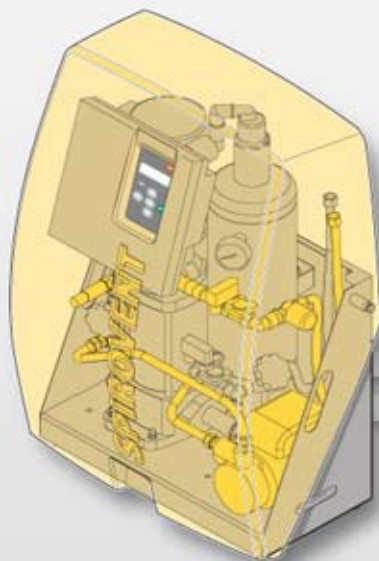


SPIRO  **TECH**
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Anwenderhandbuch ▶ 03

User manual ▶ 25

SPIRO VENT SUPERIOR S6

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1 PREFACE

This user manual involves the installation, commissioning and operation of the SpiroVent Superior of the types S6A, S6A-R and S6A-R 2P.

Always carefully read the instructions before installation, commissioning and operation. Keep the instructions for future reference.

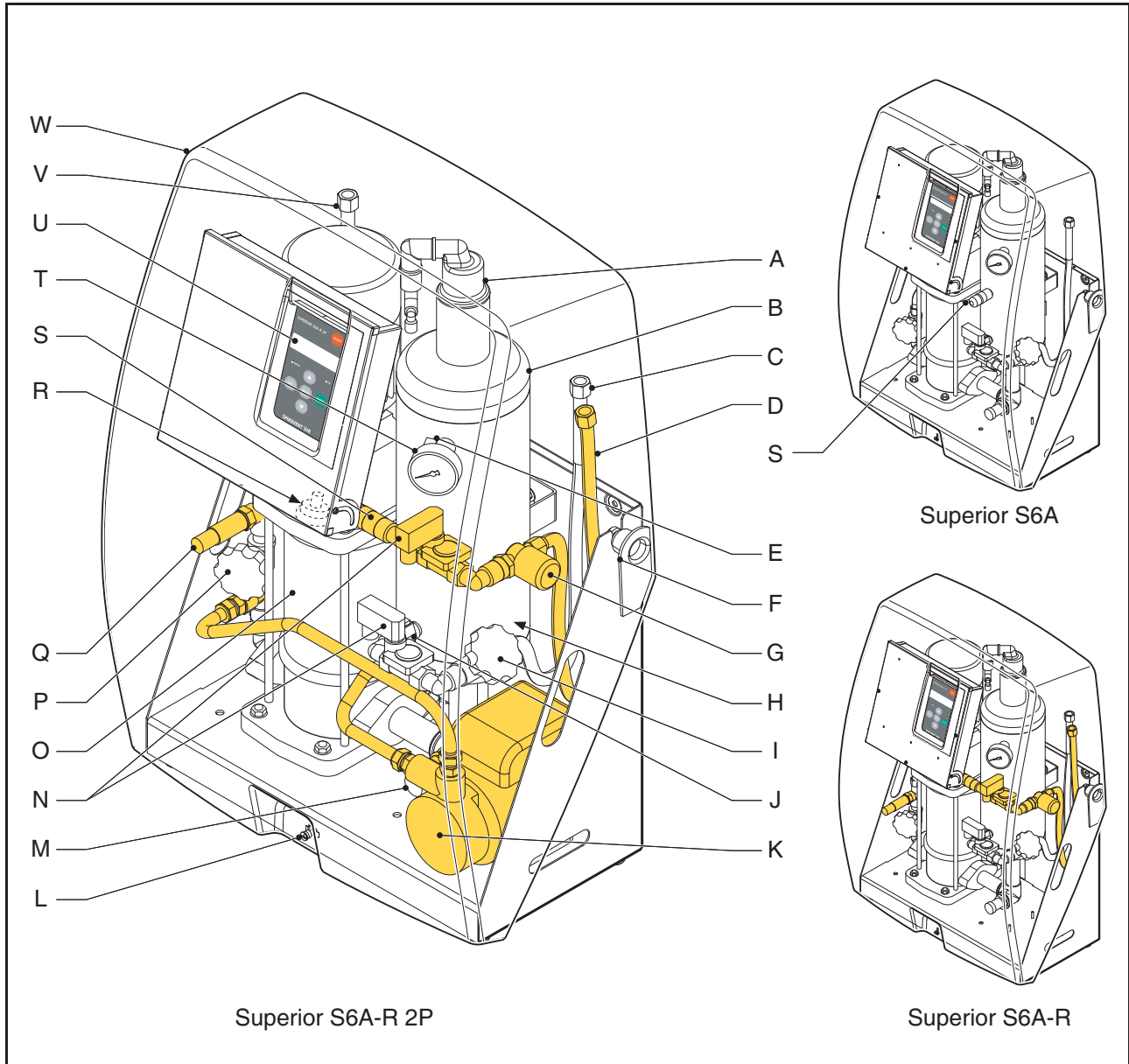
1.1 Symbols

Throughout the instructions the following symbols are used:

