

# High performance liquid-solids separation systems



Exclusive internal acceleration creates maximum performance to achieve maximum protection of fluid handling systems from unwanted solids (see illustration inside for details). Its advanced & patented design, building upon the performance LAKOS is known for, now also removes 50% more of the finer solids (< 40 microns), resulting in higher aggregate solids removal. Independently tested. Proven superior for today's demanding filtration requirements. For settleable solids only.

Trouble-free operation & advanced purging/solids-handling concepts keep fluids clean and concentrate separated solids

No screens or filter elements to clean or replace; no messy servicing routines

No backwashing; zero fluid loss options

Low & steady pressure loss

Choice of profiles to accommodate space/piping limitations

Rigid couplings for fast and easy internal access

Swirlex™ internal accelerating slots for optimum solids-removal performance; patented

Vortube™ for enhanced solids separation/collection; patented

Optional solids handling package without liquid loss or excessive piping

Grooved inlet/outlet connections for easy installation

In-line inlet/outlet configuration for simplified piping (low-profile models only)

Unishell construction for easy installation

Optional material construction & ASME code



Flow range:  
16 - 12,750 U.S. gpm  
(4 - 2895 m<sup>3</sup>/hr) per unit

Maximum standard pressure rating:  
150 psi (10.3 bar)

Maximum fluid operating temperature:  
180°F (82°C)

See also eHTX Separators for Higher Energy Efficiency. See Literature LS-924 for details.



How-it-Works Illustration

Model Specifications

Installation & Operating Instructions

Maintenance & Purging

Engineering Specifications

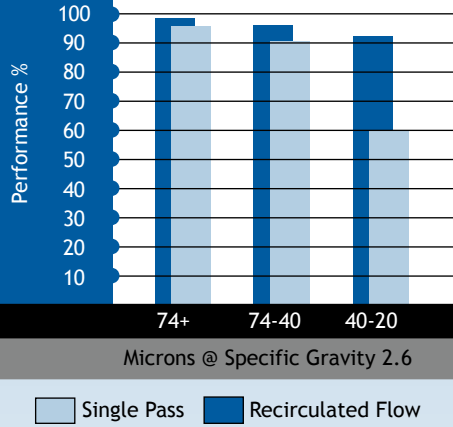


LAKOS is a proud member of ASHRAE, BOMA and the U.S. Green Building Council

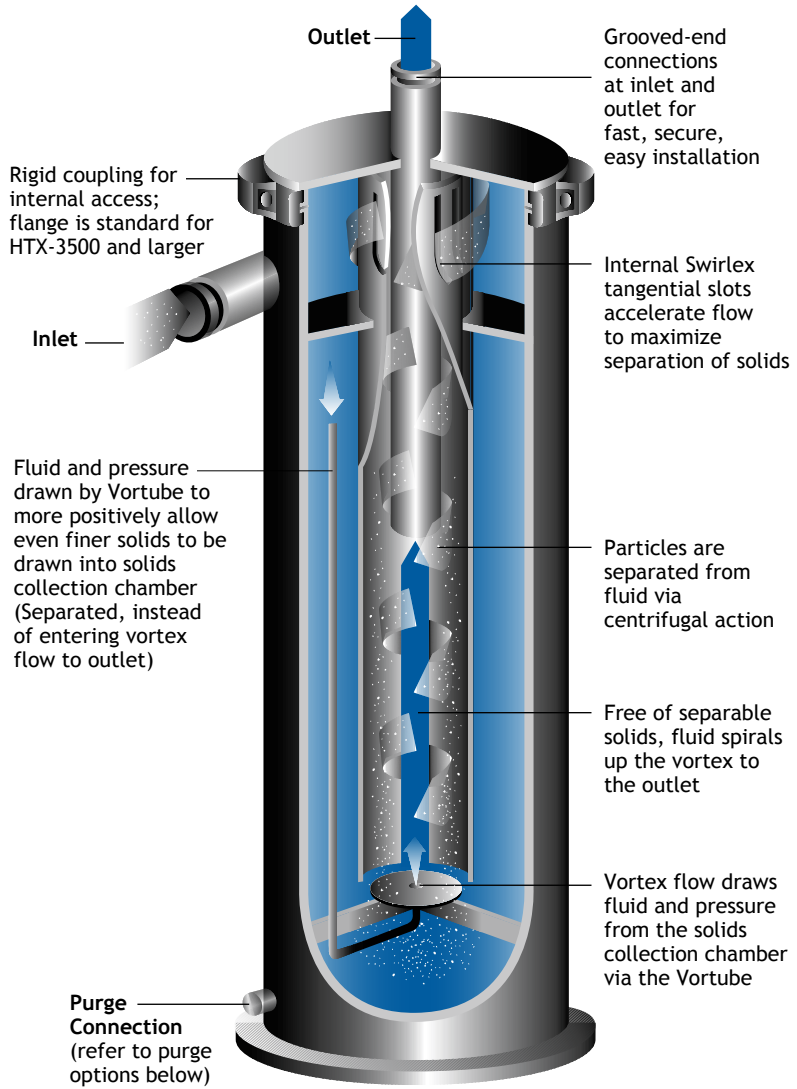
**LAKOS**  
Separators and Filtration Solutions

