

# e-SV Series

VERTICAL MULTISTAGE ELECTRIC PUMPS

EQUIPPED WITH IE2, IE3 MOTORS (REG. (EU) 2019/1781)

**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 for Lowara products.

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

Regulations	From	Target
(EU) N. 547/2012	1 January 2015	<b>MEI</b> ≥ 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, (EU) N. 622/2012 and (EU) 2019/1781	1 August 2015	<b>EEl</b> < 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 2021/341	1 July 2023	<b>IE2</b> : motors with a rated output ≥ 0,12 and < 0,749 kW <b>IE3</b> : motors with a rated output ≥ 0,75 and < 74,9 kW <b>IE4</b> : motors with a rated output ≥ 75 and < 200 kW <b>IE3</b> : motors with a rated output ≥ 201 and < 1000 kW

- **Single-phase motors**:

Regulations	From	Target
(EU) 2019/1781 and 2021/341	1 July 2023	<b>IE2</b> : motors with a rated output ≥ 0,12

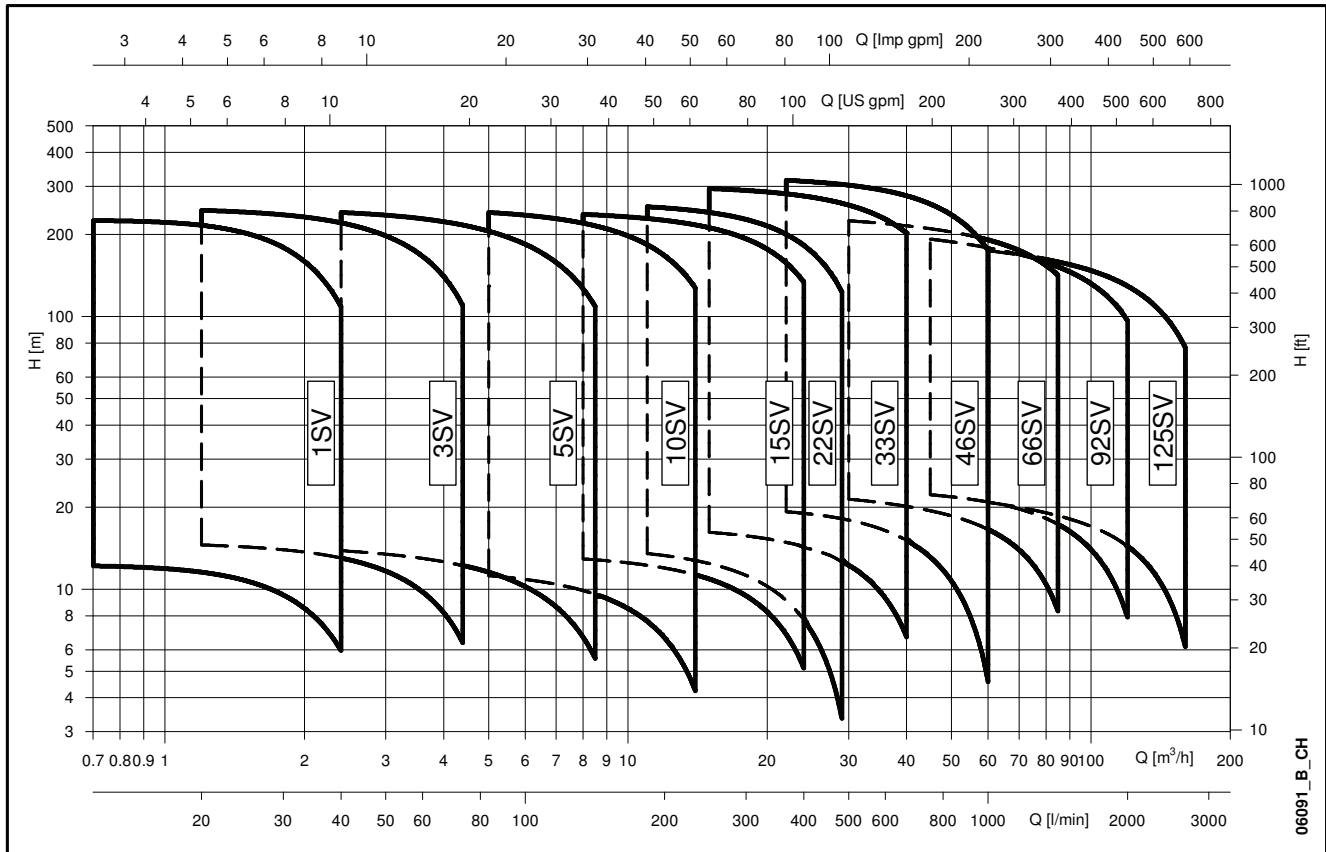
- **Variable speed drives** with three-phase input and rated output power from 0,12 kW up to 1000 kW, rated for operating with motor included in the same regulations:

Regulations	From	Target
(EU) 2019/1781 and 2021/341	1 July 2021	<b>IE2</b>

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### e-SV SERIES HYDRAULIC PERFORMANCE RANGE AT 50 Hz



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## e-SV SERIES VERTICAL MULTISTAGE ELECTRIC PUMP

### GENERAL INTRODUCTION

The e-SV pump is a non-self priming vertical multistage pump coupled to a standard motor.

The liquid end, located between the upper cover and the pump casing, is held in place by tie rods. The pump casing is available with different configurations and connection types.

### MARKET SECTORS

- Civil
- Agricultural
- Light industry
- Water treatment
- Heating and air conditioning.

### APPLICATIONS

- Handling of water, free of suspended solids, in the civil, industrial and agricultural sectors.
- Pressure boosting and water supply systems.
- Irrigation systems.
- Wash systems.
- Water treatment plants.
- Handling of moderately aggressive liquids, demineralised water, water and glycol, etc.
- Circulation of hot and cold water for heating, cooling and conditioning systems.
- Boiler feed.
- Pharmaceutical food & beverage industries.

- ❑ **LIQUID END MADE ENTIRELY OF STAINLESS STEEL IN THE 1, 3, 5, 10, 15, 22 m<sup>3</sup>/h STANDARD VERSION**
- ❑ **STANDARD MECHANICAL SEAL CAN BE REPLACED WITHOUT REMOVING THE MOTOR FROM THE PUMP (FOR 10, 15, 22, 33, 46, 66, 92, 125SV)**
- ❑ **STANDARD MOTOR FOR POWER EQUAL TO OR ABOVE 3 kW (IEC 132)**
- ❑ **CAN BE USED WITH THE DRIVE CONTROL SYSTEM IN ORDER TO MANAGE THE OPERATION OF THE PUMP BASED ON THE SYSTEM CONDITIONS AND SAVE ENERGY**



### SPECIFICATIONS

#### PUMP

- Delivery: up to **160 m<sup>3</sup>/h**.
- Head: up to **330 m**.
- Temperature of pumped liquid:
  - from -30°C to +120°C for standard version.
- Maximum operating **pressure**:
  - 1, 3, 5, 10, 15, 22SV with oval flanges: 16 bar (PN16).
  - 1, 3, 5, 10, 15, 22SV with round flanges or Victaulic®, Clamp or DIN 11851 connections: 25 bar (PN 25).
  - 33, 46SV: 16, 25, 40 bar (PN 16, PN 25 or PN 40).
  - 66, 92, 125SV: 16 or 25 bar (PN 16 or PN 25).
- 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.

## CHARACTERISTICS OF 1, 3, 5, 10, 15, 22SV SERIES

- Vertical multistage centrifugal pump. All metal parts in contact with the pumped liquid are made of stainless steel.
- The following versions are available:
  - **F**: round flanges, in-line delivery and suction ports, AISI 304.
  - **T**: oval flanges, in-line delivery and suction ports, AISI 304.
  - **R**: round flanges, delivery port above the suction port, with four adjustable positions, AISI 304.
  - **N**: round flanges, in-line delivery and suction ports, AISI 316.
  - **V**: Victaulic® couplings, in-line delivery and suction ports, AISI 316.
  - **P**: reinforced sleeve, Victaulic® couplings, in-line delivery and suction ports, AISI 316.
  - **C**: Clamp couplings (DIN 32676), in-line delivery and suction ports, AISI 316.
  - **K**: threaded couplings, (DIN 11851), in-line delivery and suction ports, AISI 316.
- Reduced axial thrusts enable the use of **standard motors** that are easily found in the market.
- Mechanical seal according to EN 12756 (ex DIN 24960) and ISO 3069 for 1, 3, 5SV and 10, 15, 22SV ( $\leq$  of 4 kW) series.
- **Balanced mechanical seal** according to EN 12756 (ex DIN 24960) and ISO 3069, which **can be replaced without removing the motor from the pump** for 10, 15 and 22SV ( $\geq$  of 5,5 kW) series.
- Seal housing chamber designed to prevent the accumulation of air in the critical area next to the mechanical seal.
- A second plug is available for 10, 15, 22SV series.
- Versions with round flanges that can be coupled to counter-flanges, according to EN 1092.
- Threaded, oval counter-flanges made of stainless steel are standard supply for the T versions.
- Round counter-flanges made of stainless steel are available on request for the F, R and N versions.
- Easy maintenance. No special tools required for assembly or disassembly.
- **The pumps for drinking water use are WRAS, ACS and D.M. 174 certified for F, T, R, N versions.**
- Standard version for temperatures ranging from  $-30^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ .

## CHARACTERISTICS OF 33, 46, 66, 92, 125SV SERIES

- The following versions are available:
  - **G**: vertical multistage centrifugal pump with impellers, diffusers and outer sleeve made entirely of stainless steel, and with pump casing and motor adaptor made of cast iron.
  - **N**: version made entirely of AISI 316 stainless steel.
  - **P**: version with reinforced sleeve, made entirely of AISI 316 stainless steel.
- Innovative axial load compensation system on pumps with higher head. This ensures reduced axial thrusts and enables the use of **standard motors** that are easily found in the market.
- **Balanced mechanical seal** according to EN 12756 (ex DIN 24960) and ISO 3069, which **can be replaced without removing the motor from the pump**.
- Seal housing chamber designed to prevent the accumulation of air in the critical area next to the mechanical seal.
- **The pumps for drinking water use are WRAS, ACS and D.M. 174 certified for G, N versions.**
- Standard version for temperatures ranging from  $-30^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ .
- Pump body fitted with couplings for installing pressure gauges on both suction and delivery flanges.
- In-line ports with round flanges that can be coupled to counter-flanges, in compliance with EN 1092.
- Mechanical sturdiness and easy maintenance. No special tools required for assembly or disassembly.

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. For details see page 179.

## e-SV SERIES GENERAL CHARACTERISTICS, 2 POLES

	1SV	3SV	5SV	10SV	15SV	22SV	33SV	46SV	66SV	92SV	125SV
Max efficiency flow (m <sup>3</sup> /h)	1,7	3	5,5	10,5	16,5	20,5	31	43	72	90	120
Flow range (m <sup>3</sup> /h)	0,7÷2,4	1,2÷4,4	2,4÷8,5	5÷14	8÷24	11÷29	15÷40	22÷60	30÷85	45÷120	60÷160
Maximum head ( m )	230	250	250	250	250	260	300	360	230	200	220
Motor power ( kW )	0,37÷2,2	0,37÷3	0,37÷5,5	0,75÷11	1,1÷15	1,1÷18,5	2,2÷30	3÷45	4÷45	5,5÷45	7,5÷55
Max $\eta$ ( % ) of pump	50,0	60,0	70,0	71,0	72,0	73,0	76,5	79,0	78,0	79,5	78,0
Standard temperature ( °C )	-30 +120										

1-125sv\_2p50-en\_b\_tg

### 1, 3, 5, 10, 15, 22SV VERSIONS

TYPE		2 POLES					
		1SV	3SV	5SV	10SV	15SV	22SV
<b>F</b>	AISI 304, PN25. IN-LINE PORTS, ROUND FLANGES	•	•	•	•	•	•
<b>T</b>	AISI 304, PN16. IN-LINE PORTS, OVAL FLANGES	•	•	•	•	•	•
<b>R</b>	AISI 304, PN25. DISCHARGE PORT ABOVE SUCTION, ROUND FLANGES	•	•	•	•	•	•
<b>N</b>	AISI 316, PN25. IN-LINE PORTS, ROUND FLANGES	•	•	•	•	•	•
<b>V</b>	AISI 316, PN25. VICTAULIC® COUPLINGS	•	•	•	•	•	•
<b>P</b>	AISI 316, PN40. REINFORCED SLEEVE. VICTAULIC® COUPLINGS	•	•	•	•	•	•
<b>C</b>	AISI 316, PN25. CLAMP COUPLINGS (DIN 32676)	•	•	•	•	•	•
<b>K</b>	AISI 316, PN25. THREADED COUPLINGS (DIN 11851)	•	•	•	•	•	•

• = Available.

1-22sv\_2p50-en\_c\_tc

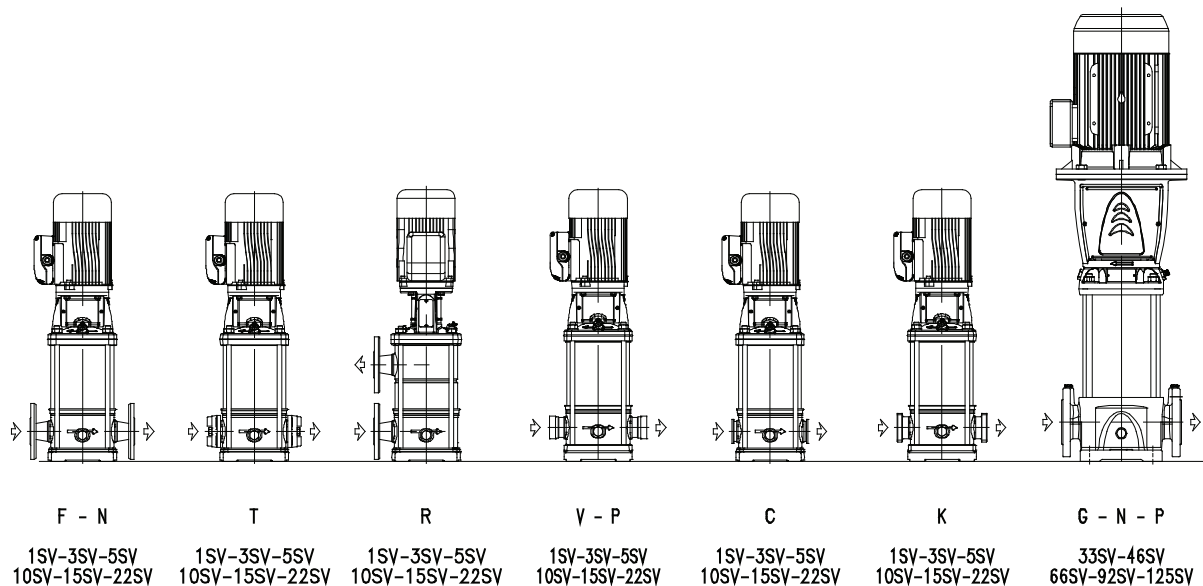
### 33, 46, 66, 92, 125SV VERSIONS

TYPE		2 POLES SV				
		33SV	46SV	66SV	92SV	125SV
<b>G</b>	CAST IRON PUMP CASING, LIQUID END MADE OF STAINLESS STEEL, IN-LINE ROUND FLANGES PN16, PN25 OR PN40 DEPENDING ON NUMBER OF STAGES AND MODEL.	•	•	•	•	•
<b>N</b>	ALL AISI 316 STAINLESS STEEL, IN-LINE ROUND FLANGES, PN16, PN25 OR PN40 DEPENDING ON NUMBER OF STAGES AND MODEL.	•	•	•	•	•
<b>P</b>	ALL AISI 316 STAINLESS STEEL. FLANGES, IN-LINE ROUND, PN40. REINFORCED SLEEVE.	•	•	•	•	•

• = Available.

33-125sv\_2p50-en\_b\_tc

## VERSION DIAGRAM



For Dual Pump System (DPS) version, please see [e-SV Special Versions catalog](#).

**e-SV SERIES  
TYPICAL APPLICATIONS**

**WATER SUPPLY AND PRESSURE BOOSTING**

- Pressure boosting in building, hotel, residential complexes.
- Pressure booster stations, supply of water networks.
- Booster packages.

**WATER TREATMENT**

- Ultrafiltration systems.
- Reverse osmosis systems.
- Water softeners and de-mineralization.
- Distillation systems.
- Filtration.

**LIGHT INDUSTRY**

- Washing and cleaning plants (washing and degreasing of mechanical parts, car and truck wash tunnels, washing of electronic industry circuits).
- Commercial washers.
- Firefighting system pumps.

**PHARMACEUTICAL AND  
FOOD & BEVERAGE INDUSTRIES**

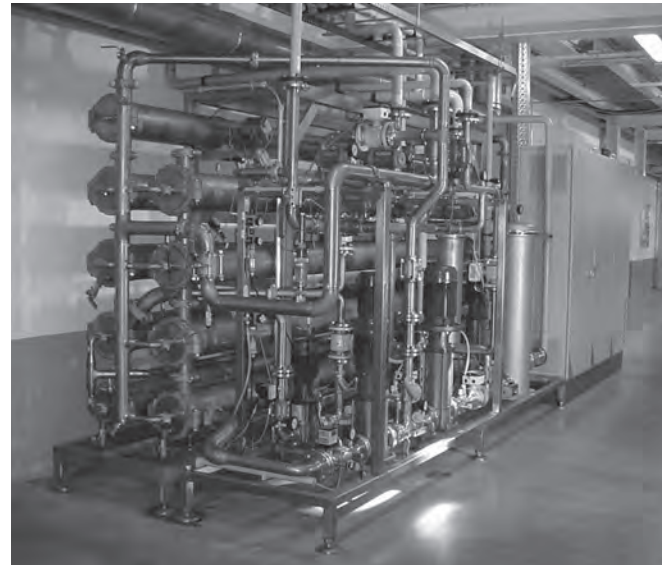
- Production plant where specific sanitary standards are required.

**IRRIGATION AND AGRICULTURE**

- Greenhouses.
- Humidifiers.
- Sprinkler irrigation.

**HEATING, VENTILATION AND AIR  
CONDITIONING (HVAC)**

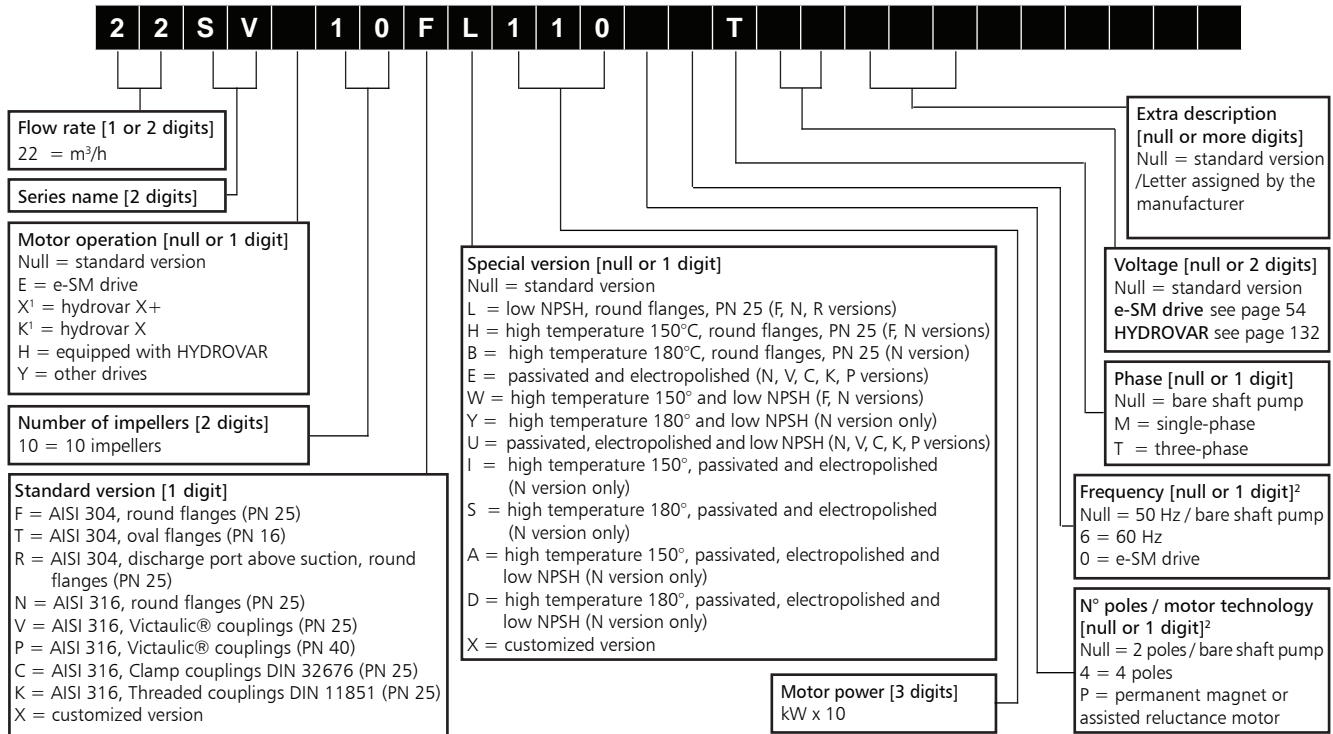
- Cooling towers and systems.
- Temperature control systems.
- Refrigerators.
- Induction heating.
- Heat exchangers.
- Boilers, water recirculation and heating.



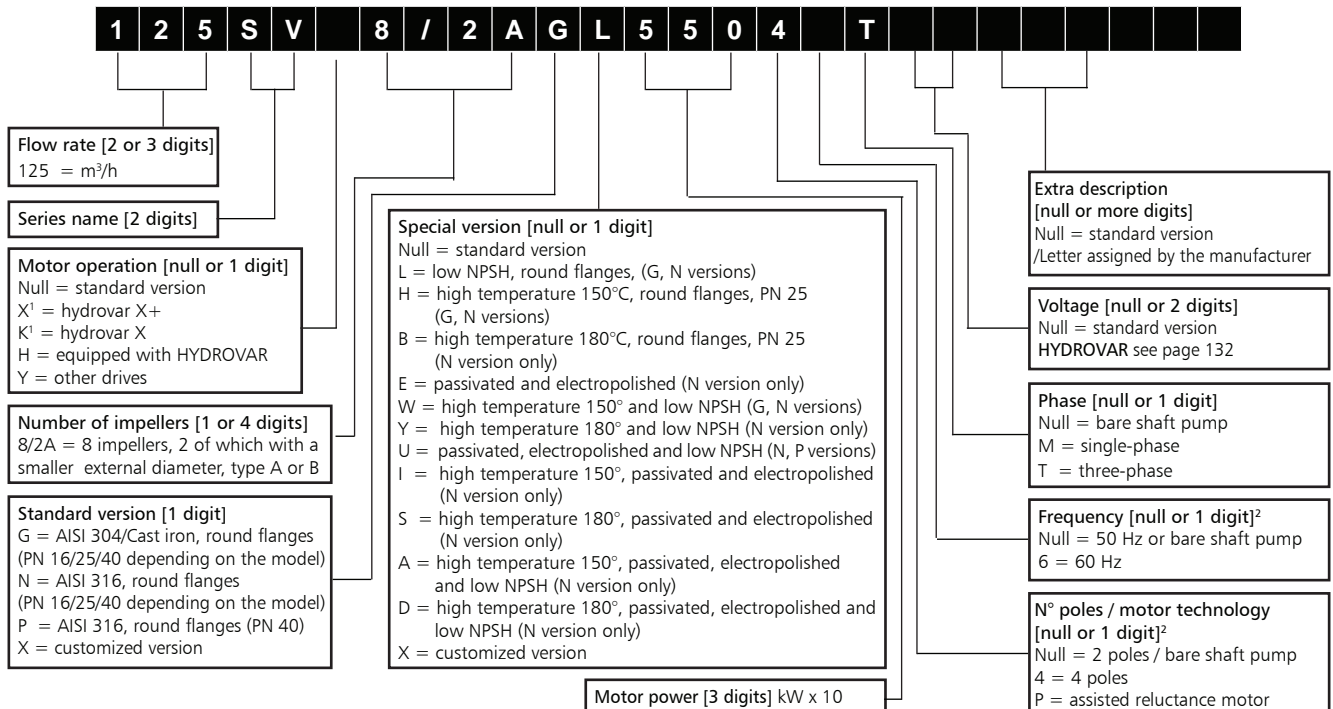


## IDENTIFICATION CODE

### 1, 3, 5, 10, 15, 22SV SERIES



### 33, 46, 66, 92, 125SV SERIES



1) For identification code of e-SV with hydrovar X see page 105  
2) Null value if equipped with HYDROVAR

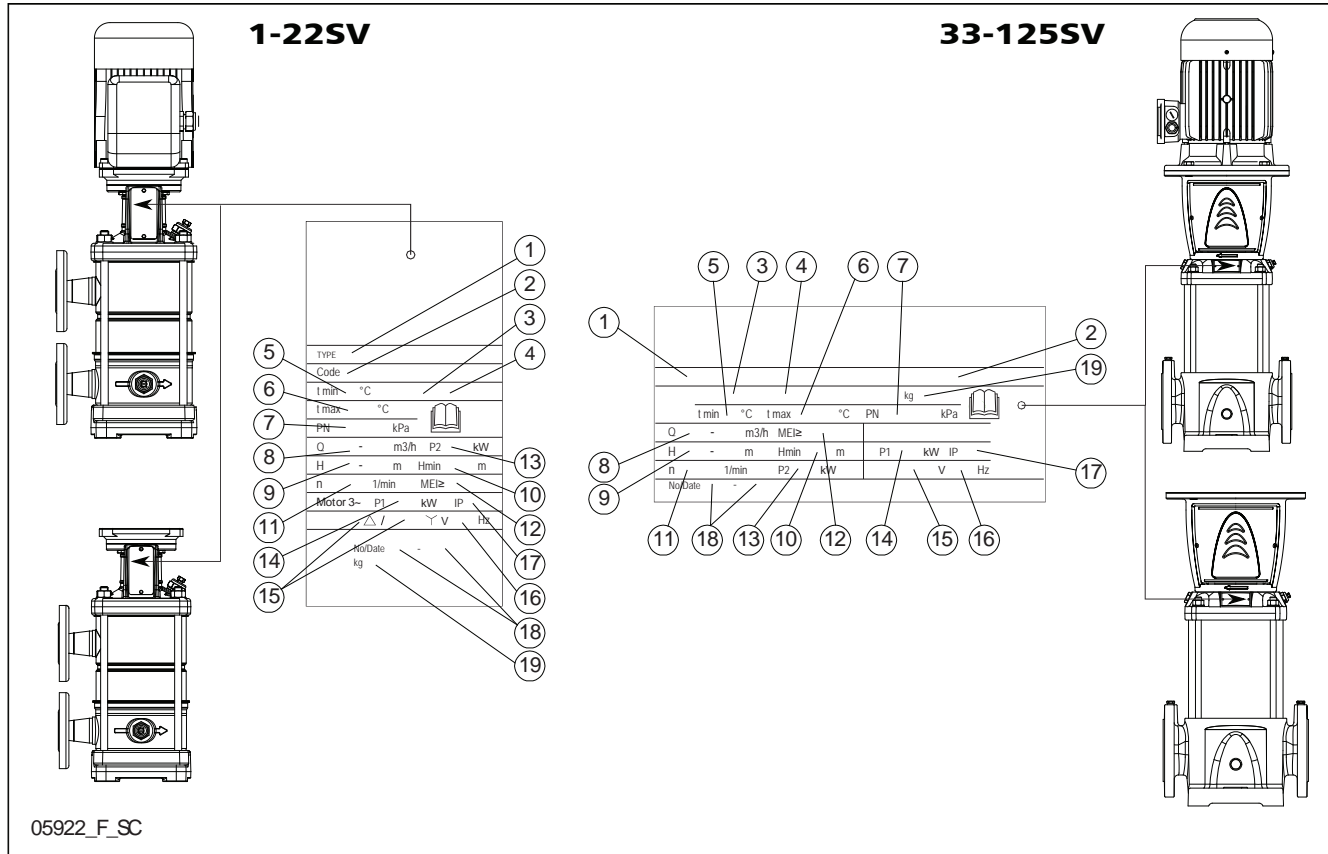
#### EXAMPLE: 22SVE02F015P0M/2

e-SV series electric pump, Flow rate 22 m<sup>3</sup>/h, e-SM (SMART) coupling, number of impellers 2, F version (AISI 304), round flanges, rated motor power 1,5 kW, e-SM motor type, single-phase, e-SM power supply 1x208-240.

#### EXAMPLE: 125SV8/2AG550T

e-SV series electric pump, flow rate 125 m<sup>3</sup>/h, number of impellers 8, 2 of which with a smaller external diameter (type A), G version (AISI 304/Cast iron), round flanges, rated motor power 55 kW, 50 Hz frequency, three-phase.

## e-SV SERIES RATING PLATE

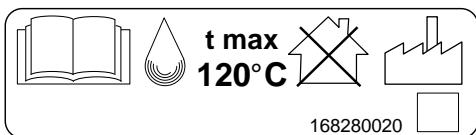


### LEGEND

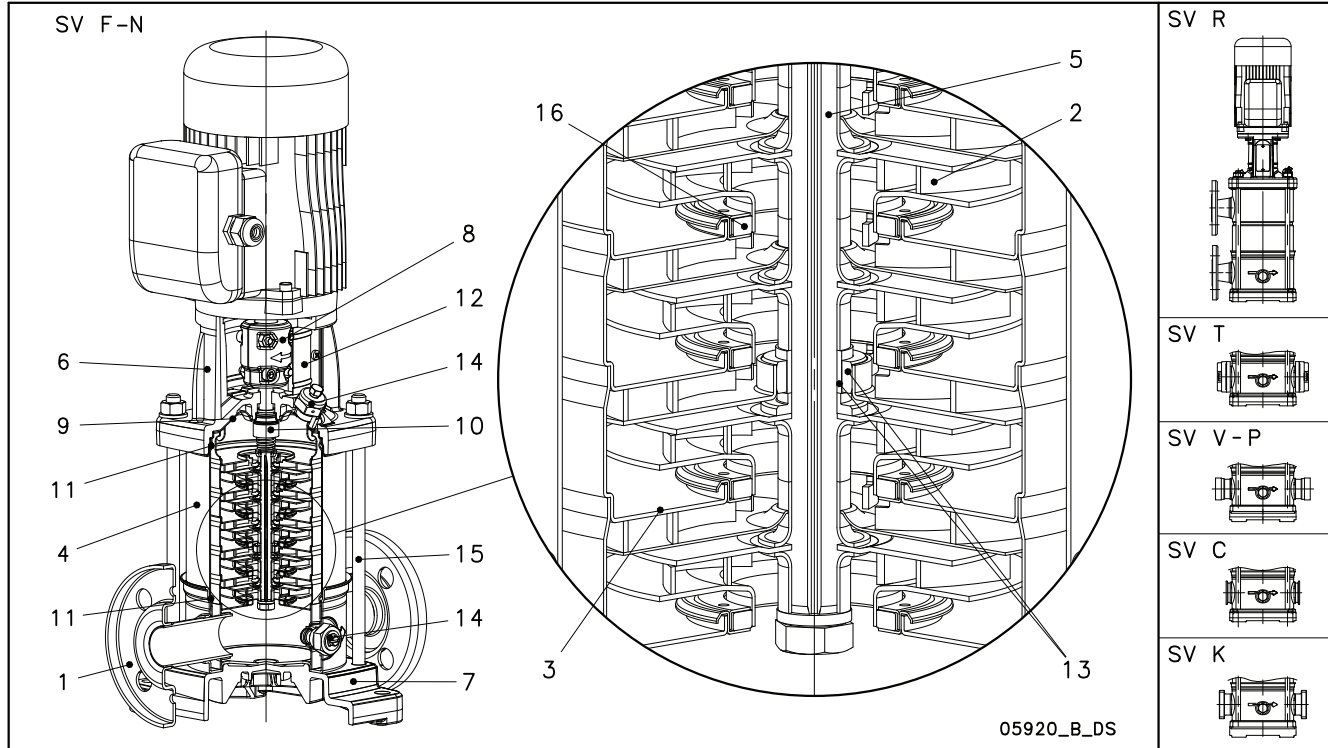
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|--|--|
| 1 - Pump / electric pump unit type               | 11 - Speed                                     |
| 2 - Product code                                 | 12 - Minimum efficiency index                  |
| 3 - Mechanical seal material identification code | 13 - Pump rated power                          |
| 4 - O-ring material identification code          | 14 - Pump unit power consumption (*)           |
| 5 - Minimum operating liquid temperature         | 15 - Rated voltage range (*)                   |
| 6 - Maximum operating liquid temperature         | 16 - Frequency (*)                             |
| 7 - Maximum operating pressure                   | 17 - Protection class (*)                      |
| 8 - Capacity range                               | 18 - Serial number + manufacturing date        |
| 9 - Head range                                   | 19 - Weight                                    |
| 10 - Minimum head                                | (*) Data present only on the pump rating plate |

### Additional liquid temperature plate

It is applied on the units where the maximum working temperature of the liquid exceeds the limit of 90°C (194°F), foreseen by the standard EN 60335-2-41, with Un (V) ≤ 480 V (3~) or ≤ 250 V (1~).



## 1, 3, 5SV SERIES - 10, 15, 22SV SERIES ≤ 4 kW ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



### F, T, R VERSIONS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
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-X5CrNi18-10 (1.4301)	AISI 304
5	Shaft	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
7	Base	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
8	Coupling	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
9	Seal housing	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
12	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Shaft sleeve and bushing	Tungsten carbide		
14	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
15	Tie rods	Galvanized steel	EN 10277-3-36SMnPb14 (1.0765)	
16	Wear ring	Technopolymer PPS		

1-22sv-frm-en\_a\_tm

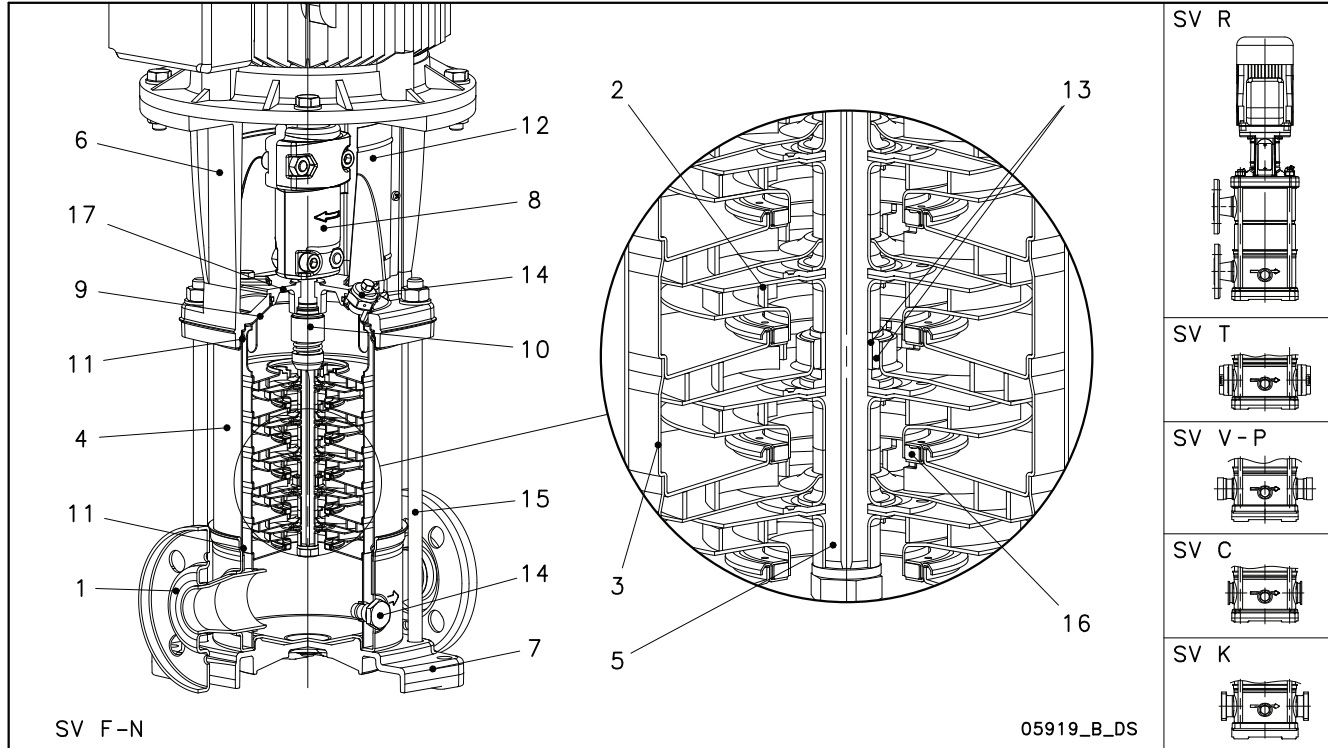
### N, V, C, K VERSIONS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
3	Diffuser and upper spacer	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	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
7	Base	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
8	Coupling	Aluminium	EN 1706-AC-AISI11Cu2 (Fe) (AC46100)	-
9	Seal housing	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
12	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Shaft sleeve and bushing	Tungsten carbide		
14	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
15	Tie rods	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
16	Wear ring	Technopolymer PPS		

1-22sv-nvck-en\_a\_tm

### 10, 15, 22SV SERIES ≥ 5,5 kW

### ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



### F, T, R VERSIONS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
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-X5CrNi18-10 (1.4301)	AISI 304
5	Shaft	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
6	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
7	Base	Aluminium	EN 1706-AC-ALSi11Cu2 (Fe) (AC46100)	-
8	Coupling	Aluminium	EN 1706-AC-ALSi11Cu2 (Fe) (AC46100)	-
9	Seal plate	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
12	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Shaft sleeve and bushing	Tungsten carbide		
14	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
15	Tie rods	Galvanized steel	EN 10277-3-365MnPb14 (1.0765)	
16	Wear ring	Technopolymer PPS		
17	Seal gland	Stainless steel	EN 10213-4-GX5CrNi19-10 (1.4308)	AISI 304

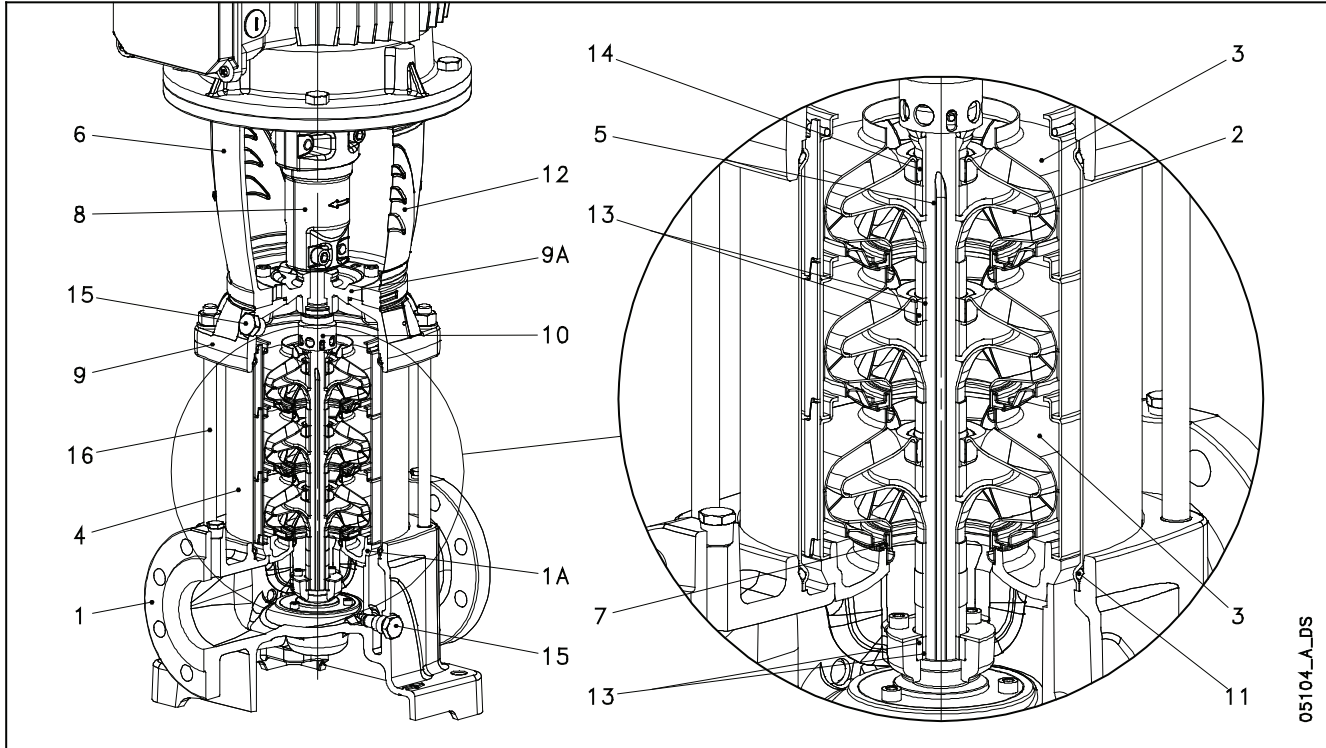
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### N, V, C, K VERSIONS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
2	Impeller	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
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	Adapter	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
7	Base	Aluminium	EN 1706-AC-ALSi11Cu2 (Fe) (AC46100)	-
8	Coupling	Aluminium	EN 1706-AC-ALSi11Cu2 (Fe) (AC46100)	-
9	Seal plate	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
12	Coupling protection	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
13	Shaft sleeve and bushing	Tungsten carbide		
14	Fill / drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
15	Tie rods	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
16	Wear ring	Technopolymer PPS		
17	Seal gland	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	AISI 316

10-22sv-nvck-en\_a\_tm

### 33, 46, 66, 92SV SERIES ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



05104\_A\_DS

#### G VERSIONS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
1A	Lower support	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	Outer sleeve	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Shaft	Stainless steel	EN 10088-1 - X17CrNi16-2 (1.4057)	AISI 431
6	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	Upper head	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
9A	Seal housing	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
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	Fill / Drain plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
16	Tie rods	Galvanized steel	EN 10277-3-36SMnPb14 (1.0765)	-

#### N VERSIONS

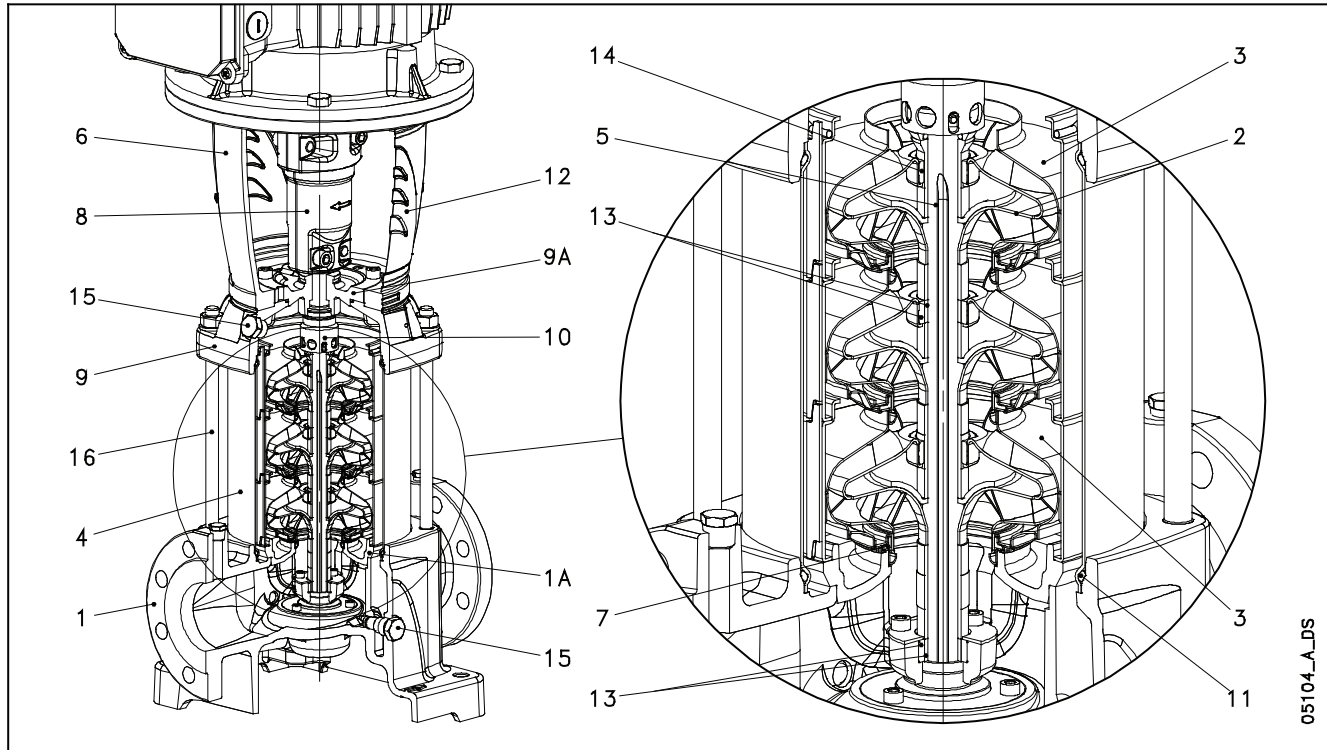
33-92sv-g-en\_a\_tm

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
1A	Lower support	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	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	UNS S 31803
6	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	Upper head	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
9A	Seal housing	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316 cast)
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
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	Fill / drain / air plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
16	Tie rods	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431

33-92sv-n-en\_a\_tm

## 125SV SERIES

### ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



05104\_A\_DS

### G VERSIONS

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
1A	Lower support	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	AISI 304
2-3	Impeller, Diffuser	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	AISI 304
4	Outer sleeve	Stainless steel	EN 10088-1-X5CrNi18-10 (1.4301)	AISI 304
5	Shaft	Stainless steel	EN 10088-1 - X17CrNi16-2 (1.4057)	AISI 431
6	Adapter ( up to 45kW )	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Adapter ( for higher powers )	Cast iron	EN 1563-GJS-500-7 (JS1050)	ASTM A 536 80-55-06
7	Wear ring	Technopolymer PPS		
8	Coupling ( up to 45kW )	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Coupling ( for higher powers )	Cast iron	EN 1563-GJS-500-7 (JS1050)	ASTM A 536 80-55-06
9-9A	Upper head, Seal housing	Cast iron	EN 1561-GJL-250 (JL1040)	ASTM Class 35
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
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	Fill / drain / air plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
16	Tie rods	Galvanized steel	EN 10277-3-36SMnPb14 (1.0765)	-
17	Adapter ring	Stainless steel	EN 10213-GX5CrNi19-10 (1.4308)	AISI 304

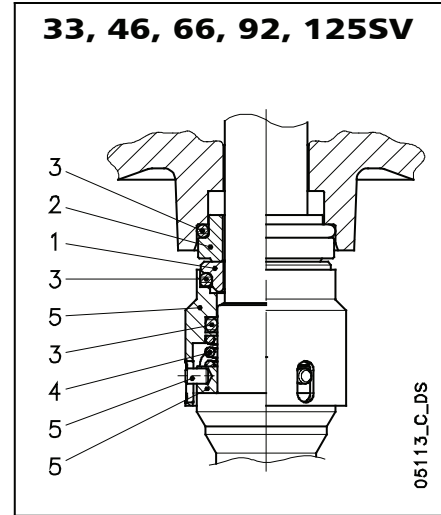
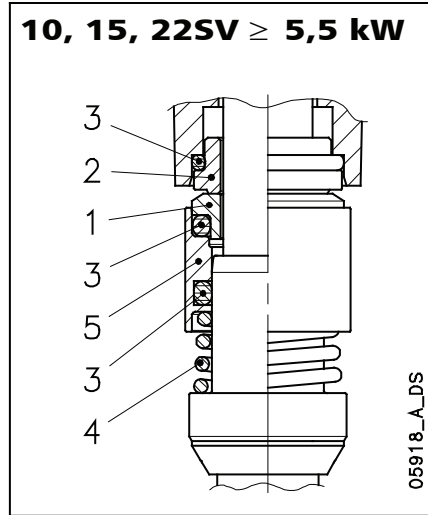
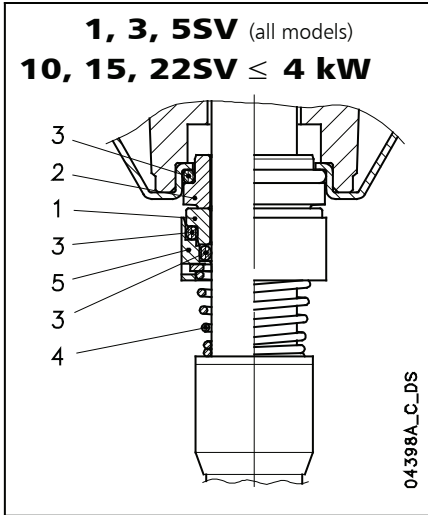
### N VERSIONS

125sv-g-en\_a\_tm

REF. N.	NAME	MATERIAL	REFERENCE STANDARDS	
			EUROPE	USA
1	Pump body	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316)
1A	Lower support	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316)
2-3	Impeller, Diffuser	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316)
4	Outer sleeve	Stainless steel	EN 10088-1-X2CrNiMo17-12-2 (1.4404)	AISI 316L
5	Shaft	Duplex stainless steel	EN 10088-1-X2CrNiMoN22-5-3 (1.4462)	UNS S 31803
6	Adapter	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Adapter	Cast iron	EN 1563-GJS-500-7 (JS1050)	
7	Wear ring	Technopolymer PPS		
8	Coupling	Cast iron	EN 1561-GJL-200 (JL1030)	ASTM Class 25
	Coupling	Cast iron	EN 1563-GJS-500-7 (JS1050)	
9-9A	Upper head, Seal housing	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316)
10	Mechanical seal	Silicon carbide / Carbon / EPDM		
11	Elastomers	EPDM		
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	Fill / drain / air plugs	Stainless steel	EN 10088-1-X5CrNiMo17-12-2 (1.4401)	AISI 316
16	Tie rods	Stainless steel	EN 10088-1-X17CrNi16-2 (1.4057)	AISI 431
17	Adapter ring	Stainless steel	EN 10213-4-GX5CrNiMo19-11-2 (1.4408)	ASTM CF8M (AISI 316)

125sv-n-en\_a\_tm

**e-SV SERIES  
MECHANICAL SEALS, ACCORDING TO EN 12756**



**LIST OF MATERIALS**

POSITION 1 - 2	POSITION 3	POSITION 4 - 5
Q <sub>1</sub> : Silicon Carbide	E : EPDM	G : AISI 316
B : Resin impregnated carbon	V : FKM (FPM)	
C : Special resin impregnated carbon	T : PTFE	

**TYPE OF SEAL**

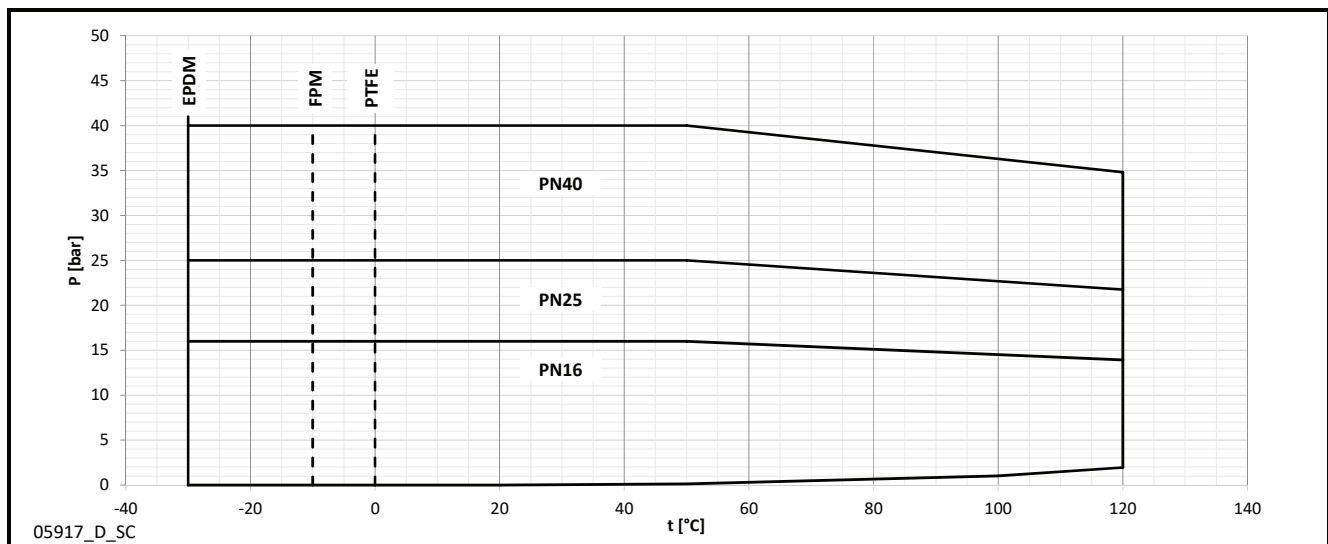
sv\_ten-mec-en\_b\_tm

TYPE	POSITION					TEMPERATURE (°C)
	1 ROTATING PART	2 STATIONARY PART	3 ELASTOMERS	4 SPRINGS	5 OTHER COMPONENTS	
STANDARD MECHANICAL SEAL						
Q <sub>1</sub> B E G G	Q <sub>1</sub>	B	E	G	G	-30 +120
OTHER TYPES OF AVAILABLE MECHANICAL SEAL						
Q <sub>1</sub> Q <sub>1</sub> E G G	Q <sub>1</sub>	Q <sub>1</sub>	E	G	G	-30 +120
Q <sub>1</sub> B V G G	Q <sub>1</sub>	B	V	G	G	-10 +120
Q <sub>1</sub> Q <sub>1</sub> V G G	Q <sub>1</sub>	Q <sub>1</sub>	V	G	G	-10 +120
*Q <sub>1</sub> C T G G	Q <sub>1</sub>	C	T	G	G	0 +120
*Q <sub>1</sub> Q <sub>1</sub> T G G	Q <sub>1</sub>	Q <sub>1</sub>	T	G	G	0 +120

\* Versions with anti-rotation lock pin of the fixed part.

sv\_tipi-ten-mec-en\_b\_tc

**PRESSURE/TEMPERATURE APPLICATION LIMITS FOR COMPLETE PUMP**



## COMPATIBILITY CHART FOR MATERIALS IN CONTACT WITH MOST COMMONLY USED LIQUIDS

LIQUID	CONCENTRATION (%)	TEMPERAT. MIN/MAX (°C)	VERSION			ELASTOM.
			PLASTIC	AISI 304	AISI 316	
Acetone	10	-10 +90		•	•	E
Ammonia	10	-10 +40	•	•	•	E
Benzene	10	-10 +50		•	•	V
Citric acid	10	-10 +70	•	•	•	E
Cutting oil	100	-5 +110		•	•	V
Deionized, demineralized water	100	10 +110	•	•	•	V
Denatured alcohol	100	-5 +70	•	•	•	E
Diathermic oil	100	-5 +110		•	•	V
Diesel	100	-10 +80	•	•	•	V
Ethyl alcohol	100	-30 +50	•	•	•	E
Ethylene glycol	50	-30 +120		•	•	E
Glycerine	100	20 +90	•	•	•	E
Hydraulic oil	100	-5 +110		•	•	V
Hydrochloric acid	2	-10 +25	•		•	V
Methyl alcohol	100	-30 +50	•	•	•	E
Mineral oil	100	-5 +110		•	•	V
Mixture of water, detergents	20	10 +100	•	•	•	E
Phosphates-polyphosphates	10	-5 +90	•	•	•	V
Propyl alcohol (Propanol)	100	-5 +80		•	•	E
Propylene Glycol	50	-30 +120		•	•	E
Sea water (max 1000 ppm Chlorides)	100	-10 +30			•	V
Sodium bicarbonate	saturated		•	•	•	E
Sodium hydroxide	20	10 +70	•	•	•	E
Sodium hypochlorite	1	-10 +25	•		•	V
Sulfuric acid	2	-10 +25	•	•	•	V
Toluene	10	-10 +50		•	•	V
Uric acid	80	-10 +80		•	•	E
Vegetable oil	100	10 +110		•	•	V
Water and oil emulsion	all	-5 +90		•	•	V
Waterfall	100	10 +120	•	•	•	E

tab-comp-en\_a\_tm

The above table indicates the compatibility of materials depending on the pumped liquid. Check the specific weight of the liquid or the viscosity as this could affect the power input of the motor and hydraulic performance. For further details, please contact the sales network.



## e-SV SERIES MOTORS (ErP 2009/125/EC)

- Short-circuit squirrel-cage motor, enclosed construction with external ventilation (TEFC).
- **IP55** protection degree.
- Insulation class **155 (F)**.
- Electrical performances according to EN 60034-1.
- 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 from 30 to 55 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 55 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-POLE

P <sub>N</sub> kW	MOTOR TYPE	IEC SIZE*	Construction Design	INPUT CURRENT		CAPACITOR		DATA FOR 230 V 50 Hz VOLTAGE						OPERATING CONDITIONS **		
				In (A)	220-240 V	μF	V	min <sup>-1</sup>	Is / In	η %	cosφ	Tn Nm	Ts/Tn	Tm/Tn	Altitude asl m	T. amb min/max °C
0,37	SM71RB14/1045 E2	71R	V18/B14	2,52-2,41	16	450	2800	3,24	70,4	0,99	1,36	0,66	1,98	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\_d\_te

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

**e-SV SERIES**

**THREE-PHASE MOTORS AT 50 Hz, 2-POLE (up to 22 kW)**

P <sub>N</sub> kW	Manufacturer		IEC SIZE*	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore Vicenza - Italia						cosφ	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>
	Model										
0,37	SM71RB14/304		71R	V18/B14	2	50	0,64	4,35	1,37	4,14	4,10
0,55	SM71B14/305		71				0,71	6,25	1,84	3,96	3,97
0,75	SM80B14/307 PE		80				0,78	7,38	2,48	3,57	3,75
1,1	SM80B14/311 PE		80				0,79	8,31	3,63	3,95	3,95
1,5	SM90RB14/315 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				0,85	10,5	18,1	4,74	5,11
7,5	PLM132B5/375 E3		132				0,85	10,2	24,4	3,43	4,76
11	PLM160RB5/3110 E3		160R				0,86	9,89	35,9	3,46	4,59
15	PLM160B5/3150 E3		160				0,88	9,51	48,6	2,73	4,32
18,5	PLM160B5/3185 E3		160				0,88	9,81	59,9	2,81	4,53
22	PLM180RB5/3220 E3		180R				0,85	10,9	71,1	3,26	5,12

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

P <sub>N</sub> kW	Efficiency η <sub>N</sub> %																	IE	
	Δ 220 V			Δ 230 V			Δ 240 V			Δ 380 V			Δ 400 V			Δ 415 V			
	Y 380 V			Y 400 V			Y 415 V			Y 660 V			Y 690 V						
	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	4/4	3/4	2/4	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	
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	
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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.

sv-IE3-mott22-2p50-en\_c\_te

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

## e-SV SERIES

### THREE-PHASE MOTORS AT 50 Hz, 2-POLE (from 30 to 55 kW)

P <sub>N</sub> kW	Manufacturer		IEC SIZE	Construction Design	N. of Poles	f <sub>N</sub> Hz	Data for 400 V / 50 Hz Voltage				
	Model						cosφ	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> Nm	T <sub>s</sub> /T <sub>N</sub>	T <sub>m</sub> /T <sub>N</sub>
	OMEGA MOTOR SANAYI A.S. Dudullu Organize Sanayi Bölgesi 2. Cadde No: 10 34775 Ümraniye ISTANBUL/TURKEY Reg. No. 913733										
30	3MAS 200LA2 V1 30KW E3		200	V1	2	50	0,89	7,80	96,90	2,60	3,10
37	3MAS 200LB2 V1 37KW		200				0,90	8,00	119,4	2,90	3,20
45	3MAS 225M2 V1 45KW E3		225				0,91	8,20	144,4	2,70	3,30
55	3MGS 250M2 V1 55KW E3		250				0,90	7,60	176,4	2,50	3,00

P <sub>N</sub> kW	Voltage U <sub>N</sub> V					n <sub>N</sub> min <sup>-1</sup>	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 <sub>N</sub> (A)								
30	55,3	52,2	50,8	31,8	30,3	2965	≤ 1000	-20 / 50	No
37	66,6	63,9	61,5	38,4	37,0	2965			
45	80,6	75,9	73,7	46,4	44,0	2975			
55	98,2	92,7	89,7	56,5	53,7	2975			

P <sub>N</sub> kW	Efficiency η <sub>N</sub> %									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	93,4	3
37	93,5	94,0	93,7	93,7	94,1	93,8	93,8	94,2	93,9	
45	93,8	94,0	93,5	94,0	94,2	93,6	94,2	94,4	93,8	
55	93,8	94,0	93,9	94,3	94,6	94,5	94,4	94,7	94,5	

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

sv-IE3-mott55-2p50-en\_c\_te

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

## MOTOR NOISE, 2-POLE

POWER kW	MOTOR TYPE IEC SIZE*	NOISE LpA dB
0,37	71R	<70
0,55	71	<70
0,75	80-80R	<70
1,1	80	<70
1,5	90-90R	<70
2,2	90	<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	71
37	200	71
45	225	73
55	250	75

The table shows the mean sound pressure levels (L<sub>p</sub>) 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.

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

1-125sv\_mott\_2p50-en\_e\_tr

## AVAILABLE VOLTAGES

### 0.37 to 22 kW MOTORS FOR e-SV SERIES, 2-POLE

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

s = Standard voltage, o = Voltage upon request

sv-volt-low-a-en\_c\_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.

## e-SV 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<sup>-1</sup> (for electric pumps this means 50 Hz 2-pole electric motors);
  - a maximum flow of 100 m<sup>3</sup>/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).

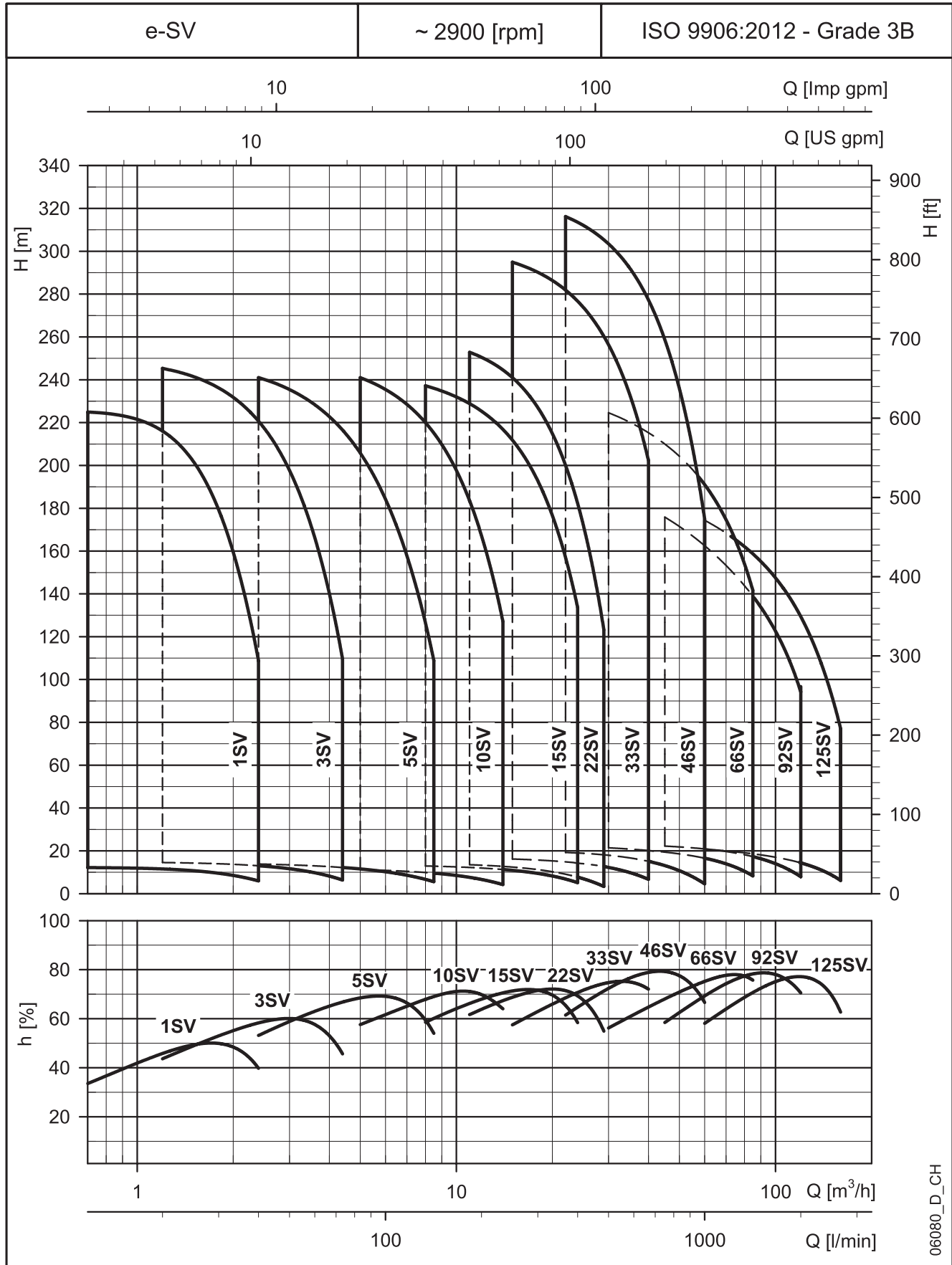
This regulation states that water pumps shall have index MEI coming from a dedicated formula which considers hydraulic efficiency values at 'best efficiency point' (BEP), 75 % of the flow at BEP (Part load – PL) and 110 % of the flow at BEP (Over load – OL).

The Regulation also establishes the following deadline:

from	minimum efficiency index (MEI)
1 <sup>st</sup> 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 (≥ 2013).
- 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](http://www.europump.org) (Ecodesign section).
- 15) The benchmark efficiency graphs with MEI = 0.7 and MEI = 0.4 are available at [www.europump.org](http://www.europump.org), (Ecodesign, Efficiency charts). Refer to "Multistage Vertical 2900 rpm"

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


06080\_D\_CH

# 1, 3, 5SV SERIES

## HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		MEI ≥	Q = DELIVERY													
	kW	HP		l/min 0	12	20	25	30	35	40	45	50	60	73	100	120	141
				m <sup>3</sup> /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																	
1SV02	0,37	0,5	0,70	12,2	12,2	11,5	10,7	9,5	7,9	6,0							
1SV03	0,37	0,5	0,70	18,0	18,0	17,0	15,7	13,8	11,4	8,4							
1SV04	0,37	0,5	0,70	23,7	23,5	22,1	20,4	17,9	14,6	10,6							
1SV05	0,37	0,5	0,70	29,3	29,3	27,0	24,8	21,6	17,4	12,5							
1SV06	0,37	0,5	0,70	34,8	34,2	31,7	28,9	25,0	20,0	14,0							
1SV07	0,37	0,5	0,70	40,2	39,2	36,1	32,7	28,1	22,2	15,2							
1SV08	0,55	0,75	0,70	48,1	47,9	45,2	41,8	36,8	30,4	22,4							
1SV09	0,55	0,75	0,70	53,7	53,4	50,4	46,4	40,8	33,5	24,6							
1SV10	0,55	0,75	0,70	59,4	59,0	55,5	51,0	44,7	36,6	26,6							
1SV11	0,55	0,75	0,70	65,1	64,5	60,4	55,5	48,5	39,5	28,5							
1SV12	0,75	1	0,70	73,3	73,1	69,3	64,3	57,1	47,6	35,7							
1SV13	0,75	1	0,70	79,2	78,9	74,8	69,4	61,6	51,2	38,2							
1SV15	0,75	1	0,70	90,9	90,5	85,6	79,3	70,1	58,1	43,1							
1SV17	1,1	1,5	0,70	105,2	104,9	100,0	93,1	82,6	68,6	51,2							
1SV19	1,1	1,5	0,70	117,0	116,7	111,0	103,2	91,5	75,8	56,3							
1SV22	1,1	1,5	0,70	134,6	134,1	127,4	118,1	104,4	86,1	63,5							
1SV25	1,5	2	0,70	152,6	152,4	145,5	135,4	120,0	99,1	72,7							
1SV27	1,5	2	0,70	164,3	164,0	156,4	145,4	128,8	106,1	77,5							
1SV30	1,5	2	0,70	181,7	181,3	172,6	160,1	141,2	115,7	83,9							
1SV32	2,2	3	0,70	197,2	197,1	188,4	175,8	156,5	130,0	96,3							
1SV34	2,2	3	0,70	209,2	208,9	199,8	186,3	165,5	137,1	101,2							
1SV37	2,2	3	0,70	225,9	224,9	216,1	201,9	179,3	148,1	108,7							
3SV02	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			
3SV03	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			
3SV04	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			
3SV05	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			
3SV06	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			
3SV07	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			
3SV08	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			
3SV09	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			
3SV10	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			
3SV11	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			
3SV12	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			
3SV13	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			
3SV14	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			
3SV16	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			
3SV19	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			
3SV21	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			
3SV23	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			
3SV25	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			
3SV27	3	4	0,70	204,4		201,7	198,8	194,7	189,4	182,7	174,4	164,5	139,4	94,4			
3SV29	3	4	0,70	219,3		216,0	212,8	208,3	202,6	195,3	186,4	175,7	148,6	100,2			
3SV31	3	4	0,70	233,8		230,3	226,8	222,0	215,7	207,8	198,2	186,7	157,6	106,0			
3SV33	3	4	0,70	248,5		245,3	241,5	236,2	229,3	220,7	210,2	197,7	166,3	111,2			
5SV02	0,37	0,5	0,70	14,8						13,8	13,7	13,4	13,0	12,2	10,2	8,2	5,7
5SV03	0,55	0,75	0,70	22,8						21,8	21,6	21,3	20,7	19,7	16,9	14,1	10,3
5SV04	0,55	0,75	0,70	30,0						28,2	27,9	27,5	26,6	25,2	21,2	17,3	12,2
5SV05	0,75	1	0,70	38,0						36,4	36,0	35,5	34,5	32,9	28,2	23,5	17,1
5SV06	1,1	1,5	0,70	45,3						43,7	43,3	42,8	41,6	39,6	33,9	28,1	20,3
5SV07	1,1	1,5	0,70	52,7						50,7	50,1	49,5	48,1	45,8	39,1	32,2	23,1
5SV08	1,1	1,5	0,70	60,1						57,6	57,0	56,2	54,6	51,8	44,1	36,2	25,8
5SV09	1,5	2	0,70	68,0						65,5	64,8	64,0	62,2	59,3	50,6	41,9	30,2
5SV10	1,5	2	0,70	75,5						72,4	71,7	70,8	68,7	65,4	55,7	46,0	33,0
5SV11	1,5	2	0,70	82,8						79,3	78,4	77,5	75,2	71,4	60,7	49,9	35,6
5SV12	2,2	3	0,70	90,8						88,0	87,0	86,0	83,4	79,3	67,4	55,7	40,5
5SV13	2,2	3	0,70	98,3						95,0	94,0	92,8	90,0	85,5	72,6	59,9	43,5
5SV14	2,2	3	0,70	105,7						102,0	100,9	99,6	96,6	91,7	77,8	64,0	46,3
5SV15	2,2	3	0,70	113,1						109,0	107,8	106,4	103,1	97,8	82,8	68,1	49,1
5SV16	2,2	3	0,70	120,5						115,9	114,6	113,1	109,6	103,9	87,8	72,1	51,8
5SV18	3	4	0,70	135,8						131,1	129,7	128,0	124,1	117,8	99,9	82,3	59,5
5SV21	3	4	0,70	157,9						152,0	150,3	148,3	143,6	136,1	114,9	94,2	67,6
5SV23	4	5,5	0,70	174,4						168,9	167,2	165,1	160,2	152,3	129,6	107,2	78,2
5SV25	4	5,5	0,70	189,2						183,1	181,1	178,9	173,5	164,8	140,1	115,7	84,1
5SV28	4	5,5	0,70	211,5						204,2	201,9	199,4	193,3	183,4	155,5	128,0	92,7
5SV30	5,5	7,5	0,70	227,0						219,8	217,5	214,8	208,4	198,1	168,5	139,3	101,5
5SV33	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)

1-5sv-2p50-en\_e\_th

**10, 15, 22SV SERIES**
**HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES**

PUMP TYPE	RATED POWER		MEI ≥	Q = DELIVERY													
	kW	HP		l/min 0	83,34	100	133	170	183,34	233	270	330	350	400	430	460	483,33
				m <sup>3</sup> /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																	
10SV01	0,75	1	0,70	11,8	11,2	10,9	9,9	8,3	7,6	4,3							
10SV02	0,75	1	0,70	23,6	21,9	21,3	19,6	17,0	15,8	10,0							
10SV03	1,1	1,5	0,70	35,7	33,0	32,1	29,6	25,8	24,1	16,0							
10SV04	1,5	2	0,70	47,7	44,2	43,0	39,9	34,8	32,6	21,7							
10SV05	2,2	3	0,70	60,0	56,1	54,7	50,9	44,9	42,2	29,0							
10SV06	2,2	3	0,70	71,8	66,8	65,0	60,4	53,1	49,8	33,9							
10SV07	3	4	0,70	83,6	78,3	76,2	70,8	62,1	58,3	39,8							
10SV08	3	4	0,70	95,3	88,9	86,5	80,1	70,2	65,7	44,5							
10SV09	4	5,5	0,70	106,3	100,1	97,5	90,8	80,0	75,1	52,1							
10SV10	4	5,5	0,70	118,0	110,8	107,9	100,3	88,2	82,8	57,2							
10SV11	4	5,5	0,70	129,6	121,3	118,1	109,6	96,3	90,3	62,1							
10SV13	5,5	7,5	0,70	156,0	146,5	142,7	132,6	116,4	109,2	74,3							
10SV15	5,5	7,5	0,70	179,5	167,9	163,4	151,6	132,8	124,3	83,9							
10SV17	7,5	10	0,70	205,0	193,2	188,5	175,7	154,7	145,2	98,8							
10SV18	7,5	10	0,70	216,9	204,2	199,1	185,5	163,2	153,1	104,0							
10SV20	7,5	10	0,70	240,6	226,0	220,3	205,0	180,2	168,9	114,3							
10SV21	11	15	0,70	253,6	241,0	235,5	220,2	195,0	183,5	127,5							
15SV01	1,1	1,5	0,70	14,0			12,9	12,4	12,2	11,3	10,4	8,4	7,6	5,1			
15SV02	2,2	3	0,70	28,7			26,7	25,9	25,5	23,9	22,4	18,9	17,4	13,1			
15SV03	3	4	0,70	43,3			40,4	39,1	38,6	36,2	33,8	28,7	26,5	20,1			
15SV04	4	5,5	0,70	58,4			54,7	53,1	52,5	49,4	46,3	39,7	36,9	28,7			
15SV05	4	5,5	0,70	72,7			67,8	65,8	65,0	61,0	57,1	48,7	45,2	34,9			
15SV06	5,5	7,5	0,70	87,6			81,5	79,4	78,4	74,1	69,9	60,3	56,3	44,2			
15SV07	5,5	7,5	0,70	101,9			94,5	91,9	90,8	85,7	80,6	69,4	64,7	50,5			
15SV08	7,5	10	0,70	117,4			110,9	108,0	106,8	100,8	94,9	82,0	76,7	60,6			
15SV09	7,5	10	0,70	131,9			124,4	121,0	119,6	112,8	106,1	91,5	85,5	67,4			
15SV10	11	15	0,70	147,7			138,8	135,3	133,8	126,7	119,6	103,9	97,4	77,5			
15SV11	11	15	0,70	162,3			152,4	148,5	146,8	138,9	131,1	113,8	106,5	84,7			
15SV13	11	15	0,70	191,3			179,2	174,5	172,5	163,1	153,7	133,1	124,5	98,6			
15SV15	15	20	0,70	222,1			209,9	204,8	202,6	192,2	181,7	158,3	148,5	118,8			
15SV17	15	20	0,70	251,6			237,3	231,4	228,9	216,9	205,0	178,4	167,3	133,6			
22SV01	1,1	1,5	0,70	14,7					13,5	12,7	12,0	10,4	9,7	7,7	6,3	4,7	3,4
22SV02	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
22SV03	3	4	0,70	45,4					42,2	40,4	38,5	34,5	32,8	27,8	24,2	20,2	16,6
22SV04	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
22SV05	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
22SV06	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
22SV07	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
22SV08	11	15	0,70	124,6					119,2	115,2	111,0	101,6	97,7	85,7	77,0	66,9	58,2
22SV09	11	15	0,70	140,1					133,7	129,2	124,4	113,8	109,3	95,8	86,0	74,6	64,8
22SV10	11	15	0,70	155,4					148,2	143,1	137,8	125,9	120,9	105,8	94,8	82,3	71,3
22SV12	15	20	0,70	186,1					178,6	172,9	166,8	152,9	147,0	129,1	115,9	100,7	87,4
22SV14	15	20	0,70	216,6					207,7	200,9	193,7	177,4	170,4	149,4	133,9	116,1	100,6
22SV17	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)

10-22sv-2p50-en\_d\_th



### 33, 46SV SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		MEI ≥	Q = DELIVERY										
	kW	HP		l/min 0	250	300	367	417	500	583	667	750	900	1000
				m <sup>3</sup> /h 0	15	18	22	25	30	35	40	45	54	60
H = TOTAL HEAD METRES COLUMN OF WATER														
33SV1/1A	2,2	3	0,70	17,4	16,2	15,7	15,0	14,0	12,2	9,8	6,7			
33SV1	3	4	0,70	23,8	21,7	21,2	20,3	20,0	17,8	15,5	12,7			
33SV2/2A	4	5,5	0,70	35,1	34,1	33,3	32,0	30,0	27,0	22,4	16,6			
33SV2/1A	4	5,5	0,70	40,8	38,8	37,9	36,0	35,0	32,0	27,5	22,3			
33SV2	5,5	7,5	0,70	47,8	45,0	44,1	43,0	41,0	39,0	35,0	29,9			
33SV3/2A	5,5	7,5	0,70	57,7	55,2	53,8	51,0	49,0	44,0	38,0	29,6			
33SV3/1A	7,5	10	0,70	64,5	61,3	60,0	58,0	56,0	51,0	45,0	37,0			
33SV3	7,5	10	0,70	71,5	67,4	66,0	64,0	62,0	58,0	52,0	44,6			
33SV4/2A	7,5	10	0,70	82,0	78,8	77,0	74,0	72,0	66,0	58,0	47,2			
33SV4/1A	11	15	0,70	88,9	85,0	83,0	81,0	78,0	73,0	65,0	55,1			
33SV4	11	15	0,70	95,9	91,1	90,0	87,0	85,0	80,0	73,0	63,1			
33SV5/2A	11	15	0,70	106,0	101,6	100,0	96,0	93,0	85,0	76,0	63,0			
33SV5/1A	11	15	0,70	112,7	107,2	105,0	102,0	99,0	92,0	82,0	70,0			
33SV5	15	20	0,70	120,4	114,9	113,0	110,0	107,0	101,0	92,0	80,5			
33SV6/2A	15	20	0,70	131,2	126,9	125,0	120,0	116,0	108,0	96,0	81,2			
33SV6/1A	15	20	0,70	139,1	133,5	131,0	128,0	124,0	116,0	105,0	90,4			
33SV6	15	20	0,70	145,6	139,0	137,0	133,0	129,0	121,0	110,0	96,1			
33SV7/2A	15	20	0,70	156,0	149,9	147,0	143,0	138,0	128,0	115,0	98,2			
33SV7/1A	18,5	25	0,70	163,3	156,6	154,0	150,0	145,0	136,0	123,0	106,2			
33SV7	18,5	25	0,70	170,3	162,8	160,0	156,0	152,0	142,0	130,0	113,3			
33SV8/2A	18,5	25	0,70	180,6	173,7	171,0	166,0	161,0	150,0	135,0	115,3			
33SV8/1A	18,5	25	0,70	187,4	179,5	177,0	171,0	166,0	156,0	141,0	121,7			
33SV8	22	30	0,70	194,1	185,1	182,0	177,0	172,0	161,0	147,0	128,0			
33SV9/2A	22	30	0,70	202,1	194,1	191,0	185,0	179,0	166,0	150,0	127,9			
33SV9/1A	22	30	0,70	210,2	201,2	198,0	192,0	186,0	174,0	157,0	135,9			
33SV9	22	30	0,70	216,8	206,8	204,0	198,0	193,0	181,0	165,0	143,7			
33SV10/2A	22	30	0,70	226,4	217,2	213,0	207,0	200,0	186,0	168,0	143,9			
33SV10/1A	30	40	0,70	234,5	225,0	221,0	215,0	209,0	196,0	178,0	154,2			
33SV10	30	40	0,70	241,8	231,3	228,0	222,0	216,0	203,0	185,0	162,2			
33SV11/2A	30	40	0,70	252,0	244,0	240,0	233,0	226,0	211,0	190,0	163,7			
33SV11/1A	30	40	0,70	259,0	249,2	245,0	238,0	232,0	217,0	197,0	171,0			
33SV11	30	40	0,70	265,7	253,6	250,0	243,0	236,0	222,0	203,0	176,9			
33SV12/2A	30	40	0,70	275,9	266,2	262,0	254,0	246,0	229,0	207,0	178,3			
33SV12/1A	30	40	0,70	282,8	271,5	267,0	260,0	252,0	236,0	214,0	185,6			
33SV12	30	40	0,70	289,8	276,7	272,0	265,0	258,0	242,0	221,0	192,9			
33SV13/2A	30	40	0,70	300,5	291,1	286,0	278,0	270,0	252,0	228,0	197,6			
33SV13/1A	30	40	0,70	306,9	294,9	290,0	282,0	274,0	256,0	233,0	202,4			
46SV1/1A	3	4	0,70	19,5			19,2	18,8	17,9	16,7	15,1	13,1	8,5	4,6
46SV1	4	5,5	0,70	27,2			24,0	23,5	22,5	21,4	19,9	18,2	14,3	10,8
46SV2/2A	5,5	7,5	0,70	38,8			39,8	39,2	37,8	35,7	32,9	29,4	21,1	13,9
46SV2	7,5	10	0,70	52,6			48,5	47,7	46,1	44,2	41,7	38,7	31,4	25,1
46SV3/2A	11	15	0,70	64,7			65,1	64,0	62,0	60,0	56,0	52,0	40,4	30,8
46SV3	11	15	0,70	80,8			74,3	73,0	71,0	68,0	65,0	60,0	50,0	40,7
46SV4/2A	15	20	0,70	92,4			90,7	90,0	87,0	83,0	79,0	73,0	58,0	45,6
46SV4	15	20	0,70	107,3			99,8	98,0	96,0	92,0	87,0	82,0	68,0	55,9
46SV5/2A	18,5	25	0,70	117,2			114,8	113,0	110,0	106,0	100,0	93,0	75,0	60,2
46SV5	18,5	25	0,70	134,5			125,1	123,0	120,0	116,0	110,0	103,0	86,0	71,5
46SV6/2A	22	30	0,70	143,7			139,3	138,0	134,0	129,0	122,0	113,0	92,0	73,4
46SV6	22	30	0,70	161,0			149,9	148,0	144,0	139,0	132,0	124,0	104,0	86,0
46SV7/2A	30	40	0,70	171,3			164,9	163,0	158,0	152,0	144,0	134,0	110,0	88,6
46SV7	30	40	0,70	188,6			175,5	173,0	168,0	162,0	155,0	145,0	122,0	101,2
46SV8/2A	30	40	0,70	198,2			190,0	188,0	182,0	176,0	166,0	155,0	127,0	103,1
46SV8	30	40	0,70	213,1			198,6	196,0	191,0	184,0	175,0	164,0	137,0	112,6
46SV9/2A	30	40	0,70	224,8			214,5	212,0	206,0	198,0	187,0	174,0	143,0	116,0
46SV9	37	50	0,70	240,9			225,2	222,0	217,0	209,0	199,0	187,0	157,0	130,2
46SV10/2A	37	50	0,70	252,7			241,1	238,0	232,0	223,0	212,0	198,0	164,0	133,9
46SV10	37	50	0,70	267,6			250,3	247,0	241,0	232,0	221,0	208,0	174,0	144,8
46SV11/2A	45	60	0,70	280,4			267,4	264,0	258,0	249,0	237,0	222,0	184,0	151,1
46SV11	45	60	0,70	295,5			276,4	273,0	266,0	257,0	245,0	230,0	194,0	161,3
46SV12/2A	45	60	0,70	307,3			292,5	289,0	282,0	272,0	259,0	243,0	202,0	165,8
46SV12	45	60	0,70	321,8			301,0	297,0	290,0	280,0	267,0	250,0	210,0	175,0
46SV13/2A	45	60	0,70	332,5			316,2	312,0	304,0	292,0	277,0	259,0	214,0	175,0

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

33-46sv-2p50-en\_c\_th

## 66, 92SV SERIES

### HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		MEI ≥	Q = DELIVERY												
	kW	HP		l/min 0	500	600	700	750	900	1000	1200	1300	1417	1600	1800	2000
				m <sup>3</sup> /h 0	30	36	42	45	54	60	72	78	85	96	108	120
H = TOTAL HEAD METRES COLUMN OF WATER																
66SV1/1A	4	5,5	0,70	23,8	21,4	20,7	19,9	19,4	17,8	16,6	13,3	11,2	8,3			
66SV1	5,5	7,5	0,70	29,2	25,8	24,8	23,8	23,3	21,8	20,7	17,9	16,1	13,5			
66SV2/2A	7,5	10	0,70	47,5	42,6	41,2	39,5	38,6	35,5	32,9	26,4	22,2	16,4			
66SV2/1A	11	15	0,70	54,2	49,6	48,2	46,7	45,8	42,9	40,6	34,8	31,2	26,2			
66SV2	11	15	0,70	60,4	55,7	54,4	52,8	52,0	49,3	47,1	42,0	38,9	34,7			
66SV3/2A	15	20	0,70	78,4	71,6	69,6	67,2	65,9	61,5	57,9	49,0	43,3	35,3			
66SV3/1A	15	20	0,70	84,7	77,8	75,8	73,5	72,2	68,0	64,6	56,3	51,1	44,0			
66SV3	18,5	25	0,70	91,4	84,7	82,7	80,5	79,3	75,2	72,0	64,4	59,8	53,5			
66SV4/2A	18,5	25	0,70	108,9	99,6	96,9	93,8	92,1	86,3	81,6	70,1	62,8	52,8			
66SV4/1A	22	30	0,70	115,2	105,9	103,1	100,1	98,5	92,9	88,6	77,8	71,1	61,8			
66SV4	22	30	0,70	121,6	112,5	109,8	106,9	105,3	99,8	95,7	85,5	79,2	70,8			
66SV5/2A	30	40	0,70	139,1	127,5	124,1	120,2	118,2	111,1	105,5	91,5	82,7	70,4			
66SV5/1A	30	40	0,70	145,6	134,0	130,5	126,8	124,7	117,8	112,4	99,2	90,9	79,5			
66SV5	30	40	0,70	152,0	140,4	137,0	133,3	131,3	124,6	119,4	106,8	99,1	88,5			
66SV6/2A	30	40	0,70	169,5	155,6	151,5	146,9	144,4	136,0	129,4	112,9	102,5	88,1			
66SV6/1A	30	40	0,70	176,0	162,0	157,9	153,4	151,0	142,7	136,3	120,5	110,7	97,2			
66SV6	37	50	0,70	182,4	168,5	164,4	159,9	157,5	149,5	143,3	128,2	118,9	106,2			
66SV7/2A	37	50	0,70	199,9	183,7	178,9	173,6	170,7	160,9	153,2	134,2	122,3	105,8			
66SV7/1A	37	50	0,70	206,4	190,1	185,3	180,1	177,2	167,6	160,2	141,9	130,5	114,9			
66SV7	45	60	0,70	212,8	196,5	191,8	186,6	183,8	174,4	167,2	149,6	138,7	123,9			
66SV8/2A	45	60	0,70	230,3	211,8	206,3	200,2	196,9	185,8	177,1	155,6	142,1	123,5			
66SV8/1A	45	60	0,70	236,8	218,2	212,7	206,7	203,5	192,6	184,1	163,3	150,3	132,6			
66SV8	45	60	0,70	243,2	224,6	219,2	213,2	210,0	199,3	191,1	171,0	158,5	141,6			
92SV1/1A	5,5	7,5	0,60	24,5				22,2	21,5	20,9	19,4	18,5	17,3	15,0	11,8	7,9
92SV1	7,5	10	0,60	33,5				28,7	27,2	26,2	24,3	23,3	22,2	20,2	17,6	14,3
92SV2/2A	11	15	0,60	49,4				45,1	43,7	42,5	39,6	37,9	35,5	30,9	24,6	16,8
92SV2	15	20	0,60	67,8				58,2	55,3	53,4	49,5	47,6	45,2	41,4	36,3	29,6
92SV3/2A	18,5	25	0,60	82,4				74,4	71,6	69,6	64,8	62,1	58,6	52,2	43,6	32,9
92SV3	22	30	0,60	102,2				88,2	84,0	81,2	75,5	72,6	69,2	63,4	55,9	46,3
92SV4/2A	30	40	0,60	115,7				104,0	99,9	97,0	90,4	86,8	82,1	73,8	62,8	49,0
92SV4	30	40	0,60	133,1				117,0	111,7	108,0	100,6	96,8	92,3	84,6	74,8	62,5
92SV5/2A	37	50	0,60	149,0				133,2	127,8	124,0	115,6	111,0	105,2	94,9	81,4	64,6
92SV5	37	50	0,60	166,4				146,3	139,6	135,0	125,8	121,0	115,3	105,7	93,5	78,1
92SV6/2A	45	60	0,60	183,3				163,1	156,4	151,6	141,4	135,4	128,9	116,7	100,8	81,0
92SV6	45	60	0,60	200,9				175,9	168,0	162,5	151,4	145,7	138,8	127,2	112,5	94,2

