



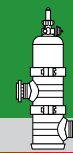
# **BERMAD Irrigation**

## BF100 FILTERS

Water Control Solutions







## BF100 Filters

Hydraulic self-cleaning, hydraulically powered screen filters, combining suction-scanning screen technology with an innovative compact design



### Features and Benefits

- Line pressure driven self-cleaning mechanism - no external power source is required
- No interruption of downstream flow during flushing
- Water required for cleaning - Low consumption, for a short time
- Ideal solution for agricultural filtration requirements
- Automatic flushing according to pressure differential or time
- Flush initiating by hydraulic or electronic control
- Reliable operating mechanism
- Simple construction and easy maintenance
- High reliability and durability

### Technical data

**Flow Rates:**

- Up to 800 m<sup>3</sup>/h; 3,520 gpm

**Minimum operating pressure:**

- 2 bar; 30 psi

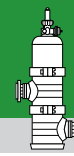
**Water for cleaning:**

- Low water consumption, for a short time

**Filtration degrees:**

- 500-80 micron

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# BF100 Filters

## HOW IT WORKS

### GENERAL

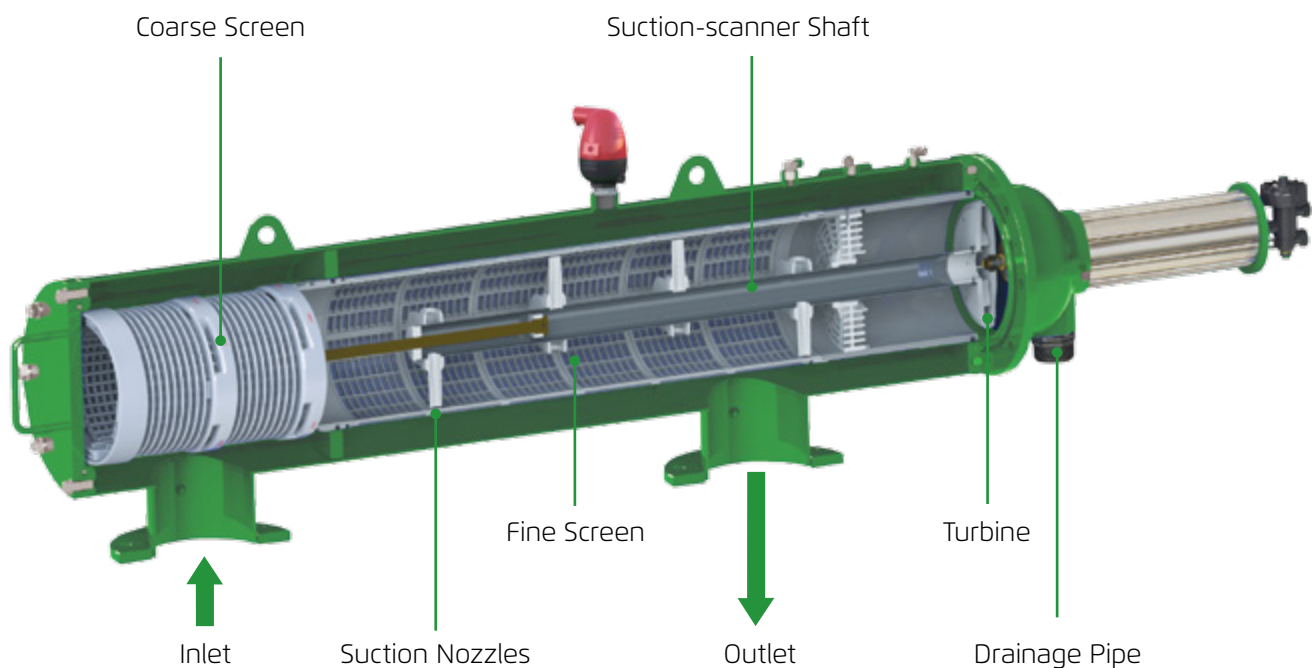
The Bermad BF100 Series are automatic, self-cleaning filters, ideal for remote installation sites, with a water-driven self-cleaning mechanism that doesn't require any external power source for operation. With a variety of screen areas the BF100 models support flow rates of up to (800 m<sup>3</sup>/h) 3,520 gpm, 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, (Or to the selected value in the controller) the BF100 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.





