

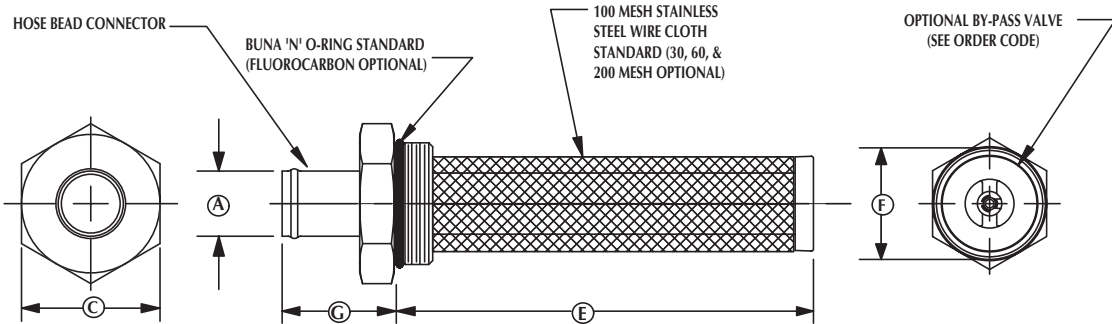


# BTF SERIES HOSE BEAD TANK STRAINER

Port Sizes: 3/4" Thru 1 1/4" Hose  
 External Thread: To 2" NPTF  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) Optional By-Pass Valve

## Hose Bead to Male Straight Thread Fitting O-Ring & Mounting Weld Collar

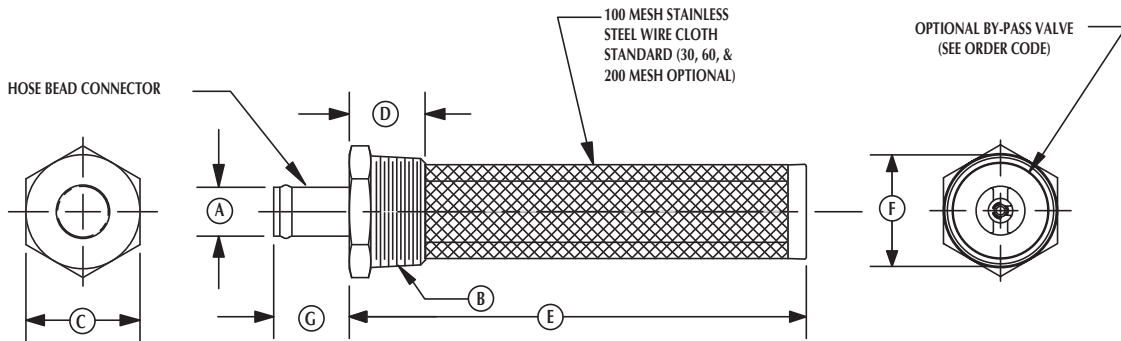


Model	A	B Thread	C Hex	E Length	F Dia.	G Length	Rated Flow 5 Ft/Sec
BTF-0716-X-X	.8"	1 5/8"-12UN-2A	1.88"	7.0"	1.5"	1.7"	5 GPM
BTF-1018-X-X	1.0"	1 7/8"-12UN-2A	2.13"	7.0"	1.7"	1.7"	10 GPM
BTF-1225-X-X	1.3"	2 1/2"-12UN-2A	2.75"	9.1"	2.7"	1.9"	16 GPM

Weld Collar		
Part Number	B Thread	O.D.
WC-0716	1 5/8" - 12 UN-2B	2.75"
WC-1018	1 7/8" - 12 UN-2B	3.06"
WC-1225	2 1/2" - 12 UN-2B	3.88"

Ordered Separately From Filter

## Hose Bead to Pipe Thread Seal



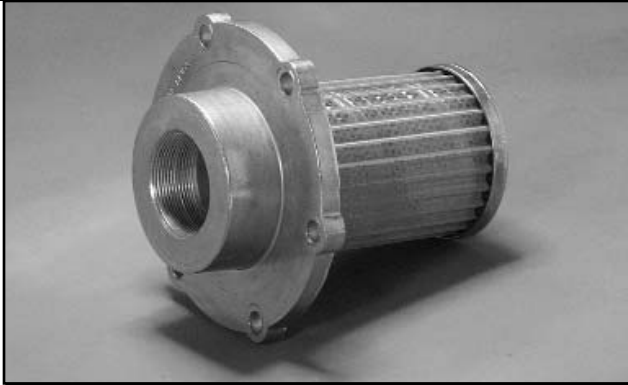
Model	A	B Thread	C Hex	D Length	E Length	F Dia.	G Length	Rated Flow 5 Ft/Sec
BTF-0712-X-X	.8"	1 1/4" NPTF	1.75"	1.2"	7.0"	1.5"	1.2"	5 GPM
BTF-1015-X-X	1.0"	1 1/2" NPTF	2.00"	1.2"	7.0"	1.7"	1.2"	10 GPM
BTF-1220-X-X	1.3"	2" NPTF	2.50"	1.3"	9.1"	2.7"	1.3"	16 GPM

### HOW TO ORDER:

**BTF-XXXX - X - X**

Model	
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI



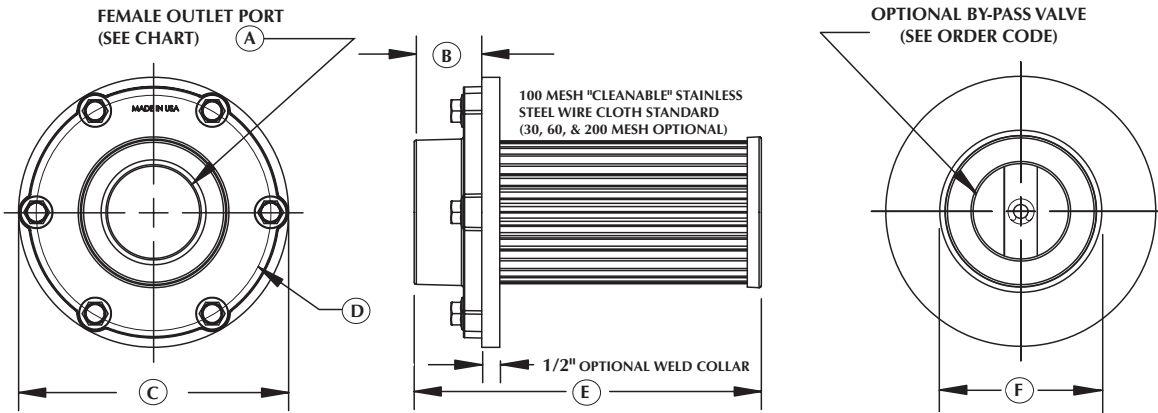
# HS SERIES

## "CLEAN OUT" HATCH STRAINER

### ALUMINUM EXTERNAL MOUNTED

Port Sizes: 3/4" Thru 4" NPTF  
 SAE-20 Thru SAE-32  
 1" Thru 2" BSP  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve



• PRODUCT SHOWN WITH OPTIONAL WELD COLLAR AND 3/8" BOLT HARDWARE AVAILABLE IN WELD COLLAR KITS

Model	A Outlet Port	B	C Flange Diameter	D Bolt Circle Diameter	E Overall Length	F Dia	Rated Flow @ 5 ft/sec	Optional Weld Collar Kit
HS-070P-X-X	3/4" NPTF	1.3"	7 1/2"	6 1/2"	4"	4.2"	8 GPM	MF07K
HS-100C-X-X	1" BSP (G1"-11)	1.3"	7 1/2"	6 1/2"	5"	4.2"	10 GPM	MF07K
HS-100P-X-X	1" NPTF	1.3"	7 1/2"	6 1/2"	4"	4.2"	14 GPM	MF07K
HS-120C-X-X	1 1/4" BSP (G1 1/4"-11)	1.3"	7 1/2"	6 1/2"	5"	4.2"	17 GPM	MF07K
HS-120P-X-X	1 1/4" NPTF	1.3"	7 1/2"	6 1/2"	5"	4.2"	23 GPM	MF07K
HS-150C-X-X	1 1/2" BSP (G1 1/2"-11)	1.3"	7 1/2"	6 1/2"	7"	4.2"	25 GPM	MF07K
HS-150P-X-X	1 1/2" NPTF	1.3"	7 1/2"	6 1/2"	7"	4.2"	32 GPM	MF07K
HS-160S-X-X	1 5/8"-12UN (SAE-20)	1.3"	7 1/2"	6 1/2"	5"	4.2"	14 GPM	MF07K
HS-180S-X-X	1 7/8"-12UN (SAE-24)	1.3"	7 1/2"	6 1/2"	7"	4.2"	21 GPM	MF07K
HS-200C-X-X	2" BSP (G2"-11)	1.9"	7 1/2"	6 1/2"	7 5/8"	4.2"	42 GPM	MF07K
HS-200P-X-X	2" NPTF	1.9"	7 1/2"	6 1/2"	9 5/8"	4.2"	53 GPM	MF07K
HS-250S-X-X	2 1/2"-12UN (SAE-32)	1.9"	7 1/2"	6 1/2"	9"	4.2"	39 GPM	MF07K
HS-250P-X-X	2 1/2" NPTF	1.9"	7 1/2"	6 1/2"	9 5/8"	4.2"	75 GPM	MF07K
HS-300P-X-X	3" NPTF	1.9"	9"	7 3/4"	12 3/4"	6"	115 GPM	MF08K
HS-400P-X-X	4" NPTF	1.9"	9"	7 3/4"	12 3/4"	6"	198 GPM	MF08K

**Design Features:**

- Provides user with alternate hand hole access for reservoir clean out and component installation.
- Steel weld collar mounting kit with mounting hardware available.
- O-ring seal provided (Buna N Standard) (Consult Factory for Alternate Seal Materials)
- For Hose Barb attachments refer to Zinga FT Series
- Suitable for use with petroleum base oils, fire resistant hydraulic fluids, coolants, and lubricants.

**HOW TO ORDER:**

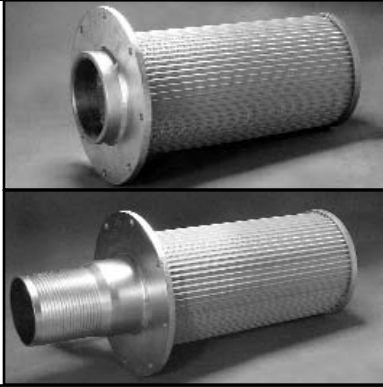
**HS - XXXX - X - X**

Model	
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Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI



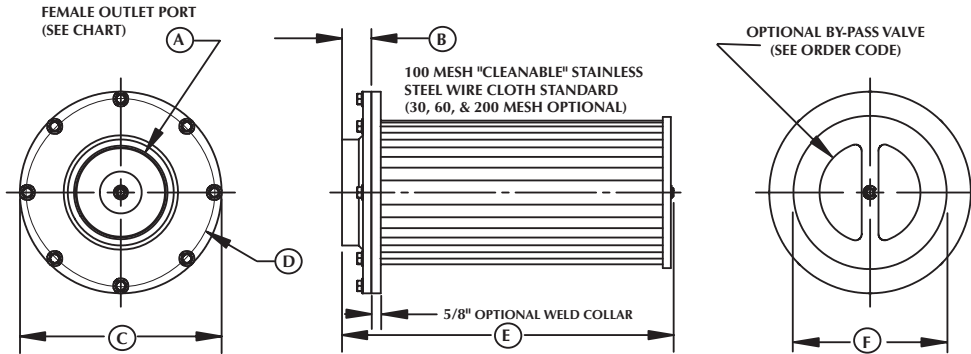


# HS SERIES "CLEAN OUT" HATCH STRAINER STEEL EXTERNAL MOUNTED

Port Sizes: 5" & 6" NPTF  
5" & 6" Hose Barb  
1" Thru 2" BSP

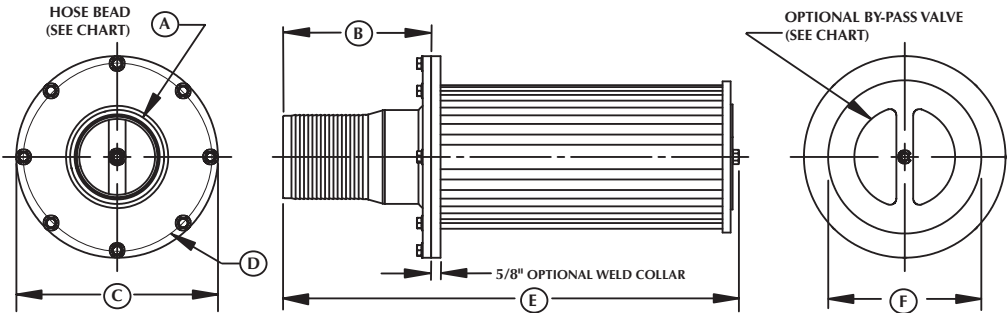
Standard: 100 Mesh  
Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve



\* PRODUCT SHOWN WITH OPTIONAL WELD COLLAR AND 3/8" BOLT HARDWARE AVAILABLE IN WELD COLLAR KITS

Model	A Outlet Port	B	C Flange Diameter	D Bolt Circle Diameter	E Overall Length	F Dia	Rated Flow @ 5 ft/sec	Optional Weld Collar Kit
HS-500P-X-X	5" NPTF	1 3/4"	12"	11 1/8"	20 1/8"	9"	312 GPM	MF09K
HS-600P-X-X	6" NPTF	1 7/8"	12"	11 1/8"	21 1/2"	9"	450 GPM	MF09K



\* PRODUCT SHOWN WITH OPTIONAL WELD COLLAR AND 3/8" BOLT HARDWARE AVAILABLE IN WELD COLLAR KITS

Model	A Outlet Port	B	C Flange Diameter	D Bolt Circle Diameter	E Overall Length	F Dia	Rated Flow @ 5 ft/sec	Optional Weld Collar Kit
HS-500H-X-X	5" Hose Barb	8 3/4"	12"	11 1/8"	27"	9"	312 GPM	MF09K
HS-600H-X-X	6" Hose Barb	10 1/8"	12"	11 1/8"	28 1/2"	9"	450 GPM	MF09K

**Design Features:**

- Provides user with alternate hand hole access for clean out and component installation.
- Steel weld collar Mounting Kit with mounting hardware available.
- O-ring seal provided (Buna N Standard) (Consult Factory for Alternate Seal Materials)

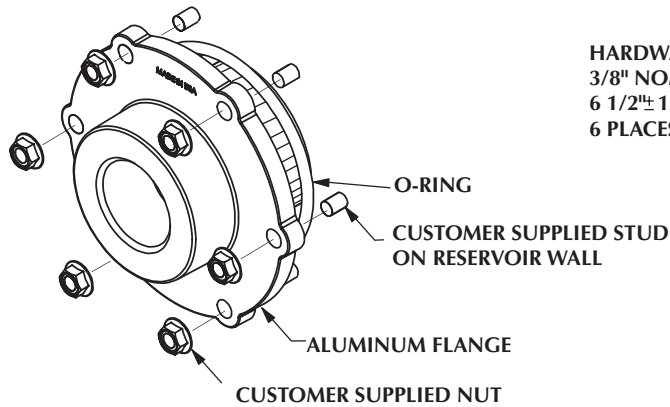
**HOW TO ORDER: HS - XXXX - X - X**

Model	
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI

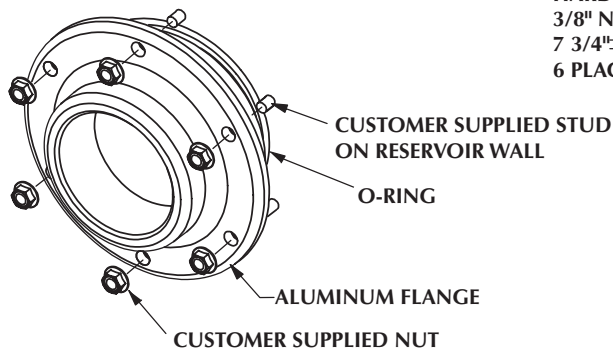
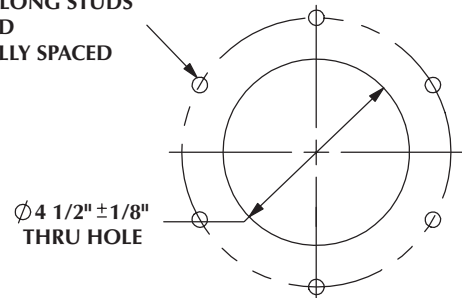
# HS SERIES

## "CLEAN OUT" HATCH STRAINER INSTALLATION LAYOUT



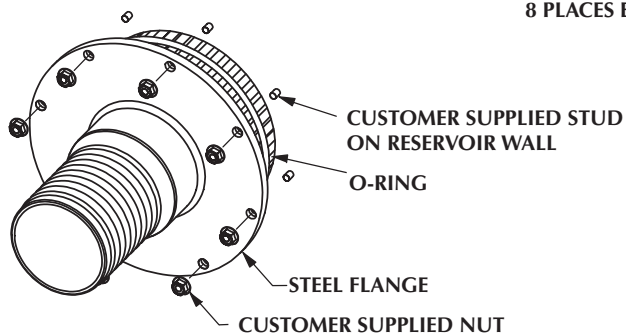
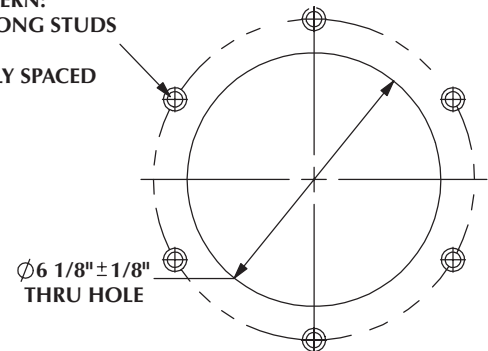
**HS070-HS250 SERIES**

HARDWARE PATTERN:  
3/8" NOM. X 1" LONG STUDS  
6 1/2" ± 1/16" BCD  
6 PLACES EQUALLY SPACED



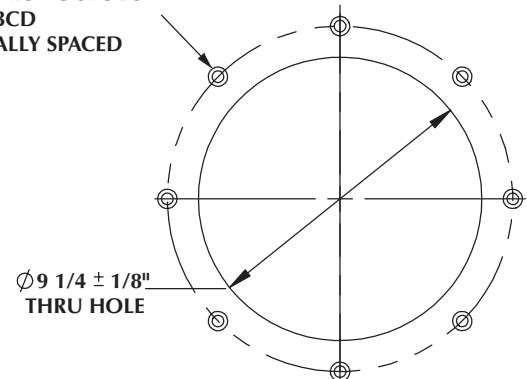
**HS300-HS400 SERIES**

HARDWARE PATTERN:  
3/8" NOM. X 1" LONG STUDS  
7 3/4" ± 1/16" BCD  
6 PLACES EQUALLY SPACED



**HS500-HS600 SERIES**

HARDWARE PATTERN:  
3/8" NOM. X 1" LONG STUDS  
11 1/8" ± 1/8" BCD  
8 PLACES EQUALLY SPACED

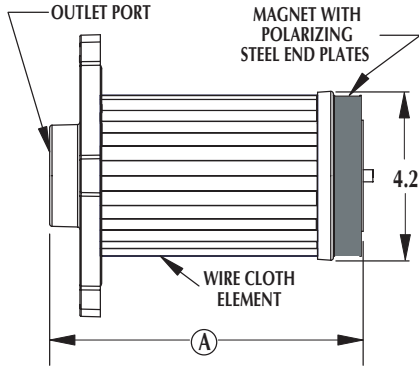


Port Sizes: 3/4" Thru 2 1/2" NPTF  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

# HS SERIES MAGNETIC "CLEAN OUT" HATCH STRAINER STEEL EXTERNAL MOUNTED

## STYLE A

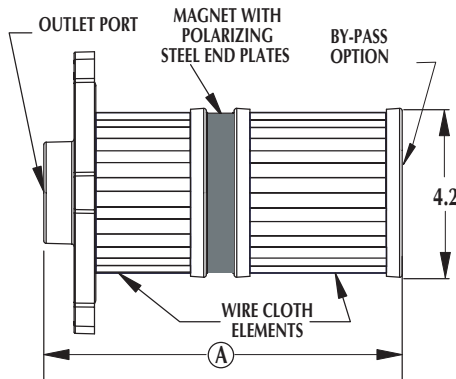
One wire cloth element - One magnet  
 (By-Pass valve **not** available on this series)



Model	Outlet Port	Length (A)	Rated Flow @ 5ft/sec.
HS-070P-X-0-M1A	3/4" NPTF	4 3/4"	8 GPM
HS-100P-X-0-M1A	1" NPTF	4 3/4"	14 GPM
HS-100C-X-0-M1A	1" BSP (G1"-11)	5 3/4"	10 GPM
HS-120P-X-0-M1A	1 1/4" NPTF	5 3/4"	23 GPM
HS-120C-X-0-M1A	1 1/4" BSP (G1 1/4"-11)	7 3/4"	17 GPM
HS-150P-X-0-M1A	1 1/2" NPTF	7 3/4"	32 GPM
HS-150C-X-0-M1A	1 1/2" BSP (G1 1/2"-11)	7 3/4"	25 GPM
HS-160S-X-0-M1A	1 5/8"-12UN (SAE-20)	7 3/4"	14 GPM
HS-180S-X-0-M1A	1 7/8"-12UN (SAE-24)	8 3/8"	21 GPM
HS-200P-X-0-M1A	2" NPTF	8 3/8"	53 GPM
HS-200C-X-0-M1A	2" BSP (G2"-11)	10 3/8"	42 GPM
HS-250P-X-0-M1A	2 1/2" NPTF	10 3/8"	75 GPM
HS-250S-X-0-M1A	2 1/2"-12UN (SAE-32)	8 3/8"	39 GPM

## STYLE B

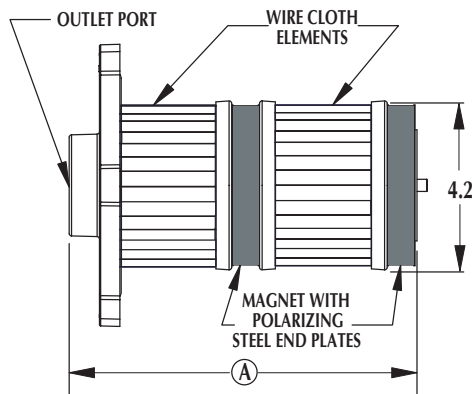
Two wire cloth elements - One magnet  
 (Available with or without by-pass valve)



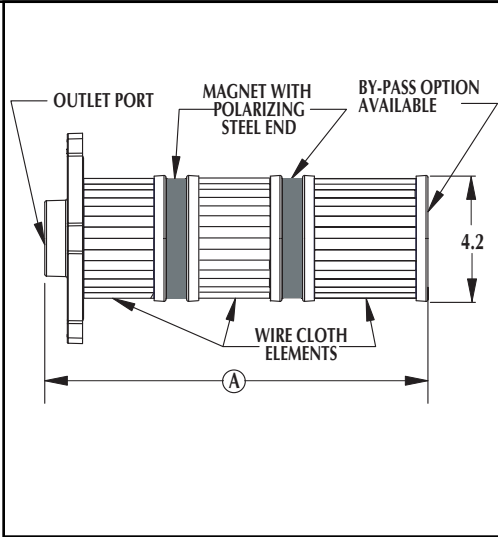
Model	Outlet Port	Length (A)	Rated Flow @ 5ft/sec.
HS-070P-X-X-M1B	3/4" NPTF	8 7/8"	8 GPM
HS-100P-X-X-M1B	1" NPTF	8 7/8"	14 GPM
HS-100C-X-X-M1B	1" BSP (G1"-11)	8 7/8"	10 GPM
HS-120P-X-X-M1B	1 1/4" NPTF	8 7/8"	23 GPM
HS-120C-X-X-M1B	1 1/4" BSP (G1 1/4"-11)	8 7/8"	17 GPM
HS-150P-X-X-M1B	1 1/2" NPTF	8 7/8"	32 GPM
HS-150C-X-X-M1B	1 1/2" BSP (G1 1/2"-11)	8 7/8"	25 GPM
HS-160S-X-X-M1B	1 5/8"-12UN (SAE-20)	8 7/8"	14 GPM
HS-180S-X-X-M1B	1 7/8"-12UN (SAE-24)	8 7/8"	21 GPM
HS-200P-X-X-M1B	2" NPTF	9 1/2"	53 GPM
HS-200C-X-X-M1B	2" BSP (G2"-11)	9 1/2"	42 GPM
HS-250P-X-X-M1B	2 1/2" NPTF	9 1/2"	75 GPM
HS-250S-X-X-M1B	2 1/2"-12UN (SAE-32)	9 1/2"	39 GPM

## STYLE C

Two wire cloth elements - Two magnets  
 (By-Pass valve **not** available on this series)



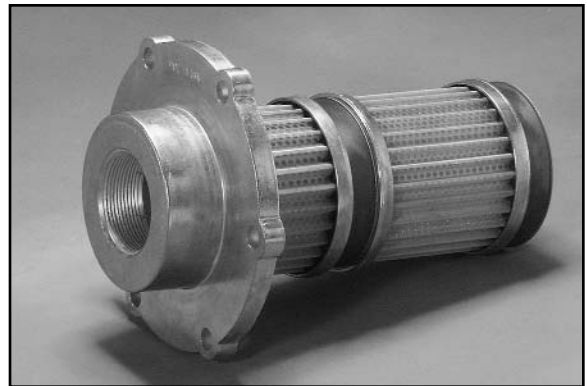
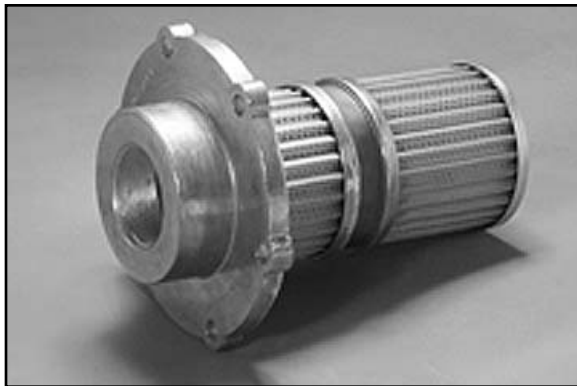
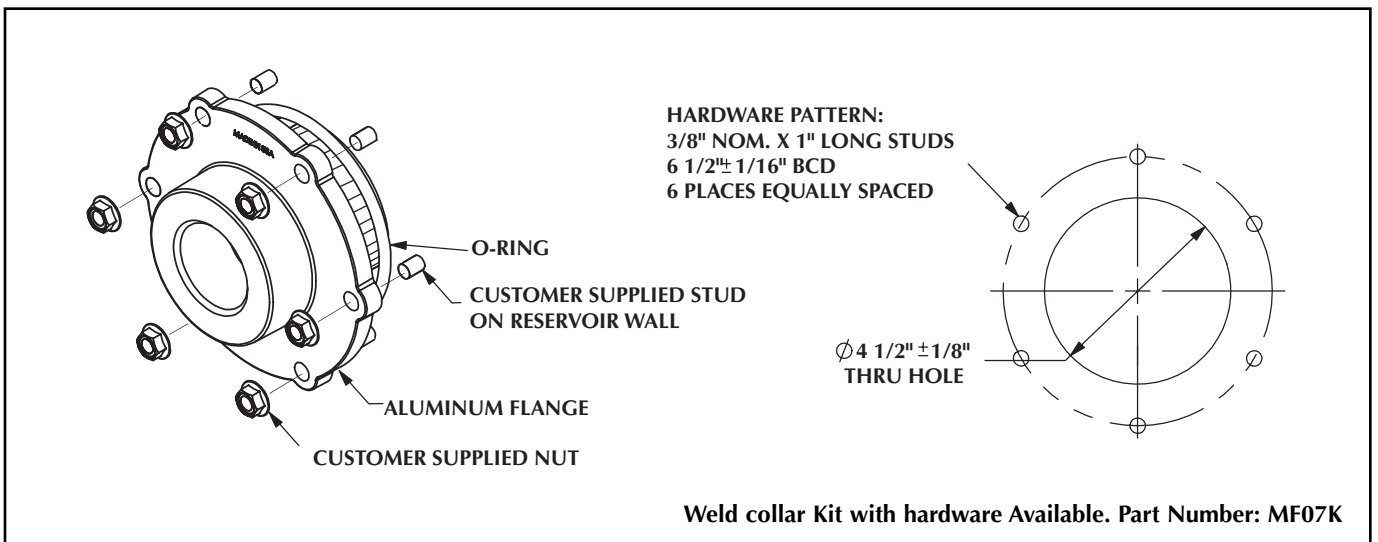
Model	Outlet Port	Length (A)	Rated Flow @ 5ft/sec.
HS-070P-X-0-M2C	3/4" NPTF	8 5/8"	8 GPM
HS-100P-X-0-M2C	1" NPTF	4 3/4"	14 GPM
HS-100C-X-0-M2C	1" BSP (G1"-11)	5 3/4"	10 GPM
HS-120P-X-0-M2C	1 1/4" NPTF	5 3/4"	23 GPM
HS-120C-X-0-M2C	1 1/4" BSP (G1 1/4"-11)	7 3/4"	17 GPM
HS-150P-X-0-M2C	1 1/2" NPTF	7 3/4"	32 GPM
HS-150C-X-0-M2C	1 1/2" BSP (G1 1/2"-11)	7 3/4"	25 GPM
HS-160S-X-0-M2C	1 5/8"-12UN (SAE-20)	7 3/4"	14 GPM
HS-180S-X-0-M2C	1 7/8"-12UN (SAE-24)	8 3/8"	21 GPM
HS-200P-X-0-M2C	2" NPTF	8 3/8"	53 GPM
HS-200C-X-0-M2C	2" BSP (G2"-11)	10 3/8"	42 GPM
HS-250P-X-0-M2C	2 1/2" NPTF	10 3/8"	75 GPM
HS-250S-X-0-M2C	2 1/2"-12UN (SAE-32)	8 3/8"	39 GPM



**STYLE D**

Three wire cloth elements - Two magnets  
(Available with or without by-pass valve)

Model	Outlet Port	Length (A)	Rated Flow @ 5ft/sec.
HS-070P-X-X-M2D	3/4" NPTF	12 3/4"	8 GPM
HS-100P-X-X-M2D	1" NPTF	12 3/4"	14 GPM
HS-100C-X-X-M2D	1" BSP (G1"-11)	12 3/4"	10 GPM
HS-120P-X-X-M2D	1 1/4" NPTF	12 3/4"	23 GPM
HS-120C-X-X-M2D	1 1/4" BSP (G1 1/4"-11)	12 3/4"	17 GPM
HS-150P-X-X-M2D	1 1/2" NPTF	12 3/4"	32 GPM
HS-150C-X-X-M2D	1 1/2" BSP (G1 1/2"-11)	12 3/4"	25 GPM
HS-160S-X-X-M2D	1 5/8"-12UN (SAE-20)	12 3/4"	14 GPM
HS-180S-X-X-M2D	1 7/8"-12UN (SAE-24)	12 3/4"	21 GPM
HS-200P-X-X-M2D	2" NPTF	13 3/8"	53 GPM
HS-200C-X-X-M2D	2" BSP (G2"-11)	13 3/8"	42 GPM
HS-250P-X-X-M2D	2 1/2" NPTF	13 3/8"	75 GPM
HS-250S-X-X-M2D	2 1/2"-12UN (SAE-32)	13 3/8"	39 GPM



**HOW TO ORDER: HS - XXXX - X - X - X**

Model	
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	Style
M1A	A
M1B	B
M2C	C
M2D	D

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI

By-Pass not available on Style A and C Series

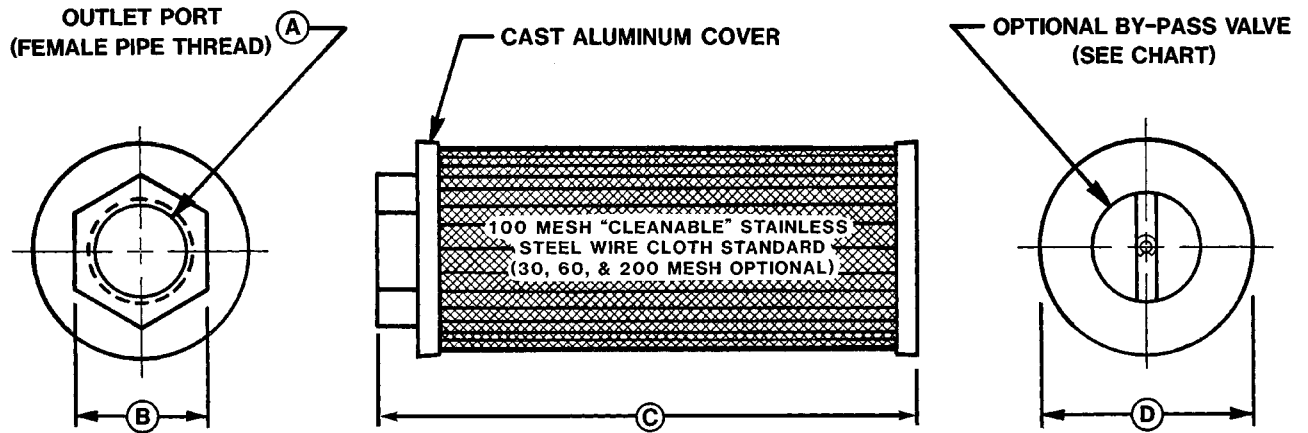




# SS & MS SERIES INTERNALLY MOUNTED TANK FILTER

Port Sizes: 3/8" Thru 6" NPTF  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve.



