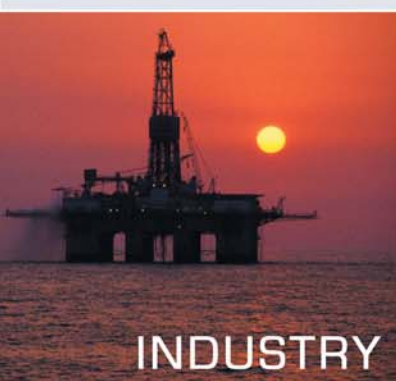


FILTOMAT M100 FILTERS



The most efficient hydraulic filters that require no external power source.

- ▶ For flow rates up to 400 m³/h
- ▶ Fine filtration degrees: 500 - 80 micron
- ▶ Large filter area: up to 6,800 cm²



AMIAD FILTRATION SYSTEMS LTD.

HOW THE FILTOMAT M100 FILTER SERIES WORK

The FILTOMAT M100 series are automatic hydraulic filters, with a self-cleaning mechanism powered by a water-driven turbine. This series of filters is designed to work with various screen types, with filtration degrees from 500 to 80 micron, and is available in 2" to 12" inlet/outlet diameters.

These filter units are hydraulically driven; no external power source is required. This feature enables operation at remote installation sites.

Filtering process:

Water enters the filter and passes through a pre-screen which is designed to protect the cleaning mechanism from large debris. Particulate collects on the main screen and forms a "filter cake". The filter cake causes a pressure differential between the inlet and outlet of the filter.

Self-Cleaning process:

The self-cleaning process begins when the pressure differential across the screen reaches a preset level of 0.5 bar.

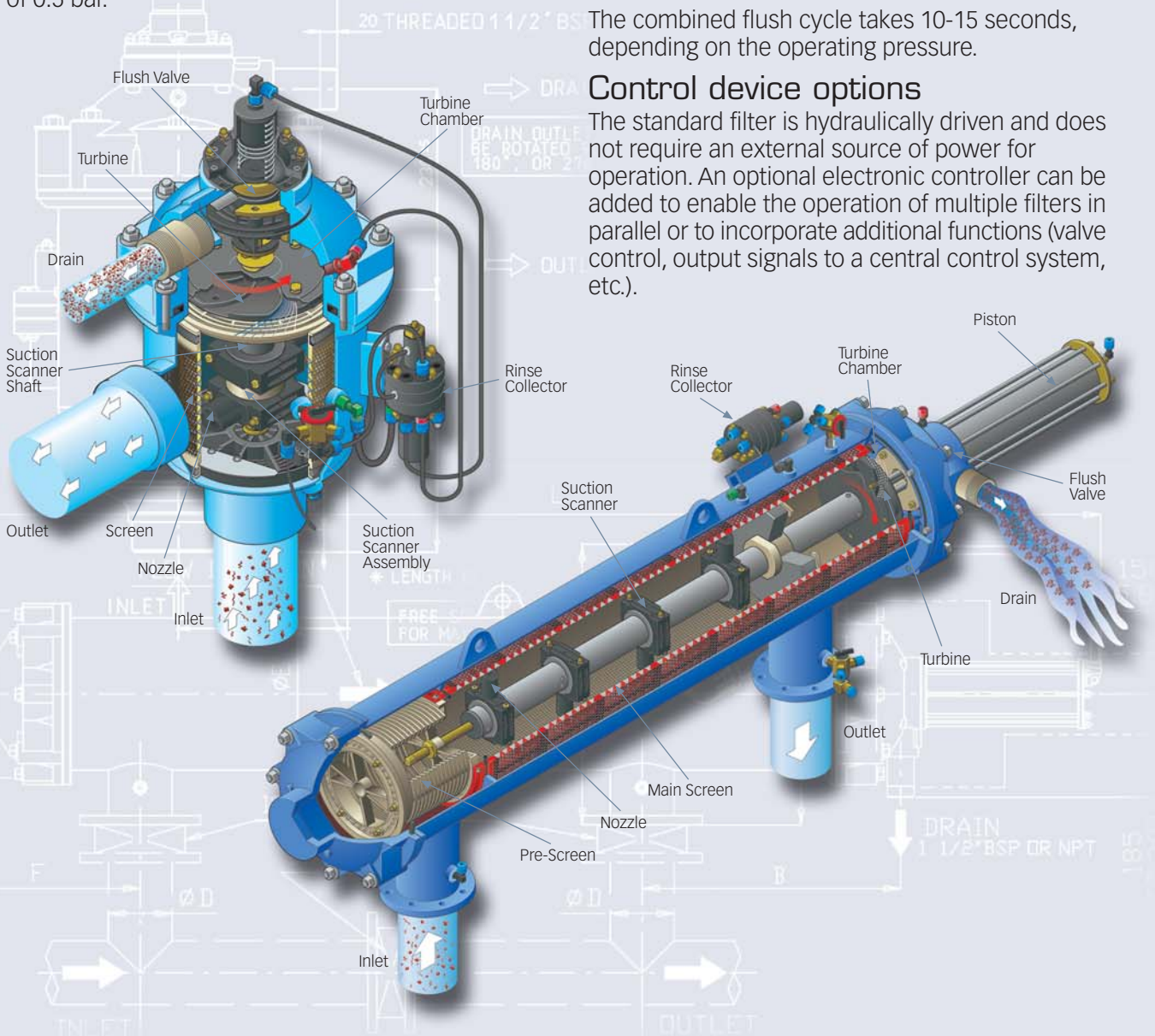
The rinse controller signals an internal flush valve to open. This creates a strong flow of water out of the filter due to pressure in the filter system. The flow of water through nozzles creates a focused back-flushing which effectively removes particles from the screen surface. This water is directed through the suction scanner nozzles attached to a hollow suction scanner shaft, through a turbine, which creates a spiral movement of the suction scanner shaft, and out the exhaust valve. Pressure drop in the turbine chamber and drainage of a piston (in the Modular type units only) forces the suction scanner shaft to move outward. The suction scanner nozzles sweep across the main screen. The combined spin and outward movement ensures that the suction nozzles clean the entire main screen.

