

it	ELETTROPOMPE CENTRIFUGHE MULTISTADIO VERTICALI A CORPO IMMERSO SERIE SVI 2-4-8-16-33-46-66-92	Istruzioni d'installazione e uso
en	VERTICAL MULTISTAGE CENTRIFUGAL ELECTRIC PUMPS WITH IMMERSED BODY SERIES SVI 2-4-8-16-33-46-66-92	Installation and Operating Instructions
fr	ÉLECTROPOMPES CENTRIFUGES MULTICELLULAIRES VERTICALES À CORPS IMMERGÉ SERIE SVI 2-4-8-16-33-46-66-92	Instructions pour l'installation et l'emploi
de	MEHRSTUFIGE SENKRECHTE KREISELPUMPEN MIT GETAUCHTEM KÖRPER BAUREIHEN SVI 2-4-8-16-33-46-66-92	Installations- und Bedienungsanleitungen
es	ELECTROBOMBAS CENTRÍFUGAS MULTIETAPA VERTICALES CON CUERPO SUMERGIDO SERIES SVI 2-4-8-16-33-46-66-92	Instrucciones de instalación y uso
pt	ELECTROMBAS CENTRÍFUGAS MULTI-CELULARES VERTICAIS DE CORPO IMERGIDO SÉRIES SVI 2-4-8-16-33-46-66-92	Instruções de instalação e uso
nl	VERTICALE CENTRIFUGALE MEERTRAPSELEKTROPOMPEN MET ONDERGEDOMPELD LICHAAM SERIE SVI 2-4-8-16-33-46-66-92	Aanwijzingen voor de installatie en het gebruik
da	VERTIKALE CENTRIFUGALE FLERTRINS ELEKTROPUMPER MED NEDSÆNKET PUMPEHUS SVI 2-4-8-16-33-46-66-92	Manual vedrørende installation og brug
sv	VERTIKALA FLERSTEGS CENTRIFUGALEPUMPAR MED NEDSÄNKET PUMPHUS I SERIEN SVI 2-4-8-16-33-46-66-92	Installations- och bruksanvisning
fi	SVI 2-4-8-16-33-46-66-92 -SARJAN MONIVAHEISET PYSTYRAKENTEISET KESKIPAKOŚÁHKÖPUMPUT UPOTTETAVALLA RUNGOLLA	Asennus- ja käyttöohjeet
no	VERTIKALE FLERTRINNS SENTRIFUGALE ELEKTROPUMPER MED NEDSENKET PUMPEHUS, SERIE SVI 2-4-8-16-33-46-66-92	Håndbok for installasjon og bruk
ar	مصضخات الطرد المركزي الكهربائيه متعدده المراحل الرأسية ذات الجسم المغمور من موديلات SVI 2-4-8-16-33-46-66-92	إرشادات التركيب و الاستخدام
el	ΚΑΤΑΚΟΡΥΦΕΣ ΦΥΓΟΚΕΝΤΡΙΚΕΣ ΗΛΕΚΤΡΙΚΕΣ ΑΝΤΛΙΕΣ ΠΟΛΛΑΠΛΩΝ ΣΤΑΔΙΩΝ ΜΕ ΣΩΜΑ ΒΥΘΙΣΜΕΝΟ ΣΕΙΡΑΣ SVI 2-4-8-16-33-46-66-92	Οδηγίες εγκατάστασης και χρήσης
tr	SVI 2-4-8-16-33-46-66-92 SERİSİ DİKEY MİLLİ ÇOK KADEMELİ ELEKTRİKLI DALGIÇ VE SANTRİFÜJ POMPALAR	Kurulum ve kullanım talimatları
ru	ЦЕНТРОБЕЖНЫЕ МНОГОСТУПЕНЧАТЫЕ НАСОСЫ С ПОГРУЖНЫМ КОРПУСОМ СЕРИЯ SVI 2-4-8-16-33-46-66-92	Инструкции по монтажу и эксплуатации
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hu	CENTRIFUGÁLIS, TÖBBFOKOZATÚ, FÜGGŐLEGES, MERÜLŐ TESTŰ SVI 2-4-8-16-33-46-66-92 SOROZATÚ ELEKTROMOS SZIVATTYÚK	Telepítési és használati kézikönyv

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it

AVVERTIMENTI PER LA SICUREZZA DELLE PERSONE E DELLE COSE

Questa simbologia   **ATTENZIONE** assieme alle relative diciture: "Pericolo" e "Avvertenza" indicano la potenzialità del rischio derivante dal mancato rispetto della prescrizione alla quale sono stati abbinati, come sotto specificato:

**SCOSSE ELETTRICHE**

Avverte che la mancata osservanza della prescrizione comporta un rischio di scosse elettriche.

