AMIAD "HydroSAF" FILTER SERIES

2"- 6" Hydraulic filters for flow rates up to 150 m³/h (660 USgpm)
HydroSAF-1500 and HydroSAF-3000

- The HydroSAF filters operate on water pressure and do not need any external source of energy.
- Operate with hydraulic or electronic control.
- Unique cleaning mechanism: Requires minimal amount of water for flushing.
- No interruption of downstream flow during flushing.
- For flow rates up to 150 m³/h (660 USgpm). (Depending on water quality and filtration degree).
- High quality stainless steel screen with filtration degrees from 500 to 80 micron.
- The optimal solution for different types of suspended solids: organic and inorganic.
- For a wide range of applications: in agriculture, turf, wastewater, etc.

How do the "HydroSAF" filters work ?

The "HydroSAF" filter series are hydraulically activated self-cleaning filters. They are available with hydraulic pressure differential sensor or electronic control. The filters are designed to work with various types of screens in filtration degrees from 500 to 80 micron, and are available in 2"-6" inlet/outlet diameter.

Filtering process:

Water enters through the inlet pipe into the screen area and flows through the screen from inside out. The "filtration cake" accumulates on the screen surface and causes head loss to develop.

Control system:

The control system comprises of pressure differential switch solenoid valve and an electronic controller. The pressure differential switch senses the pressure differential across the screen and when it reaches 0.5 bar (7 psi) the controller activates the solenoid to generate a hydraulic command that starts the self-cleaning process.

Initiation of self-cleaning:

The filter will enter the self-cleaning process under any one of the following conditions:

1. PDS - Pressure differential across the screen.
2. Manually pressing the push button located in the controller box.
3. Timed intervals set by controller DIP switches.

Self-cleaning process:

The self-cleaning mechanism comprises of the following components: Hydraulic turbine, suction scanner, piston assembly and an exhaust valve. The hydraulic command generated by the solenoid causes the exhaust valve to open, and the piston to move inwards.

The exhaust valve, which is open to the atmosphere, allows water to flow through the suction scanner nozzles. The suction scanner sweeps across the entire screen surface in a spiral motion by a combined action of the hydraulic turbine and the piston.

The suction scanner nozzles vacuum the dirt from the screen surface and expel it out the exhaust valve. When the piston reaches the end of its travel way inward, the hydraulic command is released. The exhaust valve closes and the piston returns to its original position.

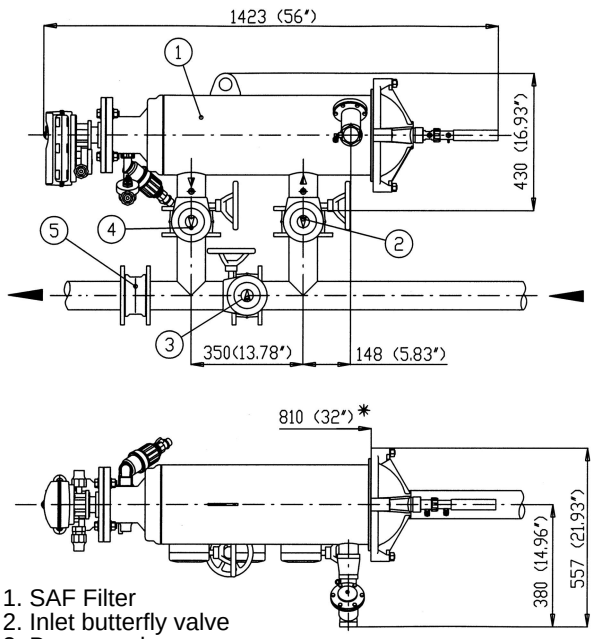
The self-cleaning process takes between 12-20 seconds, depending on the operating pressure.

Hydraulic control option:

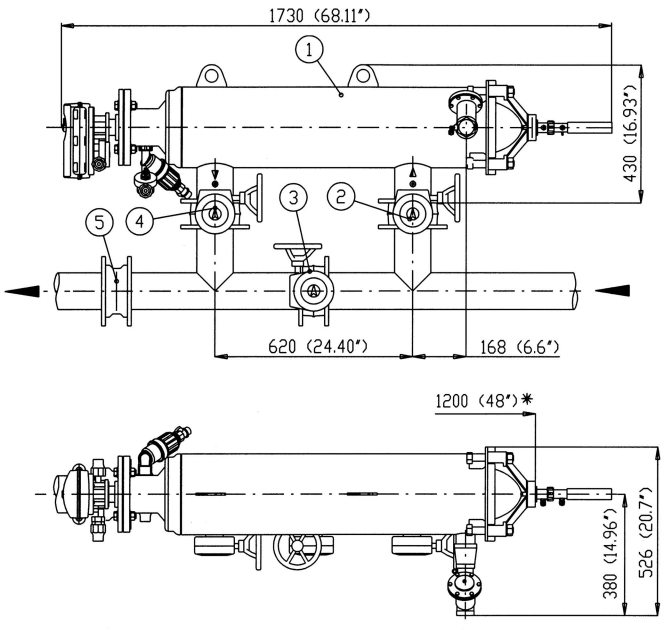
The HydroSAF filters are also available with fully hydraulic control. In this option unique hydraulic pilots replace the solenoid, the pressure differential switch and the controller. Flushing occurs by pressure differential or by manually pressing a colored button on the pressure differential pilot.

