

Mixflo™ Wastewater Treatment System

Treating Wastewater Efficiently with Oxygen

The Praxair *Mixflo*™ System is a modular wastewater oxygenation system that can be used for either new or retrofit aerobic biotreatment installations. It operates by recirculating wastewater through the *Mixflo*™ System and mixing that oxygenated water with the bulk wastewater. The *Mixflo*™ System thereby maintains contact between the dissolved oxygen and the biotreatment microorganisms longer than any other system.

Benefits of the *Mixflo*™ System

All of the benefits typically associated with the use of oxygenation rather than aeration for wastewater biotreatment are achieved with the *Mixflo*™ System.

The *Mixflo*™ System has one of the highest oxygen usage efficiencies in the industry. This increases the biological activity at the same time that it minimizes both oxygen consumption and electrical consumption.

For new installations, this technology decreases the oxidation tank volume and total plant area, decreases electrical energy consumption, and simplifies startup procedures, as compared to alternative technologies.

For retrofit installations, Praxair optimizes the solution to address individual site needs, which may include: increasing treatment capacity without building new oxidation tanks, decreasing sludge



production, increasing plant operational flexibility, eliminating formation of aerosols and odors, foaming reduction and/or decreasing plant operational noise.

Fast and Flexible Solution

The modular design of Praxair's *Mixflo*™ System can be readily expanded or contracted as needed to address future requirements. In combination with another Praxair technology, the *Mixflo*™ System is part of a portfolio of solutions for water treatment that can be customized for a variety of needs. The *Mixflo*™ water treatment system technology makes an affordable, easily implemented alternative for existing facilities where rapid demand

fluctuations are a factor. Both municipal and industrial sites can be upgraded quickly with the compact *Mixflo*™ retrofit technology. In many cases, operating costs are unchanged, or actually drop, while capacity can be doubled.

Compared to conventional aeration systems:

- Reduces sludge production
- Increases plant flexibility
- Eliminates aerosol and odor formation
- Reduces plant noise produced by turbines or air blowers
- Reduces foaming

Technology

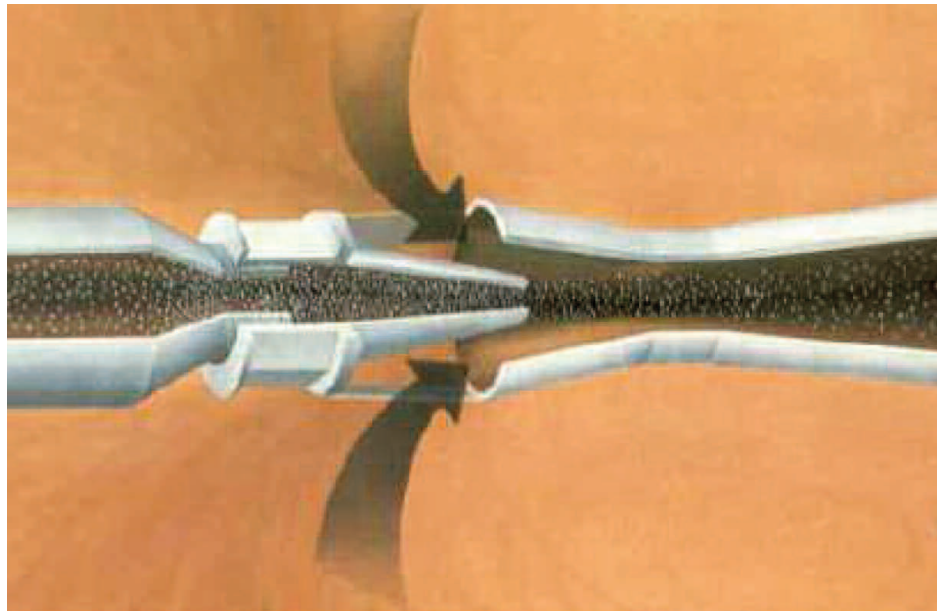
The *Mixflo*™ System mixes wastewater with pure oxygen by means of a pump and liquid-liquid ejectors. The proprietary ejectors at the heart of the system achieve an oxygen dissolution efficiency of more than 90 percent. For new or retrofit installations, Praxair can customize the system components to fit a facility's unique needs.

For retrofit installations, the location and condition of existing equipment may determine the most cost-effective selection of the new components. Praxair's water treatment specialists will make customized design recommendations based on individual plant requirements and existing equipment. For example, this could include reusing an existing tank or sludge recycle pump.

The bottom line: Versatility and effectiveness

The *Mixflo*™ technology can use covered or open tanks that were originally designed as clarifiers, thickeners, or holding tanks, regardless of shape, whether installed above or below grade. It can also utilize existing pumps that are either submersible or external to the tank.

The entire mechanism essentially transforms an aeration tank into a



highly efficient mixing tank, configured to allow optimum mixing of oxygenrich liquor with the tank's remaining contents. The *Mixflo*™ System's flexibility means that tanks can be of virtually any configuration, and external or internal pumps can be installed.

The *Mixflo*™ oxygenation system represents a breakthrough in over all operation efficiency, productivity and economy across a range of applications. In addition to the design and installation of a site-specific *Mixflo*™ System, Praxair is also poised to supply oxygen or complement the system with oxygen production equipment. Praxair can provide many alternatives to satisfy a facility's needs.

Contact us to learn more

We invite you to evaluate the advantages of the *Mixflo*™ System based on your sites' individual needs.

We will provide a thorough cost assessment of your current processes and hard-number comparisons with the *Mixflo*™ System, or another Praxair technology that may be right for your site. Contact us to learn more about Praxair's water treatment solutions and how we can work with your site to deliver better efficiency and cost savings.

To schedule an appointment, simply call us at **1-800-PRAXAIR**. For information about Praxair's solutions, visit us at www.Praxair.com.



© Copyright 2016, Praxair Technology, Inc.
All rights reserved.

Praxair, and the *Flowing Airstream* design, and *Making our planet more productive*, are trademarks or registered trademarks of Praxair Technology, Inc. in the United States and/or other countries. Other trademarks used herein are the registered trademarks of their respective owners.

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113
USA
www.praxair.com
info@praxair.com

The information contained herein is offered for use by technically qualified personnel at their discretion and risk without warranty of any kind.

09-16
P-8828A

Telephone:
1-877-PRAXAIR (1-877-772-9247)
Fax:
1-800-772-9985
(716) 8792040