



## Setup instructions for Kalkwasser Reactor

1. Place the reactor in a place that outlet is higher than the sump. The barbed outlet is where kalkwasser will drip from so typically this is hung over the sump. If you need to extend the reach of this, place a ½ vinyl hose over the barb and direct it to your sump making sure that there is no place for water to collect in this line. The hose must flow downhill to the sump area.
2. Connect the pump that will feed water from your top off container to the kalkwasser reactor with 1/4" tubing. Peristaltic pumps are preferred due to the high level of accuracy and anti siphon characteristics but an inexpensive Tom's Aqualifter pump will work fine. If you are using a peristaltic pump skip to step 4.
3. The intake and output of the Aqualifter pump uses the ¼" tubing included with the reactor. The input tubing to the pump should go into your reservoir of RODI water. Connect the outlet of the Aqualifter to a short piece of 1/4" tubing and install a tee fitting. One of the tee connections then goes to your kalkwasser reactor and the other should be secured several feet above the water level of the top off container (this is used to provide a siphon break). Your pump should be positioned so that it is located above the RODI reservoir.
4. The kalkwasser reactor should be filled 2/3 of the way with RODI water. The kalkwasser reactor can now be plugged into a power source. The reactor has been designed to run 24/7.
5. Using the Kalk Calc, determine the correct amount of Reef Choice Kalkwasser Powder you will need to sustain your aquarium for a two week period and add it to the reactor. After a 2-3 minute initial settling period your kalkwasser reactor is now ready to dose saturated kalkwasser to your aquarium.
6. There are two common ways to automate the top off by controlling your pump. The first is with a level controller using float switches. If you are using this method simply plug your pump into the controller and refer to the manufacturers installation manual. The second control method is with a timer. You need to estimate your daily evaporation and then figure how long it takes to run the pump to meet that evaporation level. Refer to the timer manufactures instructions for settings. You may find that your evaporation levels change with the seasons. It should be considered monthly maintenance to check the timers settings and adjusting as needed.
7. Fresh kalkwasser powder should be added to the reactor every 2 weeks and calculated by using the Kalk Calc. The reactor should be rinsed out every month and fresh kalk powder added back to the mixer. At this time remove the union fitting on the outlet of the reactor and rinse out the hose barb and any hose that is connected to this fitting under hot water to loosen calcium deposits. Every 6 months the same cleaning should be done by using vinegar instead of water and then rinsed out with water prior to refilling. This will keep your Grey Seas Aquatics kalkwasser reactor clean and running smooth for years to come.



## The Kalk Calc

First, determine your Daily, weekly or biweekly evaporation rate based on tank observations. Next find that number on the chart and follow to the far right column. This is the amount of kalkwasser powder that is used for initial setup and for biweekly refills.

Gallons/day	Gallons/week	Gallons/biweekly	Cups Biweekly
0.25	1.75	3.5	0.25
0.5	3.5	7	0.5
0.75	5.25	10.5	0.5
1	7	14	0.75
1.25	8.75	17.5	1
1.5	10.5	21	1.25
1.75	12.25	24.5	1.5
2	14	28	1.75
2.25	15.75	31.5	2
2.5	17.5	35	2
2.75	19.25	38.5	2.25
3	21	42	2.5
3.25	22.75	45.5	2.75
3.5	24.5	49	3

For users with more than 25 gallons per week of evaporation, weekly refills are recommended.

Gallons/day	Gallons/week	Cups Weekly
3.75	26.25	1.5
4	28	1.5
4.25	29.75	1.75
4.5	31.5	1.75
4.75	33.25	2
5	35	2
5.25	36.75	2.25
5.5	38.5	2.25
5.75	40.25	2.5