

**50 Hz**



# SVI Series

## 2, 4, 8, 16, 33, 46, 66, 92

SUBMERSIBLE VERTICAL ELECTRIC PUMPS EQUIPPED WITH  
IE2/IE3 MOTORS COMPLYING WITH REGULATION (EC) no. 640/2009

**LENNTECH**

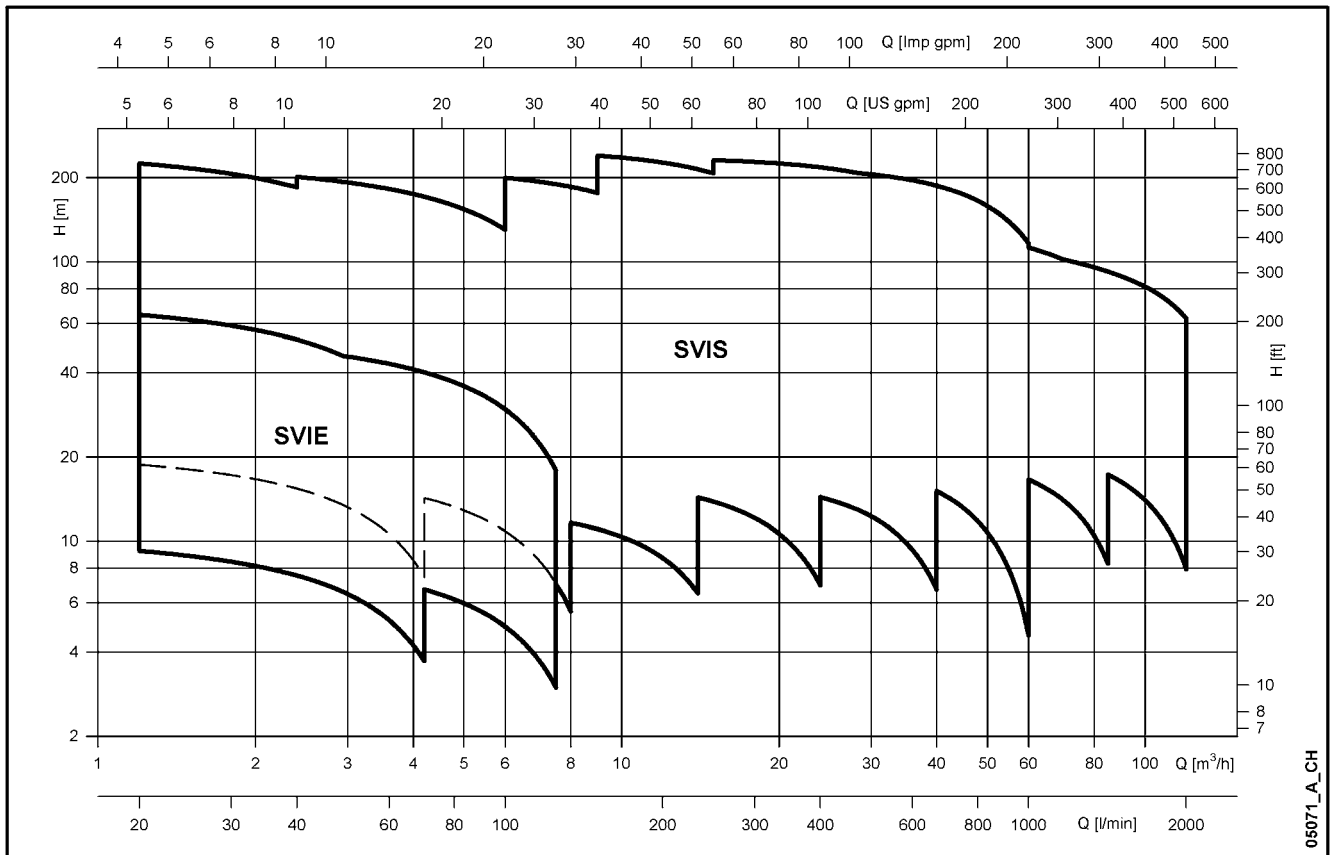
info@lennotech.com Tel. +31-152-610-900  
www.lennotech.com Fax. +31-152-616-289



 **LOWARA**  
a xylem brand

Cod. 191002451 Rev.B Ed.06/2012

**SVI SERIES**  
**HYDRAULIC PERFORMANCE RANGE AT 50 Hz**



## CONTENTS

|                                                                                  |           |
|----------------------------------------------------------------------------------|-----------|
| Specifications SVI Series .....                                                  | <b>5</b>  |
| Characteristics of SVI 2, 4, 8, 16 Series .....                                  | <b>6</b>  |
| Characteristics of SVI 33, 46, 66, 92 Series .....                               | <b>6</b>  |
| General Characteristics SVI Series .....                                         | <b>7</b>  |
| Identification Code SVI Series .....                                             | <b>8</b>  |
| SVI 2, 4 Series, Electric Pump Cross Section and Main Components .....           | <b>10</b> |
| SVI 2, 4, 8, 16 Series, Electric Pump Cross Section and Main Components .....    | <b>11</b> |
| SVI 33, 46, 66, 92 Series, Electric Pump Cross Section and Main Components ..... | <b>12</b> |
| SVI Mechanical Seals .....                                                       | <b>13</b> |
| Motors .....                                                                     | <b>15</b> |
| Hydraulic Performance Range SVI Series, 50 Hz .....                              | <b>19</b> |
| Table of Hydraulic Performances SVI Series, 50 Hz .....                          | <b>20</b> |
| Dimensions and Weights SVI Series .....                                          | <b>24</b> |
| Operating Characteristics SVI Series, 50 Hz .....                                | <b>25</b> |
| Dimensions of flanges .....                                                      | <b>44</b> |
| Installation .....                                                               | <b>45</b> |
| Technical Appendix .....                                                         | <b>47</b> |



## Submersible Vertical Electric pumps

### SVI Series

## MARKET SECTORS

INDUSTRIAL, CIVIL.

## APPLICATIONS

- Pumping of coolants, lubricants and condensate.
- Machine tools, welders, engine test stands.
- Cooling systems.
- Washing systems.
- Boosters.



## SPECIFICATIONS PUMP

SVI is a vertical-axis pump with submersible body, equipped with standard motor (for S and N versions).

- **Delivery:** up to 120 m<sup>3</sup>/h.
- **Head:** up to 240 m.
- **Liquid temperature** for the standard versions:
  - from -10°C to +90°C for S and N versions with coupling.
  - from -10°C a +60°C for close-coupled E versions.
- Maximum ambient temperature: +40°C.
- **Mechanical seal** in Ceramic/Carbon/FPM for the close-coupled E version and in Silicon Carbide/Carbon/FPM for S and N versions with coupling.  
For SVI 33-46-66-92 models, mechanical seal can be replaced without removing the motor from the pump.
- Tank coupling flange in compliance with EN 12157 (ex DIN 5440) for SVI 2-4 models.
- Standard installation in vertical position; horizontal installation on request.
- These pumps can handle clean liquids free of abrasive substances or fibres, with kinematic viscosity up to 37mm<sup>2</sup>/sec, with suitably sized motor.
- Minimum level of suction liquid: 25 mm for SVI 2-4-8-16 models and 80 mm for SVI 33-46-66-92.

- Base in the suction side with filter in order to avoid damages due to solids entrance.
- Tested in compliance with ISO 9906 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).
- Longer pump columns (from coupling flange to suction base) are available on request. Possible variants are indicated in each model's dimensions table.

## MOTORS

- 2 poles motors with squirrel cage in short circuit, enclosed construction with external ventilation.
- Construction design:
  - Close-coupled for E version.
  - Standard motor for S and N versions.
- **Standard supplied IE2/IE3 motors are compliant with Regulation (EC) no. 640/2009 and IEC 60034-30.**
- **IP55 protection.**
- **Class 155 (F) Insulation.**
- Performances according to EN 60034-1.
- Standard voltage:
  - 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 SVI 2, 4 SERIES (E, EN VERSIONS)**

- Vertical pump with submersible body with impellers, diffusers, outer sleeve, suction base and filter made entirely of stainless steel.  
Adapter with delivery port in cast iron.
- "N" version made entirely of AISI 316 stainless steel.
- Motor with special shaft extension.
- Standard version for temperatures ranging from -10°C to +60°C.

---

## **CHARACTERISTICS OF SVI 2, 4, 8, 16 SERIES (S, N VERSIONS)**

- Vertical pump with submersible body.
- "S" version with standard motor; impellers, diffusers, outer sleeve, suction base and filter made entirely of stainless steel. Adapter with delivery port in cast iron.
- "N" version with standard motor, made entirely of AISI 316 stainless steel.
- 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) e ISO 3069.
- Standard version for temperatures ranging from -10°C to +90°C.

---

## **CHARACTERISTICS OF SVI 33, 46, 66, 92 SERIES (S, N VERSIONS)**

- Vertical pump with submersible body.
- "S" version with standard motor; impellers, diffusers, tie-rods, suction base and filter made entirely of stainless steel. Adapter and upper head in cast iron.
- "N" version with standard motor; made entirely of AISI 316 stainless steel.
- Delivery port can be coupled to counter-flanges, according to EN 1092.
- Four new sizes (SVI 33-46-66-92) entirely re-designed; improved efficiency and performances.
- Motor versions, depending on the model:
  - with standard bearings for powers up to 11 kW.
  - with reinforced bearings, able to support the vertical axial thrust of the pump for powers  $\geq 15$  kW (SVI3306/2, SVI4604/2, SVI9202 excluded, with standard bearings).
- Balanced mechanical seal (SiC/C/FPM as standard) according to EN 12756 (ex DIN 24960) and ISO 3069, which can be replaced without removing the motor from the pump.
- Standard version for temperatures ranging from -10°C e +90°C.

---

## **OPTIONAL FEATURES**

- Single-phase version.
- 4 poles version.
- Special voltages.
- 60 Hz frequency.
- Special materials for mechanical seals and gaskets.
- Horizontal installation.

---

## **ACCESSORIES**

- Adapter ring which allows compatibility with the previous models SVI 30-60 (keeping the same discharge port axle height from the flange and the same centering to the tank).

## GENERAL CHARACTERISTICS

### 2-POLE SVI

|                             | 2E         | 4E         | 2S        | 4S        | 8S         | 16S      | 33S      | 46S     | 66S     | 92S      |
|-----------------------------|------------|------------|-----------|-----------|------------|----------|----------|---------|---------|----------|
| Max efficiency flow (m³/h)  | 3          | 5,5        | 3         | 5,5       | 10,5       | 16       | 33       | 42      | 74      | 92       |
| Flow range (m³/h)           | 1,2 ÷ 4,2  | 2,4 ÷ 7,2  | 1,2 ÷ 4,2 | 2,4 ÷ 7,2 | 6 ÷ 14     | 9 ÷ 24   | 15 ÷ 40  | 22 ÷ 60 | 30 ÷ 85 | 45 ÷ 120 |
| Maximum pressure ( bar )    | 8          | 6          | 26        | 23        | 22         | 25       | 24       | 22      | 15      | 13       |
| Motor power ( kW )          | 0,37 ÷ 0,9 | 0,37 ÷ 0,9 | 0,37 ÷ 3  | 0,37 ÷ 4  | 0,75 ÷ 7,5 | 1,1 ÷ 15 | 2,2 ÷ 30 | 3 ÷ 30  | 4 ÷ 30  | 5,5 ÷ 30 |
| Max $\eta$ ( % ) of pump    | 42         | 57         | 42        | 59,5      | 61,5       | 64,5     | 76,5     | 79      | 78      | 79,5     |
| Standard temperature ( °C ) | -10 +60    |            | -10 +90   |           |            |          |          |         |         |          |

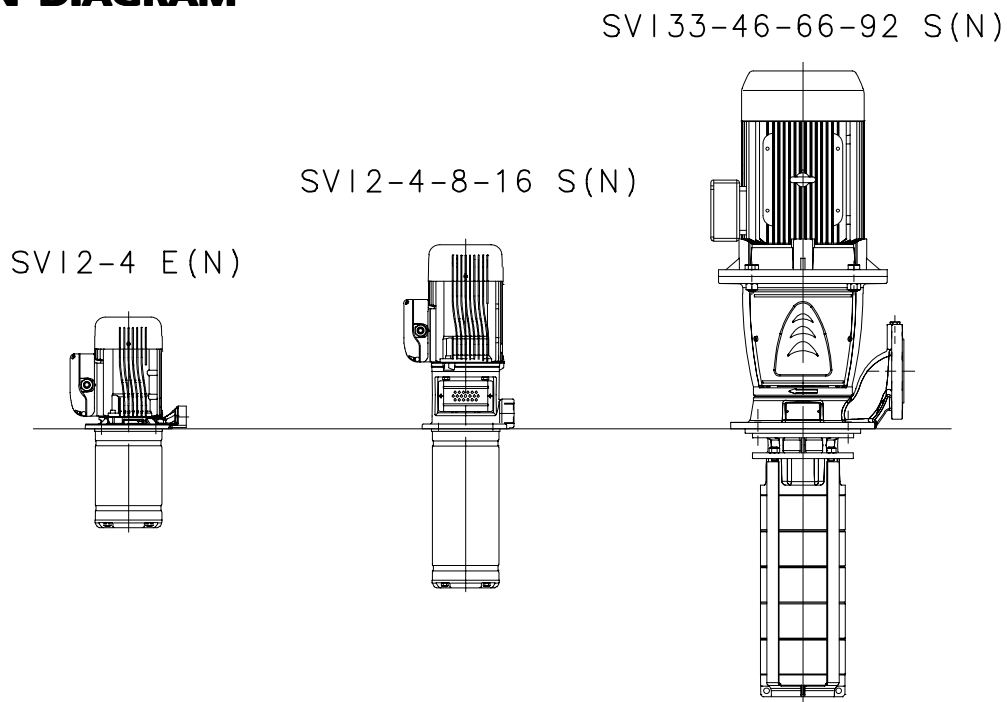
svi-2p50-en\_a\_tg

## SVI VERSIONS

|                        | VERSION       | HYDRAULIC | UPPER HEAD | DELIVERY PORT     |
|------------------------|---------------|-----------|------------|-------------------|
| <b>SVI2-4E</b>         | CLOSE-COUPLED | AISI 304  | CAST IRON  | Threaded Rp 3/4   |
| <b>SVI2-4EN</b>        | CLOSE-COUPLED | AISI 316  | AISI 316   | Threaded Rp 3/4   |
| <b>SVI2-4S</b>         | WITH COUPLING | AISI 304  | CAST IRON  | Threaded Rp 1 1/4 |
| <b>SVI2-4N</b>         | WITH COUPLING | AISI 316  | AISI 316   | Threaded Rp 1 1/4 |
| <b>SVI8-16S</b>        | WITH COUPLING | AISI 304  | CAST IRON  | Threaded Rp 2     |
| <b>SVI8-16N</b>        | WITH COUPLING | AISI 316  | AISI 316   | Threaded Rp 2     |
| <b>SVI33-46-66-92S</b> | WITH COUPLING | AISI 304  | CAST IRON  | Flanged DN 80     |
| <b>SVI33-46-66-92N</b> | WITH COUPLING | AISI 316  | AISI 316   | Flanged DN 80     |

svi-vers-2p50-en\_a\_tc

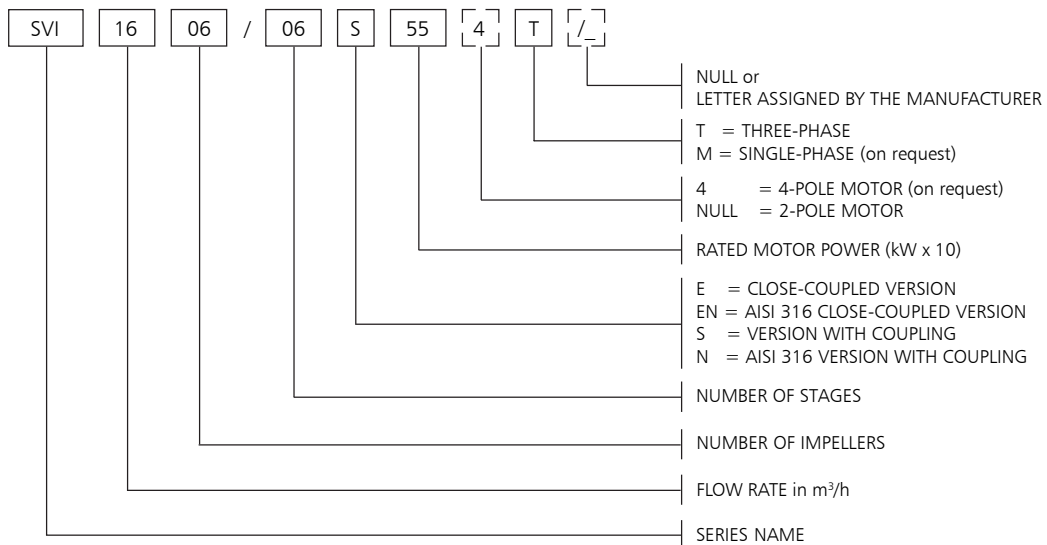
## VERSION DIAGRAM



05003\_A\_SC

## IDENTIFICATION CODE

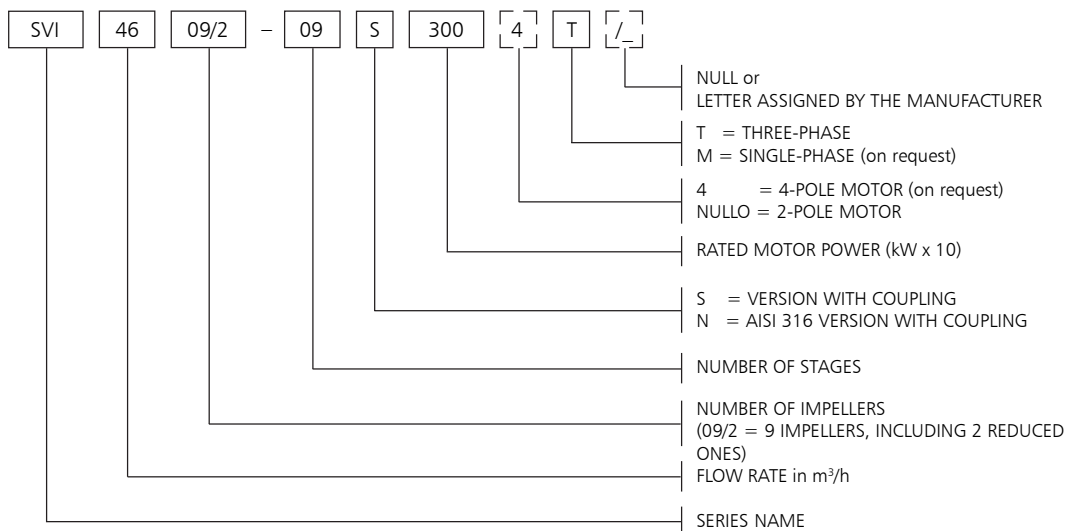
### SVI 2, 4, 8, 16



EXAMPLE : SVI1606/06S55T

SVI Series Electric pump, flow rate 16 m<sup>3</sup>/h, number of impellers 6, number of stages 6, S version with coupling, rated motor power 5,5 kW, 50 Hz version, three-phase.

### SVI 33, 46, 66, 92



EXAMPLE : SVI4609/2-09S300T

SVI Series Electric pump, flow rate 46 m<sup>3</sup>/h, number of impellers 9 including 2 reduced ones, number of stages 9, S version with coupling, rated motor power 30 kW, 50 Hz version, three-phase.



## RATING PLATE SVI 2, 4 (E, EN)

04314\_D\_SC

**LOWARA** **CE** Date [ ] No [ ]  
MONTEDONIO MAGGIORE-VI-ITALY

Pump [ ] Cod. [ ] tmax [ ] °C Motor [ ] ~ [ ] Duty [ ]  
Q [ ] m³/h P2 [ ] kW [ ] Hz [ ] V [ ] A [ ]  
H [ ] m Hmin [ ] m CI [ ] IP [ ] P1 [ ] kW cosφ [ ]

### LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacturing and serial number
- 7 - Minimum head
- 8 - Speed
- 9 - Rated power
- 10 - Maximum operating temperature

## SVI 2, 4, 8, 16 (S, N)

04762\_E\_SC

**LOWARA** **CE** Date [ ] No [ ]  
MONTEDONIO MAGGIORE-VI-ITALY

Pump [ ] Cod. [ ] Ø [ ] mm  
Q [ ] m³/h P2 [ ] kW Motor [ ] ~ [ ] Hz [ ]  
H [ ] m Hmin [ ] m CI [ ] IP [ ] P1 [ ] kW V [ ] A [ ]  
n [ ] 1/min tmax [ ] °C pmax [ ] kPa Duty [ ]

### LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacturing and serial number
- 7 - Impeller diameter
- 8 - Minimum head
- 9 - Mechanical seal material identification code
- 10 - Speed
- 11 - Rated power
- 12 - Maximum operating temperature
- 13 - Maximum operating pressure
- 14 - O-ring material identification code

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

05140\_D\_SC

**LOWARA** **CE** Date [ ] No [ ]  
MONTEDONIO MAGGIORE-VI-ITALY

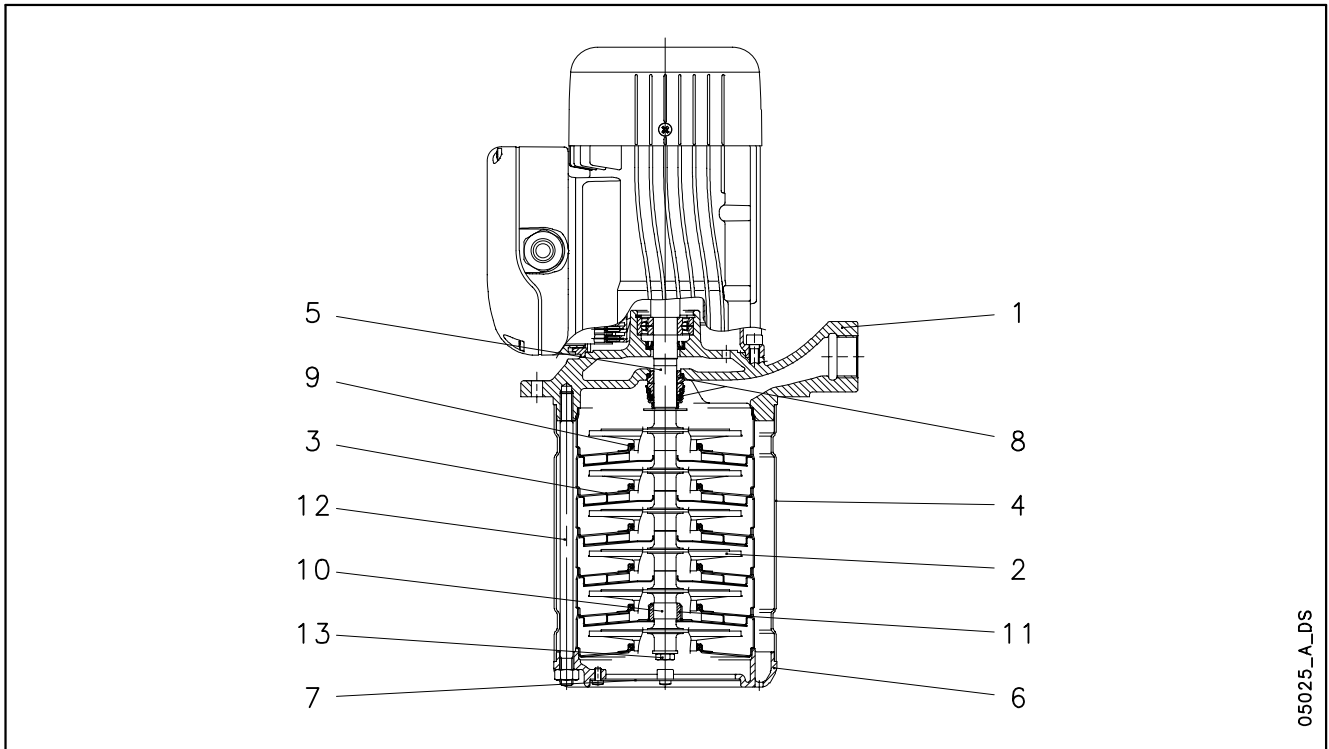
Pump [ ] Cod. [ ] P2 [ ] kW Motor [ ] ~ [ ]  
Q [ ] m³/h n [ ] 1/min  
H [ ] m t [ ] °C  
Ø [ ] mm pmax [ ] kPa Hmin [ ] m

### LEGEND

- 1 - Electric pump type
- 2 - Code
- 3 - Delivery range
- 4 - Head range
- 5 - Motor type
- 6 - Date of manufacturing and serial number
- 7 - Maximum operating pressure \*
- 8 - Minimum head
- 9 - Maximum operating temperature \*
- 10 - Speed
- 11 - Rated power
- 12 - O-ring material identification code
- 13 - Mechanical seal material identification code

\* To be verified on pressure/temperature limit diagrams (pag. 14)

## SVI 2, 4 (E, EN) SERIES ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



### SVI 2, 4 (E VERSIONS)

| REF.<br>N. | NAME            | MATERIAL               | REFERENCE STANDARDS                  |                           |
|------------|-----------------|------------------------|--------------------------------------|---------------------------|
|            |                 |                        | EUROPE                               | USA                       |
| 1          | Adapter         | Cast iron              | EN 1561-GJL-200 (JL1030)             | ASTM Class 25             |
| 2          | Impeller        | Stainless steel        | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 3          | Diffuser        | Stainless steel        | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 4          | Outer sleeve    | Stainless steel        | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 5          | Shaft           | Stainless steel        | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 6          | Suction base    | Stainless steel        | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (AISI 316 cast) |
| 7          | Strainer        | Stainless steel        | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 8          | Mechanical seal | Ceramic / Carbon / FPM |                                      |                           |
| 9          | Elastomers      | FPM                    |                                      |                           |
| 10         | Shaft sleeve    | Tungsten carbide       |                                      |                           |
| 11         | Bushing         | Ceramic (Alumina)      |                                      |                           |
| 12         | Tie rods        | Stainless steel        | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 13         | Screws          | Stainless steel        | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |

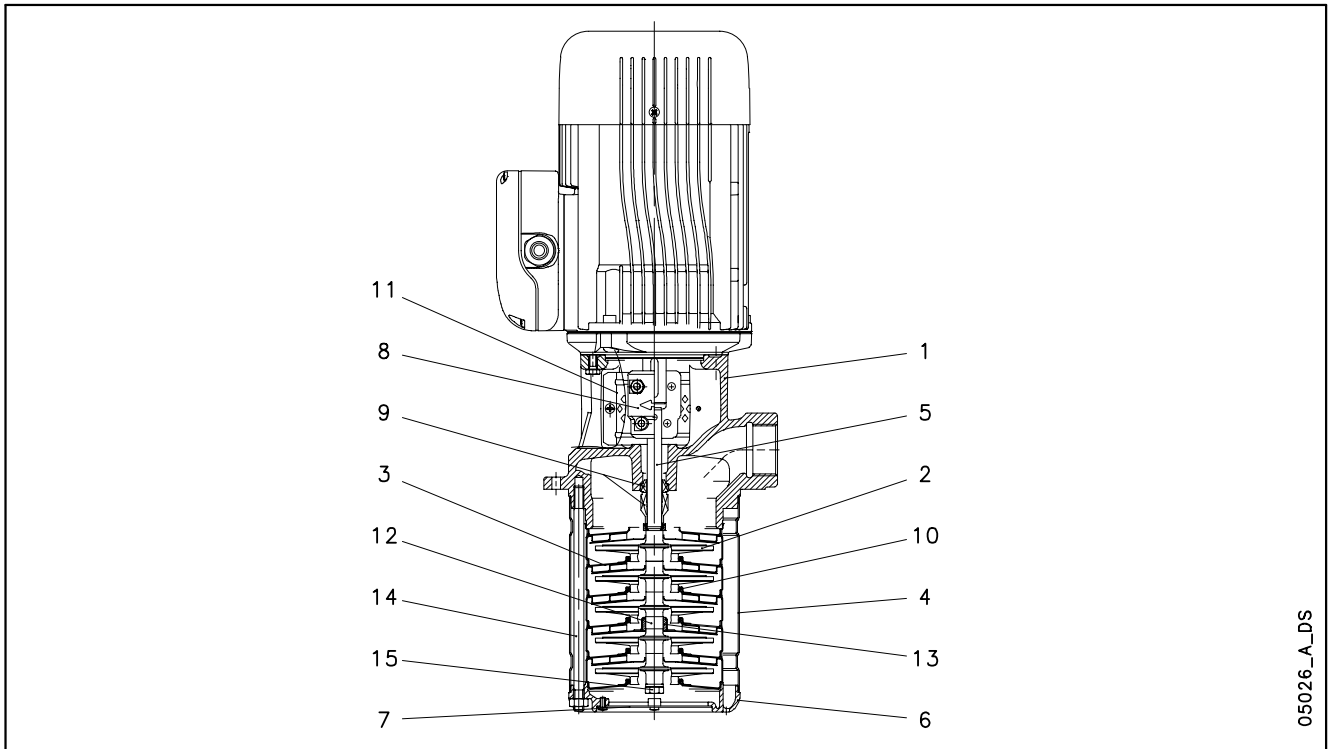
svi2-4-e-en\_a\_tm

### SVI 2, 4 (EN VERSIONS)

| REF.<br>N. | NAME            | MATERIAL               | REFERENCE STANDARDS                  |                           |
|------------|-----------------|------------------------|--------------------------------------|---------------------------|
|            |                 |                        | EUROPE                               | USA                       |
| 1          | Adapter         | Stainless steel        | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (AISI 316 cast) |
| 2          | Impeller        | Stainless steel        | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 3          | Diffuser        | Stainless steel        | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 4          | Outer sleeve    | Stainless steel        | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 5          | Shaft           | Stainless steel        | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 6          | Suction base    | Stainless steel        | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (AISI 316 cast) |
| 7          | Strainer        | Stainless steel        | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 8          | Mechanical seal | Ceramic / Carbon / FPM |                                      |                           |
| 9          | Elastomers      | FPM                    |                                      |                           |
| 10         | Shaft sleeve    | Tungsten carbide       |                                      |                           |
| 11         | Bushing         | Ceramic (Alumina)      |                                      |                           |
| 12         | Tie rods        | Acciaio inox           | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 13         | Screws          | Acciaio inox           | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |

svi2-4-n-en\_a\_tm

## SVI 2, 4, 8, 16 (S, N) SERIES ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



05026\_A\_DS

### SVI 2, 4, 8, 16 (S VERSIONS)

| REF. N. | NAME                         | MATERIAL                       | REFERENCE STANDARDS                  |                           |
|---------|------------------------------|--------------------------------|--------------------------------------|---------------------------|
|         |                              |                                | EUROPE                               | USA                       |
| 1       | Adapter                      | Cast iron                      | EN 1561-GJL-250 (JL1040)             | ASTM Class 35             |
| 2       | Impeller                     | Stainless steel                | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 3       | Diffuser                     | Stainless steel                | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 4       | Outer sleeve                 | Stainless steel                | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 5       | Shaft                        | Stainless steel                | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 6       | Suction base                 | Stainless steel                | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (AISI 316 cast) |
| 7       | Strainer                     | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 8       | Coupling (up to 4 kW)        | Aluminium                      | EN 1706-AC-ALSi11Cu2 (Fe) (AC46100)  | -                         |
| 9       | Coupling (for higher powers) | Cast iron                      | EN 1561-GJL-200 (JL1030)             | ASTM Class 25             |
| 10      | Mechanical seal              | Silicon carbide / Carbon / FPM |                                      |                           |
| 11      | Elastomers                   | FPM                            |                                      |                           |
| 12      | Coupling protection          | Stainless steel                | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 13      | Shaft sleeve                 | Tungsten carbide               |                                      |                           |
| 14      | Bushing                      | Ceramic (Alumina)              |                                      |                           |
| 15      | Tie rods                     | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 15      | Screws                       | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |

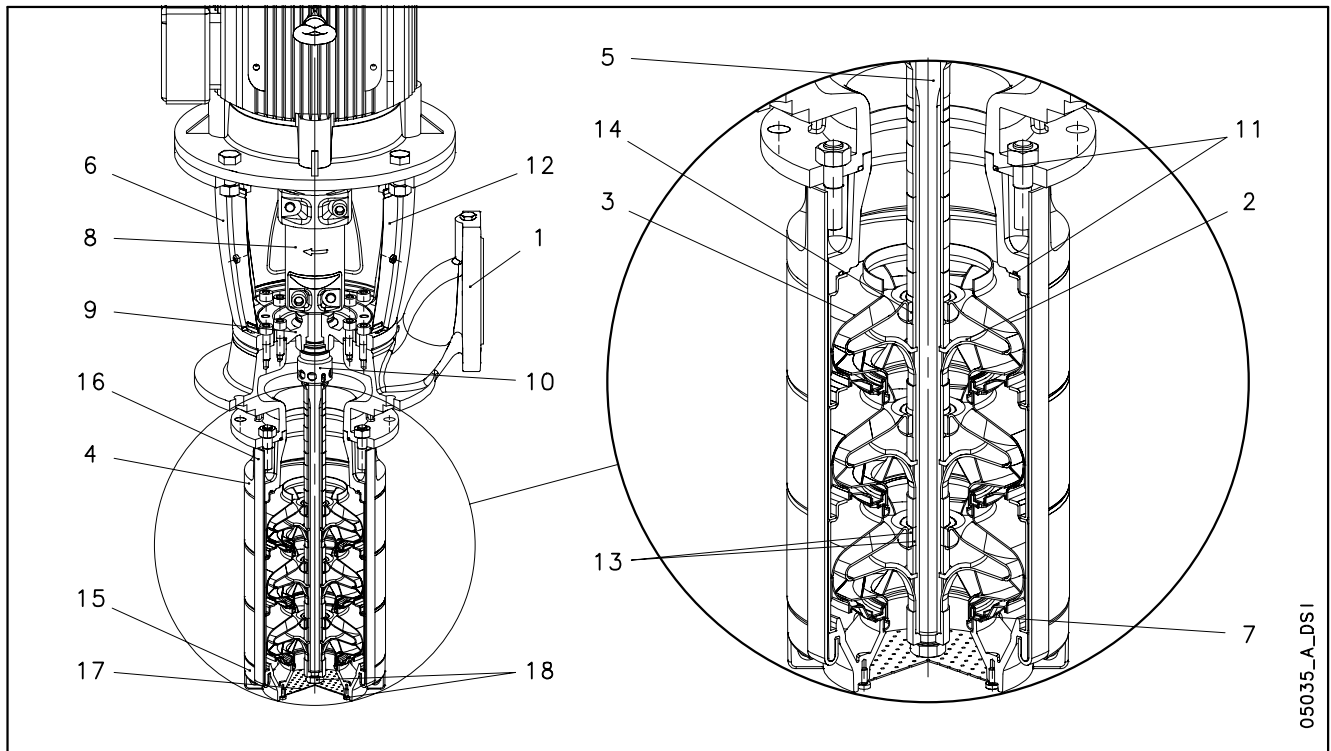
### SVI 2, 4, 8, 16 (N VERSIONS)

svi2-16-s-en\_a\_tm

| REF. N. | NAME                         | MATERIAL                       | REFERENCE STANDARDS                  |                           |
|---------|------------------------------|--------------------------------|--------------------------------------|---------------------------|
|         |                              |                                | EUROPE                               | USA                       |
| 1       | Adapter                      | Stainless steel                | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (AISI 316 cast) |
| 2       | Impeller                     | Stainless steel                | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 3       | Diffuser                     | Stainless steel                | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 4       | Outer sleeve                 | Stainless steel                | EN 10088-1-X2CrNiMo17-12-2 (1.4404)  | AISI 316L                 |
| 5       | Shaft                        | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 6       | Suction base                 | Stainless steel                | EN 10213-4-GX5CrNiMo19-11-2 (1.4408) | ASTM CF8M (AISI 316 cast) |
| 7       | Strainer                     | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 8       | Coupling (up to 4 kW)        | Aluminium                      | EN 1706-AC-ALSi11Cu2 (Fe) (AC46100)  | -                         |
| 9       | Coupling (for higher powers) | Cast iron                      | EN 1561-GJL-200 (JL1030)             | ASTM Class 25             |
| 10      | Mechanical seal              | Silicon carbide / Carbon / FPM |                                      |                           |
| 11      | Elastomers                   | FPM                            |                                      |                           |
| 12      | Coupling protection          | Stainless steel                | EN 10088-1-X5CrNi18-10 (1.4301)      | AISI 304                  |
| 13      | Shaft sleeve                 | Tungsten carbide               |                                      |                           |
| 14      | Bushing                      | Ceramic (Alumina)              |                                      |                           |
| 15      | Tie rods                     | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |
| 15      | Screws                       | Stainless steel                | EN 10088-1-X5CrNiMo17-12-2 (1.4401)  | AISI 316                  |

svi2-16-n-en\_a\_tm

## SVI 33, 46, 66, 92 (S, N) SERIES ELECTRIC PUMP CROSS SECTION AND MAIN COMPONENTS



### SVI 33, 46, 66, 92 (S VERSIONS)

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

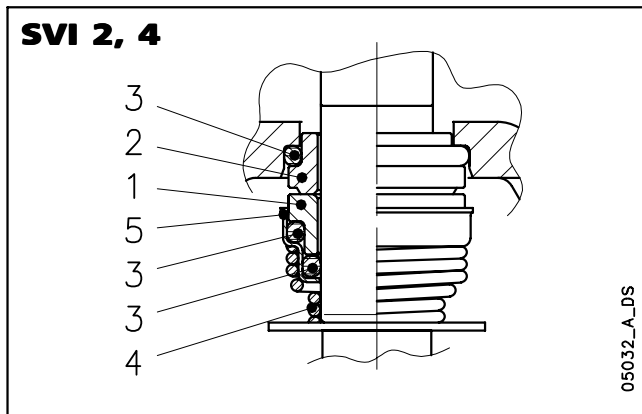
### SVI 33, 46, 66, 92 (N VERSIONS)

svi33-92-s-en\_a\_tm

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

svi33-92-n-en\_a\_tm

## SVI (E, EN) SERIES MECHANICAL SEAL, ACCORDING TO EN 12756



### LIST OF MATERIALS

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

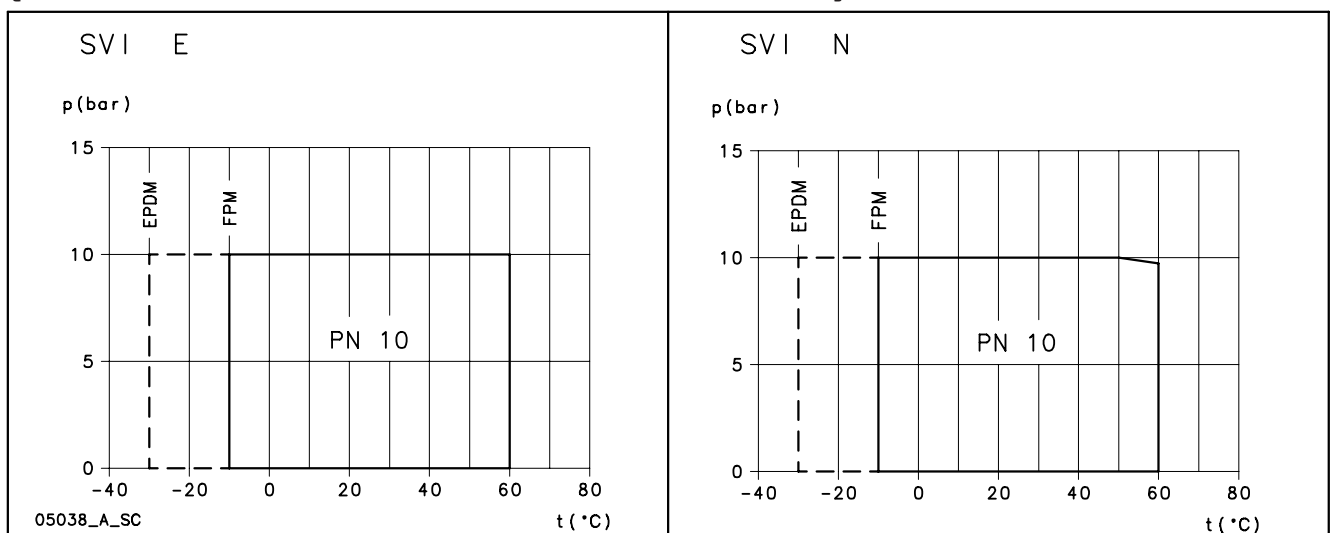
svi-e\_ten-mec-en\_a\_tm

### SEAL TYPES

| TYPE                              | POSITION           |                      |                 |              |                       | TEMPERATURE<br>( °C ) |
|-----------------------------------|--------------------|----------------------|-----------------|--------------|-----------------------|-----------------------|
|                                   | 1<br>ROTATING PART | 2<br>STATIONARY PART | 3<br>ELASTOMERS | 4<br>SPRINGS | 5<br>OTHER COMPONENTS |                       |
| STANDARD MECHANICAL SEAL          |                    |                      |                 |              |                       |                       |
| VBVGG                             | V                  | B                    | V               | G            | G                     | -10 +60               |
| OTHER TYPES OF MECHANICAL SEAL    |                    |                      |                 |              |                       |                       |
| Q <sub>1</sub> Q <sub>1</sub> EGG | Q <sub>1</sub>     | Q <sub>1</sub>       | E               | G            | G                     | -30 +60               |
| Q <sub>1</sub> CVGG               | Q <sub>1</sub>     | C                    | V               | G            | G                     | -10 +60               |
| Q <sub>1</sub> Q <sub>1</sub> VGG | Q <sub>1</sub>     | Q <sub>1</sub>       | V               | G            | G                     | -10 +60               |

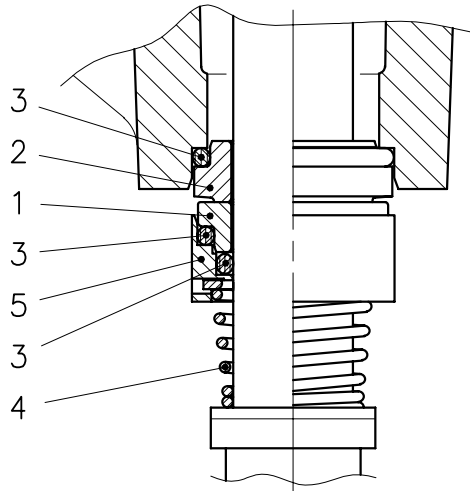
svi-e\_tipi-ten-mec-en\_a\_tc

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



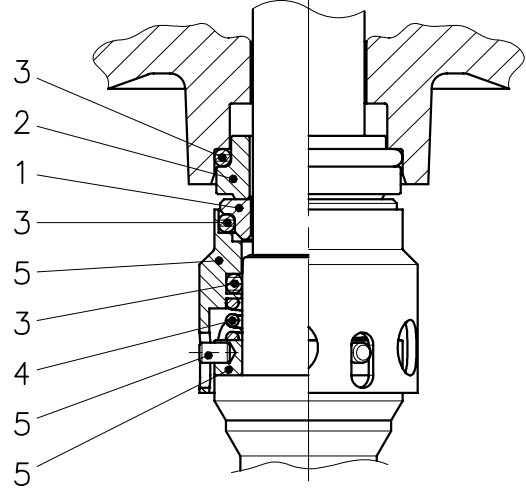
## SVI (S, N) SERIES MECHANICAL SEALS, ACCORDING TO EN 12756

**SVI 2, 4, 8, 16**



04398A\_B\_DS

**SVI 33, 46, 66, 92**



05113A\_DS

### LIST OF MATERIALS

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

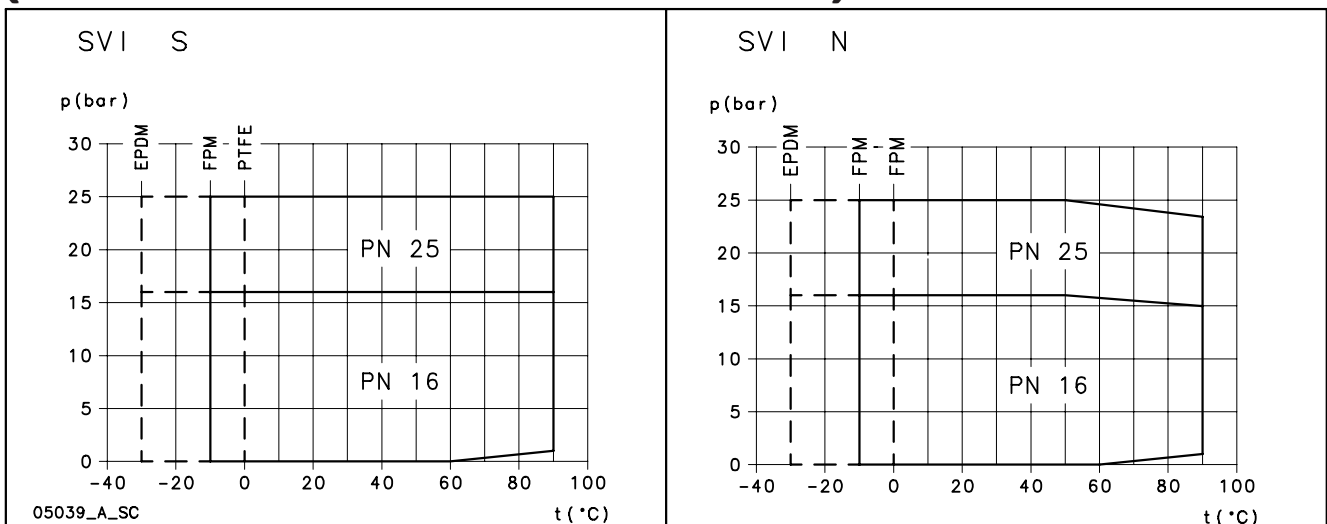
### SEAL TYPES

svi-s\_ten-mec-en\_a\_tm

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

svi-s\_tipi-ten-mec-en\_a\_tc

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



## MOTORS FOR SVI SERIES

- **Standard supplied IE2/IE3 three-phase surface motors  $\geq 0,75$  kW are compliant with Regulation (EC) no. 640/2009 and IEC 60034-30.**
- Short-circuit squirrel-cage motor (TEFC), enclosed construction with external ventilation.
- IP55 protection.
- Class 155 (F) insulation.
- Performance according to EN 60034-1.
- Standard voltage.
- Cable gland with standard passage dimensions according to EN 50262 (metric thread).
- **Single-phase** version: 220-240 V 50 Hz (on request).
- **Three-phase** version 220-240/380-415 V 50 Hz for power up to 3 kW.  
380-415/660-690 V 50 Hz for power above 3 kW.  
Overload protection to be provided by the user.

## SVI (E, EN) SERIES THREE-PHASE MOTORS AT 50 Hz, 2 POLES

| P <sub>N</sub><br><br>kW | Efficiency $\eta_N$<br>%  |      |      |                           |      |      |                           |      |      |                           |      |      |                           |      |      |                |      |      | IE | Year of<br>manufacture |                 |
|--------------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|----|------------------------|-----------------|
|                          | $\Delta$ 220 V<br>Y 380 V |      |      | $\Delta$ 230 V<br>Y 400 V |      |      | $\Delta$ 240 V<br>Y 415 V |      |      | $\Delta$ 380 V<br>Y 660 V |      |      | $\Delta$ 400 V<br>Y 690 V |      |      | $\Delta$ 415 V |      |      |    |                        |                 |
|                          | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4            | 3/4  | 2/4  |    |                        |                 |
|                          |                           |      |      |                           |      |      |                           |      |      |                           |      |      |                           |      |      |                |      |      |    |                        |                 |
| 0,3                      | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -              | -    | -    | -  | 3                      | By June<br>2011 |
| 0,45                     | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -              | -    | -    | -  |                        |                 |
| 0,55                     | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -              | -    | -    | -  |                        |                 |
| 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 | -  |                        |                 |
| 0,9                      | 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 | -  |                        |                 |

| P <sub>N</sub><br>kW | Manufacturer                                                                          |  | IEC SIZE | Construction Design | N. of Poles | f <sub>N</sub><br>Hz | Data for 400 V / 50 Hz Voltage |                                 |                      |                   |       |
|----------------------|---------------------------------------------------------------------------------------|--|----------|---------------------|-------------|----------------------|--------------------------------|---------------------------------|----------------------|-------------------|-------|
|                      | Lowara srl Unipersonale<br>Reg. No. 341820260<br>Montecchio Maggiore Vicenza - Italia |  |          |                     |             |                      | cosφ                           | I <sub>s</sub> / I <sub>N</sub> | T <sub>N</sub><br>Nm | Ts/T <sub>N</sub> | Tm/Tn |
|                      | Model                                                                                 |  |          |                     |             |                      |                                |                                 |                      |                   |       |
|                      |                                                                                       |  |          |                     |             |                      |                                |                                 |                      |                   |       |
| 0,3                  | SM63SE/303                                                                            |  | 63       | SPECIAL             | 2           | 50                   | 0,72                           | 4,05                            | 1,05                 | 3,29              | 2,63  |
| 0,45                 | SM65SE/304                                                                            |  | 63       |                     |             |                      | 0,66                           | 4,32                            | 1,38                 | 4,14              | 3,13  |
| 0,55                 | SM63SE/305                                                                            |  | 63       |                     |             |                      | 0,71                           | 4,41                            | 1,73                 | 3,70              | 2,62  |
| 0,75                 | SM80SE/307PE                                                                          |  | 80       |                     |             |                      | 0,78                           | 7,38                            | 2,48                 | 3,57              | 3,75  |
| 0,9                  | SM80SE/311PE                                                                          |  | 80       |                     |             |                      | 0,79                           | 8,31                            | 3,63                 | 3,95              | 3,95  |

| P <sub>N</sub><br>kW | Voltage U <sub>N</sub><br>V |       |       |       |       |       |       |       |       |       |       | n <sub>N</sub><br>min <sup>-1</sup> | See note. | Operating conditions **            |                         |      |
|----------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------|-----------|------------------------------------|-------------------------|------|
|                      | Δ                           |       |       | Y     |       |       | Δ     |       |       | Y     |       |                                     |           | Altitude<br>Above Sea<br>Level (m) | T. amb<br>min/max<br>°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)          |       |       |       |       |       |       |       |       |       |       |                                     |           |                                    |                         |      |
| 0,3                  | 1,65                        | 1,70  | 1,78  | 0,95  | 0,98  | 1,03  | -     | -     | -     | -     | -     | 2680 ÷ 2745                         | ≤ 1000    | -15 / 40                           | No                      |      |
| 0,45                 | 2,20                        | 2,34  | 2,51  | 1,27  | 1,35  | 1,45  | -     | -     | -     | -     | -     | 2740 ÷ 2790                         |           |                                    |                         |      |
| 0,55                 | 2,53                        | 2,63  | 2,81  | 1,46  | 1,52  | 1,62  | -     | -     | -     | -     | -     | 2715 ÷ 2770                         |           |                                    |                         |      |
| 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                         |           |                                    |                         |      |
| 0,9                  | 4,19                        | 4,14  | 4,16  | 2,42  | 2,39  | 2,40  | 2,41  | 2,38  | 2,38  | 1,39  | 1,37  | 2870 ÷ 2900                         |           |                                    |                         |      |

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

svi-e-ie2-mott-2p50-en\_b\_te

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

## SVI (S, N) SERIES

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

| P <sub>N</sub><br>kW | Efficiency $\eta_N$<br>%  |      |      |                           |      |      |                           |      |      |                           |      |      |                           |      |      |                |      |      | IE | Year of<br>manufacture |
|----------------------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|----|------------------------|
|                      | $\Delta$ 220 V<br>Y 380 V |      |      | $\Delta$ 230 V<br>Y 400 V |      |      | $\Delta$ 240 V<br>Y 415 V |      |      | $\Delta$ 380 V<br>Y 660 V |      |      | $\Delta$ 400 V<br>Y 690 V |      |      | $\Delta$ 415 V |      |      |    |                        |
|                      | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4            | 3/4  | 2/4  |    |                        |
|                      |                           |      |      |                           |      |      |                           |      |      |                           |      |      |                           |      |      |                |      |      |    |                        |
| 0,37                 | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -              | -    | -    | -  | By June 2011           |
| 0,55                 | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -                         | -    | -    | -              | -    | -    | -  |                        |
| 0,75                 | 82,5                      | 83,1 | 81,3 | 82,8                      | 82,7 | 80,1 | 82,6                      | 82,0 | 78,9 | 82,5                      | 82,0 | 78,9 | 82,5                      | 82,0 | 78,9 | 82,5           | 82,0 | 78,9 | 3  |                        |
| 1,1                  | 84,0                      | 84,7 | 83,4 | 84,4                      | 84,5 | 82,5 | 84,3                      | 84,0 | 81,4 | 84,0                      | 84,0 | 81,4 | 84,0                      | 84,0 | 81,4 | 84,0           | 84,0 | 81,4 |    |                        |
| 1,5                  | 85,6                      | 86,5 | 85,8 | 85,9                      | 86,4 | 84,9 | 86,0                      | 86,0 | 84,0 | 85,6                      | 86,0 | 84,0 | 85,6                      | 86,0 | 84,0 | 85,6           | 86,0 | 84,0 |    |                        |
| 2,2                  | 83,7                      | 84,6 | 82,9 | 83,7                      | 84,6 | 82,9 | 83,7                      | 84,6 | 82,9 | 83,7                      | 84,6 | 83,6 | 84,6                      | 84,9 | 83,3 | 84,9           | 84,9 | 82,9 | 2  |                        |
| 3                    | 86,1                      | 87,0 | 85,6 | 86,1                      | 87,0 | 85,6 | 86,1                      | 87,0 | 85,6 | 86,1                      | 87,4 | 87,1 | 86,6                      | 87,4 | 86,5 | 86,7           | 87,0 | 85,6 |    |                        |
| 4                    | 86,3                      | 86,3 | 86,3 | 86,3                      | 86,3 | 86,3 | 86,3                      | 86,3 | 86,3 | 86,3                      | 86,3 | 86,3 | 86,3                      | 86,3 | 86,3 | 86,3           | 86,3 | 86,3 |    |                        |
| 5,5                  | 87,6                      | 87,6 | 87,6 | 87,6                      | 87,6 | 87,6 | 87,6                      | 87,6 | 87,6 | 87,6                      | 87,6 | 87,6 | 87,6                      | 87,6 | 87,6 | 87,6           | 87,6 | 87,6 |    |                        |
| 7,5                  | 88,6                      | 88,1 | 88,1 | 88,6                      | 88,1 | 88,1 | 88,6                      | 88,1 | 88,1 | 88,6                      | 88,1 | 88,1 | 88,6                      | 88,1 | 88,1 | 88,6           | 88,1 | 88,1 |    |                        |
| 11                   | 90,3                      | 91,1 | 90,3 | 90,3                      | 91,1 | 90,3 | 90,3                      | 91,1 | 90,3 | 90,3                      | 91,1 | 90,3 | 90,8                      | 91,1 | 90,3 | 91,0           | 91,1 | 90,3 |    |                        |
| 15                   | 90,3                      | 90,3 | 90,3 | 90,3                      | 90,3 | 90,3 | 90,3                      | 90,3 | 90,3 | 90,3                      | 90,3 | 90,3 | 90,3                      | 90,3 | 90,3 | 90,3           | 90,3 | 90,3 |    |                        |
| 18,5                 | 91,2                      | 91,2 | 91,2 | 91,2                      | 91,2 | 91,2 | 91,2                      | 91,2 | 91,2 | 91,2                      | 91,2 | 91,2 | 91,2                      | 91,2 | 91,2 | 91,2           | 91,2 | 91,2 |    |                        |
| 22                   | 91,3                      | 91,3 | 91,3 | 91,3                      | 91,3 | 91,3 | 91,3                      | 91,3 | 91,3 | 91,3                      | 91,3 | 91,3 | 91,3                      | 91,3 | 91,3 | 91,3           | 91,3 | 91,3 |    |                        |

