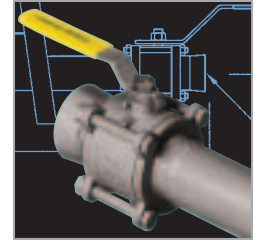
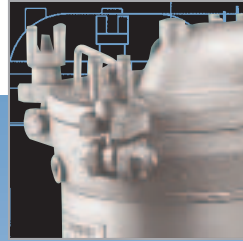
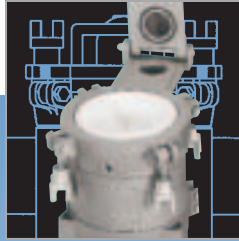


# Industrial Grade Liquid Filter Bag Housings

Over-the-Top® Design

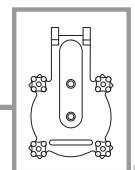


Technical Bulletin B



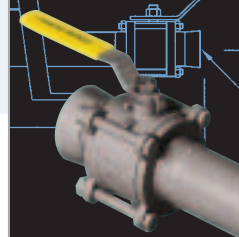
**Filtration Systems**

Division of Mechanical Mfg. Corporation



# INDIVIDUAL FILTER VESSELS

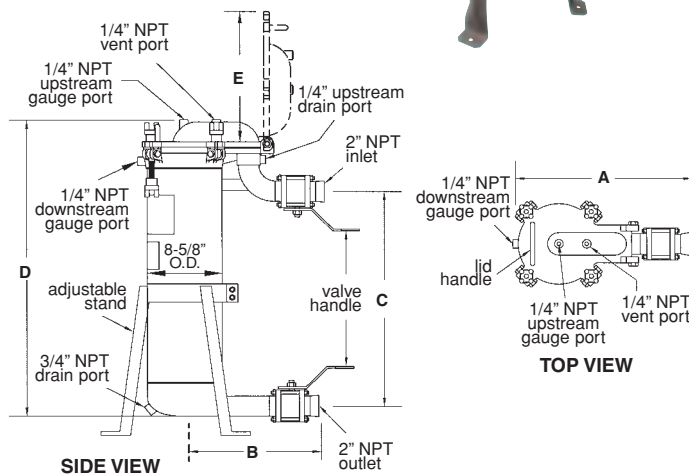
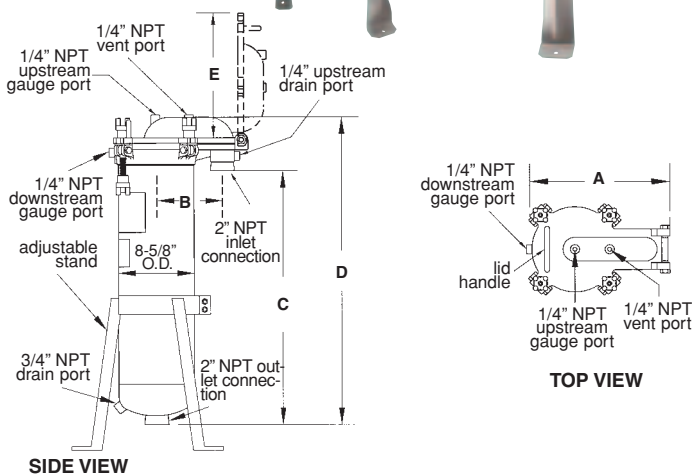
# VALVED, INDIVIDUAL HOUSINGS



**Model NS-112**

**Model NS-122**

**Model NS-122-LP-V**



| MODEL  | A   | B      | C   | D        | E   | WT/LBS |
|--------|-----|--------|-----|----------|-----|--------|
| NS-112 | 15" | 7-1/2" | 14" | 20-7/16" | 15" | 85     |
| NS-122 | 15" | 7-1/2" | 28" | 34-1/8"  | 15" | 100    |

| MODEL       | A   | B        | C   | D         | E   | WT/LBS |
|-------------|-----|----------|-----|-----------|-----|--------|
| NS-122-LP-V | 21" | 16-5/16" | 24" | 33-11/16" | 15" | 110    |

Adjustable Tripod Stand: 17" H, 12" bolt hole circle, Band: 2" wide, 8-5/8" I.D.

Adjustable Tripod Stand: 17" H, 12" bolt hole circle, Band: 2" wide, 8-5/8" I.D.

