

3" - 4" SK Apollo

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



inlet/outlet connection

3" Angle:
150 - 200 mm (6" - 8")

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

100 - 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 trigger or differential pressure, the system enters backwash mode.

The inlet valve port shuts while 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.

Apollo Models:

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

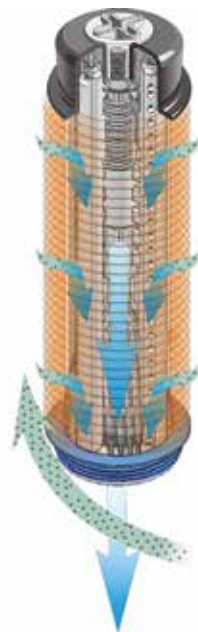
Construction materials	
Filter Housing & Lid	PP (Polypropylene)
Disc elements	PP (Polypropylene) or PA (Polyamide)
Backwash valves	RPA (Reinforce Polyamide) or RPP (Reinforce Polypropylene)
Manifolds	PP (Polypropylene)
Seals	NBR or EPDM, (Viton optional)
Control Tubing	PE or PA

The Apollo Spine Technology Offers:

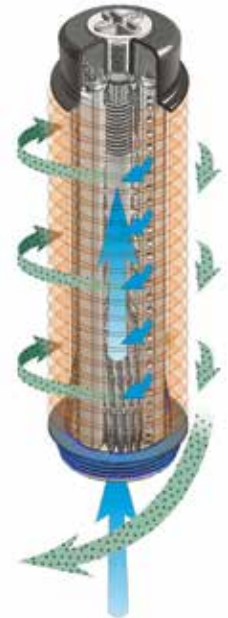
- Significantly larger filtration area (triple the 2" disc element)
- Less valves and accessories
- Optional use of low pressure backwash spines, as low as 1.5 bar
- Seawater polymeric materials available
- Lower backwash flow during cleaning process
- Unique design offers the largest disc element technology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



Apollo spine



Filtration mode



Backwash mode

Disc material type availability according to filtration degree:

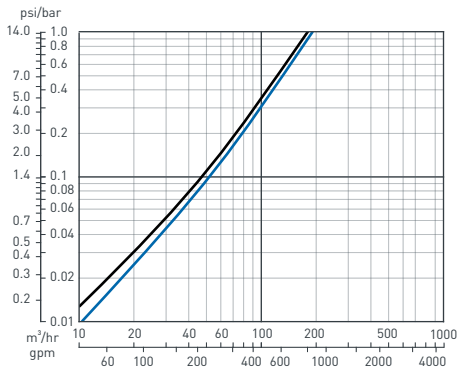
Color Code	Black	Red	Yellow	Blue
Micron degree	100	130	200	400
PP Disc PA (Nylon) Disc	PP	PP	PP	PP

