

Filtomat M100/MG Filters

Hydraulic self-cleaning screen filters,
with no external power source required



flow rates

**M100: up to 400 m³/h
(1,760 gpm)**

**MG: up to 800 m³/h
(3,520 gpm)**

minimum operating
pressure

2 bar (30 psi)

water for cleaning

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

filtration degrees

500-80 micron

features:

- Reliable operating mechanism
- Simple construction and easy maintenance
- Ideal solution for agricultural filtration requirements
- Automatic flushing according to pressure differential
- No interruption of downstream flow during flushing
- High reliability and durability
- Hydraulic or electronic control

How the Filtomat Filters Work

General

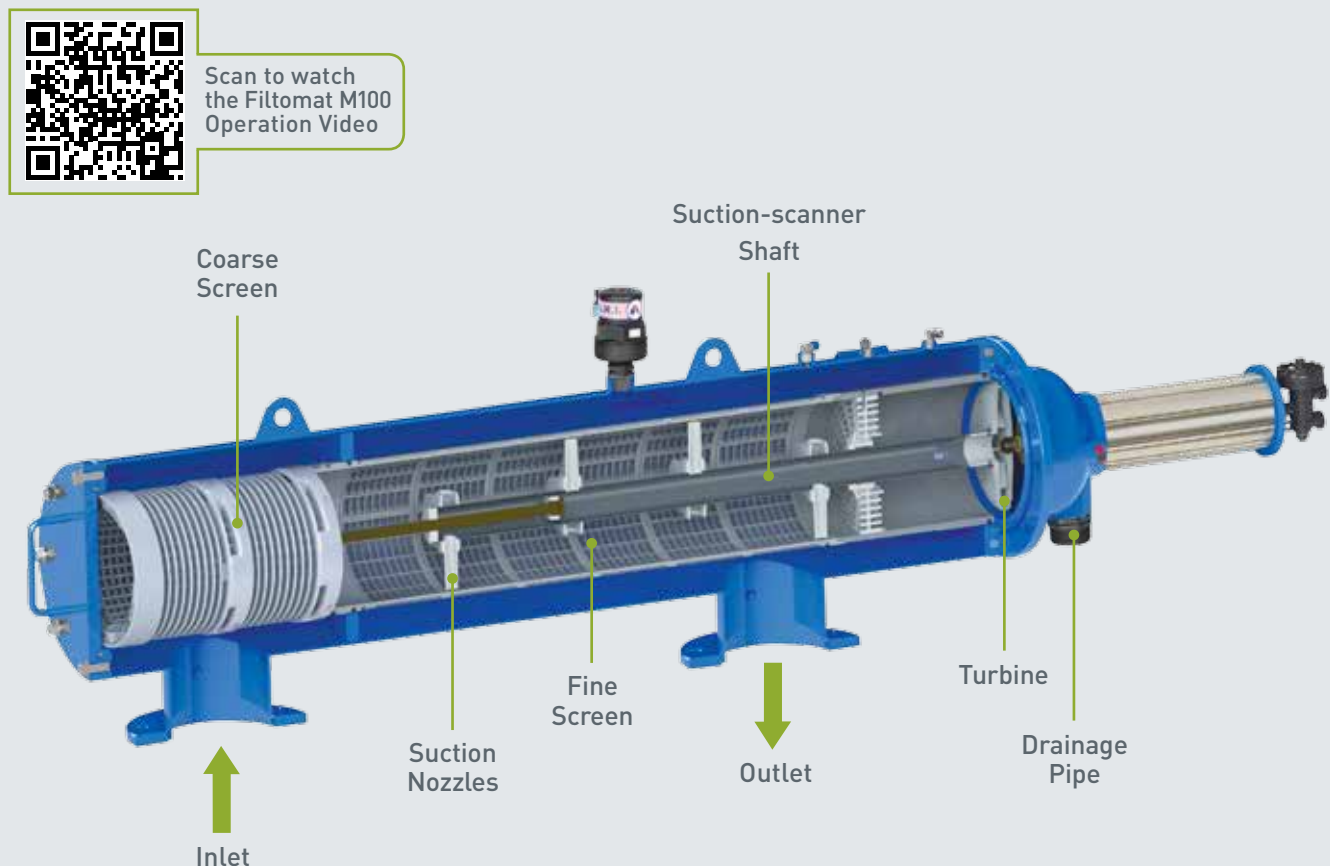
The Amiad Filtomat M100 and MG Series are automatic, self-cleaning filters, ideal for remote installation sites, with a water-driven self-cleaning mechanism that doesn't require an external power source for operation. With a variety of screen areas the M100 and MG models support flow rates of up to 3,520 gpm (800 m³/h), with filtration degrees of 500 down to 80 micron and inlet/outlet diameters from 2" to 14".

