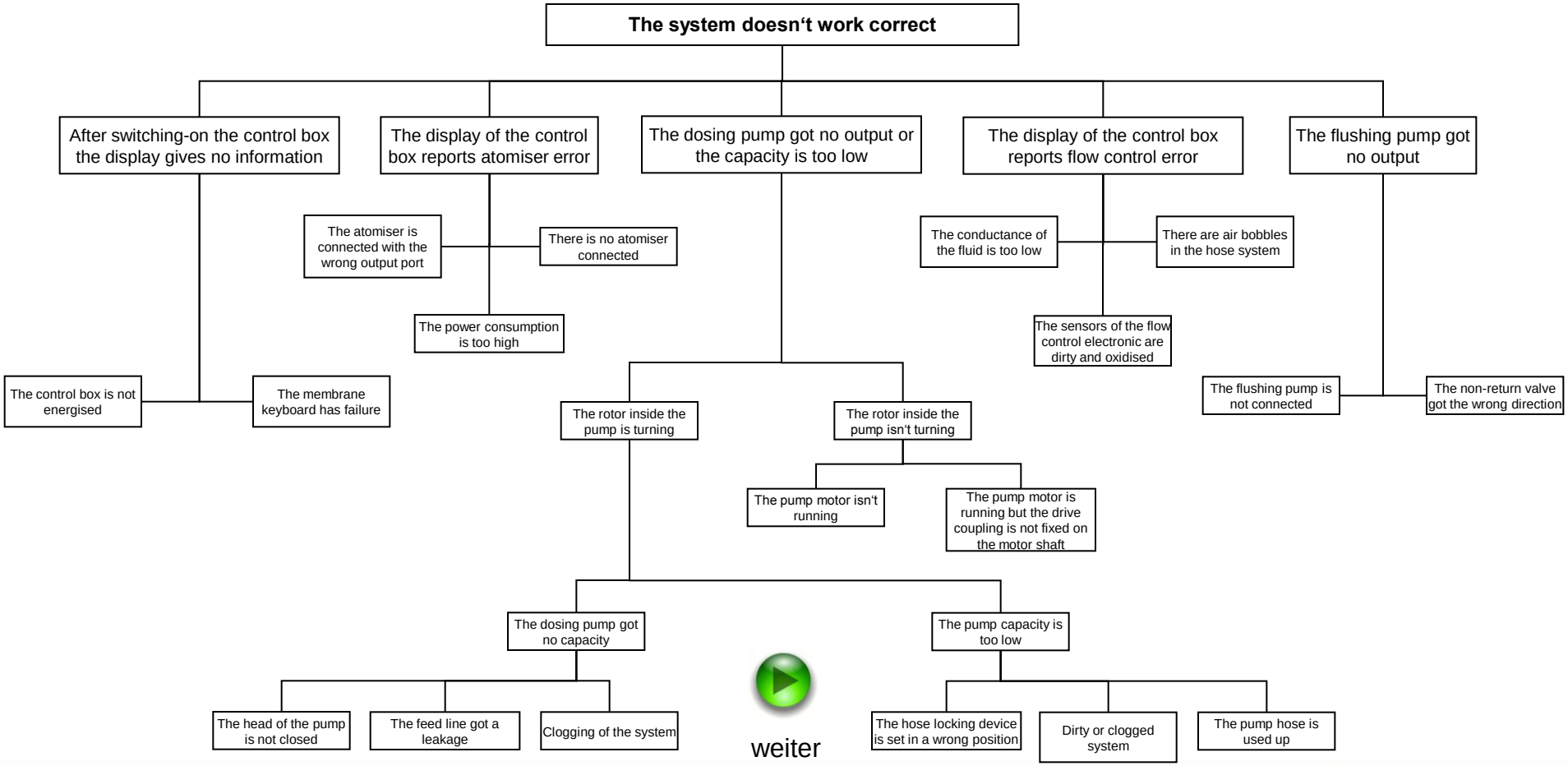
Fault analyses of the MAFEX-ULV units

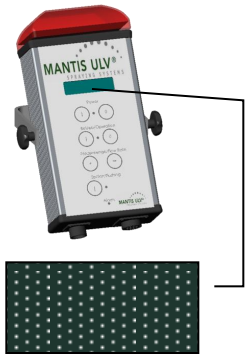
Fault-tree analyses



MANTIS ULV®
SPRAYING SYSTEMS

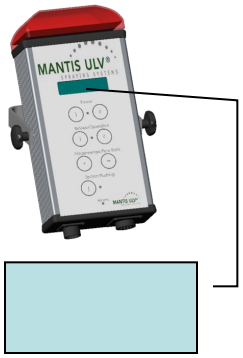
Fault analyses of the MAFEX-ULV units

The system doesn‘t work correct



After switching-on the control box the display gives no information

weiter

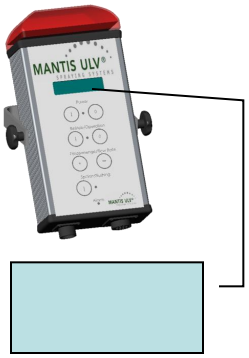


The display of the control box reports atomiser error

weiter

The dosing pump got no output or the capacity is too low

weiter



The display of the control box reports flow control error

