

## 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 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 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.

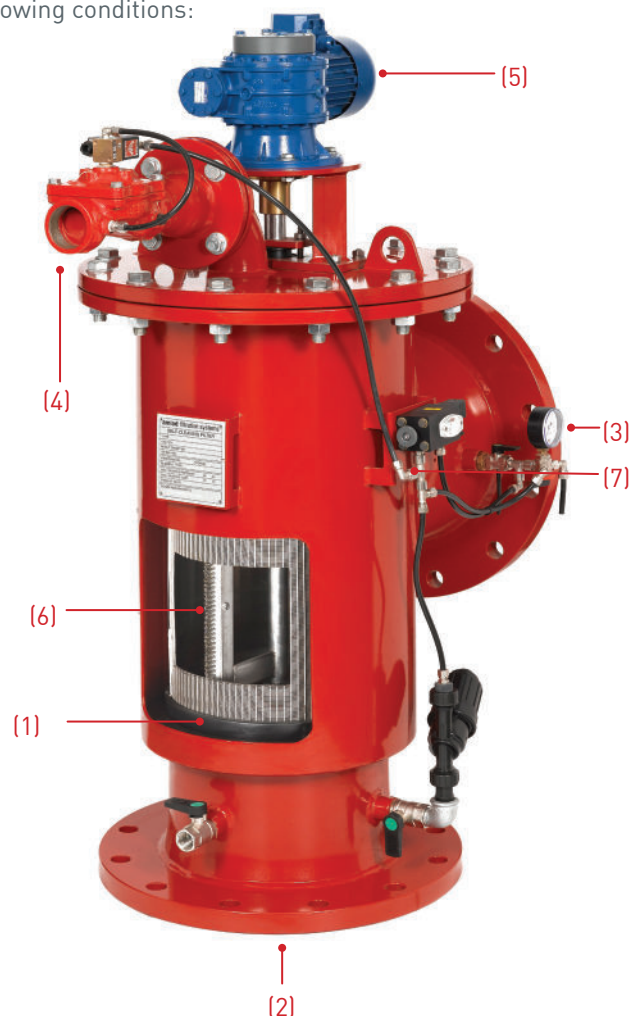
The filter begins a self-cleaning cycle under any one of the following conditions:

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

| <b>Flushing Data</b>                |  |                           |                                   |  |   |  |
|-------------------------------------|--|---------------------------|-----------------------------------|--|---|--|
| Minimum flow for flushing           | 30 m <sup>3</sup> /h<br>(132 gpm)  |                           | 70 m <sup>3</sup> /h<br>(300 gpm) |  | 70-140 m <sup>3</sup> /h<br>(300-600 gpm) |  |
| Reject water volume per flush cycle | 150 liter<br>(40 gallon)   | 200 liter<br>(53 gallon)  | 300 liter<br>(80 gallon)          |  | 1200 liter<br>(317 gallon)                |  |
| Flushing cycle time                 | 15 seconds   | 15-30 seconds<br>At 60 Hz |                                   |  | 4 x 15-30 seconds                         |  |
| Exhaust valve                       | 2" (50 mm)   |                           | 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 |
|-------------|----------|----------|-----------|-----------|----------------|----------------|
|-------------|----------|----------|-----------|-----------|----------------|----------------|

| Screen Data  |   |  |  |  |  |  |
|--------------|---|--|--|--|--|--|
| Filter area  | 3000 cm <sup>2</sup><br>(465 in <sup>2</sup> )          | 6000 cm <sup>2</sup><br>(930 in <sup>2</sup> ) | 10000 cm <sup>2</sup><br>(1550 in <sup>2</sup> ) | 15000 cm <sup>2</sup><br>(2325 in <sup>2</sup> ) | 40000 cm <sup>2</sup><br>(6200 in <sup>2</sup> ) | 60000 cm <sup>2</sup><br>(9300 in <sup>2</sup> ) |
| Screen types | 316 St. St. wedge wire<br>316 St. St. perforated screen |  |  |  |  |  |

| Control and Electricity |                               |                               |                               |                                 |                                   |                                     |
|-------------------------|-------------------------------|-------------------------------|-------------------------------|---------------------------------|-----------------------------------|-------------------------------------|
| Rated operation voltage | 3 phase, 380/440V, 50/60Hz    |                               |                               |                                 |                                   |                                     |
| Electric motor          | ¼ HP<br>Gear Output<br>14 RPM | ¾ HP<br>Gear Output<br>18 RPM | 1 HP<br>Gear Output<br>22 RPM | 1.5 HP<br>Gear Output<br>18 RPM | 4 x 1 HP<br>Gear Output<br>22 RPM | 4 x 1.5 HP<br>Gear Output<br>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                        |                               |                               |                                 |                                   |                                     |

