

AMF Microfiber Filters

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



flow rates

**up to 200 m³/h
(880 gpm)**

filtration degrees

20 - 2 micron

water for cleaning

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

minimum operating
pressure

0.5 bar (7 psi)

features:

- Outperforms traditional sand media systems
- Cartridge performance without cartridge replacement
- TSS and turbidity reduction for potable and wastewater applications
- Effective removal of Cryptosporidium and Giardia Cysts
- NF/RO protection and SDI reduction
- NSF 61-G approved
- Environmentally friendly - no chemical treatment required
- Applications: pre-filtration and polishing for water treatment plants and processes, metal removal, brine filtration

How the AMF Filters Work

General

Amiad's AMF filters are innovative self-cleaning microfiber water filters for treatment as fine as 2 micron; providing cartridge filter performance without cartridge filter replacement. The AMF filters support flow rates of up to 200 m³/h (880 gpm), with filtration degrees of 20 to 2 micron.

The Filtering Process

The AMF 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 outlet (2). Dirt particles that accumulate on and 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.

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 shuttles 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. Then, the "filter to waste" valve closes, the outlet valve opens and the filter is back on-line.

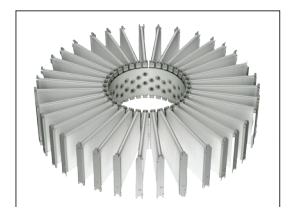
AMF Models

Amiad's AMF product line consists of the following models:

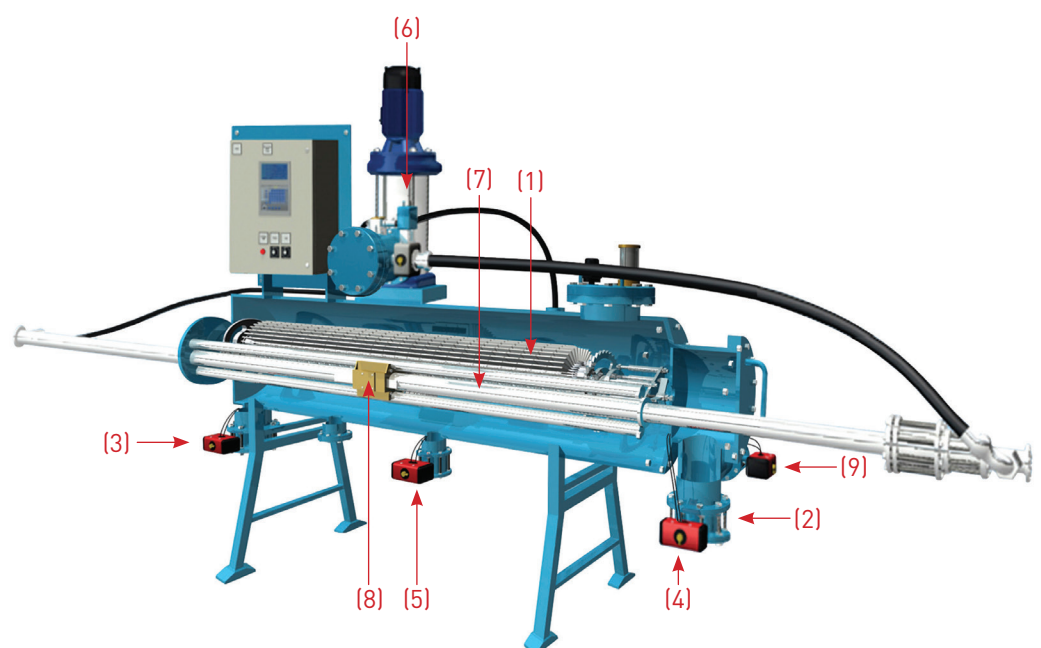
- AMF 36K for up to 20 m³/h (88 gpm)
- AMF 93K for up to 50 m³/h (220 gpm)
- AMF-S 370K for up to 200 m³/h (880 gpm)



