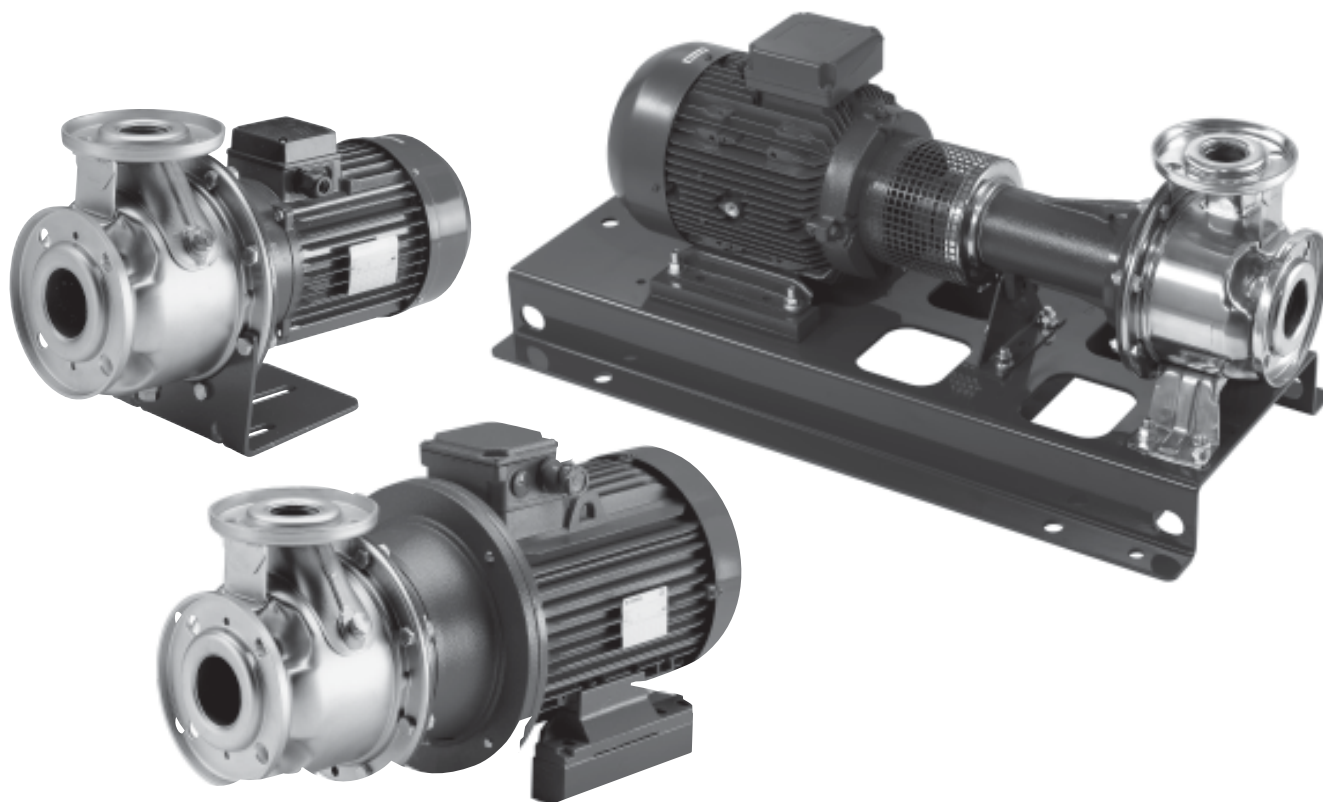


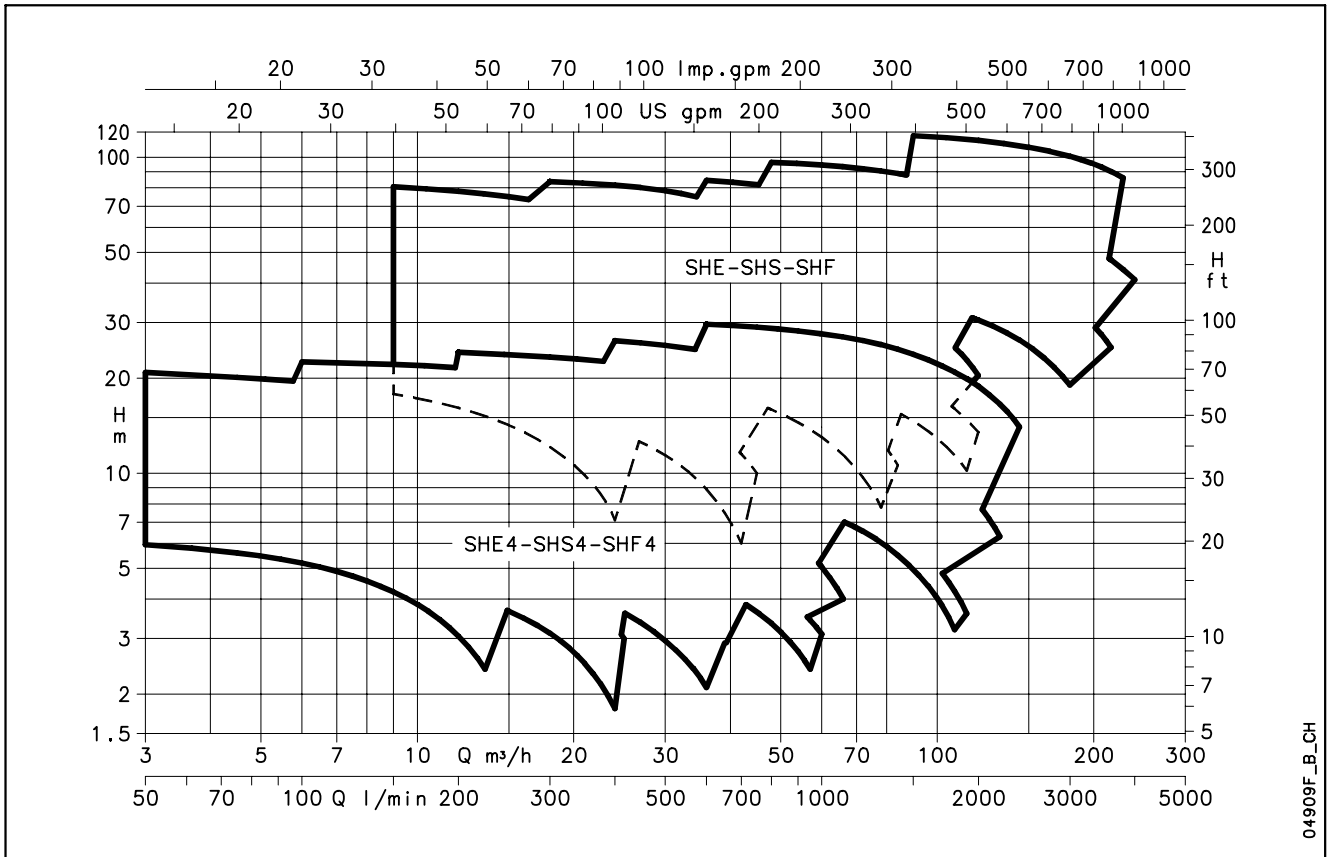
60 Hz



SH Series

CENTRIFUGAL ELECTRIC PUMPS MADE OF AISI 316 STAINLESS STEEL
IN COMPLIANCE WITH EN 733, EQUIPPED WITH IE2/IE3 MOTORS
COMPLYING WITH REGULATION (EC) no. 640/2009

**SH SERIES
HYDRAULIC PERFORMANCE RANGE AT 60 Hz**



04909F_B_CH

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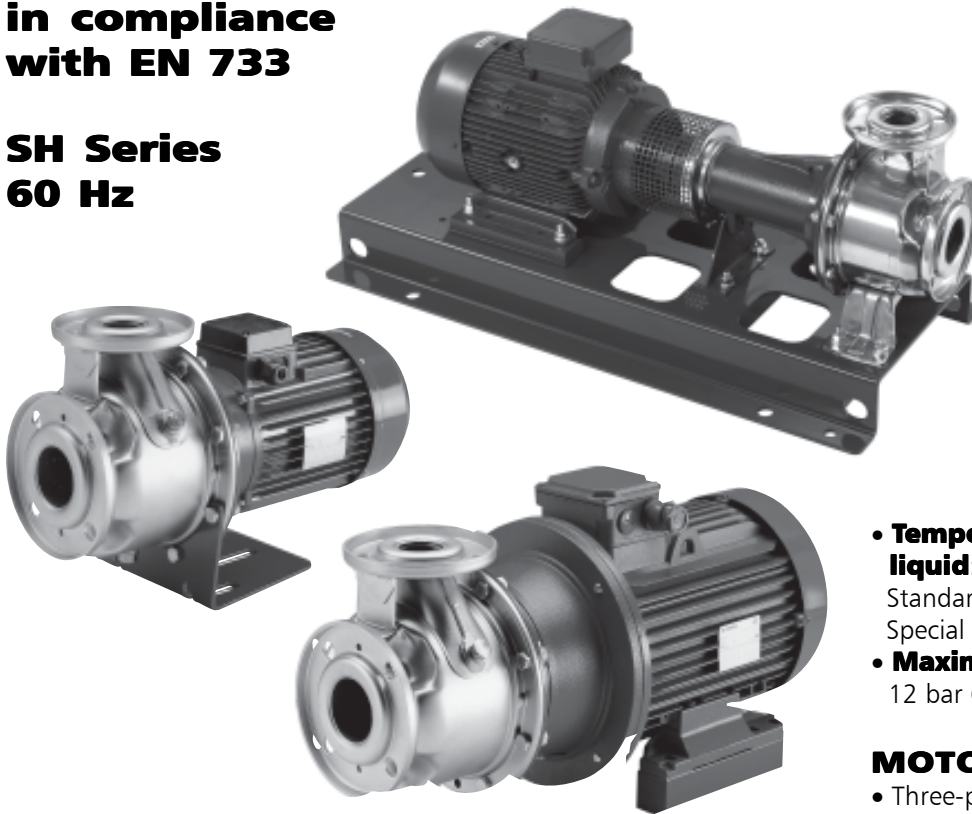
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Centrifugal electric pumps made of AISI 316 stainless steel in compliance with EN 733

**SH Series
60 Hz**

MARKET SECTORS

The Lowara SH series pumps are used for water and clean liquid circulation in heating, ventilating and air conditioning systems, and for pressure boosting in industrial applications.



**SPECIFICATIONS
PUMP**

- The SH series consists of single-stage centrifugal pumps made of pressed AISI 316 stainless steel.
- The hydraulic sizes and diameters of the suction and delivery ports are in compliance with EN 733 standards (ex DIN 24255).
- Flange dimensions in compliance with EN 1092-1.
- Available sizes: DN 25 to DN 80.
- Anti-clockwise rotation when facing pump's suction port.
- Back pull-out design.

APPLICATION RANGE

- **Delivery:**
up to 240 m³/h, 2 poles.
up to 145 m³/h, 4 poles.
- **Head:**
up to 120 m, 2 poles.
up to 30 m, 4 poles.

• **Temperature of pumped liquid:**

Standard -10°C to +120°C.

Special versions available on request.

- **Maximum working pressure:**
12 bar (PN 12).

MOTOR

- Three-phase asynchronous, squirrel cage rotor, enclosed construction, external ventilation.
- Performances according to EN 60034-1.
- **Standard supplied IE2/IE3 motors are compliant with Regulation (EC) no. 640/2009 and IEC 60034-30.**
- IP 55 protection.
- Insulation class 155 (F).
- Max. ambient temperature: 40°C.
For different environmental conditions, check the power.
- Overload protection to be provided by user.
- Condensation drain plugs on all LOWARA motors.
- **Standard voltage:**
2-pole motors
Single-phase: 220-230 V, 60 Hz.
Three-phase : 220-380 V, 60 Hz.
4-pole motors
Three-phase : 220-380 V, 60 Hz.

CONSTRUCTION CHARACTERISTICS

- Stainless steel centrifugal pump with end suction and radial discharge ports.
- Pump body made of AISI 316L stainless steel.
- Flanges in compliance with EN 1092-1 (ex UNI 2236 and DIN 2533).
- Back pull-out design (impeller, bracket and motor can be extracted without disconnecting the pump body from the piping).
- Closed impeller made of AISI 316L stainless steel, laser-technology welded (for sizes 25, 32, 40, 50, 65-160/75, 65-160/110A) or AISI CF8M cast stainless steel.
- Mechanical seal according to EN 12756 (ex DIN 24960).
- AISI 316L stainless steel fill & drain plugs.

MOTOR-PUMP COUPLING

- **SHE**: close-coupled by means of a bracket with impeller keyed directly to the motor shaft extension.
- **SHS**: with a bracket, adaptor and rigid coupling keyed to the standard motor shaft extension.
- **SHF**: with bracket, support, flexible coupling, and aligning and anchoring base.
- Bare shaft pump and version with spacer coupling are also available upon request.

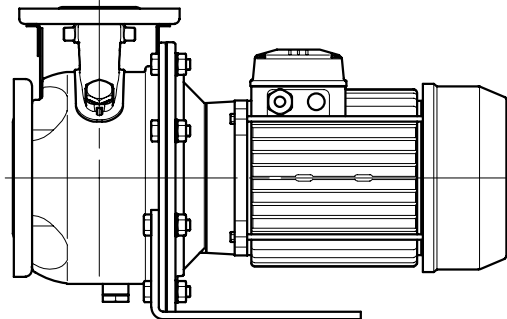
ACCESSORIES ON REQUEST

- AISI 316 stainless steel or galvanized iron counterflanges.
- Intermediate flange with pressure gauge connection.
- Pump and motor shims.

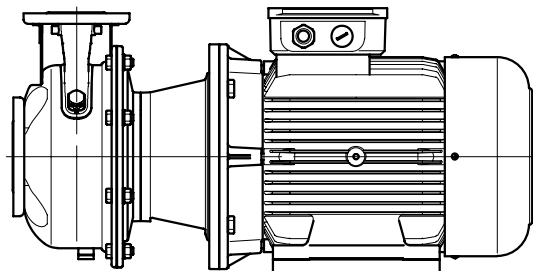
OPTIONAL FEATURES

- Different voltages and frequencies.
- Special materials for the mechanical seal and gaskets.
- Version with internal recirculation of pumped liquid to mechanical seal.
- Version with rotation locking system seal.
- Tropicalized motors.
- Version with Hydrovar® control system.
- SHF with flexible coupling with spacer.
- Diesel motor.

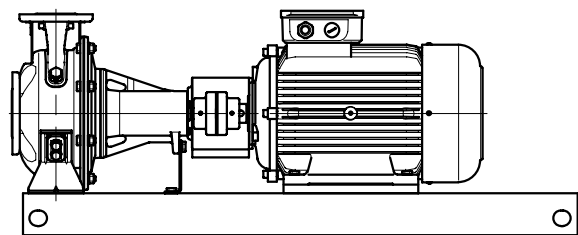
SHE – SHE4



SHS – SHS4

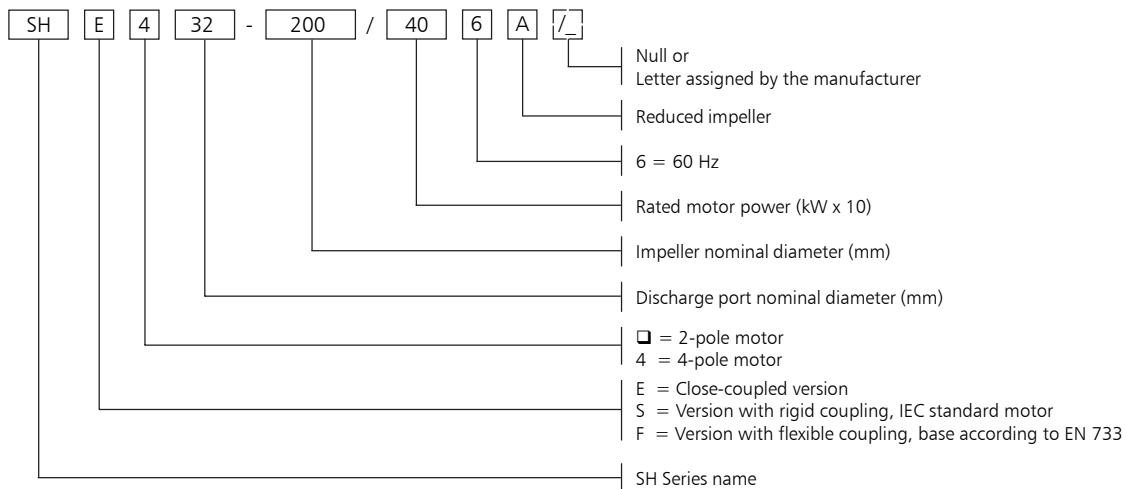


SHF – SHF4

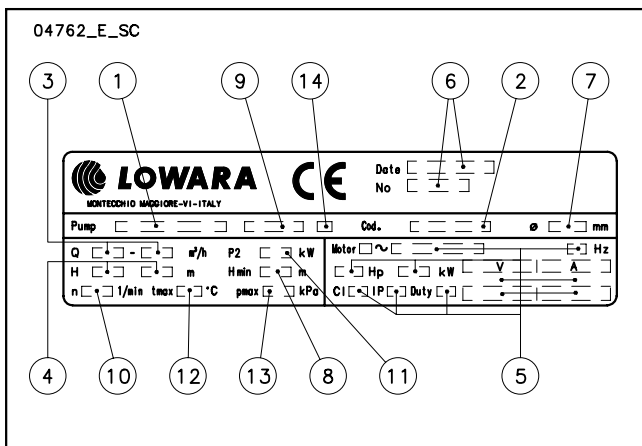


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SH SERIES IDENTIFICATION CODE



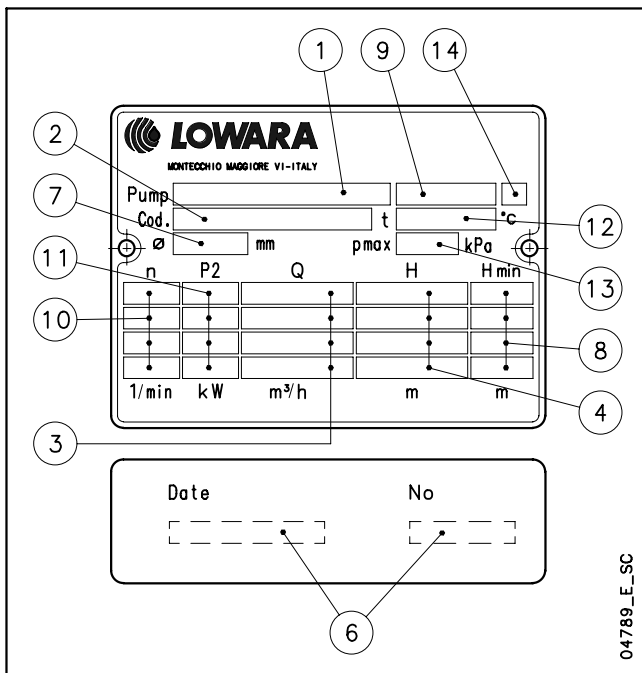
SHE - SHS RATING PLATE



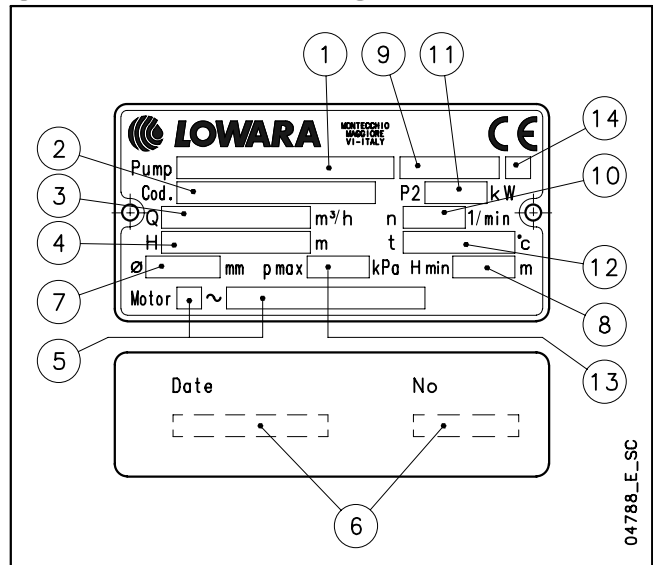
LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacturing and serial number
- 7 - Impeller diameter
- 8 - Minimum head
- 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

SHF RATING PLATE (PUMP ONLY)



SHF RATING PLATE (ELECTRIC PUMP)



LIST OF MODELS SH SERIES 60 Hz 2 POLES

SIZE	kW	VERSION		
		SHE	SHS	SHF
25-125/116	1,1	•	•	•
25-160/156	1,5	•	•	•
25-160/226	2,2	•	•	•
25-200/306	3	•	•	•
25-200/406	4	•	•	•
25-250/556	5,5	•	•	•
25-250/756	7,5	•	•	•
25-250/1106	11	•	•	•
32-125/116	1,1	•	•	•
32-160/156	1,5	•	•	•
32-160/226	2,2	•	•	•
32-200/306	3	•	•	•
32-200/406	4	•	•	•
32-250/556	5,5	•	•	•
32-250/756	7,5	•	•	•
32-250/1106	11	•	•	•
40-125/156	1,5	•	•	•
40-125/226	2,2	•	•	•
40-160/306	3	•	•	•
40-160/406	4	•	•	•
40-200/556	5,5	•	•	•
40-200/756	7,5	•	•	•
40-250/926	9,2	•	-	-
40-250/1106A	11	-	•	•
40-250/1106	11	•	•	•
40-250/1506	15	•	•	•
50-125/306	3	•	•	•
50-125/406	4	•	•	•
50-160/556	5,5	•	•	•
50-160/756	7,5	•	•	•
50-200/926	9,2	•	-	-
50-200/1106A	11	-	•	•
50-200/1106	11	•	•	•
50-250/1506	15	•	•	•
50-250/1856	18,5	•	•	•
50-250/2206	22	•	•	•
65-160/556	5,5	•	•	•
65-160/756	7,5	•	•	•
65-160/926	9,2	•	-	-
65-160/1106A	11	-	•	•
65-160/1106	11	•	•	•
65-200/1506	15	•	•	•
65-200/1856	18,5	•	•	•
65-200/2206	22	•	•	•
65-250/3006	30	-	•	•
65-250/3706	37	-	•	•
80-160/1506	15	•	•	•
80-160/1856	18,5	•	•	•
80-200/2206	22	•	•	•
80-200/3006	30	-	•	•
80-200/3706	37	-	•	•
80-250/4506	45	-	-	•
80-250/5506	55	-	-	•
80-250/7506	75	-	-	•

• = Available

sh-2p60-en_b_tem

4 POLES

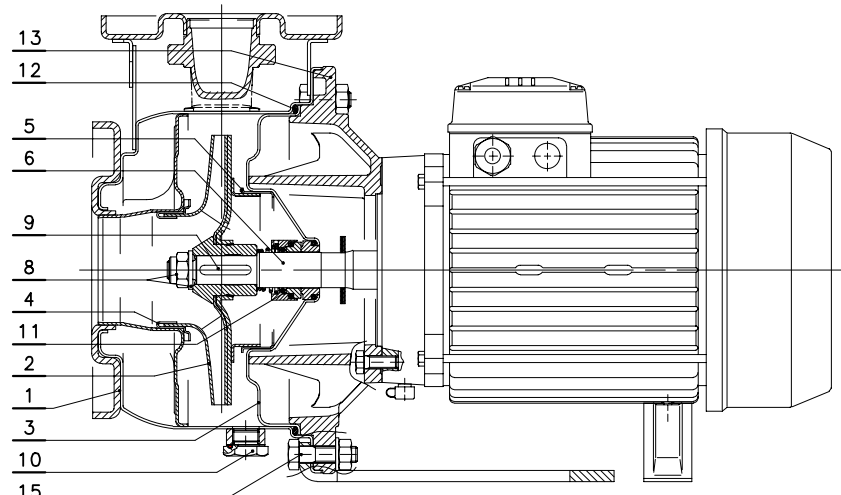
SIZE	kW	VERSION		
		SHE4	SHS4	SHF4
25-125/026	0,25	•	-	•
25-160/026	0,25	•	-	•
25-160/036	0,37	•	-	•
25-200/036	0,37	•	-	•
25-200/056	0,55	•	-	•
25-250/076	0,75	•	•	•
25-250/116	1,1	•	•	•
25-250/156	1,5	•	•	•
32-125/026	0,25	•	-	•
32-160/026	0,25	•	-	•
32-160/036	0,37	•	-	•
32-200/036	0,37	•	-	•
32-200/056	0,55	•	-	•
32-250/076	0,75	•	•	•
32-250/116	1,1	•	•	•
32-250/156	1,5	•	•	•
40-125/026	0,25	•	-	•
40-125/036	0,37	•	-	•
40-160/036	0,37	•	-	•
40-160/056	0,5	•	-	•
40-200/076	0,75	•	•	•
40-200/116	1,1	•	•	•
40-250/116	1,1	•	•	•
40-250/156	1,5	•	•	•
40-250/226	2,2	•	•	•
50-125/036	0,37	•	-	•
50-125/056	0,5	•	-	•
50-160/076	0,75	•	•	•
50-160/116	1,1	•	•	•
50-200/116	1,1	•	•	•
50-200/156	1,5	•	•	•
50-250/226A	2,2	•	•	•
50-250/226	2,2	•	•	•
50-250/306	3	•	•	•
65-160/076	0,75	•	•	•
65-160/116A	1,1	•	•	•
65-160/116	1,1	•	•	•
65-160/156	1,5	•	•	•
65-200/156	1,5	•	•	•
65-200/226	2,2	•	•	•
65-200/306	3	•	•	•
65-250/406	4	•	•	•
65-250/556	5,5	•	•	•
80-160/226A	2,2	•	•	•
80-160/226	2,2	•	•	•
80-200/306	3	•	•	•
80-200/406	4	•	•	•
80-250/556	5,5	•	•	•
80-250/756	7,5	•	•	•
80-250/1106	11	•	•	•

• = Available

sh-4p60-en_c_tem

SHE - SHE4 SERIES LIST OF MODELS AND TABLE OF MATERIALS

04906_B_DS		VERSION	
		2 POLE	4 POLE
		SHE 25-125/116	SHE4 25-200/056
		SHE 25-160/156	SHE4 25-250/076
		SHE 25-160/226	SHE4 25-250/116
		SHE 25-200/306	SHE4 25-250/156
		SHE 25-200/406	SHE4 32-200/056
		SHE 25-250/556	SHE4 32-250/076
		SHE 25-250/756	SHE4 32-250/116
		SHE 25-250/1106	SHE4 32-250/156
		SHE 32-125/116	SHE4 40-160/056
		SHE 32-160/156	SHE4 40-200/076
		SHE 32-160/226	SHE4 40-200/116
		SHE 32-200/306	SHE4 40-250/116
		SHE 32-200/406	SHE4 40-250/156
		SHE 32-250/556	SHE4 40-250/226
		SHE 32-250/756	SHE4 50-125/056
		SHE 32-250/1106	SHE4 50-160/076
		SHE 40-125/156	SHE4 50-160/116
		SHE 40-125/226	SHE4 50-200/116
		SHE 40-160/306	SHE4 50-200/156
		SHE 40-160/406	SHE4 50-250/226A
		SHE 40-200/556	SHE4 50-250/226A
		SHE 40-200/756	SHE4 50-250/306
		SHE 40-250/926	SHE4 65-160/076
		SHE 40-250/1106	SHE4 65-160/116A
		SHE 50-125/306	SHE4 65-160/116A
		SHE 50-125/406	SHE4 65-160/156
		SHE 50-160/556	SHE4 65-200/156
		SHE 50-160/756	SHE4 65-200/226
		SHE 50-200/926	SHE4 65-200/306
		SHE 50-200/1106	SHE4 65-250/406
		SHE 65-160/556	SHE4 65-250/556
		SHE 65-160/756	SHE4 80-160/226A
		SHE 65-160/926	SHE4 80-160/226A
		SHE 65-160/1106	SHE4 80-200/306
			SHE4 80-200/406
			SHE4 80-250/556
			SHE4 80-250/756

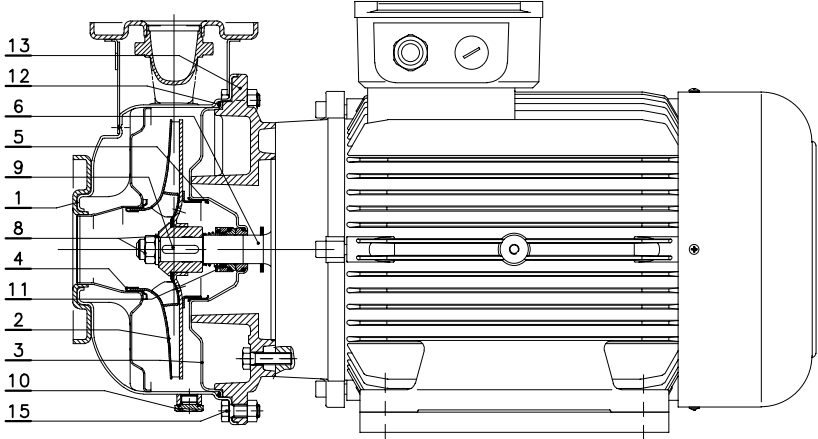
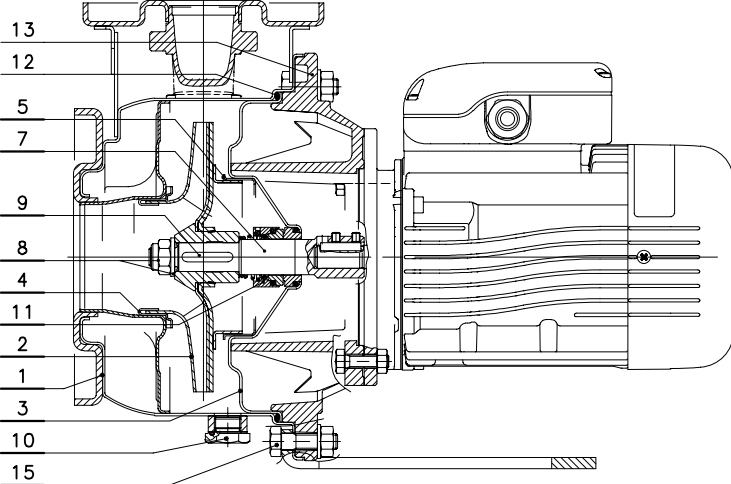


sh-she-she4-p-60-en_c_mo

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(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-AISI11Cu2 (Fe) (AC46100)	-
	Adapter *	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

* For the 25/32/40-125 2/4 pole, 25/32/40-160 2/4 pole, 25/32/40-200 2/4 pole versions

SHE - SHE4 SERIES LIST OF MODELS AND TABLE OF MATERIALS

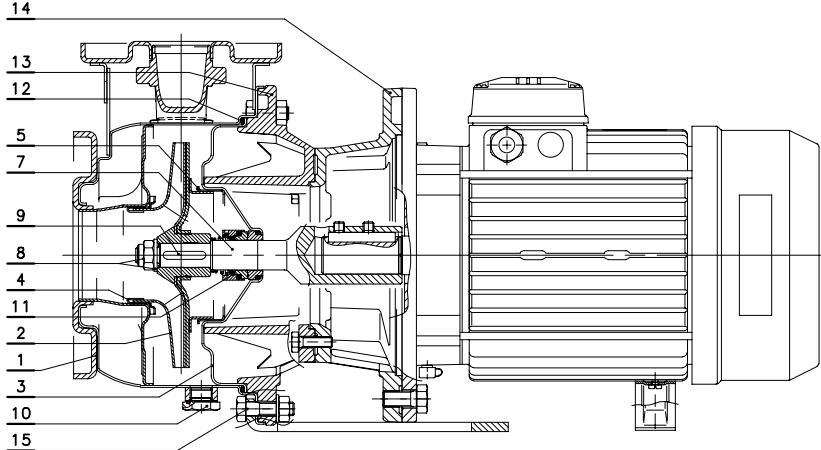
<p>04902_B_DS</p> 	<table border="1"> <thead> <tr> <th colspan="2">VERSION</th> </tr> <tr> <th>2 POLE</th> <th>4 POLE</th> </tr> </thead> <tbody> <tr> <td>SHE 40-250/1506</td> <td>SHE4 80-250/1106</td> </tr> <tr> <td>SHE 50-250/1506</td> <td></td> </tr> <tr> <td>SHE 50-250/1856</td> <td></td> </tr> <tr> <td>SHE 50-250/2206</td> <td></td> </tr> <tr> <td>SHE 65-200/1506</td> <td></td> </tr> <tr> <td>SHE 65-200/1856</td> <td></td> </tr> <tr> <td>SHE 65-200/2206</td> <td></td> </tr> <tr> <td>SHE 80-160/1506</td> <td></td> </tr> <tr> <td>SHE 80-160/1856</td> <td></td> </tr> <tr> <td>SHE 80-200/2206</td> <td></td> </tr> </tbody> </table> <p style="text-align: right;">sh-she-s-60-en_b_mo</p>	VERSION		2 POLE	4 POLE	SHE 40-250/1506	SHE4 80-250/1106	SHE 50-250/1506		SHE 50-250/1856		SHE 50-250/2206		SHE 65-200/1506		SHE 65-200/1856		SHE 65-200/2206		SHE 80-160/1506		SHE 80-160/1856		SHE 80-200/2206					
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SHE4 40-125/036																													
SHE4 40-160/036																													
SHE4 50-125/036																													

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(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-AISI11Cu2 (Fe) (AC46100)	-
	Adapter *	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
15	Pump body fastening bolts & screws	Galvanized steel		

* For the 25/32/40-125 2/4 pole, 25/32/40-160 2/4 pole, 25/32/40-200 2/4 pole versions

SHS - SHS4 SERIES LIST OF MODELS AND TABLE OF MATERIALS

04956_C_DS		VERSION	
		2 POLE	4 POLE
		SHS 25-125/116	SHS4 25-250/076
		SHS 25-160/156	SHS4 25-250/116
		SHS 25-160/226	SHS4 25-250/156
		SHS 25-200/306	SHS4 32-250/076
		SHS 25-200/406	SHS4 32-250/116
		SHS 25-250/556	SHS4 32-250/156
		SHS 25-250/756	SHS4 40-200/076
		SHS 32-125/116	SHS4 40-200/116
		SHS 32-160/156	SHS4 40-250/116
		SHS 32-160/226	SHS4 40-250/156
		SHS 32-200/306	SHS4 40-250/226
		SHS 32-200/406	SHS4 50-160/076
		SHS 32-250/556	SHS4 50-160/116
		SHS 32-250/756	SHS4 50-200/116
		SHS 40-125/156	SHS4 50-200/156
		SHS 40-125/226	SHS4 50-250/226A
		SHS 40-160/306	SHS4 50-250/226
		SHS 40-160/406	SHS4 50-250/306
		SHS 40-200/556	SHS4 65-160/076
		SHS 40-200/756	SHS4 65-160/116A
		SHS 50-125/306	SHS4 65-160/116
		SHS 50-125/406	SHS4 65-160/156
		SHS 50-160/556	SHS4 65-200/156
		SHS 50-160/756	SHS4 65-200/226
		SHS 65-160/556	SHS4 65-200/306
		SHS 65-160/756	SHS4 65-250/406
			SHS4 65-250/556
			SHS4 80-160/226A
			SHS4 80-160/226
			SHS4 80-200/306
			SHS4 80-200/406
			SHS4 80-250/556
			SHS4 80-250/756



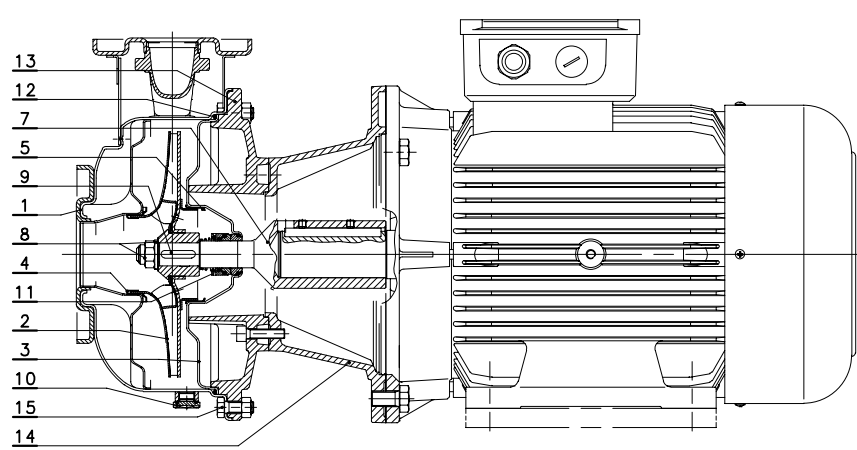
sh-shs-shs4-p-60-en_c_mo

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(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-AISI11Cu2 (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		

* For the 25/32/40-125 2/4 pole, 25/32/40-160 2/4 pole, 25/32/40-200 2/4 pole versions

SHS SERIES LIST OF MODELS AND TABLE OF MATERIALS

04952_B_DS



VERSION	
2 POLE	4 POLE
SHS 25-250/1106	SHS4 80-250/1106
SHS 32-250/1106	
SHS 40-250/1106A	
SHS 40-250/1106A	
SHS 40-250/1506	
SHS 50-200/1106A	
SHS 50-200/1106	
SHS 50-250/1506	
SHS 50-250/1856	
SHS 50-250/2206	
SHS 65-160/1106A	
SHS 65-160/1106	
SHS 65-200/1506	
SHS 65-200/1856	
SHS 65-200/2206	
SHS 65-250/3006	
SHS 65-250/3706	
SHS 80-160/1506	
SHS 80-160/1856	
SHS 80-200/2206	
SHS 80-200/3006	
SHS 80-200/3706	

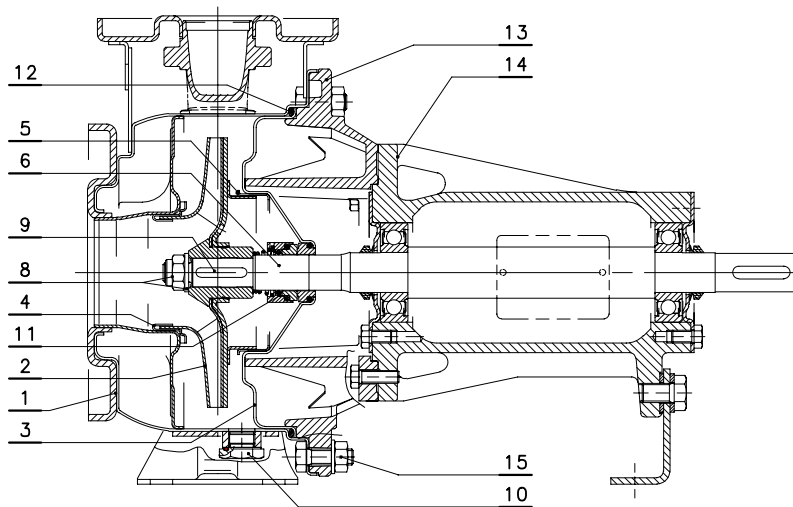
sh-shs-s-60-en_c_mo

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(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-AISI11Cu2 (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		

* For the 25/32/40-125 2/4 pole, 25/32/40-160 2/4 pole, 25/32/40-200 2/4 pole versions

SHF BARE SHAFT SERIES LIST OF MODELS AND TABLE OF MATERIALS

04979_B_DS



VERSION

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

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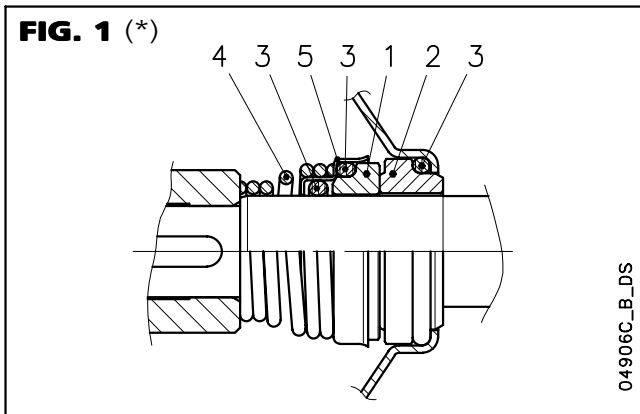
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller 25-32-40-50-65(160)	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
	Impeller 65(200-250)-80	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	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-AISI11Cu2 (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		

* For the 25/32/40-125 2/4 pole, 25/32/40-160 2/4 pole, 25/32/40-200 2/4 pole versions

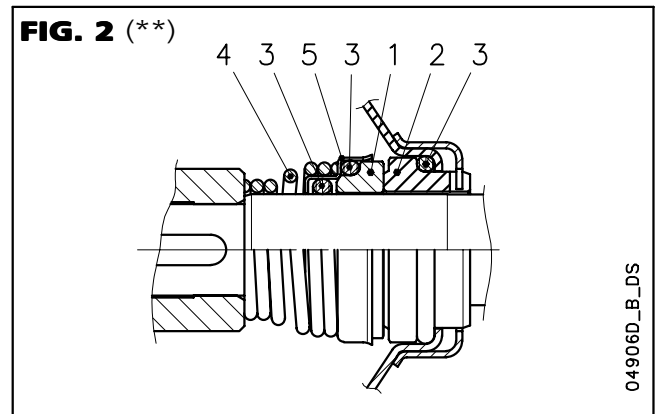
sh_shf-en_c_tm

SH MECHANICAL SEAL SERIES, ACCORDING TO EN 12756

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



(*) Standard version



(***) Version with fixed assembly anti-rotation lockpin

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		

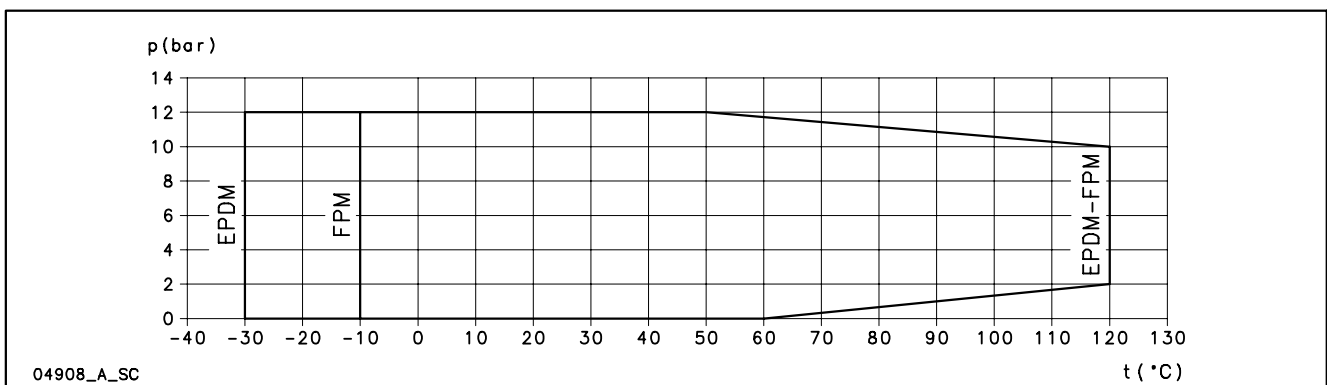
sh_ten-mec-en_a_tm

SEAL TYPES

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

sh_tipi-ten-mec-en_a_tc

COMPLETE PUMP PRESSURE / TEMPERATURE OPERATING LIMITS (WITH ANY OF THE SEALS LISTED ABOVE)



04908_A_SC

MOTORS FOR SH SERIES

Standard supplied IE2/IE3 three-phase surface motors $\geq 0,75$ kW are compliant with Regulation (EC) no. 640/2009 and IEC 60034-30.

Enclosed short circuit squirrel cage motor (TEFC), with external ventilation.

Electrical performances according to EN 60034-1.

Insulation class 155 (F).

IP55 protection.

Condensate drain plugs on standard version.

Cooling by fan according to EN 60034-6.

Cable gland metric size according to EN 50262.

Standard voltage:

- **Single-phase** version: 220-230 V 60 Hz, with incorporated automatic-reset overload protection up to 1,5 kW.
- **Three-phase** version : 220-380 V 60 Hz. Overload protection to be provided by the user.