Model	A Outlet Port	B Wrench Flat	C Overall Length	D OD	Rated Flow At 5 Ft/Sec
MS-030-X-0*	3/8" NPTF	1.20"	2.6"	1.1"	3 GPM
SS-030-X-0*	3/8" NPTF	1.13"	2.2"	3.2"	3 GPM
MS-050-X-0*	1/2" NPTF	1.20"	2.6"	1.1"	5 GPM
SS-050-X-0*	1/2" NPTF	1.13"	2.2"	3.2"	5 GPM
MS-070-X-X	3/4" NPTF	1.50"	3.9"	1.5"	8 GPM
SS-070-X-X	3/4" NPTF	1.75"	3.6"	3.2"	8 GPM
MS-100-X-X	1" NPTF	1.75"	3.9"	1.7"	14 GPM
SS-100-X-X	1" NPTF	1.75"	4.6"	3.2"	14 GPM
SS-120-X-X	1 1/4" NPTF	2.25"	6.6"	3.2"	23 GPM
SS-150-X-X	1 1/2" NPTF	2.25"	8.6"	3.2"	32 GPM
SS-154-X-X	1 1/2" NPTF	2.25"	7.2"	4.2"	32 GPM
SS-200-X-X	2" NPTF	3.00"	7.2"	4.2"	53 GPM
SS-250-X-X	2 1/2" NPTF	3.50"	9.3"	4.2"	75 GPM
SS-300-X-X	3" NPTF	4.00"	12.4"	4.2"	116 GPM
SS-400-X-X	4" NPTF	NA	20.1"	9.0"	200 GPM
SS-600-X-X	6" NPTF	NA	20.1"	9.0"	450 GPM

**Design Features:**

- All MS, & SS Series models suitable for use with petroleum base oils, fire resistant hydraulic fluids, coolants, and lubricants.

**ZINGA EXCLUSIVE**

REVERSE TAPER

All Zinga Series tank filters have a reverse taper on the outside wall of the end caps. This ensures a positive interlock with the epoxy edge side. Thus preventing bond failure in rough terrain vehicle applications.

**HOW TO ORDER: XS-XXX - X - X**

Model

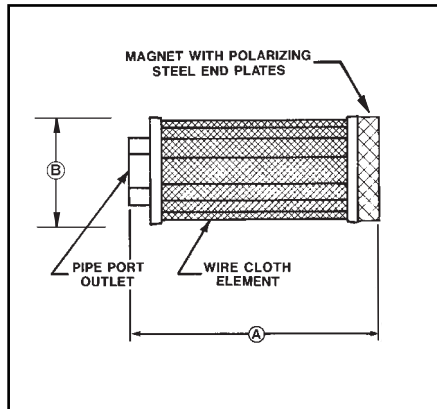
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI
*	By-Pass Valve Not Available On These Models

Port Sizes: 3/8" Thru 3" NPTF  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve.

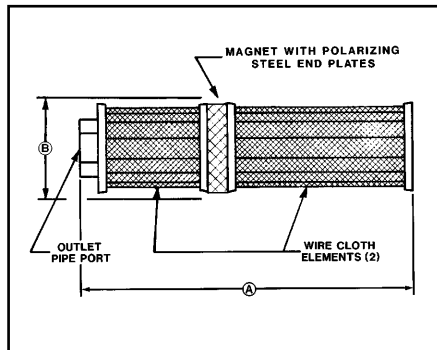
# SS SERIES MAGNETIC INTERNALLY- MOUNTED TANK FILTER



## STYLE A

Two wire cloth elements - One magnet  
 (Available with or without by-pass valve)

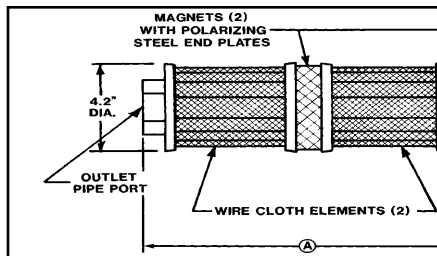
Model	Outlet Port	Overall Length <sup>(A)</sup>	Rated Flow At 5 Ft/Sec	OD <sup>(B)</sup>
SS-030-X-0-M1A	3/8" NPTF	2.9"	3 GPM	3.2"
SS-050-X-0-M1A	1/2" NPTF	2.9"	5 GPM	3.2"
SS-070-X-0-M1A	3/4" NPTF	4.3"	8 GPM	3.2"
SS-100-X-0-M1A	1" NPTF	5.3"	14 GPM	3.2"
SS-120-X-0-M1A	1 1/4" NPTF	7.3"	23 GPM	3.2"
SS-150-X-0-M1A	1 1/2" NPTF	9.3"	32 GPM	3.2"
SS-200-X-0-M1A	2" NPTF	7.9"	53 GPM	4.2"
SS-250-X-0-M1A	2 1/2" NPTF	10"	75 GPM	4.2"
SS-300-X-0-M1A	3" NPTF	13.2"	116 GPM	4.2"



## STYLE B

Two wire cloth elements - One magnet  
 (Available with or without by-pass valve)

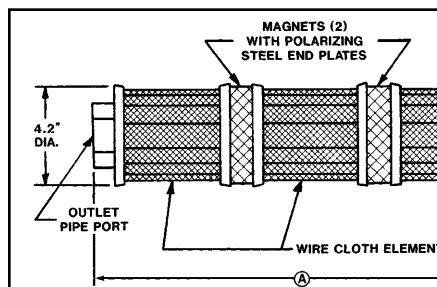
Model	Outlet Port	Overall Length <sup>(A)</sup>	Rated Flow At 5 Ft/Sec	OD <sup>(B)</sup>
SS-070-X-X-M1B	3/4" NPTF	4.6"	8 GPM	3.2"
SS-100-X-X-M1B	1" NPTF	6.0"	14 GPM	3.2"
SS-120-X-X-M1B	1 1/4" NPTF	7.0"	23 GPM	3.2"
SS-150-X-X-M1B	1 1/2" NPTF	9.0"	32 GPM	3.2"
SS-200-X-X-M1B	2" NPTF	9.1"	53 GPM	4.2"
SS-250-X-X-M1B	2 1/2" NPTF	11.1"	75 GPM	4.2"
SS-300-X-X-M1B	3" NPTF	14.3"	116 GPM	4.2"



## STYLE C

Two wire cloth elements - Two magnets  
 (By-Pass valve **not** available on this series)

Model	Outlet Port	Overall Length <sup>(A)</sup>	Rated Flow At 5 Ft/Sec
SS-200-X-0-M2C	2" NPTF	9.7"	53 GPM
SS-250-X-0-M2C	2 1/2" NPTF	11.9"	75 GPM
SS-300-X-0-M2C	3" NPTF	15.0"	116 GPM



## STYLE D

Three wire cloth elements - Two magnets  
 (Available with or without by-pass valve)

Model	Outlet Port	Overall Length <sup>(A)</sup>	Rated Flow At 5 Ft/Sec
SS-200-X-X-M2D	2" NPTF	11.9"	53 GPM
SS-250-X-X-M2D	2 1/2" NPTF	14.0"	75 GPM
SS-300-X-X-M2D	3" NPTF	15.1"	116 GPM

### HOW TO ORDER:

SS-XXX - X - X - MXX

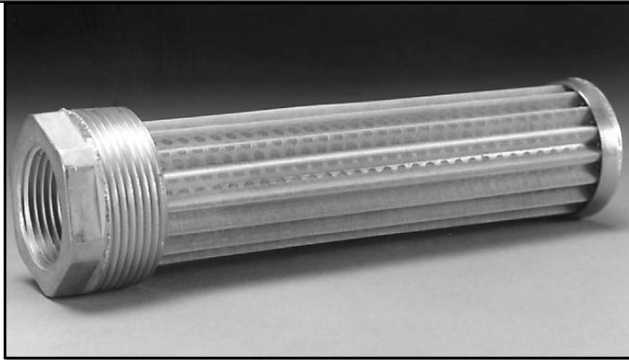
Model

Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	Style
M1A	A
M1B	B
M2C	C
M2D	D

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI

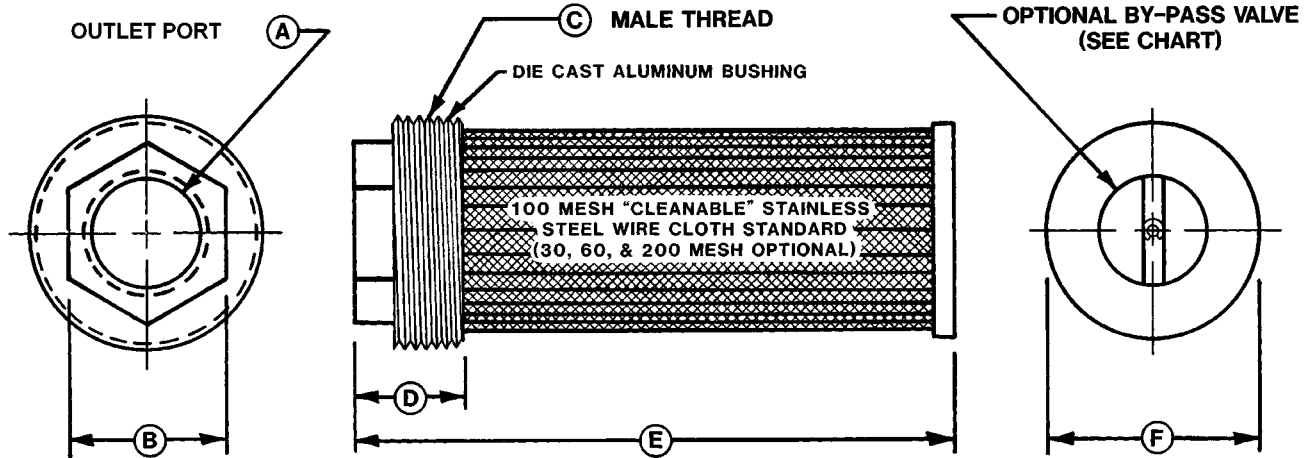




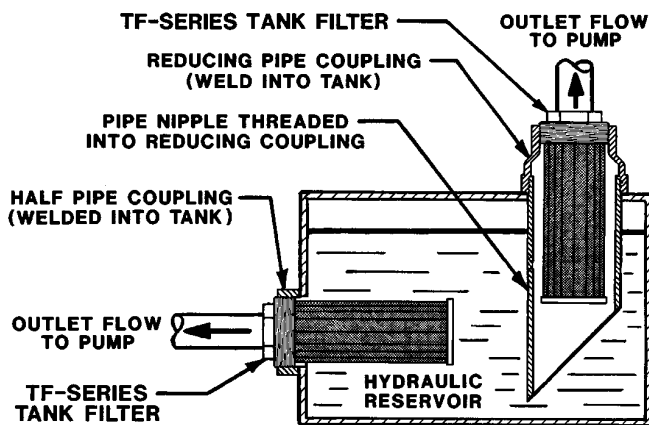
# TF SERIES TANK FILTER EXTERNALLY MOUNTED

Port Sizes: 3/8" Thru 4" NPTF  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve



Model	A Outlet Port	B Hex Size	C Male Thread	D Fitting Length	E	F Cover Dia.	Rated Flow at 5 Ft/Sec
TF-0310-X-0*	3/8" NPTF	1.2"	1" NPTF	1.1"	2.6"	1.1"	3 GPM
TF-0510-X-X	1/2" NPTF	1.2"	1" NPTF	1.1"	4.9"	1.1"	5 GPM
TF-0712-X-X	3/4" NPTF	1.5"	1 1/4" NPTF	1.1"	6.9"	1.5"	8 GPM
TF-1015-X-X	1" NPTF	1.75"	1 1/2" NPTF	1.1"	6.9"	1.7"	14 GPM
TF-1030-X-X	1" NPTF	2.5"	3" NPTF	1.5"	4.7"	3.2"	14 GPM
TF-1220-X-X	1 1/4" NPTF	2.1"	2" NPTF	1.2"	9.1"	2.2"	23 GPM
TF-1230-X-X	1 1/4" NPTF	2.5"	3" NPTF	1.5"	6.7"	3.2"	23 GPM
TF-1530-X-X	1 1/2" NPTF	2.5"	3" NPTF	1.5"	8.7"	3.2"	32 GPM
TF-1630-X-X	1 5/8"-12 (SAE-20)	2.5"	3" NPTF	1.5"	8.7"	3.2"	14 GPM
TF-1830-X-X	1 7/8"-12 (SAE-24)	2.5"	3" NPTF	1.5"	8.7"	3.2"	21 GPM
TF-2030-X-X	2" NPTF	3.06"	3" NPTF	1.6"	8.8"	3.2"	53 GPM
TF-2040-X-X	2" NPTF	4.13"	4" NPTF	1.8"	7.7"	4.2"	53 GPM
TF-2540-X-X	2 1/2" NPTF	4.13"	4" NPTF	2.1"	9.7"	4.2"	75 GPM
TF-3040-X-X	3" NPTF	4.13"	4" NPTF	2.1"	12.7"	4.2"	116 GPM
TF-4060-X-X	4" NPTF	5.8"	6" NPTF	2.3"	12.4"	6.0"	200 GPM



### HOW TO ORDER:

TF - XXXX - X - X

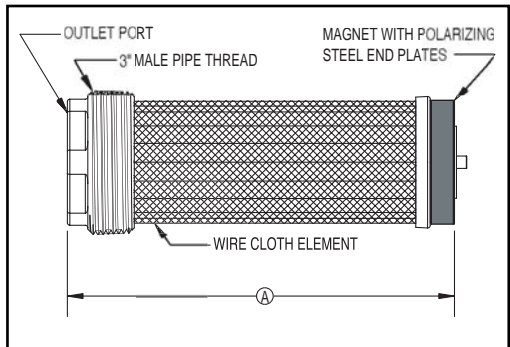
Model	
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI
*	By-Pass Valve Not Available on These Models



# TF SERIES EXTERNALLY MOUNTED TANK FILTER WITH 3" MAGNET

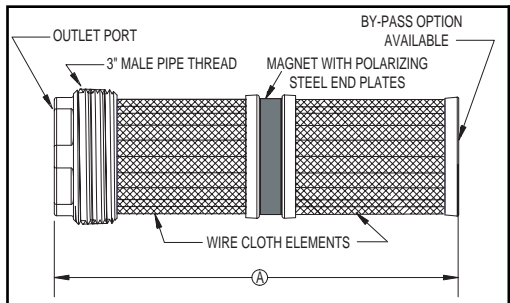
Port Size: 1" Thru 2" NPTF  
Standard: 100 Mesh  
Optional: 30, 60 & 200 Mesh  
**3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve.**



## STYLE A

One wire cloth element & - one magnet (3" OD X 1/2" thick)  
(By-pass valve **not** available on this series)

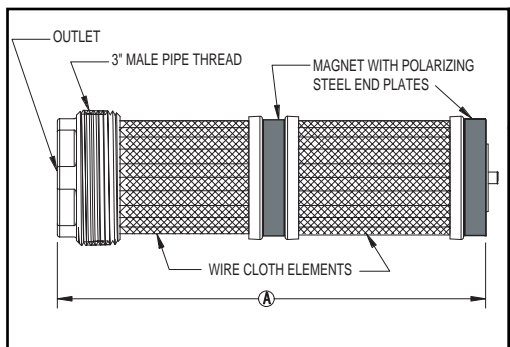
Model	Outlet Port	Length (A)	Rated Flow @ 5 ft/sec.
TF-1030-X-0-M1A	1" NPTF	5.3"	14 GPM
TF-1230-X-0-M1A	1 1/4" NPTF	7.3"	23 GPM
TF-1530-X-0-M1A	1 1/2" NPTF	9.3"	32 GPM
TF-1630-X-0-M1A	1 5/8"-12 UN (SAE-20)	9.3"	20 GPM
TF-1830-X-0-M1A	1 7/8"-12 UN (SAE-24)	9.4"	30 GPM
TF-2030-X-0-M1A	2" NPTF	9.4"	53 GPM



## STYLE B

Two wire cloth elements & one magnet (3" OD X 1/2" thick)

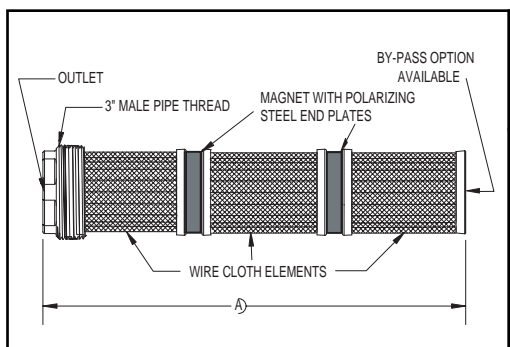
Model	Outlet Port	Length (A)	Rated Flow @ 5 ft/sec.
TF-1030-X-0-M1B	1" NPTF	5.3"	14 GPM
TF-1230-X-0-M1B	1 1/4" NPTF	5.3"	23 GPM
TF-1530-X-X-M1B	1 1/2" NPTF	9.9"	32 GPM
TF-1630-X-X-M1B	1 5/8"-12 UN (SAE-20)	9.9"	20 GPM
TF-1830-X-X-M1B	1 7/8"-12 UN (SAE-24)	10"	30 GPM
TF-2030-X-X-M1B	2" NPTF	10.5"	53 GPM



## STYLE C

Two wire cloth elements & two magnets (3" OD X 1/2" thick)  
(By-pass valve **not** available on this series)

Model	Outlet Port	Length (A)	Rated Flow @ 5 ft/sec.
TF-1030-X-0-M2C	1" NPTF	6.3"	14 GPM
TF-1230-X-0-M2C	1 1/4" NPTF	6.3"	23 GPM
TF-1530-X-0-M2C	1 1/2" NPTF	10.5"	32 GPM
TF-1630-X-0-M2C	1 5/8" NPTF	10.5"	20 GPM
TF-1830-X-0-M2C	1 7/8"-12 UN (SAE-20)	10.6"	30 GPM
TF-2030-X-0-M2C	2" NPTF	11.1"	53 GPM



## STYLE D

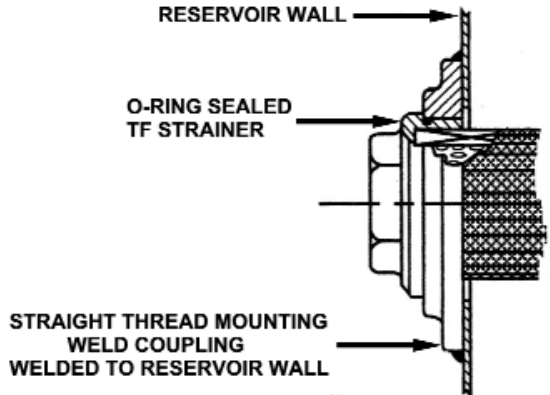
Three wire cloth elements & two magnets (3" OD X 1/2" thick)

Model	Outlet Port	Length (A)	Rated Flow @ 5 ft/sec.
TF-1030-X-0-M2D	1" NPTF	8.5"	14 GPM
TF-1230-X-0-M2D	1 1/4" NPTF	8.5"	23 GPM
TF-1530-X-X-M2D	1 1/2" NPTF	14.9"	32 GPM
TF-1630-X-X-M2D	1 5/8"-12 UN (SAE-20)	14.9"	20 GPM
TF-1830-X-X-M2D	1 7/8"-12 UN (SAE-24)	15"	30 GPM
TF-2030-X-X-M2D	2" NPTF	15.8"	53 GPM

**O-RING SEAL UNITS WITH MAGNETS**

Buna "N" O-ring supplied as standard (fluorocarbon optional).  
 Weld Collar WC-1634 should be ordered separately for these units (5 inch OD)

Model	Outlet Port	External Thread	Length (A)	Rated Flow @ 5 ft/sec.
TF-1634-X-0-M1A	1 5/8"-12 UN (SAE-20)	3 3/8"-12 UN-2A	9.3"	20 GPM
TF-1634-X-X-M1B	1 5/8"-12 UN (SAE-20)	3 3/8"-12 UN-2A	9.9"	20 GPM
TF-1634-X-0-M2C	1 5/8"-12 UN (SAE-20)	3 3/8"-12 UN-2A	10.5"	20 GPM
TF-1634-X-X-M2D	1 5/8"-12 UN (SAE-20)	3 3/8"-12 UN-2A	14.9"	20 GPM
TF-1834-X-0-M1A	1 7/8"-12 UN (SAE-24)	3 3/8"-12 UN-2A	9.4"	30 GPM
TF-1834-X-X-M1B	1 7/8"-12 UN (SAE-24)	3 3/8"-12 UN -2A	10.1"	30 GPM
TF-1834-X-X-M2C	1 7/8"-12 UN (SAE-24)	3 3/8"-12 UN-2A	10.6"	30 GPM
TF-1834-X-X-M2D	1 7/8"-12 UN (SAE-24)	3 3/8"-12 UN-2A	15"	30 GPM



**ZINGA EXCLUSIVE**

← REVERSE TAPER

All Zinga Series tank filters have a reverse taper on the outside wall of the end caps. This ensures a positive interlock with the epoxy edge side. Thus preventing bond failure in rough terrain vehicle applications.

TF Series models are suitable for use with All petroleum base oils, fire resistant hydraulic fluids, coolants, and lubricants.

**HOW TO ORDER:**

**TF - XXXX - X - X - MXX**

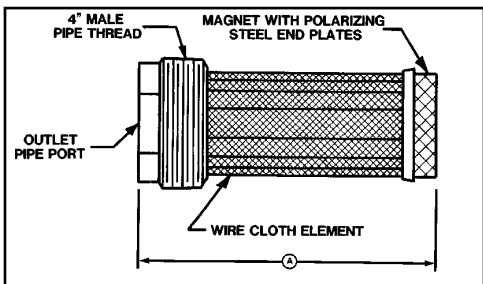
Code	Wire Mesh	Code	By-Pass Valve	Code	Style
0	100 Mesh (Std.)	0	No valve	M1A	A
2	200 Mesh	3	3 PSI	M1B	B
3	30 Mesh	5	5 PSI	M2C	C
6	60 Mesh			M2D	D

Model



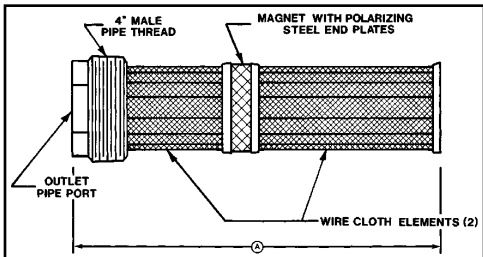
# TF SERIES EXTERNALLY MOUNTED TANK FILTER WITH 4" MAGNET

Port Sizes: 2" Thru 3" NPTF  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh  
**3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve.**



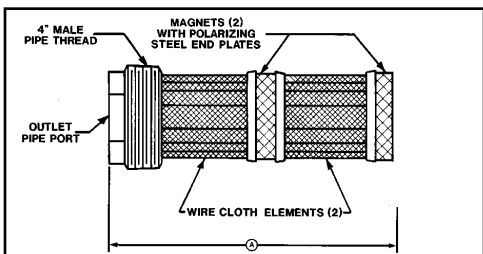
**STYLE A**  
One wire cloth element - one magnet (4" OD x 5/8" thick)  
(By-pass valve **not** available on this series)

Model	Outlet Port	Overall Length (A)	Rated Flow @ 5Ft/Sec
TF-2040-X-0-M1A	2" NPTF	8.5"	53 GPM
TF-2540-X-0-M1A	2 1/2" NPTF	10.5"	75 GPM
TF-3040-X-0-M1A	3" NPTF	13.5"	116 GPM



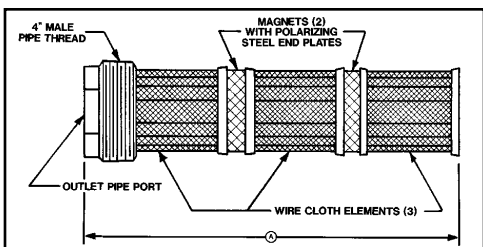
**STYLE B**  
Two wire cloth elements - one magnet (4" OD x 5/8" thick)  
(Available with or without by-pass valve)

Model	Outlet Port	Overall Length (A)	Rated Flow @ 5Ft/Sec
TF-2040-X-X-M1B	2" NPTF	9.7"	53 GPM
TF-2540-X-X-M1B	2 1/2" NPTF	11.7"	75 GPM
TF-3040-X-X-M1B	3" NPTF	14.7"	116 GPM



**STYLE C**  
Two wire cloth elements - two magnet (4" OD x 5/8" thick)  
(By-pass valve **not** available on this series)

Model	Outlet Port	Overall Length (A)	Rated Flow @ 5Ft/Sec
TF-2040-X-0-M2C	2" NPTF	10.4"	53 GPM
TF-2540-X-0-M2C	2 1/2" NPTF	12.4"	75 GPM
TF-3040-X-0-M2C	3" NPTF	15.4"	116 GPM



**STYLE D**  
Three wire cloth elements - two magnet (4" OD x 5/8" thick)  
(Available with or without by-pass valve)

Model	Outlet Port	Overall Length (A)	Rated Flow @ 5Ft/Sec
TF-2040-X-X-M2D	2" NPTF	13.5"	53 GPM
TF-2540-X-X-M2D	2 1/2" NPTF	14.5"	75 GPM
TF-3040-X-X-M2D	3" NPTF	15.5"	116 GPM

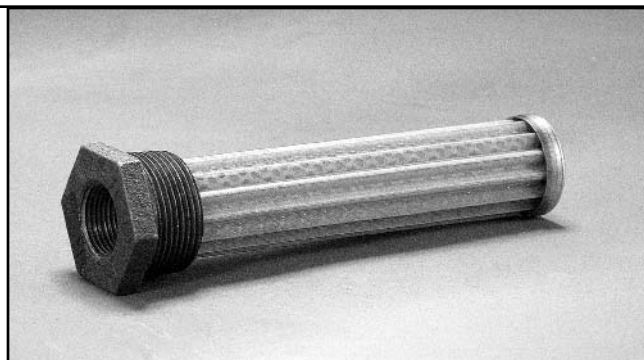
**HOW TO ORDER:**

**TF-XXXX - X - X - MXX**

Model	
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI

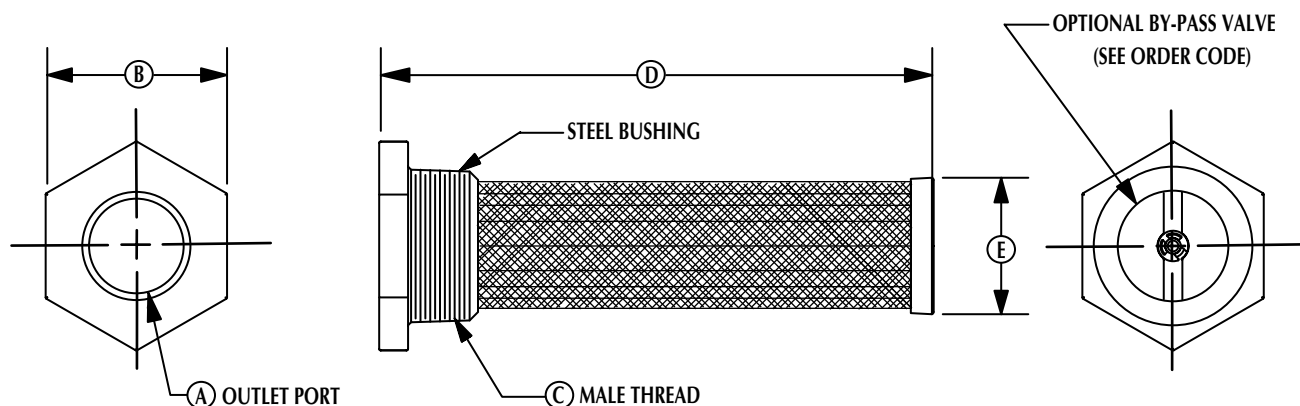
Code	Style
M1A	A
M1B	B
M2C	C
M2D	D



## TFS SERIES STEEL BUSHING TANK FILTER EXTERNALLY MOUNTED

Port Size: 1/2" Thru 3" NPT  
Standard: 100 Mesh  
Optional: 30, 60 & 200 Mesh

*3 PSI (6" Hg) or 5 PSI (10" Hg) optional by-pass valve.*



Model	A Outlet Port	B Hex Size	C Male Thread	D Overall Length	E Cover Dia.	Rated Flow. At 5 Ft/Sec
TFS-0510-X-X	1/2" NPT	1.38"	1" NPT	5.0"	1.1"	5 GPM
TFS-0712-X-X	3/4" NPT	1.80"	1 1/4" NPT	6.9"	1.5"	8 GPM
TFS-1015-X-X	1" NPT	2.05"	1 1/2" NPT	7.1"	1.7"	14 GPM
TFS-1220-X-X	1 1/4" NPT	2.58"	2" NPT	9.1"	2.2"	23 GPM
TFS-1540-X-X	1 1/2" NPT	4.65"	4" NPT	9.2"	4.2"	32 GPM
TFS-2030-X-X	2" NPT	3.30"	3" NPT	9.4"	3.2"	53 GPM
TFS-2540-X-X	2 1/2" NPT	4.65"	4" NPT	9.8"	4.2"	75 GPM
TFS-3040-X-X	3" NPT	4.65"	4" NPT	9.8"	4.2"	116 GPM

### HOW TO ORDER:

**TFS-XXXX - X - X**

Model

Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI



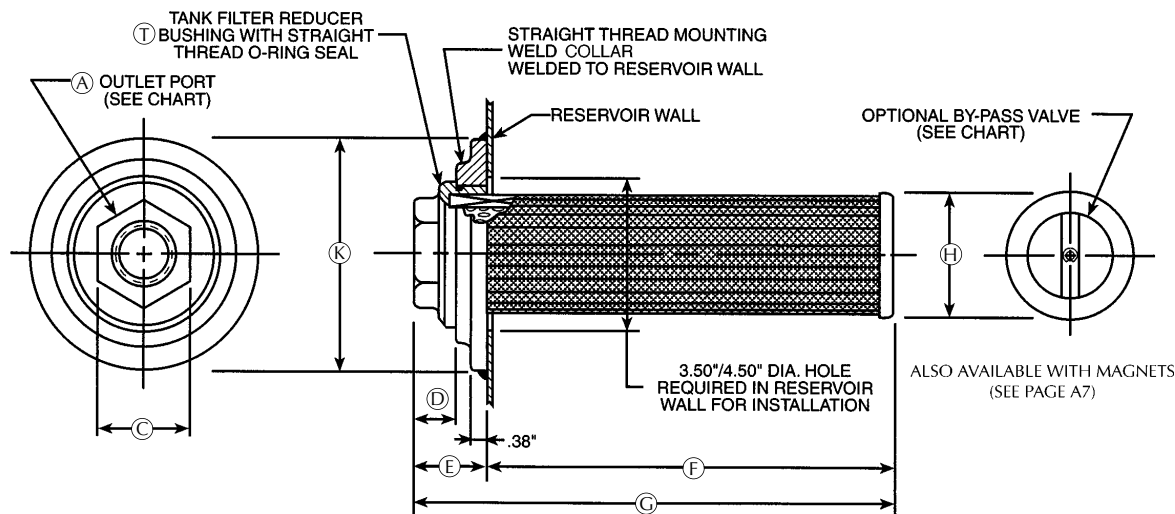


# TF & TFS SERIES O-RING SEAL TANK STRAINER & MOUNTING WELD COLLAR

Port Sizes: 1 5/8" - 12 SAE & 1 7/8" - 12 SAE  
 Standard: 100 Mesh  
 Optional: 30, 60, & 200 Mesh

3 PSI (6" Hg) or 5 PSI (10" Hg) Optional By-Pass Valve

*Design provides leak proof service by using a male straight thread o-ring seal that mates with a female straight thread collar welded to the reservoir.*



Tank Filters									
Model	T Thread	A Outlet Port	C Hex	D	E	F	G	H Dia.	Rated Flow At 5 Ft/Sec
TFS-1625-X-X	2 1/2" - 12 UN-2A	1 5/8"-12 (SAE-20)	2.75"	.8"	1.3"	7.9"	9.2"	2.2"	14 GPM
TF-1634-X-X	3 3/8" - 12 UN-2A	1 5/8"-12 (SAE-20)	2.44"	.9"	1.5"	5.2"	6.7"	3.2"	14 GPM
TF-1834-X-X	3 3/8" - 12 UN-2A	1 7/8"-12 (SAE-24)	2.44"	.9"	1.5"	7.2"	8.7"	3.2"	21 GPM

### HOW TO ORDER:

**TF(S)-XXXX - X - X**

**NOTE:**

1. Buna "N" o-ring supplied as standard, fluorocarbon available.
2. 100 Mesh stainless steel wire cloth standard (30, 60, & 200 Mesh optional).
3. TFS: steel tank filter reducer bushing.  
TF: Cast aluminum tank filter reducer bushing.

