

4" Spin Klin™ Apollo L.C.E.

Automatic Low Cost Energy
disc filtration system with
large filtration area

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

250 - 200 mm
(10" - 12")

flow rates

180 - 600 m³/h
(790 - 2,640 gpm)

filtration degrees

100 - 400
micron

min. backwash pressure

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 4" Spin Klin™ L.C.E. Apollo Systems Work

General

The Apollo 4" Spin Klin™ L.C.E. series are modular, all polymeric, automatic disc filters with a patented self-cleaning backwash mechanism. The 4" Apollo Spin Klin™ L.C.E. systems range in flow rates from 180 m³/h (792 gpm) to 600 m³/h (2,640 gpm) with filtration degrees ranging from 100 – 400 micron. Inlet/Outlet from 250 - 300 mm (10" – 12") 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.

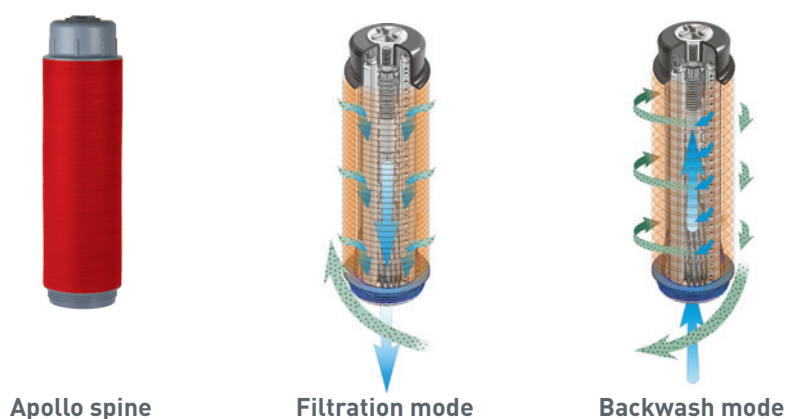
The Backwash Process

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 enter the backwashed filter.

The Apollo Spine Technology Offers:

- Significantly larger filtration area (in length and diameter, triple the 2" disc)
- Reduction in required number of valves and accessories
- Lower backwash flow during cleaning process
- Unique design offers the largest disc element technology on the market

Construction materials	
Filter Housing & Lid	PP (Polypropylene)
Disc elements	PP (Polypropylene)
Backwash valves	RPA (Reinforce Polyamide)
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

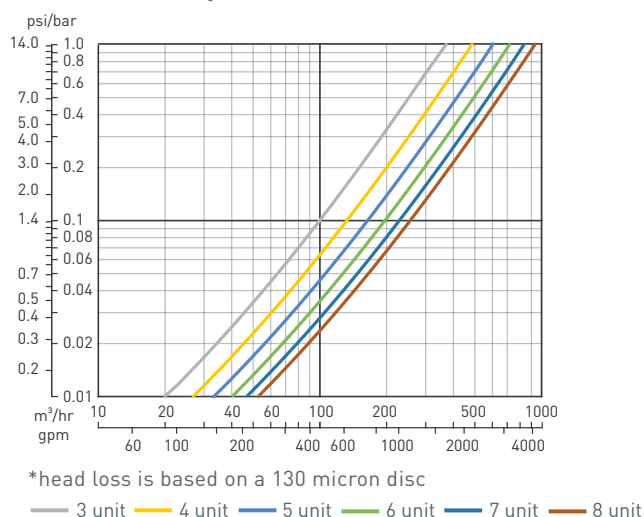
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data							
Max. working pressure		6 bar (22 psi)					
Min. backwash pressure		1.5 bar (22 psi)					
Maximum recommended flow rate	130μ	240 m³/h (1,057 gpm)	320 m³/h (1,409 gpm)	400 m³/h (1,761 gpm)	480 m³/h (2,113 gpm)	560 m³/h (2,466 gpm)	640 m³/h (2,818 gpm)
Filtration volume		18,852 cm³ (1,150 in³)	25,136 cm³ (1,534 in³)	31,420 cm³ (1,917 in³)	37,704 cm³ (2,300 in³)	43,998 cm³ (2,685 in³)	50,272 cm³ (3,068 in³)
Filtration area		15,720 cm² (2,437 in²)	20,960 cm² (3,249 in²)	26,200 cm² (4,061 in²)	31,440 cm² (4,873 in²)	36,680 cm² (5,685 in²)	41,920 cm² (6,498 in²)
Inlet/Outlet diameter		250 mm (10")			250/300 mm (10"/12")	300 mm (12")	
Max. working temperature		60°C (140°F)					
Dry weight standard		158 kg (351 lb)	205 kg (455 lb)	252 kg (560 lb)	299 kg (644 lb)	366 kg (813 lb)	433 kg (962 lb)

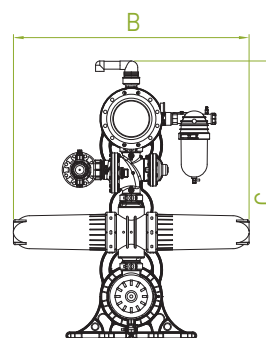
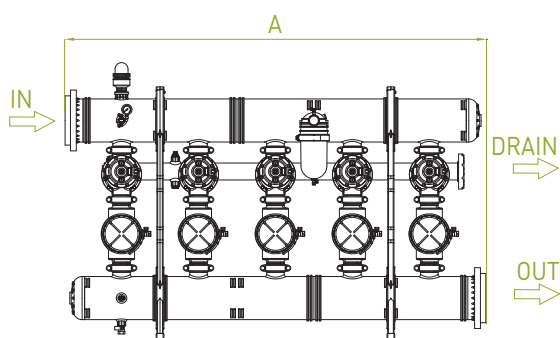
Backwash Data							
Valve drain port		100 mm (4")					
Flushing time		40 seconds					
Min. flow for backwash		48 m³/h (211 gpm)					



Head Loss Graphs (in clean water)



Typical Installation Drawing



Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,734 mm (68")	2,234 mm (89")	2,734 mm (108")	3,234 mm (127")	3,734 mm (147")	4,234 mm (166")
B	Width	1,531 mm (60")					
C	Height	1,810 mm (71")				1,830 mm (72")	

