

LAKOS DISC FILTERS

Fully automated systems deliver efficient micron-rated particle removal

APPLICATIONS

- Irrigation
- Industrial
- Process cooling
- Chilled water
- Water treatment

Flow Rates
100-4200 GPM

Micron Ratings
5-500

Differential Pressure:
Clean: < 5 PSI
Dirty: 15 PSI

Maximum Working Pressure
145 PSI



KEY BENEFITS

- Low pressure loss design (< 5 PSI when clean).
- Intelligently engineered to reduce moving parts, wear and maintenance.
- High performance hydrocyclone input evenly loads filter surface for maximum run time between backflush cycles.
- Unique design of discs acts like a pleated filter, dramatically increasing solids holding capacity.
- Up to 75% less backflush water use during cleaning, compared to competitive products. Ideal for projects requiring low discharge.
- Patented design ensures solids removal across entire disc stack during backflush.
- Virtually zero maintenance. Does not require annual disassembly common to other disc systems.
- Configurations available for low pressure and sea water/saline water applications.
- Fully automatic system.
- Supplied as "ready to use" turnkey system including: filters, manifolds, base frame, three way valves, solenoid valves and controller, assembled on a skid.

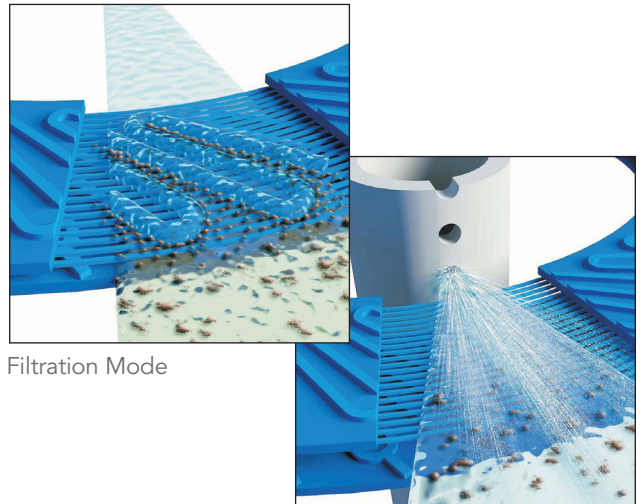
HOW IT WORKS

Filtration mode:

Water enters through the inlet and is filtered through the disc stack from outside to inside. The discs are retained in a compressed stack, requiring water to pass through micron-sized pathways. The hydrocyclone input disperses the solids across the entire surface. Solids are retained on the outside of the discs and in the micro-pathways in the depth of the discs. Filtered water then exits the unit.

Backflush / Cleaning mode:

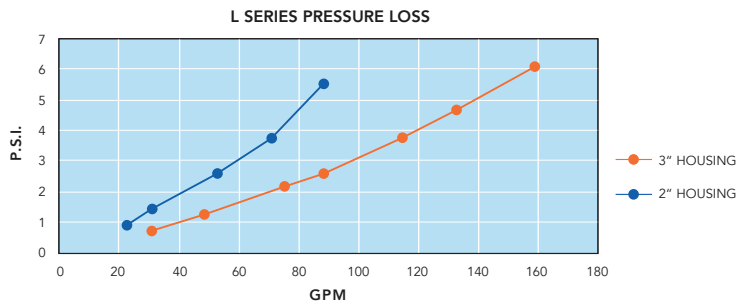
Clean water is introduced from the reverse direction through the disc stack. The disc stack decompresses, allowing the discs to separate and solids to release from the filter channels. The system intelligently uses the operating pressure to backwash automatically. With as low as 15psi differential the discs will spin to aid in solids release. The solids are evacuated through the backflush manifold. Backflush frequency can be controlled by pressure differential, elapsed time or manually.



