



Shree Ram Enterprise

15, NILKANTH BUNGALOWS ,
KATHWADA ROAD NARODA

AHMEDABAD-382330

rhpanchal1965@gmail.com

MOB: 9879225696

9426072781





Introduction

At Shree Ram Enterprise we serves with the best professional solutions for various flow applications, covering **Water Supply, Irrigation,** & many more.

Having **experience of 22** years in the filed of Irrigation Management & Solutions.

Established in **1999.**



Advantages of Irrigation System:

- Saves water about 90% with Drip System & about 60% with Sprinkler System.
- Saving in Labor / Workers for Irrigation.
- Saving in Energy
- Efficient Watering
- Healthy Plants / Landscape
- Improve productivity of crop.



Services we offer:

- **Design, Supply & Commissioning of Water Supply & Drainage Pipe Lines on Turnkey basis.**
- **Design, Supply & Commissioning of Landscape / Drip Irrigation System – Manual, Semi Atomized & Fully Atomized - for Small Garden to Big Sports Fields (Golf Courses), from Farm Houses to Big Cultivation farms / Orchards**
- **Maintenance of All type of Irrigation Systems.**
- **Water Harvesting – Canalization Of Flow to Deep Ground Recharge Wells or Disposal Channels or to Storage Tanks / Ponds**

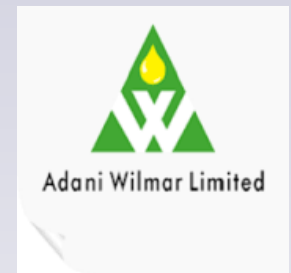
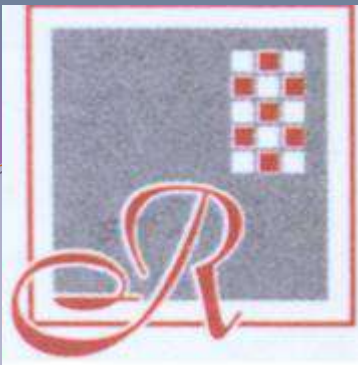
We offer our system for all above categories using the best technology, product available in present global market. Few of them are:



Products we use:



FEW OUR STANDARD CUSTOMERS





CUSTOMERS

- ADANI PORTS AND SEZ LTD
- ADANI POWER LTD
- TATA POWER LTD
- ADANI WILMAR LTD
- MUNDRA SOLAR PV LIMITED
- ULTRATECH CEMENT LTD
- WELSPUN GROUP
- ASHAPURA GARMENTS LTD
- SKAPS INDUSTRIES INDIA PVT LIMITED
- ANJANI UDYOG PVT LIMITED



Performance Details

Turn Over (In Rs. Lac)

	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	2013-14	2012-13
	85	115	105	110	92	105	110	150







Pop up sprinkler



Popup sprinkler







Rajendra Panchal

(M) 98792 25696
94260 72781

- **Landscape, Drip, Sprinkler Irrigation System**
- **Fountains, Irrigation Automation**
- **Lawn Movers, Garden Tools, HDPE, PVC Pipes**
- **Green House Cooling System**



Shree Ram Enterprise

15, Nilkanth Bunglows, Nr. Neel Sagar Complex,
Kathwada Road, Nava Naroda, A'bad-30
E-mail : rhpanchal1965@gmail.com



FILTOMAT
M100/ MG

Self-cleaning
screen filter

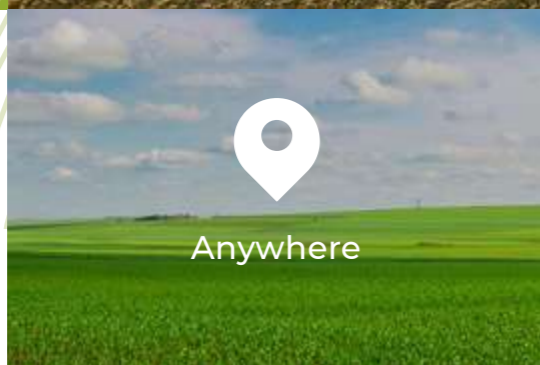
MASTERS OF FILTRATION



Any Crop



Anywhere



Any Water Source



Any Technology



**Farming is
our heritage.**
**Filtration is our
legacy.**

At Amiad, our roots are in the land. As farmers, we learned at firsthand what our crops need to thrive. We understand that every water source is different, and how water quality can greatly affect crop yield.

The filter is the first vital link in the irrigation chain. It's there to protect irrigation systems from damage, while delivering the best quality water.

We develop filters that are able to cope with any water quality, in any geographical location.

We've spent years mastering filtration technology so we can offer a wide range of filters for every farmer's needs including screen, disc or media technology. Our fully automated filtration systems save time, manpower and costs.



Disc
Technology



Screen
Technology



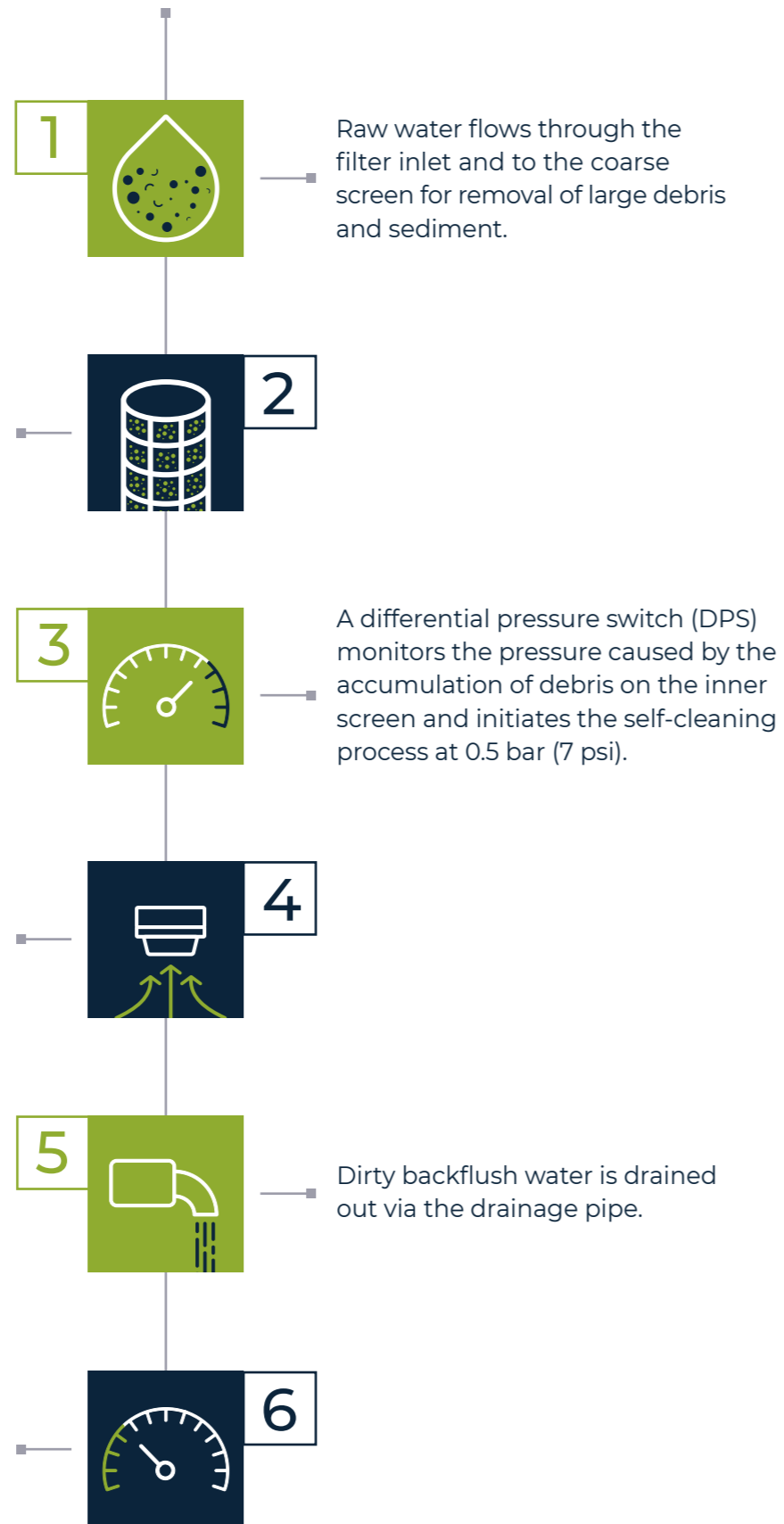
Media
Technology

We consider every challenge as an opportunity to work side by side with our customers to solve their problems. We'll go anywhere to ensure our filters perform as expected, 24/7, every day of the year.