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

66-92sv-2p50-en\_d\_th

## 125SV SERIES

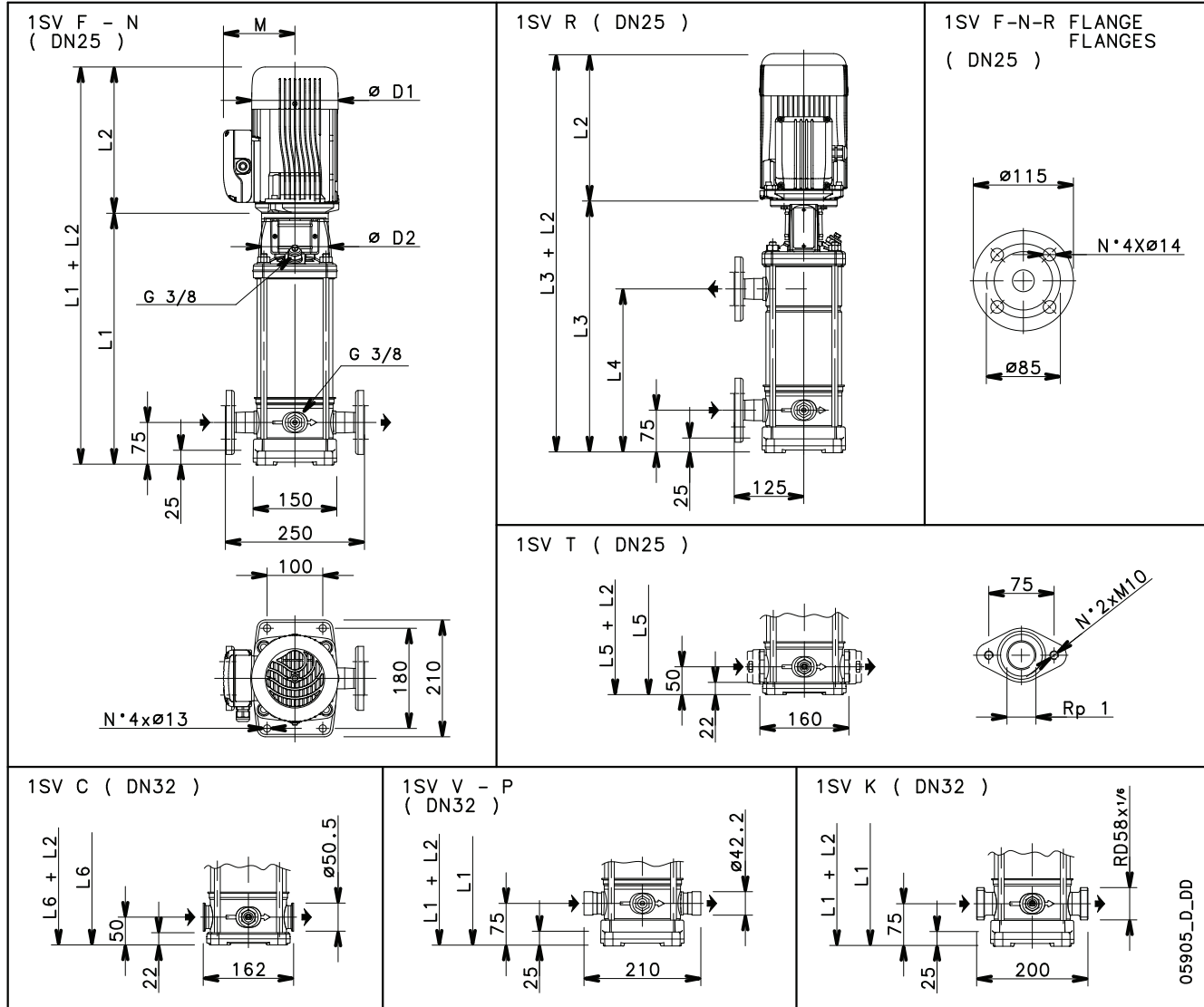
### HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		MEI ≥	Q = DELIVERY													
	kW	HP		l/min 0	500	600	750	900	1000	1200	1416	1700	1900	2000	2150	2300	2666
				m <sup>3</sup> /h 0	30,0	36,0	45,0	54,0	60,0	72,0	85,0	102,0	114,0	120,0	129,0	138,0	160,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER																	
125SV1	7,5	10	-	27,6					20,8	19,8	18,6	16,8	15,3	14,4	12,9	11,3	6,2
125SV2	15	20	-	53,8					44,4	42,5	40,4	37,1	34,4	32,9	30,4	27,7	19,6
125SV3	22	30	-	80,7					66,5	63,8	60,6	55,7	51,6	49,4	45,7	41,5	29,4
125SV4	30	40	-	107,6					88,7	85,0	80,7	74,2	68,8	65,8	60,9	55,4	39,2
125SV5	37	50	-	134,5					110,9	106,3	100,9	92,8	86,0	82,3	76,1	69,2	49,0
125SV6	45	60	-	161,4					133,1	127,6	121,1	111,3	103,2	98,7	91,3	83,1	58,8
125SV7	55	75	-	188,3					155,2	148,8	141,3	129,9	120,4	115,2	106,6	96,9	68,6
125SV8/2A	55	75	-	211,5					174,4	167,2	158,7	145,9	135,3	129,4	119,7	108,9	77,1

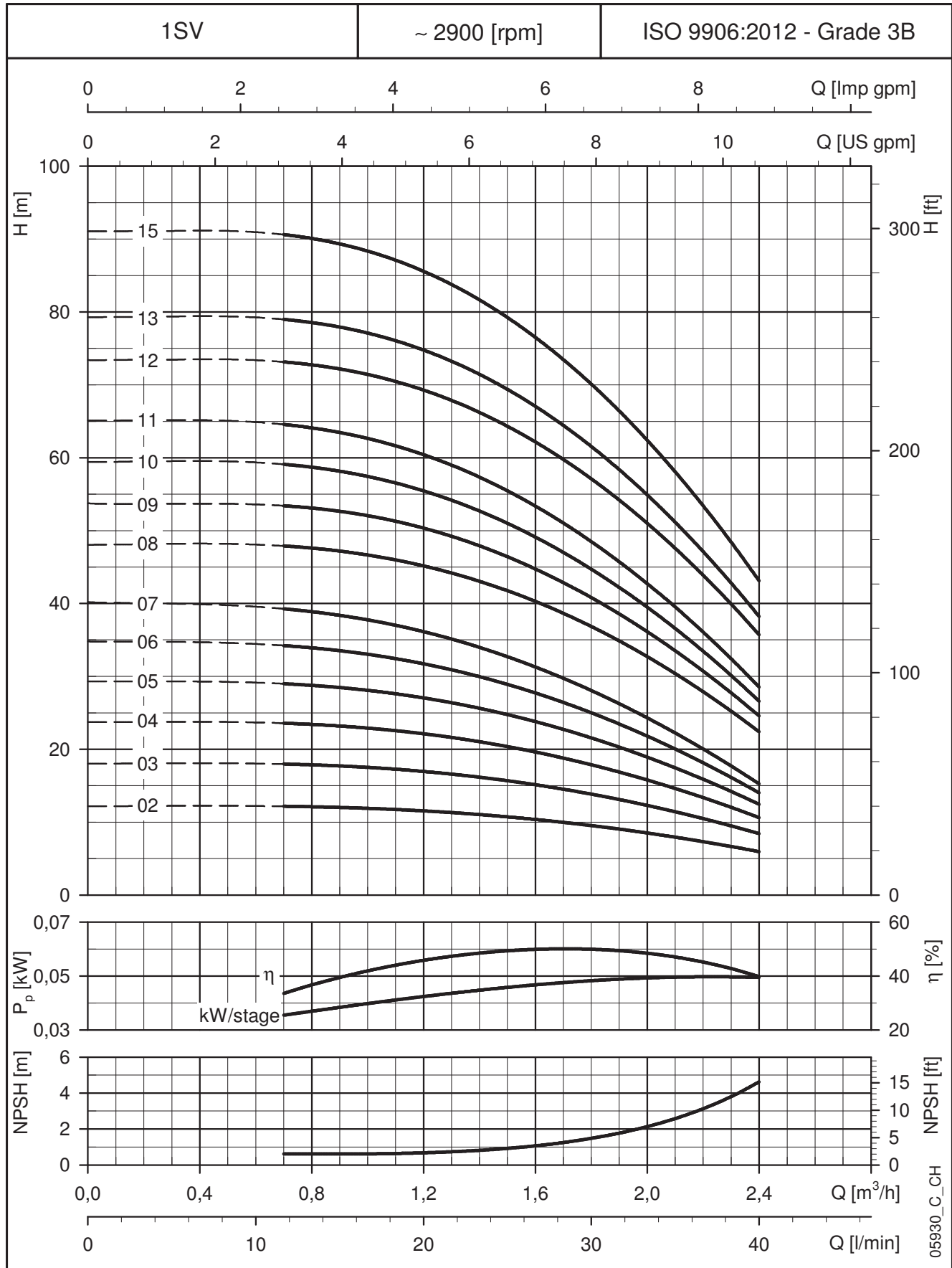
Hydraulic performances in compliance with ISO 9906:2012 - Grade 3B (ex ISO 9906:1999 - Annex A)

125sv-2p50-en\_b\_th

### 1SV SERIES, 2 TO 15 STAGES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

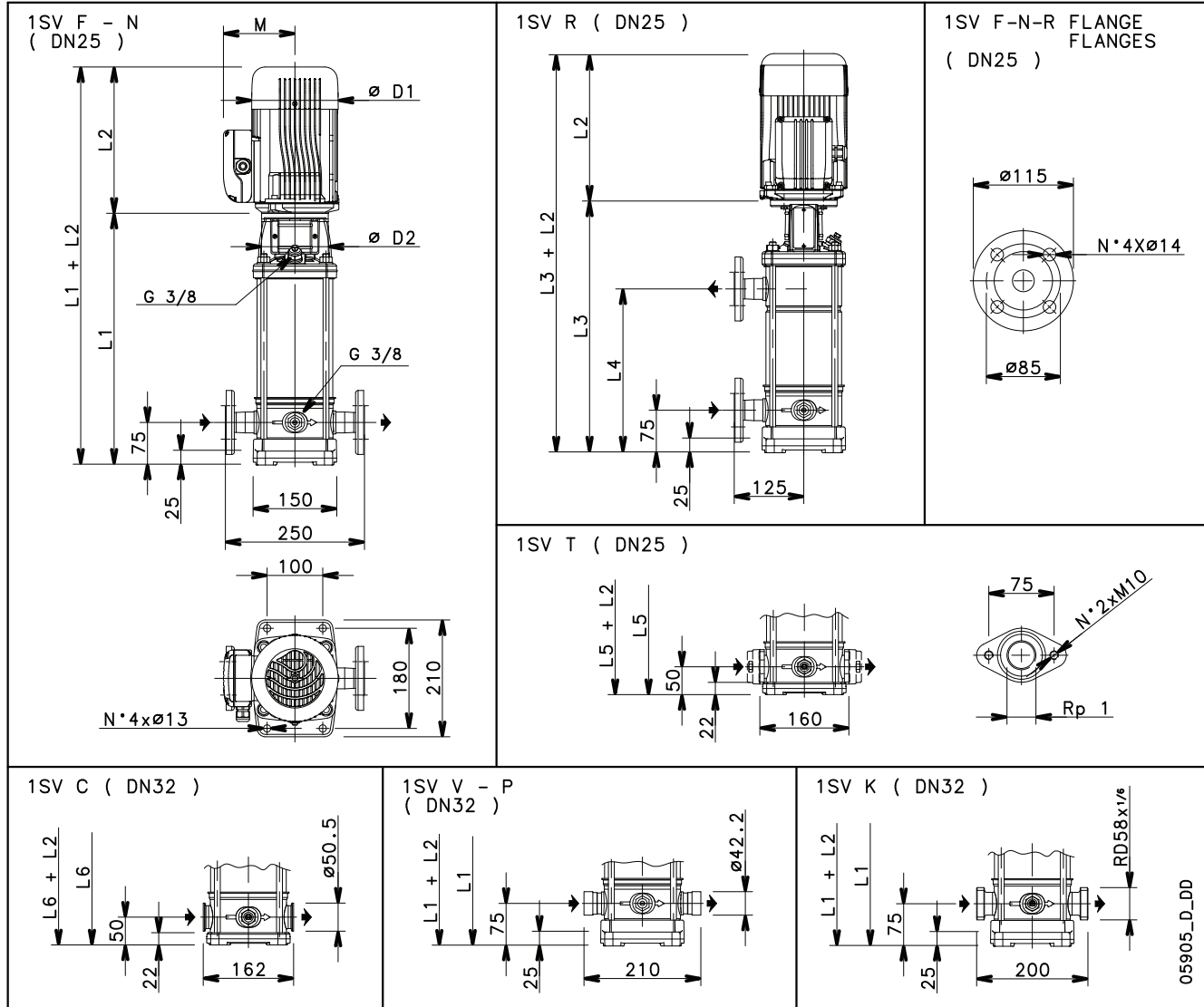


PUMP TYPE	MOTOR		DIMENSIONS (mm)												WEIGHT kg		
	kW	SIZE	L1	L2		L3	L4	L5	L6	M		D1		D2	PUMP	ELECTRIC PUMP	
				1~	3~					1~	3~	1~	3~			1~	3~
1SV02..	0,37	71R	278	209	209	-	-	253	253	111	111	120	120	105	8,3	13,8	13,0
1SV03..	0,37	71R	278	209	209	-	-	253	253	111	111	120	120	105	8,6	14,1	13,4
1SV04..	0,37	71R	298	209	209	-	-	273	273	111	111	120	120	105	9	14,5	13,8
1SV05..	0,37	71R	318	209	209	-	-	293	293	111	111	120	120	105	9,4	14,9	14,2
1SV06..	0,37	71R	338	209	209	-	-	313	313	111	111	120	120	105	9,8	15,3	14,6
1SV07..	0,37	71R	358	209	209	358	207	333	333	111	111	120	120	105	10,2	15,7	14,9
1SV08..	0,55	71	378	231	231	378	227	353	353	121	121	140	140	105	10,5	18,0	15,2
1SV09..	0,55	71	398	231	231	398	247	373	373	121	121	140	140	105	10,9	18,4	15,6
1SV10..	0,55	71	418	231	231	418	267	393	393	121	121	140	140	105	11,3	18,8	16,0
1SV11..	0,55	71	438	231	231	438	287	413	413	121	121	140	140	105	11,7	19,2	16,4
1SV12../D	0,75	80	468	263	263	468	307	443	443	137	129	155	155	120	12,7	22,5	22,3
1SV13../D	0,75	80	488	263	263	488	327	463	463	137	129	155	155	120	13,1	22,9	22,7
1SV15../D	0,75	80	528	263	263	528	367	503	503	137	129	155	155	120	13,9	23,7	23,5

**1SV SERIES, 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

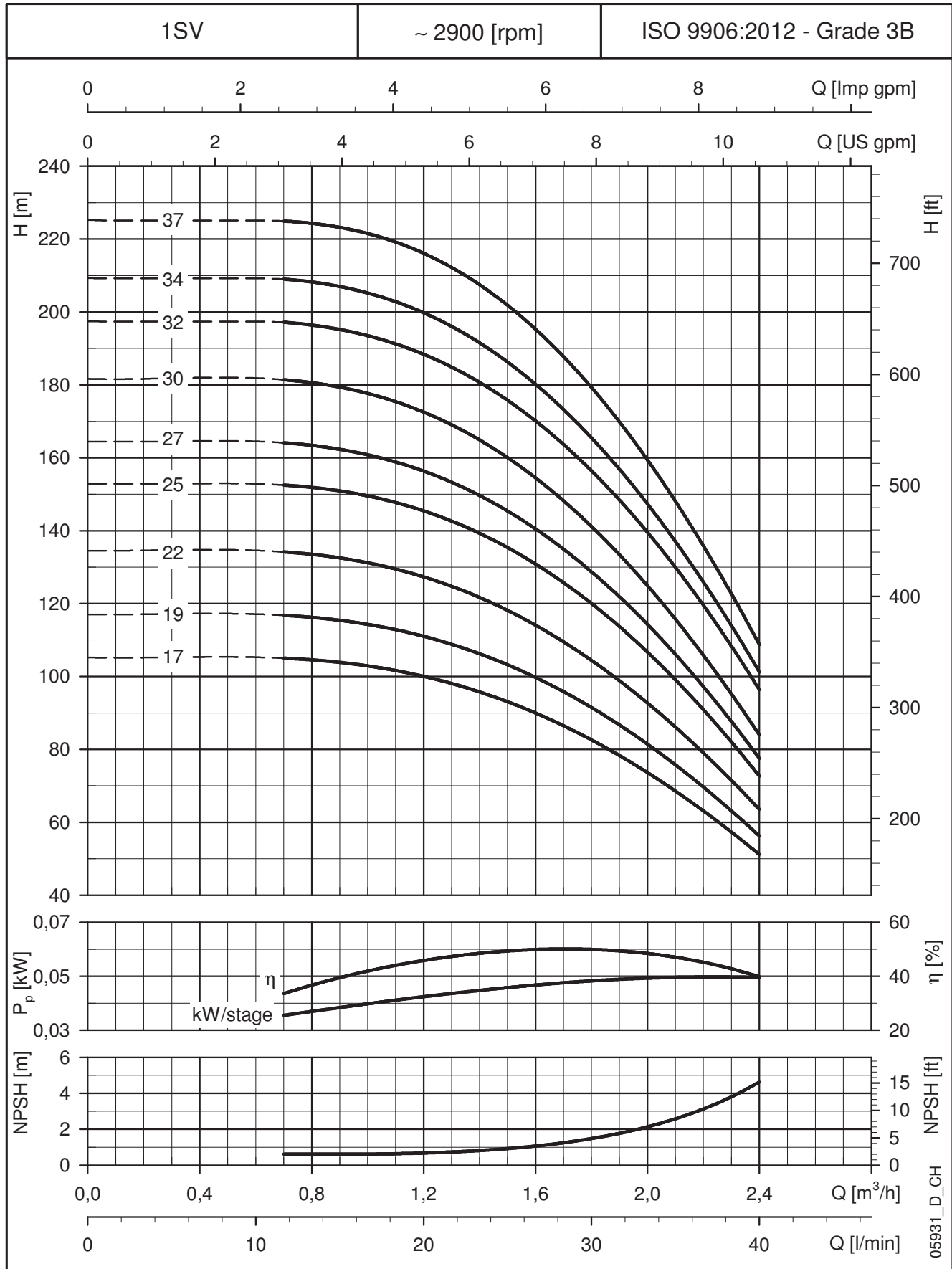
# 1SV SERIES, 17 TO 37 STAGES

## DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

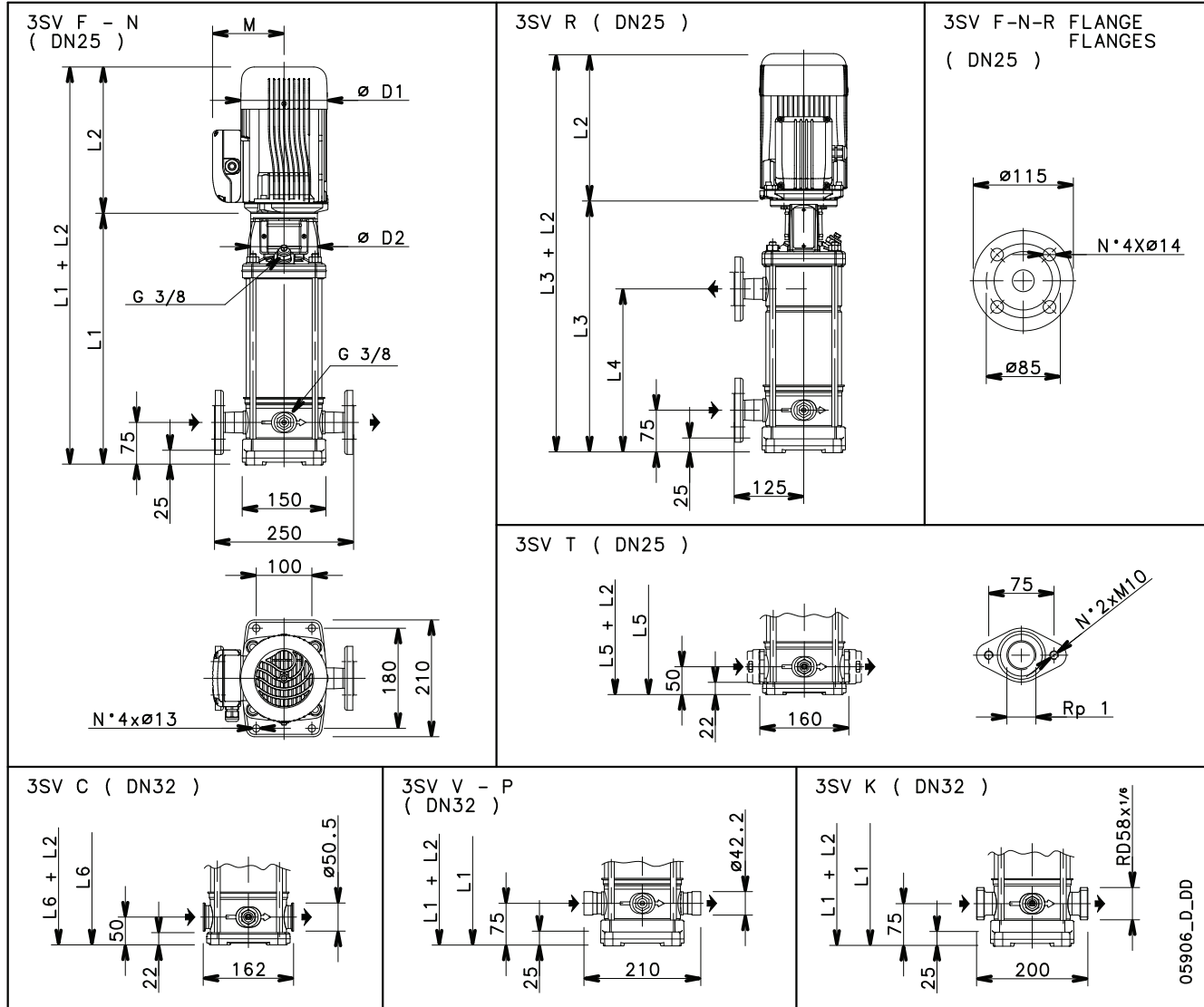


PUMP TYPE	MOTOR		DIMENSIONS (mm)												WEIGHT kg		
	kW	SIZE	L1	L2		L3	L4	L5	L6	M		D1		D2	PUMP	ELECTRIC PUMP	
				1 ~	3 ~					1 ~	3 ~	1 ~	3 ~			1 ~	3 ~
1SV17../D	1,1	80	568	263	263	568	407	543	543	137	129	155	155	120	14,7	26,2	26,6
1SV19../D	1,1	80	608	263	263	608	447	583	583	137	129	155	155	120	15,5	27,0	28,0
1SV22../D	1,1	80	668	263	263	668	507	643	643	137	129	155	155	120	16,7	28,2	28,6
1SV25../D	1,5	90	738	298	263	738	567	713	713	159	129	174	155	140	18,7	43,7	32,0
1SV27../D	1,5	90	778	298	263	778	607	-	753	159	129	174	155	140	19,5	44,5	33,0
1SV30../D	1,5	90	838	298	263	838	667	-	813	159	129	174	155	140	20,7	45,7	34,0
1SV32../D	2,2	90	878	-	298	878	707	-	853	-	134	-	174	140	21,5	-	37,8
1SV34../D	2,2	90	918	-	298	918	747	-	893	-	134	-	174	140	22,3	-	38,6
1SV37../D	2,2	90	978	-	298	978	807	-	953	-	134	-	174	140	23,5	-	39,8

1sv-2-2p50-en\_e\_td

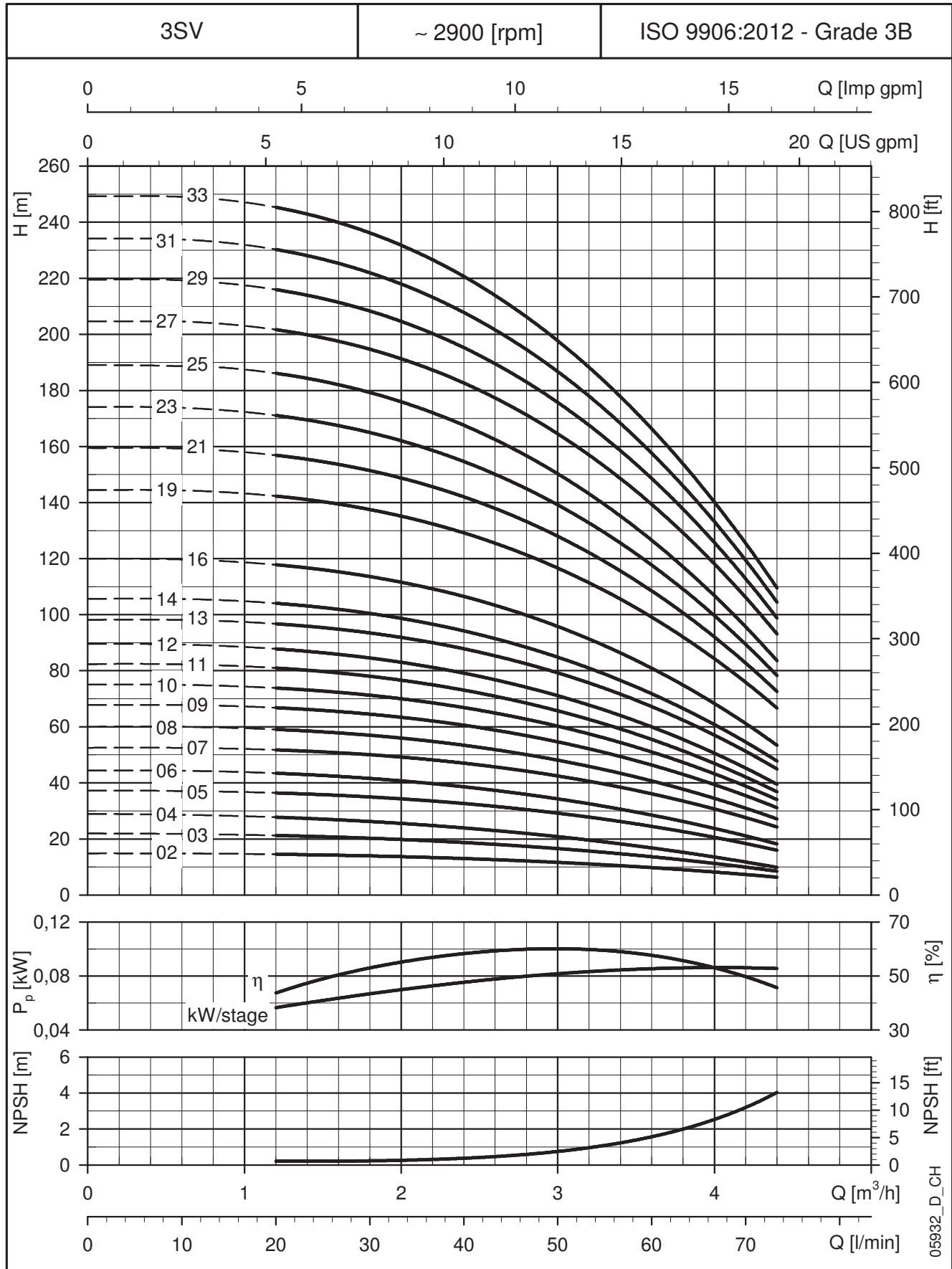
**1SV SERIES, 17 TO 37 STAGES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

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

### 3SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



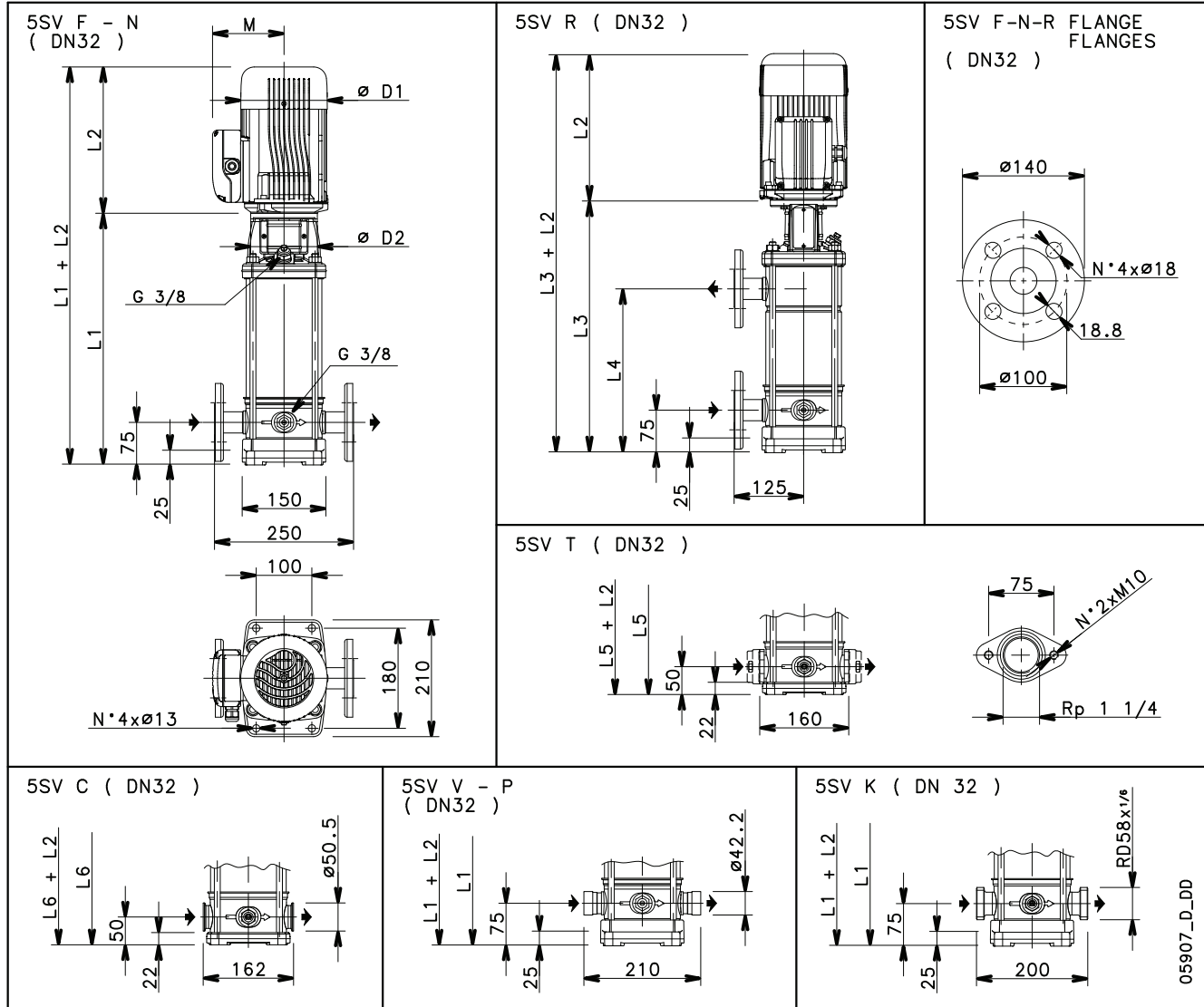
PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT kg			
	kW	SIZE	L1	L2		L3	L4	L5	L6	M		D1		D2	PUMP	ELECTRIC PUMP	
				1 ~	3 ~					1 ~	3 ~	1 ~	3 ~			1 ~	3 ~
3SV02..	0,37	71R	278	209	209	-	-	253	253	111	111	120	120	105	8,0	13,5	12,8
3SV03..	0,37	71R	278	209	209	-	-	253	253	111	111	120	120	105	8,4	13,9	13,2
3SV04..	0,37	71R	298	209	209	-	-	273	273	111	111	120	120	105	8,8	14,3	13,6
3SV05..	0,55	71	318	231	231	-	-	293	293	121	121	140	140	105	9,2	16,7	14,0
3SV06..	0,55	71	338	231	231	-	-	313	313	121	121	140	140	105	9,7	17,2	16,4
3SV07../D	0,75	80	368	263	263	368	207	343	343	137	129	155	155	120	10,9	20,7	20,5
3SV08../D	0,75	80	388	263	263	388	227	363	363	137	129	155	155	120	11,3	21,1	20,9
3SV09../D	1,1	80	408	263	263	408	247	383	383	137	129	155	155	120	11,7	23,2	23,1
3SV10../D	1,1	80	428	263	263	428	267	403	403	137	129	155	155	120	12,1	23,6	23,5
3SV11../D	1,1	80	448	263	263	448	287	423	423	137	129	155	155	120	12,5	24,0	23,9
3SV12../D	1,1	80	468	263	263	468	307	443	443	137	129	155	155	120	13,3	24,8	24,7
3SV13../D	1,5	90	498	298	263	498	327	473	473	159	129	174	155	140	14,0	39,0	27,0
3SV14../D	1,5	90	518	298	263	518	347	493	493	159	129	174	155	140	14,4	39,4	27,5
3SV16../D	1,5	90	558	298	263	558	387	533	533	159	129	174	155	140	15,2	40,2	28,2
3SV19../D	2,2	90	618	-	298	618	447	593	593	-	134	-	174	140	16,4	-	34,4
3SV21../D	2,2	90	658	-	298	658	487	633	633	-	134	-	174	140	17,2	-	35,2
3SV23../D	2,2	90	698	-	298	698	527	-	673	-	134	-	174	140	18,0	-	36,0
3SV25../D	2,2	90	738	-	298	738	567	-	713	-	134	-	174	140	18,9	-	36,8
3SV27../D	3	100	788	-	298	788	607	-	763	-	134	-	174	160	20,7	-	42,6
3SV29../D	3	100	828	-	298	828	647	-	803	-	134	-	174	160	21,5	-	43,4
3SV31../D	3	100	868	-	298	868	687	-	843	-	134	-	174	160	22,3	-	44,2
3SV33../D	3	100	908	-	298	908	727	-	883	-	134	-	174	160	23,1	-	45,0



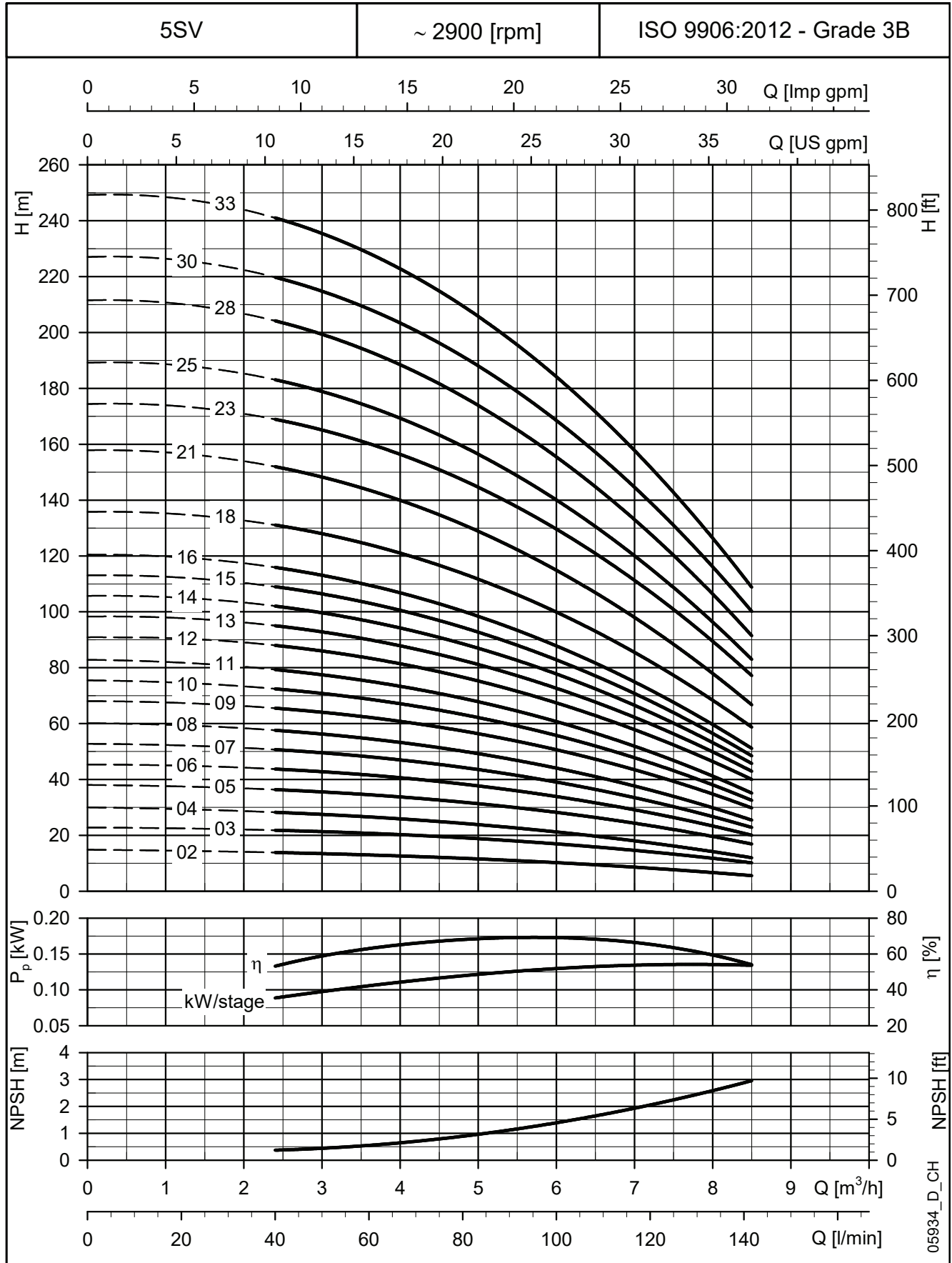
**3SV SERIES**
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**


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

## 5SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



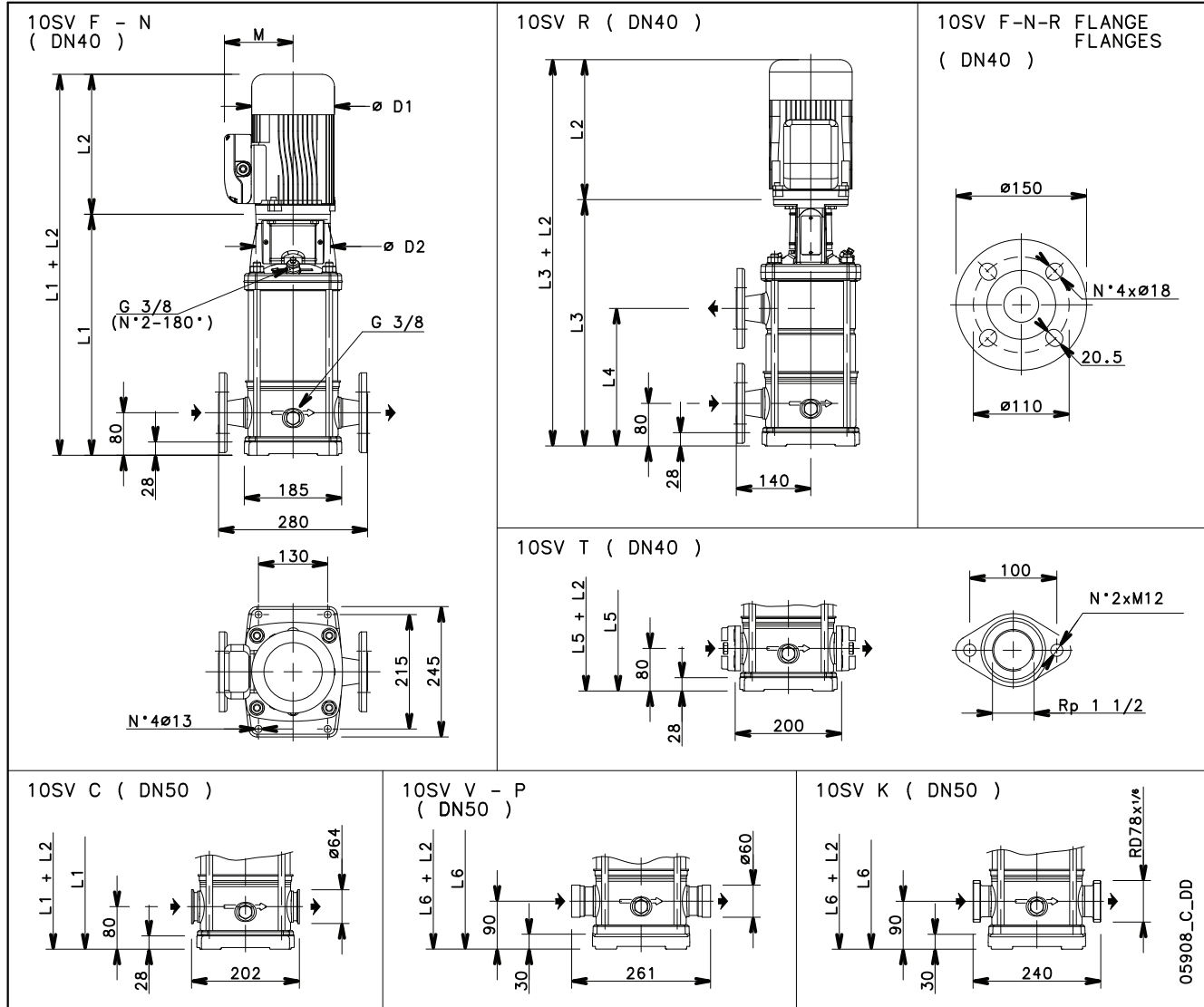
PUMP TYPE	MOTOR		DIMENSIONS (mm)													WEIGHT kg		
	kW	SIZE	L1	L2		L3	L4	L5	L6	M		D1		D2	PUMP	ELECTRIC PUMP		
				1 ~	3 ~					1 ~	3 ~	1 ~	3 ~			1 ~	3 ~	
5SV02..	0,37	71R	268	209	209	-	-	243	243	111	111	120	120	105	8,4	13,9	13,2	
5SV03..	0,55	71	293	231	231	-	-	268	268	121	121	140	140	105	8,9	16,4	15,7	
5SV04..	0,55	71	318	231	231	-	-	293	293	121	121	140	140	105	9,4	16,9	16,1	
5SV05../D	0,75	80	353	263	263	-	-	328	328	137	129	155	155	120	10,5	20,3	20,1	
5SV06../D	1,1	80	378	263	263	-	-	353	353	137	129	155	155	120	11,0	22,5	22,4	
5SV07../D	1,1	80	403	263	263	403	242	378	378	137	129	155	155	120	11,5	23,0	22,9	
5SV08../D	1,1	80	428	263	263	428	267	403	403	137	129	155	155	120	12,1	23,6	23,5	
5SV09../D	1,5	90	463	298	263	463	292	438	438	159	129	174	155	140	12,7	37,7	26,0	
5SV10../D	1,5	90	488	298	263	488	317	463	463	159	129	174	155	140	13,1	38,1	26,5	
5SV11../D	1,5	90	513	298	263	513	342	488	488	159	129	174	155	140	13,6	38,6	27,0	
5SV12../D	2,2	90	538	-	298	538	367	513	513	-	134	-	174	140	14,1	-	32,3	
5SV13../D	2,2	90	563	-	298	563	392	538	538	-	134	-	174	140	14,6	-	32,8	
5SV14../D	2,2	90	588	-	298	588	417	563	563	-	134	-	174	140	15,0	-	33,2	
5SV15../D	2,2	90	613	-	298	613	442	588	588	-	134	-	174	140	15,5	-	33,7	
5SV16../D	2,2	90	638	-	298	638	467	613	613	-	134	-	174	140	16,0	-	34,2	
5SV18../D	3	100	698	-	298	698	517	673	673	-	134	-	174	160	18,0	-	39,0	
5SV21../D	3	100	773	-	298	773	592	748	748	-	134	-	174	160	19,4	-	40,4	
5SV23../D	4	112	823	-	319	823	642	-	798	-	154	-	197	160	20,4	-	47,0	
5SV25../D	4	112	873	-	319	873	692	-	848	-	154	-	197	160	21,3	-	48,0	
5SV28../D	4	112	948	-	319	948	767	-	923	-	154	-	197	160	23,0	-	49,4	
5SV30../D	5,5	132	1018	-	375	1018	817	-	993	-	168	-	214	300	28,1	-	65,7	
5SV33../D	5,5	132	1093	-	375	1093	892	-	1068	-	168	-	214	300	29,5	-	67,1	

**5SV 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

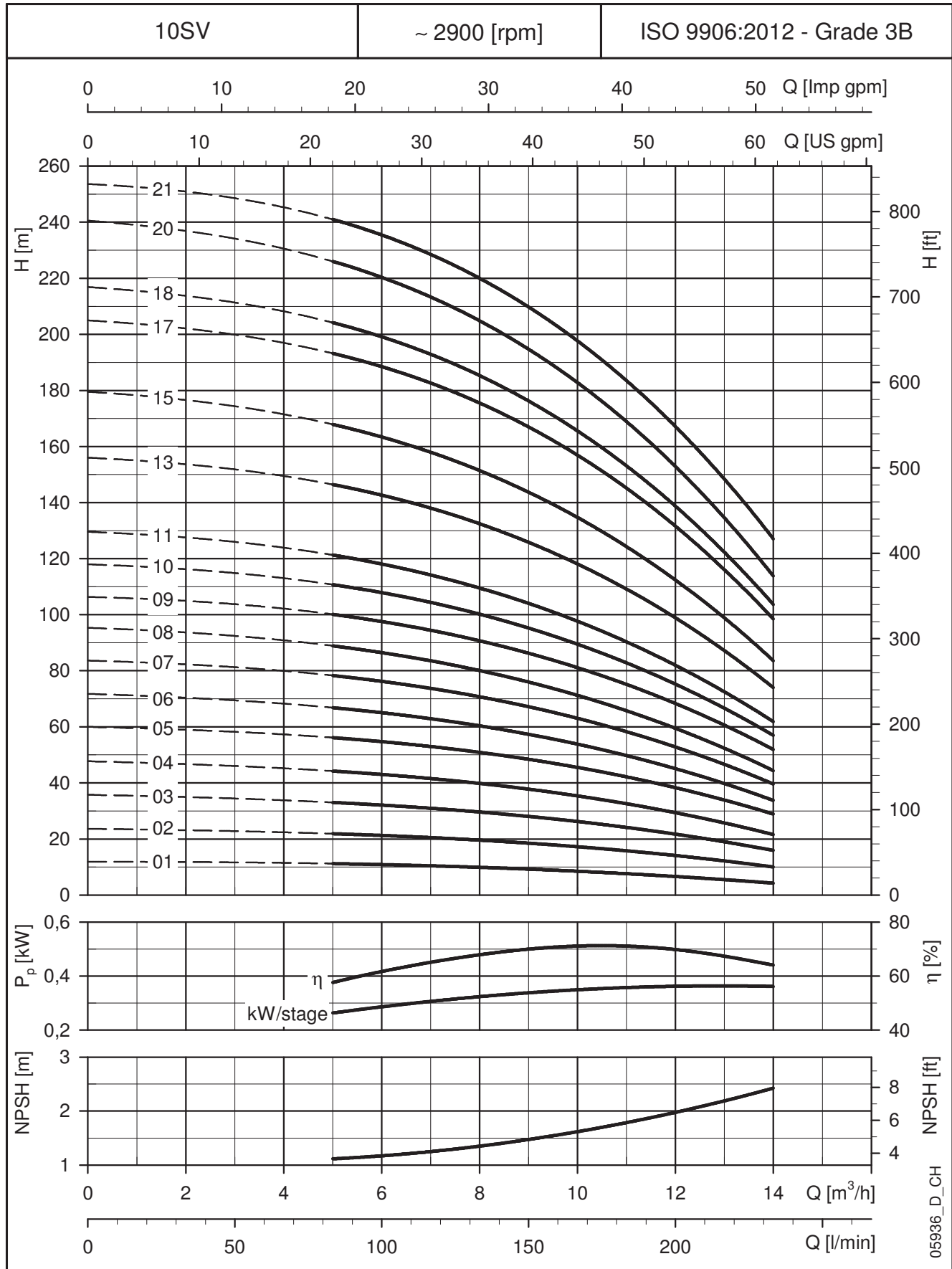
# 10SV SERIES

## DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

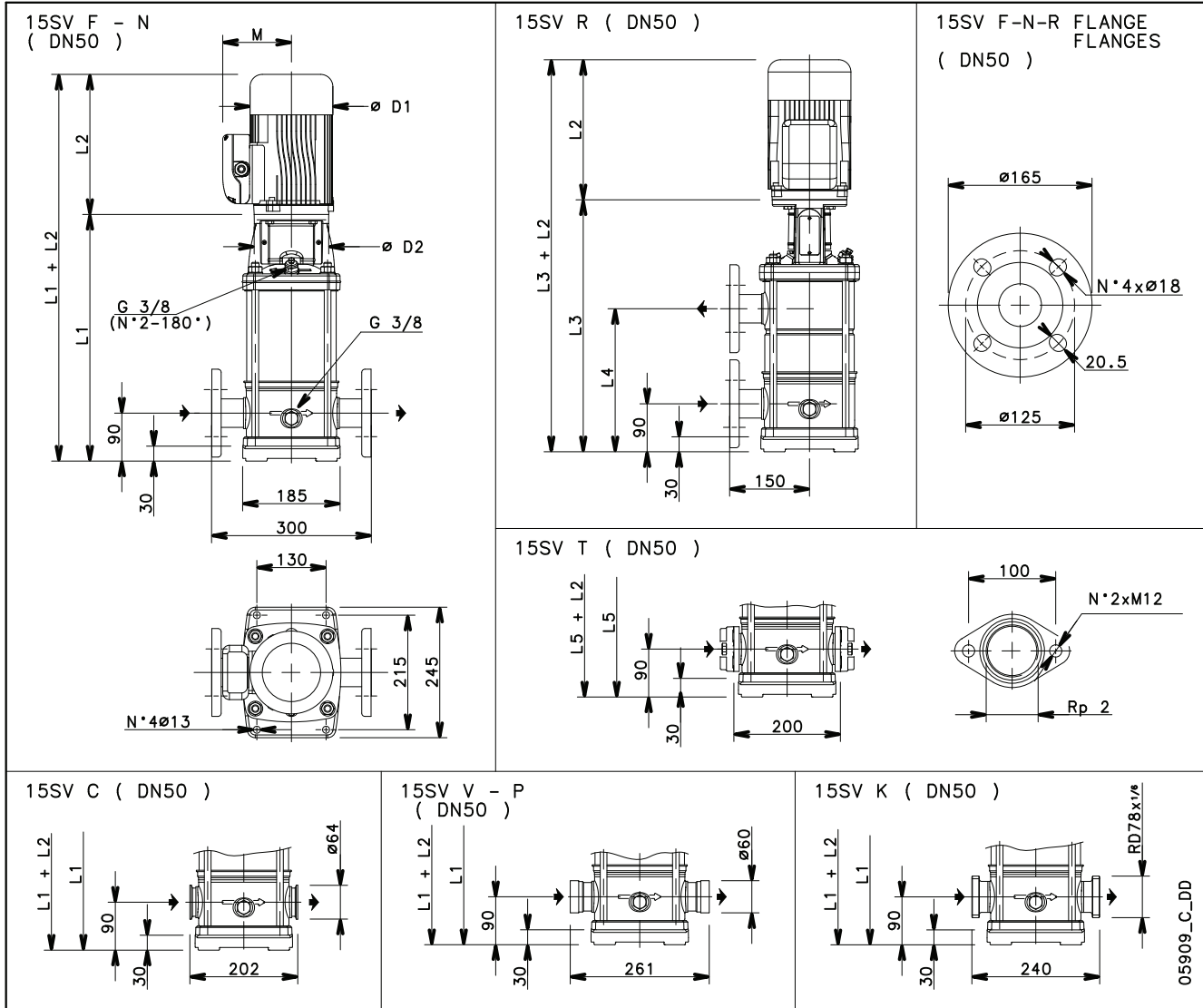


PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT kg			
	kW	SIZE	L1	L2		L3	L4	L5	L6	M		D1		D2	ELECTRIC PUMP		
				1 ~	3 ~					1 ~	3 ~	1 ~	3 ~		PUMP	1 ~	3 ~
10SV01../D	0,75	80	357	263	263	-	-	357	367	137	129	155	155	120	14,2	24,0	24,0
10SV02../D	0,75	80	357	263	263	-	-	357	367	137	129	155	155	120	15,1	24,9	24,9
10SV03../D	1,1	80	389	263	263	-	-	389	399	137	129	155	155	120	16,1	27,6	27,6
10SV04../D	1,5	90	431	298	263	-	-	431	441	159	129	174	155	140	17,6	42,6	31,0
10SV05../D	2,2	90	463	-	298	463	259	463	473	-	134	-	174	140	18,5	-	36,7
10SV06../D	2,2	90	495	-	298	495	291	495	505	-	134	-	174	140	19,7	-	37,9
10SV07../D	3	100	537	-	298	537	323	537	547	-	134	-	174	160	21,5	-	42,5
10SV08../D	3	100	569	-	298	569	355	569	579	-	134	-	174	160	22,4	-	43,4
10SV09../D	4	112	601	-	319	601	387	601	611	-	154	-	197	160	23,3	-	49,7
10SV10../D	4	112	633	-	319	633	419	633	643	-	154	-	197	160	24,3	-	50,7
10SV11../D	4	112	665	-	319	665	451	665	675	-	154	-	197	160	25,2	-	52,0
10SV13../D	5,5	132	796	-	375	796	515	796	806	-	168	-	214	300	33,1	-	71,0
10SV15../D	5,5	132	860	-	375	860	579	-	870	-	168	-	214	300	35,0	-	73,0
10SV17../D	7,5	132	924	-	367	924	643	-	934	-	191	-	256	300	36,9	-	93,0
10SV18../D	7,5	132	956	-	367	956	675	-	966	-	191	-	256	300	37,8	-	94,0
10SV20../D	7,5	132	1020	-	367	1020	739	-	1030	-	191	-	256	300	39,6	-	96,0
10SV21../D	11	160	1082	-	428	1082	771	-	1092	-	191	-	256	350	42,2	-	113,0

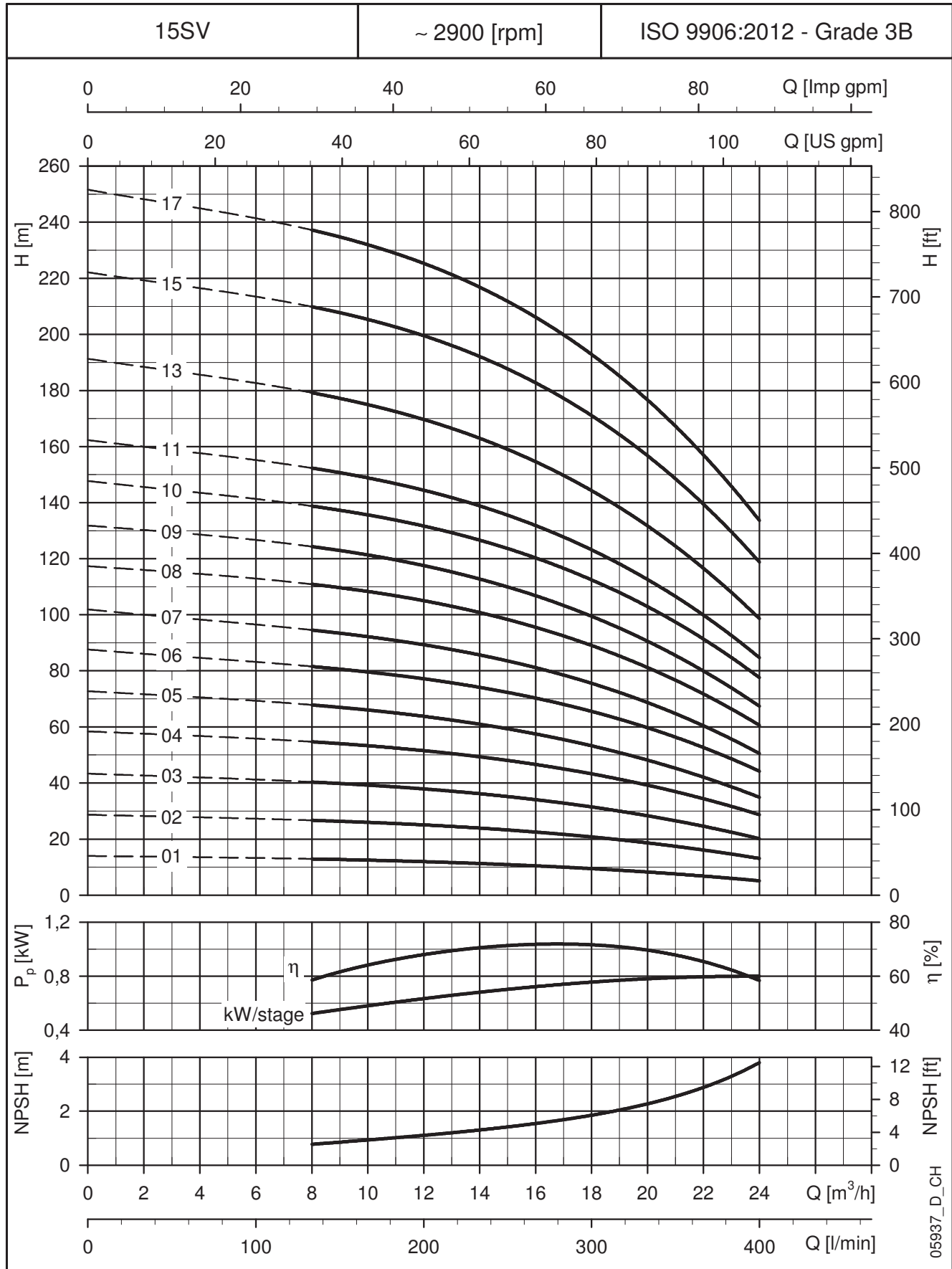
10sv-2p50-en\_e\_td

**10SV 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

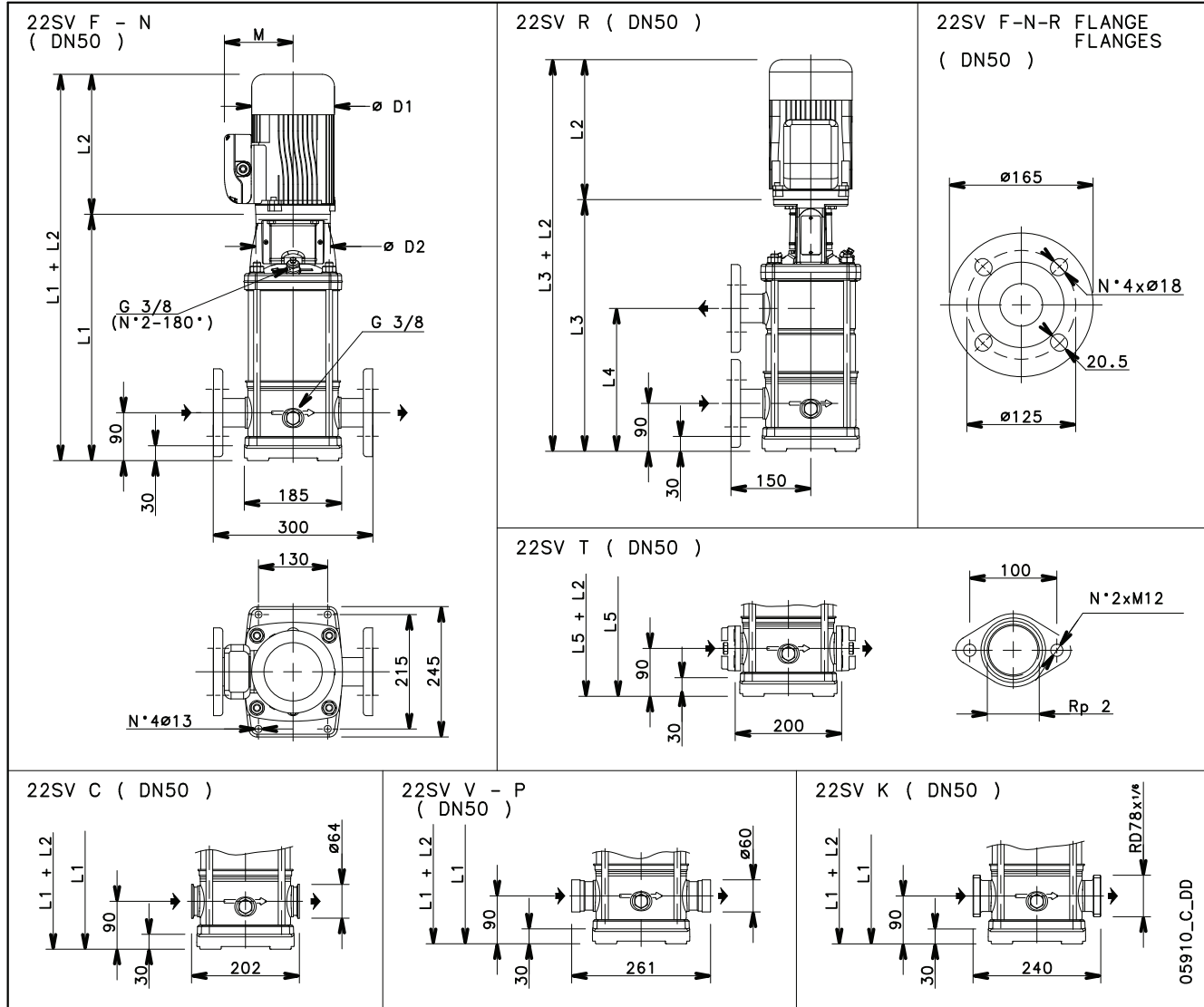
## 15SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT kg		
	kW	SIZE	L1	L2		L3	L4	L5	M		D1		D2	PUMP	ELECTRIC PUMP	
				1 ~	3 ~				1 ~	3 ~	1 ~	3 ~			1 ~	3 ~
15SV01../D	1,1	80	399	263	263	-	-	399	137	129	129	155	120	15,0	26,5	26,8
15SV02../D	2,2	90	409	-	298	-	-	409	-	134	-	174	140	16,8	-	34,7
15SV03../D	3	100	467	-	298	-	-	467	-	134	-	174	160	19,0	-	40,0
15SV04../D	4	112	515	-	319	515	301	515	-	154	-	197	160	20,3	-	46,8
15SV05../D	4	112	563	-	319	563	349	563	-	154	-	197	160	21,5	-	47,9
15SV06../D	5,5	132	678	-	375	678	397	678	-	168	-	214	300	28,9	-	67,0
15SV07../D	5,5	132	726	-	375	726	445	726	-	168	-	214	300	30,2	-	68,0
15SV08../D	7,5	132	774	-	367	774	493	774	-	191	-	256	300	31,5	-	88,0
15SV09../D	7,5	132	822	-	367	822	541	822	-	191	-	256	300	32,8	-	90,0
15SV10../D	11	160	900	-	428	900	589	900	-	191	-	256	350	37,0	-	108,0
15SV11../D	11	160	948	-	428	948	637	-	-	191	-	256	350	38,3	-	109,0
15SV13../D	11	160	1044	-	428	1044	733	-	-	191	-	256	350	41,0	-	112,0
15SV15../D	15	160	1140	-	494	1140	829	-	-	240	-	313	350	43,7	-	146,0
15SV17../D	15	160	1236	-	494	1236	925	-	-	240	-	313	350	46,7	-	149,0

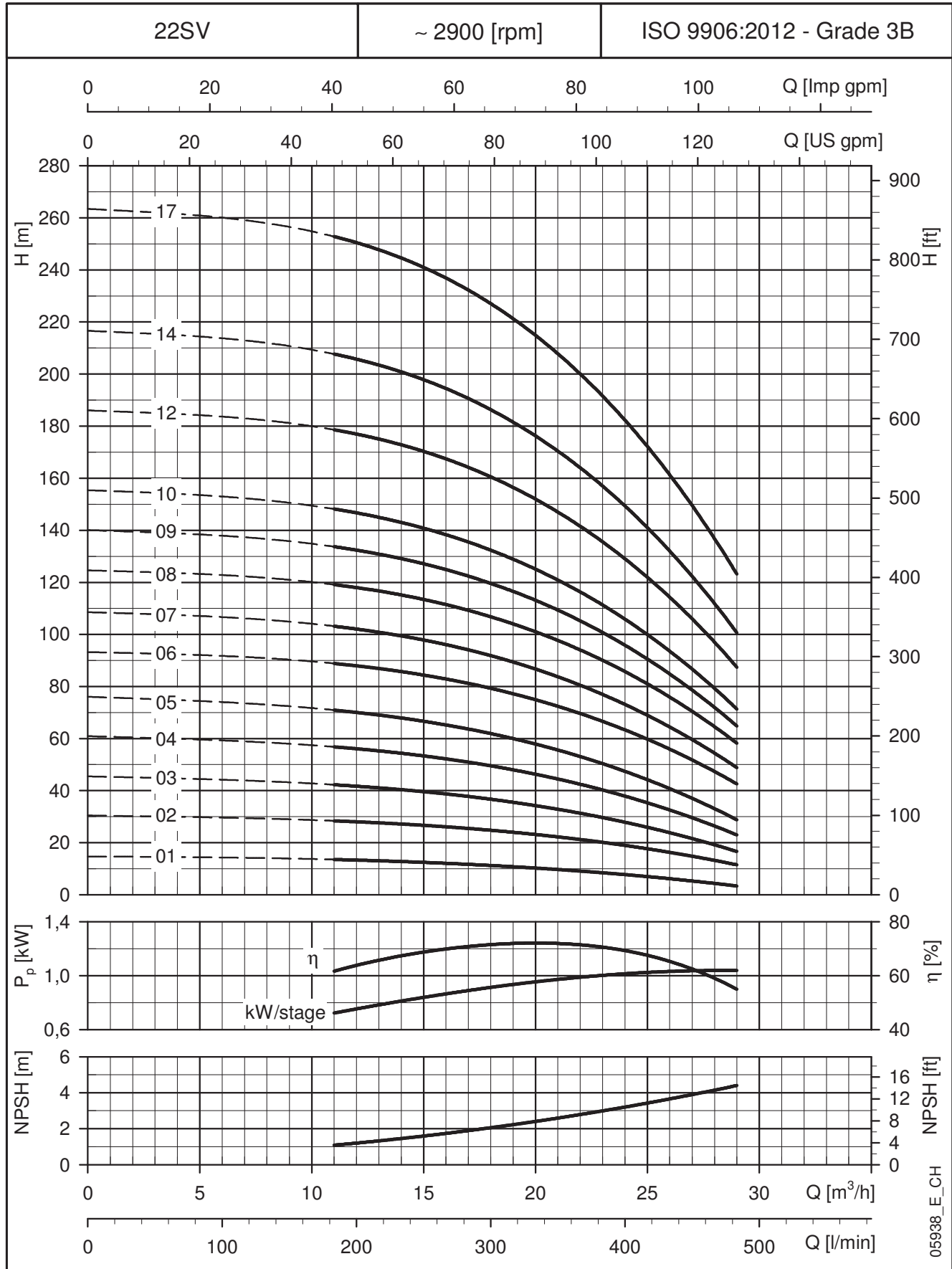
**15SV SERIES  
OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

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

## 22SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



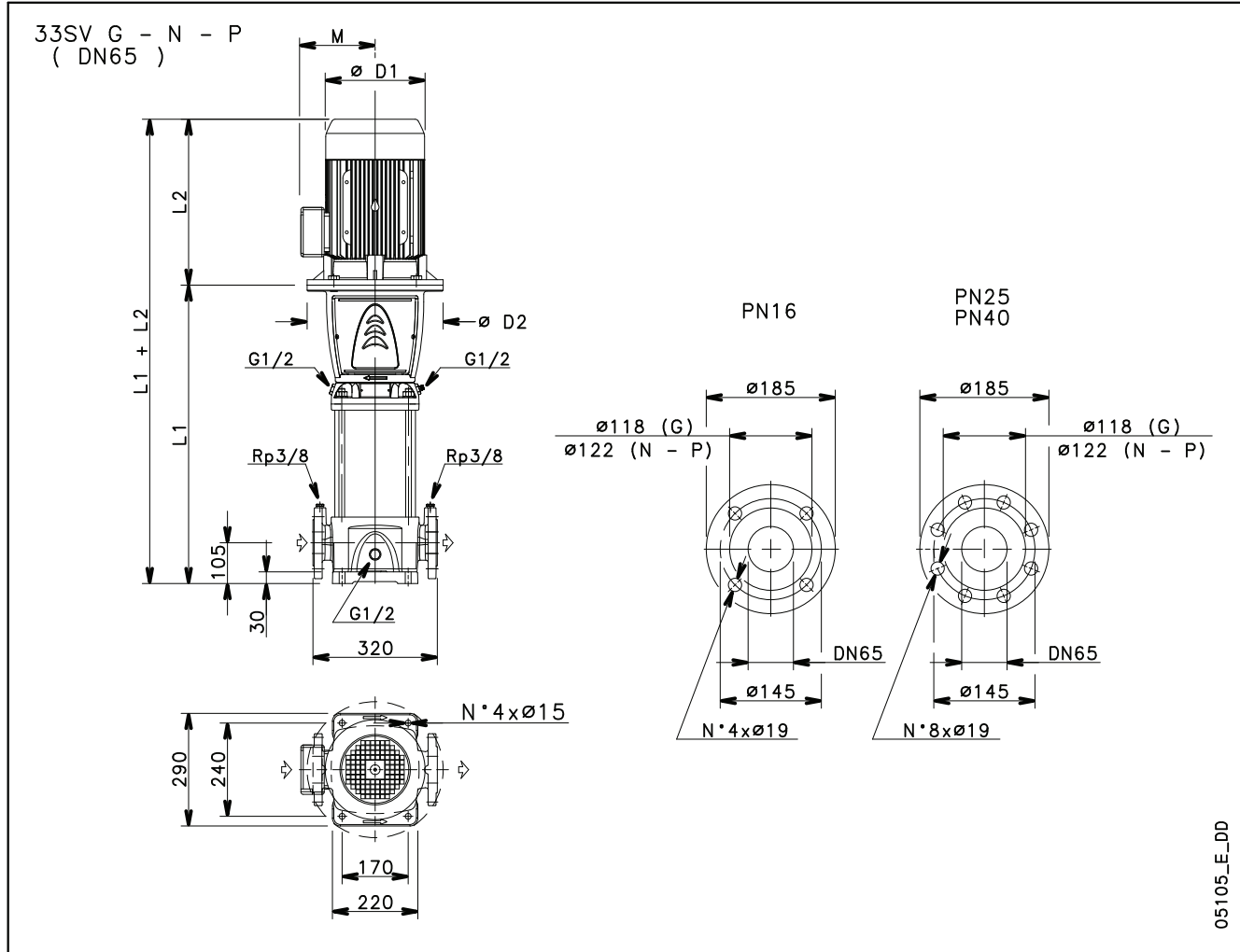
PUMP TYPE	MOTOR		DIMENSIONS (mm)											WEIGHT kg		
	kW	SIZE	L1	L2		L3	L4	L5	M		D1		D2	PUMP	ELECTRIC PUMP	
				1 ~	3 ~				1 ~	3 ~	1 ~	3 ~			1 ~	3 ~
22SV01../D	1,1	80	399	263	263	-	-	399	137	129	129	155	120	15,5	27,0	26,9
22SV02../D	2,2	90	409	-	298	-	-	409	-	134	-	174	140	17,2	-	35,4
22SV03../D	3	100	467	-	298	-	-	467	-	134	-	174	160	19,4	-	40,4
22SV04../D	4	112	515	-	319	515	301	515	-	154	-	197	160	20,7	-	47,1
22SV05../D	5,5	132	630	-	375	630	349	630	-	168	-	214	300	26,7	-	65,0
22SV06../D	7,5	132	678	-	367	678	397	678	-	191	-	256	300	28,0	-	84,0
22SV07../D	7,5	132	726	-	367	726	445	726	-	191	-	256	300	29,3	-	86,0
22SV08../D	11	160	804	-	428	804	493	804	-	191	-	256	350	33,1	-	104,0
22SV09../D	11	160	852	-	428	852	541	852	-	191	-	256	350	34,4	-	105,0
22SV10../D	11	160	900	-	428	900	589	900	-	191	-	256	350	35,8	-	107,0
22SV12../D	15	160	996	-	494	996	685	-	-	240	-	313	350	38,4	-	141,0
22SV14../D	15	160	1092	-	494	1092	781	-	-	240	-	313	350	41,1	-	144,0
22SV17../D	18,5	160	1236	-	494	1236	925	-	-	240	-	313	350	45,1	-	156,0



**22SV 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

### 33SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

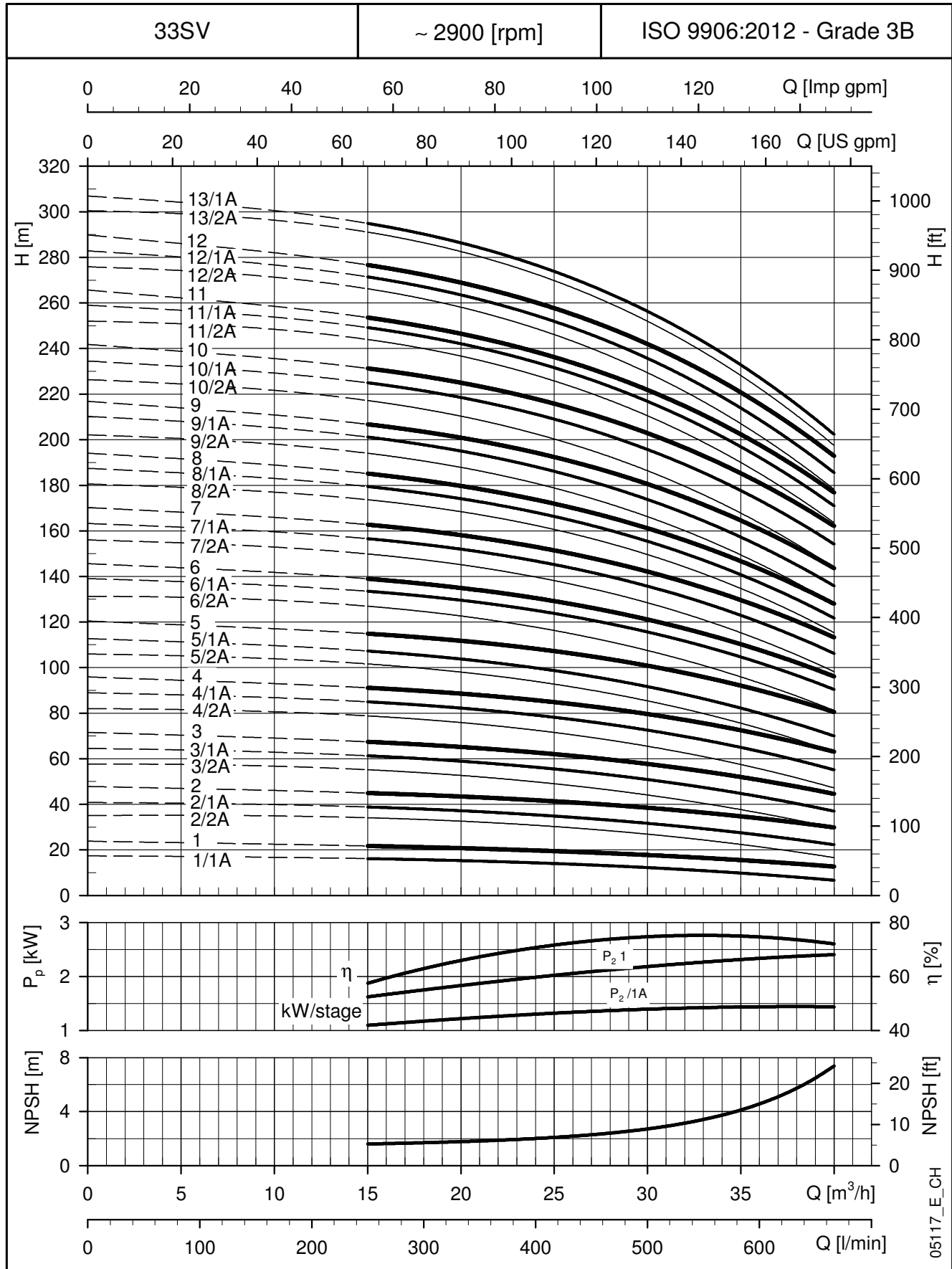


PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT kg	
	kW	SIZE	L1	L2	D1	D2	M	PN	PUMP	ELECTRIC PUMP
33SV1/1A../D	2,2	90	489	298	174	164	134	16	52	73
33SV1../D	3	100	489	298	174	164	134	16	52	73
33SV2/2A../D	4	112	564	319	197	164	154	16	56	82,5
33SV2/1A../D	4	112	564	319	197	164	154	16	56	82,5
33SV2../D	5,5	132	584	375	214	300	168	16	61	98,5
33SV3/2A../D	5,5	132	659	375	214	300	191	16	65	103
33SV3/1A../D	7,5	132	659	367	256	300	191	16	65	121
33SV3../D	7,5	132	659	367	256	300	191	16	65	121
33SV4/2A../D	7,5	132	734	367	256	300	191	16	69	125
33SV4/1A../D	11	160	769	428	256	350	191	16	73	143
33SV4../D	11	160	769	428	256	350	191	16	73	143
33SV5/2A../D	11	160	844	428	256	350	191	16	77	147
33SV5/1A../D	11	160	844	428	256	350	191	16	77	147
33SV5../D	15	160	844	494	313	350	240	16	77	179
33SV6/2A../D	15	160	919	494	313	350	240	16	81	183
33SV6/1A../D	15	160	919	494	313	350	240	25	81	183
33SV6../D	15	160	919	494	313	350	240	25	81	183
33SV7/2A../D	15	160	994	494	313	350	240	25	84	186
33SV7/1A../D	18,5	160	994	494	313	350	240	25	84	195

PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT kg	
	kW	SIZE	L1	L2	D1	D2	M	PN	PUMP	ELECTRIC PUMP
33SV7../D	18,5	160	994	494	313	350	240	25	84	195
33SV8/2A../D	18,5	160	1069	494	313	350	240	25	88	199
33SV8/1A../D	18,5	160	1069	494	313	350	240	25	88	199
33SV8../D	22	180	1069	494	313	350	240	25	89	210
33SV9/2A../D	22	180	1144	494	313	350	240	25	93	214
33SV9/1A../D	22	180	1144	494	313	350	240	25	93	214
33SV9../D	22	180	1144	494	313	350	240	25	93	214
33SV10/2A../D	22	180	1219	494	313	350	240	25	97	218
33SV10/1A../E	30	200	1219	671	408	400	285	25	104	312
33SV10../E	30	200	1219	671	408	400	285	25	104	312
33SV11/2A../E	30	200	1294	671	408	400	285	40	118	326
33SV11/1A../E	30	200	1294	671	408	400	285	40	118	326
33SV11../E	30	200	1294	671	408	400	285	40	118	326
33SV12/2A../E	30	200	1369	671	408	400	285	40	122	330
33SV12/1A../E	30	200	1369	671	408	400	285	40	122	330
33SV12../E	30	200	1369	671	408	400	285	40	122	330
33SV13/2A../E	30	200	1444	671	408	400	285	40	127	335
33SV13/1A../E	30	200	1444	671	408	400	285	40	127	335

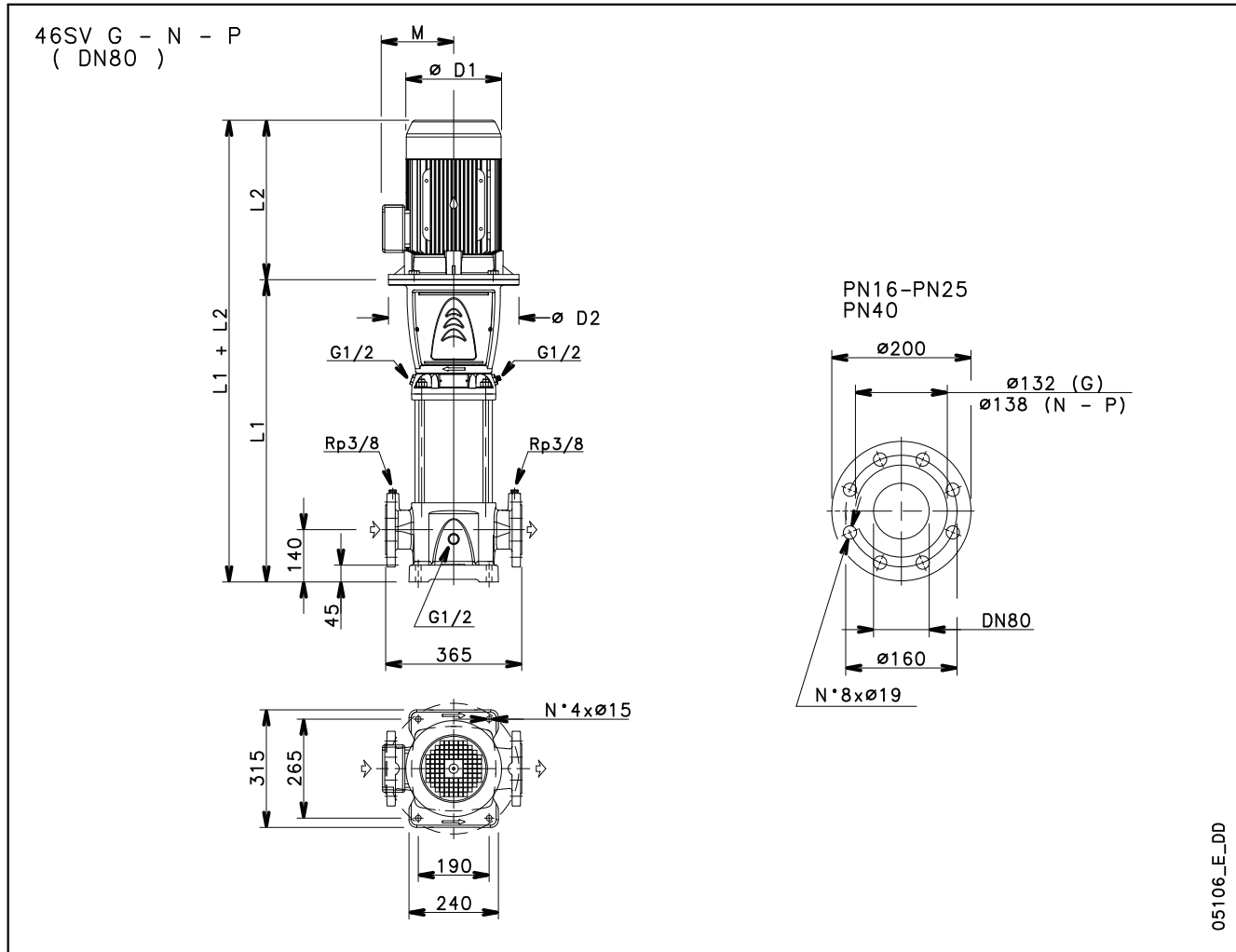
### 33SV SERIES

### 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## 46SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



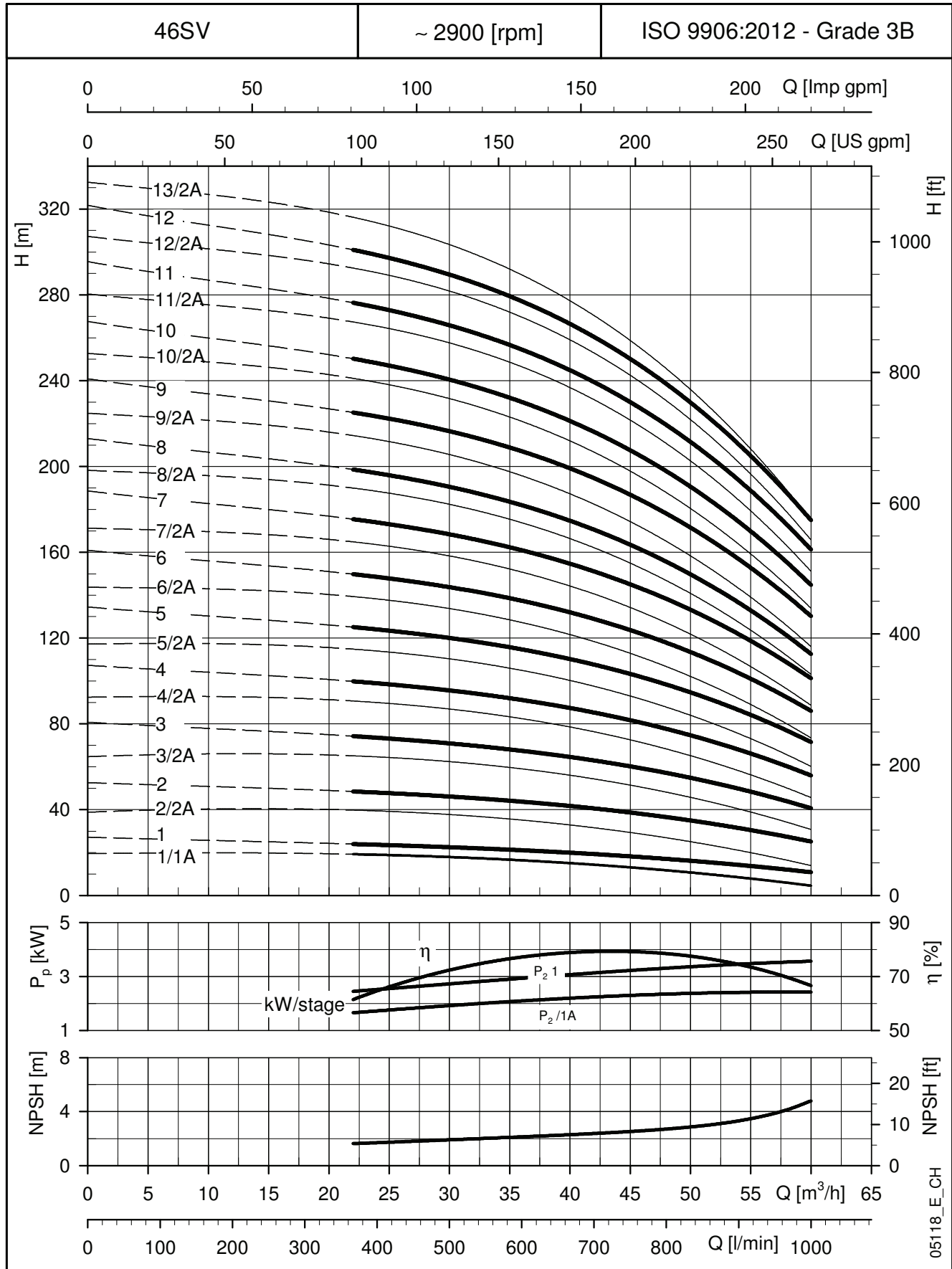
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PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT kg	
	kW	SIZE	L1	L2	D1	D2	M	PN	PUMP	ELECTRIC PUMP
46SV1/1A../D	3	100	529	298	174	164	134	16	58	79
46SV1../D	4	112	529	319	197	164	154	16	58	84,5
46SV2/2A../D	5,5	132	624	375	214	300	168	16	66	104
46SV2../D	7,5	132	624	367	256	300	191	16	66	122
46SV3/2A../D	11	160	734	428	256	350	191	16	74	144
46SV3../D	11	160	734	428	256	350	191	16	74	144
46SV4/2A../D	15	160	809	494	313	350	240	16	78	180
46SV4../D	15	160	809	494	313	350	240	16	78	180
46SV5/2A../D	18,5	160	884	494	313	350	240	16	82	193
46SV5../D	18,5	160	884	494	313	350	240	16	82	193
46SV6/2A../D	22	180	959	494	313	350	240	25	87	208
46SV6../D	22	180	959	494	313	350	240	25	87	208
46SV7/2A../E	30	200	1034	671	408	400	285	25	97	305
46SV7../E	30	200	1034	671	408	400	285	25	97	305
46SV8/2A../E	30	200	1109	671	408	400	285	25	101	309
46SV8../E	30	200	1109	671	408	400	285	25	101	309
46SV9/2A../E	30	200	1184	671	408	400	285	25	105	313
46SV9../E	37	200	1184	671	408	400	285	25	105	329
46SV10/2A../E	37	200	1259	671	408	400	285	40	114	338
46SV10../E	37	200	1259	671	408	400	285	40	114	338
46SV11/2A../E	45	225	1334	701	460	450	309	40	126	418
46SV11../E	45	225	1334	701	460	450	309	40	126	418
46SV12/2A../E	45	225	1409	701	460	450	309	40	131	423
46SV12../E	45	225	1409	701	460	450	309	40	131	423
46SV13/2A../E	45	225	1484	701	460	450	309	40	135	427

