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Rosedale Corporate Information

Key Word Index

Application Worksheet

- Basics of Filtration
- Single-bag Housings
- Multi-bag Housings
- Cartridge Housings
- Application Specific Filters
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- Filter Bags Single Layer
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- Bag Sized Cartridges
- Filter Cartridges
- Baskets

Rosedale Filter Systems

Rosedale Filter Media

Technical Manual

Chemical Resistance Guide

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Application Worksheet

Company: _____ Date: _____

Contact: _____ Phone: _____

Liquid: _____ Viscosity (cps): _____

Flow Rate (gpm): _____ Batch/Continuous: _____

Batch Size or Total Volume of Liquid: _____

_____

%/Contaminants (ppm): _____ Temperature: _____

Pipe Size: _____ NPT/Flange: _____

Outlet Style: _____ Max PSI: _____

ASME Code: _____ Housing Construction: _____

Gasket Material: _____ Simplex/Duplex: _____

Basket/Bags: _____ Bag Material: _____

Efficiency Rating: _____ Micron/Mesh Size: _____

Notes: _____

_____

_____

General Rules of Thumb:

Examples:	Model 4-6	=	15 gpm
	Model 4-12	=	25 gpm
	Model 6-12	=	25 gpm
	Model 6-18	=	50 gpm
	Model 6-30	=	75 gpm
	Model 8-15	=	50 gpm
	Model 8-30	=	100 gpm

TEL.: 800-821-5373 OR 734-665-8201 • FAX: 734-665-2214 • E-MAIL: fiilters@rosedaleproducts.com • W W W: URL http://www.rosedaleproducts.com or http://www.giardiafilter.com

Rosedale Filter Housings

Rosedale Filter Housings *come in many sizes and styles, and all serve as bag filters, cartridge filters or basket strainers. Housing covers are easily removed without special tools, and the element is easily cleaned or replaced.*

Features

- *Single, multi-basket, cartridge, duplex and multiplex units available*
- *Low pressure drops*
- *Permanently piped housings*
- *Sure-sealing covers, opened without special tools*
- *Carbon steel, stainless steel (304 or 316), or all-plastic (polypropylene) construction*
- *Large-area, heavy-duty baskets or cartridge internals*
- *Easy to clean!*
- *Adjustable-height legs (single units) or low profile (multi units)*
- *Differential pressure indicators (optional)*
- *ASME code stamp available*
- *Liquid displacers that minimize product loss during basket or bag removal (optional)*
- *Dual stage straining/filtering (optional)*

MULTI-BASKET MODELS offer a wide range of flow capacities and contaminant-holding capabilities. They contain 2 to 23 same-size baskets and can handle flows from 400 to 4500 gpm. Multi-cartridge housings contain 2-205 cartridges.

Model QAC 18

Duplex Model 18
Bag System

Model 12
Cartridge Housing

Low Pressure
Model 4

High Pressure
Model 4

DUPLEX MODELS are two housings that are piped together for alternate use, providing continuous operation, reducing operating costs. Flow is switched back and forth between the filter housings, allowing one side to be serviced while the other is in use. One lever actuates all valves simultaneously. All Duplex Models are also available in a trouble-free automatic service system.

CONSTRUCTION MATERIALS
All housings specified can be ordered in carbon steel, 304 or 316 stainless steel, or polypropylene construction. Special alloy materials or teflon lined housings are optional. Various seal materials, including Buna, Ethylene Propylene, Viton®, and Teflon are available for most filter housings.

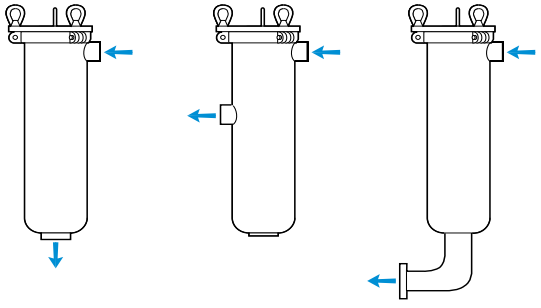
All baskets and cartridge internals are made of stainless steel. 304 stainless will be supplied with carbon and 304 housings, 316 stainless with 316 housings.

NOTE: For the anatomy of Single-bag filter see page 3.
For the anatomy of Multi-bag filter see page 35.

COVERS for high capacity basket strainers, cartridge filters and bag filters are secured by eyenut assemblies. For single units one acts as a hinge when the cover is opened. Some models can be ordered with a quick-opening clamp cover.

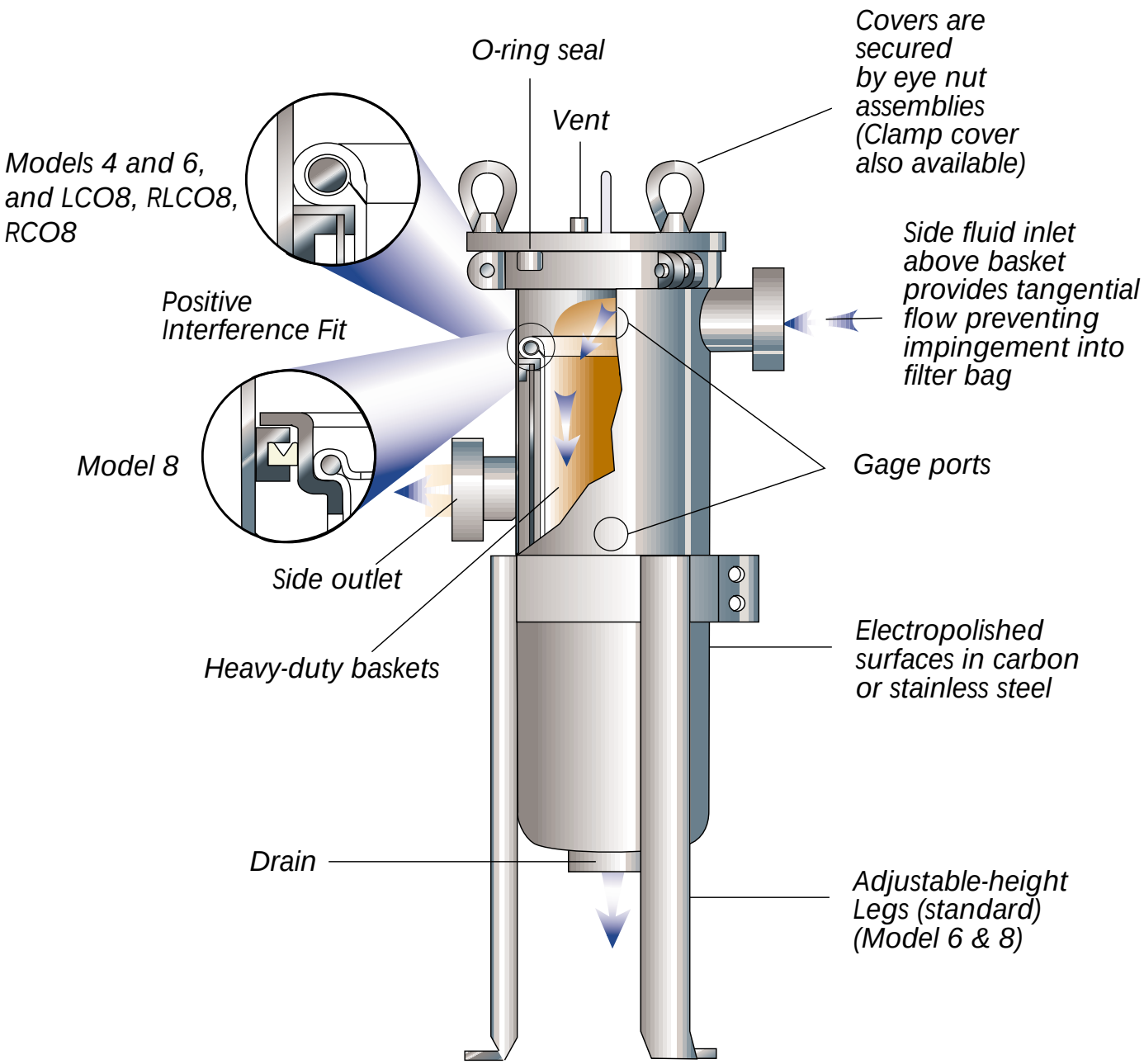
CONVENIENT PIPING ARRANGEMENTS are available to fit most piping situations. Below are standard options for Models 4, 6, and 8. Flange or NPT connections are standard on all housings.

For Model 4, 6, and 8



Style 1 Style 2 Style 3

Single-Bag Filter Features



Typical Filter

Model 4 Basket Strainer and Bag Filters

Strainers or Bag Filters: Your Choice!

Model 4 strainer/filter housings are made in 2 sizes and 4 pressure ratings. In all cases, covers are easily removed without special tools, and the basket or bag is easily cleaned or replaced.

Covers are secured by three eyenut assemblies. One of them acts as a hinge, when the cover is opened.

Features

- *Low pressure drops*
- *Permanently piped housings*
- *Covers are O-ring sealed*
- *Carbon steel, or stainless steel (304 or 316) construction for housings*
- *All housings are electropolished to resist adhesion of dirt and scale*
- *Easy to clean!*
- *Adjustable-height legs, optional*
- *O-ring seals: Buna N, EPR, Viton®, Teflon®*
- *ASME code stamp available on select models*
- *Liquid displacers for easier servicing*
- *Four pressure ratings: 200 psi (with clamp cover) and 150, 300, or 500 psi (with eyenut cover)*
- *Duplex units are available*
- *Pipe sizes 3/4 thru 2-inch, NPT or flanged (standard 150 class flange)*
- *Two basket depths: 6, or 12 inches (nominal)*

Options

- *Bag filter hold-down devices*
- *Sanitary construction*
- *Different outlet connections*
- *Higher pressure ratings*
- *Extra-length legs*
- *Heat jacketing*
- *Epoxy coating*
- *Displacers*
- *Magnets*

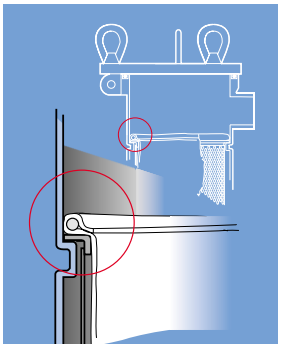
Choosing A Basket Strainer Or Bag Filter

Choose between straining (removing particles down to 74 micron size) or filtering a fluid (removing particles down to 1 micron). This will direct you to choose the correct basket when ordering.

Operation

Unfiltered liquid enters the housing above the bag or basket and passes down through them. Solids are contained inside the bag or basket, where they're easily and completely removed when the unit is serviced.

Fluid bypass around the basket is prevented because the outside diameter of the filter bag seals radially against the housing inside diameter. A single cover gasket is used to seal the opening, and covers can be installed and removed without tools.



Pressure Drop Data

Basket strainers and bag filters are usually selected so that the pressure drop does not exceed 2 psi, when they are clean. Higher pressure drops may be tolerated, when contaminant loading is low. Bag change-out should occur at 15 psid.

The pressure drop data is accurate for all housings with strainer or bag filter baskets. When bag filters are added, total pressure drop becomes the sum of the pressure drop as determined by the steps below.

Follow these easy steps:

1. *Using the desired pipe size and approximate flow rate, determine the basic pressure drop from the appropriate graph.*
2. *Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table. This is the adjusted (clean) pressure drop for all baskets, without filter bags.*
3. *Add the pressure drop for the bag filter.*

Note: *Filter bags are specified separately.* *See page 120-130.*

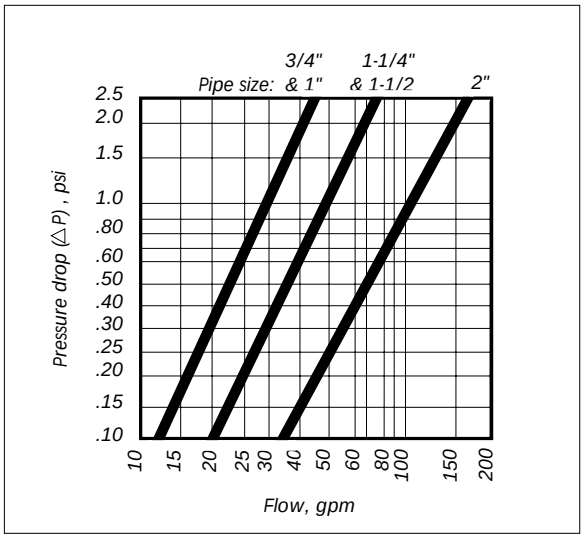
Clamp covers to the left and center, and eyenut cover to the right.

	Viscosity, cps								
	1 ($H_2$0)	50	100	200	400	600	800	1000	2000
Bag Style and All unlined baskets	.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80
40-mesh lined	.73	.95	1.20	1.40	1.50	1.80	1.90	2.00	2.30
60-mesh lined	.77	1.00	1.30	1.60	1.70	2.10	2.20	2.30	2.80
80-mesh lined	.93	1.20	1.50	1.90	2.10	2.40	2.60	2.80	3.50
100-mesh lined	1.00	1.30	1.60	2.20	2.40	2.70	3.00	3.30	4.40
200-mesh lined	1.30	1.70	2.10	3.00	3.40	3.80	4.40	5.00	6.80

Basket Data

Depth Nominal (inches)	Diameter (inches)	Surface Area (sq. ft.)	Volume (cu. in.)	Bag Size No.
6	3.9	0.5	65	3
12	3.9	1.0	130	4

Model 4–For flow rates to 50gpm*

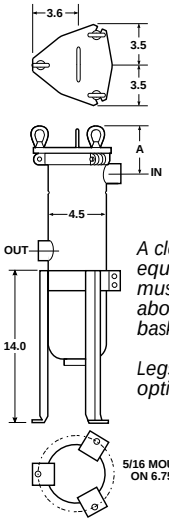


**Based on housing only. Fluid viscosity, bag filter used, and expected dirt loading should be considered when sizing a filter.*

Dimensions (IN)

Cover Types

EYENUT COVER

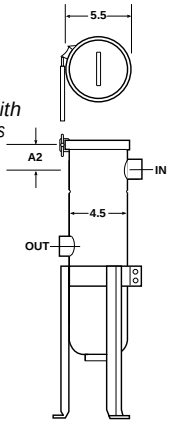


ANSI flanged connections and 500 Series with pipe threads

A clearance distance equal to basket depth must be available above housing for basket removal.

Legs for Model 4 are optional at extra cost.

CLAMP COVER

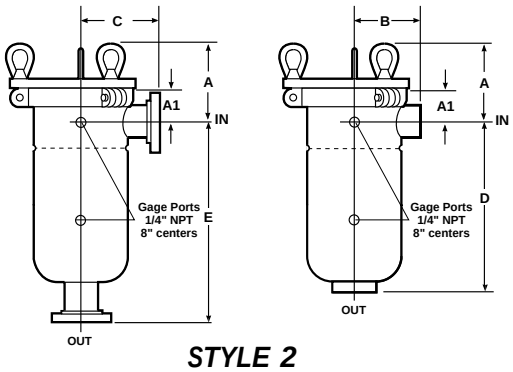


Rated 200 psi with NPT connections

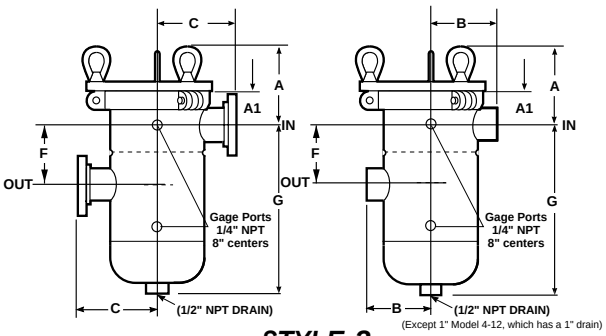
Outlet Styles

Flanged (150 lb. ANSI) *Threaded (NPT)*

STYLE 1

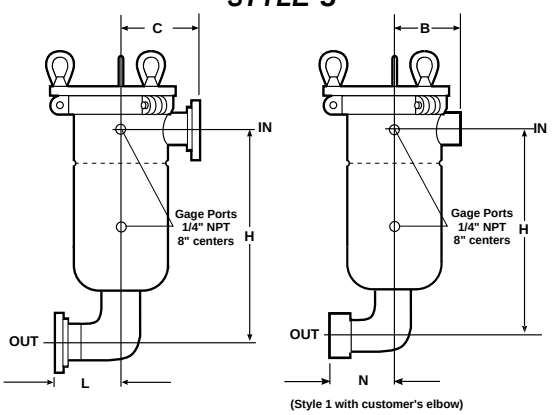


STYLE 2



(Except 1" Model 4-12, which has a 1" drain)

STYLE 3



(Style 1 with customer's elbow)

Dimensions (IN)

Model	Pipe Size	A	A1	A2	B	C	D	E	F	G	H	L	N
4-6	3/4	5.5	1.9	2.3	3.5	5.0	10.0	12.0	4.5	10.1	10.5	4.0	2.0
	1	5.5	1.9	2.3	3.5	5.0	10.0	12.0	4.5	10.1	10.9	4.0	2.5
	1-1/4	6.1	2.5	2.9	3.5	5.0	9.4	12.0	4.5	9.5	10.6	4.0	2.9
	1-1/2	6.1	2.5	2.9	3.5	5.0	9.4	12.0	4.5	9.5	10.9	4.0	3.3
	2	6.1	2.5	2.9	3.5	5.0	9.3	12.0	4.5	9.5	11.6	5.0	4.0
4-12	3/4	5.5	1.9	2.3	3.5	5.0	16.0	18.0	4.5	16.1	16.5	4.0	2.0
	1	5.5	1.9	2.3	3.5	5.0	16.0	18.0	4.5	16.1	16.9	4.0	2.5
	1-1/4	6.1	2.5	2.9	3.5	5.0	15.4	18.0	4.5	15.5	16.6	4.0	2.9
	1-1/2	6.1	2.5	2.9	3.5	5.0	15.4	18.0	4.5	15.5	16.9	4.0	3.3
	2	6.1	2.5	2.9	3.5	5.0	16.3	18.0	4.5	15.5	17.6	5.0	4.0

How To Order

Build an ordering code as shown in the example

HOUSING — **OPTIONS**

Example: 4 - 12 - 2P - 1 - 500 - C – B -S - M 200 - D - C

MODEL NO.
4 = **4**
LCO 4 = **LCO 4**

HOUSING SIZE
6 inch = **6**
12 inch = **12**

PIPE SIZE, NPT and FLANGED[1]

3/4-in. female NPT	= **3/4P**
1-in. female NPT	= **1P**
1-1/4-in. female NPT	= **1-1/4P**
1-1/2-in. female NPT	= **1-1/2P**
2-in. female NPT	= **2P**
3/4-in. 150 class ANSI flange	= **3/4F**
1-in. 150 class ANSI flange	= **1F**
1-1/4-in. 150 class ANSI flange	= **1-1/4F**
1-1/2-in. 150 class ANSI flange	= **1-1/2F**
2-in. 150 class ANSI flange	= **2F**

OUTLET STYLE
Bottom = **1**
Side = **2**
Bottom elbow = **3**

PRESSURE RATING[2]

150 psi (flanged)	= **150**
200 psi (NPT) (LCO 4 only)	= **200**
300 psi (flanged)	= **300**
500 psi (NPT)	= **500**

HOUSING MATERIAL
Carbon steel = **C**
304 stainless steel = **S**
316 stainless steel = **S316**

ASME CODE STAMP
C = *Code*

DISPLACER
D = *Displacer*

BASKET, MEDIA SIZE
No symbol if type B basket was selected
Perforation diameters (for type P baskets) 1/4, 3/16, 9/64, 3/32, 1/16

Mesh sizes (for type M and BM baskets) 20, 30, 40, 50, 60, 70, 80, 100, 150, 200

BASKET TYPE
PB = *Filter bag basket, 9/64 perforations[3]*
P = *Strainer basket, perforated metal*
BM = *Filter bag basket, perforated, mesh lined[3]*
M = *Strainer basket, perforated, mesh lined with spring handle*
HWM = *Filter bag basket, heavy wire mesh[3]*

BASKET SEAL
N = *No seal (with bag type baskets)*
S = *Seal required (on strainer type baskets)*

COVER SEAL
B = *Buna N*
E = *Ethylene Propylene*
V = *Viton® Fluoroelastomer*
TEV = *Teflon® Encapsulated Viton®*
TSW = *Teflon® (solid white)*

1. *Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.*
2. *Higher pressure ratings available. Consult factory.*
3. *Filter bags are specified separately. See page 120-130.*
4. *150 psi unit has 150 class flanges. 300 psi unit has 300 class flanges. 200 and 500 unit available in NPT only.*

Model 6 Basket Strainer and Bag Filters

Strainers or Bag Filters: Your Choice!

Model 6 strainer/filter housings are made in 3 sizes and 3 pressure ratings, and can serve as basket strainers (for particle retention down to 74 micron size) or as bag filters (for particle retention down to 1 micron size). In all cases, covers are easily removed without special tools, and the basket or bag is easily cleaned or replaced.

Features

- *Low pressure drops*
- *Permanently piped housings*
- *Covers are O-ring sealed*
- *Carbon steel, or stainless steel (304 or 316) construction for housings*
- *All housings are electropolished to resist adhesion of dirt and scale*
- *Easy to clean!*
- *Adjustable-height legs, standard*
- *O-ring seals: Buna N, EPR, Viton®, Teflon®*
- *ASME code stamp available*
- *Three pressure ratings: 150, 210 or 300 psi*
- *Duplex units are available*
- *Can provide 3.4 square feet of basket or bag surface area without need for ASME code construction*
- *Three basket depths: 12, 18, or 30 inches (nominal)*
- *Special alloys*

Options

- *Sanitary construction*
- *Different outlet connections*
- *Higher pressure ratings*
- *Extra-length legs*
- *Heat jacketing*
- *Liquid displacers for easier servicing*

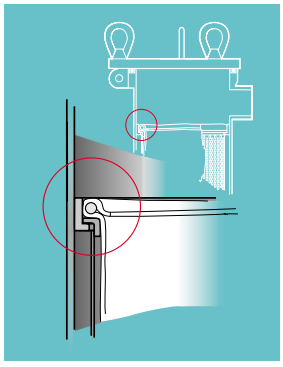
Covers are secured by three eyenut assemblies. One of them acts as a hinge, when the cover is opened.

Choosing a Basket Strainer or Bag Filter

Choose between straining (removing particles down to 74 micron size) or filtering a fluid (removing particles down to 1 micron). This will direct you to the correct basket when ordering.

Operation

Unfiltered liquid enters the housing above the bag or basket and passes down through them. Solids are contained inside the bag or basket, where they are easily and completely removed when the unit is serviced.



Fluid bypass around the basket is prevented because the outside diameter of the bag filter seals against the housing inside diameter.

A single cover gasket is used to seal the opening, and covers can be installed and removed without tools.

Pressure Drop Data

Basket strainers and bag filters are usually selected so that the pressure drop does not exceed 2 psi, when they are clean. Higher pressure drops may be tolerated, when contaminant loading is low. Bag change should occur at 15psid.

The pressure drop data is accurate for all housings with strainer or bag filter baskets. When bag filters are added, total pressure drop becomes the sum of the pressure drop as determined by the steps below, plus the pressure drop through the bag as defined in Rosedale Filter Bag section.

Follow these easy steps:

1. *Using the desired pipe size and approximate flow rate, determine the basic pressure drop from the appropriate graph.*
2. *Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table. This is the adjusted (clean) pressure drop for all baskets, without bag filters.*
3. *Add the pressure drop for the bag filter.*

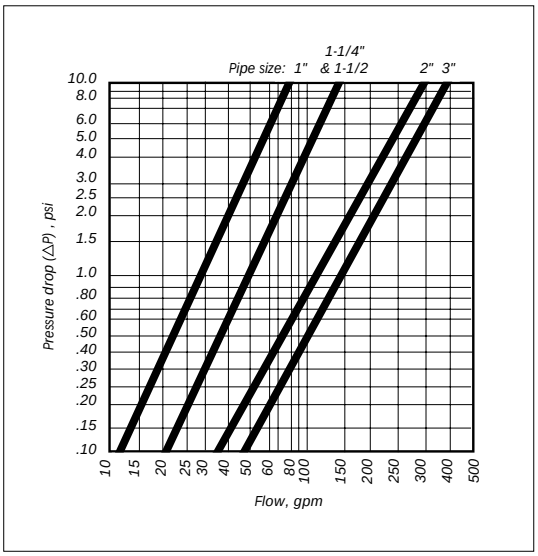
Note: *Filter bags are specified separately.* *See page 120-130.*

	Viscosity, cps								
	1 (H_2O)	50	100	200	400	600	800	1000	2000
All unlined baskets	.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80
40-mesh lined	.73	.95	1.20	1.40	1.50	1.80	1.90	2.00	2.30
60-mesh lined	.77	1.00	1.30	1.60	1.70	2.10	2.20	2.30	2.80
80-mesh lined	.93	1.20	1.50	1.90	2.10	2.40	2.60	2.80	3.50
100-mesh lined	1.00	1.30	1.60	2.20	2.40	2.70	3.00	3.30	4.40
200-mesh lined	1.30	1.70	2.10	3.00	3.40	3.80	4.40	5.00	6.80

Basket Data

Depth Nominal (inches)	Diameter (inches)	Surface Area (sq. ft.)	Volume (cu. in.)	Bag Size No.
12	5	1.3	235	7
18	5	2.0	350	8
30	5	3.4	630	9

Model 6–For flow rates to 100 gpm*



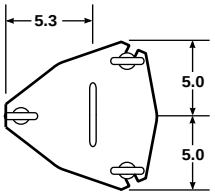
**Based on housing only. Fluid viscosity, bag filter used, and expected dirt loading should be considered when sizing a filter.*

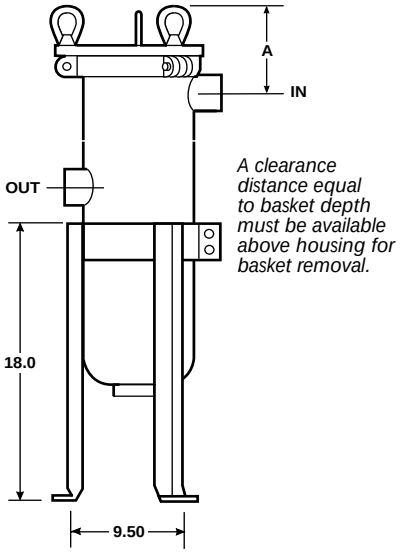
Eyenut covers with bag filter and basket or basket strainer.

Dimensions (IN)

Cover Types

EYENUT COVER





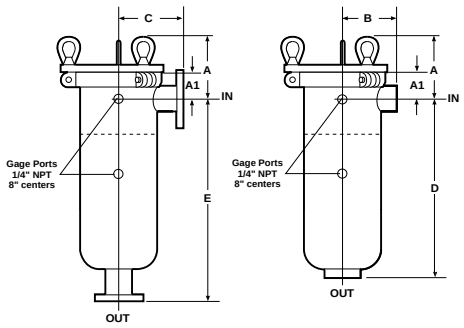
A clearance distance equal to basket depth must be available above housing for basket removal.

(3) 9/16 diameter holes on 9.50 diameter Bolt Circle

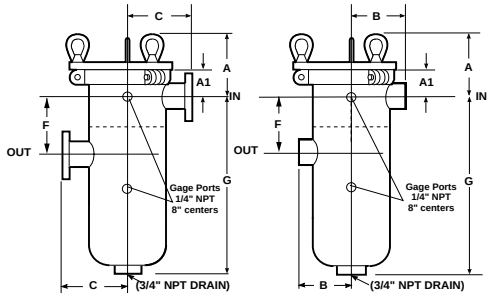
Outlet Styles

Flanged (150 lb. ANSI) *Threaded (NPT)*

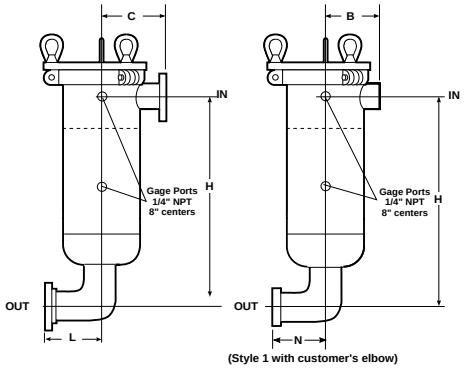
STYLE 1



STYLE 2



STYLE 3



(Style 1 with customer's elbow)

Dimensions (IN)

Model	Pipe Size	A	A1	B	C	D	E	F	G	H	L	N
6-12	1	6.3	2.5	4.3	6.0	17.6	19.0	4.3	17.4	18.1	5.0	2.5
	1-1/4	6.3	2.5	4.3	6.0	17.6	19.0	4.7	17.4	18.4	5.0	2.9
	1-1/2	6.3	2.5	4.3	6.0	17.6	19.0	4.7	17.4	18.8	5.0	3.3
	2	7.1	3.4	4.3	6.0	16.6	19.0	6.6	16.5	18.6	5.0	4.0
	3	7.1	3.4	4.3	6.0	17.0	19.0	6.6	16.5	19.9	7.3	6.1
6-18	1	6.3	2.5	4.3	6.0	22.8	24.3	4.3	22.7	23.3	5.0	2.5
	1-1/4	6.3	2.5	4.3	6.0	22.8	24.3	4.7	22.7	23.7	5.0	2.9
	1-1/2	6.3	2.5	4.3	6.0	22.8	24.3	4.7	22.7	24.0	5.0	3.3
	2	7.1	3.4	4.3	6.0	21.8	24.3	6.6	21.8	23.8	5.0	4.0
	3	7.1	3.4	4.3	6.0	22.3	24.3	6.6	21.8	25.3	7.3	6.1
6-30	1	6.3	2.5	4.3	6.0	32.8	34.3	4.3	32.7	33.3	5.0	2.5
	1-1/4	6.3	2.5	4.3	6.0	32.8	34.3	4.7	32.7	33.7	5.0	2.9
	1-1/2	6.3	2.5	4.3	6.0	32.8	34.3	4.7	32.7	34.0	5.0	3.3
	2	7.1	3.4	4.3	6.0	31.8	34.3	6.6	31.8	33.8	5.0	4.0
	3	7.1	3.4	4.3	6.0	32.3	34.3	6.6	31.8	35.3	7.3	6.1

How To Order

Build an ordering code as shown in the example

Example: 6 - 30 - 3P - 1 - 300 - C - B - S - M 200 – D - C

(Housing: 6 - 30 - 3P - 1 - 300 - C | Options: B - S - M 200 – D - C)

MODEL NO.
6 = **6**

HOUSING SIZE
12 inch = **12**
18 inch = **18**
30 inch = **30**

PIPE SIZE, NPT and FLANGED[1]
3/4-in. female NPT = **3/4P**
1-in. female NPT = **1P**
1-1/4-in. female NPT = **1-1/4P**
1-1/2-in. female NPT = **1-1/2P**
2-in. female NPT = **2P**
3-in. female NPT = **3P**
3/4-in. 150 class ANSI flange = **3/4F**
1-in. 150 class ANSI flange = **1F**
1-1/4-in. 150 class ANSI flange = **1-1/4F**
1-1/2-in. 150 class ANSI flange = **1-1/2F**
2-in. 150 class ANSI flange = **2F**
3-in. 150 class ANSI flange = **3F**

OUTLET STYLE
Bottom = **1**
Side = **2**
Bottom elbow = **3**

PRESSURE RATING[2]
150 psi (flanged or NPT) = **150**
210 psi (flanged or NPT) = **210**
300 psi (flanged or NPT) = **300**

HOUSING MATERIAL
Carbon steel = **C**
304 stainless steel = **S**
316 stainless steel = **S316**

ASME CODE STAMP
C = Code

DISPLACER
D = Displacer

BASKET, MEDIA SIZE
No symbol if type B basket was selected
Perforation diameters (for type P baskets)1/4, 3/16, 9/64, 3/32, 1/16

Mesh sizes (for type M and BM baskets)20, 30, 40, 50, 60, 70, 80, 100, 150, 200

BASKET TYPE
PB = Filter bag basket, 9/64 perforations[3]
P = Strainer basket, perforated metal
BM = Filter bag basket, perforated, mesh lined[3]
M = Strainer basket, perforated, mesh lined
HWM = Filter bag basket, heavy wire mesh[3]

BASKET SEAL
N = No seal (never on Models 4 & 6 bag-type baskets)
S = Seal required (always on Model 8 bag-type baskets)

COVER SEAL
B = Buna N
E = Ethylene Propylene
V = Viton® Fluoroelastomer
TEV = Teflon® Encapsulated Viton®
TSW = Teflon® (solid white)

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are specified separately. See page 120-130.
4. 150 psi unit has 150 class flanges. 300 psi unit has 300 class flanges. 210 psi unit available only in NPT.

Model 8 Basket Strainer and Bag Filters

Strainers or bag filters: Your choice!

Model 8 strainer/filter housings are made in 2 sizes and 2 pressure ratings, and can serve as basket strainers (for particle retention down to 74 micron size) or as bag filters (for particle retention down to 1 micron size). In all cases, covers are easily removed, without tools, and the basket or bag is easily cleaned or replaced.

Features

- *Low pressure drops*
- *Permanently piped housings*
- *Covers are O-ring sealed*
- *Carbon steel, or stainless steel (304 or 316) construction for housings*
- *All housings are electropolished to resist adhesion of dirt and scale*
- *Easy to clean!*
- *Adjustable-height legs, standard*
- *Large-area, heavy-duty baskets*
- *O-ring seals: Buna N, EPR, Viton®, Teflon®*
- *ASME code stamp available*
- *Two pressure ratings: 150 and 300*
- *Duplex units are available*
- *Pipe sizes 3/4 thru 6-inch, NPT or flanged*
- *Two basket depths: 15 or 30 inches (nominal)*

Options

- *Sanitary construction*
- *Different outlet connections*
- *Higher pressure ratings*
- *Extra-length legs*
- *Heat jacketing*
- *Adapters for holding filter cartridges.*
- *Liquid displacers for easier servicing*
- *Can be fitted with an adapter to hold cartridge filter elements*

Covers are secured by three eyenut assemblies. One of them acts as a hinge, when the cover is opened.

Dual Stage Straining/Filter

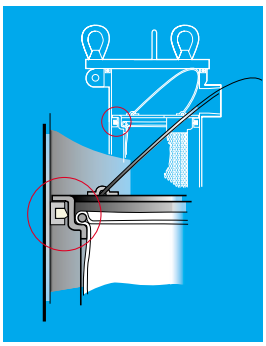
All Rosedale Model 8 housings can be supplied with a second, inner basket, which is supported on the top flange of the regular basket. Both baskets can be strainers (with or without wire mesh linings) or both can be baskets for filter bags. They can also be mixed: one a strainer basket, the other a filter bag basket. Dual-stage action will increase strainer or filter life and reduce servicing needs.

Choosing A Basket Strainer Or Bag Filter

Choose between straining (removing particles down to 74 micron size) or filtering a fluid (removing particles down to 1 micron). This will direct you in selecting the correct basket when ordering.

Operation

Unfiltered liquid enters the housing above the bag or basket and passes down through them. Solids are contained inside the bag or basket, where they are easily removed when the unit is serviced. A basket bail is pushed down by the closed cover to hold the basket against a positive stop in the housing. A radial seal prevents bypass of unfiltered liquid.



Pressure Drop Data

Basket strainers and bag filters are usually selected so that the pressure drop does not exceed 2 psi, when they are clean. Higher pressure drops may be tolerated, when contaminant loading is low. Bag change occurs at 15psid.

The pressure drop data is accurate for all housings with strainer or filter bag baskets. When filter bags are added, total pressure drop becomes the sum of the pressure drop as determined by the steps below.

Follow these easy steps:

1. *Using the desired pipe size and approximate flow rate, determine the basic pressure drop from the appropriate graph.*
2. *Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table. This is the adjusted (clean) pressure drop for all baskets without filter bags.*
3. *Add the pressure drop for the bag.*

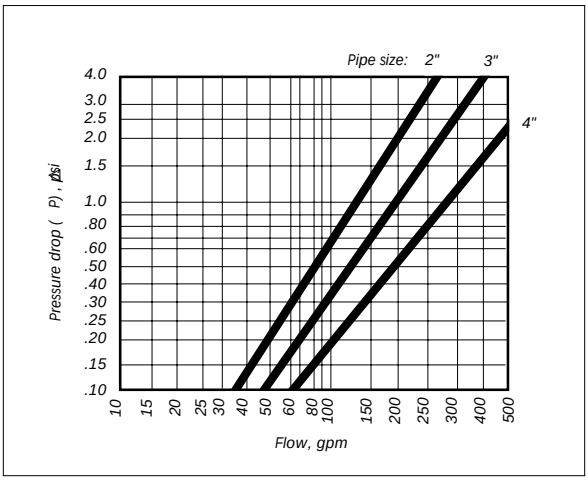
Note: *Filter bags are specified separately.* *See page 120-130.*

Basket Data

Depth Nominal (inches)	Diameter (inches)	Surface Area (sq. ft.)	Volume (cu. in.)	Bag Size No.
15	6.7	2.3	500	1
30	6.7	4.4	1000	2

	Viscosity, cps								
	1 (H_2O)	50	100	200	400	600	800	1000	2000
All unlined baskets	.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80
40-mesh lined	.73	.95	1.20	1.40	1.50	1.80	1.90	2.00	2.30
60-mesh lined	.77	1.00	1.30	1.60	1.70	2.10	2.20	2.30	2.80
80-mesh lined	.93	1.20	1.50	1.90	2.10	2.40	2.60	2.80	3.50
100-mesh lined	1.00	1.30	1.60	2.20	2.40	2.70	3.00	3.30	4.40
200-mesh lined	1.30	1.70	2.10	3.00	3.40	3.80	4.40	5.00	6.80

Model 8–For flow rates to 220 gpm*



**Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.*

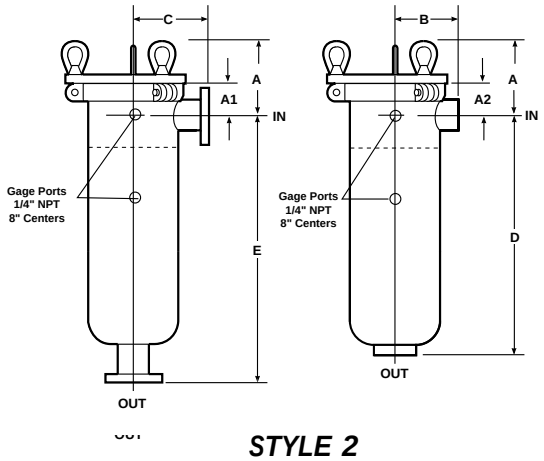
Eyenut covers with filter bag and basket.

Dimensions (IN)

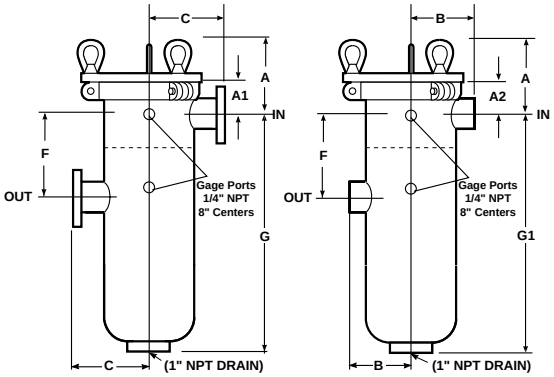
Outlet Styles

Flanged (150 lb. ANSI) / Threaded (NPT)

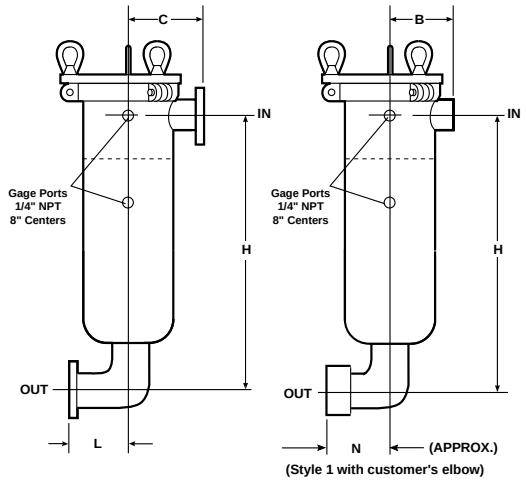
STYLE 1



STYLE 2



STYLE 3

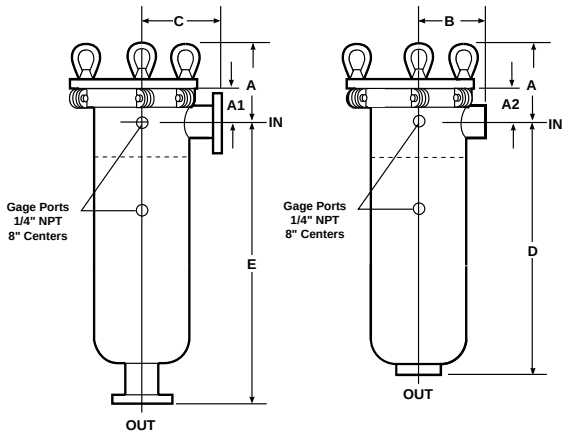


(Style 1 with customer's elbow)

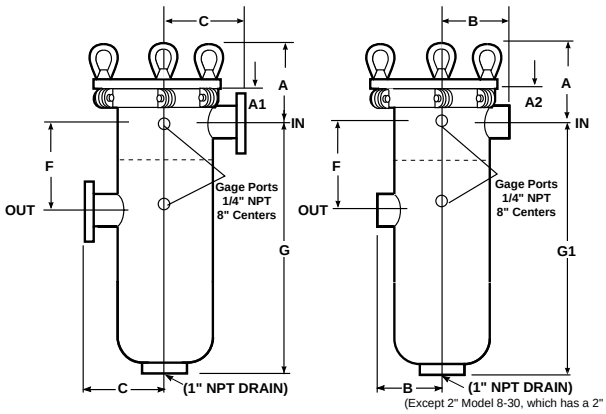
Outlet Styles

Flanged (300 lb. ANSI) / Threaded (NPT)

STYLE 1

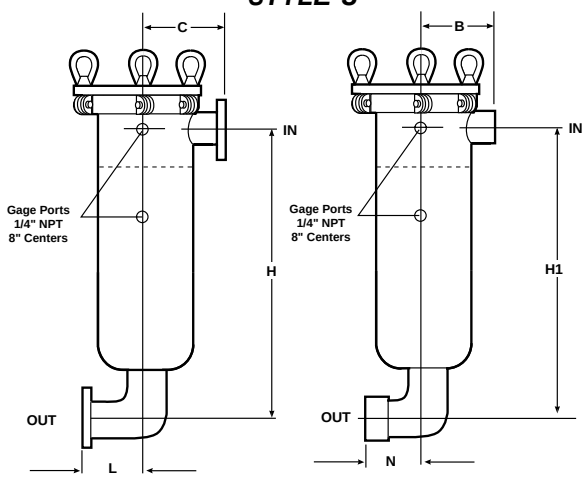


STYLE 2

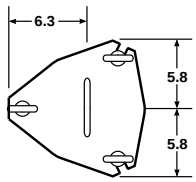


(Except 2" Model 8-30, which has a 2" drain)

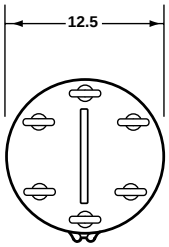
STYLE 3



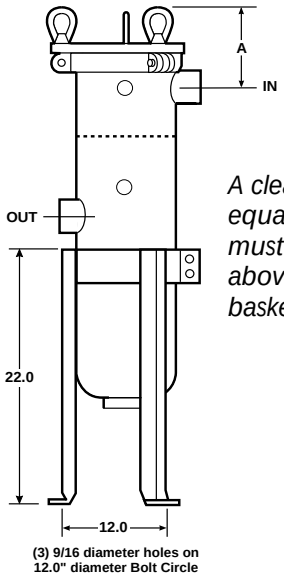
Cover Types



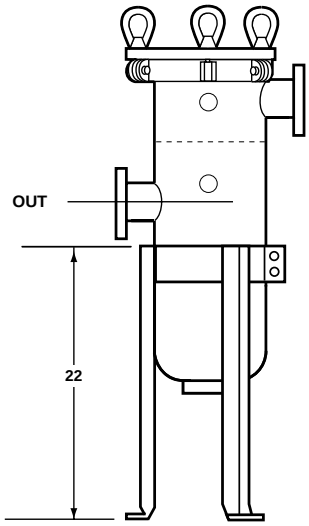
150 PSIG Design



300 PSIG Design



A clearance distance equal to basket depth must be available above housing for basket removal.



Dimensions (IN) 150 PSIG Design

Model	Pipe Size	A	A1	A2	B	C	D	E	F	G	G1	H	H1	L	N
8-15	2	6.6	2.9	2.9	5.9	7.5	21.2	23.5	4.9	21.0	21.0	23.2	23.2	5.0	4.06
	3	7.5	3.7	3.7	6.8	7.5	22.5	24.6	6.6	21.9	21.9	25.4	25.4	7.25	6.12
	4	7.5	3.7	5.0	6.8	8.6	22.5	25.1	8.4	21.9	20.6	26.8	25.6	9.0	7.75
	6	9.0	5.2	5.9	7.1	8.6	23.6	26.0	9.0	23.4	22.8	30.9	30.3	12.5	11.0
8-30	2	6.6	2.8	2.9	5.9	7.5	36.2	38.5	4.9	36.0	36.0	38.2	38.2	5.0	4.06
	3	7.5	3.7	3.7	6.7	7.5	37.5	39.6	6.6	36.9	36.9	40.4	40.4	7.25	6.12
	4	7.5	3.7	5.0	6.7	8.6	37.5	40.1	8.4	36.9	35.6	41.8	40.6	9.0	7.75
	6	9.0	5.2	5.9	7.1	8.6	38.6	41.0	9.0	38.4	37.8	45.9	45.3	12.5	11.0

Dimensions (IN) 300 PSIG Design

Model	Pipe Size	A	A1/A2	B	C	D	E	F	G/G1	H/H1	L	N
8-15	2	7.6	3.8	5.9	7.5	21.2	23.5	4.9	21.0	23.2	5.0	4.06
	3	8.9	5.0	6.8	8.6	22.5	24.6	6.6	21.9	25.4	7.25	6.12
	4	8.9	5.0	6.8	9.6	22.5	25.1	8.4	21.9	26.8	9.0	7.75
	6	10.1	6.2	6.3	10.0	23.6	26.0	9.0	23.4	30.9	12.5	11.0
8-30	2	7.6	3.8	5.9	7.5	36.0	38.5	4.9	36.0	38.2	5.0	4.06
	3	8.9	5.0	6.8	7.5	36.7	39.6	6.6	36.9	40.4	7.25	6.12
	4	8.9	5.0	6.8	8.6	36.5	40.1	8.4	36.9	41.8	9.0	7.75
	6	10.1	6.2	7.1	8.6	38.6	41.0	9.0	38.4	45.9	12.5	11.0

How To Order

Build an ordering code as shown in the example

Example: 8-15-3P-1-150-C-B-S-M-200-D-C - 2M 50

(HOUSING: 8-15-3P-1-150 | OPTIONS: C-B-S-M-200-D-C | OPTIONAL INNER BASKET: 2M 50)

MODEL NO.
8 = **8**

HOUSING SIZE
15 inch = **15**
30 inch = **30**

PIPE SIZE, NPT and FLANGED[1]
3/4-in. female NPT = **3/4P**
1-in. female NPT = **1P**
1-1/4-in. female NPT = **1-1/4P**
1-1/2-in. female NPT = **1-1/2P**
2-in. female NPT = **2P**
3-in. female NPT = **3P**
3/4-in. 150 class ANSI flange = **3/4F**
1-in. 150 class ANSI flange = **1F**
1-1/4-in. 150 class ANSI flange = **1-1/4F**
1-1/2-in. 150 class ANSI flange = **1-1/2F**
2-in. 150 class ANSI flange = **2F**
3-in. 150 class ANSI flange = **3F**
4-in. 150 class ANSI flange = **4F**
6-in. 150 class ANSI flange = **6F**

OUTLET STYLE
Bottom = **1**
Side = **2**
Bottom elbow = **3**

PRESSURE RATING[2]
150 psi (NPT or flanged) = **150**
300 psi (NPT or flanged) = **300**

HOUSING MATERIAL
Carbon steel = **C**
304 stainless steel = **S**
316 stainless steel = **S316**

COVER SEAL
Buna N = **B**
Ethylene Propylene = **E**
Viton® Fluoroelastomer = **V**
Teflon® Encapsulated Viton® (6 Bolt Cover) = **TEV**
Teflon® (solid white) = **TSW**

BASKET SEAL
Seal required = **S**

OPTIONAL INNER BASKET

FOR MODEL 8 ONLY

OPTIONAL INNER BASKET, MEDIA SIZE-No symbol if type 2B basket was selected

Perforation diameters (for type 2P baskets)
1/4, 3/16, 9/64, 3/32, 1/16

Mesh sizes (for type 2M and 2BM baskets)20, 30, 40, 50, 60, 70, 80, 100, 150, 200

OPTIONAL INNER BASKET TYPE
2B = Filter bag basket, 9/94 perforations[3]
2P = Strainer basket, perforated metal
2BM = Filter bag basket, perforated, mesh lined[3]
2M = Strainer basket, perforated, mesh lined

ASME CODE STAMP
C = Code

DISPLACER
D = Displacer

BASKET, MEDIA SIZE-No symbol if type B basket was selected
Perforation diameters (for type P baskets)
1/4, 3/16, 9/64, 3/32, 1/16

Mesh sizes (for type M and BM baskets)
20, 30, 40, 50, 60, 70, 80, 100, 150, 200

BASKET TYPE
PB = Filter bag basket, 9/64 perforations[3]
P = Strainer basket, perforated metal
BM = Filter bag basket, perforated, mesh lined[3]
M = Strainer basket, perforated, mesh lined
HWM = Filter bag basket, heavy wire mesh[3]

NOTE:
1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are specified separately. See page 120-130.
4. 150 psi unit has 150 class flanges. 300 psi unit has 300 class flanges.

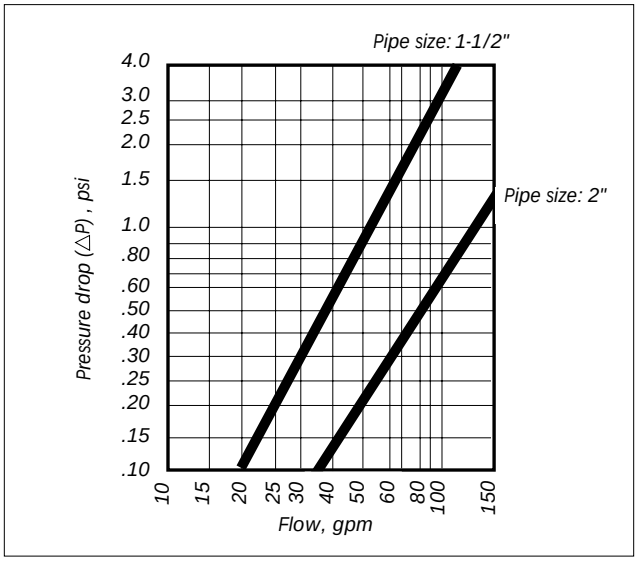
Model LCO Bag Filter Housings

*Low cost filter housings for flow rates to 100 gpm**

These high-capacity bag filters are low in cost and offer more dirt holding capacity. These housings are made from carbon steel or stainless steel. They use a newly designed clamp cover that is easily removed, reducing time spent on cleaning and bag replacement. Housings also utilize our Unistyle design offering you the option of a side or bottom outlet. There is a 1-1/2-inch or 2-inch inlet and outlet on the side, with a 1-1/2-inch or 2-inch plugged drain at the bottom of the housing. The outlet can easily be changed to the bottom by merely moving the plug from the drain to the side outlet.

Features

- *Permanently piped housings are opened without special tools*
- *Quick opening cover*
- *Carbon or stainless steel housings*
- *Large area bag and basket for greater dirt-holding capacity*
- *O-ring seals: Buna N, EPR and Viton®*
- *Adjustable-height tripod legs*
- *125 psi rated housing*
- *Basket material is compatible with housing*
- *Bag surface area is 5.6 square feet (LCO8), and 2.0 square feet (LCO6)*
- *Uses number 12 size bags (LCO8), and number 8 size bags (LCO6)*
- *2-inch NPT ports (LCO8), and 1-1/2-inch ports (LCO6)*



*Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.

How To Order

Model LCO

Build an ordering code as shown in the example.

Example : LCO8-30 - 2P - * - 125 - C - B - PB (Housing: LCO8-30 - 2P - * - 125 - C; Options: B - PB)

MODEL
- LCO6
- LCO8

HOUSING SIZE
- 18-inch (6) = **18**
- 30-inch (8) = **30**

PIPE SIZE
- 1-1/2-inch female NPT (6) = **1-1/2P**
- 2-inch female NPT (8) = **2P**

OUTLET STYLE
- Side/Bottom Unistyle = *****

PRESSURE RATING
- 125 psi = **125**

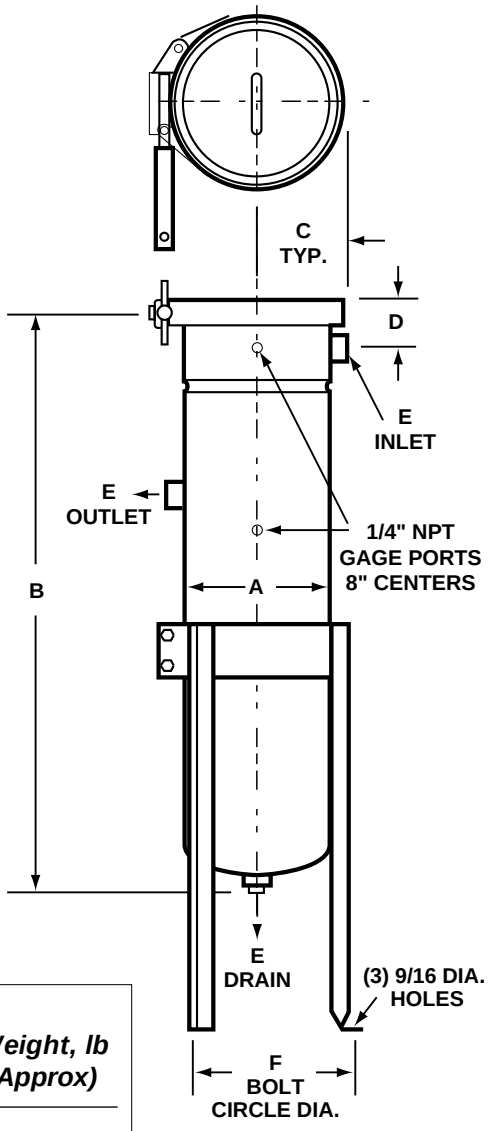
HOUSING MATERIAL
- Carbon steel = **C**
- 304 Stainless steel = **S**

COVER SEAL
- Buna N = **B**
- Ethylene propylene = **E**
- Viton® Fluoroelastomer = **V**

BASKET TYPE
- Filter bag basket = **PB**

1. Filter bags are specified separately. See page 120-130.

Dimensions (IN)



MODEL NUMBER & Dim. A	B	C	D	E	F	PSI	Weight, lb (Approx)
6 (6.0)	28.0	4.3	3.0	1.5	9.5	125	50
8 (8.6)	35.9	6.0	3.5	2.0	12.0	125	70

Model RCO Bag or Cartridge Filter Housings

Low cost filter housings for flow rates to 100 gpm*

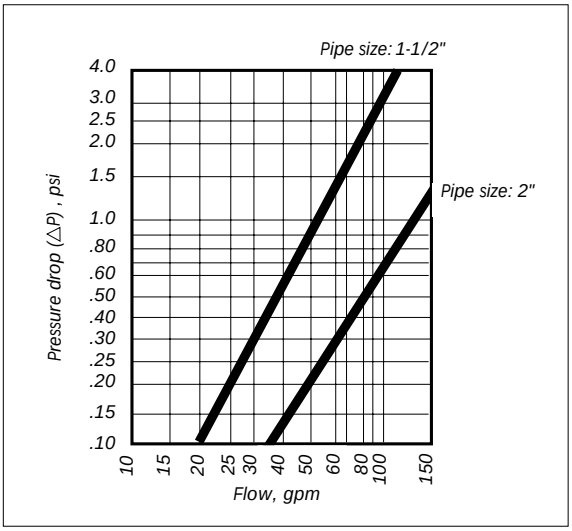
RCO high-capacity filters offer an exceptional value in basic filtration applications. Offered in a size 2 and size 12 bag housing, the RCO is also available with our Platinum 700 cartridge series.

RCO housings provide large dirt-holding capacity combined with a rugged design rated to 150 psi. The housings incorporate a newly designed hinged, eyenut cover that is easily removed, reducing time spent on bag or cartridge change-out. The RCO bag housing offers versatility for any piping arrangement, utilizing our unistyle design (side and bottom outlet). Two connection sizes are available for both bag and cartridge filters.

The RCO housings are electropolished creating a smooth, easy-to-clean surface. Customize them with several options including, gauges and switches. A variety of filter bags or cartridges (rated 0.5µ absolute to 100µ nominal) can be utilized in this housing. Keep your filtration process cost effective without sacrificing quality.

Features

- Permanently piped housings are opened without special tools
- Carbon or stainless steel housings
- Covers are O-ring sealed
- O-ring seals: Buna N, EPR and Viton®
- 150 psi rated housing
- Heavy-duty basket, over 50% open area
- Uses standard number 1, 2 or 12 size bags and 500 or 700 series cartridges
- Filter selection surface area is:
  2.3 square feet (number 1 size bag),
  4.4 square feet (number 2 size bag),
  5.6 square feet (number 12 size bag)
  85 square feet (500 series cartridge)
  125 square feet (700 series cartridge)
- 1-1/2-inch or 2-inch NPT inlet and outlet
- 1/4-inch NPT vent connection
- Adjustable leg assembly



*Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.

How To Order

Build an ordering code as shown in the example.

Example : Housing: **RCO8-30 - 2P - * - 150** | Options: **- C - B - PB**

MODEL
- ***RCO8*** *(#1, #2 bag & 500 cartridge)*
- ***RLCO8*** *(#12 bag)*
- ***RCO8135*** *(700 cartridge)*
- ***RCO8135*** *convertible*

BASKET SIZE
- *15-inch (RCO only)* = ***15***
- *30-inch (RCO or RLCO)* = ***30***
- *RCO8135* = ***No Symbol***

PIPE SIZE
- *1-1/2-inch female NPT* = ***1-1/2P***
- *2-inch female NPT* = ***2P***

OUTLET STYLE
- *Side/Bottom Unistyle (RCO or RLCO)* = *******
- *Bottom* = ***1***

PRESSURE RATING
- *150 psi* = ***150***

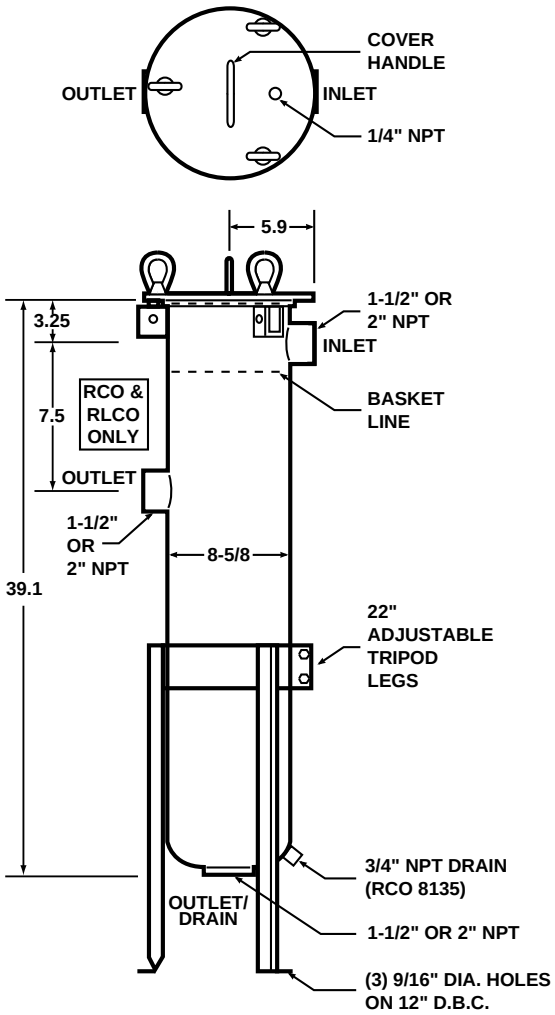
HOUSING MATERIAL
- *Carbon steel* = ***C***
- *304 Stainless steel* = ***S***

COVER SEAL
- *Buna N* = ***B***
- *Ethylene propylene* = ***E***
- *Viton® Fluoroelastomer* = ***V***

BASKET TYPE
- *Filter bag basket (RCO or RLCO)* = ***PB***
- *700 Cartridge (RCO8135)* = ***700***
- *Convertible (RCO8135)* = ***700PB***

1. *Filter bags are specified separately. See pages 120-130.*
2. *Basket material is compatible with housing.*
3. *Weight (approximately): 70 lbs.*

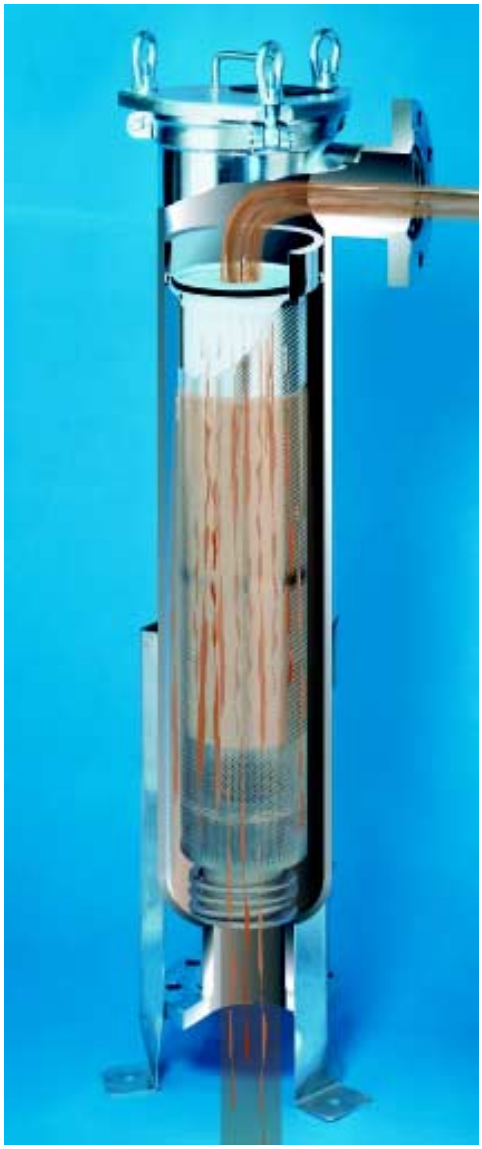
NSF QUALITY SYSTEM REGISTERED TO ISO 9001: 1994



Model 4-8 Indicating Bag Filters

Intelligent, mechanically actuated, Indicating Filters. Filters that tell the whole story.

These filters will let you know when your filter bag needs attention. This allows you to maximize the efficiency of your operations and reduce system downtime by changing filters only when they really need it. You'll save time, money and effort, because you'll use each bag to its maximum capacity, since change-out will be based on the remaining life of the bag, not on someone's best guess.

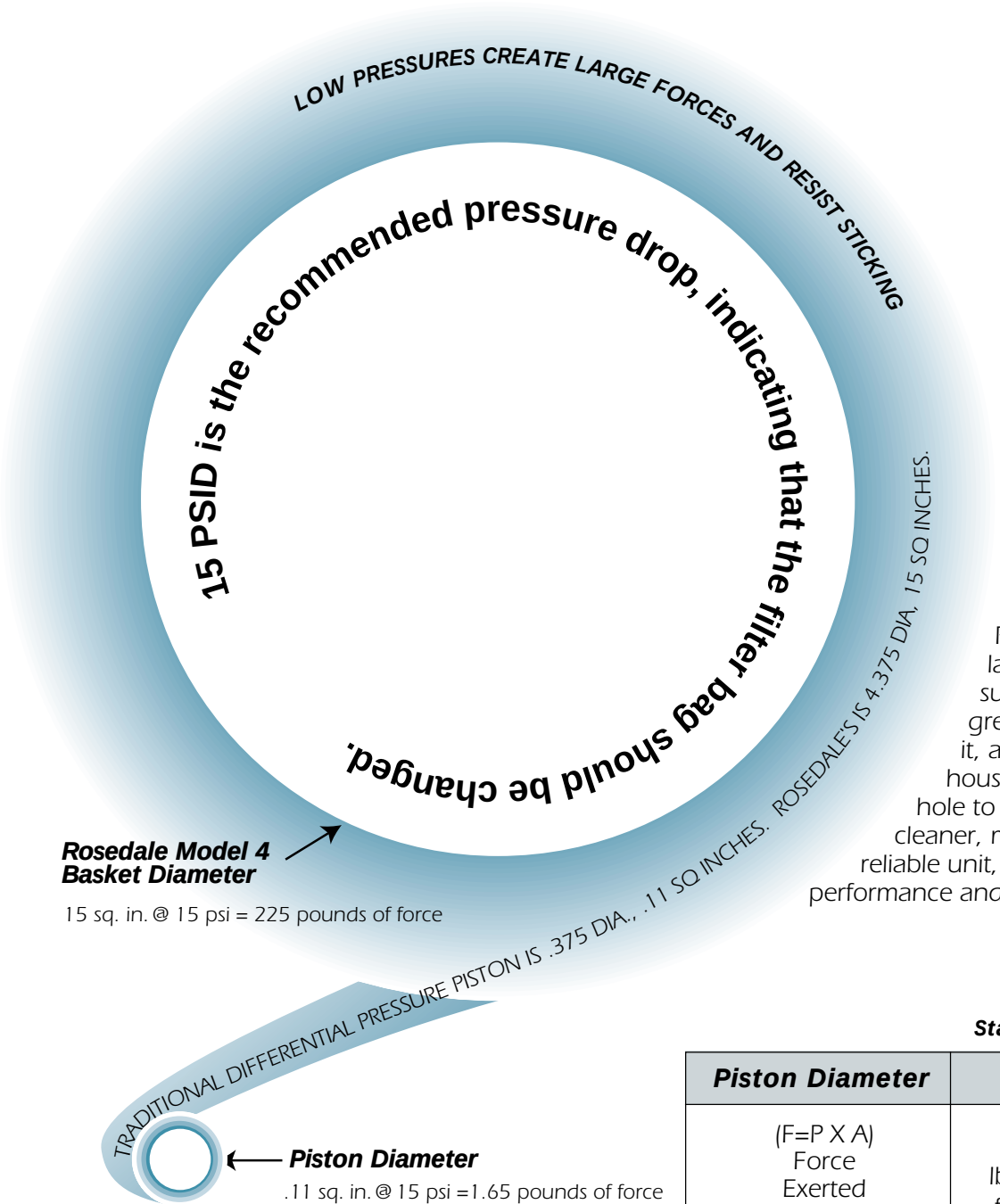


New Features

- Integral Differential Pressure Indicator (non-clogging)
- Electric Micro Switch included - 3-wire or 4-wire
- Electric Switch has dual actuation (one for ***requires attention soon*** and one for ***requires immediate attention***)
- ***Standard*** is one set point, ***optional*** is 2 set points
- Optional explosion-proof Pneumatic Switch
- Optional Digital Model available

Features

- Low pressure drops
- Permanently piped housings are opened without disturbing the piping or requiring tools
- Covers are O-ring sealed
- Carbon or stainless (304 or 316) steel housings
- Housings are electropolished to resist adhesion of dirt and scale
- Large-area, heavy-duty baskets
- O-ring seals: Buna N, EPR, Viton® Fluoroelastomer, and Teflon® fluorocarbon resin
- Two pressure ratings-150 and 300 psi
- Indicating device is mechanical, no tubes or orifices to clog

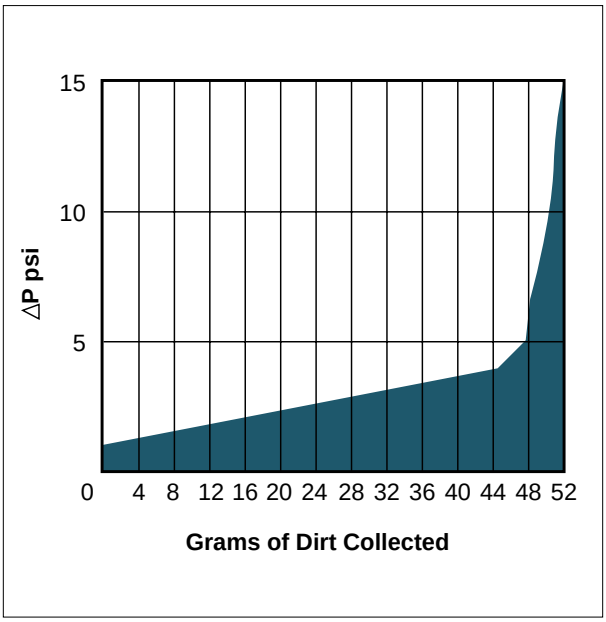


Most differential pressure indicators use a piston connected through a small hole in the side of the filter. This hole could clog, or the piston could easily be blocked or restricted. Rosedale's piston is much larger in diameter and surface area, requiring a greater blockage to restrict it, and since it is inside the housing, there is no outside hole to clog. It produces a cleaner, more accurate and reliable unit, providing excellent performance and value.

	Standard	Rosedale Model 4
Piston Diameter	**.38**	**4.38**
(F=P X A) Force Exerted @ 15 psi	1.65 lbs. of force	225.00 lbs. of force

As Amount Of Trapped Dirt Increases, Pressure Drop Increases, And The Remaining Life Of The Filter Decreases

That's right, as the pressure drop across your filter increases, additional dirt-holding capacity decreases. As the chart illustrates, at a 5 psi drop in pressure, over 90 percent of the filter's dirt-holding capacity has been reached. When the pressure drop has increased to 10 psid, it has reached 95 percent of its total dirt-holding capacity. For each additional 5 psi pressure drop, the amount of extra dirt retained decreases dramatically. As a matter of fact, pressure drops greater than 15 psi retain no appreciable amount of additional dirt. Our line of indicating filters automatically and intelligently sense these pressure differences, and will indicate when the optimum time to change the filter element in your system, saving you time, money and effort.



An Operation So Unique Patents Have Been Applied For!

The Indicating Filter is a mechanical device, without tubes or orifices that clog the indicator. Unfiltered liquid enters the housing above the bag, supported in a spring-loaded basket, and flows through. Solids are contained inside the bag, and as it becomes loaded, greater pressure is required to force liquid through the bag. Due to this increase in differential pressure, the spring-loaded basket is forced downward, actuating the cam that drives the indicator pointer, displaying the changes on a simple red/green scale. Red represents unacceptable pressure differential, indicating that element change-out is required. These units are pre-calibrated to indicate element change-out at 15 psi pressure differential.

A digital option is also available, providing an easy-to-read LCD visual display. It also offers a signal for electronic communication. No matter which display you choose, you can be assured that you'll change your filter bag, only when needed.

Switch Ratings

125 VAC,	15 amp
250 VAC,	15 amp
480 VDC,	15 amp
600 VDC,	2 amp
125 VDC,	1/2 amp
250 VDC,	1/4 amp
125 VDC,	1/8 hp
250 VDC,	1/4 hp
24 or 48 VDC,	6 amp resistive
	5 amp inductive

Also see the Communicator III on pages 179-180.

How To Order

Build an ordering code as shown in the example.

Example: **IND - 4 12 - 1P - 1 - 300 - C - B - BM - 200**

Housing | *Options*

MODEL NO.
IND-4 = **4**

HOUSING SIZE
12 inch = **12**

PIPE SIZE, NPT & FLANGED
3/4-inch, female NPT = **3/4P**
1-inch, female NPT = **1P**
3/4-inch, 150 class ANSI flange = **3/4F**
1-inch, 150 class ANSI flange = **1F**
1-1/4-inch 150 class ANSI flange = **1-1/4F**
1-1/2-inch, 150 class ANSI flange = **1-1/2F**
2-inch, 150 class ANSI flange = **2F**

OUTLET STYLE
Bottom = **1**
Side = **2**
Bottom Elbow = **3**

PRESSURE RATING[1]
150 psi (NPT or flanged) = **150**
200 psi (NPT Only) = **200**
300 psi (NPT or flanged) = **300**

HOUSING MATERIAL
Carbon steel = **C**
304 Stainless steel = **S**

BASKET MEDIA SIZE
No symbol if type B basket was selected
Perforation diameters (for type P baskets) 1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type M and BM baskets) 20, 30, 40, 50, 60, 70, 80, 100, 150, 200

BASKET TYPE[2]
PB = Filter bag basket, 9/64 perforations
P = Strainer basket, perforated metal
BM = Filter bag basket, perforated, mesh-lined
M = Strainer basket, perforated, mesh-lined
HWM = Filter bag basket, heavy wire mesh

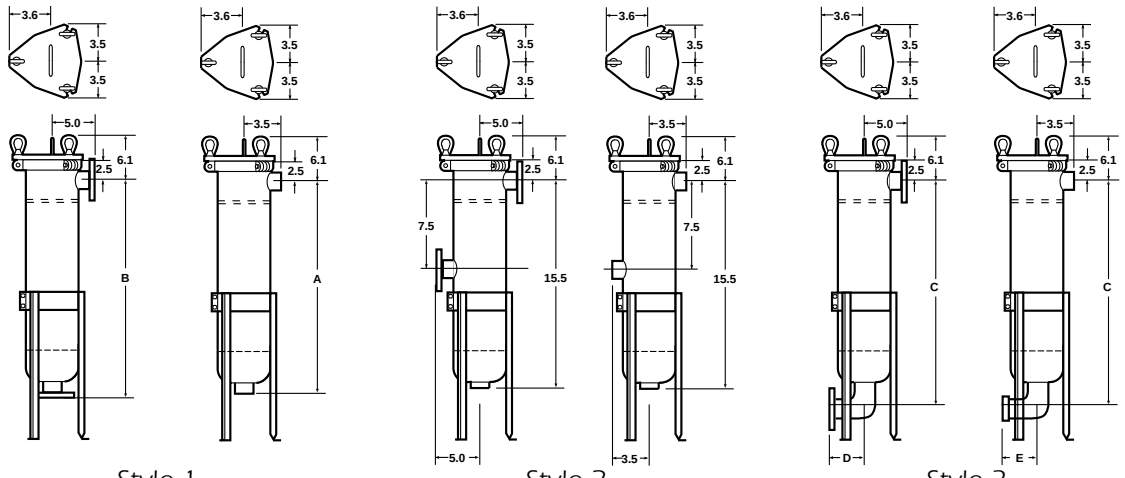
COVER SEAL
B = Buna N
E = Ethylene Propylene
V = Viton® Fluoroelastomer
TEV = Teflon® Encapsulated Viton®
TSW = Teflon® (solid white)

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. ANSI B16.5 Pressure Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are specified separately. See page 120-130.

Dimensions (IN)

Model	Pipe Size	A	B	C	D	E
4-12	3/4	15.5	17.4	15.8	4.0	2.0
	1	15.7	17.4	16.2	4.0	2.5
	1-1/4	15.7	18.0	16.6	4.0	2.9
	1-1/2	15.6	18.0	16.9	4.0	3.3
	2	15.6	18.0	17.6	5.0	4.0

Dimensions (IN)



Style 1 Style 2 Style 3

How To Order

Build an ordering code as shown in the example.

Example: IND - 8 30 - 2P - 1 - 150 - C - B - BM - 200

(Housing: IND - 8 30 - 2P - 1 - 150 - C; Options: B - BM - 200)

MODEL NO.
IND-8 = ***8***

HOUSING SIZE
30 inch = ***30***

PIPE SIZE, NPT & FLANGED[1]
2-inch, female NPT = ***2P***
3-inch, female NPT = ***3P***
2-inch, 150 class ANSI flange = ***2F***
3-inch, 150 class ANSI flange = ***3F***

OUTLET STYLE
Bottom = ***1***
Side = ***2***
Bottom Elbow = ***3***

PRESSURE RATING[2]
150 psi (NPT or flanged) = ***150***
300 psi (NPT or flanged) = ***300***

HOUSING MATERIAL
Carbon steel = ***C***
304 Stainless steel = ***S***
316 Stainless steel = ***S316***

BASKET MEDIA SIZE
No symbol if type B basket was selected
Perforation diameters (for type P baskets) 1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type M and BM baskets) 20, 30, 40, 50, 60, 70, 80, 100, 150, 200

BASKET TYPE[3]
PB = Filter bag basket, 9/64 perforations
P = Strainer basket, perforated metal
BM = Filter bag basket, perforated, mesh-lined
M = Strainer basket, perforated, mesh-lined
HWM = Filter bag basket, heavy wire mesh

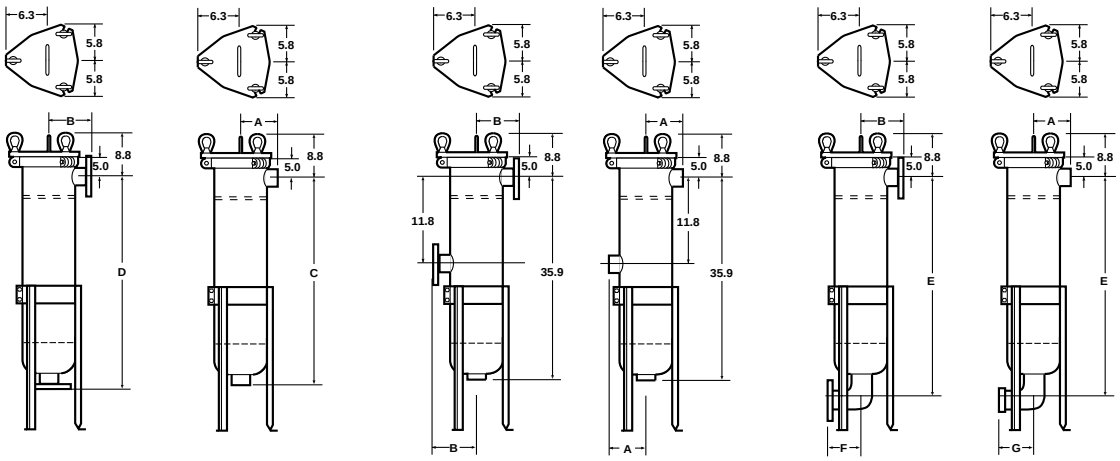
COVER SEAL
B = Buna N
E = Ethylene Propylene
V = Viton® Fluoroelastomer
TEV = Teflon® Encapsulated Viton®
TSW = Teflon® (solid white)

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. ANSI B16.5 Pressure Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are specified separately. See page 120-130.

Dimensions (IN)

Model	Pipe Size	A	B	C	D	E	F	G
8-30	2	5.9	7.5	35.8	38.1	37.8	5.0	4.06
	3	6.7	7.5	36.3	38.4	39.2	7.25	6.12
	4	6.8	8.6	36.3	38.9	40.6	9.0	7.75

Dimensions (IN)



Style 1 Style 2 Style 3

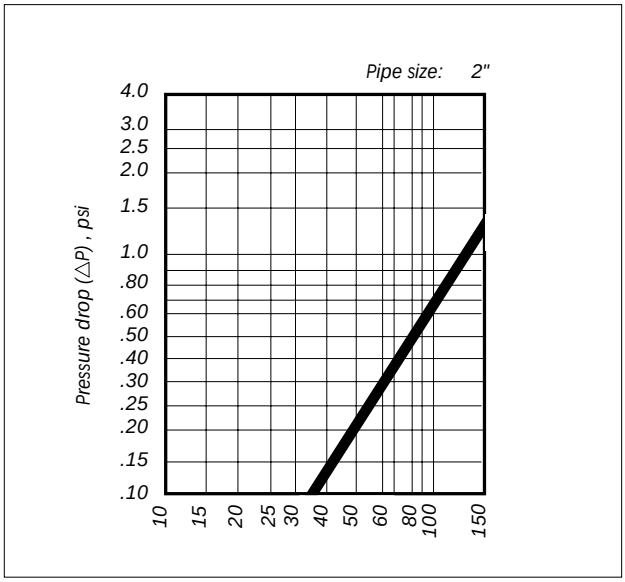
Model 8-125 psi Bag Filters

*Low cost filter housings for flow rates to 100 gpm**

These high-capacity bag filters or basket strainers are very low in cost and offer large dirt holding capacity. These housings are made from carbon steel or stainless steel. They use a newly designed clamp cover that is easily removed, reducing time spent on bag change-out. The O-ring seal on the cover ensures a seal. This housing also utilizes our Unistyle design offering you the option of a side or bottom outlet. There is a 2-inch outlet on the side with a 2-inch plugged drain at the bottom of the housing. The outlet can easily be changed to the bottom by merely moving the plug from the drain to the side outlet.

Features

- *Permanently piped housings are opened without special tools*
- *Quick opening cover*
- *Carbon or stainless steel housings*
- *Adjustable-height tripod legs*
- *O-ring seals: Buna N, EPR and Viton®*
- *125-psi rated housing*
- *Basket material is compatible with housing*
- *Uses standard number 2 size bags and baskets*
- *Bag/Basket surface area is 4.4 square feet*
- *2-inch NPT ports*



*Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.