When you want a high performance filter for your irrigation system, consult with Amiad. We focus on doing what we do best.

Amiad. Masters of Filtration.

The Filtration Process



Water then passes through the fine screen for removal of the remaining small particles.

The flush valve opens to the atmosphere to create a strong suction force at the scanner nozzles, effectively removing dirt particles from the screen.

After efficient cleaning, the DP returns to its original value, enabling the filter to operate continuously without downtime.

FILTOMAT FEATURES



Simple construction



Reliable and durable



Easy maintenance - disassembles in only 5 parts



Automatic flushing according to pressure differential or set time

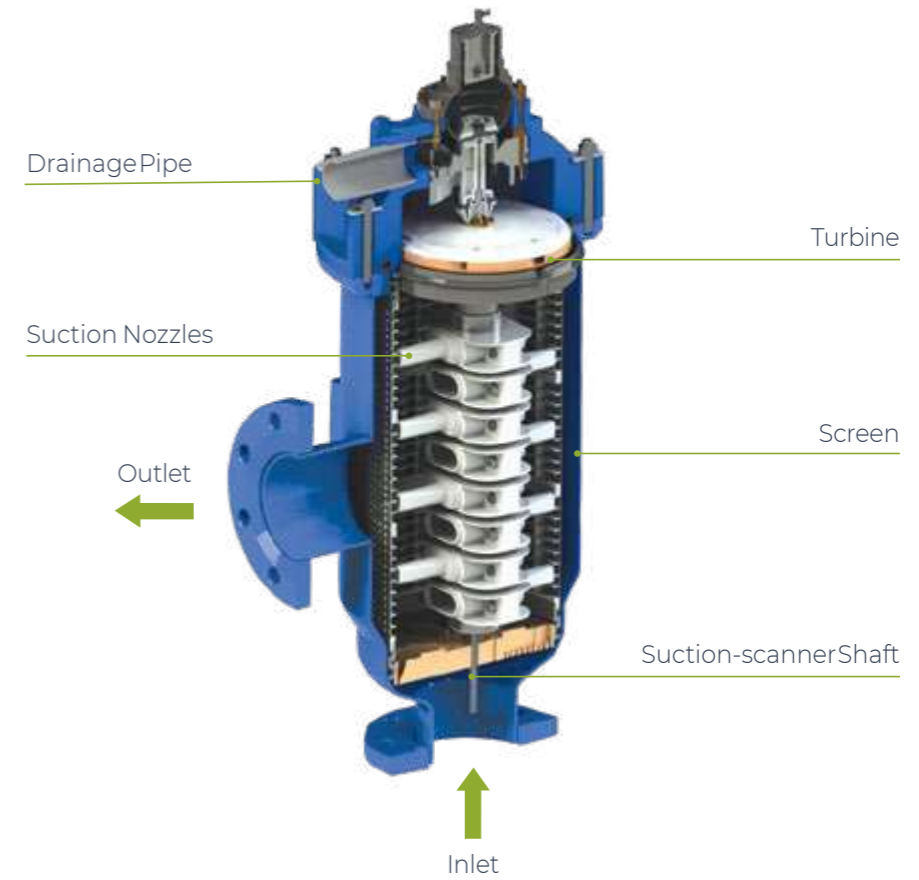
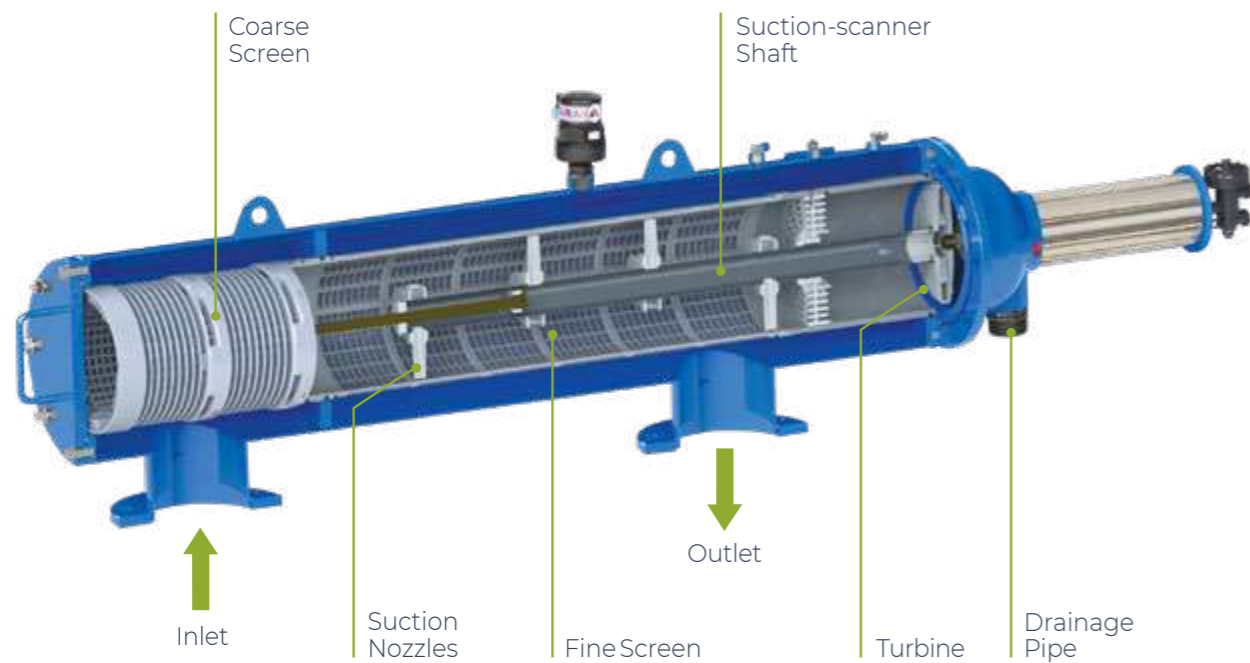


Specifically designed for agricultural filtration needs



No interruption of downstream flow during flushing

FILTOMAT: An Inside Look



Filtomat M100 Models

Available as a stand alone or as filter bank assembly, with a single ADI-P electronic control system.

M102C/M103C: ≤ 40 m³/h (176 gpm)

M103CL/M104C: ≤ 80 m³/h (350 gpm)

M104CL: ≤ 100 m³/h (440 gpm)

M104LPN/M106LP: ≤ 180 m³/h (793 gpm)

M104XLP/M106XLP/M108LP/M110P: ≤ 400 m³/h (1,760 gpm)



Filtomat MG Models

Modular configuration, available as a stand alone or as filter bank assembly, with a single ADI-P electronic control system.

Delivered fully assembled and requiring a single connection to the inlet, outlet and drain.

MG110 (2 x 108LP): ≤ 400 m³/h (1,760 gpm)

MG112 (3 x 108LP): ≤ 600 m³/h (2,640 gpm)

MG114 (4 x 108LP): ≤ 800 m³/h (3,520 gpm)



ADI-P: the control is in your hands



The ADI-P Controller

The ADI-P Controller operates the automated processes that flush your Filtomat filters, allowing you to control and monitor them easily and conveniently.



The ADI-P App

Access your site's filtration performance data directly from the ADI-P app. Here are some of the data that you can access via the ADI-P app:



- Flush logs
- Flush frequency
- Current DP
- Current outlet and inlet pressure
- Flush quality - measuring DP on the filter before and after flush cycle
- Malfunctions with descriptions of each event
- Battery status and low battery alerts



Suitable for low pressure (1.5-10 bar)



Single or dual solenoid configuration



Provides detailed filtration performance data



Communication within **Bluetooth®** technology range



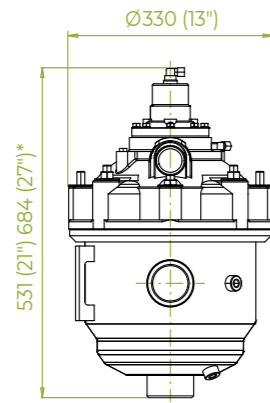
Offline information storage available

M100 Models

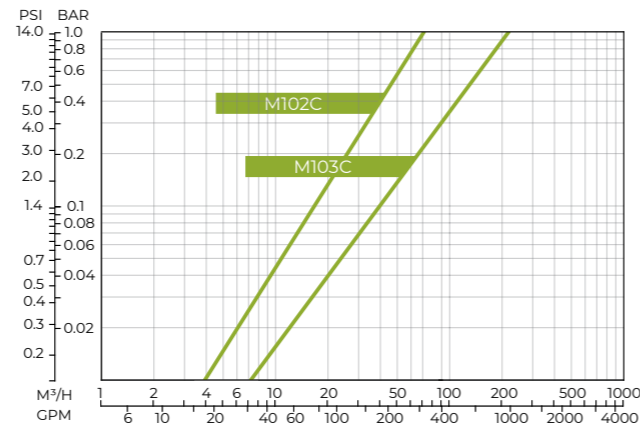
M102C / M103C



Typical Dimensional Drawing
mm (inch)