3" Apollo Angle Battery

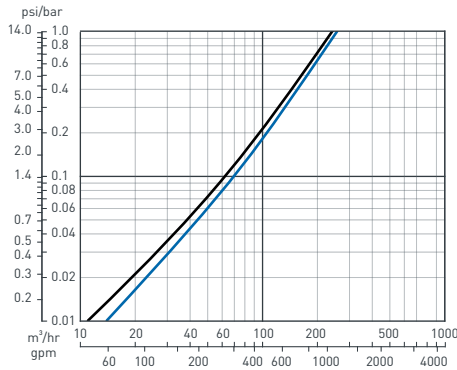


Head Loss Graphs (in clean water) — 400 μ — 100 μ

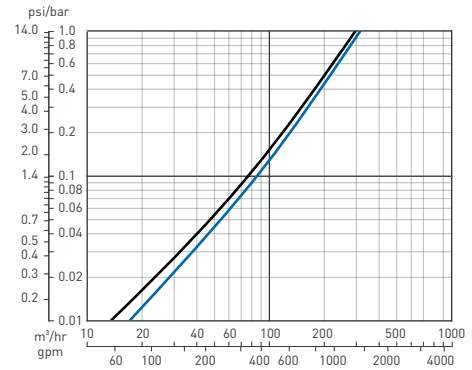
3 x 3" Apollo Angle Battery



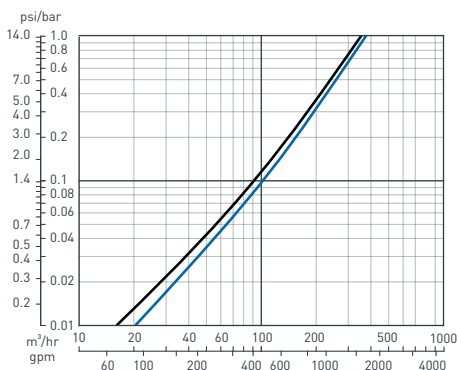
4 x 3" Apollo Angle Battery



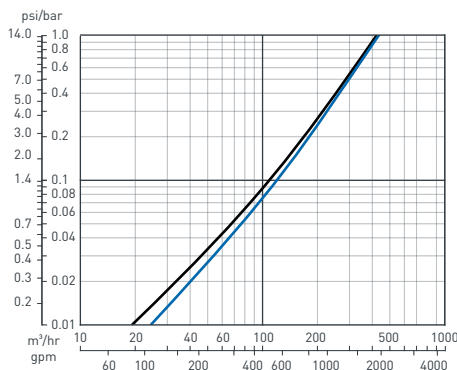
5 x 3" Apollo Angle Battery



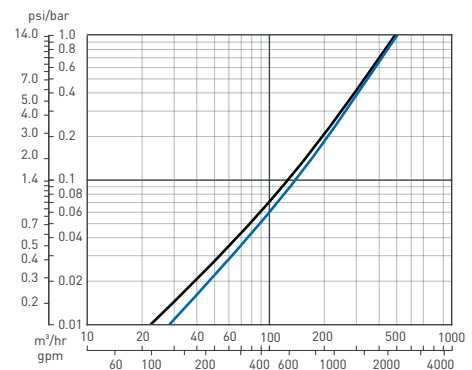
6 x 3" Apollo Angle Battery



7 x 3" Apollo Angle Battery



8 x 3" Apollo Angle Battery



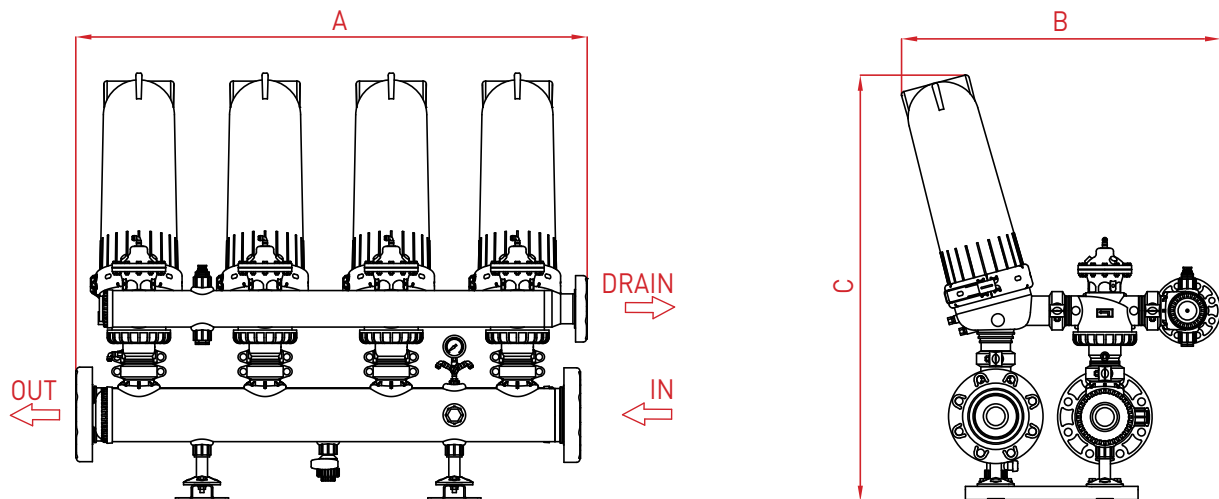
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	10 bar (145 psi)					
Min. backwash pressure	2 bar (30 psi)					
Max. recommended flow rate	120 m ³ /h (528 gpm)	160 m ³ /h (704 gpm)	200 m ³ /h (880 gpm)	240 m ³ /h (1,057 gpm)	280 m ³ /h (1,233 gpm)	320 m ³ /h (1,409 gpm)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	9,426 cm ³ (575 in ³)	12,568 cm ³ (767 in ³)	15,710 cm ³ (959 in ³)	18,852 cm ³ (1,150 in ³)	21,994 cm ³ (1,342 in ³)	25,136 cm ³ (1,534 in ³)
Inlet/Outlet diameter	150 mm (6")		150/200 mm (6"/8")		200 mm (8")	
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)

