

ABF Filters

Automatic self-cleaning filters
for high loads of suspended
solids and heavy duty
applications



flowrates	filtration degrees	water for cleaning	minimum operating pressure
up to 32000 US gpm (7200 m ³ /h)	3500-200 micron	less than 1% of the total flow	30 psi (2 bar)

features:

- Heavy duty filter for high loads of suspended solids and high flowrates
- Durable electrically driven revolving-brush cleaning mechanism
- Automatic flushing according to pressure differential and/or time
- Option for continuous flushing
- Low pressure operation, suitable for 30 psi (2 bar) and lower
- No interruption of downstream flow during flushing
- Applications: Water supply systems, cooling water, wastewater treatment
- Industries: manufacturing, mining, water and wastewater treatment plants, turf, agriculture, etc.

How the ABF Strainers Work

General

Amiad's ABF Series consists of heavy duty automatic filters with an electric self-cleaning mechanism. The five models of the "ABF" product line range in flow-rates of up to 32000 US gpm (7200 m³/h) with screens ranging from 3,500-200 micron filtration degree.

The Filtering Process

Raw water enters the inside of the screen-cylinder (1) from the filter's Inlet (2) and flows through the screen to the filter's Outlet (3). The dirt particles are trapped on the inner screen surface and formulate a "filtration cake" that causes a differential pressure across the screen.

The Self-Cleaning Process

During the self-cleaning process, filtered process water continues to flow. The Exhaust Valve (4) opens and the Drive Unit (5) rotates two stainless steel brushes (6) which sweep the inner surface of the cylindrical screen. The particles trapped on the screen are dislodged by the brushes and flushed out the exhaust valve.

The Control System

The control system is comprised of a Pressure Differential Switch (7) that senses the pressure differential across the screen and sends a signal to the control board when it reaches a pre-defined value (usually 7 psi/0.5 bar). The control board initiates the self-cleaning process.

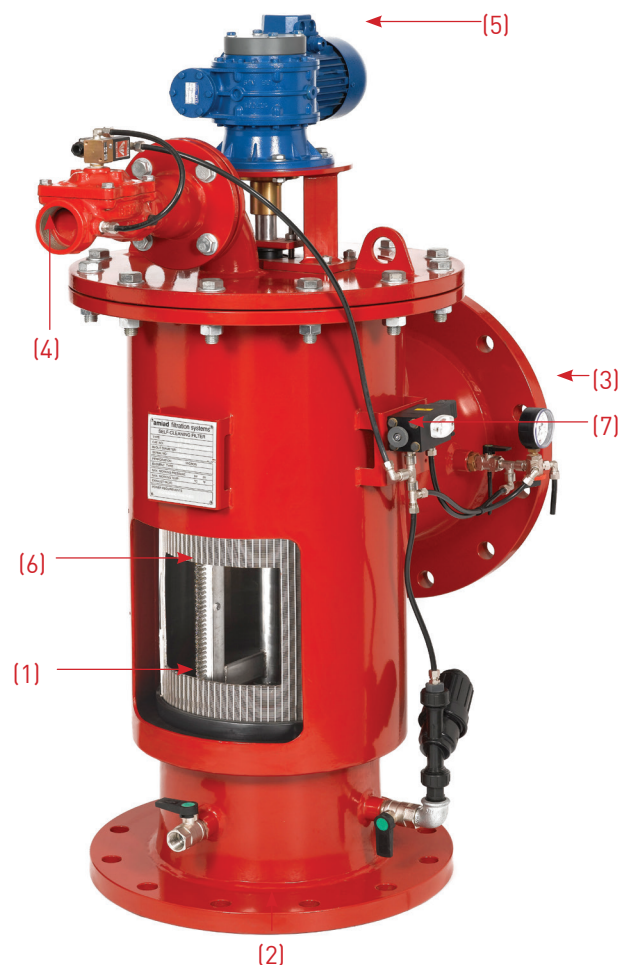
The filter begins a self-cleaning cycle under any one of the following conditions:

1. Receiving a signal from the Pressure Differential Switch
2. Time interval parameter set at the control board
3. Manual Start

"ABF" Models

Amiad's "ABF" product-line consists of the following models:

- ABF-3000 for up to 660 US gpm (150 m³/h)
- ABF-6000 for up to 3100 US gpm (700 m³/h)
- ABF-10000 for up to 4400 US gpm (1000 m³/h)
- ABF-15000 for up to 8000 US gpm (1800 m³/h)
- Mega ABF 40000 up to 17600 US gpm (4000 m³/h)
- Mega ABF 60000 for up to 32000 US gpm (7200 m³/h)