Head Loss Graph (in clean water)

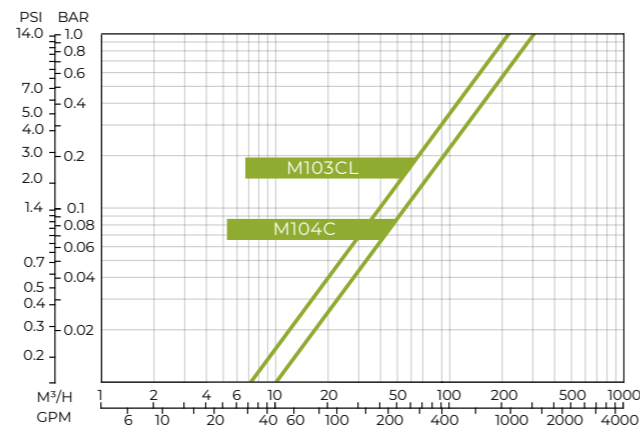
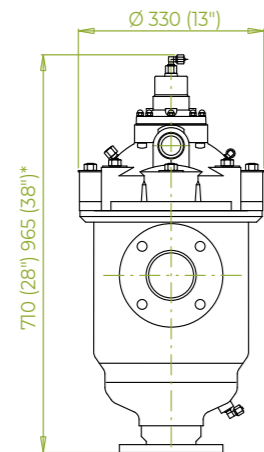


Technical Specifications - M100 Models

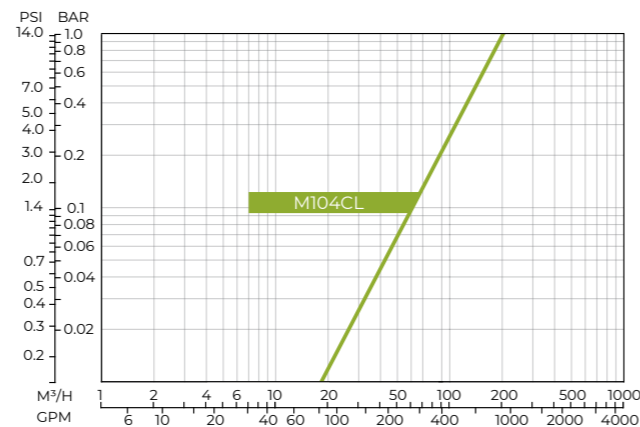
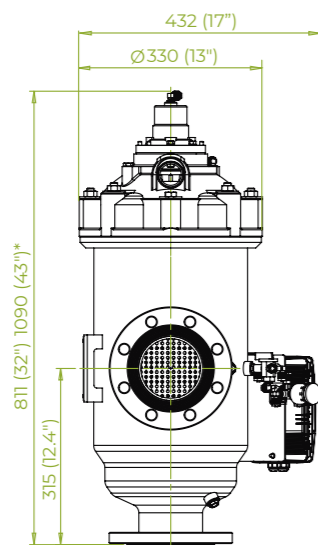
Filter Model	M102C / M103C	M103CL / M104C	M104CL
General Data			
Maximum flow rate*	40 m ³ /h (175 gpm)	80 m ³ /h (350 gpm)	100 m ³ /h (440 gpm)
Inlet/Outlet diameter	2" (50 mm) 3" (80 mm)	3" (80 mm) 4" (100 mm)	4" 100 (mm)
Standard filtration degrees	500, 300, 200, 130, 100, 80 micron		
Minimum working pressure	2 bar (30 psi) For lower pressure please consult Amiad		
Maximum working pressure	8 bar (116 psi)		
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)

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

M103CL / M104C



M104CL



*Approx. length required for maintenance

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)
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)
Flushing cycle time	10 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)
Net filtration area	750 cm ² (116 in ²)	1,500 cm ² (232 in ²)	2,250 cm ² (349 in ²)
Screen types	Molded weavewire stainless steel 316L		

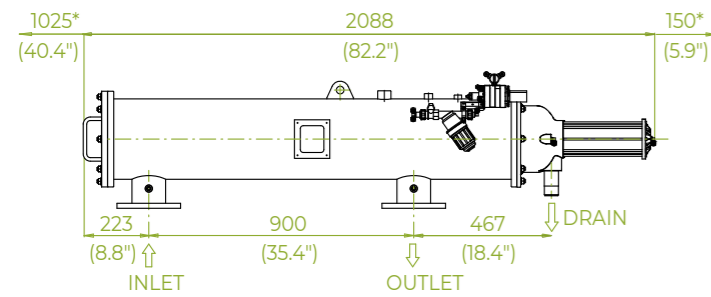
Construction Materials	
Filter housing	Epoxy-coated carbon steel 37-2 (stainless steel 316L on request)
Filter lid	High density polypropylene, epoxy coated carbon steel 37-2 (stainless steel 316L on request)
Cleaning mechanism	PVC and stainless steel 316L
Exhaust valve	Brass, stainless steel 316L, BUNA-N
Seals	BUNA-N
Command tubing	PE (polyethylene)

M100 Models

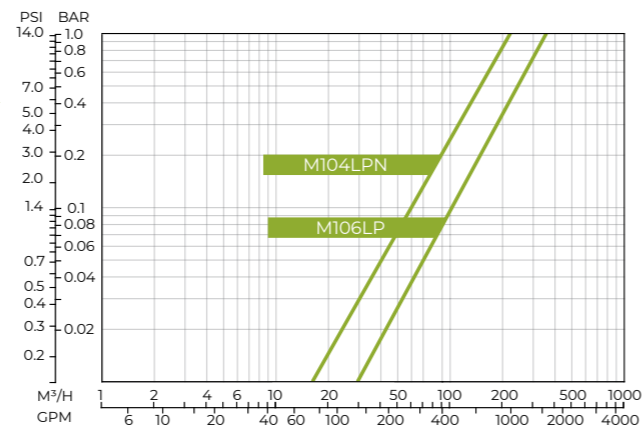
M104LPN / M106LP



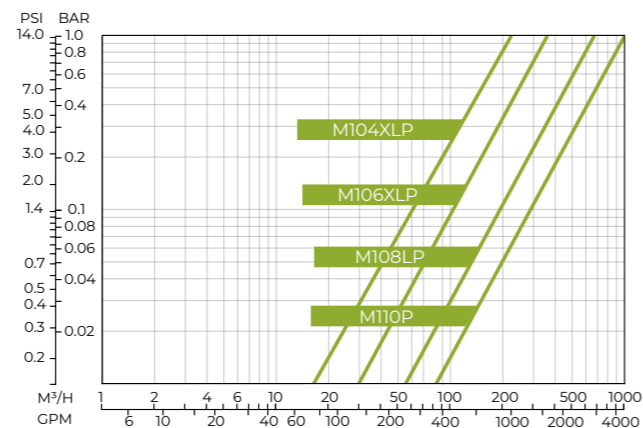
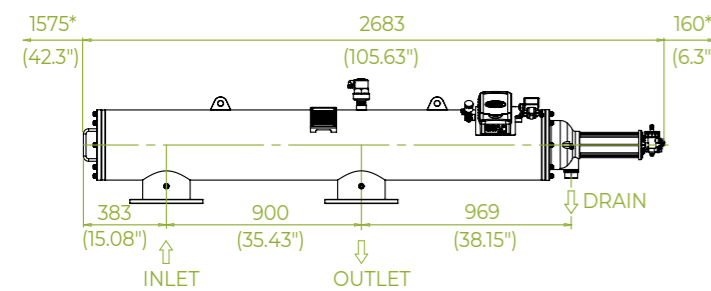
Typical Dimensional Drawing
mm (inch)



Head Loss Graph (in clean water)