How To Order

Low Pressure
Model 8 Housing

Build an ordering code as shown in the example

Example: **830 - 2P - * - 125 - C - B - PB**

(Housing: 830 - 2P - * - 125 - C; Options: B - PB)

REDUCED-PRESSURE MODEL 8
= **815**
= **830**

PIPE SIZE
2-inch female NPT = **2P**

OUTLET STYLE
Side/Bottom Unistyle = *****

PRESSURE RATING
125 psi = **125**

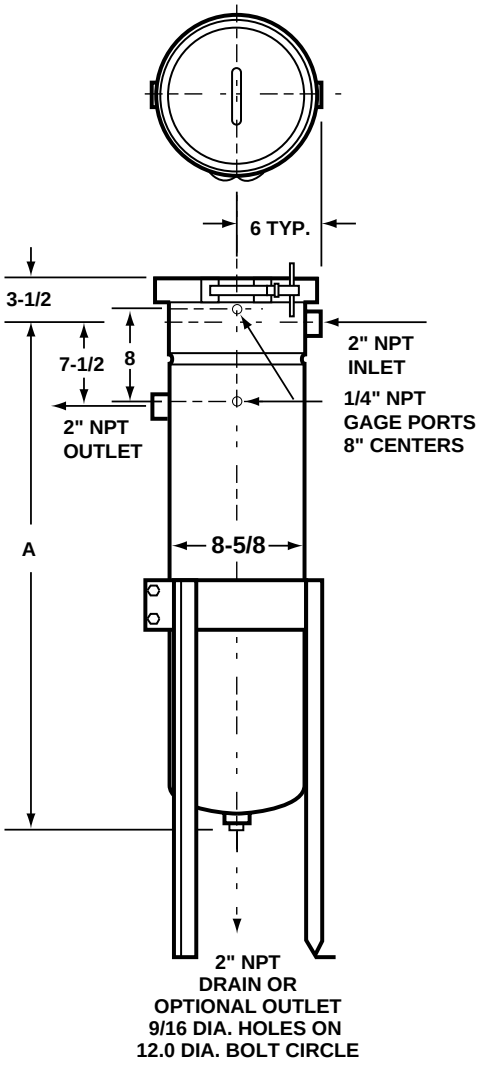
HOUSING MATERIAL
Carbon steel = **C**
304 Stainless steel = **S**

COVER SEAL
Buna N = **B**
Ethylene propylene = **E**
Viton® Fluoroelastomer = **V**

BASKET TYPE
Filter bag basket = **PB**

1. Filter bags are specified separately. *See page 120-130.*

Dimensions (IN)



Dimensions

Model	A
815	21.1
830	35.9

Dual Capacity Bag Filter And Basket Strainer

Extra capacity at higher flow rates!

Rosedale dual capacity housings can serve as either basket strainers or bag filters. Covers are easily removed, without tools, and the basket or bag is quickly and easily cleaned or replaced. Rosedale's bag-sized pleated cartridges will provide even greater dirt-holding capacity (see pages 139-142). ***Low price, greater dirt holding capacity, and higher flow rates make the Model 82 a very cost-efficient choice!***

Features

- Low pressure drops
- Permanently-piped housings
- Covers are O-ring sealed
- Carbon steel or stainless steel (304 or 316) housings
- Housings are electropolished to resist adhesion of dirt or scale
- Adjustable-height legs
- For flow rates to 440 gpm
- ASME code stamp available
- Large-area, heavy-duty baskets
- Dual stage straining/filtering

Options

- Higher pressure ratings
- Extra-length legs
- Heat jacketing
- Liquid displacers for easier servicing

Basket Data (each basket, two baskets total)

Depth inches (nominal)	Diameter (inches)	Surface Area (sq. ft.)	Volume (cu. in.)	Bag Size No.
15	6.7	2.3	500	1
30	6.7	4.4	1000	2

How To Order

Build an ordering code as shown in the example

Example: Housing: **82- 30- 4F- 1 -150- C** | Options: **B - S - BM- 200-D - C**

MODEL 82 = **82**

HOUSING SIZE
15 inch = **15**
30 inch = **30**

PIPE SIZE, NPT & FLANGED
2-in. 150 or 300-lb ANSI flange* = **2F**
3-in. 150 or 300-lb ANSI flange* = **3F**
4-in. 150 or 300-lb ANSI flange* = **4F**
6-in. 150 or 300-lb ANSI flange* = **6F**
*Dependent on required pressure rating

OUTLET STYLE
Side = **1**

PRESSURE RATING[1]
150 psi (flanged) = **150**
300 psi (flanged) = **300**

HOUSING MATERIAL
Carbon steel = **C**
304 stainless steel = **S**
316 stainless steel = **S316**

COVER SEAL
Buna N = **B**
Ethylene Propylene = **E**
Viton® Fluoroelastomer = **V**
Teflon® Encapsulated Viton® = **TEV**
Teflon® (solid white) = **TSW**

BASKET SEAL
Seal (required) = **S**

BASKET TYPE
Filter bag basket[2] = **PB**
Strainer basket = **P**
Filter bag basket, mesh lined[2] = **BM**
Strainer basket, mesh lined = **M**
Filter bag basket, heavy wire mesh = **HWM**

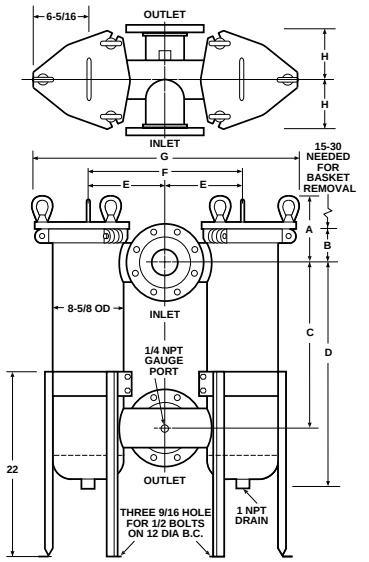
BASKET, MEDIA SIZE, no symbol if type B basket was selected
Type P perforation diameters 1/4, 3/16, 9/64, 3/32, 1/16
Type M and BM mesh sizes 20, 30, 40, 50, 60, 70, 80, 100, 150, 200 = **200**

DISPLACER
Displacer = **D**

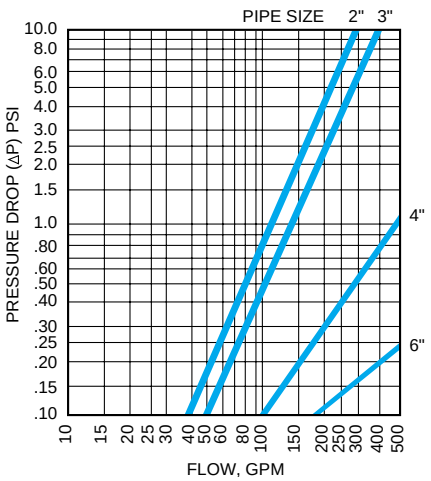
ASME CODE STAMP
Code = **C**

1. Higher pressures are available, consult factory.
2. Filter bags are specified separately. See pages 120-130.
3. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges.

Dimensions (IN)



Pipe Size		2	3	4	6
A		6-5/8	7-1/2	7-1/2	9
B		2-7/8	3-3/4	3-3/4	5-1/4
C	(15 in)	14-1/2	14-1/2	14-1/2	14-1/2
	(30 in)	29-1/2	29-1/2	29-1/2	29-1/2
D	(15 in)	21-3/16	22-3/32	22-3/32	23-9/16
	(30 in)	36-3/16	37-3/32	37-3/32	38-9/16
E		8	8	9	9
F		16	16	18	18
G		28-9/16	28-9/16	30-9/16	30-9/16
H		4-1/2	5-1/2	6-1/2	8



*Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.

The All Plastic Polypro Model 8 Bag Filter Housing

Excellent for use in pure, ultra-pure, and corrosive applications

Rosedale's Generation II polypropylene filter housings incorporate a unique one piece, seamless body that handles flows to 100 gpm. It is rated to 100 psi at 150°F, and offers excellent resistance to corrosion. In addition Rosedale has added new features:

Features

- *All molded polypropylene construction*
- *2-inch flat face flange connections*
- *Unistyle piping configuration (side and/ or bottom outlet)*
- *Accepts all number 2 sized bags or 500 Series Cartridges (down to 0.5µ absolute)*
- *Wide selection of cover o-ring materials*
- *External cover and pres sure threads with plug*
- *Hold down assembly*

Options

- *Cover vent and drain valve*
- *Duplex and multiplex arrangements available*
- *Leg assembly (stainless steel)*
- *Pressure differential instrumentation*
- *Convertible 700 Series Cartridge (see page 147)*

Design Details

An easy to remove cover and basket make bag change-out quick, clean and simple. No special tools are needed, and the filter is back in service in a matter of minutes. The cover threads are external, and have no contact with the process fluids to prevent product accumulation. For extra strength the cover features buttress-style threads. The housing is complete with a cover vent, drain and gage port connections. The gauge connections allow for the use of Rosedale differential pressure indicating equipment that assist in determining bag change-out. This can be accomplished by utilizing our pressure gauges, switches or Communicator options (see pages 179-180). It's versatile unistyle design, side or bottom outlet, makes piping easy in any arrangement.

Construction

This durable, corrosion resistant design is constructed from special polymer compounds. The housing is molded of reinforced chemically coupled polypropylene homopolymer. The addition of a UV stabilizer makes it suitable for outdoor use.

Plastic model base shown above. Also available for the Platinum 700 Series cartridge - See page 147

How To Order

Build an ordering code as shown in the example

Generation II Polypro housings are designed to accept all number 2 size elements, including our standard bags, bag-sized pleated cartridges, Surfaceplus, and the absolute-rated Platinum 500 series. The elements are rated from 0.5 micron absolute (99.98% efficiency or ß5000) to 800 micron nominal. See page 120 for media selection.

Example: **CR8-30 - 2F -*- 100 - P - B - C**

(Housing: CR8-30 - 2F -*- 100 - P - B - C; Option: C)

MODEL NO.
Corrosive Resistant
Model 8 = **CR8**

HOUSING SIZE
30 inch = **30**

PIPE SIZE (Flange)
2-inch Flat Face Class 150 = **2F**

OUTLET STYLE
Side/Bottom Unistyle = *

PRESSURE RATING
100 psi = **100**

HOUSING MATERIAL
Polypropylene = **P**
PVDF = **K**

COVER SEAL
Buna N = **B**
Ethylene Propylene = **E**
Viton = **V**
Teflon Encapsulated Viton = **TEV**

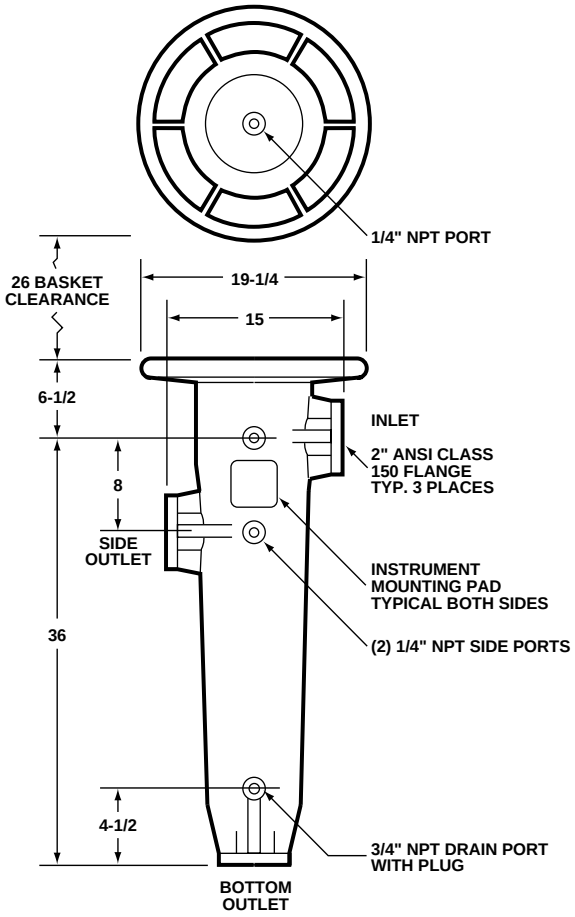
Convertible (700 Cartridge Adapter) = **C**

Note: *Filter bags are specified separately. See pages 120-130.*

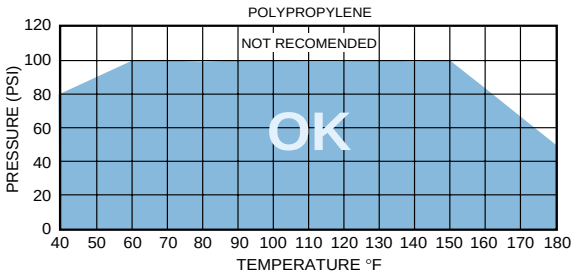
Technical Specifications

Element Size:	No. 2 Size Elements
Piping Connections:	2" ANSI B16.5 FF Flange
Housing Material :	Glass-reinforced polypropylene with UV stabilizer
Basket Material:	Natural polypropylene
Recommended Change Out:	15 PSID
Pressure Rating:	100 psi @ 150°F
Shipping Weight:	50lb (approx.)

Dimensions (IN)



Temperature vs. Pressure



NOTE: *Not for use in conditions under 40°*

Model OT Bag Filter Housing

*Guarantees a 360° positive seal for flows to 100 gpm**

Performance

The Model OT filter provides optimum filtration performance when combined with our high capacity filter bags. Our unique design ensures a 360-degree positive seal and media compression, eliminating the potential for bypass. Unfiltered liquid and debris does not accumulate above the filter bag and contaminate the clean fluid area during change-out. Fluid passes through the bag from inside to outside. The Rosedale Model OT filter ensures an even flow into the filter bag where contaminate is contained for easy disposal.

Construction

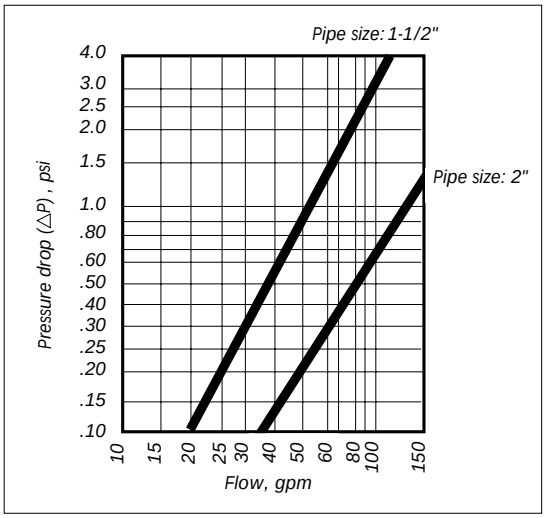
The Model OT housing is a durable, high capacity filter with an uncompromising welded construction to meet ASME Section VIII Code requirements. The cover is hinged and fastened with swing bolts for quick access and easy bag change-out. They have a high quality electropolished finish to resist adhesion of dirt and scale, making routine maintenance fast and simple.

Model OT filters are available in two sizes with flanged or threaded connections. Customize with several options, including gauges and switches. A wide range of filter bags or cartridges (rated 0.5µ absolute to 100µ nominal) with various surface areas can be utilized in this housing.

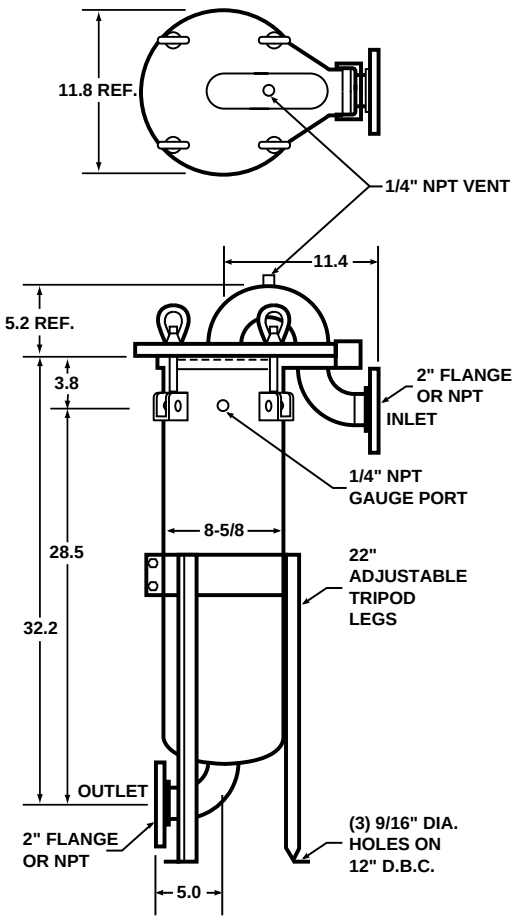
Features

- *Accepts all major competitive brands of bags*
- *Permanently piped housings are opened without special tools*
- *Carbon or stainless steel housings*

- *Covers are O-ring sealed*
- *All sealing surfaces are blancher ground*
- *O-ring seals: Buna N, EPR, Viton® and Teflon®*
- *150 psi rated housing*
- *ASME Code Stamp available*
- *Heavy-duty basket with over 50% open area*
- *Bag/Basket surface area is 2.3 square feet (number 1 size), or 4.4 square feet (number 2 size)*
- *2-inch inlet and outlet*
- *1/4-inch NPT gauge ports and vent connection*
- *1/2-inch NPT drain connection*
- *Adjustable-height tripod leg assembly*



*Based on housing only. Fluid viscosity, filter bag used, and expected dirt loading should be considered when sizing a filter.



How To Order

Build an ordering code as shown in the example.

Example : Housing: **OT8-30 - 2P - 3 - 150** | Options: **C - B - PB - C**

MODEL
OT8

BASKET SIZE
15-inch =**15**
30-inch =**30**

PIPE SIZE
2-inch female NPT = **2P**
2-inch 150 class ANSI flange = **2F**

OUTLET STYLE
Bottom = **1**
Side = **2**
Bottom elbow = **3**
Side out, same side (low profile) = **4**

PRESSURE RATING
150 psi = **150**

HOUSING MATERIAL
Carbon steel = **C**
304 Stainless steel = **S**
316 Stainless steel = **S316**

COVER SEAL
Buna N = **B**
Ethylene propylene = **E**
Viton® Fluoroelastomer = **V**
Teflon Encapsulated Viton = **TEV**

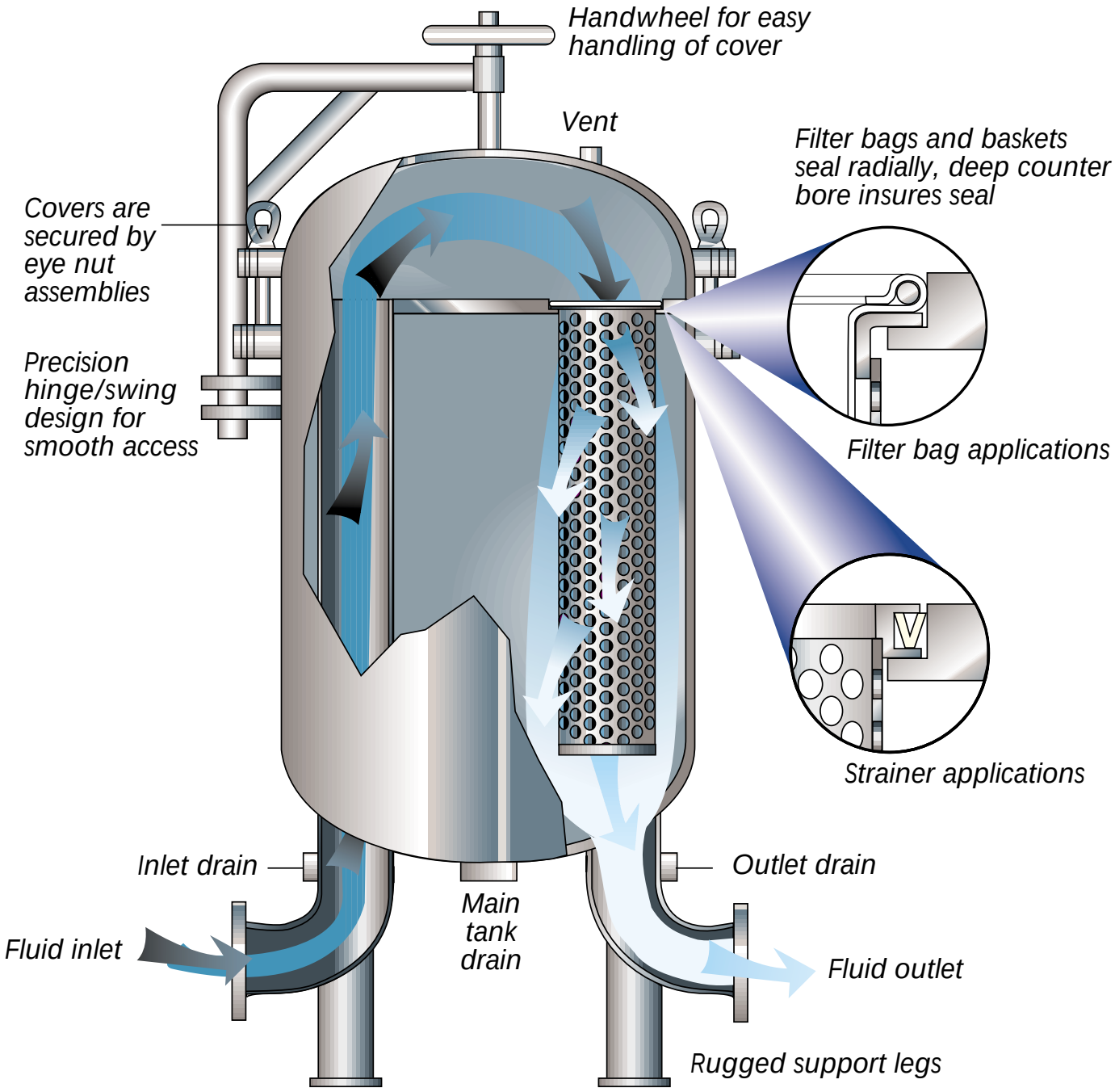
BASKET TYPE
Filter bag basket = **PB**

ASME CODE STAMP
Code = **C**

1. Filter bags are specified separately. See pages 120-130.
2. Weight (approximately): 100 lbs.

NSF QUALITY SYSTEM REGISTERED TO ISO 9001: 1994

Multi-Bag Filter Standard Features



Typical Multi-basket Strainer and Multi-bag Filter Housing

Unfiltered fluid enters the bottom of the housing and flows into the open area under the dome of the cover. Flow is distributed uniformly through the bags or baskets, where they can be removed easily and completely.

Multi-Basket Strainers and Multi-Bag Filters

These multi-basket strainers and bag filters offer a wide range of flow capacities and contaminant-holding capabilities. They contain from 2 to 23 baskets.

To serve as a strainer, a unit is ordered with perforated stainless steel baskets (mesh-lined if desired). When ordered as a filter, it's fitted with perforated stainless steel baskets designed to hold disposable or cleanable filter bags. Industry-standard size bags are used: the standard 30 inch baskets accept bag size 2, the optional 15 inch baskets take size 1.

The standard pressure rating for all models is 150 psi. All housings can be supplied with an ASME code stamp, if required.

Features

- *Multiple housing styles available (standard, quick access, low profile, hinged)*
- *Permanently piped housings are opened without tools and without disturbing the piping*
- *Machined cover gasket groove provides positive O-ring sealing*
- *Carbon steel, 304 or 316 stainless steel construction housings*
- *Large-area, 30 inch deep, heavy-duty, 9/64 inch perforated baskets*
- *Easy to clean*
- *Low pressure drop*
- *Four cover seal materials: Buna N, Ethylene Propylene, Viton®, and Teflon®*
- *Pressure rating 150 psi*
- *Flanged connections for 2 through 12 inch pipe*
- *Vent, drain and gage connections*

Options

- *ASME code stamp*
- *Higher pressure ratings*
- *Corrosion allowances*
- *Steam jackets*
- *Special connection locations*

- *Bag hold down assembly (standard on QII design)*
- *Inner baskets for dual-stage straining or filtering*
- *Cleanable wire mesh lined or perforated strainer baskets*
- *Special alloy materials*
- *Hydraulic cover lifting assembly*
- *Sanitary fittings*
- *Differential pressure indicators*

Duplex Systems

All multi-basket models described here are also available as duplex systems. Two units come piped together with valves to permit continuous use of either unit while servicing the other. One lever actuates all valves simultaneously or it can be ordered for automatic service. *See page 63.*

QII NEW

SAFETY VALVE MECHANISM

COUNTER BALANCED COVER

HANDWHEEL OPERATION OF TURNBUCKLE MECHANISM

ELEMENT/BAG RETAINING DEVICE

Choose Baskets That Strain or Filter

Whatever your needs dictate

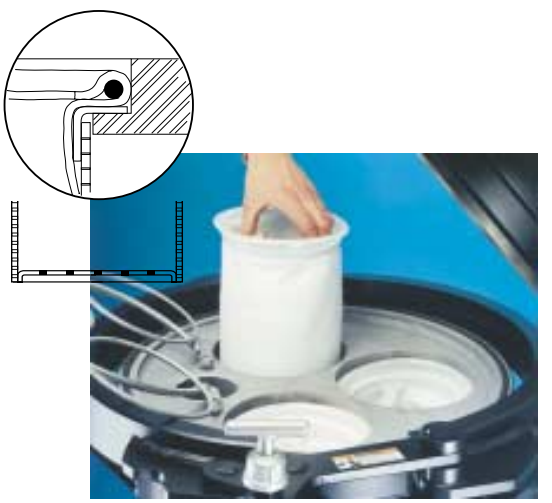
Strainer baskets are cleanable, reusable.

A seal is supplied on any strainer basket. It forms a seal between basket and housing to prevent dirty fluid bypass. Choose between various perforation sizes or wire mesh. Strainer baskets have flat, non-perforated bottoms and contain heavy-duty handles.

Filter bag baskets hold disposable filter bags.

Filter bags have an interference fit between the bags top rim and the housing causing a positive seal to prevent fluid bypass. Filter bag baskets have flat perforated bottoms.

Filter bags are available in a wide variety of felt, micro-fiber, monofilament and multifilament mesh materials. They are detailed completely on pages 126-128.



DUAL-STAGE– Dual-stage action will increase strainer or filter life and reduce servicing needs. This straining/filtering action can be achieved by ordering a second, inner basket. It is supported on the top flange of the outer basket. Both baskets can be utilized as strainers (with or without wire mesh linings), filter bag baskets, or a combination of strainer and bag basket.

Basket Data

Surface area of each 30 in. basket: 4.4 sq. ft. Volume of each 30 in. basket: 0.6 cu. ft.

Basket Construction

For cleanable strainer baskets, choose from the following perforation diameters: 1/4, 3/16, 9/64, 3/32, or 1/16 inch (for other not shown consult factory).

Any perforated basket can also be ordered lined with wire mesh. Stainless steel wire is used in mesh sizes 20, 30, 40, 50, 60, 70, 80, 100, 150, or 200.

Filter bag baskets, have standard 9/64 inch diameter perforations that are 51% open area. A wire mesh can also be utilized with bag baskets for two advantages:

1. *Fiber migration is minimized.*
2. *In the unlikely event of bag rupture, the wire mesh better contains the contaminant.*

Choose Housing Style

Designed to suit your requirements

The versatility of Rosedale Products provides a choice of several different designs.

- ***Quick Access Cover (QII)*** *features a unique counter weight design that makes opening, closing, and change-out, fast, easy, and simple. This will significantly reduce change-out time and lower operating costs. The QAC is rated to 150 PSI and constructed to meet ASME code requirements. Built-in safety features ensure that the cover cannot be opened unless the internal pressure is first released. The QII is offered with our low profile design making bags more accessible and easy to remove.*

- ***Low Profile Design (SLP) Housings*** *are compact and space saving, allowing for ease of bag change-out. Standard operating height is reduced, resulting in a safe design by eliminating platforms and ladders. The SLP is manufactured in any housing version, including our standard davit arm cover, QAC design, and spring assisted hinged cover.*

- ***Spring Assisted Hinged Cover (HLP)*** *opens and closes without effort. Simply loosen the swing bolts and lift the cover up to open. An automatic cover stop is provided. This design saves time by eliminating the labor intensive handwheel. It is offered standard with our low profile design, or can be ordered in the QAC design.*

- ***Standard Housing Design (STD)*** *is durable and economic. It includes a davit arm and handwheel to facilitate cover removal. It is our most versatile housing design offering a variety of options, including our low profile design.*

QII Quick Access Cover

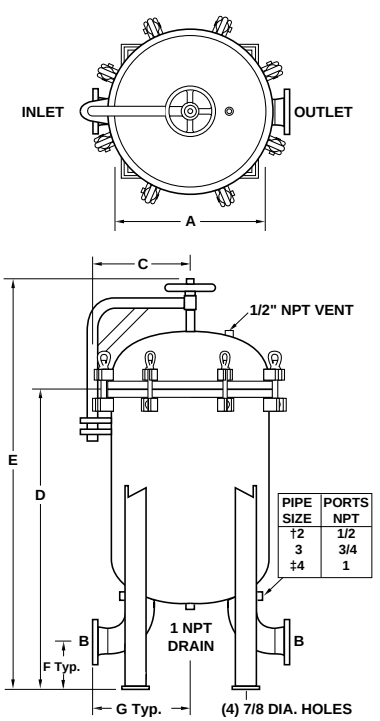
Low Profile Design

Standard Davit Arm

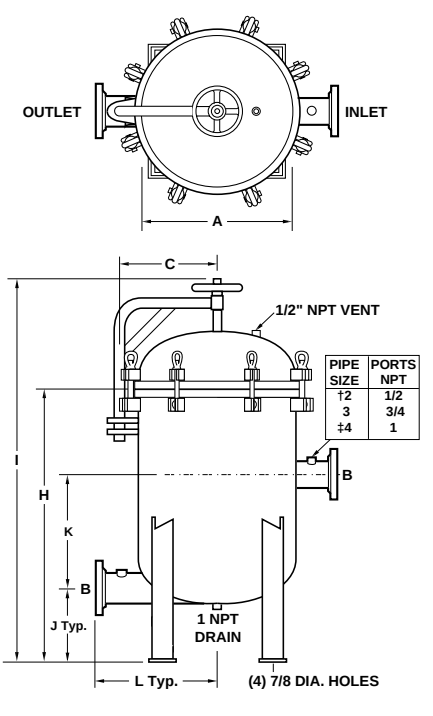
MODEL NUMBER & Dim. A	Pipe Sizes B	Leg Bolt Circle Dia.	Standard C	D	E	F	G	Weight, lb (Approx)	Low Profile H	I	J	K	L
16	2	14.0	10.9	40.1	57.1	4.50	10.5	400	37.9	54.9	8.00	15.0	13.0
	3			42.5	59.5	5.25	12.3	425	38.3	55.3	9.00	17.0	14.0
	4			44.9	61.9	6.00	14.0	450	N/A	N/A	N/A	N/A	N/A
18	2	16.0	11.9	40.5	58.0	4.50	11.1	450	39.6	58.5	8.00	15.0	14.0
	3			42.9	60.4	5.25	12.9	475	40.0	58.9	9.00	17.0	15.0
	4			45.3	62.8	6.00	14.6	500	N/A	N/A	N/A	N/A	N/A
22	2	20.0	14.0	41.4	60.0	4.50	11.9	485	39.5	58.0	8.00	15.0	16.0
	3			43.9	62.4	5.25	13.7	500	40.0	58.5	9.00	17.0	17.0
	4			46.2	64.7	6.00	15.4	515	39.5	58.0	9.00	19.0	18.0
	6			50.4	69.0	7.00	18.9	560	N/A	N/A	N/A	N/A	N/A
24	2	22.0	15.0	41.7	60.7	4.50	13.1	675	41.2	61.6	8.00	15.0	17.0
	3			44.1	63.1	5.25	14.8	700	41.6	62.0	9.00	17.0	18.0
	4			46.5	65.5	6.00	16.6	725	41.1	61.5	9.00	19.0	19.0
	6			50.7	69.7	7.00	20.1	750	N/A	N/A	N/A	N/A	N/A
30	2	28.0	18.0	42.8	63.3	4.50	15.2	635	41.3	61.9	8.00	15.0	20.5
	3			45.2	65.7	5.25	17.0	650	41.8	62.4	9.00	17.0	21.0
	4			47.6	68.1	6.00	18.7	665	41.3	61.9	9.00	19.0	22.5
	6			51.9	72.4	7.00	22.2	705	41.2	61.8	10.0	17.0	23.0
	8			56.4	76.8	8.25	25.7	850	N/A	N/A	N/A	N/A	N/A
36	3	34.0	21.0	46.4	68.4	5.25	18.8	840	43.3	64.5	9.00	17.0	24.0
	4			48.8	70.8	6.00	20.6	860	43.2	64.5	9.50	19.0	25.0
	6			53.1	75.1	7.00	24.1	870	43.2	64.4	10.5	17.0	26.0
	8			57.6	79.6	8.25	27.6	1010	43.2	64.4	11.5	17.0	27.0
	10			62.1	84.1	9.50	30.6	1150	N/A	N/A	N/A	N/A	N/A
42	4	40.0	24.0	50.0	73.5	6.00	22.6	1840	45.9	70.7	9.50	19.0	28.0
	6			54.3	77.8	7.00	26.1	1870	45.9	70.6	10.5	17.0	28.0
	8			58.8	82.3	8.25	29.6	1960	45.9	70.6	11.5	17.0	29.5
	10			63.3	86.8	9.50	32.6	2070	45.8	70.5	12.5	17.0	30.0
	12			68.0	91.5	11.0	36.1	2200	N/A	N/A	N/A	N/A	N/A
48	4	46.0	27.0	51.0	76.0	6.00	24.8	2015	46.5	71.5	9.50	19.0	32.0
	6			55.4	80.4	7.00	28.3	2075	46.4	71.4	10.5	17.0	32.0
	8			60.0	85.0	8.25	31.8	2200	46.4	71.4	11.5	17.0	32.5
	10			64.4	89.4	9.50	34.8	2350	46.4	71.4	12.5	17.0	33.0
	12			69.2	94.2	11.0	38.3	2530	N/A	N/A	N/A	N/A	N/A

Dimensions (IN)

(30-inch deep basket)



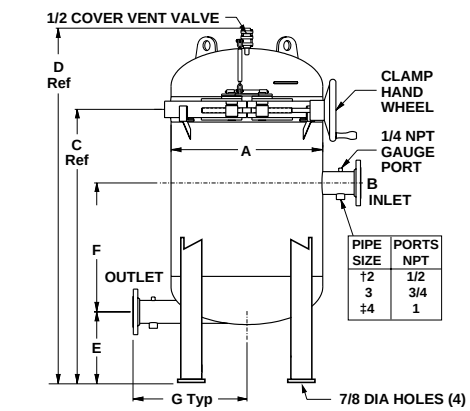
Standard

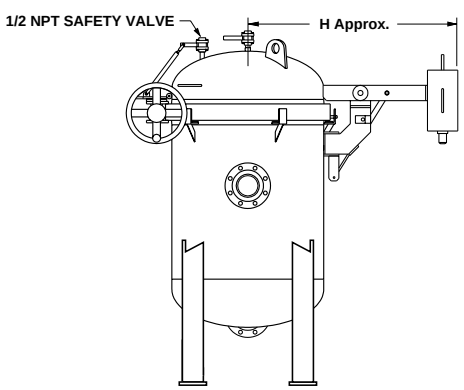


Low Profile

MODEL NUMBER & Dim. A	Leg Bolt Circle Dia.	A	Pipe Size B	QII Low Profile C	D	E	F	G	H
16 & 18	16.0	18.0	2	40.0	53.2	8.00	15.0	14.0	35.5
			3	40.4	53.6	9.00	17.0	15.0	
22	22.0	24.0	2	41.5	56.2	8.00	15.0	16.0	35.5
			3	41.9	56.6	9.00	17.0	17.0	
			4	41.4	56.1	9.00	19.0	18.0	
24	22.0	24.0	2	41.5	56.2	8.00	15.0	17.0	38.5
			3	41.9	56.6	9.00	17.0	18.0	
			4	41.4	56.1	9.00	19.0	19.0	
30	28.0	30.0	2	43.0	59.2	8.00	15.0	20.5	41.5
			3	43.4	59.6	9.00	17.0	21.0	
			4	42.9	59.1	9.00	19.0	22.5	
			6	42.9	59.1	10.00	17.0	23.0	
36	34.0	36.0	3	44.9	62.6	9.00	17.0	24.0	44.5
			4	44.9	62.6	9.50	19.0	25.0	
			6	44.9	62.6	10.5	17.0	29.5	
			8	44.9	62.6	11.5	17.0	27.0	
42	40.0	42.0	4	46.4	65.6	9.5	19.0	28.0	47.5
			6	46.4	65.6	10.5	17.0	28.0	
			8	46.4	65.6	11.5	17.0	29.5	
			10	46.3	65.5	12.5	17.0	30.0	
48	46.0	48.0	4	47.9	68.6	9.5	19.0	32.0	50.5
			6	47.9	68.6	10.5	17.0	32.0	
			8	47.9	68.6	11.5	17.0	32.5	
			10	47.8	68.5	12.5	17.0	33.0	

Dimensions (IN)





QII Low Profile

Model Selection (For all housings)

Model No.	Number of Baskets	Straining, Filtering Area, ft2	Nominal Flow Rate (gpm)**	Inlet/ Outlet Size (in)
16	2	8.8	200	2,3,4*
18	3	13.2	300	2,3,4*
22	4	17.6	400	2,3,4,6*
24	6	26.4	600	2,3,4,6*
30	8	35.2	800	2,3,4,6,8*
36	12	52.8	1200	2,3,4,6,8,10*
42	17	74.8	1700	2,3,4,6,8,10,12*
48	23	101.2	2300	2,3,4,6,8,10,12*

* Not available on SLP, HLP, and QII styles.

** Nominal flow rate is based on water @ 1 psi ΔP. For optimum filtering effectiveness, a maximum fluid velocity of 10 ft/sec should be maintained.

Pressure Drop Data

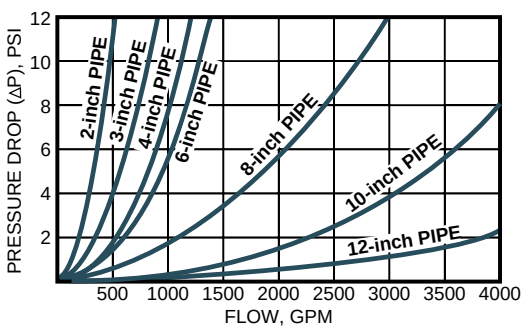
Basket strainers and bag filters are usually selected so that the pressure drop does not exceed 2 psi, when they are clean. Higher pressure drops may be tolerated when contaminant loading is low.

Determining housing pressure drop:

The pressure drops shown on the graph are reliable for all multi-basket housings, including strainer baskets or bag filter (perforated only or mesh lined). The pressure drop of any housing is governed by the size of the inlet and outlet, not the vessel itself.

1. Using the desired pipe size and approximate flow rate, determine the basic pressure drop from the graph.
2. Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table.
3. You now have the pressure drop for a clean multi-basket unit. If bag filters are employed, you must add the pressure drop they incur to get a true pressure drop for the assembly.

Note: Filter bags are specified separately. See pages 120-130.



Recommended flow rates are based on housing only. Fluid viscosity, filter bag used, and expected dirt load should be considered when sizing a filter.

Viscosity Factors

CPS NUMBER

1 (H_2O)	50	100	200	400	600	800	1000	2000
.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80

How To Order

Build an ordering code as shown in the example

Example: SLP-24-30-4F -1-150-C- B -S -M-20- C- 2P 1/16

(Housings: SLP-24-30-4F -1-150-C- | Options: B -S -M-20- C- | OPTIONAL INNER BASKET: 2P 1/16)

HOUSING STYLE
- Standard (std) = **No Symbol**
- Standard Low Profile = **SLP**
- Quick Access Cover = **QII**
- Hinged Low Profile = **HLP**

MODEL NO.
- 16 = **16**, 30 = **30**
- 18 = **18**, 36 = **36**
- 22 = **22**, 42 = **42**
- 24 = **24**, 48 = **48**

BASKET DEPTH
- 15-in. = **15**
- 30-in. (std) = **30**

PIPE SIZE (FLANGED[1])
- 2-in. (Std,SLP,HLP16-48 / QII 18 & 24) = **2F**
- 3-in.(Std, SLP, HLP 16-48 / QII 18 & 24) = **3F**
- 4-in. (Std 16-48 / SLP, HLP 22-48 / QII 24) = **4F**
- 6-in. (Std 22-48 / SLP, HLP 30-48) = **6F**
- 8-in. (Std 30-48 / SLP, HLP 36-48) = **8F**
- 10-in. (Std 36-48 / SLP, HLP 42 & 48) = **10F**
- 12-in. (Std 42, 48) = **12F**

OUTLET STYLE
- In-line, bottom (std) = **1**
- Side inlet/outlet (SLP, HLP, QII) = **2**
- Side inlet/outlet, same side (SLP, HLP, QII) = **4**

PRESSURE RATING[2]
- 150 psi (flanged) = **150**

HOUSING MATERIAL
- Carbon steel = **C**
- 304 stainless steel = **S**
- 316 stainless steel = **S316**

***COVER SEAL**
- Buna N = **B**
- Ethylene Propylene = **E**
- Viton® = **V**
- Teflon® Encapsulated Viton® = **TEV**
- Teflon® (solid white) = **TSW**

BASKET SEAL
- No seal = **N**
- Seal (only on strainer housings) = **S**

OPTIONAL INNER BASKET, MEDIA SIZE

Perforation diameters (for type 2P baskets)
1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type 2M & 2BM baskets)
20, 30, 40, 50, 60, 70, 80, 100, 150, or 200

OPTIONAL INNER BASKET, TYPE
- **2B** = Filter bag basket, 9/64 perforations
- **2P** = Strainer basket, perforated metal
- **2BM** = Filter basket, mesh lined
- **2M** = Strainer basket, perforated, mesh lined

ASME CODE STAMP
- **C** = Code

BASKET, MEDIA SIZE No symbol if type B basket was selected

Perforation diameters (for type P baskets)
1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type M & BM baskets)
20, 30, 40, 50, 60, 70, 80, 100, 150, or 200

BASKET, TYPE
- **PB** = Filter bag basket, 9/64 perforations
- **P** = Strainer basket, perforated metal
- **BM** = Filter bag basket, perforated, mesh lined
- **M** = Strainer basket, perforated, mesh lined
- **HWM** = Filter bag basket, heavy wire mesh

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. Other styles and classes available. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.

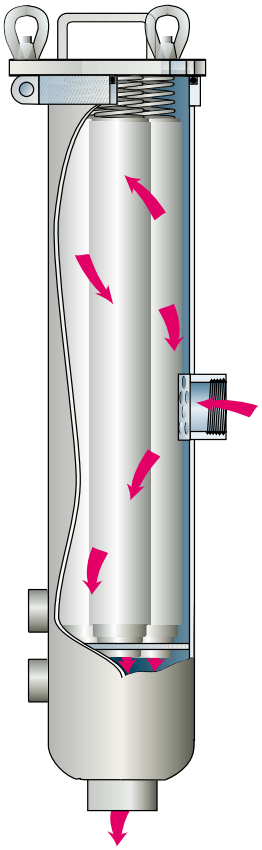
***Note:** The TEV and TSW cover seals are not available on the low profile QII.

Cartridge Filter Housings

These cartridge filters offer a wide range of flow capacities and contaminant holding capabilities. The housings can accommodate from 1 to 205 cartridges around. All housings can be supplied with an ASME code stamp, if required.

Standard Features

- Low pressure drop
- Permanently piped housings are opened without special tools and without disturbing the piping
- Machined cover gasket groove provides positive O-ring sealing
- Easy to clean
- In-line inlet and outlet
- Stainless steel internals

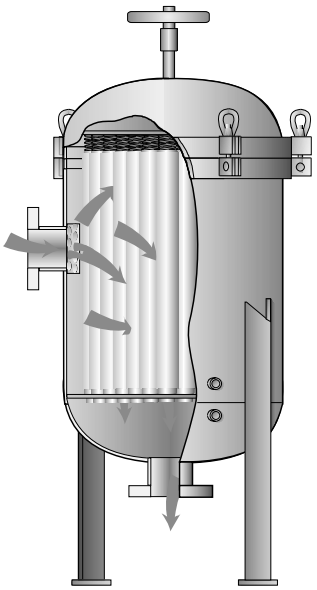


Standard Options

- 2 outlet styles
- Carbon steel, 304 or 316 stainless steel housings
- ASME code stamp
- O-ring seals: Buna N, EPR, Viton®, Teflon®
- Accommodates 10, 20, 30 or 40-inch cartridges
- Flanged connections for 3/4 through 12-inch pipe
- V posts or threaded center posts
- Units accept DOE or 222 style cartridges

How They Work

Unfiltered fluid enters the housing and is distributed evenly around the cartridges, from outside to inside. Solids are collected on the outside for easy removal. The filtered fluid then exits through the outlet pipe.



Center: Models 4, 6 and 8
Bottom Right: Models 12 thru 48

Cartridge Requirements

The following table gives the number of cartridges needed for each housing model.

Model Number and Diameter	Cartridge Lengths	Number of Cartridges	Equivalent 10-inch lengths	Available Pipe Sizes
Model 4	10-inch	1	1	3/4, 1, 1-1/4, 1-1/2, 2
	20-inch	1	2	
	30-inch	1	3	
	40-inch	1	4	
Model 6	20-inch	3	6	3/4, 1, 1-1/4, 1-1/2, 2, 3
	30-inch	3	9	
	40-inch	3	12	
Model 8	20-inch	6	12	3/4, 1, 1-1/4, 1-1/2, 2, 3
	30-inch	6	18	
	40-inch	6	24	
Model 12	20-inch	12	24	2,3,4
	30-inch	12	36	
	40-inch	12	48	
Model 16	20-inch	20	40	2,3,4
	30-inch	20	60	
	40-inch	20	80	
Model 18	20-inch	27	54	2,3,4
	30-inch	27	81	
	40-inch	27	108	
Model 22	20-inch	40	80	3,4,6
	30-inch	40	120	
	40-inch	40	160	
Model 24	20-inch	52	104	3,4,6
	30-inch	52	156	
	40-inch	52	208	
Model 30	20-inch	82	164	4,6,8
	30-inch	82	246	
	40-inch	82	328	
Model 36	20-inch	116	232	6,8,10
	30-inch	116	348	
	40-inch	116	464	
Model 42	20-inch	158	316	8,10,12
	30-inch	158	474	
	40-inch	158	632	
Model 48	20-inch	205	410	8,10,12
	30-inch	205	615	
	40-inch	205	820	

Determining Housing Pressure Drop Only

The pressure drops shown on the graph are reliable for all cartridge housings. The pressure drop of any housing is governed by the size of the inlet and outlet, not the vessel itself.

1. Using desired pipe size and approximate flow rate, determine the basic pressure drop from the graph.

2. Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table.

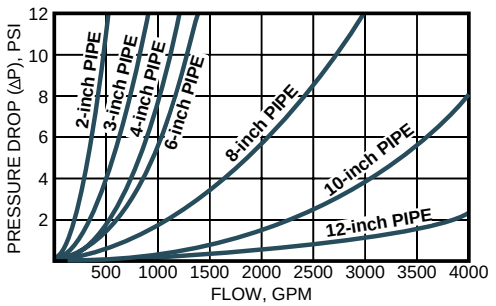
3. You now have the pressure drop for an empty cartridge housing.

4. The user selected cartridge pressure drop must then be added to the housing pressure.

5. To calculate pressure drop through cartridges, see page 174.

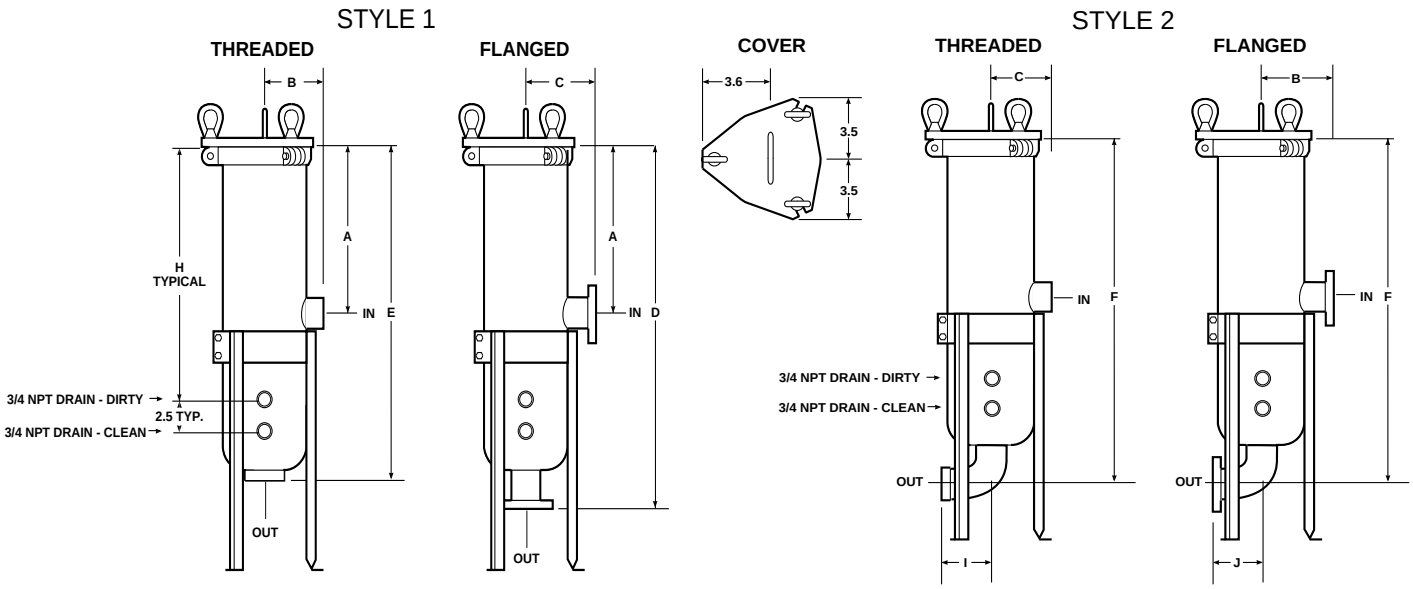
Viscosity Factors

	CPS NUMBER							
$1_{(H_2O)}$	50	100	200	400	600	800	1000	2000
.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80



*Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.

Dimensions for Models 4, 6, and 8 (IN)



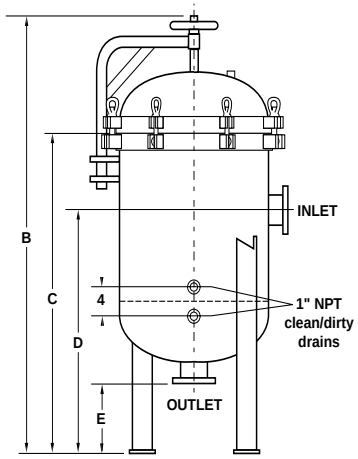
Model No.	Pipe Size	A	B	C	D	E	F	H	I	J
4110	3/4	6.0	5.0	3.5	20.0	18.6	18.9	11.8	1.9	4.0
	1	6.0	5.0	3.5	20.0	18.8	19.3	11.8	2.5	4.0
	1-1/4	6.0	5.0	3.5	20.0	18.8	19.7	11.8	2.9	4.0
	1-1/2	6.0	5.0	3.5	20.0	18.8	20.1	11.8	3.3	4.0
	2	6.0	5.0	3.5	20.0	18.7	20.8	11.8	4.0	5.0
4120	3/4	11.0	5.0	3.5	30.0	28.6	28.9	21.8	1.9	4.0
	1	11.0	5.0	3.5	30.0	28.8	29.3	21.8	2.5	4.0
	1-1/4	11.0	5.0	3.5	30.0	28.8	29.7	21.8	2.9	4.0
	1-1/2	11.0	5.0	3.5	30.0	28.8	30.1	21.8	3.3	4.0
	2	11.0	5.0	3.5	30.0	28.7	30.8	21.8	4.0	5.0
4130	3/4	16.0	5.0	3.5	40.0	38.6	38.9	31.8	1.9	4.0
	1	16.0	5.0	3.5	40.0	38.8	39.3	31.8	2.5	4.0
	1-1/4	16.0	5.0	3.5	40.0	38.8	39.7	31.8	2.9	4.0
	1-1/2	16.0	5.0	3.5	40.0	38.8	40.1	31.8	3.3	4.0
	2	16.0	5.0	3.5	40.0	38.7	40.8	31.8	4.0	5.0
4140	3/4	21.0	5.0	3.5	50.0	48.6	48.9	41.8	1.9	4.0
	1	21.0	5.0	3.5	50.0	48.8	49.3	41.8	2.5	4.0
	1-1/4	21.0	5.0	3.5	50.0	48.8	49.7	41.8	2.9	4.0
	1-1/2	21.0	5.0	3.5	50.0	48.8	50.1	41.8	3.3	4.0
	2	21.0	5.0	3.5	50.0	48.7	50.8	41.8	4.0	5.0

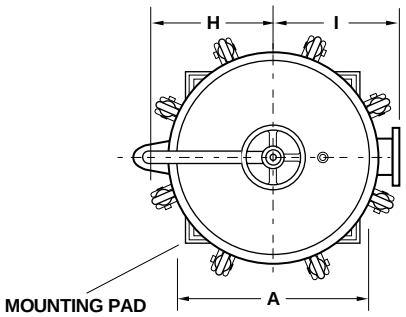
Dimensions for Models 4, 6, and 8 (IN) Cont.

Model No.	Pipe Size	A	B	C	D	E	F	H	I	J
6310	3/4	6.0	6.0	4.0	21.0	18.7	18.9	11.8	1.9	5.0
	1	6.0	6.0	4.3	21.0	18.8	19.3	11.8	2.5	5.0
	1-1/4	6.0	6.0	4.3	21.0	18.8	19.7	11.8	2.9	5.0
	1-1/2	6.0	6.0	4.3	21.0	18.8	20.1	11.8	3.3	5.0
	2	6.0	6.0	4.3	21.88	18.8	20.8	11.8	4.0	5.0
	3	6.0	6.0	4.3	21.88	19.1	22.1	11.8	6.1	7.3
6320	3/4	11.0	6.0	4.0	31.0	28.7	28.9	21.8	1.9	5.0
	1	11.0	6.0	4.3	31.0	28.8	29.3	21.8	2.5	5.0
	1-1/4	11.0	6.0	4.3	31.0	28.8	29.7	21.8	2.9	5.0
	1-1/2	11.0	6.0	4.3	31.0	28.8	30.1	21.8	3.3	5.0
	2	11.0	6.0	4.3	31.88	28.7	30.8	21.8	4.0	5.0
	3	11.0	6.0	4.3	31.88	29.1	32.1	21.8	6.1	7.3
6330	3/4	16.0	6.0	4.0	41.0	38.7	38.9	31.8	1.9	5.0
	1	16.0	6.0	4.3	41.0	38.8	39.3	31.8	2.5	5.0
	1-1/4	16.0	6.0	4.3	41.0	38.8	39.7	31.8	2.9	5.0
	1-1/2	16.0	6.0	4.3	41.0	38.8	40.1	31.8	3.3	5.0
	2	16.0	6.0	4.3	41.88	38.8	40.8	31.8	4.0	5.0
	3	16.0	6.0	4.3	41.88	39.1	42.1	31.8	6.1	7.3
6340	3/4	21.0	6.0	4.0	51.0	48.7	48.9	41.8	1.9	5.0
	1	21.0	6.0	4.3	51.0	48.8	49.3	41.8	2.5	5.0
	1-1/4	21.0	6.0	4.3	51.0	48.8	49.7	41.8	2.9	5.0
	1-1/2	21.0	6.0	4.3	51.0	48.8	50.1	41.8	3.3	5.0
	2	21.0	6.0	4.3	51.88	48.8	50.8	41.8	4.0	5.0
	3	21.0	6.0	4.3	51.88	49.1	52.1	41.8	6.1	7.3
8620	3/4	11.0	7.5	5.3	32.1	29.7	30.1	21.8	1.9	5.0
	1	11.0	7.5	5.3	32.1	29.8	30.4	21.8	2.5	5.0
	1-1/4	11.0	7.5	5.3	32.1	29.8	30.7	21.8	2.9	5.0
	1-1/2	11.0	7.5	5.6	32.1	29.8	30.1	21.8	3.3	5.0
	2	11.0	7.5	5.8	32.1	29.8	31.8	21.8	4.0	5.0
	3	11.0	7.5	6.8	32.4	30.3	33.2	21.8	6.1	7.3
8630	3/4	16.0	7.5	5.3	42.1	39.7	40.1	31.8	1.9	5.0
	1	16.0	7.5	5.3	42.1	39.8	40.4	31.8	2.5	5.0
	1-1/4	16.0	7.5	5.3	42.1	39.8	40.7	31.8	2.9	5.0
	1-1/2	16.0	7.5	5.6	42.1	39.8	40.1	31.8	3.3	5.0
	2	16.0	7.5	5.8	42.1	39.8	41.8	31.8	4.0	5.0
	3	16.0	7.5	6.8	42.4	40.3	43.2	31.8	6.1	7.3
8640	3/4	21.0	7.5	5.3	52.1	49.7	50.1	41.8	1.9	5.0
	1	21.0	7.5	5.3	52.1	49.8	50.4	41.8	2.5	5.0
	1-1/4	21.0	7.5	5.3	52.1	49.8	50.7	41.8	2.9	5.0
	1-1/2	21.0	7.5	5.6	52.1	49.8	50.1	41.8	3.3	5.0
	2	21.0	7.5	5.8	52.1	49.8	51.8	41.8	4.0	5.0
	3	21.0	7.5	6.8	52.4	50.3	53.2	41.8	6.1	7.3

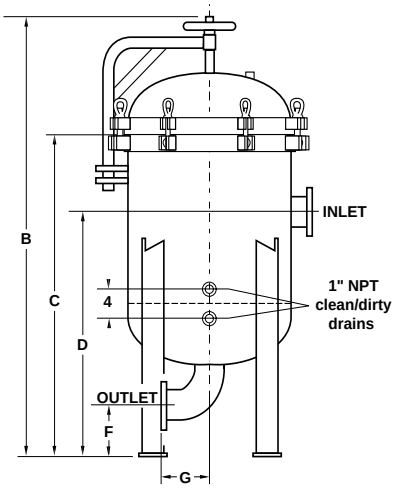
Dimensions for Models 12-24 (IN)

STYLE 1





STYLE 2



Model No.	No. of Cart.	Cart. Length	Pipe Size	STYLE 1 A	B	C	D	E	STYLE 2 B	C	D	F	G	H	I	Empty Weight (lbs)	Total Volume (cu. ft.)
12	12	20	2	12.0	59.1	43.1	33.1	12.0	50.6	34.6	24.6	4.5	5.5	9.3	10.0	370	2.2
			3						52.9	36.9	26.9	5.3	7.3			385	
			4						55.1	39.1	29.1	6.0	9.0			410	
		30	2	12.0	69.1	53.1	38.1	12.0	60.6	44.6	29.6	4.5	5.5	9.3	10.0	395	2.9
			3						62.9	46.9	31.9	5.3	7.3			410	
			4						65.1	49.1	34.1	6.0	9.0			425	
		40	2	12.0	79.1	63.1	43.1	12.0	70.6	54.6	34.6	4.5	5.5	9.3	10.0	420	3.7
			3						72.9	56.9	36.9	5.3	7.3			435	
			4						75.1	59.1	39.1	6.0	9.0			455	
16	20	20	2	16.0	61.1	44.1	34.1	12.0	52.6	35.6	25.6	4.5	5.5	10.9	12.0	450	3.6
			3						54.9	37.9	27.9	5.3	7.3			465	
			4						57.1	40.1	30.1	6.0	9.0			480	
		30	2	16.0	71.1	54.1	39.1	12.0	62.6	45.6	30.6	4.5	5.5	10.9	12.0	475	4.8
			3						64.9	47.9	32.9	5.3	7.3			495	
			4						67.1	50.1	35.1	6.0	9.0			510	
		40	2	16.0	81.1	64.1	44.1	12.0	72.6	55.6	35.6	4.5	5.5	10.9	12.0	505	5.9
			3						74.9	57.9	37.9	5.3	7.3			520	
			4						77.1	60.1	40.1	6.0	9.0			540	

Dimensions for Models 12-24 (IN) Cont.

Model No.	No. of Cart.	Cart. Length	Pipe Size	STYLE 1 A	STYLE 1 B	STYLE 1 C	STYLE 1 D	STYLE 1 E	STYLE 2 B	STYLE 2 C	STYLE 2 D	STYLE 2 F	STYLE 2 G	STYLE 2 H	STYLE 2 I	Empty Weight (lbs)	Total Volume (cu. ft.)
18	27	20	2	18.0	62.1	44.6	34.6	12.0	53.6	36.1	26.1	4.5	5.5	11.9	13.0	480	4.7
			3						55.9	38.4	28.4	5.3	7.3			500	
			4						58.1	40.6	30.6	6.0	9.0			515	
		30	2	18.0	72.1	54.6	39.6	12.0	63.6	46.1	31.1	4.5	5.5	11.9	13.0	515	6.1
			3						65.9	48.4	33.4	5.3	7.3			530	
			4						68.1	50.6	35.6	6.0	9.0			550	
		40	2	18.0	82.1	64.6	44.6	12.0	73.6	56.1	36.1	4.5	5.5	11.9	13.0	550	7.6
			3						75.9	58.4	38.4	5.3	7.3			565	
			4						78.1	60.6	40.6	6.0	9.0			580	
22	40	20	2	22.0	64.1	45.6	35.6	12.0	55.6	37.1	27.1	4.5	5.5	13.9	15.0	615	7.3
			3						57.9	39.4	29.4	5.3	7.3			630	
			4						60.1	41.6	31.6	6.0	9.0			645	
			6						64.1	45.6	35.6	7.0	12.5			690	
		30	2	22.0	74.1	55.6	40.6	12.0	65.6	47.1	32.1	4.5	5.5	13.9	15.0	655	9.5
			3						67.9	49.4	34.4	5.3	7.3			670	
			4						70.1	51.6	36.6	6.0	9.0			690	
			6						74.1	55.6	40.6	7.0	12.5			730	
		40	2	22.0	84.1	65.6	45.6	12.0	75.6	57.1	37.1	4.5	5.5	13.9	15.0	695	11.7
			3						77.9	59.4	39.4	5.3	7.3			710	
			4						80.1	61.6	41.6	6.0	9.0			730	
			6						84.1	65.6	45.6	7.0	12.5			770	
24	52	20	2	24.0	65.1	46.1	36.1	12.0	56.6	37.6	27.6	4.5	5.5	14.9	16.0	665	8.8
			3						58.9	39.9	29.9	5.3	7.3			680	
			4						61.1	42.1	32.1	6.0	9.0			700	
			6						65.1	46.1	36.1	7.0	12.5			745	
		30	2	24.0	75.1	56.1	41.1	12.0	66.6	47.6	32.6	4.5	5.5	14.9	16.0	710	11.4
			3						68.9	49.9	34.9	5.3	7.3			725	
			4						71.1	52.1	37.1	6.0	9.0			740	
			6						75.1	56.1	41.1	7.0	12.5			790	
		40	2	24.0	85.1	66.1	46.1	12.0	76.6	57.6	37.6	4.5	5.5	14.9	16.0	750	14.0
			3						78.9	59.9	39.9	5.3	7.3			770	
			4						81.1	62.1	42.1	6.0	9.0			785	
			6						85.1	66.1	46.1	7.0	12.5			830	

Dimensions for Models 30-48 (IN)

Model No.	No. of Cart.	Cart. Length	Pipe Size	STYLE 1 A	STYLE 1 B	STYLE 1 C	STYLE 1 D	STYLE 1 E	STYLE 2 B	STYLE 2 C	STYLE 2 D	STYLE 2 F	STYLE 2 G	STYLE 2 H	STYLE 2 I	Empty Weight (lbs)	Total Volume (cu. ft.)
30	82	20	2	30.0	68.1	47.6	37.6	12.0	59.6	39.1	29.1	4.5	5.5	17.9	19.0	955	14.5
			3						61.9	41.4	31.4	5.3	7.3			970	
			4						64.1	43.6	33.6	6.0	9.0			990	
			6						68.1	47.6	37.6	7.0	12.5			1035	
			8						72.4	51.9	41.9	8.3	16.0			1100	
		30	2	30.0	78.1	57.6	42.6	12.0	69.6	49.1	34.1	4.5	5.5	17.9	19.0	1030	18.6
			3						71.9	51.4	36.4	5.3	7.3			1045	
			4						74.1	53.6	38.6	6.0	9.0			1060	
			6						78.1	57.6	42.6	7.0	12.5			1110	
			8						82.4	61.9	46.9	8.3	16.0			1170	
		40	2	30.0	88.1	67.6	47.6	12.0	79.6	59.1	39.1	4.5	5.5	17.9	19.0	1100	22.7
			3						81.9	61.4	41.4	5.3	7.3			1120	
			4						84.1	63.6	43.6	6.0	9.0			1135	
			6						88.1	67.6	47.6	7.0	12.5			1180	
			8						92.4	71.9	51.9	8.3	16.0			1245	
36	116	20	2	36.0	71.1	49.1	39.1	12.0	62.6	40.6	30.6	4.5	5.5	20.9	22.0	1315	22.0
			3						64.9	42.9	32.9	5.3	7.3			1330	
			4						67.1	45.1	35.1	6.0	9.0			1350	
			6						71.1	49.1	39.1	7.0	12.5			1395	
			8						75.4	53.4	43.4	8.3	16.0			1460	
			10						79.6	57.6	47.6	9.5	19.0			1570	
		30	2	36.0	81.1	59.1	44.1	12.0	72.6	50.6	35.6	4.5	5.5	20.9	22.0	1425	27.9
			3						74.9	52.9	37.9	5.3	7.3			1440	
			4						77.1	55.1	40.1	6.0	9.0			1460	
			6						81.1	59.1	44.1	7.0	12.5			1505	
			8						85.4	63.4	48.4	8.3	16.0			1570	
			10						89.6	67.6	52.6	9.5	19.0			1680	
		40	2	36.0	91.1	69.1	49.1	12.0	82.6	60.6	40.6	4.5	5.5	20.9	22.0	1535	33.8
			3						84.9	62.9	42.9	5.3	7.3			1550	
			4						87.1	65.1	45.1	6.0	9.0			1570	
			6						91.1	69.1	49.1	7.0	12.5			1615	
			8						95.4	73.4	53.4	8.3	16.0			1680	
			10						99.6	77.6	57.6	9.5	19.0			1790	
42	158	20	2	42.0	74.1	50.6	40.6	12.0	65.6	42.1	32.1	4.5	5.5	23.9	25.0	2030	31.6
			3						67.9	44.4	34.4	5.3	7.3			2045	
			4						70.1	46.6	36.6	6.0	9.0			2060	
			6						74.1	50.6	40.6	7.0	12.5			2110	

Dimensions for Models 30-48 (IN) Cont.

Model No.	No. of Cart.	Cart. Length	Pipe Size	STYLE 1 A	STYLE 1 B	STYLE 1 C	STYLE 1 D	STYLE 1 E	STYLE 2 B	STYLE 2 C	STYLE 2 D	STYLE 2 F	STYLE 2 G	STYLE 2 H	STYLE 2 I	Empty Weight (lbs)	Total Volume (cu. ft.)
			8						78.4	54.9	44.9	8.3	16.0			2170	
			10						82.6	59.1	49.1	9.5	19.0			2280	
			12						87.1	63.6	53.6	11.0	22.5			2415	
		30	2	42.0	84.1	60.6	45.6	12.0	75.6	52.1	37.1	4.5	5.5	23.9	25.0	2160	39.6
			3						77.9	54.4	39.4	5.3	7.3			2175	
			4						80.1	56.6	41.6	6.0	9.0			2195	
			6						84.1	60.6	45.6	7.0	12.5			2240	
			8						88.4	64.9	49.9	8.3	16.0			2305	
			10						92.6	69.1	54.1	9.5	19.0			2415	
			12						97.1	73.6	58.6	11.0	22.5			2550	
		40	2	42.0	94.1	70.6	50.6	12.0	85.6	62.1	42.1	4.5	5.5	23.9	25.0	2285	47.6
			3						87.9	64.4	44.4	5.3	7.3			2300	
			4						90.1	66.6	46.6	6.0	9.0			2320	
			6						94.1	70.6	50.6	7.0	12.5			2360	
			8						98.4	74.9	54.9	8.3	16.0			2430	
			10						102.6	79.1	59.1	9.5	19.0			2535	
			12						107.1	83.6	63.6	11.0	22.5			2670	
48	205	20	2	48.0	77.1	52.1	42.1	12.0	68.6	44.1	34.1	4.5	5.5	26.9	28.0	2510	43.2
			3						70.9	46.4	36.4	5.3	7.3			2520	
			4						73.1	48.6	38.6	6.0	9.0			2540	
			6						77.1	52.6	42.6	7.0	12.5			2585	
			8						81.4	56.9	46.9	8.3	16.0			2650	
			10						85.6	61.1	51.1	9.5	19.0			2760	
			12						90.1	65.6	55.6	11.0	22.5			2895	
		30	2	48.0	87.1	62.1	47.1	12.0	78.6	54.1	39.1	4.5	5.5	26.9	28.0	2655	53.7
			3						80.9	56.4	41.4	5.3	7.3			2670	
			4						83.1	58.6	43.6	6.0	9.0			2685	
			6						87.1	62.6	47.6	7.0	12.5			2730	
			8						91.4	66.9	51.9	8.3	16.0			2800	
			10						95.6	71.1	56.1	9.5	19.0			2905	
			12						100.1	75.6	60.6	11.0	22.5			3040	
		40	2	48.0	97.1	72.1	52.1	12.0	88.6	64.1	44.1	4.5	5.5	26.9	28.0	2800	64.1
			3						90.9	66.4	46.4	5.3	7.3			2815	
			4						93.1	68.6	48.6	6.0	9.0			2830	
			6						97.1	72.6	52.6	7.0	12.5			2880	
			8						101.4	76.9	56.9	8.3	16.0			2945	
			10						105.6	81.1	61.1	9.5	19.0			3050	
			12						110.1	85.6	65.6	11.0	22.5			3180	

How To Order

Build an ordering code as shown in the example. Each available only on the model sizes highlighted in the colored blocks preceding its description

Key To Blocks:

4 6 8 12 = Model 4
4 6 8 12 = Model 6
4 6 8 12 = Model 8
4 6 8 12 = Model 12 etc.

Example: HOUSING 245230- 4F-1-150-S-B-DOE-VP-C OPTION

MODEL NO.
4 = 4
6 = 6
8 = 8
12 = 12
16 = 16
18 = 18
22 = 22
24 = 24
30 = 30
36 = 36
42 = 42
48 = 48

NUMBER OF CARTRIDGES[4]
(Around) Cartridges
4 = 1
6 = 3
8 = 6
12 = 12
16 = 20
18 = 27
22 = 40
24 = 52
30 = 82
36 = 116
42 = 158
48 = 205

CARTRIDGE LENGTH[4]
4 6 = 10-in. = 10
4 6 8 12 16 18 22 24 30 36 42 48 = 20-in. = 20
4 6 8 12 16 18 22 24 30 36 42 48 = 30-in. = 30
4 6 8 12 16 18 22 24 30 36 42 48 = 40-in = 40

PIPE SIZE NPT (female)
4 6 8 = 3/4-in. = 3/4P
4 6 8 = 1-in. = 1P
4 6 8 = 1-1/4-in. = 1-1/4P
4 6 8 12 = 1-1/2-in. = 1-1/2P
4 6 8 12 16 18 = 2-in. = 2P
6 8 12 16 18 22 24 = 3-in. = 3P

FLANGED[1]
4 6 8 = 3/4-in. = 3/4F
4 6 8 = 1-in. = 1F
4 6 8 = 1-1/4-in. = 1-1/4F
4 6 8 12 = 1-1/2-in. = 1-1/2F
4 6 8 12 16 18 22 24 30 36 42 48 = 2-in. = 2F
6 8 12 16 18 22 24 30 36 42 48 = 3-in. = 3F
12 16 18 22 24 30 36 42 48 = 4-in. = 4F
22 24 30 36 42 48 = 6-in. = 6F
30 36 42 48 = 8-in. = 8F
36 42 48 = 10-in. = 10F
42 48 = 12-in. = 12F

ASME CODE STAMP
4 6 8 12 16 18 22 24 30 36 42 48
C = Code

CARTRIDGE SEALING METHOD
4 6 8 12 16 18 22 24 30 36 42 48 VP = V Post and Spring Seal
4 6 8 12 16 18 22 24 30 36 42 48 TP = Threaded Post
For other styles, consult factory

CARTRIDGE DESIGN[4]
4 6 8 12 16 18 22 24 30 36 42 48 DOE = Double-Open End
4 6 8 12 16 18 22 24 30 36 42 48 SOE = Single-Open End
4 6 8 12 16 18 22 24 30 36 42 48 222 = Double O-Ring
4 6 8 12 16 18 22 24 30 36 42 48 226 = Bayonet Lock (Pall)

COVER SEAL
4 6 8 12 16 18 22 24 30 36 42 48 B = Buna N
4 6 8 12 16 18 22 24 30 36 42 48 E = Ethylene Propylene
4 6 8 12 16 18 22 24 30 36 42 48 V = Viton®
4 6 8 12 16 18 22 24 30 36 42 48 TEV = Teflon® Encapsulated Viton®
4 6 8 12 16 18 22 24 30 36 42 48 TSW = Teflon® (solid white)

HOUSING MATERIAL[2]
4 6 8 12 16 18 22 24 30 36 42 48 C = Carbon Steel
4 6 8 12 16 18 22 24 30 36 42 48 S = 304 Stainless Steel
4 6 8 12 16 18 22 24 30 36 42 48 S316 = 316 Stainless Steel

PRESSURE RATING[3]
4 6 8 12 16 18 22 24 30 36 42 48 150 = 150 psi (NPT or flanged)
4 6 8 12 16 18 22 24 30 36 42 48 300 = 300 psi (NPT or flanged)

PIPING STYLE[2]
4 6 8 12 16 18 22 24 30 36 42 48 1 = Side Inlet, Bottom Outlet
4 6 8 12 16 18 22 24 30 36 42 48 2 = In-line, Inlet-high, Outlet-low

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. Other styles and classes are available. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Consult factory for special options.
3. Higher pressure ratings available. Consult factory.
4. Filter cartridges are sold separately. See pages 120-130.

Pressure Drop Data

Cartridge filters are usually selected so that the clean pressure drop does not exceed 2 psi. Higher pressure drops may be tolerated when contaminant loading is low. The user must determine the appropriate cartridge for the application, and note the flow rate ΔP per cartridge as suggested by the media manufacturer.

Viscosity Factors

	CPS NUMBER							
1 (H_2O)	50	100	200	400	600	800	1000	2000
.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80

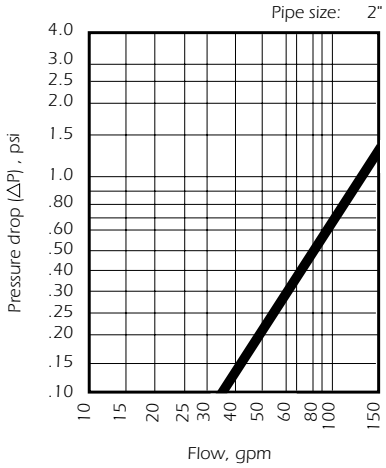
Cartridge Filters

Rugged, low-cost cartridge design for flow rates to 100 gpm*

These cartridge-filter housings are rugged and low in cost. They hold five cartridges, in 10-inch, 20-inch, 30-inch, or 40-inch lengths, using industry standard designs (222, SOE, or DOE). The unique, "quick-opening" clamp design uses a standard O-ring.

Standard Features

- Low pressure drop
- Permanently piped housings are opened without disturbing the piping or requiring tools
- Quick-opening, clamp-type cover
- Carbon or stainless steel housings
- Adjustable-height tripod legs
- Holds 5 cartridge elements
- Accommodates cartridge elements in four lengths: 10", 20", 30", 40"
- 125-psi rated housing
- 3/4-inch clean-dirty/gage ports
- 2-inch female NPT ports
- V posts or threaded-center posts
- Standard hardware V-post and spring seals are 316 stainless steel.
- O-ring seals: Buna N, EPR, Viton®



*Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.

How To Order

Reduced Pressure Model 8 Cartridge Housing

Build an ordering code as shown in the example

Example: 8520 - 2P -1 -125 -S -B - 222 (Housing | Options)

REDUCED PRESSURE MODEL 8 CARTRIDGE HOUSING = **8**

NUMBER OF CARTRIDGES
5 = **5**

CARTRIDGE LENGTH
10 inch = **10**
20 inch = **20**
30 inch = **30**
40 inch = **40**

PIPE SIZE
2-inch female NPT = **2P**

OUTLET STYLE
Bottom = **1**

PRESSURE RATING
125 PSI = **125**

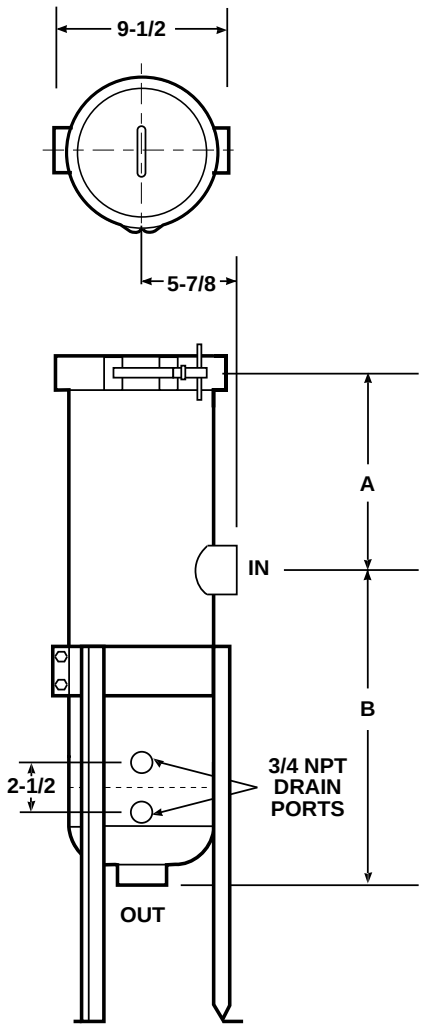
HOUSING MATERIAL
Carbon Steel = **C**
304 Stainless Steel = **S**

COVER SEAL
Buna N = **B**
Ethylene Propylene = **E**
Viton® Fluorelastomer = **V**

CARTRIDGE DESIGN[1]
222 = **222**
Single-open End = **SOE**
Double-open End[2] = **DOE**

1. Filter cartridges are specified separately. See pages 120-130.
2. Comes with V-Posts and spring seals.

Dimensions (IN)



Cart. Length	A	B
10	6	14-13/16
20	11	19-13/16
30	16	24-13/16
40	21	29-13/16

The Platinum 700 Cartridge Filter Housing

Ultra high capacity filter eliminates maintenance by providing high dirt removal

These new cartridge housings are designed to end the high cost of cartridge change-out. They are offered in three Model 8 styles (LCO, Polypropylene, and Standard Model 8) and Multi-cartridge housings.

Standard Features

- *Housings available in carbon steel, 304 or 316 stainless steel and polypropylene*
- *Pressure ratings in 100, 125, and 150 psi*
- *Clean and dirty/gage port connections*
- *O-ring seals: Buna, Ethylene Propylene, Viton®, and Teflon® Encapsulated Viton®*
- *ASME code stamp available on selected models*
- *Flanged or threaded connection sizes from 2-inch through 10-inch*
- *Covers are o-ring sealed and easy to remove*
- *Leg assembly (excludes CR8)*
- *Multi-cartridge units are offered in the low profile design, for quick and easy cartridge removal*

A single 700 Series cartridge unit will out perform 40 standard wound or 10 pleated cartridges, reducing maintenance. A decrease in cartridge use, reduces labor, inventory, worker exposure and disposal costs. Flow rates and contaminant holding capacities vary depending on micron size. A single cartridge element holds as much as 20 pounds of contaminant and flows to 100 gallons per minute. The labor-intensive v-posts and spring seals are eliminated and cartridges are easily removed, requiring no special tools. Elements are approximately 6.25-inch diameter and 35-inch length. The 700 series filter housings contain one, four, seven, or eighteen cartridges, with a 226-end cap design.

LCO8135

8135

CR8135

For more detailed design information about the 700 Series cartridge element see page 147.