Model
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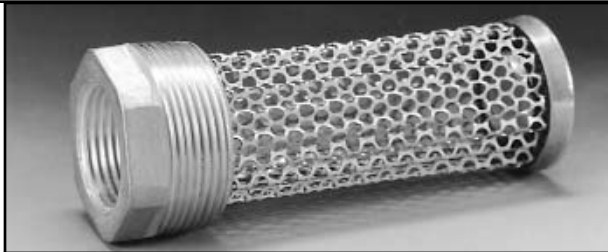
Code	Wire Mesh
0	100 Mesh (Std.)
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	By-Pass Valve
0	No Valve
3	3 PSI
5	5 PSI

Weld Collars		
Part Number	T Thread	K Dia.
WC-1225	2 1/2" - 12 UN-2B	3.9"
WC-1634	3 3/8" - 12 UN-2B	5.0"

Should Be Ordered Separately

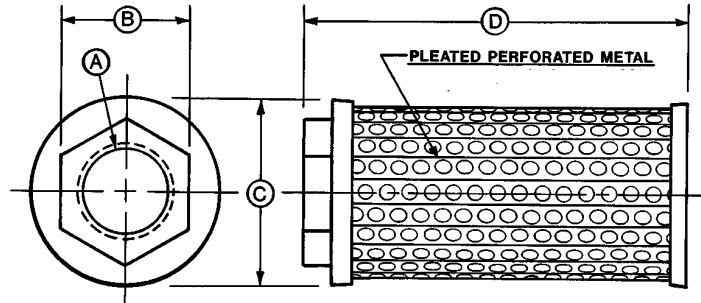
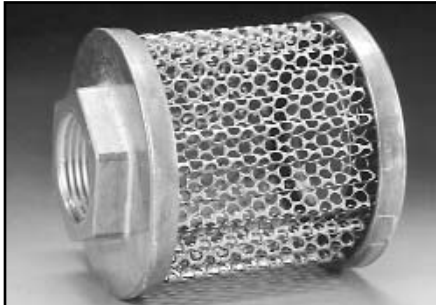




# TD SERIES TANK DIFFUSERS

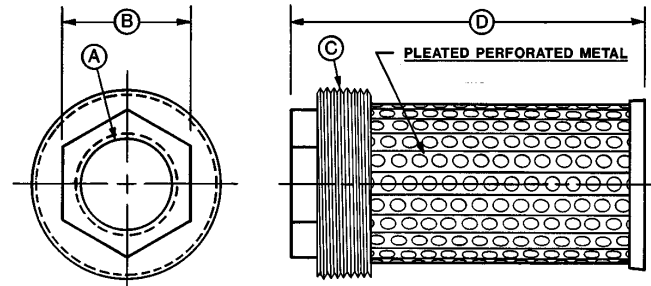
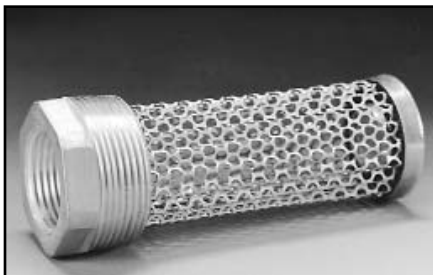
Port Sizes: 3/8" Thru 6" NPTF

## INTERNALLY MOUNTED

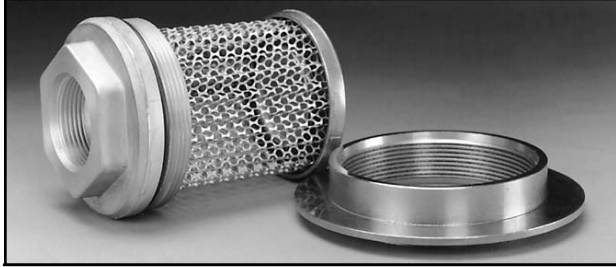


Model Number	A Inlet Port	B Wrench Flat	C Outside Dia.	D Overall Length	Rated Flow (At 15 Ft/Sec)	Ratio of Perf Mtl Open Area vs. Pipe Int Area
TD-03-PMI	3/8" NPTF	1.2"	1.3"	3.0"	9 GPM	25 : 1
TD-030-PMI	3/8" NPTF	1.13"	3.2"	2.2"	9 GPM	55 : 1
TD-05-PMI	1/2" NPTF	1.2"	1.3"	3.0"	14 GPM	16 : 1
TD-050-PMI	1/2" NPTF	1.13"	3.2"	2.2"	14 GPM	35 : 1
TD-07-PMI	3/4" NPTF	1.5"	1.7"	3.9"	25 GPM	18 : 1
TD-075-PMI	3/4" NPTF	1.75"	3.2"	2.2"	25 GPM	20 : 1
TD-10-PMI	1" NPTF	1.75"	1.9"	4.9"	40 GPM	19 : 1
TD-100-PMI	1" NPTF	1.75"	3.2"	3.6"	40 GPM	27 : 1
TD-125-PMI	1 1/4" NPTF	2.25"	3.2"	4.6"	70 GPM	22 : 1
TD-150-PMI	1 1/2" NPTF	2.25"	3.2"	5.6"	95 GPM	21 : 1
TD-200-PMI	2" NPTF	3.0"	4.2"	6.2"	157 GPM	17 : 1
TD-250-PMI	2 1/2" NPTF	3.5"	4.2"	10.3"	224 GPM	22 : 1
TD-300-PMI	3" NPTF	4.0"	4.2"	10.4"	346 GPM	15 : 1
TD-400-PMI	4" NPTF	N/A	9.0"	13.4"	595 GPM	21 : 1
TD-600-PMI	6" NPTF	N/A	9.0"	19.9"	1351 GPM	15 : 1

## EXTERNALLY MOUNTED

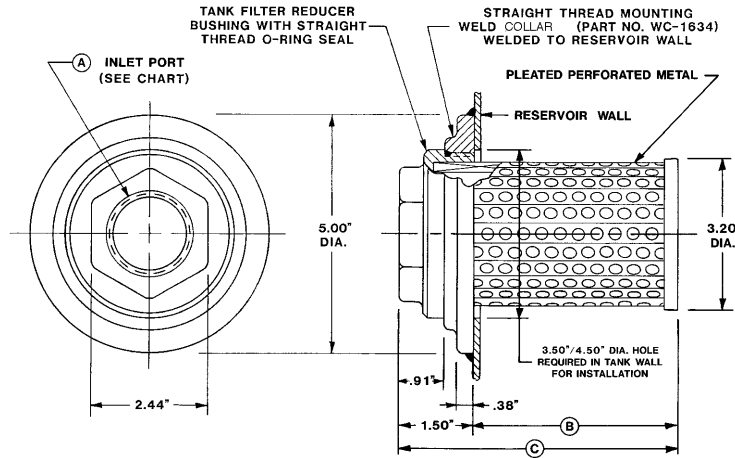


Model Number	A Inlet Port	B Wrench Flat	C Male Thread	D Overall Length	Rated Flow (At 15 Ft/Sec)	Ratio of Perf Mtl Open Area vs. Pipe Int Area
TD-0310-PME	3/8" NPTF	1.2"	1" NPTF	3.0"	9 GPM	25 : 1
TD-0510-PME	1/2" NPTF	1.12"	1" NPTF	4.0"	9 GPM	25 : 1
TD-0712-PME	3/4" NPTF	1.5"	1 1/4" NPTF	3.9"	25 GPM	18 : 1
TD-1015-PME	1" NPTF	1.75"	1 1/2" NPTF	4.9"	40 GPM	19 : 1
TD-1030-PME	1" NPTF	2.5"	3" NPTF	4.7"	40 GPM	31 : 1
TD-1220-PME	1 1/4" NPTF	2.1"	2" NPTF	5.1"	70 GPM	14 : 1
TD-1230-PME	1 1/4" NPTF	2.5"	3" NPTF	4.7"	70 GPM	18 : 1
TD-1530-PME	1 1/2" NPTF	2.5"	3" NPTF	5.7"	95 GPM	18 : 1
TD-2040-PME	2" NPTF	4.1"	4" NPTF	6.8"	157 GPM	17 : 1
TD-2540-PME	2 1/2" NPTF	4.1"	4" NPTF	10.8"	224 GPM	22 : 1
TD-3040-PME	3" NPTF	4.1"	4" NPTF	10.8"	346 GPM	15 : 1
TD-4060-PME	4" NPTF	5.8"	6" NPTF	17.5"	595 GPM	21 : 1



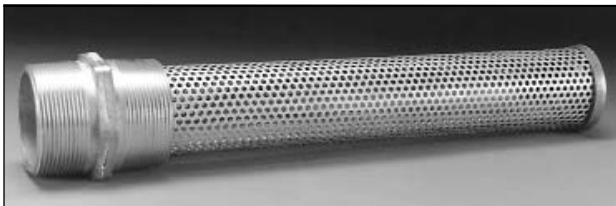
# TD-1634 / 1834 SERIES TANK DIFFUSERS

TANK DIFFUSERS

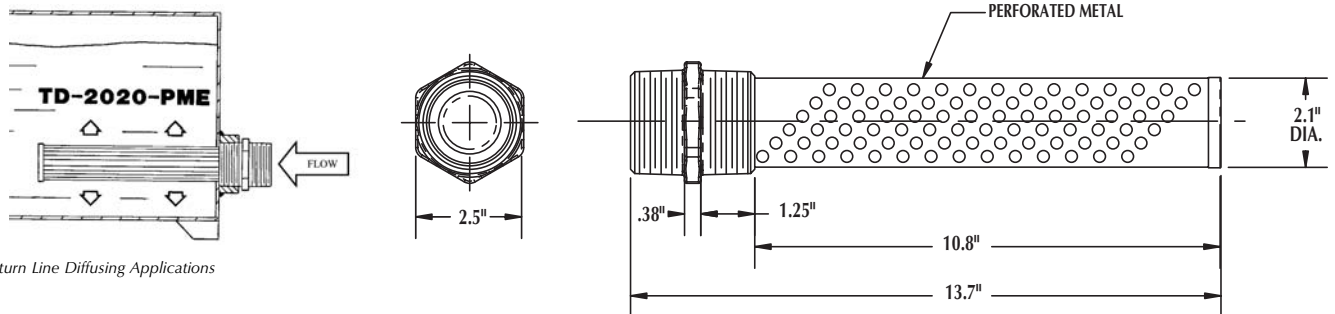


Model Number	A Inlet Port	B Length	C Overall Length	Rated Flow (At 15 Ft/Sec)	Ratio of Perf Mtl Open Area vs. Pipe Int Area
TD-1634-PME	1 5/8"-12UN (SAE-20)	3.2"	4.7"	43 GPM	27:1
TD-1834-PME	1 7/8"-12UN (SAE-24)	4.2"	5.7"	64 GPM	24:1

Order Weld Collar Part Number WC-1634 Separately From Tank Diffuser

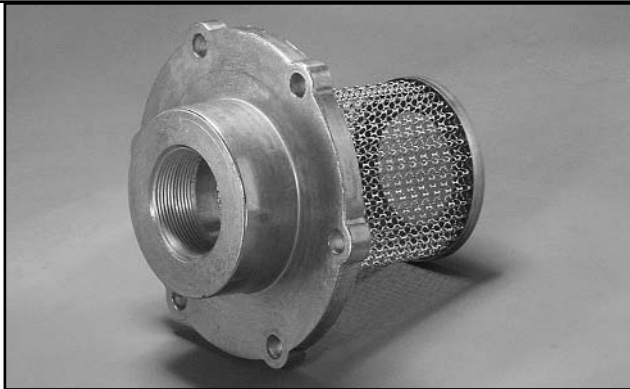


# TD-2020-PME TANK DIFFUSER



Return Line Diffusing Applications

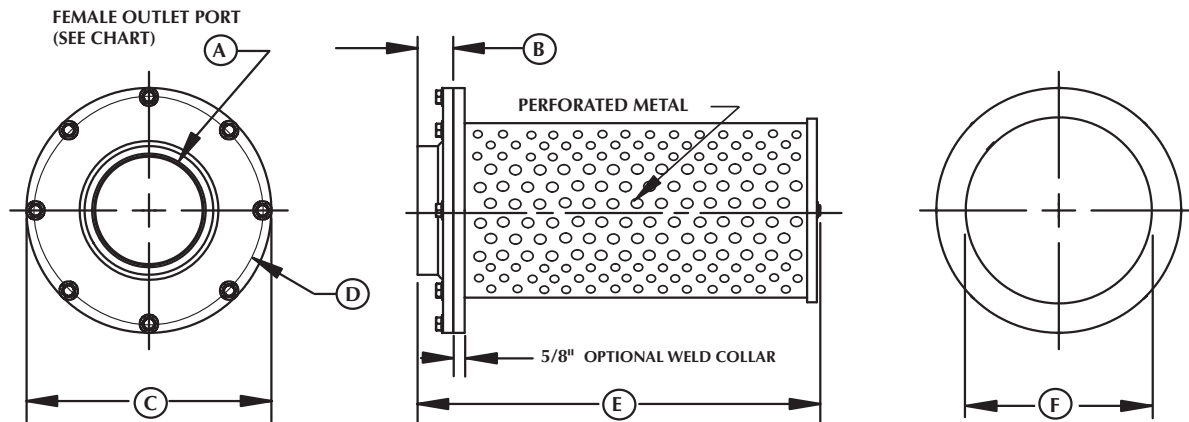
Model Number	Rated Flow	Bushing Material
TD-2020-PME	149 GPM (15 Ft/Sec)	Aluminum



# HD SERIES

## "CLEAN OUT" HATCH DIFFUSER ALUMINUM EXTERNAL MOUNT

Port Sizes: 3/4" Thru 4" NPTF  
SAE-20 Thru SAE-32  
1" Thru 2" BSP



\* PRODUCT SHOWN WITH OPTIONAL WELD COLLAR AND 3/8" BOLT HARDWARE AVAILABLE IN WELD COLLAR KITS

Model Number	A Outlet Port	B Flange	C Flange Diameter	D Bolt Circle Diameter	E Overall Length	F Dia	Rated Flow @ 15 ft/sec	Optional Weld Collar Kit
HD-070P	3/4" NPTF	1.3"	7 1/2"	6 1/2"	4.1"	4.2"	25 GPM	MF07K
HD-100C	1" BSP (G1"-11)	1.3"	7 1/2"	6 1/2"	4.1"	4.2"	30 GPM	MF07K
HD-100P	1" NPTF	1.3"	7 1/2"	6 1/2"	4.1"	4.2"	41 GPM	MF07K
HD-120C	1 1/4" BSP (G1 1/4"-11)	1.3"	7 1/2"	6 1/2"	5.1"	4.2"	51 GPM	MF07K
HD-120P	1 1/4" NPTF	1.3"	7 1/2"	6 1/2"	5.1"	4.2"	70 GPM	MF07K
HD-150C	1 1/2" BSP (G1 1/2"-11)	1.3"	7 1/2"	6 1/2"	5.6"	4.2"	73 GPM	MF07K
HD-150P	1 1/2" NPTF	1.3"	7 1/2"	6 1/2"	5.6"	4.2"	96 GPM	MF07K
HD-160S	1 5/8"-12UN (SAE-20)	1.3"	7 1/2"	6 1/2"	5.6"	4.2"	106 GPM	MF07K
HD-180S	1 7/8"-12UN (SAE-24)	1.3"	7 1/2"	6 1/2"	5.6"	4.2"	141 GPM	MF07K
HD-200C	2" BSP (G2"-11)	1.9"	7 1/2"	6 1/2"	6.6"	4.2"	126 GPM	MF07K
HD-200P	2" NPTF	1.9"	7 1/2"	6 1/2"	6.6"	4.2"	157 GPM	MF07K
HD-250S	2 1/2"-12UN (SAE-32)	1.9"	7 1/2"	6 1/2"	10.6"	4.2"	248 GPM	MF07K
HD-250P	2 1/2" NPTF	1.9"	7 1/2"	6 1/2"	10.6"	4.2"	225 GPM	MF07K
HD-300P	3" NPTF	1.9"	9"	7 3/4"	18"	6"	347 GPM	MF08K
HD-400P	4" NPTF	1.9"	9"	7 3/4"	18"	6"	598 GPM	MF08K

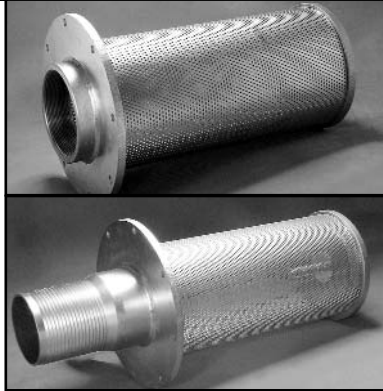
### Design Features:

- Provides user with alternate hand hole access for reservoir clean out and component installation.
- Steel weld collar Mounting Kit with mounting hardware available.
- O-ring seal provided (Buna N Standard) (Consult Factory for Alternate Seal Materials)
- For Hose Barb attachments refer to Zinga FT Series
- Suitable for use with petroleum base oils, fire resistant hydraulic fluids, coolants, and lubricants.

### HOW TO ORDER:

**HD - XXXX**

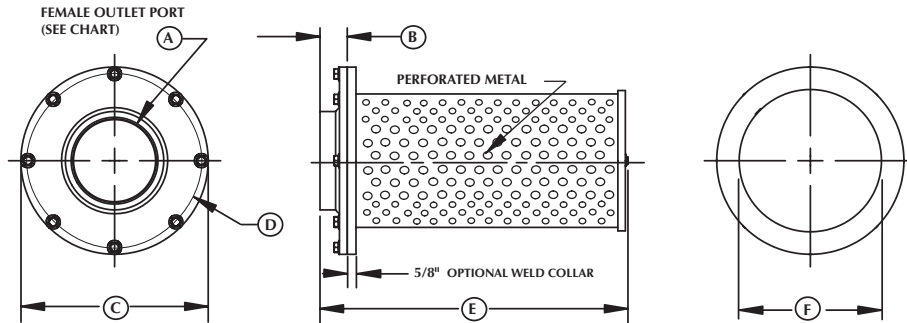
Model



# HD SERIES "CLEAN OUT" HATCH DIFFUSER STEEL EXTERNAL MOUNTED

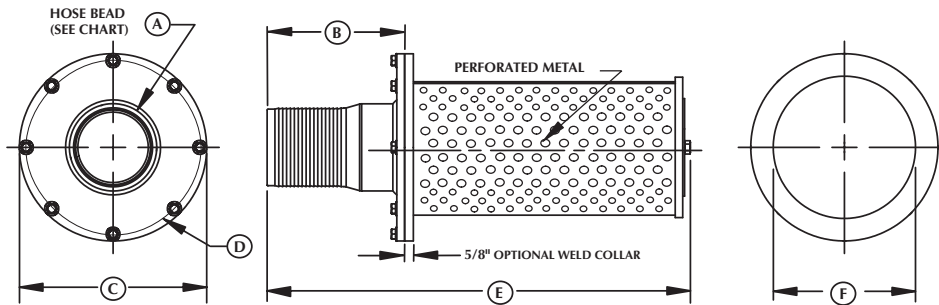
Port Sizes: 5" & 6" NPTF  
5" & 6" Hose Barb

TANK DIFFUSERS



\* PRODUCT SHOWN WITH OPTIONAL WELD COLLAR AND 3/8" BOLT HARDWARE AVAILABLE IN WELD COLLAR KITS

Model Number	A Outlet Port	B	C Flange Diameter	D Bolt Circle Diameter	E Overall Length	F Dia	Rated Flow @ 15 ft/sec	Optional Weld Collar Kit
HD-500P	5" NPTF	1 3/4"	12"	11 1/8"	20 1/8"	9"	935 GPM	MF09K
HD-600P	6" NPTF	1 7/8"	12"	11 1/8"	21 1/2"	9"	1351 GPM	MF09K



\* PRODUCT SHOWN WITH OPTIONAL WELD COLLAR AND 3/8" BOLT HARDWARE AVAILABLE IN WELD COLLAR KITS

Model Number	A Outlet Port	B	C Flange Diameter	D Bolt Circle Diameter	E Overall Length	F Dia	Rated Flow @ 15 ft/sec	Optional Weld Collar Kit
HD-500H	5" Hose Barb	8 3/4"	12"	11 1/8"	27"	9"	935 GPM	MF09K
HD-600H	6" Hose Barb	10 1/8"	12"	11 1/8"	28 1/2"	9"	1351 GPM	MF09K

**Design Features:**

- Provides user with alternate hand hole access for reservoir clean out and component installation.
- Steel weld collar Mounting Kit with mounting hardware available.
- O-ring seal provided (Buna N Standard) (Consult Factory for Alternate Seal Materials)

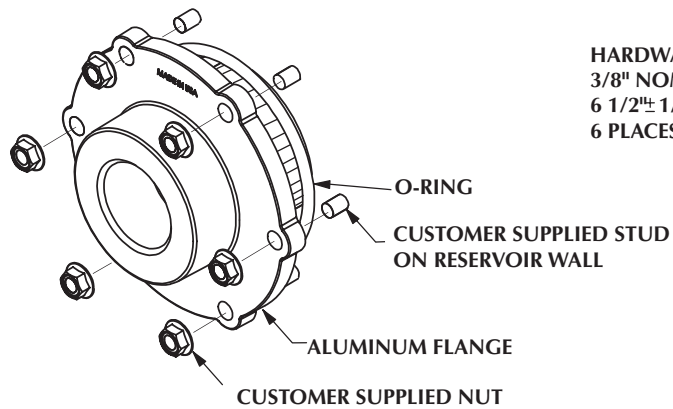
**HOW TO ORDER: HD - XXXX**

Model

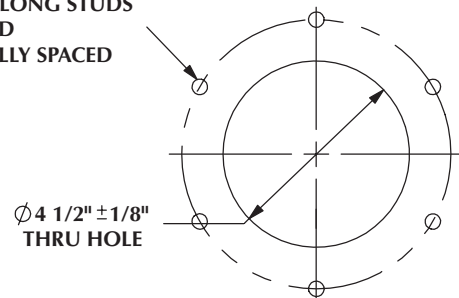
# HD SERIES

## "CLEAN OUT" HATCH DIFFUSER

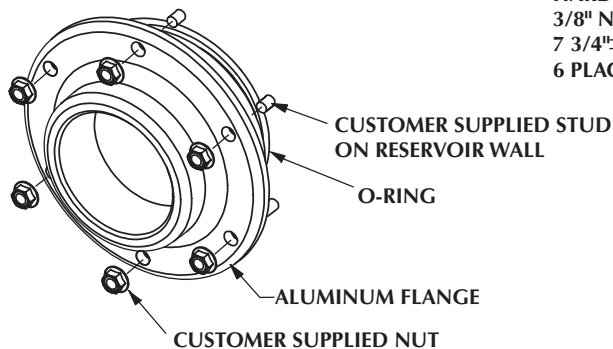
### INSTALLATION LAYOUT



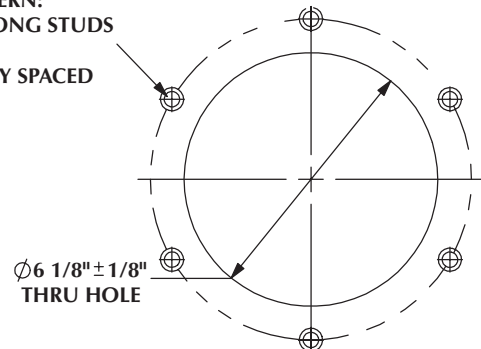
HARDWARE PATTERN:  
 3/8" NOM. X 1" LONG STUDS  
 6 1/2" ± 1/16" BCD  
 6 PLACES EQUALLY SPACED



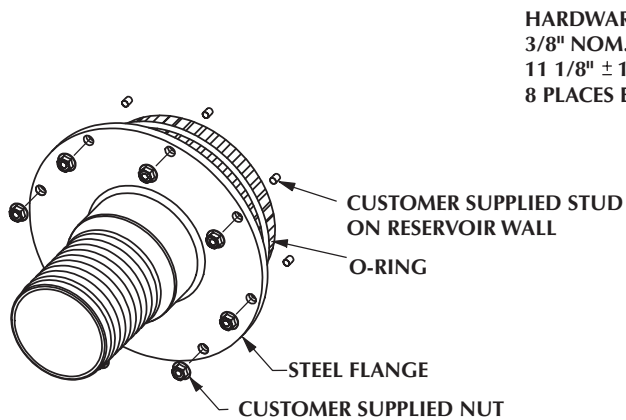
**HD070-HD250 SERIES**



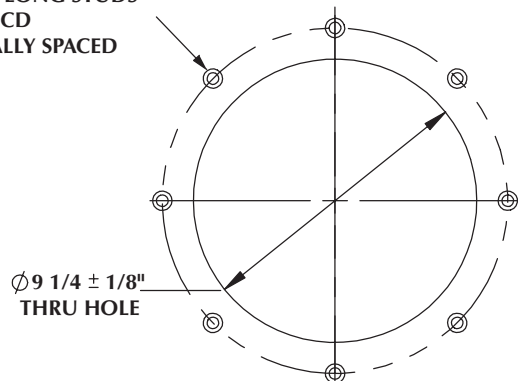
HARDWARE PATTERN:  
 3/8" NOM. X 1" LONG STUDS  
 7 3/4" ± 1/16" BCD  
 6 PLACES EQUALLY SPACED



**HD300-HD400 SERIES**



HARDWARE PATTERN:  
 3/8" NOM. X 1" LONG STUDS  
 11 1/8" ± 1/8" BCD  
 8 PLACES EQUALLY SPACED



**HD500-HD600 SERIES**





# BF SERIES SPIN-ON FILTER HEAD

Flows Up To: 7 GPM (Return) 2 GPM (Suction)

- Port Sizes:
- 1/4" NPTF
  - 3/8" NPTF
  - 1/4" BSP
  - 9/16" - 18 UN (SAE - 6)

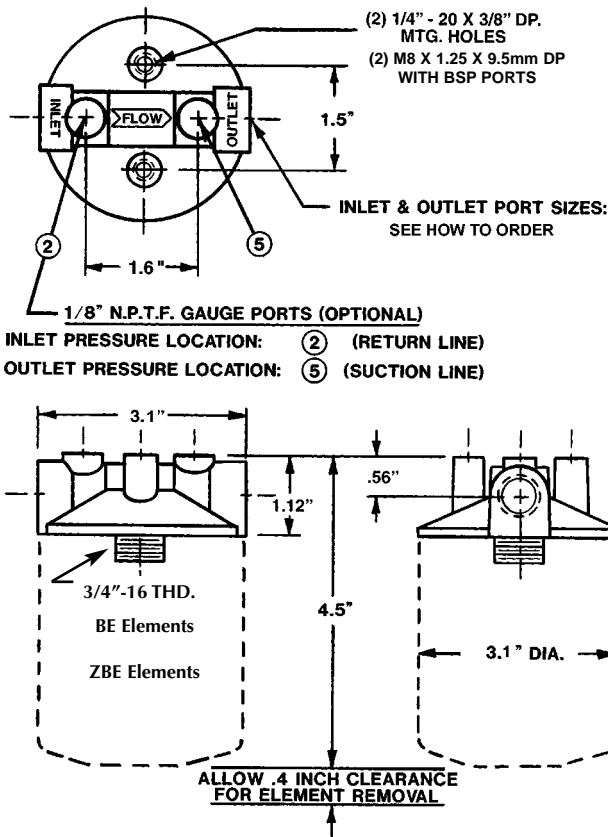
Pressure: 200 PSI Max. Operating

Temperature: Up to +250° F. Operating

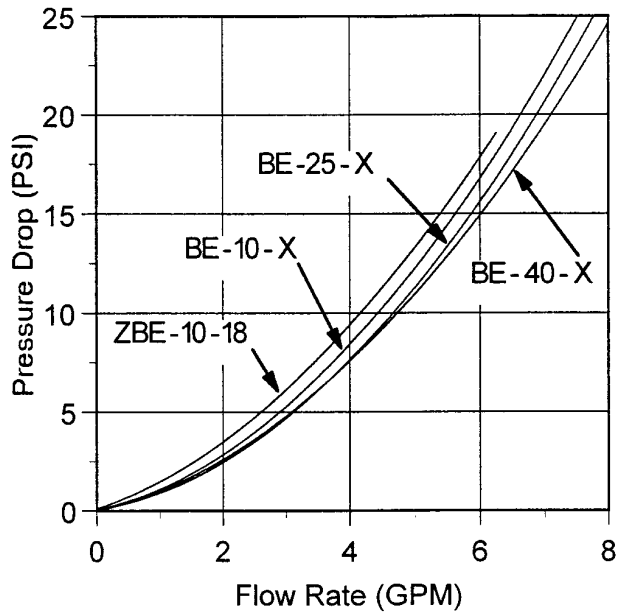
Applications: Petroleum based fluids only.

Consult factory for synthetic fluids.