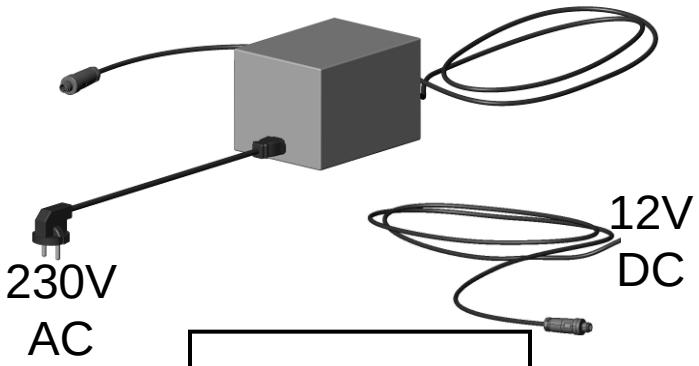
weiter

The flushing pump got no output

weiter

Fault analyses of the MAFEX-ULV units

After switching-on the control box the display gives no information



The control box is not energised

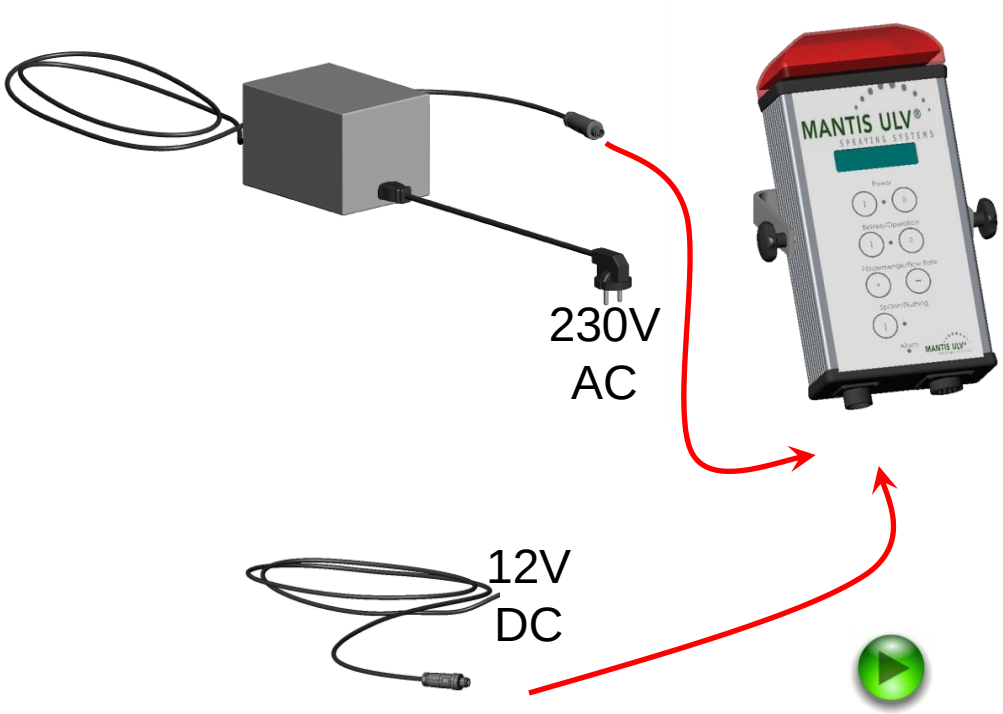
weiter

The membrane keyboard has failure

weiter

Fault analyses of the MAFEX-ULV units

The control box is not energised

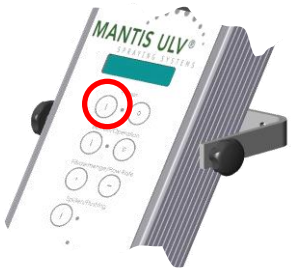


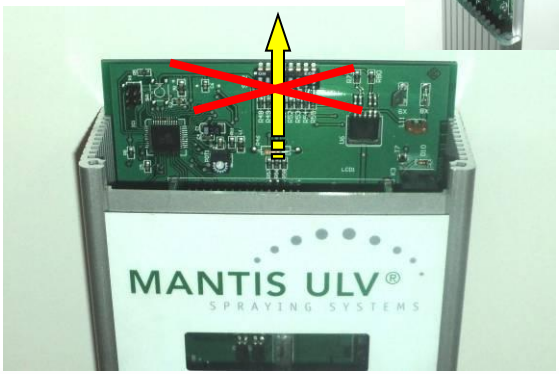
Make sure that plug connections are properly locked. Check with another device, if the voltage is applied. If you apply the controller with 12V from the electrical system of a vehicle, check whether your socket is connected to the ignition. If you have connected the cable yourself recheck the polarity. The reverse polarity protection prevents possible damage to the unit.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The membrane keyboard has failure





Although voltage is applied to the control box, it can not be switched on. There could be two reasons. One reason is a faulty keyboard. The other reason is the cable between the keyboard and motherboard. By opening the control, this compound have been disconnected and needs to be reconnected.