| P <sub>N</sub><br>kW | Manufacturer                                                                          |  | IEC SIZE* | Construction<br>Design | N. of<br>Poles | f <sub>N</sub><br>Hz | Data for 400 V / 50 Hz Voltage |                                 |                      |                   |       |
|----------------------|---------------------------------------------------------------------------------------|--|-----------|------------------------|----------------|----------------------|--------------------------------|---------------------------------|----------------------|-------------------|-------|
|                      | Lowara srl Unipersonale<br>Reg. No. 341820260<br>Montecchio Maggiore Vicenza - Italia |  |           |                        |                |                      | cosφ                           | I <sub>s</sub> / I <sub>N</sub> | T <sub>N</sub><br>Nm | Ts/T <sub>N</sub> | Tm/Tn |
|                      | Model                                                                                 |  |           |                        |                |                      |                                |                                 |                      |                   |       |
| 0,37                 | SM71RB14/304                                                                          |  | 71R       | V18/B14                | 2              | 50                   | 0,66                           | 4,32                            | 1,38                 | 4,14              | 3,13  |
| 0,55                 | SM71B14/305                                                                           |  | 71        |                        |                |                      | 0,74                           | 5,97                            | 1,85                 | 3,74              | 3,56  |
| 0,75                 | SM80B14/307PE                                                                         |  | 80        |                        |                |                      | 0,78                           | 7,38                            | 2,48                 | 3,57              | 3,75  |
| 1,1                  | SM80B14/311PE                                                                         |  | 80        |                        |                |                      | 0,79                           | 8,31                            | 3,63                 | 3,95              | 3,95  |
| 1,5                  | SM90RB14/315PE                                                                        |  | 90R       |                        |                |                      | 0,80                           | 8,80                            | 4,96                 | 4,31              | 4,10  |
| 2,2                  | PLM90B14/322                                                                          |  | 90        |                        |                |                      | 0,80                           | 8,63                            | 7,25                 | 3,74              | 3,71  |
| 3                    | PLM100RB14/330                                                                        |  | 100R      |                        |                |                      | 0,82                           | 8,39                            | 9,96                 | 3,50              | 3,32  |
| 4                    | PLM112RB14/340                                                                        |  | 112R      |                        |                |                      | 0,85                           | 9,52                            | 13,1                 | 3,04              | 4,40  |
| 5,5                  | PLM132RB5/355                                                                         |  | 132R      |                        |                |                      | 0,87                           | 10,3                            | 18,1                 | 4,43              | 5,80  |
| 7,5                  | PLM132B5/375                                                                          |  | 132       |                        |                |                      | 0,87                           | 9,21                            | 24,5                 | 3,26              | 4,55  |
| 11                   | PLM160RB5/3110                                                                        |  | 160R      | V1/B5                  | 2              | 50                   | 0,87                           | 9,72                            | 36,0                 | 3,46              | 4,56  |
| 15                   | PLM160B5/3150                                                                         |  | 160       |                        |                |                      | 0,91                           | 8,45                            | 48,6                 | 2,26              | 3,81  |
| 18,5                 | PLM160B5/3185                                                                         |  | 160       |                        |                |                      | 0,88                           | 9,75                            | 59,8                 | 2,82              | 4,53  |
| 22                   | PLM180RB5/3220                                                                        |  | 180R      |                        |                |                      | 0,89                           | 9,50                            | 71,1                 | 2,74              | 4,26  |

| P <sub>N</sub><br>kW | Voltage U <sub>N</sub><br>V |       |       |       |       |       |       |       |       |       |       | η <sub>N</sub><br>min <sup>-1</sup> | Observe the regulations and codes locally<br>in force regarding sorted waste disposal. | Operating conditions **            |                         |      |
|----------------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------------------|----------------------------------------------------------------------------------------|------------------------------------|-------------------------|------|
|                      | Δ                           |       |       | Y     |       |       | Δ     |       |       | Y     |       |                                     |                                                                                        | Altitude<br>Above Sea<br>Level (m) | T. amb<br>min/max<br>°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                 | 2,20                        | 2,34  | 2,51  | 1,27  | 1,35  | 1,45  | -     | -     | -     | -     | -     | 2740 ÷ 2790                         |                                                                                        | ≤ 1000                             | -15 / 40                | No   |
| 0,55                 | 2,56                        | 2,56  | 2,62  | 1,48  | 1,48  | 1,51  | -     | -     | -     | -     | -     | 2825 ÷ 2850                         |                                                                                        |                                    |                         |      |
| 0,75                 | 2,96                        | 2,94  | 2,96  | 1,71  | 1,70  | 1,71  | 1,70  | 1,69  | 1,70  | 0,98  | 0,98  | 2875 ÷ 2895                         |                                                                                        |                                    |                         |      |
| 1,1                  | 4,19                        | 4,14  | 4,16  | 2,42  | 2,39  | 2,40  | 2,41  | 2,38  | 2,38  | 1,39  | 1,37  | 2870 ÷ 2900                         |                                                                                        |                                    |                         |      |
| 1,5                  | 5,56                        | 5,49  | 5,51  | 3,21  | 3,17  | 3,18  | 3,21  | 3,18  | 3,19  | 1,85  | 1,84  | 2870 ÷ 2895                         |                                                                                        |                                    |                         |      |
| 2,2                  | 8,05                        | 8,04  | 8,09  | 4,65  | 4,64  | 4,67  | 4,62  | 4,61  | 4,63  | 2,67  | 2,66  | 2885 ÷ 2900                         |                                                                                        |                                    |                         |      |
| 3                    | 10,8                        | 10,6  | 10,6  | 6,23  | 6,14  | 6,12  | 6,18  | 6,10  | 6,06  | 3,57  | 3,52  | 2850 ÷ 2885                         |                                                                                        |                                    |                         |      |
| 4                    | 13,6                        | 13,5  | 13,5  | 7,88  | 7,77  | 7,79  | 7,80  | 7,63  | 7,65  | 4,51  | 4,41  | 2895 ÷ 2920                         |                                                                                        |                                    |                         |      |
| 5,5                  | 18,3                        | 18,0  | 17,9  | 10,6  | 10,4  | 10,3  | 10,6  | 10,4  | 10,5  | 6,14  | 6,02  | 2885 ÷ 2905                         |                                                                                        |                                    |                         |      |
| 7,5                  | 25,4                        | 24,8  | 24,4  | 14,7  | 14,3  | 14,1  | 14,5  | 14,0  | 13,9  | 8,35  | 8,11  | 2920 ÷ 2935                         |                                                                                        |                                    |                         |      |
| 11                   | 36,0                        | 35,1  | 34,7  | 20,8  | 20,3  | 20,0  | 20,8  | 20,3  | 20,1  | 12,0  | 11,7  | 2910 ÷ 2925                         |                                                                                        |                                    |                         |      |
| 15                   | 47,2                        | 45,3  | 44,0  | 27,2  | 26,2  | 25,4  | 27,2  | 26,0  | 25,3  | 15,7  | 15,0  | 2940 ÷ 2950                         |                                                                                        |                                    |                         |      |
| 18,5                 | 58,3                        | 56,9  | 55,9  | 33,7  | 32,9  | 32,3  | 34,1  | 33,2  | 32,8  | 19,7  | 19,1  | 2945 ÷ 2955                         |                                                                                        |                                    |                         |      |
| 22                   | 68,3                        | 66,2  | 64,3  | 39,4  | 38,2  | 37,1  | 40,0  | 38,6  | 37,8  | 23,1  | 22,3  | 2945 ÷ 2955                         |                                                                                        |                                    |                         |      |

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

svi-s-ie2-mott-2p50-en\_b\_te

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



## SVI (S, N) SERIES THREE-PHASE MOTORS AT 50 Hz, 2 POLES (from 30 kW)

| P <sub>N</sub><br>kW | Efficiency $\eta_N$<br>%  |      |      |                           |      |      |                |      |      | IE   | Year of<br>manufacture |
|----------------------|---------------------------|------|------|---------------------------|------|------|----------------|------|------|------|------------------------|
|                      | $\Delta$ 380 V<br>Y 660 V |      |      | $\Delta$ 400 V<br>Y 690 V |      |      | $\Delta$ 415 V |      |      |      |                        |
|                      | 4/4                       | 3/4  | 2/4  | 4/4                       | 3/4  | 2/4  | 4/4            | 3/4  | 2/4  |      |                        |
|                      | 30                        | 92,6 | 92,9 | 92,7                      | 92,5 | 93,0 | 92,9           | 93,0 | 93,0 | 92,3 |                        |
|                      |                           |      |      |                           |      |      |                |      |      |      |                        |
|                      |                           |      |      |                           |      |      |                |      |      |      |                        |
|                      |                           |      |      |                           |      |      |                |      |      |      |                        |

| P <sub>N</sub><br>kW | Manufacturer                                                                                   | IEC SIZE | Construction<br>Design | N. of<br>Poles | f <sub>N</sub><br>Hz | Data for 400 V / 50 Hz Voltage |                                 |                      |                   |                   |
|----------------------|------------------------------------------------------------------------------------------------|----------|------------------------|----------------|----------------------|--------------------------------|---------------------------------|----------------------|-------------------|-------------------|
|                      | WEG Equipamentos Elétricos S.A.<br>Reg. No. 07.175.725/0010-50<br>Jaraguá do Sul - SC (Brazil) |          |                        |                |                      | cos $\phi$                     | I <sub>s</sub> / I <sub>N</sub> | T <sub>N</sub><br>Nm | Ts/T <sub>N</sub> | Tm/T <sub>N</sub> |
|                      | Model                                                                                          |          |                        |                |                      |                                |                                 |                      |                   |                   |
| 30                   | W22 200L2-B5 30kW                                                                              | 200      | V1/B5                  | 2              | 50                   | 0,87                           | 6,50                            | 97,0                 | 2,40              | 2,70              |
|                      |                                                                                                |          |                        |                |                      |                                |                                 |                      |                   |                   |
|                      |                                                                                                |          |                        |                |                      |                                |                                 |                      |                   |                   |

| P <sub>N</sub><br>kW | Voltage U <sub>N</sub><br>V |       |       |       |       | n <sub>N</sub><br>min <sup>-1</sup> | See note. | Operating conditions **            |                         |      |
|----------------------|-----------------------------|-------|-------|-------|-------|-------------------------------------|-----------|------------------------------------|-------------------------|------|
|                      | Δ                           |       |       | Y     |       |                                     |           | Altitude<br>Above Sea<br>Level (m) | T. amb<br>min/max<br>°C | ATEX |
|                      | 380 V                       | 400 V | 415 V | 660 V | 690 V |                                     |           |                                    |                         |      |
|                      | I <sub>N</sub> (A)          |       |       |       |       |                                     |           |                                    |                         |      |
| 30                   | 55,9                        | 53,6  | 52,2  | 32,2  | 31,1  | 2950 ÷ 2960                         |           | ≤ 1000                             | -15 / 40                | No   |
|                      |                             |       |       |       |       |                                     |           |                                    |                         |      |
|                      |                             |       |       |       |       |                                     |           |                                    |                         |      |
|                      |                             |       |       |       |       |                                     |           |                                    |                         |      |

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

svi-s-ie2-mott30-2p50-en\_a\_te

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

## MOTOR NOISE

The tables below show the mean sound pressure levels (L<sub>p</sub>) measured at 1 meter's distance in a free field according to the A curve (ISO 1680 standard).

The noise values are measured with idling 50 Hz motor with a tolerance of 3 dB (A).

## SVI (E, EN) THREE-PHASE 50 Hz, 2 POLES MOTORS SVI (S, N) THREE-PHASE 50 Hz, 2 POLES MOTORS

| POWER<br>kW | MOTOR TYPE<br>IEC SIZE | NOISE<br>L <sub>pA</sub><br>dB |
|-------------|------------------------|--------------------------------|
| 0,37        | 63                     | <70                            |
| 0,45        | 63                     | <70                            |
| 0,55        | 63                     | <70                            |
| 0,75        | 71                     | <70                            |
| 0,9         | 71                     | <70                            |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |
|             |                        |                                |

| POWER<br>kW | MOTOR TYPE<br>IEC SIZE* | RUMOROSITA'<br>L <sub>pA</sub><br>dB |
|-------------|-------------------------|--------------------------------------|
| 0,37        | 71R                     | <70                                  |
| 0,55        | 71                      | <70                                  |
| 0,75        | 80R                     | <70                                  |
| 1,1         | 80                      | <70                                  |
| 1,5         | 90R                     | <70                                  |
| 2,2         | 90R                     | <70                                  |
| 3           | 100R                    | <70                                  |
| 4           | 112R                    | <70                                  |
| 5,5         | 132R                    | <70                                  |
| 7,5         | 132                     | 71                                   |
| 11          | 160R                    | 73                                   |
| 15          | 160                     | 71                                   |
| 18,5        | 160                     | 73                                   |
| 22          | 180R                    | 70                                   |
| 30          | 200                     | 72                                   |

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

sv\_mott-en\_b\_tr

## AVAILABLE VOLTAGES MOTORS FOR SVI SERIES (up to 22 kW)

| P <sub>N</sub><br>kW | THREE-PHASE - 2 POLES       |                         |                     |                     |                     |               |               |                     |                             |                     |                   |                     |                     |                     |           |                                        |                                      |
|----------------------|-----------------------------|-------------------------|---------------------|---------------------|---------------------|---------------|---------------|---------------------|-----------------------------|---------------------|-------------------|---------------------|---------------------|---------------------|-----------|----------------------------------------|--------------------------------------|
|                      | 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<br>3 x 265/460 60 Hz | 3 x 400/690 50 Hz<br>3 x 460/- 60 Hz |
| 0,3                  | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 0,37                 | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 0,4                  | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 0,5                  | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 0,55                 | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 0,75                 | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 0,95                 | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 1,1                  | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 1,5                  | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 2,2                  | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 3                    | s                           | o                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 4                    | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 5,5                  | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 7,5                  | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 11                   | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 15                   | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 18,5                 | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |
| 22                   | o                           | s                       | o                   | o                   | o                   | o             | o             | s                   | o                           | o                   | o                 | o                   | o                   | o                   | o         | o                                      | o                                    |

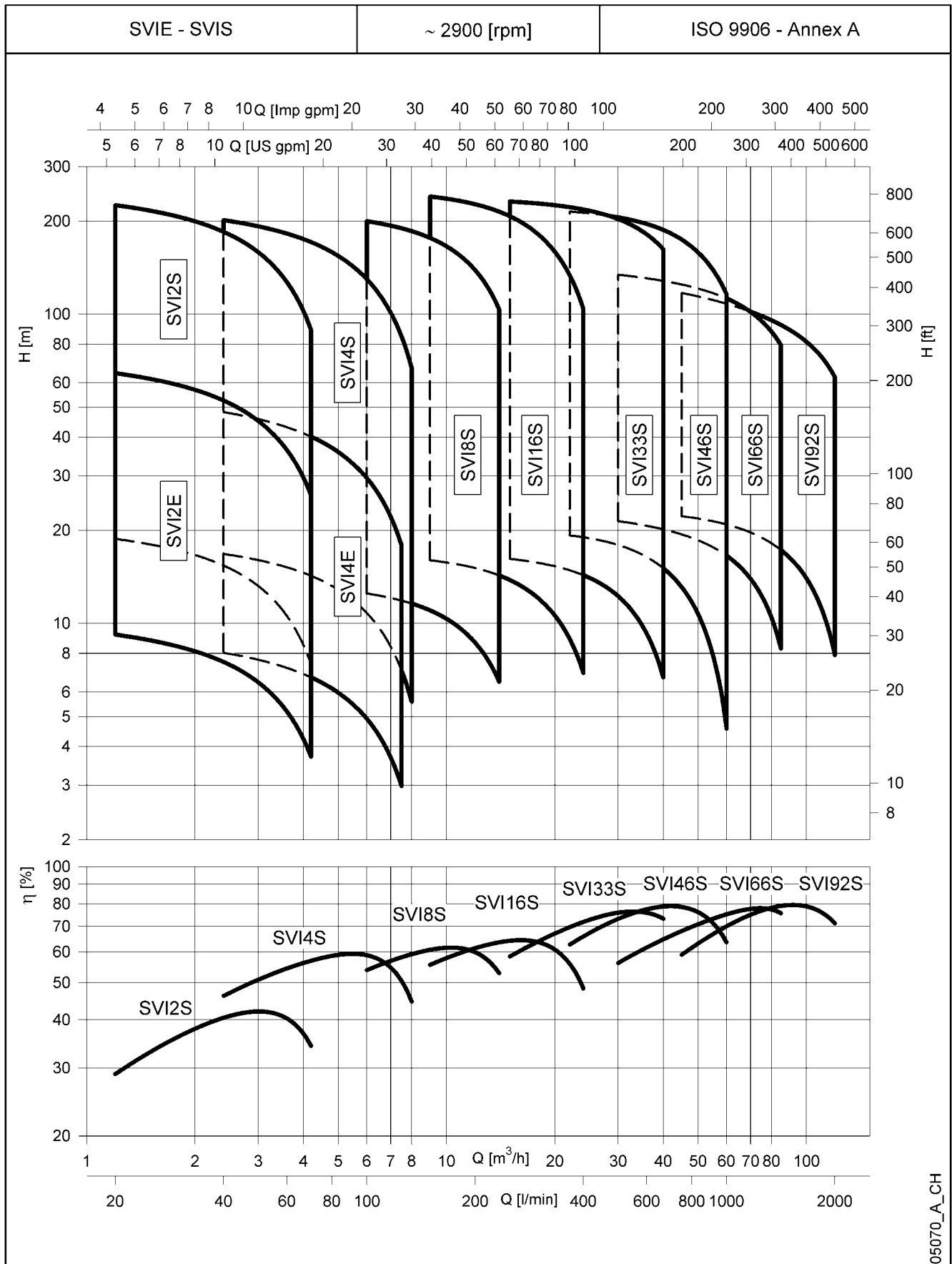
svi-volt-lowa-en\_a\_te

## MOTORS FOR SVI SERIES ( $\geq 30$ kW)

| PN<br>kW | THREE-PHASE - 2 POLES       |                         |             |                     |                     |                     |               |               |             |                     |               |                     |                     |                             |                     |           |                                        |                                      |          |
|----------|-----------------------------|-------------------------|-------------|---------------------|---------------------|---------------------|---------------|---------------|-------------|---------------------|---------------|---------------------|---------------------|-----------------------------|---------------------|-----------|----------------------------------------|--------------------------------------|----------|
|          | 50 Hz                       |                         |             |                     |                     |                     |               |               |             | 60 Hz               |               |                     |                     |                             |                     |           |                                        |                                      | 50/60 Hz |
| 30       | o                           | s                       | o           | o                   | o                   | o                   | o             | o             | s           | o                   | o             | o                   | o                   | o                           | o                   | o         | o                                      | o                                    | o        |
|          | 3 x 220-230-240/380-400-415 | 3 x 380-400-415/660-690 | 3 x 110/190 | 3 x 200-208/346-360 | 3 x 255-265/440-460 | 3 x 290-300/500-525 | 3 x 440-460/- | 3 x 500-525/- | 3 x 230/380 | 3 x 380-400/660-690 | 3 x 440-480/- | 3 x 110-115/190-200 | 3 x 200-208/346-360 | 3 x 255-265-277/440-460-480 | 3 x 330-346/575-600 | 3 x 575/- | 3 x 230/400 50 Hz<br>3 x 265/460 60 Hz | 3 x 400/690 50 Hz<br>3 x 460/- 60 Hz |          |

svi-volt-weg-en b te

**SVI SERIES**  
**HYDRAULIC PERFORMANCE RANGE AT 50 Hz**



05070\_A\_CH

## SVI 2, 4 SERIES

### TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

| PUMP<br>TYPE                          | RATED<br>POWER |      | Q = DELIVERY |       |       |       |       |       |       |       |       |       |       |      |
|---------------------------------------|----------------|------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
|                                       |                |      | l/min 0      | 20    | 30    | 40    | 50    | 60    | 70    | 80    | 90    | 100   | 110   | 120  |
|                                       | kW             | HP   | m³/h 0       | 1,2   | 1,8   | 2,4   | 3     | 3,6   | 4,2   | 4,8   | 5,4   | 6     | 6,6   | 7,2  |
| H = TOTAL HEAD METRES COLUMN OF WATER |                |      |              |       |       |       |       |       |       |       |       |       |       |      |
| SVI 201E                              | 0,37           | 0,5  | 10,6         | 9,2   | 8,4   | 7,5   | 6,5   | 5,2   | 3,7   |       |       |       |       |      |
| SVI 202E                              | 0,37           | 0,5  | 21,2         | 18,4  | 16,8  | 15,0  | 12,9  | 10,4  | 7,4   |       |       |       |       |      |
| SVI 203E                              | 0,45           | 0,6  | 31,8         | 27,6  | 25,3  | 22,5  | 19,4  | 15,6  | 11,1  |       |       |       |       |      |
| SVI 204E                              | 0,55           | 0,75 | 42,4         | 36,9  | 33,7  | 30,1  | 25,8  | 20,8  | 14,8  |       |       |       |       |      |
| SVI 205E                              | 0,75           | 1    | 53,0         | 46,1  | 42,1  | 37,6  | 32,3  | 26,0  | 18,6  |       |       |       |       |      |
| SVI 206E                              | 0,75           | 1    | 63,7         | 55,3  | 50,5  | 45,1  | 38,7  | 31,2  | 22,3  |       |       |       |       |      |
| SVI 207E                              | 0,9            | 1,2  | 74,3         | 64,5  | 58,9  | 52,6  | 45,2  | 36,4  | 26,0  |       |       |       |       |      |
| SVI 401E                              | 0,37           | 0,5  | 9,5          |       |       | 8,0   | 7,6   | 7,2   | 6,7   | 6,2   | 5,6   | 4,9   | 4,2   | 3,4  |
| SVI 402E                              | 0,37           | 0,5  | 19,0         |       |       | 16,1  | 15,3  | 14,4  | 13,4  | 12,3  | 11,2  | 9,9   | 8,4   | 6,8  |
| SVI 403E                              | 0,45           | 0,6  | 28,5         |       |       | 24,1  | 22,9  | 21,5  | 20,1  | 18,5  | 16,7  | 14,8  | 12,6  | 10,2 |
| SVI 404E                              | 0,55           | 0,75 | 38,0         |       |       | 32,1  | 30,5  | 28,7  | 26,8  | 24,7  | 22,3  | 19,7  | 16,8  | 13,6 |
| SVI 405E                              | 0,75           | 1    | 47,5         |       |       | 40,2  | 38,1  | 35,9  | 33,5  | 30,8  | 27,9  | 24,6  | 21,0  | 17,1 |
| SVI 406E                              | 0,9            | 1,2  | 57,0         |       |       | 48,2  | 45,8  | 43,1  | 40,2  | 37,0  | 33,5  | 29,6  | 25,3  | 20,5 |
| SVI 202S                              | 0,37           | 0,5  | 21,4         | 18,8  | 17,2  | 15,4  | 13,2  | 10,6  | 7,4   |       |       |       |       |      |
| SVI 203S                              | 0,37           | 0,5  | 32,1         | 28,1  | 25,8  | 23,1  | 19,8  | 15,9  | 11,1  |       |       |       |       |      |
| SVI 204S                              | 0,55           | 0,75 | 42,8         | 37,5  | 34,4  | 30,8  | 26,4  | 21,2  | 14,8  |       |       |       |       |      |
| SVI 205S                              | 0,75           | 1    | 53,5         | 46,9  | 43,0  | 38,5  | 33,0  | 26,5  | 18,6  |       |       |       |       |      |
| SVI 206S                              | 0,75           | 1    | 64,2         | 56,3  | 51,6  | 46,2  | 39,6  | 31,7  | 22,3  |       |       |       |       |      |
| SVI 207S                              | 1,1            | 1,5  | 74,9         | 65,6  | 60,2  | 53,9  | 46,2  | 37,0  | 26,0  |       |       |       |       |      |
| SVI 208S                              | 1,1            | 1,5  | 85,6         | 75,0  | 68,8  | 61,5  | 52,8  | 42,3  | 29,7  |       |       |       |       |      |
| SVI 209S                              | 1,1            | 1,5  | 96,3         | 84,4  | 77,4  | 69,2  | 59,4  | 47,6  | 33,4  |       |       |       |       |      |
| SVI 211S                              | 1,5            | 2    | 117,7        | 103,2 | 94,6  | 84,6  | 72,6  | 58,2  | 40,8  |       |       |       |       |      |
| SVI 212S                              | 1,5            | 2    | 128,4        | 112,5 | 103,2 | 92,3  | 79,2  | 63,5  | 44,5  |       |       |       |       |      |
| SVI 214S                              | 2,2            | 3    | 149,8        | 131,3 | 120,4 | 107,7 | 92,5  | 74,1  | 52,0  |       |       |       |       |      |
| SVI 216S                              | 2,2            | 3    | 171,2        | 150,1 | 137,7 | 123,1 | 105,7 | 84,7  | 59,4  |       |       |       |       |      |
| SVI 218S                              | 2,2            | 3    | 192,6        | 168,8 | 154,9 | 138,5 | 118,9 | 95,2  | 66,8  |       |       |       |       |      |
| SVI 220S                              | 3              | 4    | 214,0        | 187,6 | 172,1 | 153,9 | 132,1 | 105,8 | 74,2  |       |       |       |       |      |
| SVI 222S                              | 3              | 4    | 235,4        | 206,3 | 189,3 | 169,2 | 145,3 | 116,4 | 81,7  |       |       |       |       |      |
| SVI 224S                              | 3              | 4    | 256,8        | 225,1 | 206,5 | 184,6 | 158,5 | 127,0 | 89,1  |       |       |       |       |      |
| SVI 402S                              | 0,37           | 0,5  | 19,3         |       |       | 16,8  | 16,0  | 15,2  | 14,3  | 13,2  | 12,1  | 10,8  | 9,4   | 7,9  |
| SVI 403S                              | 0,55           | 0,75 | 28,9         |       |       | 25,2  | 24,0  | 22,8  | 21,4  | 19,8  | 18,1  | 16,2  | 14,1  | 11,8 |
| SVI 404S                              | 0,75           | 1    | 38,5         |       |       | 33,6  | 32,0  | 30,4  | 28,5  | 26,5  | 24,2  | 21,6  | 18,9  | 15,8 |
| SVI 405S                              | 1,1            | 1,5  | 48,2         |       |       | 42,0  | 40,1  | 38,0  | 35,6  | 33,1  | 30,2  | 27,1  | 23,6  | 19,7 |
| SVI 406S                              | 1,1            | 1,5  | 57,8         |       |       | 50,4  | 48,1  | 45,6  | 42,8  | 39,7  | 36,3  | 32,5  | 28,3  | 23,7 |
| SVI 407S                              | 1,1            | 1,5  | 67,5         |       |       | 58,7  | 56,1  | 53,1  | 49,9  | 46,3  | 42,3  | 37,9  | 33,0  | 27,6 |
| SVI 408S                              | 1,5            | 2    | 77,1         |       |       | 67,1  | 64,1  | 60,7  | 57,0  | 52,9  | 48,3  | 43,3  | 37,7  | 31,5 |
| SVI 409S                              | 1,5            | 2    | 86,7         |       |       | 75,5  | 72,1  | 68,3  | 64,2  | 59,5  | 54,4  | 48,7  | 42,4  | 35,5 |
| SVI 411S                              | 2,2            | 3    | 106,0        |       |       | 92,3  | 88,1  | 83,5  | 78,4  | 72,8  | 66,5  | 59,5  | 51,9  | 43,4 |
| SVI 413S                              | 2,2            | 3    | 125,3        |       |       | 109,1 | 104,2 | 98,7  | 92,7  | 86,0  | 78,6  | 70,4  | 61,3  | 51,3 |
| SVI 414S                              | 3              | 4    | 134,9        |       |       | 117,5 | 112,2 | 106,3 | 99,8  | 92,6  | 84,6  | 75,8  | 66,0  | 55,2 |
| SVI 416S                              | 3              | 4    | 154,2        |       |       | 134,3 | 128,2 | 121,5 | 114,1 | 105,8 | 96,7  | 86,6  | 75,4  | 63,1 |
| SVI 418S                              | 3              | 4    | 173,5        |       |       | 151,1 | 144,2 | 136,7 | 128,3 | 119,0 | 108,8 | 97,4  | 84,8  | 71,0 |
| SVI 420S                              | 4              | 5,5  | 192,7        |       |       | 167,9 | 160,2 | 151,8 | 142,6 | 132,3 | 120,9 | 108,2 | 94,3  | 78,9 |
| SVI 422S                              | 4              | 5,5  | 212,0        |       |       | 184,6 | 176,3 | 167,0 | 156,8 | 145,5 | 133,0 | 119,1 | 103,7 | 86,7 |
| SVI 424S                              | 4              | 5,5  | 231,3        |       |       | 201,4 | 192,3 | 182,2 | 171,1 | 158,7 | 145,0 | 129,9 | 113,1 | 94,6 |

