

Headworks Packaged System H-PAC®



Self-contained Preliminary
Treatment System



Cleaner Water for a Brighter Future®



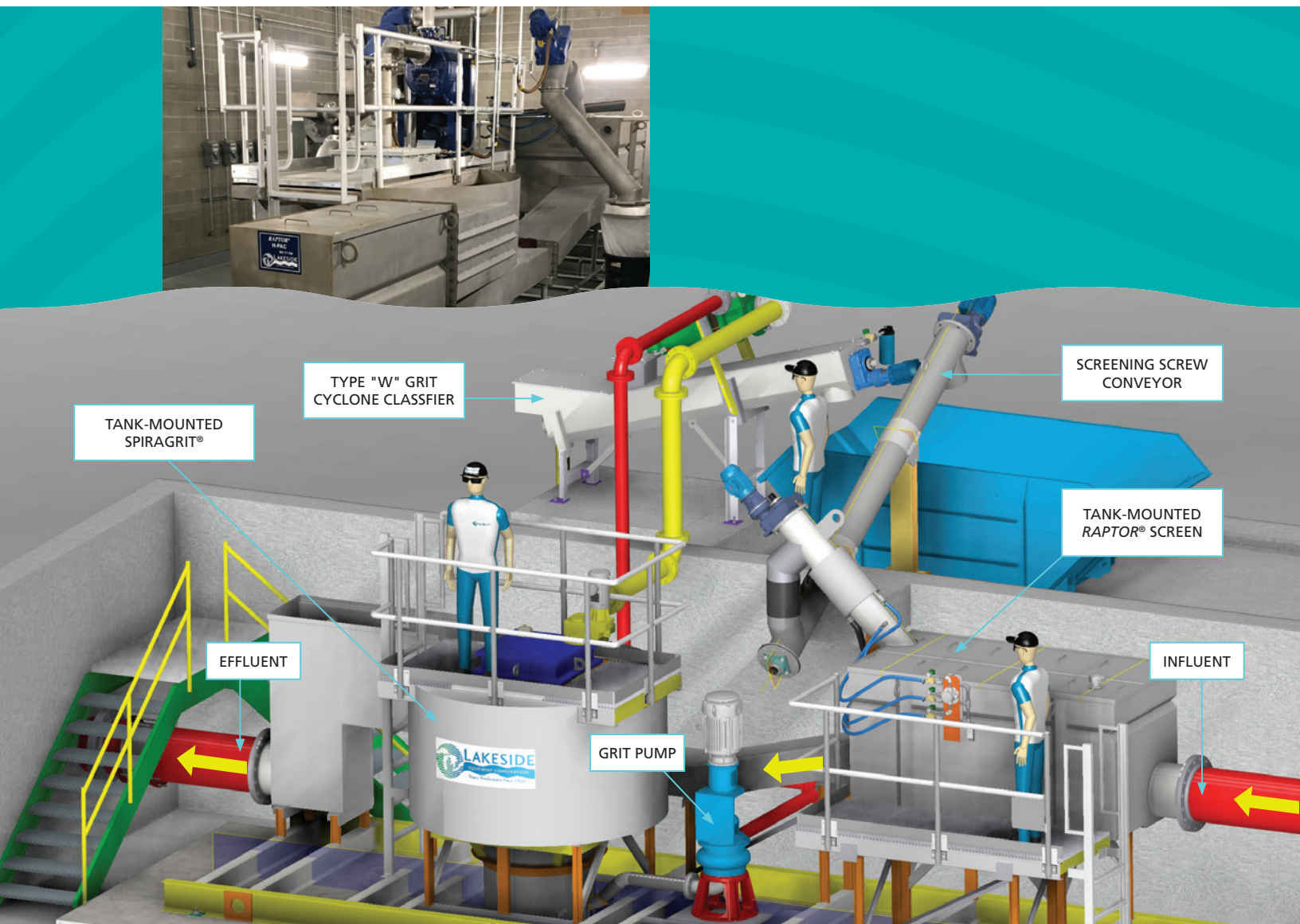
Headworks Packaged System – H-PAC®

The Lakeside H-PAC® combines the Lakeside *Raptor*® Screen product line with the Lakeside SpiraGrit® Vortex Grit Removal System into a pre-engineered headworks system. As a self-contained system, the H-PAC screening and grit removal equipment is supplied in fabricated stainless steel tanks that can be installed above or below ground. Its compact design uses less space and costs less than other packaged screen/aerated grit systems. The H-PAC is available in sizes up to 12.0 mgd in a variety of custom pre-engineered configurations.