	Warning or important note
	Note
	Risk of electric shock
	Risk of burning

2 INTRODUCTION

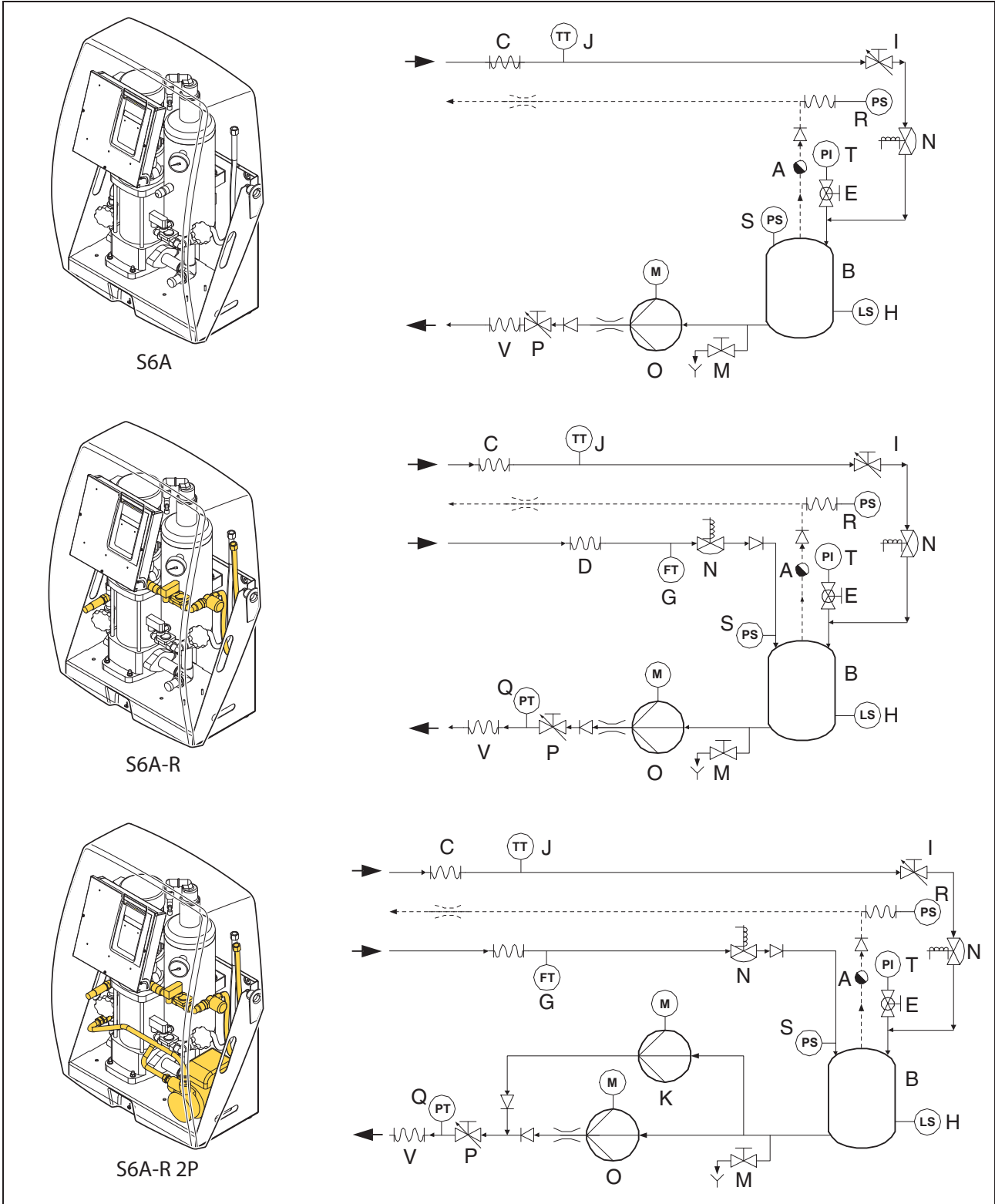
2.1 Overview of the unit



- | | | | |
|---|--|---|---|
| A | Automatic air vent | O | Main pump |
| B | Deaeration vessel | P | Adjustable outlet valve |
| C | Inlet hose | Q | Pressure sensor |
| D | Refill connection (types S6A-R and S6A-R 2P) | R | SmartSwitch (in bottom of control unit) |
| E | Valve behind pressure gauge | S | Pressure switch |
| F | Notch in the cover | T | Pressure gauge |
| G | Water flow meter | U | Control unit |
| H | Level switch (in bottom of vessel) | V | Outlet hose |
| I | Adjustable inlet valve | W | Cover |
| J | Temperature sensor | | |
| K | Back-up pump (for type S6A-R 2P) | | |
| L | Screw | | |
| M | Drain connection (under the vessel) | | |
| N | Solenoid valve | | |

2.2 Operation

The figure below schematically shows the operation of the unit. The letter indications comply with the main figure on the previous page.



2.2.1 General

The Superior is a fully automatic vacuum degasser for installations filled with fluid. The fluid contains dissolved and undissolved gases. The function of the unit is to remove these gases from the installation until the concentration of undissolved gases has reached an absolute minimum. Problems caused by gases in the installation are thus eliminated.

The types S6A-R and S6A-R 2P have an integrated refill automat. The refill automat maintains continuous pressure in the installation. For this the unit adds degassed fluid, if necessary. The unit can also fill the entire installation with degassed fluid.

The type S6A-R 2P also has a back-up pump. In case of a break-down of the main pump, the back-up pump takes over the refill function of the main pump, thus guaranteeing the system pressure.

2.2.2 Degassing

The unit starts up daily with the degassing process at a time indicated by the user. The process has two phases:

- 1 The flushing phase: The fluid flows from the installation through the solenoid valve (N) into the vessel (B). The pump (O) continuously pumps the (degassed) fluid from the vessel into the installation. Here the degassed fluid absorbs gases again.
- 2 The vacuum phase: The solenoid valve (N) regularly closes, starting the vacuum phase. The continuously running pump (O) provides underpressure in the vessel (B). The underpressure causes the release of the gases dissolved in the fluid, which are collected at the top of the vessel. The solenoid valve (N) opens again, starting a new flushing phase. The gases collected in the vessel are removed from the installation through the automatic air vent (A). The SmartSwitch (R) in the control unit makes sure that the degassing is stopped as soon as the content of dissolved gases has reached the minimum level.

2.2.3 (Re)fill

The types S6A-R and S6A-R 2P of the unit constantly check the installation pressure. The refill process starts and stops automatically at the set values. The unit can also be used to automatically fill the installation with degassed fluid.

2.3 Operating conditions

The unit is suitable for use in systems filled with clean water or mixtures of water with a maximum of 40% glycol. Use in combination with other fluids may result in irreparable damage.

The unit should be used within the limits of the technical specifications as given in chapter 3.



