

50 Hz



e-SVI Series

Immersible electric pumps

ErP 2009/125/EC

Directive 2009/125/EC of the European Union

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

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

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

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

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

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

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

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

Regulations	From	Target
(EU) 2019/1781 and subsequent updates	1 July 2023	IE2 : motors with a rated output $\geq 0,12$ and $< 0,749$ kW IE3 : motors with a rated output $\geq 0,75$ and $< 74,9$ kW IE4 : motors with a rated output ≥ 75 and < 200 kW IE3 : motors with a rated output ≥ 201 and < 1000 kW

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

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

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

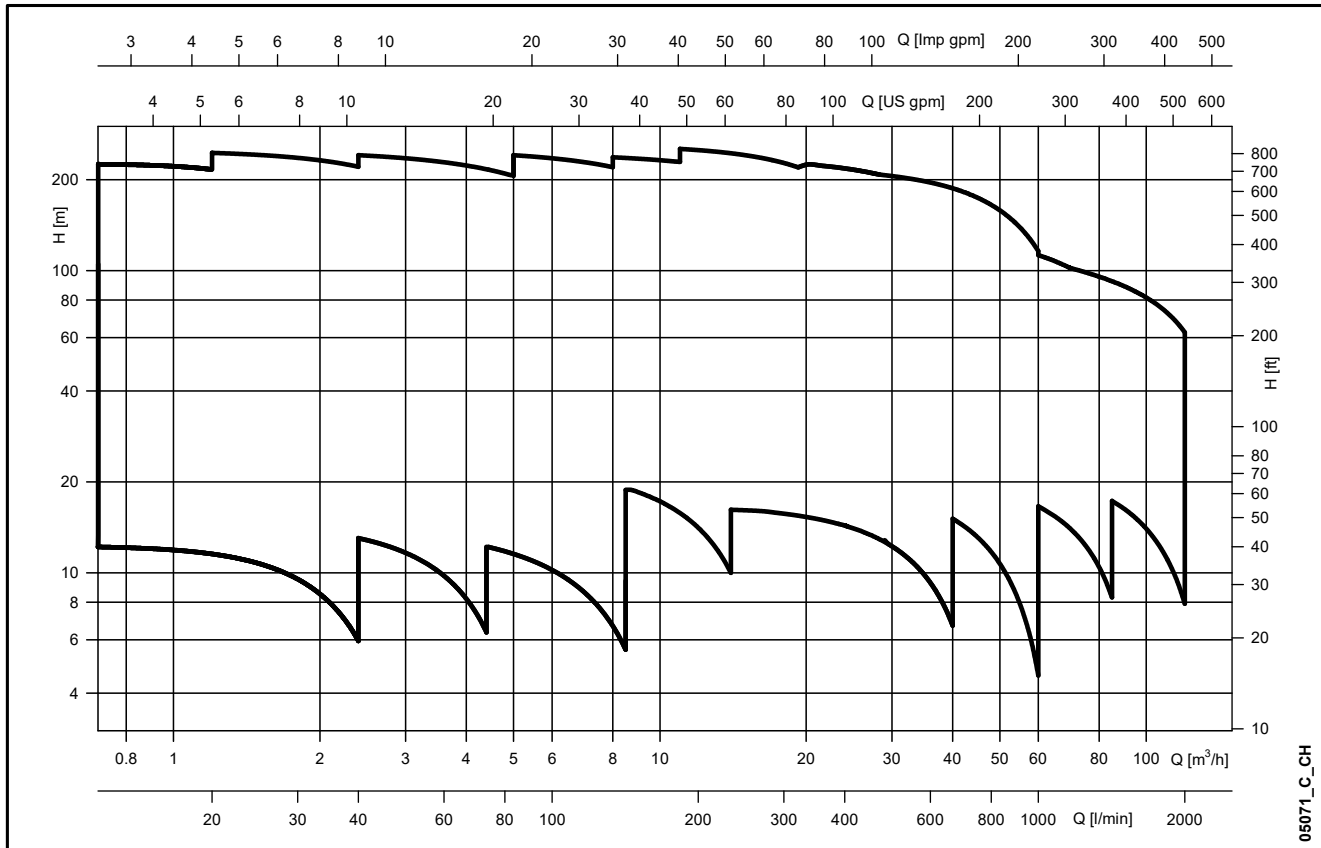
Regulations	From	Target
(EU) 2019/1781 and subsequent updates	1 July 2021	IE2

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e-SVI SERIES

HYDRAULIC PERFORMANCE RANGE AT 50 Hz



e-SVI SERIES

VERTICAL MULTISTAGE ELECTRIC PUMP WITH IMMERSIBLE HYDRAULIC

The e-SVI pump is a vertical axis multistage centrifugal pump with immersible hydraulic for the suction of liquids inside tanks.

The e-SVI pump is available in several hydraulic sizes, with rated flow rates from 1 to 92 m³/h and a variable number of impeller alternatives, capable of dealing with a wide range of duty points.

Moreover, it can also be configured by adding empty stages, so that the length of the submerged section may be modified to reach the desired suction depth.

The e-SVI pump is available coupled with a standard motor using a coupling (C and M, S and N version).

The high efficiency hydraulic components, which ensure life savings during the whole life cycle, are designed for maximum reliability and, thanks to the 1 to 22 m³/h impeller design, to also reduce the axial load on the motor.



SPECIFICATIONS

PUMP

- **Delivery:** up to 120 m³/h.
- **Head:** up to 240 m.
- **Temperature** of pumped liquid with standard mechanical seal: from -10°C to +90°C
- Maximum **operating pressure:**
 - PN 25 (PN 16 for SVI 66 and 92 series)
- Hydraulic performance compliant with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A).
- Direction of rotation: clockwise looking at the pump from the top down (marked with an arrow on the adapter and on the coupling).

MOTOR

- Squirrel cage in short circuit, enclosed construction with external ventilation.
- **IP55 protection.**
- **Class 155 (F) insulation.**
- Performances according to EN 60034-1.
- Standard voltage:
 - Single-phase version: 220-240 V, 50 Hz.
 - Three-phase version:
 - 220-240/380-415 V, 50 Hz, for power up to 3 kW
 - 380-415/660-690 V, 50 Hz, for power above 3 kW

APPLICATIONS

- Cooling and lubricating circuits for tools (emulsions, cutting oil).
- Cooling systems (mixtures water-glycols in high quantity).
- Washing systems (mixtures water-detergents).

CONSTRUCTION

The hydraulic components are in stainless steel, while the pump body with the discharge port is available in both AISI 316 stainless steel and cast iron.

The mechanical seal for 1 to 22 m³/h models with coupling can consist of either a strong cartridge construction (C version), or it can be traditional (M version for 1 to 22 m³/h models and higher). With motors with powers from 5.5 kW and higher, the traditional seal may be replaced without removing the motor from the pump.

e-SVI pumps can be supplied with integrated variable speed drive for the efficient management of the pump at different speeds.

e-SVI SERIES

CHARACTERISTICS OF 1, 3, 5, 10, 15, 22SVI SERIES

- The following versions are available:
 - C: version with coupling and cartridge mechanical seal.
 - M: version with coupling and standard mechanical seal according to EN 12756 (ex DIN 24960) and ISO 3069 for 1, 3, 5SVI series and 10, 15, 22SVI series (up to 4 kW).
 - Possible choice of the following materials:
 - G: AISI 304 hydraulic components; cast iron body and discharge port.
 - N: AISI 316 hydraulic components, body and discharge port.
 - Reduced axial thrusts enable the use of standard motors that are easily found in the market.
 - Liquid temperature between -30°C and +90°C, depending on the mechanical seal used.
 - Minimum liquid level at the suction 20 mm.
-

CHARACTERISTICS OF SVI 33, 46, 66, 92 SERIES

- The following versions are available:
 - S: version with standard motor; impellers, diffusers, tie-rods, suction base and filter made entirely of stainless steel. Adapter and upper head in cast iron.
 - N: version with standard motor; made entirely of AISI 316 stainless steel.
 - Delivery port can be coupled to counter-flanges, according to EN 1092.
 - Balanced mechanical seal according to EN 12756 (ex DIN 24960) and ISO 3069, which can be replaced without removing the motor from the pump.
 - Standard version for liquid temperatures ranging from -10°C and +90°C.
-

Inlet pressure of the pump plus static pressure of the water within the pump cannot exceed the nominal pressure (PN). Using different motors from those provided could limit inlet pressure.
In this event please contact customer services.

AVAILABLE ON REQUEST

Special versions are available to suit many applications.

- 4 poles version.
- Special voltages.
- Special materials for mechanical seals and gaskets.
- Horizontal installation.

GENERAL CHARACTERISTICS

e-SVI 2 POLES

	VERSION WITH COUPLING									
	1SVI	3SVI	5SVI	10SVI	15SVI	22SVI	SVI 33	SVI 46	SVI 66	SVI92
Max efficiency flow (m³/h)	1,7	3	5,5	10,5	16,5	20,5	33	42	74	92
Flow range (m³/h)	min	0,7	1,2	2,4	5	8	11	15	22	30
	max	2,4	4,4	8,5	14	24	29	40	60	85
Maximum head (m)	230	250	250	250	250	260	240	220	150	130
Motor power (kW)	min	0,37	0,37	0,37	0,75	1,1	1,1	2,2	3	4
	max	2,2	3	5,5	11	15	18,5	30	30	30
Max η (%) of pump	50	60	70	71	72	73	76.5	79	78	79.5
Standard temperature (°C)	-10 +90									

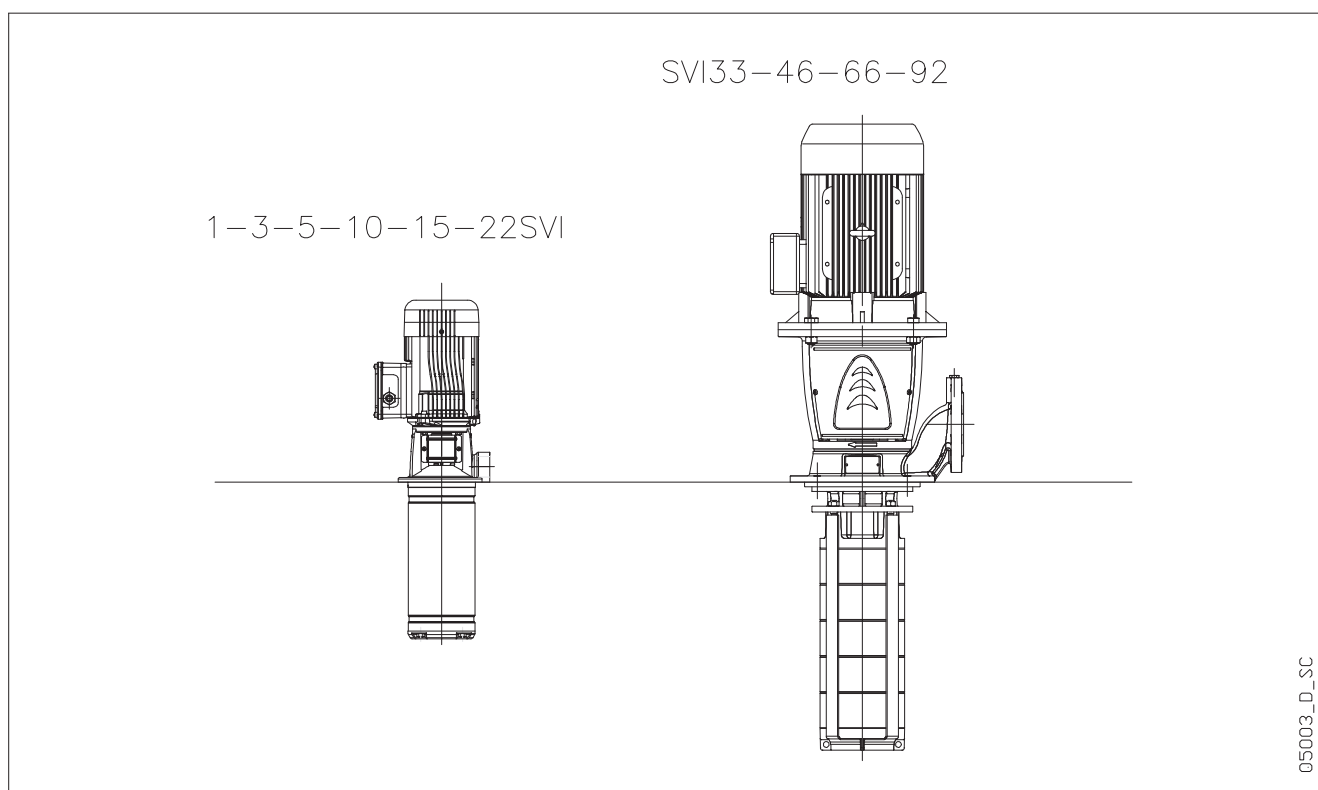
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e-SVI VERSIONS

MODEL	TYPE OF MECHANICAL SEAL	HYDRAULIC COMPONENTS MATERIAL	BODY AND DISCHARGE PORT MATERIAL	DISCHARGE PORT DIMENSION
1-3-5SVI..CG	Cartridge	AISI 304	Cast iron	Threaded Rp 1 1/4
1-3-5SVI..CN				Threaded Rp 1 1/4
10-15-22SVI..CG		AISI 304	Cast iron	Threaded Rp 2
10-15-22SVI..CN				Threaded Rp 2
1-3-5SVI..MG	Standard	AISI 304	Cast iron	Threaded Rp 1 1/4
1-3-5SVI..MN				Threaded Rp 1 1/4
10-15-22SVI..MG				Threaded Rp 2
10-15-22SVI..MN		AISI 316	AISI 316	Threaded Rp 2
SVI33-46-66-92S				Flanged DN 80
SVI33-46-66-92N				Flanged DN 80

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VERSION DIAGRAM



e-SVI SERIES TYPICAL APPLICATIONS

Thanks to its flexibility and reliability, the e-SVI pump is suitable for use in several industrial applications, from machine tools to filtering systems, to process control, and similar, even outside the industrial sector. The pumps are suitable for handling clean fluids without abrasive substances or fibers.

APPLICATIONS

- Cooling circuits and tool lubrication.
- Cooling systems
- Process temperature control
- Industrial washing systems (degreasing of mechanical components).
- Clean liquid pressure boosting.
- Transfer of condensation.
- Filtering systems.
- Washing and cleaning systems (washing of wells, cars and trucks).
- Electronic industrial sector circuit washing.
- Commercial washers.

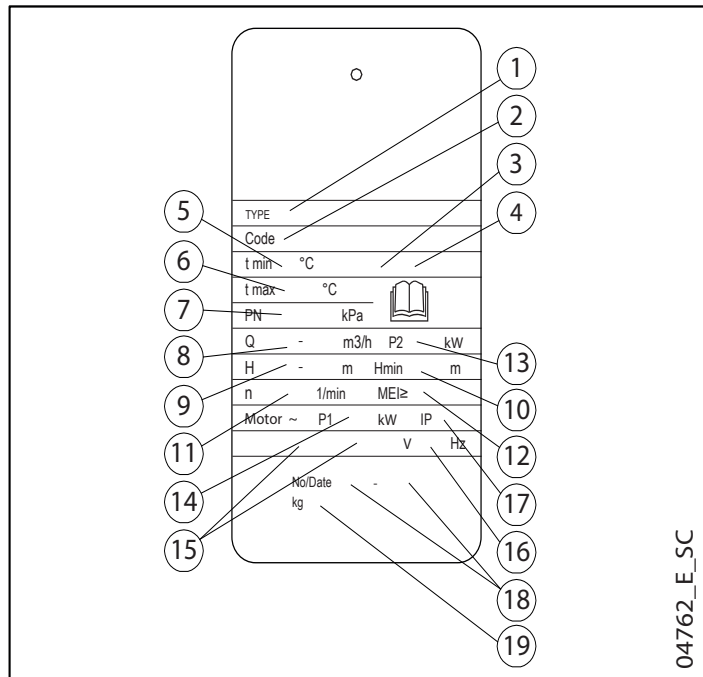
PUMPED LIQUID

- Coolants.
- Emulsions.
- Cutting oil.
- Condensation.
- Mixtures water-detergents.
- Mixtures water-glycols.



RATING PLATE

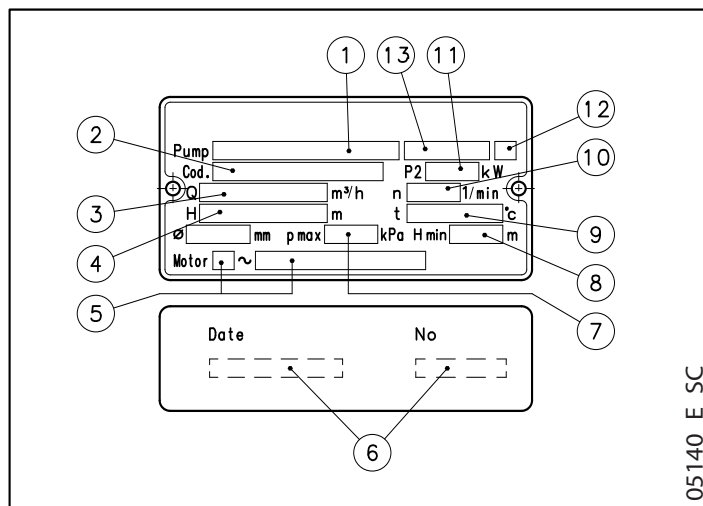
1, 3, 5, 10, 15, 22SVI (C, M)



LEGEND

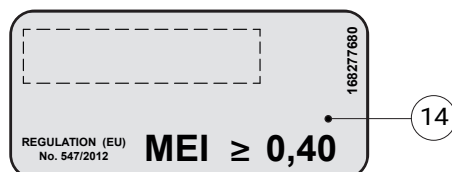
- 1 - Electric pump / Pump type
- 2 - Code
- 3 - Mechanical seal material identification code
- 4 - O-ring material identification code
- 5 - Minimum operating temperature¹
- 6 - Maximum operating liquid temperature¹ (uses as EN 60335-2-41)
- 7 - Maximum operating pressure¹
- 8 - Delivery range
- 9 - Head range
- 10 - Minimum head (EN 60335-2-41)
- 11 - Speed
- 12 - MEI (Regulation (EU) n. 547/2012)
- 13 - Motor nominal power
- 14 - Electric pump unit absorbed power²
- 15 - Rated voltage range²
- 16 - Frequency²
- 17 - Protection class²
- 18 - Serial number (date + progressive number)
- 19 - Weight

SVI 33, 46, 66, 92 (S, N)



LEGEND

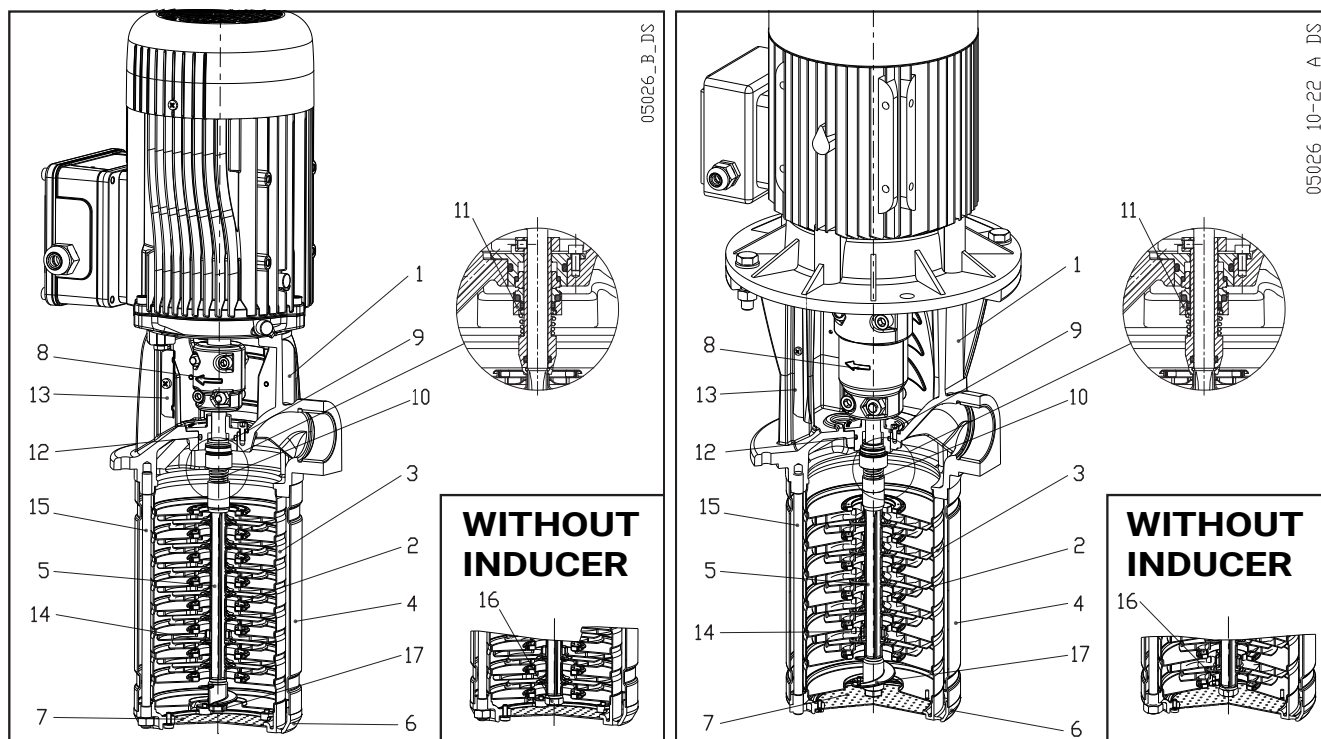
- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type²
- 6 - Date of manufacturing and serial number
- 7 - Maximum operating pressure¹
- 8 - Minimum head
- 9 - Maximum operating temperature¹
- 10 - Speed
- 11 - Rated power
- 12 - O-ring material identification code
- 13 - Mechanical seal material identification code
- 14 - MEI (Regulation (EU) n. 547/2012) accordingly to value in the MEI column of the tables in the Hydraulic Performance section



¹ Pressure/temperature limit diagrams (pages 14-15).

² Only on the electric pump rating plate.

1, 3, 5, 10, 15, 22SVI SERIES ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



G VERSION

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Impeller	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
3	Diffuser	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Outer sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Shaft	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Suction base	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
7	Strainer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
8	Coupling	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
9	Removable seal housing	Stainless steel	EN 10213-4-GX5CrNiMo19-10-2 (1.4308)	ASTM CF8M (AISI 316 cast)
10	Mechanical seal	Silicon carbide / Carbon / FKM* / AISI 316		
11	Cartridge seal	Silicon carbide / Carbon / FKM* / AISI 316		
12	Elastomers	FKM*		
13	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
14	Shaft sleeve and bushing	Tungsten carbide		
15	Tie rods	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
16	Screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
17	Inducer	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)

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N VERSION

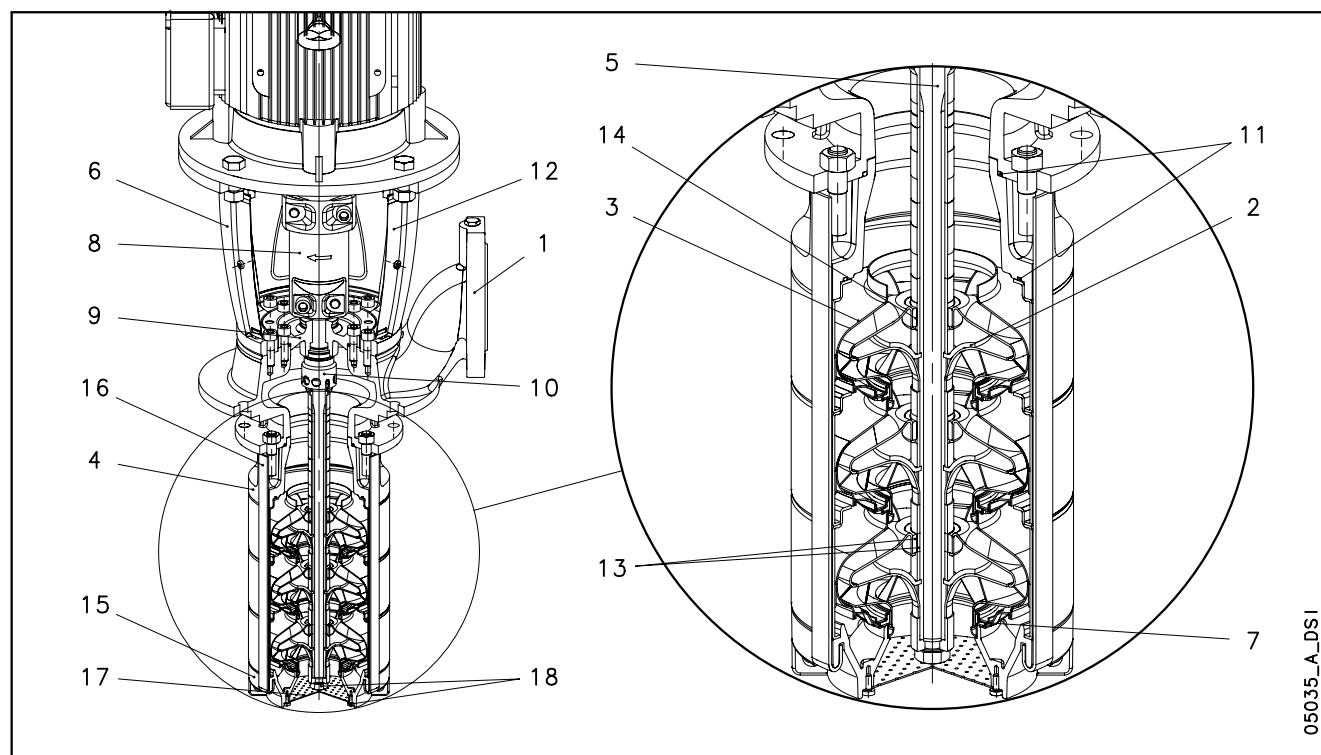
REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Adapter	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Diffuser	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Outer sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Shaft	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
6	Suction base	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
7	Strainer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
8	Coupling	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
9	Removable seal housing	Stainless steel	EN 10213-4-GX5CrNiMo19-10-2 (1.4308)	ASTM CF8M (AISI 316 cast)
10	Mechanical seal	Silicon carbide / Carbon / FKM* / AISI 316		
11	Cartridge seal	Silicon carbide / Carbon / FKM* / AISI 316		
12	Elastomers	FKM*		
13	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
14	Shaft sleeve and bushing	Tungsten carbide		
15	Tie rods	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
16	Screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
17	Inducer	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)

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

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SVI 33, 46, 66, 92 SERIES

ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



S VERSION

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Upper head	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Diffuser	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
4	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
5	Shaft	Stainless steel	EN 10088-1 - X17CrNi16-2 (1.4057)	AISI 431
6	Motor adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
7	Wear ring	Technopolymer PPS		
8	Coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
9	Seal housing	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
10	Mechanical seal	Silicon carbide / Carbon / FKM*		
11	Elastomers	FKM*		
12	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Shaft sleeve and bushing	Tungsten carbide		
14	Bushing for diffuser	Carbon		
15	Suction base	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
16	Tie rods	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
17	Strainer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316

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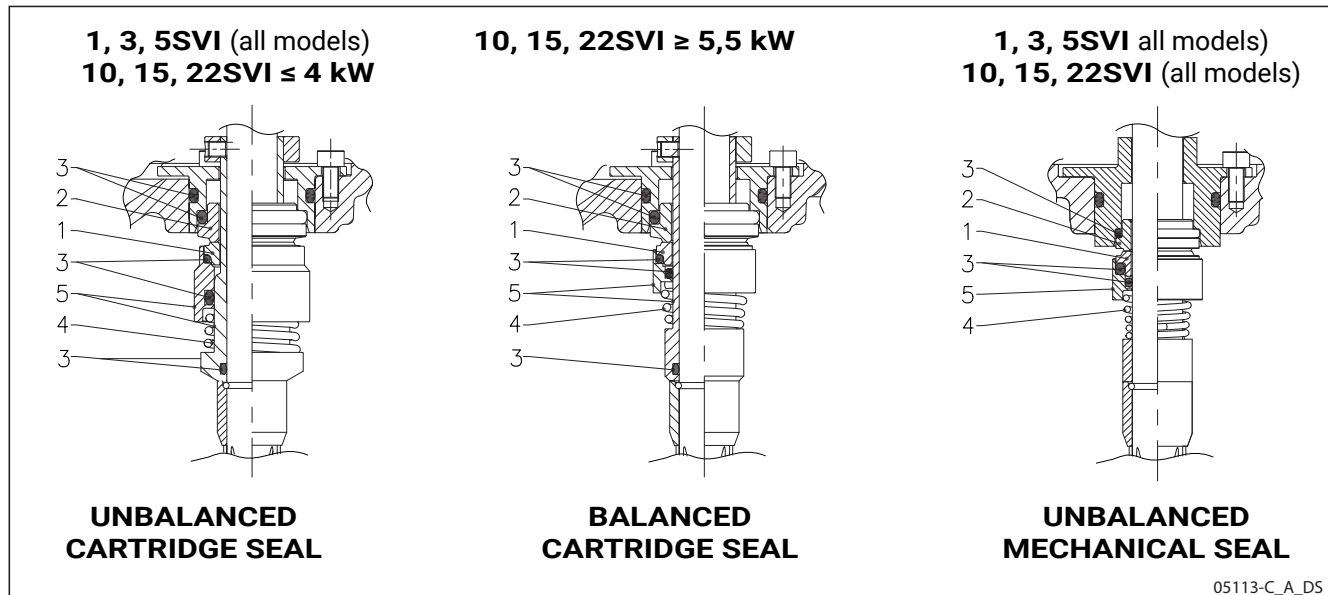
N VERSION

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Upper head	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Diffuser	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
4	Adapter	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
5	Shaft	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	UNS S 31803
6	Motor adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
7	Wear ring	Technopolymer PPS		
8	Coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
9	Seal housing	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
10	Mechanical seal	Silicon carbide / Carbon / FKM*		
11	Elastomers	FKM*		
12	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Shaft sleeve and bushing	Tungsten carbide		
14	Bushing for diffuser	Carbon		
15	Suction base	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
16	Tie rods	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
17	Strainer	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
18	Screws	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316

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

1, 3, 5, 10, 15, 22SVI SERIES MECHANICAL SEAL, ACCORDING TO EN 12756



LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
Q₁ : Silicon Carbide	V : FKM (FPM)*	G : AISI 316
B : Resin impregnated carbon	E : EPDM	

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

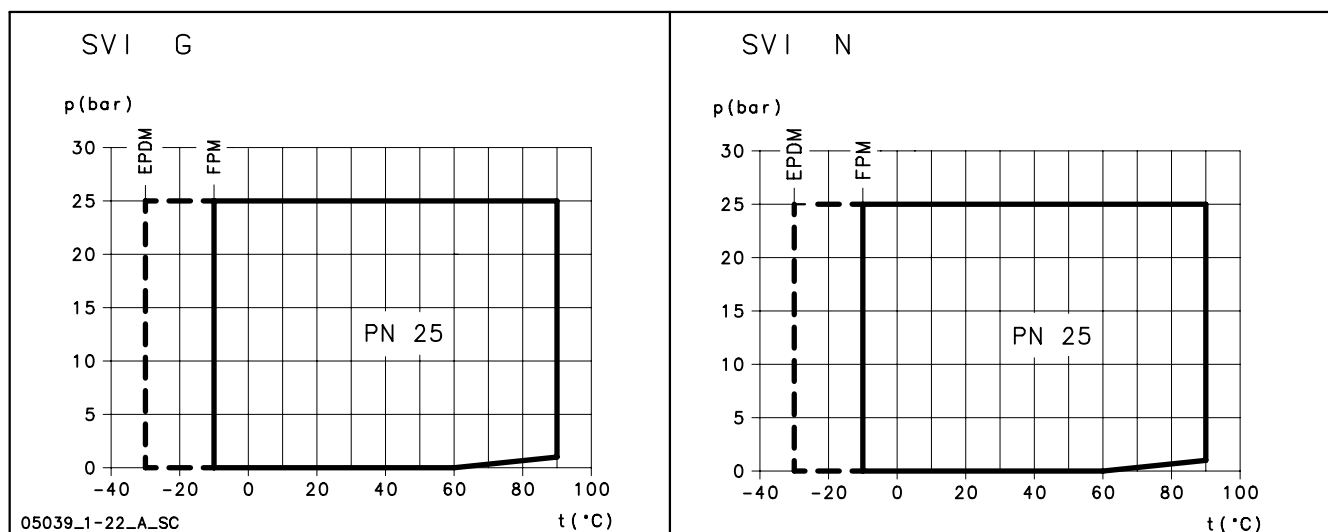
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SEAL TYPES

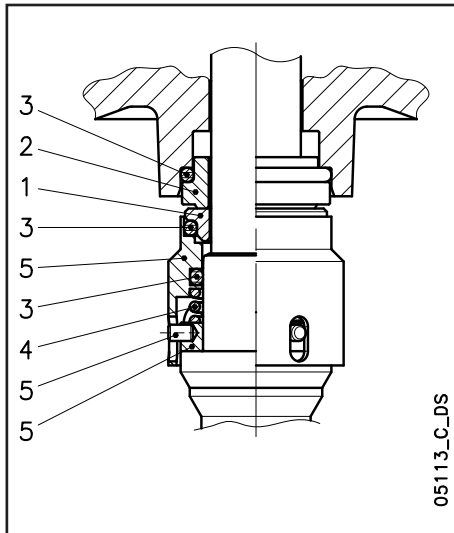
TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING PART	2 STATIONARY PART	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
Q ₁ B V G G	Q ₁	B	V	G	G	-10 +90
OTHER TYPES OF MECHANICAL SEAL						
Q ₁ Q ₁ V G G	Q ₁	Q ₁	V	G	G	-10 +90
Q ₁ Q ₁ E G G	Q ₁	Q ₁	E	G	G	-30 +90

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COMPLETE PUMP PRESSURE / TEMPERATURE OPERATING LIMITS



SVI 33, 46, 66, 92 SERIES (S, N) MECHANICAL SEAL, ACCORDING TO EN 12756



LIST OF MATERIALS

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
Q₁ : Silicon Carbide	V : FKM (FPM)*	G : AISI 316
B : Resin impregnated carbon	E : EPDM	
	T : PTFE	

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

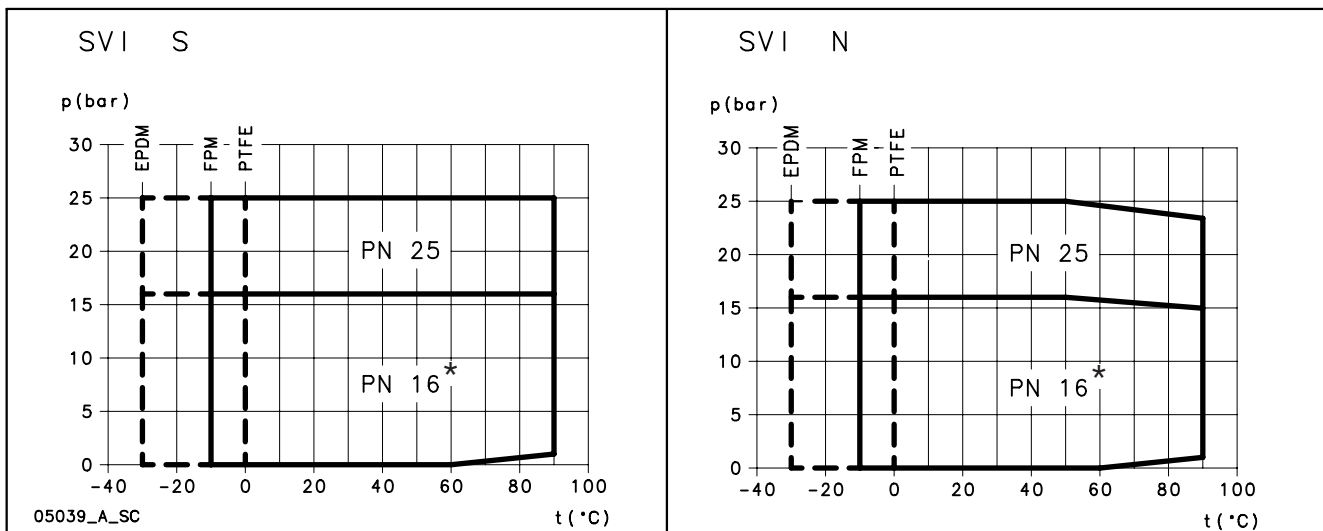
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SEAL TYPES

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING PART	2 STATIONARY PART	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
Q ₁ B V G G	Q ₁	B	V	G	G	-10 +90
OTHER TYPES OF MECHANICAL SEAL						
Q ₁ Q ₁ V G G	Q ₁	Q ₁	V	G	G	-10 +90
Q ₁ Q ₁ E G G	Q ₁	Q ₁	E	G	G	-30 +90
Q ₁ Q ₁ T G G	Q ₁	Q ₁	T	G	G	0 +90

svi-s_tipi-ten-mec-en_c_tc

COMPLETE PUMP PRESSURE / TEMPERATURE OPERATING LIMITS



* = PN16 limit for SVI 66 and SVI 92 series

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

- Short-circuit squirrel-cage motor, enclosed construction with external ventilation (TEFC).
- **IP 55** protection degree.
- Insulation class **155 (F)**.
- Electrical performances according to EN 60034-1.
- Supplied **single-phase** surface motors with **IE2** efficiency level.
- Supplied **three-phase** surface motors with **IE2** efficiency level (power < 0,75 kW) or **IE3** efficiency level (power ≥ 0,75 kW) as standard according to EN 60034-30:2009 and EN 60034-30-1:2014.
- Metric cable gland according to EN 50262.
- PTC included in motors with rated power 30 kW (one per phase, 155°C).
- **Single-phase** version:
0,37 to 1,5 kW (2-pole)
220-240 V 50 Hz
Built-in automatic reset overload protection.
Maximum ambient temperature: 45 °C.
- **Three-phase** version:
0,37 to 30 kW (2-pole)
220-240/380-415 V 50 Hz for power up to 3 kW.
380-415/660-690 V 50 Hz for power above 3 kW.
Overload protection to be provided by the user.
Maximum ambient temperature: 50 °C,
(40 °C for model with power of 0,37 kW)

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

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

SINGLE-PHASE MOTORS AT 50 Hz, 2 POLES

P _N kW	MOTOR TYPE	IEC SIZE*	Construction Design	INPUT CURRENT In (A)		CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE							OPERATING CONDITIONS *		
				220-240 V		μF	V	min ⁻¹	Is / In	η %	cosφ	Tn	Ts/Tn	Tm/Tn	Altitude asl m	T. amb min/max °C	ATEX
0,37	SM71RB14/1045 E2	71R	V18/B14	2,52-2,41	16	450	2820	3,46	69,5	0,99	1,25	0,72	2,15	1000	-15/45	No	
0,55	SM71B14/1055 E2	71		3,33-3,19	16	450	2810	4,16	74,1	0,99	1,87	0,69	2,13				
0,75	SM80B14/1075 E2	80		4,38-4,27	25	450	2865	5,11	77,4	0,97	2,50	0,40	2,26				
1,1	SM80B14/1115 E2	80		6,26-5,93	30	450	2860	4,78	79,6	0,98	3,67	0,50	2,14				
1.5	PLM90B14/1155 E2	90		8,41-7,87	50	450	2890	6,71	81,3	0,97	4,95	0,59	2,78				

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

1-22sv-motm_2p50-en_e_te

** Operating conditions related only to the motor. For the electric pump refer to the IOM.

e-SVI SERIES

THREE-PHASE MOTORS AT 50 Hz, 2 POLES

P _N kW	Manufacturer	IEC SIZE*	Construction Design	N. of Poles	f _N Hz	Data for 400 V / 50 Hz Voltage				
	Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia					cosφ	I _s / I _N	T _N Nm	Ts/T _N	Tm/T _N
	Model									
0,37	SM71RB14/304/E	71R	V18/B14	2	50	0,64	4,35	1,37	4,14	4,10
0,55	SM71B14/305/E	71				0,71	6,25	1,84	3,96	3,97
0,75	SM80B14/307/E PE	80				0,78	7,38	2,48	3,57	3,75
1,1	SM80B14/311/E PE	80				0,79	8,31	3,63	3,95	3,95
1,5	SM90RB14/315/E PE	90R				0,80	8,80	4,96	4,31	4,10
2,2	PLM90B14/322 E3	90				0,80	8,77	7,28	3,72	3,70
3	PLM100RB14/330 E3	100R				0,79	7,81	9,93	4,26	3,94
4	PLM112RB14S6/340 E3	112R				0,85	9,13	13,2	3,82	4,32
5,5	PLM132RB5/355 E3	132R	V1/B5	2	50	0,85	10,5	18,1	4,74	5,11
7,5	PLM132B5/375 E3	132				0,85	10,2	24,4	3,43	4,76
11	PLM160RB5/3110 E3	160R				0,86	9,89	35,9	3,46	4,59
15	PLM160B5/3150 E3	160				0,88	9,51	48,6	2,73	4,32
18,5	PLM160B5S1/3185 E3	160				0,88	9,81	59,9	2,81	4,53
22	PLM180RB5S1/3220 E3	180R				0,85	10,9	71,1	3,26	5,12

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	240 V	380 V	400 V	415 V	380 V	400 V	415 V	660 V	690 V					
I _N (A)													2745 ÷ 2800 2835 ÷ 2865 2875 ÷ 2895 2870 ÷ 2900 2870 ÷ 2895 2880 ÷ 2900 2865 ÷ 2895 2885 ÷ 2910 2880 ÷ 2910 2920 ÷ 2935 2910 ÷ 2930 2940 ÷ 2950 2940 ÷ 2950 2950 ÷ 2960	≤ 1000	-15 / 40 -15 / 50	No
0,37	2,03	2,18	2,32	1,17	1,26	1,34	-	-	-	-	-					
0,55	2,46	2,49	2,56	1,42	1,44	1,48	-	-	-	-	-					
0,75	2,96	2,94	2,96	1,71	1,70	1,71	1,70	1,69	1,70	0,98	0,98					
1,1	4,19	4,14	4,16	2,42	2,39	2,40	2,41	2,38	2,38	1,39	1,37					
1,5	5,56	5,49	5,51	3,21	3,17	3,18	3,21	3,18	3,19	1,85	1,84					
2,2	7,97	7,90	7,98	4,6	4,56	4,61	4,57	4,54	4,57	2,64	2,62					
3	11,0	11,0	11,2	6,35	6,33	6,44	6,29	6,27	6,34	3,63	3,62					
4	13,6	13,4	13,4	7,87	7,75	7,74	7,80	7,62	7,61	4,50	4,40					
5,5	18,1	17,9	18,1	10,4	10,4	10,4	10,6	10,5	10,7	6,10	6,05					
7,5	24,8	24,4	24,3	14,3	14,1	14,0	14,4	14,1	14,2	8,32	8,16					
11	35,7	35,0	34,9	20,6	20,2	20,2	20,6	20,2	20,2	11,9	11,7					
15	47,6	46,1	45,2	27,5	26,6	26,1	27,5	26,6	26,1	15,9	15,3					
18,5	58,3	56,7	55,6	33,7	32,7	32,1	34,0	33,0	32,7	19,6	19,0					
22	72,9	73,1	73,7	42,1	42,2	42,6	40,9	40,4	40,6	23,6	23,3					

P _N kW	Efficiency η _N %																		IE
	Δ 220 V Y 380 V			Δ 230 V Y 400 V			Δ 240 V Y 415 V			Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V			
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	
0,37	70,4	73,2	68,9	70,4	70,3	64,5	70,4	67,2	60,2	-	-	-	-	-	-	-	-	-	2
0,55	74,1	74,2	70,4	74,1	73,6	68,8	74,1	72,7	67,1	-	-	-	-	-	-	-	-	-	
0,75	82,5	83,1	81,3	82,8	82,7	80,1	82,6	82,0	78,9	82,5	82,0	78,9	82,5	82,0	78,9	82,5	82,0	78,9	
1,1	84,0	84,7	83,4	84,4	84,5	82,5	84,3	84,0	81,4	84,0	84,0	81,4	84,0	84,0	81,4	84,0	84,0	81,4	3
1,5	85,6	86,5	85,8	85,9	86,4	84,9	86,0	86,0	84,0	85,6	86,0	84,0	85,6	86,0	84,0	85,6	86,0	84,0	
2,2	86,5	87,4	86,8	86,4	86,9	85,7	86,6	86,7	85,0	86,4	86,7	85,0	86,4	86,7	85,0	86,4	86,7	85,0	
3	87,2	88,5	88,3	87,5	88,2	87,5	87,5	87,8	86,4	87,2	87,8	86,4	87,2	87,8	86,4	87,2	87,8	86,4	
4	89,1	90,1	89,2	89,1	90,1	89,2	89,1	90,1	89,2	89,1	90,3	90,4	89,6	90,4	89,9	89,6	90,1	89,2	
5,5	89,5	89,6	88,0	89,5	89,6	88,0	89,5	89,6	88,0	89,5	90,3	89,9	89,7	90,0	89,0	89,6	89,6	88,0	
7,5	90,6	90,5	89,0	90,6	90,5	89,0	90,6	90,5	89,0	90,6	91,0	90,2	90,8	90,8	89,6	90,7	90,5	89,0	
11	91,3	92,0	91,1	91,3	92,0	91,1	91,3	92,0	91,1	91,3	92,2	92,2	91,6	92,2	91,7	91,7	92,0	91,1	
15	92,5	92,4	91,2	92,5	92,4	91,2	92,5	92,4	91,2	92,7	93,3	92,9	93,1	93,3	92,7	92,5	92,4	91,2	
18,5	92,6	93,1	92,4	92,6	93,1	92,4	92,6	93,1	92,4	92,6	93,2	93,0	92,9	93,3	92,8	92,9	93,1	92,4	
22	93,0	92,7	91,3	93,0	92,7	91,3	93,0	92,7	91,3	93,0	93,2	92,4	93,1	93,0	91,9	93,0	92,7	91,3	

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

svi-s-IE3-mott-2p50-en_c_te

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

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

P _N kW	Manufacturer	IEC SIZE	Construction Design	N. of Poles	f _N Hz	Data for 400 V / 50 Hz Voltage				
	Model					cosφ	I _s / I _N	T _N Nm	T _s /T _N	T _m /T _N
30	3MAS 200LA2 V1 30 kW E3	200	V1	2	50	0,89	7,80	96,9	2,60	3,10

P _N kW	Voltage U _N V					n _N min ⁻¹	Operating conditions **		
	Δ			Y			Altitude Above Sea Level (m)	T. amb min/max °C	ATEX
	380 V	400 V	415 V	660 V	690 V				
	I _N (A)								
30	55,3	52,2	50,8	31,8	30,3	2965	≤ 1000	-20 / 50	No

P _N kW	Efficiency h _N %									IE
	Δ 380 V Y 660 V			Δ 400 V Y 690 V			Δ 415 V			
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	
	30	93,0	93,1	93,0	93,3	93,5	93,4	93,4	93,6	

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

svi-s-IE3-mott30-2p50-en_c_te

POWER LOSSES THREE-PHASE MOTORS AT 50 Hz, 2 POLES

P _N kW	IEC Size	Phase	Power losses (PL) % P _N (% rated speed; % rated torque)								IE
			25;25	25;100	50;25	50;50	50;100	90;50	90;100		
0,37	63	~3	26,4%	34,6%	28,8%	30,5%	37,3%	35,9%	43,0%	2	
0,55	71		15,3%	26,7%	17,5%	19,8%	29,0%	24,8%	34,2%		
0,75	80		7,8%	17,8%	9,2%	11,3%	19,5%	14,6%	23,4%	3	
1,1	80		6,2%	15,2%	7,5%	9,4%	16,8%	12,5%	20,4%		
1,5	80		5,2%	13,5%	6,3%	8,0%	14,9%	10,5%	18,0%		
3	90		4,4%	12,2%	5,2%	6,8%	13,3%	8,8%	15,8%		
4	100		3,1%	10,3%	3,8%	5,3%	11,1%	6,8%	12,9%		
5,5	112		3,2%	9,3%	4,1%	5,4%	10,4%	7,3%	12,7%		
11	132		2,1%	7,3%	2,6%	3,7%	8,1%	5,0%	9,8%		

SVI_2P50-pl-en_a_te

AVAILABLE VOLTAGES OF MOTORS FOR e-SVI SERIES

P _N kW	SINGLE-PHASE	
	50 Hz	60 Hz
	1 x 220-240	1 x 220-230
0.37	s	s
0.55	s	s
0.75	s	s
1.1	s	s
1.5	s	s
		</

s = Standard voltage, o = Voltage upon request

sv-volt-lowara-en_d_te

Please contact the sales network to check other available voltages.

Tolerances on nominal voltages

• 50 Hz:

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

• 60 Hz:

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

NOISE OF THREE-PHASE 50 Hz, 2 POLES MOTORS

POWER kW	MOTOR TYPE IEC SIZE*	NOISE LpA dB
0.37	71R	<70
0.55	71	<70
0.75	80R	<70
1.1	80	<70
1.5	90R	<70
2.2	90R	<70
3	100R	<70
4	112R	<70
5.5	132R	<70
7.5	132	71
11	160R	73
15	160	71
18.5	160	73
22	180R	70
30	200	72

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

svi_mott-en_f_tr

The tables below show the mean sound pressure levels (Lp) measured at 1 meter distance in a free field according to EN

ISO 11203. The noise values are measured on 50 Hz motors and have a tolerance of 3 dB (A) according to EN ISO 4871.

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

With the **Regulation (EU) N. 547/2012**, the European Commission has established the requirements of ecodesign for some typologies of pumps used for pumping clean water, placed on the market and operated as stand-alone units or as parts of other products.

For vertical multi-stage pumps (MS-V for the Regulations), the requirements refers to:

- just the pump and not the pump and motor assembly (electric or combustion);
- pumps with:
 - a nominal pressure PN not higher than 25 bar (2500 kPa);
 - a speed of 2900 min⁻¹ (for electric pumps this means 50 Hz 2-pole electric motors);
 - a maximum flow of 100 m³/h;
- use with clean water at a temperature ranging from -10°C to 120°C (the test is performed with cold water at a temperature not higher than 40°C).

This regulation states that water pumps shall have index MEI coming from a dedicated formula which considers hydraulic efficiency values at 'best efficiency point' (BEP), 75 % of the flow at BEP (Part load – PL) and 110 % of the flow at BEP (Over load – OL).

