xylem
Let's Solve Water

Additional Installation, Operation and Maintenance Instructions

e-SV hydrovar X Series

Pump unit with integrated variable speed drive

LOWARA
a xylem brand

Table of Contents

1 Introduction and Safety

1.1 Introduction

Purpose of this manual

This manual provides information on how to do the following in the correct manner:

- Installation
- Operation
- Maintenance.

Supplementary instructions

The instructions and warnings of this manual apply to the standard unit as described in the sale documentation. Special version pumps may be supplied with supplementary instruction manuals. For situations not considered in the manual or in the commercial documentation, contact Xylem or the Authorised Distributor.

1.2 Hazard levels and safety symbols

Before using the unit, the user must read, understand and comply with the indications of the danger warnings in order to avoid the following risks:

- Injuries and health hazards
- Damage to the product
- Unit malfunction.

Hazard levels

Hazard level	Indication
 DANGER:	It identifies a dangerous situation which, if not avoided, causes serious injury, or even death.
 WARNING:	It identifies a dangerous situation which, if not avoided, may cause serious injury, or even death.
 ATTENTION:	It identifies a dangerous situation which, if not avoided, may cause small or medium level injuries.
NOTE:	It identifies a situation which, if not avoided, may cause damage to property but not to people.

Complementary symbols

Symbol	Description
	Electrical hazard
	Hot surface hazard
	Danger, pressurized system
	Explosive atmosphere hazard
	Ionizing radiation hazard
	Danger, suspended loads
	Magnetic hazard
	Do not use flammable liquids
	Do not use corrosive liquids
	Obligation to read the instruction manual
	Obligation to wear safety shoes
	Obligation to wear safety glasses
	Obligation to wear a safety helmet
	Obligation to wear safety gloves

1.3 User safety

Strictly comply with current health and safety regulations.

Qualified personnel

This unit must be used only by qualified users. Qualified users are people able to recognise the risks and avoid hazards during installation, use and maintenance of the unit.

1.4 Protection of the environment

Disposal of packaging and product

Comply with the current regulations on sorted waste disposal.

Leaking of fluid

If the unit contains lubricating fluid, take appropriate measures to prevent the dispersion of leaks into the environment.

Sites exposed to ionizing radiations

WARNING: Ionizing radiation hazard

If the unit has been exposed to ionizing radiations, implement the necessary safety measures for the protection of people. If the unit needs to be dispatched, inform the carrier and the recipient accordingly, so that appropriate safety measures can be put in place.

2 Handling and Storage

2.1 Unit inspection upon delivery

2.1.1 Package inspection

1. Check that quantity, descriptions and product codes match the order.
2. Check the packaging for any damage or missing components.
3. In case of immediately detectable damage or missing parts:
   - Accept the goods with reserve, indicating any findings on the transport document, or
   - Reject the goods, indicating the reason on the transport document.

   In both cases, promptly contact Xylem or the Authorised Distributor from whom the product was purchased.

2.1.2 Unpacking and inspection of the unit

ATTENTION: Cut and abrasion hazard

Always wear personal protective equipment.

1. Remove the packaging.
2. Ensure sorting of all packaging materials in accordance with the applicable regulations.
3. Release the unit by removing the screws and/or cutting the straps, if fitted.
4. Check the unit for integrity and to make sure that there are no missing components.
5. In case of damage or missing components, promptly contact Xylem or the Authorised Distributor.

2.2 Guidelines for transport

Precautions

WARNING: Crushing hazard

The unit and components are heavy: risk of crushing.

WARNING:

Always wear personal protective equipment.

WARNING:

Check the gross weight marked on the packaging.

WARNING:

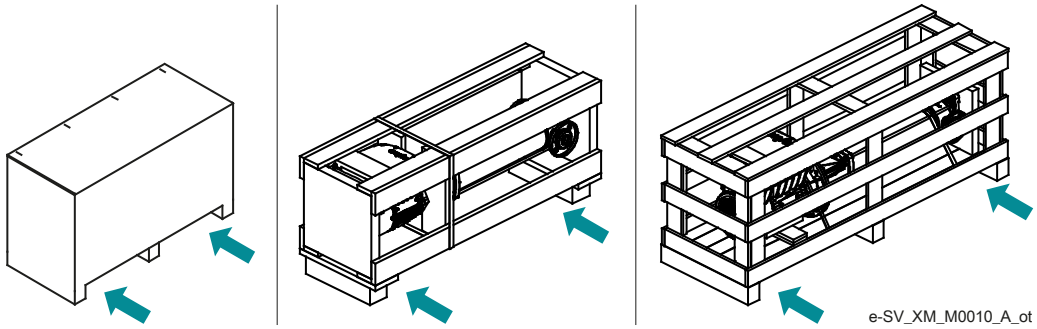
Handle the unit in compliance with the current regulations on "manual load handling", to avoid undesirable ergonomic conditions causing risks of back-spine injury.

WARNING:

Take appropriate measures during transport, installation and storage to prevent contamination from external substances.

2.2.1 Handling of the packed unit using a forklift truck

The Figure shows the types of packaging depending on the sizes of the unit and the lifting points.



2.2.2 Lifting with a crane

WARNING:

Use ropes, chains and/or slings (hereinafter referred to as "ropes"), hooks and/or clasps (hereinafter referred to as "hooks"), shackles or eyebolts that comply with the applicable directives and are suitable for use.

NOTE:

Make sure that the harnessing does not hit and/or damage the unit.

WARNING:

Lift and handle the unit slowly to avoid stability issues.

WARNING:

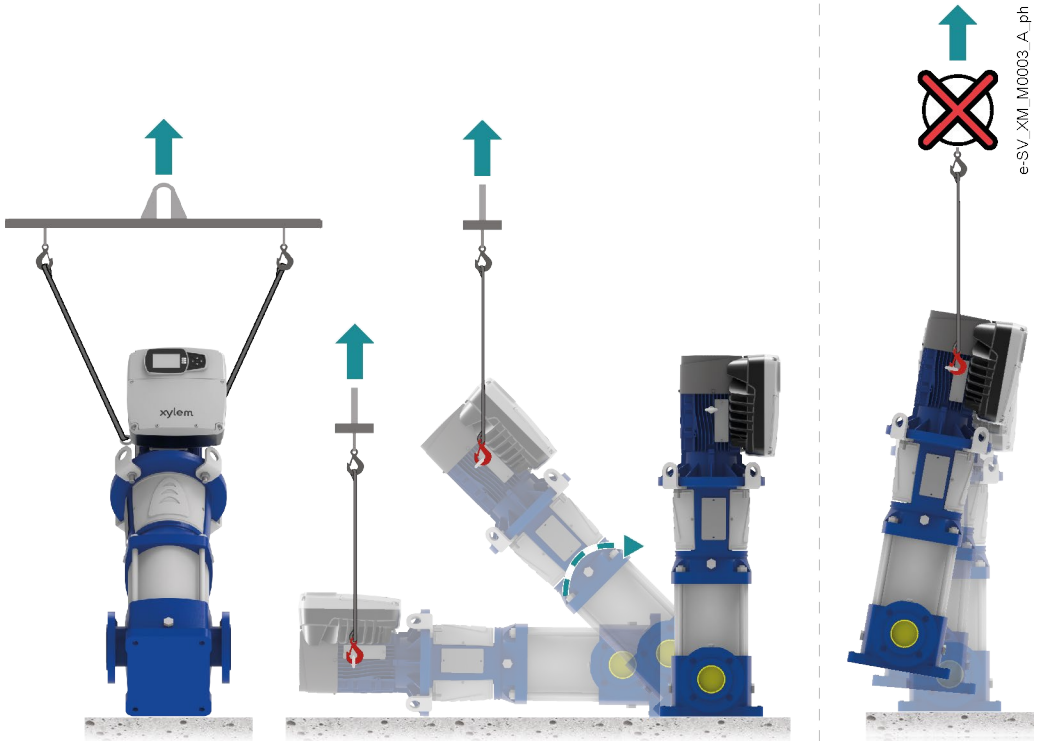
During handling, make sure to avoid injury to people and animals, and/or damage to property.

WARNING:

Do not use eyebolts screwed on the motor for lifting the unit.

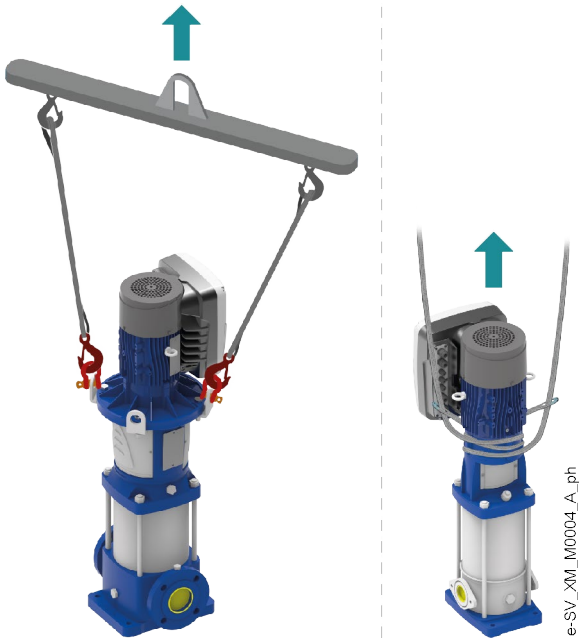
Preparing the unit for lifting

1. Move the unit from the horizontal to the vertical position, using the motor eyebolts only if necessary, fixing the ropes to a sling bar.



2. Depending on the model:
   - Attach the shackles to all the eyelets, if any, and attach the ropes to the shackles, or
   - Use the ropes to make a tie harness.

   The figure shows how to harness and lift the different models.



3. Fix the sling bar to the crane.
4. Fix the ropes to the sling bar.
5. Lift the sling bar and tension the ropes without lifting the unit.

Lifting and positioning

1. Lift and move the unit slowly
2. Set the unit down slowly.
3. Depending on the model:
   - Release the ropes from the shackles, or
   - Release the harness.

2.3 Storage

Storage of the packed unit

The unit must be stored:

- In a covered and dry place
- Away from heat sources
- Protected from dirt
- Protected from vibrations
- At an ambient temperature between -40°C and +70°C (-40°F and 158°F), and maximum relative humidity of 90% at 30°C (86°F).

NOTE:

Do not place heavy loads on top of the unit.

NOTE:

Protect the unit from collisions.

- Units with motors up to 5.5 kW: do not stack more than two units in the original packaging
- Motors > 5.5 kW: do not stack units.

Long-term storage of the unit

1. Empty the unit by unscrewing the drain plug; this operation is essential in environments with cold temperatures. Otherwise, any residual liquid in the unit could have an adverse effect on its condition and performance.

2. Follow the same instructions for the storage of the packed unit.

For more information on long-term storage contact the Xylem sales company or Authorised Distributor.

3 Description of the Product

3.1 Features

The product is multi-stage vertical pump unit, non self-priming, with integrated variable speed drive.

Intended use

- Pressure boosting and water supply systems
- Washing and cleaning sector, including washing of vehicles
- Circulation of hot and cold liquids, for example water or water & glycol, for heating, cooling and air conditioning systems
- Water treatment applications
- Transfer of moderately aggressive liquids
- Irrigation
- Firefighting systems.

Observe the operating limits in Technical Information on page 42.

DANGER: Potentially explosive atmosphere hazard

It is prohibited to start the unit in environments with potentially explosive atmospheres or with combustible dusts.

Pumped liquids

- Clean
- Chemically and mechanically non aggressive
- Hot water
- Cold water.

DANGER:

It is prohibited to use this unit to pump flammable and/or explosive liquids.

3.1.1 Use in water distribution networks for human consumption

If the unit is intended for water supply to people and/or animals:

WARNING:

It is prohibited to pump drinking water after use with other fluids.