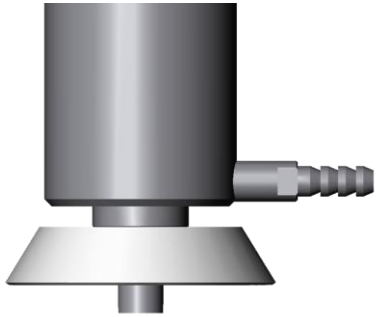
Zurück zum Start

Fault analyses of the MAFEX-ULV units

The display of the control box reports atomiser error

The atomiser is connected with the wrong output port

weiter



The power consumption is too high

weiter

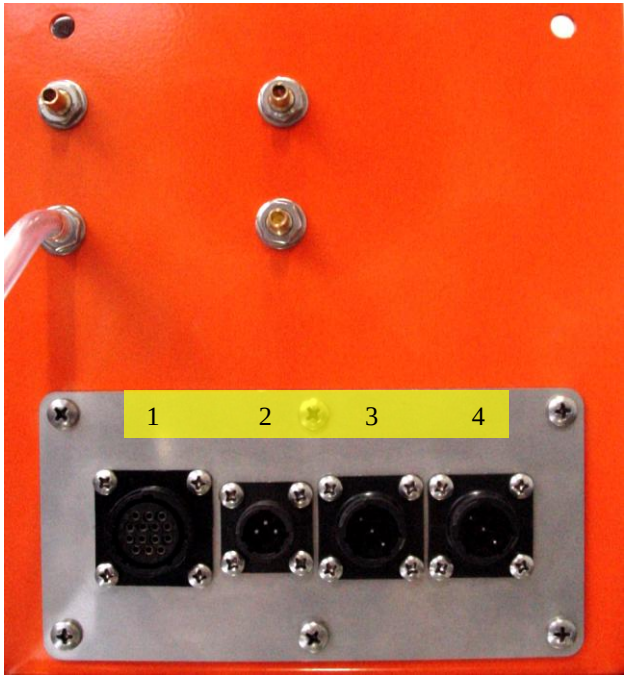
There is no atomiser connected

weiter

MANTIS ULV®
SPRAYING SYSTEMS

Fault analyses of the MAFEX-ULV units

The atomiser is connected with the wrong output port

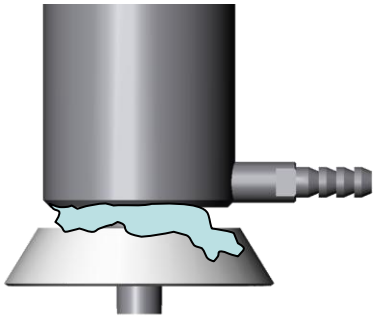


If you have a MAFEX Potato /1 and neither of the two atomiser ports at the pump box is closed with a lid, then switch once the connections between positions three and four.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The power consumption is too high

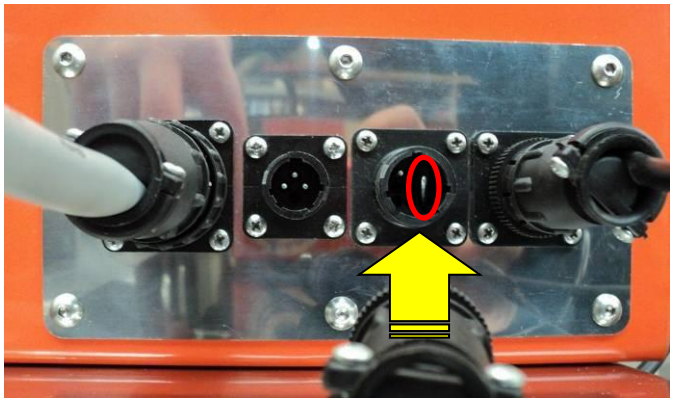


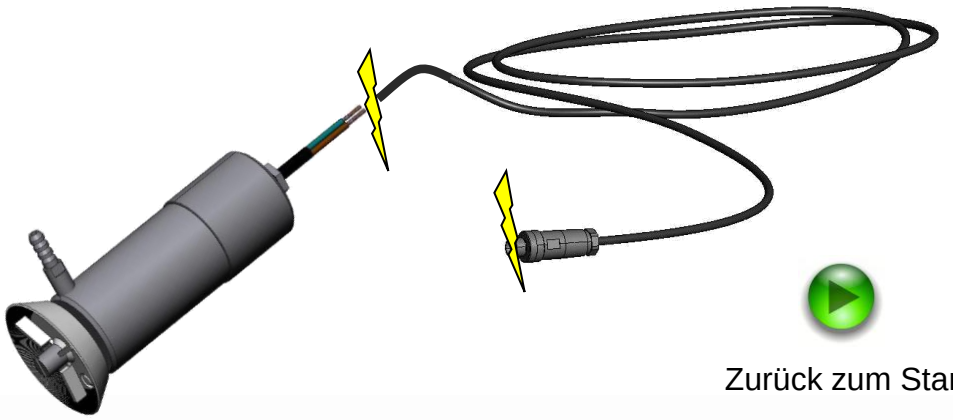
The atomiser disc can clog by ingredients of the preparation to be sprayed and block. For this reason, the atomiser has to be rinsed and cleaned regularly.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