46sv-2p50-en\_f\_td

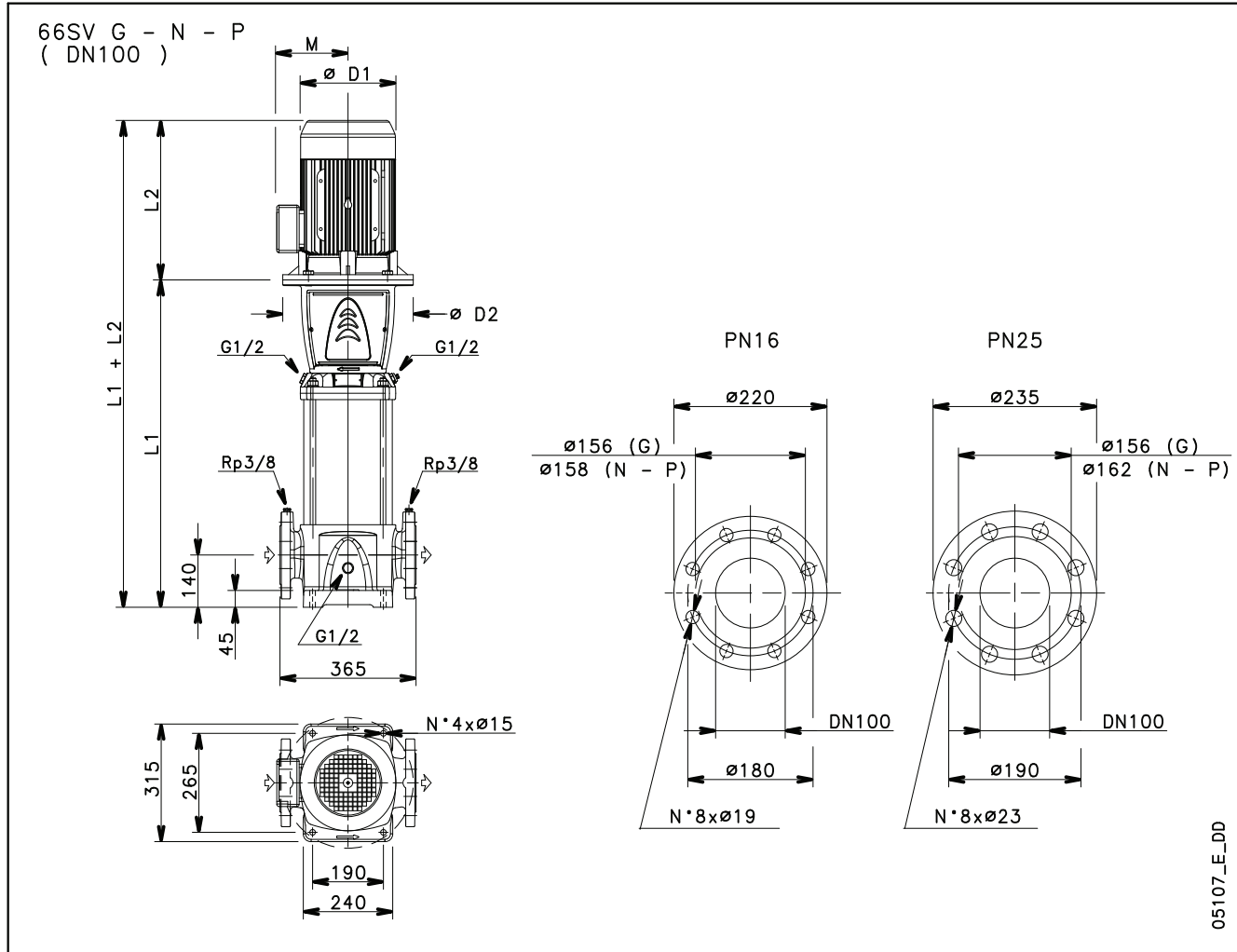
**46SV SERIES**

**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



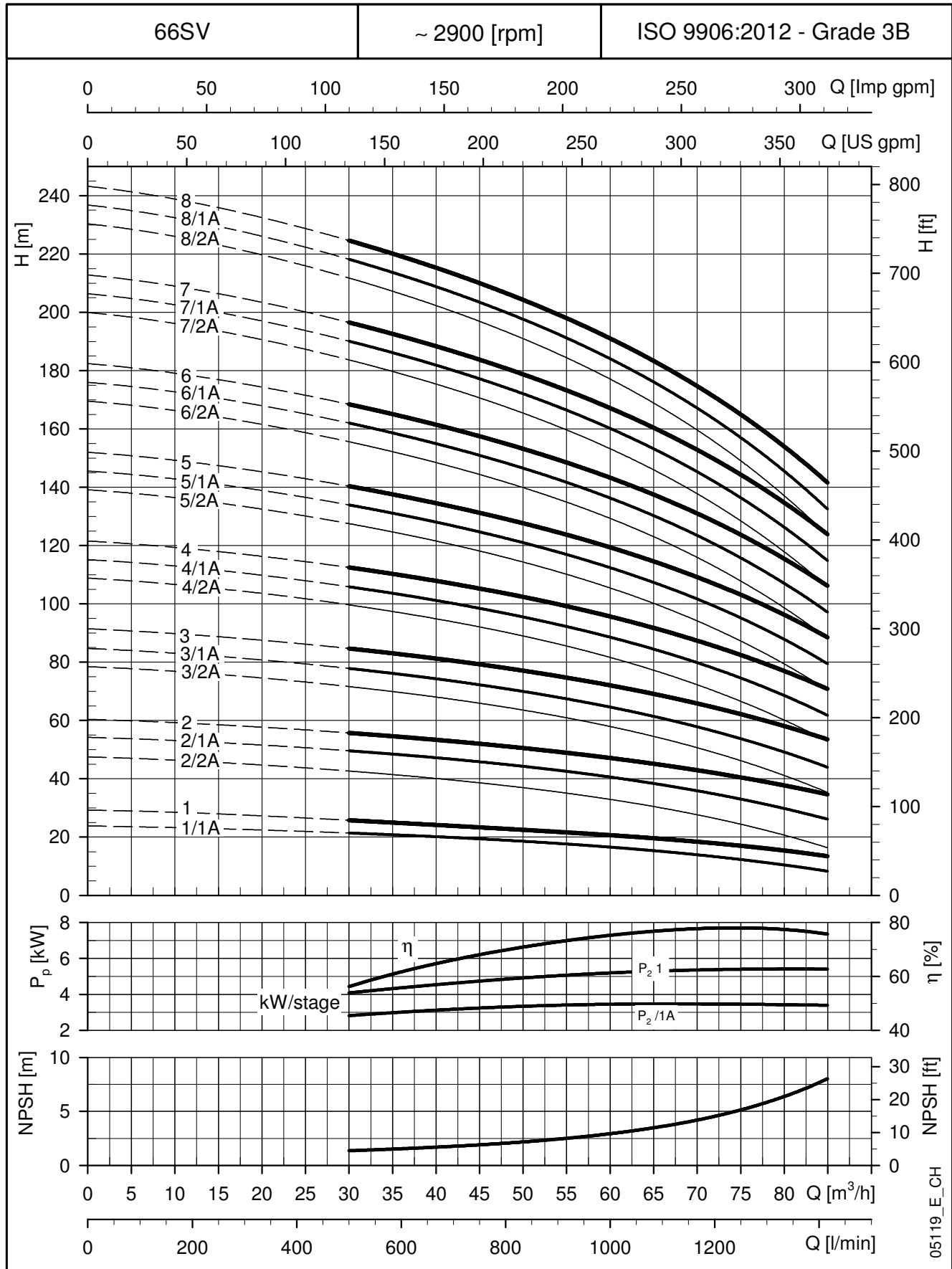
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## 66SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



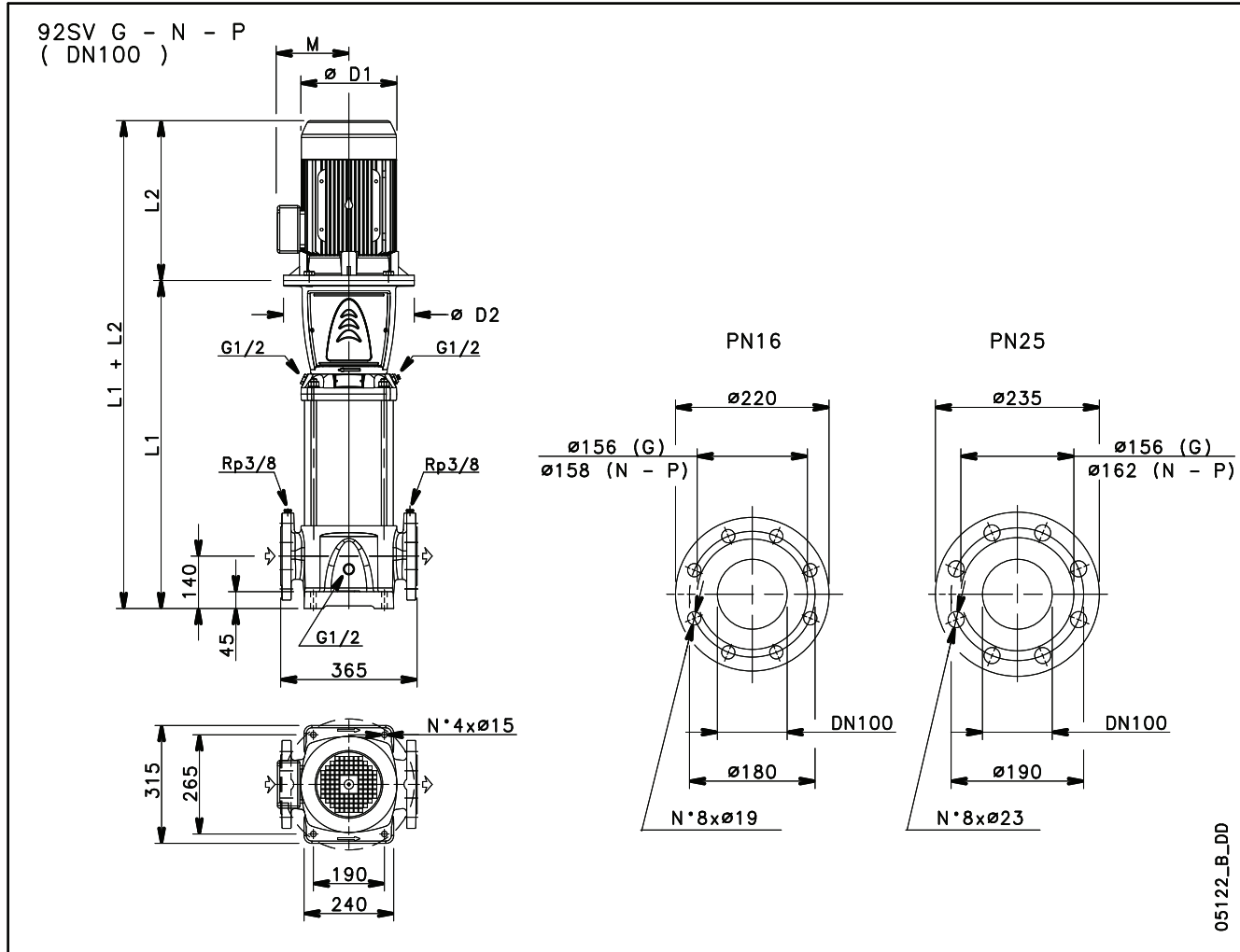
PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT kg	
	kW	SIZE	L1	L2	D1	D2	M	PN	PUMP	ELECTRIC
66SV1/1A../D	4	112	554	319	197	164	154	16	66	92,5
66SV1../D	5,5	132	574	375	214	300	168	16	72	110
66SV2/2A../D	7,5	132	664	367	256	300	191	16	77	133
66SV2/1A../D	11	160	699	428	256	350	191	16	81	151
66SV2../D	11	160	699	428	256	350	191	16	81	151
66SV3/2A../D	15	160	789	494	313	350	240	16	86	188
66SV3/1A../D	15	160	789	494	313	350	240	16	86	188
66SV3../D	18,5	160	789	494	313	350	240	16	86	197
66SV4/2A../D	18,5	160	879	494	313	350	240	16	92	203
66SV4/1A../D	22	180	879	494	313	350	240	16	93	214
66SV4../D	22	180	879	494	313	350	240	16	93	214
66SV5/2A../E	30	200	969	671	408	400	285	16	105	313
66SV5/1A../E	30	200	969	671	408	400	285	16	105	313
66SV5../E	30	200	969	671	408	400	285	16	105	313
66SV6/2A../E	30	200	1059	671	408	400	285	25	113	321
66SV6/1A../E	30	200	1059	671	408	400	285	25	113	321
66SV6../E	37	200	1059	671	408	400	285	25	113	337
66SV7/2A../E	37	200	1149	671	408	400	285	25	118	342
66SV7/1A../E	37	200	1149	671	408	400	285	25	118	342
66SV7../E	45	225	1149	700,5	460	450	309	25	122	414
66SV8/2A../E	45	225	1239	700,5	460	450	309	25	127	419
66SV8/1A../E	45	225	1239	700,5	460	450	309	25	127	419
66SV8../E	45	225	1239	701	460	450	309	25	127	419

**66SV 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## 92SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

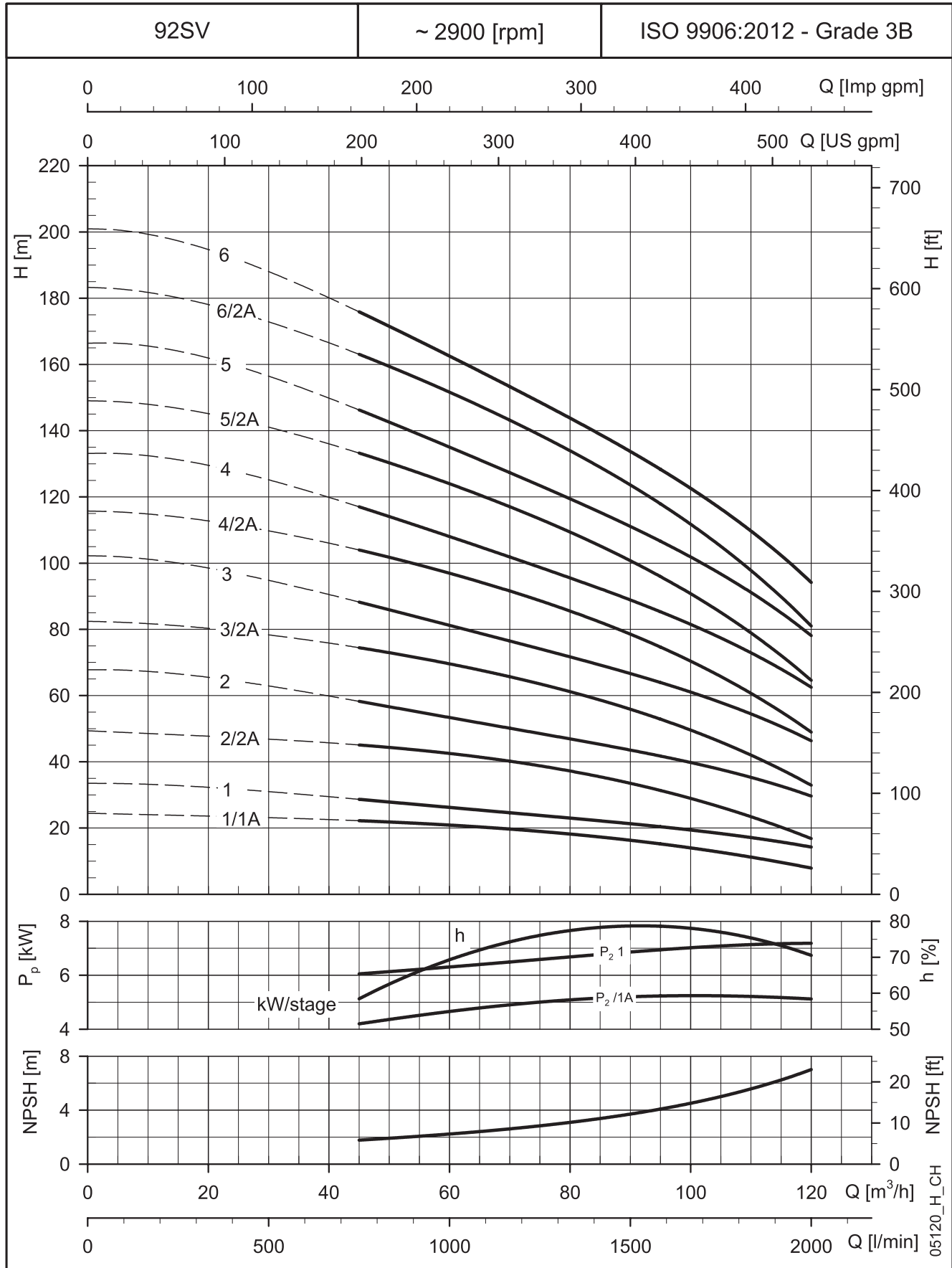


PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT kg	
	kW	SIZE	L1	L2	D1	D2	M	PN	PUMP	ELECTRIC PUMP
92SV1/1A../D	5,5	132	574	375	214	300	168	16	71	109
92SV1../D	7,5	132	574	367	256	300	191	16	71	127
92SV2/2A../D	11	160	699	428	256	350	191	16	80	150
92SV2../D	15	160	699	494	313	350	240	16	80	182
92SV3/2A../D	18,5	160	789	494	313	350	240	16	86	197
92SV3../D	22	180	789	494	313	350	240	16	87	208
92SV4/2A../E	30	200	879	671	408	400	285	16	99	307
92SV4../E	30	200	879	671	408	400	285	16	99	307
92SV5/2A../E	37	200	969	671	408	400	285	25	107	331
92SV5../E	37	200	969	671	408	400	285	25	107	331
92SV6/2A../E	45	225	1059	701	460	450	309	25	116	408
92SV6../E	45	225	1059	701	460	450	309	25	116	408

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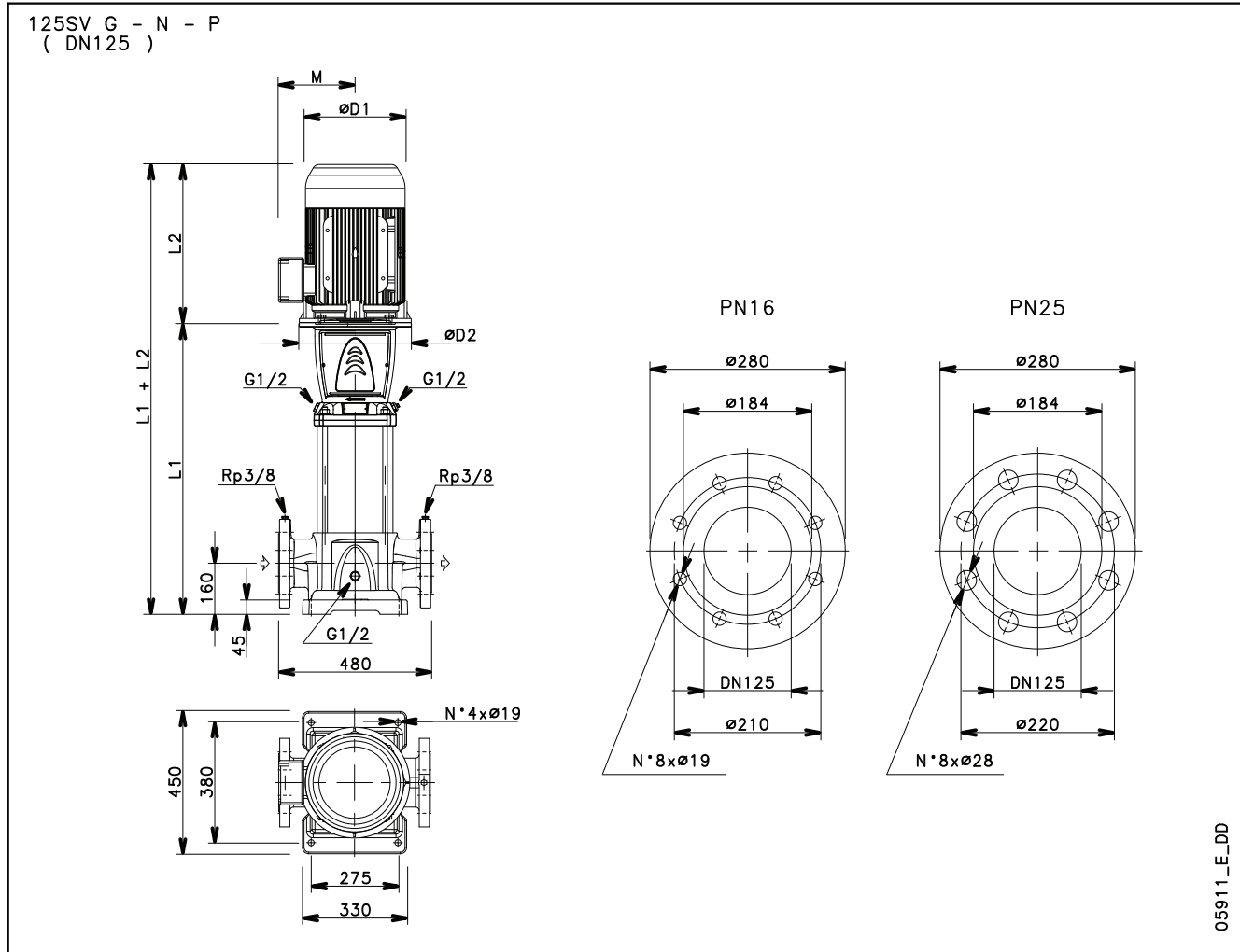


**92SV SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## 125SV SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

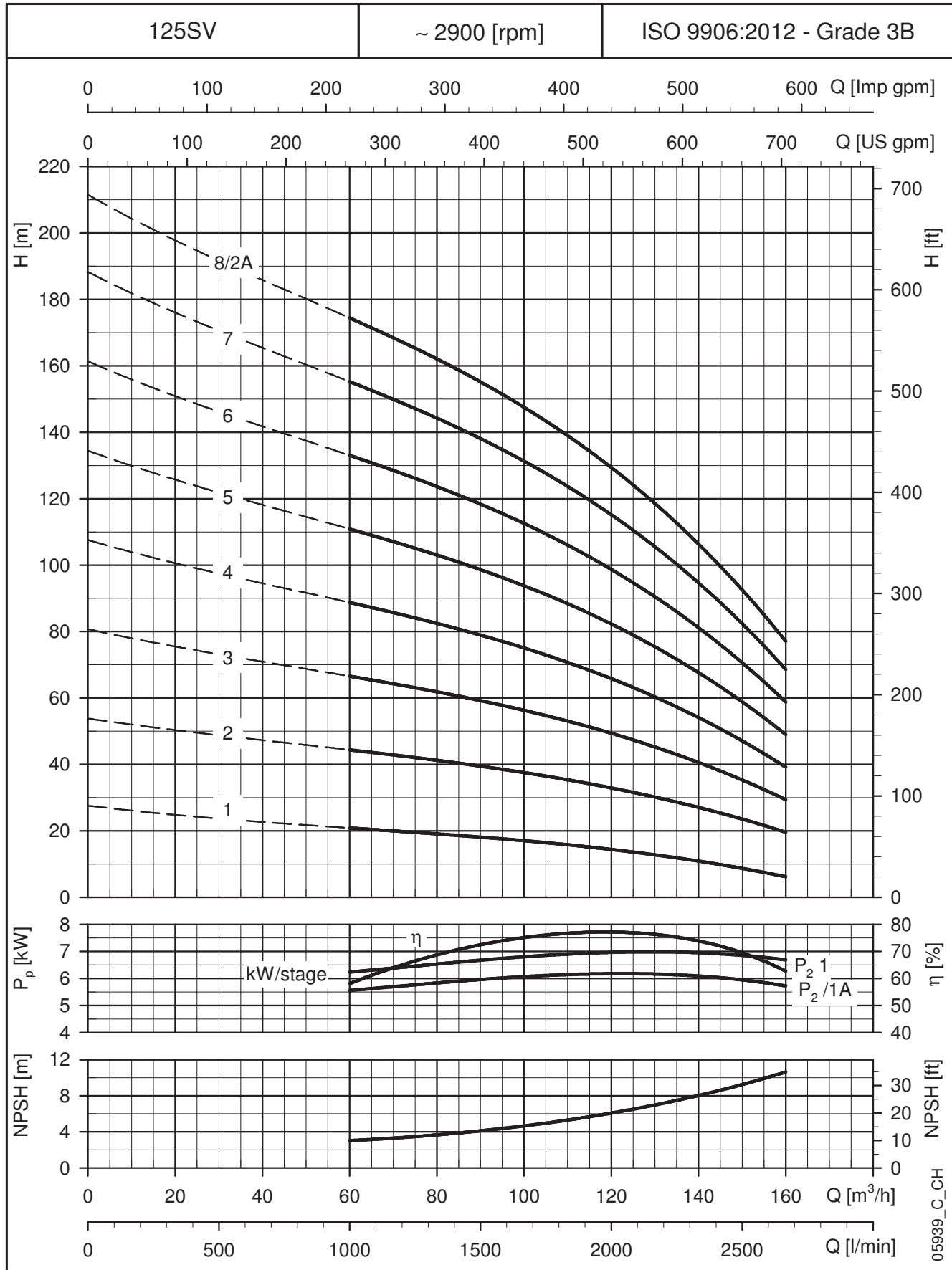


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PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT kg	
	kW	SIZE	L1	L2	D1	D2	M	PN	PUMP	ELECTRIC
125SV1../D	7,5	132	693	367	256	300	191	16	116	172
125SV2../D	15	160	878	494	313	350	240	16	131	233
125SV3../D	22	180	1028	494	313	350	240	16	143	265
125SV4../E	30	200	1178	671	408	400	285	16	161	369
125SV5../E	37	200	1328	671	408	400	285	16	172	396
125SV6../E	45	225	1478	701	460	450	309	16	187	479
125SV7../E	55	250	1658	767	502	550	362	25	216	658
125SV8/2A../E	55	250	1808	767	502	550	362	25	229	671

125sv-2p50-en\_e\_td

**125SV 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .



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

## e-SVE SERIES (e-SV 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-SV 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-SV Smart series a good choice in applications and systems where fixed speed pumps are commonly used. The e-SV 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-SV 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

### Identification code

The electrical voltage supply of e-SVE models is identified by the last characters.

Example: 22SVE02F015P0M/2

**M/2** = 1x208-240 V

**T/4** = 3x380-460 V

**T/5** = 3x208-240/380-460 V

### e-SM system

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



### Pump

- Flow rate: up to 30 m<sup>3</sup>/h
- Head: up to 235 m
- Temperature of pumped liquid: up to +120°C
- 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, closed structure, air-cooled (TEFC)
- Insulation class 155 (F)
- Overload protection and locked rotor with automatic reset incorporated

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

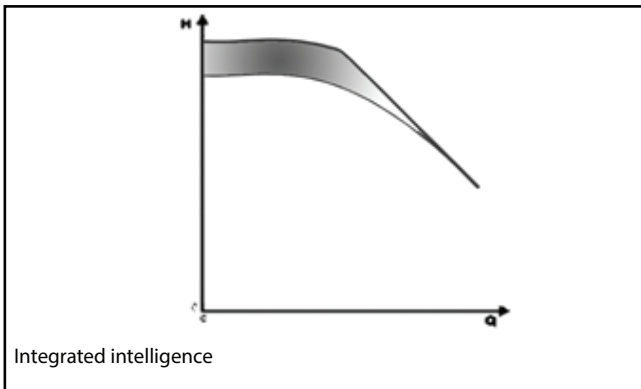
#### (Product information)

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

## e-SVE SERIES (e-SV SMART)

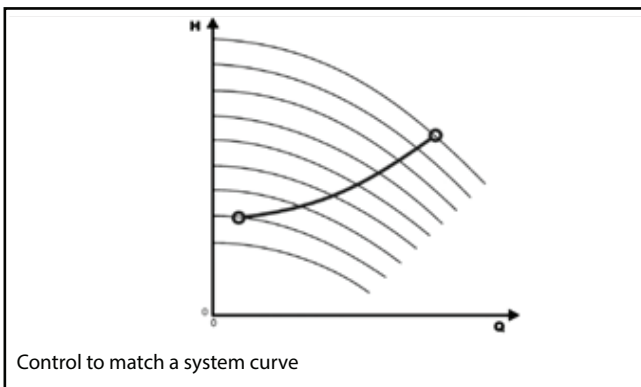
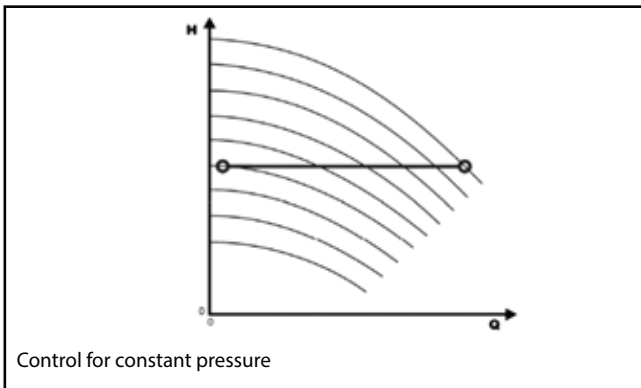
e-SV Smart series is equipped with an intelligent control that optimizes hydraulic performance while minimizing waste.

**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").






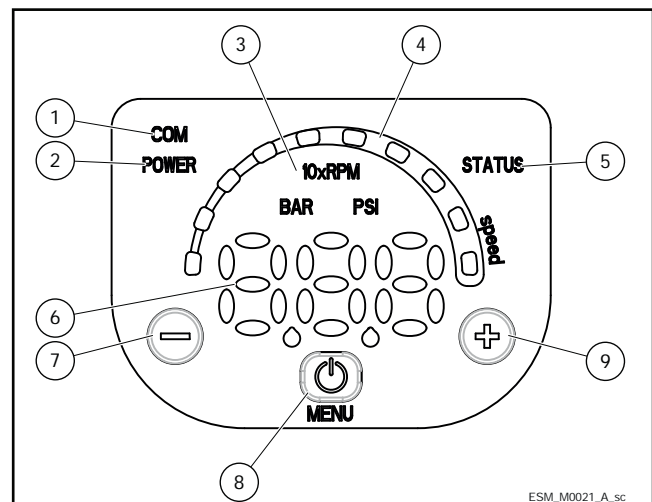
**Adjustment:** This is possible both at constant pressure and according to the characteristic curve of the system, based on the customer's preferences.

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

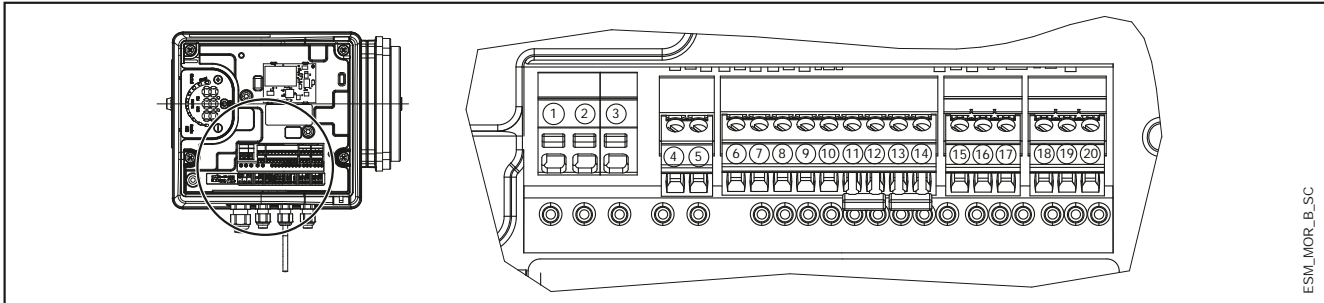


**Intuitive and simple interface:** You can control the unit from just three buttons, with an easy to read display for parameters and alarms, designed for complete control of system operation.

- 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-SVE SERIES SINGLE PHASE TERMINAL BLOCK

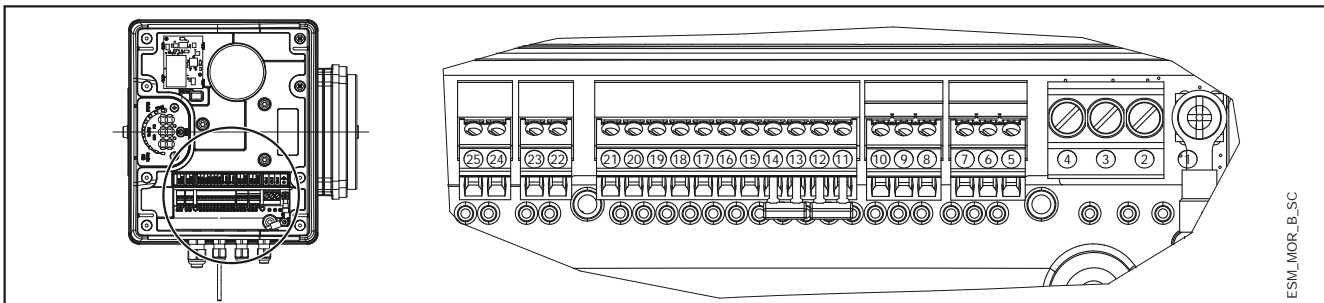


ESM\_MOR\_B\_SC

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



ESM\_MOR\_B\_SC

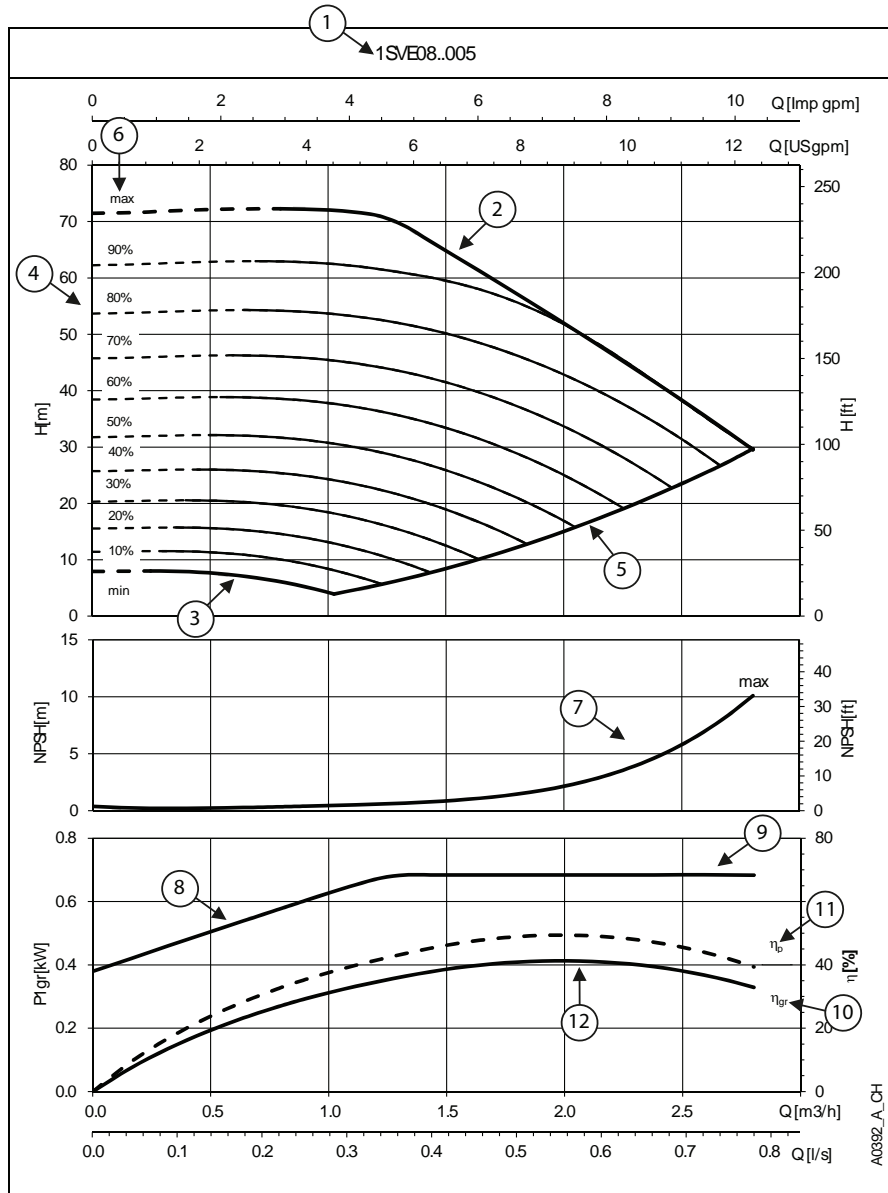
REF.	ITEM	DESCRIPTION
5	Communication bus	Electronic GND
6		RS485 port 1: RS485-1P A (+)
7		RS485 port 1: RS485-1N B (-)
8	Communication bus	Electronic GND
9		RS485 port 2: RS485 port 2: RS485-2P A (+) active only with optional module
10		RS485 port 2: RS485 port 2: RS485-2N B (-) active only with optional 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-SVE 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**

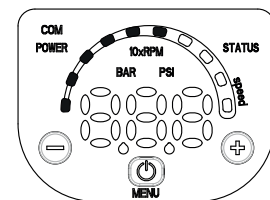
② **Maximum curve:** equal to 3600 rpm or pump running at nominal power.

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 **P<sub>1gr</sub>** 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<sub>gr</sub>** is the efficiency of pump+motor+drive system working at maximum speed.

⑪ **η<sub>p</sub>** 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-SVE SERIES - SINGLE PHASE VERSION HYDRAULIC PERFORMANCES TABLE

PUMP TYPE SVE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE 1x230 V	* P <sub>1</sub> kW	* I 208-240 V A	l/min 0	6,7	13,3	20,0	26,7	33,3	40,0	46,7
					m <sup>3</sup> /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												
1SVE05..003POM	0,37	ESM90R/103 SVE	0,49	2,24	44,7	45,0	45,2	44,6	41,5	35,0	28,1	20,8
1SVE08..005POM	0,55	ESM90R/105 SVE	0,68	3,07	71,5	72,0	72,3	71,2	62,3	52,0	41,2	29,6
1SVE11..007POM	0,75	ESM90R/107 SVE	0,91	4,04	98,3	99,1	99,3	97,7	85,1	70,9	56,0	40,0
1SVE15..011POM	1,1	ESM90R/111 SVE	1,33	5,85	134,1	135,1	135,5	133,8	123,6	103,9	83,3	61,4
1SVE20..015POM	1,5	ESM90R/115 SVE	1,78	7,79	178,9	180,1	180,6	178,5	168,0	141,6	114,0	84,7

PUMP TYPE SVE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE 1x230 V	* P <sub>1</sub> kW	* I 208-240 V A	l/min 0	13,3	26,7	40,0	53,3	66,7	80,0	86,7
					m <sup>3</sup> /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												
3SVE03..003POM	0,37	ESM90R/103 SVE	0,49	2,24	33,4	33,7	33,6	30,7	24,9	19,5	14,0	10,9
3SVE05..005POM	0,55	ESM90R/105 SVE	0,69	3,08	55,7	56,2	55,8	46,3	37,1	28,4	19,5	14,4
3SVE07..007POM	0,75	ESM90R/107 SVE	0,92	4,06	77,9	78,7	77,2	63,4	50,7	38,6	26,0	18,7
3SVE09..011POM	1,1	ESM90R/111 SVE	1,33	5,85	100,2	101,0	100,5	88,8	72,5	56,4	39,9	31,2
3SVE11..015POM	1,5	ESM90R/115 SVE	1,78	7,80	122,5	123,3	122,5	117,9	98,4	78,0	57,2	46,3

PUMP TYPE SVE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE 1x230 V	* P <sub>1</sub> kW	* I 208-240 V A	l/min 0	23,3	46,7	70,0	93,3	116,7	140,0	166,7
					m <sup>3</sup> /h 0	1,4	2,8	4,2	5,6	7,0	8,4	10,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER												
5SVE02..003POM	0,37	ESM90R/103 SVE	0,49	2,24	22,4	22,2	21,8	20,0	16,5	13,3	10,2	6,5
5SVE03..005POM	0,55	ESM90R/105 SVE	0,68	3,07	33,5	33,3	32,7	29,8	24,5	19,8	15,2	9,5
5SVE04..007POM	0,75	ESM90R/107 SVE	0,91	4,05	44,7	44,4	43,5	40,5	33,4	27,1	20,8	13,3
5SVE06..011POM	1,1	ESM90R/111 SVE	1,33	5,86	67,1	66,6	65,3	59,5	49,0	39,6	30,4	19,1
5SVE08..015POM	1,5	ESM90R/115 SVE	1,78	7,81	88,8	89,3	87,6	82,6	68,3	55,3	42,6	27,9

PUMP TYPE SVE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE 1x230 V	* P <sub>1</sub> kW	* I 208-240 V A	l/min 0	40,0	80,0	120,0	160,0	200,0	240,0	283,3
					m <sup>3</sup> /h 0	2,4	4,8	7,2	9,6	12,0	14,4	17,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER												
10SVE01..005POM	0,55	ESM90R/105 SVE	0,68	3,07	17,3	17,3	16,9	16,2	13,6	10,4	7,1	3,3
10SVE02..007POM	0,75	ESM90R/107 SVE	0,92	4,09	24,2	23,9	23,1	21,7	19,3	14,6	9,7	3,6
10SVE02..011POM	1,1	ESM90R/111 SVE	1,33	5,85	34,8	34,5	33,7	32,3	27,7	22,4	17,1	11,0
10SVE03..015POM	1,5	ESM90R/115 SVE	1,78	7,81	52,7	52,2	51,0	46,1	38,1	30,8	23,5	15,1

PUMP TYPE SVE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE 1x230 V	* P <sub>1</sub> kW	* I 208-240 V A	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	483,3
					m <sup>3</sup> /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												
15SVE01..007POM	0,75	ESM90R/107 SVE	0,92	4,10	14,2	13,9	13,3	12,3	9,8	6,4	2,8	
15SVE01..011POM	1,1	ESM90R/111 SVE	1,33	5,85	20,5	20,1	19,4	18,4	14,8	10,9	7,0	3,2
15SVE02..015POM	1,5	ESM90R/115 SVE	1,76	7,71	29,6	29,1	28,3	26,8	22,2	16,4	10,1	3,8

PUMP TYPE SVE Single-phase	MOTOR		e-SM SET		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE 1x230 V	* P <sub>1</sub> kW	* I 208-240 V A	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	500,0
					m <sup>3</sup> /h 0	4,2	8,4	12,6	16,8	21,0	25,2	30,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER												
22SVE01..007POM	0,75	ESM90R/107 SVE	0,89	3,95	14,4	14,4	14,1	12,5	9,5	6,3	2,9	
22SVE01..011POM	1,1	ESM90R/111 SVE	1,34	5,87	20,7	20,8	20,5	18,7	15,1	11,5	7,8	3,2
22SVE02..015POM	1,5	ESM90R/115 SVE	1,72	7,56	31,4	31,0	30,3	26,7	21,7	16,7	11,0	2,8

\* Maximum value in specified range: P<sub>1</sub> = input power; I = input current.

1-22sve-esm-2p50-en\_a\_th

## e-SVE SERIES - THREE PHASE VERSION HYDRAULIC PERFORMANCES TABLE

PUMP TYPE SVE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	PN kW	TYPE	* P1 kW	* I	* I	l/min 0	6,7	13,3	20,0	26,7	33,3	40,0	46,7
				208-240 V A	380-460 V A	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													
1SVE05..03T..	0,37	ESM90R/303 SVE	0,49	2,14	1,45	44,7	45,0	45,2	44,6	41,5	34,9	28,0	20,8
1SVE08..05T..	0,55	ESM90R/305 SVE	0,69	2,81	1,90	71,5	72,0	72,3	71,2	62,4	52,1	41,2	29,7
1SVE11..07T..	0,75	ESM90R/307 SVE	0,91	3,55	2,40	98,3	99,1	99,3	97,7	85,0	70,9	56,0	40,1
1SVE15..11T..	1,1	ESM90R/311 SVE	1,37	4,94	3,45	134,1	135,1	135,5	133,8	123,6	104,0	83,3	61,4
1SVE20..15T..	1,5	ESM90R/315 SVE	1,82	6,34	4,41	178,9	180,1	180,6	178,4	168,1	141,7	114,0	84,7
1SVE26..22T04	2,2	ESM90R/322 SVE	2,53	-	5,85	232,5	234,0	235,0	231,6	222,2	204,4	170,0	130,7

PUMP TYPE SVE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	PN kW	TYPE	* P1 kW	* I	* I	l/min 0	13,3	26,7	40,0	53,3	66,7	80,0	86,7
				208-240 V A	380-460 V A	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													
3SVE03..03T..	0,37	ESM90R/303 SVE	0,49	2,14	1,47	33,4	33,8	33,6	30,7	24,9	19,5	14,0	10,9
3SVE05..05T..	0,55	ESM90R/305 SVE	0,70	2,81	1,92	55,7	56,2	55,8	46,3	37,1	28,4	19,4	14,4
3SVE07..07T..	0,75	ESM90R/307 SVE	0,93	3,55	2,43	77,9	78,7	77,2	63,3	50,6	38,6	26,0	18,7
3SVE09..11T..	1,1	ESM90R/311 SVE	1,37	4,96	3,45	100,2	101,0	100,5	88,8	72,5	56,4	39,9	31,2
3SVE11..15T..	1,5	ESM90R/315 SVE	1,82	6,35	4,42	122,5	123,3	122,5	117,9	98,4	77,9	57,2	46,4
3SVE17..22T04	2,2	ESM90R/322 SVE	2,54	-	5,87	189,8	191,6	190,4	183,4	151,3	119,6	87,4	70,6

PUMP TYPE SVE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	PN kW	TYPE	* P1 kW	* I	* I	l/min 0	23,3	46,7	70,0	93,3	116,7	140,0	166,7
				208-240 V A	380-460 V A	m3/h 0	1,4	2,8	4,2	5,6	7,0	8,4	10,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER													
5SVE02..03T..	0,37	ESM90R/303 SVE	0,50	2,13	1,48	22,4	22,2	21,8	20,0	16,5	13,3	10,2	6,5
5SVE03..05T..	0,55	ESM90R/305 SVE	0,69	2,80	1,92	33,5	33,3	32,7	29,8	24,5	19,8	15,2	9,5
5SVE04..07T..	0,75	ESM90R/307 SVE	0,92	3,55	2,42	44,7	44,4	43,5	40,5	33,4	27,0	20,8	13,3
5SVE06..11T..	1,1	ESM90R/311 SVE	1,38	4,96	3,46	67,1	66,6	65,3	59,5	49,0	39,6	30,3	19,1
5SVE08..15T..	1,5	ESM90R/315 SVE	1,83	6,38	4,43	88,8	89,2	87,6	82,7	68,4	55,3	42,7	28,0
5SVE12..22T04	2,2	ESM90R/322 SVE	2,55	-	5,88	133,2	133,7	131,6	121,6	100,4	81,0	62,2	40,3

PUMP TYPE SVE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	PN kW	TYPE	* P1 kW	* I	* I	l/min 0	40,0	80,0	120,0	160,0	200,0	240,0	283,3
				208-240 V A	380-460 V A	m3/h 0	2,4	4,8	7,2	9,6	12,0	14,4	17,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER													
10SVE01..05T..	0,55	ESM90R/305 SVE	0,69	2,81	1,90	17,3	17,3	16,9	16,2	13,6	10,4	7,1	3,3
10SVE02..07T..	0,75	ESM90R/307 SVE	0,94	3,52	2,46	24,2	23,9	23,1	21,7	19,3	14,6	9,7	3,6
10SVE02..11T..	1,1	ESM90R/311 SVE	1,37	4,94	3,45	34,8	34,5	33,7	32,3	27,7	22,4	17,1	11,0
10SVE03..15T..	1,5	ESM90R/315 SVE	1,83	6,38	4,43	52,7	52,2	51,0	46,1	38,1	30,8	23,5	15,1
10SVE04..22T04	2,2	ESM90R/322 SVE	2,54	-	5,86	70,3	69,7	68,1	65,8	57,8	47,5	37,4	25,9

PUMP TYPE SVE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	PN kW	TYPE	* P1 kW	* I	* I	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	483,3
				208-240 V A	380-460 V A	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													
15SVE01..07T..	0,75	ESM90R/307 SVE	0,92	4,10	2,48	14,2	13,9	13,3	12,3	9,8	6,4	2,8	0,0
15SVE01..11T..	1,1	ESM90R/311 SVE	1,33	5,85	3,45	20,5	20,1	19,4	18,4	14,8	10,9	7,0	3,2
15SVE02..15T..	1,5	ESM90R/315 SVE	1,76	7,71	4,34	29,6	29,1	28,3	26,8	22,2	16,4	10,1	3,8
15SVE02..22T04	2,2	ESM90R/322 SVE	2,54	-	5,87	42,7	42,0	41,1	39,7	33,4	26,8	20,1	13,5

PUMP TYPE SVE Three-phase	MOTOR		e-SM SET			Q = DELIVERY							
	PN kW	TYPE	* P1 kW	* I	* I	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	500,0
				208-240 V A	380-460 V A	m3/h 0	4,2	8,4	12,6	16,8	21,0	25,2	30,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER													
22SVE01..07T..	0,75	ESM90R/307 SVE	0,91	3,31	2,38	14,4	14,4	14,1	12,5	9,5	6,3	2,9	0,0
22SVE01..11T..	1,1	ESM90R/311 SVE	1,38	5,00	3,47	20,7	20,8	20,5	18,7	15,1	11,5	7,8	3,2
22SVE02..15T..	1,5	ESM90R/315 SVE	1,76	6,18	4,31	31,4	31,0	30,3	26,7	21,7	16,7	11,0	2,8
22SVE02..22T04	2,2	ESM90R/322 SVE	2,56	-	5,91	45,2	44,7	44,0	39,3	33,0	27,3	21,4	13,6

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

1-22sve-esm-2p50T-en\_a.th

## e-SVE 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 <sub>N</sub> kW	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED (RPM)** min <sup>-1</sup>	INPUT CURRENT I (A) 208-240 V	DATA RELATED TO THE VOLTAGE OF 230V					IES	
						In A	cosφ	Tn Nm	η % 4/4 3/4 2/4			
0,37	ESM90R/103 SVE	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 SVE	90R		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 SVE	90R		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 SVE	90R		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 SVE	90R		3000	8,57-7,32	7,69	0,99	4,77	85,6	85,7	84,7	2
				3600	8,42-7,25	7,62		3,98	86,3	85,9	84,0	

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

eSV\_Smart-motm\_en\_a\_te

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

### THREE PHASE VERSION

P <sub>N</sub> kW	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED (RPM)** min <sup>-1</sup>	INPUT CURRENT I (A) 208-240/380-460 V	DATA RELATED TO THE VOLTAGE OF 400V					IES	
						In A	cosφ	Tn Nm	η % 4/4 3/4 2/4			
0,37	ESM90R/303 SVE	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 SVE	90R		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 SVE	90R		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 SVE	90R		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 SVE	90R		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 SVE	90R		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	

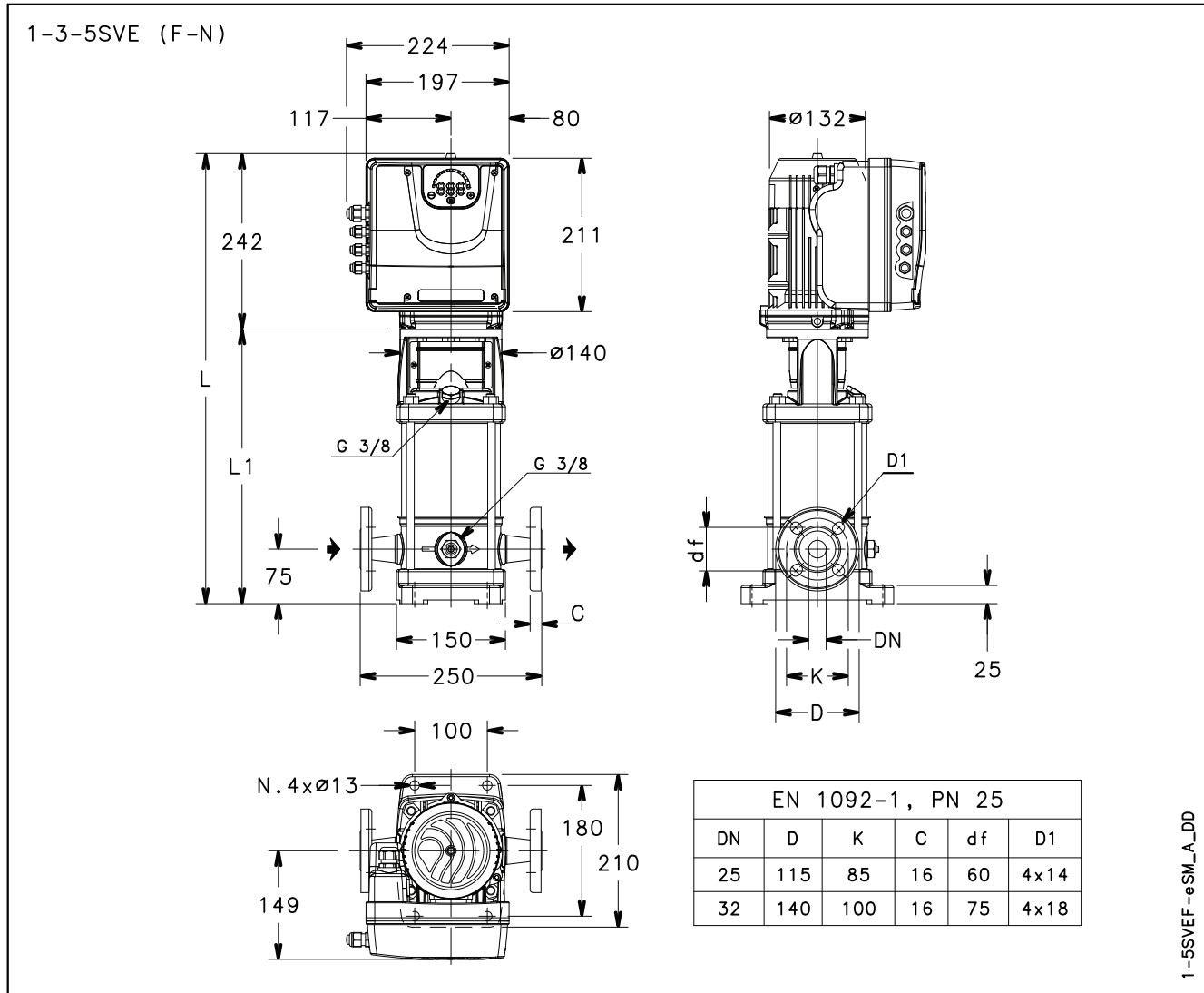
\* R = Reduced size of motor casing as compared to shaft extension and flange.

eSV\_Smart-mott\_en\_a\_te

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

Note. **IES** refers to the efficiency class for frequency converter + motor systems (known as power 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**.

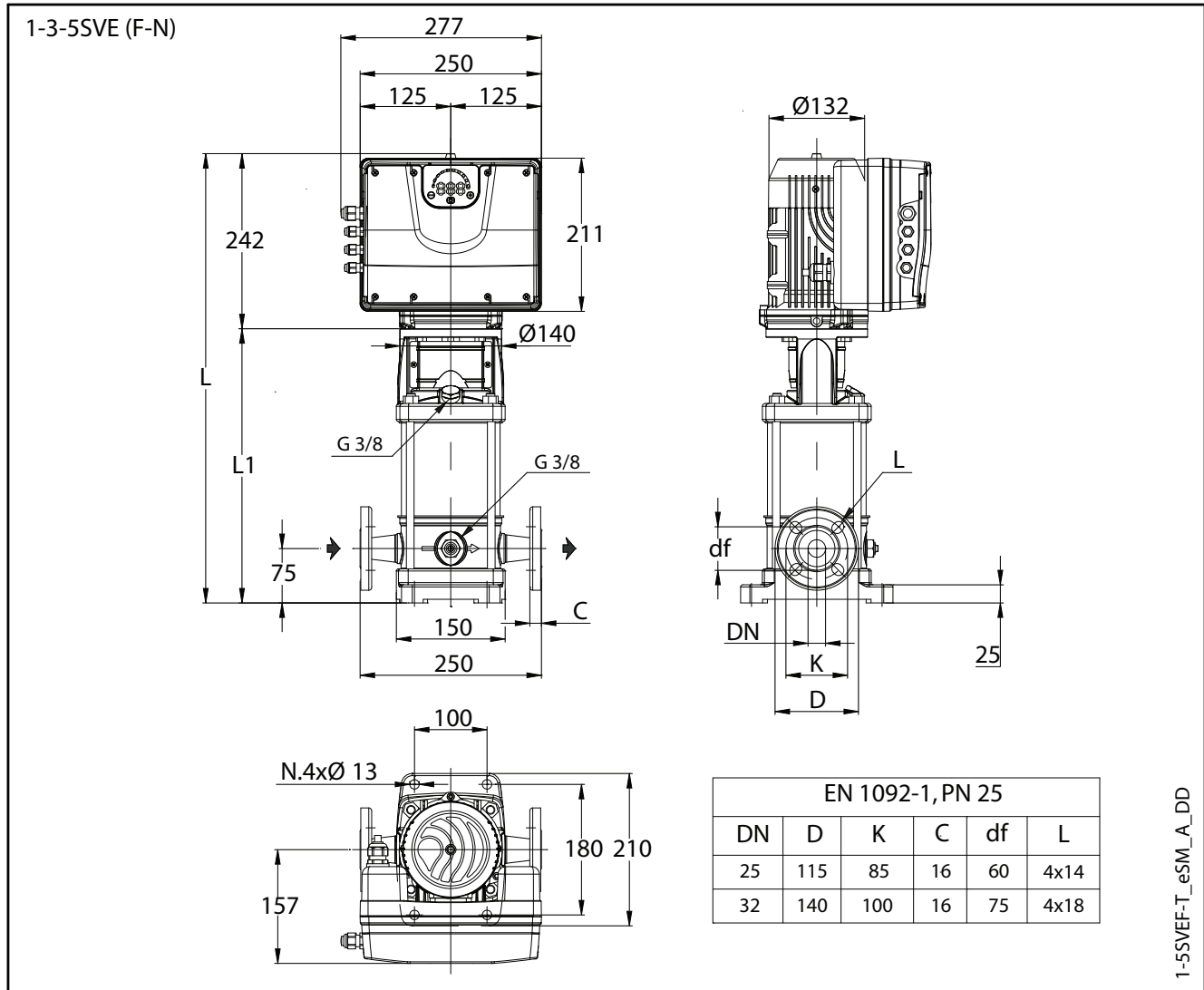
## 1, 3, 5SVE..F SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE F (SINGLE-PHASE)	MOTOR		DIMENSIONS (mm)			WEIGHT (kg)	
	kW	SIZE	L	L1	DN	PUMP	ELECTRIC PUMP
1SVE05F003POM	0,37	90	580	338	25	10,1	17,6
1SVE08F005POM	0,55	90	640	398	25	11,2	18,7
1SVE11F007POM	0,75	90	700	458	25	12,4	19,9
1SVE15F011POM	1,1	90	780	538	25	14,2	23,2
1SVE20F015POM	1,5	90	880	638	25	16,2	25,2
3SVE03F003POM	0,37	90	540	298	25	9,1	16,6
3SVE05F005POM	0,55	90	580	338	25	9,9	17,4
3SVE07F007POM	0,75	90	620	378	25	11,2	18,7
3SVE09F011POM	1,1	90	660	418	25	12	21
3SVE11F015POM	1,5	90	700	458	25	12,8	21,8
5SVE02F003POM	0,37	90	530	288	32	9,1	16,6
5SVE03F005POM	0,55	90	555	313	32	9,6	17,1
5SVE04F007POM	0,75	90	580	338	32	10,1	17,6
5SVE06F011POM	1,1	90	630	388	32	11,3	20,3
5SVE08F015POM	1,5	90	680	438	32	12,4	21,4

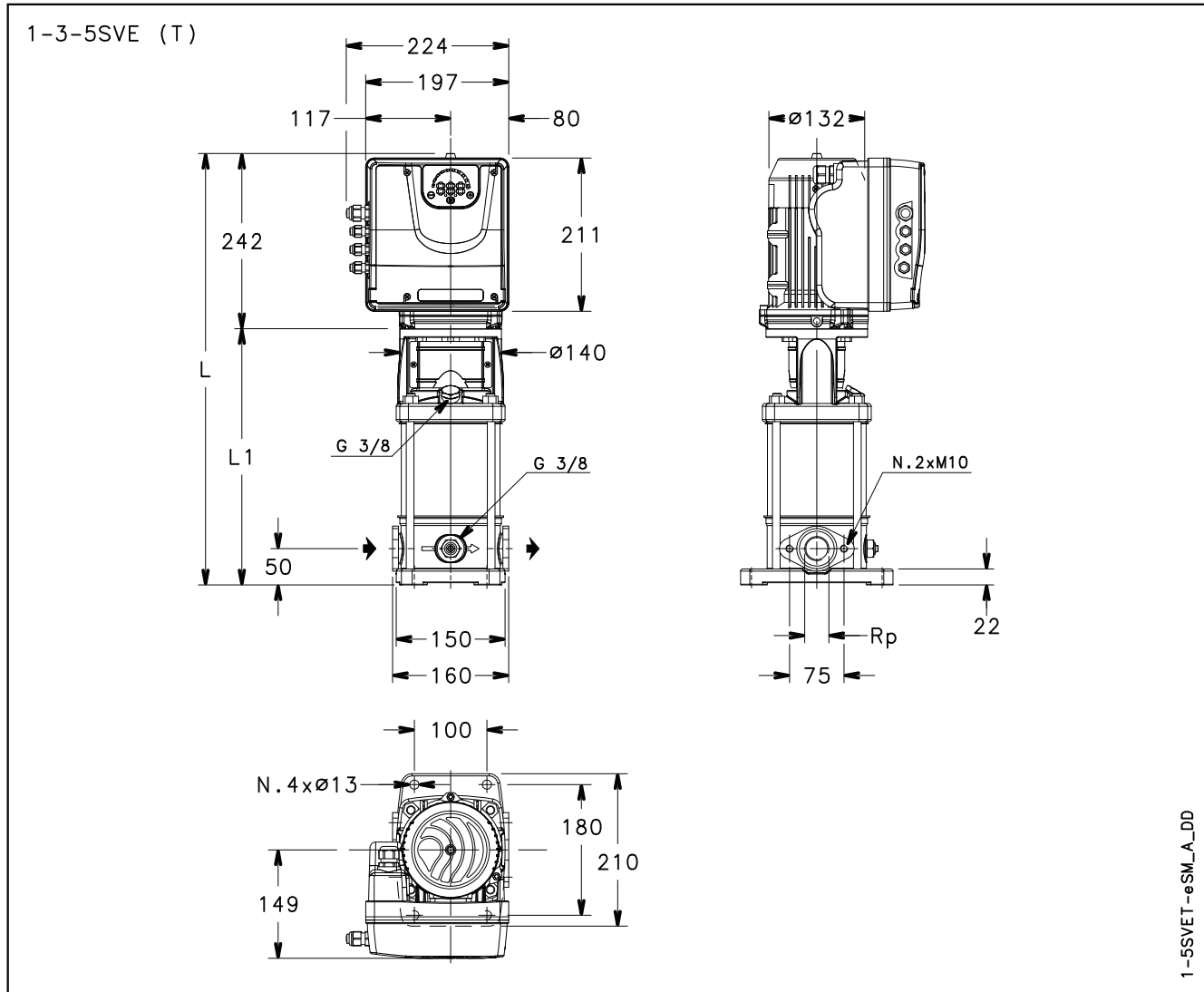
1-5svef-esm-2p50-en\_a\_td

### 1, 3, 5SVE..F SERIES - THREE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE F (THREE-PHASE)	MOTOR		DIMENSIONS (mm)			WEIGHT (kg)	
	kW	SIZE	L	L1	DN	PUMP	ELECTRIC PUMP
1SVE05F003POT	0,37	90	580	338	25	10,1	23,2
1SVE08F005POT	0,55	90	640	398	25	11,2	24,3
1SVE11F007POT	0,75	90	700	458	25	12,4	25,5
1SVE15F011POT	1,1	90	780	538	25	14,2	28,7
1SVE20F015POT	1,5	90	880	638	25	16,2	30,7
1SVE26F022POT	2,2	90	1000	758	25	18,6	34,6
3SVE03F003POT	0,37	90	540	298	25	9,1	22,2
3SVE05F005POT	0,55	90	580	338	25	9,9	23
3SVE07F007POT	0,75	90	620	378	25	11,2	24,3
3SVE09F011POT	1,1	90	660	418	25	12	26,5
3SVE11F015POT	1,5	90	700	458	25	12,8	27,3
3SVE17F022POT	2,2	90	820	578	25	15,2	31,2
5SVE02F003POT	0,37	90	530	288	32	9,1	22,2
5SVE03F005POT	0,55	90	555	313	32	9,6	22,7
5SVE04F007POT	0,75	90	580	338	32	10,1	23,2
5SVE06F011POT	1,1	90	630	388	32	11,3	25,8
5SVE08F015POT	1,5	90	680	438	32	12,4	26,9
5SVE12F022POT	2,2	90	780	538	32	12,4	28,4

### 1, 3, 5SVE..T SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS

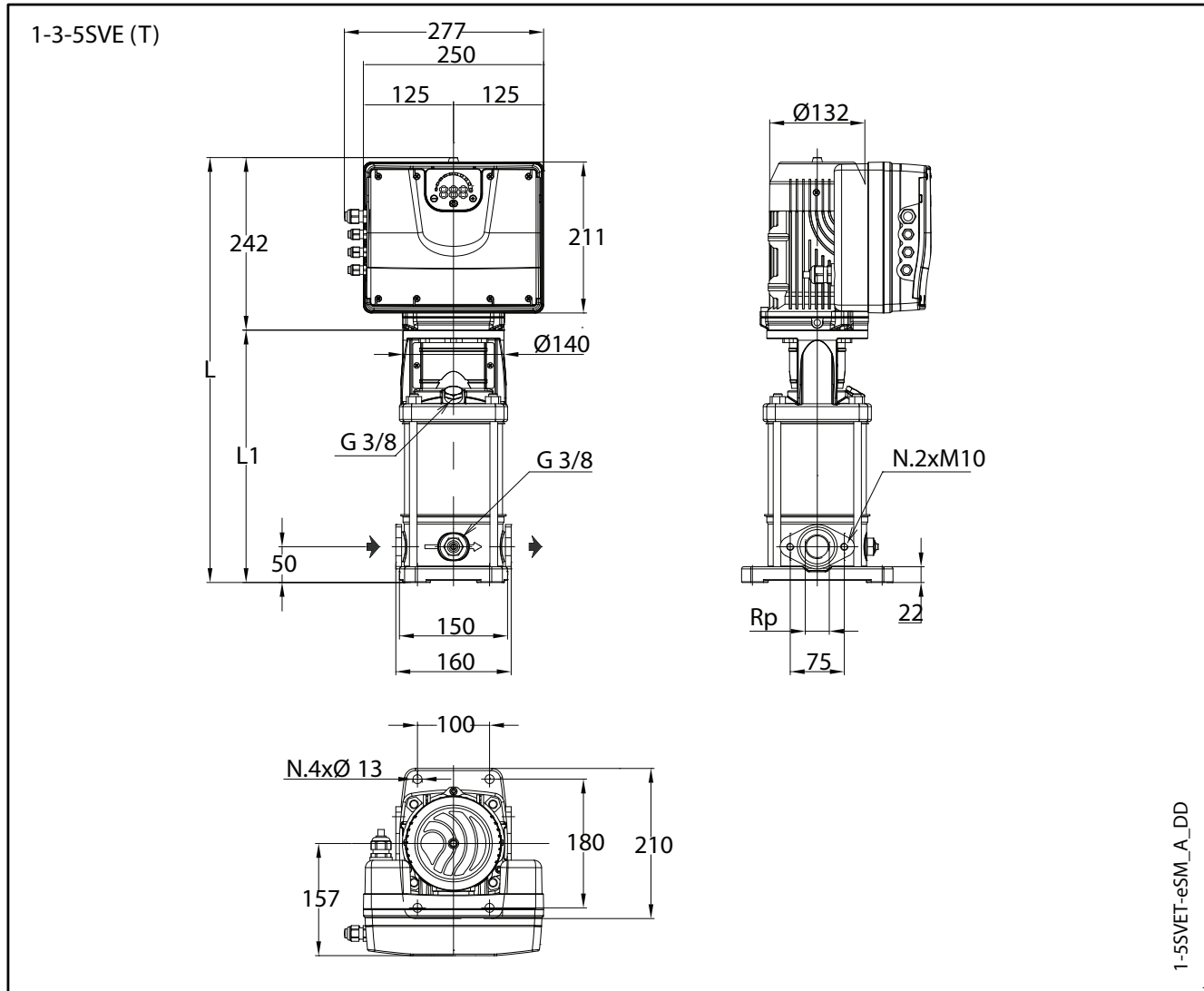


1-5SVE T-e SM\_A\_DD

PUMP TYPE SVE T (SINGLE-PHASE)	MOTOR		DIMENSIONS (mm)			WEIGHT (kg)	
	kw	SIZE	L	L1	Rp	PUMP	ELECTRIC PUMP
1SVE05T003P0M	0,37	90	555	313	1	9,6	17,1
1SVE08T005P0M	0,55	90	615	373	1	10,7	18,2
1SVE11T007P0M	0,75	90	675	433	1	11,9	19,4
1SVE15T011P0M	1,1	90	755	513	1	13,7	22,7
3SVE03T003P0M	0,37	90	515	273	1	8,6	16,1
3SVE05T005P0M	0,55	90	555	313	1	9,4	16,9
3SVE07T007P0M	0,75	90	595	353	1	10,7	18,2
3SVE09T011P0M	1,1	90	635	393	1	11,5	20,5
3SVE11T015P0M	1,5	90	675	433	1	12,3	21,3
5SVE02T003P0M	0,37	90	505	263	1 1/4	8,2	15,7
5SVE03T005P0M	0,55	90	530	288	1 1/4	8,7	16,2
5SVE04T007P0M	0,75	90	555	313	1 1/4	9,2	16,7
5SVE06T011P0M	1,1	90	605	363	1 1/4	10,4	19,4
5SVE08T015P0M	1,5	90	655	413	1 1/4	11,5	20,5

1-5sveT-esm-2p50-en\_a\_td

## 1, 3, 5SVE..T SERIES - THREE PHASE VERSION DIMENSIONS AND WEIGHTS

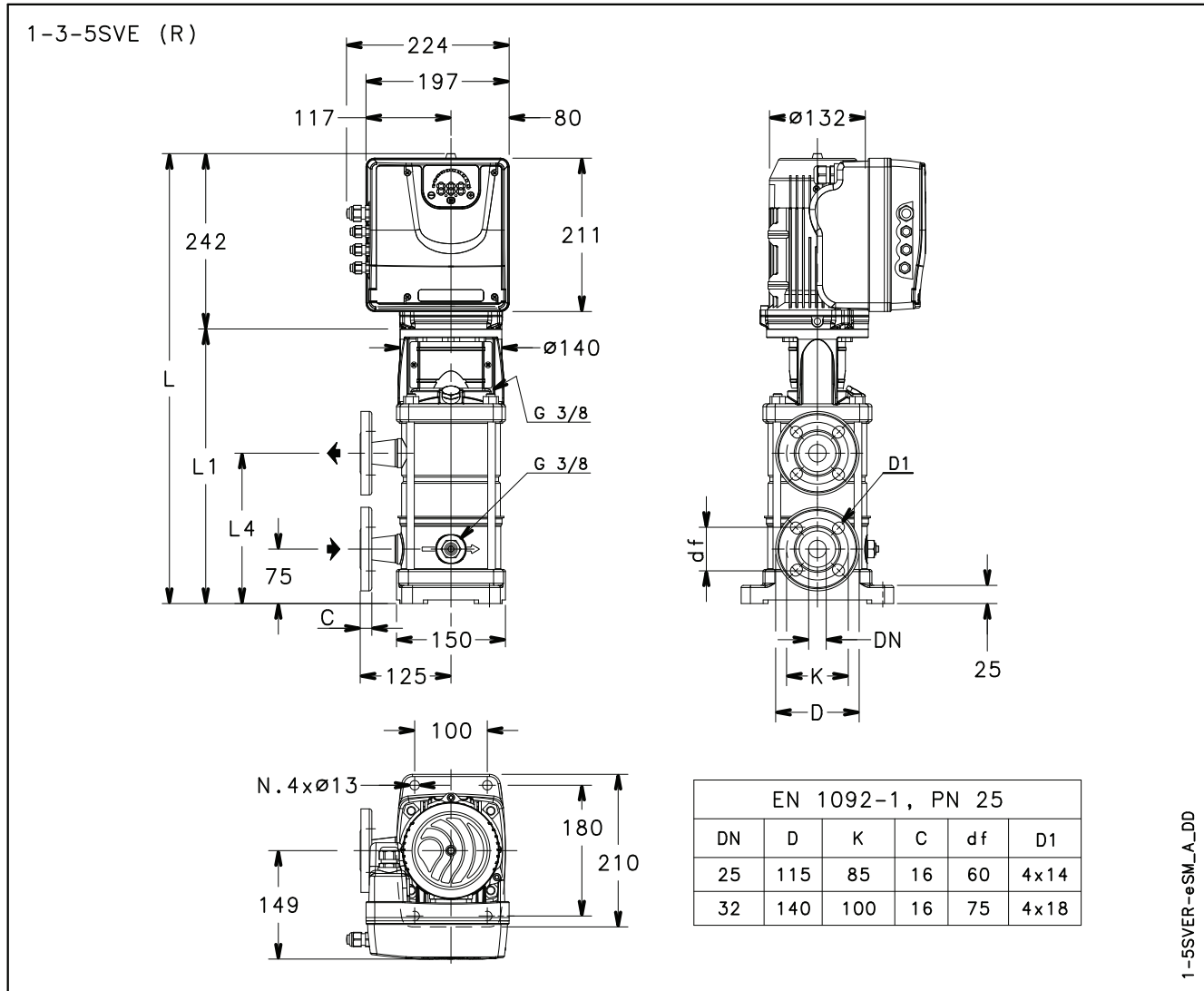


PUMP TYPE SVE T (THREE-PHASE)	MOTOR		DIMENSIONS (mm)			WEIGHT (kg)	
	kw	SIZE	L	L1	Rp	PUMP	ELECTRIC PUMP
1SVE05T003P0T	0,37	90	555	313	1	9,6	22,7
1SVE08T005P0T	0,55	90	615	373	1	10,7	23,8
1SVE11T007P0T	0,75	90	675	433	1	11,9	25
1SVE15T011P0T	1,1	90	755	513	1	14,1	28,6
3SVE03T003P0T	0,37	90	515	273	1	8,6	21,7
3SVE05T005P0T	0,55	90	555	313	1	9,4	22,5
3SVE07T007P0T	0,75	90	595	353	1	10,7	23,8
3SVE09T011P0T	1,1	90	635	393	1	11,5	26
3SVE11T015P0T	1,5	90	675	433	1	12,3	26,8
5SVE02T003P0T	0,37	90	505	263	1 1/4	8,2	21,3
5SVE03T005P0T	0,55	90	530	288	1 1/4	8,7	21,8
5SVE04T007P0T	0,75	90	555	313	1 1/4	9,2	22,3
5SVE06T011P0T	1,1	90	605	363	1 1/4	10,4	24,9
5SVE08T015P0T	1,5	90	655	413	1 1/4	11,5	26
5SVE12T022P0T	2,2	90	755	513	1 1/4	13,7	29,7

1-5sveT-esm-2p50T-en\_a\_td



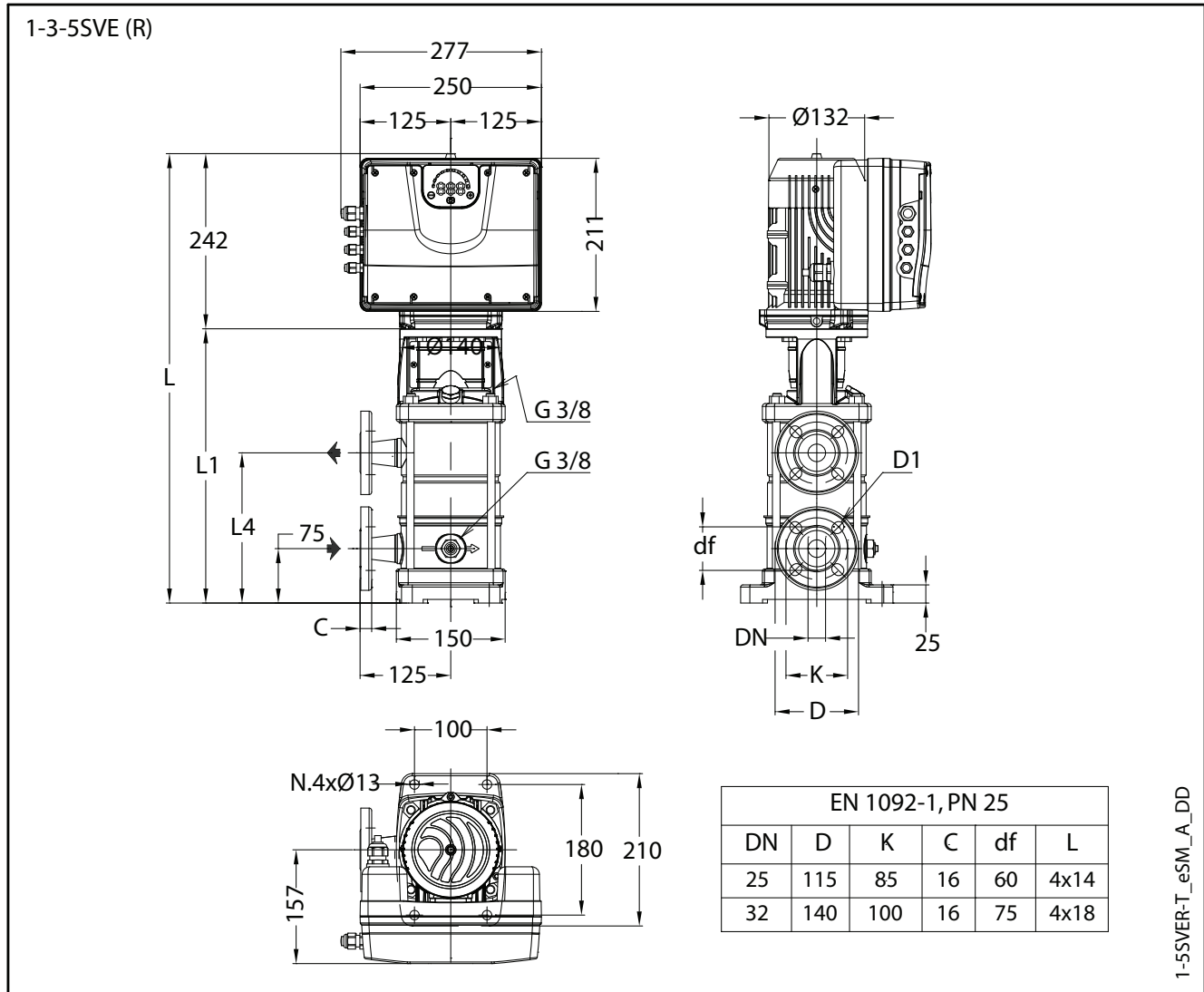
## 1, 3, 5SVE..R SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE R (SINGLE-PHASE)	MOTOR		DIMENSIONS (mm)				WEIGHT (kg)	
	kW	SIZE	L	L1	L4	DN	PUMP	ELECTRIC PUMP
1SVE08R005POM	0,55	90	640	398	227	25	11,6	19,1
1SVE11R007POM	0,75	90	700	458	287	25	12,8	20,3
1SVE15R011POM	1,1	90	780	538	367	25	14,6	23,6
1SVE20R015POM	1,5	90	880	638	467	25	16,6	25,7
3SVE07R007POM	0,75	90	620	378	207	25	11,6	19,1
3SVE09R011POM	1,1	90	660	418	247	25	12,4	21,4
3SVE11R015POM	1,5	90	700	458	287	25	13,2	22,2
5SVE08R015POM	1,5	90	680	438	267	32	13	22

1-5sveR-esm-2p50-en\_a\_td

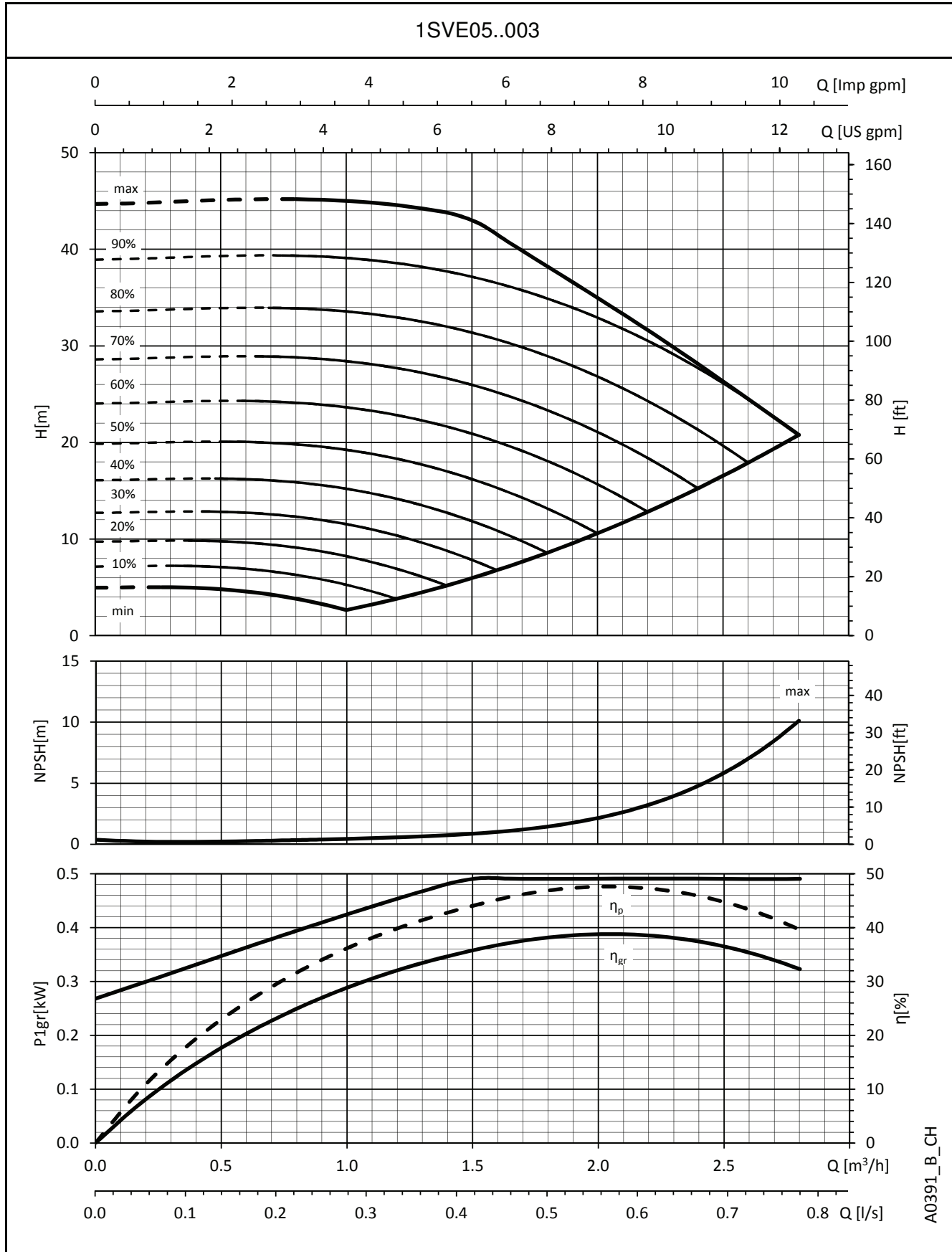
### 1, 3, 5SVE..R SERIES - THREE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE R (THREE-PHASE)	MOTOR		DIMENSIONS (mm)				WEIGHT (kg)	
	kW	SIZE	L	L1	L4	DN	PUMP	ELECTRIC PUMP
1SVE08R005POT	0,55	90	640	398	227	25	11,6	24,7
1SVE11R007POT	0,75	90	700	458	287	25	12,8	25,9
1SVE15R011POT	1,1	90	780	538	367	25	14,6	29,1
1SVE20R015POT	1,5	90	880	638	467	25	16,6	31,1
1SVE26R022POT	2,20	90	1000	758	467	25	20,2	36,2
3SVE07R007POT	0,75	90	620	378	207	25	11,6	24,7
3SVE09R011POT	1,1	90	660	418	247	25	12,4	26,9
3SVE11R015POT	1,5	90	700	458	287	25	13,2	27,7
3SVE17R022POT	2,2	90	820	578	287	25	15,6	31,6
5SVE08R015POT	1,5	90	680	438	267	32	13	27,5
5SVE12R022POT	2,2	90	780	538	267	32	17,4	33,4

1-5sveR-esm-2p50T-en\_a\_td

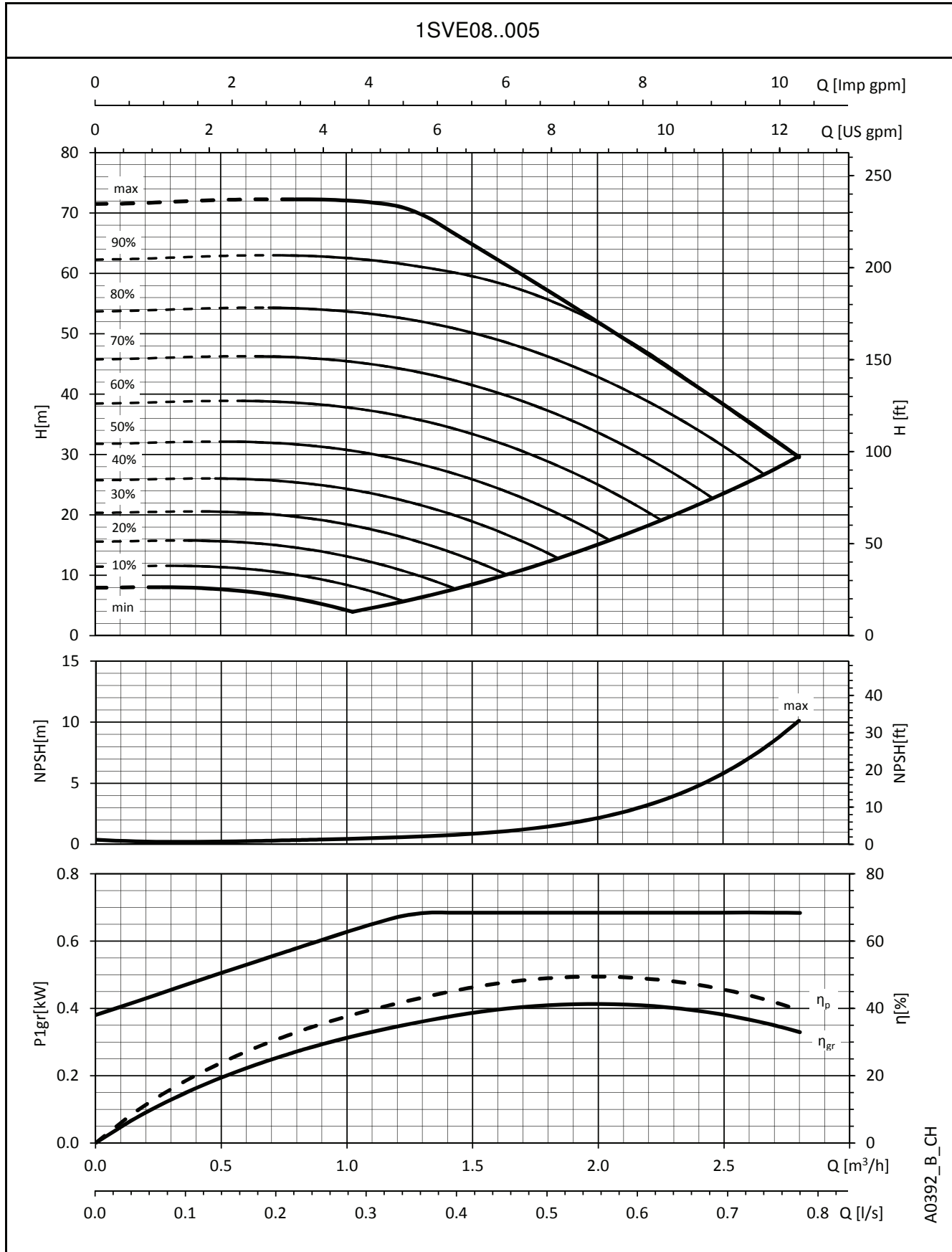
**1SVE SERIES  
OPERATING CHARACTERISTICS**



