

SAUNA- Plus VII

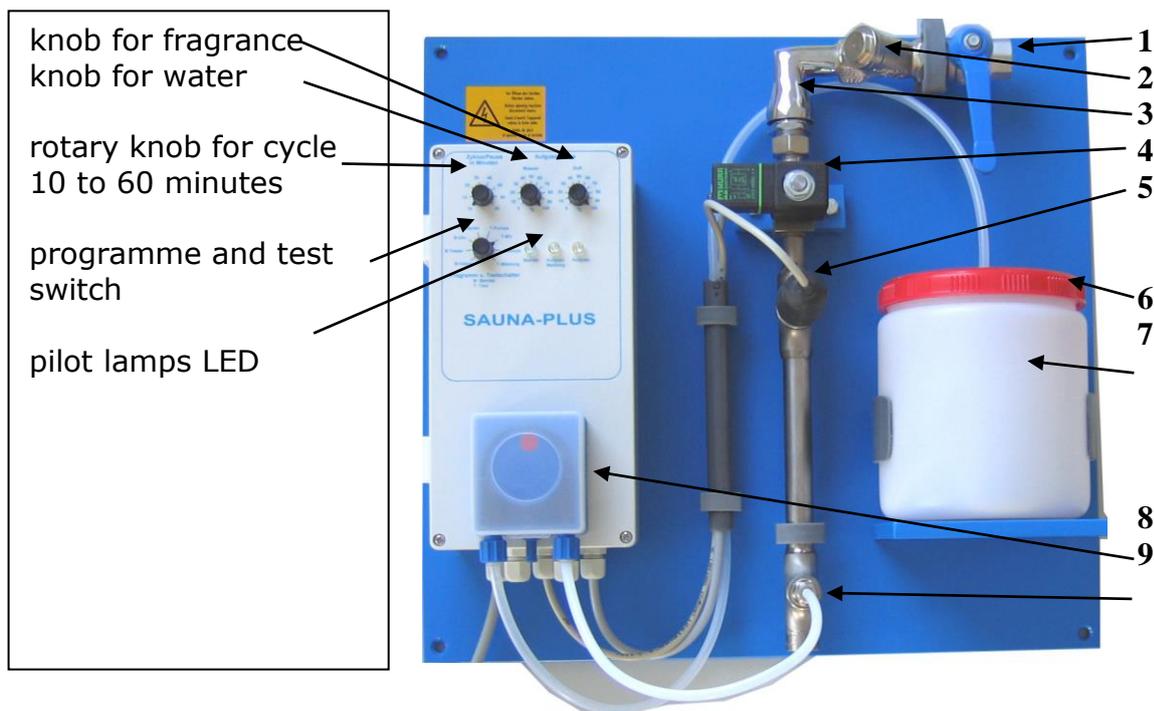
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1. Function

The splash automatic SAUNA-Plus VI doses the splash full automatically to the sauna oven.

The dosing cycle, the intensity of the splash (quantity of water) and the arome-intensity (quantity of fragrance) are adjusted individual by 3 rotary knobs.



For the dosing the solenoid valve (4) opens and the splash water flows to the Sauna-oven. The water is accumulated at the diaphragm that is installed behind the pressure switch (5). A certain pressure is built up. If this pressure gets higher than 1,2 bar the fragrance dosing released, the dosing pump (8) doses the adjusted fragrance quantity over the dosing valve (9) into the water that streams to the oven. As a result it is ensured that the fragrance concentrate is only dosed when there's pressure in the water tubing. Additionally the installed security combination (non-return valve + blower) (3) ensures that no splash water is sucked back into the supply tubing when there's a sudden pressure loss (according to DIN 1988). A locker ball valve $\frac{1}{2}$ " (1) and a fine filter (2) are switched in in front of the solenoid valve.

Attention!

For the prevention of a flooding of the Sauna-room the Sauna-Plus has necessarily to be locked electrical with the Sauna-oven. The internal time delay of app. 30 minutes prevents the first splash onto the cold oven. If necessary the time delay can be switched-off (e.g. at an external start of the splash).