* Maximum operating pressure and temperature are interdependent parameters and are given for general reference only. Please consult your authorized Amiad representative for the application specific parameters.

Backwash Data	
Drain connection	80 mm (3")
Flushing time	20 seconds
Min. flow for backwash	24 m ³ /h (106 gpm)

Typical Installation Drawing



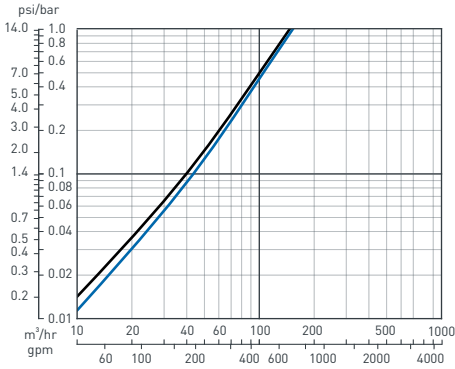
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,160 mm (45 21/32")	1,540 mm (60 5/8")	1,920 mm (75 19/32")	2,300 mm (90 9/16")	2,680 mm (105 1/2")	3,060 mm (120 15/32")
B	Width	941 mm (37 1/16")					
C	Height	1,218 mm (47 15/16")					

3" Apollo Angle Battery External Source

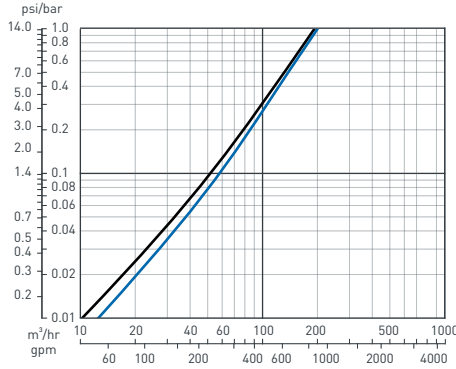


Head Loss Graphs (in clean water) — 400 μ — 100 μ

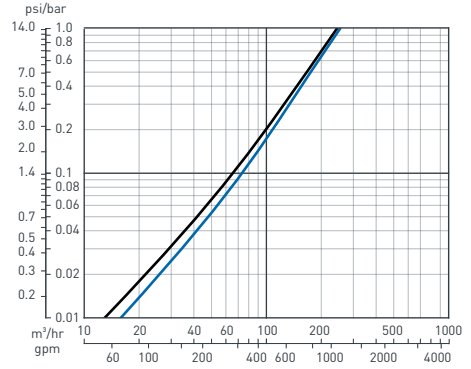
3 x 3" Apollo Angle Battery EX.S.