How To Order

Build an ordering code as shown in the example

Example: CR8135 - 2F - 1- 150 - P - B - 700 - C

MODEL NUMBER
- Low Pressure, 1 Element = **LCO8135**
- Poly-Pro, 1 Element = **CR8135**
- Model 8,1 Element = **RCO8135 or 8135**

PIPE SIZE, FLANGED
- CR8, Flat Face class 150 = **2F**
- RCO, LCO8, female NPT = **2P**
- Model 8, RF class 150, or FNPT = **2F or 2P**

OUTLET STYLE
- Side In/Bottom Out = **1**

PRESSURE RATING
- Low pressure = **125 psi**
- Poly Pro = **100 psi**
- Model 8 = **150 psi**

HOUSING MATERIAL
- 304 Stainless Steel = **S**
- Carbon Steel = **C**
- 316 Stainless Steel (Excludes LCO8) = **S316**
- Polypropylene (CR8 only) = **P**

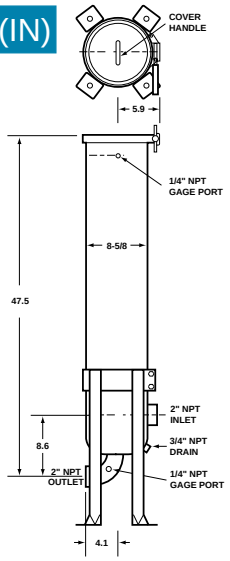
COVER GASKET
- Buna = **B**
- Ethylene Propylene = **E**
- Viton® Fluorelastomer = **V**
- Teflon® Encapsulate Viton® = **TEV**

ELEMENT SERIES = **700**

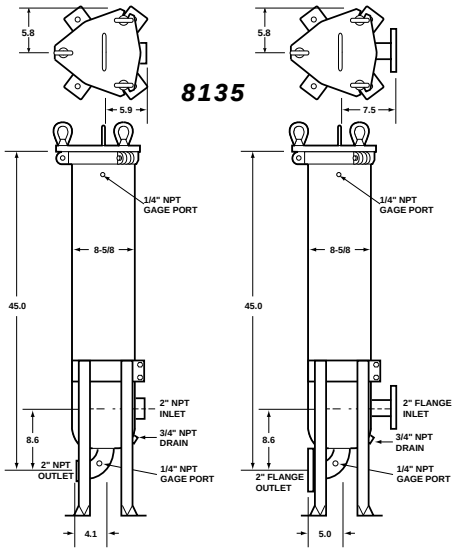
ASME CODE OPTION
- ASME Code Stamp (8135 only) = **C**

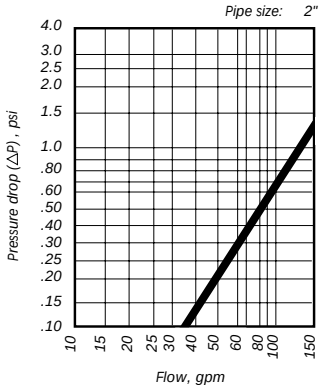
Dimensions (IN)

LCO8135



8135





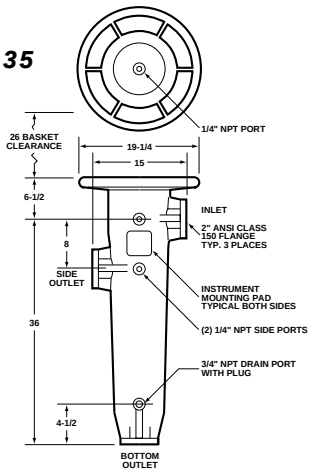
Viscosity Factors

CPS NUMBER

1(H2O)	50	100	200	400	600	800	1000	2000
.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80

**Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.*

CR8135



How To Order

Build an ordering code as shown in the example

Example: **SLP-18435 - 3F - 1- 150 - S - B - 700 - C**

HOUSING STYLE
Standard Low Profile = **SLP**

MODEL NUMBER
Model 18,4 Elements = **18435**
Model 24,7 Elements = **24735**
Model 36,18 Elements = **361835**

PIPE SIZE, FLANGED
Model 18 = **2F or 3F**
Model 24 = **3F or 4F**
Model 36 = **4F, 6F or 8F**

OUTLET STYLE
Side In/Bottom Out = **1**

PRESSURE RATING
150 PSI = **150**

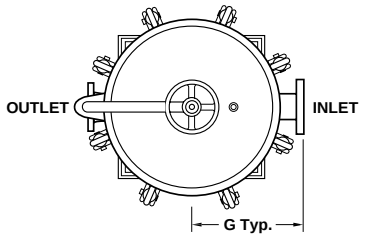
HOUSING MATERIAL
304 Stainless Steel = **S**
Carbon Steel = **C**
316 Stainless Steel = **S316**

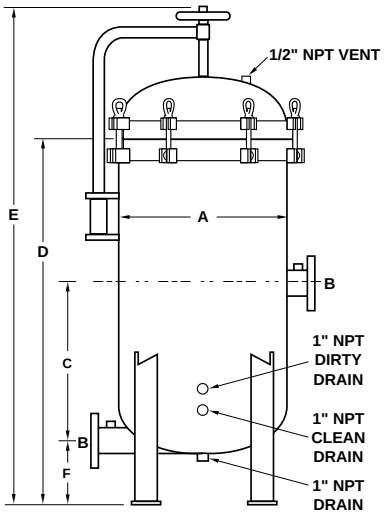
COVER GASKET
Buna = **B**
Ethylene Propylene = **E**
Viton® Fluorelastomer = **V**
Teflon Encapsulate Viton® = **TEV**

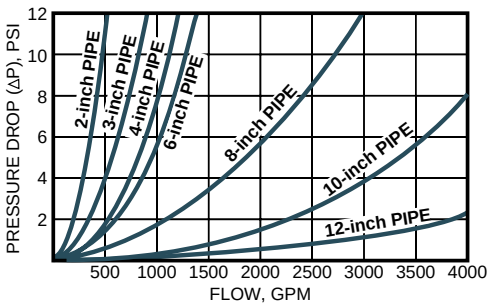
ELEMENT SERIES = **700**

ASME CODE OPTION
ASME Code Stamp = **C**

Dimensions (IN)







**Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.*

MODEL NUMBER & Dim. A	Pipe Sizes B	Leg Bolt Circle Dia.	C	D	E	F	G
18	2	16.0	22.2	49.4	68.2	8.00	14.0
	3		21.6	49.8	68.7	9.00	14.0
24	3	22.0	23.1	51.3	71.7	9.00	18.0
	4		22.6	50.8	71.2	9.00	19.0
36	4	34.0	27.4	55.9	77.7	9.50	25.0
	6		26.3	55.9	77.6	10.5	26.0
	8		25.3	55.9	77.6	11.5	27.0

The Platinum 900 Cartridge Filter Housing

Ultra high capacity filtration system provides maximum dirt holding capacity–eliminating maintenance

End the high cost of element change-out with the Platinum 900-cartridge filter system. Imagine changing a filter element only once or twice a year, instead of changing several cartridges on a weekly or daily basis!

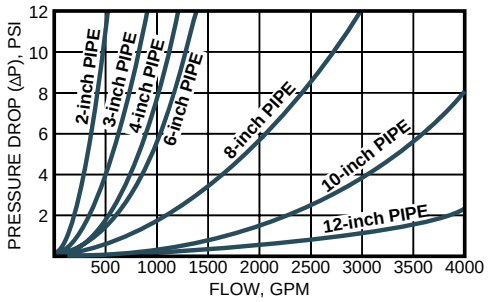
Standard Features

- *Housings available in carbon steel, 304 or 316 stainless steel.*
- *Pressure rating 150 psi*
- *Clean and dirty/gauge port connections*
- *O-ring seals: Buna, Ethylene Propylene and Viton®*
- *Covers are o-ring sealed and easy to remove*
- *ASME code stamp (optional)*
- *Flange connection sizes from 3-inch through 10-inch*
- *Cable-hoist assembly for quick and easy removal of element is standard on Model 18 (optional on other models)*

A single cartridge system has the life of 200 standard wound or 50 pleated cartridges, reducing maintenance. A decrease in cartridge use, reduces labor, inventory, worker exposure, and disposal costs. Flow rates and contaminant holding capacities vary depending on micron size. A single cartridge element can hold up to 100 pounds of contaminant and flows to 400 gallons per minute. Elements are 13-inch diameter and 40-inch length.

The 900 filter housings contain one, three, four, seven, or eight cartridges.

By using the cable-hoist assembly change-out is completed in minutes. The element shipping container allows for easy handling and disposal.



**Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.*

Viscosity Factors

	CPS NUMBER							
$1_{(H_2O)}$	50	100	200	400	600	800	1000	2000
.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80

For more detailed design information about the 900 Series cartridge element see page 149.

How To Order

Build an ordering code as shown in the example

Example: **SLP - 18140 - 4F - 1- 150 - S - B - 900 - C**

HOUSING STYLE
Standard Low Profile = **SLP**

MODEL NUMBER
Model 18,1 Elements = **18140**
Model 30,3 Elements = **30340**
Model 36,4 Elements = **36440**
Model 42,7 Elements = **42740**
Model 48,8 Elements = **48840**

PIPE SIZE, FLANGED
Model 18 = **2F or 3F**
Model 30 = **4F or 6F**
Model 36 = **6F or 8F**
Model 42 = **8F or 10F**
Model 48 = **8F or 10F**

OUTLET STYLE
Side In/Side Out = **1**

PRESSURE RATING
150 PSI = **150**

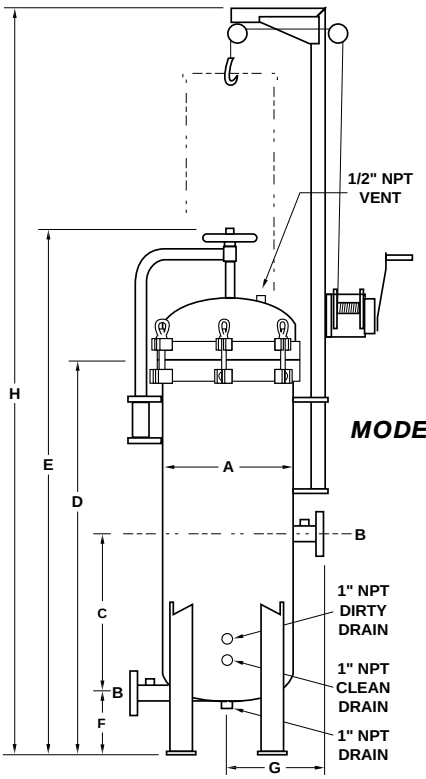
HOUSING MATERIAL
304 Stainless Steel = **S**
Carbon Steel = **C**
316 Stainless Steel = **S316**

COVER GASKET
Buna = **B**
Ethylene Propylene = **E**
Viton® Fluorelastomer = **V**
Teflon® Encapsulated Viton® = **TEV**

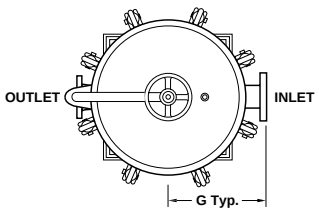
ELEMENT SERIES = **900**

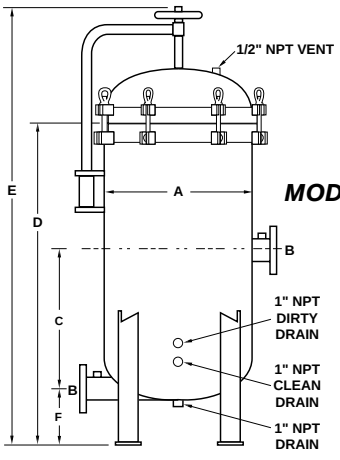
ASME CODE OPTION
ASME Code Stamp = **C**

Dimensions (IN)



MODEL 18





MODEL 30-48

MODEL NUMBER & Dim. A	Pipe Sizes B	Leg Bolt Circle Dia.	C	D	E	F	G	H
18	2	16.0	22.2	53.4	72.2	8.0	14.0	101.8
	3		21.6	53.8	72.7	9.0	15.0	102.3
30	4	28.0	29.9	56.2	76.6	9.0	22.5	
	6		28.8	56.2	76.6	10.0	23.0	
36	6	34.0	28.7	57.7	79.5	10.5	26.0	
	8		27.3	57.7	79.5	11.5	27.0	
42	8	40.0	26.3	60.0	83.3	11.5	29.5	
	10		25.2	59.9	83.2	12.5	30.0	
48	8	46.0	29.2	61.2	86.7	11.5	32.5	
	10		28.1	61.1	86.6	12.5	33.0	

Duplex Bag Filters And Basket Strainers

Trouble free, continuous operation

Duplex filters permit continuous operation, reducing overall operating costs. Flow can be switched back and forth between two filter vessels or housings, allowing one side to be serviced while the other is in use.

The Rosedale duplex, using a single multi-ported valve operating system (patent applied for), is a better solution, and offers many benefits:

- *Four separate valves are used all operated simultaneously by a single lever.*
- *Valves use the standard butterfly design, known for their effective seal, low pressure drop, and low cost.*
- *Any of the valves can be serviced individually, without need to disturb the other valves or piping. Replacements are readily available.*
- *Valves are soft-seated to provide bubble-tight closure.*
- *A variety of valve seal materials is available for use with a number of hard-to-handle fluids.*
- *Pressure drop is minimized because the flow path has the equivalent of only four elbows instead of the usual six.*
- *Mechanical stops assure that the valves are completely open or closed.*
- *A single-valve pressure balancing vent system is furnished to ease movement of the lever and to fill the just serviced vessel before use.*
- *Vents in filter covers and drain ports in filter housing speed evacuation and filling.*
- *Remotely operated power actuators and automatic power actuation (triggered by pressure differential sensing) are offered. Air or electric actuation is best if such power is available.*

Construction Materials

Available in carbon steel, 304 stainless steel, or 316 stainless steel.

Internal valve parts other than seals are 316 stainless steel.

Four different materials can be ordered for all seals involved.

All baskets and mesh linings are made of stainless steel. 304 stainless will be supplied with carbon and 304 housings, 316 stainless with 316 housings.

Choosing a Basket Strainer or Bag Filter

Choose between straining a fluid (removing particles down to 74 micron size) and filtering it (removing particles down to 1 micron).

Pressure Drop Data

Basket strainers and bag filters are usually selected so that the pressure drop does not exceed 2 psi, when they are clean. Higher pressure drops may be tolerated, when contaminant loading is low.

The pressure drop data are accurate for all housings with strainer or filter bag baskets. When filter bags are added, total pressure drop becomes the sum of the pressure drop as determined by the steps below plus the pressure drop through the bag as defined on pages 61 and 62.

Follow these easy steps:

1. *Using the desired pipe size and approximate flow rate, determine the basic pressure drop from the appropriate graph.*
2. *Multiply the pressure drop obtained in step 1 by the viscosity correction factor found in the accompanying table. This is the adjusted (clean) pressure drop for all baskets without filter bags.*

Note: *Filter bags are specified separately. See page 120-130.*

	Viscosity, cps								
	1 (H_2O)	50	100	200	400	600	800	1000	2000
All unlined baskets	.65	.85	1.00	1.10	1.20	1.40	1.50	1.60	1.80
40-mesh lined	.73	.95	1.20	1.40	1.50	1.80	1.90	2.00	2.30
60-mesh lined	.77	1.00	1.30	1.60	1.70	2.10	2.20	2.30	2.80
80-mesh lined	.93	1.20	1.50	1.90	2.10	2.40	2.60	2.80	3.50
100-mesh lined	1.00	1.30	1.60	2.20	2.40	2.70	3.00	3.30	4.40
200-mesh lined	1.30	1.70	2.10	3.00	3.40	3.80	4.40	5.00	6.80

Selecting A Size

These descriptions and flow charts can aid in size selection. Capacities given are for each of the two vessels in any duplex system.

Model 4–For flow rates to 50 gpm*

- *Pipe sizes 1, 2, or 3 inch, flanged*
- *Basket depth: 12 inches (nominal)*

Basket Data

Depth (nominal, inches)	Diameter (inches)	Surface Area	Volume (cu. in.)
12	3.9	1.0	130

Model 6–For flow rates to 100 gpm*

- *Delivers 3.4 square feet of basket or bag surface without need for ASME code construction.*
- *Can be fitted to hold cartridge filter elements*
- *Pipe sizes 1, 2, 3, or 4 inches (flanged).*
- *Two basket depths: 18, or 30 inches (nominal)*

Basket Data

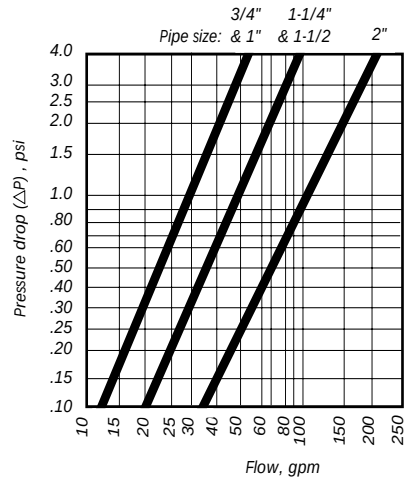
Depth (nominal, inches)	Diameter (inches)	Surface Area	Volume (cu. in.)
18	5	2.0	350
30	5	3.4	630

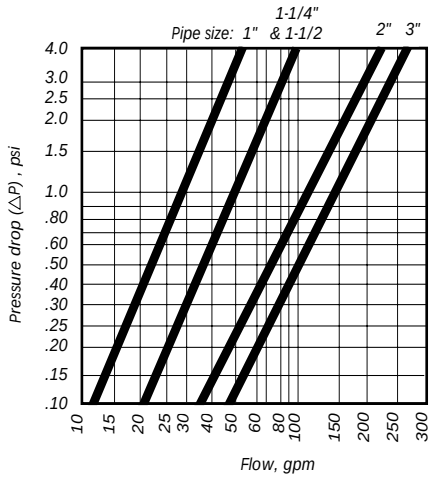
Model 8–For flow rates to 220 gpm*

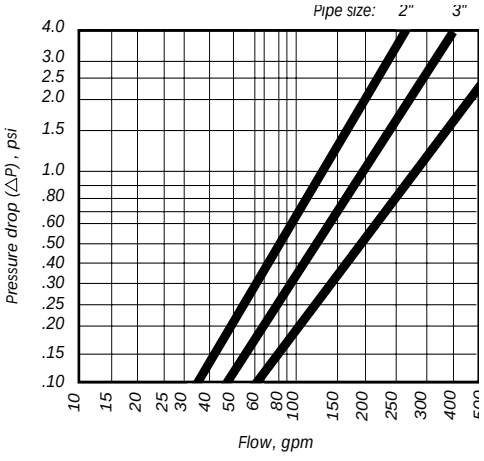
- *Can be fitted to hold cartridge filter elements*
- *Pipe sizes 2, 3, or 4 inch, flanged.*
- *Two basket depths: 15 or 30 inches (nominal)*

Basket Data

Depth (nominal, inches)	Diameter (inches)	Surface Area	Volume (cu. in.)
15	6.7	2.3	500
30	6.7	4.4	1000





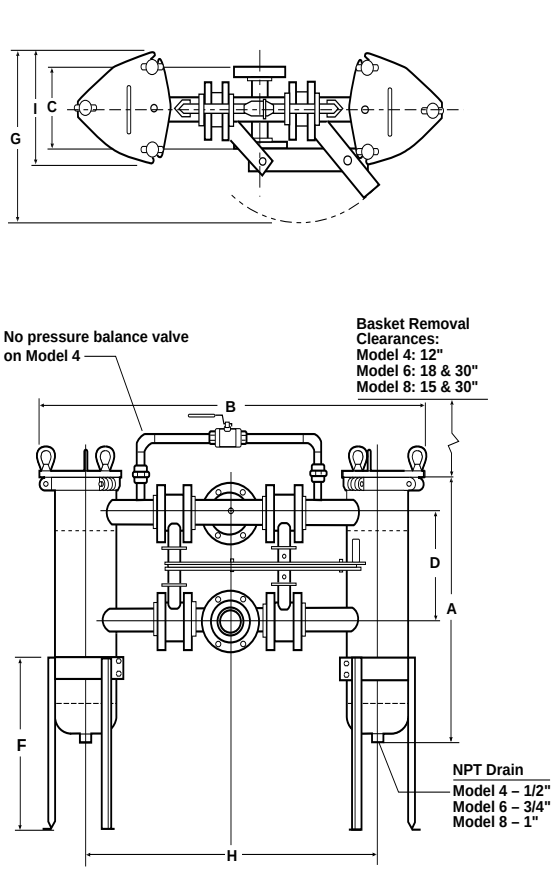


**Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.*

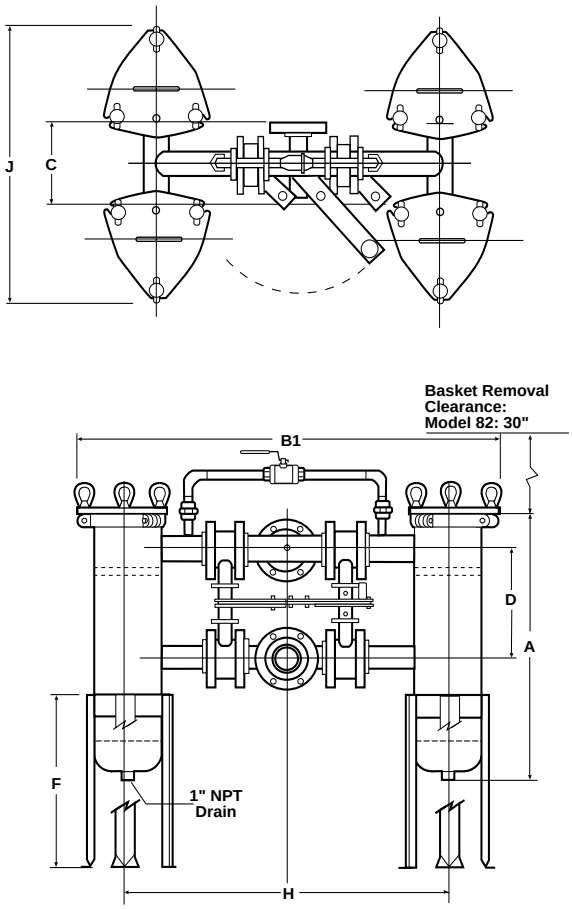
Single-Basket Models (IN)

Model	Flange Size	A For basket depths 12	15	18	30	B	B1 (Model 82 only)	C	D	F	G	H	I	J (Model 82 only)
4	1	18				29.5		9	15	14	19	22.25	7.0	
	2	18				29.5		9	15	14	19	22.25	7.0	
	3	22.125				31.75		11	17	14	19	24.25	7.0	
6	1			25.75	37.75	34.75		9	15	18	20.5	24.25	10.0	
	2			25.75	37.75	34.75		9	15	18	20.5	24.25	10.0	
	3			27.75	39.625	37		11	17	18	20.5	26.25	10.0	
	4			27.625	39.625	41.5		13	18	18	20.5	31	10.0	
8	1		23.75		38.75	44.75	45.75	9	15	22	21.3	32.25	11.6	28.6
	2		23.75		38.75	44.75	45.75	9	15	22	21.3	32.25	11.6	28.6
	3		25.625		40.625	47	48	11	17	22	21.3	34.5	11.6	30.6
	4		25.625		40.625	49.5	50.5	13	18	22	21.3	37	11.6	30.6

The inlets and outlets on all duplex systems come standard in a horizontal configuration (facing opposite directions). The option of arranging the inlet and outlet is available in three positions, 90° apart. The system is designed with flanged tees, allowing the orientation to be changed in the field.



Duplex Models 4, 6, and 8



Duplex Model 82

Duplex Bag Filters With Automatic Sequencing

Continuous, uninterrupted filtering of large flows of liquid is provided by these automatic duplex filters

When the filter bags on one side get to the point of requiring change-out, the incoming flow is automatically diverted to the clean filter bags on the other side. Maintenance personnel are alerted to the need to change the dirty filters so that the system will be ready for the next cycle.

Typical step-by-step operation

1. *As the filter bags in vessel A become so loaded with particulate that the differential pressure increases to a selected level, a switch actuates an air-operated valve in the loop pipe. This diverts a small flow of fluid to fill vessel B. After enough time to equalize the pressure in the two vessels, the four main valves are actuated by an air cylinder.*

2. *The duplex valve system shifts four valves at once, closing the inlet and outlet on vessel A and opening the two on vessel B.*

   An indicator light (and remote signal, if desired) shows that vessel B is now being utilized. Another light shows that the shift from one vessel to the other has occurred, and that filter bags need to be replaced, An electrical interlock prevents another shift cycle until the dirty filter bags have been replaced and the operator has pushed a reset button.

3. *With the interlock released, the system is ready to cycle whenever the pressure differential again indicates the necessity.*

Availability

The automatic duplex valve system can be ordered on any Rosedale filter vessel. The standard multi-bag filter models are shown in the table.

The main inlet and outlet connections can be positioned to accommodate any flow direction within reason.

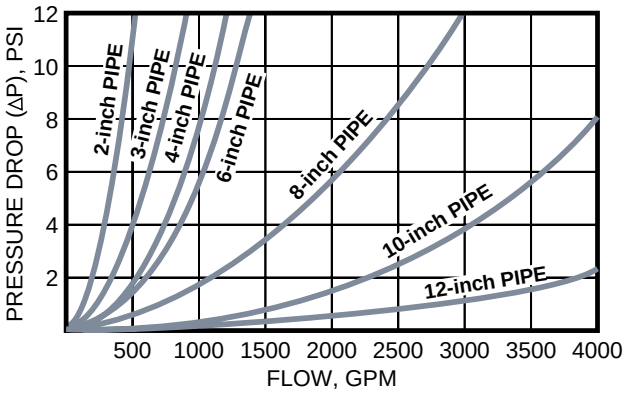
Systems are shipped assembled, ready for use, often on dollies or skids to assist putting them in place.

Rosedale Model No.*	Number of bags	Nominal flow rate, gpm
16	2	400
18	3	600
22	4	800
24	6	1200
30	8	1600
36	12	2000
42	17	3500
48	23	4500

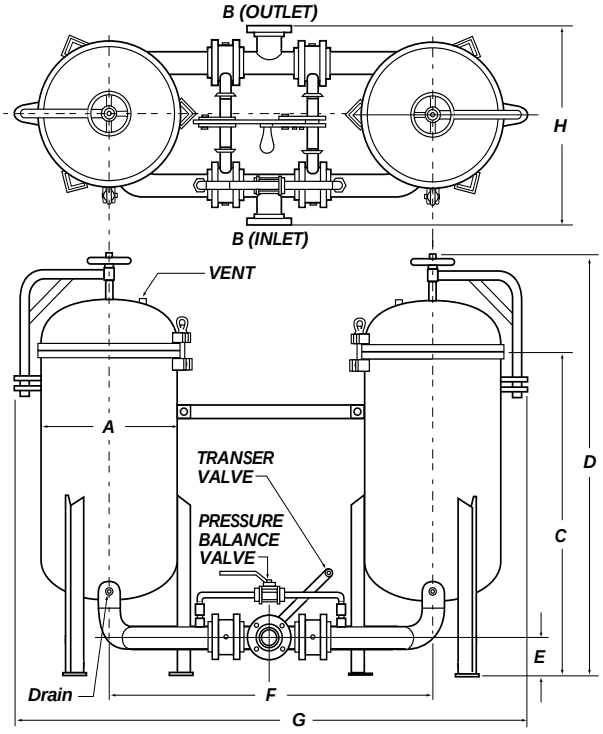
** Model number also indicates vessel diameter in inches.*

Models 16 through 48 – For flow rates to 4600 gpm

- Contain from 2 to 23 baskets
- Pipe sizes 2 through 12 inches, flanged
- Two basket depths: 15 or 30 inches (nominal) both 6.7 inches in diameter



Multi-Basket Models (IN)



The inlets and outlets on all duplex systems come standard in a horizontal configuration (facing opposite directions). The option of arranging the inlet and outlet is available in three positions, 90° apart. The system is designed with flanged tees, allowing the orientation to be changed in the field.

Model Number	Number of Baskets	Basket Depth (nom.)	Surface Area (sq. ft.)	Flow Rate* (gpm)
16	2	30	8.8	400
18	3	30	13.2	600
22	4	30	17.6	800
24	6	30	26.4	1200
30	8	30	35.2	1600
36	12	30	52.8	2400
42	17	30	74.8	3400
48	23	30	101.2	4600

**Based on housing only. Fluid viscosity, filter cartridge used, and expected dirt loading should be considered when sizing a filter.*

Model (Dia.) A	Inlet/ Outlet B	C	D	E	F	G	H
16	2	40.1	57.1	4.5	40.3	65.3	25.3
	3	42.5	59.5	5.3	42.5	67.5	30.3
	4	44.9	61.9	6.0	45.0	70.0	35.0
18	2	40.5	58.0	4.5	42.3	69.3	26.4
	3	42.9	60.4	5.3	44.5	71.5	31.4
	4	45.3	62.8	6.0	47.0	74.0	36.3
22	2	41.4	60.0	4.5	46.3	77.3	24.9
	3	43.9	62.4	5.3	48.5	79.5	28.4
	4	46.2	64.7	6.0	51.0	82.0	31.8
	6	50.4	69.0	7.0	54.3	85.3	37.8
24	2	41.7	60.7	4.5	50.3	83.3	24.1
	3	44.1	63.1	5.3	52.5	85.5	28.8
	4	46.5	65.5	6.0	55.0	88.0	34.1
	6	50.7	69.7	7.0	58.3	91.3	40.1
30	2	42.8	63.3	4.5	56.3	95.3	28.4
	3	45.2	65.7	5.3	58.5	97.5	30.4
	4	47.6	68.1	6.0	61.0	100.0	32.4
	6	51.9	72.4	7.0	64.3	103.3	44.4
	8	56.4	76.8	8.3	67.0	106.0	49.4
36	3	46.4	68.4	5.3	64.5	109.5	34.1
	4	48.8	70.8	6.0	67.0	112.0	36.1
	6	53.1	75.1	7.0	70.3	115.3	39.1
	8	57.6	79.6	8.3	73.0	118.0	41.1
	10	62.1	84.1	9.5	77.0	122.0	60.1
42	4	50.0	73.5	6.0	73.0	124.0	40.1
	6	54.3	77.8	7.0	76.3	127.3	43.1
	8	58.8	82.3	8.3	79.0	130.0	45.1
	10	63.3	86.8	9.5	83.0	134.0	49.1
	12	68.0	91.5	11.0	86.0	137.0	69.1
48	4	51.0	76.0	6.0	79.0	136.0	44.5
	6	55.4	80.4	7.0	82.3	139.3	47.5
	8	60.0	85.0	8.3	85.0	142.0	49.5
	10	64.4	89.4	9.5	89.0	146.0	53.5
	12	69.2	94.2	11.0	92.0	149.0	55.5

How To Order

Build an ordering code as shown in the example.

Example: D16 -30- 4F-1-150-C-B-S-M-200-DPG-D-C- 2M-50- EP

Housing | Options | Optional Inner Basket | Automatic Duplex Control Options

MODEL
Duplex Style =**D**
Automatic Duplex=**AD**

MODEL NO.
4= **4**
6= **6**
8= **8**
16 = **16**
18 = **18**
22 = **22**
24 = **24**
30 = **30**
36 = **36**
42 = **42**
48 = **48**
82 = **82**

BASKET DEPTH
12-in. = **12**
15-in. = **15**
18-in. = **18**
30-in. = **30**

CONNECTION SIZES, FLANGED[1]
1-in. (Models 4 thru 48) = **1F**
2-in. (Models 4 thru 48) = **2F**
3-in. (Models 4 thru 48) = **3F**
4-in. (Models 6 thru 48) = **4F**
6-in. (Models 22 thru 48) = **6F**
8-in. (Models 30 thru 48) = **8F**
10-in. (Models 36 and 48) = **10F**
12-in. (Models 42 and 48) = **12F**

OUTLET STYLE
Standard = **1**

PRESSURE RATINGS[2]
150psi (flanged) = **150**

CONSTRUCTION MATERIAL
Carbon steel = **C**
304 stainless steel = **S**
316 stainless steel = **S316**

COVER SEAL
Buna N = **B**
Ethylene Propylene = **E**
Viton® = **V**
Teflon® Encapsulated Viton® = **TEV**
Teflon® (solid white) = **TSW**

BASKET SEAL
No Seal (never on Model 4, 6, or multi-bag filters) = **N**
Seal wanted (always on Model 8 bag filters) = **S**

AUTOMATIC DUPLEX CONTROL OPTIONS
EP = Electric controller/Pneumatic actuators
EE = Electric controller/Electric actuators
PP = Pneumatic controller/Pneumatic actuators
JB = Junction Box

OPTIONAL INNER BASKET, MEDIA SIZE. No symbol if type 2B basket was selected
Perforation diameters (for type 2P baskets)
1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type 2M and 2BM baskets)
20, 30, 40, 50, 60, 70, 80, 100, 150, 200

OPTIONAL INNER BASKET TYPE
2PB = Filter bag basket, 9/64 perforations[3]
2P = Strainer basket, perforated metal
2BM = Filter bag basket, perforated, mesh lined[3]
2M = Strainer basket, perforated, mesh lined

ASME CODE STAMP
C = Code Stamp

DISPLACER
D = Displacer

DIFFERENTIAL PRESSURE GAUGE
DPG = Gauge System
DPS = Switch

BASKET, MEDIA SIZE
No symbol if type B basket was selected
Perforation diameters (for type P baskets)
1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type M and BM baskets) **20, 30, 40, 50, 60, 70, 80, 100, 150, 200**

BASKET TYPE
PB = Filter bag basket, 9/64 perforations[3]
P = Strainer basket, perforated metal
BM = Filter bag basket, perforated, mesh lined[3]
M = Strainer basket, heavy wire mesh[3]

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME housings.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are ordered separately. See pages 120-130.

Automatic Backwashing Filtration System

There are many reasons customers are switching from standard filter housing to either our Auto-duplexes or Automatic Backwashing Systems.

- Reduces process/system downtime
- Reduces operator exposure
- Reduces maintenance cost
- Reduces labor costs
- Reduces filter element disposal and Replacement cost
- Increases productivity

Self-cleaning filters represent the ideal situation and provide the most productive and labor free solution. Rosedale Products' ABW is unique because our patented technology backwashes with the lowest volume of liquid. This is achieved by using normal shop air (propane or nitrogen can also be used) to create the shear velocity needed to effectively clean the filter with only the clean liquid inside each housing.

Flexible and Versatile

Flow rates from less than a hundred to several thousand GPM can be easily accommodated. Also, to meet footprint or space requirements, we can configure the systems on one side of the headers for long narrow aisles or up against walls or place the housings on both sides of the headers for shorter, but broader areas. Combustible/Explosive areas can take advantage of our state-of-the-art Air Logic control systems which are totally pneumatic and inherently safe. Micron ratings from 5 micron and larger are available in a variety of filter media including standard bags and wedgewire. Continuous flow is maintained by taking only one station at a time off-line for cleaning - the rest of the housings continue filtering.

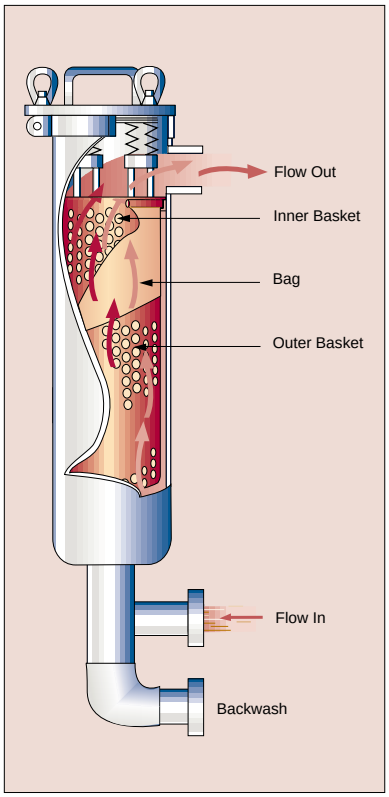
3 Dual Station Electroller

Turnkey Systems

Our systems have included air compressors, pumps, power distribution boxes, motor starters, climate controlled enclosures, heat trace and air dryers, all skid mounted and ready for installation.

How It Works

Fluid is introduced through the bottom of the filter housing. It is then forced through a filter element where the contaminant is captured on the outside surfaces of the filter. The clean fluid exits through the outlet. A controller monitors the differential pressure across the filter. When enough contaminant collects on the element and the differential pressure reaches a pre-selected point (^P), the backwash sequence is initiated. The backwash is accomplished by automatically shocking the filter with air or gas which lasts approximately 10 seconds. There is no introduction of additional fluids to contaminate the process, and the volume of liquid discharged is held to a minimum, reducing disposal costs. When the backwash operation is completed, the system returns on-line, the controller resets itself, and the whole process begins again.



7 Single Station Pneutroller

Single vs Dual Stations

On smaller systems with flow rates less than 400 GPM our standard is "single station" systems which means each housing is a station. Larger systems use a "dual station" approach which has two housings per station. The two housings share common manifold pipes which allow a fifty percent reduction in valves and, during backwash, two housings at a time (1 Dual Station) go off-line for cleaning. The picture on the previous page illustrates the "Dual Station" approach. Note that there are three stations, with each station having two housings on common manifold which is most visible below the housing. In the picture above, this Pneutroller system also has six housings in a "Single Station" configuration with each housing having separate valves.

Applications

The ABW is being used in many industries throughout the USA as well as overseas in such places as Argentina, Taiwan, Chile and Venezuela.

Industries served include:

Automotive - Steel - Petroleum - Chemical - Pharmaceutical - Electronics - Nuclear Power - Superfund Sites - Groundwater & Soil Remediation - Commercial Laundries - Entertainment - Food - Mining - Detergents - Paper

Applications include:

Cooling Towers - Coolants - Membrane Protection - Sulfuric and other Acids - Harvesting Steroids - Oil Reclamation - Potable & DI Water - Bottling Plants - Food Processing - Recycling

How To Order

Build an ordering code as shown in the example

Example: ABW 8 -30-D -2F-1- 4 -S-150-S-E- B -P- C

Housing — *Options*

AUTO BACKWASHING FILTER

MODEL NUMBER
8 = **8**

BASKET DEPTH
30-inch (std.) = **30**

STATION TYPE
Single = **S**
Dual = **D**

VALVE SIZE
2-inch 150 class ANSI flange = **2F**
3-inch 150 class ANSI flange = **3F**
4-inch 150 class ANSI flange = **4F**

NUMBER OF STATIONS
One = **1**
Two = **2**
Three = **3**
Four = **4**
Five = **5**
Six = **6**
Seven = **7**
Eight = **8**
Nine = **9**
Ten = **10**

HEADER PIPE SIZE
2-inch = **2**
3-inch = **3**
4-inch = **4**
6-inch = **6**
8-inch = **8**
10-inch = **10**
12-inch = **12**

ASME CODE STAMP
C = Code

CONTROL SYSTEM
P = Pneumatic
E = Electric

VALVE SEATS
B = Buna-N
M = Ethylene propylene
T = Teflon®
V = Viton®

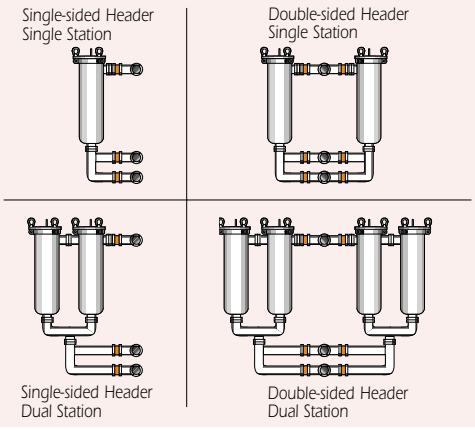
COVER SEAL
B = Buna N
E = Ethylene Propylene
V = Viton® Fluoroelastomer
TEV = Teflon® Encapsulated Viton®
TSW = Teflon® (solid white)

HOUSING MATERIAL
C = Carbon Steel
S = 304 Stainless Steel
S316 = 316 Stainless Steel

PRESSURE RATING
150 = 150 psi (NPT or flanged)

HEADER PIPE STYLE
S = Single sided
D = Double sided

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME housings.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are ordered separately. See pages 120-130.



Stations and Headers

Rosedale offers both single and double-sided headers, as well as single and dual stations, to increase control and capacity. Header pipes have connections on one (single-sided) or both (double-sided) sides of the pipe. Each housing is still separately controlled, increasing capacity while maintaining a high-level of control. A station has one set of controls, while accepting either one filter housing per station (a single station), or two housings per station (a dual station). Capacity is again increased, but the number of controls are minimized. By minimizing those controls, great savings are realized. For example, everything else being equal, a single-sided header with three dual-stations accommodates the same six housings and flow as a double-sided header with six single-single stations. However, there are three less controls and pumps on the dual-station unit, greatly reducing costs, perhaps as much as $15,000.

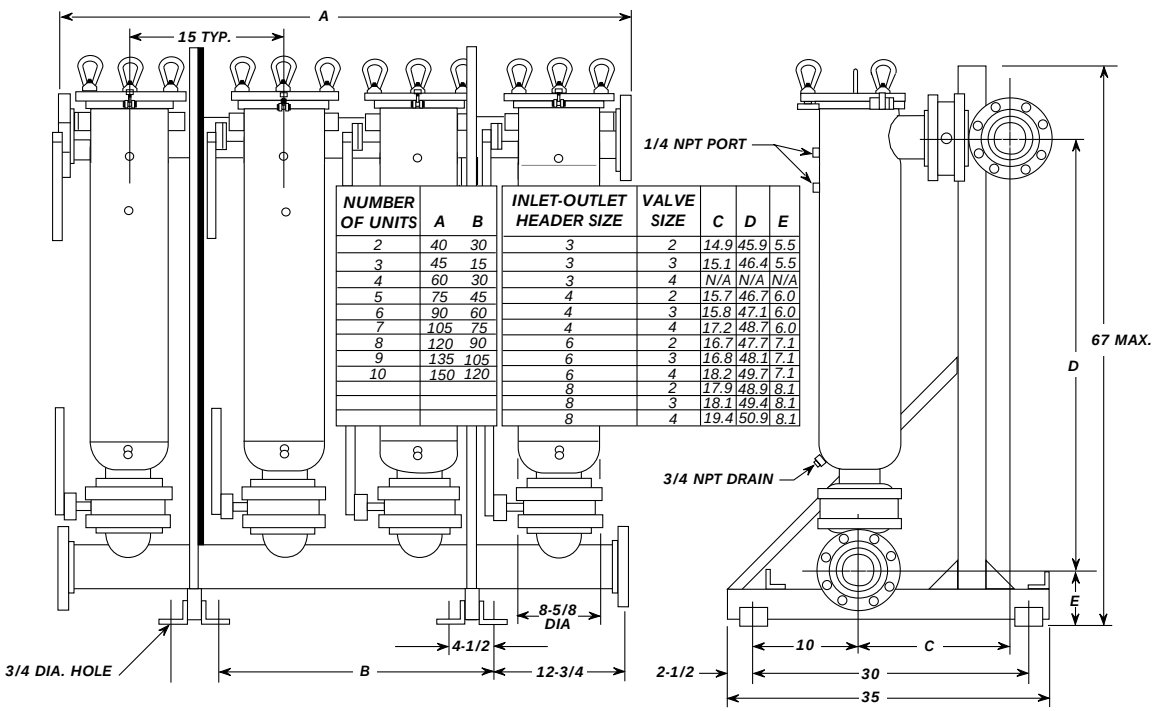
Multiplex Filters and Strainers From Rosedale Products

These high-capacity filters and strainers require no flow interruption for servicing

- *For use with filter bags for filtering to as fine as one micron, or with perforated strainer baskets*
- *From 2 to 10 Model 8 housings are mounted in parallel to inlet and outlet manifolds*
- *Each unit has inlet and outlet valves, gage ports, and a drain port, to permit servicing one at a time*
- *These are completely packaged free-standing systems in carbon steel and stainless steel*

See page 12 for more details on the Model 8 housings used.

Dimensions (IN)



NUMBER OF UNITS	A	B	INLET-OUTLET HEADER SIZE	VALVE SIZE	C	D	E
2	40	30	3	2	14.9	45.9	5.5
3	45	15	3	3	15.1	46.4	5.5
4	60	30	3	4	N/A	N/A	N/A
5	75	45	4	2	15.7	46.7	6.0
6	90	60	4	3	15.8	47.1	6.0
7	105	75	4	4	17.2	48.7	6.0
8	120	90	6	2	16.7	47.7	7.1
9	135	105	6	3	16.8	48.1	7.1
10	150	120	6	4	18.2	49.7	7.1
			8	2	17.9	48.9	8.1
			8	3	18.1	49.4	8.1
			8	4	19.4	50.9	8.1

How To Order

Build an ordering code as shown in the example

Example: **M8-30-10 - 8F - 4 -150 - C - B - S - M - 200 -D- C - 2M-50**

(Housing: M8-30-10 - 8F - 4 -150 - C - B - S - M - 200 -D- C - 2M-50; Options: M8-30-10 - 8F - 4 -150 - C - B - S - M - 200 -D- C - 2M-50; OPTIONAL INNER BASKET: M8-30-10 - 8F - 4 -150 - C - B - S - M - 200 -D- C - 2M-50)

MODEL NO.

Multiplex = **M8-30**

NUMBER OF HOUSINGS
2, 3, 4, 5, 6, 7, 8, 9, 10

PIPE SIZE (FLANGED)
3-in = **3F**
4-in. = **4F**
6-in = **6F**
8-in. = **8F**

VALVE TYPE & SIZE (INCH)
Butterfly type = **2, 3, 4**

PRESSURE RATING
150 psi = **150**

HOUSING MATERIAL
Carbon steel = **C**
304 stainless steel = **S**
316 stainless steel = **S316**

COVER SEAL
Buna N = **B**
Ethylene Propylene = **E**
Viton® = **V**
Teflon® Encapsulated Viton® = **TEV**
Teflon® (solid white) = **TSW**

BASKET SEAL
Seal required = **S**

OPTIONAL INNER BASKET

INNER BASKET, MEDIA SIZE
Perforation diameters (for type 2P baskets)
1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type 2M and 2BM baskets)
20, 30, 40, 50, 60, 70, 80, 100, 150, 200

INNER BASKET, TYPE
No sym. = *No inner basket*
2P = *Perforated strainer*
2B = *Filter bag**
2M = *Mesh-lined strainer*
2BM = *Mesh-lined filter bag*

ASME CODE STAMP
C = *Code*

DISPLACER
D = *Displacer*

OUTER BASKET, MEDIA SIZE
Perforation diameters (for type P baskets)
1/4, 3/16, 9/64, 3/32, 1/16
Mesh sizes (for type M and BM baskets)
20, 30, 40, 50, 60, 70, 80, 100, 150, 200

OUTER BASKET, TYPE
PB = *Perforated strainer*
B = *Filter bag**
M = *Mesh-lined strainer*
BM = *Mesh-lined filter bag*

1. *Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME housings.*
2. *Higher pressure ratings available. Consult factory.*
3. *Filter bags are ordered separately. See page 120-130.*

Convertible Filter Housings Use Either Bags or Cartridges

You can switch from one to the other instantly

The emergence of new, more effective filter bag materials has challenged the popular filter cartridge. Filter bags are now an attractive, economical alternative to cartridges in many applications. Bags cost less, are easier to install and remove, and require less room in storage and disposal.

The convertible filter housings from Rosedale offer you the ability to use filter bags in place of cartridges without burning your bridges behind you. You can always change back to cartridges, for whatever reason.

Features

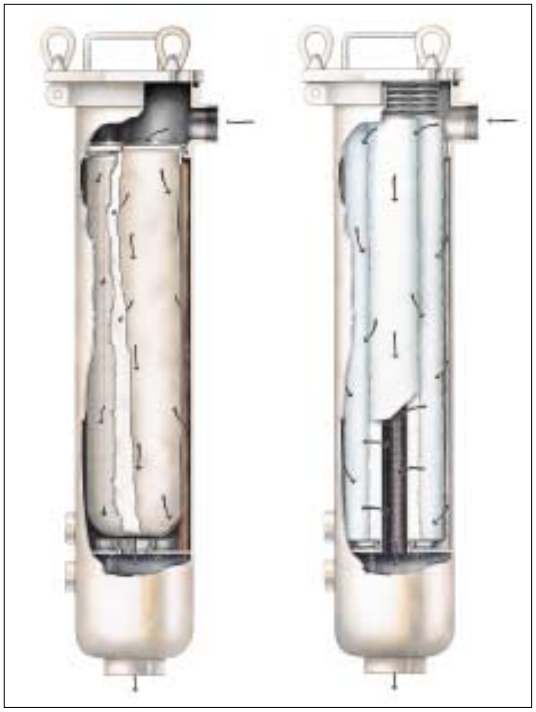
- *Permanently piped housings–no repiping necessary for change-over*
- *Covers are O-ring sealed*
- *Designed for standard double open-end type cartridges. Can also be supplied adapted to other cartridge-end configurations*
- *Carbon steel, 304 or 316 stainless steel construction for housing*
- *All housings are electropolished to resist adhesion of dirt and scale*
- *ASME code stamp is available*
- *Adjustable-height legs are included*
- *V-post spring seal for both options are in 316 stainless steel*

Options

- *Filter bag hold-down devices*
- *Sanitary construction*
- *Different outlet connection*
- *Higher pressure ratings*
- *Extra-length legs*
- *Heat jacketing*
- *Duplex units*

Flow Rates

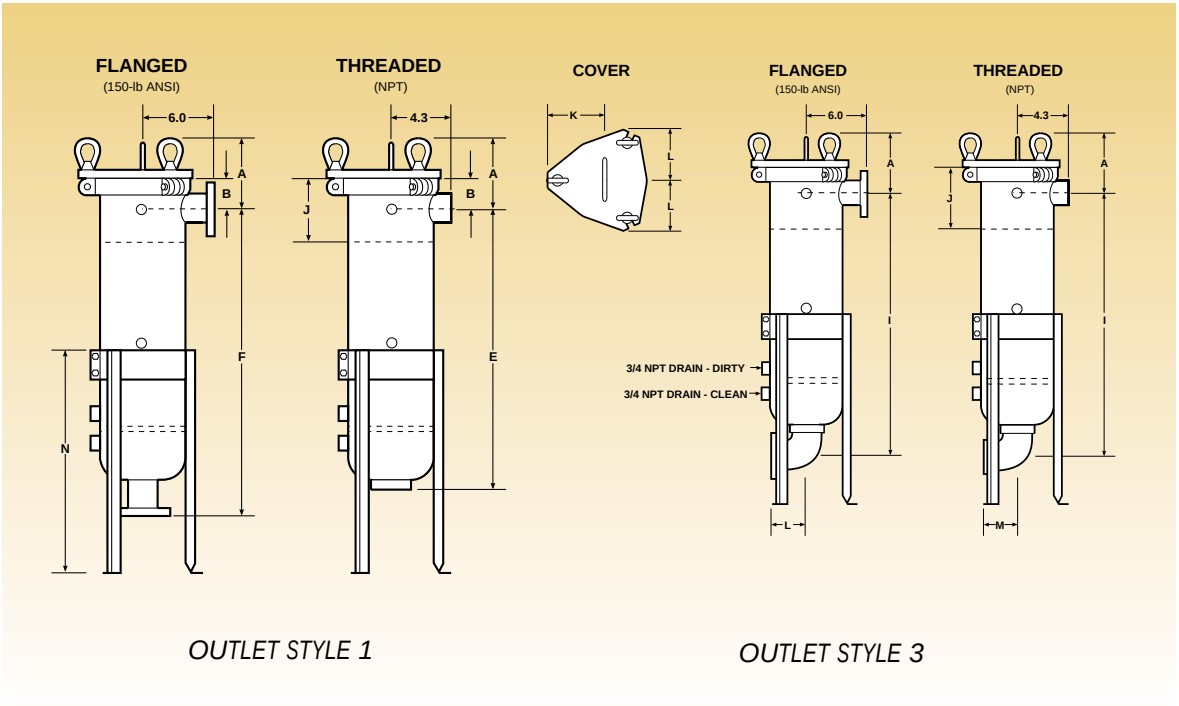
Rosedale's convertible filter housings are offered in two diameters to hold 3 and 5 cartridges, respectively. The 3-cartridge housings are nominally rated at 70 gpm. The 5-cartridge Series housings are nominally rated at 100 gpm*. These ratings are governed by the restrictive openings in the cartridge support plate. They do not take into account the pressure drops imposed by the bags or cartridges used.*



Pictured is a Model 6330. It can hold three 30-in. long cartridges (shown inserted) or a filter bag and support basket (at left). The two 3/4-in. ports at the bottom of the housing are 1) a dirty liquid drain (upper port), and 2) a clean liquid drain (lower port). The dirty liquid drain need not be used when filter bags are employed; if bags are properly removed, no dirt washes off downstream. (The use of a liquid displacer makes this easier to do.)

**30-inch cartridge*

Dimensions (IN)



Dimensions (IN)

Model	Pipe Size	A	B	C	D	E	F	G	H	I	J	K	L
6320	1	6.3	2.5	4.3	6.0	26.3	28.5	21.0	26.8	4.6	22.8	5.0	2.5
	1-1/4	6.3	2.5	4.3	6.0	26.3	28.5	21.0	27.2	4.6	22.8	5.0	2.9
	1-1/2	6.3	2.5	4.3	6.0	26.3	28.5	21.0	27.6	4.6	22.8	5.0	3.3
	2	7.1	3.4	4.3	6.0	25.4	28.5	19.5	27.4	5.8	22.8	5.0	4.0
	3	7.1	3.4	4.3	6.0	25.6	28.5	19.0	28.7	5.8	22.8	7.3	6.1
6330	1	6.3	2.5	4.3	6.0	36.3	38.5	31.0	36.8	4.6	32.8	5.0	2.5
	1-1/4	6.3	2.5	4.3	6.0	36.3	38.5	31.0	37.2	4.6	32.8	5.0	2.9
	1-/12	6.3	2.5	4.3	6.0	36.3	38.5	31.0	37.6	4.6	32.8	5.0	3.3
	2	7.1	3.4	4.3	6.0	35.4	38.5	29.5	37.4	5.8	32.8	5.0	4.0
	3	7.1	3.4	4.3	6.0	35.8	38.5	29.0	38.7	5.8	32.8	7.3	6.1
8520	3/4	6.6	2.88	5.3	7.5	29.8	32.3	24.0	30.1	4.88	25.88	5.0	1.9
	1	6.6	2.88	5.3	7.5	30.0	32.3	24.0	30.4	4.88	25.88	5.0	2.5
	1-1/4	6.6	2.88	5.3	7.5	30.0	32.3	24.0	30.8	4.88	25.88	5.0	2.9
	1-/12	6.6	2.88	5.6	7.5	29.9	32.3	24.0	31.2	4.88	25.88	5.0	3.3
	2	6.6	2.88	5.88	7.5	29.9	32.3	22.5	31.9	4.88	25.88	5.0	4.0
	3	7.5	3.7	6.7	7.5	29.5	31.6	22.0	32.4	6.5	25.88	7.3	6.1
8530	3/4	6.6	2.88	5.3	7.5	39.8	42.3	34.0	40.1	4.88	35.88	5.0	1.9
	1	6.6	2.88	5.3	7.5	40.0	42.3	34.0	40.4	4.88	35.88	5.0	2.5
	1-1/4	6.6	2.88	5.3	7.5	40.0	42.3	34.0	40.8	4.88	35.88	5.0	2.9
	1-1/2	6.6	2.88	5.6	7.5	39.9	42.3	34.0	41.2	4.88	35.88	5.0	3.3
	2	6.6	2.88	5.88	7.5	39.9	42.3	32.5	41.9	4.88	35.88	5.0	4.0
	3	7.5	3.7	6.7	7.5	39.5	41.6	32.0	42.4	6.5	35.88	7.3	6.1

How To Order

Build an ordering code as shown in the example.
Each option is available only on the model series indicated in the colored blocks preceding its description.

Key To Blocks

6 = Series 6300
8 = Series 8500

Example: Housing: **6330 -1P-1-150** Options: **- C - B - N - BM 200-D-C**

HOUSING SIZE/CAPACITY

6	Three 20-in. cartridges or one 5.6-in. dia. x 21-in. bag	= **6320**
6	Three 30-in. cartridges or one 5.6-in. dia. x 32-in. bag	= **6330**
8	Five 20-in. cartridges or one 7-in. dia. x 16.5-in. bag	= **8520**
8	Five 30-in. cartridges or one 7-in. dia. x 32-in. bag	= **8530**

PIPE SIZE, NPT & FLANGED[1]

6 8	3/4-in. female NPT	= **3/4P**
6 8	1-in. female NPT	= **1P**
6 8	1-1/4-in. female NPT	= **1-1/4P**
6 8	1-1/2-in. female NPT	= **1-1/2P**
6 8	2-in. female NPT	= **2P**
8	3-in. female NPT	= **3P**
6 8	3/4-in. 150 class ANSI flange	= **3/4F**
6 8	1-in. 150 class ANSI flange	= **1F**
6 8	1-1/4-in. 150 class ANSI flange	= **1-1/4F**
6 8	1-1/2-in. 150 class ANSI flange	= **1-1/2F**
6 8	2-in. 150 class ANSI flange	= **2F**
8	3-in. 150 class ANSI flange	= **3F**

OUTLET STYLE

6 8	Bottom	= **1**
6 8	Bottom elbow	= **3**

PRESSURE RATING[2]

8	150 psi (NPT and flanged)	= **150**
6	300 psi (NPT and flanged)	= **300**

HOUSING MATERIAL

6 8	Carbon steel	= **C**
6 8	304 stainless steel	= **S**
6 8	S316 stainless steel	= **S316**

Note: *All housings include a full set of spring caps and springs, and knife-edge cups.*

ASME CODE STAMP

6 8	**C**	= Code

DISPLACER[3]

6 8	**D**	= Displacer

BASKET MEDIA SIZE

No symbol if type B basket was selected

6 8 *Perforations diameters (for type P baskets)* **1/4, 3/16, 9/64, 3/32, 1/16**

6 8 *Mesh sizes (for type M and BM baskets)* **20, 30, 40, 50, 60, 80, 100, 150, 200**

FILTER BAG BASKET[4]

6 8	**PB**	= Filter bag basket, 9/64 perforations[4]
6 8	**P**	= Strainer basket, perforated metal
6 8	**BM**	= Filter bag basket, perforated, mesh lined[4]
6 8	**M**	= Strainer basket, perforated, mesh lined
6 8	**HWM**	= Filter bag basket, heavy wire mesh[4]

BASKET SEAL

6	**N**	= None (Series 6300)
8	**S**	= Seal (Series 8500)

COVER SEAL

6 8	**B**	= Buna N
6 8	**E**	= Ethylene Propylene
6 8	**V**	= Viton®
6 8	**TEV**	= Teflon® Encapsulated Viton®
6 8	**TSW**	= Teflon®(solid white)

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. ANSI B16.5 Pressure/Temperature Rating Tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.
3. Displacers only usable with filter bag baskets.
4. Filter bags are specified separately. See pages 120-130.

Manual Backwashing System

Manually-controlled system minimizes operator exposure and backwash fluid - ideal for hazardous environments!

Rosedale Products' Manually-Controlled Backwashing Filter:

- Minimizes backwash fluid
- Increases productivity
- Reduces process/system downtime
- Reduces maintenance costs
- Reduces labor costs
- Reduces filter element disposal and replacement costs
- Reduces operator exposure

Our backwashing filter uses standard 30 inch filter bags and baskets, providing over 600 square inches of filter surface area. The unit can be cycled through hundreds of backwashes before change-out is required. When pressure drop across the system is too great, indicated by the standard pressure gages, the system is easily cycled through the back-wash operation. Operation is simple, first closing the valves for the inlet and outlet, then opening the valve for the backwash outlet, which can be piped to a separate, safe location. Once that has been accomplished, simply depress the lever that shocks the system with factory air, causing the fluid in the housing to exit through the backwash outlet, removing the contaminant from the element at the same time. When the element is clean, usually in 30 seconds or so, simply return the three valves to their original positions to resume filtering.

Standard Features

- No-spill cover
- Permanently piped housings are opened without disturbing piping or requiring special tools
- Low-pressure drop
- Adjustable-height tripod legs
- 150 psi rated housing
- Pressure indicators for monitoring system efficiency

Standard Options

- Carbon or stainless steel housings
- Gaskets of Buna-N, Ethylene Propylene, Viton®, or Teflon®
- Valve Seats of Buna-N, Ethylene Propylene, Viton®, or Teflon®
- 150 psi ASME code stamp
- Air eliminator

Manually-controlled backwashing filter housing

How To Order

Build an ordering code as shown in the example

Example: MBW 8 - 30 - 2P - 150 - S - B - B - C (Housing | Options)

BACKWASHING FILTER = **MBW**

MODEL NUMBER = **8**

BASKET DEPTH
30-inch (std.) = **30**

PIPE SIZE, NPT & FLANGED
- 2-inch, female NPT (std) = **2P**
- 3-inch female NPT = **3P**
- 4-inch female NPT = **4P**
- 2-inch 150 class ANSI flange = **2F**
- 3-inch 150 class ANSI flange = **3F**
- 4-inch 150 class ANSI flange = **4F**

PRESSURE RATING
150 psi (NPT and flanged) = **150**

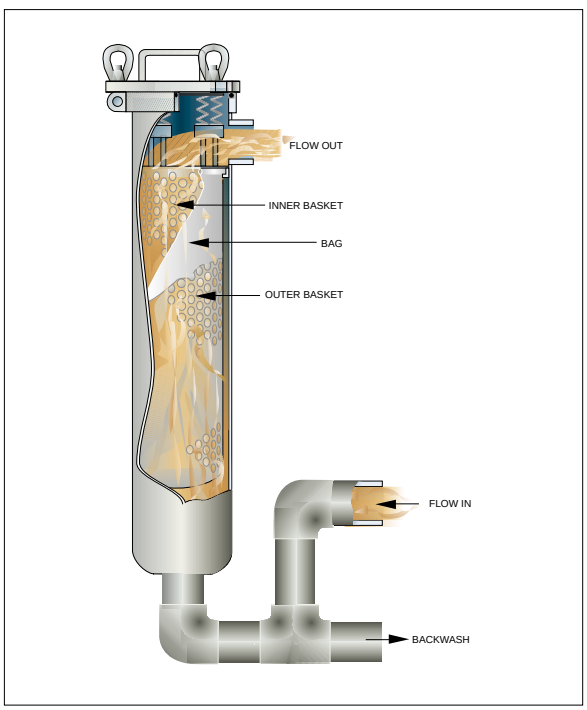
ASME CODE STAMP
- **C** = Code stamp

VALVE SEATS
- **B** = Buna-N
- **M** = Ethylene propylene
- **T** = Teflon®
- **V** = Viton®

COVER SEAL
- **B** = Buna-N
- **E** = Ethylene propylene
- **V** = Viton® Fluoroelastomer
- **TEV** = Teflon® Encapsulated Viton®
- **TSW** = Teflon® (solid white)

HOUSING MATERIAL
- **C** = Carbon Steel
- **S** = 304 Stainless Steel
- **S316** = Stainless Steel

NOTES:
1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME housings.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are ordered separately. See pages 120-130.



How It Works

Fluid is introduced through the bottom of the filter housing. It is then forced through a filter element consisting of a bag rigidly contained between inner and outer baskets. The contaminant is captured on the outside surface of the outer basket and filter bag, while the clean fluid exits through the upper outlet. When the operator determines the unit needs to be backwashed, all valve positions are reversed, and the system is shocked by the introduction of factory air, causing the fluid in the vessel to exit through the backwash outlet, cleaning the element at the same time. To resume operations, just return the valves to their original positions.

Solids/Liquids Separators

In-Line Separators for Industrial Applications

Use our centrifugal-action separator to remove grit, sand, metal chips, fines, and other solids from liquids. Perfect for use as a pre-filter to extend the life of fine filtration systems. These units require little or no maintenance, as there are no moving parts to fail or wear out, or filter media to clean or replace. The unit only requires a simple purging, eliminating downtime due to cleaning or backwashing. For flows from 6 gpm and retention ratings to 50 micron.

Features

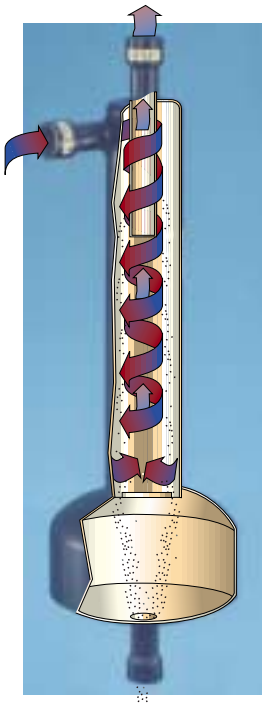
- Low constant pressure drops
- Piped housings
- Carbon steel or stainless steel (304 or 316) construction for housings
- All housings are electropolished to resist adhesion of dirt and scale
- ASME code stamp available
- Pipe sizes 3/8 through 6-inch (larger sizes also available)

Options

- Different outlet connections
- Special materials

Typical Applications

- Cooling towers
- Process water
- Food processing
- Chemical processing
- Well water
- Pulp & paper mills
- Mining operations
- Steel mills
- Petrochemical industry
- Power plants
- Protection of spray nozzles and other small orifices
- Chip removal from cutting coolants
- Car and vehicle wash systems
- Paint spray booths
- Heat exchangers
- Spray nozzle protection
- Industrial laundries
- Solids recovery
- Parts washing systems
- Pump protection
- Domestic Water
- Recirculating cooling water
- Sprinkler systems
- Quench water
- Pre-filter for seawater



How it works:

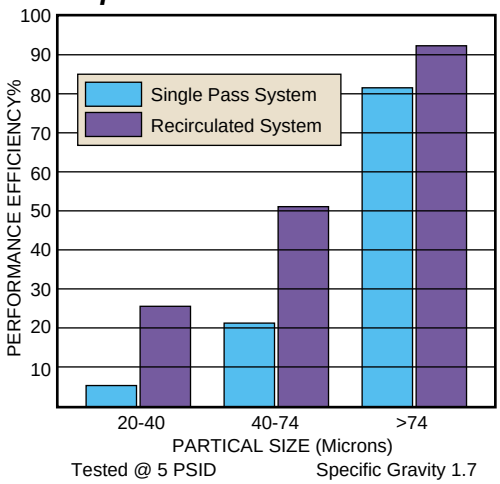
Fluid enters the pressure vessel tangentially at high velocity. A centrifugal action is created, which forces the solids to separate and enter the sump, while the clean liquid exits up through the standpipe. The solids collect in the sump, and can easily be purged. The operation is so simple, it can be set to automatically purge on a timed interval.

FLOW RANGE – GPM

Model No.	Pipe Size (inch)	5 PSID	10 PSID	CV Factor	Solids Cap.
SEP-6	3/8	3	6	1.8	.24 gal.
SEP-11	1/2	7	11	3.4	.24 gal.
SEP-25	3/4	15	25	2.5	.94 gal.
SEP-35	1	30	40	14	.94 gal.
SEP-75	1-1/4	55	75	25	.9 gal.
SEP-80	1-1/2	60	80	25	.9 gal.
SEP-130	2	90	130	41	.87 gal.
SEP-140	2-1/2	96	140	41	.87 gal.
SEP-275	3	200	275	85	1.04 gal.
SEP-553	4	425	553	175	7.81 gal.
SEP-1265	6	985	1265	400	16.26 gal.

Model Number	Pipe Size (inch)	Inlet/ Outlet	Drain Size (inch)
SEP-6	3/8	NPT	1
SEP-11	1/2	NPT	1
SEP-25	3/4	NPT	1
SEP-35	1	NPT	1
SEP-75	1-1/4	NPT	1
SEP-80	1-1/2	NPT	1
SEP-130	2	NPT	1
SEP-140	2-1/2	NPT	1
SEP-275	3	NPT or Flanged	1
SEP-553	4	Flanged	2
SEP-1265	6	Flanged	2

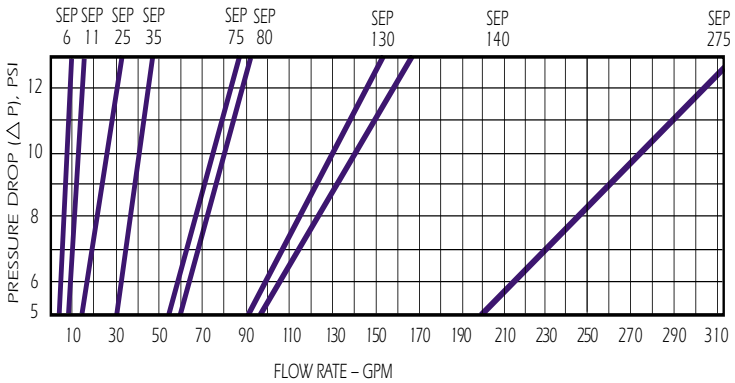
Separator Performance Chart

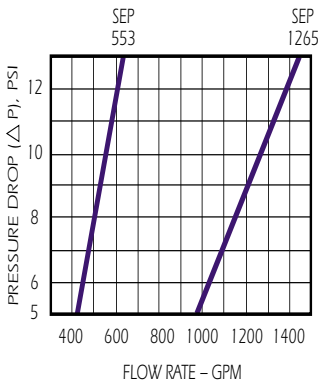


Tested @ 5 PSID Specific Gravity 1.7

Specific Gravity of Various Materials

Material	Specific Gravity
Aluminum	2.7
Ashes (Coal)	2.0
Brass	9.0
Bronze/Copper	8.9
Carbon/Concrete/Lava	1.8-2.5
Coal (Anthracite)	1.3-1.9
Earth (Silt/Soil)	1.2-2.0
Glass (Crystal)	3.0
Granite/Gravel	2.5-3.0
Graphite	2.3
Iron	7.8
Lead	11.3
Limestone	2.8
Manganese	7.4
Nickel	8.9
Sand/Silica/Shale	2.6-2.8
Steel	7.8
Tin Ore	6.4-7.0





Separator Sizing:

Separators are generally sized so that there is at least a 5 PSID pressure drop across the unit. Separation efficiency increases as pressure drop increases. We've shown flow ranges for each unit based on 5 and 10 PSID. Choose a unit based on a flow/efficiency balance.

Installation

The Separator should be installed in a near vertical position. The unit should be supported by means other than the inlet/outlet piping. First, connect the outlet of the unit to the outlet piping. Then install any supports, such as U-bolts or legs. Next, connect the inlet piping to the inlet. Test for leaks and separation. The unit is now ready for operation.

Purging and Maintenance

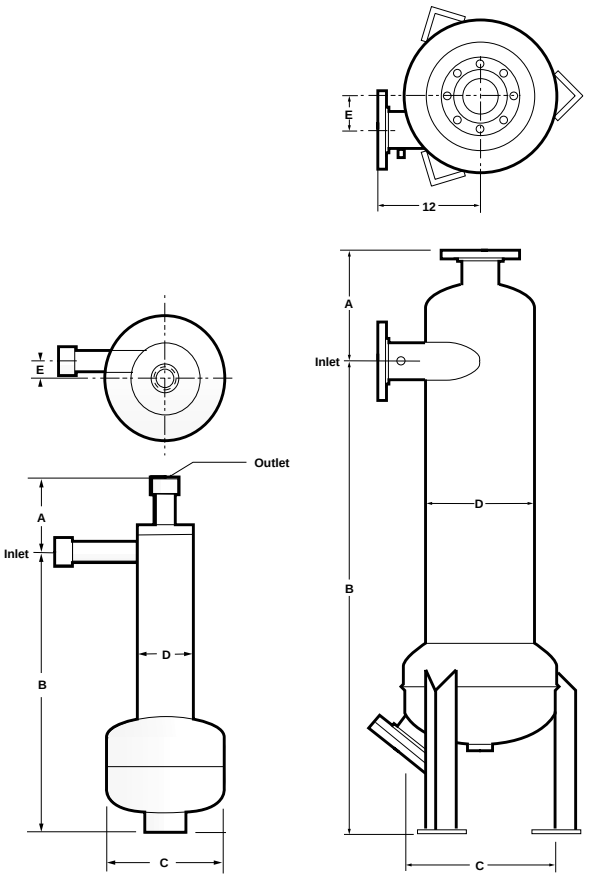
Separators must be purged regularly. If they are not, the separated solids will accumulate and overflow the collection area, affecting performance and contaminating effluent.

You can manually, automatically, or continuously purge the collection area of the separator. Manual purging requires that the operator open a simple valve and empty the contents. Automatic purging can be done many different ways, but the simplest is setting a timer to open and close the valve, purging the contaminant on a regular basis. Continuous purging simply requires leaving a manual valve partially open at all time, letting the contaminant leak out at a controlled rate. For best results, all purging should be done while the separator is in operation. Avoid purging "uphill" which will result in buildup and clogging, affecting performance and operation.

Simple rules of maintenance include checking the purge valve regularly for clogging, scale, and buildup. If the unit is installed in an area where the ambient temperature is below freezing, the collection area and all purge piping should be kept from freezing while operating. If left in idle state under freezing conditions, the entire unit must be drained of liquid, and the collection area must be purged of solids.

Dimensions (IN)

Model	A	B	C	D	E
SEP-6	3.0	14.8	4.5	1.9	.6
SEP-11	3.0	14.8	4.5	1.9	.6
SEP-25	4.5	17.2	8.6	3.5	1.1
SEP-35	4.5	23.6	8.6	3.5	1.1
SEP-75	4.5	23.5	8.6	4.5	1.4
SEP-80	4.5	23.5	8.6	4.5	1.3
SEP-130 (2")	4.8	22.6	8.6	6.6	2.1
SEP-140 (2.5")	6	22.6	8.6	6.6	1.9
SEP-275	6.6	25.2	10.7	8.6	2.6
SEP-553	13.	45.2	18.0	12.7	4.1
SEP-1265	16.4	58.0	24.0	16.0	4.7



SEP-6 through SEP-275

SEP-553 and SEP-1265

How To Order

Build an ordering code as shown in the example

EXAMPLE: **SEP-275-3P-150-C-C-APV** (Options)

MODEL NO. AND FLOW RATE

6 GPM	= **SEP-6**
11 GPM	= **SEP-11**
25 GPM	= **SEP-25**
35 GPM	= **SEP-35**
75 GPM	= **SEP-75**
80 GPM	= **SEP-80**
130 GPM	= **SEP-130**
140 GPM	= **SEP-140**
275 GPM	= **SEP-275**
553 GPM	= **SEP-553**
1265 GPM	= **SEP-1265**

PIPE SIZE, NPT, FLANGED[1]

3/8-inch NPT	= **3/8P** (SEP Model 6)
1/2-inch NPT	= **1/2P** (SEP Model 11)
3/4-inch NPT	= **3/4P** (SEP Model 25)
1-inch NPT	= **1P** (SEP Model 35)
1-1/4-inch NPT	= **1-1/4P** (SEP Model 75)
1-1/2-inch NPT	= **1-1/2P** (SEP Model 80)
2-inch NPT	= **2P** (SEP Model 130)
2-1/2-inch NPT	= **2-1/2P** (SEP Model 140)
3-inch NPT	= **3P** (SEP Model 275)
3-inch Flanged	= **3F** (SEP Model 275)
4-inch Flanged	= **4F** (SEP Model 553)
6-inch Flanged	= **6F** (SEP Model 1265)

OPTION

APV	= Optional APV Automatic
P	= Manual purge valve

Leave blank for no purge valve

ASME CODE STAMP

C = Code

HOUSING MATERIAL

C	= Carbon Steel
S	= 304 Stainless Steel
S316	= 316 Stainless Steel

PRESSURE RATING[2]

150 = 150 PSI (NPT or Flanged)

NOTE:

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings are available. Consult factory.

Coolant Filter Selection Guide

For low pressure machine tool coolant applications

Rosedale Filtration Products has installed a wide variety of systems throughout the metalworking and manufacturing industries. Our high quality industrial filters prevent metal chips, fines and other debris from contaminating cutting oils and coolants. Our pre-selected systems include the housing, appropriate seals and a filter bag.

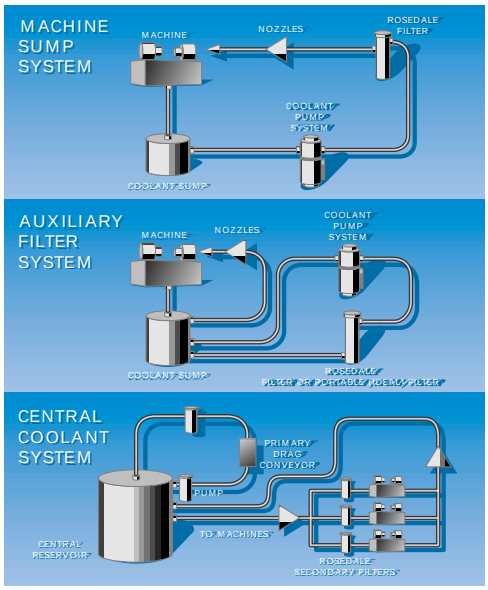
General Requirements and Measurements

There are important factors that enter into specifying the level of coolant cleanliness that will improve the finish and extend tool life. Variables that affect coolants include: full or partial filtration, single pass or recirculating flow, dirt loading, pressure drop through all components of the filter systems, coolant temperature, flow rate, system pressure, and the presence of tramp oil.

This filtration guide is intended to provide general information about industry specifications. Use the data to compare and evaluate your specific application.

Typical Applications

Our schematics illustrate how Rosedale filters can be easily installed in any coolant circuit. The versatile Rosedale filters can be used in all metal-working machines, including milling, boring, broaching, grinding, drilling, turning, etc.



Methodology

Charts, schematics and other information provided or referred to throughout this guide are intended as examples only. "Nominal" filter ratings are used and monthly throughputs are calculated to include the sizing of filter elements to provide a 30 day minimum life expectancy based on a typical dirt load ingression.

Rosedale offers the widest range of filters and filter bags, including oil-adsorbing, high temperature, high-capacity bags, high-efficiency liquid filter bags, and Beta Bag® filter bags. The term Beta Ratio or Beta Rating refers to the number of particles upstream divided by the number of particles downstream in a given size. For example, if there are 100 five micron particles upstream and 50 five micron particles downstream of the filter bag, then the Beta Rating for this filter in the five micron size is 100/50, or 2. In other words, the filter bag is said to have a Beta 5 of 2. The efficiency is 50% in the five micron range.

Recommended Clarity Levels Of Filtered Coolant Filtered coolant shall meet or exceed the following average clarity levels.	Average Particle Size	Concentration: PPM
Ultra Fine: Honing, microsizing, lapping, and polishing		**less than 10 microns**
	larger than 8 microns	5 PPM to 10 PPM
	between 1 to 8 microns	25 PPM to 50 PPM
Very Fine: Grinding, gun-drilling, gun-reaming (with tool diameters of 0.125 inch or less)		**less than 15 micron**
	larger than 8 microns	10 PPM to 15 PPM
	between 1 to 8 microns	50 PPM to 100 PPM
Fine: Tapping, milling, lathe, hobbing, drilling, boring, general machining		**less than 20 micron**
	larger than 8 microns	15 PPM to 30 PPM
	between 1 to 8 microns	100 PPM to 200 PPM

Single-Bag Filters

Model 4 Coolant Filter

For Flows to 5 gpm

Flows can be higher. These flows are selected to optimize dirt holding capacity.

(For more detail information and other specifications concerning the Model 4, please see page 4 or contact a Rosedale representative.)

These rugged and reliable bag filters are tailored to high-capacity applications yet are relatively low in cost, making these durable filtration devices one of the best values on the market. Choose from among the pre-selected ordering codes listed below for filter flows to 5 gpm with a 200 psi rated housing.

Housing **Options**

Coolant Filter: LCO4 -12 - 1P - 2 - 200 - C - B - N - PB

MODEL LCO4

HOUSING SIZE = **12**

PIPE SIZE
1 inch female NPT = **1P**

OUTLET STYLE
Side = **2**

PRESSURE RATING
200 psi = **200**

BASKET TYPE
PB = Filter bag basket, 9/64 perforations

BASKET SEAL
N = No seal

COVER GASKET
B = Buna N

HOUSING MATERIAL
C = Carbon Steel

MODEL 4 SUGGESTED BAG

PE 5 P 4 S

FIBER RATING
Felt, polyester = **PE**

MICRON RATING (grade)
General Use = **5, 25**
Fine = **BB-12**
Very Fine = **BB-10**
Ultra Fine = **BB-1**

BAG FINISH
None = **P**

BAG SIZE AND DIMENSIONS
4-1/8 x 14 = **4**

BAG STYLE
Carbon steel plated ring = **S**

Technical Specifications

Bag Size:	Any Standard Size 4 Bag
Drain connection:	1" NPT
Piping connections:	1" NPT
Construction material:	Carbon steel
Pressure rating:	200 psi
Weight:	20 lbs
Surface Area:	1 Ft^2

Note: *If your application requires options other than those listed, please turn to page 4.*

Single-Bag Filters

Model 8 Coolant Filter

For Flows to 25 gpm

Flows can be higher. These flows are selected to optimize dirt holding capacity.

(For more detail information and other specifications concerning the LCO Model 8, please see page 17 or contact a Rosedale representative.)

These rugged and reliable bag filters are tailored to high-capacity applications yet are relatively low in cost, making these durable filtration devices one of the best values on the market. Choose from among the pre-selected ordering codes listed below for filter flows to 25 gpm with a 125 psi rated housing.