WARNING

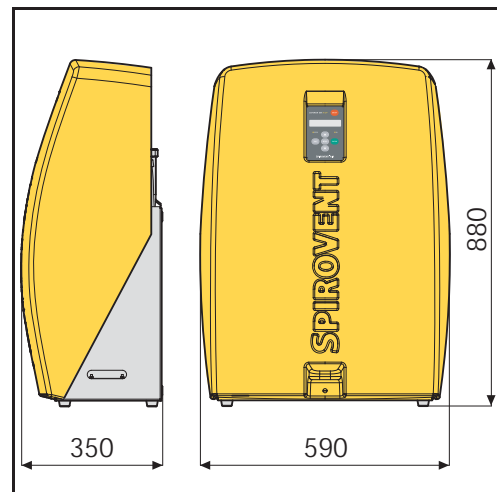
- In case of doubt, always contact the supplier.
- In case of a heavily contaminated system fluid, a dirt separator is to be installed in the main return line of the installation.

2.4 Scope of delivery

- 1x SpiroVent Superior
- 1x User manual
- 1x Non-return protection (optional)

3 TECHNICAL SPECIFICATIONS

3.1 Dimensions



Height [mm]	Width [mm]	Depth [mm]
880	590	350

3.2 General specifications

	S6A	S6A-R	S6A-R 2P
Max. system volume	150 m ³	150 m ³	150 m ³
Empty weight	57 kg	59 kg	67 kg
Volume of degassing vessel	8 l	8 l	8 l
Inlet connection	Swivel G ^{3/4} " f.t.	Swivel G ^{3/4} " f.t.	Swivel G ^{3/4} " f.t.
Outlet connection	Swivel G ^{3/4} " f.t.	Swivel G ^{3/4} " f.t.	Swivel G ^{3/4} " f.t.
Drain connection	Swivel G ^{3/4} " m.t.	Swivel G ^{3/4} " m.t.	Swivel G ^{3/4} " m.t.
Noise level	Approx. 57 dB(a)	Approx. 57 dB(a)	Approx. 57 dB(a)
Refill connection	n/a	Swivel G ^{3/4} " f.t.	Swivel G ^{3/4} " f.t.

3.3 Electrical specifications

	S6A	S6A-R	S6A-R 2P
Supply voltage	230 V ± 10% / 50 or 60 Hz	230 V ± 10% / 50 or 60 Hz	230 V ± 10% / 50 or 60 Hz
Absorbed power	800 W	800 W	1300 W
Nominal power consumption	3.5 A	3.5 A	5.5 A
Starting current	2.6*nominal current	2.6*nominal current	2.6*nominal current
Protection	10 A / 3.15 A(T)	10 A / 3.15 A(T)	10 A / 3.15 A(T)
Protection class	IP 44	IP 44	IP 44
Max. load of potential-free contacts	24 V / 1 A	24 V / 1 A	24 V / 1 A
Supply voltage for BMS control (voltage of BMS)	24 V _{ac}	24 V _{ac}	24 V _{ac}
Supply voltage of external refill signal (supplied voltage)	n/a	5 V _{dc}	5 V _{dc}

3.4 Other specifications

	S6A	S6A-R	S6A-R 2P
System pressure	1 - 6 bar	1 - 6 bar	1 - 6 bar
Ambient temperature	0 - 40 °C	0 - 40 °C	0 - 40 °C
Maximum compression pressure (with closed valve behind pressure gauge)	10 bar	10 bar	10 bar
Refill flow	n/a	See graph in § 6.1	See graph in § 6.1
System fluid temperature	0 - 90 °C.	0 - 90 °C	0 - 90 °C
Refill pressure	0 - 6 bar	0 - 6 bar	0 - 6 bar
Refill fluid temperature	n/a	0 - 70 °C	0 - 70 °C

3.5 Building Management System (BMS)

The unit has been provided with auxiliary contacts for communication with a BMS. The BMS has to offer the 24 V_{ac} voltage.

Signal	S6A	S6A-R	S6A-R 2P
Unit in operation	Potential-free	Potential-free	Potential-free
Unit failure	Potential-free	Potential-free	Potential-free
Unit release/stop	24 V _{ac}	24 V _{ac}	24 V _{ac}
Refill by BMS	n/a	24 V _{ac}	24 V _{ac}

4 SAFETY



WARNING

- Installation and maintenance of the unit should only be carried out by authorised personnel.
- Remove the voltage and pressure from the unit before starting the activities.



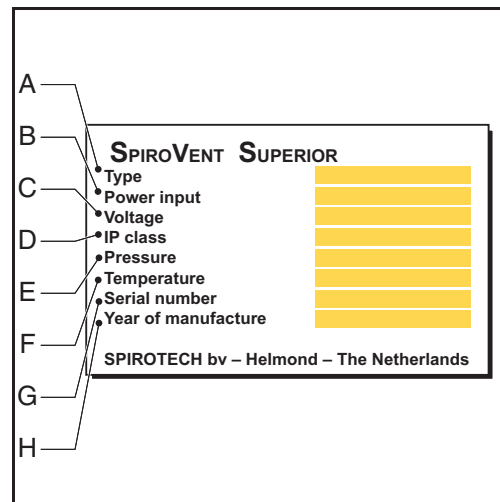
WARNING

There are hot parts below the cover. Let the unit cool down before starting the activities.

4.1 CE marking

The unit has a CE marking. This means that the unit has been designed, constructed and tested in compliance with the current safety and health regulations. Provided that the user manual is adhered to, the unit can be safely used and maintained.

4.2 Type plate



- A Type of the unit
- B Absorbed power
- C Supply voltage
- D Protection class
- E System pressure
- F System temperature
- G Serial number
- H Year of construction

The type plate has been applied on the inside of the unit. Remove the cover to read the data on the type plate.

5 INSTALLATION AND COMMISSIONING

5.1 Installation conditions

- Install the unit on a frost-free, well-ventilated place.
- Electrically connect the unit to a 230 V / 50 -60 Hz socket.
- Make sure the expansion system has the proper dimensions. The water displacement in the unit can cause pressure variations in the installation.
- There must be overpressure in the installation. This prevents spontaneous aeration.