M104XLP / M106XLP / M108LP / M110P



*Approx. length required for maintenance

Technical Specifications - M100 Models

Filter Model	M104LPN / M106LP	M104XLP / M106XLP / M108LP / M110P
General Data		
Maximum flow rate*	180 m ³ /h (793 gpm)	400 m ³ /h (1,760 gpm)
Inlet/Outlet diameter	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	10 bar (150 psi)	
Maximum working temperature	55°C (131°F)	
Weight [empty]	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)	26 m ³ /h (114 gpm)	30 m ³ /h (132 gpm)
Reject water volume per flush cycle (at 2 bar - 30 psi)	125 liter (33 gallon)	150 liter (40 gallon)
Flushing cycle time	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	6,150 cm ² (953 in ²)	8,890 cm ² (1,378 in ²)
Net filtration area	4,500 cm ² (698 in ²)	6,800 cm ² (1,054 in ²)
Screen types	Molded weavewire stainless steel 316L	

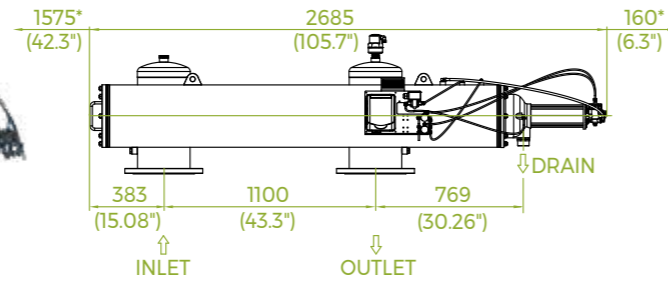
Construction Materials		
Filter housing	Epoxy-coated carbon steel 37-2 (stainless steel 316L on request)	
Filter lid	High density polypropylene, epoxy coated carbon steel 37-2 (stainless steel 316L on request)	
Cleaning mechanism	PVC and stainless steel 316L	
Exhaust valve	Brass, stainless steel 316L, BUNA-N	
Seals	BUNA-N	
Command tubing	PE (polyethylene)	

MG Models

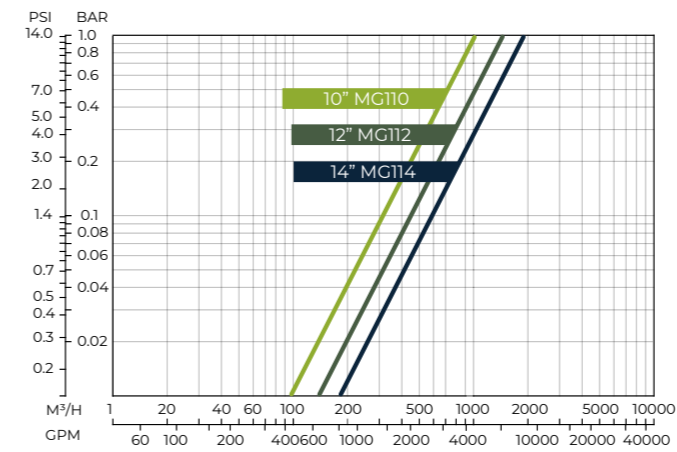
MG110



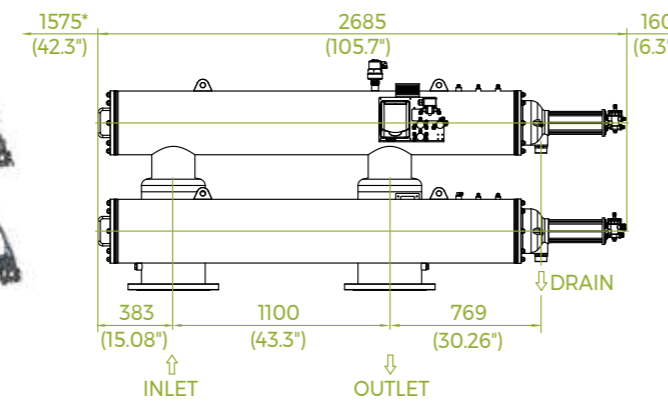
Typical Dimensional Drawing
mm (inch)



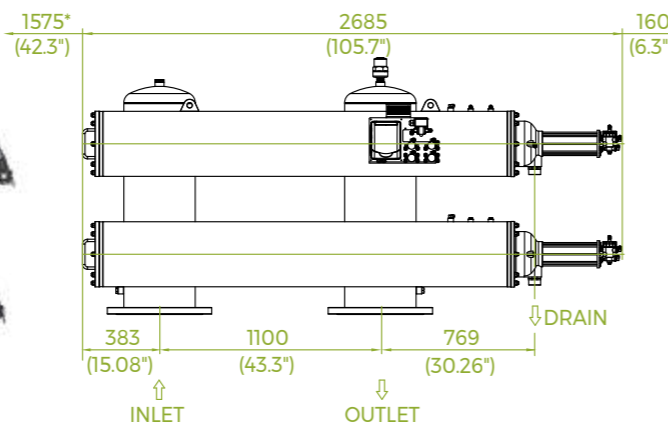
Head Loss Graph (in clean water)



MG112



MG114



*Approx. length required for maintenance

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		



Headquarters

Amiad Water Systems Ltd.

Web: www.amiad.com

E-mail: info@amiad.com

The Americas

USA

Amiad USA Inc.

Web: www.amiadusa.com | E-mail: infousa@amiad.com

Brazil

Amiad Sistemas de Água Ltda.

E-mail: infobrasil@amiad.com

Mexico

Amiad México SA DE CV,

Web: www.amiad.es | E-mail: infomexico@amiad.com

Irrigation office: E-mail: infomexico-irr@amiad.com

Asia

India

Amiad Filtration India Pvt Limited

Web: www.amiadindia.com | E-mail: info-india@amiad.com

China

Amiad China (Yixing Taixing Environtec Co., Ltd.)

Web: www.amiad.com.cn | E-mail: infochina@amiad.com

South-East Asia

Filtration & Control Systems Pte. Ltd.

E-mail: info-singapore@amiad.com

Australia

Amiad Australia Pty Ltd.

Web: www.amiad.com.au | E-mail: sales@amiad.com

Europe

Amiad Water Systems Europe SAS

E-mail: industry-europe@amiad.com

German branch office

E-mail: industry-de@amiad.com

United Kingdom

Amiad Water Systems UK Limited

E-mail: info-uk@amiad.com



 **amiad** IRRIGATION

MASTERS OF FILTRATION

www.amiad.com

910101-000392/01.2020

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Ordering guide for Irrigation C10 combination air valves

Order code	Irrigation	Valve Size	Connection	Outlet	Options
IR-3/4-C10	IR	20mm (3/4")	BSP male		Side port plug fitted
IR-1-C10	IR	25mm (1")	BSP male		Side port plug fitted
IR-2-C10	IR	50mm (2")	BSP male	2" BSP female	Side port plug fitted
IR-2-C10-BD	IR	50mm (2")	2" Flanged table D	2" BSP female	Side port plug fitted
IR-3-C10-BD	IR	80mm (3")	3" Flanged table D	2" BSP female	Side port plug fitted

Valve specifications

Combination air valve for low pressure sealing
12 bar rated max inlet pressure



Combination Air Valve Model

Model C10/C11



**Installation, Operation and
Maintenance Manual (IOM)**

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General

The BERMAD C10/C11 is a high quality combination Air Valve for a variety of water networks and operating conditions. It evacuates air during pipeline filling, allows efficient release of air pockets from pressurized pipes, and enables large volume air intake in the event of network draining.

With its advanced aerodynamic design, this double orifice valve provides excellent protection against air accumulation and prevents vacuum formation with improved sealing at low pressure.

This document serves as the Installation, Operation and Maintenance Manual (IOM) of this valve; it describes the procedures required for proper usage of the valve.

Safety

Since Air Valves operate in pressurized water systems you are required to carefully read this manual before using the valve. Handle the valve with care and make sure to comply with all the relevant required safety instructions and standards, general and local.

