TIMEX
Filtration & Water Systems

Self-Cleaning Intake Screens

flow rates	filtration degree	construction material
10 - 1200 m³/h	**500 - 3000 micron**	up on water quality

Protects pumps and water systems from organics, floaters and suspended debris in open/surface water sources

features:

- Durable construction and lightweight
- Continuous cleaning keeps pump intakes free of clogging and costly damages
- High density special fabrication bushing for long life
- Adjustable rotation control system

Working Principle

A passive surface water intake screen is a submerged static filter without the need for any working components. The passive surface water intake screen acts as a filter to protect a pumping station against damage from floating debris but without any environmental impact.
TIMEX designs, manufactures and markets the complete unit inclusive of the backwashing system.

Design

A very low entrance velocity (0.1 m/s), a very high open area (up to 80% open area) and a non-clogging surface are the main parameters in the design of a single or double cylinder intake screen.
Starting with the flow rate, the open area and the slot entrance velocity, we design the best arrangement whilst keeping in mind the screen diameter must be less than half of the available water depth.
When dealing with large flow rates, we propose multiple screen system (always an even number to avoid uneven distribution).

Installation and Working Cost

Because such a concept does not require extensive civil works, the surface water intake screen is one of the most economical ways to protect a pumped water system. The screen can be directly connected to the piping network or via a pump chamber.
The head loss across the filter is less than 0.1 millibar such that the only running cost is in filling the air receiver prior to a compressed air backwash.

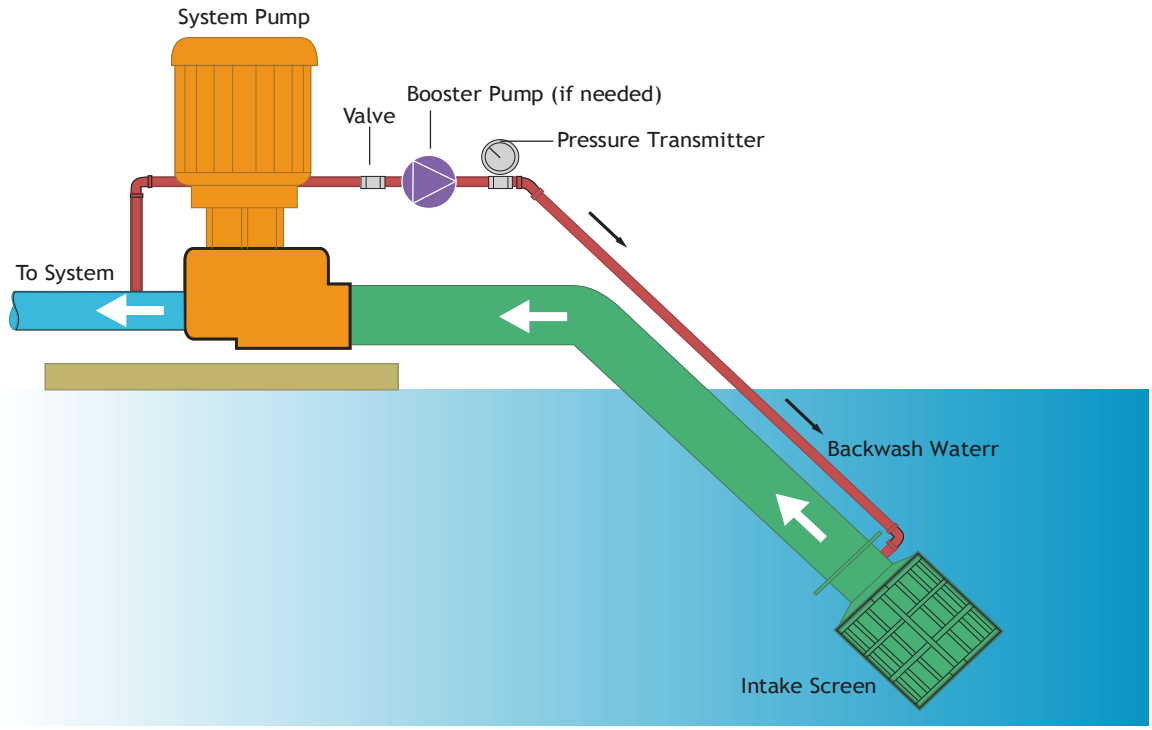
Environmental Protection

Being a intake screen it is almost totally invisible beneath the water. The slot entrance velocity is so low that aquatic life is unaffected.

