

3"- 4" SK Apollo

Automatic disc filtration system with large filtration area for cost effective solutions



inlet/outlet connection

**3" Angle: 150 - 250 mm
(6" - 10")**

**4" Twin: 200 - 300 mm
(8" - 12")**

flow rates

**90-360 m³/h
(395-1,585 gpm)**

**180-600 m³/h
(790-2,640 gpm)
and higher**

filtration degrees

20-400 micron

max. working pressure

10 bar (145 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
- Permanently eliminates the need to replace filter media
- Compact design

How the 3"-4" Apollo Systems Work

General

The Apollo 3" and 4" SpinKlin™ series are modular, all polymeric, automatic disc filters with a patented self-cleaning backwash mechanism.

The 3" and 4" Apollo systems range in flow rates from 90 m³/h (395 gpm) to 600 m³/h (2,640 gpm) with filtration degrees ranging from 20 – 400 micron. Inlet /Outlet from 150 - 300 mm (6" – 12") diameter.

The Filtration Process

The discs are stacked on the SpinKlin™ 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.

External Source Backwash

Each filter is backwashed sequentially, while the other filters continue to supply filtered water downstream. In each backwashed filter the inlet & outlet valves automatically close and the drain & external source valves automatically open. Pressurized filtered water from the external source header enters the backwashed filter through its outlet port and backwashes it.

- Higher energy for cleaning, especially for fine filtration degrees

Apollo Models:

- 3" Apollo Angle Batteries
- 3" Apollo Angle Batteries with External Source
- 4" Apollo Twin Batteries
- 4" Apollo Twin Batteries with External Source

Construction materials

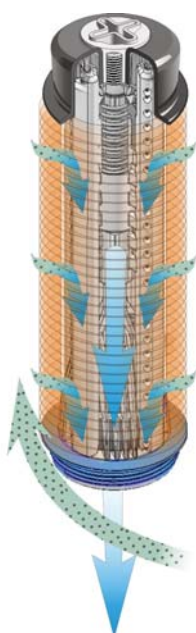
Filter Housing & Lid	RPP (Reinforce Polypropylene) & RPA (Reinforce Polyamide)
Disc elements	PA (Polyamide) or PP (Polypropylene)
Backwash valves	RPP (Reinforce Polypropylene) or RPA (Reinforce Polyamide)
Manifolds	PP (Polypropylene)
Seals	NBR or EPDM, (Viton optional)
Control Tubing	PE or PA

The Apollo Spine Technology Offers:

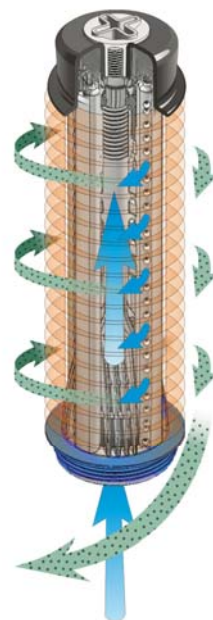
- Significantly larger filtration area (in length and diameter, triple the 2" disc)
- Reduction in required number of valves and accessories
- Optional use of low pressure backwash spines, as low as 1.5 bar
- Sea water polymeric materials available
- Lower backwash flow during cleaning process
- Unique design offers the largest disc element technology on the market



Apollo spine



Filtration mode



Backwash mode

Disc material type availability according to filtration degree:

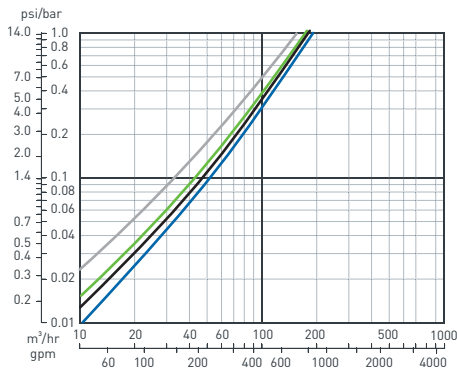
Color Code	Gray	Green	Black	Red	Yellow	Blue
Micron degree	20	55	100	130	200	400
PP Disc PA (Nylon) Disc	PP	PP, PA	PP	PP	PP	PP

