

# JCX Filtration Systems

**Packaged Separator Systems for Cooling Tower Basins and Remote Sumps In Industrial Environments**

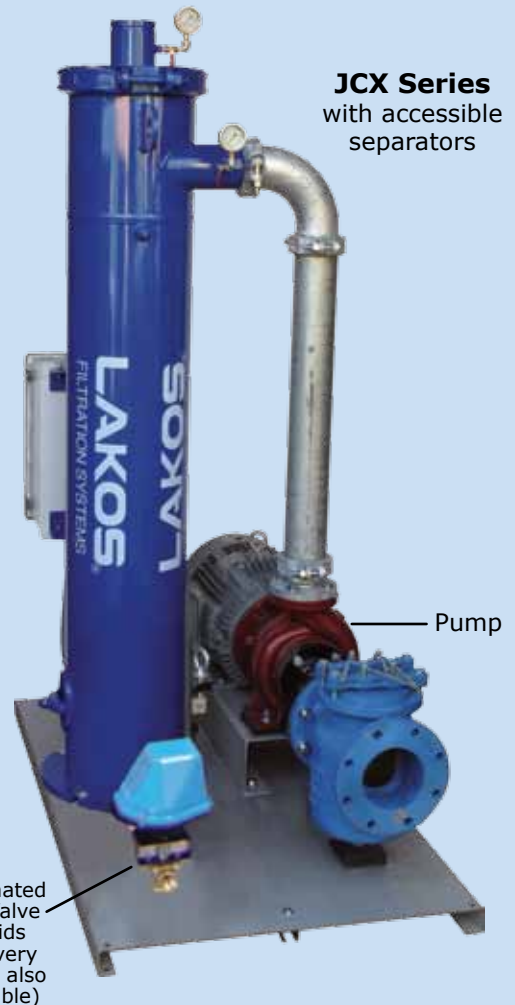
*Designed to remove solids efficiently from industrial cooling water*

