



MINISIGMA

Durable polymeric
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 next generation of water filtration

MINISIGMA FEATURES



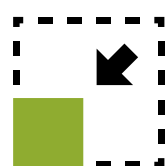
Low water and energy
consumption



Ideal for many landscape
and agricultural irrigation
applications



Easy installation and
low maintenance



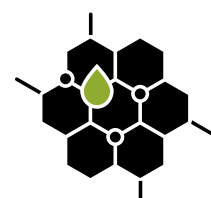
Compact design and
small footprint



Reliable and
durable



Registered Patent



Polymeric filter -
corrosion free

Success Story

The Challenge

Irrigating plantations with secondary treated wastewater carries a high risk of emitter clogging, because the wastewater has high levels of suspended particles, metal, salt, ions and biological contaminants. Initially, the plantation owners installed semi-automatic screen filters on each secondary head control. However, they had to constantly work at cleaning the filters to prevent clogging.

The Solution

In order to save time, money and manpower, they replaced their semi-automatic filters with Mini Sigma automatic self-cleaning filters, which don't require manual flushing, need very little maintenance, and have an efficient self-cleaning mechanism.

The Results

Time savings — the filtration process continues uninterrupted during the cleaning cycle; no need to shut down the irrigation system.

Manpower savings — the plantation owners saved an estimated \$1,000 per month on manpower and the workers were reassigned to other tasks.

Water savings — a precise amount of water is used for each cleaning cycle which minimizes water waste.



Since we installed the new system
supplied by Amiad, we've noticed
a great improvement in the
efficiency of the irrigation system.

Remi Lufan



Banana Plantation
Kibbutz Ginosar, Israel

Total Size:
13 hectares divided
into 16 plots



Irrigation System

Drip irrigation.
16 secondary head controls,
one for each plot



Water Source

Secondary treated
wastewater



Original Filtration System

Semi-automatic
screen filters



ADI-P: the control is in your hands

The ADI-P Controller

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



Suitable for low pressure (1.5-10 bar)



Single or dual solenoid configuration



Provides detailed filtration performance data



Communication within **Bluetooth®** technology range



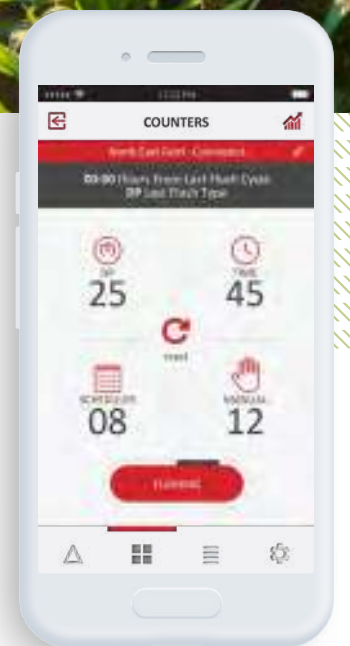
Offline information storage available

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:

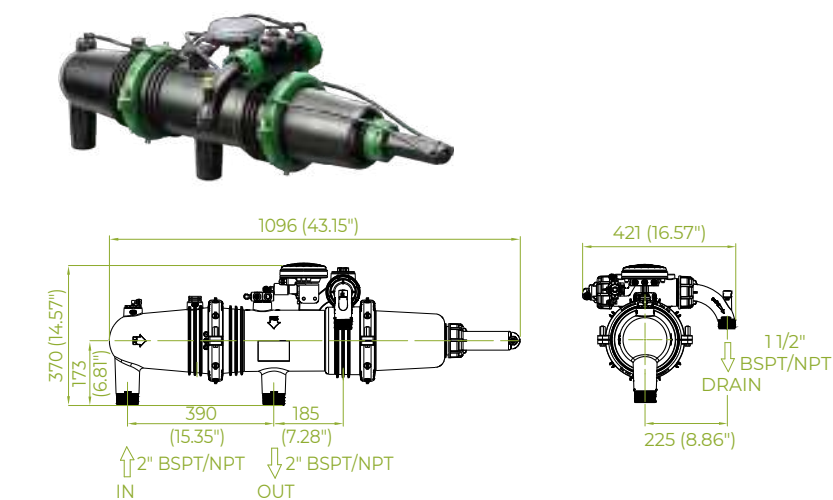
- Flush logs
- Flush frequency
- Current DP
- Current outlet and inlet pressure