H-PAC® Advantages

- **Reduced engineering costs** – H-PAC is pre-engineered by the Lakeside design staff.
- **Integrated design saves money** – eliminates expensive concrete forming, extra piping, valves, isolation gates, and other accessories associated with conventional screening and separate grit removal processes.
- **Reduced operating costs** – especially applicable in cold, northern climates because its small footprint reduces total building volume of fresh air to be exchanged and space to be heated.
- **Reduced construction costs** – the integrated system is normally built above ground, minimizing excavation and area required for a building structure.
- **Low headloss** – saves on pumping costs.
- **All stainless steel construction** – offers superior corrosion resistance.
- **Easy access for maintenance** – all components of the screen, grit chamber, and supporting equipment can be accessed and maintained without having to enter the inside of the tank. Access platforms are available.

H-PAC®



Raptor® Screening Options

Lakeside offers innovative screening solutions and proven technology to serve various H-PAC applications. Our line of *Raptor®* Screening products can serve large and small treatment plants, exceeding expectations of operators and engineers worldwide. Tank-mounted *Raptor* Screens efficiently screen, transport, wash, and compact screenings in a single unit reducing the volume by 50% and the weight by 67% percent, ultimately lowering disposal costs.

Tank-mounted *Raptor®* Screens include:

- ***Raptor®* Fine Screen** – equipped with a heavy-duty cylindrical screen basket with 1/4-inch bar spacings and a rotating, full-penetration rake assembly.
- ***Raptor®* Micro Strainer Screen** – equipped with a semi-cylindrical basket with 1/8-inch (3 mm) to 1/4-inch (6 mm) perforations and a spiral screw with cleaning brush that is perfect for low flow installations up to 3.50 mgd.
- ***Raptor®* Rotating Drum Screen (RDS)** – equipped with a rotating drum basket with wedge wire spacings of 0.010-inch (0.25 mm) to 0.120-inch (3 mm) or perforated plate with opening diameters of 0.080-inch (2 mm) to 0.250-inch (6 mm) the *Raptor®* Rotating Drum Screen is perfect for finer solids removal required in membrane bio-reactor (MBR) applications.

Raptor® Fine Screen

Raptor® Micro Strainer
Screen

Raptor® Rotating
Drum Screen

Raptor® Multi-Rake
Bar Screen

Raptor® FalconRake®
Bar Screen



Standard Screens

The *Raptor®* Multi-Rake Bar Screen, *Raptor®* FalconRake® Bar Screen, and *Raptor®* Rotary Strainer Screen with the *Raptor®* Wash Press are also available for use with the H-PAC®.

A single mechanical screen or dual mechanical screen with Wash Press design can be provided. An automatic overflow can also be added to a manually-raked bypass bar rack for any application.

Raptor® Rotary
Strainer Screen



SpiraGrit® Grit Removal System

The tank-mounted SpiraGrit is offered with the same state-of-the-art design features as the standard design that is typically mounted in concrete tankage.

The SpiraGrit is a vortex grit removal system that relies on a mechanically induced vortex to capture grit solids in the flat bottom. It operates efficiently over a wide range of daily flow rates. This is achieved by rotating paddles that maintain the flow velocity inside the grit chamber. The SpiraGrit is offered in sizes to handle peak flows ranging up to 12.0 mgd for the H-PAC. The tank-mounted SpiraGrit is offered with a 270-degree or a 360-degree configuration.

