

# ABF Filters

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



flowrates

**up to 7200 m<sup>3</sup>/h  
(32000 US gpm)**

filtration degrees

**3500-200  
micron**

water for cleaning

**less than 1%  
of the total flow**

minimum operating pressure

**2 bar (30 psi)**

## 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 2 bar (30 psi) 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 7200 m<sup>3</sup>/h (32000 US gpm) 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 0.5 bar / 7 psi). The control board initiates the self-cleaning process.

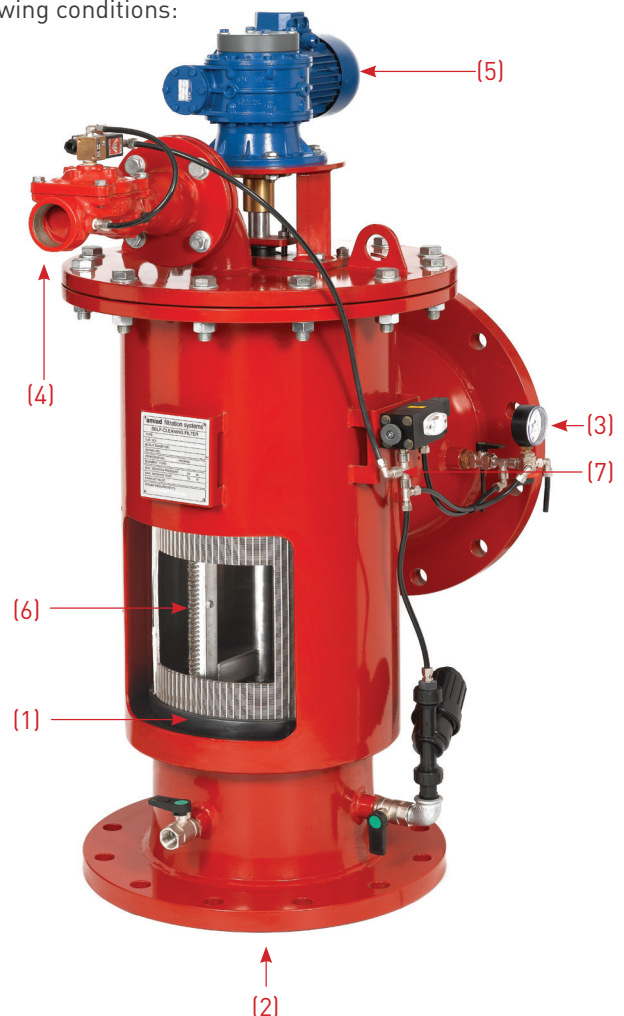
The filter begins a self-cleaning cycle under any one of the following conditions:

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 150 m<sup>3</sup>/h (660 US gpm)
- ABF-6000 for up to 700 m<sup>3</sup>/h (3100 US gpm)
- ABF-10000 for up to 1000 m<sup>3</sup>/h (4400 US gpm)
- ABF-15000 for up to 1800 m<sup>3</sup>/h (8000 US gpm)
- Mega ABF 40000 up to 4000 m<sup>3</sup>/h (17600 US gpm)
- Mega ABF 60000 for up to 7200 m<sup>3</sup>/h (32000 US gpm)



## Technical Specifications

Filter Type	ABF-3000	ABF-6000	ABF-10000	ABF-15000	Mega ABF 40000	Mega ABF 60000
<b>General Data</b>						
Maximum flowrate*	150 m <sup>3</sup> /h (660 US gpm)	700 m <sup>3</sup> /h (3100 US gpm)	1000 m <sup>3</sup> /h (4400 US gpm)	1800 m <sup>3</sup> /h (8000 US gpm)	4000 m <sup>3</sup> /h (17600 US gpm)	7200 m <sup>3</sup> /h (32000 US gpm)
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	2 bar (30 psi) 1 bar (15 psi) upon request					
Max. working pressure	10 bar (145 psi) 16 bar (232 psi) upon request					
Max. working temperature	60°C (140°F) 95°C (203°F) upon request					
Electrical Supply	230/480 VAC					
Weight [empty]	110 kg (245 lb)	213-260 kg (470-573 lb)	310-380 kg (683-838 lb)	650 kg (1430 lb)	2250 kg (4960 lb)	6200 kg (13670 lb)