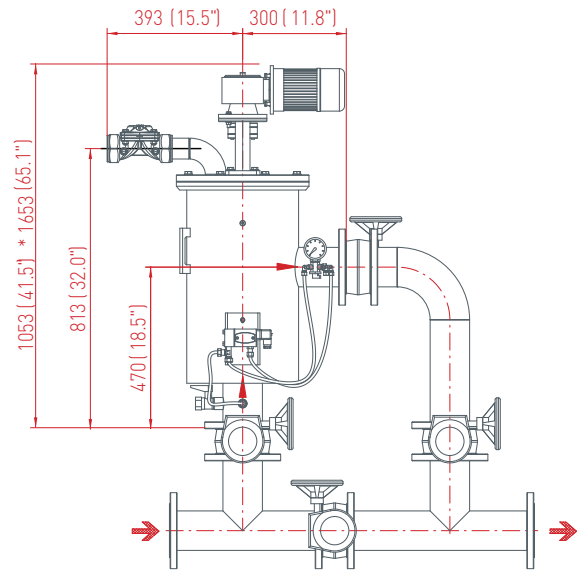
| Construction Materials* |   |  |  |  |  |  |
|-------------------------|---|--|--|--|--|--|
| Filter housing and lid  | Epoxy or Polyester coated carbon steel 37-2 |  |  |  |  |  |
| Cleaning mechanism      | Stainless steel 316L, PVC, Acetal           |  |  |  |  |  |
| Exhaust valve           | Epoxy-coated 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.

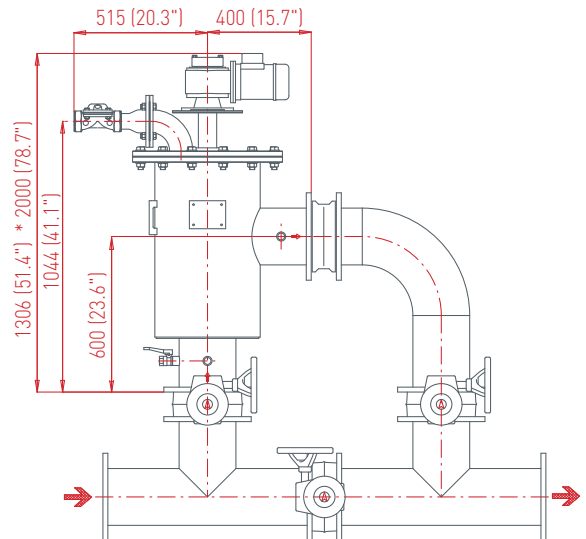
## ABF 3000



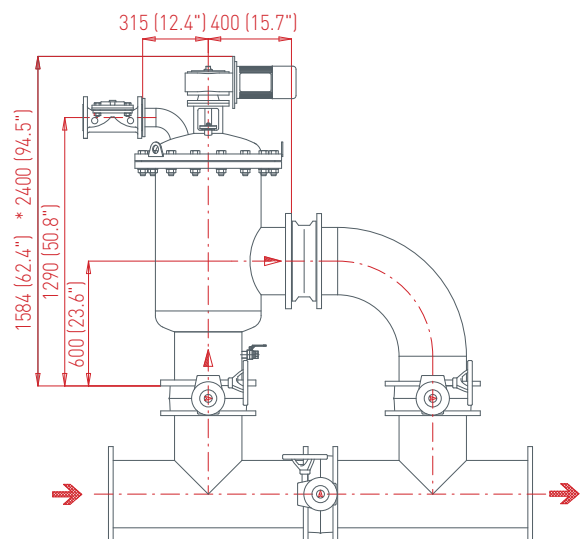
## Typical Installation Drawing



## ABF 6000



## ABF 10000



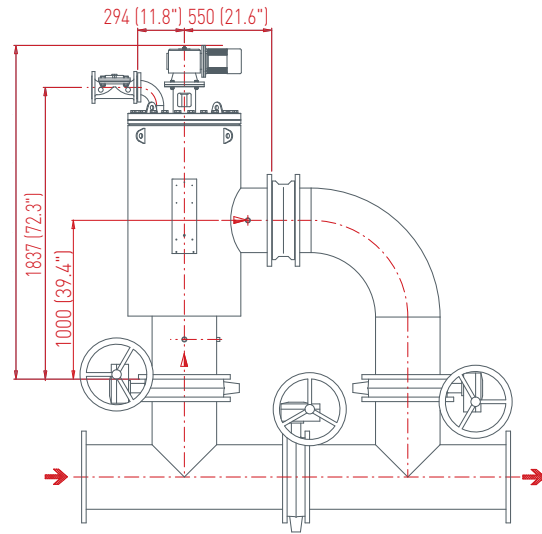
Dim: mm (inch)