**PERICOLO**



Avverte che la mancata osservanza della prescrizione comporta un rischio di danno alle persone e / o alle cose.

ATTENZIONE**AVVERTENZA**

Avverte che la mancata osservanza della prescrizione comporta un rischio di danno alla pompa o all'impianto.

en

SAFETY PRECAUTIONS

This symbol   **WARNING** together with one of the following words "Danger" or "Warning" indicates the risk level deriving from failure to observe the prescribed safety precautions:

**ELECTRIC SHOCK**

Warns that failure to observe the precautions may cause electric shock.

**DANGER**



Warns that failure to observe the precaution may cause personal injury or damage to property.

WARNING**WARNING**

Warns that failure to observe the precautions may cause damage to the pump and/or system.

fr

AVERTISSEMENTS POUR LA SÉCURITÉ DES PERSONNES ET DES BIENS

Le symbole   **ATTENTION** et l'un des mots: "Danger" et "Avertissement" indique la possibilité de danger dérivant du non respect de la prescription correspondante, suivant les spécifications suivantes:

**DÉCHARGES ÉLECTRIQUES**

Avertit que la non observation de la prescription comporte un risque de choc électrique.

**DANGER**

Avertit que la non observation de la prescription comporte un risque de lésion ou dommage aux personnes et/ou aux choses.

ATTENTION**AVERTISSEMENT**

Avertit que la non observation de la prescription comporte un risque de dommage à la pompe et /ou à l'installation.

1. Overview

The aim of this manual is to supply the indispensable information for the installation, use and maintenance of electric pumps.

The contents of this manual refer to the standard product as presented in the commercial documentation. See the sales contract documentation for any variations and features of the special versions.

Always specify the exact type of pump and the code if you have to ask our Sales and Assistance Service for technical information or spare parts.

For instructions, situations and events not contemplated by this manual nor by the sales documentation, contact our nearest Assistance Service.

Read this manual before installing and using the product.



Improper use may cause conditions of danger with damage to persons and property, and render the guarantee void.

2. Product description

The SVI range comprises vertical multistage pumps with immersed body, which may be coupled to normalised electric motors. The SVI range has some metal parts in contact with the water in stainless steel and others in cast iron. A special version is available in which all the metal parts in contact with the water are made of stainless steel.

3. Applications

SVI pumps are typically used to pump cooling and lubricating emulsions in machine tools. They are also used in washing, filtering and condensate recovery systems, and in all those applications where a submersible liquid end is required.

4. Application limits



Not suitable for handling flammable or explosive liquids

WARNING

Not suitable for handling liquids containing solid, abrasive or fibrous substances.

Pumped fluids should have the same viscosity and density as water. Fluids having greater viscosity and density require a suitably oversized electric motor. Maximum kinematic viscosity in compliance with EN12157.

Maximum working pressure:

For versions "E" and "EN" close-coupled = 10 bar

For versions "S" and "N" with coupling = 25 bar

Liquid temperature:

For versions "E" and "EN" close-coupled, standard (gaskets in FPM) from -10°C to +60°C

For versions "E" and "EN" close-coupled, special (gaskets in EPDM) from -30°C to +60°C

For versions "S" and "N" with standard coupling (gaskets in FPM) from -10°C to +90°C

For versions "S" and "N" with special coupling (gaskets in EPDM) from -30°C to +90°C

For versions "S" and "N" with special coupling (gaskets in PTFE) from 0°C to +90°C

Maximum environment temperature +40°C

Maximum number of starts per hour:

20 for powers up to 5.5 kW

15 for powers up to 15 kW

12 for higher powers

5. Installation

Handling



Use suitable equipment. Respect the accident-prevention regulations. Lift and handle the product with care using suitable lifting equipment. When you receive the pump, check the outside of the packing to ensure there is no visible damage. If the product shows signs of damage, inform our dealer within 8 days of delivery. The product must be safely slung in order to be lifted and handled.



Do not use the eyebolts on the motor, if fitted, to move the whole pump; only use them to move just the motor, if it needs replacing, after disconnecting it from the pump.

This pump has been designed to be installed over the tank with the pump body immersed in the liquid. The motor-pump support with delivery port includes the flange to be attached to the tank. If necessary, the pump can be installed against a wall of the tank and positioned horizontally. In this case make sure that the seal between the flange and the tank wall is watertight.

Immersion



To ensure proper operation and long-lasting efficiency, the immersion depth of the pump body must not be less than the one shown in fig. 4.

