GeoTierre
*Protecting the source of life*

# TUBE DIFFUSER
# NewAir© Tube

## High-Efficiency Aeration
## for Wastewater treatment plants

**OXYGEN TRANSFER**
High Performance

**LOW HEAD LOSS**
Optimized Design

**LONG-LASTING**
High-quality raw materials

**DRINKING WATER**
Approved

**MADE IN ITALY**
*Since 1983*

**ISO 9001:2015**
Certified

# Newair© HDPE

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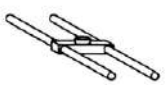
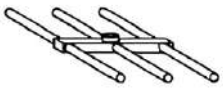
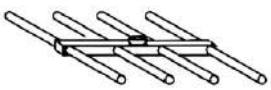
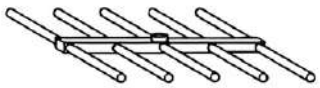
## PRODUCT PROPERTIES

- Energy - saving
- Low head loss
- High air flow
- High oxygen transfer
- Break-proof
- Very good chemical resistance
- Abilities of operation:
  - continuous
- Approved (can be uses for drinking water)
- Easy to install
- Applications:
  - Municipal waste water
  - Industrial waste water
  - General aeration feedings

## NEWAIR® TUBE DIFFUSER, OPERATING RANGE

| Model | Pore size variable | Range flow rate min-max x linear meter | Optimal flow rate x linear meter | Standard Thread connection* | Max temperature | Peak Air Flow x linear meter | Application |
|---|---|---|---|---|---|---|---|
| **NWA500** | fine | 6-12 ($Nm^3/h$) *3,7-7,5 (scfm)* | 8($Nm^3/h$) *5(scfm)* | 3/4'' F | 80°C *176°F* | 15 ($Nm^3/h$) *9 (scfm)* | Aeration tank |
| **NWA750** | fine | 6-12 ($Nm^3/h$) *3,7-7,5 (scfm)* | 8 ($Nm^3/h$) *5 (scfm)* | 3/4'' F | 80°C *176°F* | 15 ($Nm^3/h$) *9 (scfm)* | Aeration tank |
| **NWA1000** | fine | 6-12 ($Nm^3/h$) *3,7-7,5 (scfm)* | 8 ($Nm^3/h$) *5 (scfm)* | 3/4'' F | 80°C *176°F* | 15 ($Nm^3/h$) *9 (scfm)* | Aeration tank |

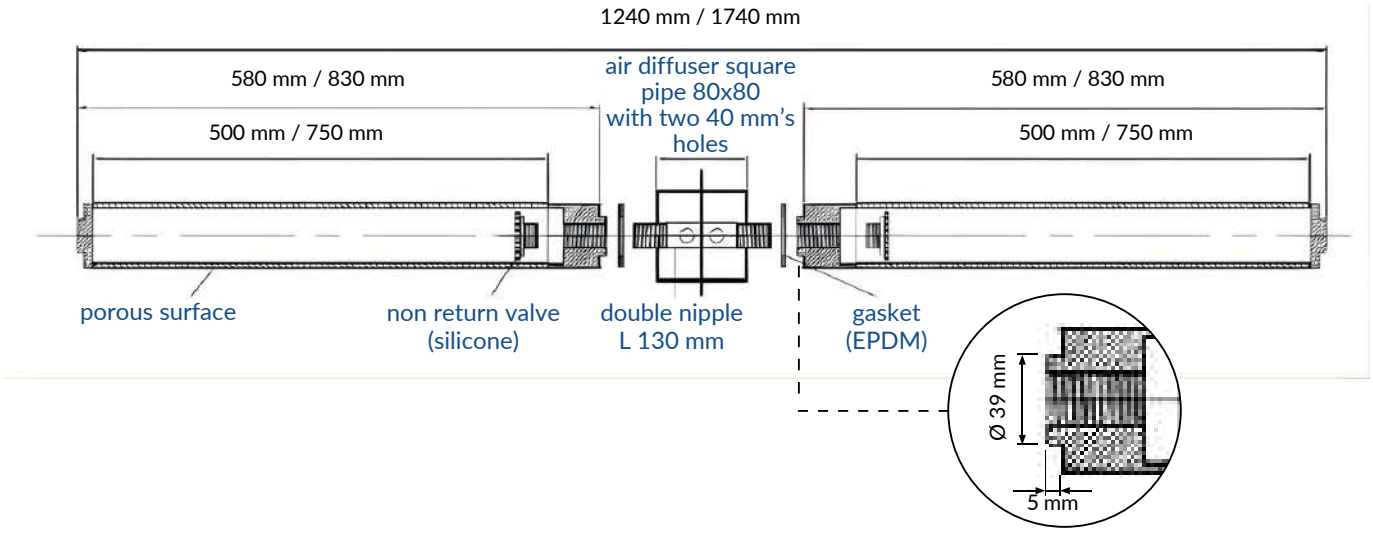
*Possible adapter forms ½, ¾, 1, 1 ¼, 2'' female thread and on request

| Manifold in PP, Connection thread 1'' female | Air distributor square pipe in AISI 304 connection 2'' female | | | |
|---|---|---|---|---|
| NWA - 1001 | NWA - 1002 | NWA - 1003 | NWA - 1004 | NWA - 1005 |
| NWA - 1501 | NWA - 1502 | NWA - 1503 | NWA - 1504 | NWA - 1505 |
| NWA - 2001 | NWA - 2002 | NWA - 2003 | NWA - 2004 | NWA - 2005 |
|  |  |  |  |  |