Performances in compliance with ISO 9906 - Annex A.

svi2-4-2p50-en\_a\_th

## SVI 8, 16 SERIES

### TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

| PUMP<br>TYPE | RATED<br>POWER |     | Q = DELIVERY                          |       |       |       |       |       |       |       |       |       |       |       |
|--------------|----------------|-----|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|              | kW             | HP  | l/min 0                               | 100   | 125   | 150   | 175   | 200   | 233   | 250   | 275   | 300   | 350   | 400   |
|              |                |     | m³/h 0                                | 6     | 7,5   | 9     | 10,5  | 12    | 14    | 15    | 16,5  | 18    | 21    | 24    |
|              |                |     | H = TOTAL HEAD METRES COLUMN OF WATER |       |       |       |       |       |       |       |       |       |       |       |
| SVI 801S     | 0,75           | 1   | 14,0                                  | 12,5  | 11,8  | 11,0  | 10,0  | 8,7   | 6,5   |       |       |       |       |       |
| SVI 802S     | 1,1            | 1,5 | 28,0                                  | 25,0  | 23,7  | 22,1  | 20,0  | 17,4  | 13,0  |       |       |       |       |       |
| SVI 803S     | 1,5            | 2   | 42,0                                  | 37,5  | 35,5  | 33,1  | 29,9  | 26,0  | 19,4  |       |       |       |       |       |
| SVI 804S     | 2,2            | 3   | 56,0                                  | 50,0  | 47,4  | 44,1  | 39,9  | 34,7  | 25,9  |       |       |       |       |       |
| SVI 805S     | 2,2            | 3   | 70,0                                  | 62,4  | 59,2  | 55,1  | 49,9  | 43,4  | 32,4  |       |       |       |       |       |
| SVI 806S     | 3              | 4   | 84,0                                  | 74,9  | 71,1  | 66,2  | 59,9  | 52,1  | 38,9  |       |       |       |       |       |
| SVI 808S     | 4              | 5,5 | 112,0                                 | 99,9  | 94,8  | 88,2  | 79,9  | 69,5  | 51,8  |       |       |       |       |       |
| SVI 809S     | 4              | 5,5 | 126,0                                 | 112,4 | 106,6 | 99,2  | 89,8  | 78,1  | 58,3  |       |       |       |       |       |
| SVI 811S     | 5,5            | 7,5 | 154,0                                 | 137,4 | 130,3 | 121,3 | 109,8 | 95,5  | 71,3  |       |       |       |       |       |
| SVI 812S     | 5,5            | 7,5 | 168,0                                 | 149,9 | 142,2 | 132,3 | 119,8 | 104,2 | 77,8  |       |       |       |       |       |
| SVI 814S     | 7,5            | 10  | 196,0                                 | 174,9 | 165,9 | 154,4 | 139,8 | 121,5 | 90,7  |       |       |       |       |       |
| SVI 816S     | 7,5            | 10  | 224,0                                 | 199,8 | 189,6 | 176,4 | 159,7 | 138,9 | 103,7 |       |       |       |       |       |
| SVI 1601S    | 1,1            | 1,5 | 16,9                                  |       |       | 16,0  | 15,6  | 15,1  | 14,3  | 13,8  | 13,0  | 12,1  | 9,8   | 6,9   |
| SVI 1602S    | 2,2            | 3   | 33,7                                  |       |       | 32,0  | 31,2  | 30,2  | 28,6  | 27,6  | 26,0  | 24,1  | 19,6  | 13,9  |
| SVI 1603S    | 3              | 4   | 50,6                                  |       |       | 48,0  | 46,8  | 45,3  | 42,9  | 41,5  | 39,0  | 36,2  | 29,4  | 20,8  |
| SVI 1604S    | 4              | 5,5 | 67,5                                  |       |       | 64,0  | 62,4  | 60,4  | 57,2  | 55,3  | 52,0  | 48,3  | 39,1  | 27,7  |
| SVI 1605S    | 5,5            | 7,5 | 84,3                                  |       |       | 80,0  | 78,0  | 75,6  | 71,5  | 69,1  | 65,0  | 60,3  | 48,9  | 34,6  |
| SVI 1606S    | 5,5            | 7,5 | 101,2                                 |       |       | 96,0  | 93,6  | 90,7  | 85,8  | 82,9  | 78,0  | 72,4  | 58,7  | 41,6  |
| SVI 1607S    | 7,5            | 10  | 118,1                                 |       |       | 112,0 | 109,2 | 105,8 | 100,1 | 96,7  | 91,0  | 84,5  | 68,5  | 48,5  |
| SVI 1608S    | 7,5            | 10  | 134,9                                 |       |       | 128,0 | 124,8 | 120,9 | 114,4 | 110,6 | 104,0 | 96,5  | 78,3  | 55,4  |
| SVI 1610S    | 11             | 15  | 168,7                                 |       |       | 160,0 | 156,0 | 151,1 | 143,0 | 138,2 | 130,0 | 120,7 | 97,9  | 69,3  |
| SVI 1612S    | 11             | 15  | 202,4                                 |       |       | 192,0 | 187,2 | 181,3 | 171,6 | 165,8 | 156,1 | 144,8 | 117,4 | 83,1  |
| SVI 1614S    | 15             | 20  | 236,1                                 |       |       | 224,0 | 218,4 | 211,6 | 200,2 | 193,5 | 182,1 | 168,9 | 137,0 | 97,0  |
| SVI 1615S    | 15             | 20  | 253,0                                 |       |       | 240,0 | 234,1 | 226,7 | 214,5 | 207,3 | 195,1 | 181,0 | 146,8 | 103,9 |

Performances in compliance with ISO 9906 - Annex A.

svi8-16-2p50-en\_a\_th

## SVI 33, 46 SERIES

### TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

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

Performances in compliance with ISO 9906 - Annex A.

svi33-46-2p50-en\_a\_th

## SVI 66, 92 SERIES

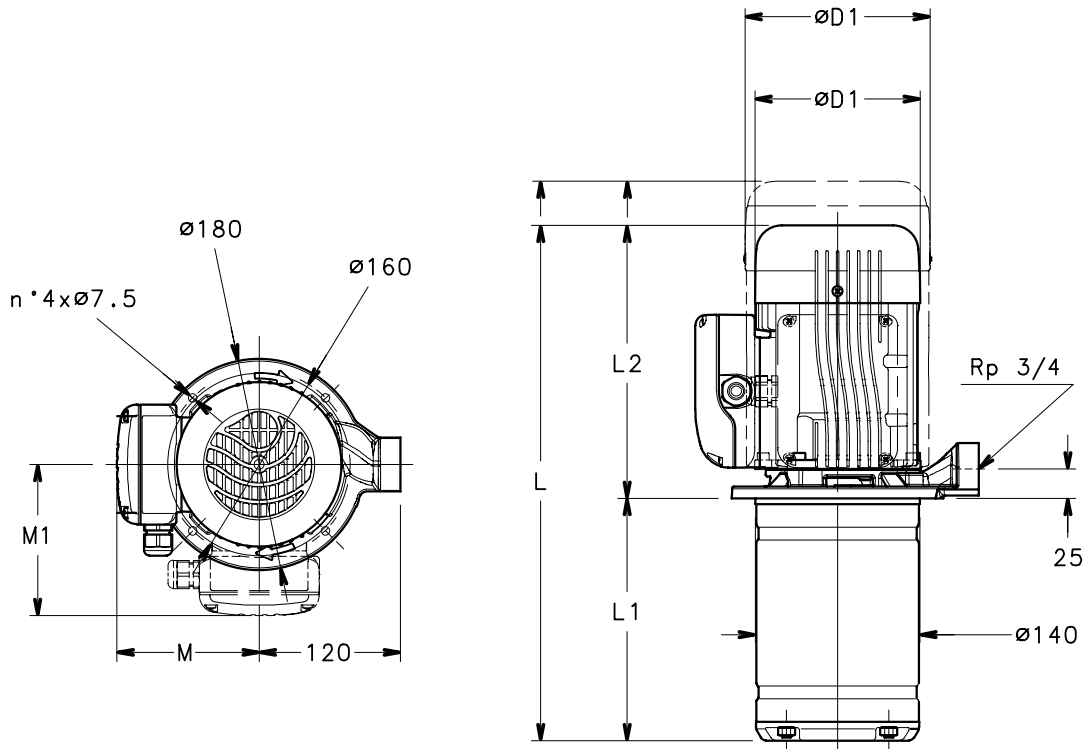
### TABLE OF HYDRAULIC PERFORMANCES AT 50 Hz, 2 POLES

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

Performances in compliance with ISO 9906 - Annex A.

svi66-92-2p50-en\_a\_th

## SVI 2 (E, EN) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



05000B\_A\_DD

| PUMP TYPE       | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     | ELECTRIC PUMP WEIGHT<br>kg |
|-----------------|-------|------|-----------------|-----|-----|-----|-----|-----|----------------------------|
|                 | kW    | SIZE | L               | L1  | L2  | M   | M1  | D1  |                            |
| SVI201/03E03T/A | 0,37  | 63   | 324             | 106 | 218 | 111 | -   | 120 | 8,8                        |
| SVI202/03E03T/A | 0,37  | 63   | 324             | 106 | 218 | 111 | -   | 120 | 8,9                        |
| SVI203/03E04T/A | 0,45  | 63   | 324             | 106 | 218 | 111 | -   | 120 | 9,8                        |
| SVI204/04E05T/A | 0,55  | 63   | 349             | 131 | 218 | 111 | -   | 120 | 10,6                       |
| SVI205/05E07T/D | 0,75  | 80   | 433             | 156 | 276 | -   | 129 | 155 | 15,4                       |
| SVI206/06E07T/D | 0,75  | 80   | 458             | 181 | 276 | -   | 129 | 155 | 15,8                       |
| SVI207/07E09T/D | 0,9   | 80   | 483             | 206 | 276 | -   | 129 | 155 | 16,9                       |

svi2e-2p50-en\_d\_td

|                 | PUMP<br>TYPE | MOTOR |      | DIMENS. L2<br>mm | NUMBER OF STAGES                                     |     |     |     |     |     |     |     |
|-----------------|--------------|-------|------|------------------|------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|                 |              | kW    | SIZE |                  | 3                                                    | 4   | 5   | 6   | 7   | 8   | 10  | 13  |
|                 |              |       |      |                  | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |
| N. OF IMPELLERS | SVI201/..    | 0,37  | 63   | 218              | 106                                                  | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI202/..    | 0,37  | 63   | 218              | 106                                                  | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI203/..    | 0,45  | 63   | 218              | 106                                                  | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI204/..    | 0,55  | 63   | 218              |                                                      | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI205/..    | 0,75  | 80   | 276              | L1 Standard                                          |     | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI206/..    | 0,75  | 80   | 276              |                                                      |     |     | 181 | 206 | 231 | 281 | 356 |
|                 | SVI207/..    | 0,9   | 80   | 276              |                                                      |     |     |     | 206 | 231 | 281 | 356 |

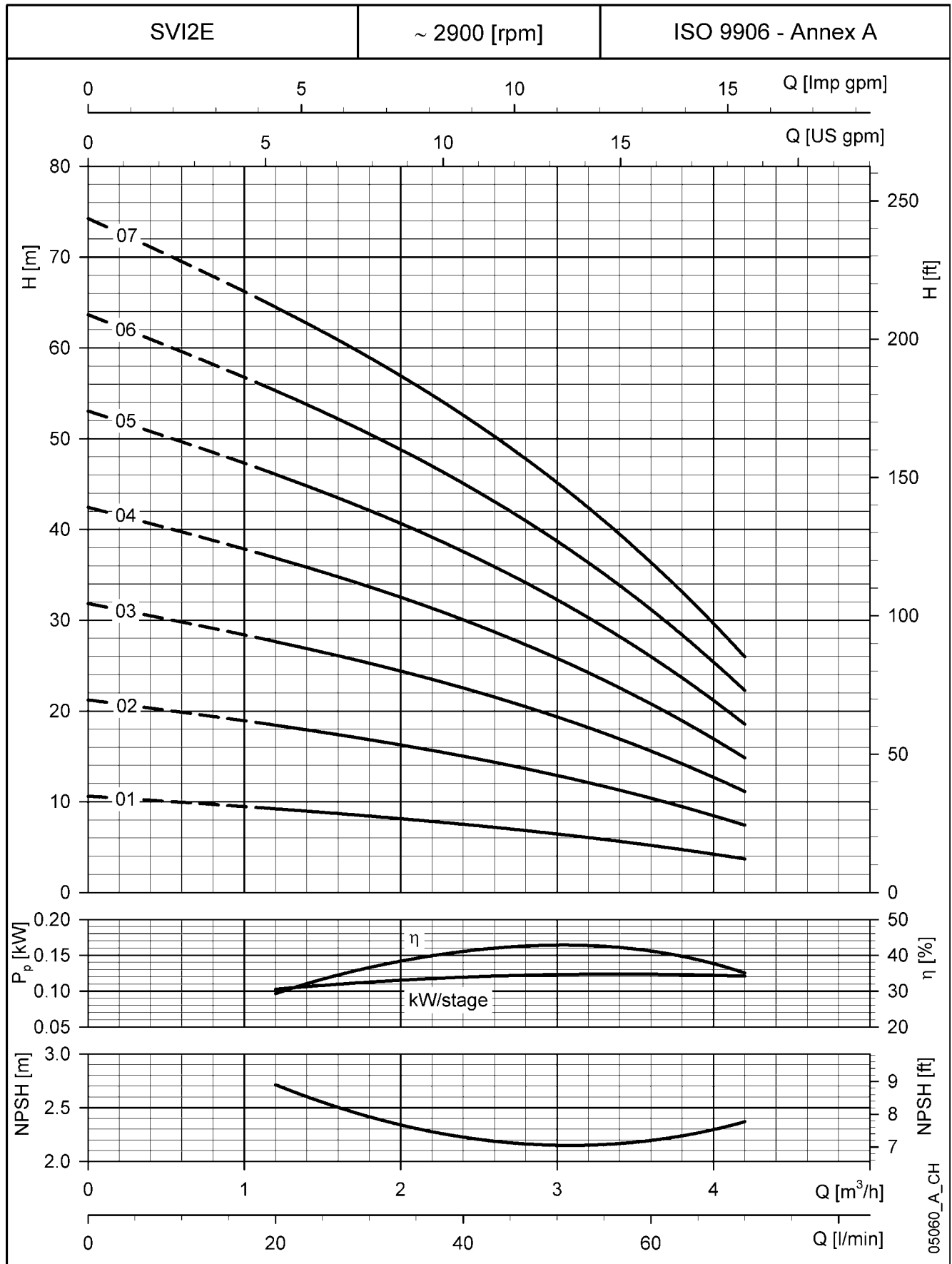
\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

svi2e-en\_c\_tcm



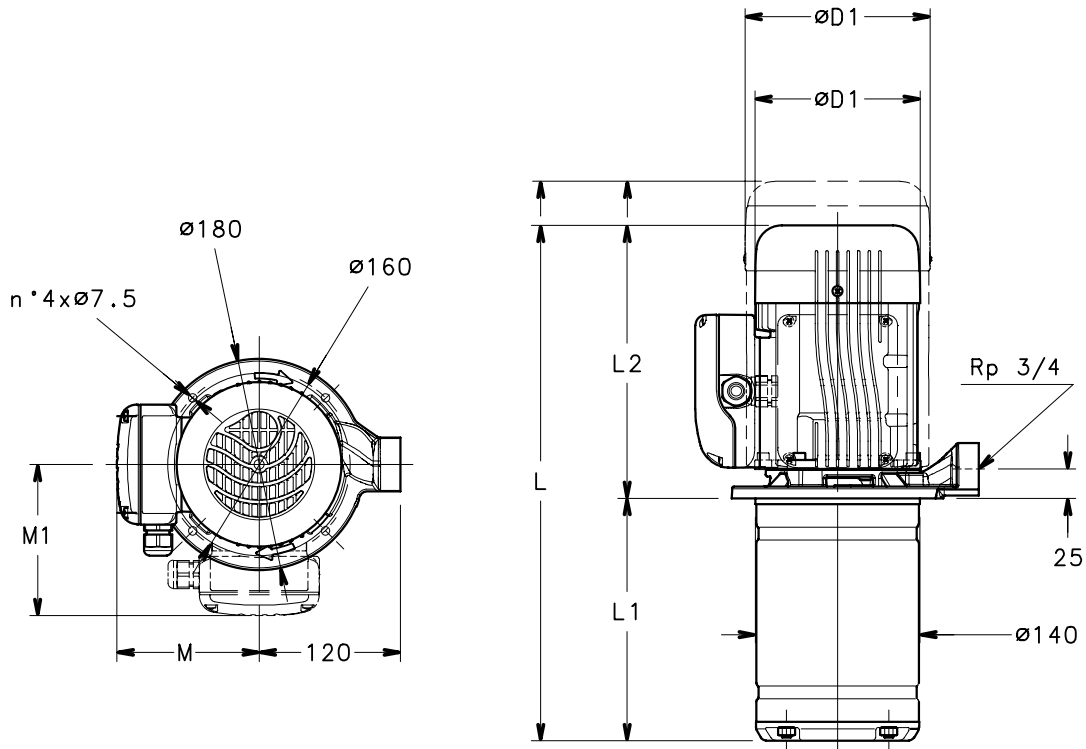
**SVI 2 (E, EN) SERIES**

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



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

## SVI 4 (E, EN) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



05000B\_A\_DD

| PUMP TYPE       | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     | ELECTRIC PUMP WEIGHT |
|-----------------|-------|------|-----------------|-----|-----|-----|-----|-----|----------------------|
|                 | kW    | SIZE | L               | L1  | L2  | M   | M1  | D1  | kg                   |
| SVI401/03E03T/A | 0,37  | 63   | 324             | 106 | 218 | 111 | -   | 120 | 8,8                  |
| SVI402/03E03T/A | 0,37  | 63   | 324             | 106 | 218 | 111 | -   | 120 | 8,9                  |
| SVI403/03E04T/A | 0,45  | 63   | 324             | 106 | 218 | 111 | -   | 120 | 9,8                  |
| SVI404/04E05T/A | 0,55  | 63   | 349             | 131 | 218 | 111 | -   | 120 | 10,6                 |
| SVI405/05E07T/D | 0,75  | 80   | 433             | 156 | 276 | -   | 129 | 155 | 15,4                 |
| SVI406/06E09T/D | 0,9   | 80   | 458             | 181 | 276 | -   | 129 | 155 | 16,5                 |

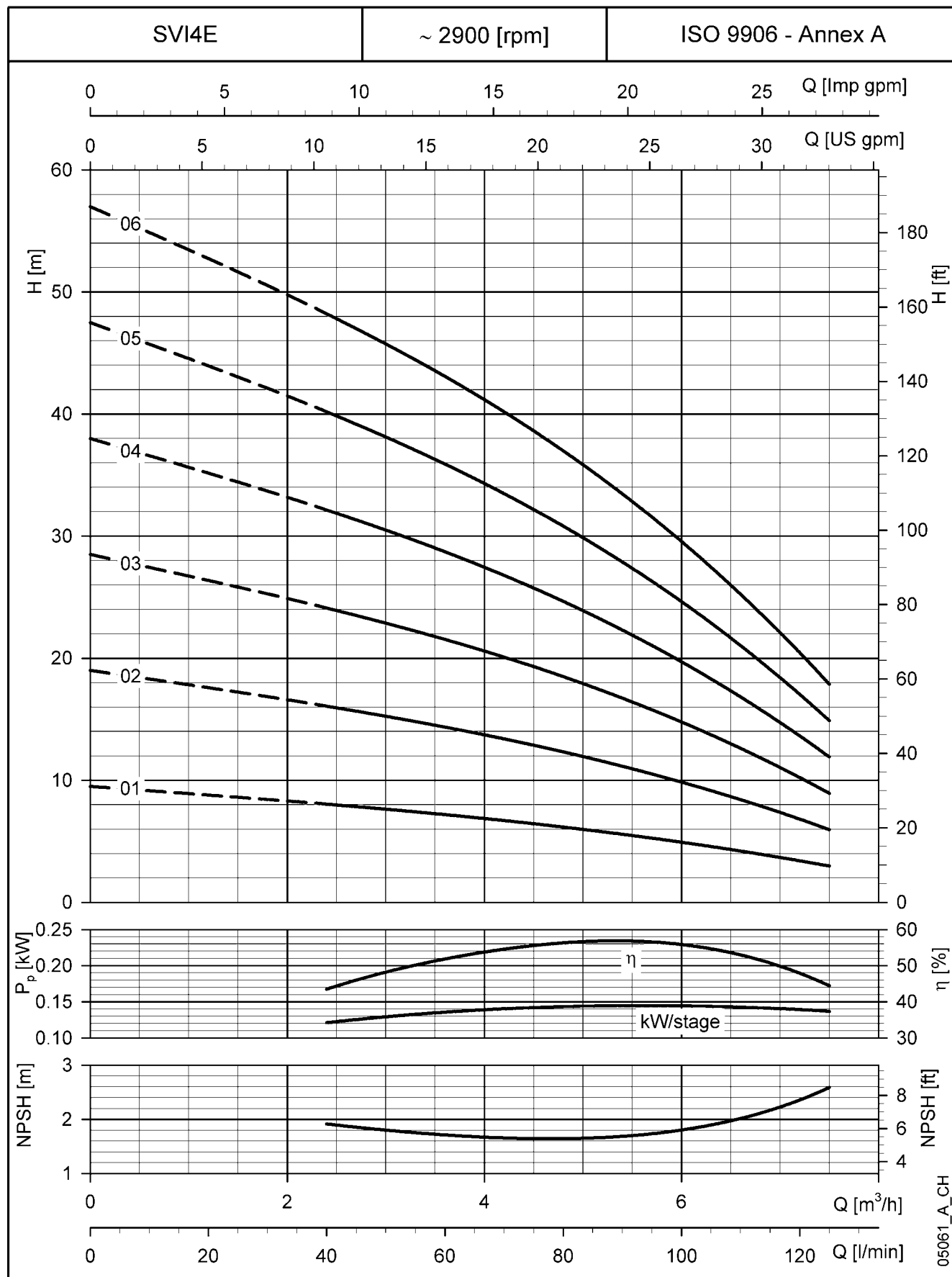
svi4e-2p50-en\_d\_td

|                 | PUMP<br>TYPE | MOTOR |      | DIMENS. L2<br>mm | NUMBER OF STAGES                                     |     |     |     |     |     |     |     |
|-----------------|--------------|-------|------|------------------|------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|                 |              | kW    | SIZE |                  | 3                                                    | 4   | 5   | 6   | 7   | 8   | 10  | 13  |
|                 |              |       |      |                  | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |
| N. OF IMPELLERS | SVI401/..    | 0,37  | 63   | 218              | 106                                                  | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI402/..    | 0,37  | 63   | 218              | 106                                                  | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI403/..    | 0,45  | 63   | 218              | 106                                                  | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI404/..    | 0,55  | 63   | 218              |                                                      | 131 | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI405/..    | 0,75  | 80   | 276              | L1 Standard                                          |     | 156 | 181 | 206 | 231 | 281 | 356 |
|                 | SVI406/..    | 0,99  | 80   | 276              |                                                      |     |     | 181 | 206 | 231 | 281 | 356 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

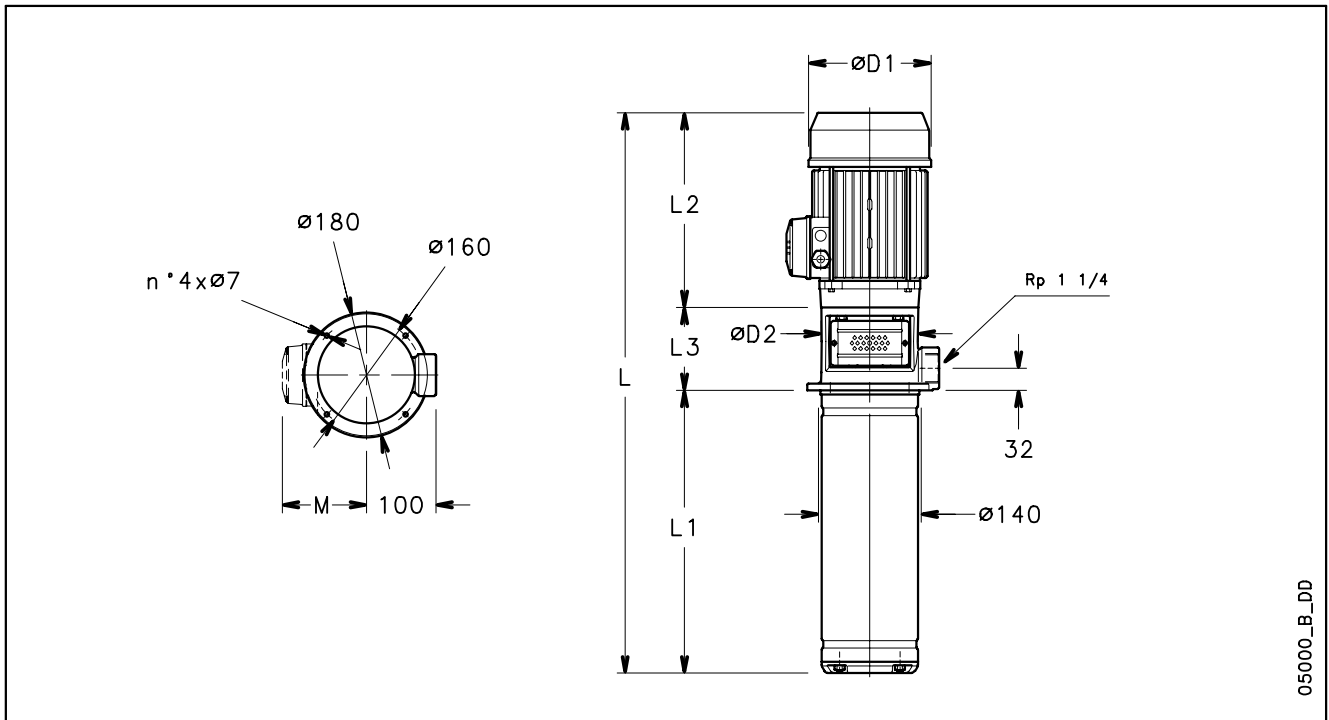
svi4e-en\_c\_tcm

**SVI 4 (E, EN) 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  $\nu = 1 \text{ mm}^2/\text{sec}$ .

## SVI 2 (S, N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



05000\_B\_DD

| PUMP<br>TYPE    | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     |    | ELECTRIC PUMP<br>WEIGHT |
|-----------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----|-------------------------|
|                 | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  | kg |                         |
| SVI202/02S03T/A | 0,37  | 71   | 416             | 107 | 209 | 100 | 111 | 120 | 105 | 14 |                         |
| SVI203/03S03T/A | 0,37  | 71   | 441             | 132 | 209 | 100 | 111 | 120 | 105 | 14 |                         |
| SVI204/04S05T/A | 0,55  | 71   | 488             | 157 | 231 | 100 | 121 | 140 | 105 | 15 |                         |
| SVI205/05S07T/D | 0,75  | 80   | 555             | 182 | 263 | 110 | 129 | 155 | 120 | 20 |                         |
| SVI206/06S07T/D | 0,75  | 80   | 580             | 207 | 263 | 110 | 129 | 155 | 120 | 20 |                         |
| SVI207/07S11T/D | 1,1   | 80   | 604             | 231 | 263 | 110 | 129 | 155 | 120 | 21 |                         |
| SVI208/08S11T/D | 1,1   | 80   | 629             | 256 | 263 | 110 | 129 | 155 | 120 | 21 |                         |
| SVI209/09S11T/D | 1,1   | 80   | 654             | 281 | 263 | 110 | 129 | 155 | 120 | 22 |                         |
| SVI211/11S15T/D | 1,5   | 90   | 714             | 331 | 263 | 120 | 129 | 155 | 140 | 26 |                         |
| SVI212/12S15T/D | 1,5   | 90   | 739             | 356 | 263 | 120 | 129 | 155 | 140 | 26 |                         |
| SVI214/14S22T/C | 2,2   | 90   | 824             | 406 | 298 | 120 | 134 | 174 | 140 | 32 |                         |
| SVI216/16S22T/C | 2,2   | 90   | 874             | 456 | 298 | 120 | 134 | 174 | 140 | 33 |                         |
| SVI218/18S22T/C | 2,2   | 90   | 924             | 506 | 298 | 120 | 134 | 174 | 140 | 34 |                         |
| SVI220/20S30T/P | 3     | 100  | 984             | 556 | 298 | 130 | 134 | 174 | 160 | 35 |                         |
| SVI222/22S30T/P | 3     | 100  | 1034            | 606 | 298 | 130 | 134 | 174 | 160 | 35 |                         |
| SVI224/24S30T/P | 3     | 100  | 1084            | 656 | 298 | 130 | 134 | 174 | 160 | 36 |                         |