Technical Specifications

Filter Type	ABF-3000	ABF-6000	ABF-10000	ABF-15000	Mega ABF 40000	Mega ABF 60000
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General Data						
Max. flowrate*	660 US gpm (150 m³/h)	3100 US gpm (700 m³/h)	4400 US gpm (1000 m³/h)	8000 US gpm (1800 m³/h)	17600 US gpm (4000 m³/h)	32000 US gpm (7200 m³/h)
Inlet/Outlet diameter	3"-6" (80-150 mm)	8"-14" (200-350 mm)	8"-16" (200-400 mm)	14"-20" (350-500 mm)	16"-28" (400-600 mm)	20"-36" (500-900 mm)
Standard filtration degrees	Perforated screen 3500, 2500, 1500, 800 micron Wedge Wire Screen 800, 500, 300, 200 micron					
Min. working pressure	30 psi (2 bar) 15 psi (1 bar) upon request					
Max. working pressure	145 psi (10 bar) 232 psi (16 bar) upon request					
Max. working temperature	140°F (60°C) 203°F (95°C) upon request					
Electrical Supply	230/480 VAC					
Weight [empty]	245 lb (110 kg)	470-573 lb (213-260 kg)	683-838 lb (310-380 kg)	1430 lb (650 kg)	4960 lb (2250 kg)	13670 lb (6200 kg)

Flushing Data						
Min. flow for flushing	132 US gpm (30 m³/h)	220 US (gpm 50 m³/h)	300 US gpm (70 m³/h)	300 US gpm (70 m³/h)	300-600 US gpm (70-140 m³/h)	300-600 US gpm (70-140 m³/h)
Reject water volume per flush cycle	40 US gallon (150 liter)	53 US gallon (200 liter)	80 US gallon (300 liter)	80 US gallon (300 liter)	317 US gallon (1200 liter)	317 US gallon (1200 liter)
Flushing cycle time	15 seconds	15-30 seconds At 60 Hz			4 x 15-30 seconds	
Exhaust valve	2" (50 mm)	2" (50 mm)	3" (80 mm)	3" (80 mm)	4 x 3" (80 mm)	4 x 3" (80 mm)
Flushing criteria	Differential pressure of 7psi (0.5 bar), time intervals and manual operation					

* Consult Amiad for optimum flow depending on filtration degree & water quality.

Technical Specifications

Filter Type	ABF-3000	ABF-6000	ABF-10000	ABF-15000	Mega ABF 40000	Mega ABF 60000
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Screen Data						
Filter area	465 in² (3000 cm²)	930 in² (6000 cm²)	1550 in² (10000 cm²)	2325 in² (15000 cm²)	6200 in² (40000 cm²)	9300 in² (60000 cm²)
Screen types	316 St. St. wedge wire 316 St. St. perforated screen					

Control and Electricity						
Rated operation voltage	3 phase, 380/440V, 50/60Hz					
Electric motor	1/4 HP Gear Output 14 RPM	¾ HP Gear Output 18 RPM	1 HP Gear Output 22 RPM	1.5 HP Gear Output 18 RPM	4 x 1 HP Gear Output 22 RPM	4 x 1.5 HP Gear Output 18 RPM
Current consumption	0.7 Amp.	1.5 Amp.	2.5 Amp.	3.0 Amp.	2.5 Amp.	3.0 Amp.
Control voltage	24 VAC					

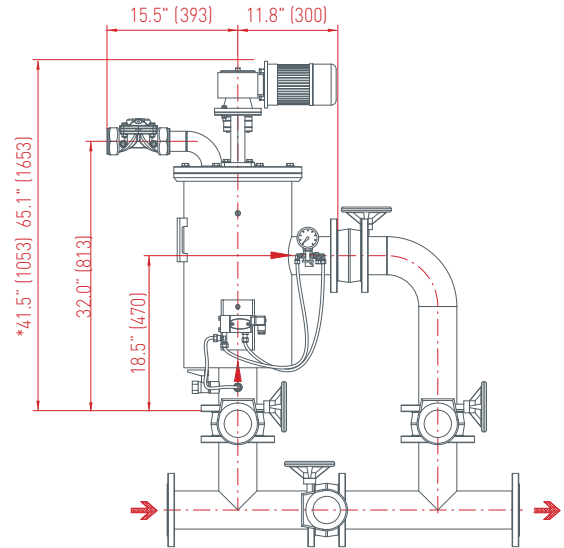
Construction Materials*	
Filter housing and lid	Epoxy or Polyester coated carbon steel 37-2
Cleaning mechanism	Stainless steel 316L, PVC, Acetal
Exhaust valve	Epoxy-coated cast iron, Natural rubber
Seals	Synthetic rubber, Teflon
Control	Brass, Stainless steel, Nylon

* Amiad offers a variety of construction materials. Please consult us for specifications.

