# **Anoxic Moving Bed Biofilm Reactor (MBBRd)**

## **Applications**

Orenco®'s MBBRd provides treated effluent with pre-anoxic denitrification, post-anoxic dentrification, or both in residential, municipal, commercial, and industrial wastewater treatment systems that are required to meet stringent discharge limits of 10 mg/L or less for Total Nitrogen.

Suitable for ...

- Post- and pre-anoxic denitrification
- Tertiary treatment
- Flows to 100,000 gpd (378.5 m<sup>3</sup>/day)
- Permanent and mobile locations
- Above-grade or at-grade installation
- Wide range of climates
- Existing systems requiring stringent nitrogen limits

#### General

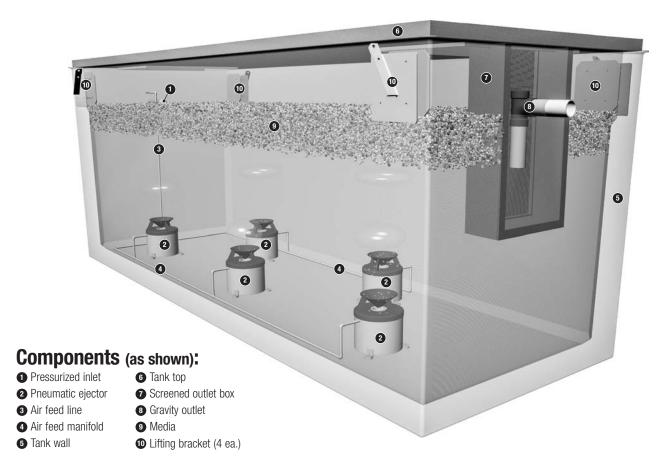
Orenco's MBBRd provides denitrification in conjunction with a secondary treatment system. Its modular design and accessibility make it easy and simple to install, operate, and maintain.

MBBRd units feature single-piece, vacuum-molded, fiberglass construction designed for watertightness, in  $8{\times}8$  ft or  $11{\times}10$  ft height and width (2.4×2.4 m or 3.4×3 m) configurations. Standard walls are 4-in. (100-mm) foam-core fiberglass with an R-26 insulation value (R-5 SI), to maintain interior temperatures in climatic conditions of -60° to 125° F (-50° to 50° C) and provide consistent treatment in a variety of environments. Orenco MBBR units use durable and corrosion-resistant pneumatic ejectors for media mixing. Bioreactor media is made of a durable plastic material for effective treatment and longevity.

Optional carbon injection is available for Orenco MBBRd models. Safety railings and integrated operator control rooms are options for Orenco MBBRd units that are installed above-grade.

#### **Standard Models**

MBBRd-0814, MBBRd-0821, MBBRd-1016, MBBRd-1020, MBBRd-1024, MBBRd-1028



### **Materials of Construction**

Walls/floor/tank top	Infused foam core/fiberglass laminate		
Access lids	Fiberglass reinforced polyester		
Access lid gaskets	Polyurethane		
Lifting brackets	Steel		
Exterior coating	UV-resistant gel coat		
Mixing device	PVC, fiberglass		
Media	Proprietary plastic blend		

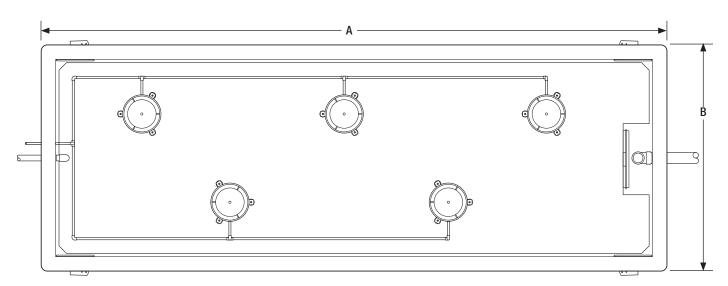
# **Specifications**

CFM required per pneumatic ejector

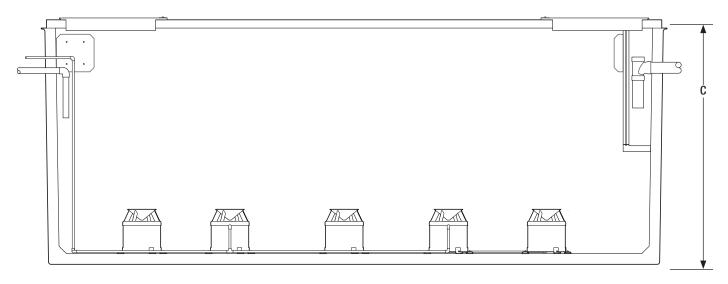
Model	Α	В	С	Volume
MBBRd-0814	14 (4.2)	8 (2.4)	8 (2.4)	5000 (18.9)
MBBRd-0821	21 (6.4)	8 (2.4)	8 (2.4)	7500 (28.4)
MBBRd-1016	16 (4.9)	10 (3.0)	11 (3.4)	10,000 (37.9)
MBBRd-1020	20 (6.1)	10 (3.0)	11 (3.4)	12,500 (47.3)
MBBRd-1024	24 (7.3)	10 (3.0)	11 (3.4)	15,000 (56.8)
MBBRd-1028	28 (8.5)	10 (3.0)	11 (3.4)	17,500 (66.2)
Mixer Perform	. ,	- ()	(- /	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

3 ft<sup>3</sup> (0.085 m<sup>3</sup>) per bubble

<sup>\*</sup> See Orenco® MBBR drawings for exact dimensions and specific unit configurations.



MBBRd-0821, top cutaway view



MBBRd-0821, side cutaway view