cassette

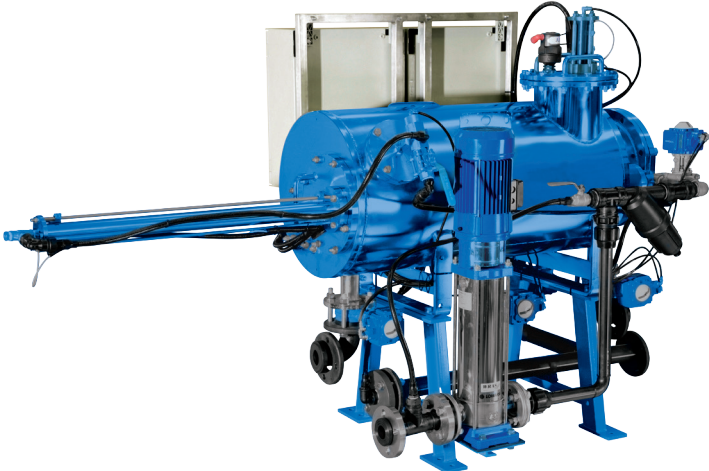


cassette crown



Scan to watch
the AMF
Operation Video

AMF 36K



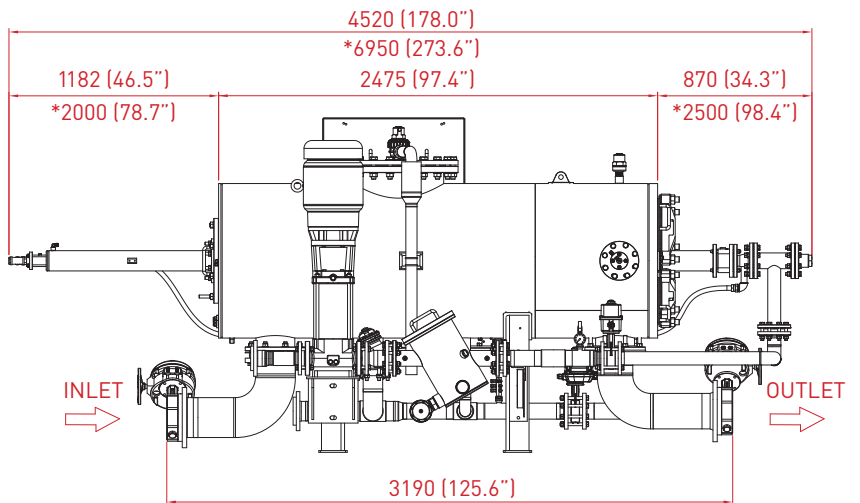
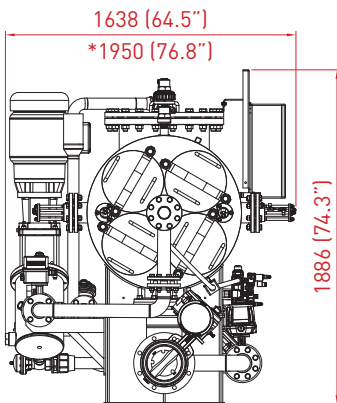
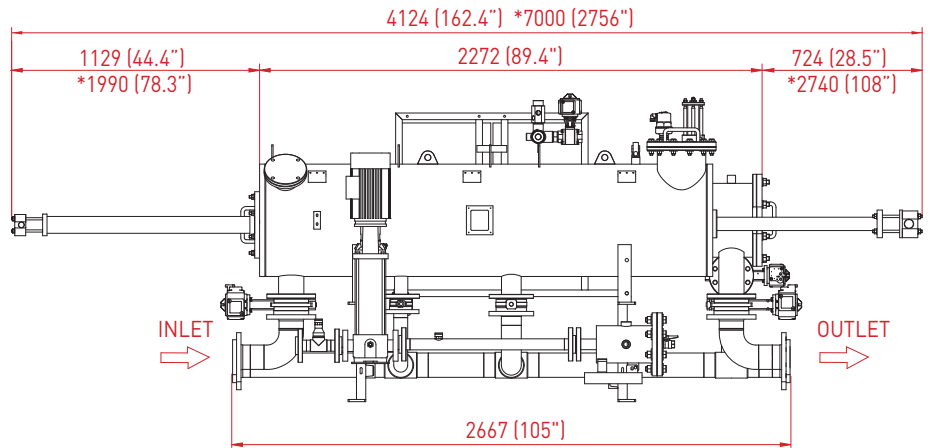
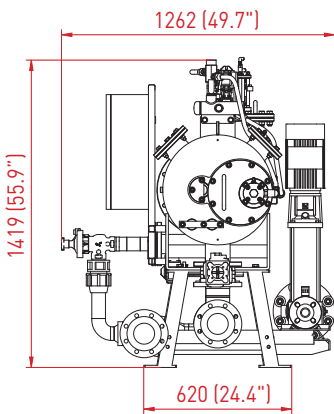
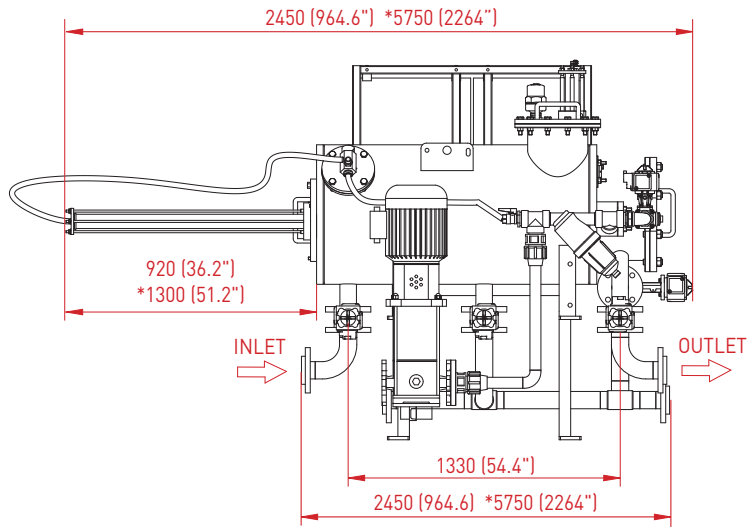
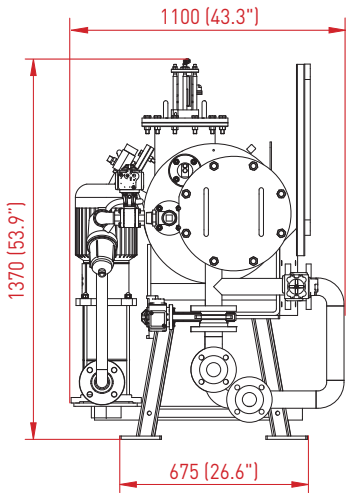
AMF 93K



