



# Automatic Strainers

## 98 Series

### ASME "U" or "UM" Fabricated Automatic Strainers

- Carbon or Stainless Steel
- Suitable for flow rates up to 36,000 GPM
- Pipe sizes from 1" to 42"

Automatic, motorized self cleaning strainers offer continuous removal of debris from fluid processes that require full-time uninterrupted flow



#### SUITABLE USES



Air & Gas



Desalination



Coolant



Water



Electronics



Coatings



Oil & Gas



Chemical



Pulp & Paper



Power



Marine



Equipment

#### RATINGS

- ASME Class 150
  - ASME Class 300
- \*Higher ratings available, please contact Fil-Trek.

#### CERTIFICATIONS

U, UM, CE, NB, CRN, CE

#### DESIGN PRESSURE

Up to 740 PSI @ 400° F (204° C)

#### AVAILABLE MATERIALS

Carbon or Stainless Steel 304 or 316, LDX2101, C276, AL6XN, 2205, 2507 & Monel 400 and Titanium and more.

#### ADDITIONAL FEATURES

- Offset inlet/outlet orientation.
- Easily adjustable in-field to suit any unexpected changes in service conditions or applications.
- Uninterrupted cleaning cycle (no backwash cycle) with low system pressure losses.
- Customizable control and automation packages as well as skid packaging options.
- Manual hand-crank option available for flange sizes up to 8" as a low cost option for low-use applications.
- Available in both standard and custom engineered designs.

# Automatic Strainers

## 98 Series | Fabricated Automatic Strainers

- Carbon or Stainless Steel
- Flow rates up to 36,000 GPM
- Pipe sizes from 1" to 42"



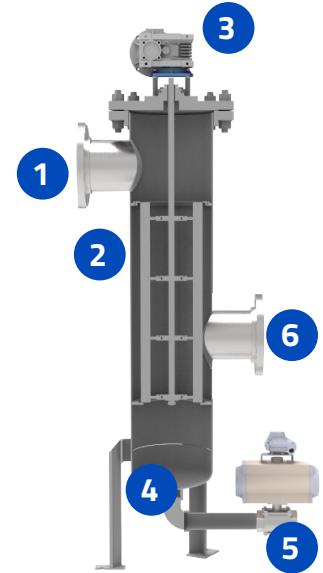
## STANDARD SPECIFICATIONS

All models include the following:

	AUTOMATIC	MANUAL
<b>Inlet/Outlet</b>	1" - 42" Flange <i>Contact Fil-Trek for alternative sizing</i>	
<b>Vent (1)</b>	1/2" NPT Includes ball valve <i>Custom port sizes available</i>	
<b>Gauges (2)</b>	1/2" NPT Includes DP gauge assembly	
<b>Dirty Drain (1)</b>	Automatic ball valve	Manual ball valve
	<i>Port size varies based on vessel size</i>	

## HOW IT WORKS

- 1 Unfiltered fluid enters the strainer through the inlet and flows into the centre of wedge wire strainer basket.
- 2 Particulate and debris will collect against the screen as clean fluid passes through.
- 3 As more unwanted particulate builds up against the screen, the differential pressure will increase and the cleaning cycle will initiate automatically at desired set point.
- 4 The internal scraper will rotate against the screen removing all unwanted buildup and collects at the bottom sump.
- 5 After the scraping cycle, the fast acting blowdown valve is automatically opened to flush out the sump.
- 6 Clean fluid continues to cycle through the vessel and out through the outlet moving towards the next stage of processing.



## STRAINER SIZING & FLOW RATE

FLANGE SIZE	FLOW RATE (GPM)
1"	<100
2"	<150
3"	<250
4"	300-450
6"	600-1,000
8"	1,000-2,000
10"	2,000-2,500
12"	2,500-4,000
14"	3,000-5,000
16"	4,000-6,000
18"	5,000-7,500
20"	6,000-9,000
24"	8,000-12,500
30"	12,500-18,500
42"	26,500-36,000

## OPTIONAL

### MANUAL HAND-CRANK STRAINERS

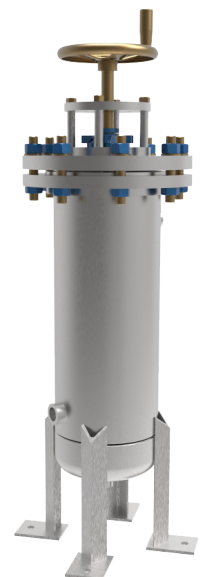
- **Low Cost** ▪
- **Low Use or Intermittent Use** ▪
- **Available for flange sizes up to 8"** ▪

#### Ideal for

Manual hand-crank strainers are a low-cost alternative to automatic configurations that are ideal for low use or intermittent usage.