There is no atomiser connected



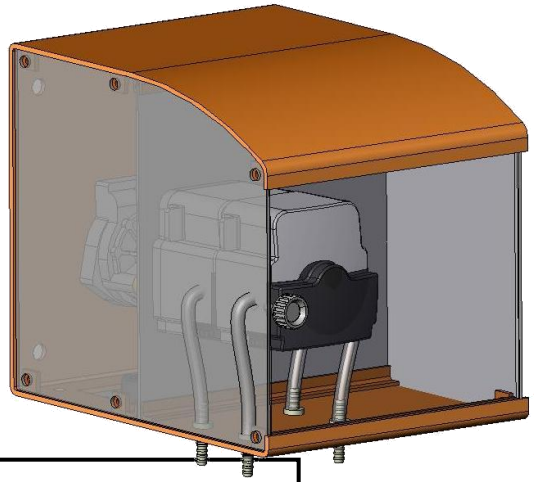


Check all plugs and plug connections if the are tight. Inspect the cables to the nozzle for damage.
Make sure that the pins are not bent in the plug housing of the pump unit. With a bent pin a connection is no longer possible. These pins have to be adjusted.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The dosing pump got no output or the capacity is too low



The rotor inside the pump is turning

weiter

The rotor inside the pump isn‘t turning

weiter

Fault analyses of the MAFEX-ULV units

The rotor inside the pump is turning but..

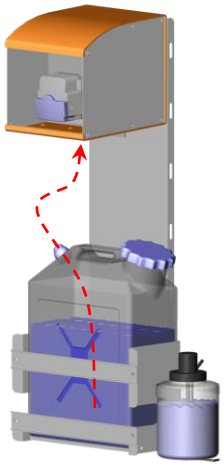
The dosing pump got no capacity	The pump capacity is too low
weiter	weiter

Fault analyses of the MAFEX-ULV units

The dosing pump got no capacity

The head of the pump is not closed

weiter



The feed line got a leakage

weiter

Clogging of the system

weiter

Fault analyses of the MAFEX-ULV units

The head of the pump is not closed

Make sure that the pump head is closed properly. If the pump head is not closed, the pump has no function. When closing the pump head make sure that the pump tube is centered in the lock.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The feed line got a leakage

Make sure that all hoses, couplings and connectors are intact. If the hose has a hole, the quick-coupling a defective o-ring or a hose guide is damaged and leaky, the pump can suck in no more liquid.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

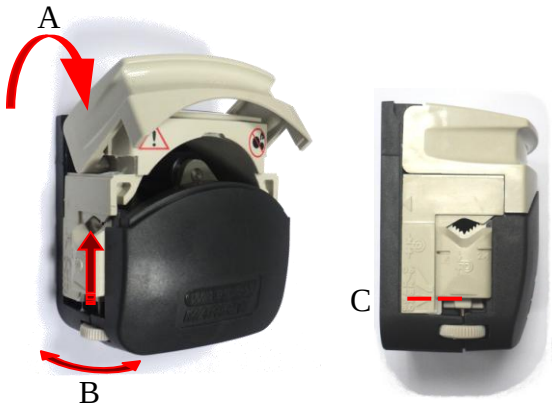
Clogging of the system

If the device has already been in operation, particles can block the hose directly to the hose locking device. In this case, open the quick-coupling and allow the pump to run backwards to remove the blockade. Any restriction (pictured in red) can lead to a blockade in worst case. These points should be checked first if the pump suddenly got no output, but the engine is still running.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The pump capacity is too low