5.2 Unpack

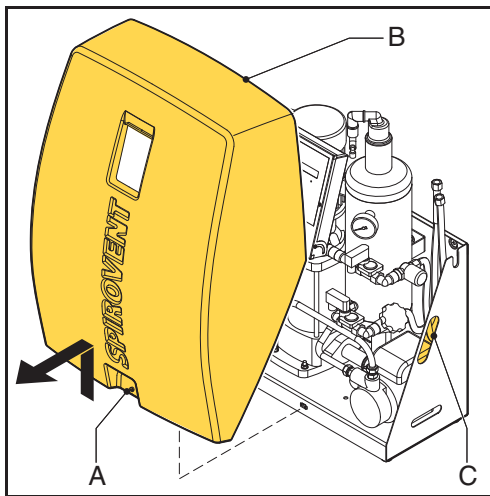


WARNING

Do not hoist the unit when unpacked. The use of webbing slings, chains and hooks can cause irreparable damage.

The unit is delivered on a pallet.

1. Remove the packaging.



2. Loosen the screw (A) half a turn.
3. Remove the cover (B) from the unit.
4. Move the unit with two persons to the place of installation. Lift the unit using the handles (C).

5.3 Installation and mounting



CAUTION

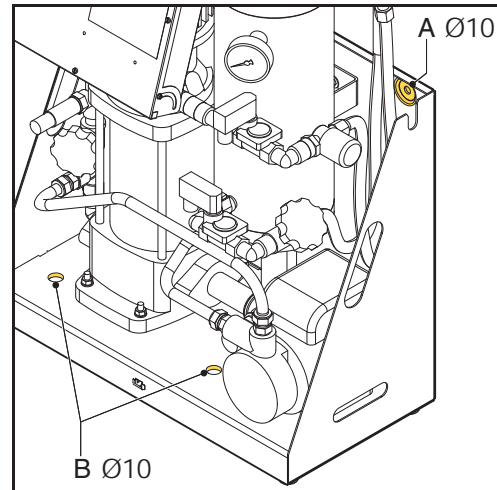
- Install the unit in accordance with the local guidelines and rules.
- Install the unit as bypass on the main transport line of the installation.



NOTE

- Preferably install the unit at the point in the installation with the lowest temperature. Here the most dissolved gases are found in the fluid.
- Make sure when installing that the operating panel is always easily accessible.

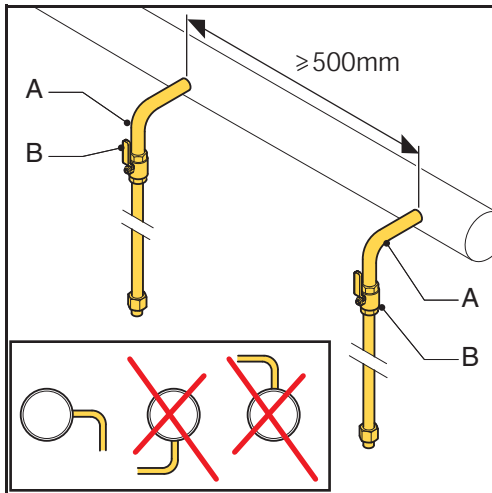
5.3.1 Mounting



- **Wall mounting:** Mount the unit on the wall using the holes (A). Make sure that the mounting can carry the filled unit (empty weight + 10 kg).
- **Floor mounting:** Place the unit on a flat surface. Mount the unit on the floor using the holes (B).

5.3.2 Installation

Mechanical

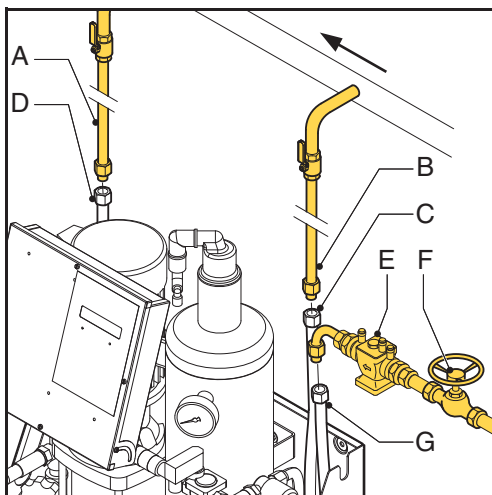


1. Make two branch lines 3/4" (A) on the side of the main transport line. The distance between them should be at least 500 mm.
2. Insert a valve (B) in each branch. With this the unit can be depressurised.



CAUTION

Make sure that the valves are opened before putting the unit into operation.



NOTE

As seen from the direction of the volume flow, the first branch is the inlet into the unit.

3. Connect the line (A) to the flexible outlet hose (D).
4. Connect the line (B) to the flexible inlet hose (C).

With the types S6A-R and S6A-R 2P:

1. Insert a valve (F) and a non-return protection (E) in the refill fluid supply line.
2. Connect the supply line to the refill connection (G) of the unit.



CAUTION

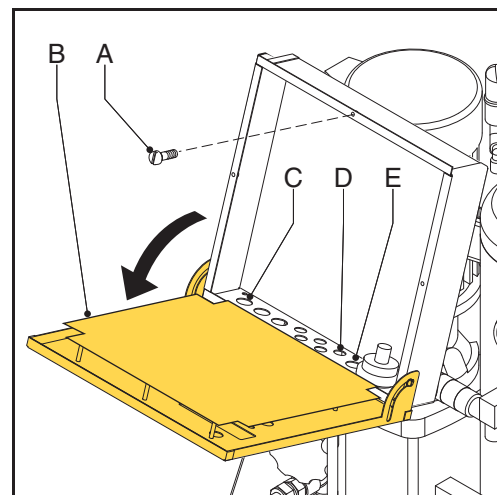
- Use a locally approved non-return protection. A non-return protection can be optionally delivered.
- Make sure that the pressure in the refill line is below the system pressure. This prevents undesired refilling in case of failure of the refill line.
- Make sure that the lines leave the unit at the rear.