WARNING:

Take appropriate measures during transport, installation and storage to prevent contamination from external substances.

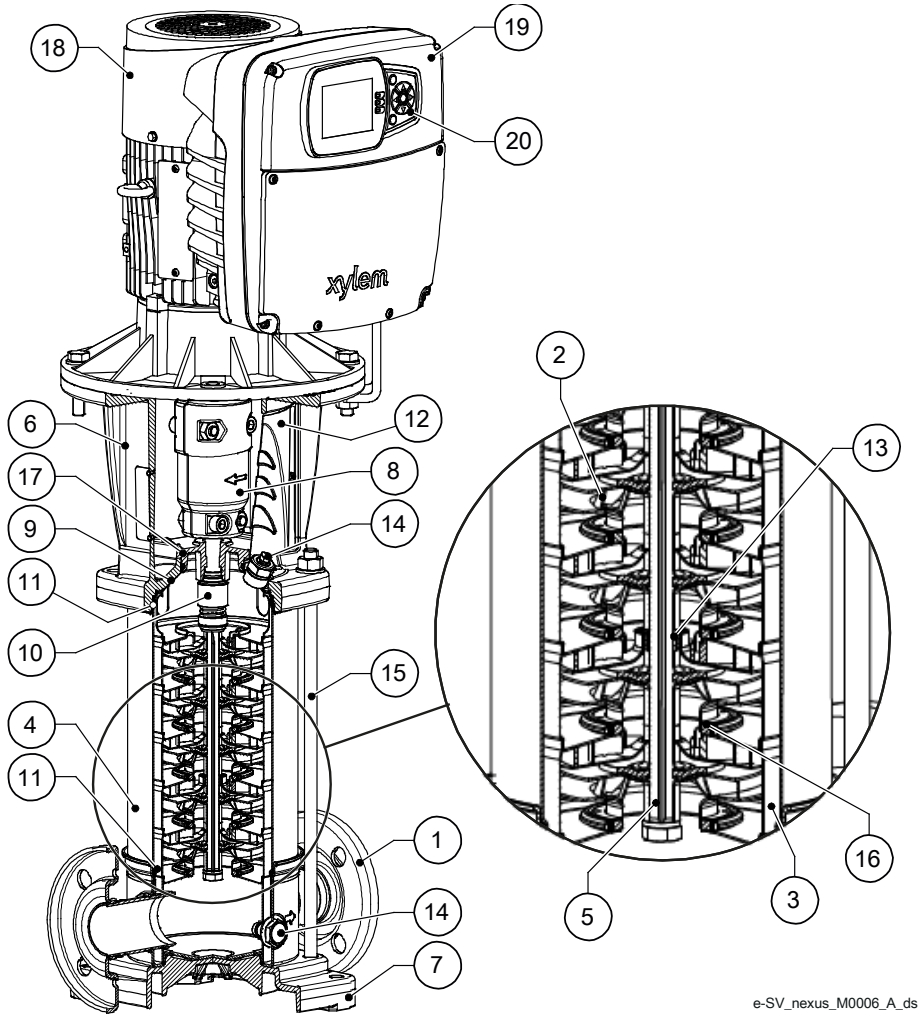
WARNING:

Remove the unit from its packaging just before installation to prevent contamination from external substances.

WARNING:

After installation, run the unit for a few minutes with several users open in order to wash the inside of the system.

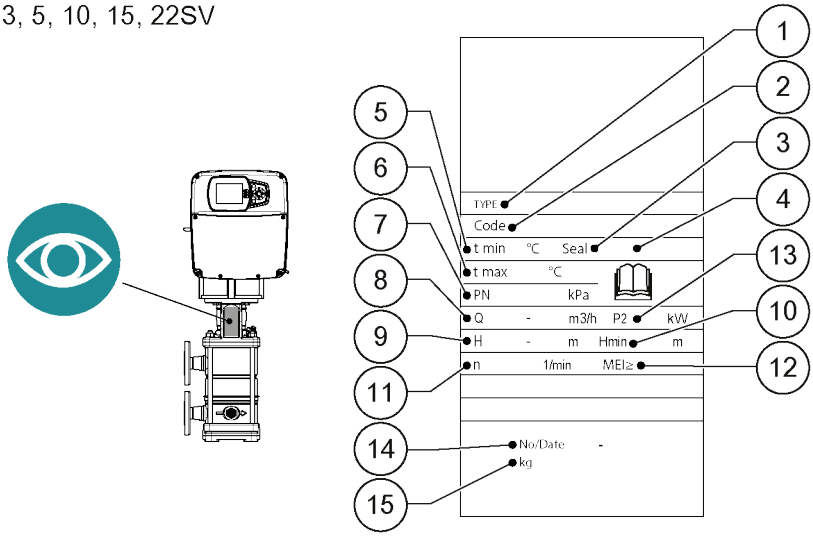
3.1.2 Part names



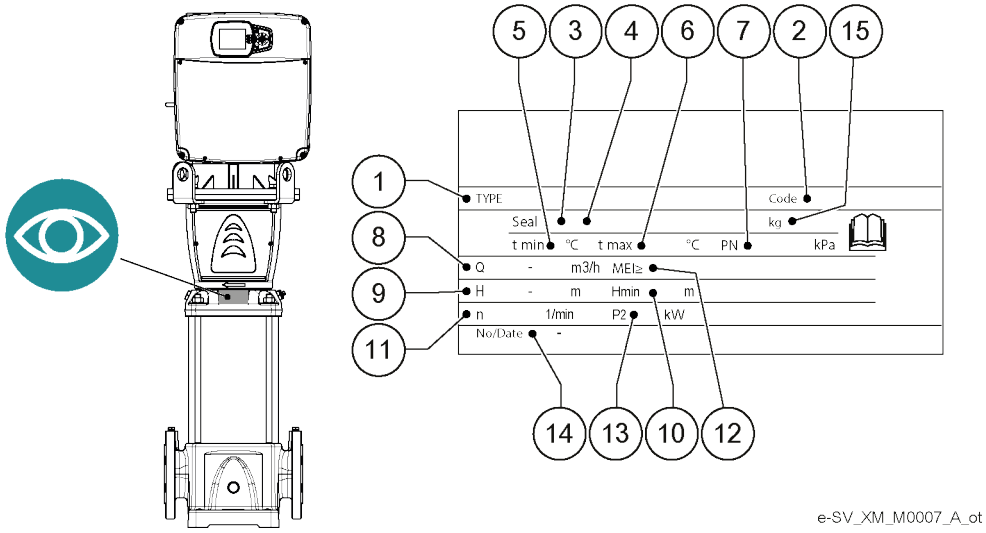
1. Pump body
2. Impeller
3. Diffuser
4. Outer sleeve
5. Shaft
6. Motor adapter
7. Base plinth
8. Coupling
9. Disk
10. Mechanical seal
11. Elastomers
12. Coupling protection
13. Shaft sleeve and bush
14. Fill and drain plug
15. Tie rod
16. Wear ring
17. Seal housing
18. Motor
19. Drive
20. Drive display

3.2 Data plate

3, 5, 10, 15, 22SV



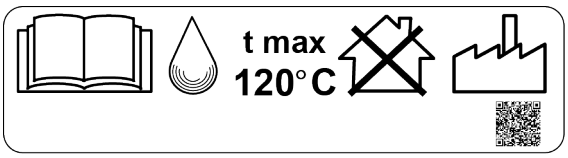
33, 46, 66, 92, 125SV



1. Pump unit type
2. Product code
3. Mechanical seal materials identification code
4. O-ring materials identification code
5. Minimum liquid operating temperature
6. Maximum liquid operating temperature
7. Maximum operating pressure
8. Flow rate range
9. Head range
10. Minimum head
11. Maximum rotation speed
12. Minimum efficiency index
13. Pump rated power
14. Serial number + manufacturing date
15. Weight

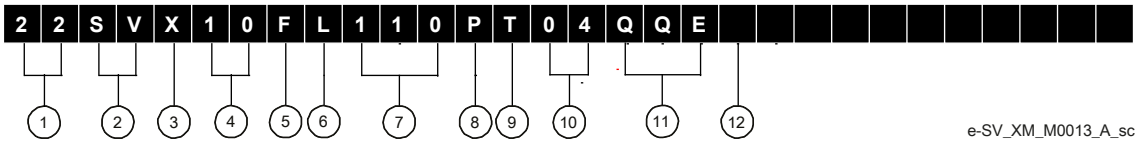
Liquid temperature plate

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



ESV_M0025_A_sc

3.3 Identification code



e-SV_XM_M0013_A_sc

1. Flow rate in m^3/h
2. Series name
3. Hydrovar X+ [X] or hydrovar X [K]
4. Number of impeller
5. Materials and other features:
   - From 1 to 22SV: AISI 304 with round flanges PN 25 [F], AISI 304 with oval flanges PN 16 [T], AISI 304 with discharge port above the suction and round flanges PN 25 [R], AISI 316 with round flanges PN 25 [N], AISI 316 with Victaulic® couplings PN 25 [V], AISI 316 with Victaulic® couplings PN 40 [P], AISI 316 with Clamp couplings DIN 32676 PN 25 [C], AISI 316 with threaded couplings DIN 11851 PN 25 [K] or customised version [X]
   - From 33 to 125SV: AISI 304 and cast iron with round flanges PN 16, 25 or 40 depending on model [G], AISI 304 with round flanges PN 16, 25 or 40 depending on model [N], AISI 316 with round flanges PN 40 [P] or customised version [X]
6. Standard version [ ], low NPSH with round flanges PN 25 (F, N, R versions) [L], high temperature 150°C with round flanges PN 25 (F, N versions) [H], high temperature 180°C with round flanges PN 25 (N version) [B], materials in contact with the liquid passivated and electropolished (N, V, C, K, P versions) [E], high temperature 150° and low NPSH (F, N versions) [W], high temperature 180° and low NPSH (N version) [Y], materials in contact with the liquid passivated and electropolished, with low NPSH (N V, C, K, P versions) [U], high temperature 150° and materials in contact with the liquid passivated and electropolished (N version) [I], high temperature 180° and materials in contact with the liquid passivated and electropolished (N version) [S], high temperature 150° and materials in contact with the liquid passivated and electropolished, with low NPSH (N version) [A], high temperature 180° and materials in contact with the liquid passivated and electropolished, with low NPSH (N version) [D] or customised [X]
7. Rated motor power in kWx10
8. Reluctance-assisted motor [P]
9. Three-phase power supply [T]
10. Power supply voltage 3~ 200-240 V (50/60 Hz) [03] or 3~ 380-480 V (50/60 Hz) [04]
11. Mechanical seal and elastomers; see the technical catalogue
12. Other information for the standard version [ ] or with a letter assigned by the manufacturer [ ]

3.4 Approval marks

Any electric safety approval marks found only apply to the pump unit.

4 Installation

4.1 Precautions

General precautions

Before starting, make sure that the safety instructions shown in **Introduction and Safety** on page 5 have been fully read and understood.

DANGER:

All the hydraulic and electrical connections must be completed by a technician possessing the technical-professional requirements outlined in the current regulations.

WARNING:

Always wear personal protective equipment.

WARNING:

Always use suitable working tools.

WARNING:

When selecting the place of installation and connecting the unit to the hydraulic and electric power supplies, strictly comply with current regulations.

When connecting the unit to a public or private aqueduct, or to a well for the supply of water for human and/or animal consumption, see Use in water distribution networks for human consumption on page 12.

WARNING:

Piping must be sized to ensure safety at the maximum operating pressure.

WARNING:

Install appropriate gaskets between the unit and the piping system.

Electrical measures

DANGER: Electrical hazard

Before starting work, check that the electric power supply is disconnected and locked out, to avoid unintentional restart of the unit, the control panel and the auxiliary control circuit.

NOTE:

The mains voltage and frequency must match the values indicated on the motor data plate.