The hose locking device is set in a wrong position

weiter

Dirty or clogged system

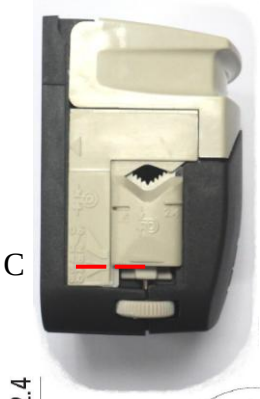
weiter

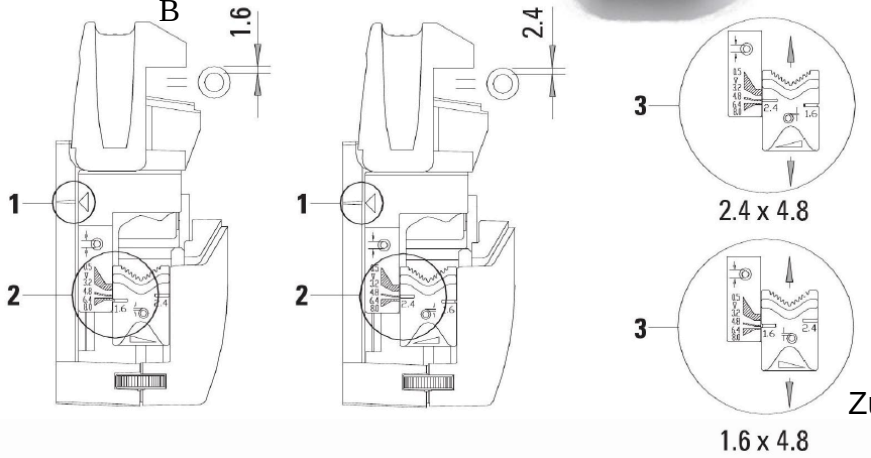
The pump hose is used up

weiter

Fault analyses of the MAFEX-ULV units

The hose locking device is set in a wrong position





If the hose locking device is set too small hose diameter the pump line is reduced and can’t reach the desired volume.
The displayed "T-Vol" quantity in this case is differs from the actual spread rate.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

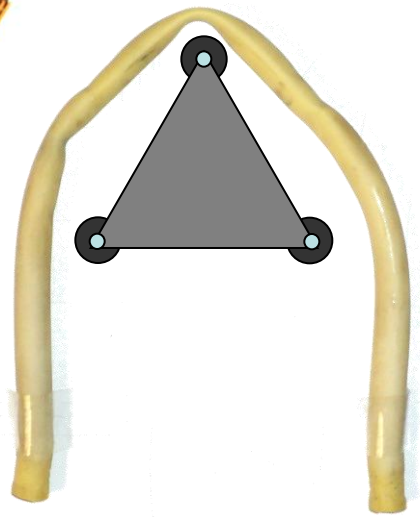
Dirty or clogged system

If the device has already been in operation, particles can block the hose directly to the hose locking device. In this case, open the quick-coupling and allow the pump to run backwards to remove the blockade. Any restriction (pictured in red) can lead to a blockade in worst case. These points should be checked first if the pump suddenly got no output, but the engine is still running.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The pump hose is used up



The pump hose is subjected to an aging process. High speeds, aggressive fluids and UV radiation decreases the resilience of the tube and the performance of the pump is reduced.
In this case the tube has to be replaced.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The rotor inside the pump isn‘t turning