Suggested installations

HydroSAF-1500 (MODULAR)**



HydroSAF-3000



1. SAF Filter
2. Inlet butterfly valve
3. Bypass valve
4. Downstream valve
5. Non-return check valve

**The HydroSAF-1500 model is also available with in-line configuration.

* Minimum length for opening

Technical specifications

General

Filter type	HydroSAF-1500	HydroSAF-3000	
Maximum flow rate	80 m^3/h (350 USgpm)	150 m^3/h (660 USgpm)	Consult manufacturer for optimum flow depending on filtration degree & water quality.
Min. working pressure	1.5 bar (22 psi)		or lower if pressure is increased for flushing.
Max. working pressure	10 bar (150 psi)		
Filter area	1,500 cm^2 (233 in^2)	3,000 cm^2 (465 in^2)	
Inlet/Outlet diameter	50,80,100 mm (2",3",4")	80,100,150 mm (3",4",6")	
Filter housing diameter	250 mm (10")		
Max. working temp.	60°C (140°F)		

Flushing data

Exhaust valve	40 mm (1 1/2")	
Flushing cycle time	12-20 seconds	at 4 bar (60 psi)
Wasted water per cycle	53 liter (14 gallon)	64 liter (17 gallon)	at 2 bar (30 psi)
Minimum flow for flushing	10 m^3/h (44 USgpm)	11 m^3/h (50 USgpm)	at 2 bar (30 psi)

Construction materials

Filter housing *	Epoxy-coated carbon steel 37-2
Filter lid	SMC polyester
Screens	Stainless steel 316 and plastic
Cleaning mechanism	PVC and engineering plastic
Exhaust valve	Brass, plastic, St.St., NR, NBR
Seals	Synthetic rubber, NBR
Control	Engineering plastic, PE

* Stainless steel 316 available on request

Control and electricity*

Control voltage	2 X 9 VDC Batteries
Rated operation voltage	9 - 12 VDC

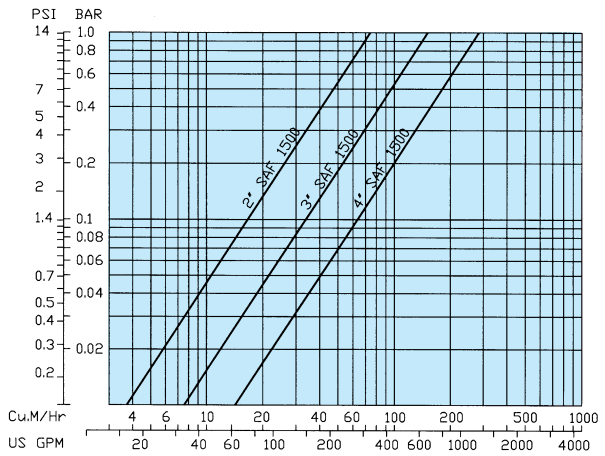
*Electronically-controlled types

Standard filtration degrees

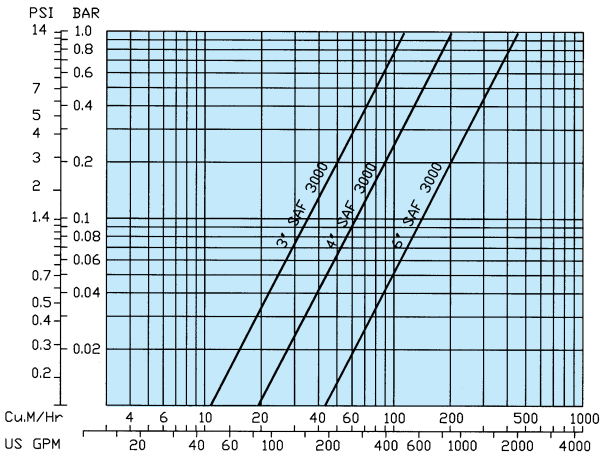
	Weavewire screen					
micron	500	300	200	130	100	80
mm	0.5	0.3	0.2	0.13	0.1	0.08
mesh	30	50	75	120	155	200

Pressure loss graphs

HydroSAF-1500



HydroSAF-3000



Typical applications

Waste water used for orchards irrigation. Galillee, ISRAEL

Drip irrigation, banana plantation. PHILIPPINES

Sprinkle irrigation of citrus grove. Florida, USA

Orchard irrigation with canal water. CHILE

Drip irrigation of cotton. Negev, ISRAEL

Reservoir water used for vegetable farming. SOUTH AFRICA

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The Standards Institution of Israel SI ISO 9001 Quality Assured Firm

AMIAD products undergo constant monitoring for quality control.
The manufacturer reserves the right to incorporate changes and improvements in the product without prior notice.

Ref: 95-044-331-001/9.02

amiad filtration systems

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