When the first outward cleaning stroke is completed, a second flushing cycle is triggered, pushing the suction scanner assembly inward to its original position.

The combined flush cycle takes 10-15 seconds, depending on the operating pressure.

Control device options

The standard filter is hydraulically driven and does not require an external source of power for operation. An optional electronic controller can be added to enable the operation of multiple filters in parallel or to incorporate additional functions (valve control, output signals to a central control system, etc.).



TECHNICAL SPECIFICATIONS

General

Filter type	M100-750	M100-1500	M100-4500	M100-6800	
Filter shape	L-Type	L-Type	Modular-Type	Modular-Type	
Inlet/Outlet diameter [mm] [inch]	50, 80 2", 3"	80, 100 3", 4"	100, 150 4", 6"	100, 150, 200, 250 4", 6", 8", 10"	Flange standards as per request.
Maximum flow rate [m ³ /h]	40	80	180	400	Consult manufacturer for optimum flow depending on filtration degree & water quality.
Filter area [cm ²]	750	1500	4500	6800	
Min. working pressure [bar]	2	2	2	2	Or lower if pressure is increased for flushing.
Max. working pressure [bar]	8	8	8	8	
Max. working temp. [°C]	55	55	55	55	
Weight empty [kg]	2" = 22 3" = 25	3" = 30 4" = 35	4" = 90 6" = 115	4" = 110 6" = 120 8" = 140 10" = 158	
Weight full [kg]	2" = 38 3" = 40	3" = 57 4" = 62	4" = 170 6" = 225	4" = 214 6" = 230 8" = 320 10" = 351	

Flushing data

Exhaust valve [mm]; [inch]	40; 1 1/2"	40; 1 1/2"	40; 1 1/2"	40; 1 1/2"	
Flushing cycle time [sec.]	10	10	15	15	Depending on the working pressure
Wasted water per cycle [lit]	15	20	125	150	
Min. flow for flushing [m ³ /h]	15	20	26	30	
Flush criteria	Differential pressure of 0.5 bar and manual operation				

Construction materials

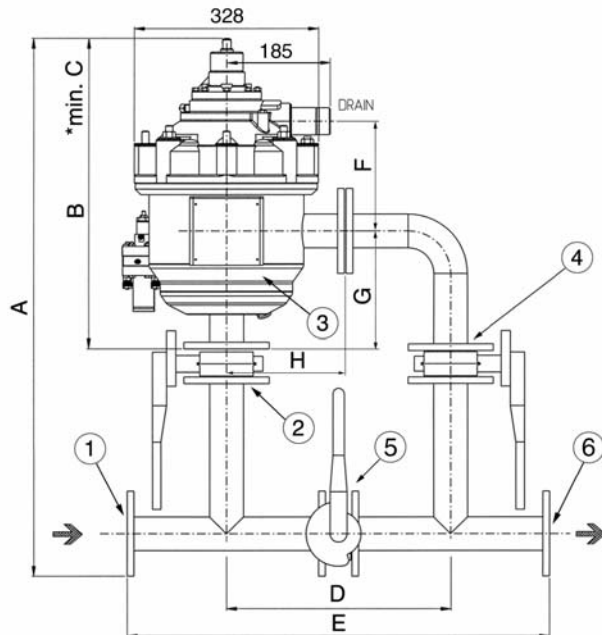
Filter housing	Epoxy-coated carbon steel 37-2 (Stainless Steel 316 available on request)
Filter lid	High density polypropylene
Pre-screen	Reinforced nylon
Main screen	Stainless Steel 316, Molded plastic support structure
Cleaning mechanism	PVC and Stainless Steel 316L
Motor assembly	Reinforced nylon, Brass, Stainless Steel
Control tubing	Polyethylene
Seals	BUNA-N
Control	Aluminum, Brass, Stainless Steel 316, PVC, Acetal
Hydraulic piston	Stainless Steel 316, Brass