The Filtration Process

The filtration process begins when raw water flows through the filter inlet into the coarse screen which pre-filters the water to protect the cleaning mechanism from large debris. The water then passes through the inner surface of the fine screen where dirt particles are trapped and accumulate inside the filter, while clean water flows through the filter outlet. The gradual buildup of dirt on the inner screen surface causes a filter cake to develop which causes an 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 0.5 bar (7 psi), the M100 or MG filter starts the self-cleaning process by opening the internal flush valve. This results in the release of a back-flush stream flowing through the nozzles out of the hollow suction-scanner shaft to the turbine and to the drainage pipe.



M100 Models

Available as a stand alone or as filter bank assembly, with a single control system (AC/DC).

Amiad's Filtomat M100 Series consists of the following models:

M102C/M103C for up to 40 m³/h (176 gpm)

M103CL/M104C for up to 80 m³/h (350 gpm)

M104CL for up to 100 m³/h (440 gpm)

M104LPN/M106LP for up to 180 m³/h (793 gpm)

M104XLP/M106XLP/M108LP/M110P for up to 400 m³/h (1,760 gpm)

MG Models

Modular configuration, available as a stand alone or as filter bank assembly, with a single control system (AC/DC).

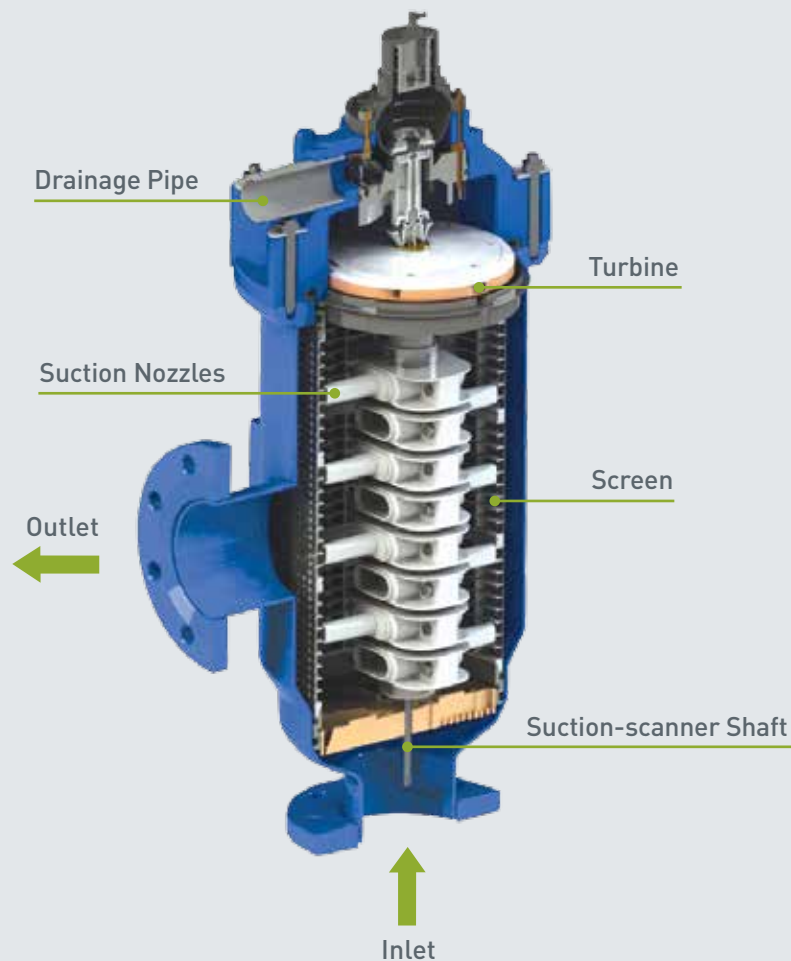
The MG modules are delivered fully assembled, requiring a single connection to the inlet, outlet and drain.

