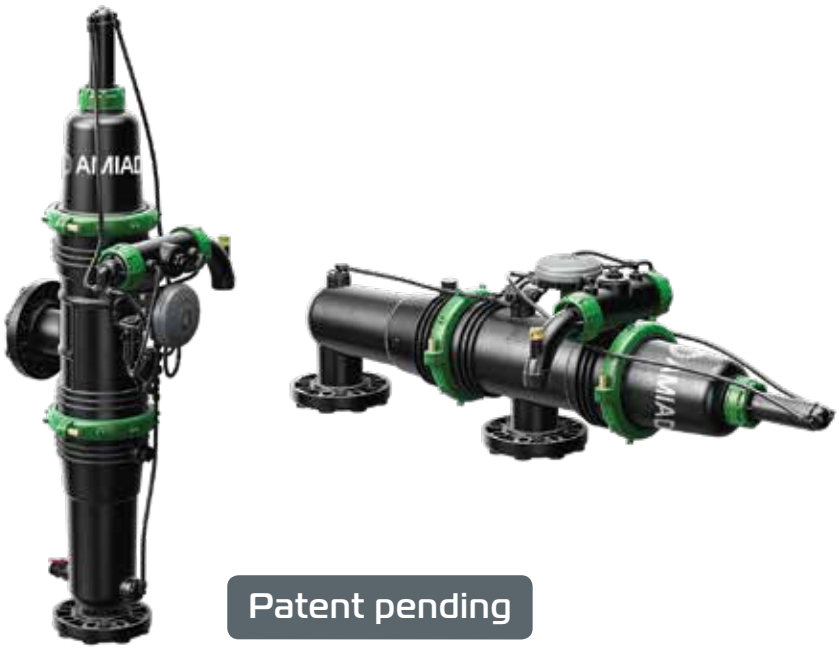
amiad® WATER SYSTEMS | AMIAD

*a step **ahead***

MINI SIGMA

Innovative automatic self-cleaning filter. Lightweight and durable with maximum installation flexibility.



Patent pending

	2"	3"	4"
maximum flow rate	132 gpm (30 m³/h)	220 gpm (50 m³/h)	352 gpm (80 m³/h)
inlet/outlet diameter	2" (50 mm)	3" (80 mm)	4" (100 mm)
filtration degrees	50-500 micron		
minimum operating pressure during flush cycle	22 psi (1.5 bar)		
maximum operating pressure	116 psi (8 bar)		

features:

- Reliable and durable
- Amiad's unique suction-scanner cleaning technology
- Modular design with various installation configurations
- Polymeric filter - corrosion free
- Low water and energy consumption
- Compact design and small footprint
- Easy installation and low maintenance
- Amiad's innovative and user friendly ADI-P electronic controller, operated by a mobile app for advanced monitoring capabilities

How the Mini Sigma Filter Works

General

Amiad's Mini Sigma filter is the newest addition to the Sigma family. It is a small and lightweight yet durable filter; quick and easy to install, simple to operate, and requires minimal maintenance. The Mini Sigma filter was developed to handle low pressure operation, with a capacity of up to 352 gpm (80 m^3/h) and with filtration degrees from 50-500 micron. Inlet/outlet connections are available in 2" (50 mm), 3" (80 mm), and 4" (100 mm) diameter. Filters include a 1.5" (40 mm) flush valve.

The Filtration Process

Raw water enters through the filter's inlet and passes first through the pleated coarse screen which catches large debris and sediment. The unique pleated design of the coarse screen provides a larger screen area, increasing the filter's capability to handle high dirt loads of large particles. The water then continues to flow through the filter and passes through the inner fine screen which catches the remaining smaller particles.

The Control System - Amiad's NEW ADI-P Controller

Amiad's ADI-P controller offers a one-of-a-kind monitoring and control functionality. The controller interacts with Amiad's advanced, user-friendly app that provides detailed filtration performance data on your mobile phone device.
The self-cleaning mechanism is controlled and monitored by the ADI-P controller. The self-cleaning cycle is triggered by an integrated DP switch.
The ADI-P controller and mobile app also provide:

- DP and flush cycle counters
- Alerts – low/high pressures, low battery
- Reports and performance history data

The Self-Cleaning Process

The self-cleaning cycle is initiated by any one of the following conditions:

1. Signal from the DP switch, pre-set at 0.5 bar (7 psi)
2. Time interval parameter set at the controller
3. Manual start, triggered by the ADI-P mobile app (within Bluetooth range) or via electronic controller keypad
4. Flushing duration set with the ADI-P app.