AMF-S 370K



Typical Installation Drawing



Dim: mm (inch)

*Approx. length required for maintenance

Note: Dimensions are for reference only. Certified drawings are available upon request.

Technical Specifications

Filter Type	AMF 36K	AMF 93K	AMF-S 370K
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General Data			
Recommended flow rate*	up to 20 m ³ /h (88 gpm)	up to 50 m ³ /h (220 gpm)	up to 200 m ³ /h (880 gpm)
Inlet/Outlet diameter	2" 50 mm	4" 100 mm	6" or 8" 150 or 200 mm
Standard filtration degrees	20, 10, 7, 3, 2 micron		
Min. working pressure	0.5 bar (7 psi)		
Max. working pressure	10 bar (145 psi)		
Working temperature range	4 - 40°C (39-104°F)		
Compressed air supply ** (for pneumatic valves)	Clean and dry instrument air, 80-120 psi / 5.5-8.0 bar 8.5 CFM at 90 psi / 4 l/s at 6.0 bar (for one AMF-S 370K, depends on type of pneumatic actuator)		
Weight [empty]	480 kg (1,058 lb)	650 kg (1,433 lb)	2,450 kg (5,400 lb)

* Depending on water quality and application - selection to be qualified by Amiad

** Motorized valves are available upon request

Flushing Data			
Flushing flow rate	6 m ³ /h (26 gpm)	6 m ³ /h (26 gpm)	20 m ³ /h (88 gpm)
Reject water volume per flush cycle	0.5 - 0.7 m ³ (132 - 185 gallon)	1.1 - 1.5 m ³ (290 - 396 gallon)	3.5 - 5 m ³ (925 - 1,320 gallon)
Flushing sequence time	Approximately 10 minutes including drainage and filling time		
Exhaust valve	50 mm 2"	80 mm 3"	100 mm 4"
Flushing criteria	Differential pressure, time interval and manual operation		

Filter Element Data			
Filter area	35,580 cm ² (5,515 in ²)	92,500 cm ² (14,340 in ²)	370,000 cm ² (57,350 in ²)