Coolant Filter: LC08 -30 - 2P - ✱ - 125 - C - B - PB

(Housing: -30 - 2P - ✱ - 125 | Options: - C - B - PB)

MODEL LCO8

HOUSING SIZE = **30**

PIPE SIZE
2 inch female NPT = **2P**

OUTLET STYLE
Side/Bottom Unistyle = ✱

PRESSURE RATING
125 psi = **125**

BASKET TYPE
PB = *Filter bag basket*

COVER SEAL
B = *Buna N*

HOUSING MATERIAL
C = *Carbon Steel*

MODEL 8 SUGGESTED BAG

PE 5 P 12 S

FIBER & MICRON RATINGS
Felt, polyester = **PE**
Microns: 5, 25

BAG FINISH
None = **P**

BAG SIZE AND DIMENSIONS
8-3/8 x 32 = **12**

BAG STYLE
Carbon steel plated ring = **S**

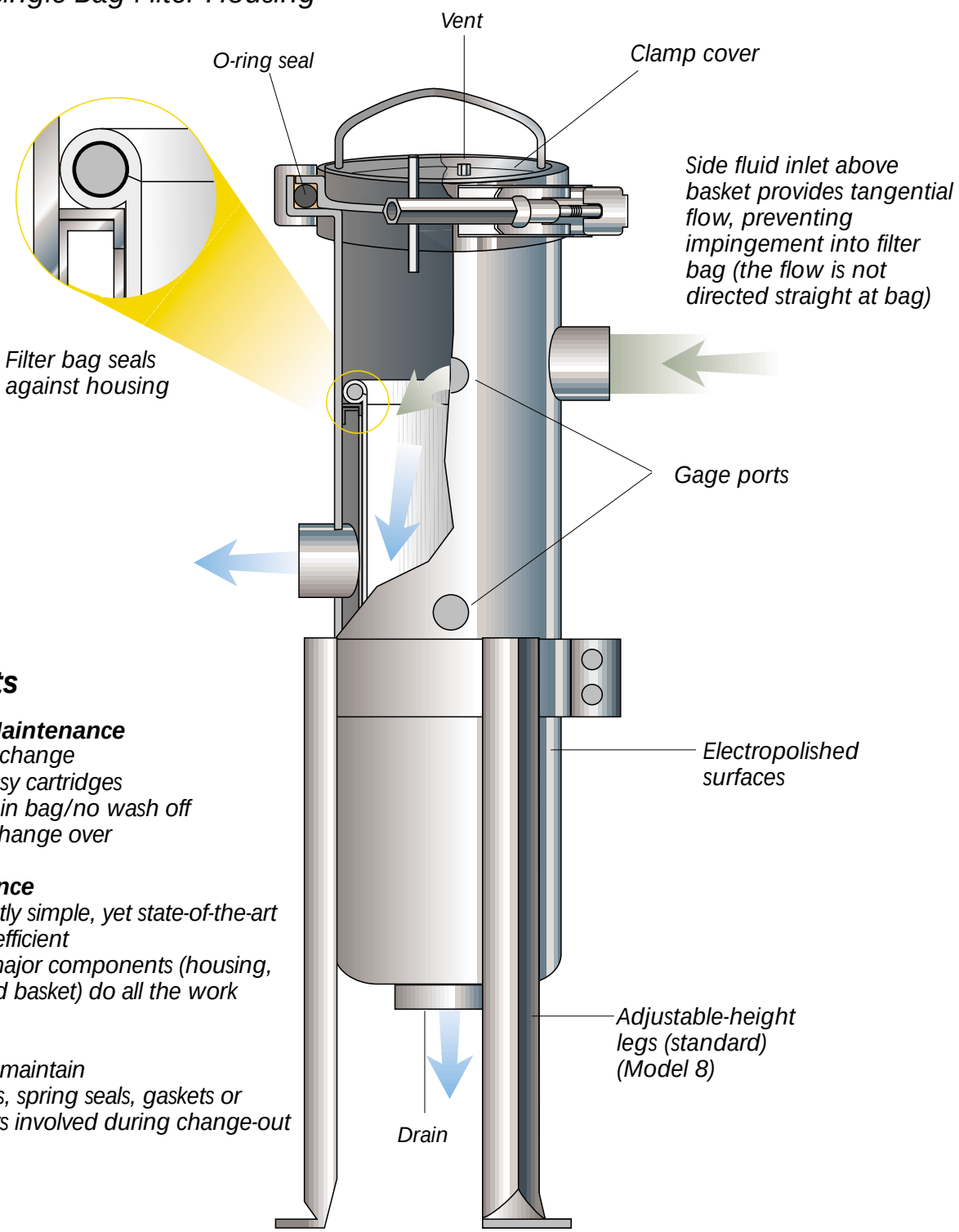
Technical Specifications

Bag Size:	*Any Standard Size 12 bag*
Drain connection:	*2" NPT*
Piping connections:	*2" NPT*
Construction Material:	*Carbon steel*
Pressure rating:	*125 psi*
Weight:	*70 lb*
Surface Area:	*5.6 Ft.²*

Note: *If your application requires options other than those listed, please turn to page 17.*

Features

Typical Single-Bag Filter Housing



Benefits

Ease of Maintenance

- *Easy to change*
- *No messy cartridges*
- *Dirt left in bag/no wash off*
- *Quick change over*

Performance

- *Inherently simple, yet state-of-the-art*
- *Highly efficient*
- *Three major components (housing, bag and basket) do all the work*

Service

- *Easy to maintain*
- *No caps, spring seals, gaskets or adapters involved during change-out*

Multi-Bag Filters

These multi-bag filters offer the widest range of flow capacities and contaminant holding capabilities. With anywhere from 2–23 perforated stainless-steel baskets specially fitted to hold disposable or cleanable filter bags, these high-capacity multi-bag filtration devices are extremely versatile. Bag sizes meet industry-wide standards: conventional 3-inch baskets take bag size 2 while optional 15-inch basket take bag size 1. The standard pressure rating for all models is 150 psi and all housing units can be supplied with a ASME code stamp, if required.

Choose from among the pre-selected ordering codes listed below. If you need assistance determining the size or type of product that suits your application, call a Rosedale representative today for assistance and information.

Coolant Filter: 24 - 30 - 4F -1-150 - C - B - N - PB

(Housing: 24 - 30 - 4F -1-150 | Options: C - B - N - PB)

MODEL NO.
Diameter (inches) = **Model No.**

BASKET DEPTH
30 inch (std.) = **30**

PIPE SIZE (Flanged[1])

2 in. (models 16, 18)	= **2F**
3 in. (models 16, 18, 22, 24)	= **3F**
4 in. (models 16, 18, 22, 24, 30)	= **4F**
6 in. (models 22, 24, 30, 36)	= **6F**
8 in. (models 30, 36, 42, 48)	= **8F**
10 in. (models 36, 42, 48)	= **10F**
12 in. (models 42, 48)	= **12F**

OUTLET STYLE
In-line, bottom (std.) = **1**

PRESSURE RATING[2]
150 psi = **150**

BASKET TYPE
PB = Filter bag basket

BASKET SEAL
N = No seal

COVER SEAL
B = Buna N

HOUSING MATERIAL
C = Carbon Steel

MODEL 8 SUGGESTED BAG
PE 5 P 2 S

FIBER & MICRON RATINGS
Felt, polyester = **PE**
Microns: 5, 25

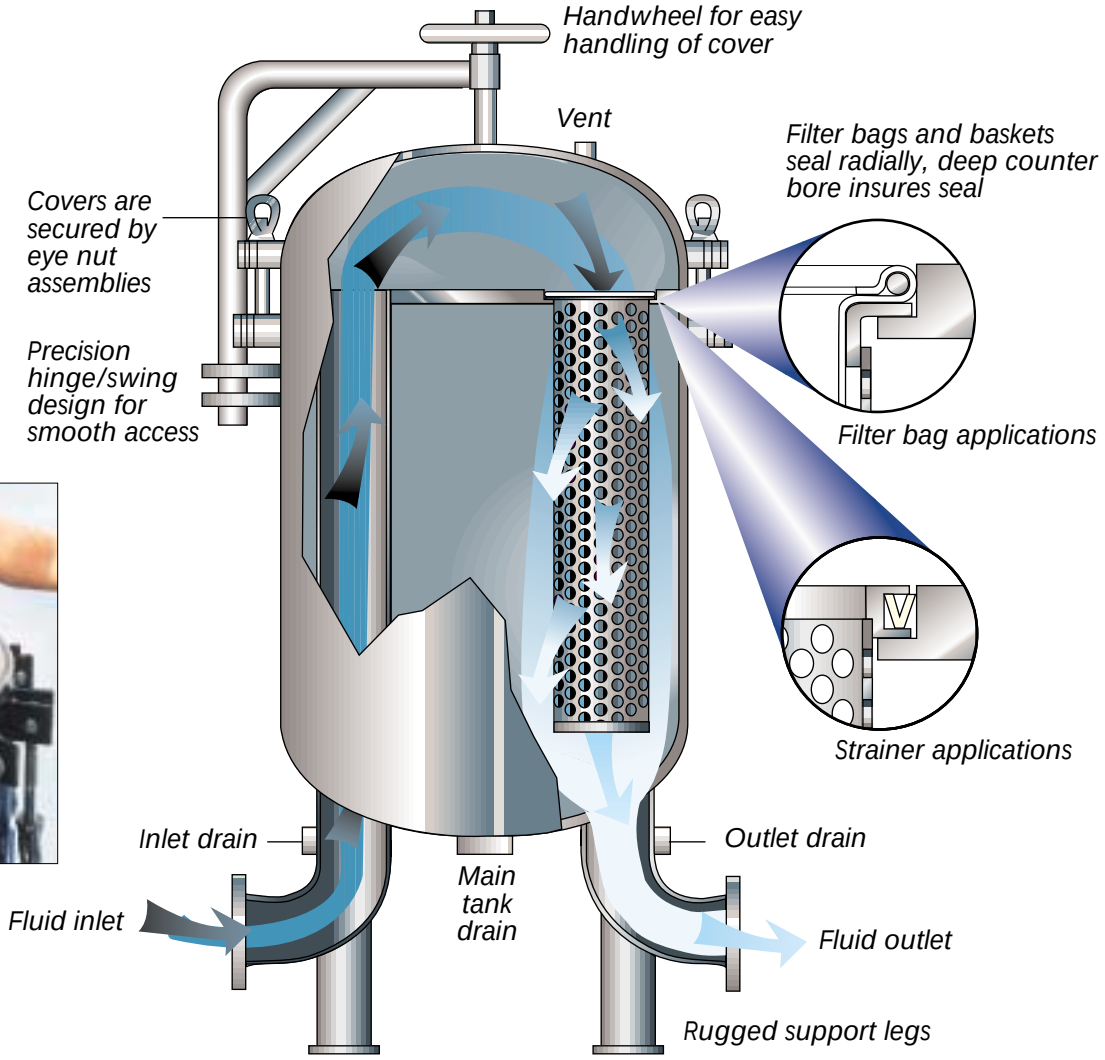
BAG FINISH
None = **P**

BAG SIZE AND DIMENSIONS
7-1/16 x 32 = **2**

BAG STYLE
Carbon steel plated ring = **S**

Features

Typical Multi-Bag Filter Housing



Benefits

Ease of Maintenance

- *Easy to change*
- *No messy cartridges*
- *Dirt left in bag/no wash off*
- *Quick change over*

Performance

- *Inherently simple*
- *Three major components (housing, bag and basket) do all the work*

Service

- *Easy to maintain*
- *No caps, spring seals, gaskets or adapters involved during change-out*

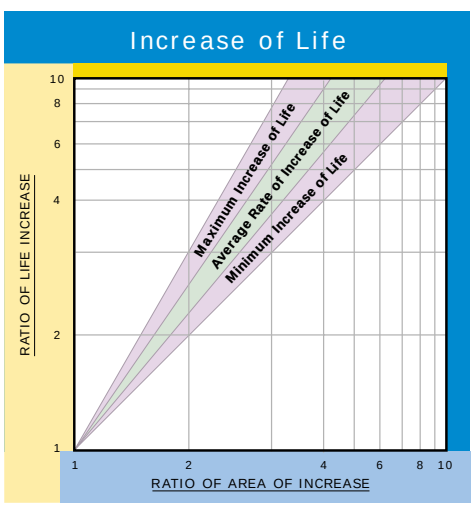
Model Selection (30-inch deep baskets)

Model No. (and diameter in inches)	Number of Baskets	Straining, Filtering Area (ft^2)	Standard Pipe Sizes Avail. (in.)	Suggested Flow Rate[3] (gpm)
16	2	8.8	2	50
18	3	13.2	2	75
22	4	17.6	2,3	100
24	6	26.4	3	150
30	8	35.2	4	200
36	12	52.8	4	300
42	17	74.8	6	425
48	23	101.2	6	575

The Quest For Longer Filter Life

The quest for longer filter life is experiencing renewed interest. Until recently, filters could be easily disposed of when dirty. Now, these spent filters are increasingly being classified as hazardous waste, and their disposal can become a significant budget item very quickly!

Rosedale Products has recently completed a study (for an automotive customer) of filter life and dirt holding capacity. The goal was to reduce the labor needed for cartridge change-out by reducing the frequency of change. There would also be a reduction in the total number of waste cartridges. Our test demonstrated that the amount of contamination being removed increased by ten times. The lower velocity of flow per unit of surface area enables a more thorough loading of the contamination. Surprisingly, this benefit of large surface area is seldom realized because the initial capital expense is higher.



Choosing the Proper Filter for Sump Cleanup

Calculating Beta Rating

In order to calculate the Beta Rating required to perform a cleanup of a sump that has contaminants, a specific formula can be used. The question of how clean comes down to determining the minimum size (in microns) of the contaminant particles, and the percentage of these particles that must be removed.

Relevant factors include the following:

1. *Sump size in gallons*
2. *Pump capacity in gallons per minute (GPM)*
3. *Length of time allowable for cleanup (in minutes)*
4. *The degree of cleanliness required (in percentage):*
   - *90 percent = 1/10 = .1*
   - *95 percent = 1/20 = .05*
   - *99 percent = 1/100 = .01*
   - *99.9 percent = 1/1000 = .0001*
5. *The corresponding natural logs of cleanliness reduction:*
   - *ln .1 = -2.3*
   - *ln .05 = -3.0*
   - *ln .01 = -4.6*
   - *ln .001= -6.9*

The Cleanup Formula

$$\frac{\frac{Qt}{V}}{\frac{Qt}{V} + \ln C} = \text{Beta (B)} \text{ (selected size)}$$

Q = *flow rate (in GPM)*
t = *time for cleanup (in minutes)*
V = *volume of tank (in gallons)*
ln = *natural log of C*
C = *concentration in decimal (eg. .05)*

Determining Pump Duration

Also, a formula can be used to calculate how long pumping must continue when the level of cleanliness and the filter element are predetermined. The following problem is provided as an example:

Example 1: *How much time (t) is required to filter out 95% of 10 micron and larger particles (.05 concentration factor C) using a BB-10 bag if V=100 gallon tank. Q=35 GPM pump, and B_{10} for BB-10 is 2?*

Step 1:	$\frac{\frac{Qt}{V}}{\frac{Qt}{V} + ln\ C} = B_{10}$
Step 2:	$\frac{\frac{35t}{100}}{\frac{35t}{100} + (-3)} = 2$
Step 3:	.35t = (.35t-3)2 .35t = .70t-6 .35t = 6
Step 4:	t = 17.14

Observation: *17.14 minutes x 35 GPM = 506 gallons, or a 5 time turnover.*

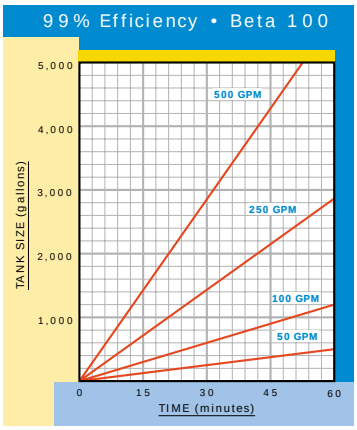
Example: *Under the same circumstances, how much time would it take to filter out 99% of the particles microns and larger?*

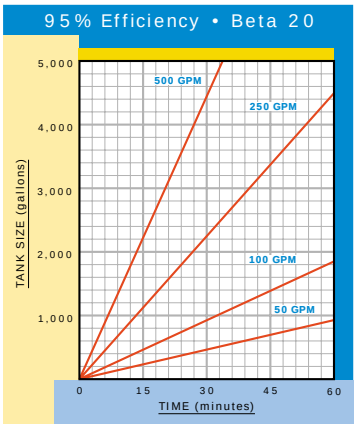
Step 1:	$\frac{ln\ Ct}{C_i} = ln\ .01 = 4.6$
Step 2:	.35t = (.35t-4.6)11 .35t = 3.85t-50.6 .35t = 50.6
Step 3:	t = 14.5 minutes

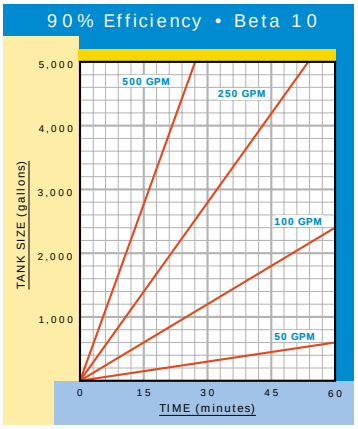
Observation: *14.5 minutes x 35 GPM =506 gallons, or a 5 time turnover.*

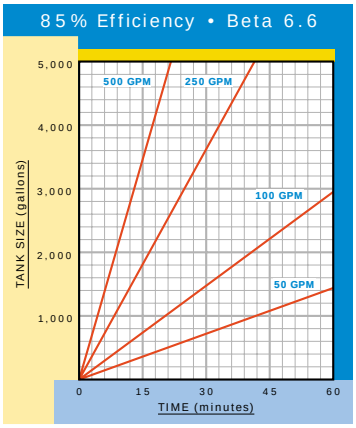
The calculations for cleanup demonstrate that any filter or bag that has the proper Beta Rating for the particle size that needs removing will be sufficient if the rating for that particle size is over 1.5 (33%).

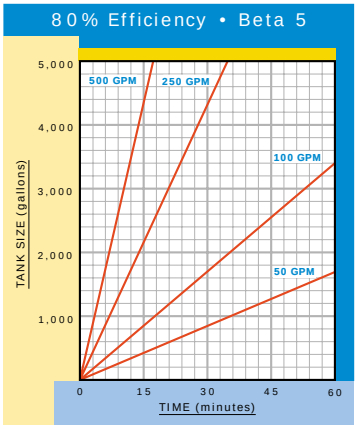
Filtering a Sump/Tank to Specific Micron Level

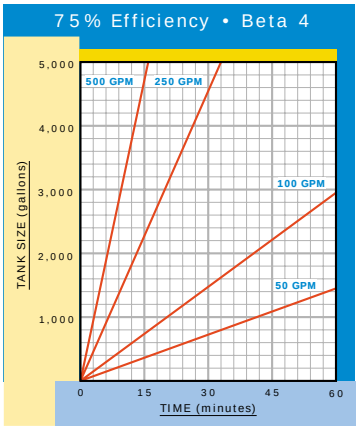












Beta Rating

Use this chart to determine the filter performance you require. The Product Groups are listed on the left, Micron Sizes are in red, with corresponding Efficiency (blue) and Beta Rating (green) along the top.

EFFICIENCY % / BETA RATING	PAGE NO.	30 / 1.5	50 / 2	66 / 3	80 / 5	90 / 10	95 / 20	98 / 50	98.7 / 75	98.75 / 80	99 / 100	99.8 / 500	99.9 / 1000	99.95 / 2000	99.98 / 5000	99.99 / 10000	ELEMENT AREA FT²	FLOW RATE GPM*	DIRT HOLDING CAP. (lbs)
PLATINUM 500																			
PS-520											0.25		<0.5		0.5				8
PS-521											0.9		1.4		2				8
PS-523											1.6		2		5				8
PS-525	124										2		6.5		10		85	30 ↕ 50	10
PS-527											9		17		20				10
PS-528											18		30		40				12
PS-529											40		60		70				12
PLATINUM 700																			
PS-740											0.25		<0.5		0.5				12
PS-741											0.9		1.4		2				15
PS-743											1.6		2		5				15
PS-745	126										2		6.5		10		120	50 ↕ 100	17
PS-747											9		17		20				18
PS-748											18		30		40				20
PS-749											40		60		70				20
PLATINUM 900																			
PS-940											0.25		<0.5		0.5				55
PS-941											0.9		1.4		2				75
PS-943											1.6		2		5				75
PS-945	128										2		6.5		10		600	200 ↕ 400	85
PS-947											9		17		20				90
PS-948											18		30		40				100
PS-949											40		60		70				100
PLEATED HI-E																			
PL-PEMF/POMF-1						1	1				2								1.5
PL-PEMF/POMF-3	130						3				5					10	25	35 ↕ 100	3
PL-PEMF/POMF-8							8				19								5
PL-PEMF/POMF-19							19				25								6
PLEATED STANDARD																			
PL-PE/PO-35 (1 nom.)							35												7.5
PL-PE/PO-48 (5 nom.)							48												8
PL-PE/PO-55 (10 nom.)	131						55										25	50 ↕	9
PL-PE/PO-70 (25 nom.)							70												10
PL-PE/PO-90 (50 nom.)							90							150					11
HI-E																			
PEMF/POMF-1						1	1				2								0.2
PEMF/POMF-3	120						3				5					10	4.4 SINGLE LAYER	20 ↕ 50	0.25
PEMF/POMF-8							8				19								0.35
PEMF/POMF-19							19				25								0.75
STANDARD																			
PE/PO-1					30		35												0.6
PE/PO-5				20		30	48	40											0.7
PE/PO-10	111	10					55										4.4 SINGLE LAYER	50 ↕ 110	0.8
PE/PO-25		40					70												0.9
PE/PO-50							90												1
SURFACEPLUS																			
SP-PE/PO-35					30		35												2.2
SP-PE/PO-48				20		30	48	40											2.8
SP-PE/PO-55	118	10					55										13.2 SINGLE LAYER- EXTRA LONG	50 ↕ 110	3.2
SP-PE/PO-70		40					70												3.63
SP-PE/PO-90							90												4
GRADED DENSITY																			
GD-523							1				2		20	30		40			0.6
GD-525	131						3				5						4.4 SINGLE LAYER	20 ↕ 50	0.65
GD-527							8				19								1.25
GD-529							19				25								2
BETA																			
BB-1			1			3	4		8	10							4.4 SINGLE LAYER	20 ↕ 50	0.15
BB-10	114		10				16		20										0.35
BB-12			12				37		47										0.6
GIARDIA																			
GLR-825	133													3			4.4 TWENTY SIX LAYER	10	0.5

**Based on water and nominal flow rate*

Choosing the Proper Filter Bag

The Beta Rating for the cleanup will vary by virtue of the time required to accomplish the cleanup. The following problems and corresponding Beta Ratings and Efficiency Correlations chart will illustrate this fact.

Beta Ratings & Efficiency Correlations

Beta Rating	2	3	4	5
Efficiency	50%	66%	75%	80%
Beta Rating	**10**	**50**	**100**	**1000**
Efficiency	**90%**	**98%**	**99%**	**99.9%**

Example 1: *Which element might be used to obtain 95% removal (ln of .05 = 3.0) of particles 10 microns and larger from a 100 gallon reservoir (V = 100) using a 10 GPM pump (Q = 10) in 20 minutes (t = 20)?*

Step 1:	$B_{10} = \frac{\frac{10 \times 20}{100}}{\frac{10 \times 20}{100} + (-3.0)}$
Step 2:	$B_{10} = \frac{2}{2-3}$
Step 3:	$B_{10} = -2$

Observation: *A negative value for Beta Rating indicates that 95% particle removal is not possible in 20 minutes.*

Example 2: *In the same situation, which element could be used if the cleanup time were increased to 60 minutes (t = 60)?*

Example 3: *Is this cleanup possible if the time were compromised to 40 minutes? If so, which element?*

Filtering Continuous Loads with Dirt Ingression

The challenge is to maintain a process liquid cleanliness of some maximum parts per million, given that the system flow rate is established at a given gallons per minute with dirt being introduced at a rate of X PPM.

The graphs on this page will help to determine the number of filters and filtration flow rate required as well as the filter efficiency necessary to maintain the process liquid to a specified level.

Example 1: *A coolant system which flows from a coolant tank to a bank of grinders at a flow rate of 500 gallons per minute picks up 10 ppm from the grinders, making the tank so dirty that the coolant flowing into the machines must be changed. The customer wants to maintain the coolant purity to a maximum 40 PPM. The customer has stated the ppm contaminants are larger than 5 micron.*

A – *Referring to our Beta Ratings Chart on page 89 you will see that we have several bag filters capable of filtering 5 micron dirt. However, the efficiencies vary. If you were to choose a BB-1 filter, you would attain 95% efficiency at 5 micron.*

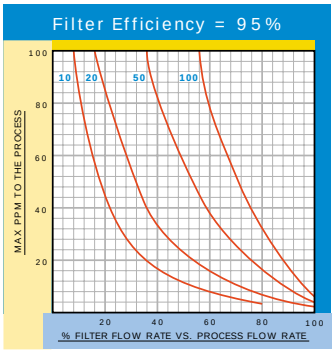
B – *Go to the Continuous Dirt Load Graphs below and find the graph for Filter Efficiency = 95%.*

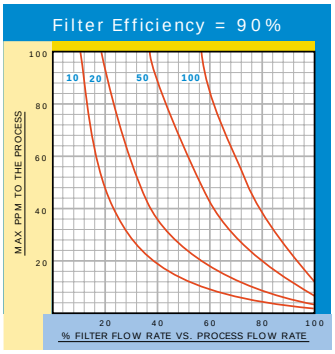
C – *Look down the left side of the graph to locate the maximum dirt load desired (40 PPM) and follow the line to right to the intersection of PPM introduced by the process (10 PPM).*

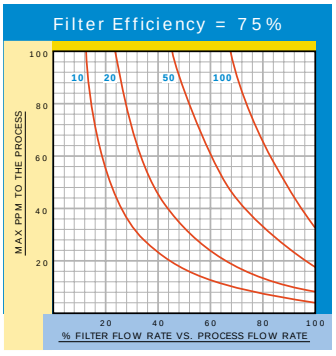
D – *Moving straight down the graph from this intersection point you will note that the element must filter at a rate equal to 20% of the process flow rate of 500 GPM.*

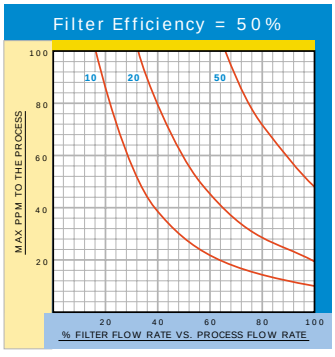
Observation: *If the filtering proceeds at 100 GPM with the BB-1 bag, the process dirt load will be maintained at 40 PPM.* ***Note:*** *A less efficient bag could be used if the filter flow rate were increased. Choosing the PL-PEMFL-P2 bag will require that the flow rate be 140 GPM to maintain the dirt load at 40 PPM.*

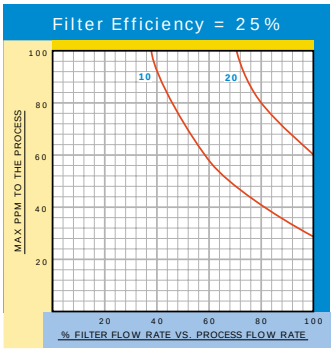
Continuous Dirt Load Graphs

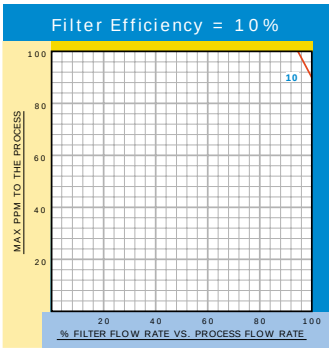












Water Filter Selection Guide

Rosedale has installed many housings for filtering industrial water applications in industries as diverse as automotive, steel, metal fabrication, and paper processing, among many others.

The Generation II All Plastic Model 8 Bag Filter

(For more information on the Generation II, see page 31)

Rosedale's Generation II model 8-sized polypropylene bag filters are made in a one-piece, seamless body that offers excellent resistance to corrosion. It is rated to 100 psi @ 150°F and flows to 100 gpm, choose the pre-selected ordering code listed below.

Pre-Selected Corrosive Resistant Model 8 Ordering Code

Example: Housing | Options

CR8 - 30 - 2F - * - 100 - P - B - C

Model No.
Corrosive Resistant
Model 8 = **CR8**

Housing Size
30 inch = **30**

Pipe Size (Flange)
2-inch Flat Face class 150 = **2F**

Outlet Style
Side/Bottom Unistyle = *****

Pressure Rating
100 psi = **100**

Housing Material
Polypropylene = **P**
PVDF = **K**

Cover Gasket
Buna N = **B**
Ethylene Propylene = **E**
Viton® = **V**
Teflon® Encapsulated Viton® = **TEV**

Convertible 700
Cartridge Adapter = **C**

Plastic model base shown above. For more information on filter elements see pages 120-130.

Model 8 Filter Housing With Quick Opening Clamp Cover

(For more information on the Model 8-125, see page 27.)

These high-capacity bag filters are rugged and low in cost. The Quick Opening Clamp Cover is quick and easy to remove. The housing is rated at 125 psi and flows to 100 gpm, choose the pre-selected ordering code listed below.

For more information on filter bags, see pages 120-130.

Pre-Selected Model 8 Filter Housing with Quick Opening Clamp Cover

Example: Housing | Options

815 - 2P - * - 125 - S - B - PB

Model 815
830

Pipe Size
2-inch female NPT = **2P**

Outlet Style
Side/Bottom Unistyle = *****

Pressure Rating
125 psi = **125**

Housing Material
Stainless Steel = **S**

Cover Seal
Buna N = **B**

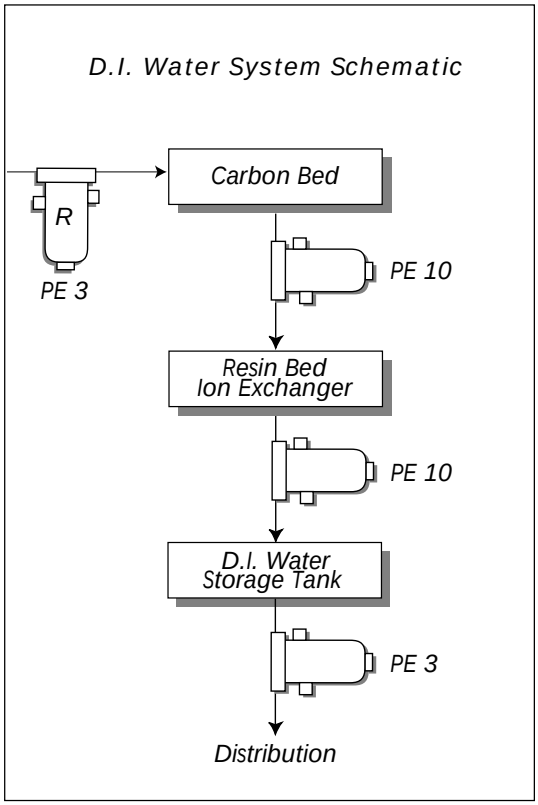
Basket Type
Filter bag basket = **PB**

Extra High Capacity Multi-Bag Filters

(For more information on the Multi-Bag Filters, see page 36)

These multi-bag filters offer a wide range of flow capacities and contaminant holding capabilities. They contain from 2 to 23 baskets, all the same size. They are fitted with perforated stainless steel baskets designed to hold disposable or cleanable filter bags. Industry standard size bags are used: the standard 30-inch baskets take bag size 2, and optional 15-inch baskets take size 1. The standard pressure rating for all models is 150 psi. All housings can be supplied with a ASME code stamp, if required. For filter flows to 2300 gpm with a 150 psi rated housing, use the pre-selected ordering code listed on the next page.

Typical Application



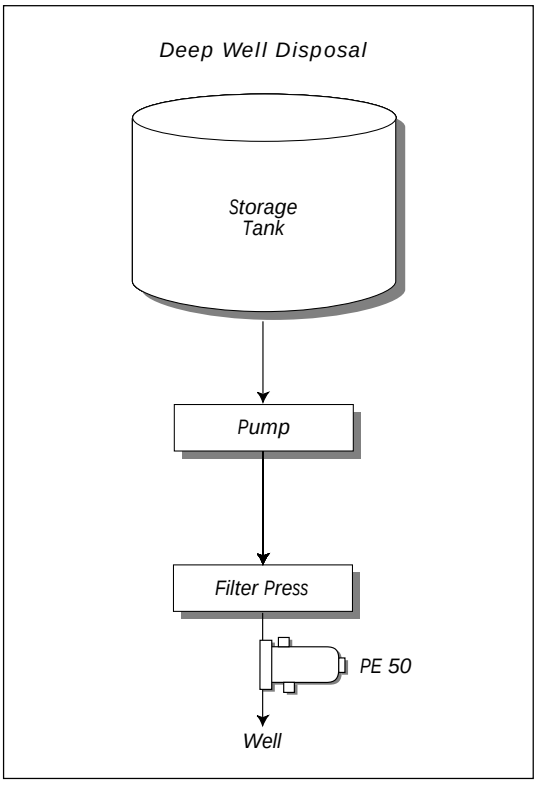
Water Flow Rates *with 10m Filter Bags*

Model	GPM
16	200
18	300
22	400
24	600
30	800
36	1200
42	1700
48	2300

Pre-Selected Multi-Bag

Filters Ordering Code

Typical Application



Model Selection *(30-inch deep baskets)*

Model No. (and dia. in inches)	Number of baskets	Straining, filtering area, ft2	Standard pipe sizes available, in.	Nominal flow rate, gpm
16	2	8.8	2, 3, 4	200
18	3	13.2	2, 3, 4	300
22	4	17.6	3, 4, 6	400
24	6	26.4	3, 4, 6	600
30	8	35.2	4, 6, 8	800
36	12	52.8	6, 8, 10	1200
42	17	74.8	8, 10, 12	1700
48	23	101.2	8, 10, 12	2300

Pre-selected Multi-Bag
Filters Ordering Code

Housing | **Options**

Example: 24 - 30 - 4F - 1 - 150 - S - E - N - PB - N

MODEL NO.
16 = **16** 30 = **30**
18 = **18** 36 = **36**
22 = **22** 42 = **42**
24 = **24** 48 = **48**

BASKET DEPTH
30-in. (std) = **30**

PIPE SIZE (FLANGED[1])
2-in. (Models 16, 18, 22, 24) = **2F**
3-in.(Models 16, 18, 22, 24, 30, 36) = **3F**
4-in. (Models 16, 18, 22, 24, 30, 36) = **4F**
6-in. (Models 22, 24, 30, 36) = **6F**
8-in. (Models 30, 36, 42, 48) = **8F**
10-in. (Models 36, 42, 48) = **10F**
12-in. (Model 42, 48) = **12F**

OUTLET STYLE
In-line, bottom (std) = **1**

ASME CODE STAMP[3]
N = None
C = Code

BASKET, TYPE
PB = Filter bag basket, 9/64 perforations[4]

BASKET SEAL
N = No seal

COVER SEAL
E = Ethylene Propylene

HOUSING MATERIAL
S = 304 stainless steel

PRESSURE RATING[2]
150 = 150 psi (flanged)

1. Flanges provided with the housing match the pressure rating of the vessel. Housings rated 150 psi have 150 class flanges. Housings rated 300 psi have 300 class flanges. Other styles and classes available. ANSI B16.5 Pressure-Temperature rating tables determine flange class for ASME code housings. Consult factory.
2. Higher pressure ratings available. Consult factory.
3. Filter bags are specified separately. See pages 120-130.

New for Sanitary Service–Bag Filters for Fine Filtration

New multilayer, polyester and polypropylene felt filter bags make possible filtration to 1 micron

Rosedale sanitary service filters conform to USDA/3A dairy standards with housings of polished 304 stainless steel. They're rated for 200 psi pressure and have quick-release clamp-type covers. Outlets and inlets have sanitary flange connections. All internal surfaces can be visually inspected (and easily cleaned in place).

The great economy of these filters is in their use of filter bags instead of the more costly filter cartridges. Made of a new filtering media, they carry nominal retention ratings of 1, 10 and 12 microns. They have been evaluated by the Multi-Pass Test Method (OSU-F2). See pages 102-103 for complete information. (Other bags, including some made of monofilament meshes rated as fine as 10 microns, are also available. See pages 126-128.)

The contaminant-carrying capacity of these bags is equal to that of cartridges of the same flow capacity. Because the filter bags are supported by perforated stainless steel baskets, there is no filter collapse, flow fatigue, or filter end-load problems. Bags are removed more easily than cartridges, and bags hold the contaminant inside, not outside where it can wash off into the system during replacement. Some filter bags can be safely used at temperatures to 325^{0}F.

Applications for these filters include dairy, beverage, vegetable oils, and other foods and pharmaceuticals. They also make excellent pre-filters upstream of ultra-fine cartridge and membrane filters removing bacteria, etc.

How To Order

Build an ordering code as shown in this example

Example: **SAN - 4-12 - 1-1/2 - T** (Housing - Option)

SANITARY BAG FILTER: SAN

HOUSING SIZE
Model 4 = **4-12**
Model 8 = **8-30**

CONNECTION SIZE
1-in. = **1**
1-1/2-in = **1-1/2**
2-in. = **2**
3-in. = **3**

COVER GASKET
Buna N = **B**
Viton® = **V**
Teflon® = **T**

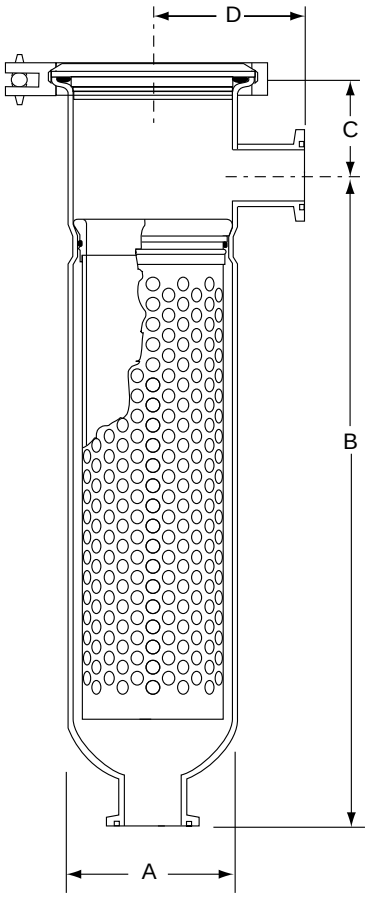
Order filter bags separately.
See pages 120-130.

Construction

Housings are of 304 stainless steel, polished inside and out (unless ordered otherwise). The bags are supported by stainless steel baskets that provide 50% open area and lift out easily. The housing is then completely open with all surfaces visible and cleanable.

The filter bags have stainless steel rings sewn in their openings. Their close fit inside the housing effectively seals against bypass of liquid. They have cloth handles to assist in removal.

Dimensions (IN)



Dimensions (IN)

Model	Connection Size	A	B	C	D
4	1	4.5	15.5	2	5
	1.5	4.5	15.5	2	5
	2	4.5	15.5	2	5
	2.5	4.5	16.0	2.5	6
	3	4.5	16.0	2.5	6
8	1	8.6	38.0	3.6	7.1
	1.5	8.6	38.0	3.6	7.1
	2	8.6	38.0	3.6	7.1
	3	8.6	38.0	3.6	8.1

T-Type Sanitary Cartridge-Housing

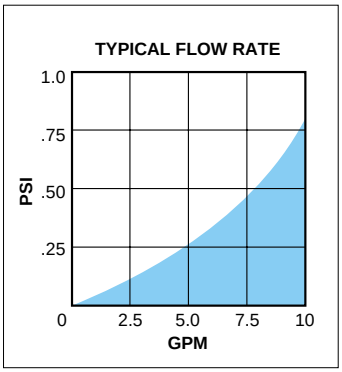
For fine filtration

Rosedale's sanitary service filters for sterile filtration are constructed with housings of electropolished 304 stainless steel. This "T" type sanitary housing is rated for 150 psi pressure and has a quick-release clamp closure which is safe for compressed gas applications. Outlets and inlets have sanitary flange connections. All internal surfaces can be visually inspected and easily cleaned in place. The housing uses an industry standard 222 or 226 style cartridge.

Applications for this sanitary filter housing include dairy, food and beverage processing, sterile filtration for pharmaceuticals, and sterile air/gas filtration. They are also excellent pre-filters used upstream of membrane filters.

Construction

Housings are all welded construction with all wetted parts of 304 stainless steel. All welded attachments are 300 series stainless steel. The materials and manufacturing process exceed industry standards for sterile filtration.



How To Order

Build an ordering code as shown in this example.

	Housing		Options
SANITARY CARTRIDGE FILTER	**SAN-T-1-**	**150-T**	**-222 -20-H**

PIPING STYLE

CONNECTION SIZE
1-in = **1**

PRESSURE
150 psi = **150**

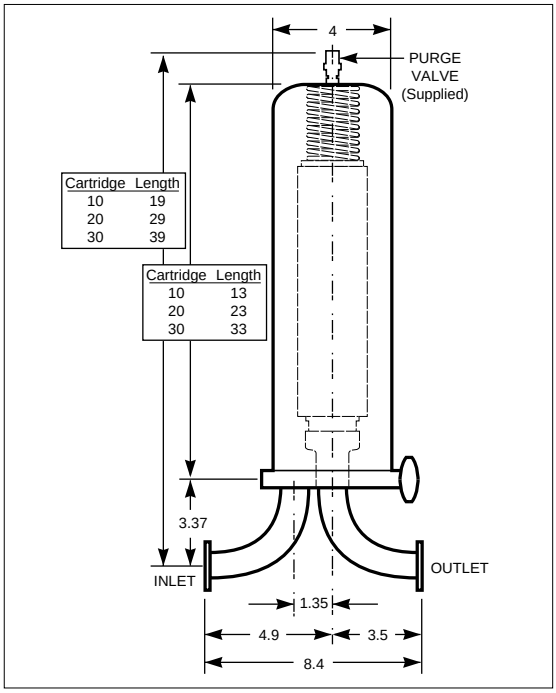
O-RING MATERIAL
Teflon® = **T**

CARTRIDGE STYLE
Style 222 = **222**
Style 226 = **226**

CARTRIDGE LENGTH
10-inch = **10**
20-inch = **20**
30-inch = **30**

OPTIONAL
Housing stand = **H**
No options = **No Symbol**

Note: *Order cartridges separately. See pages 158-167.*



In-Line Sanitary Cartridge Housing

Rosedale in-line sanitary cartridge housings are constructed of electropolished 304 stainless steel for sterile filtration. They are rated for 150 psi pressure and have a quick-release, clamp-type closure. A recessed filter connection reduces hold-up volume and ensures a proper O-ring seal.

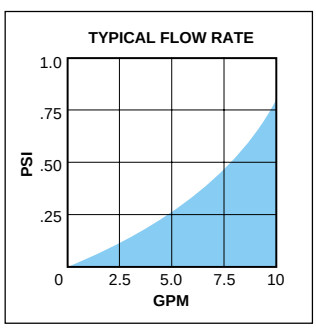
The in-line design features a sanitary purge valve that ensures proper venting for complete filter wetting. There's also a sanitary drain valve ensuring proper liquid drainage during venting applications. This sanitary filter housing uses an industry standard 222 or 226 style cartridge.

Sanitary USDA/3A Standards

Applications for this housing include sterile venting, sterile air/gas filtration, food and beverage processing, and sanitary applications requiring high purity, non-reactive surfaces. They are also excellent pre-filters used upstream of membrane filters.

Construction

Housings are all welded construction with all wetted parts of 304 stainless steel. All welded attachments are 300 series stainless steel. The materials and manufacturing process exceed industry standards for sterile filtration. A cast clamp closure connects the shell to the base assembly.



How To Order

Build an ordering code as shown in this example

Housing **Options**
SAN-IL-1-150-T-222-10

SANITARY CARTRIDGE FILTER

PIPING STYLE

CONNECTION SIZE
*1-in = **1***

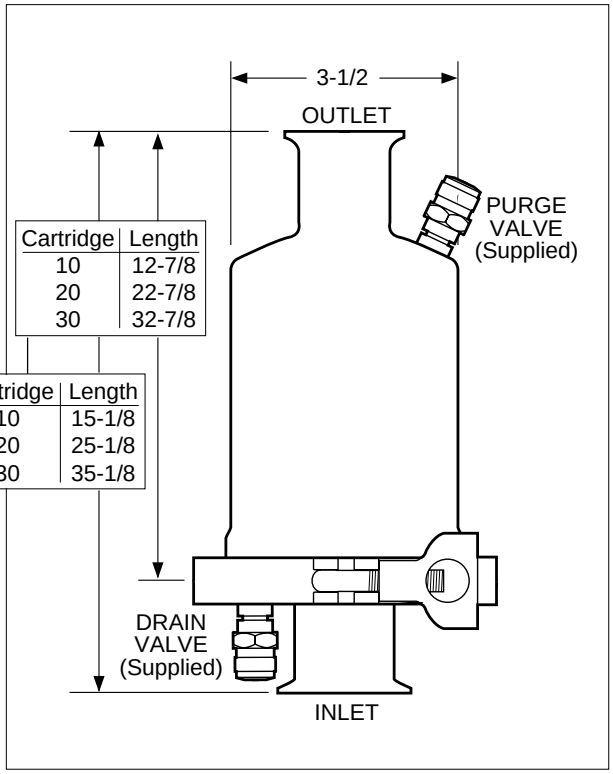
PRESSURE
*150 psi = **150***

O-RING MATERIAL
*Teflon® = **T***

CARTRIDGE STYLE
*Style 222 = **222***
*Style 226 = **226***

CARTRIDGE LENGTH
*10-inch = **10***
*20-inch = **20***
*30-inch = **30***

Note: *Order cartridges separately. See pages 158-167.*



Cartridge	Length
10	12-7/8
20	22-7/8
30	32-7/8

Cartridge	Length
10	15-1/8
20	25-1/8
30	35-1/8

Rosedale Bulk Loading Filters

Know your liquid products are clean upon delivery - and be able to prove it! For flow rates to 50 gpm

Here is a way to ensure that the liquid chemicals or petroleum products you put into bulk containers - from drums to tanks cars - are as clean as they should be.

This final filter uses low-cost filter bags with dirt retention capabilities as fine as one micron. The filter attaches to the end of your loading pipe or hose, so it's the last thing your product touches before being loaded. It will stop any contaminant that has escaped your regular filtering system.

The filter can be attached to your line by a standard quick-connect coupler for easy removal. The cover is held closed by an easy-operating clamp - no tools required. It acts to hold the bag down in proper position, also. The filter bag can be quickly removed after loading for inspection. This will indicate your system filtration condition, and the bag can also serve as proof of the cleanliness of the product delivered. (Just send the bag along with the shipment.)

Description

The filter is of welded construction, in carbon or 304 stainless steel. It weighs approximately nine pounds. The filter bag basket is of perforated 304 stainless steel.

It uses standard-sized filter bags, #3 or #4. We offer them in many materials and micron ratings. If filter bags aren't desired, you can order units with strainer baskets, in a wide range of perforation hole sizes and with wire cloth linings as fine as 200 mesh.

How To Order

Build an ordering code for the filter and the filter bags as shown in these examples

EXAMPLE — Housing: **BL- 412- CL/PT-2-1-200-S** - Options: **B-N-B-D**

BULK LOADING

SIZE
- 6 inch = **46**
- 12 inch = **412**

INLET/OUTLET
(Cam-locking quick coupler = CL, female NPT = PT)
- **CL/PT**
- **CL/CL**
- **PT/CL**
- **PT/PT**

CONNECTION SIZE
- 1-1/2 inch = **1-1/2**
- 2 inch = **2**
- 3 inch = **3**

OUTLET STYLE

PRESSURE RATING
- 200 psi (clamp cover) (Std.) = **200**
- 300 psi (eyenut cover) = **300**

HOUSING MATERIAL
- Carbon steel = **C**
- 304 stainless steel = **S**

COVER GASKET
- Buna N = **B**
- Ethylene Propylene = **E**
- Viton® Fluoroelastomer = **V**
- Teflon® Fluorocarbon = **T**

BASKET SEAL
- No seal (Std.) = **N**
- Seal (basket strainers only) = **S**

BASKET TYPE
- For filter bag, 9/64 perforations (Std.) = **B**
- For straining, perforated metal = **P**
- For filter bag, perf., mesh-lined = **BM**
- For straining, perf., mesh-lined = **M**

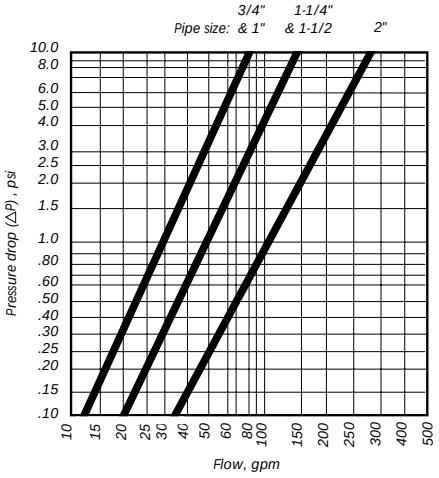
DISPLACER
- Displacer = **D**

BASKET MEDIA SIZE
- Type B basket, **no symbol** (Std.)
- Type P basket, perf. diameters **1/4, 3/16, 9/64, 3/32, 1/16**
- Type M & BM baskets, mesh size **20, 30, 40, 50, 60, 70, 80, 100, 150, 200**

Note: *Order filter bags separately.* *See page 120-130.*

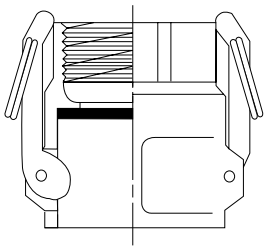
Model 4–For flow rates to 50 gpm

- *Pipe sizes 3/4 thru 2-inch, NPT or flanged*
- *Two basket depths: 6 or 12 inches (nominal)*
- *Three pressure ratings: 200 psi (with clamp cover) and 300 or 500 psi (with eyenut cover)*
- *ASME code stamp available*



QUICK-CONNECT COUPLER

We can supply a standard cam-locking coupler for attachment to your pipe or hose (via female NPT) Order by name: Quick-connect coupler, and size: 1-1/2, 2, or 3 NPT.



Sorbent Containment Systems

- Treatment vessels
- Carbon-holding baskets
- Activated carbon packs

Treatment Vessels are standard Rosedale strainer/filter housings, available in carbon steel, and 304 or 316 stainless steel. They are made in many sizes. Single-basket models are pressure rated from 75 to 500 psi, with pipe connections from 3/4-in.-NPT to 4-in.-flange. Multi-basket models can hold from 2 to 23 baskets and are pressure rated at 150 psi. Pipe sizes are from 2 to 12 inches (flanged).

Sorbent-Holding Baskets are made in two styles: the RS, for recirculating systems, passes liquid (horizontally) through a shallow bed (approximately 2-1/2 inches deep); the SP, for single-pass systems, has a deep (vertical) bed (approximately 29 inches deep).

Baskets are made entirely of 304 stainless steel, and are of high quality construction. They are easily recharged with sorbents such as activated carbon. Turning the large lifting handle opens a cover so that they can be emptied and refilled. The particles are retained by 100-mesh wire screening.

These baskets can also be filled with materials other than activated carbon. Other processing media might include deionizing resin beads, silica gels, alumina, green sand, and odorizing agents.

Activated Carbon Packs are pre-measured amounts of 20 x 50-mesh-size activated carbon, packaged to protect against moisture. A universal grade of carbon is used, offering good flow rates.

An SP-style basket being put into a Rosedale Model 8-30 vessel. An RS-style basket is in the foreground.

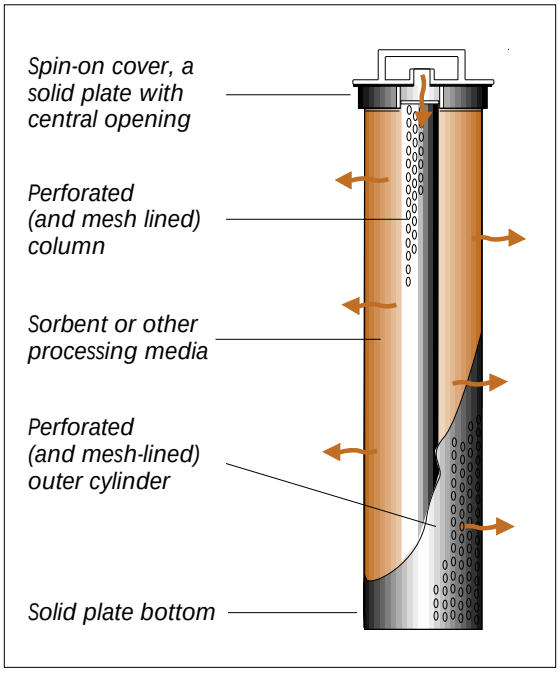
Designing An Optimum System

While carbon granules can act as a filtering media to remove solid particulate from a liquid, it is far more economical to pre-filter liquids entering a carbon adsorption vessel to avoid impeding the adsorption process. It is also recommended that a second filter be placed downstream of the carbon unit to catch any carbon particles that might be flushed out by the fluid stream. Rosedale bag filters are excellent in these roles.

A combination carbon adsorption and downstream filtering unit can be ordered. Available in the larger single-basket and all multi-basket vessels, it positions the carbon-holding basket inside a larger filter bag-holding basket. A variety of filter bag media is offered.

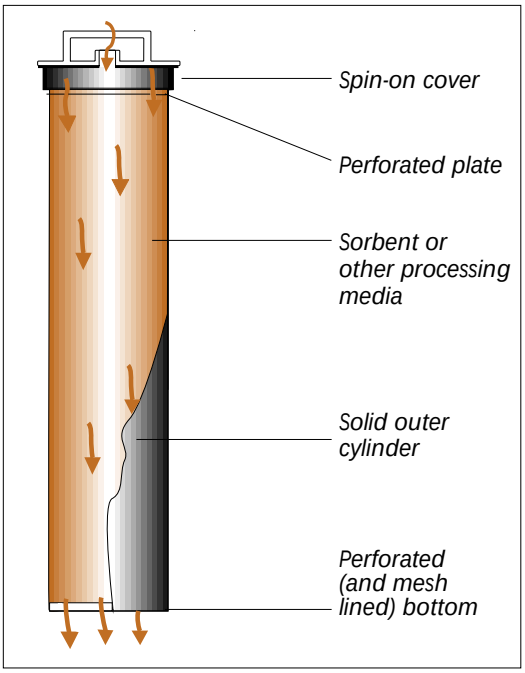
RS Style For Recirculating Systems

Flow enters from the top, into a perforated cylinder around, which is packed activated carbon. Flow moves radially through the carbon and exits through the side wall, which is perforated and lined with 100-mesh screen. (See diagram below.)



SP Style For Single-Pass (One-Time) Processing

Flow enters from the top through a perforated cover and into the activated carbon bed. Flow moves down through the carbon and exits through the bottom plate, which is perforated and lined with 100-mesh screen. (See diagram top right)



Activated carbon is a "black magic" material that removes molecules of organic pollutants from various liquids by physical adsorption. (It does not act by chemical bonding.) It is a surface attraction, and the fine porous carbon particles have an incredibly large surface area. (Used carbon can be reactivated by oxidizing the adsorbed contaminant.)

Uses of carbon adsorption include:

1. *Purification of sugar syrups, liqueurs, glycerine, pharmaceuticals, etc.*
2. *Treatment of water to remove chlorine and odor, and improve color and taste.*
3. *Purification of process effluents, per EPA requirements.*
4. *Drying, degumming, and decolorization of fuel and lubricants, organic solvents, vegetable oil, and animal fats.*

Treatment Vessels

Any of Rosedale's standard single or multi-bag housings can be used as the treatment vessel see pages 4 through 18 pages 27 through 42, pages 59 through 65 or pages 69 through 73.

Activated Carbon Packs

Order carbon packs by using the basket order number (as shown below) plus the suffix 'CP'.
Example: To order a replacement pack of carbon in an amount sufficient to fill an O-730-RS basket, order number O-730-RS-CP

Ordering Information

Carbon-Holding Baskets

Flow Rate (gpm)	Carbon Capacity (cu.in.)	To fit vessel (Model No.)	Basket Order No.
RS-style (for recirculating systems)			
2.5	66	4-6	O-46-RSB-6671
5.0	130	4-12	O-412-RSB-6675
4.0	197	6-12	O-612-RSB-4359
10.0	296	6-18	O-618-RSB-4361
15.0	494	6-30	O-630-RSB-4363
15.0	484	8-15	O-715-RSB-1538
20.0	963	8-30	O-730-RSB-8119
To fit Model 8 vessels with backup filter bag baskets			
	249	8-15	I-715-RSB-1617
	574	8-30	I-730-RSB-1625
To fit multi-basket vessels			
15.0*	484	15-in.nom.	O-915-RS
20.0*	963	30-in.nom.	O-930-RSB-1534
To fit multi-basket vessels with backup filter bag baskets			
	249	15-in.nom.	I-915-RS
	574	30-in.nom.	I-930-RS

Carbon-Holding Baskets

Flow Rate (gpm)	Carbon Capacity (cu.in.)	To fit vessel (Model No.)	Basket Order No.
SP-Style (for single pass systems)			
1.25	70	4-6	O-46-SPB-6673
2.5	140	4-12	O-412-SPB-6677
4.0	235	6-12	O-612-SPB-4367
5.0	353	6-18	O-618-SPB-4365
7.5	589	6-30	O-630-SPB-5046
5.0	494	8-15	O-715-SPB-1537
10.0	1020	8-30	O-730-SPB-8432
To fit Model 8 vessels with backup filter bag baskets			
	285	8-15	I-715-SPB-1615
	658	8-30	I-730-SPB-7669
To fit multi-basket vessels			
5.0*	494	15-in.nom.	O-915-SP
10.0*	1020	30-in.nom.	O-930-SPB-1215
To fit multi-basket vessels with backup filter bag baskets			
	285	15-in.nom.	I-915-SP
	658	30-in.nom.	I-930-SP

*Flow rate is per basket: Multiply by number of baskets in vessel.

An All-Stainless Steel Mini-Bag Filter For 3000 psi Service

Ideal for spray nozzle protection

Here's the best answer yet to the need for a small yet rugged final filter for liquids at pressures to 3000 psi. The filter contains a stainless wire mesh "bag" with a 14 square inch area. It can be thrown away when dirty, or cleaned and reused. Flow is from the inside to the outside of the element; contaminant stays trapped inside. The straight through design has no elbows, turns or internal pockets to create pressure drops or collect sediment, and they're easy to flush out.

The mini-bag filter is very easy to service too. Just spin the knurled collar loose, push the housing out of line a bit, remove the element, slip a new or clean one in, and you're back in business. The seal is a special, Teflon-encapsulated Viton O-ring. It can be tightened by turning the knurled collar, usually by hand.

Specifications

- *Pressure rating: 3000 psi*
- *Differential pressure rating: 25 psi*
- *Port sizes: 3/8 inch NPT*
- *Micron retention ratings (absolute): 25, 50, 75, 100 125 and 150*

How To Order

Order filter housings separately:
Model No. MF-1

Order element bags separately, according to micron retention desired:

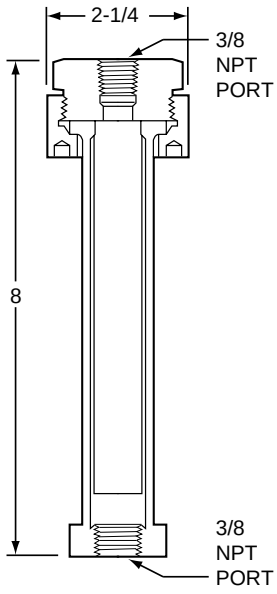
25 micron (absolute),	*Part No. MB-25*
50 micron (absolute),	*Part No. MB-50*
75 micron (absolute),	*Part No. MB-75*
100 micron (absolute),	*Part No. MB-100*
125 micron (absolute),	*Part No. MB-125*
150 micron (absolute),	*Part No. MB-150*

NOTE: *A model with 2 collars, to be removed from rigid piping, is also available.*

Flow Capacities *(gpm) at 2 psi (.14 bar) pressure drop*

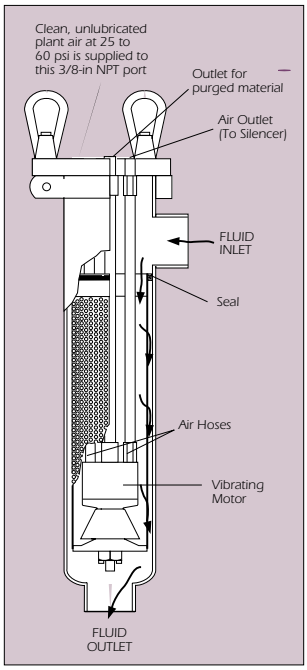
Viscosity (SSU/cSt)	Element Micron Rating 150	75	50	25
100/20.5	6	6	6	6
250/55	6	6	5.3	4
1000/250	4.5	4	3.1	2
1500/325	3.5	3.5	2.3	1.5

Dimensions (IN)



The Vibrating Filter

High-frequency sieving action prevents rapid filter loading



The Rosedale Vibrating Filter prevents filter cake from forming on the element surface. As in sieving, the screen through which the product passes is rapidly agitated. This prevents the building up of even smaller particles on larger ones stopped at the screen. By keeping over-sized material bouncing off the screen, the smaller particles can reach the screen and pass through. This sieving-type filter is ideal for paints, medicines, paper coatings, foods, or any product containing desirable solids that can be classified by size.

Unlike standard sieving, the vibrating filter works in a closed, pressurized system that greatly increases throughput. The high-frequency vibration also serves to delump agglomerated material.

The vibrating filter contains a perforated stainless steel basket lined with stainless wedgewire or wire cloth. It is held against a resilient seal at the top. A plant-air-driven vibrating motor at the bottom causes the basket to vibrate. The vibration rate is changed by varying the air pressure between 25 and 60 psi. Higher pressures produce higher frequencies. The basket is isolated from the housing, so very little vibration is transmitted to housing and piping.

Cleaning The Filter

- Release system pressure, and close inlet and outlet valves. Turn off the air to the vibrating motor.
- Loosen the eye nuts enough to swing rod ends free of the cover. Open the drain valve at the outlet to remove the remaining clean fluid.
- Remove cover-vibrator-basket assembly straight-up for the housing. (Contaminated fluid will now drain from the housing.)
- The easiest method for cleaning the unit is to run the vibrator while the basket is immersed in solvent. If this isn't effective, the basket must be removed and cleaned by hand.
- Separate the filter basket by removing the cotter pin, castle nut and lock washer. If the basket doesn't break free, tap the top of the basket lightly. If that fails, tap the stem down on a wood board to break the basket loose.
- Use brushes, solvents, compressed air, or other suitable means to remove the contaminant from the wire cloth or wedgewire element. Be careful no to damage the basket with sharp instruments.

How To Order

Build an ordering code as shown in this example

Example: Housing: **VF- 4- 12- 3/4P- 1 -300- S** Options: **-T -T- 100WW**

VIBRATING FILTER

MODEL

SIZE

PIPE SIZE & CONNECTION

3/4-in. female NPT	= ***3/4P***
1-in. female NPT	= ***1P***
1-1/2-in. female NPT	= ***1-1/2P***
2-in. female NPT	= ***2P***
1-in. 150 class ANSI flange	= ***1F***
1-1/2-in. 150 class ANSI flange	= ***1-1/2F***
2-in. 150 class ANSI flange	= ***2F***

OUTLET STYLE

Bottom = ***1***
Side = ***2***

PRESSURE RATING

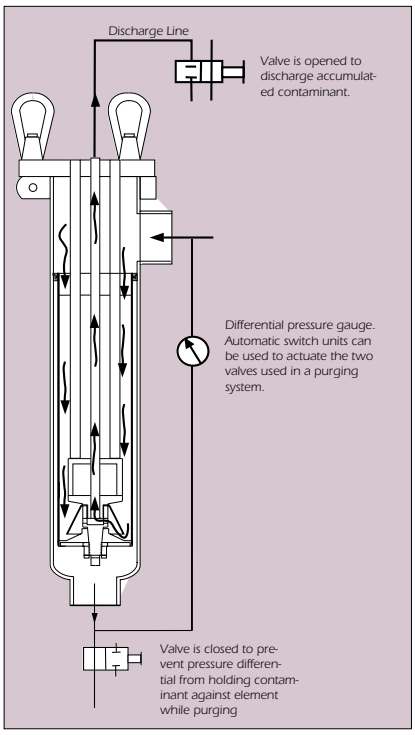
HOUSING MATERIAL

COVER SEAL

BASKET SEAL

BASKET ELEMENT

50-micron wedgewire	= ***50WW***
75-micron wedgewire	= ***75WW***
100-micron wedgewire	= ***100WW***
125-micron wedgewire	= ***125WW***
150-micron wedgewire	= ***150WW***
25-micron wire cloth	= ***25***
50-micron wire cloth	= ***50***
75-micron wire cloth	= ***75***
100-micron wire cloth	= ***100***
125-micron wire cloth	= ***125***
150-micron wire cloth	= ***150***



Specifications

- Unlubricated plant air: 60 psi
- Maximum flow: 20 gpm
- Maximum pressure: 300 psi
- Maximum pressure drop: 50 psi
- Pressure drop (clean): 2 psi

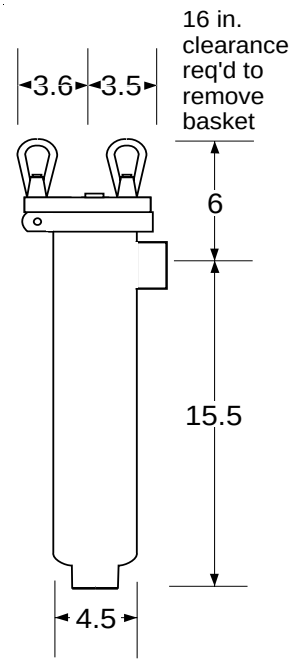
Element

Wedgewire baskets are available in micron ratings ranging from 50 to 150 (25 microns equal .001 in.). Wire used has a strong wedge-shaped cross-section. Wire cloth-lined baskets are available with micron openings from 25 to 150. Wire cloth has a much higher percent of open area than wedgewire. A given flow passes through with less pressure drop.

Materials

Housings and metal internals are 304 stainless steel. Air hoses are nylon with nickel-plated steel fittings. Seals are Teflon.

Dimensions (IN)



Dimensions in inches

Automatic Water Reclamation System

Reduces costs and increases water cleanliness

The Rosedale AWRS is a self-contained, self-cleaning filtration system that removes solids, organics, biological substances, odors and hydrocarbons from water so the water can be reused. The system includes an activated carbon filter, a solids-liquid separator, an automatic backwashing filter, an ozone generator, and oxygen concentrator, all controlled by a panel-mounted PLC. The compact design has a small footprint, making this ideal for using in just about any size operation.

The AWRS is a high quality, reasonably priced system that features low pressure drops, heavy duty construction and flows of 50, 100, and 150 gpm.

Features

- *Three system sizes, 50 gpm, 100 gpm and 150 gpm*
- *Centrifugal Solids/Liquid Separator*
- *Oxygen Concentrator/Ozone Generator*
- *Activated Carbon Filter with replaceable carbon packs*
- *Automatic Backwashing Filter down to 5 micron*
- *Operates off of standard 115 VAC and 60 PSI of compressed air*
- *An optional ballast tank can be incorporated for uninterrupted flow*

How it works

All of our systems use quality components. We offer systems in different sizes to best match your flow rates, providing maximum optimization. Our systems take full advantage of being "smart", with controls to automatically clean or purge the filtration components when needed.

Our system starts off by ozonizing the water held in settling tanks. This oxidizes or chemically "removes" grease and oil, organics and some contaminates. Actually, they turn into a chemically inert form or are electrically charged to form one large contaminant, removed during mechanical filtration which includes a centrifugal separator. Next, the ozonized water is run through a basket strainer, then through the primary filter, trapping anything larger than 25 microns. Contaminant removed by the separator and by the automatic backwashing filter, are purged through a backwash outlet and trapped by a bag filter for disposal or to a common sump to be removed. The water is finally repressurized to system pressure and is ready for reuse.

This automatic purging is controlled by the standard PLC, sensing when the pressure drop across the filter system is too great. The PLC controls all inlet, outlet and purge valves and the air system used to "shock" the system and clean the contaminant off the filter elements.

Options

System options include the installation and use of an Activated Carbon unit to aid in removing chemicals, oils, biologicals, organics and odors, and of a Ballast Tank to achieve uninterrupted flow. These can be added separately or together and are installed at the factory.

All of Rosedale Filtration Systems are ready to work when delivered. The AWRS is skid-mounted, and is easily put in place, and piping and electrical easily installed. System maintenance is still required, as is changing of the Activated Carbon Packs or cleaning of the strainer basket (non-primary pre-filtration).

How To Order

Build an ordering code as shown in the example.

Example: ***AWRS - 50 - 2P - 150 - CPS - O - AC***

AUTOMATIC WATER RECLAMATION SYSTEM = ***AWRS***

SYSTEM FLOW
50 GPM = ***50***
100 GPM = ***100***
150 GPM = ***150***

INLET/OUTLET/DRAIN
2-inch NPT (standard) = ***2P***
2-inch Flanged = ***2F***

SYSTEM COMPONENT Pressure Rating
150 psi = ***150***

MATERIALS OF CONSTRUCTION
CI/PVC/SS Combination (std) = ***CPS***
Stainless Steel (304) = ***SS***

OZONE/OXYGEN CONCENTRATOR
Ozone (standard) = ***O***
None = ***N***

SYSTEM OPTIONS
Activated Carbon = ***AC***
Ballast Tank = ***BT***
Both = ***AC/BT***

Notes:
1. *Standard 25 Micron Wedge Wire basket included with the system*
2. *Option for ballast tank is for uninterrupted flow*
3. *System pressure is a function of the pump, typically <50 psig*
4. *Viton O-rings are standard*

Solids Recovery Filtration System

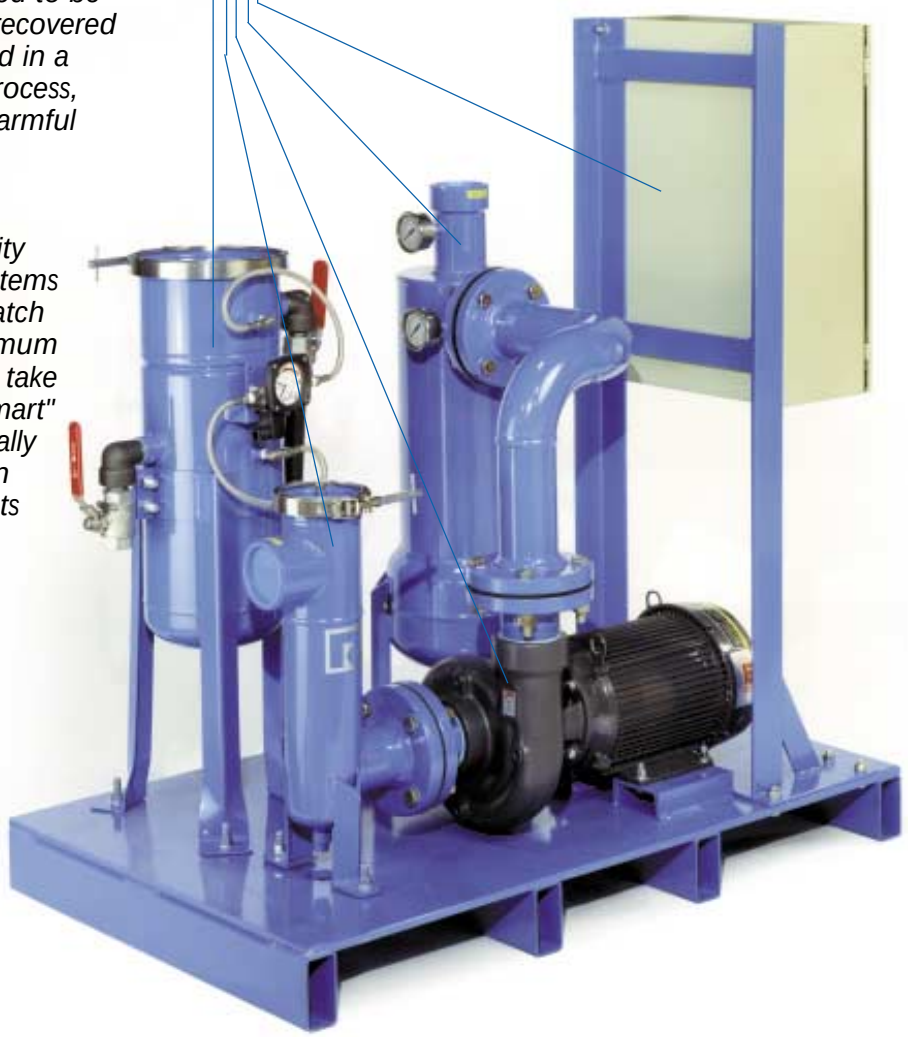
Reduce and recover solids from liquids efficiently and cost-effectively

The Rosedale SRF (Solids Recovery Filtration) system is a self contained, self-purging filtration and separation package. It will remove solids from liquids effectively and economically, reducing problems associated with cooling tower water systems and the heat exchange system. It is excellent for use wherever solids need to be separated, removed, and recovered from liquids. It can be used in a continuous recirculation process, serving as a deterrent to harmful bacteria growth in basins and sumps.

All of our systems use quality components. We offer systems in different sizes to best match flow rates, providing maximum optimization. Our systems take full advantage of being "smart" with controls to automatically clean or purge the filtration and separation components when needed.

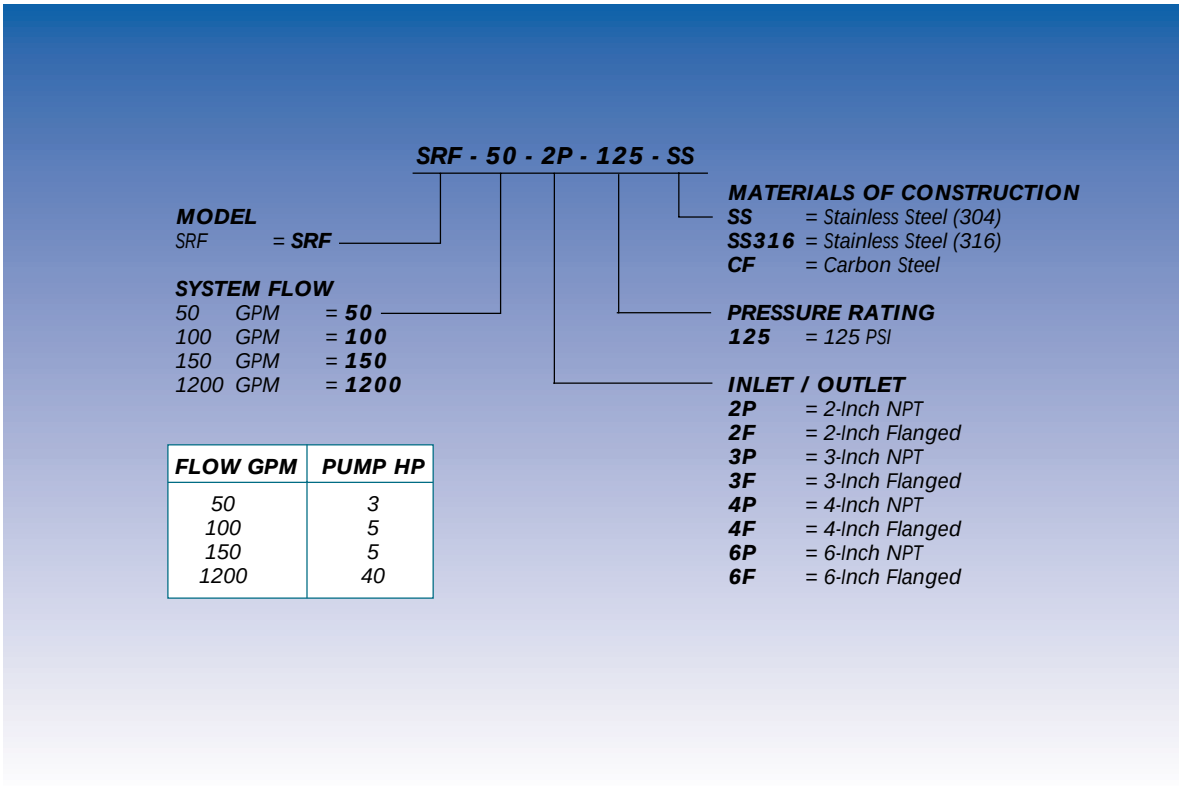
Components specific to the SRF include:

- *Bag filter to recover the solids following the purge of the separator*
- *Basket strainer for coarse filtration*
- *Centrifugal pump and motor*
- *Separator achieving 50 to 75 micron solids removal rating*
- *Nema 4X enclosed electrical control panel with HOA selector switch*
- *Factory assembled and skid mounted for ease of installation and operation*
- *Compact design minimizes required floor space*



How To Order

Build an ordering code as shown in this example



FLOW GPM	PUMP HP
50	3
100	5
150	5
1200	40

- *Flow rates from 50 GPM to 1200 GPM*
- *Pressure rated to 125 PSI*
- *Inlet/outlet sizes from 2-inch to 6-inch*

Protection from waterborne illness is available for both municipal and private water treatment systems by using Rosedale's Giardia Filtration system.

Most Americans take safe, contaminant-free drinking water for granted. Yet water-borne disease outbreaks do occur with most directly related to contaminated surface water or groundwater with surface water sources. Violations of the Safe Drinking Water Act affect millions of Americans through water provided to the public in restaurants, hotels, campgrounds and, of course, our homes from our municipal water system.

One public health hazard associated with the organism, Giardia Lamblia, is giardiasis. This disease causes diarrhea, abdominal cramps, nausea, occasional vomiting, and low-grade fever. Surface water is exposed to contamination by Giardia from sewage and animal wastes.

Additional organisms, such as Cryptosporidium, threaten our water supplies and produce diseases with serious symptoms. Particularly at risk, are the very young, the aged, and the immunologically-challenged.

The federal government has provided the Surface Water Treatment Rule (SWTR), which specifically requires the control of Giardia in public water supply systems. The SWTR establishes performance criteria for water treatment to ensure a 99.9 percent reduction of Giardia in water supplies.

NSF-Rated Giardia Filtration System

Rosedale, with its impressive history of developing filtration products that meet many specialized applications, offers the Giardia Lamblia Reduction Filter system for removing harmful organisms from drinking water systems and is approved in Alaska, California, Washington, Oregon, Vermont, Maine, and Minnesota.

Rosedale has developed a long-lasting, effective water filtration system that meets the SWTR and protocols for most states. This system offers a dual-stage design that filters out debris and larger contaminants before filtering out disease-producing microorganisms. This extends the life of the element that filters out the Giardia and Cryptosporidium.

The system consists of two high-quality Rosedale Model 8 housings (pressure vessels), placed in series rated to NSF 61. The first stage is a pre-filter, fitted with a nine-layer Graded-Density (GD) bag, which filters out debris and larger waterborne biological contaminants. The second stage is Rosedale's Giardia Reduction bag (GLR) that polishes to 3 microns, effectively reducing Giardia and other disease-producing microorganisms by 99.95 percent.

The optimum flow rate for the system described is 10 gallons per minute (GPM). A single filter housing with a GLR bag can filter up to 20 GPM. Rosedale manufactures filtration systems for commercial, industrial, and large municipal applications, that can filter water up to 500 GPM. Multiple designs are available to meet your needs.

Rosedale Products' Giardia Lamblia Reduction system provides easy installation, operation, and maintenance for a cost-effective solution to water treatment not previously realized by high-cost conventional systems.

Rosedale's process is a two-stage series filtration system that is simple to install. The system provides two-inch connections making any common two-inch pipe compatible.

Features

- *Low pressure drops*
- *Permanently piped housing*
- *Covers are O-ring sealed*
- *Stainless steel construction*
- *All housings are electropolished to resist adhesion of dirt and scale*
- *Easy to clean!*
- *High-capacity polypropylene bag*

The system is designed for ease and simplicity of operation. Changing filter media is as simple as releasing water pressure (or rerouting water flow) and replacing the filter bag. Rosedale's system is equipped with pressure gauges that assist in determining filter bag change-out.

This simple-to-maintain and operate design features electropolished 304 stainless steel to resist dirt and scale buildup. Housings are permanently piped and covers are O-ring sealed.

The Rosedale Giardia Lamblia reduction system meets or exceeds the same turbidity performance criteria as slow sand filtration – the standard for evaluation by many states! The Rosedale system, when combined with disinfection, consistently achieved a 3 log reduction of Giardia – meeting the SWTR and NSF 61, the standard for cyst and turbidity reduction (99.95% reduction).

Rosedale's Giardia Lamblia Reduction System offers high efficiency and long life through the effectiveness and quality of its materials and construction.

All graded-density bags are constructed of nine-layers of polypropylene micro fibers and standard fibers that are variably calendered. Heavy-duty handles are sewn and turned inside out to avoid leakage and enhance their pressure capacities.

The Rosedale Giardia Lamblia reduction bag has 26 layers of high-efficiency polypropylene micro fiber material, encased in a rigid support cage, to filter out contaminants. The initial layers are pre-Giardia filtration levels, while the next several layers filter the Giardia pathogen itself. The final barriers prevent any material from migrating into the effluent. All GLR bags have a polypropylene top and a specially designed sealing gasket to assure a bypass-proof seal inside the filter housing. All seams and joints on the bag are precision sealed with food-grade adhesives to prevent leakage. The inside-out flow design traps contaminants on the inside of the bag, reducing the possibility of downstream contamination and simplifying the service process.

How To Order

Build an ordering code as shown in the example.

