



✓ Check List

AquaCare GmbH & Co. KG
Josefstrasse 35-37 • D-45699 Herten • Germany
☎ +49 / 23 66 / 3 25 52 • 📠 +49 / 23 66 / 10 43 85
www.aquacare.de • info@aquacare.de

Turbo Chalk Reactor

The Reactor is spilling over:

- The outlet tube is laid incorrectly*
Action: lay the tube in that way that it never will run upwards.

Sometimes the reactor gets no water:

- The inlet is too weak*
Action: take a stronger inlet pump (the pump height is essential, not the water flow); as well during operation as during the de-aeration time water must run into the system.
- The inlet valve is closed or blocked*
Action: open the inlet valve a little bit until water is flowing in.

No CO₂ reaches the reactor:

- The CO₂ bottle is empty*
Action: Fill is up again.
- The CO₂ pressure relief valve is defect or not properly adjusted*
Action: higher the secondary pressure (pressure gauge with the small numbers) to minimum 0.5 bar (7 psi).
Action: open the needle valve at the pressure relief valve a little bit.
Action: take a new pressure relief valve.
- The solenoid or the Turbo control is defect*
Action: check *Turbo* control or solenoid:
 1. disconnect the CO₂ sensor and short-circuit the two wires to the control box: the solenoid (external or built in the control box) must click (with a short delay). If the solenoid is switching you must clean or change the CO₂ sensor.
 2. check the CO₂ solenoid: you may clean or repair an external solenoid; a built-in solenoid must be repaired at AquaCare.
 3. is the safety loop installed? If not, please install it to prevent another faults at the solenoid.

CO₂ bubbles will not reach the top of the CO₂ tube (only size 4 and larger):

- The water flow downwards the CO₂ tube is too high*
Action: Reduce the water flow by throttling the valve 13 and/or opening valve 14.

The CO₂ consumption is extreme high:

- There is a leak in the CO₂ supply*
Action: cover all fittings, valves and connectors with leakage spray or with soapy water

from the CO₂ bottle to the inlet fitting of the reactor: if foam is created a leak is at that place – seal up the leak with Teflon tape or silicone sealant.

- The CO₂ will not turn off, although the circulation pump is turned OFF.*

Action: CO₂ solenoid and *Turbo* control have to be at the same timer as the circulation pump of the Ca-reactor.

Action: check CO₂ valve resp. *Turbo* control if CO₂ is flowing although the control box is turned OFF. Then change solenoid resp. *Turbo* control or send it for repair to your dealer or AquaCare. If the solenoid is defect the check valve should be controlled, too. If a security loop is not installed, please install it (see manual).

The circulation pump of the reactor is not working or is noisy:

- The EHEIM valve (left side at the top of the CO₂ tube; old Turbo 3: at the pressure side of the pump) is closed*

Action: open the EHEIM valve totally; reduce it only if the CO₂ tube is filled with foam.

- The pump is not connected electrically*

Action: check if the timer is working correctly and is supplied with power.

- The impeller of the pump is defect*

Action: if the impeller is dirty clean it, please.

Action: the impeller is defect. Change it with an original spare part.

Important for EHEIM pumps!!!! Please use only the ceramic types.

The carbon bearing has a very short life time in a *Turbo* reactor (only some days).

European version (230 V, 50 Hz):

EHEIM 1046 (*Turbo* 1): EHEIM order number 76 44 990,

EHEIM 1048 (*Turbo* 2): EHEIM order number 76 45 990,

EHEIM 1250 (*Turbo* 3): EHEIM order number 76 40 900,

EHEIM (1060) 1260 (*Turbo* 3+4): EHEIM order number 76 53 058

North American version (120 V, 60 Hz):

EHEIM 1048 (*Turbo* 1+2): EHEIM order number 76 45 980,

EHEIM 1250 (*Turbo* 3): EHEIM order number 76 40 910

EHEIM 1260 (*Turbo* 4+5): EHEIM order number 76 53 068

In the aquarium water is too less calcium and/or carbonate hardness (alkalinity):

- The daily operation time of the reactor is too low or the needs of the animals are too high..*

Action: increase the daily operation time (after each two hours there should be a short break, e.g. 15 minutes to de-aerated the system).

- The reactor is fill only with 50% or less.*

Action: fill up the reactor with *Turbo* granules.

- The reactor is filled with other materials.*

Action: change the material with *Turbo* granules. Other materials do not have any advantages only a lower efficiency.

- Only the calcium concentration in the aquarium is too low, the carbonate hardness (alkalinity) is o.k..*

Action: check the magnesium concentration. If it is below 1200 or above 1400 mg/l (ppm) take care first of this concentration. If the magnesium value is o.k. then you can adjust the calcium concentration.

Action: increase the calcium concentration with Calcium-plus or with lime water („Kalkwasser“).

- Only the carbonate hardness (alkalinity) is too low, calcium is o.k..*

Action: look for carbonate (alkalinity) sinks and eliminate them:

In muddy areas alkalinity is consumed. Eliminate this areas with more currents.
Trickling filters with fine material will accumulate fine sediments with the time and consume alkalinity. Change the material with coarse material.
High grounds with fine material (DSB = Deep Sand Bed) consume alkalinity; add KH-plus, triple buffer or other alkalinity raising chemicals. Never increase the power of the Turbo reactor if the calcium concentration is o.k..

The *Turbo* reactor produces too less calcium or too less carbonate hardness (alkalinity):

- *The Turbo reactor produces to less calcium or too less alkalinity.*
Action: one of the test kits is defect. In every Ca-reactor the produced ratio alkalinity : calcium is constant at 1 : 0.355. Variations are not possible.
- *The production of the reactor (outlet concentration minus aquarium concentration) is far below 15°dH = 5 mval/l (alkalinity) or far below 100 mg/l (ppm) calcium.*
Action: if the reactor is started the maximum efficiency is reached after about 30 minutes. Measure the concentrations always after 30 minutes after starting.
Action: use always AquaCare Turbo granules. Other materials are not so effective.
Action: check out if the CO₂ tube is filled till the CO₂ sensor within 2 minutes (WITH *Turbo* control). Otherwise open the needle valve of the pressure relief valve.
Check out if the CO₂ tube is filled till the CO₂ sensor within 2 hours (WITHOUT *Turbo* control). Otherwise open the needle valve of the pressure relief valve.
The maximum power is only reached with the *Turbo* control.
Action: validate if after 2 hours the reactor is de-aerating (circulation pump and Turbo control OFF, water supply ON). Otherwise check the timer.
Action: check if the reactor is gas-tight. Therefore de-aerate the system (circulation pump and Turbo control OFF, water supply ON), then turn on circulation pump and water supply (CO₂ supply OFF!!!). After minimum 3 hours the CO₂ tube must be still filled with water totally. Otherwise in the upper part of the CO₂ tube there is a leakage (sealing EHEIM valve, sealing CO₂ tube, sealing water inlet fitting). Seal up the leakage.
Check out if the water inlet pump is supports water without air bubbles. Otherwise change the water inlet.
Action: measure the pH value of the outgoing water. If the pH is above 7.0...7.3 you have to reduce the air inlet of the neutralization tube or to enlarge the water supply.
Action: measure the water inlet. If it is essential higher than the recommendation (see manual) the power of the system is high, but the concentrations of calcium and carbonate hardness are low – and the amount of free CO₂ in the water is too high.