3" Apollo Angle Battery

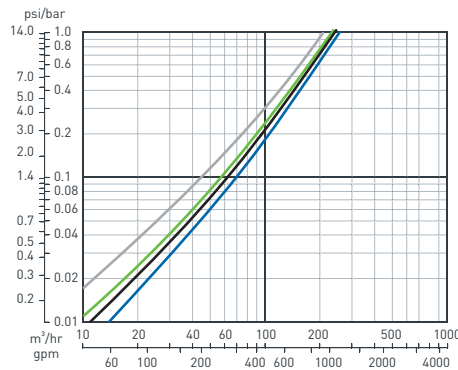


Head Loss Graphs (in clean water) — 400 μ — 100 μ — 55 μ — 20 μ

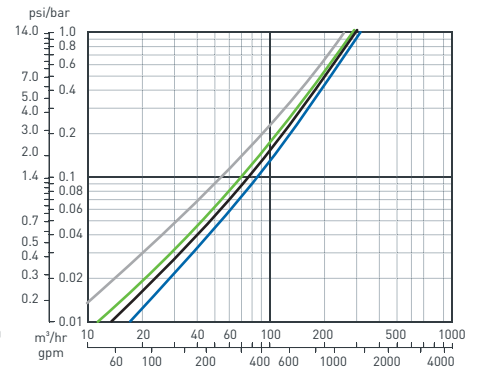
3 x 3" Apollo Angle Battery



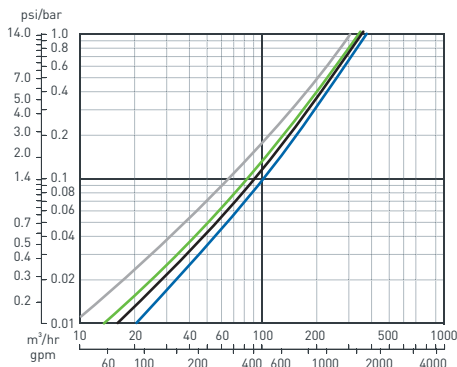
4 x 3" Apollo Angle Battery



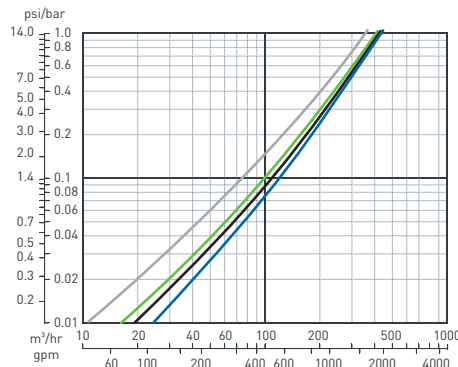
5 x 3" Apollo Angle Battery



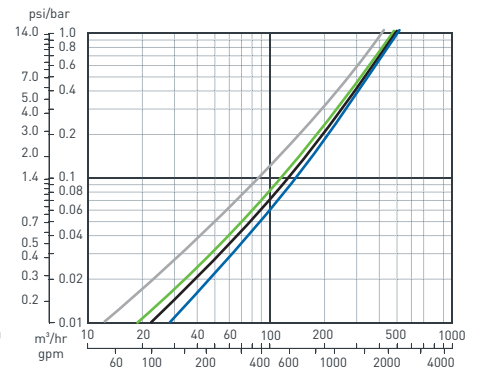
6 x 3" Apollo Angle Battery



7 x 3" Apollo Angle Battery



8 x 3" Apollo Angle Battery

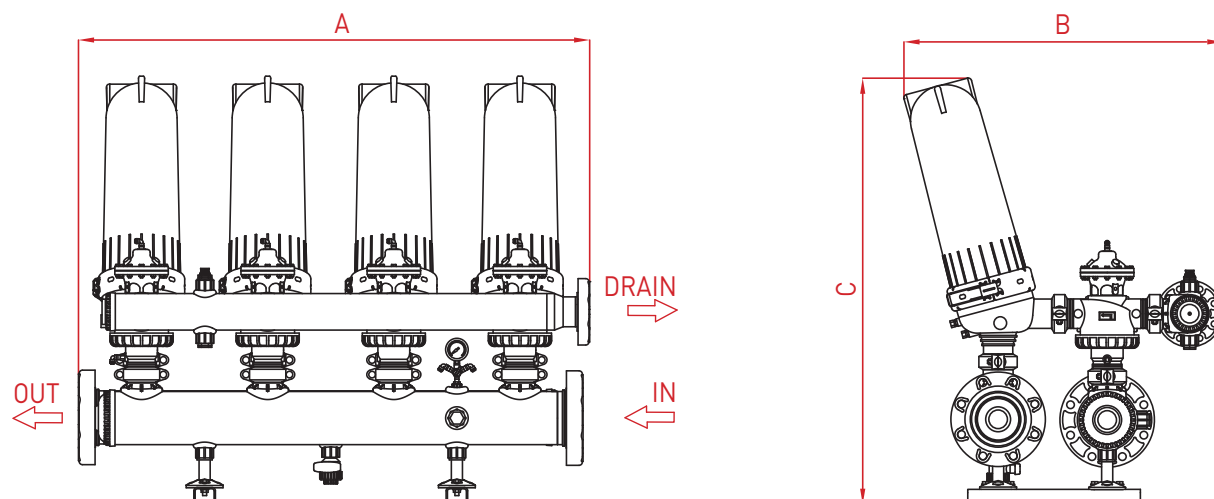


Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data							
Max. working pressure		10 bar (145 psi)					
Min. backwash pressure		2 bar (30 psi)					
Maximum recommended flow rate	100μ	120 m³/h (528 gpm)	160 m³/h (704 gpm)	200 m³/h (880 gpm)	240 m³/h (1057 gpm)	280 m³/h (1233 gpm)	320 m³/h (1409 gpm)
	55μ	78 m³/h (343 gpm)	104 m³/h (458 gpm)	130 m³/h (572 gpm)	156 m³/h (687 gpm)	182 m³/h (801 gpm)	208 m³/h (916 gpm)
	20μ	45 m³/h (198 gpm)	60 m³/h (264 gpm)	75 m³/h (330 gpm)	90 m³/h (396 gpm)	105 m³/h (462 gpm)	120 m³/h (528 gpm)