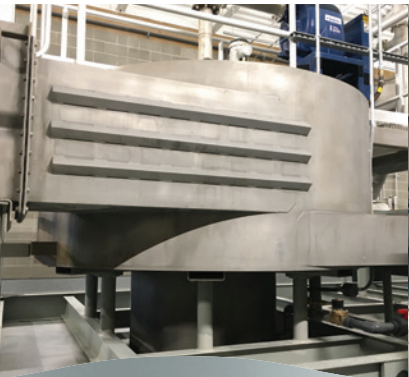
SpiraGrit® features and benefits:

- **Compact design** available in either a 270-degree or 360-degree inlet/outlet configuration requires significantly less space
- **High removal efficiency** throughout the design flow range
- **Low headloss** through the unit
- **Simultaneous grit separation and dewatering** for cleaner grit
- **No submerged bearing or parts** reduces maintenance
- **All-stainless steel construction** for superior corrosion resistance

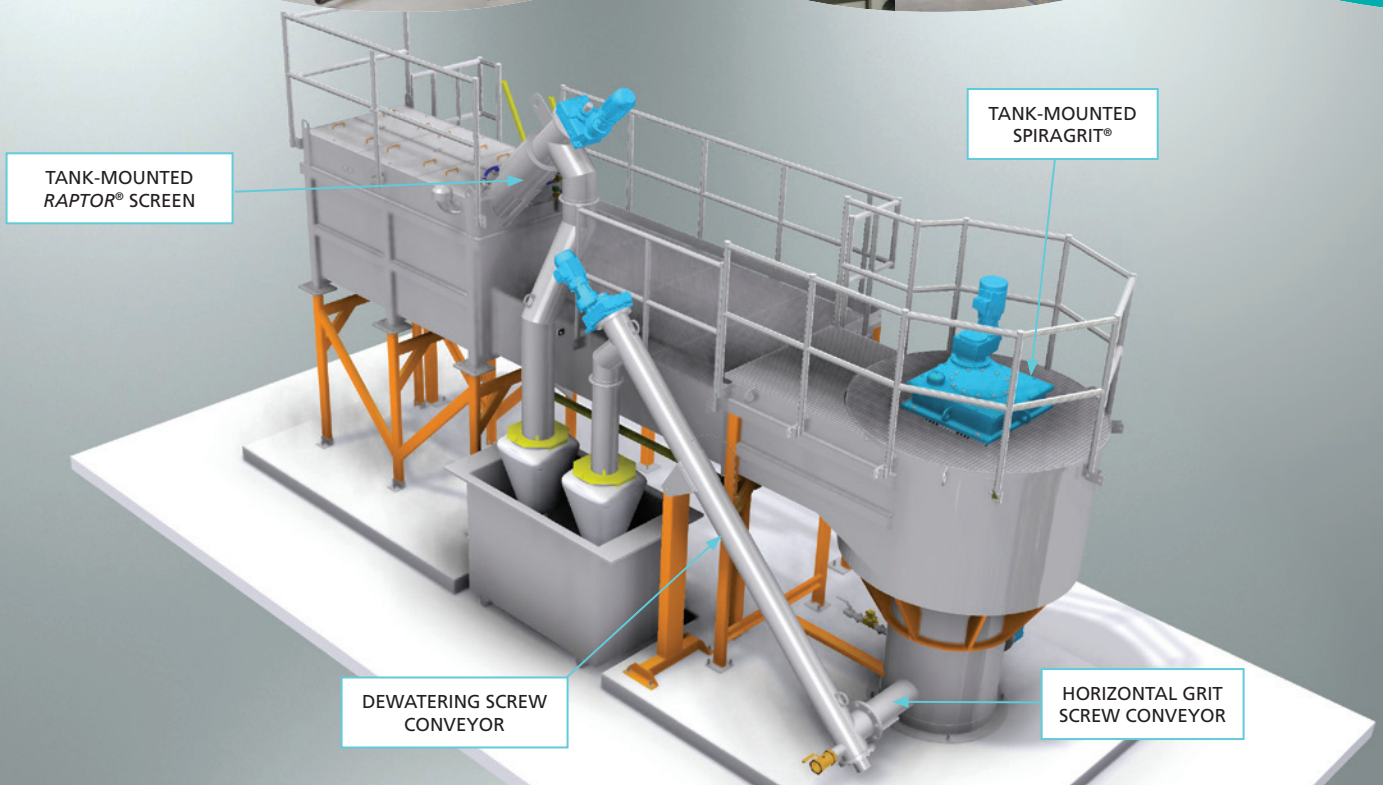
270-Degree SpiraGrit®



360-Degree SpiraGrit®



Horizontal and Grit Dewatering Screws



Grit Pumps and Classifiers

Grit that is captured in the H-PAC can be pumped with an airlift pump, self-priming grit pump, or dry-pit vortex pump to a Type "L" Grit Classifier, Type "W" Grit Cyclone-Classifier, or a *Raptor*® Grit Washer.

In lieu of a grit pump and grit classification, the SpiraGrit can be provided with a horizontal grit screw and a grit dewatering screw as shown in the graphic. The horizontal grit screw conveyor removes captured grit from the SpiraGrit grit storage hopper and conveys it to the grit dewatering screw conveyor.

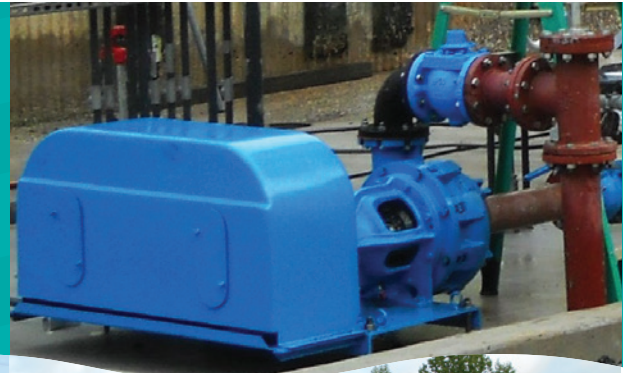


Raptor® Grit Washer

Airlift Pump

Self-Priming Pump

Dry Pit Vortex Pump



Type "L" Grit Classifier



Type "W" Grit Cyclone-Classifier

Treatment equipment and process solutions from Lakeside Equipment Corporation