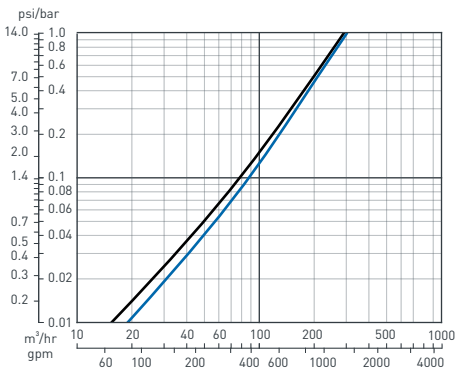
4 x 3" Apollo Angle Battery EX.S.



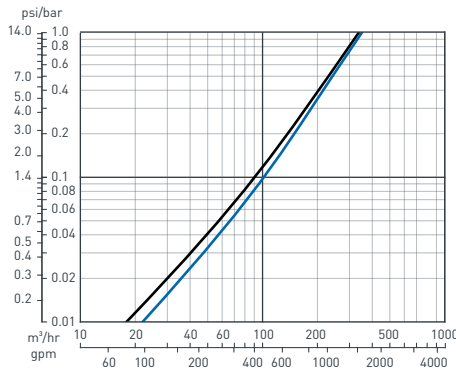
5 x 3" Apollo Angle Battery EX.S.



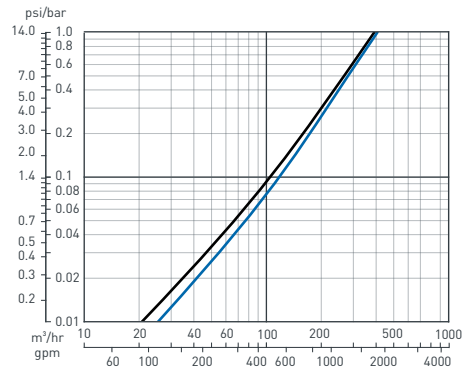
6 x 3" Apollo Angle Battery EX.S.



7 x 3" Apollo Angle Battery EX.S.



8 x 3" Apollo Angle Battery EX.S.



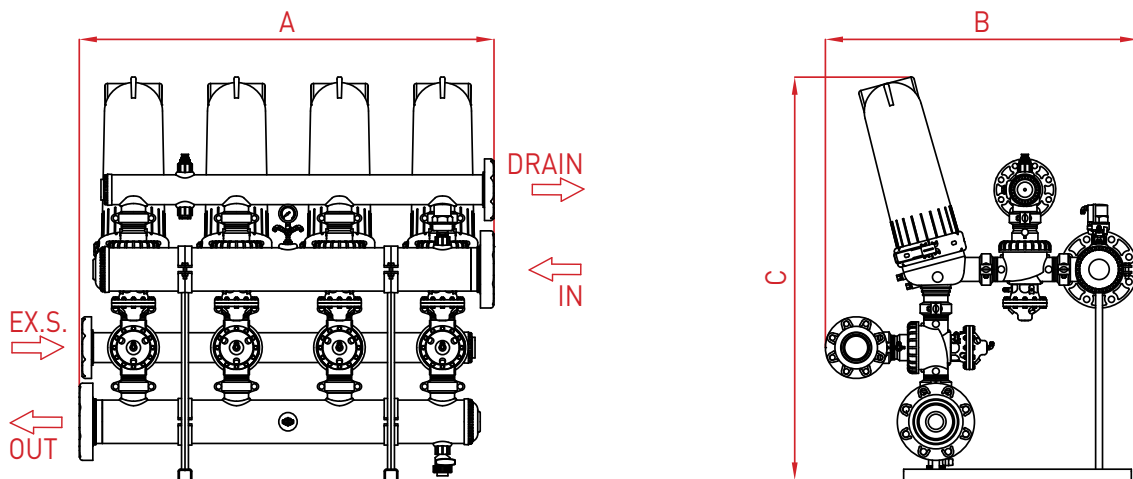
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	10 bar (145 psi)					
Min. backwash pressure	2 bar (30 psi)					
Max. recommended flow rate	120 m ³ /h (528 gpm)	160 m ³ /h (704 gpm)	200 m ³ /h (880 gpm)	240 m ³ /h (1,057 gpm)	280 m ³ /h (1,233 gpm)	320 m ³ /h (1,409 gpm)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	9,426 cm ³ (575 in ³)	12,568 cm ³ (767 in ³)	15,710 cm ³ (959 in ³)	18,852 cm ³ (1,150 in ³)	21,994 cm ³ (1,342 in ³)	25,136 cm ³ (1,534 in ³)
Inlet/Outlet diameter	150 mm (6")		150/200 mm (6"/8")		200 mm (8")	
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)

