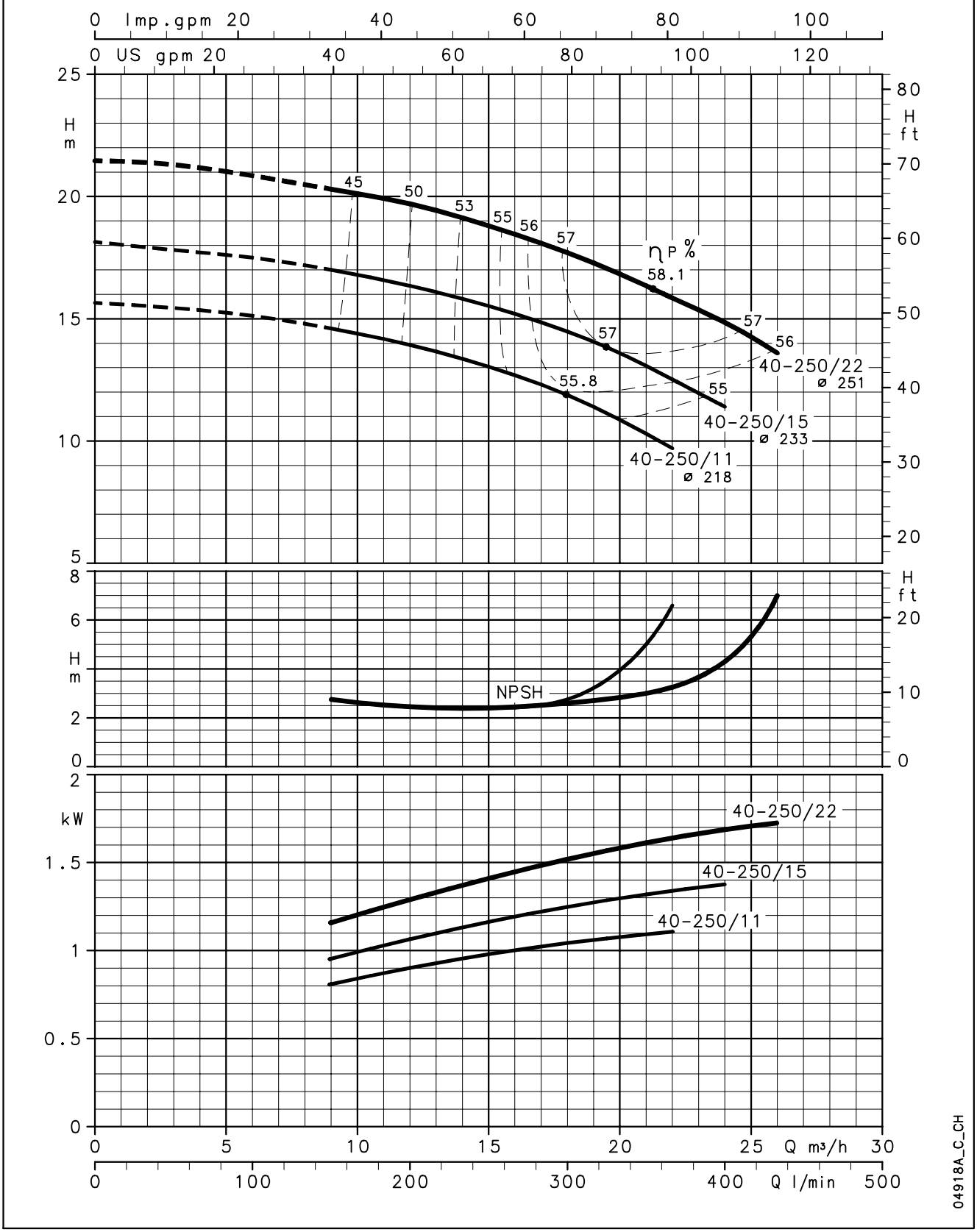


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 40-250	~ 1450 rpm	ISO 9906:2012 - Grade 3B

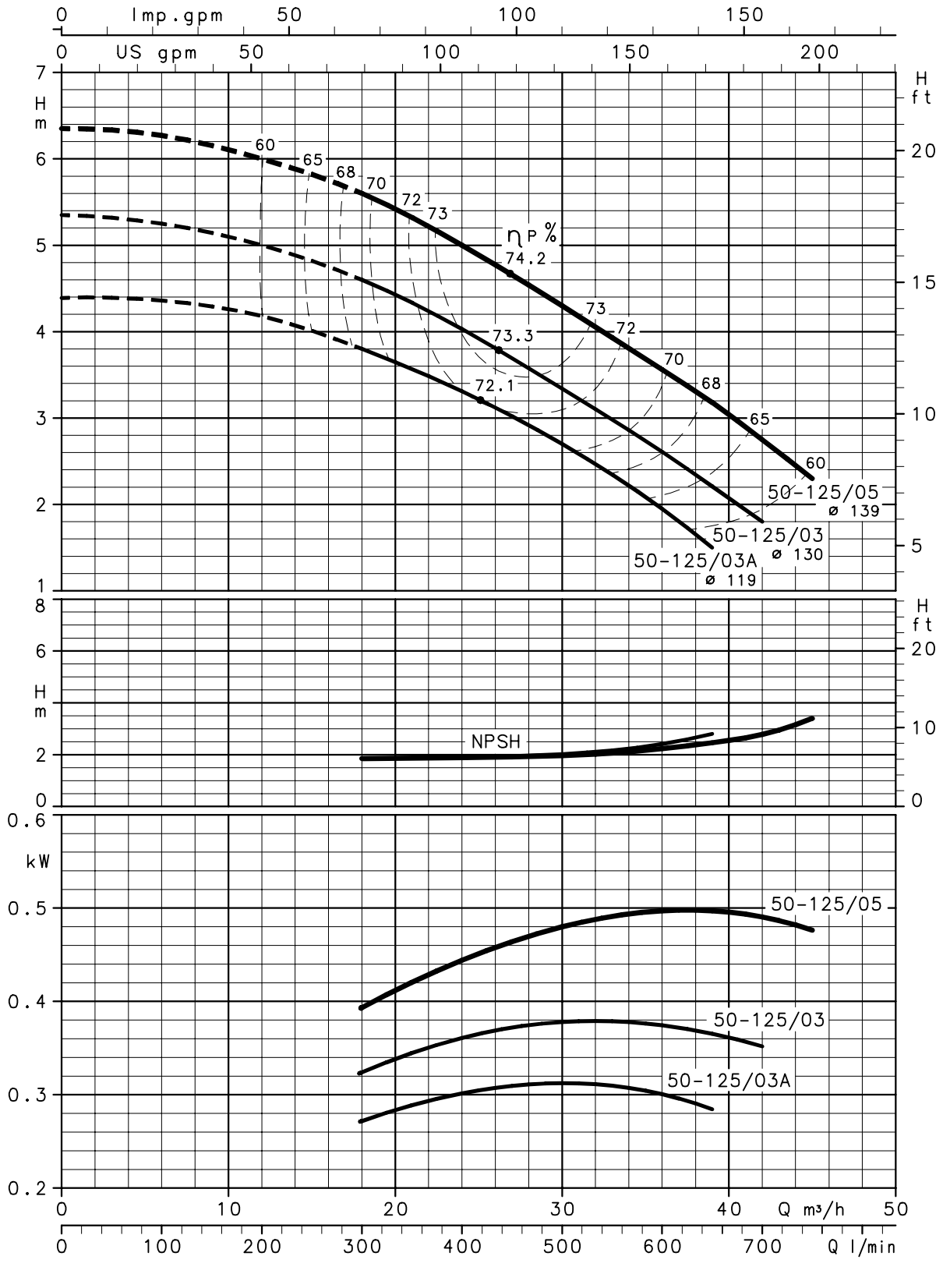


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHF4 50-125	~ 1450 rpm	ISO 9906:2012 - Grade 3B

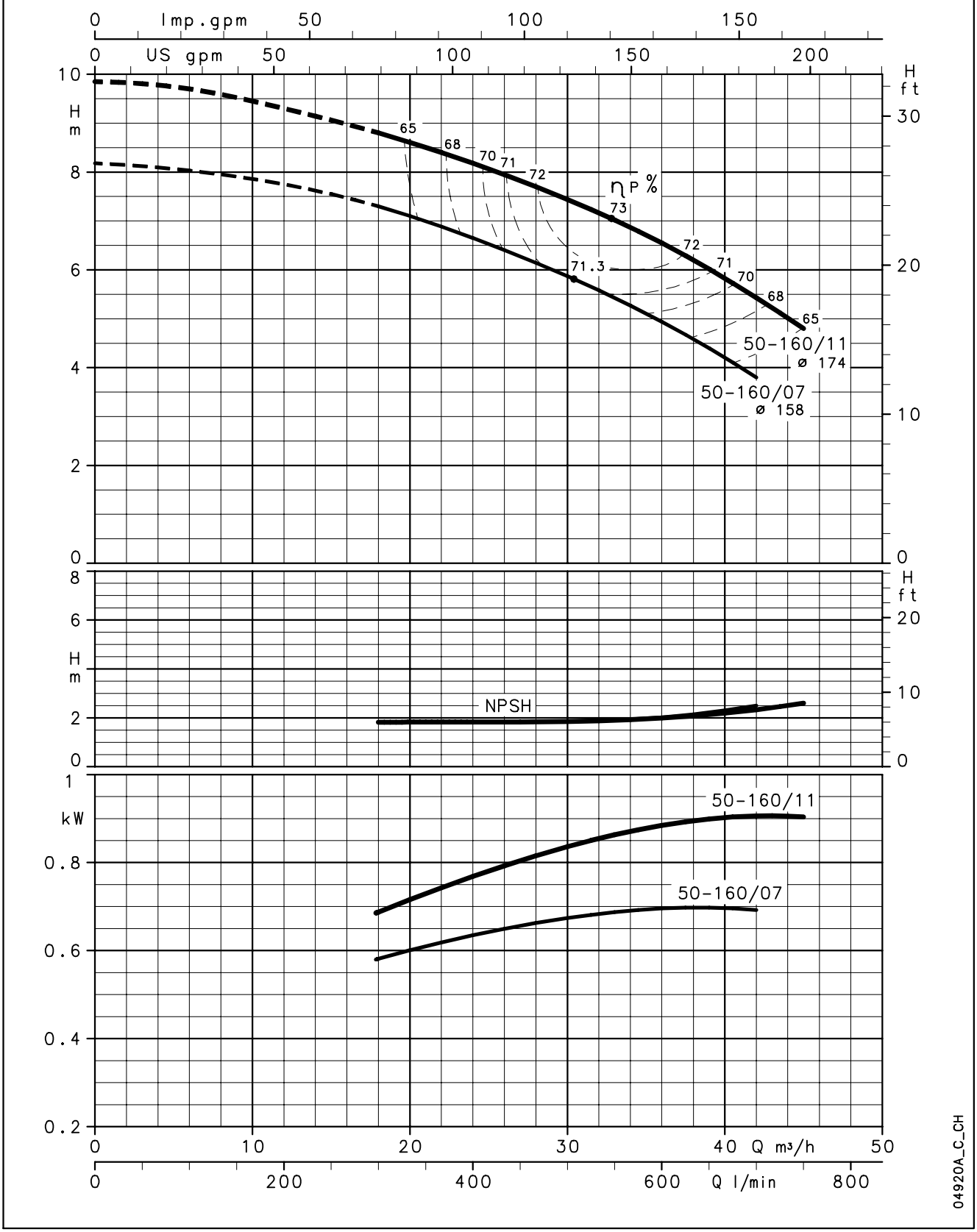


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 50-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

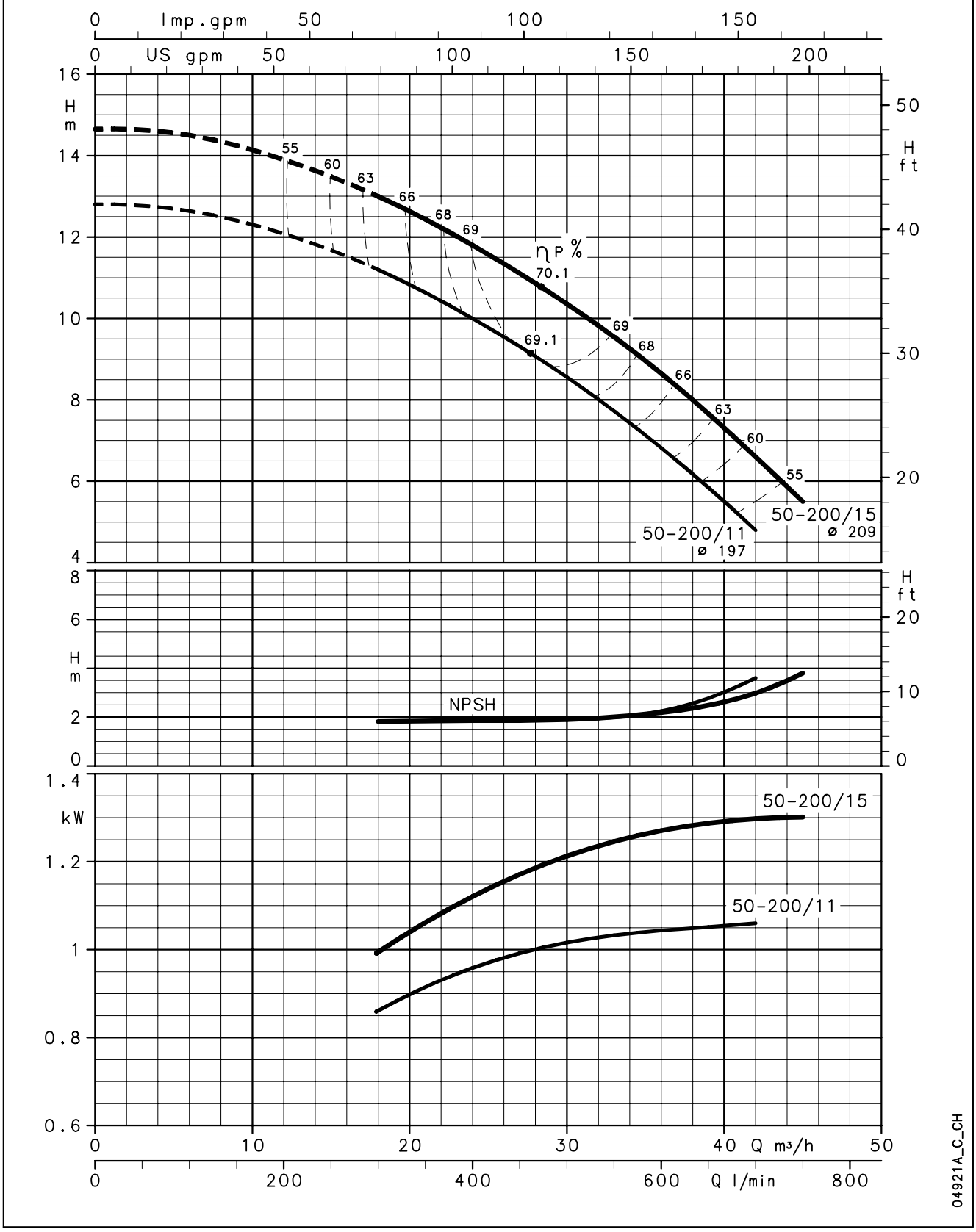


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 50-200	~ 1450 rpm	ISO 9906:2012 - Grade 3B

