

Sinus Flow Filters

flow rate	filtration degrees	inlet / outlet diameters	min. operating pressure
up to 4.500 m³/h (19.800 gpm)	10.000–200 micron	up to DN800 (32")	2 bar (30 psi)



Automatic Coarse & Fine Filtration
In One Housing

features:

- Heavy duty filter for high dirt loads of suspended solids and high flow rates
- Special design for removal of big size particles, such as leafs, sticks, nylon, etc.
- Carbon steel and stainless steel manufacturing material options. Special alloys up on request
- No interruption of downstream flow during flushing
- Production for sea water applications with corrosion resist materials
- Available in ASME Section VIII Division 1 design with "U" Stamp
- Applications: Water and Waste Water Treatment, Irrigation, Cooling Water, Oil and Gas Industry, Food and Beverage Plants, Pre-filtration of Industrial Process Liquids, etc.
- Industries: Power Plants, Manufacturing, Mining, Oil and Gas, Water Treatment Plants, Turf and Agriculture

How Does Sinus Flow Filters Work?

General

Timex Sinus Flow Automatic Filters are perfect solutions to protect the main process lines from heavy dirt loads and big particles. Timex Sinus Flow Series consist of heavy duty filters with an electric self-cleaning mechanism. The Sinus Flow Series range in flow rates up to 4.500 m³/h, with screens designed ranging from 10.000 - 200 micron filtration degree. Inlet/ Outlet flanges are available up to 32" diameter.

Filtration Process

Raw water enters the inside of Timex patented "cross screen" cylinder from the filter's inlet and flows through the screen to the fine screen then to the filter's outlet. The gradual dirt building up on the inner screen surface causes a filter cake to develop with a corresponding increase in the pressure differential across the screen. A pressure differential switch senses the pressure differential when it reaches the preset value or after a preset time has elapsed, the cleaning process begins.

Self-Cleaning Process

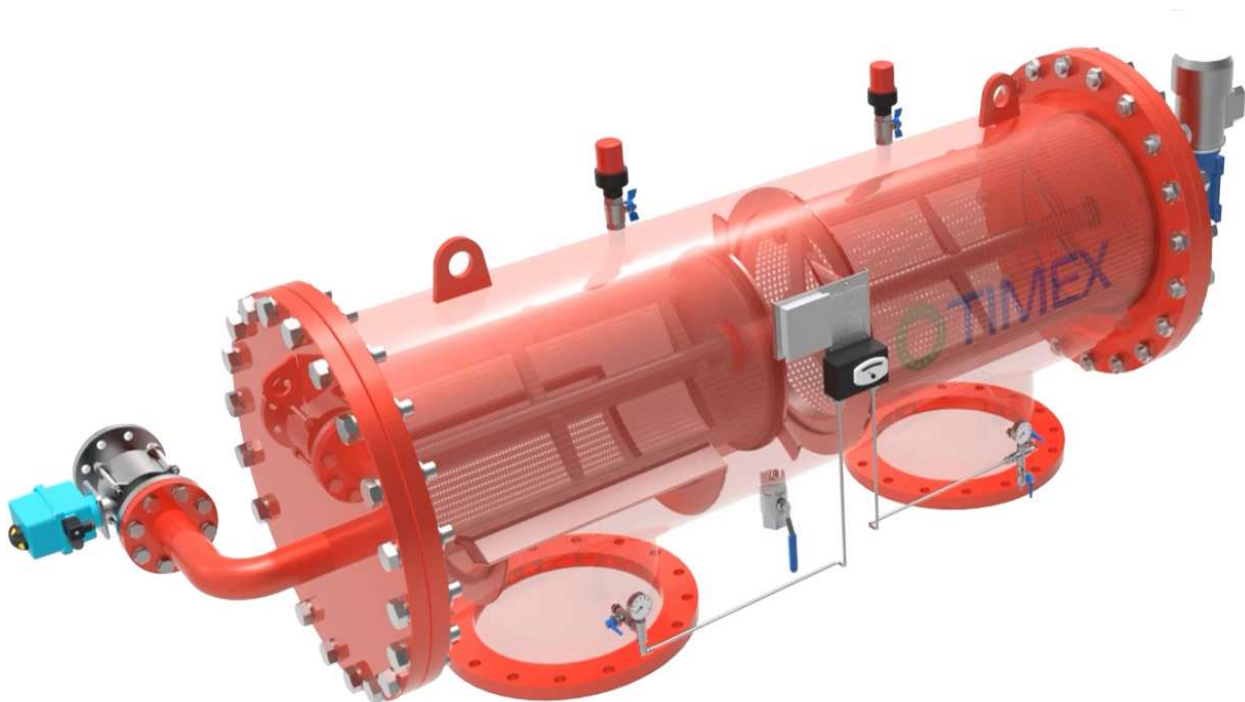
Cleaning of the filter is carried out by a scraper system and a brush system. The exhaust valves open and drive unit starts to rotate the stainless steel / nylon scrapers and brushes, which sweep the inner surfaces of the cylindrical screens. The particles trapped on the screens are dislodged by the brushes & scrapers and flushed out the exhaust valves. During the 15 - 45 seconds self-cleaning process, filtered water continues to flow. Self-cleaning process is adjustable related to the dirt load.