Amiad's Filtomat MG Series consists of the following models:

MG110 (2 x 108LP) for up to 400 m³/h (1,760 gpm)

MG112 (3 x 108LP) for up to 600 m³/h (2,640 gpm)

MG114 (4 x 108LP) for up to 800 m³/h (3,520 gpm)



M100 Models:

M102C/M103C



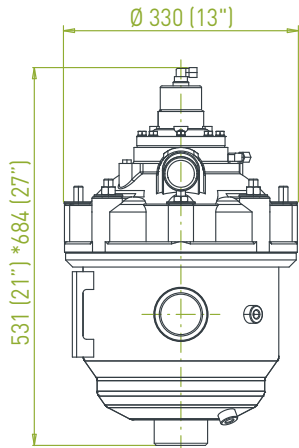
M103CL/M104C



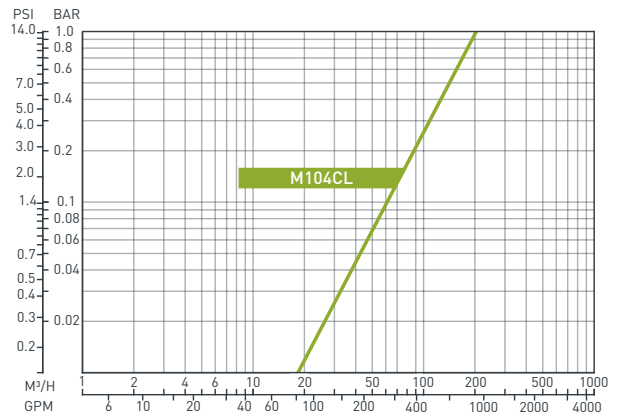
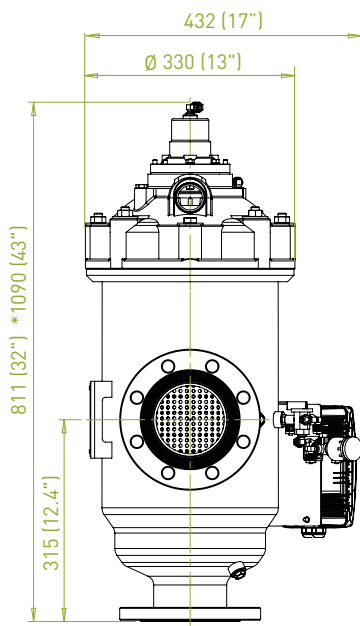
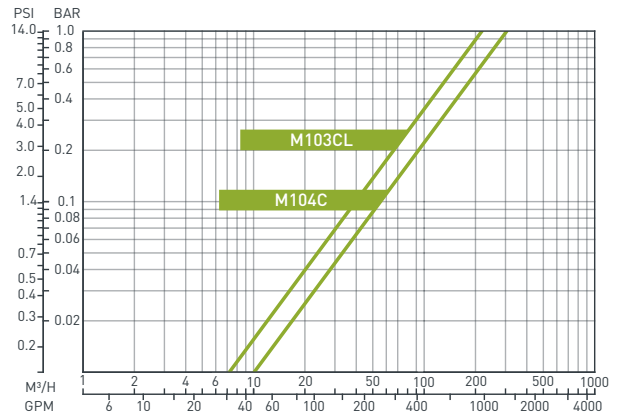
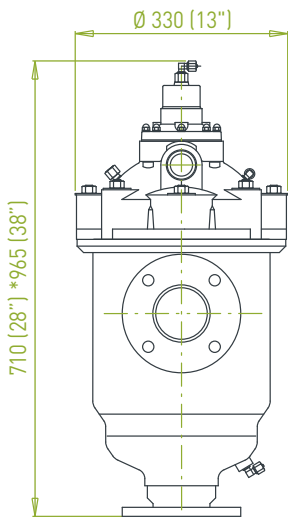
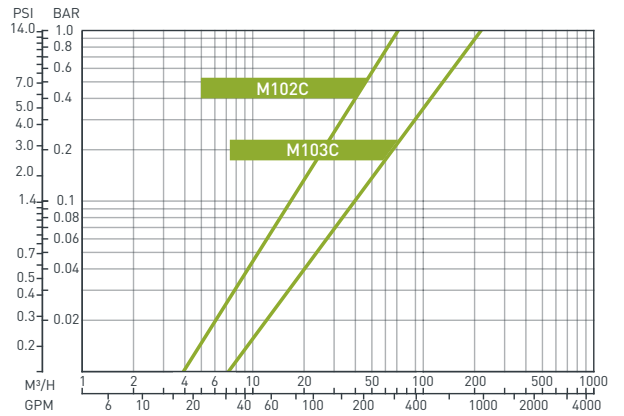
M104CL