Available filtration degrees		400, 200, 130, 100, 55, 20 micron					
Filtration volume		9,426 cm³ (575 cm³)	12,568 cm³ (767 in³)	15,710 cm³ (959 in³)	18,852 cm³ (1,150 in³)	21,994 cm³ (1,342 in³)	25,136 cm³ (1,534 in³)
Inlet/Outlet diameter		150 mm (6")		200 mm (8")			250 mm (10")
Max. working temperature		60°C (140°F)					
Dry weight standard		125 kg (275 lb)	155 kg (341 lb)	190 kg (418 lb)	220 kg (484 lb)	255 kg (561 lb)	285 kg (627 lb)

Backwash Data							
Valve drain port		80 mm (3")					
Flushing time		20 seconds					
Min. flow for backwash		24 m³/h (106 gpm)					

Typical Installation Drawing



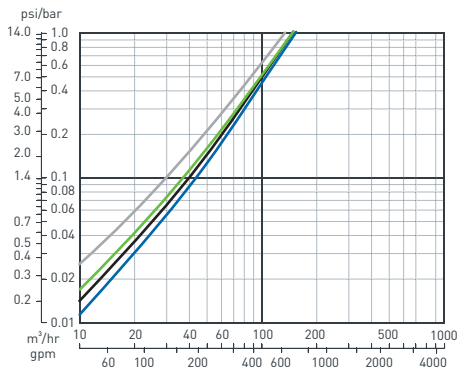
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,160 mm (45 21/32")	1,540 mm (60 5/8")	1,920 mm (75 19/32")	2,300 mm (90 9/16")	2,680 mm (105 1/2")	3,060 mm (120 15/32")
B	Width	941 mm (37 1/16")					
C	Height	1,218 mm (47 15/16")					

3" Apollo Angle Battery External Source

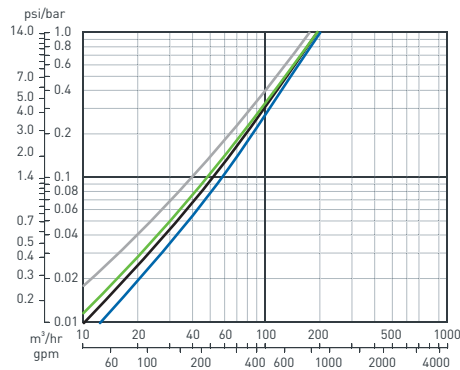


Head Loss Graphs (in clean water) — 400 μ — 100 μ — 55 μ — 20 μ

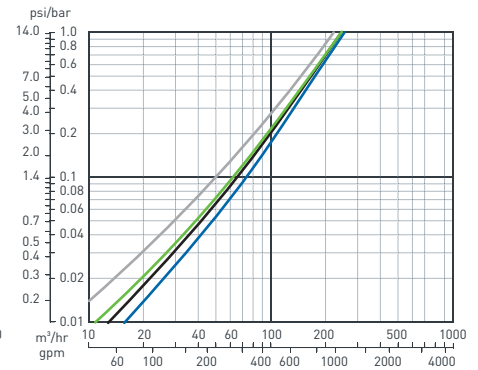
3 x 3" Apollo Angle Battery EX.S.