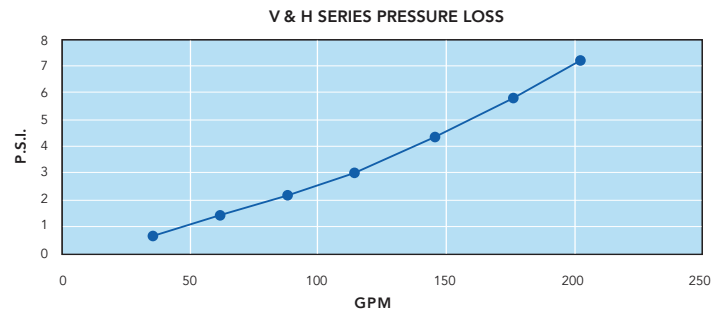
Filtration Mode

Cleaning Mode

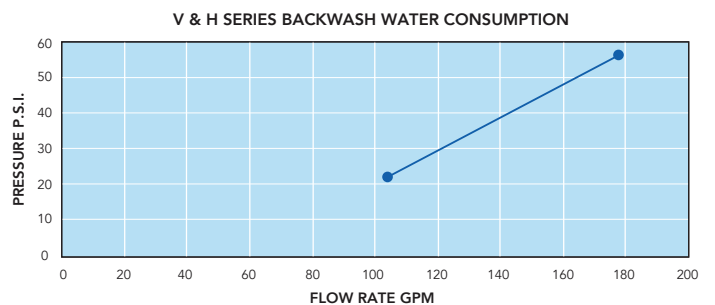
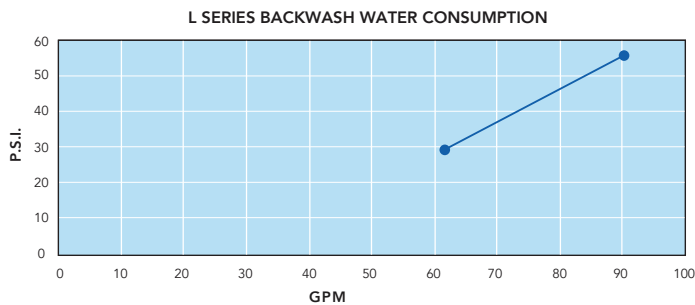
CLEAN DIFFERENTIAL PRESSURE LOSS



* charts assume pressure loss with a clean filter , assumes 125 micron discs.



LOW BACKWASH WATER CONSUMPTION



OPERATING PARAMETERS

- Fluid temperature 41° F - 95° F
- Ambient temperature 41° F - 122° F
- pH 4-11

* Higher temperature units available.

MATERIALS OF CONSTRUCTION

Component	Material
Filter Housings	Reinforced Fiberglass Polyamide
Filter Disc Media	High Density Polyethylene
O-rings	EPDM
Filter Access Clamp Ring	Stainless Steel
Manifolds	High Density Polyethylene
Frame	Epoxy Coated Steel

SYSTEM/SERIES SELECTION

EXAMPLE SYSTEM SELECTION: (see GREEN text and ovals below for solutions to example)

Site has well water with 8ppm of solids. Desires to filter the water to 80 micron.
Total system flow is 500GPM. Operating pressure is 120PSI

STEP#1 - DETERMINE YOUR WATER QUALITY (TOTAL SUSPENDED SOLIDS)

GOOD WATER QUALITY: (<5ppm particulates)

POOR WATER QUALITY: (11-15ppm particulates)

AVERAGE WATER QUALITY: (6-10ppm particulates)

VERY POOR WATER QUALITY: (>15ppm particulates)

STEP#2 - DETERMINE THE REQUIRED FILTRATION LEVEL (MICRON)

MICRON OPTIONS AND DISC COLOR



COLOR CODE	Yellow Green	Lt. Green	Black	Brown	Red	Blue	Green	Grey	Lt Blue	Yellow	Orange	Olive
MICRON	5	20	50	75	100	125	150	175	200	300	400	500

Example requirement is 80....round down to 75 micron

STEP#3 - DETERMINE THE FLOW PER FILTER (BASED ON WATER QUALITY AND MICRON FILTRATION)

Flow Per Filter Element 3" Valve Models (standard flow)				
Water quality	PPM	≤50 micron	≤125 micron	>125 micron
Good Water	0 to 5ppm	100gpm	130gpm	130gpm
Average Water	6 to 10ppm	80gpm	120gpm	130gpm
Poor Water	11 to 15ppm	60gpm	100gpm	110gpm
Very Poor	16 to 20ppm	50gpm	80gpm	90gpm

Flow Per Filter Element 2" Valve Models (low flow)				
Water quality	PPM	≤50 micron	≤125 micron	>125 micron
Good Water	0 to 5ppm	100gpm	110gpm	110gpm
Average Water	6 to 10ppm	80gpm	110gpm	110gpm
Poor Water	11 to 15ppm	60gpm	100gpm	110gpm
Very Poor	16 to 20ppm	50gpm	80gpm	90gpm

STEP#4 - CALCULATE THE NUMBER OF FILTERS REQUIRED

Total Flow Requirements/Flow per Filter (from table in Step 3) = Filters Required

Example: For 3" Valves $500 \div 120 = 4.2$, round to 5 filters required

For 2" Valves $500 \div 110 = 4.5$, round up to 5 filters required

STEP#5 - IDENTIFY THE APPROPRIATE MODELS FROM BACK OF BROCHURE

Example: Models with # of filters equal to 5 are: L5F2V4M and L5F3V6M

STEP#6 - DETERMINE THE APPROPRIATE FILTER HOUSING

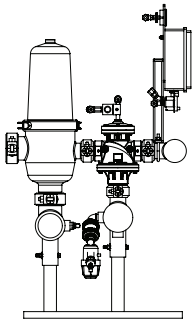
Housing Model	Description	Solids Level	Operating Pressure
DS	Standard housing	> 10,000 ppm TDS	44-145 psi
DL	Low-pressure housing	> 10,000 ppm TDS	15-44 psi
DC	Standard housing for sea water environments	> 50,000 ppm TDS	44-145 psi
DCL	Low-pressure housing for sea water environments	> 50,000 pm TDS	15-44 psi

