

AMIAD "TAF ELECTRONIC" FILTER SERIES

2" / 3" Automatic plastic filter for flowrates upto 50 m³/h

- The compact self cleaning filter operates on water pressure coupled with an electronic controller, (battery powered) and does not need any external source of energy
- For flowrates upto 50 m³/h (depending on water quality and filtration degree).
- With its unique turbine and cleaning mechanism the filter requires minimum water for flushing.
- Low pressure on-line cleaning ability.
- High quality filtration degree with seven different screens ranging from 50 to 500 micron
- The filters are simple to operate and require minimal maintenance.
- For low flowrates, the unit is available with a downstream valve.
- For a wide range of applications: agriculture, green houses, turf, waste water plants, cooling towers etc.



How does the "TAF Electronic" filter work?

Description of filter operation

The "TAF" Automatic self-cleaning Filter is an electronically controlled hydraulic filter. The filter is designed to work with various types of screens in filtration degrees from 500 to 50 micron, and is available in 2", and 3" inlet/outlet connections.

Filtering process:

The filter incorporates the following components; filter housing, lid and tightening nut, screen element, flushing chamber, self-cleaning mechanism and control system.

The water enters through the inlet pipe into the screen area from inside to 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 (PDS), Solenoid Valve and Flushing Controller.

The PDS senses the pressure differential across the screen and when it reaches 0.5 bar (7 psi) it sends a signal to the electronic controller. The controller activates the latching solenoid to initiate the self cleaning operation.

Initiation of self-cleaning:

The filter will enter the self-cleaning process as a result of any of the following causes:

1. High Pressure Differential across the screen.
2. Manually pressing the push button located in the controller box.
3. Time intervals that can be pre-selected by the controller dip switches.

Self-cleaning process:

The self-cleaning mechanism comprises of the following components: Hydraulic turbine, Scanner piston, Suction scanner, Exhaust valve, and an External downstream valve (where applicable)

The hydraulic command provided by the solenoid valve, 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 scans the entire screen surface in a spiral movement by a combined action of the hydraulic turbine and the piston.

The turbine rotates the suction scanner that sucks in the filter cake from the screen surface and expels it out through the exhaust valve.

After 12-16 seconds * the controller stops the solenoid and eliminates the hydraulic command. At this stage the exhaust valve closes, the downstream valve opens and the piston returns to its original position.

* The flushing duration is determined by the controller dip-switch S2. The time should be long enough to ensure complete travel of the piston. Please note that too long flushing duration will not provide any advantage since the piston is not moving and the suction scanner will rotate in the same place.

Technical Specifications

General

Filter type	50mm	80mm	Notes:
Maximum flow rate	25 m ³ /h	50 m ³ /h	Consult manufacturer for optimum flow depending on filtration degree & water quality.
Min. working pressure	1.5 bar	1.5 bar	Or lower if pressure is increased for flushing.
Max. working pressure	8 bar	8 bar	
Filter area	465 cm ²	465 cm ²	
Inlet/Outlet diameter	50 mm	80 mm	BSP thread
Max. working temperature	60°C	60°C	

