Innovative self-cleaning microfiber water filters for treatment as fine as 2 micron.

### AMF² Microfiber Filters

<table>
<thead>
<tr>
<th>flow rates</th>
<th>filtration degrees</th>
<th>water for cleaning</th>
<th>min. operating pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 320 m³/h (1400 US gpm)</td>
<td>20-2 micron</td>
<td>less than 1% of the total flow</td>
<td>1.2 bar (17 psi)</td>
</tr>
</tbody>
</table>

- TSS, NTU & SDI reduction for potable and waste water applications
- Effective removal of Giardia Cysts
- Cartridge performance without cartridge replacement
- Outperforms traditional sand media systems
- Pre-filtration for R.O. desalination and other sub micron systems
- Provide complete water treatment and filtration solutions for Municipalities
- Environmentally friendly no chemical treatment required
How the AMF² Filters Work

General
Amiad’s AMF² Series consists of innovative self-cleaning microfiber water-filters for treatments as fine as 2 micron that provides cartridge filter performance without cartridge filter replacement. The AMF² filters support flow-rates of up to 320 m³/h (1410 US gpm), in filtration degrees of 20 to 2 micron.

The Filtering Process
The AMF² filters remove dirt particles as water flows through multi-layered microfiber cassettes (1). These are attached to collector pipes which allow the process water to flow from the filter. Dirt particles that accumulate on and in-between the microfiber layers create a pressure differential. At a preset pressure differential value or time interval, the control unit activates the self-cleaning cycle, described as follows:

The Self-Cleaning Process
The inlet (3) and outlet (4) valves close and the drain (5) valve opens. After the filter vessel empties, the booster pump (6) delivers pressurized water to the shuttle pipe (7) on which the flush nozzles are mounted (8). These nozzles straddle the cassettes and spray both sides of a cassette with high powered jet streams that penetrate the microfiber layers and dislodge the debris. When these jet streams hit the plastic cassette support, they reflect outward, dislodging the debris from the cassettes and out the drain. This process ensures 100% effective cleaning. The piston assembly shuttles the spray nozzles across a single row of cassettes on each stroke. When the nozzles reach the end of a row, the turn mechanism indexes the filter package to the next row of cassettes. The piston then shuts in the opposite direction, cleaning the cassettes as the nozzles traverse them. After cleaning all 35 rows of cassettes, the filter is clean. The drain valve closes and the inlet valve re-opens, filling the filter vessel. After the vessel is full, a “filter to waste” (9) valve opens. This eliminates any residual contaminant that may have entered the collector pipes during the flush process. Than, the “filter to waste” valve closes, the outlet valve opens and the filter is back on-line.

AMF² Models
Amiad’s AMF² product-line consists of the following models:
- AMF²-36K for up to 30 m³/h (132 US gpm)
- AMF²-93K for up to 50 m³/h (220 US gpm)
- AMF²-370K for up to 320 m³/h (1410 US gpm)
AMF² 36K

AMF² 93K

AMF² 370K

Dim. In mm (inch)

*Approx. length required for maintenance
Pressure Loss Graphs
single microfiber cassette

2 micron
3 micron
7 micron
10 micron
20 micron

0.1 0.4 0.2 0.3 0.5 0.6 0.8 1.0 1.4 1.0
0.02 0.04 0.06 0.08 0.1 0.05 0.05 0.1 0.1

BAR PSI

US GPM L/Min.

Dim. In mm (inch)

*Approx. length required for maintenance

amiad filtration solutions
# Technical Specifications

## Filter Type AMF² 36K | AMF² 93K | AMF² 370K

### General Data

<table>
<thead>
<tr>
<th>Recommended flow rate*</th>
<th>Up to 30 m³/h (132 US gpm)</th>
<th>Up to 50 m³/h (220 US gpm)</th>
<th>Up to 320 m³/hr (1410 US gpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet/Outlet diameter</td>
<td>1x2” (1x50 mm)</td>
<td>1x4” (1x100 mm)</td>
<td>2x8” (2x200 mm)</td>
</tr>
<tr>
<td>Standard filtration degrees</td>
<td>2 - 3 - 7 - 10 - 20 micron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. working pressure</td>
<td>1 bar (15 psi) or lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. working pressure</td>
<td>10 bar (145 psi)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working temperature range</td>
<td>4-40°C (39-104°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Supply</td>
<td>3 phase, 220/380/440 VAC 50/60 Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressed Air Supply</td>
<td>6 – 8 bar / 87 – 116 psi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (empty)</td>
<td>480 kg (1058 lb)</td>
<td>650 kg (1433 lb)</td>
<td>2150 kg (4740 lb)</td>
</tr>
</tbody>
</table>

* Depending on water quality and application

### Flushing Data

<table>
<thead>
<tr>
<th>Flushing Flow Rate</th>
<th>6 m³/h (26 US gpm)</th>
<th>6 m³/h (26 US gpm)</th>
<th>20 m³/h (88 US gpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reject water volume per flush cycle</td>
<td>0.5 - 0.7 m³ (132 - 185 US gallon)</td>
<td>1.1 - 1.5 m³ (290 - 396 US gallon)</td>
<td>3.5 - 5 m³ (925 - 1320 US gallon)</td>
</tr>
<tr>
<td>Flushing sequence time</td>
<td>Approximately 10 minutes Including drainage and filling time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust valve</td>
<td>50 mm 2”</td>
<td>80 mm 3”</td>
<td>100 mm 4”</td>
</tr>
<tr>
<td>Flushing criteria</td>
<td>Differential pressure, time intervals and manual operation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Filter Element Data

| Filter area          | 35580 cm² (5515 in²) | 92500 cm² (14340 in²) | 370000 cm² (57350 in²) |

### Control and Electricity

<table>
<thead>
<tr>
<th>Rated operation voltage</th>
<th>3 phase, 220/380/440 VAC 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control voltage</td>
<td>24 V AC/DC</td>
</tr>
</tbody>
</table>

### Construction Materials*

<table>
<thead>
<tr>
<th>Filter housing and covers</th>
<th>Epoxy coated carbon steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cassette</td>
<td>Polyester thread on Noryl® molded base</td>
</tr>
<tr>
<td>Cassette package</td>
<td>PVC, St/St, PTFE</td>
</tr>
<tr>
<td>Pistons</td>
<td>Brass, Bronze, HMWPE, St/St, Nylon, PTFE</td>
</tr>
<tr>
<td>Seals</td>
<td>Nitrile Rubber (NBR)</td>
</tr>
<tr>
<td>Pressure hoses</td>
<td>Rubber</td>
</tr>
<tr>
<td>Bolts, nuts, washers</td>
<td>External Galvanized, Internal St/St</td>
</tr>
<tr>
<td>Pneumatic valves</td>
<td>Cast Iron, EPDM, Brass, St/St</td>
</tr>
<tr>
<td>Solenoid valves</td>
<td>Aluminum (pneumatic control of valves), Brass (hydraulic control of pistons)</td>
</tr>
</tbody>
</table>

* Amiad offers a variety of construction materials. Please consult us for specifications.
industry
Automotive, Aviation, Ballast treatment, Electronics, Food & Beverage, Mining, Oil & Gas, Petrochemical, Power Generation, Pulp & Paper

municipal
Potable Water, Waste Water, Desalination, Brackish Water, High rise buildings, Pre-filtration to Membranes

irrigation
Agriculture, Golf & Turf, Aquaculture, Green Houses

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