

# Tube Diffuser

## Technical Reference





## Air Flow

Type	Air flow rate at standard operation conditions	Overload air flow rate
	[m <sub>N</sub> <sup>3</sup> /h]	[m <sub>N</sub> <sup>3</sup> /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 applied longer than 10 min.

## Typical physical properties, measured on cured rubber sleeve:

Membrane 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/cm <sup>3</sup>	< 1,2 g/cm <sup>3</sup>	< 1,15 g/cm <sup>3</sup>
Tensile Strength	DIN 53504 > 8 N/mm <sup>2</sup>	> 6,5 N/mm <sup>2</sup>	> 8 N/mm <sup>2</sup>
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 to 80°C	5 to 80°C	5 to 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:

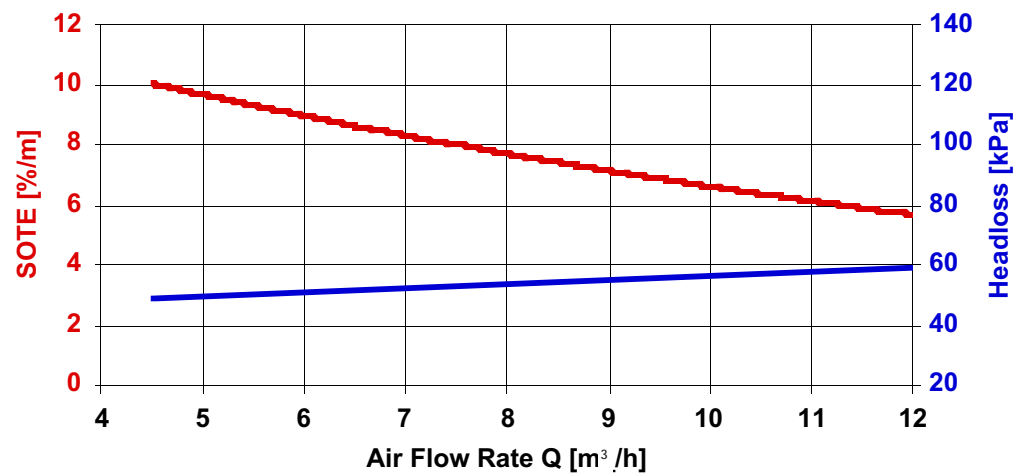
Gummi-Jaeger produces different rubber components for the special requirements of various waste waters. The most common material is EPDM, a kind of rubber that is used for a long time in lots of variants in municipal waste water treatment plants.

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 design. 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 to prevent diffuser damages by industrial waste water.

## 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-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 plastics 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 keeping the diffuser at 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.

*Disclaimer: This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as guaranteeing specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed. The quality of our products is guaranteed under our General Conditions of Sale.*