## How It Works

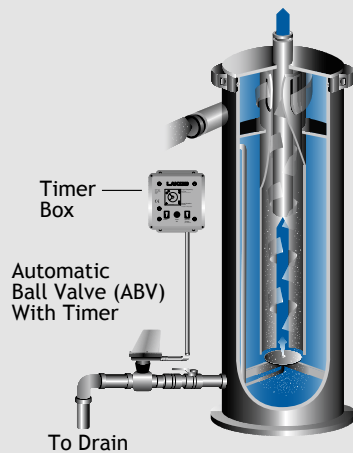
### Solids Removal Chart



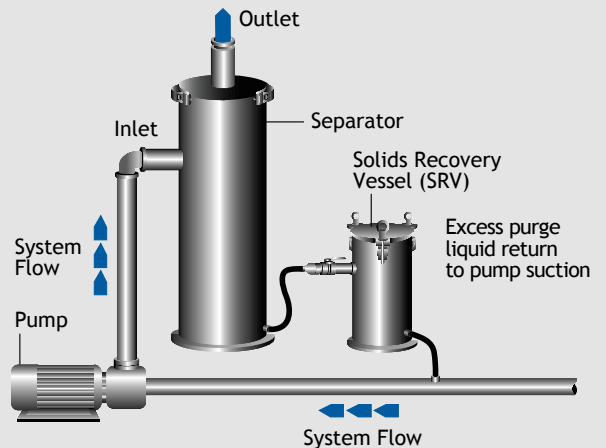
For improved energy efficiency and lower pressure loss, refer to eHTX Separators. See literature LS-924.



### ABV Purge Option



### SRV Purge Option



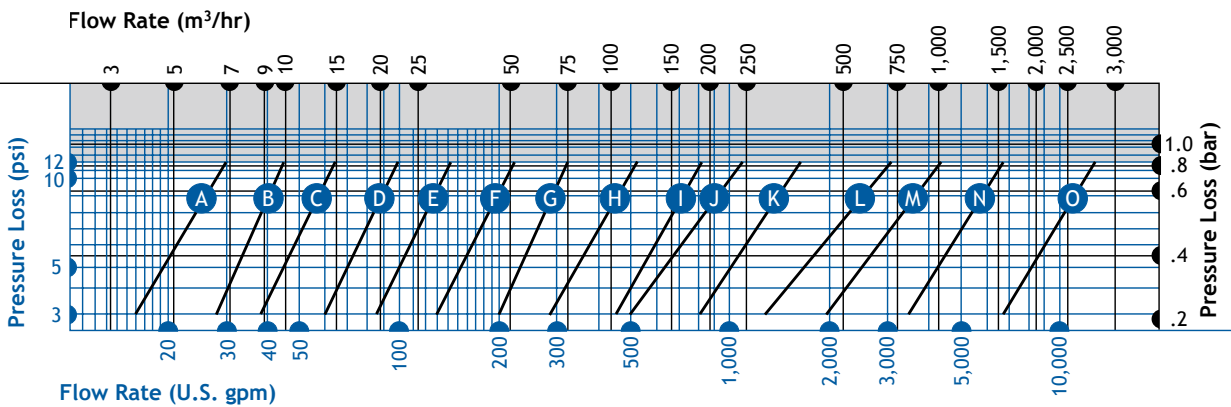
Lakos Separators are manufactured and sold under one or more of the following U.S. Patents: 5,320,747; 5,338,341; 5,368,735; 5,425,876; 5,571,416; 5,578,203; 5,622,545; 5,653,874; 5,894,995; 6,090,276; 6,143,175; 6,167,960; 6,202,543; 7,000,782; 7,032,760 and corresponding foreign patents, other U.S. and foreign patents pending.

