

TUBE DIFFUSER Ecoquarz®

Components for water and wastewater treatment



PRODUCT PROPERTIES



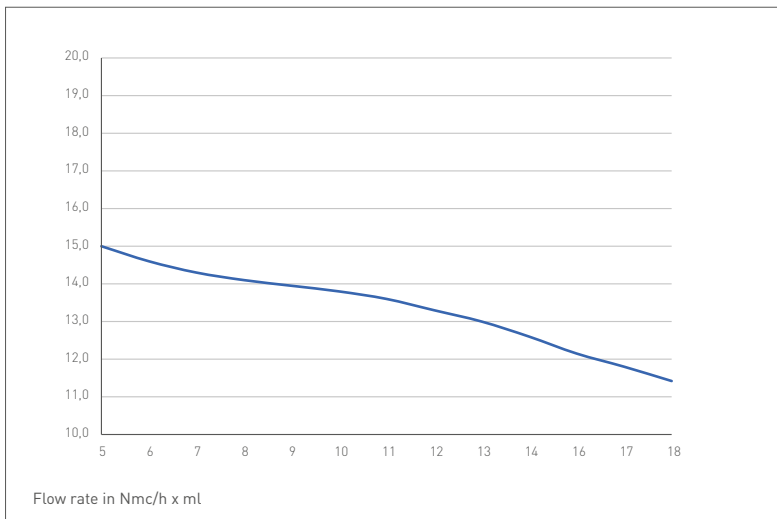
- low installation costs
- high operational safety
- powerful
- low maintenance
- low-cost construction for continuous operation

ECOQUARZ® TUBE DIFFUSER, OPERATING RANGE

| Model | Pore size μm | Range flow rate (Nm ³ /h x ml) min-max | Optimal flow rate (Nm ³ /h x ml) | Assembling mode | Max temperature Celsius/Fahrenheit | Operating procedure | Application |
|------------|-------------------------|---|---|-----------------|------------------------------------|---------------------|-------------------|
| ECO500-50 | 60 | 5-18 | 11 | Tie rod | 80°C/176°F | continuous | Aeration tank |
| ECO500-100 | 100 | 10-25 | 17 | Tie rod | 80°C/176°F | continuous | Aeration tank |
| ECO500-250 | 250 | 15-30 | 22 | Tie rod | 80°C/176°F | continuous | Grit chamber tank |

| Manifold in PP, Connection thread 1" female | Air distributor square pipe in AISI 304 connection 2" female |
|---|--|
| ECO - ECO - 1001 ECO - 1501 | ECO - ECO - 1002 ECO - 1502 |
| ECO - ECO - 1003 ECO - 1503 | ECO - ECO - 1004 ECO - 1504 |
| ECO - ECO - 1005 ECO - 1505 | |

All data are approximate data!



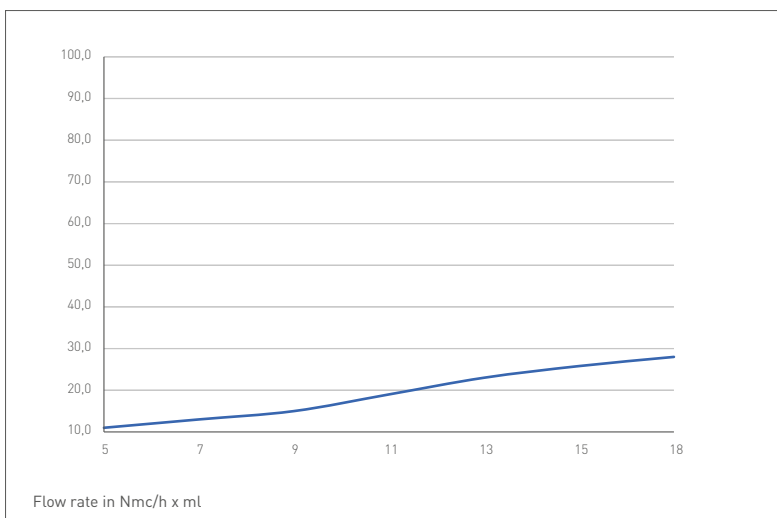
ECOQUARZ® TUBE DIFFUSER FINE BUBBLE 60 MICRO OXYGEN TRANSFER EFFICIENCY

— Oxygen transfer rate O2 in gr / Nmc * m submersion

Data are referd to in clean tap water standard condition at 20°C, 101,3kPa

Example:

Diffuser works with 9 Nmc/h and waterlevel above diffuser surface is 5 meter, then consider:
 $14\text{gr/Nmc} \times \text{m} * 9\text{Nmc/h} * 5\text{m} = 630\text{gr/h}$