## BF100 Filters

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

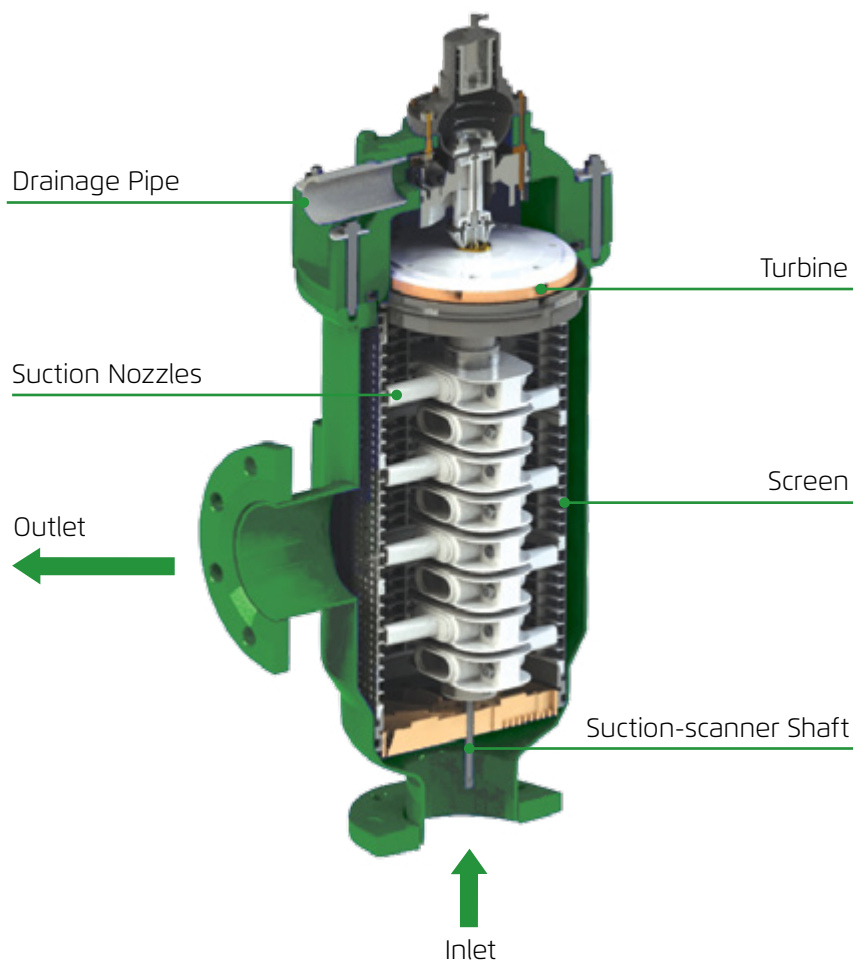
### Bermad BF100 Series consists of the following sizes and types:

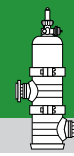
- BF100 - 750 for up to 40 m<sup>3</sup>/h; 176 gpm
- BF100 - 1500 for up to 80 m<sup>3</sup>/h; 350 gpm
- BF100 - 2250 for up to 100 m<sup>3</sup>/h; 440 gpm
- BF100 - 4500 for up to 180 m<sup>3</sup>/h; 793 gpm
- BF100 - 6800 for up to 400 m<sup>3</sup>/h; 1,760 gpm

### BERMAD's BF100 Multiple Screens Series consists of the following models:

- BF102 - 13,600 - 10" (2 x BF100-6800) for up to 400 m<sup>3</sup>/h (1,760 gpm)
- BF103 - 20,400 - 12" (3 x BF100-6800) for up to 600 m<sup>3</sup>/h (2,640 gpm)
- BF104 - 27,200 - 14" (4 x BF100-6800) for up to 800 m<sup>3</sup>/h (3,520 gpm)

Modular configuration, available as a stand alone or as filter battery assembly, with a single control system (AC/DC). The BF100 modules are delivered fully assembled, requiring a single connection to the inlet, outlet and drain.





