TIMEX
Filtration & Water Systems

SHF Filters

flow rates	filtration degrees	water for cleaning	minimum operating pressure
up to **400 m³/h** (1760 US gpm)	**500-10** micron	less than **1**% of the total flow	**2** bar (30 psi)

The automatic self-cleaning filter - suitable for more applications than ever.

features:

- Large filter area, reliable operating mechanism and simple construction make the SHF filter the ideal solution for filtration of poor quality water to very fine filtration degrees
- Automatic flushing according to pressure differential and/or according to time
- No interruption of downstream flow during flushing
- Robust and reliable Self-Cleaning mechanism even on marginal operation conditions.
- Minimal volume of reject water allows excellent operation in continuous flush mode
- Applications: Water supply systems, Irrigation systems, Cooling Water, Waste Water Treatment, Industrial Pre-Filtration, etc.
- Industries: manufacturing , mining, water and waste water treatment plant, turf and agriculture, etc.

Technical Specifications

Filter Type	SHF 1500	SHF 3000	SHF 4500	SHF 6000
General Data				
Maximum flow rate*	80 m³/h (352 US gpm)	150 m³/h (660 US gpm)	250 m³/h (1100 US gpm)	400 m³/h (1760 US gpm)
Inlet/Outlet diameter (mm)	2" 3" 4" (50 80 100)	3" 4" 6" (80 100 150)	4" 6" 8" (100 150 200)	6" 8" 10" (150 200 250)
Standard filtration degrees	Weave Wire Screen 800, 500, 300, 200, 130, 100, 80, 50, 25, 10 micron			
Min. working pressure	2 bar (30 psi) For lower pressure please consult manufacturer			
Max. working pressure	10 bar (145 psi)		16 bar (232 psi) upon request	
Max. working temperature	50°C (122°F)	50°C (122 °F)	60°C (140°F) 95°C (203°F) upon request	60°C (140°F) 95°C (203°F) upon request
Electrical Supply	3 phase, 220 / 380 / 440 V AC 50 / 60 Hz			
Weight (empty)	86 kg	110 kg	160 kg	250 kg

* Timex offers a variety of construction materials. Consult manufacturer for specifications.

Flushing Data				
Minimum flow for flushing (at 2 bar -30 psi)	6 m³/h (26 US gpm)	11 m³/h (48 US gpm)	15 m³/h (66 US gpm)	25 m³/h (110 US gpm)
Reject water volume per flush cycle (at 2 bar -30 psi)	25 liter (7 US gallon)	64 liter (17 US gallon)	83 liter (22 US gallon)	280 liter (74 US gallon)
Flushing cycle time	15 seconds	20 seconds	20 seconds	40 seconds
Exhaust valve	2" 50 mm	2" 50 mm	2" 50 mm	2" 50 mm
Flushing criteria	Differential pressure of 0.5 bar (7psi), time intervals and manual operation			

Screen Data				
Filter area	1500 cm² (323 in²)	3000 cm² (465 in²)	4500 cm² (697 in²)	6000 cm² (930 in²)
Screen types	Four-layer Weave Wire stainless steel 316L			
	Molded Weave Wire stainless steel 316L			

Control and Electricity				
Rated operation voltage	3phase, 220/380/440 VAC 50/60 Hz			
Electric motor	¼ HP	¼ HP	¼ HP	1/3 HP
Current consumption	0.6 Amp	0.6 Amp	0.6 Amp	0.8 Amp
Control voltage	24 VAC 12V or 24 VDC upon request			

Construction Materials	
Filter housing	Epoxy-coated carbon steel 37-2
Filter lid	SMC Polyester / Epoxy-coated carbon steel 37-2
Cleaning mechanism	Stainless steel 316L, Acetal
Exhaust valve	Epoxy-coated cast iron, Natural rubber
Seals	Synthetic rubber, Teflon
Control	Aluminum, Brass, Stainless steel, PVC, Nylon

* Timex offers a variety of construction materials. Consult manufacturer for specifications.

How the SHF Filters work

General

The Timex SHF Series are sophisticated, yet easy-to-operate, automatic filters, with a self-cleaning mechanism driven by an electric motor.
The “SHF” filters support flow-rates of up to 400 m³/h (1,760 gpm), with various screens designed to cover a range of 800-10 micron filtration degree, and are available in inlet/outlet diameters of 2”-10”.

