



AquaTriComb™ (ATC)

Ballast water treatment

Product information



AquaTriComb™ (ATC)

The treatment unit AquaTriComb™ disinfects ballast water from ships according to the standards of the 2004 IMO Ballast Water Convention regarding sediments and organisms.

1. Application

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- flow rate 250 – 4000 m³/h up to 8000 m³/h in parallel operation
- comparably little space required
- low energy consumption due to special UV and ultrasonic technology



2. Solution

AquaTriComb™ (ATC)

Patent pending for the technology!
Application for certification with the IMO and the national [German] patent licensing authorities (1st step: basic approval).

The system works on a purely physical basis without employing or deliberately generating chemical substances.
Filter pore size 30 µm!

3. Offer

Service »One Stop Buying«

All unit components are developed and supplied by Aquaworx. Aquaworx collaborates closely with international maritime experts.

4. Service



Contact:

Aquaworx Deutschland GmbH
Pettenkoflerstrasse 22
D- 80336 München

Phone +49 (0) 89–20 60 44-560
Fax +49 (0) 89–20 60 44-569

info@aquaworx.de
www.aquaworx.de

AquaTriComb™ (ATC)

Ballast water treatment Technology



The Aquaworx ballast water treatment technology is highly efficient, and effectively disinfects water with high organism and sediment concentrations compliant with the standards specified by the IMO Ballast Water Convention.

Function description

The organisms and sediments are removed from the ballast water during the pre-treatment phase using filters in order to prevent an accumulation of sediments in the ballast tanks and to guarantee optimal disinfecting. The automatic cleaning action of the filter modules is brought about by ultrasound (self-cleaning), which lifts organic and inorganic depositions from the filter pipe. The secondary treatment is performed using the effect of UV-C radiation and ultrasound. Ultrasound guarantees an extremely effective and permanent cleaning of the UV radiators removing biofilms and depositions. In addition, the ultrasound breaks down particles and microorganisms, thus maximizing the efficiency of the UV treatment. By using monochromatic UV-C radiation (254 nm), organisms and bacteria or phytoplankton are effectively eliminated. The combination of UV radiation and ultrasound ensures uniform disinfecting according to the D2 standard of the IMO Ballast Water Convention.

Advantages

- The system works on a purely physical basis without employing or deliberately generating chemical substances.
- low investment and operation costs
- low total energy consumption (example: approx. 13 kW at 250 m³/h)
- low maintenance and easy-to-follow menu controls
- Pore size of the sintered pipe filter: 30 µm
- Ultrasound achieves high and lasting efficiency in filtration and disinfection processes
- corrosion potential is not increased, since special materials ensure that no corrosion can arise on the inside of the ballast water unit and no by-products are effective outside due to the disinfection technology.
- due to the modular system (pre- and secondary treatment), new ships as well as ships already in use can be optimally equipped
- due to UV disinfection, microorganisms cannot develop resistance to UV-radiation. Thus even germs that are resistant to chlorine, such as cryptosporidian, can be removed using UV radiation.

Independent scientific experts statement: the combination of the Aquaworx technologies does not create free radical elements (Endresen et al. 2004, Hijnen et al. 2006, Liu et al. 2006, Yasui et al. 2007) and have been identified as the most environmental friendly and effective methods for ballast water treatment (Dobbs & Rogerson 2005, Gavand et al. 2007, Holm et al. 2008, Umweltbundesamt 2008 b).