SPIN-ON FILTERS



**Average Pressure Drop Through Clean Filter Assembly With 150 SUS Oil At 105 ° F.**



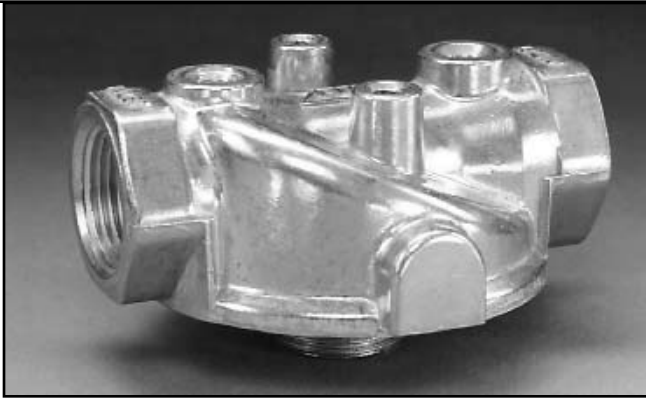
**HOW TO ORDER: Filter Head: BF - XX - X**

Code	Inlet & Outlet Ports
02	1/4" NPTF
02C	1/4" BSP (G1/4"-19)
03	3/8" NPTF
06	9/16" - 18 UN (SAE - 6)

Code	Gauge Port Location
0	No Port Required
2	Return Line
5	Suction Line

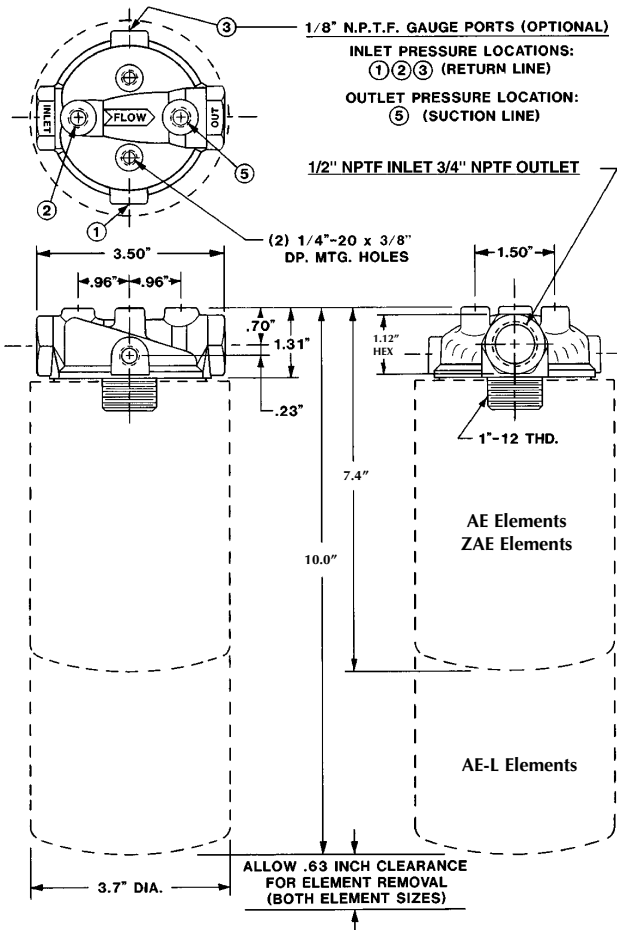
**BE & ZBE Element : See Page C23**



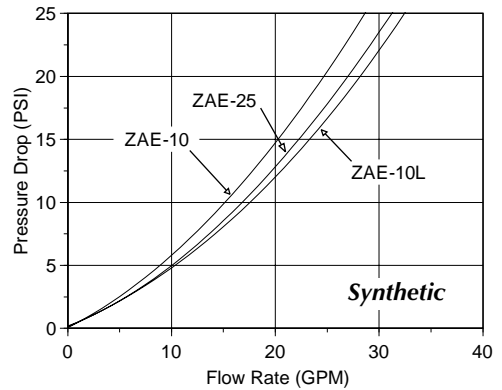
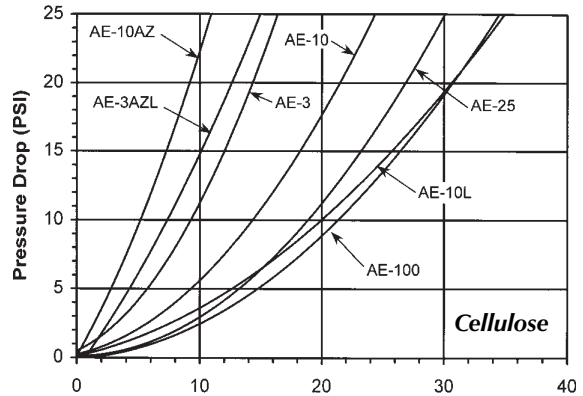


# ZAF-05 SERIES SPIN-ON FILTER HEADS

Flows Up To: 22 GPM (Return) 5 GPM (Suction)  
 Port Sizes: • 1/2" NPTF  
 • 3/4" - 16 UN (SAE - 8)  
 Pressure: 250 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

**ZAF - XX - XX - X**

Code	Inlet & Outlet Ports
05	1/2" NPTF
08	3/4" - 16 UN-2B(SAE-8)

Code	By-Pass Valve Setting
00	No By-Pass
05	5 PSI
10	10 PSI
30	30 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

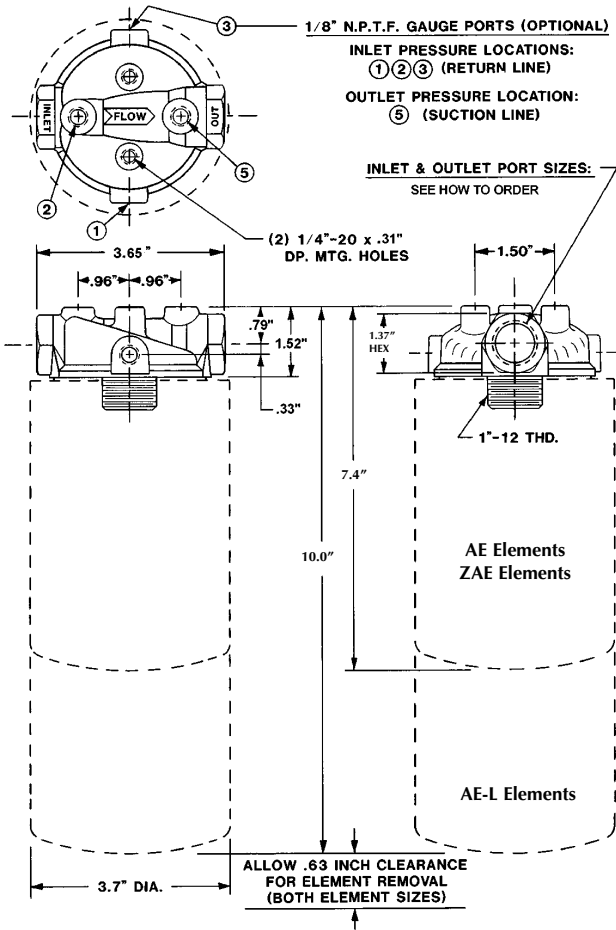
AE & ZAE Element Data: See Pages C24-C25



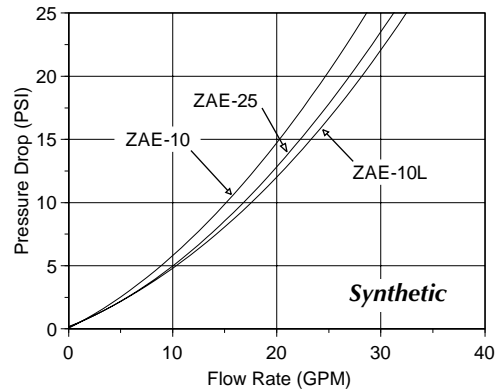
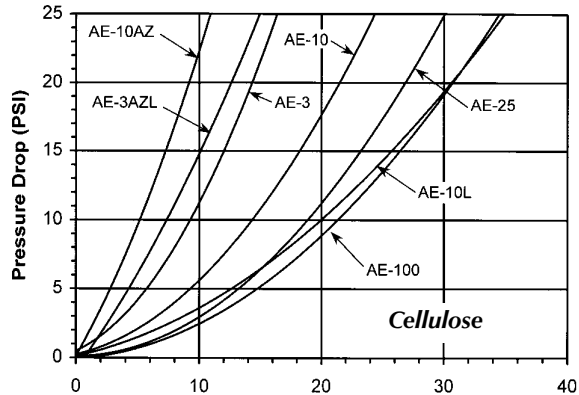
# ZAF-0507 SERIES SPIN-ON FILTER HEADS

Flows Up To: 22 GPM (Return) 5 GPM (Suction)  
 Port Sizes: • 1/2" NPTF Inlet 3/4" NPTF Outlet  
 Pressure: 250 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.

SPIN-ON FILTERS



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

**ZAF - 0507 - XX - X**

Model

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

AE & ZAE Element Data: See Pages C24-C25



# ZAF-07 SERIES SPIN-ON FILTER HEADS

Flows Up To: 25 GPM (Return) 9 GPM (Suction)  
 Port Sizes: • 3/4" NPTF

- 1 1/16" - 12 UN (SAE - 12)
- 3/4" BSP

Pressure: 250 PSI Max. Operating

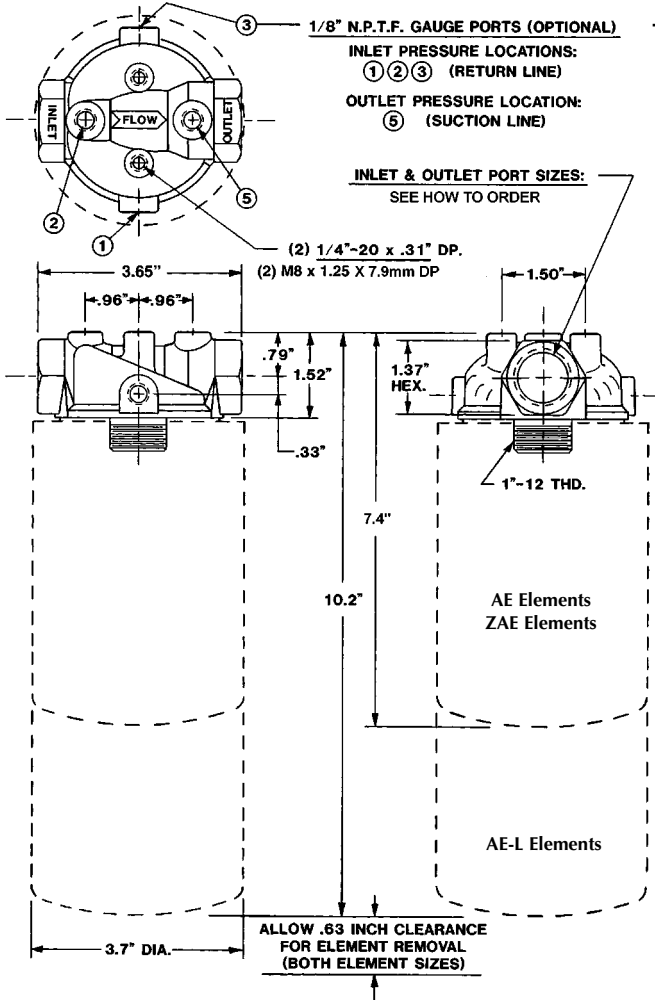
**Warning: 80 PSI ΔP max. without by-pass valve.**

Temperature: Up to +250° F. Operating

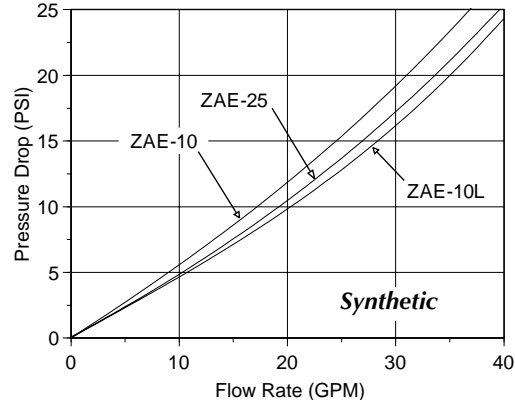
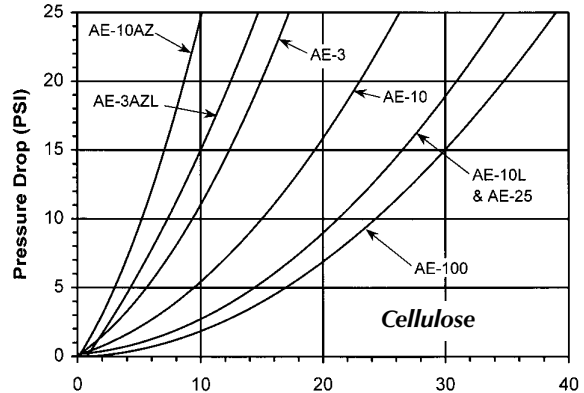
Applications: Petroleum based fluids only.

Consult factory for synthetic fluids.

SPIN-ON FILTERS



*Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.*



**HOW TO ORDER:**

**ZAF - XX - XX - X**

Code	Inlet & Outlet Ports
07	3/4" NPTF
07C	3/4" BSP (G 3/4"-14)
11	1 1/16"-12 UN-2B(SAE-12)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

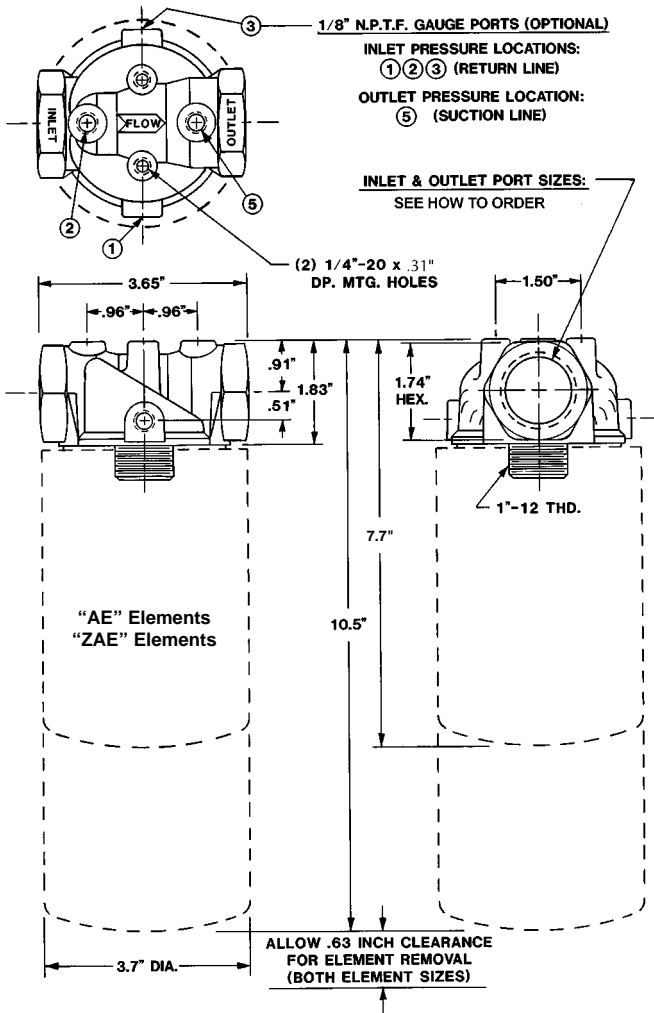
**AE & ZAE Element Data: See Pages C24-C25**



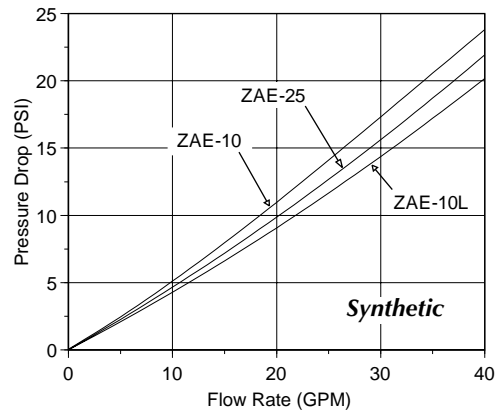
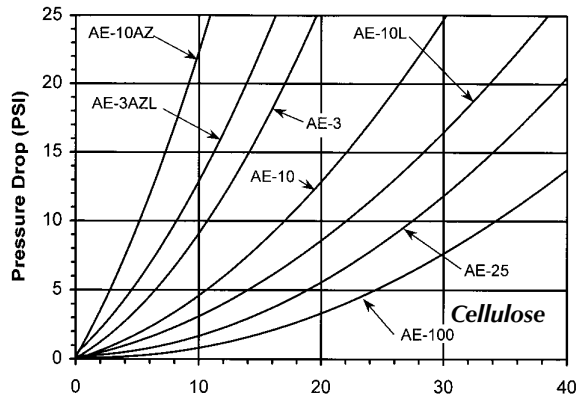
# ZAF-10 SERIES SPIN-ON FILTER HEADS

Flows Up To: 32 GPM (Return) 14 GPM (Suction)  
 Port Sizes: • 1" NPTF  
 • 1 5/16" - 12 UN (SAE - 16)  
 Pressure: 250 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.

SPIN-ON FILTERS



*Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.*



**HOW TO ORDER:**

ZAF - XX - XX - X

Code	Inlet & Outlet Ports
10	1" NPTF
13	1 5/16"-12 UN-2B(SAE-16)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

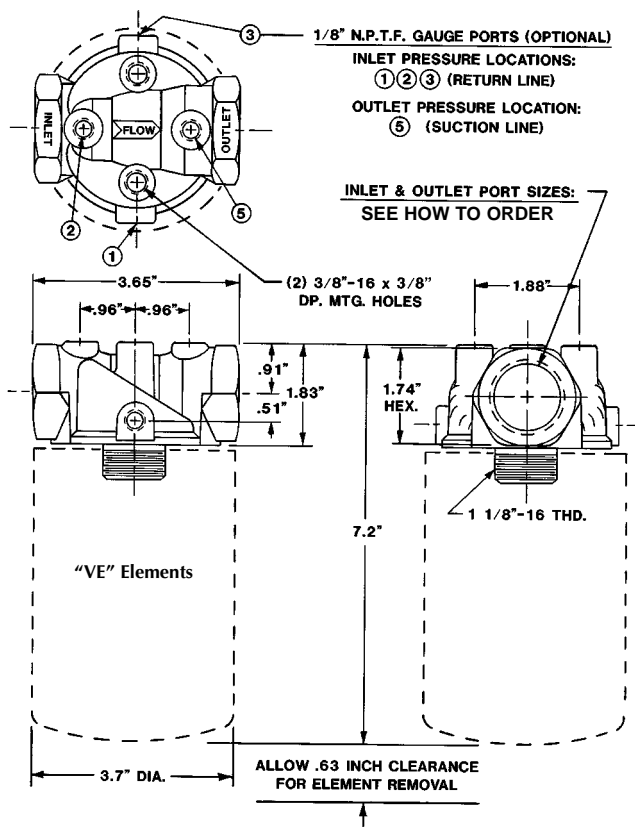
AE & ZAE Element Data: See Pages C24-C25



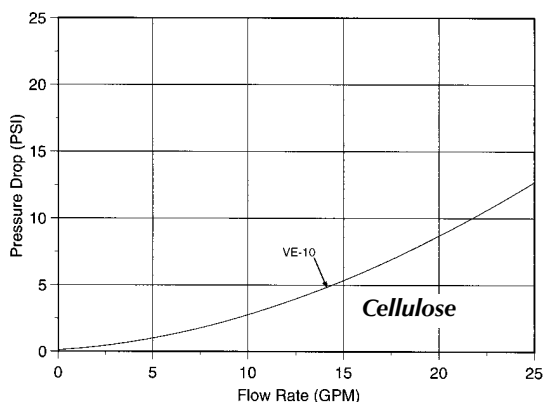


# VAF SERIES SPIN-ON FILTER HEADS

Flows Up To: 32 GPM (Return) 14 GPM (Suction)  
 Port Sizes: • 1" NPTF  
 • 1 5/16" - 12 UN (SAE - 16)  
 Pressure: 250 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



Manufacturer	Filter Assembly Number	Replacement Spin-on Element Number
Lenz	CP-1000-10P	CP-1002-10
Vickers	OFRS25P10	573082
Zinga	VAF-10-25-0 / VE-10	VE-10

**HOW TO ORDER:**

VAF - XX - XX - X

Code	Inlet & Outlet Ports
10	1" NPTF
13	1 5/16"-12 UN-2B(SAE-16)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

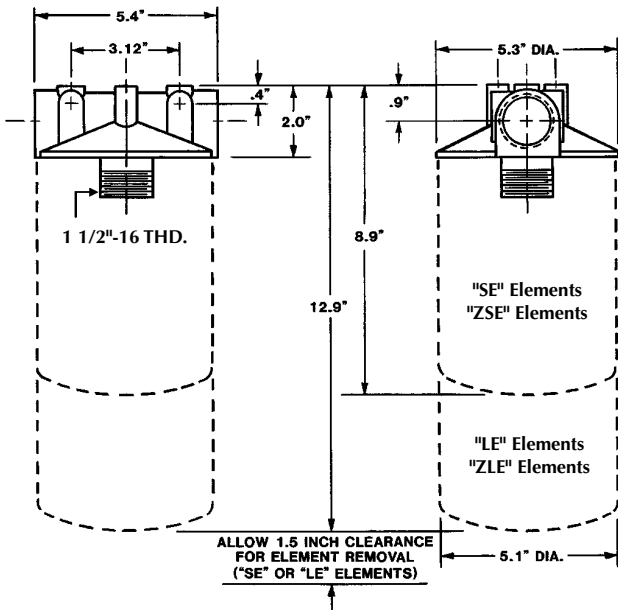
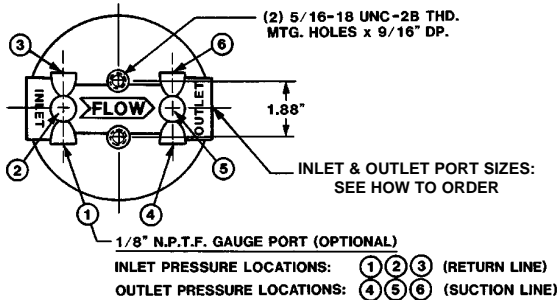
Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

VE Element Data: See Page C30

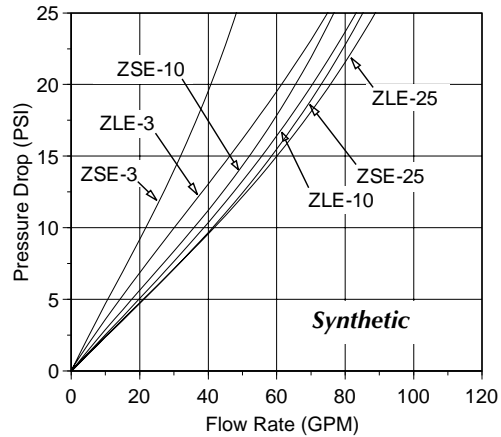
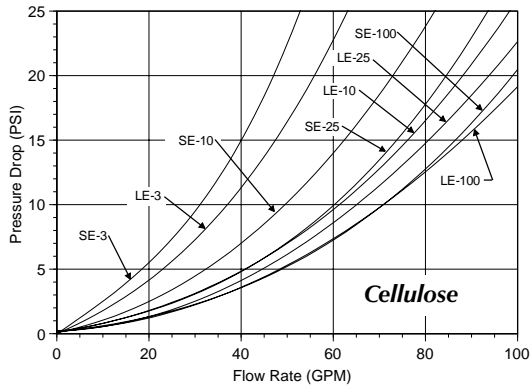


# SF-100 SERIES SPIN-ON FILTER HEADS

Flows Up To: 40 GPM (Return) 15 GPM (Suction)  
 Port Sizes: • 1" NPTF  
 • 1 5/16" - 12 UN (SAE - 16)  
 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

SF - XXX - XX - X

Code	Inlet & Outlet Ports
100	1" NPTF
130	1 5/16"-12 UN-2B(SAE-16)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27

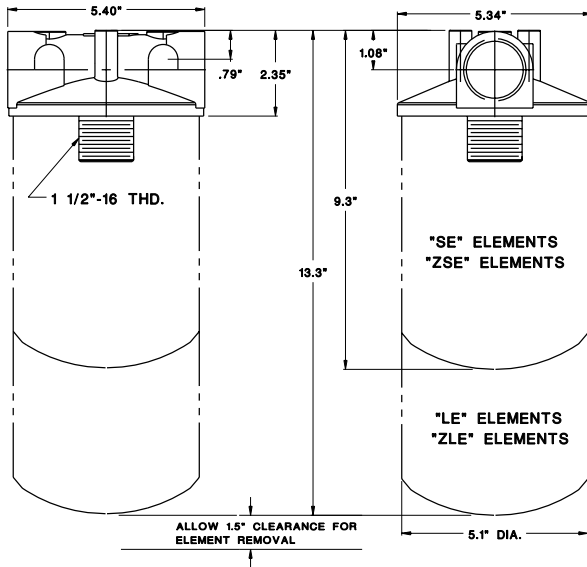
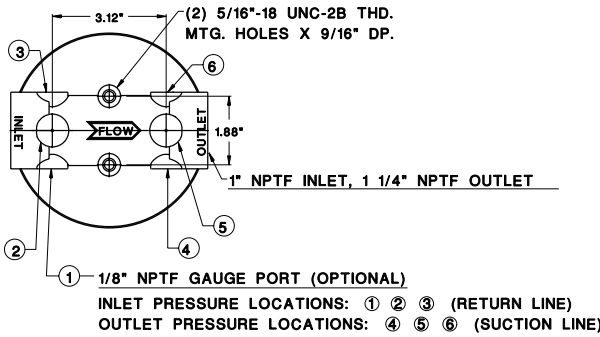




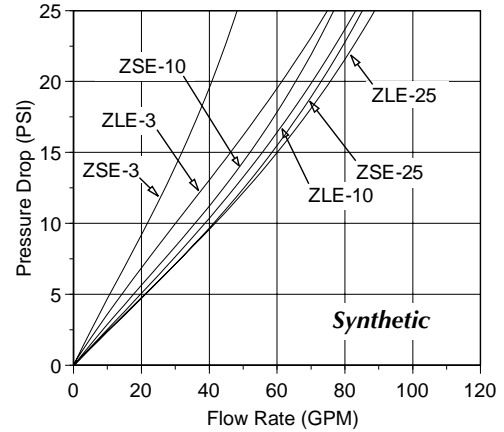
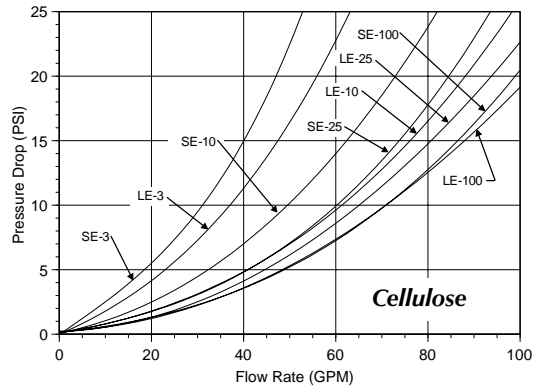


# SF-1012 SERIES SPIN-ON FILTER HEADS

Flows Up To: 40 GPM (Return) 15 GPM (Suction)  
 Port Sizes: • 1" NPTF Inlet  
 • 1 1/4" NPTF Outlet  
 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

**SF - 1012 - XX - X**

Model

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27



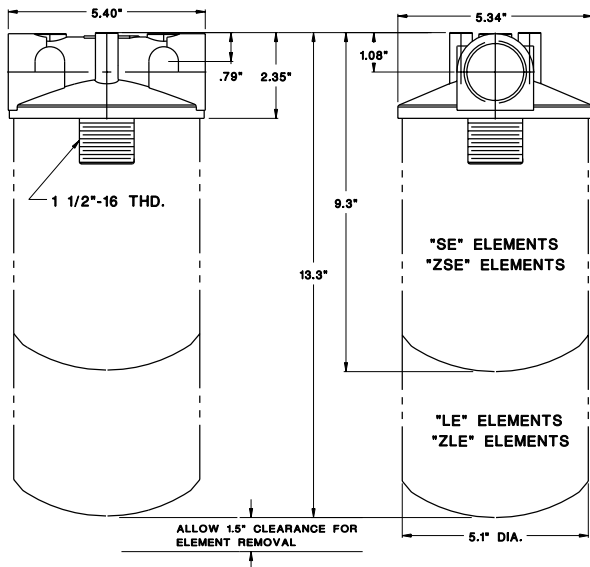
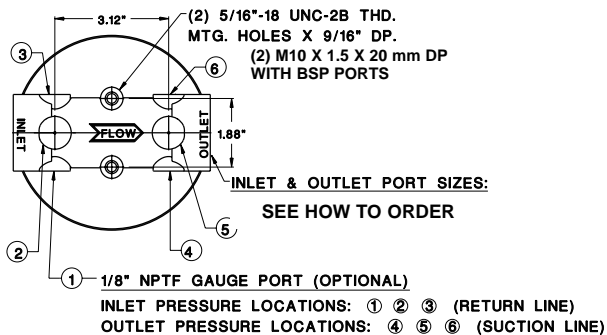
# SF-120 SERIES SPIN-ON FILTER HEADS

Flows Up To: 70 GPM (Return) 25 GPM (Suction)  
 Port Sizes:
 

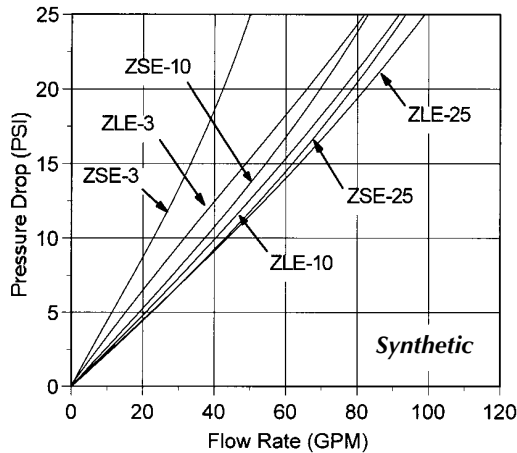
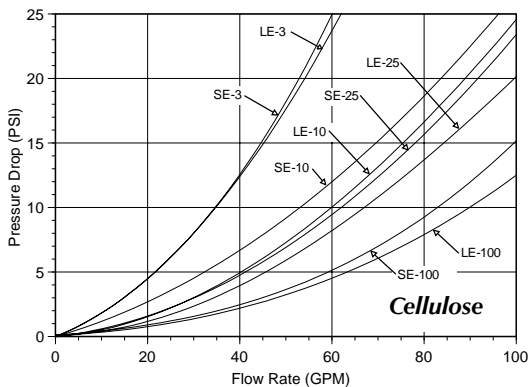
- 1 1/4" NPTF
- 1 1/4" BSP
- 1 5/8" - 12 UN (SAE - 20)

 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.

SPIN-ON FILTERS



*Average Pressure Drop Through Clean Filter Assembly With 150 SUS Oil At 105° F.*



**HOW TO ORDER:**

SF - XXX - XX - X

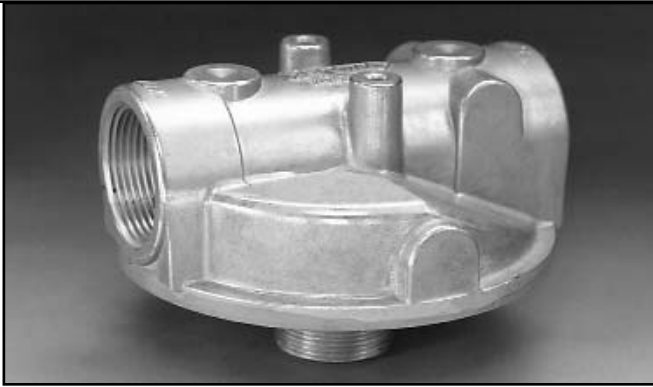
Code	Inlet & Outlet Ports
120	1 1/4" NPTF
120C	1 1/4" BSP (G 1 1/4"-11)
160	1 5/8"-12 UN-2B(SAE- 20)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

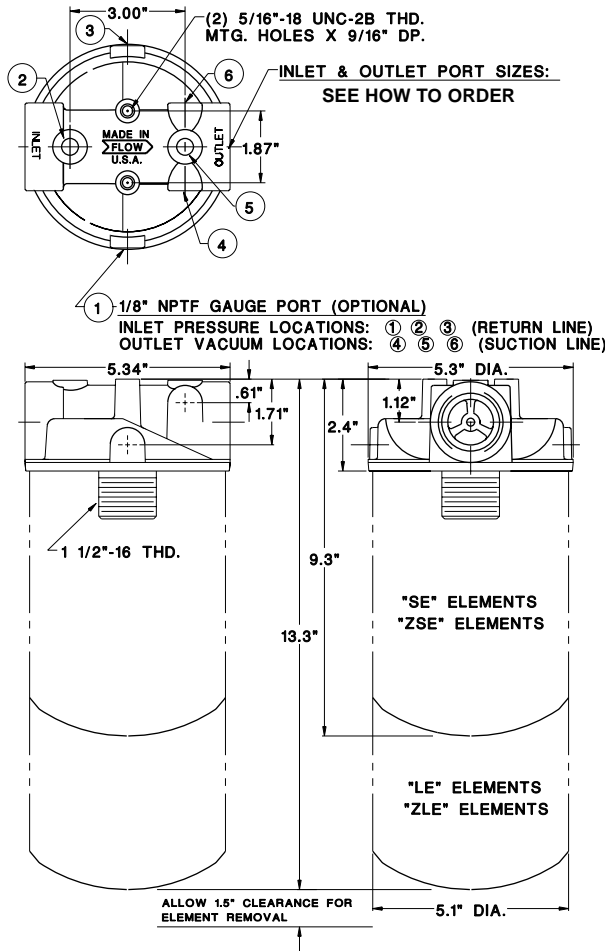
SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27



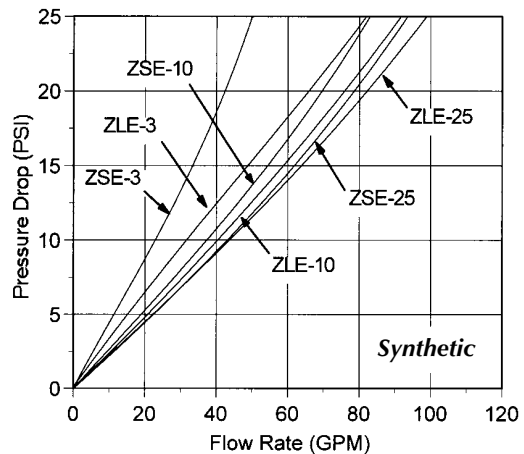
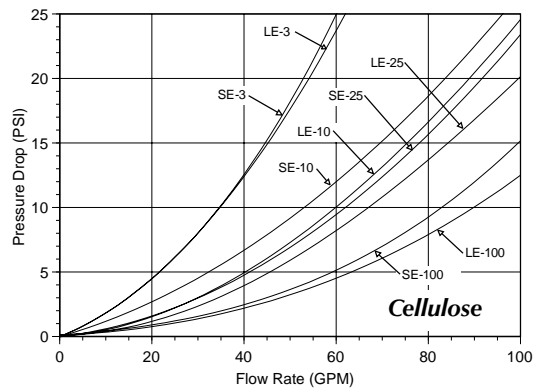


# SF-121 SERIES SPIN-ON FILTER HEADS

Flows Up To: 70 GPM (Return) 25 GPM (Suction)  
 Port Sizes: • 1 1/4" NPTF  
 • 1 5/8" - 12 UN (SAE - 20)  
 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Thru Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

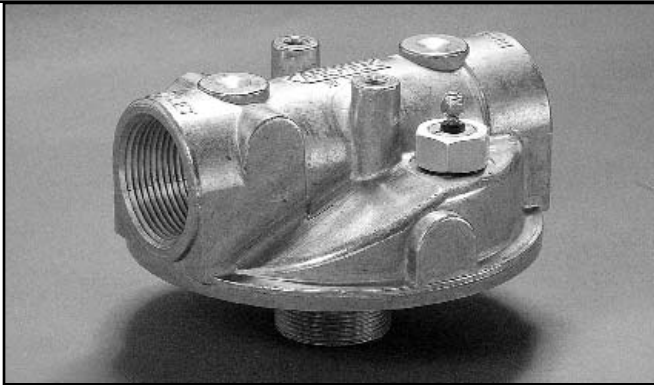
**SF - XXX - XX - X**

Code	Inlet & Outlet Ports
121	1 1/4" NPTF
161	1 5/8"-12 UN(SAE- 20)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27



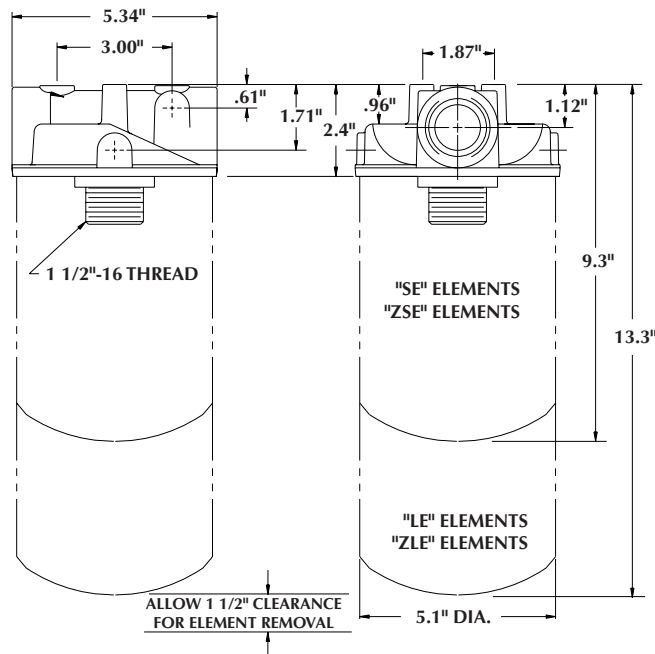
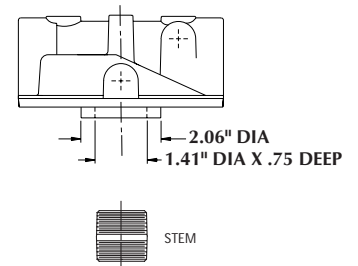
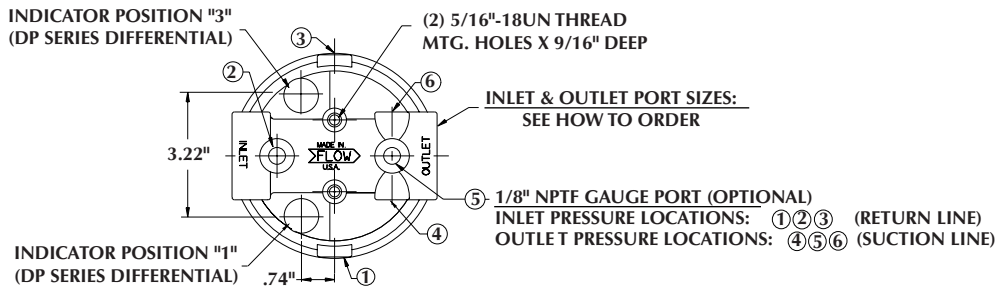
# SF-122/125 SERIES SPIN-ON FILTER HEADS WITH ΔP INDICATOR OPTION

Flows up to: 70 GPM (Return) 25 GPM (Suction)  
 Port Size: • 1 1/4" NPTF  
 • 1 5/8" UN (SAE - 20)  
 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to + 250° F. Operating  
**Limited by Indicator Selection**  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.

