

3" - 4" SK Apollo

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



inlet/outlet connection

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

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

flow rates

**395 - 1,585 gpm
(90 - 360 m³/h)**

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

filtration degrees

**100 - 400
micron**

max. working pressure

**145 psi
(10 bar)**

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” Spin Klin™ 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 395 gpm (90 m³/h) to 2,640 gpm (600 m³/h) with filtration degrees ranging from 20–400 micron. Inlet/Outlet from 6”–12” (150-300 mm) diameter.

The Filtration Process

The discs are stacked on the Spin Klin™ 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

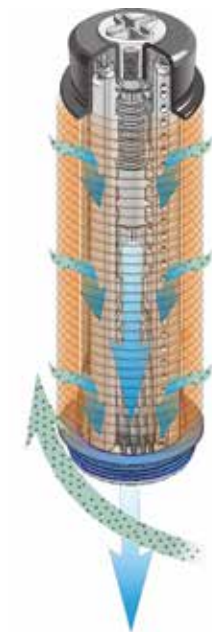
Construction materials	
Filter Housing & Lid	PP (Polypropylene)
Disc elements	PP (Polypropylene) or PA (Polyamide)
Backwash valves	RPA (Reinforce Polyamide) or RPP (Reinforce Polypropylene)
Manifolds	PP (Polypropylene)
Seals	NBR or EPDM, (Viton optional)
Control Tubing	PE or PA

The Apollo Spine Technology Offers:

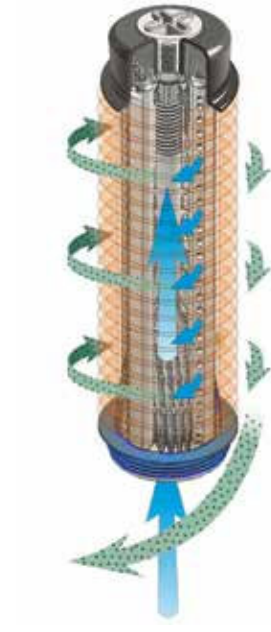
- Significantly larger filtration area (triple the 2" disc element)
- Less valves and accessories
- Optional use of low pressure backwash spines, as low as 1.5 bar
- Seawater polymeric materials available
- Lower backwash flow during cleaning process
- Unique design offers the largest disc element technology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



Apollo spine



Filtration mode



Backwash mode

Disc material type availability according to filtration degree:

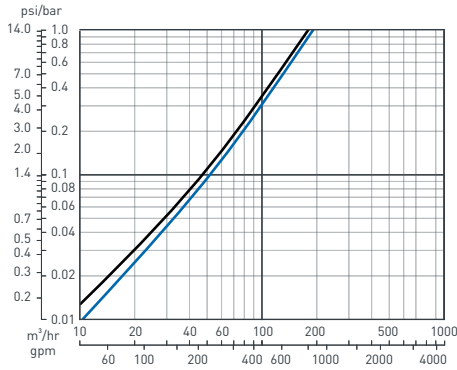
Color Code	Black	Red	Yellow	Blue
Micron degree	100	130	200	400
PP Disc PA (Nylon) Disc	PP	PP	PP	PP