Typical Dimensional Drawing



Head Loss Graphs (in clean water)



Dim: mm (inch)

*Approx. length required for maintenance

M100 Models:

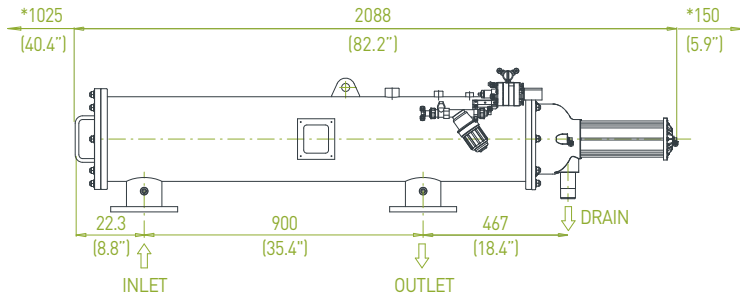
M104LPN/M106LP



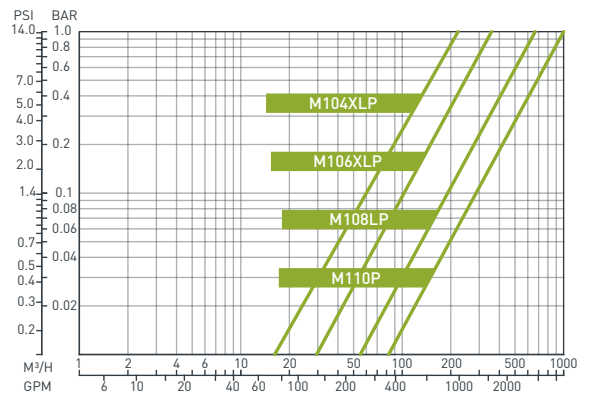
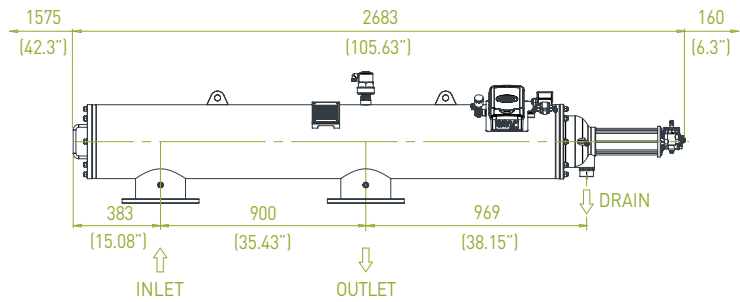
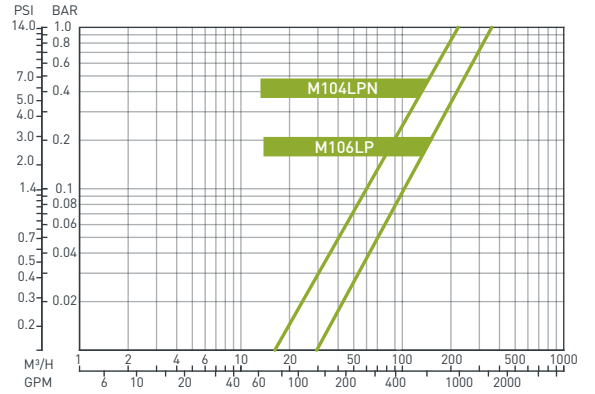
M104XLP/M106XLP/M108LP/M110P