Control System

The control system comprise of a pressure differential switch that senses the pressure differential across the screens and sends a signal to the control board when it reaches a pre-defined value (usually 0,5 bar / 7 psi), or when the predefined time elapsed the control board initiates the self-cleaning process.

The filter begins a self-cleaning cycle under any one of the following conditions;

- 1- Receiving a signal from the pressure differential switch.
- 2- Time interval parameter set at control board.
- 3- Manual start.



SINUS FLOW AUTOMATIC FILTER

Technical Specifications (flow data at 1.500 micron, average water quality)

Filter Type	SF-10K	SF-20K	SF-30K
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General Data			
Maximum Flow Rate	650 m ³ /h 2.861 gpm	1.800 m ³ /h 7.925 gpm	2.500 m ³ /h 11.007 gpm
Inlet / Outlet Diameter	DN200 (8")– DN400 (20") Flange standards as per request	DN400 (24") – DN500(24") Flange standards as per request	DN400 (20") – DN600 (24") Flange standards as per request
Standard Filtration Degrees	Coarse Screen ; Perforated screen 10.000, 5.000, 3.500, 2.500, 1.500, 1.000 micron Fine Screen ; Wedge Wire screen 1.000, 800, 500, 300, 200 micron		
Minimum Working Pressure	2 bar (30 psi)		
Maximum Working Pressure	10 bar (150 psi) Upper pressure ratings upon request		
Filtration Area	10.000 cm ² (1.550 in ²)	20.000 cm ² (3.100 in ²)	30.000 cm ² (4.650 in ²)
Weight [empty]	600 kg 1.322 lb	1.300 kg 2.866 lb	1.600 kg 3.527 lb

Flushing Data			
Exhaust Valve	2x DN65 (2 1/2")	2x DN100 (4")	
Flushing Cycle	25 seconds	45 seconds	
Reject Water Volume Per Flush Cycle	210 liters (55 gallon)	750 liter (198 gallon)	875 liter (231 gallon)
Minimum Flow For Flushing	30 m ³ /h 132 gpm	60 m ³ /h 264 gpm	70 m ³ /h 308 gpm

Control and Electricity **		
Electric Motor	0,75 kW (1 Hp)	1,5 kW (2 Hp)
Rated Operating Voltage	380V AC, 3 phase, 50 Hz	
Current Consumption	2,1 Amp	4 Amp
Control Voltage	24 VAC / 50 Hz (Std Board) / 24 VDC (PLC Board)	

** Control Board (Std or PLC) are available upon request

Construction Materials ***	
Filter Housing	Carbon Steel, epoxy coating inside & outside
Filter Lid	Carbon Steel, epoxy coating inside & outside
Screen	Perforated or Wedge Wire 304
Cleaning Mechanism	Stainless Steel 304
Exhaust Valve	Epoxy coated cast iron, natural rubber or EPDM
Seals	Synthetic rubber, NBR

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

SINUS FLOW AUTOMATIC FILTER

Technical Specifications (flow data at 1.500 micron, average water quality)

Filter Type	SF-40K	SF-50K
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General Data		
Maximum Flow Rate	3.300 m ³ /h 14.530 gpm	4.500 m ³ /h 19.800 gpm
Inlet / Outlet Diameter	DN500 (24") – DN700 (28") Flange standards as per request	DN600 (28") – DN800 (32") Flange standards as per request
Standard Filtration Degrees	Fine Screen ; Wedge Wire screen 1.000, 800, 500, 300, 200 micron Coarse Screen ; Perforated screen 10.000, 5.000, 3.500, 2.500, 1.500, 1.000 micron	
Minimum Working Pressure	2 bar (30 psi)	
Maximum Working Pressure	10 bar (150 psi) Upper pressure ratings upon request	
Filtration Area	40.000 cm ² (6.200 in ²)	50.000 cm ² (7.750 in ²)
Weight [empty]	1.900 kg 4.189 lb	2.400 kg 5.291 lb

Flushing Data		
Exhaust Valve	2x DN150 (6")	
Flushing Cycle	45 seconds	
Reject Water Volume Per Flush Cycle	1.470 liter (388 gallon)	1.750 liter 462 gallon)
Minimum Flow For Flushing	120 m ³ /h 528 gpm	140 m ³ /h 616 gpm

Control and Electricity **	
Electric Motor	2,2 kW (3 Hp)
Rated Operating Voltage	380V AC, 3 phase, 50 Hz
Current Consumption	5,5 Amp
Control Voltage	24 VAC / 50 Hz (Std Board) / 24 VDC (PLC Board)

** Control Board (Std or PLC) are available upon request

Construction Materials ***	
Filter Housing	Carbon Steel, epoxy coating inside & outside
Filter Lid	Carbon Steel, epoxy coating inside & outside
Screen	Perforated or Wedge Wire 304
Cleaning Mechanism	Stainless Steel 304
Exhaust Valve	Epoxy coated cast iron, natural rubber or EPDM
Seals	Synthetic rubber, NBR

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



industry

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