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

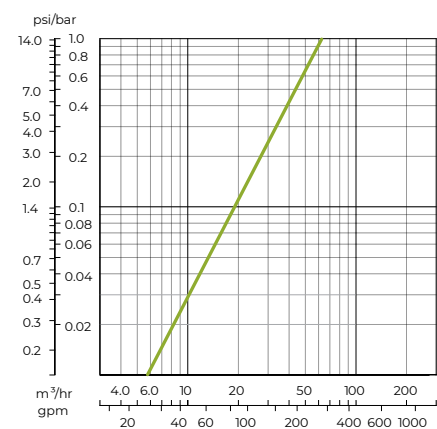


MINISIGMA Models

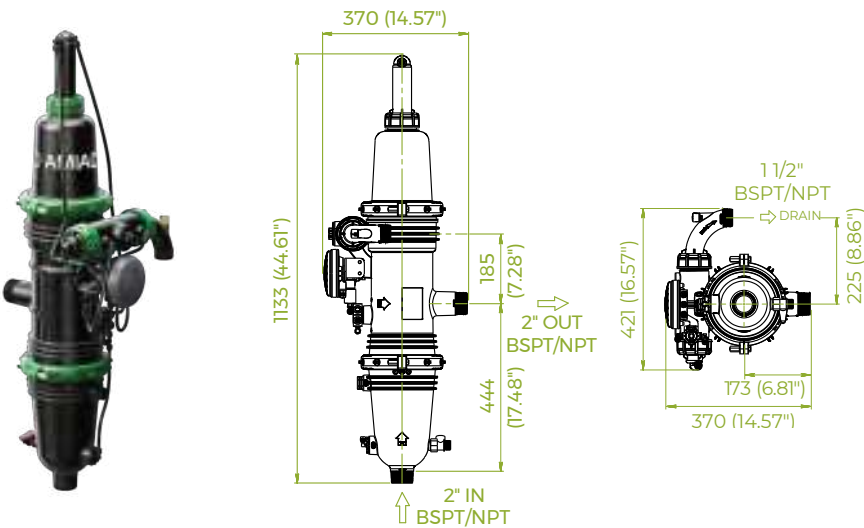
2" MINISIGMA | on-line



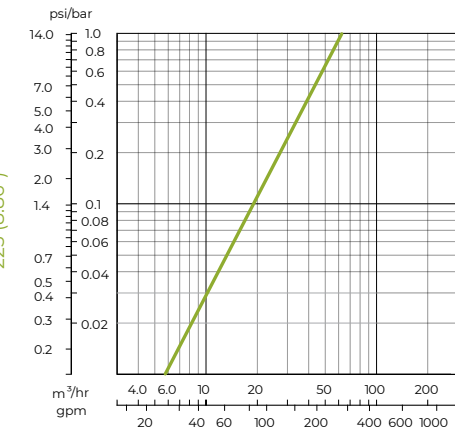
Head Loss Graph (in clean water)



