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Tube Diffuser
Technical Reference

Dimensions

Type	Perforation length [mm]	Total length [mm]	Tube diameter [mm]	ID-Sleeve [mm]	Perforated area [m²]	Total weight [kg]
63/2100 D	1000	1060	63	64 - 66	0,18	1,3
63/2075 D	750	810	63	64 - 66	0,135	1,1
63/2050 D	500	560	63	64 - 66	0,09	0,8

Other lengths on request.

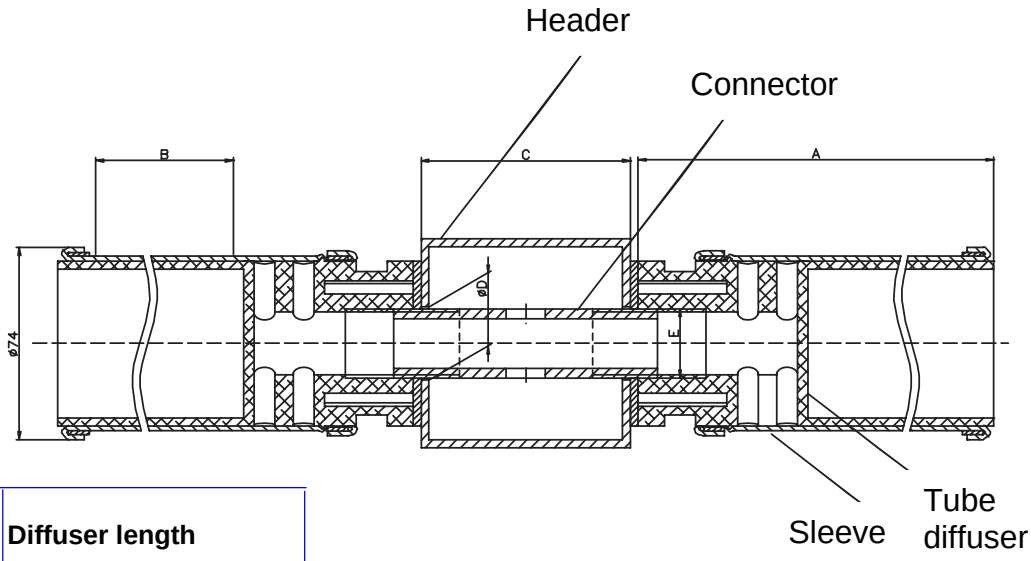
Dimensions for threads and double nipple:

Connector	Colour Code	Douple nipple length square tube 80 x 80 mm [mm]	Douple nipple length square tube 100 x 100 mm [mm]	Douple nipple length tube DN100 (114,3 mm) [mm]
1” Whitworth	blue	130	150	190
3/4” Whitworth	green	130	150	-
3/4” NPT	grey	-	-	-

3/4“ NPT-joint: maximal diffuser length 610 mm, diffuser will be connected to 3/4“ NPT weld-on threaded nipple.
Double nipples for other tube dimensions on request.

Membrane fixing on support tube:
Standard safety clamps (stainless steel 1.4301, SS 304), membrane exchange possible without removing the support tube.

Sealing:
4 mm EPDM flat-gasket.



A	**1060**				**810**				**560**				**Diffuser length**			
B	**1000**				**750**				**500**				**Perforation length**			
C	**80**		**100**		**80**		**100**		**80**		**100**		**Square Tube**			
D	**28**	**35**	**28**	**35**	**28**	**35**	**28**	**35**	**28**	**35**	**28**	**35**	**Straight Drilled Hole**			
E	**3/4**	**1”**	**3/4**	**1”**	**3/4**	**1”**	**3/4**	**1”**	**3/4**	**1”**	**3/4**	**1”**	**Thread**			

Luftbeaufschlagung

Type	Air flow rate at standard operation conditions [m_N^3/h]	Overload air flow rate [m_N^3/h]
63/2100 D	3 - 12	20
63/2075 D	2 - 9	15
63/2050 D	1 - 6	10

- Air flow rates depending on material, slit pattern etc.
- Other slit patterns on request.
- Shutdown of operation is highly recommended for air flow rates lower than minimum rate.
- Overload air flow rate (e.g. cleaning) should not be applied longer than 10 min..

Typical physical properties, measured on cured rubber sleeve:

Membran Type		Standard EPDM	Plasticizer low EPDM	Silicone
Colour		Black	Black	Translucent
Wall thickness		1,9 mm ± 0,15 mm	1,9 mm ± 0,15 mm	1,5 mm ± 0,2 mm
Diameter		on request	65 mm ± 1 mm	65 mm ± 1,5 mm
Density	**DIN 53479**	< 1,15 g/cm³	< 1,2 g/cm³	< 1,15 g/cm³
Tensile Strength	**DIN 53504**	> 8 N/mm²	> 6,5 N/mm²	> 8 N/mm²
Elongation at break	**DIN 53504**	> 500%	> 400%	> 650%
Tear strength	**DIN 53507**	> 8 N/mm	> 5 N/mm	> 15 N/mm
Hardness	**DIN 53505**	40 ± 5 Shore A	55 ± 5 Shore A 60	60 ± 5 Shore A
Tension set	**100% elongation 24 h, RT**	< 4%	< 4%	
Operation temperature range		0 bis 80°C	5 bis 80°C	5 bis 100°C
Applications		municipal waste water facilities	municipal and industrial waste water facilities	industrial waste water facilities with high load of oils and process related deposits and/or fouling