2. Technical Data

The unit consists of:

- water connection 1/2" female thread (app. 150l per hour)
 - solenoid valve 1/2"
 - peristaltic pump 12-24VDC for fragrance
 - controller with connector for ore-indiation of the splash 230VAC
 - connector for push-button or external start device
 - voltage supply 230VAC 1,25A
 - splash sprinkler 3/8" female thread
 - measures 44x41x17 cm
-
- fragrance: up to 15 ml pro Aufguss
 - water consumption: up tp 800 ml per splash at adjustment 100%
 - cycle time: 10-60 Minuten

options

- tube cutter (if the splash tubing does not fall)
- enlargement for the splash sprinkler
- connections for PTFE hose 6x1
- push-button for external control
- clock-timer

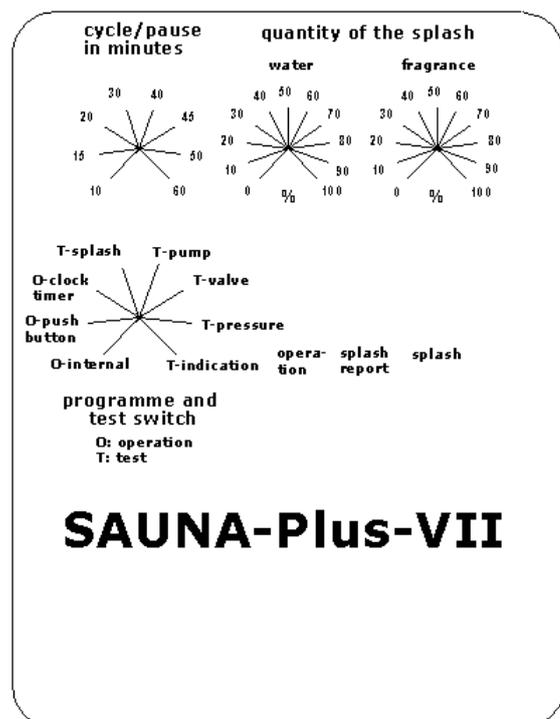
2.2 The controller

2.2.1 Cycle - pause in minutes

The cycle time (time from splash to splash) is adjustable from 10 to 60 minutes. After the lapse of the cycle time the times for the dosing of water and fragrance run accordingly. The operation time of the fragrance dosing is limited to the opening time of the solenoid valve by the pressure switch. If the unit is operated externally (e.g. by push-button) the pause time is according to a locking time in which no further splash can be started.

2.2.2 Splash quantity

The dosing times are adjustable by the rotary knobs from 0 to 20 seconds. During this time the max. quantity that is dosed is 0.8l water with 15ml of fragrance.



Attention: fragrance can only be dosed into flowing water!!!

2.2.3 Programme and test switch

The programme and test switch is to choose the operation programmes and to test all functions of the SAUNA-Plus-VII:

- operation: controlled internally with cycle and splash quantity
- operation with push-button: start of the splash by external push-button and adjustment
„splash quantity“ cycle/pause is according to locking time
- operation with clock timer: start of the splash according to exactly adjusted time and according to the adjustment of the “splash quantity”
- T-splash: a splash is started, afterwards the operation LED blinks, the controller waits for a readjustment
- T-pump: test of the fragrance pump for 20 seconds, afterwards the operation LED blinks, the controller waits for a readjustment
- T-valve: test of the solenoid valve for 20 seconds, afterwards the operation LED blinks, the controller waits for a readjustment
- T-pressure: test of the pressure switch (see 5.6)
- T-indication: test of the pre-indication for 20 seconds, afterwards the operation LED blinks, the controller waits for a readjustment

2.2.4 Indications of the controller

The operating state and the function sequence is indicated by three LED´s at the controller.