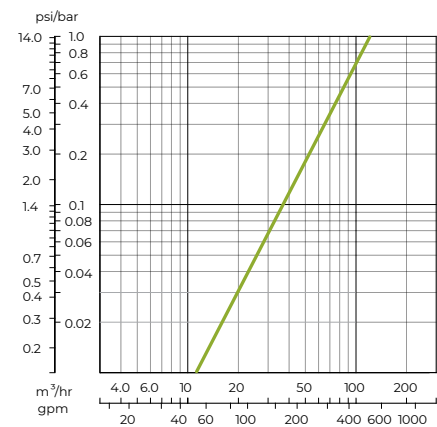
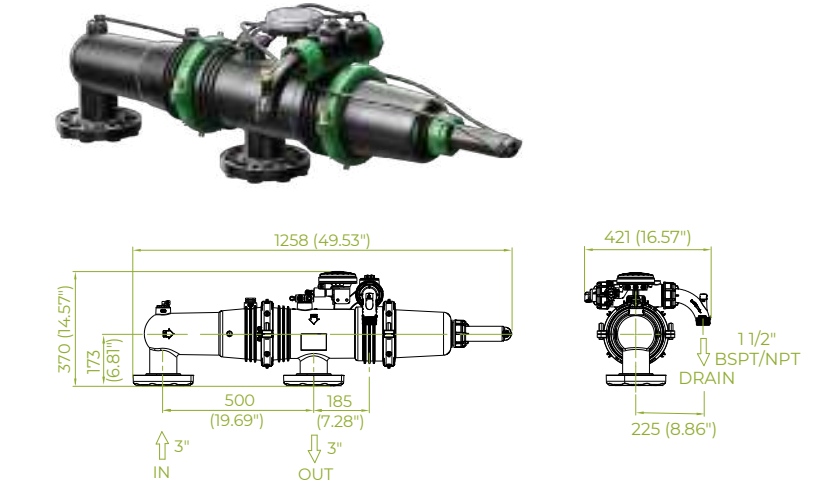
2" MINISIGMA | angle



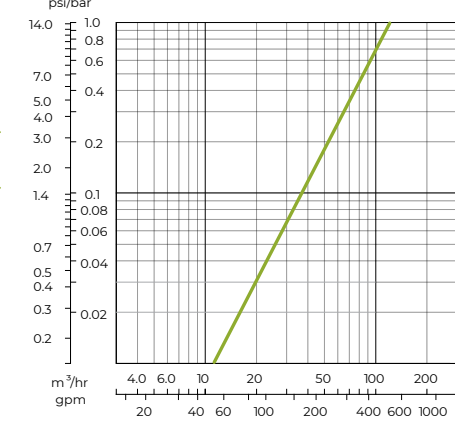
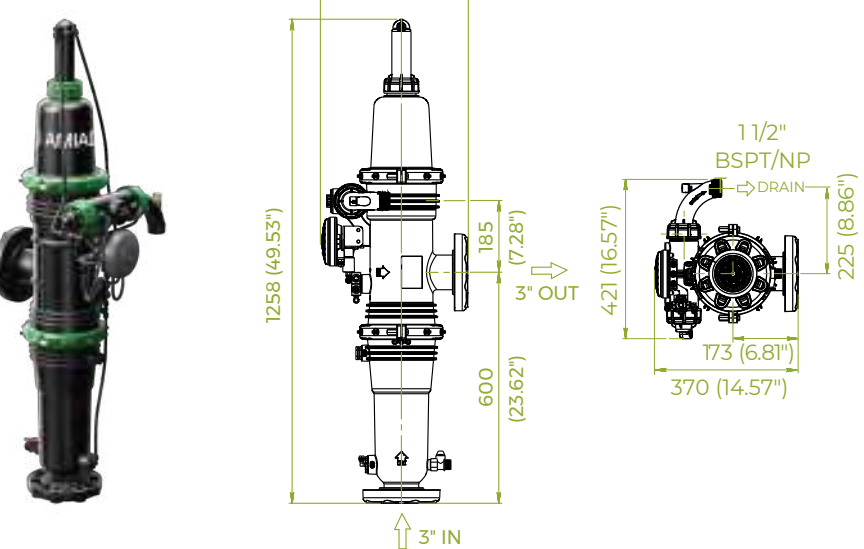
Head Loss Graph (in clean water)