SHE SERIES SINGLE-PHASE MOTORS AT 60 Hz, 2 POLES

P _N kW	MOTOR TYPE	IEC SIZE*	Construction Design	INPUT	CAPACITOR		DATA FOR 220 V 50 Hz VOLTAGE						
				CURRENT I _n (A) 220-230 V	μF	V	min ⁻¹	I _s / I _n	η %	cosφ	T _n Nm	T _s /T _n	T _m /T _n
1,1	SM90RB14S/1116	90R	SPECIAL	6,94-6,89	30	450	3435	4,54	74,2	0,97	3,06	0,62	2,03
1,5	SM90RB14S/1156	90R		9,28-9,35	40	450	3455	4,91	76,3	0,96	4,14	0,49	2,19
2,2	PLM90B14S/1226	90		12,3-11,7	60	450	3455	4,99	83,4	0,98	6,08	0,54	2,06

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

she-motm-2p60-en_c_te

SHE SERIES THREE-PHASE MOTORS AT 60 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 380 V Y 660 V			Δ 400 V Y 690 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			
1,1	85,6	85,0	82,1	85,6	85,0	82,1	85,6	85,0	82,1	85,6	85,0	82,1	3	By June 2011	
1,5	87,2	87,0	84,6	87,2	87,0	84,6	87,2	87,0	84,6	87,2	87,0	84,6			
2,2	85,5	85,5	84,5	85,5	85,5	84,5	85,5	85,5	84,5	85,5	85,5	84,5	2		
3	87,8	88,0	86,0	87,8	88,0	86,0	87,8	88,0	86,0	87,8	88,0	86,0			
4	87,5	87,5	86,8	87,5	87,5	86,8	87,5	87,5	86,8	87,5	87,5	86,8			
5,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5			
7,5	89,5	89,5	88,5	89,5	89,5	88,5	89,5	89,5	88,5	89,5	89,5	88,5			
9,2	89,5	89,5	89,5	89,5	89,5	89,5	89,5	89,5	89,5	89,5	89,5	89,5			
11	90,2	90,2	89,7	90,2	90,2	89,7	90,2	90,2	89,7	90,2	90,2	89,7			
15	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2			
18,5	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0			
22	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0			

P _N kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f _N Hz	Data for 380 V / 60 Hz Voltage					
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						Model	cos ϕ	I _s / I _N	T _N Nm	T _s /T _N	T _m /T _N
1,1	SM90RB14S/311PE		90R	SPECIAL	2	60	0,80	9,11	3,01	4,15	4,29	
1,5	SM90RB14S/315PE		90R				0,82	9,79	4,10	4,36	4,37	
2,2	PLM90B14S/322		90				0,83	9,59	6,00	3,80	4,02	
3	PLM90B14S/330		90				0,84	9,12	8,22	3,52	3,65	
4	PLM112RB14S/340		112R				0,87	10,0	10,9	2,82	4,58	
5,5	PLM112B14S/355		112				0,89	11,4	15,0	4,28	5,80	
7,5	PLM132B14S/375		132				0,88	9,83	20,3	3,21	4,68	
9,2	PLM132B14S/392		132				0,89	10,2	24,9	3,11	4,78	
11	PLM132B14S/3110		132				0,88	10,2	29,8	3,43	4,51	
15	PLM160B34S/3150		160				0,91	8,60	40,4	2,24	3,84	
18,5	PLM160B34S/3185		160				0,89	9,97	49,7	2,78	4,59	
22	PLM160B34S/3220		160				0,91	9,64	59,2	2,76	4,25	

P _N kW	Voltage U _N V								η_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
	220 V	230 V	380 V	400 V	380 V	400 V	660 V	690 V					
	I _N (A)												
1,1	4,24	4,24	2,45	2,45	2,44	2,43	1,41	1,40	3490 ÷ 3505	≤ 1000	-15 / 40	No	
1,5	5,58	5,53	3,22	3,19	3,23	3,22	1,86	1,86	3485 ÷ 3505				
2,2	8,14	8,12	4,70	4,69	4,69	4,68	2,71	2,70	3495 ÷ 3505				
3	10,7	10,5	6,19	6,06	6,20	6,11	3,58	3,53	3480 ÷ 3495				
4	13,5	13,5	7,82	7,77	7,84	7,77	4,52	4,49	3510 ÷ 3520				
5,5	18,2	18,1	10,5	10,4	10,5	10,4	6,07	6,02	3505 ÷ 3515				
7,5	25,2	24,7	14,6	14,3	14,6	14,1	8,40	8,16	3525 ÷ 3535				
9,2	30,2	29,6	17,5	17,1	17,5	17,1	10,1	9,86	3525 ÷ 3530				
11	36,1	35,2	20,8	20,3	21,1	20,7	12,2	12,0	3520 ÷ 3540				
15	47,1	45,6	27,2	26,4	27,3	26,3	15,8	15,2	3545 ÷ 3550				
18,5	59,2	58,2	34,2	33,6	34,3	33,6	19,8	19,4	3550 ÷ 3555				
22	69,1	67,4	39,9	38,9	39,8	38,2	23,0	22,0	3545 ÷ 3555				

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

she-ie2-mott-2p60-en_b_te

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

SHS SERIES THREE-PHASE MOTORS AT 60 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 380 V Y 660 V			Δ 400 V Y 690 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			
1,1	85,6	85,0	82,1	85,6	85,0	82,1	85,6	85,0	82,1	85,6	85,0	82,1	3	By June 2011	
1,5	87,2	87,0	84,6	87,2	87,0	84,6	87,2	87,0	84,6	87,2	87,0	84,6			
2,2	85,5	85,5	84,5	85,5	85,5	84,5	85,5	85,5	84,5	85,5	85,5	84,5	2		
3	87,8	88,0	86,0	87,8	88,0	86,0	87,8	88,0	86,0	87,8	88,0	86,0			
4	87,5	87,5	86,8	87,5	87,5	86,8	87,5	87,5	86,8	87,5	87,5	86,8			
5,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5	88,5			
7,5	89,5	89,5	88,5	89,5	89,5	88,5	89,5	89,5	88,5	89,5	89,5	88,5			
11	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2			
15	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2			
18,5	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0			
22	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0			

P _N kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f _N Hz	Data for 380 V / 60 Hz Voltage				
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						cos ϕ	I _s / I _N	T _N Nm	Ts/T _N	Tm/T _N
	Model										
1,1	SM80B5/311PE		80	B5	2	60	0,80	9,11	3,01	4,15	4,29
1,5	SM90RB5/315PE		90R				0,82	9,79	4,10	4,36	4,37
2,2	PLM90B5/322		90				0,83	9,59	6,00	3,80	4,02
3	PLM100RB5/330		100R				0,84	9,12	8,22	3,52	3,65
4	PLM112RB5/340		112R				0,87	10,0	10,9	2,82	4,58
5,5	PLM132RB5/355		132R				0,89	11,4	15,0	4,28	5,80
7,5	PLM132B5/375		132				0,88	9,83	20,3	3,21	4,68
11	PLM160B35/3110		160				0,89	8,85	29,6	2,44	4,20
15	PLM160B35/3150		160	B35			0,91	8,60	40,4	2,24	3,84
18,5	PLM160B35/3185		160				0,89	9,97	49,7	2,78	4,59
22	PLM180RB35/3220		180R				0,91	9,64	59,2	2,76	4,25

P _N kW	Voltage U _N V								n _N min ⁻¹	Operating conditions **		
	Δ		Y		Δ		Y			Altitude above sea Level (m)	T. amb min/max °C	ATEX
	220 V	230 V	380 V	400 V	380 V	400 V	660 V	690 V				
	I _N (A)											
1,1	4,24	4,24	2,45	2,45	2,44	2,43	1,41	1,40	3490 ÷ 3505	≤ 1000	-15 / 40	No
1,5	5,58	5,53	3,22	3,19	3,23	3,22	1,86	1,86	3485 ÷ 3505			
2,2	8,14	8,12	4,70	4,69	4,69	4,68	2,71	2,70	3495 ÷ 3505			
3	10,7	10,5	6,19	6,06	6,20	6,11	3,58	3,53	3480 ÷ 3495			
4	13,5	13,5	7,82	7,77	7,84	7,77	4,52	4,49	3510 ÷ 3520			
5,5	18,2	18,1	10,5	10,4	10,5	10,4	6,07	6,02	3505 ÷ 3515			
7,5	25,2	24,7	14,6	14,3	14,6	14,1	8,40	8,16	3525 ÷ 3535			
11	36,0	35,1	20,8	20,3	20,8	20,1	12,0	11,6	3545 ÷ 3550			
15	47,1	45,6	27,2	26,4	27,3	26,3	15,8	15,2	3545 ÷ 3550			
18,5	59,2	58,2	34,2	33,6	34,3	33,6	19,8	19,4	3550 ÷ 3555			
22	69,1	67,4	39,9	38,9	39,8	38,2	23,0	22,0	3545 ÷ 3555			

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

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

shs-ie2-mott-2p60-en_b_te

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

SHF SERIES THREE-PHASE MOTORS AT 60 Hz, 2 POLES (up to 18,5 kW)

P _N kW	Efficiency η_N %												Year of manufacture	
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V				IE
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
1,1	85,6	85,0	82,1	85,6	85,0	82,1	85,6	85,0	82,1	85,6	85,0	82,1	3	By June 2011
1,5	84,0	84,0	83,3	84,0	84,0	83,3	84,0	84,0	83,3	84,0	84,0	83,3	2	
2,2	85,5	85,5	84,5	85,5	85,5	84,5	85,5	85,5	84,5	85,5	85,5	84,5		
3	87,5	87,5	86,8	87,5	87,5	86,8	87,5	87,5	86,8	87,5	87,5	86,8		
4	87,5	87,5	87,5	87,5	87,5	87,5	87,5	87,5	87,5	87,5	87,5	87,5		
5,5	88,5	88,5	87,2	88,5	88,5	87,2	88,5	88,5	87,2	88,5	88,5	87,2		
7,5	89,5	89,5	88,5	89,5	89,5	88,5	89,5	89,5	88,5	89,5	89,5	88,5		
11	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2		
15	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2	90,2		
18,5	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0		

P _N kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f _N Hz	Data for 380 V / 60 Hz Voltage				
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						cos ϕ	I _s / I _N	T _N Nm	Ts/T _N	Tm/T _N
	Model										
1,1	SM80B3/311PE		80	B3	2	60	0,80	9,11	3,01	4,15	4,29
1,5	PLM90B3/315		90				0,86	8,86	4,10	3,24	3,48
2,2	PLM90B3/322		90				0,83	9,59	6,00	3,80	4,02
3	PLM100B3/330		100				0,86	10,2	8,15	3,27	3,61
4	PLM112B3/340		112				0,88	10,3	10,9	3,54	4,61
5,5	PLM132B3/355		132				0,86	10,4	14,8	3,23	4,81
7,5	PLM132B3/375		132				0,88	9,83	20,3	3,21	4,68
11	PLM160B3/3110		160				0,89	8,85	29,6	2,44	4,20
15	PLM160B3/3150		160				0,91	8,60	40,4	2,24	3,84
18,5	PLM160B3/3185		160				0,89	9,97	49,7	2,78	4,59

P _N kW	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
	220 V	230 V	380 V	400 V	380 V	400 V	660 V	690 V					
	I _N (A)												
1,1	4,24	4,24	2,45	2,45	2,44	2,43	1,41	1,40	3490 ÷ 3505	≤ 1000	-15 / 40	No	
1,5	5,21	5,08	3,01	2,93	3,00	2,94	1,73	1,70	3490 ÷ 3505				
2,2	8,14	8,12	4,70	4,69	4,69	4,68	2,71	2,70	3495 ÷ 3505				
3	10,6	10,6	6,06	6,11	6,03	5,98	3,48	3,45	3510 ÷ 3520				
4	13,3	13,0	7,66	7,52	7,66	7,49	4,42	4,33	3495 ÷ 3510				
5,5	19,1	19,1	11,1	11,0	11,1	11,0	6,39	6,34	3535 ÷ 3540				
7,5	25,2	24,7	14,6	14,3	14,6	14,1	8,40	8,16	3525 ÷ 3535				
11	36,0	35,1	20,8	20,3	20,8	20,1	12,0	11,6	3545 ÷ 3550				
15	47,1	45,6	27,2	26,4	27,3	26,3	15,8	15,2	3545 ÷ 3550				
18,5	59,2	58,2	34,2	33,6	34,3	33,6	19,8	19,4	3550 ÷ 3555				

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

shf-ie2-mott-2p60-en_b_te

SHF SERIES THREE-PHASE MOTORS AT 60 Hz, 2 POLES (from 22 to 75 kW)

P _N kW	Efficiency η_N %			IE	Year of manufacture
	Δ 220 V				
	4/4	3/4	2/4		
22	92,0	92,0	91,8	2	By June 2011
30	92,4	92,4	91,5		
37	92,4	92,4	92,0		
45	93,5	93,0	91,8		
55	93,5	93,5	92,8		
75	93,6	93,6	92,2		

P _N kW	Manufacturer	IEC SIZE	Construction Design	N. of Poles	f _N Hz	Data for 380 V / 60 Hz Voltage				
	WEG Equipamentos Eletricos S.A Reg. No. 07.175.725/0010-50 Jaragua do Sul - SC (Brazil)					Model	cos ϕ	Is / I _N	T _N Nm	Ts/T _N
22	WEG Equipamentos Eletricos S.A Reg. No. 07.175.725/0010-50 Jaragua do Sul - SC (Brazil)	180	B3	2	60	0,87	7,00	59,30	1,90	2,80
30		200	B3			0,86	6,40	80,65	2,10	2,40
37		200	B35			0,86	7,20	98,98	2,40	2,60
45		225	B3			0,89	7,80	120,5	2,20	2,90
55		250				0,89	7,70	147,0	2,20	2,80
75		280				0,88	7,70	199,9	1,90	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
	220 V	380 V					
	I _N (A)						
22	72,20	41,80	3535	See note.	≤ 1000	-15 / 40	No
30	99,00	57,30	3550				
37	122,00	70,70	3555				
45	142,00	82,20	3560				
55	173,00	100,00	3560				
75	238,00	138,00	3575				

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

shf-ie2-mott-75-2p60-en_a_te

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

SHE4 SERIES THREE-PHASE MOTORS AT 60 Hz, 4 POLES

P _N kW	Efficiency η_N %												Year of construction		
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V				IE	
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4			
0,25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0,37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0,75	83,2	82,3	78,4	83,2	82,3	78,4	83,2	82,3	78,4	83,2	82,3	78,4	2	By June 2011	
1,1	84,0	84,0	81,0	84,0	84,0	81,0	84,0	84,0	81,0	84,0	84,0	81,0			
1,5	84,5	84,5	82,5	84,5	84,5	82,5	84,5	84,5	82,5	84,5	84,5	82,5			
2,2	87,5	87,5	85,7	87,5	87,5	85,7	87,5	87,5	85,7	87,5	87,5	85,7			
3	87,5	87,5	84,7	87,5	87,5	84,7	87,5	87,5	84,7	87,5	87,5	84,7			
4	87,9	87,9	87,6	87,9	87,9	87,6	87,9	87,9	87,6	87,9	87,9	87,6			
5,5	89,5	89,5	88,7	89,5	89,5	88,7	89,5	89,5	88,7	89,5	89,5	88,7			
7,5	89,5	89,5	89,2	89,5	89,5	89,2	89,5	89,5	89,2	89,5	89,5	89,2			
11	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0			

P _N kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f _N Hz	Data for 380 V / 60 Hz				
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						cos ϕ	I _s / I _N	TN Nm	T _s /T _N	T _m /T _N
	Model										
0,25	SM471B5S/302		71	SPECIAL	4	60	0,68	3,45	1,45	2,37	2,15
0,37	SM471B5S/304		71				0,68	3,52	2,17	2,65	2,05
0,55	SM490RB14S/305		90R				0,77	3,55	3,18	1,80	1,90
0,75	LLM490RB14S/307		90R				0,75	6,26	4,14	2,82	3,53
1,1	PLM490B5S/311		90				0,71	6,70	6,01	2,57	3,60
1,5	PLM490B5S/315		90				0,68	7,19	8,18	3,04	3,74
2,2	PLM4100B5S/322		100				0,76	8,01	12,0	2,69	4,33
3	PLM4100B5S/330		100				0,72	8,19	16,3	2,98	4,28
4	PLM4112B5S/340		112				0,78	8,48	21,8	3,01	4,22
5,5	PLM4132B14S/355		132				0,78	7,85	29,8	2,61	3,48
7,5	PLM4132B14S/375		132				0,79	7,84	40,8	2,43	3,59
11	PLM4160B34S/3110		160				0,85	7,25	59,4	2,27	3,07

P _N kW	Voltage U _N V								η_N min ⁻¹	Operating conditions **		
	Δ		Y		Δ		Y			Altitude above sea Level (m)	T. amb min/max °C	ATEX
	220 V	230 V	380 V	400 V	380 V	400 V	660 V	690 V				
	I _N (A)											
0,25	1,51		0,87						1650	1000 v	-15 / 40	No
0,37	2,18		1,26						1630			
0,55	2,74		1,58						1650			
0,75	3,15	3,13	1,82	1,81	1,81	1,80	1,05	1,04	1730 ÷ 1735			
1,1	4,78	4,80	2,76	2,77	2,74	2,74	1,58	1,58	1745 ÷ 1750			
1,5	6,69	6,77	3,86	3,91	3,87	3,92	2,23	2,26	1750 ÷ 1755			
2,2	8,63	8,57	4,98	4,95	4,95	4,92	2,86	2,84	1755 ÷ 1760			
3	12,5	12,6	7,20	7,26	7,00	7,02	4,04	4,05	1760 ÷ 1765			
4	15,3	15,2	8,82	8,78	8,80	8,72	5,08	5,03	1755 ÷ 1755			
5,5	20,9	20,6	12,1	11,9	12,2	12,0	7,04	6,91	1760 ÷ 1765			
7,5	27,9	27,6	16,1	15,9	16,2	16,0	9,34	9,21	1750 ÷ 1755			
11	37,9	37,9	21,9	21,9	21,9	21,5	12,6	12,4	1765 ÷ 1770			

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

she4-ie2-mott-4p60-en_a_te

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

SHS4-FHF4 SERIES THREE-PHASE MOTORS AT 60 Hz, 4 POLES (up to 11 kW)

P _N kW	Efficiency η_N %												Year of construction	
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V				IE
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4		
0,25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0,37	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0,55	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0,75	83,2	82,3	78,4	83,2	82,3	78,4	83,2	82,3	78,4	83,2	82,3	78,4	2	By June 2011
1,1	84,0	84,0	81,0	84,0	84,0	81,0	84,0	84,0	81,0	84,0	84,0	81,0		
1,5	84,5	84,5	82,5	84,5	84,5	82,5	84,5	84,5	82,5	84,5	84,5	82,5		
2,2	87,5	87,5	85,7	87,5	87,5	85,7	87,5	87,5	85,7	87,5	87,5	85,7		
3	87,5	87,5	84,7	87,5	87,5	84,7	87,5	87,5	84,7	87,5	87,5	84,7		
4	87,9	87,9	87,6	87,9	87,9	87,6	87,9	87,9	87,6	87,9	87,9	87,6		
5,5	89,5	89,5	88,7	89,5	89,5	88,7	89,5	89,5	88,7	89,5	89,5	88,7		
7,5	89,5	89,5	89,2	89,5	89,5	89,2	89,5	89,5	89,2	89,5	89,5	89,2		
11	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0	91,0		

P _N kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f _N Hz	Data for 380 V / 60 Hz				
	Lowara srl Unipersonale Reg. No. 341820260 Montecchio Maggiore Vicenza - Italia						cos ϕ	I _s / I _N	TN Nm	T _s /T _N	T _m /T _N
	Model										
0,25	SM471B3/302		71	B3 / B5	4	60	0,68	3,45	1,45	2,37	2,15
0,37	SM471B3/304		71				0,68	3,52	2,17	2,65	2,05
0,55	SM480B3 (B5) /305		80				0,77	3,55	3,18	1,80	1,90
0,75	LLM480B3 (B5) /307		80				0,75	6,26	4,14	2,82	3,53
1,1	PLM490B3 (B5) /311		90				0,71	6,70	6,01	2,57	3,60
1,5	PLM490B3 (B5) /315		90				0,68	7,19	8,18	3,04	3,74
2,2	PLM4100B3 (B5) /322		100				0,76	8,01	12,0	2,69	4,33
3	PLM4100B3 (B5) /330		100				0,72	8,19	16,3	2,98	4,28
4	PLM4112B3 (B5) /340		112				0,78	8,48	21,8	3,01	4,22
5,5	PLM4132B3 (B5) /355		132				0,78	7,85	29,8	2,61	3,48
7,5	PLM4132B3 (B5) /375		132				0,79	7,84	40,8	2,43	3,59
11	PLM4160B3 (B5) /3110		160	B3-B35			0,85	7,25	59,4	2,27	3,07

P _N kW	Voltage U _N V								η_N min ⁻¹	Operating conditions **		
	Δ		Y		Δ		Y			Altitude above sea Level (m)	T. amb min/max °C	ATEX
	220 V	230 V	380 V	400 V	380 V	400 V	660 V	690 V				
0,25	1,51		0,87						1650	1000 VI	-15 / 40	No
0,37	2,18		1,26						1630			
0,55	2,74		1,58						1650			
0,75	3,15	3,13	1,82	1,81	1,81	1,80	1,05	1,04	1730 ÷ 1735			
1,1	4,78	4,80	2,76	2,77	2,74	2,74	1,58	1,58	1745 ÷ 1750			
1,5	6,69	6,77	3,86	3,91	3,87	3,92	2,23	2,26	1750 ÷ 1755			
2,2	8,6	8,57	4,98	4,95	4,95	4,92	2,86	2,84	1755 ÷ 1760			
3	12,5	12,6	7,20	7,26	7,00	7,02	4,04	4,05	1760 ÷ 1765			
4	15,3	15,2	8,82	8,78	8,80	8,72	5,08	5,03	1755 ÷ 1755			
5,5	20,9	20,6	12,1	11,9	12,2	12,0	7,04	6,91	1760 ÷ 1765			
7,5	27,9	27,6	16,1	15,9	16,2	16,0	9,34	9,21	1750 ÷ 1755			
11	37,9	37,9	21,9	21,9	21,9	21,5	12,6	12,4	1765 ÷ 1770			

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

shs4-ie2-mott-4p60-en_a_te

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 60 Hz motor with a tolerance of 3 dB (A).

SHE-SHS MOTORS 60 Hz 2 POLES

POWER kW	MOTOR TYPE IEC* SIZE	NOISE LpA dB
1,1	90R	<70
1,5	90R	<70
2,2	90R	<70
3	90	<70
4	112R	<70
5,5	112	<70
7,5	112	75
9,2	132	77
11	132	77
15	160	74
18,5	160	75
22	160	73
30	200	74
37	200	74

SHF MOTORS 60 Hz 2 POLES

POWER kW	MOTOR TYPE IEC SIZE	NOISE LpA dB
1,1	80	<70
1,5	90	<70
2,2	90	<70
3	100	<70
4	112	<70
5,5	132	<70
7,5	132	75
11	160	74
15	160	74
18,5	160	75
22	180	72
30	200	74
37	200	74
45	225	79
55	250	79
75	280	81

SHE4 MOTORS 60 Hz 4 POLES

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

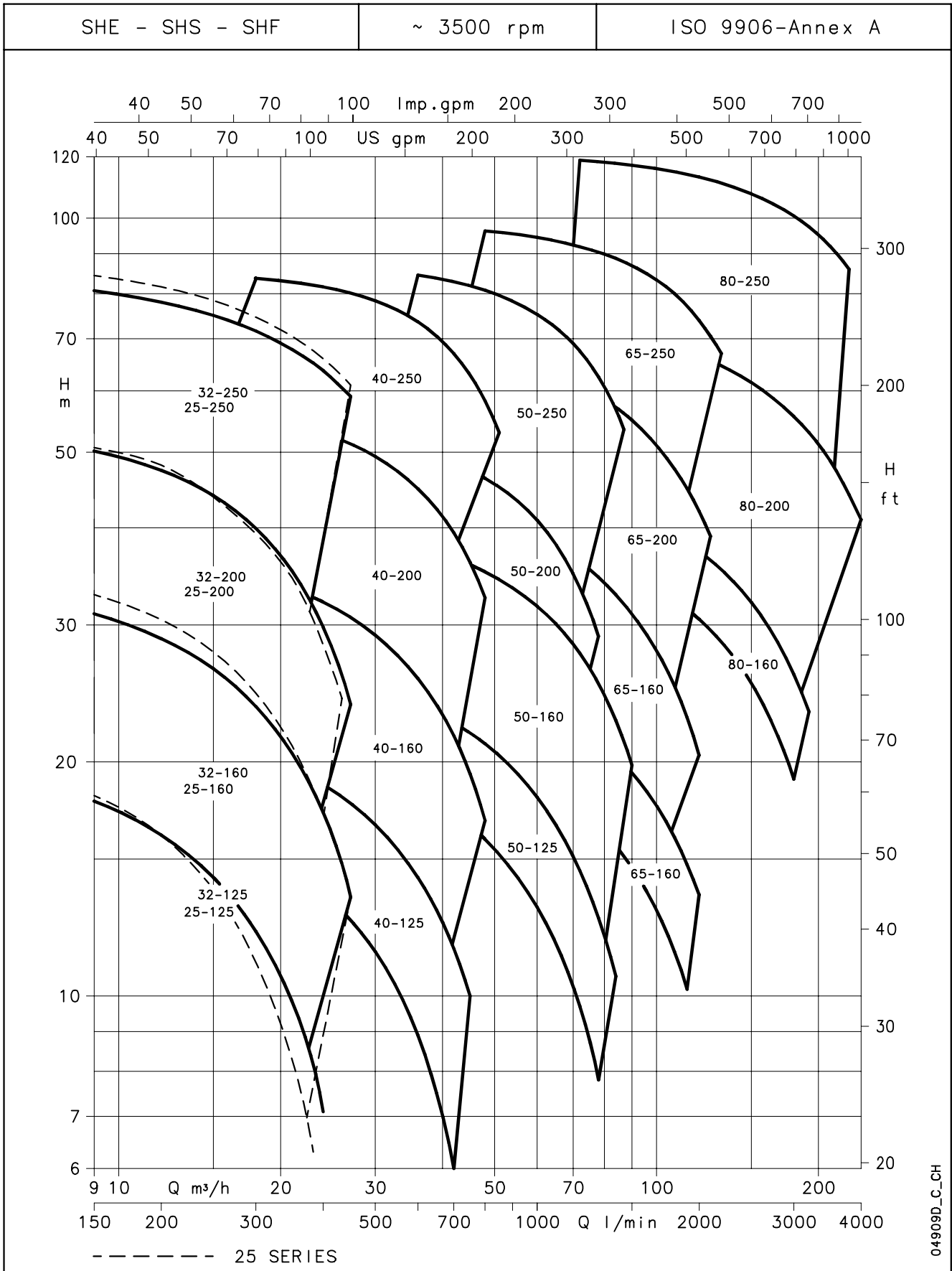
SHS4-SHF4 MOTORS 60 Hz 4 POLES

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

*R=reduced motor casing size with respect to shaft extension and related flange.

sh_sh_mott-60hz-en_c_tr

SHE-SHS-SHF SERIES
HYDRAULIC PERFORMANCE RANGE AT 60 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SHE-SHS-SHF SERIES

TABLE OF HYDRAULIC PERFORMANCES AT 60 Hz, 2 POLES

PUMP TYPE	RATED POWER		Q = CAPACITY																			
	kW	HP	V _{min} 0	150	200	250	300	400	450	600	700	800	900	1000	1200	1500	1800	2000	3000	3500	3800	
			m ³ /h 0	9	12	15	18	24	27	36	42	48	54	60	72	90	108	120	180	210	228	
H = TOTAL HEAD IN METRES OF COLUMN OF WATER																						
25-125/116 *	1,1	1,5	21,4	18,1	16,1	13,7	11,1			1,1												
25-160/156 *	1,5	2	28,1	24,6	22,2	19,4	16,2	8,9														
25-160/226 *	2,2	3	36,2	32,8	30,5	27,7	24,5	17,2	13,4													
25-200/306	3	4	46,5	40,9	37,4	33,2	28,3	16,9														
25-200/406	4	5,5	55,3	50,7	47,6	43,8	39,3	28,3														
25-250/556	5,5	7,5	63,2	57,6	54,9	51,8	48,1	38,8														
25-250/756	7,5	10	74,6	68,8	66,4	63,5	60	51,2														
25-250/1106	11	15	89,8	84,4	81,6	78,4	74,6	66	61													
32-125/116 *	1,1	1,5	20,6	17,8	16,1	14,2	12,1	7,1														
32-160/156 *	1,5	2	27,8	23,8	21,7	19,3	16,6	10														
32-160/226 *	2,2	3	34,9	31	28,8	26,4	23,6	17,2	13,4													
32-200/306	3	4	47,6	42,4	39,3	35,7	31,5	21,5														
32-200/406	4	5,5	55,3	50	47,4	44	40	29,8	23,7													
32-250/556	5,5	7,5	61,8	56	53,3	50,3	46,8	38,5														
32-250/756	7,5	10	73,8	68	65,3	62,3	59	50,4														
32-250/1106	11	15	86,4	80,7	78	75	71,6	63,7	50													
40-125/156 *	1,5	2	18				15	13,6	13,4	8,9	6											
40-125/226 *	2,2	3	22,8				20,5	18,7	19,5	14,2	11,5											
40-160/306	3	4	31,7				29,4	27	25,4	20,4	16											
40-160/406	4	5,5	36,4				34,4	32	31,7	25,6	21,6	16,8										
40-200/556	5,5	7,5	48,1				45,2	42,5	42	34,5	28,8											
40-200/756	7,5	10	58,2				55,6	53	50,8	45	39,4	32,5										
40-250/ **	**	**	64,4				61	58,5	58	48,5	40,5											
40-250/1106	11	15	72,5				69,7	67	67,8	57,5	50											
40-250/1506	15	20	87				83,7	82	80	73,5	67	58										
50-125/306	3	4	22,2							18,5	17,2	16	14,5	13	9,7							
50-125/406	4	5,5	26,9							23,6	22,4	21	19,7	18	14,5							
50-160/556	5,5	7,5	32,5							29,8	28,7	27,2	26	23,8	19,6							
50-160/756	7,5	10	40,3							37,8	36,5	35	33,5	31,7	27,6	19,8						
50-200/ **	**	**	49,4							47,2	45,5	43,5	41	38	30,3							
50-200/1106	11	15	52,1							50	48,5	46,3	43,5	41	33,5							
50-250/1506	15	20	68,7							65,5	64	61,5	59	55,5	46							
50-250/1856	19	25	78							74,8	73	71	69	65,5	57,5							
50-250/2206	22	30	87,5							84,5	83	81	78	75	67,5							
65-160/556	5,5	7,5	21									20,7	20	19,2	17,5	14,6	11,4					
65-160/756	7,5	10	25,7									25,7	25	24,2	22,4	19,4	16	13,5				
65-160/ **	**	**	38,2									37	36	34,7	31,8	26,5	20,7					
65-160/1106	11	15	42,7									41,4	40,5	39	36,2	31	25	20,4				
65-200/1506	15	20	51,6										50	48,5	45	39	31,5					
65-200/1856	19	25	60,2										58,5	57	53,5	47,5	40	34,4				
65-200/2206	22	30	67,4										65,5	64	61	55	47,5	42				
65-250/3006	30	40	83,5											82,5	80	75	68	62				
65-250/3706	37	50	95,5											94,5	92	87	80	74				
80-160/1506	15	20	36,5												36,5	34,5	32,5	30,5	19			
80-160/1856	19	25	43,3												43,3	41,5	39	37,5	26			
80-200/2206	22	30	50													49	47	45,2	34	26,5		
80-200/3006	30	40	63,5													63,5	61	59,5	48,5	41,5	37	
80-200/3706	37	50	70,5													70,5	68	66,5	55,5	49	44	
80-250/4506***	45	60	79,2														79	76	74,5	62	54	
80-250/5506***	55	75	92,3														92	89,5	87,5	75	67	
80-250/7506***	75	100	117														117	115	113	101	92	86

* Available single-phase motor version

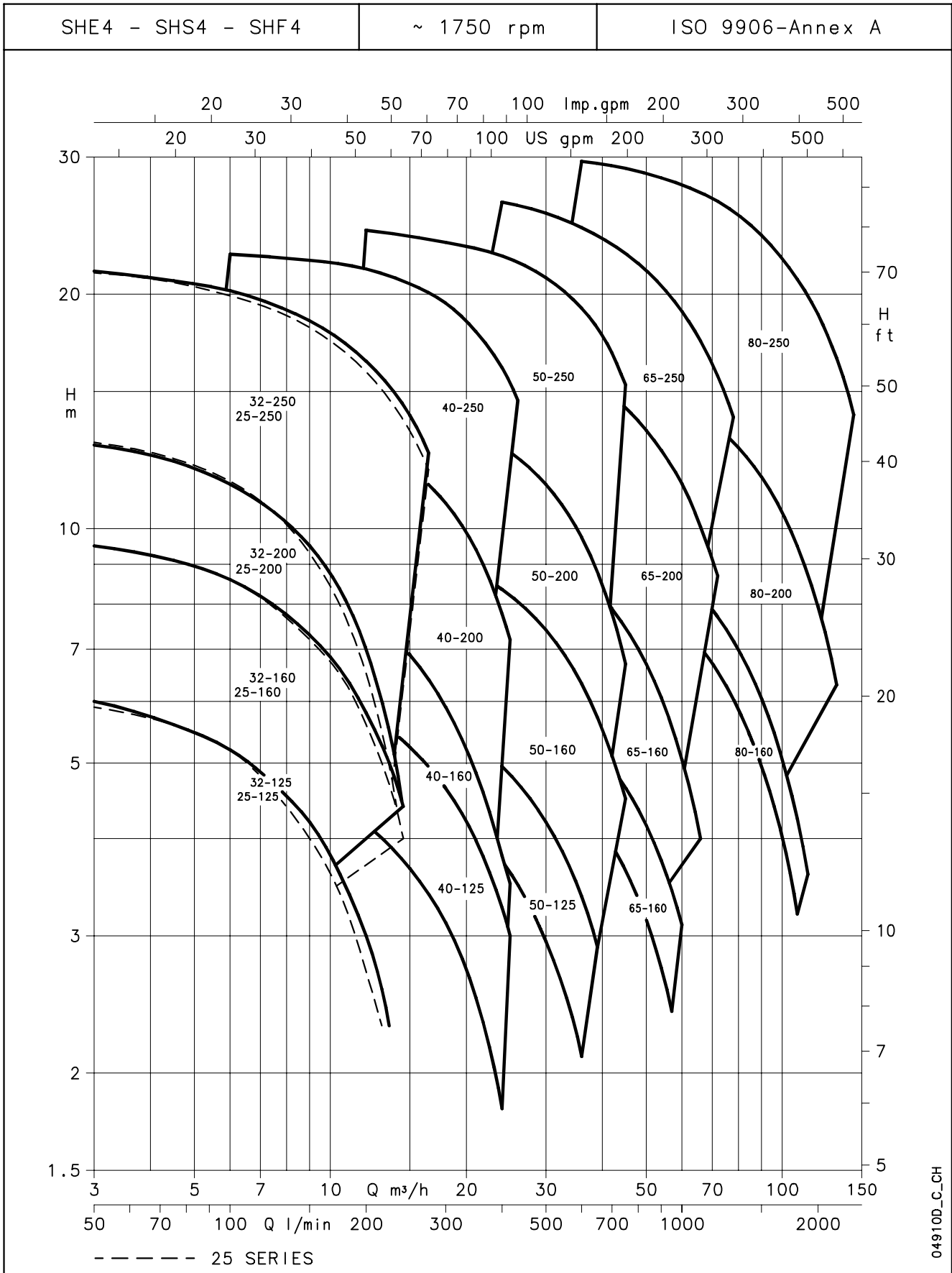
she-shs-shf-2p60_c_th

** /926 = 9.2kW - 12.5HP in the SHE version ** /1106 = 11kW - 15HP in the SHS-SHF version

*** SHF version only

Performances in compliance with ISO 9906-Annex A

**SHE4-SHS4-SHF4 SERIES
HYDRAULIC PERFORMANCE RANGE AT 60 Hz, 4 POLES**



04910D_C_CH

These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SHE4-SHS4-SHF4 SERIES

TABLE OF HYDRAULIC PERFORMANCES AT 60 Hz, 4 POLES

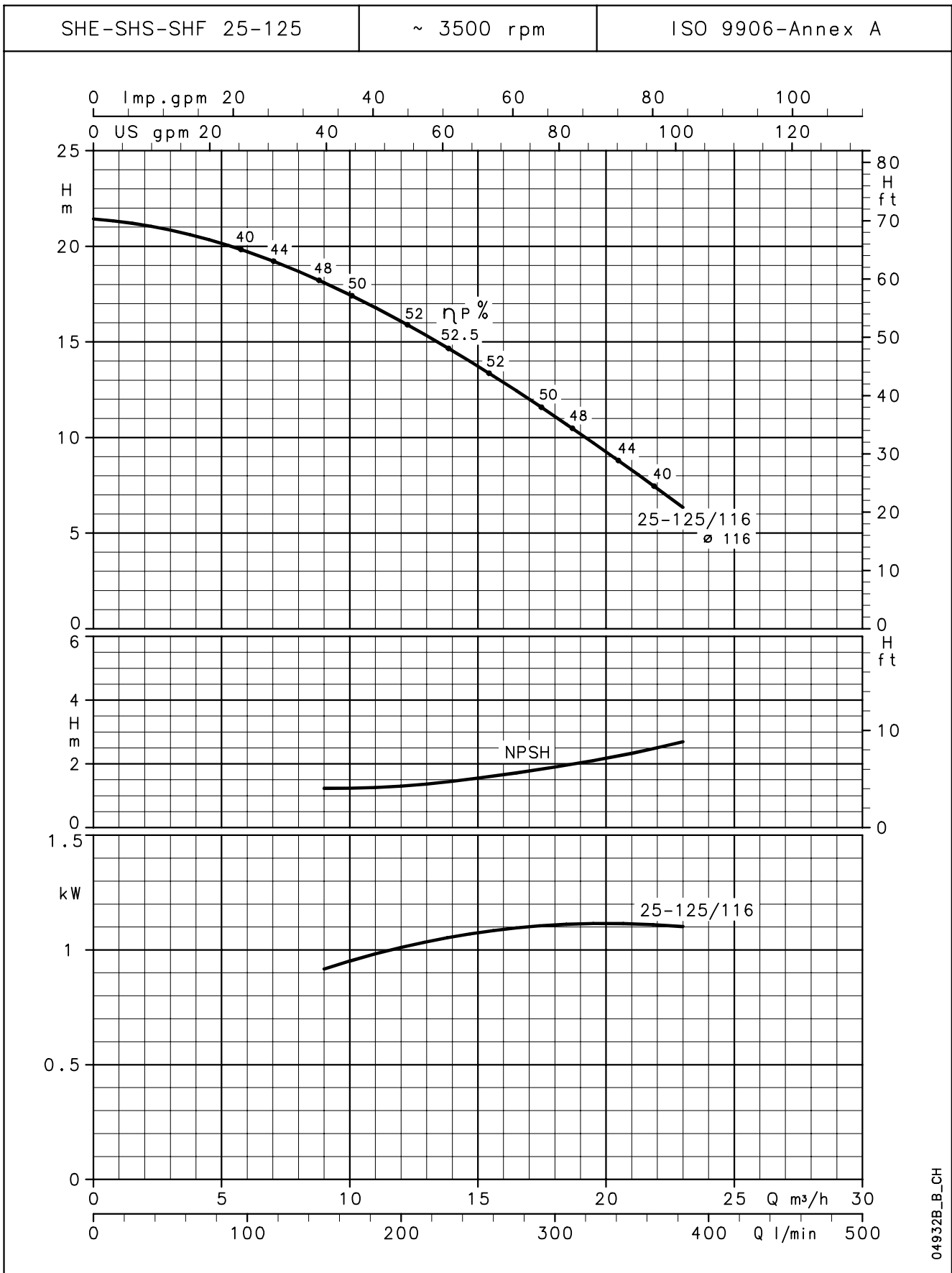
PUMP TYPE	RATED POWER		Q = CAPACITY																									
			V _{min} 0	75	100	125	150	200	250	300	350	400	450	500	600	750	1000	1200	1800	2000	2200							
			m ³ /h 0	4,5	6	7,5	9	12	15	18	21	24	27	30	36	45	60	72	108	120	132							
kW		HP		H = TOTAL HEAD IN METRES OF COLUMN OF WATER																								
25-125/026 *	0,25	0,33	6,3	5,6	5,2	4,6	4	2,7																				
25-160/026 *	0,25	0,33	8,1	7,3	6,8	6,1	5,4	3,7																				
25-160/036 *	0,37	0,50	9,9	9,1	8,6	8	7,2	5,6																				
25-200/036 *	0,37	0,50	11,4	9,9	9	7,9	6,7	3,9																				
25-200/056 *	0,55	0,75	13,6	12,3	11,5	10,5	9,3	6,6																				
25-250/076	0,75	1	16,6	15,1	14,3	13,5	12,6	10,3	7,4																			
25-250/116	1,1	1,5	20,4	18,8	18	17,1	16,2	13,9	11,2																			
25-250/156	1,5	2	22,1	20,7	19,9	19,1	18,1	15,9	13,3																			
32-125/026 *	0,25	0,33	6,3	5,6	5,2	4,7	4,1	3																				
32-160/026 *	0,25	0,33	8,2	7,3	6,8	6,2	5,5	4																				
32-160/036 *	0,37	0,50	9,9	9,1	8,6	8	7,3	5,8																				
32-200/036 *	0,37	0,50	11,7	10,3	9,5	8,5	7,5	4,9																				
32-200/056 *	0,55	0,75	13,6	12,2	11,4	10,5	9,5	7																				
32-250/076	0,75	1	16,9	15,3	14,5	13,6	12,7	10,4	7,7																			
32-250/116	1,1	1,5	20,4	19	18,3	17,4	16,5	14,4	11,8																			
32-250/156	1,5	2	22,3	20,8	20,2	19,4	18,5	16,4	13,9																			
40-125/026 *	0,25	0,33	5,2				4,6	4,2	3,7	3,1	2,5	1,8																
40-125/036 *	0,37	0,50	6,8				6,2	5,8	5,2	4,6	4	3,3																
40-160/036 *	0,37	0,50	7,7				6,8	6,1	5,3	4,3	3,3	2,3																
40-160/056 *	0,55	0,75	9,2				8,4	7,7	6,9	5,9	4,8	3,8																
40-200/076	0,75	1	11,7				10,8	10,1	9,2	8	6,6	5																
40-200/116	1,1	1,5	14,6				13,6	12,9	11,9	10,8	9,4	7,8																
40-250/116	1,1	1,5	15,5				14,4	13,7	12,7	11,3	9,5																	
40-250/156	1,5	2	17,6				16,6	15,9	14,9	13,6	11,8	9,7																
40-250/226	2,2	3	23				22,1	21,5	20,6	19,5	17,9	16,1																
50-125/036 *	0,37	0,50	5,6							4,4	4,1	3,7	3,4	3	2,1													
50-125/056 *	0,55	0,75	6,7							5,6	5,3	5	4,6	4,2	3,4													
50-160/076	0,75	1	8,7							7,5	7,1	6,8	6,3	5,9	4,8													
50-160/116	1,1	1,5	10,3							9,1	8,7	8,3	7,9	7,4	6,3	4,5												
50-200/116	1,1	1,5	12,1							11,2	10,7	10,2	9,6	8,9	7,1													
50-200/156	1,5	2	14,7							13,7	13,3	12,7	12,1	11,4	9,7	6,7												
50-250/226A	2,2	3	17,4							15,9	15,3	14,8	14,1	13,3	11,3													
50-250/226	2,2	3	21,1							19,6	19,1	18,5	17,8	17	15													
50-250/306	3	4	24,9							23,3	22,8	22,4	21,7	21	19,2	15,3												
65-160/076	0,75	1	5,8									5,4	5,3	5	4,5	3,7												
65-160/116A	1,1	1,5	6,8									6,4	6,2	6	5,5	4,7	3,1											
65-160/116	1,1	1,5	9,9									8,7	8,3	8	7,3	6,1	3,7											
65-160/156	1,5	2	11,2									10	9,7	9,4	8,7	7,4	5											
65-200/156	1,5	2	13,4										11,4	11	10,1	8,6	5,4											
65-200/226	2,2	3	15,9											13,8	13,3	12,5	11	7,9										
65-200/306	3	4	19												17,1	16,7	15,8	14,3	11,4	8,7								
65-250/406	4	5,5	23													21	20	18,1	14,4	11								
65-250/556	5,5	7,5	27,7														25,4	24,3	22,5	19	15,7							
80-160/226A	2,2	3	10,4														9,1	8,6	7,5	6,6	5	3,2						
80-160/226	2,2	3	11,6															10,3	9,7	8,7	7,7	6	4,2					
80-200/306	3	4	15																13,5	12,4	11,3	7,3	5,7					
80-200/406	4	5,5	17																	15,6	14,5	13,5	9,5	7,9	6,3			
80-250/556	5,5	7,5	20,9																		19,4	18	16,6	11,7	9,7			
80-250/756	7,5	10	27,2																			25,8	24,5	23,1	17,7	15,5	13,2	
80-250/1106	11	15	30,3																				29	27,6	26,3	20,9	18,9	16,6