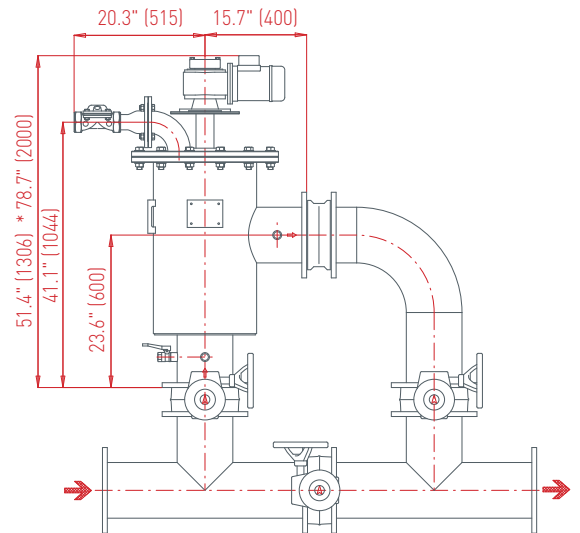
ABF 3000



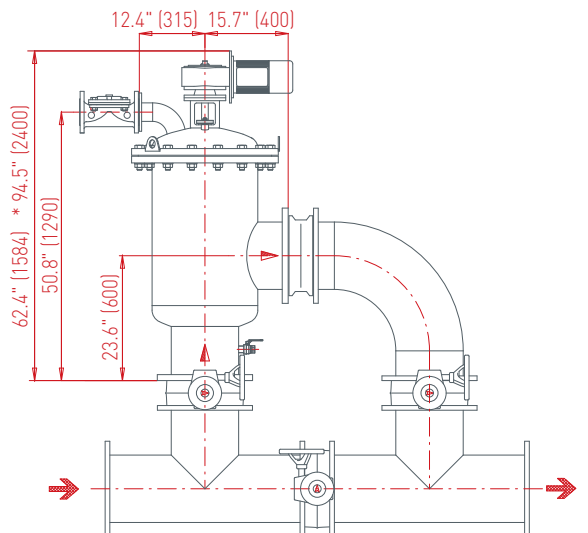
Typical Installation Drawing



ABF 6000



ABF 10000



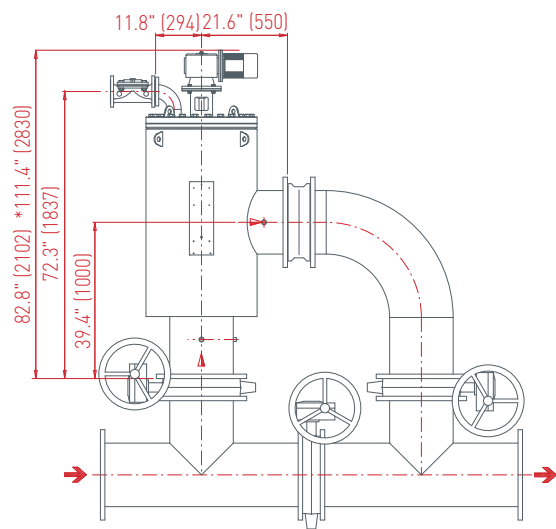
Dim: inch (mm)

