GeoTierre
Protecting the source of life

DISC DIFFUSER
Newair© Series
9”/ 12”/ 14” HDPE

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© Series HDPE

PRODUCT PROPERTIES

- energy-saving
- low head loss
- high air flow
- high oxygen transfer
- break-proof easy to install
- very good chemical resistance for continous operation
- drinking water approved

FEATURES

Each diffuser consists of:

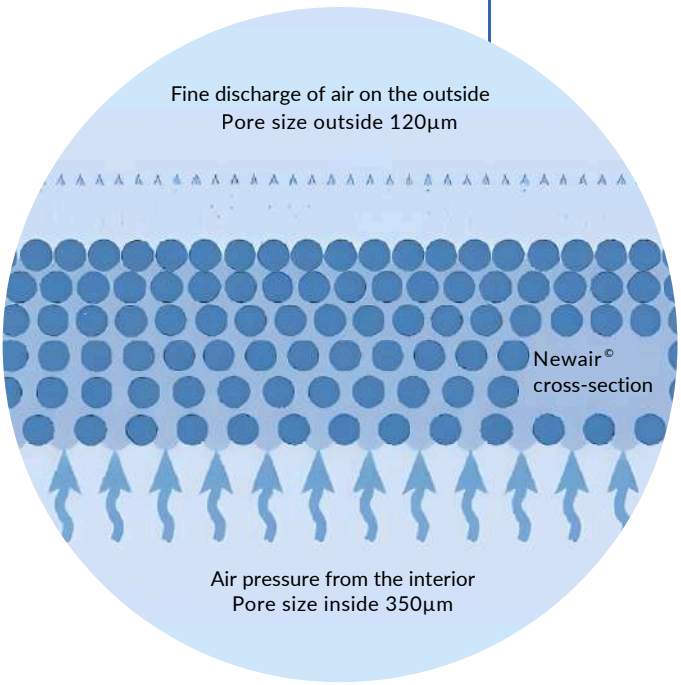
- a rigid molded polypropylene support body with threaded connection;
- a silicone check valve with oscillating membrane;
- a 43x32x3 Dutral gasket;
- an HDPE membrane with variable grain size + Dutral H-shaped gasket.

Newair is a third-generation diffuser, developed at the research unit of Pfleiderer Water System (Neumarkt, Germany), manufactured at our headquarters (Bergamo, Italy) and designed to withstand particularly harsh operating conditions. Its extremely low pressure drop combined with high oxygen transfer has contributed to the creation of a diffuser with high technical characteristics and low energy consumption.

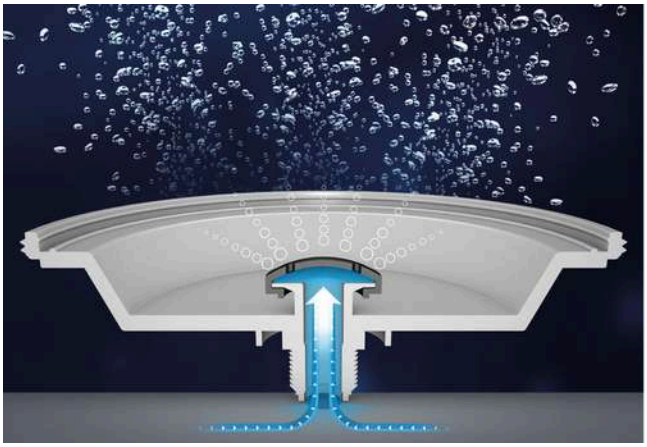
The unique construction of the porous plate and the extremely smooth (mirror-like) surface of the material prevent the diffuser from clogging, even during intermittent operation. In fact, sludge deposited on the outer surface can be removed at any time with simple shock aeration (washing air flow approx. 6 times the actual flow rate). These characteristics ensure that Newair diffusers can be chosen and installed for both continuous and intermittent operation. Their lightweight construction and exceptional durability make Newair a new and revolutionary diffuser in the field of oxygen diffusion.

