

# AMIAD "MEGA EBS" FILTERS

**Automatic Self-cleaning Filters for flow rates up to 4,000 m<sup>3</sup>/h;  
17,600 USgpm**

- The biggest automatic self-cleaning filter unit for fine filtration.
- For flow rates up to 4,000 m<sup>3</sup>/h (17,600 USgpm) per single unit (depending on water quality and filtration degree).
- Filtration degrees from 800 to 10 micron.
- Minimum water wasted during flushing.
- No interruption of downstream flow during the flushing cycle.
- Electronically monitored cleaning cycle that allows flexibility of control options and suitability to existing computer systems.
- Applications: Water supply systems, cooling water, in: Power plants, paper industries, steel industries, mining, irrigation, etc.



# How does the "Mega EBS" filter work?

The Mega EBS is an automatic self-cleaning filter that is designed to work with various types of screens in filtration degrees from 800 to 10 micron, and is available in 16", 18", 20" and 24" inlet/outlet diameter.

## Filtering process:

The water flows through four stainless steel cylindrical filter elements from inside out, creating minimal head loss. Different types of screens are available for different filtration needs.

The "filtration cake" accumulating on the screen surface causes head loss to develop across the screen. When this head loss reaches a pre-set value, the cleaning mechanism is operated.

## Self-cleaning process:

There are four independent cleaning mechanisms for each screen elements. Each cleaning mechanism incorporates a stainless steel suction scanner driven by a 1/2 HP motor. The scanner's hollow nozzles scan the screen surface in a spiral motion, sucking-in the filter cake, in a controlled motion, without touching the screen. Suction power is achieved due to low pressure conditions created by the exhaust valve opening to the atmosphere. The filter cake is then discharged through the open exhaust valve.

Cleaning takes between 35 to 40 seconds. The self-cleaning process begins when the pressure differential across the screen reaches a pre-set value or a predetermined lapse of time. During the self-cleaning process filtered water continues to flow downstream of the filter.

## Control system:

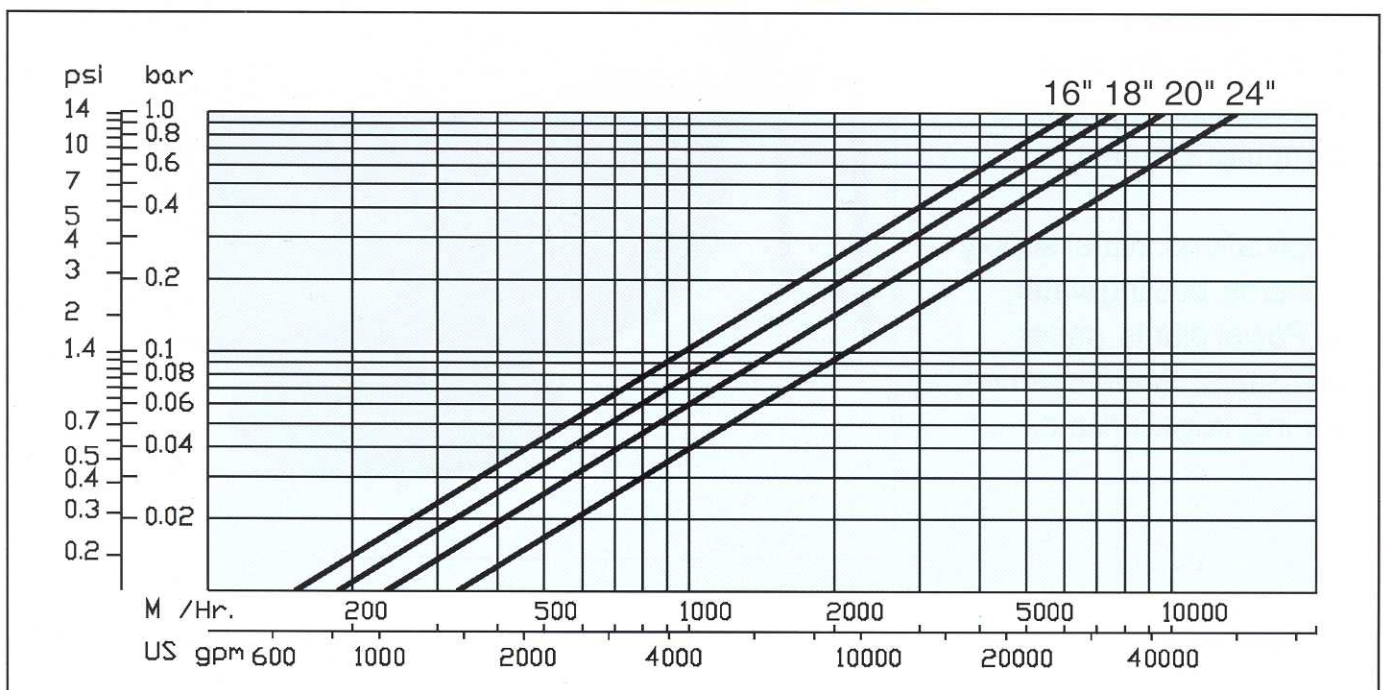
The Mega EBS filter is equipped with a pressure differential switch that transmits an electric signal to the electronic control board, which initiates the flushing cycle.

