

# Faults and solutions CRTT calcium reactor

## 1. controller shows "Process Active" mode (blue light is on) but the counter stops and does not count up to 100.

The reason is that no water is pumped into the reactor and thus the counter stops at e.g. 1 and does not count up (no water flow). The reasons and solutions for this are described in the following points:

### 1.1 Feed pump

Check the feed pump. To do this, go to the "Water Flow" mode and press and hold the "Mode" button for 5 seconds. The feed pump is now started manually. Remove the hose and check whether water comes out of the feed pump.

If no water comes out of the feed pump, clean the blue sponge and repeat the check. If necessary, open the pump and clean it as well. Repeat the check.

### 1.2 Check valve

Check the check valve. If the check valve is blocked, no water will pass through. Blow through the non-return valve and clean it if necessary.

### 1.3 Filter behind the feed pump

Clean the filter to ensure that it allows water to pass through. To do this, flush the filter backwards. Reinstall the filter in the direction of the arrow, as it prevents small grains of sand etc. from getting into the flow meter.

### 1.4 Flow meter

Check the flow meter. To do this, blow into the flowmeter in the direction of the arrow and check whether the wheel turns. If the flowmeter is blocked, clean it and repeat the check.

## 2. Reactor does not run / air in reactor / circulation pump stops.

The CRTT only works if it does not draw air and the reactor was vented before start-up. If the reactor keeps drawing air, this must be stopped. The following measures must be taken:

### 2.1 Screw connections and joints

Please check all screw connections and connections on the reactor and tighten them if necessary and make sure that all O-rings are in place. Check additional measuring devices such as the PH probe and, if in doubt, first operate the CRTT without the probe in order to avoid this source of error. Close the bleed valves completely.

### 2.2 "Pump Speed"

With the "Pump Speed" setting, the output of the circulation pump is controlled as a percentage. We recommend using between 35 and 50%. If the reactor draws gas or the circulation pump stops, reduce the "Pump Speed". If the circulation speed is too high, gas can enter the circulation pump and cause it to stop.

## **2.3 Settings on the regulator of the CO<sub>2</sub> cylinder**

The reactor should be operated with a gas pressure of 0.5 to 2.0 bar. If necessary, reduce this pressure. In addition, the 2-stage regulator should be set so that the gas flows into the reactor within about 20 seconds. This is because if the pressure is too high and the gas is injected into the reactor too quickly, the gas can be sucked in by the feed pump (circulation pump and reactor stop) or / and the CO<sub>2</sub> continues to flow into the reactor because the solenoid valve does not have time to switch.

## **3. CO<sub>2</sub> flows permanently into the reactor.**

The CO<sub>2</sub> is added to the reactor as required. This is controlled by the controller via a float switch. When the CRTT is started for the first time, CO<sub>2</sub> is often requested in succession. This is also correct, as the reactor must first build up a certain CO saturation. In "normal operation" the controller switches on the necessary CO<sub>2</sub> from time to time. If the gas flows permanently into the reactor, this can have the following causes:

### **3.1 Solenoid valve**

3.1.1 The flow rate and thus the pressure and the setting on the CO<sub>2</sub> cylinder are too high. The solenoid valve does not have time to switch. Please readjust as described in 2.3.

3.1.2 The solenoid valve is defective.

### **3.2 Float switch**

Remove the float switch from the reactor and trigger the switching process manually by moving the float. If the float switch is functional, the solenoid valve is audibly switched.

### **3.2 Circulation pump**

If the circulation pump fails, the CO<sub>2</sub> continues to run into the reactor because there is no mixing. Remove the pump, check it and clean it if necessary.

Further questions? We are happy to help....

Simply send us an e-mail with a description of the problem and informative videos.

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