FUNCTION

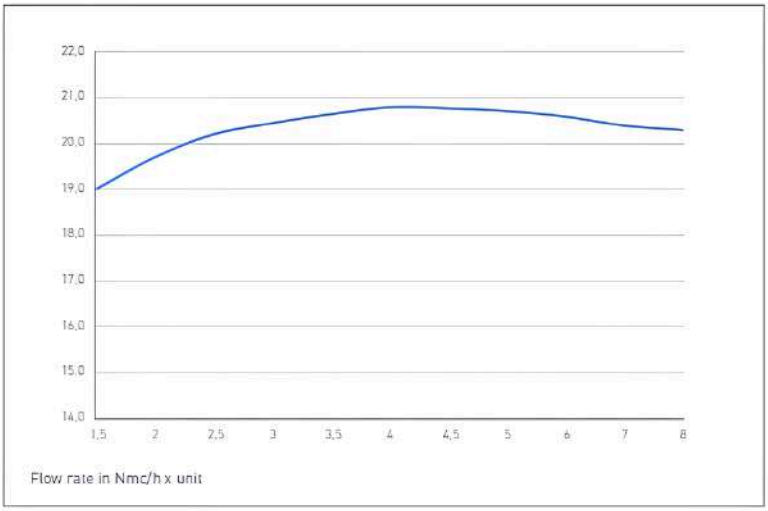
THE NEWAIR AERATOR IS CHARACTERIZED BY A SPECIAL MATERIAL STRUCTURE



Newair© XS Series 9” HDPE



Oscillating non return valve, ensures that the non return valve is not blocked with any sludge.

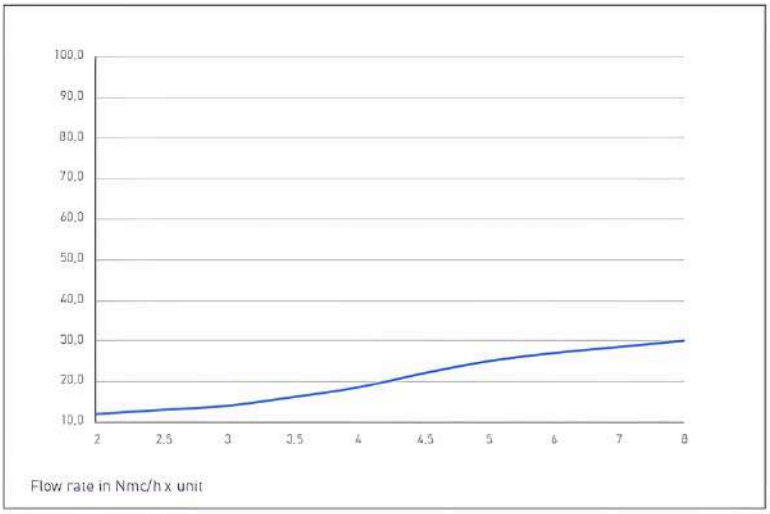


NEWAIR© XS EXTRA SMART DISC DIFFUSER FINE BUBBLE OXYGEN TRANSFER EFFICIENCY

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

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

Example: Diffuser works with 4 Nmc/h and waterlevel above diffuser surface is 5 meter, then consider: 20.8gr/Nmc x m * 4Nmc/h * 5m =416gr /h



NEWAIR© XS EXTRA SMART DISC DIFFUSER FINE BUBBLE HEAD LOSS

— Head loss in mbar (incl. check valve)

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

Comparable values can only be optained 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® XS EXTRA SMART DISC DIFFUSER SERIES 9” SPECIAL HDPE

OPERATING RANGE

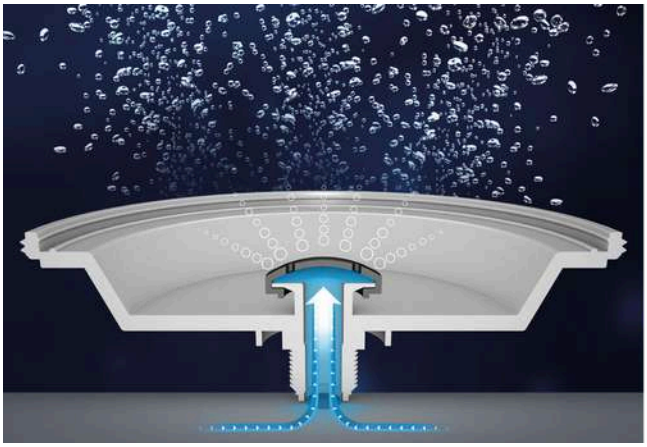
Model	Pore size µm	Range flow rate min-max	Optimal flow rate	Standard connection *	Max temperature	Peak Air Flow	Application
NWDXS9”	fine	1,5-8 (Nm^3/h) *0,9-5 (scfm)*	4 (Nm^3/h) *2,5 (scfm)*	3/4" M	80°C *176°F*	10 (Nm^3/h) *6 (scfm)*	Aeration tank