# Specifications

Model*	Flow Range		Inlet/Outlet Grooved Coupling**	Purge Size Male N.P.T.	Collection Chamber Capacity		Weight		Weight with Water	
	U.S. gpm	m <sup>3</sup> /hr			gal	liters	lbs	kg	lbs	kg
HTX-0016	16-30	4-7	1"	3/4"	0.2	0.8	45	20	57	26
HTX-0028	28-45	7-10	1-1/4"	3/4"	0.5	1.8	69	31	89	40
HTX-0038	38-65	9-15	1-1/2"	3/4"	0.7	2.8	92	42	124	56
HTX-0060	60-100	14-23	2"	3/4"	1.4	5.4	160	73	233	106
HTX-0085	85-145	19-33	2-1/2"	3/4"	1.4	5.4	202	92	295	134
HTX-0130	130-225	30-51	3"	3/4"	1.5	5.6	214	97	302	137
HTX-0200-L	200-325	45-74	4"	3/4"	1.0	3.8	408	185	595	270
HTX-0200-V					2.6	9.8	381	173	568	258
HTX-0285-L	285-525	65-120	4"	1-1/2"	2.1	7.9	476	216	751	340
HTX-0285-V					5.4	20.5	420	191	659	299
HTX-0450-L	450-825	102-187	6"	1-1/2"	2.8	10.6	634	288	1048	476
HTX-0450-V					6.7	25.4	593	269	962	436
HTX-0500-L	500-1100	114-250	6"	1-1/2"	2.8	10.6	642	291	1056	479
HTX-0500-V					6.7	25.4	600	272	969	439
HTX-0810-L	810-1670	184-379	8"	1-1/2"	6.2	23.5	760	345	1532	695
HTX-0810-V					12.5	47.3	786	357	1423	645
HTX-1275-L	1275-3100	290-704	10"	2"	11.5	43.5	1064	483	2563	1163
HTX-1275-V					24.0	90.8	1092	495	2478	1124
HTX-1950-L	1950-4350	443-988	12"	2"	15.0	56.8	1351	613	3345	1517
HTX-1950-V					31.5	119.2	1312	595	3163	1435
HTX-3500-L	3500-6800	795-1545	16"	2"	50.6	191.5	4360	1978	10459	4744
HTX-3500-V					99.3	375.9	4020	1823	9591	4350
HTX-6700-L	6700-12750	1522-2895	20"	2"	81.0	306.6	7901	3584	18106	8213
HTX-6700-V					162.3	614.4	7475	3391	16866	7650

\*Models ending with "L" are low profile; "V" for vertical profile  
 \*\*Inlet/Outlet may also be specified with ANSI flanges, DIN flanges, BSP threads or JIS threads  
 Maximum pressure rating: 150 psi (10.3 bar); consult factory for higher pressure requirements  
 Pressure loss range: 3 - 12 psi (.2 - .8 bar)  
 Maximum particle size: HTX - 0016 - .25 inch (6 mm); all other models - .375 inch (9 mm)  
 Material (standard carbon steel): Domes - A 285C/516 GR70, .25 (6 mm) minimum thickness  
 Other parts - A - 36, A - 53B or other quality grade, .25 (6 mm) minimum thickness  
 Paint coating: Acrylic urethane, spray-on black