A0391\_B\_CH

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

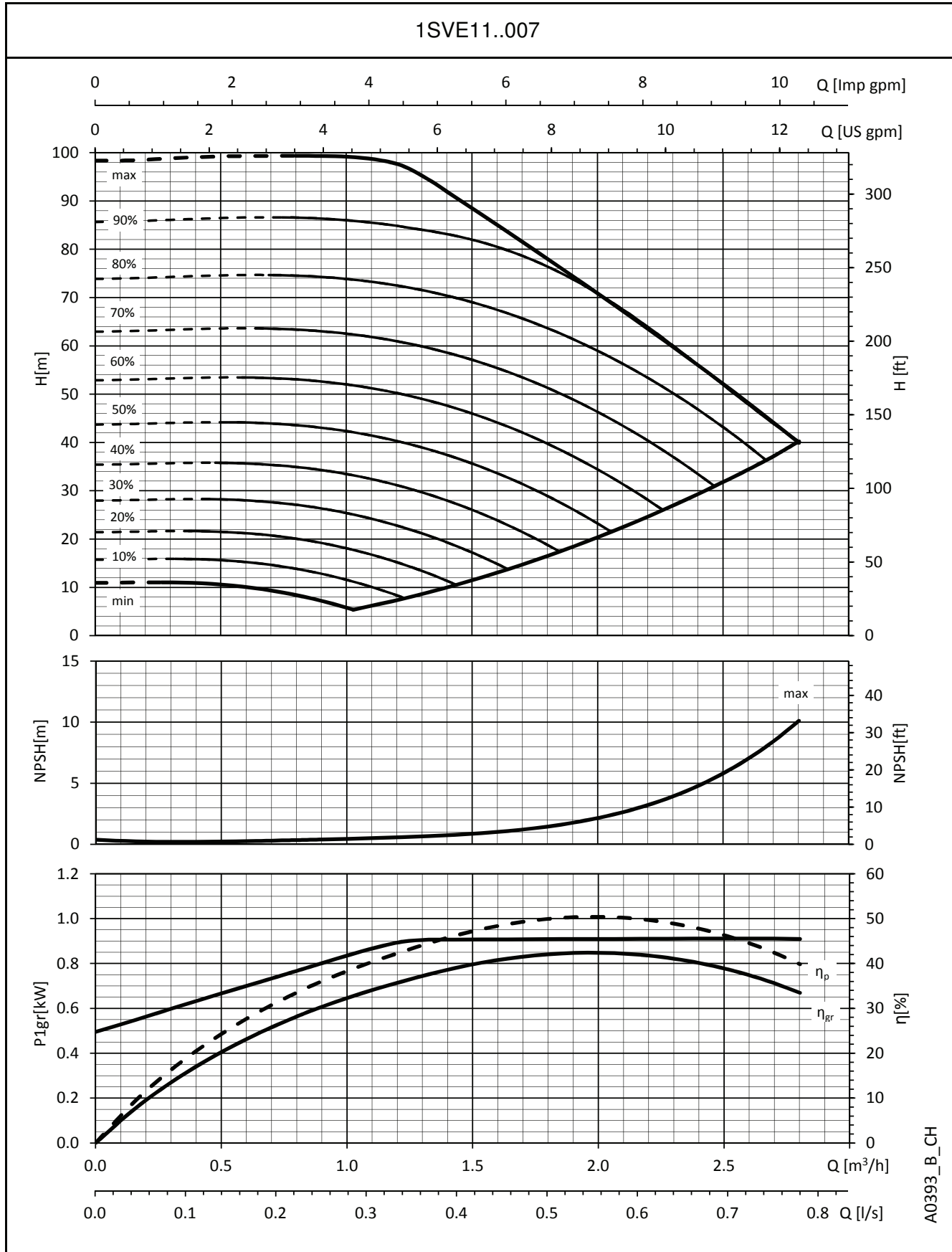
**1SVE SERIES  
OPERATING CHARACTERISTICS**



A0392\_B\_CH

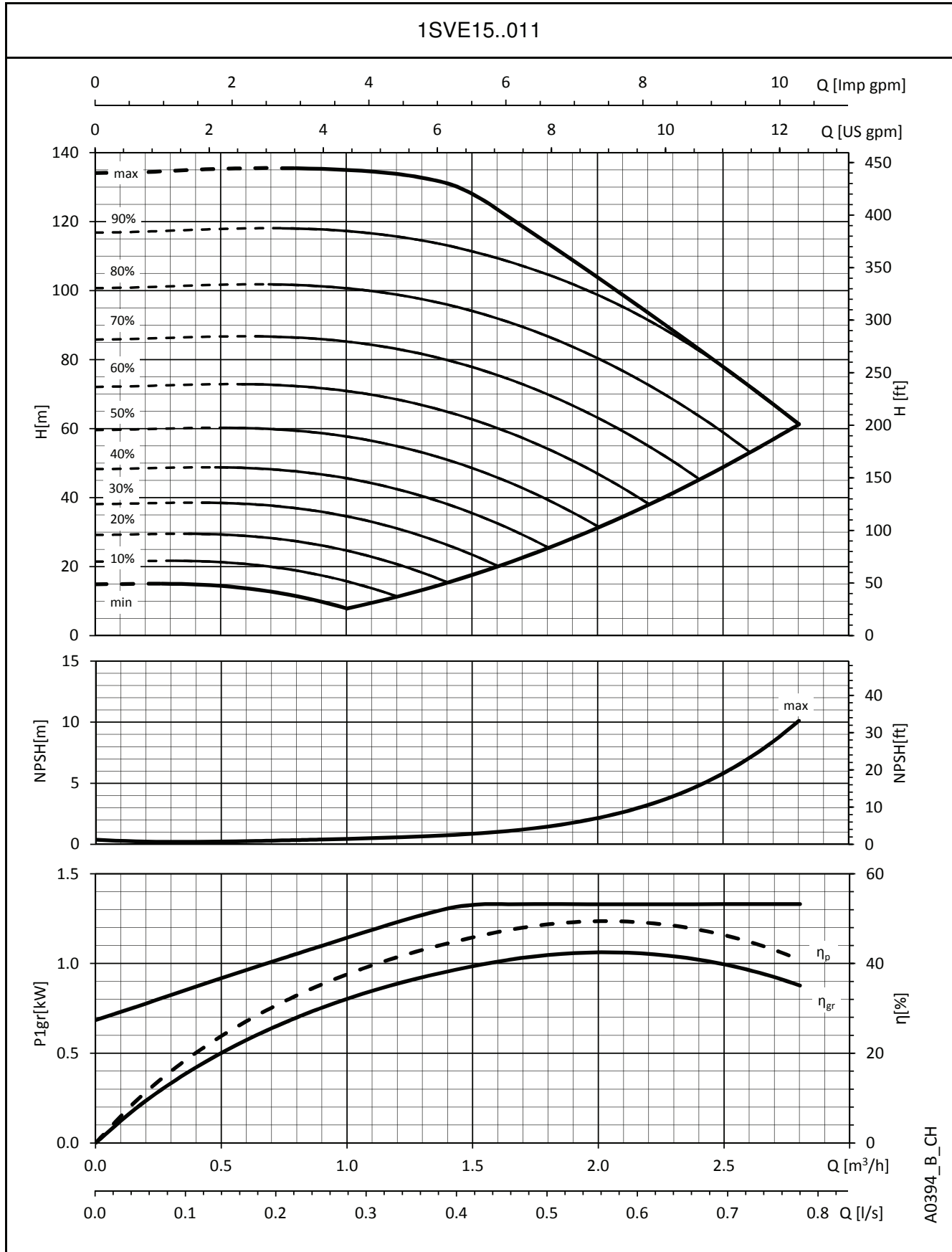
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**1SVE SERIES  
OPERATING CHARACTERISTICS**



A0393\_B\_CH

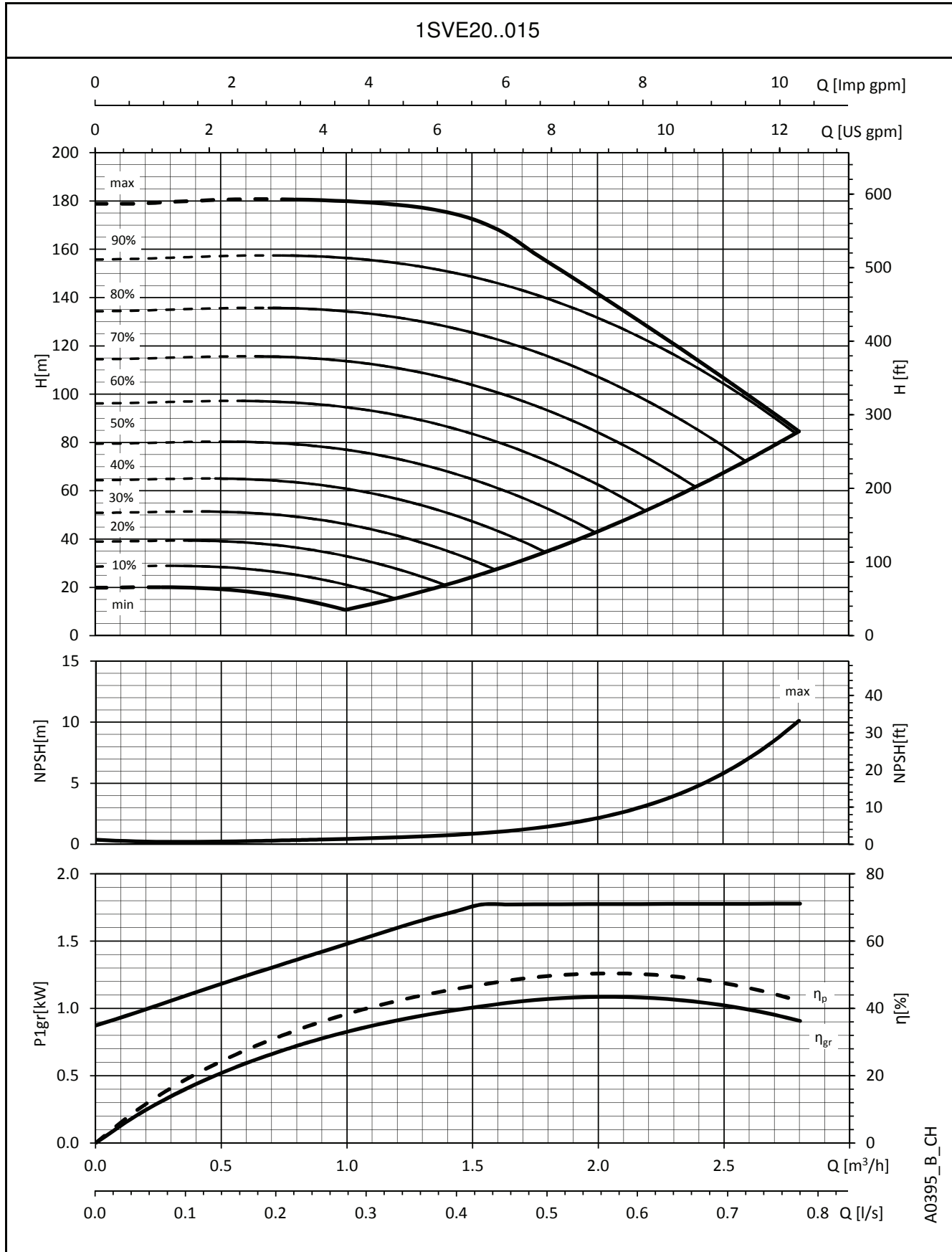
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**1SVE SERIES  
OPERATING CHARACTERISTICS**


A0394\_B\_CH

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

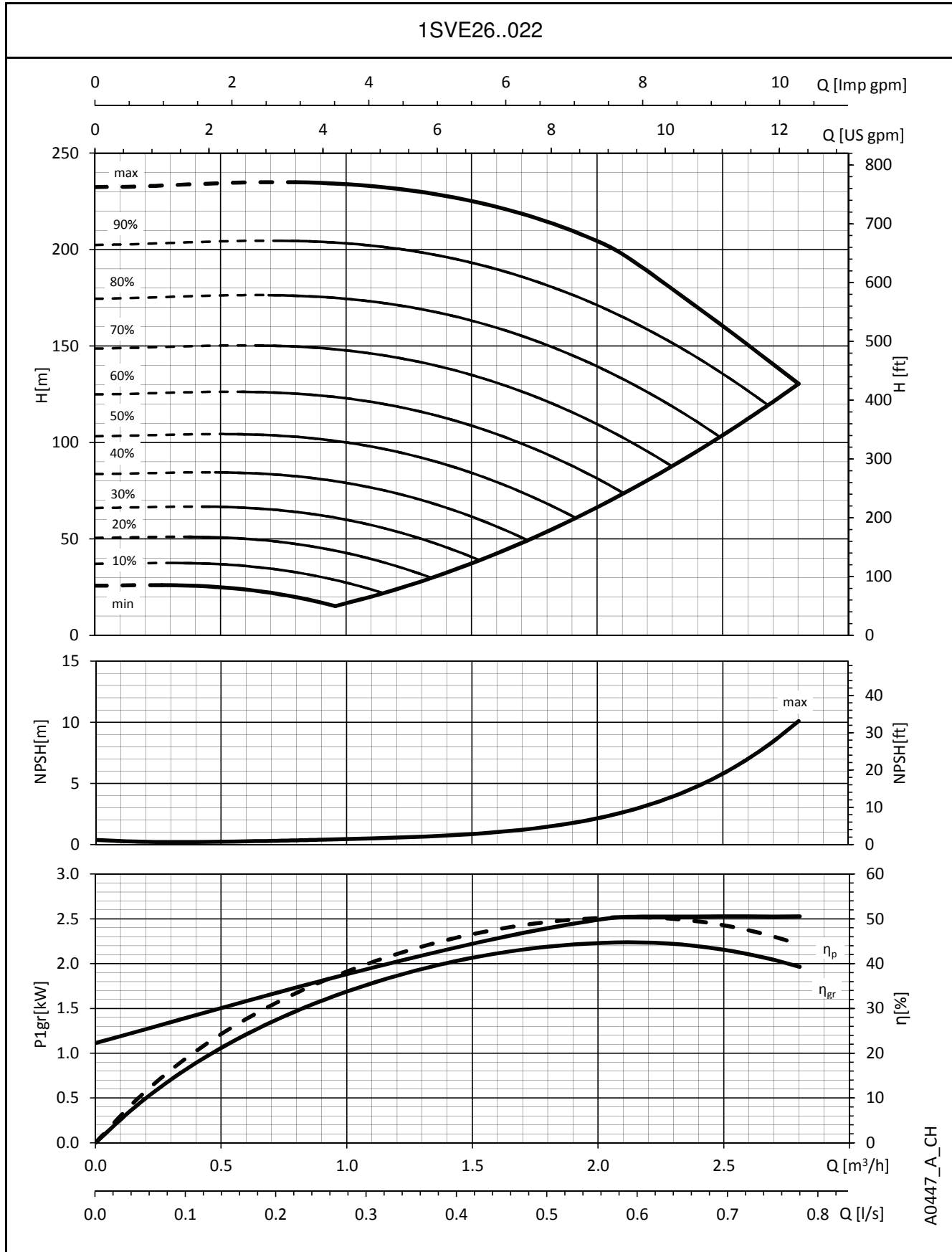
**1SVE SERIES  
OPERATING CHARACTERISTICS**



A0395\_B\_CH

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

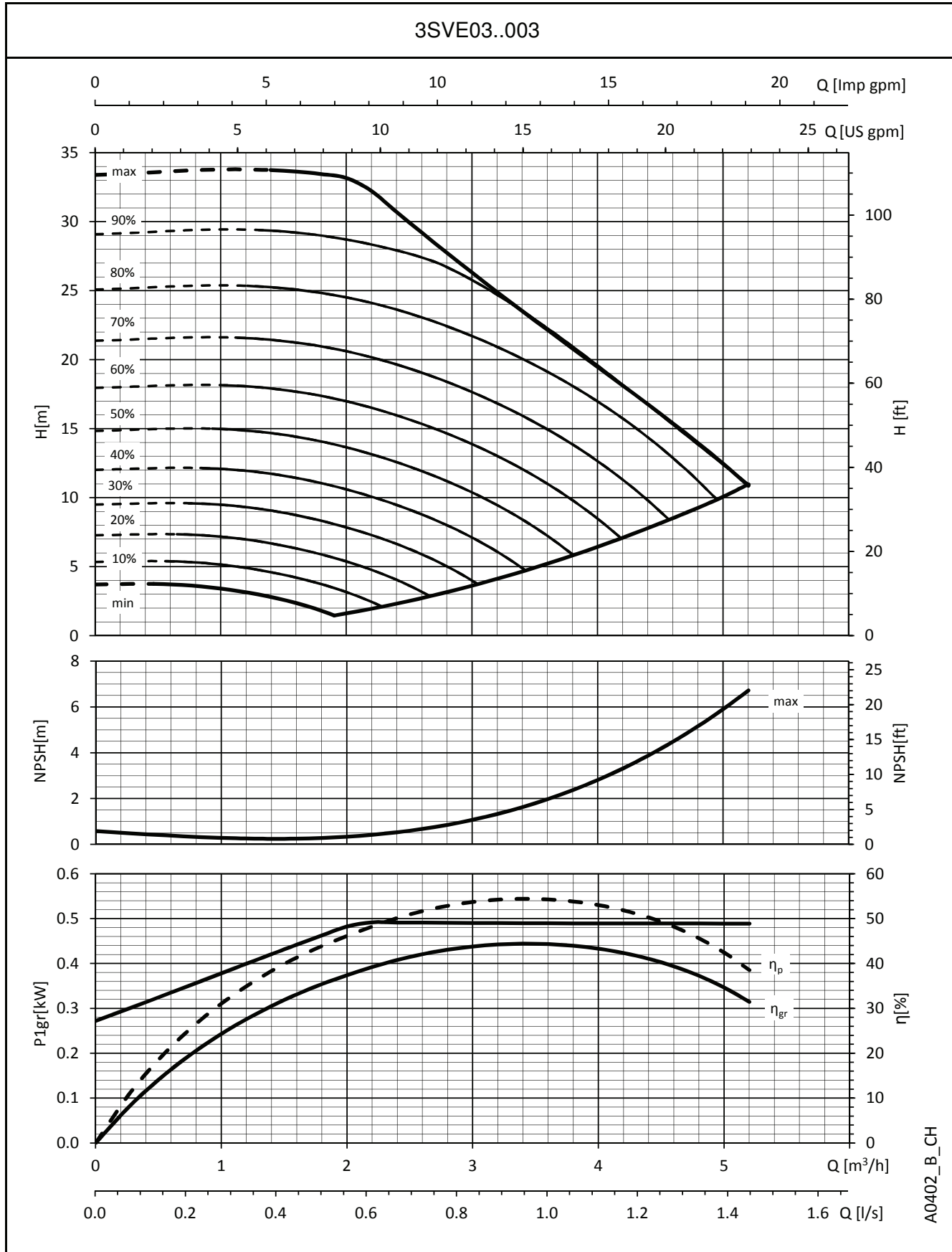
**1SVE SERIES  
OPERATING CHARACTERISTICS**



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



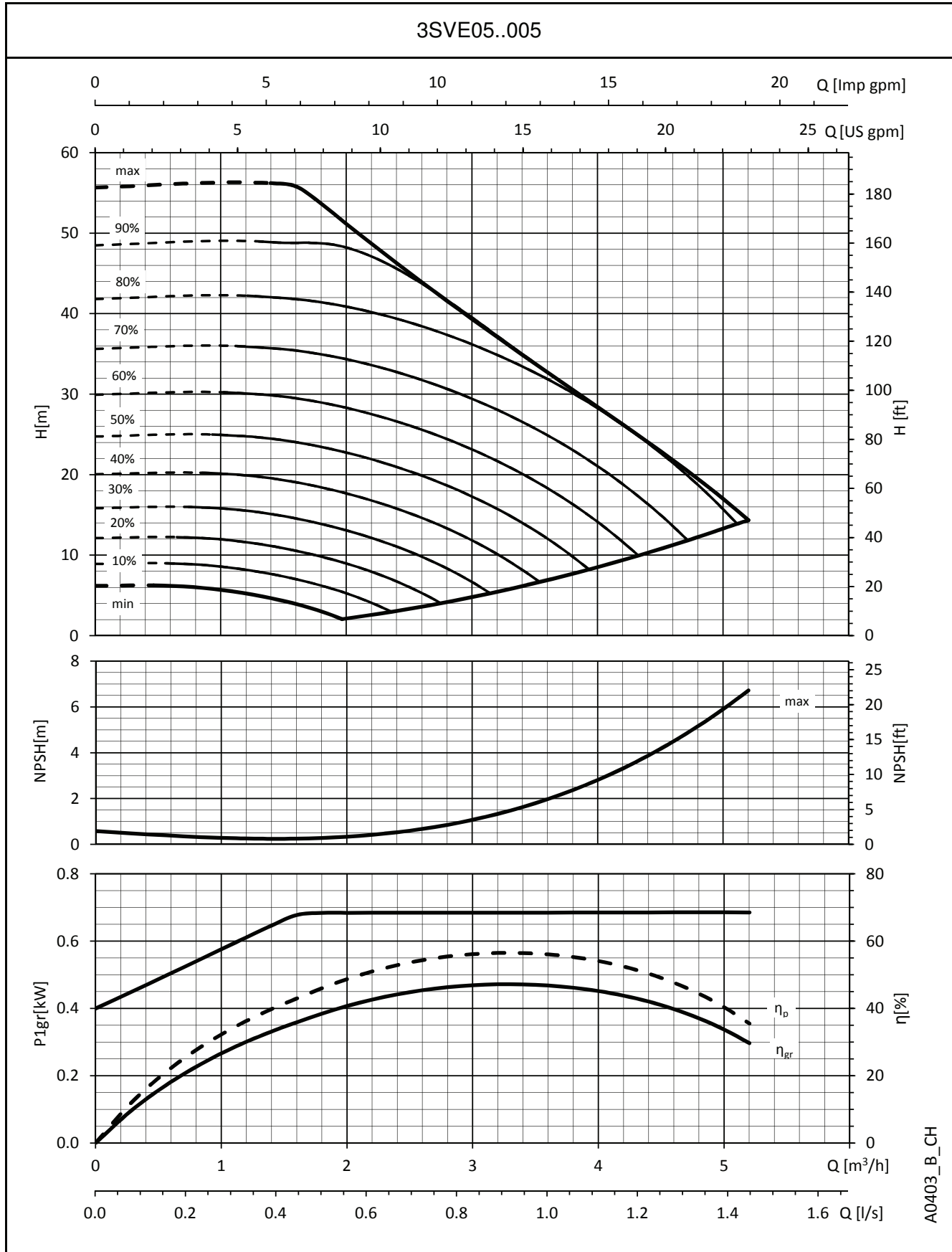
**3SVE SERIES  
OPERATING CHARACTERISTICS**



A0402\_B\_CH

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

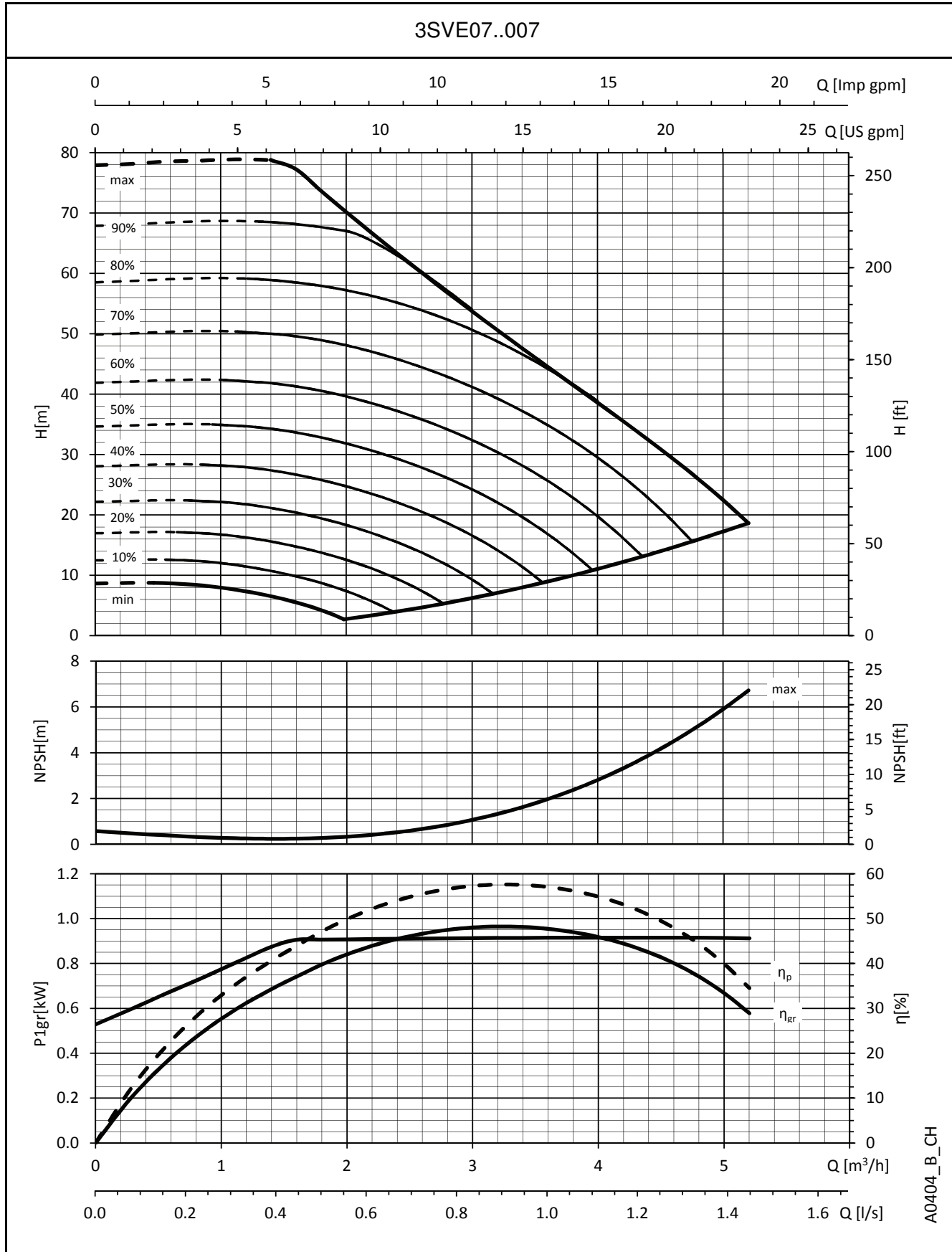
### 3SVE SERIES OPERATING CHARACTERISTICS



A0403\_B\_CH

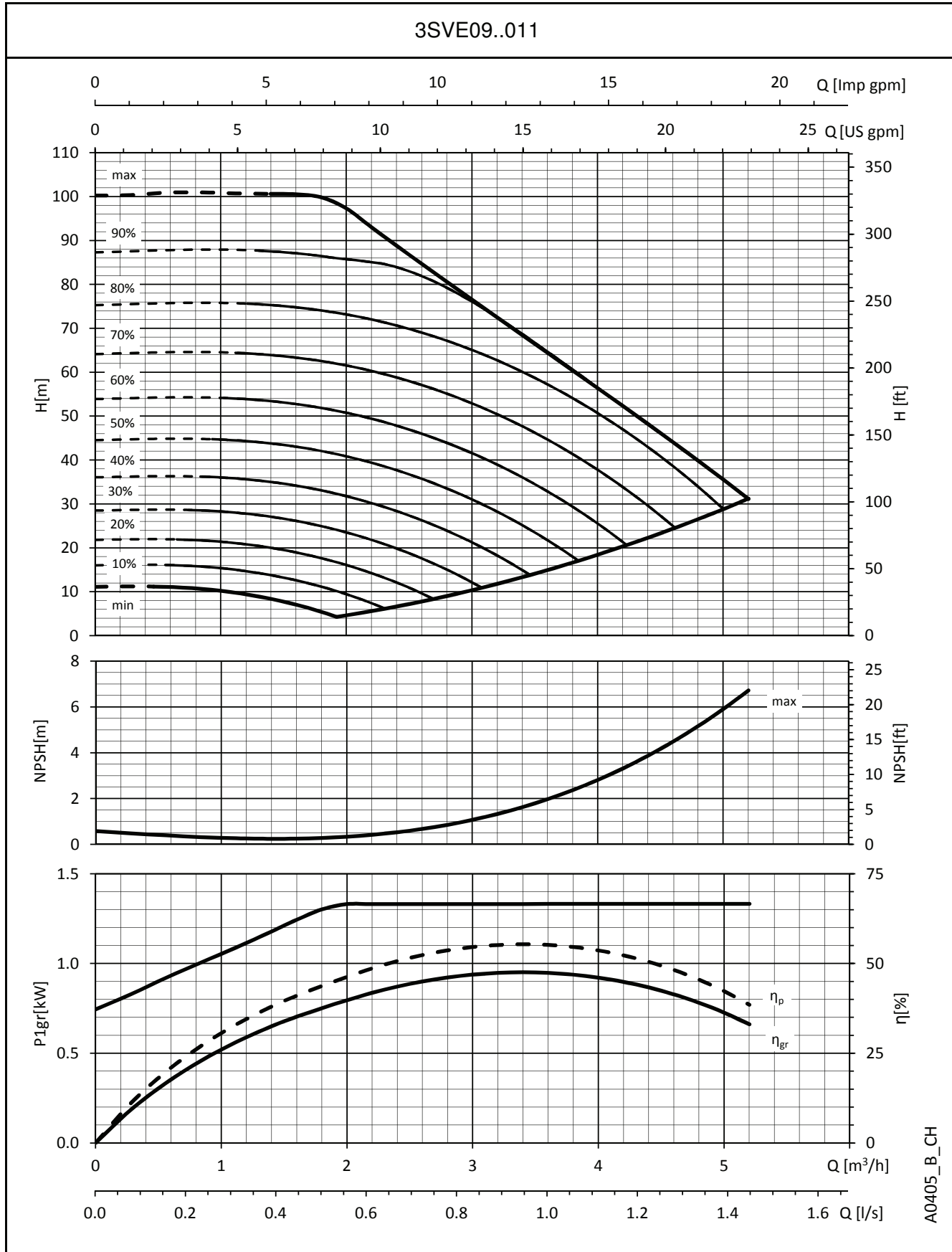
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**3SVE SERIES  
OPERATING CHARACTERISTICS**



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

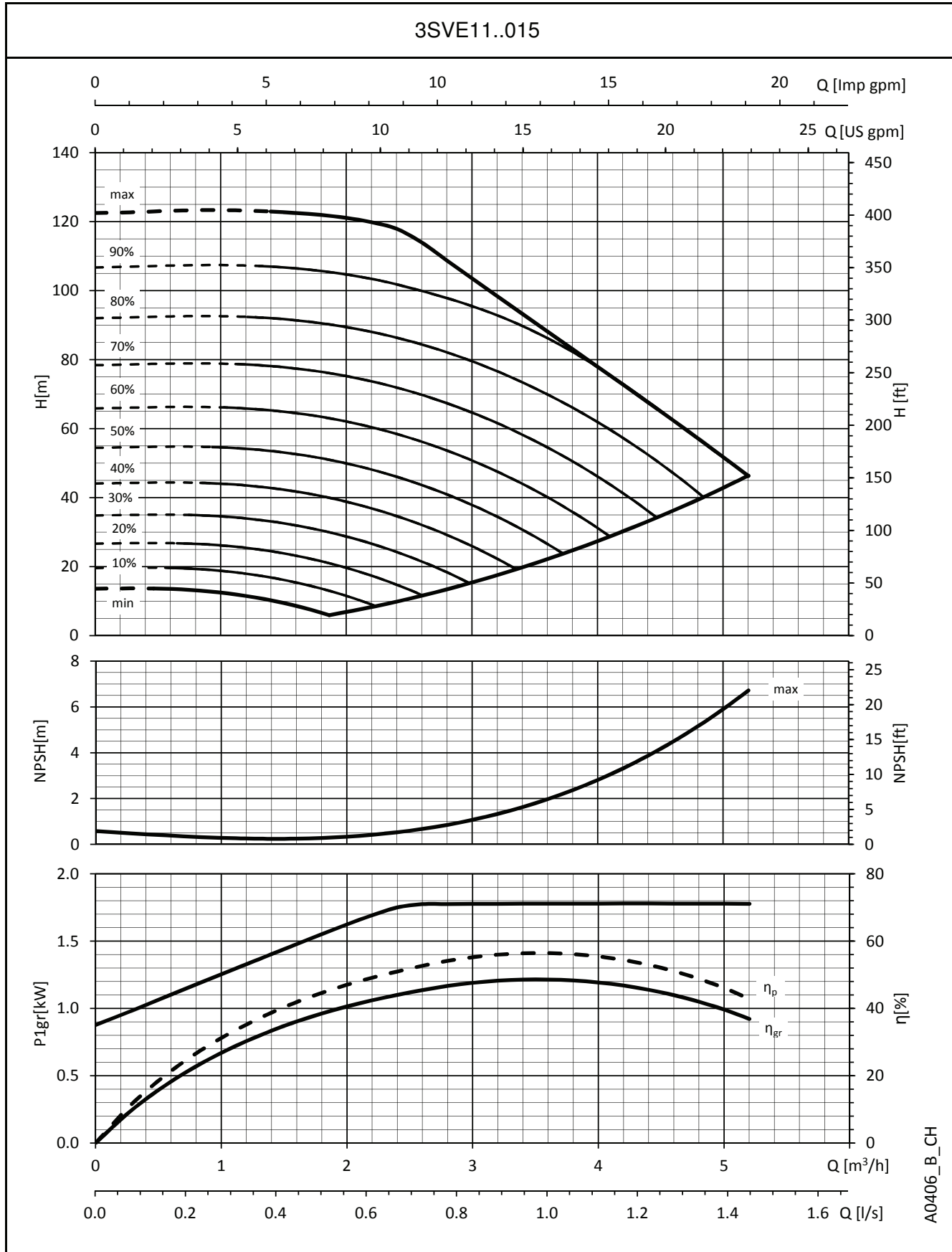
**3SVE SERIES  
OPERATING CHARACTERISTICS**



A0405\_B\_CH

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

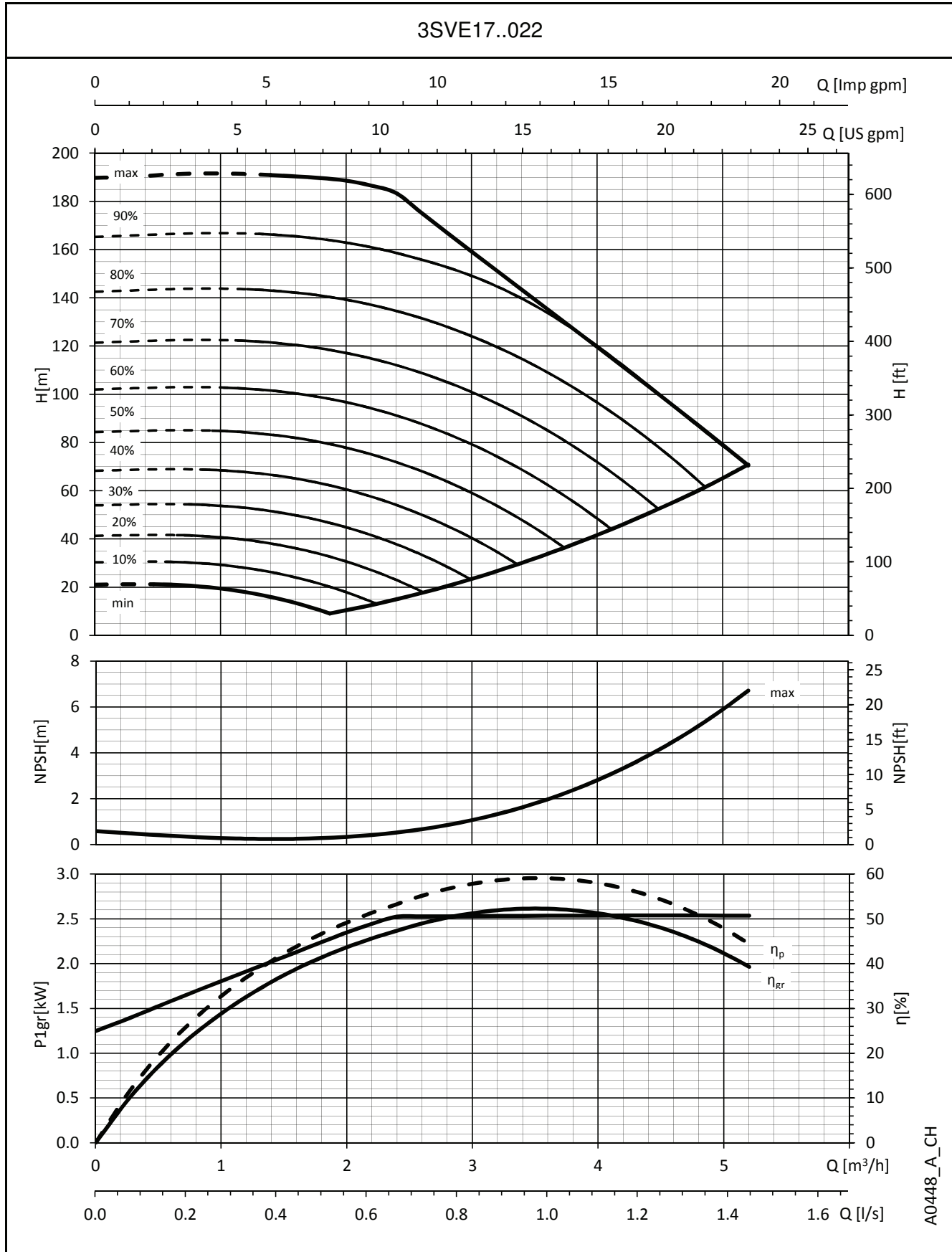
**3SVE SERIES  
OPERATING CHARACTERISTICS**



A0406\_B\_CH

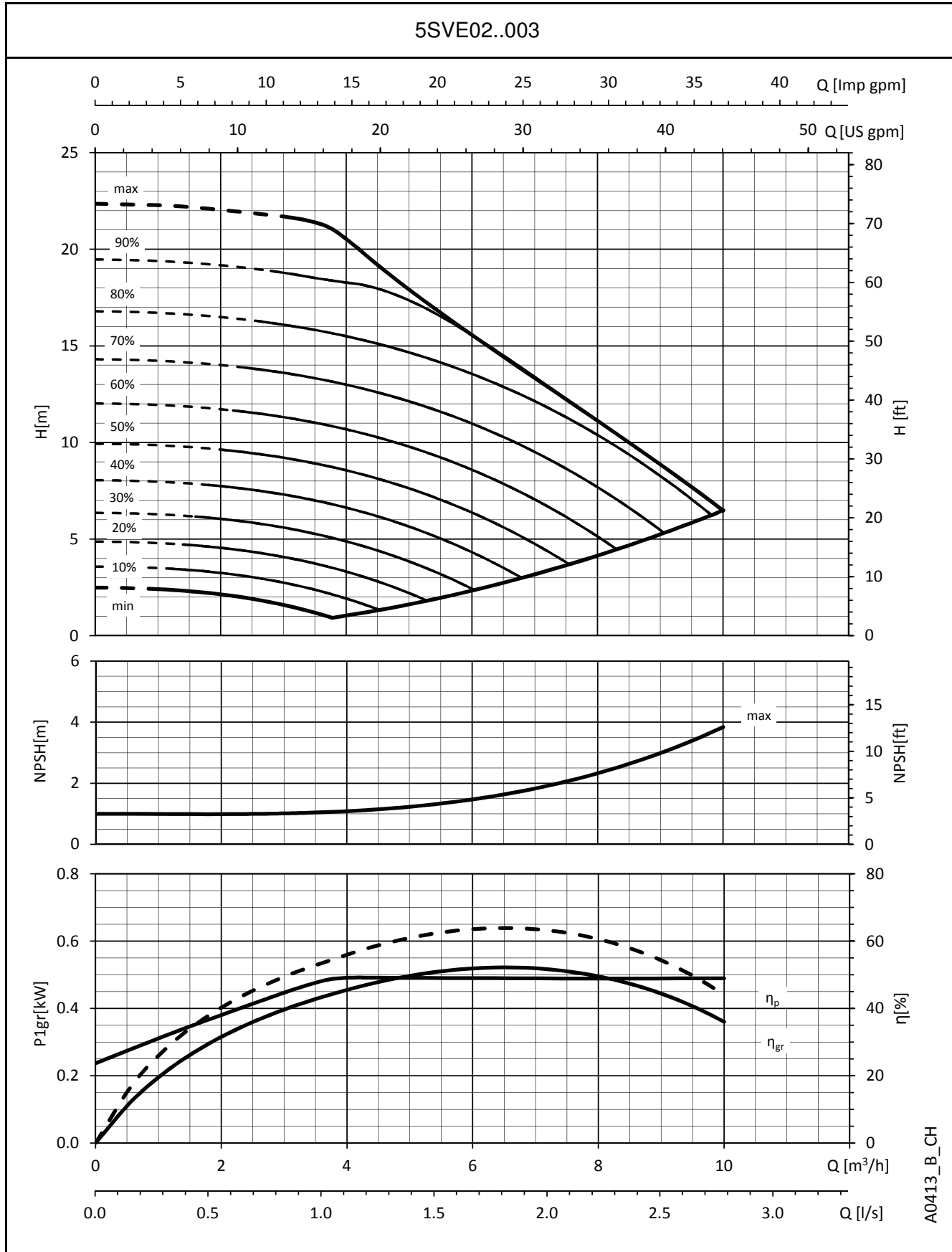
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**3SVE SERIES  
OPERATING CHARACTERISTICS**



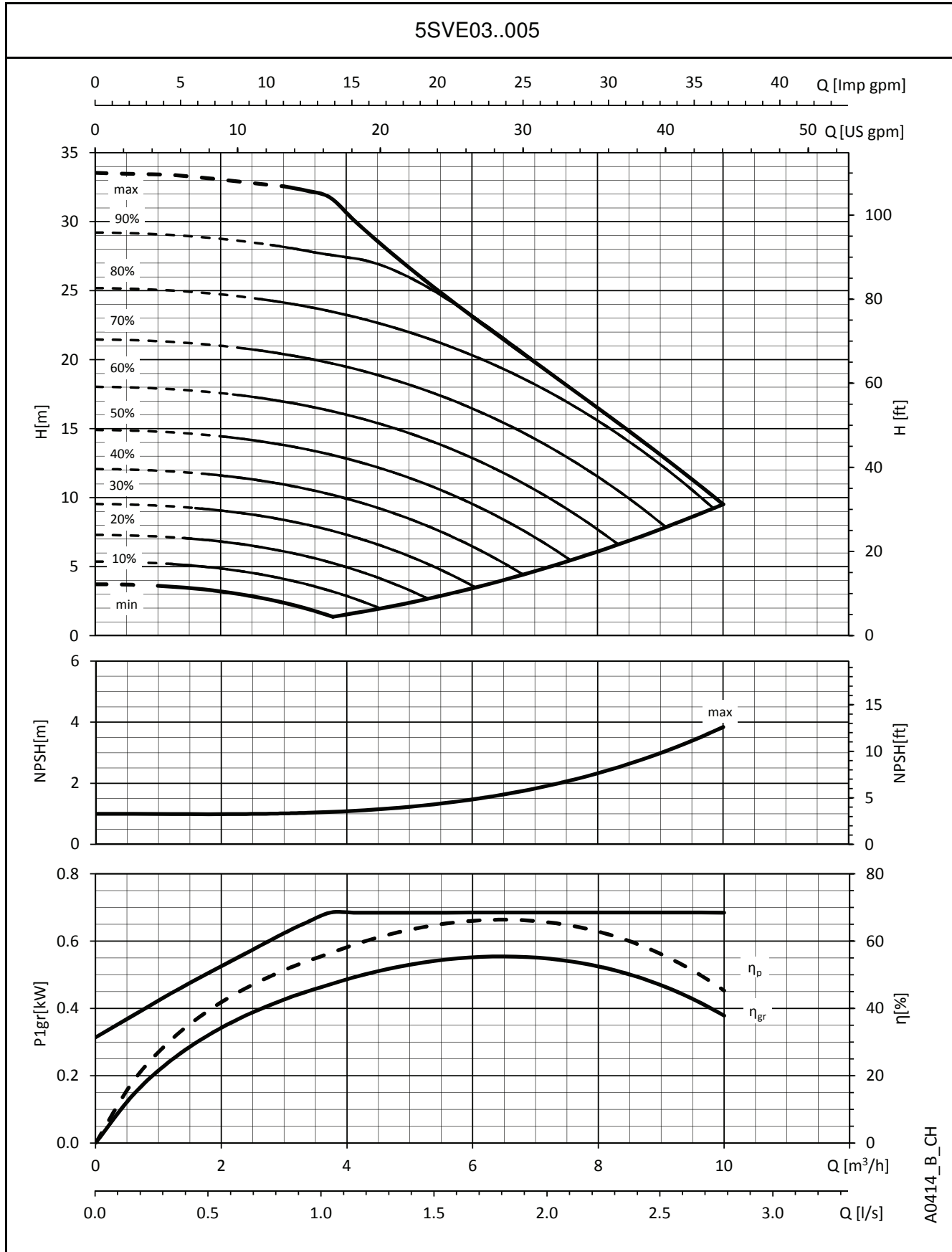
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**5SVE SERIES  
OPERATING CHARACTERISTICS**



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

**5SVE SERIES  
OPERATING CHARACTERISTICS**

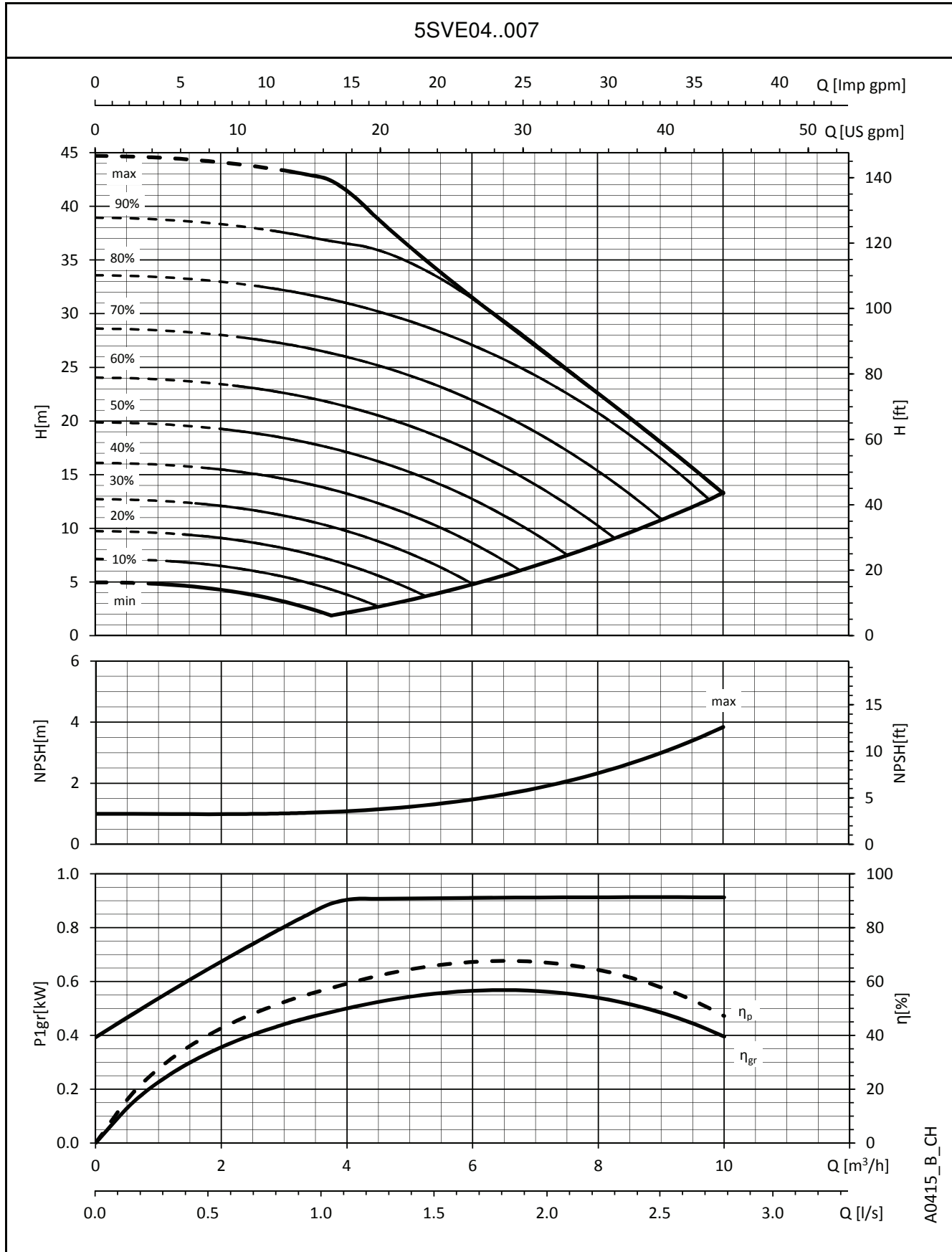


A0414\_B\_CH

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

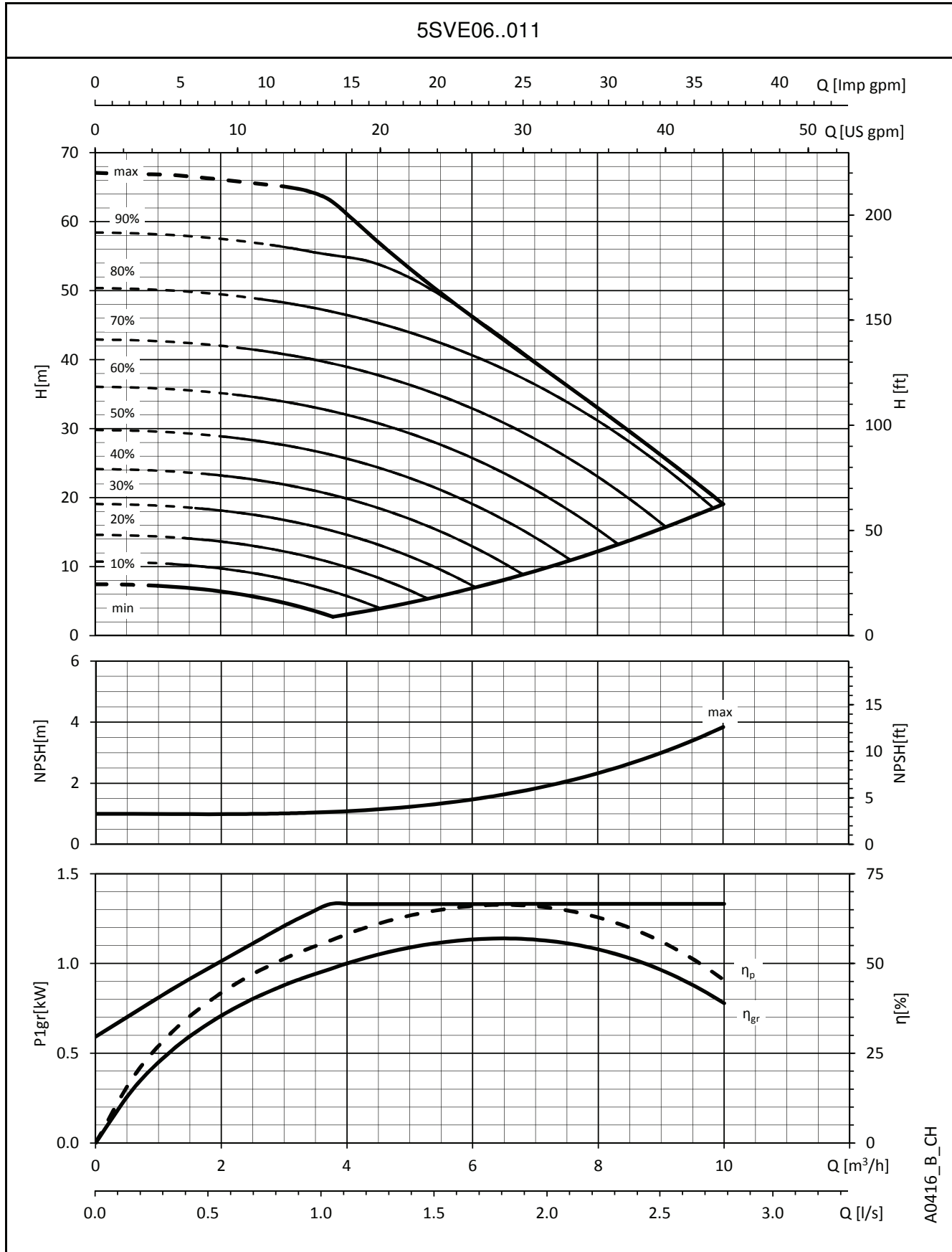


**5SVE SERIES  
OPERATING CHARACTERISTICS**



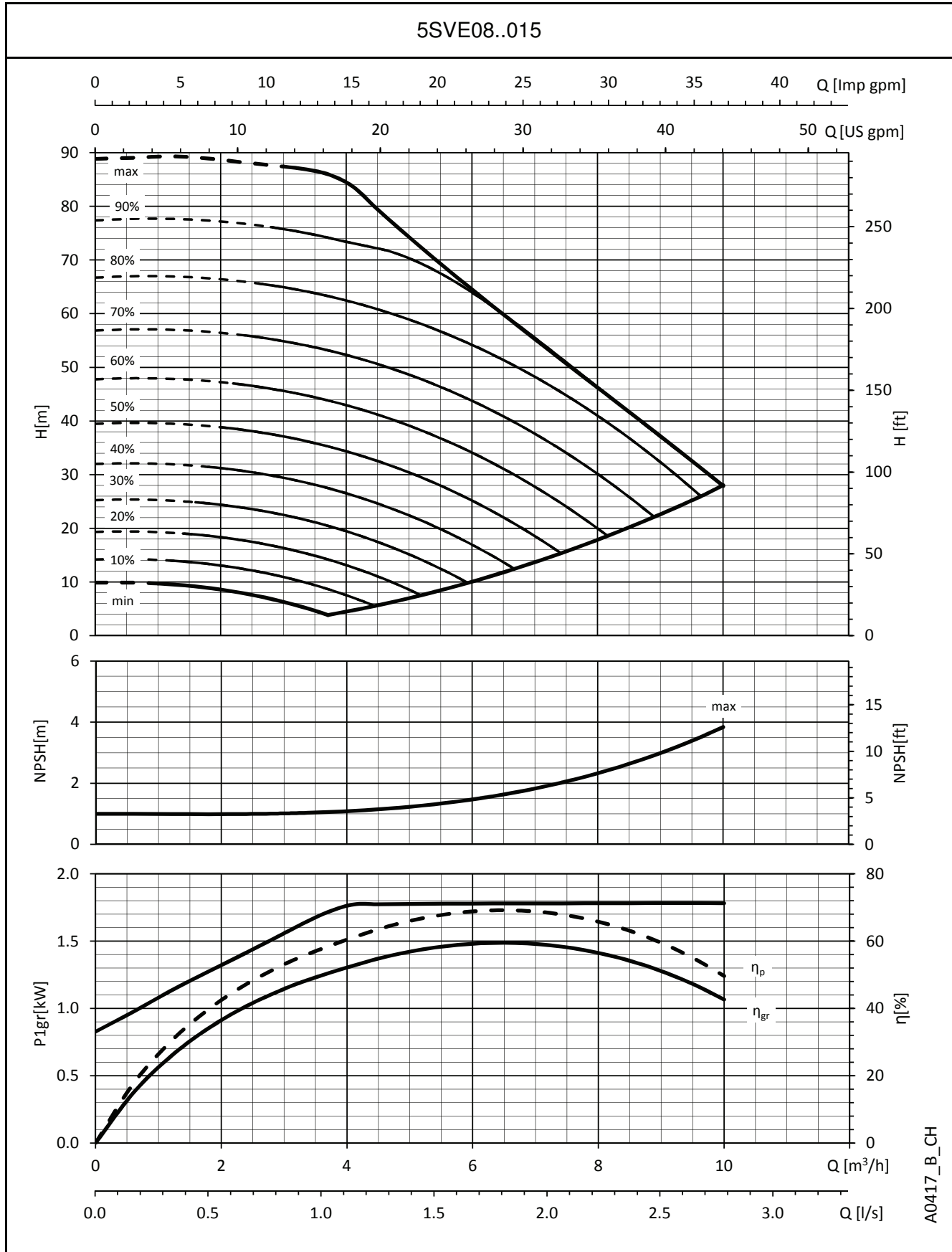
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**5SVE SERIES  
OPERATING CHARACTERISTICS**



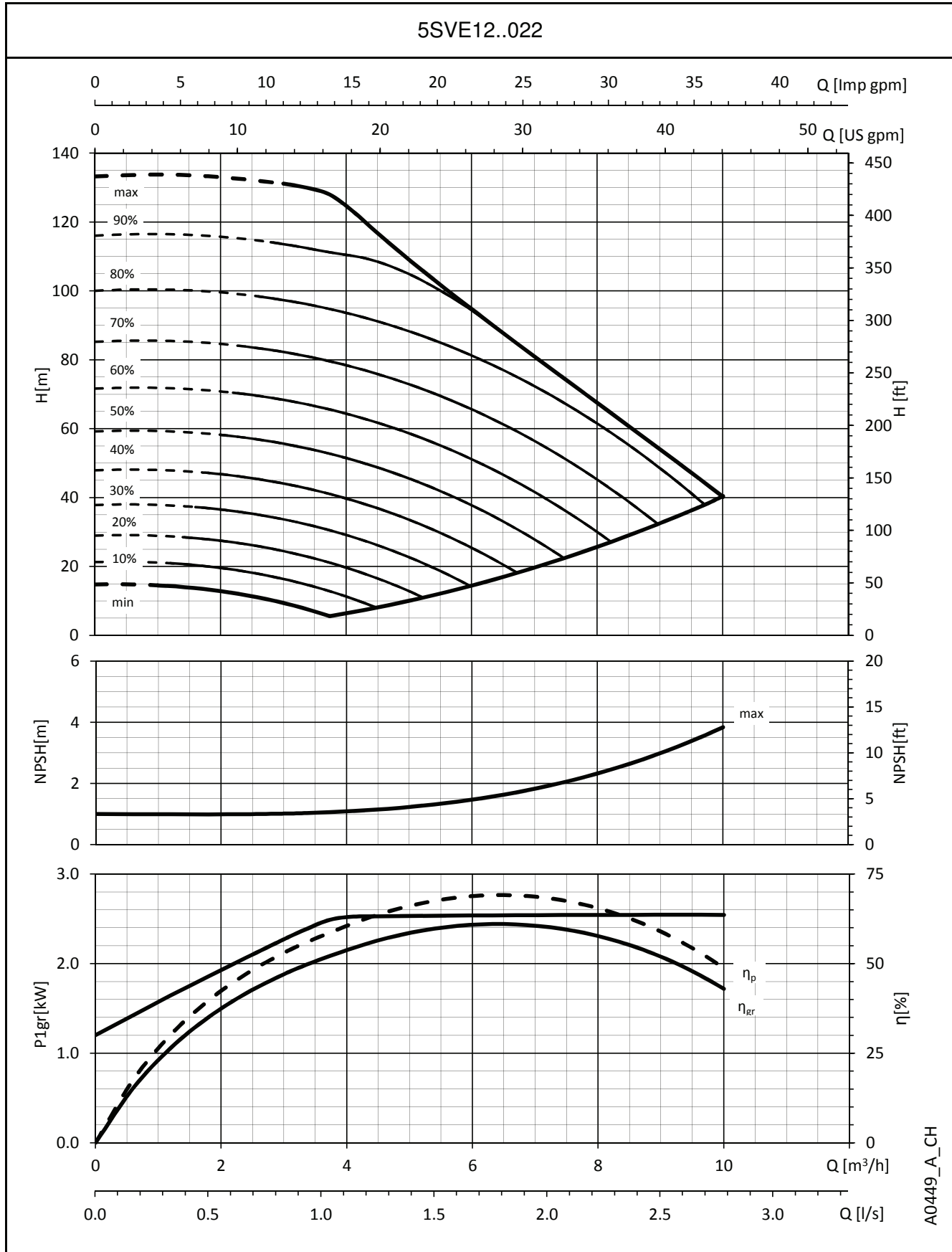
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**5SVE SERIES  
OPERATING CHARACTERISTICS**



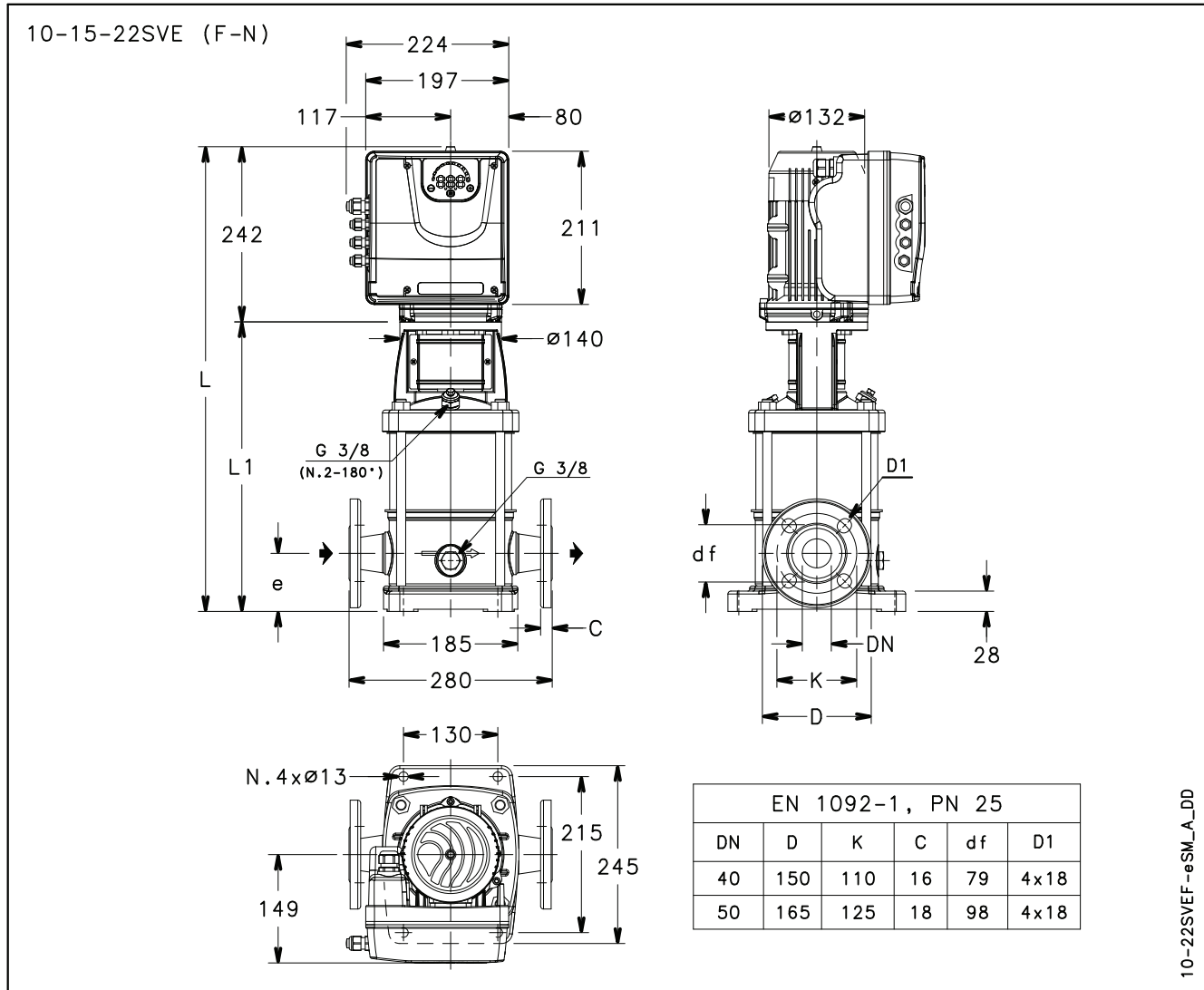
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**5SVE SERIES  
OPERATING CHARACTERISTICS**



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

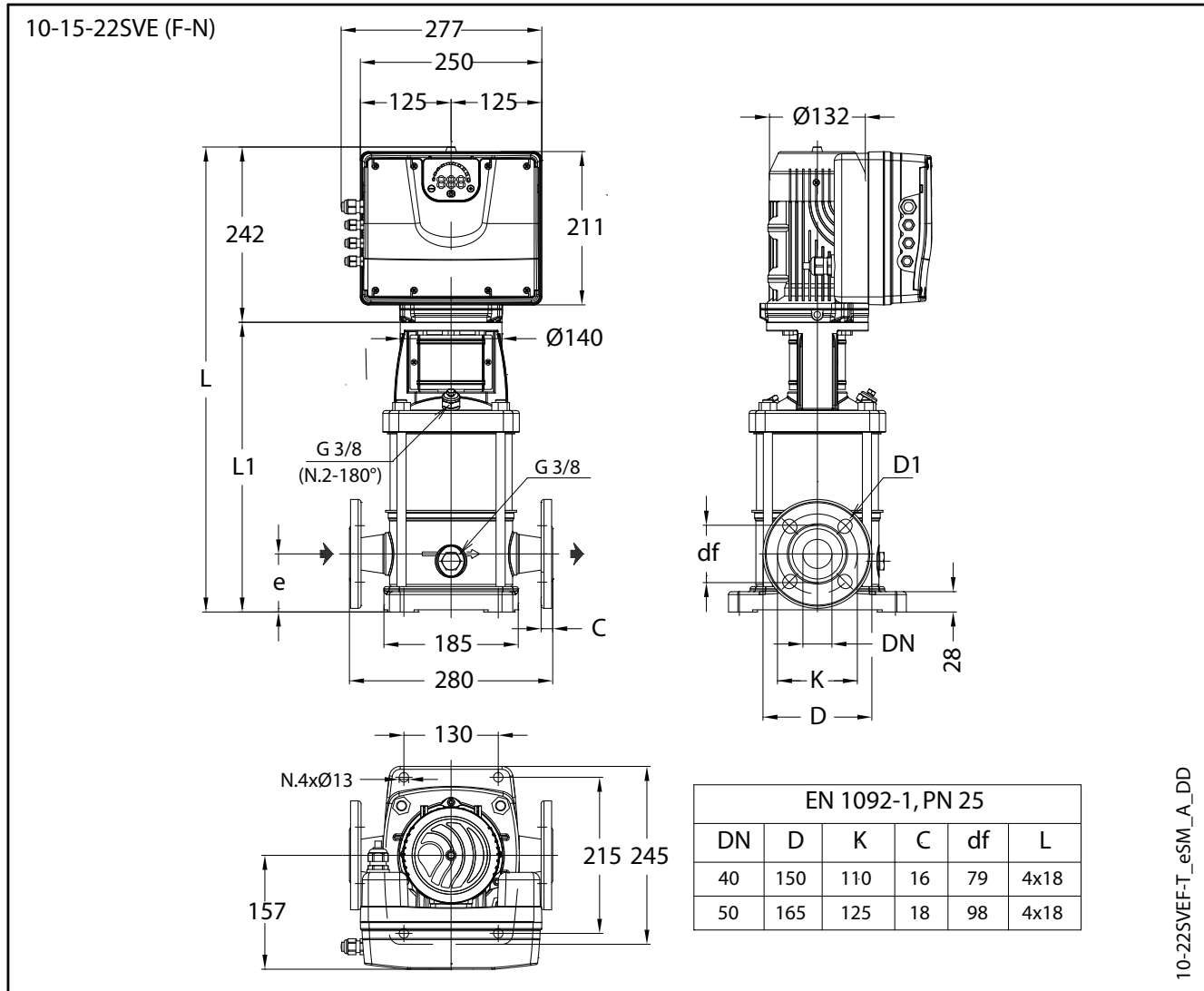
## 10, 15, 22SVE..F SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE F (SINGLE-PHASE)	MOTOR		DIMENSIONS (mm)				WEIGHT (kg)	
	kW	SIZE	L	L1	e	DN	PUMP	ELECTRIC PUMP
10SVE01F005POM	0,55	90	609	367	80	40	14,6	22,1
10SVE02F007POM	0,75	90	609	367	80	40	15,5	23,0
10SVE02F011POM	1,1	90	609	367	80	40	15,5	24,4
10SVE03F015POM	1,5	90	641	399	80	40	16,5	25,4
15SVE01F007POM	0,75	90	661	419	90	50	15,4	22,9
15SVE01F011POM	1,1	90	661	419	90	50	15,4	24,3
15SVE02F015POM	1,5	90	661	419	90	50	16,8	25,7
22SVE01F007POM	0,75	90	661	419	90	50	15,4	22,9
22SVE01F011POM	1,1	90	661	419	90	50	15,4	24,3
22SVE02F015POM	1,5	90	661	419	90	50	16,8	25,7

10-22svef-esm-2p50-en\_a\_td

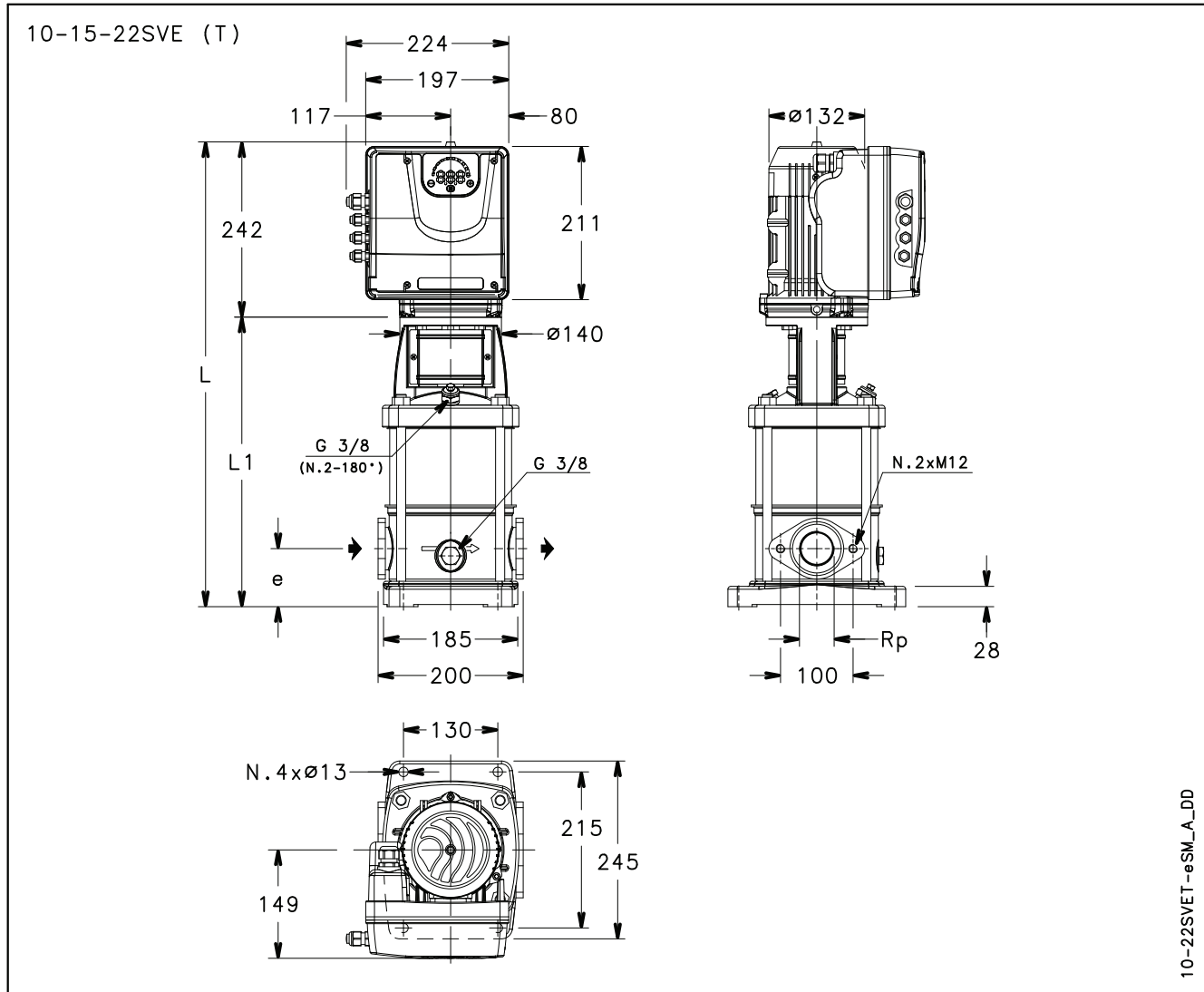
### 10, 15, 22SVE..F SERIES - THREE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE F (THREE-PHASE)	MOTOR		DIMENSIONS (mm)				WEIGHT (kg)	
	kW	SIZE	L	L1	e	DN	PUMP	ELECTRIC PUMP
10SVE01F005POT	0,55	90	609	367	80	40	14,6	27,7
10SVE02F007POT	0,75	90	609	367	80	40	15,5	28,6
10SVE02F011POT	1,1	90	609	367	80	40	15,5	30
10SVE03F015POT	1,5	90	641	399	80	40	16,5	31,0
10SVE04F022POT	2,2	90	673	431	80	40	17,5	33,5
15SVE01F007POT	0,75	90	661	419	90	50	15,4	28,5
15SVE01F011POT	1,1	90	661	419	90	50	15,4	29,9
15SVE02F015POT	1,5	90	661	419	90	50	16,8	31,3
15SVE02F022POT	2,2	90	661	419	90	50	18,2	34,2
22SVE01F007POT	0,75	90	661	419	90	50	15,4	28,5
22SVE01F011POT	1,1	90	661	419	90	50	15,4	29,9
22SVE02F015POT	1,5	90	661	419	90	50	16,8	31,3
22SVE02F022POT	2,2	90	661	419	90	50	16,8	32,8

10-22svef-esm-2p50T-en\_a\_td

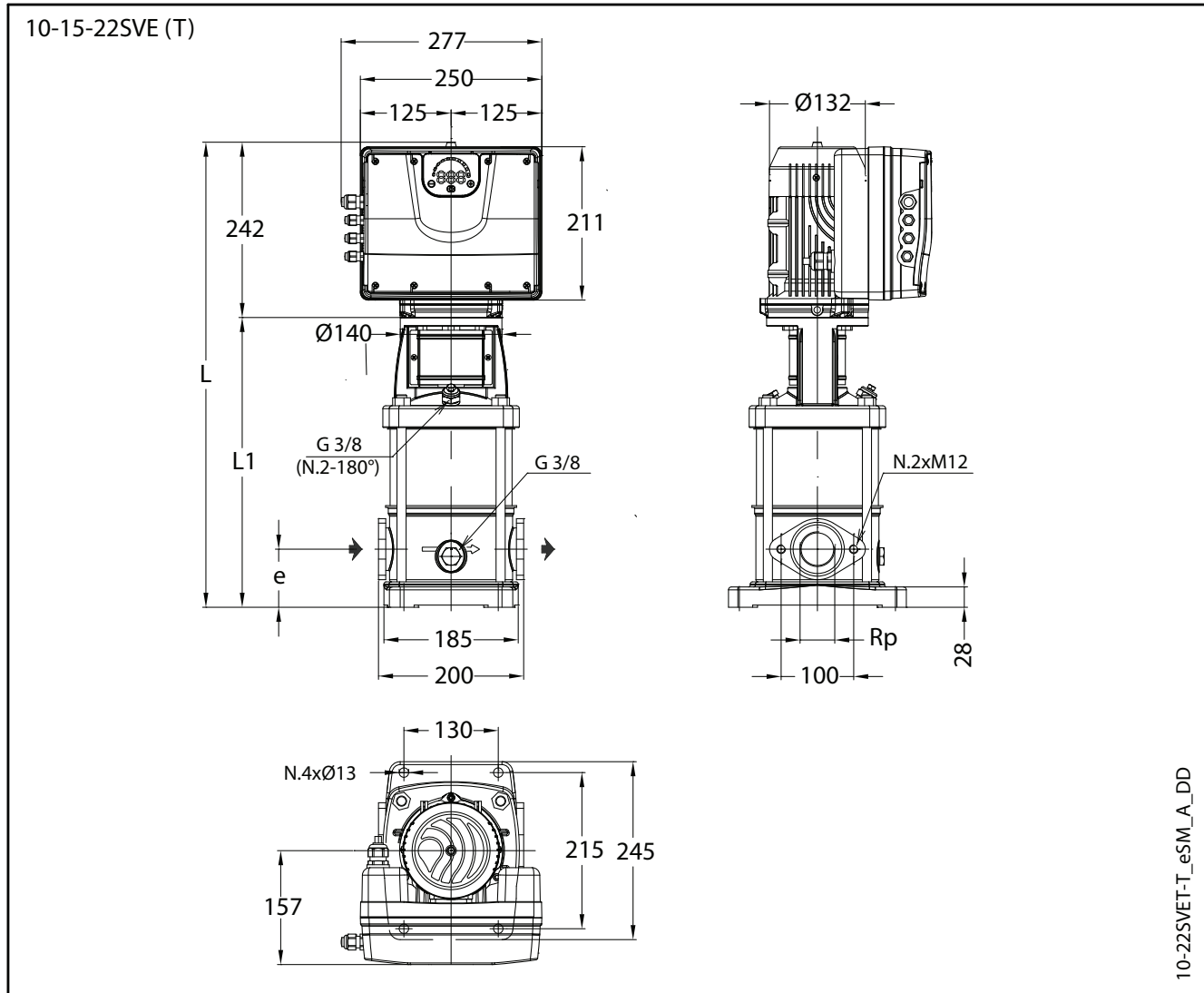
## 10, 15, 22SVE..T SERIES - SINGLE PHASE VERSION DIMENSIONS AND WEIGHTS



PUMP TYPE SVE T (SINGLE-PHASE)	MOTOR		DIMENSIONS (mm)				WEIGHT (kg)	
	kW	SIZE	L	L1	e	Rp	PUMP	ELECTRIC PUMP
10SVE01T005POM	0,55	90	609	367	80	1 1/2	14,1	21,6
10SVE02T007POM	0,75	90	609	367	80	1 1/2	15	22,5
10SVE02T011POM	1,1	90	609	367	80	1 1/2	15	23,9
10SVE03T015POM	1,5	90	641	399	80	1 1/2	16	24,9
15SVE01T007POM	0,75	90	651	409	90	2	14,1	21,6
15SVE01T011POM	1,1	90	651	409	90	2	14,1	23
15SVE02T015POM	1,5	90	651	409	90	2	15,5	24,4
22SVE01T007POM	0,75	90	651	409	90	2	14,1	21,6
22SVE01T011POM	1,1	90	651	409	90	2	14,1	23
22SVE02T015POM	1,5	90	651	409	90	2	15,5	24,4

10-22sveT-esm-2p50-en\_a\_td

## 10, 15, 22SVE..T SERIES - THREE PHASE VERSION DIMENSIONS AND WEIGHTS

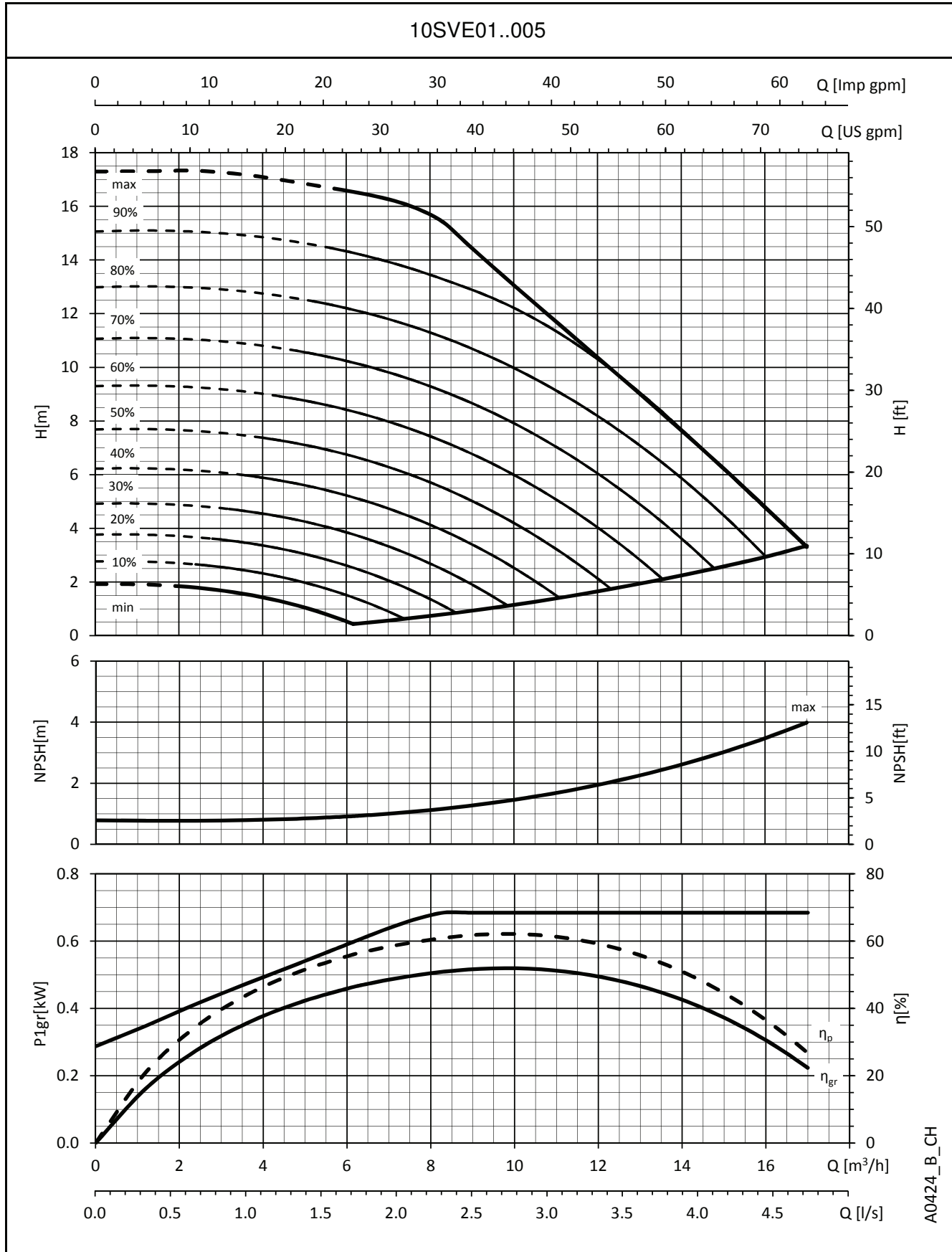


PUMP TYPE SVE T (THREE-PHASE)	MOTOR		DIMENSIONS (mm)				WEIGHT (kg)	
	kW	SIZE	L	L1	e	Rp	PUMP	ELECTRIC PUMP
10SVE01T005POT	0,55	90	609	367	80	1 1/2	14,1	27,1
10SVE02T007POT	0,75	90	609	367	80	1 1/2	15	28
10SVE02T011POT	1,1	90	609	367	80	1 1/2	15	29,4
10SVE03T015POT	1,5	90	641	399	80	1 1/2	16	30,4
10SVE04T022POT	2,2	90	673	431	80	1 1/2	17	32
15SVE01T007POT	0,75	90	651	409	90	2	14,1	27,1
15SVE01T011POT	1,1	90	651	409	90	2	14,1	28,5
15SVE02T015POT	1,5	90	651	409	90	2	15,5	29,9
15SVE02T022POT	2,2	90	651	409	90	2	15,5	31,5
22SVE01T007POT	0,75	90	651	409	90	2	14,1	27,1
22SVE01T011POT	1,1	90	651	409	90	2	14,1	28,5
22SVE02T015POT	1,5	90	651	409	90	2	15,5	29,9
22SVE02T022POT	2,2	90	651	409	90	2	15,5	31,5

10-22sveT-esm-2p50-en\_a\_td



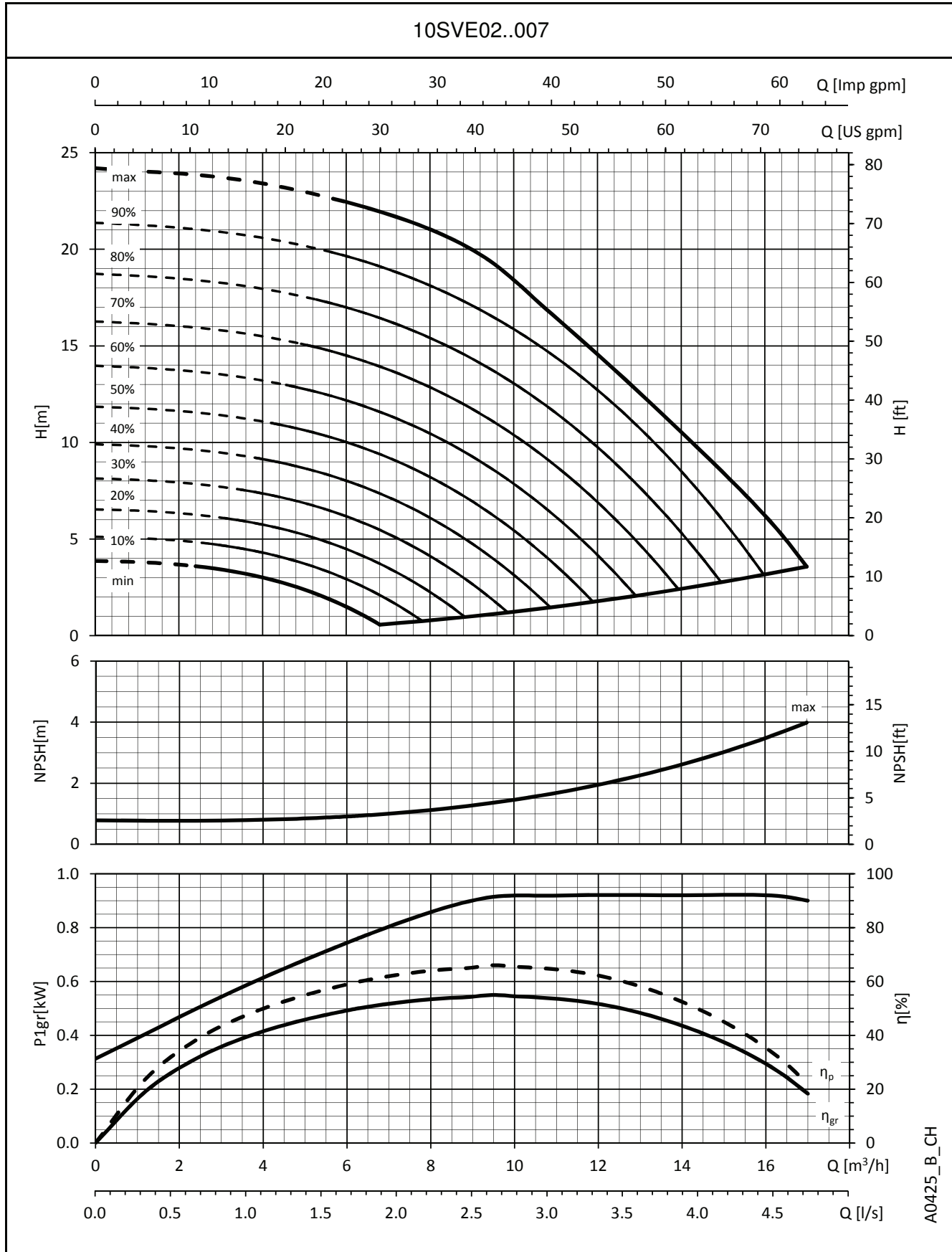
**10SVE SERIES  
OPERATING CHARACTERISTICS**