- | | |
|--|--|
| <p>green „operation“
is activated</p> | <p>shines at standard operation or if test function is activated</p> <p>blinks at a disfunction or after the lapse of a test programme</p> |
| <p>yellow „splash indication“</p> | <p>shines according to the adjusted pre-indication time of the splash (see 2.2.6)</p> |
| <p>yellow „splash“</p> | <p>shines during the splash</p> |

2.2.5 Main switch

You find the illuminated main switch (for switching the unit on & off) on the left side of the controller housing.

2.2.6 Pre-indication of the splash

A pilot lamp that indicates the coming splash can be connected to the controller. The lead time can be adjusted to 0 – 30 – 60 or 120 seconds (see wiring diagramme).

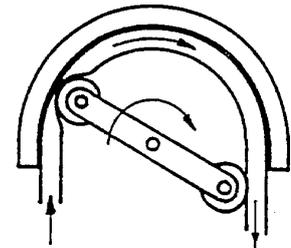
2.2.7 Adjustment of the dosing

The cycle time (time from splash to splash) is adjusted by the left rotary knob from 10 – 60 minutes. After the lapse of the cycle time the times for the dosing of water and fragrance run accordingly. The dosing times are adjustable by the rotary knobs from 0 to 20 seconds. During this time the max. quantity that is dosed is 0.8l water with 15ml of fragrance.

Attention! If you switch the unit on the first splash always starts with a delay of 30 minutes (set up ex works). This switch-on delay can be switched-off manually (see wiring diagramme).
The fragrance dosing is only unlocked if water flows through the unit.

3. The dosing pump

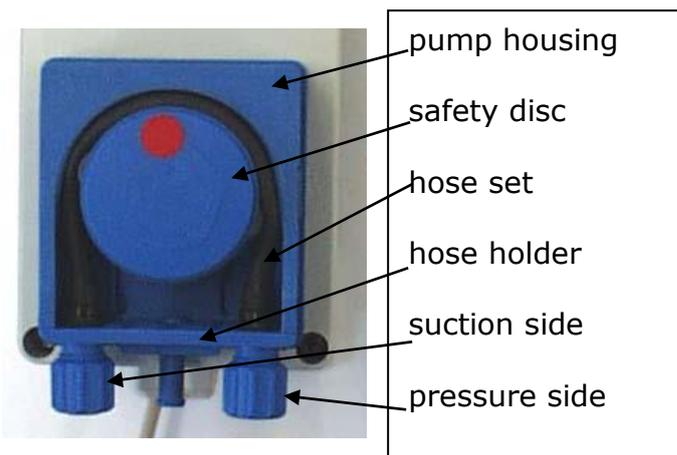
For the fragrance dosing a peristaltic pump that conveys smallest dosing quantities is used, even when there are gas- or air bubbles in the suction tube. Revolving rolls push the dosing hose against a walling whereby the the liquid in the hose is pressed out in front of the rolls and sucked back behind them.



It is extraordinary safe in its function an in addition to this very easy to handle (see mounting).

Fragrance concentrates are extremely aggressive. The used dosing hose is resistant against the most concentrates that are common in trade. Lifetimes from some months to some years are possible. But there are also concentrates against which the hose in not resistant. So we are not able to provide a warranty in this case!

3.1 Changing the hose set

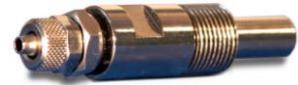


Remove the transparent pump cover and the yellow roller cover. To change the hose set the suction and pressure connections have to be pulled forward. Turn the roller to the right and pull out the pump hose over the cut out at the roller. On reassembly reverse this process. At the installation act contrariwise.

3.2 Dosing valve

A back pression of water resp. a emptying of the dosing tube is prevented safely by the use of a spring-loaded non-return valve.

The valve body is completely manufactured of stainless steel, hose connection 4x1 mm – male thread 3/8".

