

AMF² Microfiber Filters

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



flowrates

**up to 320 m³/h
(1400 US 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:

- TSS, NTU & SDI reduction for potable and wastewater applications
- Effective removal of Cryptosporidium and 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 flowrates 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 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.

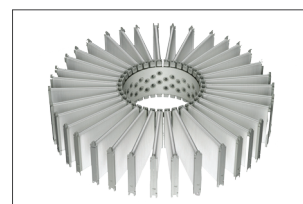
AMF² Models

Amiad's AMF² product-line consists of the following models:

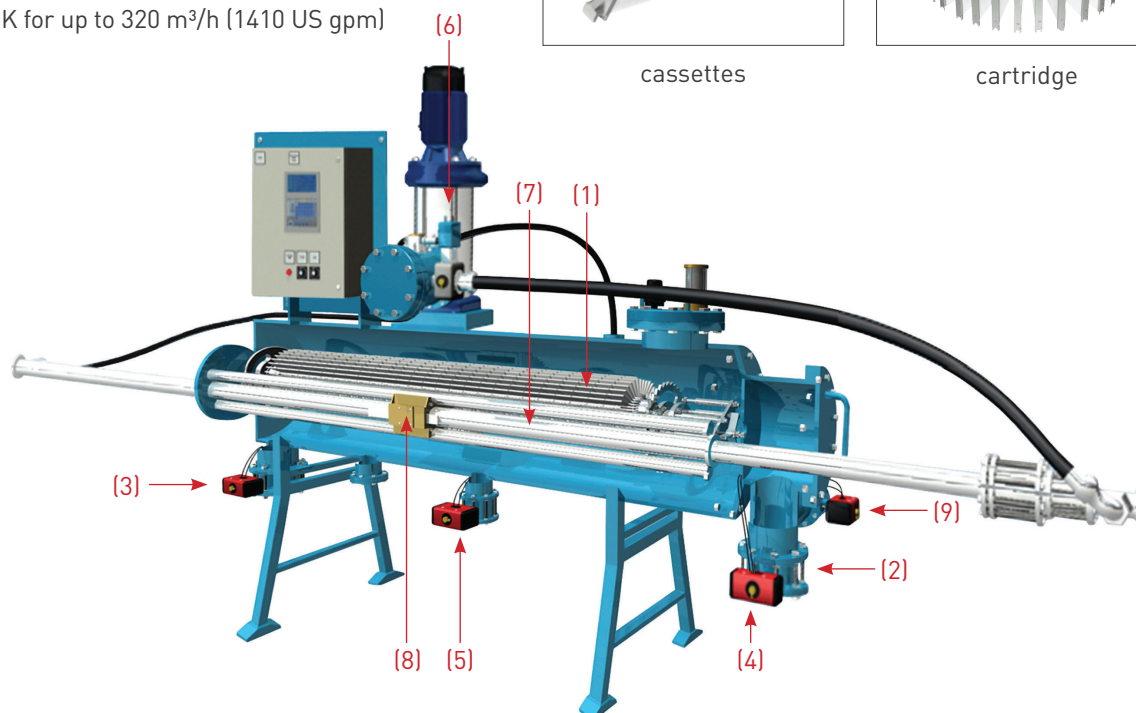
- AMF² - 36K for up to 30 m³/h (132 US gpm)
- AMF² - 93K for up to 50 m³/h (220 US gpm)
- AMF² - 370K for up to 320 m³/h (1410 US gpm)