Material Selection

Dependant upon the quality of water, material of construction of the filter can be specifically selected and optimized: Stainless steels AISI 304, 316, 316L, 317, Duplex or Super-Duplex alloys or 254 SMO.

Basic Installation



Cleaning and Maintenance

The surface water intake screen can be cleaned either by lifting the complete unit clear of the water or directly whilst immersed by injecting compressed air. The compressed air is stored in an air receiver to ensure a high speed air backwash sequence.

Technical Specifications

Filter Type	TIS-4530	TIS-4545	TIS-6030	TIS-6045
General Data *				
Maximum Flow Rate (@ 3.000, 2.000 & 1.000 µ)	135 m^3/h	205 m^3/h	180 m^3/h	275 m^3/h
Maximum Flow Rate (@ 600, 500 µ)	95 m^3/h	145 m^3/h	130 m^3/h	195 m^3/h
Connection Flange Diameter *	DN150 (6”)	DN200 (8”)	DN200 (8”)	DN250 (10”)
	DIN2576, PN10, Flanged (ASME B16.5 150# SO.RF Flanged)			
Required Backwash Pressure	3,8 – 5,5 bar	4,1 – 5,5 bar	4,1 – 6,9 bar	4,5 – 6,9 bar
Backwash Flow (@ Req. Pressure)	2,5 m^3/h	3,5 m^3/h	2,5 m^3/h	4 m^3/h
Filtration Area	4.200 cm^2	6.300 cm^2	5.600 cm^2	8.400 cm^2

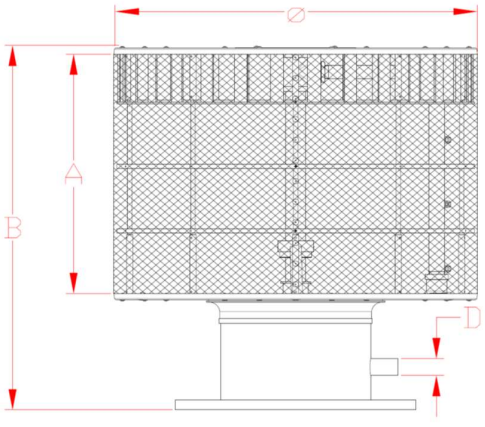
Filter Type	TIS-7560	TIS-7575	TIS-7590	TIS-9090	TIS-90110	TIS-90130
General Data						
Maximum Flow Rate (@ 3.000, 2.000 & 1.000 µ)	470 m^3/h	565 m^3/h	685 m^3/h	820 m^3/h	1.000 m^3/h	1.200 m^3/h
Maximum Flow Rate (@ 600, 500 µ)	330 m^3/h	400 m^3/h	480 m^3/h	575 m^3/h	700 m^3/h	840 m^3/h
Connection Flange Diameter *	DN300 (12")	DN350 (14")	DN350 (14")	DN400 (16")	DN450 (18")	DN500 (20")
	DIN2576, PN10, Flanged (ASME B16.5 150# SO.RF Flanged)					
Required Backwash Pressure	4,8 – 6,9 bar	5,1 – 6,9 bar	5,1 – 6,9 bar	5,1 – 6,9 bar	5,1 – 6,9 bar	5,1 – 6,9 bar
Backwash Flow (@ Req. Pressure)	8 m^3/h	9,5 m^3/h	11,5 m^3/h	14 m^3/h	17 m^3/h	21 m^3/h
Filtration Area	14.150 cm^2	17.650 cm^2	21.200 cm^2	25.400 cm^2	31.000 cm^2	36.700 cm^2

* Other flange standards are available upon request

Construction Materials **	
Housing	Stainless Steel 304, 304L, 316, 316L, 317, Duplex or Super Duplex alloys or 254 SMO
Screen	Stainless Steel 304, 304L, 316, 316L, 317, Duplex or Super Duplex alloys or 254 SMO
Bushing	Kestamid

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

Dimensions				
Model	A (mm)	B (mm)	Ø (mm)	D (mm)
TIS-4530	300	550	450	25
TIS-4545	450	670	450	25
TIS-6030	300	550	600	25
TIS-6045	450	670	600	25
TIS-7560	600	800	750	40
TIS-7575	750	1.000	750	40
TIS-7590	900	1.150	750	40
TIS-9090	900	1.150	900	40
TIS-90110	1.100	1.350	900	40
TIS-90130	1.300	1.550	900	40



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