The flush valve opens to atmosphere creating a strong suction force at the scanner nozzles, effectively removing dirt particles from the screen and discharging them from the filter.

Mini Sigma Models

Amiad's Mini Sigma Series consists of the following models:

- 2" Mini Sigma for up to 132 gpm (30 m^3/h)
- 3" Mini Sigma for up to 220 gpm (50 m^3/h)
- 4" Mini Sigma for up to 352 gpm (80 m^3/h)

Amiad's ADI-P Controller

The Mini Sigma comes with the innovative ADI-P controller developed by Amiad specifically for its filters.

Control the Mini Sigma with your mobile device!

Interacts with Amiad's advanced, user-friendly ADI-P mobile app

One-of-a-kind monitoring and control functionality

Provides detailed filtration performance data

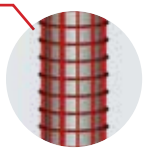
Bluetooth® range communication

Offline information storage available

Mini Sigma parts description

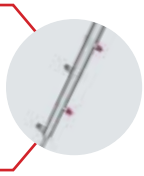
1
Coarse screen

2
Fine screen



3
Hydraulic turbine

4
Suction-scanner shaft

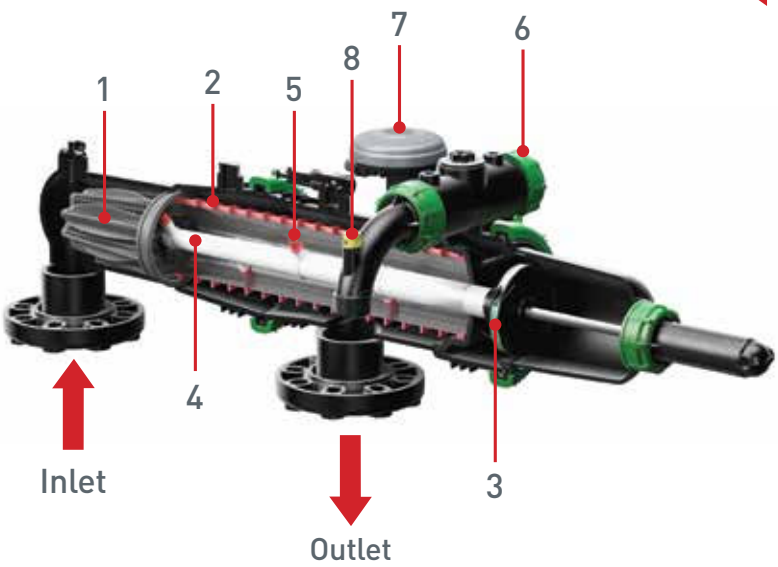


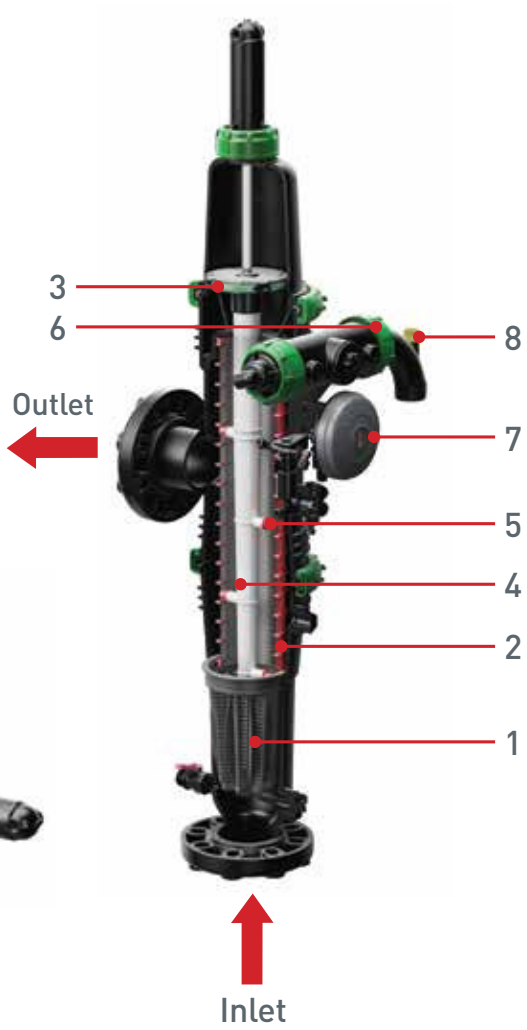
5
Suction-scanner nozzles

6
Flush valve

7
ADI-P controller

8
Integral anti vacuum





Technical Specifications

General data	2" Mini Sigma	3" Mini Sigma	4" Mini Sigma
Max. flow rate* (130µ) in average water quality	132 gpm (30 m^3/h)	220 gpm (50 m^3/h)	352 gpm (80 m^3/h)
