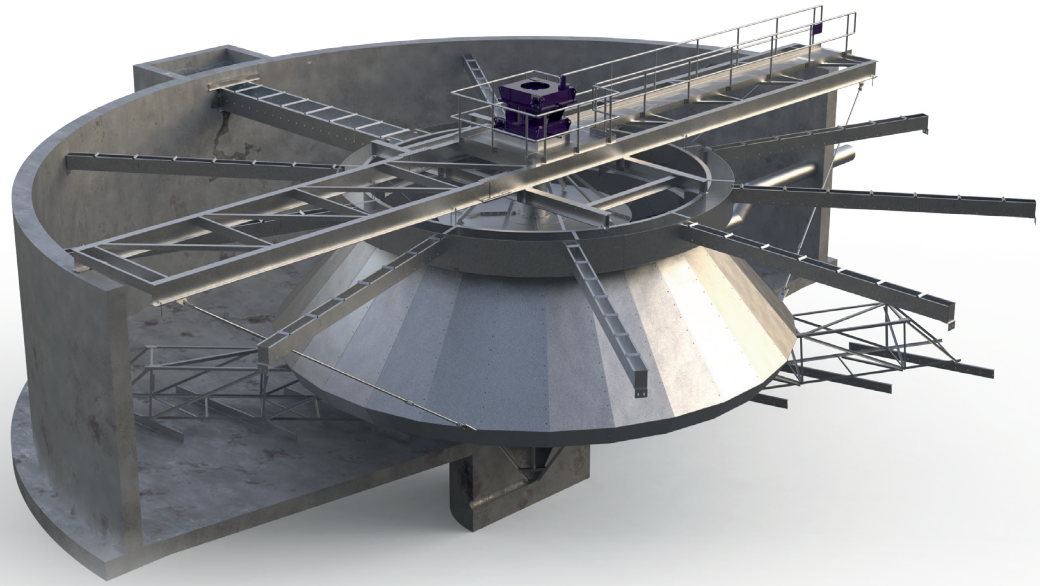
SEDIMENTATION

# REACTOR CLARIFIER™

## SOLIDS CONTACT CLARIFIERS



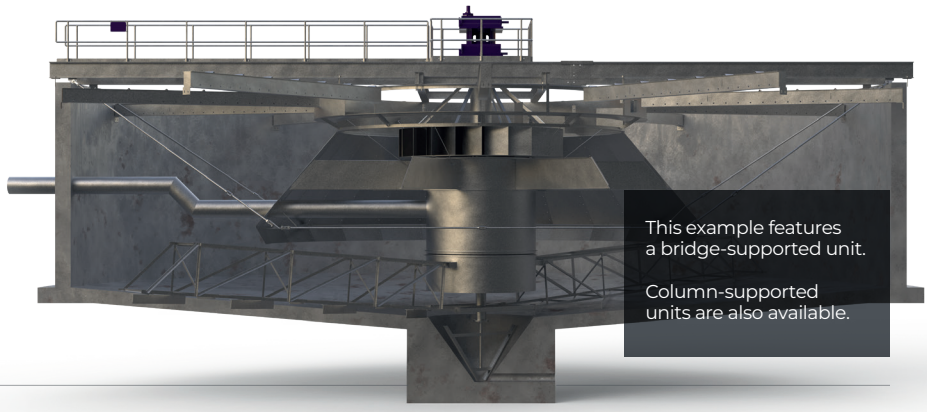
OVIVO

Bringing water to life

# BUILT TO LAST. DESIGNED TO PERFORM.

## SOLIDS CONTACT CLARIFIERS FOR WATER & WASTEWATER TREATMENT

WE KNOW THE TRUE COST OF EQUIPMENT GOES BEYOND THE PURCHASE PRICE—IT INCLUDES LONG-TERM OPERATING COSTS. THAT'S WHY OUR REACTOR CLARIFIER™ SOLIDS CONTACT UNITS ARE ENGINEERED WITH THE SAME RUGGED FEATURES USED IN MINING AND INDUSTRIAL APPLICATIONS, ENSURING YOUR PLANT STAYS ONLINE AND PRODUCTIVE.