6. Electrical connection

Connection of the motor to the power supply must be executed by a qualified electrician in compliance with current electrical standards.



Install a high sensitivity differential switch (0.03A) for extra protection against electric shock in the event of inefficient grounding.

Make sure that the rated voltage is compatible with the line voltage.



Install a master switch between the mains and the electric pump. This switch must be turned off before conducting any maintenance operations on the pump.

For easier motor connection the terminal board can be set in one of the four 90° positions shown in fig. 2.

To change the angle of the terminal board, in models with coupling (SVI...S .. and SVI...N...), remove, whenever necessary, the coupling guard and loosen the 4 screws that fasten the motor to the spider, turn the motor to the required position and re-tighten the 4 fastening screws.

To change the angle of the terminal board (at 90 or 120° for power up to 0.45 kW) in close-coupled models (SVI...E..) please contact our Sales and Service Department.

Then remove the junction box cover and make the connections as shown on the inside of the cover as well as in figs. 3 and 4.

Connect the ground wire first.

Overload protection

Single-phase motors have a built-in automatic reset overload protection, three-phase motors must be protected by a suitable starter set to the rated current.

7. Start-up

With the pump body submerged start the pump, if three phase, for a few seconds. Through the coupling guard or the fan cover check the direction of rotation: it must be clockwise when looking at the pump from above, as indicated by the arrow on the flange.

If the direction of rotation is incorrect, turn off the master switch and invert the position of two supply wires.

Operation

The pump must operate smoothly and noiselessly. Do not run the pump with the delivery port closed for more than 4-5 minutes, to avoid overheating the liquid and damages to the mechanical seal.



During operation, the outer surface of the pump (if hot liquids are being pumped) and the outer surface of the motor can exceed 40°C. Do not touch with parts of your body (e.g.: hands) and do not put combustible material into contact with the pump.

The maximum noise produced by the pump, correctly installed and used within the range indicated on the data plate, is as shown in the table below:

MOTOR POWER 2 POLES 50 Hz	MOTOR POWER 4 POLES 50 Hz	SOUND PRESSURE LEVEL * Lp(A) dB ± 2
≤ kW 5.5	Up to kW 4	< 70
7.5 kW	-	71
11 kW	-	73
15 kW	-	71
18.5 kW	-	73
22 kW	-	70
30 kW	-	74

Mean sound pressure level at a distance of 1 metre from the pump in a free field.

8. Maintenance



Maintenance operations must be performed by skilled and qualified personnel only. Use suitable equipment and protection devices. Observe the accident prevention regulations in force. If you need to drain the pump, make sure that the drained liquid does not cause damage or injuries.

The pump does not require any routine maintenance. Check the suction filter periodically to ensure that it is not clogged, and make sure that any liquid cleaning devices are efficient.

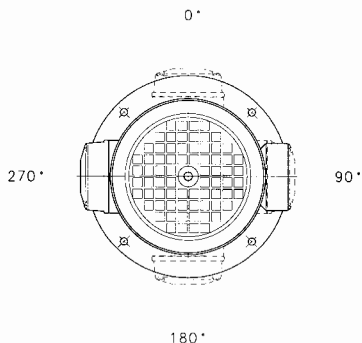
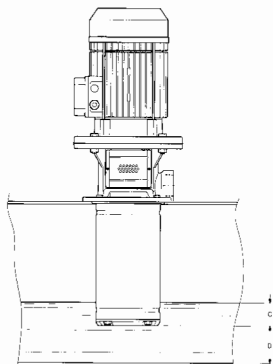
As regards unscheduled maintenance, which normally consists of cleaning the liquid ends or replacing the mechanical seal or other parts subject to wear, please consult our maintenance manual.



Before any pump maintenance operation, ensure that the motor is disconnected from the electric power mains.

9. Troubleshooting

FAULT	PROBABLE CAUSE	POSSIBLE REMEDIES
1. The pump does not start	No power	Restore the power supply.
	Protective fuses of the pump or of the auxiliary circuits burnt out.	Change the fuses
	Overload protection has tripped.	Reset the protection (if it trips, see fault 4)
2. The pump starts but does not deliver, or the flow rate delivered is low and inconstant.	Liquid level too low	Fill the tank with liquid (min. level see fig.1)
	Blocked intake filter.	Dismantle and clean the pump
	Contrary rotation	Check the direction of rotation and, if necessary, exchange two phases in the motor or in the electric control panel.
3. Noisy pump operation	Presence of foreign bodies inside the pump, between the impellers and the diffusers.	Dismantle and clean the pump
	Motor bearings are worn.	Replace the bearings or the motor.
4. Overload protection activates	Presence of foreign bodies inside the pump, between the impellers and the diffusers.	Dismantle and clean the pump
	The pump is sucking up a dense, viscous liquid.	Check the actual power necessary according to the characteristics of the pumped liquid and change the motor.
	The pump is distributing a flow rate higher than the limit indicated on the data plate.	Partly close the interception valve on delivery until the flow rate returns within the limits contemplated.