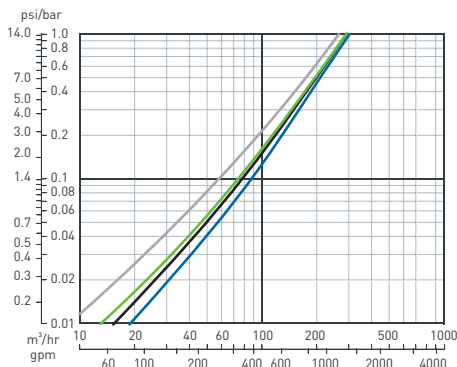
4 x 3" Apollo Angle Battery EX.S.



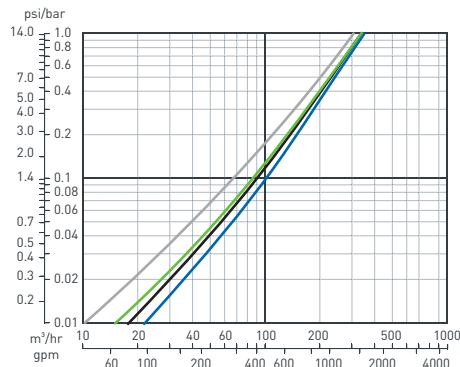
5 x 3" Apollo Angle Battery EX.S.



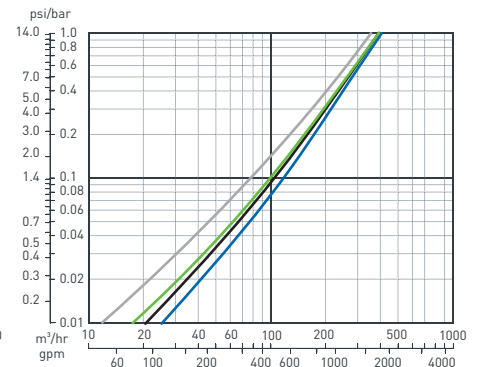
6 x 3" Apollo Angle Battery EX.S.



7 x 3" Apollo Angle Battery EX.S.



8 x 3" Apollo Angle Battery EX.S.