Operational Data

Pressure rating	ISO PN10, ANSI/ASME 150
Operating pressure range	0.1-10 bar / 1.5-150 psi
Operating temperature	Water up to 60°C / 140°F

Materials and Connections

Body material	Glass-reinforced Nylon
Inlet diameter	¾", 1", 2" DN20, DN25, DN50
Connections	Threaded Male BSPT/NPT
Outlet types	Sideways, Downwards (DN50/2" only)
Additional features	(2" / DN50 only): Surge Protection (C10-SP, C11-SP) Inflow Prevention (C10-IP, C11-IP)

Body (#2)



Kinetic Seal (#4)



Kinetic Plug (#6)



Peal Seal (#5)



Kinetic Plug Legs (#33)



Float (#3)



O-Ring (#5011)



Base (#1)



Seals Kit (#60)

Kinetic Plug +
Legs Kit (#40)

Body (#2)



Drain Elbow (#8)

Kinetic Seal (#4)

Peal Seal (#5)

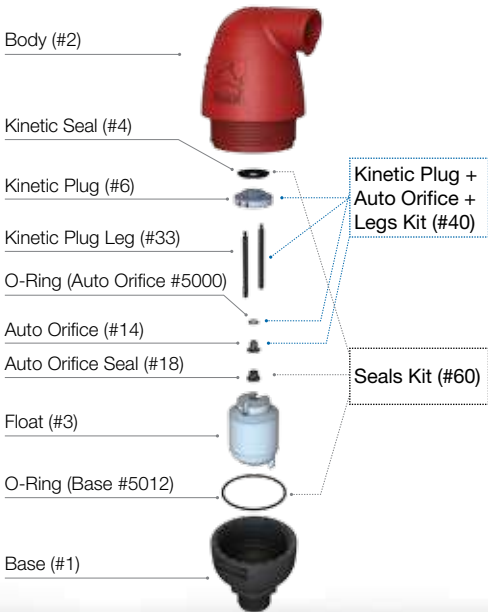
Kinetic Plug (#6)

Float (#3)

O-Ring (#5012)

Base (#1)

Seals Kit (#60)



Body (#2)



Drain Elbow (#8)

Kinetic Seal (#4)

Kinetic Plug (#6)

O-Ring (Auto Orifice #5000)

Auto Orifice (#14)

Auto Orifice Seal (#18)

Float (#3)

O-Ring (Base #5011)

Base (#1)

Test Point (#7)

Kinetic Plug +
Auto Orifice +
Legs Kit (#40)

Seals Kit (#60)



Surge Protection (SP) – Parts List

Surge Seal (#11)



Grid (#10)



Surge Extension (#9)



Drain Elbow (#8)



Inflow Prevention (IP) – Parts List

O-Ring (#5074)



Grid (#10)



Inflow Seal (#11)



Surge Extension (#9)



Drain Elbow (#8)



Unpacking and post shipment inspection

- Make sure that till the actual installation the valve remains dry and clean in its original package.
- Unpack the valve and make sure that all the wrapping materials are removed.
- Before installation it is necessary to inspect that no damage to the valve occurred during shipment; **do not install a damaged valve!**
- Verify that the valve to be installed meets the design specifications of the specific installation site; take extra care and make sure that the expected system pressure complies with the pressure rating of the valve.

Site Preparation

- Air Valves located above ground should be protected from freezing, contamination and vandalism.
- If the valve is to be installed in a pit, make sure that the pit has proper drainage and sufficient dimensions for servicing the valve.
- Flush the pipeline prior to the Air Valve installation in order to prevent damage to the valve internals due to large debris carried by the water during startup.
- The C10/C11 Air Valves are not to be used in systems containing high suspended solids; consider selecting other BERMAD Air Valve models for such water type.

Installation

Typical Applications

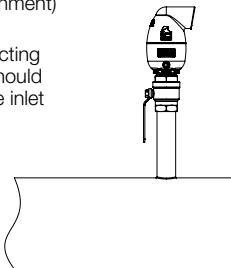
- Main Irrigation Networks – Air relief, protection against air accumulation and vacuum formation downstream of pumps, along supply lines and at elevations in main irrigation networks.
- Irrigation Control Heads – Air relief, protection against air accumulation and vacuum formation in filtration and fertilization stations and downstream of main control valves.
- Infield Systems – Protection against air accumulation and vacuum formation in proximity to water meters and automatic regulators.
- Landscape Irrigation – Protection against air accumulation and vacuum formation.

Please note:

1. If required a Down Outlet and a Connection to a Drainage Pipe can be fitted to the 2" / DN50 valve's outlet.
2. Depending on the specific installation requirements a Surge Protection (SP) or an Inflow Prevention (IP) device may be added to the Air Valve.

Installation instructions

- Install the Air Valve as close as possible to the pipe, at a high point of its circumference, in vertical position (within 5 degrees of vertical alignment) and with its inlet facing down.
- The diameter of the pipe connecting the Air Valve with the pipeline should be at least equal to the Air Valve inlet diameter.
- Install a shutoff valve between the Air Valve and the pipeline for allowing easy inspection and maintenance.



Operation

Start-up and first operation

- Open the shutoff valve and verify that the Air Valve connections are not leaking; if needed follow the troubleshooting instruction section of this document. Please note that at the first time the valve is filled up some water may exit through its outlet port.
- Prevent water hammer during startup and pipeline filling by maintaining the velocity lower than 0.5m/sec (1.6 feet/sec). Consider adding the Surge Protection feature in systems where higher velocity is expected.

Principles of Operation

Pipeline Filling

During the filling process of a pipeline, high air flow is forced out through the kinetic orifice of the Air Valve. Once water enters the valve's chamber, the float buoyed upward causes the kinetic orifice to close.

The unique aerodynamic structure of the valve body and float ensures that the float cannot be closed before water reaches the valve.

Pressurized Operation

During pressurized operation of the pipeline, air accumulates in the upper part of the Air Valve chamber, causing the float to gravitate downwards. This in turn causes the automatic orifice to open, releasing the accumulated air. Once the air is discharged, the water level and float rise, causing the automatic orifice to close.

Pipeline Draining

When a pipeline is drained, a negative differential pressure is created causing atmospheric air to push the float down. The kinetic orifice stays open and air enters the valve chamber, preventing vacuum formation in the pipeline.



Surge Protection (Anti-slam)

The anti-slam device (SP) is fitted to the Air Valve outlet. In the event of pressure surge, it partially closes the valve's outlet. The approaching water column decelerates due to the resistance of the rising air pressure in the valve.

Inflow Prevention

The inflow prevention (IP) is a Normally Closed check device fitted on the valve's outlet and preventing flow of atmospheric air into the valve.

Please note

- During initial pipeline filling as well as during the automatic air release some water may exit through the valve outlet.
- To ensure a completely dry environment near the Air Valve, a drainage pipe can be connected to the valve outlet

Maintenance

Inspection

The valve does not require any specific maintenance, however a periodical inspection of the seals is recommended for removing debris and foreign objects.

Troubleshooting

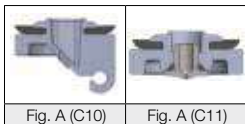
Symptom	Action
Leakage at the inlet connection	Tighten the valve connection, use thread sealant. Check whether any part is damaged.
Leakage at the valve body	Tighten the valve's body, check the O-Ring.
Leakage at the valve's outlet	Disassemble and inspect the valve's orifices, float and seals. Flush the valve to remove debris, Remove any foreign objects, check and replace any damaged part.
Valve does not release air or allow air intake	Verify that the operation pressure does not exceed the valve's rated working pressure. Check and removed foreign objects, Clean the valve's internal parts, replace if necessary. Consult BERMAD if the symptom continues.

Disassembling C10/C11 (sizes $\frac{3}{4}$ - 1" / DN25 DN50)

1. Release the valve's cover (Part #2) by turning it counterclockwise, un-screw and remove it from the valve's base (Part #1). Make sure that the valve parts, seated within the cover do not fall out of the cover.
2. Inspect the valve basis O-Ring (Part #5011) and if necessary replace it with a new one. Make sure that the new O-Ring is seated correctly in its designated groove in the valve's basis.
3. Pull the float assembly (Part #3) out of the valve's cover.
4. Disconnect the Kinetic Plug (Part #4) from the float (Part #3) using its Snap Legs.
5. Inspect the float's peal seal (Part #5 or #18) and the float (Part #3) for wear and tear.
6. If necessary replace the old parts.

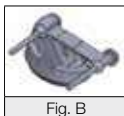
Reassembling C10/C11 (sizes $\frac{3}{4}$ - 1" / DN25 DN50)

1. Wet the Kinetic Seal (Part #4) with water and install it on the Kinetic Plug (Part #6) with its raised edges side facing upward. See figure A.



2. For C10 (sizes $\frac{3}{4}$ - 1" / DN20 DN25).

- a. Wet the new peel seal (Part #5) with clean water. Use the Insertion Assistance Handle and insert the peel seal (Part #5) to its designated groove in the kinetic plug (Part #6) as shown in Figure B.



- b. Use the Insertion Assistance Handle and insert the of the peel seal (Part #5) to its designated groove in the automatic float



- (Part #3), insert the "legs" (Part #33) to the kinetic plug (Part #4) and then to the 2 holes in the automatic float (Part #3). See Figure C.



- c. Once the Peel Seal is correctly seated in place, cut the insertion assistance handles and discard them. See Figure D.