* Maximum operating pressure and temperature are interdependent parameters and are given for general reference only. Please consult your authorized Amiad representative for the application specific parameters.

Backwash Data	
Drain connection	80 mm (3")
Flushing time	15 seconds
Min. flow for backwash	24 m ³ /h (106 gpm)

Typical Installation Drawing



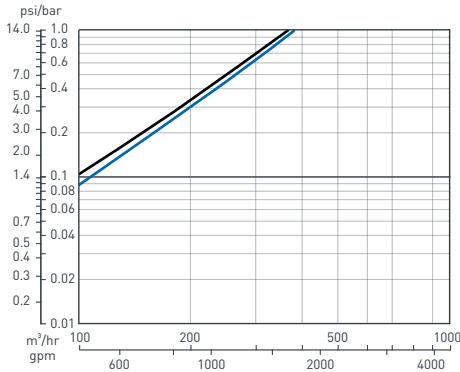
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,150 mm (45 9/32")	1,530 mm (60 1/4")	1,910 mm (75 3/16")	2,290 mm (90 5/32")	2,670 mm (105 1/8")	3,050 mm (120 3/32")
B	Width	1,152 mm (45 11/32")	1,262 mm (49 21/32")	1,262 mm (49 21/32")	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

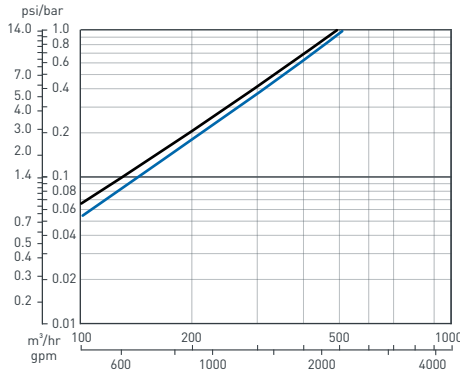


Head Loss Graphs (in clean water) — 400 μ — 100 μ

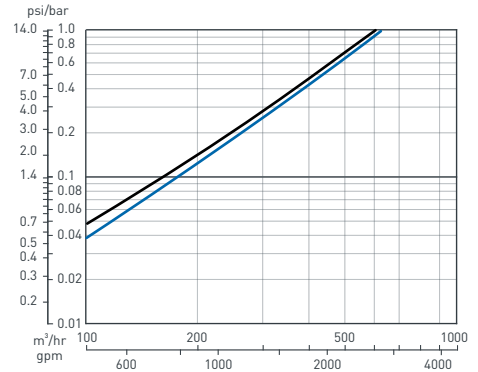
3 x 4" Apollo Twin Battery



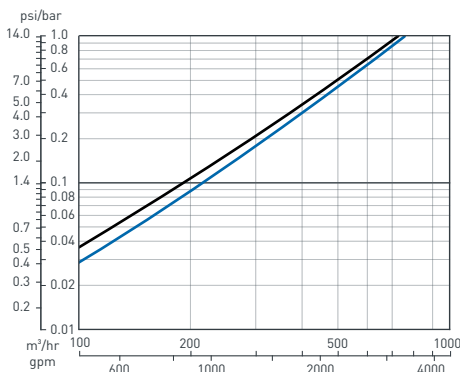
4 x 4" Apollo Twin Battery



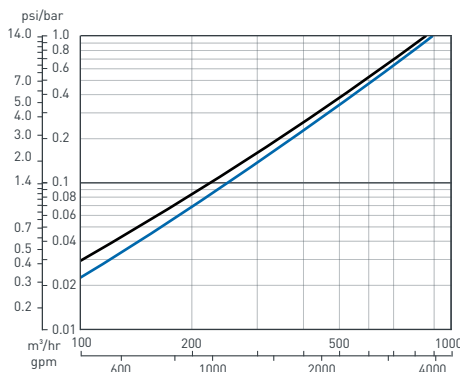
