

AMIAD "HydroTAF" FILTER SERIES

2"/3" Hydraulic automatic filters for flow rates up to 50 m³/h (220 USgpm)



- This compact self-cleaning filter operates on water pressure and does not need any external source of energy.
- Operates with hydraulic or electronic control.
- For flow rates up to 50 m³/h (220 USgpm). (Depending on water quality and filtration degree).
- With its unique turbine and cleaning mechanism, the filter uses a minimal amount of water for flushing.
- High quality stainless steel screen with filtration degrees from 500 to 80 micron.
- Simple to operate and maintain.
- Optional external downstream valve available for low flow rates.
- For wide range of applications: Agriculture, green houses, turf, wastewater plants, etc.
- Ideal as back-up filtration for sand/gravel filters.

How do the "HydroTAF" filters work ?

The "HydroTAF" 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", and 3" 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 a 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 begin 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 the following components: Hydraulic turbine, suction scanner, piston assembly, exhaust valve and an external valve (where applicable).

The hydraulic command generated by the solenoid causes the downstream valve (if applicable) to close, 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 turbine as well as 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 inward, the hydraulic command is released. The exhaust valve closes, the downstream valve opens and the piston returns to its original position.

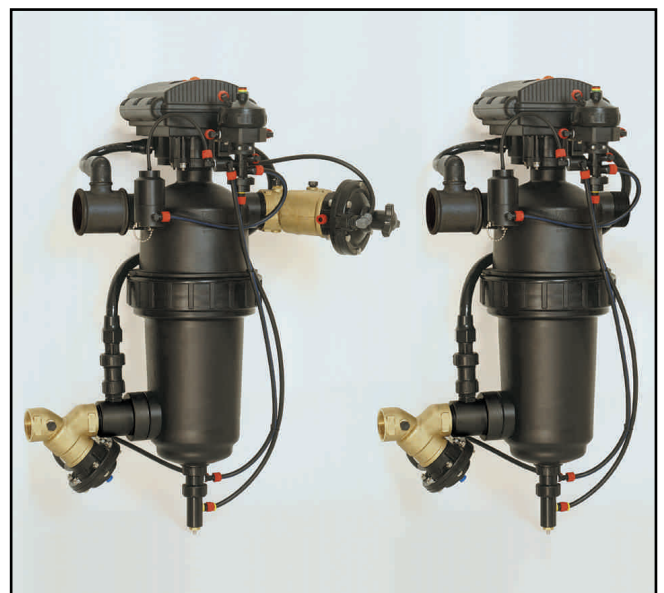
The self-cleaning process takes between 8-12 seconds, depending on the operating pressure.

Hydraulic control option:

The HydroTAF 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.

Optional external downstream valve:

When used at low flow rates and the water system pump cannot supply 8 m³/h at 2.5 bar (35 USgpm at 35 psi) during flushing in addition to the working flow - then an external downstream valve (as shown) should be used.



2" HydroTAF
with an external valve.

2" HydroTAF
without an external valve.

Technical specifications

General

Filter type	2" HydroTAF	3" HydroTAF	
Inlet/Outlet diameter	50mm (2")	80mm (3")	
Maximum flow rate	25 m ³ /h (110 USgpm)	50 m ³ /h (220 USgpm)	Consult manufacturer for optimum flow depending on filtration degree & water quality.
In/Out connections	Threads	Flanges or Threads	Connection standards as required.
Min. working pressure	2.5 bar (35 psi)		or lower if pressure is increased for flushing.
Max. working pressure	8 bar (120 psi)		
Filter area	465 cm ² (72 in ²)		
Max. working temperature	600°C (140°F)		