## Description

Filtration Systems *Over-The-Top*<sup>®</sup> design Industrial Grade Liquid Filter Housings provide the ideal solution for fine filtration or straining applications. Compression of our *Zero-Bypass*<sup>®</sup> bag collar between the housing lid and the top of the support basket provides a positive 360-degree seal, preventing bypass of unfiltered liquid. Solids are trapped and collected in the bag, eliminating clean up of the vessel interior during bag change-out.

Filter housings accommodate a variety of filter media, making them highly versatile for industrial, pharmaceutical, water, beverage, and other process applications. Individual, Valved Individual, and Multi-Housing Systems accommodate size #1 (7" dia. x 16" long) or #2 (7" dia. x 33" long) filter bags, cartridges, or strainer baskets.

Vessels are T-304 stainless steel or carbon steel, 150psi/300°F, valved or non-valved. Alternate inlet and outlet connections may be ordered, allowing the vessels to be placed directly in line with existing process piping.

**Valved, Individual Housings** allow liquid flow to be shut off at the unit, rather than at a distant source, saving time during media change-out. A Low-Profile Horizontal Outlet is a standard feature of Valved, Individual Housings.

**Multi-Housing Filter Systems** are available with 2 to 8 modules, providing increased flow rate capacity by using multiple housings simultaneously.

Valved versions have stainless steel ball valves on the inlet and outlet of each vessel. Functioning as shut-off valves, they isolate individual housings from the filtering process, allowing continuous service of the remaining housings during media removal and replacement.

All Multi-Housing Systems are equipped with two inlet and two outlet connections. Alternate connection ports allow users the option of choosing any inlet and outlet site(s) to accommodate space and piping requirements. Unused ports are sealed with user-furnished blind flanges. *Filtration Systems* versatile, modular design provides simplified installation, equipment expansion, and header inspection and cleaning. Systems are shipped fully assembled, built on a stable frame, and require no anchor bolts for installation.

## Standard Features

- Over-The-Top Design
- Built to ASME Code Standards
- 150psi Max. Working Pressure - 300°F Max. Working Temperature
- Investment Cast Lid and Body
- Hinged Lid with Handle, Built-in Lid Stop, and Safety Detents
- Perforated T-316 S/S Support Basket with Longitudinal Taper Gauge Ports, Vent Ports, Drain Ports
- Buna-N O-Rings
- Adjustable Tripod Stand, or Frame

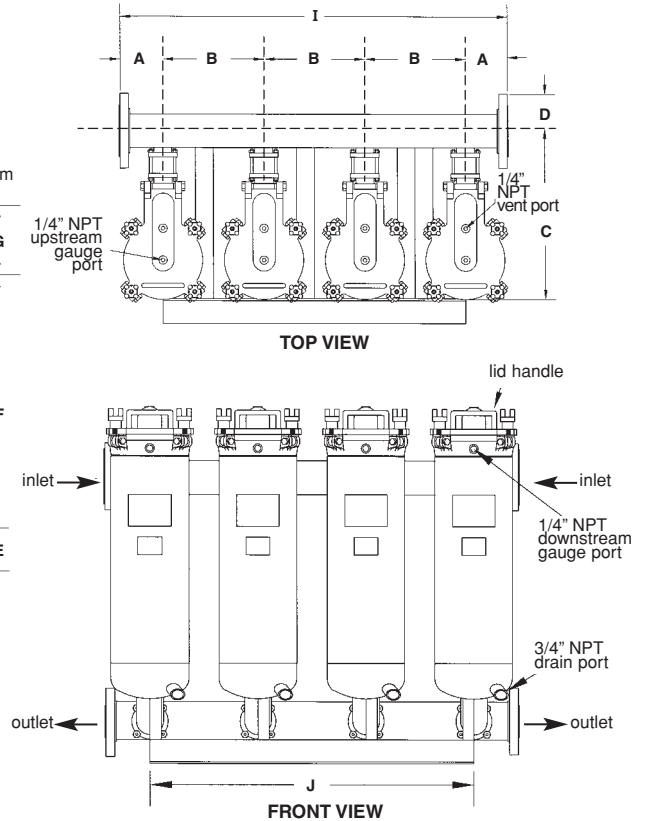
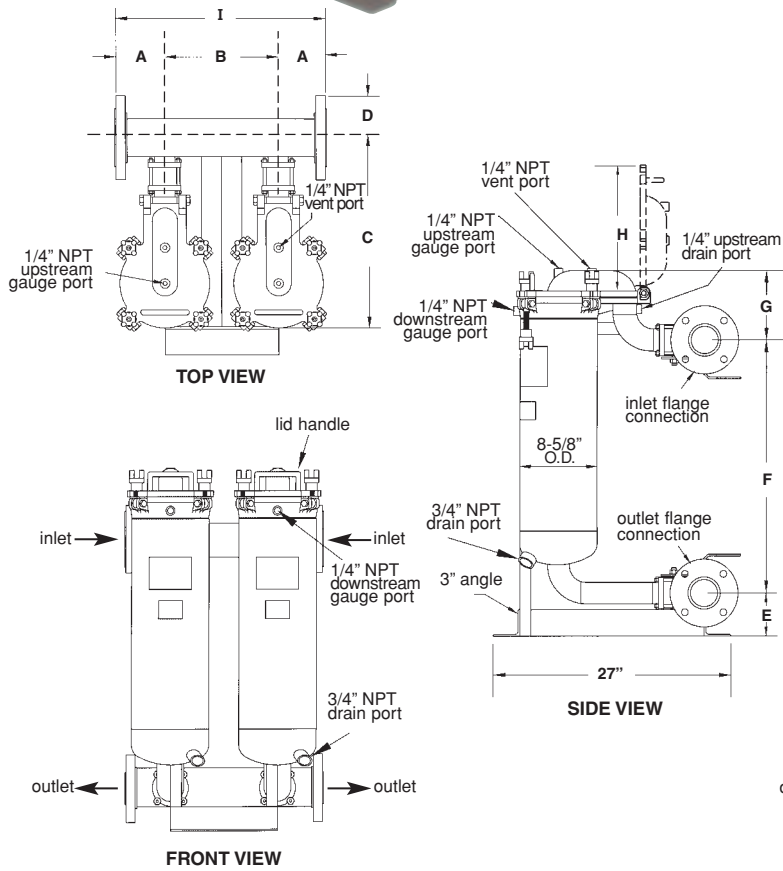
# MULTI-HOUSING FILTER SYSTEMS