A0424\_B\_CH

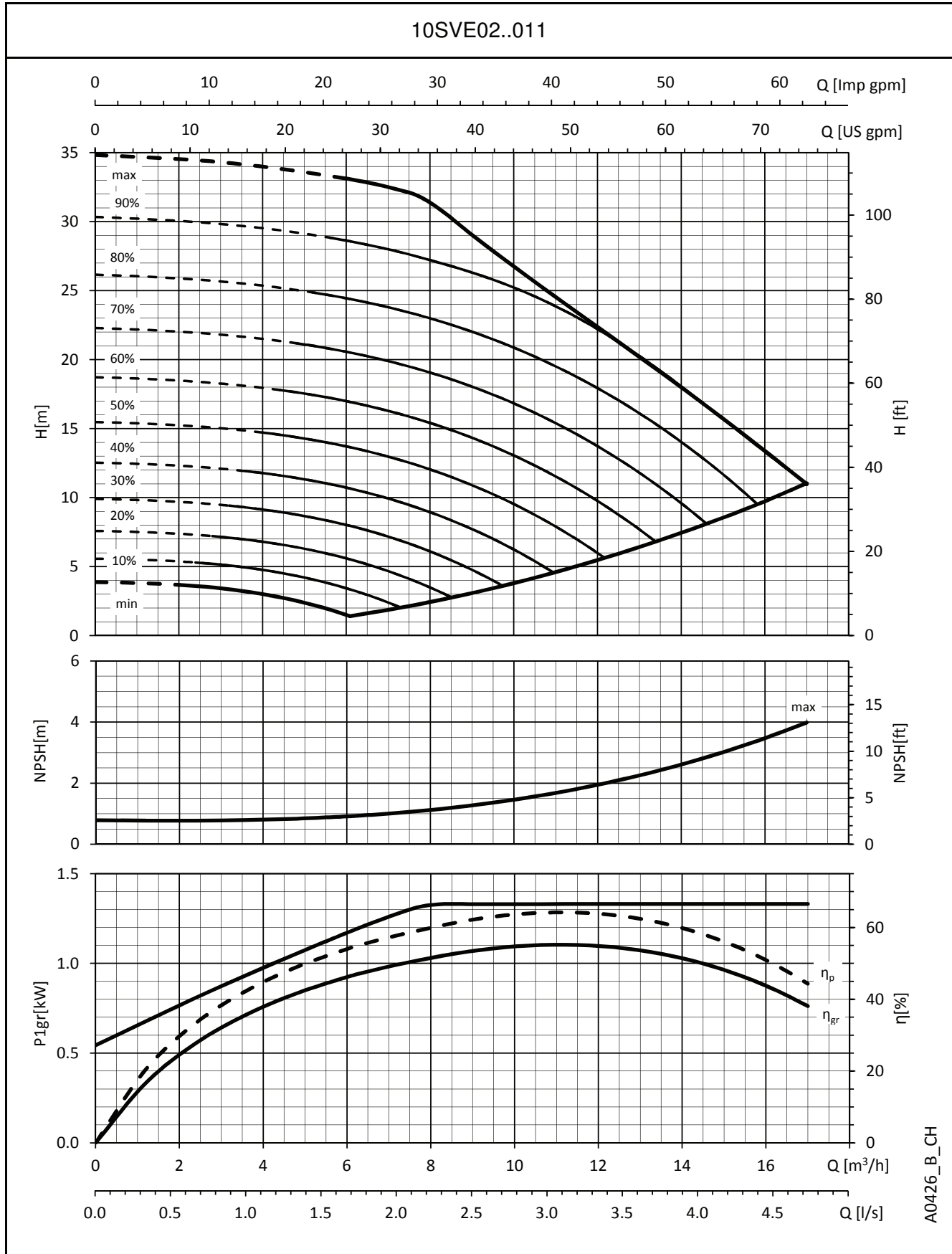
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**10SVE SERIES  
OPERATING CHARACTERISTICS**



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

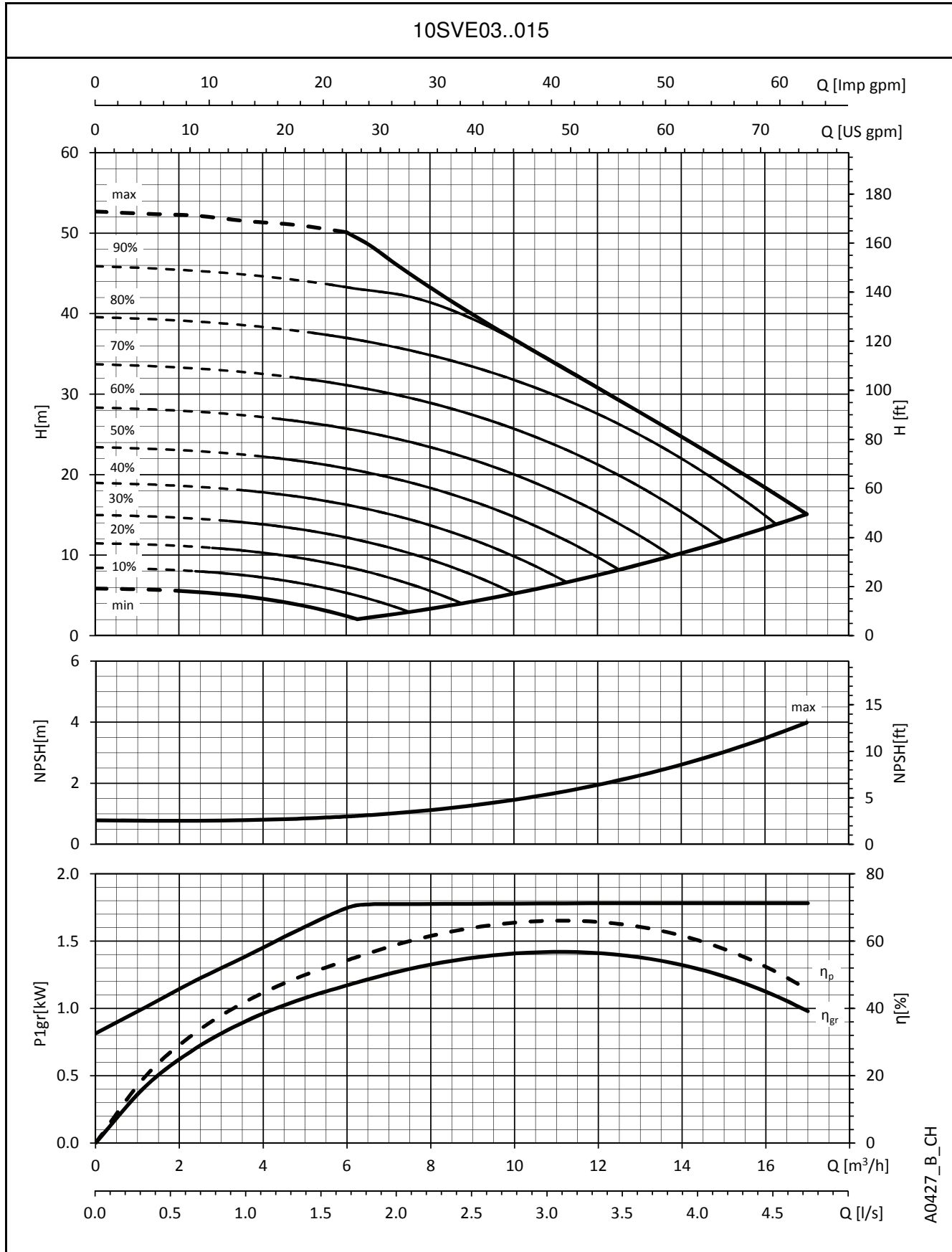
**10SVE SERIES  
OPERATING CHARACTERISTICS**



A0426\_B\_CH

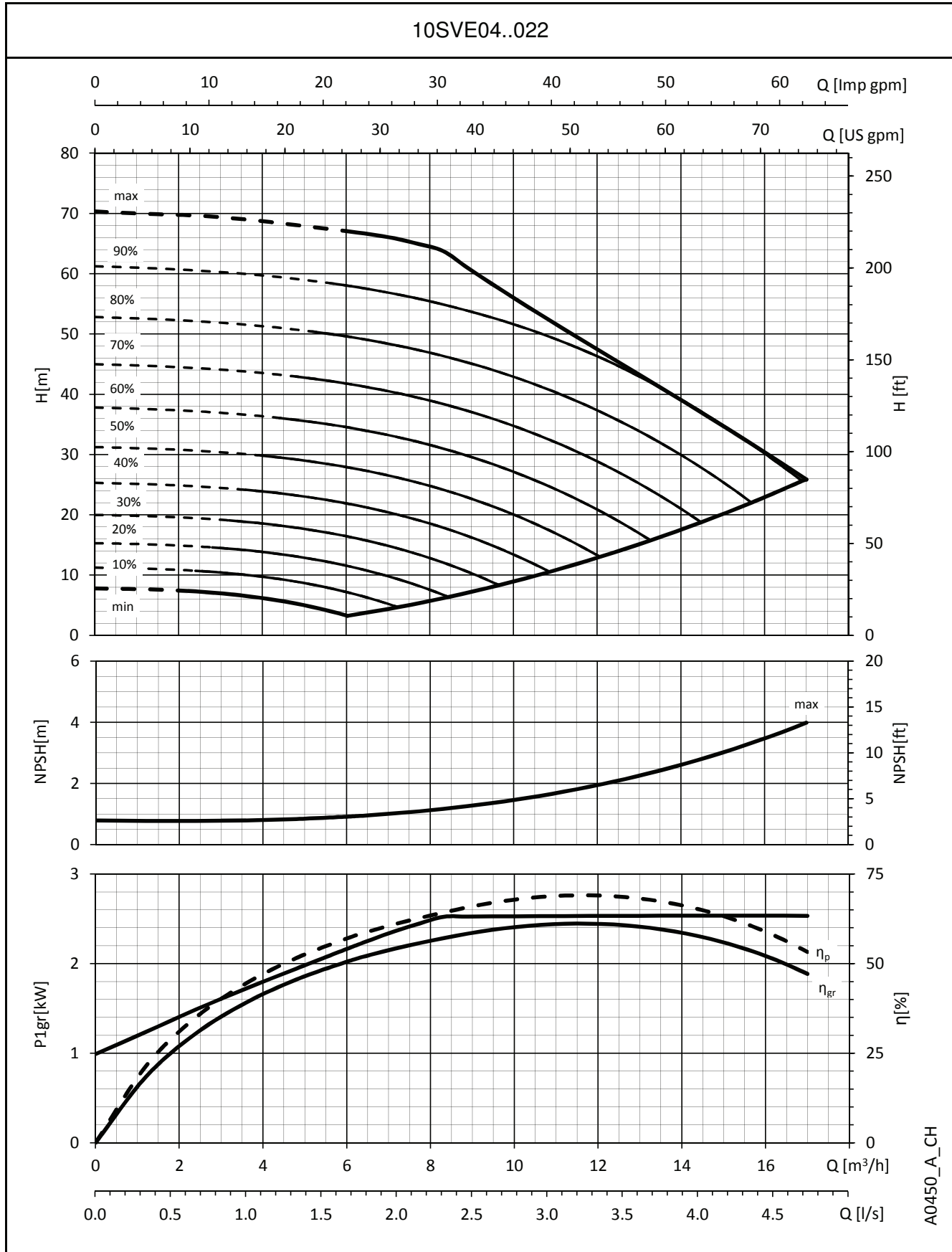
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**10SVE SERIES  
OPERATING CHARACTERISTICS**



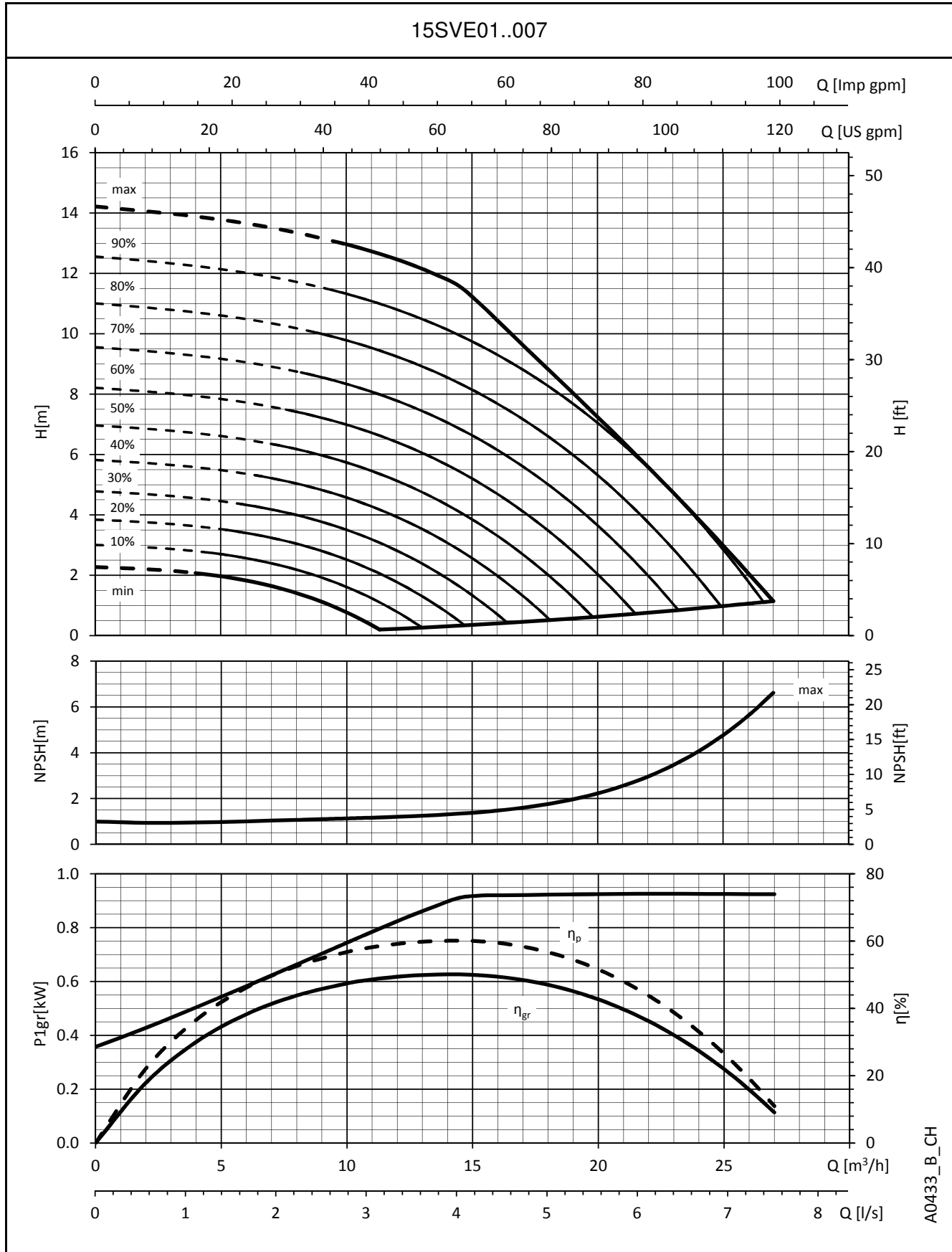
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**10SVE SERIES  
OPERATING CHARACTERISTICS**



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

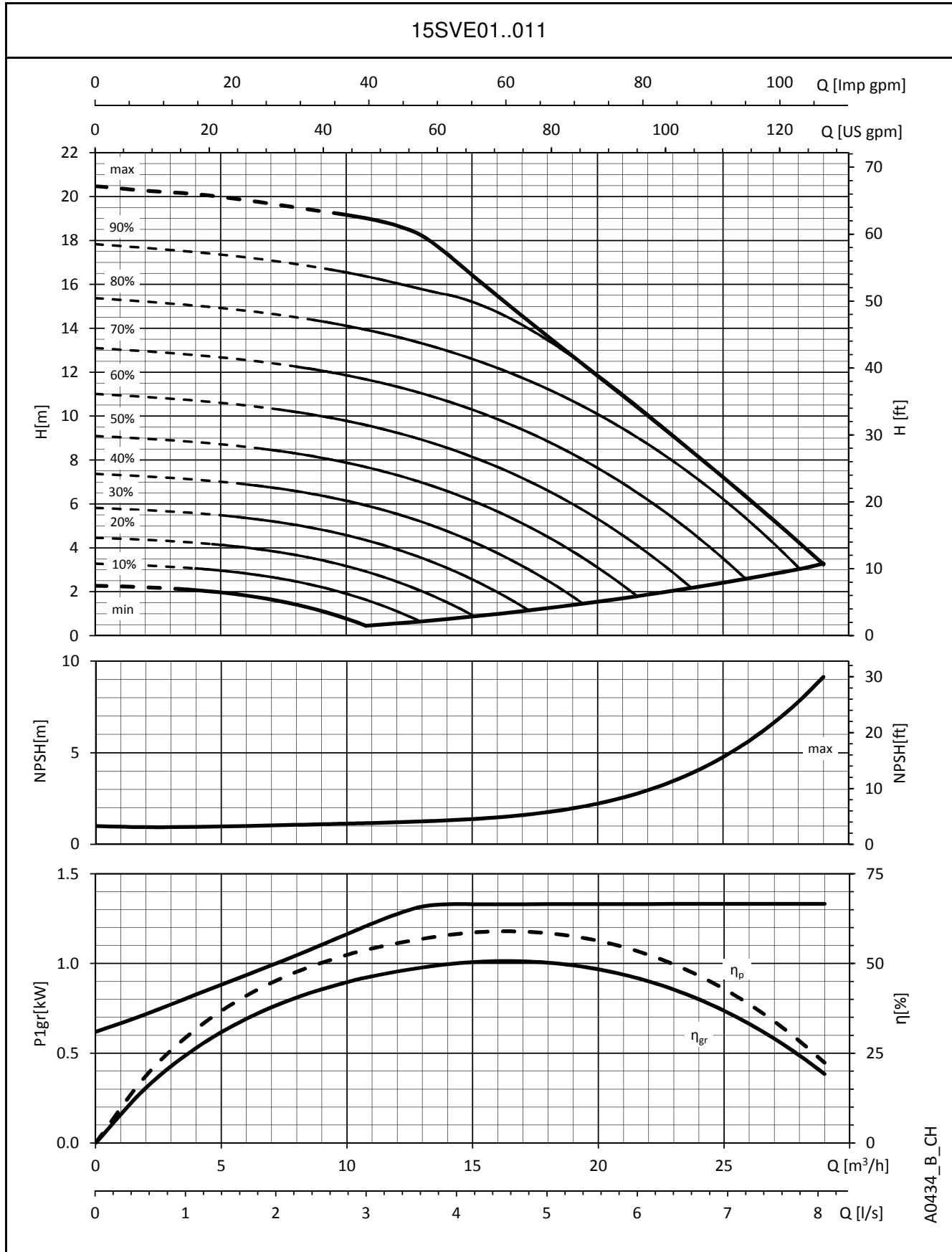
# 15SVE SERIES OPERATING CHARACTERISTICS



A0433\_B\_CH

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

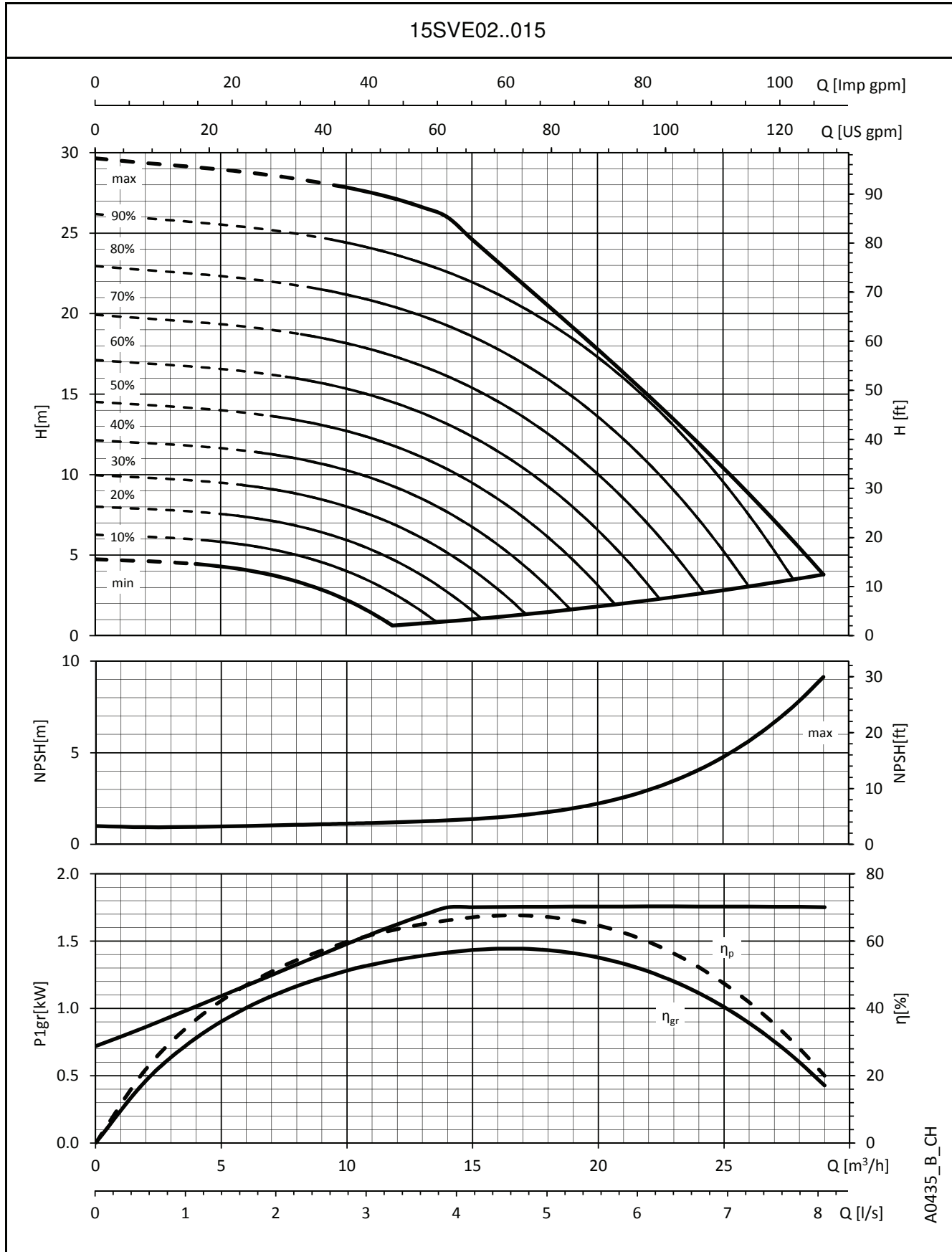
**15SVE SERIES  
OPERATING CHARACTERISTICS**



A0434\_B\_CH

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

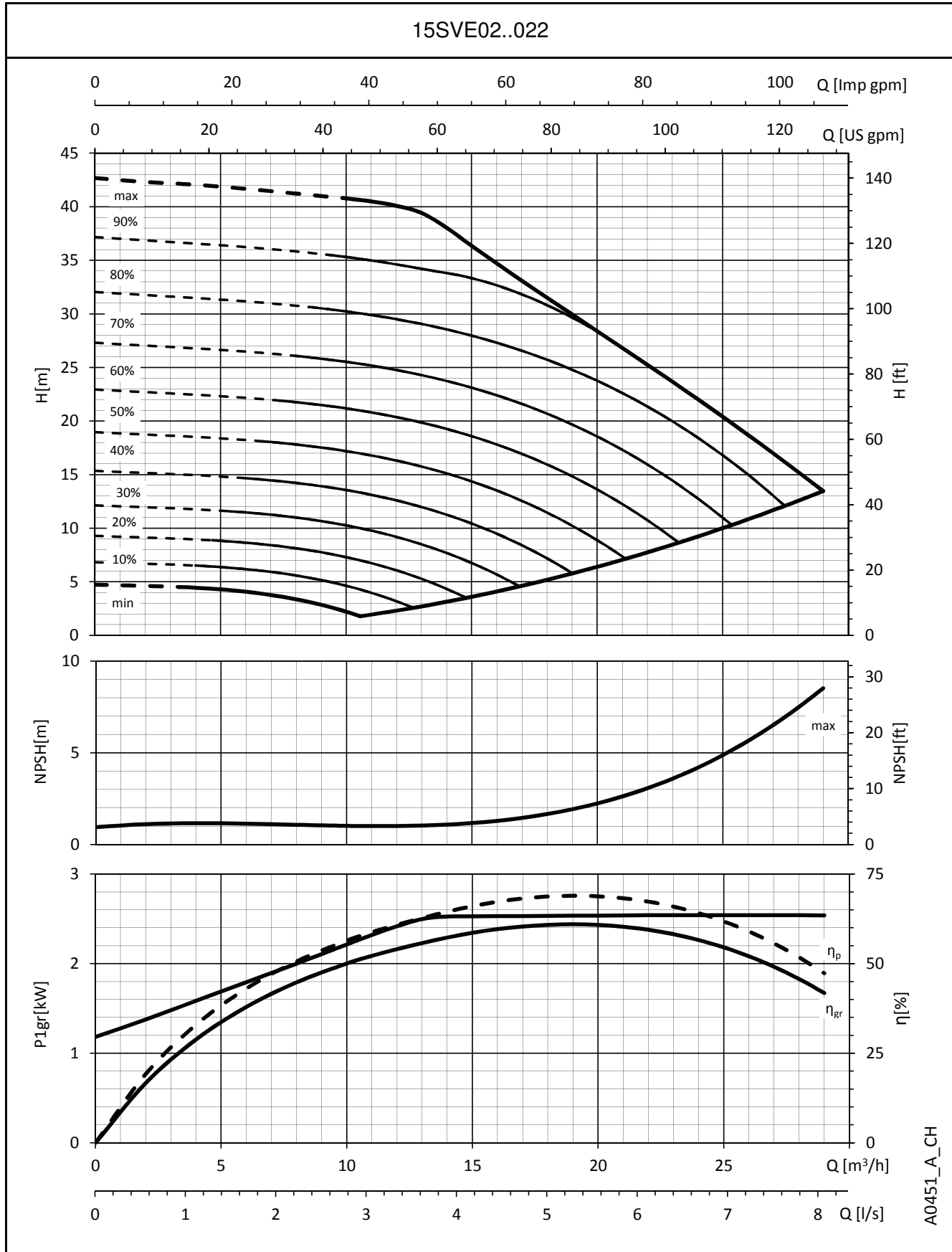
**15SVE SERIES  
OPERATING CHARACTERISTICS**



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



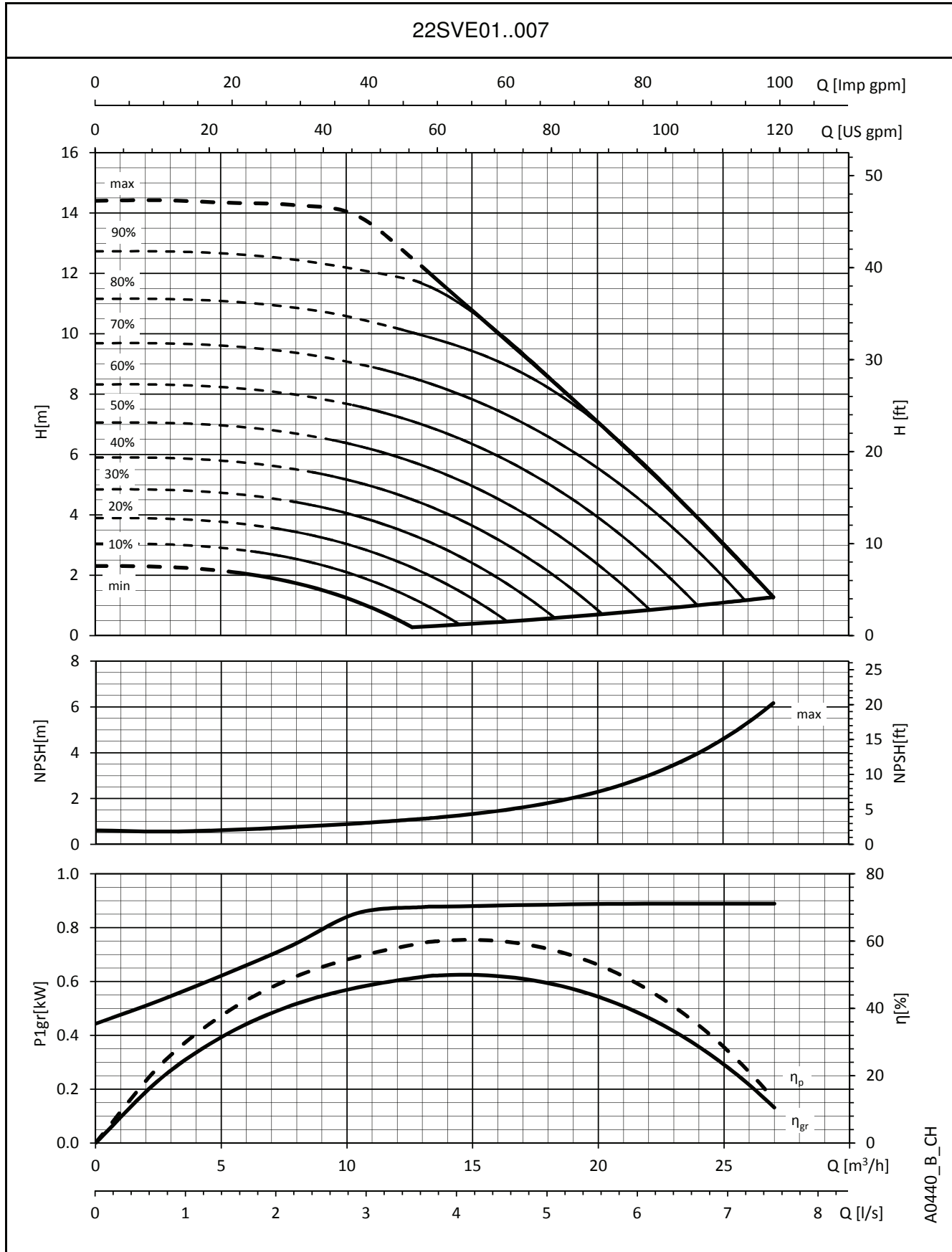
**15SVE SERIES  
OPERATING CHARACTERISTICS**



A0451\_A\_CH

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

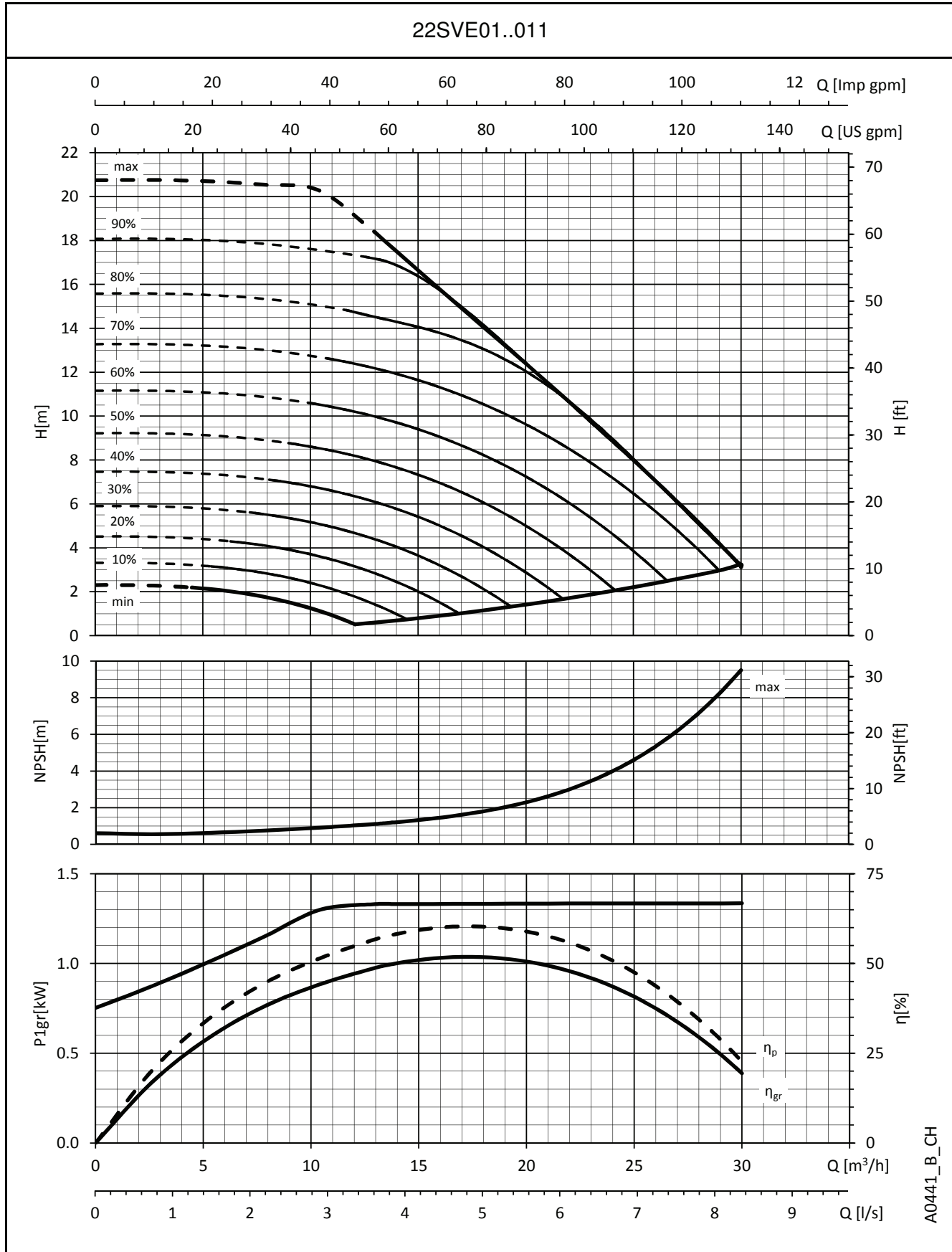
## 22SVE SERIES OPERATING CHARACTERISTICS



A0440\_B\_CH

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

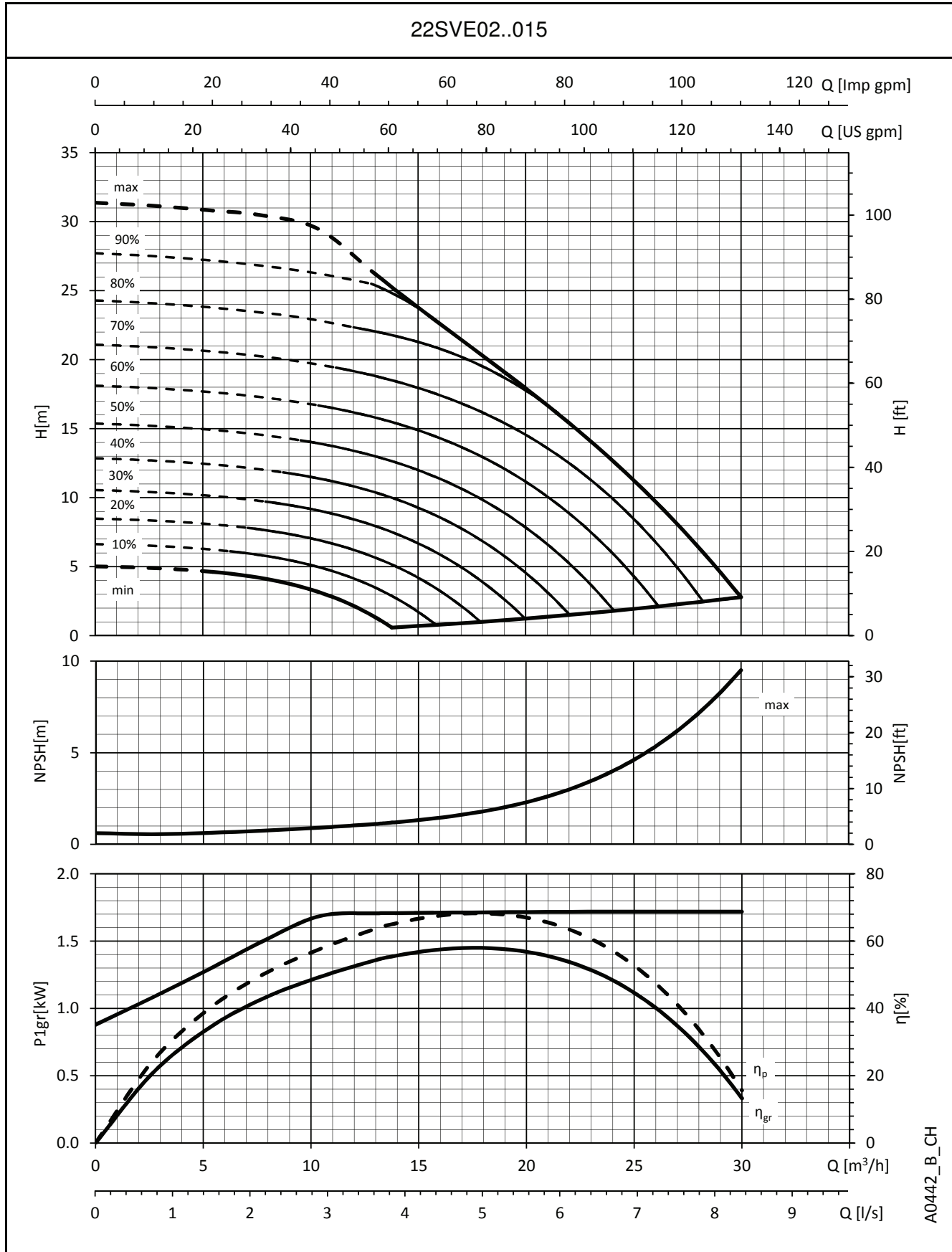
**22SVE SERIES  
OPERATING CHARACTERISTICS**



A0441\_B\_CH

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

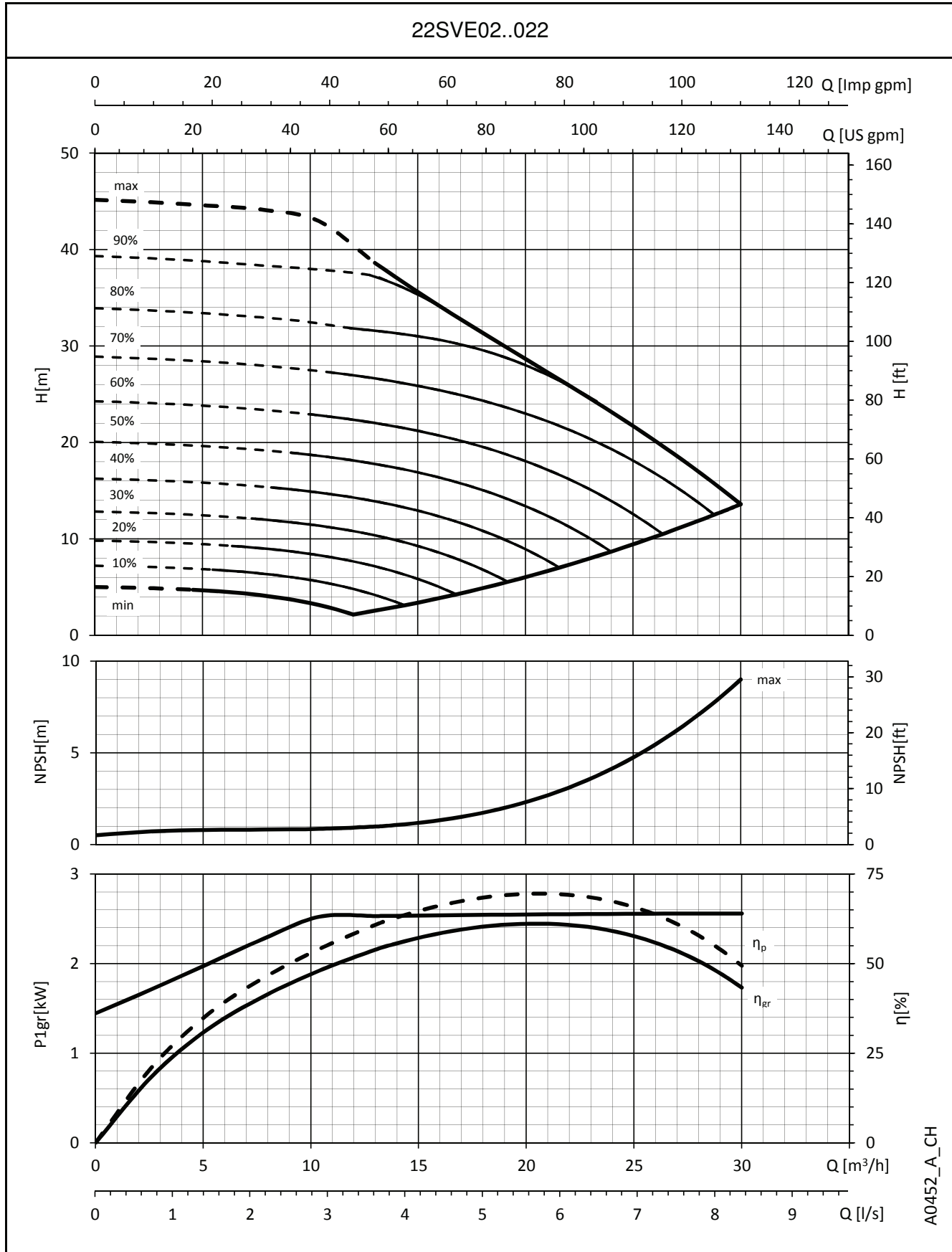
**22SVE SERIES  
OPERATING CHARACTERISTICS**



A0442\_B\_CH

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

**22SVE SERIES  
OPERATING CHARACTERISTICS**



A0452\_A\_CH

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-SVX, e-SVK: VERSION WITH hydrovar X**

## e-SVX, e-SVK SERIES e-SV 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 (SVK) hydrovar X+ (SVX)

- 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-SV hydrovar X, up to 8 e-SV hydrovar X+ pumps

### Pump

- Flow rate: up to 160 m<sup>3</sup>/h
- Head: up to 260 m
- Temperature of pumped liquid: up to +120°C
- Maximum operating pressure 16, 25 or 40 bar (PN 16, PN 25 or PN 40) depending on pump version
- 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-SVX, e-SVK SERIES  
e-SV WITH hydrovar X**

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

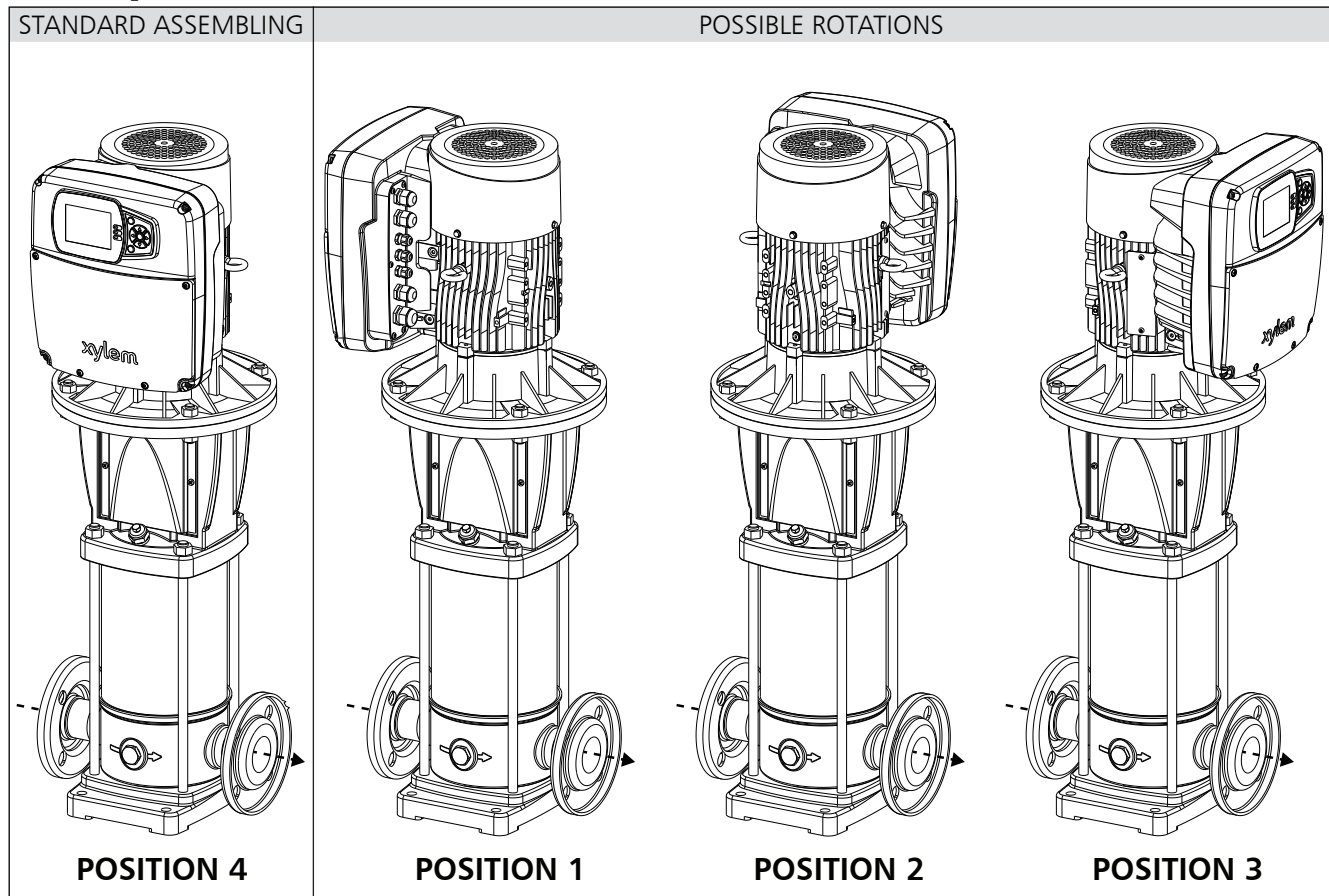
**hydrovar X (SVK)**



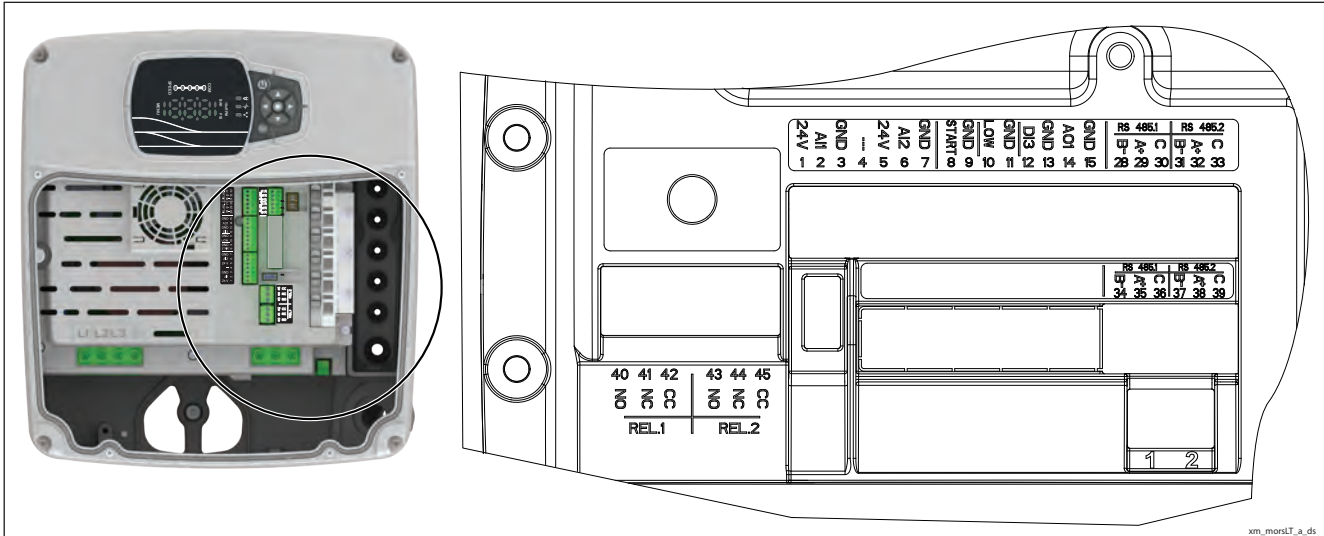
**hydrovar X+ (SVX)**



**Drive position**



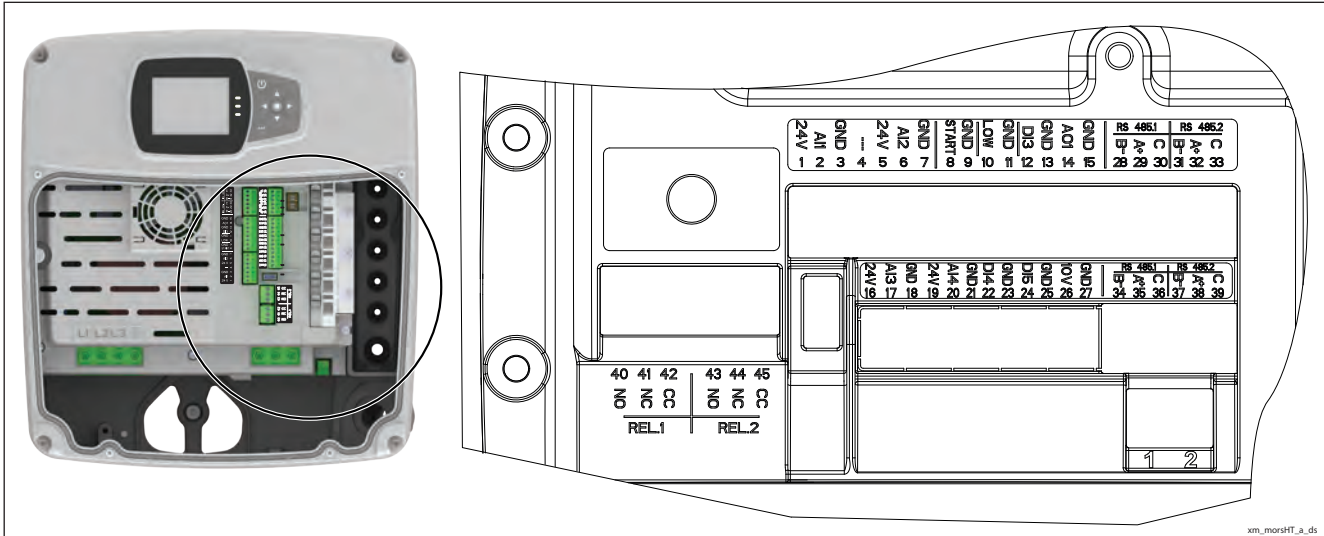
## SVK SERIES (hydrovar X) TERMINAL BLOCK



REF.	ITEM	DESCRIPTION	DEFAULT
1		Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	
2	Analog Input 1	Configurable Analog Input 1	Pressure Sensor 1
3		Electronic GND	
4	Not used	Internal use - Do not connect	
5		Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	
6	Analog Input 2	Configurable Analog Input 2	Not used
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	

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## SVX SERIES (hydrovar X+) TERMINAL BLOCK



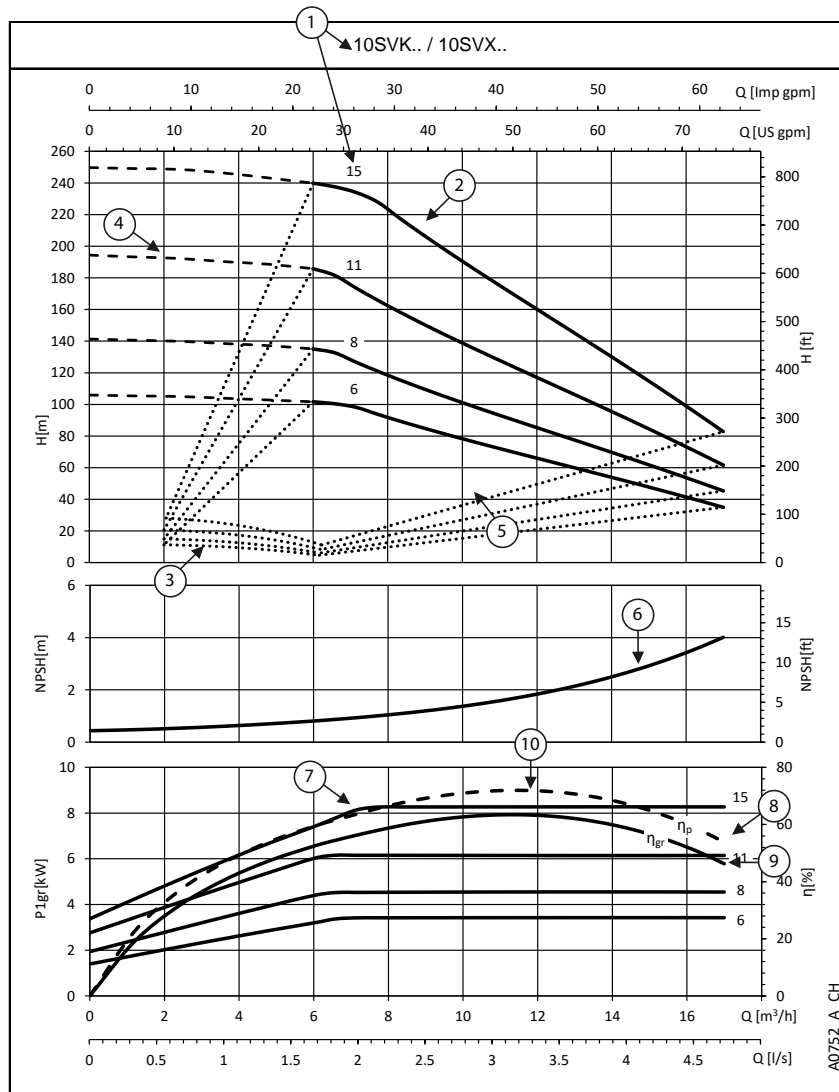
REF.	ITEM	DESCRIPTION	DEFAULT
1		Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	
2	Analog Input 1	Configurable Analog Input 1	Pressure Sensor 1
3		Electronic GND	
4	Not used	Internal use - Do not connect	
5		Power supply +24 VDC, max. 60mA (total, terminals 1 + 5)	
6	Analog Input 2	Configurable Analog Input 2	Not used
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		Power supply +24 VDC, max. 60mA (total, terminals 16 and 19)	
17	Analog Input 3	Configurable Analog Input 3	Not used
18		Electronic GND	
19		Power supply +24 VDC, max. 60mA (total, terminals 16 and 19)	
20	Analog Input 4	Configurable Analog Input 4	Not used
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		RS485 port 1: RS485-1B N (-)	
29	Communication bus 1	RS485 port 1: RS485-1A P (+)	Multipump
30		RS485 port 1: RS485-COM	
31		RS485 port 2: RS485-2B N (-)	
32	Communication bus 2	RS485 port 2: RS485-2A P (+)	Modbus
33		RS485 port 2: RS485-COM	
34		RS485 port 1: RS485-1B N (-)	
35	Communication bus 1	RS485 port 1: RS485-1A P (+)	Multipump
36		RS485 port 1: RS485-COM	
37		RS485 port 2: RS485-2B N (-)	
38	Communication bus 2	RS485 port 2: RS485-2A P (+)	Modbus
39		RS485 port 2: RS485-COM	
40		Configurable relay 1: Normally Open	
41	Relay 1	Configurable relay 1: Normally Closed	Running
42		Configurable relay 1: Common Contact	
43		Configurable relay 2: Normally Open	
44	Relay 2	Configurable relay 2: Normally Closed	Error
45		Configurable relay 2: Common Contact	

xm\_morsHT-en\_a\_sc

## e-SVX, e-SVK SERIES

### HOW TO READ CURVES OF e-SV WITH hydrovar X

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



**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<sub>gr</sub>** 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 rates for a given speed.

⑧ **η<sub>p</sub>** is the efficiency of the hydraulic part, working at maximum speed.

⑨ **η<sub>gr</sub>** 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<sub>p</sub> 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-SVX, e-SVK SERIES HYDRAULIC PERFORMANCES TABLE

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	13,3	26,7	40,0	53,3	66,7	80,0	86,7
			m <sup>3</sup> /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										
3SV..21	3	EXM100B14..030B	234,5	236,5	235,3	227,8	204,9	164,7	123,8	102,7

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	26,7	53,3	80,0	106,7	133,3	160,0	166,7
			m <sup>3</sup> /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										
5SV..15	3	EXM100B14..030B	166,7	167,0	162,7	151,7	121,5	93,3	65,3	58,2
5SV..19	4	EXM112B14..040B	211,2	211,7	205,8	194,4	161,8	125,4	89,3	80,2
5SV..23	5,5	EXM132B5..055B	255,6	256,0	249,4	235,2	213,0	175,0	129,6	118,2

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	43,3	86,7	130,0	173,3	216,7	260,0	283,3
			m <sup>3</sup> /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										
10SV..06	3	EXM100B14..030B	105,9	104,9	102,5	93,2	75,8	60,0	44,0	34,9
10SV..08	4	EXM112B14..040B	141,3	139,7	136,7	120,3	97,9	77,5	57,0	45,3
10SV..11	5,5	EXM132B5..055B	194,4	192,0	188,1	165,0	134,4	106,4	77,8	61,6
10SV..15	7,5	EXM132B5..075C	249,7	248,3	242,2	226,7	184,4	145,3	105,4	82,8

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	70,0	140,0	210,0	280,0	350,0	420,0	483,3
			m <sup>3</sup> /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										
15SV..02	3	EXM100B14..030B	42,7	42,0	41,2	39,9	37,6	34,0	28,7	21,6
15SV..03	4	EXM112B14..040B	64,0	63,0	61,8	59,8	56,4	50,1	38,7	28,4
15SV..05	5,5	EXM132B5..055B	106,7	105,1	102,9	99,3	83,5	67,1	50,2	33,7
15SV..07	7,5	EXM132B5..075C	149,4	147,0	144,2	138,6	114,1	91,3	67,8	44,7
15SV..09	11	EXM160B5..110C	195,1	190,3	186,1	180,8	165,1	137,4	108,8	80,4
15SV..12	15	EXM160B5..150D	260,1	253,7	248,0	241,1	224,6	187,4	149,1	111,2

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	83,3	166,7	250,0	333,3	416,7	500,0	566,7
			m <sup>3</sup> /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										
22SV..02	3	EXM100B14..030B	45,2	44,6	43,6	42,2	38,5	31,0	22,9	15,2
22SV..03	4	EXM112B14..040B	67,8	67,0	65,4	63,2	51,8	40,9	28,8	17,2
22SV..04	5,5	EXM132B5..055B	90,1	90,1	88,7	85,6	71,6	57,2	41,3	26,6
22SV..05	7,5	EXM132B5..075C	112,7	112,7	110,8	107,7	97,0	78,5	58,5	40,2
22SV..07	11	EXM160B5..110C	157,8	157,6	155,3	150,5	141,1	115,5	87,4	61,8
22SV..10	15	EXM160B5..150D	225,5	225,3	221,5	215,3	194,1	157,1	117,1	80,4
22SV..12	18,5	EXM160B5..185D	255,7	254,7	251,6	243,9	229,3	194,6	146,0	102,9

svx-svk-1-en\_a\_th

## e-SVX, e-SVK SERIES HYDRAULIC PERFORMANCES TABLE

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	116,7	233,3	350,0	466,7	583,3	700,0	800,0
			m <sup>3</sup> /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										
33SV..1	3	EXM100B14..030B	35,0	34,7	34,3	32,8	28,3	23,9	19,4	15,0
33SV..2	7,5	EXM132B5..075C	70,1	69,5	68,6	67,1	65,0	59,2	49,6	40,8
33SV..3	11	EXM160B5..110C	105,1	104,2	102,9	100,7	97,5	86,9	72,7	59,5
33SV..4	15	EXM160B5..150D	140,1	138,9	137,2	134,4	129,8	118,4	99,3	81,6
33SV..5	18,5	EXM160B5..185D	175,2	173,7	171,5	167,9	162,4	146,1	122,4	100,3
33SV..6	22	EXM180B5..220D	210,3	208,4	205,8	201,5	194,8	173,9	145,4	118,9

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	173,3	346,7	520,0	693,3	866,7	1040,0	1200,0
			m <sup>3</sup> /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										
46SV..1	5,5	EXM132B5..055B	40,7	39,4	37,7	35,6	32,9	29,1	21,6	13,6
46SV..2	11	EXM160B5..110C	79,1	76,8	74,8	72,2	68,6	61,5	47,6	33,9
46SV..3	15	EXM160B5..150D	118,8	115,1	112,1	108,6	101,5	83,5	63,0	43,0
46SV..4	18,5	EXM160B5..185D	157,5	152,9	148,9	143,5	123,9	99,7	73,1	48,0
46SV..5	22	EXM180B5..220D	196,9	191,0	186,2	173,5	147,9	117,9	85,1	54,2

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	223,3	446,7	670,0	893,3	1116,7	1340,0	1550,0
			m <sup>3</sup> /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										
66SV..1	5,5	EXM132B5..055B	44,4	43,7	36,9	31,1	26,6	22,7	18,4	12,1
66SV..2	11	EXM160B5..110C	86,5	85,4	72,7	61,9	53,3	45,8	37,8	27,8
66SV..3	18,5	EXM160B5..185D	128,9	127,6	120,5	103,0	89,0	77,0	65,0	51,1
66SV..4	22	EXM180B5..220D	171,3	171,5	146,3	125,2	108,1	93,4	77,8	58,9

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	323,3	646,7	970,0	1293,3	1616,7	1940,0	2250,0
			m <sup>3</sup> /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										
92SV..1	7,5	EXM132B5..075C	42,7	39,7	35,6	31,0	26,2	21,1	15,1	7,2
92SV..2	15	EXM160B5..150D	85,4	79,4	71,6	62,8	53,7	44,2	33,2	19,4
92SV..3	22	EXM180B5..220D	120,6	112,9	101,9	89,6	76,8	63,4	47,9	28,2

PUMP TYPE SVX SVK	MOTOR		Q = DELIVERY							
	P <sub>N</sub> kW	TYPE	l/min 0	383,3	766,7	1150,0	1533,3	1916,7	2300,0	2666,7
			m <sup>3</sup> /h 0	23,0	46,0	69,0	92,0	115,0	138,0	160,0
H = TOTAL HEAD IN METRES OF COLUMN OF WATER										
125SV..1	7,5	EXM132B5..075C	31,6	29,1	26,2	23,1	19,7	15,9	11,5	6,7
125SV..2	15	EXM160B5..150D	62,9	59,0	54,3	48,9	43,1	36,8	30,1	23,2
125SV..2	22	EXM180B5..220D	78,8	73,9	69,7	65,7	59,3	52,4	45,2	37,8

svx-svk-2-en\_a\_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 <sub>N</sub> kW	MOTOR TYPE	IEC SIZE*	Construction Design	SPEED (RPM)** min <sup>-1</sup>	INPUT CURRENT I (A) 380-480 V	DATA RELATED TO THE VOLTAGE OF 400V					IES	
						In A	cosφ	Tn Nm	η % 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		

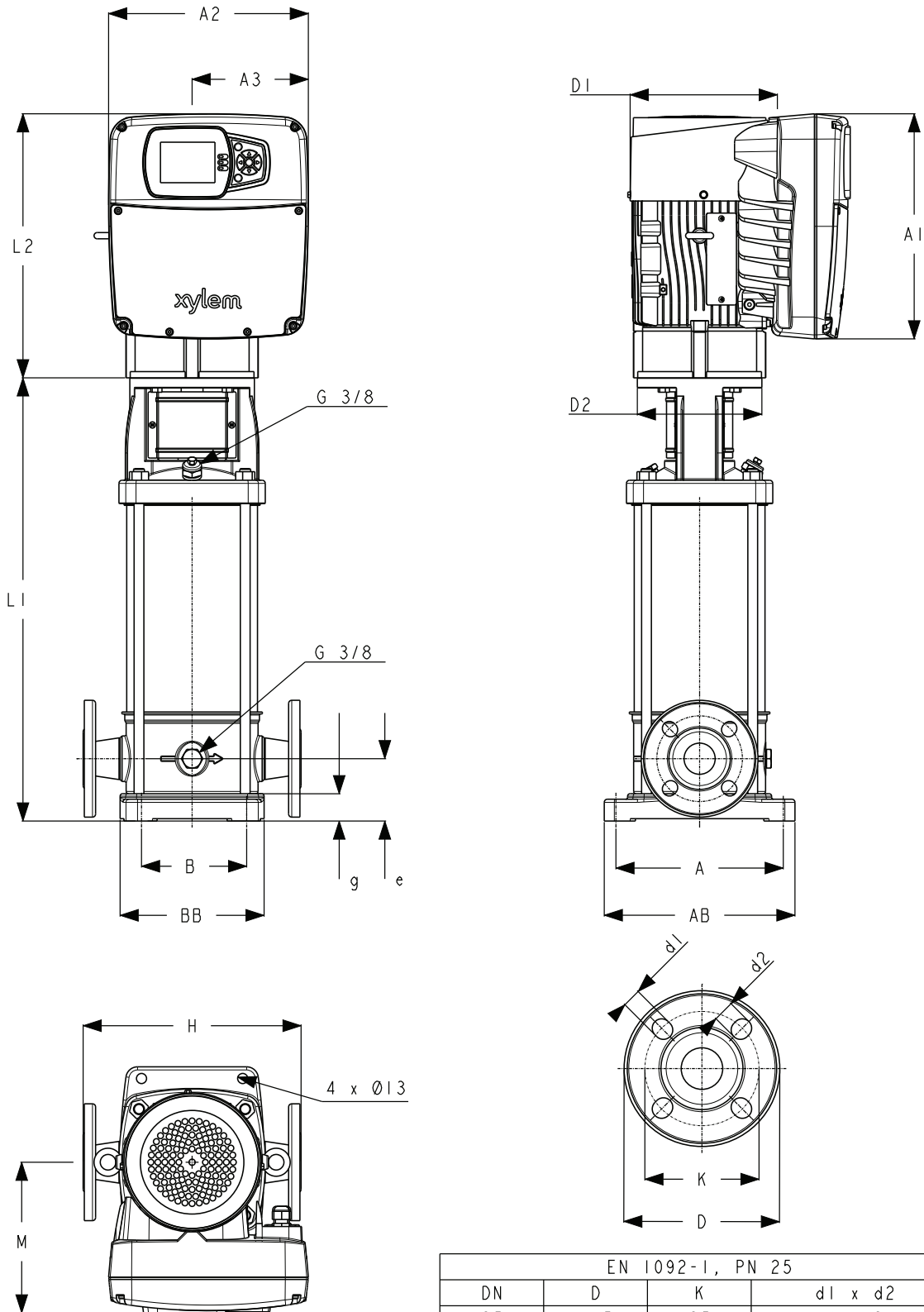
\*\* The indicated rotational speed are representing the upper and lower limits of the rated power operational speed range.

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-SVX, e-SVK SERIES**  
**DIMENSIONS AND WEIGHTS**



EN 1092-1, PN 25			
DN	D	K	d1 x d2
25	115	85	N.4 x Ø14
32	140	100	N.4 x 18 x 18.8
40	150	110	N.4 x 18 x 20.5
50	165	125	N.4 x 18 x 20.5

SVX-1\_A-DD

## e-SVX, e-SVK SERIES DIMENSIONS AND WEIGHTS

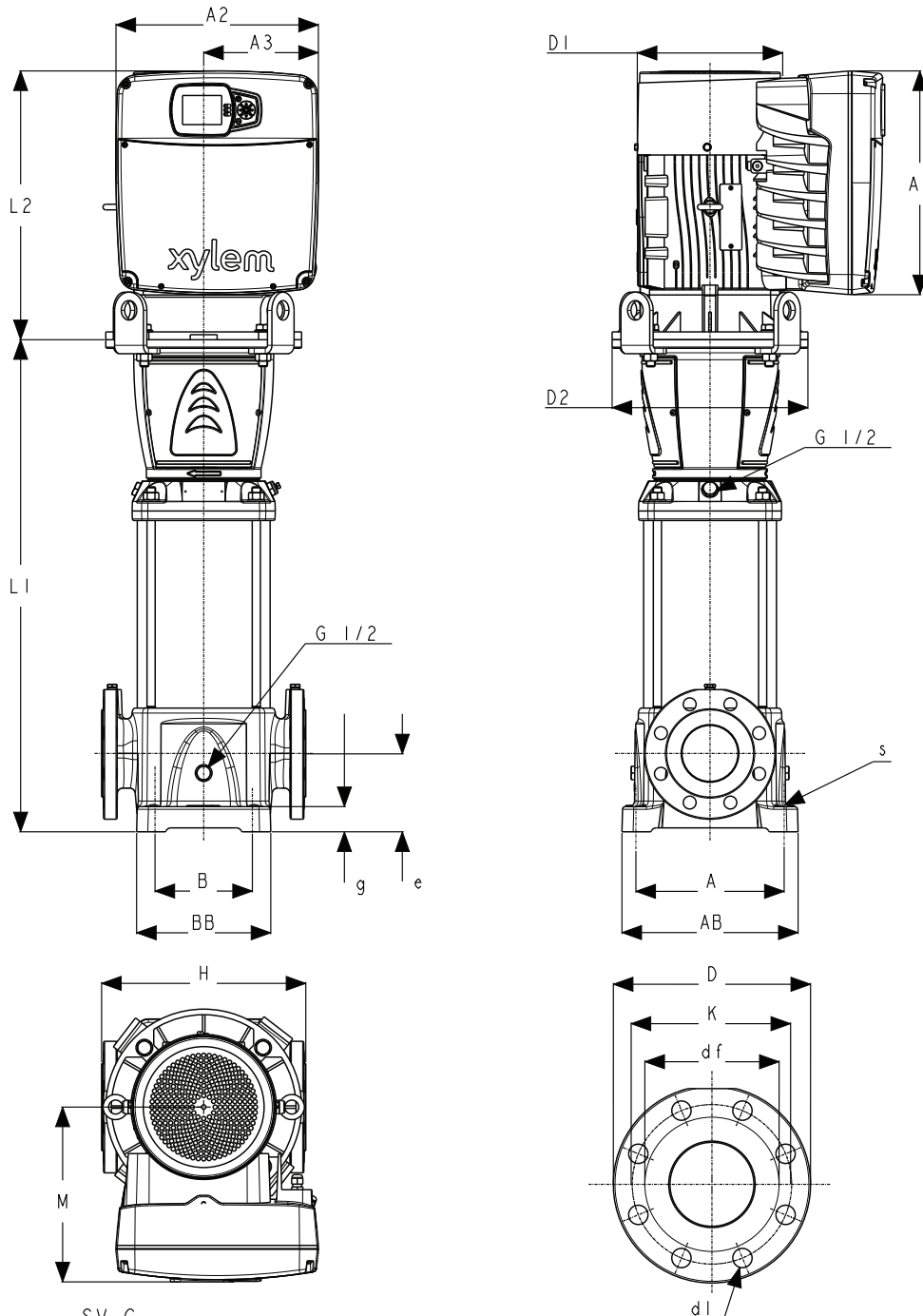
PUMP TYPE SVK, SVX	MOTOR TYPE		DIMENSIONS (mm)																	WEIGHT (kg) <sup>(1)</sup>	
	kW	Size	DN	L1	D2	H	PUMP <sup>(1)</sup>			MOTOR				DRIVE					PUMP	ELECTRIC	
							g	e	A	AB	B	BB	IEC	L2	D1	A1	A2	A3	M		
3SV..21	3	B	25	668	160	250	25	75	180	210	100	150	100	339	179	289	256	149	194	16,8	41,3
5SV..15	3	B	32	623	160	250	25	75	180	210	100	150	100	339	179	289	256	149	194	15,8	35,8
5SV..19	4	B	32	723	160	250	25	75	180	210	100	150	112	339	179	289	256	149	194	18,5	39,5
5SV..23	5,5	B	32	843	300	250	25	75	180	210	100	150	132	349	179	289	256	149	194	23,5	51,5
10SV..06	3	B	40	505	160	280	28	80	215	245	130	185	100	339	179	289	256	149	194	20,3	40,3
10SV..08	4	B	40	569	160	280	28	80	215	245	130	185	112	339	179	289	256	149	194	22,4	43,4
10SV..11	5,5	B	40	732	300	280	28	80	215	245	130	185	132	349	179	289	256	149	194	29,7	57,7
10SV..15	7,5	C	40	860	300	280	28	80	215	245	130	185	132	391	220	329	302	175	241	35,0	77,0
15SV..02	3	B	50	419	160	300	30	90	215	245	130	185	100	339	179	289	256	149	194	17,7	37,7
15SV..03	4	B	50	467	160	300	30	90	215	245	130	185	112	339	179	289	256	149	194	16,7	37,7
15SV..05	5,5	B	50	630	300	300	30	90	215	245	130	185	132	349	179	289	256	149	194	12,0	40,0
15SV..07	7,5	C	50	726	300	300	30	90	215	245	130	185	132	391	220	329	302	175	241	12,5	54,5
15SV..09	11	C	50	852	350	300	30	90	215	245	130	185	160	404	220	329	302	175	241	34,6	86,6
15SV..12	15	C	50	996	350	300	30	90	215	245	130	185	160	480	260	400	362	205	312	38,6	110,6
22SV..02	3	B	50	419	160	300	30	90	215	245	130	185	100	339	179	289	256	149	194	18,1	38,1
22SV..03	4	B	50	467	160	300	30	90	215	245	130	185	112	339	179	289	256	149	194	19,4	40,4
22SV..04	5,5	B	50	582	300	300	30	90	215	245	130	185	132	349	179	289	256	149	194	25,6	53,6
22SV..05	7,5	C	50	630	300	300	30	90	215	245	130	185	132	391	220	329	302	175	241	26,7	68,7
22SV..07	11	C	50	756	350	300	30	90	215	245	130	185	160	404	220	329	302	175	241	32,4	84,4
22SV..10	15	D	50	900	350	300	30	90	215	245	130	185	160	480	260	400	362	205	312	36,4	108,4
22SV..12	18,5	D	50	996	350	300	30	90	215	245	130	185	160	480	260	400	362	205	312	38,4	116,4

<sup>(1)</sup> Values referred to the F and N versions. Special version on request.

svx-1-en\_a\_td

For dimensions and weight of other versions referred to the dimensional tables of e-SV models.

**e-SVX, e-SVK SERIES  
DIMENSIONS AND WEIGHTS**



SV G

DN	EN 1092-1, PN 16				EN 1092-1, PN 25			
	D	K	df	dl	D	K	df	dl
65	185	145	118	N.4 x Ø19	185	145	118	N.8 x Ø19
80	200	160	132	N.8 x Ø19	200	160	132	N.8 x Ø19
100	220	180	156	N.8 x Ø19	235	190	156	N.8 x Ø23
125	280	210	184	N.8 x Ø19	280	220	184	N.8 x Ø28

SV N, P

DN	EN 1092-1, PN 16				EN 1092-1, PN 25			
	D	K	df	dl	D	K	df	dl
65	185	145	122	N.4 x Ø19	185	145	122	N.8 x Ø19
80	200	160	138	N.8 x Ø19	200	160	138	N.8 x Ø19
100	220	180	158	N.8 x Ø19	235	190	162	N.8 x Ø23
125	280	210	184	N.8 x Ø19	280	220	184	N.8 x Ø28

SVX-2-A-DD

PN 40, DN 65 AND DN 80:  
THE DIMENSIONS ARE THE SAME OF PN 25, DN 65 AND DN 80

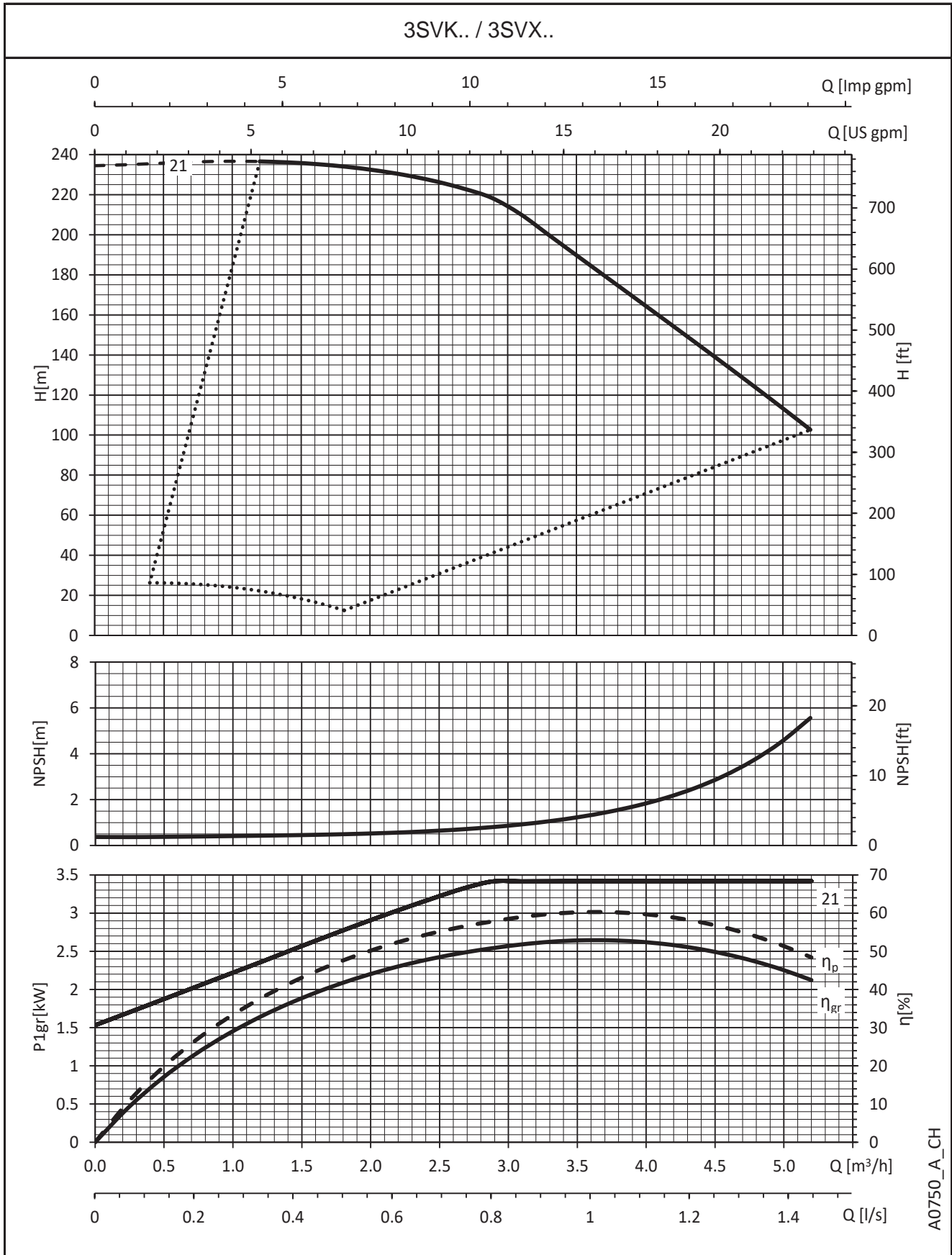
## e-SVX, e-SVK SERIES DIMENSIONS AND WEIGHTS

PUMP TYPE	MOTOR TYPE		DIMENSIONS (mm)																		WEIGHT (kg)	
	kW	Size	PUMP									MOTOR			DRIVE						PUMP	ELECTRIC
			DN	L1	D2	H	g	e	s	A	AB	B	BB	IEC	L2	D1	A1	A2	A3	M		
33SV..1	3	B	65	489	164	320	30	105	N.4xØ15	240	290	170	220	100	339	179	289	256	149	194	52	76
33SV..2	7,5	C	65	584	300	320	30	105	N.4xØ15	240	290	170	220	132	391	220	329	302	175	241	61	103
33SV..3	11	C	65	694	350	320	30	105	N.4xØ15	240	290	170	220	160	404	220	329	302	175	241	69	121
33SV..4	15	D	65	769	350	320	30	105	N.4xØ15	240	290	170	220	160	480	260	400	362	205	312	73	145
33SV..5	18,5	D	65	844	350	320	30	105	N.4xØ15	240	290	170	220	160	480	260	400	362	205	312	77	155
33SV..6	22	D	65	919	350	320	30	105	N.4xØ15	240	290	170	220	180	480	260	400	362	205	312	82	166
46SV..1	5,5	B	80	549	300	365	45	140	N.4xØ15	265	315	190	240	132	349	179	289	256	149	194	63	91
46SV..2	11	C	80	659	350	365	45	140	N.4xØ15	265	315	190	240	160	404	220	329	302	175	241	70	122
46SV..3	15	D	80	734	350	365	45	140	N.4xØ15	265	315	190	240	160	480	260	400	362	205	312	74	146
46SV..4	18,5	D	80	809	350	365	45	140	N.4xØ15	265	315	190	240	160	480	260	400	362	205	312	78	156
46SV..5	22	D	80	884	350	365	45	140	N.4xØ15	265	315	190	240	180	480	260	400	362	205	312	83	167
66SV..1	5,5	B	100	574	300	365	45	140	N.4xØ15	265	315	190	240	132	349	179	289	256	149	194	72	100
66SV..2	11	C	100	699	350	365	45	140	N.4xØ15	265	315	190	240	160	404	220	329	302	175	241	81	133
66SV..3	18,5	D	100	789	350	365	45	140	N.4xØ15	265	315	190	240	160	480	260	400	362	205	312	86	164
66SV..4	22	D	100	879	350	365	45	140	N.4xØ15	265	315	190	240	180	480	260	400	362	205	312	93	177
92SV..1	7,5	C	100	574	300	365	45	140	N.4xØ15	265	315	190	240	132	391	220	329	302	175	241	71	113
92SV..2	15	D	100	699	350	365	45	140	N.4xØ15	265	315	190	240	160	480	260	400	362	205	312	80	152
92SV..3	22	D	100	789	350	365	45	140	N.4xØ15	265	315	190	240	180	480	260	400	362	205	312	87	171
125SV..1	7,5	C	125	693	300	480	45	160	N.4xØ19	380	450	275	330	132	391	220	329	302	175	241	116	158
125SV..2	15	D	125	878	350	480	45	160	N.4xØ19	380	450	275	330	160	480	260	400	362	205	312	131	203
125SV..2	22	D	125	878	350	480	45	160	N.4xØ19	380	450	275	330	180	480	260	400	362	205	312	144	228

Special version on request.

svx-2-en\_a\_td

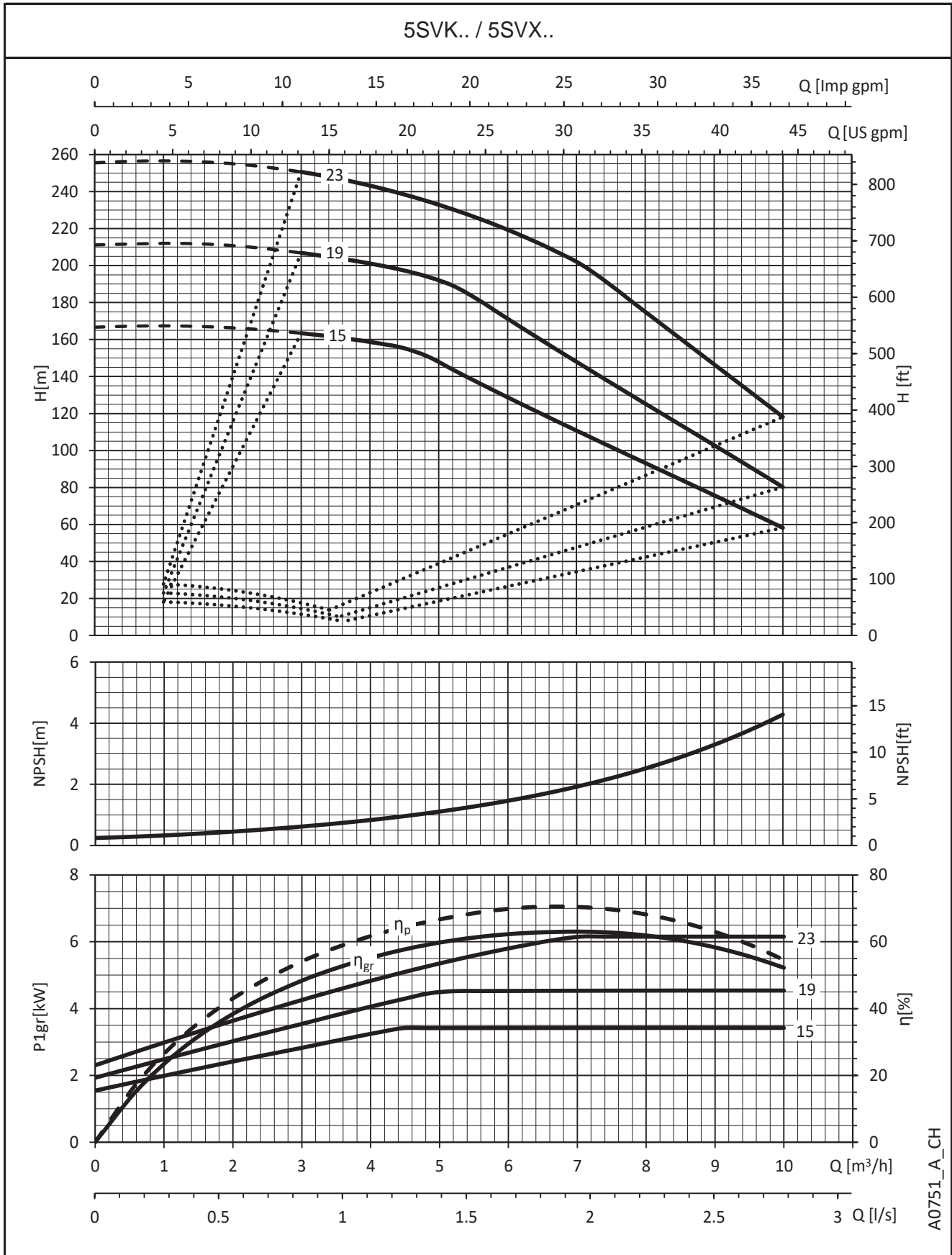
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0750\_A\_CH

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

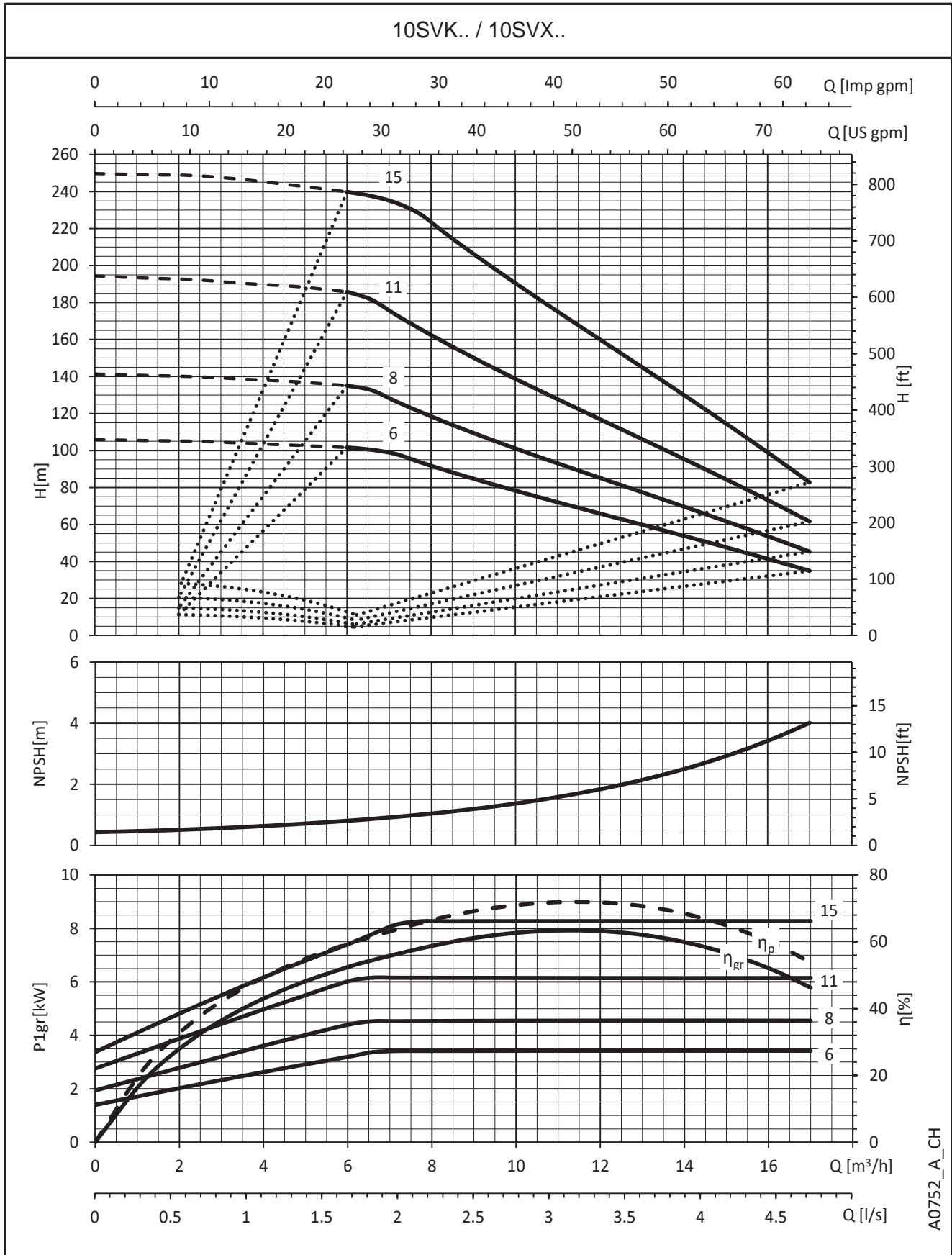
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0751\_A\_CH