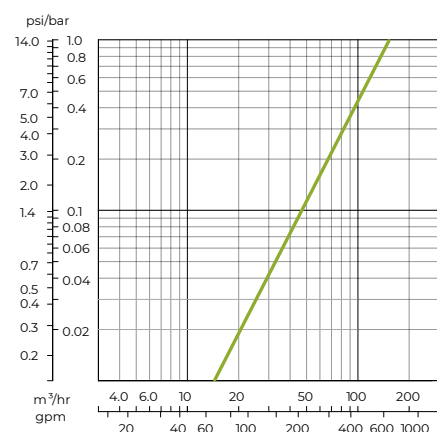
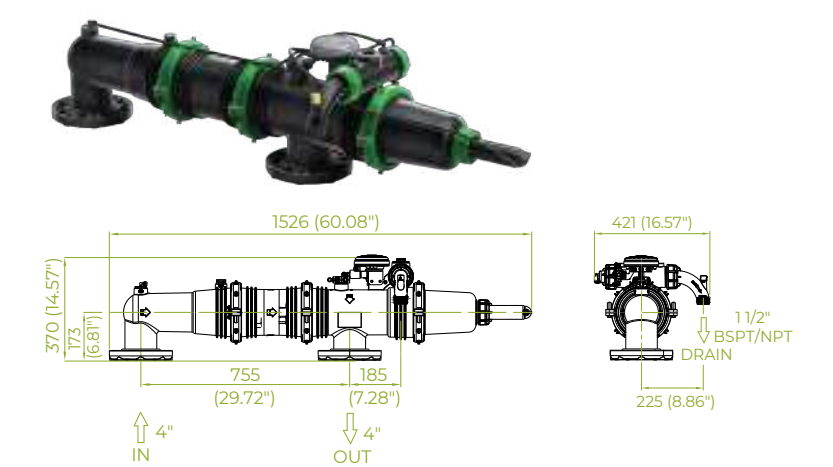
3" MINISIGMA | on-line



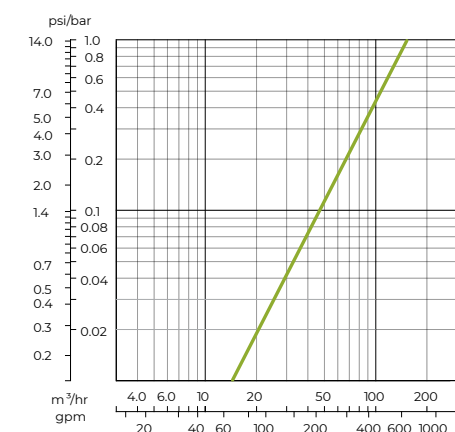
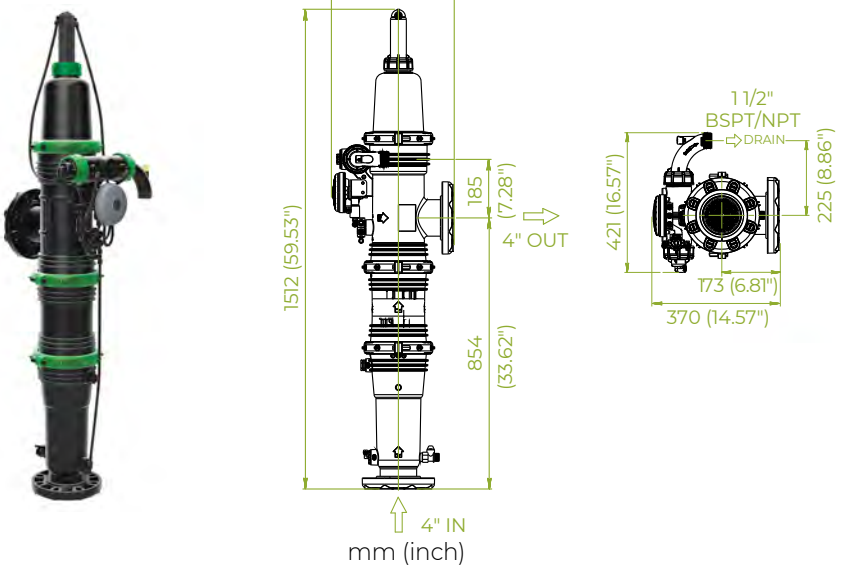
3" MINISIGMA | angle