SPIN-ON FILTERS

## SF-122/162

## SF-125/165



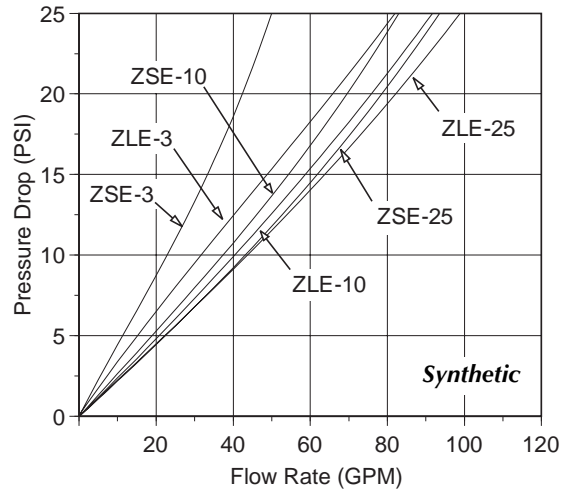
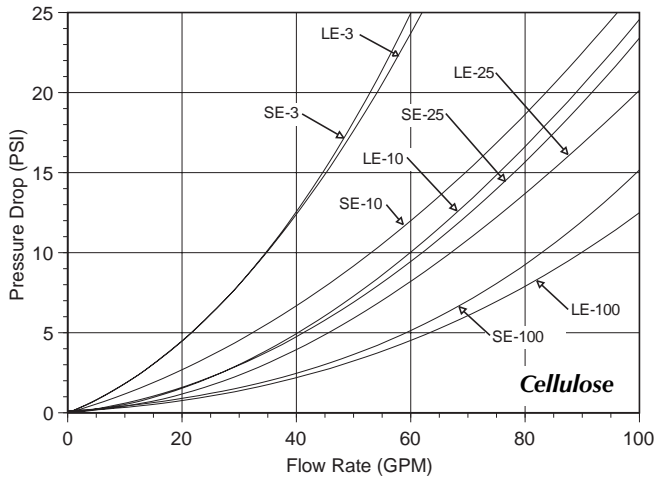
**CUSTOM DESIGN FEATURE:**

THE FEMALE SOCKET OF THE SF125/165 SERIES CAN BE MACHINED TO ACCEPT A VARIETY OF CUSTOM MADE OR CUSTOMER SUPPLIED STEMS

(ALL OTHER DIMENSIONS SAME AS SF122/162 SERIES.)

**Average Pressure Drop Through Clean Filter Assembly  
With 150 SUS Oil At 105° F.**

**SPIN-ON FILTERS**



**HOW TO ORDER:**

**SF - XXX-XX-XX-XXX-XXX**

Code	Inlet & Outlet Ports	Stem/Sockets
122	1 1/4" NPTF	Stem
125	1 1/4" NPTF	Socket
162	1 5/8" -12 UN (SAE-20)	Stem
165	1 5/8" -12 UN (SAE-20)	Socket

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

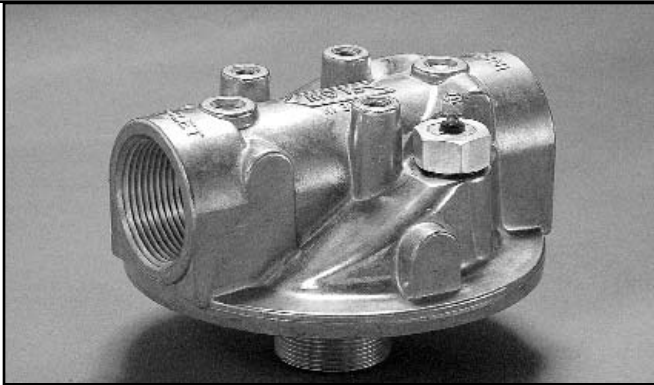
Code	Position 3 Indicator Option	Indicator Series
0	No Indicator	None
V	Visual Indicator	DP03 series
D	DC Electrical Single Wire	DP06 series
H	Vis/Elec. w/ DIN Conn..	DP05 series

Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

Code	Position 1 Indicator Option	Indicator Series
0	No Indicator	None
V	Visual Indicator	DP03 series
D	DC Electrical Single Wire	DP06 series
H	Vis/Elec. w/ DIN Conn.	DP05 series

Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

**SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27**



# SF-12A & C SERIES SPIN-ON FILTER HEADS WITH ΔP INDICATOR OPTION

Flows Up To: 70 GPM (Return) 25 GPM (Suction)  
 Port Sizes:

- 1 1/4" NPTF
- 1 1/4" BSP
- 1 5/8" - 12 UN (SAE - 20)

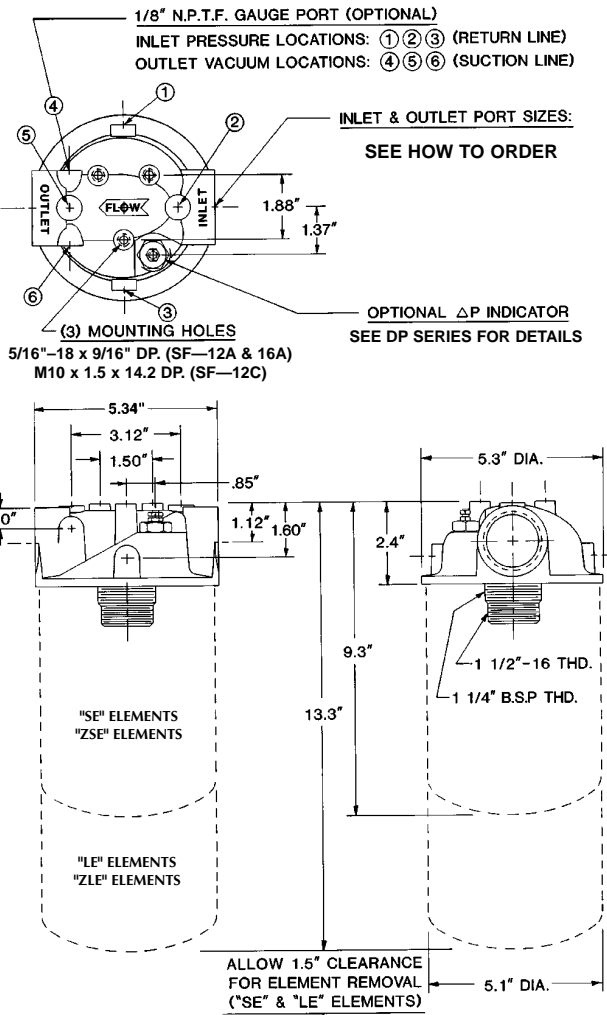
Pressure: 200 PSI Max. Operating

**Warning: 80 PSI ΔP max. without by-pass valve.**

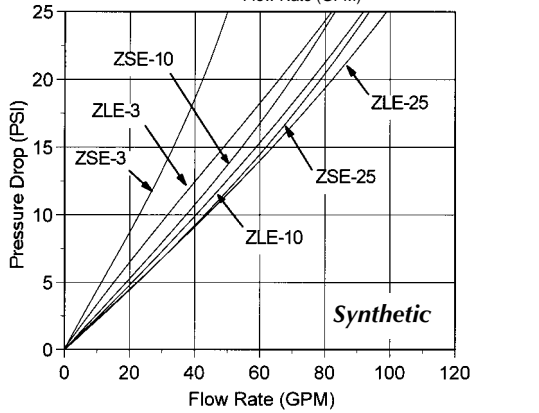
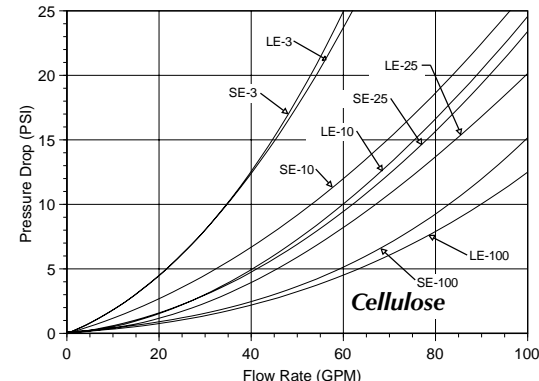
Temperature: Up to +250° F. Operating

**Limited by Indicator Selection**

Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

SF - XXX-XX-X-X-XX

Code	Inlet & Outlet Ports
12A	1 1/4" NPTF
12C	1 1/4" BSP (G 1 1/4"-11)
16A	1 5/8"-12 UN(SAE-20)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

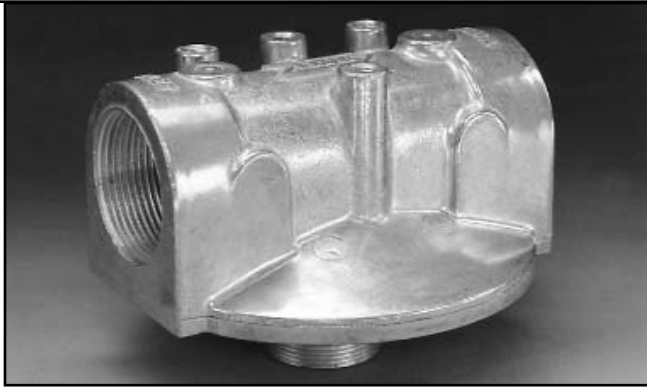
Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

Code	Indicator Option	Indicator Series
0	No Indicator	None
V	Visual Indicator	DP03 series
D	DC Electrical Single Wire	DP06 series
H	Vis/Elec. w/ DIN Conn.	DP05 series

SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27

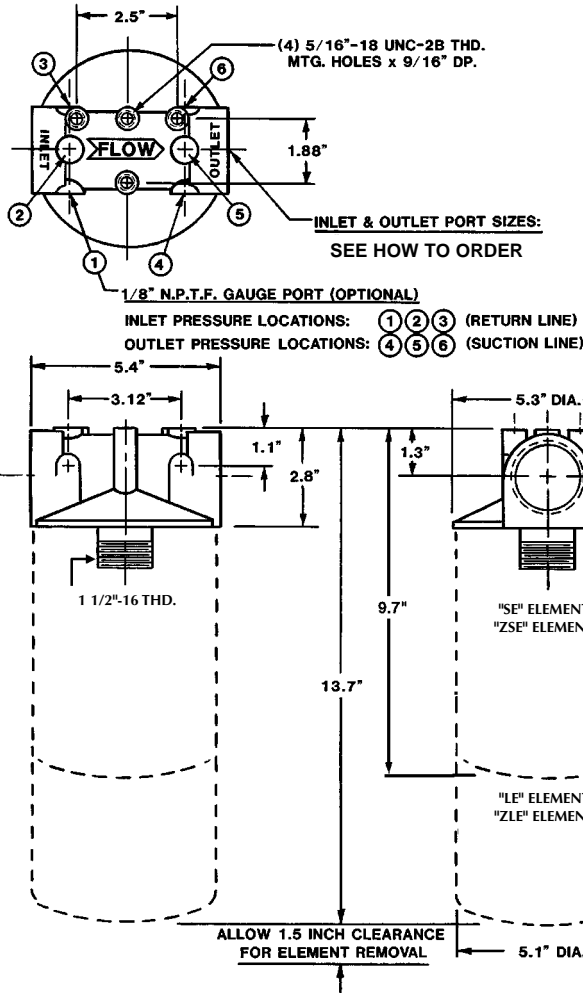




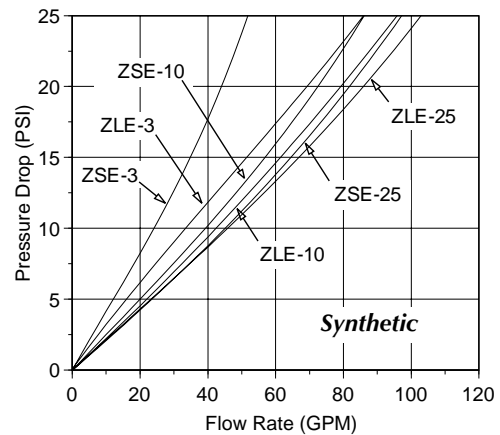
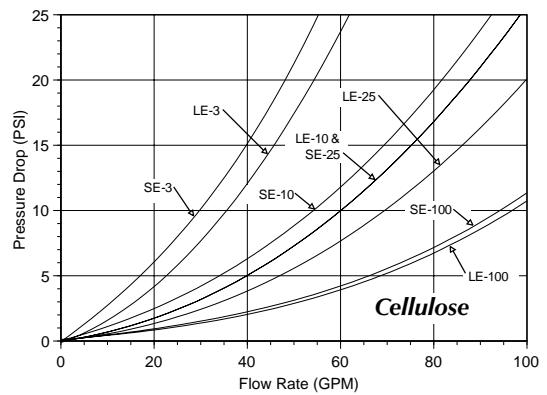


# SF-150 SERIES SPIN-ON FILTER HEADS

Flows Up To: 80 GPM (Return) 32 GPM (Suction)  
 Port Sizes: • 1 1/2" NPTF  
 • 1 7/8" - 12 UN (SAE - 24)  
 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

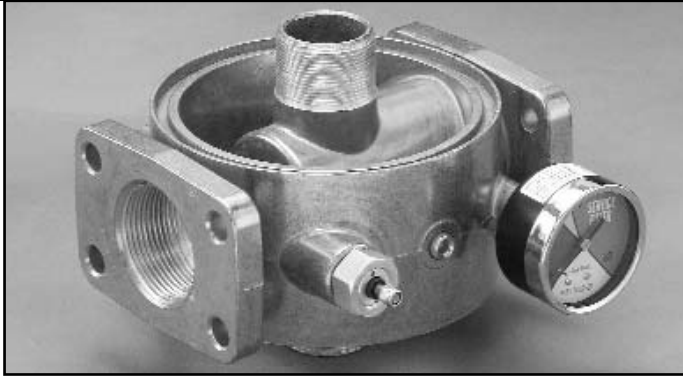
SF - XXX - XX - X

Code	Inlet & Outlet Ports
150	1 1/2" NPTF
180	1 7/8"-12 UN(SAE-24)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

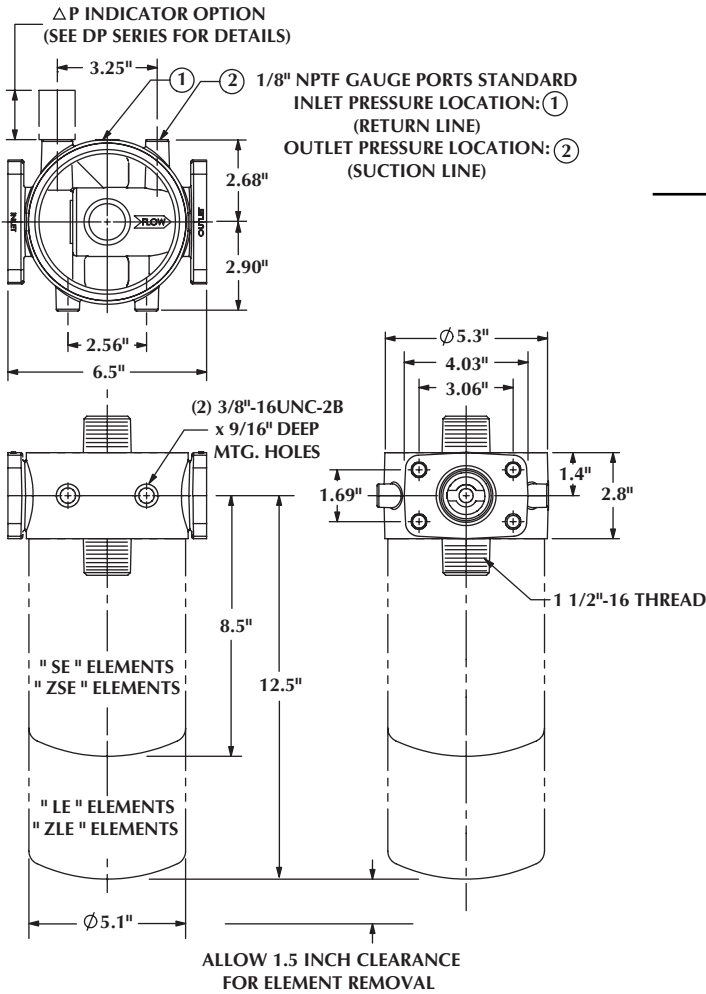
SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27



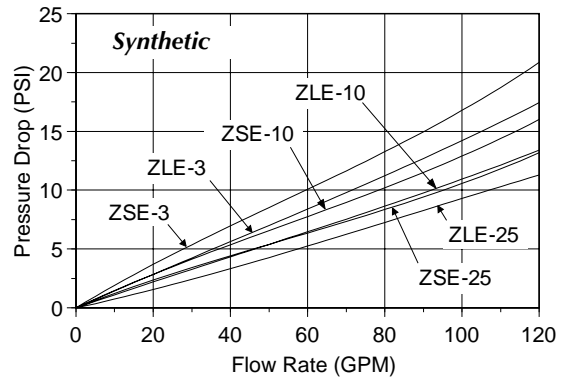
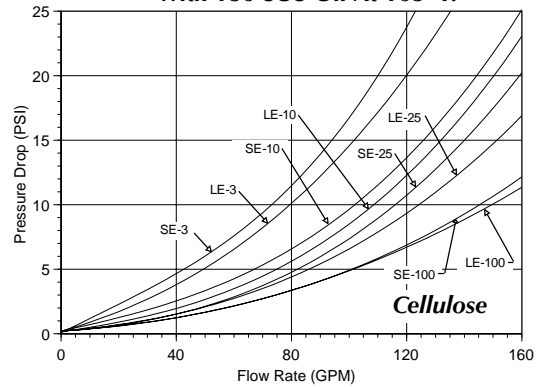
# DF-15 SERIES OVER / UNDER SPIN-ON FILTER HEADS WITH ΔP INDICATOR OPTION

Flows Up To: 120 GPM (Return) 50 GPM (Suction)  
 Port Sizes: 1 1/2" NPTF  
 1 7/8" - 12 UN (SAE - 24)  
 2" (4) Bolt Flange  
 Pressure: 200 PSI Max. Operating  
**80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
**Limited by Indicator Selection**  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.

SPIN-ON FILTERS



**Average Pressure Drop Through Clean Filter Assembly  
 With 150 SUS Oil At 105° F.**



**HOW TO ORDER: DF - XX - XX - 12 - X - XX**

Code	Inlet & Outlet Ports
15	2" (4) Bolt Flange & 1 1/2" NPTF Combination
18	1 7/8"-12 (SAE- 24)

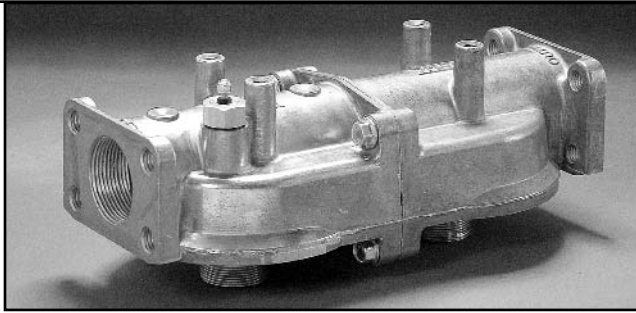
Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

Code	Indicator Option	Indicator Series
0	No Indicator	None
V	Visual Indicator	DP03 series
D	DC Electrical Single Wire	DP06 series
H	Vis/Elec. w/ DIN Conn.	DP05 series

**SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27**



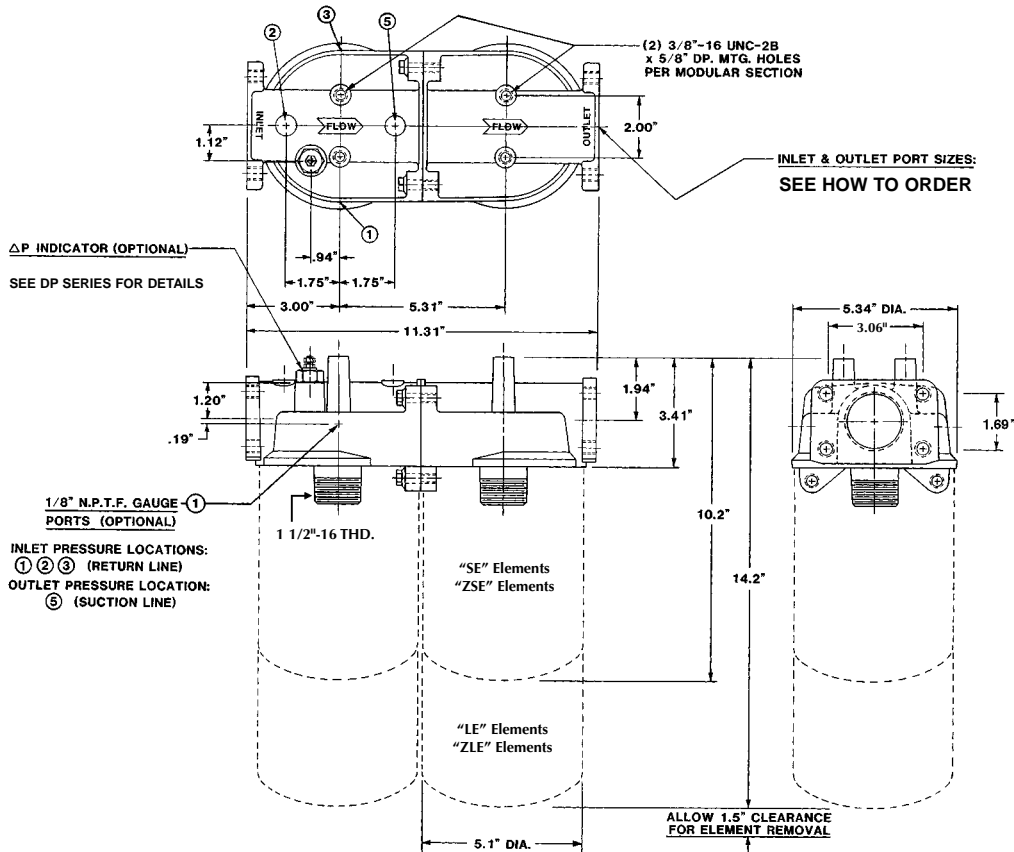


# MF SERIES MODULAR LINE TYPE SPIN-ON FILTER HEADS WITH ΔP INDICATOR OPTION

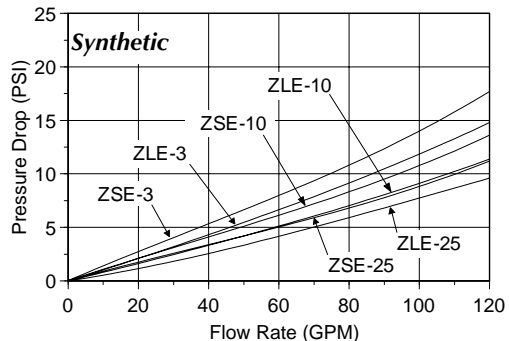
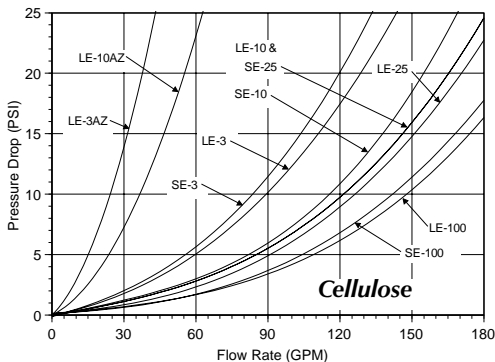
- Flows Up To: 120 GPM (Return) 50 GPM (Suction)
- Port Sizes:
- 1 1/2" NPTF
  - 1 7/8" - 12 UN (SAE - 24)
  - 2" (4) Bolt Flange
- Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**
- Temperature: Up to +250° F. Operating  
**Limited by Indicator Selection**
- Applications: Petroleum based fluids only.  
Consult factory for synthetic fluids.

MF-Series filters consist of two or more spin-on filter head modules bolted together to form a complete assembly. Inlet flow is equally divided among all spin-on filter elements (parallel flow). Multiple filter head module design allows filter elements to be manifolded together creating greater flow capacities and longer service life.

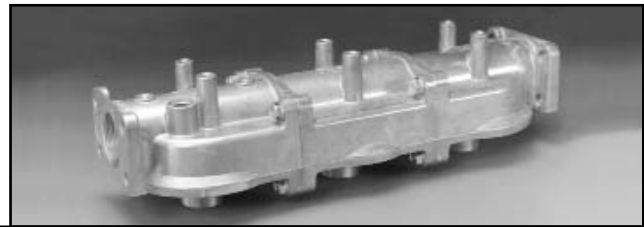
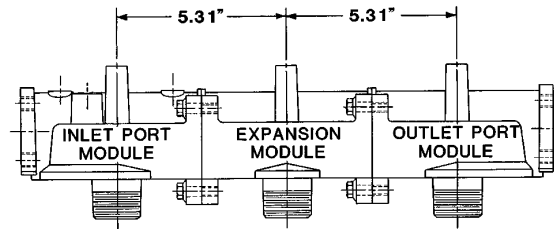
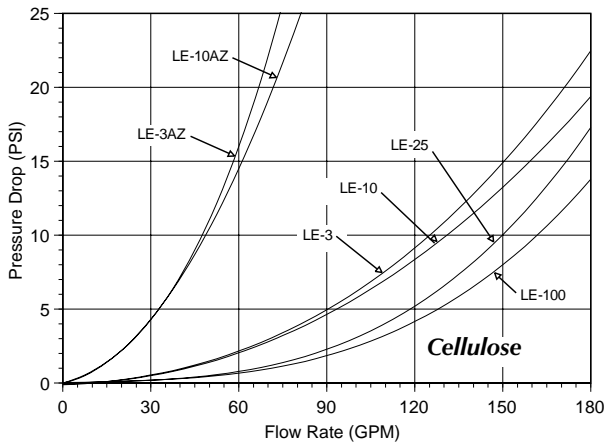
SPIN-ON FILTERS



Average Pressure Drop Through Clean Filter Assembly  
With 150 SUS Oil At 105° F.



## 3 ELEMENT SPIN-ON FILTER HEAD ASSEMBLY

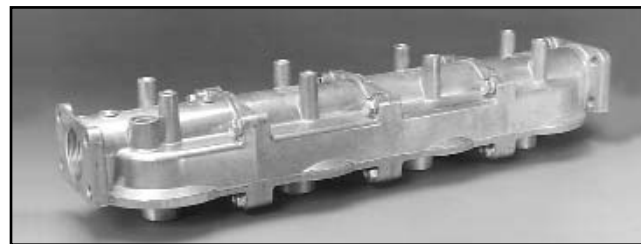
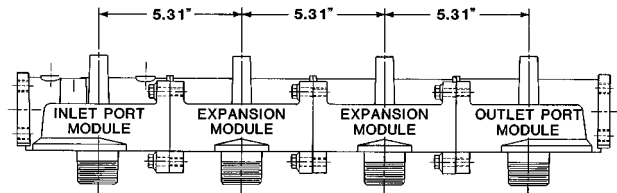


SPIN-ON FILTERS

## 4 ELEMENT SPIN-ON FILTER HEAD ASSEMBLY

**NOTE:**

Flow data for a MF-Series 4 element filter head is identical to the 3 element filter above. MF-Series filter heads with 4 or more elements will not significantly reduce pressure drop or allow greater flow through the assembly. The MF Series will lengthen the time periods between element servicing.