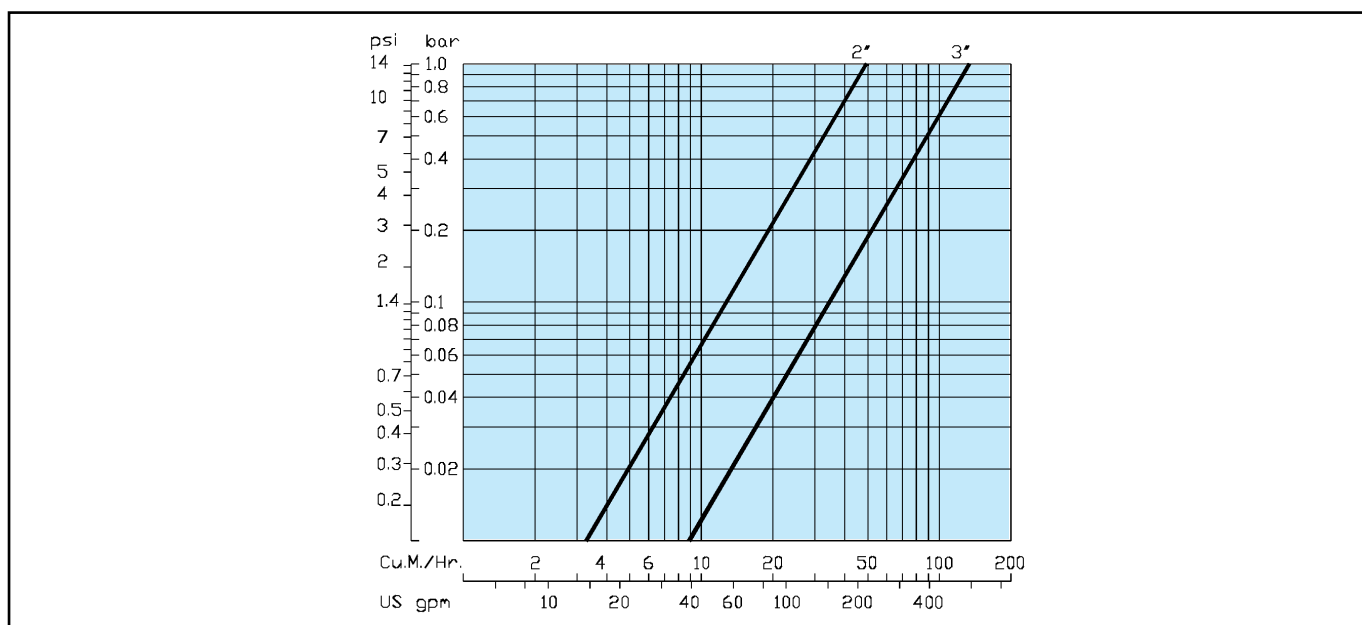
Flushing data

Exhaust valve	40 mm (1 1/2")	
Flushing cycle time	12 seconds	at 4 bar (60 psi)
Wasted water per cycle	32 liter (8.5 gallon)	
Minimum flow for flushing	8 m ³ /h (35 USgpm)	at 2.5 bar (35 psi)
Flushing criteria	Hydraulic: Differential pressure of 0.5 bar (7 psi) and manual operation Electronic: Differential pressure of 0.5 bar (7 psi), Time intervals and manual operation.	

Standard filtration degrees

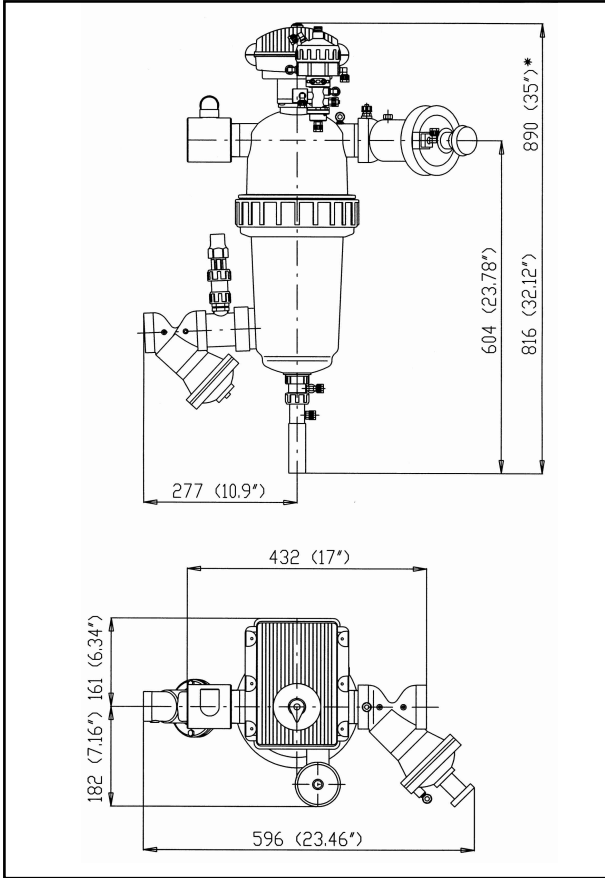
	Stainless steel screen					
micron	500	300	200	130	100	80
mm	0.5	0.3	0.2	0.13	0.1	0.08
mesh	30	50	75	120	155	200