Data are based on clean water 20°C temperature, 1013mbar / 68 °F, 101, 3kpa. All data are approximate!

# Newair© HDPE

## INSTALLATION DRAWING




## PRODUCT PROPERTIES

| Number | HDPE |
|---|---|
| Colour | white |
| Wall thickness | 5,2 mm *0,20 in* |
| Density | 0,97 g/cm$^3$ *0,036lb/in$^3$* |
| Chemical resistance | high |
| Pore size at the inside | 350 µm |
| Pore size at the outside | 120 µm |
| Operating temperature | 0 - 80°C *32 - 176°F* |
| Application | Municipal and industrial waste water |

## STANDARD DIMENSIONS

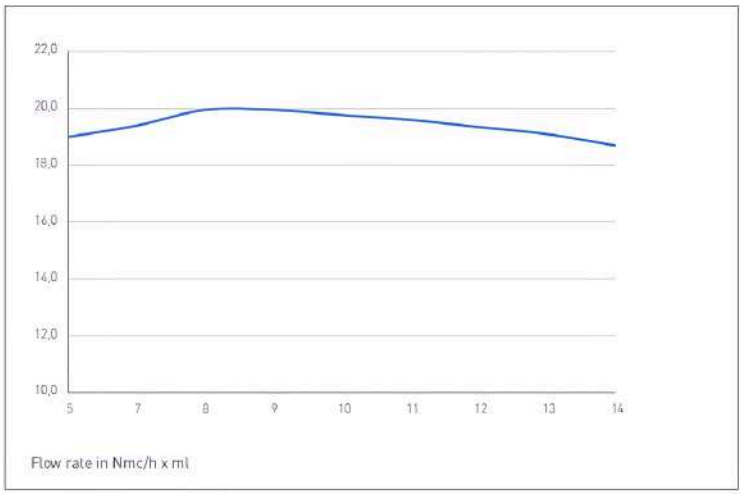
| Aerator lenght | Total lenght | Tube diameter | Aeration area | Adapter | Total weight |
|---|---|---|---|---|---|
| 500 | 580 mm *22,83 in* | 72 mm *2,83 in* | 0,11 m$^2$ *1,18 ft$^2$* | ¾ female thread | 570 g *1,26 lb* |
| 750 | 830 mm *32,68 in* | 72 mm *2,83 in* | 0,17 m$^2$ *1,83 ft$^2$* | ¾ female thread | 760 g *1,68 lb* |
| 1000 | 1080 mm *42,52 in* | 72 mm *2,83 in* | 0,23 m$^2$ *2,48 ft$^2$* | ¾ female thread | 950 g *2,09 lb* |

## SPECIAL DIMENSIONS

| Possible lenghts | 100 - 1000 mm / 3,93 - 39,37 in |
|---|---|
| *Possible adapter forms | ½, ¾, 1, 1 ¼, 2" female thread and on request |

All data are approximate!

Oscillating non return valve, makes sure that the non return valve can not be blocked from any sludge.

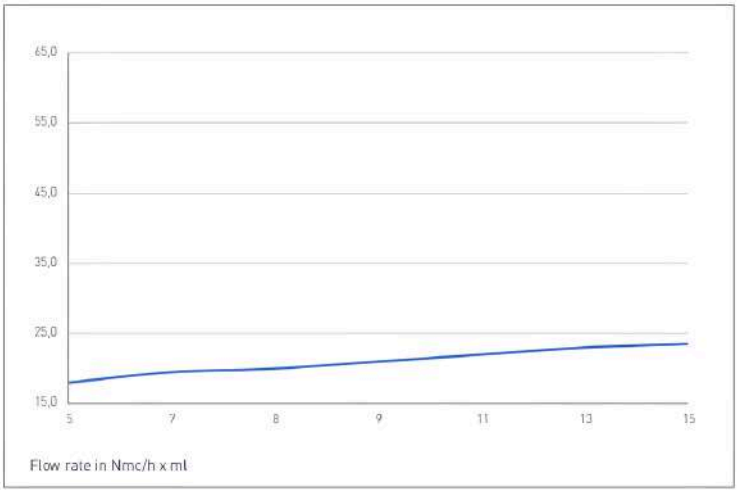



## NEWAIR©
## NWA TUBE DIFFUSER FINE BUBBLE OXYGEN TRANSFER EFFICIENCY

— Oxygen transfer rate 02 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: 20gr/Nmc x m *9Nmc/h * 5m =900gr /h