**HOW TO ORDER:**

**MF - XX - XX - X - X - X - XX**

Code	Inlet & Outlet Port Size & Type
18	1 7/8" - 12 (SAE - 24)
2215	2" (4) Bolt Flange & 1 1/2" NPTF Combination

Code	By-Pass Valve Setting
00	No Valve
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Gauge Port
1, 2, 3, or 5	Location Number As Shown On Drawing

Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

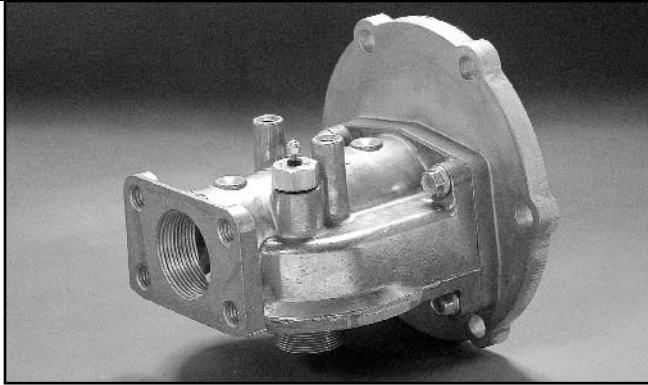
Code	Indicator Option	Indicator Series
0	No Indicator	None
V	Visual Indicator	DP03 series
D	DC Electrical Single Wire	DP06 series
H	Vis/Elec. w/ DIN Conn.	DP05 series

Code	No. of Filter Head Modules
2	2 Modules
3	3 Modules
4	4 Modules



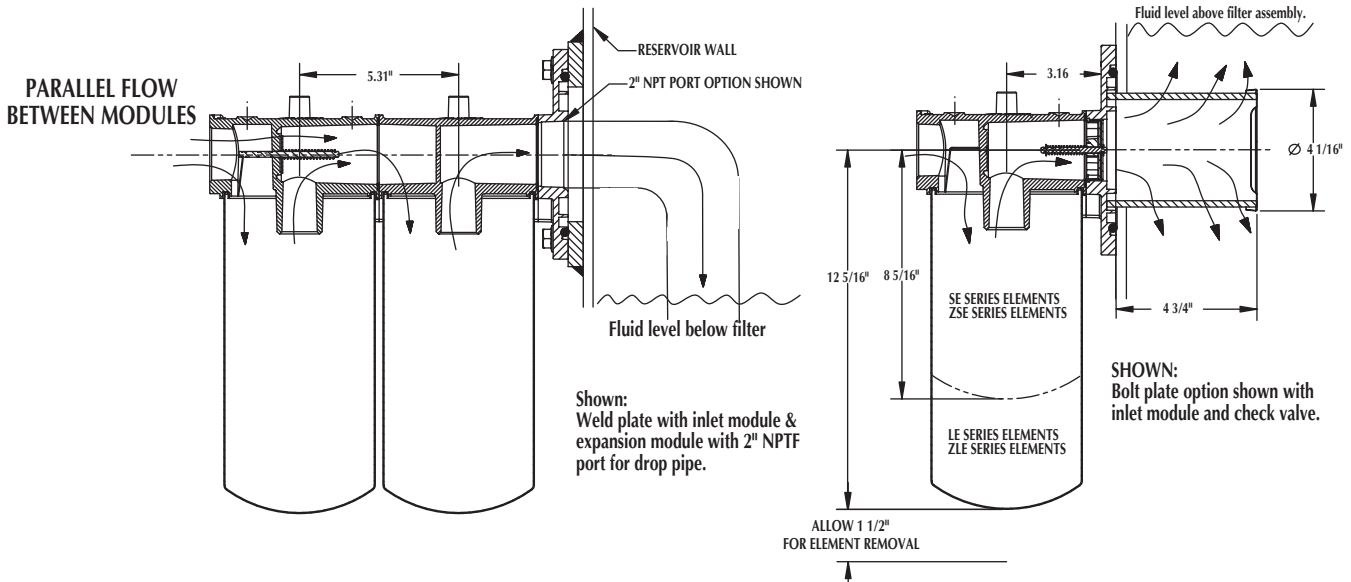
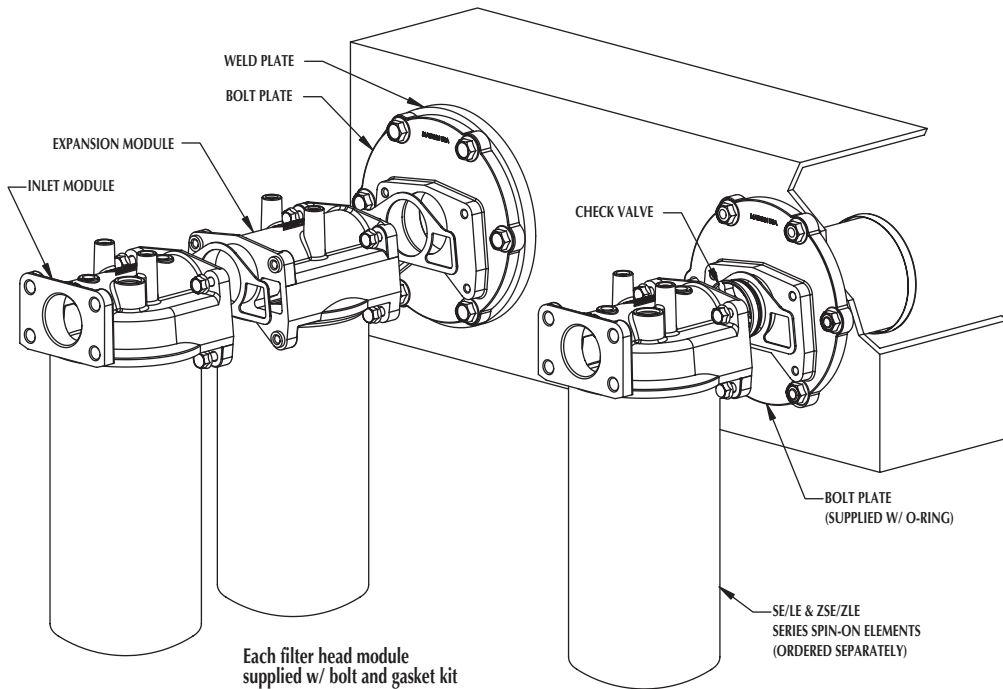
SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27

Phone (608) 524-4200 Fax (608) 524-4220 www.zinga.com



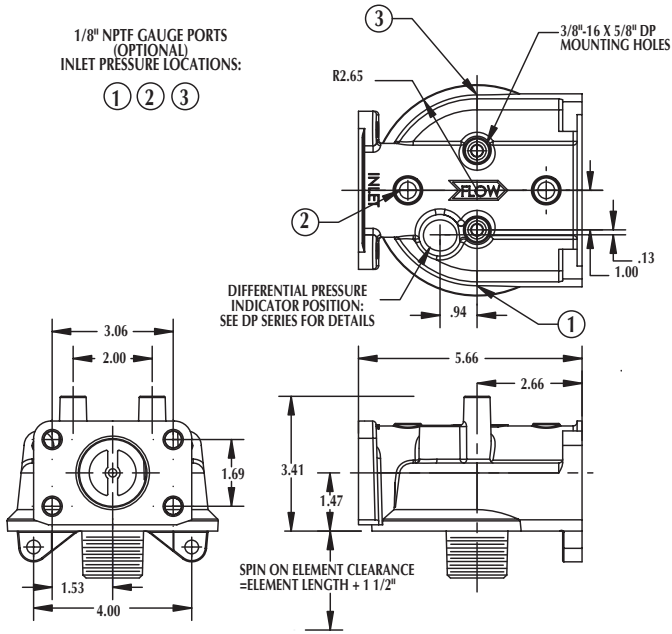
# MFT SERIES FLANGE MOUNTED SPIN-ON HEADS WITH $\Delta P$ INDICATOR OPTION

- Flows Up To: 120 GPM (Return)
- Port Sizes:
  - 1 1/2" NPTF
  - 1 7/8" - 12 UN (SAE - 24)
  - 2" (4) Bolt Flange
- Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI  $\Delta P$  max. without by-pass valve.**
- Temperature: Up to +250° F. Operating  
**Limited by Indicator Selection**
- Applications: Petroleum based fluids only.  
Consult factory for synthetic fluids.

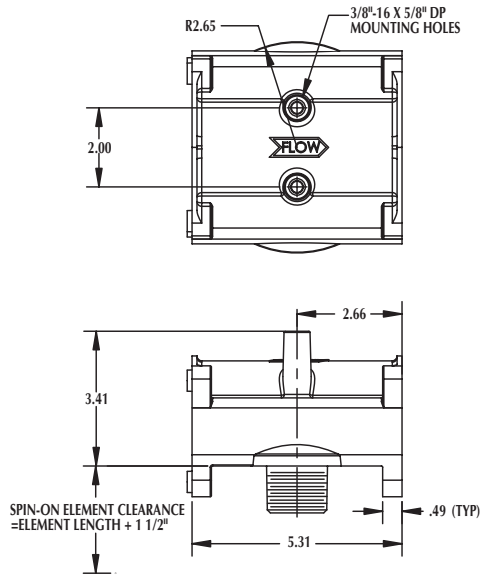




**INLET MODULE**

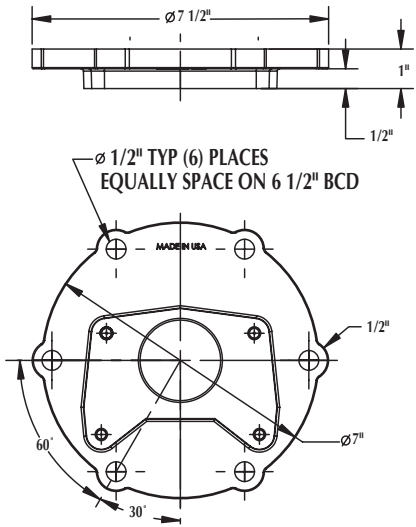


**EXPANSION MODULE**

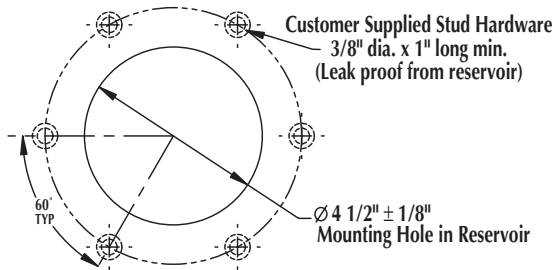
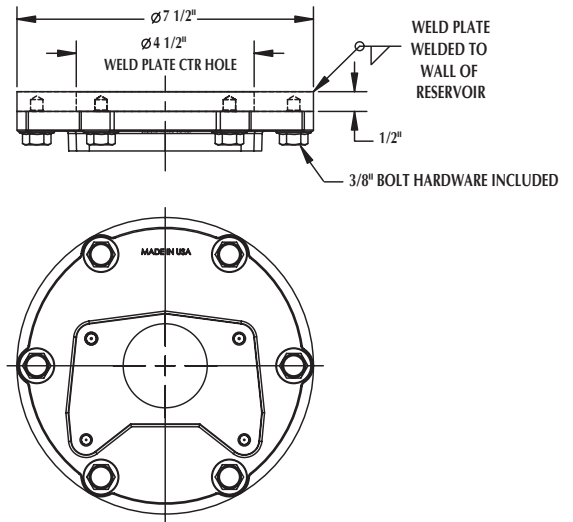


**SPIN-ON FILTERS**

**BOLT PLATE MOUNTING DIMENSIONS**



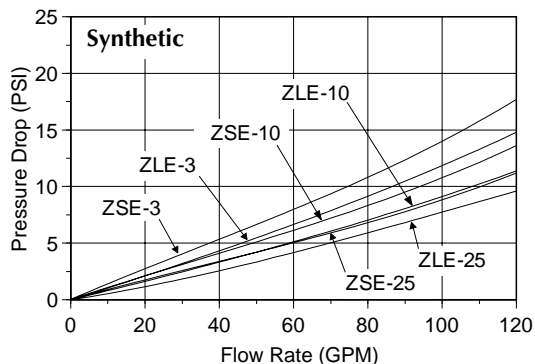
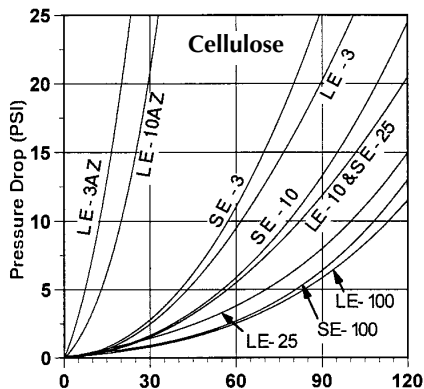
**WELD PLATE MOUNTING DIMENSIONS**



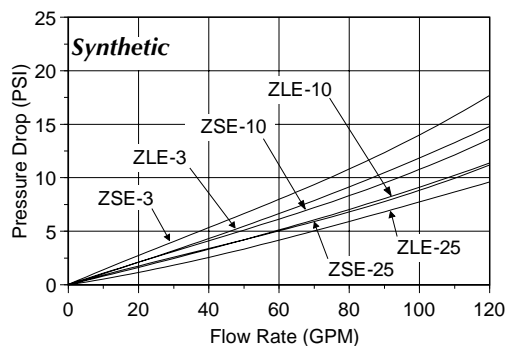
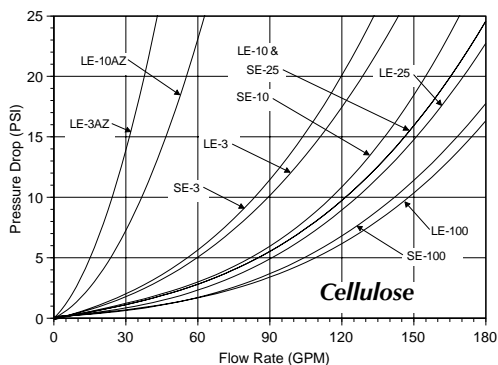
Note: Lubricate Supplied O-ring Seal and Use a Cross Tighten Pattern When Installing Mounting Plate to Reservoir Wall / Weld Collar



**Average Pressure Drop Through Clean Single Module Filter Assembly With 150 SUS Oil At 105° F.**



**Average Pressure Drop Through Clean Double Module Filter Assembly With 150 SUS Oil At 105° F.**



SPIN-ON FILTERS

**HOW TO ORDER: MFT - XX - XX - X - X - X -XX- XXX**

Code	Inlet & Outlet Port Size & Type
18S	1 7/8" - 12 (SAE - 24)
2215P	2" (4) Bolt Flange & 1 1/2" NPTF Combination

Code	By-Pass Valve Setting
00	No Valve
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Gauge Port
1, 2, 3	Location Number As Shown On Drawing

Code	No. of Filter Head Modules
1	1 Module
2	2 Modules
3	3 Modules

Code	ΔP Indicator Options
0	No Indicator
V	Visual Indicator (see DP03 series)
D	DC Indicator (see DP06 series)
H	Ele/Visual AC/DC Din Connector (see DP05 series)

Code	Mounting Options
BP0	Bolt plate
BCX	Bolt plate w/ check valve X= pressure setting (1,2,3...7 psid)
BP2	Bolt Plate w/2" NPT Port for drop pipe
BD0	Bolt plate w/ tank diffuser
BDX	Bolt plate w/ check valve & tank diffuser X= pressure setting (1,2,3...7 psid)
WP0	Weld plate (no options)
WCX	Weld plate w/ check valve X=pressure setting (1,2,3...7 psid)
WP2	Weld plate w/ 2" NPT port for drop pipe
WD0	Weld plate w/ tank diffuser
WDX	Weld plate w/ check valve & tank diffuser
000	No plate

Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

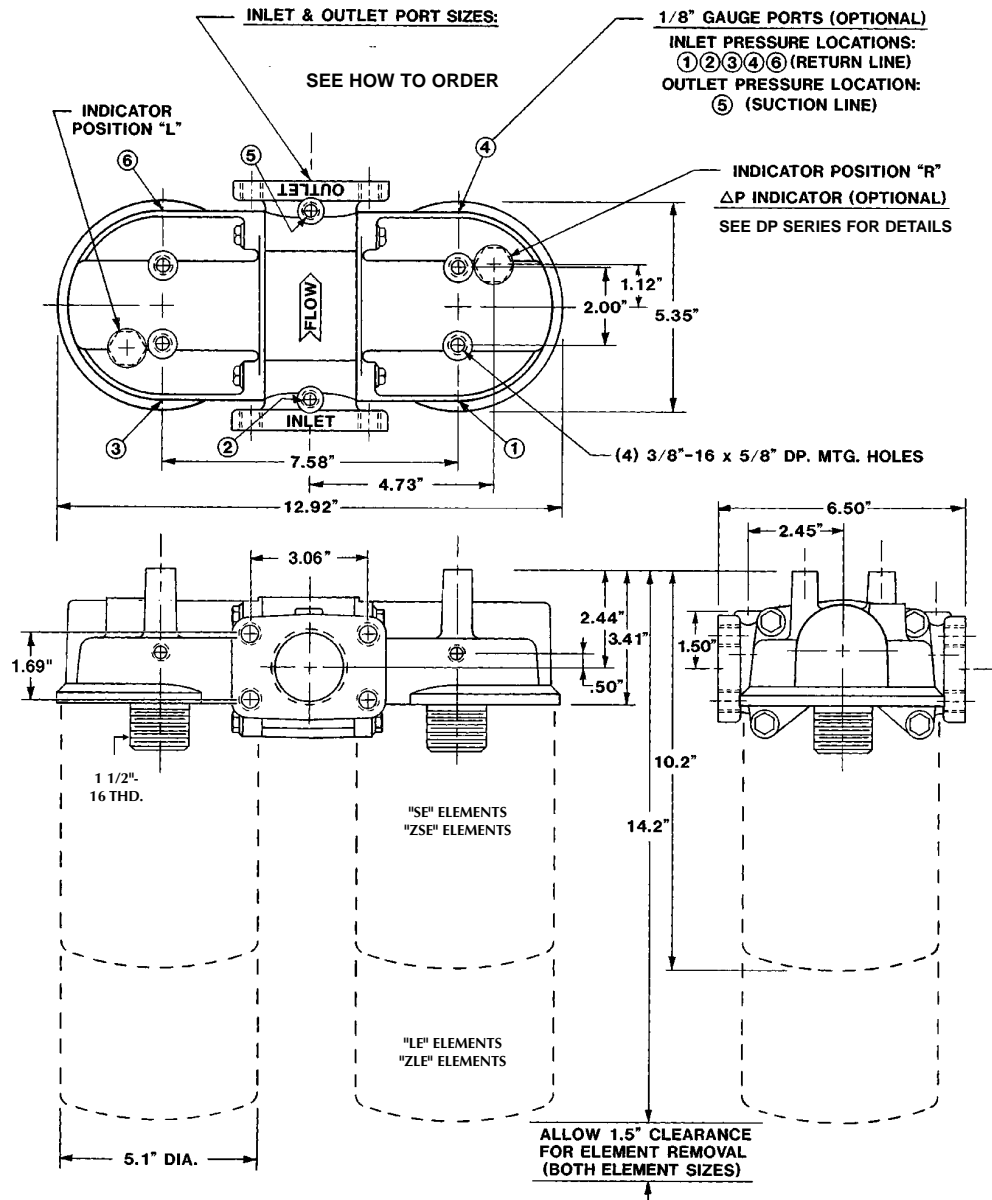
**SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27**

# ZDF SERIES SIDE BY SIDE SPIN-ON FILTER HEADS WITH ΔP INDICATOR OPTION

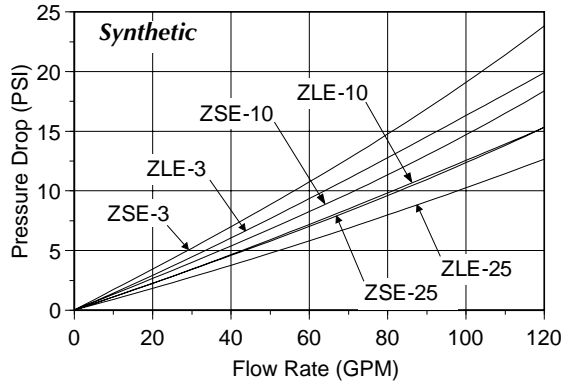
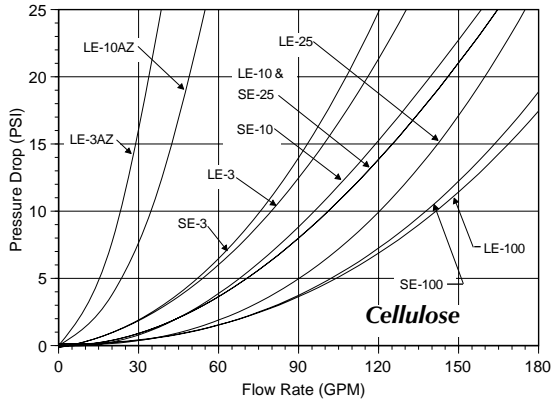


Flows Up To: 120 GPM (Return) 50 GPM (Suction)  
 Port Sizes: • 1 1/2" NPTF  
 • 1 7/8" - 12 UN (SAE - 24)  
 • 2" (4) Bolt Flange  
 Pressure: 200 PSI Max. Operating  
Warning: 80 PSI ΔP max. without by-pass valve.  
 Temperature: Up to +250° F. Operating  
Limited by Indicator Selection  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.

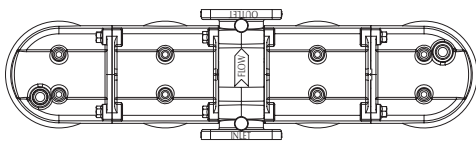
SPIN-ON FILTERS



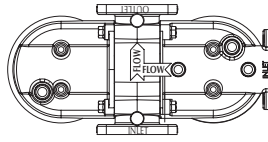
**Average Pressure Drop Through Clean Filter Assembly With 150 SUS Oil at 105 °F. Temperature.**



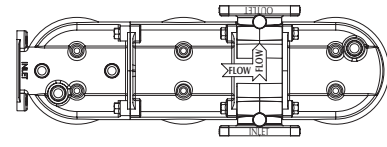
ZDF, MF, & MFT Series parallel flow modular components can be combined into filter head assemblies such as these. Other combinations are available to meet specific filter applications. For technical advice contact your local distributor or the factory.



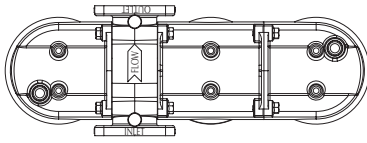
FOUR ELEMENT FILTER HEAD  
CONFIGURATION "A"



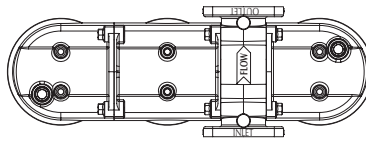
TWO ELEMENT, TWO INLET FILTER HEAD  
CONFIGURATION "B"



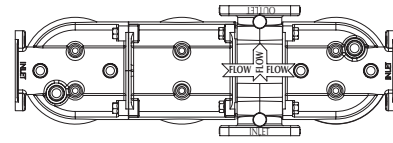
THREE ELEMENT, 90° FILTER HEAD  
CONFIGURATION "D"



THREE ELEMENT FILTER HEAD  
CONFIGURATION "F"



THREE ELEMENT FILTER HEAD  
CONFIGURATION "G"



THREE ELEMENT FILTER HEAD  
CONFIGURATION "H"

**HOW TO ORDER:**

**ZDF - XXX - XX - X - XX - XX - X**

Code	Port Size & Type
218	1 7/8" - 12 (SAE - 24)
2215	2" (4) Bolt Flange & 1 1/2" NPTF Combination

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

**Configuration Option**

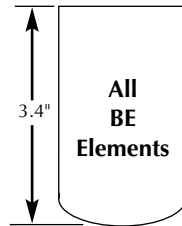
Code	Δ P Indicator Setting
00	No Indicator
04	4 PSID
13	13 PSID
22	22 PSID
44	44 PSID

Code	Indicator Type / Position
00	No Indicator
VL	Visual / L (See DP03 Series)
VR	Visual / R (See DP03 Series)
DL	DC Electrical / L (See DP06 Series)
DR	DC Electrical / R (See DP06 Series)
HL	Vis/Ele DIN / L (See DP05 Series)
HR	Vis/Ele DIN / R (See DP05 Series)

**SE, LE, ZSE, & ZLE Element Data: See Pages C26-C27**

# BE & ZBE SERIES SPIN-ON FILTER ELEMENTS

*For Use With BF Series Filter Heads*



SPIN-ON FILTERS

Part Number	BE-10-0	BE-10-18	BE-25-10	BE-25-25	BE-40-0	BE-40-18	ZBE-10-18
Diameter	3.05"	3.05"	3.05"	3.05"	3.05"	3.05"	3.05"
Mounting Thread	3/4" - 16	3/4" - 16	3/4" - 16	3/4" - 16	3/4" - 16	3/4" - 16	3/4" - 16
Micron Rating	10	10	25	25	40	40	10
Avg. Beta	2	2	2	2	2	2	75
By-Pass Valve	None	18 PSI	10 PSI	25 PSI	NONE	18 PSI	18 PSI
Can Color / Imprint	White/Red	White/Red	White/Black	White/Black	White/Black	White/Black	White/Red

### **Application Data:**

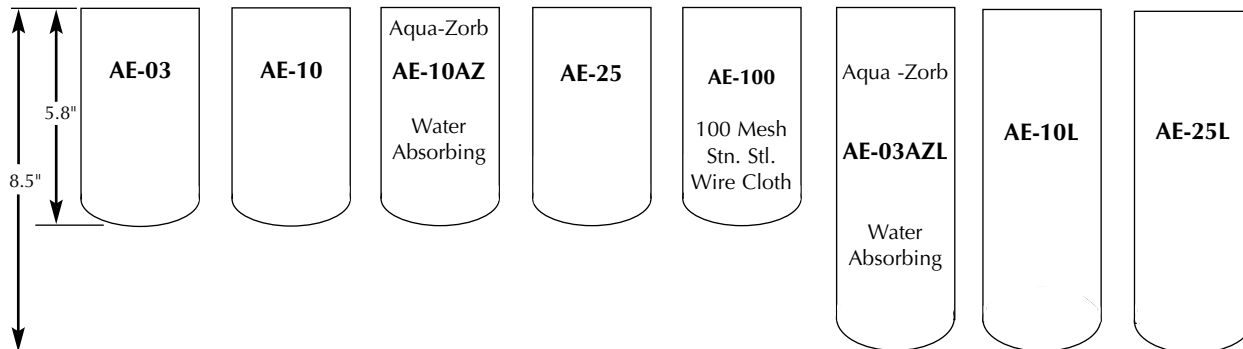
- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 200 PSI All Models.
- "Z-Glass" Media (ZBE-10-18)
- Operating Temperature: -65 to +250° F.
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- **Caution:** Do **not** use BE and ZBE Series filter elements on internal combustion engines.



# AE SERIES SPIN-ON FILTER ELEMENTS

For Use With ZAF Series Filter Heads

SPIN-ON FILTERS



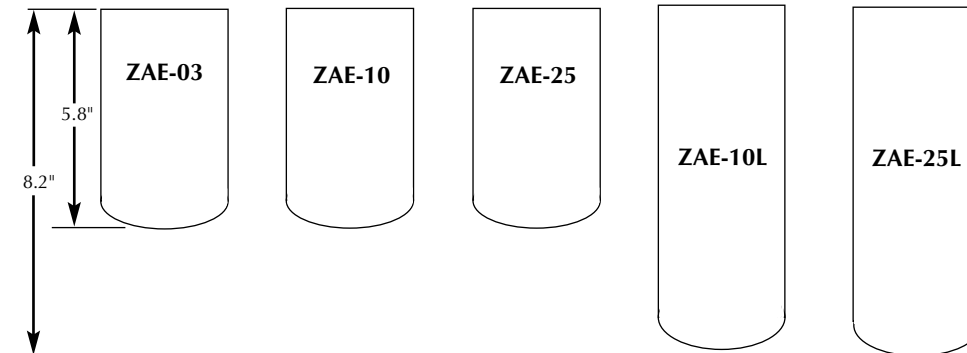
Part Number	AE-03	AE-10	AE-10AZ	AE-25	AE-100	AE-03AZL	AE-10L	AE-25L
Diameter	3.8"	3.8"	3.8"	3.8"	3.8"	3.8"	3.8"	3.8"
Mounting Thread	1" - 12	1" - 12	1" - 12	1" - 12	1" - 12	1" - 12	1" - 12	1" - 12
Micron Rating (Nominal)	3 Micron	10 Micron	10 Micron	25 Micron	141 Micron	3 Micron	10 Micron	25 Micron
Beta 2/20/75(See Below)	2/5/-- Micron	9/22/24 Micron	8/25/30 Micron	29/46/54 Micron		5/21/23 Micron	9/22/24 Micron	29/46/54 Micron
Filter Media Area	420 Sq. In.	547 Sq. In.	175 Sq. In.	547 Sq. In.	91 Sq. In.	309 Sq. In.	947 Sq. In.	947 Sq. In.
Water Holding Capacity	-----	-----	4.1 oz.	-----	-----	7.2 oz.	-----	-----
Can Color / Imprint	White/Black	White/Red	White/Orange	White/Black	White/Blue	White/Orange	White/Red	White/Black

### Application Data:

- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 250 PSI All Models.
  - Warning: 80 PSI ΔP max. without by-pass valve in filter head.**
- Operating Temperature: -65 to +250° F.
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- **Caution:** Do not use AE Series filter elements on internal combustion engines.

# ZAE SERIES SYNTHETIC MEDIA SPIN-ON FILTER ELEMENTS

For Use With ZAF Series Filter Heads



SPIN-ON FILTERS

Part Number	ZAE-03	ZAE-10	ZAE-25	ZAE-10L	ZAE-25L
Diameter	3.8"	3.8"	3.8"	3.8"	3.8"
Mounting Thread	1" - 12	1" - 12	1" - 12	1" - 12	1" - 12
Micron Rating (Nominal)	3 Micron	10 Micron	25 Micron	10 Micron	25 Micron
Beta 2/20/75 (See Below)	2/3/4	4/10/12	8/25/30	4/10/12	8/25/30
Filter Media Area	366 Sq. In.	366 Sq. In.	366 Sq. In.	562 Sq. In.	562 Sq. In.
Can Color / Imprint	White/Green	White/Red	White/Black	White/Red	White/Black

### Application Data:

- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 250 PSI All Models.
  - Warning: 80 PSI ΔP max. without by-pass valve in filter head.**
- "Z-Glass" Media
- Operating Temperature: -65 to +250° F.
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- Caution:** Do not use ZAE Series filter elements on internal combustion engines.



# SE & LE SERIES SPIN-ON FILTER ELEMENTS

*For Use With SF, DF, MF, MFT & ZDF Series Filter Heads*

SPIN-ON FILTERS

	6.9"	<b>SE-03</b>	<b>SE-10</b>	<b>SE-25</b>	<b>SE-100</b> 100 Mesh Stn. Stl. Wire Cloth
Part Number		SE-03	SE-10	SE-25	SE-100
Diameter		5.1"	5.1"	5.1"	5.1"
Mounting Thread		1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16
Micron Rating		3 Micron	10 Micron	25 Micron	141 Micron
Beta 2/20/75 (See Below)		3/10/22	9/22/24	29/46/54	-----
Filter Media Area		850 Sq. In.	950 Sq. In.	950 Sq. In.	200 Sq. In.
Can Color / Imprint		White/Green	White/Red	White/Black	White/Blue

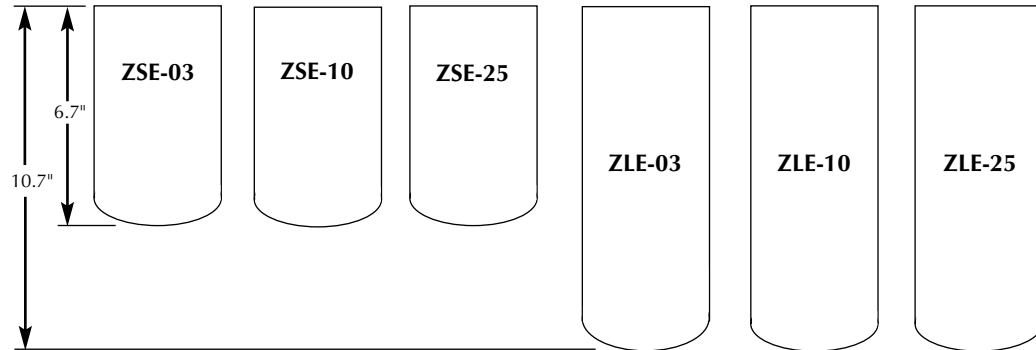
	10.9"	<b>LE-03</b>	Aqua-Zorb <b>LE-03AZ</b>  Water Absorbing	<b>LE-10</b>	Aqua-Zorb <b>LE-10AZ</b>  Water Absorbing	<b>LE-25</b>	<b>LE-100</b> 100 Mesh Stn. Stl. Wire Cloth
Part Number		LE-03	LE-03AZ	LE-10	LE-10AZ	LE-25	LE-100
Diameter		5.1"	5.1"	5.1"	5.1"	5.1"	5.1"
Mounting Thread		1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16
Micron Rating (Nominal)		3 Micron	3 Micron	10 Micron	10 Micron	25 Micron	141 Micron
Beta 2/20/75 (See Below)		3/10/22	5/21/23	10/22/33	8/25/30	29/46/54	-----
Filter Media Area		1170 Sq. In.	648 Sq. In.	1710 Sq. In.	648 Sq. In.	1710 Sq. In.	380 Sq. In.
Water Holding Capacity		-----	15 oz.	-----	15 oz.	-----	-----
Can Color / Imprint		White/Green	White/Orange	White/Red	White/Orange	White/Black	White/Blue

### Application Data:

- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 200 PSI All Models.  
**Warning: 80 PSI ΔP max. without by-pass valve in filter head.**
- Operating Temperature: -65 to +250° F.
- Application: Suitable for petroleum based fluids only. Consult factory for synthetic fluids.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- Consult local distributor or factory for SE & LE Element interchange with those of other manufacturers.
- **Caution:** Do not use SE & LE Series filter elements on internal combustion engines.

