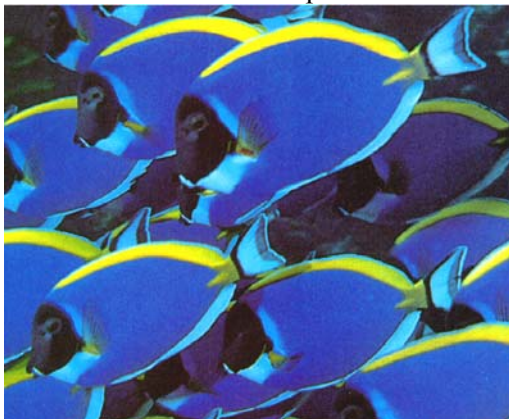


# Ozone Generator

AquaCare GmbH & Co. KG  
 Am Wiesenbusch 11 • D-45966 Gladbeck • Germany  
 ☎ 0 20 43 - 37 57 58-0 • 📠 0 20 43 - 37 57 58-90  
 www.aquacare.de • info@aquacare.de

## Small generators for aquaristics

Ozone is a special form of oxygen. If it is disintegrating an O-radical evolves that is able to split organic substances and oxidises inorganic matters. - If a skimmer is operated with ozone the efficiency will increase by about 30%. Additional the skimmer will work more constant. This means if e.g. food is added to the aquarium the skimmer will not overspill so quickly. So a more safe operation is achieved. - Also pollutants like ammonia and nitrite will not establish so rapidly because ozone oxidizes them to less harmless substances. - Persistent substances, that are not degraded by bio-filters or taken out by a skimmer, are seen in the aquarium as a yellow discolouration of the water, e.g. tannins. These class of substances are cracked by ozone and the cracking products are eliminated by a skimmer or a bio-filter after it. As a consequence the ORP value (redox) and the oxygen concentration will increase. The water will be crystal clear. Free floating bacteria (bacterial bloom) and some phase of parasites (e.g. free swimming stages of *Oodinium* or *Ichthyophthirius*) are reduced by ozone. So sensitive fish like *Acanthurus leucosternon* (Powderblue Surgeonfish) are held in ozone treated water with less losses. – But ozone should be handled intelligent. If too much ozone is used the gills of the fishes and invertebrates are harmed. As a principle for a reef tank: if you can smell ozone at the skimmer or in the water you have dosed too much. In combination with an AquaCare-Flotor there is one rule of thumb: 20 mg/h (ppm) per 1000 liters (260 US gal) are enough. With other skimmers you may need more ozone. It is important to change the ozone input very slowly (except in case of emergency), to give all processes and life forms time to adapt.



Powderblue surgeons are very sensitive fish

Type	OG 150
Order number	OG0015
Max. capacity, air operation 50% rH	150 mg/h
Max. capacity, dry air	300 mg/h
Adjustment range	50...150 mg/h
Min. air flow	50 l/h
Pressure range	-1...0.2 bar
Temperature range	0...40°C
Connector for ozone hose	5 mm
Electrical connection	230 V, 50/60 Hz
Installed load, W	6 W
Dimension of housing	130×130×50 mm
Length of cable.	1.5 m
Material of box	ABS
Weight	600 g



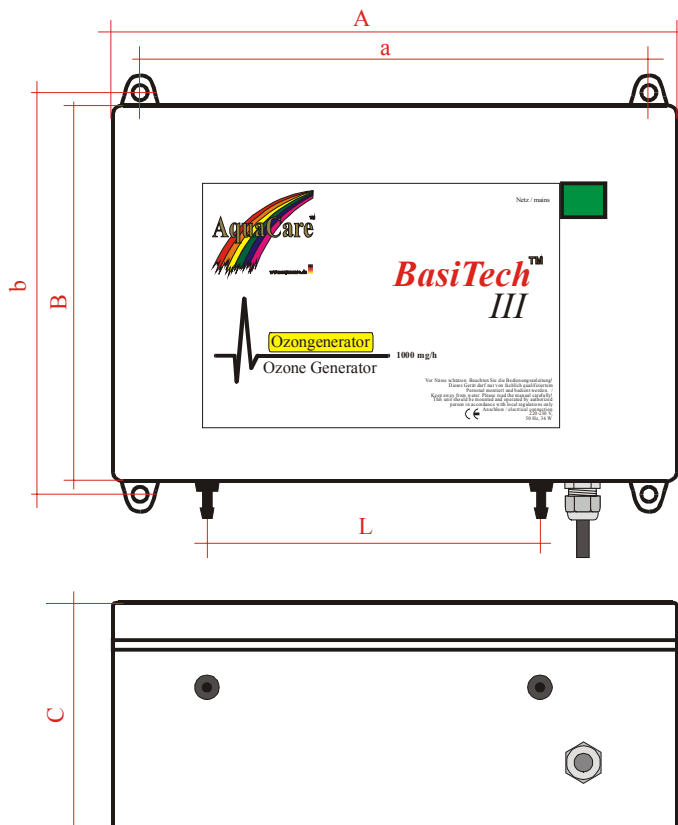
**Attention! Ozone is a harmful substance. Read the instruction manual very carefully. These generators are only suitable for air. Do not use pure oxygen.**

## Ozone units for aquaristics with larger capacity



For larger needs AquaCare offers ozone generators built in a plastic housing. Following components are integrated: high voltage unit, ozone chamber, control light, main cable. Scope of delivery includes mounting material.