5 x 4" Apollo Twin Battery



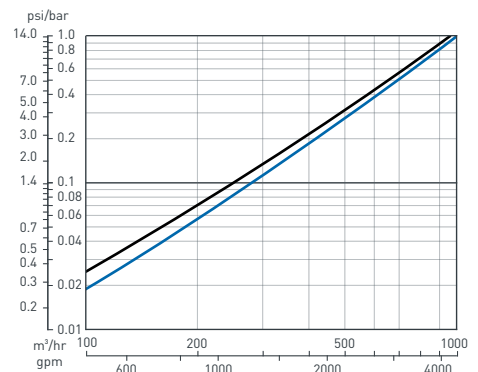
6 x 4" Apollo Twin Battery



7 x 4" Apollo Twin Battery



8 x 4" Apollo Twin Battery



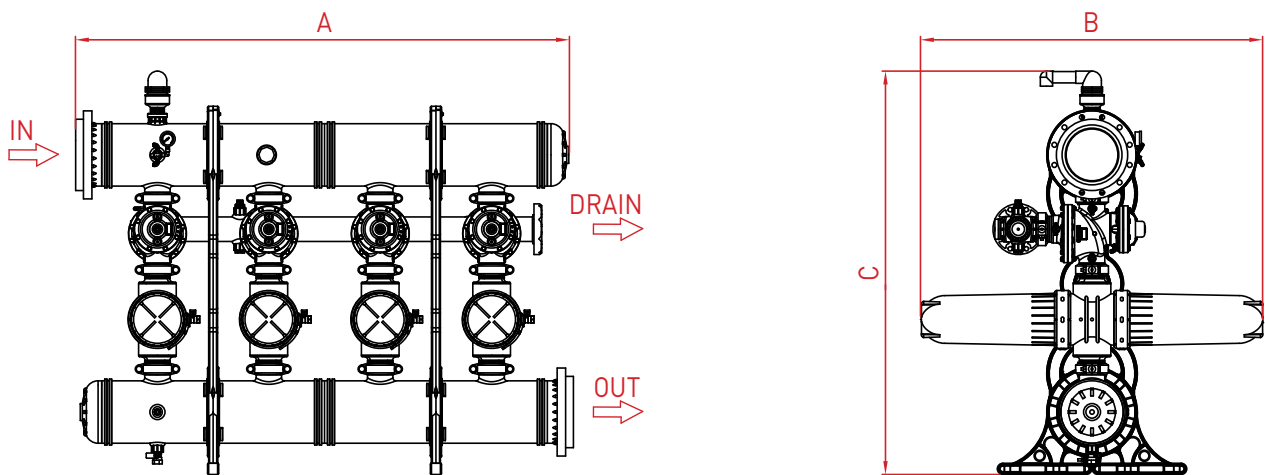
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	10 bar (145 psi)					
Min. backwash pressure	2bar (30 psi)					
Max. recommended flow rate	240 m ³ /h (1,057 gpm)	320 m ³ /h (1,409 gpm)	400 m ³ /h (1,761 gpm)	480 m ³ /h (2,113 gpm)	560 m ³ /h (2,466 gpm)	640 m ³ /h (2,818 gpm)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	18,852 cm ³ (1,150 in ³)	25,136 cm ³ (1,534 in ³)	31,420 cm ³ (1,917 in ³)	37,704 cm ³ (2,300 in ³)	43,998 cm ³ (2,685 in ³)	50,272 cm ³ (3,068 in ³)
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)

* Maximum operating pressure and temperature are interdependent parameters and are given for general reference only. Please consult your authorized Amiad representative for the application specific parameters.