The Regulation also establishes the following deadline:

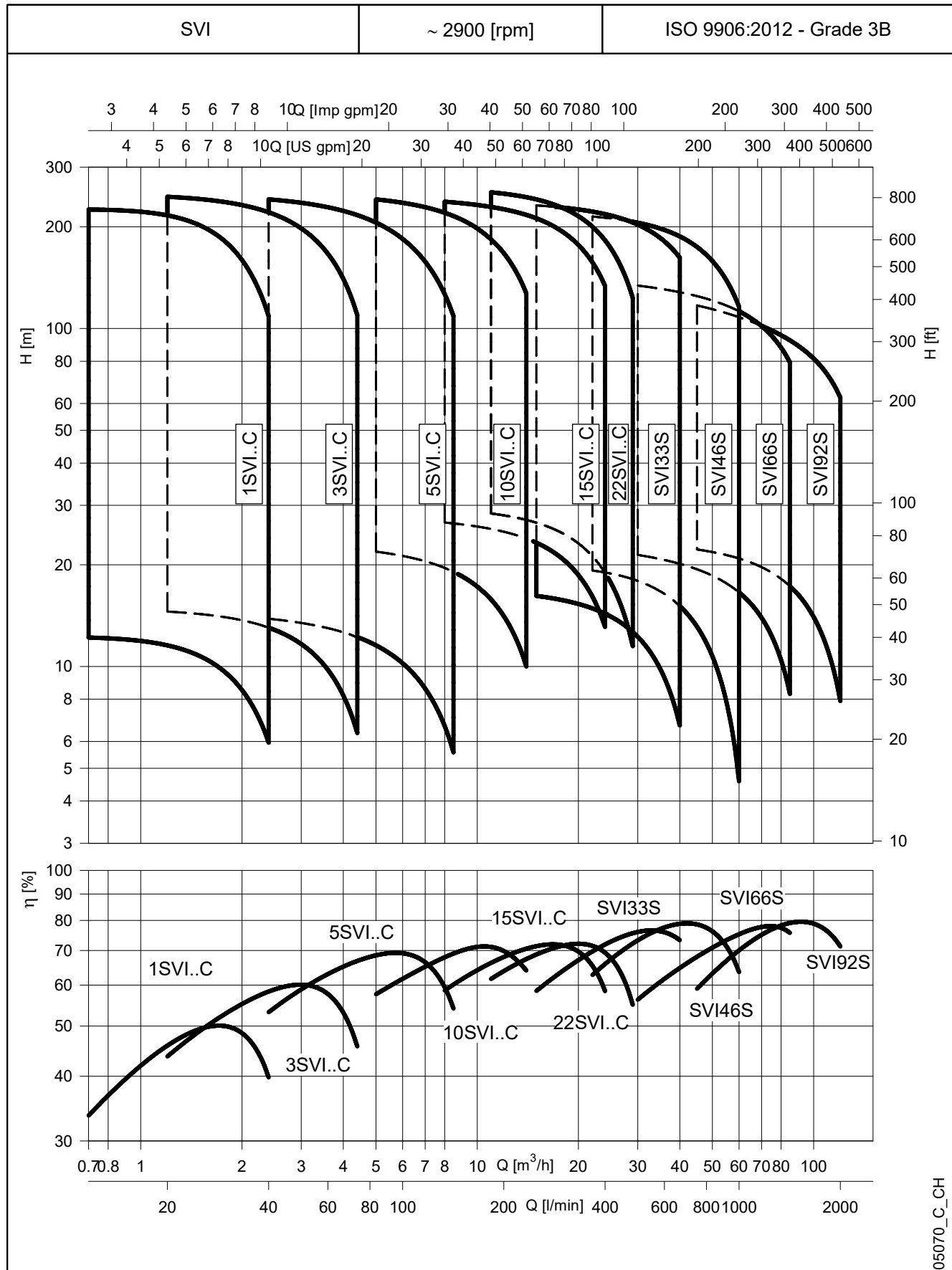
from	minimum efficiency index (MEI)
1 st January 2015	MEI ≥ 0,4

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

- 1) Minimum efficiency index: see the MEI column in the tables in the *Hydraulic performance* section.
- 2) The benchmark for most efficient water pumps is MEI ≥ 0,70.
- 3) Year of manufacture: see date on rating plate (≥ 2021).
- 4) Manufacturer: Xylem Service Italia Srl - Reg. No 07520560967 - Montecchio Maggiore, Vicenza, Italy.
- 5) Product type: see the PUMP TYPE column in the tables in the *Hydraulic performance* section.
- 6) Hydraulic pump efficiency with trimmed impeller: not applicable to these products.
- 7) Pump performance curves, including the performance curve: see the *Operating Characteristics* graphs in the following pages.
- 8) The efficiency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.
- 9) The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
- 10) Information relevant for disassembly, recycling or disposal at end-of-life: observe the current laws and by-laws governing sorted waste disposal. Consult the product operating manual.
- 11) "Designed for use below – 10 °C only": note not applicable to these products.
- 12) "Designed for use above 120 °C only": note not applicable to these products.
- 13) Specific instructions for pumps as per points 11 and 12: not applicable to these products.
- 14) "Information on benchmark efficiency is available at": www.europump.org (Ecodesign section).
- 15) The benchmark efficiency graphs with MEI = 0.7 and MEI = 0.4 are available at www.europump.org, (Ecodesign, Efficiency charts). Refer to "Multistage Vertical 2900 rpm"

e-SVI SERIES

HYDRAULIC PERFORMANCE RANGE AT 50 Hz, 2 POLES



05070_C_CH

1, 3, 5SVI SERIES

TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

PUMP TYPE SVI..C SVI..M	RATED POWER		MEI ≥	Q = DELIVERY													
	kW	HP		l/min 0	12	20	25	30	35	40	45	50	60	73	100	120	141
				m³/h 0	0,7	1,2	1,5	1,8	2,1	2,4	2,7	3,0	3,6	4,4	6,0	7,2	8,5
				H = TOTAL HEAD IN METRES OF COLUMN OF WATER													
1SVI02-02..	0,37	0,5	0,70	12,2	12,2	11,5	10,7	9,5	7,9	6,0							
1SVI03-03..	0,37	0,5	0,70	18,0	18,0	17,0	15,7	13,8	11,4	8,4							
1SVI04-04..	0,37	0,5	0,70	23,7	23,5	22,1	20,4	17,9	14,6	10,6							
1SVI05-05..	0,37	0,5	0,70	29,3	28,9	27,0	24,8	21,6	17,4	12,5							
1SVI06-06..	0,37	0,5	0,70	34,8	34,2	31,7	28,9	25,0	20,0	14,0							
1SVI07-07..	0,37	0,5	0,70	40,2	39,2	36,1	32,7	28,1	22,2	15,2							
1SVI08-08..	0,55	0,75	0,70	48,1	47,9	45,2	41,8	36,8	30,4	22,4							
1SVI09-09..	0,55	0,75	0,70	53,7	53,4	50,4	46,4	40,8	33,5	24,6							
1SVI10-10..	0,55	0,75	0,70	59,4	59,0	55,5	51,0	44,7	36,6	26,6							
1SVI11-11..	0,55	0,75	0,70	65,1	64,5	60,4	55,5	48,5	39,5	28,5							
1SVI12-12..	0,75	1	0,70	73,3	73,1	69,3	64,3	57,1	47,6	35,7							
1SVI13-13..	0,75	1	0,70	79,2	78,9	74,8	69,4	61,6	51,2	38,2							
1SVI15-15..	0,75	1	0,70	90,9	90,5	85,6	79,3	70,1	58,1	43,1							
1SVI17-17..	1,1	1,5	0,70	105,2	104,9	100,0	93,1	82,6	68,6	51,2							
1SVI19-19..	1,1	1,5	0,70	117,0	116,7	111,0	103,2	91,5	75,8	56,3							
1SVI22-22..	1,1	1,5	0,70	134,6	134,1	127,4	118,1	104,4	86,1	63,5							
1SVI25-25..	1,5	2	0,70	152,6	152,4	145,5	135,4	120,0	99,1	72,7							
1SVI27-27..	1,5	2	0,70	164,3	164,0	156,4	145,4	128,8	106,1	77,5							
1SVI30-30..	1,5	2	0,70	181,7	181,3	172,6	160,1	141,2	115,7	83,9							
1SVI32-32..	2,2	3	0,70	197,2	197,1	188,4	175,8	156,5	130,0	96,3							
1SVI34-34..	2,2	3	0,70	209,2	208,9	199,8	186,3	165,5	137,1	101,2							
1SVI37-37..	2,2	3	0,70	225,9	224,9	216,1	201,9	179,3	148,1	108,7							
3SVI02-02..	0,37	0,5	0,70	14,9		14,5	14,3	14,0	13,5	13,0	12,4	11,7	9,8	6,5			
3SVI03-03..	0,37	0,5	0,70	22,0		21,2	20,8	20,3	19,6	18,7	17,7	16,6	13,7	8,6			
3SVI04-04..	0,37	0,5	0,70	28,9		27,7	27,1	26,2	25,2	23,9	22,5	20,8	16,8	10,1			
3SVI05-05..	0,55	0,75	0,70	37,2		36,4	35,8	35,0	33,9	32,6	31,1	29,2	24,5	16,2			
3SVI06-06..	0,55	0,75	0,70	44,4		43,4	42,6	41,6	40,2	38,6	36,6	34,3	28,5	18,5			
3SVI07-07..	0,75	1	0,70	52,5		51,8	51,0	50,0	48,7	47,0	45,0	42,5	36,1	24,6			
3SVI08-08..	0,75	1	0,70	60,0		59,1	58,2	57,0	55,4	53,4	51,0	48,1	40,7	27,5			
3SVI09-09..	1,1	1,5	0,70	67,7		66,8	65,8	64,5	62,8	60,6	57,9	54,6	46,4	31,6			
3SVI10-10..	1,1	1,5	0,70	75,0		73,8	72,7	71,3	69,3	66,9	63,8	60,2	51,0	34,5			
3SVI11-11..	1,1	1,5	0,70	82,3		81,0	79,7	78,0	75,8	73,1	69,7	65,7	55,5	37,4			
3SVI12-12..	1,1	1,5	0,70	89,6		87,8	86,4	84,5	82,1	79,1	75,5	71,1	59,9	40,1			
3SVI13-13..	1,5	2	0,70	98,1		96,7	95,4	93,5	91,0	87,8	83,9	79,2	67,2	45,6			
3SVI14-14..	1,5	2	0,70	105,6		104,1	102,5	100,4	97,7	94,2	89,9	84,8	71,8	48,5			
3SVI16-16..	1,5	2	0,70	119,9		117,8	116,1	113,6	110,5	106,5	101,6	95,8	80,9	54,2			
3SVI19-19..	2,2	3	0,70	144,3		142,3	140,3	137,5	133,9	129,2	123,5	116,7	99,1	67,6			
3SVI21-21..	2,2	3	0,70	159,3		156,9	154,6	151,4	147,3	142,1	135,7	128,0	108,5	73,6			
3SVI23-23..	2,2	3	0,70	174,0		171,1	168,5	165,0	160,4	154,7	147,6	139,2	117,7	79,4			
3SVI25-25..	2,2	3	0,70	188,5		186,1	183,3	179,3	174,1	167,6	159,7	150,3	126,6	84,8			
3SVI27-27..	3	4	0,70	204,4		201,7	198,8	194,7	189,4	182,7	174,4	164,5	139,4	94,4			
3SVI29-29..	3	4	0,70	219,3		216,0	212,8	208,3	202,6	195,3	186,4	175,7	148,6	100,2			
3SVI31-31..	3	4	0,70	233,8		230,3	226,8	222,0	215,7	207,8	198,2	186,7	157,6	106,0			
3SVI33-33..	3	4	0,70	248,5		245,3	241,5	236,2	229,3	220,7	210,2	197,7	166,3	111,2			
5SVI02-02..	0,37	0,5	0,70	14,8						13,8	13,7	13,4	13,0	12,2	10,2	8,2	5,7
5SVI03-03..	0,55	0,75	0,70	22,8						21,8	21,6	21,3	20,7	19,7	16,9	14,1	10,3
5SVI04-04..	0,55	0,75	0,70	30,0						28,2	27,9	27,5	26,6	25,2	21,2	17,3	12,2
5SVI05-05..	0,75	1	0,70	38,0						36,4	36,0	35,5	34,5	32,9	28,2	23,5	17,1
5SVI06-06..	1,1	1,5	0,70	45,3						43,7	43,3	42,8	41,6	39,6	33,9	28,1	20,3
5SVI07-07..	1,1	1,5	0,70	52,7						50,7	50,1	49,5	48,1	45,8	39,1	32,2	23,1
5SVI08-08..	1,1	1,5	0,70	60,1						57,6	57,0	56,2	54,6	51,8	44,1	36,2	25,8
5SVI09-09..	1,5	2	0,70	68,0						65,5	64,8	64,0	62,2	59,3	50,6	41,9	30,2
5SVI10-10..	1,5	2	0,70	75,5						72,4	71,7	70,8	68,7	65,4	55,7	46,0	33,0
5SVI11-11..	1,5	2	0,70	82,8						79,3	78,4	77,5	75,2	71,4	60,7	49,9	35,6
5SVI12-12..	2,2	3	0,70	90,8						88,0	87,0	86,0	83,4	79,3	67,4	55,7	40,5
5SVI13-13..	2,2	3	0,70	98,3						95,0	94,0	92,8	90,0	85,5	72,6	59,9	43,5
5SVI14-14..	2,2	3	0,70	105,7						102,0	100,9	99,6	96,6	91,7	77,8	64,0	46,3
5SVI15-15..	2,2	3	0,70	113,1						109,0	107,8	106,4	103,1	97,8	82,8	68,1	49,1
5SVI16-16..	2,2	3	0,70	120,5						115,9	114,6	113,1	109,6	103,9	87,8	72,1	51,8
5SVI18-18..	3	4	0,70	135,8						131,1	129,7	128,0	124,1	117,8	99,9	82,3	59,5
5SVI21-21..	3	4	0,70	157,9						152,0	150,3	148,3	143,6	136,1	114,9	94,2	67,6
5SVI23-23..	4	5,5	0,70	174,4						168,9	167,2	165,1	160,2	152,3	129,6	107,2	78,2
5SVI25-25..	4	5,5	0,70	189,2						183,1	181,1	178,9	173,5	164,8	140,1	115,7	84,1
5SVI28-28..	4	5,5	0,70	211,5						204,2	201,9	199,4	193,3	183,4	155,5	128,0	92,7
5SVI30-30..	5,5	7,5	0,70	227,0						219,8	217,5	214,8	208,4	198,1	168,5	139,3	101,5
5SVI33-33..	5,5	7,5	0,70	249,2						241,0	238,4	235,5	228,4	216,9	184,2	151,9	110,3

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

1-5svi-c-2p50-en_b_th

10, 15, 22SVI SERIES

TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

PUMP TYPE SVI..C SVI..M	RATED POWER		MEI ≥	Q = DELIVERY													
				l/min 0	83,34	100	133	170	183,3	233	270	330	350	400	430	460	483,3
				m³/h 0	5,0	6,0	8,0	10,2	11,0	14,0	16,2	19,8	21,0	24,0	25,8	27,6	29,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER																	
10SVI02-02..	0,75	1	0,70	23,6	21,9	21,3	19,6	17,0	15,8	10,0							
10SVI03-03..	1,1	1,5	0,70	35,7	33,0	32,1	29,6	25,8	24,1	16,0							
10SVI04-04..	1,5	2	0,70	47,7	44,2	43,0	39,9	34,8	32,6	21,7							
10SVI05-05..	2,2	3	0,70	60,0	56,1	54,7	50,9	44,9	42,2	29,0							
10SVI06-06..	2,2	3	0,70	71,8	66,8	65,0	60,4	53,1	49,8	33,9							
10SVI07-07..	3	4	0,70	83,6	78,3	76,2	70,8	62,1	58,3	39,8							
10SVI08-08..	3	4	0,70	95,3	88,9	86,5	80,1	70,2	65,7	44,5							
10SVI09-09..	4	5,5	0,70	106,3	100,1	97,5	90,8	80,0	75,1	52,1							
10SVI10-10..	4	5,5	0,70	118,0	110,8	107,9	100,3	88,2	82,8	57,2							
10SVI11-11..	4	5,5	0,70	129,6	121,3	118,1	109,6	96,3	90,3	62,1							
10SVI13-13..	5,5	7,5	0,70	156,0	146,5	142,7	132,6	116,4	109,2	74,3							
10SVI15-15..	5,5	7,5	0,70	179,5	167,9	163,4	151,6	132,8	124,3	83,9							
10SVI17-17..	7,5	10	0,70	205,0	193,2	188,5	175,7	154,7	145,2	98,8							
10SVI18-18..	7,5	10	0,70	216,9	204,2	199,1	185,5	163,2	153,1	104,0							
10SVI20-20..	7,5	10	0,70	240,6	226,0	220,3	205,0	180,2	168,9	114,3							
10SVI21-21..	11	15	0,70	253,6	241,0	235,5	220,2	195,0	183,5	127,5							
15SVI02-02..	2,2	3	0,70	28,7			26,7	25,9	25,5	23,9	22,4	18,9	17,4	13,1			
15SVI03-03..	3	4	0,70	43,3			40,4	39,1	38,6	36,2	33,8	28,7	26,5	20,1			
15SVI04-04..	4	5,5	0,70	58,4			54,7	53,1	52,5	49,4	46,3	39,7	36,9	28,7			
15SVI05-05..	4	5,5	0,70	72,7			67,8	65,8	65,0	61,0	57,1	48,7	45,2	34,9			
15SVI06-06..	5,5	7,5	0,70	87,6			81,5	79,4	78,4	74,1	69,9	60,3	56,3	44,2			
15SVI07-07..	5,5	7,5	0,70	101,9			94,5	91,9	90,8	85,7	80,6	69,4	64,7	50,5			
15SVI08-08..	7,5	10	0,70	117,4			110,9	108,0	106,8	100,8	94,9	82,0	76,7	60,6			
15SVI09-09..	7,5	10	0,70	131,9			124,4	121,0	119,6	112,8	106,1	91,5	85,5	67,4			
15SVI10-10..	11	15	0,70	147,7			138,8	135,3	133,8	126,7	119,6	103,9	97,4	77,5			
15SVI11-11..	11	15	0,70	162,3			152,4	148,5	146,8	138,9	131,1	113,8	106,5	84,7			
15SVI13-13..	11	15	0,70	191,3			179,2	174,5	172,5	163,1	153,7	133,1	124,5	98,6			
15SVI15-15..	15	20	0,70	222,1			209,9	204,8	202,6	192,2	181,7	158,3	148,5	118,8			
15SVI17-17..	15	20	0,70	251,6			237,3	231,4	228,9	216,9	205,0	178,4	167,3	133,6			
22SVI02-02..	2,2	3	0,70	30,4					28,4	27,2	26,0	23,3	22,2	18,9	16,6	13,8	11,5
22SVI03-03..	3	4	0,70	45,4					42,2	40,4	38,5	34,5	32,8	27,8	24,2	20,2	16,6
22SVI04-04..	4	5,5	0,70	60,9					56,8	54,4	51,9	46,6	44,4	37,9	33,1	27,7	23,0
22SVI05-05..	5,5	7,5	0,70	76,0					70,9	67,9	64,9	58,3	55,6	47,4	41,4	34,7	28,8
22SVI06-06..	7,5	10	0,70	93,2					88,8	85,7	82,5	75,4	72,4	63,3	56,7	49,1	42,6
22SVI07-07..	7,5	10	0,70	108,5					103,1	99,4	95,7	87,2	83,7	73,1	65,3	56,5	48,8
22SVI08-08..	11	15	0,70	124,6					119,2	115,2	111,0	101,6	97,7	85,7	77,0	66,9	58,2
22SVI09-09..	11	15	0,70	140,1					133,7	129,2	124,4	113,8	109,3	95,8	86,0	74,6	64,8
22SVI10-10..	11	15	0,70	155,4					148,2	143,1	137,8	125,9	120,9	105,8	94,8	82,3	71,3
22SVI12-12..	15	20	0,70	186,1					178,6	172,9	166,8	152,9	147,0	129,1	115,9	100,7	87,4
22SVI14-14..	15	20	0,70	216,6					207,7	200,9	193,7	177,4	170,4	149,4	133,9	116,1	100,6
22SVI17-17..	18,5	25	0,70	263,5					252,8	244,7	236,0	216,2	207,8	182,3	163,6	142,0	123,2

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

10-22siv-2p50-en_b_th

SVI33, 46 SERIES

TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

PUMP TYPE SVI..S SVI..N	RATED POWER		MEI ≥	Q = DELIVERY											
				l/min 0	250	300	366,7	400	500	600	666,7	700	800	900	1000
				m³/h 0	15	18	22	24	30	36	40	42	48	54	60
H = TOTAL HEAD METRES COLUMN OF WATER															
SVI 3301/1..	2,2	3	0,70	17,4	16,2	15,7	14,9	14,3	12,2	9,3	6,7				
SVI 3301..	3	4	0,70	23,8	21,7	21,2	20,3	19,8	17,8	15,0	12,7				
SVI 3302/2..	4	5,5	0,70	35,1	34,1	33,3	31,8	30,8	26,9	21,4	16,6				
SVI 3302/1..	4	5,5	0,70	40,8	38,8	37,9	36,3	35,4	31,7	26,6	22,3				
SVI 3303/2..	5,5	7,5	0,70	57,7	55,2	53,8	51,4	49,9	44,1	36,2	29,6				
SVI 3303..	7,5	10	0,70	71,5	67,4	66,2	64,0	62,7	57,7	50,7	44,6				
SVI 3304..	11	15	0,70	95,9	91,1	89,7	87,2	85,7	79,6	70,8	63,1				
SVI 3305/1..	11	15	0,70	112,7	107,2	105,3	101,9	99,8	91,7	80,0	70,0				
SVI 3306/2..	15	20	0,70	131,2	126,9	124,6	120,3	117,7	107,5	93,2	81,2				
SVI 3307/2..	15	20	0,70	156,0	149,9	147,3	142,7	139,8	128,4	112,2	98,2				
SVI 3307..	18,5	25	0,70	170,3	162,8	160,2	155,7	153,0	142,2	126,7	113,2				
SVI 3308/1..	18,5	25	0,70	187,4	179,5	176,5	171,3	168,1	155,5	137,4	121,7				
SVI 3309/1..	22	30	0,70	210,2	201,2	197,8	191,8	188,2	173,8	153,4	135,9				
SVI 3310/2..	22	30	0,70	226,4	217,2	213,4	206,8	202,6	186,4	163,5	143,9				
SVI 3310..	30	40	0,70	241,8	231,3	227,8	221,7	217,9	202,9	181,1	162,1				
SVI 4601/1..	3	4	0,70	19,5			19,2	19,0	17,9	16,4	15,1	14,4	11,7	8,5	4,6
SVI 4601..	4	5,5	0,70	27,2			24,0	23,7	22,5	21,1	19,9	19,3	17,1	14,3	10,8
SVI 4602/2..	5,5	7,5	0,70	38,8			39,8	39,4	37,8	35,2	32,9	31,6	26,9	21,1	13,9
SVI 4602..	7,5	10	0,70	52,6			48,5	48,0	46,1	43,7	41,7	40,6	36,5	31,4	25,1
SVI 4603..	11	15	0,70	80,8			74,3	73,5	70,9	67,4	64,6	62,9	57,1	49,8	40,7
SVI 4604/2..	15	20	0,70	92,4			90,7	89,9	86,9	82,5	78,6	76,3	68,3	58,2	45,6
SVI 4605..	18,5	25	0,70	134,5			125,1	124,0	120,0	114,7	110,2	107,6	98,3	86,4	71,5
SVI 4606..	22	30	0,70	161,0			149,8	148,5	143,8	137,4	132,0	128,9	117,8	103,7	86,0
SVI 4607/2..	30	40	0,70	171,3			164,9	163,6	158,3	150,8	144,3	140,6	127,1	109,9	88,6
SVI 4608/2..	30	40	0,70	198,2			190,0	188,4	182,4	173,8	166,4	162,2	146,9	127,3	103,1
SVI 4609/2..	30	40	0,70	224,8			214,5	212,6	205,6	195,7	187,3	182,5	165,2	143,2	116,0

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

svi33-46-2p50-en_d_th

SVI66, 92 SERIES

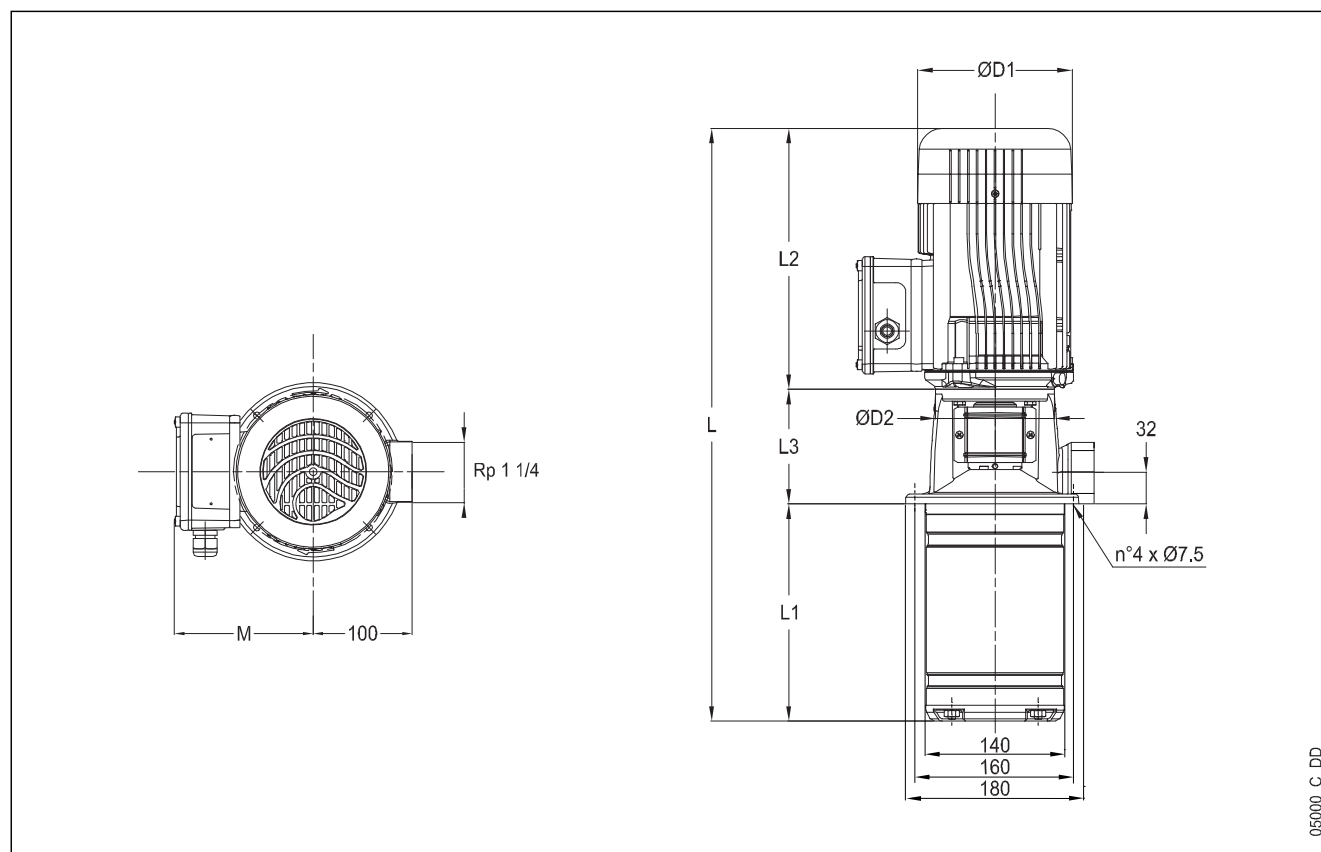
TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

PUMP TYPE SVI..S SVI..N	RATED POWER		MEI ≥	Q = DELIVERY												
				l/min 0	500	600	750	900	1000	1100	1200	1416,7	1600	1800	2000	
				m³/h 0	30	36	45	54	60	66	72	85	96	108	120	
H = TOTAL HEAD METRES COLUMN OF WATER																
SVI 6601/1..	4	5,5	0,60	23,8	21,4	20,7	19,4	17,8	16,6	15,1	13,3	8,3				
SVI 6601..	5,5	7,5	0,60	29,2	25,8	24,8	23,3	21,8	20,7	19,4	17,9	13,4				
SVI 6602/2..	7,5	10	0,60	47,5	42,6	41,2	38,6	35,5	32,9	30,0	26,4	16,4				
SVI 6602..	11	15	0,60	60,4	55,7	54,4	52,0	49,3	47,1	44,7	42,0	34,6				
SVI 6603/2..	15	20	0,60	78,4	71,6	69,6	65,9	61,5	57,9	53,8	49,0	35,3				
SVI 6603..	18,5	25	0,60	91,4	84,7	82,7	79,3	75,2	72,0	68,5	64,4	53,5				
SVI 6604/1..	22	30	0,60	115,2	105,9	103,1	98,5	92,9	88,6	83,6	77,8	61,7				
SVI 6605/1..	30	40	0,60	145,6	134,0	130,5	124,7	117,8	112,4	106,3	99,2	79,4				
SVI 9201/1..	5,5	7,5	0,70	24,5			22,2	21,5	20,9	20,2	19,4	17,3	15,0	11,8	7,9	
SVI 9201..	7,5	10	0,70	33,5			28,7	27,2	26,2	25,3	24,3	22,2	20,2	17,6	14,3	
SVI 9202/2..	11	15	0,70	49,4			45,1	43,7	42,5	41,2	39,6	35,5	30,9	24,6	16,8	
SVI 9202..	15	20	0,70	67,8			58,2	55,3	53,4	51,4	49,5	45,3	41,4	36,3	29,6	
SVI 9203/2..	18,5	25	0,70	82,4			74,4	71,6	69,6	67,3	64,8	58,6	52,2	43,6	32,9	
SVI 9203..	22	30	0,70	102,2			88,2	84,0	81,2	78,4	75,5	69,2	63,4	55,9	46,3	
SVI 9204/2..	30	40	0,70	115,7			104,0	99,9	97,0	93,8	90,4	82,2	73,8	62,8	49,0	
SVI 9204..	30	40	0,70	133,1			117,0	111,7	108,0	104,4	100,6	92,3	84,6	74,8	62,5	

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

svi66-92-2p50-en_e_th

1SVI..C - 1SVI..M SERIES (from 2 to 15 stages) DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

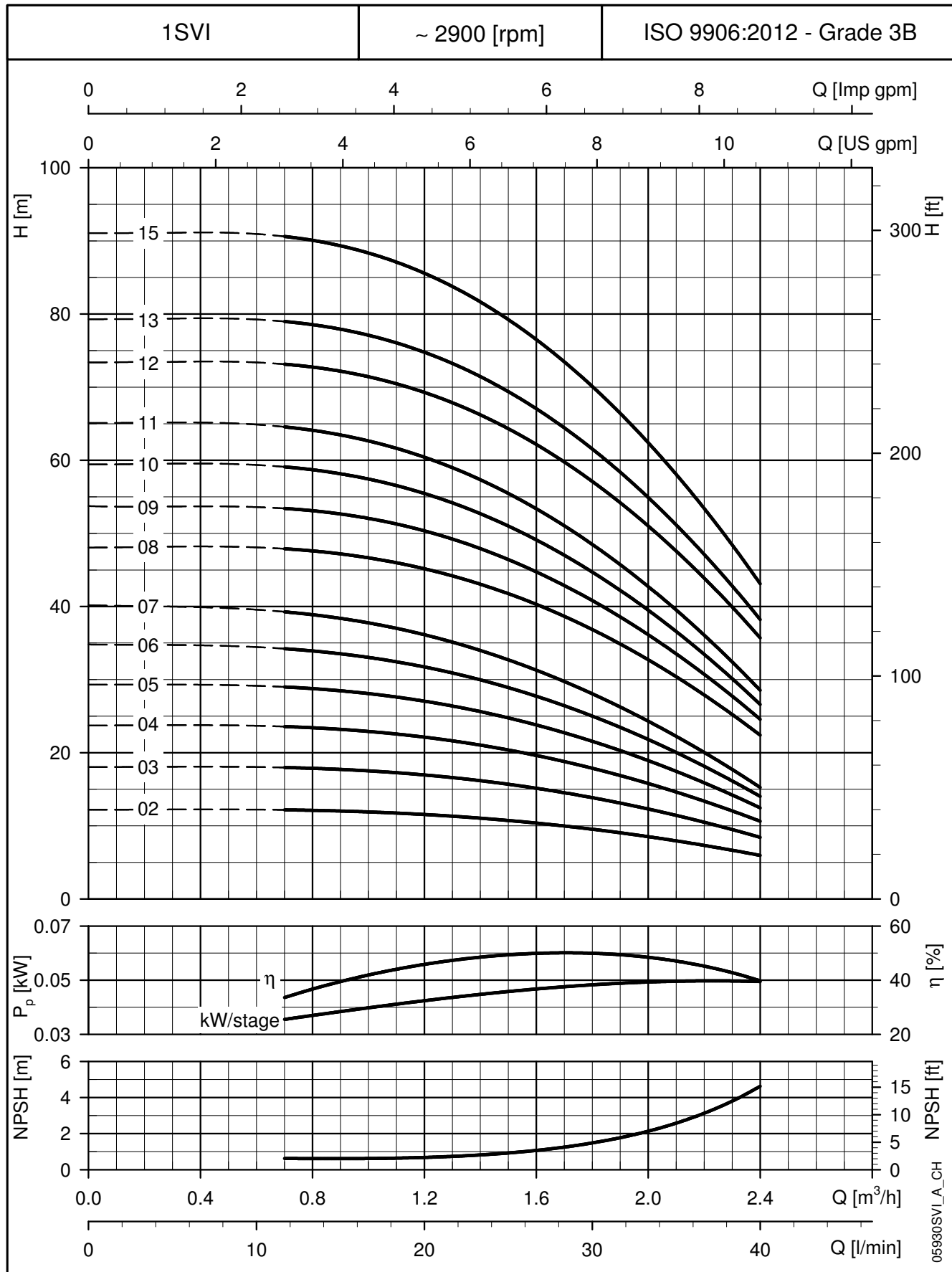


PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT (kg)		
			L		L1	L2		L3	M		D1		D2	PUMP	ELECTRIC PUMP	
	kW	SIZE	1~	3~		1~	3~			1~	3~				1~	3~
1SVI02-02..003	0,37	71	434	434	119	209	209	106	111	122	120	120	105	6,3	11,8	11,6
1SVI03-03..003	0,37	71	454	454	139	209	209	106	111	122	120	120	105	6,7	12,2	12,0
1SVI04-04..003	0,37	71	474	474	159	209	209	106	111	122	120	120	105	7,1	12,6	12,4
1SVI05-05..003	0,37	71	494	494	179	209	209	106	111	122	120	120	105	7,5	13,0	12,8
1SVI06-06..003	0,37	71	514	514	199	209	209	106	111	122	120	120	105	7,8	13,3	13,1
1SVI07-07..003	0,37	71	534	534	219	209	209	106	111	122	120	120	105	8,2	13,7	13,5
1SVI08-08..005	0,55	71	576	576	239	231	231	106	121	132	140	140	105	8,6	16,1	15,9
1SVI09-09..005	0,55	71	596	596	259	231	231	106	121	132	140	140	105	9,0	16,5	16,3
1SVI10-10..005	0,55	71	616	616	279	231	231	106	121	132	140	140	105	9,4	16,9	16,7
1SVI11-11..005	0,55	71	636	636	299	231	231	106	121	132	140	140	105	9,8	17,3	17,1
1SVI12-12..007	0,75	80	698	698	319	263	263	116	137	140	155	155	120	10,6	20,4	20,7
1SVI13-13..007	0,75	80	718	718	339	263	263	116	137	140	155	155	120	11,0	20,8	21,1
1SVI15-15..007	0,75	80	758	758	379	263	263	116	137	140	155	155	120	11,8	21,6	21,9

All listed dimensions are with inducer.
e.g. 1SVI10-10 has 10 stages with impeller and 1 inducer chamber.

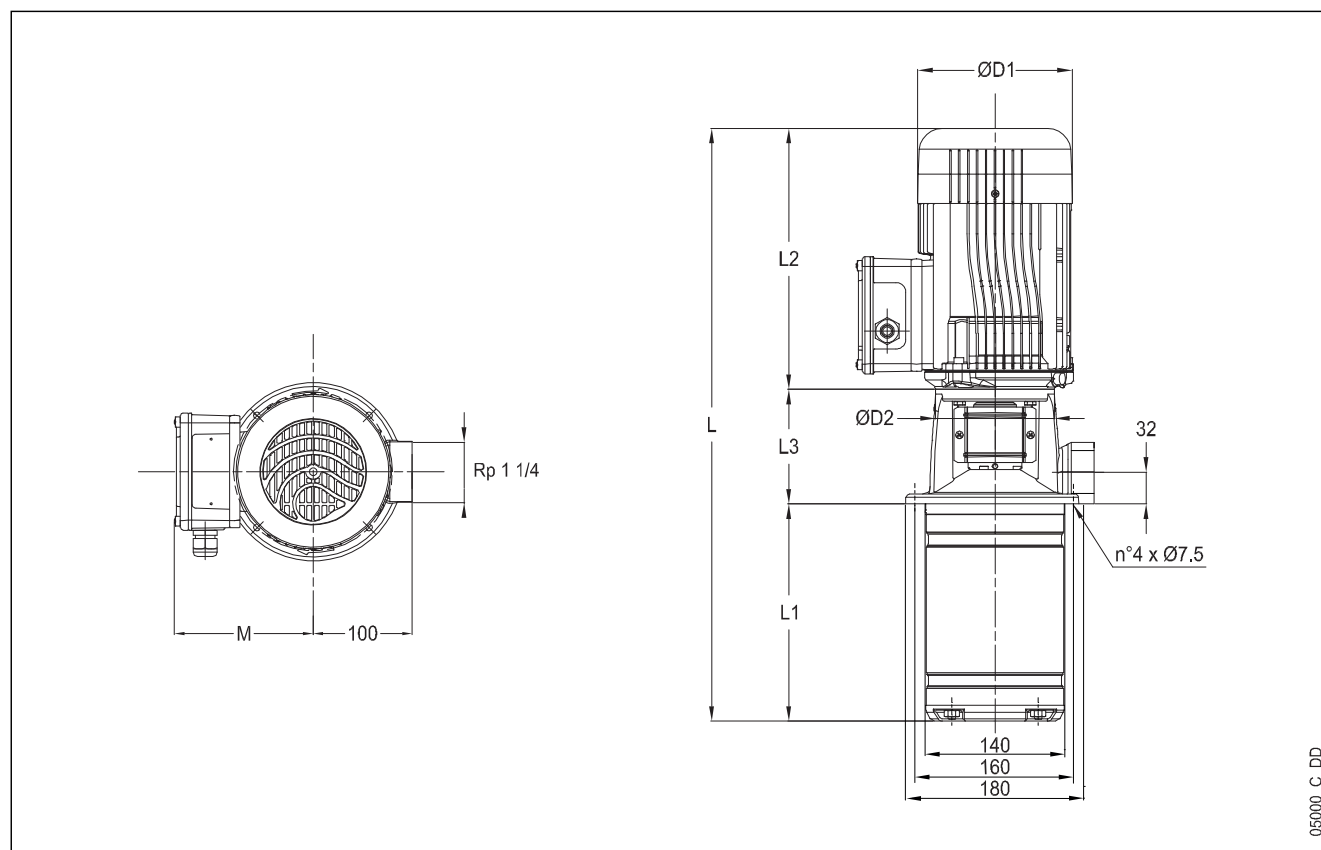
1svi_c-2p50-1-en_b_td

1SVI..C - 1SVI..M SERIES (from 2 to 15 stages) **OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVI..C - 1SVI..M SERIES (from 17 to 37 stages) DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



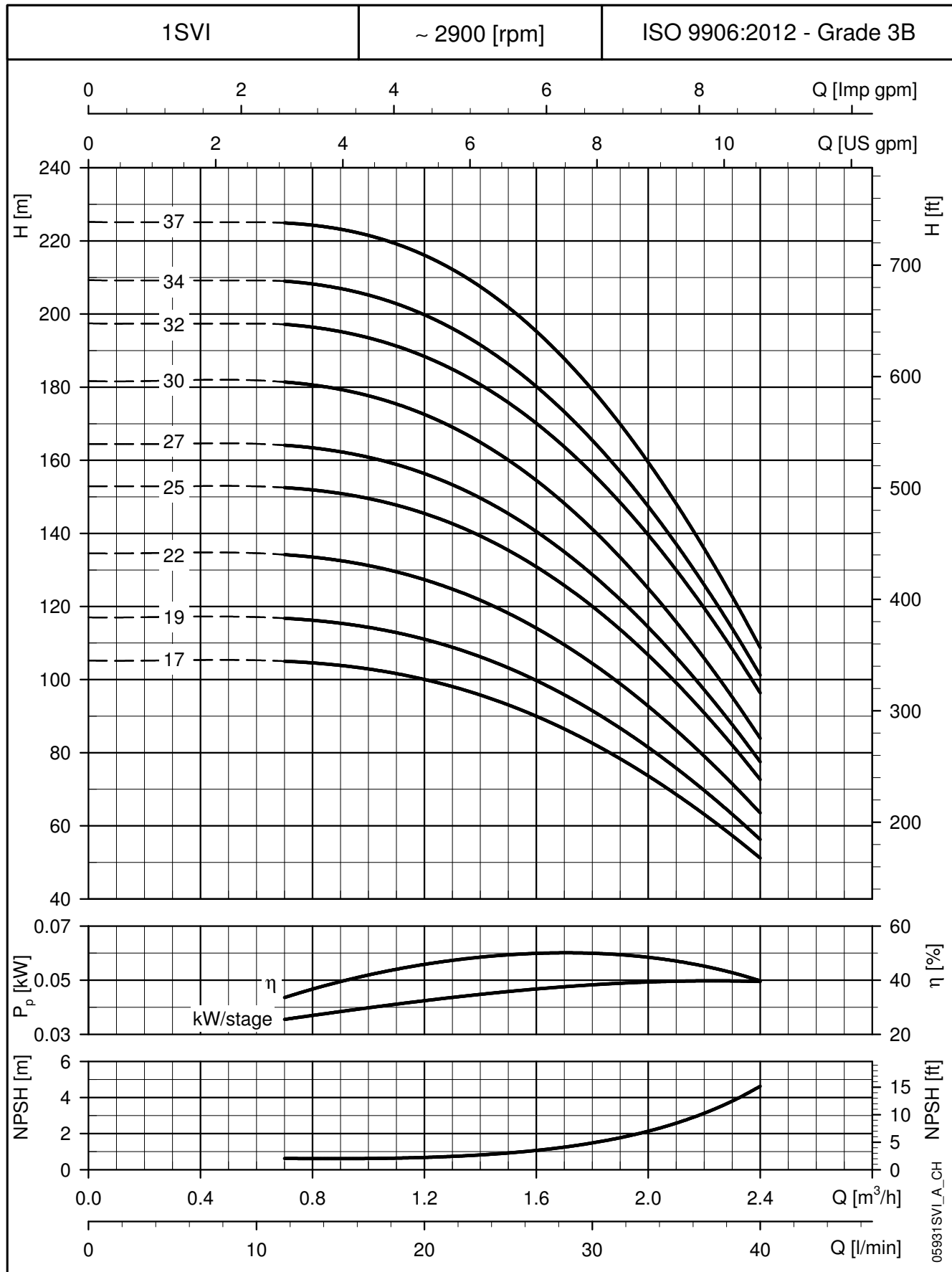
PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT (kg)		
			L		L1	L2		L3	M		D1		D2	PUMP	ELECTRIC PUMP	
	kW	SIZE	1~	3~		1~	3~		1~	3~	1~	3~			1~	3~
1SVI17-17..011	1,1	80	798	798	419	263	263	116	137	140	155	155	120	12,5	24,0	22,6
1SVI19-19..011	1,1	80	838	838	459	263	263	116	137	140	155	155	120	13,3	24,8	23,4
1SVI22-22..011	1,1	80	898	898	519	263	263	116	137	140	155	155	120	14,5	26,0	24,6
1SVI25-25..015	1,5	90	1003	968	579	298	263	126	159	140	174	155	140	16,0	41,0	27,9
1SVI27-27..015	1,5	90	1043	1008	619	298	263	126	159	140	174	155	140	16,8	41,8	28,7
1SVI30-30..015	1,5	90	1103	1068	679	298	263	126	159	140	174	155	140	17,9	42,9	29,8
1SVI32-32..022	2,2	90	-	1143	719	-	298	126	-	134	-	174	140	18,7	-	36,7
1SVI34-34..022	2,2	90	-	1183	759	-	298	126	-	134	-	174	140	19,5	-	37,5
1SVI37-37..022	2,2	90	-	1243	819	-	298	126	-	134	-	174	140	20,6	-	38,6

All listed dimensions are with inducer.

e.g. 1SVI37-37 has 37 stages with impeller and 1 inducer chamber.

1svi_c-2p50-2-en_b_td

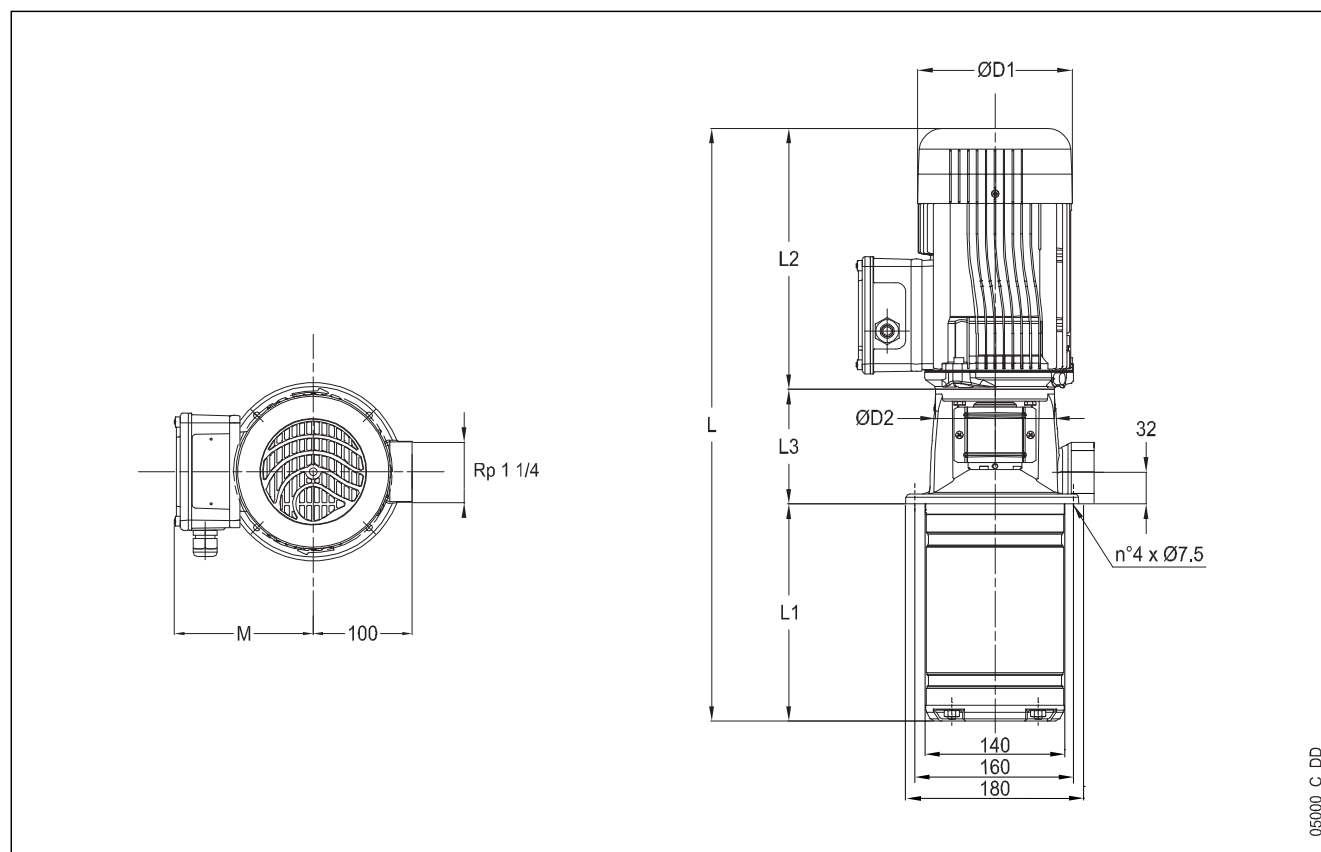
1SVI..C - 1SVI..M SERIES (from 17 to 37 stages) **OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVI..C - 3SVI..M SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



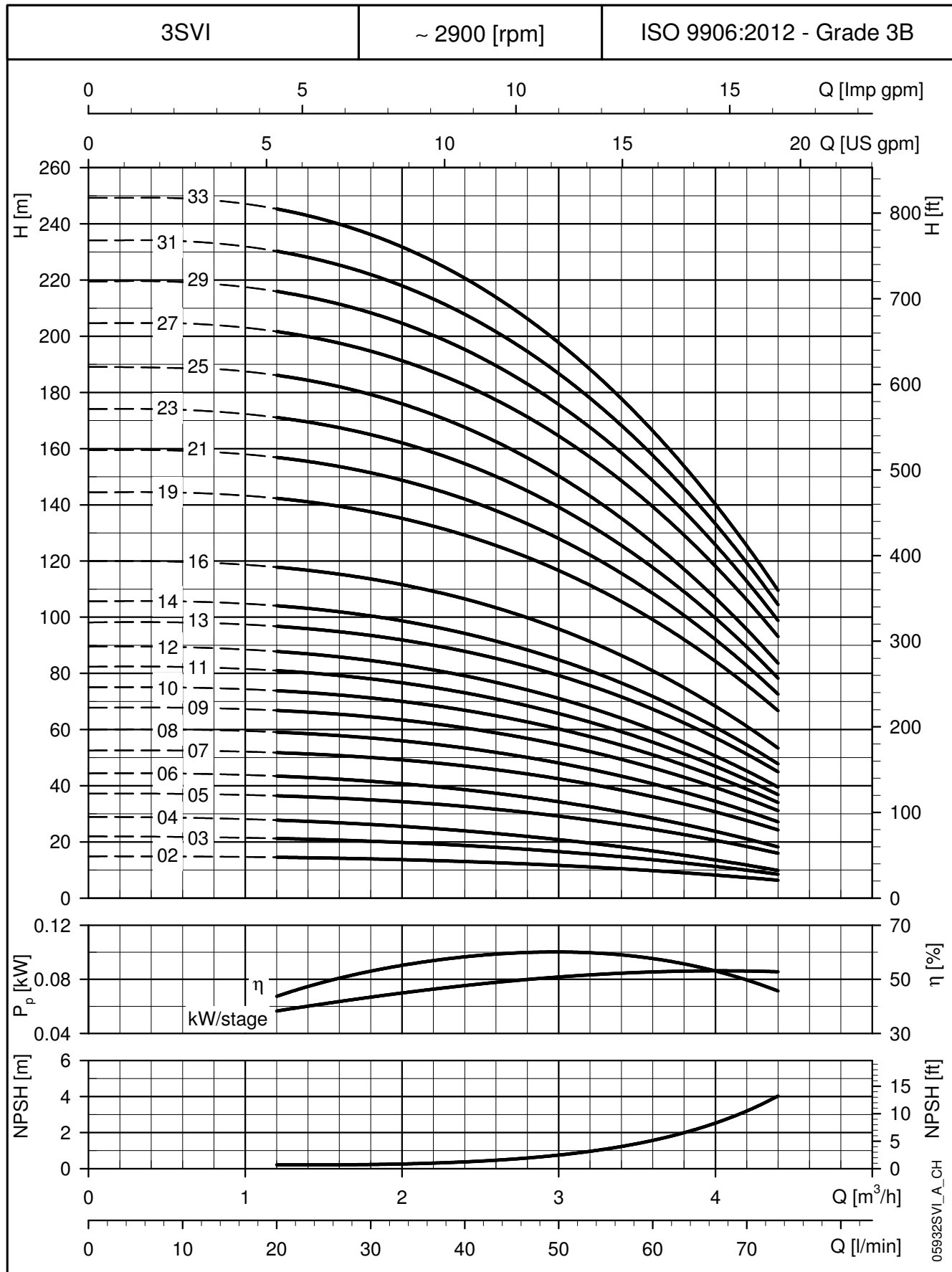
PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT (kg)		
			L		L1	L2		L3	M		D1		D2	PUMP	ELECTRIC PUMP	
	kW	SIZE	1~	3~		1~	3~			1~	3~	1~	3~		1~	3~
3SVI02-02..003	0,37	71	434	434	119	209	209	106	111	122	120	120	105	6,3	11,8	11,6
3SVI03-03..003	0,37	71	454	454	139	209	209	106	111	122	120	120	105	6,7	12,2	12,0
3SVI04-04..003	0,37	71	474	474	159	209	209	106	111	122	120	120	105	7,1	12,6	12,4
3SVI05-05..005	0,55	71	516	516	179	231	231	106	121	132	140	140	105	7,5	15,0	14,8
3SVI06-06..005	0,55	71	536	536	199	231	231	106	121	132	140	140	105	7,9	15,4	15,2
3SVI07-07..007	0,75	80	598	598	219	263	263	116	137	140	155	155	120	8,7	18,5	18,8
3SVI08-08..007	0,75	80	618	618	239	263	263	116	137	140	155	155	120	9,1	18,9	19,2
3SVI09-09..011	1,1	80	638	638	259	263	263	116	137	140	155	155	120	9,5	21,0	19,6
3SVI10-10..011	1,1	80	658	658	279	263	263	116	137	140	155	155	120	9,9	21,4	20,0
3SVI11-11..011	1,1	80	678	678	299	263	263	116	137	140	155	155	120	10,3	21,8	20,4
3SVI12-12..011	1,1	80	698	698	319	263	263	116	137	140	155	155	120	10,7	22,2	20,8
3SVI13-13..015	1,5	90	763	728	339	298	263	126	159	140	174	155	140	11,5	36,5	23,4
3SVI14-14..015	1,5	90	783	748	359	298	263	126	159	140	174	155	140	11,9	36,9	23,8
3SVI16-16..015	1,5	90	823	788	399	298	263	126	159	140	174	155	140	12,7	37,7	24,6
3SVI19-19..022	2,2	90	-	883	459	-	298	126	-	134	-	174	140	13,9	-	31,9
3SVI21-21..022	2,2	90	-	923	499	-	298	126	-	134	-	174	140	14,7	-	32,7
3SVI23-23..022	2,2	90	-	963	539	-	298	126	-	134	-	174	140	15,5	-	33,5
3SVI25-25..022	2,2	90	-	1003	579	-	298	126	-	134	-	174	140	16,3	-	34,3
3SVI27-27..030	3	100	-	1053	619	-	298	136	-	134	-	174	160	17,7	-	38,7
3SVI29-29..030	3	100	-	1093	659	-	298	136	-	134	-	174	160	18,5	-	39,5
3SVI31-31..030	3	100	-	1133	699	-	298	136	-	134	-	174	160	19,3	-	40,3
3SVI33-33..030	3	100	-	1173	739	-	298	136	-	134	-	174	160	20,1	-	41,1

All listed dimensions are with inducer.
e.g. 3SVI33-33 has 33 stages with impeller and 1 inducer chamber.