3. For C11 (sizes $\frac{3}{4}$ - 1" / DN20 DN25)

- a. Insert the Orifice seal (Part #18) to its groove on the float (Part #3), See Figure E.
- b. Take the kinetic plug (part #4), which includes the automatic orifice (Part #14) and O-Ring (part #5000). Connect the 2 "legs" (Part #33) to the kinetic plug (part #6), See Figure G.
- c. Insert the "legs" (Part #33) to the 2 holes in the automatic float (Part #3), See Figure H.



4. Make sure that the valve's basis O-Ring (Part #5011) is fully inserted to its groove within the basis. See Figure I.

5. Insert the complete float assembly to its place in the Valve Cover (Part #2), See Figure J.



6. Reassemble the valve cover to the valve basis by screwing it on the basis thread.
Tighten the cover until the BERMAD logo is parallel with the wrench plates of the basis, See Figure K.
7. Reassemble the valve and perform a complete start up procedure as described above.



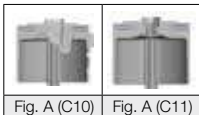
Fig. K

Disassembling C10 / C11 (size 2" / DN50)

1. Release the valve's cover (Part #2) by turning it counterclockwise, un-screw and remove it from the valve's base (Part #1). Make sure that the valve parts, seated within the cover do not fall out of the cover.
2. Inspect the valve basis O-Ring (Part #5012) and if necessary replace it with a new one. Make sure that the new O-Ring is seated correctly in its designated groove in the valve's basis.
3. Pull the float assembly (Parts #3 ,#5 and #6) out of the valve's cover.
4. Disconnect the Kinetic Plug (Part #6) from the Float (Part #3) using its Snap Legs.
5. Inspect the float's peal seal (Part #5) and the float (Part #3) for wear and tear.
6. If necessary replace the old parts.

Reassembling C10 / C11 (size 2" / DN50)

1. Wet the Kinetic Seal (Part #4) with water and install it on the Kinetic Plug (Part #6) with its raised edges side facing upward. See figure A.



2. For C10 (Size 2" / DN50)

- a. Wet the new peel seal (Part #5) with clean water. Use the Lower Insertion Assistance Handle and insert the lower end of the peel seal (Part #5) to its designated groove in the upper part of the float (Part #3). Make sure that the serrated side of the seal (A) is facing the float flat side (B) as shown in Figure B.



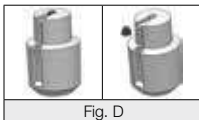
- b. Use the Upper Insertion Assistance Handle to conduit the loose end of the Peel Seal (Part #5) through its designated bore in the Kinetic Plug (Part #6) body. Pull the Upper Insertion Assistance Handle till the upper mushroom shape of the peel seal sticks out of the Kinetic Plug upper side. Make sure that the Peel Seal remains straight and not folded within the bore, See Figure C.



- c. Once the Peel Seal (Part #5) is correctly seated in place cut the Insertion Assistance Handles and discard them.

3. For C11 (Size 2" / DN50)

a. Insert the Orifice Seal (Part #18) to it's groove on the float (Part #3). See Figure D.



b. Take the kinetic plug (part #6) which includes the automatic orifice (Part #14) and the O-Ring (Part #5000) connected to it. See Figure E.



4. Connect the Kinetic Plug (Part #6) to the float (Part #3) using its Snap legs in the right orientation as shown in. See Figure F.



5. Make sure that the valve's basis O-RingRing (Part #21) is fully inserted to its groove within the base. See Figure G.



6. Insert the complete float assembly to its place in the Valve Cover (Part #2). See Figure H.



7. Reassemble the valve cover to the valve basis by screwing it on the basis thread. Tighten the cover until the BERMAD logo is parallel with the wrench flats of the basis. See Figure I.
8. Reassemble the valve and perform a complete start up procedure as described above.



Fig. I

PIAXE12-C10C11 April 2014

info@bermad.com
www.bermad.com

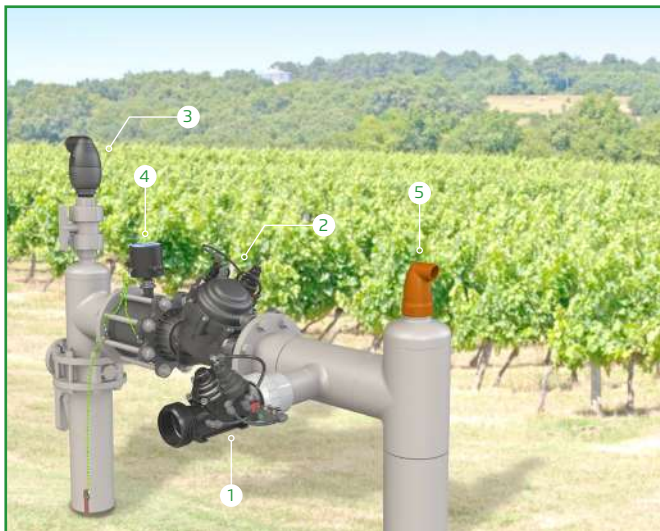




QUICK PRESSURE RELIEF VALVE

Model IR-13Q

The BERMAD Model IR-13Q is a hydraulically operated, diaphragm actuated control valve designed to relief excessive line pressure when it rises above the preset maximum. It responds to rises in system pressure immediately, accurately and with high repeatability, by opening fully. The BERMAD Model IR-13Q provides smooth drip tight closing.



- [1] BERMAD Model IR-13Q protects system from pressure spikes
- [2] Pressure Reducing Valve
- [3] Combination Air Valve
- [4] Electromagnetic Water Meter
- [5] Kinetic Air Valve

Features and Benefits

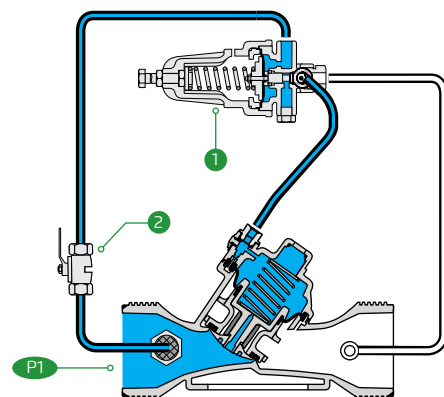
- Hydraulic Control Valve
 - Line pressure driven
 - Short response time
 - Long term drip tight sealing
- Engineered Plastic Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection sizes and types
 - Highly durable, chemical & cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at Low pressure loss
- Unitized Flexible Super Travel Diaphragm with a Guided Plug
 - Accurate and stable regulation with smooth closing
 - Requires low actuation pressure
 - Prevents diaphragm erosion and distortion
 - Simple In-Line Inspection and Service

Typical Applications

- System Burst Protection
- Momentary Pressure Peak Elimination
- System Failure Visual Indication
- Filter Burst Protection

Operation:

The Pressure Relief Pilot ① commands the valve to open immediately should the upstream pressure P_1 abruptly rise above pilot setting, and to close smoothly when it falls below pilot setting, sealing drip tight. The Cock Valve ② enables manual operating test.





IR-13Q

Technical Data

Pressure Rating:
10 bar; 145 psi

Operating Pressure Range:
0.5-10 bar; 7-145 psi

Setting Range:
1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring. Please consult factory

Materials:

Body, Cover and Plug:
Polyamid 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

Seals: NR

Spring: Stainless Steel

Cover Bolts: Stainless Steel

Control Accessories:

Tubing and Fittings:
Plastic

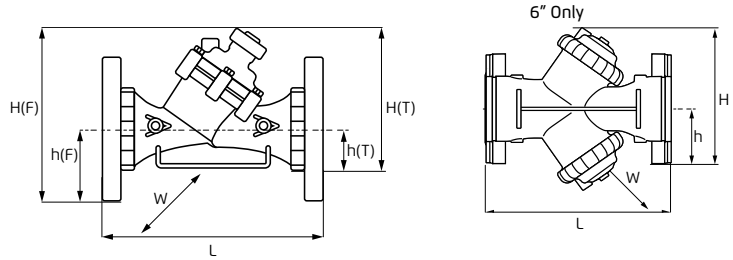
Pilot Spring Range:

Spring	Spring color	Setting Range
V	Blue & White	1-10 bar

Technical Specifications

Y Pattern Valves Dimensions & Weights

For [BERMAD](#) angle, dual & T pattern, Please see our full engineering page.