Backwash Data	
Drain connection	100 mm (4")
Flushing time	20 seconds
Min. flow for backwash	48 m ³ /h (211 gpm)

Typical Installation Drawing



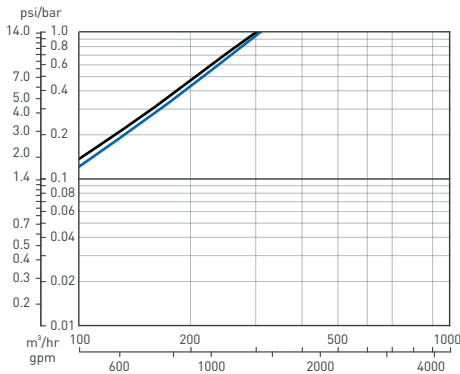
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	1,734 mm (68")	2,234 mm (89")	2,734 mm (108")	3,234 mm (127")	3,734 mm (147")	4,234 mm (166")
B	Width	1,531 mm (60")					
C	Height	1,810 mm (71")				1,830 mm (72")	

4" Apollo Twin Battery External Source

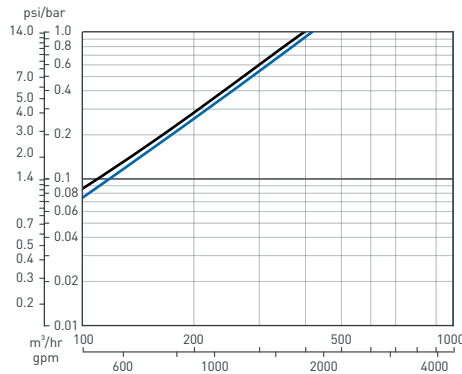


Head Loss Graphs (in clean water) — 400 μ — 100 μ

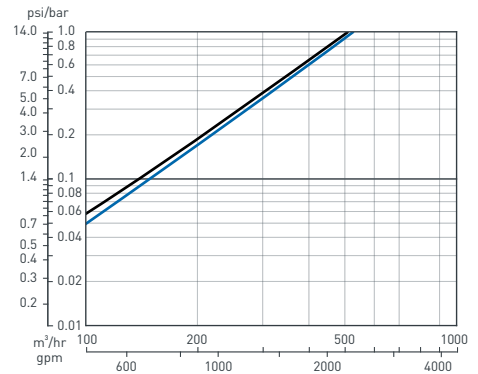
3 x 4" Apollo Twin Battery EX.S.



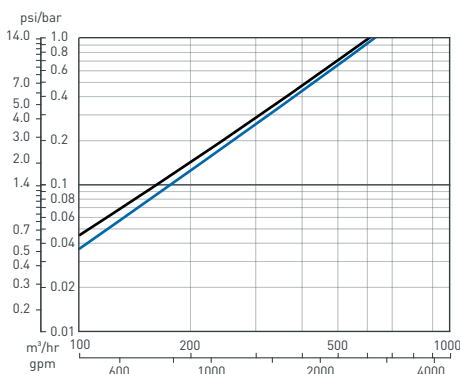
4 x 4" Apollo Twin Battery EX.S.



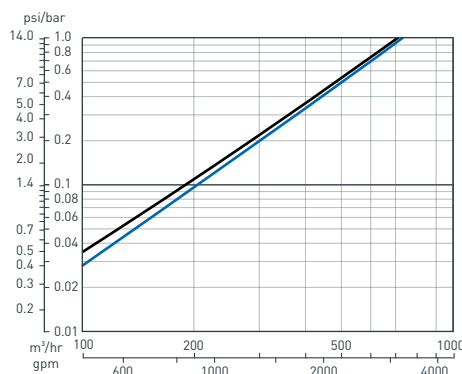
5 x 4" Apollo Twin Battery EX.S.