Giardia Lamblia Filter System

Example: GFS - 8 - 30 - 2P - 2 - 150 - S - E - S - PB - B
(Housing: GFS-8-30-2P-2-150-S; Options: E-S; Bags: PB-B)

GIARDIA FILTRATION SYSTEM = **GFS**

MODEL NO.
Model 8 = **8**
(Models 16-48 also available)

BASKET DEPTH
30 inch = **30**

PIPE SIZE NPT AND FLANGED
2-in. female NPT = **2 P**
2-in. ANSI flange = **2 F**

OUTLET STYLE
Bottom = **1**
Side = **2**
Bottom = **3**

PRESSURE RATING
150 psi (flanged) = **150**

HOUSING MATERIAL
304 Stainless steel = **S**

COVER SEAL
Ethylene Propylene (NSF) = **E**

BASKET SEAL
Seal Required = **S**

BASKET TYPE
Filter Bag Basket = **PB**

FILTER ELEMENTS
1 GDP0523 and 1 GLRPO8252 = **B**

Graded-Density Filter Bags

Example: GD - PO - 523 - 2

GRADED DENSITY = **GD**

FIBER
Polypropylene = **PO**

MICRON RATINGS (95%)
1.0 Micron = **523**
3.0 Microns = **525**
8.0 Microns = **527**
19.0 Microns = **529**

BAG SIZE (nominal in inches)

Dia. x Length	Symbol
7-1/16 x 32	= **2**

Giardia Lamblia Filter Bags

Example: GLR - PO - 825 - 2

GIARDIA LAMBLIA REMOVAL = **GLR**

FIBER
Polypropylene = **PO**

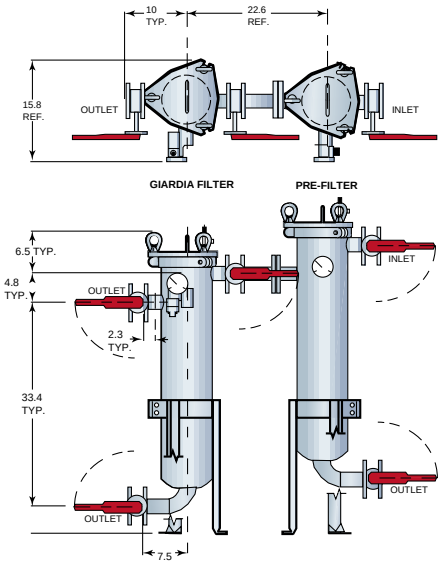
MICRON RATINGS (99.95%)
3.0 Microns = **825**

BAG SIZE (nominal in inches)

Dia.	x	Length	Symbol
7	x	28	= **2**

Included Components

5	2-inch butterfly valve (hand-actuated) used for isolation and drainage
1	0-60 psid differential pressure gauge (stage 1) rolling diaphragm
1	0-30 psid differential pressure gauge with switch, NEMA 4 enclosure (stage 2) rolling diaphragm
2	1/4 inch vent valve (ball valve)



Portable Filtration System

The Perfect choice for batch processing, or filtering from tanks or drums

We have taken our standard line of LCO filter housings, and incorporated them into a self-contained, mobile filtration system. Cart-mounted, it has the diaphragm pump, pneumatic components and valves, as well as inlet and outlet connections all in one unit. The housing itself is our LCO housing, which uses a standard size 12 bag. This provides 30% more surface area for greater dirt-holding capacity than competitive units. The clamp cover is easily removed and helps to reduce the time spent cleaning or replacing the bag. Rosedale's superior side-entry design does not allow contaminant by pass around the filter bag nor fluid to impinge the filter bag. It also prevents the spills and messes caused when opening over-the-top filters. This splashing of fluid in a gooseneck design is unacceptable in a portable unit, where it can cause a spill anywhere in your plant. So for efficient, clean filtration, Rosedale is your choice.

Features

- Quick-opening covers that do not require special tools
- Carbon or stainless steel housings
- Large area bag and basket for greater dirt-holding capacity
- O-ring seals: Buna N, EPR, and Viton®
- 125 psi-rated housing
- Basket material is compatible with housing
- Uses standard number 12 size bags with surface area of 5.6 square feet.
- 1-inch NPT ports
- Air-operated, double-diaphragm pump
- Poly-Pro pump (optional)
- Cart has built-in drip pan and 9" air-filled tires
- Compressed air filter/regulator
- 10-foot inlet/outlet hoses with quick-disconnect couplings
- 25 gpm flow rate
- Four wheel cart optional

How To Order

Build an ordering code as shown in the example.

EXAMPLE: **PLC8 - 30 - 1P - 125 - C - B - PB**

PORTABLE LCO8 = **PLC8**

HOUSING SIZE = **30**

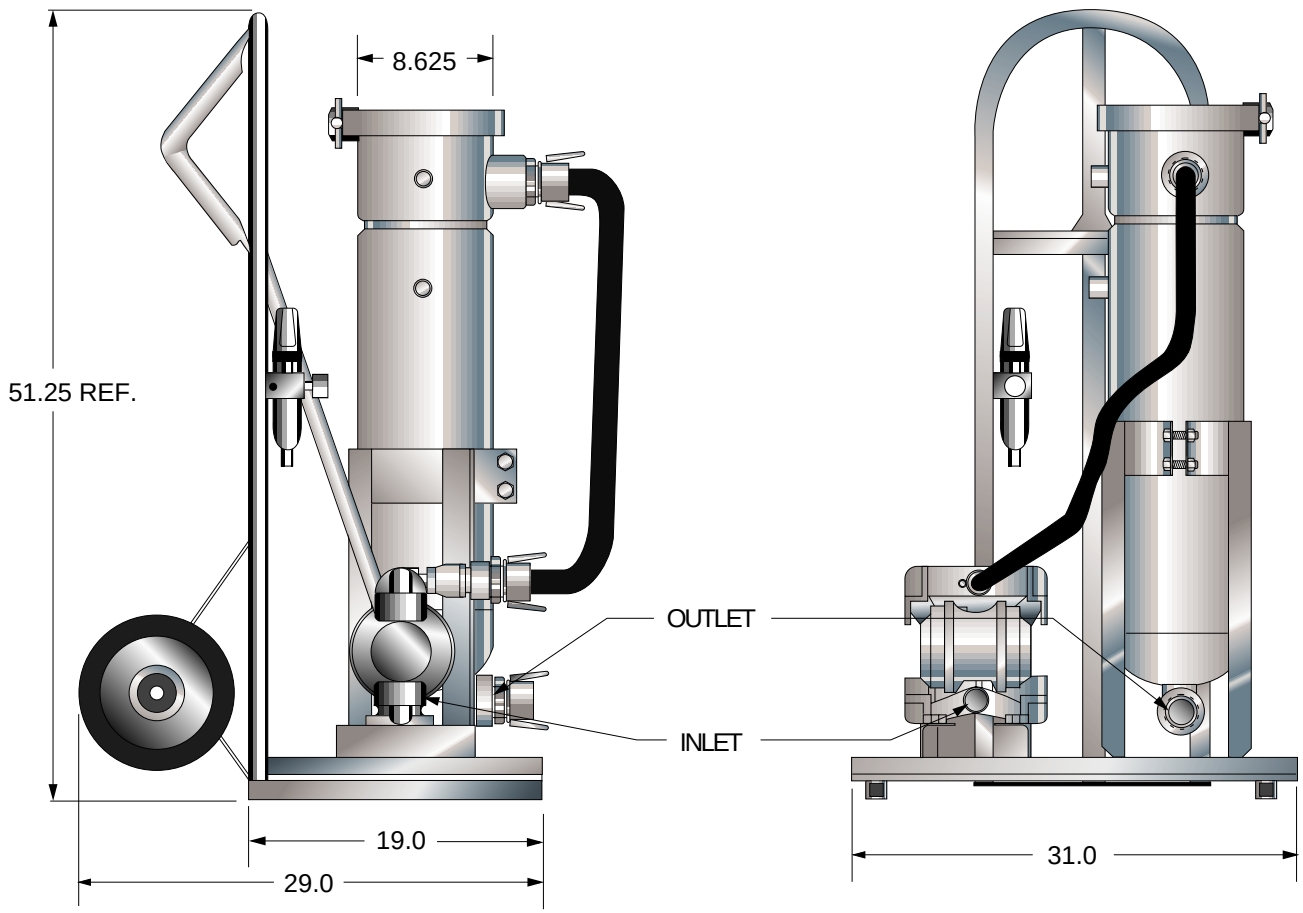
PIPE SIZE
1-inch female NPT = **1P**

PRESSURE RATING
125 PSI = **125**

BASKET TYPE
PB = Filter Bag Basket

COVER SEAL
B = Buna N
E = Ethylene Propylene
V = Viton® Fluorelastomer

HOUSING MATERIAL
C = Carbon Steel with aluminum pump
S = 306 Stainless with stainless steel pump



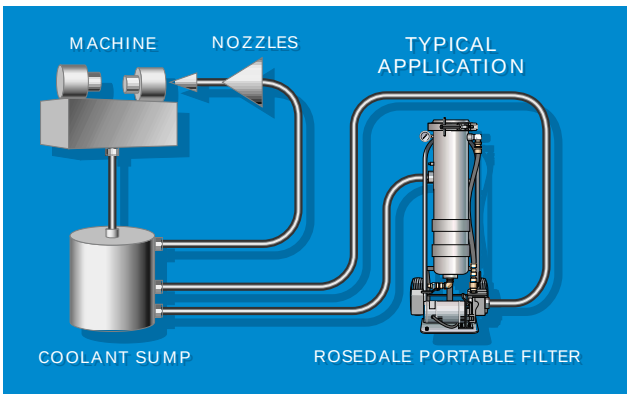
Portable Filter Cart For Coolants and Metalworking Fluids

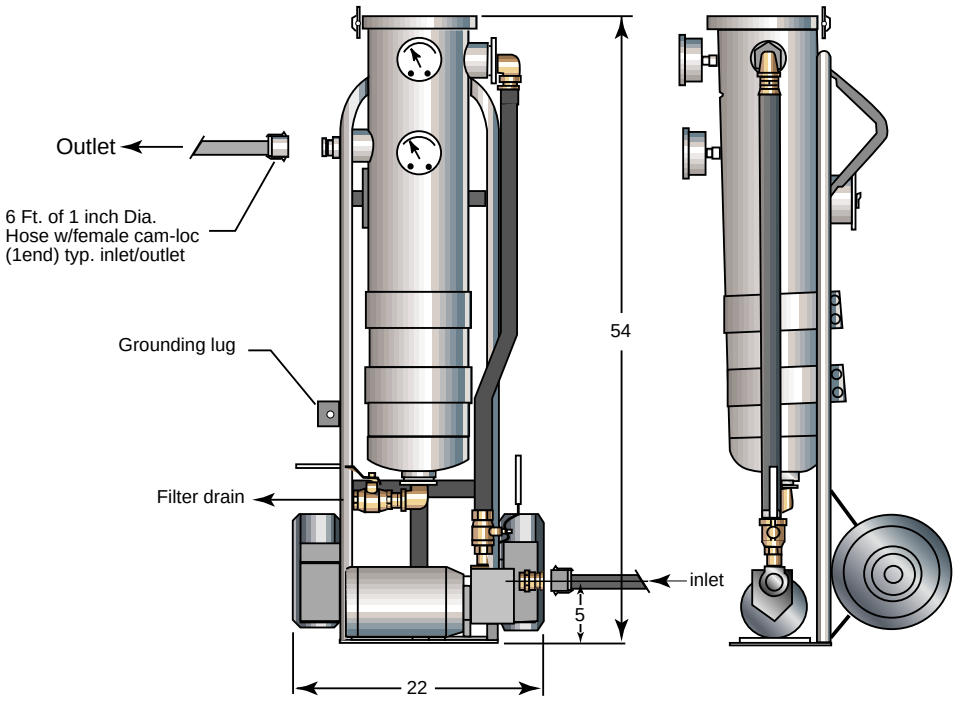
Rugged, Versatile, and On the Move ...

Rosedale Products, Inc. introduces a versatile portable filter cart (PFC). Easily movable from machine to machine, holding tank to reservoir, and drum to tank, these two wheel hand truck systems provide a means for pre-filtering and transferring fluids. These mobile units are most effective controlling particulate problems before they cause damage to critical production equipment. Rosedale's PFCs' high-flow, industrial quality centrifugal pumps transfer fluids quickly and economically.

Applications

Portable filter systems can be used with coolants and other fluids with viscosities of 300 ssu or less that are compatible with aluminum and steel. Most of these fluids, when they come right out of the drum, are unfit for use in hydraulic and lube systems. Contamination enters the fluid during processing, mixing, handling and storage. Solid particulate may be present in unacceptable levels. Portable filter carts are the ideal means of pre-filtering and transferring these fluids. With a 1/2 horse-power motor and Gould pump, as well as a bag filter housing featuring 1/4" inlet/outlet gauge ports, this two wheel hand truck system is used for fluids with viscosities of 300 ssu or less.





1" Self-Priming Centrifugal Pump Specs

GPH of Water at Total Feet of Head*					Max. Head	
10 ft.	20 ft.	30 ft.	40 ft.	50 ft.	Ft.	PSI
2280	1920	1440	900	360	57	25

(*) Flow rate based on 1" pipe: flow rate and pressure will decrease with smaller pipe and/or base.

Portable Filter Cart – Ordering Code Example:

	Housing				Options		
Pre-Selected Example Code:	PFC8	30	1P	125	C	B	PB

Model No.	=	PFC8
Housing Size **30 inch**	=	30
Pipe Size **1 inch female NPT**	=	1P
Pressure Rating **125 psi**	=	125
Housing Material **Carbon Steel**	=	C
Cover Seal **Buna N**	=	B
Basket Type **30 inch**	=	PB

Model 8 Suggested Bags — General Uses

		PE	5	P	12	S
Fiber Rating **Felt, Polyester**	=	PE				
Micron Rating (grade)* **General Use** **Fine** **Very Fine** **Ultra Fine**	= = = =	5, 25 BB-12 BB-10 BB-1				
Bag Finish **None**	=			P		
Bag Size and Dimensions **8-3/8 x 32**	=				12	
Bag Style **Carbon Steel Plated Ring**	=					S

Rosedale Filter Media

Rosedale has a wide selection of filter media available to help solve your filtration problems. Our product offerings include filter bags, filter cartridges, and perforated strainer baskets. This selection features a variety of options from low-cost, disposable filter media; through high-performance filter cartridge; to cleanable stainless steel elements.

The filtration efficiency values specified in our data (see Element Performance Chart on page 123), are the indication of the filter's performance. Unlike many manufacturers, Rosedale publishes the filtration efficiency and dirt capacity of our media, providing all the information needed for an accurate sizing of a filter.

Our media is offered in standard grades and high efficiency. Standard grade refers to products which are nominally rated. This means there is no specified efficiency at the micron size but the product is interchangeable with industry standards. Rosedale high efficiency filter media is rated 95%, 99%, or 99.98% efficient at the specified micron level.

Nominal Rating	***Absolute Rating*** (95% Efficiency)
1	35
3	35
5	48
10	55
15	65
25	70
50	90
75	110
100	110

Bag or cartridge filters are usually selected so that the clean pressure drop does not exceed 2 psi. Change-out is recommended at 15 psid (for bags), and 30 psid (for cartridges). Higher pressure drops may be tolerated when contaminant loading is low.

A more comprehensive chart on page 123 details each product group with corresponding efficiency and micron rating.

Performance Problems?

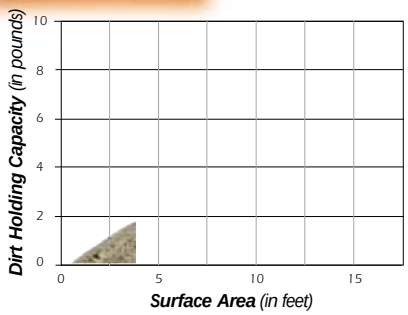
Not with Rosedale's filter elements!

Rosedale offers different levels of filtration to meet different needs, such as low-cost, standard efficiency bags, up to high-efficiency, high-capacity elements. Our standard capacity elements usually have about 4.4 square feet of surface area, holding approximately a pound of contaminant, perfect for many applications. The bags we offer for this level of filtration include our standard bag, the Beta Bag®, and our new Locktop plastic top, self-sealing bag. These bags fit our standard side inlet housing, which, coupled with bag technology, offers ease of use, storage, and change out.

Standard Bags

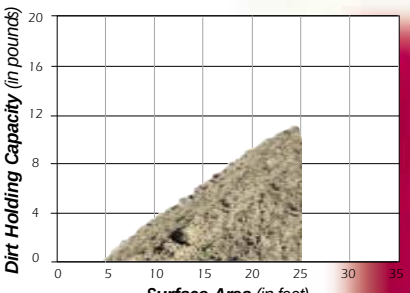
Beta Bags

The new Lock Top



The new X-Tend Bag

Graded Density



Bag-sized Pleated Cartridges

Surface Plus

Still Not Enough?

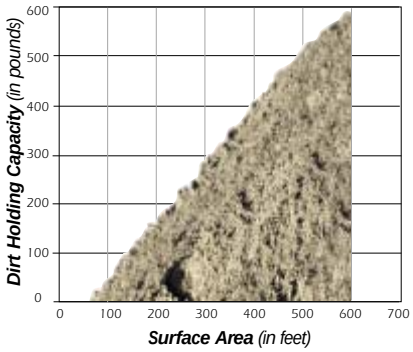
Don't worry, we've got more surface area

If you have contaminants in your system, Rosedale has the solution. Typically these unique filter bag has from 5 to 25 square feet of surface area, and holds from 1 to 11 pounds of contaminant. Offers great balance between cost and capacity. Filter elements in this grade of filtration include several bags featuring our unique designs. The new X-Tend bag, the Surface Plus bag, the Graded Density bag, and our bag-sized Pleated Cartridge. All will fit our standard housings, and offer features that Rosedale is famous for, such as keeping costs down and keeping contaminants inside the bag.

Size Doesn't Matter...

But surface area does!!!

If you require ultrahigh capacity filtration and efficiency, nothing beats our Platinum series of filter elements. They use between 85 and 600 square feet of surface area to filter out anywhere from 8 to 600 pounds of contaminant. At efficiencies as high as 99.98 at a beta rating of 5000. Imagine changing your filter element just once every six months. It's possible with Rosedale's Platinum Elements!!! The 500 series, 700 series and 900 series of Platinum elements are large multi-surface, pleated filters, constructed like cartridges. Different Series fit into different Rosedale housings, but all can be accommodated in one of our standard style housings, offering fantastic filtration options.



Platinum 700

Platinum 900

Platinum 500

Use this chart to determine the filter performance you require. The Product Groups are listed on the left, Micron Sizes are in (red), with corresponding Efficiency (blue) and Beta Rating (green) along the top.

Element Performance Chart

EFFICIENCY % / BETA RATING	PAGE NO.	30 / 1.5	50 / 2	66 / 3	80 / 5	90 / 10	95 / 20	98 / 50	98.7 / 75	98.75 / 80	99 / 100	99.8 / 500	99.9 / 1000	99.95 / 2000	99.98 / 5000	99.99 / 10000	ELEMENT AREA FT²	FLOW RATE GPM*	DIRT HOLDING** CAP. (lbs)
PLATINUM 500																			
PS-520											0.25		<0.5		0.5			30	8
PS-521											0.9		1.4		2				8
PS-523											1.6		2		5				8
PS-525	124										2		6.5		10		85		10
PS-527											9		17		20				10
PS-528											18		30		40			50	12
PS-529											40		60		70				12
PLATINUM 700																			
PS-740											0.25		<0.5		0.5			50	12
PS-741											0.9		1.4		2				15
PS-743											1.6		2		5				15
PS-745	126										2		6.5		10		120		17
PS-747											9		17		20				18
PS-748											18		30		40			100	20
PS-749											40		60		70				20
PLATINUM 900																			
PS-940											0.25		<0.5		0.5			200	55
PS-941											0.9		1.4		2				75
PS-943											1.6		2		5				75
PS-945	128										2		6.5		10		600		85
PS-947											9		17		20				90
PS-948											18		30		40			400	100
PS-949											40		60		70				100
PLEATED HI-E																			
PL-PEMF/POMF-1						1	1				2							35	1.5
PL-PEMF/POMF-3	130						3				5					10	25		3
PL-PEMF/POMF-8							8				19								5
PL-PEMF/POMF-19							19				25							100	6
PLEATED STANDARD																			
PL-PE/PO-35 (1 nom.)							35											50	7.5
PL-PE/PO-48 (5 nom.)							48												8
PL-PE/PO-55 (10 nom.)	131						55										25		9
PL-PE/PO-70 (25 nom.)							70												10
PL-PE/PO-90 (50 nom.)							90							150					11
HI-E																			
PEMF/POMF-1						1	1				2							20	0.2
PEMF/POMF-3	120						3				5					10	4.4 SINGLE LAYER		0.25
PEMF/POMF-8							8				19								0.35
PEMF/POMF-19							19				25							50	0.75
STANDARD																			
PE/PO-1					30		35											50	0.6
PE/PO-5				20		30	48	40									4.4 SINGLE LAYER		0.7
PE/PO-10	111	10					55												0.8
PE/PO-25		40					70												0.9
PE/PO-50							90											110	1
SURFACEPLUS																			
SP-PE/PO-35					30		35										13.2 SINGLE LAYER- EXTRA LONG	50	2.2
SP-PE/PO-48				20		30	48	40											2.8
SP-PE/PO-55	118	10					55												3.2
SP-PE/PO-70		40					70												3.63
SP-PE/PO-90							90											110	4
GRADED DENSITY																			
GD-523							1				2		20	30		40		20	0.6
GD-525	131						3				5						4.4 SINGLE LAYER		0.65
GD-527							8				19								1.25
GD-529							19				25							50	2
BETA																			
BB-1			1			3	4		8	10							4.4 SINGLE LAYER	20	0.15
BB-10	114		10				16		20										0.35
BB-12			12				37		47									50	0.6
GIARDIA																			
GLR-825	133													3			4.4 TWENTY SIX LAYER	10	0.5

* Range of flow varies with micron selection - consult individual product group flow curves. ** Dirt capacity is based on minimum flow using AC Fine, AC Coarse, or Composite Test Dust.

Rosedale Filter Media Index

Surfaceplus Filter Bags

These filter bags are for heavy dirt load applications. With 3 times the surface area of similar sized bags, it will increase the amount of contaminant held, and extend the time between change-out. Rated 35-110 microns at 95% efficiency.
See page 137.

Hi-E Series High Efficiency Bags

Rosedale's series of high-efficiency filter elements are made from unique micro-fiber material. Excellent for general polishing applications with low dirt load. Rated 1-19 microns at 95% efficiency.
See page 153.

Bag-Sized Pleated Cartridges

Innovative design combines the advantages of bags with the best features of cartridges. Like bags, contaminant is trapped inside, and they're easy to handle. Pleated construction, like a cartridge, packs more surface area in less cubic space. Rated 1-110 microns at 95% efficiency.
See page 139.

Graded Density Bags (Membrane Prefilters)

Great dirt-carrying capacity is combined with fine filtration efficiency in these multilayer bags. These bags are excellent prefilters in applications previously requiring cartridges, cutting costs. Rated 1-19 microns at 95% efficiency.
See page 134.

Standard Bags

High-capacity filter bags with ratings to 1 micron are available in a wide range of sizes and materials for general use. Special-purpose bags for high-temperature service and oil removal are also available.
See page 126.

Beta Bags

These bags meet the more exacting requirements of fine process filtration and hydraulic and lubricating fluid filtration. They're rated by the multi-pass method of filter performance evaluation, allowing direct comparison between Beta bags and cartridges. Rated 8-47 microns at 98.7% efficiency.
See page 131.

All-Polypropylene Bags

These bags have a plastic collar sonically welded into their opening. This collar has integral handles as standard feature. The bags are sewn, then turned inside out to prevent leakage through the threads. Rated 1-110 microns at 95% efficiency.
See page 129.

Stainless Steel Filter Elements

These stainless steel cartridge elements overcome the temperature and compatibility limitations of fabric or synthetic fiber cartridges. Rated 5-800 microns at 95% efficiency.
See page 168.

Giardia Removal Bag
The Rosedale Giardia reduction bag has 26 layers of high-efficiency polypropylene micro fiber material, encased in a rigid support cage, to filter out contaminants.
See page 156.

Emerald Series
Rosedale's Emerald Series oil/water separation cartridges utilizes a proprietary design, using segregated flow chambers that greatly expand the contact between the surface area of the elements and fluid being filtered.
See page 151.

Membrane Filter Cartridges
Rosedale manufactures Membrane Filter Cartridges for many industries. These include: general industrial, food and beverage, pharmaceutical, electronics and water.
See page 158.

Replacement Baskets
Rosedale manufactures filter bag baskets and strainer baskets for a wide range of filter housings. We offer replacements for all current models and any that have been discontinued by the original manufacturer. They can be ordered in standard perforated or wire mesh lining.
See page 177.

Platinum 500 Series
Our line of Platinum absolute-rated filter cartridges offer maximum dirt holding capacity coupled with micron retention ratings to 0.5 at 99.98%
See page 145.

Platinum 700 Series
Our Platinum 700 filter system boasts a filter element that has the life of 40 standard wound or 10 pleated cartridges. The dirt holding capacity exceeds 20 lbs.
See page 147.

Platinum 900 Series
Our Platinum 900 filter system boasts a filter element that has the life of 200 standard wound or 50 pleated cartridges. The dirt holding capacity exceeds 100 lbs.
See page 149.

Index

Pleated Cartridges
Absolute-Rated
These cartridges each have pleated, fixed pore media to maximize surface area, prevent particle unloading, and fiber migration. Media include: cellulose, fiberglass, polyester, and polypropylene
See page 170.

Wound Cartridge
All-Purpose
Our wound cartridges come in a wide range of materials, lengths, and micron retention ratings. The materials include cotton, acrylics, nylon, and polypropylene.
See page 172.

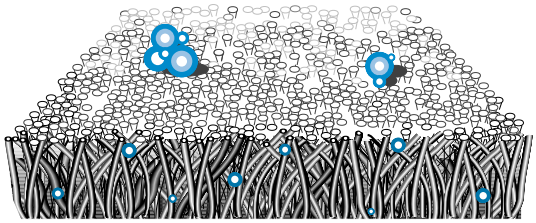
High-Capacity Filter Bags for Rosedale Bag Filters

Fits All Rosedale Filter Housings

Construction

Felt Bags-Standard Grade

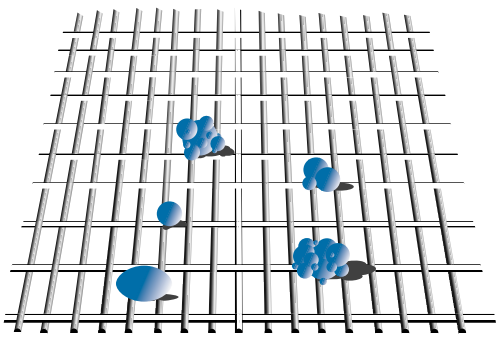
Felt construction is generally chosen where smaller particle retention is required, in the nominal 1 to 100 micron range. It offers higher solids loading capacity than mesh. General-purpose felt bags are offered in polyester and polypropylene materials. Special-purpose felt bags are offered in polyester and polypropylene materials. Special-purpose felt bags include high temperature service (to 500°F) bags of Nomex® nylon or Teflon®.



Mesh Bags

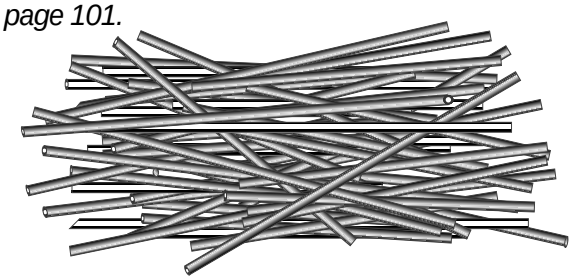
Mesh is a woven construction, generally used where micron ratings of 50 to 800 are required.

*Two types are offered. The **multifilament** mesh is a low cost, disposable material offered in polyester. **Monofilament** mesh has higher strength, and is available in nylon. (It should be considered cleanable.)*



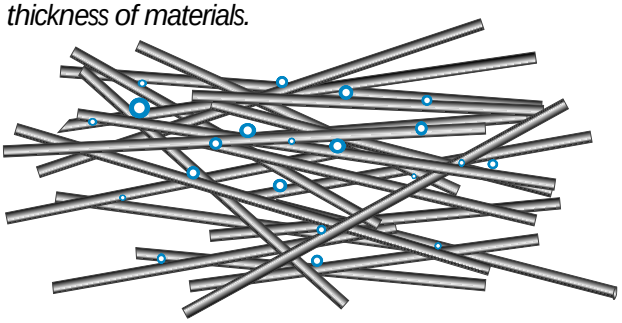
Oil Adsorption Bags

For removal of free oil, bags made of polypropylene microfibers, known as oil-adsorb, are available. A size 2 oil-adsorb bag will remove approximately a half-pound of oil from a water-oil liquid. It is only available with a 25 micron rating. If finer filtration is needed in an oil removal task, or high volume oil removal is required, Rosedale's Sorbent Containment Systems are available and information is located on page 101.



Melt Blown Media (Microfiber)

Polypropylene melt blown media offers unparalleled adsorption capacity for the removal of hydrocarbon contaminates from liquid streams. The melt blown media is also the heart of the high efficiency filter bag. The small diameter fibers create the bag's ability to remove fine particulate at high efficiencies. Fiber diameter is important because the pore size is a function of fiber diameter, density of fibers, and thickness of materials.



Felt Bag Finishes and Covers

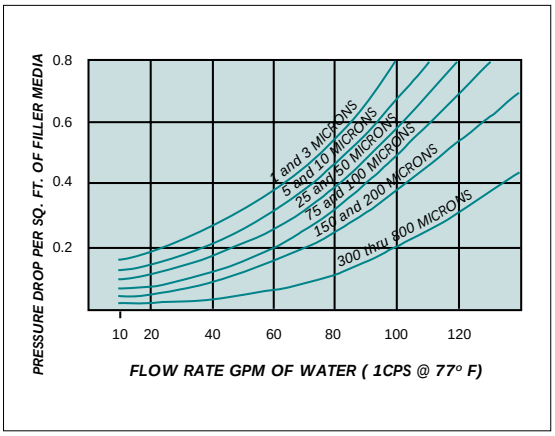
Standard finish. *Plain, as manufactured, without treatment or covers.*

Glazed finish. *The outer most surface fibers are melted by a momentary application of high heat. This bonds the fibers together and reduces the possibility of fiber migration.*

Mesh covers *completely encase the felt bag. This cover acts to contain any fibers that may separate from the filter bag. Materials available in mono and multifilament mesh, spun bonded nylon and polyester.*

Pressure Drop Data

The graph shows pressure drop through clean filter bag media of various micron ratings. The curves do not consider pressure drop through the filter housing.



Bag Size Correction

To obtain pressure drop correction for a specific bag size, divide the pressure drop obtained from the graph by the area of the bag.

Viscosity Correction

If viscosity is higher than one, multiply the corrected pressure drop as obtained above by the appropriate viscosity correction factor.

Bag Size	Surface Area (sq. ft.)	Viscosity (cps)	Correction Factor
		50	4.5
		100	8.3
1	2.0	200	16.6
1 (inner)	1.6	400	27.7
2	4.4	800	50.0
2 (inner)	3.6	1000	56.2
3	0.5	1500	77.2
4	1.0	2000	113.6
7	1.8	4000	161.0
8	2.0	6000	250.0
9	3.4	8000	325.0
12	5.6	10000	430.0

Standard Fibers And Micron Ratings Available Micron Ratings

Construction	Fiber	1	3	5	10	15	25	50	75	100	125	150	175	200	250	300	400	600	800
Felts	Polyester	•	•	•	•	•	•	•	•	•				•					
	Oil-Adsorb (pp)						•												
	Polypropylene	•	•	•	•		•	•		•									
	Nomex (Nylon)			•	•		•	•		•									
	Teflon®				•														
Multifilament Meshes	Polyester								•	•	•	•		•	•	•	•		•
	Nylon									•		•							•
Monofilament Meshes	Polypropylene															•		•	
	Nylon			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•

Compatibility and Temperature Limits For Standard Bag Materials*

Compatibility With

Fiber	Organic Solvents	Animal Vegetable & Petro Oils	Micro-Organisms	Alkalies	Organic Acids	Oxidizing Agents	Mineral Acids	Temperature Limitations (max. deg. F)
Polyester	Excellent	Excellent	Excellent	Good	Good	Good	Good	325
Polypropylene	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	225
Nylon	Excellent	Excellent	Excellent	Good	Fair	Poor	Poor	325
Nomex Nylon	Excellent	Excellent	Excellent	Good	Fair	Poor	Poor	450
Teflon	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	500

* Chart is to be used as a guide. User should make tests with specific media to assure compatibility

Filter Bag Sizes

Used on Rosedale Model No.	Bag Size	Length (inches)	Diameter (inches)	Surface Area (sq. ft.)	Bag Volume (gallons)
4-6	3	8	4.12	0.5	0.5
4-12	4	14	4.12	1.0	1.0
6-12	7	15	5.62	1.3	1.3
6-18	8	21	5.62	2.0	1.5
6-30	9	32	5.62	3.4	2.8
8-15	1	16.5	7.06	2.0	2.1
	1 (inner)	14.5	5.75	1.6	1.7
8-30	2	32	7.06	4.4	4.6
and 16 thru 36	2 (inner)	30	5.75	3.6	3.8
LCO	12	32	8.37	5.6	6.0

How To Order

Build an ordering code as shown in this example.
Micron ratings are nominally rated - see page 120 for absolute crossover rating.

Example: PE-25 - P - 7 - S - SS

FIBER AND MICRON RATINGS

Felt, polyester = ***PE***
Microns: ***1, 3, 5, 10, 15, 25, 50, 75, 100, 200***

Felt, polypropylene = ***PO***
Microns: ***1, 3, 5, 10, 25, 50, 100***

Felt, Oil-Adsorb, 25-micron = ***OA 25***

Felt, Nomex = ***HT***
Microns: ***5, 10, 25, 50, 100***

Felt, Teflon, 10-micron = ***TE 10***

Mesh, monofilament = ***NMO***
Microns: ***5,10, 25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 400, 600, 800***

Mesh, monofilament polypropylene = ***PMO***
Microns: ***300, 600***

Mesh, multifilament polyester = ***PEM***
Microns: ***75, 100, 125, 150, 200, 250, 300, 400, 800***

ADDITIONAL OPTIONS

SS *= Stainless steel ring*

BAG STYLE

S *= Plated ring*

BAG DIMENSIONS

Symbol		Dia. (in.)		Length (in.)	Housing Model
1	=	7-1/16	x	16-1/2	8-15
2	=	7-1/16	x	32	8-30
3	=	4-1/8	x	8	4-6
4	=	4-1/8	x	14	4-12
7	=	5-5/8	x	15	6-12
8	=	5-5/8	x	21	6-18
9	=	5-5/8	x	32	6-30
12	=	8-3/8	x	32	LCO

BAG FINISH OR COVER

P = *None (standard)*
G = *Fiber-free glazed finish*
C = *Spun-bonded nylon cover (Cerex)*
R = *Spun-bonded polyester (Remay) cover*

Inner Bags for Model 8 or Multibag Filters

To order inner bags, use a second, separate ordering code. It should be built using the system shown above, but prefixed by the symbol "IN". ***Example: IN–PE 25 P 2 S-SS***

The Lock-Top Filter Bag Offers A Plastic Collar For Better Fit And Easier Disposal

NEW - Sonically Welded seams

Rosedale offers the new Lock-Top filter bag for applications that require reinforced plastic seals or have certain disposal requirements. The integral hard-plastic collar that makes installation and disposal easier as there is no metal to worry about. They are constructed from the same materials used in our standard and HI-E micro filter bags.

As an added feature, all seams and the collar are sonically welded, greatly enhancing filtration quality, reducing or eliminating leaks and bypass that may have occurred with sewn seams.

Filtration Level

These bags have been tested by an independent laboratory to determine the filtration efficiency of the media used in each of the filter bags. The efficiencies for polyester and polypropylene are identical.

Efficiency	Micron Rating										
95%	1	3	8	19	35	48	55	65	70	90	110

Design Details

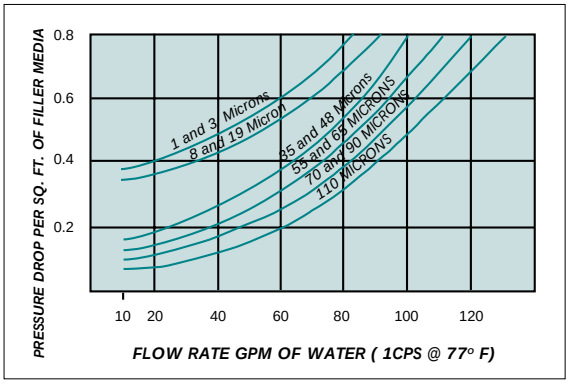
These bags have a plastic collar sonically welded into their opening. This collar has integral handles as a standard feature. They make removal faster and easier.

The standard felt finish is glazed. The microfiber bags are sonically welded, then turned inside out, increasing the protection against leakage through the seam.

These bags are available in standard bag sizes.

Pressure Drop Data

The graph shows pressure drop through clean filter bag media of various micron ratings. The curves do not reflect pressure drop through the filter housing.



How To Order

Build an ordering code as shown in the example

EXAMPLE: **PO - 1 - G - 2 - R**

FIBER

Polypropylene = ***PO***

Microfiber polypropylene = ***POMF***

MICRON RATING (95% efficiency)

*1.0 Micron**	= ***1***
*3.0 Micron**	= ***3***
*8.0 Micron**	= ***8***
*19.0 Micron**	= ***19***
35.0 Micron	= ***35***
48.0 Micron	= ***48***
55.0 Micron	= ***55***
65.0 Micron	= ***65***
70.0 Micron	= ***70***
90.0 Micron	= ***90***
110.0 Micron	= ***110***

GLAZED FINISH

BAG SIZE *(nominal in inches, final assembled size)*

Dia x Length	***Symbol***
7-1/6 x 16	= ***1***
7-1/16 x 32	= ***2***

PLASTIC TOP = ***R***

**These ratings are available only for PEMF and POMF materials*

Rosedale Beta Bag® Filters

Filter bags for fine filtration requirements

After years of supplying filter bag products to the process industries, Rosedale has developed a new filter bag that meets even more exacting requirements, extending their use to finer process filtration and to hydraulic and lubricating fluid filtration. Rosedale Beta Bag® filter bags are made of a unique multilayer polyester felt, encased in spun-bonded nylon to prevent possible migration of bag material into the fluid stream. They're rated by the multi-pass method of filter performance evaluation, so that direct comparison can be made between Beta Bag® filters and cartridges of rigid construction using cellulose or synthetic elements, pleated or non-pleated. They compare very well:

- *Because disposable Rosedale Beta Bags® are fitted into and supported by perforated-metal baskets, you need not be concerned with filter collapse, flow fatigue, or filter end-load problems.*
- *Beta Bags® can be installed and removed from their housings in a fraction of the time required to service rigid cellulose or synthetic element cartridge filters.*
- *Beta Bags® cost less than cylindrical filter cartridges, and they fold flat for more compact storage.*
- *Polyester/nylon bag materials are more resistant to the chemical additives in today's hydraulic and lubricant fluids (especially the high water base fluids), as well as the chemicals in Table IV.*
- *Prevention of possible media migration is assured by the spun nylon cover.*

EXCELLENT FOR USE IN THE PROCESS, OIL AND GAS, HYDRAULIC AND LUBRICATION INDUSTRIES

The Multi-Pass Test Method For Evaluating Filter Element Performance

(OSU-F2, ISO 4572, ANSI B93.31-1973, NFPA T3.10.8.8-1973)

In this test procedure ACFTD (AC Fine Test Dust) is put into a reservoir ahead of a test filter. The test dust is comprised of many particle sizes (see Table II).

During the test, the flow rate through the filter is held constant, and test dust is added continuously. Contaminant not stopped by the filter is recirculated (hence the term "multi-pass").

At predetermined pressure drops across the filter, fluid samples are taken upstream and downstream of the filter. Using automatic particle counters (per ANSI B93.28-1973), the samples are analyzed for the number of particles per milliliter greater than a selected size. These counts are used to calculate "Beta ratios". ***A Beta ratio is an accurate indication of how the filter performs throughout the life of the filter. The Beta ratio is an average filtration rating.***

A typical Beta ratio is expressed as B (Beta) 10 (particle size) = 16 (ratio), or B_{10} = 16 to 1 reduction of dirt at selected micron rating. Table I gives the Beta ratios for the three Beta Bag® micron-rated bag materials.

Table I

Rosedale Beta Bag® Beta Ratios

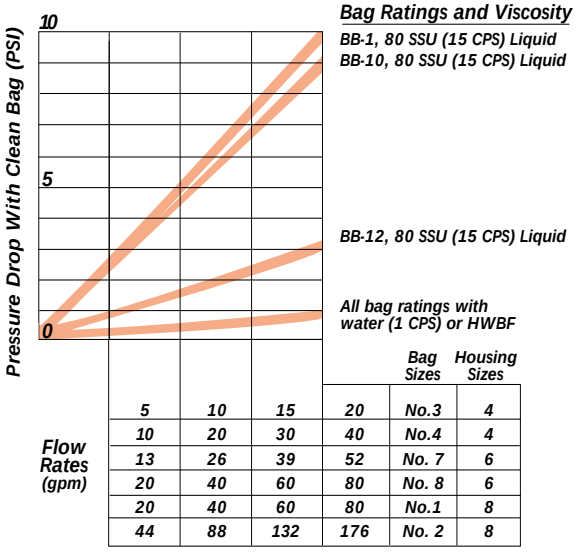
Multi-pass tests are at 20 gpm flow, with terminal pressure drop of 15 psi. Standard sewn bags were tested, in standard housings.

Beta Bag® Micron Rating (nominal)	Mean ACFTD retention size Equals 50% filter efficiency (nominal rating)	Effective ACFTD retention size Equals 95% filter efficiency	Maximum ACFTD retention size Equals 98.7% filter efficiency (absolute rating)
BB-1	B_1 = 2 (1um nominal)	B_4 = 20 (4 um)	B_8 = 75 (8 um absolute)
BB-10	B_{10} = 2 (10 um nominal)	B_{16} = 20 (16 um)	B_{20} = 75 (20 um absolute)
BB-12	B_{12} = 2 (12 um nominal)	B_{37} = 20 (37 um)	B_{47} = 75 (47 um absolute)

Table II

ACFTD Composition

Range of Particle sizes (micrometers)	Distribution by weight (percent)
0-5	39
5-10	18
10-20	16
20-40	18
40-80	9



Flow Rates (gpm)				Bag Sizes	Housing Sizes
5	10	15	20	No.3	4
10	20	30	40	No.4	4
13	26	39	52	No. 7	6
20	40	60	80	No. 8	6
20	40	60	80	No.1	8
44	88	132	176	No. 2	8

Selecting A Rosedale Beta Bag®

1. *Determine the micron rating needed. For hydraulic fluids, the BB-1-rated bags should be considered for high-pressure circuits, the BB-10 for common service, and the BB-12 for low-pressure service. For process liquids, the BB-1 rated bags are recommended for use as pre-filters for membrane filters. Automotive clear coatings are being successfully filtered with BB-10 and BB-12 rated bags.*
2. *The Pressure Drop Versus Flow Chart shows specific flow rates achieved through various sizes of Beta Bags® using 32 (water) and 80 SSU viscosity liquids. Pressure drops can be read directly for these viscosity levels.*
3. *If your liquid viscosity level is higher than 80 SSU, you can use a correction factor to determine what your pressure drop will actually be.*
4. *Using Table III find your actual SSU level and multiply the pressure drop of interest to you by the correction factor shown. You can interpolate easily since the relationship is linear. For example, a viscosity of 280 SSU would have a correction factor of 3.5.*
5. *Example: A clean BB-1 rated No. 8 size Beta Bag® at 20 gpm will impose a pressure drop of 2.7 psi (with 80 SSU liquid). For use with 320 SSU oil, the pressure drop will be 2.7 times 4 (the correction factor), or 10.8 psi.*

Table III

Viscosity SSU	Viscosity CPS	Correction Factor
80	15	1
160	35	2
240	55	3
320	70	4
400	90	5

Table IV

Compatibility With

Bag Materials (Fiber)	Organic Solvents	Animal Vegetable & Petro Oils	Micro-organisms	Alkalies	Organic Acids	Oxidizing Agents	Mineral Acids	Temperature Limitations (max. deg F)
Polyester	Excellent	Excellent	Excellent	Good	Good	Good	Good	325
Nylon	Excellent	Excellent	Excellent	Good	Fair	Poor	Poor	325

Design Details

All Beta Bags® have a metal retaining ring sewn in their openings. Standard ring material is carbon steel, with a 316 stainless steel optional. They hold the bag in place and prevent fluid bypassing the element.

Heavy-duty handles, sewn to the reinforced bag lip, are a standard feature. They make bag removal faster and easier.

How To Order

Build an ordering code as shown in this example

Example: BB - 10 - 2 - SS

BETA BAG®

MICRON RATING (nominal)
1 micron = **1**
10 micron = **10**
12 micron = **12**

BAG SIZE (dimensions in inches)

Dia. X Length	Symbol
7-1/16 x 16-1/2	**1**
7-1/16 X 32	**2**
4-1/8 X 8	**3**
4-1/8 X 14	**4**
5-5/8 X 15	**7**
5-5/8 X 21	**8**
5-5/8 X 32	**9**
8-3/8 X 32	**12**

OPTIONS
Carbon steel ring = **No Symbol**
Stainless steel ring = **SS**

Membrane Prefilters

for filtration to 1.0 micron

Rosedale's Graded Density (GD) Fat Bags® bags have approximately four times the dirt holding capacity of our Beta Bags at equivalent filtration levels. These bags have 9 layers of microfiber material, each with 4.4 sq. ft. of surface area. You can now use bags where dirt carrying needs previously required cartridges. Bags cost less, are easier to install and remove, require less room in storage and disposal, and prevent the contaminant wash off downstream associated with cartridges.

These bags offer excellent results when used as a pre-filter for membrane filtration. It will retain a large quantity of contaminant that will unnecessarily clog the membrane. The bags are available in either all polyester or all polypropylene construction. Polyester ***should be used*** *where oil adsorption is not desirable or where higher temperatures are required.*

Filtration Level

These bags have been tested by an independent laboratory to determine the filtration efficiency of the media used in each of the filter bags. The efficiencies for polyester and polypropylene are identical.

Model Number	523	525	527	529
EFFICIENCY	MICRON RATING			
95.0%	1.0	3.0	8.0	19.0
99.0%	2.0	5.0	19.0	25.0

The test was conducted using AC Fine Test Dirt interfaced into clean water at 20 GPM.

Dirt Carrying Capacity

Tests that were conducted using a size 2 bag and AC fine test dirt at 20 GPM, show dirt holding capacities for the following filtration ratings (at 20 psi).

Micron Rating (95%)	Model	Dirt Holding Capacity (in grams)	Pressure Drop
1.0	523	267	2 PSI
3.0	525	296	Less than .5 PSI
8.0	527	573	Less than .5 PSI
19.00	529	870	Less than .5 PSI

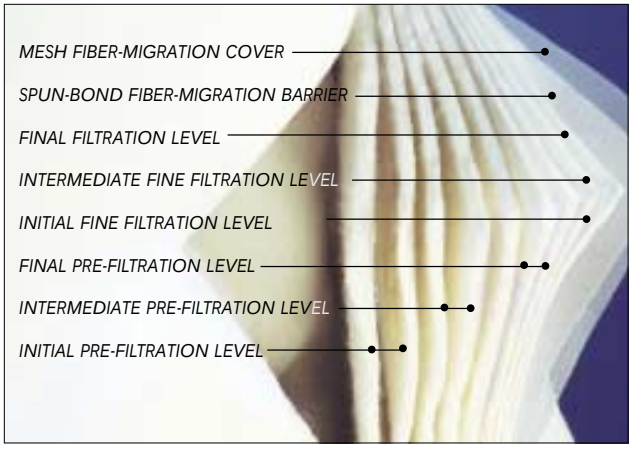
Pressure drop at 50 gpm flow (water) and specified micron rating using a Rosedale Model 8 (8-30) filter.

Design Details

All Graded Density Bags have a 304 stainless steel retaining ring sewn in their opening. Heavy-duty handles, sewn to the reinforced bag lip, are a standard feature. They make bag removal faster and easier.

The bags are sewn, then turned inside out to avoid leakage through the threads. They are also made with sewn, fully-shaped bottoms to enhance the pressure capacities of the bags.

There are two sizes available. Size 1 is 7 inches by 16 inches. Size 2 is 7 inches by 32 inches.



How To Order

Build an ordering code as shown in this example

Example: ***GD - PO - 523 - 1***

GRADED DENSITY = ***GD***

FIBER
Polyester = ***PE***
Polypropylene = ***PO***

MICRON RATINGS *(95%)*
1.0 Micron = ***523***
3.0 Microns = ***525***
8.0 Microns = ***527***
19.0 Microns = ***529***

BAG SIZE *(nominal in inches)*

Dia. x Length	Symbol
7-1/16 x 16	= **1**
7-1/16 x 32	= **2**

X-TEND Filter Bags Offer Additional Surface Area for Increased Filtration Efficiency

NEW - Sonically Welded Seams and Integral Plastic Collar Further Increase Efficiency

Rosedale offers the new X-TEND filter bag as a balance between increased efficiency and capacity versus cost. Similar to the Surfaceplus in concept, it offers about twice the surface area of a standard bag, but at a somewhat lower cost than the Surfaceplus. The integral hard plastic collar makes installation and disposal easier, as there is no metal to worry about. These elements do require the use of a special cone basket. It supports the element surface, ensuring the full amount of surface area is utilized, maintaining optimum filtration.

As an added feature, all seams and the collar are sonically welded, greatly enhancing filtration quality, reducing or eliminating leaks and bypass that may have occurred with sewn seams. The X-TEND bag is about twice the length of a standard bag, and you simply tuck the bottom of the bag back up into the main cylinder of the element. When the bottom of the bag reaches the neck of the collar, the bag should now be the size of a standard bag, and fit most housings.

Filtration Level

These bags have been tested by an independent laboratory to determine the filtration efficiency of the media used in each of the filter bags. The efficiencies for polyester and polypropylene are identical.

Efficiency	Micron Rating										
95%	1	3	8	19	35	48	55	65	70	90	110

Design Details

These bags have a plastic collar sonically welded into their opening. This collar has integral handles as a standard feature. They make removal faster and easier.

The standard felt finish is glazed. The micro fiber bags are sonically welded, then turned inside out, increasing the protection against leakage through the seam.

These bags are available in standard bag sizes.

How To Order

Build an ordering code as shown in the example

Example: ***XTND - PE - 35 - 2 - CB***

X-Tend Bag = ***XTND***

FIBER
Polyester Felt = ***PE***
Polypropylene Felt = ***PO***

MICRON RATING (95% efficiency)
35 = *35.0 Micron*
48 = *48.0 Micron*
55 = *55.0 Micron*
65 = *65.0 Micron*
70 = *70.0 Micron*
90 = *90.0 Micron*
110 = *110.0 Micron*

CONE BASKET
CB = *Cone Basket*
No Symbol = *No Basket*

BAG SIZE
(nominal in inches, final assembled size)
Dia x Length
2 = *7-1/16 x 32*

Surfaceplus® Filter Bags Offer 3 Times The Surface Area For Increased Filtration Efficiency

Patent #4574047

Rosedale offers the SURFACEPLUS® filter bag for heavy dirt load applications. It has three times the surface area of similar sized bags. It increases the amount of contaminant held, and extends the time between change-outs. This combines the benefits of both bags and cartridges.

The Surfaceplus® is a prepackaged extra long bag offered in poly-propylene or polyester material. A layer of course-mesh cloth is laminated to the bag for support and to enhance flow. The bag then folds up into itself to form a standard number 2 size element.

Filtration Level

These bags have been tested by an independent laboratory to determine the filtration efficiency of the media used in each of the filter bags. The efficiencies for polyester and polypropylene are identical.

A bag this long folds into itself twice to fit in our standard Model 8 housing.

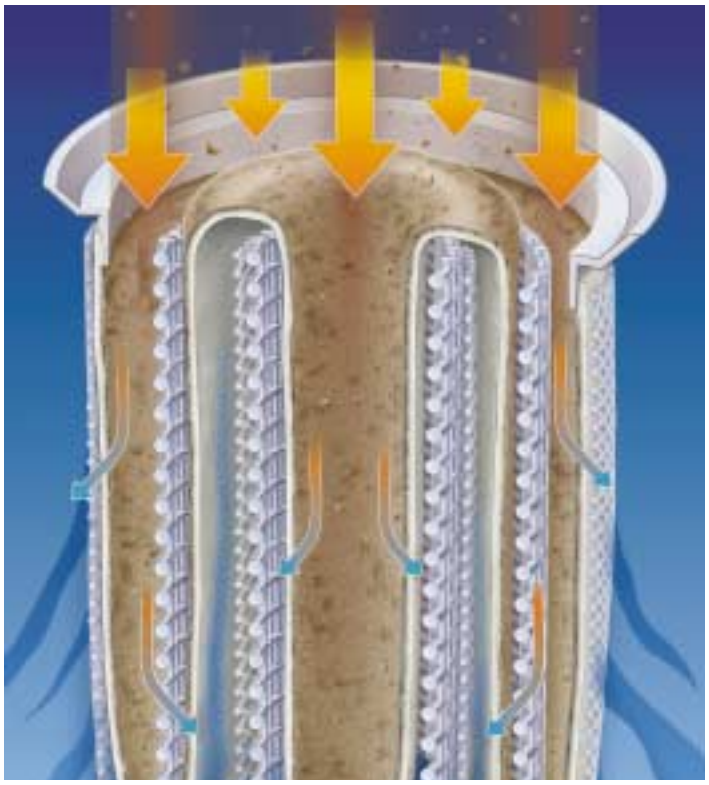
Surfaceplus® bag ready for use.

Rosedale Patent #4574047 Granted March 4, 1997.

Design Details

All Surfaceplus® bags have rubberized polypropylene tops with heavy duty handles to make removal faster and easier. The bags are sewn, then turned inside out to avoid leakage through the threads. They are also made with sewn, fully shaped bottoms to enhance the pressure capacities of the bags.

It is available in a standard unit that fits a size 2 bag housing (assembled size of the Surfaceplus® bag is 7-1/6" x 32").



How To Order

Build an ordering code as shown in the example

Example: ***SP - PE - 35 - 2***

Surfaceplus® = ***SP***

FIBER
Polyester Felt = ***PE***
Polypropylene Felt = ***PO***

BAG SIZE *(nominal in inches, final assembled size)*

Dia x Length	*Symbol*
7-1/16 x 32	= ***2***

MICRON RATING
(95% efficiency)

35	*= 35.0 Micron*	***70***	*= 70.0 Micron*
48	*= 48.0 Micron*	***90***	*= 90.0 Micron*
55	*= 55.0 Micron*	***110***	*= 110.0 Micron*
65	*= 65.0 Micron*		

Bag-Sized Cartridges

Absolute-rated units provide up to 12 times more dirt-holding capacity

Rosedale has combined the best features of filter bags and cartridges into one single unit. Like bags, these bag-sized pleated cartridges are easy to handle and trap contaminant inside, preventing "WASH OFF" when removing spent or dirty cartridges. Like cartridge elements, they provide larger surface areas and greater dirt-holding capacities than standard bags. They are the ideal solution when frequent servicing of filters is a problem.

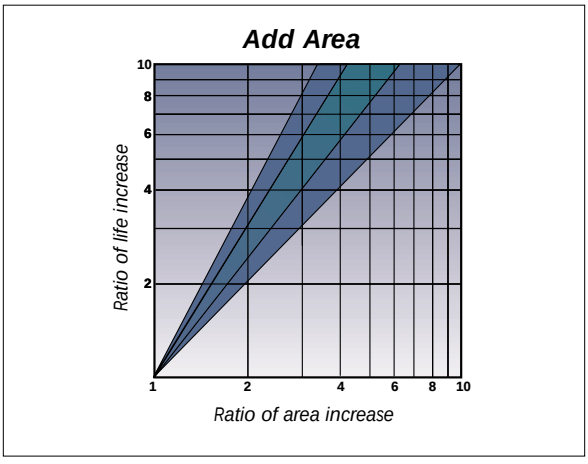
Construction

Rosedale bag-sized pleated cartridges are unique. Twenty-five square feet of high efficiency material is sandwiched between two flow-enhancing, coarse-mesh screens, and then pleated in a supported construction. This supported pleat construction ensures flow cannot be pinched off. It also greatly strengthens the overall integrity of the element. The seams in these units are ultrasonically welded, not sewn, to prevent leakage or contamination bypass. The top sealing ring and cartridge bottom, made of solid molded polypropylene, are sonically welded to the pleated cylinder.*

Features

- *Eleven micron retention ratings from 1 to 110 at 95% efficiency, are available*
- *Three different top sealing ring designs - one to fit your needs*
- *Available in standard bag sizes 1 and 2, to fit housings 8-15 and 8-30*
- *Low pressure drop*

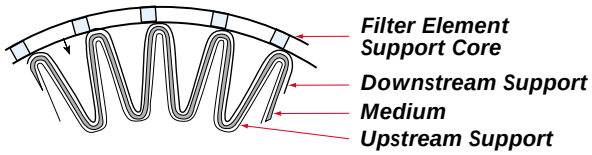
R1 Design - Flared Polypropylene (standard)



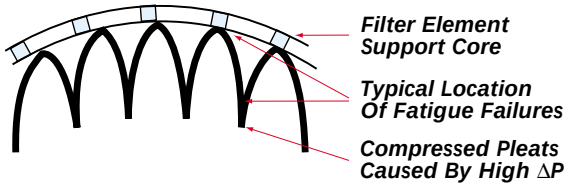
*For Size 2 cartridge, Size 1 cartridge has 13 square feet of material.

Supported Medium Means No Breakthrough

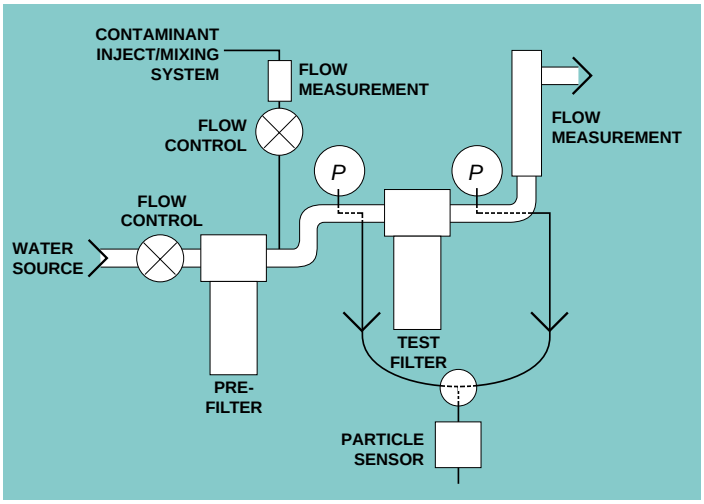
A. Section of Supported Filter Element



B. Unsupported Element Section



Cyclic flow, cyclic pressures, and increasing ΔP as the element loads with dirt cause unsupported medium to crack through and become a "non-filter."



Schematic showing single-pass efficiency test

Materials

These elements use our unique high-efficiency microfiber material. Polyester or polypropylene microfibers and standard fibers are variably calendered to produce a single layer of our high-efficiency microfiber felt, which we manufacture to more exacting standards, under controlled conditions, than standard felts. This unique construction provides filtration to 1 micron at 95% efficiency rating, a real rating for the real world, consistently giving the same level or performance from batch to batch.

Greater Capacity Means Longer Life

FILTRATION LEVEL

These elements have been tested using the Single-Pass Efficiency Test (see diagram) using water and AC Fine Test Dust. Water is passed through an initial pre-filter (at 0.45 μ), after which contaminant is injected into the water line. An automatic particle counter analyzes the number of particles per milliliter greater than a selected size, before the water enters the filter. The water then passes through the test filter, and the effluent is analyzed for the number of those same-size particles. The number of particles removed provides the efficiency rating. For example, if after the single pass, 95 percent of the particles are removed, then the filter is 95 percent efficient at the specified micron rating.

FILTRATION EFFICIENCY

Using the single pass efficiency test, we've determined the following efficiency ratings for our pleated cartridges. Real ratings are consistently accurate and reliable, time and time again.

MICROFIBER GRADES

Model Number	PL-PEMF-1.0 PL-POMF-1.0	PL-PEMF-3.0 PL-POMF-3.0	PL-PEMF-8.0 PL-POMF-8.0	PL-PEMF-19.0 PL-POMF-19.0
EFFICIENCY	MICRON RATING			
95%	1	3.0	8.0	19.0
99%	2	5.0	19.0	25.0

RECOMMENDED MAXIMUM FLOW RATE (GPM / ELEMENT) AT 1.0 PSID

Element Size	Model Number PL-PEMF 1-19 PL-POMF 1-19	Model Number PL-PE 35-110 PL-PO 35-110	Viscosity
P1	50 GPM	75 GPM	1 CST
P2	100 GPM	150 GPM	1 CST

STANDARD FIBER GRADES

Model Number	PL-PE-35.0 PL-PO-35.0	PL-PE-48.0 PL-PO-48.0	PL-PE-55.0 PL-PO-55.0	PL-PE-65.0 PL-PO-65.0	PL-PE-70.0 PL-PO-70.0	PL-PE-90.0 PL-PO-90.0	PL-PE-110.0 PL-PO-110.0
EFFICIENCY	MICRON RATING						
95%	35.0	48.0	55.0	65.0	70.0	90.0	110.0

If fluids with viscosities greater than 1 CST are used, use the following correction factor to arrive at the recommended maximum flow rate. Divide the flow determined above by the correction factor obtained below. If your viscosity is not listed, choose the next highest viscosity from the chart and use that correction factor.

Fluid Viscosity SSU	Fluid Viscosity CPS	Correction Factor
80	15	1.2
160	35	2
240	55	3
320	70	4
400	90	5
480	110	6
560	130	7
640	150	8
720	180	9
800	260	10

For example, to filter a fluid having a viscosity of 55 cps using a PL-PEMF P2 element the equation is as follows:

$$\text{Corrected Flow Rate} = \frac{\text{Max Flow Rate}}{\text{Correction Factor}} = \frac{100}{3} = 33 \text{ GPM}$$

How To Order

Build an ordering code as shown in the example

Example: PL - R1 - PEMF - 1 - P1

BAG-SIZED PLEATED CARTRIDGE = PL

TOP SEALING RING DESIGN

Flared Polypropylene (P1 - P2)	= **R1**
Solid Polypropylene (P3 - P9)	= **R2**

HIGH EFFICIENCY MATERIAL

High-Efficiency Microfiber Polyester	= **PEMF**
High-Efficiency Microfiber Polypropylene	= **POMF**
High-Efficiency Standard Polyester	= **PE**
High-Efficiency Standard Polypropylene	= **PO**

BAG SIZE

Symbol	Dia.	x	Length
P1 =	7-1/16	x	11-1/8
P2 =	7-1/16	x	26-1/8
P3 =	4-1/8	x	5-1/16
P4 =	4-1/8	x	11-1/16
P7 =	5-5/8	x	10-3/4
P8 =	5-5/8	x	16-1/8
P9 =	5-5/8	x	26-3/4

MICRON RATING

(95% efficiency)

1	= 1.0 Micron*
3	= 3.0 Micron*
8	= 8.0 Micron*
19	= 19.0 Micron*
35	= 35.0 Micron
48	= 48.0 Micron
55	= 55.0 Micron
65	= 65.0 Micron
70	= 70.0 Micron
90	= 90.0 Micron
110	= 110.0 Micron

**These ratings are available only for PEMF and POMF materials*

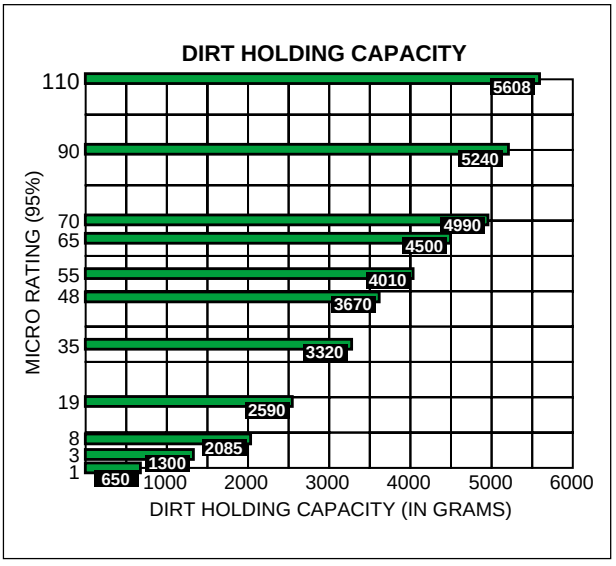
CHEMICAL COMPATIBILITIES

EXCELLENT GOOD

	Bag Materials (Fiber)	
	Polyester	Polypropylene
Organic Solvents	■	■
Animal Vegetable & Petro Oils	■	■
Micro-organisms	■	■
Alkalies	■	■
Organic Acids	■	■
Oxidizing Agents	■	■
Mineral Acids	■	■

Temperature Limitations, 225°F.

Note: *For more complete information on chemical compatibilities, refer to pages 222 through 235.*



Low-Cost, High-Capacity Disposable Bag-Sized Pleated Cartridge

Bag and basket in one easy to throw away element.

These new filter elements from Rosedale are easily installed in standard filtration housings, replacing both the basket and filter bag, with one unit that has much more surface area than standard bags. These elements look like a standard strainer basket, with an installed heavy duty cellulose pleat pack, having over 11 times the square footage of surface area than a standard bag. This provides maximum dirt retention capabilities at 99% (Beta 100) absolute ratings, at very low cost.

Features

- *Basket Style housing seals like a standard strainer basket*
- *Cellulose Pleat Pack with over 50 square feet of surface area*
- *Metal support basket has 9/64" perforations for high flow rate*
- *Beta 100 (99%) absolute Micron Retention Levels*
- *Longer Element Life provides improved system efficiency*

Benefits

- *Fewer Change-outs required*
- *Less Downtime*
- *Improved quality due to improved retention ratings*
- *Lower Maintenance and Labor Costs*
- *Reduced Operator Exposure*

How To Order

Build an ordering code as shown in the example

Example: **PB - 20 - 2**

MODEL

Bag sized pleated cartridge = ***PB***

MICRON RETENTION LEVEL

75 Micron = ***75***
50 Micron = ***50***
30 Micron = ***30***
20 Micron = ***20***
10 Micron = ***10***

CARTRIDGE SIZE/LENGTH

Standard Bag Size 1 = ***1***
Standard Bag Size 2 = ***2***

Platinum 500 ABSOLUTE-RATED Bag-Sized Cartridges

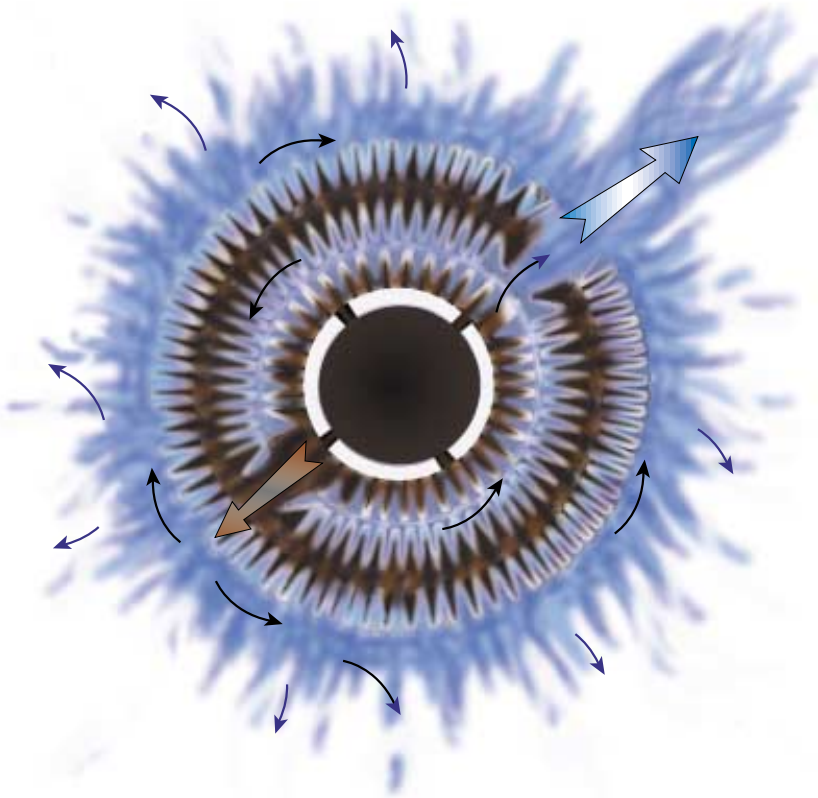
Maximum dirt-holding capacity

Our line of Platinum absolute-rated bag-sized filter cartridges offer maximum dirt holding capacity coupled with micron retention ratings to 0.5 at 99.98% efficiency.

Features

- *85 sq. ft. of surface area*
- *12 lbs. (approx.) of dirt carrying capacity*
- *Rated 0.5 micron to 70 micron @ ß5000 or 99.98% efficiency*
- *Flow rates to 50 gpm.*
- *6.25-inch diameter and 24-inch length*
- *Fits into standard Rosedale Model 8, Polypropylene, and Multi-cartridge housings (See pages 1 and 2 for housing information)*

These elements are manufactured in a unique patented pleat arrangement (U.S. Patent No. 5824232) that optimizes its physical size and maximizes effective surface area. Flow channels distribute a steady flow into the element. Pre-filtration and final filtration layers provide high efficiency. A low fluid flux rate maximizes dirt containment. This means element life is extended and productivity is increased, resulting in fewer cartridge change-outs less labor and lower replacement costs. With the Platinum 700, cartridge change-out is completed in minutes. (See the Cost Analysis chart for comparison.)

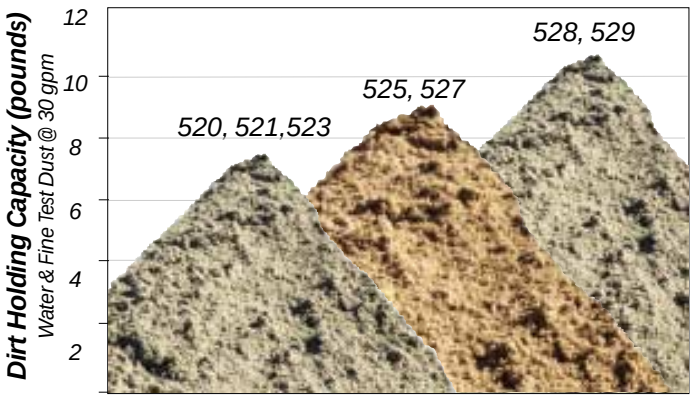


Design Details

This design uses only the highest quality materials and most advanced manufacturing processes. The element fits into standard size 2 baskets and functions similar to a bag (flowing inside to outside). The end caps are heat sealed for high efficiency performance. The o-ring seal insures sealing and eliminates bypass.

Dirt Holding Capacity

(Platinum Series #2 bag)



How To Order

Build an ordering code as shown in the example.

500 Series **Example: PS - 520 - P241**

PLATINUM SERIES = PS

MICRON RATING (99.98%)

0.5 Micron	= **520**
2 Micron	= **521**
5 Micron	= **523**
10 Micron	= **525**
20 Micron	= **527**
40 Micron	= **528**
70 Micron	= **529**

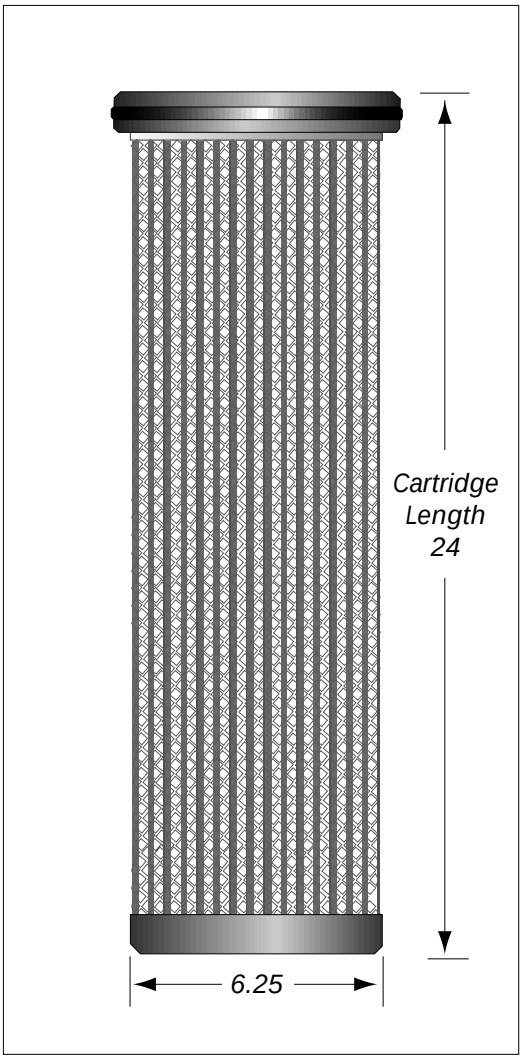
FILTER MEDIA

Polypropylene	= **P**
Glass	= **G**
Polyester	= **R**
Cellulose	= **C**

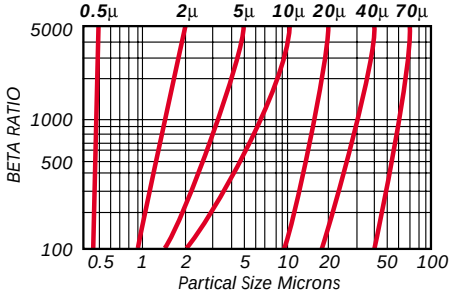
LENGTH & SEAL*

Length (24" OAL) Seal-1 (EPR Seal) = **241**

***Other seal materials available upon request**



Rosedale BETA Curves



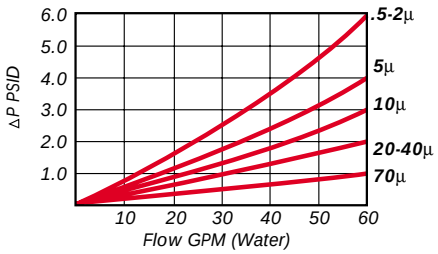
The Beta Ratio (ß) at a given particle size can be correlated to the filter efficiency at that particle size according to the following formula:

Filter Efficiency (%) = [(b-1)/b] x 100%

Beta Ratio (ß)	100	1000	5000
Filter Efficiency (%)	99.00	99.90	99.98

Each filter element will have a different Beta Ratio for every specified particle size. The determination of a variety of Beta values for the same filter provides a filter efficiency profile commonly referred to as a Beta Curve.

Flow Rate Vs. ∆P



NEW

Platinum 700 ABSOLUTE-RATED Cartridges

Ultra high capacity filter eliminates maintenance by providing high dirt removal

The new Platinum 700 cartridge filter will ease your filtration-servicing problems. A single cartridge unit has the life of 40 standard wound or 10 pleated cartridges reducing maintenance.

Features

- *120 sq. ft. of surface area*
- *20 lbs. (approx.) of dirt carrying capacity*
- *Rated 0.5 micron to 70 micron @ ß5000 or 99.98% efficiency*
- *Flow rates to 100 gpm.*
- *6.25-inch diameter and 35-inch length*
- *Fits into standard Rosedale Model 8, Polypropylene, and Multi-cartridge housings (See pages 54-56 for Cartridge Housing information)*

These elements are manufactured in a unique patented pleat arrangement (U.S. Patent No. 5824232) that optimizes its physical size and maximizes effective surface area. Flow channels distribute a steady flow into the element. Pre-filtration and final filtration layers provide high efficiency. A low fluid flux rate maximizes dirt containment. This means element life is

extended and productivity is increased, resulting in fewer cartridge change-outs less labor and lower replacement costs. With the Platinum 700, cartridge change-out is completed in minutes. (See the Cost Analysis chart for comparison.)

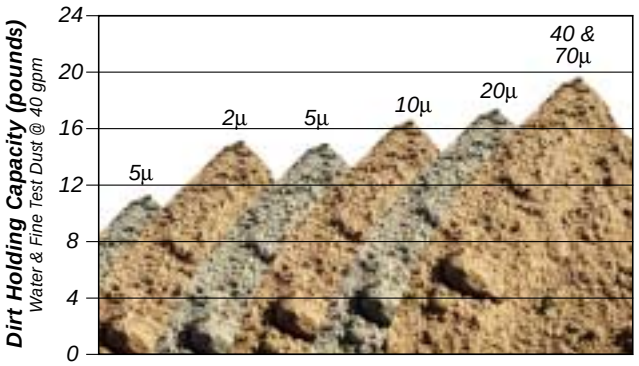
Design Details

This design uses only the highest quality materials and most advanced manufacturing processes. Heat sealed end caps and a stainless steel handle are standard on each element, to facilitate quick and easy removal. The double o-ring seal insures sealing in the housing, eliminating bypass. (See pages 54-56 for Cartridge Housing information.)

700 SERIES COST ANALYSIS

	6 x 40" String Wound Cartridges @ 40µ	ROSEDALE 700 Series @ 40µ
Dirt Holding Capacity	3 lbs Per Change Out	20 lbs
Service Interval	5 Days	5 Weeks
Cost	Using Existing Housing $1.90 x 27 = $51. + $40. Labor (1/2 Hour)	Housing = $1,000. Elements = $175. Each + $20. Labor (15 Minutes)
Yearly Operating Cost	$6,309.	First Year = $3,028. Thereafter = $2,028.
Operating Savings Per Year	———	First Year = $3,281. Thereafter = $4,281.
Yearly Disposal Cost	60 Carts/Drum x 7 Drums/Yr @ $500. Each Disposal Cost = $3,500.	1 Element/Drum x 2 Drums/Yr @ $500. Each Disposal Cost = $1,000.
Disposal Savings Per Year	———	$2,500.
TOTAL SAVINGS AFTER 1st YEAR	———	$6,781.

Dirt Holding Capacity



How To Order

Build an ordering code as shown in the example.

700 Series **Example: PS - 740 - P356**

PLATINUM SERIES = **PS**

MICRON RATING @ Beta 5000

0.5 Micron	= **740**
2 Micron	= **741**
5 Micron	= **743**
10 Micron	= **745**
20 Micron	= **747**
40 Micron	= **748**
70 Micron	= **749**

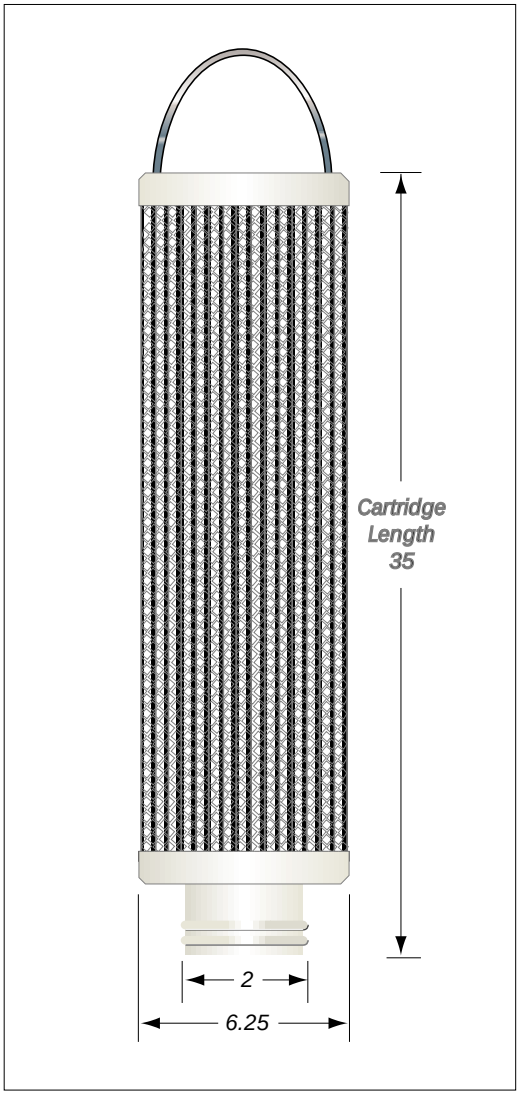
FILTER MEDIA

Polypropylene	= **P**
Glass	= **G**
Polyester	= **R**
Cellulose	= **C**

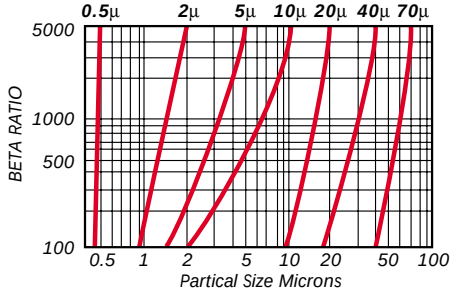
LENGTH & SEAL*

Length (35" OAL)
Seal-6 (EPR 226 O-Ring) = **356**

***Other seal materials available on request**



Rosedale BETA Curves



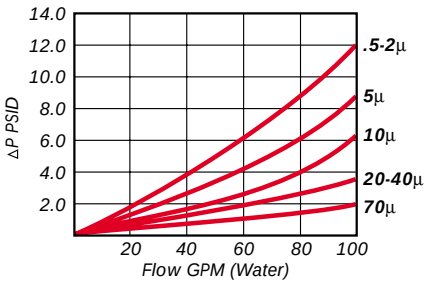
The Beta Ratio (ß) at a given particle size can be correlated to the filter efficiency at that particle size according to the following formula:

Filter Efficiency (%) = [(b-1)/b] x 100%

Beta Ratio (ß)	100	1000	5000
Filter Efficiency (%)	99.00	99.90	99.98

Each filter element will have a different Beta Ratio for every specified particle size. The determination of a variety of Beta values for the same filter provides a filter efficiency profile commonly referred to as a Beta Curve.