NOTE:

Before starting work, make sure that the general electric requirements and/or those of the firefighting systems (hydrants or sprinklers) comply with local regulations.

Ground

DANGER: Electrical hazard

Always connect the external protection conductor (ground) to the ground terminal before attempting to make any other electrical connections.

DANGER: Electrical hazard

Connect all the electrical accessories of the unit to the ground.

DANGER: Electrical hazard

Check that the external protection conductor (ground) is longer than the phase conductors. In case of accidental disconnection of the unit from the phase conductors, the protection conductor must be the last one to detach itself from the terminal.

DANGER: Electrical hazard

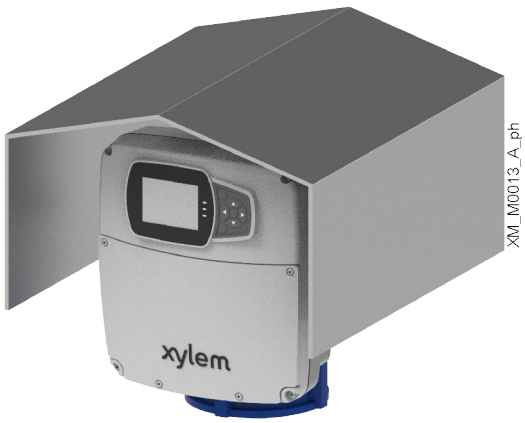
Install suitable systems for protection against indirect contact, in order to prevent lethal electric shocks.

4.2 Mechanical installation

Install the unit on a concrete or metal foundation base sufficiently strong to ensure permanent and rigid support.

4.2.1 Installation area

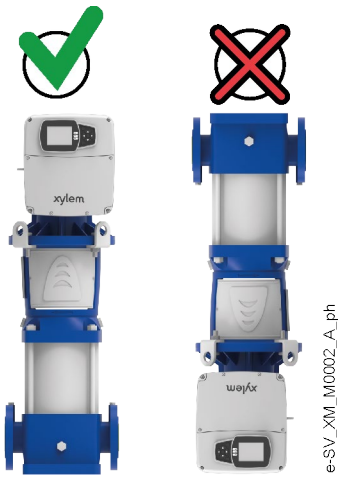
1. Follow the provisions in **Operating environment** on page 42.
2. Place the unit in a raised position in relation to the floor.
3. Make sure that any leaks will not cause flooding to the installation area or submerge the unit.
4. In case of outdoor installation, ensure appropriate protection of the unit against direct sunlight, rain and snow using appropriate covers.



Air clearance between a wall and the external surfaces of the unit

- To ensure suitable ventilation: ≥ 100 mm (4 in)
- To permit inspection and removal of the motor: ≥ 300 mm (12 in)
- If the space available is any less, refer to the technical catalogue.

4.2.2 Permitted positions



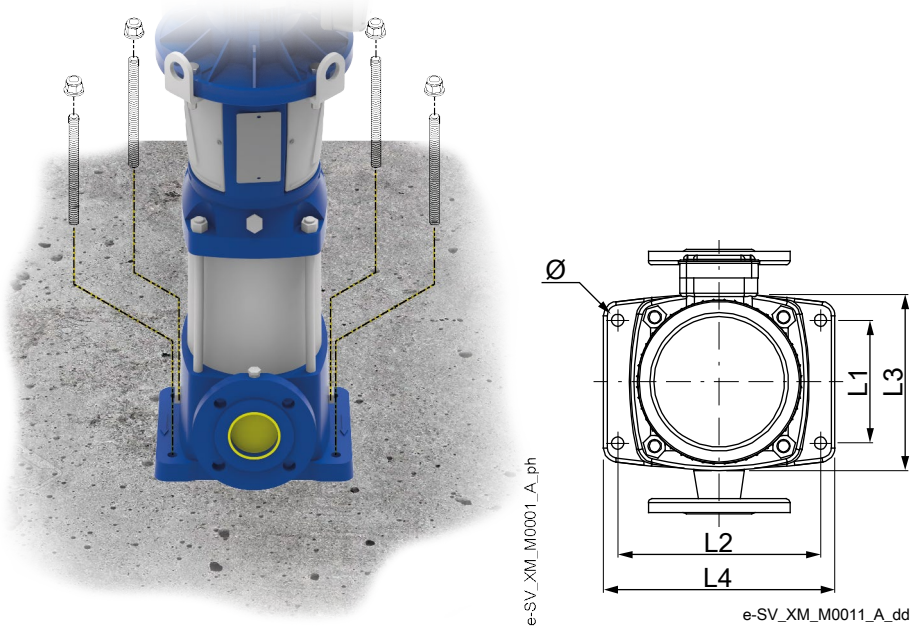
Contact Xylem or the Authorised Distributor for other positions.

4.2.3 Requirements on the concrete foundation

- The concrete must have a compression resistance of C12/15 and meet the requirements of exposure class XC1 according to EN 206-1
- Sizes must be appropriate for the sizes of the unit support plate, see **Fastening**
- The foundation weight must be ≥ 1.5 times the unit weight (≥ 5 times the weight of the unit if a quieter operation is required)
- The surface should be as flat and level as possible.

4.2.4 Fastening

1. Place the unit on the foundation.
2. Using a spirit level, make sure that the unit is level.
3. Align the suction and discharge ports to their piping.
4. Secure the unit with 4 bolts with resistance class 8.8 or higher; see the table.
5. If present, remove the plugs covering the suction and discharge ports.



Models	H1, mm (in)	L2, mm (in)	L3, mm (in)	L4, mm (in)	Ø, mm (in)	Bolt size
3, 5SV	100 (3.94)	180 (7.09)	150 (5.90)	210 (8.27)	13 (0.51)	M12
10,15, 22SV	130 (5.12)	215 (8.46)	185 (7.28)	245 (9.65)		
33SV	170 (6.69)	240 (9.45)	220 (8.66)	290 (11.41)	15 (0.59)	M14
46, 66, 92SV	190 (7.48)	265 (10.43)	240 (9.45)	315 (12.40)		
125SV	275 (10.82)	380 (14.96)	330 (12.99)	450 (17.72)	19 (0.75)	M18

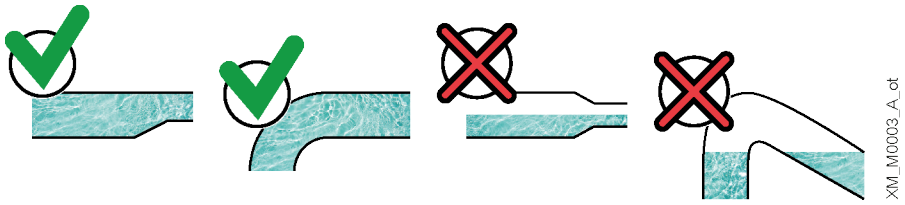
4.2.5 Reducing vibrations

The motor and the flow of liquids in the system can generate vibrations, amplified from the possible incorrect installation of the unit and the piping. See **Hydraulic connection**.

4.3 Hydraulic connection

Refer to the representative hydraulic diagrams; see the figures below.

1. Do not install the unit at the lowest point of the system, to avoid the accumulation of sediments.
2. Install an automatic relief valve at the highest point of the system to eliminate air bubbles.
3. Remove any welding residues, deposits and impurities in the pipes that could damage the unit; install a filter if necessary.
4. Support the piping system independently to prevent them from weighing on the unit.
5. To reduce the transmission of vibrations between the unit and the system and vice versa, install:
   - anti-vibration joints on the suction and discharge sides of the unit
   - dampers between the unit and the surface on which it is installed.
6. In order to reduce flow resistance, the pipe on the suction side must be:
   - As short and as straight as possible
   - For the section connected to the unit, straight and without bottlenecks, covering a length equal to at least six times the diameter of the suction port
   - Wider than the suction port; if necessary, install an eccentric reducer that is horizontal on top
   - Without bends; if this cannot be avoided, bends of a radius as wide as possible
   - Without traps and 'goosenecks'
   - With valves with a low specific flow resistance.



7. Install a check valve on the discharge side to prevent the liquid from flowing back into the pump unit when this is at standstill.
8. Install a pressure gauge (or a vacuum pressure gauge, in case of suction lift installation) on the suction side, and a pressure gauge on the discharge side, for checking the actual operating pressure of the pump unit.
9. To exclude the unit from the system for the purpose of maintenance, install:
   - An on-off valve on the suction side
   - An on-off valve on the discharge side, downstream the check valve and pressure gauge, also useful for regulating the flow rate.
10. On the suction side, install a device to prevent the absence of liquid (float or probes), or a minimum pressure device.

11. Sufficiently submerge the end of the suction pipe in the liquid, in order to prevent any air from penetrating through the suction vortex when the level is at the minimum
12. In case of suction lift installation, the suction pipe must have an increasing slope towards the unit exceeding 2%; to avoid air pockets; also install:
    - A foot check valve that guarantees full opening (full section)
    - A filling on-off valve to facilitate the removal of the air and priming.

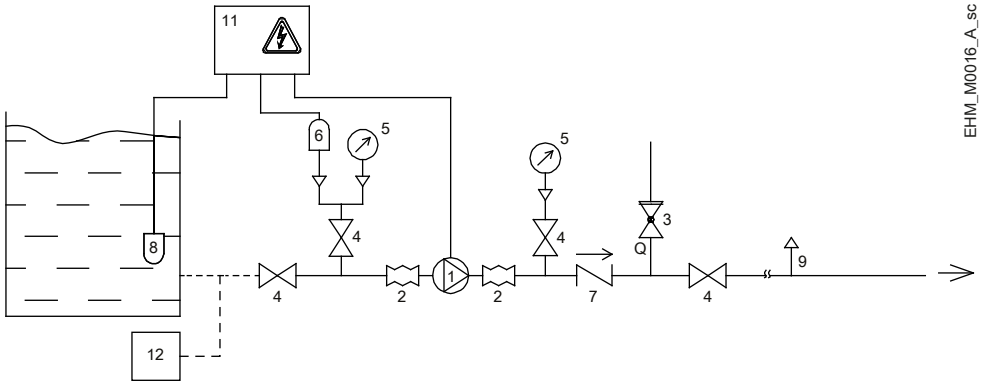


Figure 1: Positive suction head installation

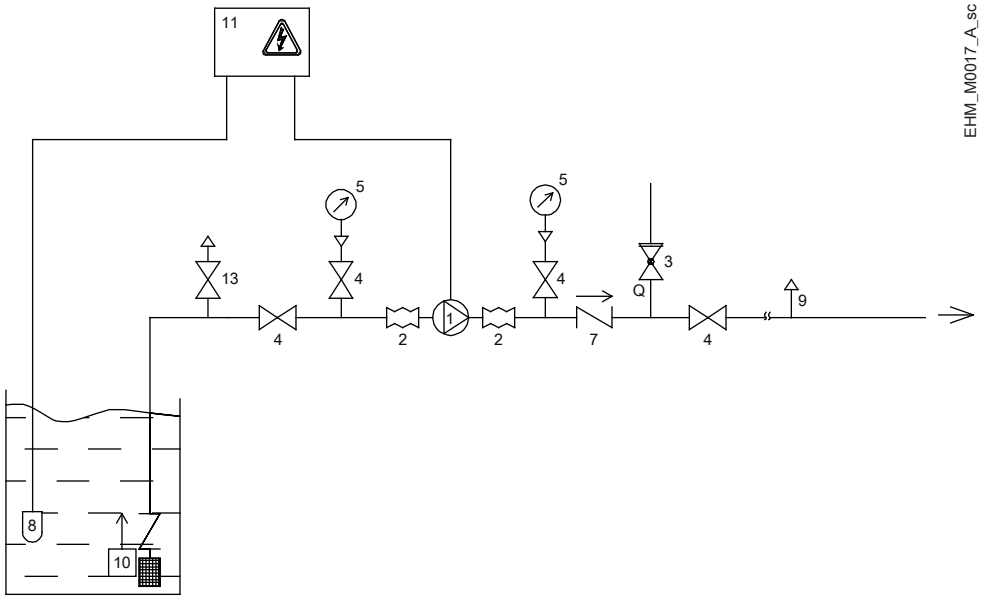
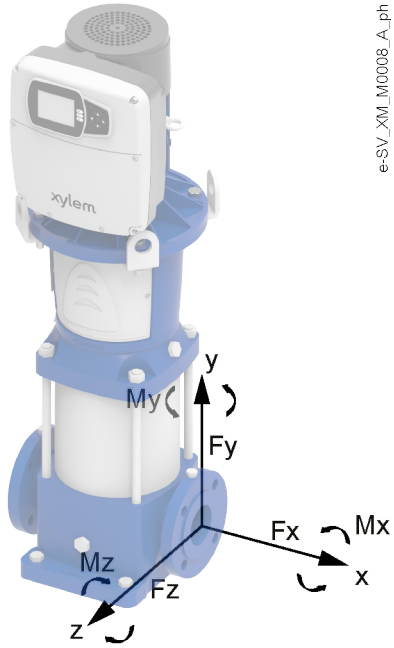


Figure 2: Suction lift installation

1. Pump unit
2. Anti-vibration joint
3. Overpressure safety on-off valve
4. On-off valve
5. Pressure gauge
6. Minimum pressure switch
7. Check valve
8. Electrode probes or float
9. Automatic relief valve
10. Foot check valve with filter
11. Electric panel
12. Pressurised circuit
13. Filling on-off valve

4.3.1 Forces and torques applicable to the flanges

The table shows the maximum allowable forces and torques exerted by the piping on the flanges of the unit.