DIMENSION

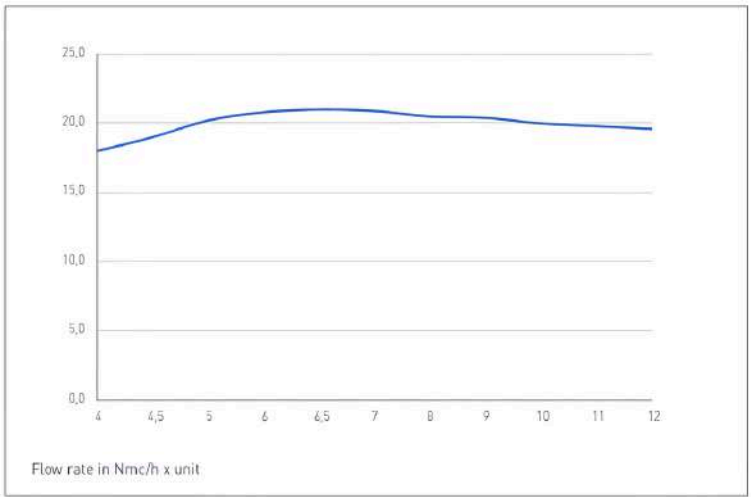
Type	Total height	Diameter total	Diameter effective	Over all height above air distributer	Perforated area	Total weight
NWDXS9”	93 mm *3,6 in*	240 mm *9,5 in*	200 mm *7,9 in*	73 mm *2,9 in*	0,03 m^2 *0,32 ft^2*	0,8 kg *1,76 lb*

***Connection 3/4”F, 1”M, 1”F or NPT thread, available on request**

Newair© Series 12” HDPE



Oscillating non return valve ensures that the non return valve is not blocked with any sludge.

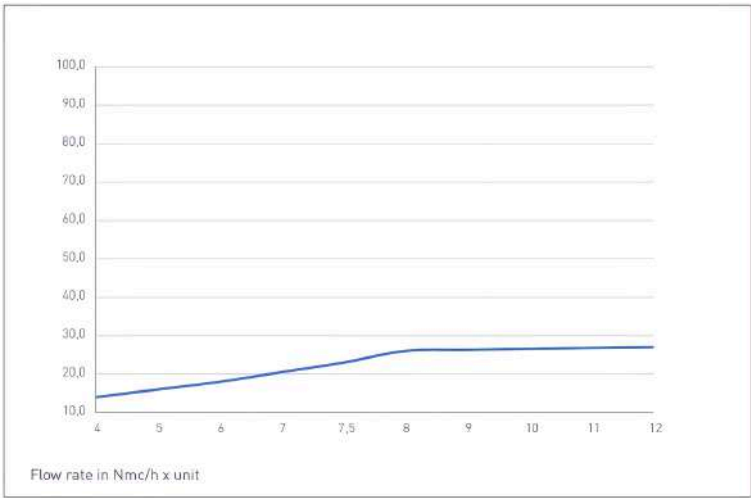


NEWAIR© NWA280 DISC DIFFUSER FINE BUBBLE OXYGEN TRANSFER EFFICIENCY

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

Data refers to clean tap water normal condition at 20°C, 101,3kPa

Example: Diffuser works with 6.5 Nmc/h and waterlevel above diffuser surface is 5 meter, then consider: 21gr/Nmc x m * 6.5Nmc/h * 5m =682gr /h



NEWAIR© DISC NWA280 DISC DIFFUSER FINE BUBBLE HEAD LOSS

— Head loss in mbar (incl. check valve)

Data refers to clean tap water normal 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® DISC DIFFUSER SERIES 12” SPECIAL HDPE

OPERATING RANGE

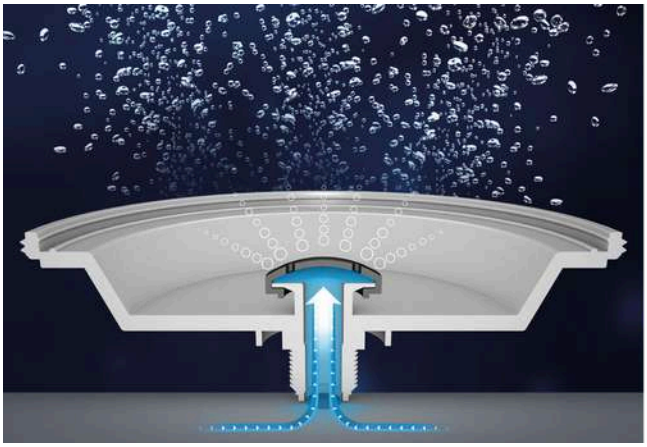
Model	Pore size µm	Range flow rate min-max	Optimal flow rate	Standard connection *	Max temperature	Peak Air Flow	Application
NWD280	fine	4-12 (Nm^3/h) *2,5-7,5 (scfm)*	6 (Nm^3/h) *3,7 (scfm)*	1" M	80°C *176°F*	15 (Nm^3/h) *9 (scfm)*	Aeration tank