3svi_c-2p50-en_b_td

3SVI..C - 3SVI..M SERIES

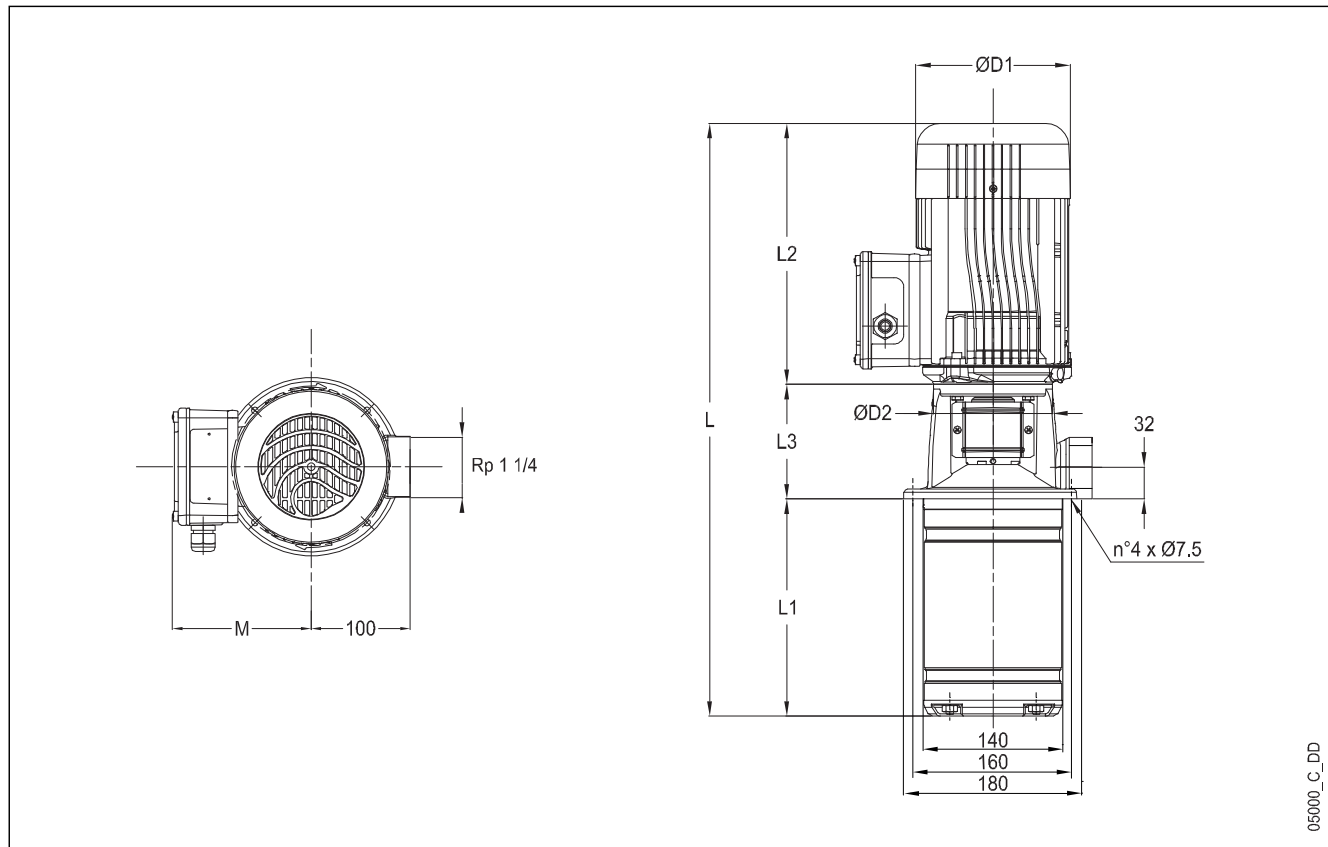
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVI..C - 5SVI..M SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



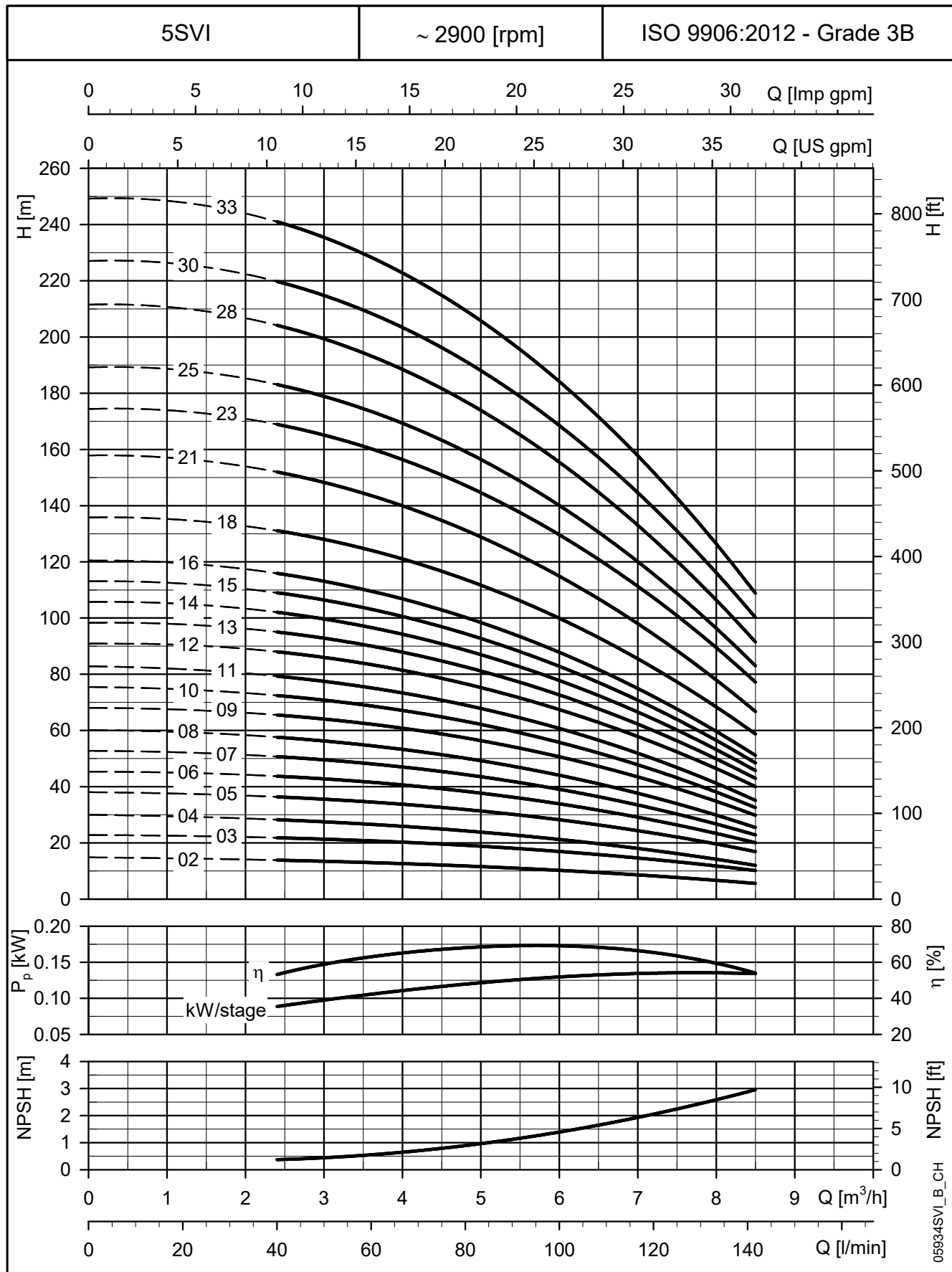
PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT (kg)		
	kW	SIZE	L		L1	L2		L3	M		D1		D2	PUMP	ELECTRIC PUMP	
			1~	3~		1~	3~		1~	3~	1~	3~			1~	3~
5SVI02-02..003	0,37	71	449	449	134	209	209	106	111	122	120	120	105	6,7	12,2	12,0
5SVI03-03..005	0,55	71	496	496	159	231	231	106	121	132	140	140	105	7,1	14,6	14,4
5SVI04-04..005	0,55	71	521	521	184	231	231	106	121	132	140	140	105	7,5	15,0	14,8
5SVI05-05..007	0,75	80	588	588	209	263	263	116	137	140	155	155	120	8,4	18,2	18,5
5SVI06-06..011	1,1	80	613	613	234	263	263	116	137	140	155	155	120	8,9	20,4	19,0
5SVI07-07..011	1,1	80	638	638	259	263	263	116	137	140	155	155	120	9,3	20,8	19,4
5SVI08-08..011	1,1	80	663	663	284	263	263	116	137	140	155	155	120	9,7	21,2	19,8
5SVI09-09..015	1,5	90	733	698	309	298	263	126	159	140	174	155	140	10,6	35,6	22,5
5SVI10-10..015	1,5	90	758	723	334	298	263	126	159	140	174	155	140	11,0	36,0	22,9
5SVI11-11..015	1,5	90	783	748	359	298	263	126	159	140	174	155	140	11,4	36,4	23,3
5SVI12-12..022	2,2	90	-	808	384	-	298	126	-	134	-	174	140	11,9	-	29,9
5SVI13-13..022	2,2	90	-	833	409	-	298	126	-	134	-	174	140	12,3	-	30,3
5SVI14-14..022	2,2	90	-	858	434	-	298	126	-	134	-	174	140	12,8	-	30,8
5SVI15-15..022	2,2	90	-	883	459	-	298	126	-	134	-	174	140	13,2	-	31,2
5SVI16-16..022	2,2	90	-	908	484	-	298	126	-	134	-	174	140	13,6	-	31,6
5SVI18-18..030	3	100	-	968	534	-	298	136	-	134	-	174	160	15,1	-	36,1
5SVI21-21..030	3	100	-	1043	609	-	298	136	-	134	-	174	160	16,5	-	37,5
5SVI23-23..040	4	112	-	1114	659	-	319	136	-	154	-	197	160	17,4	-	43,8
5SVI25-25..040	4	112	-	1164	709	-	319	136	-	154	-	197	160	18,2	-	44,6
5SVI28-28..040	4	112	-	1239	784	-	319	136	-	154	-	197	160	19,6	-	46,0
5SVI30-30..055	5,5	132	-	1365	834	-	375	156	-	168	-	214	300	24,4	-	62,0
5SVI33-33..055	5,5	132	-	1440	909	-	375	156	-	168	-	214	300	25,8	-	63,4

All listed dimensions are with inducer.

e.g. 5SVI33-33 has 33 stages with impeller and 1 inducer chamber.

5svi_c-2p50-en_b_td

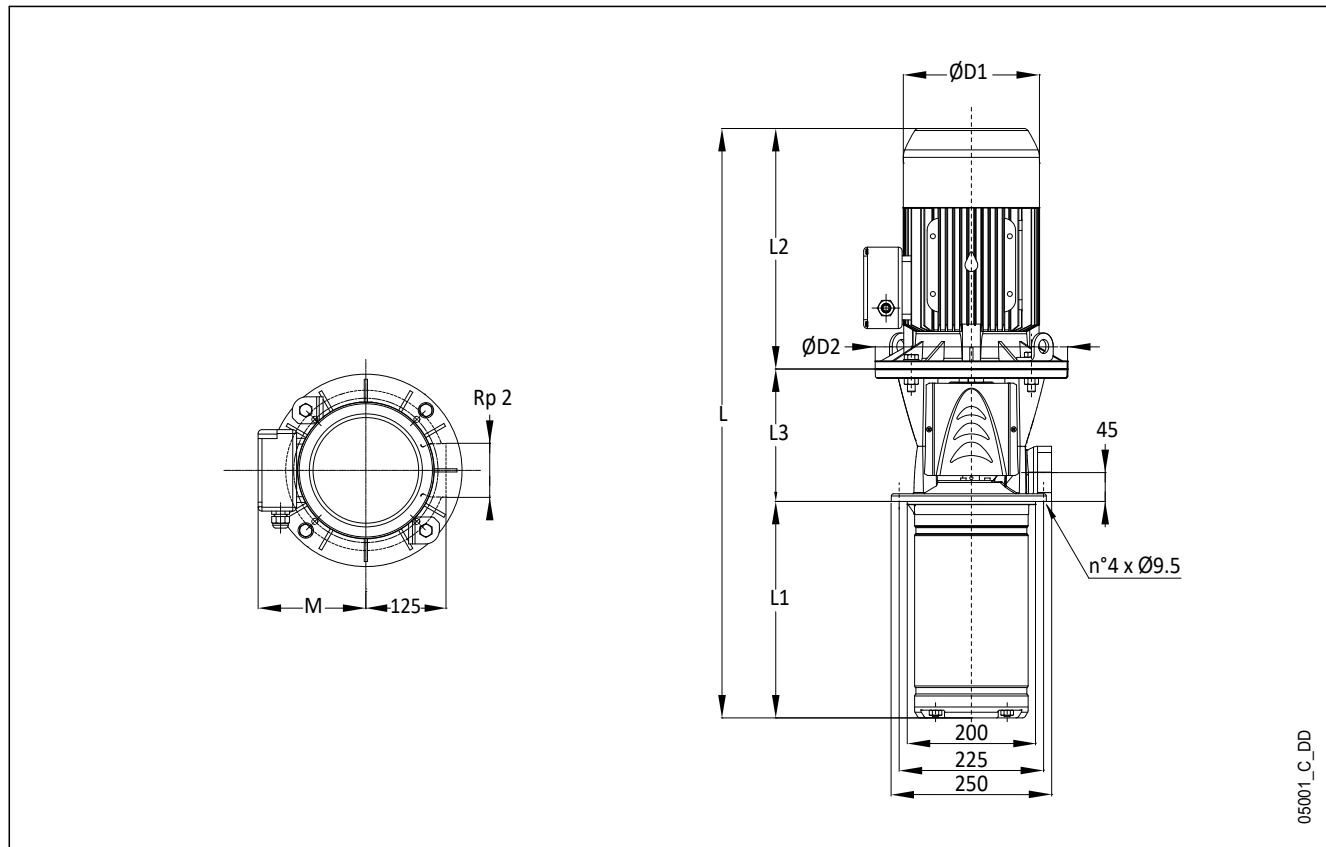
5SVI..C - 5SVI..M SERIES OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

10SVI..C - 10SVI..M SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



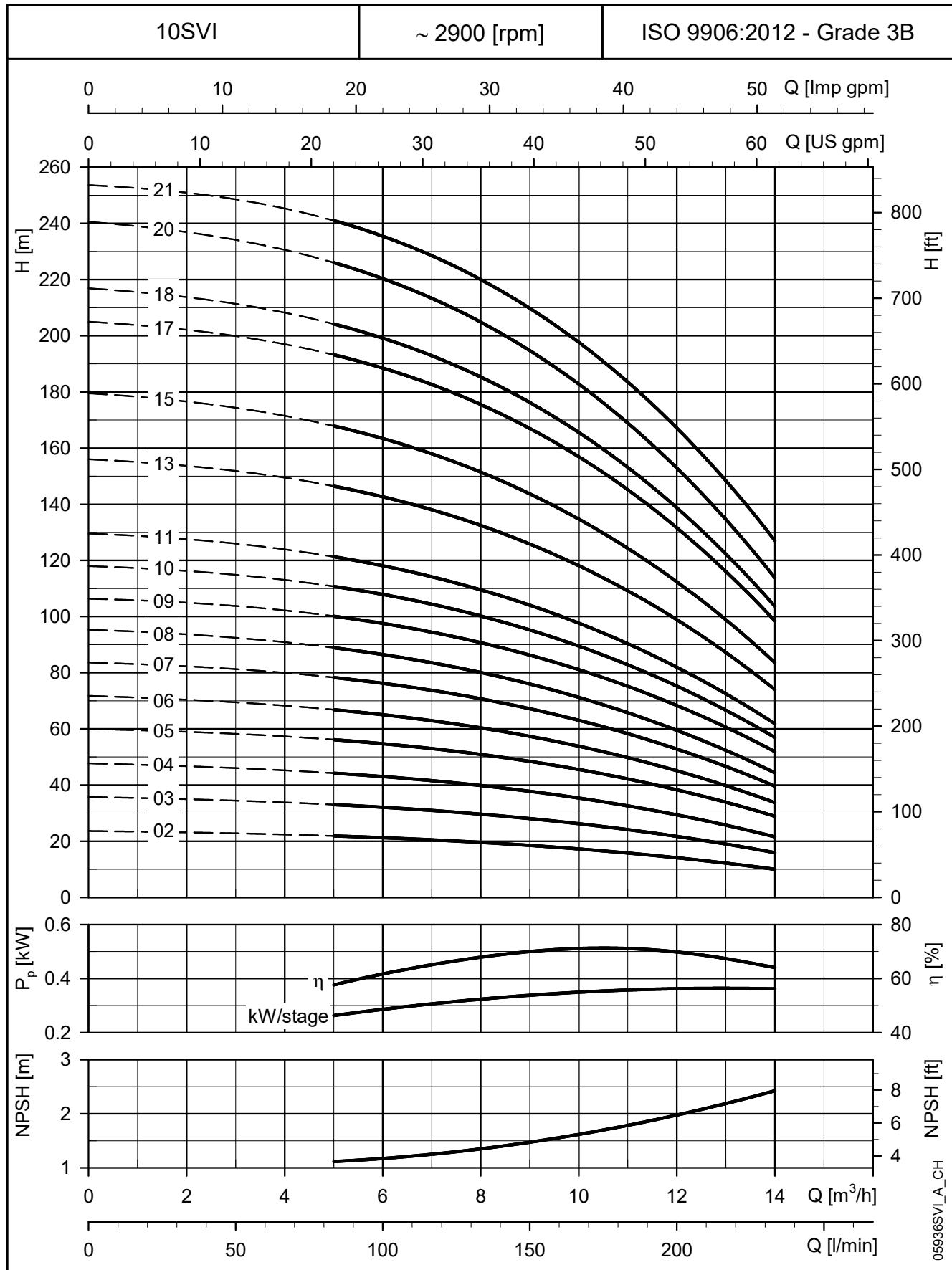
PUMP TYPE	MOTOR		DIMENSIONS (mm)										WEIGHT (kg)		
	kW	SIZE	L		L1	L2		L3	M		D1		D2	PUMP	ELECTRIC PUMP
			1~	3~		1~	3~		1~	3~	1~	3~		1~	3~
10SVI02-02..007	0,75	80	563	563	178	263	263	122	137	140	155	155	120	12,7	22,5
10SVI03-03..011	1,1	80	595	595	210	263	263	122	137	140	155	155	120	13,7	23,8
10SVI04-04..015	1,5	90	672	637	242	298	263	132	159	140	174	155	140	14,8	26,7
10SVI05-05..022	2,2	90	-	704	274	-	298	132	-	134	-	174	140	15,8	33,8
10SVI06-06..022	2,2	90	-	736	306	-	298	132	-	134	-	174	140	16,7	34,7
10SVI07-07..030	3	100	-	778	338	-	298	142	-	134	-	174	160	18,8	39,8
10SVI08-08..030	3	100	-	810	370	-	298	142	-	134	-	174	160	19,8	40,8
10SVI09-09..040	4	112	-	863	402	-	319	142	-	154	-	197	160	20,7	47,1
10SVI10-10..040	4	112	-	895	434	-	319	142	-	154	-	197	160	21,6	48,0
10SVI11-11..040	4	112	-	927	466	-	319	142	-	154	-	197	160	22,6	49,0
10SVI13-13..055	5,5	132	-	1111	530	-	375	207	-	168	-	214	300	30,1	67,7
10SVI15-15..055	5,5	132	-	1175	594	-	375	207	-	168	-	214	300	32,0	69,6
10SVI17-17..075	7,5	132	-	1231	658	-	367	207	-	191	-	256	300	33,9	90,9
10SVI18-18..075	7,5	132	-	1263	690	-	367	207	-	191	-	256	300	34,9	91,9
10SVI20-20..075	7,5	132	-	1327	754	-	367	207	-	191	-	256	300	36,8	93,8
10SVI21-21..110	11	160	-	1452	786	-	428	239	-	191	-	256	350	45,3	115,7

All listed dimensions are with inducer.

e.g. 10SVI21-21 has 21 stages with impeller and 1 inducer chamber.

10svi_c-2p50-en_b_td

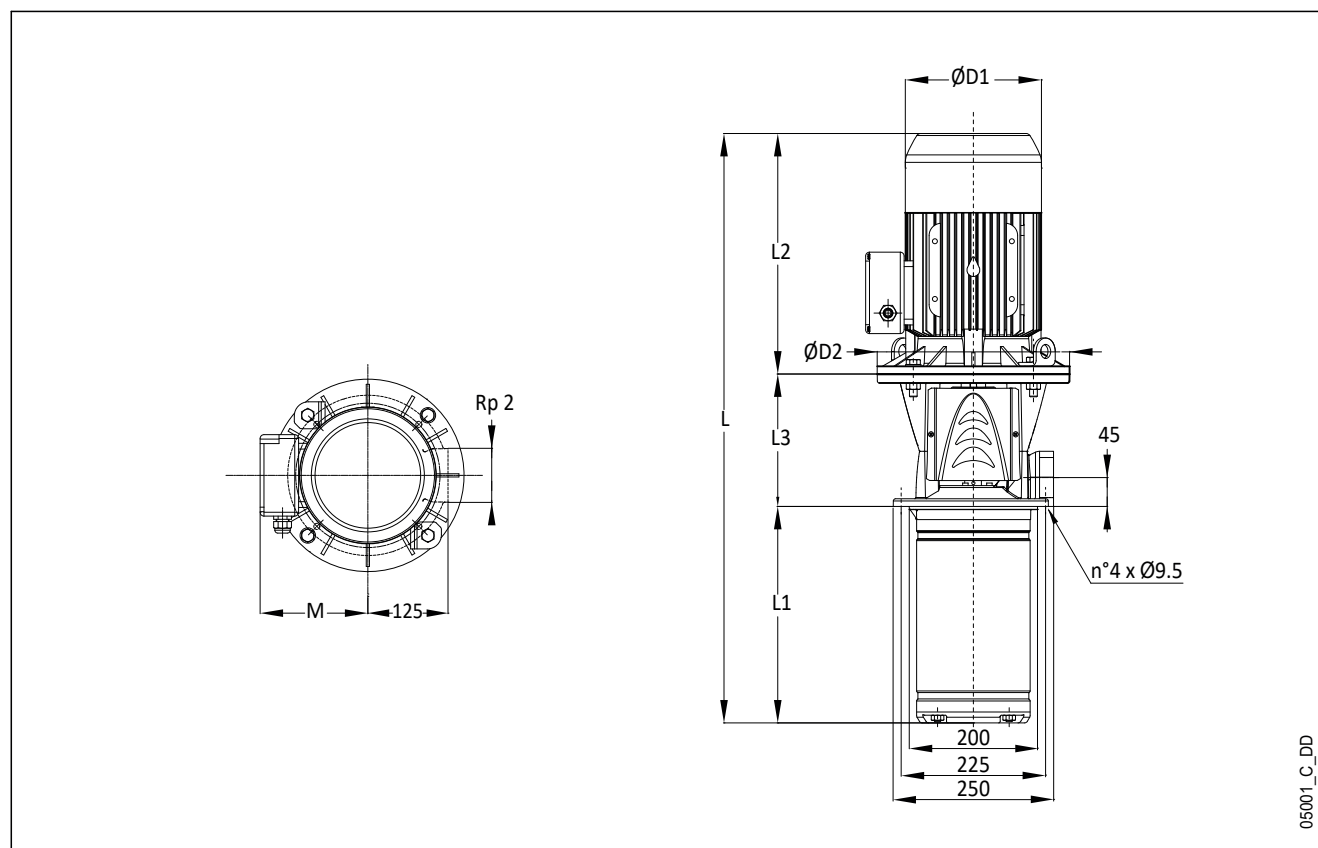
10SVI..C - 10SVI..M SERIES OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

15SVI..C - 15SVI..M SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

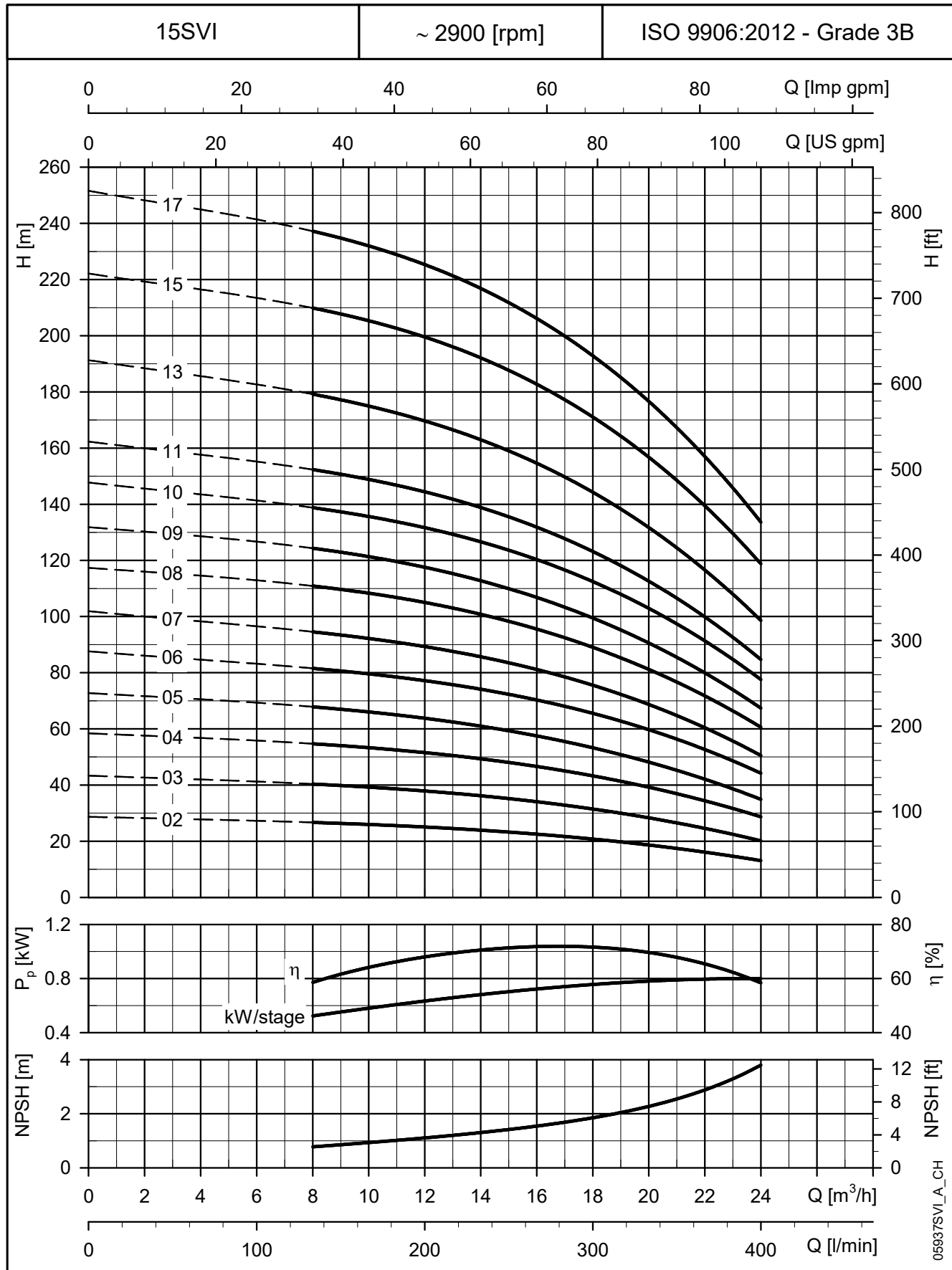


PUMP TYPE	MOTOR		DIMENSIONS (mm)							WEIGHT (kg)	
	kW	SIZE	L	L1	L2	L3	M	D1	D2	PUMP	ELECTRIC PUMP
15SVI02-02..022	2,2	90	656	226	298	132	134	174	140	14,1	32,1
15SVI03-03..030	3	100R	714	274	298	142	134	174	160	16,5	37,5
15SVI04-04..040	4	112R	783	322	319	142	154	197	160	17,8	44,2
15SVI05-05..040	4	112R	831	370	319	142	154	197	160	19,1	45,5
15SVI06-06..055	5,5	132R	999	418	375	207	168	214	300	26,0	63,6
15SVI07-07..055	5,5	132R	1047	466	375	207	168	214	300	27,3	64,9
15SVI08-08..075	7,5	132	1087	514	367	207	191	256	300	28,6	85,6
15SVI09-09..075	7,5	132	1135	562	367	207	191	256	300	29,9	86,9
15SVI10-10..110	11	160R	1276	610	428	239	191	256	350	38,8	109,2
15SVI11-11..110	11	160R	1324	658	428	239	191	256	350	40,0	110,4
15SVI13-13..110	11	160R	1420	754	428	239	191	256	350	42,6	113,0
15SVI15-15..150	15	160	1582	850	494	239	240	313	350	45,2	147,2
15SVI17-17..150	15	160	1678	946	494	239	240	313	350	47,7	149,7

All listed dimensions are with inducer.
e.g. 15SVI17-17 has 17 stages with impeller and 1 inducer chamber.

15svi_c-2p50-en_b_td

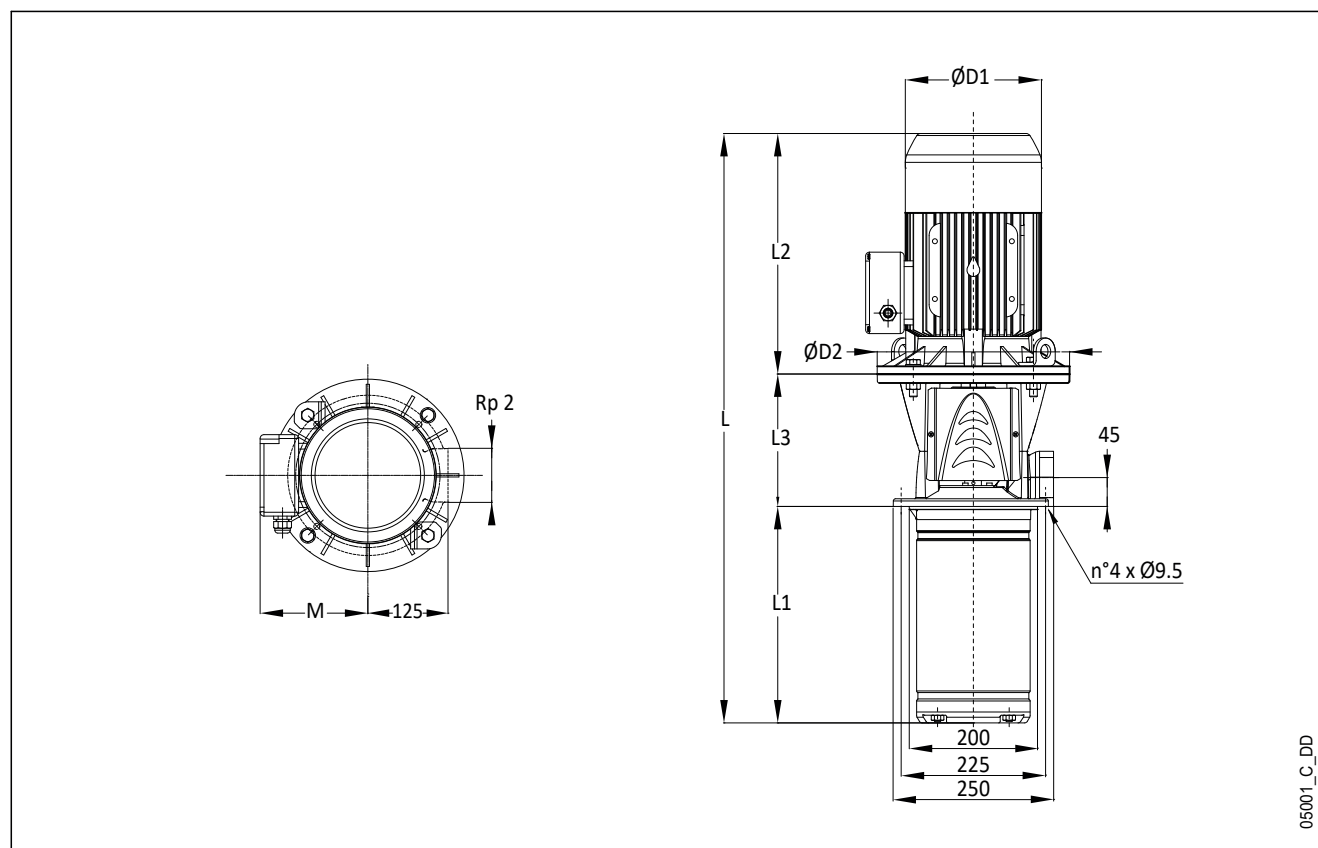
15SVI..C - 15SVI..M SERIES OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

22SVI..C - 22SVI..M SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



PUMP TYPE	MOTOR		DIMENSIONS (mm)							WEIGHT (kg)	
	kW	SIZE	L	L1	L2	L3	M	D1	D2	PUMP	ELECTRIC PUMP
22SVI02-02..022	2,2	90	656	226	298	132	134	174	140	14,1	32,1
22SVI03-03..030	3	100R	714	274	298	142	134	174	160	16,5	37,5
22SVI04-04..040	4	112R	783	322	319	142	154	197	160	17,8	44,2
22SVI05-05..055	5,5	132R	951	370	375	207	168	214	300	24,8	62,4
22SVI06-06..075	7,5	132	991	418	367	207	191	256	300	26,1	83,1
22SVI07-07..075	7,5	132	1039	466	367	207	191	256	300	27,3	84,3
22SVI08-08..110	11	160R	1180	514	428	239	191	256	350	36,2	106,6
22SVI09-09..110	11	160R	1228	562	428	239	191	256	350	37,5	107,9
22SVI10-10..110	11	160R	1276	610	428	239	191	256	350	38,8	109,2
22SVI12-12..150	15	160	1438	706	494	239	240	313	350	41,4	143,4
22SVI14-14..150	15	160	1534	802	494	239	240	313	350	44,0	146,0
22SVI17-17..185	18,5	160	1678	946	494	239	240	313	350	47,8	149,8

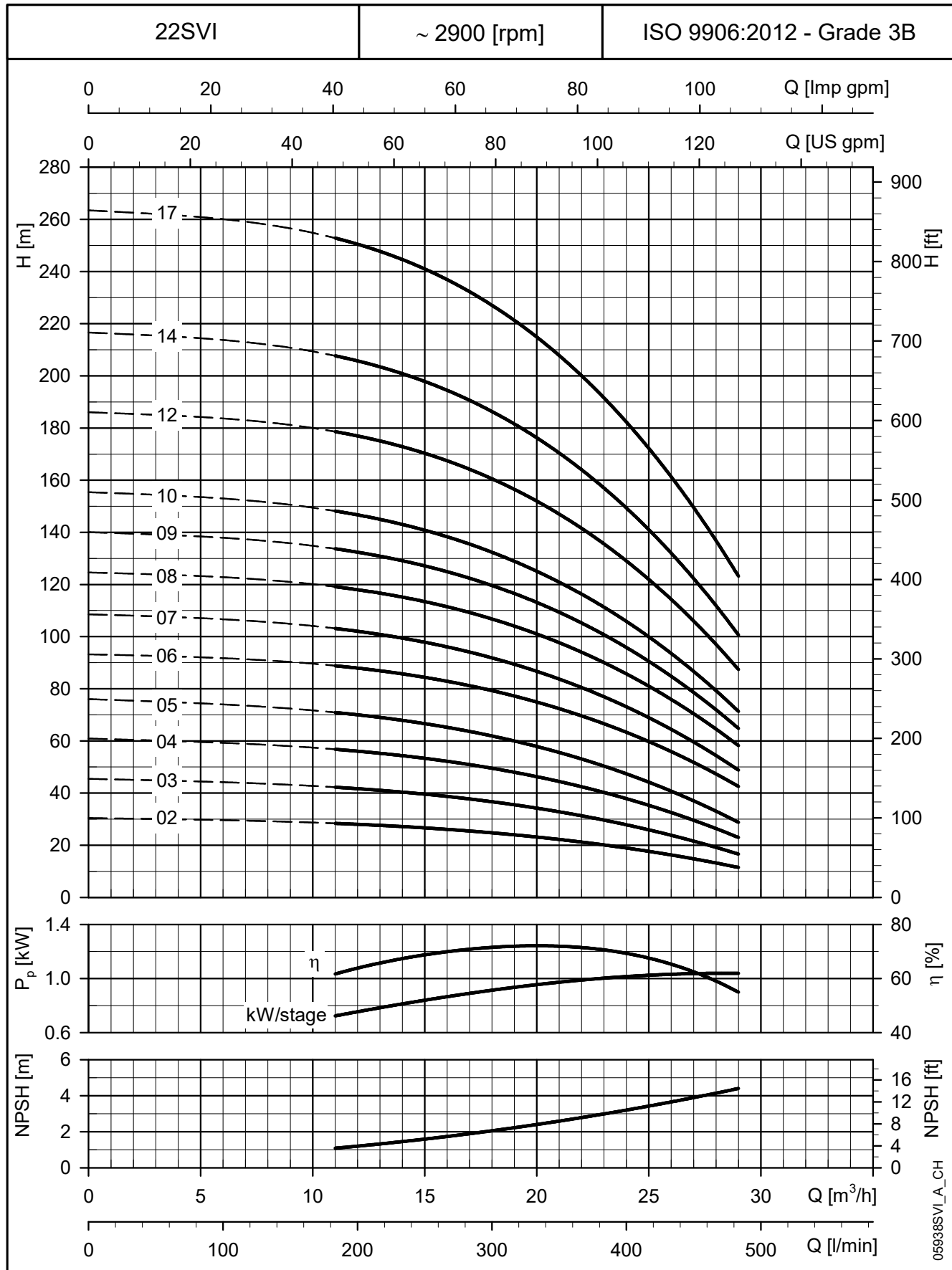
All listed dimensions are with inducer.

22svi_c-2p50-en_b_td

e.g. 22SVI17-17 has 17 stages with impeller and 1 inducer chamber.

22SVI..C - 22SVI..M SERIES

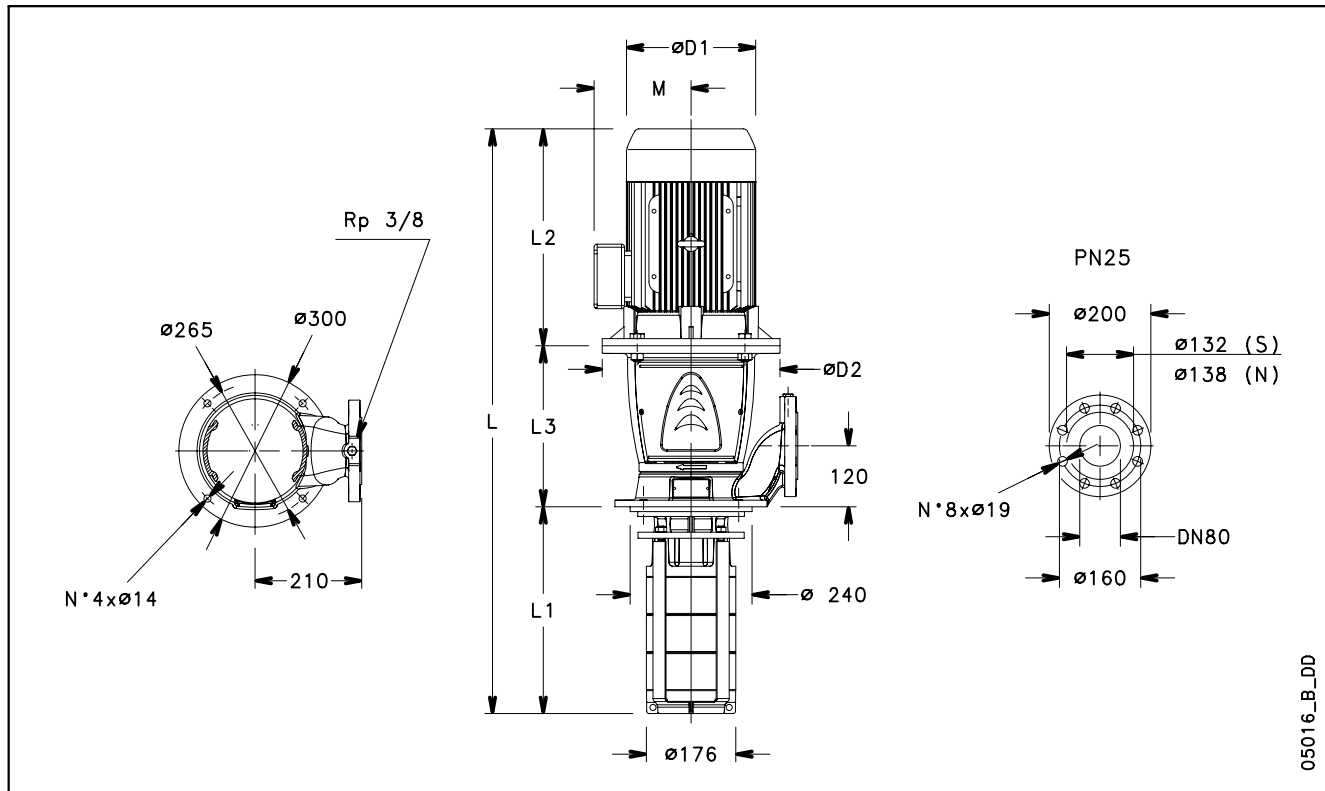
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SVI33..S - SVI33..N SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



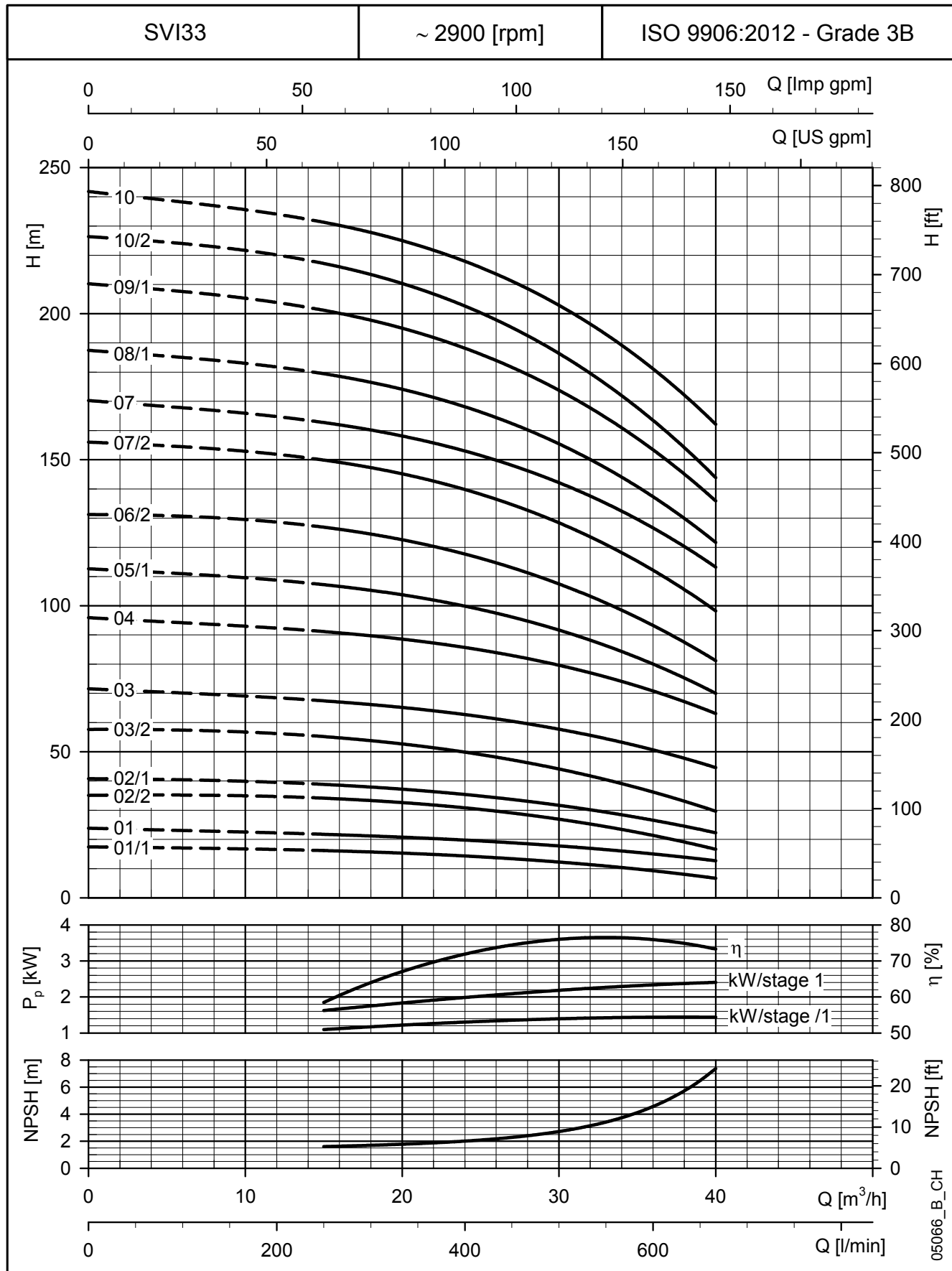
05016_B_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)							WEIGHT (kg)	
	kW	SIZE	L	L1	L2	L3	M	D1	D2	PUMP	ELECTRIC PUMP
SVI3301/1-01..22T/D	2,2	90	817	257	298	262	134	174	140	38	56
SVI3301-01..30T/D	3	100	817	257	298	262	134	174	160	43	64
SVI3302/2-02..40T/D	4	112	913	332	319	262	154	197	160	44	70
SVI3302/1-02..40T/D	4	112	913	332	319	262	154	197	160	44	70
SVI3303/2-03..55T/D	5,5	132	1064	407	375	282	168	214	300	50	88
SVI3303-03..75T/D	7,5	132	1056	407	367	282	191	256	300	50	107
SVI3304-04..110T/D	11	160	1227	482	428	317	191	256	350	58	128
SVI3305/1-05..110T/D	11	160	1302	557	428	317	191	256	350	60	130
SVI3306/2-06..150T/D	15	160	1443	632	494	317	240	313	350	63	165
SVI3307/2-07..150T/D	15	160	1518	707	494	317	240	313	350	66	168
SVI3307-07..185T/D	18,5	160	1518	707	494	317	240	313	350	74	176
SVI3308/1-08..185T/D	18,5	160	1593	782	494	317	240	313	350	77	179
SVI3309/1-09..220T/D	22	180	1668	857	494	317	240	313	350	72	193
SVI3310/2-10..220T/D	22	180	1743	932	494	317	240	313	350	75	196
SVI3310-10..300T/D	30	200	1920	932	671	317	285	408	400	88	296

svi33s-2p50-en_e_td

SVI33..S - SVI33..N SERIES

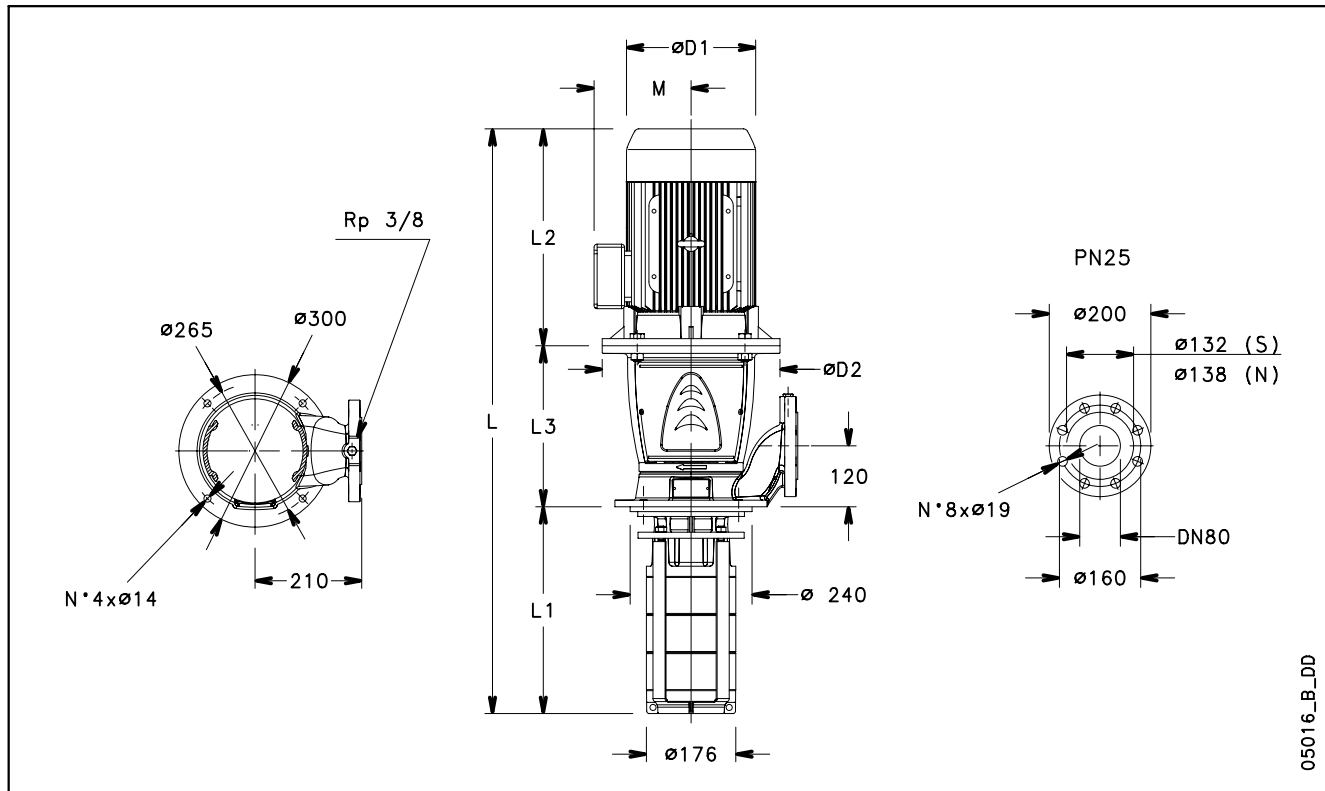
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SVI46..S - SVI46..N SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



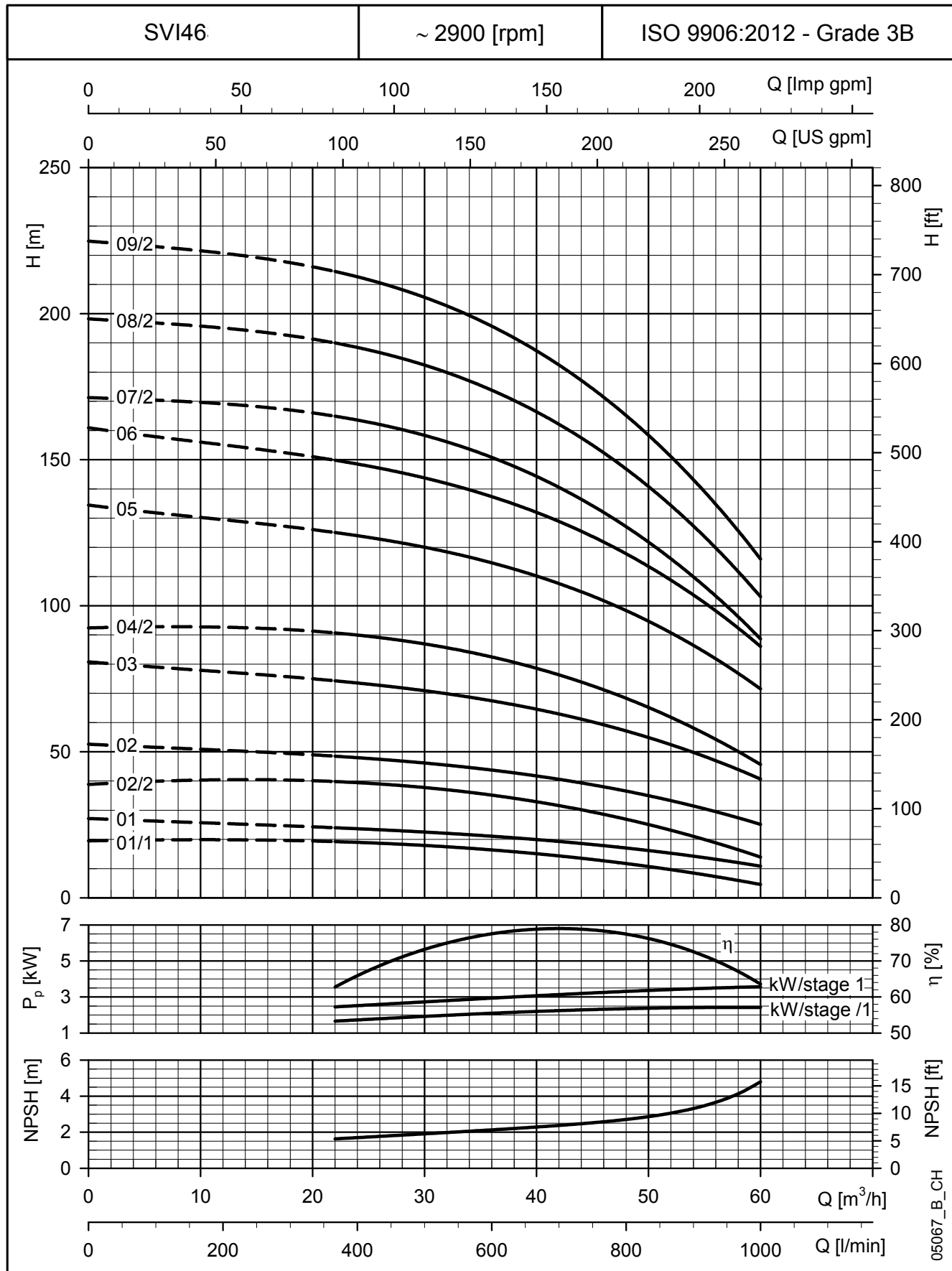
05016_B_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)							WEIGHT (kg)	
	kW	SIZE	L	L1	L2	L3	M	D1	D2	PUMP	ELECTRIC PUMP
SVI4601/1-01...30T/D	3	100	817	257	298	262	134	174	160	43	64
SVI4601-01...40T/D	4	112	838	257	319	262	154	197	160	41	67
SVI4602/2-02...55T/D	5,5	132	989	332	375	282	168	214	300	47	85
SVI4602-02...75T/D	7,5	132	981	332	367	282	191	256	300	47	104
SVI4603-03...110T/D	11	160	1152	407	428	317	191	256	350	55	125
SVI4604/2-04...150T/D	15	160	1293	482	494	317	240	313	350	57	159
SVI4605-05...185T/D	18,5	160	1368	557	494	317	240	313	350	69	171
SVI4606-06...220T/D	22	180	1443	632	494	317	240	313	350	64	185
SVI4607/2-07...300T/D	30	200	1695	707	671	317	285	408	400	86	294
SVI4608/2-08...300T/D	30	200	1770	782	671	317	285	408	400	89	297
SVI4609/2-09...300T/D	30	200	1845	857	671	317	285	408	400	91	299

svi46s-2p50-en_e_td

SVI46..S - SVI46..N SERIES

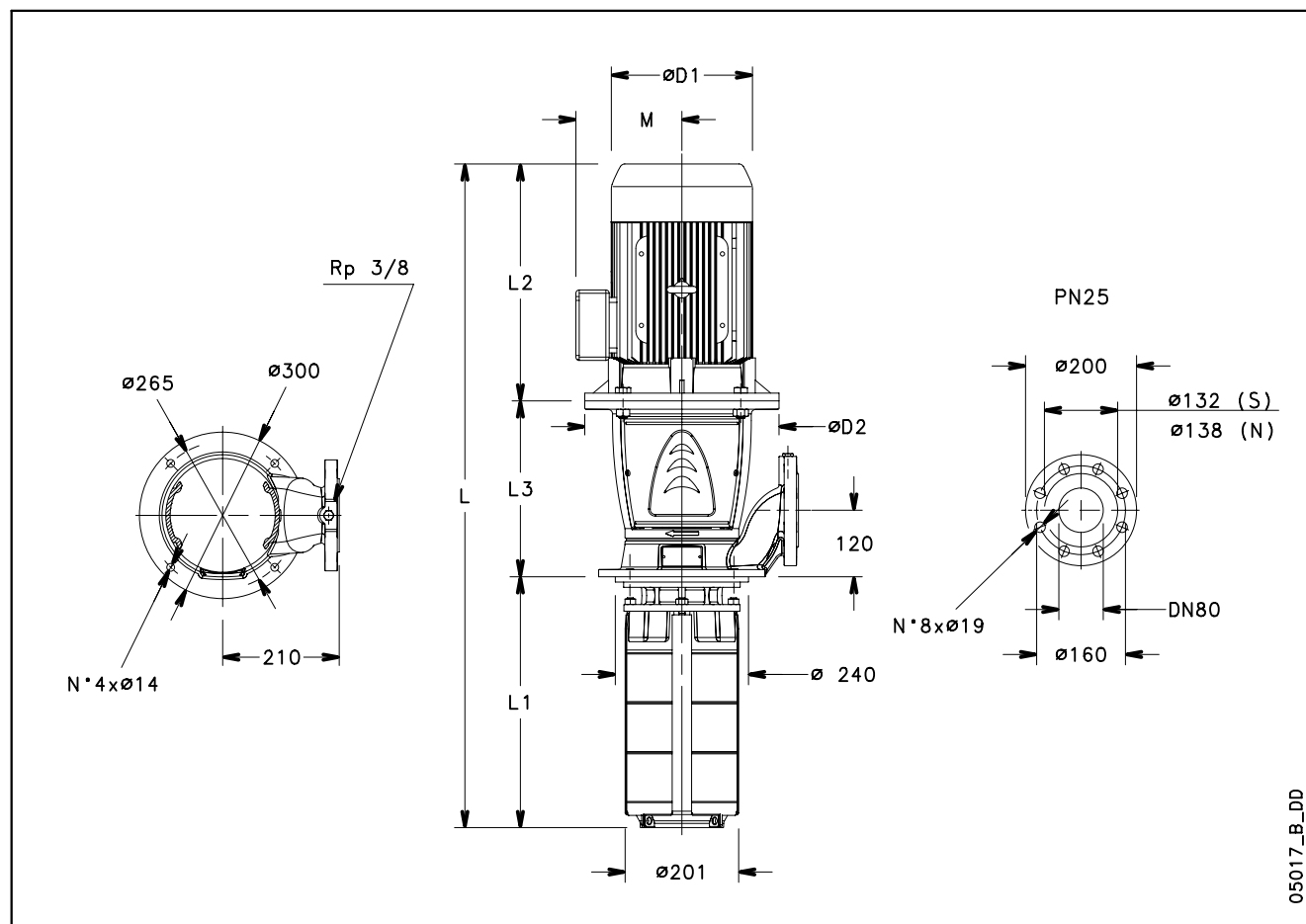
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SVI66..S - SVI66..N SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