* SHE4 - SHF versions only

Performances in compliance with ISO 9906-Annex A

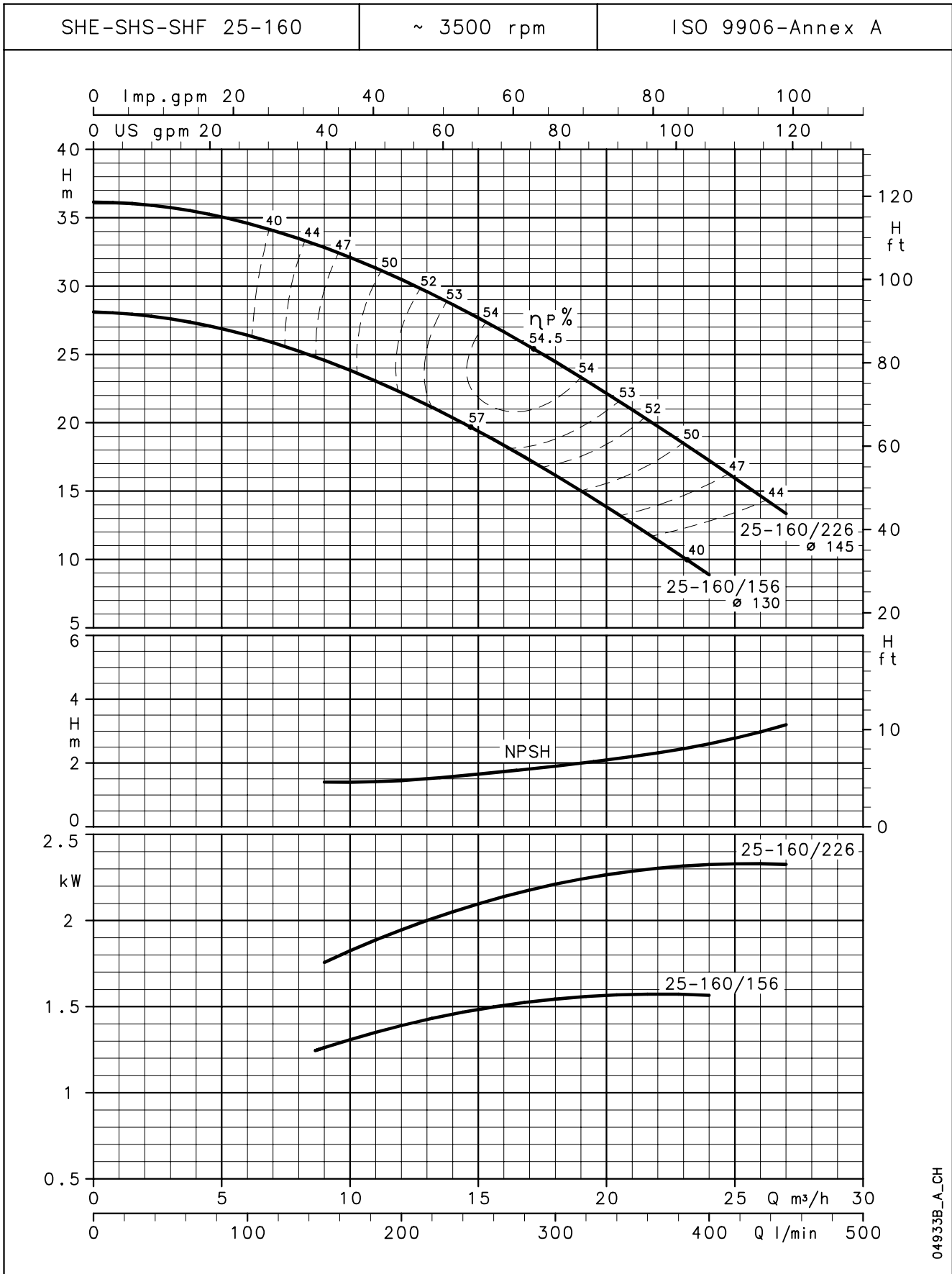
she4-shs4-shf4-4p60_e_th

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



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

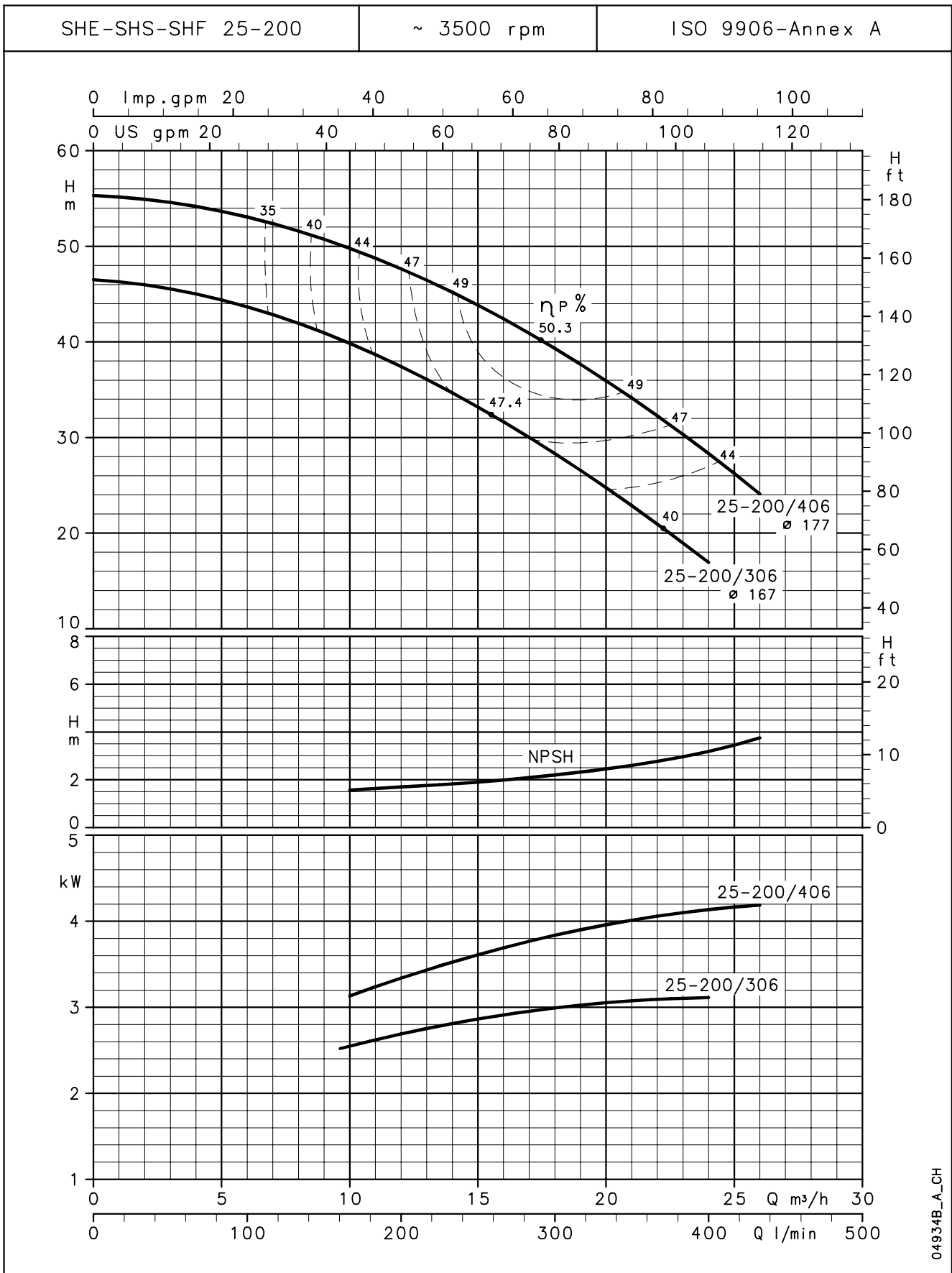
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04933B_A_CH

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

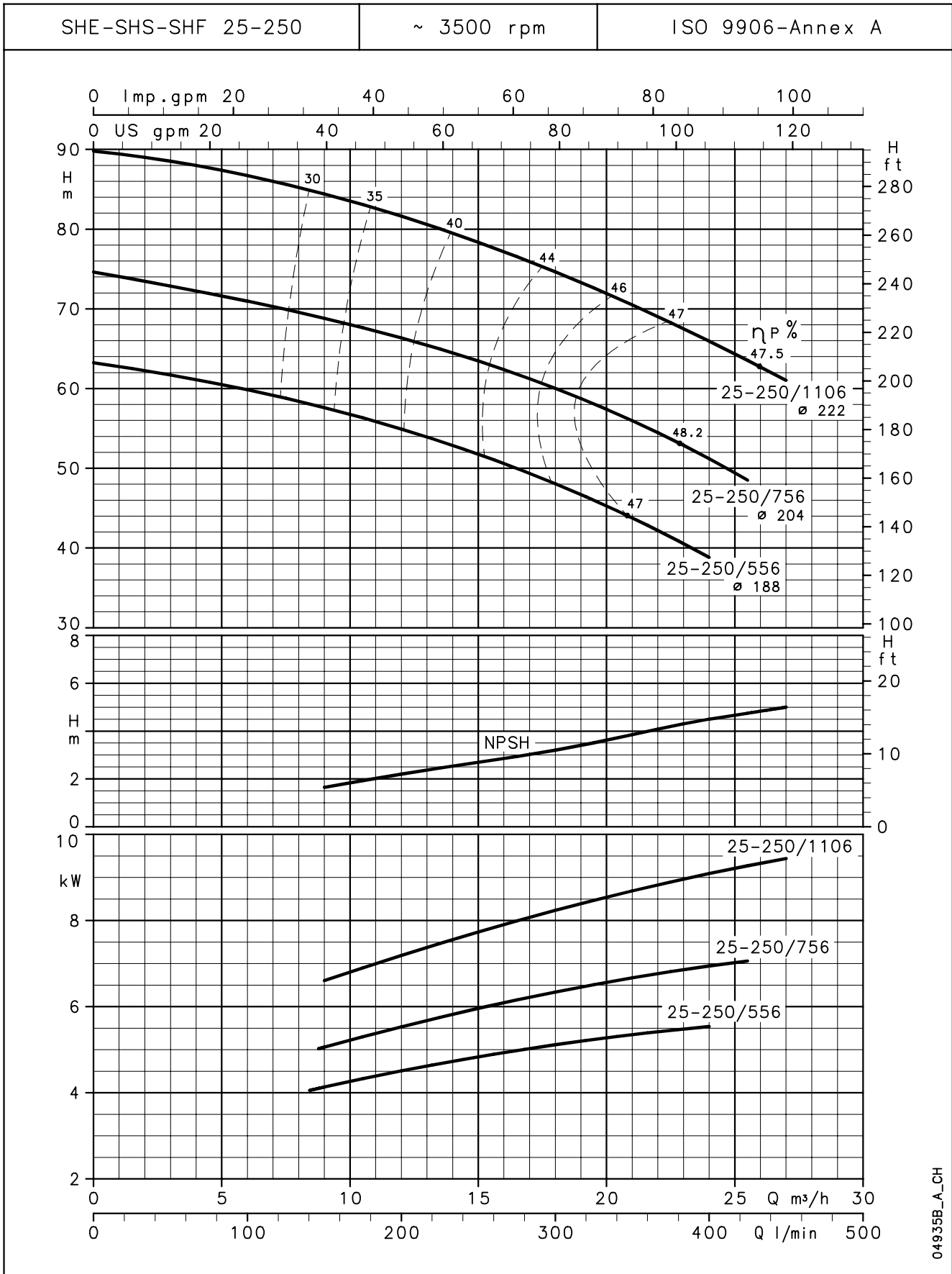
**SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES**



04934B_A_CH

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

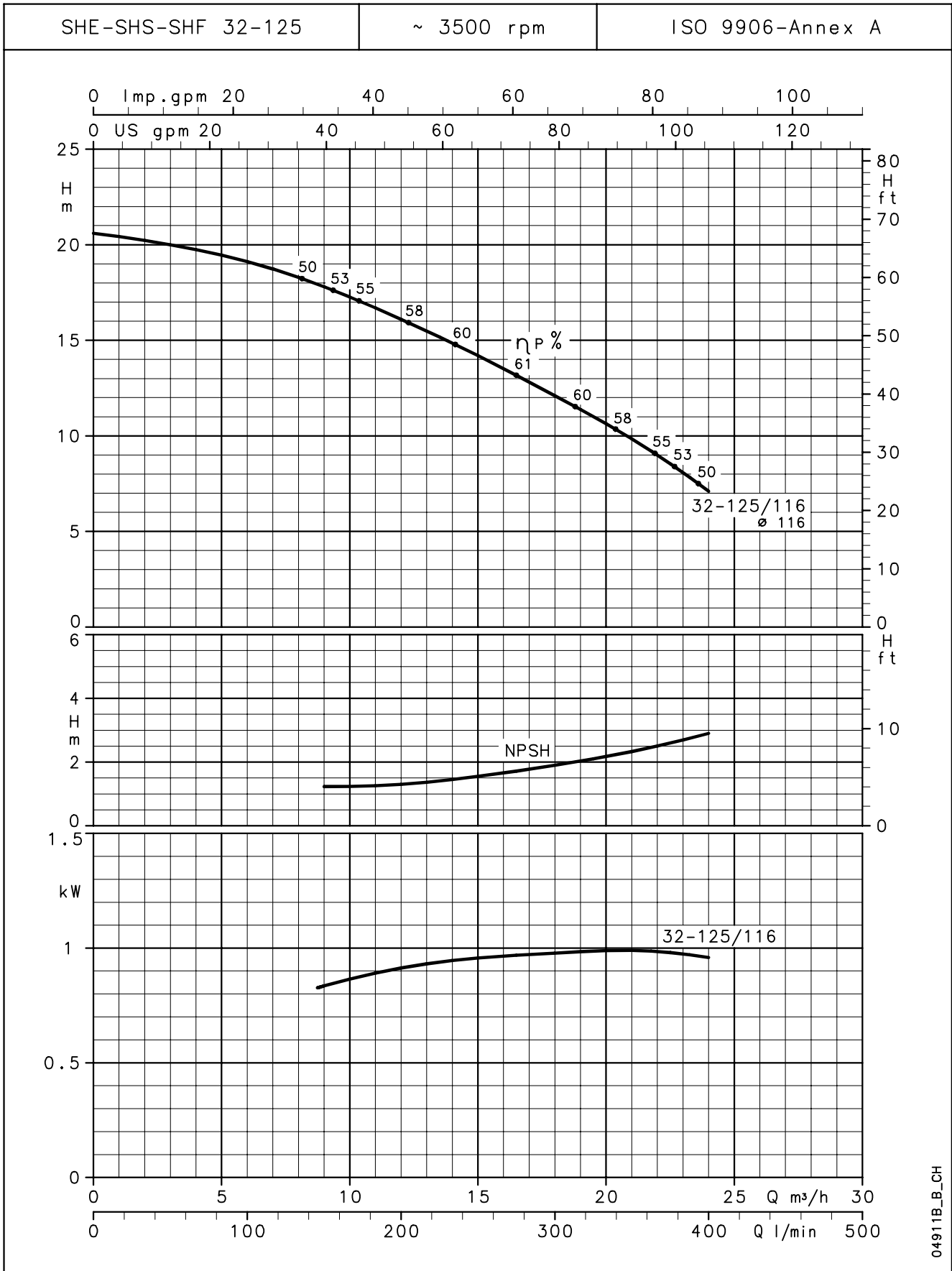
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04935B_A_CH

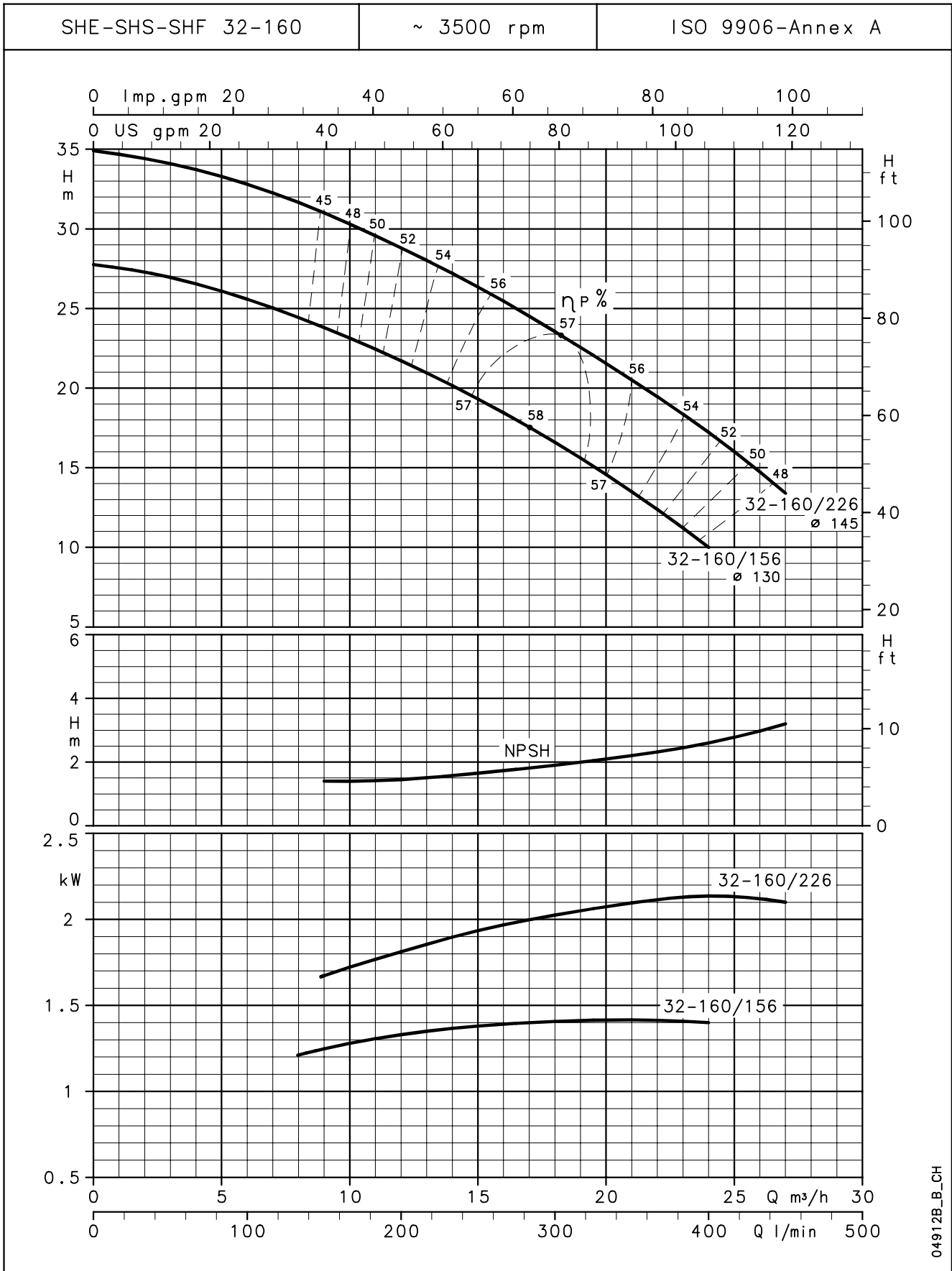
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



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

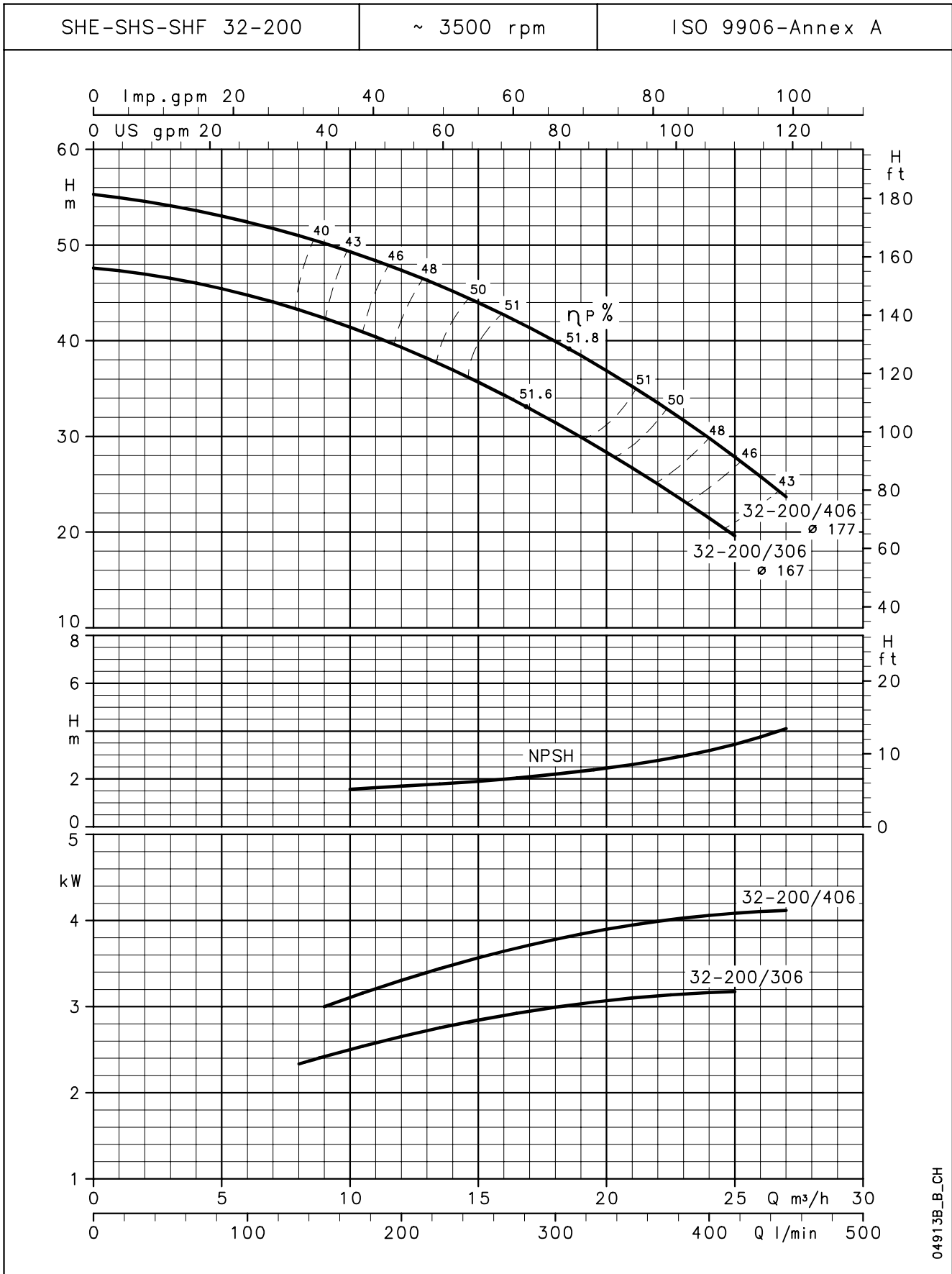
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04912B_B_CH

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

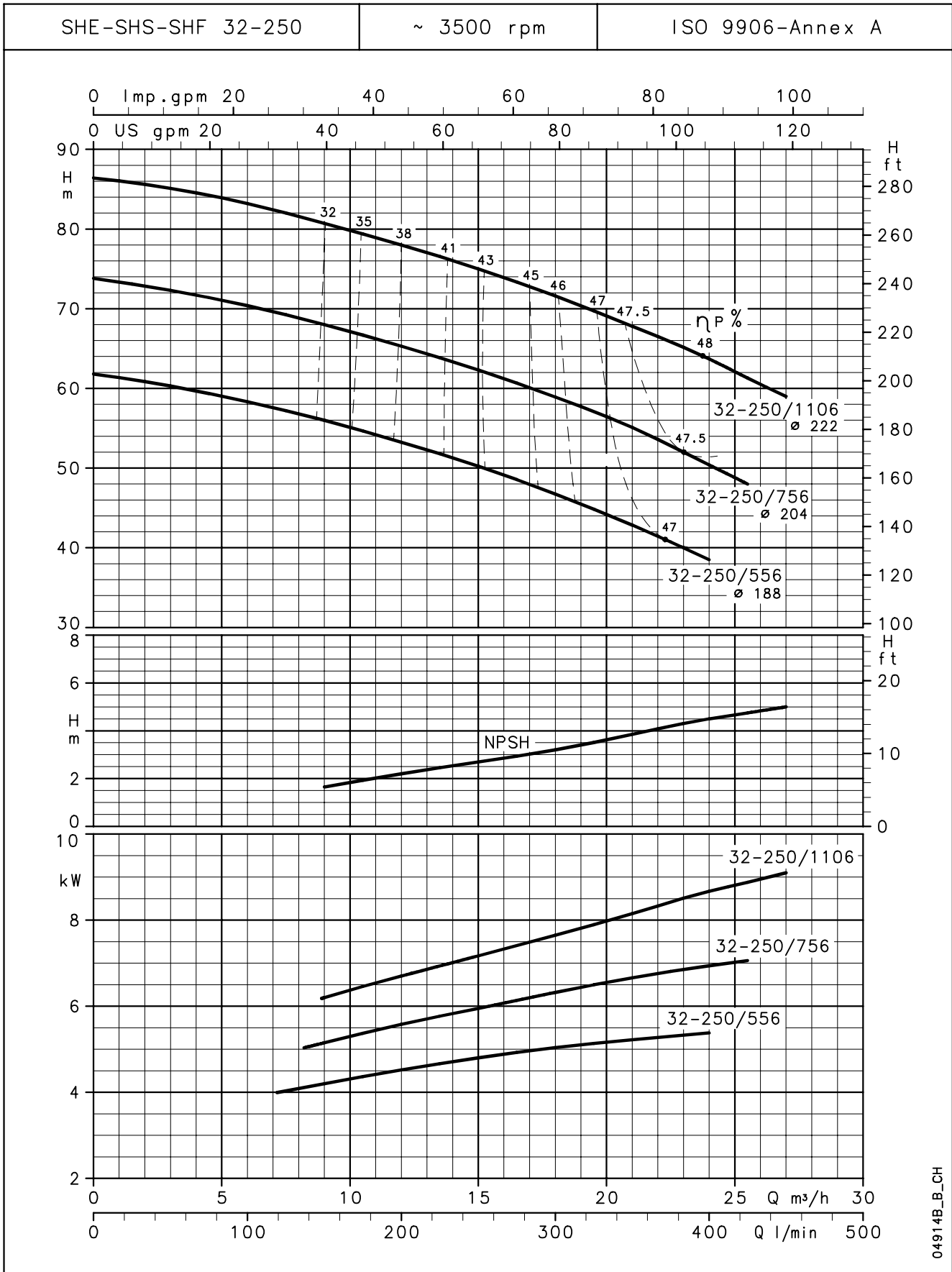
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04913B_B_CH

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

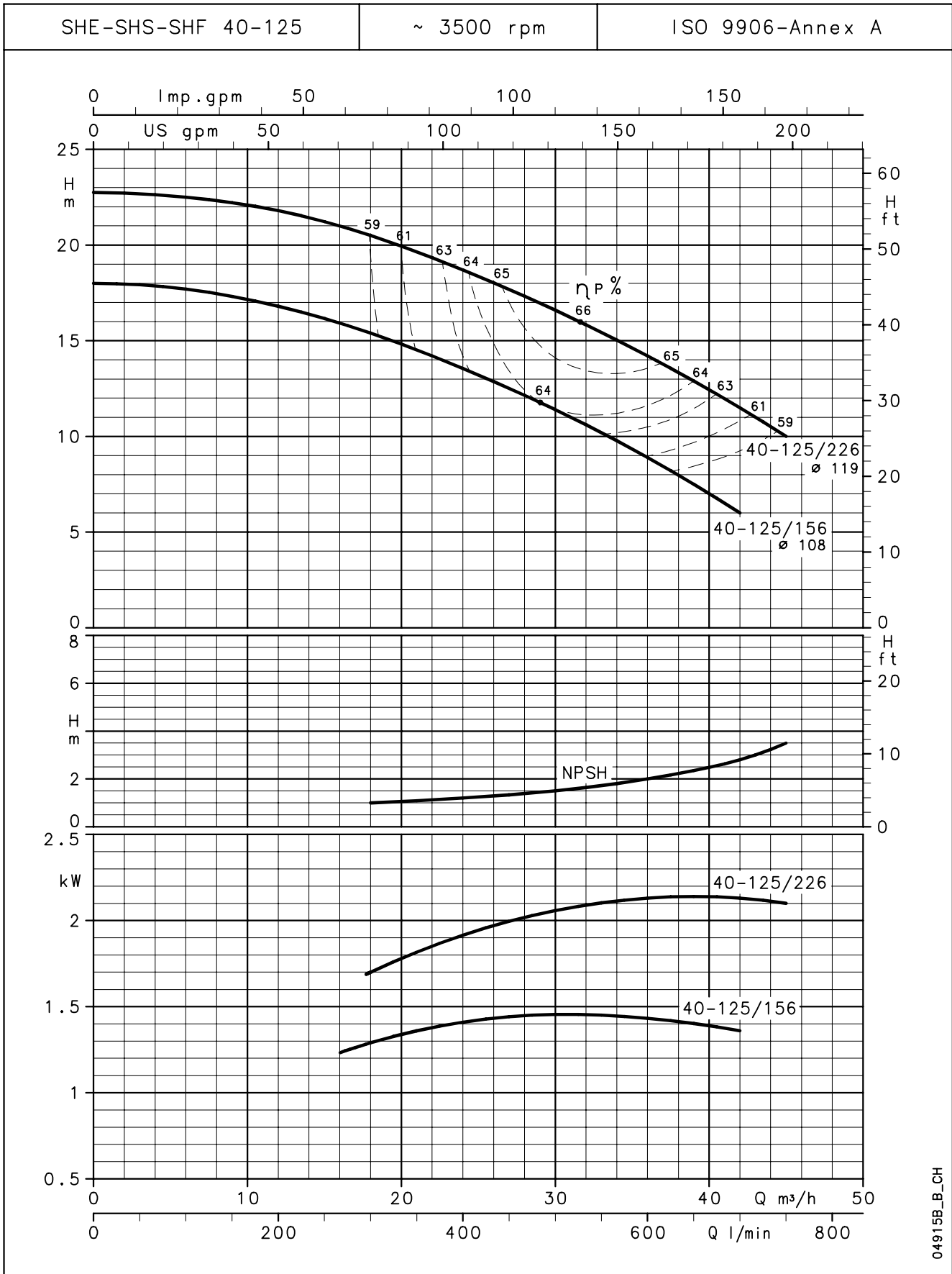
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04914B_B_CH

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

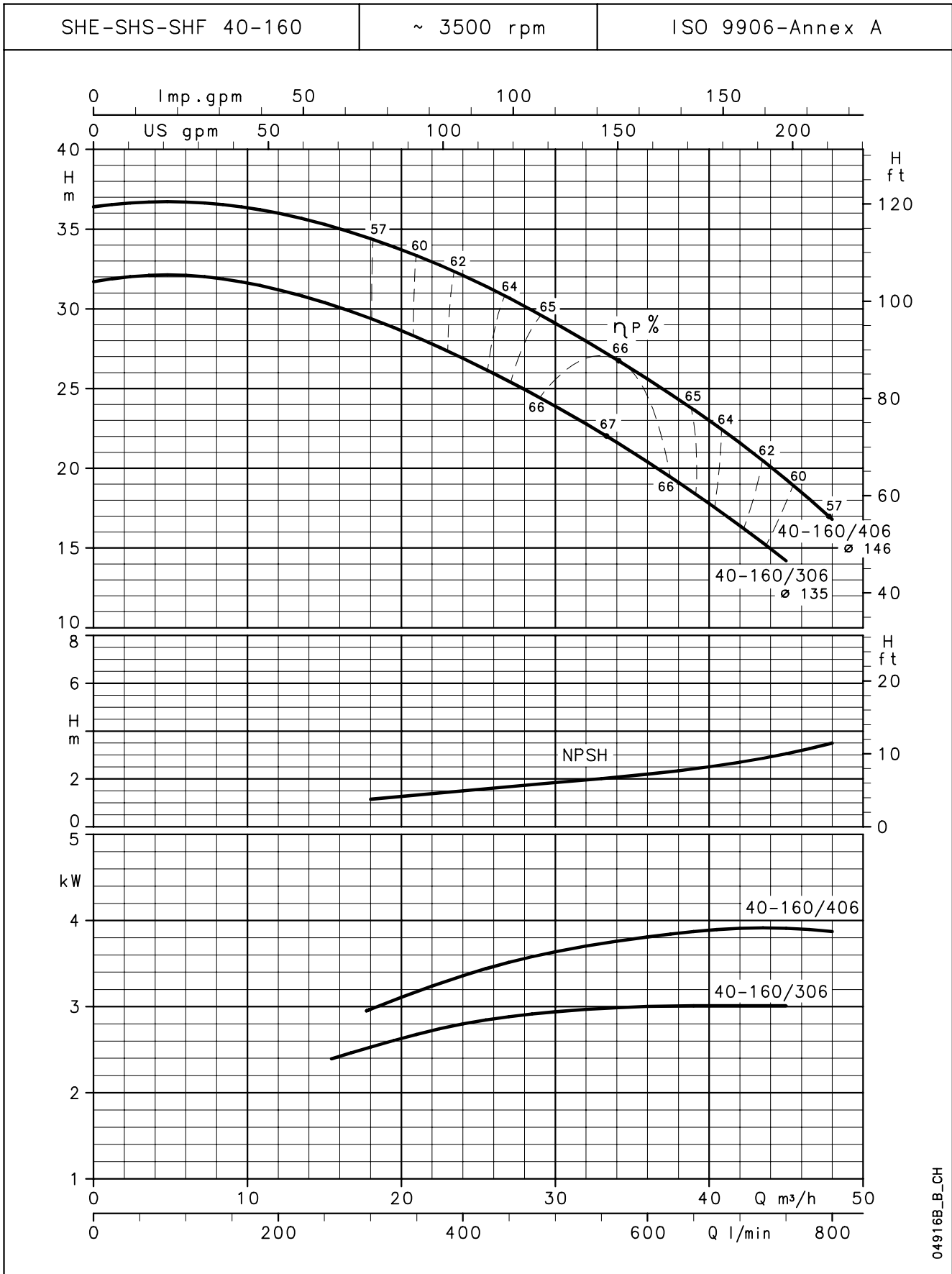
**SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES**



04915B_B_CH

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

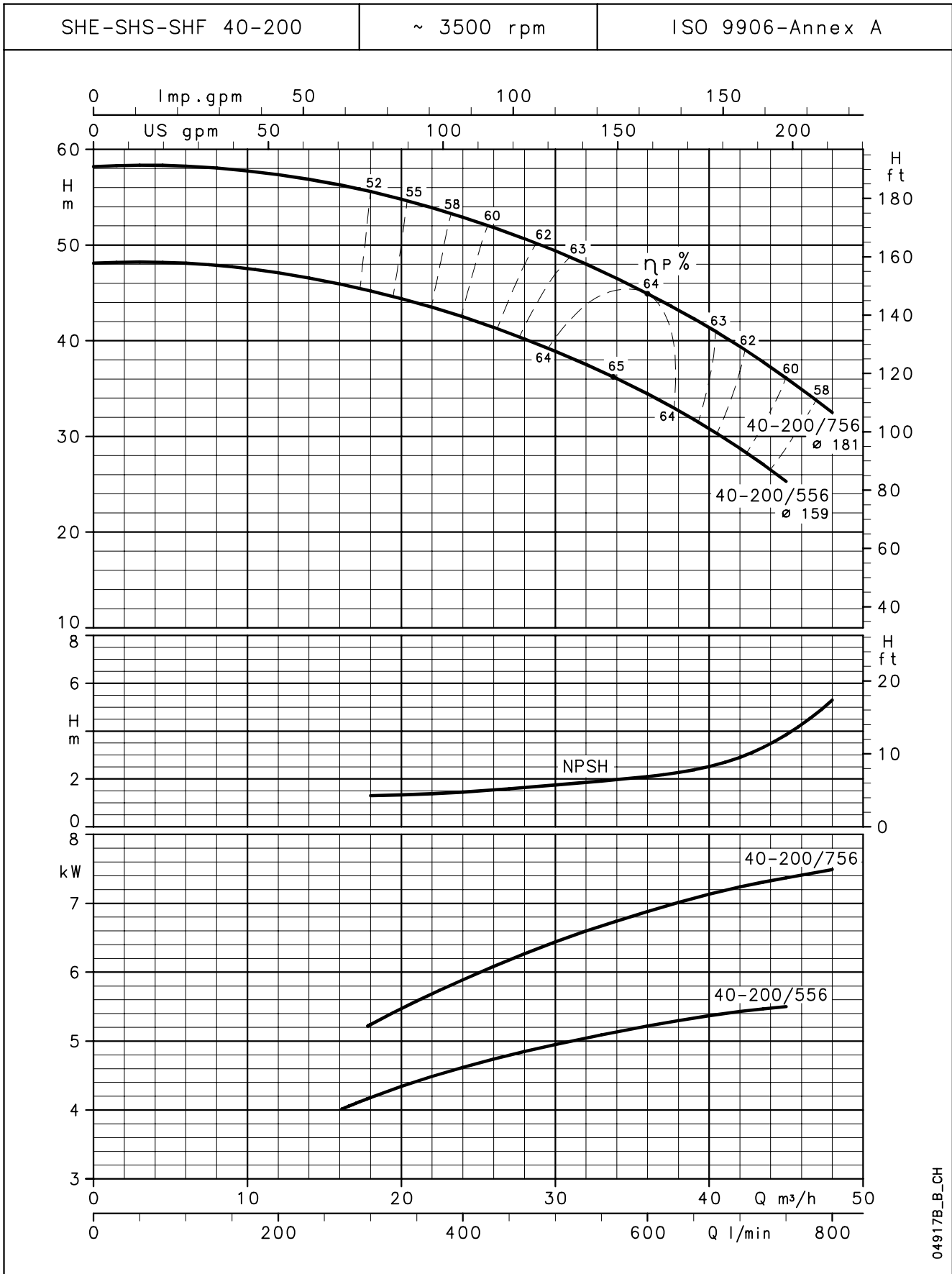
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04916B_B_CH

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

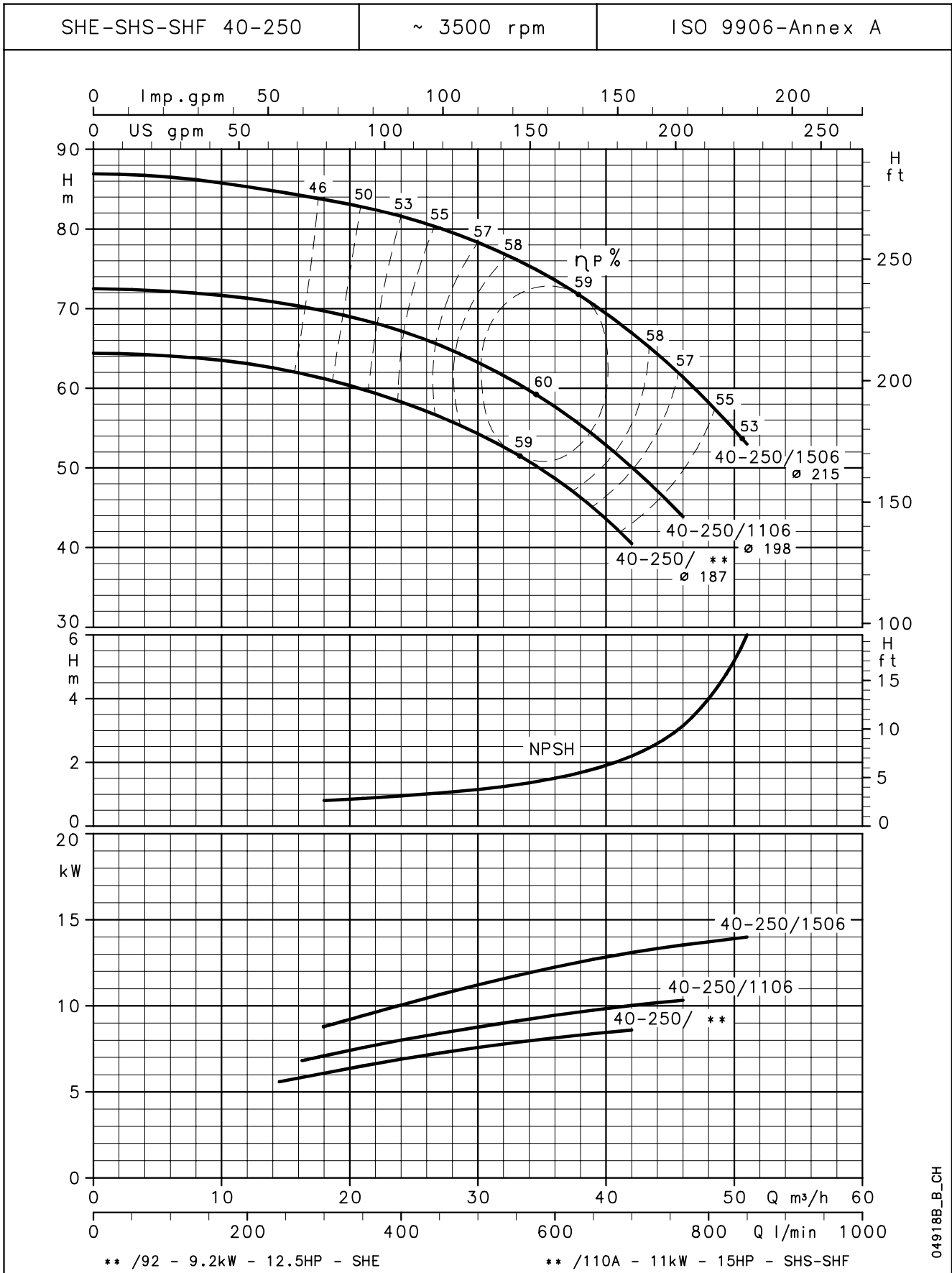
**SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES**