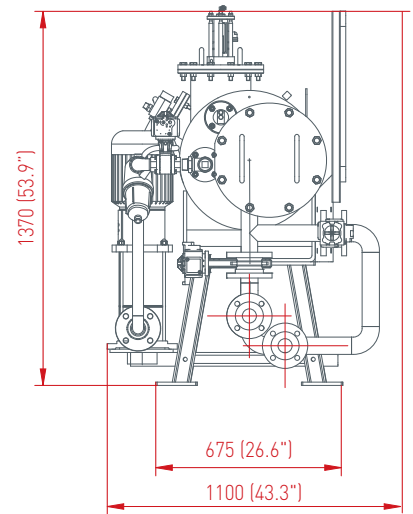
cassettes



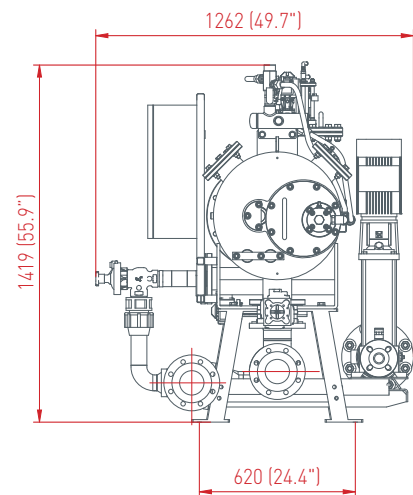
cartridge



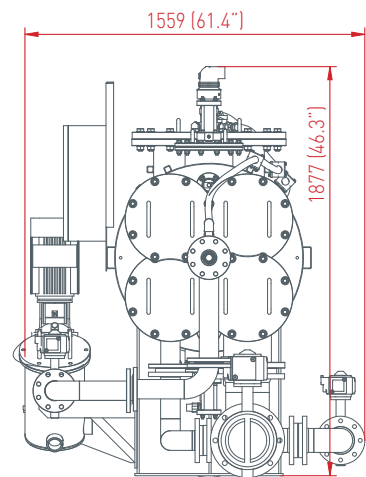
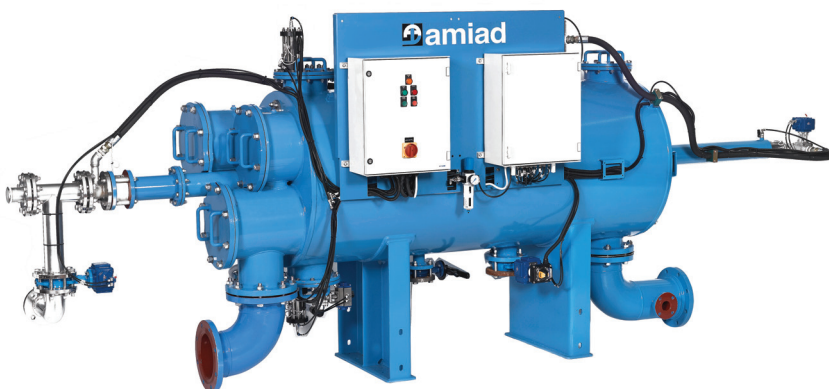
AMF² 36K