Model	DN, mm (in)	Forces, N (lbf)			Torques, Nm (lbf·in)		
		Fx	Fy	Fz	Mx	My	Mz
3SV	25 (0.98)	200 (45)	180 (41)	230 (52)	240 (2124)	160 (1416)	190 (1682)
5SV	32 (1.26)	260 (59)	240 (54)	300 (68)	310 (2744)	210 (1859)	250 (2213)
10SV	40 (1.57)	330 (74)	300 (68)	370 (83)	390 (3452)	270 (2390)	310 (2744)
15, 22SV	50 (1.97)	450 (101)	400 (90)	490 (110)	420 (3718)	300 (2656)	340 (3010)
33SV	65 (2.56)	1800 (405)	1700 (382)	2000 (450)	1500 (13 276)	1050 (9294)	1200 (10 621)
46SV	80 (3.15)	2250 (506)	2050 (461)	2500 (562)	1600 (14 161)	1150 (10 179)	1300 (11 506)
66, 92SV	100 (3.94)	3000 (675)	2700 (607)	3350 (753)	1750 (15 489)	1250 (11 064)	1450 (12 834)
125SV	125 (4.92)	3700 (832)	3300 (742)	4100 (922)	2100 (18 587)	1500 (13 276)	1750 (15 489)

4.4 Guidelines for electrical connection

1. Check that the electrical leads are protected against:
   - High temperature
   - Vibrations
   - Collisions
   - Liquids.
2. Check that the power supply line is provided with:
   - A short circuit protection device of appropriate size
   - A mains disconnection device with contact opening distance ensuring complete disconnection for overvoltage III category conditions.

4.5 Guidelines for the control panel

NOTE:

The control panel must match the ratings on the unit data plate. Improper combinations could damage the motor.

1. Fit a system for protection against dry running to which to connect a pressure switch, or a float, probes or other suitable devices.
2. On the suction side install:
   - A pressure switch, in the case of connection to the mains water supply
   - A float switch or probes, in the case of liquid drawn from a tank or basin.

4.5.1 Line fuses and automatic switches

A function activated by the unit calculates the increment level in order to activate the timing of the trigger response (motor stop). The higher the input current, the faster the response. The function offers a Class 20 motor protection.

Protect the unit by installing line fuses or automatic switches for:

- Avoid overheating from cables during installation
- Limit damage in case of failure of internal components.

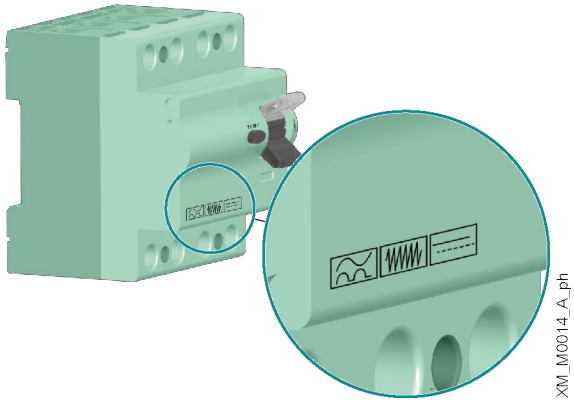
The figure shows the recommended fuses and switches.

Three-phase power supply voltage, Vac	Model	Gc, A type fuses	T (UL) type fuses, manufacturer and model				MCB S203 model ABB Switches
			Bussmann	Edison	Littelfuse	Ferraz-Shawmut	
200 to 240	3….B..	16	JJN-15	TJN (15)	JLLN 15	A3T15	C16
	3….C..	30	JJN-30	TJN (30)	JLLN 30	A3T30	C32
	3….D..	63	JJN-60	TJN (60)	JLLN 60	A3T60	C63
380 to 480	4….B..	16	JJS-15	TJS (15)	JLLS 15	A6T15	C16
	4….C..	30	JJS-30	TJS (30)	JLLS 30	A6T30	C32
	4….D..	63	JJS-60	TJS (60)	JLLS 60	A6T60	C63

4.5.2 Circuit breakers and residual current devices

When using ground fault circuit breakers, GFCI, or residual current devices, RCD, also known as automatic earth leakage circuit breakers, ELCD, check that:

- They are suitable for the system configuration and environment of use
- They have a starting delay to prevent faults caused by transient ground currents
- They detect alternate or direct current, that they are marked with the symbols shown in the figure.



NOTE:

Circuit breakers must be suitable for the total leakage current of all the equipment in the system.

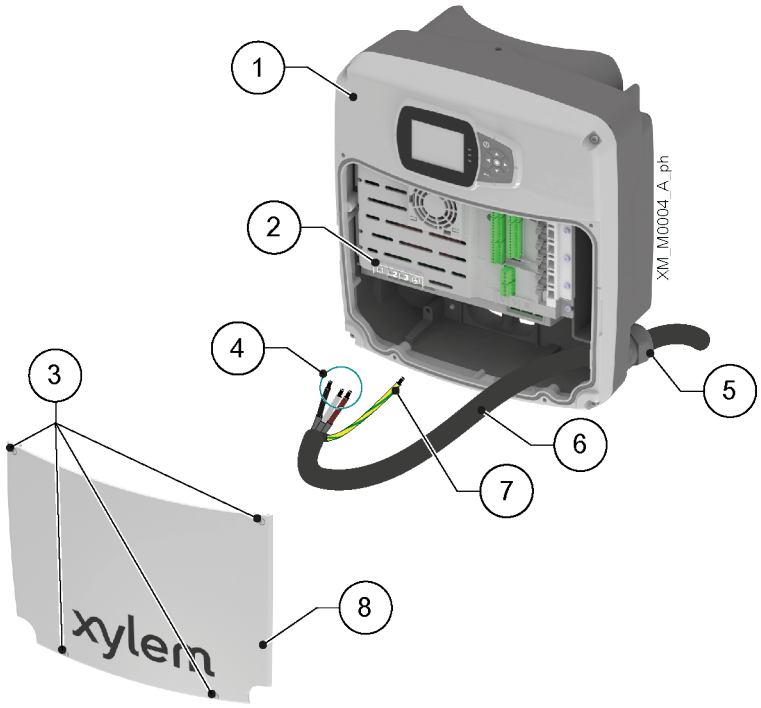
4.6 Guidelines for the motor

4.6.1 Drive positioning

1. Remove the bolts that secure the motor to the pump.
2. Rotate the motor in the desired position without removing the couplings.
3. Reposition and tighten the bolts at the torque indicated in the table.

Flange size, MEC	Bolt size	Torque, Nm (lbf·in)
71, 80	M6	6 (53)
90, 100, 112	M8	15 (133)
132	M12	50 (443)
160, 180, 200, 225, 250	M16	75 (664)

4.6.2 Connection



1. Drive
2. Terminals
3. Screws of the cover
4. Phase conductors
5. Cable Gland
6. Power supply cord
7. Protection conductor (ground)
8. Cover

1. Remove the cover and observe the wiring diagrams inside.
2. Insert the power cable in the cable gland.
3. Connect the conductors making sure that the protection one is longer than the phase ones.
   For size D only, tighten the terminal screw with a Pozidriv screwdriver.
   Tightening torque: 4 Nm (35 lbf·in).
4. Tighten the cable gland.
5. Fit the cover and tighten the screws.
   Tightening torque: 3 Nm (27 lbf·in) ± 15%.

5 Control

Introduction

DANGER: Electrical hazard

If the drive display is damaged, contact Xylem or the Authorised Distributor.

WARNING: Hot surface hazard

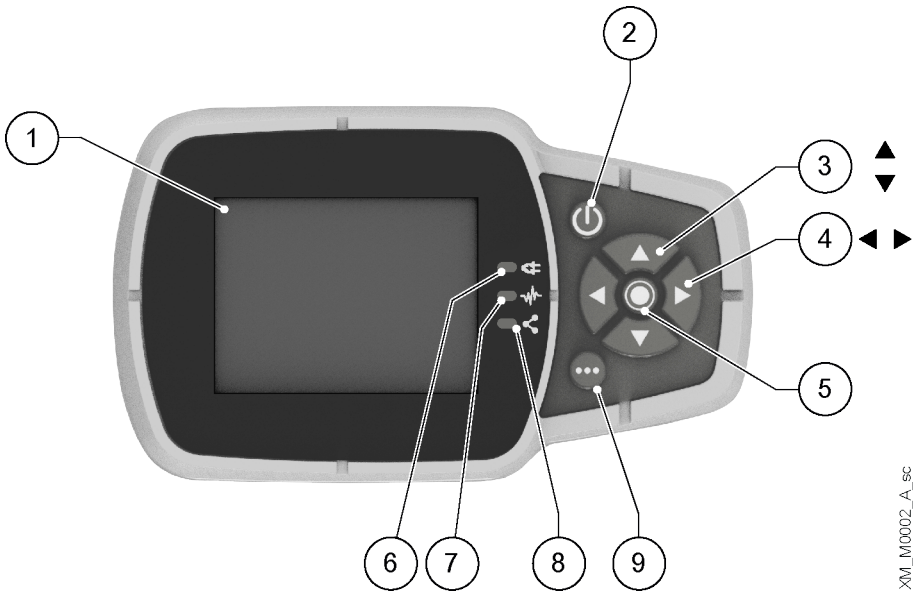
Only touch the drive display buttons. Pay attention to the high temperature released by the unit.

Depending on model, please observe the instructions in the following paragraphs:

- e-SV hydrovar X+, **SVX drive display** on page 24.
- e-SV hydrovar X, **SVK drive display** on page 27.

Programming instructions can be found in the Programming Manual.