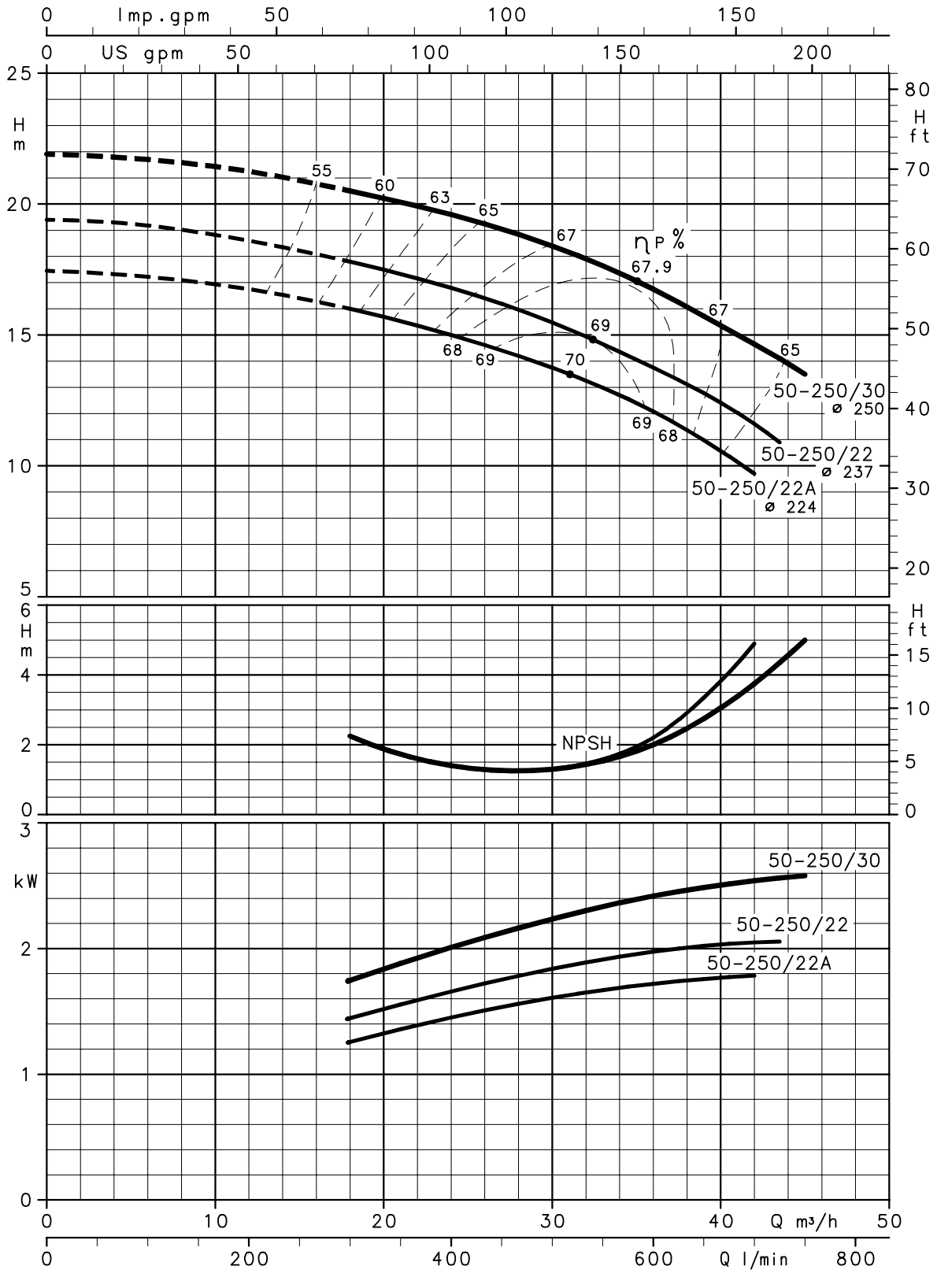


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 50-250	~ 1450 rpm	ISO 9906:2012 - Grade 3B

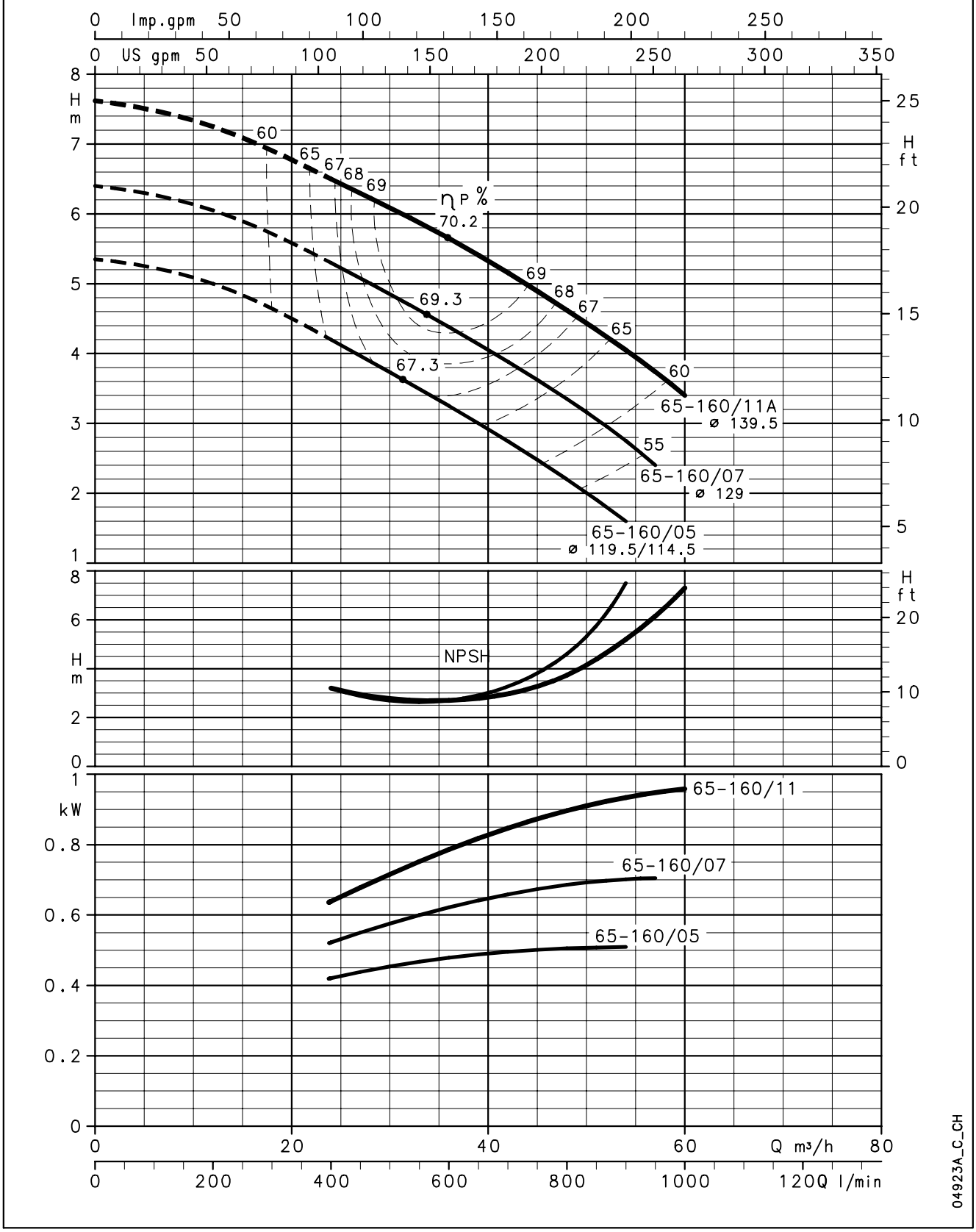


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 65-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

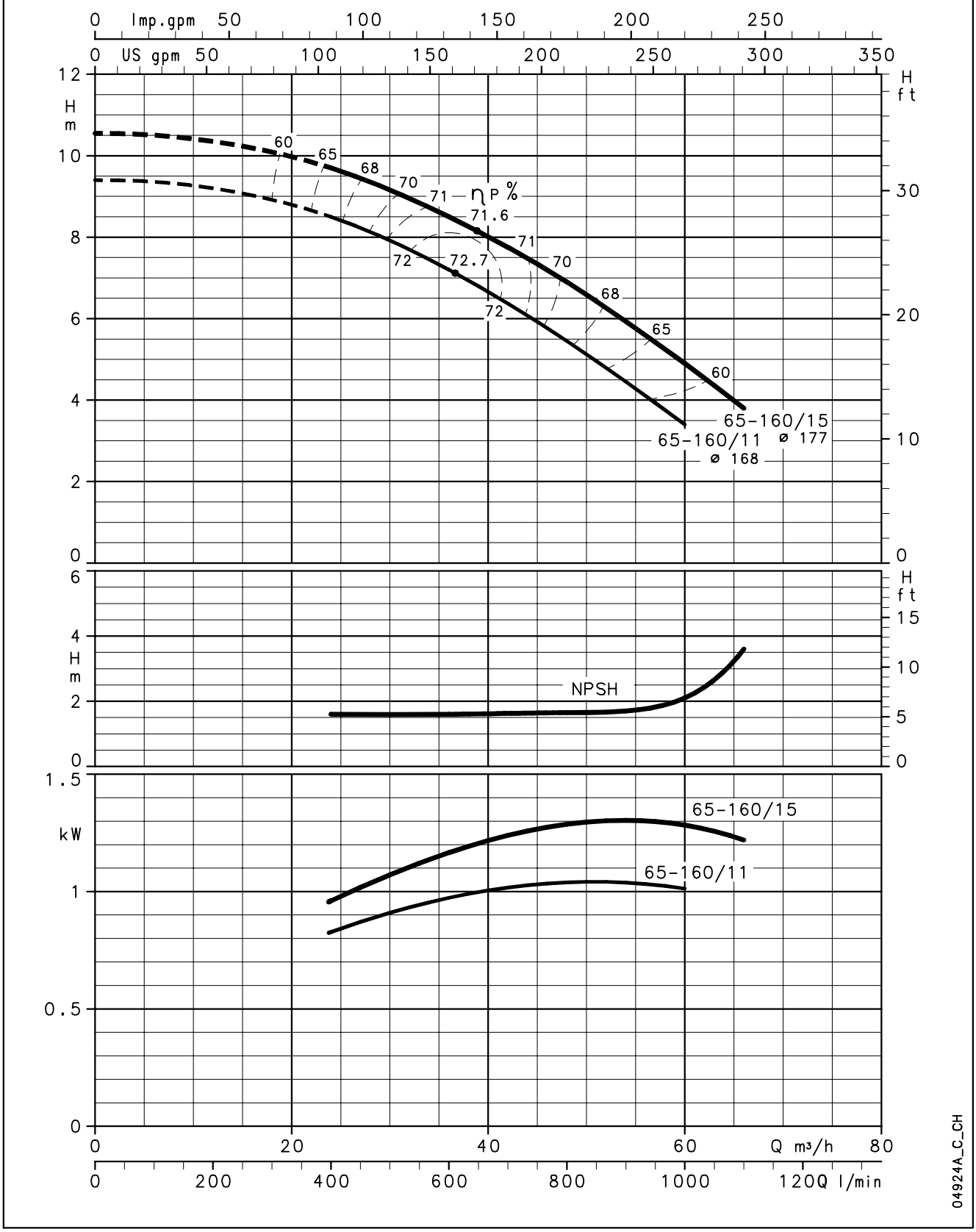


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 65-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

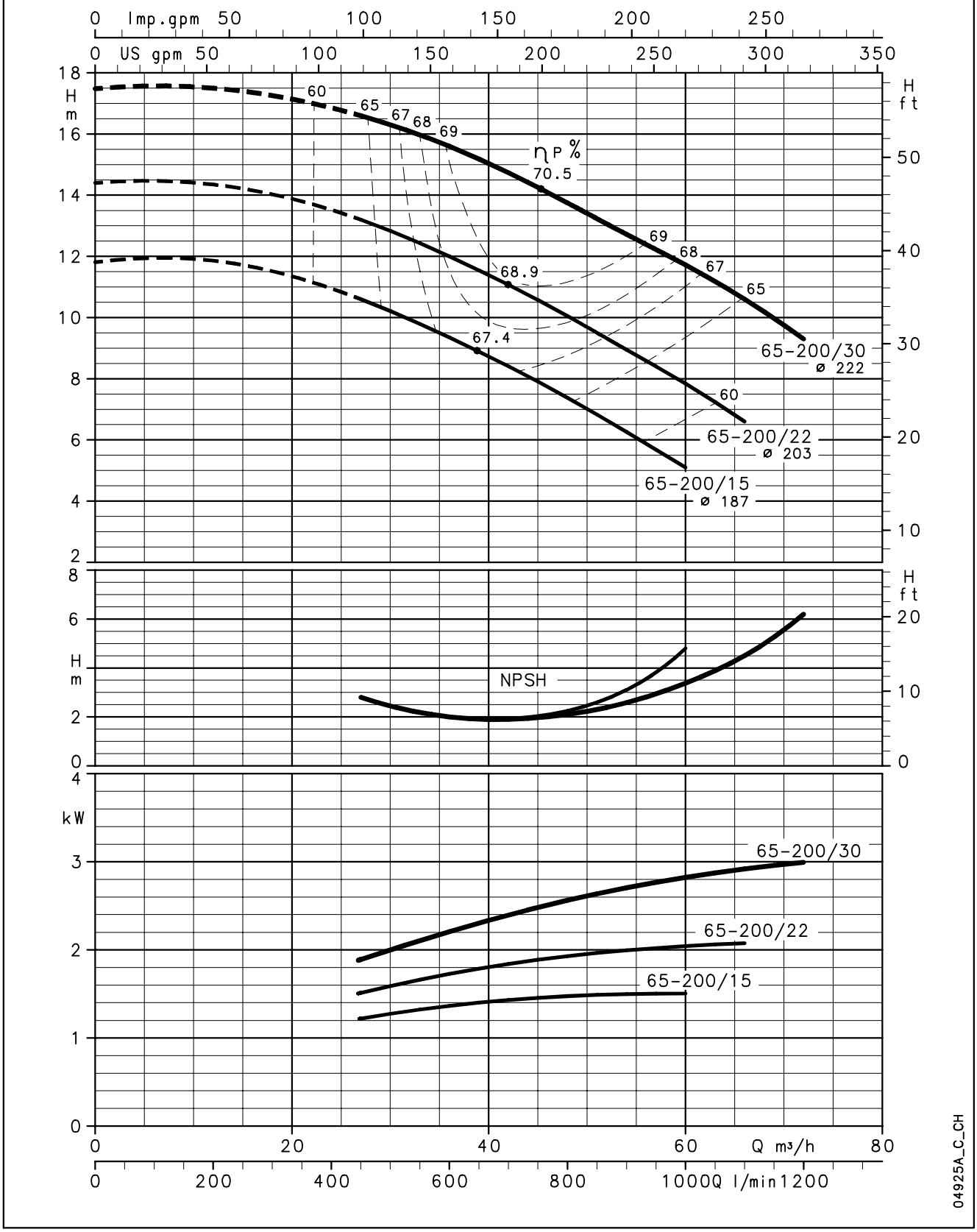


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 65-200	~ 1450 rpm	ISO 9906:2012 - Grade 3B