04917B_B_CH

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

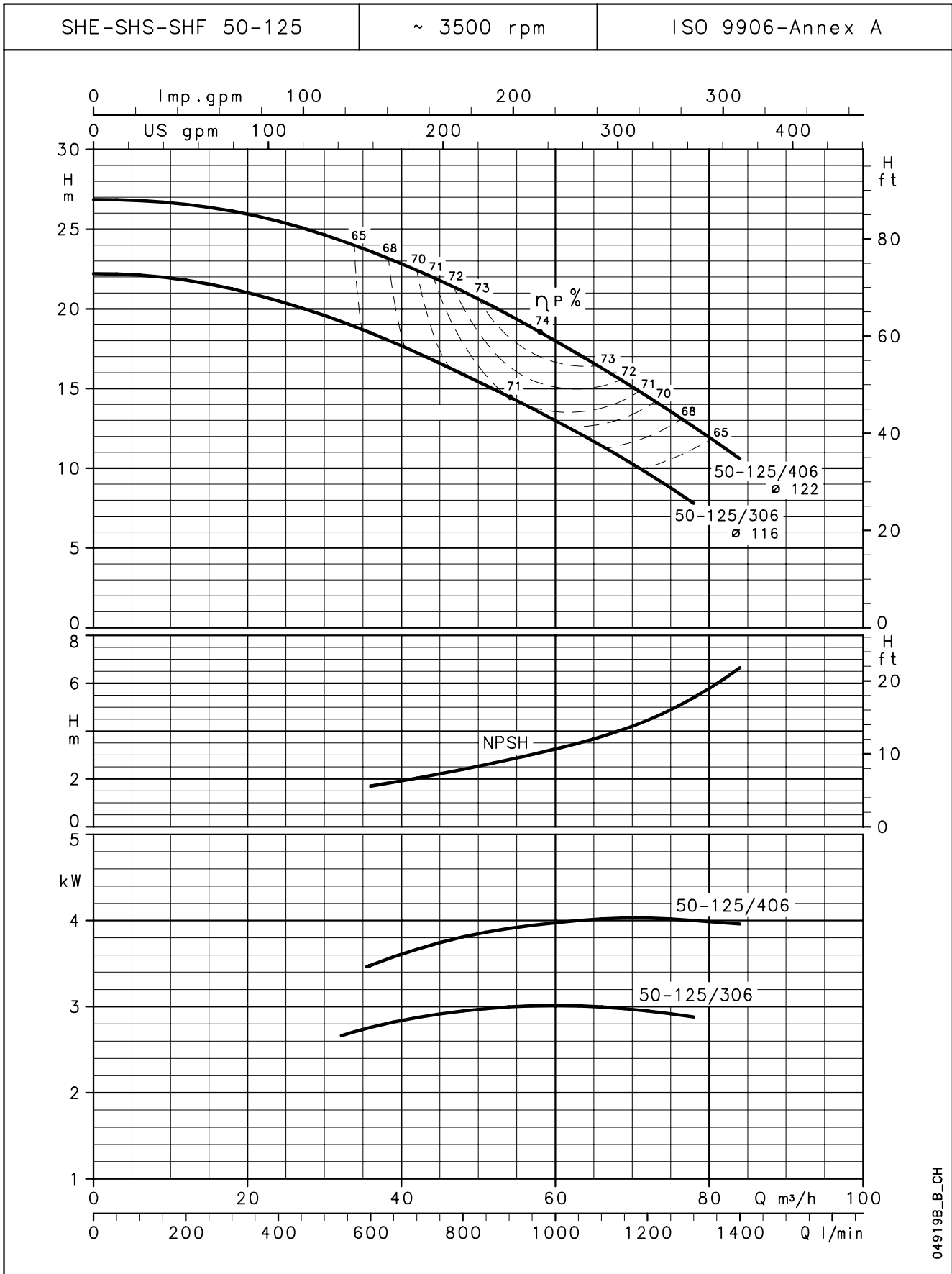
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04918B_B_CH

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

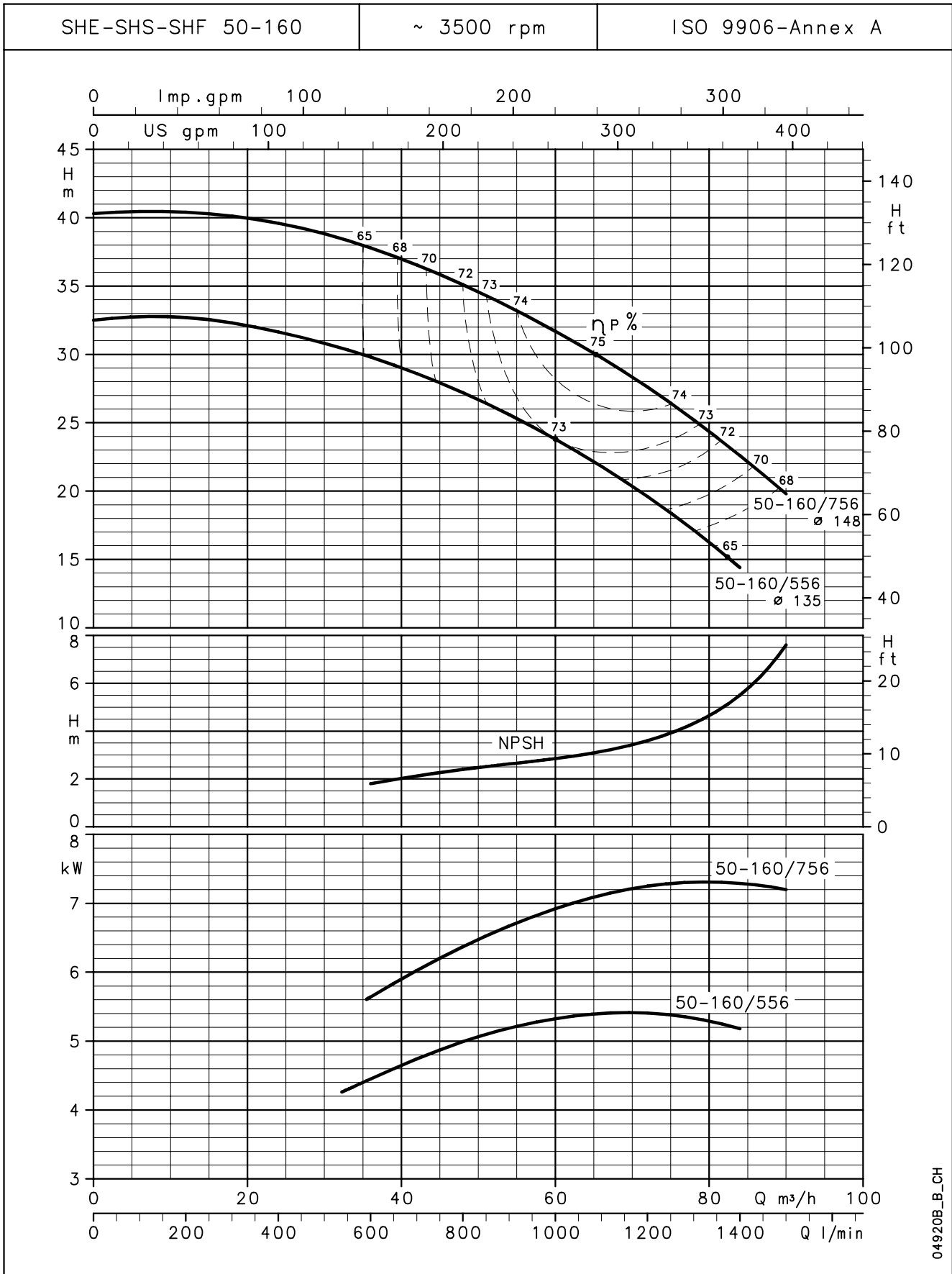
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04919B_B_CH

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

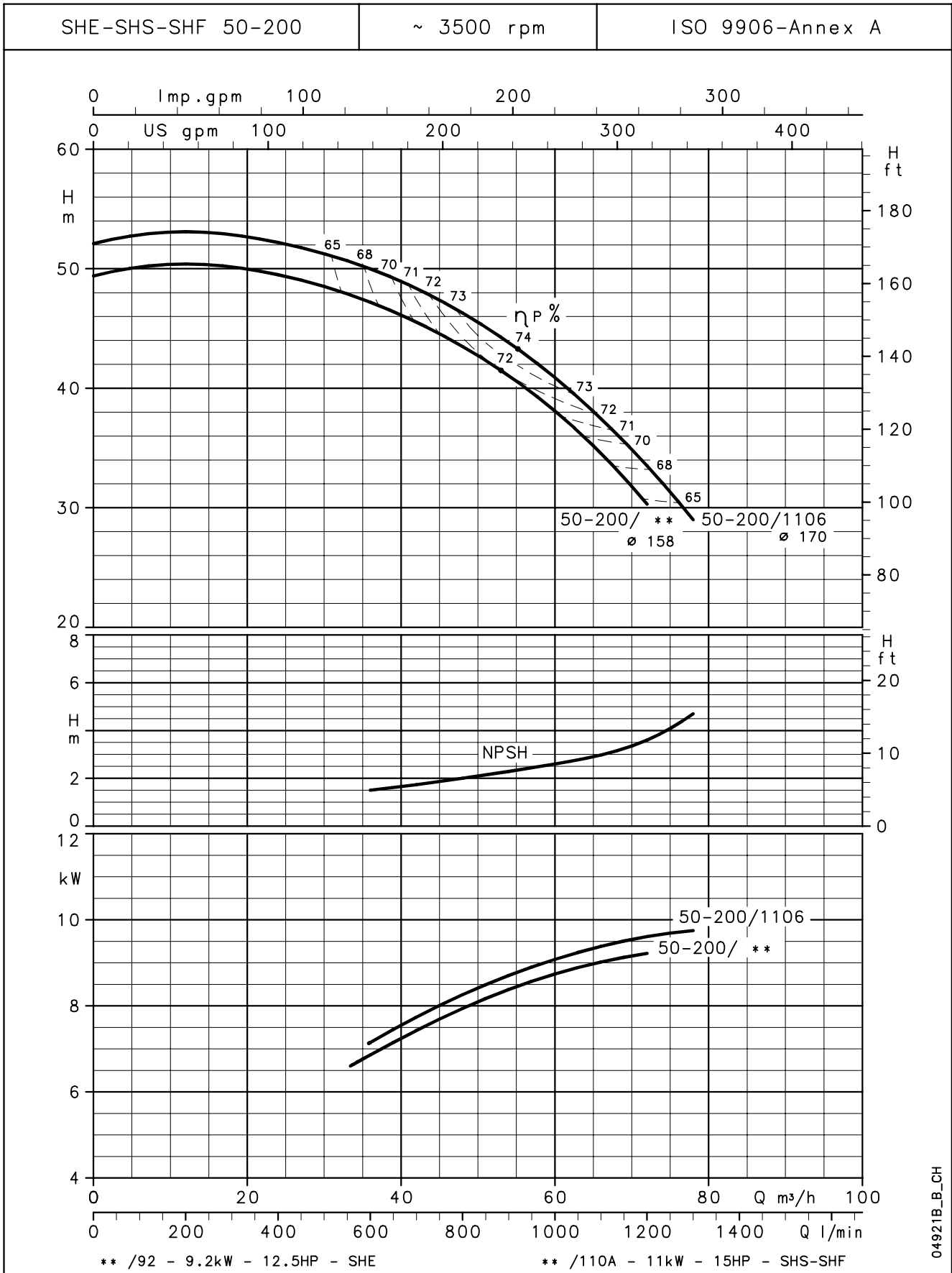
**SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES**



04920B_B_CH

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

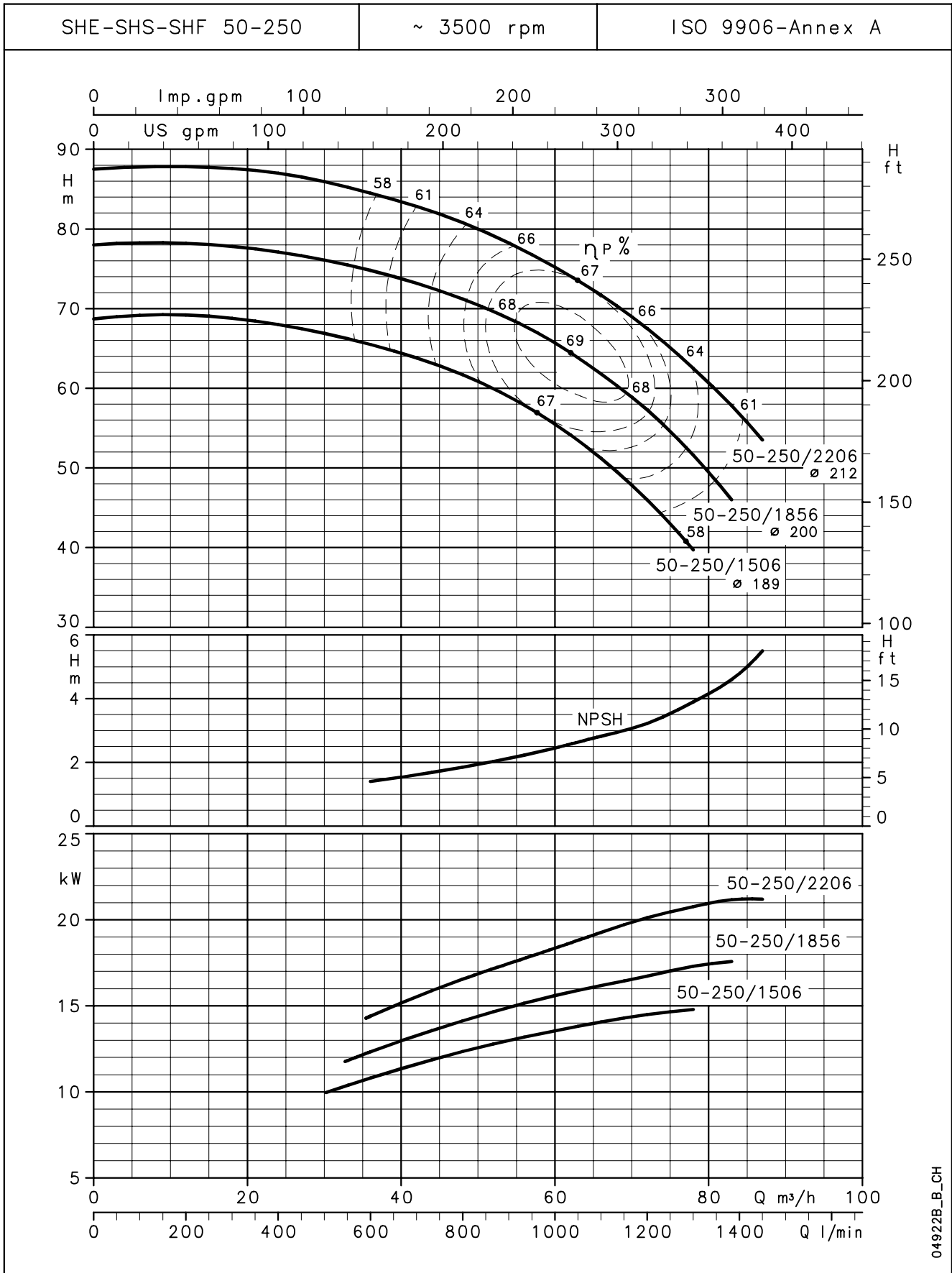
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04921B_B_CH

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

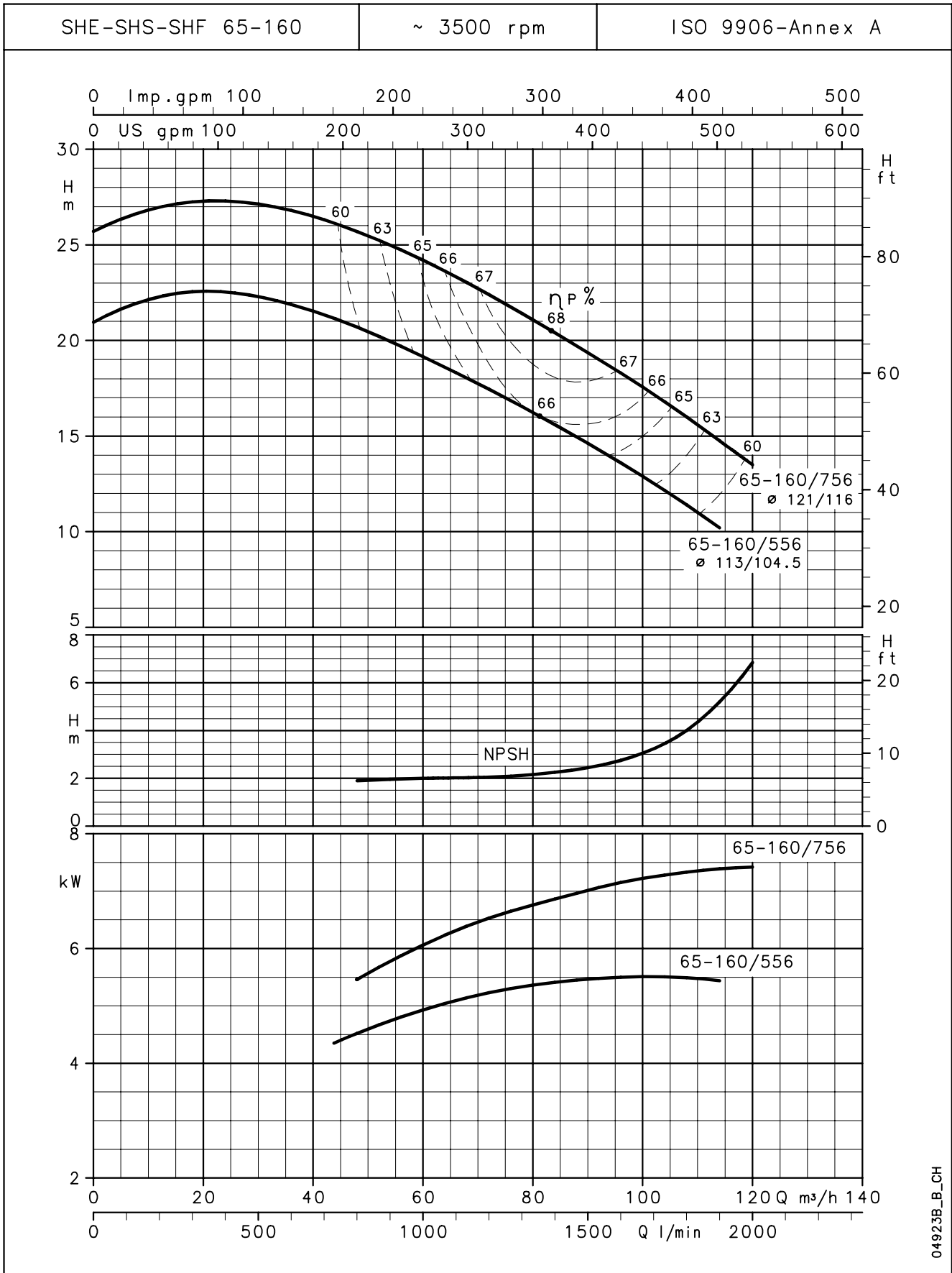
**SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES**



04922B_B_CH

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

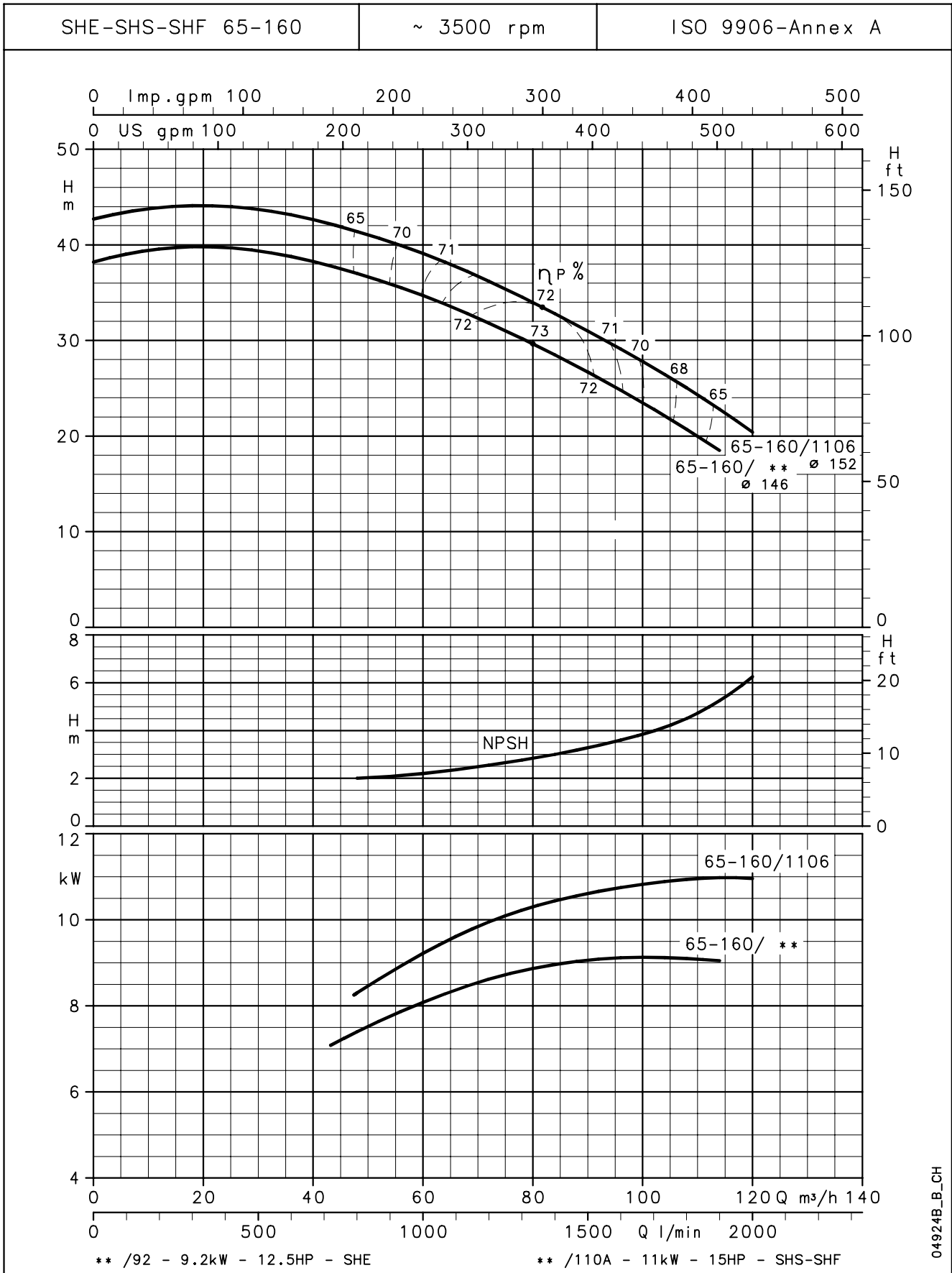
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04923B_B_CH

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

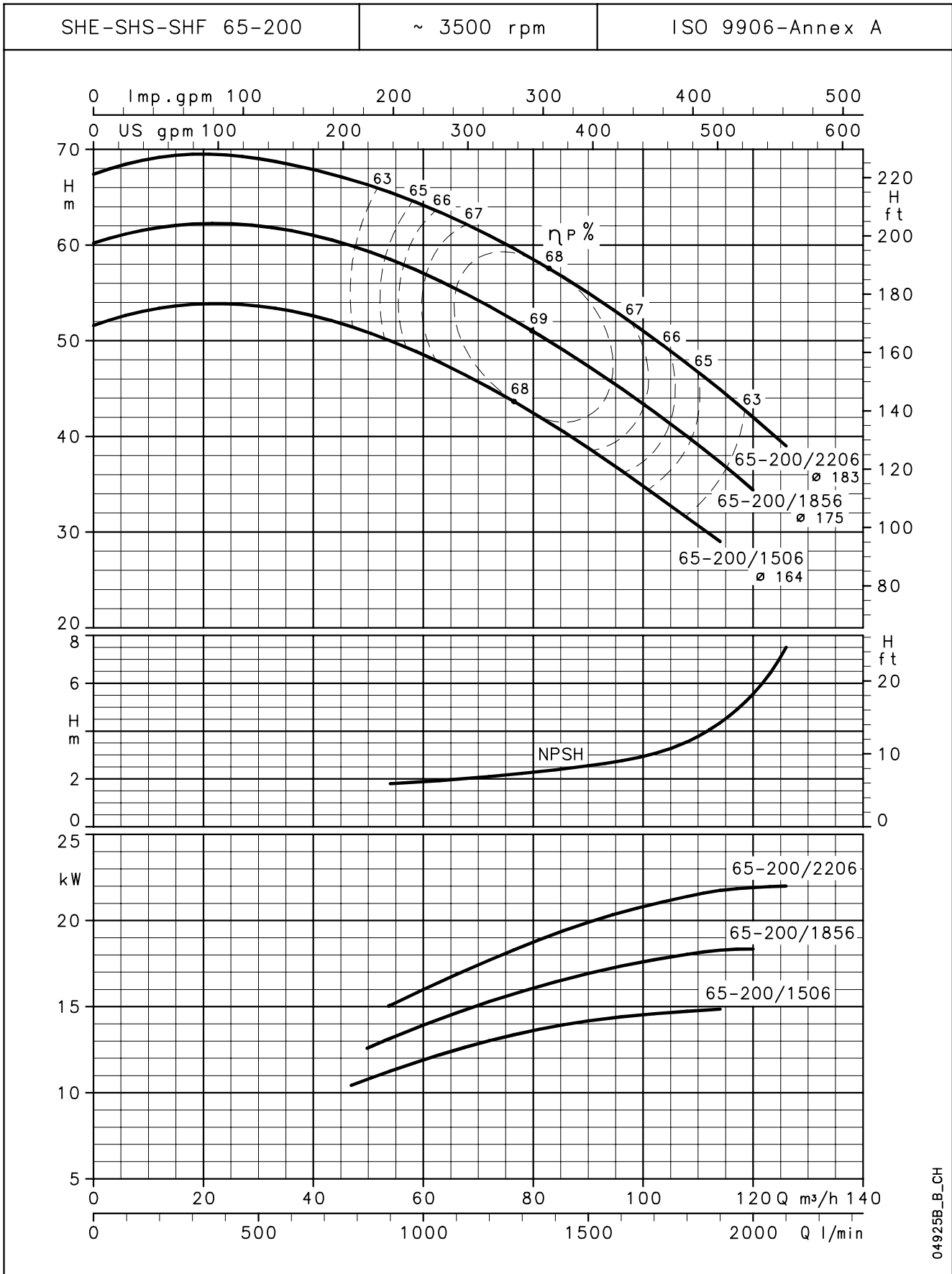
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04924B_B_CH

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

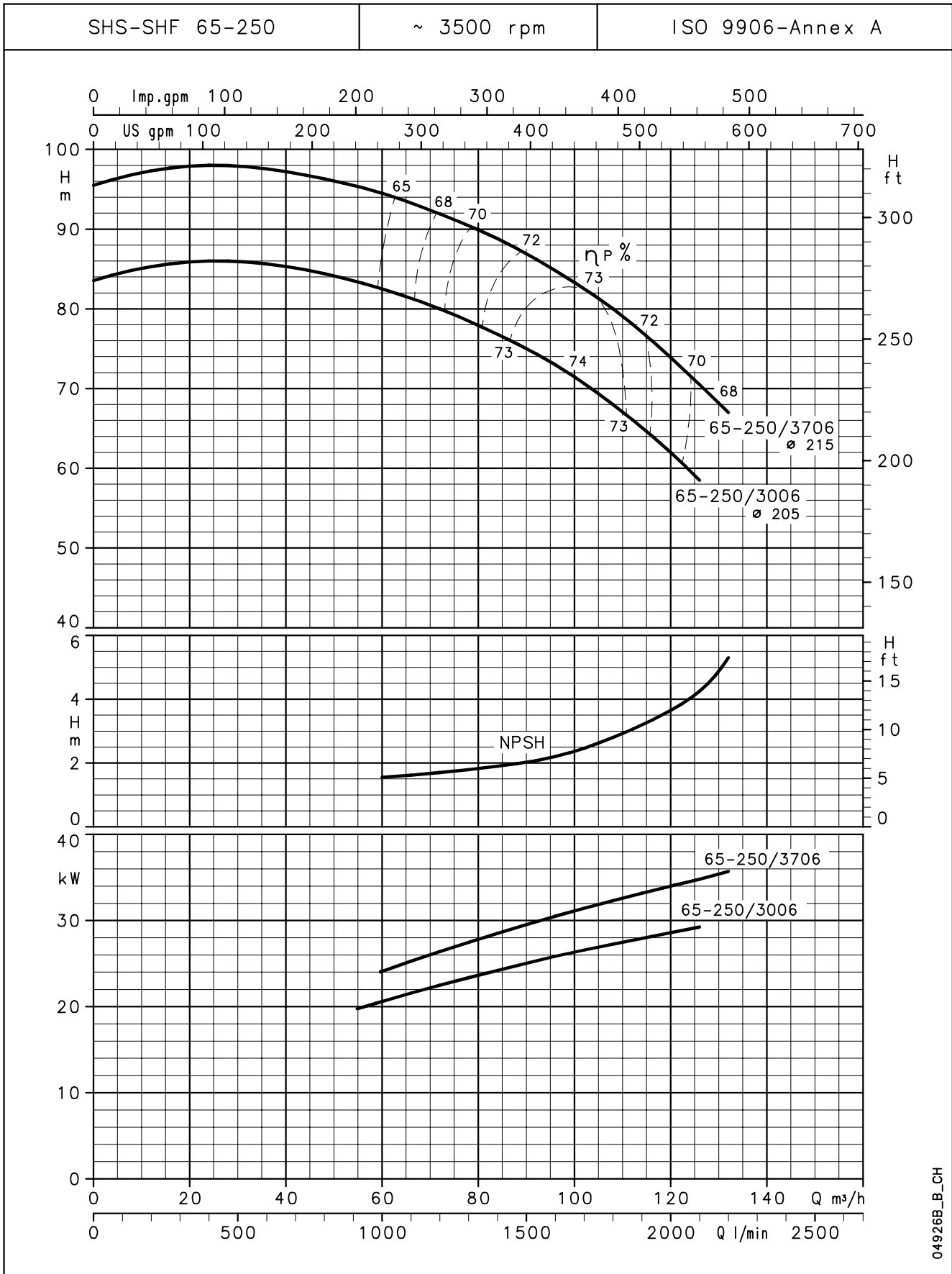
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04925B_B_CH

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

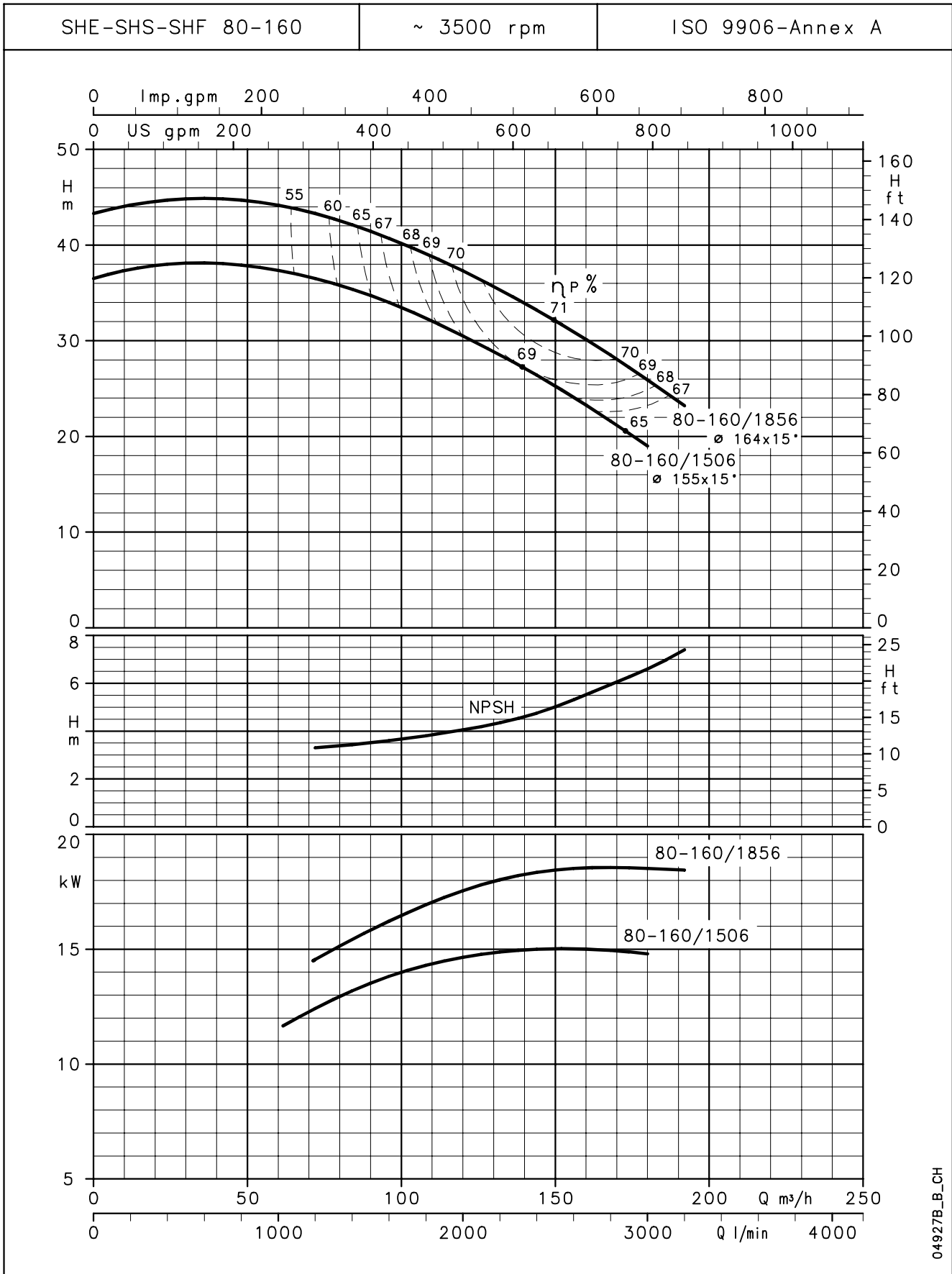
SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04926B_B_CH

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

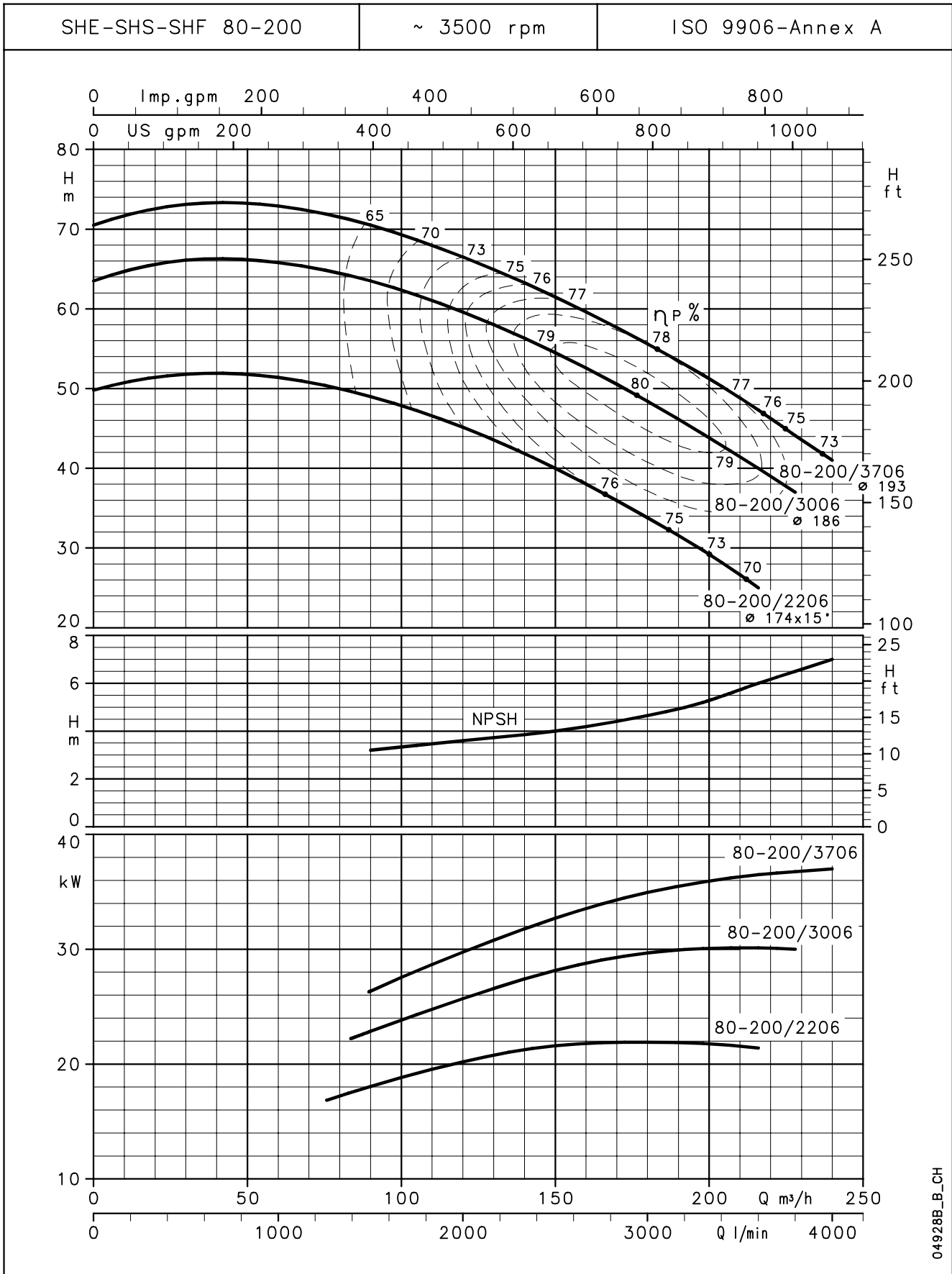
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04927B_B_CH

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

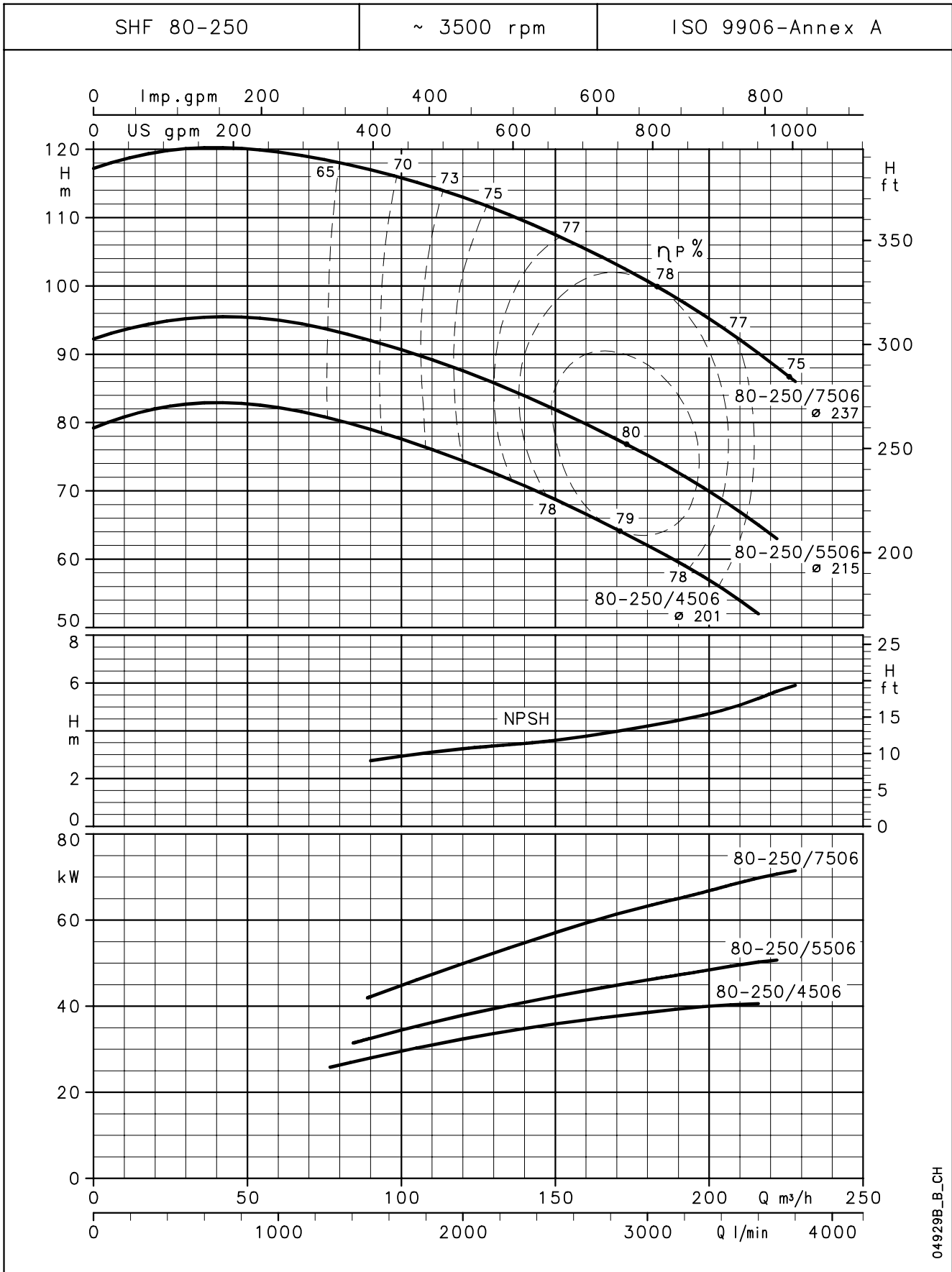
SHE-SHS-SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES



04928B_B_CH

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

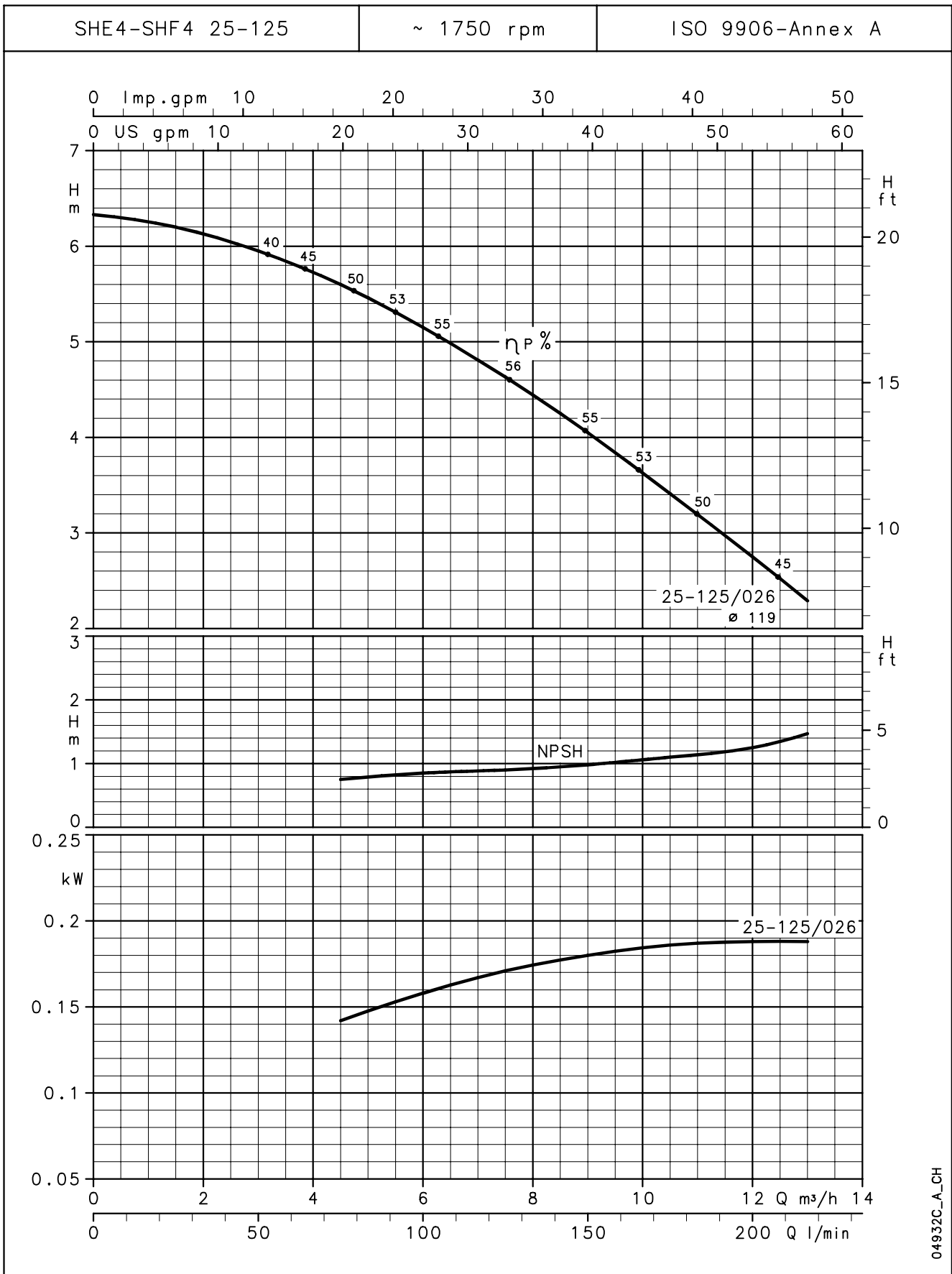
**SHF SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 2 POLES**