The Filtering Process

Raw water enters the filter inlet (1) through the coarse screen (2) which protects the cleaning mechanism from large debris. The water passes through the fine screen (3), trapping dirt particles which accumulate inside the filter. Clean water flows through the filter outlet.
The gradual dirt buildup on the inner screen surface causes a filter cake to develop, with a corresponding increase in the pressure differential across the screen (4). A pressure differential switch senses the pressure differential and when it reaches a pre-set value, the cleaning process begins.

The Self-cleaning Process

Cleaning of the filter is carried out by the suction scanner (5) which spirals across the screen; the open exhaust valve creates a high velocity suction stream at the nozzles tip which “vacuums” the filter cake from the screen. During the self-cleaning process, which takes between 20 to 40 seconds, filtered water continues to flow downstream.

The Control System

Two types of control boards are available for the SHF filters: PLC or Electro-Mechanical Relay and Timer.

The self-cleaning cycle begins under any one of the following conditions:
1. Receiving a signal from the Pressure Differential Switch (6)
2. Time interval parameter set at the control board
3. Manual Start

The control board also provides:
Optional continuous flush operation mode
Flush cycles counter
Alarm or an alternative reaction at malfunction mode; open a bypass, shut-off a pump, etc.

“SHF” Models

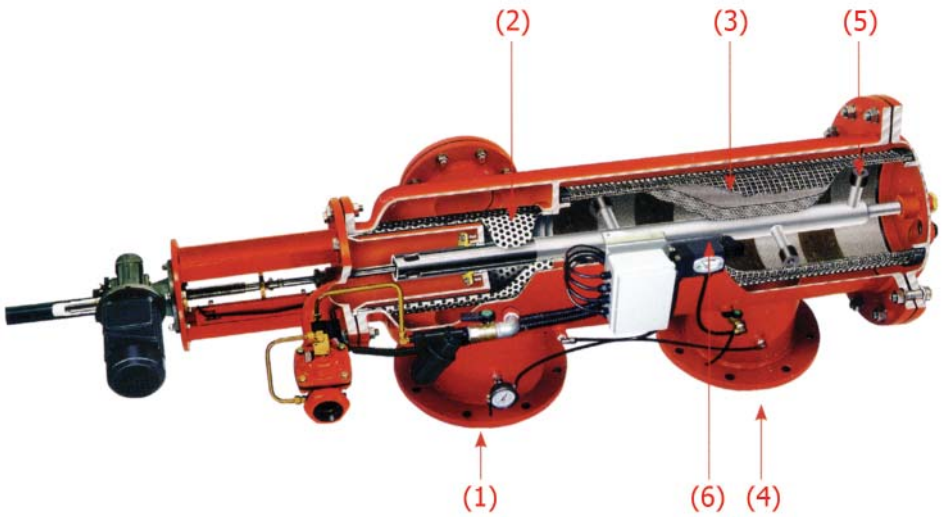
Timex’s “SHF” product-line consists of the following models:

SHF-1500 for up to 80 m³/h (350 gpm)

SHF-3000 for up to 150 m³/h (660 gpm)

SHF-4500 for up to 250 m³/h (1100 gpm)

SHF-6000 for up to 400 m³/h (1,760 gpm)