## NEWAIR©
## NWA TUBE DIFFUSER FINE BUBBLE HEAD LOSS

— Head loss in mbar (incl. check valve)

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

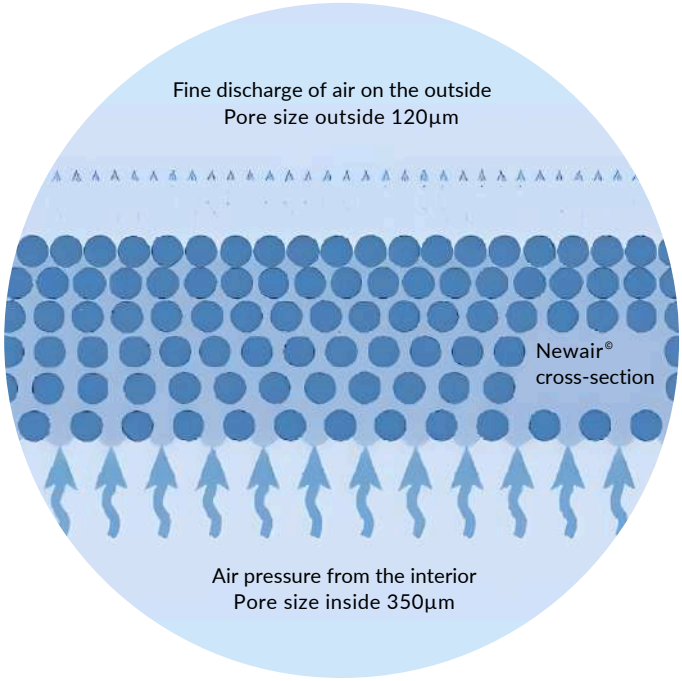
Comparable values can only be obtained with a similar setup and condition. Depending on the tank geometry, slit chart, water depth and planar allocation, the quoted values can change. All the data are based on clean water 20° temperature, 1013mbar / 68°F, 101,3kpa.
All data are approximate!

# Newair© HDPE

## BUILD IN SYSTEM FOR AUTOMATIC SCREWING AND UNSCREWING

## FUNCTION CHART OF THE PORE STRUCTURE

THE NEWAIR AERATOR IS CHARACTERIZED BY A SPECIAL MATERIAL STRUCTURE




The newair aerator is characterized by a special material structure. The size of the pores reducing in flow direction. On the one hand there will be created a huge upstream flow area for the air, on the other hand there will be reached a fine allocation of the bubbles by a small pore size on the outlet side.

# AIR FLOW

The **optimum air flow** ofr the Newair© tube diffuser is **6-12 Nm$^3$ / (h x ml) (3,7 to 7,5 scfm)**. If the air flow rate falls below the optimum range for a longer period of time (approx. 24 hours), the flushing of the aerator elements with an air flow rate of 30 Nm$^3$ / (h x ml) is recommended.

## STORAGE

The aerator must be stored in their original packing in dry room. During storage the aerators must be protected from damage caused by ambient conditions (heat, painting, etc.). The aerators and accessories should be installed and put into operation within the usual periods of time (max. 1 year).

## MAINTENANCE

Newair© aerators require only a little service, but they are not maintenance-free. The functioning of the aerators depends on the discharge of air from the porous structure of the aerators.
Therefore the structure should be free from sediments and incrustation because these affect or can even prevent the discharge process.
As a rule, waste water contains substances which can cause the formation of sediments, such as carbonates (water hardness), ferric and aluminium salts (precipitants), biological growth, polymers.
For a trouble-free operation it is recommended to dose precipitants and other auxiliary agents with the objective of making sparing use of those according to the technical regulations.

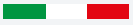
## LIFETIME

The precondition for a long lifetime is that the aerators are used in communal waste water. The composition of existing trade and industrial effluents must comply with the regulations laid down in the latest version of working sheet ATV A 115. If the discharge of industrial effluents exceeds a proportion of 20 %, the manufacturer has to be consulted. In addition, the assembly and operating instructions must be adhered to.

## SERVICE

It is in your interest to perform regular controls of the aerator system by using the types of maintenance mentioned above. They help to prolong the lifetime of the aerators.
If necessary, you can send aerators to the manufacturer in order to obtain an analysis of the condition of the aerators (charge according to time involved). The aerators sent in for this purpose should be rinsed, but not cleaned with a pressure washer.

Since 1983 your partner for wastewater treatment products.
Proudly Made in Italy.





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Azienda con sistema di gestione qualità certificato secondo la Norma ISO9001:2015

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