



# AUTOMATIC SCRAPER STRAINERS



## APPLICATIONS

- » Cooling and Intake Water
- » Black Liquor
- » Wastewater
- » Pulp & Paper
- » Oil Industry
- » Chemicals
- » Food & Beverage
- » Textiles
- » Heavy Slurries

## ADVANTAGES

- » Ability to remove large/small particles from a variety of industrial applications.
- » Self-adjusting scraper action with multiple brush/blade configurations.
- » Custom connection arrangement to suit any application requirements (in line/offset) or current onsite piping.
- » Uninterrupted cleaning cycle (no backwash system) with low system pressure losses.
- » Several control packages available with local/remote indication and controls.
- » World-class support from highly trained technicians and engineers on demand.

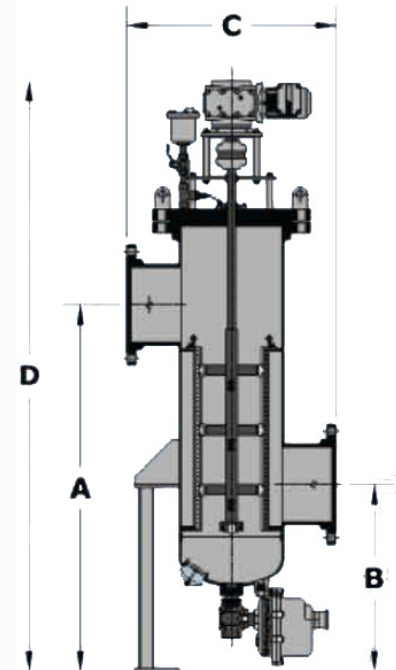
## HOW IT WORKS

1. Designed for the continuous removal of suspended solids.
2. Dirty fluid enters through top inlet, clean fluid flows through bottom outlet.
3. Fluid passes uninterrupted through Wedge wire screen; suspended solids are trapped.
4. Cleaning is accomplished by a spring-loaded scraper mechanism.
5. Blowdown line at the bottom of unit ejects suspended solids.
6. Custom built control panel provides local/remote controls and indication.

# GENERAL DETAILS

## DIMENSIONS FOR – OF – OFFSET UNITS

ACME Model	Inlet/ Outlet	Flow (GPM)	Flow (M <sup>3</sup> /H)	A	B	C	D
ACRS-OF-1-150-CS/SS	1" (25)	≤ 60	≤ 14	45	30	20	69
ACRS-OF-2-150-CS/SS	2" (50)	≤ 100	≤ 23	45	30	20	69
ACRS-OF-3-150-CS/SS	3" (75)	≤ 200	≤ 45	45	30	20	69
ACRS-OF-4-150-CS/SS	4" (100)	200-400	57-91	48	30	22	72
ACRS-OF-6-150-CS/SS	6" (150)	550-950	125-216	60	36	24	93
ACRS-OF-8-150-CS/SS	8" (200)	950-1500	216-340	66	36	26	99
ACRS-OF-10-150-CS/SS	10" (250)	1500-2000	340-450	55	25	28	90
ACRS-OF-12-150-CS/SS	12" (300)	2000-3500	450-795	58.5	28	34	95
ACRS-OF-14-150-CS/SS	14" (350)	3500-4500	795-1022	69.5	33	36	106
ACRS-OF-16-150-CS/SS	16" (400)	4500-5500	1022-1250	85	45	40	126
ACRS-OF-18-150-CS/SS	18" (450)	5500-7000	1250-1590	98.5	32.5	50	135
ACRS-OF-20-150-CS/SS	20" (500)	7000-8500	1590-1930	98.5	32.5	50	135
ACRS-OF-24-150-CS/SS	24" (600)	8500-12000	1930-2725	109	61	60	150
ACRS-OF-30-150-CS/SS	30" (750)	12000-18000	2725-4090	110	50	72	160
ACRS-OF-42-150-CS/SS	42" (1000)	26000-36000	5900-8175	132	60	96	182



## OPTIONS

### Design

- » Offset & Inline models
- 150#
- 300#
- 600#

### Internals Construction

- » SS316
- » Monel 400
- » D2205

### Body Construction

- » CS
- » SS304
- » SS316
- » FRP
- » Monel 400
- » D2205

### Scraper Mechanism

- » FRP/SS Teflon Blades
- » SS Bristles, .003" to .007"

### Wedge wire/Perf Screen

- » SS316
- » Monel 400
- » 75 to 6000 micron slot

### Strainer Controls

- » PLC Fully Automated
- » NEMA 4/12, 4X, 7X

### Additional Options

- » ASME Sec. VIII, Div. 1 U-Stamp
- » CRN

## PERFORATED METAL SCREENS

Are available in brass, stainless steels, monel, etc. For fine perforations a large wire mesh may be used to provide additional rigidity.