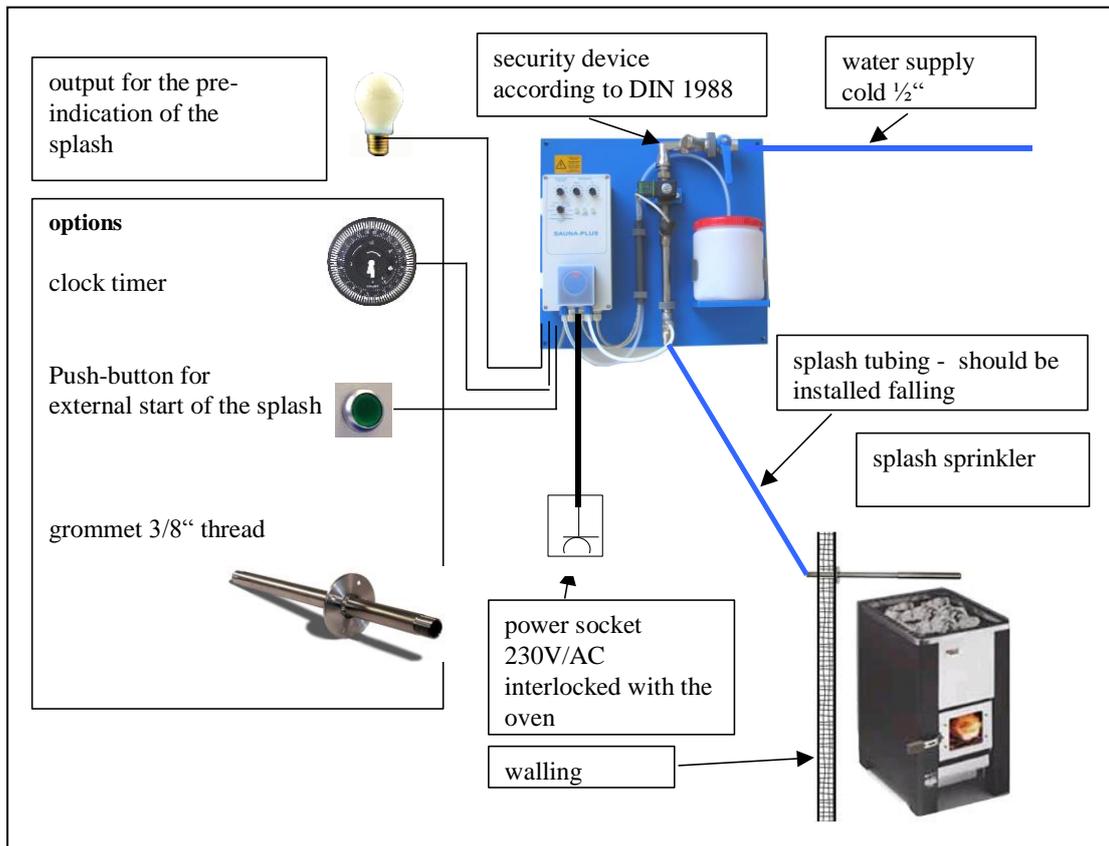


3.3 Fragrance canister

The SAUNA-Plus VII is delivered to be mounted on the wall, the fragrance canister (volume 1.5 l) is pre-mounted at the mounting plate.

4 Installation / Taking the unit into operation

4.1 Installation



The dosing unit SAUNA PLUS VI is delivered in a state ready for operation. It has to be mounted on place that is accessible easily **and a bit higher than the oven.**

The installed security device according to DIN 1988 is useable for non-toxical fragrances for sauna splashes. A second pre-condition is a free outlet.

If the tubing tends upwards to the oven a more significant security device (tube cutter) has to be installed. If demanded the tube cutter (article no. 14872) can also be pre-installed ex works. The connection for the water supply at the ball valve is 1/2", for the splash tubing 3/8".

The fragrance canister has to be filled and the suction tube has to be hung into it so that its end reaches the bottom of the canister. The roller of the pump is packed separately for transport and stock-taking to prevent a deformation of the dosing hose. Insert the roller before taking the unit into operation (see 3.1).

4.2 Electrical connection

To prevent that there is a dosing off-time of the sauna operation time, the electric connection (power socket 230V) has to be locked by the controller for the sauna oven.

The first splash comes after app. 30 minutes after the overplugging of the voltage.