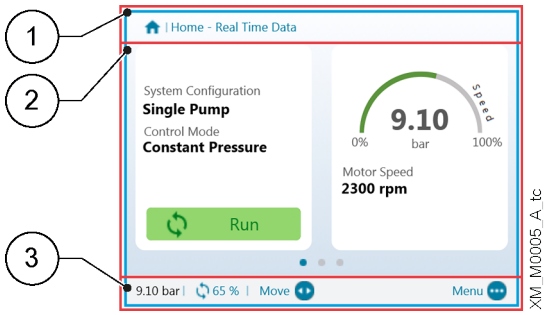
5.1 SVX drive display



Position number	Name	Function
1	Display	
2	ON/OFF button	• Start and stop the unit • Reset the errors by pressing for 3 seconds.
3	UP and DOWN arrow keys	• Move vertically between menu options • Perform a manual switch-over on a multi-pump system by pressing the DOWN arrow (extended pressure) • Rotate the display 180° by simultaneously pressing ENTER and the DOWN arrow (extended pressure).
4	RIGHT and LEFT arrow keys	• Move horizontally to navigate home screens and menus • Lock and unlock the display by simultaneously pressing the RIGHT and LEFT arrows (extended pressure).

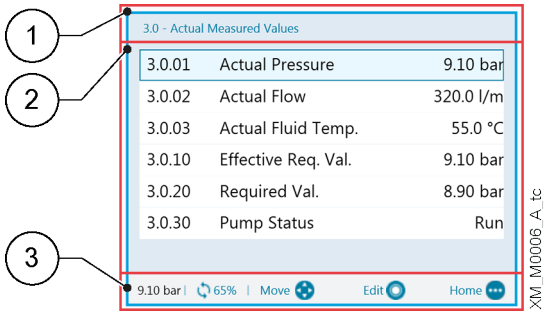
Position number	Name	Function
5	SEND button	• Advancing through the menu levels • Confirm the selection of a parameter • Confirm the value of a parameter.
6	Unit LED on	Indicate that the unit is powered.
7	Unit status LED	Indicate: • Motor not powered (off) • Alarm active and motor stopped (yellow) • Unit error and motor stopped (red) • Motor started (green) • Alarm active and motor started (yellow alternating green).
8	Connection status LED	Indicate: • BMS communication disabled (off) • BMS communication active (green) • Wireless communication with mobile device established (fixed blue) • Wireless communication with mobile device being established (flashing blue) • Wireless communication and BMS communication active (blue alternating green).
9	Multifunction button	• Access the parameter menu or additional functions according to the screen on the display. • Enable wireless connection (extended pressure).

5.1.1 Graphic display



Position number	Name	Description
1	Header bar	It shows static information and messages relating to the operating conditions, such as: • Alarms • Errors • Multi-pump operation.
2	Main screen	It shows the main information and allows the operating parameters to be changed. There are up to 4 screens, which can be navigated by pressing the RIGHT and LEFT arrow keys. The symbol ⧉ next to an entry indicates an editable parameter.
3	Lower bar	Show: • On the left, the essential operating information, such as the actual adjustment value and the speed percentage at which the unit is operating • On the right, the buttons available for interaction in the main screen.

5.1.2 Parameter menu, SVX



Position number	Name	Description
1	Header bar	It shows the parameter path at menu and submenu level.
2	Parameter list	Show: • The index, • The name, • The preview of the value of the parameters for the current menu level. To advance a level or change the value, press SEND or the RIGHT arrow key.
3	Lower bar	Show: • On the left, the essential operating information, such as the actual adjustment value and the speed percentage at which the unit is operating • On the right, the buttons available for interaction in the main screen.

The menu is split into 3 levels:
- Main
- Submenu
- Parameters.

To display or change a parameter:
1. Press the function button in the main screen.
2. Enter the password using the arrow keys.
3. Press SEND.
   Note: after 10 minutes of inactivity, the password must be re-entered.
4. Press the RIGHT arrow key or SEND to advance between levels, or the LEFT arrow key to return.

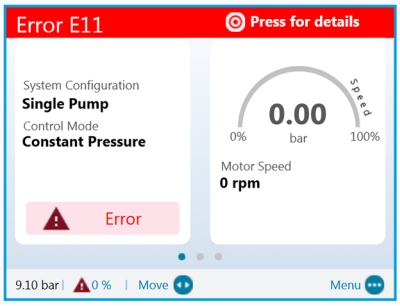
5.1.3 Unit start using the SVX drive display

1. Check the connection between the START/STOP and GND inputs on the terminal board.
2. Press ON/OFF to start the unit.
   Note: If parameter 1.0.45 Autostart is configured to “Yes”, it will not be necessary to press ON/OFF again at the next start.
3. With the unit in operation, the working setpoint can be changed by switching to the second screen.

5.1.4 Operating mode change, SVX

The unit parameters are set at the factory and the unit is ready for use.
To change the parameters go to the third screen. Alternatively, and to modify advanced features, access the configuration menu:
1. Press the multi-function button.
2. Enter the password using the arrow keys.
3. Press SEND.
4. Navigate through the menus to locate the parameter or function to be changed: see the Programming Manual for the association between parameter codes and their functions.

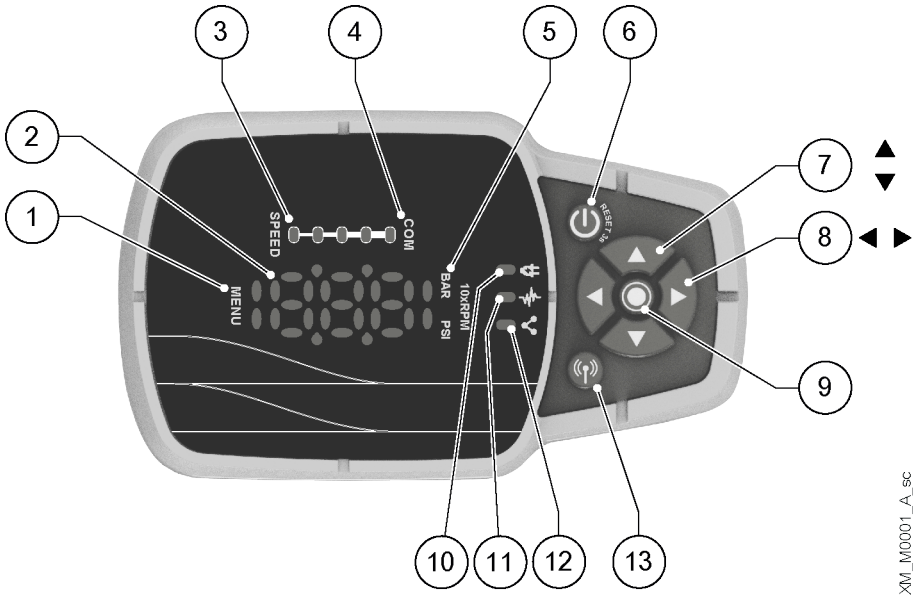
5.1.5 Error reset, SVX



In the event of an error, the unit automatically makes several attempts to reset itself, where permitted: if the attempts are unsuccessful, the unit stops and the display shows the error code.
To eliminate the error:

1. Open the first main screen by pressing SEND.
2. Read the description of the error in the screen.
3. Identify the cause and follow the instructions Troubleshooting on page 40.
4. Reset the error by pressing and holding down ON/OFF for 3 seconds: the unit returns to the status before the error.

5.2 SVK drive display



Position number	Name	Function
1	Menu indicator	Indicate: • Navigation through the menu items (steady light) • The display of a parameter value (flashing light).
2	Seven-segment display	
3	Speed bar	
4	Multi-pump communication indicator	

Position number	Name	Function
5	Unit of measure indicator	
6	ON/OFF button	• Start and stop the unit • Reset the errors by pressing for 3 seconds.
7	UP and DOWN arrow keys	• Quickly change the setpoint in the main display • Navigate through the submenus and change the parameter displayed in the parameter menu • Perform a manual switch-over on a multi-pump system by pressing the DOWN arrow (extended pressure) • Rotate the display 180° by simultaneously pressing ENTER and the DOWN arrow (extended pressure).
8	RIGHT and LEFT arrow keys	• Show speed and pressure in alternation in the main display • Navigate the parameter menu levels • Confirm the changed value • Lock and unlock the display by simultaneously pressing the RIGHT and LEFT arrows (extended pressure).
9	SEND button	• Advancing through the menu levels • Confirm the value of a parameter • Enter the parameter configuration menu (extended pressure).
10	Unit LED on	Indicate that the unit is powered.
11	Unit status LED	Indicate: • Motor not powered (off) • Alarm active and motor stopped (yellow) • Unit error and motor stopped (red) • Motor started (green) • Alarm active and motor started (yellow alternating green).
12	Connection status LED	Indicate: • BMS communication disabled (off) • BMS communication active (green) • Wireless communication with mobile device established (fixed blue) • Wireless communication with mobile device being established (flashing blue) • Wireless communication and BMS communication active (blue alternating green).
13	Wireless technology communication button	Connect the unit to a mobile device.

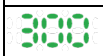
5.2.1 Main visualization

Glyph	Name	Description
	OFF	Unit stopped with ON/OFF button or BMS. Note: lower priority in relation to STOP.
	STOP	START/STOP and GND digital inputs open.
	Start request	Request to start the unit with the ON/OFF button. It remains active for a few seconds, then the following appears: • Unit in operation, or • Alarm, or • Error.
	Alarm	Alarm code of the unit in alarm status, in alternation with the main display. The unit status LED can be: • Yellow= motor stopped • Yellow in alternation with green = motor started.
	Error	Error code of the unit in error status.
	Unit in operation	Unit in operation and selected unit of measure display: • Speed, 10xRPM • Pressure in bar or psi.
	Display blocked	Display locked by the operator and button operation inhibited.

5.2.2 Parameter menu, SVK

The menu is split into 3 levels:
- Main
- Submenu
- Parameters.

To display or change a parameter:
1. Press the SEND button (extended pressure).
2. Enter the password using the arrow keys.
3. Press SEND.
   Note: after 10 minutes of inactivity, the password must be re-entered.
4. Press the RIGHT and LEFT arrow keys and SEND to select the main menu.
5. Press the UP and DOWN arrow keys to increase or decrease the parameter value.
6. Press SEND or the LEFT arrow key to confirm.
   Note: After 5 seconds of inactivity, the parameter returns to the previously set value.

Glyph	Name	Notes
	Main menu	• Menus numbered from 1 to 9. • Menu indicator: fixed light.
	Submenu	• Submenus numbered from 1 to 9. • Menu indicator: fixed light.
	Parameter	Navigation in the parameter level. • Parameters numbered from 0 to 99. • Submenus numbered from 1 to 9. • Menu indicator: fixed light.
	Parameter value	Parameter value modification. • Menu indicator: light flashing. • Parameter value while editing: flashing.

5.2.3 Unit start using the SVK drive display

1. Check the connection between the START/STOP and GND inputs on the terminal board.
2. Press ON/OFF to start the unit.
   Note: If parameter 1.0.45 Autostart is configured to "Yes", it will not be necessary to press ON/OFF again at the next start.
3. With the unit in operation, the control setpoint can be changed with immediate effect using the UP and DOWN arrow keys.

5.2.4 Operating mode change, SVK

The unit parameters are set at the factory and the unit is ready for use.
To change parameters and advanced features, access the configuration parameters.
1. Press the SEND button (extended pressure).
2. Enter the password using the arrow keys.
3. Press SEND.
4. Select the parameter to be changed in the M01 menu: see the Programming Manual for the association between parameter codes and their function.

5.2.5 Error reset, SVK

In the event of an error, the unit automatically makes several attempts to reset itself, where permitted: if the attempts are unsuccessful, the unit stops and the display shows the error code. To eliminate the error:
1. Identify the cause and follow the instructions Troubleshooting on page 40.
2. Reset the error by pressing and holding down ON/OFF for 3 seconds: the unit returns to the status before the error.

5.3 Xylem X App

Introduction

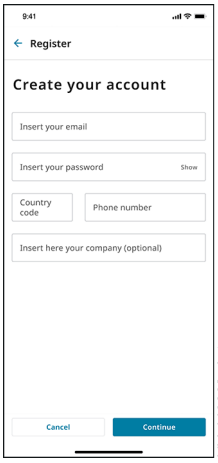
Available for mobile devices with wireless technology operating system.
Use the App Xylem X to:
- Check the status of the unit
- Configure parameters
- Interact with the unit and obtain data during installation and maintenance
- Generate a work report
- Contact the assistance service.