Example: Complete Model Numbers for the Example are:

L5F2V4M DS75um Brown

L5F3V6M DS75um Brown

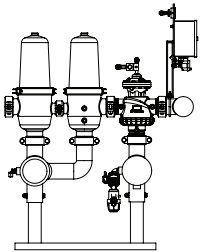
SPECIFICATIONS: L-SERIES



Flows up to
1300 GPM
(2" or 3" housings)

MODEL	# of Filters	Total Filter Area		Valve Diameter	Manifold Diameter		Length		Width		Height		Empty Weight	
		ft2	cm2		in	mm	in	mm	in	mm	in	mm	lb	kg
L2F-2V4M	2	10.9	10100	2	4	110	27	695	27	680	42	1066	126	57
L3F-2V4M	3	16.3	15150	2	4	110	38	970	27	680	42	1066	172	78
L4F-2V4M	4	21.7	20200	2	4	110	49	1240	27	680	42	1066	218	99
L5F-2V4M	5	27.2	25250	2	4	110	60	1520	27	680	42	1066	265	120
L6F-2V4M	6	32.6	30300	2	4	110	70	1790	27	680	42	1066	309	140
L2F-3V4M	2	10.9	10100	3	4	110	27	695	31	780	43	1088	139	63
L3F-3V4M	3	16.3	15150	3	4	110	38	970	31	780	43	1088	185	84
L3F-3V6M	3	16.3	15150	3	6	160	38	970	31	780	45	1138	220	100
L4F-3V6M	4	21.7	20200	3	6	160	49	1240	31	780	45	1138	265	120
L5F-3V6M	5	27.2	25250	3	6	160	60	1520	31	780	45	1138	331	150
L6F-3V6M	6	32.6	30300	3	6	160	70	1790	31	780	45	1138	419	190
L6F-3V8M	6	32.6	30300	3	8	200	70	1790	31	780	46	1178	441	200
L7F-3V8M	7	38.1	35350	3	8	200	81	2070	31	780	46	1178	507	230
L8F-3V8M	8	43.5	40400	3	8	200	92	2340	31	780	46	1178	573	260
L9F-3V10M	9	48.9	45450	3	10	250	107	2730	31	780	48	1227	672	305
L10F-3V10M	10	54.4	50500	3	10	250	118	3005	31	780	48	1227	754	342

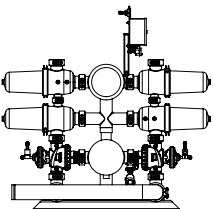
SPECIFICATIONS: V-SERIES



Higher flows from
fillers in parallel

MODEL	# of Filters	Total Filter Area		Valve Diameter	Manifold Diameter		Length		Width		Height		Empty Weight	
		ft2	cm2		in	mm	in	mm	in	mm	in	mm	lb	kg
V8F-3V6M	8	43.5	40400	3	6	160	49	1245	42	1076	48	1212	441	200
V8F-3V8M	8	43.5	40400	3	8	200	49	1245	42	1076	49	1252	518	235
V10F-3V8M	10	54.4	50500	3	8	200	60	1520	42	1076	49	1252	569	258
V12F-3V8M	12	65.2	60600	3	8	200	71	1795	42	1076	49	1252	639	290
V14F-3V10M	14	76.1	70700	3	10	250	81	2070	43	1098	51	1303	864	392
V16F-3V10M	16	87.0	80800	3	10	250	92	2346	43	1098	51	1303	1007	457

SPECIFICATIONS: H-SERIES



Highest flow,
minimal space
requirement

MODEL	# of Filters	Total Filter Area		Valve Diameter	Manifold Diameter		Length		Width		Height		Empty Weight	
		ft2	cm2		in	mm	in	mm	in	mm	in	mm	lb	kg
H16F-3V10M	16	87.0	80800	3	10	250	54	1377	63	1601	46	1163	807	366
H20F-3V12M	20	108.7	101000	3	12	315	65	1651	66	1666	46	1163	1047	475
H24F-3V12M	24	130.5	121200	3	12	315	76	1927	66	1666	46	1163	1215	551
H28F-3V14M	28	152.2	141400	3	14	355	86	2195	67	1706	46	1168	1567	711
H32F-3V14M	32	174.0	161600	3	14	355	98	2500	67	1706	46	1168	1790	812

PART NUMBER EXPLANATION