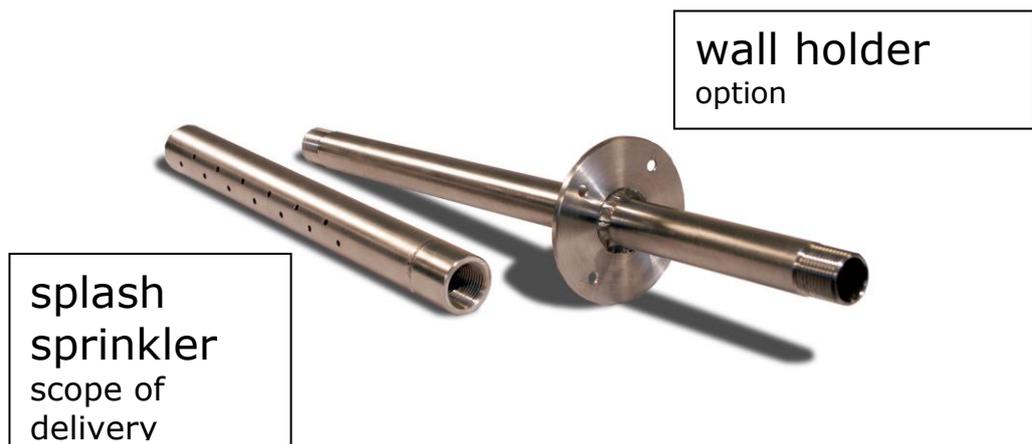
4.3 Splash sprinkler

The scope of delivery includes a splash sprinkler made of stainless steel (16) to distribute the water drops over the stones of the oven. Connection for splash tubing is 3/8" female thread.

Longer splash tubings are deliverable on demand. To prevent a back flowing if there 's a longer splash tubing it is possible to install a weak spring loaded non-return valve before the oven. If a non-return valve is installed a tube cutter is absolutely necessary!

Option:

For the assembly and safe fixing of the splash sprinkler, we offer a grommet with two threads 3/8" made of stainless steel. About 10-15cm over the oven, a app. 18mm hole is drilled into the sauna wall. Furthermore, the wall holder with the rosette is pushed inside. The rosette is fixed together with the delivered V4A screws on the sauna wall. Now the splash sprinkler can be screwed-on over the sauna stones. Use only teflon band for sealing to keep the cleaning of the sprinkler simply.



5 Maintenance

5.1 Changing the canister

Release the canister lid from the empty canister and refill it. Make sure not to overfill it.

5.2 Checking/ changing the dosing hose (see 3.1)

The hose set of the pump is exposed to a mechanical and chemical wear. For this reason the pump hose has always to be checked when the fragrance is refilled. This is unavoidable to recognize damages in time and to change the pump set. In general, the pump set has to be changed every year. In case of aggressive fragrances, it has to be changed more often.

5.3 Checking the dosing valve

Some fragrance concentrates lead to disposals in the dosing tube and in the dosing valve. In this case water may be pressed back at the splash, especially if the dosing hose is already damaged. For this reason check the dosing valve half a year, resp. when there's a need to check it. For this purpose release the dosing hose and screw out the dosing valve. If you blow through the valve from the screw-in side it has to be hermetically sealed. If this is not the case flush it with water from the connection side. If this leads to no success insert a new valve.

5.4 Cleaning the splash sprinkler

After a certain operation time the splash sprinkler fossilises inevitably. For the cleaning screw off the sprinkler and clean it mechanically with weak acid. If you screw it up again use only teflon band for sealing to keep the cleaning of the sprinkler simple.

5.5 Cleaning the protection filter

Depending on the contamination of the fresh water, the filter has to be cleaned in the supply. This is especially necessary shortly after the start-up as there can occur some impurities in the pipeline and in the water. Therefore lock the ball valve, screw off the sealing plug of the filter, pull out the filter element and clean it up by flowing water. Install it again afterwards. Pay attention that the sealing is not damaged.