Lakeside offers a wide range of equipment and systems for virtually all stages of wastewater treatment from influent through final discharge. Each process and equipment item that we supply is manufactured with one goal: to reliably improve the quality of our water resources in the most cost-effective way. We have been doing just that since 1928.

Screw Pumps

- Open Screw Pumps
- Enclosed Screw Pumps

Raptor® Screening

- Fine Screen
- Micro Strainer
- Rotating Drum Screen
- Septage Acceptance Plant
- Septage Complete Plant
- Complete Plant
- Multi-Rake Bar Screen
- FalconRake® Bar Screen
- Rotary Strainer Screen
- Wash Press

Trash and Screen Rakes

- Hydronic T Series
- Monorail Series
- HY-TEC Screen

Grit Collection

- SpiraGrit® Vortex Grit Removal System
- Aeroductor Grit Removal System
- In-Line Grit Collector
- Raptor® Grit Washer
- Grit Classifier
- H-PAC®

Clarification

- Spiraflo Clarifier
- Spiravac Clarifier
- Full Surface Skimming

Biological Treatment

- CLR Process
- Magna Rotor Aerators & Accessories
- Sequencing Batch Reactors
- Continuous Flow Sequencing Batch Reactors
- Package Treatment Plants
- Submersible Mixers & Recirculation Pumps

Hauled Waste Receiving Systems

- Raptor® Septage Acceptance Plant
- Raptor® Septage Complete Plant
- Raptor® FOG Acceptance Plant

Package Headworks Systems

- Raptor® Complete Plant
- H-PAC®

Biological Treatment Systems

- CLR Process
- E.A. Aerotor Plant
- Sequencing Batch Reactors
- Continuous Flow Sequencing Batch Reactors



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