## Flow vs. Pressure Loss



- A HTX-0016
- B HTX-0028
- C HTX-0038
- D HTX-0060
- E HTX-0085
- F HTX-0130
- G HTX-0200
- H HTX-0285
- I HTX-0450
- J HTX-0500
- K HTX-0810
- L HTX-1275
- M HTX-1950
- N HTX-3500
- O HTX-6700

## Successful Installations

### Maintenance/Purging

1. LAKOS HTX Separators must be purged regularly to remove the separated solids from the temporary collection chamber.
2. All purge hardware should be installed prior to any elbows or turns in the purge piping. Avoid "uphill" purging, which can clog purge piping and hinder effective solids evacuation.
3. For best results, purging is recommended while the LAKOS Separator is in operation, utilizing system pressure to enhance solids evacuation.
4. LAKOS provides a full selection of rugged, durable automatic purging and solids-handling systems to optimize the performance of your separation system.  
**CAUTION:** Economy-type valves typically fail prematurely in the harsh/abrasive environment of solids purging.
5. Be sure to include an isolation valve prior to the automatic valve (available from LAKOS at an additional cost) in order to facilitate servicing of the automatic valve without system shutdown.
6. Internal Access Feature:  
To inspect or clear an unusual blockage in the upper chamber, interrupt flow to the LAKOS Separator and relieve pressure (via the purge valve). Remove the spool from the separator's outlet (or, if no spool has been installed, disconnect and remove piping on the outlet) to make space for removing the separator's upper section. Disconnect the rigid coupling or flange and carefully pull out the separator's vortex outlet assembly. Inspect or clean the inlet chamber as necessary. Lubricate the coupling's seal before re-installing the vortex assembly. Re-install piping and gaskets as necessary.



HTX installed at Peppermill Casino in Reno, Nevada, keeps their geothermal heat exchanger clean and free of dirt. The Peppermill has won numerous awards for its facility, including Green Company of the Year

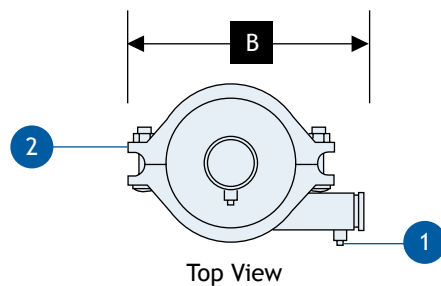
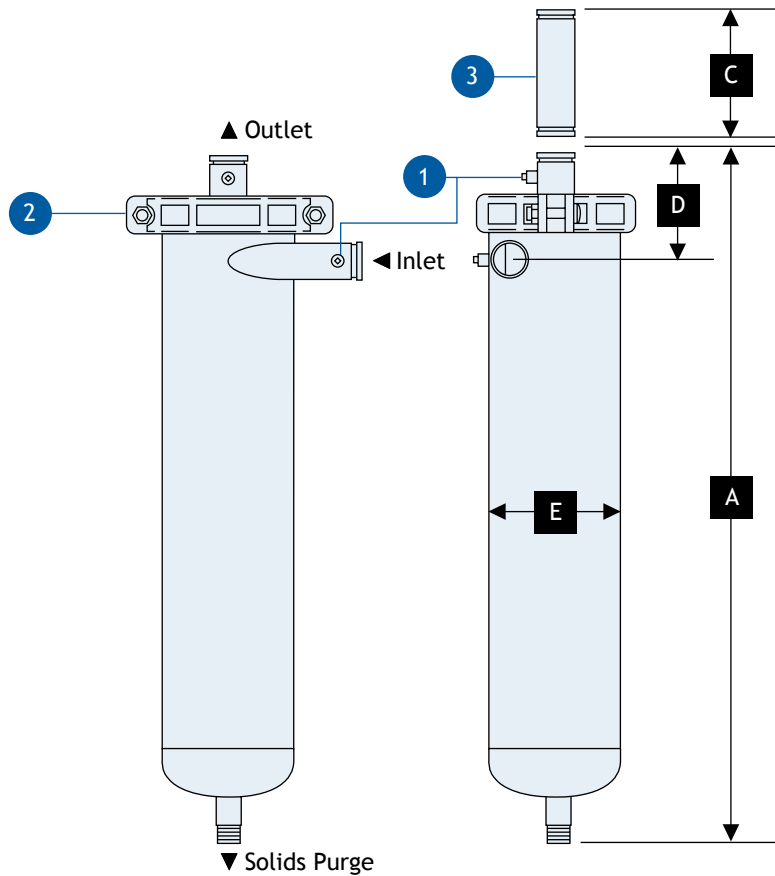