## Technical Specifications

Filter Type	BF100 - 750	BF100 - 1500	BF100 - 2250
<b>General Data</b>			
Maximum flow rate*	40 m <sup>3</sup> /h (175 gpm)	80 m <sup>3</sup> /h (350 gpm)	100 m <sup>3</sup> /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 BERMAD		
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 BERMAD for optimum flow depending on filtration degree and water quality.

<b>Flushing Data</b>			
Minimum flow for flushing (at 2 bar - 30 psi)	15 m <sup>3</sup> /h (66 gpm)	20 m <sup>3</sup> /h (88 gpm)	22 m <sup>3</sup> /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		

<b>Screen Data</b>			
Filter area	750 cm <sup>2</sup> (116 in <sup>2</sup> )	1,500 cm <sup>2</sup> (232 in <sup>2</sup> )	2,250 cm <sup>2</sup> (349 in <sup>2</sup> )
Screen types	Molded weavewire stainless steel 316L		

<b>* Construction Materials</b>	
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

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





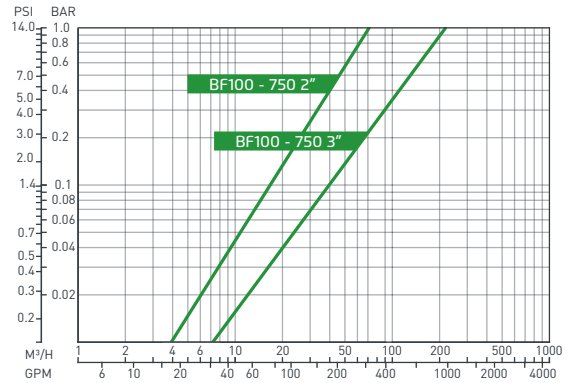
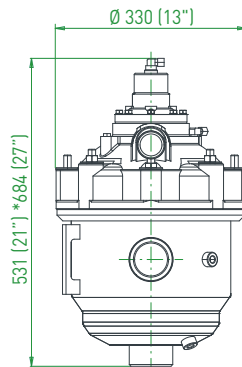
100 Models:

Typical Dimensional Drawing

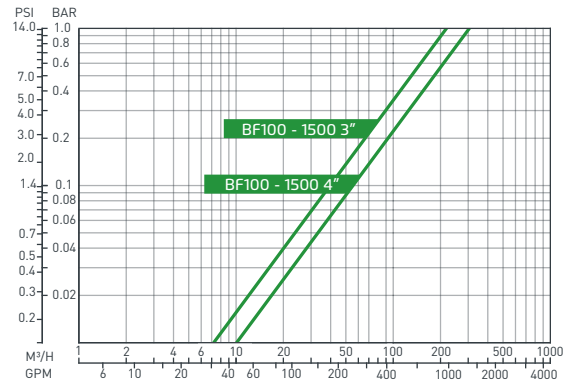
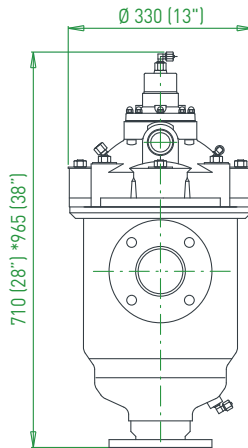
Head Loss Graphs (in clean water)