\*Approx. length required for maintenance

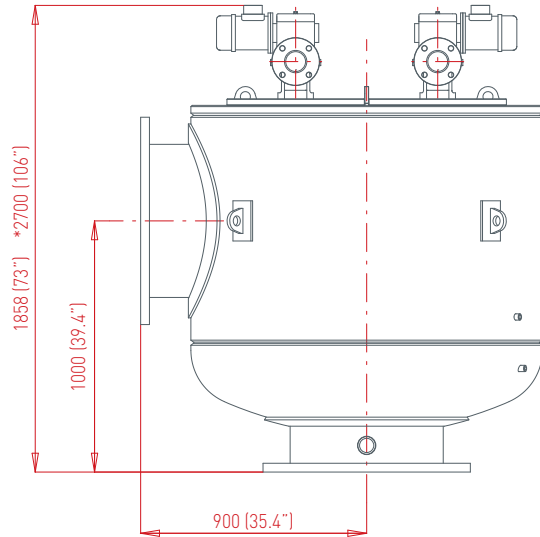
**ABF 15000**



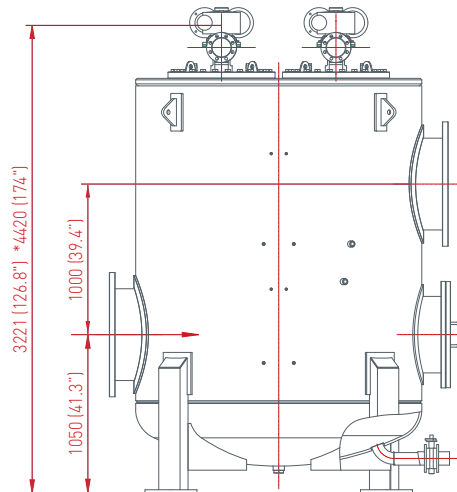
**Typical Installation Drawing**



**MEGA ABF 40000**



**MEGA ABF 60000**

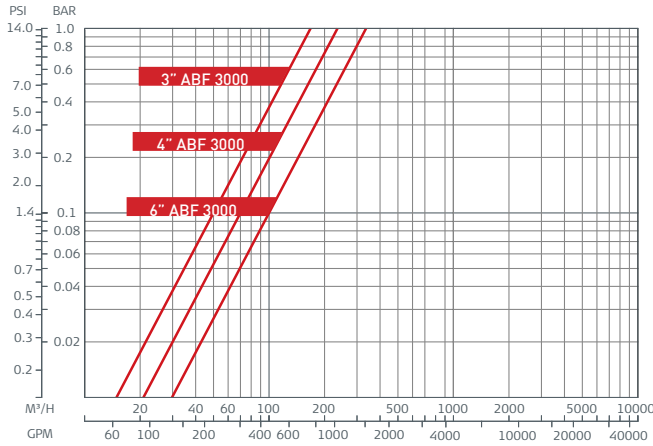


**Dim: mm (inch)**

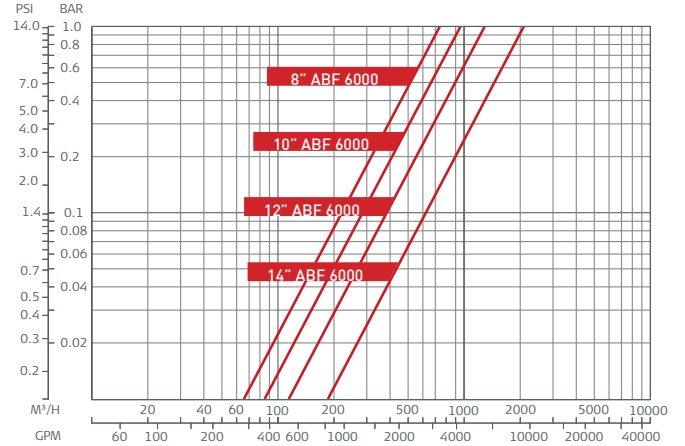
\*Approx. length required for maintenance

