TIMEX
Filtration & Water Systems

NEW

Omega Series

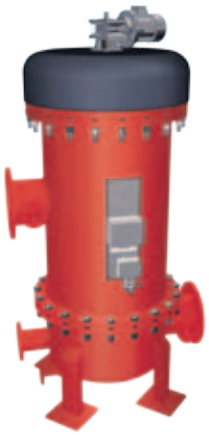
Automatic self-cleaning filter provides higher efficiency and smaller footprint, combining Timex's superior Suction Scanning mechanism with a multi-screen design.

flow rates	filtration degrees	inlet/outlet diameter	minimum operating pressure
up to 5,000 m^3/h (22,000 gpm)	10-500 micron	200-800mm (8"-32")	2 bar (30 psi)

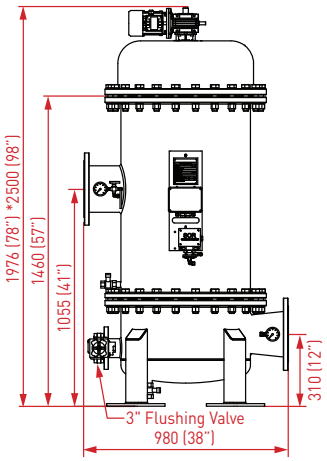
features:

- Based on Timex's proven suction scanning screen filtration technology
- Highly efficient self-cleaning mechanism; fine filtration performances, down to 10 micron
- Small footprint
- Exceptionally high filtration area & flow per unit
- ASME/ATEX/IECEX, available on request
- Applications: Membrane Protection, Municipal Water, Industrial Water, Oil&Gas and Irrigation