Electrical

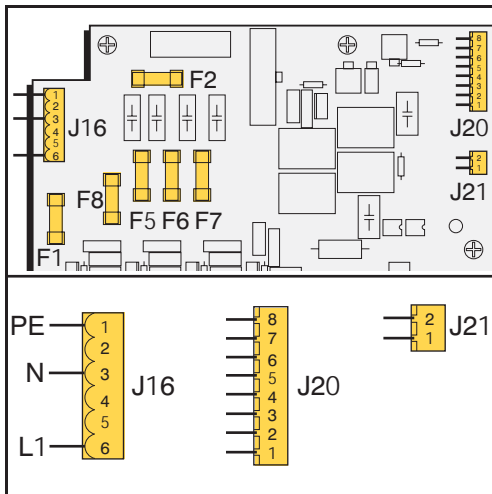


CAUTION

- Preferably use a wall socket for the power supply to the unit. This should always be accessible.
- Mount an all-pole main switch (contact opening >= 3mm) if the unit is directly connected to the power supply.
- Use supply cables with the correct dimensions.
- Always replace a defect fuse by a fuse of the same value. See § 3.3.



1. Loosen the screws (A) of the control cabinet.
2. Fold down the operating panel (B) to the front.



connector	contact	connection
J20	1 and 2	Refill ^{*)}
	3 and 4	Release/off
	5 and 6	Failure
	7 and 8	In operation
J21	1 and 2	Refill ^{*)}

^{*)} applies to types S6A-R and S6A-R 2P.

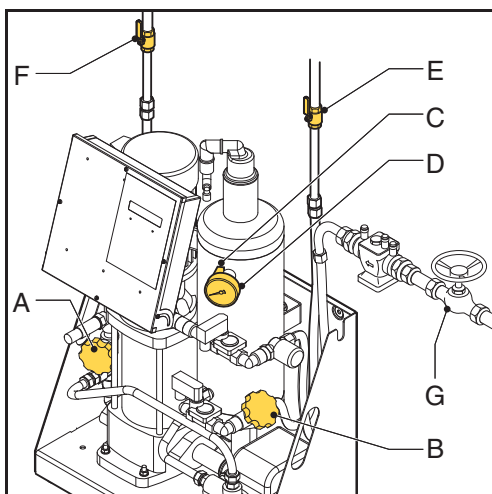
3. Feed a 3-core supply cable through swivel (C) and connect this to connector J16.
4. If a BMS is used, feed in the BMS cable through swivel (E) and connect this to connector J20.

With the types S6A-R and S6A-R 2P:

1. If an external device controls the refill, feed in a cable through swivel (D) and connect this to connector J21.

5.4 Commissioning

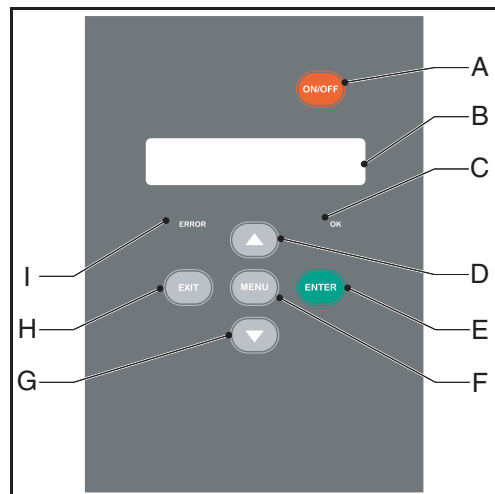
5.4.1 Preparation



1. Set the adjustment valves (A and B) from the position "fully open" with the following table.
2. Open the valve (C) behind the pressure gauge (D).
3. Open the valves (E and F) in the inlet and outlet lines.
4. Open the valve (G) in the refill line.

System pressure [bar] Medium: water	System pressure [bar] Medium: water/glycol	Position adjustment valve inlet (B)	Position adjustment valve outlet (A)
1 - 2		3	2
2 - 3		2.5	2.5
3 - 4		2.25	6
4 - 5		2	6
5 - 6		1.75	6
	1 - 2	6	2
	2 - 3	6	2.5
	3 - 6	6	6

5.4.2 Start up



- A On/off
- B Display
- C Status report in operation / OK
- D Up
- E Confirm / Enter
- F Menu
- G Down
- H Cancel / Exit
- I Status report failure

CAUTION



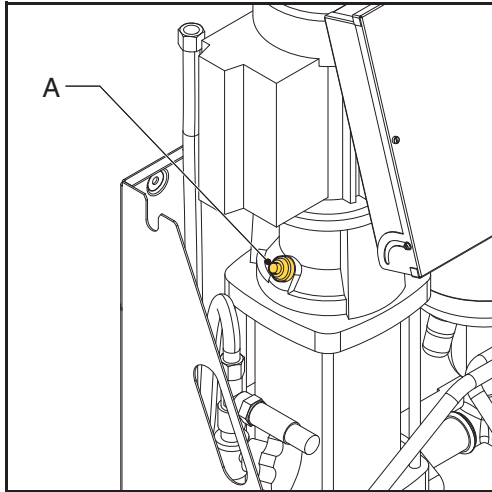
- The start-up routine starts automatically when the unit is switched on for the first time.
- Press EXIT to go back one step in the menu while programming.

Follow the procedures given below for entering the required parameters.

Set date en time

1. Press ON/OFF.
2. Select a language using ▲ and ▼. Press ENTER.
3. Set the date using ▲ and ▼. Press ENTER.
4. Set the day using ▲ and ▼. Press ENTER.
5. Set the time using ▲ and ▼. Press ENTER.