Download the App and connect the mobile device with the unit

1. Download the Xylem X App to the mobile device from App Store[1] or Google Play[2] by scanning the QR code:

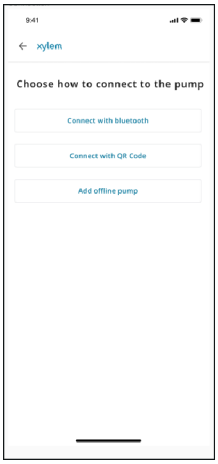
[1] Compatible with iOS® operating systems with version 11.0 and above
[2] Compatible with Android operating systems with version 8.0 and above

2. Complete the registration.



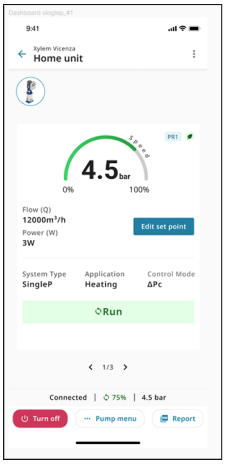
XM_M0009_A_tc

3. On the drive display, press the wireless communication button.
4. Add the unit to the user profile.



XM_M0008_A_tc

5. When the connection has been established, the connection light turns blue steady: it is now possible to control the unit using the mobile device.



XM_M0010_A_tc

6 Use and operation

6.1 Precautions

WARNING: Injuries hazard

Check that the protection devices of the coupling are installed, when applicable: risk of physical injury.

WARNING:

Make sure that the drained liquid cannot cause damage or injuries.

WARNING:

In the case of liquids that are excessively hot or cold, pay attention to the risk of injury.

WARNING: Electrical hazard

Check that the unit is properly connected to the mains power supply.

WARNING: Hot surface hazard

Be aware of the extreme heat generated by the unit.

WARNING:

It is prohibited to place flammable materials near the unit.

NOTE:

Check that the shaft can turn smoothly.

NOTE:

It is prohibited to operate the unit when dry, not primed and below the rated flow rate.

NOTE:

It is prohibited to operate the unit with the on-off valves closed.

NOTE:

It is prohibited to use the unit in the case of cavitation.

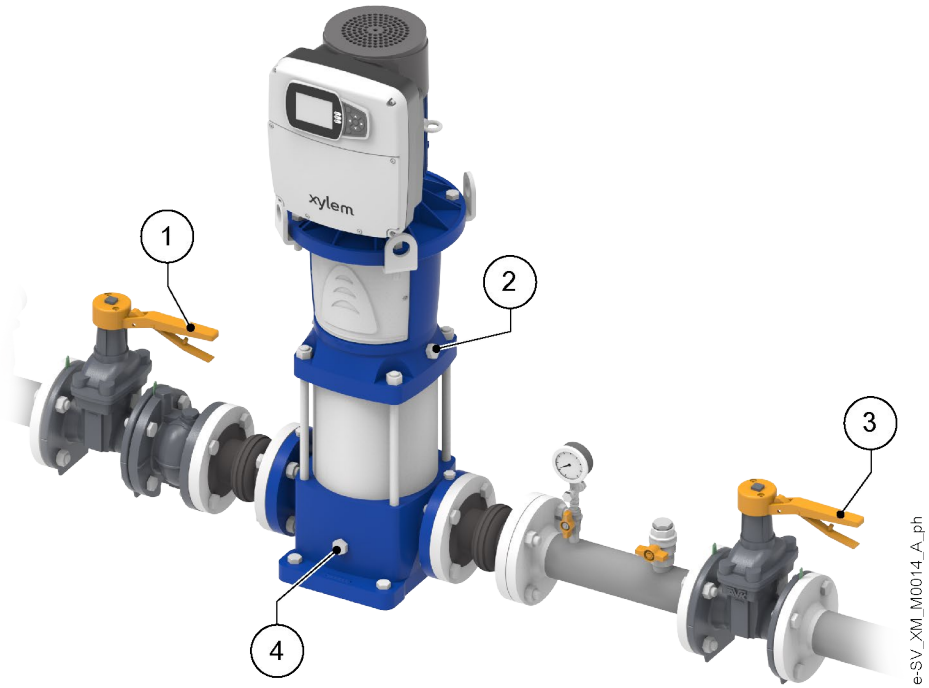
NOTE:

The unit must be filled and vented properly before it can be started.

NOTE:

The maximum pressure delivered by the unit at the discharge side, determined by the pressure available on the suction side, must not exceed the maximum pressure (PN).

6.2 Filling and priming



1. On-off valve on discharge line
2. Filler cap and relief valve
3. On-off valve on suction line
4. Drain plug with screw

Positive suction head installation

1. Close both on-off valves.
2. On models 3 and 5SV only, loosen the drain plug screw.
3. Loosen the relief valve and the filler cap.
4. Slowly open the suction valve until the liquid regularly comes out from the relief valve; if necessary, keep loosening it.
5. For models 3 and 5SV only, tighten the screw.
6. Tighten the relief valve.
7. Slowly and fully open the on-off valve.

Suction lift installation

1. Open the suction valve and close the discharge valve.
2. On models 3 and 5SV only, loosen the drain plug screw.
3. Remove the filler cap.
4. Fill the unit.
5. For models 3 and 5SV only, tighten the screw.
6. Close the filler cap.
7. Slowly fully open the valve on the discharge side.

6.3 Startup

NOTE:

It is prohibited to operate the unit with the discharge side on-off valve closed or at zero flow rate: this can cause the liquid to overheat and damage the unit.

NOTE:

If there is a risk of the unit running at a flow rate below the minimum expected, install a bypass circuit.

NOTE:

Check that the shaft can turn smoothly.

1. Check that all the operations indicated **Filling and priming** on page 33 have been carried out correctly.
2. Shut off the discharge on-off valve almost completely.
3. Fully open the suction on-off valve.
4. Start the unit.
5. Gradually open the discharge on-off valve until half open.
6. Wait a few minutes and then fully open the discharge on-off valve.

After the start-up procedure, with the pump unit in operation, check that:

- No liquid is leaking from the unit or pipes
- The maximum pressure of the unit at the discharge, determined by the available suction pressure, must not exceed the maximum pressure (PN)
- The pressure indicated in the drive display is the same as that of the discharge pressure gauge
- There is no unwanted noise or vibrations
- With zero flow rate the unit stops automatically
- No vortexes can occur at the end of the suction pipe, at the point of the foot check valve (suction lift installation)
- The devices to prevent the absence of liquid (float or probes), or the minimum pressure devices work correctly.

NOTE:

If the unit does not deliver the required pressure, repeat the operations in **Filling and priming**.

WARNING:

After startup, run the unit for a few minutes with several users open in order to wash the inside of the system.

Settling of the mechanical seal

The pumped liquid lubricates the seal faces of the mechanical seal; under normal conditions, a small amount of liquid may leak out. When the unit is run for the first time, or immediately after the seal is replaced, more liquid may temporarily leak out. To help the seal settle and to reduce leaking:

1. Close and open the on-off valve on the discharge side two or three times with the unit running.
2. Stop and start the unit two or three times.

6.4 Manual stop

Press the ON/OFF button on the drive display or open the provided enable contact (if used).

7 Maintenance

7.1 Precautions

Before starting, make sure that the safety instructions shown in **Introduction and Safety** on page 5 have been fully read and understood.

DANGER: Electrical hazard

Before starting work, check that the electric power supply is disconnected and locked out, to avoid unintentional restart of the unit, the control panel and the auxiliary control circuit.

DANGER: Electrical hazard

After disconnecting the system from the power supply, wait 2 min for the discharge of the residual current.

WARNING:

Maintenance must be done by a technician possessing the technical-professional requirements outlined in the current regulations.

WARNING:

Always wear personal protective equipment.

WARNING:

Always use suitable working tools.

WARNING:

In the case of liquids that are excessively hot or cold, pay attention to the risk of injury.

The disassembly or installation of the rotor in the motor casing generates a strong magnetic field:

DANGER: Magnetic hazard

The magnetic field may be dangerous for anyone wearing peacemakers, or any other medical devices sensitive to magnetic fields.

NOTE:

The magnetic field may attract metal debris on the rotor surface, causing damage to the same.

7.2 Maintenance every 4000 hours of operation, or every year

Perform maintenance when one of the two limits is reached.

Maintenance with unit started

Check:
1. That the unit does not produce abnormal noises or vibrations.
2. That no liquid is leaking from the unit and the piping system.
3. The tightening of all bolts.

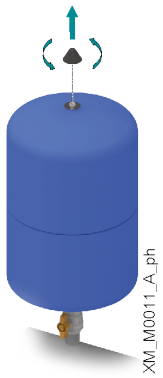
Maintenance with unit stopped

1. Check:
   - The integrity of the power cable
   - The tightening of the terminals with a torque of 4 Nm (35 lbf·in)
   - That there are no signs of overheating and electric arcs on the terminal boxes and traces of humidity in the drive.
2. Clean:
   - The fan cover
   - The drive dissipator
   - The stator casing

   and check the status of the cooling fan.

Check the pre-charge of the expansion vessels

1. Check that the pressure of the system is zero, to avoid affecting the reading of the pressure gauge.
2. Unscrew the valve cap.



3. Apply the pressure gauge to the valve and check the pressure.
   Pre-charge pressure = P START – 0.3 bar.

4. Remove the pressure gauge and screw the cap.

7.3 Maintenance every 10000 hours of operation or every 2 years

When the first of the two limits is reached, replace the mechanical seal.

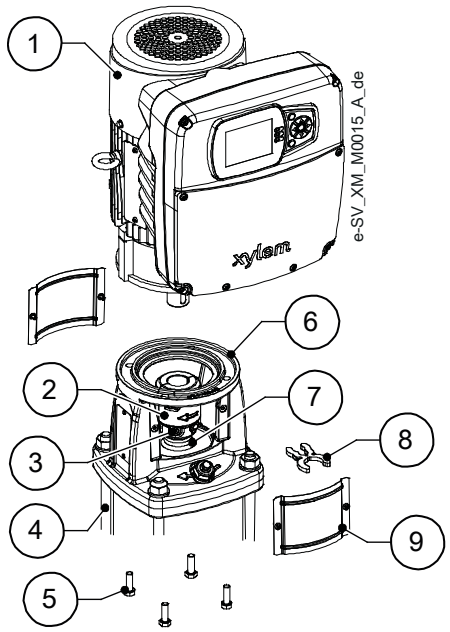
7.4 Maintenance every 17500 hours of operation or every 5 years

When the first of the two limits has been reached, replace the permanently lubricated bearings of the motor, if present.

7.5 Long periods of inactivity

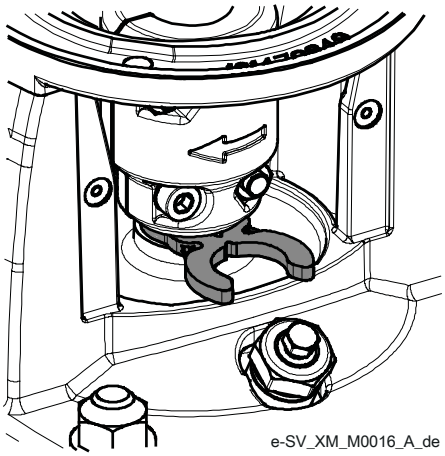
1. Shut the on-off valve located on the discharge line.
2. Comply with the instructions on **Storage** page 11.
3. Before starting the unit:
   - Clean the filter
   - Check the status of the connections of the electric conductors on the unit and the control panel.
4. Start the unit complying with the instructions on **Startup** page 33.