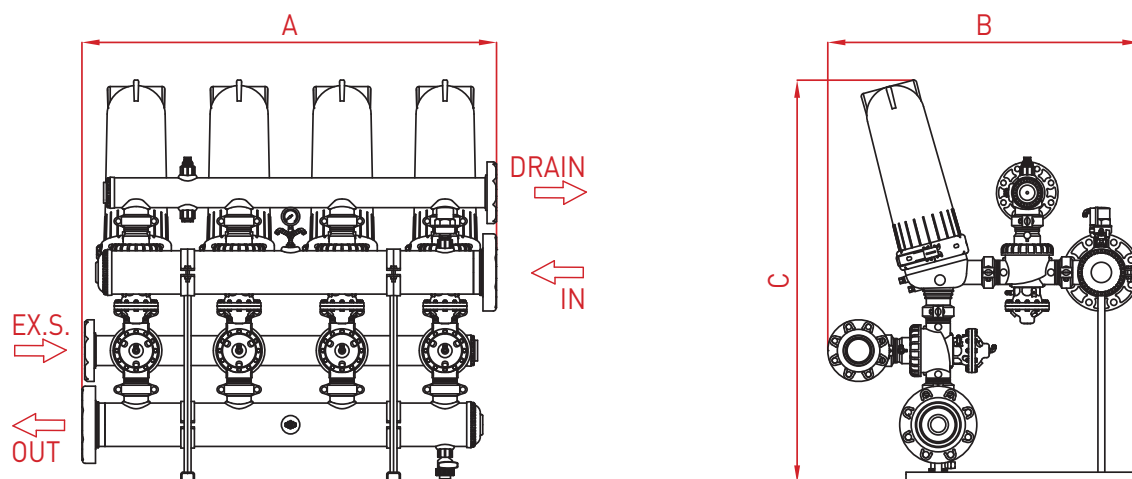


Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data							
Max. working pressure		10 bar (145 psi)					
Min. backwash pressure		2 bar (30 psi)					
Maximum recommended flow rate	100μ	120 m³/h (528 gpm)	160 m³/h (704 gpm)	200 m³/h (880 gpm)	240 m³/h (1057 gpm)	280 m³/h (1233 gpm)	320 m³/h (1409 gpm)
	55μ	78 m³/h (343 gpm)	104 m³/h (458 gpm)	130 m³/h (572 gpm)	156 m³/h (687 gpm)	182 m³/h (801 gpm)	208 m³/h (916 gpm)
	20μ	45 m³/h (198 gpm)	60 m³/h (264 gpm)	75 m³/h (330 gpm)	90 m³/h (396 gpm)	105 m³/h (462 gpm)	120 m³/h (528 gpm)
Available filtration degrees		400, 200, 130, 100, 55, 20 micron					
Filtration volume		9,426 cm³ (575 cm³)	12,568 cm³ (767 in³)	15,710 cm³ (959 in³)	18,852 cm³ (1,150 in³)	21,994 cm³ (1,342 in³)	25,136 cm³ (1,534 in³)
Inlet/Outlet diameter		150 mm (6")		200 mm (8")			250 mm (10")
Max. working temperature		60°C (140°F)					
Dry weight external source backwash		198 kg (436 lb)	213 kg (470 lb)	272 kg (600 lb)	292 kg (643 lb)	313 kg (690 lb)	335 kg (738 lb)

Backwash Data							
Valve drain port		80 mm (3")					
Flushing time		15 seconds					
Min. flow for backwash		24 m³/h (106 gpm)					

Typical Installation Drawing



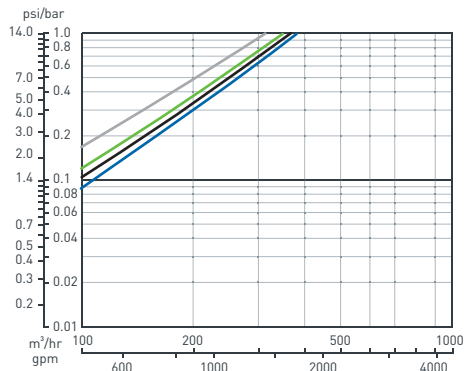
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,150 mm (45 9/32")	1,530 mm (60 1/4")	1,910 mm (75 3/16")	2,290 mm (90 5/32")	2,670 mm (105 1/8")	3,050 mm (120 3/32")
B	Width	1,152 mm (45 11/32")	1,262 mm (49 21/32")	1,262 mm (49 21/32")	1,302 mm (51 1/4")	1,302 mm (51 1/4")	1,302 mm (51 1/4")
C	Height	1,486 mm (58 17/32")	1,572 mm (61 7/8")	1,572 mm (61 7/8")	1,612 mm (63 7/16")	1,612 mm (63 7/16")	1,612 mm (63 7/16")