## Head Loss Graphs in clean water

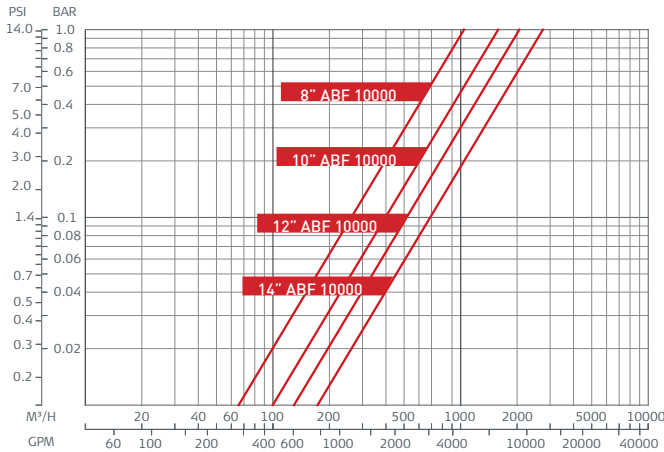
### ABF 3000



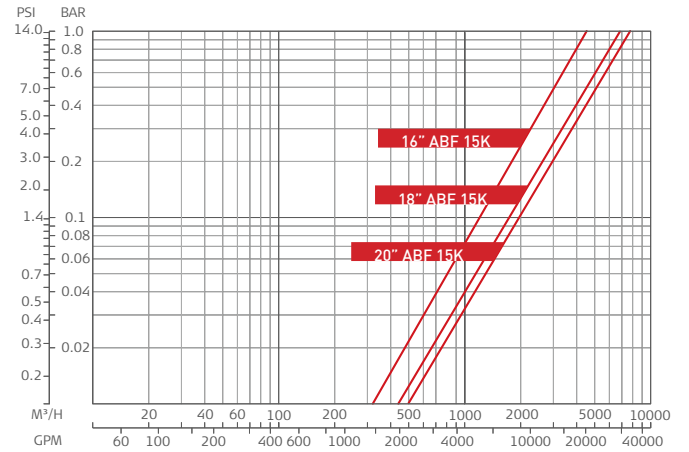
### ABF 6000



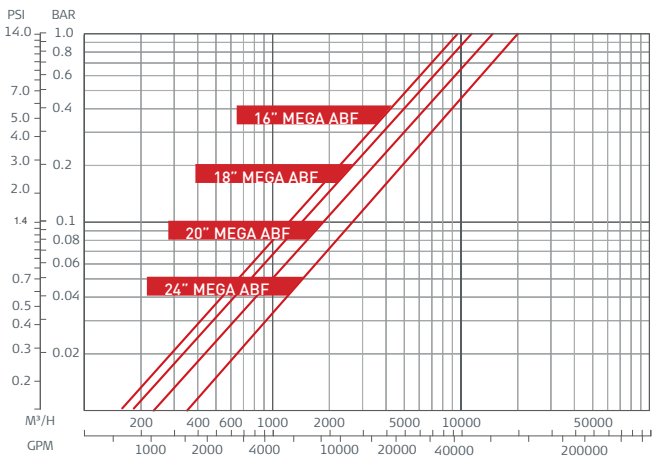
### ABF 10000



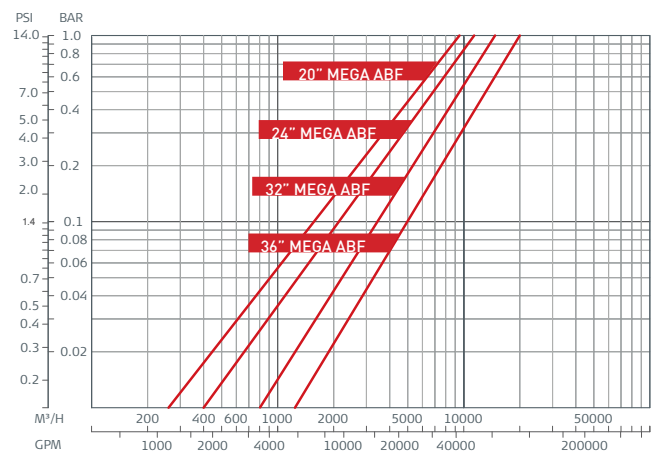
### ABF 15000



### MEGA ABF 40000



### MEGA ABF 60000



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