5.6 Checking the press switch

Adjust the programme switch to T-pressure. The "splash indication" LED shines for five seconds with a delay of 2 seconds. Afterwards, the solenoid valve is switched on and water flows to the oven. The LED "splash" shines. After the lapse of the test programme, the LED "operation" blinks. The controller waits for a new adjustment. If a LED blinks during the checking procedure, the pressure switch is adjusted wrongly or it is defect. The test is stopped immediately.

5.7 Trouble shooting

Fault:

LED „splash report“ blinks:

Solution:

- turn the adjustment screw a half rotation to the right and repeat test
- change the pressure switch

LED „splash“ blinks:

- water pressure too low, open valves and clean filter
- turn the adjustment screw a half rotation to the left and repeat test
- change the pressure switch

„no fragrance dosing – no aroma in the Steam Room?“

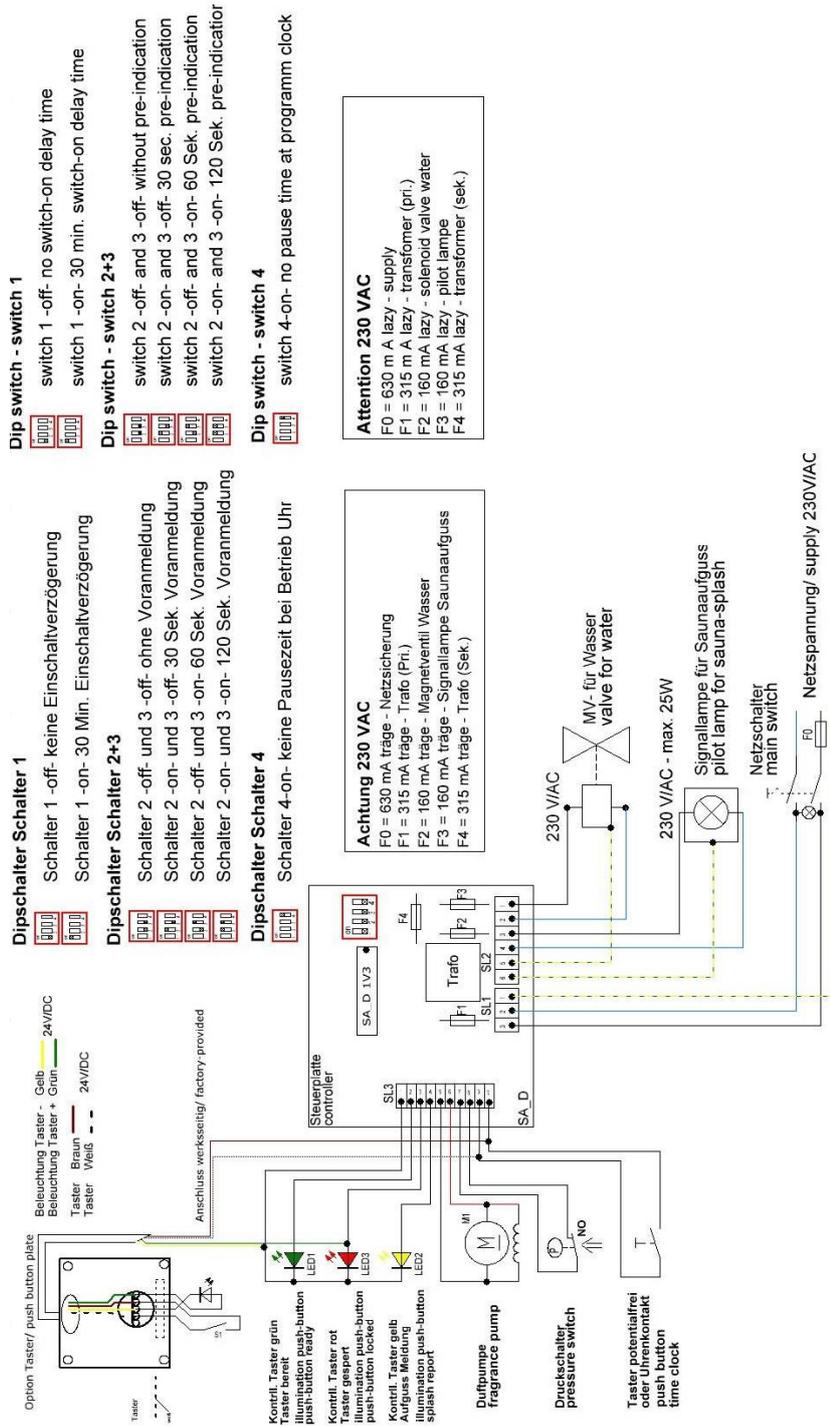
- Fragrance canister empty?
- Does the pump run? → Test function (see above).
- Check the function of the pump: Pull the suction hose of the pump out of the fragrance canister – does a air bubble appear in the hose? Is it aspirated? If yes, the suction function of the pump works.
Is the roller of the pump rotating? **Consider:** If the water pressure is low the pressure switch locks the fragrance dosing. This is to ensure that fragrance oil is not dosed onto the oven without water.
- Check the pump hose on cracks, deformation.
- Check the roller of the pump on tracks of wear, springs broken, is the hose mounted correct?
- Check the dosing valve (blocked, clotted?) Remove the dosing tube from the valve by opening the cap nut of the hose connection (Pay attention that no fragrance splashes out as the hose is on pressure). Switch-on the pump. If fragrance is pressed out of the tube the pump works properly. Unscrew the dosing valve of the steam tube and make the same test. If no fragrance is pressed out of the dosing valve it is blocked.

