

Tri-Oval[®] Oxidation Ditch System



Reliable solutions – optimal performance

The Tri-Oval[®] Oxidation Ditch System, named for our Aire-02 Triton[®] in an oxidation oval, is a subsurface complete mix, looped reactor system that is ideal for municipal and industrial wastewater treatment facilities. The energy efficient Aire-02 Triton[®] TR Series process aerator/mixer, combined with an optimized control strategy, allows for operation at depths as low as 4ft (1.22m) and up to 33ft (10m).

Why Choose the Tri-Oval[®] Oxidation Ditch System

- Independent aeration and mixing with one piece of equipment for biological nutrient removal
- Simple, flexible operation with easy process control
- Reduced power consumption with low total cost of ownership
- Minimal heat loss offers improved winter performance
- Total reliability, quiet operation, and flexible design for restricted land requirements

Features & Benefits

- Full biological nutrient removal (BOD, Nitrogen, Phosphorus)
- No aerosols or splashing
- Complete mixing throughout the water column, eliminating solids settling
- Additional equipment can be provided to create a system package including: controls, instrumentation, secondary clarifiers, RAS/WAS pumps, and/or an aerobic digester

Applications

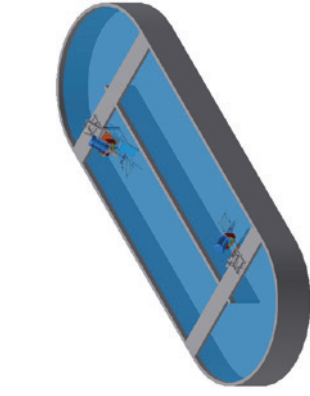
- Activated sludge treatment
- Nitrification and denitrification
- Enhanced biological phosphorus removal
- New construction, upgrades, and retrofits



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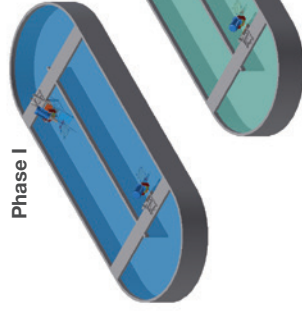
Key:

- aerobic phase
- anoxic phase
- anaerobic phase



OXIDATION DITCH

TYPICAL EFFLUENT	OXIDATION DITCH
BOD	10
NH ₃ -N	1
TN	
NITRATE	



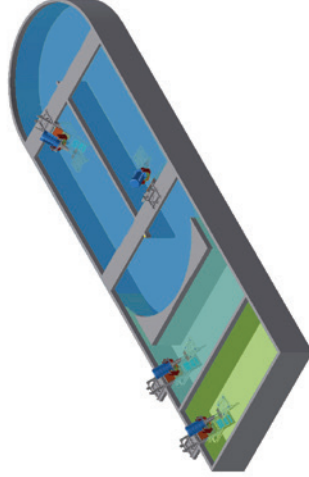
Phase II

CYCLICAL AERATION

10
1
8
5

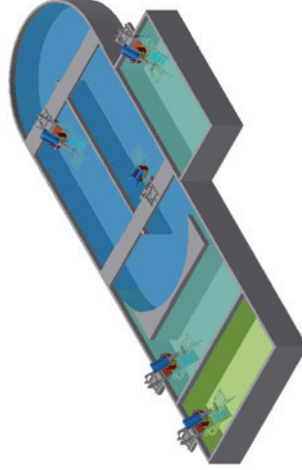
MODIFIED LUDZACK-ETTINGER (MLE)

10
1
8
5



FOUR-STAGE BARDENPHO

TYPICAL EFFLUENT	A ² /O
BOD	10
NH ₃ -N	1
TN	8
NITRATE	5
TP	<1***



FIVE-STAGE MODIFIED BARDENPHO

10
0.5
5*
3*
<1**

NOTE: all numbers are measured in mg/L

*may require external carbon source

**requires filtration/chemical backup