3" Apollo Angle Battery

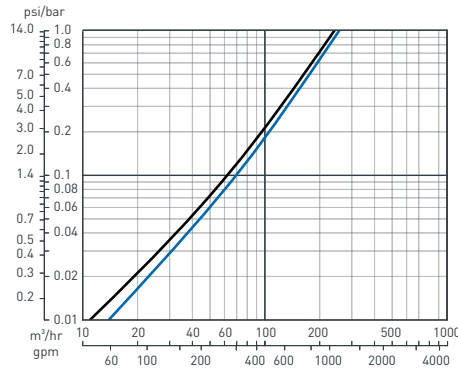


Head Loss Graphs (in clean water) — 400 μ — 100 μ

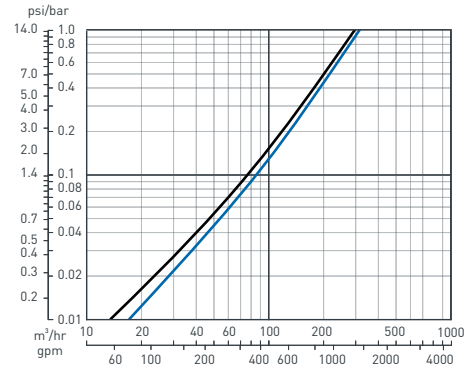
3 x 3" Apollo Angle Battery



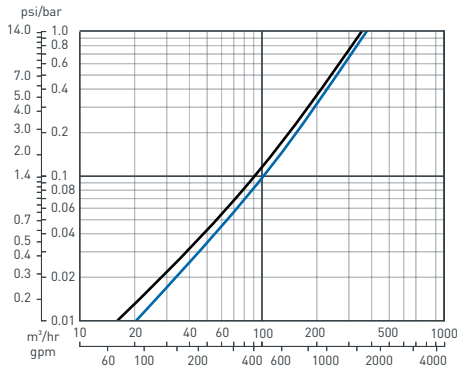
4 x 3" Apollo Angle Battery



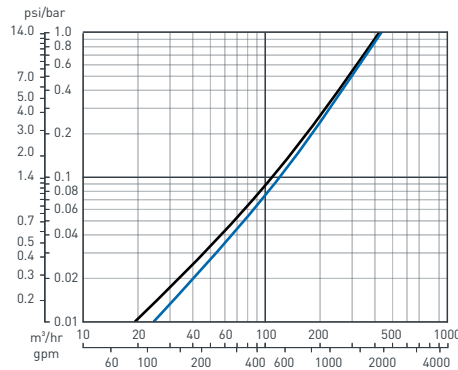
5 x 3" Apollo Angle Battery



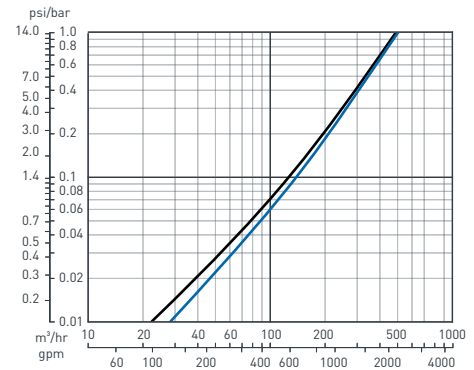
6 x 3" Apollo Angle Battery



7 x 3" Apollo Angle Battery



8 x 3" Apollo Angle Battery



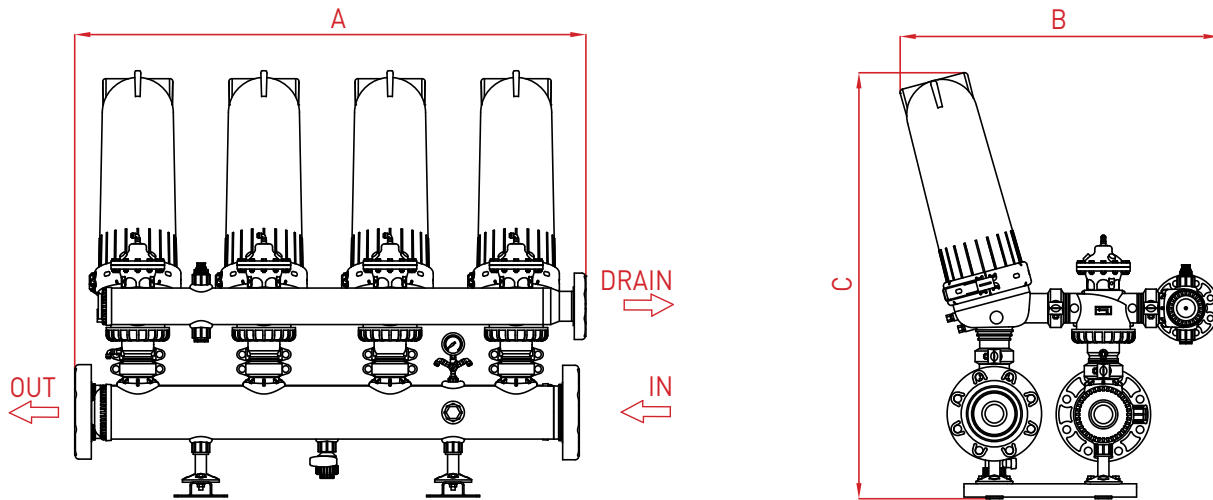
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	145 psi (10 bar)					
Min. backwash pressure	30 psi (2 bar)					
Max. recommended flow rate	528 gpm (120 m ³ /h)	704 gpm (160 m ³ /h)	880 gpm (200 m ³ /h)	1,057 gpm (240 m ³ /h)	1,233 gpm (280 m ³ /h)	1409 gpm (320 m ³ /h)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	575 in ³ (9,426 cm ³)	767 in ³ (12,568 cm ³)	959 in ³ (15,710 cm ³)	1,150 in ³ (18,852 cm ³)	1,342 in ³ (21,994 cm ³)	1,534 in ³ (25,136 cm ³)
Inlet/Outlet diameter	6" (150 mm)		6"/8" (150/200 mm)		8" (200 mm)	
Max. working temperature*	140°F (60°C)					
Dry weight standard	275 lb (125 kg)	341 lb (155 kg)	418 lb (190 kg)	484 lb (220 kg)	561 lb (255 kg)	627 lb (285 kg)