This example features a bridge-supported unit.

Column-supported units are also available.

## IMPROVED PRECIPITATION AND CLARIFICATION

Backed by extensive experience in water and wastewater treatment, Ovivo can help you determine the most cost-effective mechanism for your application, without compromising quality or dependability.

## FLOCCULATION AND CLARIFICATION

Combined in a single tank Reactor Clarifier™ solids contact units are designed and built to provide the most economical solution to precipitation and clarification requirements.

The simple design provides for coagulation, flocculation, solids recirculation, clarification and positive sludge removal in a single basin. This eliminates the need for multiple tanks and additional pipework. All units are backed by over 60 years of experience in engineering and manufacturing, ensuring the best fit for your unique plant requirements.

## PRINCIPLES OF OPERATION

Reactor Clarifier™ (Solids Contact Units) combine slow turbine speeds and high volume internal recirculation to promote mixing, flocculation and solids-contact. The recirculation system is designed to promote particle growth and improve the removal of suspended solids. As influent enters the recirculation drum it is pumped upwards by a large diameter slow-speed turbine, where it meets a large volume of dense floc from previously precipitated solids (8 to 12 times the influent flow rate is recirculated to increase solids contact with the new incoming feed).

The resulting effluent is passed under the reaction cone to the clarification zone, with the heaviest particles settling to the floor. These are then raked to the center for recirculation or discharge.

**ON ALL OUR SOLIDS CONTACT MECHANISMS, THE INFLUENT CAN BE INTRODUCED THROUGH SIDE, TOP, OR BOTTOM FEED.**

# KEY FEATURES & BENEFITS

- Large diameter turbines produce high internal recycling rates.
- Slow moving turbine minimizing floc shear.
- High efficiency turbine for reduced energy input and optimized chemical usage.
- Proven designs with hundreds of installations.

# HOW WE CREATE VALUE

- Innovative designs that combines rapid mixing, flocculation and clarification in a single tank for efficiency and land savings.
- Flexible designs to accommodate all types of influent layouts.
- Can operate in either a sludge blanket mode or a standard clarifier mode.
- Adaptable to softening, turbidity, phosphorus removal and more applications.
- Efficient units that reduce operating costs.

## CLARIFIER DRIVE MECHANISMS

Our drives are built with longevity in mind. If fact, some of our drives that are currently in operation have been so for over 50 years!

| APPLICATION (NORMAL TREATMENT OBJECTIVE) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| APPLICATION | SUSPENDED SOLIDS | TURBIDITY | COLOR | CA & MG HARNESS | SILICA | HEAVY METALS | PROPHATE | OIL | NON SOLID BOD & COD |
| Water Softening | x | x | x | x | x | | | | |
| Surface Water | x | x | x | x | x | x | | | |
| Municipal Wastewater | x | | | | x | x | x | x | x |
| Primary Pulp & Paper Wastewater | x | | x | | | | | | x |
| Metal Finishing | | | | | | x | | x | |
| Steel Mill | | | | | | x | | x | |
| Suspended Solids | x | | | x | | | | | x |
| Brine Conditioning | x | | | x | x | | | | |

- **Flowsheet Capabilities:** Ovivo can help you with the equipment of your total flowsheet, ensuring that all your equipment will work together for optimal performance and ease of operation.
- **Experienced Field Service:** Our experienced Field Service Technicians help you save time and money by assisting with the installation and servicing of your equipment—ensuring proper maintenance/installation for optimal performance and long-term reliability.
- **Dual Drive Designs:** Drives used on Reactor Clarifier™ solids contact units are made up of two concentric drives: a rake drive and a turbine drive. This allows for large diameter turbines to be mounted concentrically in the reaction well for symmetrical mixing and flocculation.
- **Drive Control:** An integral electro-mechanical drive control unit is provided on every rake drive unit. The control mechanism is unaffected by temperature or other ambient conditions and gives a clear indication of operating loads from a weatherproof enclosure built to NEMA 4X standards. Remote torque indication is also available.

**HRC TYPE REACTOR CLARIFIER™ SOLIDS CONTACT UNIT INSTALLED IN THAILAND**

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