JCX Filtration Systems

Packaged Separator Systems for Cooling Tower Basins and Remote Sumps In Industrial Environments
Designed to remove solids efficiently from industrial cooling water

Eliminate Manual Basin Cleaning!

Energy Efficient, Environmentally Friendly Designs

- Save energy by maintaining entire system efficiency
- Eliminate the need for manual basin cleaning
- Minimize maintenance & downtime
- Virtually eliminate underdeposit corrosion
- Minimize water loss
- Optimize the effectiveness of water treatment programs
- Extend equipment life

Flow Range:
100-1200 U.S. gpm* (23-273 m³/hr)

Standard Pressure Rating:
150 psi (10.34 bar) on JCX Systems

*Contact LAKOS for higher flow rate options from 1200 - 12750 gpm (273 - 2896 m³/h)

JCX Series
with accessible separators

Automated Ball Valve
(Solids Recovery Vessel also available)

Pump
Since active and directed circulation of basin/sump liquids is required for effective solids removal, model selection for the JCX system is based upon the size of the basin or remote sump. This is best determined with these calculations:

**For Packaged JCX Systems**

\[
\text{Flow Rate} = \frac{\text{Length of Basin (feet/meters)}}{X} \times \frac{\text{Width of Basin (feet/meters)}}{X}
\]

1 gpm/ft\(^2\) or 2.44 m\(^3\)/hr/m\(^2\)

2 gpm/ft\(^2\) or 3.66 m\(^3\)/hr/m\(^2\)

**For Remote Sumps With Water Depth Greater Than 3ft/1m**

\[
\text{Flow Rate} = \frac{\text{Length of Basin (feet/meters)}}{X} \times \frac{\text{Width of Basin (feet/meters)}}{X}
\]

1.5 gpm/ft\(^2\) or 3.66 m\(^3\)/hr/m\(^2\)

After determining the required flow rate, refer to the Max Basin Size column in the Performance section on the next page. Select the model that has an equal or next to larger flow rate. For flow rates larger than those shown, two or more systems are needed or a custom system must be configured. Please consult the factory.

**NOTE:** Standard pumps will not lift water. Flooded suction required.

**Edutors Keep Solids From Settling**

LAKOS Tank-Sweeping Edutors keep unwanted solids from settling in a sump. Designed to provide a venturi action, they accelerate the input flow rate to sweep solids toward the desired pump intake for LAKOS separation and recirculation.

**NOTE:** A recommended minimum water depth of 6 inches or 150 mm above centerline is required when using edutors. Consult LAKOS for additional options.

**EBX – Side Stream Option**

For side stream applications, ask us about our EBX Systems.

**LAKOS Eductors**

Direct solids to JCX System

Contaminants are directed to the JCX System

Filtered water flows to LAKOS Edutors

Filtered water to chillers/heat exchangers

LAKOS JCX System removes and collects the solids or sends to drain via automatic valve

**A LAKOS Eductor**

(TSE-0037-K is shown)

**Flow rates shown above are based on an input pressure of 20 psi (1.4 bar).**

TSE-K models are constructed using polypropylene plastic; TSE-B models are constructed using cast iron. See LAKOS literature LS-633 for more information.
OUTLET
Fluid enters through INLET

1. Fluid enters through INLET
2. Internal Swirlex Tangential Slots accelerate liquid flow and solids
3. Solids heavier than water are moved to the outer wall of the Separation Barrel via centrifugal action
4. Solids are separated from the main water stream when they hit the gap between the Separation Barrel and the Vortex Deflector Plate and are spun out and into the Collection Chamber.
5. Free of solids, remaining fluid spirals up by force of the Vortex up to the Outlet

LAKOS Separators: How It Works

- No moving parts to wear out
- No screens, cartridges, cones or filter elements to clean or replace
- No backwashing
- No standby equipment needs
- Low and steady pressure loss
- Easily automated
- Compact, space-saving profiles
- Effective solids concentration for easy disposal/recovery
- No routine maintenance or downtime requirements (Automatic Ball Valve version)
- Little or no liquid loss (Solids Recovery Vessel versions)
LAKOS is the recognized leader in solids removal from liquids in the Heat Transfer Industry. With the most complete line of filtration, including separators, media and cartridge filtration, LAKOS can provide you with the best filtration solutions to your fouling problems. Choose LAKOS for customized solutions to your filtration needs.

Lakos Separators are manufactured and sold under one or more of the following U.S. Patents: 5,320,747; 5,368,735; 5,425,876; 5,571,416; 5,578,203; 5,622,545; 5,653,874; 5,894,995; 6,090,276; 6,143,175; 6,167,960; 6,202,543; 7,000,782; 7,032,760 and corresponding foreign patents, other U.S. and foreign patents pending.

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