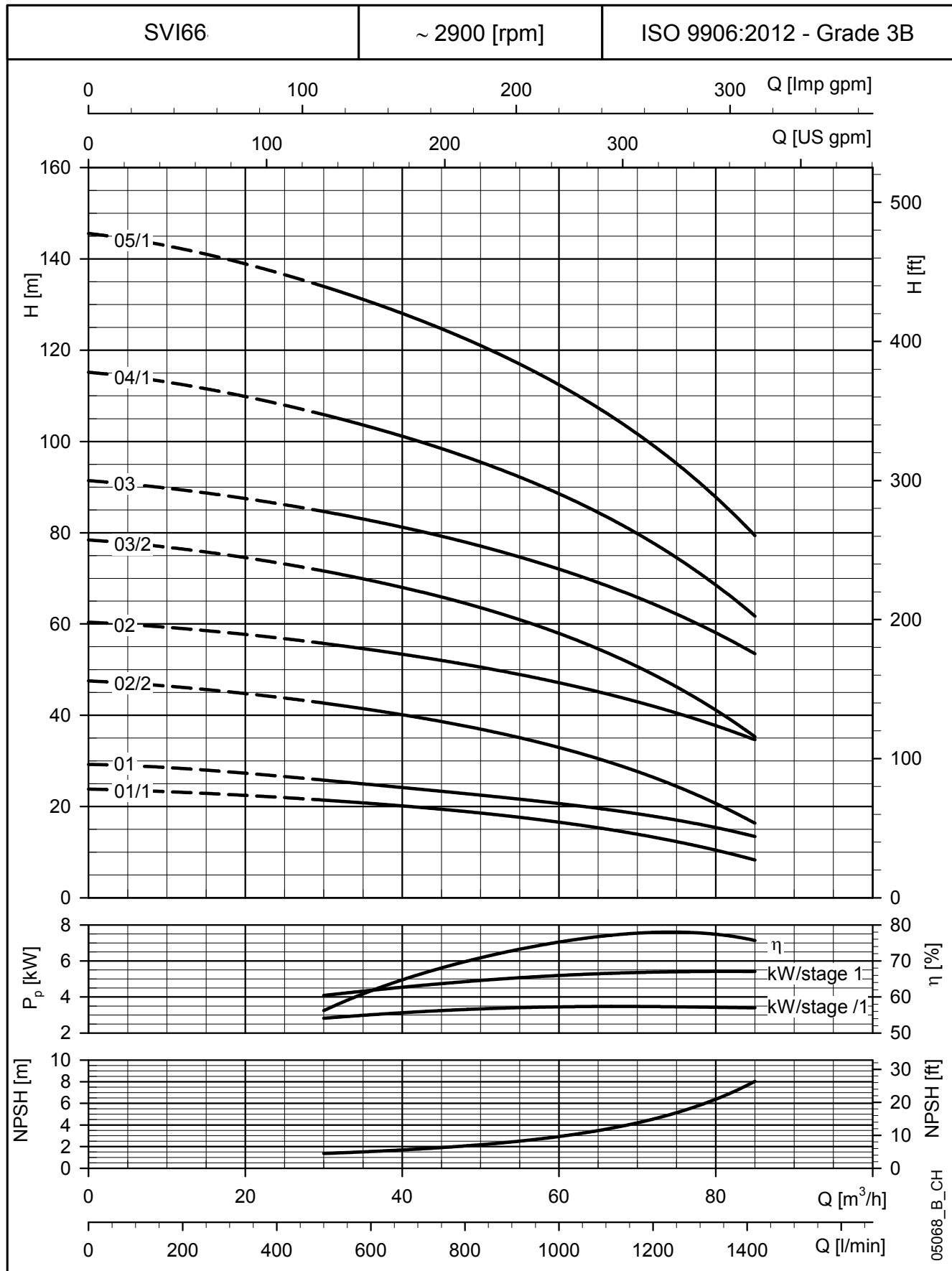
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PUMP TYPE	MOTOR		DIMENSIONS (mm)							WEIGHT (kg)	
	kW	SIZE	L	L1	L2	L3	M	D1	D2	PUMP	ELECTRIC PUMP
SVI6601/1-01..40T/D	4	112	853	272	319	262	154	197	160	47	73
SVI6601-01..55T/D	5,5	132	929	272	375	282	168	214	300	45	83
SVI6602/2-02..75T/D	7,5	132	1011	362	367	282	191	256	300	52	109
SVI6602-02..110T/D	11	160	1107	362	428	317	191	256	350	54	124
SVI6603/2-03..150T/D	15	160	1263	452	494	317	240	313	350	57	159
SVI6603-03..185T/D	18,5	160	1263	452	494	317	240	313	350	58	160
SVI6604/1-04..220T/D	22	180	1353	542	494	317	240	313	350	69	190
SVI6605/1-05..300T/D	30	200	1620	632	671	317	285	408	400	84	292

svi66s-2p50-en_e_td

SVI66..S - SVI66..N SERIES

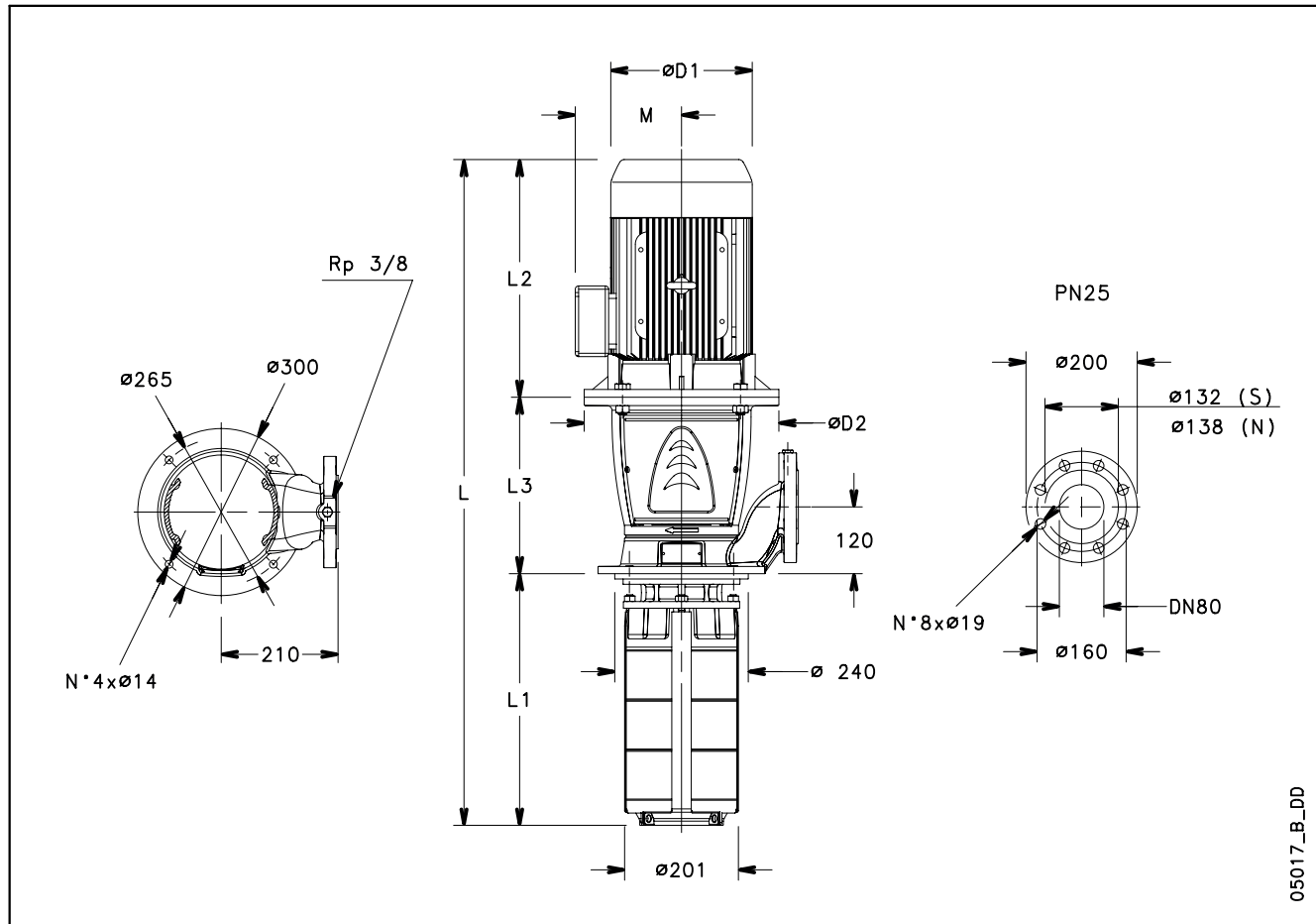
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

SVI92..S - SVI92..N SERIES

DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

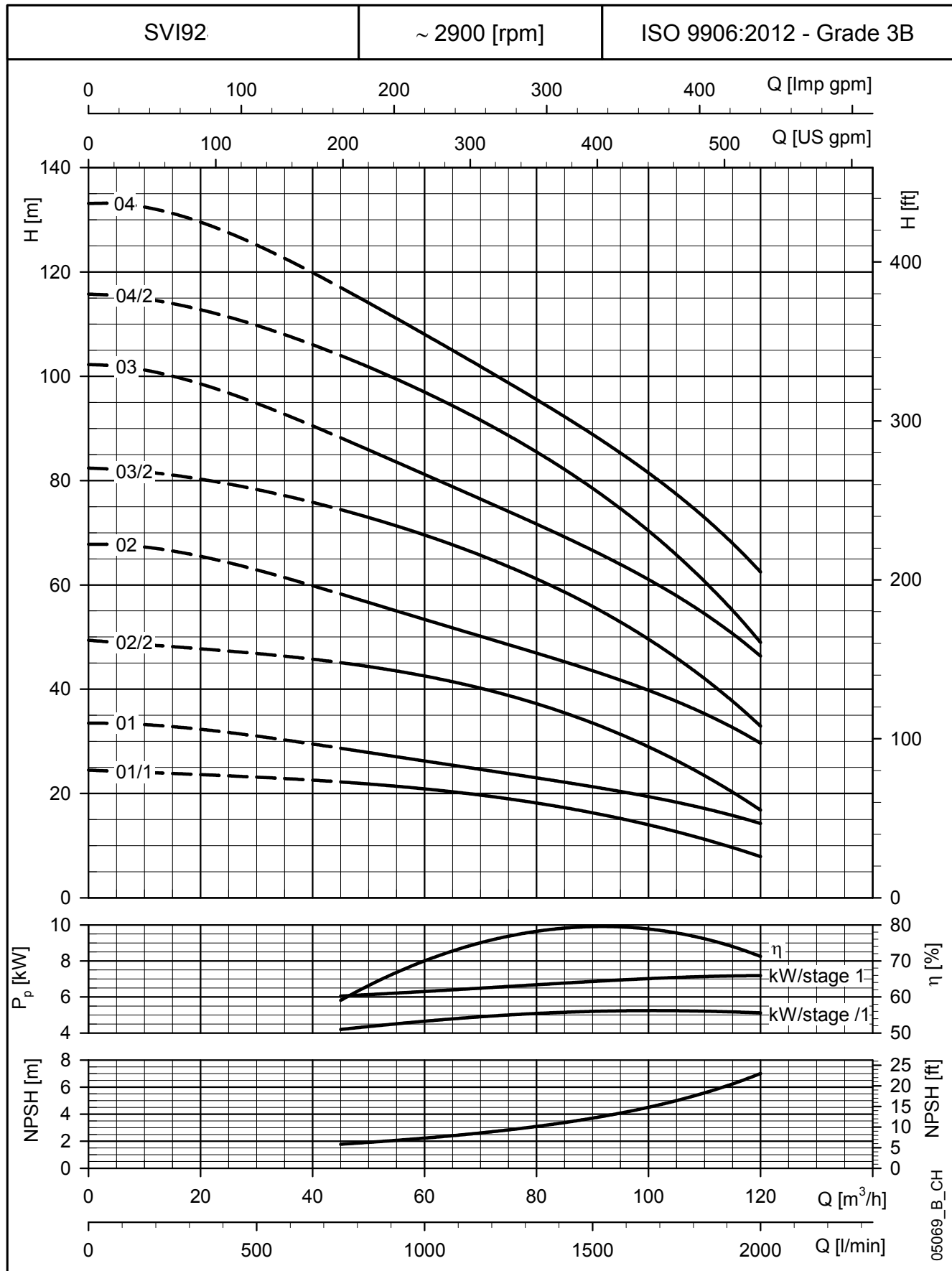


PUMP TYPE	MOTOR		DIMENSIONS (mm)							WEIGHT (kg)	
	kW	SIZE	L	L1	L2	L3	M	D1	D2	PUMP	ELECTRIC PUMP
SVI9201/1-01..55T/D	5,5	132	929	272	375	282	168	214	300	45	83
SVI9201-01..75T/D	7,5	132	921	272	367	282	191	256	300	44	101
SVI9202/2-02..110T/D	11	160	1107	362	428	317	191	256	350	53	123
SVI9202-02..150T/D	15	160	1173	362	494	317	240	313	350	53	155
SVI9203/2-03..185T/D	18,5	160	1263	452	494	317	240	313	350	65	167
SVI9203-03..220T/D	22	180	1263	452	494	317	240	313	350	58	179
SVI9204/2-04..300T/D	30	200	1530	542	671	317	285	408	400	81	289
SVI9204-04..300T/D	30	200	1530	542	671	317	285	408	400	81	289

svi92s-2p50-en_e_td

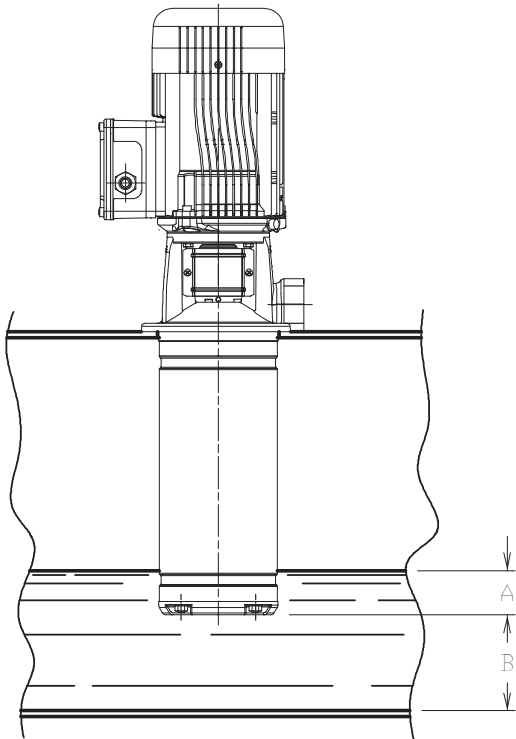
SVI92..S - SVI92..N SERIES

OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES



These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

INSTALLATION



PUMP TYPE	MINIMUM IMMERSION LEVEL A [mm]		DISTANCE FROM THE BOTTOM B [mm]
	WITH INDUCER	WITHOUT INDUCER	
1SVI 3SVI 5SVI	20	30	20
10SVI 15SVI 22SVI	20	30	25
SVI33-46 SVI66-92	-	60	25

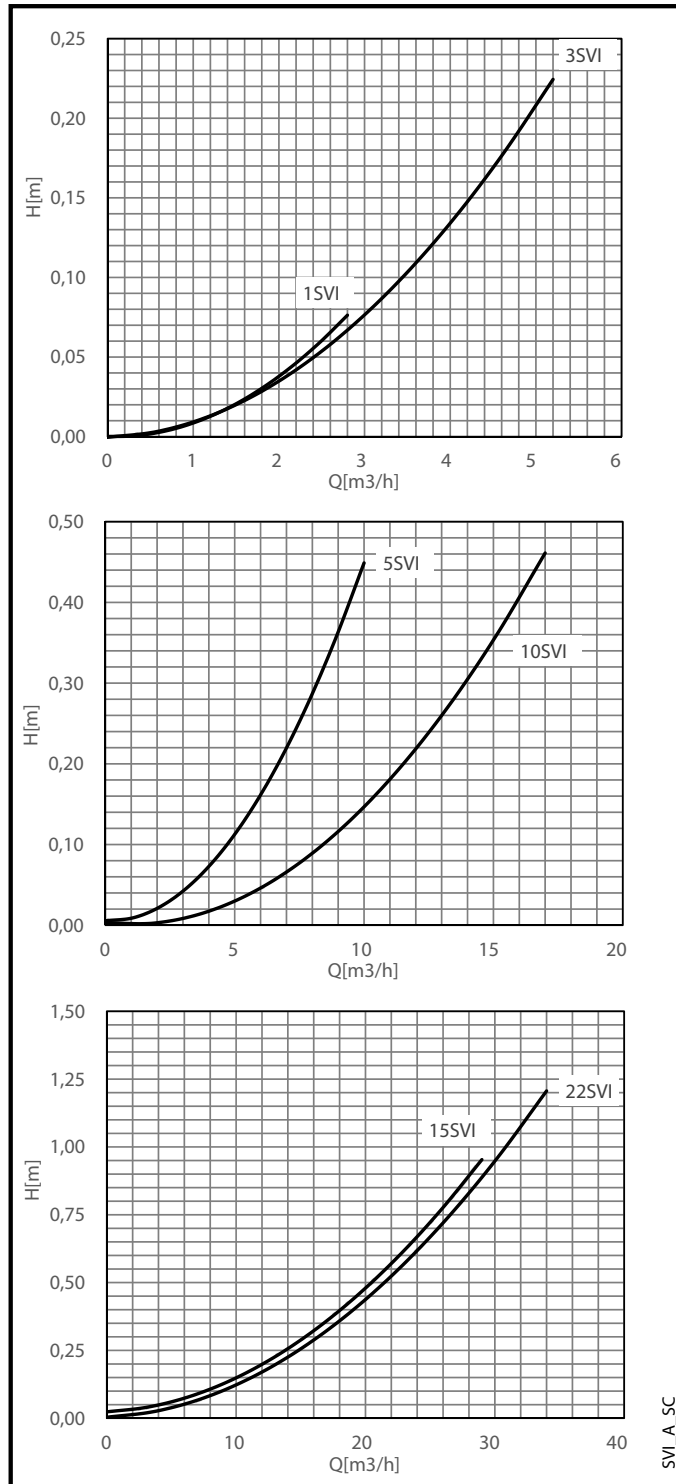
svi-liv-liq_b_td

05005_B_SC

These performances are valid for liquids with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

EMPTY STAGES OPERATING CHARACTERISTICS AND DIMENSIONAL DATA

The charts below illustrate the pressure losses to be considered per empty stage when empty stages are used to extend the pump depth.



To calculate the head of a pump with empty stages you can do the calculation as shown below:

Example:

Pump type: 5SVI06-13; 6 impellers, 13 total stages as per nomenclature at page 9

Flow: $6 m^3/h$

Head: 33,9 m

The head 33,9 m is read from the performance curve for an 5SVI06-06 pump, see page 31.

The number of empty stages is:

13 total stages - 6 impellers = 7 empty stages

From the pressure loss curve of 5SVI, it appears that the pressure loss of each empty chamber at $6 m^3/h$ is 0,16 m. This result in a total pressure loss of:

Total pressure loss = $0,16 \times 7 = 1,12 m$

The reduced head of the 5SVI06-13 pump including pressure losses caused by empty stages is:

Head = $33,9 - 1,12 = 32,78 m$

In the SVI33,46,66 and 92 electric pumps, empty stages allow the passage of the liquid through a wide opening, eliminating pressure loss in the pump.

EMPTY STAGES

OPERATING CHARACTERISTICS AND DIMENSIONAL DATA

The immersion depth of e-SVI pump can be varied to meet the required depths of different tanks. The table below illustrates the number of total stages to be used to achieve the required depth. The pump head depends on the number of the impeller used (see head curves on the previous pages of this catalogue)

NUMBER OF STAGE	IMMERSION DEPTH (mm)									
	PUMP TYPE									
	1SVI	3SVI	5SVI	10SVI	15SVI	22SVI	SVI 33	SVI 46	SVI 66	SVI 92
1	-	-	-	-	-	-	257	257	272	272
2	119	119	134	177,5	225,5	225,5	332	332	362	362
3	139	139	159	209,5	273,5	273,5	407	407	452	452
4	159	159	184	241,5	321,5	321,5	482	482	542	542
5	179	179	209	273,5	369,5	369,5	557	557	632	632
6	199	199	234	305,5	417,5	417,5	632	632	722	722
7	219	219	259	337,5	465,5	465,5	707	707	812	812
8	239	239	284	369,5	513,5	513,5	782	782	902	902
9	259	259	309	401,5	561,5	561,5	857	857	992	992
10	279	279	334	433,5	609,5	609,5	932	932	1082	1082
11	299	299	359	465,5	657,5	657,5	1007	1007		
12	319	319	384	497,5	705,5	705,5	1082	1082		
13	339	339	409	529,5	753,5	753,5				
14	359	359	434	561,5	801,5	801,5				
15	379	379	459	593,5	849,5	849,5				
16	399	399	484	625,5	897,5	897,5				
17	419	419	509	657,5	945,5	945,5				
18	439	439	534	689,5	993,5	993,5				
19	459	459	559	721,5	1041,5	1041,5				
20	479	479	584	753,5						
21	499	499	609	785,5						
22	519	519	634	817,5						
23	539	539	659	849,5						
24	559	559	684	881,5						
25	579	579	709	913,5						
26	599	599	734	945,5						
27	619	619	759	977,5						
28	639	639	784	1009,5						
29	659	659	809	1041,5						
30	679	679	834							
31	699	699	859							
32	719	719	884							
33	739	739	909							
34	759	759	934							
35	779	779	959							
36	799	799	984							
37	819	819	1009							
38	839	839								
39	859	859								
40	879	879								
41	899	899								
42	919	919								
43	939	939								
44	959	959								
45	979	979								
46	999	999								
47	1019	1019								

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EMPTY STAGES TOTAL WEIGHT CALCULATION

It is possible to calculate the total weight of the pump with empty stages from the weight of the pump with full stages shown in the dimensional tables in this catalog. The table below illustrates for each size the constant weight factor of an empty stage.

PUMP TYPE	WEIGHT (kg)
1-3SVI	0,20
5SVI	0,24
10SVI	0,57
15-22SVI	0,79
SVI33-46	1,35
SVI66-92	1,72

To calculate the real weight you can perform the calculation as shown below:

Example:

Pump type: 5SVI06-13; 6 impellers, 13 total stages as per nomenclature at page 9
Pump weight: 9 kg

The number of empty stages is:
13 total stages - 6 impellers = 7 empty stages

From the above table for size 5SVI the weight of each empty stage is 0,24 kg.
This results in a total weight due to the empty stages of:
Total weight of empty stages = $0.24 \times 7 = 1.68$ kg

The total weight of the 5SVI06-13 pump is:
Total weight = $9 + 1,68 = 10,68$ kg

e-SVIE: VERSION WITH DRIVE AND PERMANENT MAGNET MOTOR (e-SM DRIVE)

e-SVIE SERIES (e-SVI SMART)

Background and context

In every sector, from construction and industry to agriculture and building services the need for intelligent, compact and high-efficiency pumping systems is constantly growing.

That's why Lowara has developed the e-SVI Smart series: an integrated intelligent pumping system with electronically driven, permanent magnet motor (IE5 efficiency level).

The integrated control system, combined with the high performance, power and efficiency from the motor and hydraulics, guarantees impressively low operating costs. You also benefit from flexibility, precision and its ultra-compact size.

Savings

The electronics and permanent magnet motor are highly efficient and minimize power losses while transferring maximum energy to the hydraulic parts of the pump.

The refined control system with integrated microprocessor adjusts the motor speed, matching the required operating point of the pump or system requirements.

This reduces demand on electricity according to the required working conditions.

This creates economies, especially in systems where pump demand varies over time.

Flexibility

The compact size, low loss and increased control make the e-SVI Smart series a good choice in applications and systems where fixed speed pumps are commonly used. The e-SVI Smart series is easy to integrate in control and regulation loops thanks to the wide availability of compatible communication protocols, including analog and digital inputs.

The pump is supplied with a pressure sensor.

Ease of use and commissioning

e-SVI Smart has an intuitive interface that guides the user through the installation, and a practical area to assist with connections.

The control system is integrated and no additional external electrical panel is required.

Application sectors

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



e-SM system

- Single-phase power supply: 208-240V +/- 10%, 50/60 Hz
- Three-phase power supply:
 - from 0,37kW to 1,5kW: 208-240/380-460V +/- 10%, 50/60 Hz
 - 2,2kW: 380-460V +/- 10%, 50/60 Hz
- Power up to 2,2kW
- Protection class IP 55
- Can be linked up to 3 e-SVI Smart pumps

Pump

- Flow rate: up to 30 m³/h
- Head: up to 235 m
- Maximum operating pressure 25 bar (PN 25)
- The hydraulic performances meet the tolerances specified in ISO 9906:2012.
- Environment temperature: -20° C to +50° C with no performance derating

Motor

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

Regulations (EU) 2019/1781 e 2021/341

Annex I – point 4

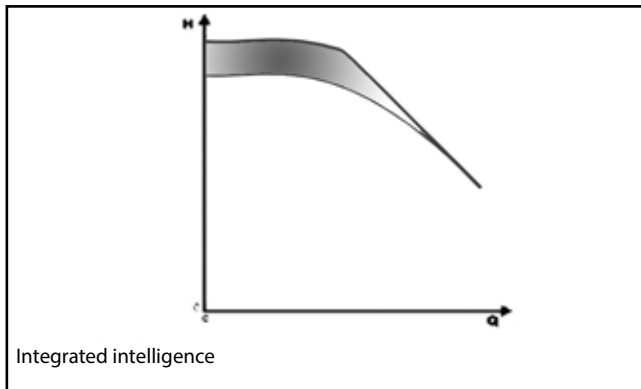
(Product information)

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

e-SVIE SERIES (e-SVI SMART)

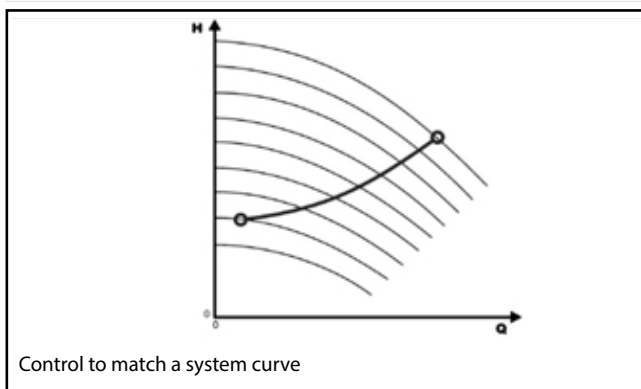
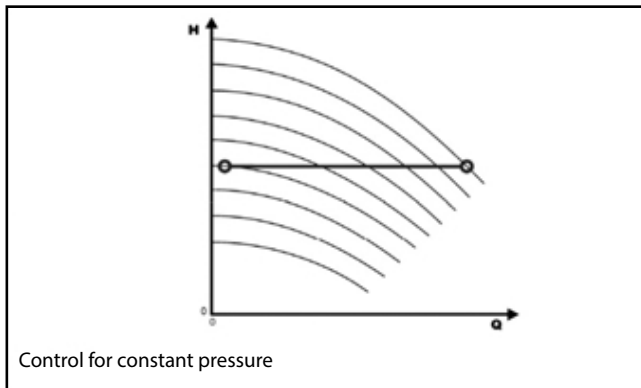
e-SVI Smart series is equipped with an intelligent control that optimizes hydraulic performance while minimizing waste.

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



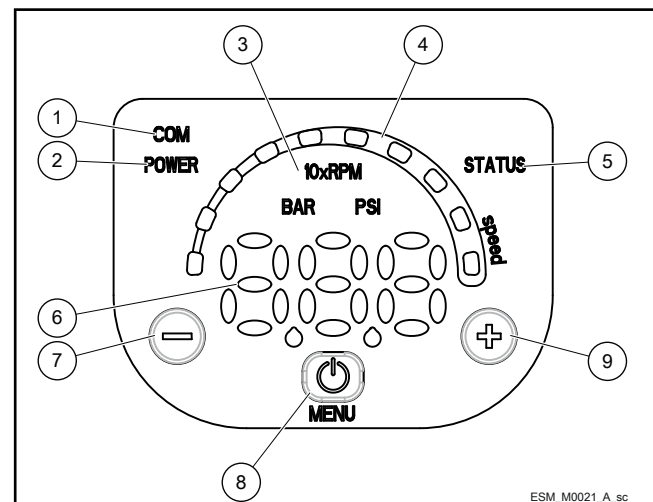
Adjustment: This is possible both at constant pressure and according to the characteristic curve of the system, based on the customer's preferences.

Another option is according to an external signal or at a preset speed.

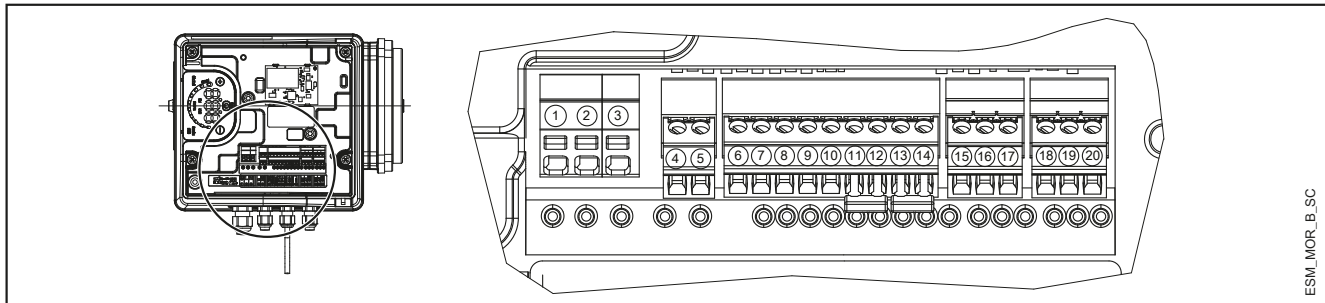


Intuitive and simple interface: You can control the unit from just three buttons, with an easy to read display for parameters and alarms, designed for complete control of system operation.

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



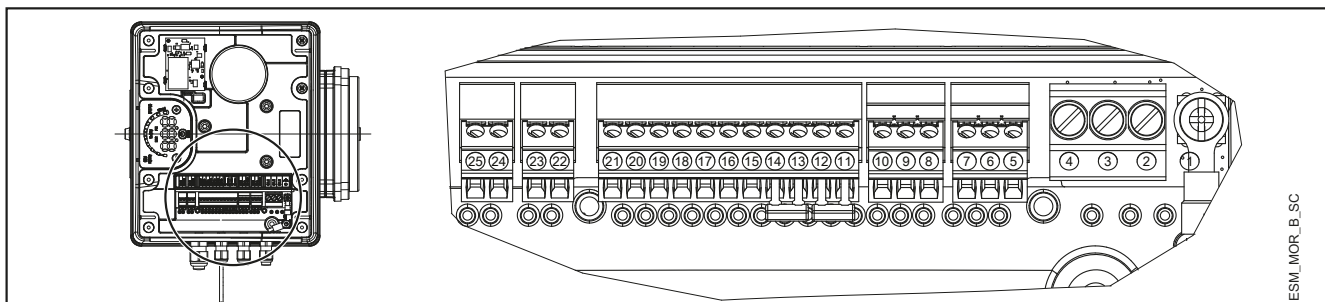
e-SVIE SERIES SINGLE PHASE TERMINAL BLOCK



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

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THREE-PHASE TERMINAL BLOCK



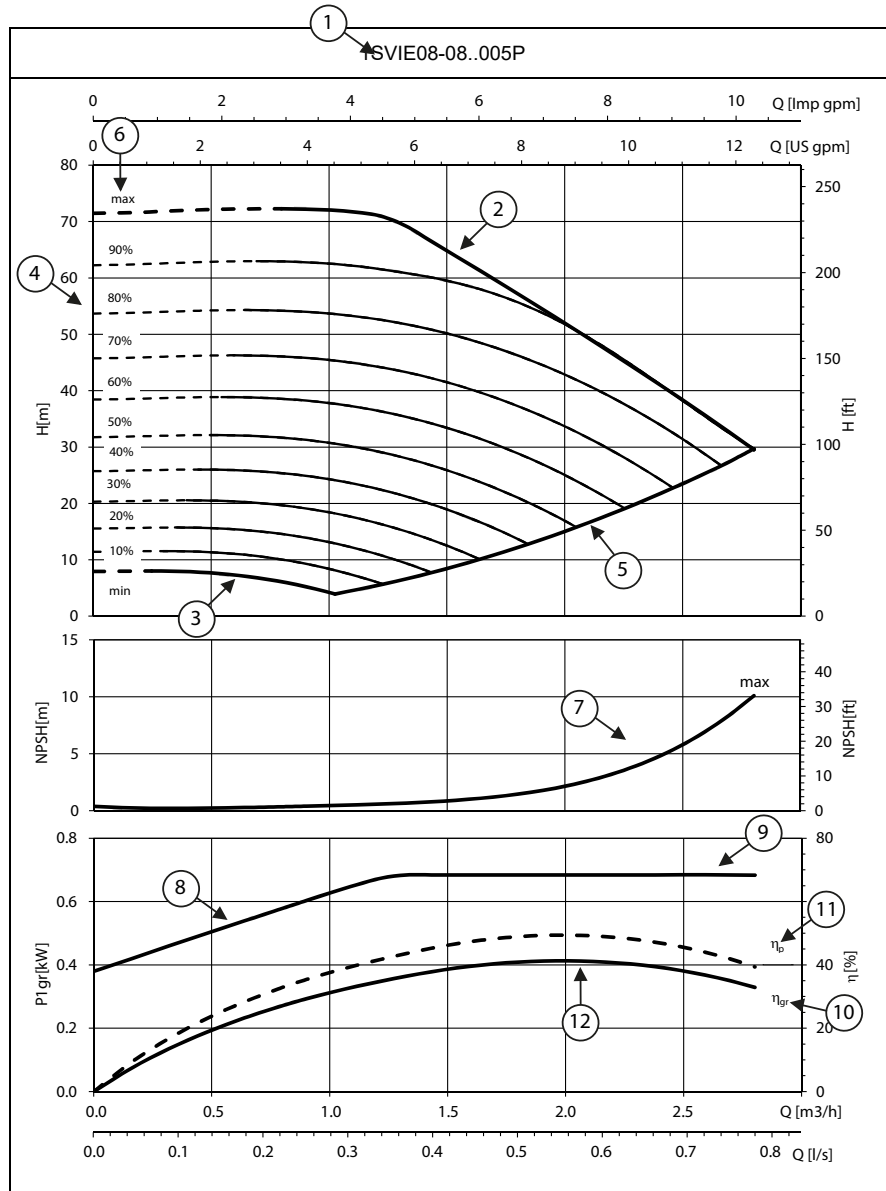
REF.	ITEM	DESCRIPTION
5	Communication bus	Electronic GND
6		RS485 port 1: RS485-1P A (+)
7		RS485 port 1: RS485-1N B (-)
8	Communication bus	Electronic GND
9		RS485 port 2: RS485 port 2: RS485-2P A (+) active only with optional module
10		RS485 port 2: RS485 port 2: RS485-2N B (-) active only with optional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

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e-SVIE SERIES

HOW TO READ SMART PUMP SERIES CURVES

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



① Pump model

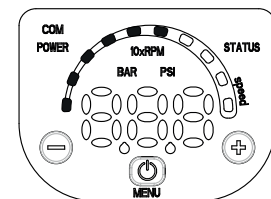
② **Maximum curve:** equal to 3600 rpm or pump running at nominal power.

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

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

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

Example: at 60% there will be 6 lit



leds

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

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

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

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

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

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

⑫ **Working point:** it's important to make sure the pump is working at the best working point, the one at highest efficiency.

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

e-SVIE SERIES

SINGLE-PHASE VERSION

HYDRAULIC PERFORMANCE TABLE

PUMP TYPE SVIE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I 208-240 V A	l/min 0	6,7	13,3	20,0	26,7	33,3	40,0	46,7
					m³/h 0	0,4	0,8	1,2	1,6	2,0	2,4	2,8
					H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
1SVIE05-05..003	0,37	ESM90R/103 SVIE	0,49	2,24	44,7	45,0	45,2	44,6	41,5	35,0	28,1	20,8
1SVIE08-08..005	0,55	ESM90R/105 SVIE	0,68	3,07	71,5	72,0	72,3	71,2	62,3	52,0	41,2	29,6
1SVIE11-11..007	0,75	ESM90R/107 SVIE	0,91	4,04	98,3	99,1	99,3	97,7	85,1	70,9	56,0	40,0
1SVIE15-15..011	1,1	ESM90R/111 SVIE	1,33	5,85	134,1	135,1	135,5	133,8	123,6	103,9	83,3	61,4
1SVIE20-20..015	1,5	ESM90R/115 SVIE	1,78	7,79	178,9	180,1	180,6	178,5	168,0	141,6	114,0	84,7

PUMP TYPE SVIE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I 208-240 V A	l/min 0	13,3	26,7	40,0	53,3	66,7	80,0	86,7
					m³/h 0	0,8	1,6	2,4	3,2	4,0	4,8	5,2
					H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
3SVIE03-03..003	0,37	ESM90R/103 SVIE	0,49	2,24	33,4	33,7	33,6	30,7	24,9	19,5	14,0	10,9
3SVIE05-05..005	0,55	ESM90R/105 SVIE	0,69	3,08	55,7	56,2	55,8	46,3	37,1	28,4	19,5	14,4
3SVIE07-07..007	0,75	ESM90R/107 SVIE	0,92	4,06	77,9	78,7	77,2	63,4	50,7	38,6	26,0	18,7
3SVIE09-09..011	1,1	ESM90R/111 SVIE	1,33	5,85	100,2	101,0	100,5	88,8	72,5	56,4	39,9	31,2
3SVIE11-11..015	1,5	ESM90R/115 SVIE	1,78	7,80	122,5	123,3	122,5	117,9	98,4	78,0	57,2	46,3

PUMP TYPE SVIE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I 208-240 V A	l/min 0	26,7	53,3	80,0	106,7	133,3	160,0	166,7
					m³/h 0	1,6	3,2	4,8	6,4	8,0	9,6	10,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER												
5SVIE02-02..003	0,37	ESM90R/103 SVIE	0,49	2,24	22,4	22,2	21,6	18,4	14,7	11,1	7,5	6,5
5SVIE03-03..005	0,55	ESM90R/105 SVIE	0,68	3,07	33,5	33,2	32,4	27,4	21,8	16,5	11,0	9,5
5SVIE04-04..007	0,75	ESM90R/107 SVIE	0,91	4,05	44,7	44,3	43,2	37,3	29,7	22,6	15,2	13,3
5SVIE06-06..011	1,1	ESM90R/111 SVIE	1,33	5,86	67,1	66,5	64,8	54,8	43,6	33,0	22,0	19,1
5SVIE08-08..015	1,5	ESM90R/115 SVIE	1,78	7,81	88,8	89,1	87,1	76,3	60,8	46,2	31,7	27,9

PUMP TYPE SVIE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I 208-240 V A	l/min 0	43,3	86,7	130,0	173,3	216,7	260,0	283,3
					m³/h 0	2,6	5,2	7,8	10,4	13,0	15,6	17,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER												
10SVIE02-02..007	0,75	ESM90R/107 SVIE	0,92	4,09	24,2	23,8	22,9	21,2	17,6	12,6	7,1	3,6
10SVIE02-02..011	1,1	ESM90R/111 SVIE	1,33	5,85	34,8	34,4	33,5	31,8	25,9	20,2	14,3	11,0
10SVIE03-03..015	1,5	ESM90R/115 SVIE	1,78	7,81	52,7	52,1	50,9	44,0	35,6	27,8	19,7	15,1

PUMP TYPE SVIE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I 208-240 V A	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	483,3
					m³/h 0	4,2	8,4	12,6	16,8	21,0	25,2	29,0
					H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
15SVIE02-02..015	1.5	ESM90R/115 SVIE	1.76	7.71	29.6	29.1	28.3	26.8	22.2	16.4	10.1	3.8

PUMP TYPE SVIE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I 208-240 V A	l/min 0	73,3	146,7	220,0	293,3	366,7	440,0	500,0
					m³/h 0	4,4	8,8	13,2	17,6	22,0	26,4	30,0
					H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
22SVIE02-02..015	1.5	ESM90R/115 SVIE	1.72	7.56	31.4	30.9	30.2	26.0	20.8	15.4	9.1	2.8

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

1-22sve-esm-2p50-en_a_th

e-SVIE SERIES

THREE-PHASE VERSION

HYDRAULIC PERFORMANCE TABLE

PUMP TYPE SVIE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I	* I	l/min 0	6,7	13,3	20,0	26,7	33,3	40,0	46,7
				208-240 V	380-460 V	m³/h 0	0,4	0,8	1,2	1,6	2,0	2,4	2,8
				A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
1SVIE05-05..003	0,37	ESM90R/303 SVIE	0,49	2,14	1,45	44,7	45,0	45,2	44,6	41,5	34,9	28,0	20,8
1SVIE08-08..005	0,55	ESM90R/305 SVIE	0,69	2,81	1,90	71,5	72,0	72,3	71,2	62,4	52,1	41,2	29,7
1SVIE11-11..007	0,75	ESM90R/307 SVIE	0,91	3,55	2,40	98,3	99,1	99,3	97,7	85,0	70,9	56,0	40,1
1SVIE15-15..011	1,1	ESM90R/311 SVIE	1,37	4,94	3,45	134,1	135,1	135,5	133,8	123,6	104,0	83,3	61,4
1SVIE20-20..015	1,5	ESM90R/315 SVIE	1,82	6,34	4,41	178,9	180,1	180,6	178,4	168,1	141,7	114,0	84,7
1SVIE26-26..022	2,2	ESM90R/322 SVIE	2,53	-	5,85	232,5	234,0	235,0	231,6	222,2	204,4	170,0	130,7

PUMP TYPE SVIE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I	* I	l/min 0	13,3	26,7	40,0	53,3	66,7	80,0	86,7
				208-240 V	380-460 V	m ³ /h 0	0,8	1,6	2,4	3,2	4,0	4,8	5,2
				A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
3SVIE03-03..003	0,37	ESM90R/303 SVIE	0,49	2,14	1,47	33,4	33,8	33,6	30,7	24,9	19,5	14,0	10,9
3SVIE05-05..005	0,55	ESM90R/305 SVIE	0,70	2,81	1,92	55,7	56,2	55,8	46,3	37,1	28,4	19,4	14,4
3SVIE07-07..007	0,75	ESM90R/307 SVIE	0,93	3,55	2,43	77,9	78,7	77,2	63,3	50,6	38,6	26,0	18,7
3SVIE09-09..011	1,1	ESM90R/311 SVIE	1,37	4,96	3,45	100,2	101,0	100,5	88,8	72,5	56,4	39,9	31,2
3SVIE11-11..015	1,5	ESM90R/315 SVIE	1,82	6,35	4,42	122,5	123,3	122,5	117,9	98,4	77,9	57,2	46,4
3SVIE17-17..022	2,2	ESM90R/322 SVIE	2,54	-	5,87	189,8	191,6	190,4	183,4	151,3	119,6	87,4	70,6

PUMP TYPE SVIE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I	* I	l/min 0	26,7	53,3	80,0	106,7	133,3	160,0	166,7
				208-240 V	380-460 V	m³/h 0	1,6	3,2	4,8	6,4	8,0	9,6	10,0
				A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
5SVIE02-02..003	0,37	ESM90R/303 SVIE	0,50	2,13	1,48	22,4	22,2	21,6	18,4	14,7	11,1	7,5	6,5
5SVIE03-03..005	0,55	ESM90R/305 SVIE	0,69	2,80	1,92	33,5	33,2	32,4	27,4	21,8	16,5	11,0	9,5
5SVIE04-04..007	0,75	ESM90R/307 SVIE	0,92	3,55	2,42	44,7	44,3	43,2	37,3	29,7	22,6	15,2	13,3
5SVIE06-06..011	1,1	ESM90R/311 SVIE	1,38	4,96	3,46	67,1	66,5	64,8	54,8	43,6	33,0	22,0	19,1
5SVIE08-08..015	1,5	ESM90R/315 SVIE	1,83	6,38	4,43	88,8	89,1	87,1	76,3	60,8	46,3	31,7	28,0
5SVIE12-12..022	2,2	ESM90R/322 SVIE	2,55	-	5,88	133,2	133,5	130,6	112,2	89,2	67,5	45,9	40,3

PUMP TYPE SVIE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	P _N kW	TYPE 1x230 V	* P ₁ kW	* I	* I	l/min 0	43,3	86,7	130,0	173,3	216,7	260,0	283,3
				208-240 V	380-460 V	m ³ /h 0	2,6	5,2	7,8	10,4	13,0	15,6	17,0
				A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
10SVIE02-02..007	0,75	ESM90R/307 SVIE	0,94	3,52	2,46	24,2	23,8	22,9	21,2	17,6	12,6	7,1	3,6
10SVIE02-02..011	1,1	ESM90R/311 SVIE	1,37	4,94	3,45	34,8	34,4	33,5	31,8	25,9	20,2	14,3	11,0
10SVIE03-03..015	1,5	ESM90R/315 SVIE	1,83	6,38	4,43	52,7	52,1	50,9	44,0	35,6	27,8	19,7	15,1
10SVIE04-04..022	2,2	ESM90R/322 SVIE	2,54	-	5,86	70,3	69,6	67,8	64,8	54,3	43,3	32,2	25,9

PUMP TYPE SVIE Three-phase	MOTOR		* P ₁ kW	e-SM SET		Q = DELIVERY							
	P _N kW	TYPE 1x230 V		* I	* I	l/min 0 m³/h 0	70,0 4,2	140,0 8,4	210,0 12,6	280,0 16,8	350,0 21,0	420,0 25,2	483,3 29,0
				208-240 V	380-460 V								
				A	A								
H = TOTAL HEAD IN METRES OF COLUMN OF WATER													
15SVIE02-02..015	1,5	ESM90R/315 SVIE	1,76	7,71	4,34	29,6	29,1	28,3	26,8	22,2	16,4	10,1	3,8
15SVIE02-02..022	2,2	ESM90R/322 SVIE	2,54	-	5,87	42,7	42,0	41,1	39,7	33,4	26,8	20,1	13,5

PUMP TYPE SVIE Three-phase	MOTOR		* P ₁ kW	e-SM SET		Q = DELIVERY									
	P _N kW	TYPE 1x230 V		* I	* I	l/min 0	73,3	146,7	220,0	293,3	366,7	440,0	500,0		
				208-240 V	380-460 V	m ³ /h 0	4,4	8,8	13,2	17,6	22,0	26,4	30,0		
				A	A	H = TOTAL HEAD IN METRES OF COLUMN OF WATER									
22SVIE02-02..015	1,5	ESM90R/315 SVIE	1,76	6,18	4,31	31,4	30,9	30,2	26,0	20,8	15,4	9,1	2,8		
22SVIE02-02..022	2,2	ESM90R/322 SVIE	2,56	-	5,91	45,2	44,7	43,8	38,3	31,9	26,0	19,6	13,6		

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

1-22svie-esm-2p50T-en_a_th

e-SVIE SERIES ELECTRICAL DATA TABLE

The nominal motor power is guaranteed in the 3000-3600 rpm range. The motor is automatically limited to 3600 rpm maximum; the motor works partially loaded below 3000 rpm.

SINGLE-PHASE VERSION

P _N	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED	INPUT CURRENT	DATA RELATED TO THE VOLTAGE OF 230V						
kW				(RPM)**	I (A)	In	cosφ	Tn	η %			IES
				min ⁻¹	208-240 V	A		Nm	4/4	3/4	2/4	
0,37	ESM90R/103 SVIE	90R	V18/B14	3000	2,28-1,99	2,08	0,95	1,18	81,3	79,1	74,3	2
				3600	2,30-2,02	2,10		0,98	80,6	77,5	72,0	
0,55	ESM90R/105 SVIE	90R	V18/B14	3000	3,27-2,85	2,96	0,97	1,75	83,3	82,2	78,8	2
				3600	3,27-2,85	2,96		1,46	83,3	81,5	77,5	
0,75	ESM90R/107 SVIE	90R	V18/B14	3000	4,43-3,84	4,00	0,98	2,39	83,3	83,3	81,5	2
				3600	4,38-3,79	3,94		1,99	84,5	83,5	80,6	
1,10	ESM90R/111 SVIE	90R	V18/B14	3000	6,26-5,35	5,64	0,99	3,50	85,7	85,1	82,7	2
				3600	6,20-5,32	5,63		2,92	85,9	84,6	81,4	
1,50	ESM90R/115 SVIE	90R	V18/B14	3000	8,57-7,32	7,69	0,99	4,77	85,60	85,7	84,7	2
				3600	8,42-7,25	7,62		3,98	86,3	85,9	84,0	

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

eSVI_Smart-motm_en_b_te

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

THREE-PHASE VERSION

P _n	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED	INPUT CURRENT	DATA RELATED TO THE VOLTAGE OF 400V						
				(RPM)**	I (A)	In	cosφ	Tn	η %			IES
				min ⁻¹	208-240/380-460 V	A		Nm	4/4	3/4	2/4	
0.37	ESM90R/303 SVIE	90R	V18/B14	3000	2,01-1,85/1,41-1,28	1.42	0.48	1.18	78.6	75.6	70.1	2
				3600	2,13-1,83/1,43-1,33	1.36		0.98	83.1	80.7	76.1	
0.55	ESM90R/305 SVIE	90R	V18/B14	3000	2,81-2,57/1,89-1,69	1.88	0.52	1.75	81.1	79.3	75.5	2
				3600	2,90-2,52/1,90-1,73	1.80		1.46	85.4	83.8	80.6	
0.75	ESM90R/307 SVIE	90R	V18/B14	3000	3,70-3,37/2,44-2,17	2.41	0.55	2.39	81.9	81.2	78.6	2
				3600	3,74-3,28/2,43-2,20	2.31		1.99	86.1	85.5	83.1	
1.10	ESM90R/311 SVIE	90R	V18/B14	3000	5,12-4,73/3,41-3,01	3.35	0.57	3.50	82.8	81.3	77.7	2
				3600	5,15-4,69/3,45-3,06	3.32		2.92	83.5	81.6	77.6	
1.50	ESM90R/315 SVIE	90R	V18/B14	3000	6,73-6,17/4,49-3,95	4.39	0.59	4.77	83.1	82.8	80.6	2
				3600	6,69-6,08/4,48-3,97	4.32		3.98	84.6	83.6	80.8	
2.20	ESM90R/322 SVIE	90R	V18/B14	3000	- /6,03-5,32	5.81	0.62	7.00	87.6	87.4	85.9	2
				3600	- /5,93-5,24	5.74		5.84	88.9	88.2	86.3	

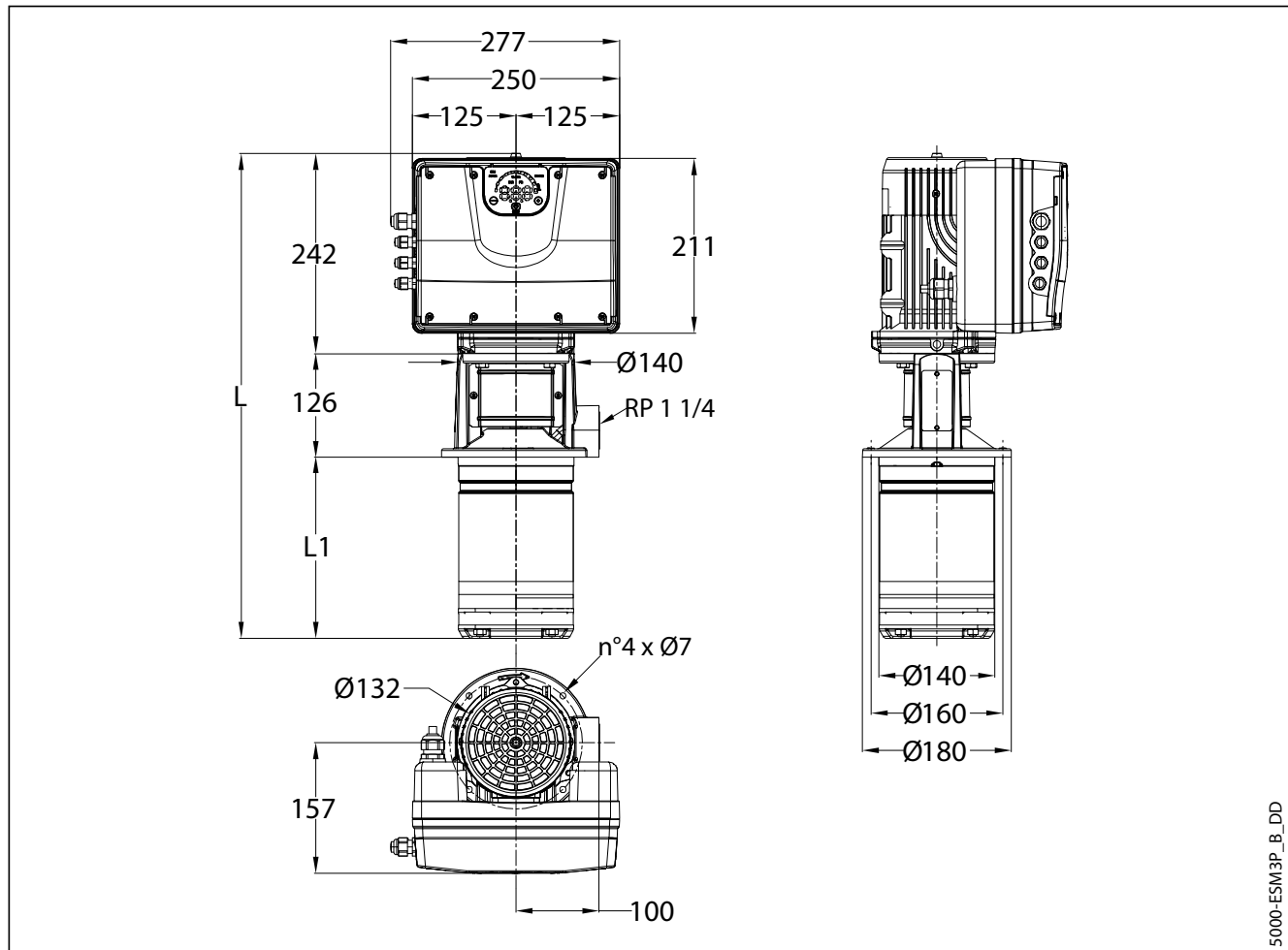
* R = Reduced size of motor casing as compared to shaft extension and flange.

eSVI_Smart-mott_en_b_te

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

Note. IES refers to the efficiency class for frequency converter + motor systems (known as power transmission systems-PDS) with power between 0.12 kW and 1000 kW and between 100 V and 1000 V, according to the standard **EN 50598-2:2014**.