it - FIG. 1
en - FIG. 1
fr - FIG. 1
de - ABB.1
es - FIG. 1
pt - FIG. 1
nl - FIG. 1
da - FIG. 1
sv - FIG. 1

fi - KUVA 1
no - FIG. 1
ar - شكل 1
el - EIK. 1
tr - ŞEKİL 1
ru - РИС. 1
pl - RYS. 1
hu - 1. ÁBRA

it - FIG. 2
en - FIG. 2
fr - FIG. 2
de - ABB.2
es - FIG. 2
pt - FIG. 2
nl - FIG. 2
da - FIG. 2
sv - FIG. 2

fi - KUVA 2
no - FIG. 2
ar - شكل 2
el - EIK. 2
tr - ŞEKİL 2
ru - РИС. 2
pl - RYS. 2
hu - 2. ÁBRA

<p>it - POMPA TIPO en - PUMP TYPE fr - POMPE TYPE de - PUMPENTYP es - BOMBA TIPO pt - BOMBA TIPO nl - POMP TYPE da - POMP TYPE sv - PUMPTYP fi - PUMPPUTYYPPI no - PUMPETYPE ar - المضخة من القاع el - ΑΝΤΑΛΙΑ ΤΥΠΟΥ tr - POMPA TİPİ ru - ТИП НАСОСА pl - POMP TYP hu - SZIVATTYÚ TÍPUS</p>	<p>it - LIVELLO MINIMO DI IMMERSIONE en - MINIMUM IMMERSION fr - NIVEAU MINIMUM D'IMMERSION de - MINDESTTAUCHTIEFE es - NIVEL MÍNIMO DE INMERSIÓN pt - NÍVEL MÍNIMO DE IMERSÃO nl - MINIMUM DOMPELNIVEAU mm da - MIN. NEDSÆNKINGSDYBDE sv - MINSTA NEDSÄNKINGSNIVÅ fi - MINIMIUPOTIUS no - MINIMUMS NEDSENKINGSNIVÅ ar - أدنى مستوى للغمر el - ΕΛΑΧΙΣΤΗ ΣΤΑΘΜΗ ΒΥΘΙΣΗΣ tr - ASGARİ DAL DİRMA SEVİYESİ ru - МИН. УРОВЕНЬ ПОГРУЖЕНИЯ pl - MINIMALNY POZIOM ZANURZENIA hu - MINIMALIS MÉRŐLESI SZINT</p>	<p>it - DISTANZA DAL FONDO en - DISTANCE FROM THE BOTTOM fr - DISTANCE PAR RAPPORT AU FOND de - DISTANZ VOM BODEN es - DISTANCIA DESDE EL FONDO pt - DISTÂNCIA DO FUNDO nl - AFSTAND VAN DE BODEM mm da - AFSTAND FRA BUNDEN sv - AVSTÅND FRÅN BOTTEN fi - ETÄISYYS POHJASTA no - AVSTAND FRA BUNNEN ar - نوع المضخة el - ΑΠΟΣΤΑΣΗ ΑΠΟ ΤΟΝ ΠΑΤΟ tr - DİPTEŒ MESAFFE (mm) ru - РАССТОЯНИЕ ОТ ДНА мм pl - ODLEGŁOŚĆ OD DNA hu - FENÉKTÁVOLSÁG</p> <p style="text-align: center;">D mm</p>	
	<p style="text-align: center;">C mm</p>	<p>it - RACCOMANDATA en - RECOMMENDED fr - RECOMMANDÉE de - EMPFOHLEN es - RECOMENDADO pt - RECOMENDADA nl - AANBEVOLEN da - ANBEFALET sv - REKOMMENDERAT fi - SUOSITELTU ARVO no - ANBEFALT ar - المنصوح بها el - ΣΥΝΙΣΤΟΥΜΕΝΗ tr - TAVSİYE EDİLEN (r) ru - РЕКОМЕНДУЕМОЕ pl - ZALECENIE hu - JAVASOLT</p>	<p>it - MINIMA en - MINIMUM fr - MINIMUM de - MINDESTENS es - MÍNIMA pt - MÍNIMA nl - MINIMUM da - MIN. sv - MIN. fi - MINIMI no - MINIMUM ar - الدنيا el - ΕΛΑΧΙΣΤΗ tr - ASGAR ru - МИНИМАЛЬНОЕ pl - MINIMUM hu - JAVASOLT</p>
<p>SVI2 SVI4</p>	<p style="text-align: center;">25</p>	<p style="text-align: center;">60</p>	<p style="text-align: center;">20</p>
<p>SVI8 SVI16</p>	<p style="text-align: center;">25</p>	<p style="text-align: center;">80</p>	<p style="text-align: center;">35</p>
<p>SVI33-46 SVI66-92</p>	<p style="text-align: center;">80</p>	<p style="text-align: center;">120</p>	<p style="text-align: center;">60</p>