04929B_B_CH

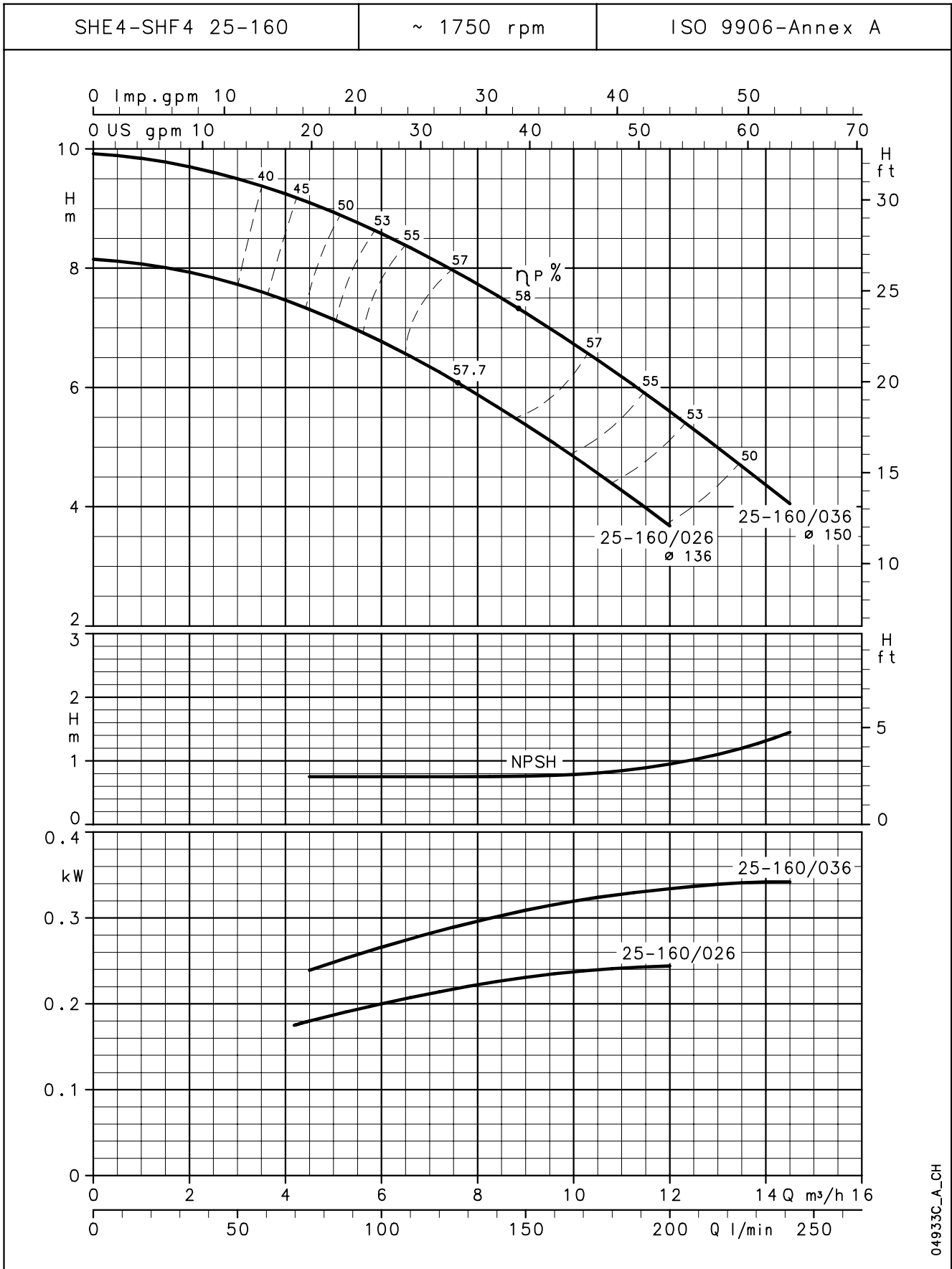
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



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

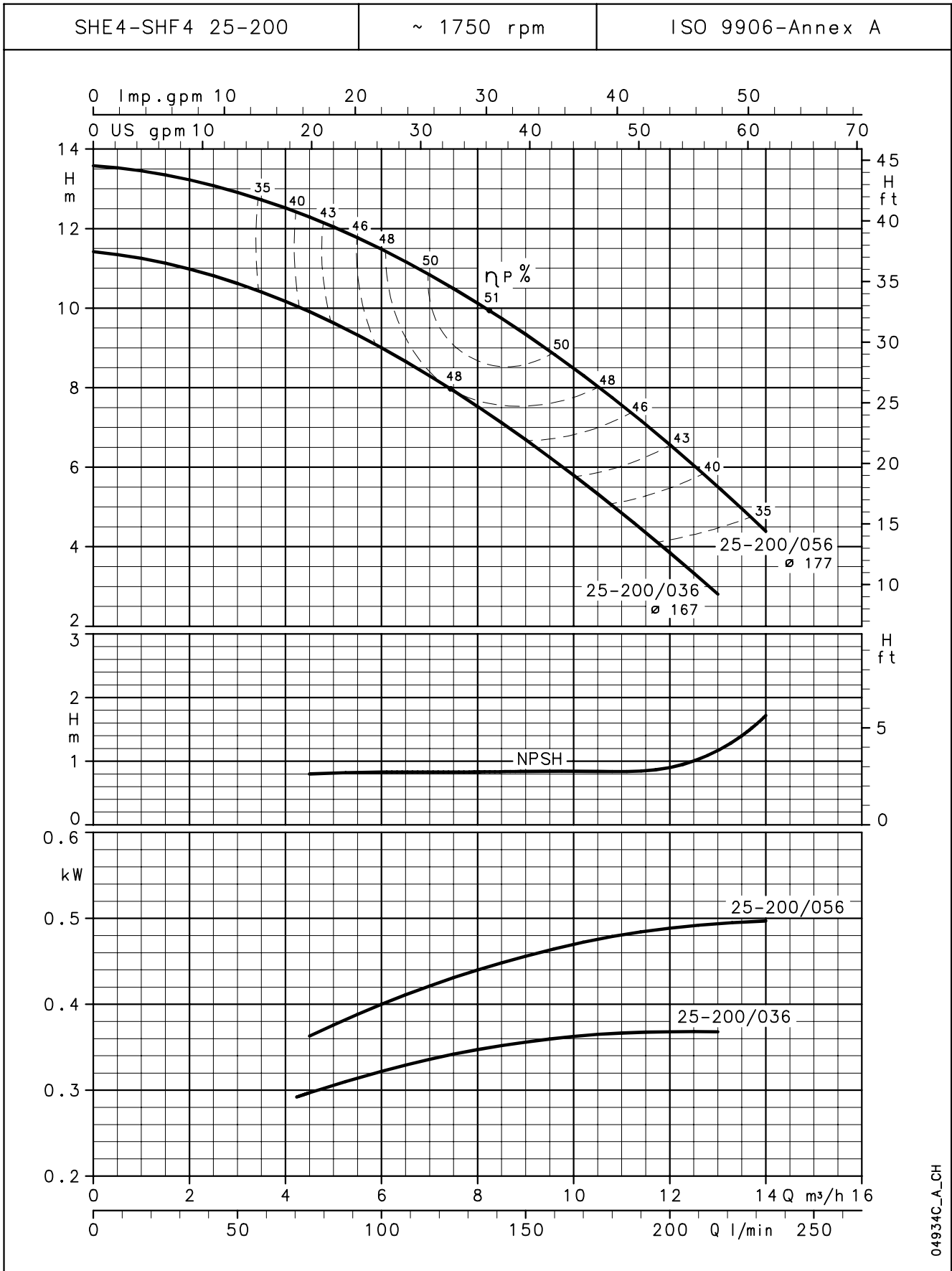
**SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04933C-A_CH

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

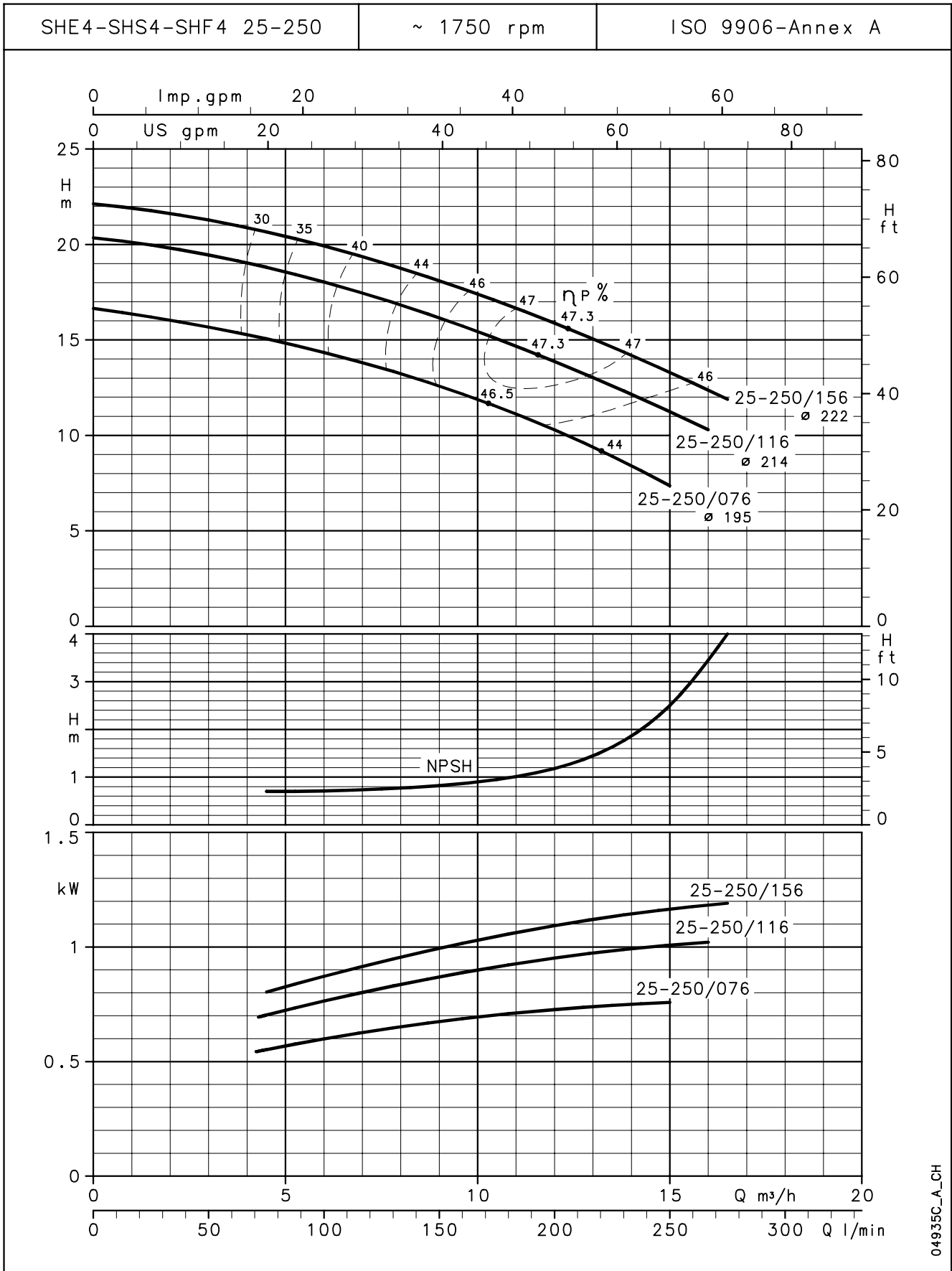
SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04934C-A_CH

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

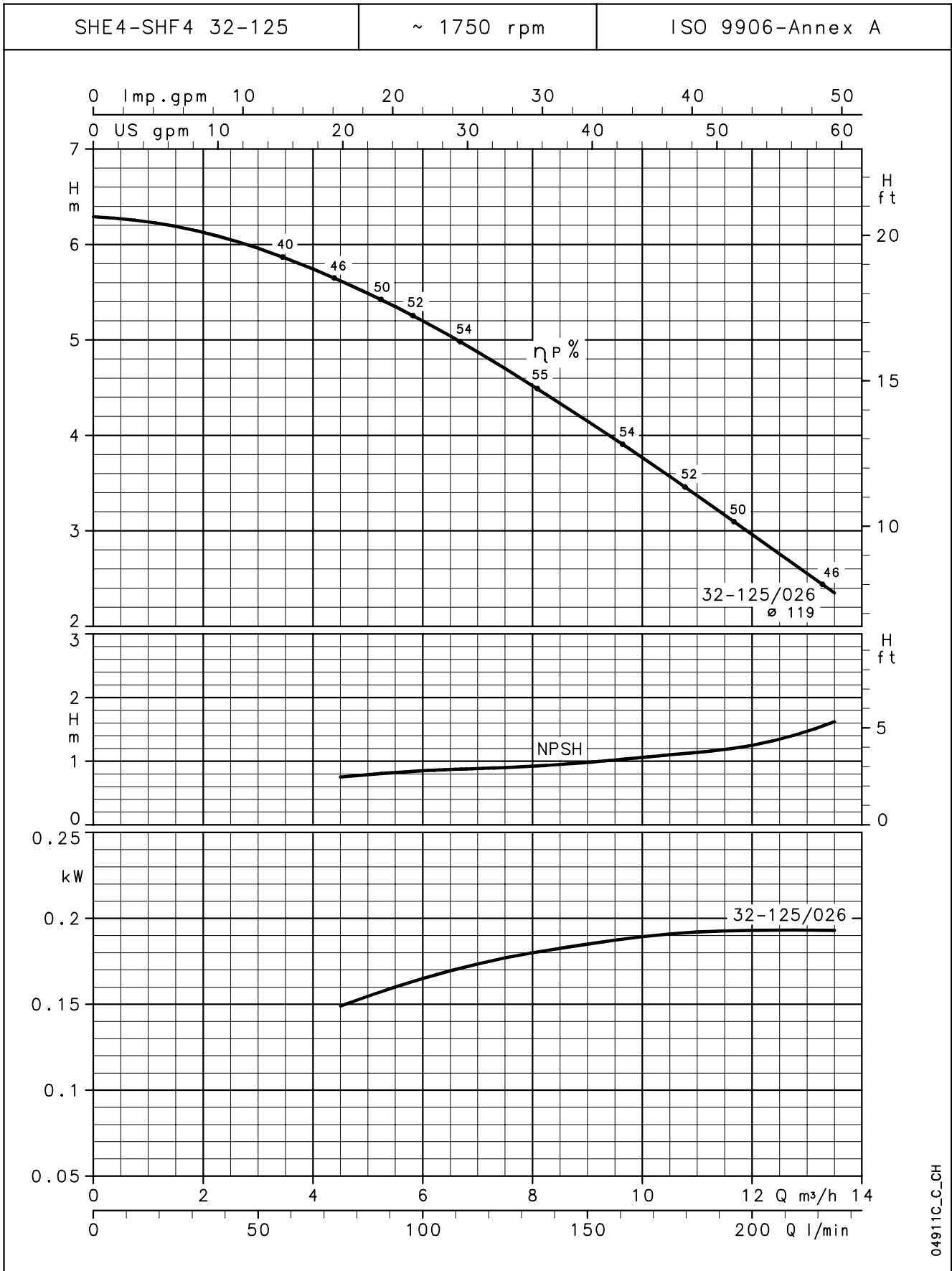
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04935C-A_CH

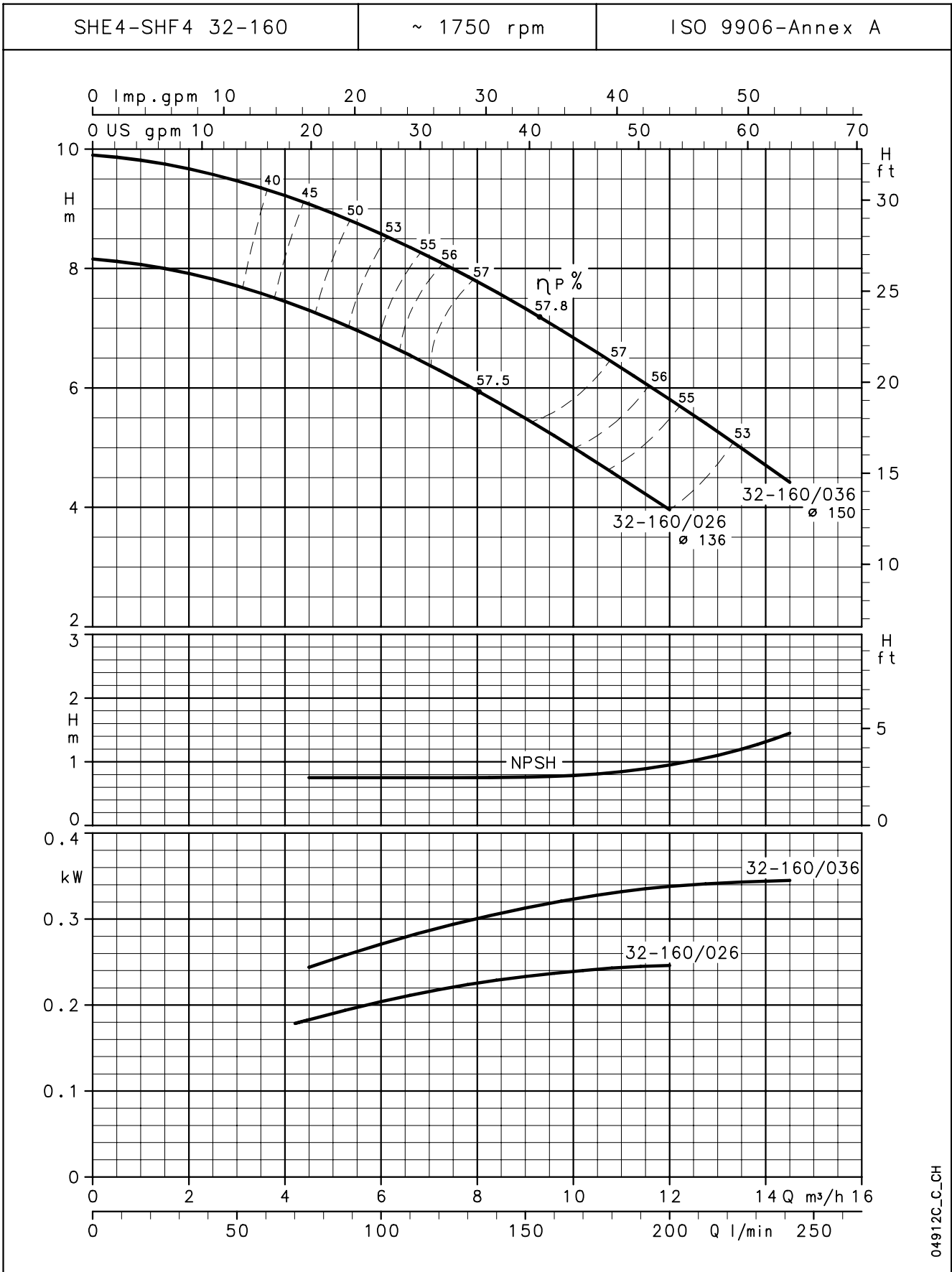
The NPSH values are laboratory values; for practical use we suggest increasing these values by 0,5 m.
 These performances are valid for liquids with density $\rho = 1,0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



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

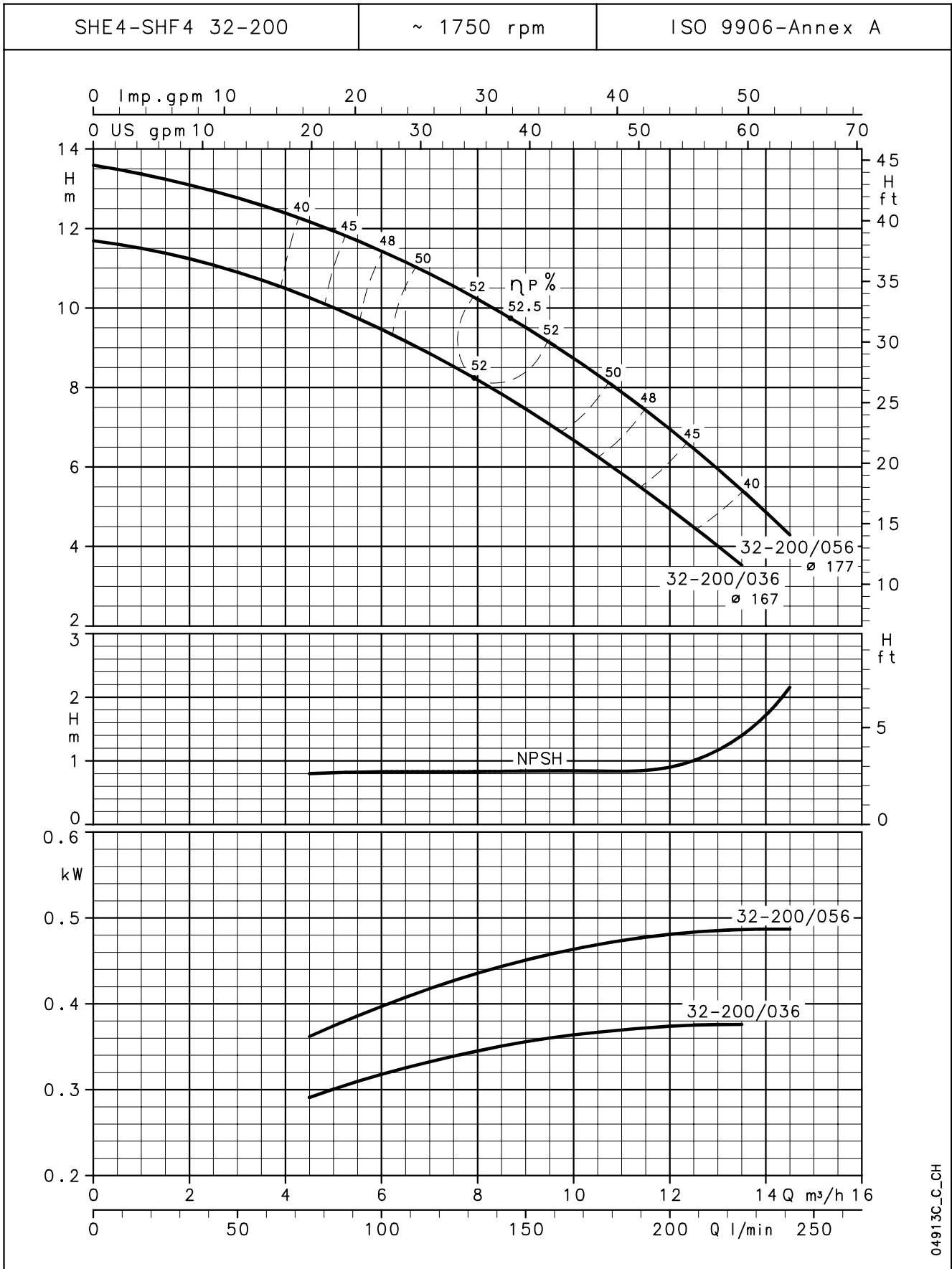
SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04912C-C_CH

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

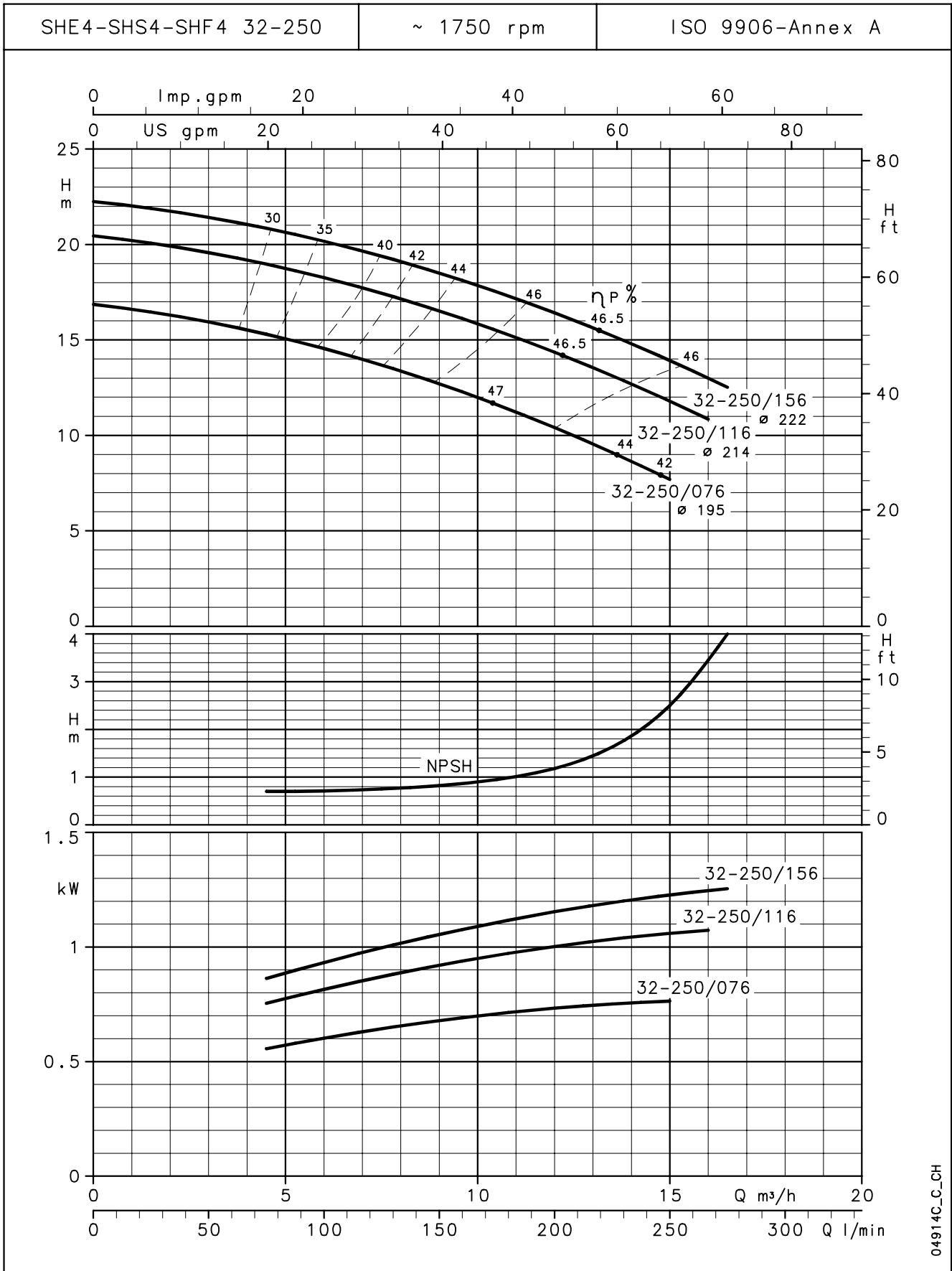
SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04913C-C-CH

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

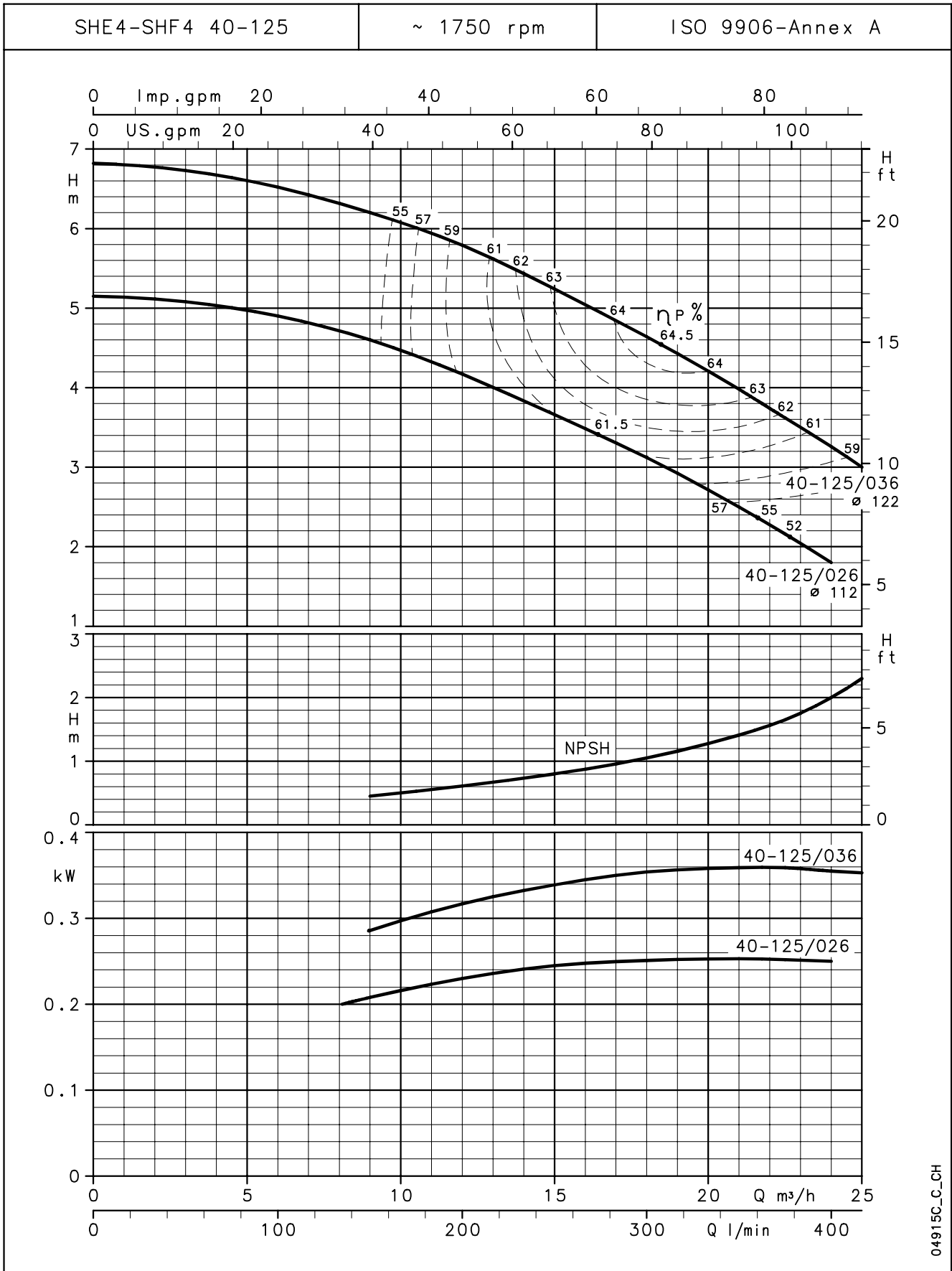
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04914C-C-CH

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

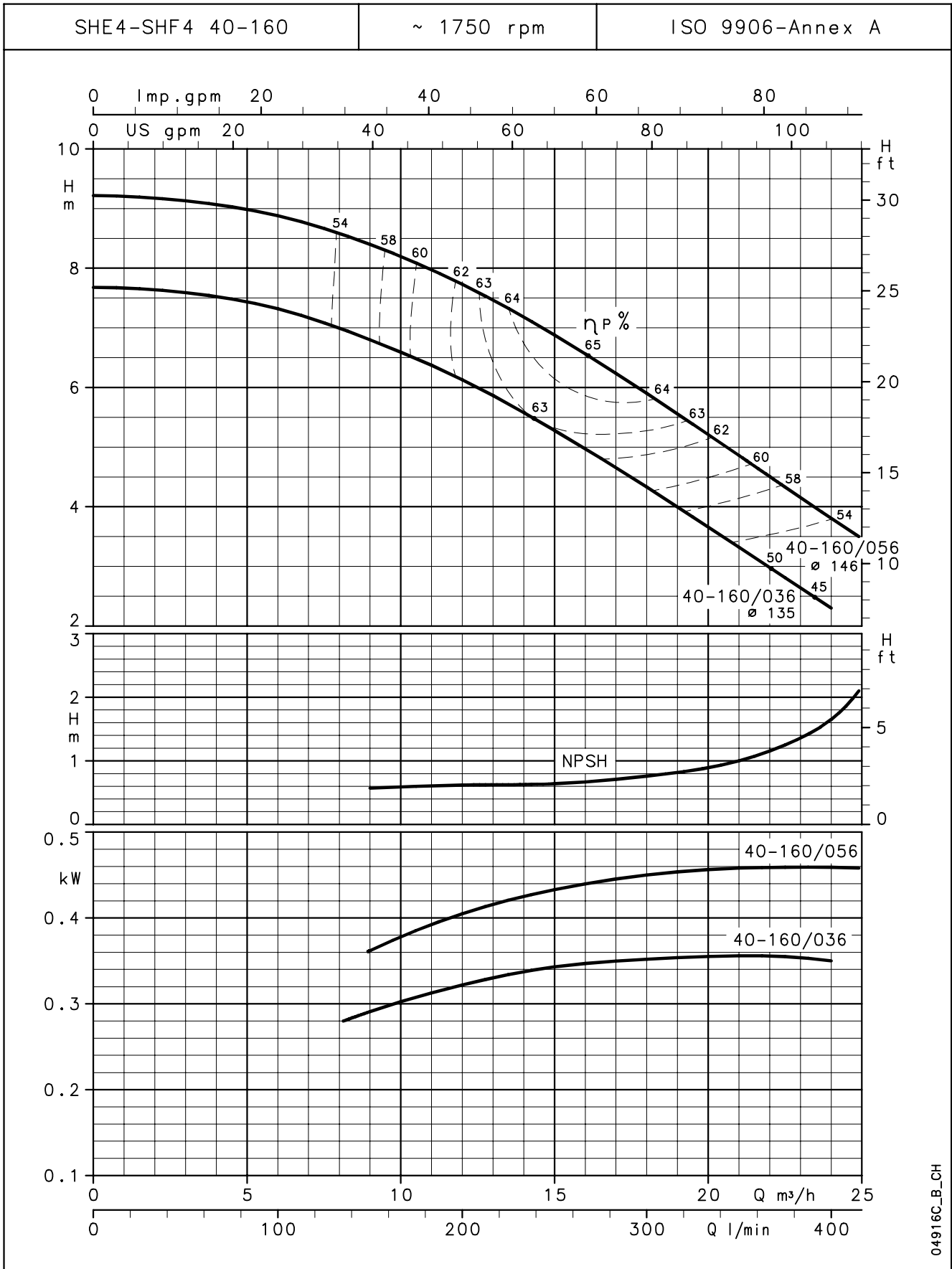
**SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04915C-C_CH

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

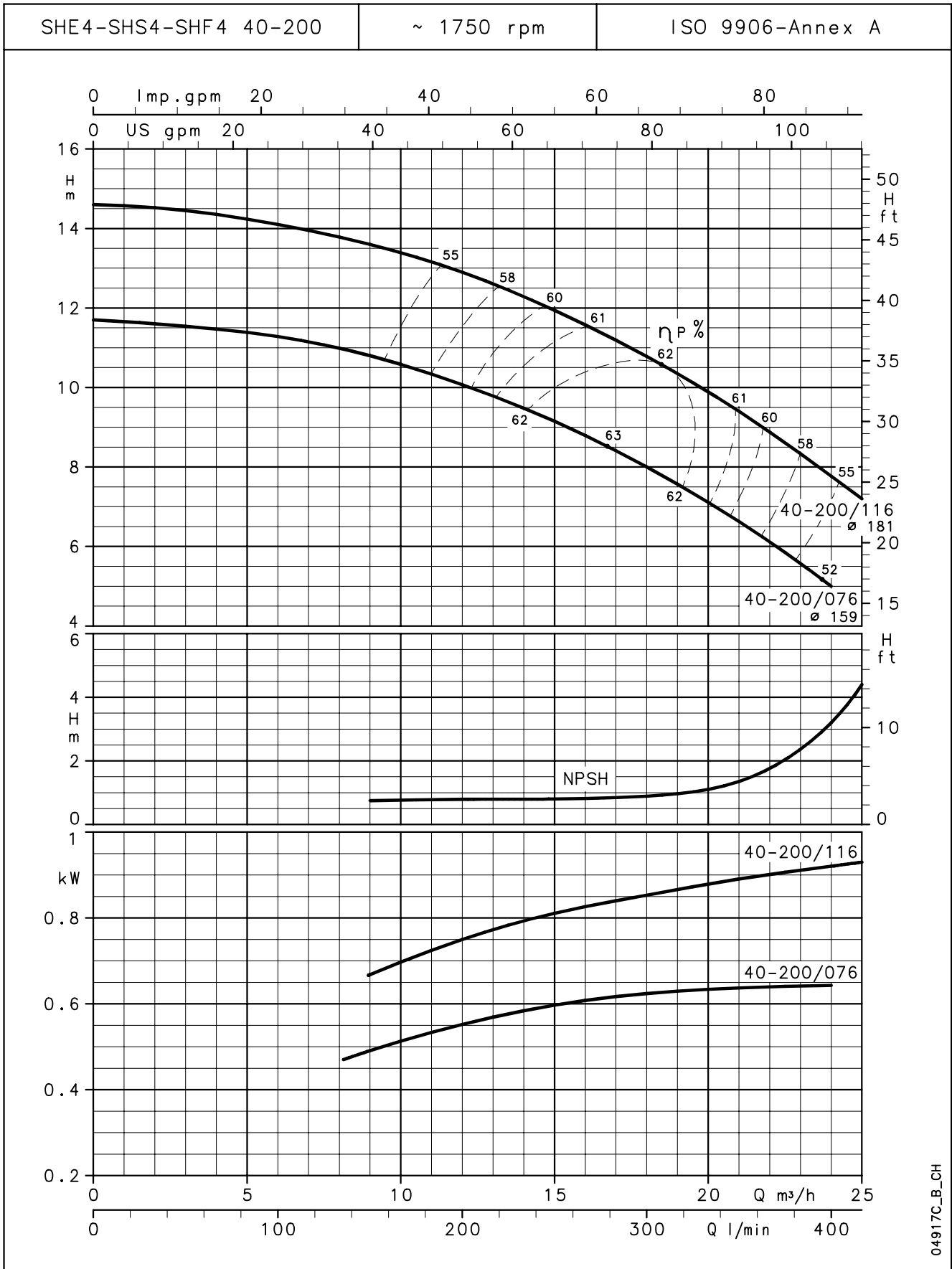
SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04916C_B_CH

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

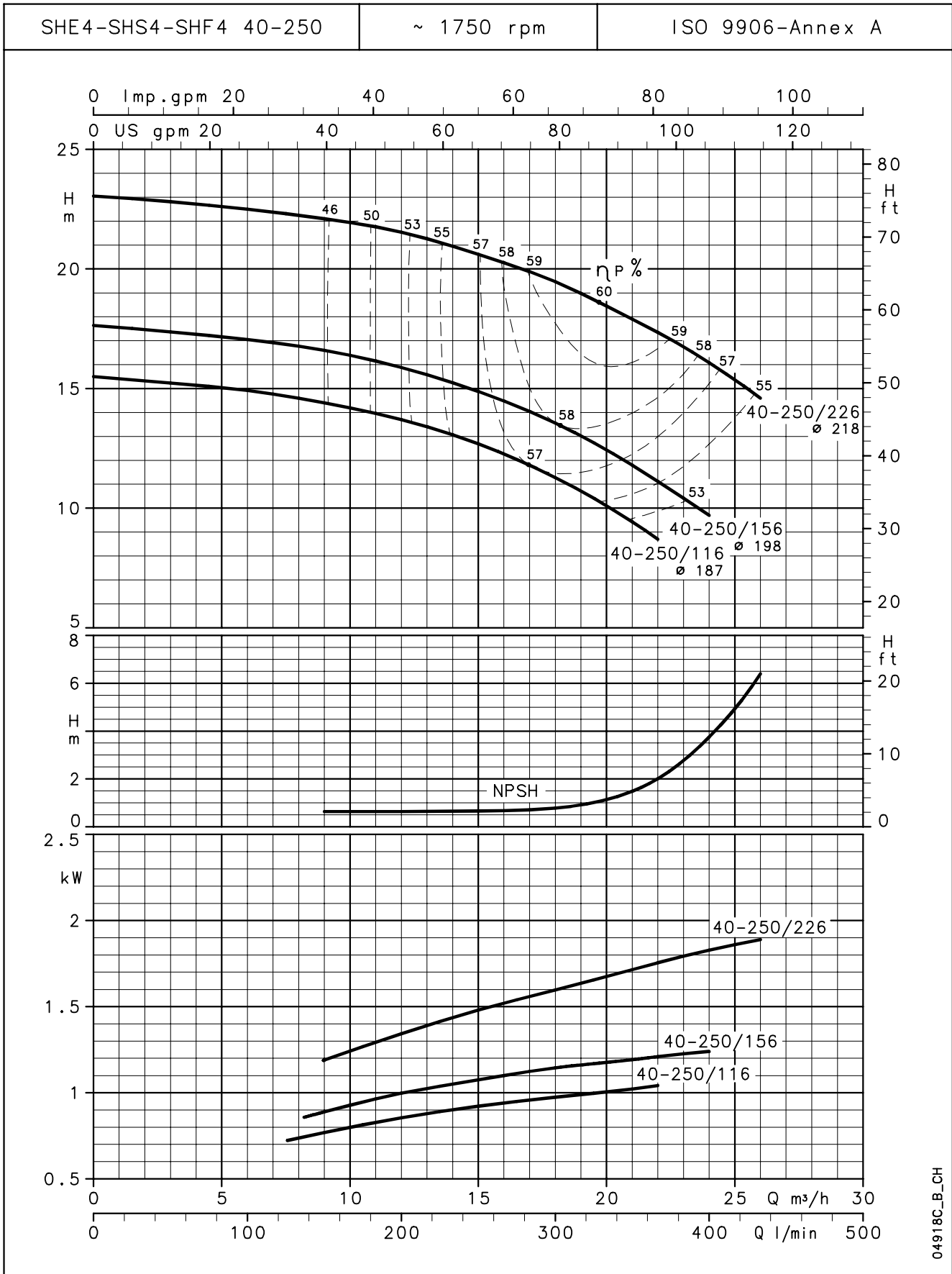
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04917C_B_CH