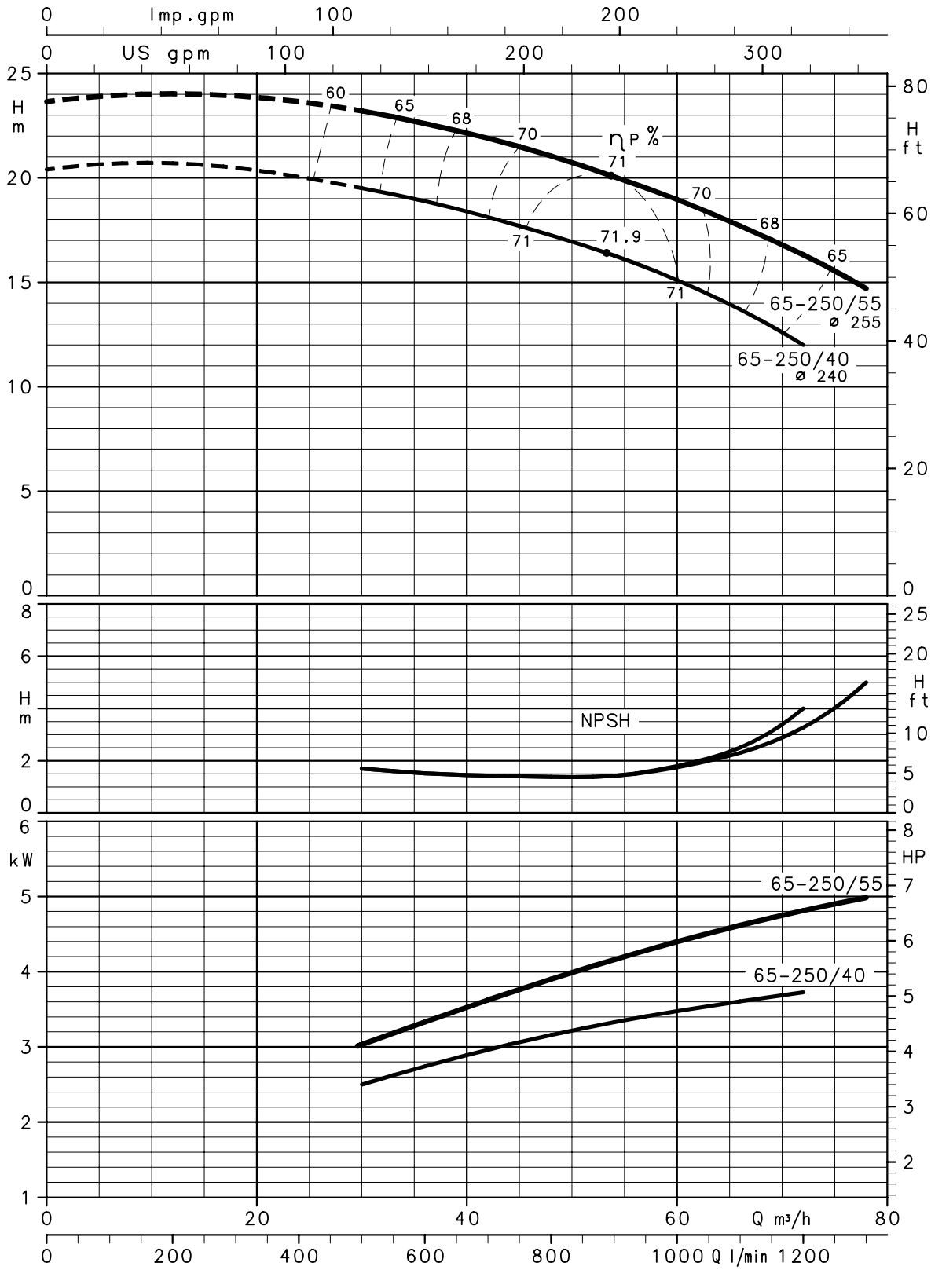


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 65-250	~ 1450 rpm	ISO 9906:2012 - Grade 3B

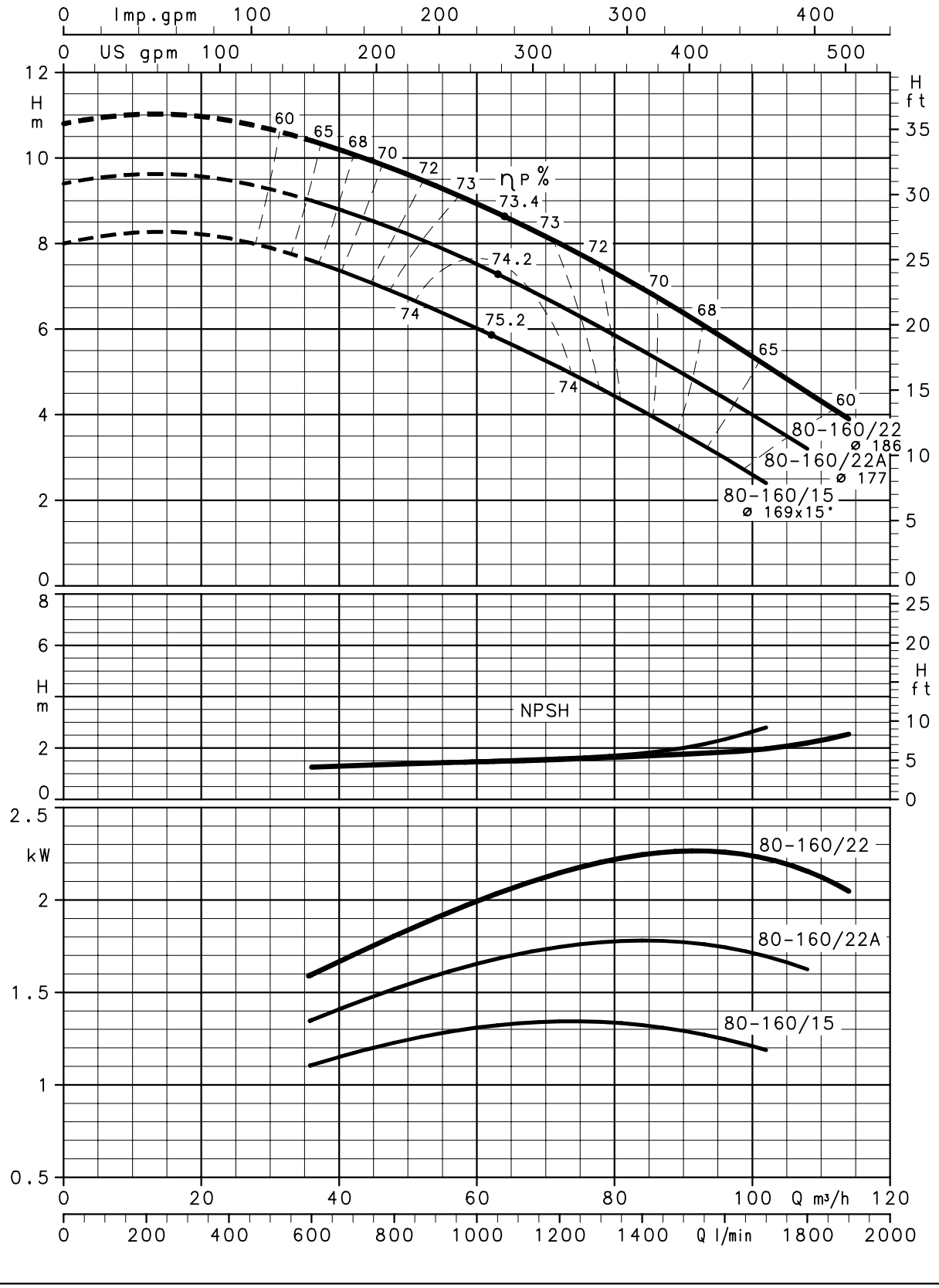


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 80-160	~ 1450 rpm	ISO 9906:2012 - Grade 3B

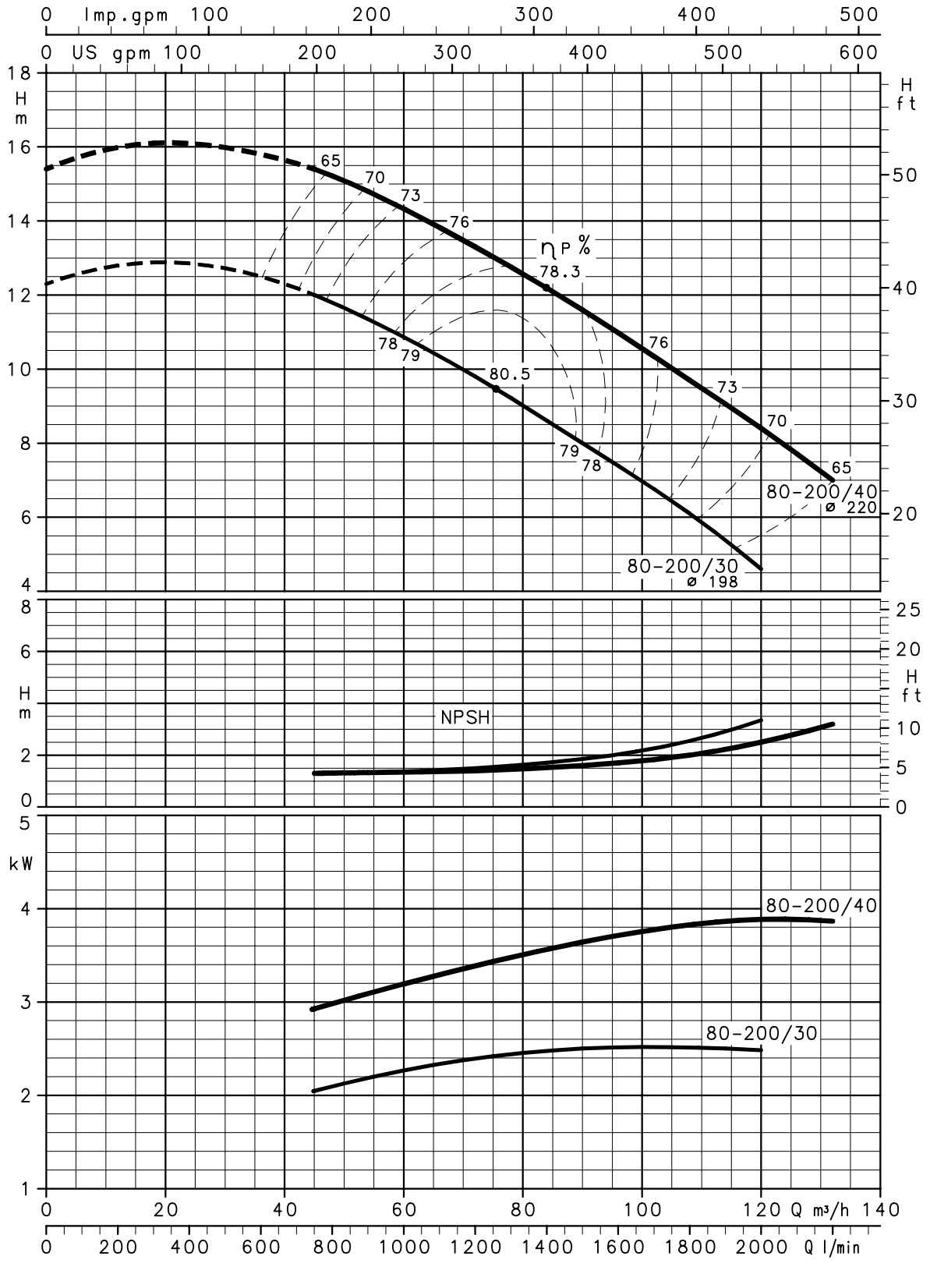


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 80-200	~ 1450 rpm	ISO 9906:2012 - Grade 3B

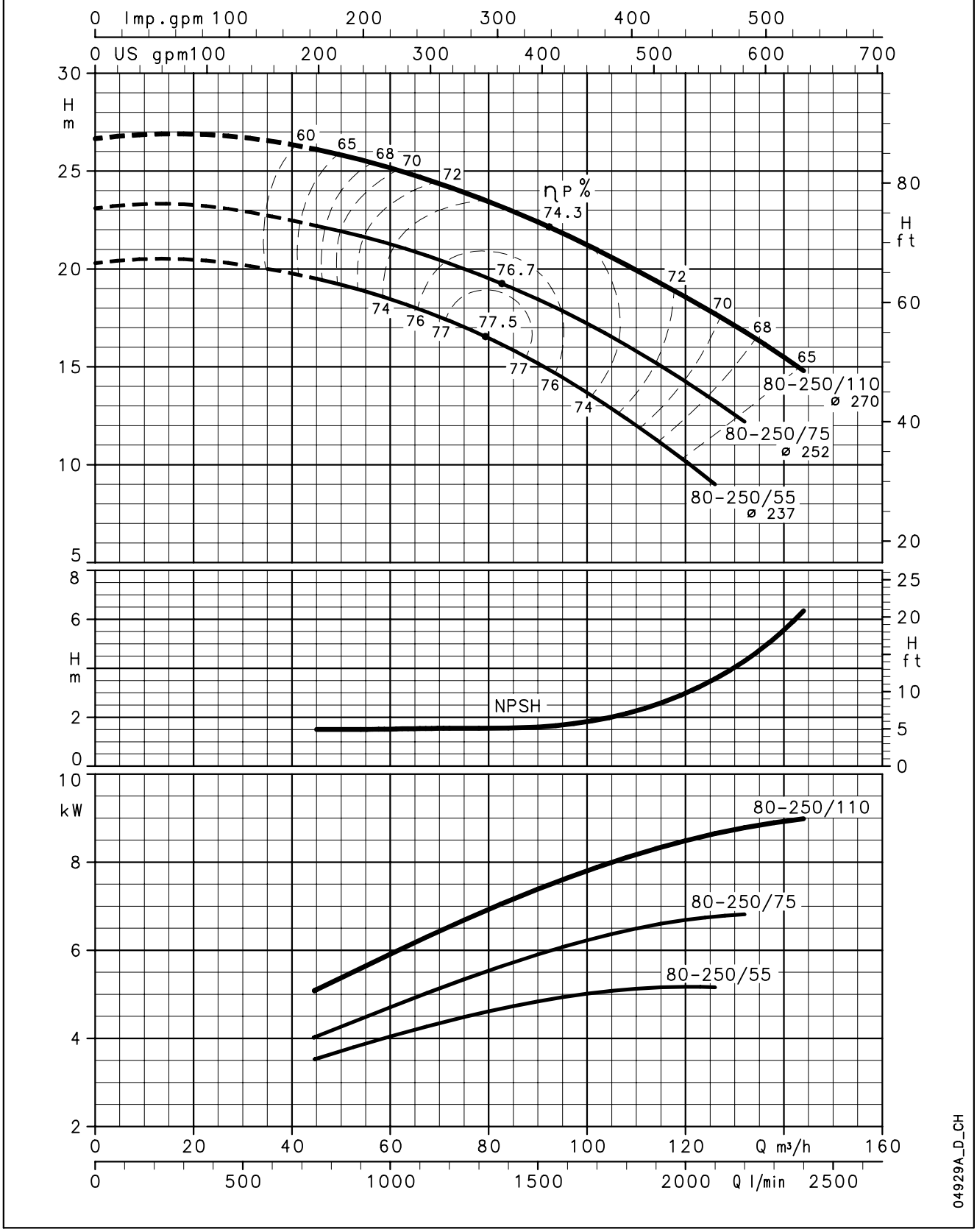


The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

LOWARA
a xylem brand

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 50 Hz, 4 POLES

SHE4-SHS4-SHF4 80-250	~ 1450 rpm	ISO 9906:2012 - Grade 3B



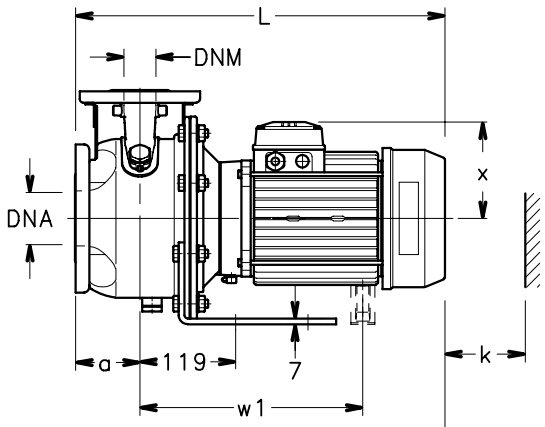
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
These performances are valid for liquids with density ρ = 1,0 Kg/dm³ and kinematic viscosity ν = 1 mm²/sec.