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

Typical Installation Drawing



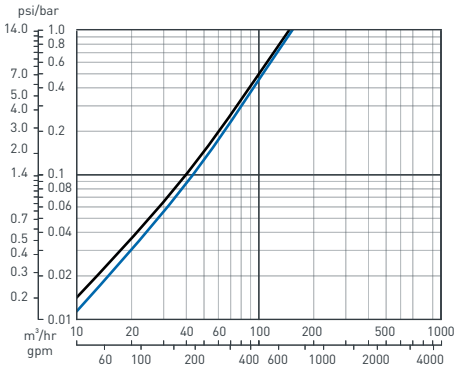
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	45 21/32" (1,160 mm)	60 5/8" (1,540 mm)	75 19/32" (1,920 mm)	90 9/16" (2,300 mm)	105 1/2" (2,680 mm)	120 15/32" (3,060 mm)
B	Width	37 1/16" (941 mm)					
C	Height	47 15/16" (1,218 mm)					

3" Apollo Angle Battery External Source

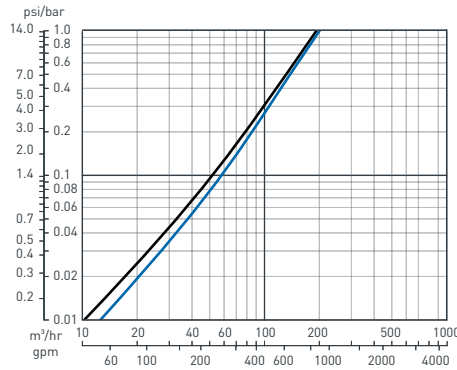


Head Loss Graphs (in clean water) — 400 μ — 100 μ

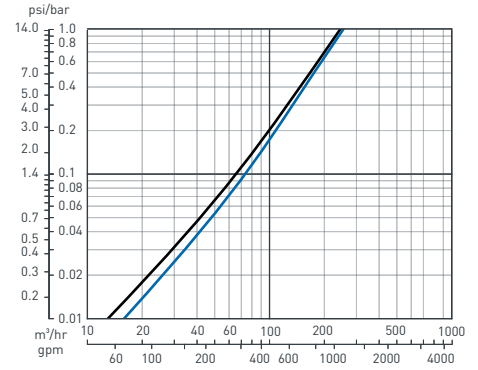
3 x 3" Apollo Angle Battery EX.S.