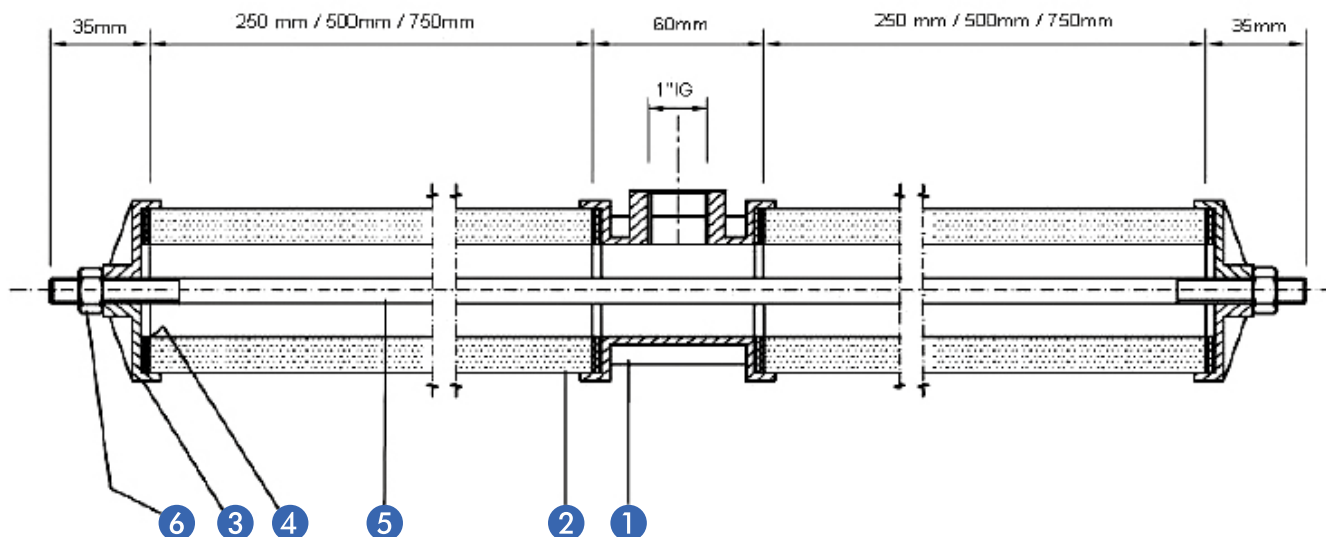
ECOQUARZ® TUBE DIFFUSER FINE BUBBLE 60 MICRO HEAD LOSS

— Head loss in mbar

Data are referd to in clean tap water standard condition at 20°C, 101,3kPa

Comparable values can only be obtained with a similar setup and condition. Depending on the tank geometry, slit chart, water depth and planar allocation, the quoted values can change. All the data are based on clean water 20° temperature, 1013mbar / 68°F, 101,3kpa. All data are approximate data!

INSTALLATION DRAWING



MATERIAL OF THE SINGLE COMPONENTS

| Number | Description | Material |
|--------|---------------|----------------------|
| 1 | Sleeve socket | PP |
| 2 | Porous pipe | Quartz |
| 3 | End cap | PP |
| 4 | Gasket | EPDM |
| 5 | Tie | V2A material: 1.4301 |
| 6 | Screw nut | V2A material: 1.4301 |

DIMENSIONS

| Type | Perforation length [mm] | Total length [mm] | Tube diameter [mm] | Wall thickness [mm] | Perforated area [m ²] | Total weight [kg] |
|----------|-------------------------|-------------------|--------------------|---------------------|-----------------------------------|-------------------|
| Eco-501 | 2 x 250 | 630 | 70 | 15 | 0,11 | 4,9 |
| Eco-1001 | 2 x 500 | 1130 | 70 | 15 | 0,22 | 5,7 |
| Eco-1501 | 2 x 750 | 1630 | 70 | 15 | 0,33 | 6,4 |

All data are approximate data!

AIR FLOW

The **optimal air flow area** of Ecoquarz® tube diffusers ranges **from 3 to 30 Nm³/h x ml**, depending on the pore size.

Should this range fall below, we recommend a flushing of the diffusers with a higher air flow.

STORAGE

The diffusers must be stored in a dry room with their original packing and they have to be protected from damages of their proximity (heat, painting). The diffusers and accessories should be mounted and started up within usual periods (max 1 year).

MAINTENANCE

Ecoquarz diffusers require only low maintenance. A main condition for the function of the diffusers is that the air is able to outgas from their porous structure. Therefore, the structure should be free of fouling because it influences or prevents the out gassing. Carbonate, iron salt (coagulant), microbial film and polymers are substances in the waste water which can cause this fouling.

For undisturbed operation, we recommend to dose coagulant and additives sparingly according to the engineering rules.

LIFETIME OF THE POROUS QUARTZ TUBE

Precondition for a long lifetime is that the diffusers are used in municipal wastewater.

Existing indirect dischargers of industry must correspond to ATV A 115 in its current version. Should industry dischargers exceed a rate of 20% it is advisable to contact the manufacturer. Furthermore, assembly and operation instructions must be adhered to.

SERVICE

We recommend regular inspection of the diffuser system. The mentioned maintenance possibilities should be applied and enable a long lifetime. If required, the diffusers can be send to the manufacturer to receive a status analysis (costs depend on time and effort). They have to be rinsed but not cleaned by a high-pressure cleaner.



Since 1983 your partner for wastewater treatment products.
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