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

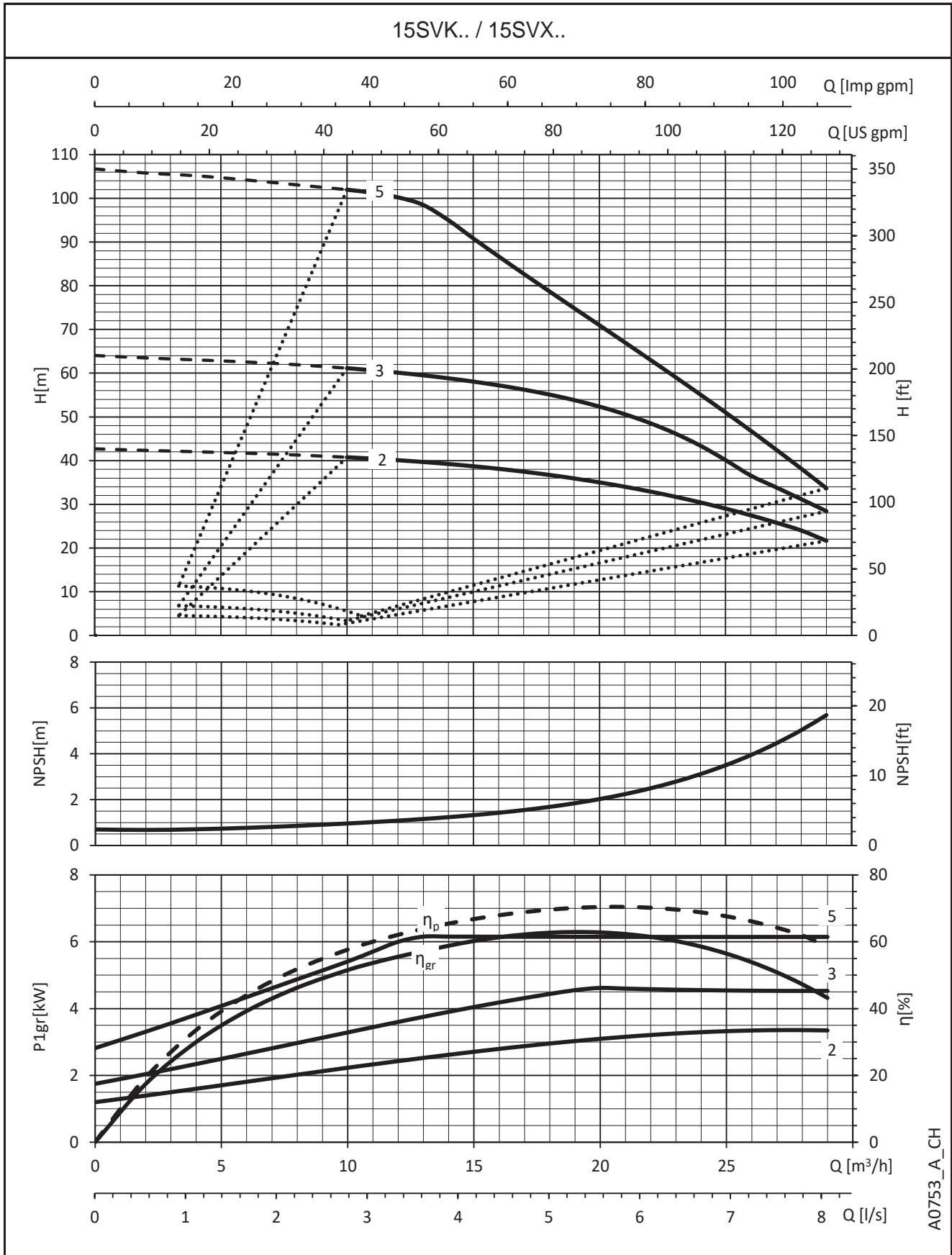
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0752\_A\_CH

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-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**

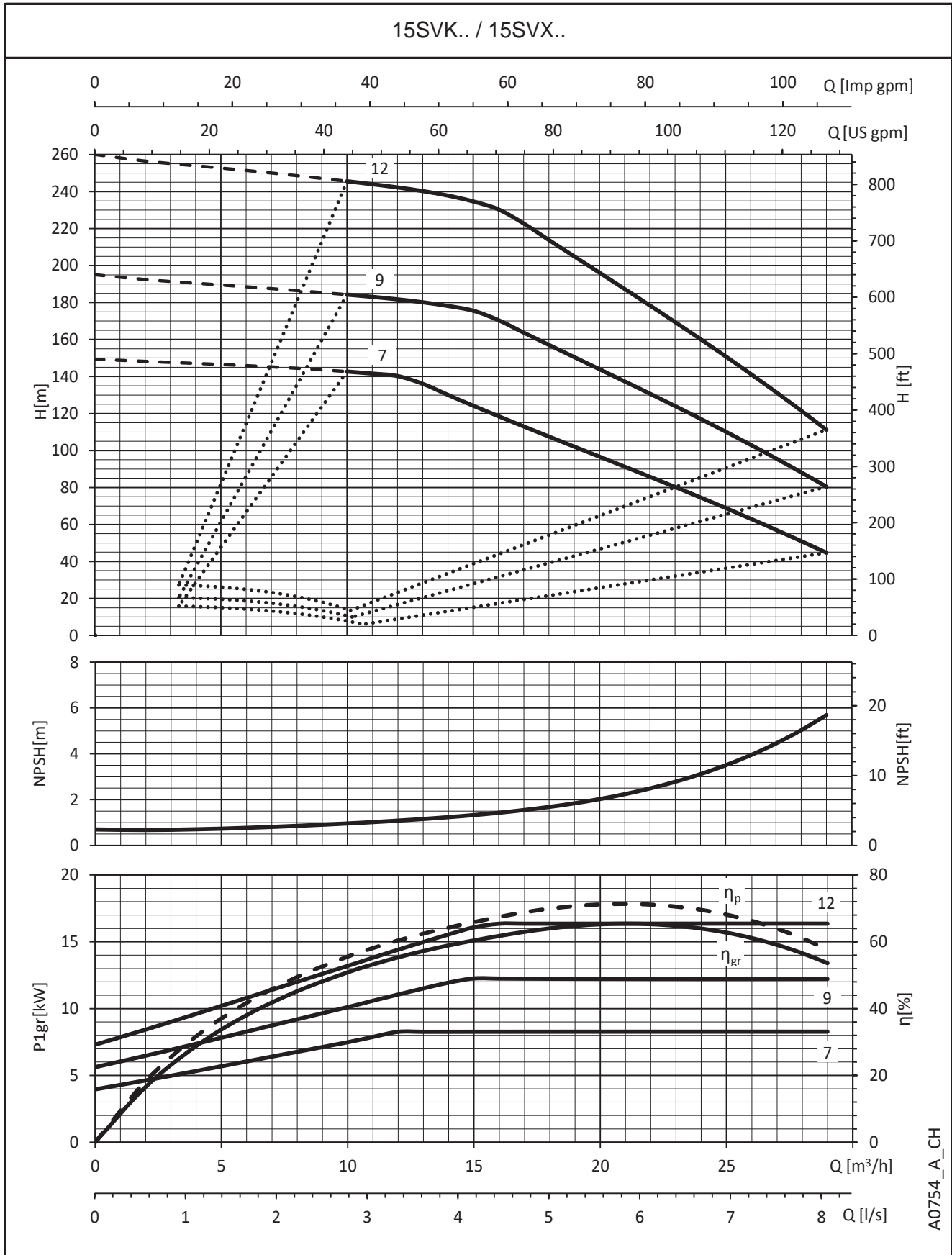


A0753\_A\_CH

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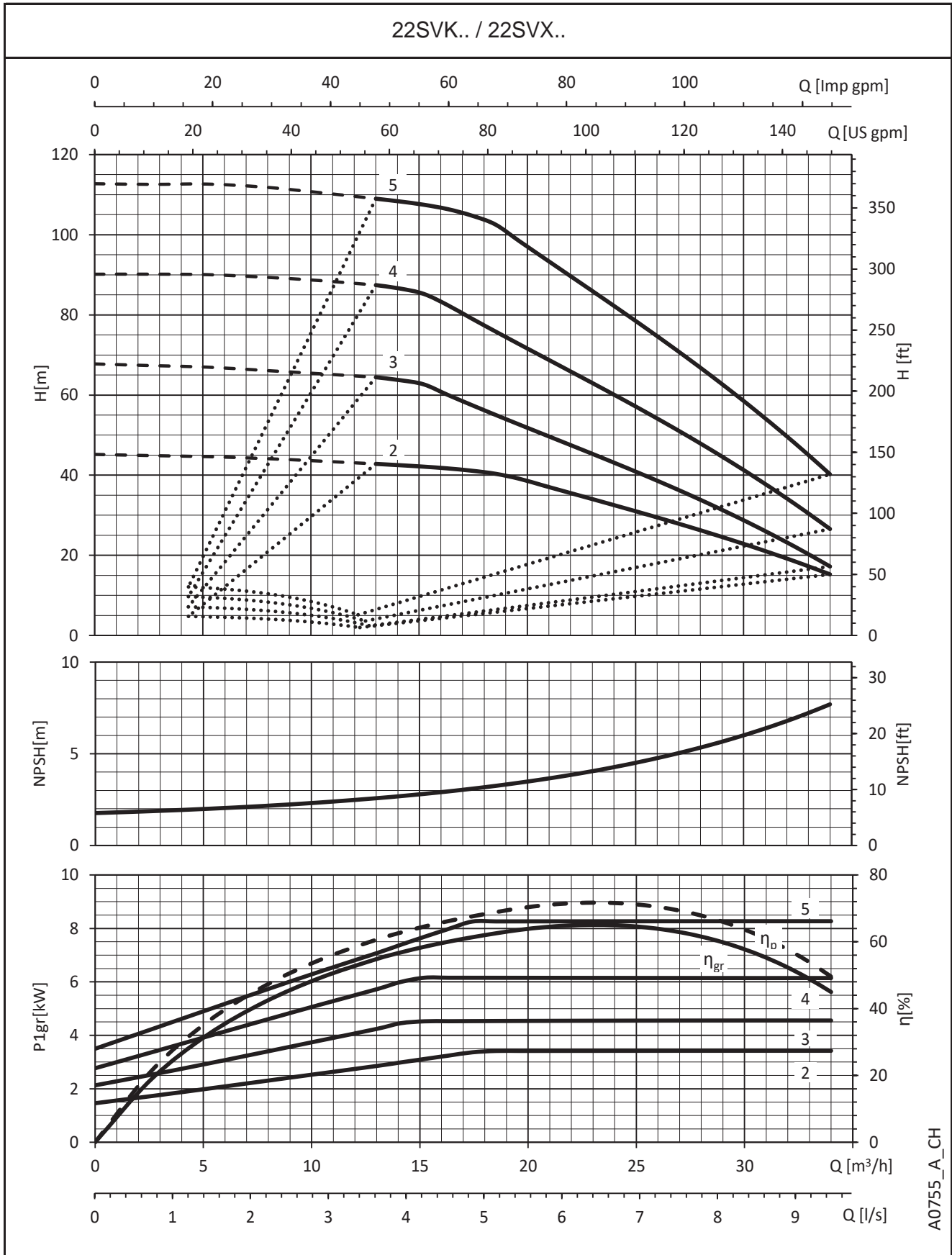


**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



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

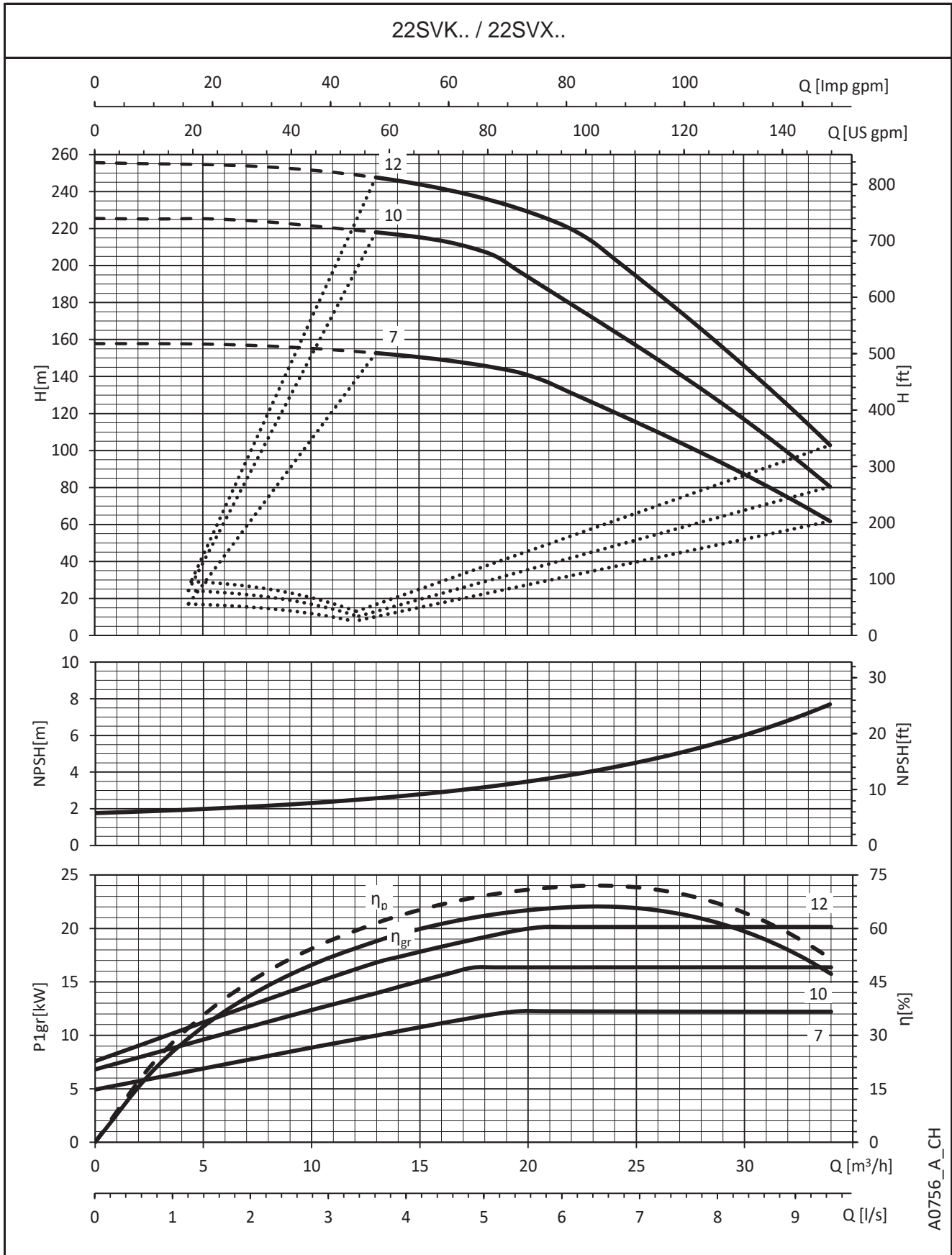
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0755\_A\_CH

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

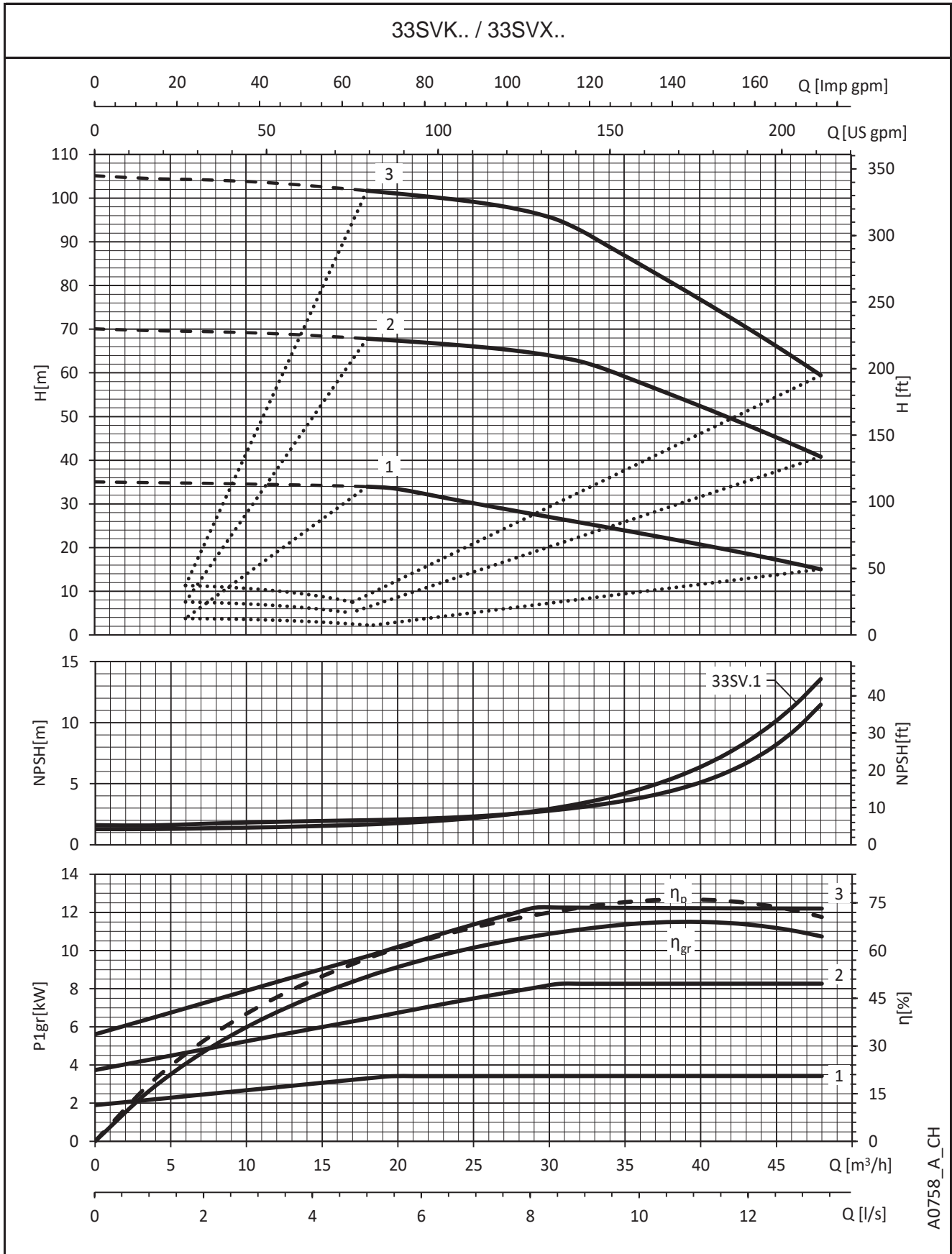
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0756\_A\_CH

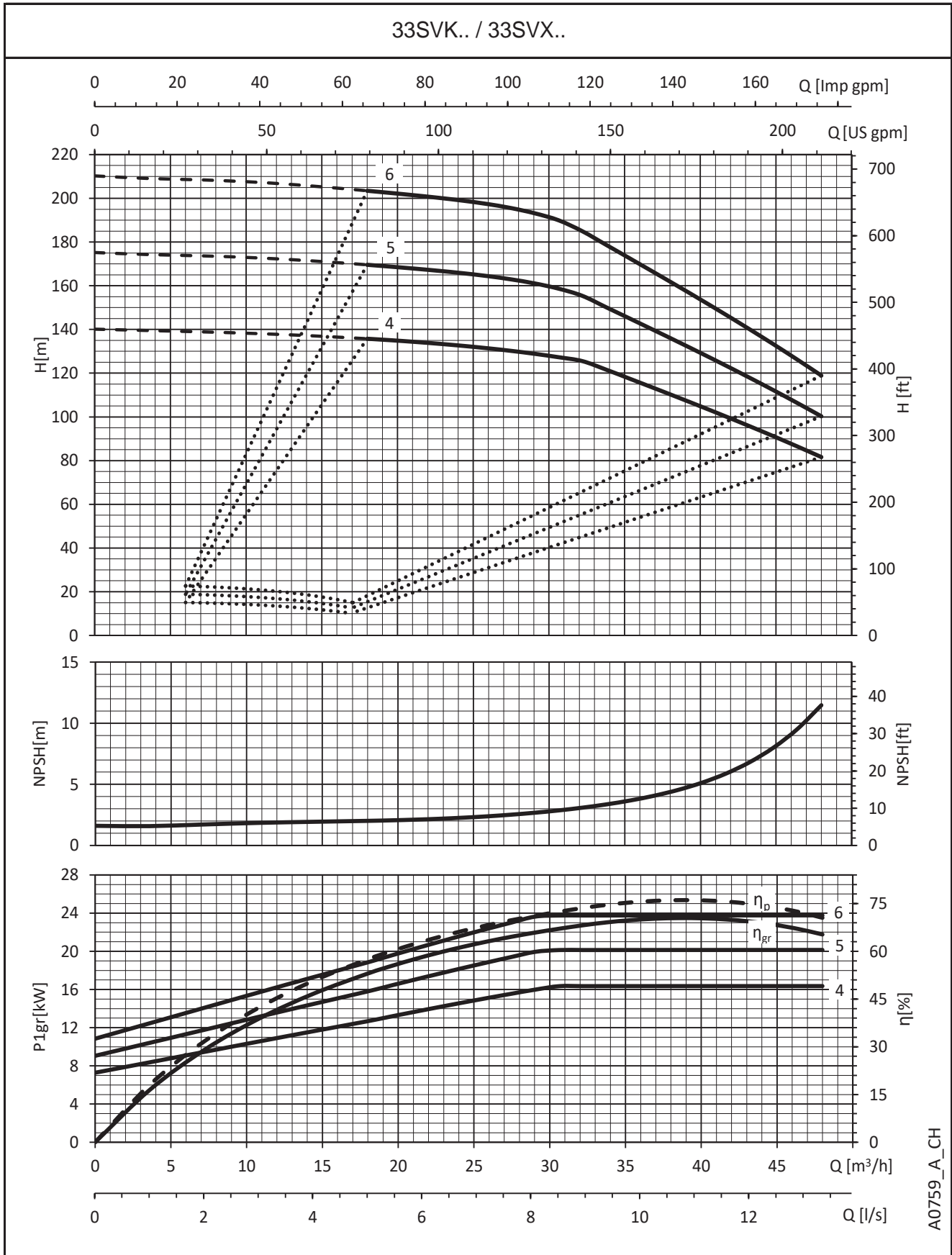
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



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

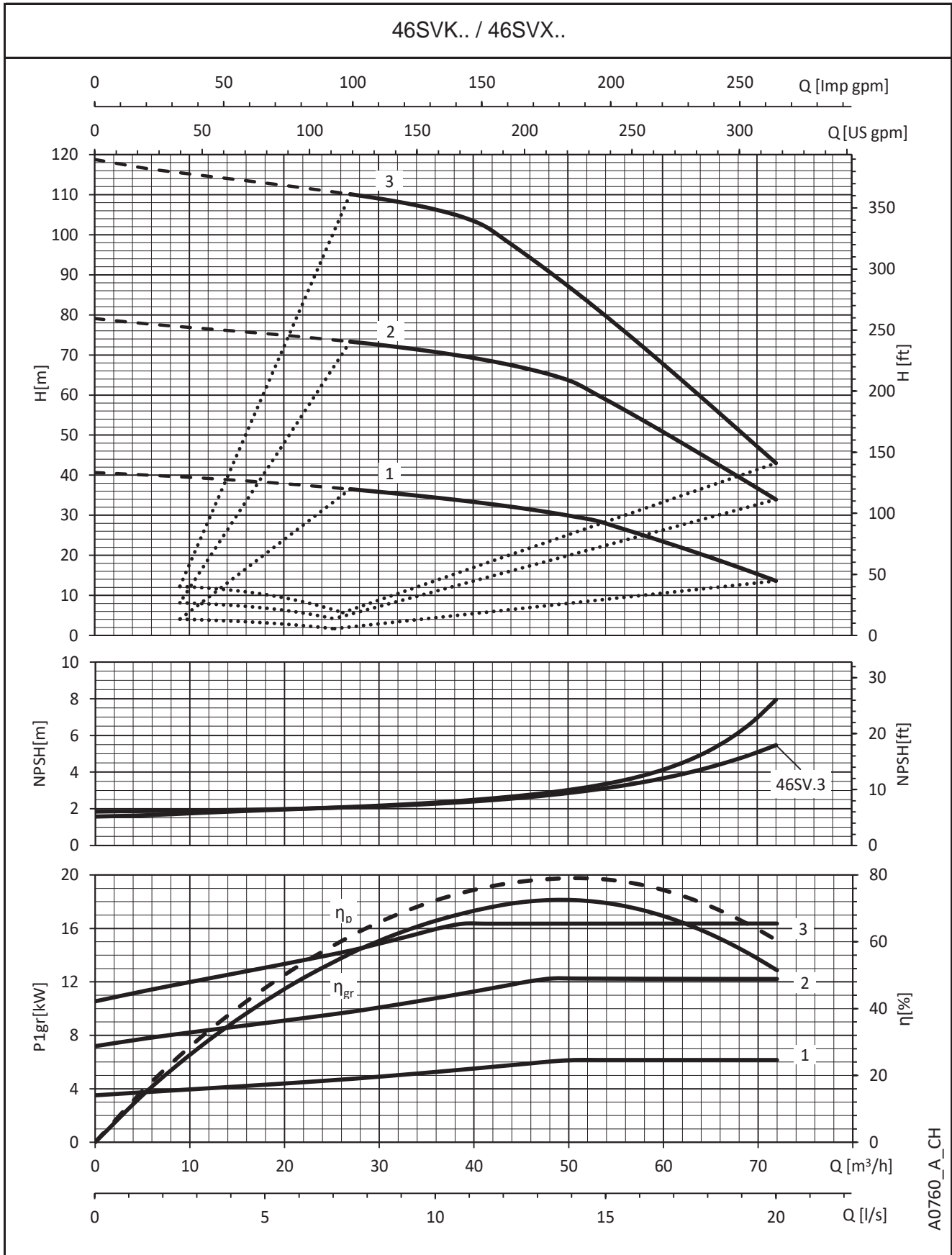
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0759\_A\_CH

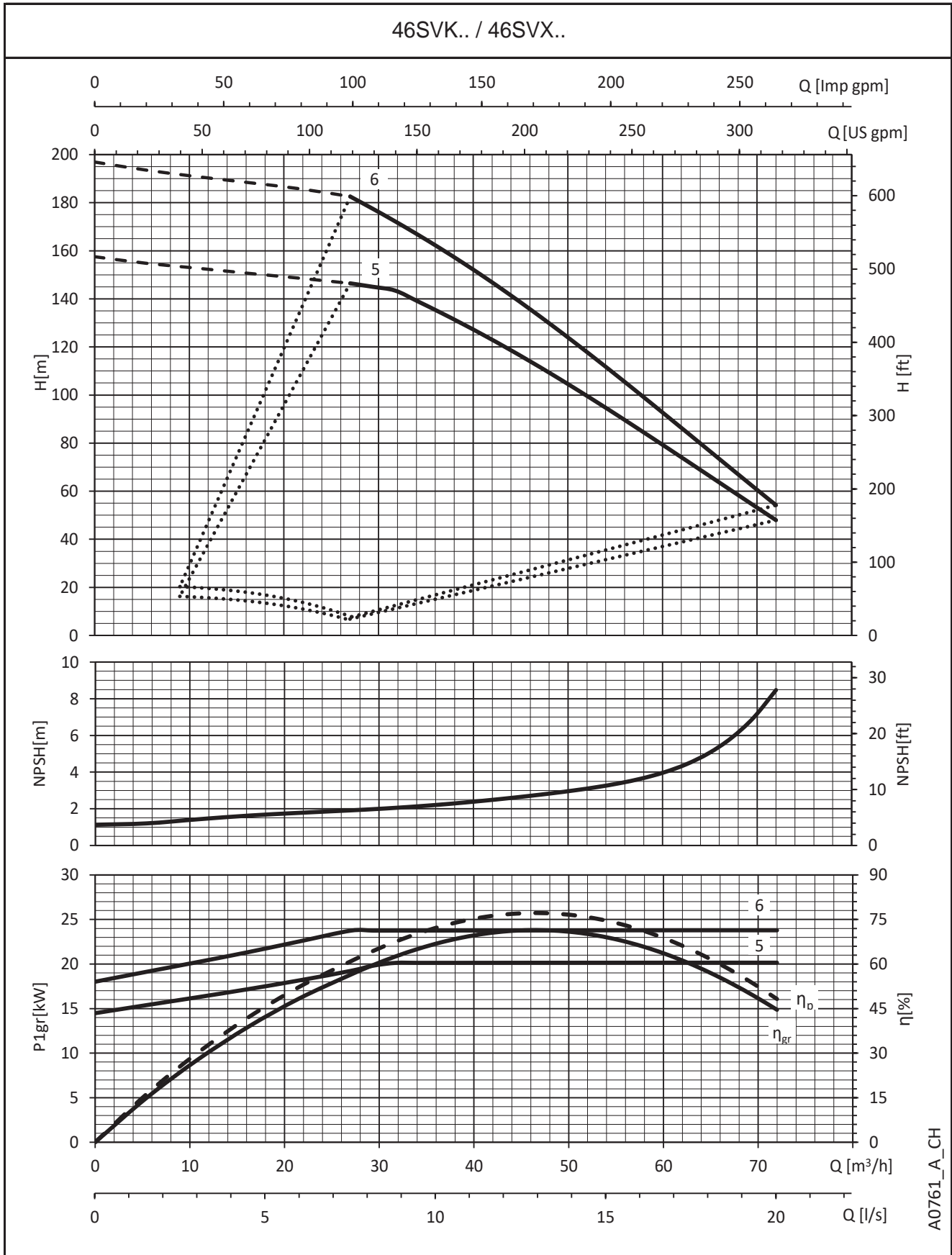
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



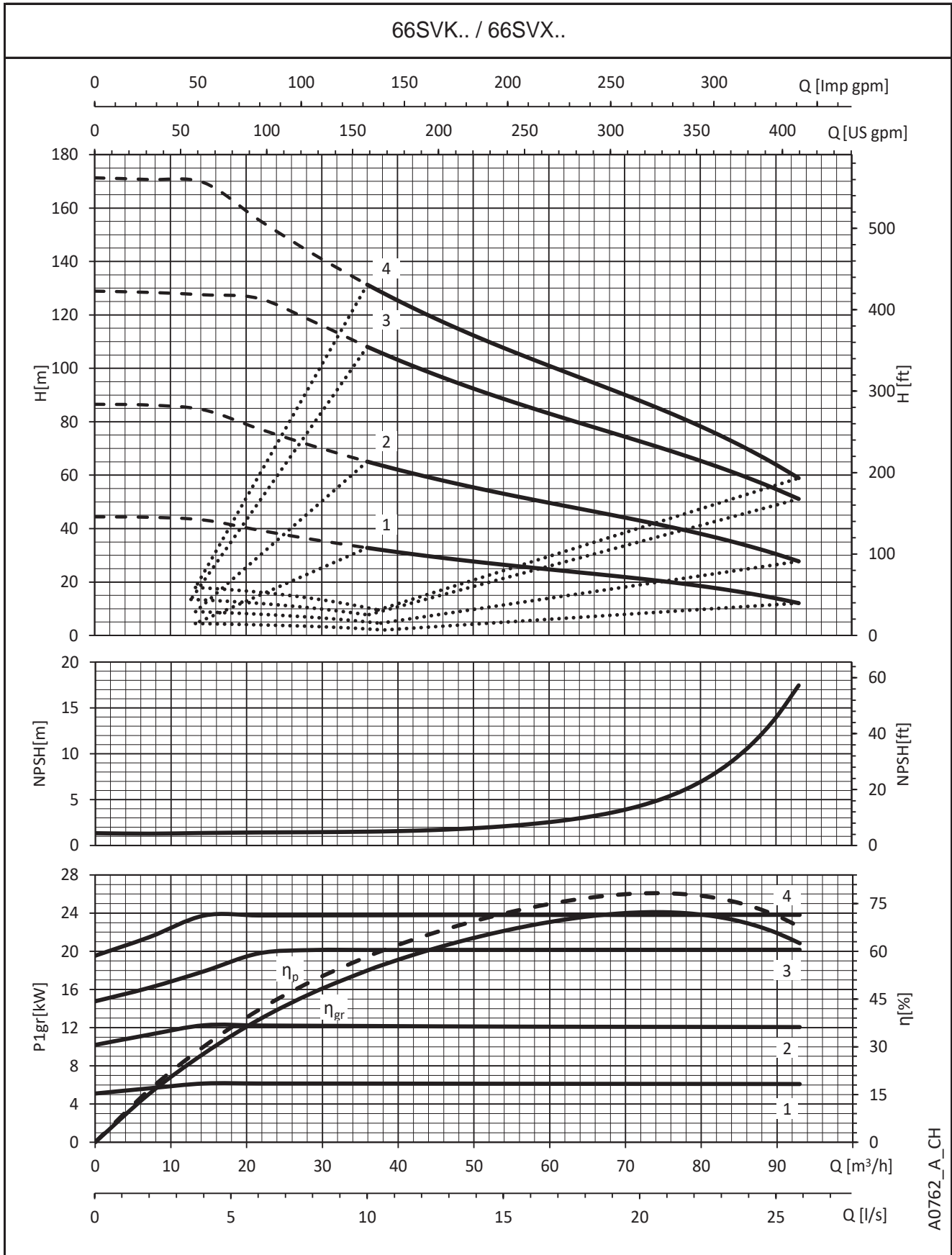
The performances are valid for liquid with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



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

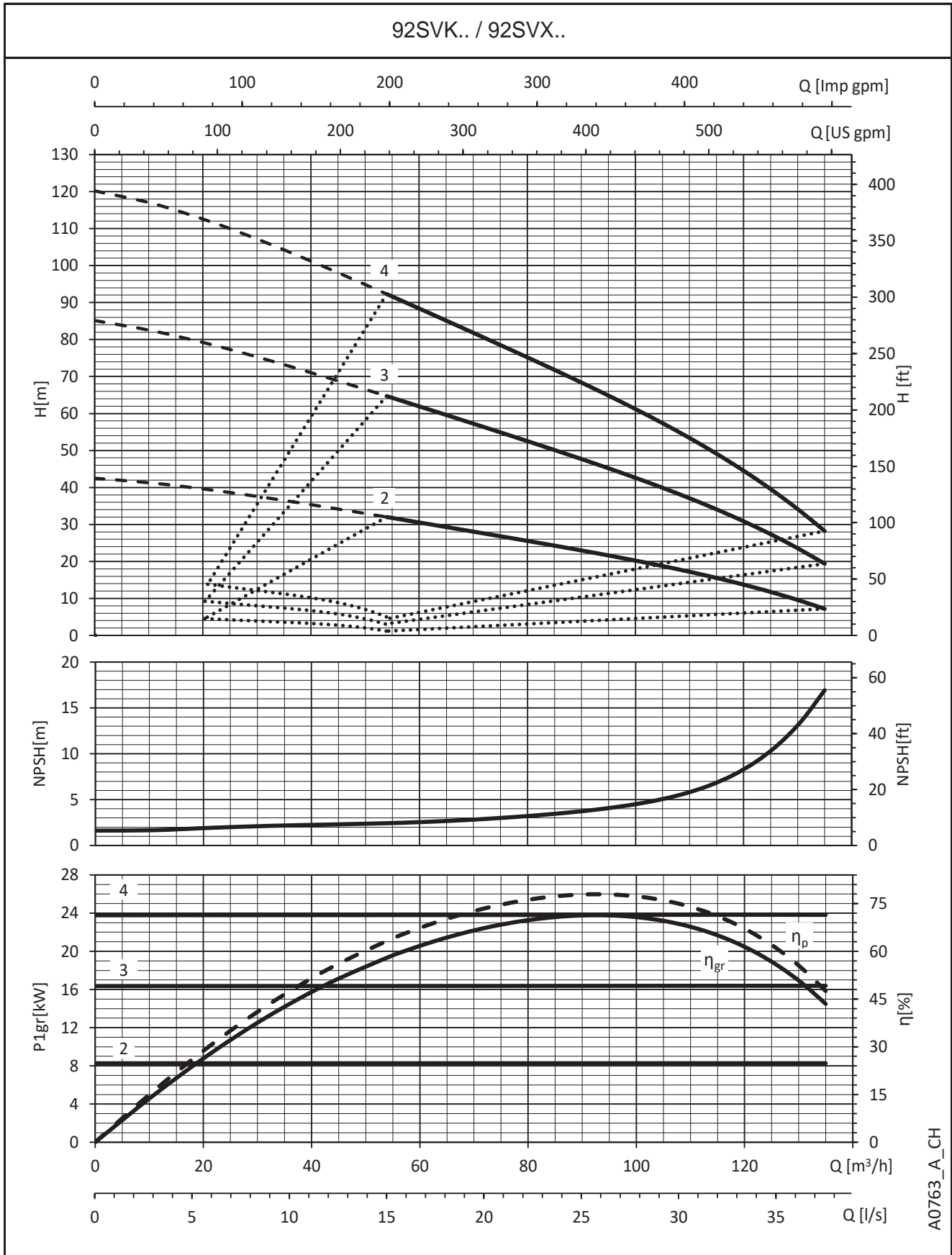
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



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



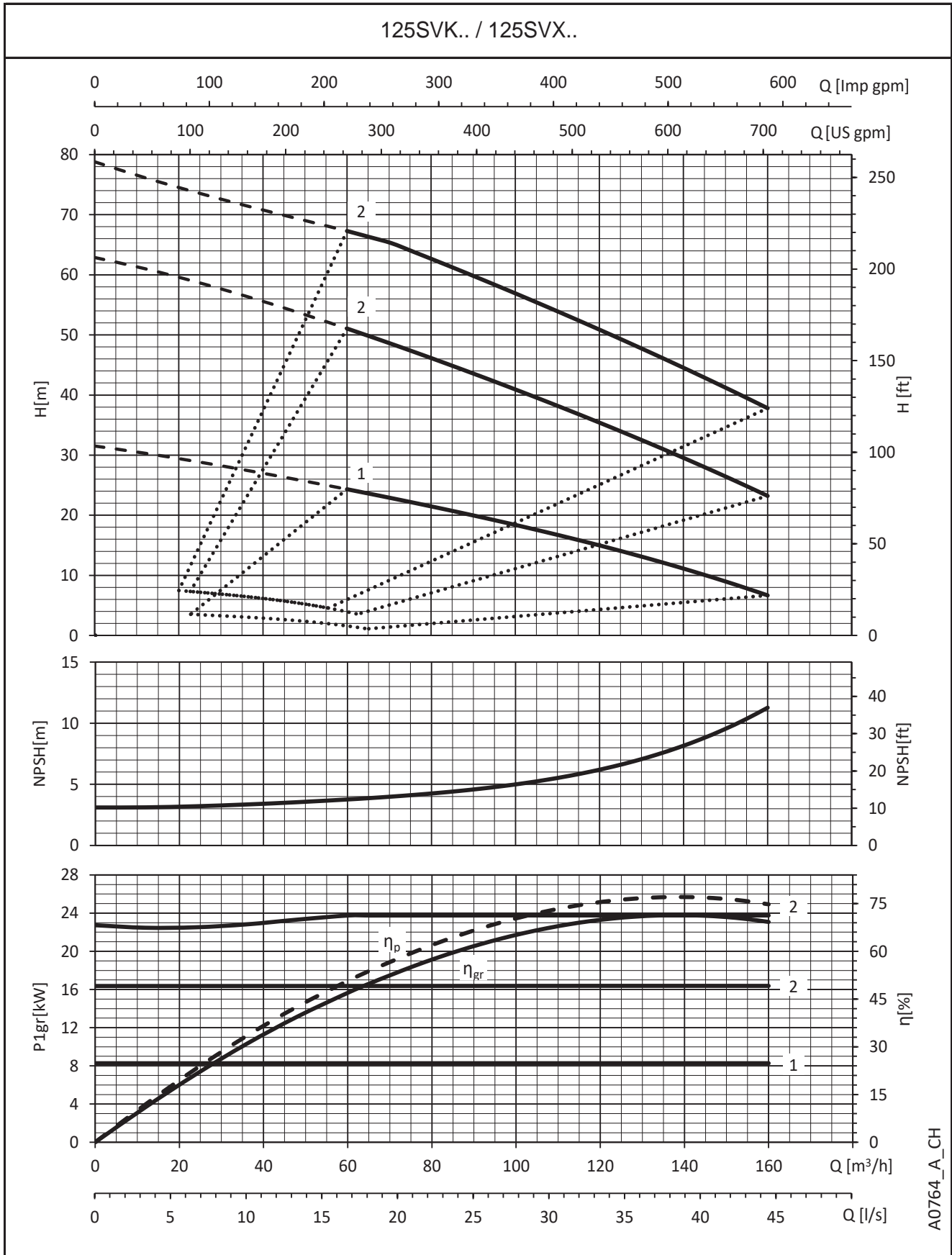
**e-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0763\_A\_CH

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-SVX, e-SVK SERIES  
OPERATING CHARACTERISTICS**



A0764\_A\_CH

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-SVH: VERSION WITH HYDROVAR HVL**

## e-SVH SERIES

### e-SV WITH HYDROVAR HVL

#### Background and context

For all pumping needs in commercial or residential building and in industry applications, the demand for intelligent pumping systems is constantly growing. Controlled systems offer many advantages: reduced operating costs for the lifetime of the pump, lower environmental impact, longer lifetime of piping systems and networks.

For this reason, Lowara has developed the e-SVH: an intelligent pumping system which assures high level performance with energy consumption tailored to the system's demand.

#### Benefits of e-SVH with HYDROVAR

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

**Easy installation and space-saving:** e-SVH saves time and space during installation. The Hydrovar is delivered already mounted on the motor (for models up to 22kW). The hydrovar is kept cool by the motor fan and does not require a control panel. In order to function, only fuses on the supply line are needed (Check your local electrical installation regulations).

**Standard motors:** e-SVH models are fitted with three-phase standard TEFC motors with insulation class 155 (F) and IE3 efficiency level from 0,75 to 22 kW.

#### Identification code:

e-SVH models are identified by the letter "H" and the last two characters.

Examples:

3SVH16F015T /2

3SVH16F015T /3

3SVH16F015T /4C

**H** = with integrated HYDROVAR

**/2** = HYDROVAR HVL2.015 1~ 208-240 V (50/60 Hz)

**/3** = HYDROVAR HVL3.015 3~ 208-240 V (50/60 Hz)

**/4** = HYDROVAR HVL4.015 3~ 380-460 V (50/60 Hz)

Other options:

**C** = Premium Card.

#### Key Features of the HYDROVAR

- **No need for additional pressure sensors:**

The e-SVH is fitted with a pressure transmitter or differential pressure transmitters, depending on the application. The pressure sensor(s) are pre-wired. For eSV with round flanges (G and N versions) the sensors can be installed on the pump flanges.

- **No need for special pumps or motors.**

- **e-SVH is already pre-wired.**

- **No need for IN LINE filters.**

HYDROVAR already includes the THDi filter embedded as standard.

- **No need for bypass or safety systems:**

The e-SVH will immediately switch off when demand drops to zero or when it exceeds maximum pump capacity; thus making installation of additional safety devices unnecessary.

- **Anti-condensation device:**

The HYDROVAR is fitted with anti-condensation devices which switch on when the pump is in standby in order to prevent condensation forming in the unit.



## e-SVH SERIES

### e-SV WITH HYDROVAR HVL

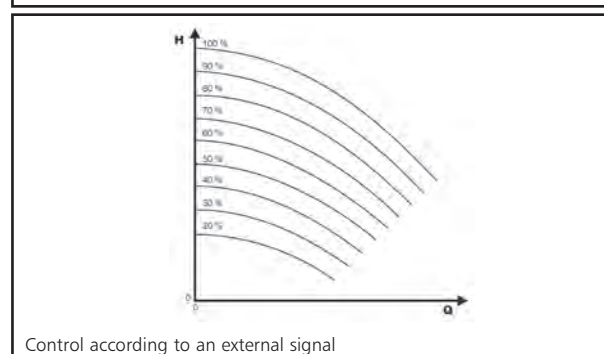
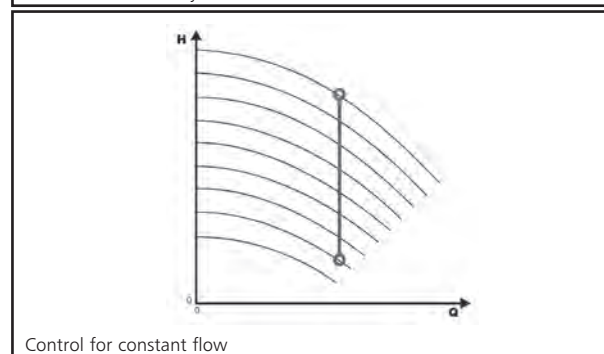
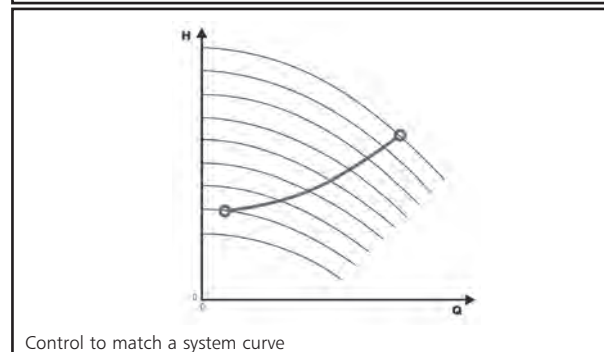
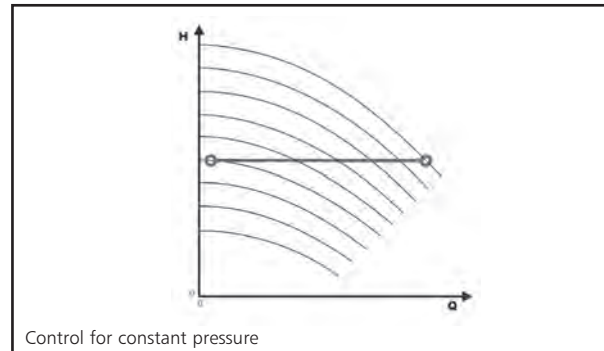
The basic function of the HYDROVAR device is to control the pump to meet the system demands.

#### HYDROVAR performs these functions by:

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

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

- Stop the pump(s) at zero demand.
- Stop the pump(s) in case of water failure on the suction side (protection against dry running).
- Stop the pump if the required delivery exceeds the pump's capacity (protection against cavitation caused by excessive demand), or automatically switch on the next pump in a multiple series.
- Protect the pump and motor from over-voltage, under-voltage, overload, and earth fault.
- Vary the pump speed: acceleration and deceleration time.
- Compensate for increased flow resistance at high flow rates.
- Conduct automatic tests at set intervals.
- Monitor the converter and motor operating hours.
- Display the energy consumption (kWh).
- Display all functions on an LCD in different languages (Italian, English, French, German, Spanish, Portuguese, Dutch, etc...).
- Send a signal to a remote control system which is proportional to the pressure and frequency.
- Communicate with external control system via Modbus (RS 485 interface) and Bacnet as standard.



## e-SVH SERIES HYDROVAR (ErP 2009/125/EC)

From 1 July 2021 in accordance with the new **Regulations (EU) 2019/1781** and **2021/341** the **variance speed drives** with **three-phase input/output current**, rated voltage between **100 V** and **1000 V**, rated for operating with motors included in the same regulation (**0,12- 1000 kW**), must have efficiency level **IE2**.

The tables below also contain the mandatory information pursuant to Annex I, section 4, of the Regulations.

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

hvl-pl-en\_a\_te

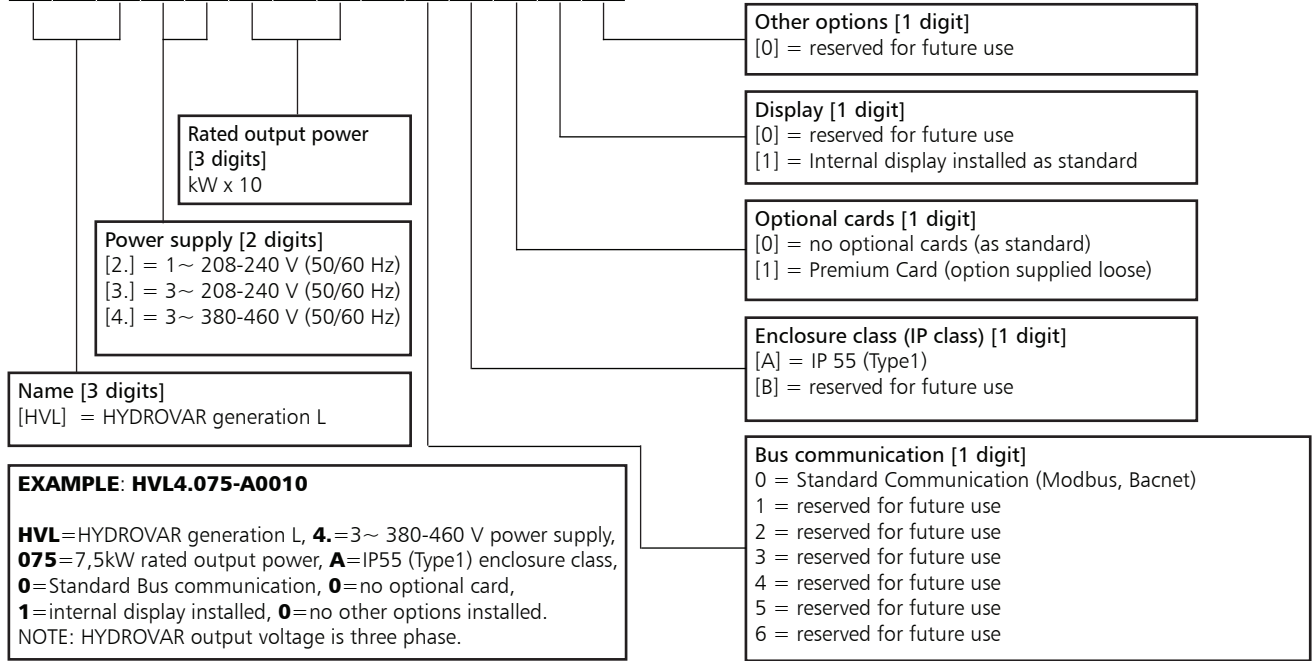
PN kW	~	UNin V	Manufacturer		f <sub>Nin</sub> Hz	I <sub>Nin</sub> max A	U <sub>nout</sub> V	f <sub>Nout</sub> Hz	I <sub>nout</sub> max A	Operating conditions*				
			Xylem Service Italia Srl Reg. No. 07520560967 Montecchio Maggiore (VI) - Italia							Altitude	T.amb	ATEX		
			Model							asl m	min/max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

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

hvl-en\_b\_te

## HYDROVAR HVL IDENTIFICATION CODE

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



## DIMENSIONS AND WEIGHTS



TYPE	MODELS			DIMENSIONS (mm)				WEIGHT Kg
	/2	/3	/4	L	B	H	X	
SIZE A	HVL2.015 ÷ 2.022	HVL3.015 ÷ 3.022	HVL4.015 ÷ 4.040	216	205	170	243	5,6
SIZE B	HVL2.030 ÷ 2.040	HVL3.030 ÷ 3.055	HVL4.055 ÷ 4.110	276	265	185	305	10,5
SIZE C	-	HVL3.075 ÷ 3.110	HVL4.150 ÷ 4.220	366	337	200	407	15,6

HVL\_dim-en\_b\_td

## HYDROVAR HVL EMC COMPATIBILITY

### EMC requirements

HYDROVAR fulfills the product standard EN61800-3:2004 + A1:2012, which defines categories (C1 to C4) for device application areas.

Depending on the motor cable length, a classification of HYDROVAR by category (based on EN61800-3) is reported in the following tables:

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

(\*) 0,75 motor cable length; contact Xylem for further information

En-Rev\_A

## CARD

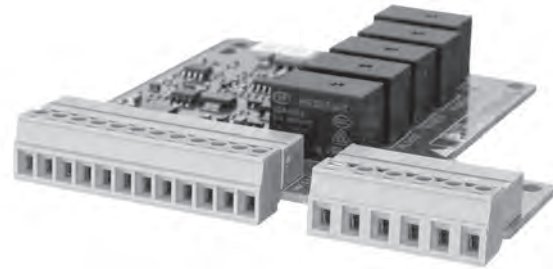
### Premium Card HYDROVAR (optional)

For the e-SVH series, the Premium Card comes fitted as option on the standalone HYDROVAR.

This allows to control up to five fix speed pumps via an external panel.

The Premium Card will allow additional features listed below:

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



## OPTIONAL COMPONENTS

### Sensors

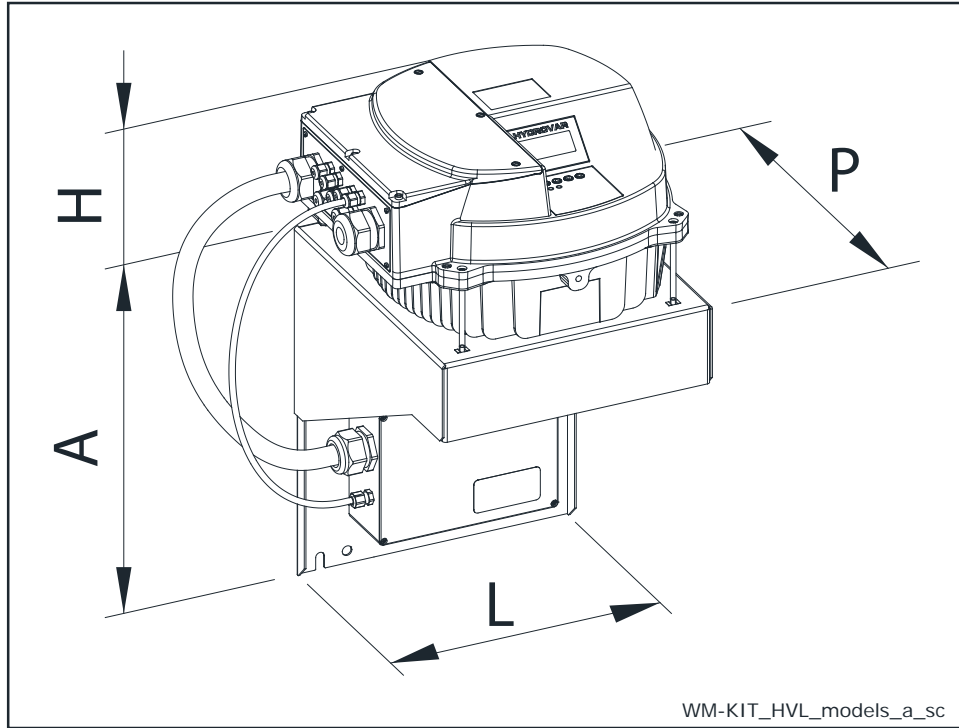
The following sensors are available for HYDROVAR:

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



## HYDROVAR HVL (WALL MOUNTING KIT) DIMENSIONS AND WEIGHTS

As an option a HYDROVAR wall mounting kit is also available. This is used where mounting on the pump unit is impossible or where you would like the controls in another location. These are available for the new generation HYDROVAR HVL 2.015-4.220 (22 kW). The speed of the cooling fan modulates with the HYDROVAR usage which optimizes energy consumption and also reduces noise.



WM KIT TYPE	kW	WM KIT POWER SUPPLY	HVL SIZE	DIMENSIONS (mm)				WEIGHT (kg)	
				A	H	L	P	HVL	WM KIT
WM KIT HVL 2.015	1,5	1~ 230V	A	220	170	202	232	5,6	2,6
WM KIT HVL 2.022	2,2			220	170	202	232	5,6	2,6
WM KIT HVL 2.030	3		B	240	175	258	290	10,5	8,2
WM KIT HVL 2.040	4			320	175	288	305	10,5	5,4
WM KIT HVL 3.015	1,5	3~ 230V	A	220	170	202	232	5,6	2,6
WM KIT HVL 3.022	2,2			220	170	202	232	5,6	2,6
WM KIT HVL 3.030	3		B	240	175	258	290	10,5	8,2
WM KIT HVL 3.040	4			240	175	258	290	10,5	8,2
WM KIT HVL 3.055	5,5		C	240	175	258	290	10,5	8,2
WM KIT HVL 3.075	7,5			400	200	325	365	15,6	11,6
WM KIT HVL 3.110	11		400	200	325	365	15,6	11,6	
WM KIT HVL 4.015	1,5		3~ 400V	A	240	170	258	290	5,6
WM KIT HVL 4.022	2,2	240			170	258	290	5,6	8,2
WM KIT HVL 4.030	3	240			170	258	290	5,6	8,2
WM KIT HVL 4.040	4	240			170	258	290	5,6	8,2
WM KIT HVL 4.055	5,5	B		240	175	258	290	10,5	8,2
WM KIT HVL 4.075	7,5			240	175	258	290	10,5	8,2
WM KIT HVL 4.110	11	C		320	175	288	305	10,5	5,4
WM KIT HVL 4.150	15			400	200	325	365	15,6	11,6
WM KIT HVL 4.185	18,5			400	200	325	365	15,6	11,6
WM KIT HVL 4.220	22			400	200	325	365	15,6	11,6

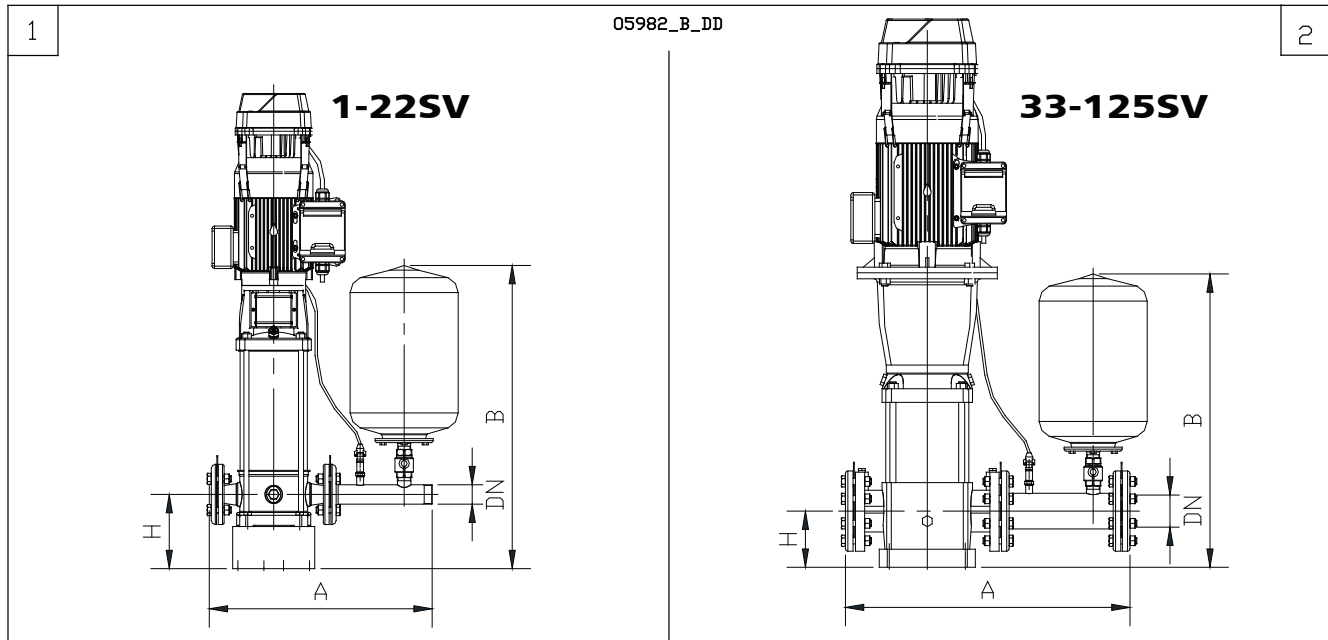
WM-KIT\_HVL\_models-EN\_b\_td

**G/SVH KIT  
TABLE OF SIZES AND COMPONENTS**

e-SVH series electric pump with hydraulic kit and G/SVH accessories, to realize a single-pump booster set which is quick and easy to install. The hydraulic kit can be combined with the following e-SVH electric pumps:

- F versions (in-line ports, round flanges)
- R versions (overlapping ports, round flanges)
- N versions (in-line ports round flanges)
- G versions (in-line ports round flanges)

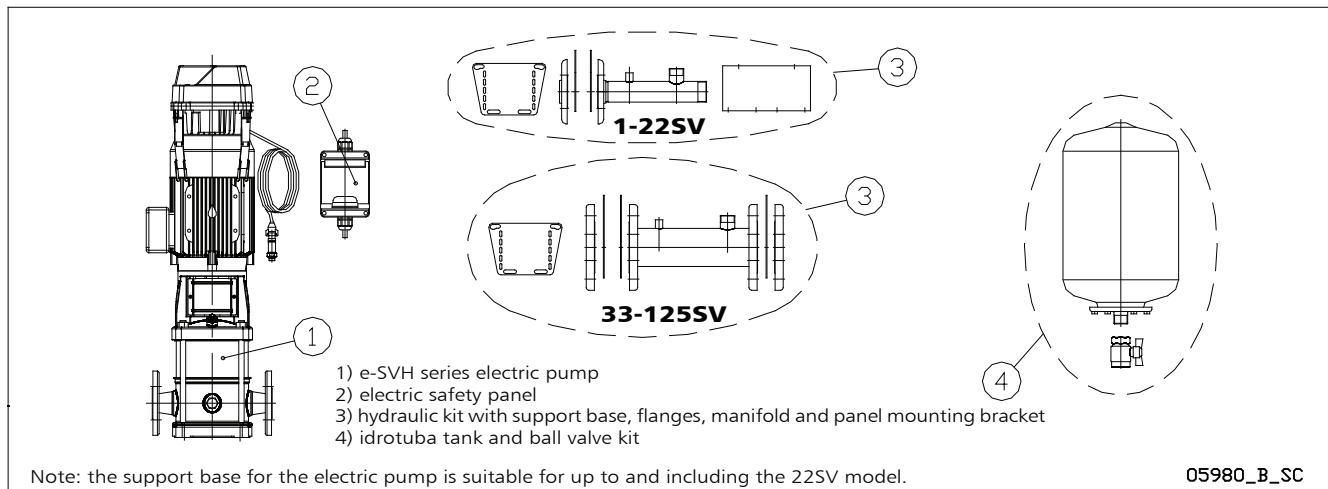
Assembly instructions inside the kit pack.



TYPE	PUMP	DRW. N°	DIMENSIONS (mm)				
			DN	PN	H	A	B
G/SVH DN25 PN25	1SV - 3SV	1	25	25	180	524	744
G/SVH DN32 PN25	5SV	1	32	25	180	521	748
G/SVH DN40 PN25	10SV	1	40	25	185	557	756
G/SVH DN50 PN25	15SV - 22SV	1	50	25	195	637	772
G/SVH DN65 PN16	33SV	2	65	16	105	662	690
G/SVH DN65 PN25	33SV	2	65	25	105	674	690
G/SVH DN80 PN16	46SV	2	80	16	140	711	732
G/SVH DN80 PN25	46SV	2	80	25	140	723	732
G/SVH DN100 PN16	66SV - 92SV	2	100	16	140	744	744
G/SVH DN100 PN25	66SV - 92SV	2	100	25	140	744	744
G/SVH DN125 PN16	125SV	2	125	16	160	777	777
G/SVH DN125 PN25	125SV	2	125	25	160	777	777

Same dimensions for STANDARD, A304 and A316 versions.

g-sv-2p50-en\_b\_td



Note: the support base for the electric pump is suitable for up to and including the 22SV model.

05980\_B\_SC

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

PUMP TYPE	kW	VERSION		
		/2	/3	/4
		1 ~ 230V	3 ~ 230V	3 ~ 400V
1SVH15	0,75	A	A	A
1SVH22	1,1	A	A	A
1SVH30	1,5	A	A	A
1SVH37	2,2	A	A	A
3SVH08	0,75	A	A	A
3SVH12	1,1	A	A	A
3SVH16	1,5	A	A	A
3SVH21	2,2	A	A	A
3SVH25	2,2	A	A	A
3SVH29	3	B	B	A
3SVH33	3	B	B	A
5SVH05	0,75	A	A	A
5SVH08	1,1	A	A	A
5SVH11	1,5	A	A	A
5SVH14	2,2	A	A	A
5SVH16	2,2	A	A	A
5SVH21	3	B	B	A
5SVH28	4	B	B	A
5SVH33	5,5	-	B	B
10SVH04	1,5	A	A	A
10SVH06	2,2	A	A	A
10SVH08	3	B	B	A
10SVH11	4	B	B	A
10SVH15	5,5	-	B	B
10SVH20	7,5	-	C	B
10SVH21	11	-	C	B
15SVH02	2,2	A	A	A
15SVH03	3	B	B	A
15SVH05	4	B	B	A
15SVH07	5,5	-	B	B
15SVH09	7,5	-	C	B
15SVH13	11	-	C	B
15SVH17	15	-	-	C
22SVH01	1,1	A	A	A
22SVH03	3	B	B	A
22SVH04	4	B	B	A
22SVH05	5,5	-	B	B
22SVH07	7,5	-	C	B
22SVH10	11	-	C	B
22SVH14	15	-	-	C
22SVH17	18,5	-	-	C

PUMP TYPE	kW	VERSION		
		/2	/3	/4
		1 ~ 230V	3 ~ 230V	3 ~ 400V
33SVH1	3	B	B	A
33SVH2	5,5	-	B	B
33SVH3	7,5	-	C	B
33SVH4	11	-	C	B
33SVH5	15	-	-	C
33SVH6	15	-	-	C
33SVH7	18,5	-	-	C
46SVH1	4	B	B	A
46SVH2	7,5	-	C	B
46SVH3	11	-	C	B
46SVH4	15	-	-	C
46SVH6	22	-	-	C
66SVH1	5,5	-	B	B
66SVH2	11	-	C	B
66SVH3	18,5	-	-	C
66SVH4	22	-	-	C
92SVH1	7,5	-	C	B
92SVH2	15	-	-	C
92SVH3	22	-	-	C
125SVH1	7,5	-	C	B
125SVH2	15	-	-	C
125SVH3	22	-	-	C

**LEGEND**

SVH-HVL\_models-2p50-en\_c\_sc

**A, B, C** : are the mechanical size of HYDROVAR, refer to "HYDROVAR DIMENSIONS AND WEIGHTS" table in previous pages.

## e-SVH SERIES

### ELECTRICAL DATA TABLE AT 50 Hz, 2 POLES

PUMP TYPE	kW	MEI ≥ (1)	INPUT CURRENT (2)		
			(A)		
			/2 1 ~ 230V	/3 3 ~ 230V	/4 3 ~ 400V
1SVH15	0,75	0,7	4,0	2,4	1,4
1SVH22	1,1	0,7	5,8	3,5	2,1
1SVH30	1,5	0,7	8,0	4,8	2,8
1SVH37	2,2	0,7	11,7	7,1	4,1
3SVH08	0,75	0,7	4,0	2,4	1,4
3SVH12	1,1	0,7	5,8	3,5	2,1
3SVH16	1,5	0,7	8,0	4,8	2,8
3SVH21	2,2	0,7	11,7	7,1	4,1
3SVH25	2,2	0,7	11,7	7,1	4,1
3SVH29	3	0,7	15,9	9,6	5,6
3SVH33	3	0,7	15,9	9,6	5,6
5SVH05	0,75	0,7	4,0	2,4	1,4
5SVH08	1,1	0,7	5,8	3,5	2,1
5SVH11	1,5	0,7	8,0	4,8	2,8
5SVH14	2,2	0,7	11,7	7,1	4,1
5SVH16	2,2	0,7	11,7	7,1	4,1
5SVH21	3	0,7	15,9	9,6	5,6
5SVH28	4	0,7	21,2	12,6	7,3
5SVH33	5,5	0,7	-	17,3	10,1
10SVH04	1,5	0,7	8,0	4,8	2,8
10SVH06	2,2	0,7	11,7	7,1	4,1
10SVH08	3	0,7	15,9	9,6	5,6
10SVH11	4	0,7	21,2	12,6	7,3
10SVH15	5,5	0,7	-	17,3	10,1
10SVH20	7,5	0,7	-	23,1	13,7
10SVH21	11	0,7	-	34,0	19,4
15SVH02	2,2	0,7	11,7	7,1	4,1
15SVH03	3	0,7	15,9	9,6	5,6
15SVH05	4	0,7	21,2	12,6	7,3
15SVH07	5,5	0,7	-	17,3	10,1
15SVH09	7,5	0,7	-	23,1	13,7
15SVH13	11	0,7	-	34,0	19,4
15SVH17	15	0,7	-	-	26,1
22SVH01	1,1	0,7	5,8	3,5	2,1
22SVH03	3	0,7	15,9	9,6	5,6
22SVH04	4	0,7	21,2	12,6	7,3
22SVH05	5,5	0,7	-	17,3	10,1
22SVH07	7,5	0,7	-	23,1	13,7
22SVH10	11	0,7	-	34,0	19,4
22SVH14	15	0,7	-	-	26,1
22SVH17	18,5	0,7	-	-	32,1

PUMP TYPE	kW	MEI ≥ (1)	INPUT CURRENT (2)		
			(A)		
			/2 1 ~ 230V	/3 3 ~ 230V	/4 3 ~ 400V
33SVH1	3	0,7	15,9	9,6	5,6
33SVH2	5,5	0,7	-	17,3	10,1
33SVH3	7,5	0,7	-	23,1	13,7
33SVH4	11	0,7	-	34,0	19,4
33SVH5	15	0,7	-	-	26,1
33SVH6	15	0,7	-	-	26,1
33SVH7	18,5	0,7	-	-	32,1
46SVH1	4	0,7	21,2	12,6	7,3
46SVH2	7,5	0,7	-	23,1	13,7
46SVH3	11	0,7	-	34,0	19,4
46SVH4	15	0,7	-	-	26,1
46SVH6	22	0,7	-	-	38,1
66SVH1	5,5	0,7	-	17,3	10,1
66SVH2	11	0,7	-	34,0	19,4
66SVH3	18,5	0,7	-	-	32,1
66SVH4	22	0,7	-	-	38,1
92SVH1	7,5	0,6	-	23,1	13,7
92SVH2	15	0,6	-	-	26,1
92SVH3	22	0,6	-	-	38,1
125SVH1	7,5	-	-	23,1	13,7
125SVH2	15	-	-	-	26,1
125SVH3	22	-	-	-	38,1

SVH-HVL-2p50-en\_b\_te

<b>Q = DELIVERY</b>	<b>Pp = POWER</b>
<b>H = HEAD</b>	<b>np = EFFICIENCY</b>
(1) Values referred to operation at 2900 min <sup>-1</sup> (50 Hz).	
(2) Nominal values referred to operation at 2900 min <sup>-1</sup> (50 Hz).	

1, 3, 5, 10, 15, 22SV Value referred to versions F, T, R, N, V, C, K. P version excluded.

33, 46SV Value referred to the G and N versions with PN ≤ 25 bar (2500 kPa). G and N versions with PN &gt; 25 bar (2500 kPa) and P version excluded.

66, 92, 125SV Value referred to the G, N versions. P version excluded.

## 1, 3, 5, 10, 15, 22SVH SERIES HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		Q = DELIVERY													
			l/min 0	12	20	25	30	35	40	45	50	60	73	100	120	141
	kW	HP	m <sup>3</sup> /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																
1SVH15	0,75	1	90,9	90,5	85,6	79,3	70,1	58,1	43,1							
1SVH22	1,1	1,5	134,6	134,1	127,4	118,1	104,4	86,1	63,5							
1SVH30	1,5	2	181,7	181,3	172,6	160,1	141,2	115,7	83,9							
1SVH37	2,2	3	225,9	224,9	216,1	201,9	179,3	148,1	108,7							
3SVH08	0,75	1	60,0		59,1	58,2	57,0	55,4	53,4	51,0	48,1	40,7	27,5			
3SVH12	1,1	1,5	89,6		87,8	86,4	84,5	82,1	79,1	75,5	71,1	59,9	40,1			
3SVH16	1,5	2	119,9		117,8	116,1	113,6	110,5	106,5	101,6	95,8	80,9	54,2			
3SVH21	2,2	3	159,3		156,9	154,6	151,4	147,3	142,1	135,7	128,0	108,5	73,6			
3SVH25	2,2	3	188,5		186,1	183,3	179,3	174,1	167,6	159,7	150,3	126,6	84,8			
3SVH29	3	4	219,3		216,0	212,8	208,3	202,6	195,3	186,4	175,7	148,6	100,2			
3SVH33	3	4	248,5		245,3	241,5	236,2	229,3	220,7	210,2	197,7	166,3	111,2			
5SVH05	0,75	1	38,0						36,4	36,0	35,5	34,5	32,9	28,2	23,5	17,1
5SVH08	1,1	1,5	60,1						57,6	57,0	56,2	54,6	51,8	44,1	36,2	25,8
5SVH11	1,5	2	82,8						79,3	78,4	77,5	75,2	71,4	60,7	49,9	35,6
5SVH14	2,2	3	105,7						102,0	100,9	99,6	96,6	91,7	77,8	64,0	46,3
5SVH16	2,2	3	120,5						115,9	114,6	113,1	109,6	103,9	87,8	72,1	51,8
5SVH21	3	4	157,9						152,0	150,3	148,3	143,6	136,1	114,9	94,2	67,6
5SVH28	4	5,5	211,5						204,2	201,9	199,4	193,3	183,4	155,5	128,0	92,7
5SVH33	5,5	7,5	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).

1-5svh-2p50-en\_c\_th

PUMP TYPE	RATED POWER		Q = DELIVERY													
			l/min 0	83,34	100	133	170	183,34	233	270	330	350	400	430	460	483,33
	kW	HP	m <sup>3</sup> /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																
10SVH04	1,5	2	47,7	44,2	43,0	39,9	34,8	32,6	21,7							
10SVH06	2,2	3	71,8	66,8	65,0	60,4	53,1	49,8	33,9							
10SVH08	3	4	95,3	88,9	86,5	80,1	70,2	65,7	44,5							
10SVH11	4	5,5	129,6	121,3	118,1	109,6	96,3	90,3	62,1							
10SVH15	5,5	7,5	179,5	167,9	163,4	151,6	132,8	124,3	83,9							
10SVH20	7,5	10	240,6	226,0	220,3	205,0	180,2	168,9	114,3							
10SVH21	11	15	253,6	241,0	235,5	220,2	195,0	183,5	127,5							
15SVH02	2,2	3	28,7			26,7	25,9	25,5	23,9	22,4	18,9	17,4	13,1			
15SVH03	3	4	43,3			40,4	39,1	38,6	36,2	33,8	28,7	26,5	20,1			
15SVH05	4	5,5	72,7			67,8	65,8	65,0	61,0	57,1	48,7	45,2	34,9			
15SVH07	5,5	7,5	101,9			94,5	91,9	90,8	85,7	80,6	69,4	64,7	50,5			
15SVH09	7,5	10	131,9			124,4	121,0	119,6	112,8	106,1	91,5	85,5	67,4			
15SVH13	11	15	191,3			179,2	174,5	172,5	163,1	153,7	133,1	124,5	98,6			
15SVH17	15	20	251,6			237,3	231,4	228,9	216,9	205,0	178,4	167,3	133,6			
22SVH01	1,1	1,5	14,7					13,5	12,7	12,0	10,4	9,7	7,7	6,3	4,7	3,4
22SVH03	3	4	45,4					42,2	40,4	38,5	34,5	32,8	27,8	24,2	20,2	16,6
22SVH04	4	5,5	60,9					56,8	54,4	51,9	46,6	44,4	37,9	33,1	27,7	23,0
22SVH05	5,5	7,5	76,0					70,9	67,9	64,9	58,3	55,6	47,4	41,4	34,7	28,8
22SVH07	7,5	10	108,5					103,1	99,4	95,7	87,2	83,7	73,1	65,3	56,5	48,8
22SVH10	11	15	155,4					148,2	143,1	137,8	125,9	120,9	105,8	94,8	82,3	71,3
22SVH14	15	20	216,6					207,7	200,9	193,7	177,4	170,4	149,4	133,9	116,1	100,6
22SVH17	18,5	25	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).

10-22svh-2p50-en\_c\_th

### 33, 46, 66, 92, 125SVH SERIES

### HYDRAULIC PERFORMANCE TABLE AT 50 Hz, 2 POLES

PUMP TYPE	RATED POWER		Q = DELIVERY										
			l/min 0	250	300	367	417	500	583	667	750	900	1000
	kW	HP	m <sup>3</sup> /h 0	15	18	22	25	30	35	40	45	54	60
H = TOTAL HEAD METRES COLUMN OF WATER													
33SVH1	3	4	23,8	21,7	21,2	20	20	17,8	15,5	12,7			
33SVH2	5,5	7,5	47,8	45	44,1	43	41	39	35	29,9			
33SVH3	7,5	10	71,5	67,4	66,0	64	62	58	52,0	44,6			
33SVH4	11	15	95,9	91,1	90	87	85	80	73	63,1			
33SVH5	15	20	120,4	114,9	113	110	107	101	92	80,5			
33SVH6	15	20	145,6	139	137	133	129	121	110	96,1			
33SVH7	18,5	25	170,3	162,8	160	156	152	142	130	113,3			
46SVH1	4	5,5	27,2			24	23,5	22,5	21,4	19,9	18,2	14,3	10,8
46SVH2	7,5	10	52,6			48,5	47,7	46,1	44,2	41,7	38,7	31,4	25,1
46SVH3	11	15	80,8			74,3	73	71	68	65	60	50	40,7
46SVH4	15	20	107,3			99,8	98	96	92	87	82	68	55,9
46SVH6	22	30	161			149,9	148	144	139	132	124	104	86

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

33-46svh-2p50-en\_b\_th

PUMP TYPE	RATED POWER		Q = DELIVERY												
			l/min 0	500	600	700	750	900	1000	1200	1300	1417	1600	1800	2000
	kW	HP	m <sup>3</sup> /h 0	30	36	42	45	54	60	72	78	85	96	108	120
H = TOTAL HEAD METRES COLUMN OF WATER															
66SVH1	5,5	7,5	29,2	25,8	24,8	23,8	23,3	21,8	20,7	17,9	16,1	13,5			
66SVH2	11	15	60,4	55,7	54,4	52,8	52	49,3	47,1	42	38,9	34,7			
66SVH3	18,5	25	91,4	84,7	83	81	79	75	72	64	60	53,5			
66SVH4	22	30	121,6	112,5	110	107	105	100	96	86	79	70,8			
92SVH1	7,5	10	33,5				28,7	27,2	26,2	24,3	23,3	22,2	20,2	17,6	14,3
92SVH2	15	20	67,8				58,2	55	53	49,5	47,6	45,2	41,4	36,3	29,6
92SVH3	22	30	102,2				88,2	84	81	76	73	69	63	56	46,3

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

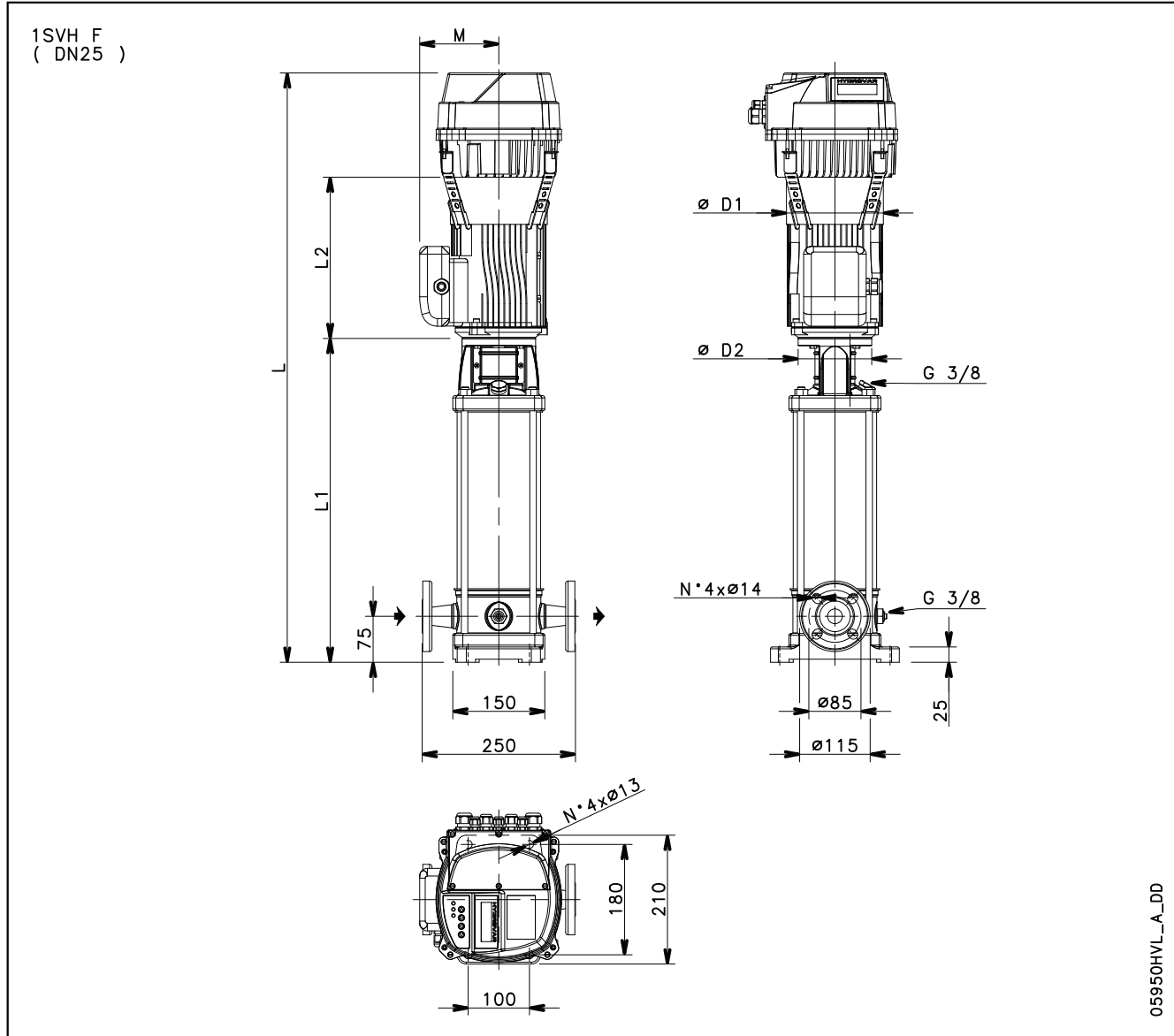
66-92svh-2p50-en\_b\_th

PUMP TYPE	RATED POWER		Q = DELIVERY													
			l/min 0	500	600	750	900	1000	1200	1416	1700	1900	2000	2150	2300	2666
	kW	HP	m <sup>3</sup> /h 0	30	36	45	54	60	72	84,96	102	114	120	129	138	160
H = TOTAL HEAD METRES COLUMN OF WATER																
125SVH1	7,5	10	27,6					20,8	19,8	18,6	16,8	15,3	14,4	12,9	11,3	6,2
125SVH2	15	20	53,8					44,4	43	40	37,1	34,4	32,9	30,4	27,7	19,6
125SVH3	22	30	80,7					66,5	64	61	56	52	49	46	42	29,4

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

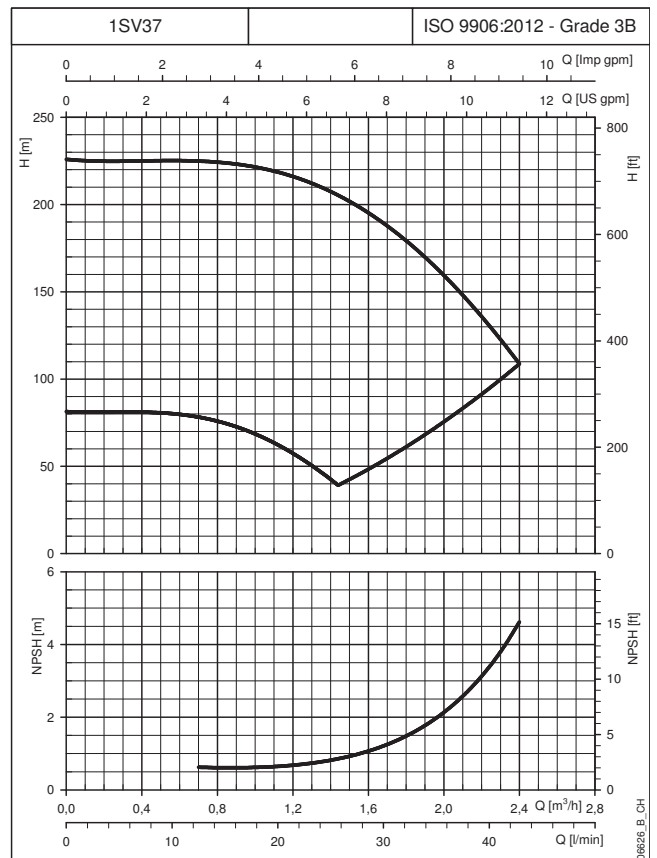
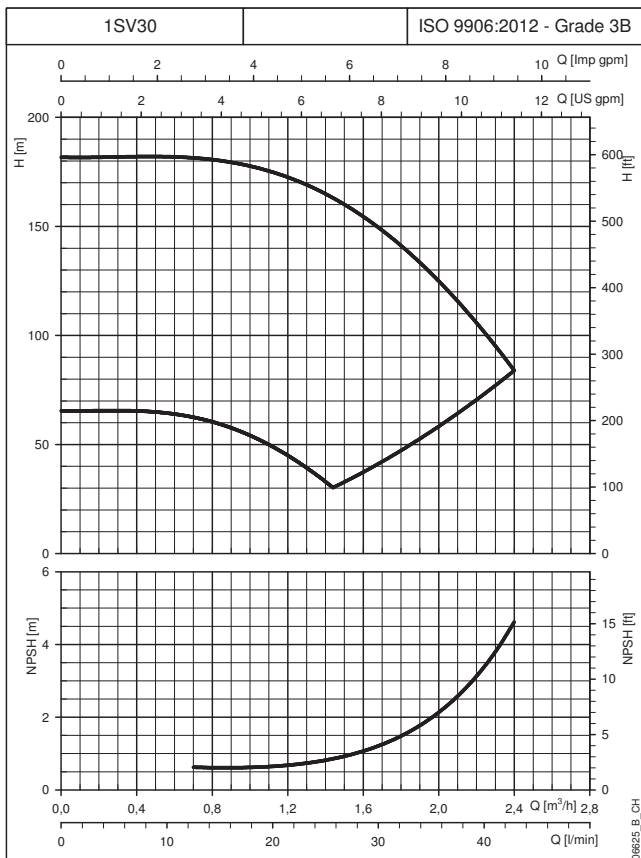
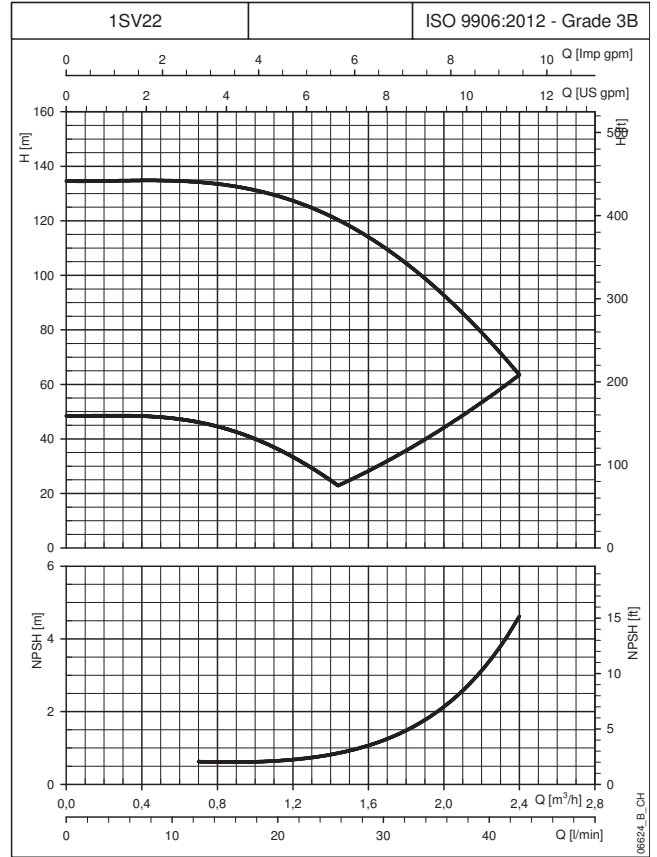
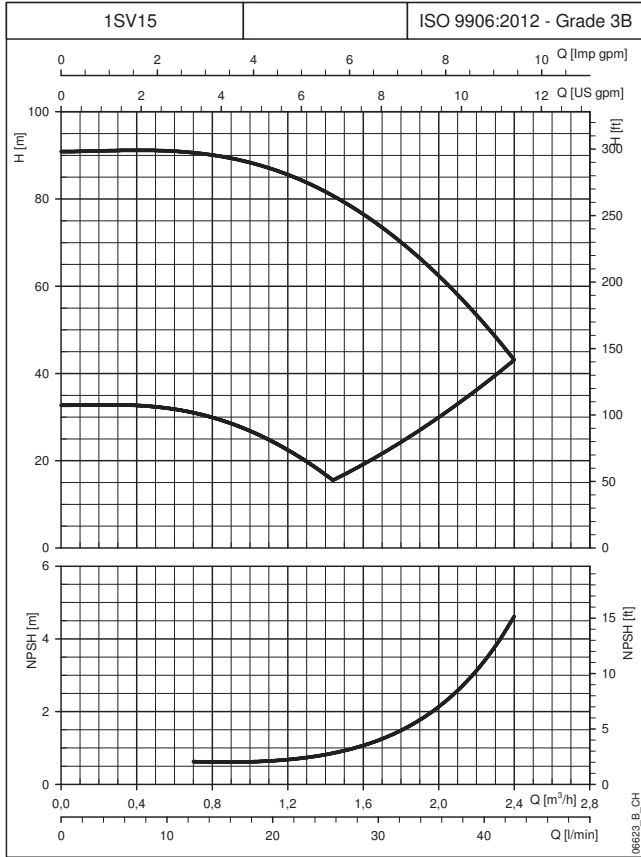
125svh-2p50-en\_a\_th

### 1SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



PUMP TYPE	MOTOR		DIMENSIONS (mm)					L			WEIGHT (kg)		
			L1	L2	M	D1	D2	/2	/3	/4	/2	/3	/4
				3 ~	3 ~	3 ~		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
1SVH15	0,75	80	528	263	129	155	120	961	961	961	29,1	29,1	29,1
1SVH22	1,1	80	668	263	129	155	120	1101	1101	1101	34,2	34,2	34,2
1SVH30	1,5	90	838	263	129	155	140	1271	1271	1271	39,6	39,6	39,6
1SVH37	2,2	90	978	298	134	174	140	1446	1446	1446	45,4	45,4	45,4

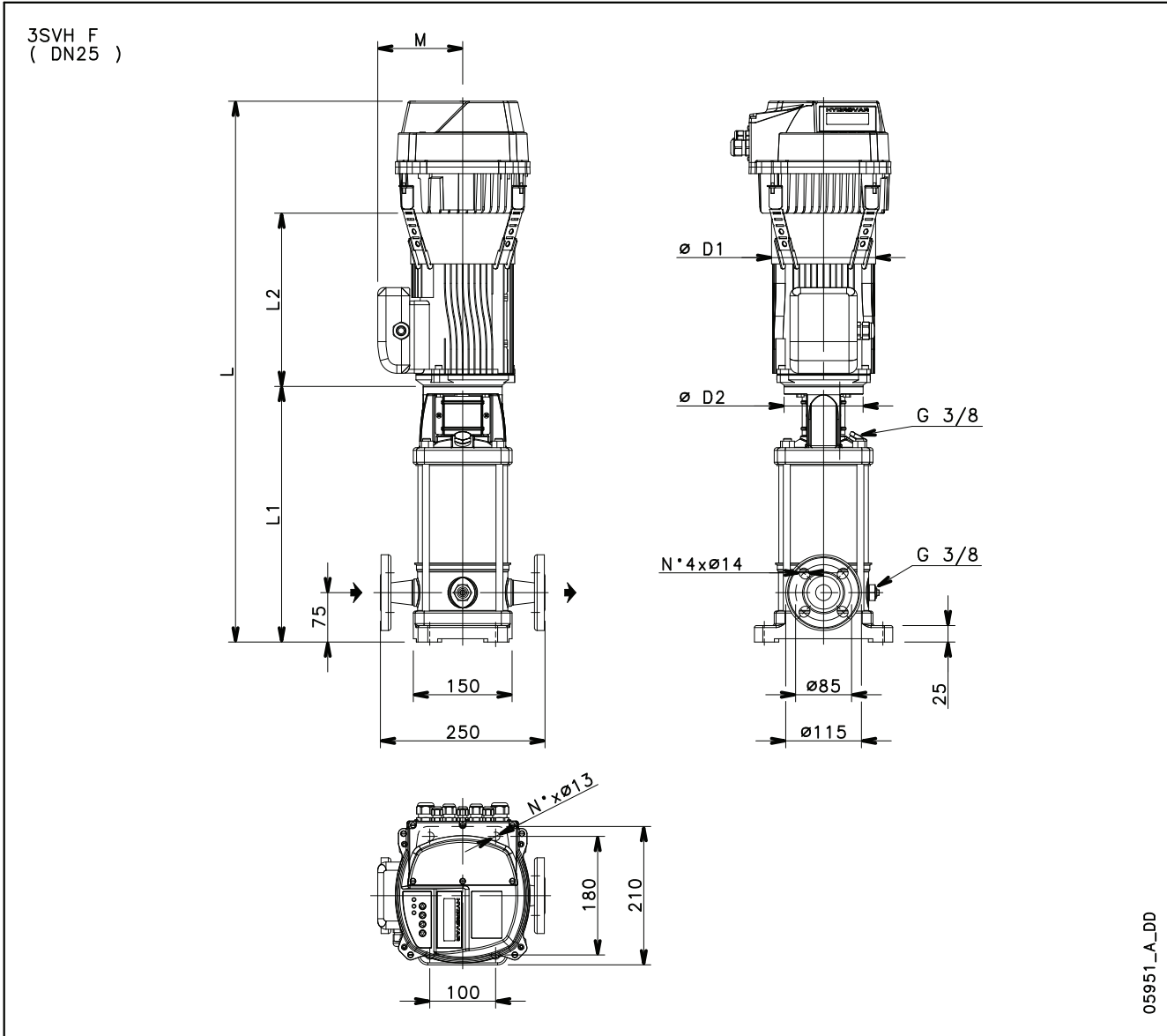
**1SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .