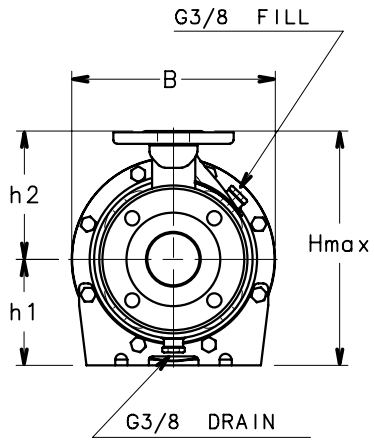
LOWARA
a xylem brand

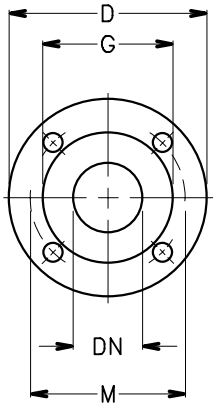
DIMENSIONS AND WEIGHTS

LOWARA
a xylem brand

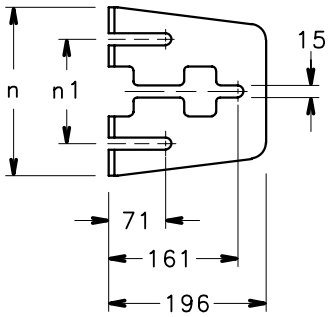
SHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



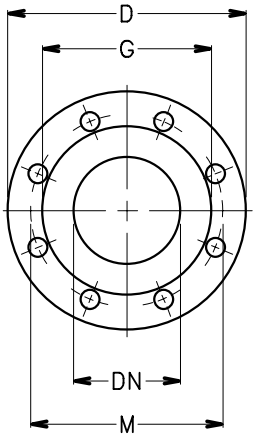




CLEARANCE FOR DISASSEMBLY

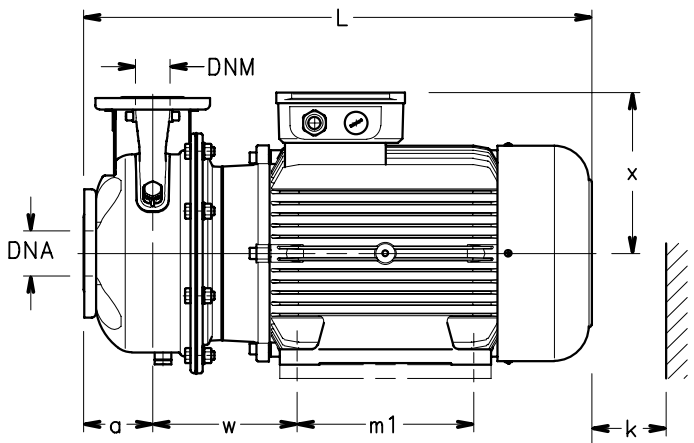


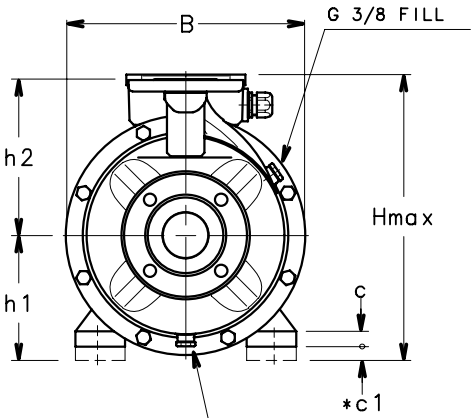
SHE WITH PUMP SUPPORT FOOT
MOTORS UP TO 11kW



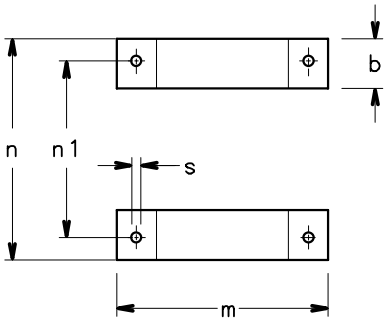
PUMP FLANGES

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

LOWARA
a xylem brand

SHE SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

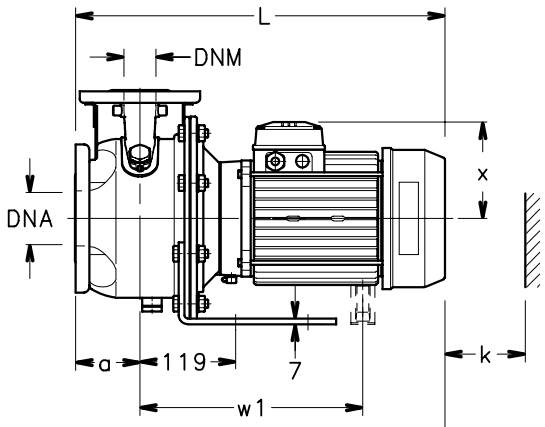
PUMP TYPE	DIMENSIONS (mm)																				WEIGHT
	PUMP							SUPPORT									B	H	L	k	
	DNM	DNA	a	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s		max			kg
SHE 25-125/07/D	25	50	80	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	443	98	18,6
SHE 25-125/11/D	25	50	80	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	443	98	20,6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

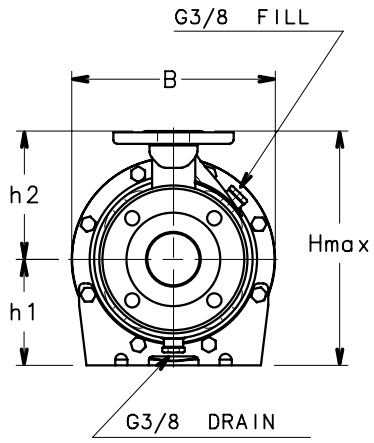
* Motor shim on request

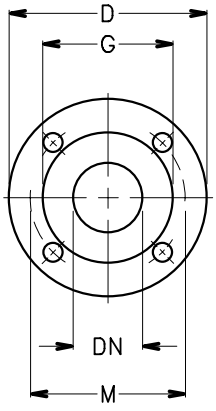
sh-she-2p50-en_e_td

LOWARA
a xylem brand

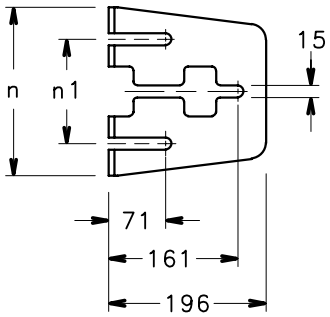
SHE4 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES



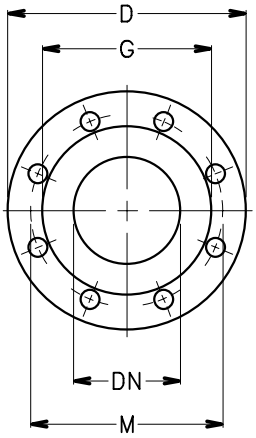




CLEARANCE FOR DISASSEMBLY

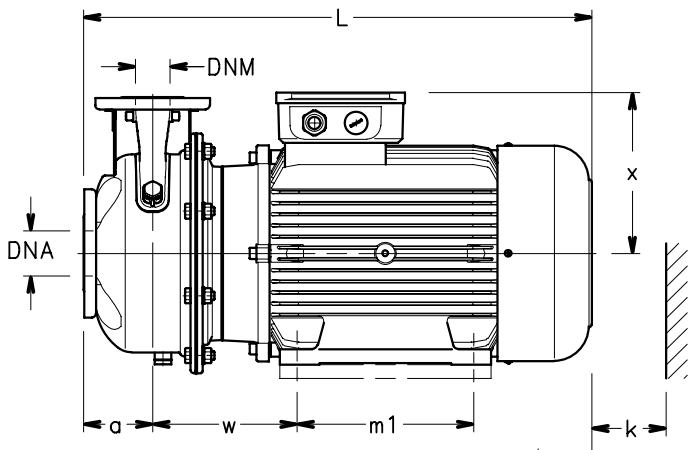


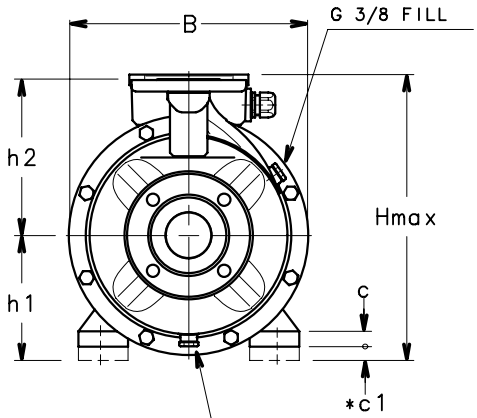
SHE WITH PUMP SUPPORT FOOT
MOTORS UP TO 7.5kW



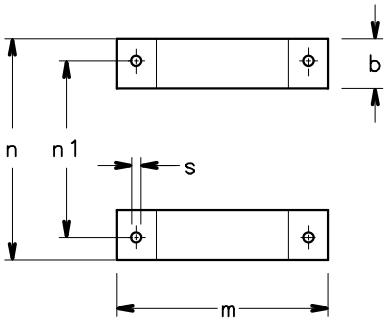
PUMP FLANGES

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

LOWARA
a xylem brand

SHE4 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

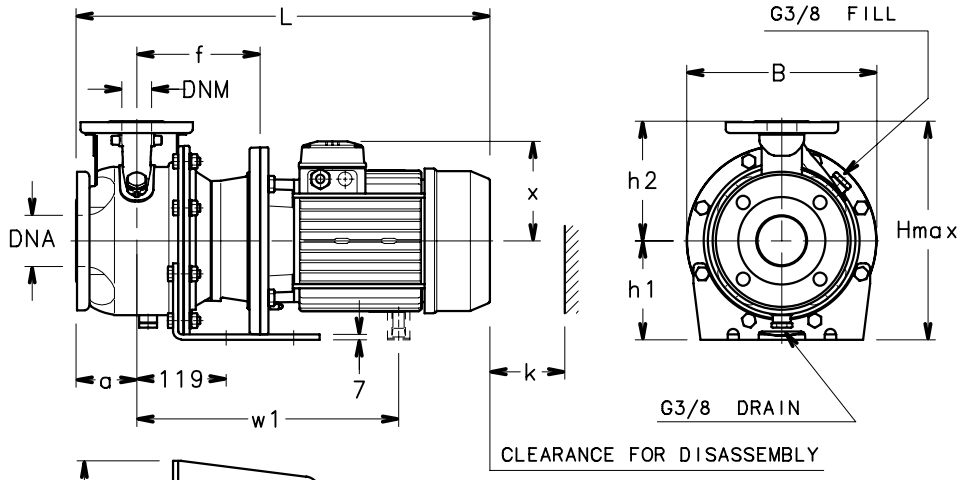
PUMP TYPE	DIMENSIONS (mm)																				WEIGHT
	PUMP							SUPPORT									B	H	L	k	
	DNM	DNA	a	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s		max			kg
SHE4 25-125/02A/A	25	50	80	140	-	-	121	-	-	-	160	-	-	190	130	-	218	300	411	98	15
SHE4 25-125/02/A	25	50	80	140	-	-	121	-	-	-	160	-	-	190	130	-	218	300	411	98	16
SHE4 25-160/02/A	25	50	80	160	-	-	121	-	-	-	160	-	-	210	130	-	253	320	411	98	18
SHE4 25-160/03/A	25	50	80	160	-	-	121	-	-	-	160	-	-	210	130	-	253	320	411	98	19
SHE4 25-200/03/A	25	50	80	180	-	-	121	-	-	-	160	-	-	230	130	-	284	340	411	98	26
SHE4 25-200/05/A	25	50	80	180	-	-	129	-	-	-	160	-	-	230	130	-	284	340	443	98	27
SHE4 25-250/07/C	25	50	100	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	431	98	42
SHE4 25-250/11/P	25	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	49
SHE4 25-250/15/P	25	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	51
SHE4 32-125/02A/A	32	50	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	98	15
SHE4 32-125/02/A	32	50	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	98	16
SHE4 32-160/02/A	32	50	80	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	411	98	18
SHE4 32-160/03/A	32	50	80	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	411	98	19
SHE4 32-200/03/A	32	50	80	180	-	-	121	-	-	-	160	-	-	230	130	-	284	340	411	98	26
SHE4 32-200/05/A	32	50	80	180	-	-	129	-	-	-	160	-	-	230	130	-	284	340	443	98	27
SHE4 32-250/07/C	32	50	100	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	431	98	42
SHE4 32-250/11/P	32	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	49
SHE4 32-250/15/P	32	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	51
SHE4 40-125/02A/A	40	65	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	100	16
SHE4 40-125/02/A	40	65	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	100	17
SHE4 40-125/03/A	40	65	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	100	18
SHE4 40-160/03/A	40	65	80	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	411	100	20
SHE4 40-160/05/A	40	65	80	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	443	100	24
SHE4 40-200/07/C	40	65	100	180	-	-	128	-	-	-	160	-	-	230	130	-	285	340	431	100	27
SHE4 40-200/11/P	40	65	100	180	-	-	134	-	-	-	160	-	-	230	130	-	285	340	498	100	35
SHE4 40-250/11/P	40	65	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	107	47
SHE4 40-250/15/P	40	65	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	107	61
SHE4 40-250/22/P	40	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	522	107	65
SHE4 50-125/03A/A	50	65	100	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	431	104	20
SHE4 50-125/03/A	50	65	100	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	431	104	20
SHE4 50-125/05/A	50	65	100	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	463	104	26
SHE4 50-160/07/C	50	65	100	180	-	-	128	-	-	-	160	-	-	210	130	-	253	340	431	104	30
SHE4 50-160/11/P	50	65	100	180	-	-	134	-	-	-	160	-	-	210	130	-	253	340	498	104	40
SHE4 50-200/11/P	50	65	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	104	48
SHE4 50-200/15/P	50	65	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	104	51
SHE4 50-250/22A/P	50	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	522	107	56
SHE4 50-250/22/P	50	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	522	107	56
SHE4 50-250/30/P	50	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	553	107	62
SHE4 65-160/05/A	65	80	100	200	-	-	129	-	-	-	160	-	-	245	130	-	310	360	463	130	32
SHE4 65-160/07/C	65	80	100	200	-	-	128	-	-	-	160	-	-	245	130	-	310	360	431	130	36
SHE4 65-160/11A/P	65	80	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	130	44
SHE4 65-160/11/P	65	80	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	130	45
SHE4 65-160/15/P	65	80	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	130	48
SHE4 65-200/15/P	65	80	100	225	-	-	134	-	-	-	180	-	-	245	130	-	310	405	498	130	56
SHE4 65-200/22/P	65	80	100	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	522	130	64
SHE4 65-200/30/P	65	80	100	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	553	130	64
SHE4 65-250/40/P	65	80	100	250	-	315	168	-	-	-	200	-	-	265	130	-	345	450	598	140	84
SHE4 65-250/55/P	65	80	100	250	-	343	191	-	-	-	200	-	-	265	130	-	345	450	605	140	97
SHE4 80-160/15/P	80	100	125	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	523	160	55
SHE4 80-160/22A/P	80	100	125	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	547	160	63
SHE4 80-160/22/P	80	100	125	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	547	160	66
SHE4 80-200/30/P	80	100	125	250	-	-	168	-	-	-	180	-	-	265	130	-	345	430	578	160	69
SHE4 80-200/40/P	80	100	125	250	-	315	168	-	-	-	180	-	-	265	130	-	345	430	623	160	88
SHE4 80-250/55/P	80	100	125	280	-	343	191	-	-	-	200	-	-	303	210	-	383	480	630	160	102
SHE4 80-250/75/P	80	100	125	280	-	343	191	-	-	-	200	-	-	303	210	-	383	480	630	160	106
SHE4 80-250/110/P	80	100	125	280	208	-	240	49	5	40	200	304	210	304	254	15	383	480	719	160	145