Min. operating pressure when cleaning	22 psi (1.5 bar)		
Max. operating pressure	8 bar (116 psi)		
Filtration area	186 in^2 (1,200 cm^2)	248 in^2 (1,600 cm^2)	372 in^2 (2,400 cm^2)
Inlet/Outlet diameter	2" (50 mm) BSPT/NPT	3" (80 mm) Grooved Coupling/ Universal flange	4" (100 mm) Grooved Coupling/ Universal flange
Weight (Empty)	35 lbs (16 kg)	44 lbs (20 kg)	51 lbs (23 kg)

* Amiad's flow recommendation per water quality.

Electronic control	
Control power supply	4 x AA type 1.5V batteries and/or External 7-14V DC
Solenoid	9-12V DC latching solenoid
DP switch	Integral sensors

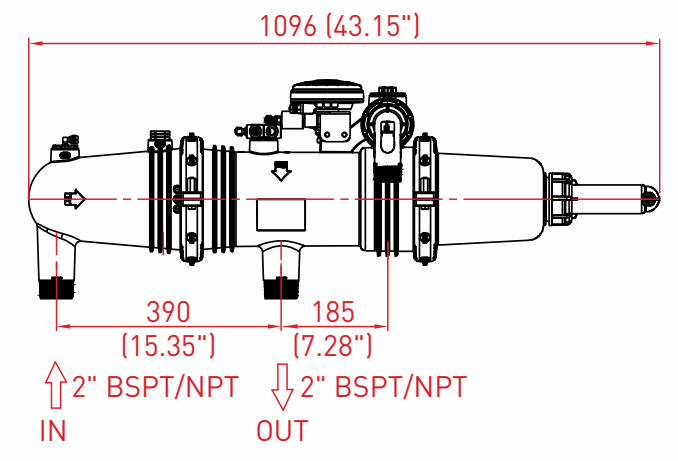
Flushing data (at 22 psi, 1.5 bar)			
Exhaust valve	1.5" (40 mm) BSPT/NPT		
Flushing time	10 seconds		
Reject water volume per flush cycle	6.3 gallons (24 liters)	6.8 gallons (26 liters)	7.4 gallons (28 liters)
Flushing flow rate	38.3 gpm (8.7 m^3/h)	42.2 gpm (9.6 m^3/h)	44 gpm (10 m^3/h)

* Any pressure between 22 psi (1.5 bar) and 116 psi (8 bar) will improve these parameters.

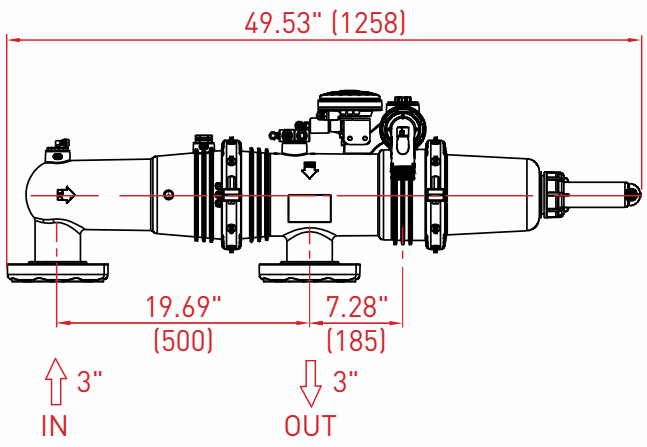
Construction materials	
Filter housing and lid	RPA (reinforced polyamide)
Screens	Molded weavewire, stainless steel 316L
Cleaning mechanism	PBT (polybutylene)
Exhaust valve	All polymeric
Seals	EPDM
Control command tubing	PE (polyethylene)