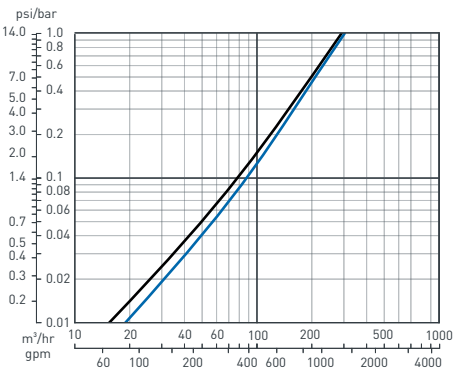
4 x 3" Apollo Angle Battery EX.S.



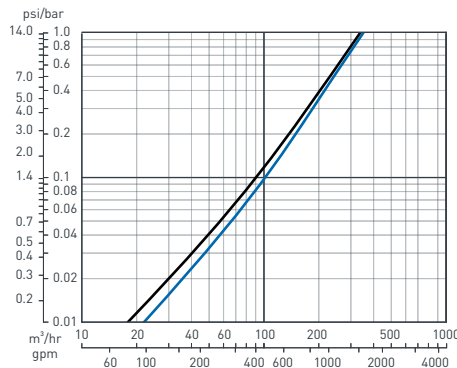
5 x 3" Apollo Angle Battery EX.S.



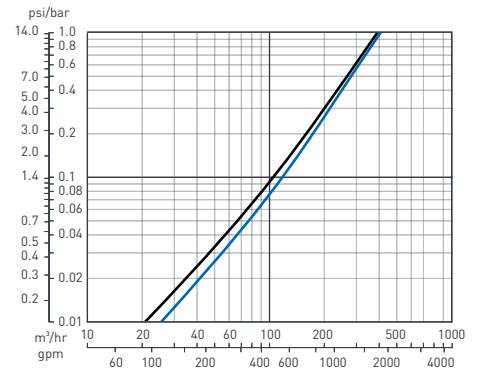
6 x 3" Apollo Angle Battery EX.S.



7 x 3" Apollo Angle Battery EX.S.



8 x 3" Apollo Angle Battery EX.S.



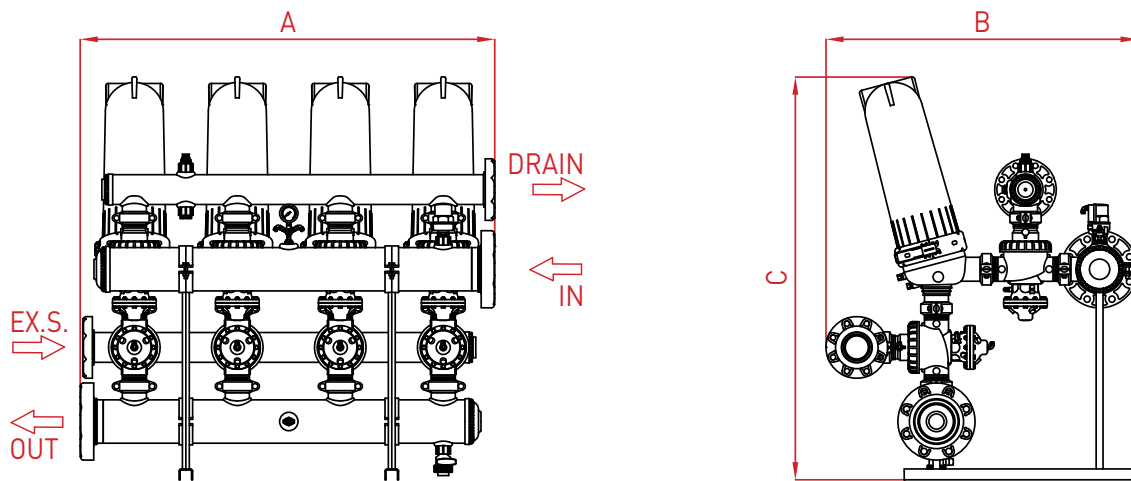
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	145 psi (10 bar)					
Min. backwash pressure	30 psi (2 bar)					
Max. recommended flow rate	528 gpm (120 m ³ /h)	704 gpm (160 m ³ /h)	880 gpm (200 m ³ /h)	1,057 gpm (240 m ³ /h)	1,233 gpm (280 m ³ /h)	1409 gpm (320 m ³ /h)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	575 cm ³ (9,426 cm ³)	767 in ³ (12,568 cm ³)	959 in ³ (15,710 cm ³)	1,150 in ³ (18,852 cm ³)	1,342 in ³ (21,994 cm ³)	1,534 in ³ (25,136 cm ³)
Inlet/Outlet diameter	6" (150 mm)		6"/8" (150/200 mm)		8" (200 mm)	
Max. working temperature*	140°F (60°C)					
Dry weight external source backwash	436 lb (198 kg)	470 lb (213 kg)	600 lb (272 kg)	643 lb (292 kg)	690 lb (313 kg)	738 lb (335 kg)