DIMENSION

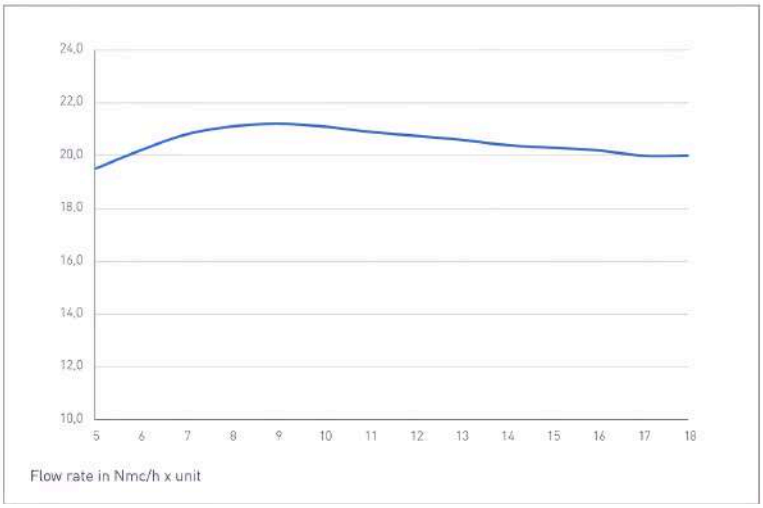
Type	Total height	Diameter total	Diameter effective	Over all height above air distributer	Perforated area	Fixed porous membrane	Total weight
NWD280	93 mm *3,6 in*	300 mm *11,8 in*	240 mm *9,5 in*	68 mm *2,7 in*	0,05 m^2 *0,54 ft^2*	HDPE	1,35 kg *2,98 lb*

***Connection 3/4”F, 3/4”M, 1”F or NPT thread, available on request**

Newair© XL Series 14” HDPE



Oscillating non return valve ensures that the non return valve is not blocked with any sludge.

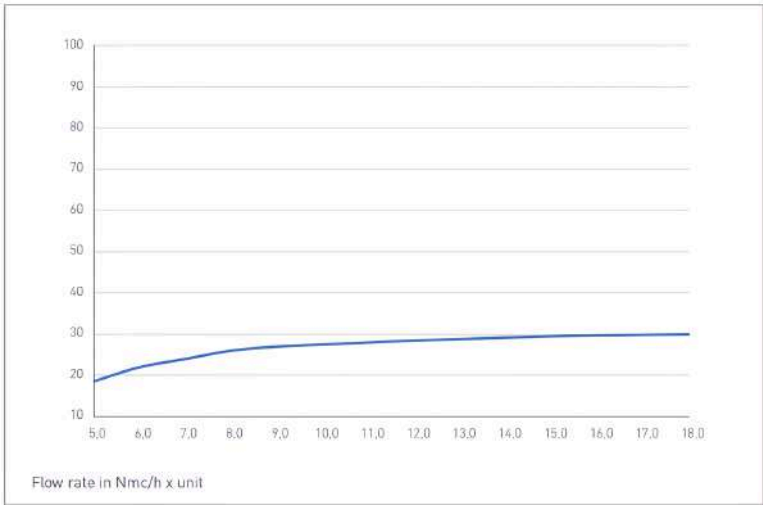


NEWAIR© XL EXTRA LARGE DIFFUSER FINE BUBBLE OXYGEN TRANSFER EFFICIENCY

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

Data are referd to 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: 21,2gr/Nmc x m *9Nmc/h * 5m =954gr /h



NEWAIR© XL EXTRA LARGE DISC DIFFUSER FINE BUBBLE HEAD LOSS

— Head loss in mbar (incl. check valve)

Data are referd to 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® XL DISC DIFFUSER SERIES 14” SPECIAL HDPE

OPERATING RANGE

Model	Pore size µm	Range flow rate min-max	Optimal flow rate	Standard connection *	Max temperature	Peak Air Flow	Application
NWDXL14”	fine	5-18 (Nm^3/h) *3,1-11,2 (scfm)*	10 (Nm^3/h) *6,2 (scfm)*	1" M	80°C *176°F*	23 (Nm^3/h) *14 (scfm)*	Aeration tank