Pressure loss graphs

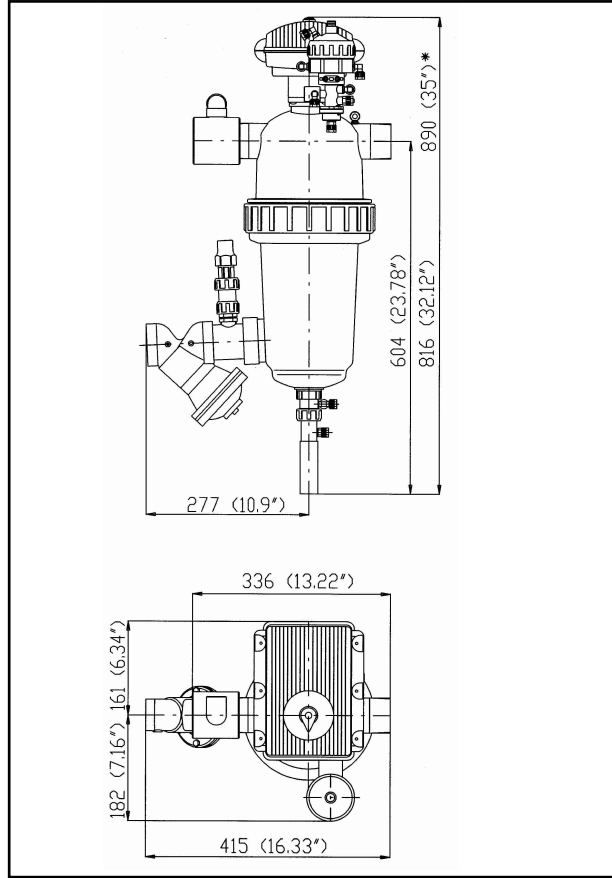


Dimensional drawings

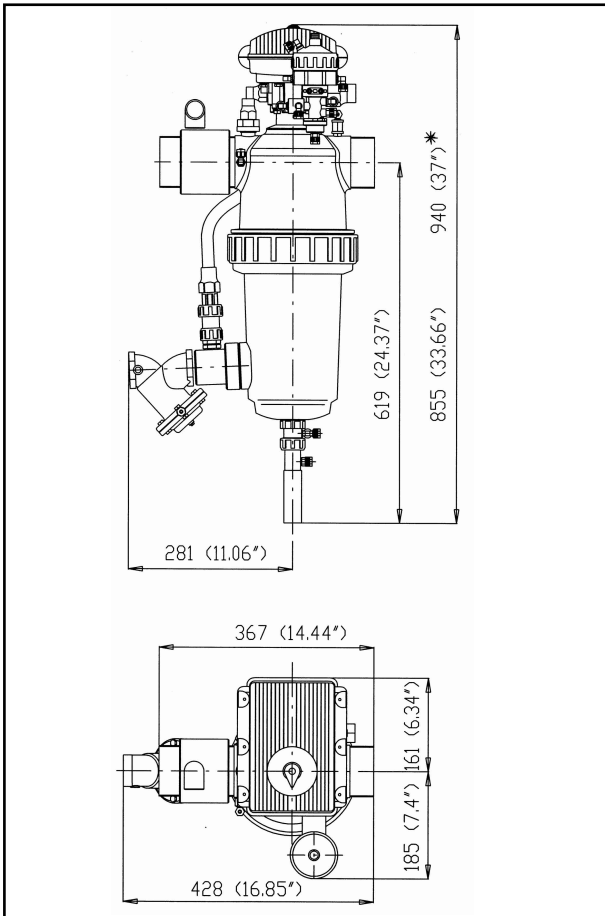
2" with valve



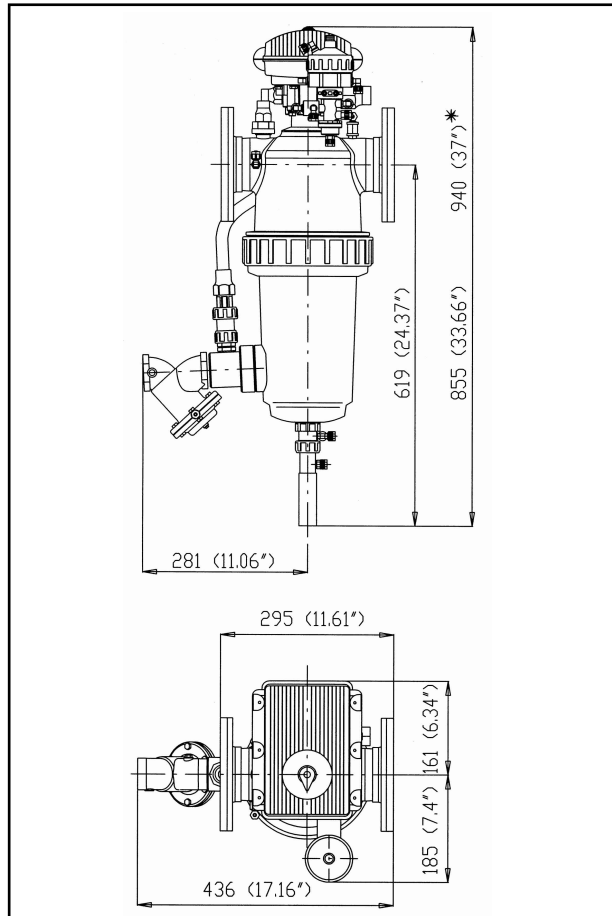
2" without valve



3" Threads

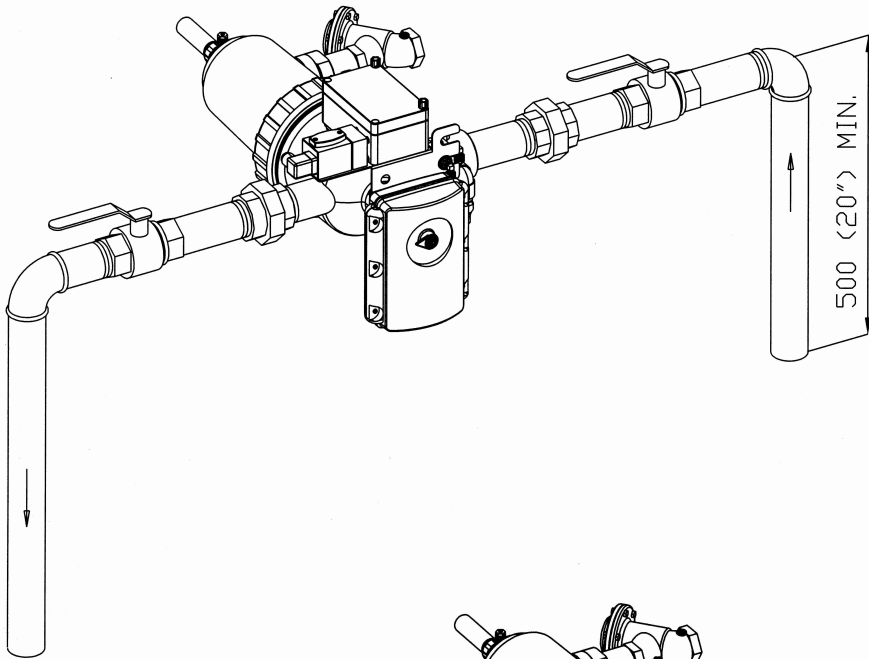


3" Flanges

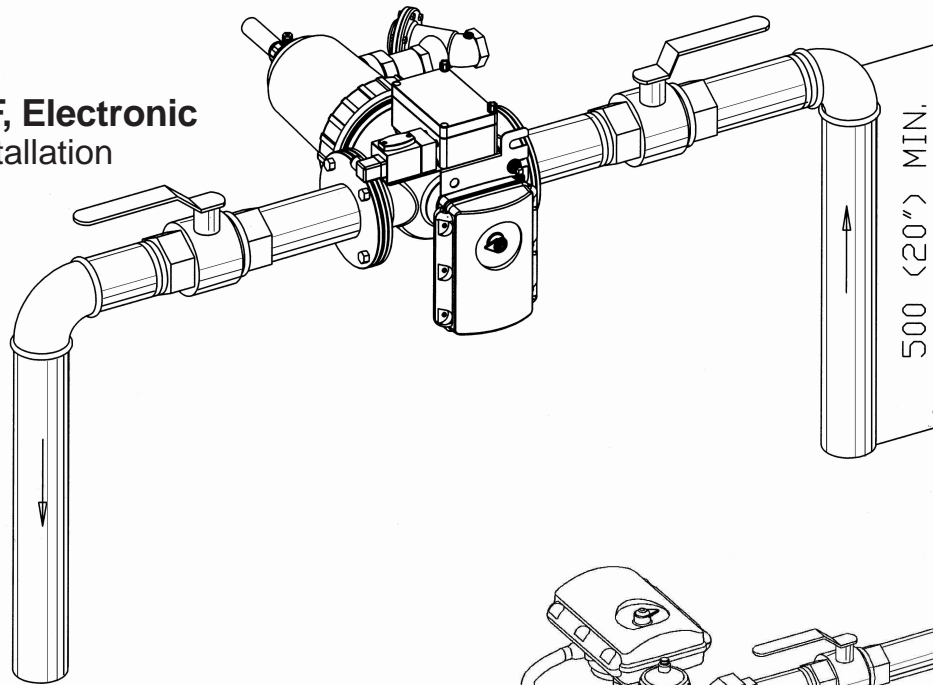


Recommended installations