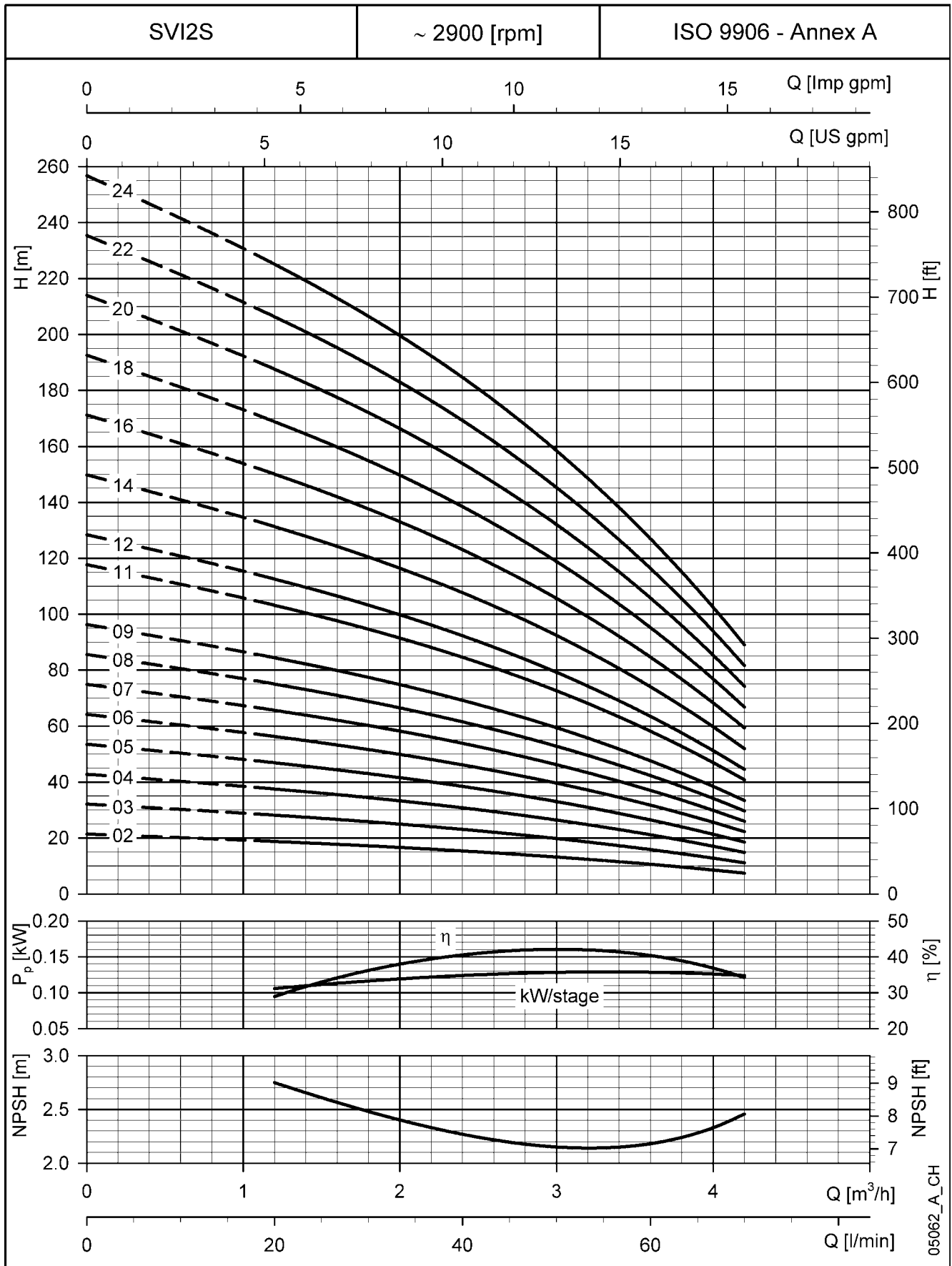
svi2s-2p50-en\_d\_td

|                     | PUMP<br>TYPE | MOTOR |      | DIMENS.<br>L2+L3<br>mm | NUMBER OF STAGES                                     |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------|--------------|-------|------|------------------------|------------------------------------------------------|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                     |              | kW    | SIZE |                        | 2                                                    | 3   | 4   | 5           | 6   | 7   | 8   | 9   | 11  | 12  | 13  | 14  | 15  | 16  | 18  | 20  | 22  | 24  |
|                     |              |       |      |                        | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NUMBER OF IMPELLERS | SVI202/..    | 0,37  | 71   | 309                    | 107                                                  | 132 | 157 | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI203/..    | 0,37  | 71   | 309                    |                                                      | 132 | 157 | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI204/..    | 0,55  | 71   | 331                    |                                                      |     | 157 | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI205/..    | 0,75  | 80   | 373                    |                                                      |     |     | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI206/..    | 0,75  | 80   | 373                    |                                                      |     |     |             | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI207/..    | 1,1   | 80   | 373                    |                                                      |     |     |             |     | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI208/..    | 1,1   | 80   | 373                    |                                                      |     |     |             |     |     | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI209/..    | 1,1   | 80   | 373                    |                                                      |     |     |             |     |     |     | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI211/..    | 1,5   | 90   | 383                    |                                                      |     |     |             |     |     |     |     | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI212/..    | 1,5   | 90   | 383                    |                                                      |     |     |             |     |     |     |     |     | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI214/..    | 2,2   | 90   | 418                    |                                                      |     |     | L1 Standard |     |     |     |     |     |     |     | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI216/..    | 2,2   | 90   | 418                    |                                                      |     |     |             |     |     |     |     |     |     |     |     |     | 456 | 506 | 556 | 606 | 656 |
|                     | SVI218/..    | 2,2   | 90   | 418                    |                                                      |     |     |             |     |     |     |     |     |     |     |     |     |     | 506 | 556 | 606 | 656 |
|                     | SVI220/..    | 3     | 100  | 428                    |                                                      |     |     |             |     |     |     |     |     |     |     |     |     |     |     | 556 | 606 | 656 |
|                     | SVI222/..    | 3     | 100  | 428                    |                                                      |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     | 606 | 656 |
|                     | SV224/..     | 3     | 100  | 428                    |                                                      |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

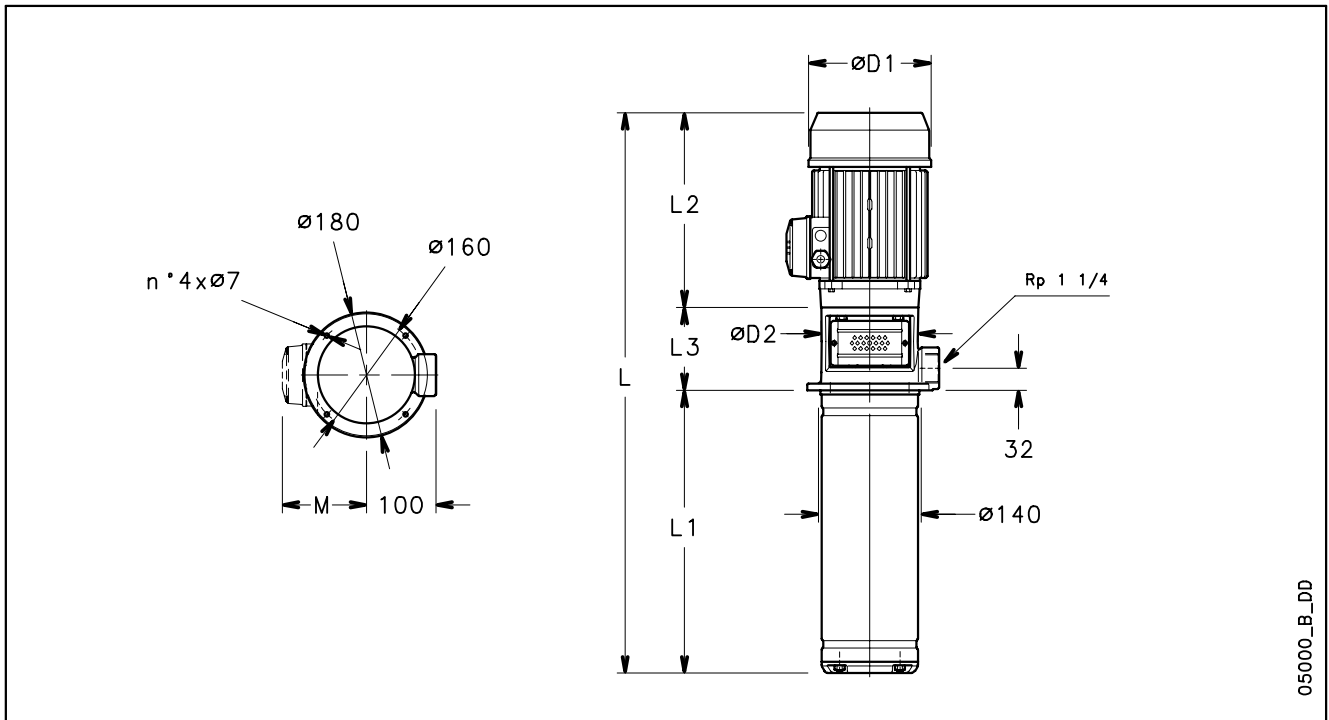
svi2s-en\_d\_tcm

**SVI 2 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 4 (S, N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



| PUMP<br>TYPE    | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     |    | ELECTRIC PUMP<br>WEIGHT |
|-----------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----|-------------------------|
|                 | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  | kg |                         |
| SVI402/02S03T/A | 0,37  | 71   | 416             | 107 | 209 | 100 | 111 | 120 | 105 | 14 |                         |
| SVI403/03S05T/A | 0,55  | 71   | 463             | 132 | 231 | 100 | 111 | 140 | 105 | 14 |                         |
| SVI404/04S07T/D | 0,75  | 80   | 530             | 157 | 263 | 110 | 129 | 155 | 120 | 19 |                         |
| SVI405/05S11T/D | 1,1   | 80   | 555             | 182 | 263 | 110 | 129 | 155 | 120 | 20 |                         |
| SVI406/06S11T/D | 1,1   | 80   | 580             | 207 | 263 | 110 | 129 | 155 | 120 | 20 |                         |
| SVI407/07S11T/D | 1,1   | 80   | 604             | 231 | 263 | 110 | 129 | 155 | 120 | 21 |                         |
| SVI408/08S15T/D | 1,5   | 90   | 639             | 256 | 263 | 120 | 129 | 155 | 140 | 25 |                         |
| SVI409/09S15T/D | 1,5   | 90   | 664             | 281 | 263 | 120 | 129 | 155 | 140 | 25 |                         |
| SVI411/11S22T/C | 2,2   | 90   | 749             | 331 | 298 | 120 | 134 | 174 | 140 | 31 |                         |
| SVI413/13S22T/C | 2,2   | 90   | 799             | 381 | 298 | 120 | 134 | 174 | 140 | 32 |                         |
| SVI414/14S30T/P | 3     | 100  | 834             | 406 | 298 | 130 | 134 | 174 | 160 | 35 |                         |
| SVI416/16S30T/P | 3     | 100  | 884             | 456 | 298 | 130 | 134 | 174 | 160 | 35 |                         |
| SVI418/18S30T/P | 3     | 100  | 934             | 506 | 298 | 130 | 134 | 174 | 160 | 35 |                         |
| SVI420/20S40T/P | 4     | 112  | 1005            | 556 | 319 | 130 | 154 | 197 | 160 | 51 |                         |
| SVI422/22S40T/P | 4     | 112  | 1055            | 606 | 319 | 130 | 154 | 197 | 160 | 51 |                         |
| SVI424/24S40T/P | 4     | 112  | 1105            | 656 | 319 | 130 | 154 | 197 | 160 | 52 |                         |

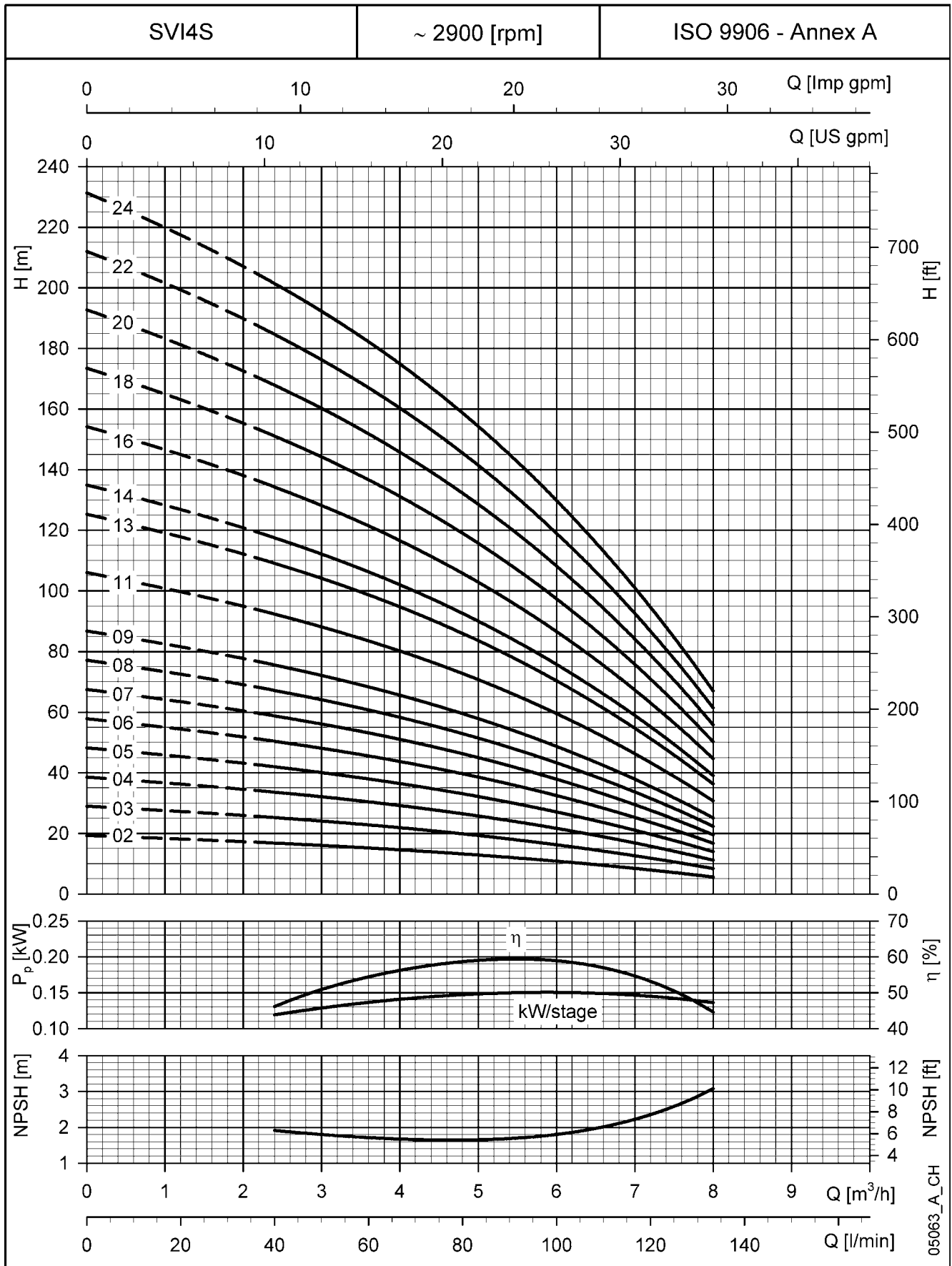
svi4s-2p50-en\_d\_td

|                     | PUMP<br>TYPE | MOTOR |      | DIMENS.<br>L2+L3<br>mm | NUMBER OF STAGES                                    |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------|--------------|-------|------|------------------------|-----------------------------------------------------|-----|-----|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                     |              | kW    | SIZE |                        | 2                                                   | 3   | 4   | 5           | 6   | 7   | 8   | 9   | 11  | 12  | 13  | 14  | 15  | 16  | 18  | 20  | 22  | 24  |
|                     |              |       |      |                        | L1 Shank increased lengths (AVAILABLE ON REQUEST *) |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NUMBER OF IMPELLERS | SVI402/..    | 0,37  | 71   | 309                    | 107                                                 | 132 | 157 | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI403/..    | 0,55  | 71   | 331                    |                                                     | 132 | 157 | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI404/..    | 0,75  | 80   | 373                    |                                                     |     | 157 | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI405/..    | 1,1   | 80   | 373                    |                                                     |     |     | 182         | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI406/..    | 1,1   | 80   | 373                    |                                                     |     |     |             | 207 | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI407/..    | 1,1   | 80   | 373                    |                                                     |     |     |             |     | 231 | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI408/..    | 1,5   | 90   | 383                    |                                                     |     |     |             |     |     | 256 | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI409/..    | 1,5   | 90   | 383                    |                                                     |     |     |             |     |     |     | 281 | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI411/..    | 2,2   | 90   | 418                    |                                                     |     |     |             |     |     |     |     | 331 | 356 | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI413/..    | 2,2   | 90   | 418                    |                                                     |     |     |             |     |     |     |     |     | 381 | 406 | 431 | 456 | 506 | 556 | 606 | 656 | 656 |
|                     | SVI414/..    | 3     | 100  | 428                    |                                                     |     |     | L1 Standard |     |     |     |     |     |     |     | 406 | 431 | 456 | 506 | 556 | 606 | 656 |
|                     | SVI416/..    | 3     | 100  | 428                    |                                                     |     |     |             |     |     |     |     |     |     |     |     |     | 456 | 506 | 556 | 606 | 656 |
|                     | SVI418/..    | 3     | 100  | 428                    |                                                     |     |     |             |     |     |     |     |     |     |     |     |     |     | 506 | 556 | 606 | 656 |
|                     | SVI420/..    | 4     | 112  | 449                    |                                                     |     |     |             |     |     |     |     |     |     |     |     |     |     |     | 556 | 606 | 656 |
|                     | SVI422/..    | 4     | 112  | 449                    |                                                     |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     | 606 | 656 |
| SVI424/..           | 4            | 112   | 449  |                        |                                                     |     |     |             |     |     |     |     |     |     |     |     |     |     |     |     |     | 656 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

svi4s-en\_d\_tcm

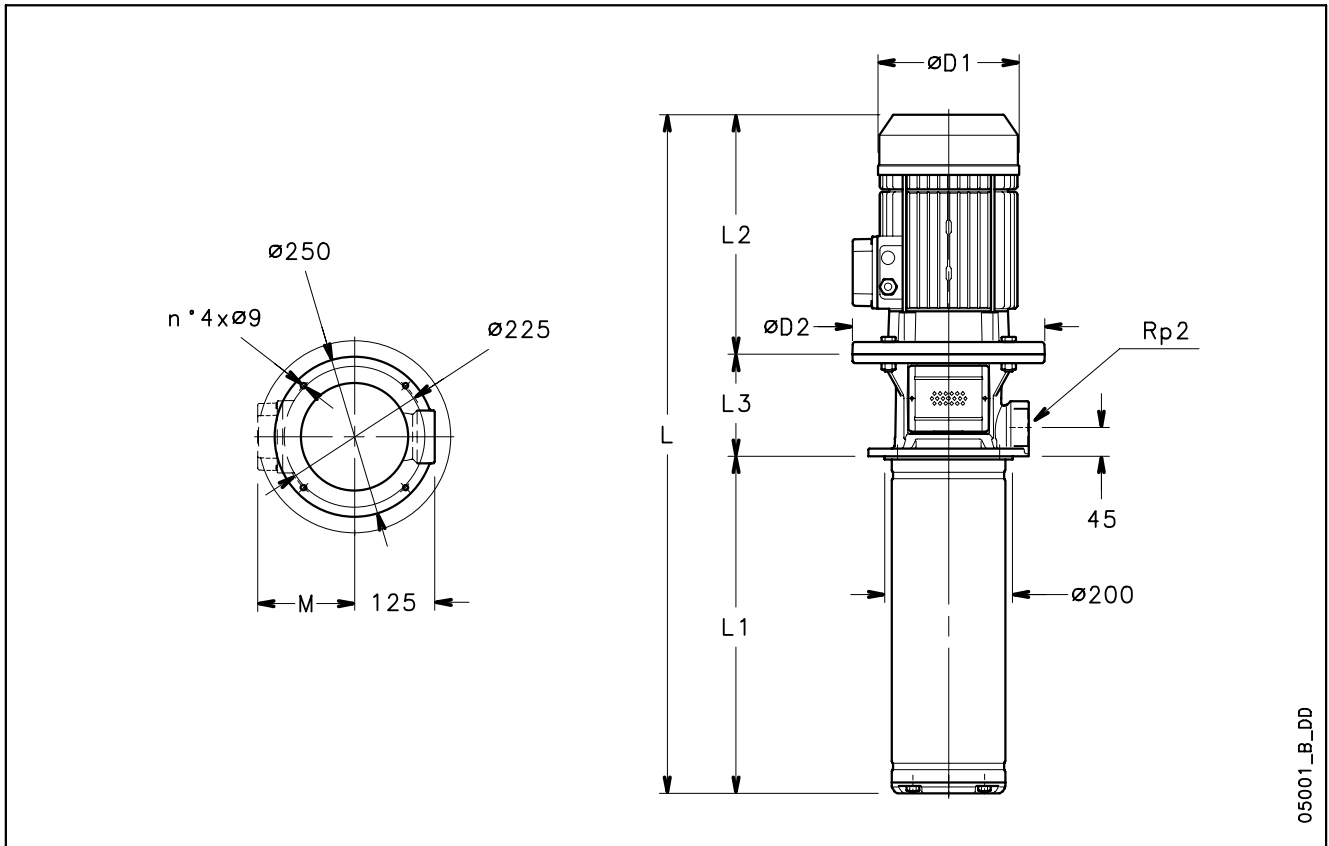
**SVI 4 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 8 (S, N) SERIES

### DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



05001\_B\_DD

| PUMP TYPE       | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     | ELECTRIC PUMP WEIGHT |
|-----------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----------------------|
|                 | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  | kg                   |
| SVI801/02S07T/D | 0,75  | 80   | 528             | 146 | 263 | 119 | 129 | 155 | 120 | 24                   |
| SVI802/02S11T/D | 1,1   | 80   | 528             | 146 | 263 | 119 | 129 | 155 | 120 | 25                   |
| SVI803/03S15T/D | 1,5   | 90   | 576             | 184 | 263 | 129 | 129 | 155 | 140 | 29                   |
| SVI804/04S22T/C | 2,2   | 90   | 649             | 222 | 298 | 129 | 134 | 174 | 140 | 35                   |
| SVI805/05S22T/C | 2,2   | 90   | 687             | 260 | 298 | 129 | 134 | 174 | 140 | 36                   |
| SVI806/06S30T/P | 3     | 100  | 735             | 298 | 298 | 139 | 134 | 174 | 160 | 40                   |
| SVI808/08S40T/P | 4     | 112  | 832             | 374 | 319 | 139 | 154 | 197 | 160 | 57                   |
| SVI809/09S40T/P | 4     | 112  | 870             | 412 | 319 | 139 | 154 | 197 | 160 | 58                   |
| SVI811/11S55T/P | 5,5   | 132  | 1022            | 488 | 375 | 159 | 168 | 214 | 300 | 69                   |
| SVI812/12S55T/P | 5,5   | 132  | 1060            | 526 | 375 | 159 | 168 | 214 | 300 | 70                   |
| SVI814/14S75T/P | 7,5   | 132  | 1128            | 602 | 367 | 159 | 191 | 256 | 300 | 88                   |
| SVI816/16S75T/P | 7,5   | 132  | 1204            | 678 | 367 | 159 | 191 | 256 | 300 | 89                   |

svi8s-2p50-en\_d\_tcm

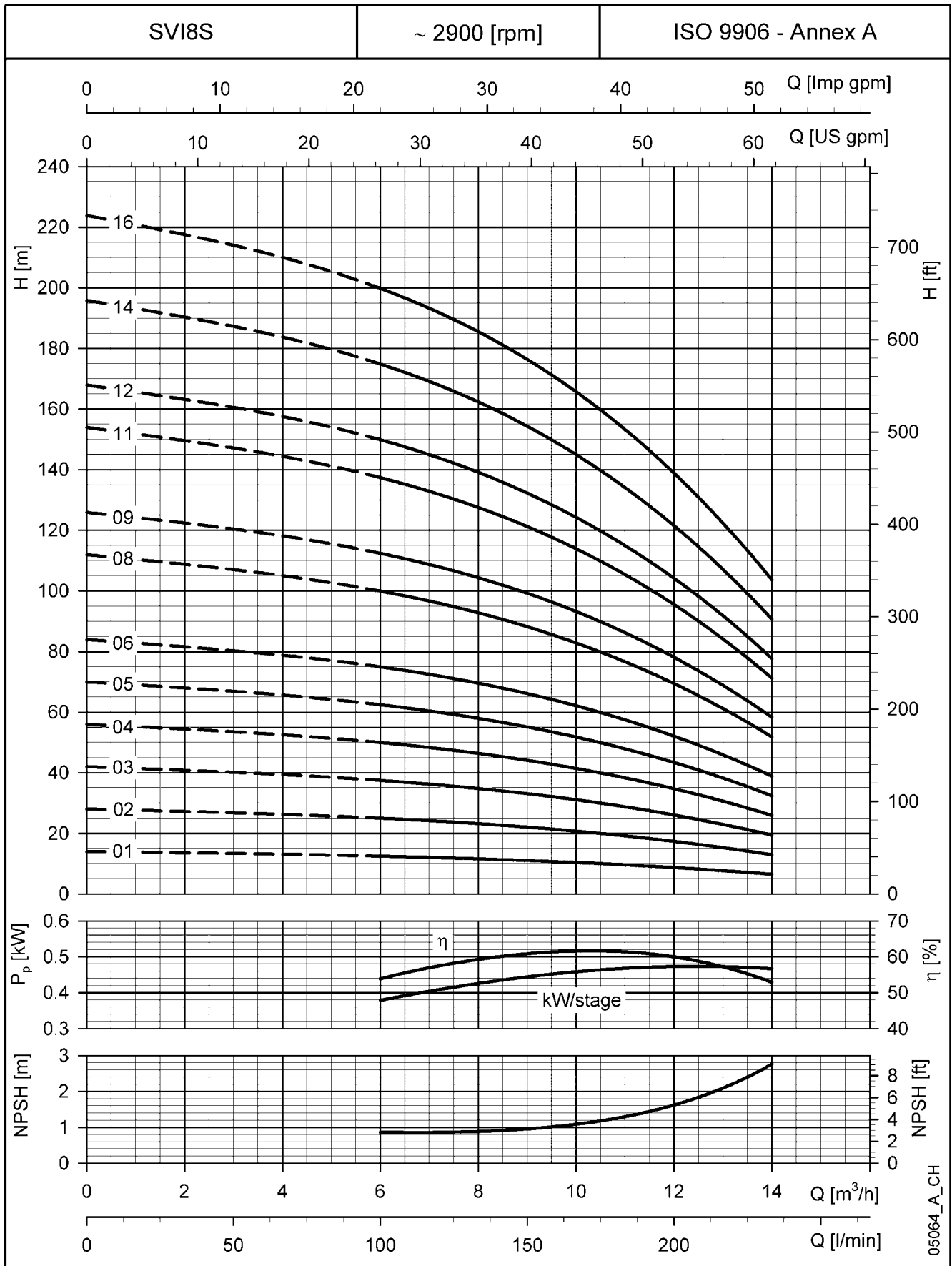
|                     | PUMP<br>TYPE | MOTOR |      | DIMENS.<br>L2+L3<br>mm | NUMBER OF STAGES                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------|--------------|-------|------|------------------------|------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                     |              | kW    | SIZE |                        | 2                                                    | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 14  | 15  | 16  |     |
|                     |              |       |      |                        | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NUMBER OF IMPELLERS | SVI801/..    | 0,75  | 80   | 382                    | 146                                                  | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI802/..    | 1,1   | 80   | 382                    | 146                                                  | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI803/..    | 1,5   | 90   | 392                    |                                                      | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI804/..    | 2,2   | 90   | 427                    |                                                      |     | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI805/..    | 2,2   | 90   | 427                    |                                                      |     |     | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI806/..    | 3     | 100  | 437                    |                                                      |     |     |     | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI808/..    | 4     | 112  | 458                    |                                                      |     |     |     |     |     | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI809/..    | 4     | 112  | 458                    |                                                      |     |     |     |     |     |     | 412 | 450 | 488 | 526 | 602 | 640 | 678 |     |
|                     | SVI811/..    | 5,5   | 132  | 534                    |                                                      |     |     |     |     |     |     |     | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI812/..    | 5,5   | 132  | 534                    |                                                      |     |     |     |     |     |     |     |     |     | 488 | 526 | 602 | 640 | 678 |
|                     | SVI814/..    | 7,5   | 132  | 526                    |                                                      |     |     |     |     |     |     |     |     |     |     | 526 | 602 | 640 | 678 |
|                     | SVI816/..    | 7,5   | 132  | 526                    |                                                      |     |     |     |     |     |     |     |     |     |     |     | 602 | 640 | 678 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

svi8s-en\_d\_tcm



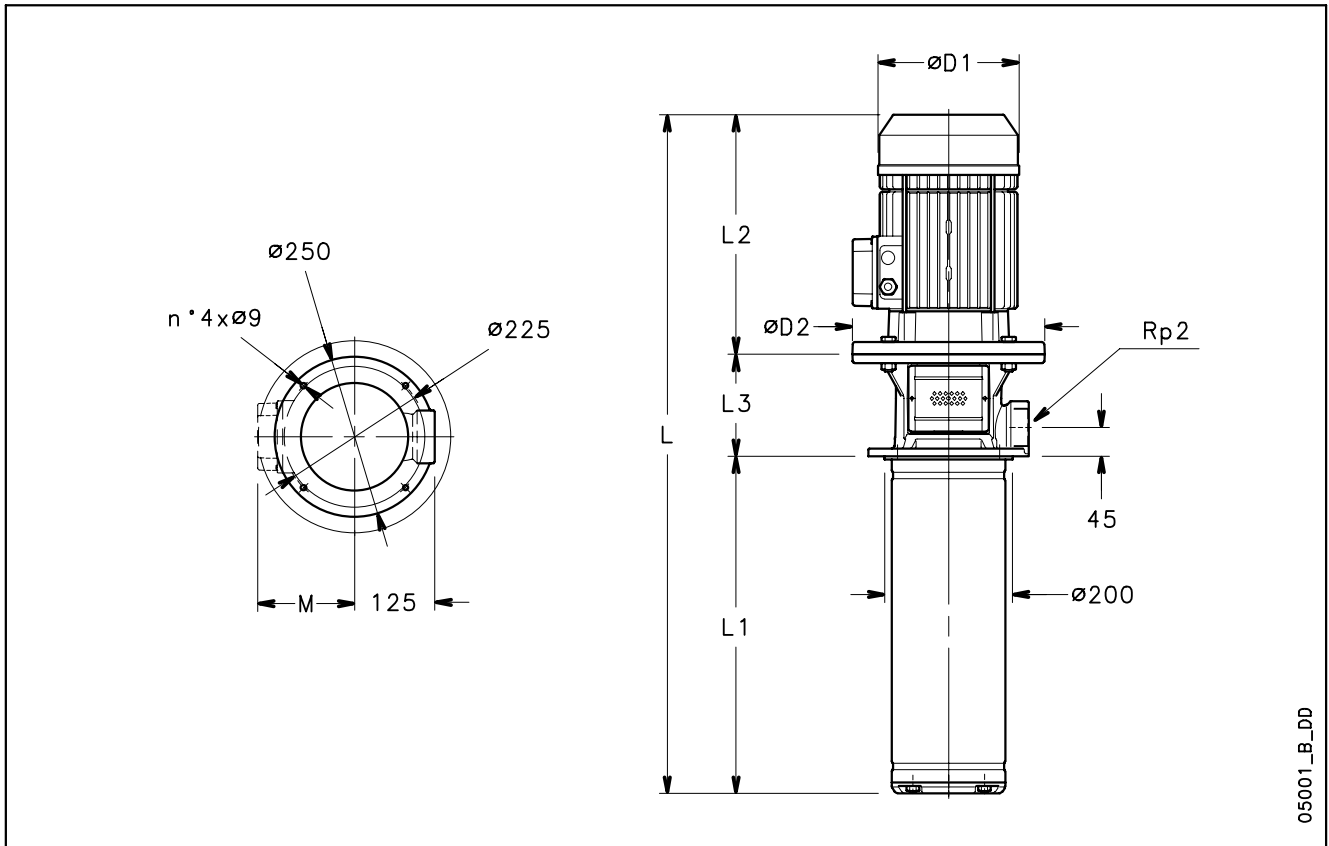
**SVI 8 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 16 (S, N) SERIES

### DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



05001\_B\_DD

| PUMP TYPE         | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     | ELECTRIC PUMP WEIGHT |
|-------------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----------------------|
|                   | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  | kg                   |
| SVI1601/02S11T/D  | 1,1   | 80   | 528             | 146 | 263 | 119 | 129 | 155 | 120 | 27                   |
| SVI1602/02S22T/C  | 2,2   | 90   | 573             | 146 | 298 | 129 | 134 | 174 | 140 | 35                   |
| SVI1603/03S30T/P  | 3     | 100  | 621             | 184 | 298 | 139 | 134 | 174 | 160 | 39                   |
| SVI1604/04S40T/P  | 4     | 112  | 680             | 222 | 319 | 139 | 154 | 197 | 160 | 57                   |
| SVI1605/05S55T/P  | 5,5   | 132  | 794             | 260 | 375 | 159 | 168 | 214 | 300 | 67                   |
| SVI1606/06S55T/P  | 5,5   | 132  | 832             | 298 | 375 | 159 | 168 | 214 | 300 | 68                   |
| SVI1607/07S75T/P  | 7,5   | 132  | 862             | 336 | 367 | 159 | 191 | 256 | 300 | 85                   |
| SVI1608/08S75T/P  | 7,5   | 132  | 900             | 374 | 367 | 159 | 191 | 256 | 300 | 86                   |
| SVI1610/10S110T/P | 11    | 160  | 1069            | 450 | 428 | 191 | 191 | 256 | 350 | 119                  |
| SVI1612/12S110T/P | 11    | 160  | 1145            | 526 | 428 | 191 | 191 | 256 | 350 | 121                  |
| SVI1614/14S150T/P | 15    | 160  | 1287            | 602 | 494 | 191 | 240 | 313 | 350 | 130                  |
| SVI1615/15S150T/P | 15    | 160  | 1325            | 640 | 494 | 191 | 240 | 313 | 350 | 131                  |

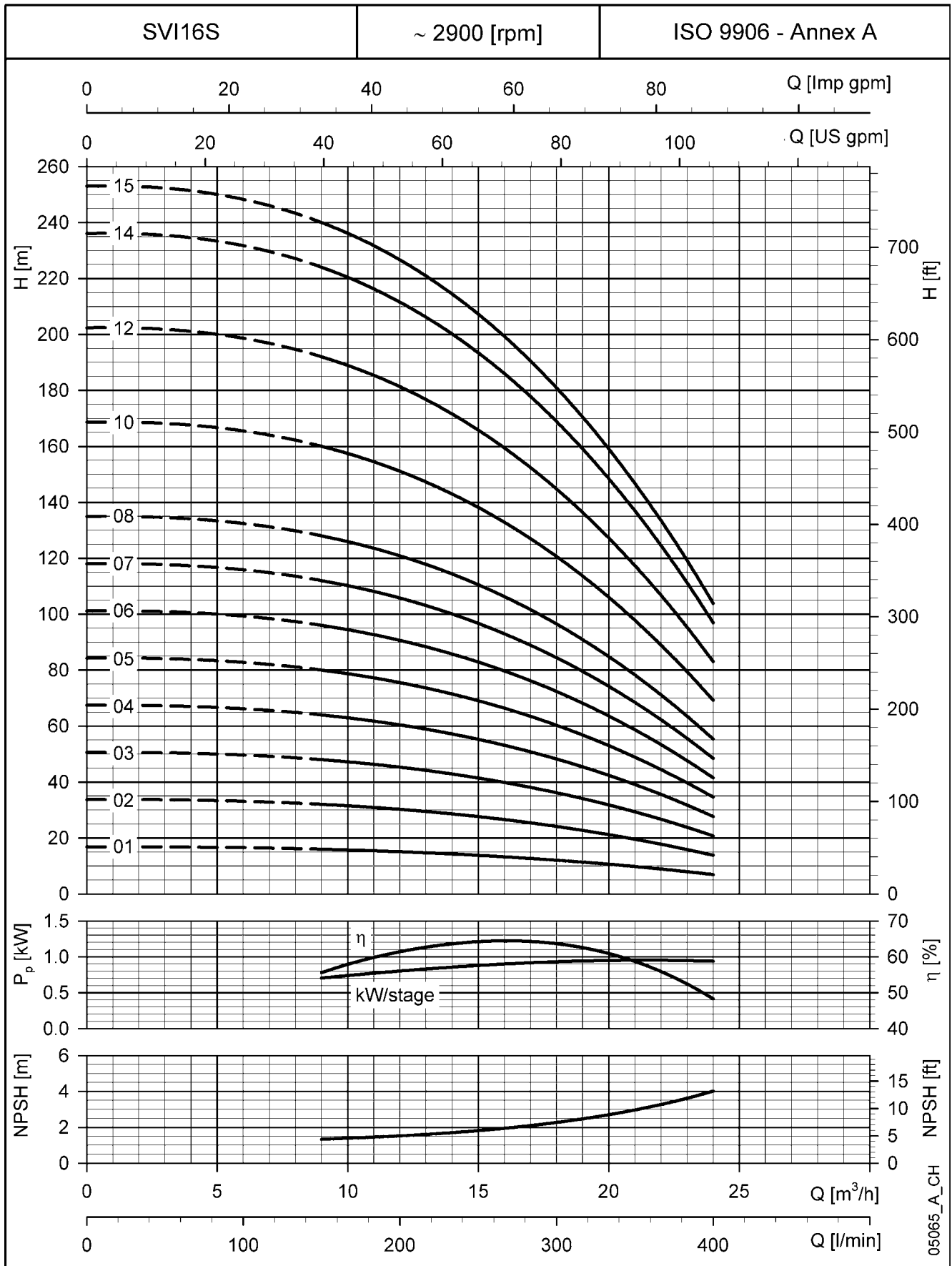
svi16s-2p50-en\_d\_tcm

|                     | PUMP TYPE  | MOTOR |     | DIMENS. L2+L3 mm | NUMBER OF STAGES                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------|------------|-------|-----|------------------|------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                     |            |       |     |                  | 2                                                    | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 14  | 15  | 16  |
|                     |            |       |     |                  | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NUMBER OF IMPELLERS | SVI1601/.. | 1,1   | 80  | 382              | 146                                                  | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1602/.. | 2,2   | 90  | 427              | 146                                                  | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1603/.. | 3     | 100 | 437              |                                                      | 184 | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1604/.. | 4     | 112 | 458              |                                                      |     | 222 | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1605/.. | 5,5   | 132 | 534              |                                                      |     |     | 260 | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1606/.. | 5,5   | 132 | 534              |                                                      |     |     |     | 298 | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1607/.. | 7,5   | 132 | 526              |                                                      |     |     |     |     | 336 | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1608/.. | 7,5   | 132 | 526              |                                                      |     |     |     |     |     | 374 | 412 | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1610/.. | 11    | 160 | 619              |                                                      |     |     |     |     |     |     |     | 450 | 488 | 526 | 602 | 640 | 678 |
|                     | SVI1612/.. | 11    | 160 | 619              |                                                      |     |     |     |     |     |     |     |     |     | 526 | 602 | 640 | 678 |
|                     | SVI1614/.. | 15    | 160 | 685              |                                                      |     |     |     |     |     |     |     |     |     |     | 602 | 640 | 678 |
|                     | SVI1615/.. | 15    | 160 | 685              |                                                      |     |     |     |     |     |     |     |     |     |     |     | 640 | 678 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

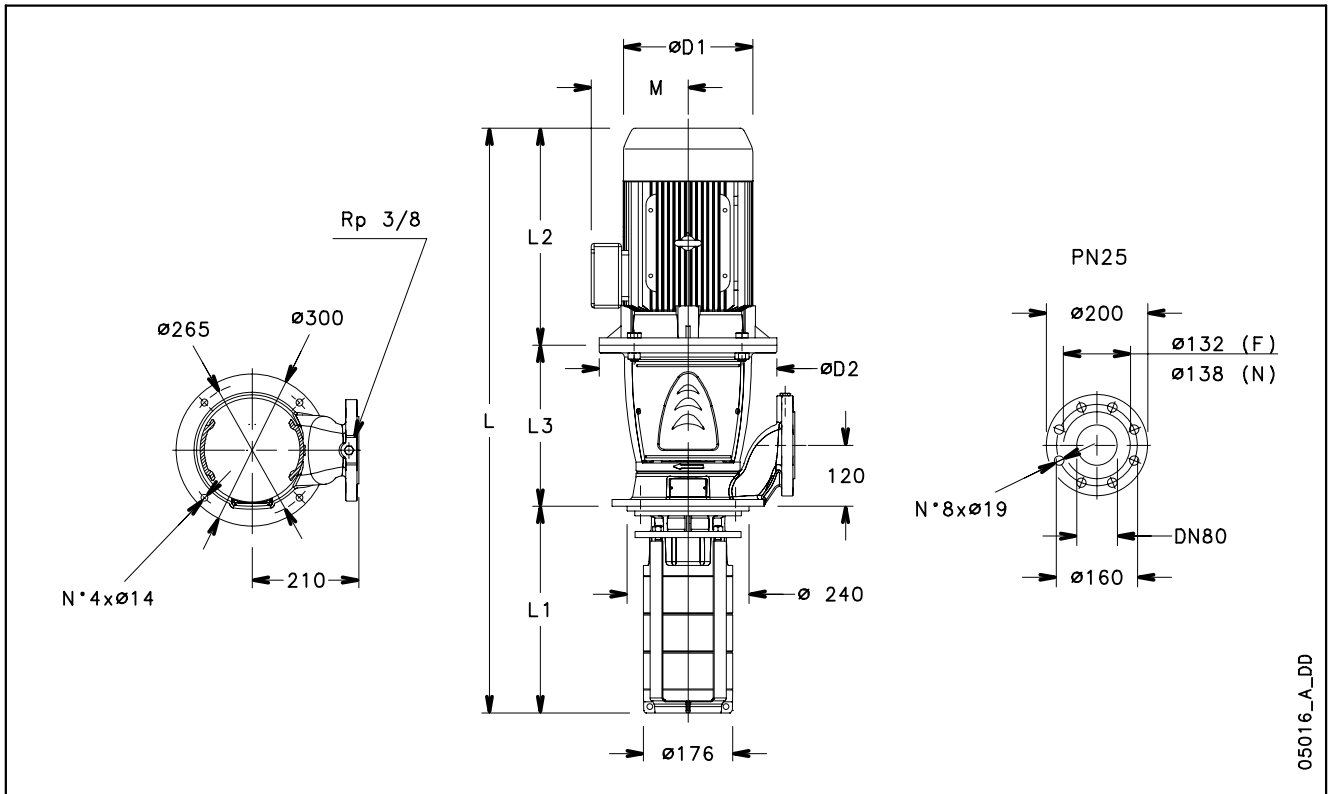
svi16s-en\_c\_tcm

**SVI 16 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 33 (S, N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



| PUMP TYPE           | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     | ELECTRIC PUMP WEIGHT<br>kg |
|---------------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----------------------------|
|                     | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  |                            |
| SVI3301/1-01S22T/C  | 2,2   | 90   | 817             | 257 | 298 | 262 | 134 | 174 | 140 | 56                         |
| SVI3301-01S30T/P    | 3     | 100  | 817             | 257 | 298 | 262 | 134 | 174 | 160 | 64                         |
| SVI3302/2-02S40T/P  | 4     | 112  | 913             | 332 | 319 | 262 | 154 | 197 | 160 | 70                         |
| SVI3302/1-02S40T/P  | 4     | 112  | 913             | 332 | 319 | 262 | 154 | 197 | 160 | 70                         |
| SVI3303/2-03S55T/P  | 5,5   | 132  | 1064            | 407 | 375 | 282 | 168 | 214 | 300 | 88                         |
| SVI3303-03S75T/P    | 7,5   | 132  | 1056            | 407 | 367 | 282 | 191 | 256 | 300 | 107                        |
| SVI3304-04S110T/P   | 11    | 160  | 1227            | 482 | 428 | 317 | 191 | 256 | 350 | 128                        |
| SVI3305/1-05S110T/P | 11    | 160  | 1302            | 557 | 428 | 317 | 191 | 256 | 350 | 130                        |
| SVI3306/2-06S150T/P | 15    | 160  | 1443            | 632 | 494 | 317 | 240 | 313 | 350 | 165                        |
| SVI3307/2-07S150T/P | 15    | 160  | 1518            | 707 | 494 | 317 | 240 | 313 | 350 | 168                        |
| SVI3307-07S185T/P   | 18,5  | 160  | 1518            | 707 | 494 | 317 | 240 | 313 | 350 | 176                        |
| SVI3308/1-08S185T/P | 18,5  | 160  | 1593            | 782 | 494 | 317 | 240 | 313 | 350 | 179                        |
| SVI3309/1-09S220T/P | 22    | 180  | 1668            | 857 | 494 | 317 | 240 | 313 | 350 | 193                        |
| SVI3310/2-10S220T/P | 22    | 180  | 1743            | 932 | 494 | 317 | 240 | 313 | 350 | 196                        |
| SVI3310-10S300T/C   | 30    | 200  | 1906            | 932 | 657 | 317 | 317 | 402 | 400 | 303                        |

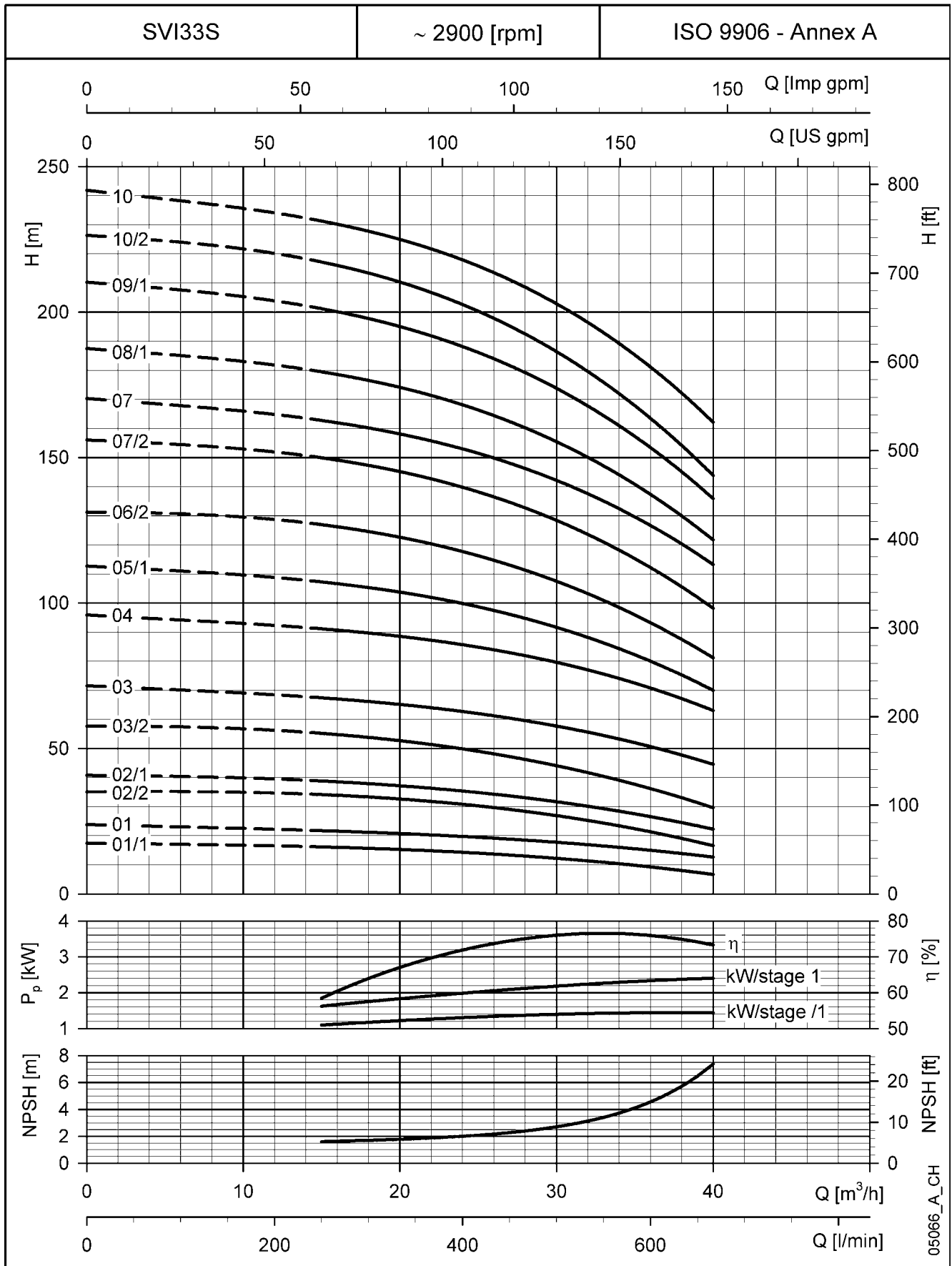
svi33s-2p50-en\_c\_td

|                     | PUMP TYPE     | MOTOR |      | DIMENS.<br>L2+L3<br>mm | NUMBER OF STAGES                                    |     |     |     |     |     |     |     |     |     |      |      |
|---------------------|---------------|-------|------|------------------------|-----------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
|                     |               |       |      |                        | 1                                                   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11   | 12   |
|                     |               | kW    | SIZE |                        | L1 Shank increased lengths (AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |     |     |      |      |
| NUMBER OF IMPELLERS | SVI3301/1-... | 2,2   | 90   | 560                    | 257                                                 | 332 | 407 | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3301-...   | 3     | 100  | 560                    | 257                                                 | 332 | 407 | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3302/2-... | 4     | 112  | 581                    |                                                     | 332 | 407 | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3302/1-... | 4     | 112  | 581                    |                                                     | 332 | 407 | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3303/2-... | 5,5   | 132  | 657                    |                                                     |     | 407 | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3303-...   | 7,5   | 132  | 649                    |                                                     |     | 407 | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3304-...   | 11    | 160  | 745                    |                                                     |     |     | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3305/1-... | 11    | 160  | 745                    |                                                     |     |     |     | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3306/2-... | 15    | 160  | 811                    |                                                     |     |     |     |     | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3307/2-... | 15    | 160  | 811                    |                                                     |     |     |     |     |     | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3307-...   | 18,5  | 160  | 811                    |                                                     |     |     |     |     |     | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3308/1-... | 18,5  | 160  | 811                    |                                                     |     |     |     |     |     |     | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI3309/1-... | 22    | 180  | 811                    |                                                     |     |     |     |     |     |     |     | 857 | 932 | 1007 | 1082 |
|                     | SVI3310/2-... | 22    | 180  | 811                    |                                                     |     |     |     |     |     |     |     |     | 932 | 1007 | 1082 |
|                     | SVI3310-...   | 30    | 200  | 974                    |                                                     |     |     |     |     |     |     |     |     | 932 | 1007 | 1082 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

