3″ Spin Klin™ L.C.E.

Automatic Low Cost Energy disc filtration system

L.C.E systems:

- For low pressure where higher pressure is not available or is too costly
- Flushes at low pressure using less energy
- For low to medium flow rates in a compact footprint

inlet/outlet	flow rate	filtration degrees	min. backwash pressure
150 - 150 mm (6″ - 8″)	90 - 200 m^3/h (400 - 880 gpm)	100 – 400 micron	1.5 bar (22 psi)

features:

- Micron-precise depth filtration of solids
- Innovative disc technology captures and retains large amounts of solids
- Long-term operation with minimal maintenance
- Easy and simple operation
- Short automatic backwash with regulated water volume for a small water footprint
- Compact design

How the 3” Spin Klin™ L.C.E. Systems Work

General

The Arkal 3” Spin Klin™ L.C.E. series are modular, all polymeric, automatic disc filters with a patented self-cleaning backwash mechanism. The 3” Spin Klin™ L.C.E. systems range in flow rates from 90 m^3/h (396 gpm) to 200 m^3/h (880 gpm) with filtration degrees ranging from 100 - 400 micron. Inlet/Outlet from 160 - 200 mm (6”- 8”) diameter.

The Filtration Process

The discs are stacked on the Spin Klin™ L.C.E. spine and assembled according to pre-determined water filtration requirements. During filtration, the discs are compressed by means of a pre-loaded spring and differential pressure, forcing the water to pass through the grooved disc surface, thus trapping the solids.

The Backwash Process

Activated by a pre-determined time command or differential pressure, the system enters backwash mode. The inlet valve port shuts as the drain valve port opens. During the backwash process, pressure is released and the spine’s piston elevates, releasing the compression on the discs. Tangential jets of filtered water are then forced through the nozzles positioned along the spine. At this stage the discs spin freely, loosening the trapped solids which are then flushed out. During the flushing cycle each filter pod is backwashed sequentially, while the other pods continue to supply filtered water downstream. When a pod begins the backwash cycle, the system valves automatically reverse the flow in the pod, allowing filtered downstream pressurized water to backwash the filter.

Construction materials	
Filter Housing & Lid	RPP (Reinforce Polypropylene)
Disc elements	PP (Polypropylene)
Backwash valves	RPA (Reinforce Polyamide) or RPP (Reinforce Polypropylene)
Manifolds	PP (Polypropylene)
Seals	NBR or EPDM, (Viton optional)
Control Tubing	PE

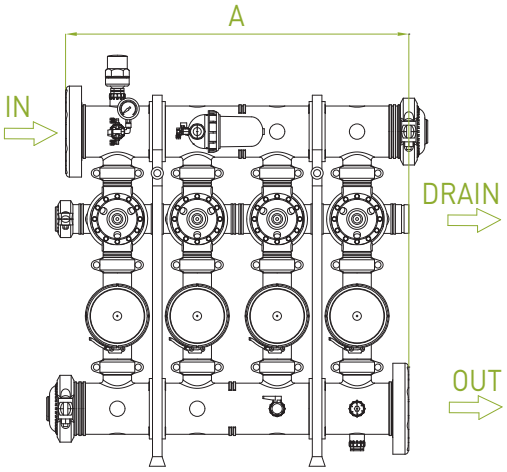
Disc material type availability according to filtration degree:

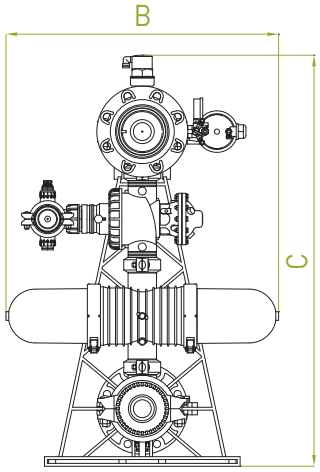
Color Code	Black	Red	Yellow	Blue
Micron	100	130	200	400

Filter Type		3 unit battery	4 unit battery	5 unit battery
General Data				
Max. working pressure		6 bar (87 psi)		
Min. backwash pressure		1.5 bar (22 psi)		
Maximum recommended flow rate	130µ	90 m^3/h (396 gpm)	120 m^3/h (527 gpm)	150 m^3/h (660 gpm)
Filtration volume		6,888 cm^3 (420 in^3)	9,184 cm^3 (560 in^3)	11,480 cm^3 (700 in^3)
Filtration area		5,280 cm^2 (818 in^2)	7,044 cm^2 (1,092 in^2)	8,800 cm^2 (1,364 in^2)
Inlet/Outlet diameter		150 mm (6")		
Max. working temperature		60°C (140°F)		
Dry weight standard		95 kg (209 lb)	115 kg (253 lb)	135 kg (297 lb)

Backwash Data	
Valve drain port	80 mm (3")
Flushing time	30 seconds
Min. flow for backwash	20 m^3/h (88 gpm)

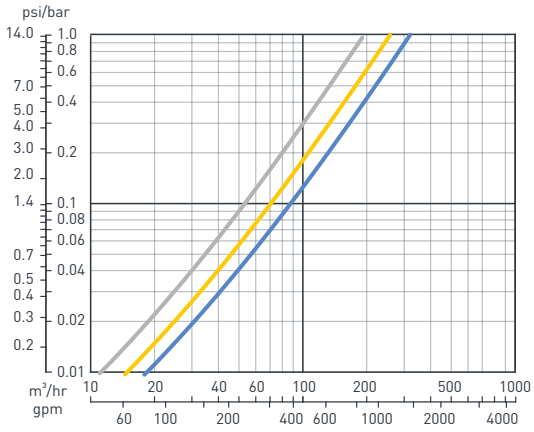
Typical Installation Drawing





Dimensions		3 unit battery	4 unit battery	5 unit battery
A	Length	942 mm (37 3/32")	1192 mm (46 15/16")	1442 mm (56 25/32")
B	Width	853 mm (33 19/32")		
C	Height	1287 mm (50 21/32")		

Head Loss Graphs (in clean water)



*head loss is based on a 130 micron disc

3 unit — 4 unit — 5 unit

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