Filling the unit



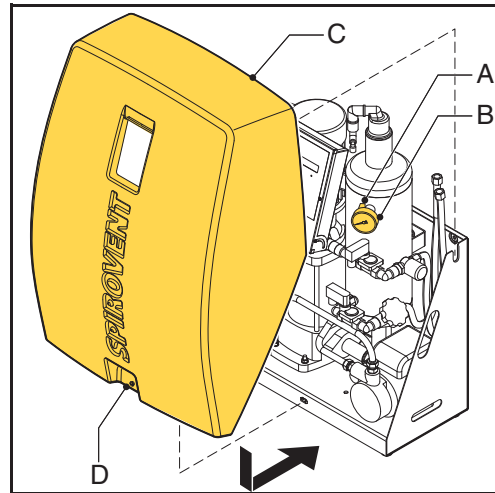
1. Press ENTER two times. The unit starts filling.
2. Wait for 20 seconds until `Initial fill busy` disappears.
3. Loosen the air vent screw (A) a few turns and tighten it again when air has stopped coming out.
4. Repeat steps 1 - 3 until water starts coming out of the air vent screw at step 3.
5. Also deaerate the back-up pump with type S6A-R 2P.
6. Press EXIT two times. The status menu shows the message `Err 7` when the test of the run dry protection has been completed successfully.
7. Press MENU. Select `Manual operation` using ▲ and ▼. Press ENTER.
8. Select `Reset` using ▲ and ▼. Press ENTER.



NOTE

The green LED "OK" indicates that the unit is ready for use. The degassing starts by default daily at 08:00 hours.

Check operation



1. Manually start the unit, see § 5.5.2.
2. Check the indication of the pressure gauge (B). This should alternately display overpressure and underpressure.
3. Close the valve (A) behind the pressure gauge (B).
4. Put back the cover (C) on the unit and fasten it with the screw (D).



NOTE

The SmartSwitch will automatically turn off the unit when the concentration of dissolved gases has reached the minimum level.

5.5 Install and operate

5.5.1 Install

Set the user parameters

1. Press MENU. Select `Settings` using ▲ and ▼. Press ENTER.
2. Select the parameter to be changed using ▲ and ▼. Press ENTER.
3. Change the setting using ▲ and ▼. Press ENTER.
4. Repeat steps 2 and 3, if necessary.
5. Repeatedly press EXIT to return to the status report.

Parameter	Description
Language	Language for the display texts.
Date	The current date.
Weekday	The current weekday.
Time	The current time.
Auto start 1	Time 1 for starting the degassing process.
Auto start 2	See Auto start 1.
Block.time day 1	Time for stopping the degassing process.

Parameter	Description
Block.time day 2	See Block.time day 1.
Block.time week	Days of the week on which the unit is not working. Selected days are marked with an *. After having changed this parameter, select <i>Save</i> using ▲ or ▼. Press ENTER.
Block.time year 1	Period per year during which the unit is not working.
Block.time year 2 - 5	See Block.time year 1.
Max. syst. pressure *)	Pressure at which the unit stops.
Psystem desired *)	Pressure at which the refilling stops. Set this as low as possible if the refilling is controlled by the BMS or external devices.
Refillpressure *)	Pressure at which the refilling starts. Set this as low as possible when the refilling is controlled by the BMS or external devices.
Refill alarm *)	Maximum amount of fluid that may be refilled per time (0 - 2500 l; 0 = switched off).
Refill alarm after *)	Continuous refilling time (0 - 255 min.; 0 = switched off).
Max. refill freq. *)	Maximum number of times per day that refilling is allowed (0 - 10 times; 0 = switched off).

*) applies to types S6A-R and S6A-R 2P.

5.5.2 Manual operation



NOTE

If manually switched off, the process must be manually switched on again.

1. Press MENU. Select *User menu > Manual operation* using ▲ and ▼. Press ENTER.
2. Select *Manual operation start* or *Manual operation stop* using ▲ and ▼. Press ENTER.

5.5.3 Filling the installation

Applies to types S6A-R and S6A-R 2P.



NOTE

The unit also fills the installation with (degassed or not degassed) fluid. When the desired system pressure is reached, the unit automatically goes to the *standby* status.

1. Press MENU. Select *User menu > Manual operation* using ▲ and ▼. Press ENTER.
2. Select *Manual operation > system fill* using ▲ and ▼. Press ENTER.
3. Select *Degassed* or *Non degassed*. Press ENTER.

5.5.4 Switch on again

Follow the procedure described below after the unit has been switched off.

1. Set the adjustment valves from the position "fully open" in accordance with the table in § 5.4.1.
2. Press ON/OFF.
3. Press ENTER two times. The unit starts filling.
4. Wait for 20 seconds until *Initial fill busy* disappears.
5. Loosen the air vent screw (A, see figure on the previous page) a few turns and tighten the screw again when air has stopped coming out.
6. Repeat steps 3 - 5 until water starts coming out of the air vent screw at step 5.
7. Also deaerate the back-up pump with type S6A-R 2P.
8. Press EXIT two times. The status menu shows the message *Err 7* when the test of the run dry protection has been completed successfully.
9. Press MENU. Select *Manual operation* using ▲ and ▼. Press ENTER.
10. Select *Reset* using ▲ and ▼. Press ENTER.



NOTE

The green LED "OK" indicates that the unit is ready for use.

5.5.5 Reading the memory

During operation the following data are stored in the memory:

- Accumulative running hours
- Degassing history
- Fault history
- Refilling history (only with types S6A-R and S6A-R 2P).

The memory can be read in the following way:

1. Press MENU. Select *User menu > History* using ▲ and ▼. Press ENTER.
2. Select *Fault history* or *Operation history* using ▲ and ▼. Press ENTER.
3. Select an item using ▲ and ▼. Press ENTER.
4. Repeatedly press EXIT to return to the status report.

5.5.6 Reading data

The following general data have been stored in the memory of the unit:

- Unit type
- Software version
- Installation date.