### 3SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

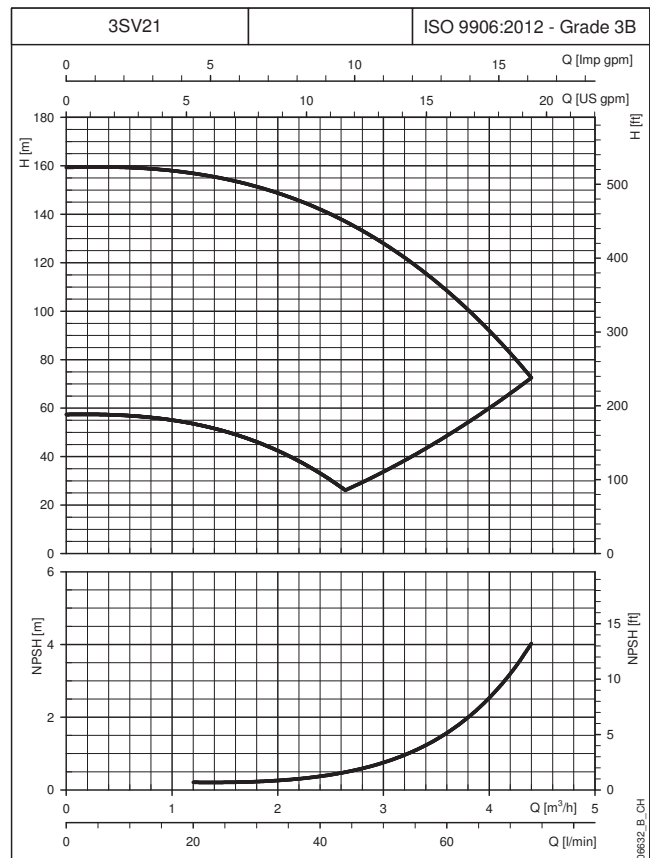
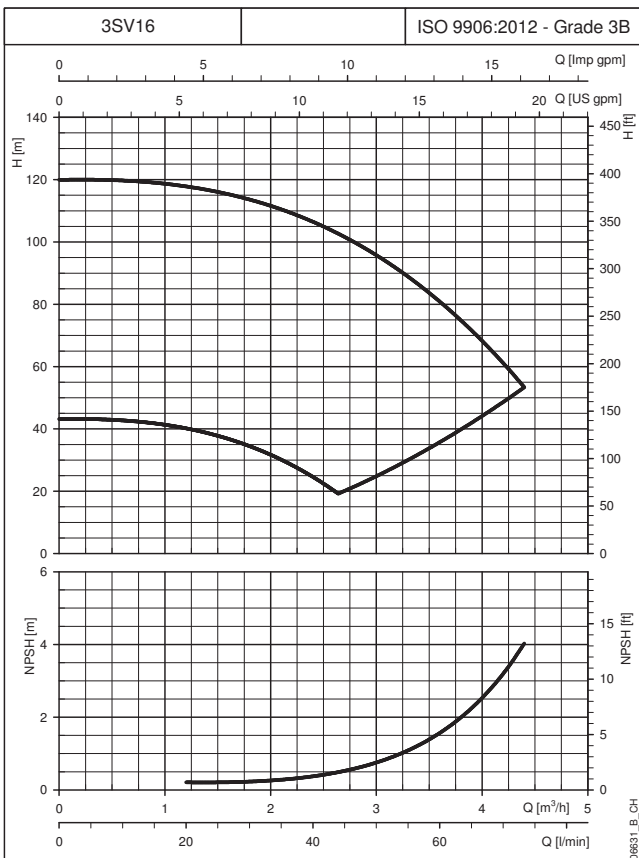
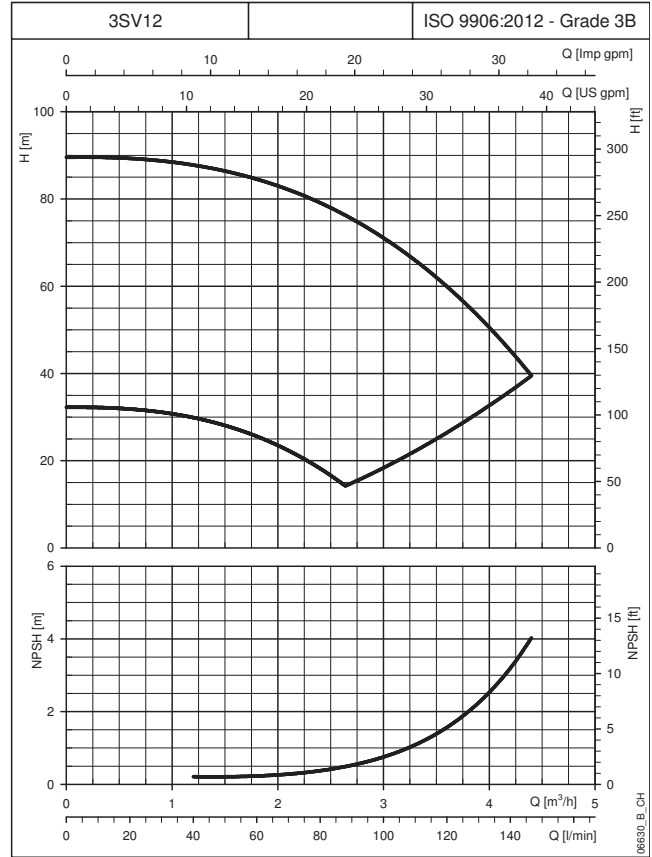
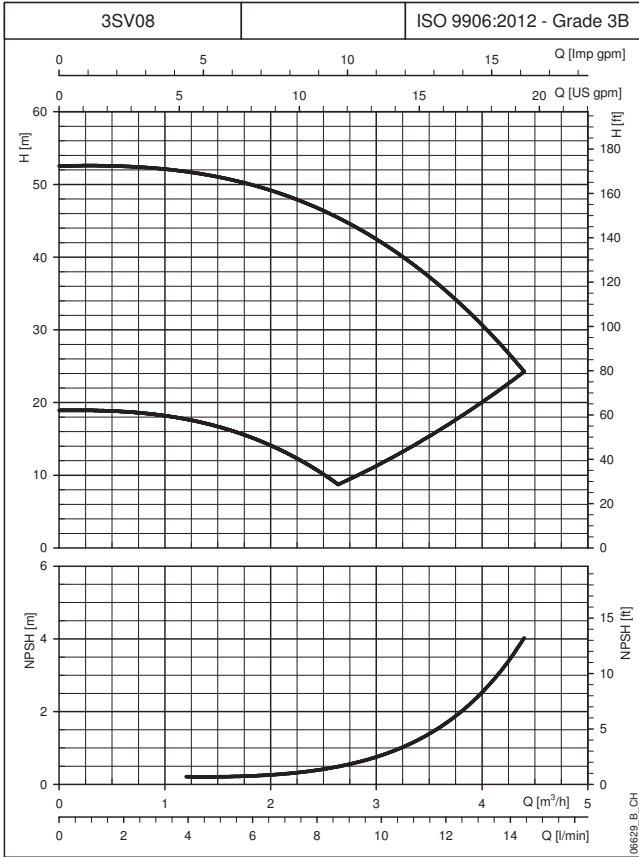


05951\_A\_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)					L			WEIGHT (kg)		
			L1	L2	M	D1	D2	/2	/3	/4	/2	/3	/4
								1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
3SVH08	0,75	80	388	263	129	155	120	821	821	821	26,5	26,5	26,5
3SVH12	1,1	80	468	263	129	155	120	901	901	901	30,3	30,3	30,3
3SVH16	1,5	90	558	263	129	155	140	991	991	991	33,8	33,8	33,8
3SVH21	2,2	90	658	298	134	174	140	1126	1126	1126	40,8	40,8	40,8
3SVH25	2,2	90	738	298	134	174	140	1206	1206	1206	42,4	42,4	42,4
3SVH29	3	100	828	298	134	174	160	1311	1311	1296	53,9	53,9	49,0
3SVH33	3	100	908	298	134	174	160	1391	1391	1376	55,5	55,5	50,6

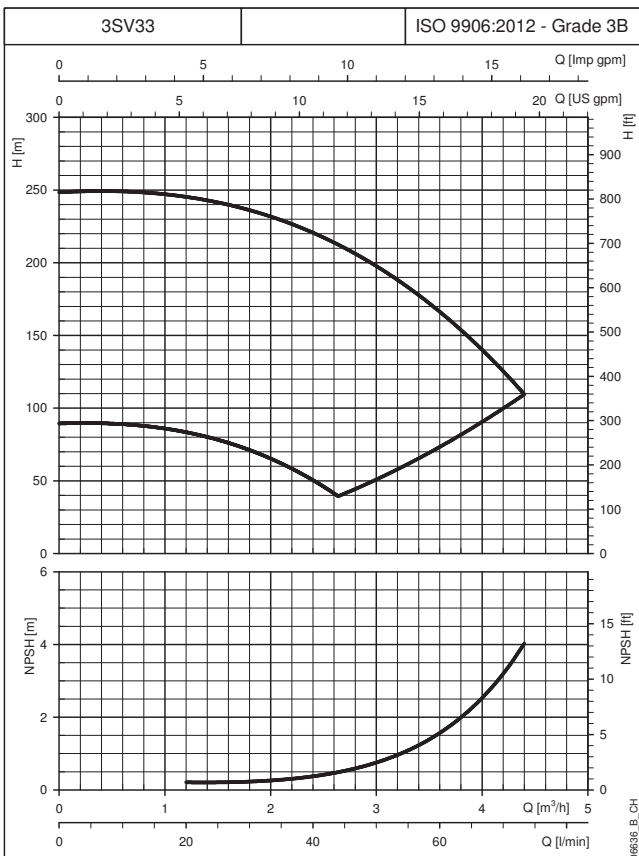
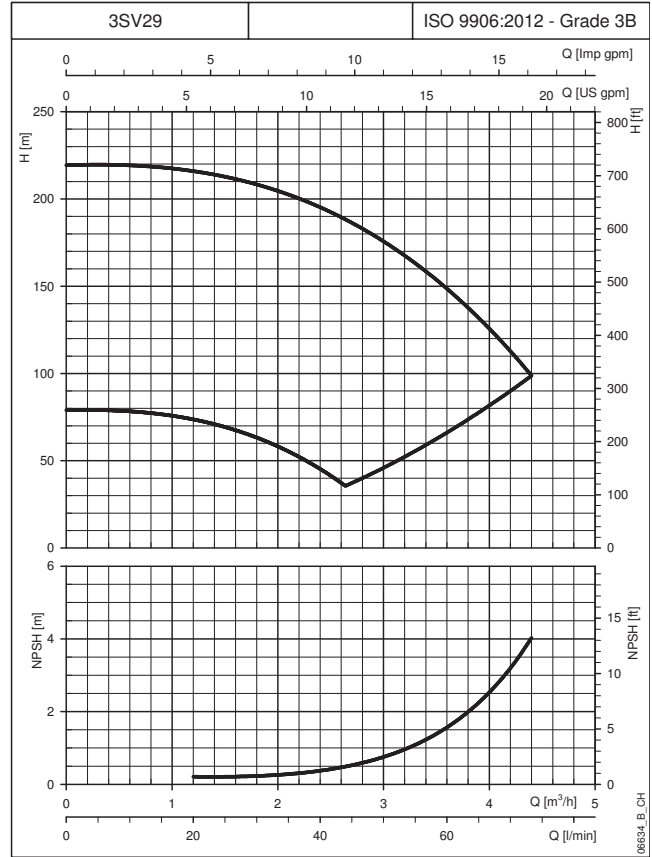
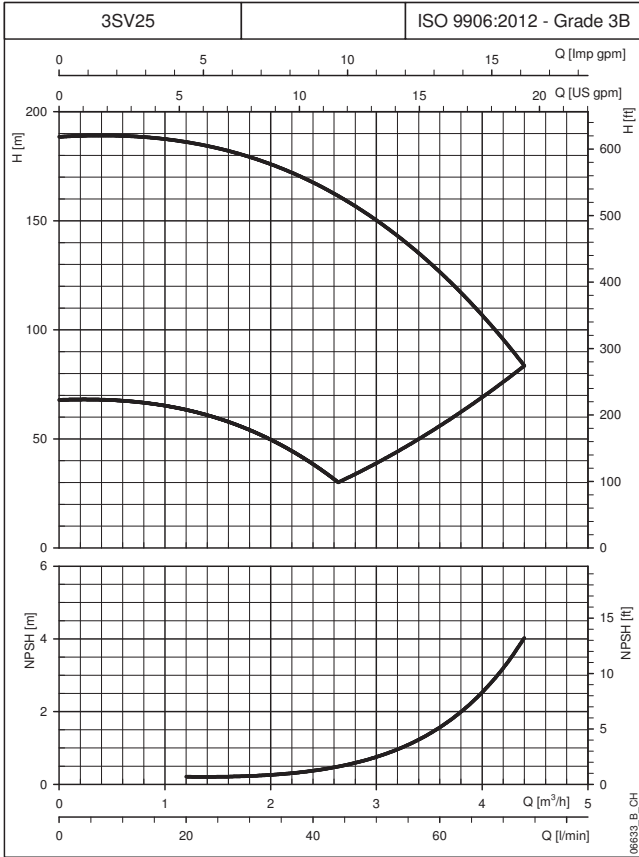
3svh-HVL-2p50-en\_a\_td

**3SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



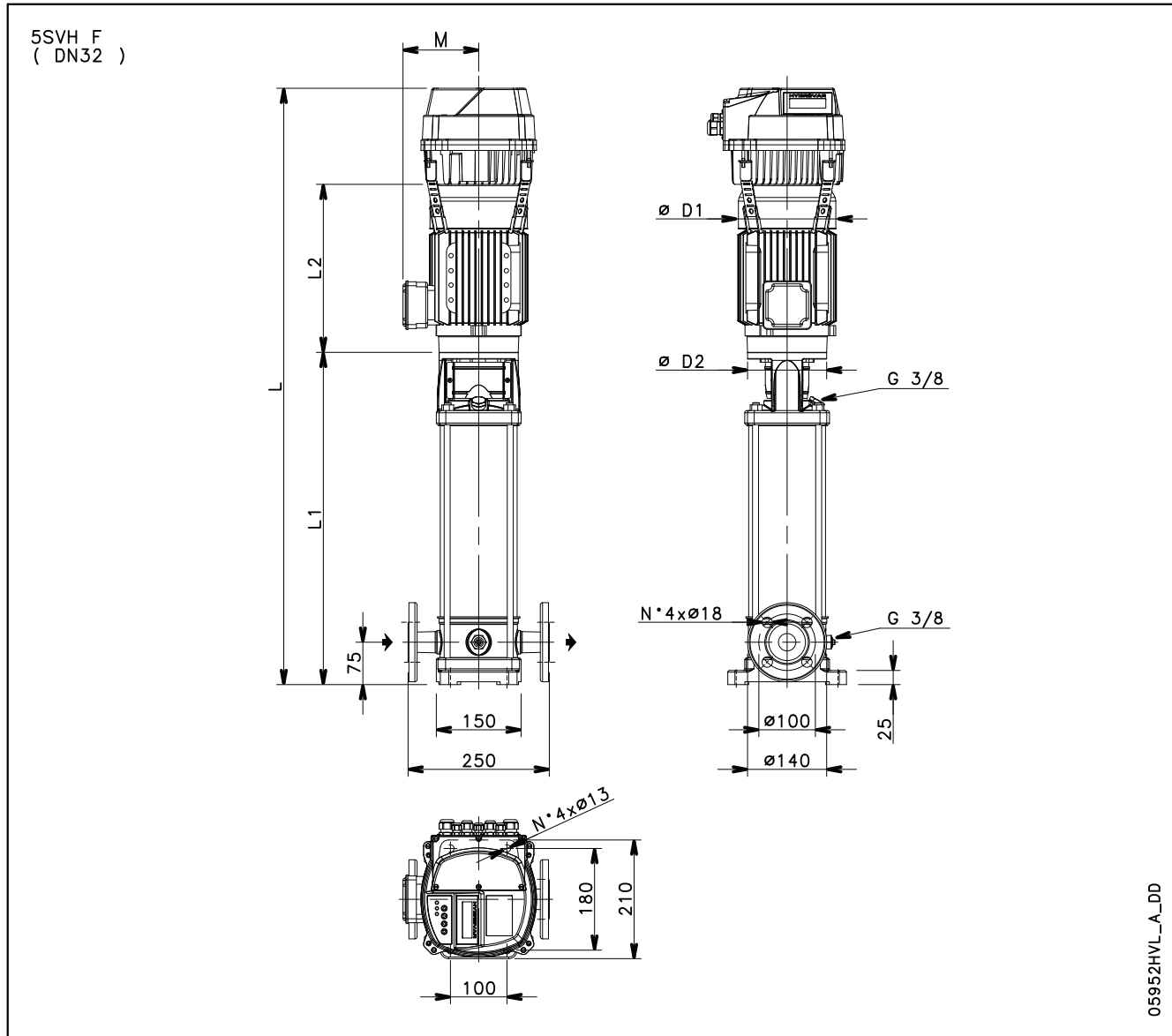
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

**3SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

## 5SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

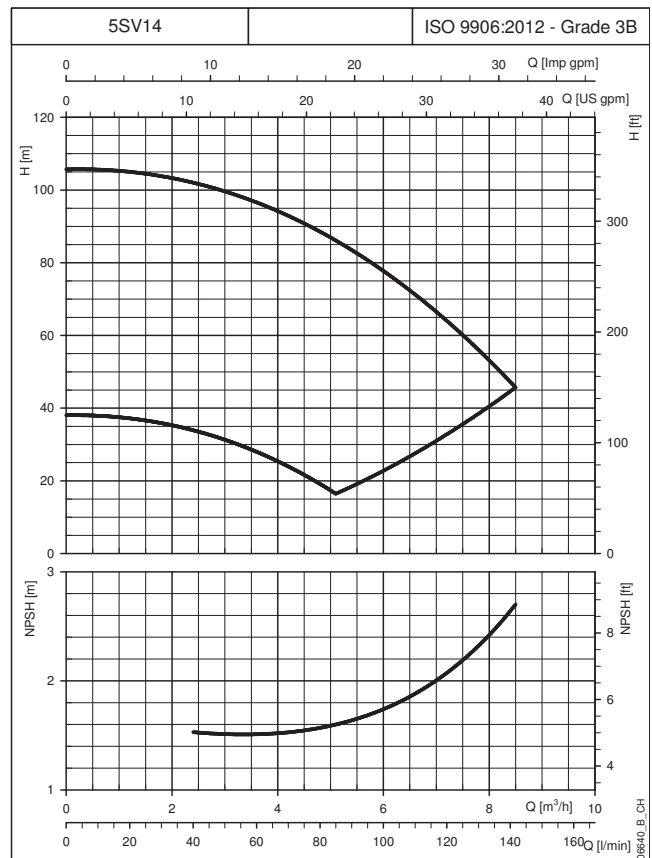
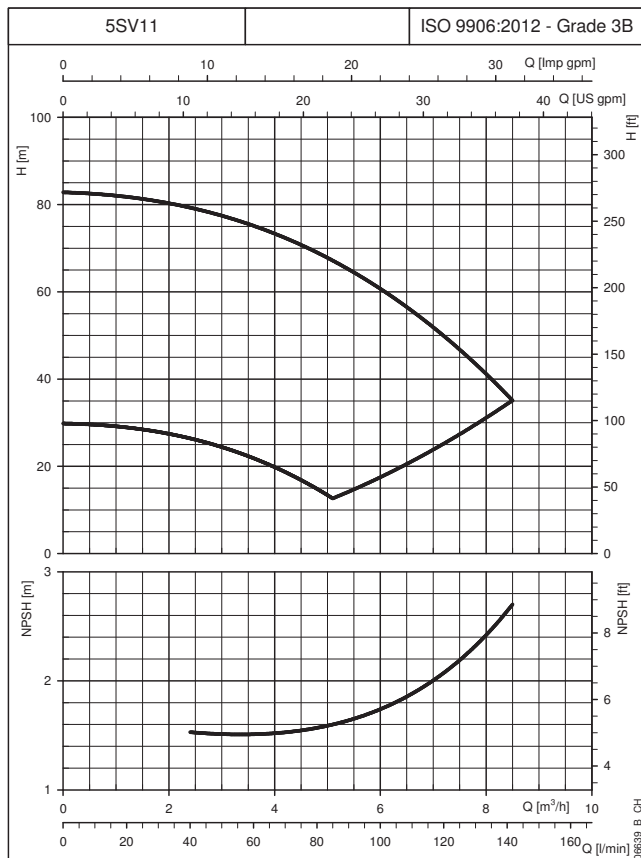
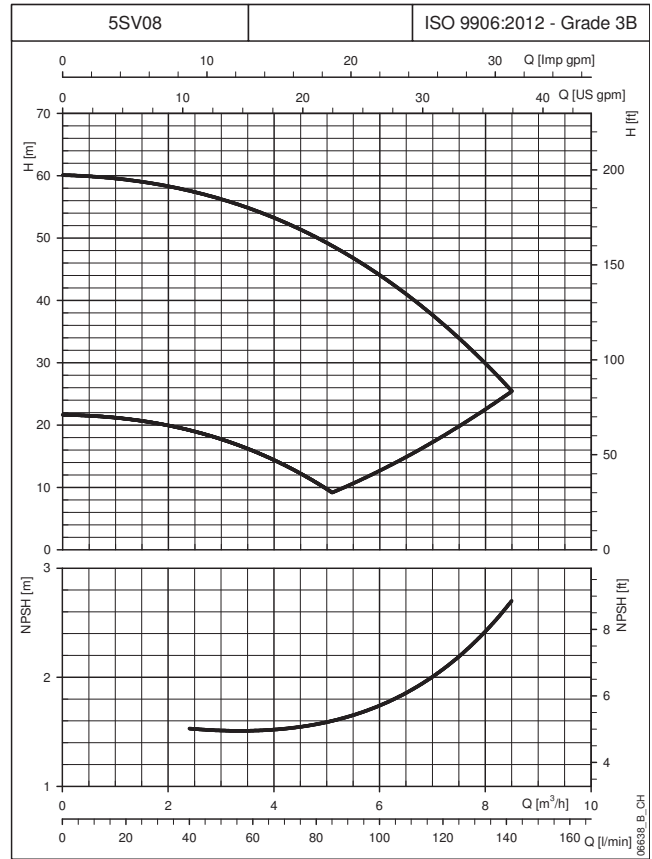
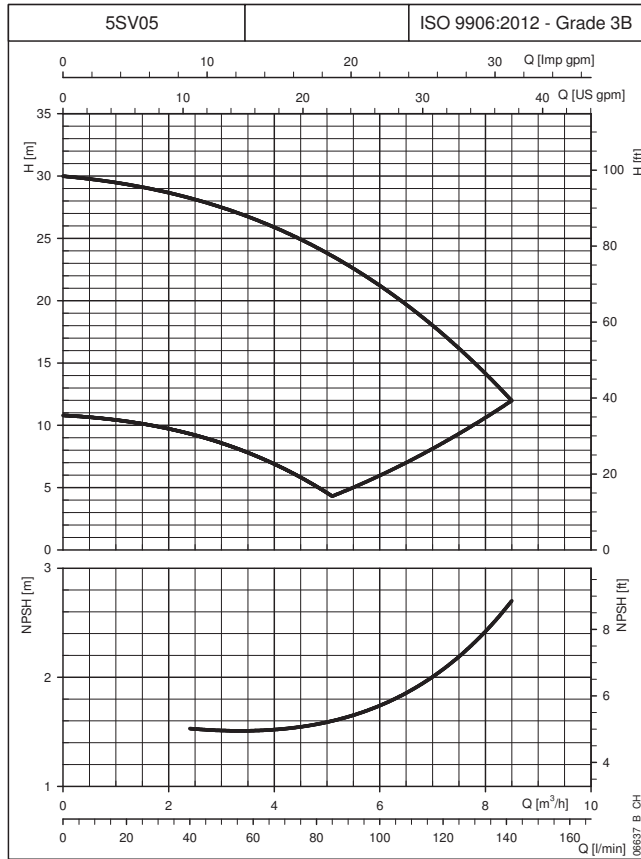


05952HVL\_A\_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)					L			WEIGHT (kg)		
			L1	L2	M	D1	D2	/2	/3	/4	/2	/3	/4
				3 ~	3 ~	3 ~		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
5SVH05	0,75	80	353	263	129	155	120	786	786	786	25,7	25,7	25,7
5SVH08	1,1	80	428	263	129	155	120	861	861	861	29,1	29,1	29,1
5SVH11	1,5	90	513	263	129	155	140	946	946	946	32,6	32,6	32,6
5SVH14	2,2	90	588	298	134	174	140	1056	1056	1056	38,8	38,8	38,8
5SVH16	2,2	90	638	298	134	174	140	1106	1106	1106	39,8	39,8	39,8
5SVH21	3	100	773	298	134	174	160	1256	1256	1241	50,9	50,9	46,0
5SVH28	4	112	948	319	154	197	160	1452	1452	1437	59,9	59,9	55,0
5SVH33	5,5	132	1093	375	168	214	300	-	1653	1653	-	77,6	77,6

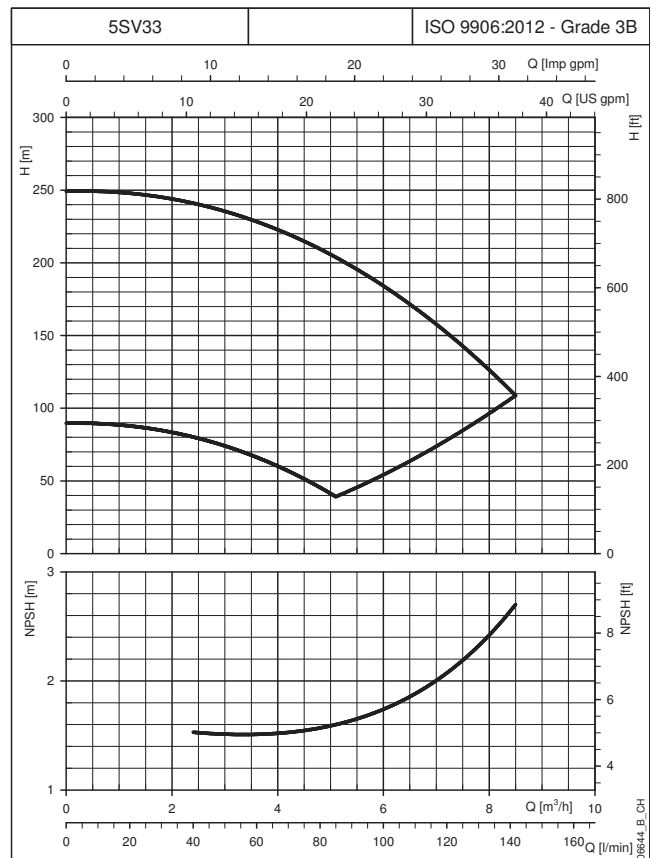
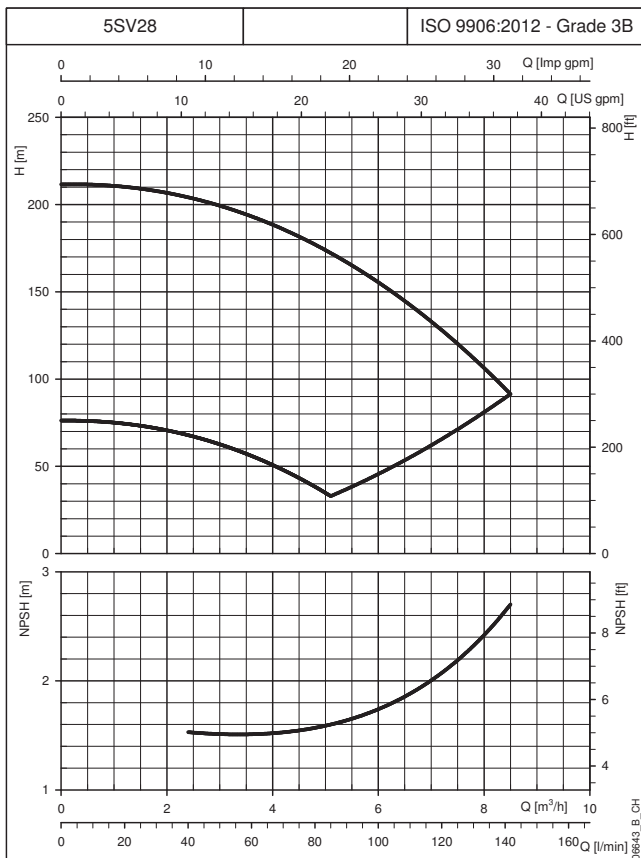
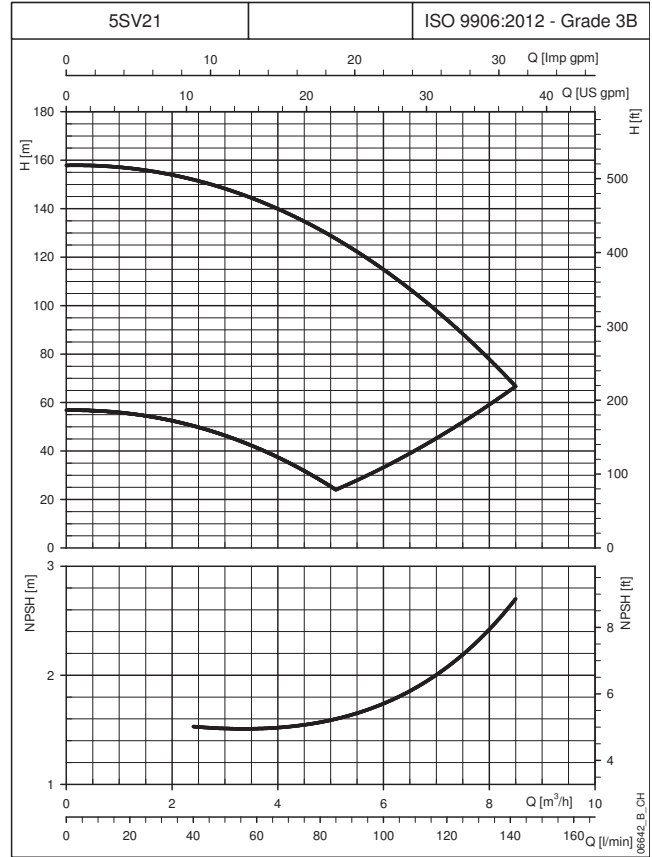
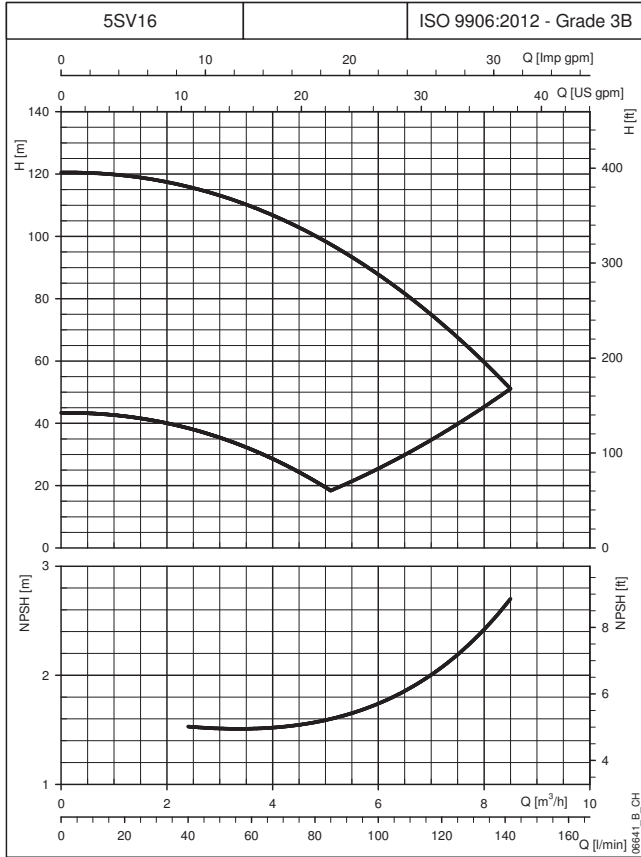
3svh-HVL-2p50-en\_a\_td

## 5SVH SERIES OPERATING CHARACTERISTICS AT 30..50 Hz



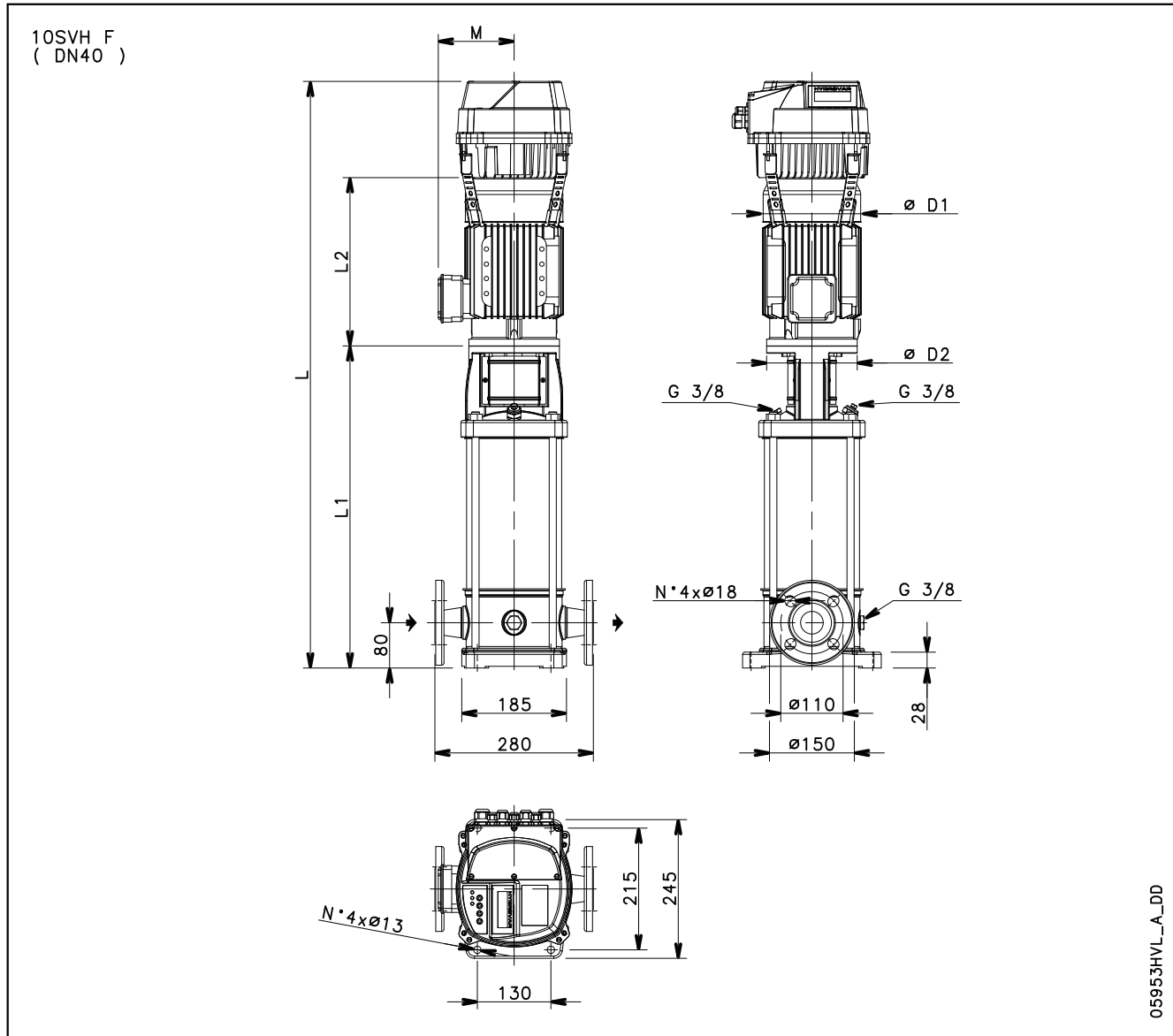
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

**5SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed. These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

## 10SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES

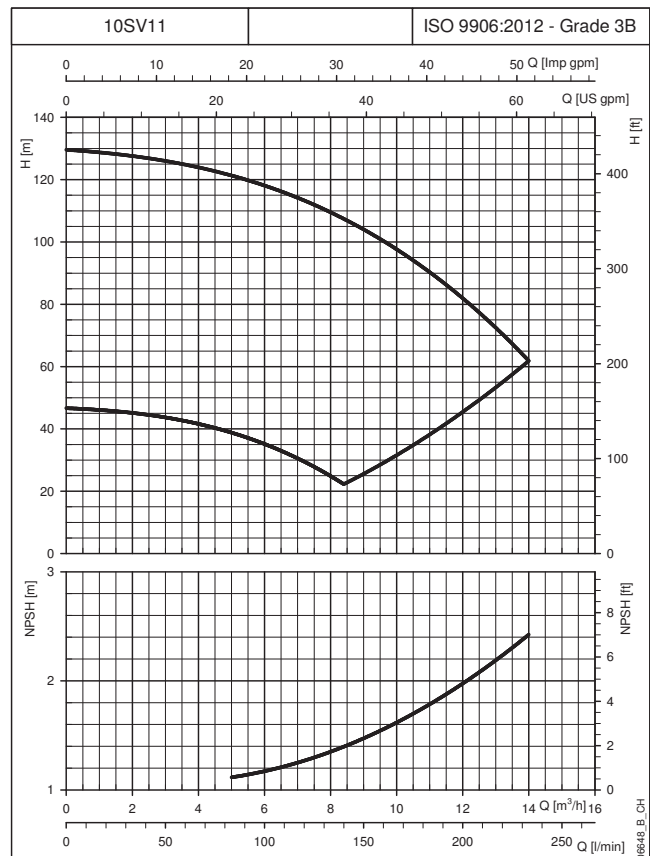
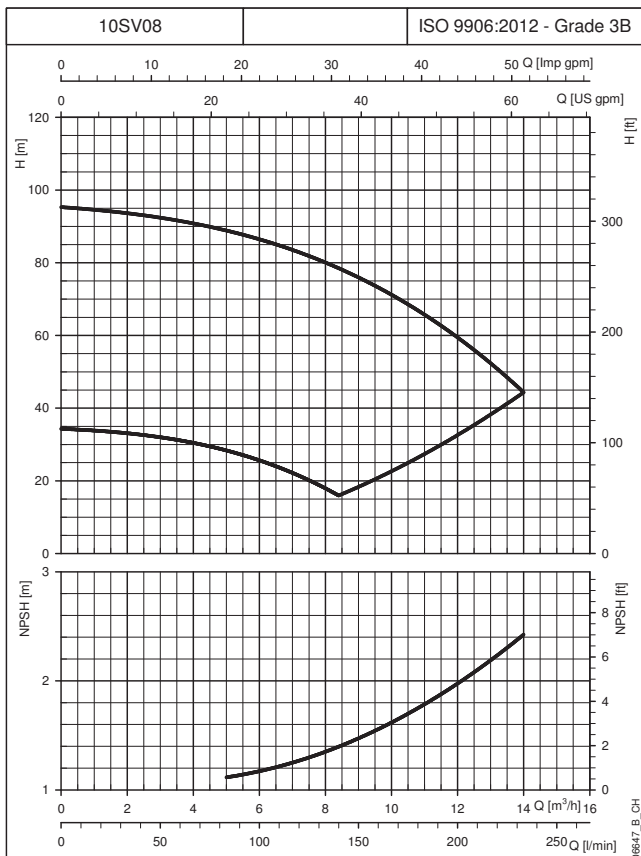
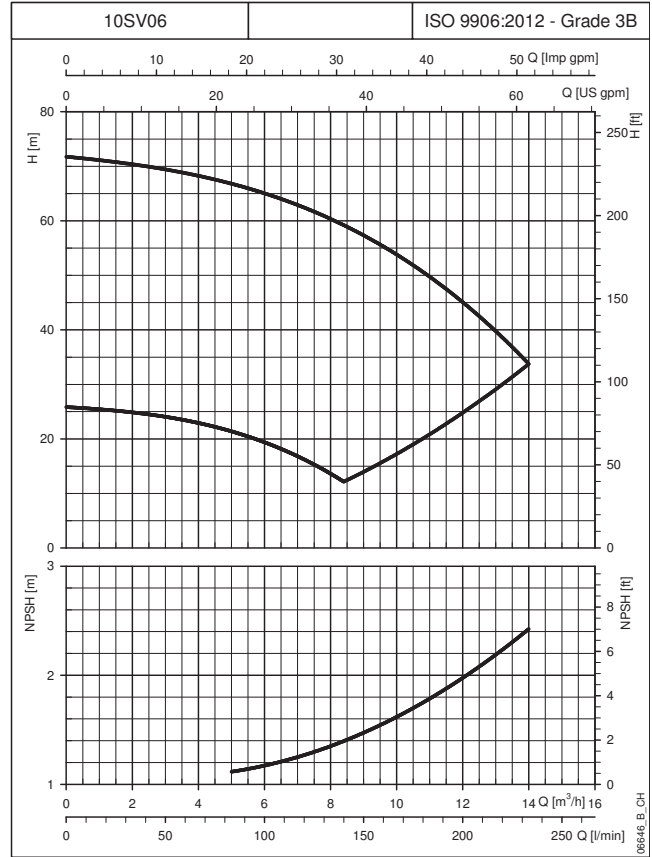
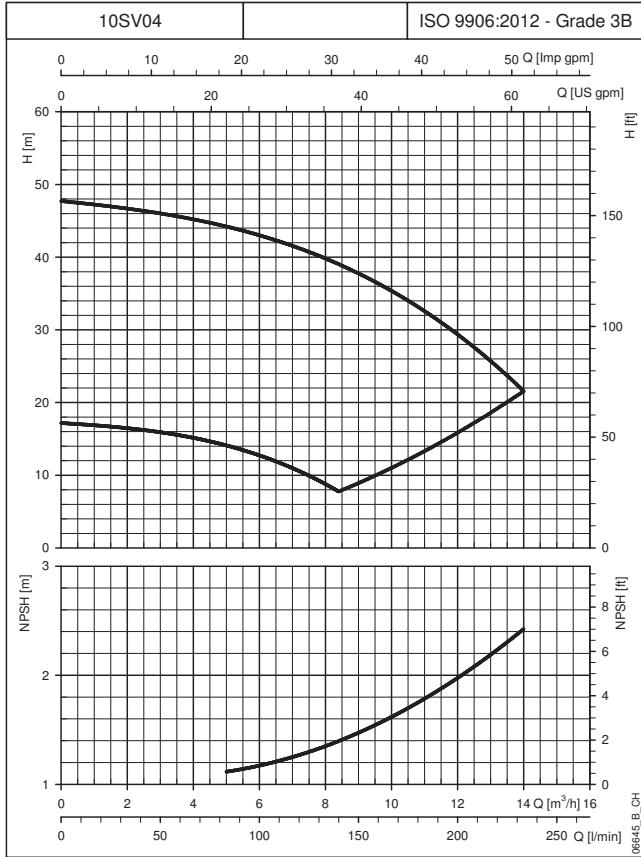


05953HVL\_A\_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)					L			WEIGHT (kg)		
			L1	L2	M	D1	D2	/2	/3	/4	/2	/3	/4
				3 ~	3 ~	3 ~		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
10SVH04	1,5	90	431	263	129	155	140	864	864	864	36,6	36,6	36,6
10SVH06	2,2	90	495	298	134	174	140	963	963	963	43,5	43,5	43,5
10SVH08	3	100	569	298	134	174	160	1052	1052	1037	53,9	53,9	49,0
10SVH11	4	112	665	319	154	197	160	1169	1169	1154	62,5	62,5	57,6
10SVH15	5,5	132	860	375	168	214	300	-	1420	1420	-	83,5	83,5
10SVH20	7,5	132	1020	367	191	256	300	-	1587	1572	-	111,6	106,5
10SVH21	11	160	1082	428	191	256	350	-	1710	1695	-	128,6	123,5

10svh-HVL-2p50-en\_a\_td

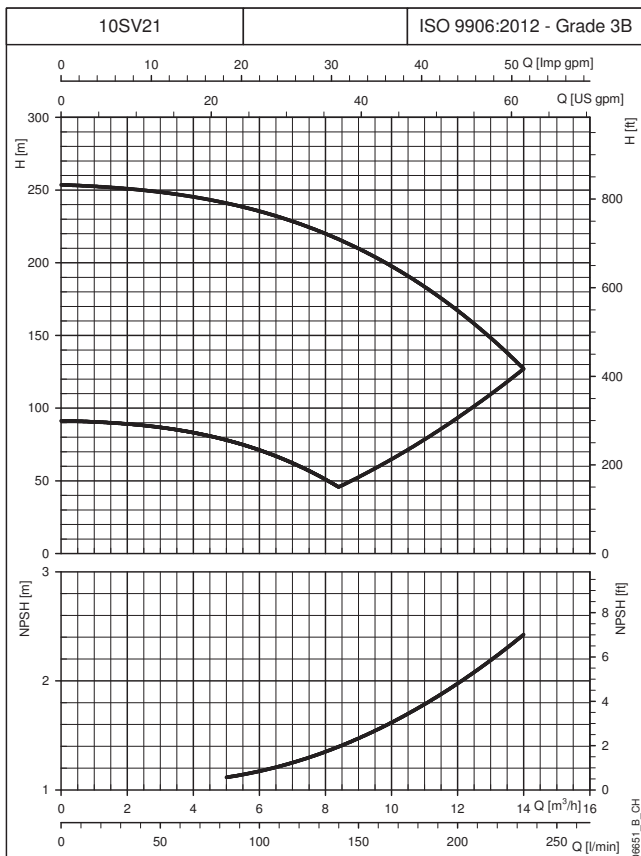
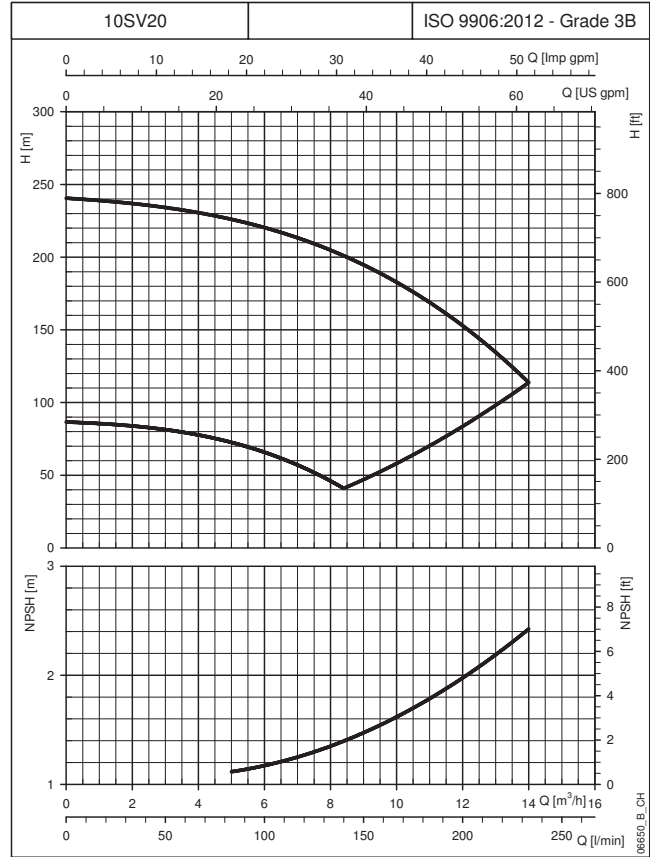
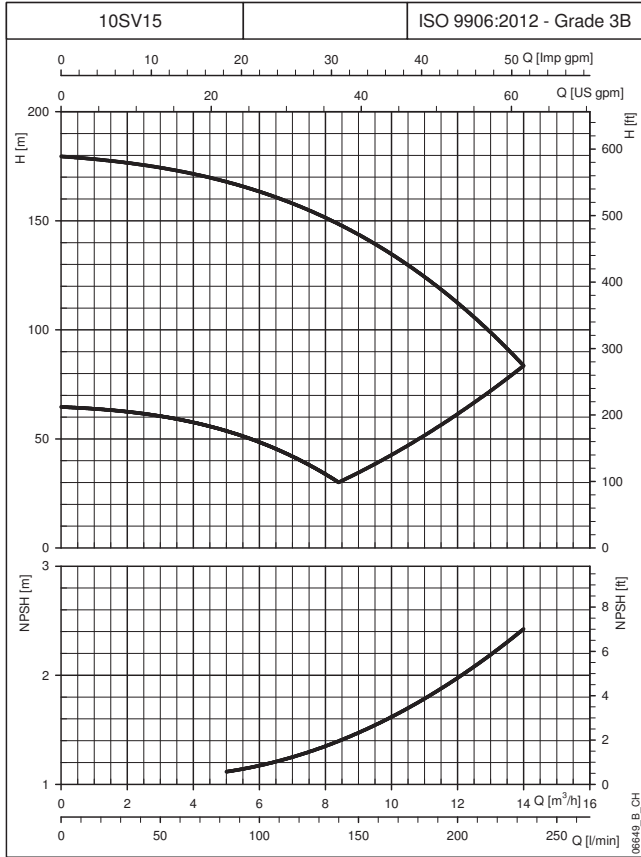
**10SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

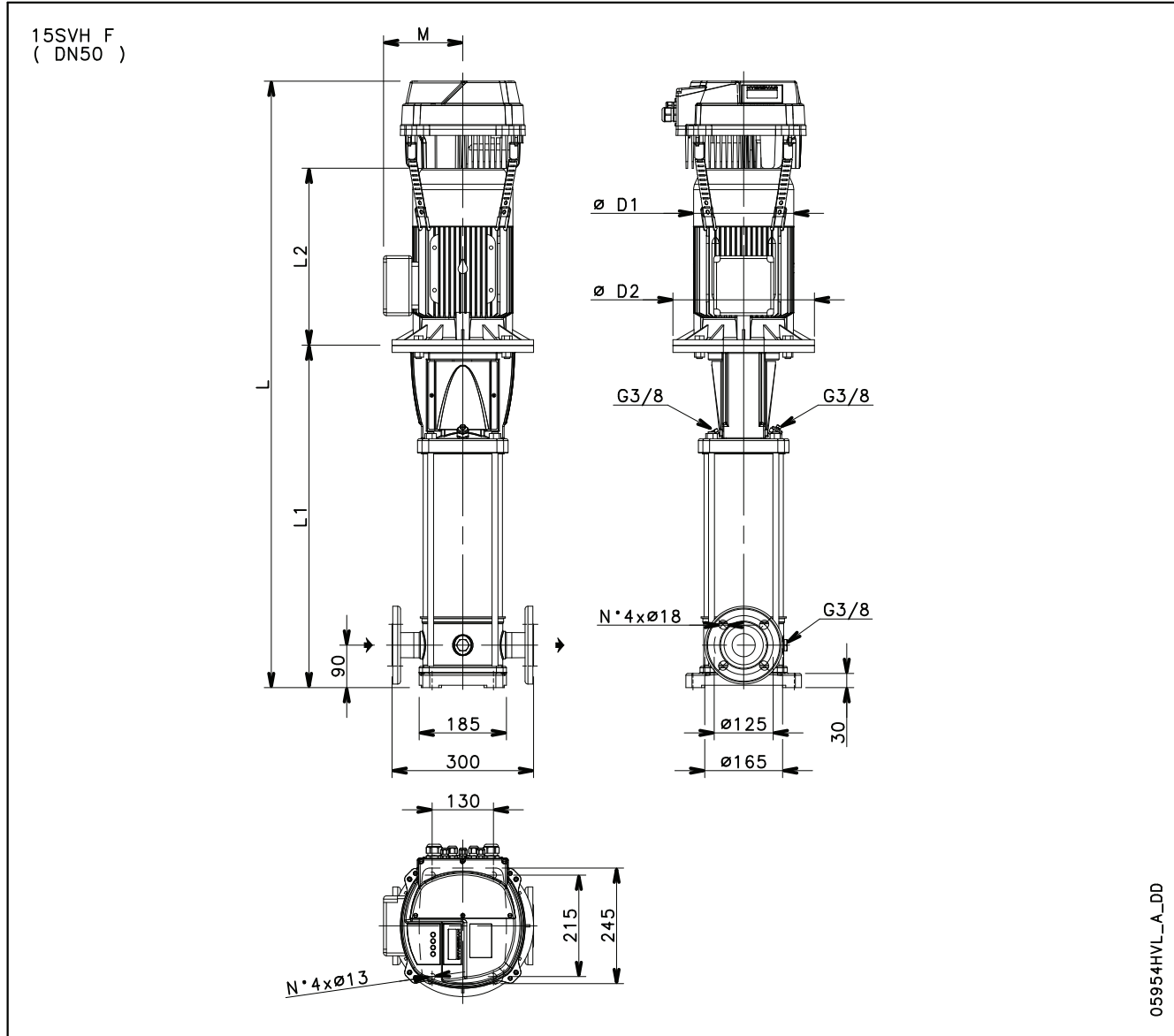


**10SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

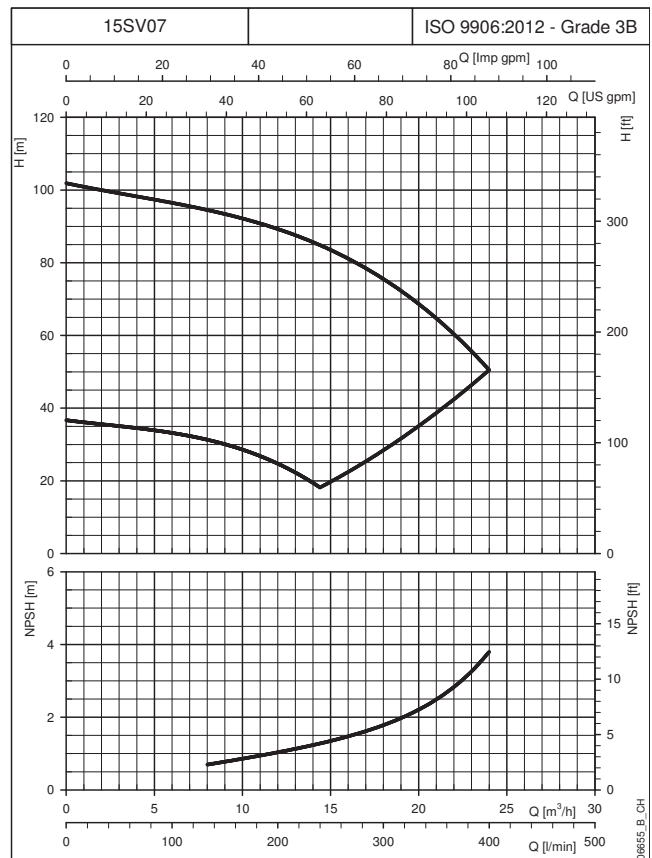
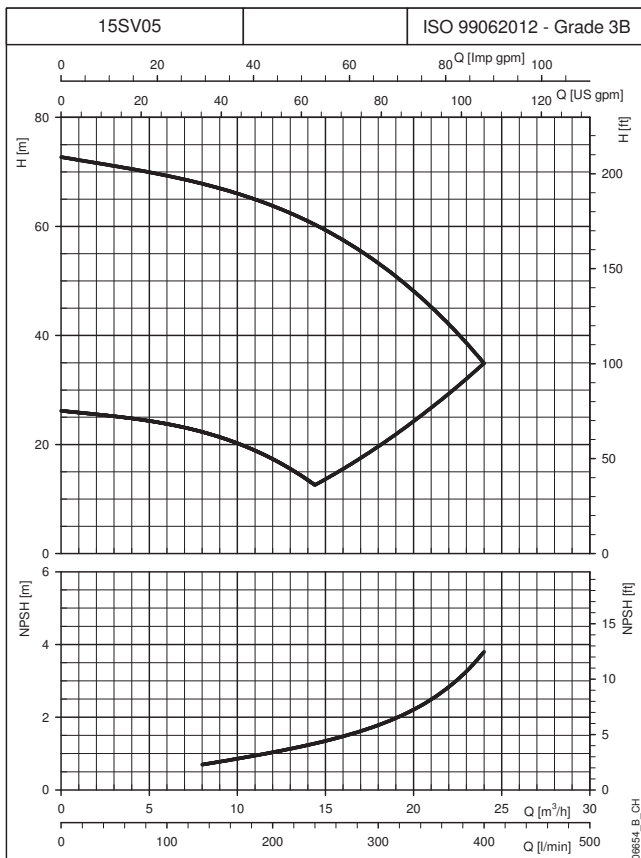
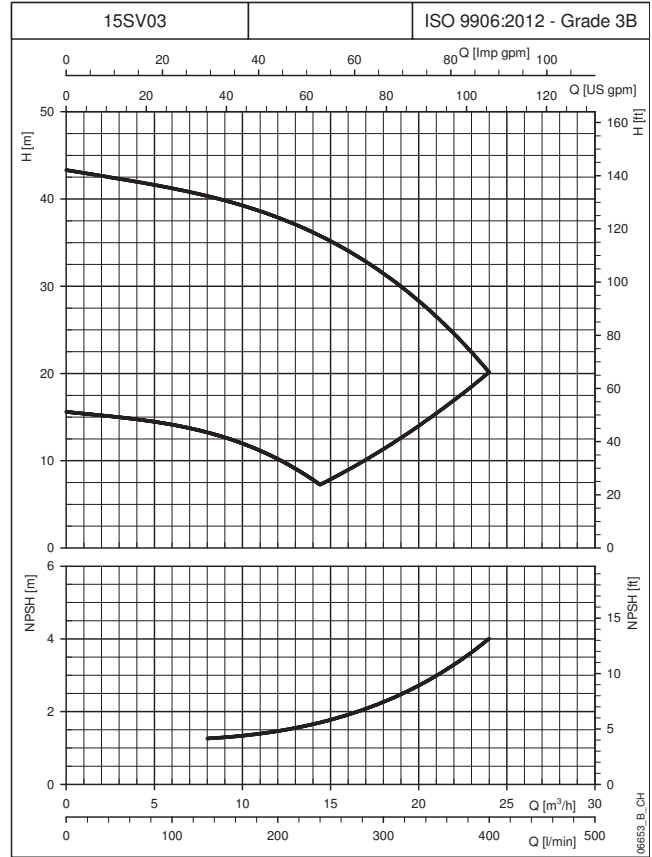
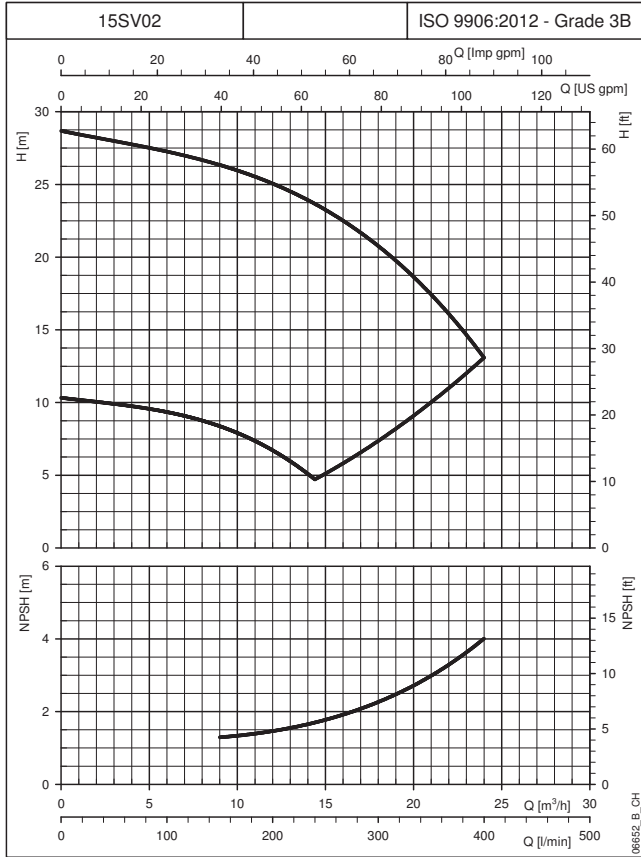
**15SVH SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



PUMP TYPE	MOTOR		DIMENSIONS (mm)					L			WEIGHT (kg)		
			L1	L2	M	D1	D2	/2	/3	/4	/2	/3	/4
								1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
15SVH02	2,2	90	409	298	134	174	140	877	877	877	40,3	40,3	40,3
15SVH03	3	100	467	298	134	174	160	950	950	935	50,5	50,5	45,6
15SVH05	4	112	563	319	154	197	160	1067	1067	1052	58,4	58,4	53,5
15SVH07	5,5	132	726	375	168	214	300	-	1286	1286	-	78,5	78,5
15SVH09	7,5	132	822	367	191	256	300	-	1389	1374	-	105,6	100,5
15SVH13	11	160	1044	428	191	256	350	-	1672	1657	-	127,6	122,5
15SVH17	15	160	1236	494	240	313	350	-	-	1930	-	-	164,6

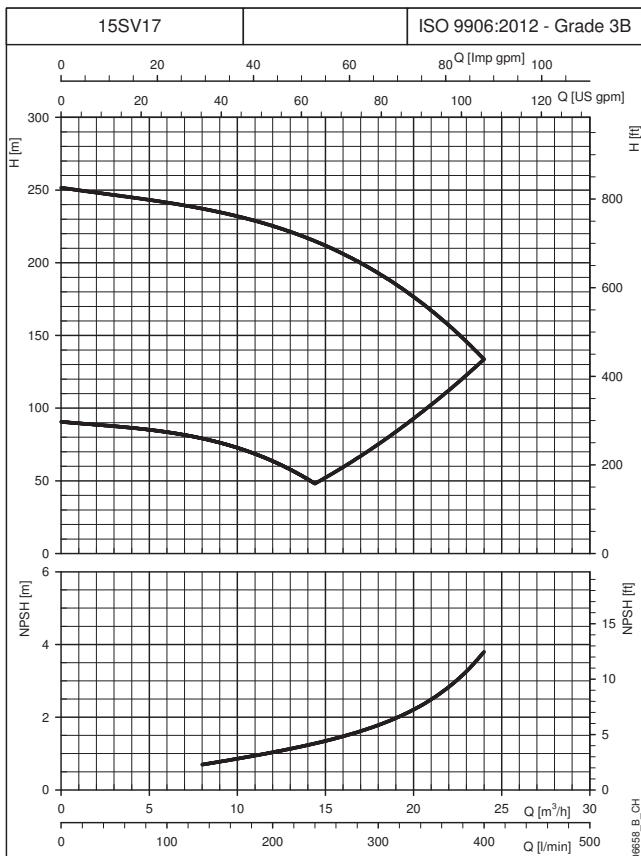
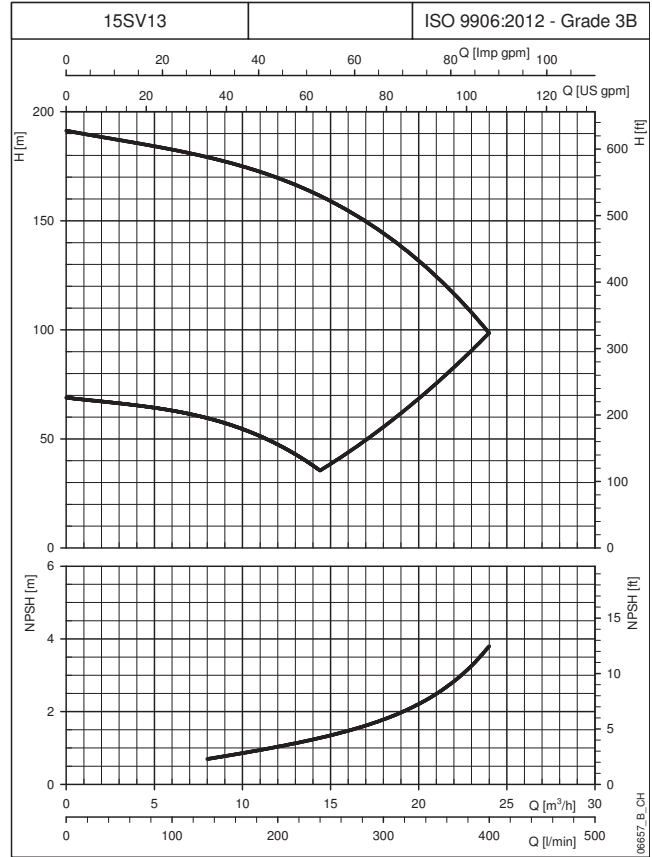
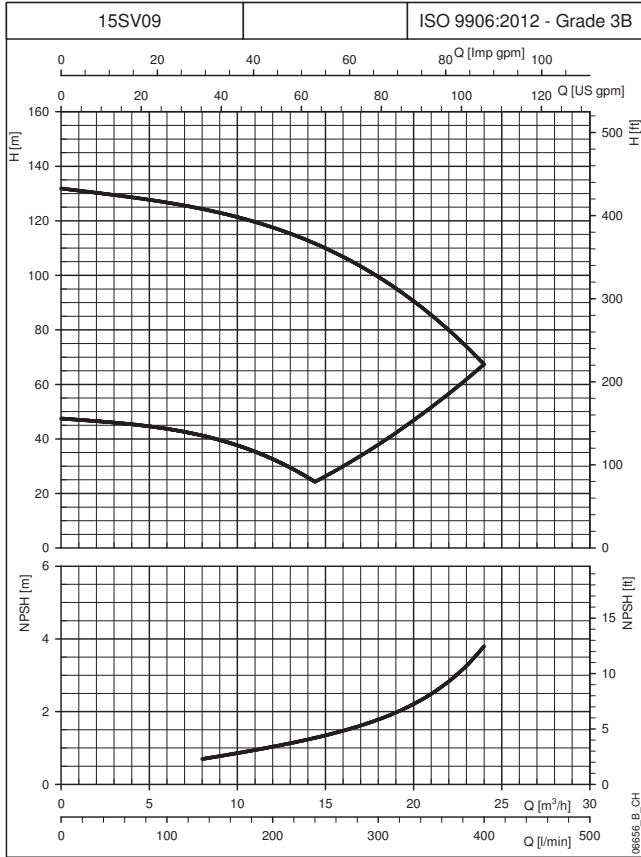
15svh-HVL-2p50-en\_a\_td

**15SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



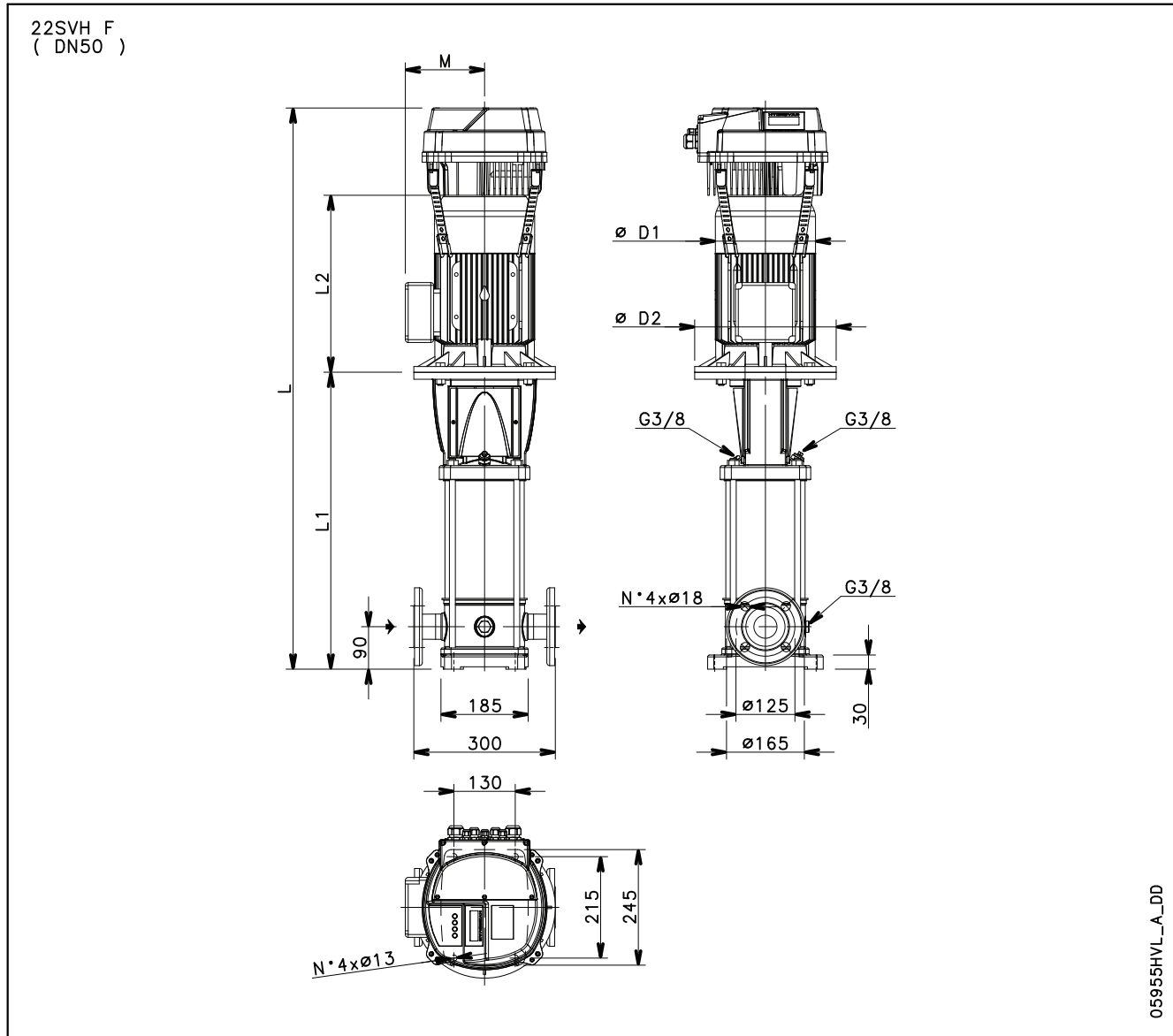
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

**15SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

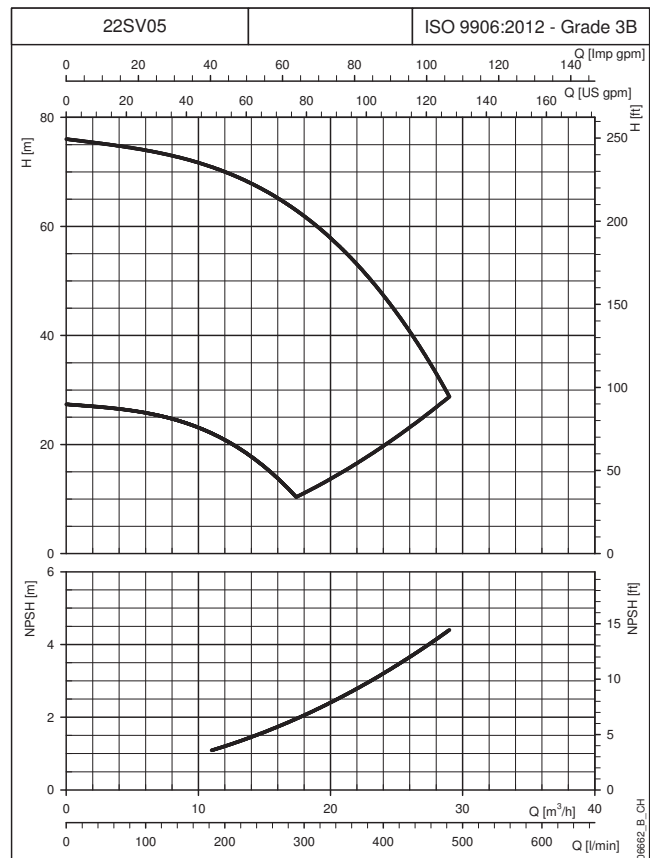
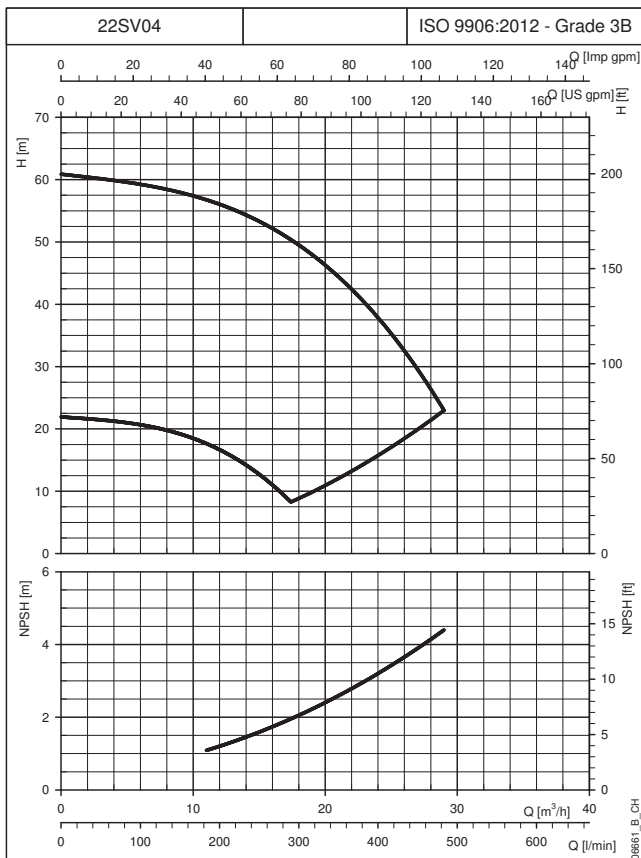
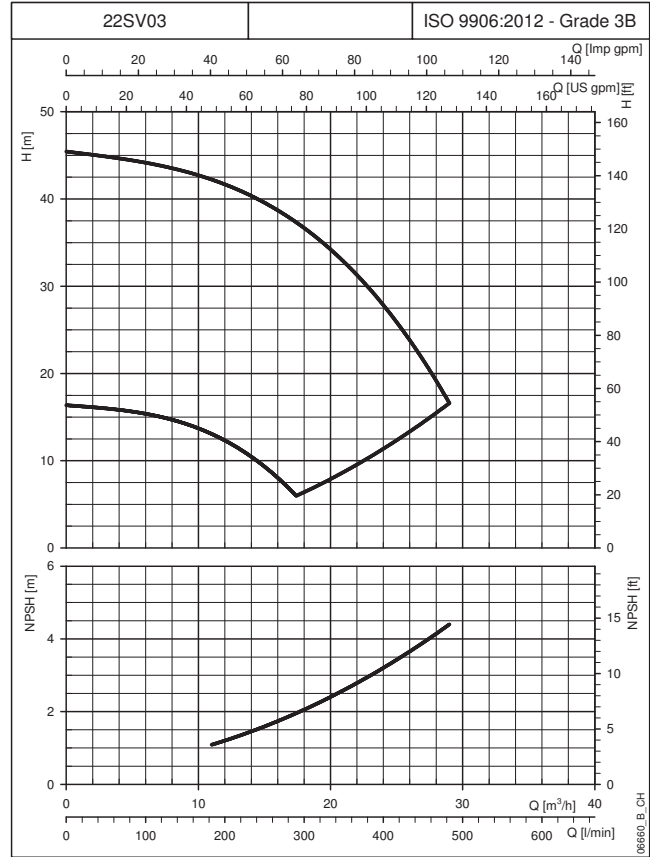
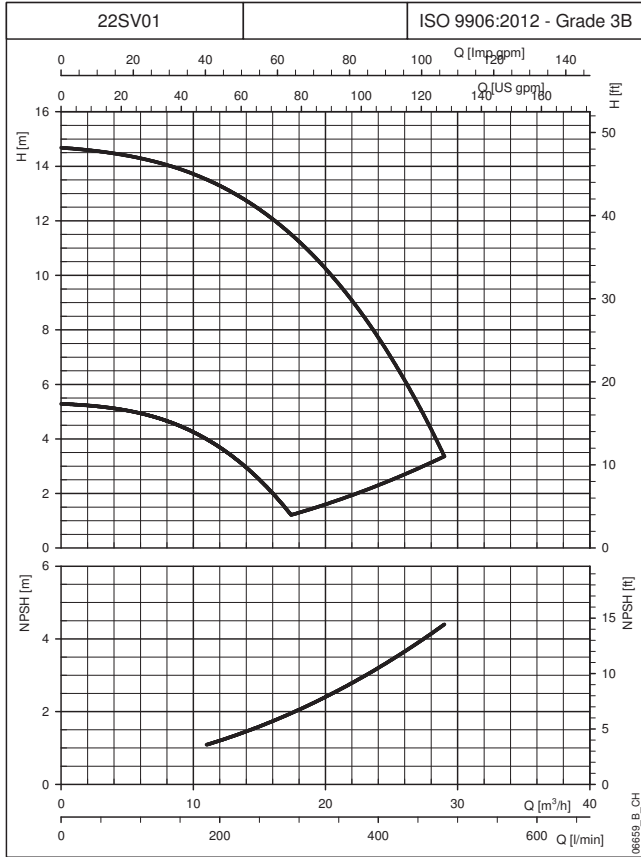
## 22SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



PUMP TYPE	MOTOR		DIMENSIONS (mm)					L			WEIGHT (kg)		
			L1	L2	M	D1	D2	/2	/3	/4	/2	/3	/4
				3 ~	3 ~	3 ~		1 ~ 230V	3 ~ 230V	3 ~ 400V	1 ~ 230V	3 ~ 230V	3 ~ 400V
22SVH01	1,1	80	399	263	129	155	120	832	832	832	32,5	32,5	32,5
22SVH03	3	100	467	298	134	174	160	950	950	935	50,9	50,9	46,0
22SVH04	4	112	515	319	154	197	160	1019	1019	1004	57,6	57,6	52,7
22SVH05	5,5	132	630	375	168	214	300	-	1190	1190	-	75,5	75,5
22SVH07	7,5	132	726	367	191	256	300	-	1293	1278	-	101,6	96,5
22SVH10	11	160	900	428	191	256	350	-	1528	1513	-	122,6	117,5
22SVH14	15	160	1092	494	240	313	350	-	-	1786	-	-	159,6
22SVH17	18,5	160	1236	494	240	313	350	-	-	1930	-	-	171,6

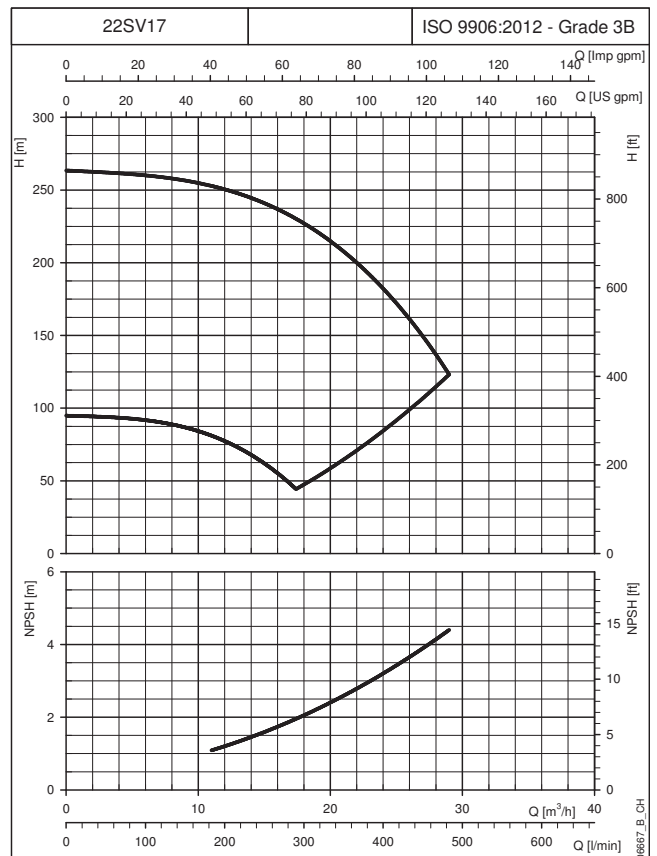
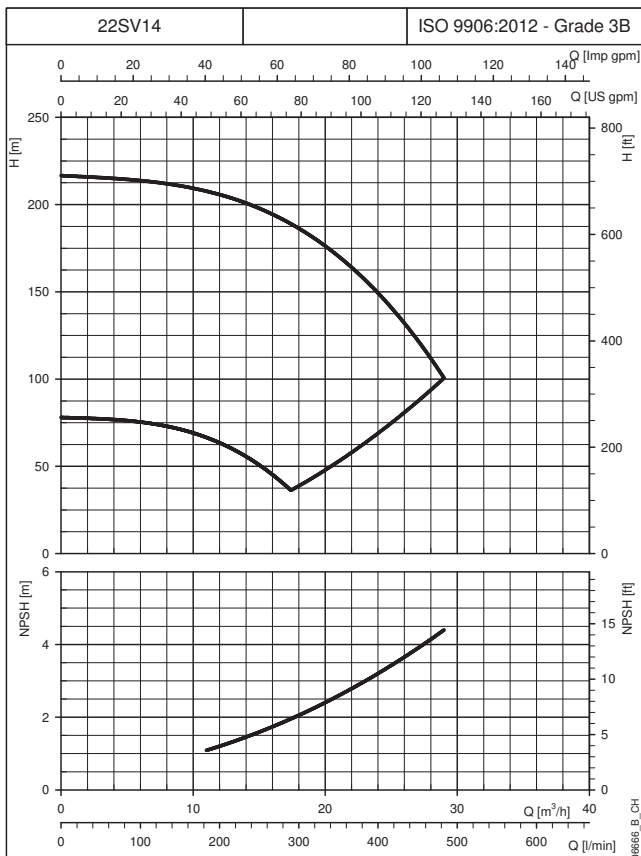
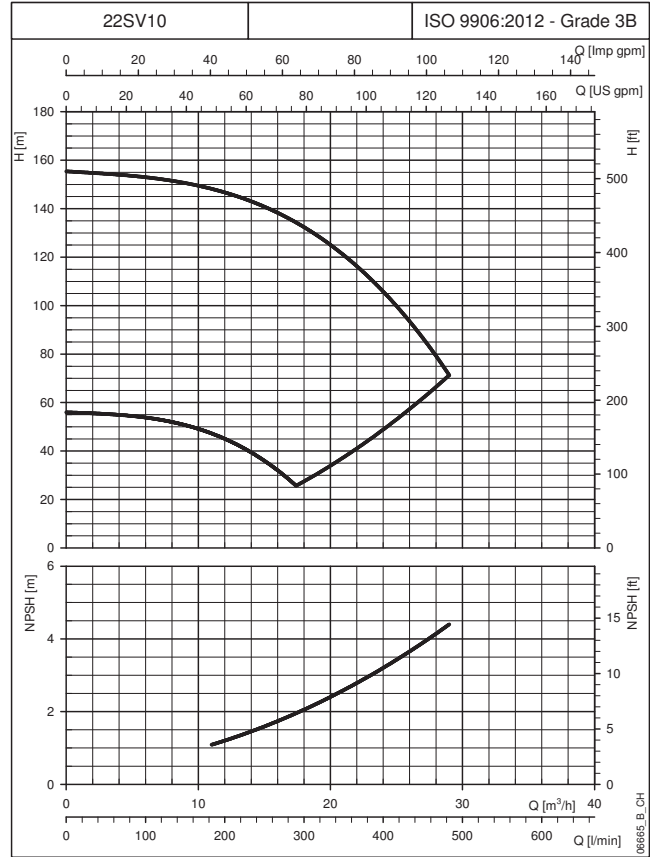
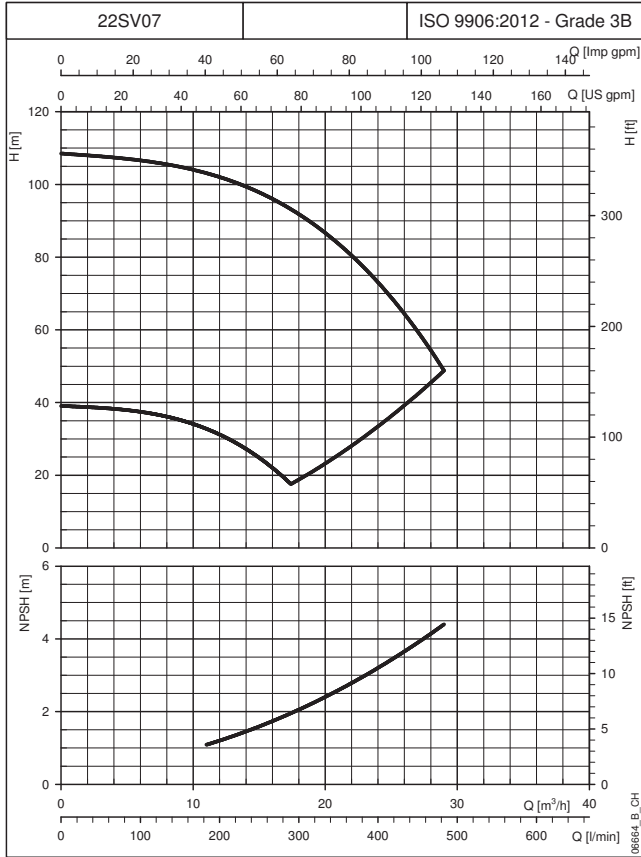
22svh-HVL-2p50-en\_a\_td