4" Apollo Twin Battery

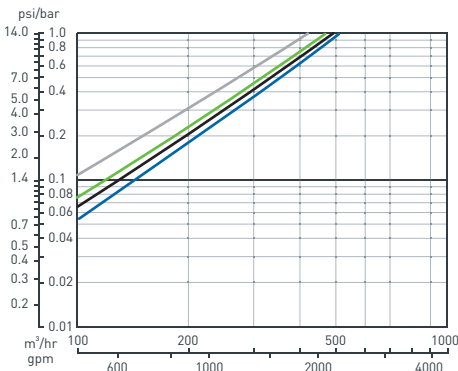


Head Loss Graphs (in clean water) — 400μ — 100μ — 55μ — 20μ

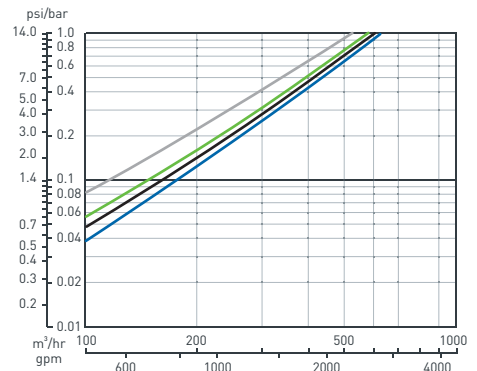
3 x 4" Apollo Twin Battery



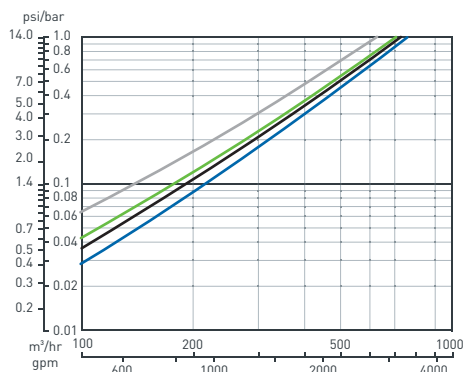
4 x 4" Apollo Twin Battery



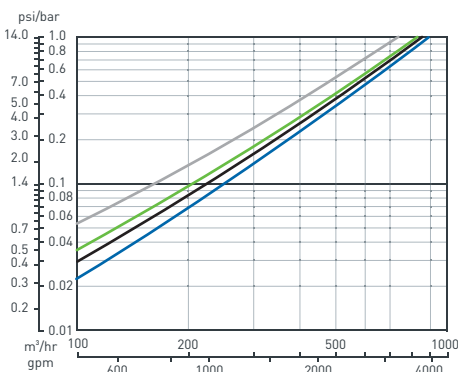
5 x 4" Apollo Twin Battery



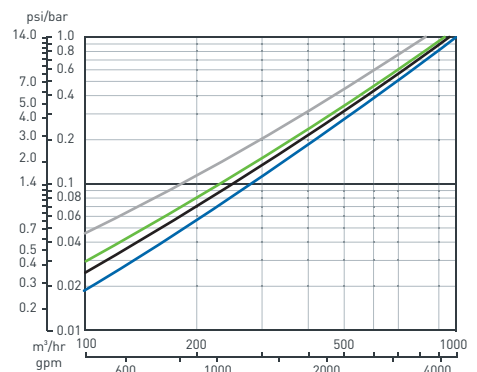
6 x 4" Apollo Twin Battery



7 x 4" Apollo Twin Battery



8 x 4" Apollo Twin Battery

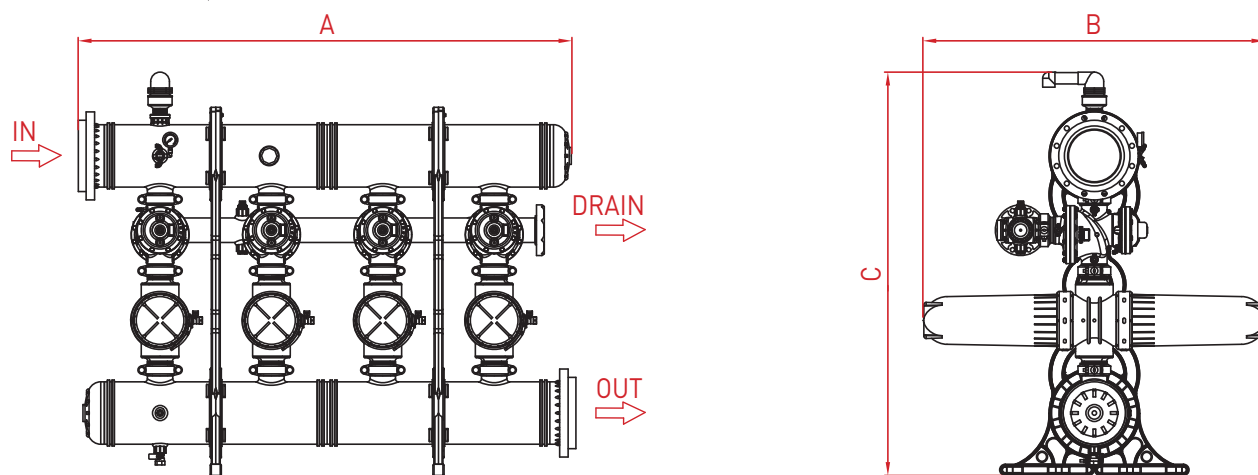


Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data							
Max. working pressure		10 bar (145 psi)					
Min. backwash pressure		2bar (30 psi)					
Maximum recommended flow rate	100μ	240 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)
	55μ	156 m³/h (687 gpm)	208 m³/h (916 gpm)	260 m³/h (1,145 gpm)	312 m³/h (1,374 gpm)	364 m³/h (1,603 gpm)	416 m³/h (1,832 gpm)
	20μ	90 m³/h (396 gpm)	120 m³/h (528 gpm)	150 m³/h (660 gpm)	180 m³/h (792 gpm)	210 m³/h (925 gpm)	240 m³/h (1,057 gpm)
Available filtration degrees		400, 200, 130, 100, 55, 20 micron					
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)
Inlet/Outlet diameter		200 mm (8")	250 mm (10")			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	20 seconds
Min. flow for backwash	48 m³/h (211 gpm)