**Model NS-223-V**



**Model NS-424-V**



| MODEL  | NO. OF HOUSINGS | FLANGE SIZE (INCHES) | *MAXIMUM FLOW RATE (GPM) @ 2.2psid | LIQUID VOLUME (gal/water) | 2 to 8 MODULES AVAILABLE<br>ALL DIMENSIONS ARE IN INCHES |    |        |       |       |    |       |    |    |    | SHIPPING WEIGHT (LBS) |
|--------|-----------------|----------------------|------------------------------------|---------------------------|--|----|--------|-------|-------|----|-------|----|----|----|-----------------------|
|        |                 |                      |                                    |                           | A  | B  | C **   | D     | E     | F  | G     | H  | I  | J  |                       |
| -223-V | 2               | 3                    | 440                                | 15.6                      | 5  | 12 | 21 3/4 | 3 3/4 | 4 3/4 | 28 | 8 1/4 | 15 | 22 | 13 | 275                   |
| -324-V | 3               | 4                    | 660                                | 24.6                      | 5  | 12 | 22 1/2 | 4 1/2 | 5 1/4 | 28 | 8 1/4 | 15 | 34 | 25 | 430                   |
| -424-V | 4               | 4                    | 880                                | 32.8                      | 5  | 12 | 22 1/2 | 4 1/2 | 5 1/4 | 28 | 8 1/4 | 15 | 46 | 37 | 550                   |
| -526-V | 5               | 6                    | 1100                               | 48.0                      | 5  | 12 | 23 1/4 | 5 1/2 | 6 1/4 | 28 | 8 1/4 | 15 | 58 | 49 | 680                   |
| -626-V | 6               | 6                    | 1320                               | 57.6                      | 5  | 12 | 23 1/4 | 5 1/2 | 6 1/4 | 28 | 8 1/4 | 15 | 70 | 61 | 820                   |
| -726-V | 7               | 6                    | 1540                               | 67.2                      | 5  | 12 | 23 1/4 | 5 1/2 | 6 1/4 | 28 | 8 1/4 | 15 | 82 | 73 | 950                   |
| -826-V | 8               | 6                    | 1760                               | 76.8                      | 5  | 12 | 23 1/4 | 5 1/2 | 6 1/4 | 28 | 8 1/4 | 15 | 94 | 85 | 1090                  |

\*Flow Rates are based on water in a housing without filter media. Actual flow rates are determined by the specific filter media selected, as well as the characteristics of the application.

