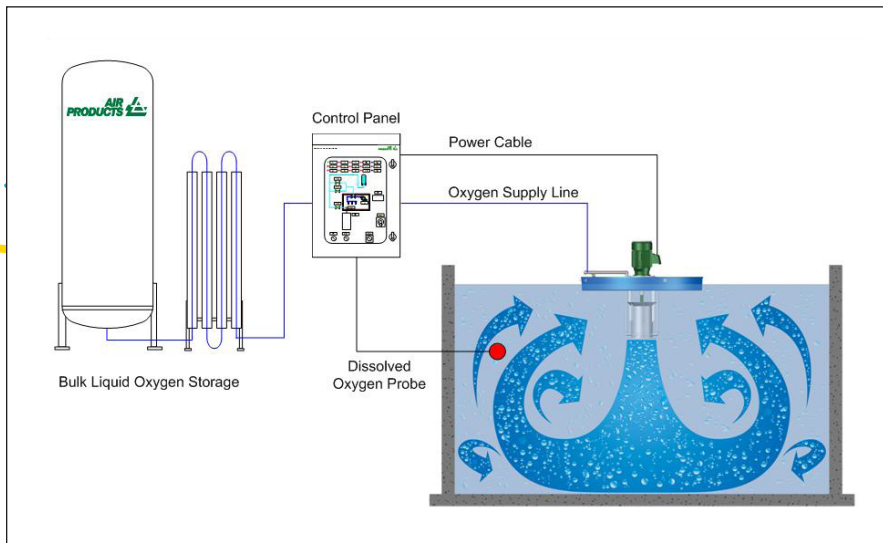


# Halia®

## Mixer Aeration System



Halia mixer aeration system design schematic

For over 20 years, Air Products has been providing innovative customized solutions for a variety of complex industrial and municipal wastewater treatment needs. By integrating our advanced oxygen production experience with complementary dissolution technology, we are now able to offer a unique, energy-efficient mixer aerator for most aeration systems.

The Halia mixer aeration system consists of oxygen supply—either as liquid oxygen or on-site generation—combined with OxyMix® technology jointly developed by Aqua-Aerobic Systems, Inc. and Air Products and Chemicals, Inc. The OxyMix is a high-speed, direct-drive floating mixer equipped for oxygen injection. The Halia mixer aeration system provides all the necessary aeration and mixing for an activated

sludge basin, with aeration and mixing operating independently so mixing can continue when the oxygen flow is off. An oxygen flow control skid with programmable logic control allows oxygen flow to be controlled by dissolved oxygen concentration. Among Air Products' Halia aeration systems, the mixer aeration system has one of the lowest combined mixing and aeration energy requirements.

### Oxygen aeration benefits

- Higher oxygen mass transfer
- Insulation from rising electrical costs
- Reduced basin volume
- Higher treatment rate
- Improved sludge settleability
- Rapid response to process oxygen demands
- Lower sludge yield
- Lower foaming

### Halia system advantages

- Flexible oxygen supply mode
- Minimized capital investment
- Surface accessible
- Low maintenance requirements
- Constant pressure with variable depth
- No floor-mounted equipment
- Easily retrofitted, wet-installed

## Halia mixer aerator

Series 40

Series 10

### Application characteristics

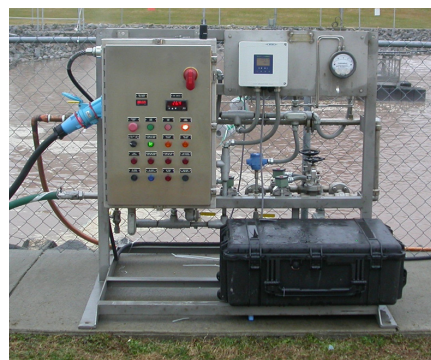
Motor size	29.8 kW (40 HP)	7.5 kW (10 HP)
Operating power	26.1 kW (35 BHP)	6.7 kW (9 BHP)
Power supply for mixer aerator	460 V	460 V
Power supply for flow skid	120 V	120 V
Maximum oxygen delivery	170 Nm <sup>3</sup> /h (6000 scfh)	31 Nm <sup>3</sup> /h (1100 scfh)
Zone of complete mix (max dia)	32 m (105 ft)	20 m (65 ft)
Impingement (min dia) <sup>1</sup>	9.1 m (30 ft)	9.1 m (30 ft)
Maximum depth <sup>2</sup>	12 m (40 ft)	9.1 m (30 ft)
Minimum depth <sup>2</sup>	3.1 m (10 ft)	2.7 m (9 ft)

### Physical characteristics

Float diameter	2.93 m (9.6 ft)	2.16 m (7.1 ft)
Unit height	2.35 m (7.7 ft)	1.83 m (6.0 ft)
Water surface to bottom of unit	1.31 m (4.3 ft)	0.95 m (3.1 ft)
Water surface to top of unit	1.04 m (3.4 ft)	0.88 m (2.9 ft)
Unit weight	951 kg (2,096 lb)	467 kg (1,030 lb)
Nominal unit speed	900 RPM	900 RPM

<sup>1</sup> Impingement zone shall not include piping, diffusers or any other equipment which can impair the performance of the OxyMix unit.

<sup>2</sup> Tank floor must be constructed of a suitable material (such as concrete) that can withstand the high velocity flow created by the mixer. Earthen, gravel or synthetically-lined floors are not acceptable.



Typical oxygen flow control skid



OxyMix installed in a wastewater treatment tank

## tell me more

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