<b>Flushing Data</b>						
Minimum flow for flushing	50 m <sup>3</sup> /h (220 US gpm)	50 m <sup>3</sup> /h (220 US gpm)	70 m <sup>3</sup> /h (300 US gpm)	70 m <sup>3</sup> /h (300 US gpm)	70-140 m <sup>3</sup> /h (300-600 US gpm)	70-140 m <sup>3</sup> /h (300-600 US gpm)
Reject water volume per flush cycle	150 liter (40 US gallon)	200 liter (53 US gallon)	300 liter (80 US gallon)	300 liter (80 US gallon)	1200 liter (317 US gallon)	1200 liter (317 US gallon)
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 0.5 bar (7psi), 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	3000 cm <sup>2</sup> (465 in <sup>2</sup> )	6000 cm <sup>2</sup> (930 in <sup>2</sup> )	10000 cm <sup>2</sup> (1550 in <sup>2</sup> )	15000 cm <sup>2</sup> (2325 in <sup>2</sup> )	40000 cm <sup>2</sup> (6200 in <sup>2</sup> )	60000 cm <sup>2</sup> (9300 in <sup>2</sup> )
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	3/4 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					

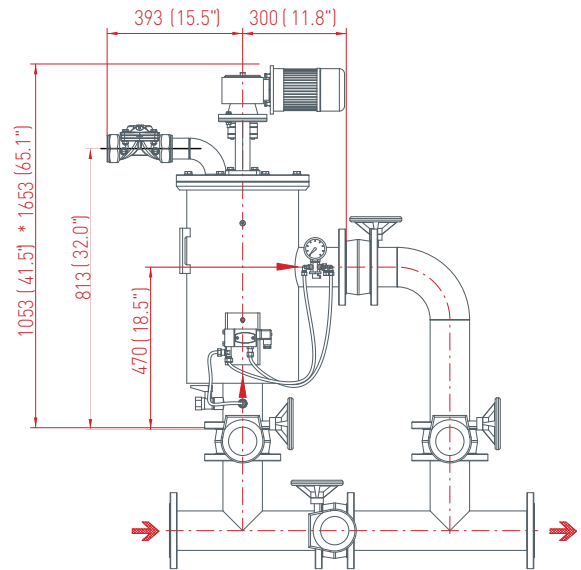
Construction Materials*						
Filter housing and lid	Epoxy or Polyester coated carbon steel 37-2					
Cleaning mechanism	Stainless steel 316L, PVC, Acetal					
Exhaust valve	Epoxy-coated cast iron, Natural rubber					
Seals	Synthetic rubber, Teflon					
Control	Brass, Stainless steel, Nylon					