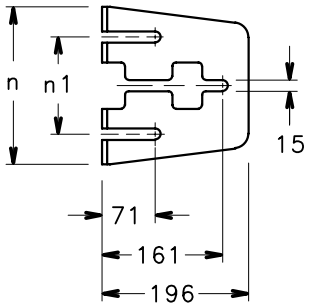
* Motor shim on request

sh-she4-4p50-en_e_td

LOWARA
a xylem brand

SHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

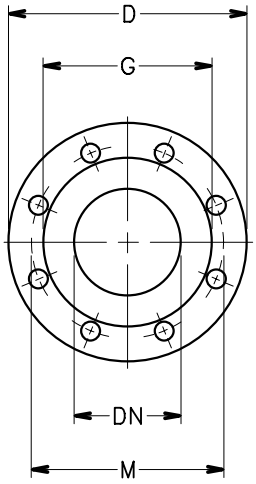


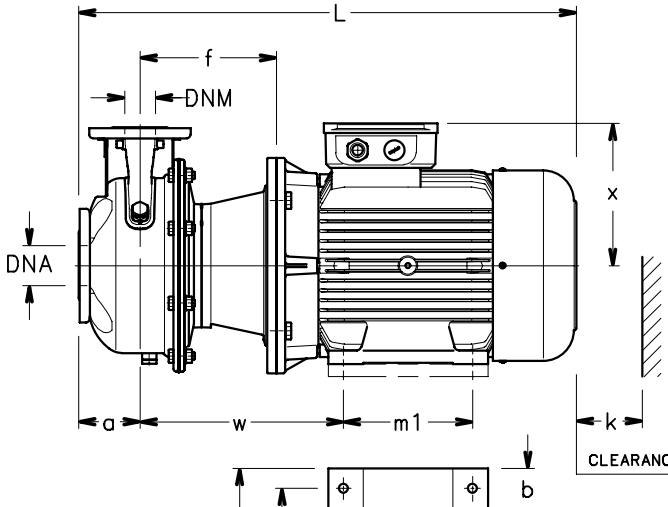


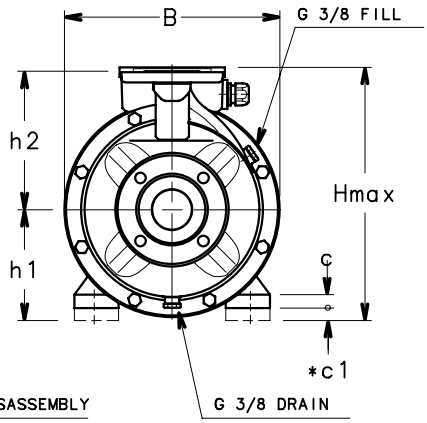
SHS WITH PUMP SUPPORT FOOT
MOTORS UP TO 7.5kW

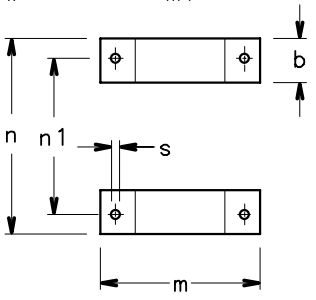
PUMP FLANGES

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

LOWARA
a xylem brand

SHS SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE	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
SHS 25-125/07/D	25	50	80	155	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	498	98	24
SHS 25-125/11/D	25	50	80	155	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	498	98	25
SHS 25-160/15/D	25	50	80	155	160	-	-	129	-	-	-	160	-	-	210	130	-	253	320	498	98	27
SHS 25-160/22/C	25	50	80	155	160	-	-	134	-	-	-	160	-	-	210	130	-	253	320	533	98	33
SHS 25-200/30/P	25	50	80	165	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	543	98	44
SHS 25-200/40/P	25	50	80	165	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	564	98	51
SHS 25-250/55/P	25	50	100	192	225	-	399	168	-	-	-	180	-	-	265	130	-	345	405	667	98	77
SHS 25-250/75/P	25	50	100	192	225	-	397	191	-	-	-	180	-	-	265	130	-	345	405	659	98	91
SHS 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
SHS 32-125/07/D	32	50	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	98	24
SHS 32-125/11/D	32	50	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	98	25
SHS 32-160/15/D	32	50	80	155	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	498	98	27
SHS 32-160/22/C	32	50	80	155	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	533	98	33
SHS 32-200/30/P	32	50	80	165	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	543	98	44
SHS 32-200/40/P	32	50	80	165	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	564	98	51
SHS 32-250/55/P	32	50	100	192	225	-	399	168	-	-	-	180	-	-	265	130	-	345	405	667	98	77
SHS 32-250/75/P	32	50	100	192	225	-	397	191	-	-	-	180	-	-	265	130	-	345	405	659	98	91
SHS 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
SHS 40-125/11/D	40	65	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	100	26
SHS 40-125/15/D	40	65	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	100	26
SHS 40-125/22/C	40	65	80	155	140	-	-	134	-	-	-	112	-	-	190	130	-	218	252	533	100	32
SHS 40-160/30/P	40	65	80	165	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	543	100	42
SHS 40-160/40/P	40	65	80	165	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	564	100	48
SHS 40-200/55/P	40	65	100	192	180	-	399	168	-	-	-	160	-	-	230	130	-	300	340	667	100	63
SHS 40-200/75/P	40	65	100	192	180	-	397	191	-	-	-	160	-	-	230	130	-	300	340	659	100	80
SHS 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
SHS 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
SHS 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
SHS 50-125/22/C	50	65	100	155	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	553	104	36
SHS 50-125/30/P	50	65	100	165	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	563	104	37
SHS 50-125/40/P	50	65	100	165	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	584	104	48
SHS 50-160/55/P	50	65	100	192	180	-	399	168	-	-	-	160	-	-	210	130	-	300	340	667	104	62
SHS 50-160/75/P	50	65	100	192	180	-	397	191	-	-	-	160	-	-	210	130	-	300	340	659	104	81
SHS 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
SHS 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
SHS 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
SHS 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
SHS 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
SHS 65-160/40/P	65	80	100	165	200	-	-	154	-	-	-	160	-	-	245	130	-	310	360	584	130	60
SHS 65-160/55/P	65	80	100	192	200	-	399	168	-	-	-	160	-	-	245	130	-	310	360	667	130	78
SHS 65-160/75/P	65	80	100	192	200	-	397	191	-	-	-	160	-	-	245	130	-	310	360	659	130	93
SHS 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
SHS 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
SHS 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
SHS 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
SHS 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
SHS 65-250/300/C	65	80	100	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	140	290
SHS 65-250/370/C	65	80	100	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	140	322
SHS 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
SHS 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
SHS 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
SHS 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
SHS 80-200/300/C	80	100	125	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	160	312
SHS 80-200/370/C	80	100	125	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	160	317

* Motor shim on request

sh-shs-2p50-en_f_td

LOWARA
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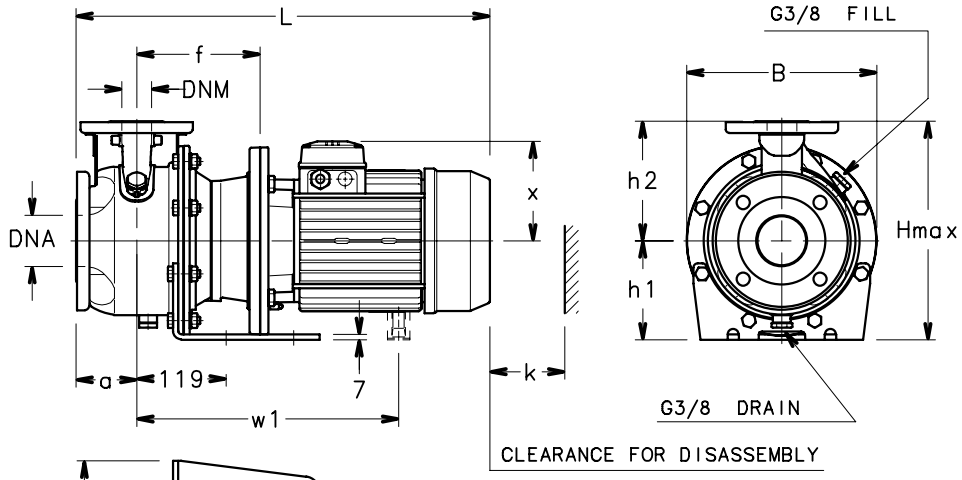
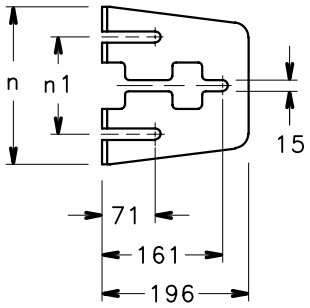
SHS4 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

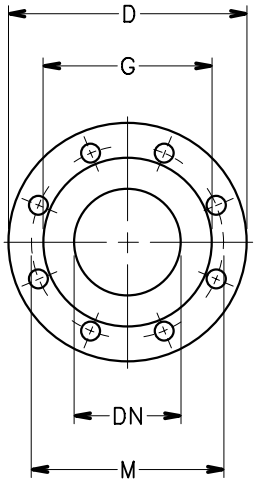


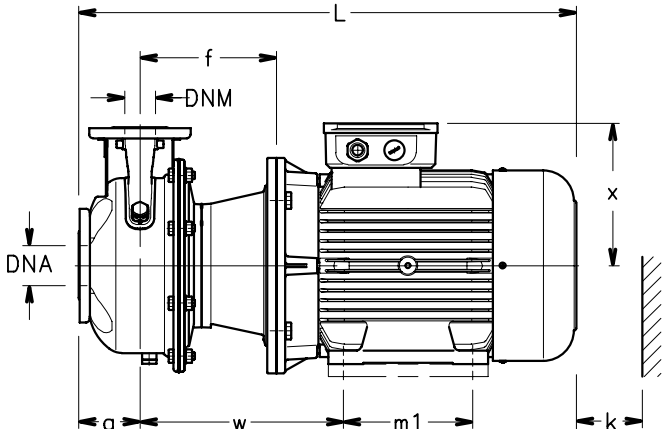


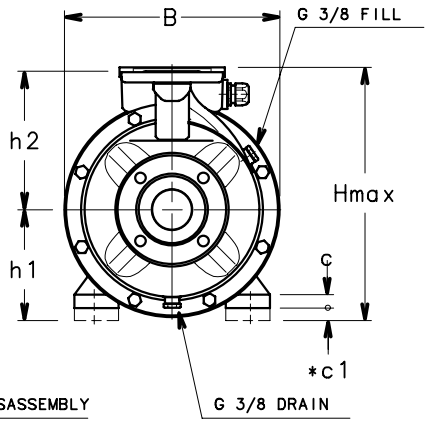
SHS WITH PUMP SUPPORT FOOT
MOTORS UP TO 7.5kW

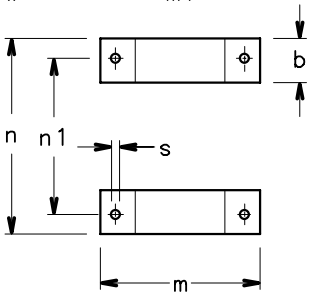
PUMP FLANGES

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
11 TO 37kW MOTORS

04953D-EN_E_DD

LOWARA
a xylem brand

SHS4 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE	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
SHS4 25-250/07/C	25	50	100	155	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	486	98	42
SHS4 25-250/11/P	25	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	49
SHS4 25-250/15/P	25	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	50
SHS4 32-250/07/C	32	50	100	155	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	486	98	42
SHS4 32-250/11/P	32	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	49
SHS4 32-250/15/P	32	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	50
SHS4 40-200/07/C	40	65	100	155	180	-	-	128	-	-	-	160	-	-	230	130	-	284	340	486	100	31
SHS4 40-200/11/P	40	65	100	155	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	553	100	37
SHS4 40-250/11/P	40	65	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	107	51
SHS4 40-250/15/P	40	65	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	107	64
SHS4 40-250/22/P	40	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	587	107	68
SHS4 50-160/07/C	50	65	100	155	180	-	-	128	-	-	-	160	-	-	210	130	-	253	340	486	104	30
SHS4 50-160/11/P	50	65	100	155	180	-	-	134	-	-	-	160	-	-	210	130	-	253	340	553	104	36
SHS4 50-200/11/P	50	65	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	104	49
SHS4 50-200/15/P	50	65	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	104	52
SHS4 50-250/22A/P	50	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	587	107	58
SHS4 50-250/22/P	50	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	587	107	59
SHS4 50-250/30/P	50	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	618	107	65
SHS4 65-160/05/A	65	80	100	155	200	-	-	129	-	-	-	160	-	-	245	130	-	310	360	518	130	34
SHS4 65-160/07/C	65	80	100	155	200	-	-	128	-	-	-	160	-	-	245	130	-	310	360	486	130	38
SHS4 65-160/11A/P	65	80	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	130	46
SHS4 65-160/11/P	65	80	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	130	48
SHS4 65-160/15/P	65	80	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	130	51
SHS4 65-200/15/P	65	80	100	155	225	-	-	134	-	-	-	180	-	-	245	130	-	310	405	553	130	54
SHS4 65-200/22/P	65	80	100	165	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	587	130	71
SHS4 65-200/30/P	65	80	100	165	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	618	130	72
SHS4 65-250/40/P	65	80	100	165	250	-	380	168	-	-	-	200	-	-	265	130	-	345	450	663	140	97
SHS4 65-250/55/P	65	80	100	192	250	-	435	191	-	-	-	200	-	-	265	130	-	345	450	697	140	104
SHS4 80-160/15/P	80	100	125	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	578	160	59
SHS4 80-160/22A/P	80	100	125	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	612	160	67
SHS4 80-160/22/P	80	100	125	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	612	160	67
SHS4 80-200/30/P	80	100	125	165	250	-	-	168	-	-	-	180	-	-	265	130	-	345	430	643	160	72
SHS4 80-200/40/P	80	100	125	165	250	-	380	168	-	-	-	180	-	-	265	130	-	345	430	688	160	88
SHS4 80-250/55/P	80	100	125	192	280	-	435	191	-	-	-	200	-	-	303	210	-	383	480	722	160	107
SHS4 80-250/75/P	80	100	125	192	280	-	435	191	-	-	-	200	-	-	303	210	-	383	480	722	160	113
SHS4 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

sh-shs4-4p50-en_e_td

LOWARA
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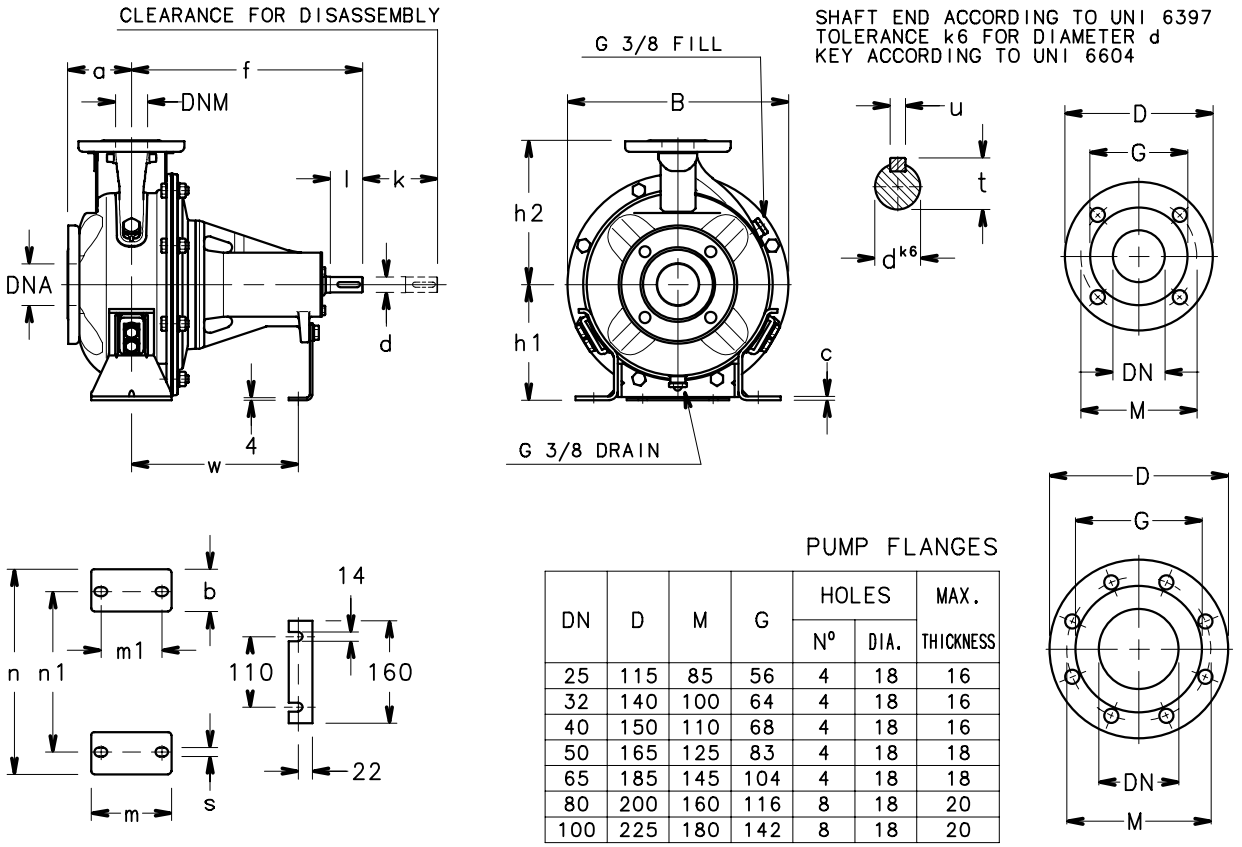
SHF SERIES (BARE SHAFT)
DIMENSIONS AND WEIGHTS AT 50 Hz