Standard Filtration Degrees							
micron	500	300	200	130	100	80	50
mm	0.5	0.3	0.2	0.13	0.1	0.08	0.05

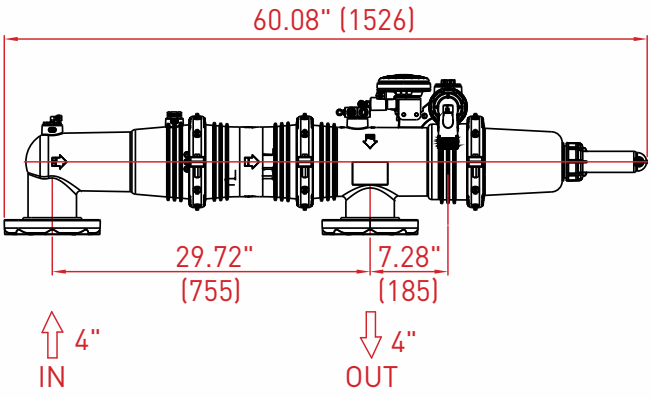
2” Mini Sigma on-line



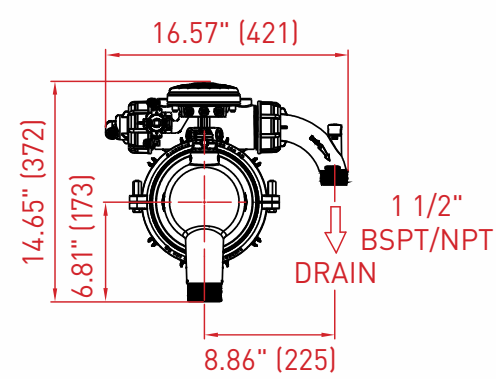
3” Mini Sigma on-line



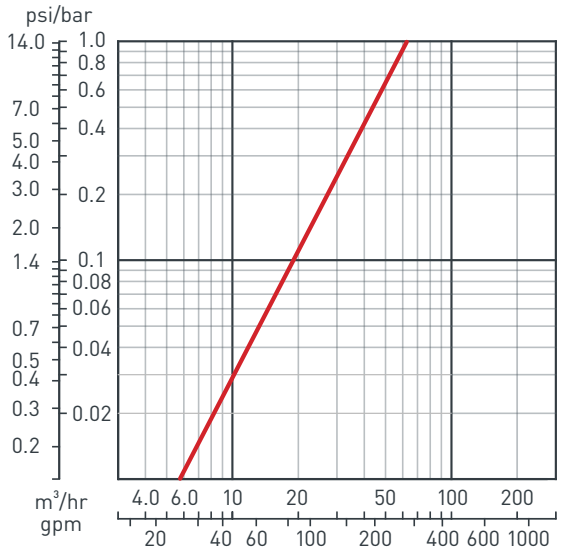
4” Mini Sigma on-line

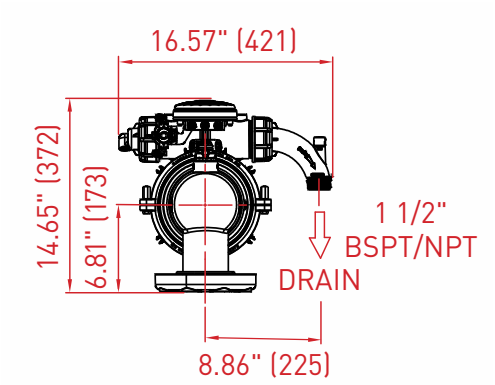


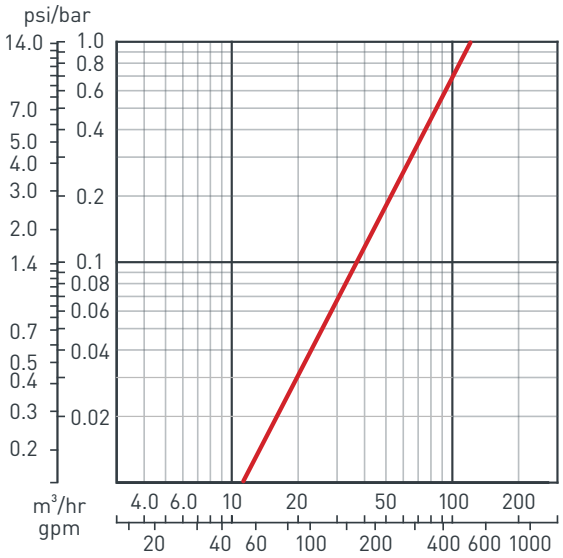
Dim: inch (mm)