4" MINISIGMA | on-line



4" MINISIGMA | angle



MINISIGMA: a step ahead

Mini Sigma Parts

1. Coarse screen

2. Fine screen

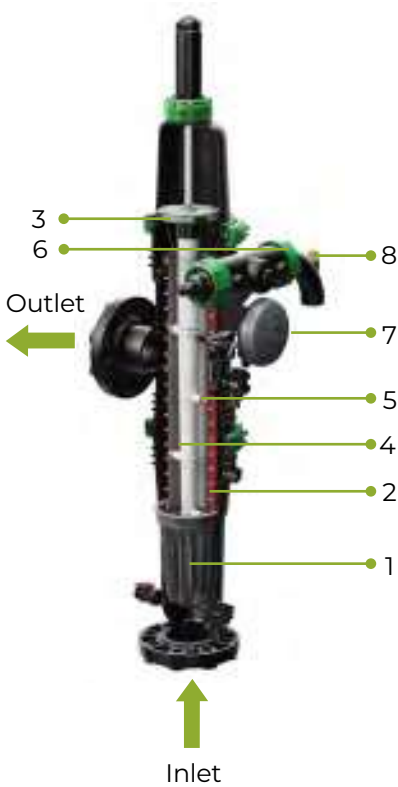
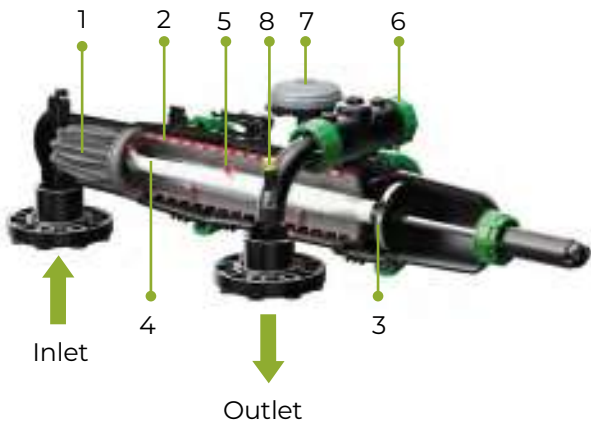
3. Hydraulic turbine

