

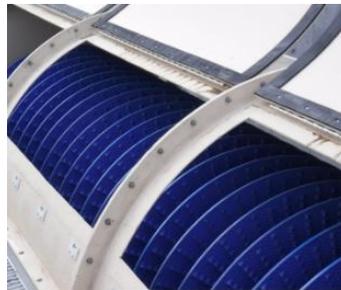
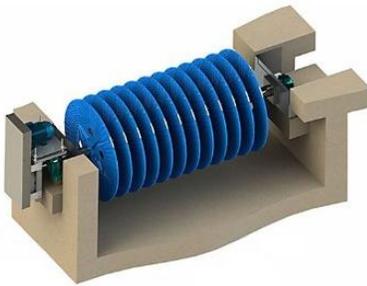
**TECH MEMO:  
Oxidation Ditch Fix with Disc Rotors**



**PRESENTED TO:**

**All Offices  
Winter 2026**

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# Oxidation Ditch Fix with Disc Rotors

**Issue:** Oxidation Ditches were originally designed for small WWTPs with high TCEQ discharge limits. Apparently, owners were caught by surprise when they learned their process lacked the ability to maintain their DO limits during high summer temperatures or high flows. The process begins to fail when the process exceeds 70% of its rated capacity in some instances.

**Resolution:** Performance can be improved with [disc aerators](#). Disc aerators transfer more oxygen into the basin while providing a more stable mechanical platform for longer bearing life.

The current TCEQ regulations favor REMOVABLE aeration and mixing technologies that do not require basin dewatering; disc aeration responds to this TCEQ directive.

Envirodyne Systems' **Disc Rotor Oxidation Ditches** are designed to provide high-efficiency oxygen transfer and mixing for biological wastewater treatment. They are often used as an alternative to traditional brush rotors due to their durability and energy efficiency.

- **New Construction Cost Savings:** When this approach is deployed, redundant basins are not required. Removable disc aerators are therefore the most cost-effective approach for Oxidation Ditch-based process designs.
- **Aeration Upgrade:** In applications whereby discharge limits can be restored with improved aerators, then upgrading from brush aerators to disc aerators is a very cost-effective upgrade. It is a plug-and-play upgrade.

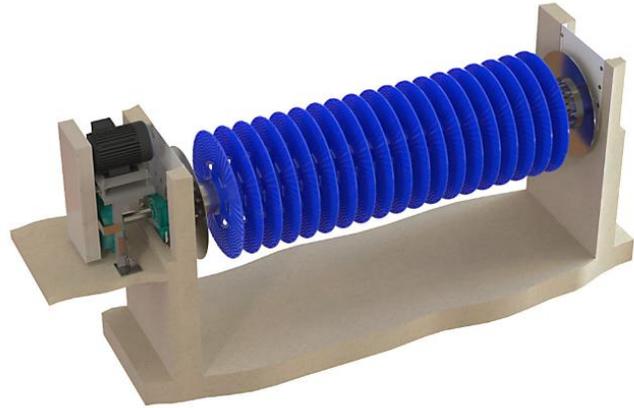


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## Brush Rotor to Disc Rotor Conversion

### Reduced Maintenance and Easy Installation:

- Direct replacement in same footprint as brush rotor
- High density polystyrene disc material of construction provides extended component life
- Split disc design allows for easy and quick installation of new discs
- Existing torque tube may be re-used



### Performance Indicators:

- Efficient operation allows for the following benefits:
  - Increased immersion
  - Increased aeration capacity
  - Increased mixing
- Deliver the same capacity at reduced energy consumption
- Deliver increased capacity while maintaining energy consumption
- Smooth operation extends mechanical component life
- Reduced misting for clean and safe operation



*Envirodyne Systems Inc. (“ESI”) has been upgrading and converting oxidation ditches*

*for over 20 years. References exist from coast to coast with many references in Texas. Vision Equipment is proud to have the exclusive rights to represent ESI and their equipment in Texas.*



**ENVIRODYNE SYSTEMS INC.**  
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