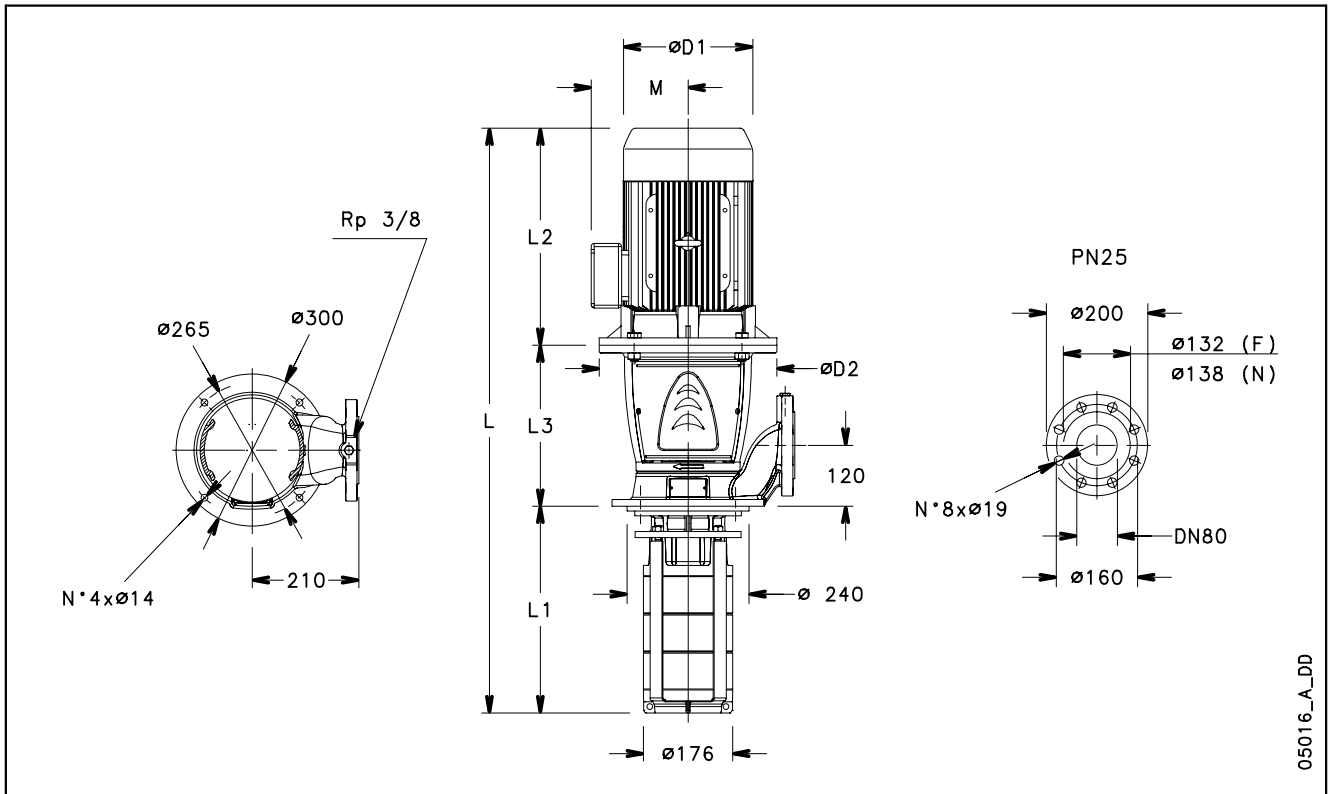
svi33s-en\_c\_tcm

**SVI 33 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 46 (S, N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



05016\_A\_DD

| PUMP TYPE           | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     | ELECTRIC PUMP WEIGHT |
|---------------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----------------------|
|                     | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  |                      |
| SVI4601/1-01S30T/P  | 3     | 100  | 817             | 257 | 298 | 262 | 134 | 174 | 160 | 64                   |
| SVI4601-01S40T/P    | 4     | 112  | 838             | 257 | 319 | 262 | 154 | 197 | 160 | 67                   |
| SVI4602/2-02S55T/P  | 5,5   | 132  | 989             | 332 | 375 | 282 | 168 | 214 | 300 | 85                   |
| SVI4602-02S75T/P    | 7,5   | 132  | 981             | 332 | 367 | 282 | 191 | 256 | 300 | 104                  |
| SVI4603-03S110T/P   | 11    | 160  | 1152            | 407 | 428 | 317 | 191 | 256 | 350 | 125                  |
| SVI4604/2-04S150T/P | 15    | 160  | 1293            | 482 | 494 | 317 | 240 | 313 | 350 | 159                  |
| SVI4605-05S185T/P   | 18,5  | 160  | 1368            | 557 | 494 | 317 | 240 | 313 | 350 | 171                  |
| SVI4606-06S220T/P   | 22    | 180  | 1443            | 632 | 494 | 317 | 240 | 313 | 350 | 185                  |
| SVI4607/2-07S300T/C | 30    | 200  | 1681            | 707 | 657 | 317 | 317 | 402 | 400 | 301                  |
| SVI4608/2-08S300T/C | 30    | 200  | 1756            | 782 | 657 | 317 | 317 | 402 | 400 | 304                  |
| SVI4609/2-09S300T/C | 30    | 200  | 1831            | 857 | 657 | 317 | 317 | 402 | 400 | 306                  |

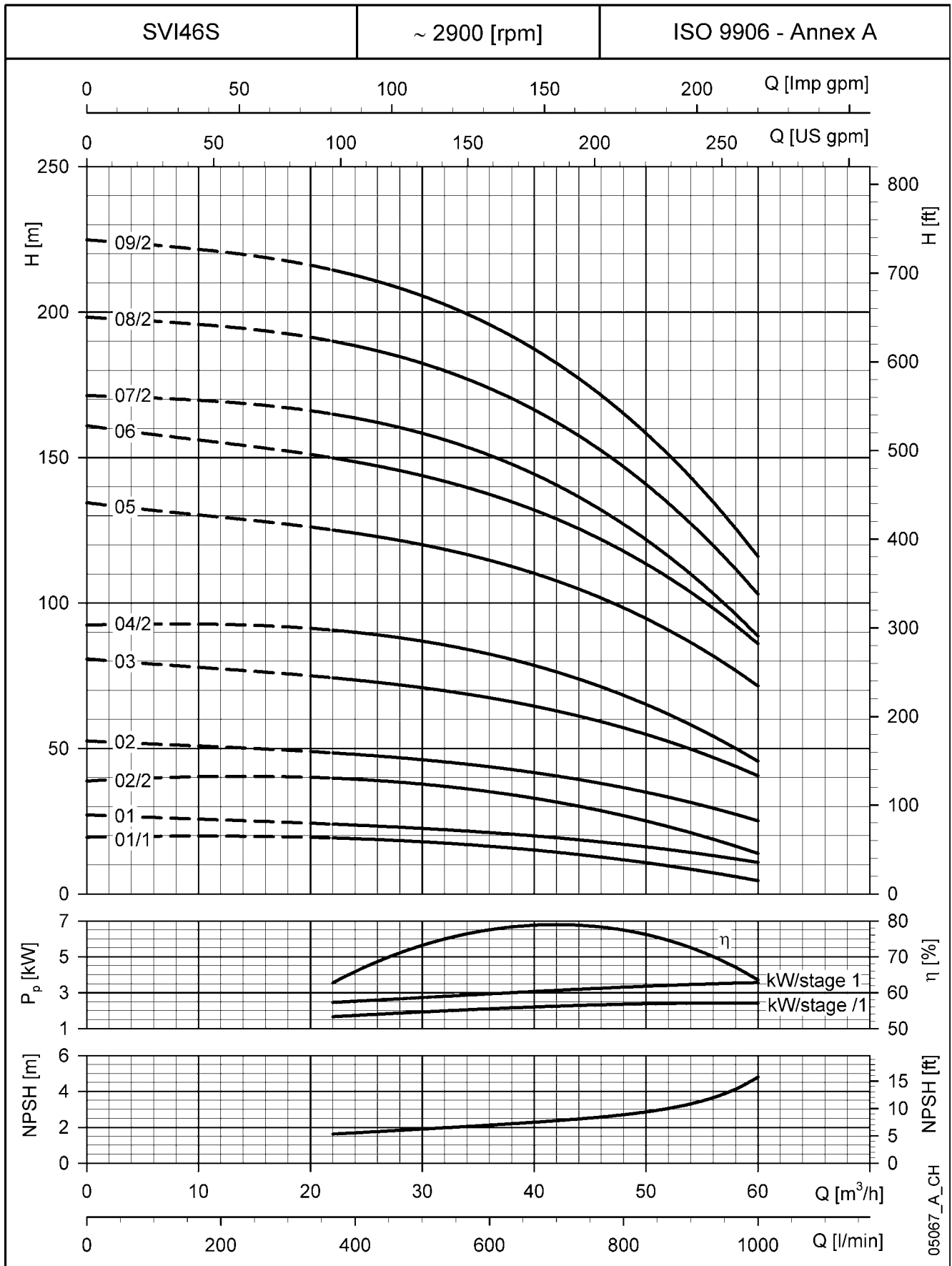
svi46s-2p50-en\_c\_tld

|                     | PUMP TYPE     | MOTOR |      | DIMENS. L2+L3 mm | NUMBER OF STAGES |     |             |     |     |     |     |     |     |     |      |      |
|---------------------|---------------|-------|------|------------------|------------------|-----|-------------|-----|-----|-----|-----|-----|-----|-----|------|------|
|                     |               | kW    | SIZE |                  | 1                | 2   | 3           | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11   | 12   |
| NUMBER OF IMPELLERS | SVI4601/1-... | 3     | 100  | 560              | 257              | 332 | 407         | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4601-...   | 4     | 112  | 581              | 257              | 332 | 407         | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4602/2-... | 5,5   | 132  | 657              |                  | 332 | 407         | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4602-...   | 7,5   | 132  | 649              |                  | 332 | 407         | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4603-...   | 11    | 160  | 745              |                  |     | 407         | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4604/2-... | 15    | 160  | 811              |                  |     |             | 482 | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4605-...   | 18,5  | 160  | 811              |                  |     |             |     | 557 | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4606-...   | 22    | 180  | 811              |                  |     |             |     |     | 632 | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4607/2-... | 30    | 200  | 974              |                  |     | L1 Standard |     |     |     | 707 | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4608/2-... | 30    | 200  | 974              |                  |     |             |     |     |     |     | 782 | 857 | 932 | 1007 | 1082 |
|                     | SVI4609/2-... | 30    | 200  | 974              |                  |     |             |     |     |     |     |     | 857 | 932 | 1007 | 1082 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

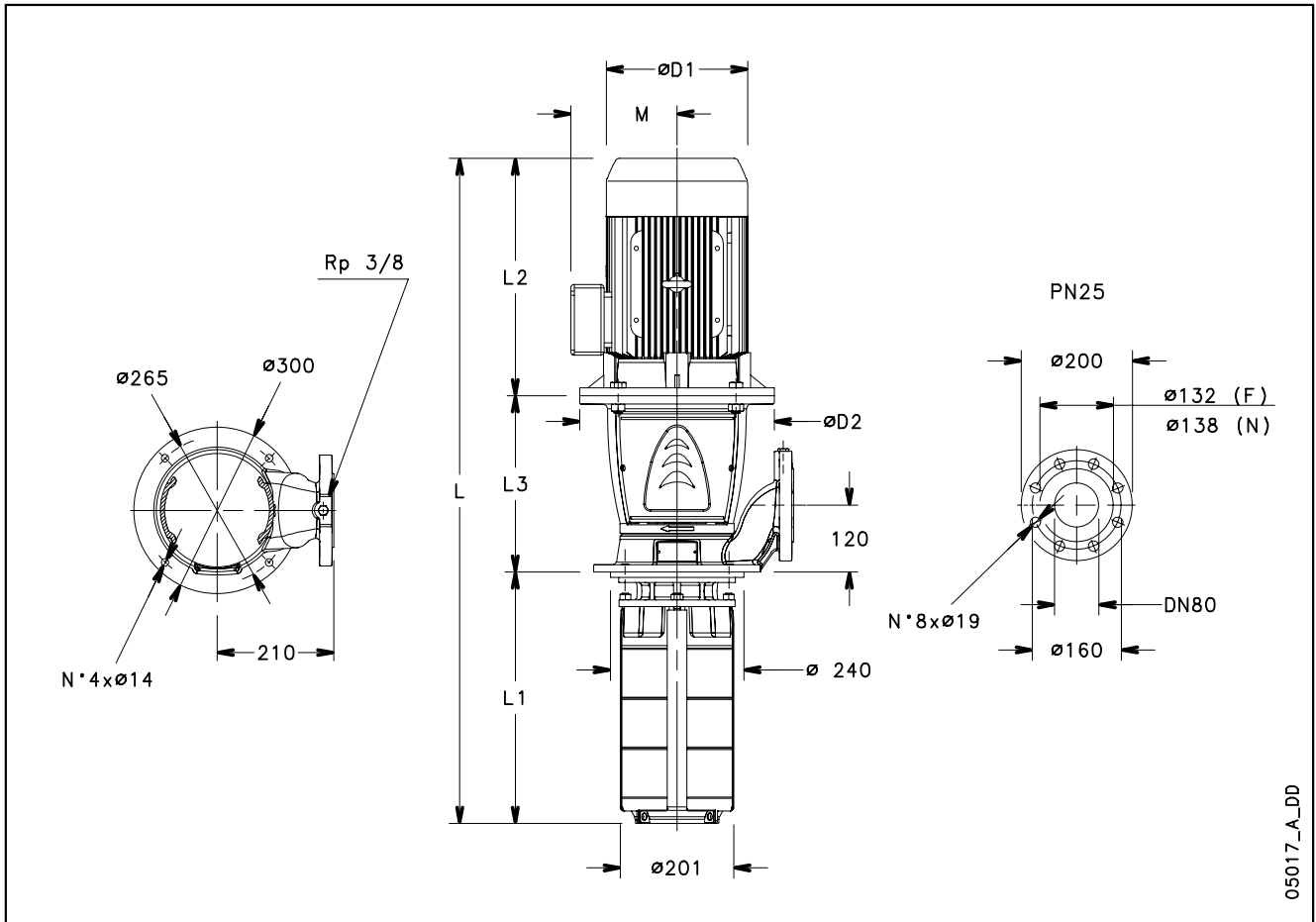
svi46s-en\_c\_tcm

**SVI 46 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 66 (S, N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



| PUMP TYPE           | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     | ELECTRIC PUMP WEIGHT<br>kg |
|---------------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----------------------------|
|                     | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  |                            |
| SVI6601/1-01S40T/P  | 4     | 112  | 853             | 272 | 319 | 262 | 154 | 197 | 160 | 73                         |
| SVI6601-01S55T/P    | 5,5   | 132  | 929             | 272 | 375 | 282 | 168 | 214 | 300 | 83                         |
| SVI6602/2-02S75T/P  | 7,5   | 132  | 1011            | 362 | 367 | 282 | 191 | 256 | 300 | 109                        |
| SVI6602-02S110T/P   | 11    | 160  | 1107            | 362 | 428 | 317 | 191 | 256 | 350 | 124                        |
| SVI6603/2-03S150T/P | 15    | 160  | 1263            | 452 | 494 | 317 | 240 | 313 | 350 | 159                        |
| SVI6603-03S185T/P   | 18,5  | 160  | 1263            | 452 | 494 | 317 | 240 | 313 | 350 | 160                        |
| SVI6604/1-04S220T/P | 22    | 180  | 1353            | 542 | 494 | 317 | 240 | 313 | 350 | 190                        |
| SVI6605/1-05S300T/C | 30    | 200  | 1606            | 632 | 657 | 317 | 317 | 402 | 400 | 299                        |

svi66s-2p50-en\_c\_td

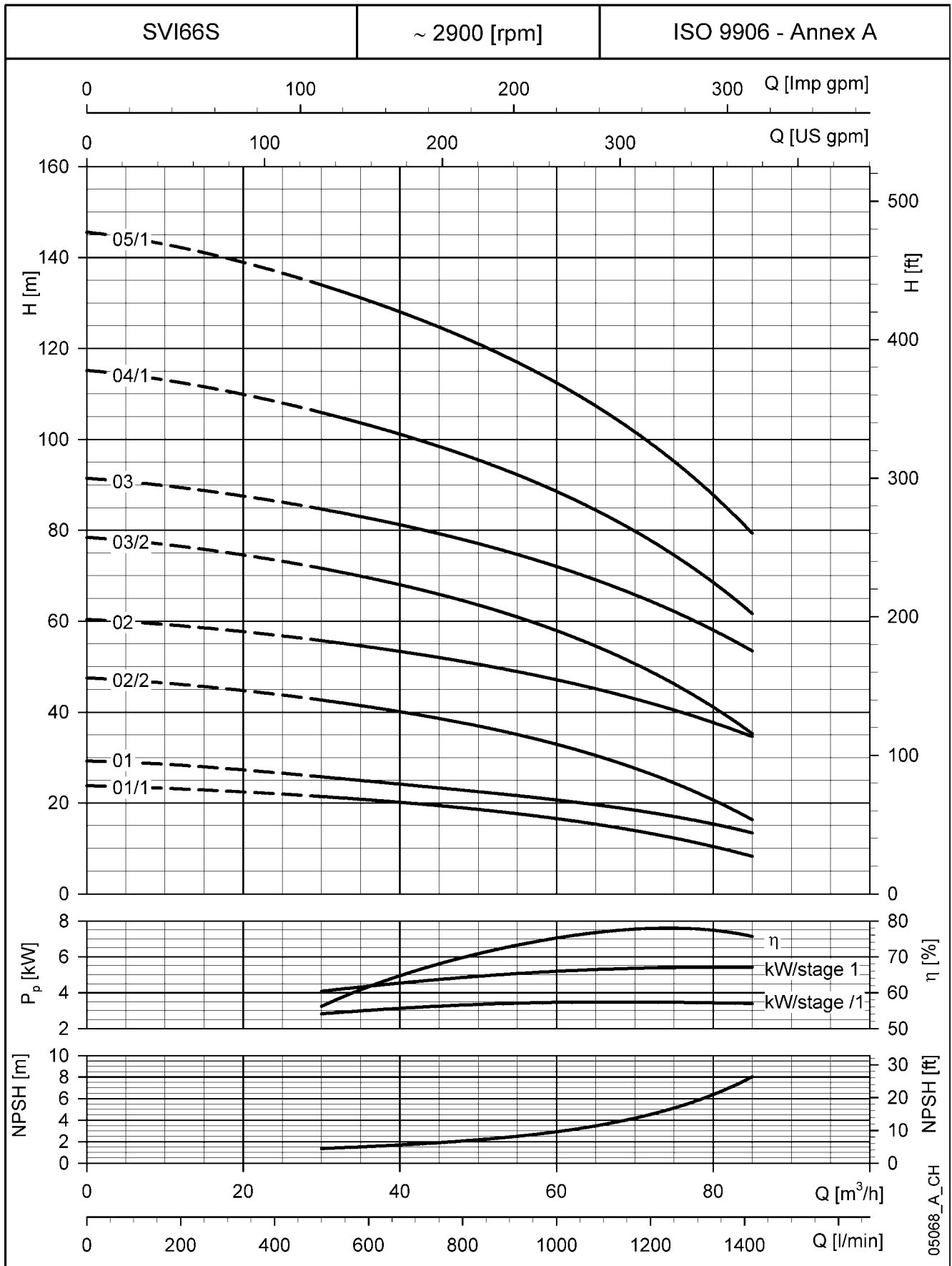
|                     | PUMP<br>TYPE  | MOTOR |      | DIMENS.<br>L2+L3<br>mm | NUMBER OF STAGES                                     |     |     |     |     |     |     |     |     |      |
|---------------------|---------------|-------|------|------------------------|------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|
|                     |               | kW    | SIZE |                        | 1                                                    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10   |
|                     |               |       |      |                        | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |     |      |
| NUMBER OF IMPELLERS | SVI6601/1-... | 4     | 112  | 581                    | 272                                                  | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6601-...   | 5,5   | 132  | 657                    | 272                                                  | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6602/2-... | 7,5   | 132  | 649                    |                                                      | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6602-...   | 11    | 160  | 745                    |                                                      | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6603/2-... | 15    | 160  | 811                    |                                                      |     | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6603-...   | 18,5  | 160  | 811                    | L1 Standard                                          |     | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6604/1-... | 22    | 180  | 811                    |                                                      |     |     | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI6605/1-... | 30    | 200  | 974                    |                                                      |     |     |     | 632 | 722 | 812 | 902 | 992 | 1082 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

svi66s-en\_c\_tcm

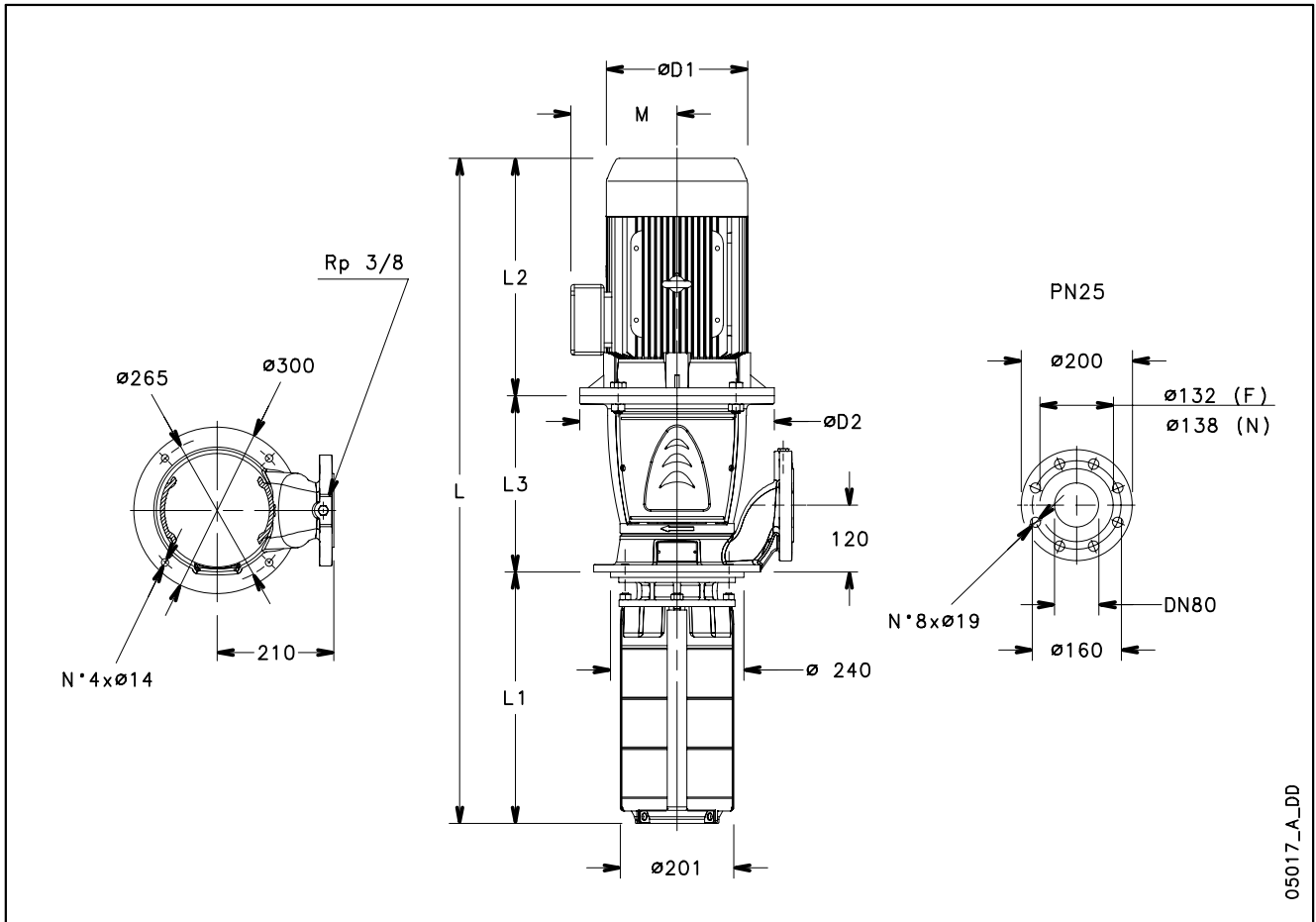


**SVI 66 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**



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

## SVI 92 (S, N) SERIES DIMENSIONS AND WEIGHTS AT 50 Hz, 2 POLES



| PUMP TYPE           | MOTOR |      | DIMENSIONS (mm) |     |     |     |     |     |     | ELECTRIC PUMP WEIGHT<br>kg |
|---------------------|-------|------|-----------------|-----|-----|-----|-----|-----|-----|----------------------------|
|                     | kW    | SIZE | L               | L1  | L2  | L3  | M   | D1  | D2  |                            |
| SVI9201/1-01S55T/P  | 5,5   | 132  | 929             | 272 | 375 | 282 | 168 | 214 | 300 | 83                         |
| SVI9201-01S75T/P    | 7,5   | 132  | 921             | 272 | 367 | 282 | 191 | 256 | 300 | 101                        |
| SVI9202/2-02S110T/P | 11    | 160  | 1107            | 362 | 428 | 317 | 191 | 256 | 350 | 123                        |
| SVI9202-02S150T/P   | 15    | 160  | 1173            | 362 | 494 | 317 | 240 | 313 | 350 | 155                        |
| SVI9203/2-03S185T/P | 18,5  | 160  | 1263            | 452 | 494 | 317 | 240 | 313 | 350 | 167                        |
| SVI9203-03S220T/P   | 22    | 180  | 1263            | 452 | 494 | 317 | 240 | 313 | 350 | 179                        |
| SVI9204/2-04S300T/C | 30    | 200  | 1516            | 542 | 657 | 317 | 317 | 402 | 400 | 296                        |
| SVI9204-04S300T/C   | 30    | 200  | 1516            | 542 | 657 | 317 | 317 | 402 | 400 | 296                        |

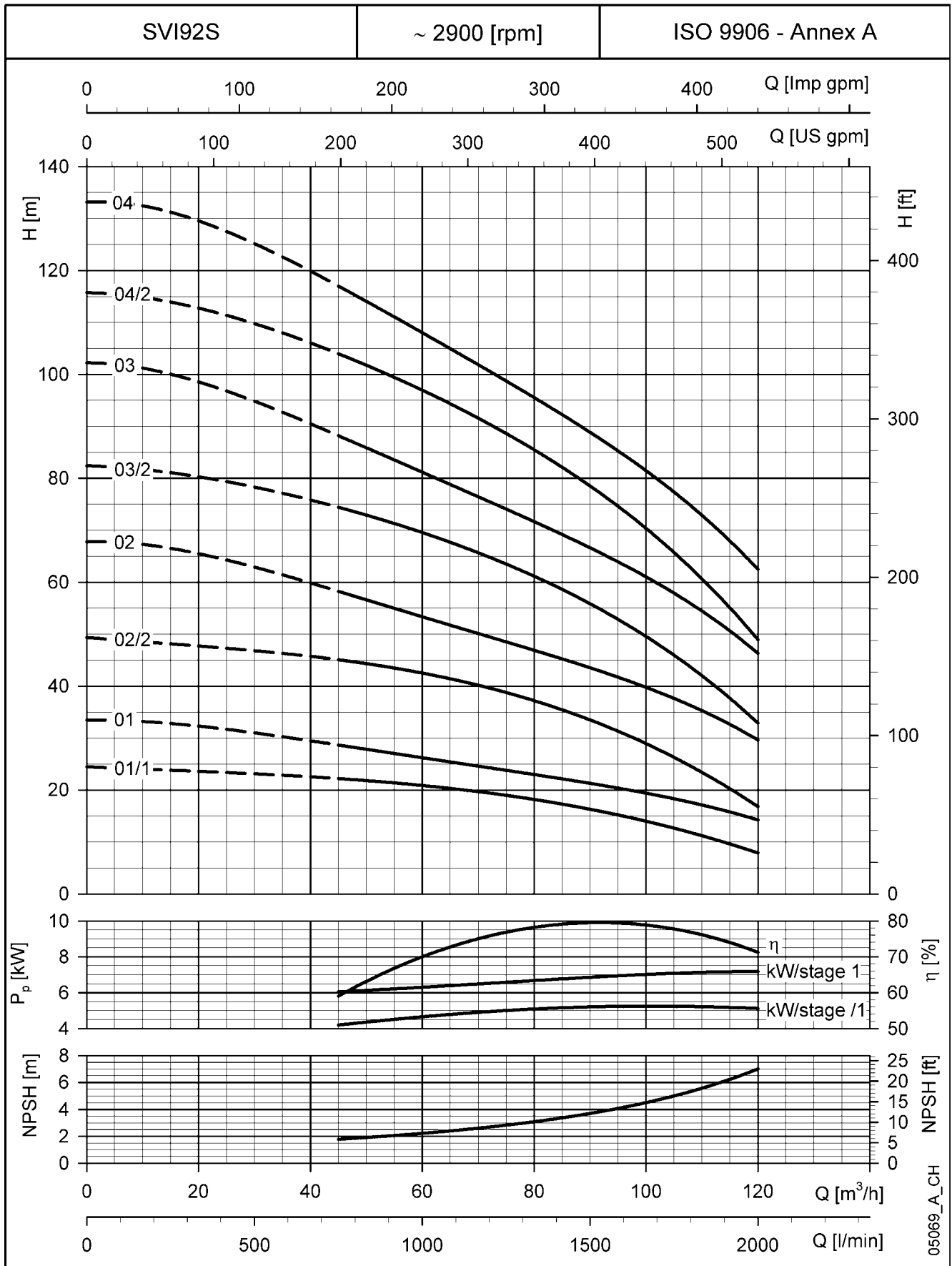
svi92s-2p50-en\_c\_td

|                     | PUMP<br>TYPE  | MOTOR |      | DIMENS.<br>L2+L3<br>mm | NUMBER OF STAGES                                     |     |     |     |     |     |     |     |     |      |
|---------------------|---------------|-------|------|------------------------|------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|
|                     |               | kW    | SIZE |                        | 1                                                    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10   |
|                     |               |       |      |                        | L1 Shank increased lengths ( AVAILABLE ON REQUEST *) |     |     |     |     |     |     |     |     |      |
| NUMBER OF IMPELLERS | SVI9201/1-... | 5,5   | 132  | 657                    | 272                                                  | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9201-...   | 7,5   | 132  | 649                    | 272                                                  | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9202/2-... | 11    | 160  | 745                    |                                                      | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9202-...   | 15    | 160  | 811                    |                                                      | 362 | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9203/2-... | 18,5  | 160  | 811                    | L1 Standard                                          |     | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9203-...   | 22    | 180  | 811                    |                                                      |     | 452 | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9204/2-... | 30    | 200  | 974                    |                                                      |     |     | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |
|                     | SVI9204-...   | 30    | 200  | 974                    |                                                      |     |     | 542 | 632 | 722 | 812 | 902 | 992 | 1082 |

\* The hydraulic performances of the electric pumps with shank increased lengths can be lower than standard version.

svi92s-en\_c\_tcm

**SVI 92 (S, N) SERIES**  
**OPERATING CHARACTERISTICS AT 50 Hz, 2 POLES**

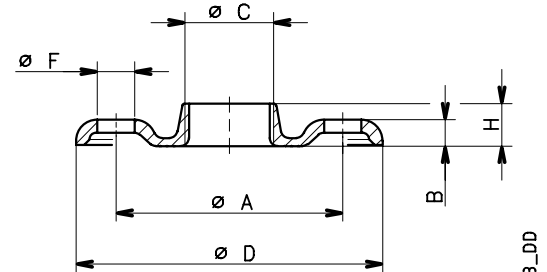


These performances are valid for liquids with density  $\rho = 1.0 \text{ Kg/dm}^3$  and kinematic viscosity  $\nu = 1 \text{ mm}^2/\text{sec}$ .