4. Suction-scanner shaft
5. Suction-scanner nozzles

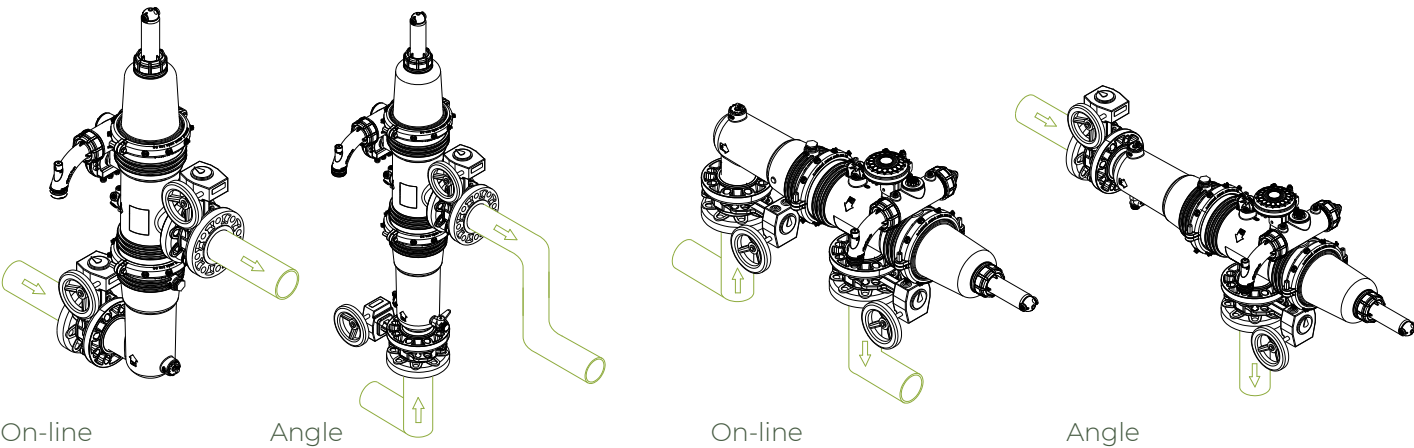
6. Flush valve

7. ADI-P controller

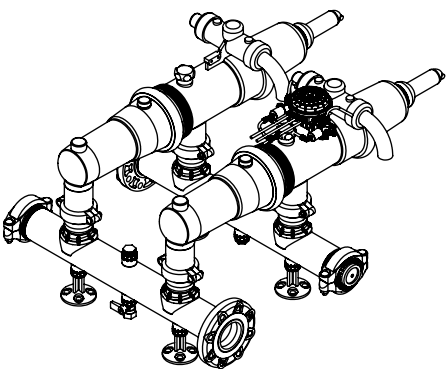
8. Integral anti vacuum



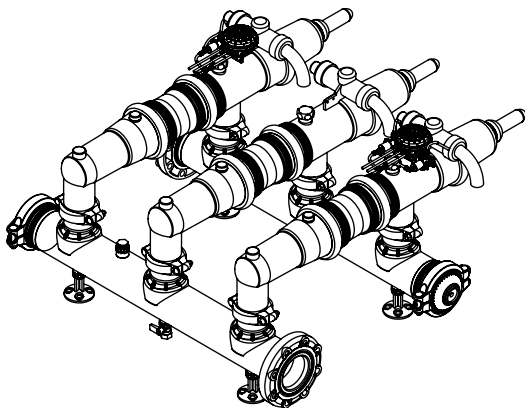
Installation Configurations



Battery Design



2 units of 3" Mini Sigma
for flow rates up to 100 m³/h (440 gpm)



3 units of 4" Mini Sigma
for flow rates up to 240 m³/h (1,057 gpm)

Technical Specifications

Filter Model	2" Mini Sigma	3" Mini Sigma	4" Mini Sigma
General data			
Max. flow rate* (130µ)	30 m³/h (132 gpm)	50 m³/h (220 gpm)	80 m³/h (352 gpm)
Min. operating pressure when cleaning	1.5 bar (22 psi)		
Max. operating pressure	8 bar (116 psi)		
Filtration area	1,200 cm² (186 in²)	1,600 cm² (248 in²)	2,400 cm² (372 in²)
Inlet/Outlet diameter	2" (50 mm) BSPT/NPT	3" (80 mm) Grooved coupling/ Universal flange	4" (100 mm) Grooved coupling/ Universal flange
Weight (Empty)	16 kg (35 lb)	20 kg (44 lb)	23 kg (51 lb)

* Amiad's flow recommendation per water quality.

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

Flushing data (at 1.5 bar, 22 psi)			
Exhaust valve	1.5" (40 mm) BSPT/NPT		
Flushing time*	10 seconds		
Reject water volume per flush cycle*	24 liters (6.3 gallons)	26 liters (6.8 gallons)	28 liters (7.4 gallons)
Flushing flow rate*	8.7 m³/h (38.3 gpm)	9.6 m³/h (42.2 gpm)	10 m³/h (44 gpm)

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

Construction materials	
Filter housing and lid	RPA (reinforced polyamide)
Screens	Molded weavewire, stainless steel 316L
Cleaning mechanism	PBT
Exhaust valve	Polymeric
Seals	EPDM, NBR
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



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 **amiad**® IRRIGATION

MASTERS OF FILTRATION

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