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

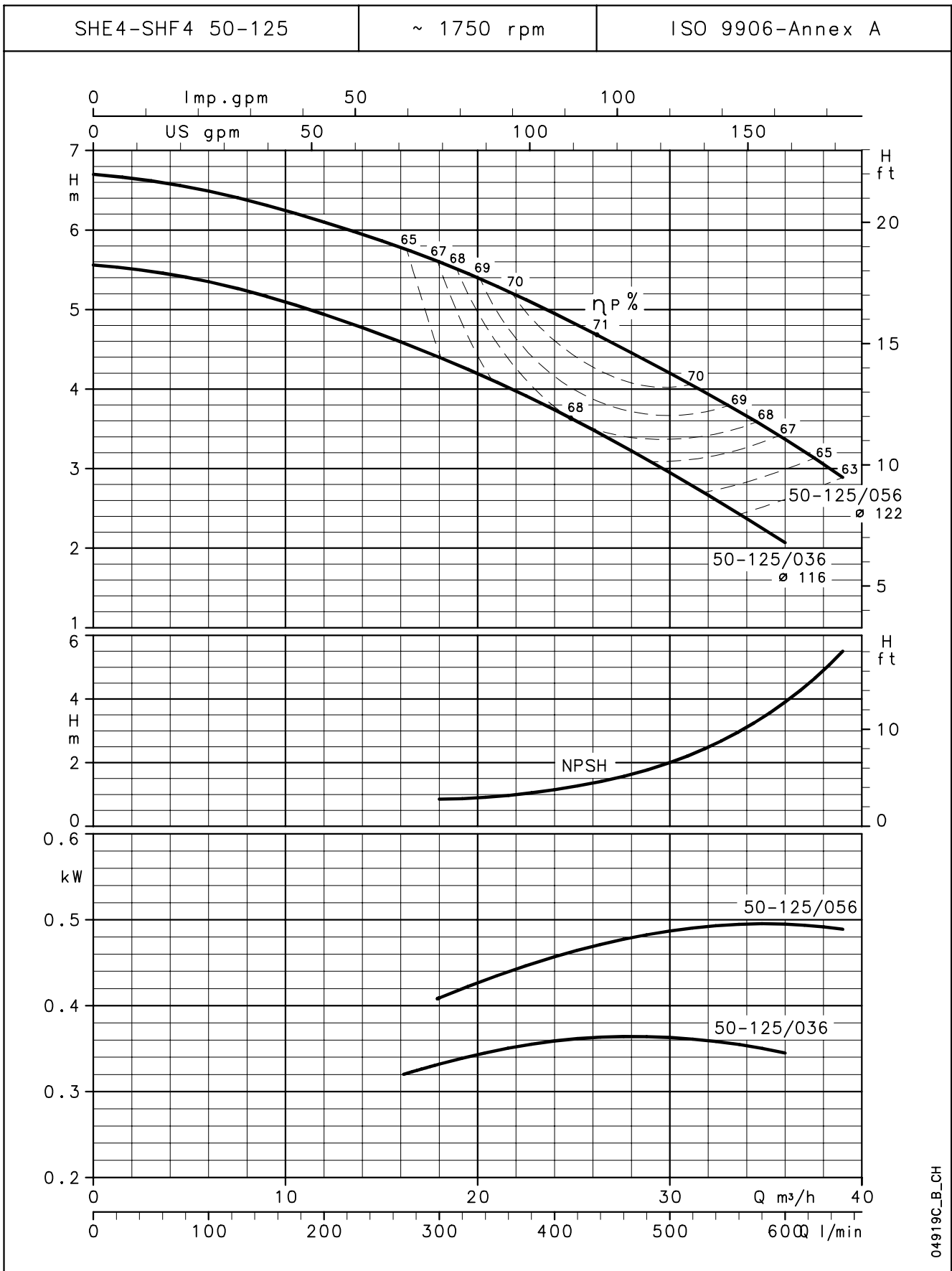
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04918C_B_CH

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

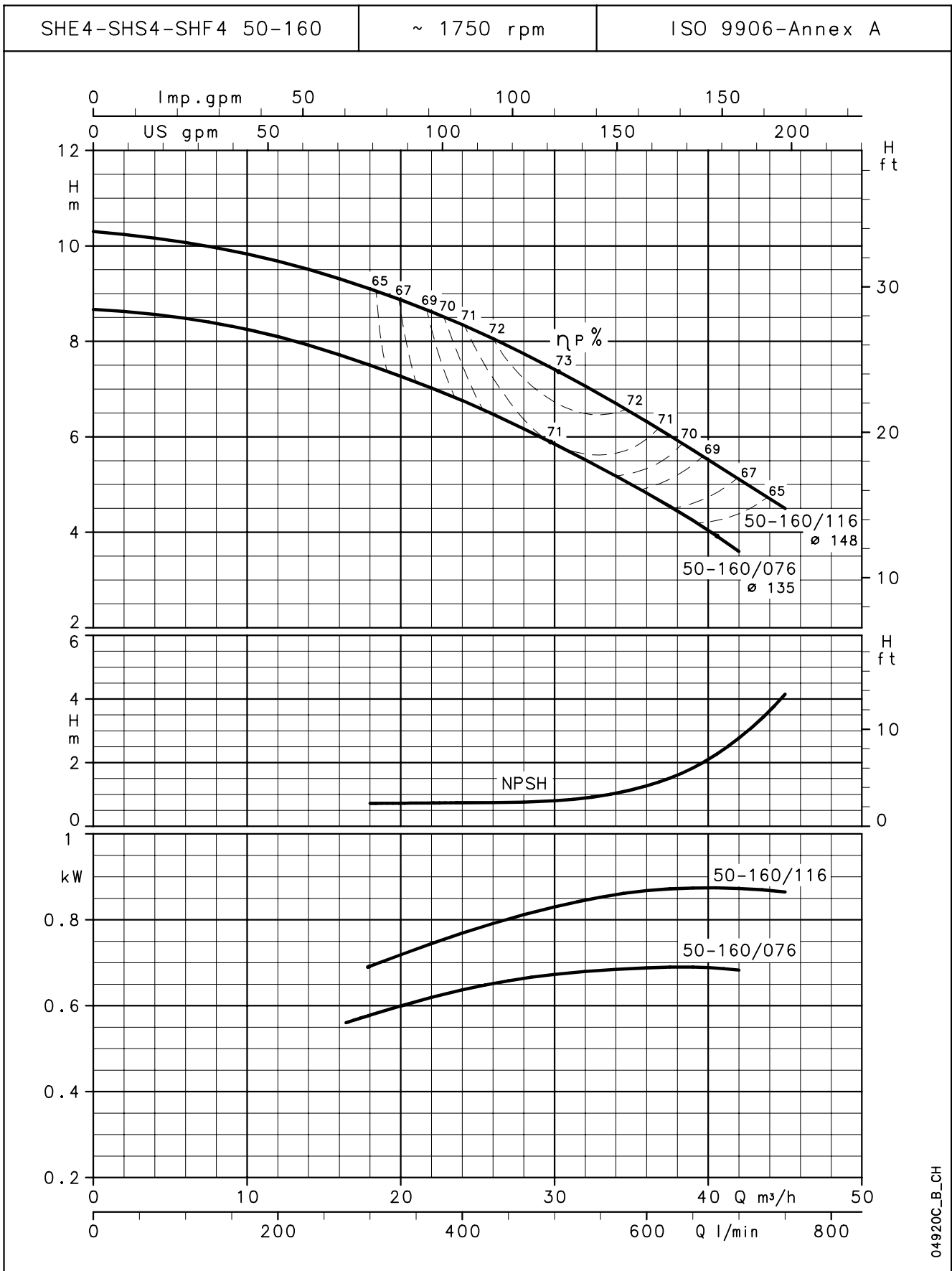
**SHE4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04919C_B_CH

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

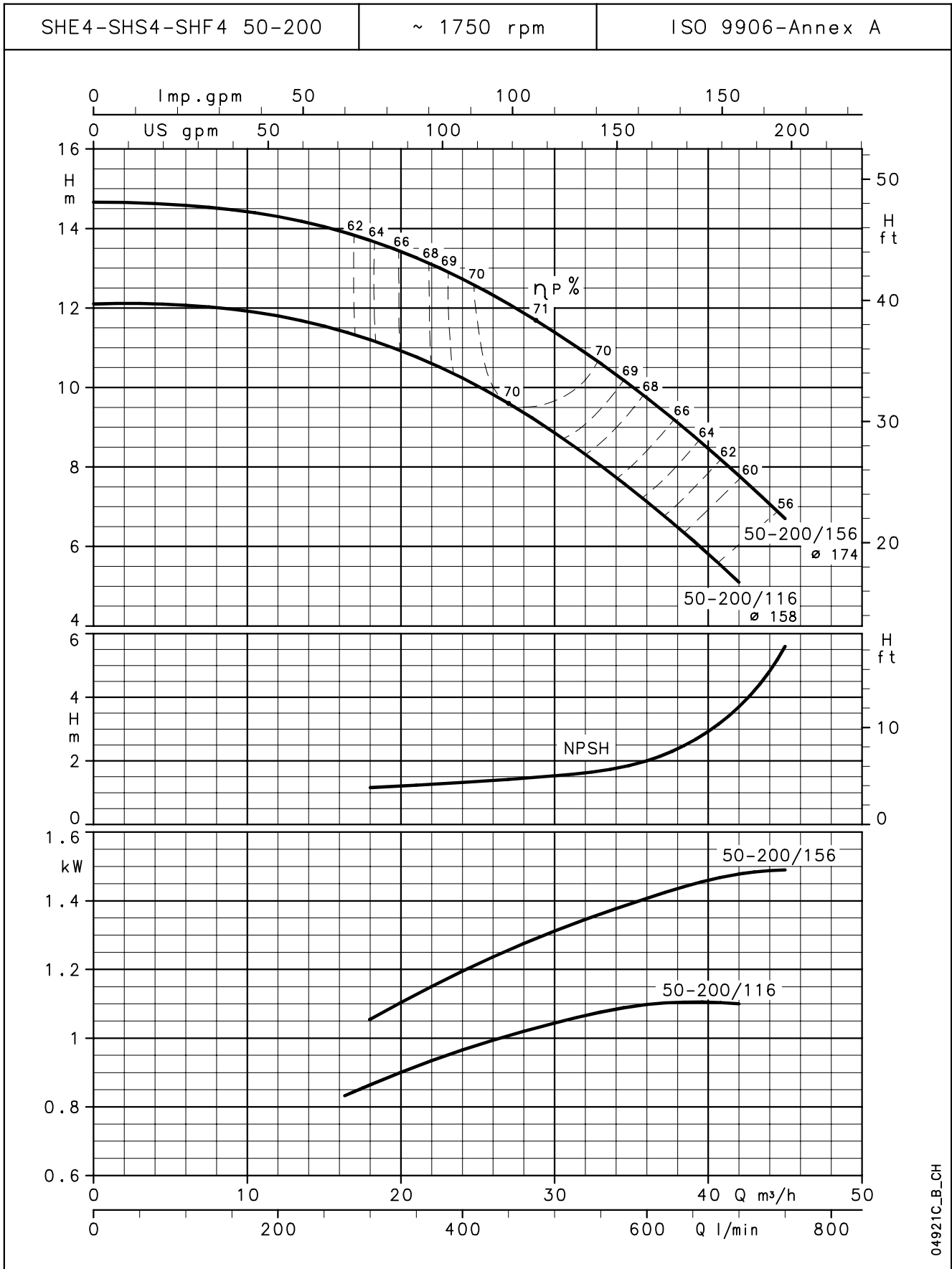
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04920C_B_CH

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

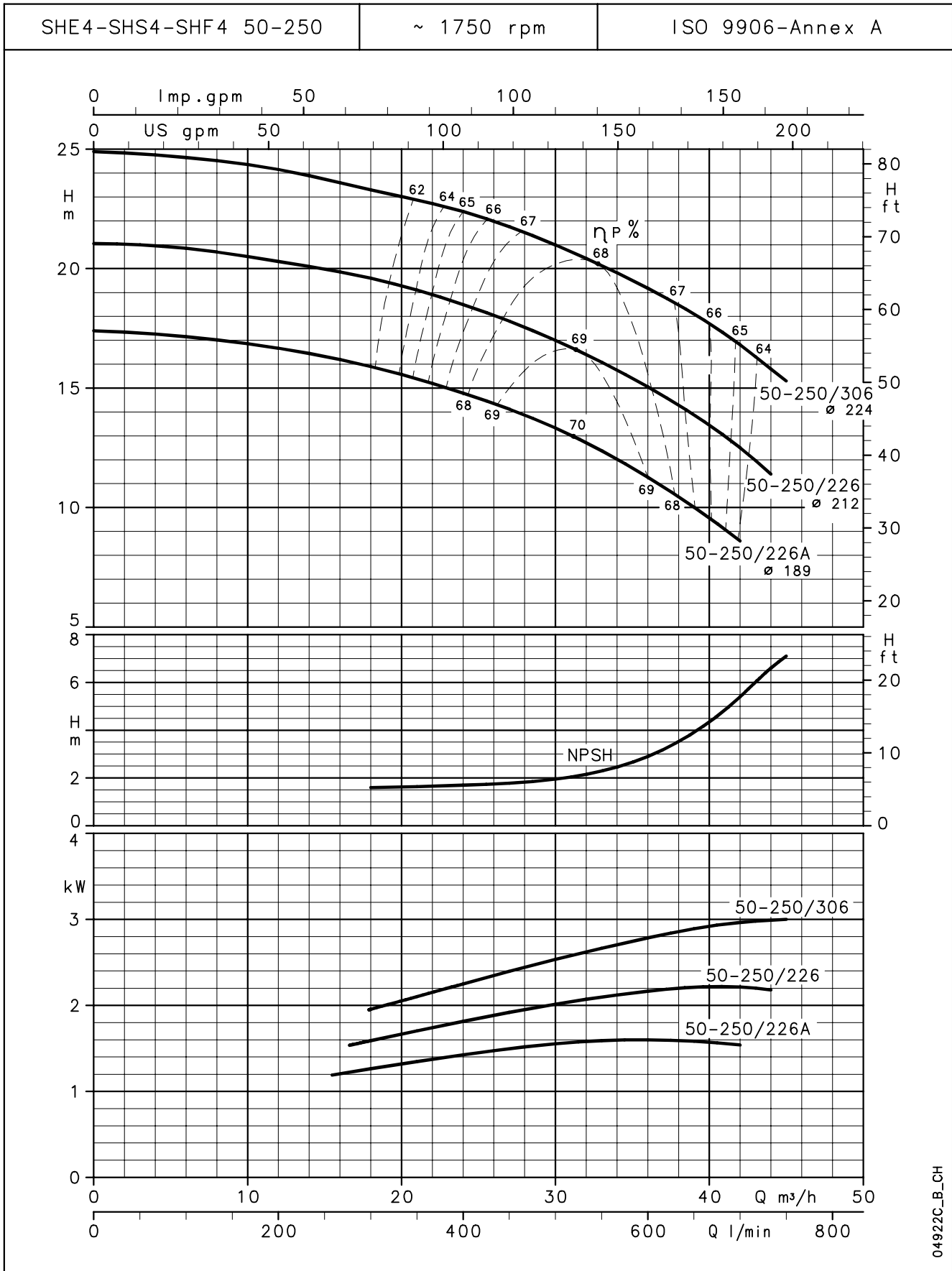
**SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04921C_B_CH

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

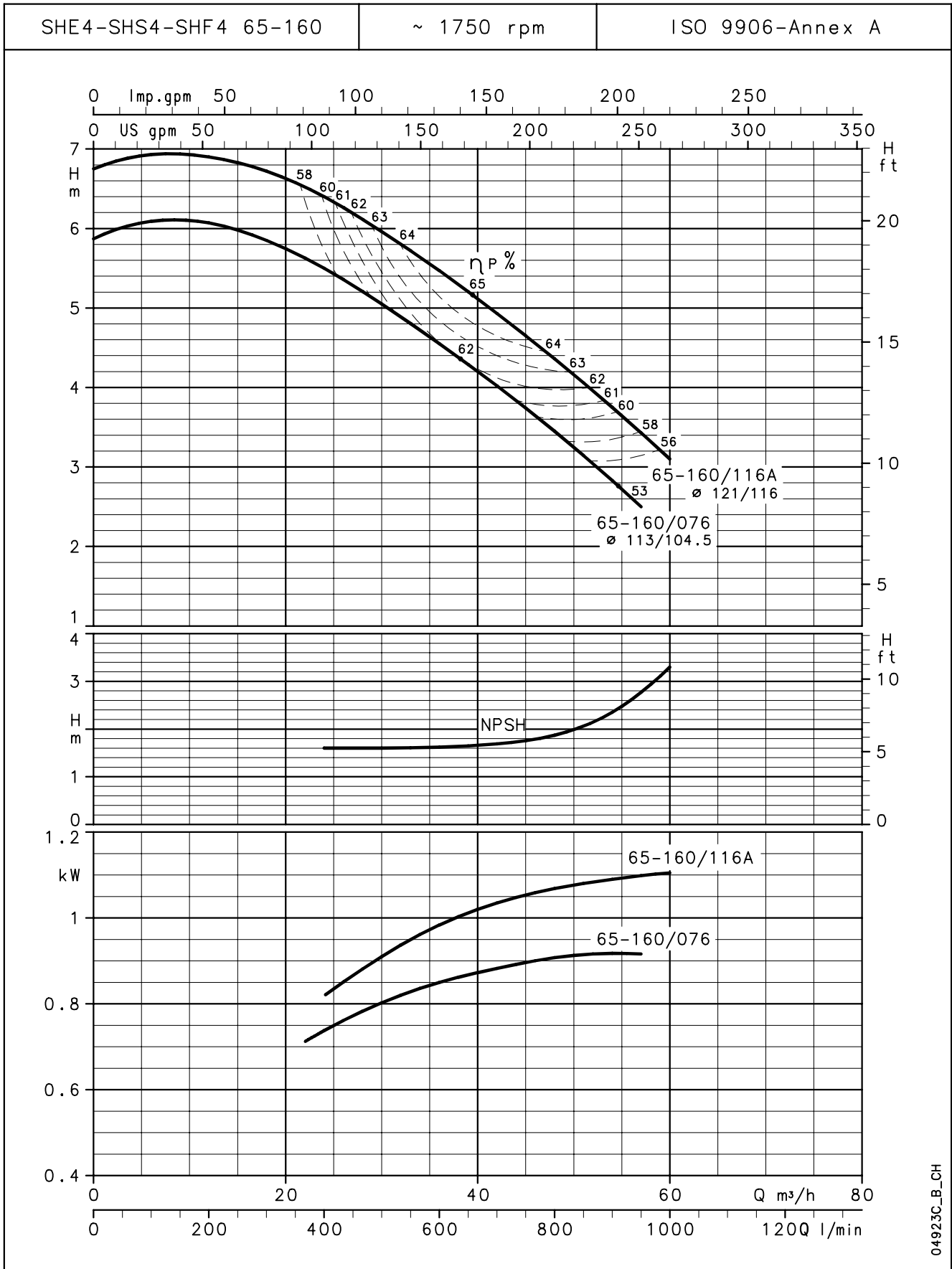
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04922C_B_CH

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

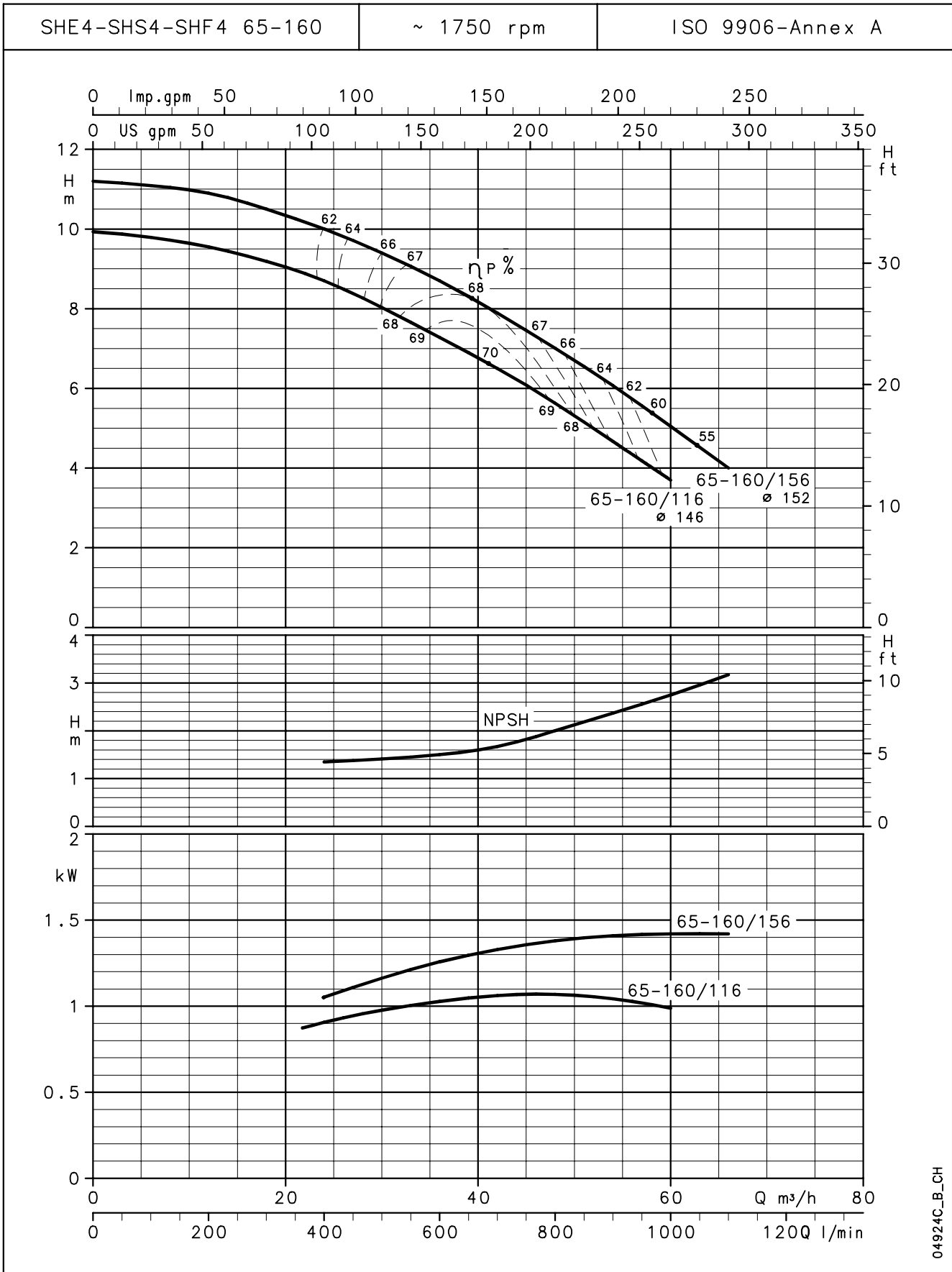
**SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04923C_B_CH

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

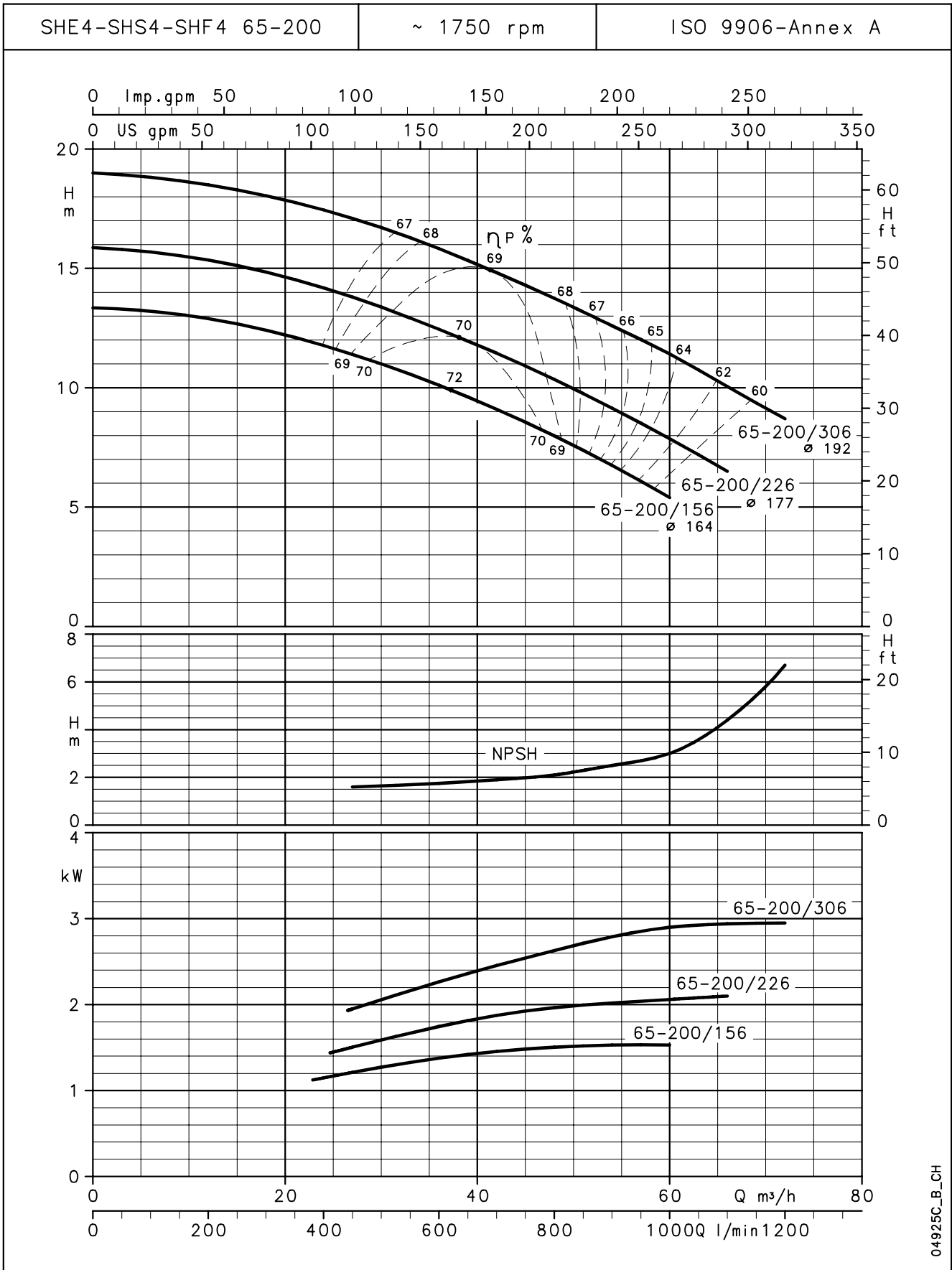
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04924C_B_CH

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

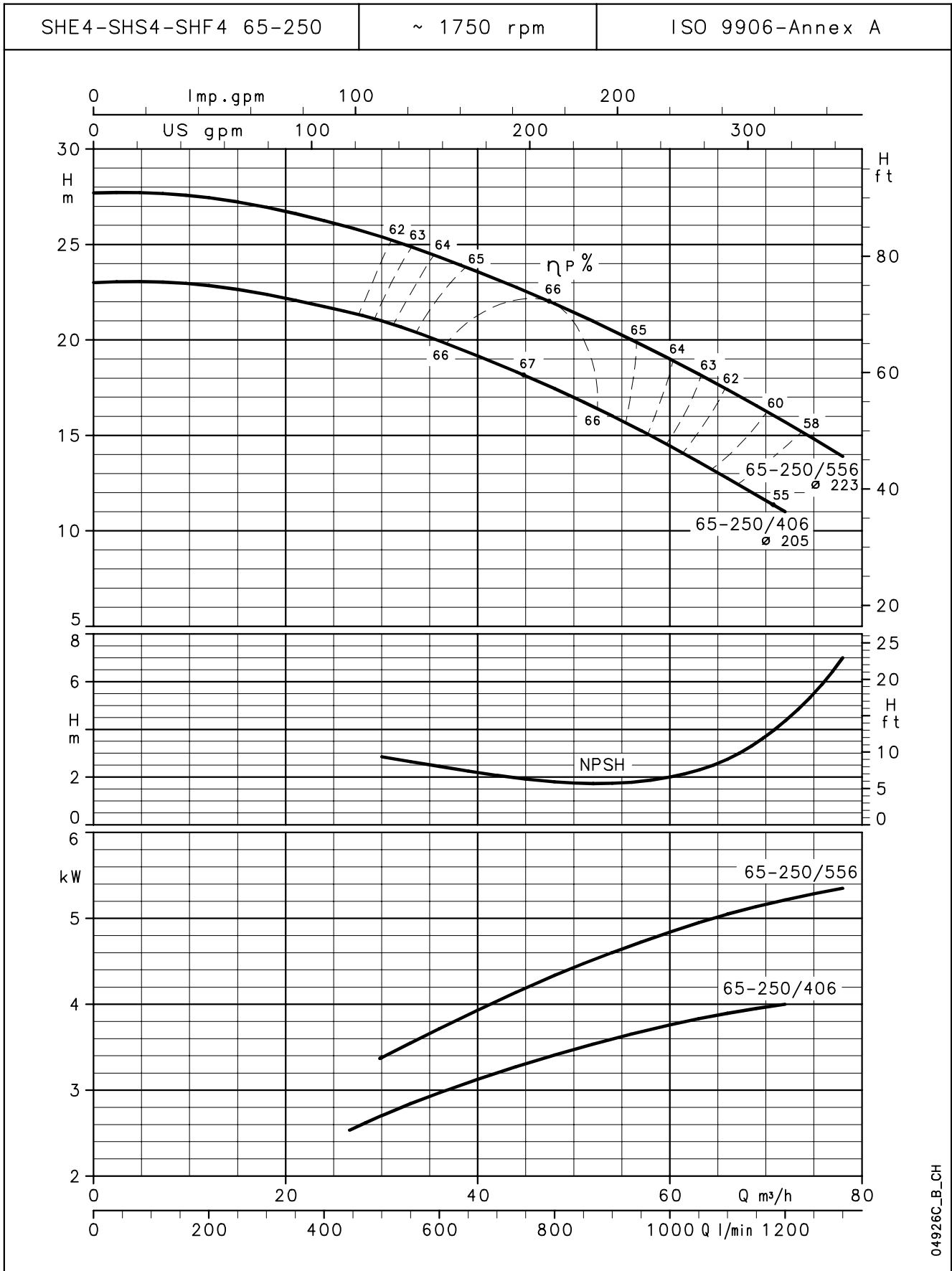
SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES



04925C_B_CH

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

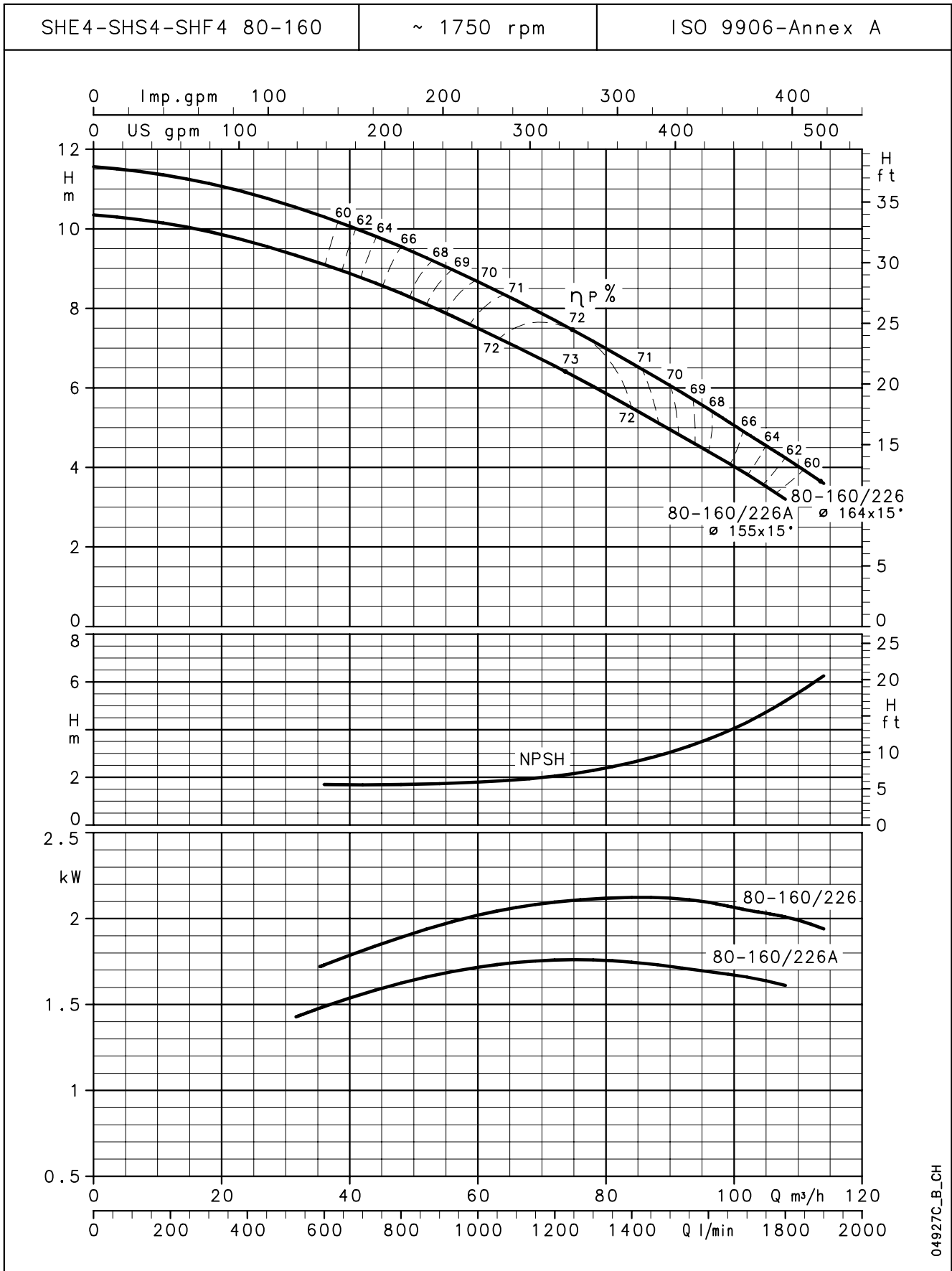
**SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04926C_B_CH

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

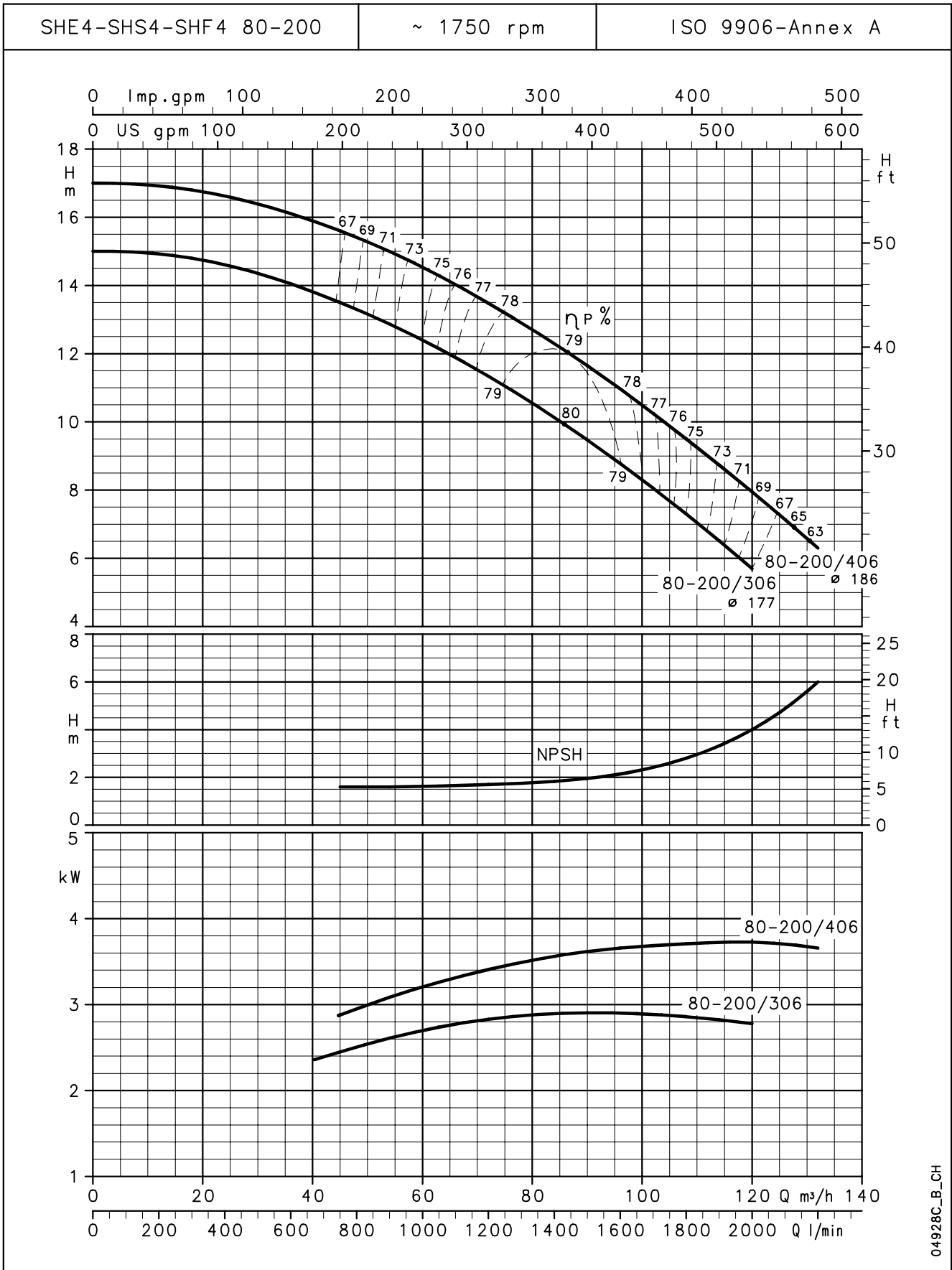
**SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04927C_B_CH

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

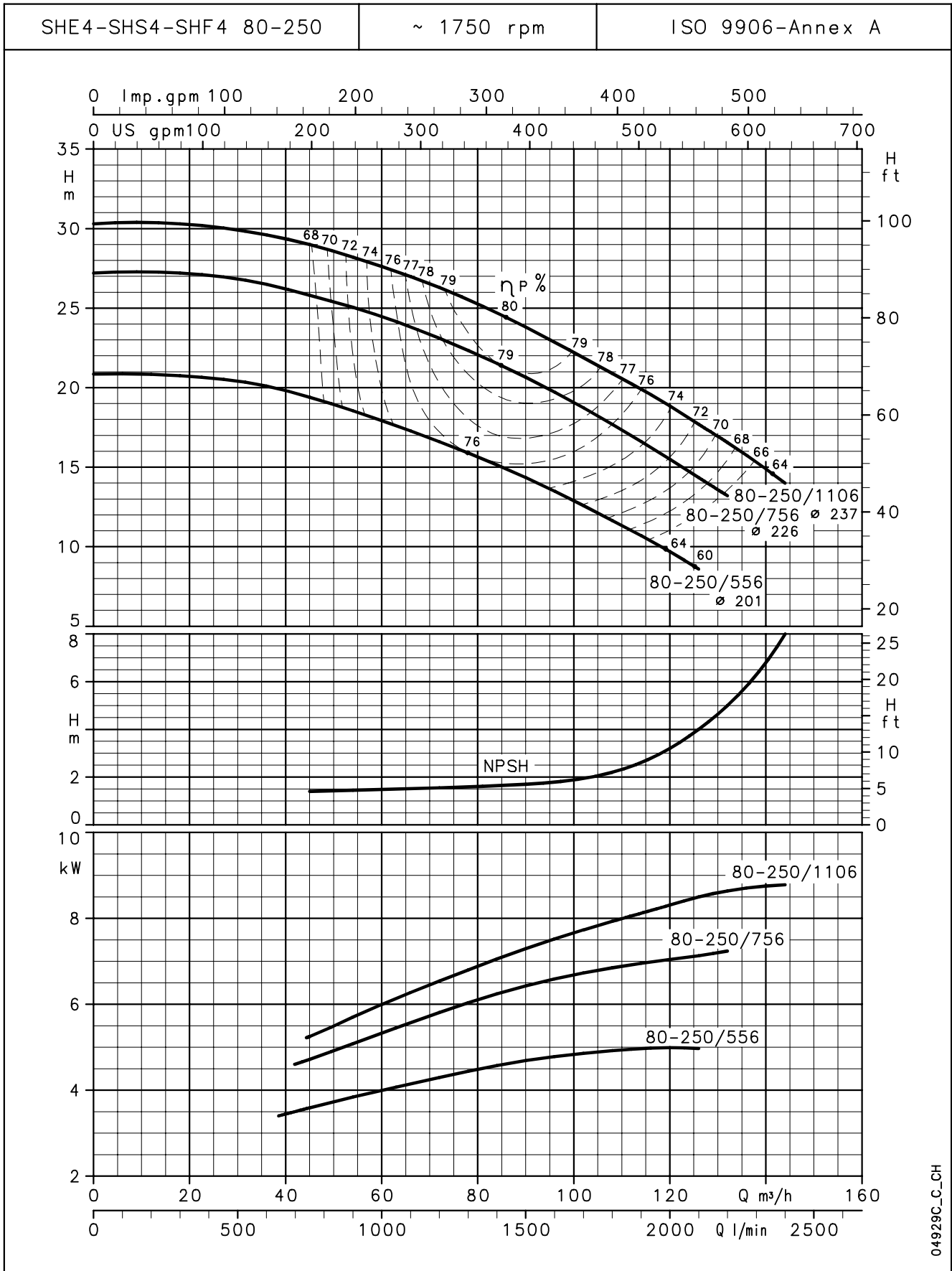
**SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES**