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

Typical Installation Drawing



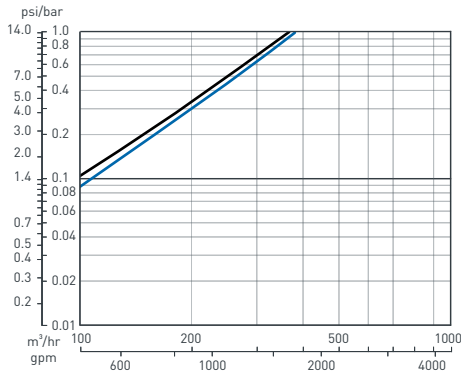
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	45 9/32" (1,150 mm)	60 1/4" (1,530 mm)	75 3/16" (1,910 mm)	90 5/32" (2,290 mm)	105 1/8" (2,670 mm)	120 3/32" (3,050 mm)
B	Width	45 11/32" (1,152 mm)	49 21/32" (1,262 mm)	49 21/32" (1,262 mm)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

4" Apollo Twin Battery

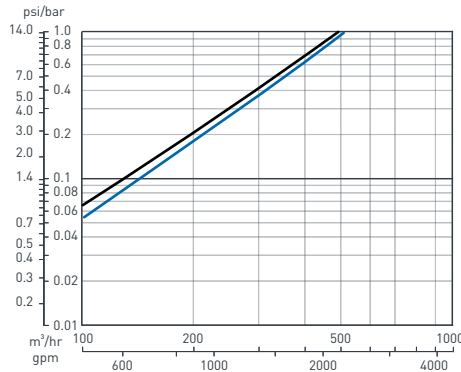


Head Loss Graphs (in clean water) — 400 μ — 100 μ

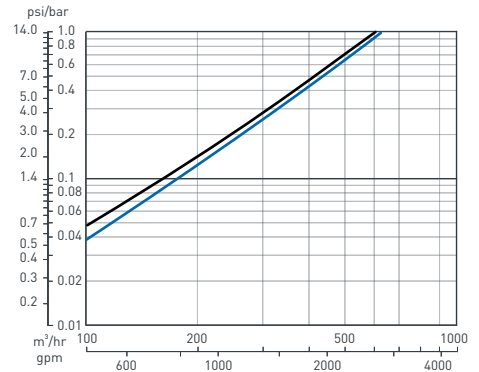
3 x 4" Apollo Twin Battery



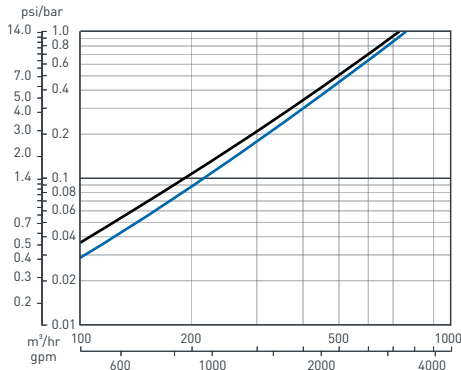
4 x 4" Apollo Twin Battery



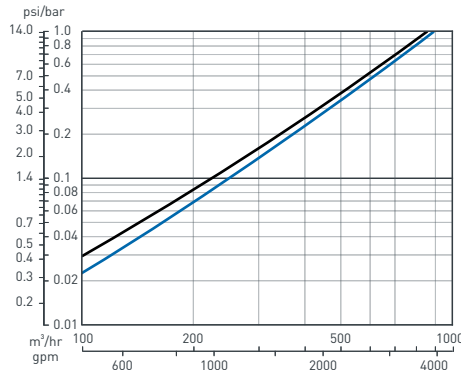
5 x 4" Apollo Twin Battery



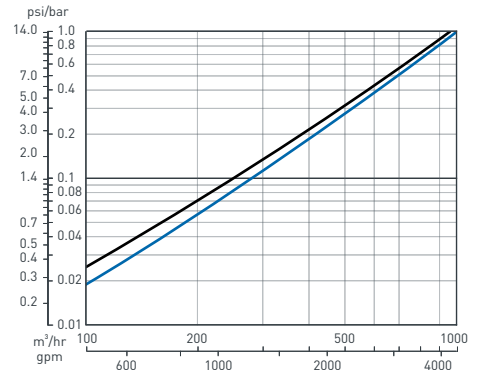
6 x 4" Apollo Twin Battery



