



Insurance for Your Process Equipment and Instruments

05

Automatic
strainer



An automatic self-cleaning strainer removes solids continuously and without intervention. A motor-driven mechanism sweeps the element under flow, so debris is carried away to a backwash outlet and the line never has to be opened.

It is specified where the strainer sits somewhere manual cleaning is impractical, or where the solids loading varies enough that a fixed cleaning schedule cannot be relied on. Cleaning is triggered on differential pressure, on a timer, or run continuously.

Filtration is available from 5 microns to 3 mm, and the machine is built to the service – high pressure, high temperature and corrosive duties are all standard variants.



Automatic self-cleaning strainer with motorised drive head, flanged inlet and outlet, and a backwash outlet at the base.

HOW IT CLEANS

CLEANING

A rotating backwash mechanism sweeps the element under flow and discharges the collected solids to the backwash outlet. Nothing is taken out of service to clean it.

CONTROL

Triggered on differential pressure, on a timer, or run continuously. Timers, pressure sensors and alarms report the state of the element in real time.

STANDARD FEATURES

- Continuous filtration without interruption
- Rotating backwash mechanism operates under flow
- Real-time self-cleaning holds the pressure drop down
- Filtration from 5 microns to 3 mm
- Timers, pressure sensors and alarms
- Minimal maintenance and reduced downtime

The automatic strainer is built to order across its range, in flanged construction.

FABRICATED AUTOMATIC STRAINERS

END CONNECTION	FROM	TO	MAXIMUM PRESSURE RATING
Flanged	4" (100 mm)	48"+ (1200 mm+)	ANSI Class 300 lb

END CONNECTION STANDARDS

END CONNECTION	GOVERNING STANDARDS
Flanged	ANSI B16.5 · ANSI B16.47 Series A (MSS SP 44) · Series B (API 605) · AWWA C207 Class D & E · BS 10 · BS 4504 · EN 1092 · DIN · NFE · JIS · ISO

Sizes and ratings shown are the standard offering. Consult Hydrotherms for other end connections, standards and combinations.

Body material is selected against the process fluid, temperature, pressure and corrosion duty. The specification that governs depends on the product form – a cast body, a forged component and a fabricated body are each written to a different standard for the same alloy.

MATERIAL	CAST	FORGED	PLATE / PIPE
Carbon steel	A216 WCB	A105	A516 Gr 70 / A106 Gr B
Low-temperature CS	A352 LCB / LCC	A350 LF2	A516 Gr 70 (impact tested)
Stainless steel 304 / 304L	A351 CF8 / CF3	A182 F304 / F304L	A240 304 / 304L
Stainless steel 316 / 316L	A351 CF8M / CF3M	A182 F316 / F316L	A240 316 / 316L
Stainless steel 904L	—	A182 F904L	A240 904L
Duplex 2205	A890 Gr 4A	A182 F51	A240 S31803 / S32205
Super duplex 2507	A890 Gr 5A / 6A	A182 F53 / F55	A240 S32750 / S32760
Alloy 20	A351 CN7M	B462 N08020	B463 N08020
Monel 400	A494 M35-1	B564 N04400	B127 N04400
Inconel 625	A494 CW6MC	B564 N06625	B443 N06625
Hastelloy C276	A494 CW12MW	B564 N10276	B575 N10276
Cast iron	A126	—	—
Bronze	B62	—	—

Specifications shown are those governing each product form. Alloy steels, engineered PVC and other grades are supplied to customer specification. Screen and internal materials are selected independently of the body.

SCREENS AND INTERNALS

Element mesh and material are selected to the duty, with filtration ratings from 5 microns to 3 mm.

SOUR SERVICE

Where hydrogen sulphide is present, NACE MR0175 / ISO 15156 compliance is mandatory. Material selection, hardness limits, heat treatment and alloy composition are controlled across all wetted parts, and the strainer is certified to EN 10204 Type 3.1 or Type 3.2.