## WEDGEWIRE SCREENS

Used for fine screening are very rigid and more clog-resistant than wire mesh screens. They have a reinforced construction and wedge shaped profile reducing the possibility of retaining particles smaller than the screen opening.

## CLOGGED SCREENS

These charts represent the results of tests conducted with strainers containing clean screens. With screens 50% clogged pressure drop results are approximately double those shown in charts.

## MULTIPLYING FACTORS

All results are based upon the use of .033 diam. through V4 " diam. perforations. Mesh lined perforated metal screens: multiply pressure loss by 1.25.

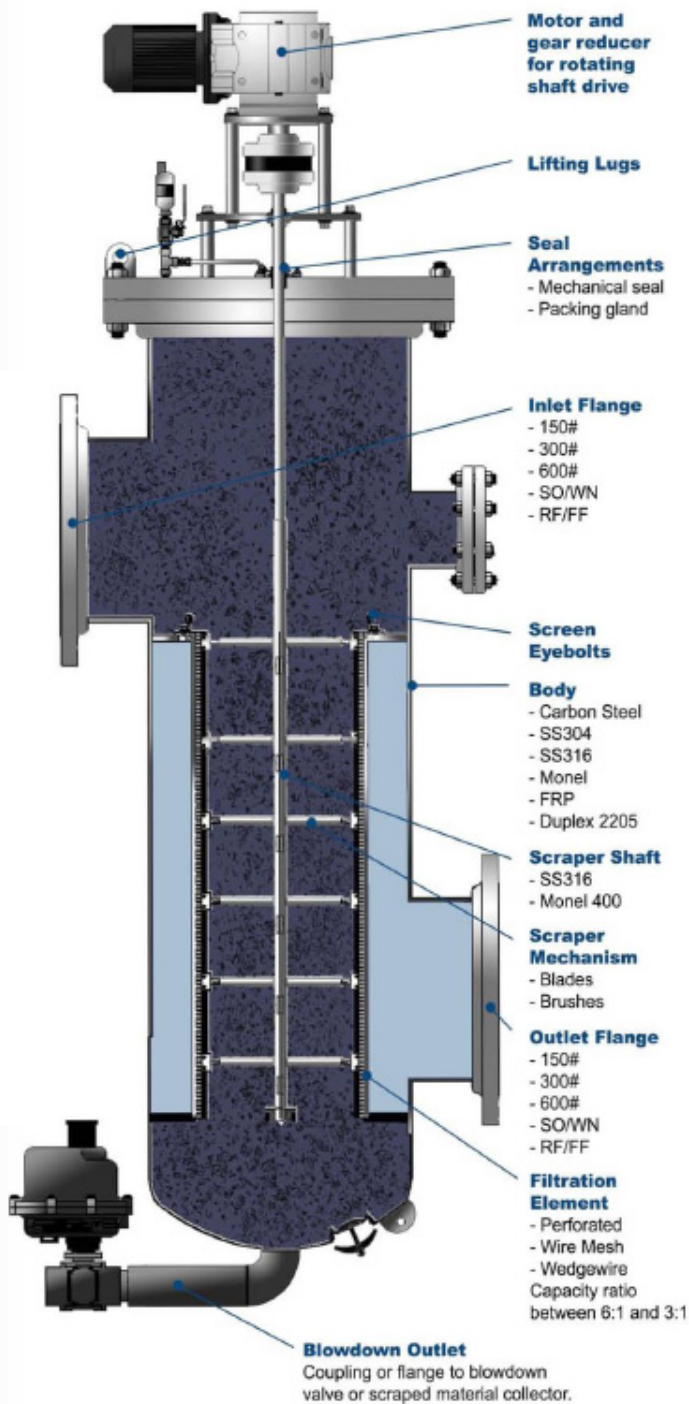
## SCREEN CAPACITY RATIO

Is the ratio between the total screen openings area and the area of the inlet pipe opening. For example: if the inlet pipe's cross section is 20 sq. in and the screen's total open area is 80 sq. in, the ratio is "4 to 1". A high ratio results in a lower pressure drop and reduces the scraping system's frequency of operation.

## WIRE MESH SCREENS

Are manufactured from woven wire cloth in a variety of metals. They are usually used for fine straining with openings unachievable with perforated metal.

# TECHNICAL SPECIFICATIONS



## MAJOR COMPONENTS OF THE SYSTEM

1. Local control and indication for scraper motor, blowdown actuator and differential pressure controller:
  - a. Switches
  - b. Lights
  - c. Disconnects
  - d. Alarms
  - e. Timers
  - f. Screens as required
2. Circuit breaker protection with magnetic starter & overload for PLC-based control system with adjustable timers for scraper and blowdown operations.
3. Differential pressure override protection and monitoring.
4. Blowdown actuation:
  - a. Valve
  - b. Electric
  - c. Pneumatic
5. Pre-wired and tested for easy installation.