1, 3, 5 SVIE SERIES, THREE-PHASE VERSION DIMENSIONS AND WEIGHTS



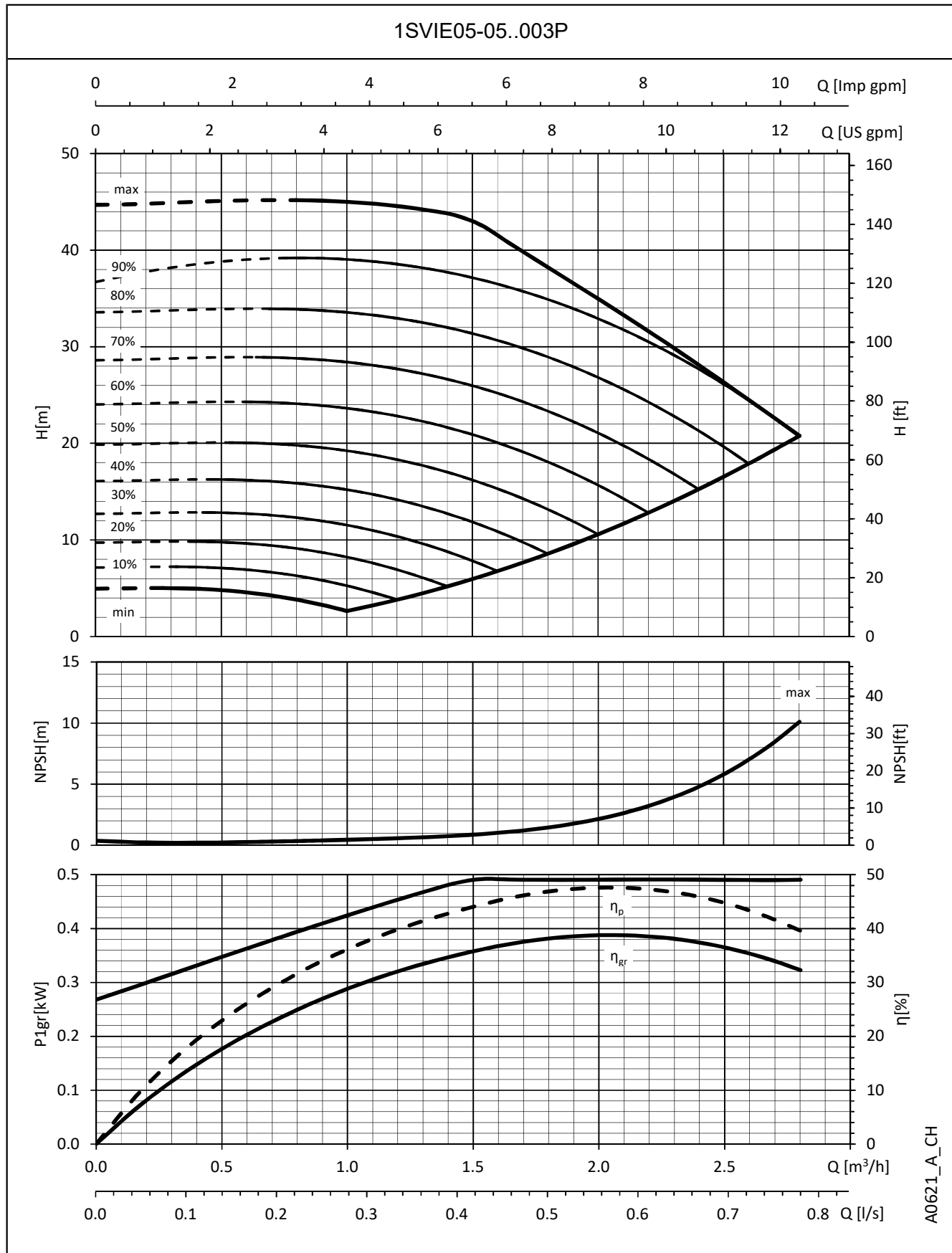
PUMP TYPE	MOTOR		DIMENSIONS (mm)		WEIGHT (kg)	
	THREE-PHASE		L	L1	PUMP	ELECTRIC PUMP
1SVIE05-05..003	0,37	90R	547	179	8	21
1SVIE08-08..005	0,55	90R	607	239	9	23
1SVIE11-11..007	0,75	90R	667	299	11	24
1SVIE15-15..011	1,10	90R	747	379	12	27
1SVIE20-20..015	1,50	90R	847	479	14	29
1SVIE26-26..022	2,20	90R	967	599	16	31
3SVIE03-03..003	0,37	90R	507	139	8	21
3SVIE05-05..005	0,55	90R	547	179	8	21
3SVIE07-07..007	0,75	90R	587	219	9	22
3SVIE09-09..011	1,10	90R	627	259	10	24
3SVIE11-11..015	1,50	90R	667	299	11	25
3SVIE17-17..022	2,20	90R	787	419	13	28
5SVIE02-02..003	0,37	90R	502	134	7	21
5SVIE03-03..005	0,55	90R	527	159	8	21
5SVIE04-04..007	0,75	90R	552	184	8	21
5SVIE06-06..011	1,10	90R	602	234	9	24
5SVIE08-08..015	1,50	90R	652	284	10	25
5SVIE12-12..022	2,20	90R	752	384	12	26

All listed dimensions are with inducer.

1-5svie_3ph-en_b_td

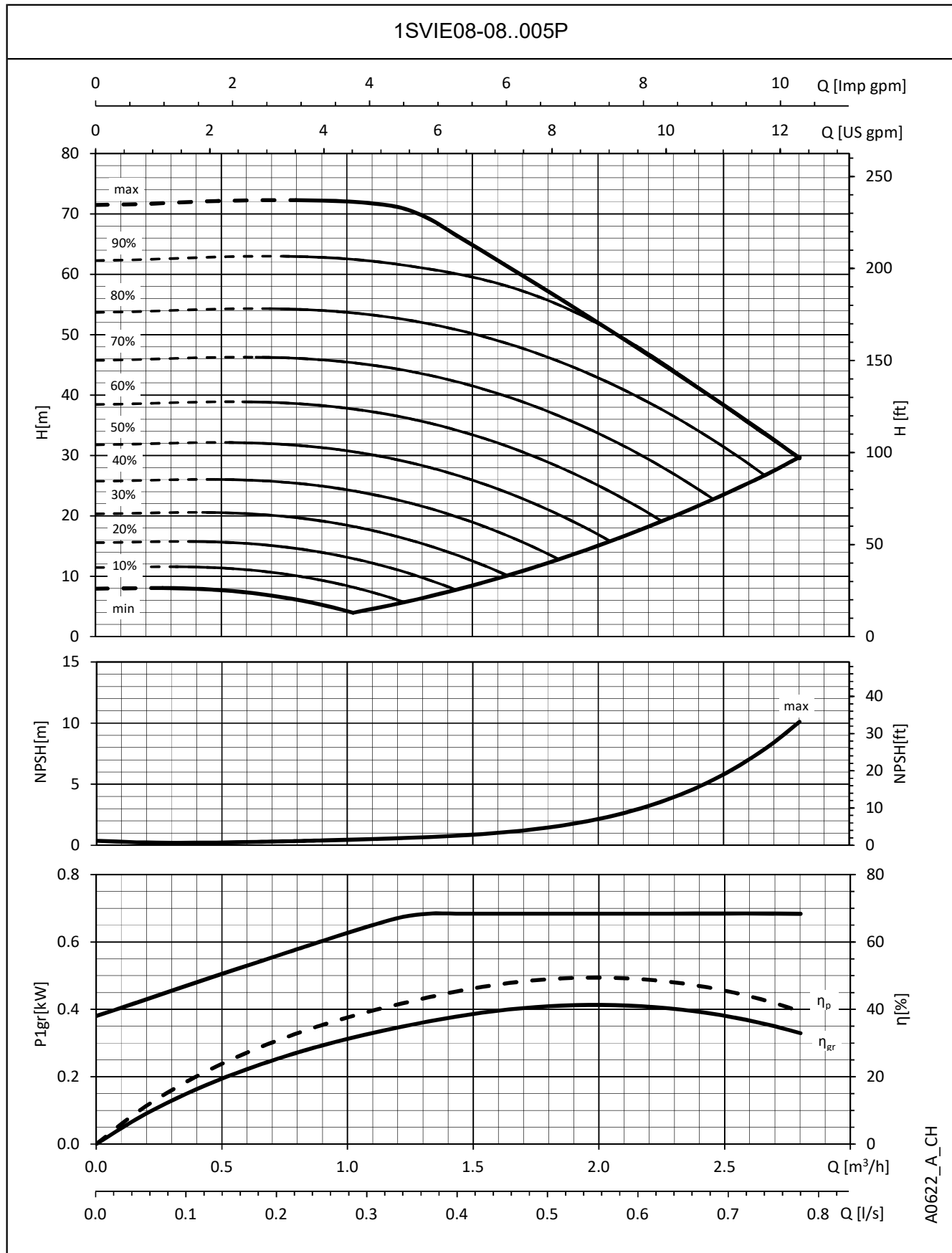
1SVIE SERIES

OPERATING CHARACTERISTICS



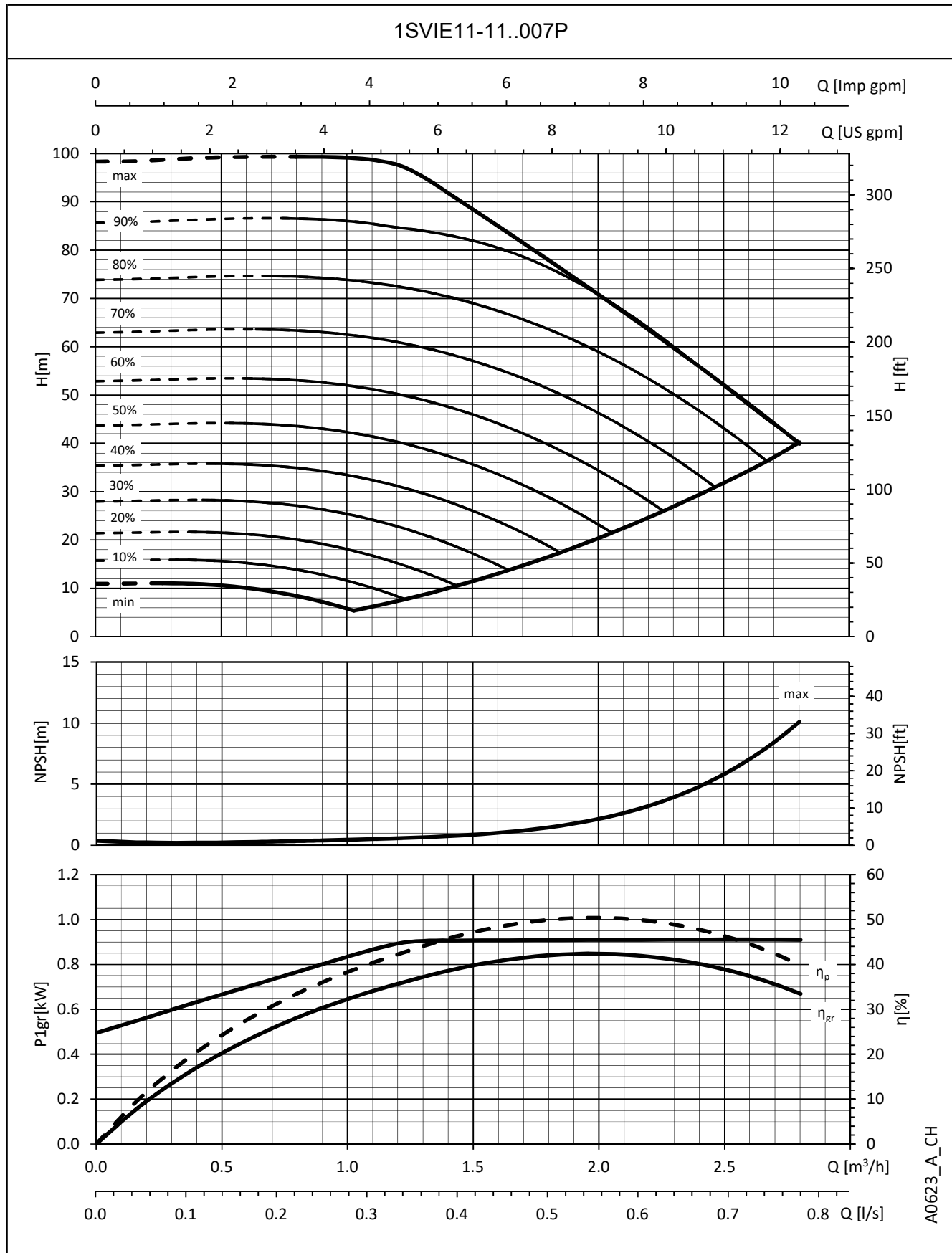
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVIE SERIES OPERATING CHARACTERISTICS



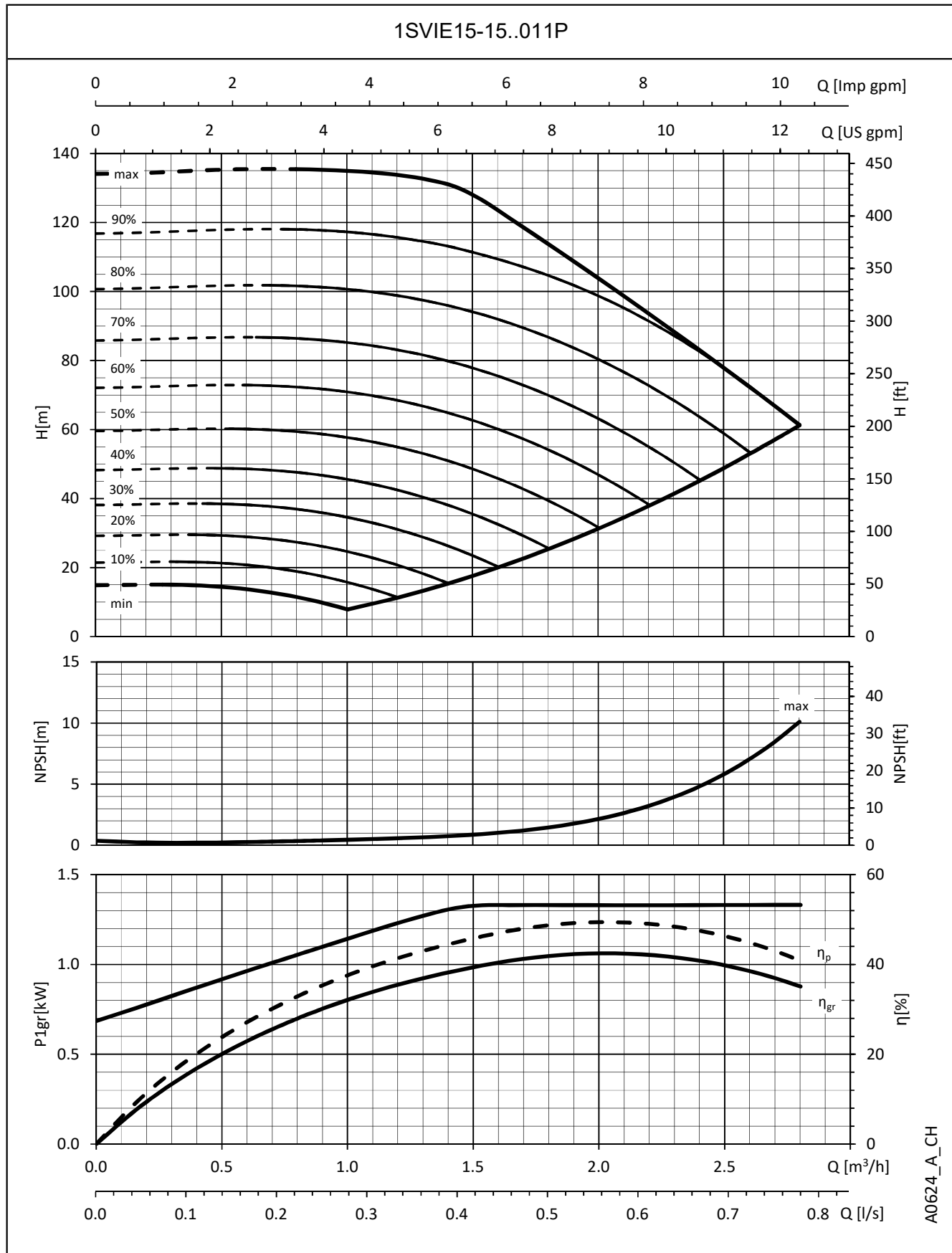
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVIE SERIES OPERATING CHARACTERISTICS



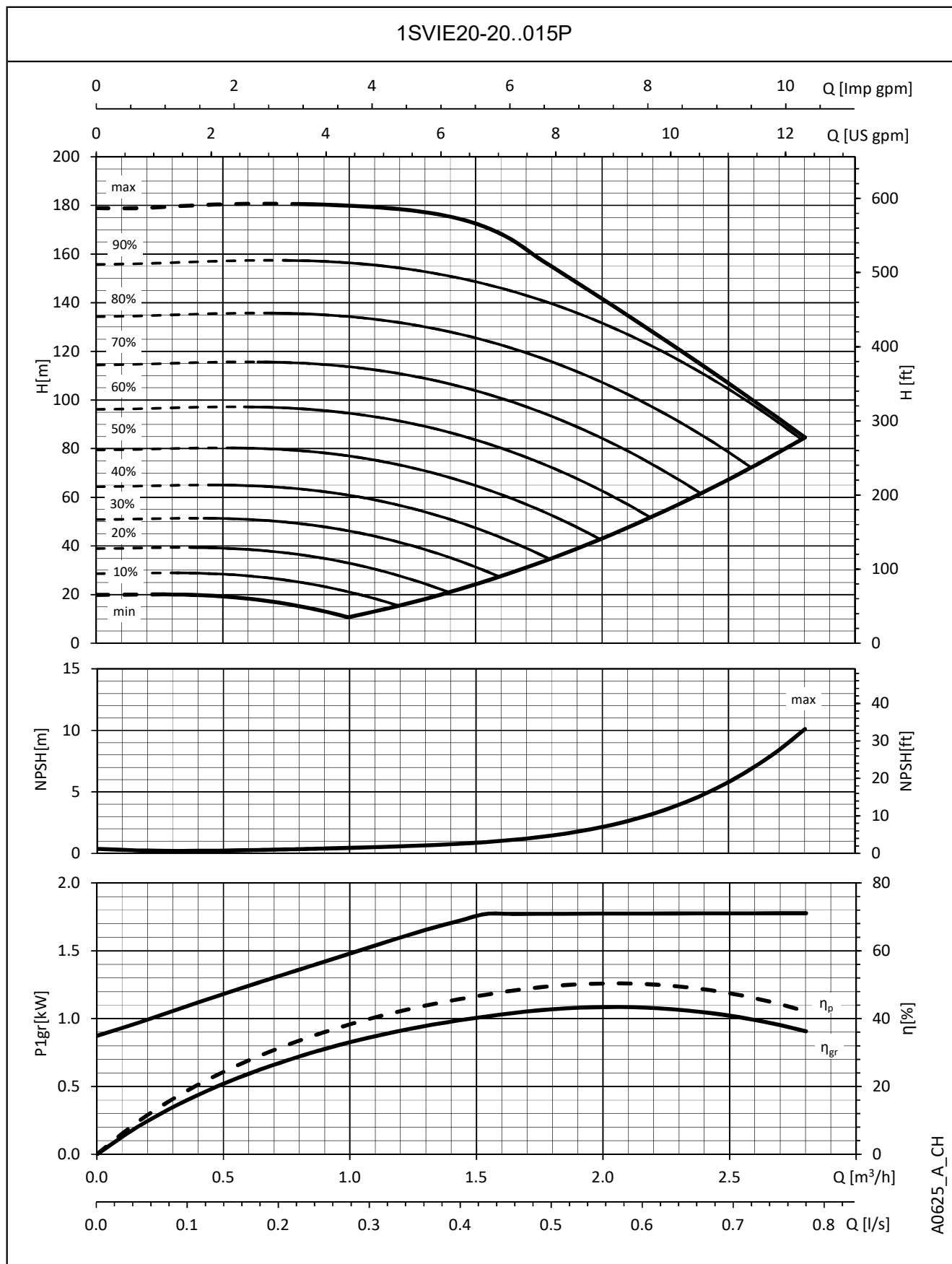
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVIE SERIES OPERATING CHARACTERISTICS



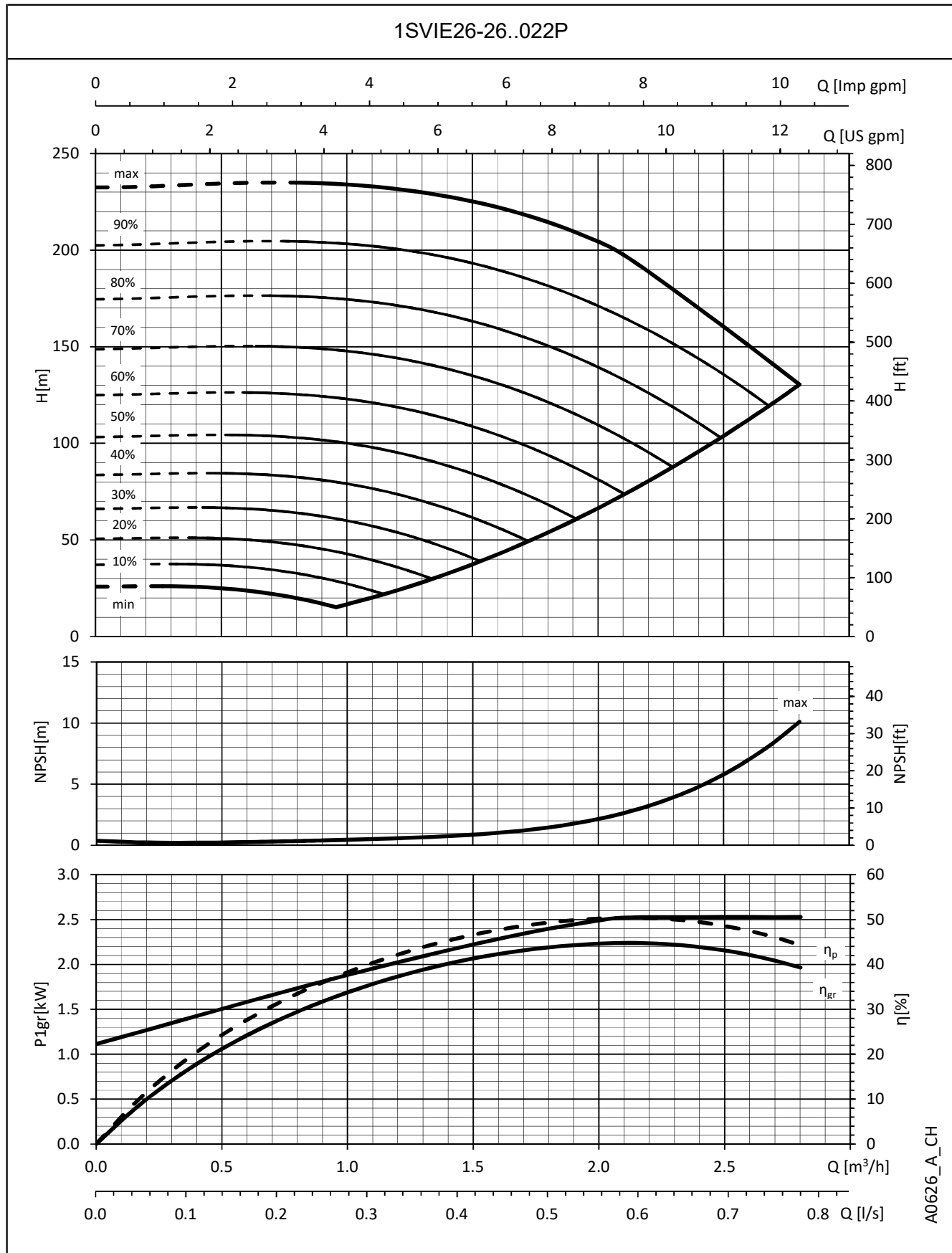
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVIE SERIES OPERATING CHARACTERISTICS



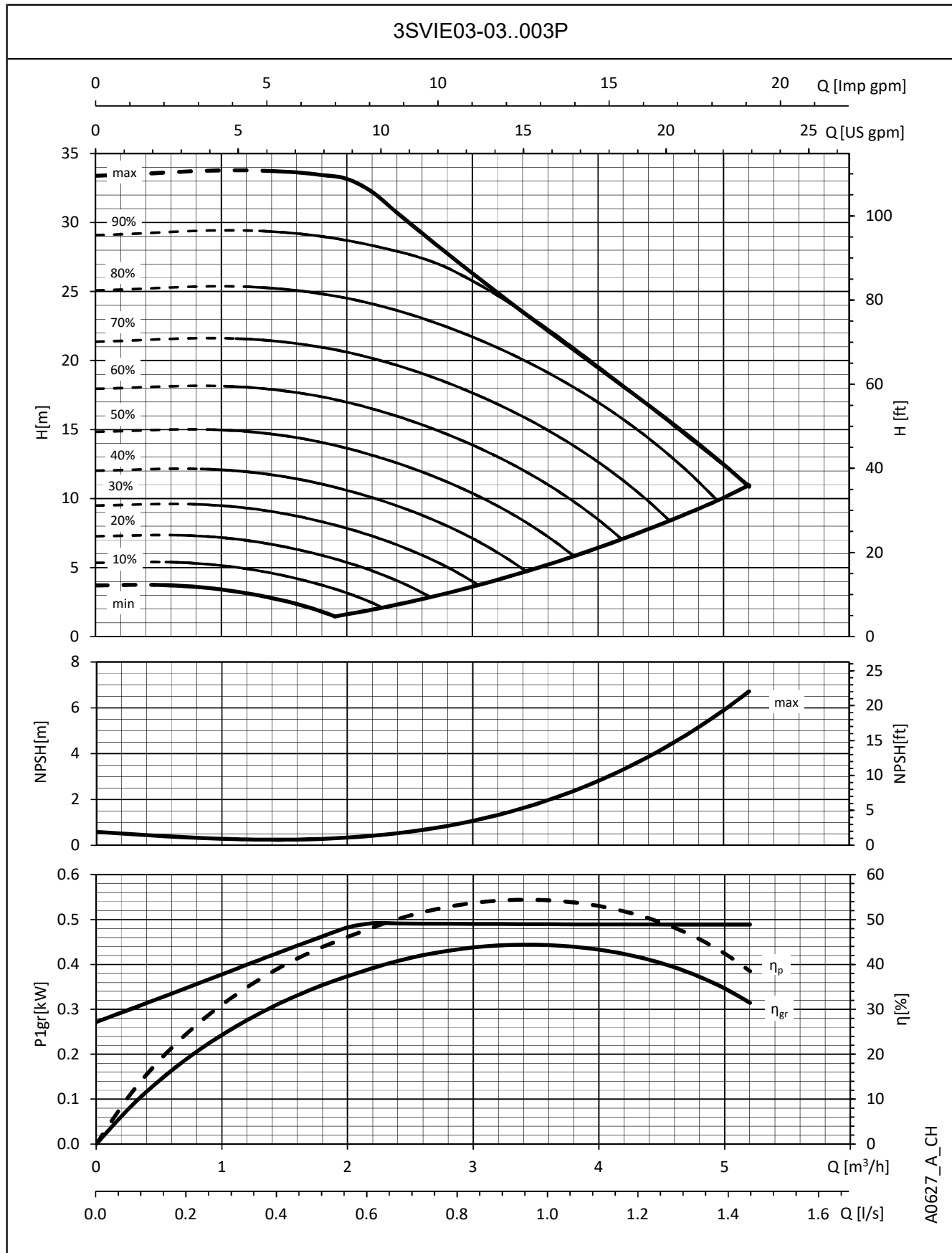
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

1SVIE SERIES OPERATING CHARACTERISTICS



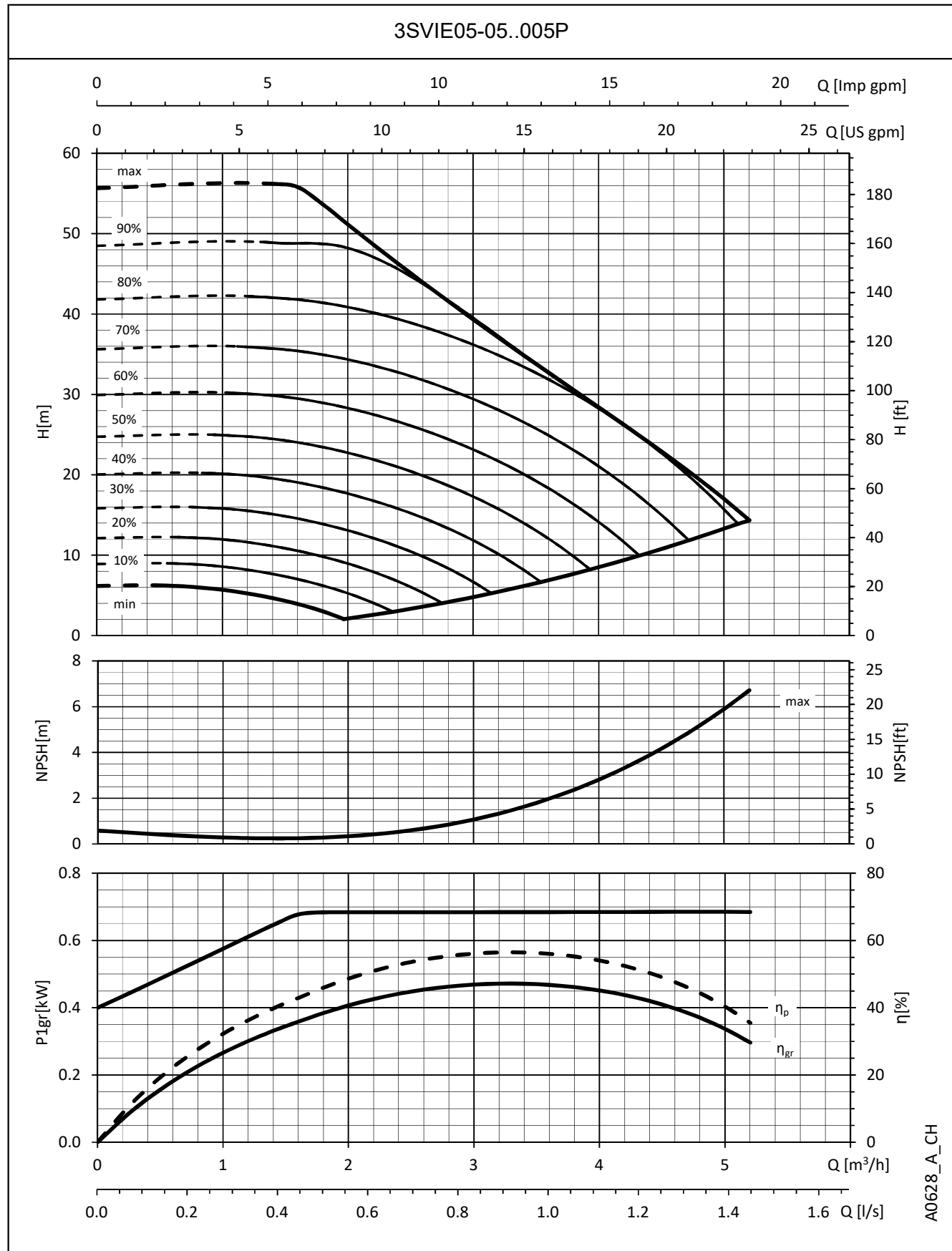
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVIE SERIES OPERATING CHARACTERISTICS



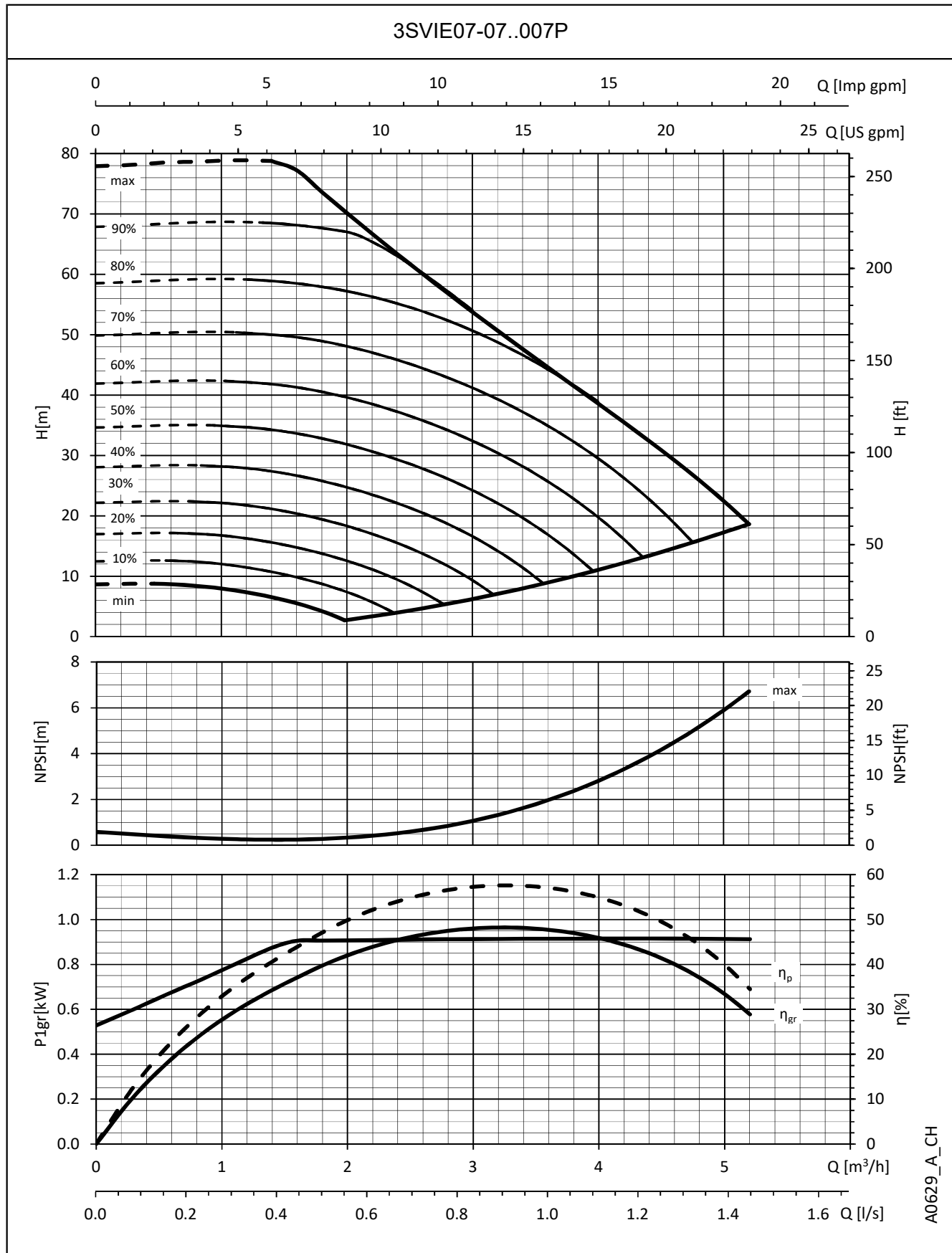
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVIE SERIES OPERATING CHARACTERISTICS



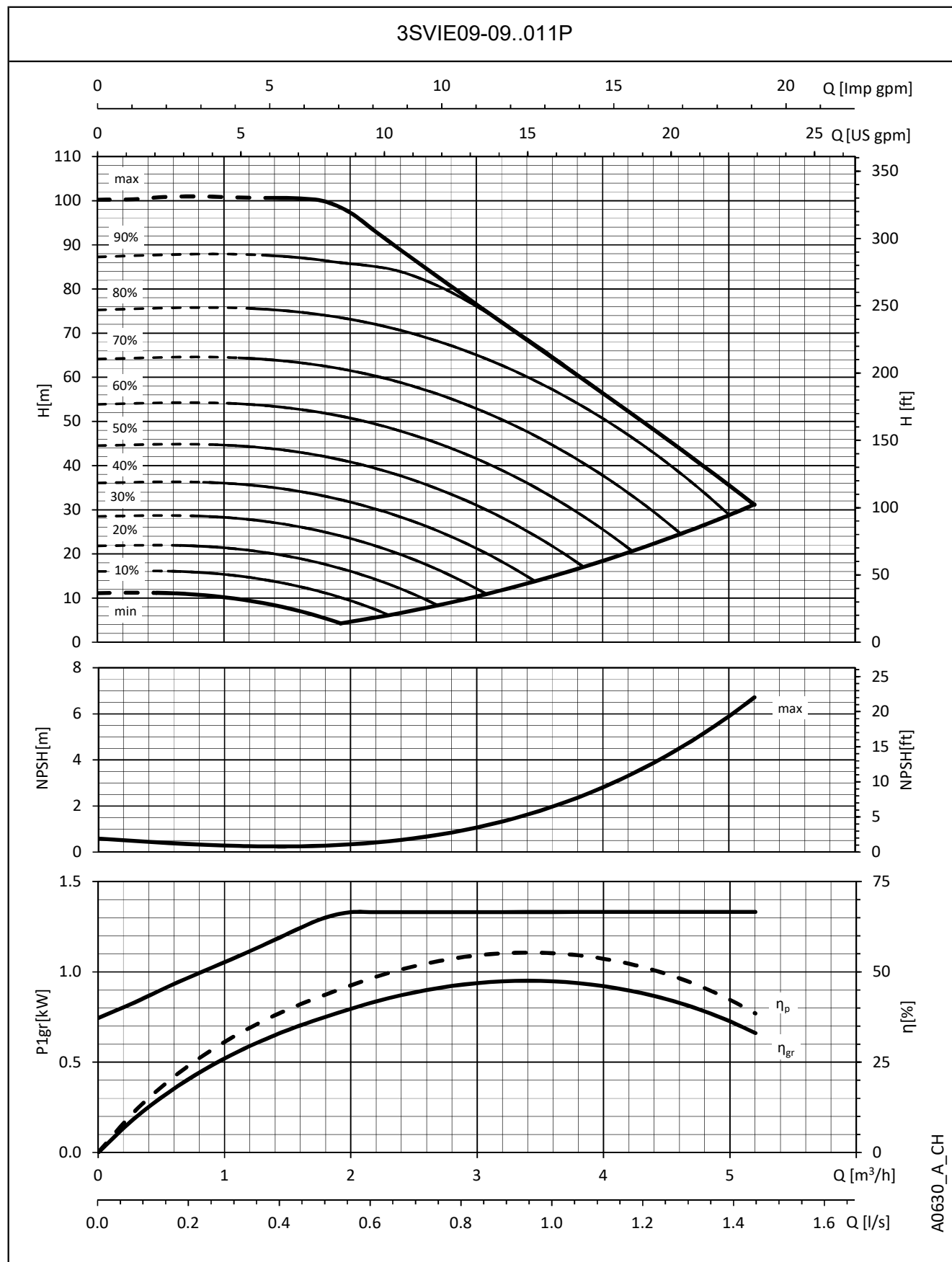
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVIE SERIES OPERATING CHARACTERISTICS



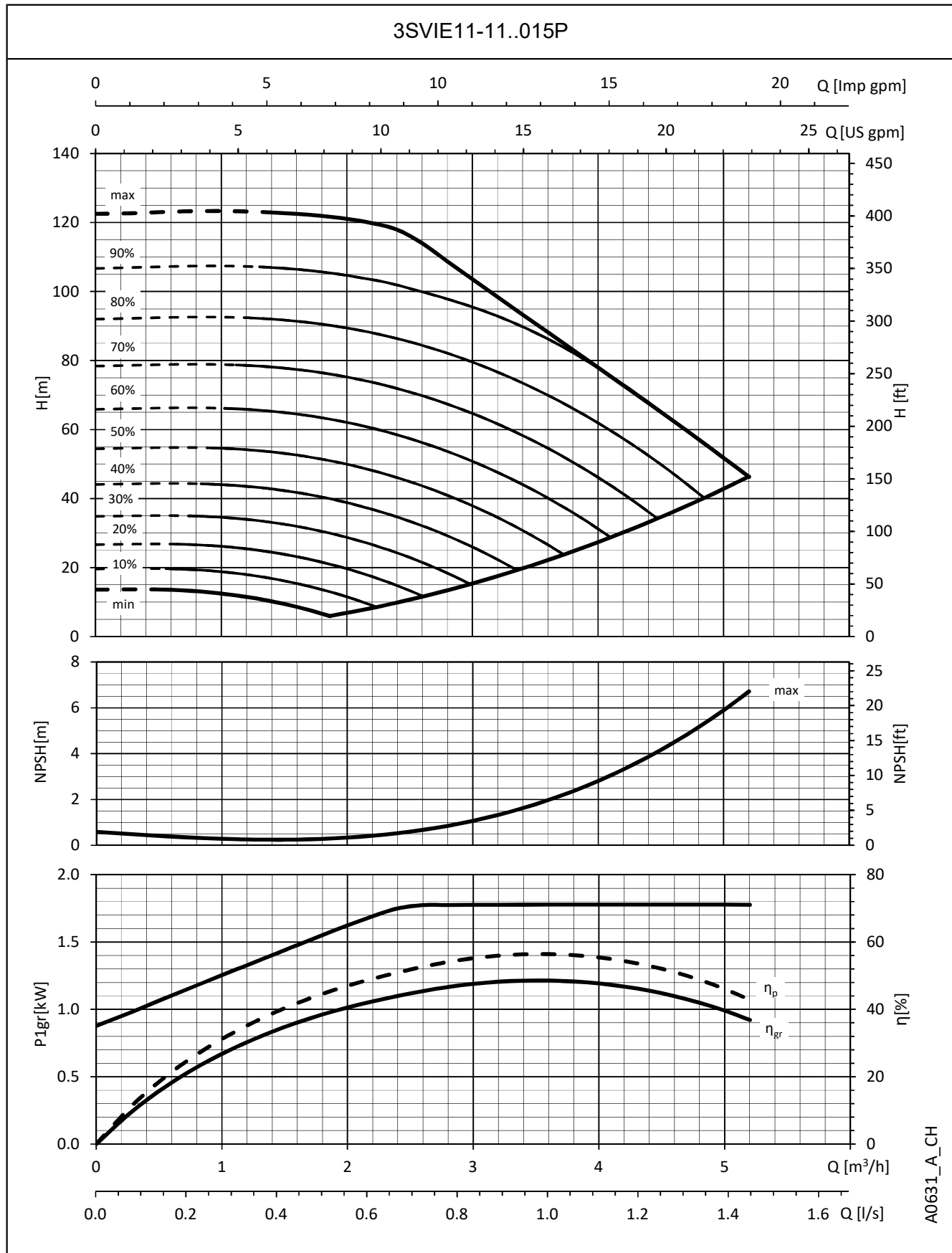
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVIE SERIES OPERATING CHARACTERISTICS



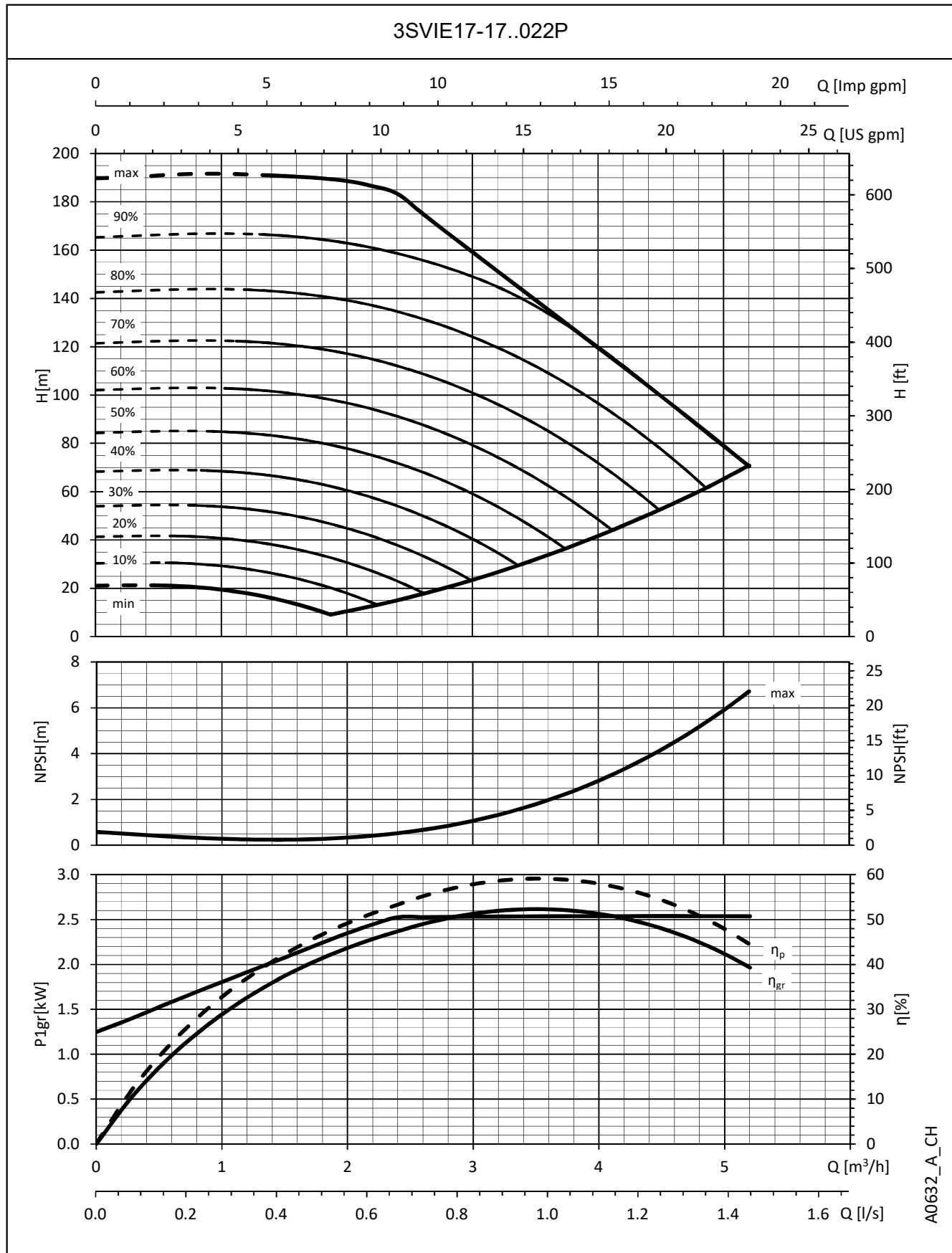
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVIE SERIES OPERATING CHARACTERISTICS



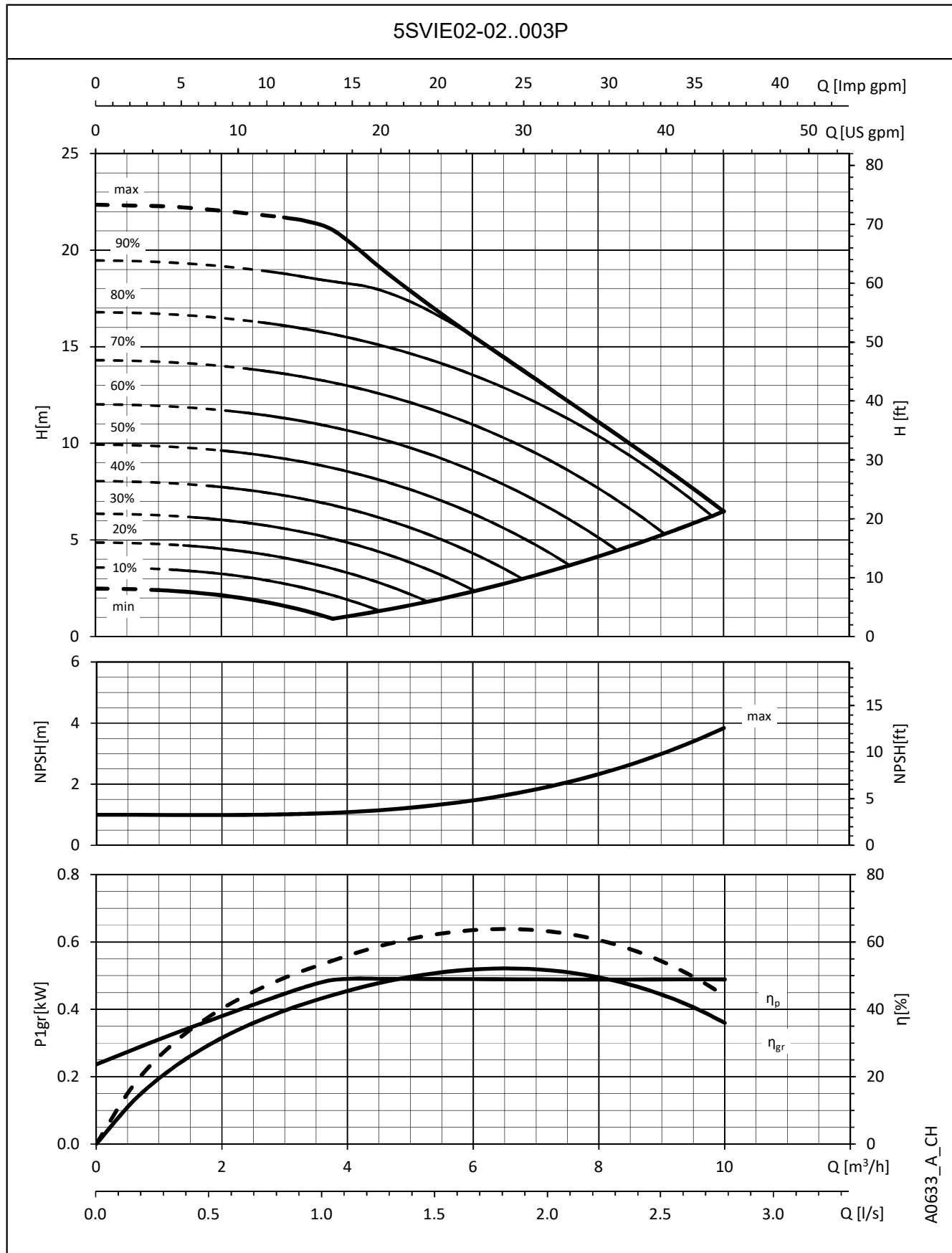
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

3SVIE SERIES OPERATING CHARACTERISTICS



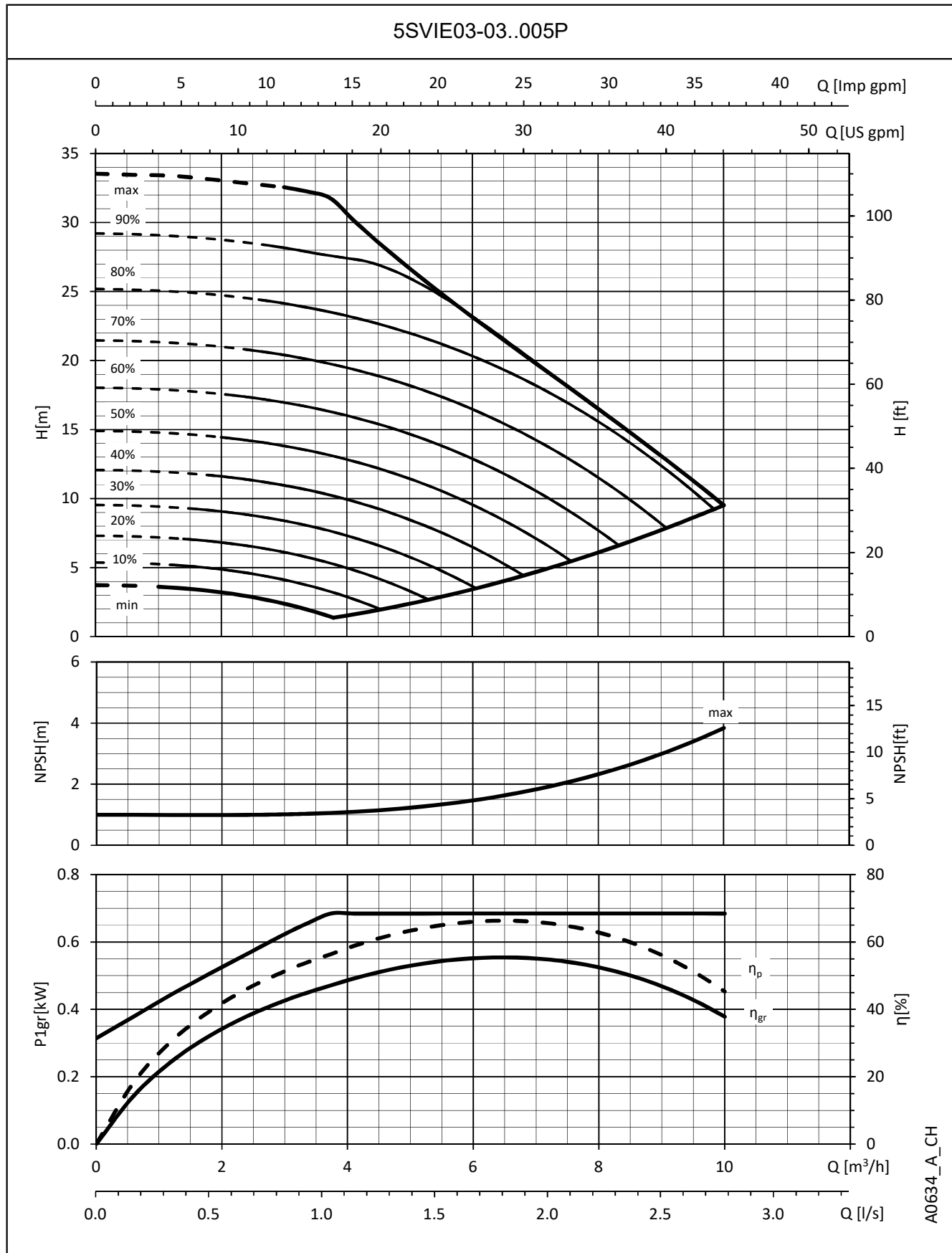
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVIE SERIES OPERATING CHARACTERISTICS



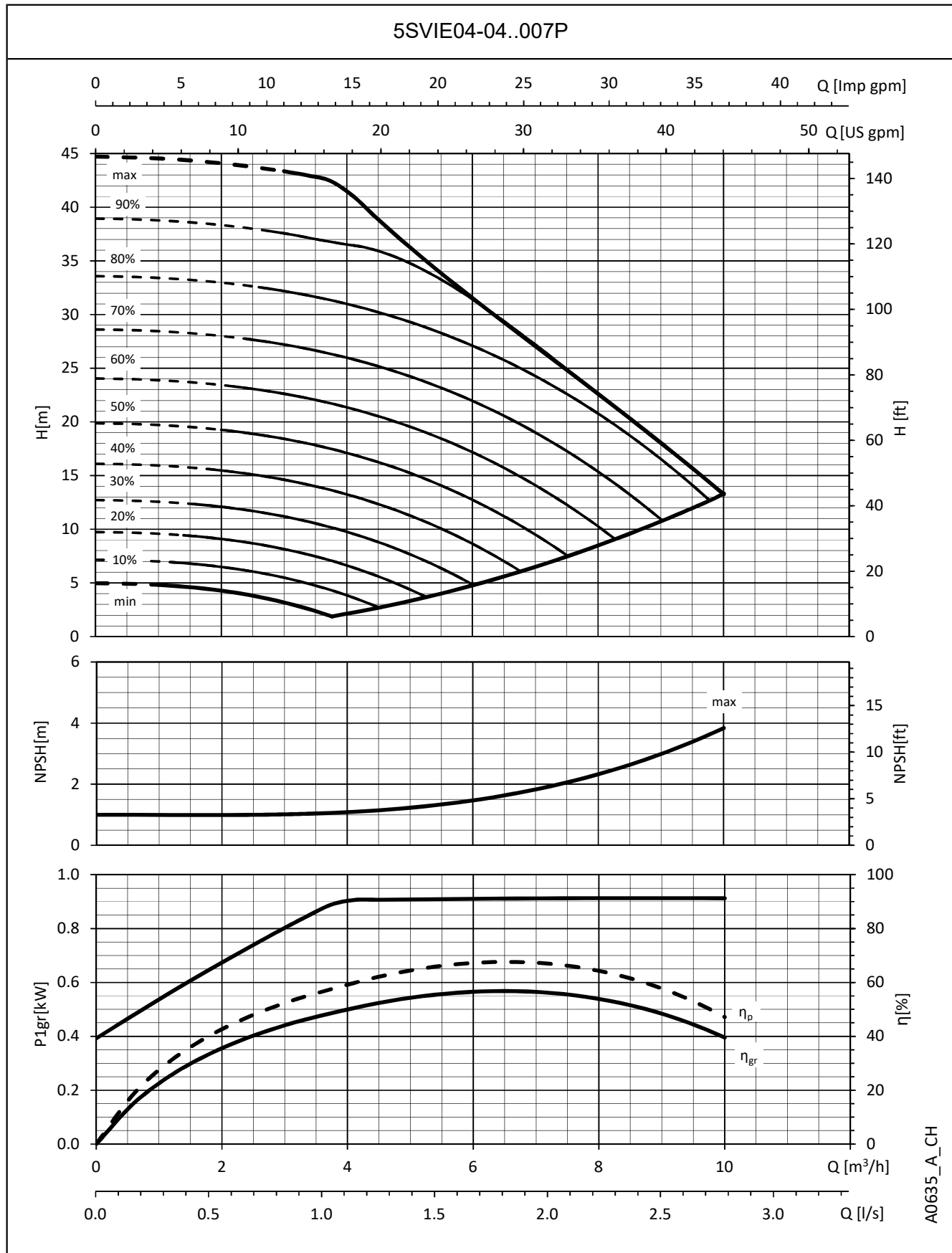
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVIE SERIES OPERATING CHARACTERISTICS