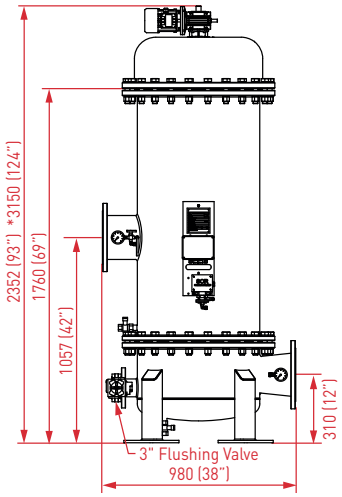
Omega I



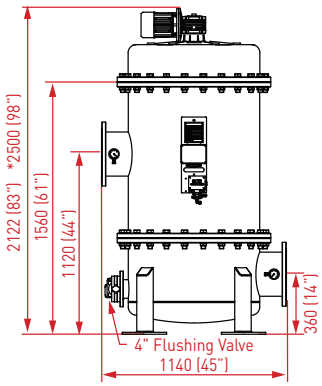
Standard Models

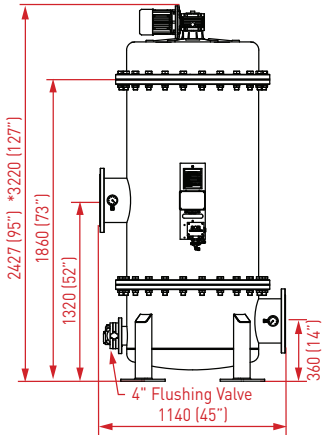


Enlarged Models

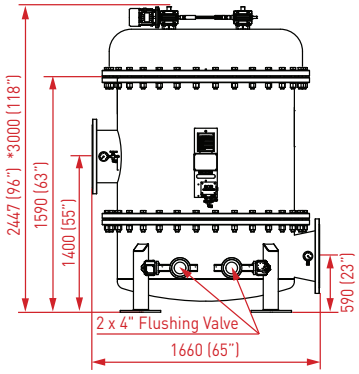


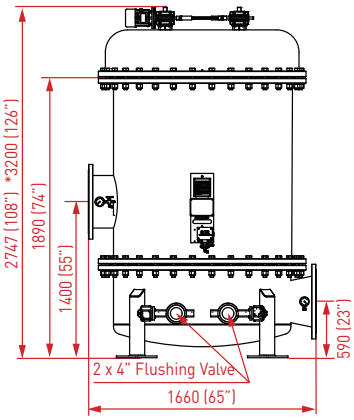
Omega II



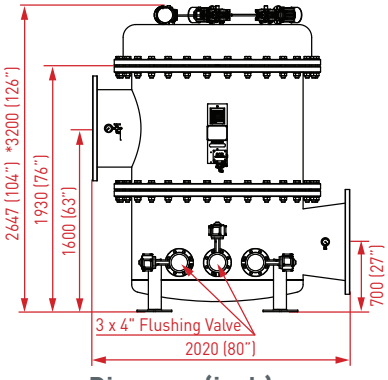


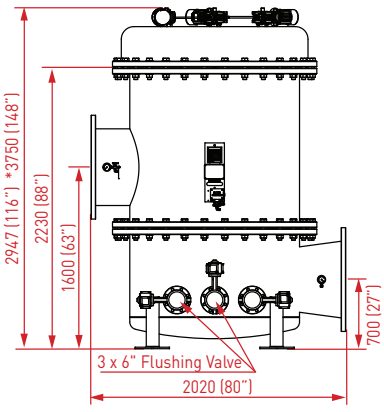
Omega III





Omega IV





Dim: mm (inch)

*Approx. length required for maintenance.

How the Omega Filter Works

General

The Timex Omega Series are automatic filters, with multiple screens operated by a common electric driven screen cleaning mechanism. The "Omega" filter flow rate range is up to 5,000 m^3/h (22,000 gpm) and from 10-500 micron filtration degree. Inlet/Outlet flanged connections are available in the range of 200-800 mm (8"-32").

The Filtration Process

Raw water enters from the filter inlet and passes through the multi-screens. Filtered water flows through the filter outlet. The gradual dirt buildup on the inner multi-screen's surface causes a filter cake to develop, with a corresponding increase in the pressure differential across the multi-screens. A pressure differential switch senses the pressure differential and when it reaches a pre-set value, the self-cleaning process begins.

The Self-Cleaning Process

Cleaning of the filter is carried out by multiple suction scanners with an option for SLN (Spring Loaded Nozzles) which simultaneously scan the multi-screens by a common electric motor driven gear mechanism. The DP switch signals to open the exhaust valves creating a high velocity suction stream at the nozzle scanner tips which "vacuums" the filter cake from the multi screens.
During the self-cleaning process, which takes approximately 25 seconds, filtered water continues to flow downstream.

The Control System

The Omega's operation and cleaning cycle is controlled and monitored by a Programmable Logic Control (PLC).
The PLC allows maximum flexibility in control options and is provided with a wide range of control options from an independent stand alone controller to a fully integrated one with the customer's central control system. During the self-cleaning cycle the PLC controls a solenoid that operates the exhaust valves by means of a hydraulic command or compressed air.

The self-cleaning cycle begins under any one of the following conditions:
1. Receiving a signal from the Pressure Differential Switch
2. Time interval parameter set at the control board
3. Manual Start

The control board also provides:

- Optional continuous flush mode
- Flush cycles counter
- Alarm output – may be used to open a bypass, shut-off a pump, etc.

Omega Models:

Timex's Omega product line consists of the following models:

- Omega I Standard 13,500 cm^2 (2,100 in^2) & Enlarged (E) 18,000 cm^2 (2,800 in^2)
- Omega II Standard 27,000 cm^2 (4,185 in^2) & Enlarged (E) 36,000 cm^2 (5,600 in^2)
- Omega III Standard 54,000 cm^2 (8,400 in^2) & Enlarged (E) 72,000 cm^2 (11,200 in^2)
- Omega IV Standard 81,000 cm^2 (12,600 in^2) & Enlarged (E) 108,000 cm^2 (16,700 in^2)

Omega I / Omega II

Technical Specifications (flow data at 100 micron, average water quality)

Filter Type	Omega I	Omega I E	Omega II	Omega II E
General Data*				
Maximum flow rate	675 m³/h (2,972 gpm)	880 m³/h (3,875 gpm)	1350 m³/h (5,944 gpm)	1750 m³/h (7,705 gpm)
Inlet/Outlet diameter	200 - 300 mm (8"-12") Flange standards as per request		250 - 500 mm (10"-20") Flange standards as per request	
Minimum working pressure**	2 bar (30 psi)			
Maximum working pressure	10 bar (150 psi) 16 bar (230 psi) upon request			
Filtation area	13,500 cm² (2,100 in²)	18,000 cm² (2,800 in²)	27,000 cm² (4,185 in²)	36,000 cm² (5,600 in²)
Weight (empty)	900 kg (1984 lb)	970 kg (2138 lb)	1455 kg (3207 lb)	1495 kg (3296 lb)

* Subject to filtration degree & water quality.
** For special low pressure conditions & fine filtration with SLN, Please consult Timex.