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

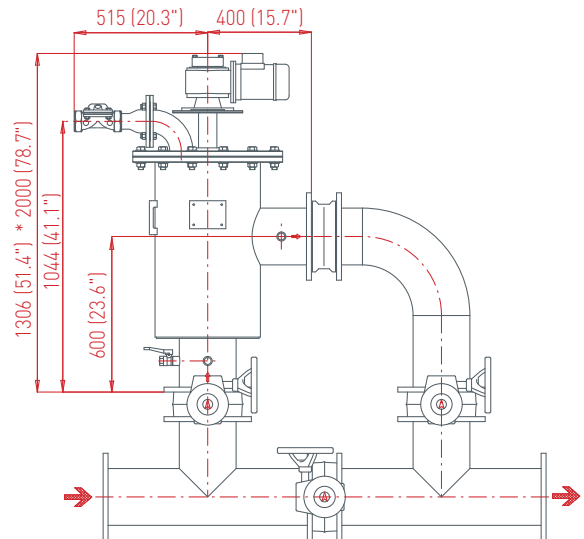
## ABF 3000



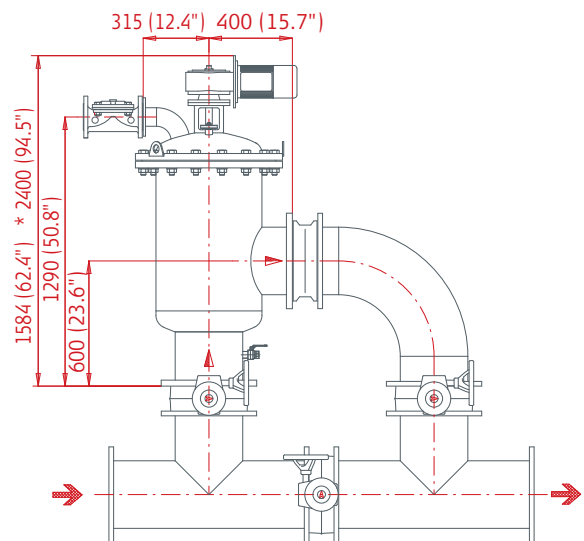
## Typical Installation Drawing



## ABF 6000



## ABF 10000



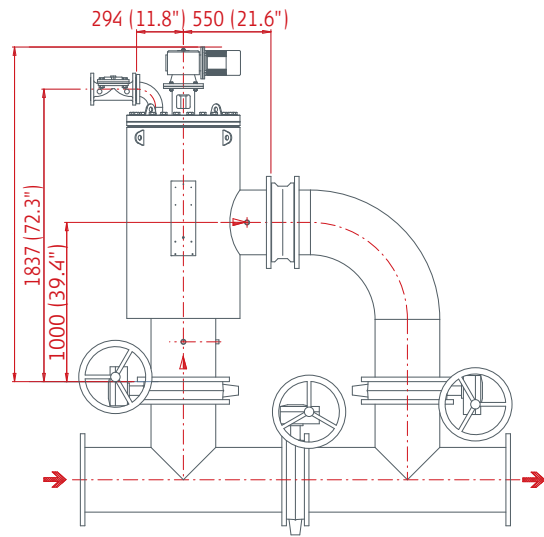
Dim: mm (inch)

\*Approx. length required for maintenance

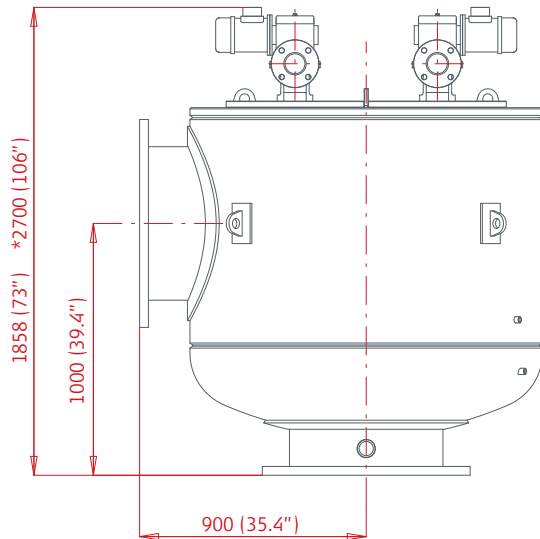
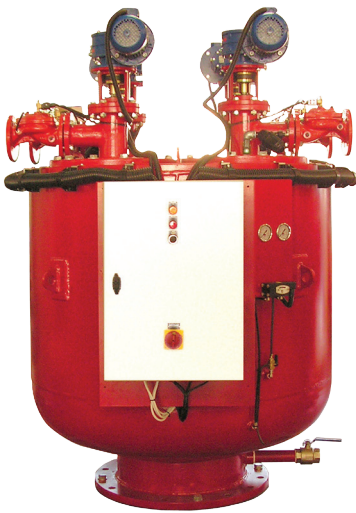
**ABF 15000**