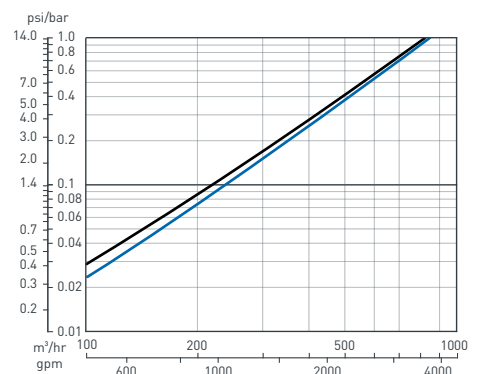
6 x 4" Apollo Twin Battery EX.S.



7 x 4" Apollo Twin Battery EX.S.



8 x 4" Apollo Twin Battery EX.S.



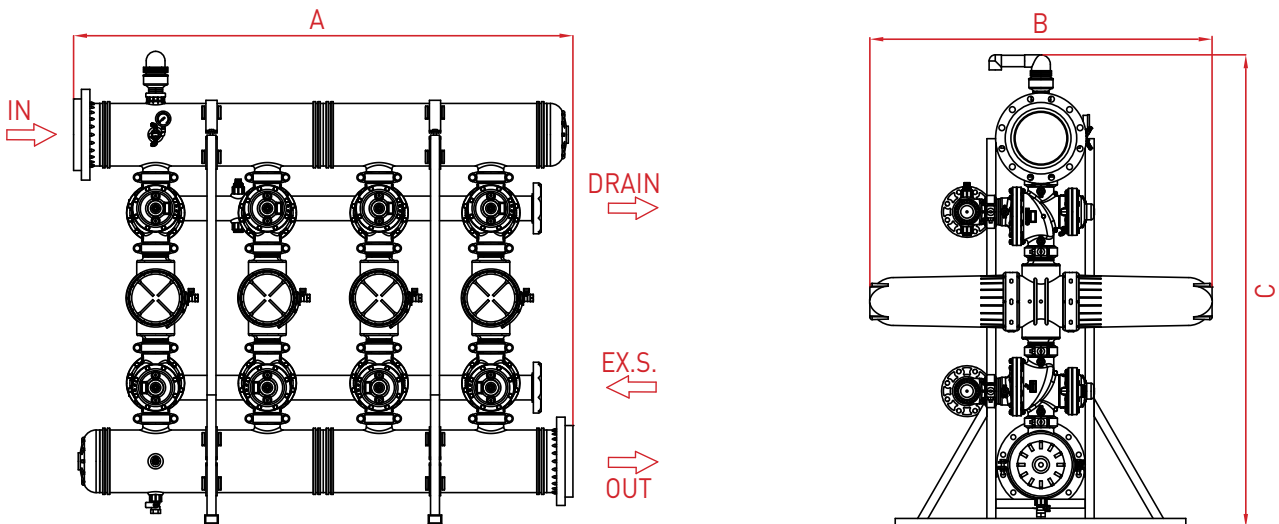
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	10 bar (145 psi)					
Min. backwash pressure	2bar (30 psi)					
Maxi. recommended flow rate	240 m ³ /h (1,057 gpm)	320 m ³ /h (1,409 gpm)	400 m ³ /h (1,761 gpm)	480 m ³ /h (2,113 gpm)	560 m ³ /h (2,466 gpm)	640 m ³ /h (2,818 gpm)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	18,852 cm ³ (1,150 in ³)	25,136 cm ³ (1,534 in ³)	31,420 cm ³ (1,917 in ³)	37,704 cm ³ (2,300 in ³)	43,998 cm ³ (2,685 in ³)	50,272 cm ³ (3,068 in ³)
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)

* Maximum operating pressure and temperature are interdependent parameters and are given for general reference only. Please consult your authorized Amiad representative for the application specific parameters.

Backwash Data	
Drain connection	100 mm (4")
Flushing time	15 seconds
Min. flow for backwash	48 m ³ /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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