„no spalsh?“

- Is the unit switched on? Does the „LED operation“ at the controller shine? Check the fuses!
- Is the splash sprinkler fossil?
- Check the supply pressure – if the pressure is too low the pressure switch will switch off the unit

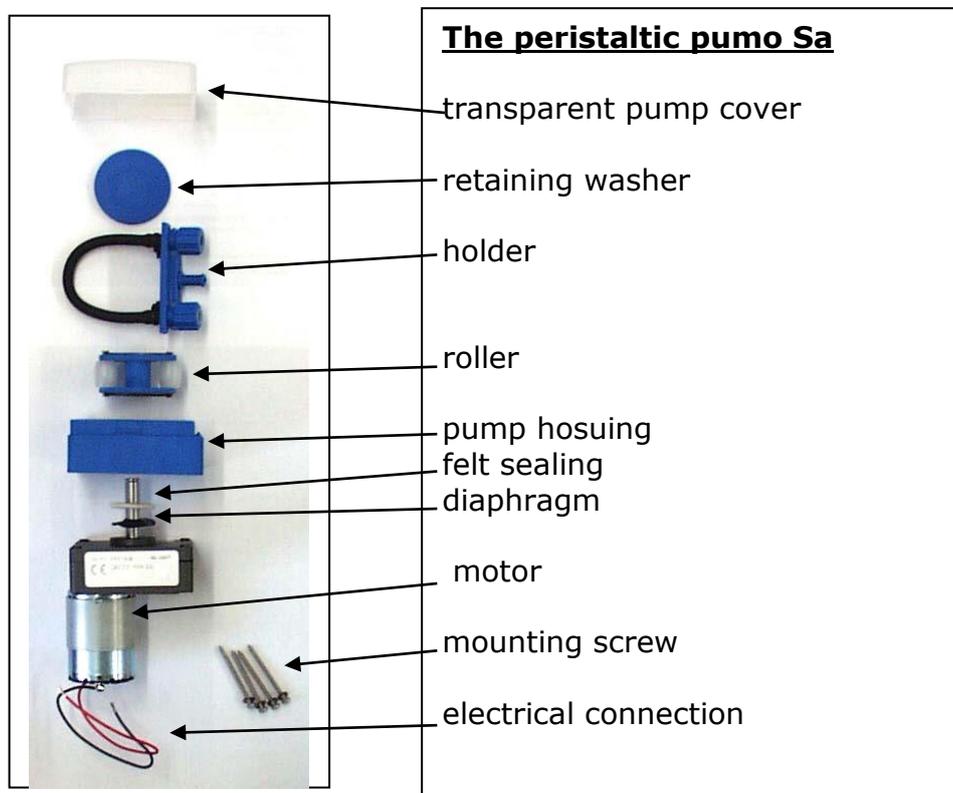
- Open all ball valves.
- Clean filter (central filter in technical room?)
- Test every single function/ component with the test switch.