Sizes Inch ; DN	1½" ; 40	2" ; 50		2"L ; 50	2½" ; 65	Rc (BSP.T), NPT	3" ; 80	
End Connections	Rc (BSP.T), NPT	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	Universal Flanges	
							Metal	Plastic
L (mm)	200	230	230	230	230	298	308	308
H (F) (mm)	—	—	—	—	—	—	244	244
H (T) (mm)	173	173	173	187	187	199	—	—
h (F) (mm)	—	—	—	—	—	—	100	100
h (T) (mm)	40	40	40	43	43	55	—	—
W (mm)	97	97	97	135	135	135	200	200
CCDV (lit)	0.12	0.12	0.12	0.15	0.15	0.15	0.15	0.15
Weight (kg)	1.1	1.2	1.2	1.47	1.47	1.6	4.4	2.5

Sizes Inch ; DN	3"L ; 80L		4" ; 100		4"L ; 100L		Groove	6"R ; 150R	6" ; 150	6" ; 150
End Connections	Rc (BSP.T), NPT	Universal Flanges		Universal Flanges		Universal Flanges		Universal Flanges	Groove	Universal Flanges
		Metal	Plastic	Metal	Plastic	Metal	Plastic	Metal		Plastic
L (mm)	298	308	308	350	350	442	442	400	470	504
H (F) (mm)	—	317	317	329	329	340	340	286	377	286
H (T) (mm)	278	—	—	—	—	—	—	—	—	—
h (F) (mm)	—	100	100	112	112	112	112	57	149	143
h (T) (mm)	60	—	—	—	—	—	—	—	—	—
W (mm)	168	200	200	224	224	226	226	226	287	475
CCDV (lit)	0.62	0.62	0.62	0.62	0.62	1.15	1.15	1.15	1.15	2 x 0.62
Weight (kg)	3	4.4	3.5	7.5	4.6	13.5	10	8	16.5	11

CCDV = Control Chamber Displacement Volume • **BSP.T** = Internal Threaded • **BSP.F** = External Threaded • Other End Connections are available on request. For dimensions and weights of adapters or valve with adapters please consult with customer service

Flow Properties

Sizes Inch DN	1½" 40	2" 50	2"L 50L	2½" 65
KV	50	50	100	100

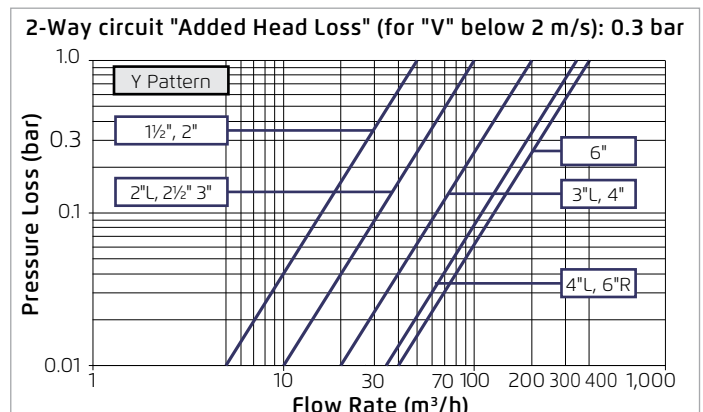
Sizes Inch DN	3" 80	3"L 80L	4" 100	4"L 100L	6" R 150L	6" 150
KV	100	200	200	340	340	400

Valve Flow Coefficient

$$\Delta P = \left(\frac{Q}{Kv} \right)^2$$

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$
 $Q = m^3/h$
 $\Delta P = \text{bar}$

Flow Chart



MANUAL VALVES CATALOGUE



> STANDARDS

Astore ball valves are manufactured according to the following standards:

- ISO metric solvent weld series to ISO 727, EN ISO 1452/4, complying with pipes to ISO 161/1, EN ISO 1452/2
- BS solvent weld series to BS 4346/1, complying with pipes to BS 3506, BS 3505
- BSP threaded series to UNI ISO 228/1, DIN 2999, BS 21

La produzione di valvole a sfera Astore segue i seguenti standard:

- Serie per giunzione ISO metrica per incollaggio secondo ISO 727, UNI EN ISO 1452/4, accoppiabili con tubazioni conformi a ISO 161/1, UNI EN ISO 1452/2
- Serie per giunzione BS per incollaggio secondo BS 4346/1, accoppiabili con tubazioni conformi a BS 3506, BS 3505
- Serie per giunzione filettata BSP secondo UNI ISO 228/1, DIN 2999, BS 21

Die Produktion der Kugelventile von Astore entspricht folgenden Standards:

- Serie für metrische Klebeverbindung ISO gemäß ISO 727, EN ISO 1452/4, verbindbar mit Rohren gemäß ISO 161/1, EN ISO 1452/2
- Serie für Klebeverbindung BS gemäß BS 4346/1, verbindbar mit Rohren gemäß BS 3506, BS 3505
- Serie für Schraubverbindung BSP gemäß UNI ISO 228/1, DIN 2999, BS 21

La production des vannes Astore est conforme aux standards suivants:

- Série des joints ISO métrique pour collage selon ISO 727, EN ISO 1452/4, pouvant être accouplés aux tuyaux conformes aux normes ISO 161/1, EN ISO 1452/2
- Série des joints BS pour collage selon BS 4346/1, pouvant être accouplés aux tuyaux conformes aux normes BS 3506, BS 3505
- Série des joints filetés BSP selon UNI ISO 228/1, DIN 2999, BS 21

La producción de válvulas de bola Astore cumple con las siguientes normas:

- Serie unión ISO métrica para encolar según ISO 727, EN ISO 1452/4, aptas para tuberías conformes a ISO 161/1, EN ISO 1452/2
- Serie unión BS para encolar según BS 4346/1, aptas para tuberías conformes a BS 3506, BS 3505
- Serie rosca BSP según UNI ISO 228/1, DIN 2999, BS 21

> COMPANY APPROVAL

Italian Institute of Plastics (IIP) has attested the conformity of Astore production system to norm EN ISO 9001 (certificate N° 354). Astore has obtained the certification EN ISO 14001 of his own Environmental Management System. This means how this company is involved in diminishing the impact of his own activities on atmosphere according to norm EN ISO 14001:2004. This implies an improvement of the production process with an efficiency increase, the substantial reduction of the energetic consumption and the optimization of the refusals. The certificate testifies a further step towards a better qualitative standard.

L'Istituto Italiano dei Plastici (IIP) ha ufficialmente attestato la conformità del sistema di qualità di "A.V.F. Astore Valves and Fittings srl" alla norma UNI EN ISO 9001 per l'attività di stampaggio ad iniezione di raccordi e parti di valvole in materiali termoplastici e assemblaggio di valvole.

Astore ha ottenuto la certificazione UNI EN ISO 14001 del proprio Sistema di Gestione Ambientale, inteso come tutto quanto è in potere dell'azienda per minimizzare l'impatto delle proprie attività sull'ambiente seguendo i requisiti della norma UNI EN ISO 14001:2004.

Questo implica un miglioramento del processo produttivo con un incremento di efficienza, la riduzione sostanziale dei consumi energetici e l'ottimizzazione della gestione rifiuti. Il certificato testimonia un ulteriore passo avanti nell'innalzamento dello standard qualitativo aziendale.



SISTEMA DI GESTIONE
UNI EN ISO 9001 CERT. N° 354
UNI EN ISO 14001 CERT. N° 129

> CE

The Astore valves follow the Directive of the European Parliament PED 97/23/CE regarding pressure equipment and are produced according to UNI EN ISO 16135.

The sheet here attached shows the classification of the family valves, which are marked CE (in self-certification), or CE 1115 (under approval of Notified Body).

Le valvole Astore seguono la Direttiva del Parlamento Europeo PED 97/23/CE relativa alle attrezzature a pressione e sono prodotte in conformità alla norma UNI EN ISO 16135.

Nella tabella a fianco vengono descritte le classificazioni delle varie famiglie di valvole, che sono marcate CE (in regime di auto-certificazione), o CE 1115 (soggette a sorveglianza da parte di Organismo di Controllo Notificato).

Valves family	Mark
420	CE 1115
426	CE
322	CE
302	CE
303	CE
724	CE 1115
111	CE 1115
930	CE 1115
800	CE 1115
210	CE 1115
220	CE 1115
230	CE 1115

> 420

PVC BALL VALVE VALVOLA A SFERA IN PVC KUGELVENTIL AUS PVC
ROBINET À TOURNANT SPHÉRIQUE EN PVC VÁLVULA DE BOLA EN PVC420
WATERATTRACTION

Grey PVC ball valve dedicated to swimming pools and water supply systems, true union, provided with adjustable support, round ball, EPDM seals, PE ball seats.

Operating pressure PN 16 at 20° C. Version available: ISO metric (1V420) and BS standard (3V420) plain solvent weld socket, BSP Threaded Socket (1V421). Available to be manufactured in other international standards (ASTM, JIS, NPT) upon request.

