

M100 Filters

The most efficient hydraulic filters that require no external power source



flowrates

**up to 1760 US gpm
(400 m³/h)**

filtration degrees

500-80 micron

water for cleaning

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

minimum operating
pressure

30 psi (2 bar)

features:

- Large filtration area, reliable operating mechanism and simple construction make the M100 filters the ideal solution for agricultural and municipal filtration systems where no power is available
- Automatic flushing according to pressure differential
- No interruption of downstream flow during flushing
- Minimal volume of reject water

How the FILTOMAT M100 Filters Work

General

The Amiad FILTOMAT M100 Series are mid-range automatic filters, ideal for remote installation sites, with a water-driven self-cleaning mechanism that doesn't require external power source to operate. With their various screen areas the M100 models support flow-rates of up to 1760 US gpm (400 m³/h), with filtration degrees of 500 down to 80 micron and inlet/outlet diameters from 2"-10".

The Filtering Process

The filtration process begins when raw water flows through the filter inlet (1) into the coarse screen (2). Here, the water is pre-filtered in order to protect the cleaning mechanism from large debris. The water then passes through the inner surface of the fine screen; dirt particles are trapped and accumulate inside the filter while clean water flows through the filter outlet. The gradual dirt buildup on the inner screen surface causes a filter cake to develop, with a corresponding increase in the pressure differential across the screen.

The Self-Cleaning Process

When the pressure differential across the screen reaches a pre-set level of 7 psi (0.5 bar), the M100 filter's rinse controller (3) starts the cleaning process by opening the internal flush valve (4). This results in the release of a back-flush stream flowing through the nozzles (5) out of the hollow Suction Scanner Shaft (6) and the Turbine (7) to the Drainage pipe (8).

M100 Models

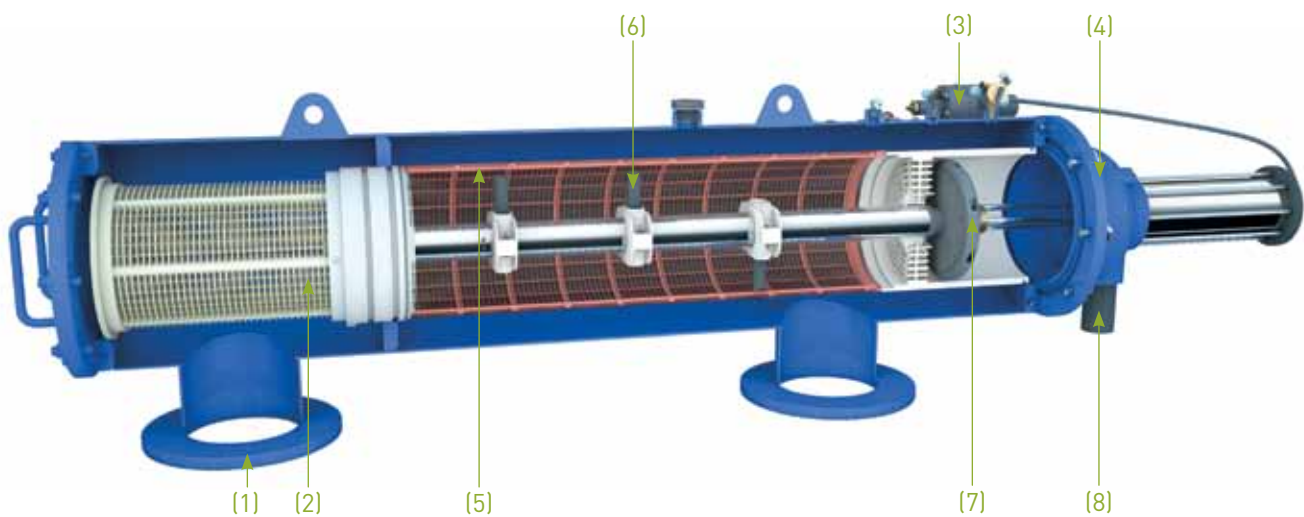
Amiad's "FILTOMAT M100 SERIES" consists of the following models:

M100-750 (M102C, M103C) for up to 176 US gpm (40 m³/h)