Four solenoid valves operate the exhaust valves by means of a hydraulic command or compressed air.

## Features:

- Flushing according to pressure differential and/or according to time.
- Option for operation of continuous flushing.
- Flushing counter
- An alarm or an alternative reaction in malfunction mode (open a bypass, shut-off a pump, operate an alarm signal in control room, etc.).
- Flushing can be set to operate in single mode - one filter element is flushing at one time, double mode - two filter elements are flushing at one time, or in full mode - all four filter elements are flushing simultaneously.

## Head loss graph





# Technical specifications

## General

Maximum flow rate	4,000 m <sup>3</sup> /h	17,600 USgpm	Consult manufacturer for optimum flow depending on filtration degree & water quality.
Min. working pressure	2 bar	30 psi	or lower if pressure is increased for flushing.
Max. working pressure	10 bar	150 psi	
Filter area	40,000 cm <sup>2</sup>	6,200 in <sup>2</sup>	
Inlet/Outlet diameter	400 - 600 mm	16 - 24 in	Flange standards as per request
Filter housing diameter	1,400 mm	55 in	
Max. working temperature	80°C	176°F	
Weight - empty - with water	2,250 kg 3,900 kg	4,960 lb 8,600 lb	

## Flushing Data

Exhaust valve	80 mm	3"	
Wasted water per cycle	2,000 liter	530 gallon	
Minimum flow for flushing	50-200 m <sup>3</sup> /h	220-880 USgpm	at 2 bar = 30 psi
Flushing cycle time	140-50 seconds	140-50 second	at 4 bar = 60 psi

## Control and electricity

Control voltage	24V AC
Electric motor	4 x 1/2 HP; 18/22 Gear output RPM
Rated operation voltage	3 phase: 380 / 440 V; 50 / 60 Hz
Current consumption	1.5 Amp

