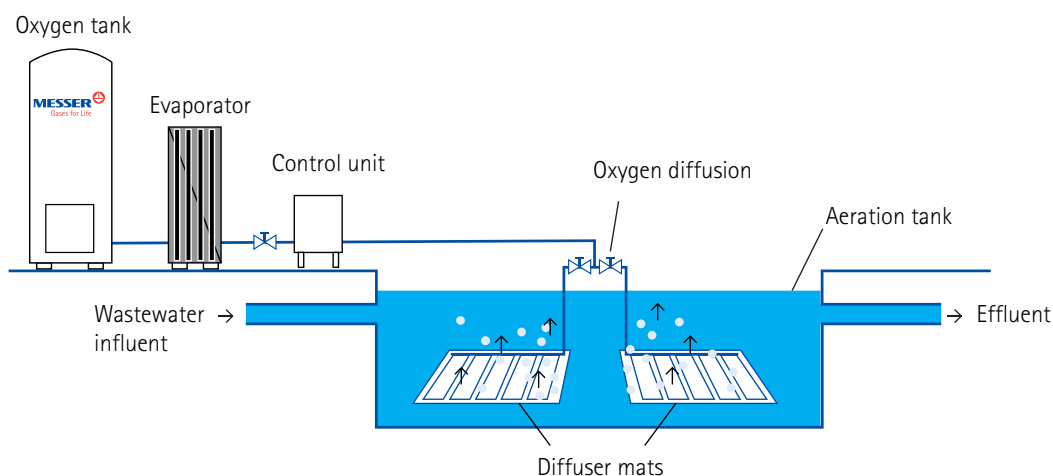


The BIOX™ Purification Process.

Transferring pure oxygen through diffuser hoses.



General

With Messer's BIOX™ process, oxygen is transferred in the form of very fine bubbles into the water perforated diffuser hoses without the need for an external energy supply. This is especially applicable for medium-deep tanks, providing effective cost advantages.

Process

BIOX diffuser hoses are made from a flexible, chemical-resistant polymer with fabric support to enhance mechanical stability. The fine perforations are produced by special needles within a standardized manufacturing process. The diffuser hoses are mounted on frames and placed on the bottom of the tank or in the bed of water.

When oxygen is supplied, the pores of the diffuser hoses open and release fine gas bubbles to ensure optimum oxygen utilization. During times when no oxygen is required, the pores close to prevent the ingress of water and dirt particles into the hoses.

The oxygen transfer rate depends upon

- Water depth
- Hose length
- Specific oxygen flow
- Water components
- Water temperature

Performance characteristics

- Low investment cost
- No external energy supply required
- High flexibility of oxygen transfer
- Fast and easy installation, even in filled tanks
- Easy adaptation to any tank shape
- High oxygen utilization in medium-deep to deep water
- No clogging of pores, even after long periods of downtime
- Maintenance-free
- Silent, environmentally-friendly operation

Fields of application

Biological wastewater treatment

- Covering peak oxygen demand in overloaded aeration tanks
- Conversion of wastewater treatment plants to nitrogen elimination
- Odor control in mixing and equalization tanks
- Preliminary purification of highly polluted industrial wastewater
- Emergency oxygen transfer
- Temporary oxygen supply during rebuilding of plants

Surface waters

- Oxygen transfer into organically and thermally polluted ponds and running waters

Fish-farming

- Oxygen transfer into influent channels and aeration tanks
- Emergency oxygen supply

Technical data

BIOX diffuser hose

Material	EPDN
Dimensions [in]	0.71 x 0.18
Operating pressure [psi]	25 psi or less
Perforations [1/ft]	300

Technical data

BIOX standard diffuser mats

O ₂ Transfer capacity [scf/h]	150-400	300-800	400-1250
Length of diffuser hose [ft]	60	120	180
Dimensions of diffuser mats [ft]	3 x 12	7 x 16	7 x 16
Weight [lb]	77	132	154



Why Messer

Messer is a world leading industrial gas organization that offers a variety of gas products, technologies and services that improve quality and enhance environmental performance. Messer tailors solutions to meet the unique needs of each customer and their facility.



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