04928C_B_CH

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

SHE4-SHS4-SHF4 SERIES
OPERATING CHARACTERISTICS AT 60 Hz, 4 POLES

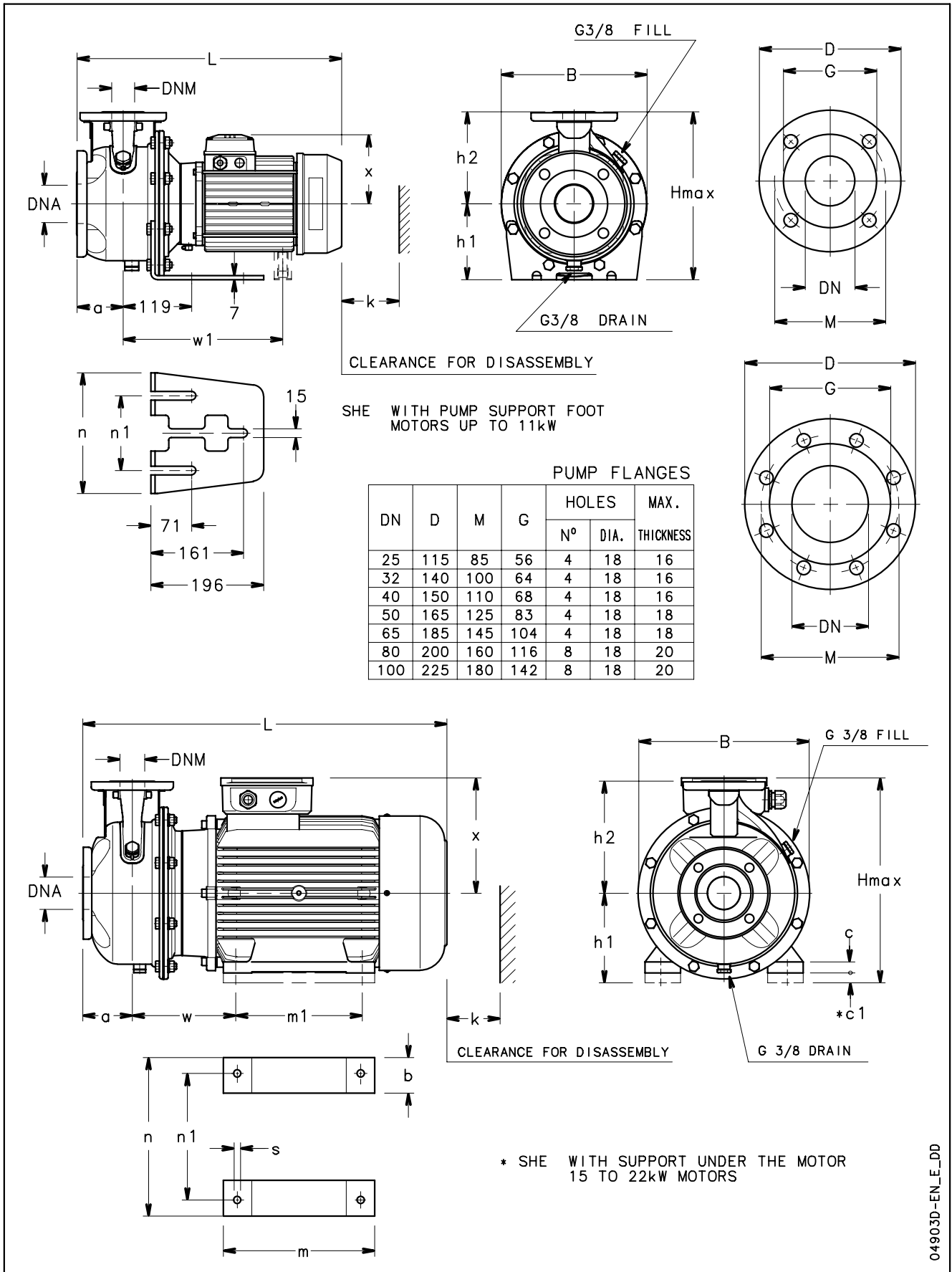


04929C_C_CH

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

DIMENSIONS AND WEIGHTS

**SHE SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz, 2 POLES**



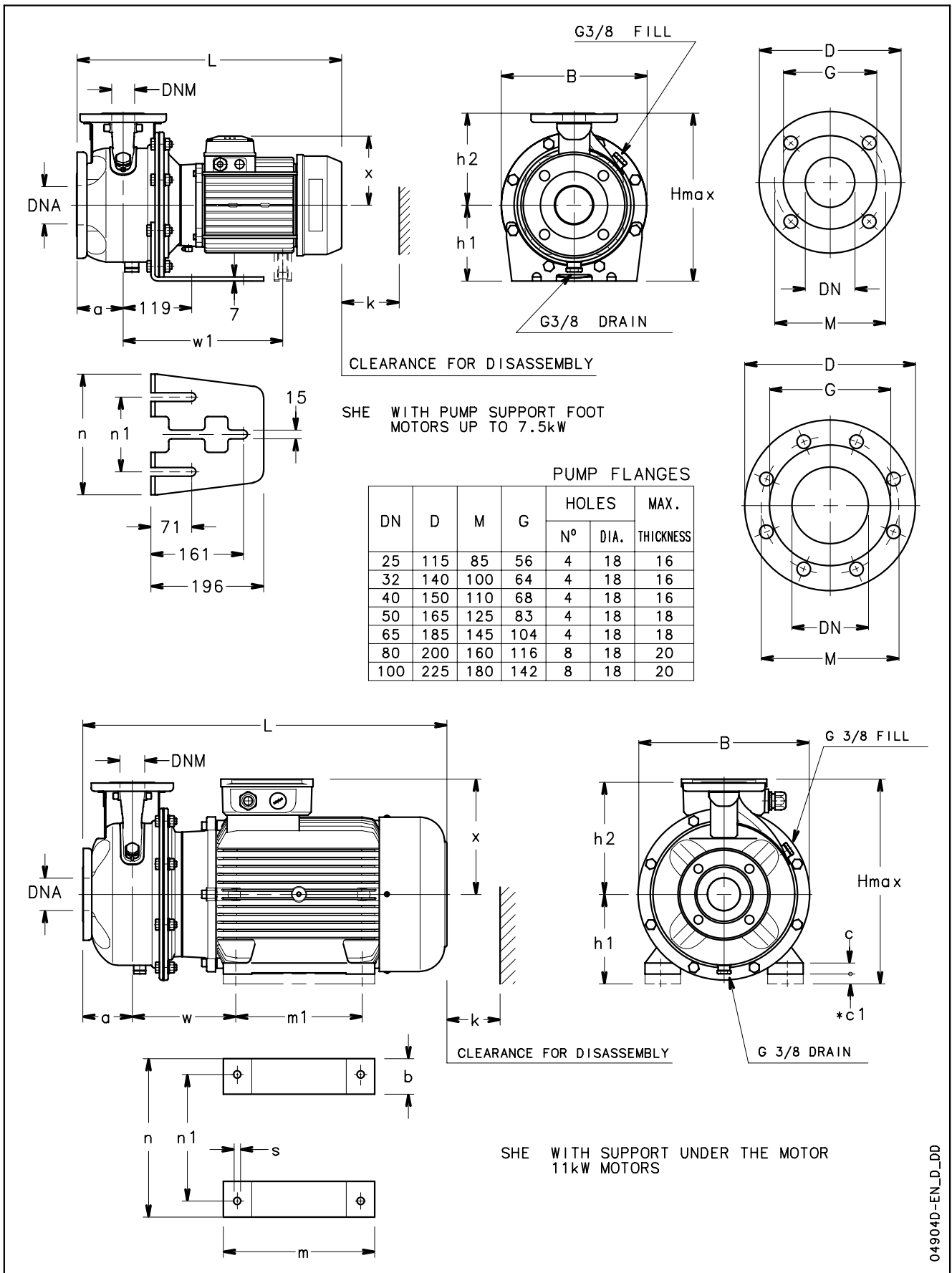
SHE SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 2 POLES

PUMP TYPE	DIMENSIONS (mm)																		WEIGHT kg		
	DNM	DNA	a	PUMP					SUPPORT					B	H	L	k				
				h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s	max				
SHE 25-125/116/D	25	50	80	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	443	98	20,6
SHE 25-160/156/D	25	50	80	160	-	-	129	-	-	-	160	-	-	210	130	-	253	320	443	98	24,4
SHE 25-160/226/C	25	50	80	160	-	-	134	-	-	-	160	-	-	210	130	-	253	320	478	98	29
SHE 25-200/306/P	25	50	80	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	478	98	38
SHE 25-200/406/P	25	50	80	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	499	98	41
SHE 25-250/556/P	25	50	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	553	98	66
SHE 25-250/756/P	25	50	100	225	-	305	191	-	-	-	180	-	-	265	130	-	345	405	567	98	84
SHE 25-250/1106/P	25	50	100	225	-	343	191	-	-	-	180	-	-	265	130	-	345	405	605	98	92
SHE 32-125/116/D	32	50	80	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	443	98	20,6
SHE 32-160/156/D	32	50	80	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	443	98	24,4
SHE 32-160/226/C	32	50	80	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	478	98	29
SHE 32-200/306/P	32	50	80	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	478	98	38
SHE 32-200/406/P	32	50	80	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	499	98	41
SHE 32-250/556/P	32	50	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	553	98	66
SHE 32-250/756/P	32	50	100	225	-	305	191	-	-	-	180	-	-	265	130	-	345	405	567	98	84
SHE 32-250/1106/P	32	50	100	225	-	343	191	-	-	-	180	-	-	265	130	-	345	405	605	98	92
SHE 40-125/156/D	40	65	80	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	443	100	22,4
SHE 40-125/226/C	40	65	80	140	-	-	134	-	-	-	112	-	-	190	130	-	218	252	478	100	30
SHE 40-160/306/P	40	65	80	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	478	100	32
SHE 40-160/406/P	40	65	80	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	499	100	40
SHE 40-200/556/P	40	65	100	180	-	-	168	-	-	-	160	-	-	230	130	-	284	340	553	100	52
SHE 40-200/756/P	40	65	100	180	-	305	191	-	-	-	160	-	-	230	130	-	284	351	567	100	65
SHE 40-250/926/P	40	65	100	225	-	343	191	-	-	-	180	-	-	265	130	-	345	405	605	107	89
SHE 40-250/1106/P	40	65	100	225	-	343	191	-	-	-	180	-	-	265	130	-	345	405	605	107	94
SHE 40-250/1506/P	40	65	100	225	208	-	240	49	5	20	180	304	210	304	254	15	345	420	694	107	130
SHE 50-125/306/P	50	65	100	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	498	104	33
SHE 50-125/406/P	50	65	100	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	519	104	40
SHE 50-160/556/P	50	65	100	180	-	-	168	-	-	-	160	-	-	210	130	-	253	340	553	104	52
SHE 50-160/756/P	50	65	100	180	-	305	191	-	-	-	160	-	-	210	130	-	253	351	567	104	67
SHE 50-200/926/P	50	65	100	200	-	343	191	-	-	-	160	-	-	245	130	-	310	360	605	104	84
SHE 50-200/1106/P	50	65	100	200	-	343	191	-	-	-	160	-	-	245	130	-	310	360	605	104	88
SHE 50-250/1506/P	50	65	100	225	208	-	240	49	5	20	180	304	210	304	254	15	345	420	694	107	131
SHE 50-250/1856/P	50	65	100	225	208	-	240	49	5	20	180	304	254	304	254	15	345	420	694	107	144
SHE 50-250/2206/P	50	65	100	225	208	-	240	49	5	20	180	304	254	304	254	15	345	420	694	107	147
SHE 65-160/556/P	65	80	100	200	-	-	168	-	-	-	160	-	-	245	130	-	310	360	553	130	63
SHE 65-160/756/P	65	80	100	200	-	305	191	-	-	-	160	-	-	245	130	-	310	360	567	130	80
SHE 65-160/926/P	65	80	100	200	-	343	191	-	-	-	160	-	-	245	130	-	310	360	605	130	95
SHE 65-160/1106/P	65	80	100	200	-	343	191	-	-	-	160	-	-	245	130	-	310	360	605	130	102
SHE 65-200/1506/P	65	80	100	225	208	-	240	49	5	20	180	304	210	304	254	15	310	420	694	130	131
SHE 65-200/1856/P	65	80	100	225	208	-	240	49	5	20	180	304	254	304	254	15	310	420	694	130	141
SHE 65-200/2206/P	65	80	100	225	208	-	240	49	5	20	180	304	254	304	254	15	310	420	694	130	151
SHE 80-160/1506/P	80	100	125	225	208	-	240	49	5	20	180	304	210	304	254	15	345	420	719	160	128
SHE 80-160/1856/P	80	100	125	225	208	-	240	49	5	20	180	304	254	304	254	15	345	420	719	160	139
SHE 80-200/2206/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-2p60-en_g_td

SHE4 SERIES DIMENSIONS AND WEIGHTS AT 60, 4 POLES



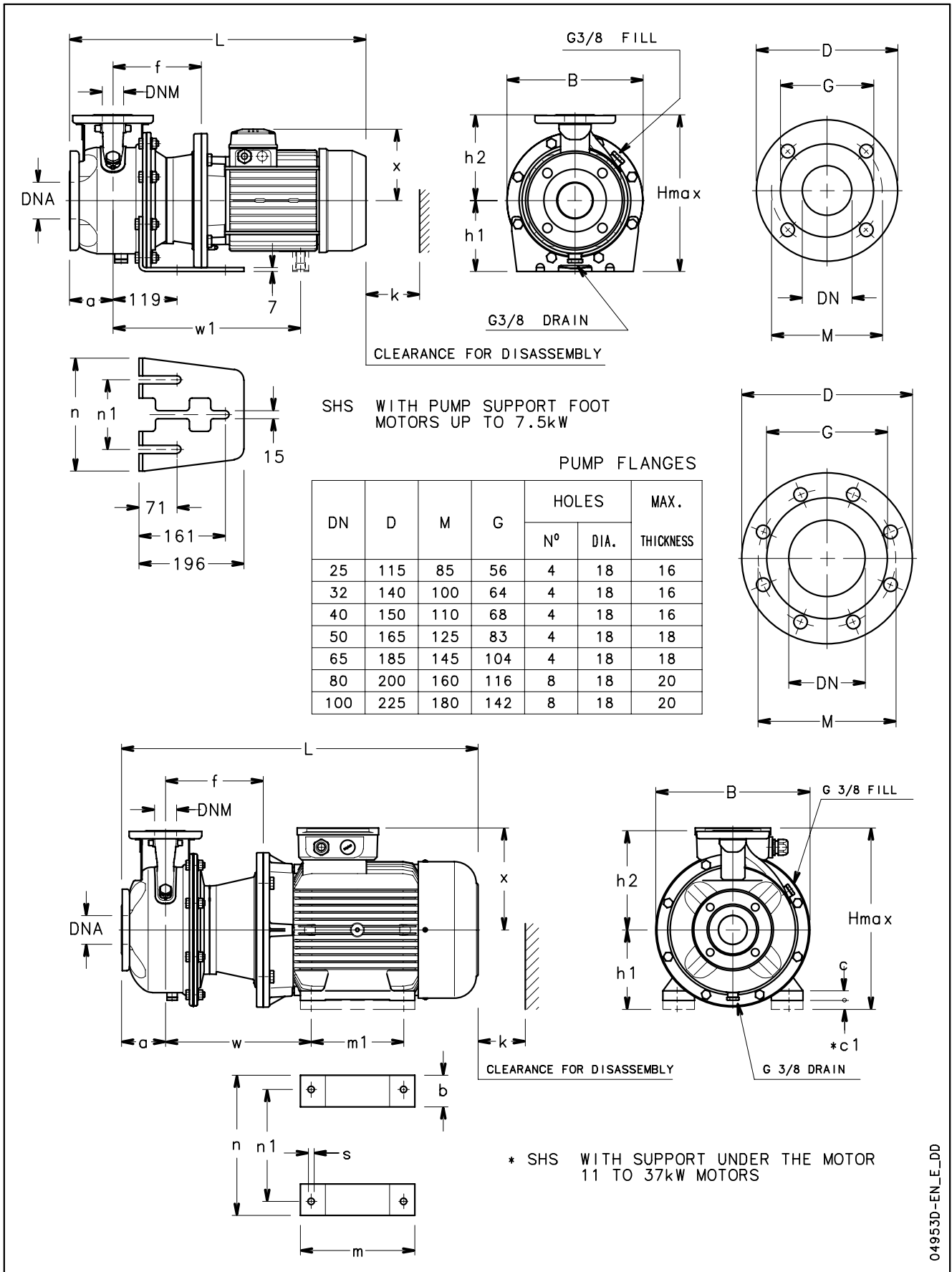
SHE4 SERIES DIMENSIONS AND WEIGHTS AT 60, 4 POLES

PUMP TYPE	DIMENSIONS (mm)															B	H max	L	k	WEIGHT kg	
	DNM	DNA	PUMP					SUPPORT													
			a	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s					
SHE4 25-125/026/A	25	50	80	140	-	-	121	-	-	-	160	-	-	190	130	-	218	252	411	98	16
SHE4 25-160/026/A	25	50	80	160	-	-	121	-	-	-	160	-	-	210	130	-	253	292	411	98	18
SHE4 25-160/036/A	25	50	80	160	-	-	121	-	-	-	160	-	-	210	130	-	253	292	411	98	19
SHE4 25-200/036/A	25	50	80	180	-	-	121	-	-	-	160	-	-	230	130	-	284	340	411	98	26
SHE4 25-200/056/A	25	50	80	180	-	-	129	-	-	-	160	-	-	230	130	-	284	340	443	98	27
SHE4 25-250/076/C	25	50	100	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	431	98	42
SHE4 25-250/116/P	25	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	49
SHE4 25-250/156/P	25	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	51
SHE4 32-125/026/A	32	50	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	98	16
SHE4 32-160/026/A	32	50	80	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	411	98	18
SHE4 32-160/036/A	32	50	80	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	411	98	19
SHE4 32-200/036/A	32	50	80	180	-	-	121	-	-	-	160	-	-	230	130	-	284	340	411	98	26
SHE4 32-200/056/A	32	50	80	180	-	-	129	-	-	-	160	-	-	230	130	-	284	340	443	98	27
SHE4 32-250/076/C	32	50	100	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	431	98	42
SHE4 32-250/116/P	32	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	49
SHE4 32-250/156/P	32	50	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	98	51
SHE4 40-125/026/A	40	65	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	100	17
SHE4 40-125/036/A	40	65	80	140	-	-	121	-	-	-	112	-	-	190	130	-	218	252	411	100	18
SHE4 40-160/036/A	40	65	80	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	411	100	20
SHE4 40-160/056/A	40	65	80	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	443	100	24
SHE4 40-200/076/C	40	65	100	180	-	-	128	-	-	-	160	-	-	230	130	-	285	340	431	100	27
SHE4 40-200/116/P	40	65	100	180	-	-	134	-	-	-	160	-	-	230	130	-	285	340	498	100	35
SHE4 40-250/116/P	40	65	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	107	47
SHE4 40-250/156/P	40	65	100	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	498	107	61
SHE4 40-250/226/P	40	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	522	107	65
SHE4 50-125/036/A	50	65	100	160	-	-	121	-	-	-	132	-	-	210	130	-	253	292	431	104	20
SHE4 50-125/056/A	50	65	100	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	463	104	26
SHE4 50-160/076/C	50	65	100	180	-	-	128	-	-	-	160	-	-	210	130	-	253	340	431	104	30
SHE4 50-160/116/P	50	65	100	180	-	-	134	-	-	-	160	-	-	210	130	-	253	340	498	104	40
SHE4 50-200/116/P	50	65	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	104	48
SHE4 50-200/156/P	50	65	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	104	51
SHE4 50-250/226A/P	50	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	522	107	56
SHE4 50-250/226/P	50	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	522	107	56
SHE4 50-250/306/P	50	65	100	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	553	107	62
SHE4 65-160/076/C	65	80	100	200	-	-	128	-	-	-	160	-	-	245	130	-	310	360	431	130	36
SHE4 65-160/116A/P	65	80	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	130	44
SHE4 65-160/116/P	65	80	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	130	45
SHE4 65-160/156/P	65	80	100	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	498	130	48
SHE4 65-200/156/P	65	80	100	225	-	-	134	-	-	-	180	-	-	245	130	-	310	405	498	130	56
SHE4 65-200/226/P	65	80	100	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	522	130	64
SHE4 65-200/306/P	65	80	100	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	553	130	64
SHE4 65-250/406/P	65	80	100	250	-	315	168	-	-	-	200	-	-	265	130	-	345	450	598	140	84
SHE4 65-250/556/P	65	80	100	250	-	343	191	-	-	-	200	-	-	265	130	-	345	450	605	140	97
SHE4 80-160/226A/P	80	100	125	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	547	160	63
SHE4 80-160/226/P	80	100	125	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	547	160	66
SHE4 80-200/306/P	80	100	125	250	-	-	168	-	-	-	180	-	-	265	130	-	345	430	578	160	69
SHE4 80-200/406/P	80	100	125	250	-	315	168	-	-	-	180	-	-	265	130	-	345	430	623	160	88
SHE4 80-250/556/P	80	100	125	280	-	343	191	-	-	-	200	-	-	303	210	-	383	480	630	160	102
SHE4 80-250/756/P	80	100	125	280	-	343	191	-	-	-	200	-	-	303	210	-	383	480	630	160	106
SHE4 80-250/1106/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-she4-4p60-en_g_td

SHS SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 2 POLES



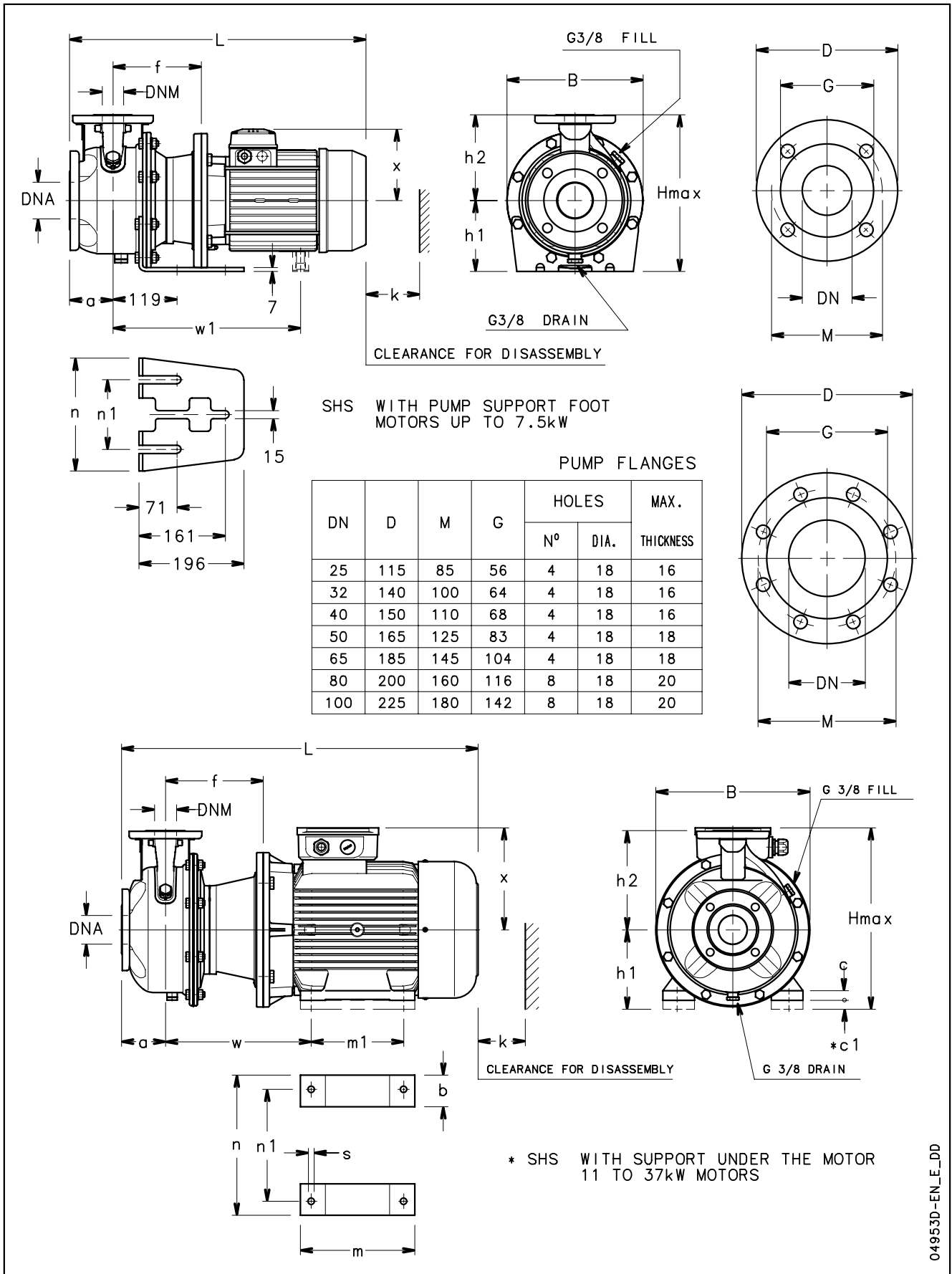
SHS SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 2 POLES

PUMP TYPE	DIMENSIONS (mm)																			B	H max	L	k	WEIGHT kg
	PUMP											SUPPORT												
	DNM	DNA	a	f	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s							
SHS 25-125/116/D	25	50	80	155	140	-	-	129	-	-	-	160	-	-	190	130	-	218	300	498	98	24,6		
SHS 25-160/156/D	25	50	80	155	160	-	-	129	-	-	-	160	-	-	210	130	-	253	320	498	98	27,4		
SHS 25-160/226/C	25	50	80	155	160	-	-	134	-	-	-	160	-	-	210	130	-	253	320	533	98	33		
SHS 25-200/306/P	25	50	80	165	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	543	98	44		
SHS 25-200/406/P	25	50	80	165	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	564	98	51		
SHS 25-250/556/P	25	50	100	192	225	-	399	168	-	-	-	180	-	-	265	130	-	345	405	667	98	77		
SHS 25-250/756/P	25	50	100	192	225	-	399	191	-	-	-	180	-	-	265	130	-	345	405	659	98	91		
SHS 25-250/1106/P	25	50	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	98	130		
SHS 32-125/116/D	32	50	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	98	24,6		
SHS 32-160/156/D	32	50	80	155	160	-	-	129	-	-	-	132	-	-	210	130	-	253	292	498	98	27,4		
SHS 32-160/226/C	32	50	80	155	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	533	98	33		
SHS 32-200/306/P	32	50	80	165	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	543	98	44		
SHS 32-200/406/P	32	50	80	165	180	-	-	154	-	-	-	160	-	-	230	130	-	284	340	564	98	51		
SHS 32-250/556/P	32	50	100	192	225	-	399	168	-	-	-	180	-	-	265	130	-	345	405	667	98	77		
SHS 32-250/756/P	32	50	100	192	225	-	397	191	-	-	-	180	-	-	265	130	-	345	405	659	98	91		
SHS 32-250/1106/P	32	50	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	98	130		
SHS 40-125/156/D	40	65	80	155	140	-	-	129	-	-	-	112	-	-	190	130	-	218	252	498	100	25,4		
SHS 40-125/226/C	40	65	80	155	140	-	-	134	-	-	-	112	-	-	190	130	-	218	252	533	100	32		
SHS 40-160/306/P	40	65	80	165	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	543	100	42		
SHS 40-160/406/P	40	65	80	165	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	564	100	48		
SHS 40-200/556/P	40	65	100	192	180	-	399	168	-	-	-	160	-	-	230	130	-	300	340	667	100	63		
SHS 40-200/756/P	40	65	100	192	180	-	397	191	-	-	-	160	-	-	230	130	-	300	351	659	100	80		
SHS 40-250/1106A/P	40	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	129		
SHS 40-250/1106B/P	40	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	129		
SHS 40-250/1506/P	40	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	142		
SHS 50-125/306/P	50	65	100	165	160	-	-	134	-	-	-	132	-	-	210	130	-	253	292	563	104	37		
SHS 50-125/406/P	50	65	100	165	160	-	-	154	-	-	-	132	-	-	210	130	-	253	292	584	104	48		
SHS 50-160/556/P	50	65	100	192	180	-	399	168	-	-	-	160	-	-	210	130	-	300	340	667	104	62		
SHS 50-160/756/P	50	65	100	192	180	-	397	191	-	-	-	160	-	-	210	130	-	300	351	659	104	81		
SHS 50-200/1106A/P	50	65	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	104	126		
SHS 50-200/1106B/P	50	65	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	104	130		
SHS 50-250/1506/P	50	65	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	107	148		
SHS 50-250/1856/P	50	65	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	107	156		
SHS 50-250/2206/P	50	65	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	107	162		
SHS 65-160/556/P	65	80	100	192	200	-	399	168	-	-	-	160	-	-	245	130	-	310	360	667	130	78		
SHS 65-160/756/P	65	80	100	192	200	-	397	191	-	-	-	160	-	-	245	130	-	310	360	659	130	93		
SHS 65-160/1106A/P	65	80	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	130	116		
SHS 65-160/1106B/P	65	80	100	222	200	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	130	120		
SHS 65-200/1506/P	65	80	100	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	816	130	147		
SHS 65-200/1856/P	65	80	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	130	153		
SHS 65-200/2206/P	65	80	100	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	816	130	167		
SHS 65-250/3006/C	65	80	100	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	140	290		
SHS 65-250/3706/C	65	80	100	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	985	140	322		
SHS 80-160/1506/P	80	100	125	222	225	330	-	240	49	5	20	180	304	210	304	254	15	350	420	841	160	152		
SHS 80-160/1856/P	80	100	125	222	225	330	-	240	49	5	20	180	304	254	304	254	15	350	420	841	160	160		
SHS 80-200/2206/P	80	100	125	222	250	330	-	240	49	5	20	180	304	254	304	254	15	350	430	841	160	162		
SHS 80-200/3006/C	80	100	125	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	1010	160	312		
SHS 80-200/3706/C	80	100	125	228	250	361	-	317	82	30	-	200	370	305	385	318	18	402	517	1010	160	317		

* Motor shim on request

sh-shs-2p60-en_h_td

SHS4 SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 4 POLES



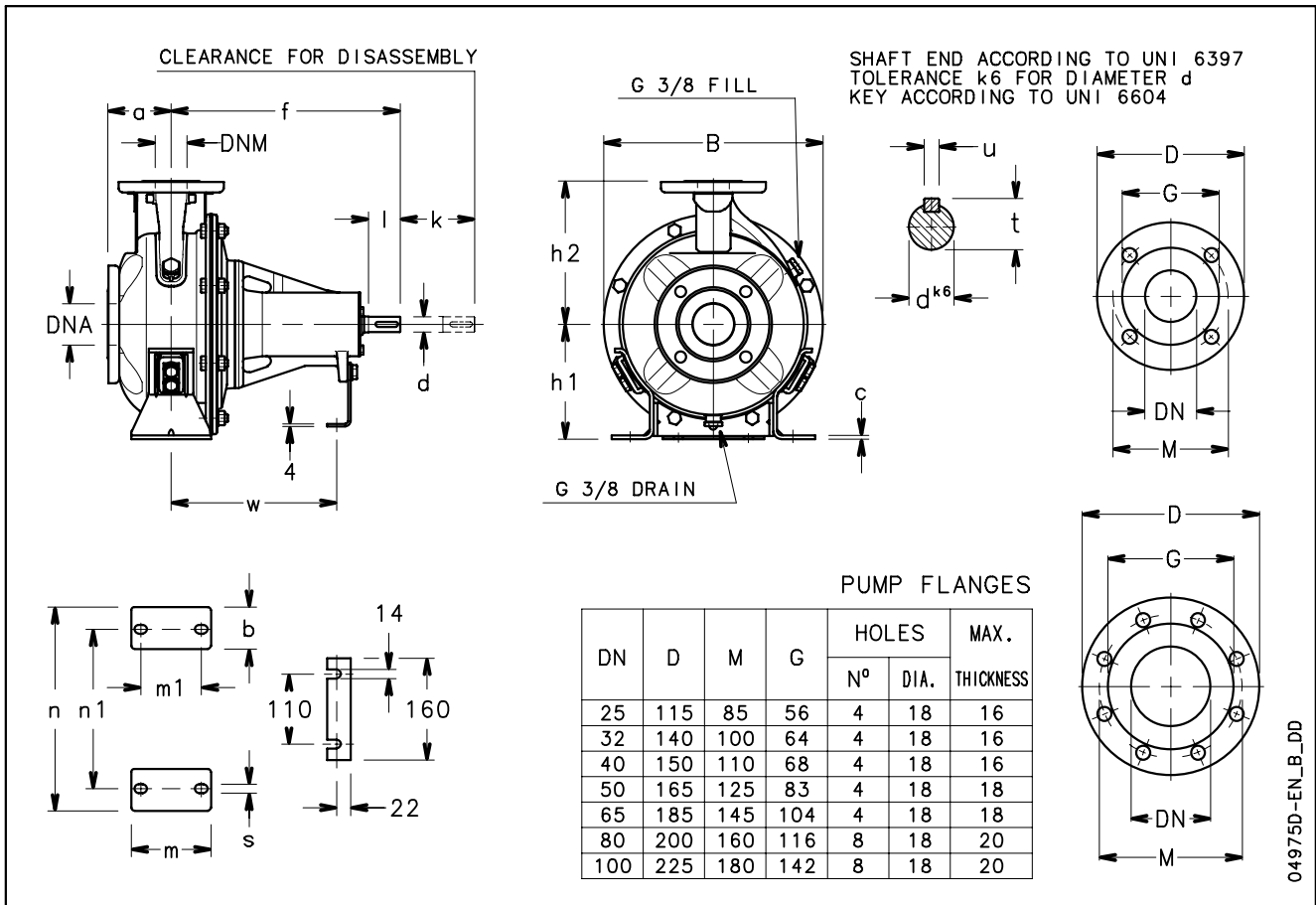
SHS4 SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 4 POLES

PUMP TYPE	DIMENSIONS (mm)															B	H max	L	k	WEIGHT kg		
	DNM	DNA	PUMP					SUPPORT														
		a	f	h2	w	w1	x	b	c	*c1	h1	m	m1	n	n1	s						
SHS4 25-250/076/C	25	50	100	155	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	486	98	42
SHS4 25-250/116/P	25	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	49
SHS4 25-250/156/P	25	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	50
SHS4 32-250/076/C	32	50	100	155	225	-	-	128	-	-	-	180	-	-	265	130	-	345	405	486	98	42
SHS4 32-250/116/P	32	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	49
SHS4 32-250/156/P	32	50	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	98	50
SHS4 40-200/076/C	40	65	100	155	180	-	-	128	-	-	-	160	-	-	230	130	-	284	340	486	100	31
SHS4 40-200/116/P	40	65	100	155	180	-	-	134	-	-	-	160	-	-	230	130	-	284	340	553	100	37
SHS4 40-250/116/P	40	65	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	107	51
SHS4 40-250/156/P	40	65	100	155	225	-	-	134	-	-	-	180	-	-	265	130	-	345	405	553	107	64
SHS4 40-250/226/P	40	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	587	107	68
SHS4 50-160/076/C	50	65	100	155	180	-	-	128	-	-	-	160	-	-	210	130	-	253	340	486	104	30
SHS4 50-160/116/P	50	65	100	155	180	-	-	134	-	-	-	160	-	-	210	130	-	253	340	553	104	36
SHS4 50-200/116/P	50	65	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	104	49
SHS4 50-200/156/P	50	65	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	104	52
SHS4 50-250/226A/P	50	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	587	107	58
SHS4 50-250/226/P	50	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	587	107	59
SHS4 50-250/306/P	50	65	100	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	618	107	65
SHS4 65-160/076/C	65	80	100	155	200	-	-	128	-	-	-	160	-	-	245	130	-	310	360	486	130	38
SHS4 65-160/116A/P	65	80	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	130	46
SHS4 65-160/116/P	65	80	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	130	48
SHS4 65-160/156/P	65	80	100	155	200	-	-	134	-	-	-	160	-	-	245	130	-	310	360	553	130	51
SHS4 65-200/156/P	65	80	100	155	225	-	-	134	-	-	-	180	-	-	245	130	-	310	405	553	130	54
SHS4 65-200/226/P	65	80	100	165	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	587	130	71
SHS4 65-200/306/P	65	80	100	165	225	-	-	168	-	-	-	180	-	-	245	130	-	310	405	618	130	72
SHS4 65-250/406/P	65	80	100	165	250	-	380	168	-	-	-	200	-	-	265	130	-	345	450	663	140	97
SHS4 65-250/556/P	65	80	100	192	250	-	435	191	-	-	-	200	-	-	265	130	-	345	450	697	140	104
SHS4 80-160/226A/P	80	100	125	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	612	160	67
SHS4 80-160/226/P	80	100	125	165	225	-	-	168	-	-	-	180	-	-	265	130	-	345	405	612	160	67
SHS4 80-200/306/P	80	100	125	165	250	-	-	168	-	-	-	180	-	-	265	130	-	345	430	643	160	72
SHS4 80-200/406/P	80	100	125	165	250	-	380	168	-	-	-	180	-	-	265	130	-	345	430	688	160	88
SHS4 80-250/556/P	80	100	125	192	280	-	435	191	-	-	-	200	-	-	303	210	-	383	480	722	160	107
SHS4 80-250/756/P	80	100	125	192	280	-	435	191	-	-	-	200	-	-	303	210	-	383	480	722	160	113
SHS4 80-250/1106/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-shs4-4p60-en_f_td

SHF BARE SHAFT SERIES DIMENSIONS AND WEIGHTS

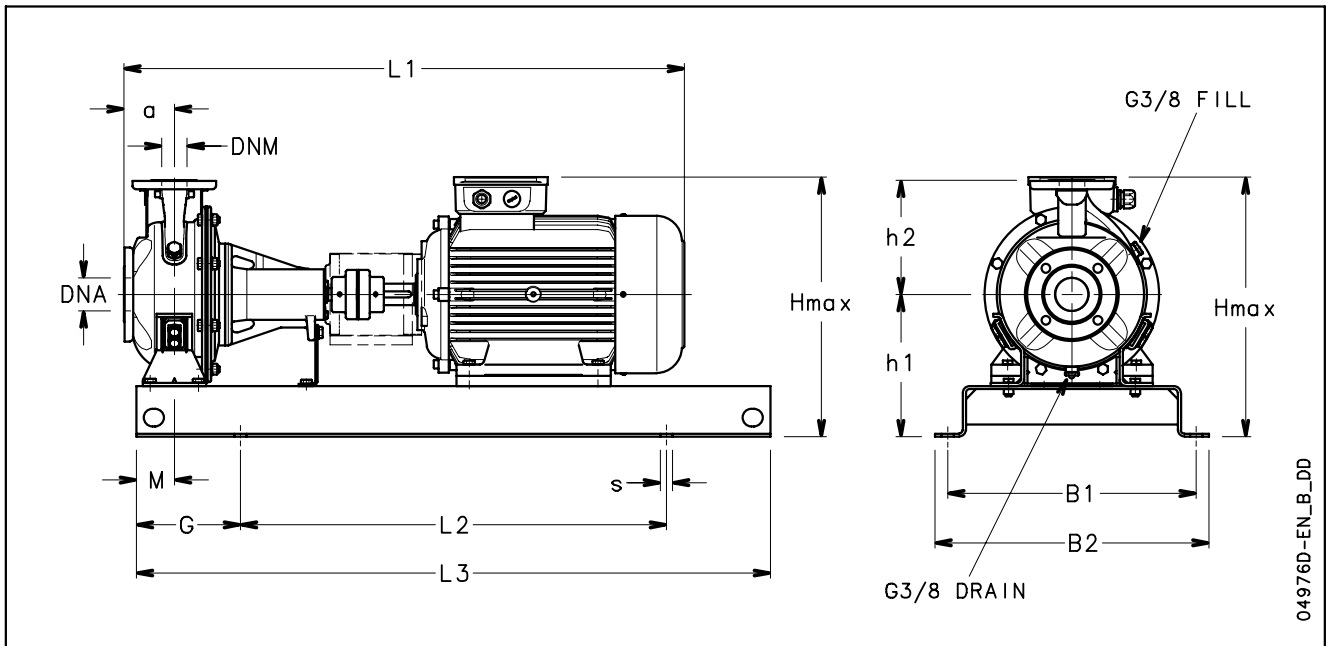


SHF BARE SHAFT SERIES DIMENSIONS AND WEIGHTS

PUMP TYPE	DIMENSIONS (mm)																			B	k	WEIGHT kg
	PUMP						SUPPORT							SHAFT								
	DNM	DNA	a	f	h1	h2	b	c	m	m1	n	n1	s	w	d	l	t	u				
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

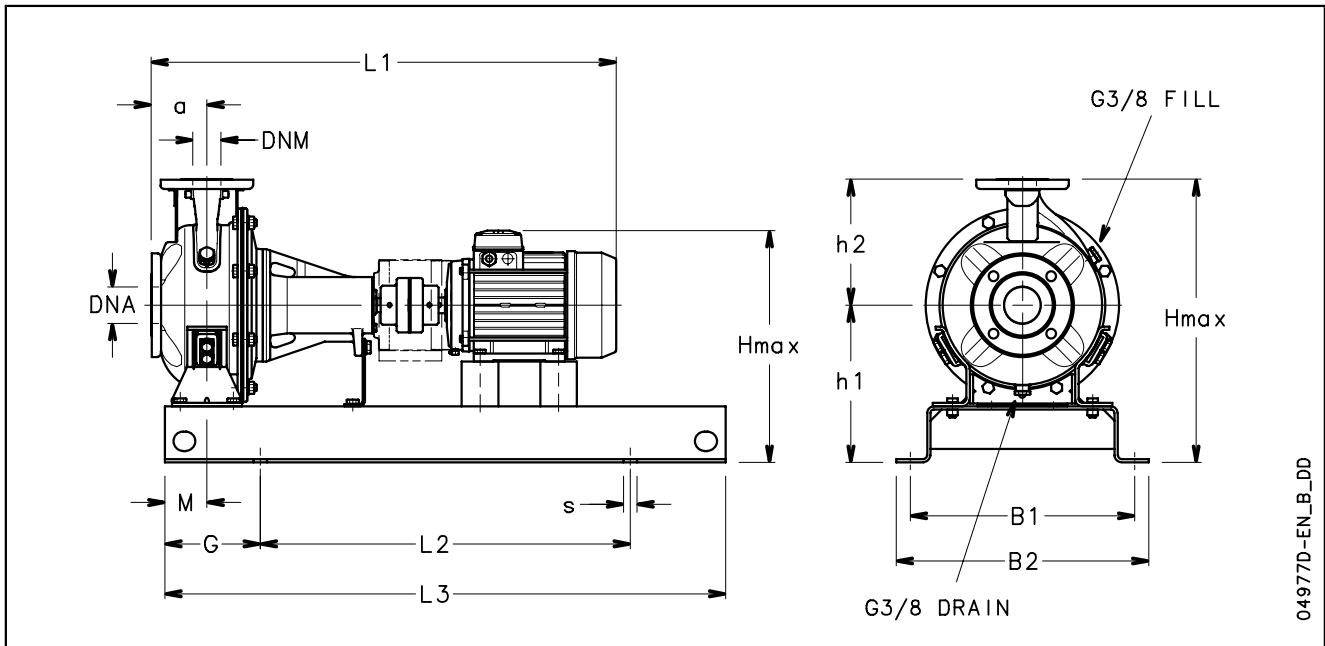
**SHF BASE-MOUNTED SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz, 2 POLES**



SHF BASE-MOUNTED SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 2 POLES

PUMP TYPE	DIMENSIONS (mm)													s for screws	WEIGHT kg	FLEXIBLE COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax			
SHF 25-125/116/D	25	50	80	320	360	748	540	800	130	60	212	140	352	M16	68,6	A2
SHF 25-160/156/P	25	50	80	350	390	792	600	900	150	60	232	160	392	M16	73	A3
SHF 25-160/226/P	25	50	80	350	390	792	600	900	150	60	232	160	392	M16	75	A3
SHF 25-200/306/P	25	50	80	350	390	823	600	900	150	60	260	180	440	M16	95	B1
SHF 25-200/406/P	25	50	80	350	390	826	600	900	150	60	260	180	440	M16	97	B1
SHF 25-250/556/P	25	50	100	440	490	910	740	1120	190	75	280	225	505	M20	130	C1
SHF 25-250/756/P	25	50	100	440	490	910	740	1120	190	75	280	225	505	M20	134	C1
SHF 25-250/1106/P	25	50	100	490	540	1067	840	1250	205	75	280	225	512	M20	181	C2
SHF 32-125/116/D	32	50	80	320	360	748	540	800	130	60	212	140	352	M16	68,6	A2
SHF 32-160/156/P	32	50	80	350	390	792	600	900	150	60	232	160	392	M16	73	A3
SHF 32-160/226/P	32	50	80	350	390	792	600	900	150	60	232	160	392	M16	75	A3
SHF 32-200/306/P	32	50	80	350	390	823	600	900	150	60	260	180	440	M16	95	B1
SHF 32-200/406/P	32	50	80	350	390	826	600	900	150	60	260	180	440	M16	97	B1
SHF 32-250/556/P	32	50	100	440	490	910	740	1120	190	75	280	225	505	M20	130	C1
SHF 32-250/756/P	32	50	100	440	490	910	740	1120	190	75	280	225	505	M20	134	C1
SHF 32-250/1106/P	32	50	100	490	540	1067	840	1250	205	75	280	225	512	M20	181	C2
SHF 40-125/156/P	40	65	80	350	390	792	600	900	150	60	212	140	352	M16	74	A3
SHF 40-125/226/P	40	65	80	350	390	792	600	900	150	60	212	140	352	M16	77	A3
SHF 40-160/306/P	40	65	80	350	390	823	600	900	150	60	232	160	392	M16	92	B1
SHF 40-160/406/P	40	65	80	350	390	826	600	900	150	60	232	160	392	M16	96	B1
SHF 40-200/556/P	40	65	100	400	450	910	660	1000	170	60	260	180	454	M20	123	C1
SHF 40-200/756/P	40	65	100	400	450	910	660	1000	170	60	260	180	454	M20	128	C1
SHF 40-250/1106A/P	40	65	100	490	540	1067	840	1250	205	75	280	225	524	M20	167	C2
SHF 40-250/1106/P	40	65	100	490	540	1067	840	1250	205	75	280	225	524	M20	170	C2
SHF 40-250/1506/P	40	65	100	490	540	1067	840	1250	205	75	280	225	524	M20	175	C2
SHF 50-125/306/P	50	65	100	350	390	843	600	900	150	60	232	160	392	M16	92	B1
SHF 50-125/406/P	50	65	100	350	390	846	600	900	150	60	232	160	392	M16	95	B1
SHF 50-160/556/P	50	65	100	400	450	910	660	1000	170	60	260	180	454	M20	120	C1
SHF 50-160/756/P	50	65	100	400	450	910	660	1000	170	60	260	180	454	M20	122	C1
SHF 50-200/1106A/P	50	65	100	440	490	1067	740	1120	190	60	260	200	504	M20	145	C2
SHF 50-200/1106/P	50	65	100	440	490	1067	740	1120	190	60	260	200	504	M20	150	C2
SHF 50-250/1506/P	50	65	100	490	540	1067	840	1250	205	75	280	225	524	M20	165	C2
SHF 50-250/1856/P	50	65	100	490	540	1067	840	1250	205	75	280	225	524	M20	170	C2
SHF 50-250/2206/C	50	65	100	490	540	1127	840	1250	205	75	280	225	559	M20	246	D1
SHF 65-160/556/P	65	80	100	400	450	910	660	1000	170	75	260	200	460	M20	150	C1
SHF 65-160/756/P	65	80	100	400	450	910	660	1000	170	75	260	200	460	M20	154	C1
SHF 65-160/1106A/P	65	80	100	490	540	1067	840	1250	205	75	260	200	504	M20	162	C2
SHF 65-160/1106/P	65	80	100	490	540	1067	840	1250	205	75	260	200	504	M20	162	C2
SHF 65-200/1506/P	65	80	100	490	540	1067	840	1250	205	75	280	225	524	M20	185	C2
SHF 65-200/1856/P	65	80	100	490	540	1067	840	1250	205	75	280	225	524	M20	190	C2
SHF 65-200/2206/C	65	80	100	490	540	1127	840	1250	205	75	280	225	559	M20	274	D1
SHF 65-250/3006/C	65	80	100	550	610	1340	940	1400	230	90	310	250	627	M24	367	E1
SHF 65-250/3706/C	65	80	100	550	610	1340	940	1400	230	90	310	250	627	M24	403	E1
SHF 80-160/1506/P	80	100	125	490	540	1092	840	1250	205	75	280	225	524	M20	209	C2
SHF 80-160/1856/P	80	100	125	490	540	1092	840	1250	205	75	280	225	524	M20	220	C2
SHF 80-200/2206/C	80	100	125	490	540	1262	840	1250	205	75	280	250	559	M20	302	D2
SHF 80-200/3006/C	80	100	125	550	610	1365	940	1400	230	75	310	250	627	M24	373	E1
SHF 80-200/3706/C	80	100	125	550	610	1365	940	1400	230	75	310	250	627	M24	402	E1
SHF 80-250/4506/C	80	100	125	550	610	1454	940	1400	230	90	365	280	749	M24	501	E1
SHF 80-250/5506/C	80	100	125	600	660	1563	1060	1600	270	90	390	280	792	M24	582	F1
SHF 80-250/7506/C	80	100	125	670	730	1670	1200	1800	300	90	420	280	892	M24	700	G1

