2″ 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
80 - 150 mm (3″ - 6″)	10 - 90 m^3/h (44 - 396 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 2” Spin Klin™ L.C.E. Systems Work

General

The Arkal 2” Spin Klin™ L.C.E. series are modular, all polymeric, automatic disc filters with a patented self-cleaning backwash mechanism. The 2” Spin Klin™ systems range in flow rates from 10 m^3/h (44 gpm) to 90 m^3/h (396 gpm) with filtration degrees ranging from 100 - 400 micron. Inlet/Outlet from 80 - 150 mm (3”- 6”) 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

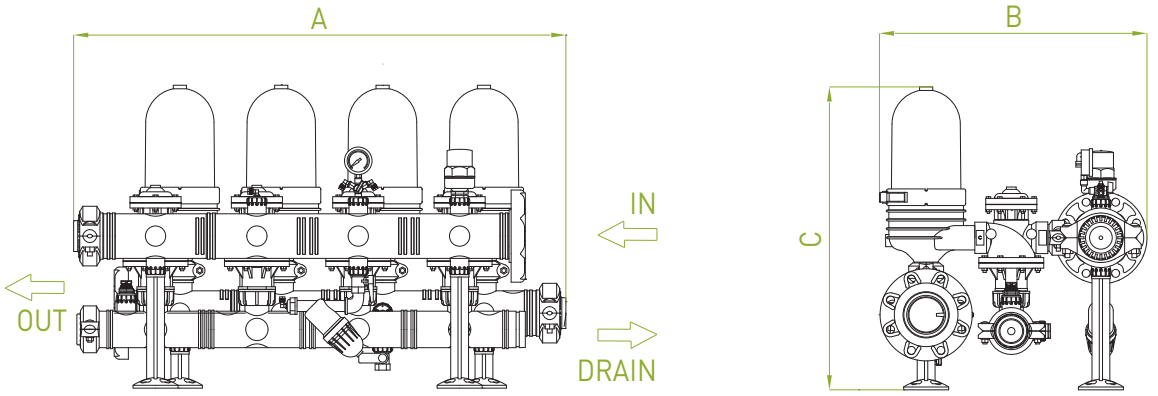
Disc material type availability according to filtration degree:

Color Code	Black	Red	Yellow	Blue
Micron	100	130	200	400

Filter Type		2 unit battery	3 unit battery	4 unit battery
General Data				
Max. working pressure		6 bar (87 psi)		
Min. backwash pressure		1.5 bar (22 psi)		
Maximum recommended flow rate	130µ	30 m^3/h (132 gpm)	45 m^3/h (198 gpm)	60 m^3/h (264 gpm)
Filtration volume		2,296 cm^3 (140 in^3)	3,444 cm^3 (210 in^3)	4,592 cm^3 (280 in^3)
Filtration area		1,760 cm^2 (272 in^2)	2,640 cm^2 (409 in^2)	3,520 cm^2 (546 in^2)
Inlet/Outlet diameter		80 mm (3"), 100 mm (4")	100 mm (4")	
Max. working temperature		60°C (140°F)		
Dry weight standard		27 kg (59.5 lb)	38 kg (83.7 lb)	49 kg (108 lb)

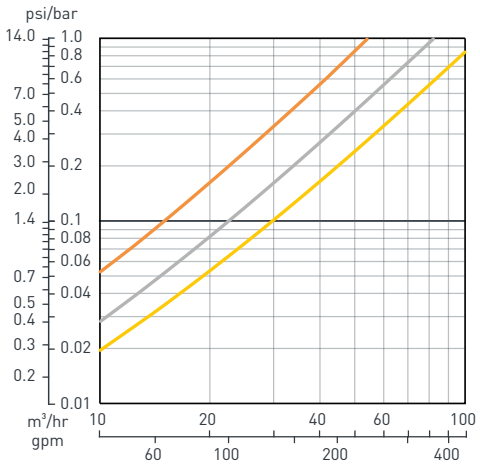
Backwash Data	
Valve drain port	50 mm (2")
Flushing time	20 seconds
Min. flow for backwash	10 m^3/h (44 gpm)

Typical Installation Drawing



Dimensions		2 unit battery	3 unit battery	4 unit battery
A	Length	706 mm (28")	964 mm (38")	1,214 mm (48")
B	Width	660 mm (26")		
C	Height	747 mm (30")		

Head Loss Graphs (in clean water)



*head loss is based on a 130 micron disc

2 unit — 3 unit — 4 unit

ARKAL