*Approx. length required for maintenance

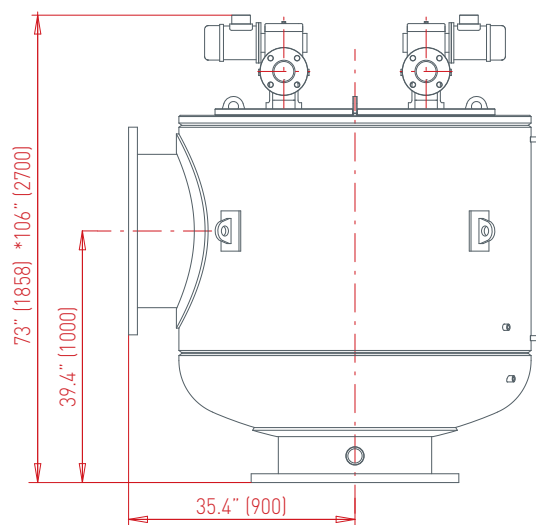
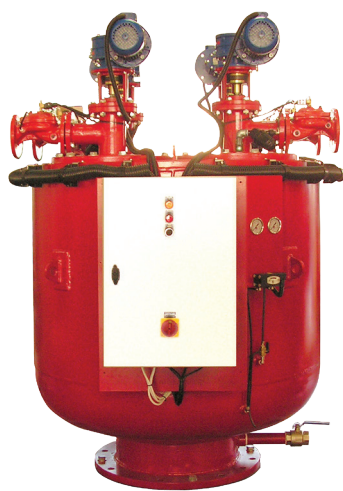
ABF 15000



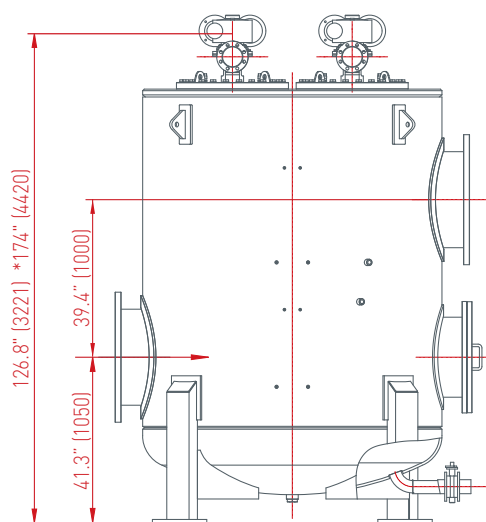
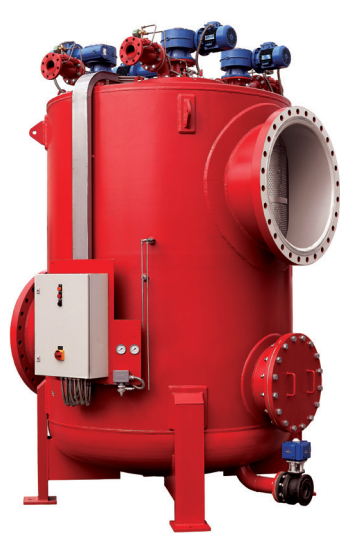
Typical Installation Drawing



MEGA ABF 40000



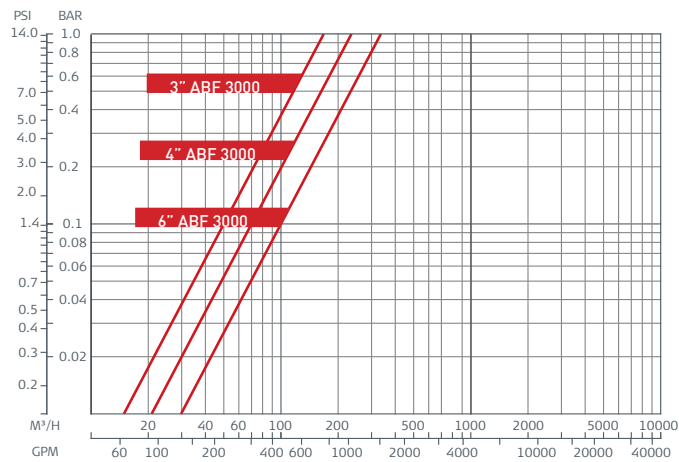
MEGA ABF 60000



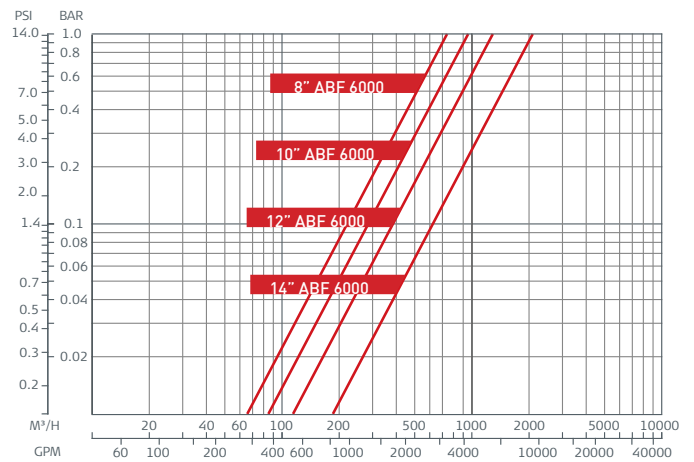
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Head Loss Graphs in clean water