The general data can be read in the following way:

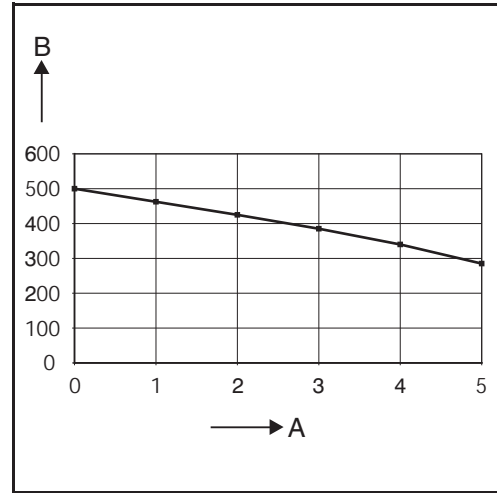
1. Press MENU. Select User menu > General info using ▲ and ▼. Press ENTER.
2. Select an item using ▲ and ▼. Press ENTER.
3. Repeatedly press EXIT to return to the status report.

- With the types S6A-R and S6A-R 2P:
The amount of fluid that is added (B) depends on the difference (A) between the system pressure and the refill water pressure.

6 USE

6.1 General

- The display lighting automatically dims after no key has been pressed for 5 minutes. Press a key to activate the lighting.
- While stopping the process a stop procedure is started, making sure that the unit stops in a safe situation (overpressure).
- When a pump has not run for 96 hours, an automatic pump test is run at the first next Auto start.
- Press ON/OFF to switch off the unit. Press ON/OFF again to switch on the unit again.
- At low fluid temperatures condensation may occur at certain parts. The condensation is drained through the openings in the frame.



- A System pressure - water pipe pressure (bar)
B Flow (l/hour)

6.2 Status reports

Report	Description	LED indication
Auto pump test	The unit runs a pump test.	Green
End degassing End refilling End systemfill	The stop procedure is in process.	Green
Degassing	The degassing process is in process.	Green
Process stopped	The unit has been stopped manually.	None
Standby	The unit is waiting for a starting signal.	Green
Stop by BMS	The BMS has stopped the unit. After release by the BMS the unit must be started manually.	None
Failure	The unit has stopped because of a failure. Remedy the failure before resetting the unit, see § 7.3.1. The unit is switched to one of the above statuses.	Red
Refill (only with S6A-R and S6A-R 2P)	The unit is refilling fluid.	Green
Filling system (only with S6A-R and S6A-R 2P)	The installation is filled with fluid.	Green

7 FAILURES

7.1 Remedy failures



WARNING

- In case of failure always warn the installer.
- Remove the voltage and pressure from the unit before starting the activities see § 7.2.
- Pressing ON/OFF does **not** remove the voltage from the unit.



WARNING

There are hot parts below the cover. Let the unit cool down before starting the activities.



NOTE

In case of a failure the red LED is lit. The failure report appears in the display.

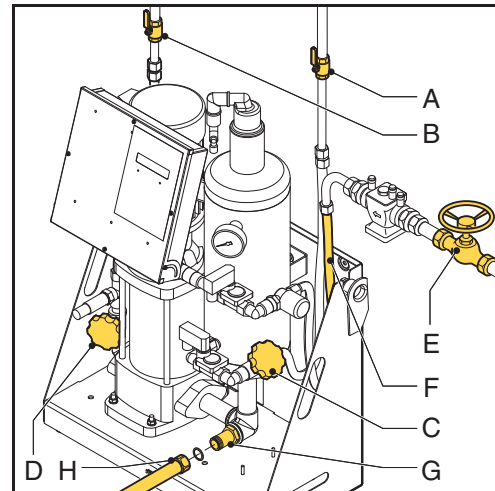


NOTE

With the types S6A-R and S6A-R 2P the seriousness of the failure determines whether the whole unit or a part of the unit switches off. With partly switching off the refilling process remains active. In this case both the red and the green LEDs are lit.

1. Localise the failure using the failure table, see § 7.3.
2. If necessary, put the unit out of operation, see § 7.2.
3. Remedy the failure.
4. Reset the unit, see § 7.3.1 or put the unit into operation again, see § 5.5.4.

7.2 Putting out of operation



1. Take the plug out of the wall socket or switch off the main switch. Make sure that switching on the voltage unintentionally is not possible.
2. Close the valves (A) and/or (C) in the inlet line and (B) and/or (D) in the outlet line.
3. Close, if applicable, the valve (E) in the refill supply line as well.
4. Connect a drain line (H) to the drain connection (G).
5. Drain the unit through the drain connection (G).
6. Open the air vent screw on the main pump to completely empty the unit. See the figure in § 5.4.2.

7.3 Failure table

General

The letter indications comply with the main figure in § 2.1. An overview of the replacement parts has been included in § 8.2.

Problem	Possible cause	Correction
Err 3 Syst.temp. too low There is a risk of freezing.	The temperature of the system fluid is < 0 °C.	Provide a temperature of > 0 °C.
Err 4 Syst.temp. too high There is a risk of boiling.	The temperature of the system fluid is > 90 °C.	Provide a temperature of < 90 °C.
Err 5 Entrance flow The flow in the inlet line has been blocked *).	The solenoid valve (N) in the inlet line does not open.	Replace (a part of) the solenoid valve.
	A valve in the inlet line is closed.	Open the valve.
	The inlet line has been blocked.	Remove the blocking.
	The pressure switch (S) is defect.	Replace the pressure switch.
Err 6 Flow The flow in the outlet line has been blocked *).	One of the solenoid valves (N) is not closing.	Replace (a part of) the solenoid valve.
	The valve in the outlet line is closed.	Open the valve.
	The outlet line has been blocked.	Remove the blocking.
	The pump (O) does not run.	Check the pump. Check and replace the pump fuse in the control unit.
	The unit sucks in air during the vacuum phase.	Replace the automatic air vent.
	The pressure switch (S) is defect.	Replace the pressure switch.
Err 7 Fluid lack vessel There is a risk of running dry, the fluid level in the vessel is at the minimum.	The automatic air vent (A) is defect or blocked.	Replace the automatic air vent.
	The vessel has not been filled.	Fill the vessel (see § 5.5.4).
	The level switch (H) is defect.	Replace the level switch.
The unit runs continuously and does not switch off automatically. The SmartSwitch does not seem to work *).	The content of dissolved gases has not reached the minimum yet.	Check whether there is a possibility of gases entering.
	The SmartSwitch (R) is defect.	Disconnect the hose on the automatic air vent. Replace the SmartSwitch if the unit does not switch off after 10 minutes.
	The automatic air vent (A) is defect.	Check whether gas is released through the valve. Replace the automatic air vent when no gas is released.
The unit runs maximally 10 min. per degassing period. Gases remain in the installation. The SmartSwitch does not seem to work *).	The SmartSwitch (R) is defect.	Check whether gas is released through the valve. Replace the SmartSwitch if gas is released.
	The automatic air vent (A) is defect.	Replace the automatic air vent.