**22SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



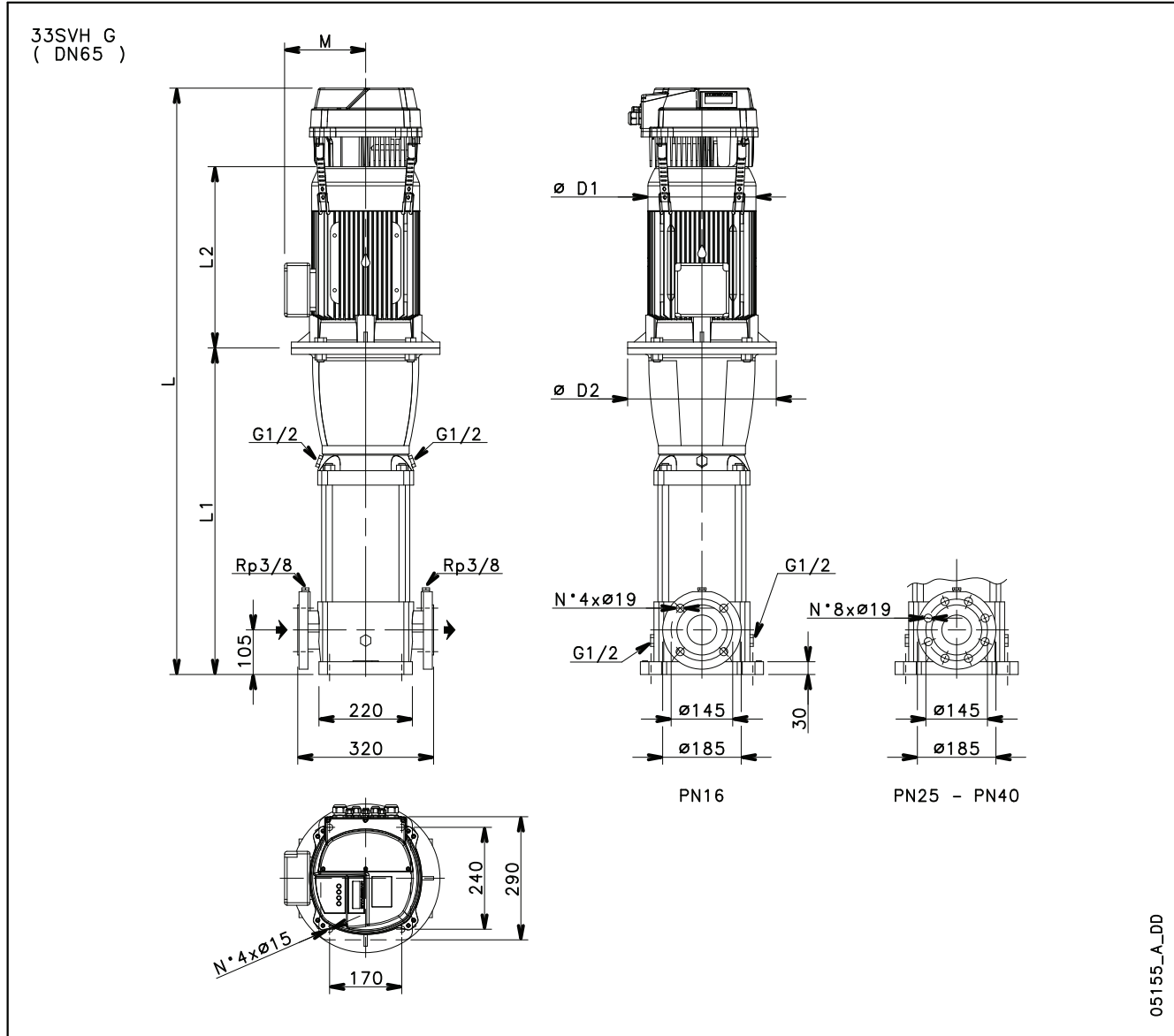
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

**22SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

### 33SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



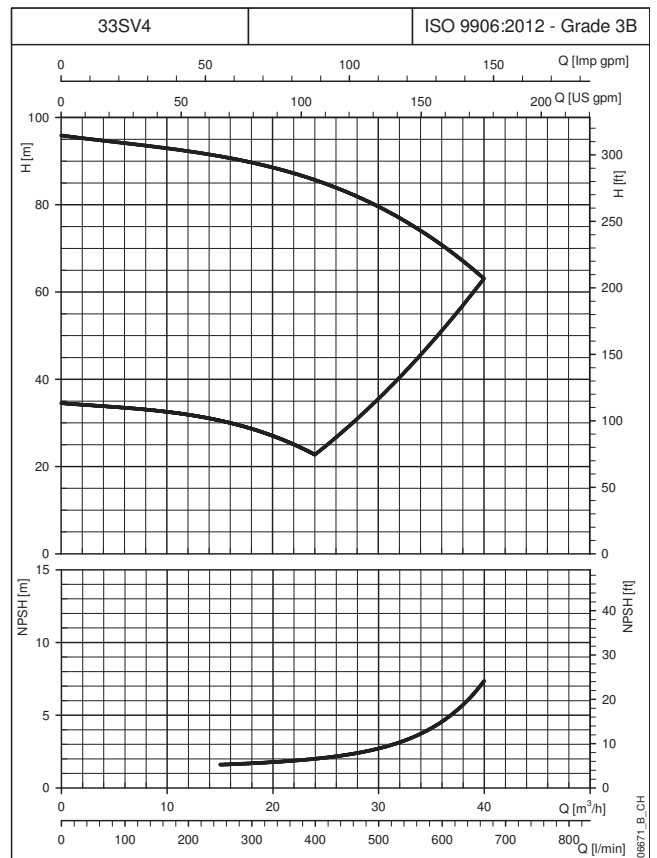
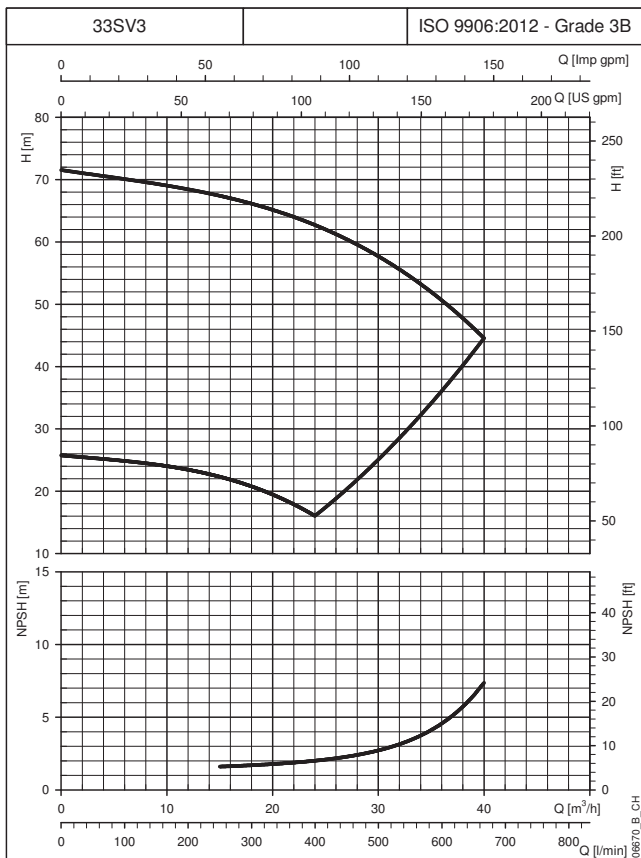
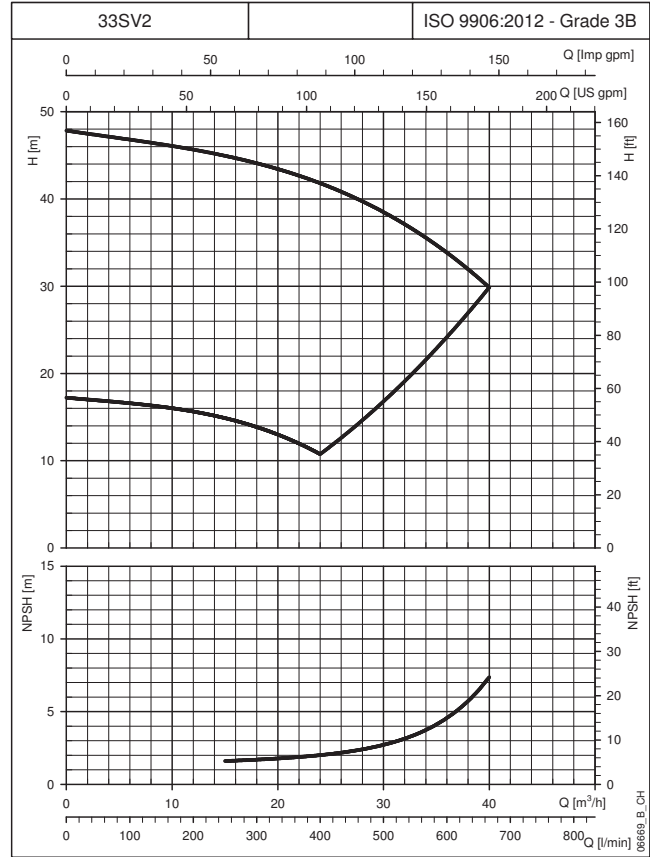
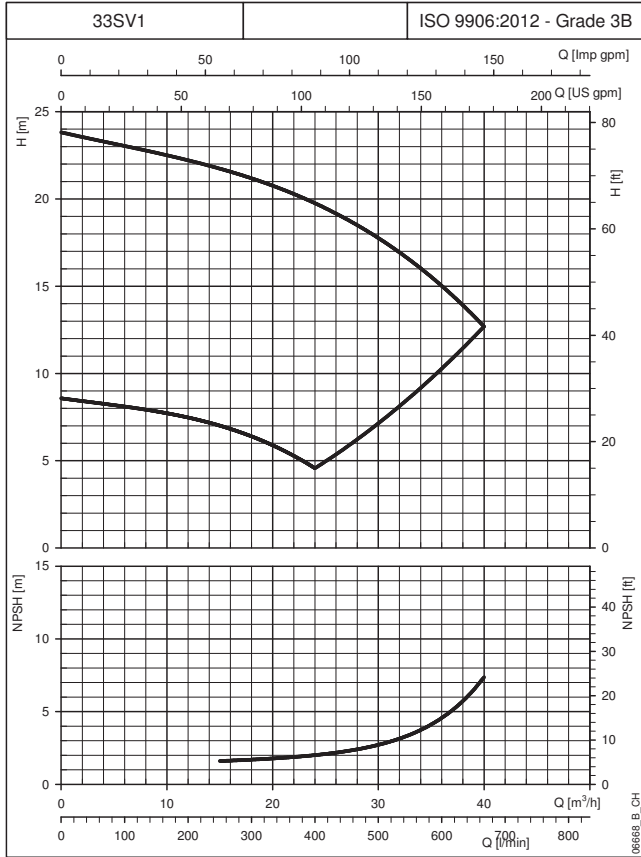
05155\_A\_DD

PUMP TYPE	MOTOR		DIMENSIONS (mm)						L			WEIGHT (kg)		
									/2	/3	/4	/2	/3	/4
									1~230V	3~230V	3~400V	1~230V	3~230V	3~400V
33SVH1	3	100	489	298	174	164	134	16	972	972	957	83,5	83,5	78,6
33SVH2	5,5	132	584	375	214	300	168	16	-	1144	1144	-	109,0	109,0
33SVH3	7,5	132	659	367	256	300	191	16	-	1226	1211	-	136,6	131,5
33SVH4	11	160	769	428	256	350	191	16	-	1397	1382	-	158,6	153,5
33SVH5	15	160	844	494	313	350	240	16	-	-	1538	-	-	194,6
33SVH6	15	160	919	494	313	350	240	25	-	-	1613	-	-	198,6
33SVH7	18,5	160	994	494	313	350	240	25	-	-	1688	-	-	210,6

33svh-HVL-2p50-en\_a\_td

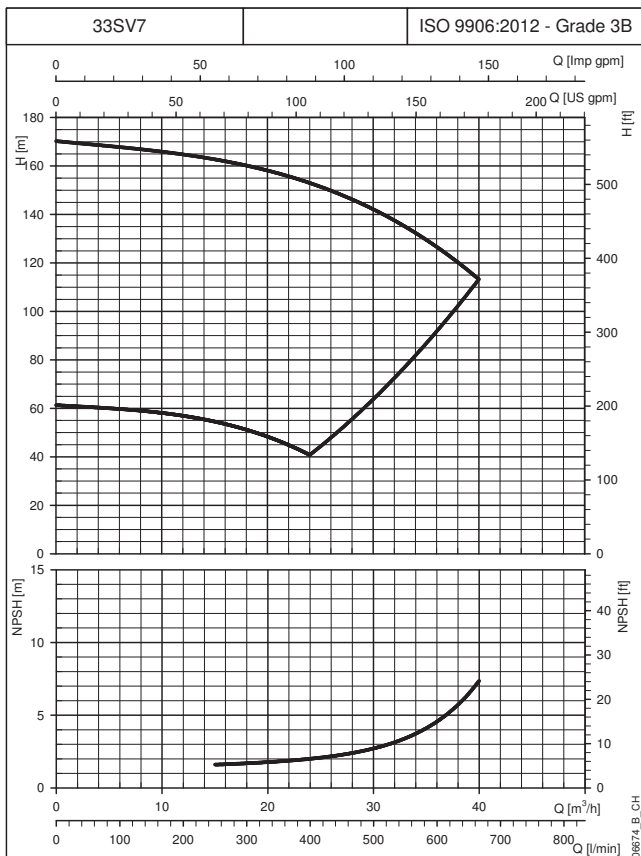
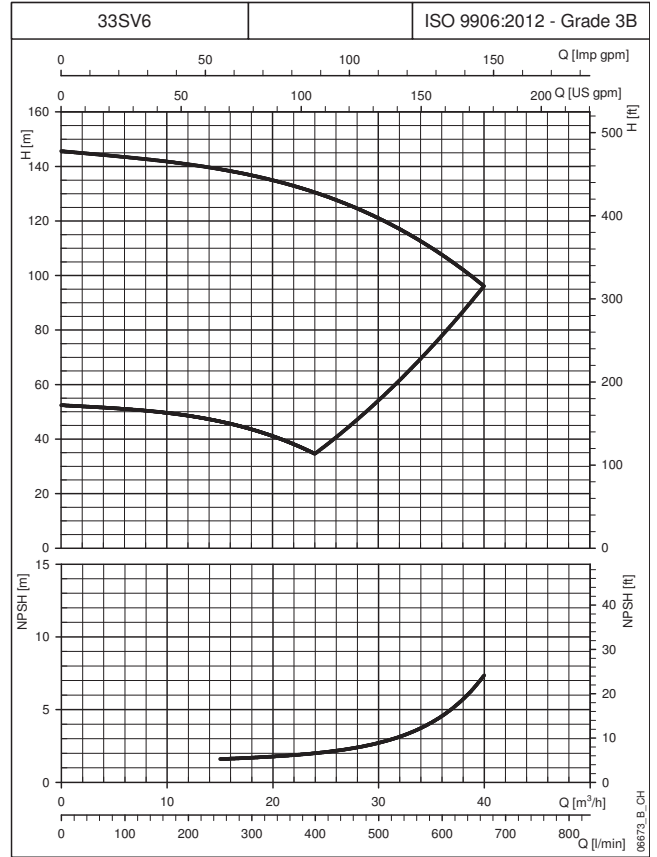
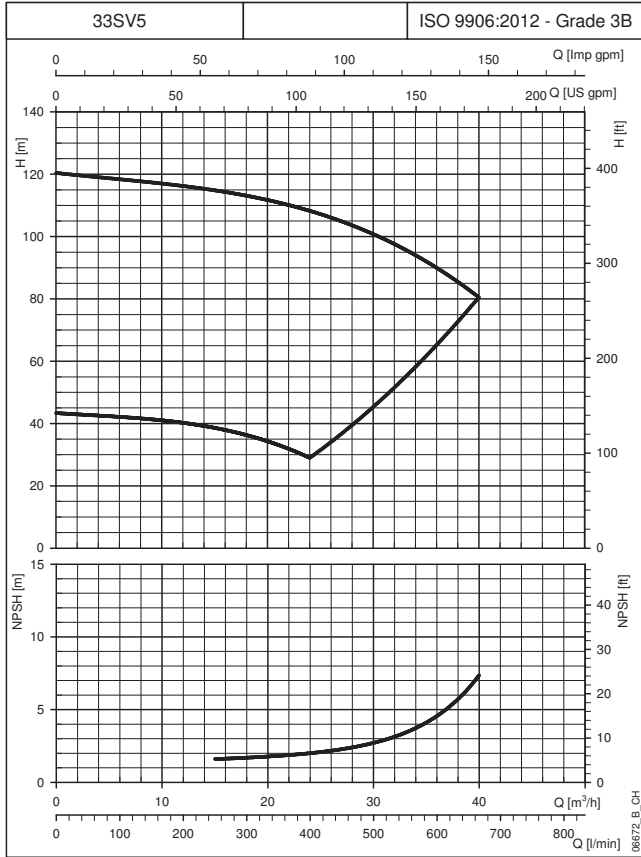


**33SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



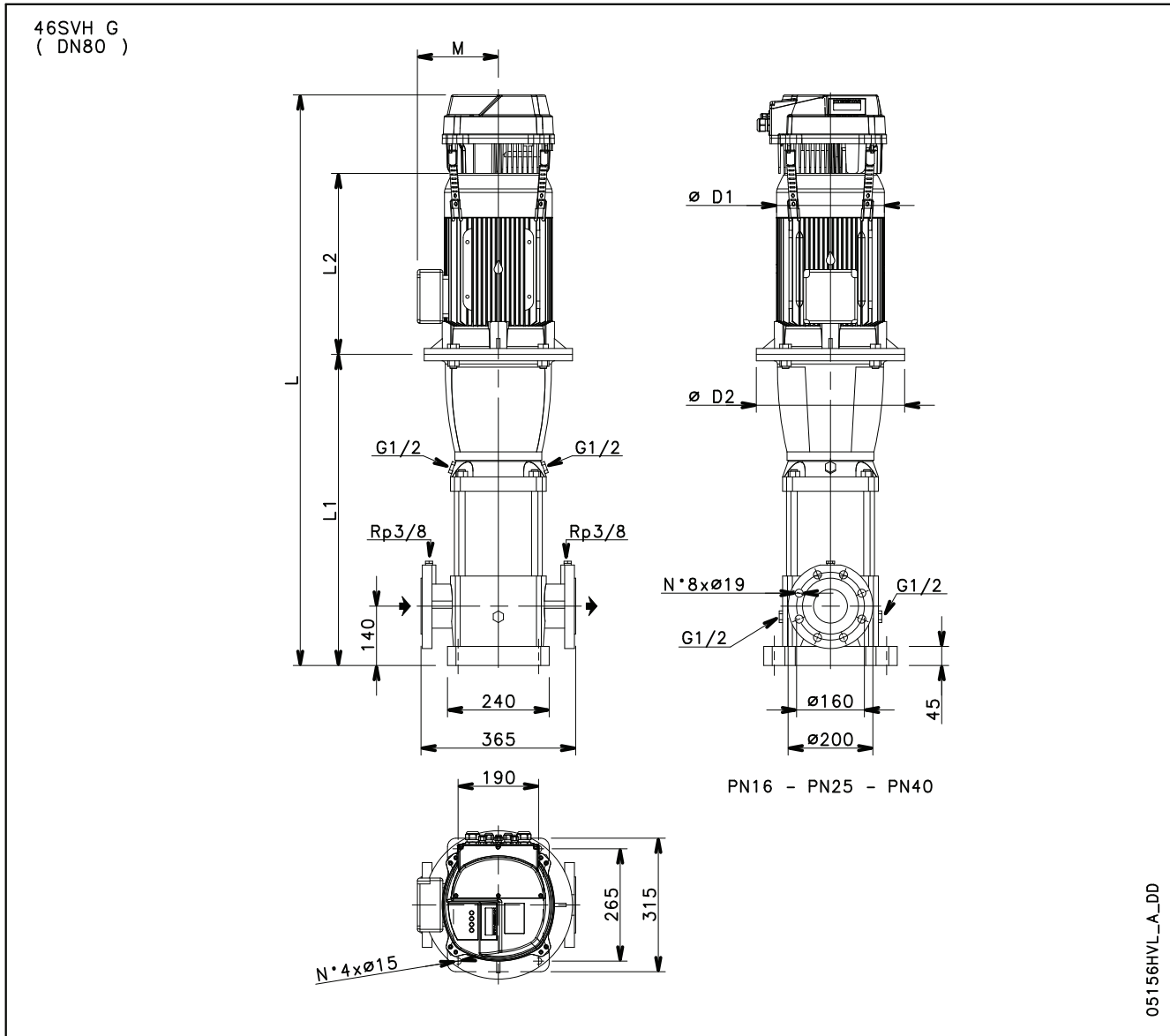
The curves show the performance with one pump running to the minimum and maximum speed. These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

**33SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



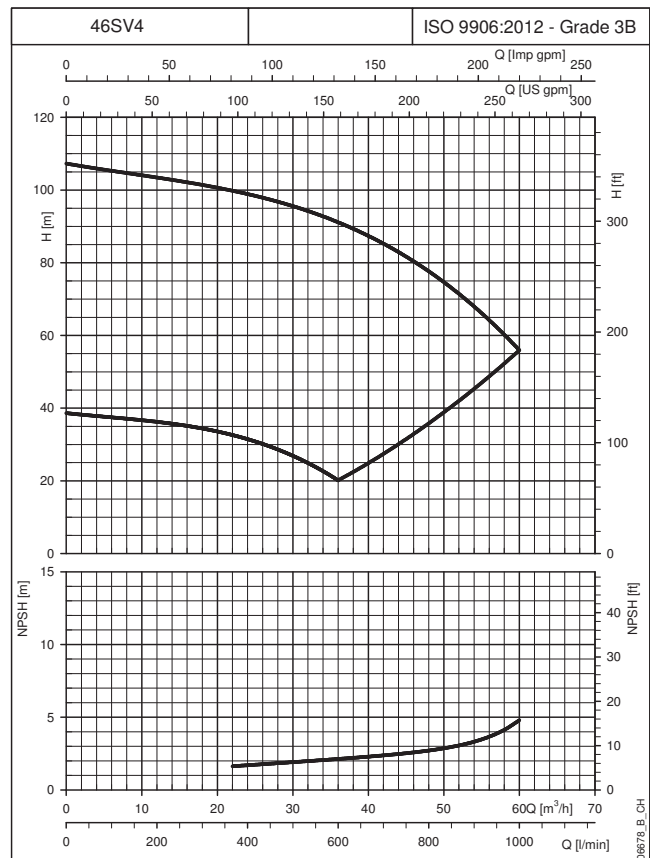
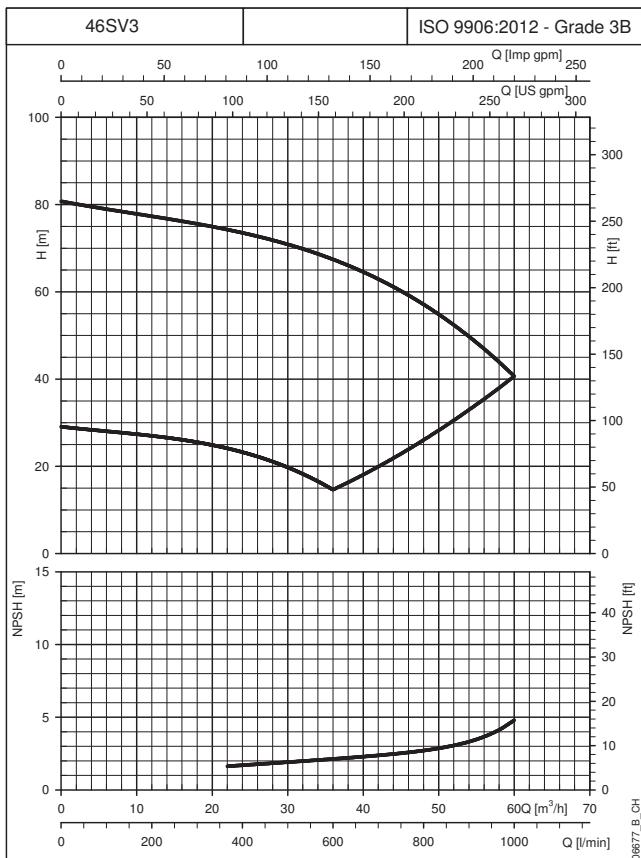
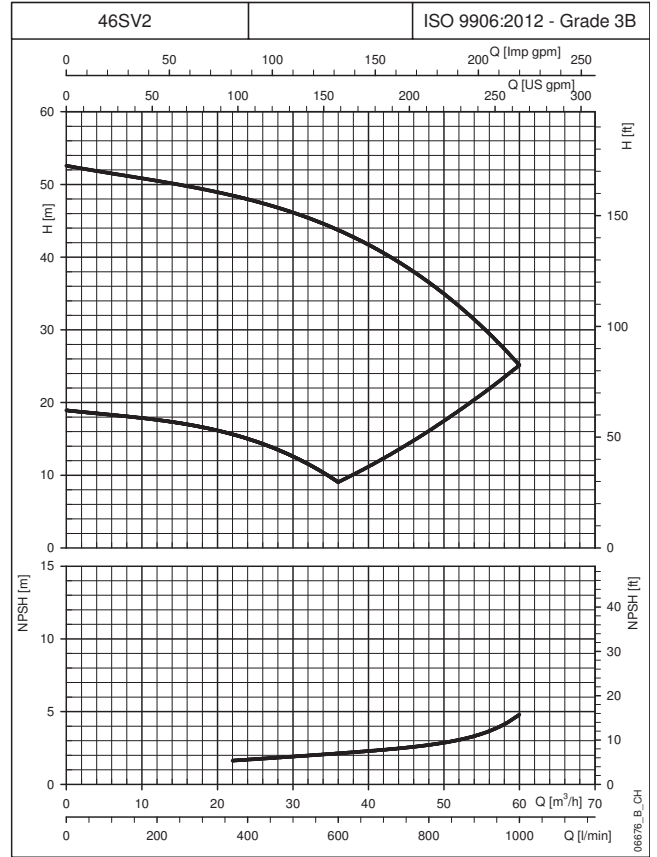
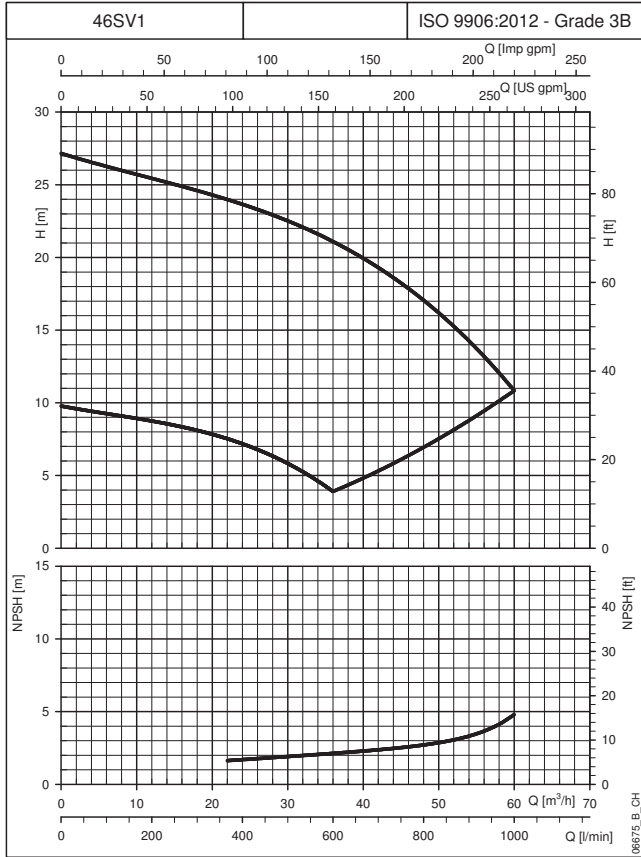
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

### 46SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



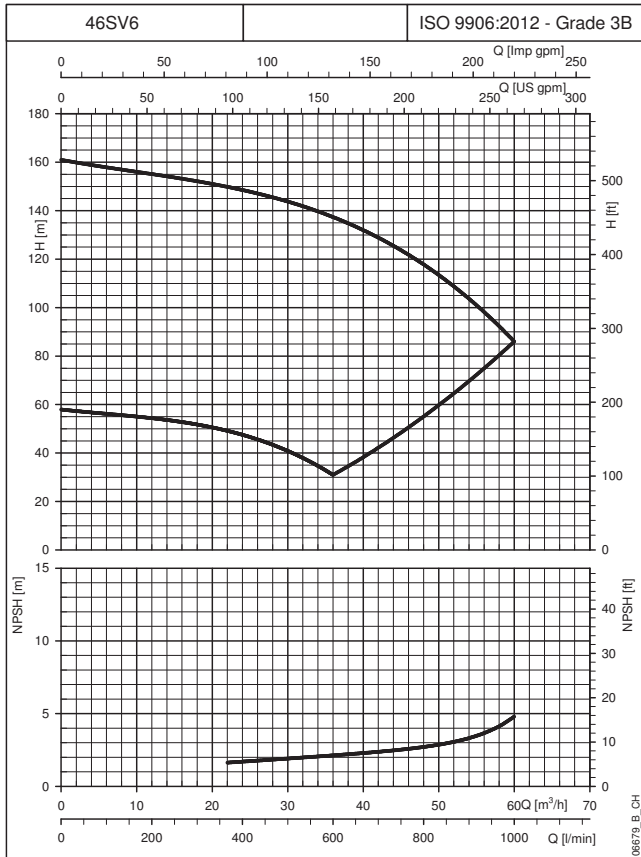
PUMP TYPE	MOTOR		DIMENSIONS (mm)						WEIGHT (kg)					
			L1	L2	D1	D2	M	PN	L			WEIGHT (kg)		
									/2	/3	/4	/2	/3	/4
kW	SIZE	1~230V	3~230V	3~400V	1~230V	3~230V	3~400V							
46SVH1	4	112	529	319	197	164	154	16	1033	1033	1018	95,0	95,0	90,1
46SVH2	7,5	132	624	367	256	300	191	16	-	1191	1176	-	137,6	132,5
46SVH3	11	160	734	428	256	350	191	16	-	1362	1347	-	159,6	154,5
46SVH4	15	160	809	494	313	350	240	16	-	-	1503	-	-	195,6
46SVH6	22	180	959	494	313	350	240	25	-	-	1653	-	-	223,6

**46SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



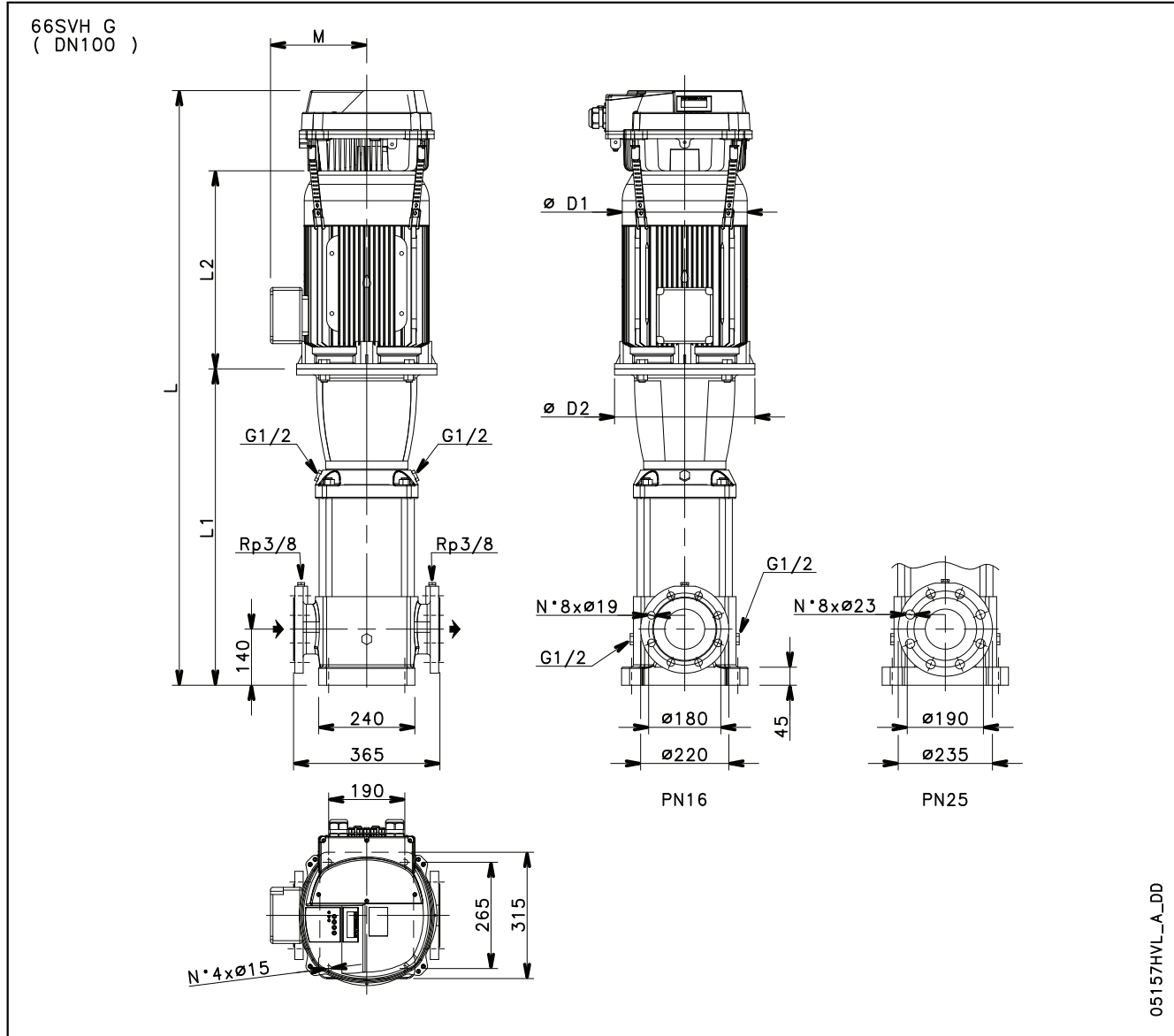
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

**46SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



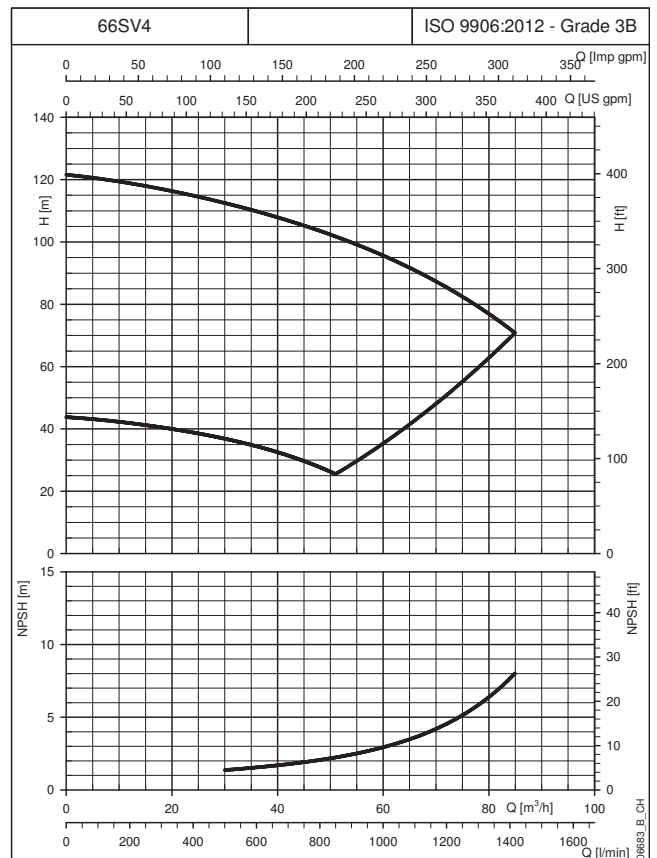
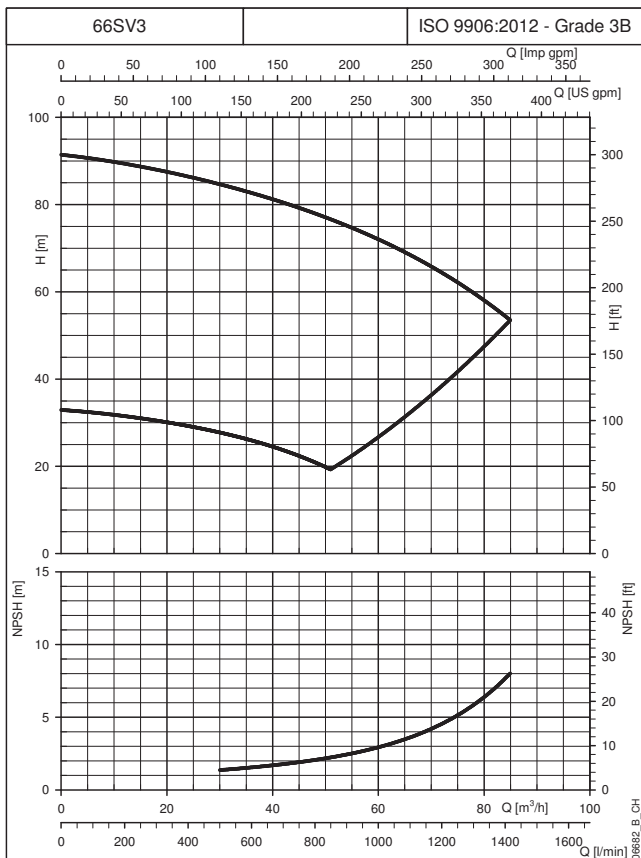
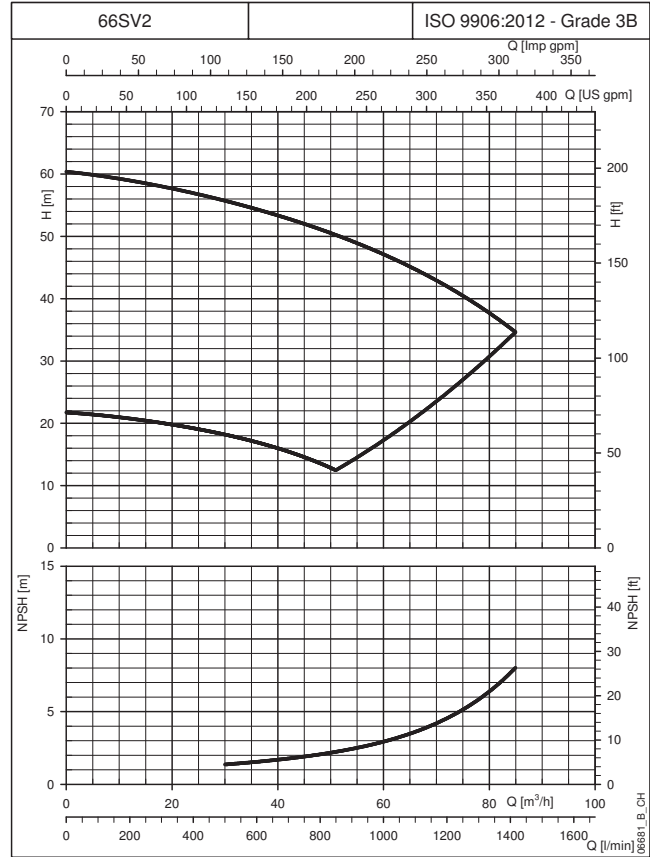
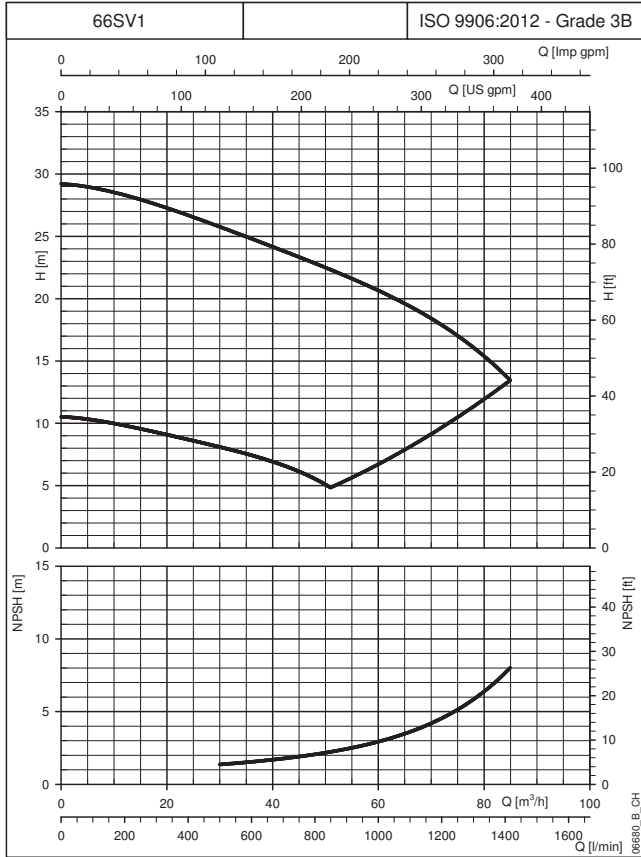
The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

### 66SVH SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



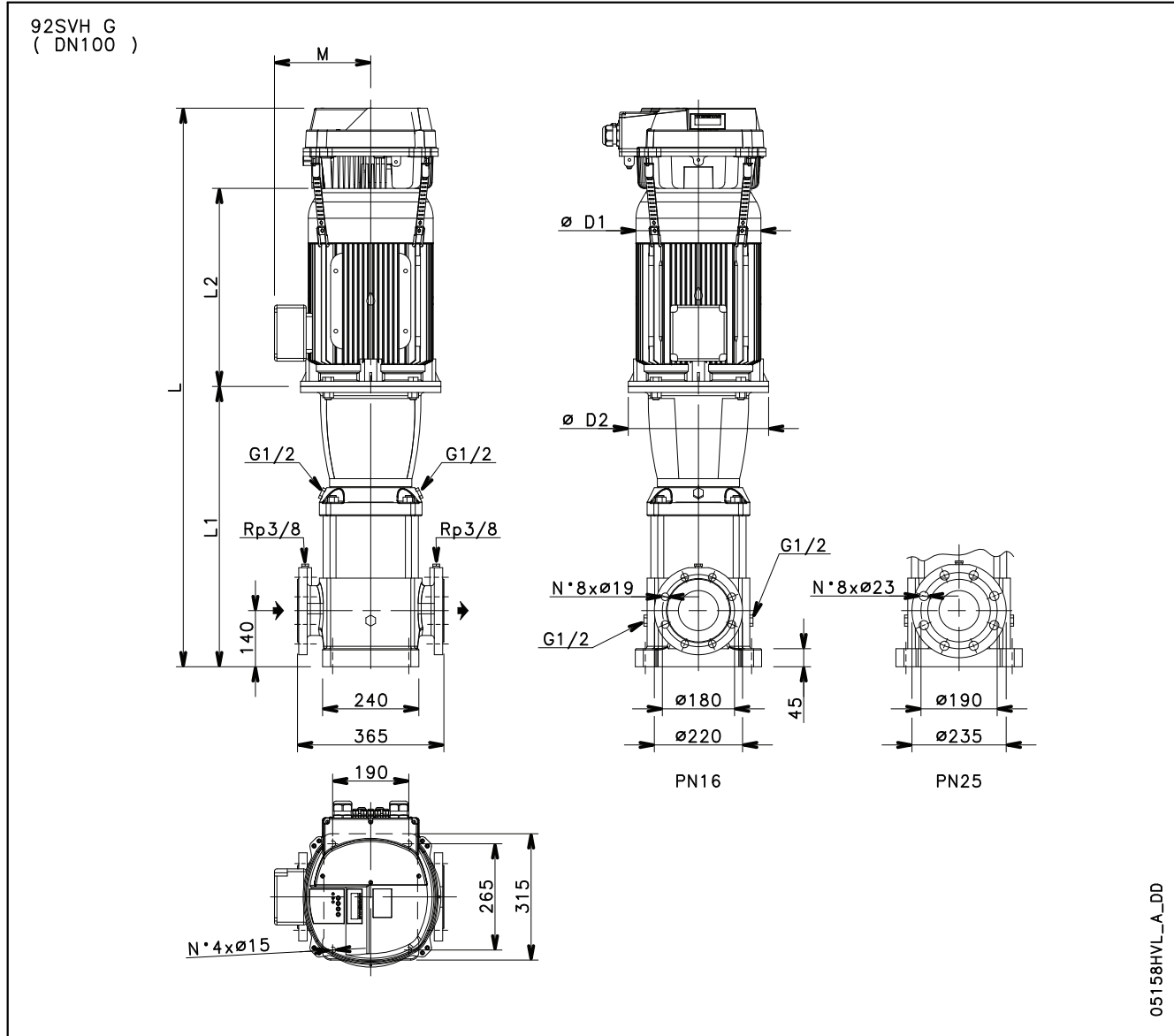
PUMP TYPE	MOTOR		DIMENSIONS (mm)						L			WEIGHT (kg)		
									/2	/3	/4	/2	/3	/4
									1~230V	3~230V	3~400V	1~230V	3~230V	3~400V
66SVH1	5,5	132	574	375	214	300	168	16	-	1134	1134	-	120,5	120,5
66SVH2	11	160	699	428	256	350	191	16	-	1327	1312	-	166,6	161,5
66SVH3	18,5	160	789	494	313	350	240	16	-	-	1483	-	-	212,6
66SVH4	22	180	879	494	313	350	240	16	-	-	1573	-	-	229,6

**66SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .

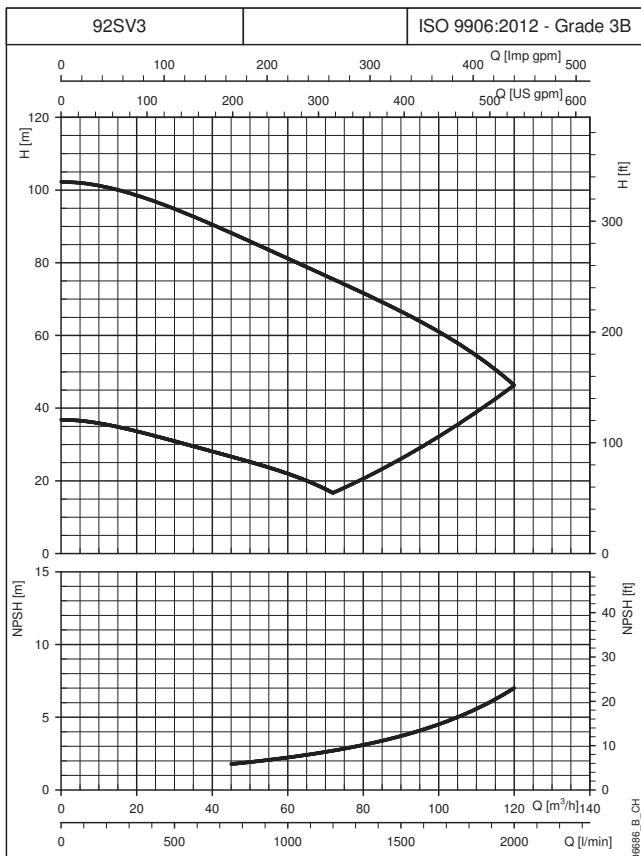
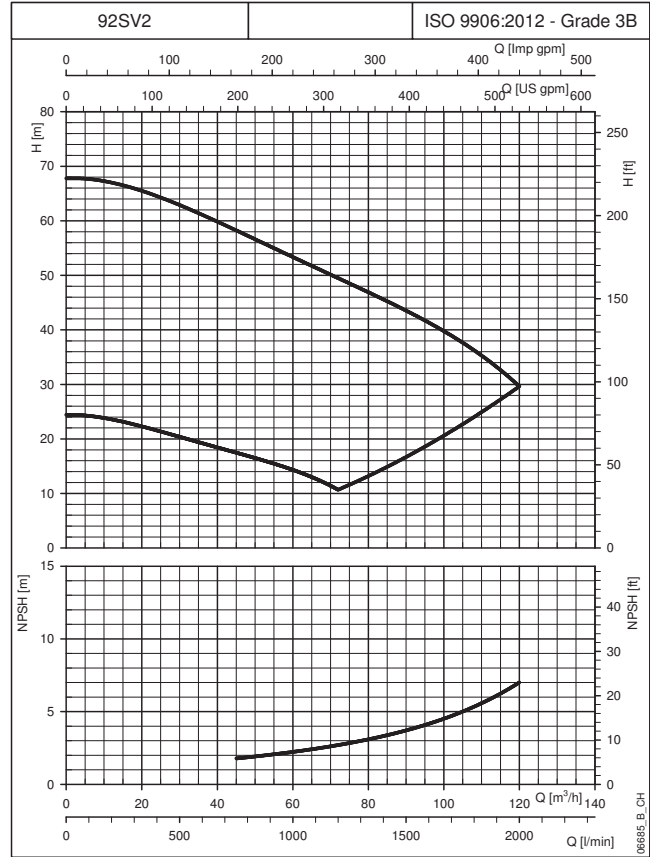
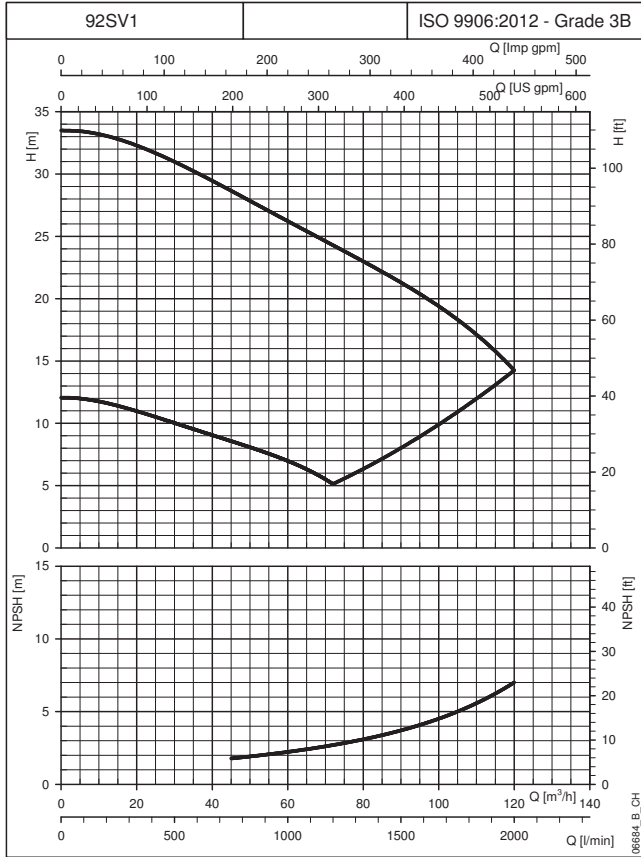
**92SVH SERIES**  
**DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES**



PUMP TYPE	MOTOR		DIMENSIONS (mm)						L			WEIGHT (kg)		
									/2	/3	/4	/2	/3	/4
									1~230V	3~230V	3~400V	1~230V	3~230V	3~400V
92SVH1	7,5	132	574	367	256	300	191	16	-	1141	1126	-	142,6	137,5
92SVH2	15	160	699	494	313	350	240	16	-	-	1393	-	-	197,6
92SVH3	22	180	789	494	313	350	240	16	-	-	1483	-	-	223,6



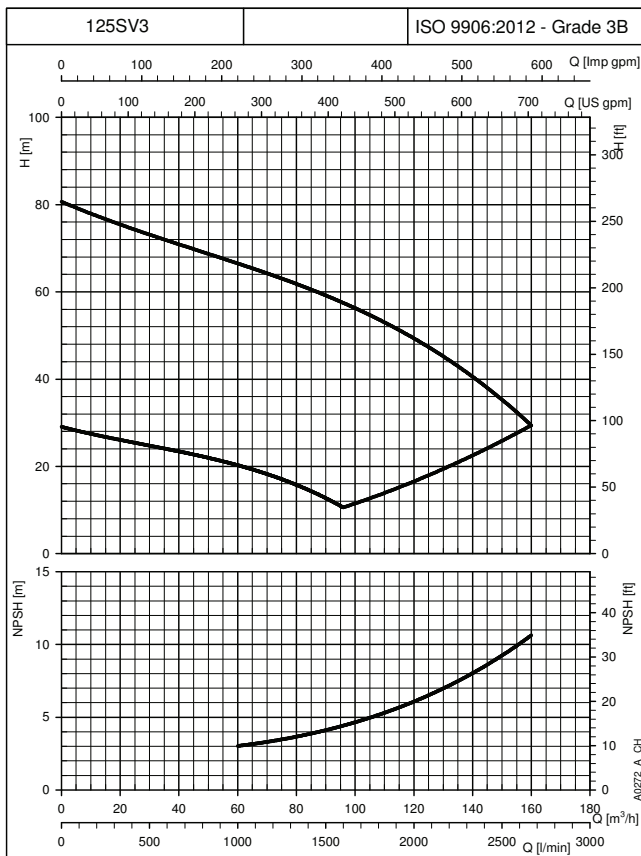
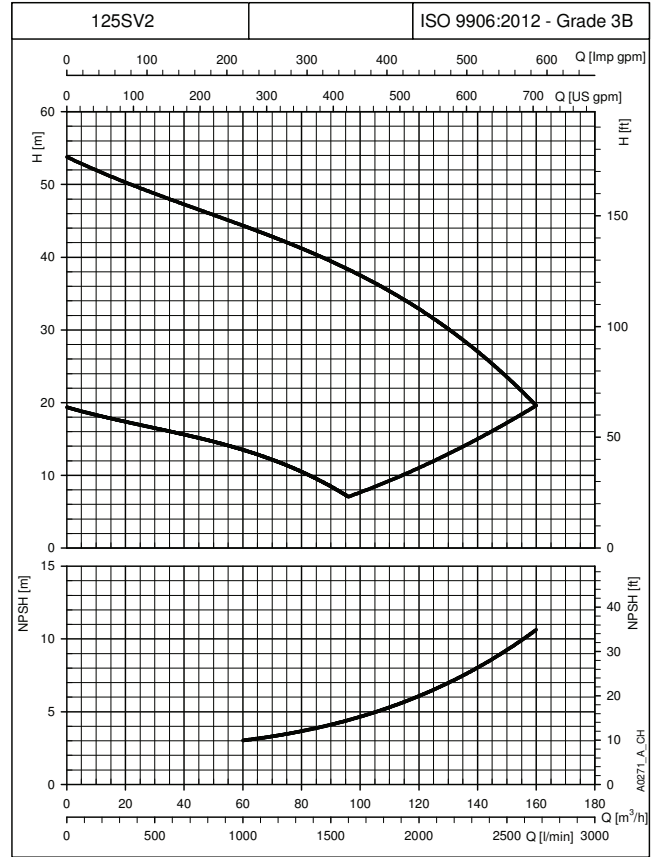
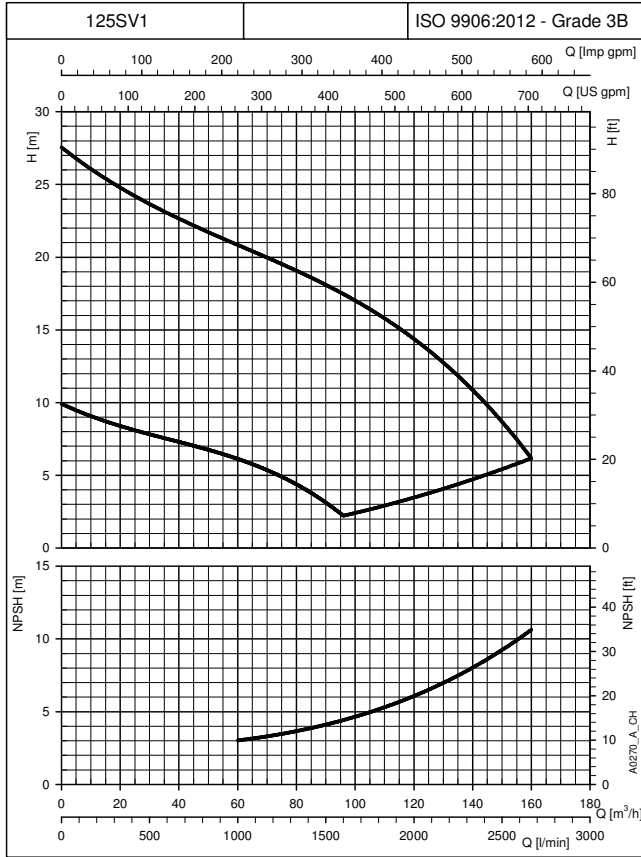
**92SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .



**125SVH SERIES  
OPERATING CHARACTERISTICS AT 30..50 Hz**



The curves show the performance with one pump running to the minimum and maximum speed.  
These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{s}$ .



# ACCESSORIES

## PROTECTION SENSOR AGAINST DRY RUNNING



Sensor for detecting the presence of water based on the optoelectronic principle, therefore non-invasive and with no moving parts. The sensor features an electronic contact (on/off) which stops the pump if there is no water in the seal area.

The sensor opens the electric contact if there is no water after they factory-set delay (10 seconds) elapses. The sensor is supplied as a kit complete with 2 metres of cable, an EPDM O-ring gasket and a stainless steel adapter.

### General operating features

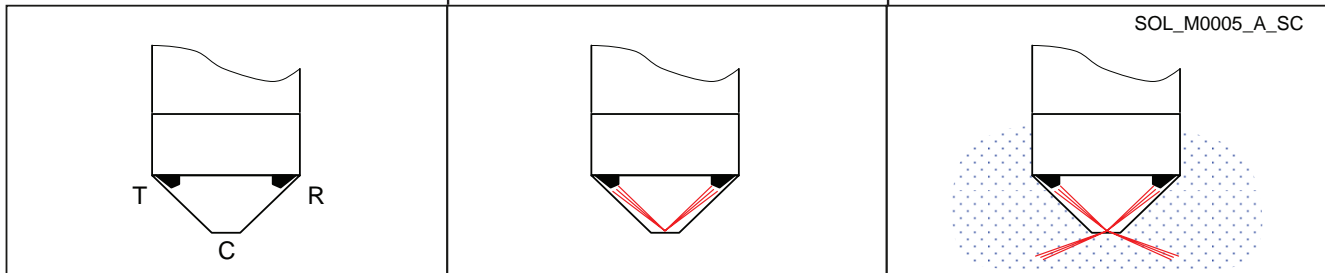
- **SENSOR KIT DRP-GP: 21 ÷ 27 Vca:** In the boosters sets the sensor is assembled on the suction manifold with a specific hydraulic fitting.  
21 ÷ 27 Vca version, universal solid state output for external relay at 24 Vac (21 ÷ 27 Vac, max 50 mA).
- **KIT SENSOR DRP-HV: 15 ÷ 25 Vcc:** The sensor can also be fitted directly on the filling cap of the e-SV pumps series.  
15 ÷ 25 Vcc version, NPN output at 25 V (10 mA) for HYDROVAR inverter, e-SM drive and hydrovar X.
- Operation is independent of the hardness and conductivity of the water. The sensor cannot detect frozen liquids.

### Operating principle

Operation is based on the change in the refractive index on the surfaces. The optic sensor comprises a glass cap (C) containing a transmitter (T) and an infrared receiver (R).

If there is no liquid, all the infrared light emitted by the transmitter is internally reflected by the surface of the glass cap of the receiver. The electronic contact will be open.

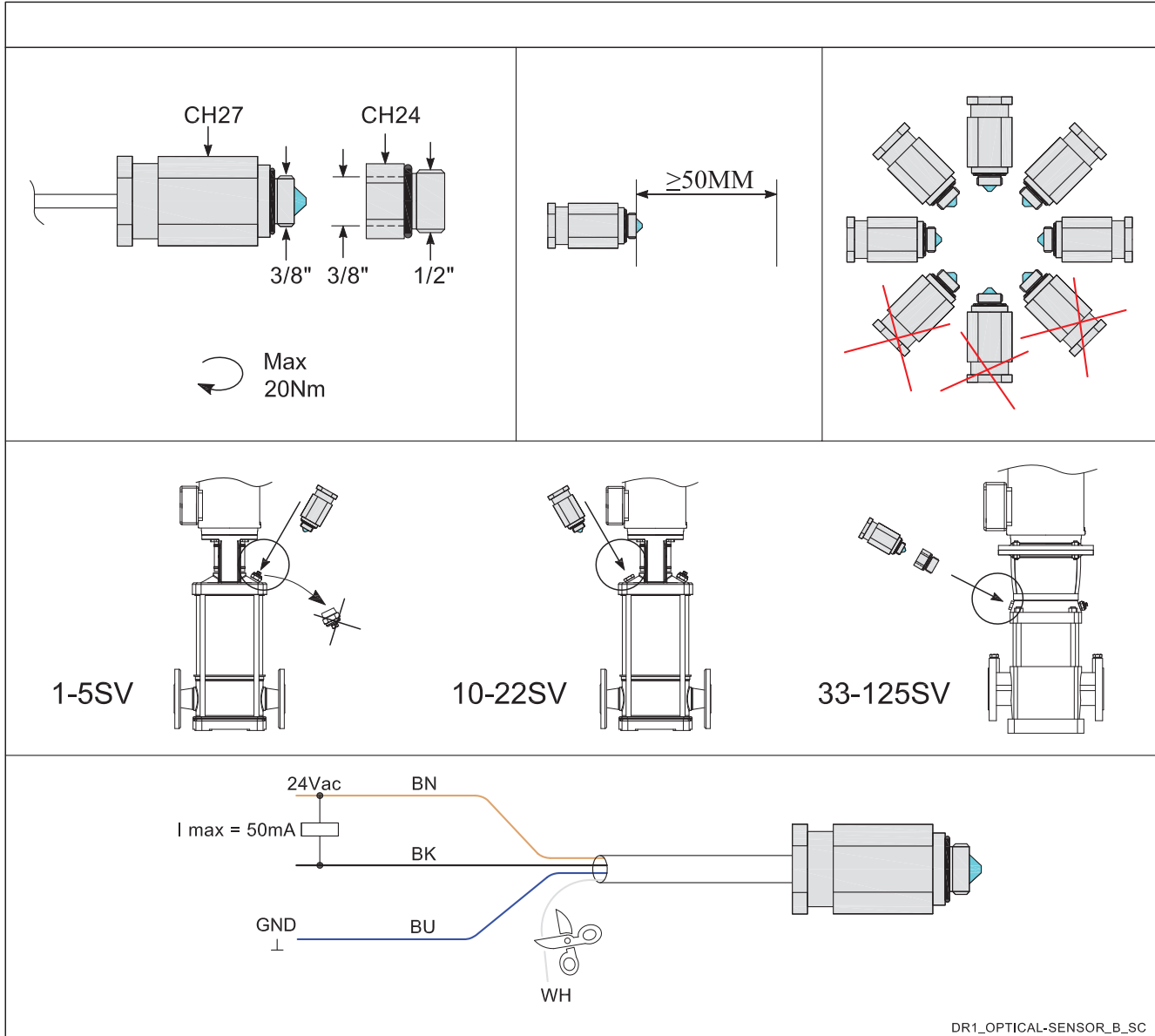
If liquid is present, the refractive index of the surface changes. Most of the infrared light emitted by the transmitter is dispersed in the liquid. The receiver receives less light and the electronic contact is closed.



## SPECIFICATIONS

- Materials:
  - Body in AISI 316L stainless steel
  - Glass optic cap
  - EPDM gasket
- Liquids: clean water, demi water. Operation is not affected by the hardness and conductivity of the liquid. To check the suitability of other liquids, contact the Lowara technical assistance service providing the characteristics of the liquid.
- Temperature of liquid:  $-20^{\circ}\text{C} \div +120^{\circ}\text{C}$  (cannot be used to detect frozen liquids).
- Ambient temperature:  $-5^{\circ}\text{C} \div +50^{\circ}\text{C}$
- Maximum pressure (PN): 25 bar
- Connector: 3/8 " (3/8" x 1/2" adaptor plug included in the Kit)
- Dimensions: 27x 60 mm
- IP55 protection
- Electrical characteristics:
  - Input voltage SENSOR KIT DRP-GP: 21 ÷ 27 Vac  
SENSOR KIT DRP-HV: 15 ÷ 25 Vdc
  - Output SENSOR KIT DRP-GP: universal solid state 21 ÷ 27 Vac (50 mA) for 24 Vac external relay  
SENSOR KIT DRP-HV: NPN 25 V (10 mA) for HYDROVAR inverter, e-SM drive and hydrovar X.
  - Alarm delay: 10 seconds (factory setting)
  - FROR cable 4 x 0,34 mm<sup>2</sup> (PVC-CEI 20-22) 2 metres long.

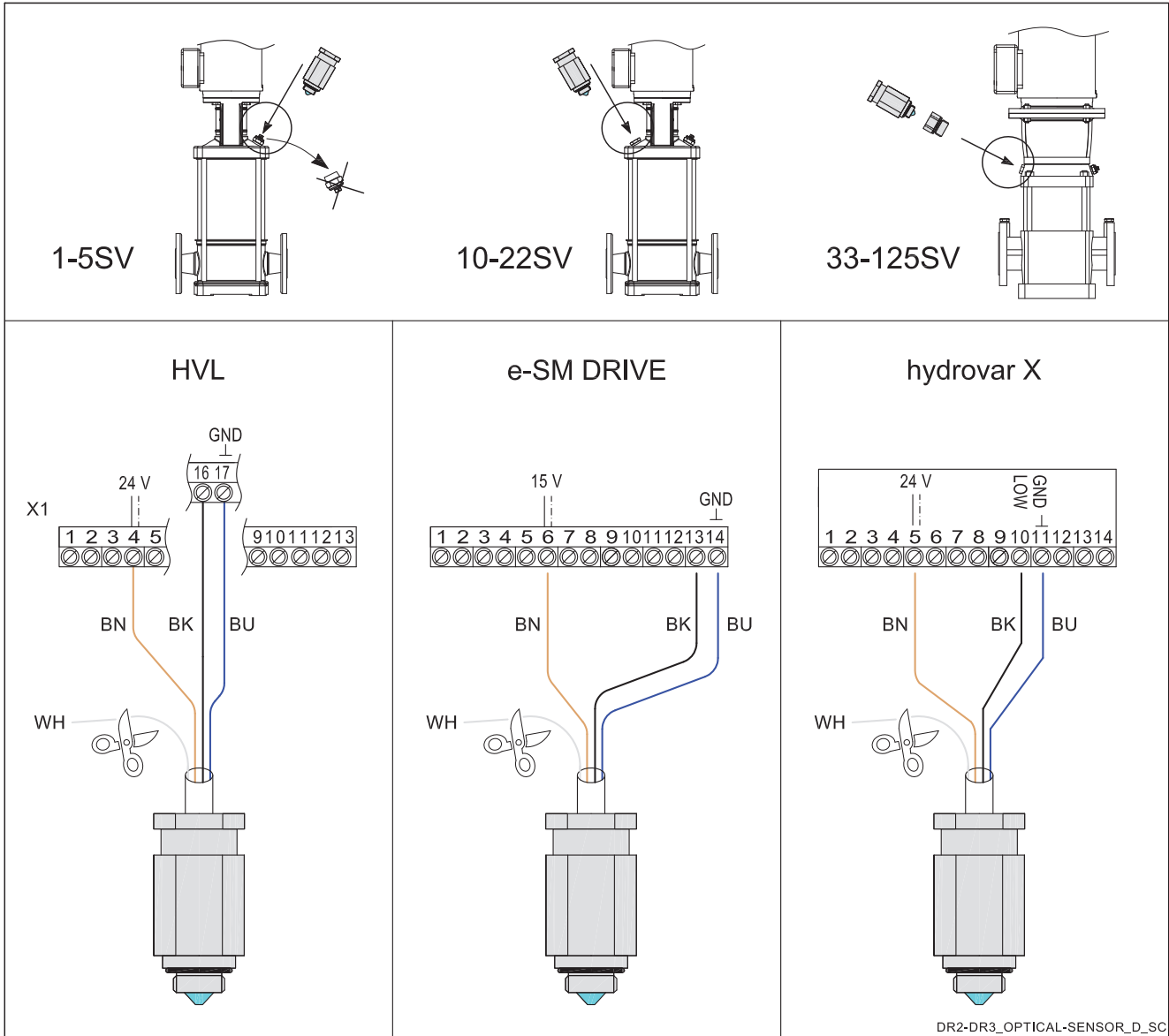
**WIRING DIAGRAM**  
**SENSOR KIT DRP-GP** (code 109394610)



DR1\_OPTICAL-SENSOR\_B\_SC

**WIRING DIAGRAM**  
**SENSOR KIT DRP-HV** (code 109394600)

The sensor can be directly mounted on the filling plug of the e-SV pumps.  
For the 33, 46, 66, 92, 125SV series, the 3/8" x 1/2" adapter ring included in the Kit must also be mounted.

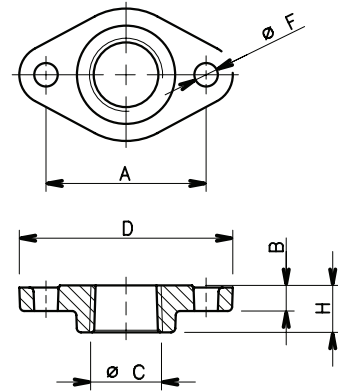




## DIMENSIONS OF OVAL COUNTERFLANGES (SV T)

PUMP TYPE	DN	ø C	DIMENSIONS (mm)				HOLES		TIGHTENING TORQUE (Nm)	PN
			A	B	D	H	ø F	N°		
1-3SVT	25	Rp 1	75	12	100	22	11	2	40	16
5SVT	32	Rp 1¼	75	12	100	22	11	2	40	16
10SVT	40	Rp 1½	100	15	132	25	14	2	60	16
15-22SVT	50	Rp 2	100	15	132	25	14	2	60	16

1-22sv-ctf-ovali-en\_b\_td



04429\_B\_DD

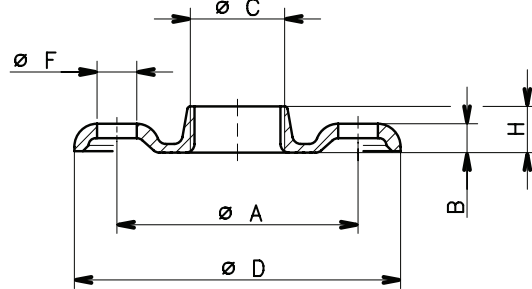
### Standard supply (included with the pump)

- AISI 304L stainless steel (T versions).

## DIMENSIONS OF ROUND THREADED COUNTERFLANGES (SV F, N, R, G) ACCORDING TO EN 1092-1

PUMP TYPE	DN	ø C	DIMENSIONS (mm)				HOLES		TIGHTENING TORQUE (Nm)	PN
			ø A	B	ø D	H	ø F	N°		
1-3SV	25	Rp 1	85	10	115	16	14	4	50	25
5SV	32	Rp 1¼	100	13	140	16	18	4	100	25
10SV	40	Rp 1½	110	14	150	19	18	4	100	25
15-22SV	50	Rp 2	125	16	165	24	18	4	100	25
33SV	65	Rp 2½	145	16	185	23	18	4	100	16
46SV	80	Rp 3	160	17	200	27	18	8	100	16
66SV-92SV	100	Rp 4	180	18	220	31	18	8	100	16

1-92sv-ctf-tonde-f-en\_b\_td



04430\_B\_DD

### Round counterflanges Kit available on request:

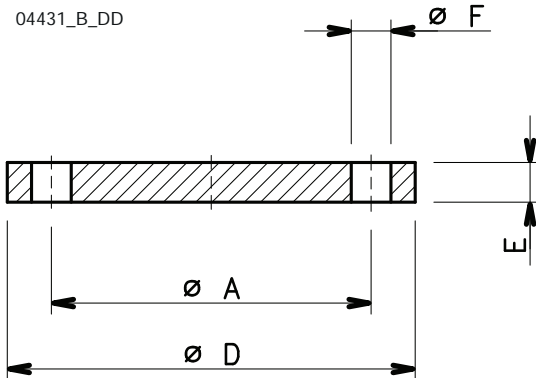
Kit containing 2 counterflanges with bolts and gaskets.

- threaded, galvanized steel (F, R, G versions).
- threaded, AISI 316L stainless steel (N versions).

## DIMENSIONS OF WELD-ON ROUND COUNTERFLANGES (SV G, N) ACCORDING TO EN 1092-1

PUMP TYPE	DN	ø C	DIMENSIONS (mm)			HOLES		TIGHTENING TORQUE (Nm)	PN
			ø A	B	ø D	ø F	N°		
33SV	65	77,5	145	20	185	18	4	100	16
46SV	80	90,5	160	20	200	18	8	100	16
66SV-92SV	100	116	180	22	220	18	8	100	16
125SV	125	141,5	210	22	250	18	8	100	16
33SV	65	77,5	145	22	185	18	8	200	25-40
46SV	80	90,5	160	24	200	18	8	200	25-40
66SV-92SV	100	116	190	26	235	22	8	200	25-40
125SV	125	141,5	220	28	270	26	8	200	25-40

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### Round counterflanges Kit available on request:

Kit containing 2 counterflanges with bolts and gaskets.

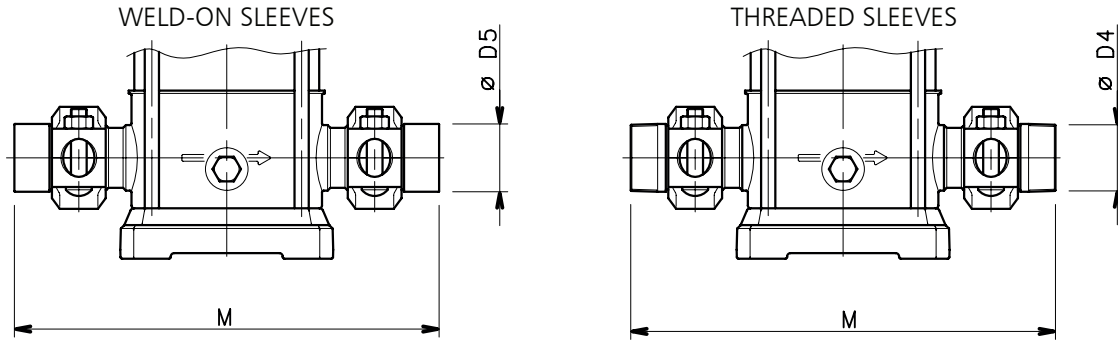
- weld-on counterflanges, galvanized steel (G versions).
- weld-on counterflanges, AISI 316L stainless steel (N versions).

## DIMENSIONS OF VICTAULIC® COUPLINGS (SV V)

### Victaulic® couplings kit available on request:

Galvanized steel Victaulic® coupling with AISI 316L stainless steel weld-on or threaded sleeve, plus EPDM or FPM gasket.

Kits are available for the single version (1 coupling) or double version (2 couplings).

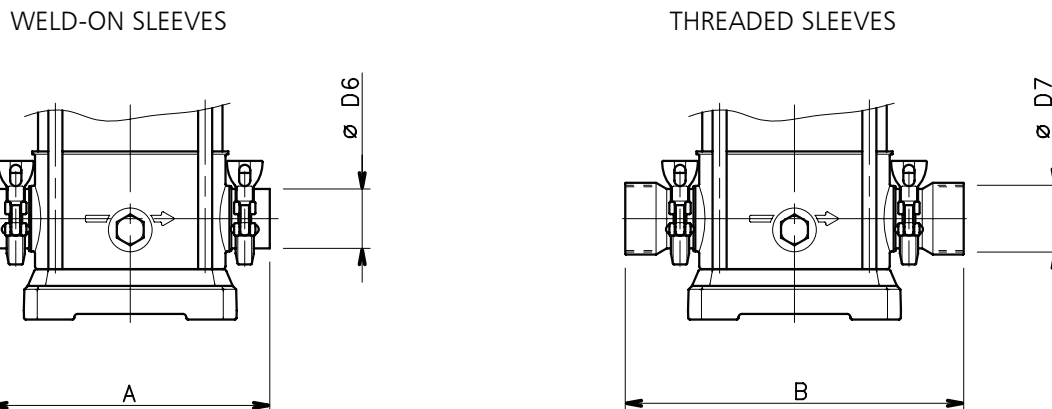


P.NUMBER	DESCRIPTION	PUMP TYPE	DN	DIMENSIONS (mm)		
				ø D	M	H
109390880	KIT SINGLE VICTAULIC THREADED R 1"1/4 EPDM	1-3-5SV V	DN32	R 1"1/4	320	75
109390980	KIT SINGLE VICTAULIC THREADED R 1"1/4 FPM	1-3-5SV V	DN32	R 1"1/4	320	75
109390890	KIT SINGLE VICTAULIC THREADED R 2" EPDM	10-15-22SV V	DN50	R 2"	378	90
109390990	KIT SINGLE VICTAULIC THREADED R 2" FPM	10-15-22SV V	DN50	R 2"	378	90
109390860	KIT SINGLE VICTAULIC DN32 WELD-ON EPDM	1-3-5SV V	DN32	42,2	320	75
109390960	KIT SINGLE VICTAULIC DN32 WELD-ON FPM	1-3-5SV V	DN32	42,2	320	75
109390870	KIT SINGLE VICTAULIC DN50 WELD-ON EPDM	10-15-22SV V	DN50	60,3	378	90
109390970	KIT SINGLE VICTAULIC DN50 WELD-ON FPM	10-15-22SV V	DN50	60,3	378	90
109398400	KIT DOUBLE VICTAULIC THREADED R 1"1/4 EPDM	1-3-5SV V	DN32	R 1"1/4	320	75
109398401	KIT DOUBLE VICTAULIC THREADED R 1"1/4 FPM	1-3-5SV V	DN32	R 1"1/4	320	75
109398410	KIT DOUBLE VICTAULIC THREADED R 2" EPDM	10-15-22SV V	DN50	R 2"	378	90
109398411	KIT DOUBLE VICTAULIC THREADED R 2" FPM	10-15-22SV V	DN50	R 2"	378	90
109398420	KIT DOUBLE VICTAULIC DN32 WELD-ON EPDM	1-3-5SV V	DN32	42,2	320	75
109398421	KIT DOUBLE VICTAULIC DN32 WELD-ON FPM	1-3-5SV V	DN32	42,2	320	75
109398430	KIT DOUBLE VICTAULIC DN50 WELD-ON EPDM	10-15-22SV V	DN50	60,3	378	90
109398431	KIT DOUBLE VICTAULIC DN50 WELD-ON FPM	10-15-22SV V	DN50	60,3	378	90

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## DIMENSIONS OF CLAMP COUPLINGS (SV C)



PUMP TYPE	DIMENSIONS (mm)			
	A	B	ø D6	ø D7
1-3-5SV C	208	245	35	Rp 1 1/4
10-15-22SV C	248	301	53	Rp 2

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### Clamp couplings kit available on request:

Kit containing 2 Clamp couplings with AISI 316L stainless steel weld-on

or threaded sleeve, plus EPDM or FPM gasket. Coupling shape and dimensions according to DIN 32676.

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## SPECIAL VERSIONS NOT DESCRIBED IN THIS CATALOGUE

More and more customers require specific solutions for satisfying particular application requirements. To meet their needs, Lowara offers a series of variants for personalising the e-SV pumps.

**For more information, please see [e-SV Special Versions catalogue](#).**

- **High Pressure (50/60 Hz)**

- Water treatment industry washing and cleaning
- Versatile range
- Long lasting performances
- Easy installation and maintenance

- **Low NPSH (50/60 Hz)**

- Solving cavitation issues in installation
- Consistent operation
- Long lasting performances
- Easy installation

- **High Temperature (50/60 Hz)**

- Electric pumps for high temperature applications
- **H** versions for temperature values up to 150°C
- **B** "BOILER" versions for temperature values up to 180°C

- **4-POLE Version (50/60 Hz)**

- Silent operation
- Low level of noise
- Wide range of performances
- Increased performance with HYDROVAR (50 Hz)

- **Reduced overall dimensions (50/60 Hz)**

- Space saving in installation
- Compact design
- Versatile design
- High level performances

- **Horizontal Installation (50/60 Hz)**

- Installation in reduced vertical space
- Reduced vertical space
- Easy installation

- **Accessories**

Wide range of accessories for installation

Furthermore:

- **Passivated and electro-polished version**

All e-SV pump components are passivated and electro-polished in order to reduce the risk of corrosion and to comply with specific hygiene requirements.

- **Version with stainless steel base**

The e-SV pump can be supplied with a stainless steel base for applications in aggressive conditions.

- **Version with pump body in stainless steel**

1.4408 (AISI 316 cast) for series 1, 3, 5, 10, 15, 22SV.

## CUSTOMIZED VERSION

**For further customization please contact the sales network.**



# **REPORTS AND DECLARATIONS**

## REPORTS AND DECLARATIONS

### i) Test reports

- a) **Factory Test Report** (Lowara identity code: 1A)  
(not available for all pump types; contact Customer Service in advance)  
- Test report compiled at the end of the assembly line, including flow-head performance test (ISO 9906:2012 – Grade 3B) and tightness test.
- b) **Audit Test Report** (Lowara identity code: 1B)  
- Test report for electric pumps compiled in the test room, comprising flow-head-pump input-pump efficiency performance test (ISO 9906:2012 – Grade 3B)
- c) **NPSH Test Report** (Lowara identity code: 1B / CTF-NP)  
(unavailable for submerged or submersible pumps)  
- Test report for electric pumps compiled in the test room, comprising flow-NPSH performance test (ISO 9906:2012 – Grade 3B)
- d) **Noise Test Report** (Lowara identity code: 1B / CTF-RM)  
(unavailable for submerged pumps)  
- Report indicating sound pressure and power measurements (EN ISO 20361, EN ISO 11203, EN ISO 4871) using the
- intensimetric (EN ISO 9614-1, EN ISO 9614-2), or
  - phonometric method.
- e) **Vibration Test Report**  
(unavailable for submerged or submersible pumps)  
- Report indicating vibration measurements (ISO 10816-1)

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

- a) **EN 10204:2004 - type 2.1** (Lowara identity code: CTF-21)  
- does not include test results on supplied or similar products.
- b) **EN 10204:2004 - type 2.2** (Lowara identity code: CTF-22)  
- includes test results (materials certificates) on similar products.

### iii) Issue of a further EC Declaration of Conformity,

- in addition to the one accompanying the product, it comprises references to European law and the main technical standards (e.g.: MD 2006/42/EC, EMC 2014/30/EU, ErP 2009/125/EC).

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

### iv) Manufacturer's declaration of conformity

- relative to one of more types of products without indicating specific codes and serial numbers.

### v) Other certificates and/or documentation on request

- subject to availability or feasibility.

### vi) Duplication of certificates and/or documentation on request

- subject to availability or feasibility.

# **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:

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

where:

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

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

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

**$h_{pv}$**  is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid.  $h_{pv}$  is the quotient between the  $P_v$  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 m<sup>3</sup>/h

Head for required delivery: 70 m.

Suction lift: 3,5 m.

The selection is an 33SV3G075T pump whose NPSH required value is, at 25 m<sup>3</sup>/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.

By substituting the parameters in formula  $\textcircled{1}$  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 $\rho$ DENSITY OF WATER TABLE

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

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

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

## 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 <sup>3</sup> /h	Cubic feet per hour ft <sup>3</sup> /h	Cubic feet per minute ft <sup>3</sup> /min	Imperial gallon per minute Imp. gal/min	U.S. gallon per minute US gal/min
<b>1,000</b>	0,0600	2,1189	0,0353	0,2200	0,2642
16,6667	<b>1,0000</b>	35,3147	0,5886	3,6662	4,4029
0,4719	0,0283	<b>1,0000</b>	0,0167	0,1038	0,1247
28,3168	1,6990	60,0000	<b>1,0000</b>	6,2288	7,4805
4,5461	0,2728	9,6326	0,1605	<b>1,0000</b>	1,2009
3,7854	0,2271	8,0208	0,1337	0,8327	<b>1,0000</b>

## PRESSURE AND HEAD

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

## LENGTH

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

## VOLUME

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

## 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**  
**Xylect**



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

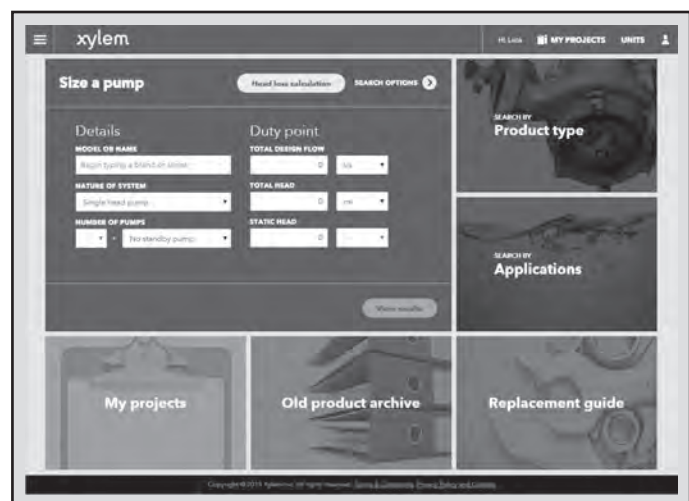
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect gives a detailed output:

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



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

## FURTHER PRODUCT SELECTION AND DOCUMENTATION Xylect



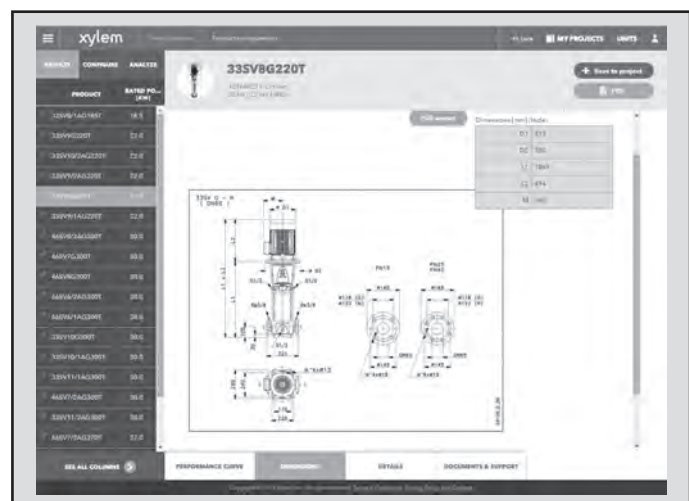
The detailed output makes it easy to select the optimal pump from the given alternatives.

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

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

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

For more information about Xylect please contact our sales network or visit [www.xylect.com](http://www.xylect.com).



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



# Xylem |'zīləm|

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

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

**For more information on how Xylem can help you, go to [www.xylem.com/uk](http://www.xylem.com/uk)**



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