7 x 4" Apollo Twin Battery



8 x 4" Apollo Twin Battery



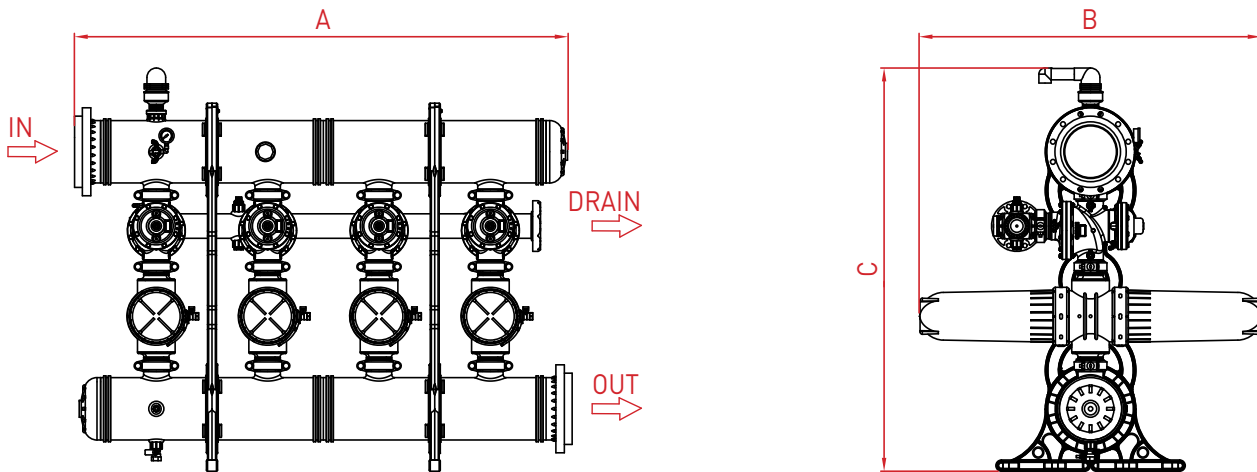
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	145 psi (10 bar)					
Min. backwash pressure	30 psi (2 bar)					
Max. recommended flow rate	1,057 gpm (240 m ³ /h)	1,409 gpm (320 m ³ /h)	1,761 gpm (400 m ³ /h)	2,113 gpm (480 m ³ /h)	2,466 gpm (560 m ³ /h)	2,818 gpm (640 m ³ /h)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	1,150 in ³ (18,852 cm ³)	1,534 in ³ (25,136 cm ³)	1,917 in ³ (31,420 cm ³)	2,300 in ³ (37,704 cm ³)	2,685 in ³ (43,998 cm ³)	3,068 in ³ (50,272 cm ³)
Inlet/Outlet diameter	8" (200 mm)	10" (250 mm)			12" (300 mm)	
Max. working temperature*	140°F (60°C)					
Dry weight standard	351 lb (158 kg)	455 lb (205 kg)	560 lb (252 kg)	644 lb (299 kg)	813 lb (366 kg)	962 lb (433 kg)