Flow Rate Vs. ΔP



NEW

Platinum 900 ABSOLUTE-RATED Cartridges

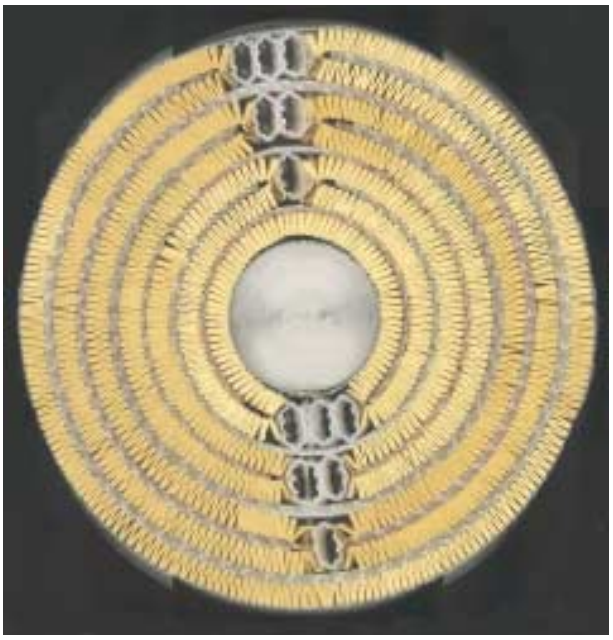
Ultra high capacity filtration system provides maximum dirt load retention and removal–eliminating maintenance!

End the high cost of element change-out with the Platinum 900-cartridge filter system. Imagine changing a filter element only once or twice a year, instead of changing several cartridges on a weekly or daily basis! A single cartridge unit has the life of 200 standard wound or 50 pleated cartridges, reducing maintenance.

Features

- *600 sq. ft. of surface area*
- *100 lbs. (approx.) of dirt carrying capacity*
- *Rated 0.5 micron to 70 micron @ ß5000 or 99.98% efficiency*
- *Flow rates to 400 gpm*
- *13-inch diameter and 40-inch length*
- *Rosedale housings can hold 1, 3, 4, 7, or 8 cartridge elements (See pages 57-58 for Cartridge Housing information)*

These elements are manufactured in a unique patented pleat arrangement (U.S. Patent No. 5824232) that optimizes its physical size and maximizes effective surface area. Flow channels



distribute a steady flow into the element. Pre-filtration and final filtration layers provide high efficiency. A low fluid flux rate maximizes dirt containment. This means element life is extended and productivity is increased, resulting in fewer cartridge change-outs, less labor and lower replacement costs. With the Platinum 900, cartridge change-out is significantly extended. (See the Cost Analysis chart for comparison.)

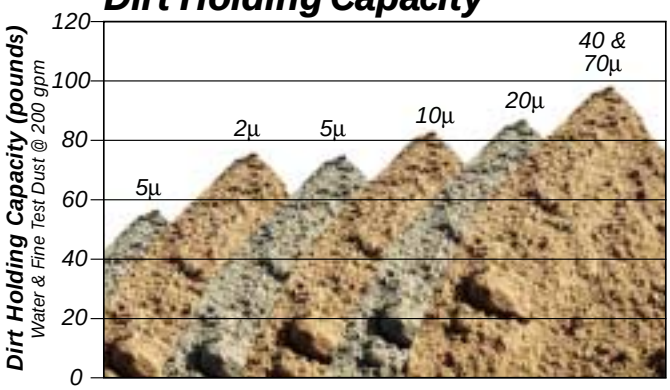
Design Details

This design uses only the highest materials and most advanced manufacturing processes. Stainless steel core and end caps are ideal for higher temperature applications. The double o-ring seal insures sealing in housing, eliminating bypass. (See pages 57-58 for Cartridge Housing information.)

900 SERIES COST ANALYSIS

	27 x 40" String Wound Cartridges @ 40µ	ROSEDALE 900 Series @ 40µ
Dirt Holding Capacity	14 lbs Per Change Out	100 lbs
Service Interval	3.5 Weeks	25 Weeks
Cost	Using Existing Housing $8.50 x 27 = $229.50 + $80. Labor (1 Hour)	Housing = $3,500. Elements = $1,175. Each + $20. Labor (15 Minutes)
Yearly Operating Cost	$4,598.	$2,390.
Operating Savings Per Year	———	$2,208.
Yearly Disposal Cost	60 Carts/Drum x 7 Drums/Yr @ $500. Each Disposal Cost = $3,500.	1 Element/Drum x 2 Drums/Yr @ $500. Each Disposal Cost = $1,000.
Disposal Savings Per Year	———	$2,500.
TOTAL SAVINGS AFTER 1st YEAR	———	$4,708.

Dirt Holding Capacity



How To Order

Build an ordering code as shown in the example.

900 Series **Example: PS - 940 - P405**

PLATINUM SERIES = **PS**

MICRON RATING @ Beta 5000

0.5 Micron	= **940**
2 Micron	= **941**
5 Micron	= **943**
10 Micron	= **945**
20 Micron	= **947**
40 Micron	= **948**
70 Micron	= **949**

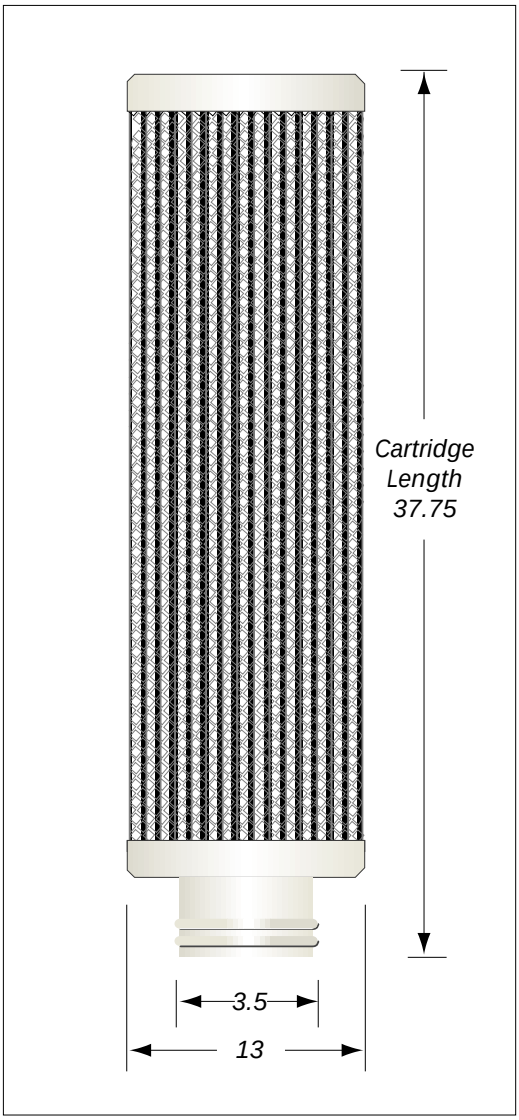
FILTER MEDIA

Polypropylene	= **P**
Glass	= **G**
Polyester (2-70 micron)	= **R**
Cellulose (5-70 micron)	= **C**

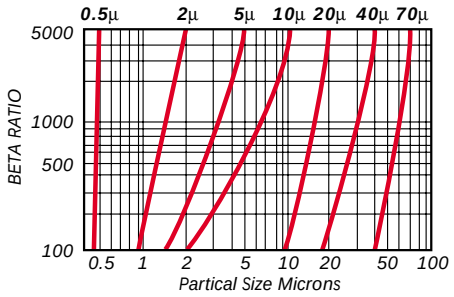
LENGTH & SEAL*

Length-40 (Actual 37.75") = **405**
Seal-5 (235 EPR O-Ring)

***Other seal materials available on request**



Rosedale BETA Curves



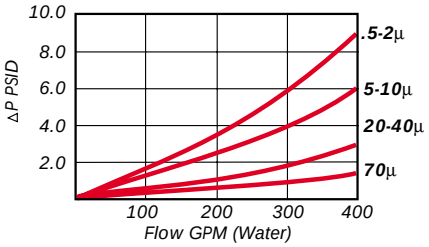
The Beta Ratio (ß) at a given particle size can be correlated to the filter efficiency at that particle size according to the following formula:

Filter Efficiency (%) = [(b-1)/b] x 100%

Beta Ratio (ß)	100	1000	5000
Filter Efficiency (%)	99.00	99.90	99.98

Each filter element will have a different Beta Ratio for every specified particle size. The determination of a variety of Beta values for the same filter provides a filter efficiency profile commonly referred to as a Beta Curve.

Flow Rate Vs. ΔP



Emerald Series 700 Oil/Water Separation Cartridge

Cost Effective solution to Environmental Applications

Rosedale's Emerald Series oil/water separation cartridges utilizes a proprietary design, using segregated flow chambers. These chambers greatly expand the contact between the surface area of the elements and fluid being filtered, maximizing efficiency. The 6.25" OD cartridge houses several layers of filtration media, increasing the oil holding capacity to optimum effect.

The filter cartridge is design to hold more than six liters of oil, before reaching the maximum dp of 35 psi. Once the cartridge reaches the 35 psid, a built-in flow cutoff provides positive indication for cartridge change out before oil bypass occurs.

At the recommended maximum flow rate of 15 gpm, the Emerald Series 700 filter is the best solution for reaching optimum oil/water separation at minimum cost.

Features

- *120 sq. ft. of surface area*
- *6.25 diameter and 35-inch length*
- *Fits into standard Rosedale Model 8, Polypropylene, and Multi-cartridge housings*

How To Order

Build an ordering code as shown in the example

Example: **EMR - 70 - 9 - P - 35 - 6**

MODEL
Emerald Series = **EMR**

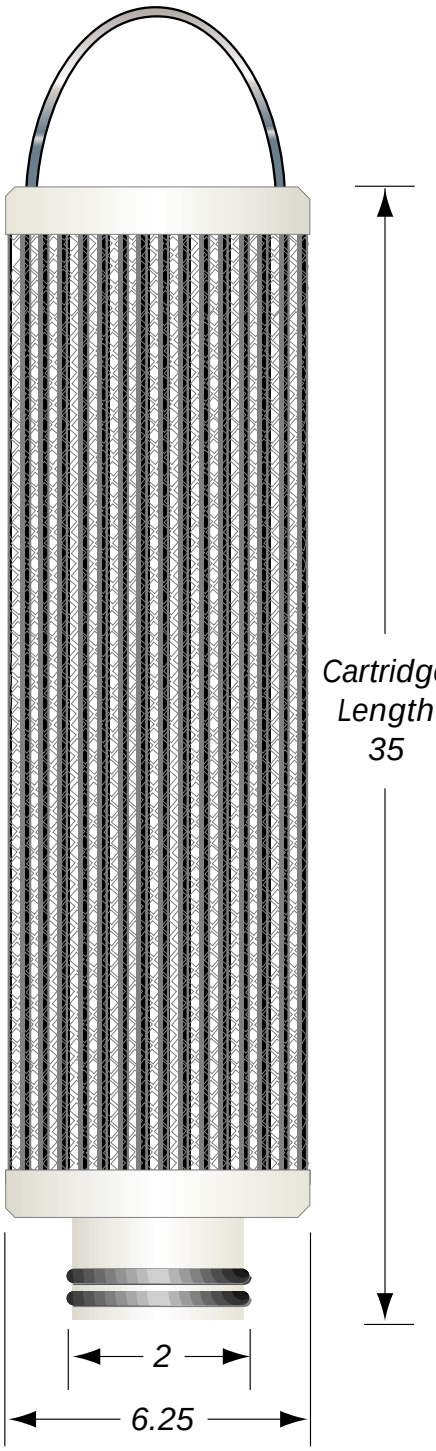
SERIES
700 Cartridge (6.25" OD) = **70**

MICRON RETENTION RATING
(at 99% efficiency)
70 Micron = **9**

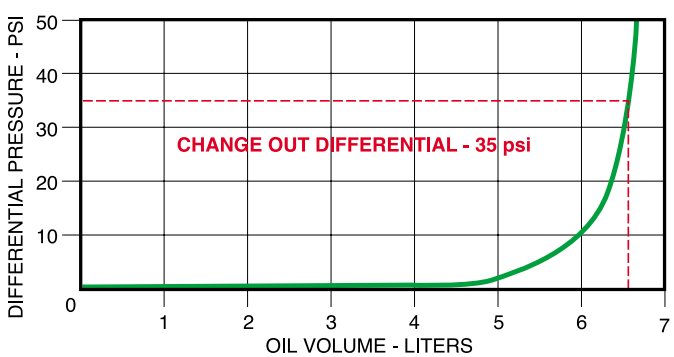
MEDIA
Polypropylene = **P**

CARTRIDGE LENGTH
35 inch OAL = **35**

SEAL
EPR 226 O-Ring = **6**



Oil Holding Capacity



Oil holding capacity (liters) — Water and oil @ 15 GPM
Oil challenge of 200 PPM with less than 5 PPM oil effluent

Rosedale High Efficiency Filter Bags

Our HI-E series of bag filters meets the most stringent needs for fine process, hydraulic fluid, and lubricant filtration. All are made of unique microfiber materials, designed to increase the efficiency and dirt-holding capacities of these bags.

Microfiber Material Construction

Polyester or polypropylene microfibers and standard fibers are variably calendered to produce a single layer of microfiber material. Our unique construction can provide filtration to a 1 micron rating. Polyester microfiber material should be used where oil adsorption is not desirable or where higher temperatures are required.

Filtration Level

These bags have been tested by an independent laboratory to determine the filtration efficiency and dirt holding capabilities for each. They have been manufactured so that the efficiencies for both polyester and polypropylene are identical. See Filtration Efficiency Chart below.

HI-E Series Filter Bags Using Microfiber Construction

PEMF/POMF BAGS: High Efficiency Filtration using a single layer of microfiber material. Excellent for general polishing applications with low dirt load.

GRADED DENSITY BAGS: High Efficiency Filtration with multiple layers of microfiber material and pre-filtration layers. Has 4 times the dirt holding capacity of the PEMF/POMF series bags.

BAG-SIZE PLEATED CARTRIDGES: High Efficiency Filtration with 12 times the dirt holding capacity and microfiber material supported by flow-enhancing mesh. The extra surface area greatly increases the dirt holding capacity.

Filtration Efficiency

Model Number	PEMF 1 POMF 1 523 PL PEMF 1 PL POMF 1	PEMF 3 POMF 3 525 PL PEMF 3 PL POMF 3	PEMF 8 POMF 8 527 PL PEMF 8 PL POMF 8	PEMF 19 POMF 19 529 PL PEMF 19 PL POMF 19
EFFICIENCY	**MICRON RATING**			
95%	1.0	3.0	8.0	19.0
99%	2.0	5.0	19.0	25.0

** This test was conducted using AC Fine Test dirt interfaced into water at 10 GPM, Single-Pass.*

PEMF/POMF Series

The microfiber bag is encased in spun-bonded material inside and out to prevent bag material migration into the fluid stream. Heavy-duty handles for ease in removal are a standard feature. The fully shaped bottoms enhance the pressure capacities of these bags. ***THE PEMF/POMF SERIES HAS 4.4 SQ. FT. OF SURFACE AREA.***

Bag-Sized Pleated Cartridges

With the PL Series pleated cartridges, we've combined the best features of bags and cartridges into one. It has the advantages of a bag; low in cost, easy to handle, and contaminant is trapped inside, but with the greater surface area and dirt-loading capabilities of pleated cartridges. The seams in these filter elements are ultrasonically welded, eliminating the problems associated with sewn seams. The microfiber material is sandwiched between two flow-enhancing polypropylene mesh screens, then pleated. The cartridge bottom and top sealing ring are made of solid molded polypropylene and are welded to the ends of the pleated cylinder without the use of adhesive. The sealing ring is a pliable gasket, increasing the efficiency and integrity of the seal. ***THE PL SERIES HAS 25 SQ. FT. OF SURFACE AREA.***

500 Series, Graded Density Bags

The 500 Series FAT BAGS® have approximately four times the dirt-holding capacity of our PEMF/POMF series bags at equivalent filtration levels. You can now use bags, where performance levels previously required cartridges. These Graded Density Bags are made of multiple layers of microfibers and standard fibers variably calendered, providing filtration to 1 micron. Heavy-duty handles for ease in removal are a standard feature. The fully shaped bottoms enhance the pressure capacities of the bag. ***THE 500 SERIES HAS 9 LAYERS OF MICROFIBER MATERIAL, EACH WITH 4.4 SQ. FT. OF SURFACE AREA.***

Chemical Compatibilities

EXCELLENT | GOOD | FAIR | POOR

	Bag Material (Fiber)		
	Nylon	Polyester	Polypropylene
Organic Solvents	■	■	■
Animal /Vegetable and Petro Oils	■	■	■
Microorganisms	■	■	■
Alkalies	■	■	■
Organic Acids	■	■	■
Oxidizing Agents	■	■	■
Mineral Acids	■	■	■

Temperature Limitations, 325°F for Nylon and Polyester, 225°F for Polypropylene.

Note: For more complete information on chemical compatibilities, refer to pages 222 through 231.

How To Order

Build an ordering code as shown in these examples

PEMF/POMF SERIES FILTER BAGS

Example: **PEMF - 3 - 2**

MICROFIBER MATERIAL

Polyester	= **PEMF**
Polypropylene	= **POMF**

MICRON RATING (95%)

1.0 micron	= **1**
3.0 micron	= **3**
8.0 micron	= **8**
19.0 micron	= **19**

BAG SIZE
(dimensions in inches)

Symbol	Dia.	x	Length
1 =	7-1/16	x	16
2 =	7-1/16	x	32
3 =	4-1/8	x	8
4 =	4-1/8	x	14
7 =	5-5/8	x	15
8 =	5-5/8	x	21
9 =	5-5/8	x	32

500 SERIES GRADED DENSITY BAGS

Example: **GD - PO - 523 - 1**

Graded Density Bag

MICROFIBER MATERIAL

Polyester	= **PE**
Polypropylene	= **PO**

MICRON RATING (95%)

1.0 micron	= **523**
3.0 micron	= **525**
8.0 micron	= **527**
19.0 micron	= **529**

BAG SIZE
(dimensions in inches)

Symbol	Dia.	x	Length
1 =	7-1/16	x	16
2 =	7-1/16	x	32

PLEATED CARTRIDGES

Example: **PL- PEMF - R1 - 1 - P1**

MICROFIBER MATERIAL

Polyester	= **PL-PEMF**
Polypropylene	= **PL-POMF**

TOP SEALING RING DESIGN

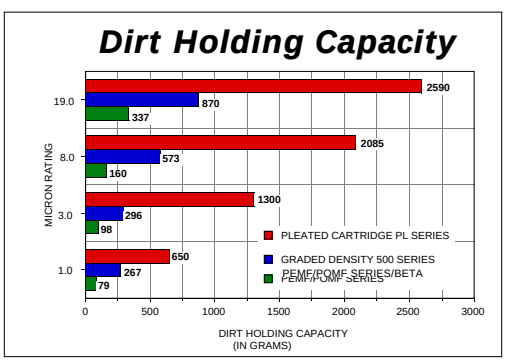
Flared Polypropylene (P1-P2)	= **R1**
Solid Polypropylene (P3-P9)	= **R2**

MICRON RATING (95%)

1.0 micron	= **1**
3.0 micron	= **3**
8.0 micron	= **8**
19.0 micron	= **19**

BAG SIZE
(dimensions in inches)

Symbol	Dia.	x	Length
P1 =	7-1/16	x	11-1/8
P2 =	7-1/16	x	26-1/8
P3 =	4-1/8	x	5-1/16
P4 =	4-1/8	x	11-1/16
P7 =	5-5/8	x	10-3/4
P8 =	5-5/8	x	16-1/8
P9 =	5-5/8	x	26-3/4



Pressure Drop

Total pressure drop is the sum of the filter housing pressure drop plus the pressure drop through the bag, and is a function of viscosity as well as flow rate.

Using water as the test media, the pressure drop for these high-efficiency bags is less than 0.5 psi.

Little or no pressure drop across the filter element at rated flow yields maximum dirt holding capacity (element life). Increases in the pressure drop are then due solely to the particulate accumulation.

** Test was conducted using a #2 size bag and AC Fine Test Dirt*

Giardia Lamblia Cyst Removal Filter Bag

In answer to the stringent Federal Surface Water Treatment Rules now in effect, Rosedale has developed a filter bag certified to remove the ***giardia lamblia*** *cyst. Giardia is the main cause of camper's diarrhea and other digestive illnesses. The rule regarding giardia is that 99.9% (3 log) must be removed (2 log through filtration and 1 log through disinfection). The Rosedale Giardia Lamblia Removal (GLR) bag is certified to be 99.95% efficient at 3 microns.*

The relative low cost of these bags makes them the ideal solution for smaller water authorities. A single-bag filter housing with a GLR bag can filter up to 20 gallons of water per minute.

Using Rosedale's multi-bag filter housings, it is possible to filter water at up to 500 GPM. These housings can be banked together in parallel, providing even greater throughput. A pre-filter must be installed prior to the GLR housing to filter out larger particles, lessening the dirt-load on the GLR bag (see page 133). The GLR bags are made of various layers of polyester or polypropylene microfibers and standard fibers variably calendered to obtain the ratings as shown. This greatly increases the dirt-holding capabilities of these bags.

How it Works

These bags have as many as 26 layers of high-efficiency microfiber material for filtering out contaminant. The initial layers are pre-giardia filtration levels. The next 3 layers are barriers that prevent any of the bag material from migrating into the effluent.

Filtration Level

The Rosedale GLR bag has been tested by an independent laboratory to determine the filtration efficiency of the media used in each of the filter bags.

Model Number	825
EFFICIENCY	MICRON RATING
99.95%	3.0

Design Details

All GLR bags have a machined polypropylene top that has a sealing gasket. All seams and joints on the bag, including the top, are sonically welded to prevent leakage.

How To Order

Build an ordering code as shown in the example

Example: ***GLR - PO - 825 - 2***

GIARDIA LAMBLIA REMOVAL = ***GLR***

FIBER
Polypropylene = ***PO***

MICRON RATINGS *(99.95%)*
3.0 Microns = ***825***

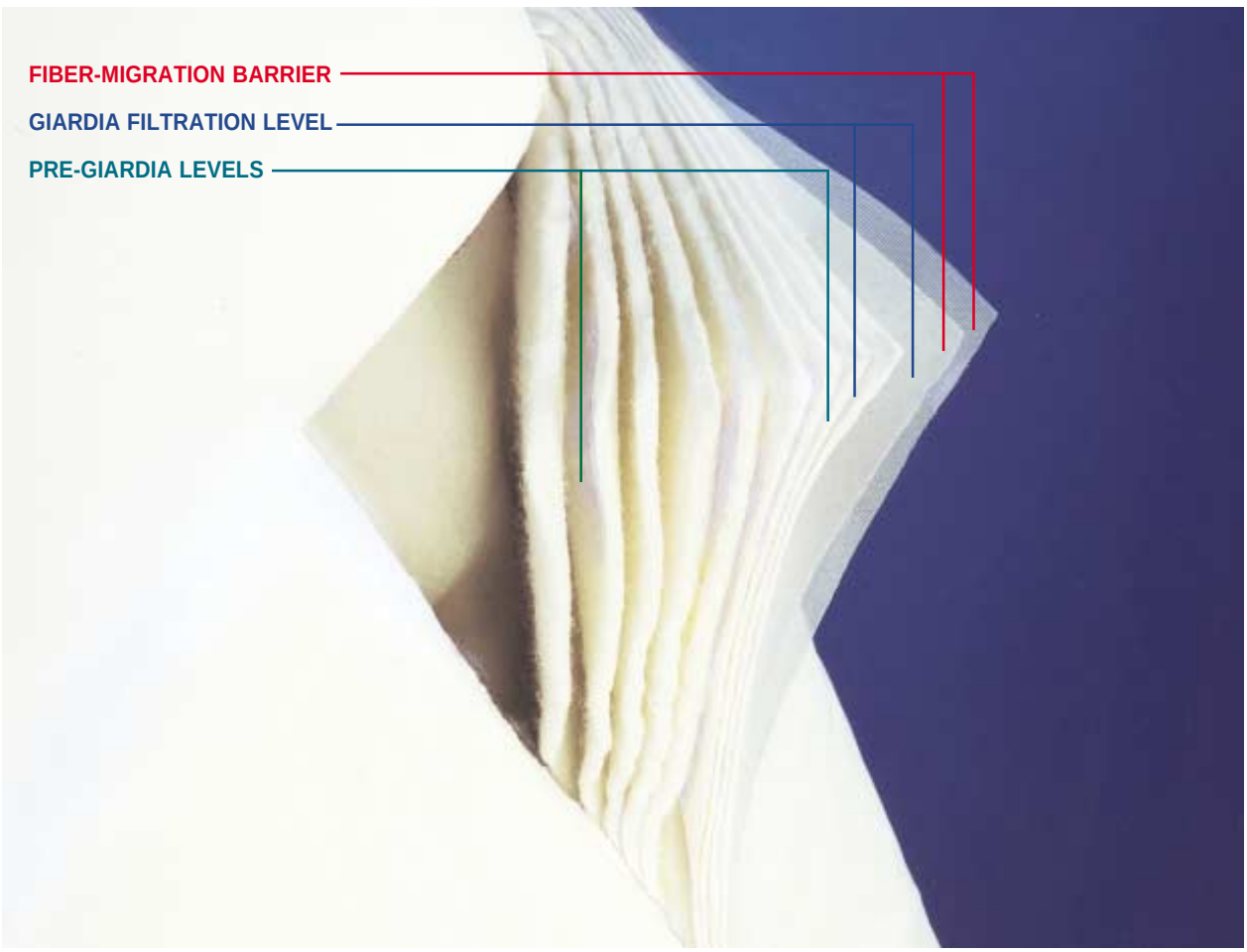
BAG SIZE *(nominal in inches)*

Dia.	*x*	*Length*	*Symbol*
7	*x*	*28*	= ***2***

Pressure Drop

Using water as the test media, the pressure drop for these bags is a relatively linear function, starting at 0 psi and ranging to the values shown below.

Micron Rating (99.95%)	*Pressure Drop (at 20 gpm)*
3.0	*Less than 0.5 PSI*



Cutaway of element highlighting the various layers.

Rosedale General Service Membrane Filter Cartridges

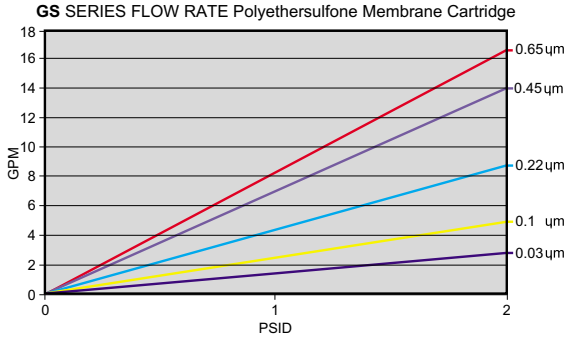
Cost effective units for industrial applications

NEW

GS Series Polyethersulfone Membrane Cartridges are designed for general industrial service where the need for cost effective filtration is a must. These cartridges utilize a pleated membrane design, incorporating the maximum amount of media that can be used in a cartridge. These units, manufactured for general industrial use, are manufactured to the same high standards as our special application cartridges. Pore sizes start at 0.03 µm with a polyethersulfone membrane.

Flow Rate

The following table represents typical water flow at one psid (69 mbar) across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements or higher pressure drops is acceptable. However, as flow increases, the pressure drop attributed to the housing itself will become evident.



Spear Guide available on all

Filtration Media

Polyethersulfone

Sanitization/Sterilization

Filtered Hot Water: *90°*

Chemical Sanitization:
Industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.

Integrity Test Specifications

(per ten inch length, water wetted membrane)

PORE SIZE	AIR DIFFUSION RATE		
	≤cc/min @ psi		mbar
0.03µm	55	60	4137
0.10µm	55	48	3307
0.22µm	55	35	2412
0.45µm	55	20	1378
0.65µm	55	15	1044

How To Order

Build an ordering code as shown in the example

Example: **GSC - PES - 10 - 2 - V - N - 2**

Model
General Service Cartridge = ***GSC***

Media
Polyethersulfone Membrane = ***PES***
Nylon Membrane = ***N***
Polypropylene Membrane = ***P***
Teflon Membrane = ***T***
Polypropylene Depth = ***PD***
Fiber Glass Depth = ***FD***

Pore Size

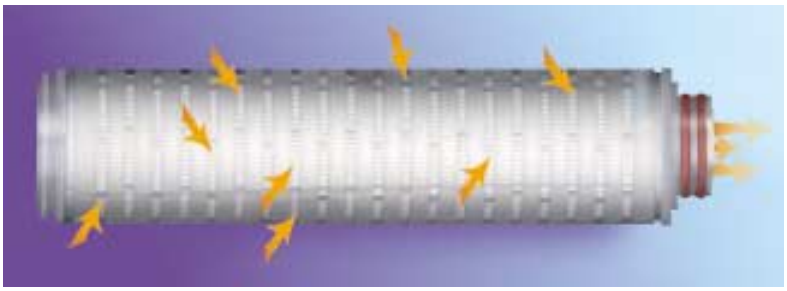
PES	N	P	T	PD	FD	
•	•					0.03µm = **03**
			•			0.04µm = **04**
			•			0.05µm = **05**
•	•	•	•	•		0.10µm = **10**
•	•	•	•	•		0.22µm = **20**
					•	0.30µm = **30**
•	•		•	•		0.45µm = **40**
					•	0.50µm = **50**
•	•					0.65µm = **60**
			•	•	•	1.0µm = **1.0**
			•	•	•	3.0µm = **3.0**
				•		5.0µm = **5.0**
				•		10.0µm = **10.0**
				•		20.0µm = **20.0**
				•		30.0µm = **30.0**
				•		40.0µm = **40.0**

End Cap
0 = *Flat Gasket, DOE*
2 = *222, SOE, O-Ring*
3 = *020 O-Ring*
4 = *222 O-Ring with Spear*
5 = *226 O-Ring with Spear*

316 Stainless Steel Ring
R = *Ring*
N = *No Ring*

O-rings
V = *Viton*
B = *Buna N*
T = *Teflon Encapsulate Viton*
E = *EPR*
R = *Teflon Encapsulated*

Cartridge Length
1 = *10 inches (25.4 cm)*
2 = *20 inches (50.8 cm)*
3 = *30 inches (76.2 cm)*
4 = *40 inches (101.6 cm)*



Dimensions

Length: *10 to 40 inches (25.4 to 101.6 cm) nominal*
OD: *2.75 inches (7.0 cm) nominal*

Maximum Differential Pressure

Forward: *50 psi (3.4 bar) at 20° C*
Reverse: *40 psi (2.7 bar) at 20° C*

Construction Materials

Media Support: *Polypropylene*
End Caps: *Polypropylene*
Center Core: *Polypropylene*
Outer Support Cage: *Polypropylene*

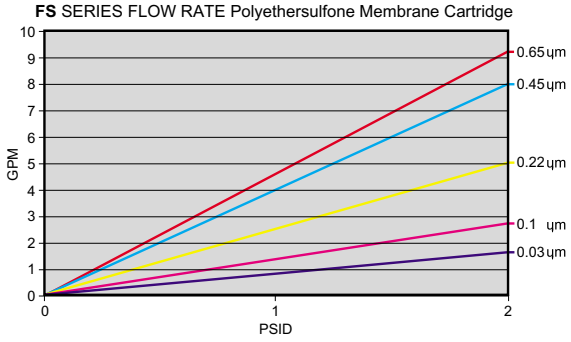
Rosedale Food, Wine and Beverage Service Membrane Cartridges

Cost effective units for food applications

FS Series Polyethersulfone Membrane Cartridges are designed to comply with all FDA rules and regulations for the food industry. The properties of Polyethersulfone make it an excellent choice for use with fermented beverages. Cartridges are designed to provide maximum throughput, while easily sanitized or cleaned.

Flow Rate

The following table represents typical water flow at one psid (69 mbar) across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements or higher pressure drops is acceptable. However, as flow increases, the pressure drop attributed to the housing itself will become evident.



Spear Guide available on all

Filtration Media

Polyethersulfone

Sanitization/Sterilization

Filtered Hot Water: *90°*

Autoclave: *127° C, 30 minute multiple cycles*

In-Line Steam: *135° C, 30 minute multiple cycles*

Chemical Sanitization: *Industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.*

Integrity Test Specifications

(per ten inch length, water wetted membrane)

PORE SIZE	AIR DIFFUSION RATE			
	≤cc/min	@	psi	mbar
0.03µm	30		60	4137
0.10µm	30		48	3307
0.22µm	30		35	2412
0.45µm	30		20	1378
0.65µm	30		15	1044

How To Order

Build an ordering code as shown in the example

Example: **FSC - PES - 10 - 2 - V - N - 2**

Model
Food and Beverage Cartridge = ***FSC***

Media
Polyethersulfone Membrane = ***PES***
Nylon Membrane = ***N***
Polypropylene Depth = ***P***
Fiber Glass Depth = ***FD***

Pore Size

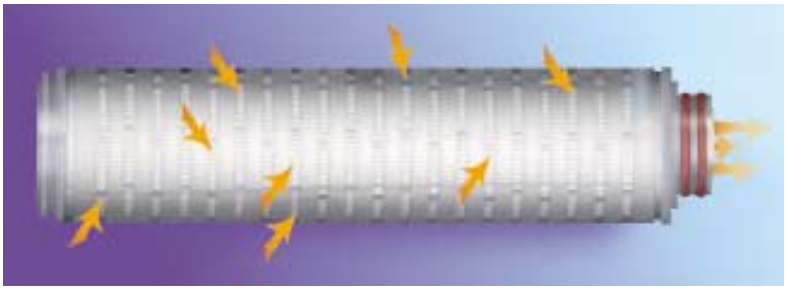
PES	N	P	FD	
•	•			0.03µm = **03**
				0.04µm = **04**
				0.05µm = **05**
•	•	•		0.10µm = **10**
•	•	•		0.22µm = **20**
			•	0.30µm = **30**
•	•			0.45µm = **40**
				0.50µm = **50**
•	•			0.65µm = **60**
			•	1.0µm = **1.0**
			•	3.0µm = **3.0**
				5.0µm = **5.0**
				10.0µm = **10.0**
				20.0µm = **20.0**
				30.0µm = **30.0**
				40.0µm = **40.0**

End Cap
0 = *Flat Gasket, DOE*
2 = *222, SOE, O-Ring*
3 = *020 O-Ring*
4 = *222 O-Ring with Spear*
5 = *226 O-Ring with Spear*

316 Stainless Steel Ring
R = *Ring*
N = *No Ring*

O-rings
V = *Viton*
B = *Buna N*
T = *Teflon Encapsulate Viton*
E = *EPR*
R = *Teflon Encapsulated*

Cartridge Length
1 = *10 inches (25.4 cm)*
2 = *20 inches (50.8 cm)*
3 = *30 inches (76.2 cm)*
4 = *40 inches (101.6 cm)*



Dimensions

Length: *10 to 40 inches (25.4 to 101.6 cm) nominal*
OD: *2.75 inches (7.0 cm) nominal*

Maximum Differential Pressure

Forward: *50 psi (3.4 bar) at 20° C*
Reverse: *40 psi (2.7 bar) at 20° C*

Construction Materials

Media Support: *Polypropylene*
End Caps: *Polypropylene*
Center Core: *Polypropylene*
Outer Support Cage: *Polypropylene*

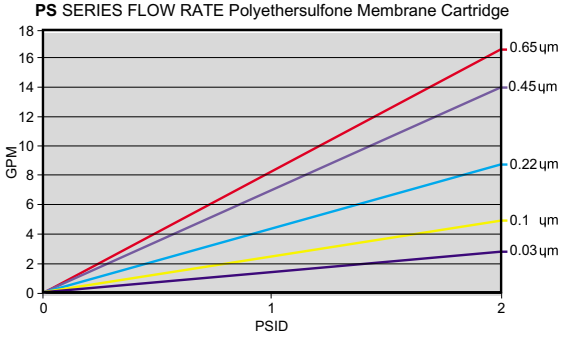
Rosedale Pharmaceutical Service Membrane Cartridges

Cost effective units for Pharmaceutical Industry applications

PS Series Polyethersulfone Membrane Cartridges are designed to be used as sterilizing grade cartridges for the pharmaceutical industry. The PS Series Membrane is optimized for retention, so additional layers are not necessary. Ideal for use in Sterile Fill applications and SVPs and bio products. Polyethersulfone is particularly suited for filtration of products whose constituents, such as preservatives, can adsorb to the media. Also works well with valuable protein solutions such as vaccines and other biological products.

Flow Rate

The following table represents typical water flow at one psid (69 mbar) across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements or higher pressure drops is acceptable. However, as flow increases, the pressure drop attributed to the housing itself will become evident.



Spear Guide available on all

Filtration Media

Polyethersulfone

Sanitization/Sterilization

Filtered Hot Water: *90°*

Autoclave: *127° C, 30 minute multiple cycles*

In-Line Steam: *135° C, 30 minute multiple cycles*

Chemical Sanitization: *Industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.*

Integrity Test Specifications

(per ten inch length, water wetted membrane)

PORE SIZE	AIR DIFFUSION RATE		
	≤cc/min @	psi	mbar
0.03µm	15	60	4137
0.10µm	15	48	3307
0.22µm	15	35	2412
0.45µm	15	20	1378
0.65µm	15	15	1044

How To Order

Build an ordering code as shown in the example

Example: **PS - PES - 10 - 2 - V - N - 2**

Model
Pharmaceutical Cartridge = ***PS***

Media
Polyethersulfone Membrane = ***PES***
Nylon Membrane = ***N***
Polypropylene Membrane = ***P***
Teflon Membrane = ***T***
Polypropylene Depth = ***PD***
Fiber Glass Depth = ***FD***

Pore Size

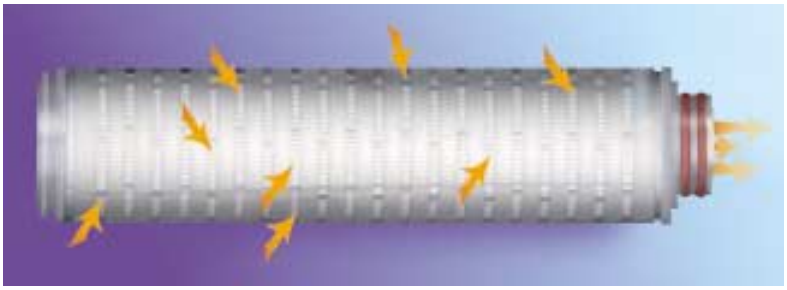
PES	N	P	T	PD	FD	
•	•					0.03µm = **03**
			•			0.04µm = **04**
			•			0.05µm = **05**
•	•	•	•	•		0.10µm = **10**
•	•	•	•	•		0.22µm = **20**
					•	0.30µm = **30**
•	•		•	•		0.45µm = **40**
					•	0.50µm = **50**
•	•					0.65µm = **60**
			•	•	•	1.0µm = **1.0**
			•	•	•	3.0µm = **3.0**
				•		5.0µm = **5.0**
				•		10.0µm = **10.0**
				•		20.0µm = **20.0**
				•		30.0µm = **30.0**
				•		40.0µm = **40.0**

End Cap
0 = *Flat Gasket, DOE*
2 = *222, SOE, O-Ring*
3 = *020 O-Ring*
4 = *222 O-Ring with Spear*
5 = *226 O-Ring with Spear*

316 Stainless Steel Ring
R = *Ring*
N = *No Ring*

O-rings
V = *Viton*
B = *Buna N*
T = *Teflon Encapsulate Viton*
E = *EPR*
R = *Teflon Encapsulated*

Cartridge Length
1 = *10 inches (25.4 cm)*
2 = *20 inches (50.8 cm)*
3 = *30 inches (76.2 cm)*
4 = *40 inches (101.6 cm)*



Dimensions

Length: *10 to 40 inches (25.4 to 101.6 cm) nominal*
OD: *2.75 inches (7.0 cm) nominal*

Maximum Differential Pressure

Forward: *50 psi (3.4 bar) at 20° C*
Reverse: *40 psi (2.7 bar) at 20° C*

Construction Materials

Media Support: *Polypropylene*
End Caps: *Polypropylene*
Center Core: *Polypropylene*
Outer Support Cage: *Polypropylene*

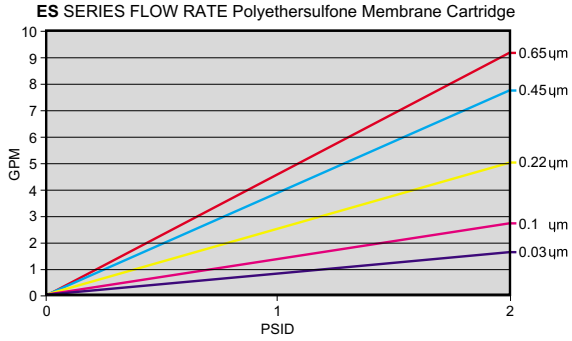
Rosedale Electronics Service Membrane Cartridges

Cost effective units for Electronics Industry applications

ES Series Polyethersulfone Membrane Cartridges are designed to meet the special needs of the electronics and high purity chemical industries. The high flow rates achieved by our cartridges make them an ideal source for central DI water systems. They also handle elevated process temperatures in compatible fluids.

Flow Rate

The following table represents typical water flow at one psid (69 mbar) across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements or higher pressure drops is acceptable. However, as flow increases, the pressure drop attributed to the housing itself will become evident.



Spear Guide available on all

Filtration Media

Polyethersulfone

Sanitization/Sterilization

Chemical Sanitization: *Industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.*

Integrity Test Specifications

(per ten inch length, water wetted membrane)

PORE SIZE	AIR DIFFUSION RATE			
	≤cc/min	@	psi	mbar
0.03µm	30		60	4137
0.10µm	30		48	3307
0.22µm	30		35	2412
0.45µm	30		20	1378
0.65µm	30		15	1044

How To Order

Build an ordering code as shown in the example

Example: **ES - PES - 10 - 2 - V - N - 2**

Model
Electronics Service Cartridge = ***ES***

Media
Polyethersulfone Membrane = ***PES***
Nylon Membrane = ***N***
Polypropylene Membrane = ***P***
Polypropylene Depth = ***PD***

Pore Size

PES	N	P	PD	
•	•			0.03µm = **03**
				0.04µm = **04**
				0.05µm = **05**
•	•	•	•	0.10µm = **10**
•	•	•	•	0.22µm = **20**
				0.30µm = **30**
•	•		•	0.45µm = **40**
				0.50µm = **50**
•	•			0.65µm = **60**
			•	1.0µm = **1.0**
			•	3.0µm = **3.0**
			•	5.0µm = **5.0**
			•	10.0µm = **10.0**
			•	20.0µm = **20.0**
			•	30.0µm = **30.0**
			•	40.0µm = **40.0**

End Cap
0 = *Flat Gasket, DOE*
2 = *222, SOE, O-Ring*
3 = *020 O-Ring*
4 = *222 O-Ring with Spear*
5 = *226 O-Ring with Spear*

316 Stainless Steel Ring
R = *Ring*
N = *No Ring*

O-rings
V = *Viton*
B = *Buna N*
T = *Teflon Encapsulate Viton*
E = *EPR*
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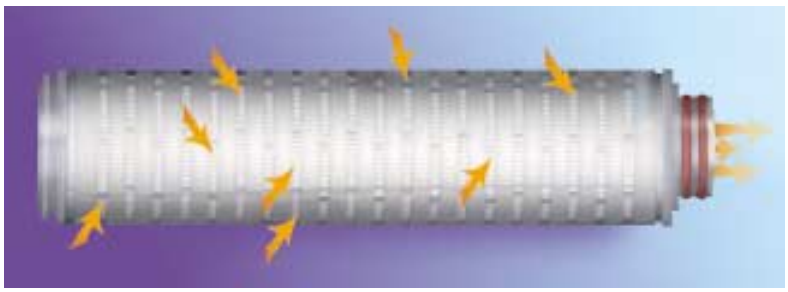
Cartridge Length
1 = *10 inches (25.4 cm)*
2 = *20 inches (50.8 cm)*
3 = *30 inches (76.2 cm)*
4 = *40 inches (101.6 cm)*



Dimensions
Length: *10 to 40 inches (25.4 to 101.6 cm) nominal*
OD: *2.75 inches (7.0 cm) nominal*

Maximum Differential Pressure
Forward: *50 psi (3.4 bar) at 20° C*
Reverse: *40 psi (2.7 bar) at 20° C*

Construction Materials
Media Support: *Polypropylene*
End Caps: *Polypropylene*
Center Core: *Polypropylene*
Outer Support Cage: *Polypropylene*

Rosedale Water Service Membrane Cartridges

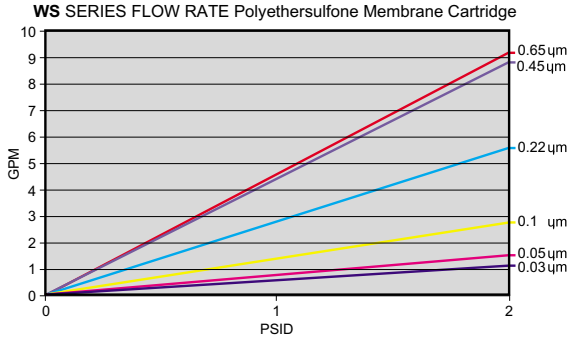
Cost effective units for DI Water applications

NEW

WS Series Polyethersulfome Membrane Cartridges are designed to meet the special needs of the electronics and high purity chemical industries. These cartridges are resistant to most acids and bases and capable of handling strong sanitization agents. The high flow rates achieved by our cartridges make them an ideal source for central DI water systems. They also handle elevated process temperatures in compatible fluids.

Flow Rate

The following table represents typical water flow at one psid (69 mbar) across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements or higher pressure drops is acceptable. However, as flow increases, the pressure drop attributed to the housing itself will become evident.



Filtration Media

Polyethersulfone

Sanitization/Sterilization

Industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.

Integrity Test Specifications

(per ten inch length, water wetted membrane)

PORE SIZE	AIR DIFFUSION RATE		
	≤cc/min @ psi		mbar
0.03µm	30	60	4137
0.05µm	30	56	3860
0.10µm	30	48	3307
0.22µm	30	35	2412
0.45µm	30	20	1378
0.65µm	30	15	1044

How To Order

Build an ordering code as shown in the example

Example: **WS - PES - 10 - 2 - V - N - 2**

Model
Water Service Cartridge = ***WS***

Media
Polyethersulfone Membrane = ***PES***

Pore Size

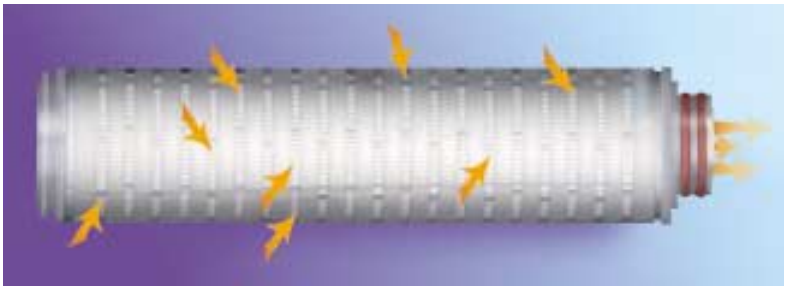
PES	
•	0.03µm= **03**
•	0.10µm= **10**
•	0.22µm= **20**
•	0.45µm= **40**
•	0.65µm= **60**

Cartridge Length
10 inches (25.4 cm) = ***1***
20 inches (50.8 cm) = ***2***
30 inches (76.2 cm) = ***3***
40 inches (101.6 cm) = ***4***

End Cap
0 = *Flat Gasket, DOE*
2 = *222, SOE, O-Ring*
3 = *020 O-Ring*
4 = *222 O-Ring with Spear*
5 = *226 O-Ring with Spear*

316 Stainless Steel Ring
R = *Ring*
N = *No Ring*

O-rings
V = *Viton*
B = *Buna N*
T = *Teflon Encapsulate Viton*
E = *EPR*
R = *Teflon Encapsulated*



Dimensions

Length: *10 to 40 inches (25.4 to 101.6 cm) nominal*
OD: *2.75 inches (7.0 cm) nominal*

Maximum Differential Pressure

Forward: *50 psi (3.4 bar) at 20° C*
Reverse: *40 psi (2.7 bar) at 20° C*

Construction Materials

Media Support: *Polypropylene*
End Caps: *Polypropylene*
Center Core: *Polypropylene*
Outer Support Cage: *Polypropylene*

Stainless Steel Filter Cartridges

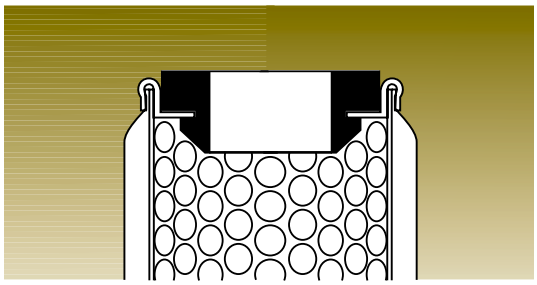
Fit most cartridge-type housings in the field

Overcome the temperature and compatibility limitations of fabric or synthetic fiber cartridges by replacing them with these stainless steel wire cloth elements. They're good up to 500ºF instead of the usual 250ºF, and they are unaffected by most caustic fluids.

Made entirely of 304 or 316 stainless steel, they are cleanable and reusable, and can withstand differential pressures up to 60 psi. (500 psid units are also available.) You can choose particle retention ratings as fine as 5 microns. (For nomograph see page 174).

Element surfaces can be plain cylindrical, or pleated to increase surface area. Pleated units rated 100 microns or finer have an underlying support layer of coarser mesh to prevent pleat collapse. Fabrication is by welding and crimping; no silver brazing or epoxy bonding is used.

A "bubble pointing" test can be done to certify that no openings larger than the specified pore size exist in product joints or seams. Ask for more information about this.



Rosedale seals are not glued onto the cartridge ends as is commonly done. Instead, they are specially shaped to hold in place mechanically, like a grommet. There's little chance they will be dislodged and lost in handling. They are made in different thicknesses to provide seven different standard overall element lengths.

STANDARD END CONFIGURATIONS

How To Order

Build an ordering code as shown in this example

30 - 75 - P - B - S - DOE

CARTRIDGE LENGTH
9-3/4 19-1/2 29-1/2
9-7/8 20 30
10

MICRON RATING
840 190 75
540 150 40
370 120 20
280 100 10
230 80 5

CONSTRUCTION
Pleated = **P**
Cylindrical = **C**

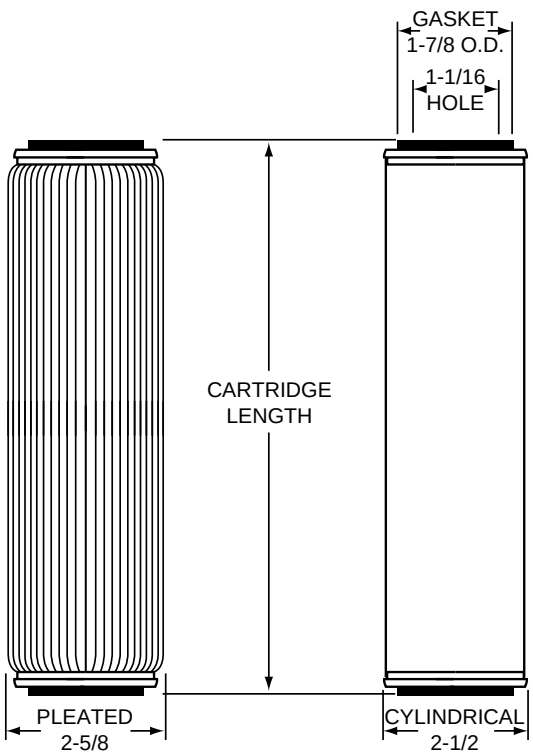
* *Opposite end closed*

END CONFIGURATION
DOE = *Double open end, with seals*
SOE = *Single open end, with seal*
222 = *Twin O-ring**
1NPTM = *Male NPT, 1-in.**
1NPTF = *Female NPT, 1-in.**

ELEMENT MATERIAL
S = *304 stainless steel*
S316 = *316 stainless steel*

SEAL MATERIAL
B = *Buna N*
E = *Ethylene Propylene*
V = *Viton®*
T = *Teflon®*

Dimensions (IN)



Pleat Protectors

Pleat protectors prevent accidental denting of pleat forms that reduce filter area. Made of stainless steel with 1/4-in. dia. perforations, they are held in place by bending tabs at the top and bottom. When ordering give nominal length (10, 20, or 30 inches) and material (304 or 316 stainless steel).

Rosedale's Absolute Pleated Cartridges

High efficiency cartridges– Long service life

Rosedale filter cartridges provide efficient solids removal in liquid systems where series filtration is not required. Absolute Ratings range from 0.5 to 70 microns.

Each cartridge has pleated, fixed pore media to maximize surface area, prevent particle unloading, and fiber migration. Media selections include cellulose, fiberglass, polyester, and polypropylene.

The wide variety of media, filter sizes, and end cap configurations provide customers with the preferred cartridge for their specific application.

Superior construction materials and quality control techniques ensure that our filter cartridges will provide quality filtration, even in harsh operating conditions.

How To Order

Build an ordering code as shown in the example

Example: ***AB - 10 - P - 2 - 1***

ABSOLUTE SERIES = ***AB***

MICRON RATING
(@ Beta 5000)

0.5 Micron	= ***0.5***
2 Micron	= ***2***
5 Micron	= ***5***
10 Micron	= ***10***
20 Micron	= ***20***
40 Micron	= ***40***
70 Micron	= ***70***

FILTER MEDIA

Polypropylene	= ***P***
Glass	= ***G***
Polyester	= ***R***
Cellulose	= ***C***

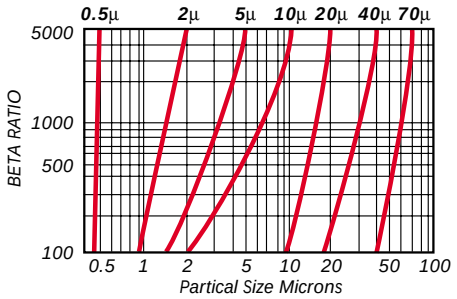
CARTRIDGE LENGTH

1	= ***10***
2	= ***29.75***
4	= ***40***
9	= ***20***

END CAP

Doe	= ***1***
222 O-ring	= ***2***
Soe	= ***3***

Rosedale Beta Curves



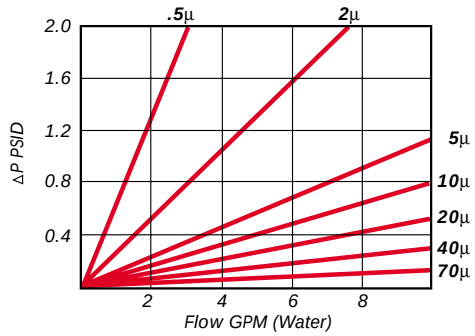
The Beta Ratio (ß) at a given particle size can be correlated to the filter efficiency at that particle size according to the following formula:

Filter Efficiency (%) = [(b-1)/b] x 100%

Beta Ratio (ß)	*100*	*1000*	*5000*
Filter Efficiency (%)	*99.00*	*99.90*	*99.98*

Each filter element will have a different Beta Ratio for every specified particle size. The determination of a variety of Beta values for the same filter provides a filter efficiency profile commonly referred to as a Beta Curve.

Flow Rate Vs. ΔP



Flow rate is per single 10-inch element. For other liquid's, multiply the ΔP by the fluid's viscosity in centipoise. For longer cartridges, divide the ΔP by the number of 10-inch equivalents.

Wound Cartridge Elements

All-purpose elements have high dirt-holding capacity

Rosedale continuous-wound cartridge elements come in a wide range of materials, lengths, and micron retention ratings. A highly innovative single-core design is used, eliminating the "joints" common in other manufacturers' elements at 10" intervals. Materials of these elements include cotton, nylon, glass, and polypropylene. Their lengths range form 9-3/4 inches to 40 inches, fitting most cartridge housings in the field. Micron retention ratings are from 200 down to 0.5 microns. These elements offer true depth filtration, higher efficiency, lower pressure drop, and greater solids holding capacity than standard elements and competitive prices.

A full range of center core materials are offered to meet specific filtration requirements. Extended core materials are also available upon request.

The center core covering, for reducing fiber migration, is compatible with and equivalent in ratings to the micron rating of the filter element. The inside diameter of all cartridges is 1 inch and the outside diameter is 2-1/2 inches.

How To Order

Build an ordering code as shown in this example

Example: **C - 10 - A - 20 - S - 02** (Option)

FILTER MATERIAL
- Bleached-White Cotton = **C**
- Glass = **G**
- Nylon = **N**
- Polypropylene = **P**

MICRON RATING
- 200.0 micron = **200**
- 100.0 micron = **100**
- 75.0 micron = **75**
- 50.0 micron = **50**
- 30.0 micron = **30**
- 20.0 micron = **20**
- 10.0 micron = **10**
- 5.0 micron = **5**
- 3.0 micron = **3**
- 1.0 micron = **1**
- 0.5 micron = **0.5**

OUTSIDE DIAMETER (in inches)
- 2-1/2 = **A**

OPTION
EXTENDED CORE
- No Extended Core = **No Symbol**
- 316 stainless steel = **02**
- Polypropylene = **03**

CENTER CORE MATERIAL
- 316 stainless steel = **S**
- Polypropylene = **P**

CARTRIDGE LENGTH,
(nominal, in inches)
- 40 = **40**
- 39 = **39**
- 30 = **30**
- 29.25 = **29.25**
- 20 = **20**
- 19.5 = **19.5**
- 10 = **10**
- 9.75 = **9.75**

Note: *For nomograph, see the following page.*

Pressure Drop vs. Flow Rate

Non-Aqueous Liquid ▼

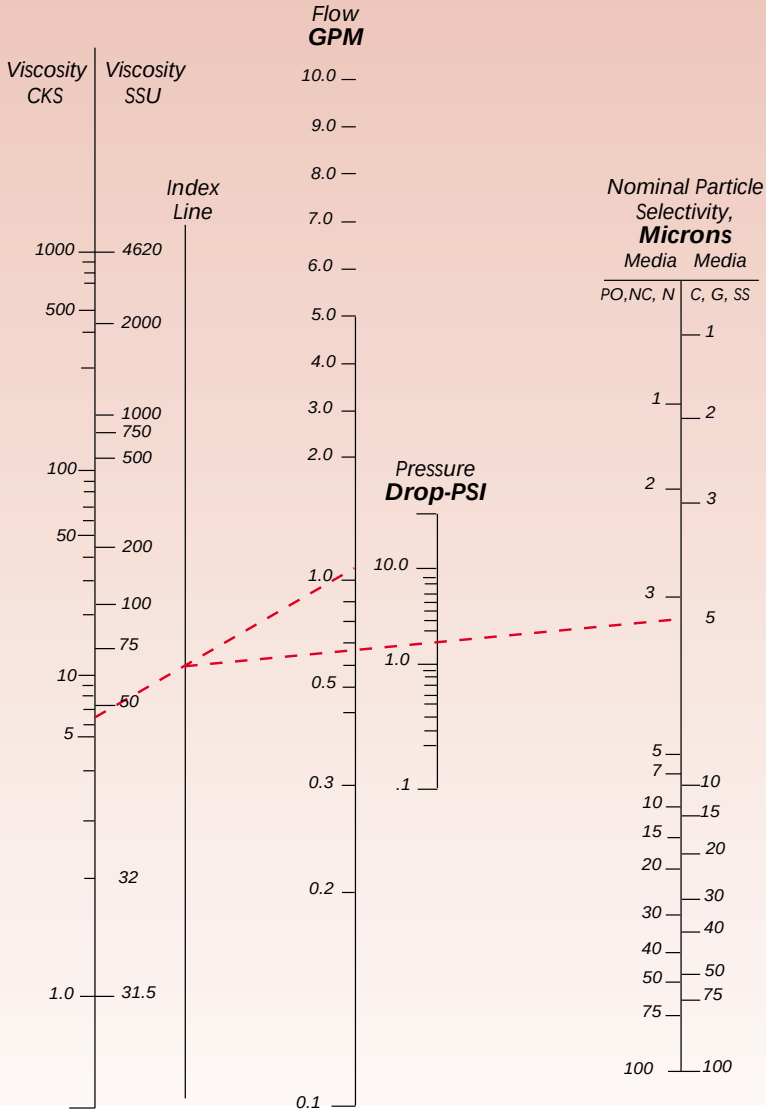
Instructions:

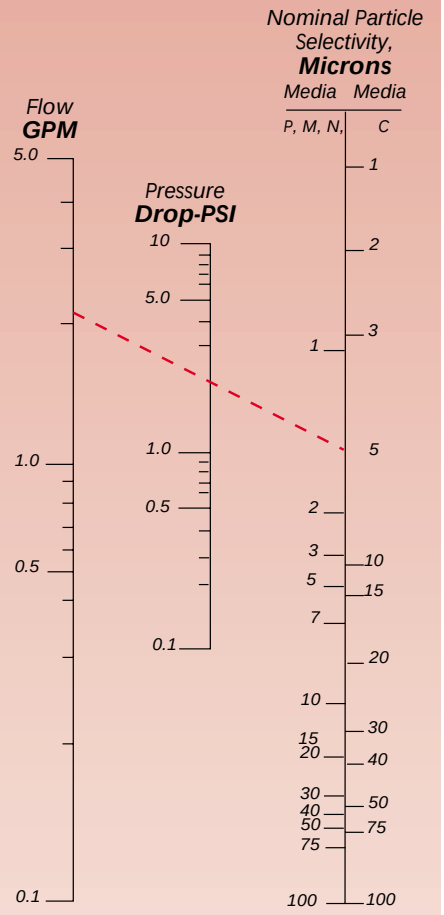
1. *Connect desired particle size through specified pressure drop, extend to index line.*
2. *From viscosity draw a line through the previous intersection on the index line, continuing to intersect flow line. This is flow for one 10" element.*

Water at 68° ▶

Instructions:

This is a direct reading. Connect the particle size with either flow or pressure drop to find the third quantity.





Media Symbols

PO	=	*Polypropylene*
C	=	*Bleached cotton*
NC	=	*Natural cotton*
N	=	*Nylon*
G	=	*Fiber gins*
SS	=	*Stainless steel*

Turn Bag Housings Into Cartridge Filters!

Basket holds cartridges inside a bag housing!

NEW!

Rosedale Products introduces a newly designed bag filter converter into which filter cartridges are installed. Thus, the bag filter can be quickly converted to a cartridge filter. Simply put, there are applications that call for a bag filter and others that call for a cartridge filter. Until now, it wasn't very easy to change between the two.

If it becomes necessary to change from bags to cartridges – install the Rosedale Converter Basket.

- *Remove the original basket*
- *Install the new converter basket*
- *Load the cartridges*
- *Unique design prevents clean side contamination by removing basket from housing before removing cartridges from converter*

You now have a cartridge filter able to utilize any standard cartridge.

Baskets fit standard models 4-12, 8-15, and 8-30 housings. Construction materials are either 304 stainless or 316 stainless steel.

Flow is introduced from above and circulates around cartridges. Fluid flows through cartridge walls, leaving contaminant on media, and "clean" fluid exits through bottom outlet.

How To Order

Build an ordering code as shown in the example below

EXAMPLE: ***BC1 - S***

BASKET CONVERTER = ***BC***

BASKET SIZE (IN INCHES, NOMINAL)

OD	***Length***	
6.5	*10*	= ***1***
6.5	*20*	= ***2***
4	*10*	= ***4***

CONSTRUCTION MATERIALS

304 Stainless = ***S***
316 Stainless = ***S316***

See pages 158-174 for more information on our cartridges.

Dimensions

Housing Size & Cartridge Capacity	***Model Code***	***OD****	***Length****
Model 4 *1 cartridge*	*BC4*	*4*	*10*
Model 8 *3 cartridges*	*BC1*	*6.5*	*10*
	BC2	*6.5*	*20*

**Nominal in inches*

Rosedale Replacement Baskets

Rosedale manufactures replacement bag filter baskets and basket strainers for a wide range of filter housings made by:

American Felt & Filter
Cuno
Commercial Filters
Filter Specialists (FSI)
Filtration Systems
GAF
Ronningen-Petter
Strainrite
Oakland
Plenty

We offer replacements for all current models, and any that have been discontinued by the original manufacturer.

These replacement baskets are made to specifications that equal, or exceed the original manufacturers specifications.

Basket Construction

STAINLESS STEEL: Standard material is 304 stainless steel. 316 stainless steel is available as an option.

Basket Media Selection

PERFORATED STRAINER AND BAG FILTER BASKETS: For cleanable basket strainers, choose from the following perforation diameters: 1/4, 3/16, 9/64, or 1/16 inch. For filter bag baskets: standard 9/64-inch diameter perforations with 51 percent open area are supplied.

Perforated

With wire mesh lining

PERFORATED WITH WIRE MESH LINING STRAINER AND FILTER BAG BASKETS: Stainless steel wire is used in mesh sizes 30, 60,100,150, or 200. When used as a bag filter basket, the following advantages are realized:

- Fiber migration is minimized.
- In the unlikely event of bag rupture, the wire mesh contains the contaminant.
- Bag material cannot become "lodged" in the perforations due to extreme pressure differential.
- Flow characteristics are enhanced when using monofilament bags.

Model CF
Replaces Commercial Filter baskets SB11, SB12

Model CU
Replaces Cuno baskets 7PC1, 7PC2

Model RP
Replaces Ronnigen-Petter baskets 224, 324, 424, 152

Model AFF/GAF
Replaces American Felt & Filter/ GAF baskets 112, 122, AMS R, AMC R, NCX, RBX 1L, RBX 2L

How To Order

Build an ordering code as shown in the example.

EXAMPLE: **FS1 - BM30 - S316**

BASKET MODEL NUMBER

Filter Specialists, Inc.	= ***FSR/FS/FSP***
American Felt & Filter	= ***AFF***
GAF	= ***GAF***
Strainrite	= ***STR***
Ronningen-Petter	= ***RP***
Filtration Systems	= ***FF***
Cuno	= ***CU***
Commercial Filters	= ***CF***
Oakland	= ***OA***
Plenty	= ***PL***

BASKET SIZE (approx., inches)

OD (nominal)	Length (nominal)	
7	15	= ***1***
7	30	= ***2***
4	6	= ***3***
4	12	= ***4***

BASKET TYPE

Perforated filter bag basket	= ***B***
Perforated strainer basket	= ***P***
Mesh lined perforated filter bag basket	= ***BM***
Mesh lined strainer basket	= ***M***
Heavy wire mesh filter bag basket	= ***HWM***

BASKET MEDIA SIZE

Perforation diameters (for P type baskets)*
1/4, 3/16, 9/64, 1/16
Mesh sizes (for BM and M baskets)
30, 60, 100, 150, or 200

OPTIONS

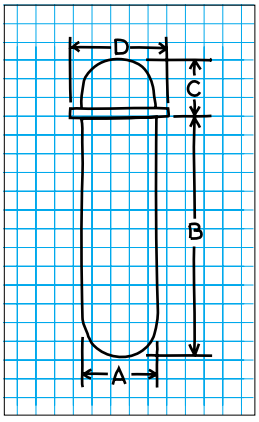
304 stainless steel construction	= ***S***
All 316 stainless steel construction	= ***S316***

*Additional options available. Consult factory.

Rosedale can manufacture any basket to your specifications.

Send us a drawing, or just a simple sketch as shown, and we'll submit a quote for your review.

A = Basket diameter
B = Basket height
C = Bail height
D = Outside diameter of rim

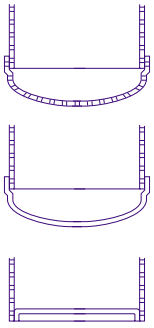


Basket Designs

Standard filter bag baskets have rounded perforated bottoms.

Mesh lined bag baskets have round solid bottoms.

Strainer baskets have flat non-perforated bottoms.



Model STR
Replaces Strainrite baskets UF1-90, UF1-180

Model FF
Replaces Filtration Systems baskets 112, 122

Model FSR

Model FS

Model FSR or FS
Replaces all Filter Specialists baskets

The Communicator III

A truly portable, dual input, pressure reading instrument

Know Exactly When To Change Your Filter Element

Change your filter bag before it's completely dirty, and you're wasting money. Wait too long, and you reduce the efficiency of your system with clogged filters. Using Rosedale's ***COMMUNICATOR III***, you'll know exactly when your filter element needs changing.

Communicate Intelligently

Starting with our standard, high-quality filter housings, we add an electronic indicator that will signal when pressure drop across the filter is too great. This indicates that your filter element is clogged with dirt and requires changing or cleaning.

Features

- LCD displays upstream, downstream, and pressure drop for any application
- LED warning light when differential pressure reaches 15 psid
- Fully portable, no external power required
- Powered by two long life 9VDC lithium batteries, with 2 to 4 year battery life under normal use AC adapter for continuous read mode
- Measure any medium from 1-1000 psi
- Built-in visual and remote alarm relay that signals when differential pressure reaches threshold limit
- RS-485 serial port
- Easy to calibrate with menu driven yes/no responses

Options

- Rosedale Communicator III data acquisition software (Windows 95/98)
- RS-485 two or four port serial cards with adapter or 3-foot cable
- 0-100 psi, 0-500 psi or 0-1000 psi pressure sensors
- Differential pressure can be changed at time of order for special requirements. 15 psid is recommended for bag filter applications

How To Order

If ordering for retrofit, use model code as is.

If ordering in conjunction with a housing, add the model code to the end of the housing's model code.

Level 3

Example: ***L3 T***

LEVEL 3 COMMUNICATOR, PRESSURE/DIFFERENTIAL PRESSURE MONITOR/ TRANSMITTER = L3

TRANSMITTER
With 4-20mA transmitter = ***T***
Without transmitter = ***No symbol***

Custom Manufacturing Solutions

We can build anything from simple modifications on standard housings, to customer specified skid-mounted filtration systems. These can incorporate filters, strainers, separators, controllers, sensors, and automated operations, the options are numerous!

Rosedale has a long history of innovative filtration designs. They are as simple as our Model 4 Housing or as complex as our multi-station Automatic Backwashing Filtration Systems. Using our expertise, we work with our clients to manufacture systems that meet their needs. Some of our current standard models started out as solutions to a client's need, such as the duplex and multiplex filters or convertible housings. We design housings on a daily basis, and we're ready to meet your needs. We've developed systems that meet the demanding needs of the metalworking industry, environmental water reclamation industry, solids recovery process

Lube Oil Filter

Clam Shell Housing

Gas Filter

where certain "debris" can be recovered to either meet legal demands or for improving operations and profitability.

In this section, you'll see several examples of filters and filtration systems that show what we've already done, and what we can do for you. These systems incorporate any number of filtration solutions, including basket strainers, bag filters, cartridge filters, solids/liquids separators, single layer bags, multilayer bags, bag sized cartridges, wound cartridges, membrane cartridges, stainless steel cartridges, "smart" controls, differential pressure sensors, pumps and motors, controllers, skid or cart mounting, pit mounting, gangways for access, and any

number of application specific components, such as oxygen concentrators, heated jacketing and internal coatings to name a few.

We also take your specific flow requirements into account, ensuring that the system we design will not restrict your process. For more information, contact Rosedale to get started today.

Filter For Natural Gas Use

Filter CNG between supply and compressor for improved product quality and longer compressor life. Removes impurities and particulate matter for longer compressor life.

Special Options And Accessories

For improved filtration!

Rosedale offers answers to your specific needs with a wide range of special options and accessories. If your special needs are not represented here, please call us, and we'll discuss how we can solve your problems.

Rosedale Accessories

Heated Jacketing For Resins, etc.

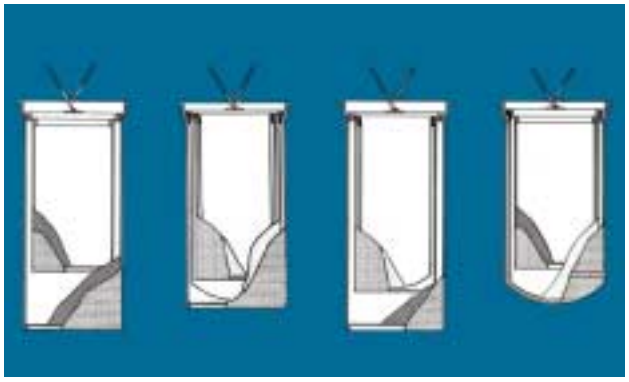
All Rosedale filter housings can be fitted with heated jacketing for improved filtration of resins, adhesive coatings, and viscous materials. The entire vessel can be enclosed by the jacketing, including the inlet and outlet nozzles. The unit is rated to 600°F, requiring metallic seals (included). The housing is electropolished to prevent product buildup, maintaining clean inside walls.

Bag Hold Down Assemblies

Hold down assemblies can be supplied with any Rosedale filter housing, insuring positive bag sealing for critical applications. Hold-downs are offered in carbon steel and stainless steel construction.

Internal Coatings

Special coatings can be internally applied to any of Rosedale's housings, meeting your special requirements. These coatings include epoxy, enamel, PVC, and polypropylene. Other coatings are available. Call Rosedale for more information or product compatibility.

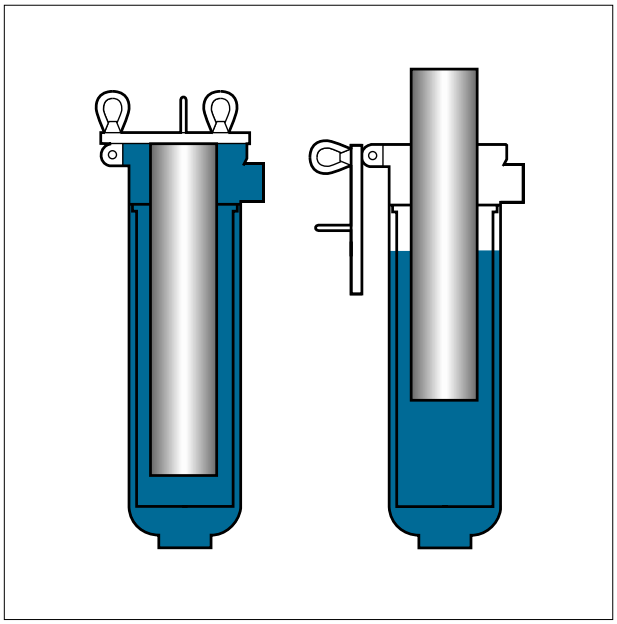


Inner Baskets and Bags

Model 8 and any of the multi-basket or multi-bag units can be fitted with smaller, inner basket strainers or bag filters, through which the in-coming fluid flows first, giving two-stage cleaning action. Inner baskets and bags are offered in the same construction materials and ratings as those of the primary outer elements.

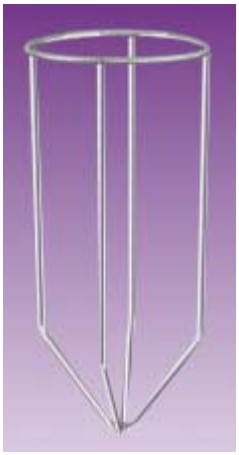
Differential Pressure Indicators

All Rosedale filter housings can be fitted with pressure indicators that tell the operator when the element needs servicing. This improves the process quality, reduces system downtime and maximizes efficiency of plant operations. A variety of options are available including standard liquid-filled gauges, differential pressure gauges, differential pressure switches, or a combination switch and gauge. The Rosedale Indicator (see page 21) and Communicator III (see page 179) are also available. Recommended change-out of most elements is 15 psid.



Liquid Displacers

Rosedale filter housing models 4, 6, and 8, as well as our convertible filter housings, can be supplied with a liquid displacer attached to the cover. When in use, the displacer (a sealed 304 stainless steel cylinder) fits inside the basket strainer or bag filter, displacing liquid that would otherwise fill the inner space. When the cover and attached displacer are removed, the level of the liquid within the basket strainer of bag filter drops resulting in less product loss, and fast easy changes.

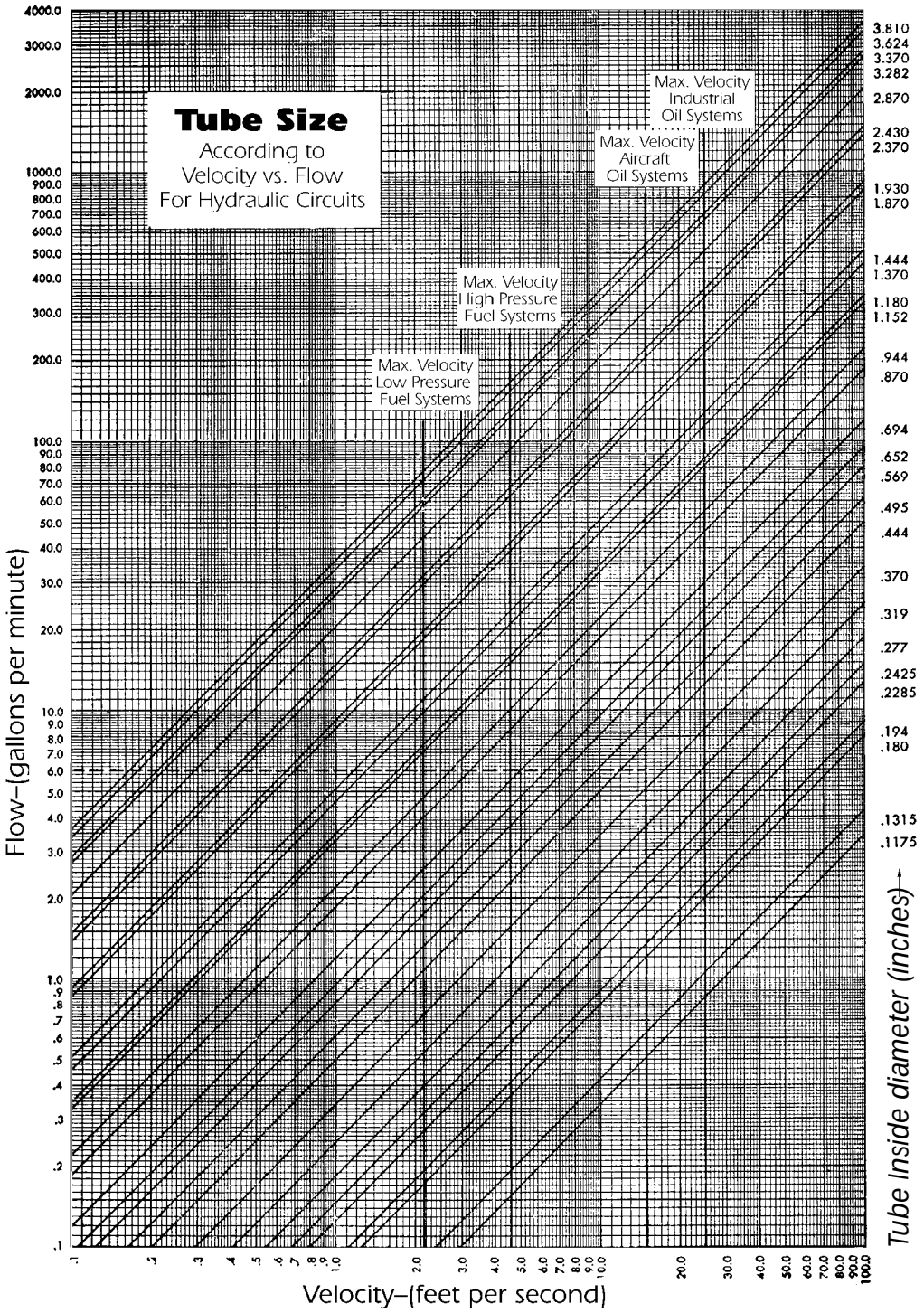


Bag Restrainer

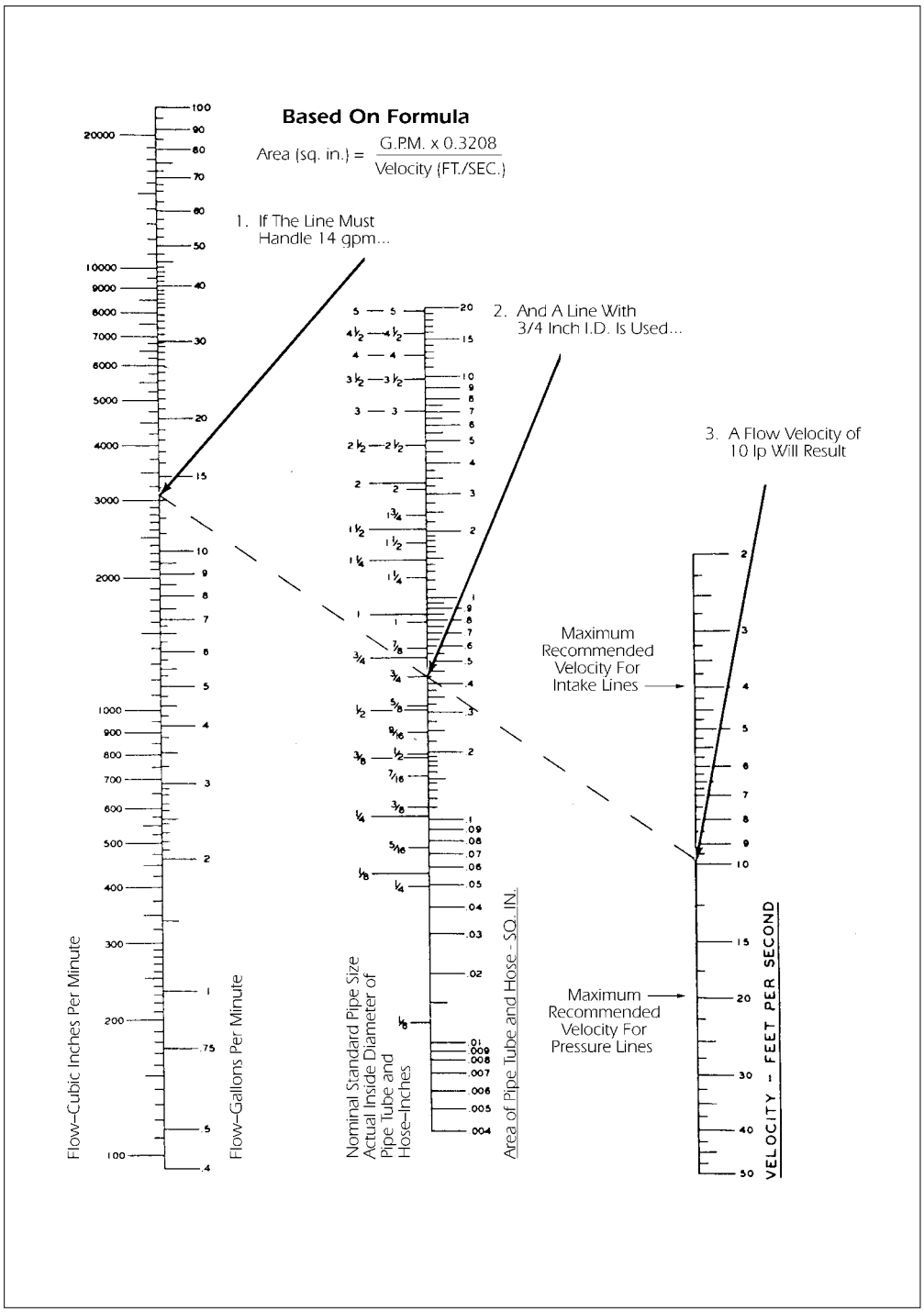
This restrainer expands the bag fully during filtration, insuring that it doesn't fold over on to itself, reducing the amount of material used in filtration. It can also be used in conjunction with the liquid displacer, easing its installation.