\*\* For Non-Valved Systems, subtract 5"

# STANDARD SPECIFICATIONS AND FEATURES

| INDUSTRIAL GRADE HOUSINGS                              | INDIVIDUAL FILTER VESSELS   |                            | VALVED, INDIVIDUAL HOUSINGS | NON-VALVED MULTI-HOUSING SYSTEMS | VALVED MULTI-HOUSING SYSTEMS |
|--|---|----------------------------|-----------------------------|----------------------------------|------------------------------|
|  | 112   | 122                        | 122-LP-V                    | 2 - 8 Housings                   | 2 - 8 Housings               |
| FILTER BAG SIZE  | #1<br>(7" dia. x 16" long)  | #2<br>(7" dia. x 33" long) | #2<br>(7" dia. x 33" long)  | #2<br>(7" dia. x 33" long)       | #2<br>(7" dia. x 33" long)   |
| MAXIMUM FLOW RATE*<br>(without filter media)           | 110 gpm<br>@1.1psid   | 220 gpm<br>@2.2psid        | 220 gpm<br>@2.2psid         | See Dimensional Chart, pg. 3     |                              |
| LIQUID VOLUME<br>(gal/water)                           | 3.6gal  | 6.6gal                     | 6.9gal                      | See Dimensional Chart, pg. 3     |                              |
| CODE STATUS  | Industrial Grade<br>Built to ASME Code Standards                      |                            |                             |                                  |                              |
| MATERIAL OF CONSTRUCTION                               | T-304 S/S or Carbon Steel,<br>Investment Cast Lid & Body              |                            |                             |                                  |                              |
| LID CLOSURE  | 360° Hinged Closure with Lid Handle, Safety Detents, and Lid Stop     |                            |                             |                                  |                              |
| MAXIMUM WORKING PRESSURE **                            | 150psi  |                            |                             |                                  |                              |
| MAXIMUM WORKING TEMPERATURE                            | 300°F   |                            |                             |                                  |                              |
| MAXIMUM SUPPORT BASKET DIFFERENTIAL OPERATING PRESSURE | 100psi  |                            |                             |                                  |                              |
| INLET & OUTLET CONNECTIONS                             | 2" NPT  |                            |                             | See Dimensional Chart, pg. 3     |                              |
| BALL VALVES: 2" FULL PORT, T-316 S/S & TEFLON, 800psi  | N/A   | N/A                        | 2                           | N/A                              | 2 per Housing                |
| FINISH   | S/S Housings: Blasted Finish, Interior, Exterior & Basket             |                            |                             |                                  |                              |
|  | Carbon Housings: One Coat Shop Primer, Exterior                       |                            |                             |                                  |                              |
| HARDWARE   | Plated Carbon Steel Bar Knobs & Eye Bolts                             |                            |                             |                                  |                              |
| PERFORATED SUPPORT BASKETS                             | T-316 S/S with Longitudinal Taper, 9/64" Perforations (1 per housing) |                            |                             |                                  |                              |
| GAUGE PORTS  | 1/4" NPT (2 per housing)  |                            |                             |                                  |                              |
| VENT PORT  | 1/4" NPT (1 per housing)  |                            |                             |                                  |                              |
| UPSTREAM DRAIN PORT                                    | 1/4" NPT (1 per housing)  |                            |                             |                                  |                              |
| DOWNSTREAM DRAIN PORT                                  | 3/4" NPT (1 per housing)  |                            |                             |                                  |                              |
| O-RINGS  | Buna-N, Installed   |                            |                             |                                  |                              |
| STAND/FRAME  | S/S Housings: S/S Adjustable Tripod Stand                             |                            |                             | S/S Frame                        |                              |
|  | Carbon Housings: Carbon Steel Adjustable Tripod Stand                 |                            |                             | Carbon Steel Frame               |                              |
| LOW-PROFILE, HORIZONTAL OUTLET                         | Optional  | Optional                   | Standard                    | Optional                         | Optional                     |
| SHIPPING WEIGHT (LBS)                                  | 85 lbs  | 100 lbs                    | 110 lbs                     | See Dimensional Chart, pg. 3     |                              |

\* Flow rates are based on water in a housing without filter media. Actual flow rates are determined by the specific filter media selected, as well as the characteristics of the application.