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

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SHF SERIES (BARE SHAFT)
DIMENSIONS AND WEIGHTS AT 50 Hz

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

sh-shf-en_c_td

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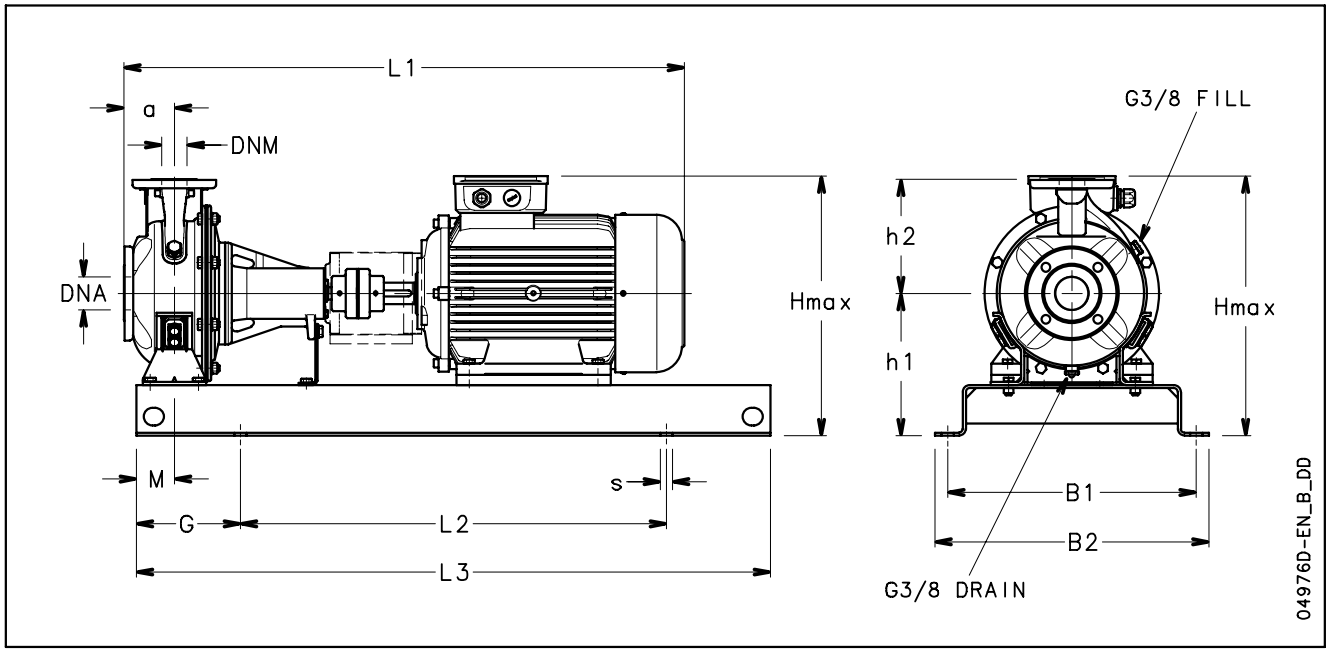
SHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



LOWARA
a xylem brand

SHF SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE	DIMENSIONS (mm)													S FOR SCREWS	WEIGHT kg	COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax			
SHF 25-125/07/D	25	50	80	320	360	746	540	800	130	60	212	140	352	M16	67	A2
SHF 25-125/11/D	25	50	80	320	360	746	540	800	130	60	212	140	352	M16	69	A2
SHF 25-160/15/P	25	50	80	350	390	791	600	900	150	60	232	160	392	M16	73	A3
SHF 25-160/22/P	25	50	80	350	390	791	600	900	150	60	232	160	392	M16	75	A3
SHF 25-200/30/P	25	50	80	350	390	822	600	900	150	60	260	180	440	M16	95	B1
SHF 25-200/40/P	25	50	80	350	390	825	600	900	150	60	260	180	440	M16	97	B1
SHF 25-250/55/P	25	50	100	440	490	910	740	1120	190	75	280	225	505	M20	130	C1
SHF 25-250/75/P	25	50	100	440	490	910	740	1120	190	75	280	225	505	M20	134	C1
SHF 25-250/110/P	25	50	100	490	540	1067	840	1250	205	75	280	225	520	M20	181	C2
SHF 32-125/07/D	32	50	80	320	360	746	540	800	130	60	212	140	352	M16	67	A2
SHF 32-125/11/D	32	50	80	320	360	746	540	800	130	60	212	140	352	M16	69	A2
SHF 32-160/15/P	32	50	80	350	390	791	600	900	150	60	232	160	392	M16	73	A3
SHF 32-160/22/P	32	50	80	350	390	791	600	900	150	60	232	160	392	M16	75	A3
SHF 32-200/30/P	32	50	80	350	390	822	600	900	150	60	260	180	440	M16	95	B1
SHF 32-200/40/P	32	50	80	350	390	825	600	900	150	60	260	180	440	M16	97	B1
SHF 32-250/55/P	32	50	100	440	490	910	740	1120	190	75	280	225	505	M20	130	C1
SHF 32-250/75/P	32	50	100	440	490	910	740	1120	190	75	280	225	505	M20	134	C1
SHF 32-250/110/P	32	50	100	490	540	1067	840	1250	205	75	280	225	520	M20	181	C2
SHF 40-125/11/D	40	65	80	350	390	746	600	900	150	60	212	140	352	M16	70	A2
SHF 40-125/15/P	40	65	80	350	390	791	600	900	150	60	212	140	352	M16	74	A3
SHF 40-125/22/P	40	65	80	350	390	791	600	900	150	60	212	140	352	M16	77	A3
SHF 40-160/30/P	40	65	80	350	390	822	600	900	150	60	232	160	392	M16	92	B1
SHF 40-160/40/P	40	65	80	350	390	825	600	900	150	60	232	160	400	M16	96	B1
SHF 40-200/55/P	40	65	100	400	450	910	660	1000	170	60	260	180	451	M20	123	C1
SHF 40-200/75/P	40	65	100	400	450	910	660	1000	170	60	260	180	451	M20	128	C1
SHF 40-250/110A/P	40	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	167	C2
SHF 40-250/110/P	40	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	170	C2
SHF 40-250/150/P	40	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	175	C2
SHF 50-125/22/P	50	65	100	350	390	811	600	900	150	60	232	160	392	M16	84	A3
SHF 50-125/30/P	50	65	100	350	390	842	600	900	150	60	232	160	392	M16	92	B1
SHF 50-125/40/P	50	65	100	350	390	845	600	900	150	60	232	160	400	M16	95	B1
SHF 50-160/55/P	50	65	100	400	450	910	660	1000	170	60	260	180	451	M20	120	C1
SHF 50-160/75/P	50	65	100	400	450	910	660	1000	170	60	260	180	451	M20	122	C1
SHF 50-200/110A/P	50	65	100	440	490	1067	740	1120	190	60	260	200	500	M20	145	C2
SHF 50-200/110/P	50	65	100	440	490	1067	740	1120	190	60	260	200	500	M20	150	C2
SHF 50-250/150/P	50	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	165	C2
SHF 50-250/185/P	50	65	100	490	540	1067	840	1250	205	75	280	225	520	M20	170	C2
SHF 50-250/220/C	50	65	100	490	540	1127	840	1250	205	75	280	225	559	M20	246	D1
SHF 65-160/40/P	65	80	100	400	450	845	660	1000	170	75	260	200	460	M20	133	B1
SHF 65-160/55/P	65	80	100	400	450	845	660	1000	170	75	260	200	460	M20	150	C1
SHF 65-160/75/P	65	80	100	400	450	845	660	1000	170	75	260	200	460	M20	154	C1
SHF 65-160/110A/P	65	80	100	490	540	1067	840	1250	205	75	260	200	500	M20	162	C2
SHF 65-160/110/P	65	80	100	490	540	1067	840	1250	205	75	260	200	500	M20	162	C2
SHF 65-200/150/P	65	80	100	490	540	1067	840	1250	205	75	280	225	520	M20	185	C2
SHF 65-200/185/P	65	80	100	490	540	1067	840	1250	205	75	280	225	520	M20	190	C2
SHF 65-200/220/C	65	80	100	490	540	1127	840	1250	205	75	280	225	559	M20	274	D1
SHF 65-250/300/C	65	80	100	550	610	1340	940	1400	230	90	310	250	627	M24	367	E1
SHF 65-250/370/C	65	80	100	550	610	1340	940	1400	230	90	310	250	627	M24	403	E1
SHF 80-160/110/P	80	100	125	490	540	1092	840	1250	205	75	280	225	520	M20	198	C2
SHF 80-160/150/P	80	100	125	490	540	1092	840	1250	205	75	280	225	520	M20	209	C2
SHF 80-160/185/P	80	100	125	490	540	1092	840	1250	205	75	280	225	520	M20	220	C2
SHF 80-200/220/C	80	100	125	490	540	1262	840	1250	205	75	280	250	559	M20	302	D2
SHF 80-200/300/C	80	100	125	550	610	1365	940	1400	230	75	310	250	627	M24	373	E1
SHF 80-200/370/C	80	100	125	550	610	1365	940	1400	230	75	310	250	627	M24	402	E1
SHF 80-250/450/C	80	100	125	550	610	1454	940	1400	230	90	365	280	749	M24	501	E1
SHF 80-250/550/C	80	100	125	600	660	1563	1060	1600	270	90	390	280	792	M24	582	F1
SHF 80-250/750/C	80	100	125	670	730	1670	1200	1800	300	90	420	280	892	M24	700	G1

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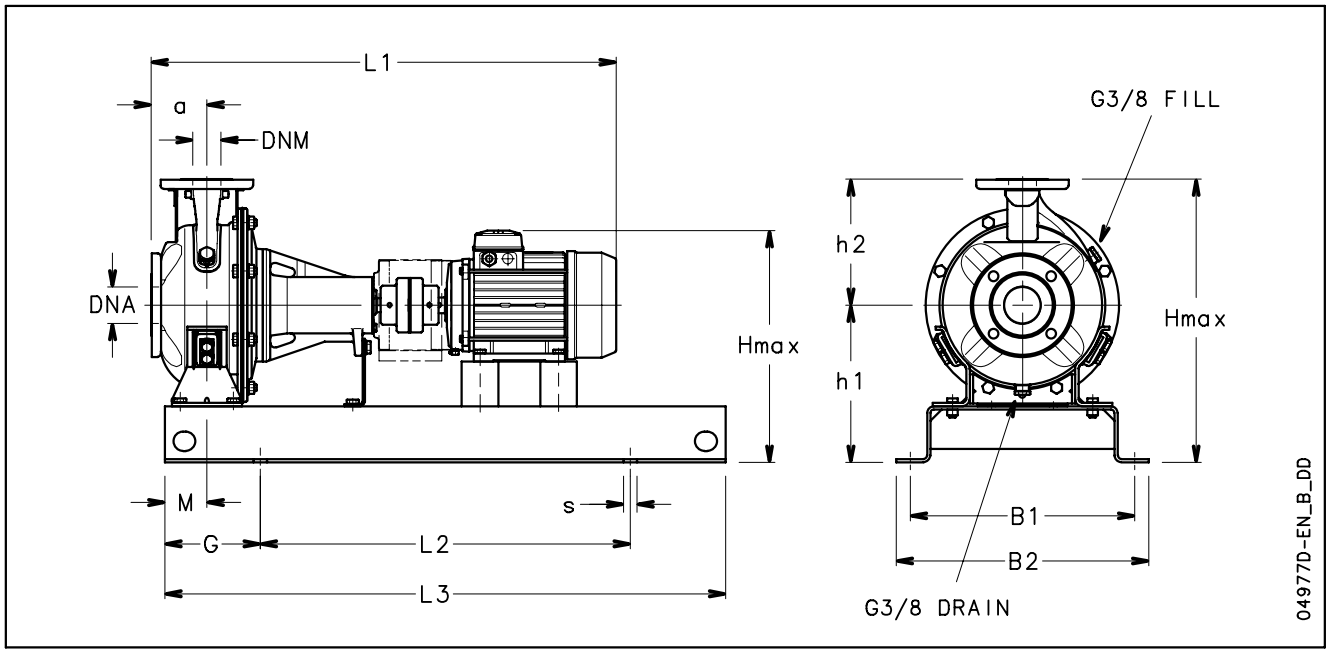
SHF4 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES



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SHF4 SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 4 POLES