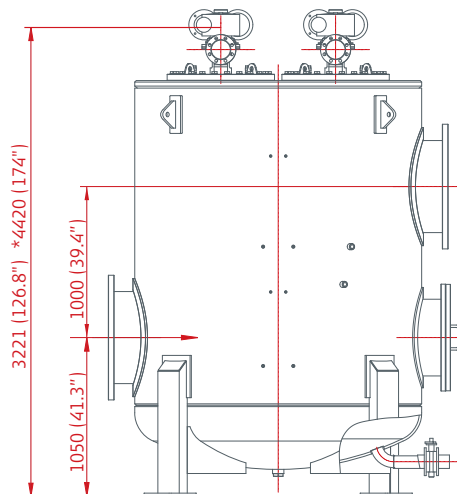
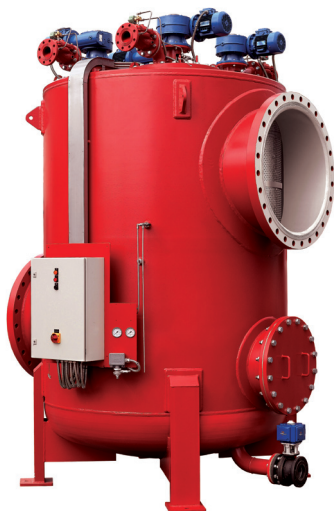
**Typical Installation Drawing**



**MEGA ABF 40000**



**MEGA ABF 60000**

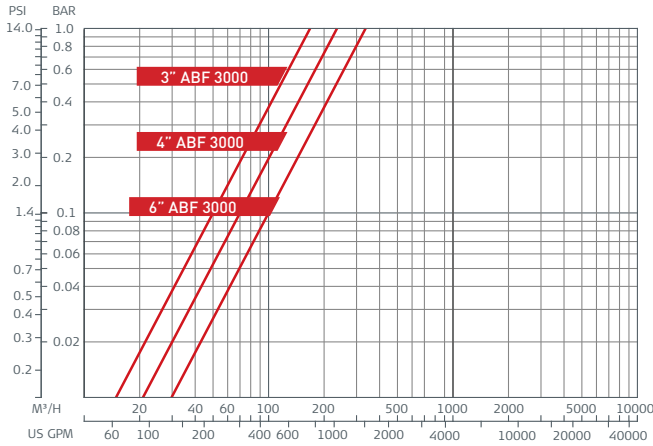


**Dim: mm (inch)**

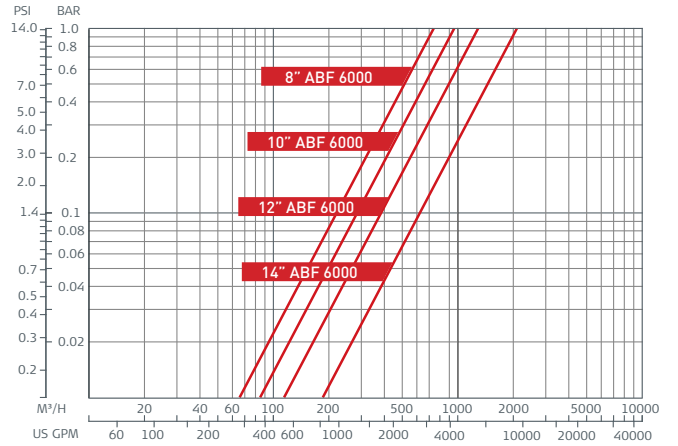
**\*Approx. length required for maintenance**