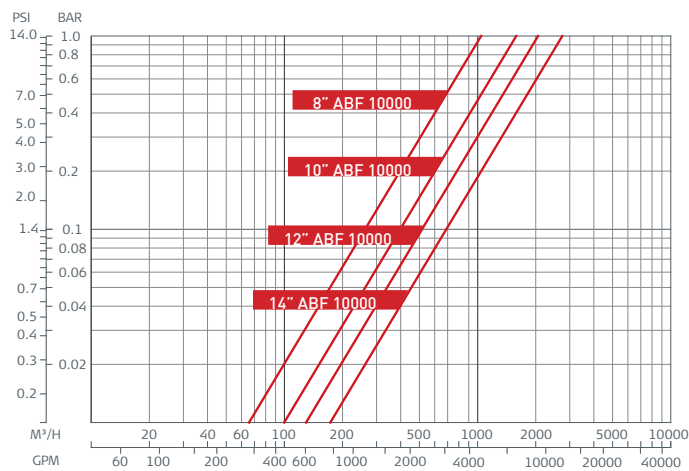
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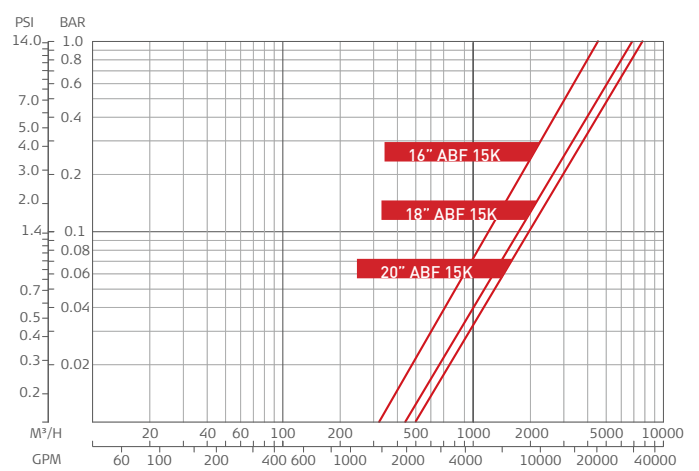
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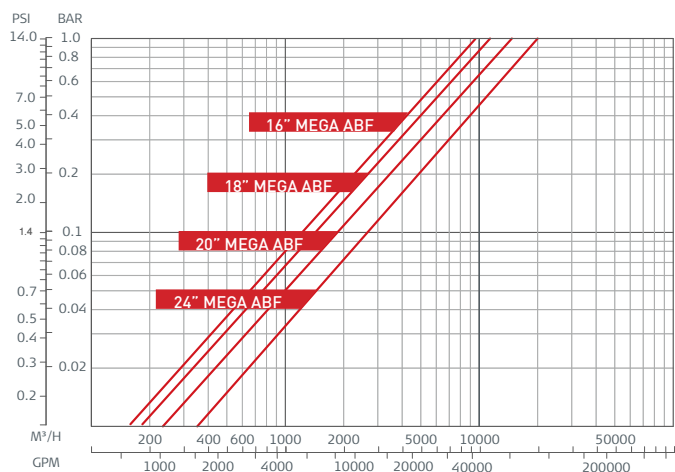
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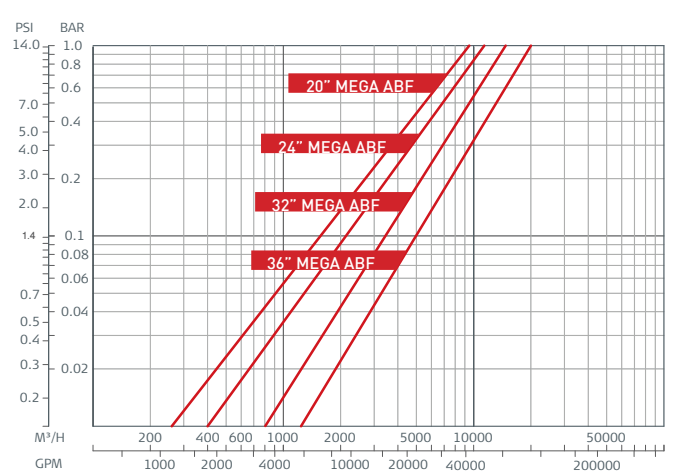
ABF 15000



MEGA ABF 40000



MEGA ABF 60000



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