Typical Installation Drawing



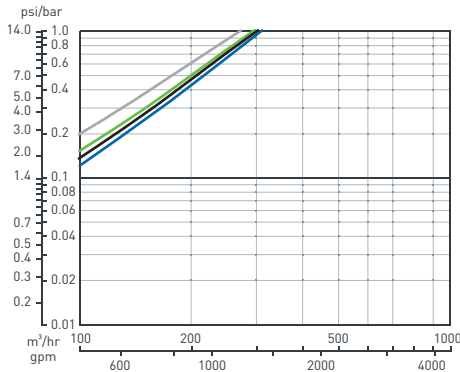
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,734 mm (68")	2,234 mm (89")	2,734 mm (108")	3,234 mm (127")	3,734 mm (147")	4,234 mm (166")
B	Width	1,531 mm (60")					
C	Height	1,810 mm (71")				1,830 mm (72")	

4" Apollo Twin Battery External Source

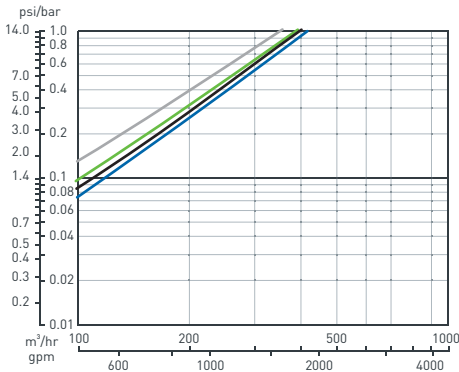


Head Loss Graphs (in clean water) — 400 μ — 100 μ — 55 μ — 20 μ

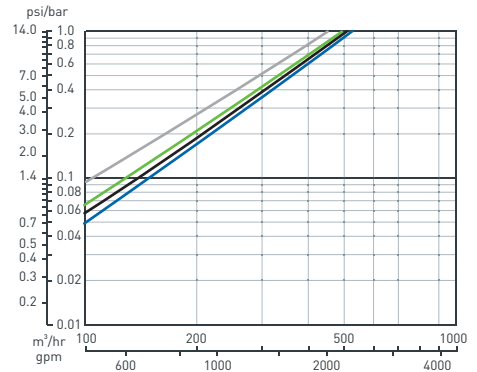
3 x 4" Apollo Twin Battery EX.S.



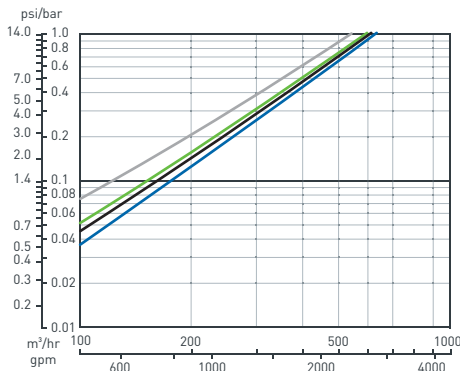
4 x 4" Apollo Twin Battery EX.S.



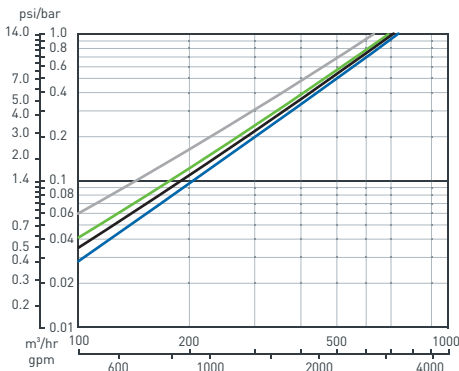
5 x 4" Apollo Twin Battery EX.S.



