Parkson™
Treating Water Right

HiOx® Messner® aeration panels

- Low energy cost
- Easy operation and maintenance
- Low installation cost
- Guaranteed performance

Introduction

The costs of reclaiming wastewater in today's world are significant. Out of all the costs associated with the day-to-day operation of a plant, 50-75% of a plant's total energy consumption can be attributed to the aeration used for biological treatment.

As a result, operational efficiency of aeration systems should be the key target for any plant looking at energy conservation. Power that can be saved through efficient technology and operation provides quick and direct savings to the bottom line by reducing monthly power bills. At Parkson, we offer the most energy-efficient aeration solution on the market - the HiOx® Messner® Aeration Panel. This is accomplished by providing the highest oxygen transfer efficiency available of any fine bubble diffuser.

Complete Cost of Operation

Total cost of ownership is more than just the cost of electricity used by blowers supplying the aeration equipment. It is also the capital cost of purchasing aeration equipment, piping costs, cost for installation, and the cost of maintenance over equipment life span. When all these variables are taken into account, the HiOx® Messner® Panels are the choice of plants looking for the lowest total cost of ownership.

Oxygen Transfer Efficiency

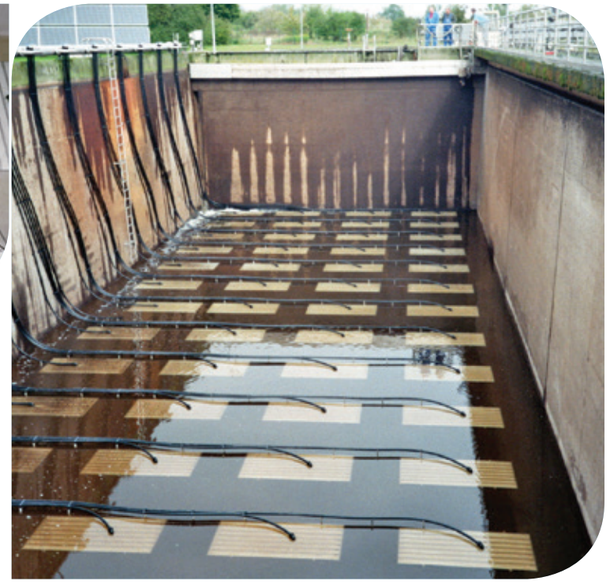
One of the most important features of any aeration technology is its ability to transfer oxygen to the wastewater. When the oxygen transfer efficiency in process water is corrected to Standard (clean water) Conditions, the result is the Standard Oxygen Transfer Efficiency (SOTE) of an aeration system. This is the standard measure for a diffused aeration system in which pumps and/or mixers are not involved in oxygen transfer.

For over 30 years, Parkson Corporation and our partners at Rudolf Messner Umwelttechnik (RMU) have been fine-tuning these aeration systems to produce the most efficient devices available. The HiOx® Messner® Aeration Panels are capable of SOTE's of 2.5%/ft. of depth in most configurations and can achieve SOTE's up to 3%/ft. of dept.

Energy Costs

Energy costs are considerably the most significant investment in an activated sludge aeration system at a wastewater treatment facility. By using a less efficient diffuser system, the additional energy usage required will eclipse the savings in capital expenditure many times over during the life of the equipment.

With use of the highly efficient HiOx® Messner® Aeration Panels, a plant will be capable of paying for the cost of the equipment several times during the life of the system through energy savings alone. Lower flux rates mean excellent efficiency, significantly lower air requirements, and therefore, lower energy costs.



Key Points

Power Savings

- Ultra fine bubbles
- 200% greater oxygen transfer surface area than disc diffusers
- Up to 30% higher SOTE than conventional fine bubble diffusers
- Wide range of flux rates
- High floor coverage; up to 60%
- Up to 3%/ft. of depth SOTE

Lowest Installation Cost

- Light weight units
- Integrated piping system
- Half of the installation man-hours of disc diffusers

Easy Operation & Maintenance

- Individual air feed
- Simple air flexing
- Automatic flexing controls available
- Membrane life can exceed 15 years

Guaranteed Performance

- Performance backed by testing
- Each panel air tested prior to shipment
- 30+ years of ultra fine bubble experience

Flexibility of Operation

The design of the HiOx® Messner® Panel provides substantial flexibility and ease of operation and maintenance. The material properties and refined apertures of the membrane provide sustained oxygen transfer efficiencies across a wide range of airflows. In addition, the size of the panel allows optimized application of the technology in both large and small basins through a wide range of floor coverage geometries.