## Head Loss Graphs in clean water

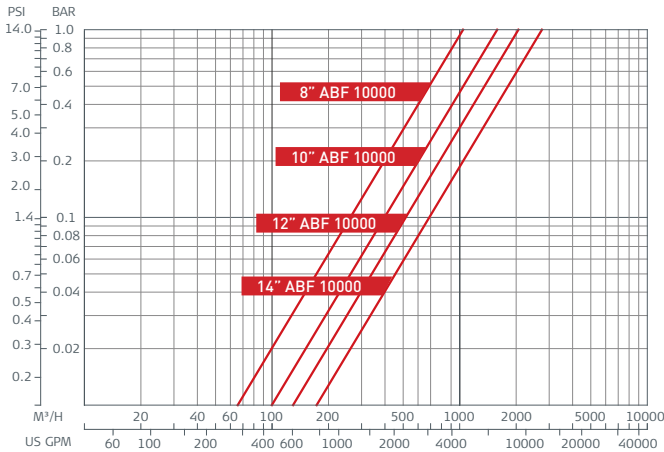
### ABF 3000



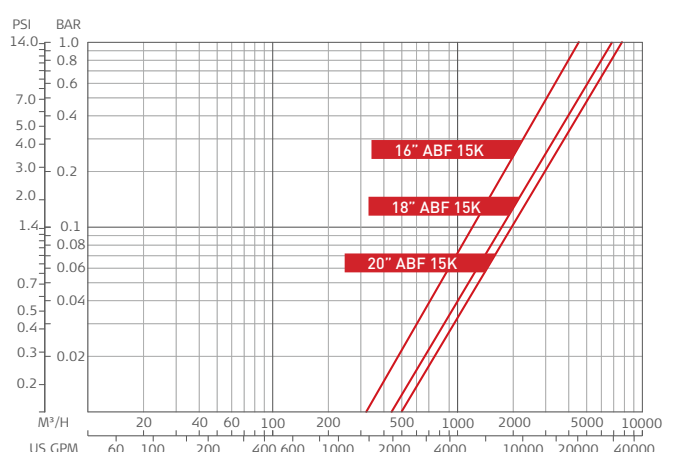
### ABF 6000



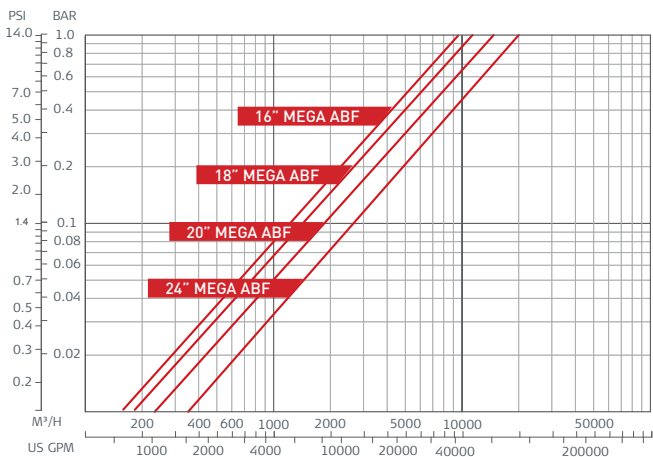
### ABF 10000



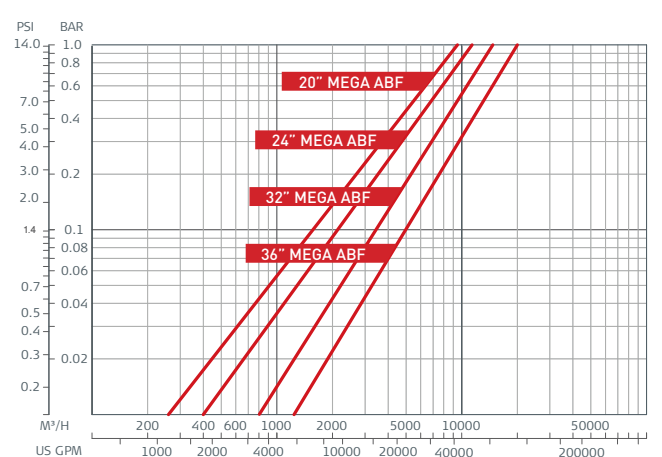
### ABF 15000



### MEGA ABF 40000



### MEGA ABF 60000



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