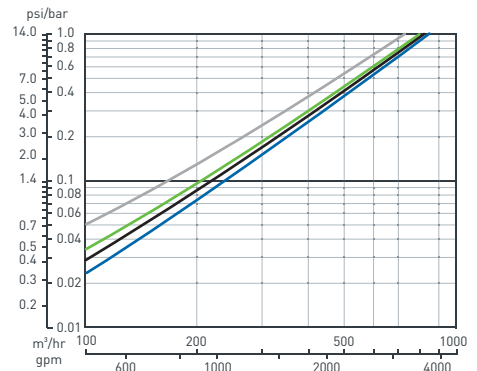
6 x 4" Apollo Twin Battery EX.S.



7 x 4" Apollo Twin Battery EX.S.



8 x 4" Apollo Twin Battery EX.S.

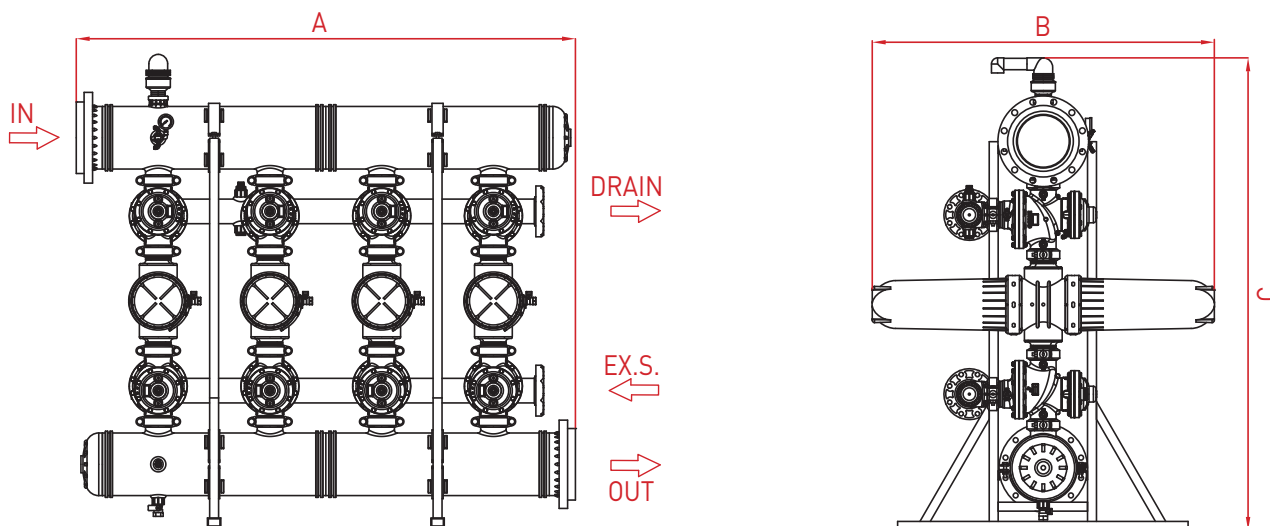


Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data							
Max. working pressure		10 bar (145 psi)					
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Maximum recommended flow rate	100μ	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)
	55μ	156 m³/h (687 gpm)	208 m³/h (916 gpm)	260 m³/h (1,145 gpm)	312 m³/h (1,374 gpm)	364 m³/h (1,603 gpm)	416 m³/h (1,832 gpm)
	20μ	90 m³/h (396 gpm)	120 m³/h (528 gpm)	150 m³/h (660 gpm)	180 m³/h (792 gpm)	210 m³/h (925 gpm)	240 m³/h (1,057 gpm)
Available filtration degrees		400, 200, 130, 100, 55, 20 micron					
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)
Inlet/Outlet diameter		200 mm (8")	250 mm (10")			300 mm (12")	
Max. working temperature		60°C (140°F)					
Dry weight external source backwash		230 kg (511 lb)	287 kg (638 lb)	344 kg (764 lb)	431 kg (957 lb)	538 kg (1,195 lb)	631 kg (1,402 lb)

Backwash Data							
Valve drain port		100 mm (4")					
Flushing time		15 seconds					
Min. flow for backwash		48 m³/h (211 gpm)					

Typical Installation Drawing



Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,715 mm (67")	2,215 mm (87")	2,715 mm (106")	3,215 mm (126")	3,715 mm (146")	4,215 mm (165")
B	Width	1,530 mm (60")					
C	Height	2,110 mm (83")				2,130 mm (84")	

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