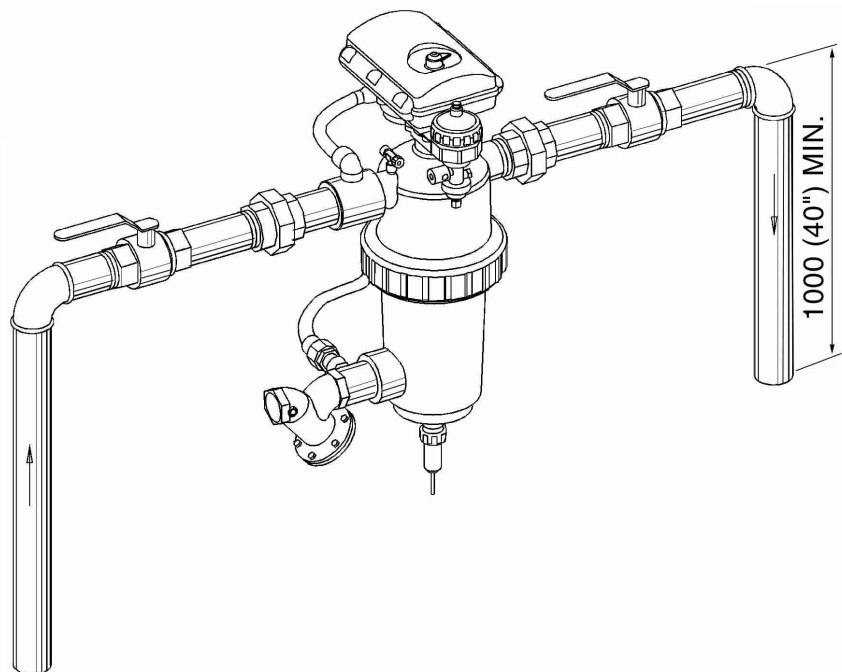
2" HydroTAF, Electronic Horizontal installation



3" HydroTAF, Electronic Horizontal installation



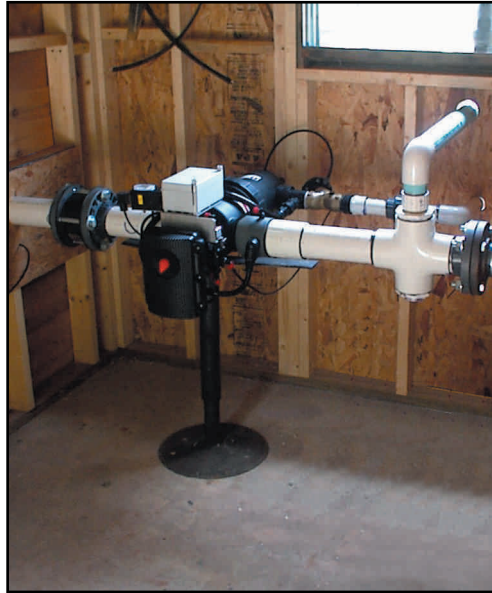
2" HydroTAF, Hydraulic Vertical installation



Typical applications



Drip irrigation of reservoir water - SOUTH AFRICA



Sprinkle irrigation of river water - Florida, USA



Recirculating water, hot springs SPA - JAPAN



Communal housing, intake water - ISRAEL



Intake water, prior to a softener at a winery - SOUTH AFRICA



Drip irrigation of reclaimed water - ISRAEL



amiad filtration systems

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

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