## CONTROL OPTIONS

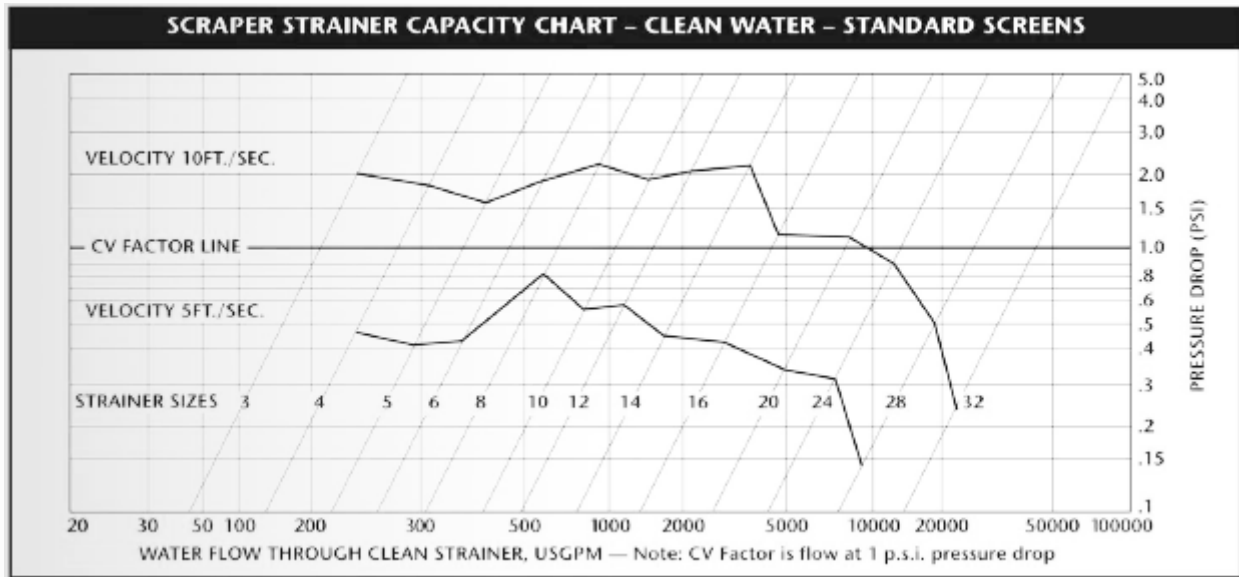
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| <p><b>A.</b><br/>120V<br/>230V<br/>380V<br/>400V<br/>460 /480V<br/>575V<br/>1PHor3PH,<br/>500r60Hz</p> | <p><b>B.</b><br/>Enclosure construction in FRP or SS/NEMA 4/ 12, NEMA 4X</p> | <p><b>C.</b><br/>Custom built to integrate into local control center system allowing for control or supervision of other XXXXX</p> | <p><b>D.</b><br/>Several options for local/emote indication, switches, timers, touch screen controls</p> | <p><b>E.</b><br/>Common control panel available for multiple strainer units.</p> | <p><b>F.</b><br/>Remote supervision:<br/>- Dry contacts<br/>- PLC based<br/>4-20mA audible alarms<br/>- DH-485 digital/<br/>analog</p> |
|--|--|--|--|--|--|

# SELECTION AND ENGINEERING DATA

## STRAINER ELEMENT/OPENING EQUIVALENTS

Inches	Millimetres	Perforation
.033	.838	1/32
.045	1.143	3/64
.070	1.778	1/16
.094	2.387	3/32
.125	3.175	1/8
.150	3.810	5/32
.1875	4.762	3/16
.250	6.350	1/4
.375	9.525	3/8
.500	12.70	1/2

Inches	Millimetres	Mesh
.004	.1016	150
.007	.1778	80
.009	.2286	60
.015	.3810	40
.034	.8636	20



## PRESSURE DROP MULTIPLYING FACTORS

Type of Liquid	Viscosity SSU	70°	80°	90°	100°	110°	120°	130°	140°	150°	160°	170°	180°	200°	220°	240°
Bunker "C" Fuel Oil	3000 S at 112°F	7.0	6.0	5.4	4.9	4.5	4.0	3.8	3.6	3.3	3.1	2.9	2.8	2.5	2.3	2.1
Heavy Lube Oil	500 S at 100°F	3.7	3.2	2.9	2.8	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3
Medium Lube Oil	300 S at 100°F	2.9	2.7	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2
Light Lube Oil	150 S at 100°F	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.1	1.1	1.1

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