#### Includes

- Hand-crank strainer assembly
- Vent ball valves
- DP gauge assembly
- Drain ball valves



# Automatic Strainers

## 98 Series | Fabricated Automatic Strainers

- Carbon or Stainless Steel
- Flow rates up to 36,000 GPM
- Pipe sizes from 1" to 42"



## STRAINER SPECIFICATIONS AND OPTIONS

### STRAINER BODY AND INTERNALS

<b>Configuration</b>	98 - Offset w/ ANSI thru bolt closure <i>Alternative configurations available, contact Fil-Trek</i>	<b>Wetted Internal Construction</b>	<i>Mechanical shaft seal</i> SS316 <i>Or matching body MOC</i>
<b>Inlet/Outlet</b>	1" TO 42" Flange <i>Larger sizes available, contact Fil-Trek</i>	<b>Internals</b>	SS316 <i>Optional Titanium or matching body MOC</i>
<b>MOC</b>	(Blank) - Carbon steel S4 - SS304 S6 - SS316 <i>Also available in LDX2101, Hastelloy C276, AL6XN, 2205, 2507 &amp; Monel 400 and Titanium</i>	<b>Blowdown Valve</b>	Pneumatic actuated or electrical actuated
<b>Screen</b>	Wedge wire, SS316 <i>Also available in Monel 400, Hastelloy C276, 2205, 2507 and 254 SMO.</i>	<b>Gasket Options</b>	Spiral Wound Flexitallic, Garlon, Vegetable Fibre <i>Other materials available, contact factory</i>
<b>Screen Size</b>	500 micron <i>Micron sizes available in increments of 20 from 100 to 1,000 micron</i>	<b>Finish Options</b>	(-) External paint "Fil-Trek Blue" (std for CS) (-) Bead Blast (std for SS304 and SS316) <i>Custom finishes available, contact Fil-Trek</i>
<b>Scraper Mechanism</b>	Blades, Brushes <i>Material to match application</i> <i>Both easily replaceable in field</i>	<b>Certifications</b>	U, UM, CE, NB, CRN, CE

### CONTROL PANEL & MOTOR OPTIONS

#### L1 | SEMI-AUTOMATIC, NON-CONFIGURABLE

- Input**
- Dual voltage 120V/240V, single phase
- Control Panel**
- NEMA 4X panel
  - TENV motor, aluminium gearbox
- Blowdown Valve**
- Electric
- Automation/Operation**
- Field adjustable;
    - DP setpoint for clean cycle start
    - Clean cycle duration
    - Blowdown valve duration
  - Manual override options

#### L2 | AUTOMATIC, CONFIGURABLE

- Input**
- Dual voltage 120V/240V, single phase  
*380V, 480V and 575V optional*
- Control Panel**
- SS304 NEMA 4X panel
  - TENV motor, aluminium gearbox  
*Stainless washdown optional*
- Blowdown Valve**
- Pneumatic  
*Electric optional*
- Automation/Operation**
- PLC controlled, field adjustable
  - Scraper cycle and duration
  - Blowdown cycle duration
  - Variable scraping speed to match process conditions
  - Manual override

#### L3 | AUTOMATIC, CUSTOMIZED

- Includes all of L2 options plus any additional customization to meet your specifications such as;
- SCADA compatible installation
  - ATEX explosion proof
  - Continuous duty cleaning

#### L4 | MANUAL HAND-CRANK

Manual hand-cranks strainers are a low-cost alternative to automatic configurations that are ideal for low use or intermittent usage.

*Available for flange sizes up to 8"*

# Automatic Strainers

## 98 Series | Fabricated Automatic Strainers

- Carbon or Stainless Steel
- Flow rates up to 36,000 GPM
- Pipe sizes from 1" to 42"



## PRESSURE & TEMPERATURE DESIGNATION\*

DESIGNATION	MOC	PSI	TEMP (°F)	ANSI RATING	DESIGNATION	MOC	PSI	TEMP (°F)	ANSI RATING
PT1	CS	280	100	ANSI 150	PT4	CS	630	400	ANSI 300
	SS304/SS316	270				SS304/SS316	490		
PT2	CS	195	400	ANSI 150	PT5	CS	1475	100	ANSI 600
	SS304/SS316	185				SS304/SS316	1435		
PT3	CS	735	100	ANSI 300	PT6	CS	1260	400	ANSI 600
	SS304/SS316	715				SS304/SS316	990		

\*Based on ANSI flange ratings, max temperature may be limited to gasket material.