Flushing Data				
Exhaust valve	3"	3"	4"	6"
Flushing cycle time	25 sec	25 sec	25 sec	25 sec
Reject water volume per flush cycle	280 liter (74 gallon)	350 liter (92.5 gallon)	480 liter (127 gallon)	560 liter (148 gallon)
Minimum flow for flushing	40 m³/h (176 gpm)	50 m³/h (220 gpm)	70 m³/h (308 gpm)	80 m³/h (352 gpm)

Control and Electricity **	
Electric motor	0.75 kW (1Hp)
Rated operation voltage	3 phase, 220/380/440 VAC 50/60 Hz
Current consumption	2.1 Amp
Control voltage	24 VAC or DC

** Control board is available upon request.

Construction Materials ***	
Filter housing	Carbon steel, epoxy coating inside & outside
Filter lid	Carbon steel, epoxy coating inside & outside
Screen	Weavewire 316L screens or molded reinforced PP with 316L screen
Cleaning mechanism	Stainless steel 316L
Exhaust valve	Epoxy-coated cast iron, natural rubber or EPDM
Seals	Synthetic rubber, NBR
Control	Stainless steel, nylon

*** Other construction materials & coatings for corrosive use, are available upon request.

Standard Filtration Degrees										
316L Stainless Steel Weavewire or Molded Screen										
micron	500	300	200	130	100	80	50	40	25	10
mm	0.5	0.3	0.2	0.13	0.1	0.08	0.05	0.04	0.02	0.01

Omega III/Omega IV

Technical Specifications (flow data at 100 micron, average water quality)

Filter Type	Omega III	Omega III E	Omega IV	Omega IV E
General Data*				
Maximum flow rate	2700 m³/h (11,890 gpm)	3500 m³/h (15,410 gpm)	4050 m³/h (17,830 gpm)	5250 m³/h (23,120 gpm)
Inlet/Outlet diameter	350 - 600 mm (14"-24") Flange standards as per request		450 - 800 mm (18"- 32") Flange standards as per request	
Minimum working pressure**	2 bar (30 psi)			
Maximum working pressure	10 bar (150 psi) 16 bar (230 psi) upon request			
Filtation area	54,000 cm² (8,400 in²)	72,000 cm² (11,200 in²)	81,000 cm² (12,600 in²)	108,000 cm² (16,700 in²)
Weight (empty)	2400 kg (5291 lb)	2600 kg (5732 lb)	3250 kg (7165 lb)	3435 kg (7573 lb)

* Subject to filtration degree & water quality.
** For special low pressure conditions & fine filtration with SLN, Please consult Timex.

Flushing Data				
Exhaust valve	2x4"	2x6"	3x4"	3x6"
Flushing cycle time	2x25 sec	2x25 sec	3x25 sec	3x25 sec
Reject water volume per flush cycle	2x480 liter (2x127 gallon)	2x560 liter (2x148 gallon)	3x480 liter (3x127 gallon)	3x560 liter (3x148 gallon)
Minimum flow for flushing	2x70 m³/h (2x308 gpm)	2x80 m³/h (2x352 gpm)	3x70 m³/h (3x308 gpm)	3x80 m³/h (3x352 gpm)

Control and Electricity **	
Electric motor	0.75 kW (1Hp)
Rated operation voltage	3 phase, 220/380/440 VAC 50/60 Hz
Current consumption	2.1 Amp
Control voltage	24 VAC or DC

** Control board is available upon request.

Construction Materials ***	
Filter housing	Carbon steel, epoxy coating inside & outside
Filter lid	Carbon steel, epoxy coating inside & outside
Screen	Weavewire 316L screens or molded reinforced PP with 316L screen
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316L Stainless Steel Weavewire or Molded Screen										
micron	500	300	200	130	100	80	50	40	25	10
mm	0.5	0.3	0.2	0.13	0.1	0.08	0.05	0.04	0.02	0.01

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