Standard filtration degrees

	Molded stainless steel screen					
micron	500	300	200	130	100	80
mm	0.5	0.3	0.2	0.13	0.1	0.08
mesh	30	50	75	120	155	200

SUGGESTED INSTALLATIONS

M100-750 & M100-1500



Key to installation drawings:

(Dimensions in mm)

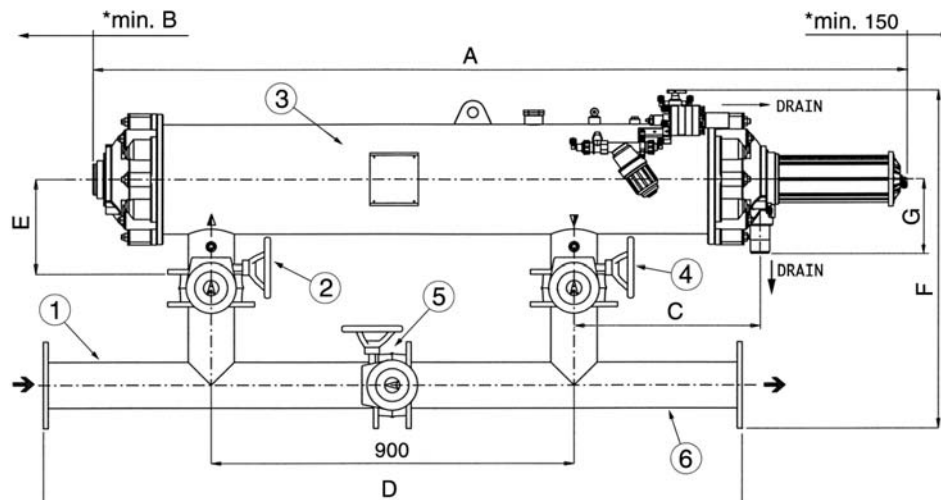
1. Inlet manifold
2. Inlet butterfly valve
3. M100 Filter
4. Outlet butterfly valve
5. Bypass butterfly valve
6. Outlet manifold

★ Minimum length for opening

- Manifold and valves supplied separately.
- Dimensions are for reference only and may change per filter model and application. Contact manufacturer for certified drawings.

Filter type	Filter name	Inlet/Outlet [ø]	Connections	Dimensions [mm]							
				A	B	C	D	E	F	G	H
2" M100-750	102C	50 mm	Threads/Flanges	960	554	710	400	753	196	210	210
3" M100-750	103C	80 mm	Threads/Flanges	910	554	710	400	731	196	210	210
3" M100-1500	103CL	80 mm	Threads/Flanges	1047	692	1028	400	731	226	318	210
4" M100-1500	104C	100 mm	Flanges	1124	690	965	500	931	226	315	235