*) The refill mode remains active, this applies to types S6A-R and S6A-R 2P.

Specific for types S6A-R and S6A-R 2P

Problem	Possible cause	Correction
Err 1 P _{system} too low The system pressure is below 1 bar.	A failure in the installation.	Provide a system pressure of > 1 bar.
	There is a leak in the installation.	Repair the leak.
	The pressure sensor (Q) is defect.	Replace the pressure sensor.
Err 2 P _{system} too high The system pressure exceeds the set maximum.	A failure in the installation.	Provide a system pressure that is below the set value.
	The set value is too low.	Increase the set value.
	The pressure sensor (Q) is defect.	Replace the pressure sensor.
Err 10 Refill flow too low There is no or little supply of refill fluid ^{*)} .	A valve in the refill line is (partly) closed.	Open the valve.
	The solenoid valve (N) in the refill line does not open.	Replace (a part of) the solenoid valve.
	The refill line has been blocked.	Remove the blocking.
	The water flow meter (G) is defect.	Replace the water flow meter.
Err 11 Refill valve Undesired supply of refill fluid. The refilling does not stop.	The solenoid valve (N) in the refill line does not close.	Replace (a part of) the solenoid valve.
Err 13 Refill freq. too high Refilling takes place too frequently.	There is a leak in the installation.	Repair the leak.
		Check the setting Max. refill freq.
Err 14 Refill time too high Refilling takes too long.	There is a leak in the installation.	Repair the leak.
		Check the setting Alarm refill after:
Err 15 Refill quantity Too much is added.	There is a leak in the installation.	Repair the leak.
		Check the setting Alarm refill.

^{*)} The refill mode remains active, this applies to types S6A-R and S6A-R 2P.

7.3.1 Resetting the unit

1. Press MENU. Select User menu > Manual operation using ▲ and ▼. Press ENTER.
2. Select Manual operation reset using ▲ and ▼. Press ENTER.

8 MAINTENANCE

8.1 Periodic maintenance

1. Annually replace the interior of the solenoid valves (N).

8.2 Replacement parts

The letter indications comply with the main figure in § 2.1.

Article number	Letter	Description
15.552	O	Shaft sealing for pump type CR1-13/1-9 AAA HQQE
15.553	O	Gasket set for pump type CR1-9 and CR1-13
15.554	O	Condensator for pump type CR1-13
15.790	O	Condensator for pump type CR1-9
15.510	O	Pump type CR1-13 AAA HQQE (50 Hz)
15.511	O	Pump type CR1-9 AAA HQQE (60 Hz)
15.512	W	Cover
12.023	N	Solenoid valve (excluding coil)
12.022	N	Coil for solenoid valve
12.018	N	Interior for solenoid valve
12.021	T	Pressure gauge
15.513	-	Non-return valve
15.514	A	Automatic air vent
13.468	S	Pressure switch
15.515	U	Control unit (cover incl print) (S6A)
15.784	U	Control unit (cover incl print) (S6A-R)
15.785	U	Control unit (cover incl print) (S6A-R 2P)
15.516	J	Temperature sensor
15.517	R	SmartSwitch
15.518	I, P	Adjustment valve
13.466	H	Level switch
15.519	G	Water flow meter (S6A-R and S6A-R 2P)
15.520	Q	Pressure sensor (S6A-R and S6A-R 2P)
15.521	K	Pump type PSAM70/A (S6A-R 2P) (50 Hz)
15.522	K	Pump type PSAM706/A (S6A-R 2P) (60 Hz)

8.3 Maintenance card

Type: _____

Serial number: _____

Installation date: _____

Installed by firm: _____

Installed by technician: _____

Inspection date:	Technician:	Initials:
Nature of the maintenance:		

Inspection date:	Technician:	Initials:
Nature of the maintenance:		

Inspection date:	Technician:	Initials:
Nature of the maintenance:		

Inspection date:	Technician:	Initials:
Nature of the maintenance:		

Inspection date:	Technician:	Initials:
Nature of the maintenance:		

Inspection date:	Technician:	Initials:
Nature of the maintenance:		

9 GUARANTEE

9.1 Terms of guarantee

- The guarantee for Spirotech products is valid until 2 years following the purchasing date.

- The guarantee lapses in cases of faulty installation, incompetent use and/or non-authorized personnel trying to make repairs.
- **Consequential damage** is not covered by the guarantee.

10 CE STATEMENT

10.1 Declaration of conformity

EU declaration of conformity

We, Spirotech bv, Churchillaan 52, Helmond NL, declare entirely on our own responsibility that the products

SpiroVent Superior S6A / S6A-R / S6A-R 2P

to which this declaration applies, comply with the standards:

EN 292-1, EN 292-2, EN 809, EN 60204-1, EN60335-1,
EN 55014-1 and EN 55014-2, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 and EN 61000-6-4.

in accordance with the stipulations of:

* the Machine Directive 89/392/EEC, amended by directives 91/368/EEC, 93/44/EEC, and 93/68/EEC

* the Low Voltage Directive 2006/95/EC

* The EMC Directive 89/336/EEC, amended by directives 92/31/EEC and 93/68/EEC.

Helmond, January 2009,



Daphne Scholten
General Manager



The manufacturer reserves the right to make changes without prior notification.

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