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

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

svi-ctf-tonde-f-en\_a\_td

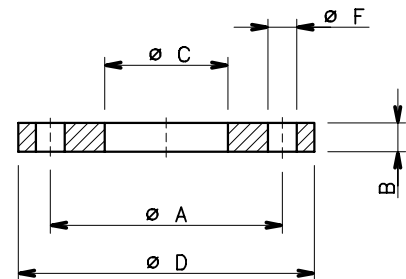


04430\_B\_DD

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

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

svi-ctf-tonde-s-en\_a\_td

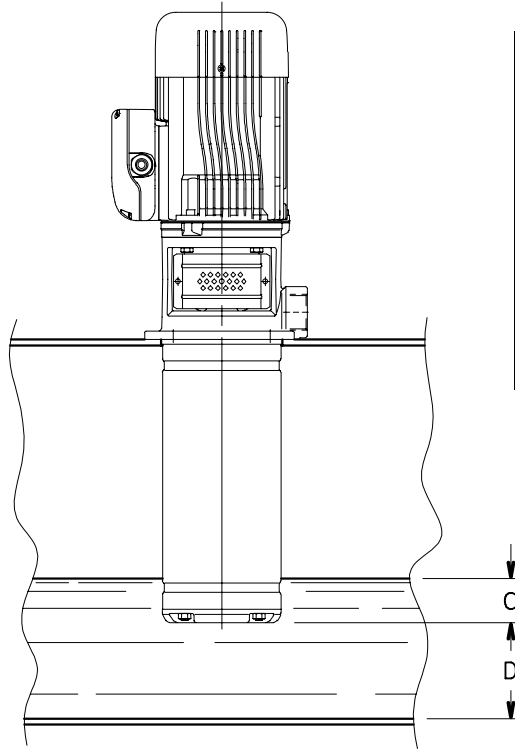


04431\_A\_DD

## ROUND COUNTERFLANGES

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

## INSTALLATION



| MINIMUM IMMERSION LEVEL |                   | DISTANCE FROM THE BOTTOM |             |
|-------------------------|-------------------|--------------------------|-------------|
| PUMP TYPE               | DIMENSION C<br>mm | D<br>mm                  |             |
|                         |                   | MINIMUM                  | RECOMMENDED |
| SVI2<br>SVI4            | 25                | 20                       | 60          |
| SVI8<br>SVI16           | 25                | 35                       | 80          |
| SVI33-46<br>SVI66-92    | 80                | 60                       | 120         |

svi-liv-liq-en\_a\_td

05005\_A\_SC



# **TECHNICAL APPENDIX**

## NPSH

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

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

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

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

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

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

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

where:

- $h_p$**  is the absolute pressure applied to the free liquid surface in the suction tank, expressed in m. of liquid;  $h_p$  is the quotient between the barometric pressure and the specific weight of the liquid.
- $h_z$**  is the suction lift between the pump axis and the free liquid surface in the suction tank, expressed in m.;  $h_z$  is negative when the liquid level is lower than the pump axis.
- $h_f$**  is the flow resistance in the suction line and its accessories, such as: fittings, foot valve, gate valve, elbows, etc.
- $h_{pv}$**  is the vapour pressure of the liquid at the operating temperature, expressed in m. of liquid.  $h_{pv}$  is the quotient between the  $P_v$  vapour pressure and the liquid's specific weight.
- 0,5** is the safety factor.

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

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

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

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

Friction loss is shown in the tables at pages 50-51 of this catalogue. To reduce it to a minimum, especially in cases of high suction head (over 4-5 m.) or within the operating limits with high flow rates, we recommend using a suction line having a larger diameter than that of the pump's suction port. It is always a good idea to position the pump as close as possible to the liquid to be pumped.

Make the following calculation:

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

Flow rate required: 30 m<sup>3</sup>/h

Head for required delivery: 43 m.

Suction lift: 3,5 m.

The selection is an FHE 40-200/75 pump whose NPSH required value is, at 30 m<sup>3</sup>/h, di 2,5 m.

For water at 15 °C

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

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

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

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

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

The relation is therefore verified.



## TECHNICAL APPENDIX VAPOUR PRESSURE PS VAPOUR PRESSURE AND $\rho$ DENSITY OF WATER TABLE

| t<br>°C | T<br>K | ps<br>bar | $\rho$<br>kg/dm <sup>3</sup> | t<br>°C | T<br>K | ps<br>bar | $\rho$<br>kg/dm <sup>3</sup> | t<br>°C | T<br>K | ps<br>bar | $\rho$<br>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                       |         |        |           |                              |

G-at\_nps\_h\_a\_sc

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

| FLOW RATE         |       | NOMINAL DIAMETER in mm and INCHES |      |       |      |        |        |      |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|-------------------|-------|-----------------------------------|------|-------|------|--------|--------|------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-------|-----|-----|------|-----|------|-----|
| m <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   |      |        | The hr values must be multiplied by:<br>0.71 for galvanized or painted steel pipes<br>0.54 for stainless steel or copper pipes<br>0.47 for PVC or PE pipes |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                | 16   | 3,94  | 1,33 | 0,40   | 0,13   |      |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 0,9               | 15    | v                                 | 1,42 | 0,80  | 0,51 | 0,31   | 0,20   |      |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                | 33,9 | 8,35  | 2,82 | 0,85   | 0,29   |      |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 1,2               | 20    | v                                 | 1,89 | 1,06  | 0,68 | 0,41   | 0,27   | 0,17 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                | 57,7 | 14,21 | 4,79 | 1,44   | 0,49   | 0,16 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 1,5               | 25    | v                                 | 2,36 | 1,33  | 0,85 | 0,52   | 0,33   | 0,21 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                | 87,2 | 21,5  | 7,24 | 2,18   | 0,73   | 0,25 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 1,8               | 30    | v                                 | 2,83 | 1,59  | 1,02 | 0,62   | 0,40   | 0,25 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                | 122  | 30,1  | 10,1 | 3,05   | 1,03   | 0,35 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 2,1               | 35    | v                                 | 3,30 | 1,86  | 1,19 | 0,73   | 0,46   | 0,30 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                | 162  | 40,0  | 13,5 | 4,06   | 1,37   | 0,46 |        |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 2,4               | 40    | v                                 |      | 2,12  | 1,36 | 0,83   | 0,53   | 0,34 | 0,20   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      | 51,2  | 17,3 | 5,19   | 1,75   | 0,59 | 0,16   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 3                 | 50    | v                                 |      | 2,65  | 1,70 | 1,04   | 0,66   | 0,42 | 0,25   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      | 77,4  | 26,1 | 7,85   | 2,65   | 0,89 | 0,25   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 3,6               | 60    | v                                 |      | 3,18  | 2,04 | 1,24   | 0,80   | 0,51 | 0,30   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      | 108   | 36,6 | 11,0   | 3,71   | 1,25 | 0,35   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 4,2               | 70    | v                                 |      | 3,72  | 2,38 | 1,45   | 0,93   | 0,59 | 0,35   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      | 144   | 48,7 | 14,6   | 4,93   | 1,66 | 0,46   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 4,8               | 80    | v                                 |      | 4,25  | 2,72 | 1,66   | 1,06   | 0,68 | 0,40   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      | 185   | 62,3 | 18,7   | 6,32   | 2,13 | 0,59   |                                                                                                                                                            |      |      |       |     |     |      |     |      |     |
| 5,4               | 90    | v                                 |      |       | 3,06 | 1,87   | 1,19   | 0,76 | 0,45   | 0,30                                                                                                                                                       |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       | 77,5 | 23,3   | 7,85   | 2,65 | 0,74   | 0,27                                                                                                                                                       |      |      |       |     |     |      |     |      |     |
| 6                 | 100   | v                                 |      |       | 3,40 | 2,07   | 1,33   | 0,85 | 0,50   | 0,33                                                                                                                                                       |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       | 94,1 | 28,3   | 9,54   | 3,22 | 0,90   | 0,33                                                                                                                                                       |      |      |       |     |     |      |     |      |     |
| 7,5               | 125   | v                                 |      |       | 4,25 | 2,59   | 1,66   | 1,06 | 0,63   | 0,41                                                                                                                                                       |      |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       | 142  | 42,8   | 14,4   | 4,86 | 1,36   | 0,49                                                                                                                                                       |      |      |       |     |     |      |     |      |     |
| 9                 | 150   | v                                 |      |       |      | 3,11   | 1,99   | 1,27 | 0,75   | 0,50                                                                                                                                                       | 0,32 |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      | 59,9   | 20,2   | 6,82 | 1,90   | 0,69                                                                                                                                                       | 0,23 |      |       |     |     |      |     |      |     |
| 10,5              | 175   | v                                 |      |       |      | 3,63   | 2,32   | 1,49 | 0,88   | 0,58                                                                                                                                                       | 0,37 |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      | 79,7   | 26,9   | 9,07 | 2,53   | 0,92                                                                                                                                                       | 0,31 |      |       |     |     |      |     |      |     |
| 12                | 200   | v                                 |      |       |      | 4,15   | 2,65   | 1,70 | 1,01   | 0,66                                                                                                                                                       | 0,42 |      |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      | 102    | 34,4   | 11,6 | 3,23   | 1,18                                                                                                                                                       | 0,40 |      |       |     |     |      |     |      |     |
| 15                | 250   | v                                 |      |       |      | 5,18   | 3,32   | 2,12 | 1,26   | 0,83                                                                                                                                                       | 0,53 | 0,34 |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      | 154    | 52,0   | 17,5 | 4,89   | 1,78                                                                                                                                                       | 0,60 | 0,20 |       |     |     |      |     |      |     |
| 18                | 300   | v                                 |      |       |      |        | 3,98   | 2,55 | 1,51   | 1,00                                                                                                                                                       | 0,64 | 0,41 |       |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 72,8   | 24,6 | 6,85   | 2,49                                                                                                                                                       | 0,84 | 0,28 |       |     |     |      |     |      |     |
| 24                | 400   | v                                 |      |       |      |        | 5,31   | 3,40 | 2,01   | 1,33                                                                                                                                                       | 0,85 | 0,54 | 0,38  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 124    | 41,8 | 11,66  | 4,24                                                                                                                                                       | 1,43 | 0,48 | 0,20  |     |     |      |     |      |     |
| 30                | 500   | v                                 |      |       |      |        | 6,63   | 4,25 | 2,51   | 1,66                                                                                                                                                       | 1,06 | 0,68 | 0,47  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 187    | 63,2 | 17,6   | 6,41                                                                                                                                                       | 2,16 | 0,73 | 0,30  |     |     |      |     |      |     |
| 36                | 600   | v                                 |      |       |      |        | 5,10   | 3,02 | 1,99   | 1,27                                                                                                                                                       | 0,82 | 0,57 | 0,42  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 88,6   | 24,7 | 8,98   | 3,03                                                                                                                                                       | 1,02 | 0,42 | 0,20  |     |     |      |     |      |     |
| 42                | 700   | v                                 |      |       |      |        | 5,94   | 3,52 | 2,32   | 1,49                                                                                                                                                       | 0,95 | 0,66 | 0,49  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 118    | 32,8 | 11,9   | 4,03                                                                                                                                                       | 1,36 | 0,56 | 0,26  |     |     |      |     |      |     |
| 48                | 800   | v                                 |      |       |      |        | 6,79   | 4,02 | 2,65   | 1,70                                                                                                                                                       | 1,09 | 0,75 | 0,55  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 151    | 42,0 | 15,3   | 5,16                                                                                                                                                       | 1,74 | 0,72 | 0,34  |     |     |      |     |      |     |
| 54                | 900   | v                                 |      |       |      |        | 7,64   | 4,52 | 2,99   | 1,91                                                                                                                                                       | 1,22 | 0,85 | 0,62  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 188    | 52,3 | 19,0   | 6,41                                                                                                                                                       | 2,16 | 0,89 | 0,42  |     |     |      |     |      |     |
| 60                | 1000  | v                                 |      |       |      |        | 5,03   | 3,32 | 2,12   | 1,36                                                                                                                                                       | 0,94 | 0,69 | 0,53  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 63,5   | 23,1 | 7,79   | 2,63                                                                                                                                                       | 1,08 | 0,51 | 0,27  |     |     |      |     |      |     |
| 75                | 1250  | v                                 |      |       |      |        | 6,28   | 4,15 | 2,65   | 1,70                                                                                                                                                       | 1,18 | 0,87 | 0,66  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 96,0   | 34,9 | 11,8   | 3,97                                                                                                                                                       | 1,63 | 0,77 | 0,40  |     |     |      |     |      |     |
| 90                | 1500  | v                                 |      |       |      |        | 7,54   | 4,98 | 3,18   | 2,04                                                                                                                                                       | 1,42 | 1,04 | 0,80  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 134    | 48,9 | 16,5   | 5,57                                                                                                                                                       | 2,29 | 1,08 | 0,56  |     |     |      |     |      |     |
| 105               | 1750  | v                                 |      |       |      |        | 8,79   | 5,81 | 3,72   | 2,38                                                                                                                                                       | 1,65 | 1,21 | 0,93  |     |     |      |     |      |     |
|                   |       | hr                                |      |       |      |        | 179    | 65,1 | 21,9   | 7,40                                                                                                                                                       | 3,05 | 1,44 | 0,75  |     |     |      |     |      |     |
| 120               | 2000  | v                                 |      |       |      |        | 6,63   | 4,25 | 2,72   | 1,89                                                                                                                                                       | 1,39 | 1,06 | 0,80  |     |     | 0,68 |     |      |     |
|                   |       | hr                                |      |       |      |        | 83,3   | 28,1 | 9,48   | 3,90                                                                                                                                                       | 1,84 | 0,96 | 0,32  |     |     | 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  |     |     | 1,02 |     |      |     |
|                   |       | hr                                |      |       |      |        |        | 59,5 | 20,1   | 8,26                                                                                                                                                       | 3,90 | 2,03 | 0,69  |     |     | 0,69 |     | 0,71 |     |
| 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 |     |
|                   |       | hr                                |      |       |      |        |        |      |        |                                                                                                                                                            | 39,6 | 18,7 | 9,75  |     |     | 3,29 |     | 1,35 |     |
| 480               | 8000  | v                                 |      |       |      |        |        |      |        |                                                                                                                                                            | 7,55 | 5,55 | 4,25  |     |     | 2,72 |     | 1,89 |     |
|                   |       | hr                                |      |       |      |        |        |      |        |                                                                                                                                                            | 50,7 | 23,9 | 12,49 |     |     | 4,21 |     | 1,73 |     |
| 540               | 9000  | v                                 |      |       |      |        |        |      |        |                                                                                                                                                            | 8,49 | 6,24 | 4,78  |     |     | 3,06 |     | 2,12 |     |
|                   |       | hr                                |      |       |      |        |        |      |        |                                                                                                                                                            | 63,0 | 29,8 | 15,5  |     |     | 5,24 |     | 2,16 |     |
| 600               | 10000 | v                                 |      |       |      |        |        |      |        |                                                                                                                                                            |      | 6,93 | 5,31  |     |     | 3,40 |     | 2,36 |     |
|                   |       | hr                                |      |       |      |        |        |      |        |                                                                                                                                                            |      | 36,2 | 18,9  |     |     | 6,36 |     | 2,62 |     |

G-at-pct\_a\_th

hr = flow resistance for 100m of straight pipeline (m)

V = water speed (m/s)

## FLOW RESISTANCE

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

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

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

G-a-pcv\_a\_th

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

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

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

## VOLUMETRIC CAPACITY

| Litres<br>per minute<br>l/min | Cubic metres<br>per hour<br>m <sup>3</sup> /h | Cubic feet<br>per hour<br>ft <sup>3</sup> /h | Cubic feet<br>per minute<br>ft <sup>3</sup> /min | Imp. gal.<br>per minute<br>Imp. gal./min | US gal.<br>per minute<br>Us gal./min |
|-------------------------------|-----------------------------------------------|----------------------------------------------|--------------------------------------------------|------------------------------------------|--------------------------------------|
| <b>1,0000</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<br>square metre<br>N/m <sup>2</sup> | kilo Pascal<br>kPa | bar<br>bar           | Pound force per<br>square inch<br>psi | metre<br>of water<br>m H <sub>2</sub> O | millimetre of<br>mercury<br>mm Hg |
|------------------------------------------------|--------------------|----------------------|---------------------------------------|-----------------------------------------|-----------------------------------|
| <b>1,0000</b>                                  | 0,0010             | 1 x 10 <sup>-5</sup> | 1.45 x 10 <sup>-4</sup>               | 1.02 x 10 <sup>-4</sup>                 | 0,0075                            |
| 1000,0000                                      | <b>1,0000</b>      | 0,0100               | 0,1450                                | 0,1020                                  | 7,5006                            |
| 1 x 10 <sup>5</sup>                            | 100,0000           | <b>1,0000</b>        | 14,5038                               | 10,1972                                 | 750,0638                          |
| 6894,7570                                      | 6,8948             | 0,0689               | <b>1,0000</b>                         | 0,7031                                  | 51,7151                           |
| 9806,6500                                      | 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<br>mm | centimetre<br>cm | metre<br>m    | inch<br>in    | foot<br>ft    | yard<br>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        |
| 1000,0000        | 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> |

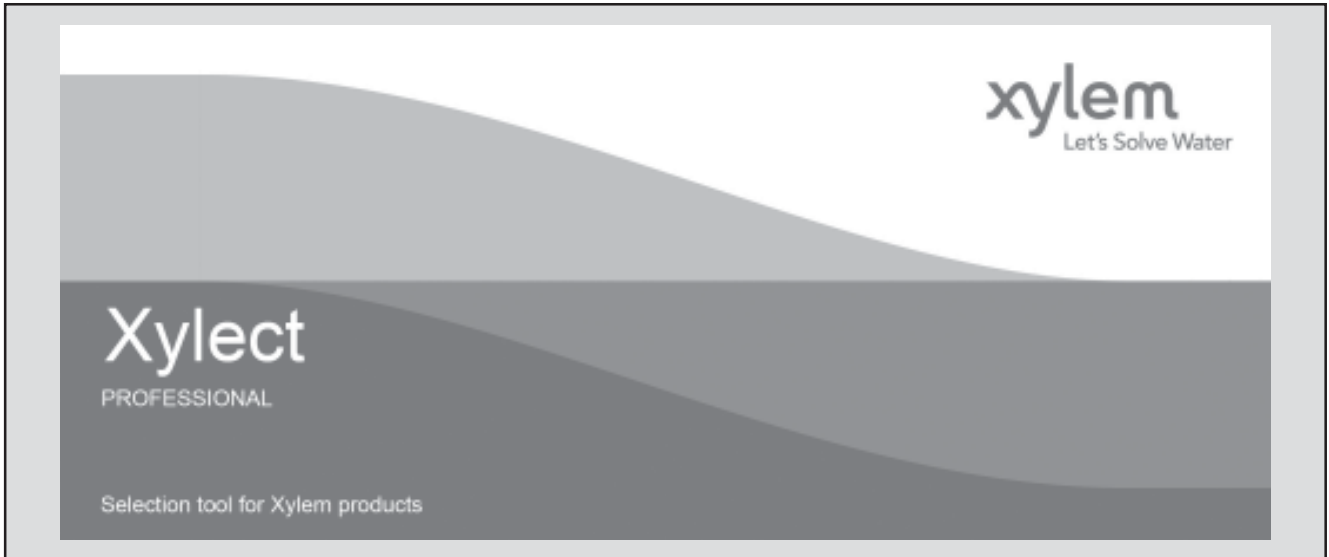
## VOLUME

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

G-at\_pp-en\_a\_sc

## FURTHER PRODUCT SELECTION AND DOCUMENTATION

### Xylect



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

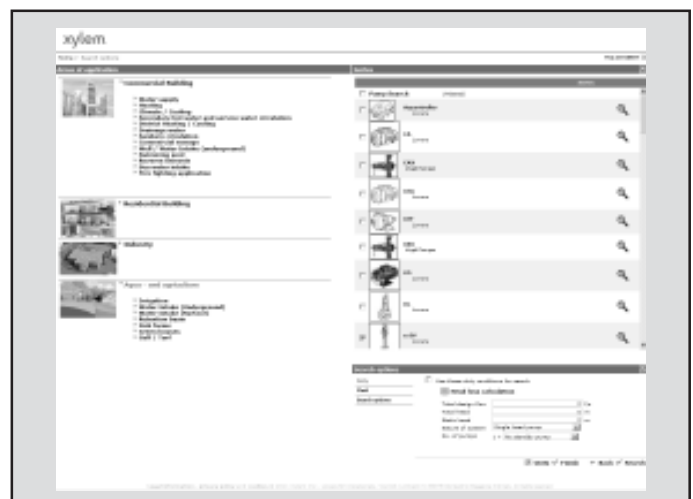
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara and Vogel products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect gives a detailed output:

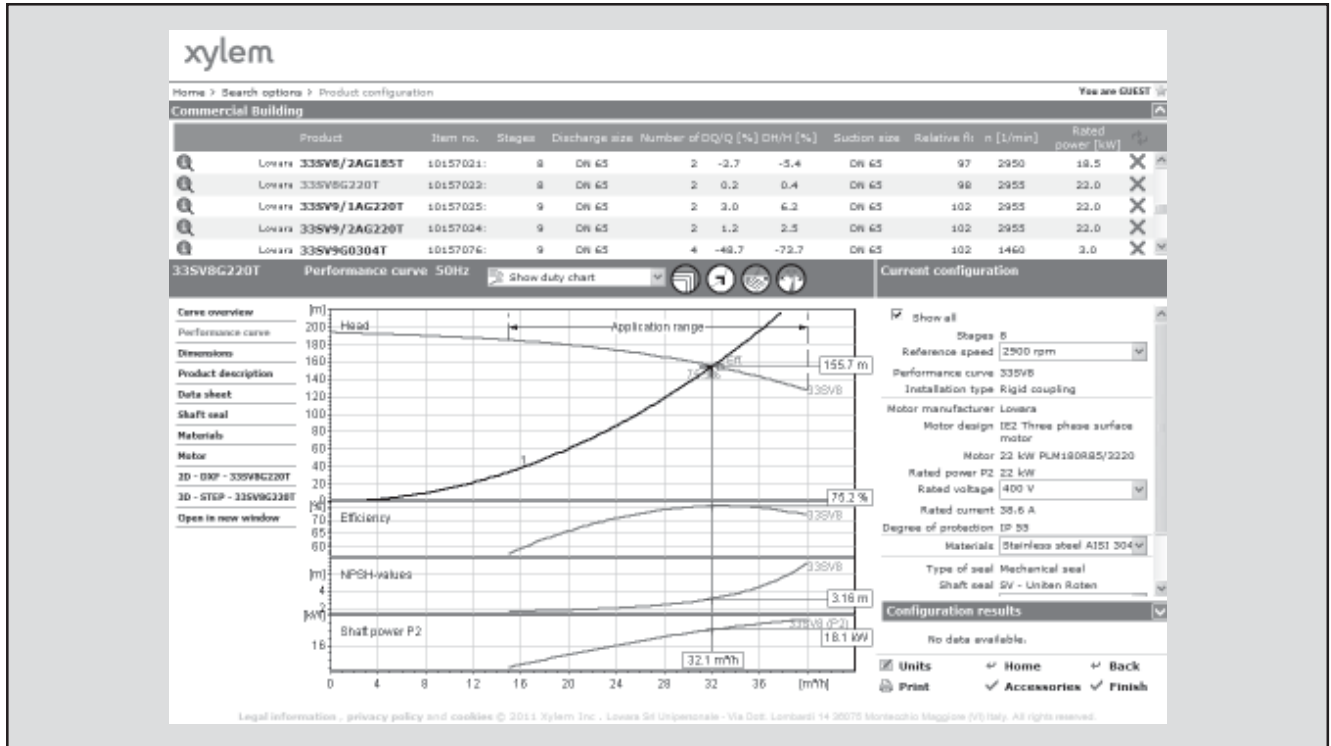
- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



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

## FURTHER PRODUCT SELECTION AND DOCUMENTATION

### Xylect



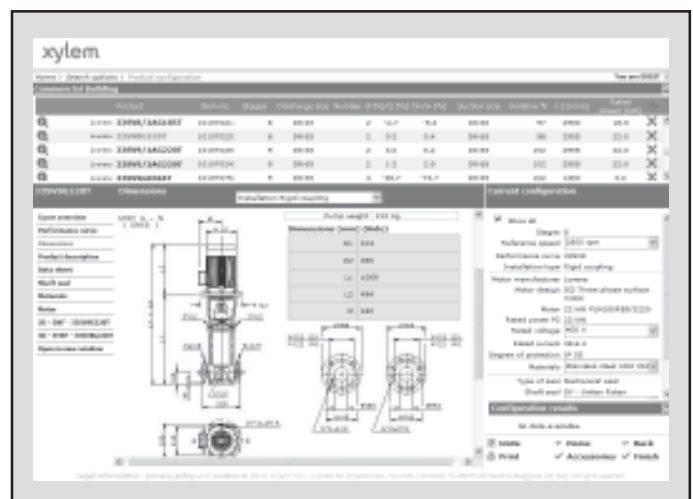
The detailed output makes it easy to select the optimal pump from the given alternatives.

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

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

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

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

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

**LENNTECH**

info@lennotech.com Tel. +31-152-610-900  
www.lennotech.com Fax. +31-152-616-289