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

Typical Installation Drawing



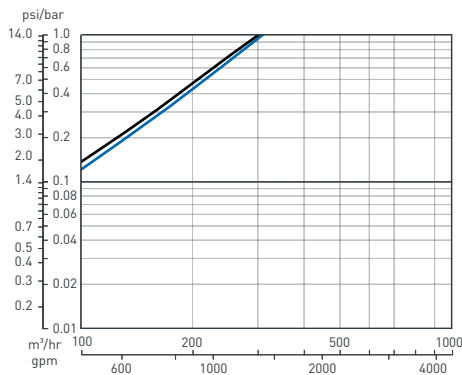
Dimensions		3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
A	Length	68" (1,734 mm)	89" (2,234 mm)	108" (2,734 mm)	127" (3,234 mm)	147" (3,734 mm)	166" (4,234 mm)
B	Width	60" (1,531 mm)					
C	Height	71" (1,810 mm)				72" (1,830 mm)	

4" Apollo Twin Battery External Source

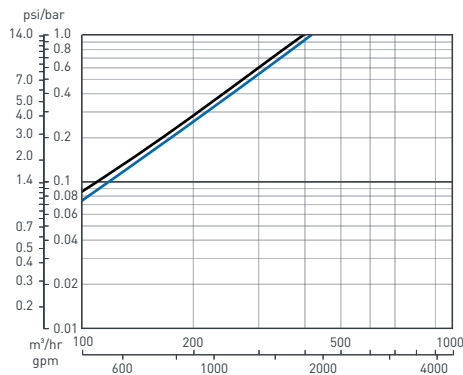


Head Loss Graphs (in clean water) — 400 μ — 100 μ

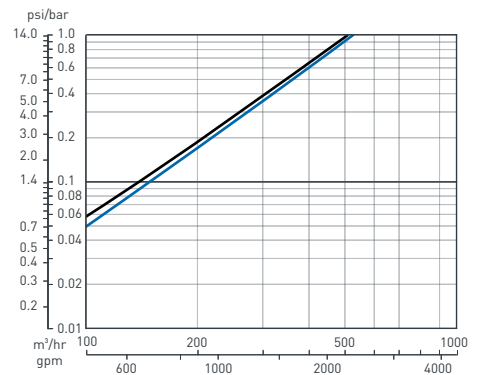
3 x 4" Apollo Twin Battery EX.S.



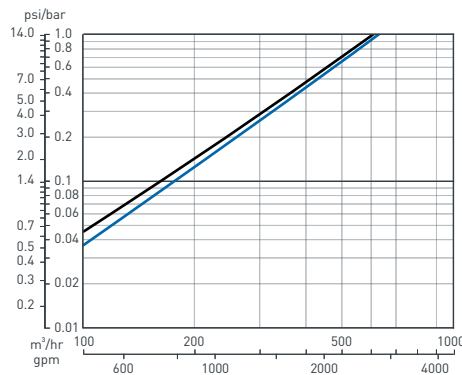
4 x 4" Apollo Twin Battery EX.S.



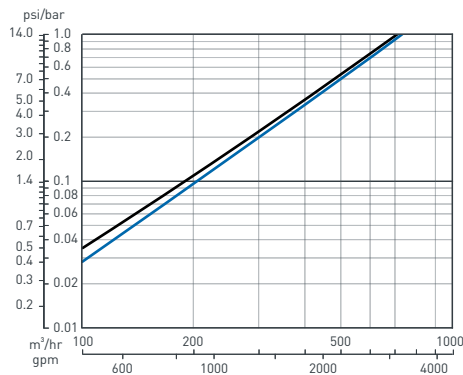
5 x 4" Apollo Twin Battery EX.S.



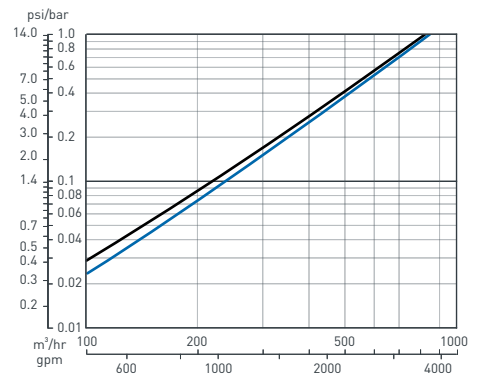
6 x 4" Apollo Twin Battery EX.S.