FIG. - ABB. - KUWA - شكل - EIK. - ŞEKIL - PИC. - RYS. - ÁBRA - 3

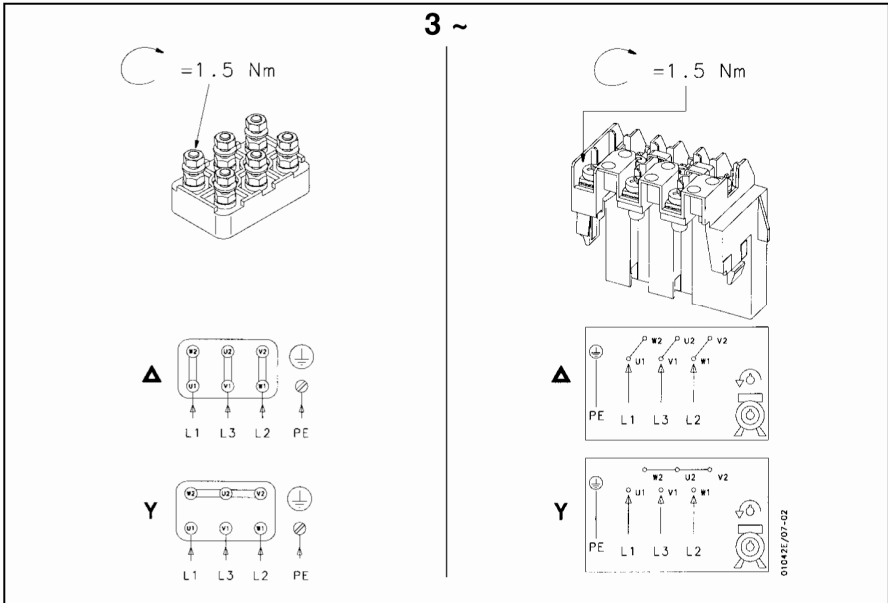
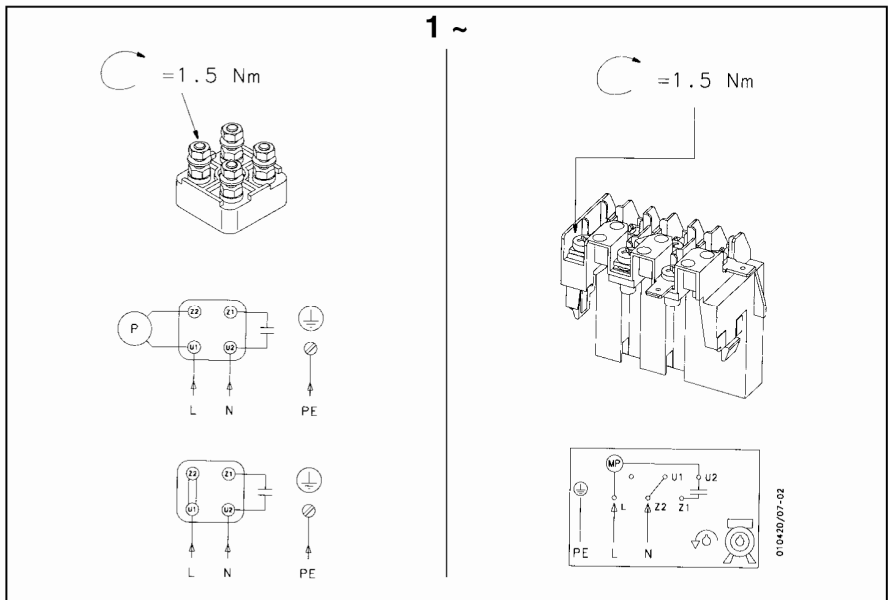


FIG. - ABB. - KUWA - شكل - EIK. - ŞEKIL - PИC. - RYS. - ÁBRA - 4



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