## 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

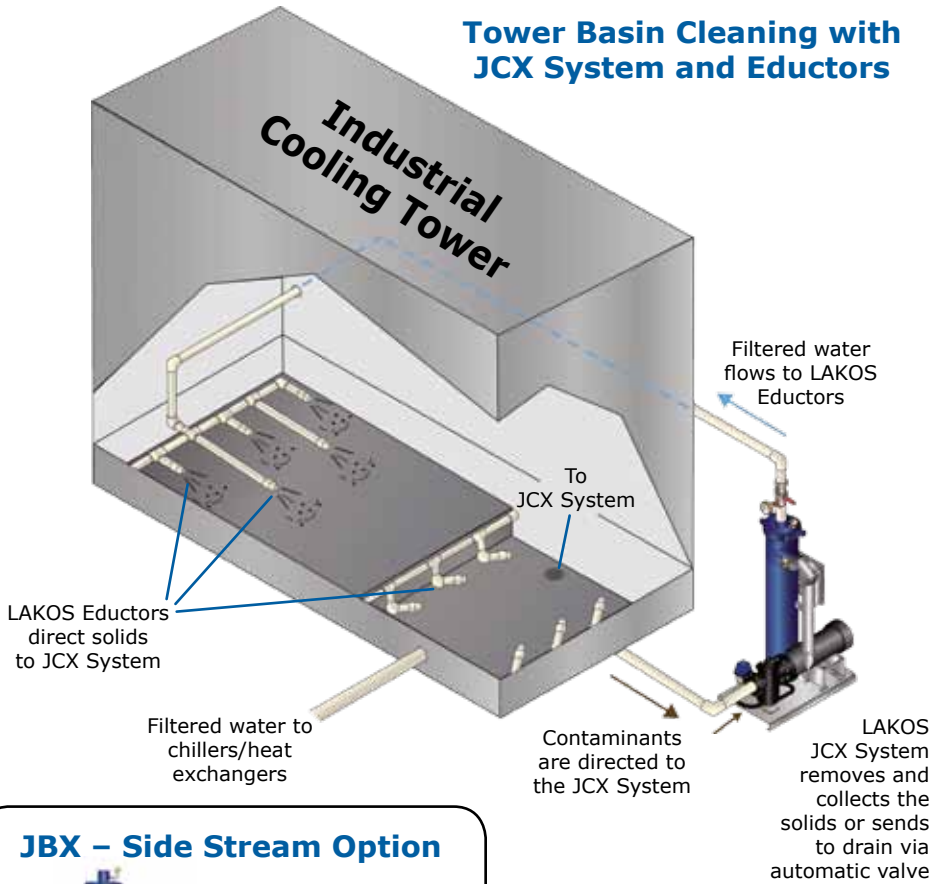


**Flow Range:**  
100-1200 U.S. gpm\* (23-273 m<sup>3</sup>/hr)  
**Standard Pressure Rating:**  
150 psi (10.34 bar) on JCX Systems

\*Contact LAKOS for higher flow rate options from 1200 - 12750 gpm (273 - 2896 m<sup>3</sup>/h)

## Typical Installations

### Tower Basin Cleaning with JCX System and Eductors



### JBX – Side Stream Option



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

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

### Model Selection

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

$$\text{Flow Rate} = \frac{\text{Length of Basin (feet/meters)}}{\text{Width of Basin (feet/meters)}} \times \frac{\text{1 gpm/ft}^2 \text{ or } 2.44 \text{ m}^3/\text{hr/m}^2}$$

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

$$\text{Flow Rate} = \frac{\text{Length of Basin (feet/meters)}}{\text{Width of Basin (feet/meters)}} \times \frac{\text{1.5 gpm/ft}^2 \text{ or } 3.66 \text{ m}^3/\text{hr/m}^2}$$

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. For every additional 3ft/.9m in depth, add a flow increase of 0.5 gpm/ft<sup>2</sup>/1.2 m<sup>3</sup>/hr/m<sup>2</sup> to the multiplying factor.

\*\*Please confirm system selection with factory.

## Eductors Keep Solids From Settling

LAKOS Tank-Sweeping Eductors 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 center-line is required when using eductors. Consult LAKOS for additional options.

Model	Connection Size	Flow Input		Effective Output	
		US gpm	m <sup>3</sup> /hr	US gpm	m <sup>3</sup> /hr
TSE-0037-K	3/8-in male NPT	10	2.3	50	11.4
TSE-0075-K	3/4-in male NPT	20	4.5	95	21.6
TSE-0150-K	1-1/2-in male NPT	50	11.4	235	53.3
TSE-0037-B	3/8-in male NPT	10	2.3	40	9.1
TSE-0075-B	3/4-in male NPT	20	4.5	80	18.2
TSE-0150-B	1-1/2-in male NPT	50	11.4	200	45.4

**NOTE:** 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.



**A LAKOS Eductor**  
(TSE-0037-K is shown)

# General Specifications

## Performance

JCX Model	Separator Model	Flow US gpm	Flow m <sup>3</sup> /hr	Max. Basin Size (sq ft)	Inlet (flanged)	Outlet (grooved)	Inlet Piping to Use*	JCX Weight Empty		60hz				50hz		
										Full Load Amperage				Full Load Amperage		
										Pump HP	230V	460V	575V	Pump HP	380V	415V
JCX-0100-SRV or ABV	JPX-0060	100	23	100	3"	2"	3"	1367	620	7.5	22	11	9	7.5	13.3	12.2
JCX-0145-SRV or ABV	JPX-0085	145	33	145	3"	2 1/2"	4"	1425	646	7.5	22	11	9	10	17.0	15.6
JCX-0225-SRV or ABV	JPX-0130	225	51	225	4"	3"	4"	1602	727	15	42	21	17	10	17.0	15.6
JCX-0325-SRV or ABV	JPX-0200	325	74	325	4"	4"	6"	1780	807	15	42	21	17	15	25.4	23.3
JCX-0525-SRV or ABV	JPX-0285	525	119	525	6"	4"	8"	1929	875	20	54	27	22	20	32.8	30
JCX-0825-SRV or ABV	JPX-0450	825	187	825	8"	6"	8"	2790	1266	30	80	40	32	30	48.5	44.4
JCX-1200-SRV or ABV	JPX-0650	1200	273	1200	8"	6"	8"	2943	1335	50	130	65	52	50	78.7	72.1

\*LAKOS recommended inlet pipe size

Weights and dimensions are for reference only – do not pre-plumb.

