FILTER HOUSINGS

Self-Cleaning Filter Housing

Filter housing that automatically cleans dirt off the filter element without stopping the line when the differential pressure threshold is exceeded. No consumable filters; used for pump, heat exchanger and nozzle protection, on cooling and process water lines and for pre-filtration.



FILTRATION	PRESSURE CLASS	FLOW	CLEANING
2–3,000 µm	**PN10–PN16**	**5–500 m³/h**	**10–30 s**
Screen, disc, microfibre	PN25 for custom builds	In a single body	ΔP threshold 0.3–0.5 bar

Technical specifications

Body material	Epoxy-coated carbon steel · AISI 304/304L · 316/316L · Duplex · Rubber-lined · Compact: brass, PA66-GF30, PP
Filter element	316L woven screen · Wedge-wire · Sintered · Perforated plate + mesh · Polyester mesh · Pleated PP · Microfibre · Disc stack
Filtration rating	2–3,000 µm (depending on element type)
Max. operating pressure	PN10 / PN16 (10–16 bar) · Compact polymer 8–10 bar · Custom PN25
Test pressure	1.5 times the operating pressure (hydrostatic)
Max. operating temperature	60–90 °C (by body and gasket) · Custom stainless body up to 120 °C
Flow	5–500 m³/h per body · Higher with a parallel battery
Clean filter ΔP	0.1–0.2 bar (at nominal flow)
Cleaning trigger	ΔP threshold 0.3–0.5 bar · Timed cycle · Manual button / PLC
Cleaning time · water	10–30 s/cycle · 15–300 L/cycle (typically 1–3% of flow)
Min. flushing pressure	2 bar (1.5 bar on some suction scanners); measured during flushing
Drain valve	Motorised ball (DN25–DN100) · Pneumatic actuator · Solenoid-piloted diaphragm
Drive	Geared motor 0.18–1.5 kW, 230/400 V · Hydraulic turbine (no electricity)
Control system	IP65 panel · ΔP switch / transmitter · Cycle counter · Alarm contact · 4–20 mA / Modbus RTU
Connection	R 1″–R 2″ thread (BSPP / NPT) · DN50–DN300 flange (PN10/PN16, ANSI 150#) · Victaulic
Gasket material	NBR · EPDM · FKM (Viton) · Silicone

Filtration rating

FILTER ELEMENT	µM
Wedge-wire screen	25–500
Woven screen	25–200
Disc stack	20–400
Microfibre element	2–20

Values are common industry ranges; final values are confirmed in the quotation according to body series, screen type and application.

Micron selection

PROTECTED EQUIPMENT	TYPICAL µM
Pump and mechanical seal	50–100
Heat exchanger	25–100
Spray nozzles	25–50
Membrane pre-filtration	2–25

Micron rating is chosen for the protected equipment, not the fluid; a screen finer than necessary causes constant flushing.

Cleaning mechanism types

Scraper type
Mechanical cleaning with a motor-driven scraper blade or brush for oil, biofilm, gelatinous or fibrous dirt.

Suction scanner type
Low water loss with a nozzle scanner in low-TSS, high-flow surface and cooling water.

Hydraulic turbine type
Independent automatic flushing by line pressure and an internal turbine where there is no electricity.

Installation, surface finish and gasket

Installation
Vertical (standard), drain valve at the bottom. Horizontal installation requires the manufacturer's approval.

Surface finish
Shot blasting + epoxy inside and out · Electropolishing (hygienic) · Rubber lining (seawater).

Gasket selection
NBR general water · EPDM hot water, alkalis · FKM oil, hydrocarbons, acids · Silicone food.

Use and maintenance

- At commissioning, measure the clean filter ΔP; set the threshold at 2–3 times this value (typically 0.3–0.5 bar).
- Measure flushing pressure at the filter inlet during flushing; below 2 bar, add a booster or pressure-sustaining valve.
- Keep the drain line free-flowing; its cross-section must not be smaller than the drain valve diameter.
- Calibrate the ΔP sensor once a year; open the body 1–2 times a year and check the screen.
- Log cycle counts and ΔP values; rising cycle frequency points to a source or screen problem.
- Outdoors, protect the body, drain line and ΔP impulse lines against frost.

Values in this data sheet are typical and for information only. Product selection should be made with our engineers based on process fluid, temperature, pressure and flow conditions. Proses T.İ.M. reserves the right to change product specifications without prior notice.

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