# ZSE & ZLE SERIES SYNTHETIC MEDIA SPIN-ON FILTER ELEMENTS

*For Use With SF, DF, MF, MFT & ZDF Series Filter Heads*



SPIN-ON FILTERS

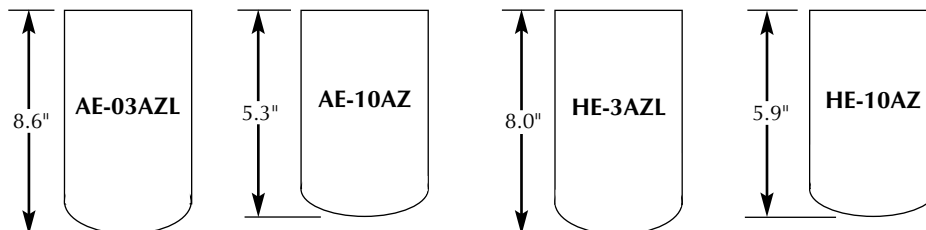
Part Number	ZSE-03	ZSE-10	ZSE-25	ZLE-03	ZLE-10	ZLE-25
Diameter	5.1"	5.1"	5.1"	5.1"	5.1"	5.1"
Mounting Thread	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16
Micron Rating (Nominal)	3 Micron	10 Micron	25 Micron	3 Micron	10 Micron	25 Micron
Beta 2/20/75 (See Below)	2/3/4	4/10/12	8/25/30	2/3/4	4/10/12	8/25/30
Filter Media Area	680 Sq. In.	561 Sq. In.	673 Sq. In.	1260 Sq. In.	1041 Sq. In.	1246 Sq. In.
Can Color / Imprint	White/Green	White/Red	White/Black	White/Green	White/Red	White/Black

## Application Data:

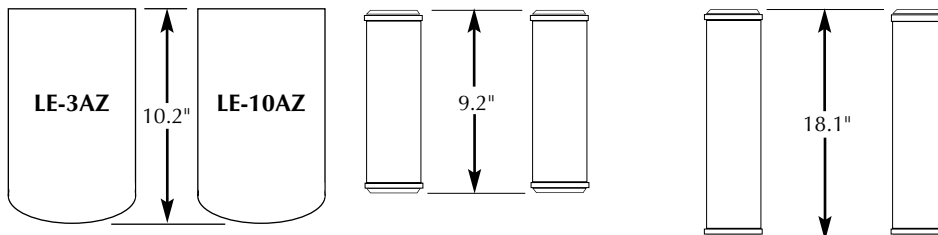
- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 200 PSI All Models.
  - Warning: 80 PSI ΔP max. without by-pass valve in filter head.**
- "Z-Glass" Media
- Operating Temperature: -65 to +250° F.
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- Caution:** Do not use ZSE/ZLE Series filter elements on internal combustion engines.

# AQUA-ZORB™ FILTER ELEMENTS

*For removal of both water and dirt contaminants from petroleum base fluids and fuels.  
Hydroscopic media absorbs up to 30 times its weight in water.*



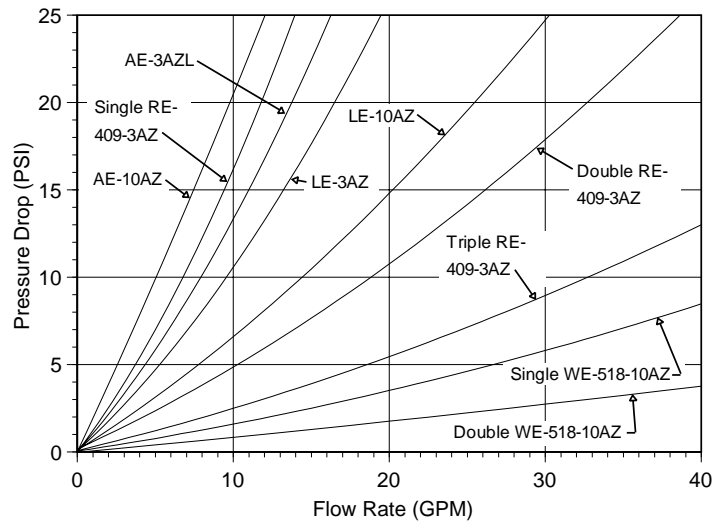
Part Number	AE-03AZL	AE-10AZ	HE-3AZL	HE-10AZ
Diameter	3.8"	3.8"	3.8"	3.8"
Mounting Thread	1" - 12	1" - 12	1 1/2" - 16	1 1/2" - 16
Micron Rating (Nominal)	3 Micron	10 Micron	3 Micron	10 Micron
Beta 2/20/75	5/21/23	8/25/30	5/21/23	8/23/30
Filter Media Area	309 Sq. In.	175 Sq. In.	238 Sq. In.	144 Sq. In.
Water Holding Capacity	7.2 oz.	4.1 oz.	5.5 oz.	3.4 oz.
Max. Operating Pressure	250 PSI	250 PSI	700 PSI	700 PSI
Can Color Imprint	White/Orange	White/Orange	White/Orange	White/Orange
For Use With Filter Head Series	ZAF		HF	



Part Number	LE-3AZ	LE-10AZ	RE-409-3AZ	SRE-409-10AZ	WE-518-3AZ	WE-518-10AZ
Diameter	5.1"	5.1"	3.9"	3.9"	5.0"	5.0"
Mounting Thread/ I.D.	1 1/2" - 16	1 1/2" - 16	1.96"	1.61"	3.34"	3.34"
Micron Rating (Nominal)	3 Micron	10 Micron	3 Micron	10 Micron	3 Micron	10 Micron
Beta 2/20/75	5/21/23	8/25/30	5/21/23	8/25/30	5/21/23	8/25/30
Filter Media Area	648 Sq. In.	648 Sq. In.	461 Sq. In.	461 Sq. In.	1250 Sq. In.	1250 Sq. In.
Water Holding Capacity	15 oz.	15 oz.	11 oz.	11 oz.	29 oz.	29 oz.
Max. Operating Pressure	200 PSI	200 PSI	TR - 100 PSI RF - 100 PSI WF - 500 PSI	100 PSI	300 PSI	300 PSI
Can Color Imprint	White/Orange	White/Orange	Cartridge	Cartridge	Cartridge	Cartridge
For Use With Filter Head Series	SF, DF, MF, ZDF		RF, WF, TR	SRF, TS	WF-2	

SPIN-ON FILTERS

## Average Pressure Drop Through Clean Filter With 150 SUS Oil At 105° F Temp.



### Application Data:

- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: As noted in chart.
  - Warning: 80 PSI ΔP max. without by-pass valve in filter assembly.**
- Operating Temperature: -65 to +212° F.
- All petroleum base fluids and fuels.
- **Caution:** Do not use Aqua-Zorb™ filter elements on internal combustion engines.

### Design Features:

Aqua-Zorb™ filter medias with either 3 or 10 Micron filtration absorb and retain free or emulsified water. Any absorbed water can not be liberated from the Aqua-Zorb™ media. As the element becomes saturated with water the Aqua-Zorb™ media continues to swell, and will ultimately curtail flow through the filter.



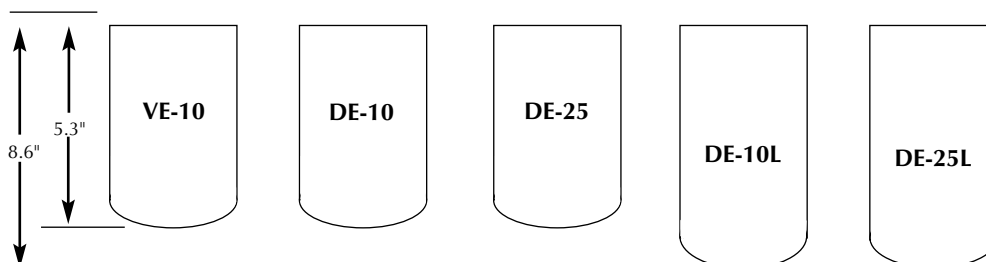
## DE & VE SERIES SPIN-ON ELEMENTS

**DE Series:** Interchangeable replacements for Donaldson, Char-Lynn, and others.

A stem bushing is available to convert the ZAF head stem to accept DE Series Elements.

**VE Series:** For use with Zinga VAF Series filter heads or as interchangeable replacements for Cessna, Lenz, Racine, Vickers, and others.

SPIN-ON FILTERS



Part Number	VE-10	DE-10	DE-25	DE-10L	DE-25L
Diameter	3.7"	3.7"	3.7"	3.7"	3.7"
Mounting Thread	1 1/8" - 16	1 1/4" - 12	1 1/4" - 12	1 1/4" - 12	1 1/4" - 12
Micron Rating (Nominal)	10 Micron	10 Micron	25 Micron	10 Micron	25 Micron
Beta 2/20/75	9/22/24	9/22/24	25/44/54	9/22/24	25/44/54
Filter Media Area	547 Sq. In.	547 Sq. In.	547 Sq. In.	947 Sq. In.	947 Sq. In.
Can / Color Imprint	White/Red	White/Red	White/Black	White/Red	White/Black

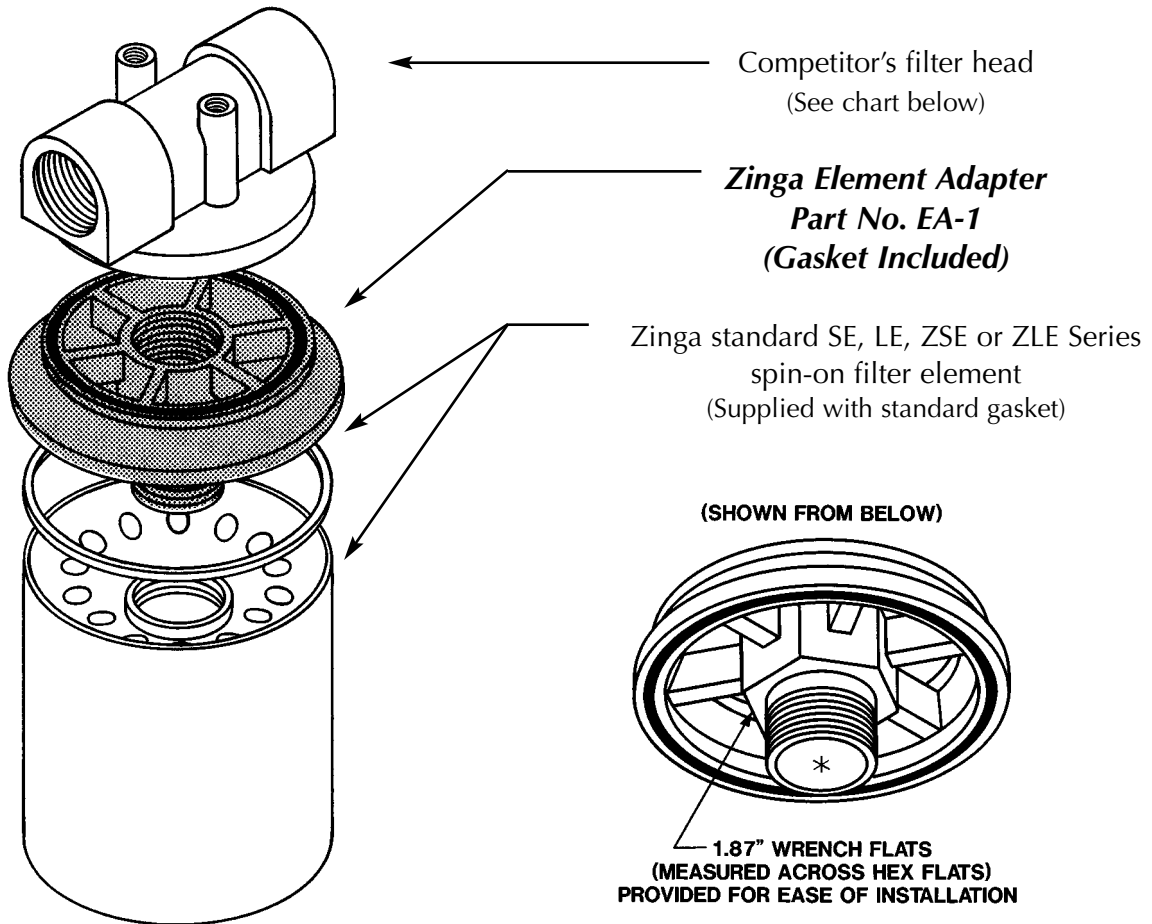
### Application Data:

- Maximum Operating Pressure: 250 PSI All Models.  
**Warning: 80 PSI  $\Delta P$  max. without by-pass valve in filter head.**
- Operating Temperature: -65 to +250° F.  
Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)  
Beta<sub>x</sub> Rating of 20 = 95% Efficiency  
Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- Caution:** Do not use DE or VE Series filter elements on internal combustion engines.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.



# SPIN-ON FILTER ELEMENT ADAPTER FILTER PART NO. EA-1

Convert foreign made, five inch (5") diameter spin-on filter heads marketed by manufacturers listed below to accept Zinga SE, LE, ZSE or ZLE spin-on elements.



SPIN-ON FILTERS

**Interchange Chart**  
With The Addition Of EA-1 Element Adapter

Manufacturer	Filter Head Series	Part Number	Zinga Part Number
Canflo	CFRS-55 & CFRS-105	RSE-55-3	SE-3 or LE-3
		RSE-55-10	SE-10 or LE-10
		RSE-55-25	SE-25 or LE-25
Lenz	CP-1250	CP-1252-10-55	SE-10 or LE-10
LHA	SP52 & SP102	SPE52-10	SE-10 or LE-10
		SPE52-25	SE-10 or LE-10
		SPE52-125	SE-25 or LE-25
Parker	50-PS	21169	SE-10 or LE-10
UCC	UC-MX-1591 & UC-MX-1720	UC-MX-1591-4-10	SE-10 or LE-10
		UC-MX-1591-4-25	SE-10 or LE-10
		UC-MX-1591-4-125	LE-100 (100 Mesh)
Fleetguard	-----	HF-6177	SE-10

- The addition of the EA-1 element adapter to any filter head listed above will convert it to accept any Zinga SE, LE, ZSE or ZLE Series spin-on filter element.
- When using Zinga SE, LE, ZSE or ZLE elements the element adapter adds only 3/4" of length the original filter assembly.



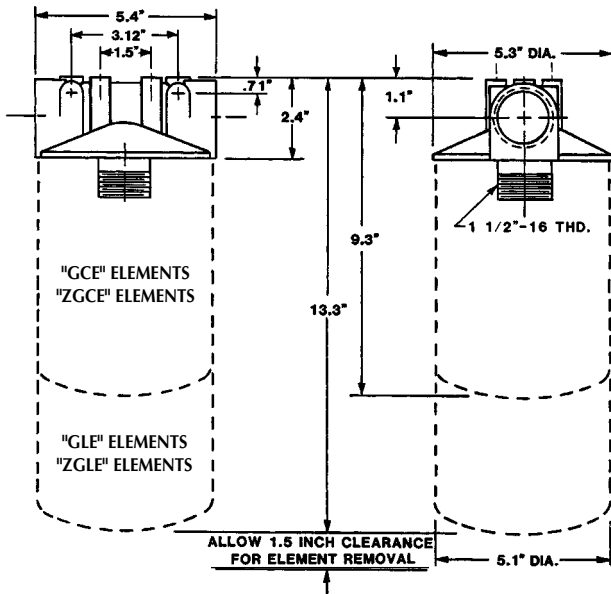
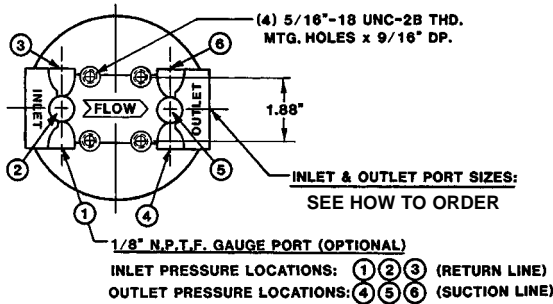




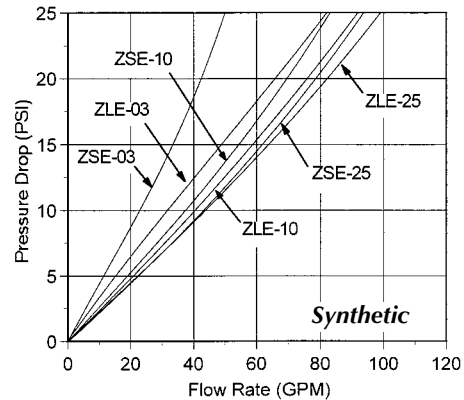
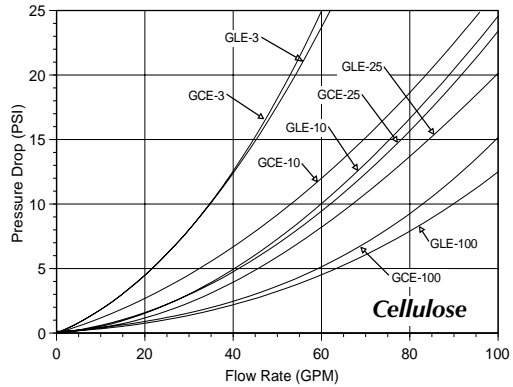
This head will accept either *Gresen* or *Cross* spin-on filter elements.

# GF-120 SERIES SPIN-ON FILTER HEADS GRESEN & CROSS DIRECT INTERCHANGE

Flows Up To: 70 GPM (Return) 25 GPM (Suction)  
 Port Sizes: • 1 1/4" NPTF  
 • 1 5/8" - 12 UN (SAE - 20)  
 Pressure: 200 PSI Max. Operating  
**Warning: 80 PSI ΔP max. without by-pass valve.**  
 Temperature: Up to +250° F. Operating  
 Applications: Petroleum based fluids only.  
 Consult factory for synthetic fluids.



Average Pressure Drop Through Clean Filter Assembly  
With 150 SUS Oil At 105° F.



**HOW TO ORDER:**

**GF - XXX - XX - X**

Code	Inlet & Outlet Ports
120	1 1/4" NPTF
160	1 5/8"-12 UN(SAE-20)

Code	By-Pass Valve Setting
00	No By-Pass
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI
50	50 PSI

Code	Gauge Port Location
0	No Port Required
Location Number	As Shown Above

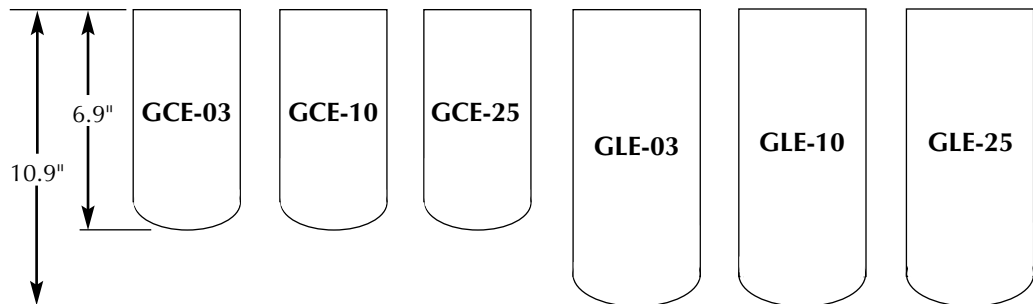
GCE, GLE, ZGCE, & ZGLE Element Data: See Pages C33-C34



# GCE & GLE SERIES SPIN-ON FILTER ELEMENTS

*Interchangeable replacements for  
Gresen, Cross, and others listed below.*

*For use with GF series filter heads*



Part Number	GCE-03	GCE-10	GCE-25	GLE-3	GLE-10	GLE-25
Diameter	5.1"	5.1"	5.1"	5.1"	5.1"	5.1"
Mounting Thread	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16
Micron Rating (Nominal)	3 Micron	10 Micron	25 Micron	3 Micron	10 Micron	25 Micron
Beta 2/20/75 (See Below)	3/10/22	9/22/24	29/46/54	3/10/22	9/22/24	29/46/54
Filter Media Area	850 Sq. In.	950 Sq. In.	950 Sq. In.	1170 Sq. In.	1710 Sq. In.	1710 Sq. In.
Can Color / Imprint	White/Green	White/Red	White/Black	White/Green	White/Red	White/Black

### Cross References:

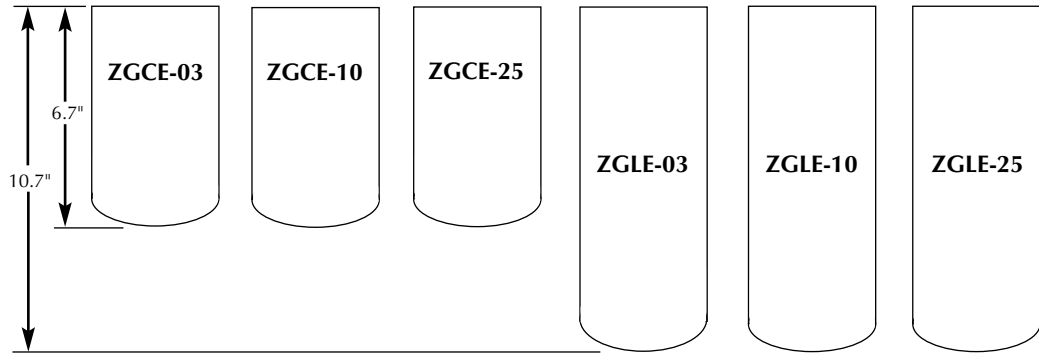
Brand	Part Number	Zinga Part Number
Cross	1A-9251	GCE-10
	1A-9253	GCE-25
Gresen	K-23018	GCE-10
	K-23019	GCE-25
	7520-001	GCE-10
	7521-001	GCE-25

### Application Data:

- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 200 PSI - All Models.
- **Warning: 80 PSI ΔP max. without by-pass valve in filter head.**
- Operating Temperatures: -65 to +250 ° F.
- Petroleum based fluids only. Consult factory for synthetic fluids
- Filter Gasket Part No. FG-02 is supplied standard with GCE & GLE series elements. Zinga SE & LE Series elements can be converted to GCE & GLE equivalents by replacing the standard gasket with a FG-02 gasket.
- *Pressure drop vs. flow data* for GCE & GLE series filter elements is identical to that of the standard Zinga SE & LE Series elements.
- **Caution:** Do not use GCE & GLE Series filter elements on internal combustion engines.

# ZGCE & ZGLE SERIES SYNTHETIC MEDIA SPIN-ON FILTER ELEMENTS

*For Use With GF Series Filter Heads*



Part Number	ZGCE-03	ZGCE-10	ZGCE-25	ZGLE-03	ZGLE-10	ZGLE-25
Diameter	5.1"	5.1"	5.1"	5.1"	5.1"	5.1"
Mounting Thread	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16
Micron Rating (Nominal)	3 Micron	10 Micron	25 Micron	3 Micron	10 Micron	25 Micron
Beta 2/20/75 (See Below)	2/3/4	4/10/12	8/25/30	2/3/4	4/10/12	8/25/30
Can Color / Imprint	White/Green	White/Red	White/Black	White/Green	White/Red	White/Black

### Application Data:

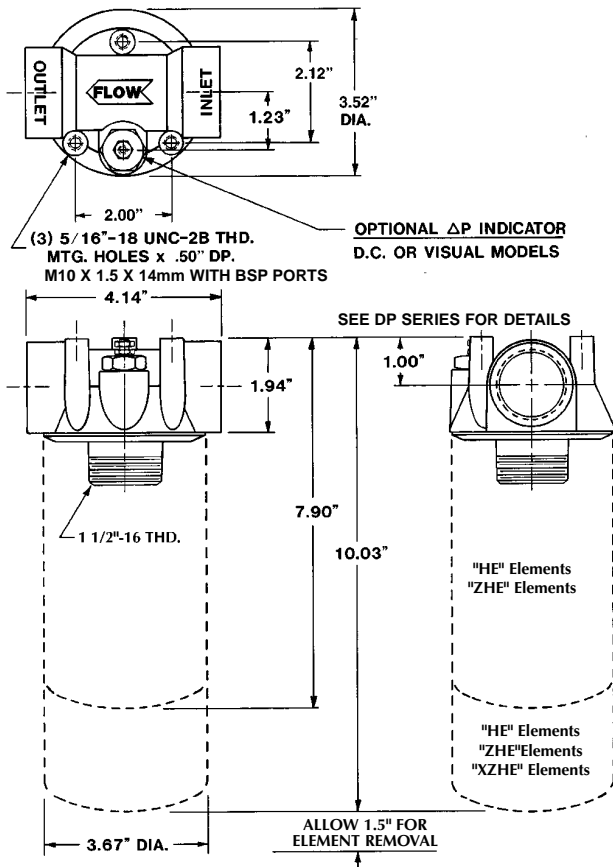
- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum Operating Pressure: 200 PSI All Models.  
**Warning: 80 PSI ΔP max. without by-pass valve in filter head.**
- "Z-Glass" Media
- Operating Temperature: -65 to +250° F.
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- Filter Gasket Part No. FG-02 is supplied standard with GCE & GLE series elements. Zinga SE & LE Series elements can be converted to GCE & GLE equivalents by replacing the standard gasket with a FG-02 gasket.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- **Caution:** Do not use ZGCE/ZGLE Series filter elements on internal combustion engines.



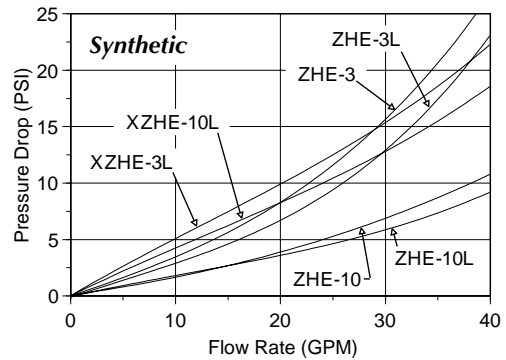
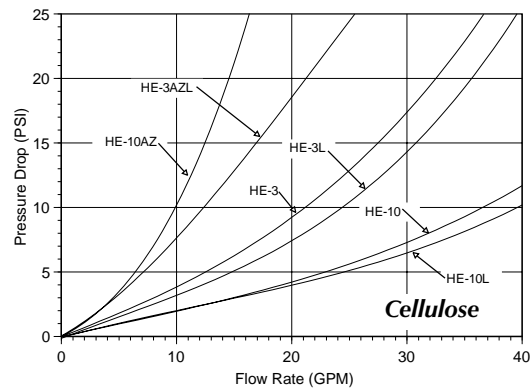
# HF SERIES SPIN-ON FILTER HEADS WITH ΔP INDICATOR OPTION

- Flows Up To: 40 GPM (Return)
- Port Sizes:
- 3/4" NPTF
  - 1" NPTF
  - 3/4" BSP
  - 1" BSP
  - 1 1/16" - 12 UN (SAE - 12)
  - 1 5/16" - 12 UN (SAE - 16)
- Pressure: 400 PSI Max. Operating
- Warning: 100 PSI ΔP max. without by-pass valve.**
- Temperature: Up to +250° F. Operating  
Up to +200° F. w/indicator
- Application: Petroleum based fluids only.  
Consult factory for synthetic fluids.

SPIN-ON FILTERS



**Average Pressure Drop Through Clean Filter Assembly With 150 SUS Oil At 105° F.**



**HOW TO ORDER: HF - XX - XX - X - XX**

Code	Inlet & Outlet Ports
07	3/4" NPTF
07C	3/4" BSP (G 3/4"-14)
10	1" NPTF
10C	1" BSP (G 1"-11)
11	1 1/16"-12 UN(SAE-12)
13	1 5/16"-12 UN(SAE-16)

Code	By-Pass Valve Setting
00	No By-Pass
25	25 PSI
50	50 PSI

Code	Δ P Indicator Setting
00	No Indicator
22	22 PSID
44	44 PSID

Code	Indicator Option
0	No Indicator
V	Visual Indicator (See DP04 Series)
D	DC Electrical Single Wire (See DP06 Series)
H	Vis/Elec. w/ DIN Conn. (See DP05 Series)

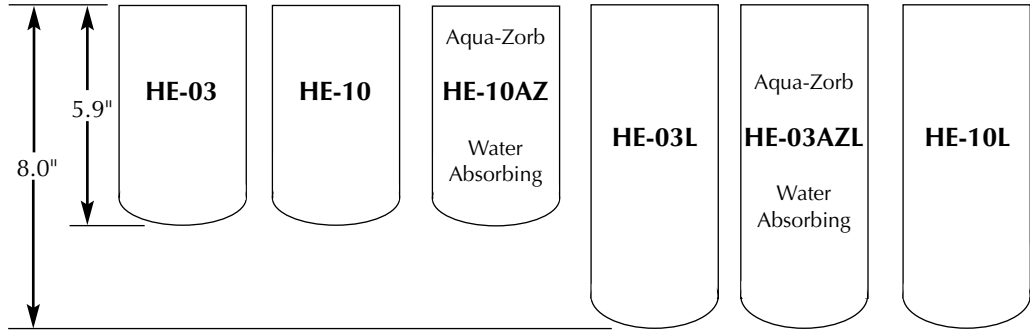
**HE, ZHE, & XZHE Element Data: See Pages C36-C37**





# HE SERIES MEDIUM PRESSURE SPIN-ON FILTER ELEMENTS

For Use With HF Series Filter Heads.



Part Number	HE-03	HE-10	HE-10AZ	HE-03L	HE-03AZL	HE-10L
Diameter	3.7"	3.7"	3.7"	3.7"	3.7"	3.7"
Mounting Thread	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16"	1 1/2" - 16	1 1/2" - 16	1 1/2" - 16
Micron Rating (Nominal)	3 Micron	10 Micron	10 Micron	3 Micron	3 Micron	10 Micron
Beta 2/20/75 (See Below)	3/10/22	9/22/24	8/25/30	3/10/22	5/21/23	9/22/24
Filter Media Area	400 Sq. In.	450 Sq. In.	144 Sq. In.	650 Sq. In.	238 Sq. In.	731 Sq. In.
Water Holding Capacity	-----	-----	3.4 oz.	-----	5.5 oz.	-----
Can Color / Imprint	White/Green	White/Red	White/Orange	White/Green	White/Orange	White/Red

### Application Data:

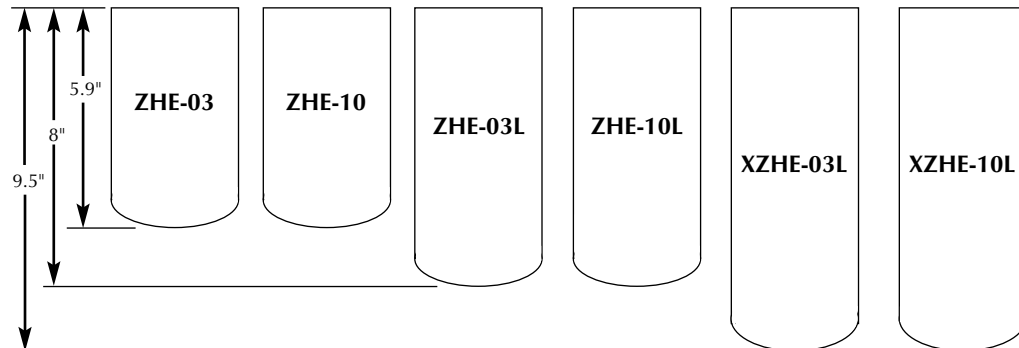
- References:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- Maximum **Operating** Pressure: 400 PSI - All Models.  
**Warning: 100 PSI ΔP max. without by-pass valve in filter head.**
- Operating Temperature: -65 to +250° F.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- Suitable for petroleum based fluids only. Consult factory for synthetic fluids.
- Caution:** Do **not** use HE Series filter elements on internal combustion engines.