Valvola a sfera in PVC grigio per piscine e per trasporto acqua, bighiera a smontaggio radiale con supporto regolabile, sfera tonda. Guarnizioni in EPDM, sedi sfera in PE.

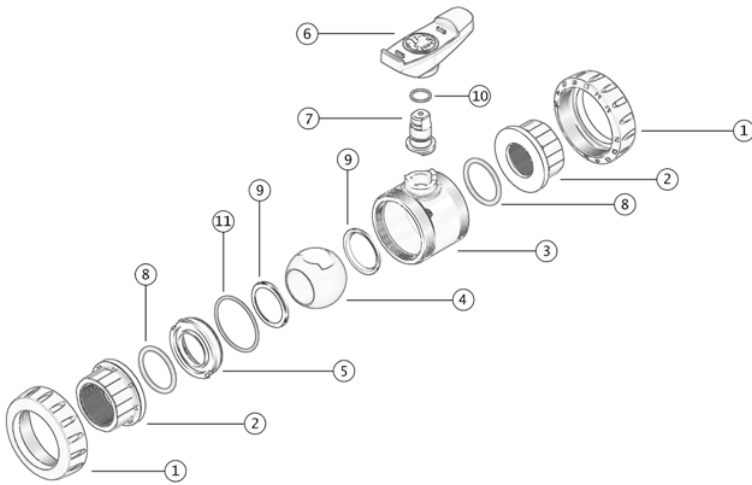
Pressione di esercizio PN 16 a 20° C. Versione disponibile per incollaggio femmina ISO metrico (1V420) e BS standard (3V420), filettata femmina BSP (1V421). Su richiesta possibilità di esecuzioni in altri standard internazionali (ASTM, JIS, NPT).

Kugelventil aus grauem PVC für Schwimmbäder, Zweifach-Überwurfmutter mit Radialausbau, auf der runder Kugel befindet sich ein verstellbares Lager. Dichtungen sind aus EPDM, Kugelsitze aus PE. Betriebsdruck PN 16 bei 20° C, Verfügbare Ausführung für metrische Nut-Klebeverbindung ISO (1V420) und BS Standard (3V420) Innengewinde BSP (1V421). Auf Anfrage sind Ausführungen in anderen internationalen Standards (ASTM, JIS, NPT) möglich.

Robinet 1/4 de tour à bille en PVC gris pour les piscines et pour le transport de l'eau avec double anneau à démontage radial avec support réglable sur sphère ronde.

Joints en EPDM, sièges de la sphère en PE. Pression d'exercice PN 16 à 20° C, Version disponible pour collage femelle ISO métrique (1V420) et BS standard (3V420), filetage femelle BSP (1V421). Sur demande possibilité d'executions dans d'autres standards internationaux (ASTM, JIS, NPT).

Válvula de bola en PVC gris para piscinas y para transportar agua, doble tuerca con desmontaje radial, soporte regulable sobre esfera redonda. Juntas en EPDM, asiento de la bola en PE. Presión de trabajo PN 16 a 20° C. Versión disponible para encolar hembra ISO métrica (1V420) y BS standard (3V420), rosca hembra BSP (1V421). Posibilidad de realización bajo pedido según otras normas internacionales (ASTM, JIS, NPT).



Pos.	Components	Componenti	Benennung	Composants	Componentes	Material	N°
1	nut	ghiera	Überwurfmutter	ecrou	tuerca	PVC-U	2
2	union end	collarino	Anschlusssteil	collet	manguito	PVC-U	2
3	body	corpo	Gehaus	corp	cuerpo	PVC-U	1
4	ball	sfera	Kugel	sphère	bola	PVC-U	1
5	support	supporto	Dichtungstrager	support	casquillo interior	PVC-U	1
6	handle	maniglia	Handgriff	volant	maneta	PVC-U	1
7	stem	asta comando	Spindel	tige	eje	PVC-U	1
8	socket O-ring	O-ring tenuta testa	O-Ring	joint du collet	junta	EPDM	2
9	ball seat	sede sfera	Kugeldichtung	siege	junta asiento	PE	2
10	stem O-ring	O-ring asta comando	O-Ring	joint de la tige	junta eje	EPDM	1
11	radial O-ring	O-ring tenuta radiale	O-Ring	joint du corp	junta	EPDM	1

PVC BUTTERFLY VALVE VALVOLA A FARFALLA IN PVC ABSPERRKLAPPE AUS PVC VANNE PAPILLON EN PVC VÁLVULA DE MARIPOSA EN PVC

Grey PVC butterfly valve for water supply systems, true union, EPDM seals, galvanised steel stem, Flange type coupling with collars and flanges, Range available from D 50 (DN 40) up to D 315 (DN 300), Diameters D 280-315 provide of with gear box as standard, Pressure rating and operating torque, see page 25.

Valvola a farfalla in PVC grigio per trasporto acqua, a smontaggio radiale, Guarnizioni in EPDM, stelo in acciaio zincato, Gamma disponibile da D 50 (DN 40) a D 315 (DN 300), Diametri D 280-315 provvisti di serie di riduttore a volantino. Per pressione di esercizio e coppia di manovra vedi tabella a pag. 25.



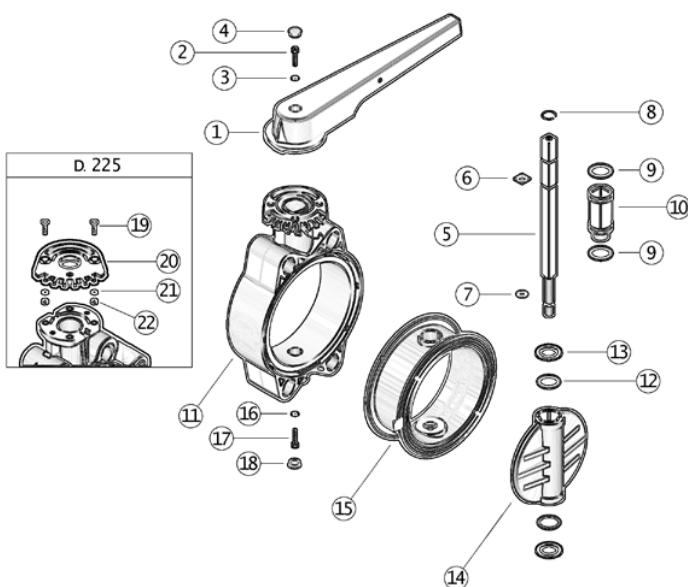
> D 50 DN 40 ÷ D 75 DN 65



> D 90 DN 80 ÷ 160 DN 150



> D 225 DN 200



Pos.	Components	Componenti	Benennung	Composants	Componentes	Material	N°
1	handle	maniglia	Handhebel	poignée	maneta	PVC-U	1
2	screw	vite	Schraube	vis	tornillo	stainless steel	1
3	washer	rondella	Scheibe	rondelle	arandela	stainless steel	1
4	protection cap	cappellotto protettivo	Schutzkappe	chapeau de protection	tapon	PE	1
5	shaft	stelo	Welle	tige	eje	zinc plated steel	1
6	shaft gasket	guarnizione stelo	Dichtung f. Welle	joint tige	junta eje	EPDM	1
7	shaft O-ring	O-ring stelo	O-Ring f. Welle	O-ring tige	junta eje	EPDM	1
8	seeger ring	anello seeger	Seeger Ring	bague seeger	anillo seeger	stainless steel	1
9	bush O-ring	O-ring bussola	O-Ring f. Buchse	O-ring douille	junta casquillo	EPDM	2
10	bush	bussola	Buchse	douille	casquillo	nylon	1
11	body	corpo	Gehaus	corp	cuerpo	PVC-U	1
12	disc O-ring	O-ring disco	O-Ring Scheibe	O-ring papillon	junta compuerta	EPDM	2
13	anti-friction ring	anello antifrizione	Gleitring	bague anti-friction	casquillo	PTFE	2
14	disc	disco	Scheibe	papillon	compuerta	PVC-U	1
15	gasket	guarnizione	Dichtung/Auskleidung	manchette	junta cuerpo	EPDM	1
16	washer	rondella	Scheibe	rondelle	arandela	stainless steel	1
17	screw	vite	Schraube	vis	tornillo	stainless steel	1
18	protection cap	cappellotto protettivo	Schutzkappe	chapeau de protection	tapon	PE	1
19	screw	vite	Schraube	vis	tornillo	stainless steel	2
20	pad	piattello	Rastplatte	plateau	divisor	PVC-U	1
21	washer	rondella	Scheibe	rondelle	arandela	stainless steel	2
22	nut	dado	Mutter	écrou	tuerca	stainless steel	2