Control and Electricity	
Rated operation voltage	3 phase, 220-480 VAC, 50/60 Hz
Control voltage	24 V AC/DC

*Construction Materials	
Filter housing and covers	Epoxy coated carbon steel
Cassettes	Polyester thread on Noryl® molded base
Cassette package	PVC, stainless steel, PTFE
Pistons	Brass, bronze, HDPE, stainless steel, nylon, PTFE
Seals	Nitrile rubber (NBR), EPDM
Pressure hoses	Rubber
Bolts, nuts, washers	Stainless steel
Pneumatic valves	Cast iron, EPDM, brass, stainless steel
Solenoid valves	Aluminum (pneumatic control of valves), brass (hydraulic control of pistons)

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

Headquarters

Amiad Water Systems Ltd. D.N. Galil Elyon 1, 1233500, Israel,
Tel: +972 4 690 9500, Fax: +972 4 814 1159,
E-mail: info@amiad.com

The Americas



Amiad USA Inc. Main Office and Manufacturing: 120-J Talbert Road, Mooresville, NC 28117,
Tel: +1 704 662 3133, Fax: +1 704 662 3155, Toll Free: +1 800 24 FILTER,
E-mail: infousa@amiad.com www.amiadusa.com

West Coast Sales Office and Warehouse:
1251 Maulhardt Ave, Oxnard, CA 93030
Tel: +1 805 988 3323, Fax: +1 805 988 3313, Toll Free: +1 800 969 4055

Brazil

Amiad Sistemas de Água Ltda., Rua Funchal, 411, Conj. 42, Vila Olimpia, São Paulo, CEP 04551-060
Tel: +55 11 31923824, E-mail: infobrasil@amiad.com

Amiad Oil & Gas, E-mail: amisur@adinet.com.uy

Mexico

Amiad México SA DE CV, AV. Jesus del Monte #39B – INT 601, Col. Jesus del Monte,
C.P. 52764, Huixquilucan, Estado de México, Tel/Fax: +52 55 636 28122, Mob: +52 1 55 4909 2202
E-mail: infomexico@amiad.com

Irrigation Office: infomexico-irr@amiad.com

Asia



India

Amiad Filtration India Pvt Limited, 305 Sai Commercial Building,
Govandi St Rd, Govandi Mumbai 400 088,
Tel: +91 22-67997813/14, Fax: +91 22-67997814, Email: info@amiadindia.com

China

Amiad China (Yixing Taixing Environtec Co., Ltd.) 70 Baihe Chang, Xingjie Yixing Jiangsu, 214204,
Tel: +86 510 87134000, Fax: +86 510 87134999, E-mail: marketing@taixing.cc

South-East Asia

Filtration & Control Systems Pte. Ltd., 22 Sin Ming Lane #07-71 Midview City, Singapore 573969,
Tel: +65 6 337 6698, Fax: +65 6 337 8180, E-mail: amiad@amiad.com.sg

Australia



Amiad Australia Pty Ltd. 138 Northcorp Boulevard, Broadmeadows, Victoria 3047,
Tel: +61 3 93585800, Fax: +61 3 93585888, E-mail: sales@amiad.com

Europe



Amiad Water Systems Europe SAS, Ilot No4 ZI La Boitardière, 37530 Chargé, France,
Tel: +33 (0) 2 47 23 01 10, Fax: +33 (0) 2 47 23 80 67, E-mail: industry-europe@amiad.com

Amiad Water Systems Europe SAS (Irrigation Division)
100 avenue de l'Anguillon, Z.I. des Iscles, 13160 Chateaufrenard,
Tel: +33 (0) 4 32 60 10 01, Fax +33 (0) 4 32 60 60 85

Germany

Amiad Water Systems SAS Europe (German branch office)
Zweigniederlassung Deutschland Prinz-Regent-Str. 68 a 44795 Bochum,
Tel: +49 (0) 234 588082-0, Fax: +49 (0) 234 588082-10, E-mail: info@amiad.de

United Kingdom

Amiad Water Systems UK Limited, Compass Business Centre, Unit 6, Lion Way,
Swansea Enterprise Park, Swansea SA7 9FB
Tel: +44 (0)1792 277290, Fax: +44 (0)1792 797707, E-mail: info-uk@amiad.com