7 x 4" Apollo Twin Battery EX.S.



8 x 4" Apollo Twin Battery EX.S.



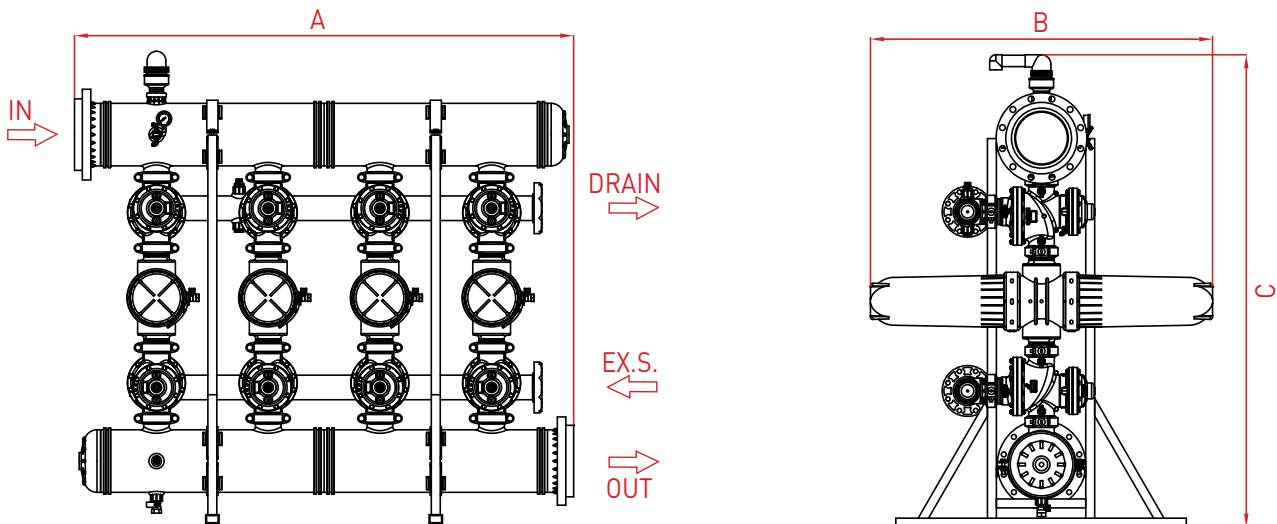
Filter Type	3 unit battery	4 unit battery	5 unit battery	6 unit battery	7 unit battery	8 unit battery
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General Data						
Max. working pressure*	145 psi (10 bar)					
Min. backwash pressure	30 psi (2 bar)					
Max. recommended flow rate	1,057 gpm (240 m ³ /h)	1,409 gpm (320 m ³ /h)	1,761 gpm (400 m ³ /h)	2,113 gpm (480 m ³ /h)	2,466 gpm (560 m ³ /h)	2,818 gpm (640 m ³ /h)
Available filtration degrees	400, 200, 130, 100, 55, 20 micron					
Filtration volume	1,150 in ³ (18,852 cm ³)	1,534 in ³ (25,136 cm ³)	1,917 in ³ (31,420 cm ³)	2,300 in ³ (37,704 cm ³)	2,685 in ³ (43,998 cm ³)	3,068 in ³ (50,272 cm ³)
Inlet/Outlet diameter	8" (200 mm)	10" (250 mm)			12" (300 mm)	
Max. working temperature*	140°F (60°C)					
Dry weight external source backwash	511 lb (230 kg)	638 lb (287 kg)	764 lb (344 kg)	957 lb (431 kg)	1,195 lb (538 kg)	1,402 lb (631 kg)

* 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	4" (100 mm)
Flushing time	15 seconds
Min. flow for backwash	211 gpm (48 m ³ /h)

Typical Installation Drawing



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

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