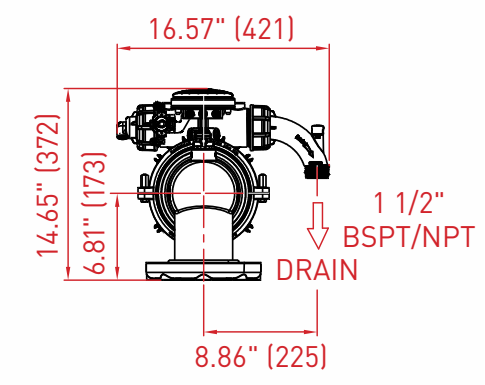


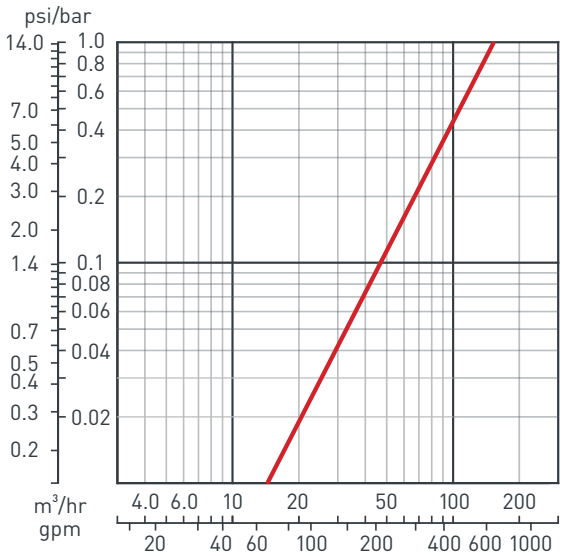
Pressure Loss Graph
(in clean water)





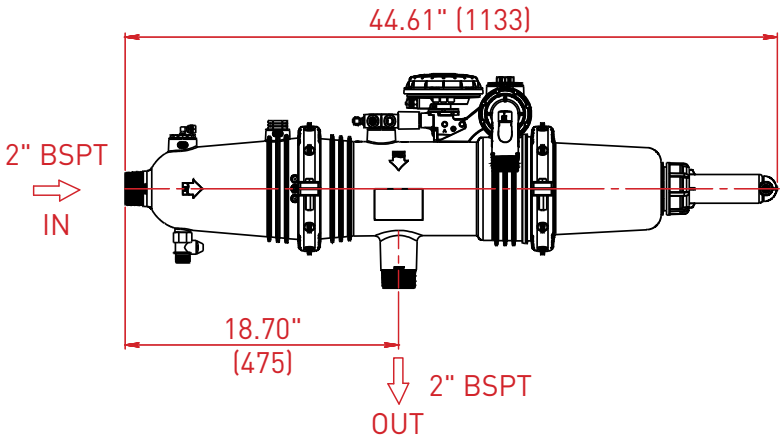




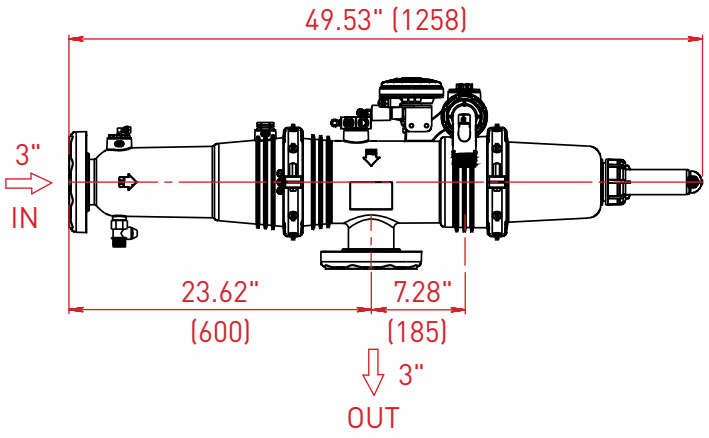


Dim: inch (mm)

