LAKESIDE SCREW PUMPS


Cleaner Water for a Brighter Future®
Proven Design, Decades of Experience

For nearly 50 years, engineers have relied on Lakeside Screw Pumps for proven design, trouble-free operation, and the flexibility provided by both open and enclosed design. Lakeside Screw Pumps efficiently lift large quantities of water or wastewater at low heads and meet the needs of a variety of applications ranging from return activated sludge to storm water pumping.

Advantages of Lakeside Screw Pumps

Lakeside Screw Pumps provide greater freedom from clogging, higher operating efficiencies over a greater range, and variable pumping capacity while operating at a constant speed. Fabricated in the U.S.A.

- Screw pumps are 70% efficient over most of their operating range reducing cost of electric power
- Slow constant operating speeds reduce maintenance and upkeep
- Installation method eliminates need for wet well and reduces head
- Enables large objects to pass between the screw flights and through the screw pump to avoid prescreening
- Variable capacity without the need for special controls lowers initial cost

Shaft Mount Drive

High Volume Capacity
Flexibility and Choice

Lakeside Screw Pumps Fit a Variety of Applications

- Wastewater plant lift stations
- Return activated sludge
- Storm water pumping
- Effluent pumping
- Industrial applications

Choosing a Screw Pump That Perfectly Fits Your Unique Needs

Because of the numerous styles and distinct advantages of each type of screw pump, your choice should be based on the specific application. The right screw pump for your application will be based upon the following:

- **Capacity:** The capacity of a screw pump is a function of the screw diameter, speed, number and pitch of flights on the torque tube, angle, level of liquid in the influent chamber, ratio of torque tube to outside diameter, and clearance between screw flights and trough.

- **Speed:** Maximum speed is calculated as the highest rev/min at which liquid will not overflow into the next lower chamber. If screw speed is too high or low, the result is lower efficiency and wasted energy.

- **Inclination:** The correct angle of inclination will satisfy both the required lift and capacity of the specific application. Inclinations of 30 and 38 degrees are typical, with other angles possible when necessary to achieve a specific combination of lift and capacity.

- **Number of Flights:** Output capacity increases approximately 25% for each added flight. Choosing single, double, or triple flight will ensure you get the greatest capacity in the least amount of space.

- **Motor Horsepower:** Both the required lift and capacity of the application will impact the motor selection. Lift is the vertical distance from the filling point to the delivery point. Capacity is the peak flow that must be handled by the pump.
Only Lakeside manufactures 3 types of screw pumps, each with unique features to meet your specific needs.

**Open Screw Pumps**
Consisting of the spiral screw, upper and lower bearings and a drive arrangement, the open screw design uses a tube and spiral flights set in an open, inclined trough that permits both simplicity and reliability.

**Enclosed Screw Pumps**
Utilizing the same operating principles as open screw pumps, enclosed screw pumps are encased within a tube rather than an open trough and use either rotating or stationary outer tubes inclined at up to 45°, allowing the shortest horizontal space required for a given lift. The Type C screw pump has two flights welded to the inside of the rotating outer tube. The lower bearing is mounted above the water level.

The Type S enclosed screw pump is an open pump operating inside a stationary outer tube. The top of the stationary tube may be fixed or mounted on a pivot to allow raising the lower end to vary the flow rate or perform service.
**Bearing Assembly**

- **Upper Bearing Assembly:** Open and enclosed screw pumps use the same type of upper bearing. The split housing is fitted with dual bearings and seals, allowing access to the bearings. One bearing carries the thrust from the pump; the other carries radial loads. Both self-align in any plane. The upper shaft is held into the bearing housing by a unique split collar and locking halter design. The split outer housing allows easy internal inspection and access to the bearings.

- **Lower Bearing Assembly:** Lower bearings for the open and Type S enclosed pumps use a unique sleeve bearing on a rocker base assembly that is automatically and continuously greased when the pump operates. Lower bearings for the Type C enclosed pumps consist of self-adjusting cradle mounted roller assemblies that support a forged, hardened ring mounted to the outer rotating tube. Both lower bearing designs compensate for expansion and contraction due to temperature fluctuations to maintain alignment as pump deflection changes and ensure uniform distribution of radial load.

**Drive**

The V-belt drive connects the motor to the speed reducer, acting as a shock absorber to protect from possible shock loads as well as provide for easy speed changes in the field. The constant speed drives eliminate the need for complex, variable speed electrical controls.

*Lakeside engineers are always available to help you make the right decision, making sure you get the highest value and performance from your investment.*
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
- Wash Press

**Screen and Trash Rakes**
- Hydronic T Series
- Hydronic K Series
- Hydronic Multifunctional Series
- Hydronic H Series
- Catronic Series
- Monorail Series
- HY-TEC Screen
- CO-TEC Screen
- RO-TEC Screen

**Grit Collection**
- SpiraGrit
- Aerductor
- In-Line Grit Collector
- Raptor® Grit Washer
- Grit Classifier
- H-PAC®

**Clarification and Filtration**
- Spiraflo Clarifier
- Spiravac Clarifier
- Full Surface Skimming
- MicroStar® Filter

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

**Hauled Waste Receiving Systems**
- Raptor® Septage Acceptance Plant
- Raptor® Septage Complete Plant

**Package Headworks Systems**
- Raptor® Complete Plant
- H-PAC®

**Biological Treatment Systems**
- CLR Process
- Package Treatment Plants
- Sequencing Batch Reactors

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