Typical Dimensional Drawing



Head Loss Graphs (in clean water)



Dim: mm (inch)

*Approx. length required for maintenance

MG Models:

MG110



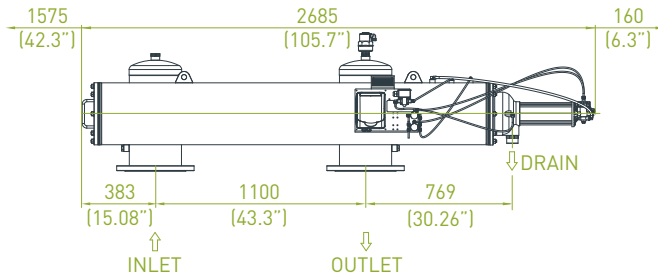
MG112



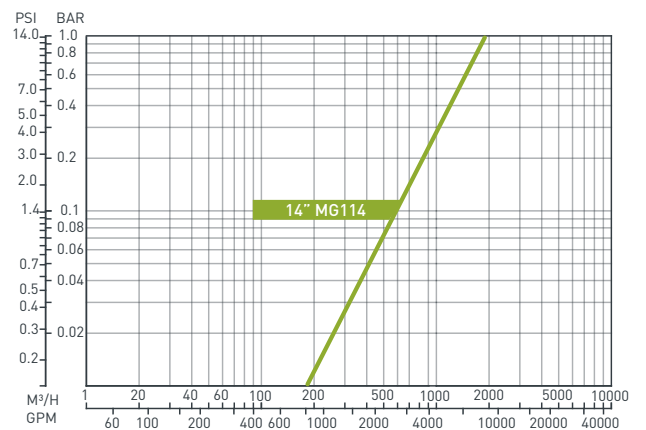
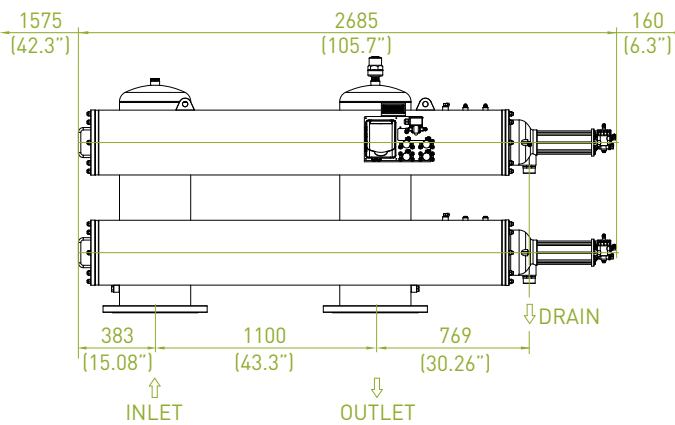
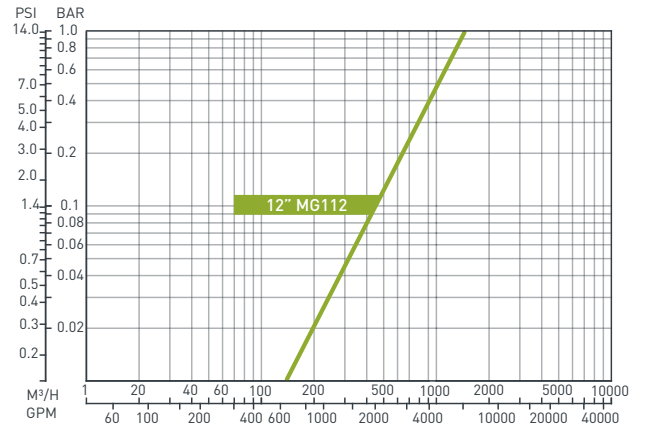
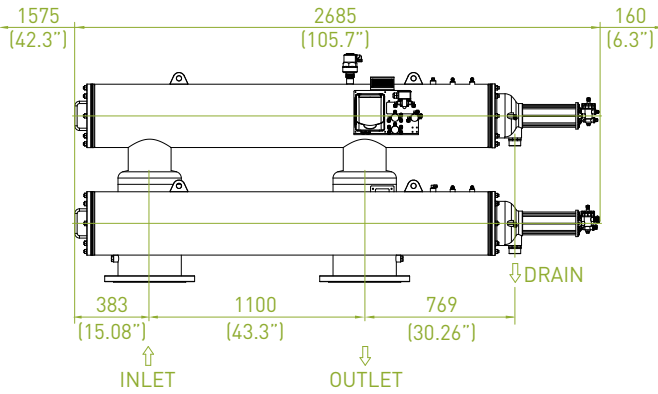
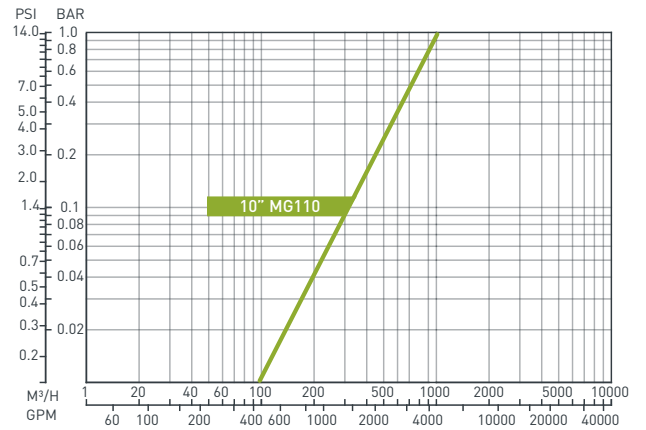
MG114



Typical Dimensional Drawing



Head Loss Graphs (in clean water)



Dim: mm (inch)

*Approx. length required for maintenance

Technical Specifications - M100 Models

Filter Model	M102C M103C	M103CL M104C	M104CL	M104LPN M106LP	M104XLP M106XLP M108LP M110P
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General Data					
Maximum flow rate*	40 m ³ /h (175 gpm)	80 m ³ /h (350 gpm)	100 m ³ /h (440 gpm)	180 m ³ /h (793 gpm)	400 m ³ /h (1,760 gpm)
Inlet/Outlet diameter	2" (50 mm) 3" (80 mm)	3" (80 mm) 4" (100 mm)	4" 100 (mm)	4" 100 (mm) 6" 150 (mm)	4" (100 mm) 6" (150 mm) 8" (200 mm) 10" (250 mm)
Standard filtration degrees	500, 300, 200, 130, 100, 80 micron				
Minimum working pressure	2 bar (30 psi) For lower pressure please consult Amiad				
Maximum working pressure	8 bar (116 psi)			10 bar (150 psi)	
Maximum working temperature	55°C (131°F)				
Weight [empty]	2" 22 kg (48.5 lb) 3" 25 kg (55 lb)	3" 30 kg (66 lb) 4" 35 kg (77 lb)	4" 50 kg (110 lb)	4" 90 kg (198 lb) 6" 115 kg (253.5 lb)	4" 110 kg (242.5 lb) 6" 120 kg (264.5 lb) 8" 140 kg (308.6 lb) 10" 158 kg (348 lb)