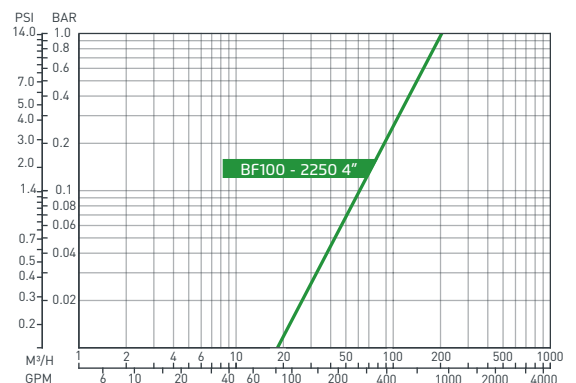
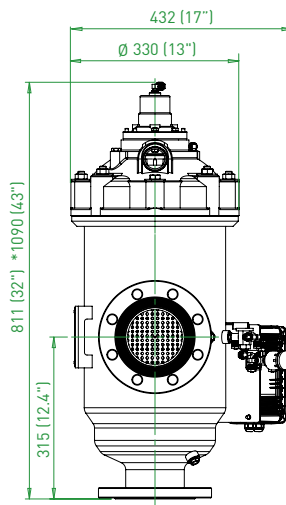
BF100 - 750 2<sup>2/3</sup>"



BF100 - 1500 3<sup>3/4</sup>"



BF100 - 2250 4"



Dim: mm (inch) \*Approx. length required for maintenance



## Technical Specifications

Filter Type	BF100 - 4500	BF100 - 6800
<b>General Data</b>		
Maximum flow rate*	180 m <sup>3</sup> /h (793 gpm)	400 m <sup>3</sup> /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 BERMAD	
Maximum working pressure	10 bar (150 psi)	
Maximum working temperature	10 bar (150 psi)	
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 BERMAD for optimum flow depending on filtration degree and water quality.

<b>Flushing Data</b>		
Minimum flow for flushing (at 2 bar - 30 psi)	26 m <sup>3</sup> /h (114 gpm)	30 m <sup>3</sup> /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	

<b>Screen Data</b>		
Filter area	4,500 cm <sup>2</sup> (698 in <sup>2</sup> )	6,800 cm <sup>2</sup> (1,054 in <sup>2</sup> )
Screen types	Molded weavewire stainless steel 316L	

<b>* Construction Materials</b>		
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	

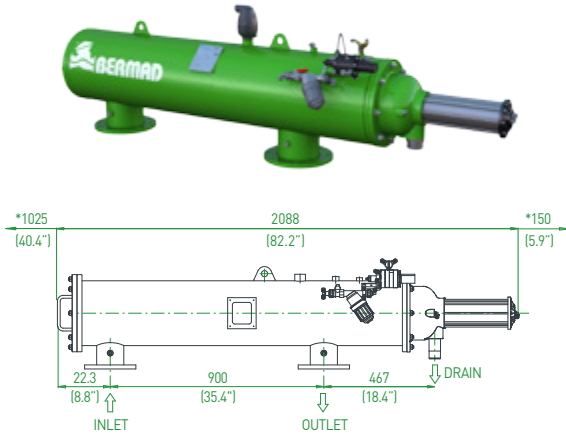
\* BERMAD offers a variety of construction materials. Consult us for specifications.