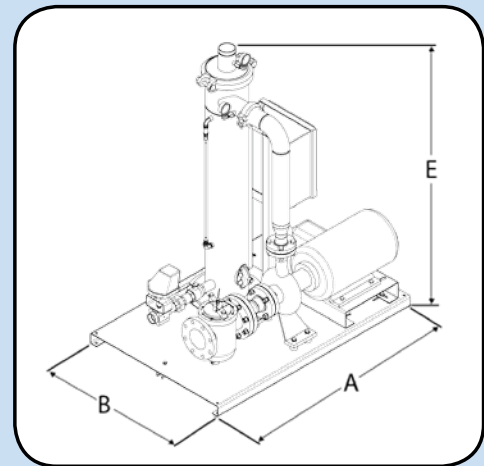
Consult with LAKOS for larger flow rates.

## Dimensions

JCX Model	Dim A		Dim B		Dim E	
	inches	mm	inches	mm	inches	mm
JCX-0100-SRV or ABV	43	1092	32	813	50.1	1275
JCX-0145-SRV or ABV	48	1219	32	813	58.2	1480
JCX-0225-SRV or ABV	54	1372	36	914	62.2	1581
JCX-0325-SRV or ABV	54	1372	36	914	76.6	1948
JCX-0525-SRV or ABV	54	1372	36	914	82.7	2102
JCX-0825-SRV or ABV	75.8	1926	40	1016	69.7	1772
JCX-1200-SRV or ABV	83.8	2130	40	1016	78.1	1984

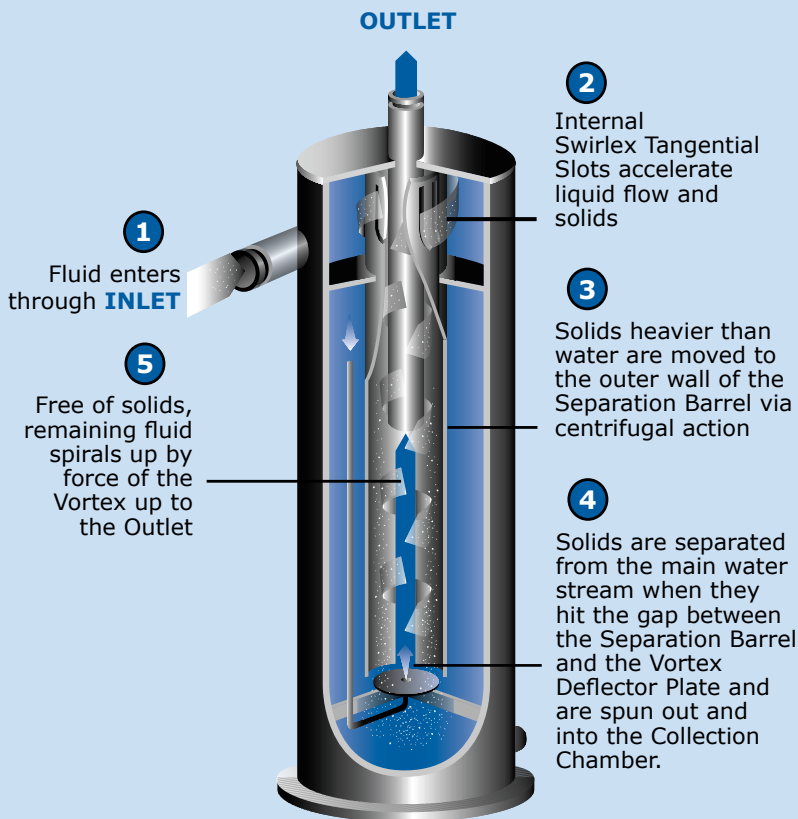
More detailed CAD drawings are available upon request.