HTX used to prevent sand from entering toilets and other water supplies at large Convention Center in Florida



LAKOS HTX Separators on packaged TCX systems keep this cooling tower clean at a Resort and Spa in Hawaii

## Low Flow Rates



## Dimensions

Model	A		B		C		D		E	
	in	mm	in	mm	in	mm	in	mm	in	mm
HTX-0016	33-3/16	843	9-13/16	249	7	178	7-15/16	202	4-1/2	114
HTX-0028	35	889	12-5/16	313	7	178	8-1/16	205	5-9/16	141
HTX-0038	37-9/16	954	12-1/2	318	8	203	8-1/8	206	6-5/8	168
HTX-0060	46-13/16	1189	15-3/4	400	11	279	8-1/8	206	8-5/8	219
HTX-0085	54-5/8	1387	15-3/4	400	15	381	9-5/8	244	8-5/8	219
HTX-0130	57-3/4	1467	15-3/4	400	16	406	10-1/2	267	8-5/8	219

### 1 Inlet/Outlet Pressure Gauge Taps

1/4-inch NPT female; required at both inlet and outlet for proper flow verification; optional kit available, including inlet/outlet pressure gauges with petcock valves and a manual isolation valve for the purge connection

### 2 Rigid Coupling Connection

Provides for complete access to the upper chamber, acceleration slots and internal separation barrel; 2-piece

### 3 Connection Spool

When removed, provides space for accessing internals of separator via rigid coupling. Not included with separator, available separately

Note: These units may also be specified with optional support skirt or legs. Consult factory for details.

*Dimensions for reference only. Consult factory when pre-plumbing.*

Low Profile

High Flow Rates

**Inlet/Outlet Pressure Gauge Taps**

1/4-inch NPT female; required at both inlet and outlet for proper flow verification; optional kit available including inlet/outlet pressure gauges with petcock valves and a manual isolation valve for the purge connection

**Inspection/Drain Plug**

1/2-inch NPT female; provides access to upper chamber for inspection of slot area; also allows for draining the upper chamber if necessary

**Rigid Coupling Connection**

Provides for complete access to the upper chamber, acceleration slots and internal separation barrel; model HTX-3500 and larger uses flange

**Lifting Ring**

For installation purposes

**Connection Spool**

When removed, provides space for accessing internal of separator via rigid coupling. Not included with separator, available separately