AMF² 93K



AMF² 370K

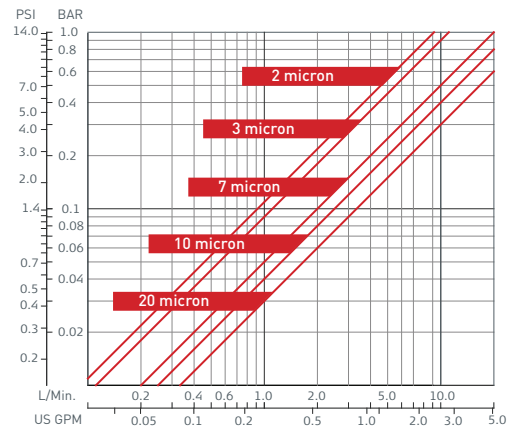
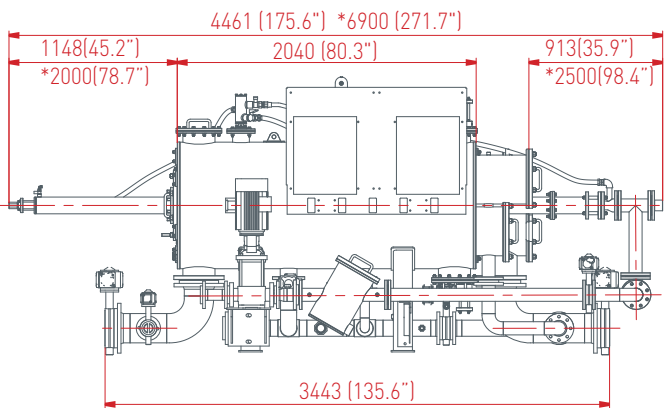
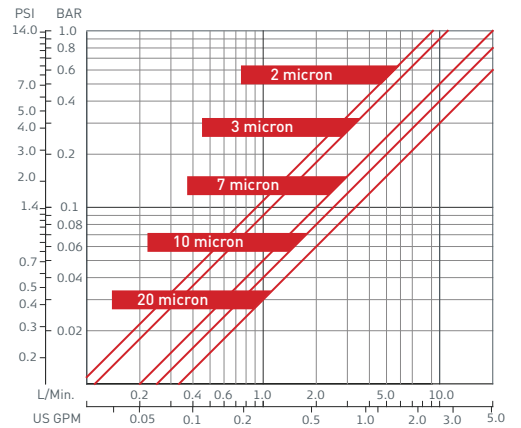
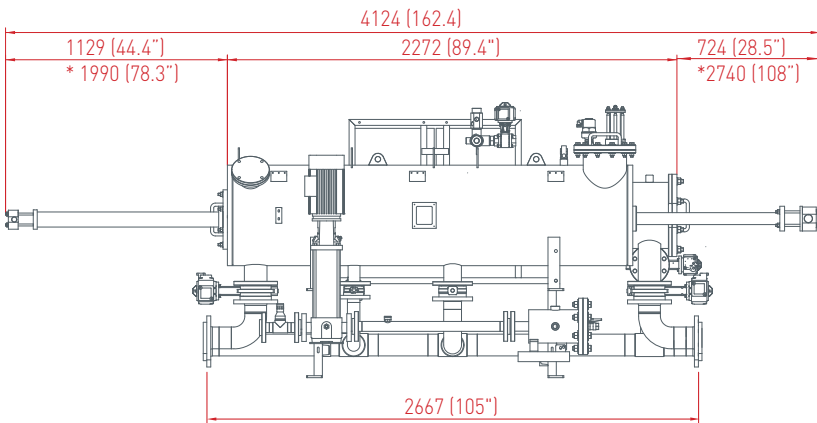
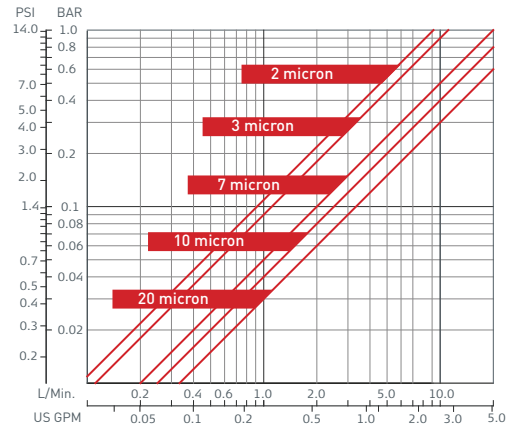
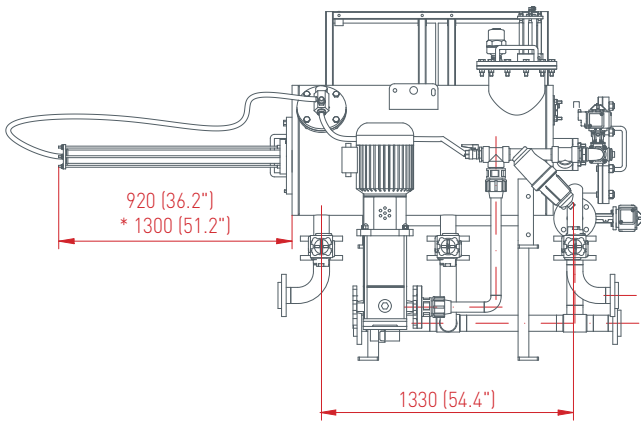


Dim. in mm (inch)

*Approx. length required for maintenance

Head Loss Graphs

single microfiber cassette



Dim. in mm (inch)

*Approx. length required for maintenance

Technical Specifications

Filter Type	AMF ² 36K	AMF ² 93K	AMF ² 370K
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General Data			
Recommended flowrate*	Up to 30 m ³ /h (132 US gpm)	Up to 50 m ³ /h (220 US gpm)	Up to 320 m ³ /h (1410 US gpm)
Inlet/Outlet diameter	1x2" (1x50 mm)	1x4" (1x100 mm)	2x8" 2x200 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)		
Electrical Supply	3 phase, 220/380/440 VAC 50/60 Hz		
Compressed Air Supply	6 – 8 bar / 87 – 116 psi		
Weight [empty]	480 kg (1058 lb)	650 kg (1433 lb)	2150 kg (4740 lb)

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

Flushing Data			
Flushing flowrate	6 m ³ /h (26 US gpm)	6 m ³ /h (26 US gpm)	20 m ³ /h (88 US gpm)
Reject water volume per flush cycle	0.5 - 0.7 m ³ (132 - 185 US gallon)	1.1 - 1.5 m ³ (290 - 396 US gallon)	3.5 - 5 m ³ (925 - 1320 US 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 intervals and manual operation		

Filter Element Data			
Filter area	35580 cm ² (5515 in ²)	92500 cm ² (14340 in ²)	370000 cm ² (57350 in ²)

Control and Electricity	
Rated operation voltage	3 phase, 220/380/440 VAC 50/60 Hz
Control voltage	24 V AC/DC

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

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