PUMP TYPE	DIMENSIONS (mm)													s FOR SCREWS	WEIGHT kg	COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax			
SHF4 25-125/02A/A	25	50	80	320	360	704	540	800	130	60	212	140	352	M16	72	A1
SHF4 25-125/02/A	25	50	80	320	360	704	540	800	130	60	212	140	352	M16	72	A1
SHF4 25-160/02/A	25	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHF4 25-160/03/A	25	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHF4 25-200/03/A	25	50	80	320	360	704	540	800	130	60	260	180	440	M16	78	A1
SHF4 25-200/05/A	25	50	80	320	360	746	540	800	130	60	260	180	440	M16	80	A2
SHF4 25-250/07/C	25	50	100	400	450	734	660	1000	170	75	280	225	505	M20	98	A2
SHF4 25-250/11/P	25	50	100	400	450	811	660	1000	170	75	280	225	505	M20	106	A3
SHF4 25-250/15/P	25	50	100	400	450	811	660	1000	170	75	280	225	505	M20	108	A3
SHF4 32-125/02A/A	32	50	80	320	360	704	540	800	130	60	212	140	352	M16	72	A1
SHF4 32-125/02/A	32	50	80	320	360	704	540	800	130	60	212	140	352	M16	72	A1
SHF4 32-160/02/A	32	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHF4 32-160/03/A	32	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHF4 32-200/03/A	32	50	80	320	360	704	540	800	130	60	260	180	440	M16	78	A1
SHF4 32-200/05/A	32	50	80	320	360	746	540	800	130	60	260	180	440	M16	80	A2
SHF4 32-250/07/C	32	50	100	400	450	734	660	1000	170	75	280	225	505	M20	98	A2
SHF4 32-250/11/P	32	50	100	400	450	811	660	1000	170	75	280	225	505	M20	106	A3
SHF4 32-250/15/P	32	50	100	400	450	811	660	1000	170	75	280	225	505	M20	108	A3
SHF4 40-125/02A/A	40	65	80	320	360	704	540	800	130	60	212	140	352	M16	57	A1
SHF4 40-125/02/A	40	65	80	320	360	704	540	800	130	60	212	140	352	M16	57	A1
SHF4 40-125/03/A	40	65	80	320	360	704	540	800	130	60	212	140	352	M16	58	A1
SHF4 40-160/03/A	40	65	80	320	360	704	540	800	130	60	232	160	392	M16	60	A1
SHF4 40-160/05/A	40	65	80	320	360	746	540	800	130	60	232	160	392	M16	62	A2
SHF4 40-200/07/C	40	65	100	350	390	734	600	900	150	60	260	180	440	M16	70	A2
SHF4 40-200/11/P	40	65	100	350	390	811	600	900	150	60	260	180	440	M16	78	A3
SHF4 40-250/11/P	40	65	100	400	450	811	660	1000	170	75	280	225	505	M20	105	A3
SHF4 40-250/15/P	40	65	100	400	450	811	660	1000	170	75	280	225	505	M20	108	A3
SHF4 40-250/22/P	40	65	100	400	450	888	660	1000	170	75	280	225	505	M20	131	B1
SHF4 50-125/03A/A	50	65	100	320	360	724	540	800	130	60	232	160	392	M16	59	A1
SHF4 50-125/03/A	50	65	100	320	360	724	540	800	130	60	232	160	392	M16	59	A1
SHF4 50-125/05/A	50	65	100	320	360	766	540	800	130	60	232	160	392	M16	61	A2
SHF4 50-160/07/C	50	65	100	350	390	734	600	900	150	60	260	180	440	M16	69	A2
SHF4 50-160/11/P	50	65	100	350	390	811	600	900	150	60	260	180	440	M16	77	A3
SHF4 50-200/11/P	50	65	100	350	390	811	600	900	150	60	260	200	460	M16	88	A3
SHF4 50-200/15/P	50	65	100	350	390	811	600	900	150	60	260	200	460	M16	91	A3
SHF4 50-250/22A/P	50	65	100	400	450	888	660	1000	170	75	280	225	505	M20	132	B1
SHF4 50-250/22/P	50	65	100	400	450	888	660	1000	170	75	280	225	505	M20	132	B1
SHF4 50-250/30/P	50	65	100	400	450	888	660	1000	170	75	280	225	505	M20	136	B1
SHF4 65-160/05/A	65	80	100	350	390	766	600	900	150	75	260	200	460	M16	84	A2
SHF4 65-160/07/C	65	80	100	350	390	734	600	900	150	75	260	200	460	M16	86	A2
SHF4 65-160/11A/P	65	80	100	400	450	811	600	1000	170	75	260	200	460	M20	94	A3
SHF4 65-160/11/P	65	80	100	400	450	811	660	1000	170	75	260	200	460	M20	94	A3
SHF4 65-160/15/P	65	80	100	400	450	811	660	1000	170	75	260	200	460	M20	97	A3
SHF4 65-200/15/P	65	80	100	400	450	811	660	1000	170	75	280	225	505	M20	109	A3
SHF4 65-200/22/P	65	80	100	440	490	888	740	1120	190	75	280	225	505	M20	133	B1
SHF4 65-200/30/P	65	80	100	440	490	888	740	1120	190	75	280	225	505	M20	137	B1
SHF4 65-250/40/P	65	80	100	440	490	1031	740	1120	190	90	310	250	550	M20	178	C3
SHF4 65-250/55/P	65	80	100	440	490	1058	740	1120	190	90	310	250	550	M20	193	C4
SHF4 80-160/15/P	80	100	125	400	450	836	660	1000	170	75	280	225	505	M20	127	A3
SHF4 80-160/22A/P	80	100	125	440	490	913	740	1120	190	75	280	225	505	M20	143	B1
SHF4 80-160/22/P	80	100	125	440	490	913	740	1120	190	75	280	225	505	M20	143	B1
SHF4 80-200/30/P	80	100	125	440	490	1023	740	1120	190	75	280	250	530	M20	162	C3
SHF4 80-200/40/P	80	100	125	440	490	1056	740	1120	190	75	280	250	530	M20	171	C3
SHF4 80-250/55/P	80	100	125	490	540	1083	840	1250	205	90	310	280	590	M20	194	C4
SHF4 80-250/75/P	80	100	125	490	540	1083	840	1250	205	90	310	280	590	M20	198	C4
SHF4 80-250/110/P	80	100	125	490	540	1202	840	1250	205	90	310	280	590	M20	256	C5

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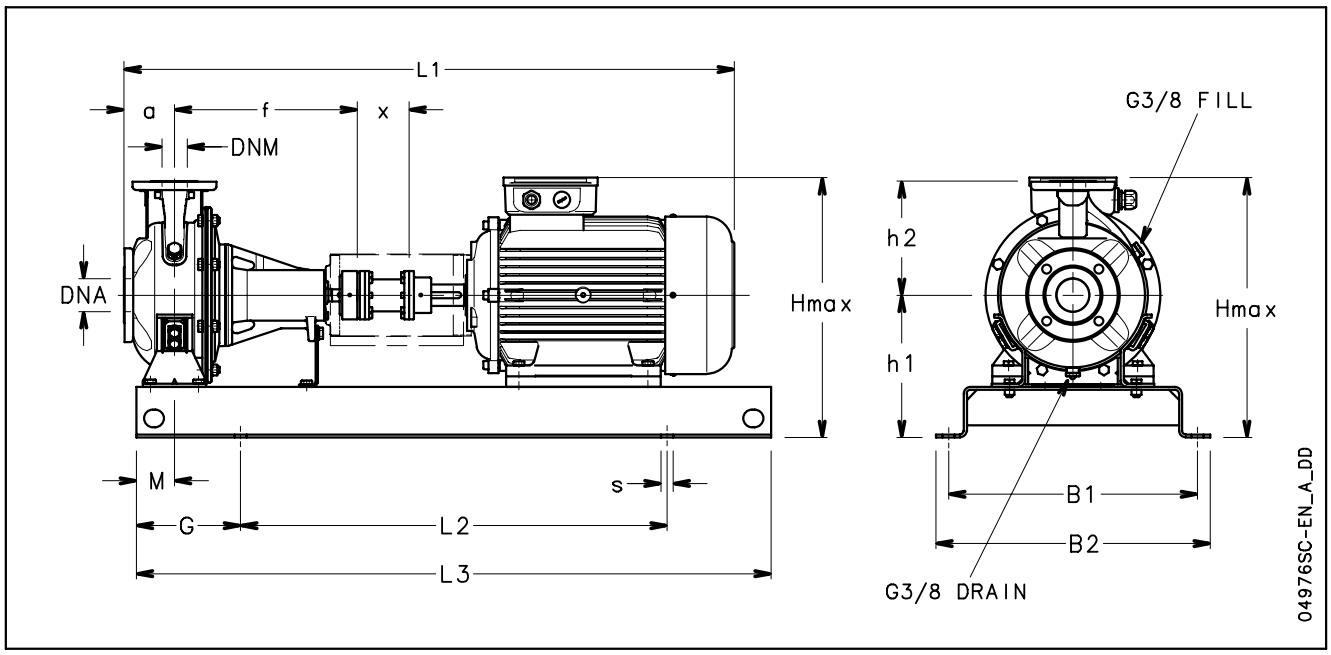
SHF..SC SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



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SHF..SC SERIES
DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

PUMP TYPE	DIMENSIONS (mm)															s FOR SCREWS	WEIGHT kg	COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax	f	x			
SHF 32-125/07/D SC	32	50	80	320	360	845	540	800	130	60	212	140	352	360	100	M16	69	A2S
SHF 32-125/11/D SC	32	50	80	320	360	845	540	800	130	60	212	140	352	360	100	M16	71	A2S
SHF 32-160/15/P SC	32	50	80	350	390	889	600	900	150	60	232	160	392	360	100	M16	75	A3S
SHF 32-160/22/P SC	32	50	80	350	390	889	600	900	150	60	232	160	392	360	100	M16	77	A3S
SHF 32-200/30/P SC	32	50	80	350	390	920	600	900	150	60	260	180	440	360	100	M16	97	B1S
SHF 32-200/40/P SC	32	50	80	350	390	923	600	900	150	60	260	180	440	360	100	M16	99	B1S
SHF 32-250/55/P SC	32	50	100	440	490	1007	740	1120	190	75	280	225	505	360	100	M20	132	C1S
SHF 32-250/75/P SC	32	50	100	440	490	1007	740	1120	190	75	280	225	505	360	100	M20	136	C1S
SHF 32-250/110/P SC	32	50	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	183	C2S
SHF 40-125/11/D SC	40	65	80	350	390	845	600	900	150	60	212	140	352	360	100	M16	72	A2S
SHF 40-125/15/P SC	40	65	80	350	390	889	600	900	150	60	212	140	352	360	100	M16	76	A3S
SHF 40-125/22/P SC	40	65	80	350	390	889	600	900	150	60	212	140	352	360	100	M16	79	A3S
SHF 40-160/30/P SC	40	65	80	350	390	920	600	900	150	60	232	160	392	360	100	M16	94	B1S
SHF 40-160/40/P SC	40	65	80	350	390	923	600	900	150	60	232	160	400	360	100	M16	98	B1S
SHF 40-200/55/P SC	40	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	125	C1S
SHF 40-200/75/P SC	40	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	130	C1S
SHF 40-250/110A/P SC	40	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	169	C2S
SHF 40-250/110/P SC	40	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	172	C2S
SHF 40-250/150/P SC	40	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	177	C2S
SHF 50-125/22/P SC	50	65	100	350	390	909	600	900	150	60	232	160	392	360	100	M16	86	A3S
SHF 50-125/30/P SC	50	65	100	350	390	940	600	900	150	60	232	160	392	360	100	M16	94	B1S
SHF 50-125/40/P SC	50	65	100	350	390	943	600	900	150	60	232	160	400	360	100	M16	97	B1S
SHF 50-160/55/P SC	50	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	122	C1S
SHF 50-160/75/P SC	50	65	100	400	450	1007	660	1000	170	60	260	180	451	360	100	M20	124	C1S
SHF 50-200/110A/P SC	50	65	100	440	490	1164	740	1120	190	60	260	200	500	360	100	M20	147	C2S
SHF 50-200/110/P SC	50	65	100	440	490	1164	740	1120	190	60	260	200	500	360	100	M20	152	C2S
SHF 50-250/150/P SC	50	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	167	C2S
SHF 50-250/185/P SC	50	65	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	172	C2S
SHF 50-250/220/C SC	50	65	100	490	540	1224	840	1250	205	75	280	225	559	360	100	M20	248	D1S
SHF 65-160/40/P SC	65	80	100	400	450	943	660	1000	170	75	260	200	460	360	100	M20	135	B1S
SHF 65-160/55/P SC	65	80	100	400	450	1007	660	1000	170	75	260	200	460	360	100	M20	152	C1S
SHF 65-160/75/P SC	65	80	100	400	450	1007	660	1000	170	75	260	200	460	360	100	M20	156	C1S
SHF 65-160/110A/P SC	65	80	100	490	540	1164	840	1250	205	75	260	200	500	360	100	M20	164	C2S
SHF 65-160/110/P SC	65	80	100	490	540	1164	840	1250	205	75	260	200	500	360	100	M20	164	C2S
SHF 65-200/150/P SC	65	80	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	187	C2S
SHF 65-200/185/P SC	65	80	100	490	540	1164	840	1250	205	75	280	225	520	360	100	M20	192	C2S
SHF 65-200/220/C SC	65	80	100	490	540	1224	840	1250	205	75	280	225	559	360	100	M20	276	D1S
SHF 65-250/300/C SC	65	80	100	550	610	1477	940	1400	230	90	310	250	627	470	140	M24	370	E1S
SHF 65-250/370/C SC	65	80	100	550	610	1477	940	1400	230	90	310	250	627	470	140	M24	406	E1S
SHF 80-160/110/P SC	80	100	125	490	540	1189	840	1250	205	75	280	225	520	360	100	M20	200	C2S
SHF 80-160/150/P SC	80	100	125	490	540	1189	840	1250	205	75	280	225	520	360	100	M20	211	C2S
SHF 80-160/185/P SC	80	100	125	490	540	1189	840	1250	205	75	280	225	520	360	100	M20	222	C2S
SHF 80-200/220/C SC	80	100	125	490	540	1359	840	1250	205	75	280	250	559	470	100	M20	304	D2S
SHF 80-200/300/C SC	80	100	125	550	610	1502	940	1400	230	75	310	250	627	470	140	M24	376	E1S
SHF 80-200/370/C SC	80	100	125	550	610	1502	940	1400	230	75	310	250	627	470	140	M24	405	E1S
SHF 80-250/450/C SC	80	100	125	550	610	1591	940	1400	230	90	365	280	749	470	140	M24	504	E1S
SHF 80-250/550/C SC	80	100	125	600	660	1700	1060	1600	270	90	390	280	792	470	140	M24	587	F1S
SHF 80-250/750/C SC	80	100	125	670	730	1807	1200	1800	300	90	420	280	892	470	140	M24	706	G1S

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ACCESSORIES

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DIMENSIONS OF ROUND THREADED COUNTERFLANGES ACCORDING TO EN 1092-1

DN	ø C	DIMENSIONS (mm) ø A	B	ø D	H	HOLES 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

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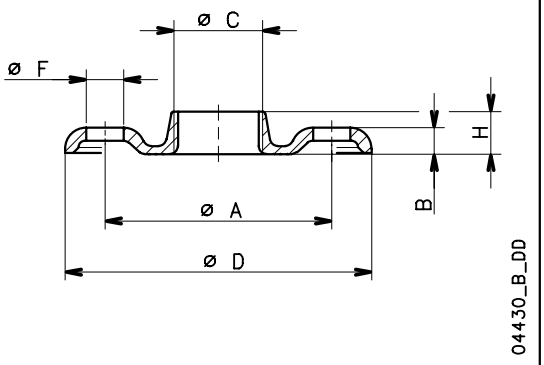
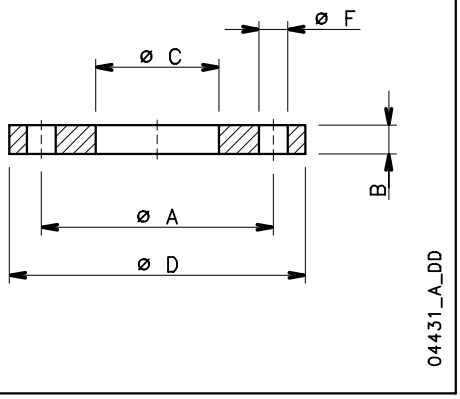