**Hand-Hole Inspection Port**

Provides access to collection chamber

1

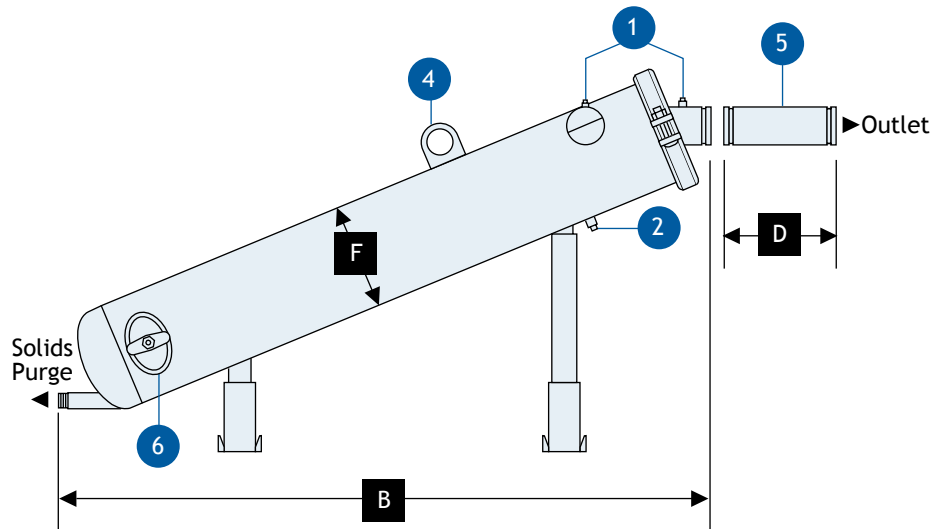
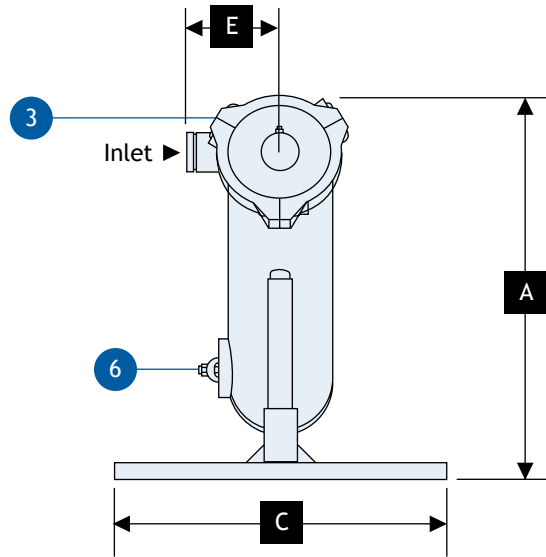
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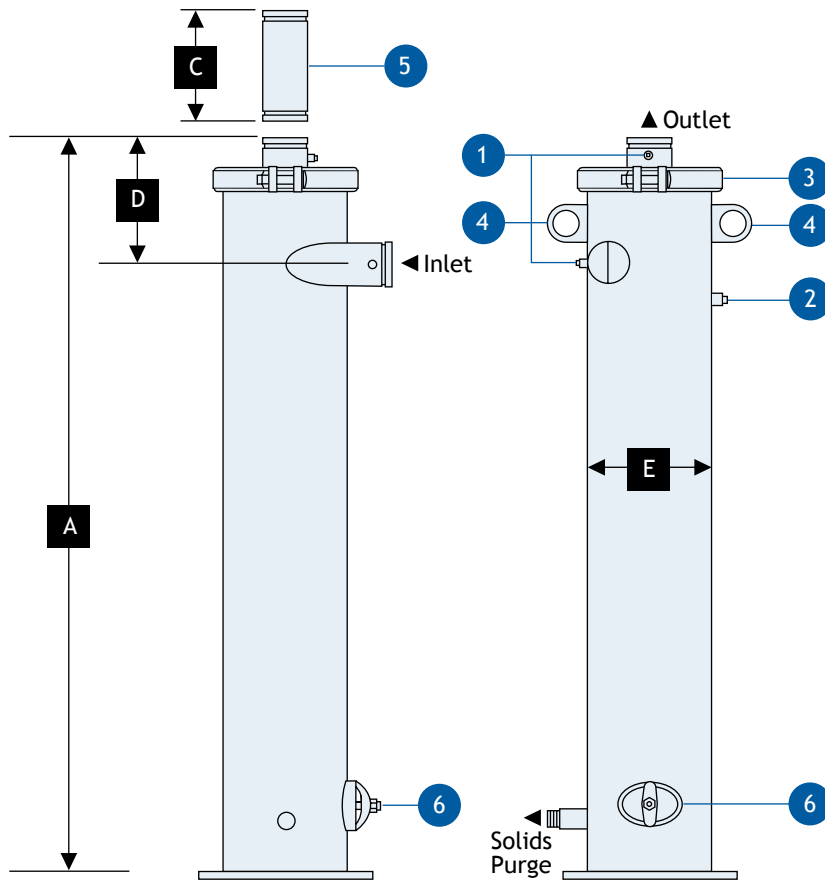
**Dimensions**