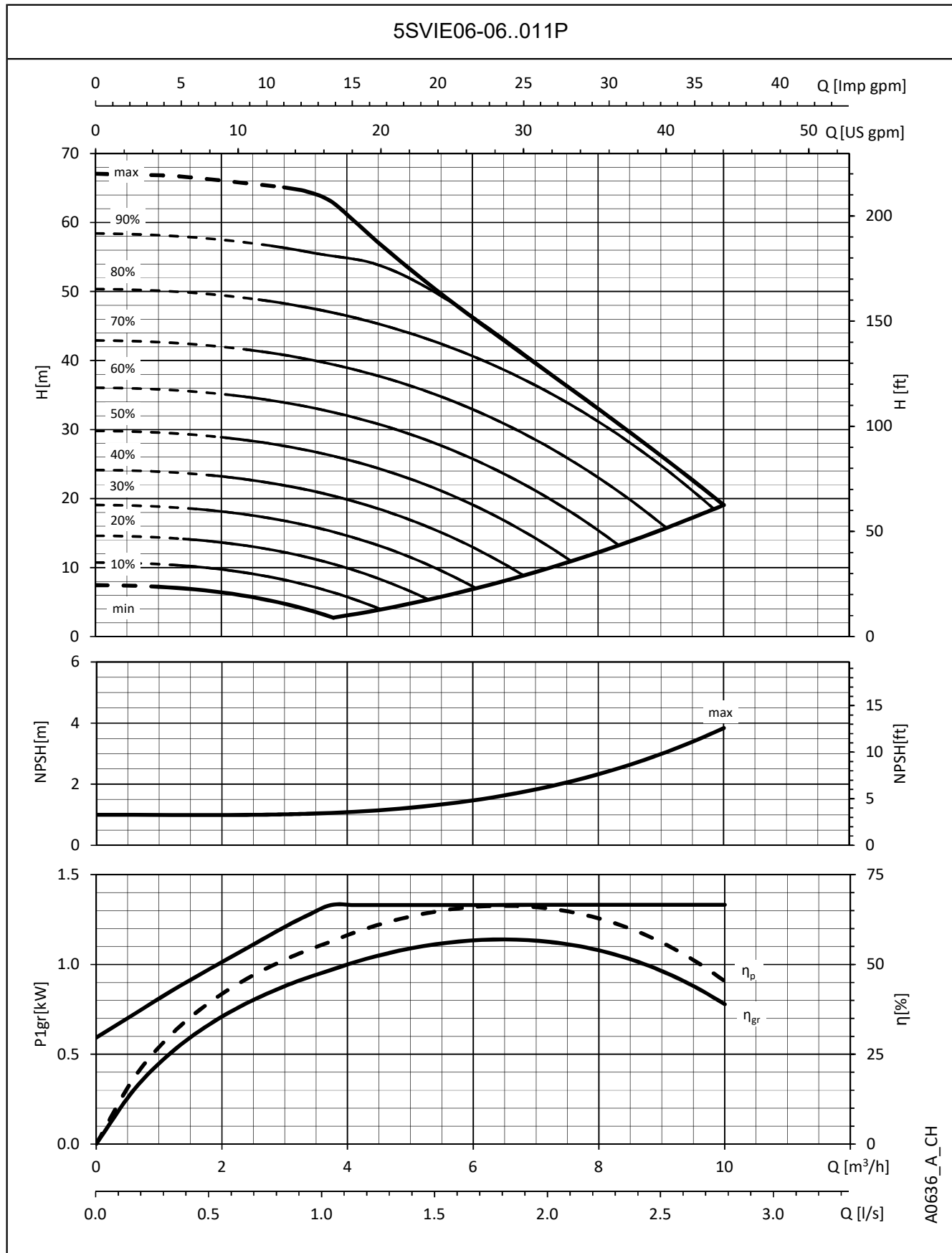
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVIE SERIES OPERATING CHARACTERISTICS



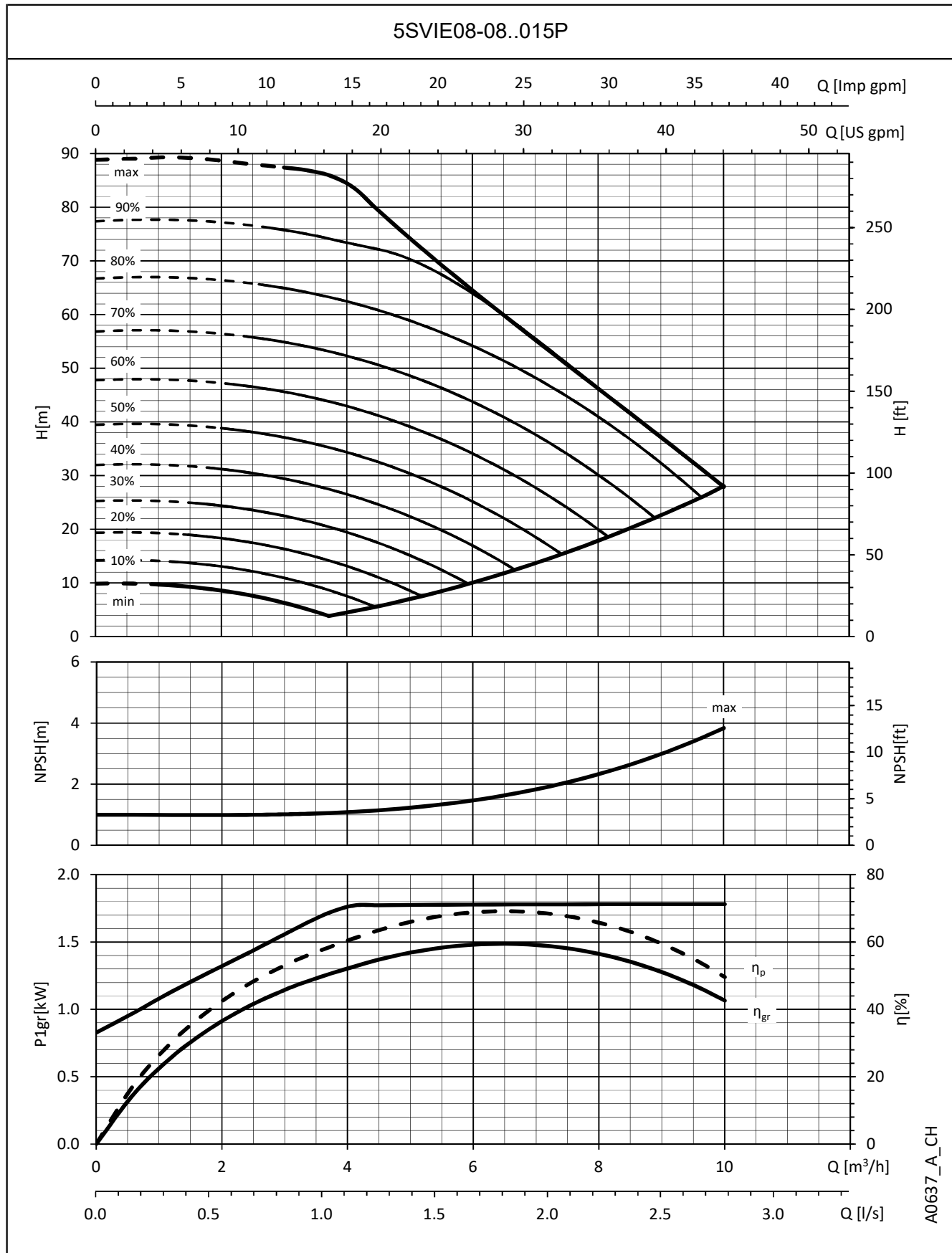
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVIE SERIES OPERATING CHARACTERISTICS



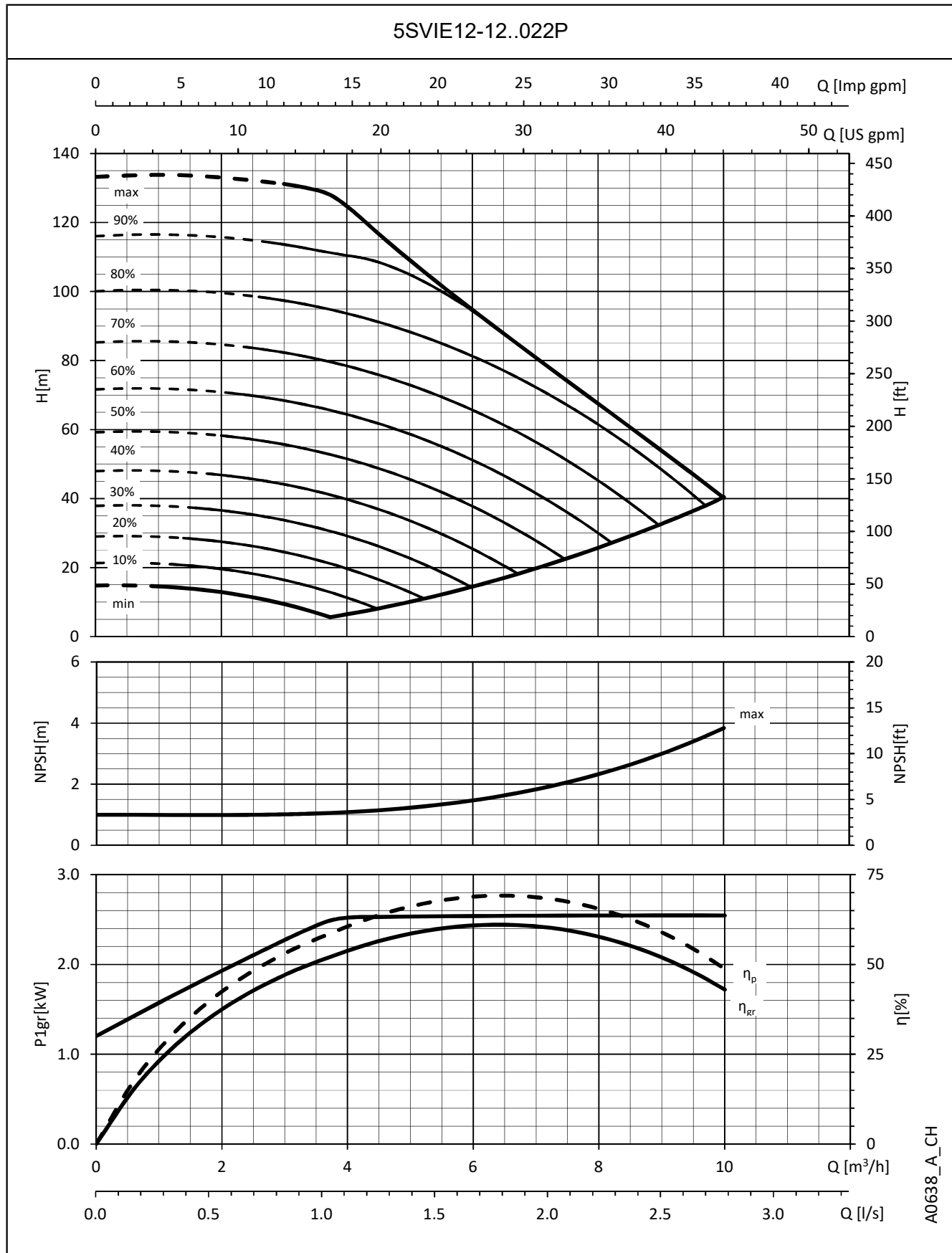
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVIE SERIES OPERATING CHARACTERISTICS



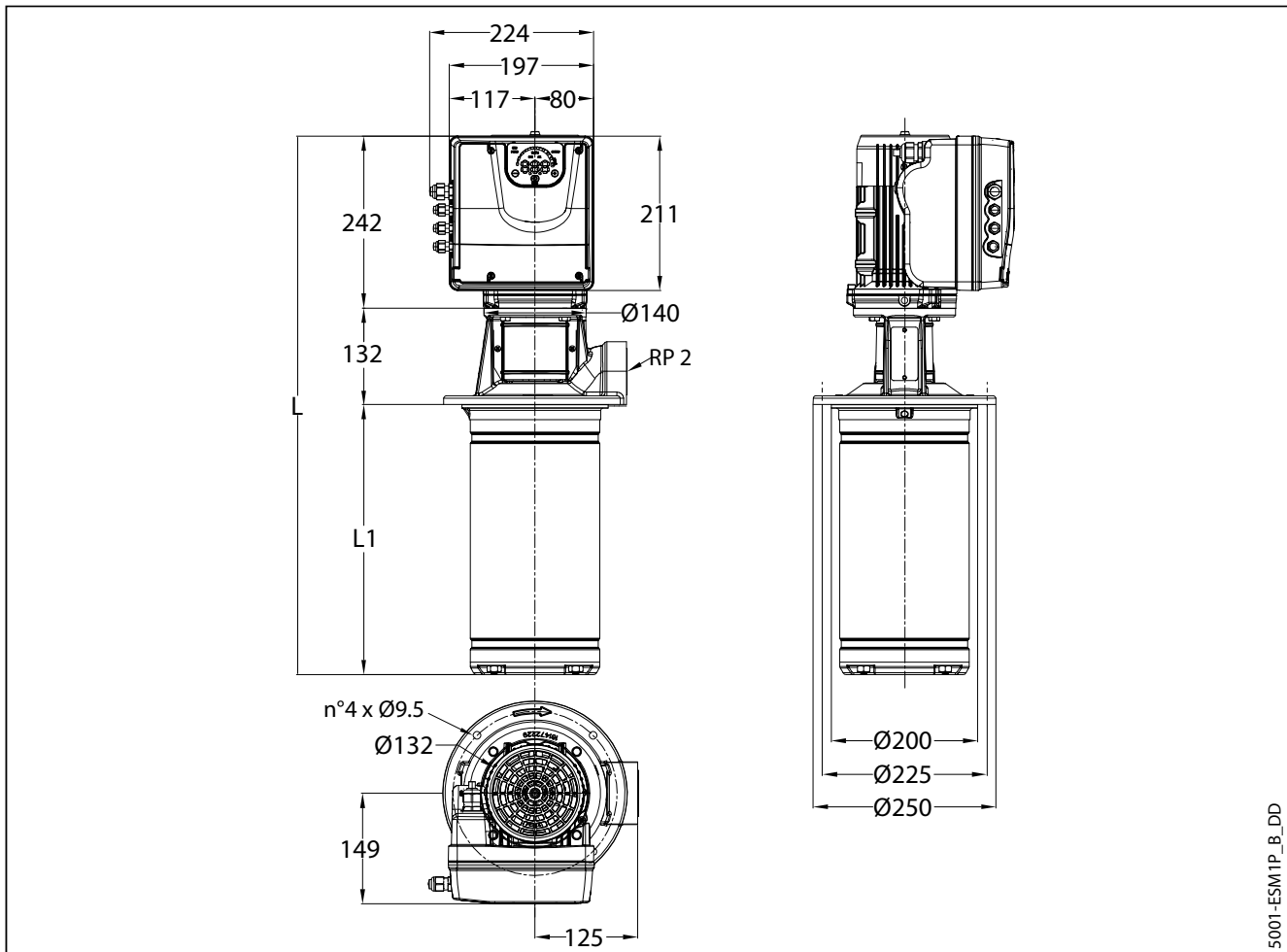
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

5SVIE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

10, 15, 22 SVIE..C - 10, 15, 22 SVIE..M SERIES, SINGLE-PHASE VERSION DIMENSIONS AND WEIGHTS



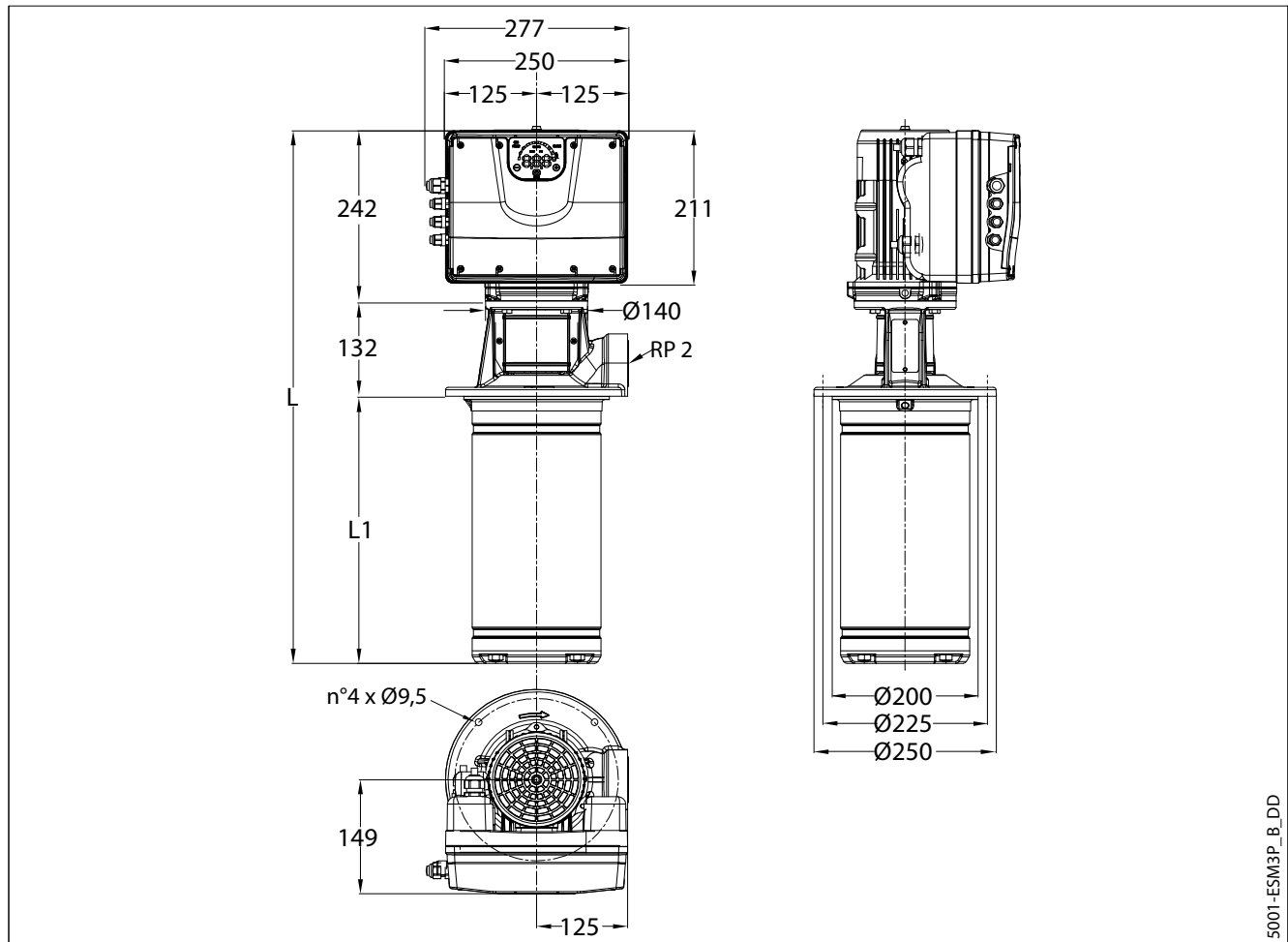
5001-ESM1P_B_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)		WEIGHT (kg)	
	kW	SIZE	L	L1	PUMP	ELECTRIC PUMP
10SVIE02-02..007	0,75	90R	552	178	13	21
10SVIE02-02..011	1,1	90R	552	178	13	22
10SVIE03-03..015	1,5	90R	584	210	14	23
15SVIE02-02..015	1,5	90R	600	226	14	23
22SVIE02-02..015	1,5	90R	600	226	14	35

All listed dimensions are with inducer.

10-22svie 1ph-en b td

10, 15, 22 SVIE..C - 10, 15, 22 SVIE..M SERIES, THREE-PHASE VERSION DIMENSIONS AND WEIGHTS



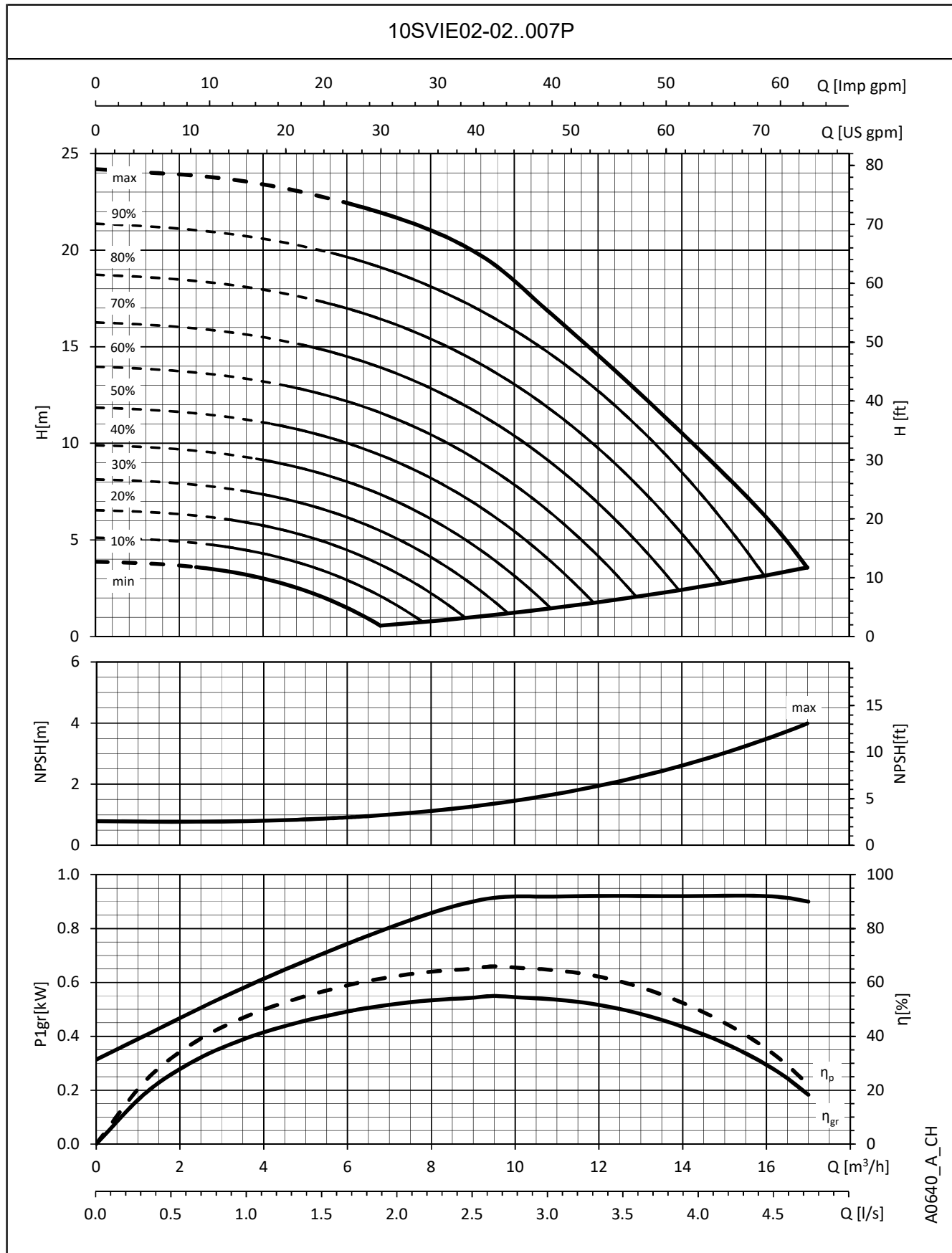
5001-ESM3P_B_DD

PUMP TYPE THREE-PHASE	MOTOR		DIMENSIONS (mm)		WEIGHT (kg)	
	kW	SIZE	L	L1	PUMP	ELECTRIC PUMP
10SVIE02-02..007	0,75	90R	552	178	13	26
10SVIE02-02..011	1,1	90R	552	178	13	28
10SVIE03-03..015	1,5	90R	584	210	14	29
10SVIE04-04..022	2,2	90R	616	242	15	30
15SVIE02-02..015	1,5	90R	600	226	14	29
15SVIE02-02..022	2,2	90R	600	226	14	29
22SVIE02-02..015	1,5	90R	600	226	14	32
22SVIE02-02..022	2,2	90R	600	226	14	32

All listed dimensions are with inducer.

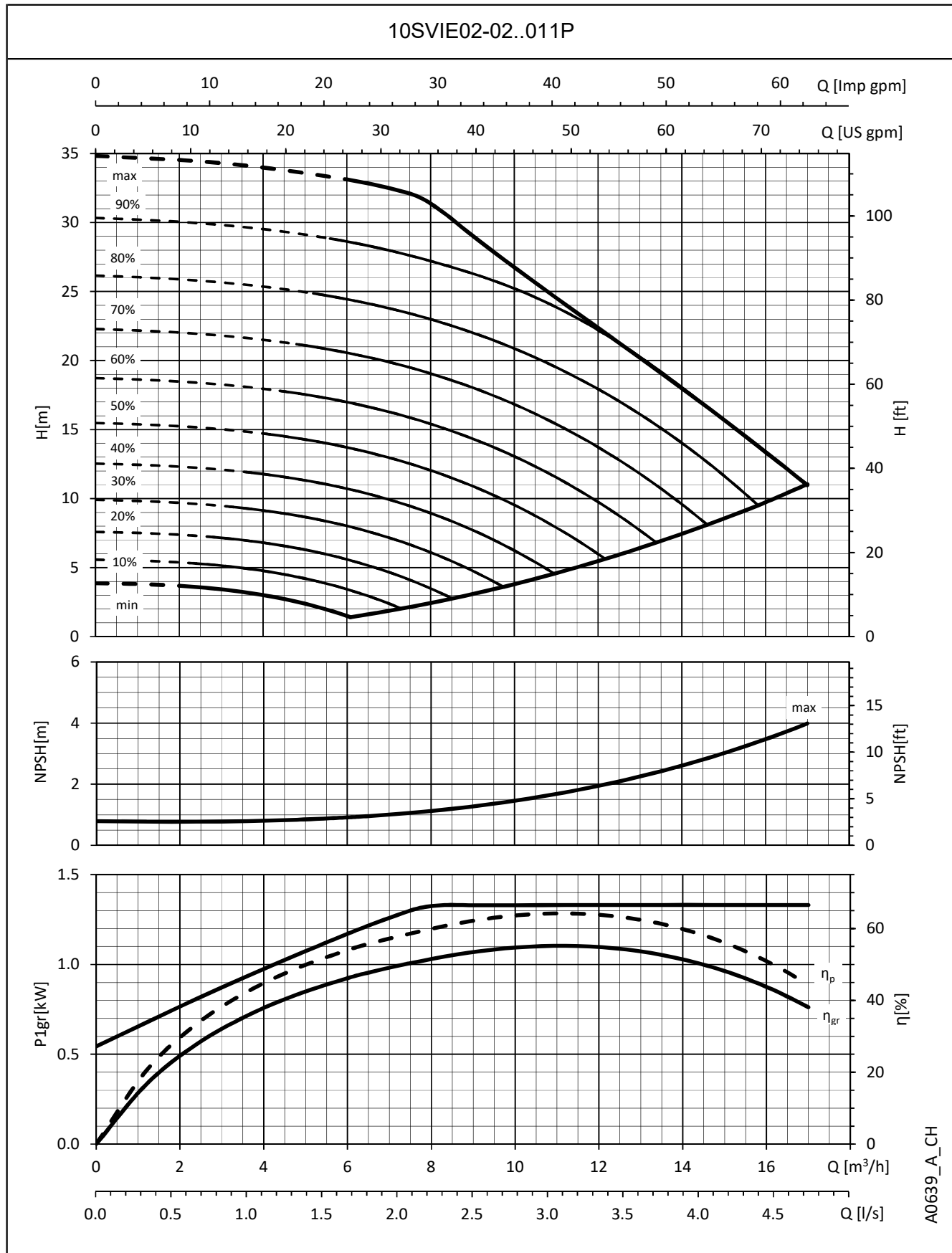
10-22svie_3ph-en_b_td

10SVIE SERIES OPERATING CHARACTERISTICS



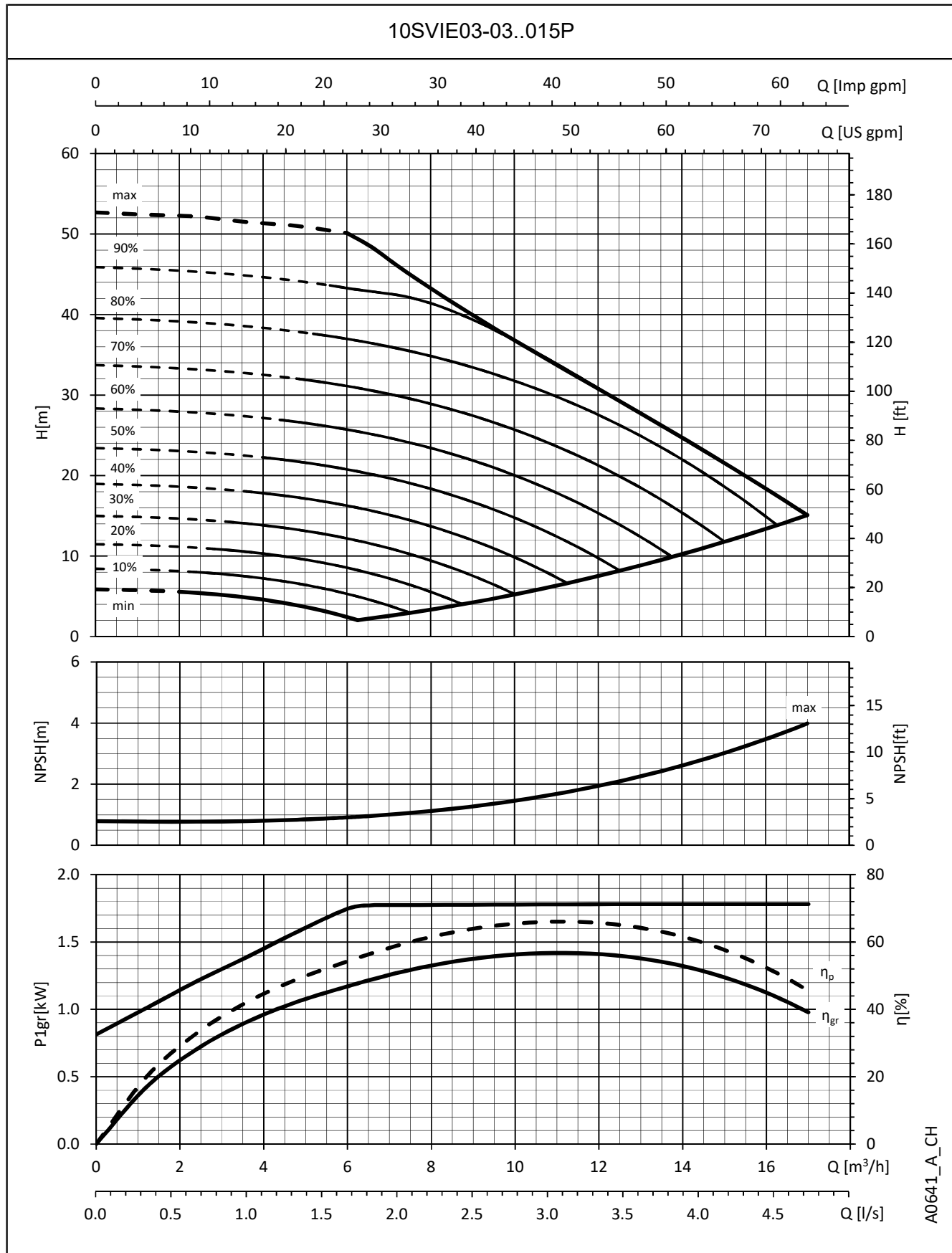
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

10SVIE SERIES OPERATING CHARACTERISTICS



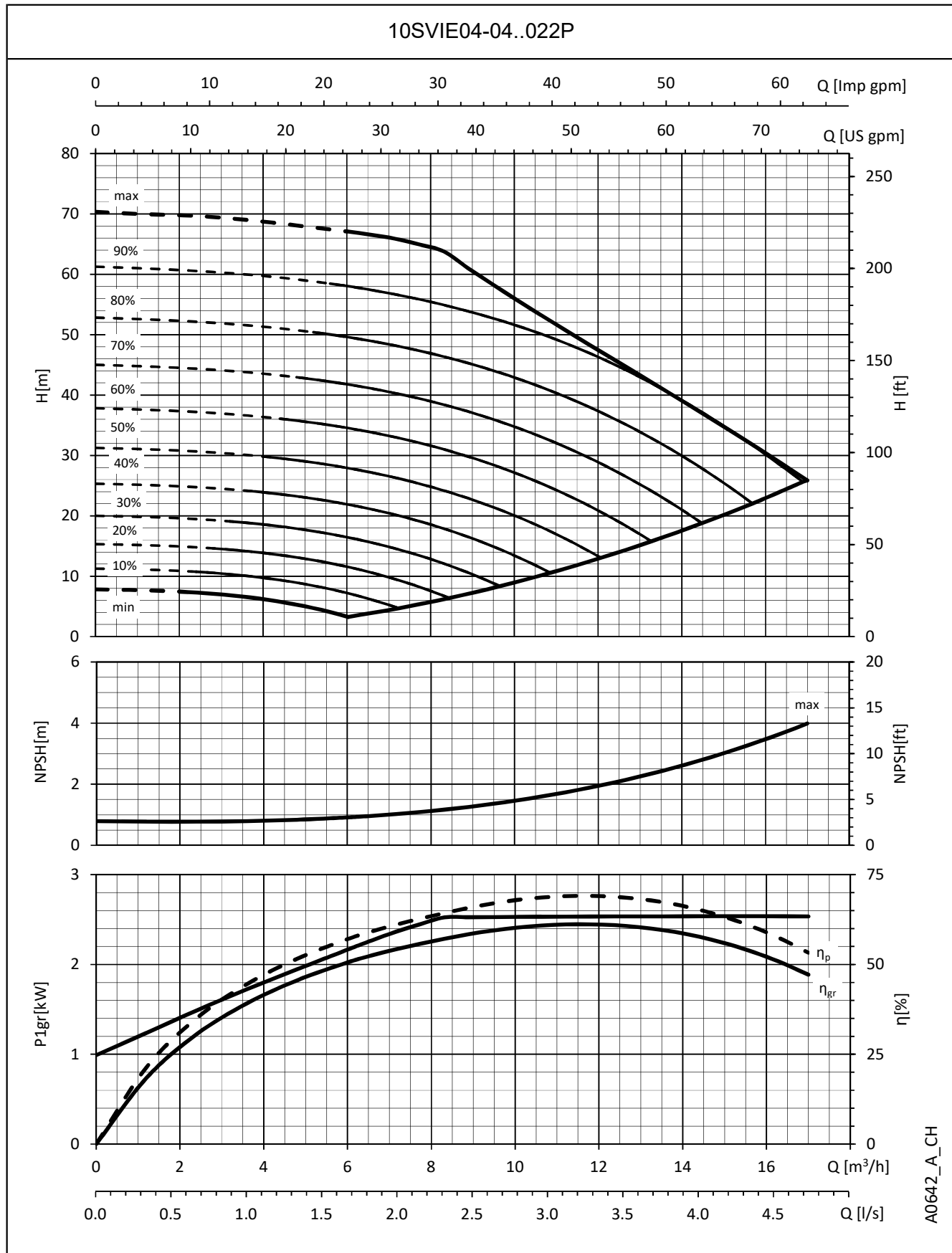
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

10SVIE SERIES OPERATING CHARACTERISTICS



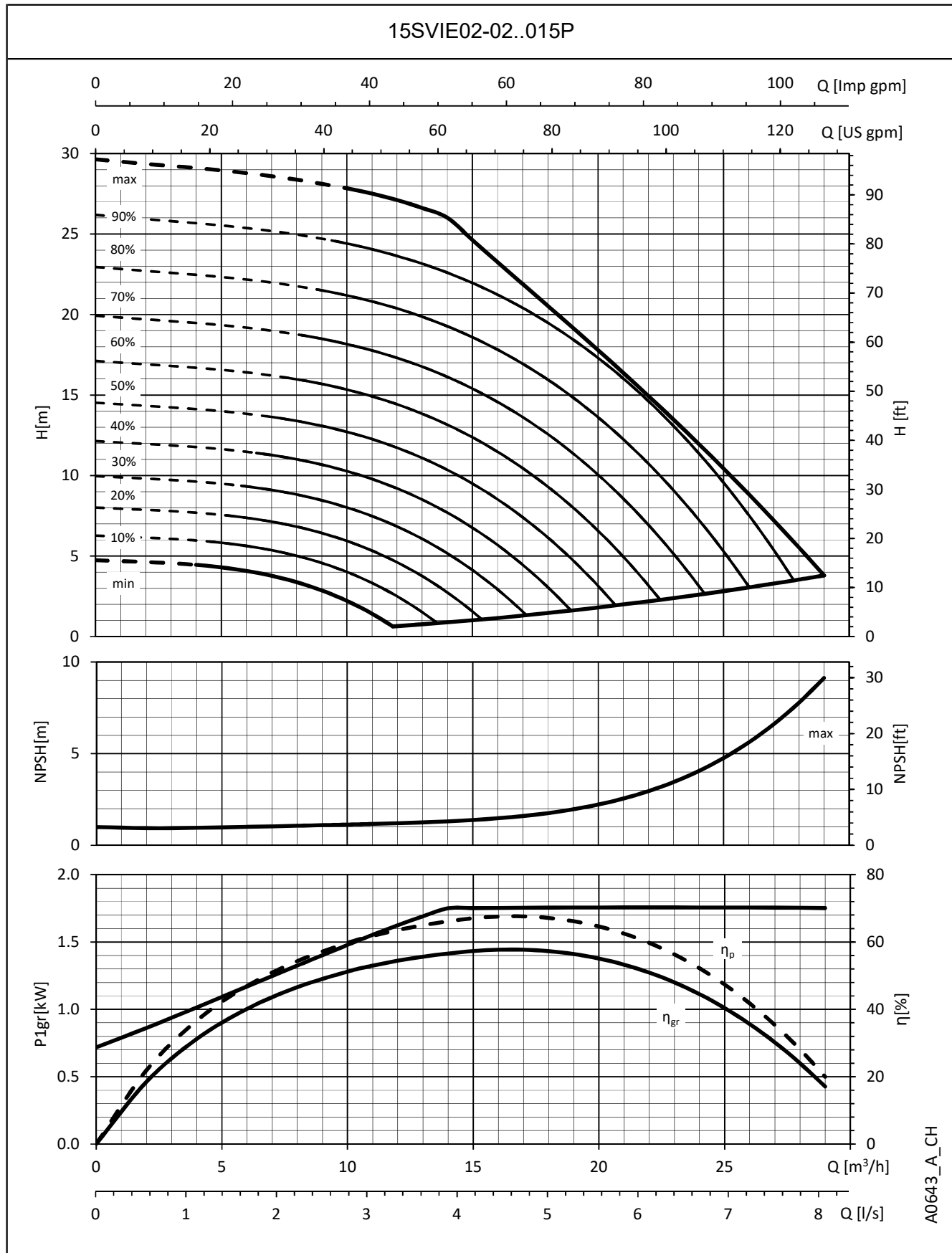
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

10SVIE SERIES OPERATING CHARACTERISTICS



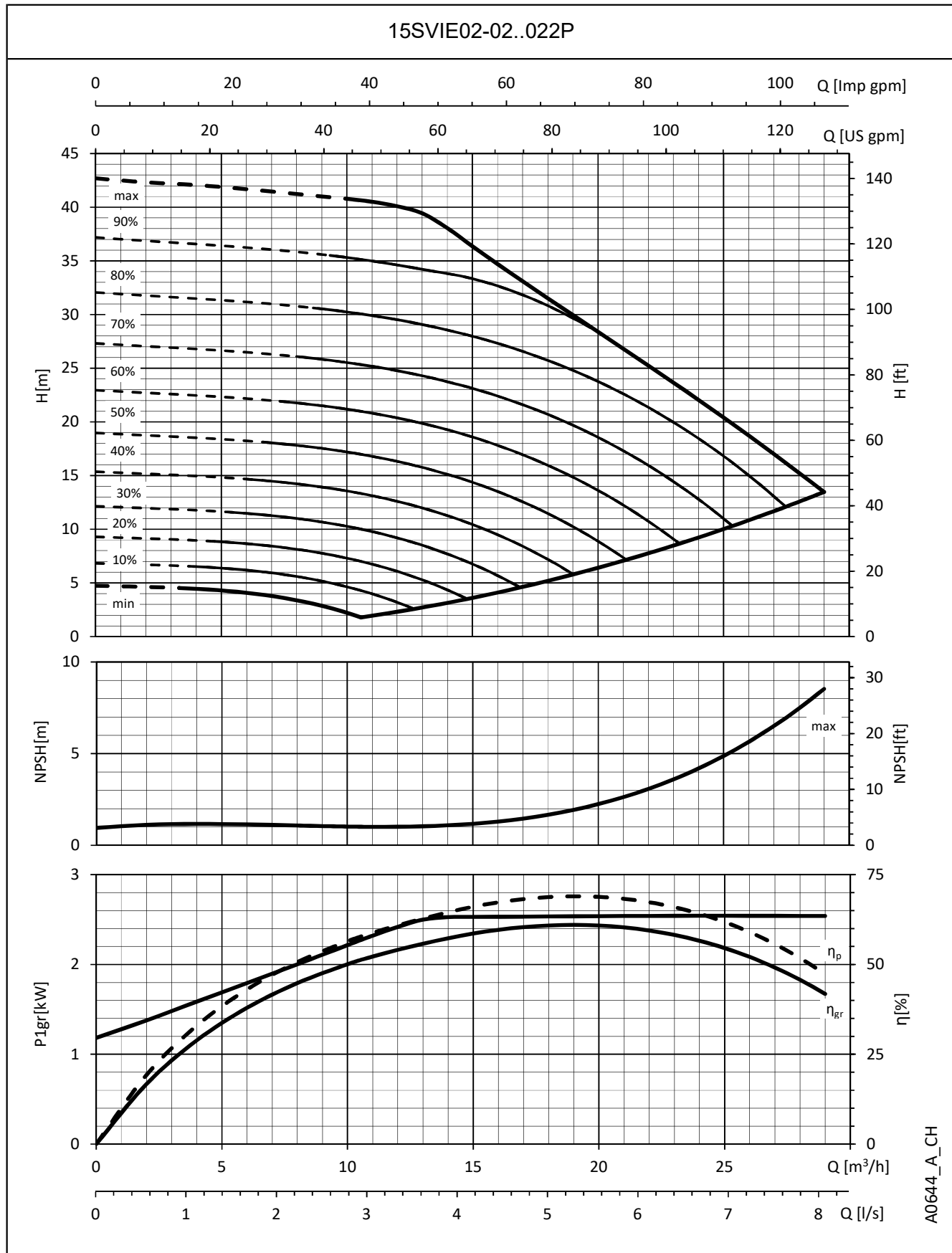
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

15SVIE SERIES OPERATING CHARACTERISTICS



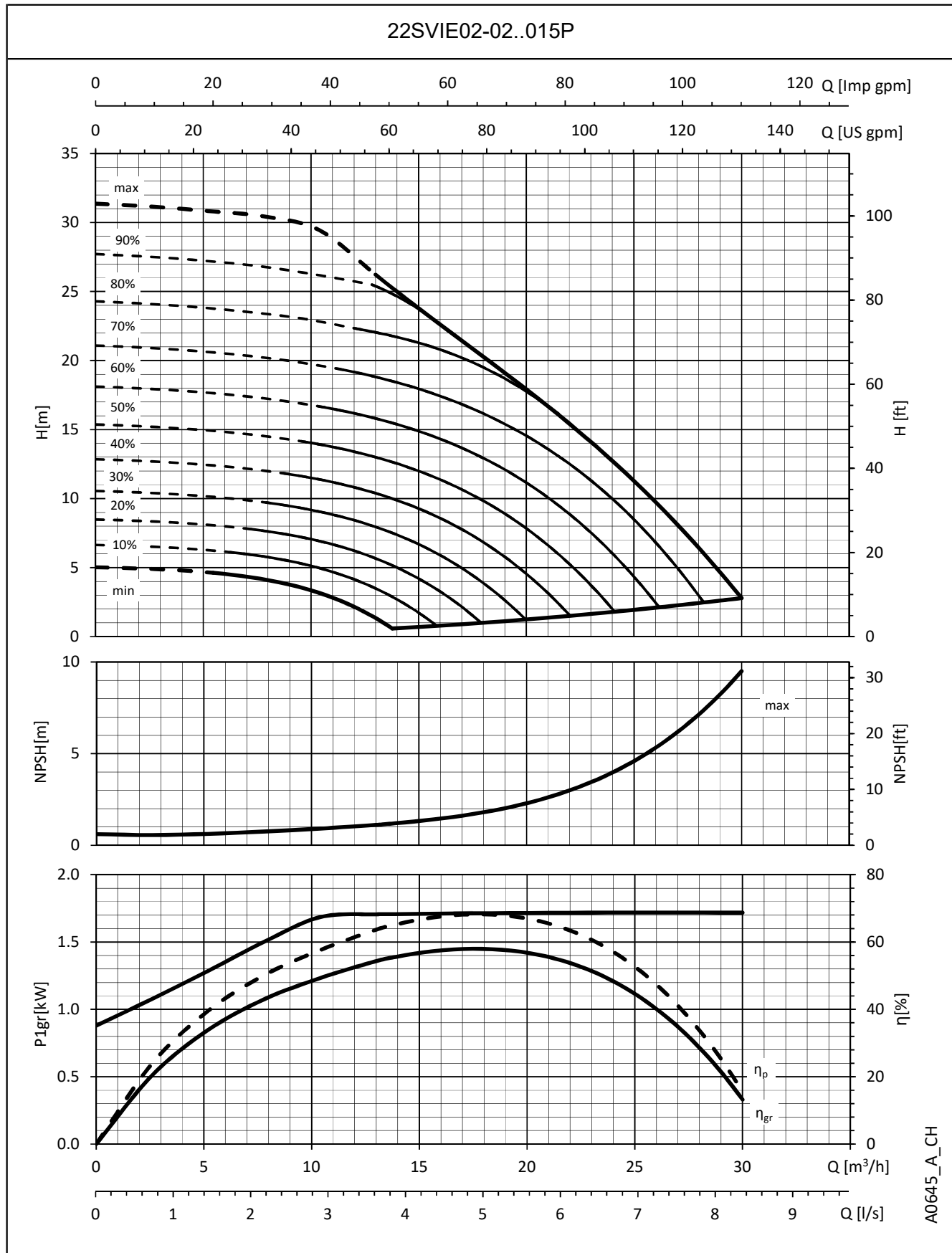
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

15SVIE SERIES OPERATING CHARACTERISTICS



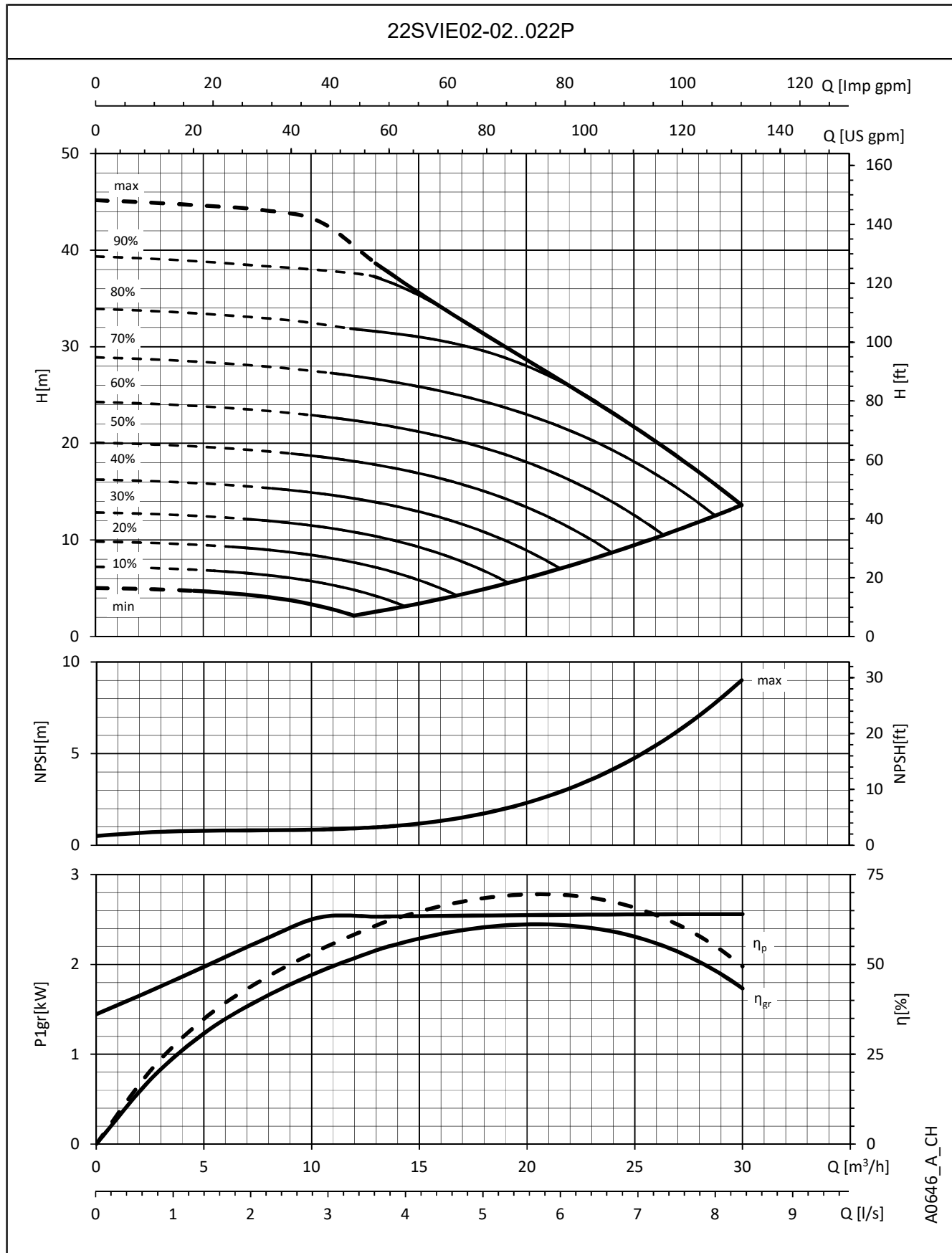
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

22SVIE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

22SVIE SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK: VERSION WITH hydrovar X

e-SVIX, e-SVIK SERIES e-SVI with hydrovar X

Background and context

Xylem is a leading global water technology company committed to solving critical water and infrastructure challenges with innovation.

By providing smart and cutting-edge technology, we are reducing energy consumption to minimum possible levels and increasing sustainability.

There is one thing that Xylem shares with the greatest engineering innovators, that's the continuous investment into new products that reflects into outstanding solutions. You can find all these features in **hydrovar X**, the answer to innovation, sustainability and easiness all-in-one.

hydrovar X also brings the best energy efficiency performances with its frequency converter coupled with the ultimate synchronous motor, manufactured by Xylem integrating decades of expertise and know-how in pumping solutions.

It's the right combination of motors, variable speed drive and pump ensuring great performance, maximum savings and a rapid return on investment.

Sustainability

hydrovar X brings green technology solution by providing best-in-class performance achievement

Rare earths? No thanks! Xylem accepted the challenge to fight price, availability and environmental concerns with a smarter technology that provides the best-in-class performance with a green heart.

Ease of use and commissioning

The built-in application software makes it the easiest drive to commission, program and operate, enabling virtually any configuration of pumps. Backward compatibility assures the **hydrovar X** will work seamlessly with existing systems.

Pump solution

Integrated pump functions provide protection for the pump solution, and improve the quality of energy from the grid. All of this means terrific energy savings from a compact, easy-to-use solution suited for nearly any application.