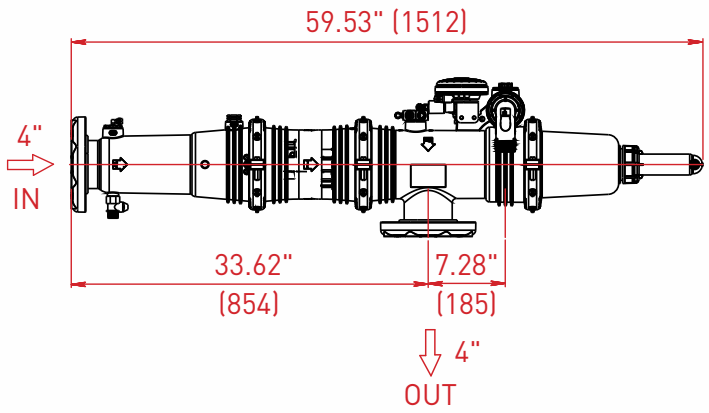
2” Mini Sigma angle



3” Mini Sigma angle

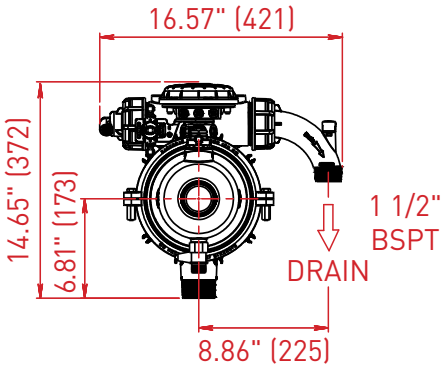


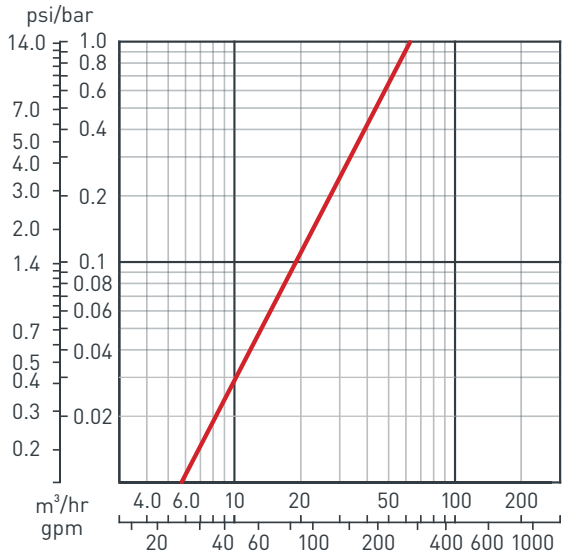
4” Mini Sigma angle

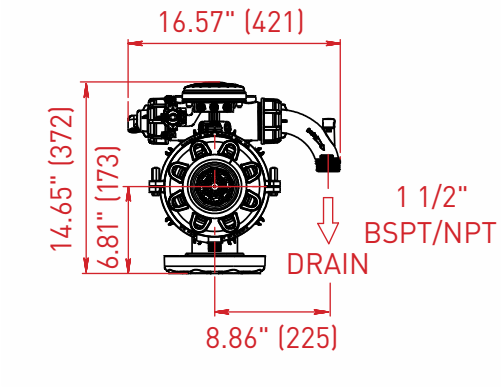


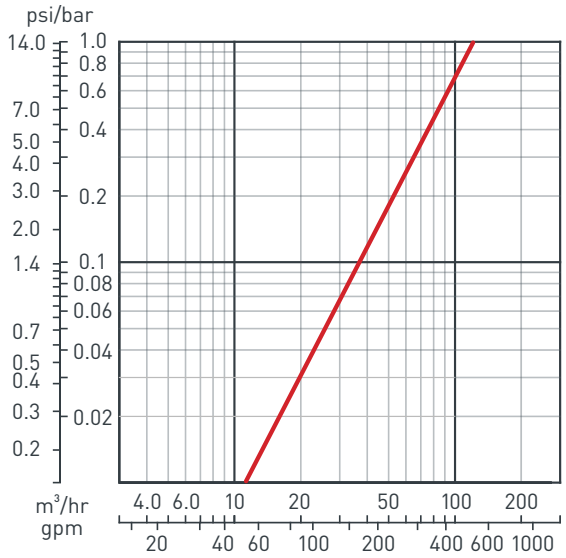
Dim: inch (mm)