Model	A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
HTX-0200-L	40-11/16	1033	64-3/4	1645	40	1016	21	533	11	279	10-3/4	273
HTX-0285-L	44	1118	70-1/16	1780	40	1016	21	533	11	279	12-3/4	324
HTX-0450-L	51-1/2	1308	85-1/16	2161	40	1016	24	610	12	305	14	356
HTX-0500-L	51-1/2	1308	85-1/16	2161	40	1016	24	610	12	305	14	356
HTX-0810-L	57-5/16	1456	92-7/8	2357	40	1016	30	762	14	356	18	457
HTX-1275-L	72-7/16	1840	118-13/16	3018	40	1016	33	838	18	457	22	559
HTX-1950-L	79-5/8	2022	130-3/4	3321	40	1016	38	965	18	457	24	610
HTX-3500-L	111-3/4	2838	189-1/2	4813	60	1524	51	1295	26	660	36	914
HTX-6700-L	131-3/4	3346	226-9/16	5755	60	1524	60	1524	30	762	42	1067

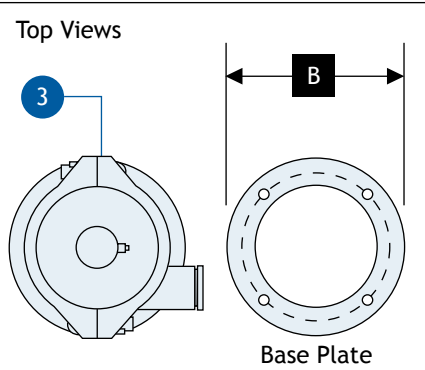
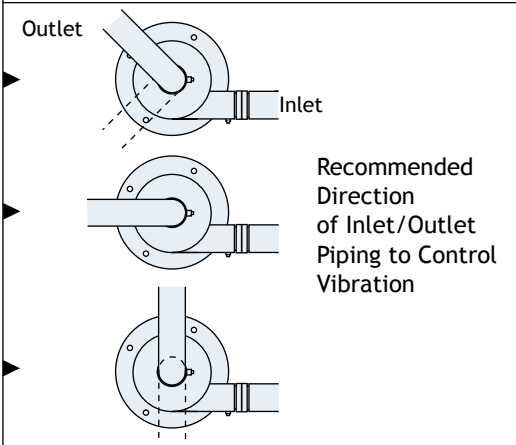
*Dimensions for reference only. Consult factory when pre-plumbing.*

# High Flow Rates

# Vertical Profile



- 1 **Inlet/Outlet Pressure Gauge Taps**  
1/4-inch NPT female; required at both inlet and outlet for proper flow verification; optional kit available, including inlet/outlet pressure gauges with petcock valves and a manual isolation valve for the purge connection
- 2 **Inspection/Drain Plug**  
1/2-inch NPT female; provides access to upper chamber for inspection of slot area; also allows for draining the upper chamber if necessary
- 3 **Rigid Coupling Connection**  
Provides for complete access to the upper chamber, acceleration slots and internal separation barrel; model HTX-3500 and larger uses flange
- 4 **Lifting Rings**  
For installation purposes
- 5 **Connection Spool**  
When removed, provides space for accessing internal of separator via rigid coupling. Not included with separator, available separately
- 6 **Hand-Hole Inspection Port**  
Provides access to collection chamber