Application sectors

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



hydrovar X (SVIK) hydrovar X+ (SVIX)

- IES2 efficiency level (IEC 61800-9-2:2017)
- Three-phase power supply:
from 3 kW to 22 kW: 380-480 V +/- 10%, 50/60 Hz
- Power up to 22 kW
- Protection class IP 55
- Overload and locked rotor protection with automatic reset incorporated
- Can be linked up to 4 e-SVI hydrovar X, up to 8 e-SVI hydrovar X+ pumps

Pump

- Flow rate: up to 135 m³/h
- Head: up to 260 m
- Maximum operating pressure 25 bar (PN 25)
- The hydraulic performances meet the tolerances specified in ISO 9906:2012.
- Environment temperature: -20° C to +50° C with no performance derating

Motor

- IE5 efficiency level (IEC TS 60034-30-2:2016)
- Synchronous electric motor with permanent magnet assisted reluctance technology, closed structure, air-cooled (TEFC)
- Insulation class 155 (F)

Regulations (EU) 2019/1781 e 2021/341

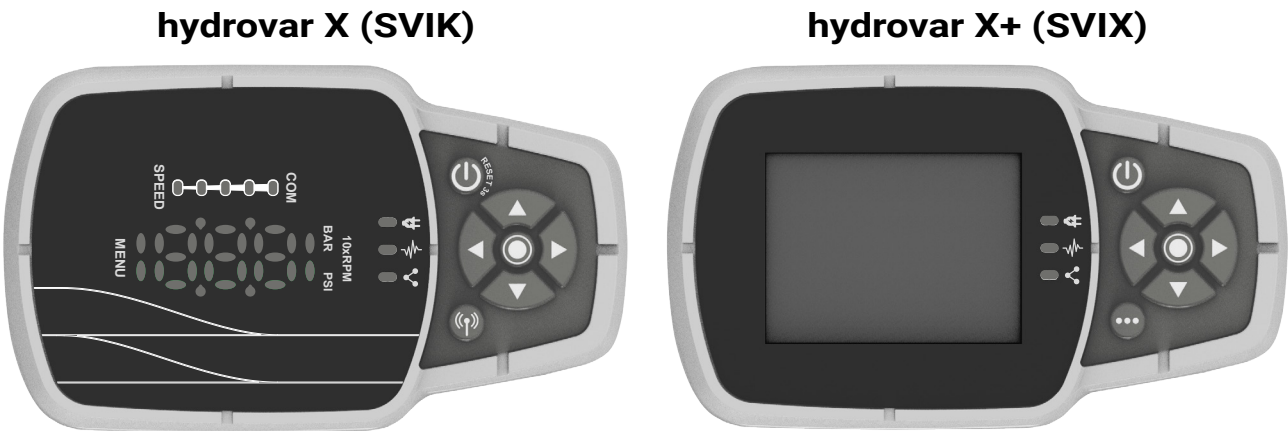
Annex I – point 4

(Product information)

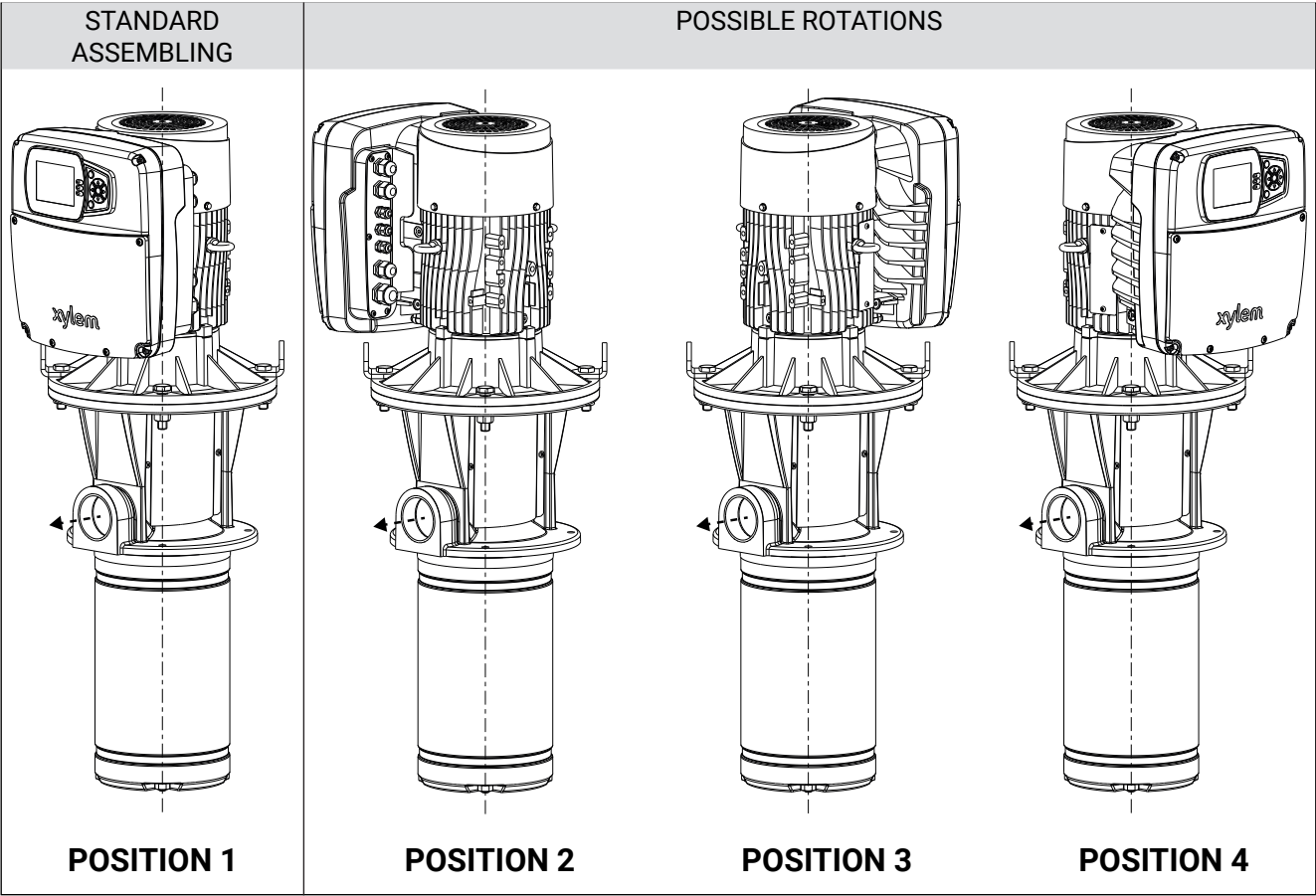
The requirements shall not apply to these variable speed drives, as they are integrated to motors, that aren't covered by the same regulations.

e-SVIX, e-SVIK SERIES
e-SVI with hydrovar X

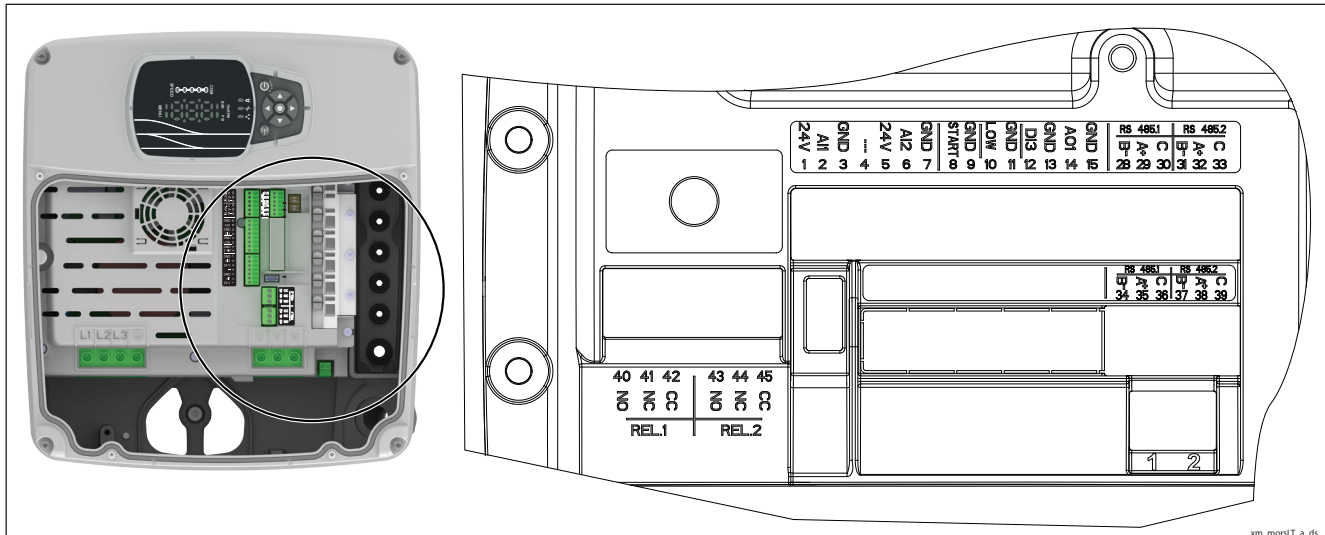
hydrovar X offers two different display configurations: LED display and graphical colored display, like in the below pictures:



Drive position



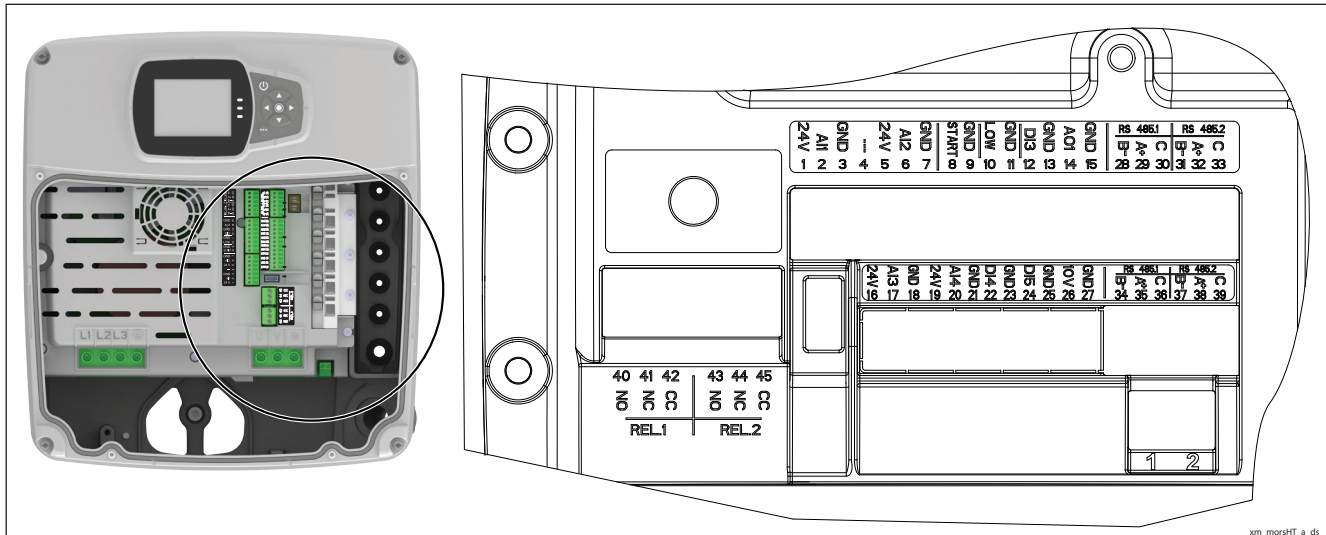
e-SVIK SERIES (hydrovar X) TERMINAL BLOCK



REF.	ITEM	DESCRIPTION	DEFAULT
1	Analog Input 1	Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	Pressure Sensor 1
2		Configurable Analog Input 1	
3		Electronic GND	
4	Not used	Internal use - Do not connect	
5	Analog Input 2	Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	Not used
6		Configurable Analog Input 2	
7		Electronic GND	
8	External Start/Stop	Start/Stop digital input, +24 VDC internal pull-up, 6mA contact current	-
9		Electronic GND	
10	External Lack of Water	Low water digital input, +24 VDC internal pull-up, 6mA contact current	-
11		Electronic GND	
12	Digital Input 3	Configurable Digital Input 3, +24 VDC internal pull-up, 6mA contact current	Solo Run
13		Electronic GND	
14	Analog Output	Configurable Analog Output	Motor Speed
15		Electronic GND	
28	Communication bus 1	RS485 port 1: RS485-1B N (-)	Multipump
29		RS485 port 1: RS485-1A P (+)	
30		RS485 port 1: RS485-COM	
31	Communication bus 2	RS485 port 2: RS485-2B N (-)	Modbus
32		RS485 port 2: RS485-2A P (+)	
33		RS485 port 2: RS485-COM	
34	Communication bus 1	RS485 port 1: RS485-1B N (-)	Multipump
35		RS485 port 1: RS485-1A P (+)	
36		RS485 port 1: RS485-COM	
37	Communication bus 2	RS485 port 2: RS485-2B N (-)	Modbus
38		RS485 port 2: RS485-2A P (+)	
39		RS485 port 2: RS485-COM	
40	Relay 1	Configurable relay 1: Normally Open	Error
41		Configurable relay 1: Normally Closed	
42		Configurable relay 1: Common Contact	
43	Relay 2	Configurable relay 2: Normally Open	Running
44		Configurable relay 2: Normally Closed	
45		Configurable relay 2: Common Contact	

xm_morsLT-en_a_sc

e-SVIX SERIES (hydrovar X+) TERMINAL BLOCK



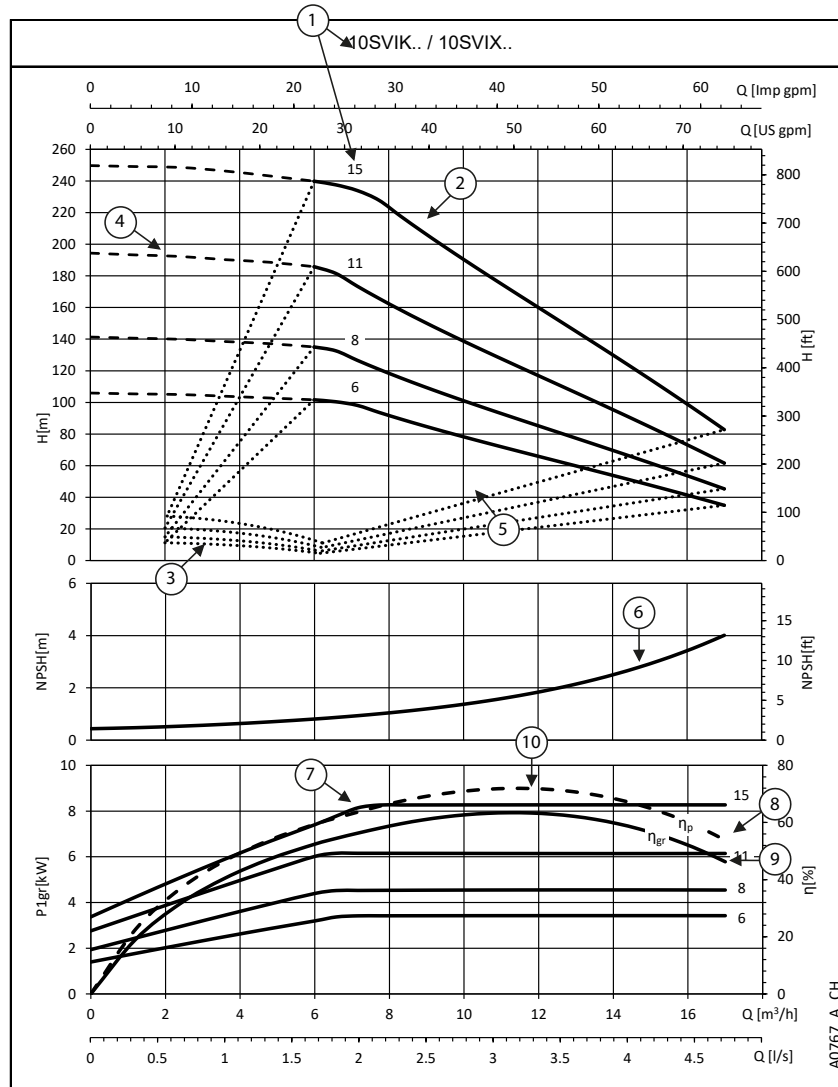
REF.	ITEM	DESCRIPTION	DEFAULT
1	Analog Input 1	Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	Pressure Sensor 1
2		Configurable Analog Input 1	
3		Electronic GND	
4	Not used	Internal use - Do not connect	Not used
5	Analog Input 2	Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	
6		Configurable Analog Input 2	
7		Electronic GND	
8	External Start/Stop	Start/Stop digital input, +24 VDC internal pull-up, 6mA contact current	-
9		Electronic GND	
10	External Lack of Water	Low water digital input, +24 VDC internal pull-up, 6mA contact current	-
11		Electronic GND	
12	Digital Input 3	Configurable Digital Input 3, +24 VDC internal pull-up, 6mA contact current	Solo Run
13		Electronic GND	
14	Analog Output	Configurable Analog Output	Motor Speed
15		Electronic GND	
16	Analog Input 3	Power supply +24 VDC, max. 60mA (total, terminals 16 and 19)	Not used
17		Configurable Analog Input 3	
18		Electronic GND	
19	Analog Input 4	Power supply +24 VDC, max. 60mA (total, terminals 16 and 19)	Not used
20		Configurable Analog Input 4	
21		Electronic GND	
22	Digital Input 4	Configurable Digital Input 4, +24 VDC internal pull-up, 6mA contact current	Not used
23		Electronic GND	
24	Digital Input 5	Configurable Digital Input 5, +24 VDC internal pull-up, 6mA contact current	Not used
25		Electronic GND	
26	10 VDC supply	Power supply +10 VDC, max. 3mA	-
27		Electronic GND	
28	Communication bus 1	RS485 port 1: RS485-1B N (-)	Multipump
29		RS485 port 1: RS485-1A P (+)	
30		RS485 port 1: RS485-COM	
31	Communication bus 2	RS485 port 2: RS485-2B N (-)	Modbus
32		RS485 port 2: RS485-2A P (+)	
33		RS485 port 2: RS485-COM	
34	Communication bus 1	RS485 port 1: RS485-1B N (-)	Multipump
35		RS485 port 1: RS485-1A P (+)	
36		RS485 port 1: RS485-COM	
37	Communication bus 2	RS485 port 2: RS485-2B N (-)	Modbus
38		RS485 port 2: RS485-2A P (+)	
39		RS485 port 2: RS485-COM	
40	Relay 1	Configurable relay 1: Normally Open	Running
41		Configurable relay 1: Normally Closed	
42		Configurable relay 1: Common Contact	
43	Relay 2	Configurable relay 2: Normally Open	Error
44		Configurable relay 2: Normally Closed	
45		Configurable relay 2: Common Contact	

xm_morsHT-en_a_sc

e-SVIX, e-SVIK SERIES

HOW TO READ CURVES OF e-SVI WITH hydrovar X

To exploit to the maximum potential of these pumps it's important to properly read working curves: rates for a given speed.



hydrovar X is equipped with a 5-LEDs "SPEED" bar. Each LED indicates a percentage of the system speed



between minimum and maximum speed.

hydrovar X+



For maximum precision on the working point it is sufficient to read the display.

⑥ **NPSH**: is the net positive suction head of pump+motor+drive system working at maximum speed.

⑦ **P1_{gr}** is the power absorption in kW of pump+motor+drive system working at maximum speed. The curve increases until the unit reaches the power limit. hydrovar X controls power consumption (flat part of the curve) at high flow/low head. In this way the motor stays protected from overload and ensure a

longer life of pump+motor+drive system.

① **Pump model and number of stages**

② **Maximum curve** (100%): equal to 3600 rpm or pump running at nominal power

③ **Minimum curve** (0%): it refers to the minimum rpm level the motor can work at, it's calculated depending on the model of pump maximizing for each one the working area and allowing the highest system flexibility.

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

⑤ The **allowable operating range** (AOR) of the pump is defined by the minimum and maximum head capacity curves as well as the minimum and maximum flow

⑧ **η_p** is the efficiency of the hydraulic part, working at maximum speed.

⑨ **η_{gr}** is the efficiency of pump+motor+drive system working at maximum speed.

⑩ **Working point**: it's important to make sure the pump is working at the best working point, the one at highest efficiency.

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

e-SVIX, e-SVIK SERIES

HYDRAULIC PERFORMANCES TABLE

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	13,3	26,7	40,0	53,3	66,7	80,0	86,7
			m ³ /h 0	0,8	1,6	2,4	3,2	4,0	4,8	5,2
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
3SVI..21-21	3	EXM100B14..030B	234,5	236,5	235,3	227,8	204,9	164,7	123,8	102,7

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	26,7	53,3	80,0	106,7	133,3	160,0	166,7
			m ³ /h 0	1,6	3,2	4,8	6,4	8,0	9,6	10,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
5SVI..15-15	3	EXM100B14..030B	166,7	167,0	162,7	151,7	121,5	93,3	65,3	58,2
5SVI..19-19	4	EXM112B14..040B	211,2	211,7	205,8	194,4	161,8	125,4	89,3	80,2
5SVI..23-23	5,5	EXM132B5..055B	255,6	256,0	249,4	235,2	213,0	175,0	129,6	118,2

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	43,3	86,7	130,0	173,3	216,7	260,0	283,3
			m ³ /h 0	2,6	5,2	7,8	10,4	13,0	15,6	17,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
10SVI..06-06	3	EXM100B14..030B	105,9	104,9	102,5	93,2	75,8	60,0	44,0	34,9
10SVI..08-08	4	EXM112B14..040B	141,3	139,7	136,7	120,3	97,9	77,5	57,0	45,3
10SVI..11-11	5,5	EXM132B5..055B	194,4	192,0	188,1	165,0	134,4	106,4	77,8	61,6
10SVI..15-15	7,5	EXM132B5..075C	249,7	248,3	242,2	226,7	184,4	145,3	105,4	82,8

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	483,3
			m ³ /h 0	4,2	8,4	12,6	16,8	21,0	25,2	29,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
15SVI..02-02	3	EXM100B14..030B	42,7	42,0	41,2	39,9	37,6	34,0	28,7	21,6
15SVI..03-03	4	EXM112B14..040B	64,0	63,0	61,8	59,8	56,4	50,1	38,7	28,4
15SVI..05-05	5,5	EXM132B5..055B	106,7	105,1	102,9	99,3	83,5	67,1	50,2	33,7
15SVI..07-07	7,5	EXM132B5..075C	149,4	147,0	144,2	138,6	114,1	91,3	67,8	44,7
15SVI..09-09	11	EXM160B5..110C	195,1	190,3	186,1	180,8	165,1	137,4	108,8	80,4
15SVI..12-12	15	EXM160B5..150D	260,1	253,7	248,0	241,1	224,6	187,4	149,1	111,2

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	83,3	166,7	250,0	333,3	416,7	500,0	566,7
			m ³ /h 0	5,0	10,0	15,0	20,0	25,0	30,0	34,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
22SVI..02-02	3	EXM100B14..030B	45,2	44,6	43,6	42,2	38,5	31,0	22,9	15,2
22SVI..03-03	4	EXM112B14..040B	67,8	67,0	65,4	63,2	51,8	40,9	28,8	17,2
22SVI..04-04	5,5	EXM132B5..055B	90,1	90,1	88,7	85,6	71,6	57,2	41,3	26,6
22SVI..05-05	7,5	EXM132B5..075C	112,7	112,7	110,8	107,7	97,0	78,5	58,5	40,2
22SVI..07-07	11	EXM160B5..110C	157,8	157,6	155,3	150,5	141,1	115,5	87,4	61,8
22SVI..10-10	15	EXM160B5..150D	225,5	225,3	221,5	215,3	194,1	157,1	117,1	80,4
22SVI..12-12	18,5	EXM160B5..185D	255,7	254,7	251,6	243,9	229,3	194,6	146,0	102,9

svix-svik-1-en_a_th

e-SVIX, e-SVIK SERIES

HYDRAULIC PERFORMANCES TABLE

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	116,7	233,3	350,0	466,7	583,3	700,0	800,0
			m ³ /h 0	7,0	14,0	21,0	28,0	35,0	42,0	48,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
SVI..3301	3	EXM100B14..030B	35,2	34,4	33,4	31,9	26,8	21,8	16,5	11,5
SVI..3302	7,5	EXM132B5..075C	70,1	69,5	68,6	67,1	65,0	59,2	49,6	40,8
SVI..3303	11	EXM160B5..110C	105,1	104,2	102,9	100,7	97,5	86,9	72,7	59,5
SVI..3304	15	EXM160B5..150D	140,1	138,9	137,2	134,4	129,8	118,4	99,3	81,6
SVI..3305	18,5	EXM160B5..185D	175,2	173,7	171,5	167,9	162,4	146,1	122,4	100,3
SVI..3306	22	EXM180B5..220D	210,3	208,4	205,8	201,5	194,8	173,9	145,4	118,9

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	173,3	346,7	520,0	693,3	866,7	1040,0	1200,0
			m³/h 0	10,4	20,8	31,2	41,6	52,0	62,4	72,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER										
SVI..4601	5,5	EXM132B5..055B	40,7	39,4	37,7	35,6	32,9	29,1	21,6	13,6
SVI..4602	11	EXM160B5..110C	79,1	76,8	74,8	72,2	68,6	61,5	47,6	33,9
SVI..4603	15	EXM160B5..150D	118,8	115,1	112,1	108,6	101,5	83,5	63,0	43,0
SVI..4604	18,5	EXM160B5..185D	157,5	152,9	148,9	143,5	123,9	99,7	73,1	48,0
SVI..4605	22	EXM180B5..220D	196,9	191,0	186,2	173,5	147,9	117,9	85,1	54,2

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	223,3	446,7	670,0	893,3	1116,7	1340,0	1550,0
			m ³ /h 0	13,4	26,8	40,2	53,6	67,0	80,4	93,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
SVI..6601	5,5	EXM132B5..055B	44,4	43,7	36,9	31,1	26,6	22,7	18,4	12,1
SVI..6602	11	EXM160B5..110C	86,5	85,4	72,7	61,9	53,3	45,8	37,8	27,8
SVI..6603	18,5	EXM160B5..185D	128,9	127,6	120,5	103,0	89,0	77,0	65,0	51,1
SVI..6604	22	EXM180B5..220D	171,3	171,5	146,3	125,2	108,1	93,4	77,8	58,9

PUMP TYPE SVIX SVIK	MOTOR		Q = DELIVERY							
	P _N kW	TYPE	l/min 0	323,3	646,7	970,0	1293,3	1616,7	1940,0	2250,0
			m ³ /h 0	19,4	38,8	58,2	77,6	97,0	116,4	135,0
			H = TOTAL HEAD IN METRES OF COLUMN OF WATER							
SVI..9201	7,5	EXM132B5..075C	42,7	39,7	35,6	31,0	26,2	21,1	15,1	7,2
SVI..9202	15	EXM160B5..150D	85,4	79,4	71,6	62,8	53,7	44,2	33,2	19,4
SVI..9203	22	EXM180B5..220D	120,6	112,9	101,9	89,6	76,8	63,4	47,9	28,2

svix-svik-2-en_b_th

hydrovar X, hydrovar X+ ELECTRICAL DATA TABLE

The nominal motor power is guaranteed in the 3000-3600 rpm range. The motor is automatically limited to 3600 rpm maximum; the motor works partially loaded below 3000 rpm.

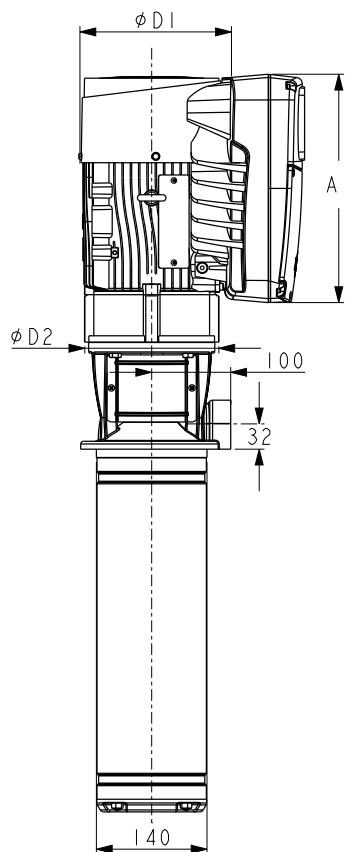
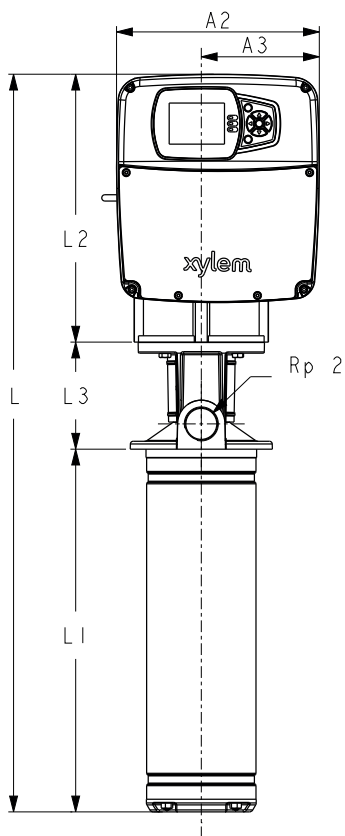
P _N	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED	INPUT CURRENT	DATA RELATED TO THE VOLTAGE OF 400V						IES
kW				(RPM)**	I (A)	In	cosφ	Tn	η %			
				min ⁻¹	380-480 V	A		Nm	4/4	3/4	2/4	
3	EXM100B14SV/4.030B	100	B14	3000	6,74-5,18	5,79	0,86	9,55	87,5	87,3	86,2	2
				3600		5,71		7,96	87,8	87,6	85,8	
				4000		5,72		7,16	87,7	87,4	85,5	
4	EXM112B14SV/4.040B	112		3000	7,73-6,42	7,34	0,90	12,7	87,5	88,0	87,5	2
				3600		7,23		10,6	88,5	88,6	87,3	
				4000		7,30		9,55	88,0	88,2	86,6	
5,5	EXM132B5SV/4.055B	132	B5	3000	10,1-8,22	9,51	0,92	17,5	90,0	89,7	88,9	2
				3600		9,63		14,6	89,4	89,5	88,7	
				4000		9,58		13,1	89,5	89,0	87,6	
7,5	EXM132B5SV/4.075C	132		3000	13,7-11,8	13,40	0,85	23,9	90,6	89,7	87,9	2
				3600		14,00		19,9	90,8	90,1	88,4	
				4000		13,50		17,9	89,5	88,6	88,4	
11	EXM160B5SV/4.110C	160		3000	19,8-16,5	18,90	0,93	35	91,0	90,9	90,0	2
				3600		19,10		29,2	89,7	89,7	88,2	
				4000		19,30		26,3	89,7	89,7	88,7	
15	EXM160B5SV/4.150D	160		3000	27,5-26,6	26,40	0,81	47,8	91,5	91,4	90,5	2
				3600		29,10		39,8	91,7	91,4	90,5	
				4000		29,10		35,8	91,2	91,1	89,7	
18,5	EXM160B5SV/4.185D	160		3000	33,4-28,0	32,20	0,90	58,9	91,7	91,7	91,2	2
				3600		32,10		49,1	91,9	91,7	90,9	
				4000		32,10		44,2	91,9	91,7	90,8	
22	EXM180B5SV/4.220D	180		3000	38,8-32,0	37,30	0,93	70	92,4	92,0	91,2	2
				3600		36,80		58,4	92,6	92,1	91,0	
				4000		36,90		52,7	92,5	91,9	90,5	

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

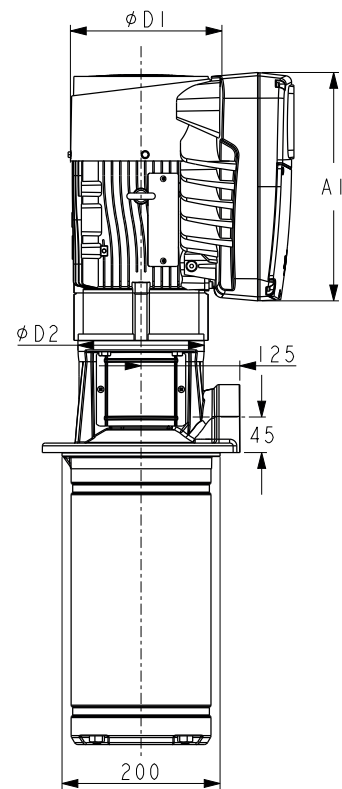
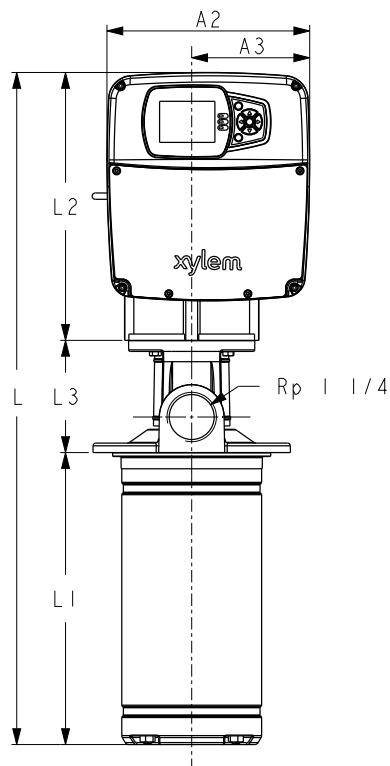
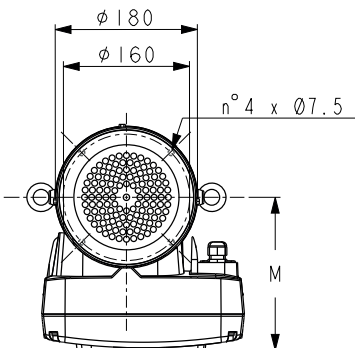
SV-XM_mott-en_a_te

Note. **IES** refers to the efficiency class for frequency converter + motor systems (known as power transmission systems-PDS) with power between 0.12 kW and 1000 kW and between 100 V and 1000 V, according to the standard **EN 50598-2:2014**.

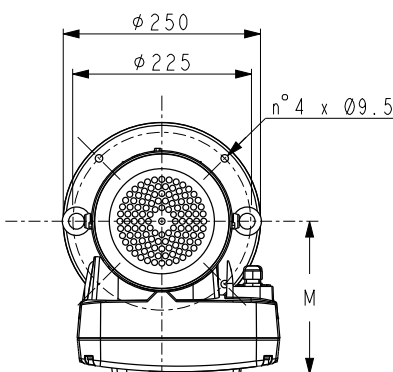
e-SVIX, e-SVIK SERIES
DIMENSIONS AND WEIGHTS



1, 3, 5SVI



10, 15, 22SVI



5000EXM_A_DD

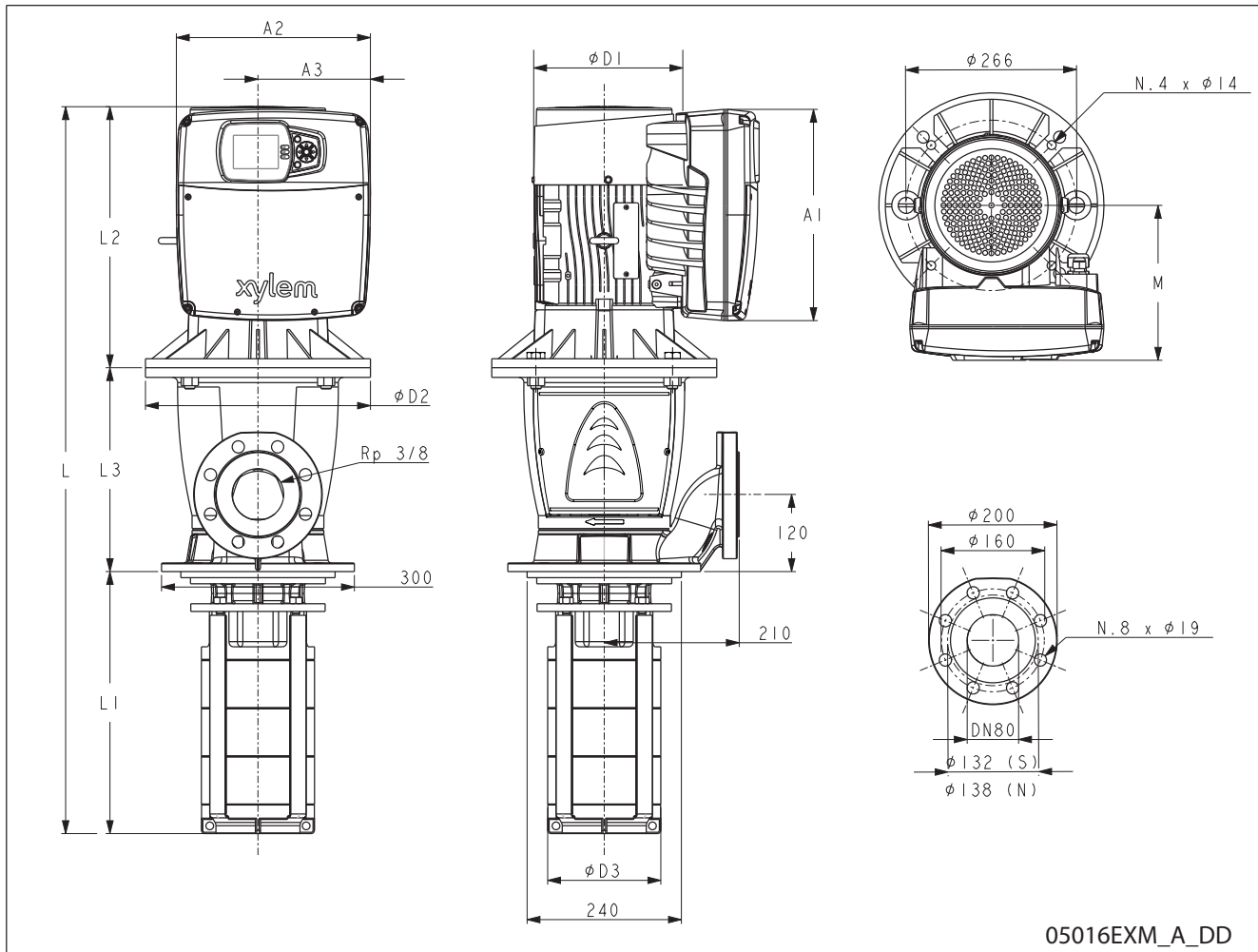
e-SVIX, e-SVIK SERIES

DIMENSIONS AND WEIGHTS

PUMP TYPE SVIX, SVIK	MOTOR		DIMENSIONS (mm)											WEIGHT (kg)	
	kW	Size	PUMP			MOTOR				DRIVE				PUMP	ELECTRIC
			L	L1	L3	IEC	L2	D1	D2	A1	A2	A3	M		
3SVI..21-21	3	B	974	499	136	100	339	179	160	289	149	256	194	18	43
5SVI..15-15	3	B	934	459	136	100	339	179	160	289	149	256	194	14	38
5SVI..19-19	4	B	1034	559	136	112	339	179	160	289	149	256	194	20	45
5SVI..23-23	5,5	B	1164	659	156	132	349	179	300	289	149	256	194	21	49
10SVI..06-06	3	B	787	306	142	100	339	179	160	289	149	256	194	18	42
10SVI..08-08	4	B	851	370	142	112	339	179	160	289	149	256	194	20	44
10SVI..11-11	5,5	B	1022	466	207	132	349	179	300	289	149	256	194	28	56
10SVI..15-15	7,5	C	1191	594	207	132	391	220	300	329	175	302	241	32	74
15SVI..02-02	3	B	707	226	142	100	339	179	160	289	149	256	194	15	40
15SVI..03-03	4	B	755	274	142	112	339	179	160	289	149	256	194	17	41
15SVI..05-05	5,5	B	926	370	207	132	349	179	300	289	149	256	194	25	53
15SVI..07-07	7,5	C	1063	466	207	132	391	220	300	329	175	302	241	27	69
15SVI..09-09	11	C	1205	562	239	160	404	220	350	329	175	302	241	37	89
15SVI..12-12	15	C	1425	706	239	160	480	260	350	400	205	362	312	41	113
22SVI..02-02	3	B	707	226	142	100	339	179	160	289	149	256	194	15	40
22SVI..03-03	4	B	755	274	142	112	339	179	160	289	149	256	194	17	41
22SVI..04-04	5,5	B	878	322	207	132	349	179	300	289	149	256	194	23	51
22SVI..05-05	7,5	C	967	370	207	132	391	220	300	329	175	302	241	25	67
22SVI..07-07	11	C	1109	466	239	160	404	220	350	329	175	302	241	27	79
22SVI..10-10	15	D	1329	610	239	160	480	260	350	400	205	362	312	39	111
22SVI..12-12	18,5	D	1425	706	239	160	480	260	350	400	205	362	312	41	119

svix-1-en_a_td

e-SVIX, e-SVIK SERIES DIMENSIONS AND WEIGHTS

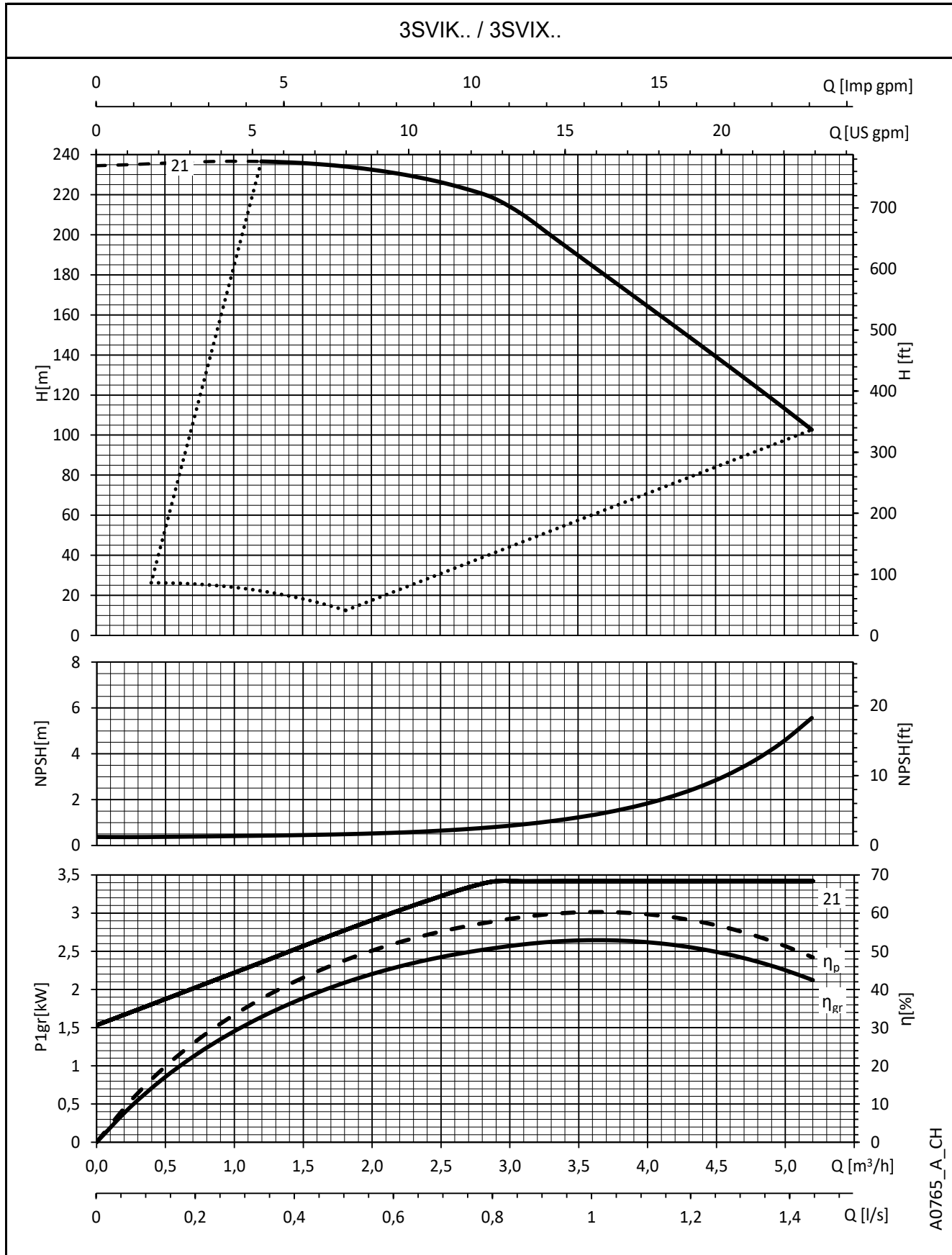


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PUMP TYPE	MOTOR		DIMENSIONS (mm)												WEIGHT (kg)	
	kW	Size	PUMP				MOTOR				DRIVE				PUMP	ELECTRIC
SVIX, SVIK			L	L1	L3	D3	IEC	L2	D1	D2	A1	A2	A3	M		
SVI.3301-01	3	B	858	257	262	176	100	339	179	160	289	149	256	194	43	68
SVI.3302-02	7,5	C	1005	332	282	176	132	391	220	300	329	175	302	241	44	86
SVI.3303-03	11	C	1128	407	317	176	160	404	220	350	329	175	302	241	52	104
SVI.3304-04	15	D	1279	482	317	176	160	480	260	350	400	205	362	312	58	130
SVI.3305-05	19	D	1354	557	317	176	160	480	260	350	400	205	362	312	63	141
SVI.3306-06	22	D	1429	632	317	176	180	480	260	350	400	205	362	312	69	153
SVI.4601-01	5,5	B	888	257	282	176	132	349	179	300	289	149	256	194	41	69
SVI.4602-02	11	C	1053	332	317	176	160	404	220	350	329	175	302	241	48	100
SVI.4603-03	15	D	1204	407	317	176	160	480	260	350	400	205	362	312	55	127
SVI.4604-04	18,5	D	1279	482	317	176	160	480	260	350	400	205	362	312	62	140
SVI.4605-05	22	D	1354	557	317	176	180	480	260	350	400	205	362	312	69	153
SVI.6601-01	5,5	B	903	272	282	201	132	349	179	300	289	149	256	194	45	73
SVI.6602-02	11	C	1083	362	317	201	160	404	220	350	329	175	302	241	54	106
SVI.6603-03	18,5	D	1249	452	317	201	160	480	260	350	400	205	362	312	58	136
SVI.6604-04	22	D	1339	542	317	201	180	480	260	350	400	205	362	312	69	153
SVI.9201-01	7,5	C	945	272	282	201	132	391	220	300	329	175	302	241	44	86
SVI.9202-02	15	D	1159	362	317	201	160	480	260	350	400	205	362	312	53	125
SVI.9203-03	22	D	1249	452	317	201	180	480	260	350	400	205	362	312	58	142

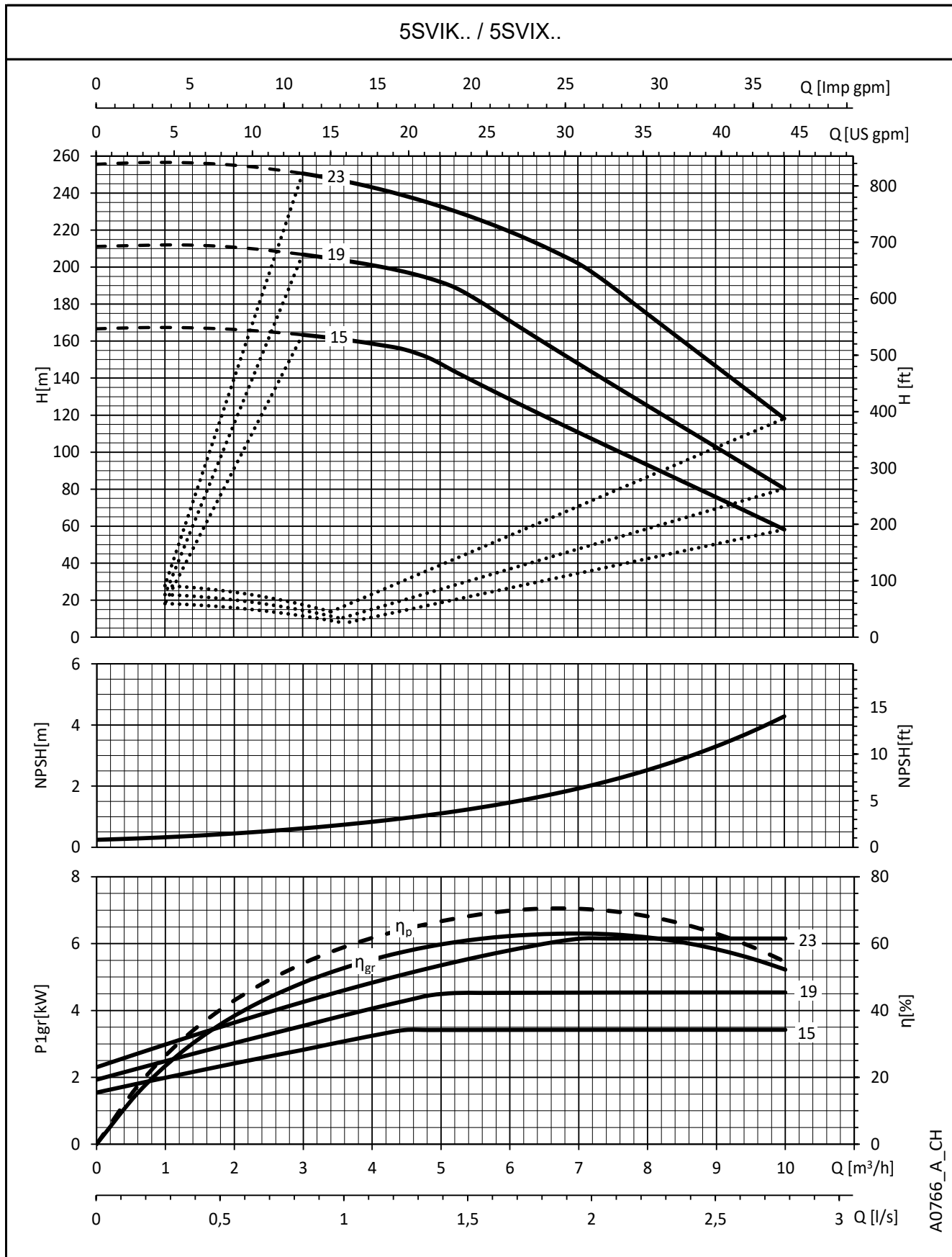
svix-2-en_a_td

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



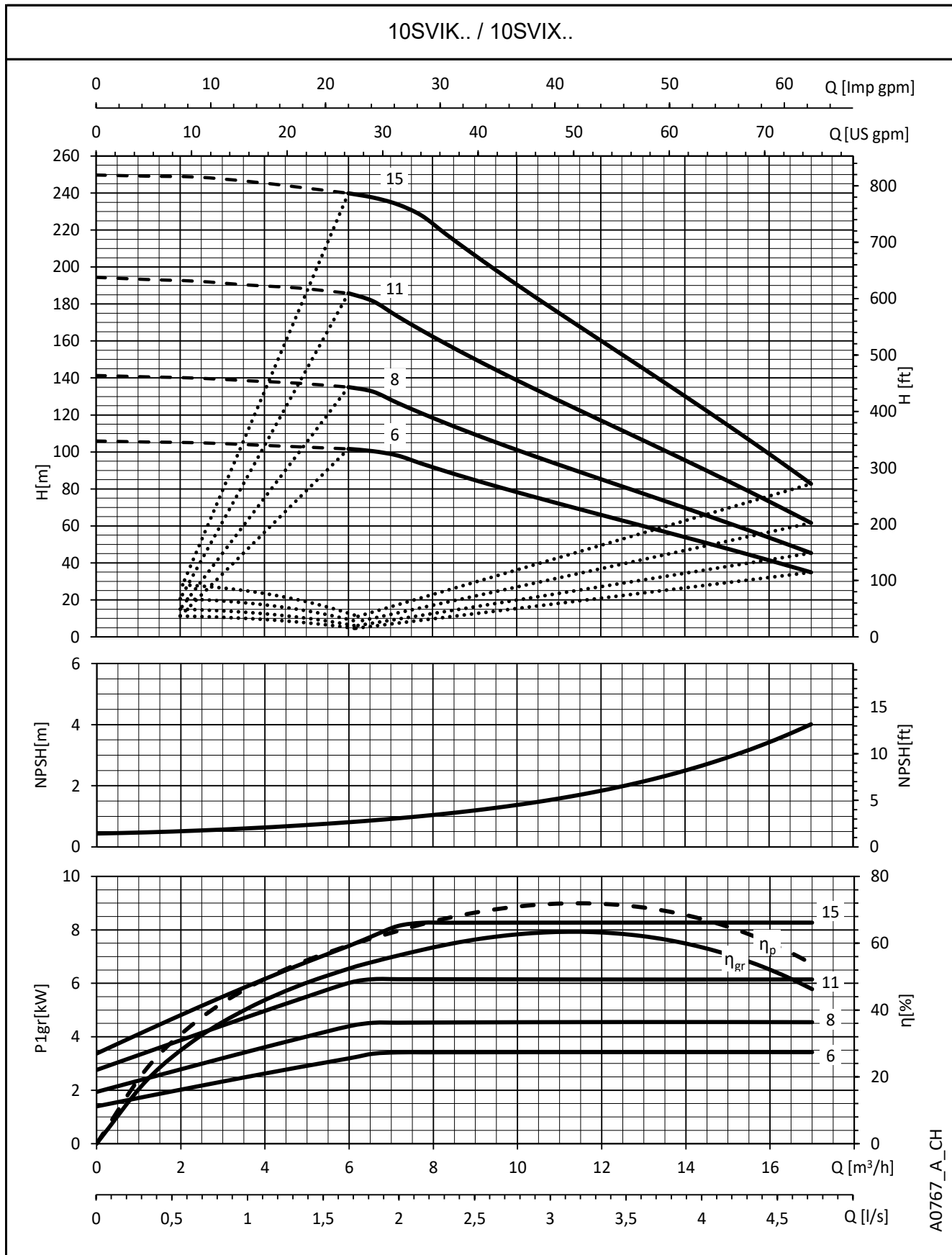
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



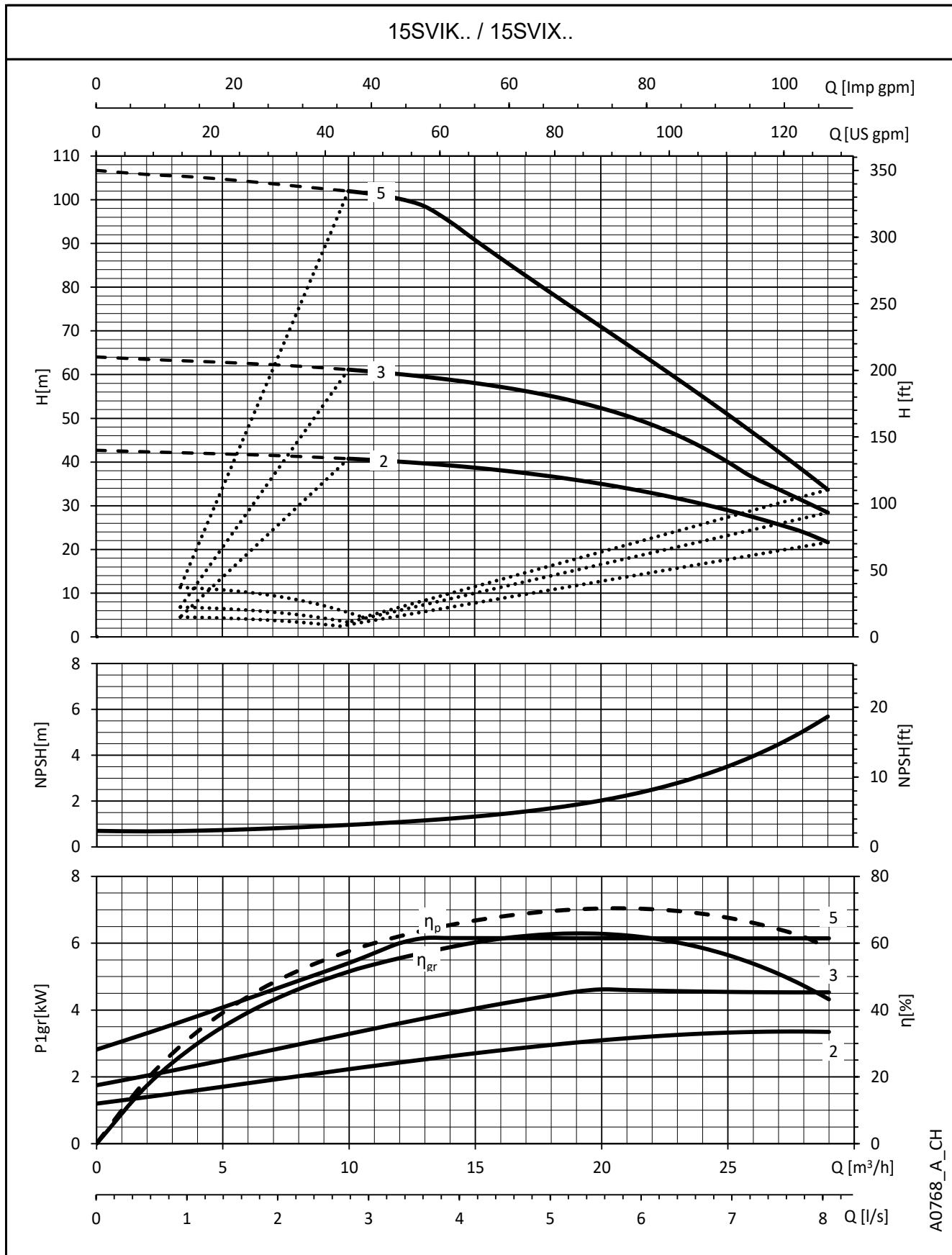
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