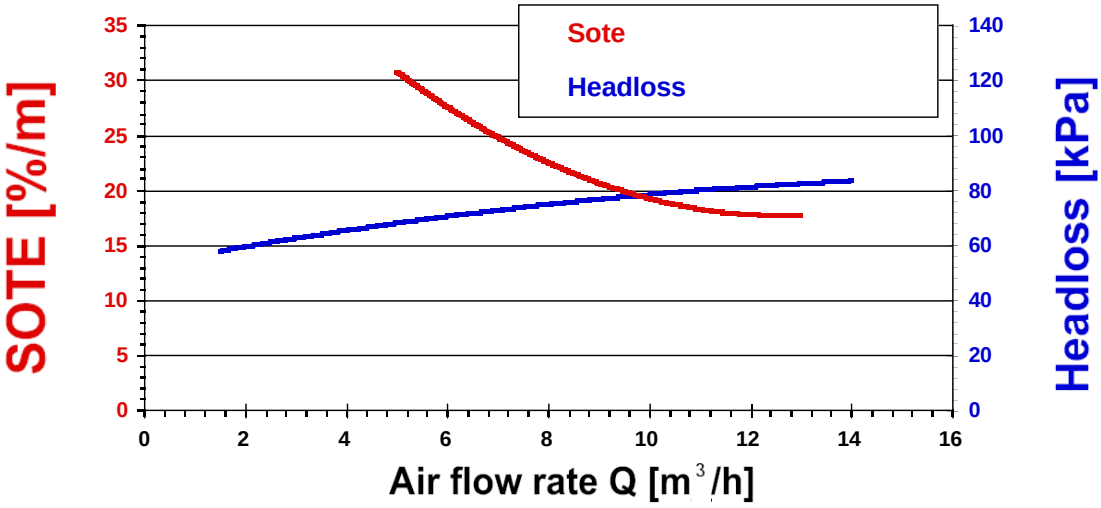
Other speciality engineered materials are available on request.

Operation mode:
Continuously or intermittent (not recommend for Silicone)

Materials:
Different rubber components for the special requirements of various waste waters are available. The most common materials is EPDM, a kind of rubber that is used for a long time in lots of variants in municipal waste water treatment plants.
Also silicone rubber can be used for fine bubble diffusers. But silicone membranes are more sensitive to all mechanical movements. Because of this reason, we are using special silicone compounds and also special diffuser designs.
Furthermore, silicone is more expensive than EPDM, because of the material price.
For all these reasons, silicone membranes are a good alternative for the use in all waste waters which damage or destroy EPDM such as high concentrated grease, oil and hydrocarbons and should only be used there.
For all waste waters with middle and low concentrated grease and oil it is also possible to use EPDM with low plasticiser content. The normal content of plasticiser is appr. 30%. It can be reduced to 15% for EPDM sleeves and to 10% for disc membranes. This helps a lot to prevent diffuser damages by industrial waste water.

Tube Diffuser

Oxygen transfer efficiency and headloss
Tube Diffuser TD 63/2100, low plasticiser membrane



Results depending on tank size, diffuser disc, slit pattern, material, water depth etc.

Storage:

- Diffuser and/or rubber sleeves must be stored factory-packed in a dark, dry, ventilated and dust-free storage space according to DIN 7716. Avoid frost, heat, UV/Vis-radiation, dust and working which can cause damage of diffuser and/or packing.
- Do not store outdoors! The storage of rubber parts until installation/starting operation should not exceed one year. At on-site delivery all rubber and plastic parts must be stored in their original packaging. Crates exposed to direct sunlight must be covered with tarpaulin to protect against UV-radiation.

Cleaning:

Diffusers can only be checked, if the activated sludge tank is out of work and empty. That is why normal cleaning must be done at work. Formic acid is used very successfully against carbonating. To keep the pores open, formic acid is sprayed into the compressed air for a short time. Also a regular use with maximum air flow for a short time helps keep the diffuser in good conditions for a long time.

Membrane lifetime:

Up to 10 years in municipal waste water treatment plants, depending on waste water influent and operation condition.

BIBUS AG
Hertistrasse 1
CH-8304 Wallisellen
Tel. +41 44 877 51 20
Fax +41 44 877 58 51
E-Mail: info.bag@bibus.ch
www.bibus.ch

BIBUS GmbH
Lise-Meitner-Ring 13
DE-89231 Neu-Ulm
Tel. +49 731 20769 0
Fax +49 731 20769 620
E-Mail: info.bag@bibus.ch
www.bibus.de

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