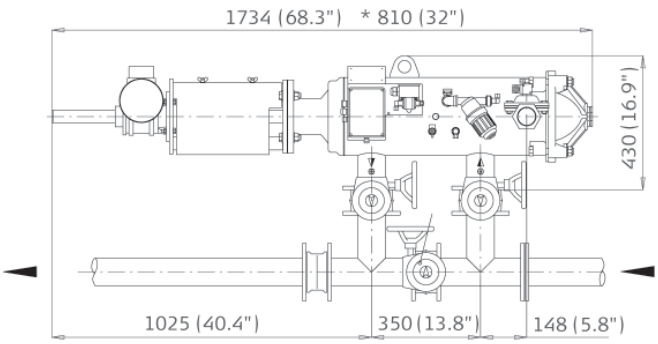
SHF 1500

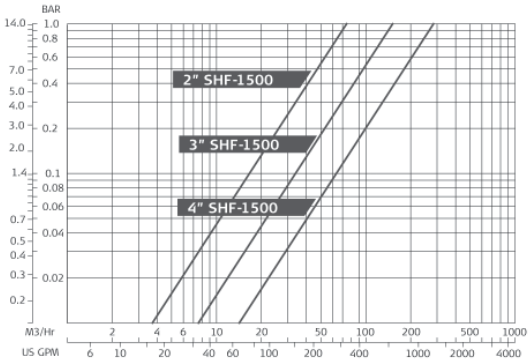
SHF 3000

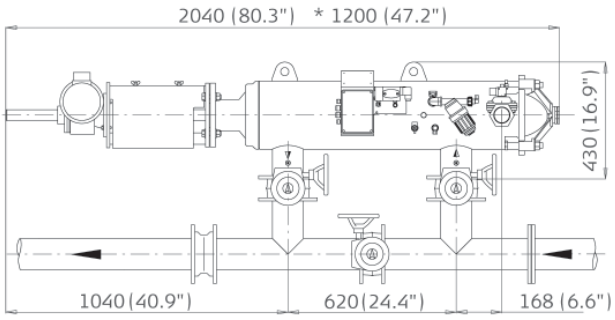
SHF 4500

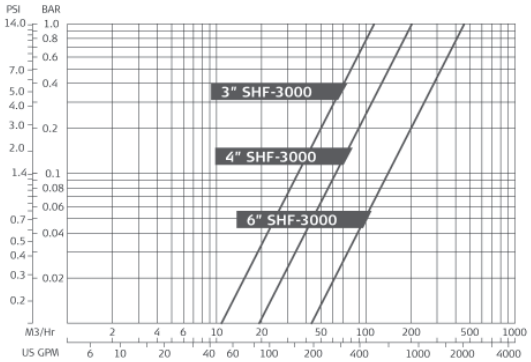
SHF 6000

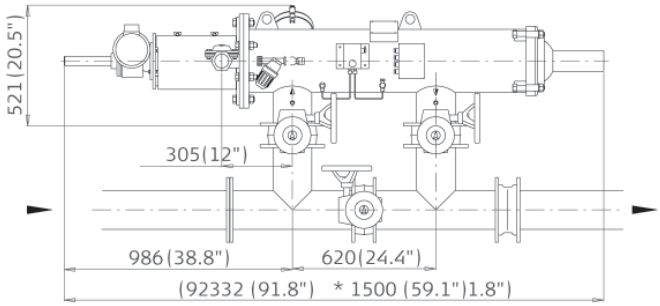
Pressure Loss Graphs

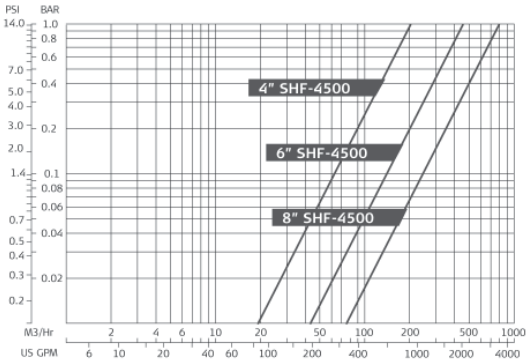


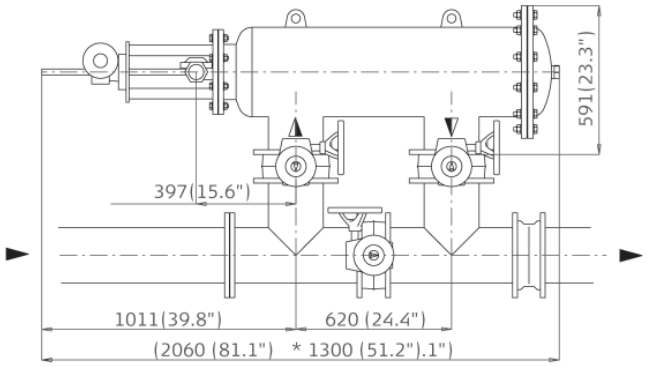


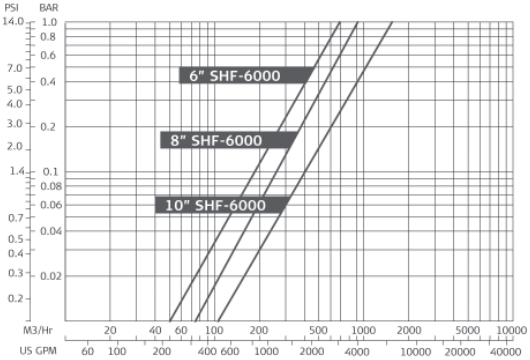












Dim. In mm (inch)
*Approx. length required for maintenance

industry
Automotive, Aviation, Ballast treatment, Electronics, Food & Beverage; Mining, Oil & Gas, Petrochemical, Power Generation, Pulp & Paper

municipal
Potable Water, Waste Water, Desalination, Brackish Water, High rise buildings, Pre-filtration to Membranes

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