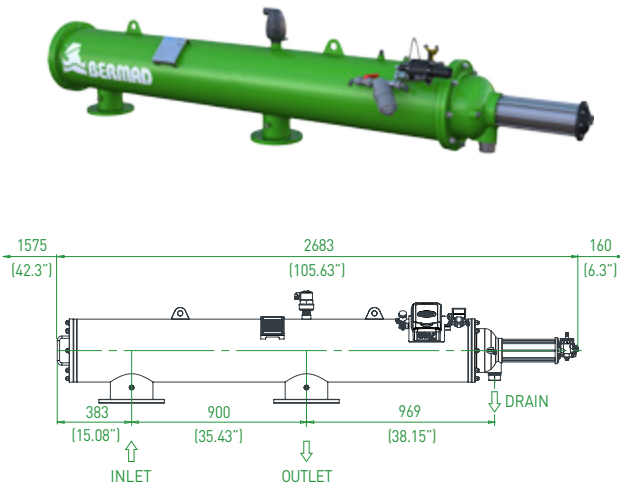
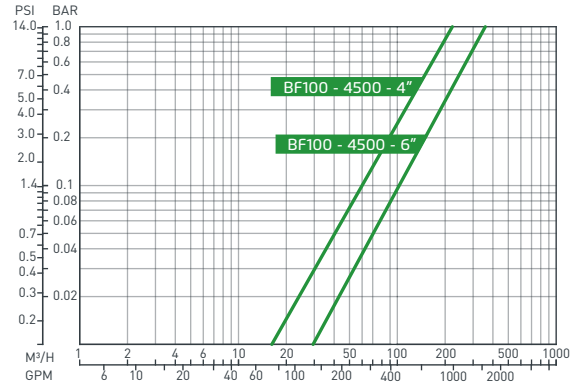


100 Models  
Typical Dimensional Drawing

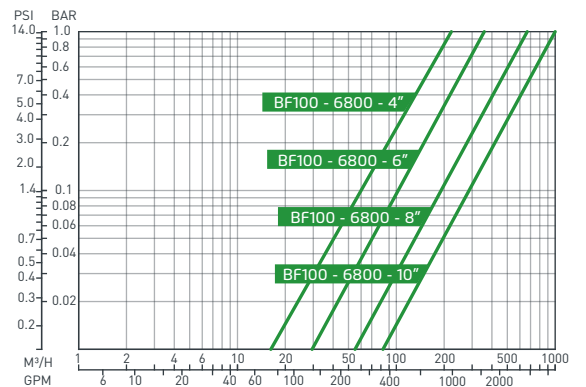


**BF100 - 4500 - 4"/6"**

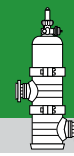
Head Loss Graphs (in clean water)



**BF100 - 6800 - 4"/6"/8"/10"**



Dim: mm (inch) \*Approx. length required for maintenance



## Technical Specifications

Filter Type	BF102 - 13600	BF103 - 13600	BF104 - 27200
<b>General Data</b>			
Maximum flow rate*	400 m <sup>3</sup> /h (1,760 gpm)	600 m <sup>3</sup> /h (2,640 gpm)	800 m <sup>3</sup> /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 BERMAD		
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)

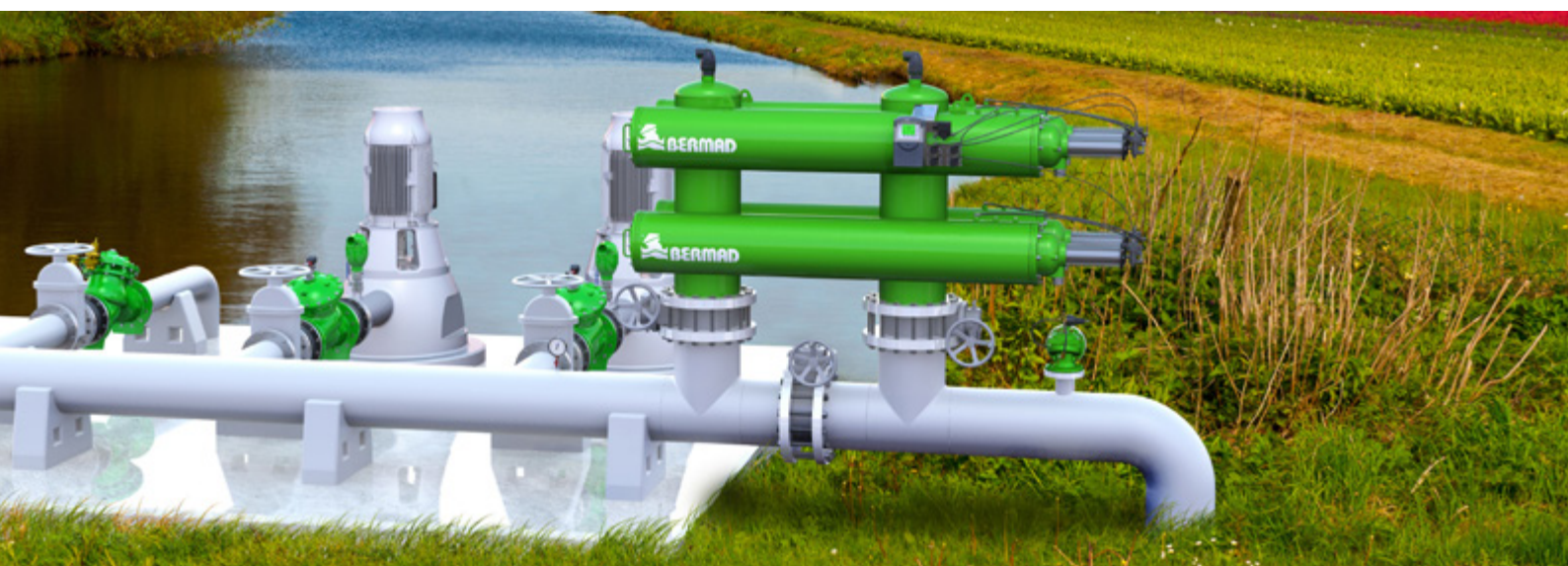
\* Consult BERMAD for optimum flow depending on filtration degree and water quality.