Each panel is provided with an individual isolation valve. This allows each panel to be individually throttled or isolated to fine-tune the application of air to your specific needs. Additionally, it allows damaged panels to be isolated without taking a basin out of service.

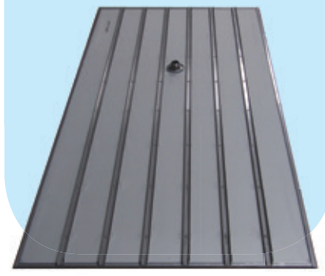
Installation of System

Installation is simplified by the large size of the HiOx® Messner® Panel. One panel can easily be installed in the time typically required to install many smaller tubes or disks over the same area. In addition, the piping system utilizes a support system integrated with the panels to minimize installation time and maximize basin floor area. The end result is a lower installation expense.

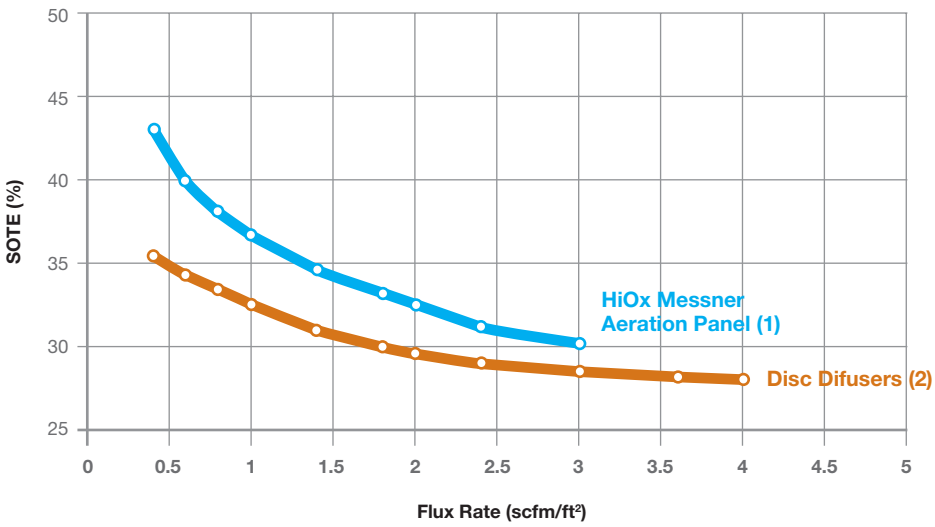
Maintenance

Parkson has been the leader in developing and providing low-maintenance membrane, fine-bubble diffusers in the U.S. for over 30 years. The HiOx® Messner® Aeration Panels continue this leadership by using TPU Polyurethane membranes for the optimum balance of flexibility and toughness.

Parkson has led the way in incorporating the proven benefits of flexing the membranes into the operational practices of membrane diffusers. We can provide control systems to automatically implement membrane flexing into your aeration system.



SOTE vs. Flux Rate HiOx & 9″ Discs
Typical System Designs @ SWD = 15′



Note:
- (1) Typical HiOx Messner Performance (~45 - 55% Floor Coverage)
- (2) Typical 9” Disc Performance (~15 - 20% Floor Coverage)

Applications

- Conventional activated sludge
- BNR Systems
- Nitrification-Denitrification
- SBR
- MBR Systems
- Industrial
- Oxidation Ditches

Specifications

Models	Estimated Weight	Air flow rate range	Effective membrane area
HiOx® Messner®	73 lbs.	10 to 43 SCFM	21 ft²

Parkson™
Treating Water Right

50 YEARS 2010

Fort Lauderdale
Chicago
Montreal
Kansas City
Dubai

1.888.PARKSON
technology@parkson.com
www.parkson.com

BIOL-HIOX