## WEDGE WIRE SCREEN OPENINGS



### FACTORS TO CONSIDER

#### 1 Purpose

If the strainer is being used for protection rather than direct filtration, standard screens will suffice in most applications.

#### 2 Service

Careful attention should be given to ensure overstraining does not occur. As a general rule, the specified level of filtration should be no smaller than half the size of the particle to be removed. If too fine a filtration is specified, the pressure drop through the strainer will increase very rapidly, possibly causing damage to the screen.

### AVAILABLE SIZES

Available in micron ratings between 100 and 1,000 in increments of 20 microns. 500 Micron is the default micron size.

## PRODUCT NOMENCLATURE

\*For sizing for your application, please contact factory

S6	98	12 F	500	S6	PT1	L1
<b>BODY MOC</b>	<b>MODEL</b>	<b>INLET/OUTLET SIZE &amp; STYLE</b>	<b>SCREEN SIZE</b>	<b>SCREEN MOC</b>	<b>DESIGN PRESSURE</b>	<b>CONTROL PANEL</b>
(-) CS S4 - SS304 S6 - SS316 M4 - Monel 400 H2 - Hastelloy C276 2205 - UNS S32205 2207 - UNS S32750 254 - 254 SMO	98 Automatic Scraper Strainers	See table F - Flange for sizing	Micron sizes available in increments of 20 from 100 to 500	S6 - SS316 M4 - Monel 400 H2 - Hastelloy C276 2205 - UNS S32205 2207 - UNS S32750 254 - 254 SMO	See Pressure & Designation table	L1 - Semi-automatic L2 - Automatic L3 - Custom automatic L4 - Manual hand-crank

# Automatic Strainers

## 98 Series | Fabricated Automatic Strainers

- Carbon or Stainless Steel
- Flow rates up to 36,000 GPM
- Pipe sizes from 1" to 42"



## STRAINER APPLICATION WORKSHEET

The information below is the standard 98 Series operating parameters and guidelines. Modified or custom designs are available on customer request. Please consult the factory for any help with sizing requirements outside of the normal operating parameters and guidelines noted below.

### Sizing Requirements

Name of Fluid\* \_\_\_\_\_

Max. Operating Flow Rate\* \_\_\_\_\_ @ \_\_\_\_\_ Pressure (PSIG)

Specific Gravity (Water = 1)\* \_\_\_\_\_ Viscosity (CPS/SSU) \_\_\_\_\_

Min. Operating Pressure (PSIG)\* \_\_\_\_\_ Max. Operating Pressure (PSIG) \_\_\_\_\_

Min. Operating Temperature (F) \_\_\_\_\_ Max. Operating Temperature (F)\* \_\_\_\_\_

Max. Allowable Clean Pressure Drop\*\* \_\_\_\_\_ Type of Particulate Hard  Soft  Fibrous  Sticky

Amount of Particulate Present (Parts per 100 scf) \_\_\_\_\_ Size of Particulate \_\_\_\_\_

\*\*Standard = 2 PSID Flange to Flange

### Strainer Construction

ASME Code Required?\* \_\_\_\_\_ Corrosion Allowance (in) \_\_\_\_\_

Inlet/Outlet Type Flanged  Threaded  Other (Please specify) \_\_\_\_\_

Inlet/Outlet Size (in) \_\_\_\_\_ Screen Size (Slot Size in Microns) \_\_\_\_\_

Vessel MOC CS  SS304  SS316  Other (Please specify) \_\_\_\_\_

Internals MOC SS316  Titanium  Other (Please specify) \_\_\_\_\_

### Controls

All control panel options include the following: Dual voltage 120V/240V, S/S NEMA 4X panel, TENV motor, aluminum gearbox, manual override options. Field adjustable; DP setpoint for clean cycle start, clean cycle duration, blowdown valve duration.

L1 | SEMI-AUTOMATIC, NON-CONFIGURABLE

L2 | AUTOMATIC, CONFIGURABLE  Voltage 120V/240V  380V  480V  575V

Control Panel Aluminum  S/S 316

Blowdown Valve Pneumatic  Electric

L3 | AUTOMATIC, CUSTOMIZED  Options: \_\_\_\_\_

L4 | MANUAL HAND-CRANK  Options: \_\_\_\_\_

### Other Requirements

\_\_\_\_\_

\_\_\_\_\_