\*\* Units are Hydrostatically Tested to 1-1/2 times the Maximum Working Pressure

## MODEL NUMBER CODING SYSTEM

**MATERIAL OF CONSTRUCTION**  
NS = T-304 S/S, Industrial Grade  
NC = Carbon Steel, Industrial Grade

**VALVED HOUSING OR SYSTEM**  
Filtration Systems Inlet & Outlet Isolation Valves, T-316 S/S  
V = Ball Valve, 3-Piece, Full-Port  
SV = Sanitary Butterfly Valve

**T-316 UPGRADE**  
Optional T-316 Stainless Steel Upgrade, Including S/S Hardware

**MODIFIED**  
Modified Equipment, as per quote or requirement

**NS - 223 - V - 316 - LP - M**

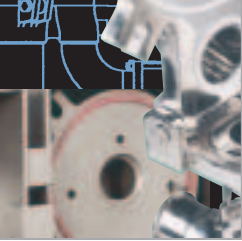
**NUMBER OF FILTER MODULES**

**HOUSING SIZE / FILTER BAG SIZE**  
2 = #2 Size (7" Dia. x 33" Long)  
1 = #1 Size (7" Dia. x 16" Long)

**INLET & OUTLET CONNECTION SIZE**  
2 = 2" Connection  
3 = 3" Connection  
4 = 4" Connection  
6 = 6" Connection  
R/F ANSI Flanges, NPT, or Sanitary Connections available

**LOW-PROFILE, HORIZONTAL OUTLET**  
Optional on all 8" diameter filter vessels

## AVAILABLE OPTIONS



### Interior Polished Finishes:

Interior Polished Finishes for beverage, pharmaceutical, dairy, and other critical liquid process applications.



### Perforated Strainers and Lined Baskets:

Heavy-duty perforated baskets convert filter vessels into high-capacity, liquid strainers. Micron Lined Baskets are available for finer filtering applications.



### Halar® Lining:

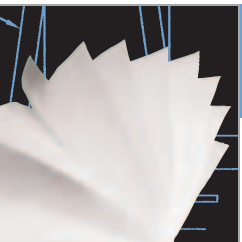
**HALAR** Fluoropolymer Lining offers a broad range of chemical resistance properties, a seamless filtering environment, and a safe alternative to plastic housings.

- T-316 Stainless Steel Upgrade, Including S/S Hardware
- Modified Connections: Flanged, Threaded, or Sanitary
- Low-Profile, Horizontal Outlets
- Interior Polished Finishes, including 3A Sanitary
- HALAR Fluoropolymer Lining
- Epoxy Coating, interior, exterior & stand
- Mesh or Micron Lined Baskets, S/S
- Perforated Strainer Baskets, S/S
- Cartridge Chambers, S/S

- Thermal Jackets, Two-Piece, Stainless Steel
- Actuated Valves, Pneumatic or Electric
- Alternate Outlet Locations
- Additional Ports
- Drain Valves, Vent Valves, Pressure Gauges
- Assorted O-Ring Materials
- PED - Pressure Equipment Directive, CE marking

HALAR is a Registered Trademark of Solvay Solexis, Inc.

## HIGH PERFORMANCE LIQUID FILTER BAGS



Filtration Systems vessels and filter media are designed to work together as a system, maximizing performance and results.

- Efficiency Ratings up to 99.98%...  
*provides absolute rated performance*
- Fully Welded Construction...  
*eliminates solids bypass*
- Zero-Bypass® Bag Collar...  
*assures an optimum compression seal*
- Integrated Polymeric Support®...  
*provides superior mechanical strength*
- Ratings from 0.2 to 600 Microns...  
*absolute or nominal ratings*



Ultrafit® Welded and Accufit® Welded Liquid Filter Bags

# LOW-PROFILE, HORIZONTAL OUTLET

## LOWER WORKING HEIGHT MEANS EASIER FILTER BAG CHANGE-OUT

The Low-Profile, Horizontal Outlet is a one-piece investment casting exclusive to the *Filtration Systems* product line. This option lowers the working height of the filter vessel by 4" on Individual Housings and 3" on Multi-Housing Systems, eliminating the need for a ladder or platform when changing filter bags. As a result, ergonomic related injuries and accidental spills during change-out may be reduced.

This self-draining outlet is optional on all stainless or carbon steel Individual Housings and Multi-Housing Systems. The "LP" upgrade is available with flanged, threaded, or sanitary connections.

### LOW-PROFILE CONFIGURATION OPTIONS

#### "C" Configuration (Inlet over Outlet)

The outlet of the filter vessel is on the same plane as the inlet, or in the shape of the letter "C", in a profile view.