The strainer is configured to the line, not the other way round. Everything below is supplied to order.

CONFIGURATION AND DISCHARGE

- Inlet and outlet configurations to suit the installation
- Discharge manual, automatic or continuous
- Automatic purge valves for debris removal

ELEMENT AND FILTRATION

- Screen options in mesh size and material
- Filtration ratings from 5 microns to 3 mm

INSTRUMENTATION AND CONTROL

- Cleaning on differential pressure, on a timer, or continuous
- Differential pressure gauges for monitoring pressure drop
- Pressure relief valves and temperature sensors

SERVICE

- High pressure, high temperature and corrosive service
- Low-temperature designs for cold liquid service

COATINGS AND SEALING

- Special coatings or linings for corrosion resistance
- Special gaskets or seals for high-pressure service

WHAT TO STATE WITH THE ENQUIRY

- Line size, pressure class and the governing flange standard
- Fluid, operating temperature and design temperature
- Flow rate, and the pressure drop that can be allowed
- Particle size to be retained, and the expected solids loading
- End connections required
- Body and element materials, or the specification that governs them
- How the element will be cleaned, and how often
- Certification and third-party inspection required

A strainer is a pressure-containing part. What matters is not that it was made carefully but that it can be shown to have been — every claim below is evidenced on the documentation package that ships with the strainer.

CARRIED OUT ON EVERY STRAINER

Hydrostatic test	Every strainer is hydrostatically tested to 1.5 times the maximum allowable working pressure before despatch, in accordance with ASME Section VIII. Shell integrity, joint tightness and cover seal performance are verified under sustained test pressure, and the certificate ships with the order.
Welding qualification	All welding procedures — WPS and PQR — and all welders are qualified to ASME Boiler and Pressure Vessel Code Section IX.
Non-destructive examination	NDE to code requirements, executed in house by ASNT Level II and Level III personnel. Radiography by X-ray and Iridium-192.
Material verification	100% verification against Mill Test Certificates, with individual heat-number tracking. Records retained on file for five years.
Quality plan	A QC plan written around strainer failure modes — the screen, the cover joint and the body weld — rather than a generic works procedure.

CONDUCTED WHEN REQUESTED

- Air / pneumatic testing
- Pressure drop testing
- Helium leak test
- Hydrostatic burst test
- Shock test
- Vibration test
- Surge test
- Ferroxy test
- Radiographic examination
- Magnetic particle examination
- Dye penetrant examination
- Ultrasonic testing
- Strain-gauge testing
- Brittle (coating) lacquer testing
- Cryogenic testing
- Tensile tests
- Hardness tests
- Impact test
- Manipulating tests
- Sulfide stress cracking test (SSC)
- Hydrogen induced cracking test (HIC)

Material certification to EN 10204 Type 3.1 is supplied as standard on every Hydrotherms strainer. Nothing below is charged as an extra unless it is marked as available on request.

MATERIAL CERTIFICATION

EN 10204 Type 3.1 Supplied as standard on all Hydrotherms strainers. Certified by the manufacturer against the order, with test results from the material used.

EN 10204 Type 3.2 Available on request. Verified and countersigned by an independent third-party inspector as well as the manufacturer.

CODES AND STANDARDS APPLIED

STANDARD	APPLIED TO
ASME Section VIII Div 1	Pressure vessel design, and "U" stamp where required
ANSI B16.34	Pressure testing
ASME Section III	Pressure testing
ASME Section IX	Welding and welder qualification
ASME B16.5 / B16.47	Flanged end connections
EN 10204	Material certification
NACE MR0175 / ISO 15156	Sour service
ASNT	NDE personnel qualification

THIRD-PARTY INSPECTION

Extensive experience delivering equipment released by Lloyd's Register, Bureau Veritas, TÜV and Engineers India Limited. Nominate your inspection authority with the enquiry.

Visit **www.hydrotherms.in** to download the complete quality control manual.

Protection through reliable performance

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