<b>Flushing Data</b>			
Minimum flow for flushing (at 2 bar - 30 psi)	30 m <sup>3</sup> /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		

<b>Screen Data</b>			
Filter area	13,600 cm <sup>2</sup> (2,108 in <sup>2</sup> )	20,400 cm <sup>2</sup> (3,162 in <sup>2</sup> )	27,200 cm <sup>2</sup> (4,216 in <sup>2</sup> )
Screen types	Molded weavewire, stainless steel 316L		

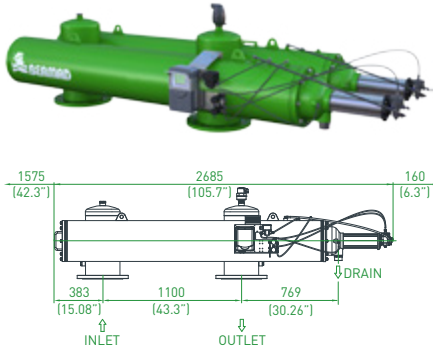
<b>* Construction Materials</b>	
Filter housing	Epoxy-coated carbon steel 37-2 (stainless steel 316L on request)
Filter lid	High density polypropylene, Epoxy coated carbon steel 37-2 (Stainless steel 316L on request)
Cleaning mechanism	PVC and stainless steel 316L
Exhaust valve	Brass, stainless steel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

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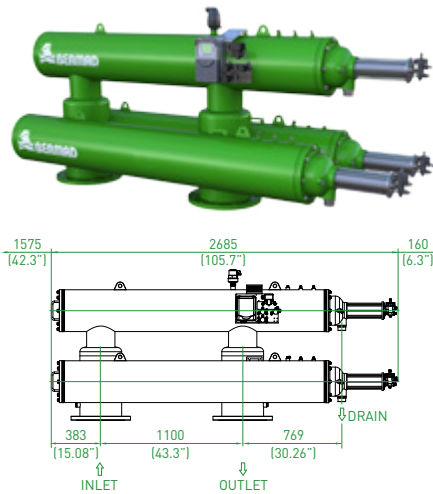
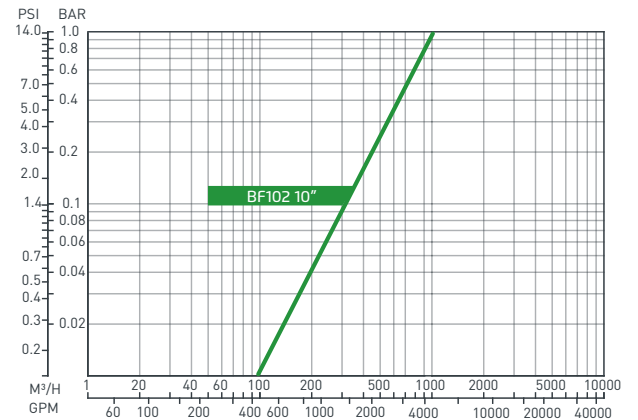