6 Wiring diagramme



6. Spare parts list

6.1 Pump and controller



Identification

Article no.

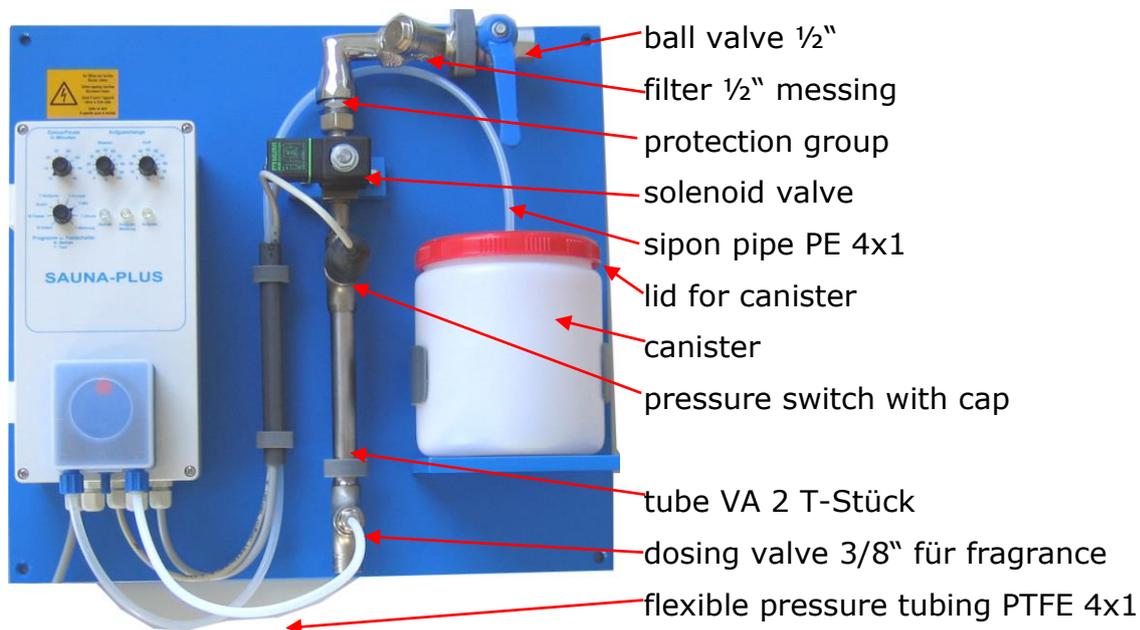
Fragrance pump

lid for pump housing.....	14259
safety disc for roller Sa.....	13633
roller acid pump	13039
acid pump housing.....	14140
grommet felt.....	14166
grommet felt EPDM.....	12709
pump motor.....	13557
mounting screws.....	17067
hose holder with dosing hose.....	13358
dosing hose with hose clamp.....	12782

Control

housing ABS with imprint.....	16878
knob for control board.....	11031
valve plate sauna Plus VII.....	17009
seesaw switch.....	12764
protection 315 mA.....	11493
protection 1,25 A.....	11361

7.2 Water part



Identification

Article no.

ball valve 1/2" MS.....	10423
oblique sitting filter 1/2" MS.....	11479
protection group.....	11465
solenoid valve Va 1/4".....	15072
solenoid valve connector.....	13082
dosing tube PE 4x1.....	12064
lid for canister.....	13420
canister 1550 ml.....	13418
pressure switch 1/2".....	11335-1
protection cap for pressure switch.....	11337
dosing tube sauna 1/4"-3/8" V4a.....	16865
dosing valve for fragrance 3/8".....	15108
dosing tube PTFE di 4x1mm.....	10432