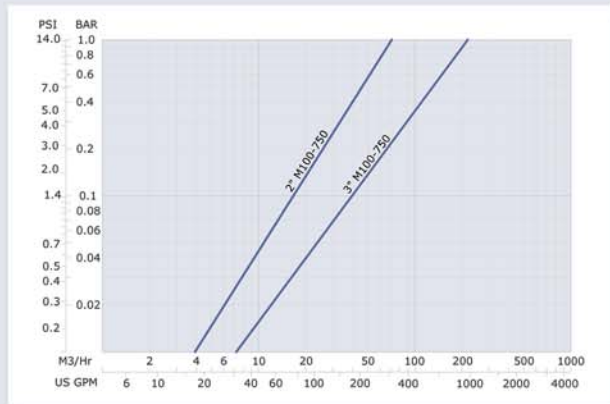
M100-4500 & M100-6800



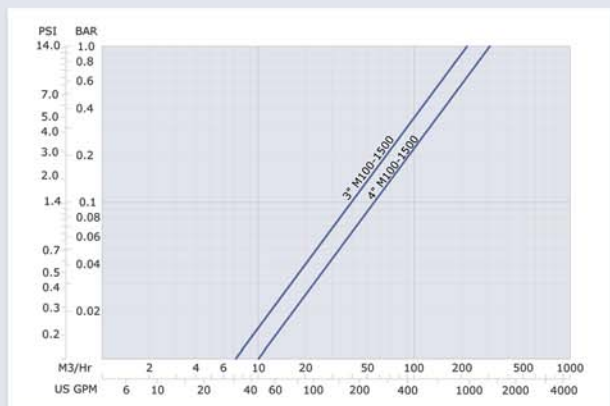
Filter type	Filter name	Inlet/Outlet [ø]	Dimensions [mm]						
			A	B	C	D	E	F	G
4" M100-4500	104LP	100 mm	2018	1075	460	1731	235	841	185
6" M100-4500	106LP	150 mm	2089	1075	477	1719	270	1021	185
4" M100-6800	104XLP	100 mm	2485	1425	872	1731	235	839	185
6" M100-6800	106XLP	150 mm	2485	1425	873	1719	235	958	186
8" M100-6800	108LP	200 mm	2667	1425	965	1705	270	1079	185
10" M100-6800	110P	250 mm	2688	1425	965	1680	270	1184	149

PRESSURE LOSS GRAPHS

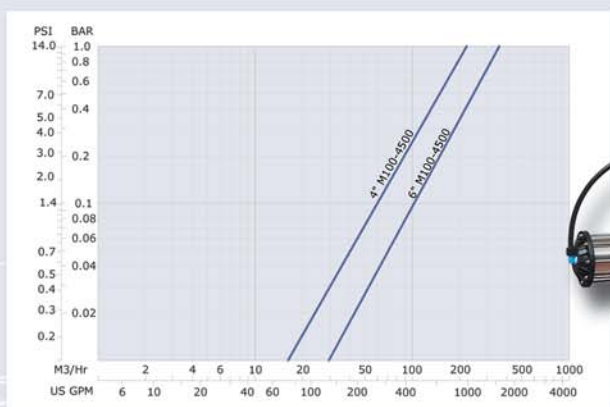
M100-750



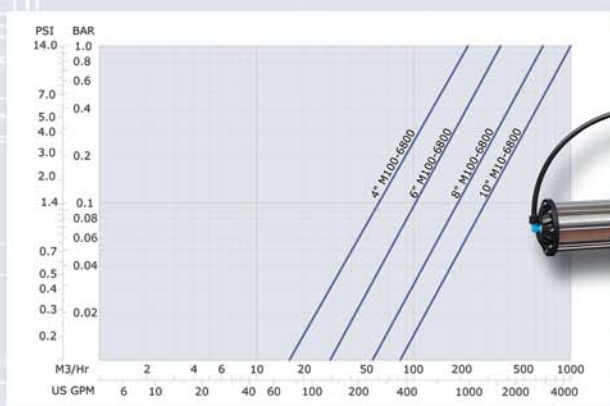
M100-1500



M100-4500



M100-6800



SELECTED WORLDWIDE APPLICATIONS



▲ Treated sewage effluent water for landscape irrigation. 200µm. Bunnerong Cemetery, Bangholme (Melbourne), AUSTRALIA



▲ Drip irrigation of row crops. 120m³/h, 130µm. Afula, ISRAEL



▲ Treated sewage water for irrigation of pasture. 200µm. Stroud Sewage Treatment Plant, Stroud, NSW, AUSTRALIA



▲ Treated sewage effluent water for landscape irrigation. 130µm. Sandhurst Estate, Carrum Downs (Melbourne), AUSTRALIA



▲ Filtration of well water. Up to 150m³/h, 80µm. Potable water supply system. ISRAEL



▲ Wastewater reservoir. Pre-filtration to drippers. 400µm. ISRAEL



▲ Cooling tower side stream filtration. 100µm. Eastlands Plaza Shopping Centre, Ringwood (Melbourne), AUSTRALIA



▲ Golf course irrigation. 200µm. Pacific Harbour Golf Course, Bribie Island, Qld. AUSTRALIA



▲ Cooling water filtration at a power station. 100µm. CHINA



▲ Backup filtration in row crop irrigation. 32m³/h, 130µm. ISRAEL



▲ Lake water used for drip irrigation. 130µm. Sea of Galilee, ISRAEL



▲ River water filtration for drip irrigation. Palma del Rio, SPAIN



▲ Filtration of reservoir for drip irrigation. 130µm. Israel



▲ Filtration of flood water for irrigation. 200µm. ISRAEL



▲ Cooling water filtration. 50µm. Detergents manufacturer. ISRAEL



In an increasingly crowded world, the need for clean water concerns everyone involved in sustaining our quality of life. Society and economy cannot exist without water; Because water is life.

For more than 40 years, Amiad has helped meet this need by developing a comprehensive line of exceptionally efficient, automatic self-cleaning filters and manual filters for use in industry, municipalities, and irrigation. Amiad provides solutions in more than 66 countries, with seven subsidiaries and sales offices. Amiad's pledge to the filtration industry is to continue providing innovative and dependable systems, quality service and reliable customer support.

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