DIMENSIONS OF ROUND WELD-ON COUNTERFLANGES ACCORDING TO EN 1092-1

DN	ø C	DIMENSIONS (mm) ø A	B	ø D	HOLES 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

sh-ctf-tonde-s-en_b_td



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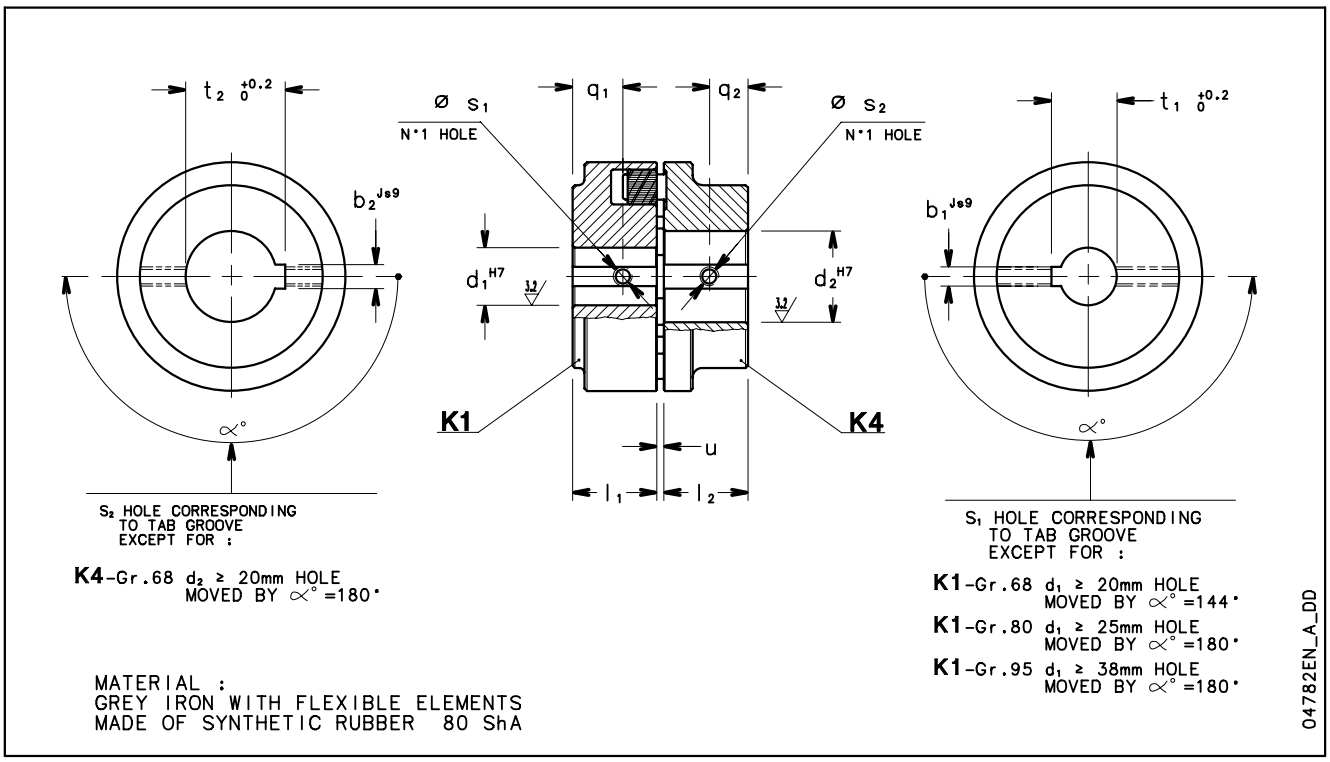
FLEXIBLE COUPLING DIMENSIONS



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

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N.B.: Non-ATEX version.

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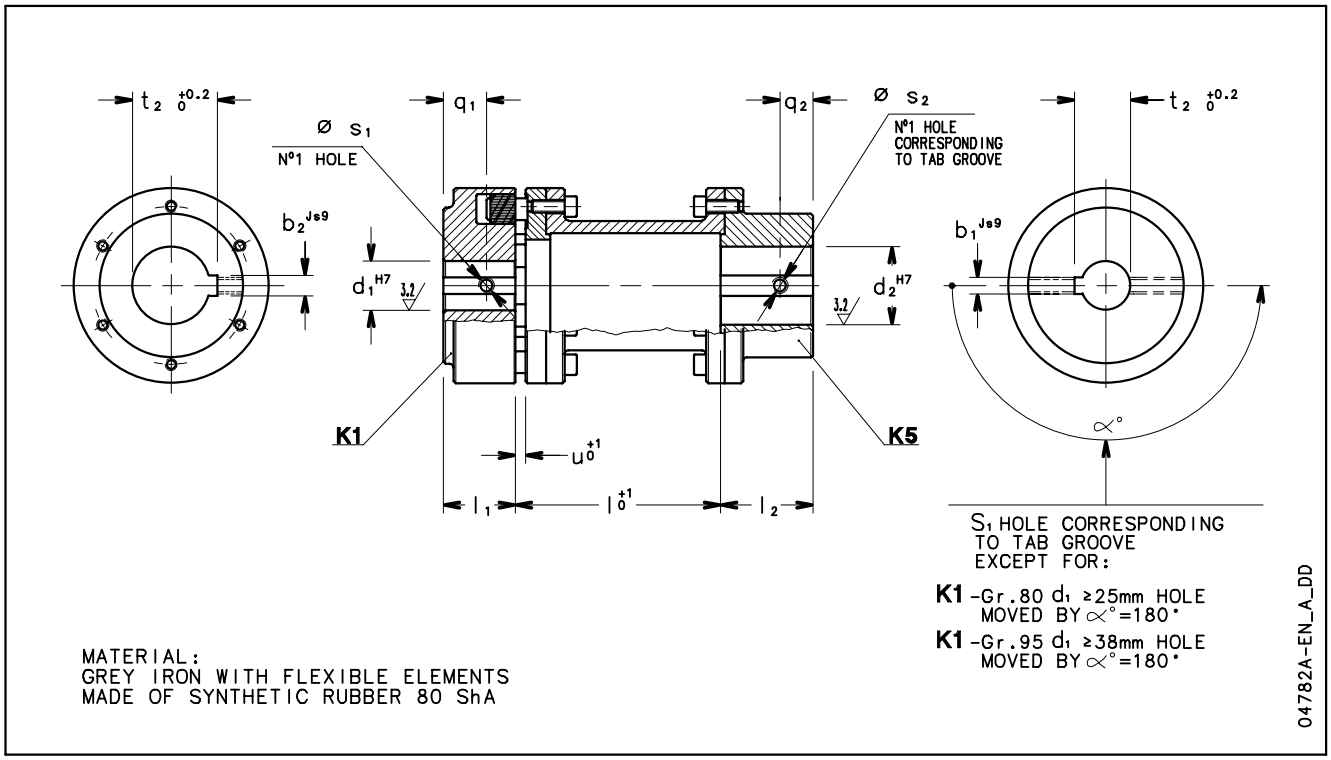
SPACER COUPLING DIMENSIONS



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

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N.B.: Non-ATEX version.

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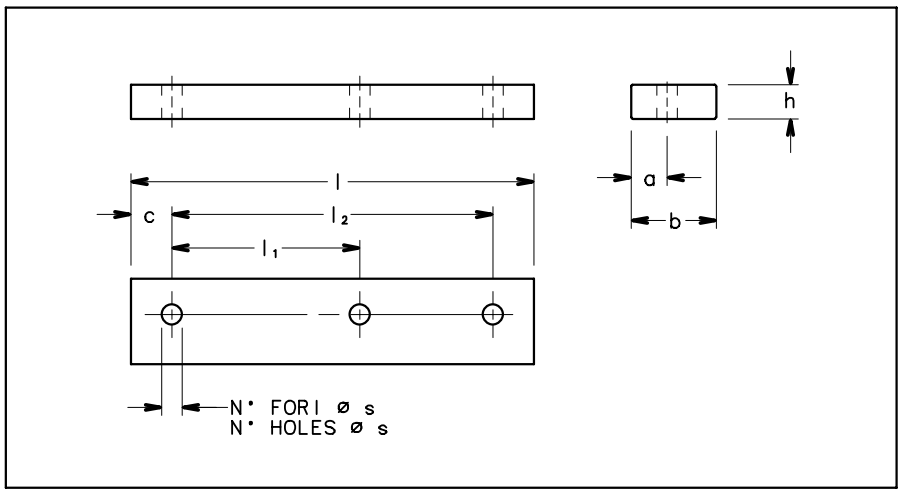
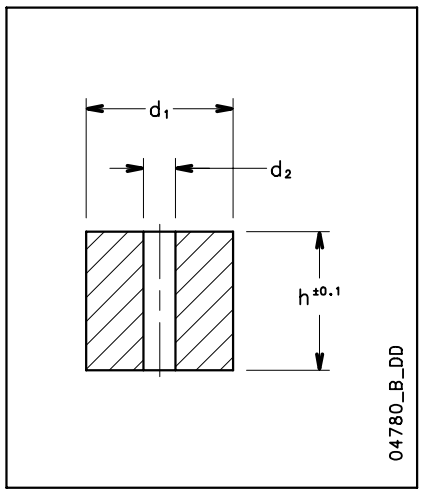
SH SERIES
SHIM FOR MOTOR FEET



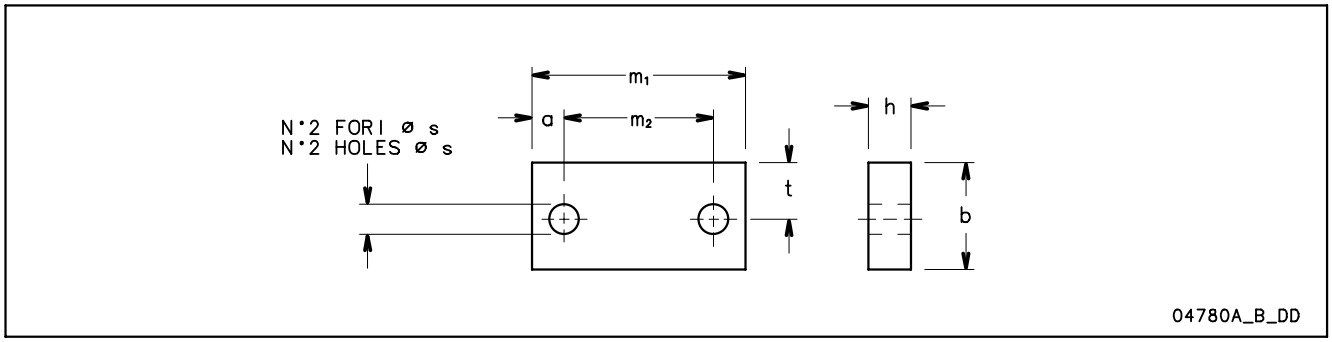


DIMENSIONS (mm)								
DENOMINATION							HOLES	
b	x h	x l	a	l_1	l_2	c	N°	ø s
35	20	125	17	100	-	12,5	2	10
40	10	155	20	100	125	15	3	10
40	12	155	20	100	125	15	3	10
40	12	180	17	140	-	20	2	14
40	20	180	17	140	-	20	2	14
40	30	155	20	100	125	15	3	10
40	40	180	17	140	-	20	2	14
50	8	226	21	140	178	24	3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



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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TECHNICAL APPENDIX

TYPICAL APPLICATIONS OF SH SERIES ELECTRIC PUMPS

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 ≥ (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 at pages 107-108 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/dm³
Flow rate required: 30 m³/h
Head for required delivery: 43 m.
Suction lift: 3,5 m.
The selection is an FHE 40-200/75 pump whose NPSH required value is, at 30 m³/h, di 2,5 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) ≥ (2,5 + 0,5) + 1,2 + 0,17

from which we have: 6,8 > 4,4

The relation is therefore verified.

VAPOUR PRESSURE

VAPOUR PRESSURE ps AND ρ DENSITY OF WATER TABLE

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

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

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

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

FLOW RATE			NOMINAL DIAMETER in mm and inches															
m^3/h	l/min		15	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

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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	Imp. gal. per minute Imp. gal/min	US gal. 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}	1.45×10^{-4}	1.02×10^{-4}	**0,0075**
1000,0000	**1,0000**	0,0100	0,1450	0,1020	7,5006
1×10^5	100,0000	**1,0000**	14,5038	10,1972	**750,0638**
6894,7570	6,8948	0,0689	**1,0000**	0,7031	51,7151
9806,6500	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
1000,0000	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 litro	millilitre ml	imp. Gallon imp. gal.	US gallon US gal.	cubic foot ft^3
1,0000	1000,0000	1×10^6	219,9694	264,1720	**35,3147**
0,0010	**1,0000**	1000,0000	0,2200	0,2642	0,0353
1×10^{-6}	0,0010	**1,0000**	2.2×10^{-4}	2.642×10^{-4}	3.53×10^{-5}
0,0045	4,5461	4546,0870	**1,0000**	1,2009	0,1605
0,0038	3,7854	3785,4120	0,8327	**1,0000**	**0,1337**
0,0283	28,3168	28316,8466	6,2288	7,4805	**1,0000**

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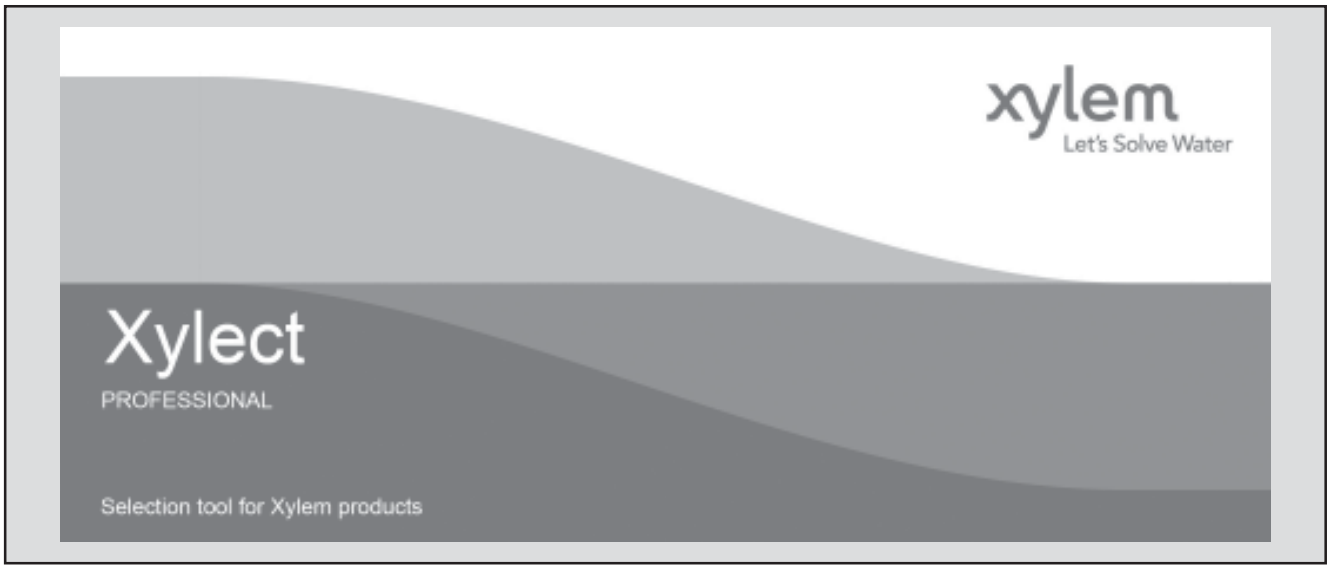
FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect™



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

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

LOWARA
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FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect™

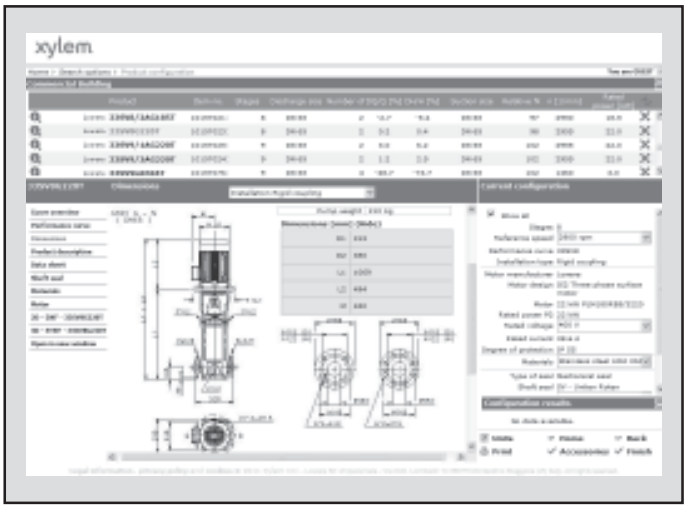
The detailed output makes it easy to select the optimal pump from the given alternatives.

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

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

Every user have a My Xylect space, where all projects are saved.

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



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