## Construction materials\*

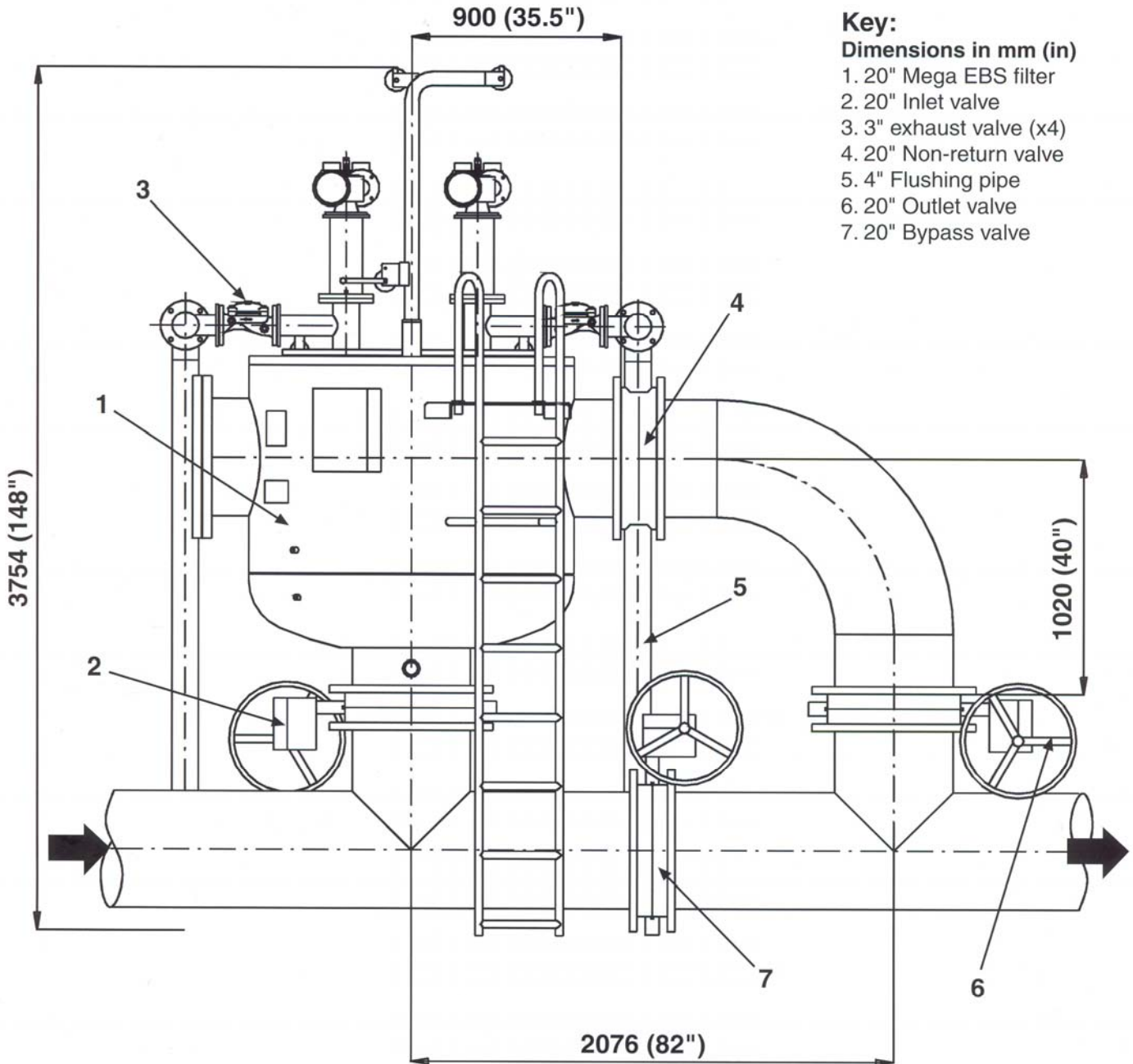
Filter housing and lid	Epoxy-coated carbon steel 37-2
Screens	Stainless steel 316
Cleaning mechanism	Stainless steel 316, POM
Exhaust valves	Epoxy-coated cast iron, Natural rubber
Seals	Synthetic rubber, Teflon
Control	Aluminum, Brass, Stainless Steel, PVC

\*Amiad offers a variety of construction materials. Consult the manufacturer for specifications.

## Standard filtration degrees

	Stainless Steel Screen									
micron	800	500	300	200	130	100	80	50	25	10
mm	0.8	0.5	0.3	0.2	0.13	0.1	0.08	0.05	0.02	0.01
mesh	20	30	50	75	120	155	200	300	450	600

# Suggested installation



## Key:

### Dimensions in mm (in)

1. 20" Mega EBS filter
2. 20" Inlet valve
3. 3" exhaust valve (x4)
4. 20" Non-return valve
5. 4" Flushing pipe
6. 20" Outlet valve
7. 20" Bypass valve



**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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