Technical Manual

VELOCITY VS. FLOW TABLE



Conductor I.D. Selection Chart



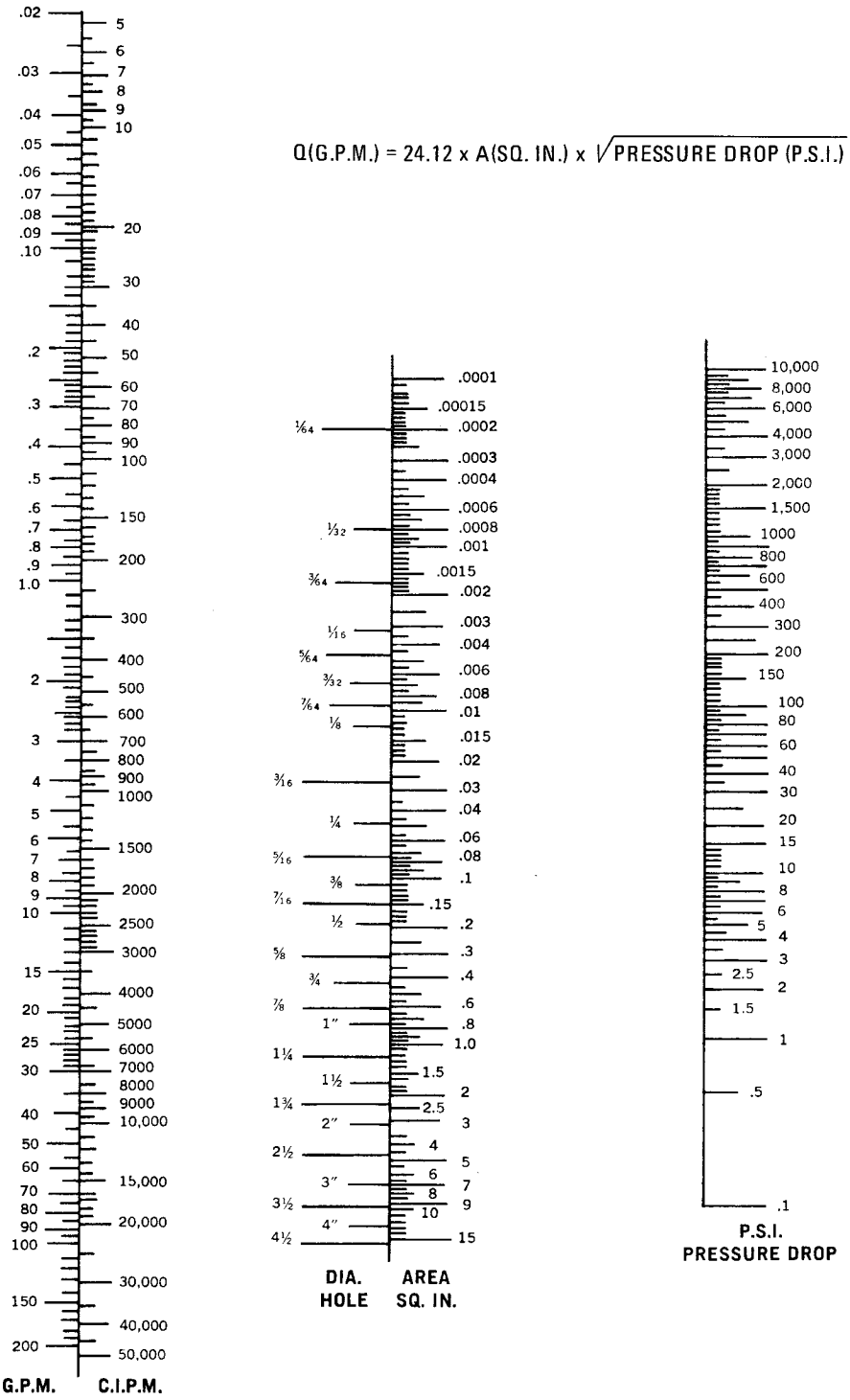
Pressure Loss (psi/Foot Length) In Pipes At Average Velocity (ft/sec)

Material						Pressure Loss (psi/foot length) in Pipes at Average Flow Velocity (ft/sec)														Equivalent Pipe Lengths (ft.) for Circuit Components					
Size (Inches)	Pipe Hose	O.D. Inches	I.D. Inches	Wall Inches	I.D. Area Sq. In.	5		7		10		15		20		25		30		Tee			Elbow		
						Loss	GPM	Loss	GPM	Loss	GPM	GPM	Loss	GPM	Loss	GPM	Loss	GPM	Loss						
1/8	PIPE-SCH 40	.405	.269	.068	.057	1.25	.89	1.79	1.24	2.60	1.75	3.16	2.67	5.47	3.56	6.20	4.45	7.07	5.34						
	PIPE-SCH 80	.405	.215	.095	.036	1.89	.56	3.05	.78	4.26	1.12	5.20	1.68	8.38	2.24	11.1	2.80	12.7	3.36						
	HOSE	–	.125	–	.012	5.96	.186	8.37	.260	11.9	.372	18.0	.558	24.0	.744	30.0	.930	35.7	1.11						
1/4	PIPE-SCH 40	.540	.364	.088	.104	.67	1.62	1.05	2.27	1.64	3.24	1.92	4.96	2.97	6.48	3.23	8.10	3.73	9.72						
	PIPE-SCH 80	.540	.302	.119	0.72	1.11	1.12	1.49	1.57	2.11	2.24	2.84	3.36	4.15	4.48	5.08	5.60	6.30	6.72						
	HOSE	–	.250	–	.049	1.57	.758	2.17	1.08	3.00	1.49	4.49	2.23	6.04	2.98	7.49	3.72	8.95	4.44						
3/8	PIPE-SCH 40	.675	.493	.091	.191	.39	2.98	.57	4.18	.86	5.96	1.05	8.94	1.69	11.92	4.27	14.9	5.78	16.9	2.7	.8	2.7	1.2	2.7	.6
	PIPE-SCH 80	.675	.423	.126	.140	.54	2.18	.74	3.06	1.10	4.36	1.34	6.54	1.97	8.72	5.19	10.9	7.20	13.1						
	HOSE	–	.375	–	.110	.685	1.71	.97	2.43	1.34	3.35	2.02	5.03	2.68	6.71	3.33	8.36	3.99	10.0						
1/2	PIPE-SCH 40	.840	.622	.109	.304	.24	4.74	.36	6.65	.49	9.48	.68	14.22	2.09	18.98	3.38	23.7	4.28	28.4	3.5	1.05	3.5	1.5	3.5	.75
	PIPE-SCH 80	.840	.147	.234	.30	3.65	.45	5.12	.71	7.30	.78	10.9	10.9	2.47	14.6	3.61	18.2	5.00	21.9	2.9	.9	2.9	1.4	2.9	.68
	PIPE-SCH XX	.840	.252	.294	.050	1.54	.78	2.19	1.09	3.08	1.56	3.65	2.34	6.13	3.12	7.48	3.90	9.55	4.68						
	HOSE	–	.500	–	.196	.387	3.03	.547	4.30	.755	5.94	1.13	8.90	2.4	11.9	3.15	15.3	4.5	17.7						
3/4	PIPE-SCH 40	1.050	.824	.113	.533	.14	8.32	.22	11.7	.27	16.6	.78	25.0	1.47	33.3	2.19	416	3.00	49.9	4.5	1.4	4.5	2.1	4.5	1.0
	PIPE-SCH 80	1.050	.742	.154	.432	.16	6.74	.26	9.45	.37	13.5	.87	20.2	1.71	27.0	2.48	33.7	3.52	40.4	4.0	1.2	4.0	1.6	4.0	.8
	PIPE-SCH XX	1.050	.434	.308	.148	.53	2.31	.67	3.24	1.05	4.62	1.31	6.93	1.94	9.24	5.06	11.6	7.02	13.9						
	HOSE	–	.750	–	.442	.171	6.82	.248	9.92	.336	13.4	.502	20.1	1.33	26.8	2.02	33.4	2.90	41.3						
1	PIPE-SCH 40	1.315	1.049	.133	.863	.10	13.5	.13	18.9	.34	26.9	.57	40.4	1.42	53.8	1.64	67.3	2.24	80.7	5.7	1.7	5.7	2.6	5.7	1.2
	PIPE-SCH 80	1.315	.957	.179	.719	.11	11.2	.15	15.7	.24	22.4	.62	33.6	1.23	44.8	1.84	56.1	2.93	67.3	5.2	1.6	5.2	2.5	5.2	1.1
	PIPE-SCH XX	1.315	.599	.358	.863	.26	4.39	.37	6.16	.53	8.78	.67	13.2	2.25	17.6	3.29	22.0	4.20	26.3	3.0	1.0	3.0	1.5	3.0	.75
	HOSE	–	1.00	–	.785	.097	12.2	.136	17.1	.194	24.4	.610	36.6	.987	48.8	1.51	61.2	2.02	73.4						
1-1/4	PIPE-SCH 40	1.660	1.380	.140	1.496	.05	23.4	.08	31.7	.25	46.7	.39	70.1	.78	93.4	1.18	117	1.47	140	7.5	2.4	7.5	3.7	7.5	1.6
	PIEP-SCH 80	1.660	1.278	.191	1.280	.07	20.0	.09	28.1	.26	39.9	.44	58.9	.85	79.8	1.27	99.8	1.80	120	7.0	2.1	7.0	3.5	7.0	1.5
	PIPE-SCH XX	1.660	.896	.382	.630	.13	9.83	.16	13.8	.24	19.7	.71	29.5	1.35	39.3	2.01	49.2	2.76	59.0	4.9	1.5	4.9	2.3	4.9	1.1
	HOSE	–	1.25	–	1.23	.062	19.1	.087	26.8	.125	38.2	.436	57.3	.738	76.4	1.08	95.5	1.52	115						
1-1/2	PIPE-SCH 40	1.900	1.610	.145	2.046	.04	31.8	.06	44.5	.19	63.5	.33	95.3	.64	127	.96	159	1.26	191	9.0	2.8	9.0	4.3	9.0	2.0
	PIPE-SCH 80	1.900	1.500	.200	1.767	.04	27.6	.06	38.6	.21	55.1	.42	82.7	.71	110	1.06	138	1.36	166	8.2	2.6	8.2	4.2	8.2	1.8
	PIPE-SCH XX	1.900	1.100	.400	.950	.09	14.8	.09	20.8	.32	29.6	.51	44.4	1.05	59.2	1.51	74.1	2.14	88.9	6.5	2.0	6.5	3.0	6.5	1.4
	HOSE	–	1.50	–	1.77	.044	27.7	.061	38.6	.180	55.1	.353	82.7	.59	110	.86	138	1.21	166						
2	PIPE-SCH 40	2.375	2.067	.154	3.355	.03	52.3	.08	73.4	.14	105	.24	159	.48	209	.69	262	.85	324	11.0	3.5	11.0	5.5	11.0	2.5
	PIPE-SCH 80	2.375	1.939	.218	2.953	.03	46.0	.09	64.6	.15	92.0	.26	138	.52	184	.73	230	.98	275	10.8	3.4	10.8	5.0	10.8	2.4
	PIPE-SCH XX	2.375	1.503	.436	1.773	.04	27.7	.12	38.8	.21	55.3	.36	82.9	.72	111	1.34	138	1.36	166	8.2	2.6	8.2	4.0	8.2	1.8
	HOSE	–	2.00	–	3.14	.024	48.9	.034	68.6	.123	97.8	.256	147	.41	196	.60	245	.80	293						
2-1/2	PIPE-SCH 40	2.875	2.469	.203	4.788	.03	74.8	.07	105	.11	149	.20	224	.37	299	.53	374	.72	449	14.0	4.2	14.0	6.5	14.0	3.0
	PIPE-SCH 80	2.875	2.323	.276	4.238	.03	66.1	.07	92.6	.12	132	.21	198	.39	264	.57	331	.87	397	13.0	4.0	13.0	6.1	13.0	2.9
	PIPE-SCH XX	2.875	1.771	.552	2.464	.03	38.5	.10	53.4	.17	76.9	.30	115	.59	154	.79	193	1.15	231	10.3	3.1	10.3	4.8	10.3	2.2
	HOSE	–	2.50	–	4.91	.016	76.5	.045	107	.09	153	.18	229	.30	306	.43	382	.617	459						

Orifice Pressure Drop

Approximate data. Based on specific gravity = 0.9, viscosity = 100 SSU.

$$Q(G.P.M.) = 24.12 \times A(SQ.\ IN.) \times \sqrt{PRESSURE\ DROP\ (P.S.I.)}$$



Pressure Conversion Table

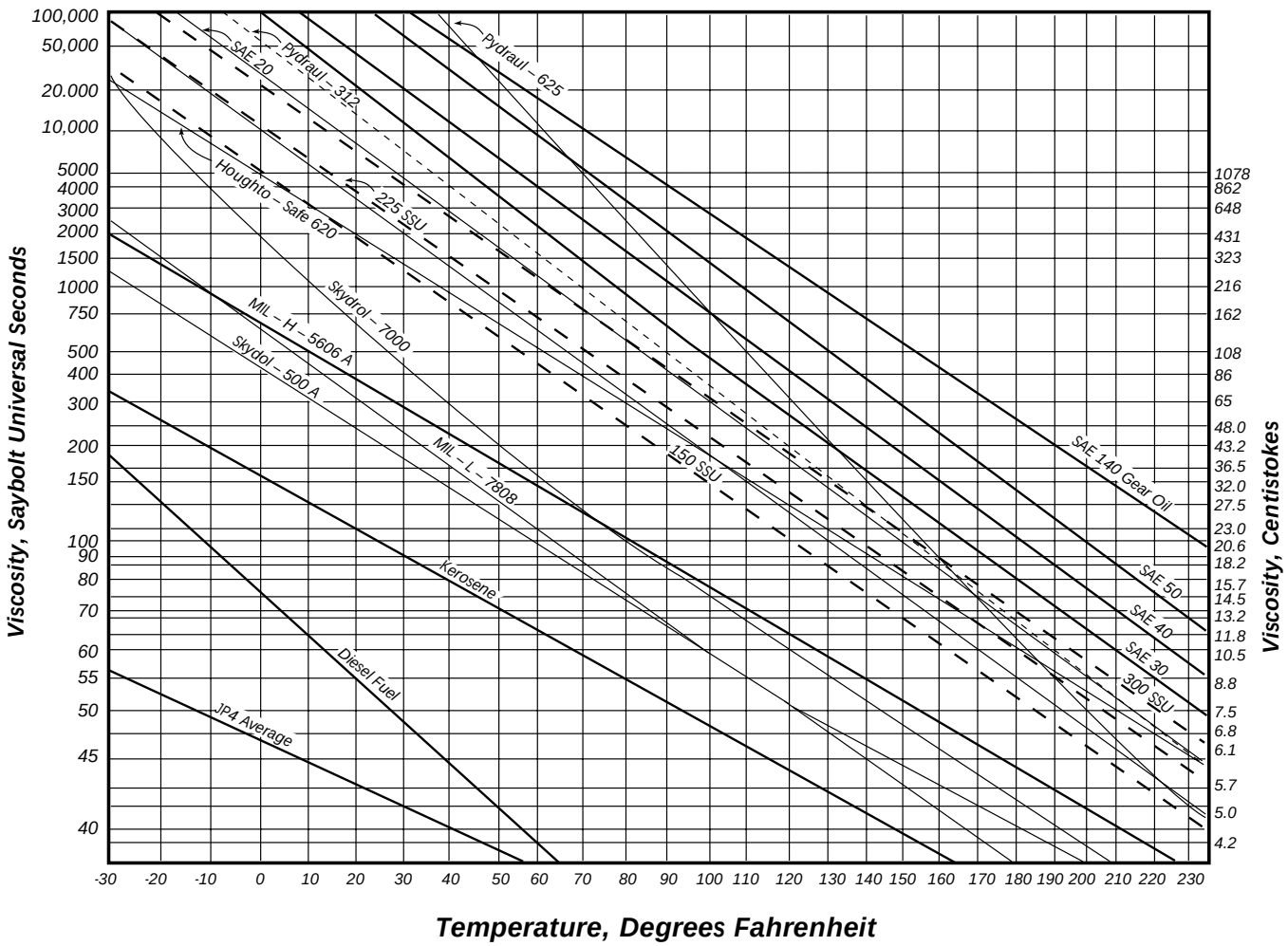
Multiply no. of ➡ by ↘ to obtain ↘	Atmospheres	Bars	Dynes/ cm^2	In. of Hg (0°C)	In. of H^2O(4°C)	kg/m^2	(psi)	Lb/in^2 Lb/ft^2	(torr)	mm of Hg Microns	Pascals
Atmospheres		9.86923 $X10^{-1}$	9.86923 X^{10-7}	3.34207 $X10^{-2}$	2.458 $X10^{-3}$	9.678 $X10^{-5}$	.068046	4.7254 $X10^{-4}$	1.316 $X10^{-3}$	1.316 $X10^{6}$	9.869 $X10^{6}$
Bars	1.01325		10^{-6} $X10^{-2}$	3.3864 $X10^{-3}$	2.491 $X10^{-5}$	9.8067	6.8948 $X10^{-2}$	4.788 $X10^{-4}$	1.333 $X10^{3}$	1.333 $X10^{6}$	10^{5}
Dyns/ cm^2	1.01325 X106	10^{6}		3.386 $X10^{4}$	2.491 $X10^{3}$	98.067	6.8948	478.8 $X10^{4}$	1.333	1.333 $X10^{3}$	10
In. of (0°C)	29.9213	29.53	2.953 $X10^{-5}$		7.355 $X10^{-2}$	2.896 $X10^{-3}$	2.036	.014139	3.937 $X10^{2}$	3.937 $X10^{5}$	2.953 $X10^{4}$
In. of H_20(4°C)	406.8	401.48	4.0148 $X10^{-4}$	13.60		3.937 $X10^{-2}$	27.68	.1922	.5354	5.354 $X10^{4}$	4.014 $X10^{3}$
kg/m^2	1.033227 $X10^{4}$	1.0197 $X10^{4}$	1.0197 $X10^{-2}$	345.3	25.40		7.0306 $X10^{2}$	4.882	13.59	13.59 $X10^{3}$	1.019 $X10^{1}$
Lb/in.2 (psi)	14.695595	14.4504	1.4504 $X10^{-5}$	.4912	3.6126 $X10^{-2}$	1.423 $X10^{-3}$		6.9444 $X10^{-3}$	1.934 $X10^{-2}$	1.934 $X10^{5}$	1.450 $X10^{4}$
Lb/f^{t2}	2116.22	2088.5	2.0885 $X10^{-3}$	70.726	5.202	.2048	144.0		2.7844	2.7844 $X10^{3}$	2.089 $X10^{2}$
mm of Hg (torr)	760	750.06	7.5006 $X10^{-4}$	25.400	1.868	7.3558 $X10^{-2}$	51.715	0.35913		10^{3}	7.502 $X10^{3}$
Microns	760 $X10^{3}$	750.06 $X10^{3}$	.75006	2.54 $X10^{4}$	1.868 $X10^{3}$	73.558	51.715 $X10^{3}$	359.1	$1X10^{3}$		7 502
Pascals	1.01325 $X10^{5}$	$1X10^{5}$	10^{-1}	3.386 $X10^{3}$	2.491 $X10^{2}$	9.8067	6.8948 $X10^{3}$	4.788 $X10^{1}$	1.333 $X10^{2}$	1.333 $X10^{1}$	

Screen Micron and Mesh Ratings

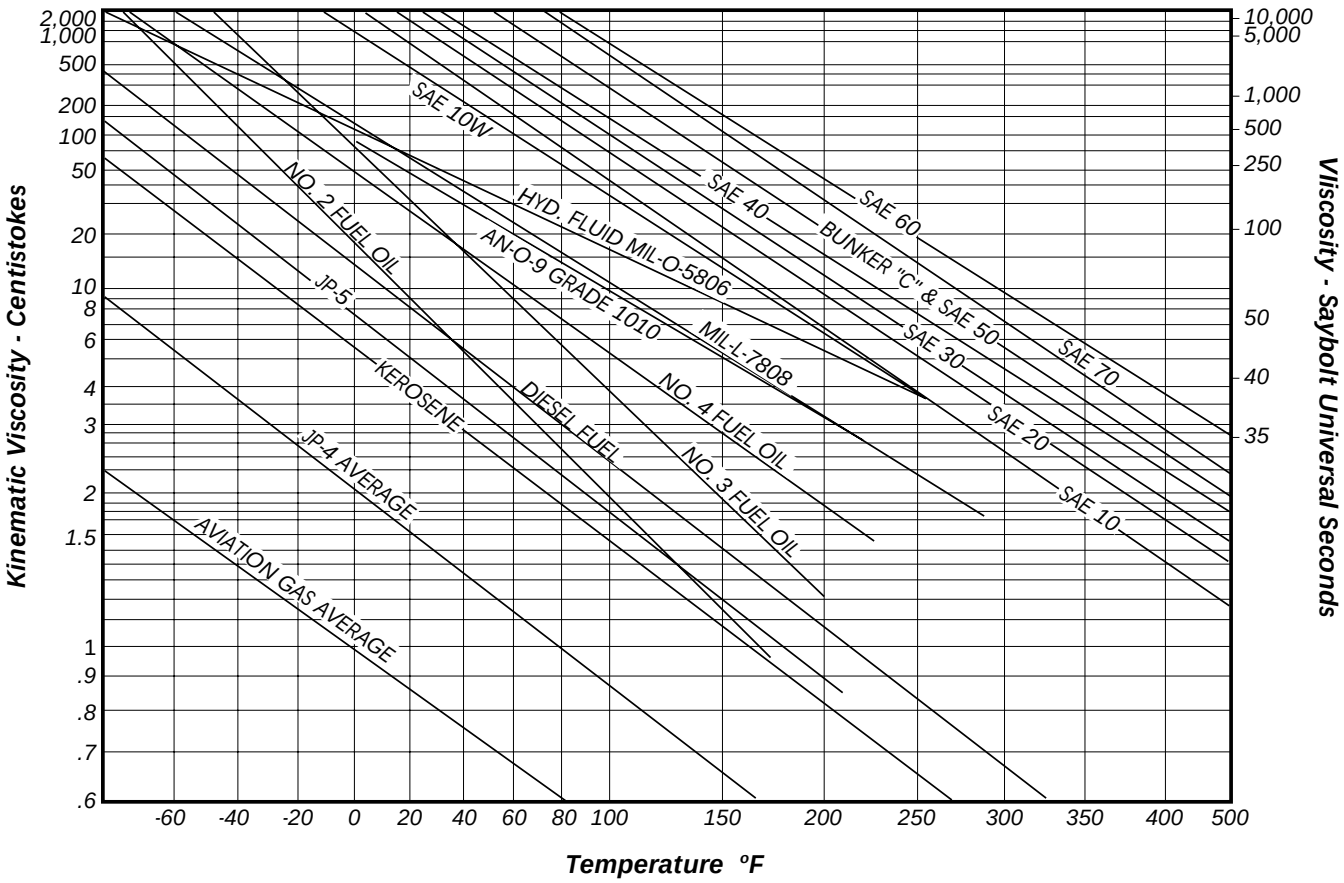
MICRON or MESH RATING	***ROSEDALE*** *MESH USED*	*MIN. BUBBLE POINT IN INCHES (H_2O)*
2 MICRON	*325X2300DT**	*12.0*
5 MICRON	*200X1400DT*	*9.5*
10 MICRON	*165X1400DT*	*6.0*
20 MICRON	*165X800DT*	*4.8*
40 MICRON	*80X700DT*	*3.5*
200 MESH	*200P***	-
150 MESH	*150P*	-
100 MESH	*100P*	-
80 MESH	*80P*	-
60 MESH	*60P*	-
40 MESH	*40P*	-

** DT = Dutch Twilled Weave **P = Plain Weave*

A.S.T.M. Standard Viscosity-Temperatures For Liquid Petroleum Products (D341-43)



Viscosity vs. Temperature

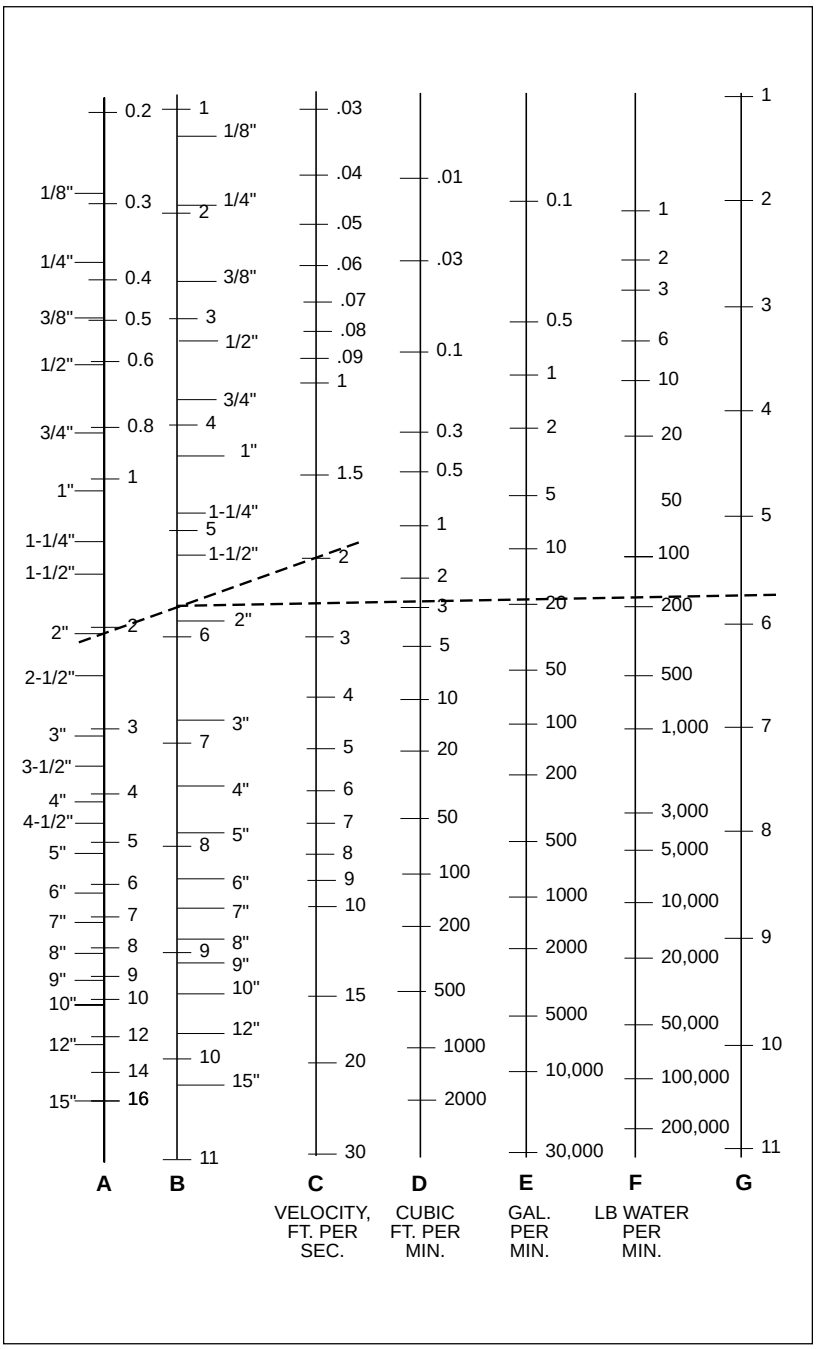


Flow Conversion Chart

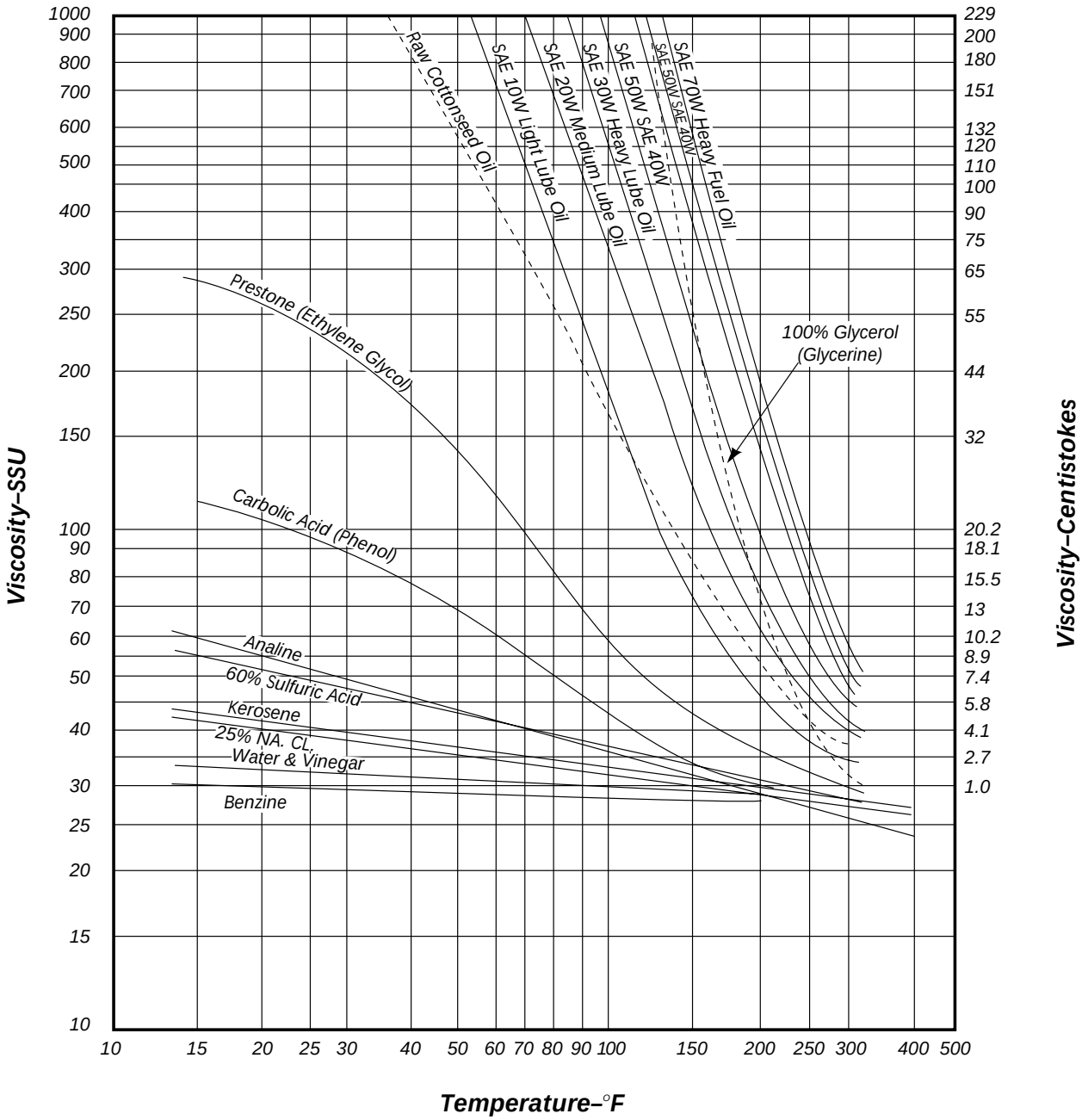
This Nomograph/Chart provides flow rate data in cubic feet per minute (column D), gallons per minute (column E). Or pounds of water per minute (column F) for inside pipe diameters from 0.2 to 16 inches for velocities from 0.03 to 30 feet per second (column C). Similarly, velocities may be determined from flow rates.

An example is shown for 2 inch standard pipe (2.07" ID) at 2 feet per second. A line is drawn connecting these two values in columns A and C. At it's intersection with column B a line is drawn horizontally using columns H1 and H2 for guidance. Flow rates are now seen in columns D, E, and F.

A second example uses 4 inch extra heavy pipe at 10 feet per second. A horizontal line is drawn to the left from column B to column A and this intersection is connected to the 10 feet per second location on column C. At the intersection of this slanting line with column B a horizontal line is drawn to show the flow rates resulting.

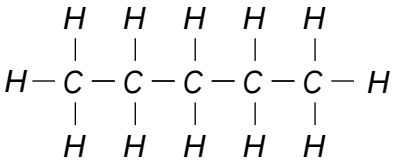


Viscosity vs. Temperature



Hydrophilic and Hydrophobic Materials

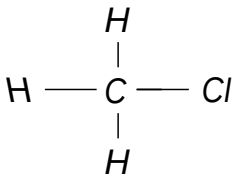
A hydrophobic compound, material, or molecule has no internal electron shift, so there is no point on the surface of the material which has an electrical charge. Many organic compounds are hydrophobic, or nonpolar. A good example: Pentane (a compound in gasoline)



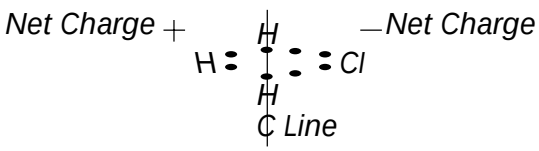
There is no electron shift from side-to-side or end-to-end. It is inert electrically.

As a consequence, it is not electrically attracted to another material. Polypropylene is electrically inert, and is a strongly hydrophobic material.

A hydrophilic material, compound, or molecule is one where there is a permanent electron shift within the composite. It is caused by certain atoms having a strong attraction of electrons. In a compound, Chlorine is a strong attractor of electrons, for example:



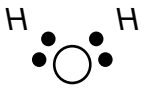
The actual electrons in this molecule bond are:



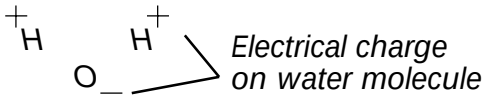
As you can see, the Cl (chloride) side of the molecule has a negative charge, and the other side has a positive charge. That's because chlorine has a stronger affinity for electrons than the hydrogen.

The minus side of the molecule will be attracted to any other material which has a plus location point. Vice versa for the plus hydrogen side.

Water, the commonest, and most important material in most systems, is polar:

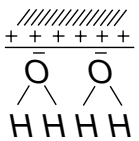


The electrons which make up the bond are more strongly attracted to the O (oxygen) atom, so there is a charge on the water molecule.

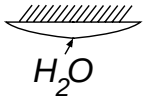


Since water is of fundamental importance, and is polar, other polar materials are attracted to it, and are called hydrophilic (water loving or attracting). Hydrophobic (water hating or repelling) materials are not attracted to water.

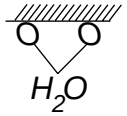
Water wets (spreads over the surface) of a hydrophilic material. The electrical attraction causes the work of adhesion to be greater than surface tension force:



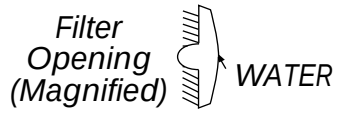
Hydrophilic surface:



On a hydrophobic surface:



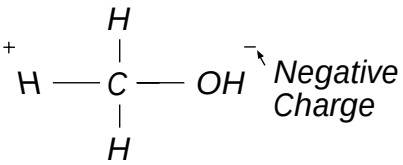
On a hydrophilic filter media surface, the attracting electrical charge wets the filter media and the water passes through easier.



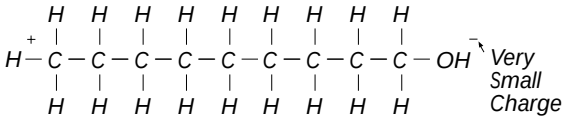
Materials (particles) suspended in the water are filtered with less distortion of the filter openings (or passages) and the filter removes smaller particles, easier.

"Polar" and "non-polar" varies from one extreme to the other. Polypropylene is very non-polar, a cotton bag is somewhat polar. Non-polar materials are less degraded (longer lived) by agreous materials. Polypropylene is more inert in most applications, but does not wet.

Methyl alcohol is fairly polar:



Caprillic alcohol less so:



MINUTES CONVERTED TO DECIMALS OF A DEGREE

MINUTE	DEGREE
1	.0166
2	.0333
3	.055
4	.0666
5	.0833
6	.1000
7	.1166
8	.1333
9	.1500
10	.1666
11	.1833
12	.2000
13	.2166
14	.2333
15	.2500
16	.2666
17	.2833
18	.3000
19	.3166
20	.3333
21	.3500
22	.3666
23	.3833
24	.4000
25	.4166
26	.4333
27	.4500
28	.4666
29	.4833
30	.5000
31	.5166
32	.5333
33	.5500
34	.5666
35	.5833
36	.6000
37	.6166
38	.6333
39	.6500
40	.666
41	.6833
42	.7000
43	.7166
44	.7333
45	.7500
46	.7666
47	.7833
48	.8000
49	.8166
50	.8333
51	.8500
52	.8666
53	.8833
54	.9000
55	.9166
56	.9333
57	.9500
58	.9666
59	.9833
60	1.0000

DECIMAL EQUIVALENTS OF FRACTIONS

INCHES	DECIMAL
1/64	.015625
1/32	.03125
3/64	.046875
1/20	.05
1/16	.0625
1/13	.0769
5/64	.078125
1/12	.0833
1/11	.0909
3/32	.09375
1/10	.10
7/64	.109375
1/9	.111
1/8	.125
9/64	.140625
1/7	.1429
5/32	.15625
1/6	.1667
11/64	.171875
3/16	.1875
1/5	.2
13/64	.203125
7/32	.21875
15/64	.234375
1/4	.25
17/64	.265625
9/32	.28125
19/64	.296875
5/16	.3125
21/64	.328125
1/3	.333
11/32	.34375
23/64	.359375
3/8	.375
25/64	.390625
13/32	.40625
27/64	.421875
7/16	.4375
29/64	.453125
15/32	.46875
31/64	.484375
1/2	.5
33/64	.515625
17/32	.53125
35/64	.546875
9/16	.5625
37/64	.578125
19/32	.59375
39/64	.609375
5/8	.625
41/64	.640625
21/32	.65625
43/64	.671875
11/16	.6875
45/64	.703125
23/32	.71875
47/64	.734375
3/4	.75
49/64	.765625
25/32	.78125
51/64	.796875
13/16	.8125
53/64	.828125
27/32	.84375
55/64	.859375
7/8	.875
57/64	.890625
29/32	.90625
59/64	.921875
15/16	.9375
61/64	.953125
31/32	.96875
63/64	.984375
1	1.

WATER PRESSURE (PSI) TO FEET OF HEAD

POUNDS PER SQUARE INCH	FEET HEAD
1	2.31
2	4.62
3	6.93
4	9.24
5	11.54
6	13.85
7	16.16
8	18.47
9	20.78
10	23.09
15	34.63
20	46.18
25	57.72
30	69.27
40	92.36
50	115.45
60	138.54
70	161.63
80	184.72
90	207.81
100	230.90
110	253.98
120	277.07
130	300.16
140	323.25
150	346.34
160	369.43
170	392.52
180	415.61
200	461.78
250	577.24
300	692.69
350	808.13
400	922.58
500	1154.48
600	1385.39
700	1616.30
800	1847.20
900	2078.10
1000	2309.00

Note: *One pound of pressure per sq. inch of water equals 2.309 feet of water at 62° F. To find the feet head of water for any pressure not given in the table, multiply the pressure pounds per sq. inch by 2.309*

WATER FEET OF HEAD TO PSI

FEET HEAD	POUNDS PER SQUARE INCH
1	.43
2	.87
3	1.30
4	1.73
5	2.17
6	2.60
7	3.03
8	3.46
9	3.90
10	4.33
15	6.50
20	8.66
25	10.83
30	12.99
40	17.32
50	21.65
60	25.99
70	30.32
80	34.65
90	39.98
100	43.31
110	47.64
120	51.97
130	56.30
140	60.63
150	64.96
160	69.29
170	73.63
180	77.96
200	86.62
250	108.27
300	129.93
350	151.58
400	173.24
500	216.55
600	259.85
700	303.16
800	346.47
900	389.78
1000	433.00

Note: *One foot of water at 62° F equals .433 pound pressure per sq. inch. To find the pressure per sq. inch for any feet head not given in the table, multiply the feet head by .433*

Rosedale Filter Vessel Data

MODEL	PRESSURE RATING PSI	WALL THK. inches	** VOLUME ENTIRE HOUSING inches³		VOLUME ABOVE BASKET TOP inches³		VOLUME BELOW BASKET TOP inches³	NO. OF LUG ASSY	NO. OF LUGS	LUG SIZE
4-6 4-12	200, 300, 500 200, 300, 500	.110, .120 .110, .120	151 237	- -	58 58	= =	93 179	1 1	3 3	1/2-13 1/2-13
6-12 6-18 6-30	150, 300 150, 300 150, 300 100, 125	.109 .109 .109	498 656 970	- - -	131 131 131	= = =	367 525 839	1 1 1	3 3 3 N/A	5/8-11 5/8-11 5/8-11 N/A
8-15 8-30	100, 125, 150, 300 100, 125, 150, 300 300	.109 .109	1298 2131	- -	277 277	= =	1021 1854	1 1	3 3 6	5/8-11 5/8-11 5/8-11
16-30	150	.188	6567	-	666	=	5901	2	5	7/8-9
18-30	150	.188	8508	-	1448	=	7060	3	5	7/8-9

Above this line vessels are "UM" stamp. Below this line vessels are "U" stamp unless specified otherwise or by special requirements.

"UM" Vessels not to exceed the following

1. *5 CU. FT. (FT^3) IN VOLUME AND 250 PSI DESIGN PRESSURE*

OR

2. *1.5 CU. FT. (FT^3) IN VOLUME AND 600 PSI DESIGN PRESSURE*

22-30	150	.188	13298	-	2425	=	10873	4	8	7/8-9
24-30	150	.188	16165	-	3041	=	13124	6	8	7/8-9
30-30	150	.250	26543	-	5411	=	21132	8	12	7/8-9
32-30	150	.250	30708	-	6392	=	24316	9	12	7/8-9
36-30	150	.313	40092	-	8743	=	31349	12	14	1-8
42-30	150	.313	57535	-	13305	=	44230	17	20	1-8
48-30	150	.375	78468	-	19069	=	59399	*24	24	1-8
60-30	150	.500		-		=		*35	24	1-1/4-7

** SPECIAL*

*** DOES NOT INCLUDE FLUID CAPACITY OF IN-OUT NOZZLES (ELBOWS, FLANGES, ETC).*

CONVERSION FORMULAS:

CAPACITY IN CUBIC FEET (ft^3) = 1728 in^3
CAPACITY IN GALLONS = 231 in^3
CAPACITY IN CUBIC FEET (ft^3) = GAL. x .1337
CAPACITY IN GALLON = ft^3 x 7.48
1 GALLON = 8.34 lb. x SPECIFIC GRAVITY
1 ft^3 = 62.4 lb. x SPECIFIC GRAVITY

Enclosure Types for Non-Hazardous Locations

Type	NEMA National Electrical Manufacturers Association (Nema Standard 250) and Electrical and Electronic Manufacturers Association of Canada (EEMAC) **NEMA**	Underwriters Laboratories Inc. (UL 50 and UL 508)	Canadian Standards Association (Standard C22.2 No. 94)
1	Enclosures are intended for indoor use primarily to provide a degree of protection against contact with the enclosed equipment or locations where unusual service conditions do not exist.	Indoor use primarily to provide protection against contact with the enclosed equipment and against a limited amount of falling dirt.	General purpose enclosure. Protects against accidental contact with live parts.
2	Enclosures are intended for indoor use primarily to provide a degree of protection against limited amounts of falling water and dirt.	Indoor use to provide a degree of protection against limited amounts of falling water and dirt.	Indoor use to provide a degree of protection against dripping and light splashing of noncorrosive liquids and falling dirt.
3	Enclosures are intended for outdoor use primarily to provide a degree of protection against windblown dust, rain, and sleet; undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against windblown dust and windblown rain; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use provides a degree of protection against rain, snow, and windblown dust; undamaged by the external formation of ice on the enclosure.
3R	Enclosures are intended for outdoor use primarily to provide a degree of protection against falling rain and sleet; undamaged by the formation of ice on the enclosure.	Outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use provides a degree of protection against rain and snow; undamaged by the external formation of ice on the enclosure.
4	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose directed water; undamaged by the formation of ice on the enclosure.	Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure.	Indoor or outdoor use, provides a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure.
4X	Enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure.	Either indoor or outdoor use to provide a degree of protection against falling rain, splashing water, and hose-directed water; undamaged by the formation of ice on the enclosure: resists corrosion.	Indoor or outdoor use provides a degree of protection against rain, snow, windblown dust, splashing and hose-directed water; undamaged by the external formation of ice on the enclosure: resist corrosion.
6	Enclosures are intended for use indoors or outdoors where occasional submersion is encountered.	Indoor or outdoor use to provide a degree of protection against entry of water during temporary submersion of a limited depth undamaged by the formation of ice on the enclosure.	Indoor or outdoor use provides a degree of protection against the entry of water during temporary submersion at a limited depth, undamaged by the external formation of ice on the enclosure, resists corrosion.
12	Enclosures are intended for use primarily to provide a degree of protection against dust, falling dirt and dripping noncorrosive liquids.	Indoor use to provide a degree of protection against dust, dirt, flying fibers, dripping water and external condensation of noncorrosive liquids.	Indoor use a degree of protection against circulating dust, lint, fibers and flyings. dripping and light splashing of noncorrosive liquids, not provided with knockouts.
13	Enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil and noncorrosive coolant.	Indoor use to provide a degree of protection against lint, dust seepage, external condensation and spraying of water, oil and noncorrosive liquids.	Indoor use provides a degree of protection against circulation dust, lint, fibers and flyings, seepage and spraying of noncorrosive liquids, including oils and coolants.
	This material is reproduced with permission from NEMA. The preceding descriptions, however, are not intended to be complete representations of National Electrical Manufacturers Association standards for enclosures nor those of the Electrical and Electronic Manufacturers Association of Canada.	This material is reproduced with permission from Underwriters Laboratories Inc. Standard for Safety fir Cabinets and Boxes, UL 50, Copyright 1985 and Industrial Control Equipment, UL 508, Copyright 1984 by Underwriters Laboratories Inc. Underwriters Laboratories Inc. (UL) shall not be responsible to anyone for the use of or reliance upon a UL Standard by anyone. UL shall not incur any obligation or liability for damages, including consequential damages, arising out of or connection with the use, interpretation of or reliance upon a UL Standard.	This material is reproduced with permission from the Canadian Standards Association.

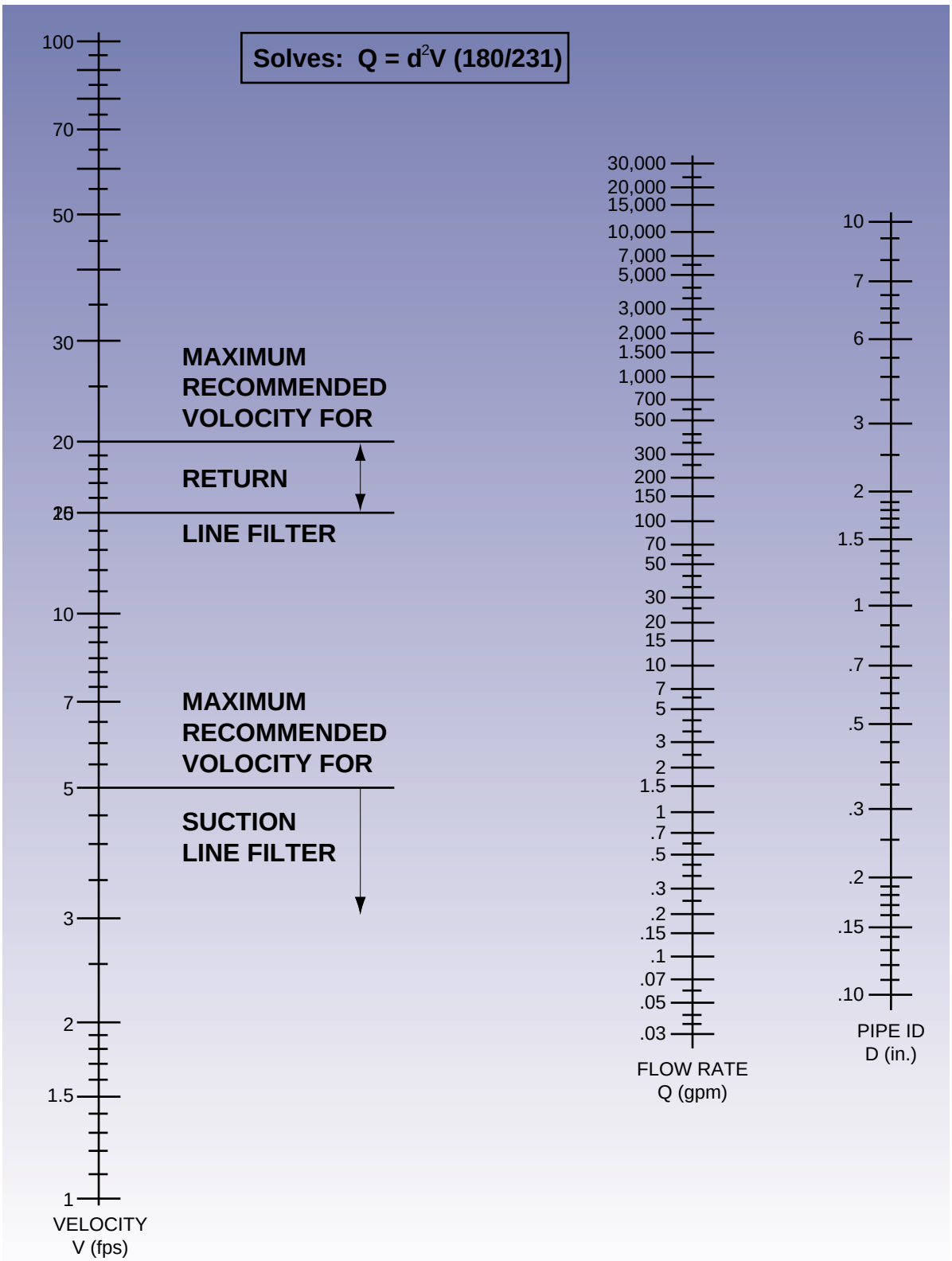
Comparison of Specific Non-Hazardous Applications

Indoor Locations

Provides a Degree of Protection Against the Following Environmental Conditions	Type of Enclosure										
	1*	2*	4	4X	5	6	6P	11	12	12K	13
Incidental contact with enclosed equipment	•	•	•	•	•	•	•	•	•	•	•
Falling dirt	•	•	•	•	•	•	•	•	•	•	•
Falling liquids and light splashing		•	•	•	•		•	•	•	•	•
Dust, lint, fibers, and flyings †			•	•	•	•	•		•	•	•
Hosedown and splashing water			•	•		•	•				
Oil and coolant seepage								•	•	•	
Oil or coolant spraying and splashing										•	
Corrosive agents				•			•	•			
Occasional temporary submersion						•	•				
Occasional prolonged submersion							•				

• *These enclosures may be ventilated. However, Type I may not provide protection against small particles of falling dirt when ventilation is provided in the enclosure top. Consult Hoffman Engineering for more information.* † *These fibers and flyings are non-hazardous materials and are not considered Class III type ignitable fibers or combustible flyings. For Class III type ignitable fibers or combustible flyings see the National Electrical Code, Section 500-6(a).*

Flow Rate in Pipe



ASME Coded Vessels

1. Full Vacuum: *All filter vessels are designed with Full Vacuum as a design condition. If the customer requires this, it can be documented. It is typically not stated on the ASME nameplate that the vessel is designed for Full Vacuum.*

2. Jacketed housings: *All standard filter vessels are designed with consideration of a jacket rated at 1/2 vessel pressure (ex. 150 psi vessel, 75 psi jacket) without modifying the body shell. This condition is valid for a body shell jacket only; any other type of jacket or pressure ratings may not meet the code requirements (ex. full jacket, head & body), please consult Engineering.*

3. Canadian Registry: *We hold several "CRN" (Canadian Registration Number) registration numbers for our vessels in Ontario and British Columbia. Please consult Engineering for this list. To obtain a "CRN", each province has its own requirements and timetable, consult Engineering.*

4. Closure Assemblies: *Our standard closure assembly for all of our products conform to ASME specification (rod end and clevis pins meet SA-193-B7, eyenuts meet SA-194-2H). Some of our customers request different materials. The only other available material is a 304 stainless steel closure, which is available in all sizes.*

5. Welded Attachments: *Welded attachments to 316 S.S. vessels (legs, lugs, davit arm bracket, lifting rod, nameplate bracket, etc.) are typically 304 series stainless steel unless specified by customer.*

Rosedale Products Basket Data

BASKET STYLE	STRAINER BASKET AREA ft^2	FILTER BAG BASKET AREA ft^2	STRAINER BASKET VOLUME GAL.	FILTER BAG BASKET VOLUME GAL.
4-6 4-12	.5 1.0	.5 1.0	.30 .60	.30 .60
6-12 6-18 6-30	1.4 2.0 3.3	1.4 2.0 3.3	.97 1.50 2.54	.97 1.50 2.54
8-15 8-30	1.7 4.4	2.0 4.2	1.87 4.71	2.31 4.63
MULTI	4.4	4.2	4.56	4.49
LCO	5.6	5.6	6.0	6.0

CONVERSION FORMULAS:

CAPACITY IN CUBIC FEET (ft^3) = in. 3/1728
CAPACITY IN CUBIC FEET (ft^3) = GAL. x .1337
CAPACITY IN GALLONS = in^3/231
CAPACITY IN GALLONS = ft^3 x 7.48
1 GALLON = 8.34 lb. x SPECIFIC GRAVITY
1 ft^3 = 62.4 lb. x SPECIFIC GRAVITY

Temperature Data

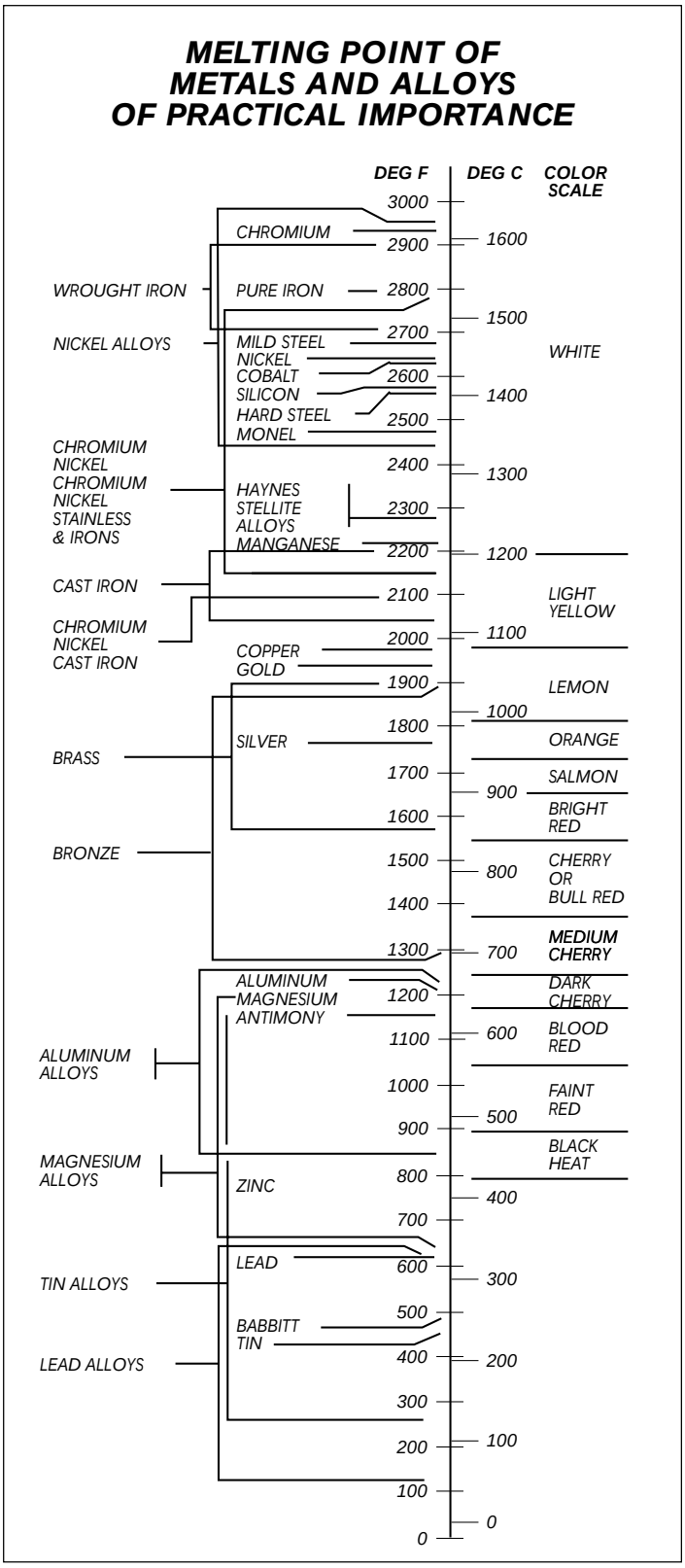
The accompanying chart not only lists the melting points of various alloys and metals but also serves as a convenient means for conversion between Centigrade and Fahrenheit temperature scales. In addition, on the far right of the scale are shown the color designations that are commonly used in judging the temperatures of hot metal by color.

Melting Points

This chart should prove useful to all welding operators for it contains basic information on working with metals at elevated temperatures. Reference to the chart, for instance, shows why aluminum and aluminum alloys, because of their low melting points, give little or no indication by change in color when they approach welding heat. On the other hand, the high melting point of wrought iron explains why considerably more heat is required to weld this metal than is required for cast iron, for instance.

Temperature Color Scale

Another use for the chart is in estimating the temperature by color. For instance, instructions may require that the part be preheated to 1,100 deg. F. before welding. If you are without a thermocouple or other means for accurately measuring high temperatures, reference to the chart shows the part, at 1,100 deg. F. would have a blood-red color. With a little experience, you can estimate this fairly closely by eye. In this connection, it should be mentioned that the color scale is for observations made in a fairly



dark place and without welding goggles. As the light increases, the color groups on the scale will apply to higher temperatures.

Conversion Data

Finally, the chart is a ready means for converting Fahrenheit to Centigrade, and vice versa. Suppose you are familiar with the Fahrenheit scale, yet instructions call for the quenching of a welded part from 900 deg. C. Reference to the chart shows this to be approximately 1,650 deg. F.

(Stuff You Probably Know)

1. PASCAL'S LAW: Pressure exerted on a confined fluid is transmitted undiminished in all directions and acts with equal force on all equal areas and at right angles to them.

2. Hydraulics is a means of power transmission.

3. Work is force acting through a distance.
WORK = FORCE X DISTANCE.
***Example:** Work (in. lbs.) = Force (lbs.) x Distance (in.)*

4. Power is the rate of doing work.

$$\text{Power} = \frac{\text{Work}}{\text{Time}} = \frac{\text{Force x Distance}}{\text{Time}}$$

5. The force (pounds) exerted by a piston can be determined by multiplying the piston area (square inches) by the pressure applied. (PSI)

$$\text{Force} = \text{Pressure x Area}$$

(To find the area, square the diameter and multiply by .7854) $A = D^2 \times .7854$ or

$$\text{Area} = \text{Diameter}^2 \times .7854$$

6. To determine the volume (cubic inches) required to move a piston a given distance, multiply the piston cross sectional area (sq. Inches) by the stroke required (inches).

Volume = Area x L

7. Hydraulic oil serves as a lubricant and is practically non-compressible. It will compress approximately .4 of 1% at 1000 PSI and 1.1% at 3000PSI. at 120°F.

8. The weight of hydraulic oil may vary with a change in viscosity, however, 55 to 58 lbs. per cubic foot covers the viscosity range from 150 SSU to 900 SSU at 100°F.

9. Pressure at the bottom of a one foot column of oil will be approximately 0.4 PSI. To find the approximate pressure in psi at the bottom of any column of oil, multiply the height in feet by 0.4.

10. Atmospheric pressure equals 14.7 PSIA at sea level. ΔP means pressure difference.

11. Gage readings do not include atmospheric pressure unless marked PSIA.

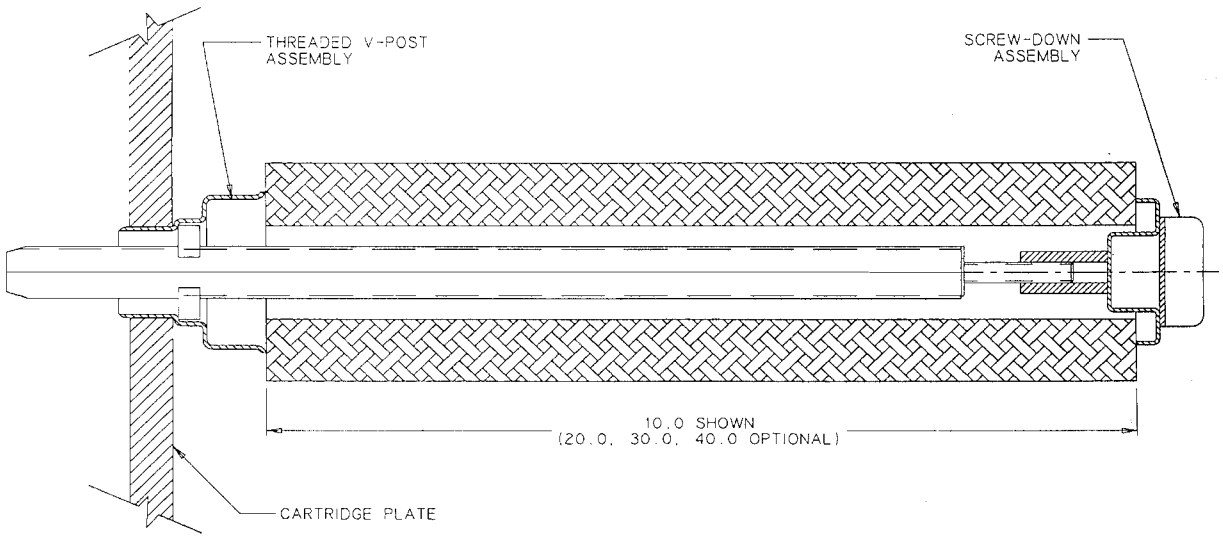
12. There must be a pressure drop (pressure difference) across an orifice or restriction to cause flow through it. Conversely, if there is no flow there will be no pressure drop.
F = P x A

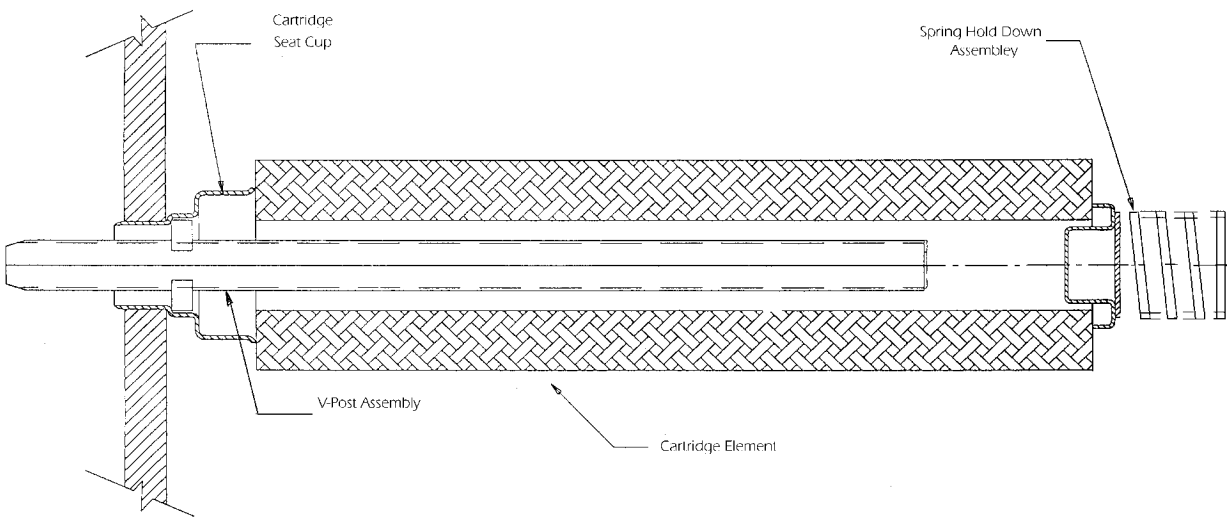
13. A fluid is pushed, not drawn, into a pump. If pumping from an open reservoir, atmospheric pressure pushes the fluid into the pump. Some pumps are used specifically to create pressure, any resulting flow is incidental.

14. A pump does not pump pressure; its purpose is to create flow. Pumps used to transmit power are usually positive displacement type.

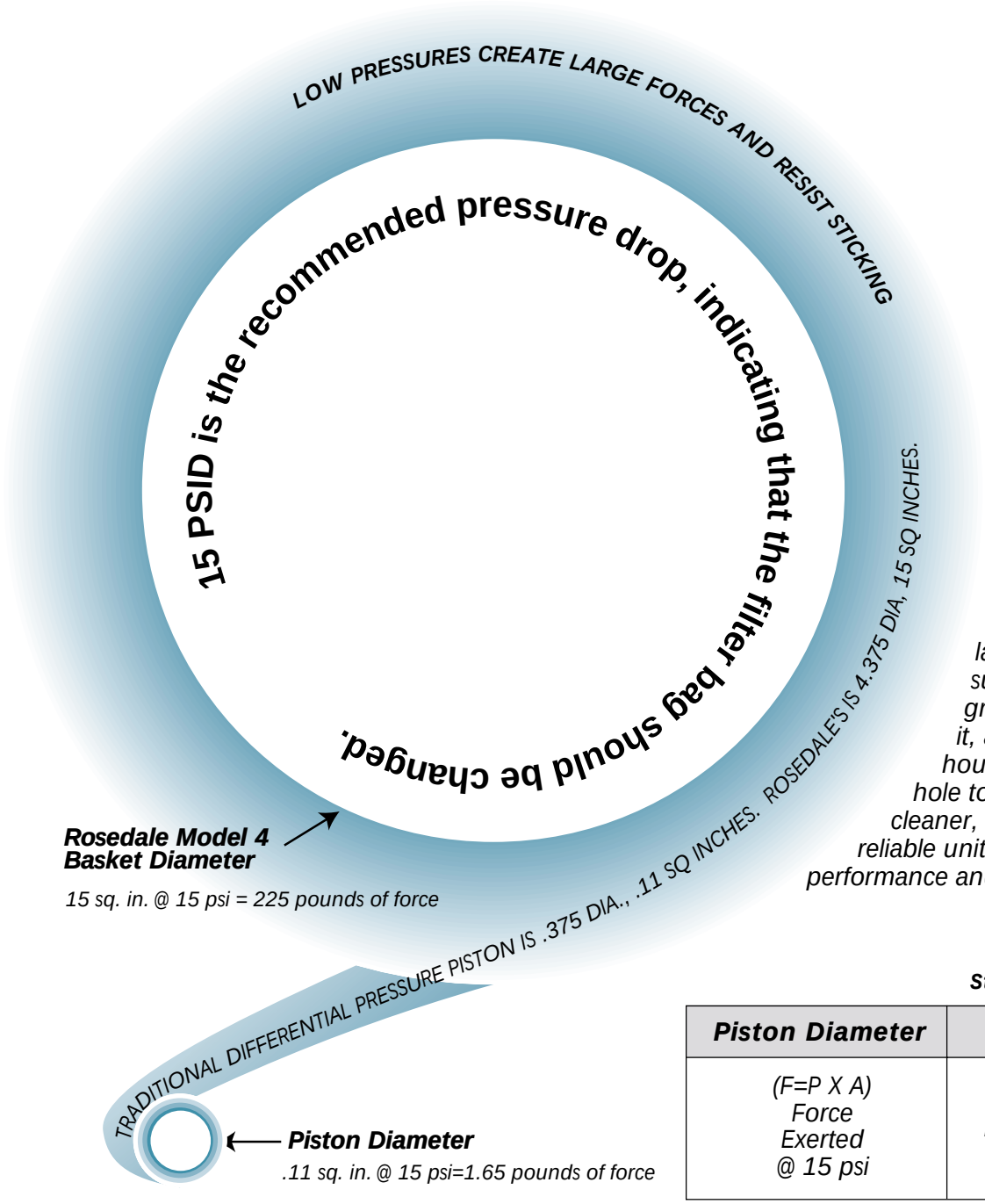
15. Pressure is caused by resistance to flow. A pressure gage indicates the pressure in some unit as psi.

Rosedale Cartridge Sealing Options For Standard Vessels





Force Equals Pressure Times Area



Most differential pressure indicators use a small piston connected through a small hole in the side of the filter. This hole could clog, or the small piston could easily be blocked or restricted. Rosedale's piston is much larger in diameter and surface area, requiring a greater blockage to restrict it, and since it is inside the housing, there is no outside hole to clog. It produces a cleaner, more accurate and reliable unit, providing excellent performance and value.

	Standard	Rosedale Model 4
Piston Diameter	**.38**	**4.38**
(F=P X A) Force Exerted @ 15 psi	*1.65 lbs. of force*	*225.00 lbs. of force*

Properties of American National Standard Schedule 40 and 80 Welded and Seamless Wrought Steel Pipe

Properties of American National Standard Schedule 40 Welded and Seamless Wrought Steel Pipe

Diameter, Inches			Wall Thickness (Inches)	Cross-Sectional Area of Metal	Weight per Foot, Pounds		Capacity per Foot of Length		Length of Pipe in Feet to Contain		Properties of Sections		
Nominal	Actual Inside	Actual Outside			Of Pipe	Of Water in Pipe	In Cubic Inches	In Gallons	One Cubic Foot	One Gallon	Moment Of Inertia	Radius of Gyration	Section Modulus
1/8	0.269	0.405	0.068	0.072	0.24	0.025	0.682	0.003	2532.	338.7	0.00106	0.122	0.00525
1/4	0.364	0.540	0.088	0.125	0.42	0.045	1.249	0.005	1384.	185.0	0.00331	0.163	0.01227
3/8	0.493	0.675	0.091	0.167	0.57	0.083	2.291	0.010	754.4	100.8	0.00729	0.209	0.02160
1/2	0.622	0.840	0.109	0.250	0.85	0.123	3.646	0.016	473.9	63.35	0.01709	0.261	0.04070
3/4	0.824	1.050	0.113	0.333	1.13	0.231	6.399	0.028	270.0	36.10	0.03704	0.334	0.07055
1	1.049	1.315	0.133	0.494	1.68	0.374	10.37	0.045	166.6	22.27	0.08734	0.421	0.1328
1-1/4	1.380	1.660	0.140	0.669	2.27	0.648	17.95	0.078	96.28	12.87	0.1947	0.539	0.2346
1-1/2	1.610	1.900	0.145	0.799	2.72	0.882	24.43	0.106	70.73	9.456	0.3099	0.623	0.3262
2	2.067	2.375	0.154	1.075	3.65	1.454	40.27	0.174	42.91	5.737	0.6658	0.787	0.5607
2-1/2	2.469	2.875	0.203	1.704	5.79	2.074	57.45	0.249	30.08	4.021	1.530	0.947	1.064
3	3.068	3.500	0.216	2.228	7.58	3.202	88.71	0.384	19.48	2.604	3.017	1.163	1.724
3-1/2	3.548	4.000	0.226	2.680	9.11	4.283	118.6	0.514	14.56	1.947	4.788	1.337	2.394
4	4.026	4.500	0.237	3.174	10.79	5.515	152.8	0.661	11.31	1.512	7.233	1.510	3.215
5	5.047	5.563	0.258	4.300	14.62	8.666	240.1	1.04	7.198	0.9622	15.16	1.878	5.451
6	6.065	6.625	0.280	5.581	18.97	12.52	346.7	1.50	4.984	0.6663	28.14	2.245	8.496
8	7.981	8.625	0.322	8.399	28.55	21.67	600.3	2.60	2.878	0.3848	72.49	2.938	16.81
10	10.020	10.750	0.365	11.91	40.48	34.16	946.3	4.10	1.826	0.2441	160.7	3.674	29.91
12	11.938	12.750	0.406	15.74	53.52	48.49	1343.	5.81	1.286	0.1720	300.2	4.364	47.09
16	15.000	16.000	0.500	24.35	82.77	76.55	2121.	9.18	0.8149	0.1089	732.0	5.484	91.50
18	16.876	18.000	0.562	30.79	104.7	96.90	2684.	11.62	0.6438	0.0861	1172.	6.168	130.2
20	18.812	20.000	0.594	36.21	123.1	120.4	3335.	14.44	0.5181	0.0693	1706.	6.864	170.6
24	22.624	24.000	0.688	50.39	171.3	174.1	4824.	20.88	0.3582	0.0479	3426.	8.246	285.5
32	30.624	32.000	0.688	67.68	230.1	319.1	8839.	38.26	0.1955	0.0261	8299.	11.07	518.7

Note: *Torsional Section Modulus Equals Twice Section Modulus.*

Properties of American National Standard Schedule 80 Welded and Seamless Wrought Steel Pipe

Diameter, Inches			Wall Thickness (Inches)	Cross-Sectional Area of Metal	Weight per Foot, Pounds		Capacity per Foot of Length		Length of Pipe in Feet to Contain		Properties of Sections		
Nominal	Actual Inside	Actual Outside			Of Pipe	Of Water in Pipe	In Cubic Inches	In Gallons	One Cubic Foot	One Gallon	Moment Of Inertia	Radius of Gyration	Section Modulus
1/8	0.215	0.405	0.095	0.093	0.315	0.016	0.436	0.0019	3966.	530.2	0.00122	0.115	0.00600
1/4	0.302	0.540	0.119	0.157	0.537	0.031	0.860	0.0037	2010.	268.7	0.00377	0.155	0.01395
3/8	0.423	0.675	0.126	0.217	0.739	0.061	1.686	0.0073	1025.	137.0	0.00862	0.199	0.02554
1/2	0.546	0.840	0.147	0.320	1.088	0.101	2.810	0.0122	615.0	82.22	0.02008	0.250	0.04780
3/4	0.742	1.050	0.154	0.433	1.474	0.187	5.189	0.0225	333.0	44.52	0.04479	0.321	0.08531
1	0.957	1.315	0.179	0.639	2.172	0.312	8.632	0.0374	200.2	26.76	0.1056	0.407	0.1606
1-1/4	1.278	1.660	0.191	0.881	2.997	0.556	15.39	0.0667	112.3	15.01	0.2418	0.524	0.2913
1-1/2	1.500	1.900	0.200	1.068	3.631	0.766	21.21	0.0918	81.49	10.89	0.3912	0.605	0.4118
2	1.939	2.375	0.218	1.477	5.022	1.279	35.43	0.1534	48.77	6.519	0.8680	0.766	0.7309
2-1/2	2.323	2.875	0.276	2.254	7.661	1.836	50.86	0.2202	33.98	4.542	1.924	0.924	1.339
3	2.900	3.500	0.300	3.016	10.25	2.861	79.26	0.3431	21.80	2.914	3.895	1.136	2.225
3-1/2	3.364	4.000	0.318	3.678	12.50	3.850	106.7	0.4617	16.20	2.166	6.280	1.307	3.140
4	3.826	4.500	0.337	4.407	14.98	4.980	138.0	0.5972	12.53	1.674	9.611	1.477	4.272
5	4.813	5.563	0.375	6.112	20.78	7.882	218.3	0.9451	7.915	1.058	20.67	1.839	7.432
6	5.761	6.625	0.432	8.405	28.57	11.29	312.8	1.354	5.524	0.738	40.49	2.195	12.22
8	7.625	8.625	0.500	12.76	43.39	19.78	548.0	2.372	3.153	0.422	105.7	2.878	24.52
10	9.562	10.750	0.594	18.95	64.42	31.11	861.7	3.730	2.005	0.268	245.2	3.597	45.62
12	11.374	12.750	0.688	26.07	88.63	44.02	1219.	5.278	1.417	0.189	475.7	4.271	74.62
14	12.500	14.000	0.750	31.22	106.1	53.16	1473.	6.375	1.173	0.157	687.4	4.692	98.19
16	14.312	16.000	0.844	40.19	136.6	69.69	1931.	8.357	0.895	0.120	1158.	5.366	144.7
18	16.124	18.000	0.938	50.28	170.9	88.46	2450.	10.61	0.705	0.094	1835.	6.041	203.9
20	17.938	20.000	1.031	61.44	208.9	109.5	3033.	13.13	0.570	0.076	2772.	6.716	277.2
22	19.750	22.000	1.125	73.78	250.8	132.7	3676.	15.91	0.470	0.063	4031.	7.391	366.4

Note: *Torsional Section Modulus Equals Twice Section Modulus.*

Hardness-Tensile Strength Conversion Chart For Steels

Hardness Number								Tensile Strength,
Vickers[a]	Brinell[b]		Rockwell				Shore	
	Steel Ball	WC Ball	A[c]	B[d]	C[e]	D[f]		
680	. . .	638	80.8	. . .	59.2	70.1	80	329
640	. . .	601	79.8	. . .	57.3	68.7	77	309
600	. . .	564	78.6	. . .	55.2	67.0	74	289
550	505	517	77.0	. . .	52.3	64.8	. . .	264
500	465	471	75.3	. . .	49.1	62.2	66	240
480	448	452	74.5	. . .	47.7	61.3	64	230
460	433	433	73.6	. . .	46.1	60.0	62	220
440	415	415	72.8	. . .	44.5	58.8	59	210
420	397	397	71.8	. . .	42.7	57.5	57	200
400	379	379	70.8	. . .	40.8	56.0	55	190
390	369	369	70.3	. . .	39.8	55.2	. . .	185
380	360	360	69.8	(110.0)	38.8	54.4	52	180
370	350	350	69.2	. . .	37.7	53.6	. . .	175
360	341	341	68.7	(109.0)	36.6	52.8	50	170
350	331	331	68.1	. . .	35.5	51.9	. . .	166
340	322	322	67.6	(108.0)	34.4	51.1	47	161
330	313	313	67.0	. . .	33.3	50.2	. . .	156
320	303	303	66.4	(107.0)	32.2	49.4	45151	
310	294	294	65.8	. . .	31.0	48.4	. . .	146
300	284	284	65.2	(105.5)	29.8	47.5	42	141
295	280	280	64.8	. . .	29.2	47.1	. . .	139
290	275	275	64.5	(104.5)	28.5	46.5	41	136
285	270	270	64.2	. . .	27.8	46.0	. . .	134
280	265	265	63.8	(103.5)	27.1	45.3	40	131
275	261	261	63.5	. . .	26.4	44.9	. . .	129
270	256	256	63.1	(120.0)	25.6	44.3	38	126
265	252	252	62.7	. . .	24.8	43.7	. . .	124
260	247	247	62.4	(101.0)	24.0	43.1	37	121
255	243	243	62.0	. . .	23.1	42.2	. . .	119
250	238	238	61.6	99.5	22.2	41.7	36	116
245	233	233	61.2	. . .	21.3	41.1	. . .	114
240	228	228	60.7	98.1	20.3	40.3	34	111
230	219	219	. . .	96.7	(18.0)	. . .	33	106
220	209	. . .	95.0	(15.7)	. . .	32	101	
210	200	200	. . .	93.4	(13.4)	. . .	30	97
200	190	190	. . .	91.5	(11.0)	. . .	29	92
190	181	181	. . .	89.5	(8.5)	. . .	28	88
180	171	171	. . .	(6.0)	. . .	26	84	
170	162	162	. . .	85.0	(3.0)	. . .	25	79
160	152	152	. . .	81.7	(0.0)	. . .	24	75
150	143	143	. . .	78.7	. . .	. . .	22	71
140	133	133	. . .	75.0	. . .	. . .	21	66
130	124	124	. . .	71.2	. . .	. . .	20	62
120	114	114	. . .	66.7	. . .	. . .	. . .	57
110	105	105	. . .	62.3	. . .	. . .	. . .	. . .
100	95	95	. . .	56.2	. . .	. . .	. . .	. . .
95	90	90	. . .	52.0	. . .	. . .	. . .	. . .
90	86	86	. . .	48.0	. . .	. . .	. . .	. . .
85	81	81	. . .	41.0	. . .	. . .	. . .	. . .

a. Diamond pyramid indenter; 5-120 kg load. b. 10mm diameter ball, hardened steel or tungsten carbide; 3,000 kg load. c. Brale (diamond cone) indenter; 60 kg load. d. 1/16-inch diameter steel ball; 100 kg load. e. Brale (diamond cone) indenter; 150 kg load. f. Brale (diamond cone) indenter; 100 kg load. g. Sclerosope; Diamond-tipped hammer.