7.6 Motor replacement



1. Motor
2. Coupling
3. Couple screw
4. Pump
5. Motor fixing screws
6. Adapter
7. Seal housing
8. Impeller stack shim
9. Coupling protection

1. Remove the protections.
2. Loosen the couple screw.
3. Remove the motor from the adapter.
4. Insert the shim between coupling and disc.



5. Install the new motor.
6. Tighten the screw.
7. Remove the shim.
8. Reassemble the protections.

7.7 Tightening torques of the threaded connections

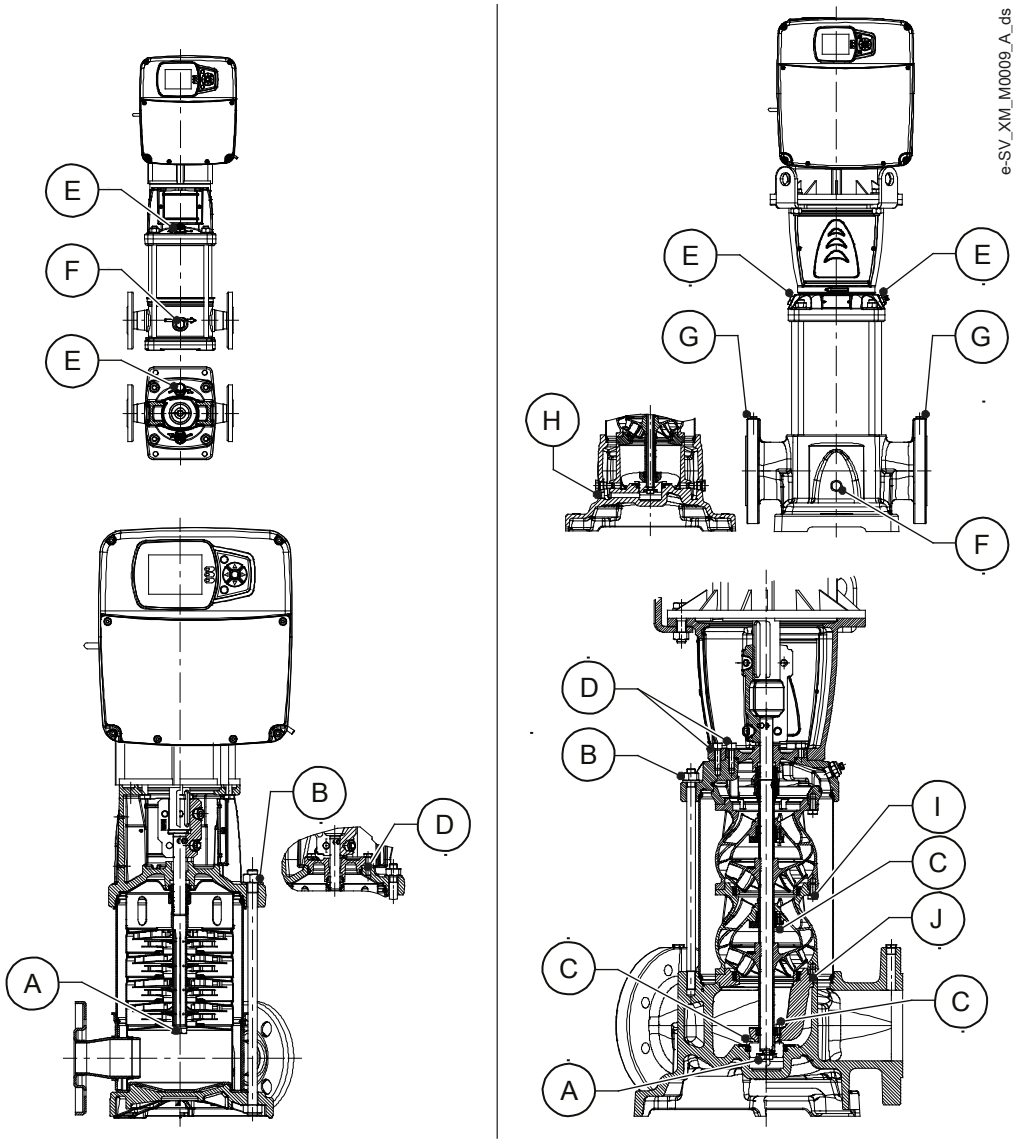


Table 1: Tightening torques of the threaded fittings, Nm (lbf in)

Model	A	B	C	D	E, F	G	H	I	J
3, 5SV	M8	M12	-	-	G 3/8″	-	-	-	-
	20 (177)	25 (220)	-	-	25 (220)	-	-	-	-
10, 15, 22SV	M10	M14	-	M8	G 3/8″	-	-	-	-
	35 (310)	30 (265)	-	20 (177)	25 (220)	-	-	-	-
33, 46, 66, 92SV	M12	M16	M6	M10	G 1/2″	R 3/8″	M16	-	-
	60 (530)	60 (530)	8 (71)	35 (310)	40 (354)	40 (354)	40 (354)	-	-
125SV	M12	M16	M6	M10	G 1/2″	R 3/8″	M16	M10	M10
	65 (575)	60 (530)	8 (71)	35 (310)	30 (265)	40 (354)	40 (354)	35 (310)	15 (133)

7.8 Identification of spare parts

Identify the spare parts with the product codes directly on the site spark.xylem.com. Contact Xylem or the Authorised Distributor for further technical information.

8 Troubleshooting

WARNING:

Maintenance must be done by a technician possessing the technical-professional requirements outlined in the current regulations.

WARNING:

If a fault cannot be corrected or is not mentioned, contact Xylem or the Authorised Distributor.

8.1 The unit does not switch on

Cause	Solution
Electric power supply absent	Restore the electric power supply
Power supply cord is damaged	Replace the cable
Unit faulty	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop

8.2 Little or no hydraulic performance

Cause	Solution
Air inside the unit	• Bleed the unit and/or • Increase the liquid level inside the tank, and/or • Remove any turbulences of the liquid in the suction area, and/or • Check the suction conditions
Check valve at the discharge blocked or partially blocked	Replace the valve: • Check valve and/or • bottom valve
Discharge piping system chocked and/or obstructed	Remove all chocking and/or obstructions
Suction filter clogged	Clean the filter
Foreign bodies in the unit	Remove the foreign bodies
Wrong unit settings	Check the settings
Undersized unit	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop
Damaged or worn internal unit components	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop
Unit faulty	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop

8.3 The differential protection device (RCD) has tripped

Cause	Solution
Differential unsuitable or faulty	Check or repair the differential
Unit faulty	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop

8.4 The unit does not stop when the setpoint is reached

Cause	Solution
Check valve at the discharge blocked or partially blocked	Replace the check valve
Expansion vessel not installed, faulty, undersized or incorrectly pre-charged	• Install, or • Replace, or • Pre-charge the expansion vessel
Wrong unit settings	Check the settings

8.5 The unit produces excessive noise and/or vibrations

Cause	Solution
Plant resonance	Check the installation
Foreign bodies in the unit	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop
Cavitation	Check the suction conditions
Air inside the unit	• Bleed the unit and/or • Increase the liquid level inside the tank, and/or • Remove any turbulences of the liquid in the suction area, and/or • Check the suction conditions
Unit wrongly anchored to the foundations	Check the unit anchoring
Motor-pump coupling incorrectly adjusted	Adjust the coupling
Anti-vibration joint on the piping system not suitable or absent	Install or check the anti-vibration
Unit faulty	Contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop

8.6 The unit is leaking at the mechanical seal

Cause	Solution
Seal damaged or worn	Replace the seal or contact Xylem or the Authorised Distributor, or send the unit to an authorised workshop

8.7 Unit error or alarm

Cause	Solution
Miscellaneous	See the programming manual

9 Technical Information

9.1 Operating environment

Non-aggressive and non-explosive atmosphere.

Temperature

From 0 to 40°C (32÷104°F), unless otherwise indicated on the data plate of the electric motor.

Relative air humidity

< 50% at 40°C (104°F).

NOTE:
If the humidity exceeds the stated limits, contact Xylem or the Authorised Distributor.

Elevation

< 1000 m (3280 ft) above sea level.

NOTE: Danger of motor overheating
If the unit is exposed to temperatures or installed at an altitude greater than those stated, reduce the power output of the motor according to the coefficients reported in the table. Otherwise, replace the motor with a more powerful one.
If the unit is installed at an altitude exceeding 2000 m (6600 ft), contact Xylem or the Authorised Distributor.

Altitude m (ft)	Power reduction coefficient
1000÷1500 (3300÷4900)	0.97
1500÷2000 (4900÷6600)	0.95

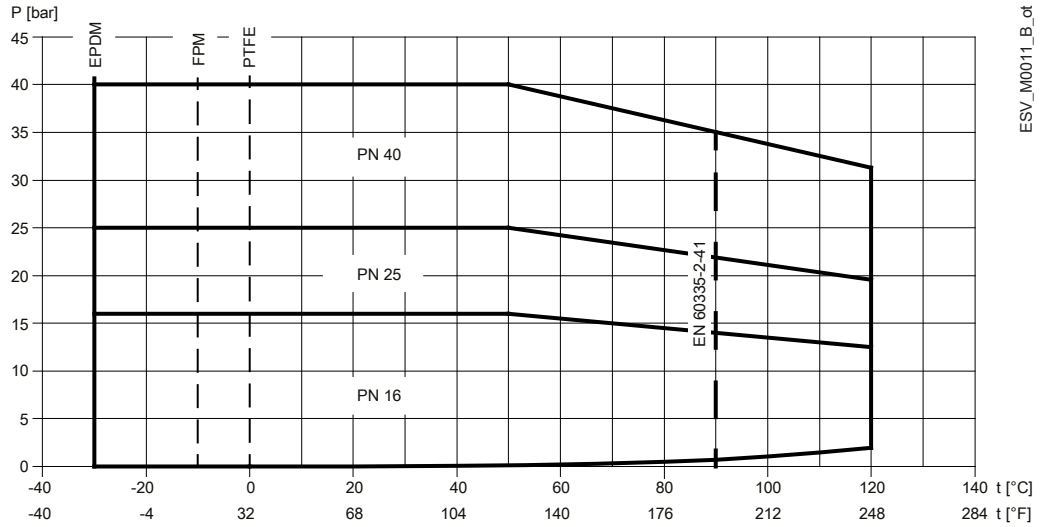
9.2 Liquid temperature

The table shows the permitted liquid temperatures according to the seal material.

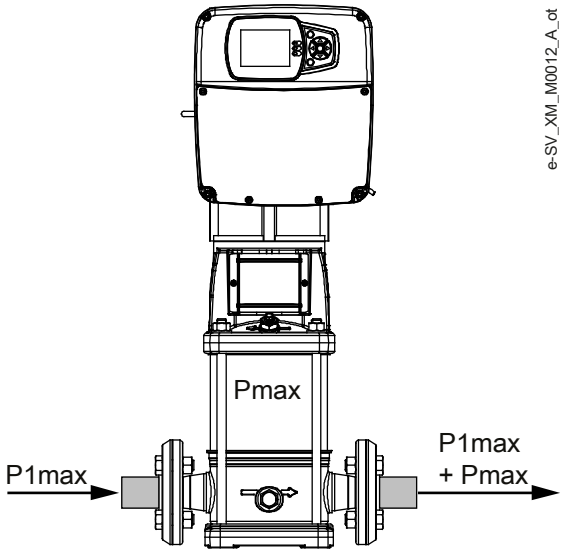
Seal material	Minimum and maximum temperature, °C (°F)
EPDM	-30÷120 (-22÷248)
FKM (FPM)	-10÷120 (14÷248)
PTFE	0÷120 (32÷248)

9.3 Maximum operating pressure

The chart shows the pumped liquid pressure and temperature limits permitted for the mechanical seal, based on the material of the hydraulic components.



Note for the pump unit: the maximum ambient temperature is 50°C (122°F), unless otherwise stated on the data plate of the motor and/or frequency converter, if present.



