ABF Filters

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

**features:**

- Flowrates: up to 7200 m³/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)

- 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 m³/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

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

<table>
<thead>
<tr>
<th>Filter Type</th>
<th>ABF-3000</th>
<th>ABF-6000</th>
<th>ABF-10000</th>
<th>ABF-15000</th>
<th>Mega ABF 40000</th>
<th>Mega ABF 60000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum flowrate*</td>
<td>150 m³/h (660 US gpm)</td>
<td>700 m³/h (3100 US gpm)</td>
<td>1000 m³/h (4400 US gpm)</td>
<td>1800 m³/h (8000 US gpm)</td>
<td>4000 m³/h (17600 US gpm)</td>
<td>7200 m³/h (32000 US gpm)</td>
</tr>
<tr>
<td>Inlet/Outlet diameter</td>
<td>3”-6” (80-150 mm)</td>
<td>8”-14” (200-350 mm)</td>
<td>8”-16” (200-400 mm)</td>
<td>14”-20” (350-500 mm)</td>
<td>16”-28” (400-600 mm)</td>
<td>20”-36” (500-900 mm)</td>
</tr>
<tr>
<td>Standard filtration degrees</td>
<td>Perforated screen 3500, 2500, 1500, 800 micron</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. working pressure</td>
<td>2 bar (30 psi)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. working pressure</td>
<td>10 bar (145 psi)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. working temperature</td>
<td>60°C (140°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Supply</td>
<td>230/480 VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight [empty]</td>
<td>110 kg (245 lb)</td>
<td>213-260 kg (470-573 lb)</td>
<td>310-380 kg (683-838 lb)</td>
<td>650 kg (1430 lb)</td>
<td>2250 kg (4960 lb)</td>
<td>6200 kg (13670 lb)</td>
</tr>
<tr>
<td><strong>Flushing Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum flow for flushing</td>
<td>50 m³/h (220 US gpm)</td>
<td>50 m³/h (220 US gpm)</td>
<td>70 m³/h (300 US gpm)</td>
<td>70 m³/h (300 US gpm)</td>
<td>70-140 m³/h (300-600 US gpm)</td>
<td>70-140 m³/h (300-600 US gpm)</td>
</tr>
<tr>
<td>Reject water volume per flush cycle</td>
<td>150 liter (40 US gallon)</td>
<td>200 liter (53 US gallon)</td>
<td>300 liter (80 US gallon)</td>
<td>300 liter (80 US gallon)</td>
<td>1200 liter (317 US gallon)</td>
<td>1200 liter (317 US gallon)</td>
</tr>
<tr>
<td>Flushing cycle time</td>
<td>15 seconds</td>
<td>15-30 seconds At 60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust valve</td>
<td>2” 50 mm</td>
<td>2” 50 mm</td>
<td>3” 80 mm</td>
<td>3” 80 mm</td>
<td>4 x 3” 80 mm</td>
<td>4 x 3” 80 mm</td>
</tr>
<tr>
<td>Flushing criteria</td>
<td>Differential pressure of 0.5 bar (7psi), time intervals and manual operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

### Screen Data

<table>
<thead>
<tr>
<th>Filter Type</th>
<th>ABF-3000</th>
<th>ABF-6000</th>
<th>ABF-10000</th>
<th>ABF-15000</th>
<th>Mega ABF 40000</th>
<th>Mega ABF 60000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter area</td>
<td>3000 cm² (465 in²)</td>
<td>6000 cm² (930 in²)</td>
<td>10000 cm² (1550 in²)</td>
<td>15000 cm² (2325 in²)</td>
<td>40000 cm² (6200 in²)</td>
<td>60000 cm² (9300 in²)</td>
</tr>
<tr>
<td>Screen types</td>
<td>316 St. St. wedge wire</td>
<td>316 St. St. perforated screen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Control and Electricity

<table>
<thead>
<tr>
<th>Rated operation voltage</th>
<th>3 phase, 380/440V, 50/60Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric motor</td>
<td>1/4 HP Gear Output 14 RPM</td>
</tr>
<tr>
<td>Current consumption</td>
<td>0.7 Amp.</td>
</tr>
<tr>
<td>Control voltage</td>
<td>24 VAC</td>
</tr>
</tbody>
</table>

### Construction Materials*

<table>
<thead>
<tr>
<th>Filter housing and lid</th>
<th>Epoxy or Polyester coated carbon steel 37-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning mechanism</td>
<td>Stainless steel 316L, PVC, Acetal</td>
</tr>
<tr>
<td>Exhaust valve</td>
<td>Epoxy-coated cast iron, Natural rubber</td>
</tr>
<tr>
<td>Seals</td>
<td>Synthetic rubber, Teflon</td>
</tr>
<tr>
<td>Control</td>
<td>Brass, Stainless steel, Nylon</td>
</tr>
</tbody>
</table>

* Amiad offers a variety of construction materials. Please consult us for specifications.
ABF 3000
600 (23.6")
1044 (41.1")
515 (20.3") 400 (15.7")
1306 (51.4") * 2000 (78.7")

ABF 6000
600 (23.6")
1290 (50.8")
1584 (62.4") 2400 (94.5")
393 (15.5")
515 (20.3")

ABF 10000
600 (23.6")
813 (32.0")
1053 (41.5") 1653 (65.1")
393 (15.5")
300 (11.8")

Typical Installation Drawing

Dim. mm (inch)
*Approx. length required for maintenance
ABF 15000

MEGA ABF 40000

MEGA ABF 60000

Typical Installation Drawing

Dim: mm (inch)

*Approx. length required for maintenance
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