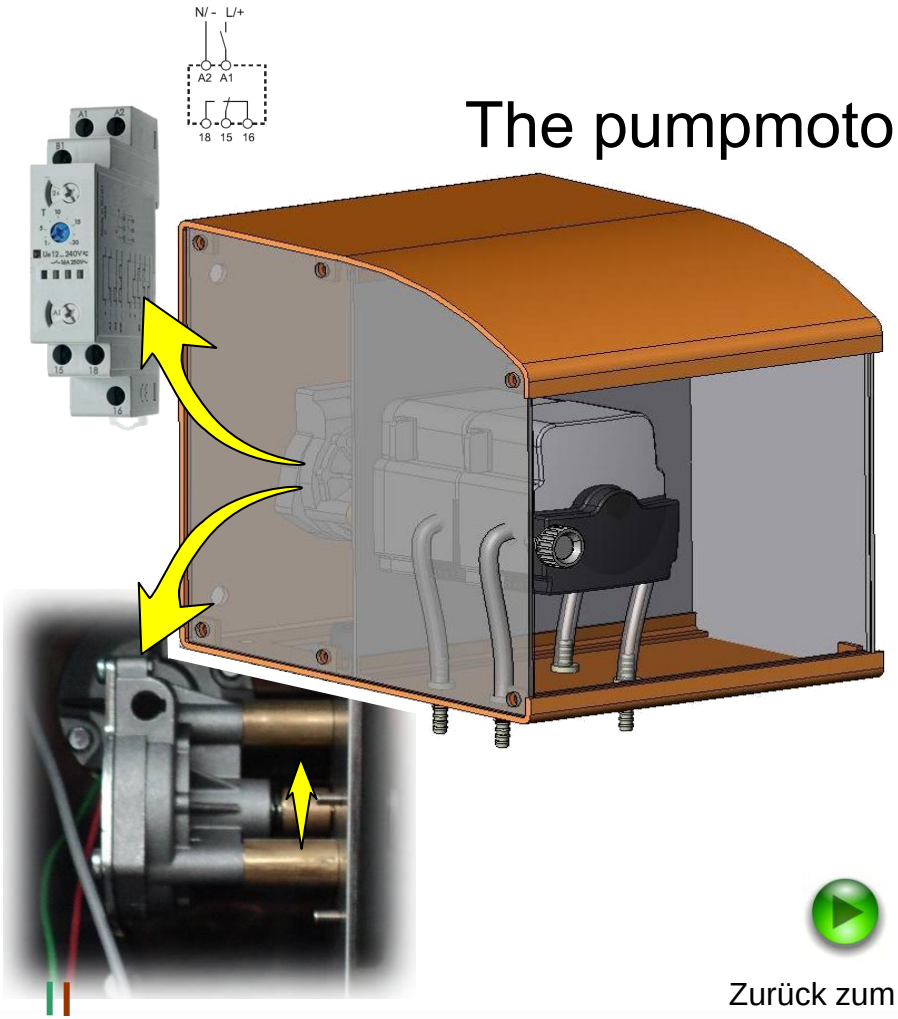
The pump motor isn‘t running

weiter

The pump motor is running but the drive coupling is not fixed on the motor shaft

weiter

Fault analyses of the MAFEX-ULV units



The pumpmotor isn‘t running

When the controller is turned on and you can adjust the pump-capacity, select for the test the maximum output volume.
If you have connected the relay for the AGA check if the configuration is correct. You can use the relay as normally closed and normally open.
If the system don’t operated with the original power supply, check the performance. When power is too low, it may be the case that the motor doesn’t start-up.

Zurück zum Start

3-12V je nach gewünschter Leistung

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SPRAYING SYSTEMS

Fault analyses of the MAFEX-ULV units

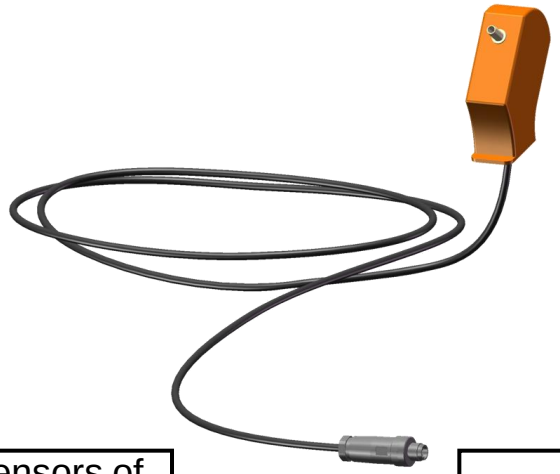
The pump motor is running but hte drive coupling is not fixed on the motor shaft

Unscrew the coupling of the motor and check the threads of the coupling and of the motor-shaft as well.
If the threads are undamaged put the coupling back on the motor and lock it if possible for example with LOCTITE.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The display of the control box reports flow control error



The conductance of the fluid is too low

The sensors of the flow control electronic are dirty and oxidised

There are air bulbbles in the hose system

weiter

weiter

weiter

Fault analyses of the MAFEX-ULV units

The conductance of the fluid is too low

$$G = \frac{1}{R}$$

If in the test mode with clean water the sensor gives alarm, some salt must be added in order to raise the conductivity of the liquid.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