Note:
P1max + Pmax ≤ PN

Data	Description
P1max	Maximum input pressure
Pmax	Maximum pressure generated by the unit
PN	Maximum operating pressure

9.4 Maximum number of starts and stops

≤ 4/h.

NOTE:

If more starts and stops are required, use the dedicated external input.

9.5 Electrical specifications

See the motor data plate.

Permitted tolerances for the supply voltage

- 200 - 240 V ±10% 50/60 Hz
- 380 - 480 V ±10% 50/60 Hz.

Leakage Current

≤ 3.5 mA (AC).

Protection class

IP 55.

9.6 Radio frequency characteristics

Features	Description
Technology	Wireless Low Energy 5.2
Band	2.4 GHz ISM
RF	≤ 4.5 mW (6.5 dBm)

9.7 Characteristics of inputs and outputs

Features	Description
Communication ports	2, RS-485
Digital inputs	3 for SVK, 5 for SVX: • Floating/NPN contact, open manifold/drain open, to GND • Internal polarisation +24 VDC, current limited to 6 mA max. • Protection from -0.5 VDC to +30 VDC, ±15 mA max.
Analog inputs	2 for SVK, 4 for SVX: • Configurable or 0-20 mA current, or 0-10 V voltage • 24V signal for sensor power supply with current limitation 60 mA
Analogue output	Configurable as either 0-20 mA current signal or 0-10 V voltage signal
Relay	2, with NC and NO changeover contact: • Relay 1 up to 240 VAC 0.25 A or 30 VDC 2 A • Relay 2 up to 30 VAC 0.25 A or 30 VDC 2 A

WARNING:

If relay 1 is connected to a voltage higher than 30 VAC, disconnect and do not use the terminals of relay 2.

9.8 Sound pressure

Measured in free field at a distance of one metre from the unit, operating without load at 3600 min^{-1}.

Size	Powers, kW	LpA, dB ± 2
B	3, 4, 5.5	< 75
C	5.5, 7.5, 11	< 82
D	11, 15, 18.5	< 82

9.9 Materials in contact with the liquid

Models	Materials
3, 5, 10, 15, 22	Stainless steel
33, 46, 66, 92, 125	Stainless steel, cast iron

9.10 Mechanical seals

Model	Motor power, kW (hp)	Rated diameter, mm (in)	Balanced	Rotation	Version according to EN 12756
3, 5	All	12 (0.47)	No	Right	K
10, 15, 22	< 5.5 (7.4)	16 (0.62)	No	Right	K
10, 15, 22	≥ 5.5 (7.4)	16 (0.62)	Yes	Right	K
33, 46, 66, 92, 125	All	22 (0.86)	Yes	Right	K

10 Disposal

10.1 Precautions

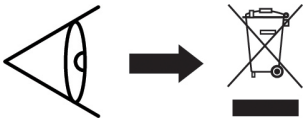
WARNING:

The unit must be disposed of through approved companies specialised in the identification of different types of materials (steel, copper, plastic, etc.).

WARNING:

It is prohibited to dispose of lubricating fluids and other hazardous substances in the environment.

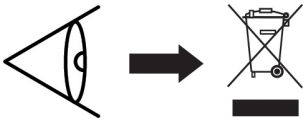
10.2 WEEE (EU/EEA)



INFORMATION TO USERS pursuant to art. 14 of the Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE). The crossed bin symbol on the appliance or on its packaging indicates that the product at the end of its useful life must be collected separately and not disposed of together with other mixed urban waste. Appropriate separate collection for the subsequent start-up of the disused equipment for recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and on health and favours the re-use and / or recycling of the materials of which the equipment is composed.

WEEE from users other than private households[3]: the separate collection of this equipment at the end of its life is organized and managed by the producer[4]. The user who wants to get rid of this equipment can then contact the producer and follow the system that it has adopted to allow the separate collection of equipment at the end of life or select an organization independently authorized to manage waste.

10.3 WEEE (UK)



INFORMATION TO USERS pursuant to art. 44 of the The Waste Electrical and Electronic Equipment Regulations 2013 (S. I. 2013 No. 3113). The crossed bin symbol on the appliance or on its packaging indicates that the product at the end of its useful life must be collected separately and not disposed of together with other mixed urban waste. Appropriate separate collection for the subsequent start-up of the disused equipment for recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and on health and favours the re-use and / or recycling of the materials of which the equipment is composed.

WEEE from users other than private households[5]: the separate collection of this equipment at the end of its life is organized and managed by the producer[6]. The user who wants to get rid of this equipment can then contact the producer and follow the system that it has adopted to allow the separate collection of equipment at the end of life or select an organization independently authorized to manage waste.

[3] Classification according to product type, use and current local laws

[4] Producer of EEE as per Directive 2012/19/EU

[5] Classification according to product type, use and current local laws

[6] Producer of EEE as per WEEE Regulations 2013

11 Declarations

Refer to the specific marking declaration found on the product.

CE

11.1 EC Declaration of Conformity (Original)

Xylem Service Italia S.r.l., with headquarters in Via Vittorio Lombardi 14 - 36075 Montecchio Maggiore VI - Italy, hereby declares that the product:

SVK…or SVX…electric pump with integrated variable speed drive (EXM-type electric motor), with or without pressure transmitter and relative cable (see label on the last page of 'Safety and Other Information' manual)

fulfils the relevant provisions of the following European Directives

- Machinery 2006/42/EC and subsequent amendments (ANNEX II - natural or legal person authorised to compile the technical file: Xylem Service Italia S.r.l.)
- Eco-design 2009/125/EC and subsequent amendments, Regulation (EU) no. 547/2012 and subsequent amendments (water pump) if MEI marked,

and technical standards

- EN 809:1998+A1:2009, EN 60204-1:2018, EN 61800-5-1:2007+ A1:2017+A11:2021.
- EN 16480:2021

Additional information: the EXM series motor includes an integrated variable speed drive, and the energy performances of the two cannot be tested independently of each other (Regulation (EU) 2019/1781, Article 2(2)(b), (3)(a)). The marking shown (IE...-IES...) is that required by the technical standard IEC 61800-9-2.

Montecchio Maggiore, 27.01.2023

Marco Ferretti
Chairman of the Board of Directors

rev.00

EU Declaration of Conformity (No 68)

1. RE-D - Radio equipment: SVK, SVX (see product data plate)
   RoHS - Unique identification of the EEE: SVK, SVX
2. Name and address of the manufacturer:
   Xylem Service Italia S.r.l.
   Via Vittorio Lombardi 14
   36075 Montecchio Maggiore VI
   Italy
3. This declaration of conformity is issued under the sole responsibility of the manufacturer.
4. Object of the declaration:
   SVK…or SVX…electric pump with integrated variable speed drive (EXM-type electric motor), with or without pressure transmitter and relative cable.
5. The object of the declaration described above is in conformity with the relevant Union harmonization legislation:
   - Directive 2014/53/EU of 16 April 2014 and subsequent amendments (radio equipment).
   - Directive 2011/65/EU of 8 June 2011 and subsequent amendments including directive (EU) 2015/863 (restriction of the use of certain hazardous substances in electrical and electronic equipment).

6. References to the relevant harmonised standards used or references to the other technical specifications, in relation to which conformity is declared:
   - EN 61800-3:2004+A1:2012 (Category C2), EN IEC 61800-3:2018 (Category C2), EN 61000-6-2:2005, EN IEC 61000-6-2:2019, EN 61000-6-4:2007+A1:2011, EN IEC 61000-6-4:2019, EN 61000-3-2:2014, EN IEC 61000-3-2:2019+ A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021, ETSI EN 300 328 V2.2.2 (2019-07), EN 62311:2008, EN IEC 62311:2020
   - EN IEC 63000:2018.
7. Notified body: - - -
8. RE-D - Any accessories/components/software: - - -
9. Additional information:
   RoHS – Annex III – Applications exempted from the restrictions: lead as a binding element in steel, aluminium and copper alloys [6(a), 6(b), 6(c)], in solders and in electrical/ electronic components [7(a), 7(c)-I].

Signed for and on behalf of:
Xylem Service Italia S.r.l.

Montecchio Maggiore, 27.01.2023

Marco Ferretti
Chairman of the Board of Directors

rev.00

11.2 UK Declaration of Conformity (Original)

UK CA

Xylem Service Italia S.r.l., with headquarters in Via Vittorio Lombardi 14 - 36075 Montecchio Maggiore VI - Italy, hereby declares that the product:

SVK…or SVX…electric pump with integrated variable speed drive (EXM-type electric motor), with or without pressure transmitter and relative cable (see label on the last page of the 'Safety and Other Information' manual)

fulfils the relevant provisions of the following UK legal acts

- S.I. 2008/1597 - Supply of Machinery (Safety) Regulations 2008 and subsequent amendments (Schedule 2 - Part 2 - Annex II - natural or legal person authorised to compile the technical file: Xylem Service Italia S.r.l.)
- S.I. 2019/539 - The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 (water pump) if MEI marked,

and technical standards
- EN 809:1998+A1:2009, EN 60204-1:2018, EN 61800-5-1:2007+ A1:2017+A11:2021.
- EN 16480:2021

Additional information: the EXM series motor includes an integrated variable speed drive, and the energy performances of the two cannot be tested independently of each other (S.I. 2021/745, Regulation 34, Schedule 16, paragraphs 10(1)(b), 10(2)(a)). The marking shown (IE...-IES...) is that required by the technical standard IEC 61800-9-2.

Montecchio Maggiore, 27.01.2023

Marco Ferretti
Chairman of the Board of Directors

rev.00

UK Declaration of Conformity (No 68)

1. RE-D - Radio equipment: SVK, SVX (see product data plate)
   RoHS - Unique identification of the EEE: SVK, SVX
2. Name and address of the manufacturer:
   Xylem Service Italia S.r.l.
   Via Vittorio Lombardi 14
   36075 Montecchio Maggiore VI
   Italy
3. This declaration of conformity is issued under the sole responsibility of the manufacturer.
4. Object of the declaration:
   SVK…or SVX…electric pump with integrated variable speed drive (EXM-type electric motor), with or without pressure transmitter and relative cable.
5. The object of the declaration described above is in conformity with the relevant UK legislative acts:
   - S.I. 2017/1206 - The Radio Equipment Regulations 2017 and subsequent amendments).
   - S.I. 2012/3032 - The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 and subsequent amendments).
6. References to the relevant designated standards used or references to the other technical specifications, in relation to which conformity is declared:
   - EN 61800-3:2004+A1:2012 (Category C2), EN IEC 61800-3:2018 (Category C2), EN 61000-6-2:2005, EN IEC 61000-6-2:2019, EN 61000-6-4:2007+A1:2011, EN IEC 61000-6-4:2019, EN 61000-3-2:2014, EN IEC 61000-3-2:2019+ A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021, ETSI EN 300 328 V2.2.2 (2019-07), EN 62311:2008, EN IEC 62311:2020
   - EN IEC 63000:2018.
7. Approved body: - - -
8. RE-D - Any accessories/components/software: - - -
9. Additional information:
   RoHS – Annex III of Directive 2011/65/EU – Applications exempted from the restrictions: lead as a binding element in steel, aluminium and copper alloys [6(a), 6(b), 6(c)], in solders and in electrical/ electronic components [7(a), 7(c)-I].

Signed for and on behalf of:
Xylem Service Italia S.r.l.

Montecchio Maggiore, 27.01.2023

Marco Ferretti
Chairman of the Board of Directors

rev.00

12 Warranty

For information on the warranty refer to the commercial documentation.

Xylem |’zīləm|

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

We’re a global team unified in a common purpose: creating 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 www.xylem.com

Xylem Service Italia S.r.l.
Via Vittorio Lombardi 14
36075 – Montecchio Maggiore (VI) - Italy
xylem.com/lowara

 Code 001088106EN rev.B ed.12/2023