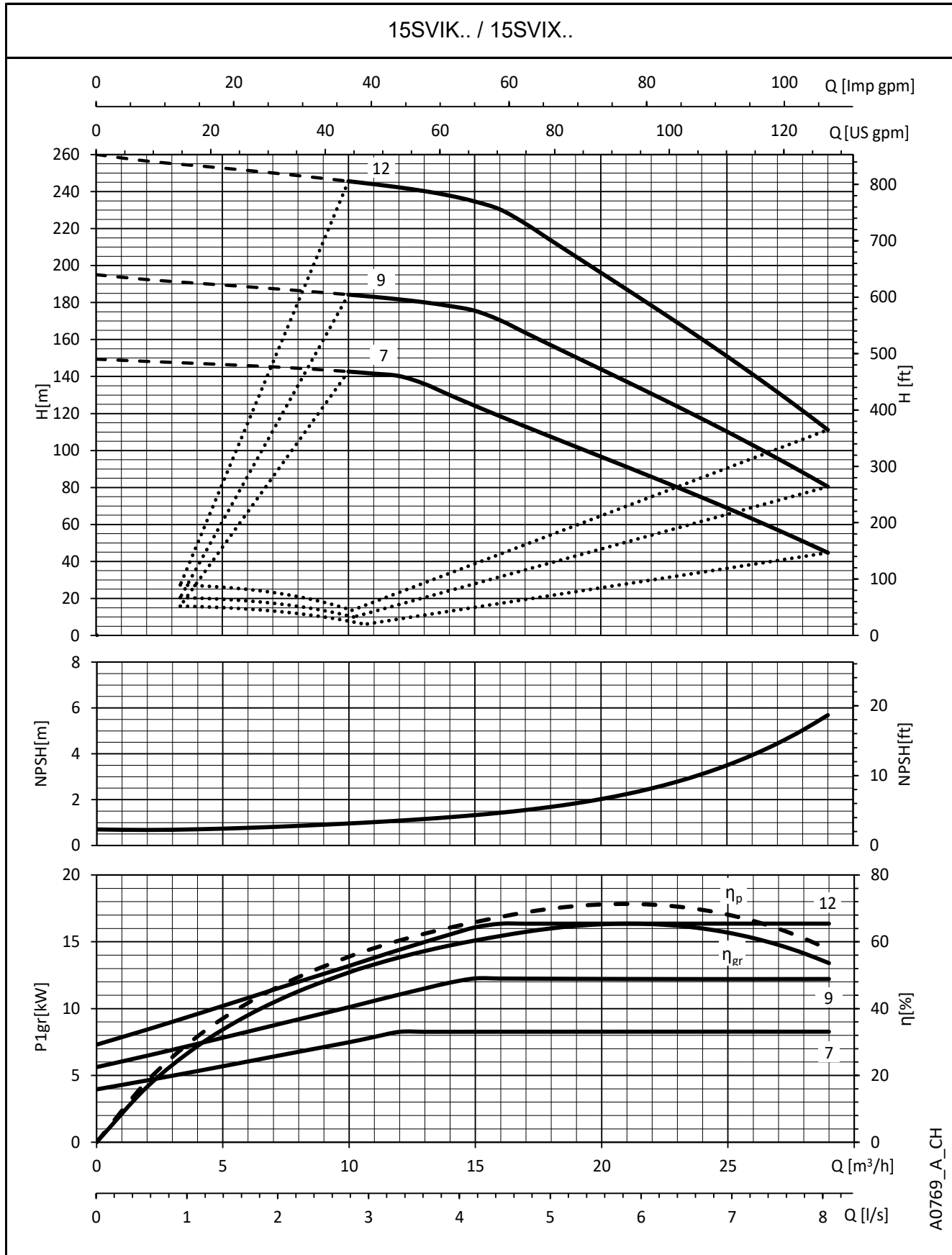
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e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



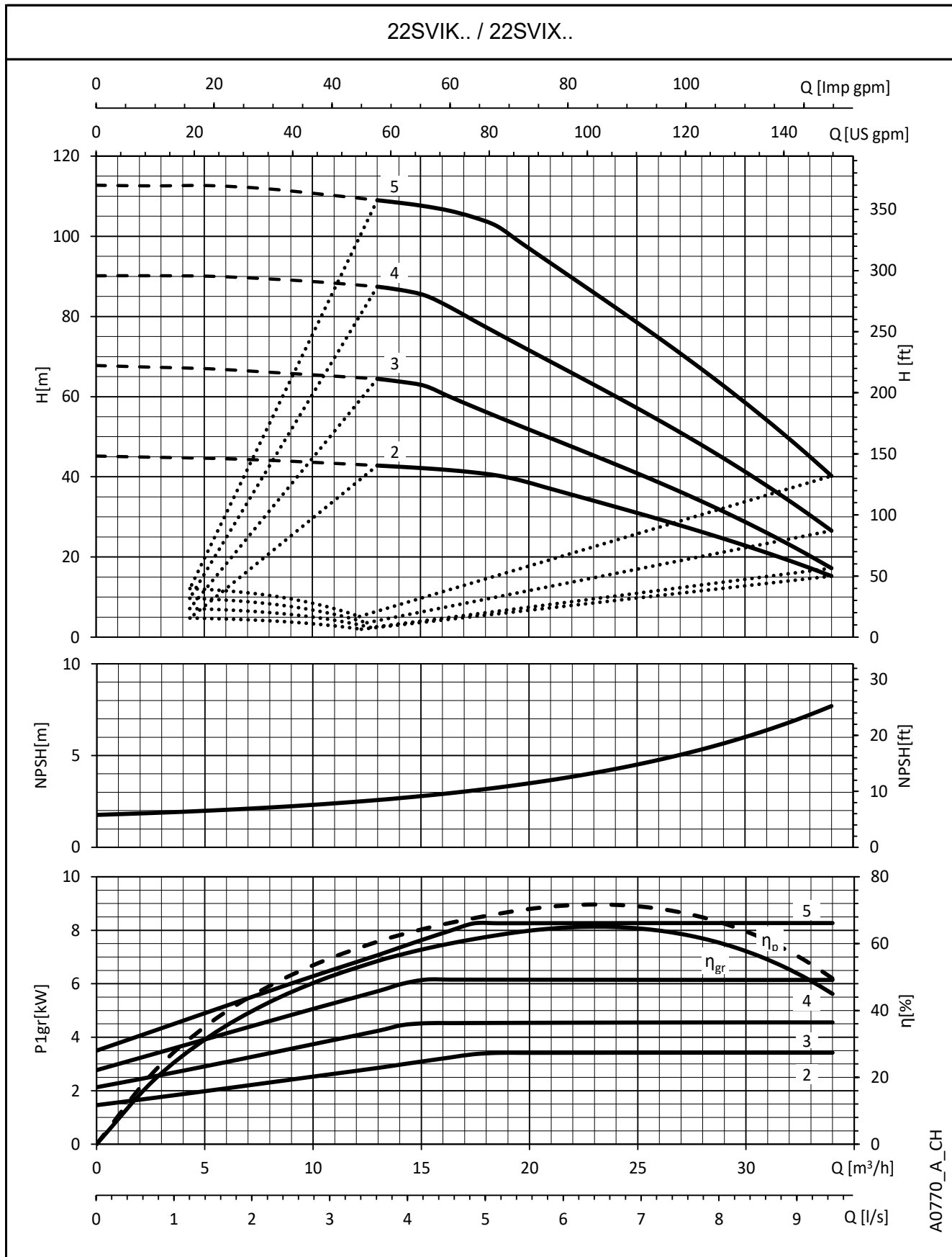
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e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



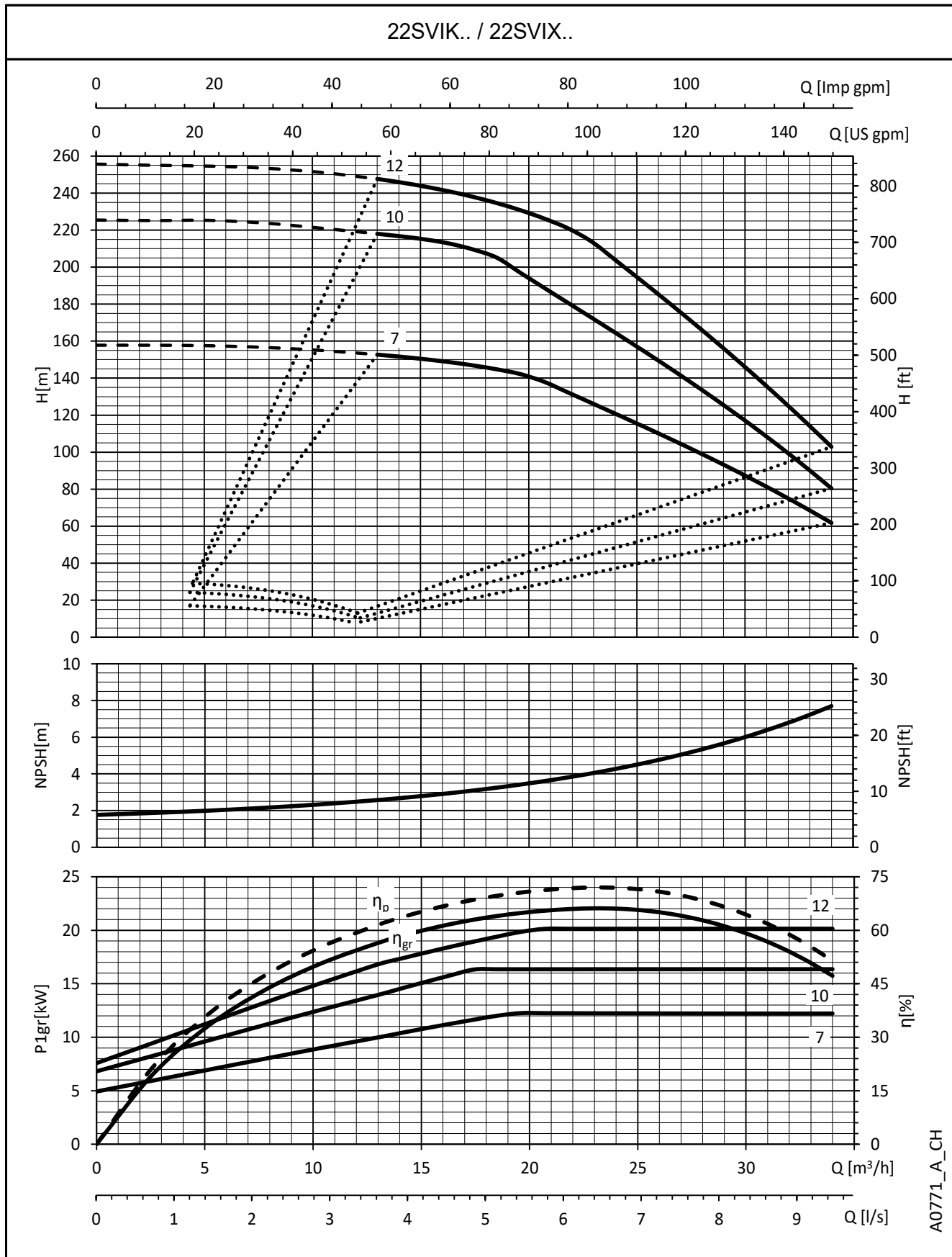
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e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



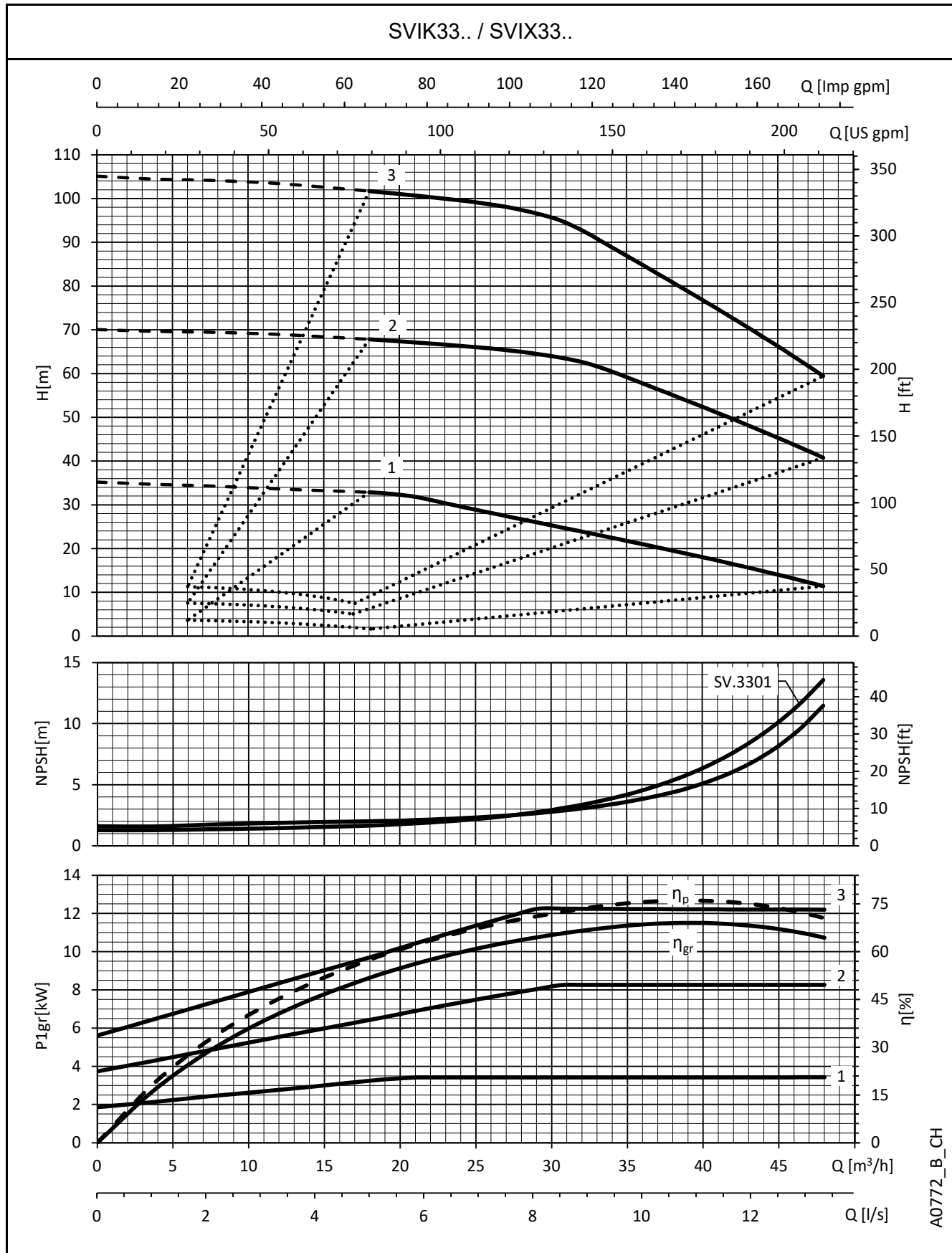
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



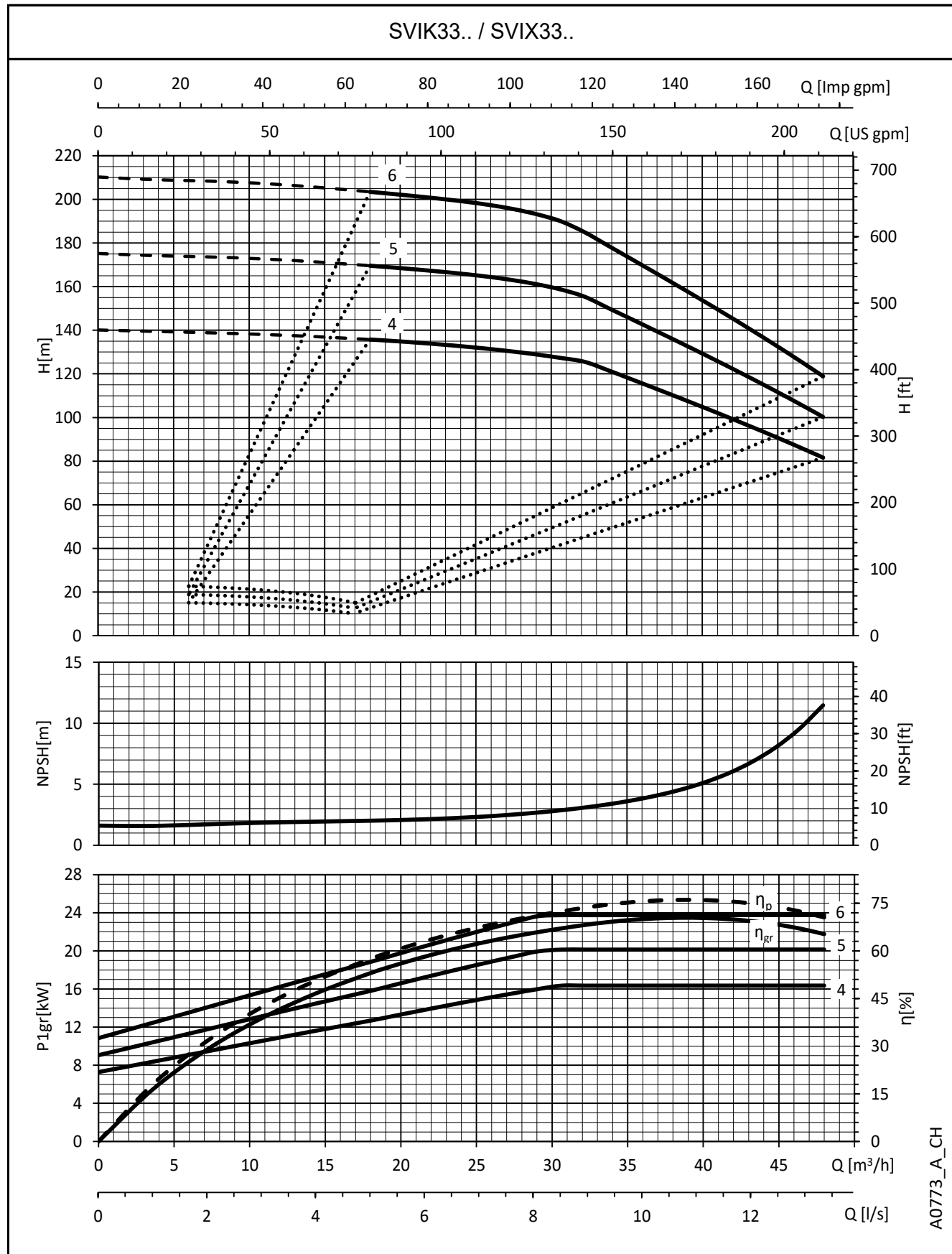
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e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



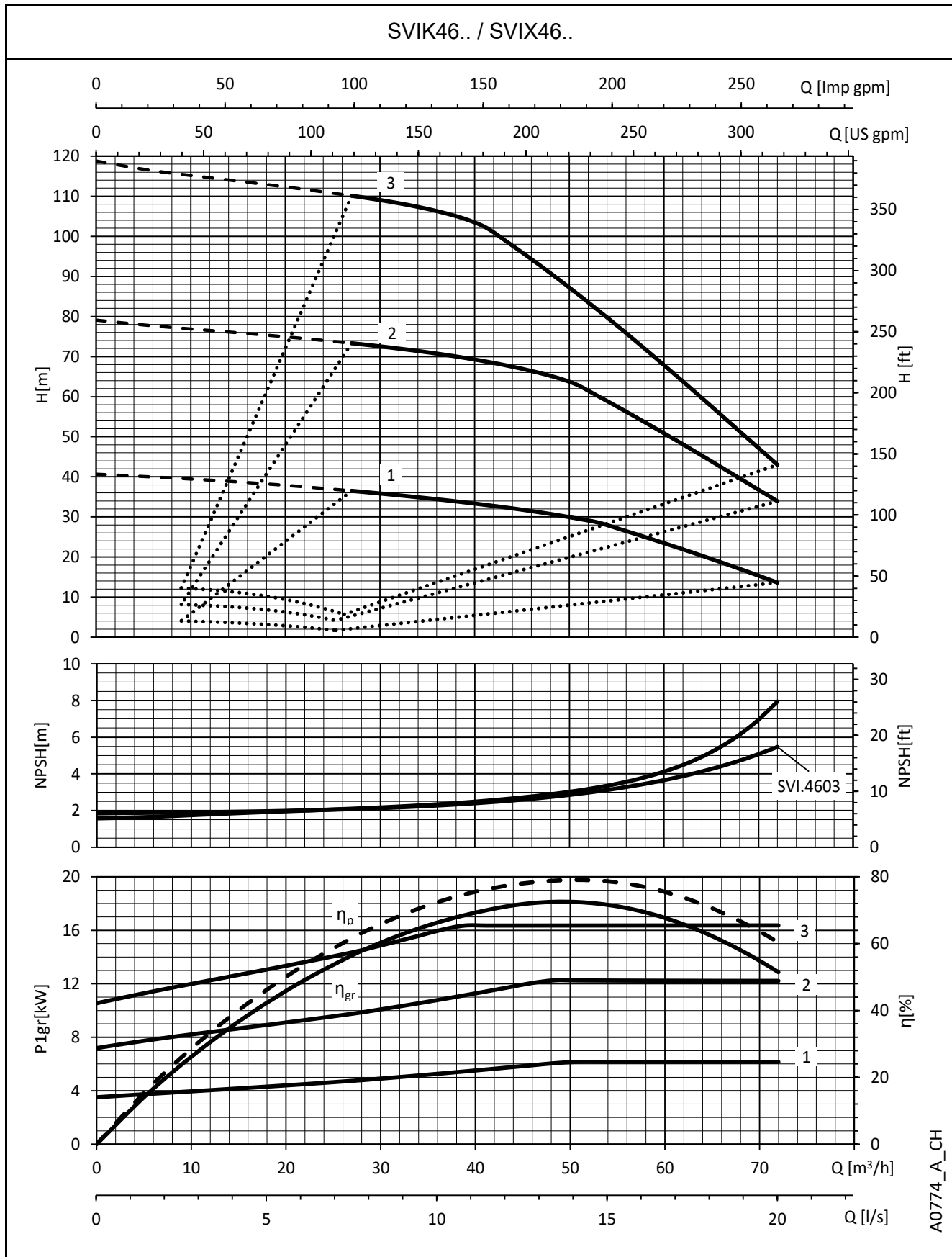
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



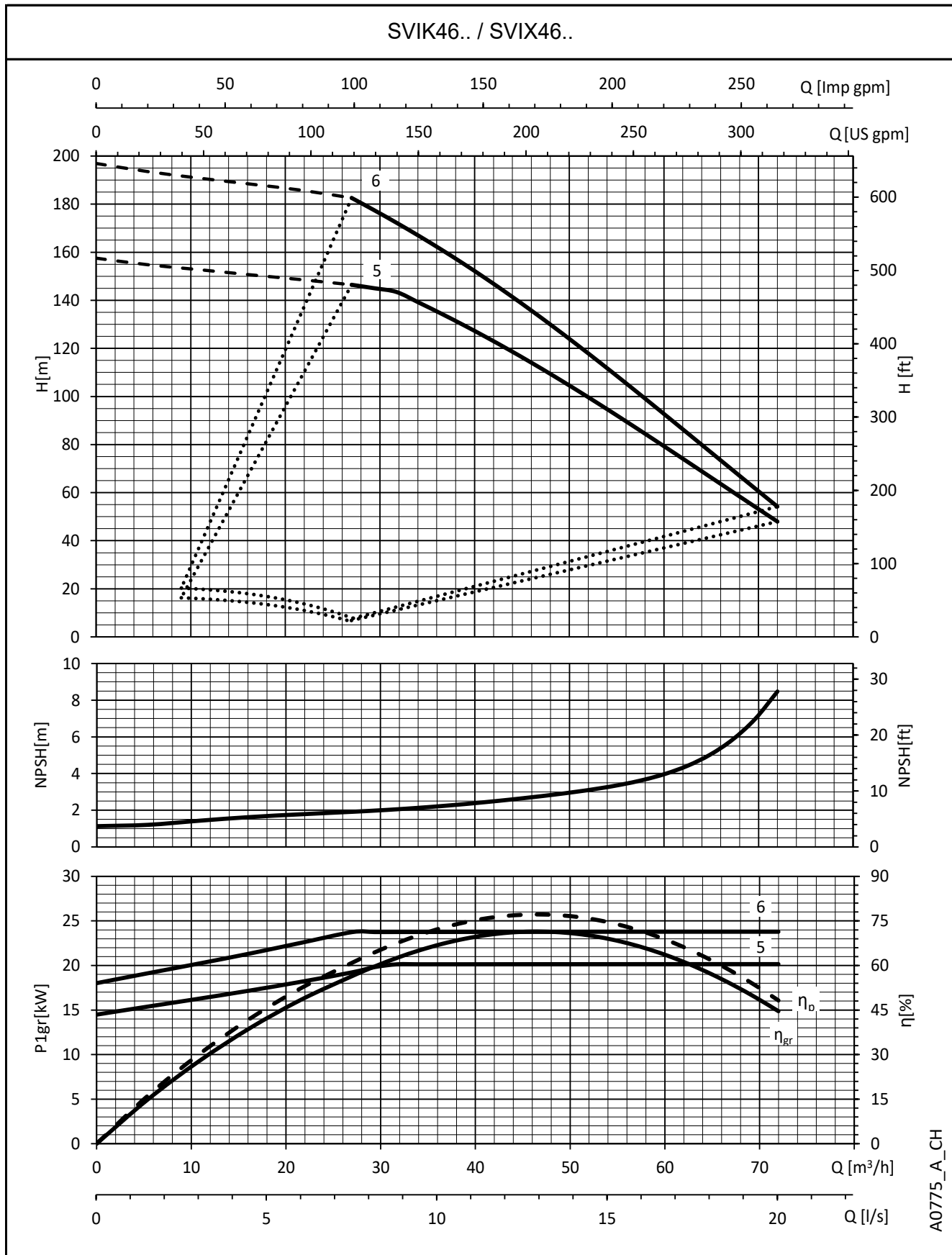
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



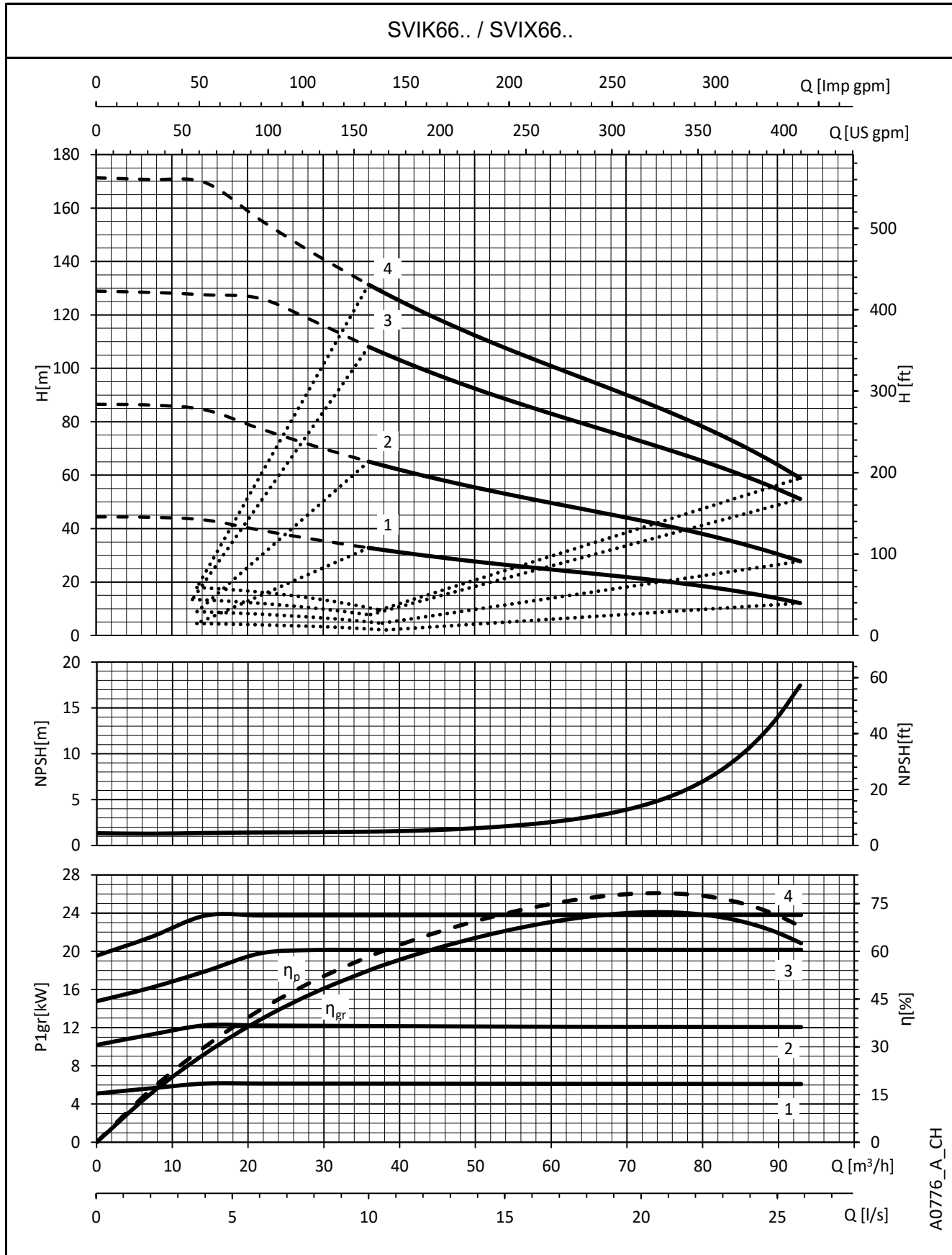
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e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



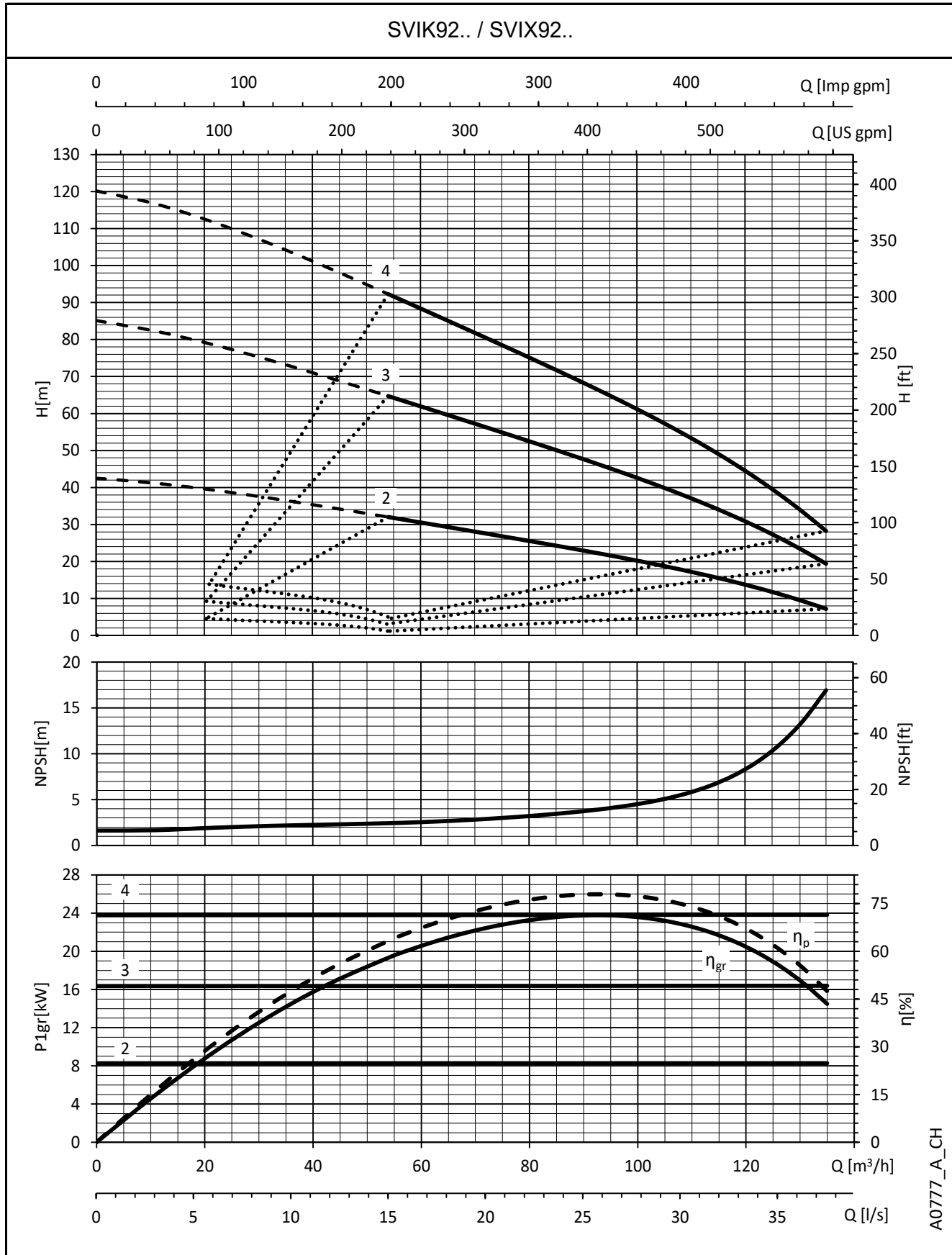
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e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

e-SVIX, e-SVIK SERIES OPERATING CHARACTERISTICS



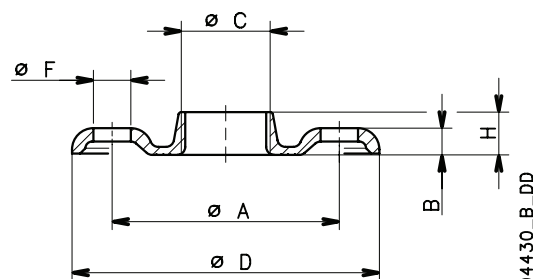
The performances are valid for liquid with density $\rho = 1.0 \text{ kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ACCESSORIES

SVI 33, 46, 66, 92 SERIES (S, N VERSIONS) DIMENSIONS OF ROUND THREADED COUNTERFLANGES

PUMP TYPE	DN	ø C	DIMENSIONS (mm)				HOLES		PN
			ø A	B	ø D	H	ø F	N°	
SVI33	80	Rp 3	160	17	200	27	18	8	16
SVI46									
SVI66									
SVI92									

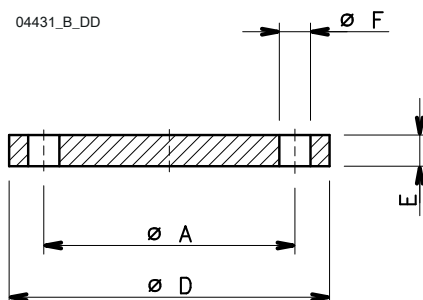
svi-ctf-tonde-f-en_a_td



SVI 33, 46, 66, 92 SERIES (S, N VERSIONS) DIMENSIONS PF ROUND WELD-ON COUNTERFLANGES

PUMP TYPE	DN	ø C	DIMENSIONS (mm)			HOLES		PN
			ø A	B	ø D	ø F	N°	
SVI33	80	90	160	20	200	18	8	16
SVI46								
SVI66								
SVI92								
SVI33	80	90	160	24	200	18	8	25
SVI46								
SVI66								
SVI92								

svi-ctf-tonde-s-en_a_td



ROUND COUNTERFLANGES

- SVI 33, 46, 66, 92 S versions : Kit containing weld-on counterflange (PN16, PN25) or threaded one PN16 made of galvanized steel. Each Kit contains 1 counterflange plus bolts and gasket.
- SVI 33, 46, 66, 92 N versions : Kit containing weld-on counterflange (PN16, PN25) or threaded one PN16 made of AISI 316L stainless steel. Each Kit contains 1 counterflange plus bolts and gasket.

TIGHTENING TORQUE

PUMP TYPE	WELD-ON ROUND COUNTERFLANGES			THREADED COUNTERFLANGES		
	ø	TIGHTENING TORQUE (Nm)	PN	ø	TIGHTENING TORQUE (Nm)	PN
33SVI	M16	200	25	M16	100	16
46SVI	M16	200	25	M16	100	16
66SVI-92SVI	M20	200	25	M16	100	16

svi_ctf-en_a_td

TECHNICAL APPENDIX

NPSH

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

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

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

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

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

To find the static height h_z at which to install the machine under safe conditions, the following formula must be verified:

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

where:

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

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

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

h_{pv} is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid. h_{pv} is the quotient between the P_v vapour pressure and the liquid's specific weight.

0,5 is the safety factor.

The maximum possible suction head for installation depends on the value of the atmospheric pressure (i.e. the elevation above sea level at which the pump is installed) and the temperature of the liquid.

To help the user, with reference to water temperature (4° C) and to the elevation above sea level, the following tables show the drop in hydraulic pressure head in relation to the elevation above sea level, and the suction loss in relation to temperature.

Water temperature (°C)	20	40	60	80	90	110	120
Suction loss (m)	0,2	0,7	2,0	5,0	7,4	15,4	21,5

Elevation above sea level (m)	500	1000	1500	2000	2500	3000
Suction loss (m)	0,55	1,1	1,65	2,2	2,75	3,3

Friction loss is shown in the tables of this catalogue. To reduce it to a minimum, especially in cases of high suction head (over 4-5 m.) or within the operating limits with high flow rates, we

recommend using a suction line having a larger diameter than that of the pump's suction port.

It is always a good idea to position the pump as close as possible to the liquid to be pumped.

Make the following calculation:

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

Flow rate required: 25 m³/h

Head for required delivery: 70 m.

Suction lift: 3,5 m.

The selection is an 33SV3G075T pump whose NPSH required value is, at 25 m³/h, of 2 m.

For water at 15 °C

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

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

By substituting the parameters in formula ⁽¹⁾ with the numeric values above, we have:

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

from which we have: 6,8 > 3,9

The relation is therefore verified.

VAPOUR PRESSURE **VAPOUR PRESSURE p_s AND ρ DENSITY OF WATER TABLE**

t °C	T K	p_s bar	ρ kg/dm ³	t °C	T K	p_s bar	ρ kg/dm ³	t °C	T K	p_s 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				

G-at_npsb_sc

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

FLOW RATE		NOMINAL DIAMETER in mm and inches																						
m³/h	l/min		15 1/2"	20 3/4"	25 1"	32 1 1/4"	40 1 1/2"	50 2	65 2 1/2"	80 3"	100 4"	125 5"	150 6"	175 7"	200 8"	250 10"	300 12"	350 14"	400 16"					
0,6	10	v	0,94	0,53	0,34	0,21	0,13			The hr values must be multiplied by: 0,71 for galvanized or painted steel pipes 0,54 for stainless steel or copper pipes 0,47 for PVC or PE pipes														
		hr	16	3,94	1,33	0,40	0,13																	
0,9	15	v	1,42	0,80	0,51	0,31	0,20																	
		hr	33,9	8,35	2,82	0,85	0,29																	
1,2	20	v	1,89	1,06	0,68	0,41	0,27	0,17																
		hr	57,7	14,21	4,79	1,44	0,49	0,16																
1,5	25	v	2,36	1,33	0,85	0,52	0,33	0,21																
		hr	87,2	21,5	7,24	2,18	0,73	0,25																
1,8	30	v	2,83	1,59	1,02	0,62	0,40	0,25																
		hr	122	30,1	10,1	3,05	1,03	0,35																
2,1	35	v	3,30	1,86	1,19	0,73	0,46	0,30																
		hr	162	40,0	13,5	4,06	1,37	0,46																
2,4	40	v		2,12	1,36	0,83	0,53	0,34	0,20															
		hr		51,2	17,3	5,19	1,75	0,59	0,16															
3	50	v		2,65	1,70	1,04	0,66	0,42	0,25															
		hr		77,4	26,1	7,85	2,65	0,89	0,25															
3,6	60	v		3,18	2,04	1,24	0,80	0,51	0,30															
		hr		108	36,6	11,0	3,71	1,25	0,35															
4,2	70	v		3,72	2,38	1,45	0,93	0,59	0,35															
		hr		144	48,7	14,6	4,93	1,66	0,46															
4,8	80	v		4,25	2,72	1,66	1,06	0,68	0,40															
		hr		185	62,3	18,7	6,32	2,13	0,59															
5,4	90	v			3,06	1,87	1,19	0,76	0,45	0,30														
		hr			77,5	23,3	7,85	2,65	0,74	0,27														
6	100	v			3,40	2,07	1,33	0,85	0,50	0,33														
		hr			94,1	28,3	9,54	3,22	0,90	0,33														
7,5	125	v			4,25	2,59	1,66	1,06	0,63	0,41														
		hr			142	42,8	14,4	4,86	1,36	0,49														
9	150	v				3,11	1,99	1,27	0,75	0,50	0,32													
		hr				59,9	20,2	6,82	1,90	0,69	0,23													
10,5	175	v				3,63	2,32	1,49	0,88	0,58	0,37													
		hr				79,7	26,9	9,07	2,53	0,92	0,31													
12	200	v				4,15	2,65	1,70	1,01	0,66	0,42													
		hr				102	34,4	11,6	3,23	1,18	0,40													
15	250	v				5,18	3,32	2,12	1,26	0,83	0,53	0,34												
		hr				154	52,0	17,5	4,89	1,78	0,60	0,20												
18	300	v					3,98	2,55	1,51	1,00	0,64	0,41												
		hr					72,8	24,6	6,85	2,49	0,84	0,28												
24	400	v					5,31	3,40	2,01	1,33	0,85	0,54	0,38											
		hr					124	41,8	11,66	4,24	1,43	0,48	0,20											
30	500	v					6,63	4,25	2,51	1,66	1,06	0,68	0,47											
		hr					187	63,2	17,6	6,41	2,16	0,73	0,30											
36	600	v						5,10	3,02	1,99	1,27	0,82	0,57	0,42										
		hr						88,6	24,7	8,98	3,03	1,02	0,42	0,20										
42	700	v						5,94	3,52	2,32	1,49	0,95	0,66	0,49										
		hr						118	32,8	11,9	4,03	1,36	0,56	0,26										
48	800	v						6,79	4,02	2,65	1,70	1,09	0,75	0,55										
		hr						151	42,0	15,3	5,16	1,74	0,72	0,34										
54	900	v						7,64	4,52	2,99	1,91	1,22	0,85	0,62										
		hr						188	52,3	19,0	6,41	2,16	0,89	0,42										
60	1000	v							5,03	3,32	2,12	1,36	0,94	0,69	0,53									
		hr							63,5	23,1	7,79	2,63	1,08	0,51	0,27									
75	1250	v							6,28	4,15	2,65	1,70	1,18	0,87	0,66									
		hr							96,0	34,9	11,8	3,97	1,63	0,77	0,40									
90	1500	v							7,54	4,98	3,18	2,04	1,42	1,04	0,80									
		hr							134	48,9	16,5	5,57	2,29	1,08	0,56									
105	1750	v							8,79	5,81	3,72	2,38	1,65	1,21	0,93									
		hr							179	65,1	21,9	7,40	3,05	1,44	0,75									
120	2000	v								6,63	4,25	2,72	1,89	1,39	1,06	0,68								
		hr								83,3	28,1	9,48	3,90	1,84	0,96	0,32								
150	2500	v								8,29	5,31	3,40	2,36	1,73	1,33	0,85								
		hr								126	42,5	14,3	5,89	2,78	1,45	0,49								
180	3000	v									6,37	4,08	2,83	2,08	1,59	1,02	0,71							
		hr									59,5	20,1	8,26	3,90	2,03	0,69	0,28							
210	3500	v									7,43	4,76	3,30	2,43	1,86	1,19	0,83							
		hr									79,1	26,7	11,0	5,18	2,71	0,91	0,38							
240	4000	v									8,49	5,44	3,77	2,77	2,12	1,36	0,94							
		hr									101	34,2	14,1	6,64	3,46	1,17	0,48							
300	5000	v										6,79	4,72	3,47	2,65	1,70	1,18							
		hr										51,6	21,2	10,0	5,23	1,77	0,73							
360	6000	v										8,15	5,66	4,16	3,18	2,04	1,42							
		hr										72,3	29,8	14,1	7,33	2,47	1,02							
420	7000	v											6,61	4,85	3,72	2,38	1,65	1,21						
		hr											39,6	18,7	9,75	3,29	1,35	0,64						
480	8000	v											7,55	5,55	4,25	2,72	1,89	1,39						
		hr											50,7	23,9	12,49	4,21	1,73	0,82						
540	9000	v											8,49	6,24	4,78	3,06	2,12	1,56	1,19					
		hr											63,0	29,8	15,5	5,24	2,16	1,02	0,53					
600	10000	v												6,93	5,31	3,40	2,36	1,73	1,33					
		hr												36,2	18,9	6,36	2,62	1,24	0,65					

FLOW RESISTANCE

TABLE OF FLOW RESISTANCE IN BENDS, VALVES AND GATES

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

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

G-a-pcv-en_b_th

The table is valid for the Hazen Williams coefficient C=100 (cast iron pipework);

for steel pipework, multiply the values by 1,41;

for stainless steel, copper and coated cast iron pipework, multiply the values by 1,85;

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

The values given are guideline values which are bound to vary slightly according to the model, especially for gate valves and non-return valves, for which it is a good idea to check the values supplied by manufacturers.

VOLUMETRIC CAPACITY

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

PRESSURE AND HEAD

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

LENGTH

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

VOLUME

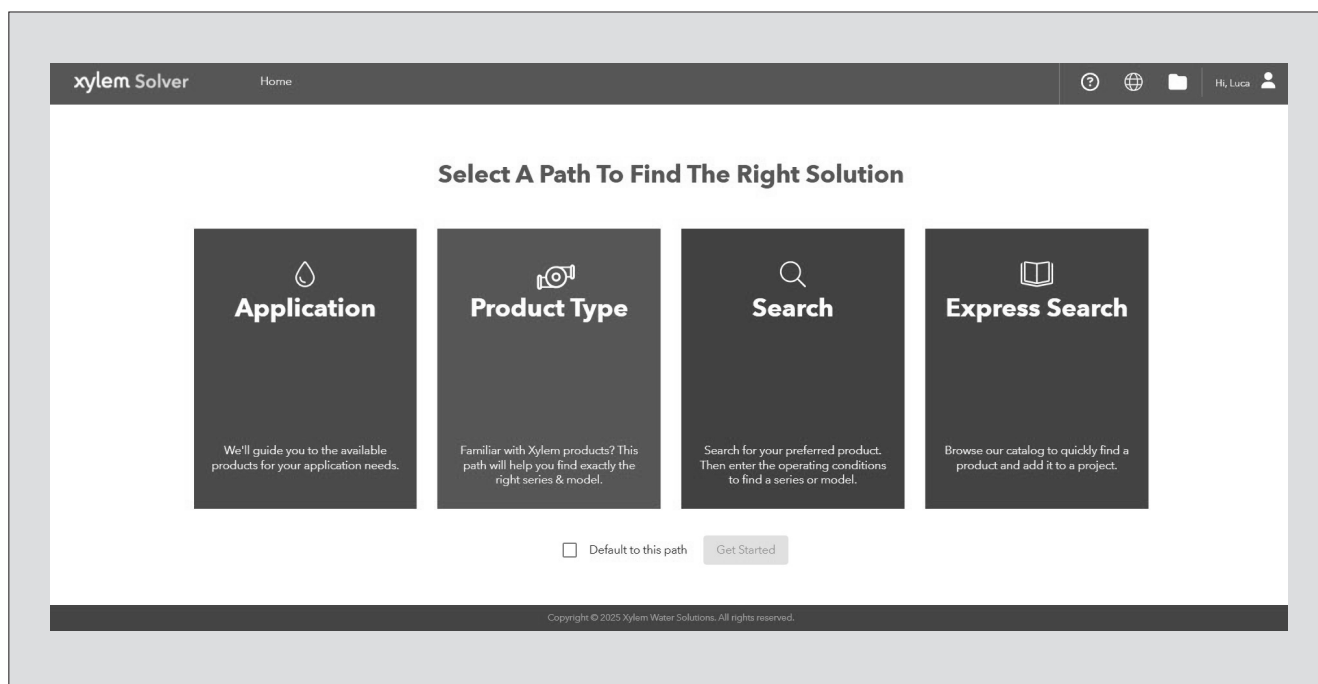
Cubic metre m ³	Litre L	Millilitre ml	Imperial gallon imp. gal.	U.S. gallon US gal.	Cubic foot ft ³
1,0000	1 000,0000	1×10^6	219,9694	264,1720	35,3147
0,0010	1,0000	1 000,0000	0,2200	0,2642	0,0353
1×10^{-6}	0,0010	1,0000	$2,2 \times 10^{-4}$	$2,642 \times 10^{-4}$	$3,53 \times 10^{-5}$
0,0045	4,5461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

TEMPERATURE

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

G-at_pp-en_b_sc

FURTHER PRODUCT SELECTION AND DOCUMENTATION Xylem Solver



Xylem Solver is pump solution selection software with an extensive online database of product information across the entire Xylem 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.

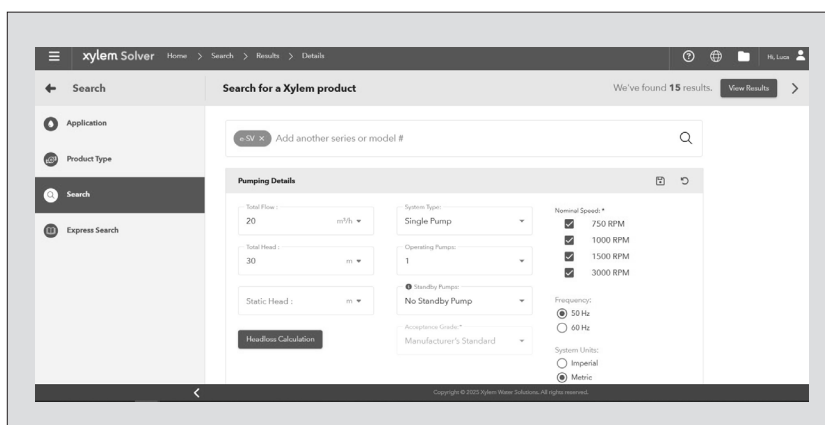
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Xylem products.

The search can be made by:

- Application
- Product type
- Duty point

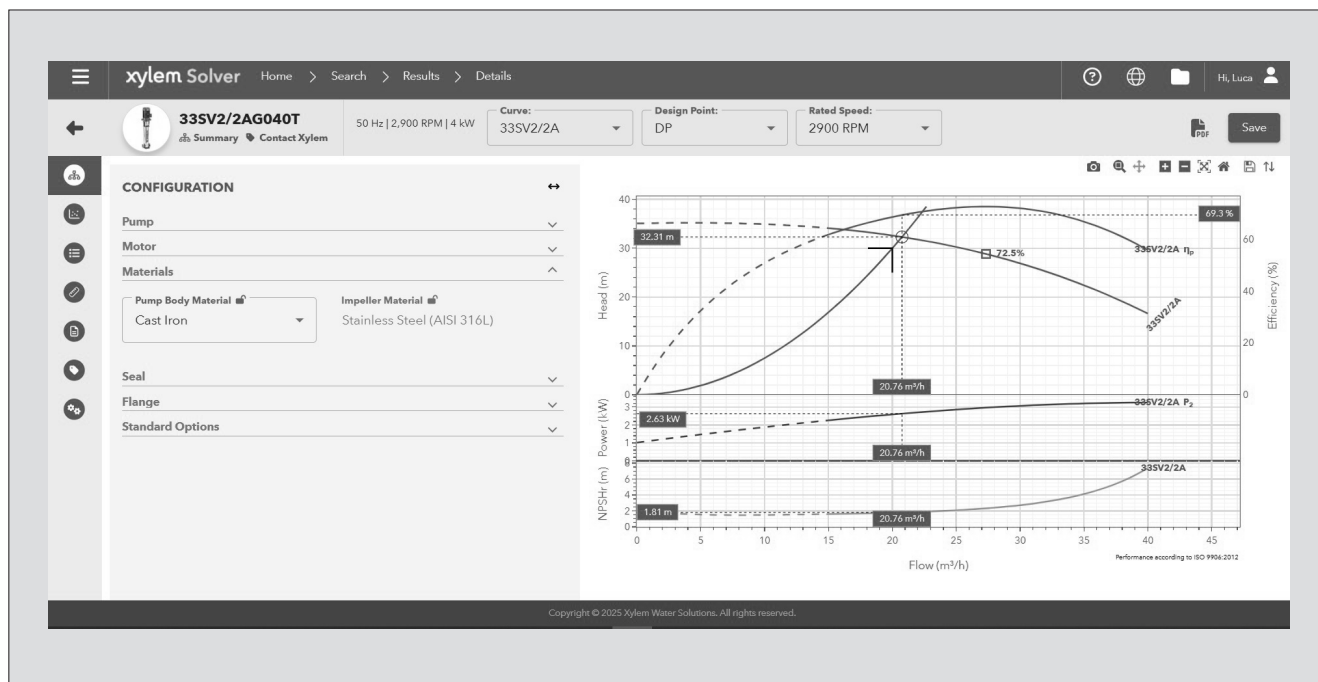
Xylem Solver gives a detailed output:

- List with search results in which you can compare up to four products
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf, stp and BIM files



Once a product series has been selected, input design criteria to select pumps that meet the design requirements.

FURTHER PRODUCT SELECTION AND DOCUMENTATION Xylem Solver



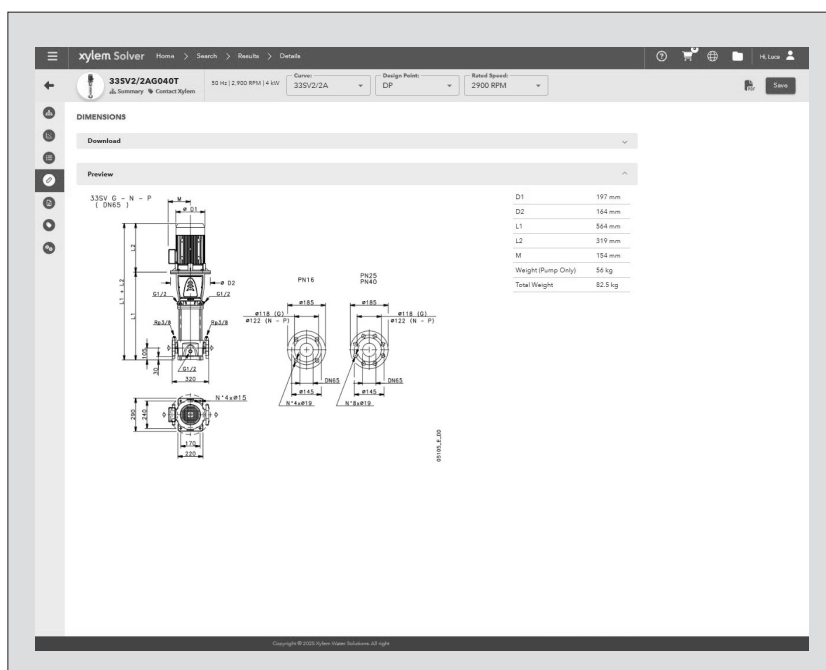
The detailed output makes it easy to select the optimal pump from the given alternatives.

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

- Set own standard units
- Create and save projects

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

For more information about Xylem Solver please contact our sales network or visit <https://solver.xylem.com>.



The dimensions tab shows technical drawings, dimensions, and CAD files when available.

Xylem l'zīlām

- 1) the tissue in plants that brings water and nutrients upward from the roots.
- 2) a leading global water solutions company.

Xylem is the connective tissue and system in plants which cleanses and transports water from the root to where it is needed most to sustain life.

And this is the essence of Xylem as a company. We are committed to driving sustainable impact by ensuring our connected technologies and solutions support our customers and the communities they serve, to tackle the water challenges that matter most to them.

For more information on how Xylem can help you, visit [xylem.com](https://www.xylem.com).

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The logo for Xylem, featuring the word "xylem" in a lowercase, blue, sans-serif font.