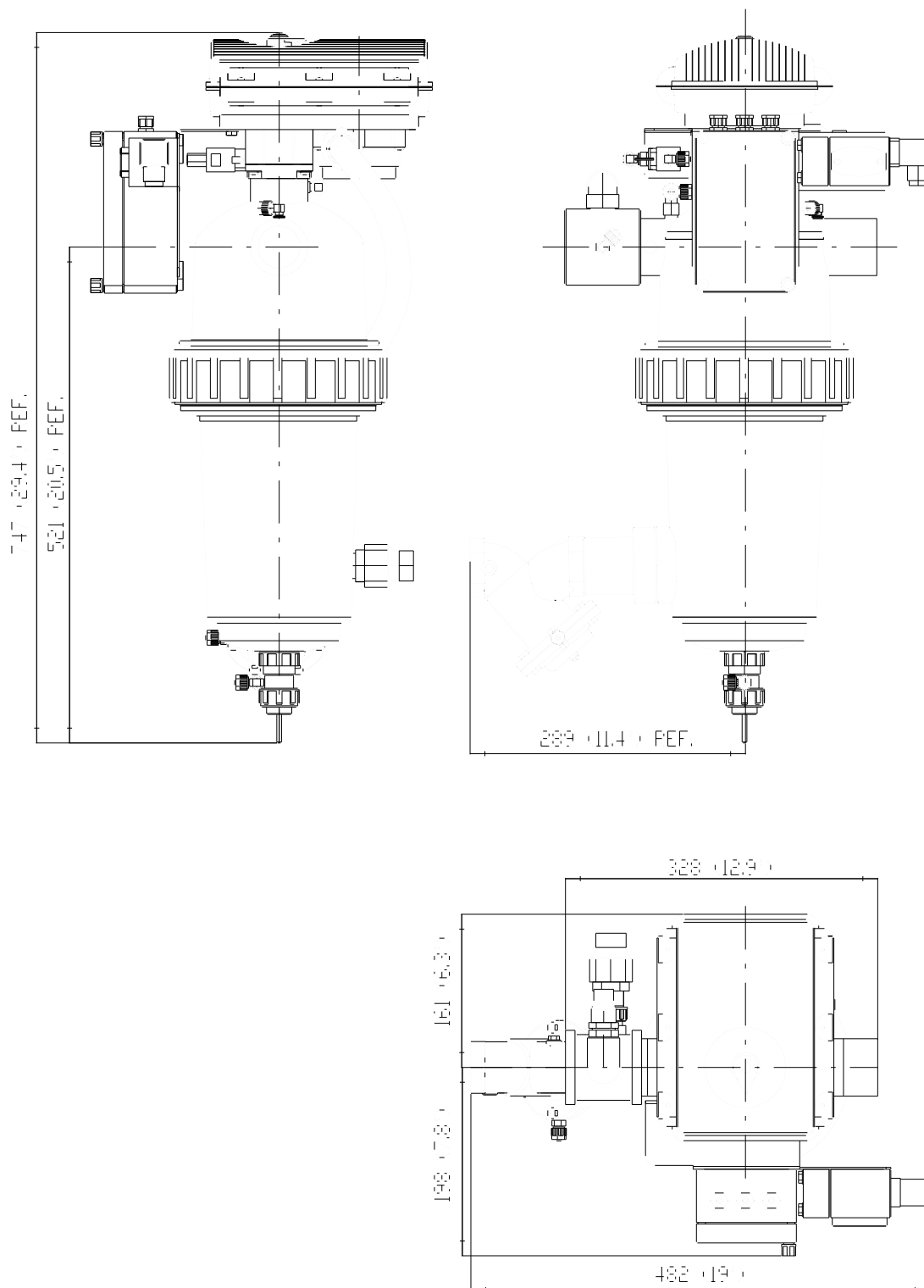
Flushing Data

Exhaust valve	40 mm	40 mm	BSP female connection
Flushing cycle time	12-16 seconds	12-16 seconds	@ 4 bar
Wasted water per cycle	32 litre	32 litre	@ 1.5 bar
Minimum flow for flushing	8 m ³ /h	8 m ³ /h	@ 1.5 bar (Note 2.5 to 3 bar required for 50 /80 micron application)
Flushing criteria	Differential pressure of 0.5 bar, time intervals and manual operation		

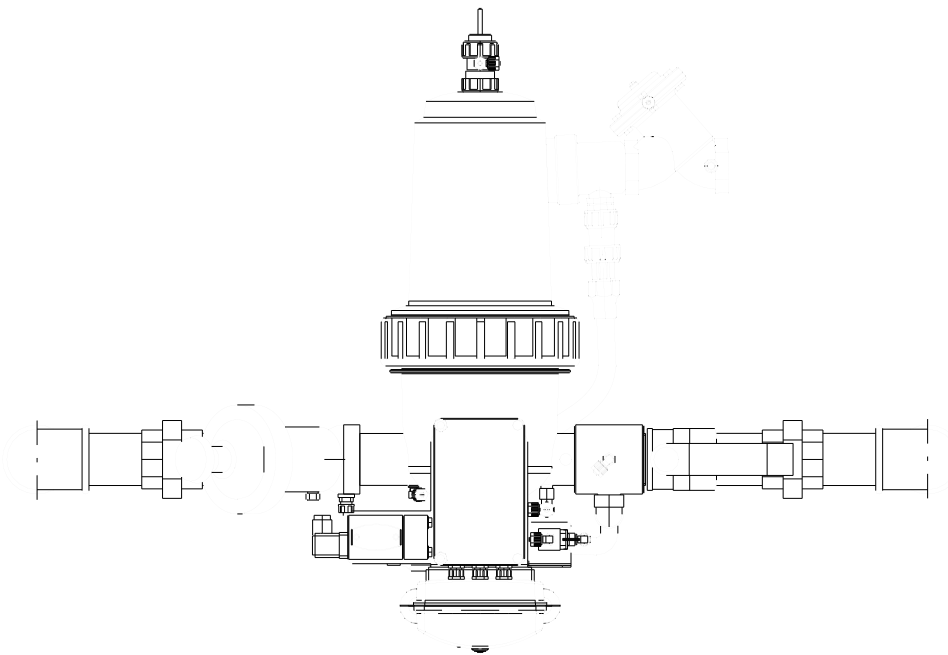
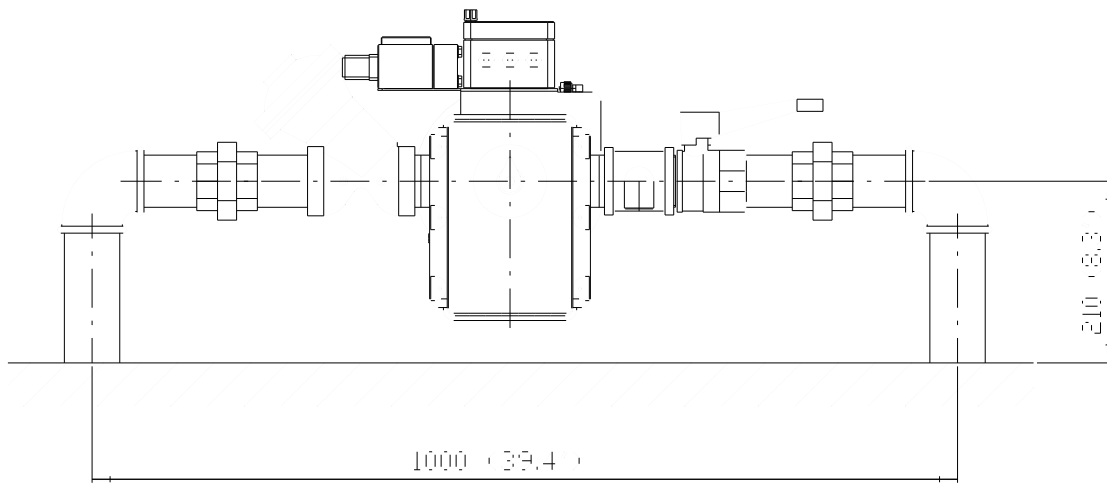
Standard filtration degrees

	Moulded Stainless Steel Screen						
micron	500	300	200	130	100	80	50
mm	0.5	0.3	0.2	0.13	0.1	0.08	0.05
Mesh	30	50	75	120	155	200	300

Filter dimensions



Recommended Installation arrangement



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