M100-1500 (M103CL, M104C) for up to 352 US gpm (80 m³/h)

M100-4500 (M104LP, M106LP) for up to 793 US gpm (180 m³/h)

M100-6800 (M104XLP, M106XLP, M108LP, M110P) for up to 1760 US gpm (400 m³/h)



M100 750
(M102C, M103C)



M100 1500
(M103CL, M104C)



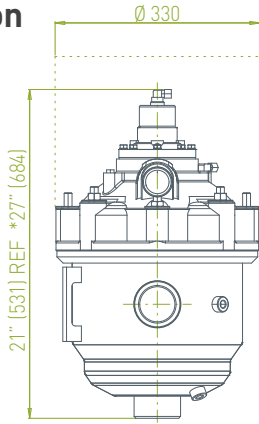
M100 4500
(M104LP, M106LP)



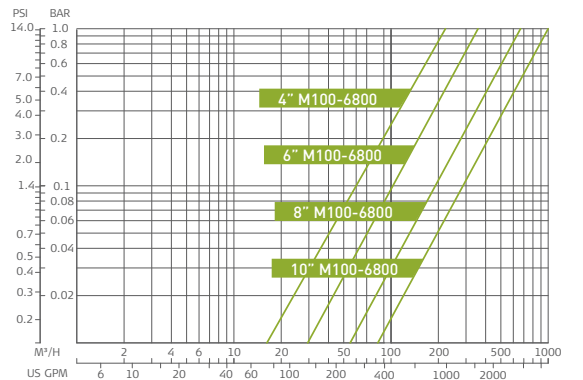
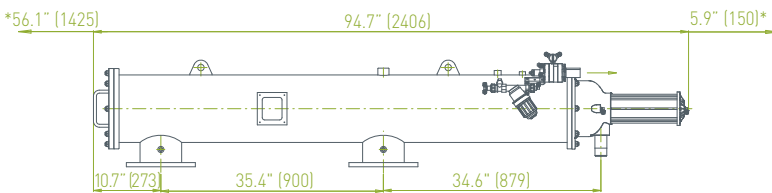
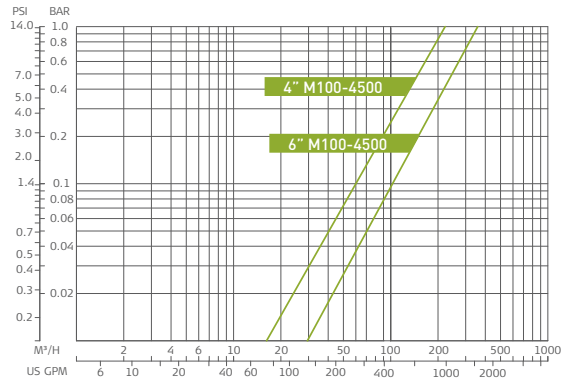
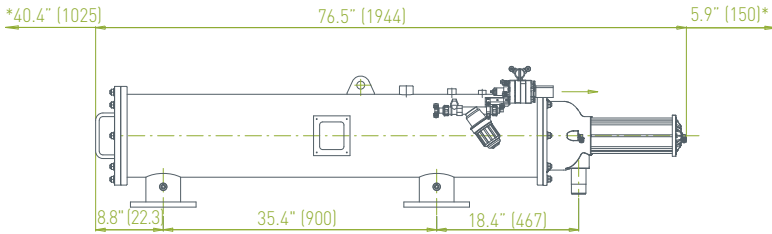
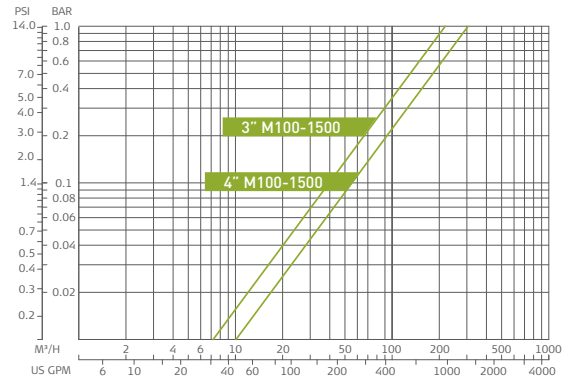
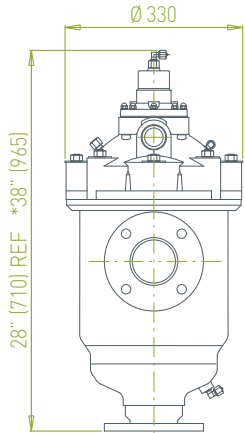
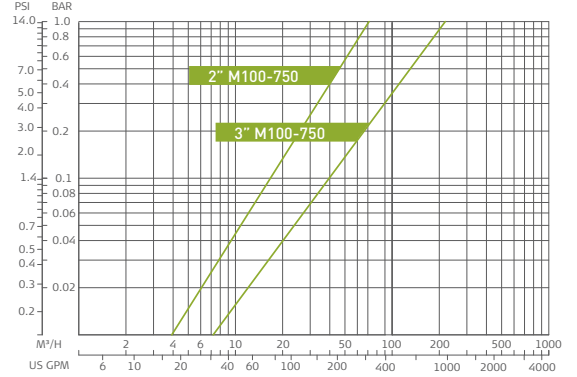
M100 6800
(M104XLP, M106XLP, M108LP, M110P)



