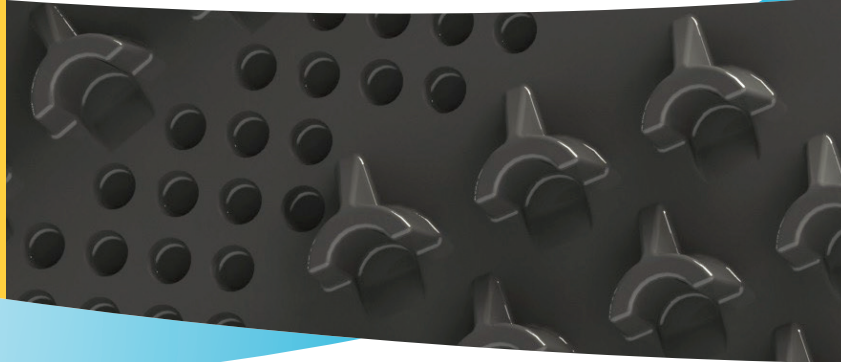




eVOQUA
WATER TECHNOLOGIES



The OX disc aerator's new nodule design doubles the oxygen transfer of the original design.

THE OX™ DISC AERATOR

NEW DISC DOUBLES THE OXYGEN TRANSFER OF ORIGINAL DISC

The bigger and completely redesigned OX™ disc aerator doubles the amount of oxygen transferred by the original Orbal® system disc aerator. This means that the same amount of oxygen can now be delivered with fewer discs, which reduces maintenance, construction and capital costs. It also allows facilities with existing Orbal systems to increase capacity if they replace their existing discs with new OX disc aerators.

Reduced Construction Costs

The larger 66" diameter of the OX disc aerator (original disc was 54") provides deeper mixing, which enables tanks to be constructed with a greater depth than ever before. This greater sidewall depth reduces the Orbal system's overall footprint. As a result, less concrete is needed to construct an Orbal system, which reduces installation costs.

Enhanced Durability

Although the original Orbal system disc has a proven record of durable, reliable performance with nearly 1,000 installations worldwide, the all-new OX disc aerator has been designed for even greater strength. In fact, finite element analysis (FEA) tests demonstrate that stress is more evenly distributed over a greater surface area in the OX disc aerator, compared to the original disc. And Evoqua still manufactures its OX disc aerator in the U.S. to maintain the highest quality control standards and ensure that the disc is crafted from the strongest resins available.

Five Reasons to Upgrade Your Discs

- 1.** Increase plant capacity up to 40 percent
- 2.** Use fewer discs to reduce maintenance while lowering capital costs
- 3.** Increase the amount of shaft freeboard to reduce maintenance
- 4.** Use fewer drives to reduce maintenance and retrofit costs
- 5.** Increase mixing depth to eliminate dead zones

To learn more about the Orbal® system, visit www.evoqua.com/orbal.

Retrofit Requirements

Adjustments can easily be made to an existing Orbal system to accommodate the larger size of the new disc. To enable installation, customers can:

- Raise weatherhoods by 18"
- Lower water level by 3"
- Integrate new mechanical components, such as bearings, drives and couplings

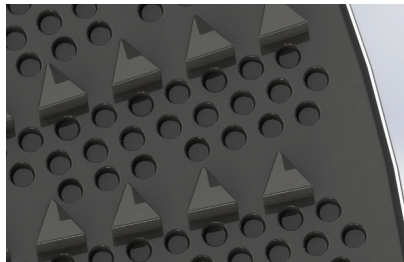
Retrofit Examples

Existing Plant Configuration with Original Disc		
Number of Drives	Drive HP	Maximum Oxygen Transferred (lb O ₂ /hr)
4	25	309
6	50	831
Total 10	400	1,140

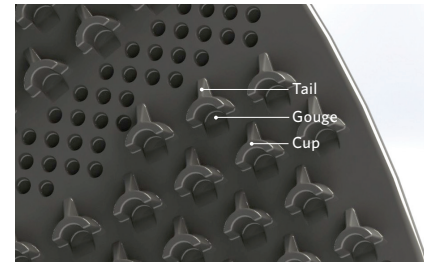
Same Plant Upgrade with New OX Disc Aerator		
Number of Drives	Drive HP	Maximum Oxygen Transferred (lb O ₂ /hr)
4	60	724
4	75	896
Total 8	540	1,620

Designed for Maximum Oxygen Transfer

The nodules on the original Orbal® system disc have been completely redesigned on the new OX™ disc aerator to dramatically increase the amount of oxygen transfer. For instance, the pyramid design in the original disc has been changed to a cup design. A gouge also has been added in front of each cup to increase the surface area of each nodule, which drives the oxygen transfer rate. These design changes have nearly doubled the amount of face surface area on the nodules. The new design doubles aeration capacity while maintaining oxygen transfer efficiency.



Original Orbal System Disc Nodule Design

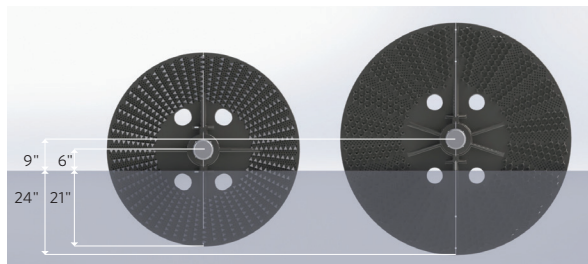


New OX Disc Aerator Nodule Design

Increasing Treatment Capacity

Customers who have existing Orbal systems or brush oxidation ditch installations can add treatment capacity by upgrading to the new OX disc aerator.

In the retrofit examples shown at left, an Orbal system facility with the OX disc aerator increases the oxygen delivery by more than 40 percent, providing additional aeration capacity to handle increased influent loading. Since the new disc transfers twice as much oxygen per disc, fewer drives are needed to power the discs. With fewer drives, retrofit, installation and maintenance costs are also reduced.



The diagram at left illustrates the size difference between the original Orbal disc and the new OX disc aerator, which results in deeper water submergence and greater freeboard between the shaft and the maximum water level.



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