Note: Vickers, Brinell, and Rockwell tests indicate hardness by indentation measurements; Shore test indicates hardness by height of rebond. Values in parentheses are approximate. Reference: ASM Metals Handbook, 8th Edition, Vol 11, Nondestructive Inspection and Quality Control.

Recommended Maximum ΔP for Standard Rosedale Baskets

The recommended maximum operating ΔP for standard Rosedale Baskets is 15-20 psid. The baskets should not fail catastrophically until they reach a ΔP of 60-70 psid. We must consider the fact that there is a rapid rise in ΔP once the differential pressure reaches 30 psid. The time required for the ΔP to increase from 30 psid to 60-70 psid is very short (the actual time depends on many factors, dirt load, viscosity, etc.), this is why it is recommended that the filter basket be serviced at a differential of 15-20 psid.

If cyclical loadings or pulses must be considered, a reduction in the recommended maximum ΔP should be taken (reduction dependent on severity of pulse, viscosity, etc.). These pressure spikes will adversely affect the integrity of the filter basket.

The above information is for filter baskets only. If a filter bag is utilized, it is critical that the ΔP never exceeds 15 psid. A filter bag can not withstand a high differential pressure.

Radiography

Radiography is one of the methods of NDE (Non Destructive Examination) tools utilized in the fabrication of pressure vessels (i.e., Rosedale Filter Vessels). Radiography is a tool used to verify that the welds of the pressure vessel are within allowable quality limits.

The "ASME Code Section VIII, Division 1 Pressure Vessels" gives guidelines for the use of radiography. Radiography is required in Code fabrication for vessels used to contain lethal substances (Lethal Service), when weld joints exceed thickness limits and in unfired steam boilers. For all of Rosedale's standard filter vessels, radiography is not a Code requirement.

When designing a pressure vessel, joint efficiencies are established based on the degree of radiographic examination (Full, Spot or None). Higher joint efficiencies are assigned to higher degrees of examination. Determining the joint efficiency is one design parameter that is critical to optimizing the design of a pressure vessel. This optimization allows for the most economical and efficient usage of components to fabricate the pressure vessel. Therefore, Rosedale can provide a competitively priced filter vessel based on your requirements.

The ASME Code defines several levels of examination. These defined below:

RT-1 Full Radiography

When the complete vessel satisfies the full radiography requirements of UW-11(a) and when the spot radiography provisions of UW-11(a)(5) have not been applied.

RT-2 Full Radiography

When the complete vessel satisfies the full radiography requirements of UW-11(a)(5) and when the spot radiography provisions of UW-11(a)(5)(b) have been applied.

RT-3 Spot Radiography

When the complete vessel satisfies the spot radiography requirements of UW-11(b).

RT-4 Radiography by Designer

When only part of the vessel has satisfied the radiographic requirements of UW-11(a) or when none of the markings RT-1, RT-2, or RT-3 are applicable.

The implications of each of the above levels of radiography can vary depending on the design of your filter vessel. The interpretation of what is required should be determined by Rosedale's engineering staff.

These definitions can also be misleading because of changes in definitions over the years by ASME, misinterpretation of "Full" vs. "Spot" radiography requirements, and customer defined radiography requirements.

Often customers, engineering firms, or end users will specify radiography or other NDE requirements beyond what is specified by the ASME Code. Rosedale can ensure compliance with the requirements of the ASME Code or customers specifications.

Glossary

A

ABRASION: *Migration of foreign material which enters the fluid stream from system components that wear from close tolerances, vibration, or shock.*

ABRASIVE: *Any solid material, such as grit, with erosive properties.*

ABRASIVES: *Hard structurally strong solid.*

ABSOLUTE: *An arbitrary term used to describe or define a degree of filtration. The filtration industry uses various methods of determining absolute ratings which are not necessarily interchangeable. Generally absolute references 100% removal of solids (glass beads) above a specified micron rating on a single pass basis. See nominal.*

ABSOLUTE: *The sum of gage pressure and atmospheric pressure.*

ABSORB: *To take up by cohesive, chemical or molecular action.*

ABSORBENT: *A filter medium that holds contaminants by mechanical means. When one substance soaks completely through another, sometimes undergoing a chemical change.*

ACIDITY: *The quality, state, or degree of being acid. In lubricating oils, acidity denotes the presence of acid-type constituents whose concentration is usually defined in terms of a neutralization number. The constituents vary in nature and may or may not markedly influence the behavior of the fluid.*

ADDITIVE: *A material, usually chemical, added to a product to impart new or unusual characteristics or to improve existing characteristics.*

ADSORB: *To take up by adhesion of molecules of gases or dissolved substances to the surface of solid bodies, resulting in high concentration of the gas or solution at place of contact. Gas or solution is condensed on the surface of the adsorbent, while in adsorption, the material absorbed penetrates throughout the mass of absorbent.*

ADSORBATE: *The material which is adsorbed; i.e., the gas, vapor, or liquid which adheres or is chemically attracted to the surface of the solid.*

ADSORBENT: *A material which adsorbs; i.e., the solid which attracts and holds on its surface the gas, vapor, or liquid. Also materials added to liquors to decolorize or purify by adsorbing the color or impurity. Fuller's earth, activated carbon, activate alumina, etc. are all adsorbents.*

ADSORBENT: *A filter medium primarily intended to hold soluble and insoluble contaminants on its surface by molecular adhesion - no chemical change.*

ADSORPTION: *The natural phenomenon of a gas, vapor, or liquid being attracted to and held on the surface of a solid. To some extent adsorption takes place on any solid surface, but certain materials have sufficient adsorbent capacity because of the finely divided material to make them useful in such industrial applications as the purification and separation of gases and liquids.*

AGGLOMERATE: *A group of two or more particles combined, joined, or clustered, by any means.*

AGGREGATE: *A relatively stable assembly of dry particles formed under the influence of physical forces.*

AMBIENT: *Surrounding. For example, ambient operating temperatures of a vessel is temperature essentially the same as that surrounding the vessel.*

ASME: *American Society of Mechanical Engineers.*

ASPHALTINE: *Product of partial oxidation of oil.*

ATMOSPHERIC PRESSURE: *The force exerted on a unit area by the weight of the atmosphere.*

ATOM: *Smallest particle of an element which retains properties of the element. Example: Carbon atom (C).*

AUTOCLAVE: *Sterilizing apparatus which uses steam at high pressure.*

B

BACK PRESSURE: *In filter use, resistance offered by filter, usually measured in PSI.*

BACKWASH: *To clean a filter element by reversing the direction of flow through it.*

BASKET STRAINER: *Vessel for the removal of coarse bulk solids from liquid, air, or gas; element is a basket covered with a screen of a given mesh.*

BED (CAKE): *Mass of impurities which form on a filter element.*

BETA RATIO: *An accurate indication of how the filter performs throughout the life of the filter. The Beta Ratio is an average filtration rating.*

BLEEDER: *A system in which part of the fluid from the main flow is diverted.*

BLOTTER TEST: *A visible means of checking oil clarity; one drop on a blotter will concentrate dirt or foreign matter in the center of the ring.*

BLOWBACK: *To reverse flow air, steam, or fluid through the media to effect solids removal. Sometimes referred to as backwash.*

BRIDGING: *A condition of filter element loading in which contaminant spans the space between adjacent sections of a filter element thus blocking a portion of the useful filtration area.*

BUNA N: *Gasket material. A synthetic rubber frequently used for vessel closures, flanges, and filter elements.*

BURST: *An outward structural failure of the filter element caused by excessive differential pressure.*

BY-PASS: *Condition resulting from the product flowing through a vessel other than through the media. Also a filtering system which filters only part of the stream on a continuous basis.*

BY-PASS INSTALLATION: *A system where part of the main flow is diverted to pass through a filter.*

BY-PASS VALVE: *Valve to pass the flow around the media or the vessel, usually activated at a given differential pressure setting.*

C

CAKE: *Solids deposited on the filter medium*

CENTIPOISE: *One one-hundredth of a poise. A poise is the unit of viscosity expressed as one dyne per second per square centimeter.*

CENTISTOKE: *One one-hundredth of a stoke. A stoke is equal to the viscosity in poises times the density of the fluid in grams per cubic centimeter.*

CHANNEL: *To cut grooves or lines in or through the solids deposited on the media, or through the media itself. Also may be described as a break-through in the media which would result in a by-pass.*

CLEANER BLADES: *Stationary blades located between stacked discs of a metallic self cleaning filter cartridge to comb out dirt particles as the cartridge is rotated.*

CLOUD POINT: *Temperature of a petroleum oil at which paraffin, wax or other solid substances begin to crystallize out or separate from solution when the oil is chilled under definite prescribed conditions.*

COAGULANT: *That which produces agglomeration of suspended solids.*

COALESCER: *A mechanical device which unites discrete droplets of one phase prior to being separated from a second phase. Can be accomplished only when both phases are immiscible. Requires a tight media which is preferentially wettable and, by its nature of being tight, the media is also a good filtering material. Good coalescing permits gravity separation of the discontinuous phase. Coalescing may be accomplished by only a coalescer cartridge when the specific gravities of the two phases are widely separated. As the gravities difference become less, the two stage principle is generally required where finely coalesced discontinuous droplets are repelled by the second stage separator cartridge.*

COALESCING: *The action of uniting of small droplets of one liquid preparatory to its being separated from another liquid.*

COLLAPSE PRESSURE: *The pressure impressed across a filter element (cartridge), sufficient to cause collapse of the element.*

COMBINATION: *A filter medium composed of two or more types, grade or arrangements of filter*

media to provide proportion which are not available in a single filter medium.

CONTAMINANT: *Anything in the fluid that should not be there.*

CONTAMINATE: *The foreign matter in a fluid which is accumulated from various sources such as system dirt, residue from wear of moving parts, atmospheric solids which settle in an open system. Contaminates tend to discolor a liquid, cause additional wear on moving parts, cause system upsets in process stream, or reduce the efficiency of a fluid. Water as well as solid may be considered a contaminate when the presence of water causes adverse results. The presence of contaminates, whether liquid or solid, is the basis on which the use of filters or separator/filters are sought.*

CORE: *Material used for the center of an element, generally of the wound design. May also be called a center tube when used in the coalescer, separator, or other type filter element.*

CORROSION: *The conversion of metals into oxides, hydrated oxides, carbonates, or other compounds due to the action of air or water, or both. Salts and sulphur are also important sources of corrosion. Removal of solids and water reduces the effect or speed of corrosion in many cases; and in other cases, corrosion inhibitors are used to reduce the effect of corrosion.*

CP: *A section of less dense material in the media which allow a cold liquid to flow through the element controlling pressure drop below bypass opening.*

D

DEGRADATION: *Wearing down, or reduction in the efficiency, of a media.*

DEGREE OF FILTRATION: *Fineness of a filter medium-size of the smallest particles filtered out.*

DELTA "P": *A Symbol (P) designating pressure drop. The difference in pressure between two points, generally measured at the inlet and outlet of a filter, separator/filter, etc. Normally measured in pounds per square inch (psi), inches of mercury (In. Hg.), or inches of water (In. H20).*

DENSITY: *The weight per unit volume of a substance (specific weight).*

DEPTH: *A filter medium which primarily retains contaminants within the tortuous passages within the thickness of the element wall.*

DEPTH TYPE FILTRATION: *Filtration accomplished by flowing a fluid through a mass filter media providing a tortuous path with many entrapments to stop the contaminates. Flow may be cross flow such as from the outside to inside and then down the center of an element, or from end to end. Certain types of solids, or combinations of solids, do not lend to surface filtration and depth type filtration is found to be more suitable.*

DETERGENT OILS: *Lubricating oils possessing special sludge dispersing properties commonly used in internal combustion engines. These properties are incorporated in the oil by the use of special additives.*

DIELECTRIC: *A substance which will not conduct electricity.*

DIFFERENTIAL PRESSURE: *The difference in pressure between two given points of a filter, separator/filter, etc.*

DILATANT: *A flow condition where certain liquids will show an increase in viscosity as the rate of shear or flow volume is increased.*

DIRT HOLDING PRESSURE: *The volume of contaminate an element can hold before reaching the maximum allowable pressure drop. Volume will vary depending on the size and design of the element and the density of the solid particles. Usually reported by weight such as grams or pounds per element. Also called solids retention or solids holding capacity.*

DISCHARGE: *Flow rate through a filter.*

DISPOSABLE: *Describes element which is to be discarded after use and replaced with an identical element. Same as replaceable. Opposite of reusable.*

DUAL DENSITY: *A depth element that is constructed of two different medias not blended into a homogeneous mixture but remaining as two different distinctive medias.*

DROP: *The quantity of fluid which falls into one spherical mass; a liquid globule. May also be described as several to many droplets.*

DROPLET: *A minute drop which mates to form larger drops capable of falling by gravity.*

E

EDGE FILTER: *Filter using shearing edges to separate solids from a liquid by shearing the oil film surrounding the particles (solid particles).*

EDGE TYPE: *Applies to liquid filters constructed of metal or paper discs, or specially constructed wire wound cylinders; contaminants are entrapped at the edges of the medium. Generally used to remove small quantities of very fine particles. Some have knife or blade cleaners to remove the accumulated solids.*

EFFECTIVE AREA: *The area of a medium that is exposed to flow and usable for its intended purpose: coalescing, filtering, or separating. Opposite of blind spots or dead area.*

EFFECTIVE OPEN AREA: *Area of the filtering medium through which the fluid may flow.*

EFFICIENCY: *Degree to which element will perform in removing solids and/or liquids. Output divided by input.*

ELEMENT: *Medium used in vessel to perform the function of coalescing, filtering, or separating. Also referred to as a cartridge, repack, etc. The porous device which performs the actual process of filtration.*

ELEMENT BY-PASS VALVE: *A valve within a filter to limit the differential pressure which can be impressed across the filter element.*

EMULSIFICATION: *A dispersion of one substance in the form of minute drops within another substance.*

EMULSION: *A dispersion of fine liquid particles in a liquid stream which do not necessarily dissolve in each other but are held in suspension. Many emulsions may be broken by coalescing if the liquids are immiscible. Emulsion stabilizers modify the surface tension of the droplets which makes coalescing difficult, if not impossible.*

ENTRAINED WATER: *Discrete water droplets carried by a continuous liquid or gas phase when water is immiscible with the liquid. May be separated from the continuous phase by coalescing and gravity separation. Usually picked up in a system by condensation or a water washing used in process.*

ENTRAINMENT: *Mist, fog, or droplets of a liquid which is usually considered to be a contaminate when used in the filtration industry.*

EXTENDED AREA: *Principal of shaping the element to give it more effective area than a simple cylinder of the same size.*

F

FELTED ELEMENT: *Constructed by random layer of fibers, usually strengthened by a resin binder.*

FIBER: *Flexible material with two relatively small dimensions and one long dimension.*

FILTER: *A term generally applied to a device used to remove solid contaminate from a liquid or gas, or separate one liquid from another liquid or gas. A filter, as referred to in the industry today, is a device which removes contaminates. If a device is used to remove solids and liquids contaminates, it is referred to in general terms as a separator, separator/filter, or entrainment separator. A filter may be one of a number of such types as replaceable cartridge, cyclone, edge, leaf, baffle, plate and frame, pre-coat, and centrifuge. The term filter is sometimes erroneously used to describe the media used inside the vessel or filter case, but the correct use should be filter element, cartridge, etc.*

FILTER/COALESCER: *Single stage vessel for coalescing and separating one immiscible fluid from another and the removal of solids. Generally recommended for use where continuous phase has light gravity. Available with various efficiencies.*

FILTER EFFICIENCY: *Expressed as a percent of contaminant introduced to the system, it is the ability of a filter to remove specified contaminants at a given contaminant concentration under specified test condition.*

FILTER ELEMENT LIFE: *Span of operation from clean unit to a predetermined pressure drop build up - usually measured in lapsed time.*

FILTER LIFE: *Span of operation from start to complete plugging usually measured in hours of operation.*

FILTER MEDIUM: *The porous material mounted on a plate or frame which separates the solids from the liquids in filtering. Also referred to as filter cloth, filter plate, or septum. The material that performs the actual process of filtration.*

FILTRATE: *Filtered fluid which flows out of a filter.*

FILTRATION RATING, ABSOLUTE: *The diameter of the largest hard spherical particle that will pass through a filter under specified test conditions. This is an indication of the largest opening in the filter medium.*

FILTRATION RATING, MEAN: *A measurement of the average size of the pores of the filter medium.*

FILTRATION RATING, NOMINAL MICRON: *An arbitrary micron value indicated by the manufacturer. Often defined: 95% of all particles this size, and larger, retained by the filter medium.*

KARL FISCHER: *Analytical method of determining amount of water present in a sample by titration.*

FLOW CHARACTERISTICS: *The nature of fluid movement as being turbulent, laminar, constant or variable rate to various degrees.*

FLOW RATE: *The rate at which a product is passed through a vessel or system; generally expressed as gallons per minute, barrels per hour, barrels per day, actual or standard cubic feet per minute, hour, day, etc.*

FLUID: *A liquid or gas which can be filtered by passing through a filter.*

FREE WATER: *Water entrained in a lubricating oil or fuel forming two distinct phases with the fluid and having a tendency to separate as a result of the differences in densities.*

FULL FLOW: *Product flow through the vessel at the rate for which the vessel is designed to operate. Also refers to all products passing through a medium. The opposite of a by-pass filter which is designed to filter only a portion of the stream on a continuous basis.*

FULL FLOW FILTRATION: *System which provides for filtering all the fluid which is pumped to or from wear surfaces or work stations each pass.*

G

GAGE PRESSURE: *All pressure greater than atmospheric pressure - as read on a pressure gage.*

GAS SCRUBBER: *A vessel designed to remove liquid and solid contaminates by impingement on a series of baffles or demister pads. Accomplished by drastic reduction of velocity as the gas enters the scrubber. Recent advances made in entrainment separation would expand the general use of the term to include mechanical cartridge type separators.*

GEL: *A semi-solid susceptible to pressure deformation. Has habit of sticking to surfaces.*

GRADUAL DENSITY: *A media of different densities. One media of a dense type packed around the center tube with a media of less density around the outside. Both medias are tapered at opposite directions. This allows high flow through the less dense media and tighter filtration through the dense media. Similar to the CP element in performance.*

GRAM LIFE: *Grams weight of contaminant introduced to a filter element at controlled rate to a determined differential pressure.*

GRAVIMETRIC EFFICIENCY: *Measure of efficiency in terms of weight.*

H

HOLDING CAPACITY: *In general usage refers to the amount of solids, particulate or foreign material one or more elements is capable of retaining up to the terminal or maximum differential pressure. Also can refer to volumetric holding capacity of either a solid or a liquid.*

HOUSING: *Container for a filter element(s).*

HYDRAULIC FILTER, DUAL: *A hydraulic filter having two filter elements in parallel.*

HYDRAULIC FILTER, DUPLEX: *An assembly of two hydraulic filters with valving for selection of either or both filters.*

HYDRAULIC FILTER, FULL FLOW: *A hydraulic filter, which under specified conditions filters all influent flow.*

HYDRAULIC FILTER, TWO STAGE: *A hydraulic filter having two filter elements in series.*

HYDRAULICS: *The study of fluids at rest or in motion.*

HYDROPHILIC: *Water accepting or water wetting. Having an affinity for water. Capable of uniting with or dissolving in water. Effective coalescing requires a media to have hydrophilic characteristics which cause free or entrained water to commingle into droplets which, when mated with other droplets, form into drops which separate by gravity. Opposite of hydrophobic.*

HYDROPHOBIC: *Non-water wetting. Having an antagonism for water. Not capable of uniting or mixing with water. Hydrophobic features are induced in the process of cellulose manufacture. Opposite of hydrophilic.*

HYDROSTATIC TEST: *A test conducted with either air, water, or other fluids at a given value over design pressure, to prove the structural integrity of a pressure vessel.*

I

IMMISCIBLE: *Incapable of being mixed; insoluble; opposite of miscible.*

IMPREGNATION: *Process of treating a coarse filter medium with resins.*

IMPURITY: *See "contaminant" - any undesirable material in the fluid.*

INDICATOR, BY-PASS: *An indicator which signals alternate flow.*

INDICATOR DIFFERENTIAL PRESSURE: *An indicator which signals the difference in pressure at two points.*

INITIAL PRESSURE DROP: *Loss in differential pressure between two points upon the start of flow through a vessel using new elements.*

IN-LINE: *Describes inlet and outlet connections which are positioned at the same height on opposite sides of a vessel so that an imaginary straight line can be drawn connecting one to the other. Also describes a small filtration unit that fits into a line and forms a similar image to the line, as in the case of a hose.*

INSOLUBLE: *Incapable of being dissolved in a fluid; opposite of soluble.*

INTERFACE: *Surface over which continuous phase and discontinuous phase are in contact.*

IMPINGEMENT: *The direct high velocity impact of the fluid flow upon or against an internal portion of the filter.*

K

KEROSENE: *A petroleum liquid used as a fuel for commercial jet powered aircraft, or for heating purposes.*

KNIFE EDGE PLEATS: *The sharply defined creases at the outer edge of a pleated element.*

L

LACQUER: *A natural or synthetic resin which is dissolved in a suitable solvent such as hydrocarbon oil rich in aromatics. When applied, the oil solvent evaporates, leaving behind a lacquer film.*

LINE SIZE: *The size of line used to carry the product in a system, such as a six-inch line.*

LUBRICATION: *Substituting fluid friction for solid friction by inserting oil between two moving parts.*

M

MAGNETIC SEPARATOR: *A separator that uses a magnetic field to attract and hold ferro magnetic particles.*

MATRIX: *The structural support yarn or twine in wound elements is usually wound in a diamond.*

MAXIMUM DIFFERENTIAL PRESSURE: *The highest pressure differential which an element is required to withstand without structural failure or collapse.*

MAXIMUM OPERATING PRESSURE: *The maximum pressure allowed in a system.*

MEDIA: *Plural of medium. Material of which elements are made.*

MEDIA (MEDIUM): *A porous or slotted mass in a filter element to separate solids from a fluid by difference in size of openings and contaminant.*

MEDIA MIGRATION: *Carry-over of fibers from filter, separator elements, or other filter material into the effluent. Less definitive than fiber migration and is quantitative.*

MEDIUM: *The principle component of an element. A material of controlled pore size or mass through which a product is passed to remove foreign particles held in suspension or to repel droplets of coalesced water; or material without controlled pore size such as glass fiber mats which*

contribute to filtration, coalescence, or separation of two immiscible liquids.

MEMBRANE: *In filtration the term membrane is used to describe the media through which the liquid stream is to be passed or exchanged. Membranes are normally associated with ion exchanged media such as dialysis, osmosis, diffusion, etc., although filter paper itself could be classed as a membrane.*

MERCAPTANS: *Unsaturated sulphurs.*

MICRON: *A short unit of length in the metric system. One millionth of a meter, 10-4 centimeter, 10-3 millimeter, or 0.000039 of one inch. Used as a criterion to evaluate the performance or efficiency of a filter media or to describe the condition of either the influent or effluent. Usually stated in terms of being either absolute or nominal. Nominal micron rating is generally taken to mean that 98% of all articles over a given micron value have been removed by a specific media or medium. Absolute micron rating is generally taken to mean that all particles over a given micron value have been removed. The naked eye can see a particle 40 microns or larger.*

MIGRATION: *Contaminant or media released to pass downstream from filter element.*

MMSCFD: *Million Standard Cubic Feet per Day.*

MMSCFH: *Million Standard Cubic Feet per Hour.*

MMSCFM: *Million Standard Cubic Feet per Minute.*

MODULAR: *A filter element which has no separate housing of its own, but whose housing is incorporated into the equipment which it services. It may also incorporate a suitable enclosure for the filter cavity.*

N

NEWTONIAN: *A liquid which does not change in viscosity with a change in rate of shear, agitation or flow rate.*

NPT: *National Pipe Thread Standard.*

NTP: *Normal conditions of temperature and pressure. Whenever this term is used, it refers to a gas measured at pressure one (1) atmosphere absolute (760 mm. of Hg.) and a temperature of 0°C. However, some sources use a different reference temperature to define NTP.*

O

OPEN AREA RATIO: *The ratio of pore area of a filter medium expressed as a percent of total area.*

OPERATING PRESSURE: *The normal pressure at which a system operates.*

OPERATING PRESSURE, CRITICAL: *Pressure above the normal or design limits which may cause damage or rupture.*

OPERATING PRESSURE, MAXIMUM: *The maximum pressure allowed in the system.*

OUTER SHELL: *Outer covering of element, usually perforated or screen.*

OUTER WRAP: *Outside covering of an element.*

OUTSIDE IN: *Flow of product from outside to inside of an element.*

P

PAPER: *Medium used in many elements. A very general term applied to resin impregnated cellulose. Many types of paper or cellulose are used as filter media made to specifications.*

PARTIAL FLOW: *See "by-pass installation" - a system that diverts part of the main flow and passes it through a filter.*

PARTICLE COUNT: *A practice of counting particles of solid matter in groups based on relative size. Frequently used in engineering, a filter to a specific task or to evaluate the performance of a filter under specific operating conditions. When used as data to engineer a filter, proper consideration can be given to the type of media to be used, expectant life of the media, and the true cost of operation.*

PARTICLE SIZE DISTRIBUTION:
A tabulation resulting from a particle count of solids grouped by specified micron sizes to determine the condition of either the influent or effluent stream. Usually expressed in percentage of total solids to the specific group. Example: 31% in the 6 to 10 micron group. See particle count.

PERCENT FREE AREA: *Quantitatively, proportion of an element's surface area.*

PLAIN: *A filter element whose medium is not pleated or otherwise extended, and has the geometric shape of a cylinder, cone disc, plate, etc.*

PLEATED: *A filter element whose medium consists of a series of uniform folds and has the geometric shape of a cylinder, cone, disc, plate, etc.*

PLASTISOL: *A suspension of thermosetting plastic which can be molded into any desired shape. Used as a combination end cap and gasket on element.*

PLUGGED: *Condition of a filter when it has collected its full capacity of contaminants and will not pass any more fluid.*

POROSITY: *The ratio of void volume to total cake volume. Also describes filter media which may have larger pores than other media.*

POUR POINT: *The lowest temperature at which a liquid will pour or flow without disturbance under specified conditions.*

PRE-COAT: *A filter medium in loose powder form, such as Fuller's or Diatomaceous earth, introduced into the upstream fluid to condition a filter element.*

PREFILTER: *Filter for removing gross contaminate before the product stream enters a separator/filter.*

PRESSURE: *The force exerted per unit area by a fluid.*

PRESSURE ABSOLUTE: *Gage pressure plus 14.7 psi.*

PRESSURE ATMOSPHERIC: *The force exerted by the atmosphere at sea level, which is equivalent to 14.7 psi.*

PRESSURE DIFFERENTIAL: *The difference in pressure between two points.*

PRESSURE DROP: *The difference in pressure between two points, generally at the inlet and outlet of a filter or a separator/filter. Measured in pounds per square inch gage, or inches of mercury.*

PRESSURE RATING, OPERATING: *The normal pressure at which a filter housing is capable of operating at specified operating conditions.*

PRESSURE RELIEF: *Valve which permits enough liquid or gas to escape from the vessel to prevent extreme pressure build up within the vessel.*

PSI: *Pounds per Square Inch.*

PSIA: *Pounds per Square Inch Absolute.*

PSID: *Pounds per Square Inch Differential.*

PSIG: *Pounds per Square Inch Gage.*

R

RATE OF FLOW: *The rate at which a product is passed through a vessel or system; generally expressed as gallons per minute, barrels per hour, barrels per day, actual or standard cubic feet per minute, hour, day, etc. Same as flow rate.*

RATED FLOW: *Normal operating flow rate at which a product is passed through a vessel; flow rate which a vessel and media are designed to accommodate.*

REPLACEABLE: *Describes element which is to be removed after use and replaced with an identical element.*

REPLACEMENT ELEMENT: *An element or a cartridge used to replace a disposable which has been loaded to its capacity with (cartridge) contaminants.*

REUSABLE: *Describes element which may be cleaned and used again. Opposite of disposable or replaceable.*

S

SAE: *Society of Automotive Engineers.*

SAE NUMBER: *A classification of lubricating oils for crankcase and transmissions in terms of viscosity as standardized by the Society of Automotive Engineers.*

SAYBOLD SECONDS UNIVERSAL (SSU): *Units of viscosity as measured by observing the time in seconds required for 60 ml. of a fluid to drain through a tubular orifice 0.483 inches long by 0.0695 inches in diameter at stated conditions of temperature, and pressure.*

SCFD: *Standard Cubic Feet per Day.*

SCFH: *Standard Cubic Feed per Hour.*

SCFM: *Standard Cubic Feet per Minute.*

SELF CLEANING: *A filter element designed to be cleaned without removing it from the filter assembly, or interrupting flow.*

SEPARATION: *The action of separating solids or liquids from fluids. May be accomplished by impingement, filtration, or by coalescing. The term "separation" is used in some circles when referring to the separation of liquids. Also used to describe the action in the second stage of two-stage separation.*

SEPARATOR: *A device whose primary function is to isolate contaminants by physical properties other than size.*

SEPARATOR/FILTER: *Vessel which removes solids and entrained liquids from another liquid or gas. Uses some combination of a baffle and/ or coalescer, filter, or separator element. May be single stage, two stage, or single or two stage with prefilter section for gross solids removal. Common application is the removal of water from gas or another immiscible liquid. General reference to term applies the equipment is capable of both separation and filtration to specific degrees of efficiencies.*

SERVICE LIFE: *The length of time an element operates before reaching the maximum allowable pressure drop.*

SHELL: *Outer wall of a vessel. Also referred to as body.*

SHUNT INSTALLATION: *A system with a filter paralleled by a metering device both in the main supply line.*

SINTERED: *Media, usually metallic, processed to cause diffusion bonds at all contacting points, retaining openings the passage of filtrate.*

SKID MOUNTED: *Describes one or more vessels with pump and motor, all mounted on a portable platform.*

SLOT AREA: *Sum of the area of all the fluid path openings in a metal - edge filter element.*

SLUDGE: *Dirt, carbon, water and chemical compounds as found in oils.*

SOLID SUSPENSION: *A mixture of solids suspended in a fluid.*

SOLIDS: *A mass, or matter, contained in a stream which is considered undesirable and should be removed.*

SOLUTION: *A single phase combination of liquid and non-liquid substances, or two or more liquids.*

SPACING: *The distance between adjacent surfaces of stacked discs, edge wound ribbons, or single layer filaments. This dimension determines the smallest dimension of solid particles to be retained.*

SPECIFIC GRAVITY: *Ratio of substance's weight to that of some standard substance. (Water for liquids and solids, air or hydrogen for gases)*

SURFACE: *A filter medium which primarily retains contaminant on the influent face.*

SURFACE AREA: *Total area of an element that is exposed to approaching flow. See "percent free area".*

SURFACTANTS: *Coined expression for surface active agents which are sometimes called emulsifiers or wetting agents. First appeared in hydrocarbons with the advent of the catalytic cracking process in refining. Caused by the forming of sodium sulfonate and sodium naphthanate molecules. Affects liquid/liquid separation by reducing interfacial tension and forming into a slime which binds off the fibers used in coalescing media.*

SURGE: *The peak system pressure rise measured as a function of restricting or blocking fluid flow.*

SUSPENSION: *Solids or liquids held in other liquids.*

SUSPENDED SOLIDS: *Non-settled particles in fluid.*

SWING BOLT: *A type of vessel closure which reduces service time. Opposite of thru-bolt flange where studs and nuts are used, such as with ASA type flanges.*

T

THIXOTROPIC: *A liquid which shows a marked reduction in viscosity as the rate of shear, agitation, or flow rate is increased.*

TORTUOSITY: *The ratio of the average effective flow path length to minimum theoretical flow path length (thickness) of a filter medium.*

TURBID METRIC EFFICIENCY: *(Filter inlet turbidity - Outlet turbidity/by Inlet turbidity.*

TURBIDITY: *Stirred up sediment or contaminant in a fluid.*

TURN-OVER: *Number of times the contents of the system pass through a filter per unit time.*

U

ULTRAFILTER: *Membrane type to remove very fine suspended submicronic particles as well as some dissolved solids.*

UNLOADING: *Release downstream of trapped contaminate, due to change in flow rate, mechanical shock and vibration, or as excessive pressure builds up, or media failure.*

V

VACUUM: *Reference to pressure below atmospheric.*

VISCOSITY: *Degree of fluidity; property of fluid's molecular structure by virtue of which they resist flow. The resistance of flow exhibited by a liquid resulting from the combined effects of cohesion and adhesion. The units of measurement are the poise and the stoke. A liquid has a viscosity of one poise if a force of one dyne per square centimeter causes two parallel liquid surfaces one square centimeter in area and one centimeter apart to move past one another at a rate of one centimeter per second. There are a great many crude and empirical methods for measuring viscosity which generally involve measurement for the time of flow or movement of a ball, ring, or other object in a specially shaped or sized apparatus. The internal molecular friction of a liquid, or that property which resists any force tending to produce flow.*

W

WOUND: *A filter medium comprised of two or more layers of helical wraps of a continuous strand or filament in a predetermined pattern.*

WOVEN: *A filter medium made from strands of fiber, thread, or wire interlaced into a cloth on a loom.*

Converting Air Flow to Liquid Flow Equivalents

You must first establish the gas flow rate in units of standard cubic feet per minute (SCFM). A "standard cubic foot" of gas is measured at 14.7 psia (pounds per square inch, absolute) at 60^0 F.

$$\textbf{SCFM} = CFM \times \left(\frac{14.7 + PSIG}{14.7}\right) \times \left(\frac{530}{460 + F}\right)$$

SCFM *= Gas flow in standard cubic feet per min.*
CFM *= Actual gas flow in cubic feet per min.*
PSIG *= Actual gas pressure, pounds per square inch, gauge.*
F *= Actual gas temperature, F^o.*

Next we find the gallons-per-minute equivalent to your particular gas flow, temperature, and pressure:

$$\textbf{GPM} = \frac{SCFM}{4.1} \times \sqrt{\frac{14.7 + PSIG}{14.7}} \times \sqrt{\frac{460 + F}{530}} \times \sqrt{SG}$$

SG *= Specific Gravity of the gas, relative to air. (See chart below.)*

GAS	SG	GAS	SG
Air	1.00	Hellum	.14
Ammonia	.59	Nitric Oxide	1.03
Argon	1.38	Nitrogen	.97
Carbon Dioxide	1.52	Nitrous Oxide	.59
Chlorine	2.45	Sulphur Dioxide	2.21

Note: *Steam and explosive gases are not recommended.*

For Vacuum Applications:

Use the following formula for converting vacuum applications to GPM.

$$\textbf{GPM} = \frac{SCFM}{4.1} \times \sqrt{\frac{14.7 + PSIG}{14.7}} \times \sqrt{\frac{460 + F}{530}} \times \sqrt{SG}$$

Chemical Resistance Guide

MAXIMUM RECOMMENDED OPERATING TEMPERATURES

GASKET MATERIALS	*BUNA N*	*250°F*
	ETHYLENE PROPYLENE	*350°F*
	VITON	*450°F*
	TEFLON	*500°F*
FILTER MEDIA	*POLYESTER*	*300°F*
	POLYPROPYLENE	*225°F*
	NYLON	*325°F*
HOUSING MATERIALS	*CARBON STEEL*	*400°F*
	304 STAINLESS STEEL	*400°F*
	316 STAINLESS STEEL	*400°F*
	PVC	*150°F*
	POLYPROPYLENE	*150°F*

NOTES: *Maximum temperature at standard vessel design pressure. For higher temperatures consult Rosedale Products, Inc.*

Key

- ● = *Recommended for most conditions up to the maximum temperature of the material.*
- ● = *Fair. May be acceptable, but testing is recommended.*
- ● = *Not recommended.*
- O = *No data available. Customer testing required.*

Number (i.e. 70) = Maximum temperature in degrees F°

	GASKET MATERIALS				FILTER MEDIA			HOUSING MATERIALS				
	Buna N	Ethylene Propylene	Viton	Teflon® Fluorocarbon	Polyester	Polypropylene	Nylon	Carbon Steel	304 Stainless Steel	316 Stainless Steel	PVC	Polypropylene
Acetaldehyde	●	●	●	●	●	●	●	●	●	●	●	120
Acetamide	●	●	●	●	●	●	●	●	O	O	O	O
Acetic Acid 5%	●	●	●	●	200	●	200	●	●	●	70	●
Acetic Acid 50%	●	●	●	●	200	●	70	●	●	●	70	●
Acetic Acid 80%	●	●	●	●	200	●	70	●	●	●	70	●
Acetic Acid 100%	●	●	●	●	200	150	70	●	●	●	●	●
Acetic Anhydride	●	●	●	●	O	●	O	●	●	●	●	●
Acetone	●	●	●	●	★	80	●	●	●	●	●	70
Acetophenone	●	●	●	●	●	●	●	200	●	●	O	●
Acetyl Chloride	●	●	●	●	●	●	●	●	●	●	O	●
Acetylene	●	●	●	●	O	●	●	●	●	●	70	O
Acrylic Acid	O	O	●	●	70	150	●	●	O	●	O	●
Acrylonitrile	●	●	70	●	70	70	70	●	●	●	O	70
Adipic Acid	O	O	O	O	O	●	●	●	●	●	70	O
Air-Compressed	●	●	●	●	●	●	●	●	●	●	70	●
Aluminum Acetate	●	●	●	●	O	70	O	●	●	●	70	O
Aluminum Ammonium Sulfate	O	O	O	O	O	●	O	O	O	O	O	●
Aluminum Chloride 5%	●	●	●	●	70	200	70	●	●	●	70	●
Aluminum Fluoride 5%	●	●	●	●	O	70	O	●	●	●	70	70
Aluminum Hydroxide	●	O	●	●	●	70	●	●	●	●	70	70
Aluminum Nitrate	●	●	●	●	O	70	O	●	●	●	70	70
Aluminum Sulfate	●	●	●	●	70	180	70	●	●	●	70	●
Amino Acids	O	O	●	●	O	O	O	O	●	●	O	O
Ammonia Gas (Dry)	70	●	●	O	150	20	O	●	●	●	70	●
Ammonium Bicarbonate	●	●	●	●	O	70	O	●	●	●	O	O
Ammonium Bromide 10%	●	●	●	●	O	O	O	O	O	●	O	O
Ammonium Carbonate 10%	●	●	●	●	●	180	●	●	●	●	70	●
Ammonium Chloride 10%	●	●	●	●	70	180	●	●	●	●	70	●
Ammonium Fluoride 10%	●	●	O	●	O	70	O	O	●	●	70	70
Ammonium Hydroxide 30%	●	●	●	●	70	200	100	●	●	●	70	●
Ammonium Nitrate 5%	●	●	●	●	70	●	●	●	●	●	70	●
Ammonium Phosphate	●	●	●	●	O	140	O	●	●	●	70	●
Ammonium Sulfate 5%	●	●	●	●	70	170	O	●	●	●	70	70
Ammonium Thiocyanate	●	●	O	●	70	O	70	●	●	●	70	O
Amyl Acetate	●	●	●	●	●	70	70	O	O	O	O	●
Amyl Alcohol	●	●	●	●	70	70	70	●	●	●	70	●
Aniline	●	●	160	●	70	180	70	●	●	●	●	●
Aqua Regia	●	●	●	●	●	75	●	●	●	●	70	●
Arsenic Acid	●	●	●	●	O	●	●	●	●	●	70	●

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	GASKET MATERIALS				FILTER MEDIA			HOUSING MATERIALS				
	Buna N	Ethylene Propylene	Viton	Teflon® Fluorocarbon	Polyester	Polypropylene	Nylon	Carbon Steel	304 Stainless Steel	316 Stainless Steel	PVC	Polypropylene
Asphalt	🟡	🔴	🟢	🟢	O	70	O	🟢	🟢	🟢	O	O
Aviation Fuel	🟢	🔴	🟢	🟢	70	80	🟢	🟢	🟢	🟢	O	🔴
Banana Oil	🔴	🟢	🔴	🟢	70	🟡	70	🟢	🟢	🟢	🔴	70
Barium Carbonate	🟢	🟢	🟢	🟢	🟢	70	🟢	🟡	🟡	🟢	70	O
Beer	🟢	🟢	🟢	🟢	O	🟢	O	🔴	🟢	🟢	70	O
Beet Sugar Liquors	🟢	🟢	🟢	O	🟢	O	🔴	🟢	🟢	🟢	70	O
Benzene	🔴	🔴	70	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🔴	🔴
Bromine (Dry)	🔴	🔴	🟢	🟢	🔴	70	🔴	🔴	🔴	🔴	🔴	O
Bromine (Wet)	🔴	🔴	🟢	🟢	🔴	🔴	🔴	🔴	🔴	🔴	80	O
Butane	🟢	🔴	🟢	🟢	250	70	🟢	🟢	🟢	🟢	70	O
Butanoic Acid	O	O	O	O	O	O	🟢	O	🟢	🟢	O	O
Butyl Acetate	🔴	🟢	🔴	🟢	🟢	200	🟢	🟡	🟢	🟢	70	O
Butyl Alcohol	🟢	🟡	🟢	🟢	100	🟡	🟢	🟢	🟢	🟢	70	🟡
Butyl Cellosolve	🟢	🟡	🔴	O	O	70	O	O	🟢	🟢	O	O
Butyl Chloride	O	O	O	O	O	O	O	🟢	🟢	🟢	O	O
Butylene	🟡	🔴	🟢	🟢	O	O	70	🟢	O	🟢	O	O
Butyric Acid	🔴	🟡	🟡	🟢	🟢	🟢	🔴	🔴	🟢	🟢	🔴	🟢
Calcium Chloride	🟢	🟢	🟢	200	🟢	🔴	🟢	🟢	🟡	🟡	70	🟢
Calcium Hydroxide 5%	🟢	🟢	🟢	🟢	100	200	🟢	🟡	🟢	🟢	70	🟢
Calcium Hypochlorite	🟢	🟢	🟢	🟢	🟢	200	🟡	🔴	🔴	🔴	70	🟢
Cane Sugar Liquors	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟢	70	🟢
Carbolic Acid (Phenol)	🔴	🟡	🟢	🟢	🔴	70	🔴	🟡	🟢	🟢	70	🔴
Carbon Dioxide (Dry)	🟢	🟡	🟡	🟢	O	🟢	100	🟢	🟢	🟢	🟢	🟢
Carbon Disulfide	🔴	🔴	🟢	🟢	70	🔴	70	🟡	🟡	🟢	🔴	🔴
Carbon Tetrachloride	🟡	🔴	🟢	🟢	🟢	100	🟢	🟢	🟢	🟢	80	70
Carbonated Water	🟢	🟢	🟢	🟢	O	🟢	100	🟡	🟢	🟢	70	🟢
Carbonic Acid	🟡	🟢	🟢	🟢	O	🟢	100	🟡	🟢	🟢	70	70
Castor Oil	🟢	🟡	🟢	🟢	O	🟢	O	🟢	🟢	🟢	70	🟢
Caustic Potash	🟡	🟢	🟢	🟢	O	🟢	🟢	✪	🟢	🟢	70	🟢
Caustic Soda	🟡	🟢	🟡	🟢	O	🟢	🟢	100	🟢	🟢	70	🟢
Cellosolve	🔴	🟡	🔴	O	O	70	O	100	O	100	70	O
Chloracetic Acid	🔴	🟡	🔴	🟢	🟡	70	🔴	🟡	🟢	🟢	70	🔴
Chlorine Gas (Dry)	🔴	🟡	🟢	🟢	O	🔴	🔴	70	🟢	🟢	80	🔴
Chlorine Gas (Wet)	🔴	🟡	🟢	🟢	O	🔴	🔴	🔴	🔴	🟡	80	🔴
Chlorobenzene	🔴	🔴	🟢	🟢	200	🟡	200	🟡	🟢	🟢	🔴	70
Chloroform (Dry)	🔴	🔴	🟢	🟢	70	70	🟢	🟡	🟢	🟢	🔴	🔴
Chromic Acid	🔴	🟡	🟢	🟢	🟡	80	🔴	🟢	🟡	🟢	80	80

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	GASKET MATERIALS				FILTER MEDIA			HOUSING MATERIALS				
	Buna N	Ethylene Propylene	Viton	Teflon® Fluorocarbon	Polyester	Polypropylene	Nylon	Carbon Steel	304 Stainless Steel	316 Stainless Steel	PVC	Polypropylene
Cider	🟡	🟢	🟢	🟢	O	🟢	O	🔴	🟢	🟢	70	🟢
Citric Acid	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🔴	🟢	🟢	70	🟡
Cod Liver Oil	🟢	🟢	🟢	🟢	O	🔴	O	🟡	🟢	🟢	70	🔴
Coffee Extract	🟢	O	🟢	🟢	O	🔴	O	🔴	🟢	🟢	🟡	🔴
Cola Syrup	O	O	O	🟢	70	70	70	O	🟢	🟢	O	70
Copper Sulfate	🟢	🟢	🟢	🟢	70	🟢	🔴	🔴	🟢	🟢	70	🟢
Corn Oil	🟢	🔴	🟢	🟢	O	100	🟢	🟢	🟢	🟢	70	70
Cottonseed Oil	🟢	🔴	🟢	🟢	🟢	100	🟢	🟢	🟢	🟢	70	70
Creosol	O	🔴	🟢	🟢	🔴	🟢	🔴	O	O	O	O	O
Creosote	🟢	🔴	🟢	🟢	O	🔴	O	🟢	🟢	🟢	70	🔴
Cresylic Acid	🔴	🔴	🟢	🟢	🟢	🟡	🔴	O	O	🟢	70	🔴
Cyclohexane	🟢	🔴	🟢	🟢	200	🔴	O	🟢	🟢	🟢	🔴	🔴
Cyclohexanol	O	O	O	O	O	150	O	O	O	O	O	O
Cyclohexamine	🔴	🟡	🔴	🟢	200	🔴	🟢	70	O	70	🔴	🔴
DDT Solution	O	O	🟢	🟢	O	🟡	O	O	🟡	🟡	O	🔴
Dextrose	🟢	🟢	🟢	🟢	O	🟢	O	🟢	🟢	🟢	70	70
Diacetone Alcohol	🔴	🟢	🔴	🟢	O	70	O	🟢	🟢	🟢	🔴	🔴
Dibutyl Phthalate	🔴	🟡	🔴	🟢	O	70	O	🟢	🟢	🟢	O	🔴
Dichloroethane	🔴	🔴	🟢	🟢	O	🔴	O	O	🟢	🟢	O	O
Dichloroethylene	O	O	O	🟢	O	70	70	🟢	O	O	O	🔴
Diesel Fuel	🟢	🔴	🟢	🟢	O	120	🟢	🟢	🟢	🟢	80	120
Diethanolamine	🟢	🟡	🔴	🟢	🟢	🟢	🟢	🟢	O	O	O	🟡
Diethylene Glycol	🟢	🟢	🟢	🟢	🟢	🟡	🟢	🟢	🟢	🟢	O	🔴
Dimethyl Formamide	🔴	O	O	200	200	200	200	O	70	70	O	🟢
Diphenyl Oxide	🔴	🔴	🟢	🟢	O	70	O	🟢	🟢	🟢	O	70
Dowtherm	🔴	🔴	🟢	🟢	O	70	O	🟢	🟢	🟢	O	70
Epichlorohydrin	🔴	🟡	🔴	🟢	🟢	120	🟢	🟢	O	🟢	O	120
Ethanol	🟢	🟢	🔴	🟢	🟢	🟢	🟢	🟢	🟢	🟢	O	🟢
Ethanolamine	🟡	🟡	🔴	🟢	O	70	O	🟢	🟢	🟢	O	70
Ether	🔴	🔴	🔴	🟢	95	🟡	🟢	🟢	🟢	🟢	🔴	🟡
Ethyl Acetate	🔴	🟡	🔴	🟢	🟢	120	🟢	🟢	🟢	🟢	🔴	120
Ethyl Cellulose	🟡	🟡	🔴	🟢	O	70	O	🟢	🟢	🟢	O	70
Ethyl Chloride (Dry)	🟢	🟢	🟢	🟢	O	🔴	O	200	🟢	🟢	🔴	🔴
Ethylene Diamine	🟢	🟢	🔴	🟢	O	70	70	70	🟢	70	O	70
Ethylene Glycol	🟢	🟢	🟢	🟢	🟢	🟢	70	🟢	🟢	🟢	70	🟢
Ethylene Oxide	🔴	🔴	🔴	🟢	O	🔴	O	🟢	🟢	🟢	🔴	🔴
Fatty Acids	🟢	🟡	🟢	🟢	🟢	🟢	🔴	🔴	🟡	🟢	70	🟢

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	Buna N	Ethylene Propylene	Viton	Teflon® Fluorocarbon	Polyester	Polypropylene	Nylon	Carbon Steel	304 Stainless Steel	316 Stainless Steel	PVC	Polypropylene
Ferric Chloride 1%	●	●	●	●	200	●	●	●	●	●	70	●
Ferric Chloride	●	●	●	●	200	O	●	●	●	●	70	70
Ferric Nitrate	●	●	●	●	70	O	O	O	O	●	70	O
Ferric Sulfate 5%	●	●	●	●	70	●	70	●	●	●	70	●
Ferrous Chloride	●	O	O	●	70	●	70	●	O	70	O	●
Fish Oils	●	O	O	●	O	70	O	●	●	●	70	●
Fluosilicic Acid	●	●	●	●	O	70	O	●	O	●	70	●
Formaldehyde 10%	80	●	●	●	●	●	●	●	●	●	70	●
Formalin 40%	●	●	●	●	O	●	O	●	●	●	70	70
Formic Acid (Dilute)	●	●	●	●	●	●	●	●	●	●	70	●
Formic Acid (Conc.)	●	●	●	O	70	●	●	●	●	●	O	O
Freon 12	●	●	●	●	O	●	100	●	●	●	●	●
Freon 22	●	●	●	●	O	●	100	●	●	●	●	●
Fruit Juices	●	O	●	●	O	70	O	●	●	●	70	70
Fuel Oils	●	●	●	●	●	70	●	●	●	●	70	70
Furfural	●	●	●	●	O	70	O	●	●	●	●	●
Gas-Natural	●	●	●	●	●	70	●	●	●	●	70	70
Gasoline-Sour	●	●	●	●	O	●	70	●	●	●	80	●
Gasoline-Motor	●	●	●	●	O	●	●	●	●	●	80	●
Gasoline-Aviation	●	●	●	●	O	●	●	●	●	●	80	●
Gelatin	●	●	●	●	●	●	●	●	●	●	70	70
Glucose	●	●	●	●	O	●	O	●	●	●	70	70
Glycerine-Glycerol	●	●	●	●	●	●	●	●	●	●	70	70
Glycol	●	●	●	●	●	●	●	●	●	●	70	●
Glycol Monoether	●	●	●	●	O	70	O	O	●	●	70	70
Grease	●	●	●	●	O	●	O	●	●	●	70	●
Green Sulfate Liquor	●	●	●	●	O	70	●	●	●	●	O	O
Gum Arabic	O	●	O	●	O	O	O	O	●	O	O	O
Helium	●	●	●	●	●	●	●	●	●	●	O	70
Hexane	●	●	●	●	●	70	●	●	●	●	80	70
Honey	●	●	●	●	O	O	O	O	●	●	O	O
Hydraulic Oil-Petroleum Base	●	●	●	●	●	70	●	●	●	●	70	70
Hydraulic Oil-Phosphate Ester	●	●	●	●	●	70	●	●	●	●	O	70
Hydrazine	●	●	●	●	O	O	O	O	O	●	O	O
Hydrobromic Acid 10%	●	●	●	●	70	150	●	●	●	●	70	●
Hydrobromic Acid 50%	●	●	●	●	O	150	●	●	●	●	70	●
Hydrochloric Acid 5%	160	●	●	●	●	●	●	●	●	●	●	●

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	Buna N	Ethylene Propylene	Viton	Teflon® Fluorocarbon	Polyester	Polypropylene	Nylon	Carbon Steel	304 Stainless Steel	316 Stainless Steel	PVC	Polypropylene
Hydrochloric Acid 30%	70	70	70	●	●	●	●	●	●	●	●	70
Hydrocyanic Acid 5%	●	●	●	●	O	70	O	●	●	●	70	70
Hydrocyanic Acid	●	●	●	●	O	70	O	●	●	●	70	70
Hydrofluoric Acid 10%	80	70	O	●	●	●	●	●	●	●	80	●
Hydrofluoric Acid 50%	O	O	●	●	O	70	●	●	●	●	O	70
Hydrogen Gas	●	●	●	●	O	●	O	●	●	●	70	●
Hydrogen Peroxide 5%	●	●	●	●	●	150	●	●	●	●	70	140
Hydrogen Peroxide 30%	●	●	●	●	●	70	●	●	●	●	70	70
Hydrogen Sulfide (Dry)	70	●	●	●	O	70	O	●	●	●	80	70
Hydrogen Sulfide (Wet)	●	●	●	●	O	●	O	●	●	●	70	●
Hydroquinone	●	●	●	●	70	70	O	O	●	●	70	70
Insulating Oil	●	●	●	●	O	O	O	●	●	●	O	O
Iodine	●	●	●	●	●	●	●	●	●	●	●	70
Isopropyl Acete	●	●	●	●	O	O	O	O	O	●	O	O
Isopropyl Alcohol	●	●	●	●	70	●	O	●	●	●	70	●
Kerosene	●	●	●	●	●	70	●	●	●	●	70	70
Ketchup	●	O	●	●	O	70	O	O	●	●	O	70
Lactic Acid	70	70	●	●	70	●	70	O	●	●	70	●
Lard Oil	●	●	●	●	●	80	●	●	●	●	70	80
Latex (Natural)	●	O	●	●	O	70	O	●	●	●	O	70
Lead Acetate	●	●	●	●	●	●	●	●	●	●	70	70
Lime-Sulfur	●	●	●	●	O	70	O	O	●	●	O	70
Linoleic Acid	●	●	●	●	O	●	●	●	●	●	70	●
Linseed Oil	●	●	●	●	●	●	●	●	●	●	70	100
Lithium Bromide	O	O	O	●	O	70	O	●	O	●	O	70
Lithium Carbonate	●	O	O	●	O	70	O	O	O	O	O	70
Lithium Chloride	●	●	O	O	●	●	●	●	●	●	O	70
Lithium Hydroxide	●	●	O	O	O	●	●	●	●	●	O	●
Lube Oil	●	●	●	●	O	70	●	●	●	●	70	70
Lye	●	●	●	●	●	●	●	130	●	●	70	●
Magnesium Chloride	●	●	●	●	70	180	70	●	●	●	70	●
Magnesium Hydroxide	●	●	●	●	O	●	O	●	●	●	70	●
Magnesium Sulfate	●	●	●	●	O	180	O	●	●	●	70	70
Mayonnaise	●	O	●	●	O	70	O	●	●	●	O	70
Melamine Resins	●	O	●	●	O	70	O	O	●	●	O	70
Mercuric Chloride 10%	●	●	●	●	70	70	O	●	●	●	70	70
Mercurous Nitrate	●	●	O	●	O	70	O	●	●	●	70	70

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Mercury	●	●	●	●	70	70	70	●	●	●	70	70
Methane	●	●	●	●	O	70	O	●	●	●	70	70
Methylene Chloride	●	●	●	●	100	●	100	100	150	212	●	●
Methyl Alcohol	●	●	●	●	●	●	●	●	●	●	70	●
Methyl Acetate	●	●	●	●	●	70	●	●	●	●	O	70
Methyl Cellosolve	●	●	●	●	O	70	O	●	●	●	●	70
Methyl Ethyl Ketone	●	●	●	●	70	●	●	●	●	●	●	70
Milk	●	●	●	●	●	●	●	●	●	●	●	●
Mineral Oil	●	●	●	●	O	70	O	●	●	●	70	70
Molasses	●	●	●	●	200	70	200	●	●	●	70	70
Monoethanolamine	●	●	●	●	O	70	O	●	●	●	O	70
Mustard	●	O	●	●	O	70	O	●	●	●	O	70
Naptha	●	●	●	●	200	70	200	●	●	●	70	70
Napthalene	●	●	●	●	70	70	70	●	●	●	●	●
Nickel Chloride	●	●	●	●	70	200	●	●	●	●	70	100
Nickel Sulfate	●	●	●	●	O	●	●	●	●	●	70	●
Nitric Acid 10%	●	●	70	●	●	210	●	●	●	●	70	100
Nitric Acid 20%	●	●	70	●	●	180	●	●	●	212	70	70
Nitric Acid 50%	●	●	70	●	●	70	●	●	212	212	70	70
Nitric Acid Fuming	●	●	●	●	●	●	●	●	125	125	●	●
Nitrobenzene 10%	●	●	●	●	200	●	200	●	●	●	●	●
Nitrobenzene	●	●	●	●	200	●	200	●	●	●	●	●
Nitrogen	●	●	●	●	●	●	●	●	●	●	O	●
Nitrous Oxide	●	O	O	●	O	O	O	●	●	●	70	70
Oil, Crude	●	●	●	●	●	70	●	●	●	●	70	70
Oleic Acid 5%	●	●	●	●	O	180	●	●	●	●	70	70
Oleic Acid	●	●	●	●	150	120	●	●	●	●	●	●
Oleum	●	●	●	●	O	●	●	●	●	●	●	●
Olive Oil	●	●	●	●	O	70	O	●	●	●	70	70
Oxalic Acid 5%	●	●	●	●	●	180	70	O	●	●	70	●
Palm Oil	●	O	●	●	O	70	O	●	●	●	O	70
Pentane	●	●	●	●	O	70	●	●	●	●	80	70
Perchloroethylene (Dry)	●	●	●	●	200	●	200	●	●	●	70	●
Petroleum Ether	●	●	●	●	●	70	●	●	●	●	70	70
Petroleum Oil-Refined	●	●	●	●	●	70	●	●	●	●	70	70
Petroleum Oil-Sour	●	●	●	●	●	70	●	●	●	●	70	70
Phenol	●	●	●	●	●	190	●	●	●	●	70	●

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Phenol-Formaldehyde Resin	O	🟡	O	🟢	O	O	O	🟢	🟢	🟢	O	O
Phosphoric Acid 1%	🟢	🟢	🟢	🟢	210	210	🟢	🔴	212	🟢	70	🟢
Phosphoric Acid 10%	🟢	🟢	🟢	🟢	210	210	70	🔴	212	🟢	70	🟢
Phosphoric Acid 50%	70	🟢	🟢	🟢	🟡	180	🔴	🔴	212	🟢	70	🟢
Phosphoric Acid 80%	70	🟢	🟢	🟢	🟡	180	🔴	🔴	🔴	🟡	70	🟢
Picric Acid (H_2O Sol'n.)	🟢	🟢	🟢	🟢	O	120	O	🔴	🟢	🟢	🔴	120
Pine Oil	🟢	🔴	🟢	🟢	70	70	70	🟡	🟢	🟢	O	70
Plating Solutions												
–Arsenic	🟢	🟢	🟢	🟢	O	150	O	🟢	O	🟢	O	150
–Brass Cyanide	🟢	🟢	O	🟢	O	🟢	O	🟢	🟢	O	70	🟢
–Bronze Cyanide	🟢	🟢	🟢	🟢	O	70	O	🟢	O	O	70	70
–Cadmium Cyanide	🟢	🟢	🟢	🟢	O	🟢	O	🟢	🟢	🟢	70	🟢
–Cadmium Fluoborate	🟢	🟢	🟢	🟢	O	70	O	O	🔴	🟢	70	70
–Copper Cyanide	🟢	🟢	🟢	🟢	O	🟢	O	🟢	🟢	🟢	70	🟢
–Gold Cyanide	🟢	🟢	🟢	🟢	O	🟢	O	O	🟢	🟢	🔴	🟢
–Iron Chloride	🔴	🟢	🟢	🟢	O	🟢	🟢	O	🔴	🟢	🔴	🟢
–Iron Sulfate	🟢	🟢	🟢	🟢	O	140	140	🟢	O	🟢	🔴	140
–Lead Alkali	🟢	🟢	🟢	🟢	O	🟢	🟢	🟢	O	🟢	70	🟢
–Lead Fluoborate	🟢	🟢	🟢	🟢	O	O	100	O	🟢	🟢	70	O
–Nickel Bright Chloride	🟢	🟢	🟢	🟢	O	70	O	O	🟢	🟢	70	70
–Nickel Dull Chloride	O	🟢	🟢	🟢	O	O	O	O	🟢	🟢	70	O
–Nickel Dull Fluoborate	🟢	🟢	🟢	🟢	O	🔴	170	O	O	🟢	🔴	🔴
–Silver	🟢	🟢	🟢	🟢	O	80	O	🟢	🟢	🟢	70	80
–Tin Acid	🟢	🟢	🟢	🟢	O	70	70	O	O	O	80	70
–Tin Fluoborate	🟢	🟢	🟢	🟢	O	100	100	O	🟢	🟢	80	100
–Zinc Cyanide	🟢	🟢	🟢	🟢	O	100	O	🟢	🟢	🟢	70	100
–Zinc Fluoborate	O	🟢	🟢	🟢	O	O	130	O	O	🟢	70	O
Potassium Acetate 10%	🟡	🟢	🔴	🟢	O	70	O	🔴	🟢	🟢	O	70
Potassium Bisulfate 10%	O	O	O	🟢	🟢	70	🟡	O	🔴	🟢	O	70
Potassium Carbonate 10%	🟢	🟢	🟢	🟢	🟡	180	🟢	🟡	🟢	🟢	🟢	🟡
Potassium Chloride 5%	🟢	🟢	🟢	🟢	70	180	O	🔴	🟢	🟢	70	🟡
Potassium Chromate 10%	🟢	🟡	🟢	🟢	O	70	O	O	🟢	🟢	70	70
Potassium Cyanide 5%	🟢	🟢	🟢	🟢	O	🟢	🟢	🟢	🟢	🟢	70	🟢
Potassium Ferrocyanide 10%	🟡	🟢	🟢	🟢	O	70	O	🟢	🟢	🟢	70	70
Potassium Permanganate 5%	🟢	🟢	🟢	🟢	🟡	150	🔴	🟡	🟢	🟢	70	70
Potassium Sulfate 5%	🟢	🟢	🟢	🟢	120	180	120	🟢	🟢	🟢	70	🟡
Propane	🟢	🔴	🟢	🟢	250	100	200	🟢	🟢	🟢	80	100
Propionic Acid	O	🟢	O	🟢	🟢	70	🟢	🔴	🔴	🟢	O	70
Propylene Glycol	🟢	🟢	🟢	🟢	🔴	70	🟢	🟡	🟢	🟢	O	70

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Number (i.e. 70) = Maximum temperature in degrees F°

	GASKET MATERIALS				FILTER MEDIA			HOUSING MATERIALS				
	Buna N	Ethylene Propylene	Viton	Teflon® Fluorocarbon	Polyester	Polypropylene	Nylon	Carbon Steel	304 Stainless Steel	316 Stainless Steel	PVC	Polypropylene
Propylene Oxide	🔴	🟡	🔴	🟢	O	70	O	O	O	O	O	70
Pyridine	🔴	🟡	🔴	O	🟢	🟡	🟡	🟢	🟢	🟢	O	🔴
Sea Water	🟢	🟢	🟡	🟢	210	🟢	240	🔴	🔴	🔴	🔴	🟢
Shellac	🟢	🟢	O	🟢	O	70	O	🟢	🟢	🟢	O	70
Silver Nitrate	🟡	🟢	🟢	🟢	🟡	🟢	🟡	🔴	🟢	🟢	70	🟢
Soda Ash	🟢	🟢	🟢	🟢	70	70	🟢	🟡	🟢	🟢	70	70
Sodium Acetate	🟡	🟢	🔴	🟢	🟢	🟢	🟢	🔴	🟢	🟢	70	🟢
Sodium Bicarbonate	🟢	🟢	🟢	🟢	O	🟢	O	🟢	🟢	🟢	70	🟢
Sodium Bisulfate	🟢	🟢	🟢	🟢	70	150	🔴	🔴	🔴	🟢	70	70
Sodium Bisulfite	🟢	🟢	🟢	🟢	🟢	180	🟡	🔴	O	100	O	70
Sodium Borate	🟢	🟢	🟢	🟢	O	70	O	🔴	🟢	🟢	70	70
Sodium Carbonate	🟢	🟢	🟢	🟢	🟡	🟢	🟢	🟡	🟢	🟢	70	70
Sodium Chlorate	🟢	O	🟢	🟢	O	180	O	O	🟢	🟢	70	120
Sodium Chloride 10%	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟡	🟡	🟡	70	🟢
Sodium Cyanide	🟢	🟢	🔴	🟢	🟢	🟢	🟡	🟡		🟢	70	🟢
Sodium Fluoride 5%	🟢	🟢	🟢	🟢	O	70	O	🔴	🟡	🟢	70	🔴
Sodium Hydroxide 5%	🟡	🟢	🟡	🟢	70	🟢	🟢	🟡	🟢	🟢	70	70
Sodium Hydroxide 20%	🟡	🟢	🟡	🟢	🔴	🟢	🟢	🟡	🟢	🟢	70	🟢
Sodium Hydroxide 40%	🟡	🟡	🟡	🟢	🔴	🟢	🟢	🟡	🟢	🟢	70	70
Sodium Hypochlorite 5%	🟡	🟢	🟢	🟢	🟡	120	🟡	🔴	🟡	🟢	70	70
Sodium Metaphosphate	🟢	🟢	🟢	🟢	O	70	O	🟡	🔴	🟢	70	70
Sodium Nitrate 5%	🟡	🟢	O	🟢	70	180	70	🟢	🟢	🟢	70	70
Sodium Perborate 1%	🟡	🟢	🟢	🟢	160	180	O	🟡	🟢	🟢	70	🟢
Sodium Peroxide	🟡	🟢	🟢	🟢	🔴	70	O	🔴	🟢	🟢	70	70
Sodium Phosphate	🟢	🟢	🟢	🟢	70	180	🟢	🔴	🟢	🟢	120	🟢
Sodium Polysulfide	O	O	O	🟢	O	O	O	O	🟢	🟢	O	O
Sodium Silicate	🟢	🟢	🟢	🟢	O	180	O	🟢	🟢	🟢	70	🟢
Sodium Sulfate	🟢	🟢	🟢	🟢	70	180	70	🟡	🟢	🟢	70	🟢
Sodium Sulfide	🟢	🟢	🟢	🟢	🟢	180	🟢	🟢	🟡	🟢	🔴	🔴
Sodium Thiosulfate	O	O	O	🟢	70	70	70	🟢	🟢	🟢	70	70
Soybean Oil	🟡	🟢	🟢	🟢	70	180	O	🟡	🟢	🟢	70	🟢
Stannic Chloride 5%	🟢	🔴	🟢	🟢	O	100	🟢	🟡	🟢	🟢	70	100
Stannous Chloride 5%	🟢	🟢	🟢	🟢	70	70	70	🔴	🔴	🟢	70	70
Starch	🟢	🟢	🟢	🟢	O	🟢	O	🔴	🟢	🟢	70	70
Steam	O	🟢	O	🟢	O	220	240	🟡	🟢	🟢	🔴	🟢
Steacates	🟢	🟢	🟢	🟢	O	🟢	🟢	🟢	🟢	🟢	70	🟢
Stearic Acid	🟡	🟡	O	🟢	O	🟢	🔴	🔴	🟢	🟢	70	🟢
Stoddard Solvent	🟢	🔴	🟢	🟢	70	70	70	🟡	🟡	🟡	🔴	70

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Sucrose Solutions	●	●	●	●	O	●	O	●	●	●	70	70
Sulfate Liquors	●	●	●	●	O	70	●	O	●	●	70	●
Sulfur Dioxide (Dry)	●	●	●	●	O	●	●	●	●	●	70	●
Sulfur Trioxide (Dry)	●	●	●	●	O	●	●	●	●	●	70	●
Sulfuric Acid 5%	●	●	●	●	150	●	●	●	●	●	70	●
Sulfuric Acid 50%	●	●	●	●	70	180	●	●	●	●	70	70
Sulfuric Acid 96%	●	●	●	●	●	70	●	●	●	●	●	70
Sulfuric Acid Fuming	●	●	●	●	●	●	●	●	●	●	●	●
Sulfurous Acid	●	●	●	●	O	●	●	●	●	●	70	●
Tannic Acid 10%	●	●	●	●	70	●	70	●	●	●	70	●
Tartaric Acid	●	●	●	●	O	150	O	●	●	●	70	70
Tetrachlorethylene (Dry)	●	●	●	●	O	●	212	●	●	●	●	●
Tetrachloroethane	●	●	●	O	70	70	70	75	●	●	70	70
Tetrahydrofuran	●	●	●	●	O	70	100	●	●	●	●	70
Toluene	●	●	●	●	70	120	●	●	●	●	●	120
Transformer Oil	●	●	●	●	O	120	O	●	●	●	70	120
Trichloroethylene (Dry)	●	●	●	●	70	●	70	●	●	●	●	●
Triethanolamine	●	●	●	●	70	70	O	●	●	●	●	70
Trisodium Phosphate	●	●	O	●	70	120	70	O	●	●	70	120
Tung Oil	●	●	●	●	O	70	O	●	●	●	O	70
Turpentine	●	●	●	●	70	70	●	●	●	●	80	70
Urea-Formaldehyde Resin	O	O	O	●	O	O	O	●	O	O	O	O
Vanilla Extract	O	O	O	●	O	●	O	O	●	●	O	70
Varnish	●	●	●	●	O	●	●	●	●	●	O	●
Vegetables Oils	●	●	●	●	O	100	●	●	●	●	O	100
Vinegar	●	●	●	●	O	150	●	●	●	●	70	●
Water-Fresh	●	●	●	●	210	●	240	●	●	●	70	●
Water-Salt	●	●	●	●	210	●	240	●	●		70	●
Waxes	O	O	●	●	O	70	O	●	●	●	O	●
Whiskey	●	●	●	●	O	70	●	●	●	●	70	70
Wine	●	●	●	●	O	70	●	●	●	●	70	70
Xylene	●	●	●	●	●	●	●	●	●	●	●	●
Zinc Bromide	●	O	O	●	O	●	●	O	O	●	O	●
Zinc Cyanide	●	O	O	O	O	●	●	●	●	●	O	●
Zinc Sulfate	●	●	●	●	●	●	●	●	●	●	70	●

Conversion Information

Conversion Information U.S. Mesh to Micron Particle Size

COMPARATIVE PARTICLE SIZE

U. S. MESH	INCHES	MICRONS	U.S. MESH	INCHES	MICRONS
3	.265	6730	40	.0165	420
3-1/2	.223	5660	45	.0138	354
4	.187	4760	50	.0117	297
5	.157	4000	60	.0098	250
6	.132	3360	70	.0083	210
7	.111	2830	80	.0070	177
8	.0937	2380	100	.0059	149
10	.0787	2000	120	.0049	125
12	.0661	1680	140	.0041	105
14	.0555	1410	170	.0035	88
16	.0469	1190	200	.0029	74
18	.0394	1000	230	.0024	63
20	.0331	841	270	.0021	53
25	.0280	707	325	.0017	44
30	.0232	595	400	.0015	37
35	.0197	500			

VISCOSITY CONVERSION CHART

CPS — TEMPERATURE = 77°F

Viscosity Measurement Method	10	20	50	100	200	500	1000	2000	5000	10,000	20,000	50,000
ASTM, 07				72	143	357	715	1430	3750	7150	14,300	35,700
ASTM, 10					42	104	208	417	1041	2080	4170	10,410
ASTM,15						24	48	95	238	476	953	2,380
ASTM, 20						8	16	33	82	164	328	820
ASTM, 25							7	14	36	72	143	357
Brookfield	10	20	50	100	200	500	1000	2000	5000	10,000	20,000	50,000
Demmier #1				32	63	156	312					
Demmier #10				3	6	15	31					
Engler (degrees)				14	27	68	137	274	685	1370	2,740	6,850
Engler (sec.)				690	1300	3460	7000	4,000		70,500		
Ford #3				42	84	208	416	834	2081	4160	8,340	20,810
Ford #4				30	55	135	270	540	1350	2700	5,400	13,500
Fisher #1	200	30										
Fisher #2		15	24	50								
Gardner-Holdt (units)	A-3	A-2	A	D	H	S	W	Y-Z	Z3	Z5	Z6-Z7	Z7-Z8
Gardner-Holdt (sec.)						5	10	20	50	100	200	500
Gardner-Verticle (sec.)						5	10	20	50	100	200	500
Krebs-Stormer (units)	85	105	140			67	85	105	140			
Parlin 7				77	154	385	770	1540	3850	7700	15,400	38,500
Parlin 10				21	42	104	208	416	1040	2080	4,160	10,400
Parlin 15					10	25	47	93	232	465	930	2,320
Parlin 20						8	17	33	83	167	333	833
Parlin 25								15	36	72	143	357
Parlin 30									19	38	77	192
Saybolt Furol			24	48	96	238	476	954	2380	4760	9,540	23,800
Saybolt Universal (SUS)		96	238	476	954	2380	4760	9540	23,800	47,600	95,400	
Zahn G1		38	60	100	267	667	1332	2670	6670	13,320	26,700	66,700
Zahn G2		16	24	42	82	161	323	645	1610	3,230	6,450	16,100
Zahn G3					27	58	113	204	510	1,020	2,040	5,100
Zahn G4					19	38	71	160	400	800	1,600	4,000
Zahn G5					13	27	50	97	212	424	848	2,120

COMPARATIVE FINENESS DATA

HEGMAN(S) SCALE	PRODUCTION CLUB SCALE	DEPTH OF MILS	WELLS MICRON	CLOSEST U.S. MESH SIZE
0	0.00	4.0	100.00	140
1	1.25	3.50	87.50	170
2	2.50	3.00	75.00	200
3	3.75	2.50	62.50	230
4	5.00	2.00	50.00	325
5	6.25	1.50	37.50	–
6	7.50	1.00	25.00	400
7	8.75	0.50	12.50	–
7-1/2		0.25	6.25	–
8	10.00	0.00	0.00	–

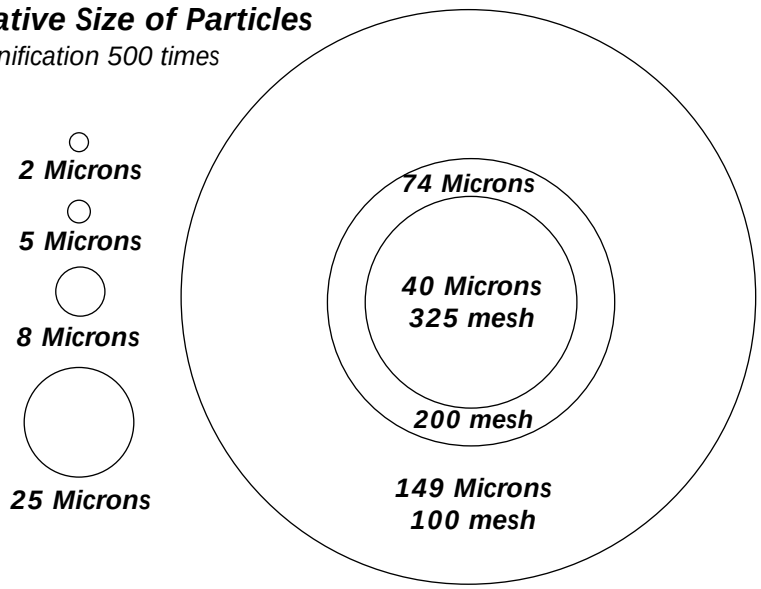
APPROXIMATE VISCOSITY OF COMMON LIQUIDS

LIQUID	VISCOSITY CPS	@ TEMPERATURE °F.
Asphalt, Virgin	7,250	250
Asphalt Emulsion	2,100	300
Type 1	4,000	100
	1,025	100
Asphalt Emulsion,		
Types II, V & VI	575	77
	220	100
Black Liquor	3,100	122
	1,525	130
Bone Oil	220	130
	65	212
Carbolic Acid	65	65
Castor Oil	1,350	100
	525	130
Caustic Soda Solution		
20% NaOH	40	65
30%NaOH	58	65
40%NaOH	110	65
Cocoanut Oil	144	100
	78	130
Cod Oil	150	100
	95	130
Cottonseed Oil	176	100
	100	130
Glucose	67,500	100
	7,500	150
Glycerine (100%)	2,950	68.6
	813	100
Glycol:		
Propylene	240	70
Triethylene	190	70
Diethylene	150	70
Ethylene	90	70
Insulating Oil	115	70
	65	100
Kerosene	35	68
	32.6	100
Lard	287	100
	160	130
Linseed Oil, Raw	143	100
	93	130
Molasses, C	135,000	100
(Blackstrap of final)	40,000	130

LIQUID	VISCOSITY CPS	@ TEMPERATURE °F.
Neasfoot Oil	230	100
	130	130
Oils–		
Fuel Oil No.1	37	70
Fuel Oil No. 2	33	100
Fuel Oil No. 5	500	100
	175	130
Fuel Oil No. 6	1,725	122
	480	160
SAENo. 10	200	100
	105	130
SAE No. 20	320	100
	150	130
SAE No. 30	490	100
	220	130
SAE No. 50	1,275	100
	95	210
SAE No. 70	2,700	100
	140	210
SAE No. 90 Trans-		
mission Lube	1,150	100
	400	130
SAE No. 140 Trans-		
mission lube	1,625	130
	160	210
Olive Oil	200	100
	115	130
Peanut Oil	250	100
	145	130
Petrolatum	100	130
	77	160
Printers' Ink	6,250	100
	2,100	130
Rosin (Wood)	25,500	190
	10,300	200
Sulfuric Acid (100%)	75.7	68
Turbine Lube Oil	420	100
Turpentine	33	60
	32.6	100
Varnish–Spar	1,425	68
	650	100

Relative Size of Particles

Magnification 500 times



Micron Comparisons

Substance	Microns
Table salt	100
Human hair (average dia.)	50-70
White blood cell	25
Talcum powder	10
Cocoa	8-10
Red blood cell	8
Bacteria (cocci)	2

Note: Lower limit of visibility (naked eye)–40Microns

CONVERSION FACTORS

MULTIPLY	BY	TO OBTAIN
Atmospheres	14.7	psi
Barrels of Oil	42.0	gallons (U.S.)
Centimeters	.03281	feet
Centimeters	.3937	inches
Centipoise	.01	poises
Centistoke	.01	stokes
Cubic centimeters	.06102	cubic inches
Cubic centimeters	.0002642	gallons (liq.)
Cubic feet	7.4805	gallons (liq.)
Cubic feet	.1728	cubic inches
Cubic feet/min.	7.4805	g.p.m.
Cubic inches	.004329	gallons
Cubic inches	16.387	cubic cm.
Cubic inches	.0005787	cubic feet
Cubic meters	264.17	gallons (liq.)
Cubic metes	35.31	cubic feet
Feet	30.48006	centimeters
Feet	.3048006	meters
Feet of water	.4335	psi
Feet of water	.8826	inches of Hg.
Feet/min	.01136	miles per hour
Feet/second	.681818	miles per hour
Gallons	3,785.43	cubic cm.
Gallons	231	cubic inches
Gallons	.13368	cubic feet
Gallons/min.	.13368	cu. ft./min
Inches	.0254	meters
Inches of Hg.	1.133	feet of water
Inches of Hg.	.491	psi
Kilograms	2.2046	pounds (avdp.)
Kilogram/sq. cm.	14.2233	psi
Kilograms/sq. mm	1,422.33	psi
Liters	.264178	gallons
Meters	3.2808	feet
Poise	100.0	centipoise
Pounds water	.11985	gallons
PSI	2.036	inches of Hg.
PSI	2.31	feet of water
Square inches	6.4516	sq. cm.

DISCLAIMER OF WARRANTY

To the best of our knowledge, the data contained in this publication is correct; however, we do not assume any liability for the accuracy or completeness of the information. Users should perform their own tests to determine final suitability. Final determination of the suitability of any information or product for the use contemplated by any user, the manner of that use, and whether there is any infringement of patents is the sole responsibility of the user.