Typical Installation Drawing



Head Loss Graphs in clean water



Dim: inch (mm)

*Approx. length required for maintenance

Technical Specifications

Filter Type	M100 750	M100 1500	M100 4500	M100 6800
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General Data				
Maximum flowrate*	175 US gpm (40 m ³ /h)	350 US gpm (80 m ³ /h)	793 US gpm (180 m ³ /h)	1760 US gpm (400 m ³ /h)
Inlet/Outlet diameter	2" (50mm) 3" (80mm)	3" (80mm) 4" (100 mm)	4" (100 mm) 6" (150 mm)	4" (100mm) 6" (150mm) 8" (200mm) 10" (250mm)
Standard filtration degrees	500, 300, 200, 130, 100, 80 micron			
Min. working pressure	30 psi (2 bar) For lower pressure please consult Amiad			
Max. working pressure	116 psi (8 bar)		150 psi (10 bar)	
Max. working temperature	131°F (55°C)			
Weight [empty]	2" 48.5 lb (22 kg) 3" 55 lb (25 kg)	3" 66 lb (30 kg) 4" 77 lb (35 kg)	4" 198 lb (90 kg) 6" 253.5 lb (115 kg)	4" 242.5 lb (110 kg) 6" 264.5 lb (120 kg) 8" 308.6 lb (140 kg) 10" 348 lb (158 kg)

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

Flushing Data				
Minimum flow for flushing (at 2 bar -30 psi)	66 US gpm (15 m ³ /h)	88 US gpm (20 m ³ /h)	114 US gpm (26 m ³ /h)	132 US gpm (30 m ³ /h)
Reject water volume per flush cycle (at 2 bar -39 psi)	4 US gallon (15 liter)	5.2 US gallon (20 liter)	33 US gallon r (125 lite)	40 US gallon (150 liter)
Flushing cycle time	10 seconds	10 seconds	15 seconds	15 seconds
Exhaust valve	1.5" (40 mm)	1.5" (40 mm)	1.5" (40 mm)	1.5" (40 mm)
Flushing criteria	Differential pressure of 7 psi (0.5 bar), time intervals and manual operation			

Screen Data				
Filter area	161 in ² (750 cm ²)	232 in ² (1500 cm ²)	698 in ² (4500 cm ²)	1054 in ² (6800 cm ²)
Screen types	Molded Weave Wire stainless steel 316L			

Construction Materials*	
Filter housing	Epoxy-coated carbon steel 37-2. (Stainless Steel 316 on request)
Filter lid	Epoxy-coated carbon steel 37-2. (Stainless Steel 316 on request) High density Polypropylene
Cleaning mechanism	PVC and Stainless Steel 316L
Exhaust valve	Brass, Stainless steel 316, BUNA-N
Seals	BUNA-N
Control	Aluminum, Brass, Stainless steel 316, PVC, Acetal

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

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