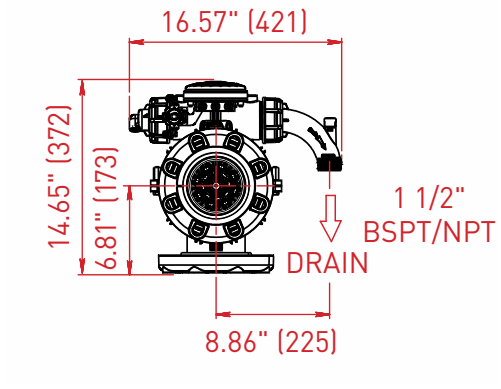
Pressure Loss Graph
(in clean water)

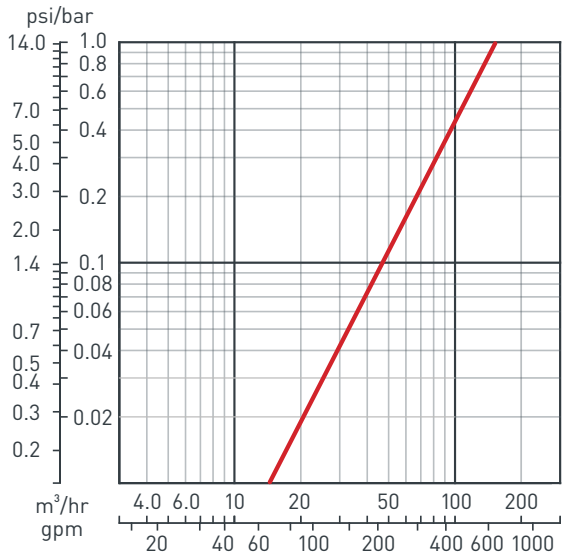












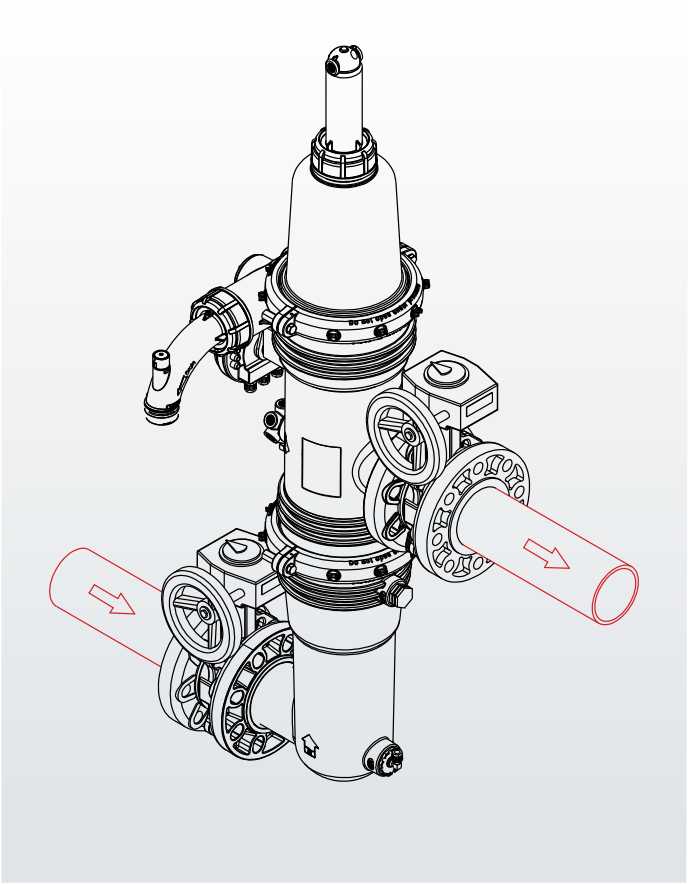
Dim: inch (mm)