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

Flushing Data					
Minimum flow for flushing (at 2 bar - 30 psi)	15 m ³ /h (66 gpm)	20 m ³ /h (88 gpm)	22 m ³ /h (97 gpm)	26 m ³ /h (114 gpm)	30 m ³ /h (132 gpm)
Reject water volume per flush cycle (at 2 bar - 30 psi)	15 liter (4 gallon)	20 liter (5.2 gallon)	28 liter (7.3 gallon)	125 liter (33 gallon)	150 liter (40 gallon)
Flushing cycle time	10 seconds			15 seconds	
Exhaust valve	1.5" (40 mm)				
Flushing criteria	Differential pressure of 0.5 bar (7 psi), time intervals or manual operation				

Screen Data					
Total filtration area	1,300 cm ² (202 in ²)	2,120 cm ² (329 in ²)	3,000 cm ² (465 in ²)	6,150 cm ² (953 in ²)	8,890 cm ² (1,378 in ²)
Net filtration area	750 cm ² (116 in ²)	1,500 cm ² (232 in ²)	2,250 cm ² (349 in ²)	4,500 cm ² (698 in ²)	6,800 cm ² (1,054 in ²)
Screen types	Molded weavewire stainless steel 316L				

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

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

Technical Specifications - MG Models

Filter Model	MG110	MG112	MG114
General Data			
Maximum flow rate*	400 m ³ /h (1,760 gpm)	600 m ³ /h (2,640 gpm)	800 m ³ /h (3,520 gpm)
Inlet/Outlet diameter	10" (250 mm)	12" (300 mm)	14" (350 mm)
Standard filtration degrees	500, 300, 200, 130, 100, 80 micron		
Minimum working pressure	2 bar (30 psi) For lower pressure please consult Amiad		
Maximum working pressure	10 bar (150 psi)		
Maximum working temperature	55°C (131°F)		
Weight [empty]	325 kg (717 lb)	480 kg (1,054 lb)	723 kg (1,590 lb)

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

Flushing Data			
Minimum flow for flushing (at 2 bar - 30 psi)	30 m ³ /h (132 gpm)		
Reject water volume per flush cycle (at 2 bar - 30 psi)	300 liter (80 gallon)	450 liter (120 gallon)	600 liter (160 gallon)
Flushing cycle time	30 seconds	45 seconds	60 seconds
Exhaust valve	1.5" (40mm)		
Flushing criteria	Differential pressure of 0.5 bar (7 psi), time intervals or manual operation		

Screen Data			
Total filtration area	17,780 cm ² (2,756 in ²)	26,670 cm ² (4,134 in ²)	35,560 cm ² (5,512 in ²)
Net filtration area	13,600 cm ² (2,108 in ²)	20,400 cm ² (3,162 in ²)	27,200 cm ² (4,216 in ²)
Screen types	Molded weavewire, stainless steel 316L		

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

* Amiad offers a variety of construction materials. Consult 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:

Ing. Ramón Padilla Sanchez 1000 A, Col. Venta del Astillero, Zapopan, C.P. 45221, Jalisco – Mexico,
Tel: +52 1 33 3640 0189 / +52 1 33 3641 4943, E-mail: 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 Chateaurenard,
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, Unit 1 Heol Rhosyn, Dafen Business Park,
Dafen, Llanelli SA14 8QG,
Tel: +44 (0)1792 277290, Fax: +44 (0)1792 797707, E-mail: info-uk@amiad.com