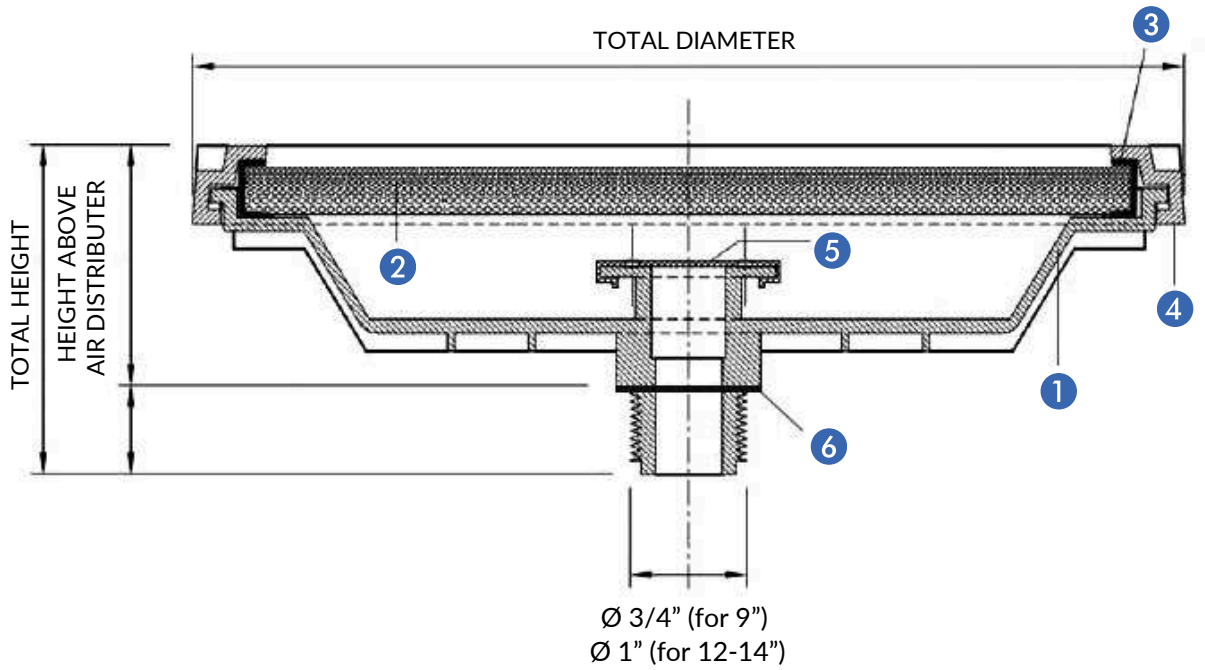
DIMENSION

Type	Total height	Diameter total	Diameter effective	Over all height above air distributer	Perforated area	Total weight
NWDXL14”	93 mm *3,6 in*	360 mm *14,2 in*	310 mm *12,2 in*	68 mm *2,7 in*	0,075 m^2 *0,81 ft^2*	1,7 kg *3,75 lb*

***Connection 3/4”F, 3/4”M, 1”F or NPT thread, available on request**

Newair© Series 9”- 12”- 14” HDPE

INSTALLATION DRAWING 9”-12”-14”



PRODUCT PROPERTIES

Number	HDPE
Colour	white
Wall thickness	9/11 mm *0,35/0,43 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

NEWAIR© DISC DIFFUSER, MATERIAL OF THE SINGLE COMPONENTS

Number	Description	Material
1	Diffuser body	Polypropilene, glass fiber reinforced
2	Porous Disc	HDPE
3	H-Gasket	EPDM
4	Threaded retaining ring	Polypropilene, glass fiber reinforced
5	Not return valve	Silicone
6	Gasket	EPDM

All data are approximate!

AIR FLOW

The **optimum air flow** for the Newair disc diffuser depending on the model, the airflow range can be from **1,5÷18 Nm³/h (0,19 to 11,2 scfm)**. If the air flow rate falls below the optimum range for a longer period of time (approx. 24 hrs.), the flushing of the aerator elements with an air flow rate of 40 Nm³/(h x diff.) is recommended.

The following recommendations for the storage, cleaning, and maintenance of elastomers are based on the international standard DIN 7716.

STORAGE

The diffusers and all accessories must be packed in a condition free from tension, compression and deformation. They must be kept in the original packaging until installation and do not place heavy weights on the packed products. Store in a dry, covered and aerated room free from sources of heat, humidity and dust. The storage of rubber components up to the installation should not exceed 1 year. Should they be trasported in open receptacles like lattice boxes, the packed products have to be covered for protection against UV radiation.

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.

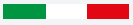
LIFETIME

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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