Mini Sigma
Configuration Options

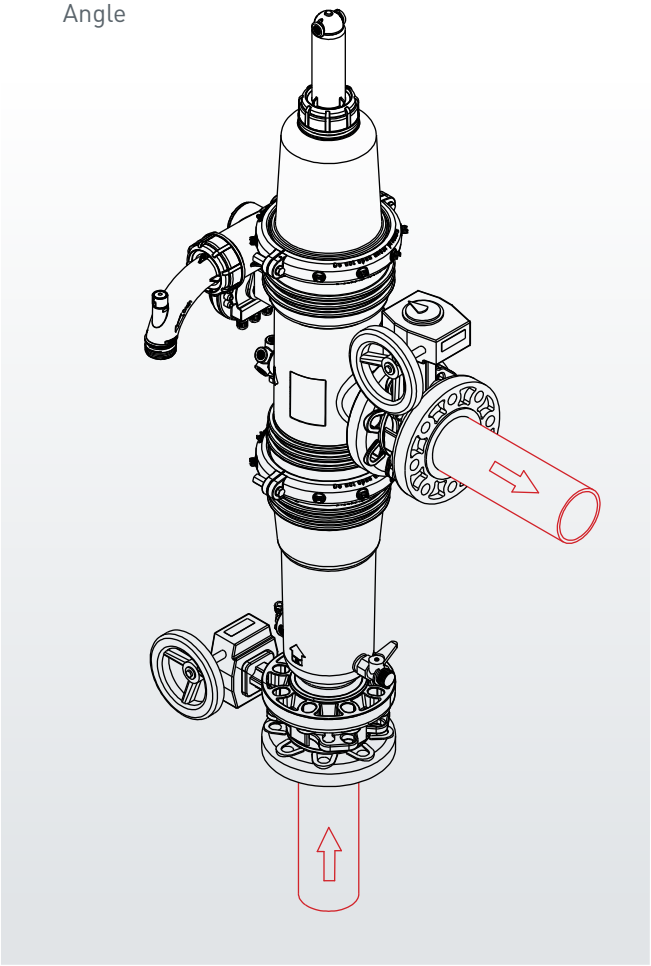
Advanced design for **maximum installation flexibility:**

- Modular, versatile inlet and outlet options
- Horizontal or vertical configuration
- 360° rotation of the drain pipe to fit any installation configuration

On-line

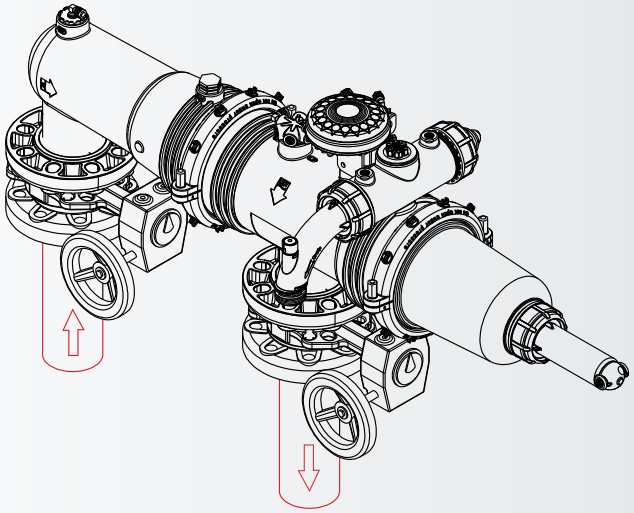


Angle

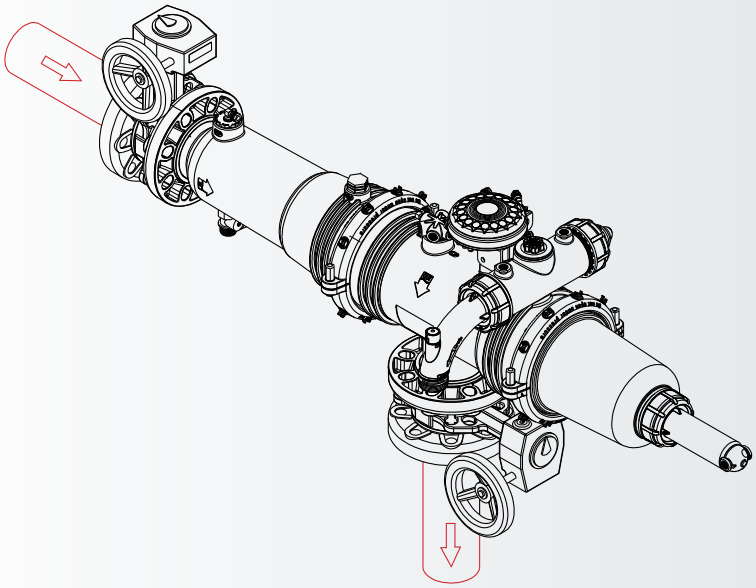


Vertical

On-line



Angle



Horizontal

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