#### "S" Configuration (Inlet opposite Outlet)

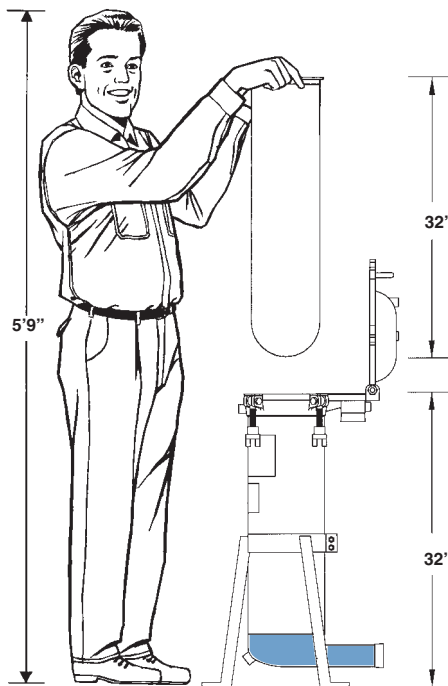
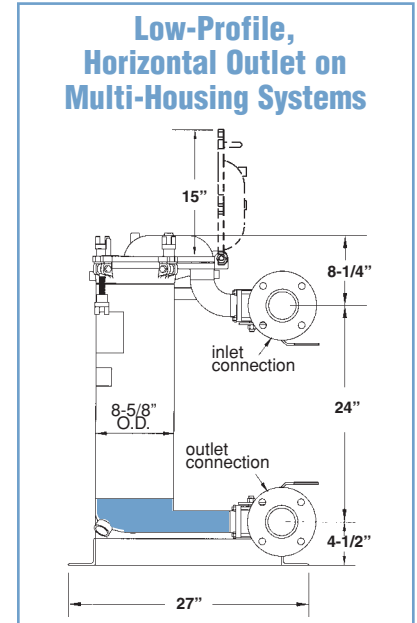
The outlet of the filter vessel is opposite the inlet, or in the shape of the letter "S", in a profile view. In this type of configuration, the filter becomes "in-line" with existing piping.



#### Custom Outlet Configurations

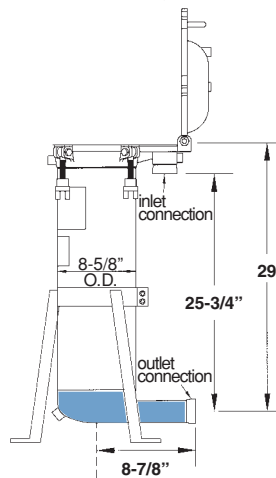
The direction of the "LP" outlet, relative to the inlet, can be positioned to accommodate custom piping arrangements.

Note: In all Low-Profile configurations, the standard drain placement is opposite the outlet of the vessel. The location of the drain can be modified upon request. Please consult factory for other custom requirements.

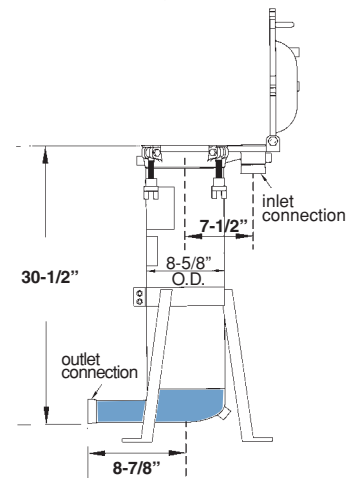


### Low-Profile, Horizontal Outlet on Individual Filter Housings

#### "C" Configuration



#### "S" Configuration



**Product Identification:** All *Filtration Systems* filter vessels have a unique serial number that can be identified by our factory. Nameplates, specifying both the serial number and maximum allowable pressure and temperature ratings, are permanently affixed to all housings.

**Product Specifications:** With over 30 years of industry expertise and proven performance, *Filtration Systems* offers quality products at responsible prices. We continually strive to improve our products through ongoing research and development; therefore, we reserve the right to change specifications without notice.

**Warranty:** *Filtration Systems* warrants our products to be free from defects in workmanship for a period of one year from the date of purchase, when used in accordance with our specific guidelines. Our only obligation and a customer's remedy, subject to our inspection and evaluation, shall be to replace the product or refund the purchase price.

**Limitation of Liability:** *Filtration Systems* shall not be held responsible or liable for any loss resulting from the resale, direct or indirect misuse, incidental or consequential damages, arising out of the use of this product.

## Filtration Systems

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ISO 9001:2000 Certified