## JCX System



## LAKOS Separators: How It Works

## Key Features and Benefits



- 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)

# JCX Systems

## Standard System Components

- LAKOS JPX Separator (multiple configurations)
- Centrifugal pump w/silicon carbide/Viton® seals, rated for 100 ft. TDH (nominal)
- Basket strainer
- LAKOS Solids Recovery Vessel (SRV) with Indicator Package (SRI) or Automatic Ball Valve (ABV)
- Dry Electrical Contact (DEC) for Solids Recovery Vessel
- Run light and "SRV Full" lights on control panel
- Inlet/Outlet pressure gauges
- Fully assembled on a skid
- All interconnecting piping and valves
- UL Listed/NEMA 4X motor starter and controls
- Premium efficiency motor
- Maximum temperature up to 100°F (37.8°C)

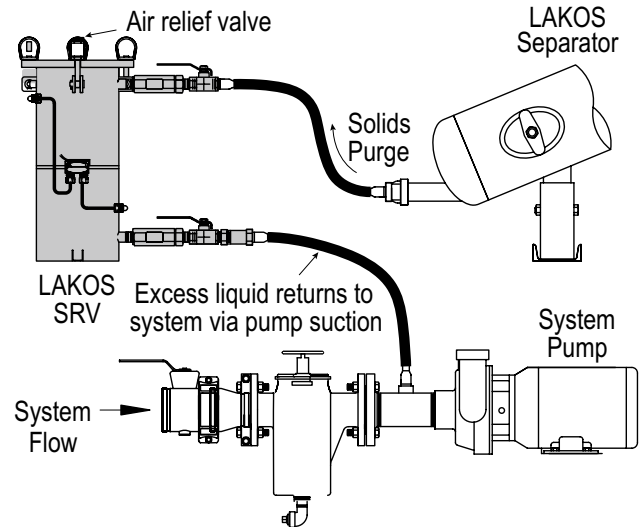
Viton® is a registered trademark of DuPont

## Optional System Components

- Inlet/Outlet valve kit (required for proper installation)
- Flanged outlet
- PLC (programmable logic controller)
- Solids collection options
- Higher pressures and flow rates available
- Maximum temperature up to 122°F (50°C)

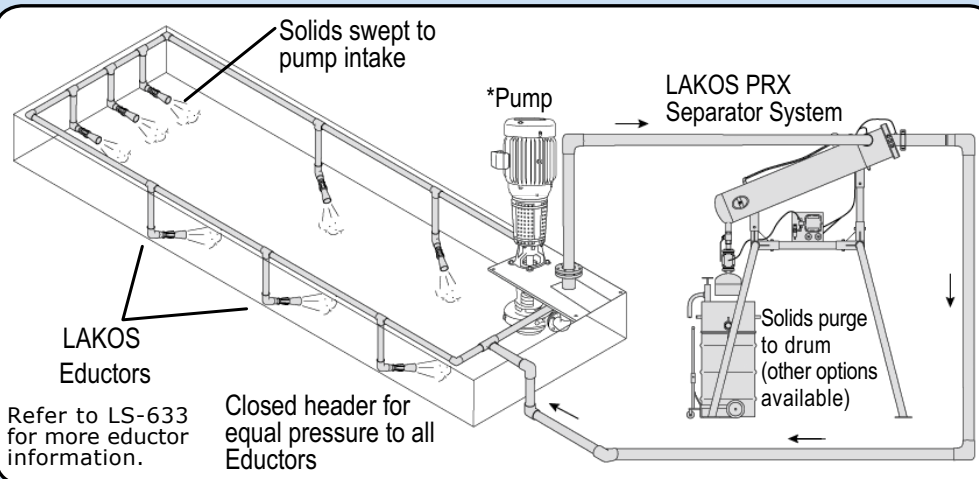
## Solids Recovery Vessel (SRV)

Shown with excess purged (clean) liquid return to system via pump suction



Separated solids are purged at a continuous rate directly into a solids recovery vessel, which is integrally equipped with a solids collection bag in a stainless steel basket.

## For Installations That Require Heavier Solids Load Handling



\*Pump shown is not supplied by LAKOS. For more information about pumps and our PRX Systems, please refer to PRX brochure LS-635 or consult with LAKOS.



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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.

LS-730A (Rev. 3/16)