**SHF4 BASE-MOUNTED SERIES
DIMENSIONS AND WEIGHTS AT 60 Hz, 4 POLES**



SHF4 BASE-MOUNTED SERIES DIMENSIONS AND WEIGHTS AT 60 Hz, 4 POLES

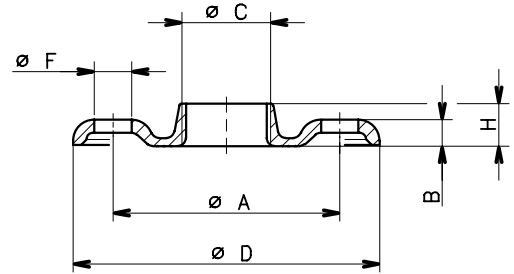
PUMP TYPE	DIMENSIONS (mm)													s for screws	WEIGHT kg	FLEXIBLE COUPLING TYPE
	DNM	DNA	a	B1	B2	L1	L2	L3	G	M	h1	h2	Hmax			
SHF4 25-125/026/A	25	50	80	320	360	704	540	800	130	60	212	140	352	M16	72	A1
SHF4 25-160/026/A	25	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHF4 25-160/036/A	25	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHFE4 25-200/036/A	25	50	80	320	360	704	540	800	130	60	260	180	440	M16	78	A1
SHF4 25-200/056/A	25	50	80	320	360	746	540	800	130	60	260	180	440	M16	80	A2
SHF4 25-250/076/C	25	50	100	400	450	734	660	1000	170	75	280	225	505	M20	98	A2
SHF4 25-250/116/P	25	50	100	400	450	811	660	1000	170	75	280	225	505	M20	106	A3
SHF4 25-250/156/P	25	50	100	400	450	811	660	1000	170	75	280	225	505	M20	108	A3
SHF4 32-125/026/A	32	50	80	320	360	704	540	800	130	60	212	140	352	M16	72	A1
SHF4 32-160/026/A	32	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHF4 32-160/036/A	32	50	80	320	360	704	540	800	130	60	232	160	392	M16	74	A1
SHFE4 32-200/036/A	32	50	80	320	360	704	540	800	130	60	260	180	440	M16	78	A1
SHF4 32-200/056/A	32	50	80	320	360	746	540	800	130	60	260	180	440	M16	80	A2
SHF4 32-250/076/C	32	50	100	400	450	734	660	1000	170	75	280	225	505	M20	98	A2
SHF4 32-250/116/P	32	50	100	400	450	811	660	1000	170	75	280	225	505	M20	106	A3
SHF4 32-250/156/P	32	50	100	400	450	811	660	1000	170	75	280	225	505	M20	108	A3
SHF4 40-125/026/A	40	65	80	320	360	704	540	800	130	60	212	140	352	M16	57	A1
SHF4 40-125/036/A	40	65	80	320	360	704	540	800	130	60	212	140	352	M16	58	A1
SHF4 40-160/036/A	40	65	80	320	360	704	540	800	130	60	232	160	392	M16	60	A1
SHF4 40-160/056/A	40	65	80	320	360	746	540	800	130	60	232	160	392	M16	62	A2
SHF4 40-200/076/C	40	65	100	350	390	734	600	900	150	60	260	180	440	M16	70	A2
SHF4 40-200/116/P	40	65	100	350	390	811	600	900	150	60	260	180	440	M16	78	A3
SHF4 40-250/116/P	40	65	100	400	450	811	660	1000	170	75	280	225	505	M20	105	A3
SHF4 40-250/156/P	40	65	100	400	450	811	660	1000	170	75	280	225	505	M20	108	A3
SHF4 40-250/226/P	40	65	100	400	450	888	660	1000	170	75	280	225	505	M20	131	B1
SHF4 50-125/036/A	50	65	100	320	360	724	540	800	130	60	232	160	392	M16	59	A1
SHF4 50-125/056/A	50	65	100	320	360	766	540	800	130	60	232	160	392	M16	61	A2
SHF4 50-160/076/C	50	65	100	350	390	734	600	900	150	60	260	180	440	M16	69	A2
SHF4 50-160/116/P	50	65	100	350	390	811	600	900	150	60	260	180	440	M16	77	A3
SHF4 50-200/116/P	50	65	100	350	390	811	600	900	150	60	260	200	460	M16	88	A3
SHF4 50-200/156/P	50	65	100	350	390	811	600	900	150	60	260	200	460	M16	91	A3
SHF4 50-250/226A/P	50	65	100	400	450	888	660	1000	170	75	280	225	505	M20	132	B1
SHF4 50-250/226/P	50	65	100	400	450	888	660	1000	170	75	280	225	505	M20	132	B1
SHF4 50-250/306/P	50	65	100	400	450	888	660	1000	170	75	280	225	505	M20	136	B1
SHF4 65-160/076/C	65	80	100	350	390	734	600	900	150	75	260	200	460	M16	86	A2
SHF4 65-160/116A/P	65	80	100	400	450	811	600	1000	170	75	260	200	460	M20	94	A3
SHF4 65-160/116/P	65	80	100	400	450	811	660	1000	170	75	260	200	460	M20	94	A3
SHF4 65-160/156/P	65	80	100	400	450	811	660	1000	170	75	260	200	460	M20	97	A3
SHF4 65-200/156/P	65	80	100	400	450	811	660	1000	170	75	280	225	505	M20	109	A3
SHF4 65-200/226/P	65	80	100	440	490	888	740	1120	190	75	280	225	505	M20	133	B1
SHF4 65-200/306/P	65	80	100	440	490	888	740	1120	190	75	280	225	505	M20	137	B1
SHF4 65-250/406/P	65	80	100	440	490	1031	740	1120	190	90	310	250	550	M20	178	C3
SHF4 65-250/556/P	65	80	100	440	490	1058	740	1120	190	90	310	250	550	M20	193	C4
SHF4 80-160/226A/P	80	100	125	440	490	913	740	1120	190	75	280	225	505	M20	143	B1
SHF4 80-160/226/P	80	100	125	440	490	913	740	1120	190	75	280	225	505	M20	143	B1
SHF4 80-200/306/P	80	100	125	440	490	1023	740	1120	190	75	280	250	530	M20	162	C3
SHF4 80-200/406/P	80	100	125	440	490	1056	740	1120	190	75	280	250	530	M20	171	C3
SHF4 80-250/556/P	80	100	125	490	540	1083	840	1250	205	90	310	280	590	M20	194	C4
SHF4 80-250/756/P	80	100	125	490	540	1083	840	1250	205	90	310	280	590	M20	198	C4
SHF4 80-250/1106/P	80	100	125	490	540	1202	840	1250	205	90	310	280	590	M20	256	C5

ACCESSORIES

DIMENSIONS OF ROUND THREADED COUNTERFLANGES ACCORDING TO EN 1092-1

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

sh-ctf-tonde-f-en_b_td

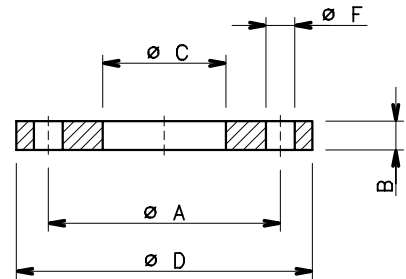


04430_B_DD

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

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

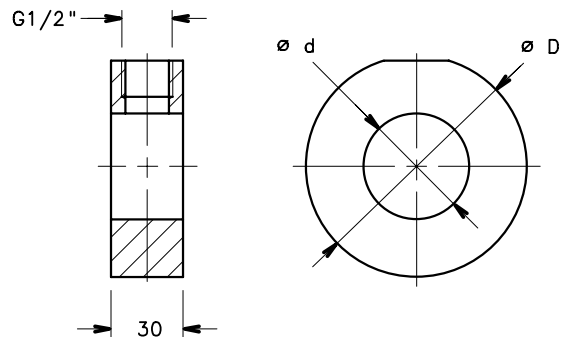


04431_A_DD

AISI 304 FLANGE WITH PRESSURE GAUGE CONNECTOR

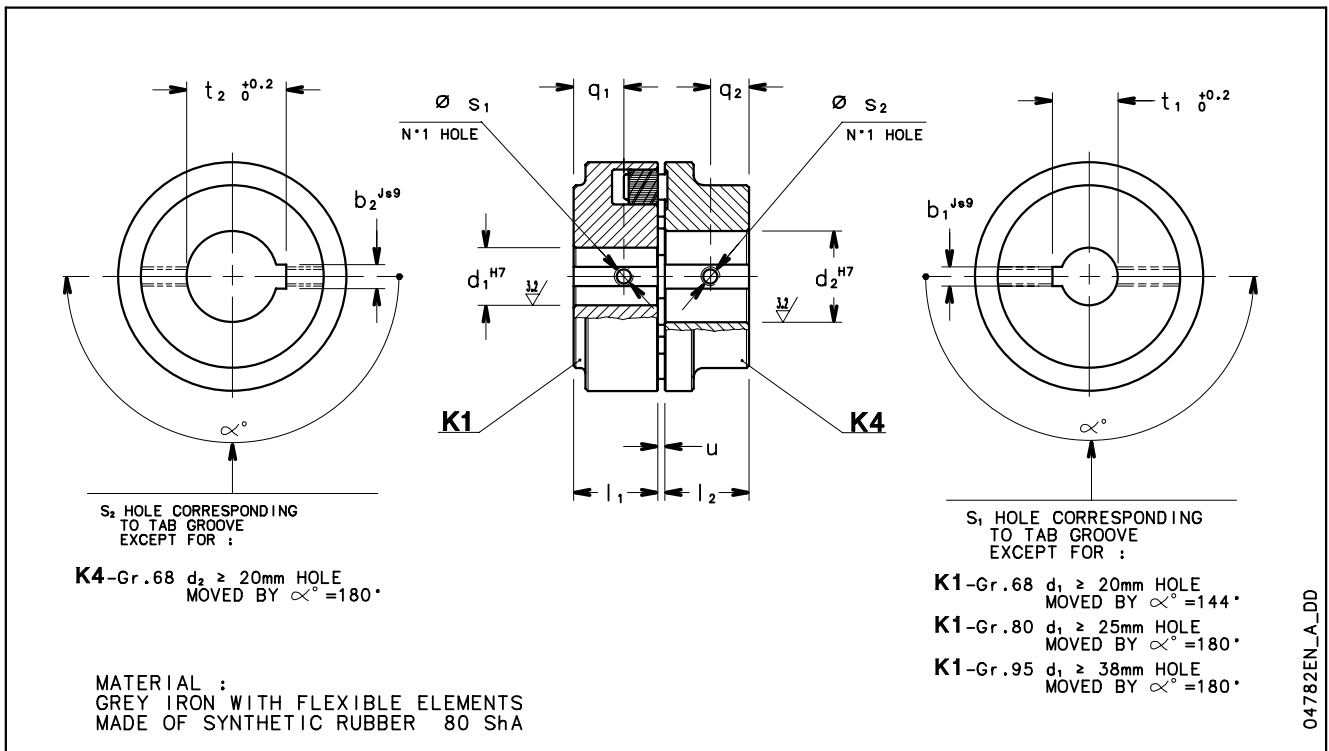
DESIGNATION	DIMENSIONS (mm)	
	d	D
25	29	70
32	36	82
40	44	92
50	54	107
65	69	127
80	85	142
100	105	162

fh-fla-manom-en_a_td



04781_A_DD

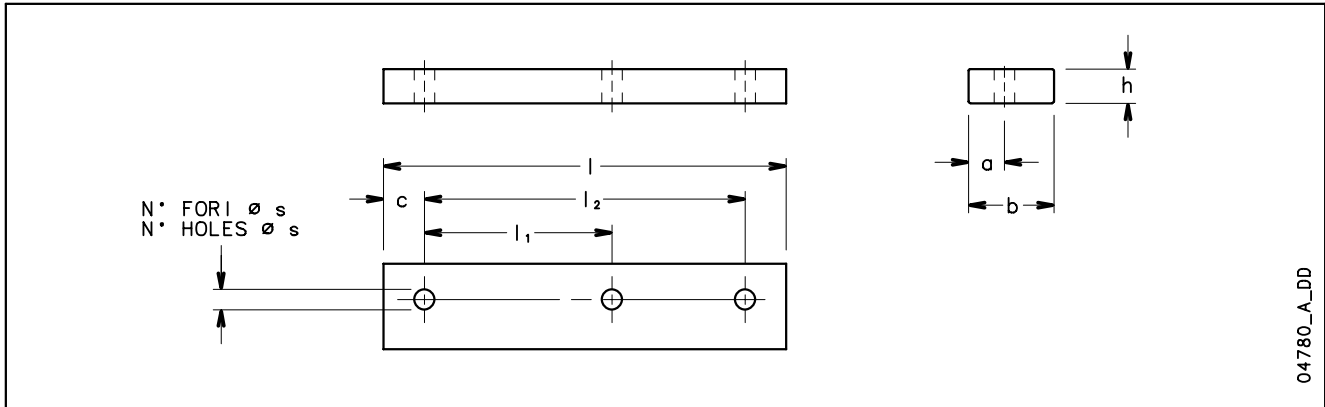
FLEXIBLE COUPLING DIMENSIONS



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

shf-giunto-elastico-en_c_td

MOTOR SHIM FOR SH VERSIONS



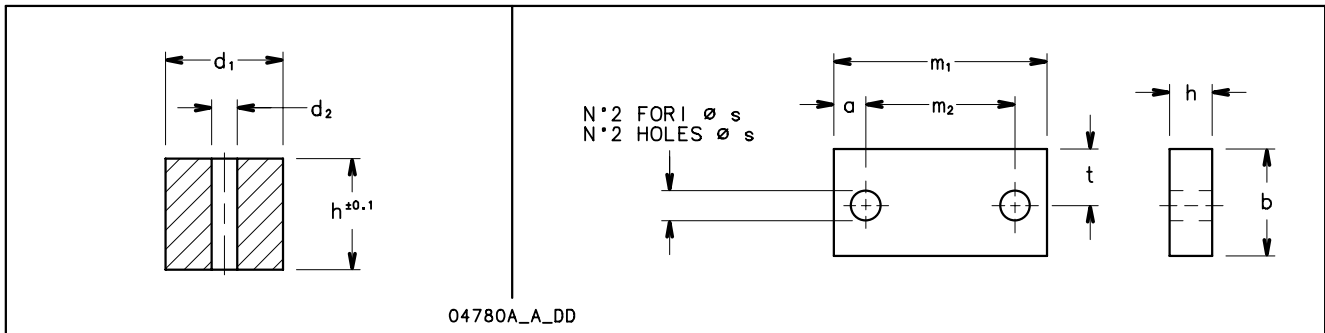
04780_A_DD

DENOMINATION					DIMENSIONS (mm)				HOLES	
b	x	h	x	l	a	l ₁	l ₂	c	N°	ø s
35	12	125			17	100	-	12,5	2	10
35	20	125			17	100	-	12,5	2	10
40	8	180			17	140	-	20	2	14
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	16
50	30	304			25	210	254	25	3	16
80	30	360			26,5	-	311	24,5	2	18
90	30	406			30	-	349	28,5	2	22

sp-piatti-mot-shf-en_c_td

CYLINDRICAL MOTOR SHIM (SHF)

PUMP SHIM (SHF)



04780A_A_DD

DIMENSIONS (mm)			
DESIGNATION			
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

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

$$h_p + h_z \geq (\text{NPSH}_r + 0.5) + h_f + h_{pv} \quad \textcircled{1}$$

where:

- h_p** is the absolute pressure applied to the free liquid surface in the suction tank, expressed in m. of liquid; h_p is the quotient between the barometric pressure and the specific weight of the liquid.
- h_z** is the suction lift between the pump axis and the free liquid surface in the suction tank, expressed in m.; h_z is negative when the liquid level is lower than the pump axis.
- h_f** is the flow resistance in the suction line and its accessories, such as: fittings, foot valve, gate valve, elbows, etc.
- h_{pv}** is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid. h_{pv} is the quotient between the 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 99-100 of this catalogue. To reduce it to a minimum, especially in cases of high suction head (over 4-5 m.) or within the operating limits with high flow rates, we recommend using a suction line having a larger diameter than that of the pump's suction port. It is always a good idea to position the pump as close as possible to the liquid to be pumped.

Make the following calculation:

Liquid: water at ~15°C $\gamma = 1 \text{ kg/dm}^3$

Flow rate required: 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

$$h_p = P_a / \gamma = 10,33\text{m}, h_{pv} = P_v / \gamma = 0,174\text{m} (0,01701 \text{ bar})$$

The H_f flow resistance in the suction line with foot valves is ~ 1,2 m.

By substituting the parameters in formula $\textcircled{1}$ with the numeric values above, we have:

$$10,33 + (-3,5) \geq (2,5 + 0,5) + 1,2 + 0,17$$

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

The relation is therefore verified.

TECHNICAL APPENDIX VAPOUR PRESSURE PS VAPOUR PRESSURE AND ρ DENSITY OF WATER TABLE

t °C	T K	ps bar	ρ kg/dm ³	t °C	T K	ps bar	ρ kg/dm ³	t °C	T K	ps bar	ρ kg/dm ³
0	273,15	0,00611	0,9998	55	328,15	0,15741	0,9857	120	393,15	1,9854	0,9429
1	274,15	0,00657	0,9999	56	329,15	0,16511	0,9852	122	395,15	2,1145	0,9412
2	275,15	0,00706	0,9999	57	330,15	0,17313	0,9846	124	397,15	2,2504	0,9396
3	276,15	0,00758	0,9999	58	331,15	0,18147	0,9842	126	399,15	2,3933	0,9379
4	277,15	0,00813	1,0000	59	332,15	0,19016	0,9837	128	401,15	2,5435	0,9362
5	278,15	0,00872	1,0000	60	333,15	0,1992	0,9832	130	403,15	2,7013	0,9346
6	279,15	0,00935	1,0000	61	334,15	0,2086	0,9826	132	405,15	2,867	0,9328
7	280,15	0,01001	0,9999	62	335,15	0,2184	0,9821	134	407,15	3,041	0,9311
8	281,15	0,01072	0,9999	63	336,15	0,2286	0,9816	136	409,15	3,223	0,9294
9	282,15	0,01147	0,9998	64	337,15	0,2391	0,9811	138	411,15	3,414	0,9276
10	283,15	0,01227	0,9997	65	338,15	0,2501	0,9805	140	413,15	3,614	0,9258
11	284,15	0,01312	0,9997	66	339,15	0,2615	0,9799	145	418,15	4,155	0,9214
12	285,15	0,01401	0,9996	67	340,15	0,2733	0,9793	155	428,15	5,433	0,9121
13	286,15	0,01497	0,9994	68	341,15	0,2856	0,9788	160	433,15	6,181	0,9073
14	287,15	0,01597	0,9993	69	342,15	0,2984	0,9782	165	438,15	7,008	0,9024
15	288,15	0,01704	0,9992	70	343,15	0,3116	0,9777	170	443,15	7,920	0,8973
16	289,15	0,01817	0,9990	71	344,15	0,3253	0,9770	175	448,15	8,924	0,8921
17	290,15	0,01936	0,9988	72	345,15	0,3396	0,9765	180	453,15	10,027	0,8869
18	291,15	0,02062	0,9987	73	346,15	0,3543	0,9760	185	458,15	11,233	0,8815
19	292,15	0,02196	0,9985	74	347,15	0,3696	0,9753	190	463,15	12,551	0,8760
20	293,15	0,02337	0,9983	75	348,15	0,3855	0,9748	195	468,15	13,987	0,8704
21	294,15	0,24850	0,9981	76	349,15	0,4019	0,9741	200	473,15	15,550	0,8647
22	295,15	0,02642	0,9978	77	350,15	0,4189	0,9735	205	478,15	17,243	0,8588
23	296,15	0,02808	0,9976	78	351,15	0,4365	0,9729	210	483,15	19,077	0,8528
24	297,15	0,02982	0,9974	79	352,15	0,4547	0,9723	215	488,15	21,060	0,8467
25	298,15	0,03166	0,9971	80	353,15	0,4736	0,9716	220	493,15	23,198	0,8403
26	299,15	0,03360	0,9968	81	354,15	0,4931	0,9710	225	498,15	25,501	0,8339
27	300,15	0,03564	0,9966	82	355,15	0,5133	0,9704	230	503,15	27,976	0,8273
28	301,15	0,03778	0,9963	83	356,15	0,5342	0,9697	235	508,15	30,632	0,8205
29	302,15	0,04004	0,9960	84	357,15	0,5557	0,9691	240	513,15	33,478	0,8136
30	303,15	0,04241	0,9957	85	358,15	0,5780	0,9684	245	518,15	36,523	0,8065
31	304,15	0,04491	0,9954	86	359,15	0,6011	0,9678	250	523,15	39,776	0,7992
32	305,15	0,04753	0,9951	87	360,15	0,6249	0,9671	255	528,15	43,246	0,7916
33	306,15	0,05029	0,9947	88	361,15	0,6495	0,9665	260	533,15	46,943	0,7839
34	307,15	0,05318	0,9944	89	362,15	0,6749	0,9658	265	538,15	50,877	0,7759
35	308,15	0,05622	0,9940	90	363,15	0,7011	0,9652	270	543,15	55,058	0,7678
36	309,15	0,05940	0,9937	91	364,15	0,7281	0,9644	275	548,15	59,496	0,7593
37	310,15	0,06274	0,9933	92	365,15	0,7561	0,9638	280	553,15	64,202	0,7505
38	311,15	0,06624	0,9930	93	366,15	0,7849	0,9630	285	558,15	69,186	0,7415
39	312,15	0,06991	0,9927	94	367,15	0,8146	0,9624	290	563,15	74,461	0,7321
40	313,15	0,07375	0,9923	95	368,15	0,8453	0,9616	295	568,15	80,037	0,7223
41	314,15	0,07777	0,9919	96	369,15	0,8769	0,9610	300	573,15	85,927	0,7122
42	315,15	0,08198	0,9915	97	370,15	0,9094	0,9602	305	578,15	92,144	0,7017
43	316,15	0,09639	0,9911	98	371,15	0,9430	0,9596	310	583,15	98,70	0,6906
44	317,15	0,09100	0,9907	99	372,15	0,9776	0,9586	315	588,15	105,61	0,6791
45	318,15	0,09582	0,9902	100	373,15	1,0133	0,9581	320	593,15	112,89	0,6669
46	319,15	0,10086	0,9898	102	375,15	1,0878	0,9567	325	598,15	120,56	0,6541
47	320,15	0,10612	0,9894	104	377,15	1,1668	0,9552	330	603,15	128,63	0,6404
48	321,15	0,11162	0,9889	106	379,15	1,2504	0,9537	340	613,15	146,05	0,6102
49	322,15	0,11736	0,9884	108	381,15	1,3390	0,9522	350	623,15	165,35	0,5743
50	323,15	0,12335	0,9880	110	383,15	1,4327	0,9507	360	633,15	186,75	0,5275
51	324,15	0,12961	0,9876	112	385,15	1,5316	0,9491	370	643,15	210,54	0,4518
52	325,15	0,13613	0,9871	114	387,15	1,6362	0,9476	374,15	647,30	221,20	0,3154
53	326,15	0,14293	0,9862	116	389,15	1,7465	0,9460				
54	327,15	0,15002	0,9862	118	391,15	1,8628	0,9445				

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

FLOW RATE		NOMINAL DIAMETER in mm and INCHES																	
m 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	v 0,53	v 0,34	v 0,21	v 0,13													
		hr 16	hr 3,94	hr 1,33	hr 0,40	hr 0,13													
0,9	15	v 1,42	v 0,80	v 0,51	v 0,31	v 0,20													
		hr 33,9	hr 8,35	hr 2,82	hr 0,85	hr 0,29													
1,2	20	v 1,89	v 1,06	v 0,68	v 0,41	v 0,27	v 0,17												
		hr 57,7	hr 14,21	hr 4,79	hr 1,44	hr 0,49	hr 0,16												
1,5	25	v 2,36	v 1,33	v 0,85	v 0,52	v 0,33	v 0,21												
		hr 87,2	hr 21,5	hr 7,24	hr 2,18	hr 0,73	hr 0,25												
1,8	30	v 2,83	v 1,59	v 1,02	v 0,62	v 0,40	v 0,25												
		hr 122	hr 30,1	hr 10,1	hr 3,05	hr 1,03	hr 0,35												
2,1	35	v 3,30	v 1,86	v 1,19	v 0,73	v 0,46	v 0,30												
		hr 162	hr 40,0	hr 13,5	hr 4,06	hr 1,37	hr 0,46												
2,4	40	v 2,12	v 1,36	v 0,83	v 0,53	v 0,34	v 0,20												
		hr 51,2	hr 17,3	hr 5,19	hr 1,75	hr 0,59	hr 0,16												
3	50	v 2,65	v 1,70	v 1,04	v 0,66	v 0,42	v 0,25												
		hr 77,4	hr 26,1	hr 7,85	hr 2,65	hr 0,89	hr 0,25												
3,6	60	v 3,18	v 2,04	v 1,24	v 0,80	v 0,51	v 0,30												
		hr 108	hr 36,6	hr 11,0	hr 3,71	hr 1,25	hr 0,35												
4,2	70	v 3,72	v 2,38	v 1,45	v 0,93	v 0,59	v 0,35												
		hr 144	hr 48,7	hr 14,6	hr 4,93	hr 1,66	hr 0,46												
4,8	80	v 4,25	v 2,72	v 1,66	v 1,06	v 0,68	v 0,40												
		hr 185	hr 62,3	hr 18,7	hr 6,32	hr 2,13	hr 0,59												
5,4	90	v 3,06	v 1,87	v 1,19	v 0,76	v 0,45	v 0,30												
		hr 77,5	hr 23,3	hr 7,85	hr 2,65	hr 0,74	hr 0,27												
6	100	v 3,40	v 2,07	v 1,33	v 0,85	v 0,50	v 0,33												
		hr 94,1	hr 28,3	hr 9,54	hr 3,22	hr 0,90	hr 0,33												
7,5	125	v 4,25	v 2,59	v 1,66	v 1,06	v 0,63	v 0,41												
		hr 142	hr 42,8	hr 14,4	hr 4,86	hr 1,36	hr 0,49												
9	150	v 3,11	v 1,99	v 1,27	v 0,75	v 0,50	v 0,32												
		hr 59,9	hr 20,2	hr 6,82	hr 1,90	hr 0,69	hr 0,23												
10,5	175	v 3,63	v 2,32	v 1,49	v 0,88	v 0,58	v 0,37												
		hr 79,7	hr 26,9	hr 9,07	hr 2,53	hr 0,92	hr 0,31												
12	200	v 4,15	v 2,65	v 1,70	v 1,01	v 0,66	v 0,42												
		hr 102	hr 34,4	hr 11,6	hr 3,23	hr 1,18	hr 0,40												
15	250	v 5,18	v 3,32	v 2,12	v 1,26	v 0,83	v 0,53	v 0,34											
		hr 154	hr 52,0	hr 17,5	hr 4,89	hr 1,78	hr 0,60	hr 0,20											
18	300	v 3,98	v 2,55	v 1,51	v 1,00	v 0,64	v 0,41												
		hr 72,8	hr 24,6	hr 6,85	hr 2,49	hr 0,84	hr 0,28												
24	400	v 5,31	v 3,40	v 2,01	v 1,33	v 0,85	v 0,54	v 0,38											
		hr 124	hr 41,8	hr 11,66	hr 4,24	hr 1,43	hr 0,48	hr 0,20											
30	500	v 6,63	v 4,25	v 2,51	v 1,66	v 1,06	v 0,68	v 0,47											
		hr 187	hr 63,2	hr 17,6	hr 6,41	hr 2,16	hr 0,73	hr 0,30											
36	600	v 5,10	v 3,02	v 1,99	v 1,27	v 0,82	v 0,57	v 0,42											
		hr 88,6	hr 24,7	hr 8,98	hr 3,03	hr 1,02	hr 0,42	hr 0,20											
42	700	v 5,94	v 3,52	v 2,32	v 1,49	v 0,95	v 0,66	v 0,49											
		hr 118	hr 32,8	hr 11,9	hr 4,03	hr 1,36	hr 0,56	hr 0,26											
48	800	v 6,79	v 4,02	v 2,65	v 1,70	v 1,09	v 0,75	v 0,55											
		hr 151	hr 42,0	hr 15,3	hr 5,16	hr 1,74	hr 0,72	hr 0,34											
54	900	v 7,64	v 4,52	v 2,99	v 1,91	v 1,22	v 0,85	v 0,62											
		hr 188	hr 52,3	hr 19,0	hr 6,41	hr 2,16	hr 0,89	hr 0,42											
60	1000	v 5,03	v 3,32	v 2,12	v 1,36	v 0,94	v 0,69	v 0,53											
		hr 63,5	hr 23,1	hr 7,79	hr 2,63	hr 1,08	hr 0,51	hr 0,27											
75	1250	v 6,28	v 4,15	v 2,65	v 1,70	v 1,18	v 0,87	v 0,66											
		hr 96,0	hr 34,9	hr 11,8	hr 3,97	hr 1,63	hr 0,77	hr 0,40											
90	1500	v 7,54	v 4,98	v 3,18	v 2,04	v 1,42	v 1,04	v 0,80											
		hr 134	hr 48,9	hr 16,5	hr 5,57	hr 2,29	hr 1,08	hr 0,56											
105	1750	v 8,79	v 5,81	v 3,72	v 2,38	v 1,65	v 1,21	v 0,93											
		hr 179	hr 65,1	hr 21,9	hr 7,40	hr 3,05	hr 1,44	hr 0,75											
120	2000	v 6,63	v 4,25	v 2,72	v 1,89	v 1,39	v 1,06	v 0,68											
		hr 83,3	hr 28,1	hr 9,48	hr 3,90	hr 1,84	hr 0,96	hr 0,32											
150	2500	v 8,29	v 5,31	v 3,40	v 2,36	v 1,73	v 1,33	v 0,85											
		hr 126	hr 42,5	hr 14,3	hr 5,89	hr 2,78	hr 1,45	hr 0,49											
180	3000	v 6,37	v 4,08	v 2,83	v 2,08	v 1,59	v 1,02	v 0,71											
		hr 59,5	hr 20,1	hr 8,26	hr 3,90	hr 2,03	hr 0,69	hr 0,28											
210	3500	v 7,43	v 4,76	v 3,30	v 2,43	v 1,86	v 1,19	v 0,83											
		hr 79,1	hr 26,7	hr 11,0	hr 5,18	hr 2,71	hr 0,91	hr 0,38											
240	4000	v 8,49	v 5,44	v 3,77	v 2,77	v 2,12	v 1,36	v 0,94											
		hr 101	hr 34,2	hr 14,1	hr 6,64	hr 3,46	hr 1,17	hr 0,48											
300	5000	v 6,79	v 4,72	v 3,47	v 2,65	v 1,70	v 1,18	v 0,87											
		hr 51,6	hr 21,2	hr 10,0	hr 5,23	hr 1,77	hr 0,73	hr 0,27											
360	6000	v 8,15	v 5,66	v 4,16	v 3,18	v 2,04	v 1,42	v 1,02											
		hr 72,3	hr 29,8	hr 14,1	hr 7,33	hr 2,47	hr 1,02	hr 0,36											
420	7000	v 6,61	v 4,85	v 3,72	v 2,83	v 1,65	v 1,21	v 0,87											
		hr 39,6	hr 18,7	hr 9,75	hr 3,29	hr 1,35	hr 0,85	hr 0,32											
480	8000	v 7,55	v 5,55	v 4,25	v 2														

FLOW RESISTANCE

TABLE OF FLOW RESISTANCE IN BENDS, VALVES AND GATES

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

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

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The table is valid for the Hazen Williams coefficient $C = 100$ (cast iron pipework). For steel pipework, multiply the values by 1.41. For stainless steel, copper and coated cast iron pipework, multiply the values by 1.85.

When the **equivalent pipeline length** has been determined, the flow resistance is obtained from the table of flow resistance.

The values given are guideline values which are bound to vary slightly according to the model, especially for gate valves and non-return valves, for which it is a good idea to check the values supplied by the 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
1,000	0,0600	2,1189	0,0353	0,2200	0,2642
16,6667	1,000	35,3147	0,5886	3,6662	4,4029
0,4719	0,0283	1,000	0,0167	0,1038	0,1247
28,3168	1,6990	60,0000	1,000	6,2288	7,4805
4,5461	0,2728	9,6326	0,1605	1,000	1,2009
3,7854	0,2271	8,0208	0,1337	0,8327	1,000

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 ₂ O	millimetre of mercury mm Hg
1,000	0,0010	1 x 10 ⁻⁵	1.45 x 10 ⁻⁴	1.02 x 10 ⁻⁴	0,0075
1000,0000	1,000	0,0100	0,1450	0,1020	7,5006
1 x 10 ⁵	100,0000	1,000	14,5038	10,1972	750,0638
6894,7570	6,8948	0,0689	1,000	0,7031	51,7151
9806,6500	9,8067	0,0981	1,4223	1,000	73,5561
133,3220	0,1333	0,0013	0,0193	0,0136	1,000

LENGTH

millimetre mm	centimetre cm	metre m	inch in	foot ft	yard yd
1,000	0,1000	0,0010	0,0394	0,0033	0,0011
10,0000	1,000	0,0100	0,3937	0,0328	0,0109
1000,0000	100,0000	1,000	39,3701	3,2808	1,0936
25,4000	2,5400	0,0254	1,000	0,0833	0,0278
304,8000	30,4800	0,3048	12,0000	1,000	0,3333
914,4000	91,4400	0,9144	36,0000	3,0000	1,000

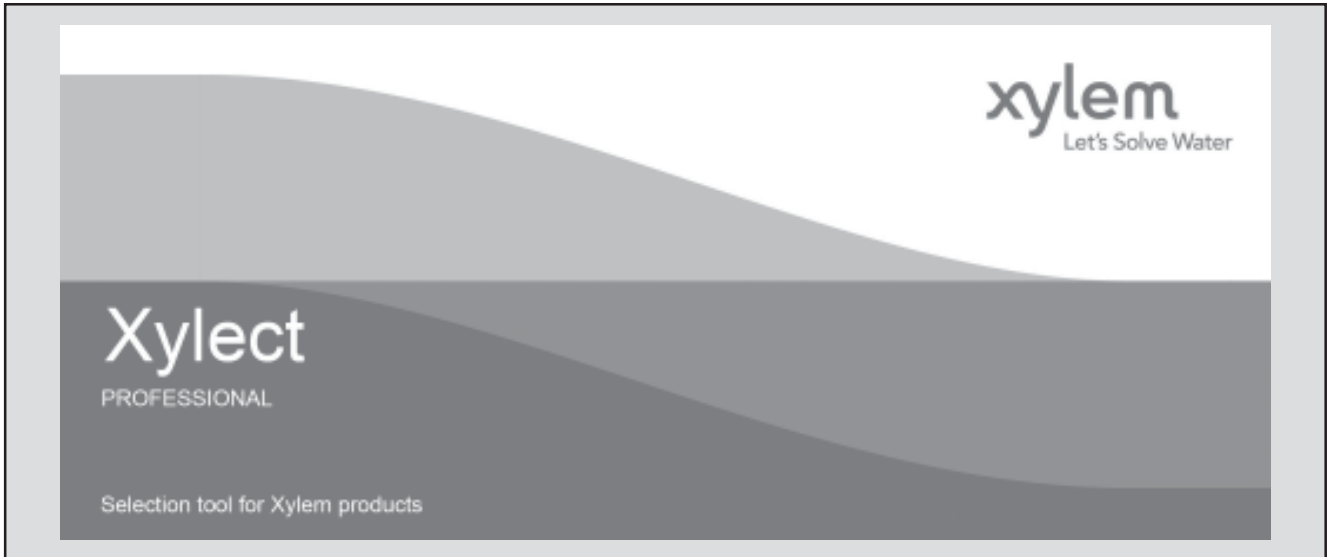
VOLUME

cubic metre m ³	litre litro	millilitre ml	imp. Gallon imp. gal.	US gallon US gal.	cubic foot ft ³
1,000	1000,0000	1 x 10 ⁶	219,9694	264,1720	35,3147
0,0010	1,000	1000,0000	0,2200	0,2642	0,0353
1 x 10 ⁻⁶	0,0010	1,000	2.2 x 10 ⁻⁴	2.642 x 10 ⁻⁴	3.53 x 10 ⁻⁵
0,0045	4,5461	4546,0870	1,000	1,2009	0,1605
0,0038	3,7854	3785,4120	0,8327	1,000	0,1337
0,0283	28,3168	28316,8466	6,2288	7,4805	1,000

G-at_pp-en_a_sc

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect



Xylect is pump solution selection software with an extensive online database of product information across the entire Lowara, 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.

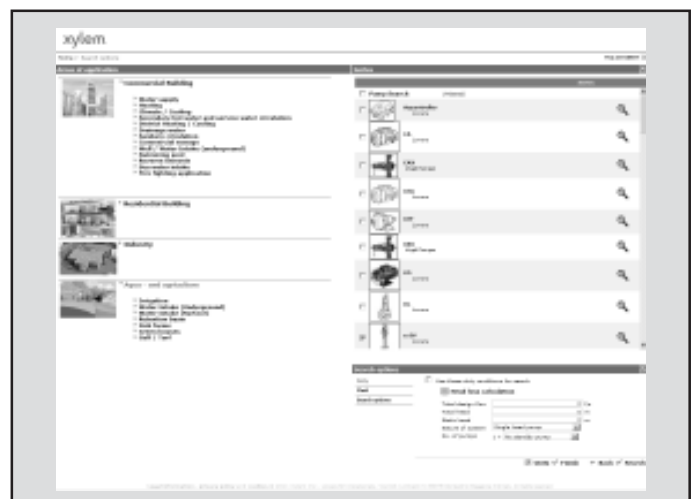
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara and Vogel products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect gives a detailed output:

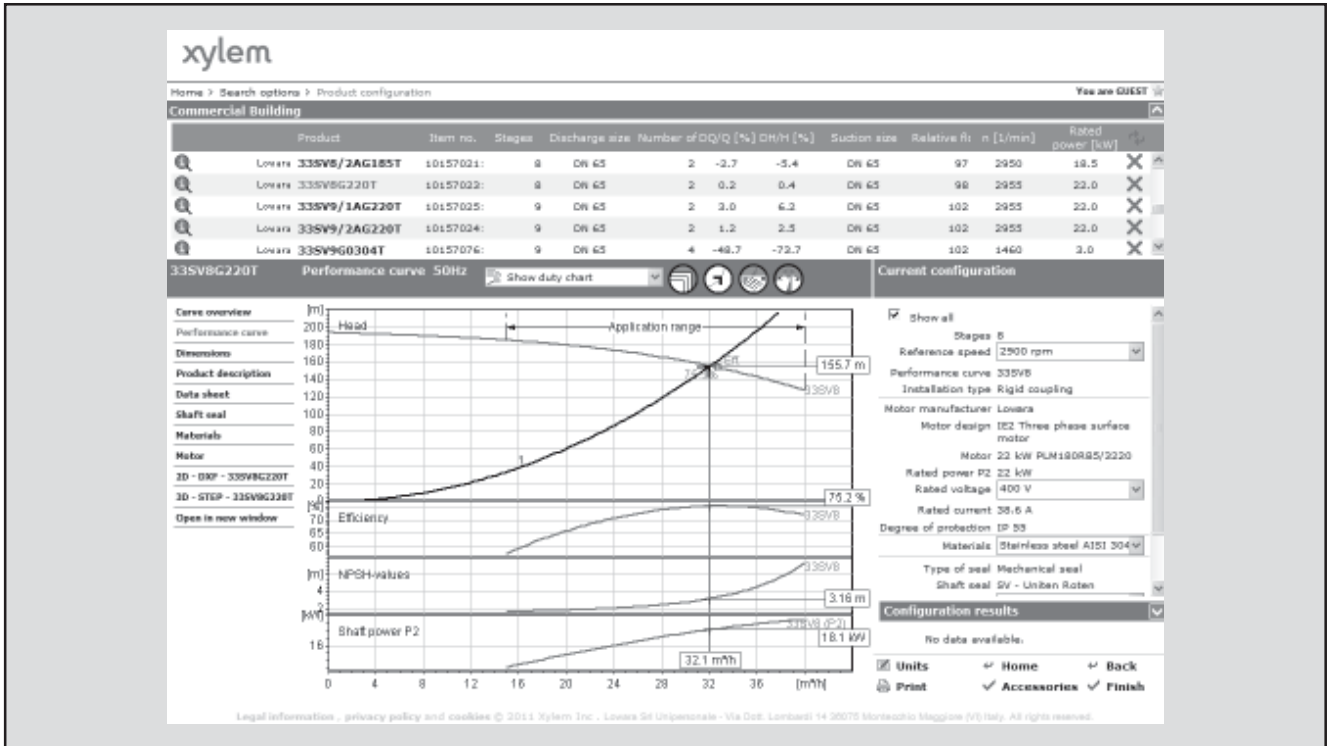
- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



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

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect



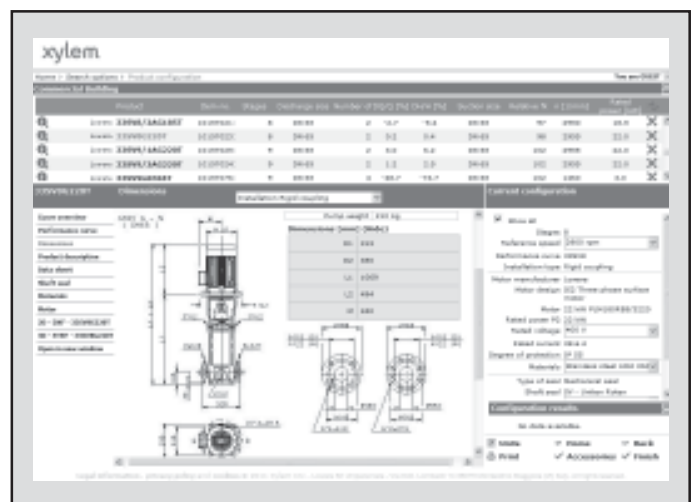
The detailed output makes it easy to select the optimal pump from the given alternatives.

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 has 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.

Xylem |'zīləm|

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

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

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



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