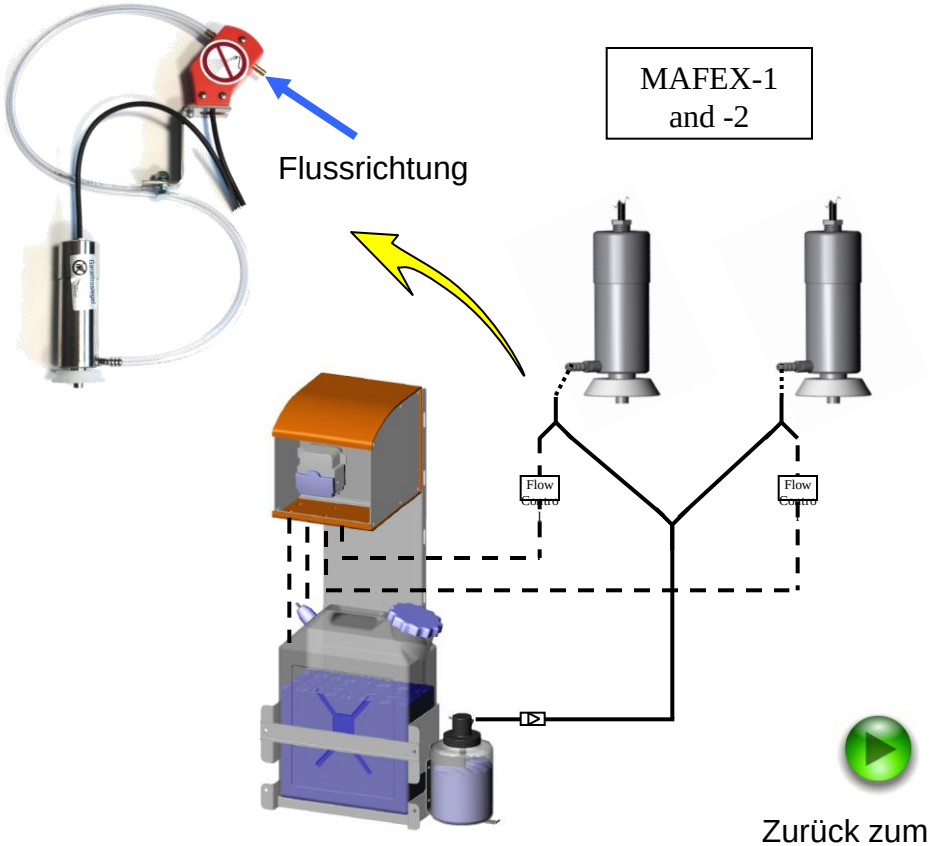
The sensors of the flow control electronic are dirty and oxidised

The sensors of the electronic are the two brass hose connections. If these components are contaminated by fluid residues and oxidized we get an permanent error from the flow sensor.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

There are air bobbles in the hose system



Make sure that all hoses, couplings and connectors are intact. If the hose got a hole, the quick-coupling a defective o-ring or a hose guide his broken, air can enter the system and cause errors. Also make sure that the flow controller is connected before the feed line of the flushing pump. (See picture)

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The flushing pump got no output

The flushing pump is not connected

weiter

The non-return valve got the wrong direction

weiter

Fault analyses of the MAFEX-ULV units

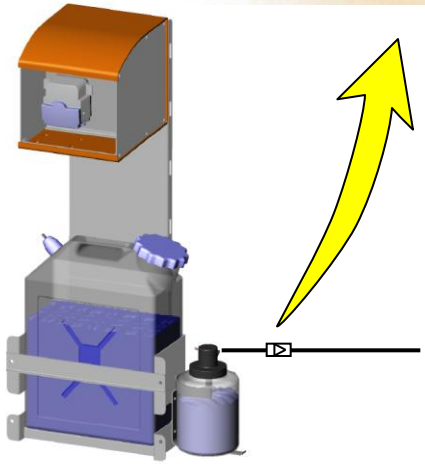
The flushing pump is not connected

Check all plugs and plug connections for a tight fit. Inspect the hose and cable of the pump for damage.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

The non-return valve got the wrong direction



Verify that the non-return valve is installed in the right direction. The flow direction is indicated by the arrow on the valve.

Zurück zum Start

Fault analyses of the MAFEX-ULV units

Zurück zum Start