100 Models  
Typical Dimensional Drawing

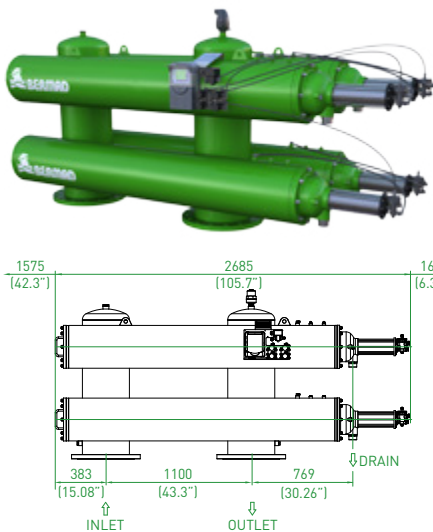
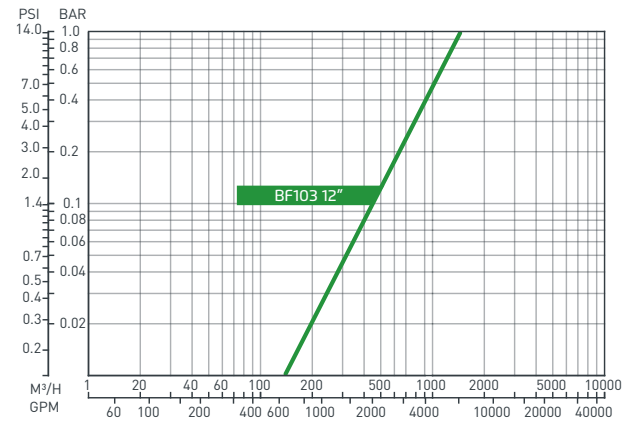


**BF102 - 13600 - 10"**

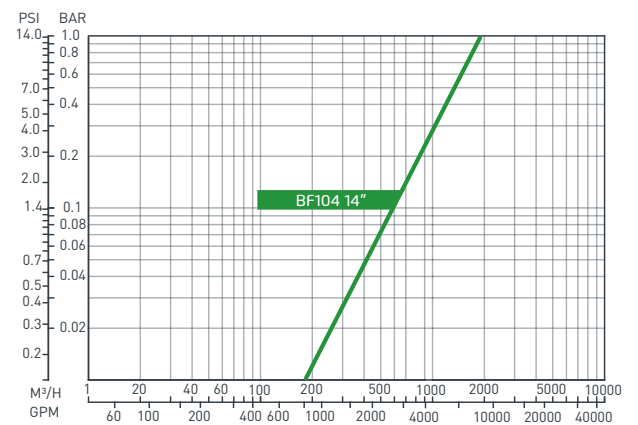
Head Loss Graphs (in clean water)



**BF103 - 20,400 - 12"**



**BF104 - 27200 - 14"**



Dim: mm (inch) \*Approx. length required for maintenance

All images in this catalog are for illustration only

# About BERMAD

**BERMAD is a leading, privately-owned global company that designs, develops and manufactures tailor-made water & flow management solutions that include state-of-the-art hydraulic control valves, air valves and advanced metering solutions.**

Founded in 1965, we have spent over 50 years interacting with the world's major end users, and accumulating knowledge and experience in multiple markets and industries. Today, we are recognized as a pioneer and established world-leading provider of water & flow management solutions that give our customers the unprecedented operational efficiency, and superior quality, durability and performance they need to meet the demanding challenges of the 21<sup>st</sup> century.

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Irrigation