## Dimensions

Model	A		B		C		D		E	
	in	mm	in	mm	in	mm	in	mm	in	mm
HTX-0200-V	74-1/16	1881	16	406	21	533	11-3/4	298	10-3/4	273
HTX-0285-V	66-9/16	1691	18	457	21	533	14-3/16	360	12-3/4	324
HTX-0450-V	82-5/16	2091	20	508	24	610	13-3/8	340	14	356
HTX-0500-V	82-5/16	2091	20	508	24	610	13-3/8	340	14	356
HTX-0810-V	91	2311	26	660	30	762	16-7/16	418	18	457
HTX-1275-V	117-3/16	1365	30	762	33	838	18-1/2	470	22	559
HTX-1950-V	129-7/8	3299	32	813	38	965	18-11/16	475	24	610
HTX-3500-V	184-1/16	4675	42	1067	51	1295	39-1/8	994	36	762
HTX-6700-V	220-1/4	5594	52	1321	60	1524	42	1067	42	1067

*Dimensions for reference only. Consult factory when pre-plumbing.*

## Accessories

### Limited Warranty

All products manufactured and marketed by this corporation are warranted to be free of defects in material or workmanship for a period of at least one year from date of delivery. Extended warranty coverage applies as follows:

All LAKOS Separators: Five year warranty

All other components: 12 months from date of installation; if installed 6 months or more after ship date, warranty shall be a maximum of 18 months from ship date.

If a fault develops, notify us, giving a complete description of the alleged malfunction. Include the model number(s), date of delivery and operating conditions of subject product(s). We will subsequently review this information and, at our option, supply you with either servicing data or shipping instruction and returned materials authorization. Upon prepaid receipt of subject product(s) at the instructed destination, we will then either repair or replace such product(s), at our option, and if determined to be a warranted defect, we will perform such necessary product repairs or replace such product(s) at our expense.

This limited warranty does not cover any products, damages or injuries resulting from misuse, neglect, normal expected wear, chemically-caused corrosion, improper installation or operation contrary to factory recommendation. Nor does it cover equipment that has been modified, tampered with or altered without authorization.

No other extended liabilities are stated or implied and this warranty in no event covers incidental or consequential damages, injuries or costs resulting from any such defective product(s).

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### Solids Collection - Zero Liquid Loss and Capture Separated Solids

- Capture separated solids easily and return liquid back to system
- Remove collected solids without interrupting system flow
- Single (1) bag Solids Recovery Vessel (SRV) available in two sizes: 16-inch (SRV-816) and 33-inch (SRV-833)
- Three (3) bag Closed Recovery Vessel (CRS) for 10" separators and larger
- Filter bags available from 10 micron to 50 microns
- Optional indicator package provides convenient way to determine bag change-outs on SRV-816, SRV-833 and CRS-836B
- Optional dry contact available for remote monitoring. Can be tied to BMS (Building Management System)
- Lower waste water treatment costs

For more information, see LAKOS Literature LS-576 and LS-622



### Purge Options - Automated Solids Purge

- Purge separated solids from LAKOS Separators at pre-determined intervals. LAKOS Controllers provide options to control and adjust purge intervals and duration
- LAKOS Purge valves are capable of handling all types of fine, fibrous, and mildly abrasive solids
- EFS: Electric Battery Backup Fail-safe valve automatically closes the valve in the event of a power failure
- LAKOS Controllers feature solid state reliability, thus removing the need for routine maintenance
- All LAKOS Valves are CE compliant

For more information, see LAKOS Literature LS-238 and LS-913



Automatic Ball Valve

### Tower Basin Sweeping with HydroBoosters

- Patented LAKOS HydroBoosters create sweeping action on the cooling tower basin floor to reduce under-deposit corrosion, cooling tower nozzle clogging and extend cooling tower life
- HB and eHB HydroBoosters Vortexing action moves cooling tower solids towards the filtration system by using directed turbulence, thereby preventing solids accumulation on the basin floor, and removing the food source for biological activity
- Minimize manual basin cleaning, cooling tower maintenance, risk of injury associated with basin floor cleaning, and system downtime
- HB and eHB HydroBoosters are designed for durability and to resist cooling tower water chemicals