Type	OG 500	OG 1000	OG 2000
Order number	OG0050	OG0100	OG0200
Max. capacity with air 50% rH in mg/h	500	1000	2 × 1000
Max. capacity with dry air in mg/h	1000	2000	2 × 2000
Min. air flow	150 l/h		
Pressure range	-1...0.2 bar		
Temperature range	0...40°C		
Electrical connection	230 V, 50/60 Hz		
Installed load in W	17	36	72
Degree of protection	IP 65		
Connector for ozone hose	5 mm		
Dimensions of housing in mm	289 × 239 × 109		300 × 200 × 120
Housing	ABS		
Length of cable	1.5 m		
Weight in kg	1.7	2.1	4.3



	OG 500	OG 1000 OG 2000
L	87 mm	177 mm



Ozone is normally used in combination with a skimmer ACF (sea water) or an ozone reactor OZR (fresh water)



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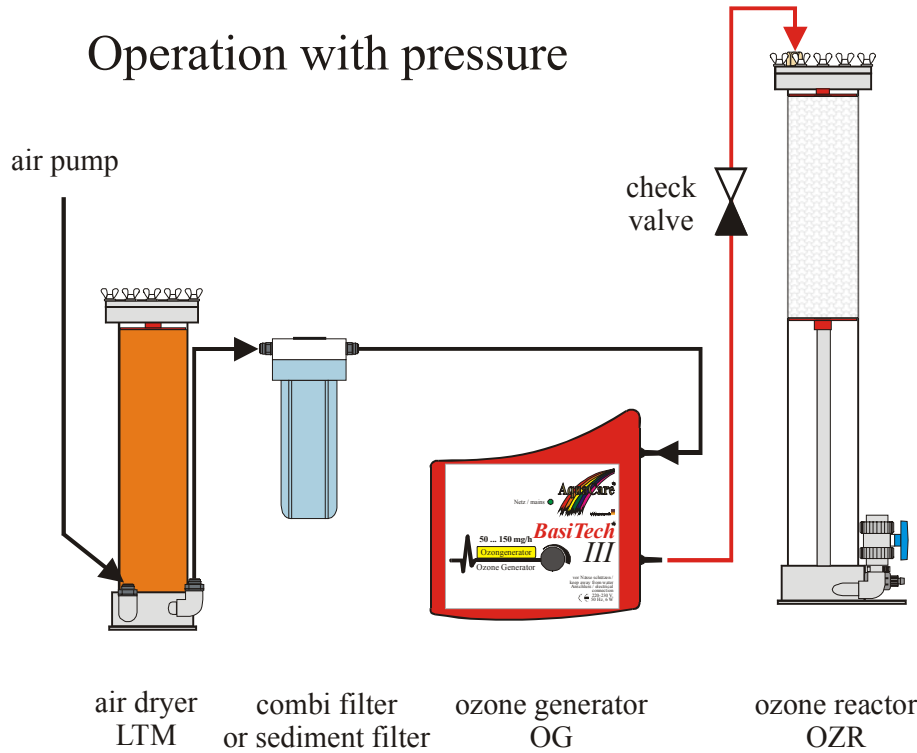
To ensure a long life of the ozone generator it is important to filter the incoming air to the ozone generator. Make sure that water will not flow into the ozone generator.

If the air has a high humidity use an air dryer before. The dew point may never reach. Otherwise

condensation water will reach the unit and lowers the performance - or may induce defects.

Principally you may operate the ozone generator with pressure or vacuum (see sketch below).

### Operation with pressure



The pressure operation is suitable for ozone reactors (clearing ponds and pools) or skimmers with air wood. An air pump provides the air dryer (e.g. LTM) with air. Then the dried air is filtered by a sediment or combi filter. The particle free air is pumped through the ozone generator and will reach the ozone reactor or skimmer with air wood. Install a check valve or realize an safety loop between ozone generator and ozone consuming unit to make sure that water will not flow back to the ozone generator.

For vacuum operation you not need an air pump. The injector (venturi) or dispergator is sucking air by itself. If the incoming air flow is too low due to a too high resistance you may use an additional pump. The sketch will be the same as operation with pressure. In any case a safety loop or a check valve must be installed.

### Operation with vacuum