### Cross References:

Brand	Part Number	Zinga Part Number
Fleetguard	HF-6600	HE-03
	HF-6601	HE-03L
	HF-6610	HE-10
	HF-6611	HE-10L
Pall	HC 7400S UJ4H	HE-10
	HC 7400S UK4H	HE-03
	HC 9540S UJ4H	HE-10
	HC 9540S UK4H	HE-03

# ZHE SERIES SYNTHETIC MEDIA SPIN-ON FILTER ELEMENTS

For Use With HF Series Filter Heads

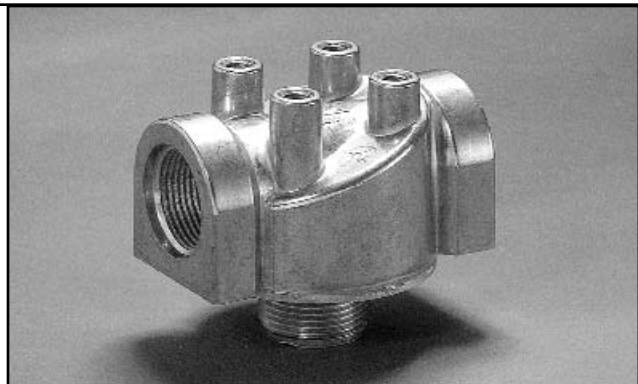


Part Number	ZHE-03	ZHE-10	ZHE-03L	ZHE-10L	XZHE-03L	XZHE-10L
Diameter	3.8"	3.8"	3.8"	3.8"	3.8"	3.8"
Mounting Thread	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16	1 1/2"-16
Micron Rating	3	10	3	10	3	10
Beta 2/20/75 (See Below)	2/3/4	2/6/10	2/3/4	2/6/10	2/3/4	2/6/10
Max. Operating Pressure	400 PSI	400 PSI	400 PSI	400 PSI	800 PSI	800 PSI
<b>Warning: 150 PSI <math>\Delta</math>P max. without by-pass valve in filter head.</b>						
Can Color / Imprint	White/Green	White/Red	White/Green	White/Red	White/Green	White/Red

## Application Data:

- Reference:
  - Beta<sub>x</sub> Rating of 2 = 50% Efficiency (Nominal Rating)
  - Beta<sub>x</sub> Rating of 20 = 95% Efficiency
  - Beta<sub>x</sub> Rating of 75 = 98.7% Efficiency (Absolute Rating)
- "Z-Glass" Media
- Operating Temperature: -65 to +250° F.
- Application: Petroleum based fluids only. Consult factory for synthetic fluids.
- Buna "N" Gasket standard. Fluorocarbon Gasket optional, consult factory.
- **Caution:** Do **not** use ZHE Series filter elements on internal combustion engines.





# DHF SERIES SPIN-ON FILTER HEADS

Flows Up To:  
35 GPM

Port Sizes:

- 3/4" NPTF & 1" NPTF
- 1 1/16" – 12UN (SAE-12)
- 1 5/16" – 12UN (SAE-16)

Pressure:

- 500 PSI Maximum Operating.
- 1000 PSI Static Burst

- Warning: When applying a filter head without a by-pass valve, the maximum  $\Delta P$  of the assembly is limited to 500 PSI or the maximum  $\Delta P$  of the element in use. (Whichever rating is lower.)

Indicators:

Visual, Single Wire DC, & Vis/Ele w/ DIN

Temperature:

- With Indicator: 200° F
- Without indicator:
  - Cellulose Elements: Up to 225° F
  - Synthetic Elements: Up to 250° F

Replacement Filters:

- ME & ZME cellulose and synthetic spin-on elements in 6" and 9 1/2" length.

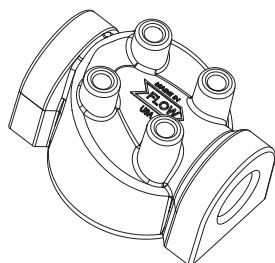
Assembly Fatigue & Strength

- 100,000 cycles @ 0-500 PSI
- 300,000 cycles @ 0-400 PSI
- 1,000,000 cycles @ 0-350 PSI

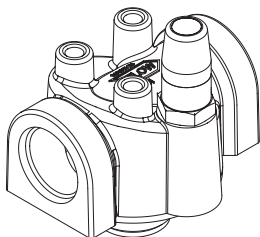
Applications:

Petroleum Based Fluids Only.  
Consult Factory For Synthetic Fluids.

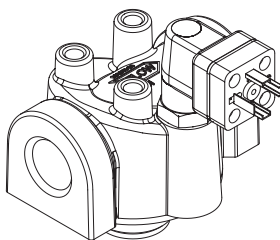
SPIN-ON FILTERS



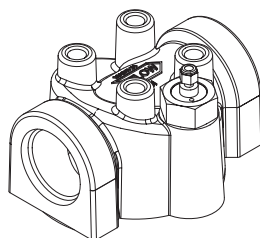
DHF Series Filter Head Shown Without Indicator



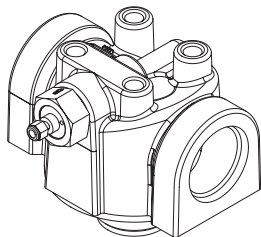
Shown with Zinga DP04 Series Visual Indicator



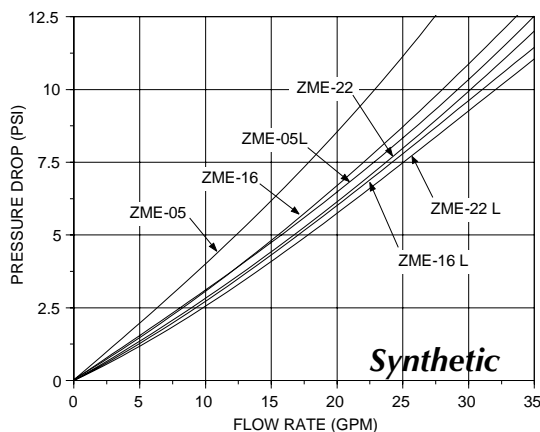
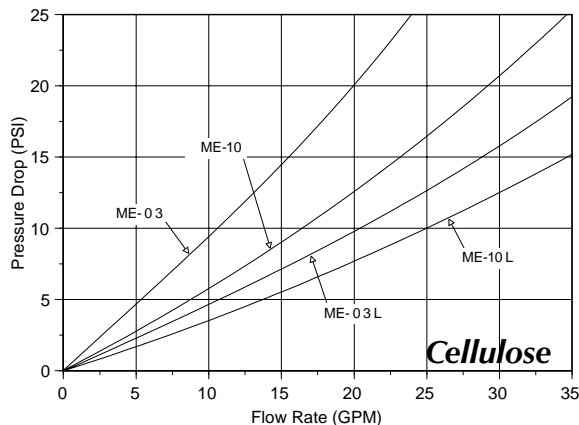
Shown with Zinga DP05 Series Visual/Electrical Indica



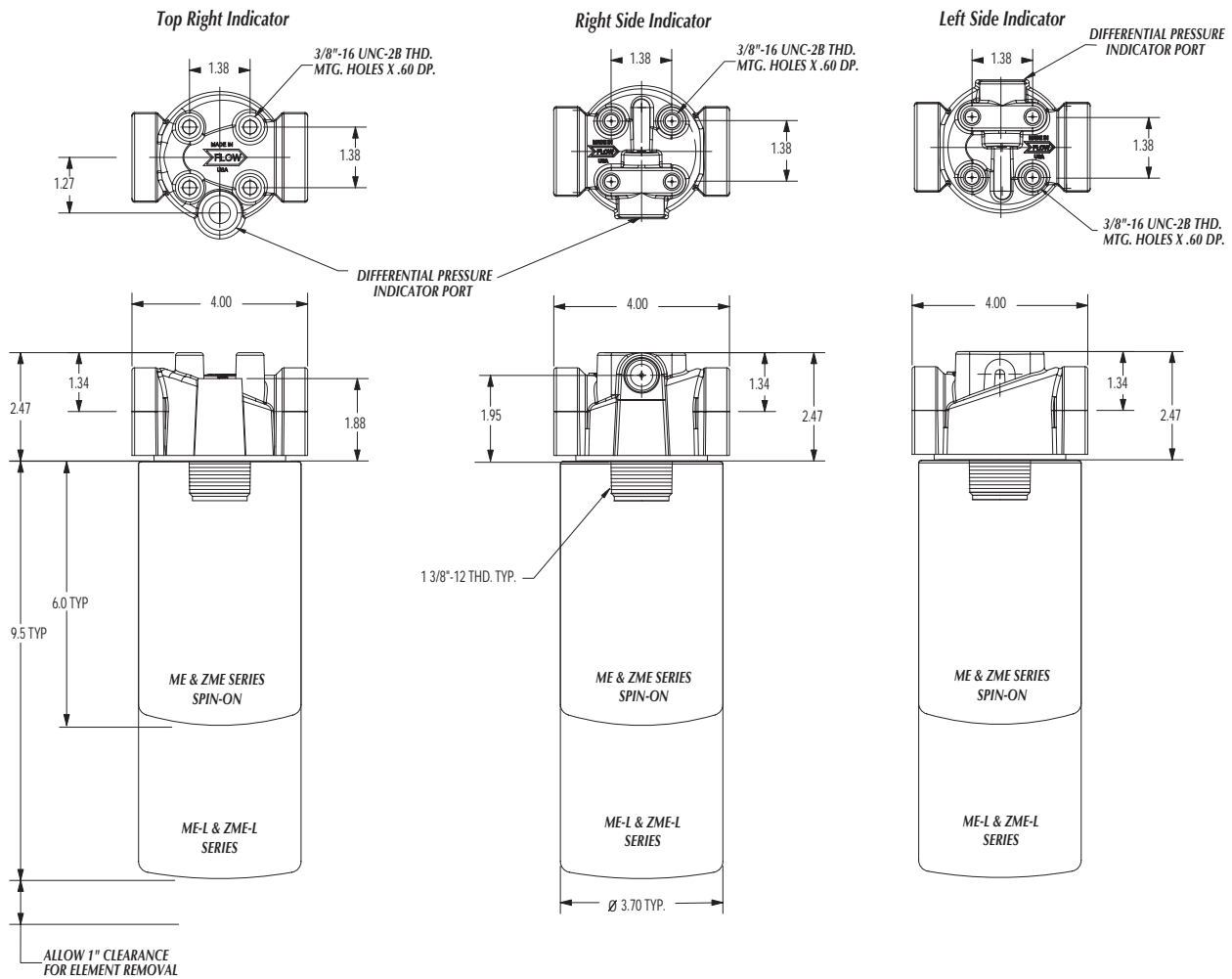
Shown with Zinga DP06 Series DC Electrical Indicator



Shown with Side Indicator Port and DP06 Series Single Wire DC Indicator



Average Pressure Drop Through Clean Filter Assembly  
With 150 SUS Oil At 105° F



**SPIN-ON FILTERS**

**HOW TO ORDER: DHF - XXX - XX - X - XX-XX**

Code	Inlet & Outlet Ports
N12	3/4" NPTF
N16	1" NPTF
S12	1 1/16"-12 UN(SAE-12)
S16	1 5/16"-12 UN(SAE-16)

Code	By-Pass Valve Setting
00	No By-Pass
25	25 PSI
50	50 PSI

Code	Δ P Indicator Location
00	No Indicator
LS	Left Side
RS	Right Side
RT	Right Top

Code	Δ P Indicator Setting
00	No Indicator
22	22 PSID
44	44 PSID

Code	Indicator Option	Indicator Series
0	No Indicator	None
V	Visual Indicator	DP04 series
D	DC Electrical Single Wire	DP06 series
H	Vis/Elec. w/ DIN Connector	DP05 series

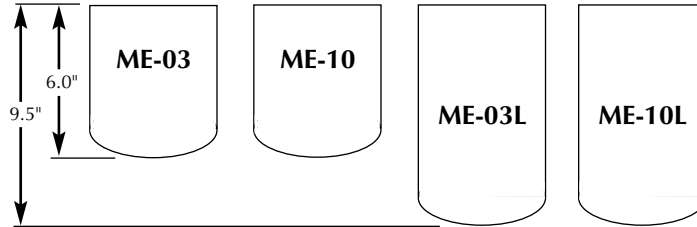
**ME & ZME Element Data : See Page C40**

# ME & ZME SERIES SPIN-ON FILTER ELEMENTS

*For Use With DHF Series Filter Heads*

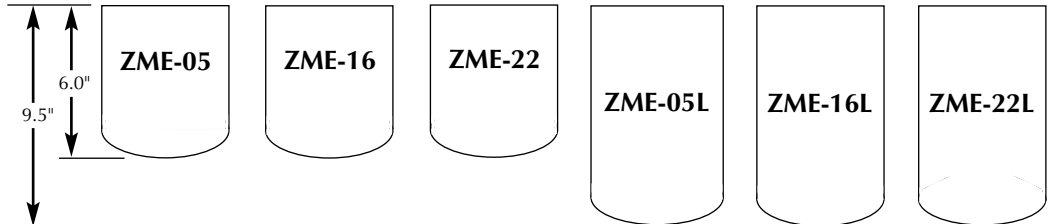
SPIN-ON FILTERS

Cellulose Media Elements



Part Number	ME-03	ME-10	ME-03L	ME-10L
Diameter	3.7"	3.7"	3.7"	3.7"
Mounting Threads	1 3/8" - 12	1 3/8" - 12	1 3/8" - 12	1 3/8" - 12
Micron Rating	3	10	3	10
Beta 2/20/75	4/12/16	10/21/25	4/12/16	10/21/25
Max. Operating Pressure	500 PSI	500 PSI	500 PSI	500 PSI
Max Element Δ Pressure	<b>Warning:</b> 100 PSI Δ P Maximum without by-pass valve in filter head.			
Can Color / Imprint	White/Green	White/Red	White/Green	White/Red

Synthetic Media Elements

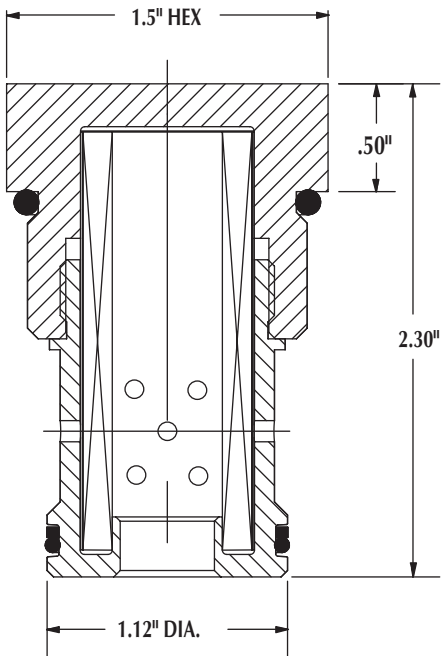


Part Number	ZME-05	ZME-16	ZME-22	ZME-05L	ZME-16L	ZME-22L
Diameter	3.7"	3.7"	3.7"	3.7"	3.7"	3.7"
Mounting Threads	1 3/8" - 12	1 3/8" - 12	1 3/8" - 12	1 3/8" - 12	1 3/8" - 12	1 3/8" - 12
Micron Rating	5	16	22	5	16	22
Beta 2/20/75	2/3/5	5/10/16	7/17/22	2/3/5	5/10/16	7/17/22
Max. Operating Pressure	500 PSI	500 PSI	500 PSI	500 PSI	500 PSI	500 PSI
Max. Element Δ Pressure	<b>Warning:</b> 200 PSI Δ P Maximum without by-pass valve in filter head.					
Can Color / Imprint	White/Green	White/Red	White/Black	White/Green	White/Red	White/Black

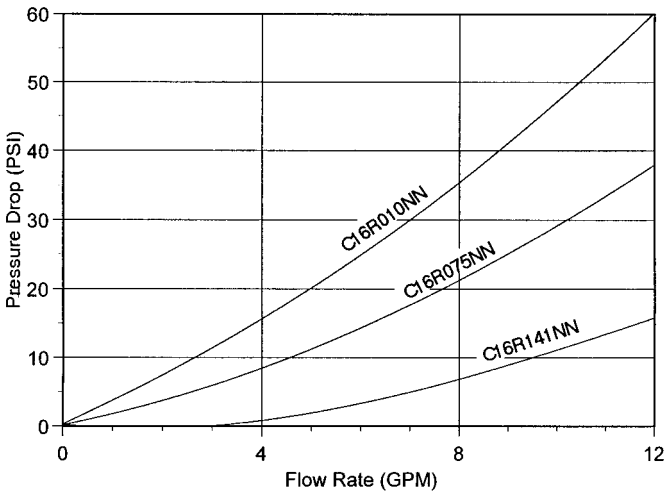


# C16 SERIES CARTRIDGE FILTER

Flows Up to: 12 GPM  
 Cavity: Common Cavity No. C16-2  
 Pressure: 3,000 PSI Max.  
 Temperature: Up to +250° F Operating  
 Applications: Petroleum based fluids only.  
 Contact factory for synthetic fluids.



*Average Pressure Drop Through Clean Filter Assembly  
With 150 SUS At 105°F*



**PRESSURE FILTERS**

*Sized to fit Common Cavity No. C16-2*

**HOW TO ORDER:**

**C16 R - W - XXX - N - X**

Common Cavity No. C16-2

Flow: Inside to Out of Element

Wire Mesh Media

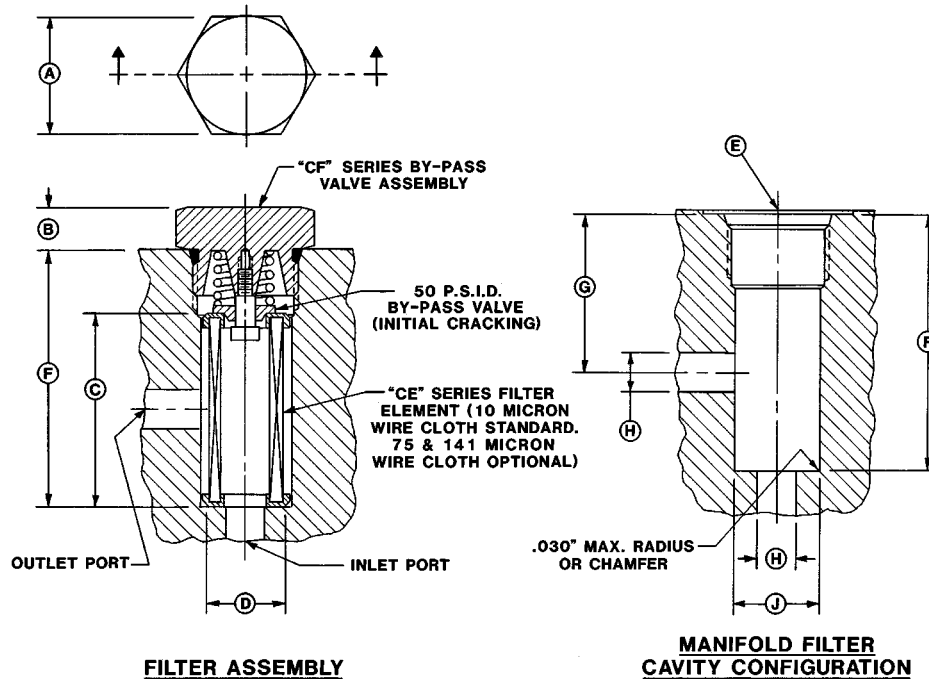
Filter Element Options	
Code	Micron
010	10 Micron
075	75 Micron
141	141 Micron

Code	Seal Type
N	Nitrile (Buna "N")
V	Fluorocarbon
E	EPR
Back Up Ring: Glass Filled Teflon	



# CF / CE SERIES MANIFOLD CARTRIDGE FILTERS

Operating Pressure: 6,000 PSI  
Flows Up To: 30 GPM



**FILTER ASSEMBLY**

**MANIFOLD FILTER  
CAVITY CONFIGURATION**

Filter Assembly Dimensions				
B/P Valve Assy. & Filter Element Part Numbers	A Hex Size	B Hex Height	C Element Length	D Element Dia.
CF-04 & CE-04-10	1.00"	.41"	1.72"	.74"
CF-12 & CE-12-10	1.50"	.50"	2.50"	1.00"
CF-30 & CE-30-10	2.13"	.65"	4.00"	1.50"

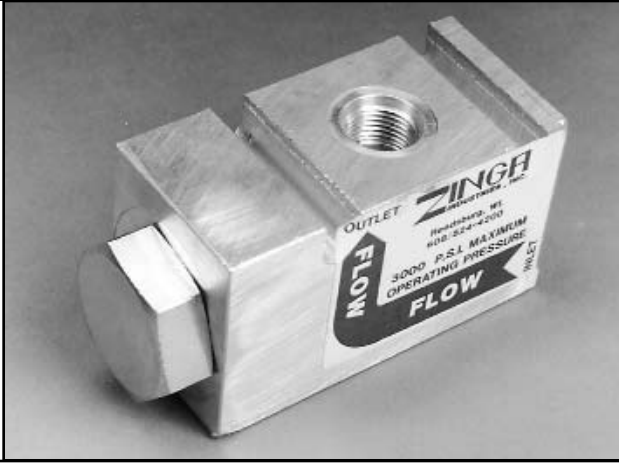
Manifold Cavity Configuration				
E SAE O-Ring Port	F Cavity Depth	G Port Depth	H Max. Port Dia.	J Cavity Dia.
-10 (7/8"-14)	2.41"	1.12" Min 1.87" Max	.266"	.781" Min .814" Max
-16 (1 5/16"-12)	3.34"	1.49" Min 2.53" Max	.531"	1.140" Min 1.187" Max
-24 (1 7/8"-12)	5.01"	1.92" Min 3.81" Max	.875"	1.750" Min 1.803" Max

## HOW TO ORDER:

By-Pass Valve Assembly Part Number
CF-04
CF-12
CF-30

Filter Element		
Part Number	Flow Capacity	Micron Rating
CE-04-10	4 GPM	10 Micron
CE-12-10	12 GPM	10 Micron
CE-30-10	30 GPM	10 Micron

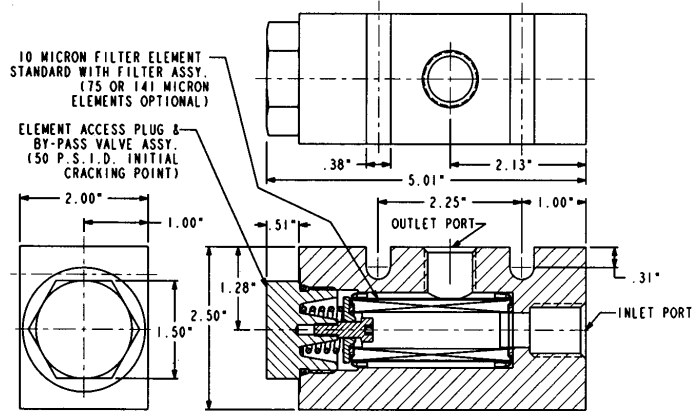
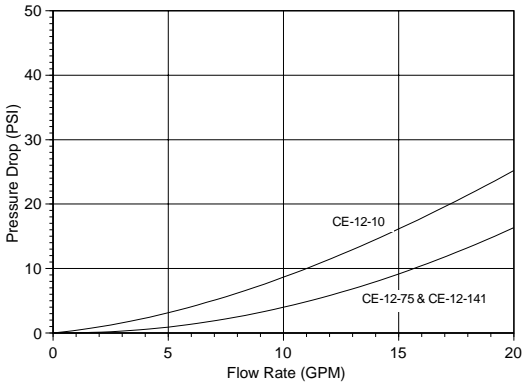
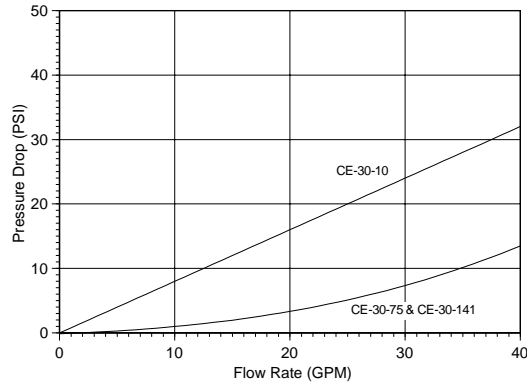
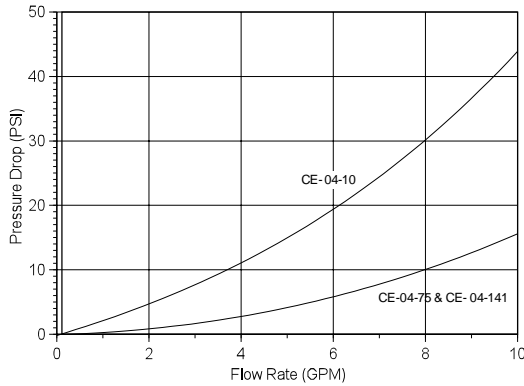
- Note:**
- Pressure drop vs. flow rate data shown on following page.
  - 10 Micron stainless steel wire cloth is standard for all three filter element sizes. 75 & 141 micron wire cloth elements are also available. To order elements containing these wire cloth media, change the last number in the filter element part number (normally -10) to -75 or -141.
  - CF/CE-Series filters are designed to be used as final filters to protect control valves, not as total system filters.



# CF-90 SERIES IN-LINE HIGH PRESSURE FILTER

- Port Size: • 1/2" NPTF
- 3/4" - 16 UN (SAE-8)
- Pressure: 3,000 PSI
- Flows Up To: 12 GPM
- By-Pass Valve Setting: 50 PSI
- Filtration: 10 Micron Stainless Steel  
Wire Cloth Standard

Average pressure drop through clean filter with 150 SUS oil at 105° F.



**Note:**

- CE-Series filter elements are compatible with petroleum base fluids, Water Glycol, Diesel Fuel, & Gasoline (except if containing alcohol). For fluids not listed, consult factory.
- Element access plug uses a Buna N O-ring as standard (for use with petroleum base fluids). Fluorocarbon O-ring optional (for use with synthetic fluids).

**HOW TO ORDER: CF - 90 - XX - XX**

Code	Inlet & Outlet Ports
05	1/2" NPTF
08	3/4" - 16 (SAE-8)

Code	Filter Element
10	10 Micron
75	75 Micron
141	141 Micron

Replacement Elements (Ordered Separately)	
CE-12-10	10 Micron
CE-12-75	75 Micron
CE-12-141	141 Micron

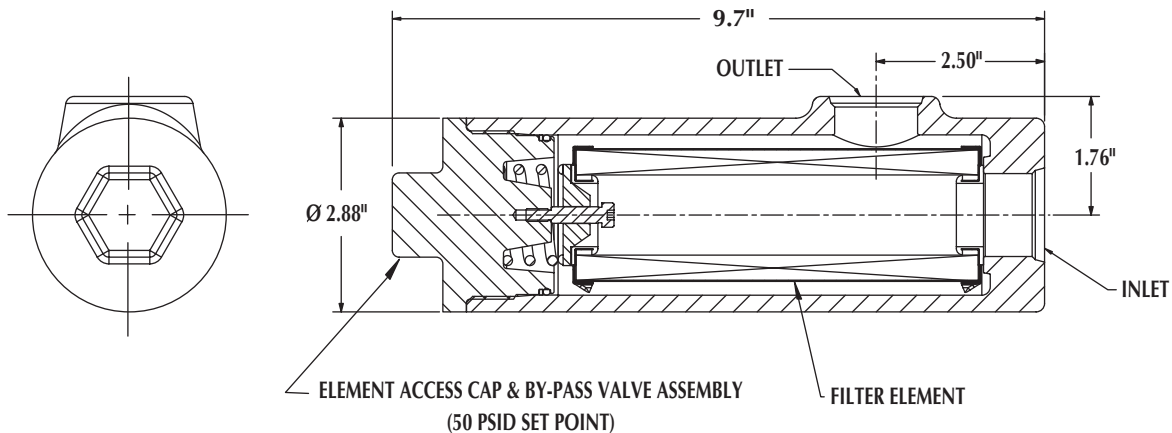




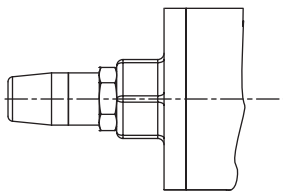


## HP3000 SERIES IN-LINE HIGH PRESSURE FILTERS WITH $\Delta P$ INDICATOR OPTION

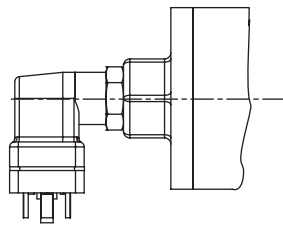
Flows Up To: 60 GPM  
 Ports Sizes: • 1" NPTF  
 • 1 1/16"-12 UN (SAE - 12)  
 • 1 5/16"-12 UN (SAE - 16)  
 Pressure: 3,000 PSI Max. Operating



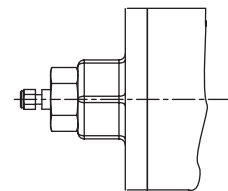
### DIFFERENTIAL PRESSURE INDICATOR OPTIONS:



DP04 SERIES VISUAL INDICATOR



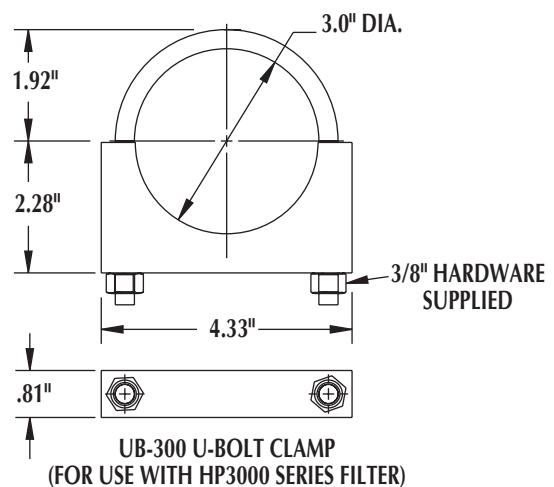
DP05 SERIES VISUAL/ELECTRICAL INDICATOR  
WITH DIN TYPE RECEPTACLE



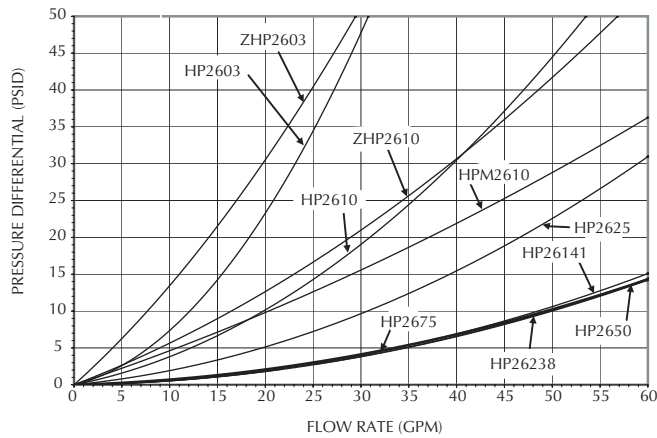
DP06 SERIES SINGLE WIRE DC INDICATOR

### Application Data:

- By-Pass Valve Setting: 50 PSID (Initial Cracking Pressure)
- Operating Temperature: Up to +250° F.
- Petroleum Base Fluids Only. Consult Factory for Synthetic Fluids.
- Ductile Iron Housing Construction
- Buna-N Seals Standard for Petroleum Base Fluids. Fluorocarbon Seals Available as an Option.
- 90° Design Permits Element Replacement Without Disassembly of Piping.



Average pressure drop through clean filter with 150 SUS oil at 105° F.



**HOW TO ORDER:**

**HP3000 - XXX - XXX - XXX - N**

Code	Inlet & Outlet Ports
N16	1" NPTF
S12	1 1/16" - 12 UN (SAE - 12)
S16	1 5/16" - 12 UN (SAE - 16)

Code	Indicator Option	Indicator Series
000	No Indicator	None
V44	Visual	DP04
D44	DC Electrical Single Wire	DP06
H44	Vis/Elec w/DIN Connector	DP05

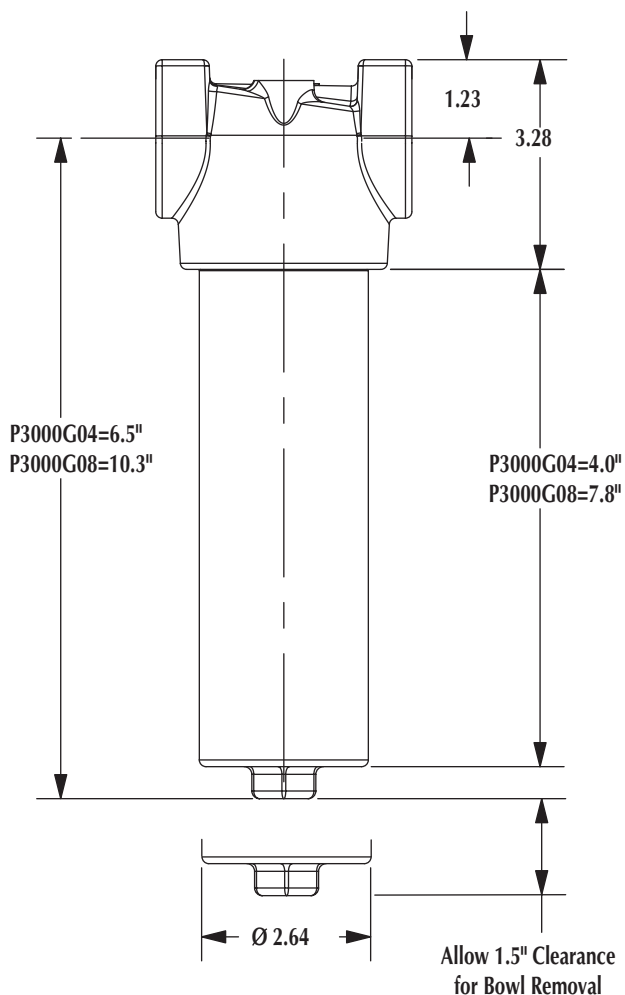
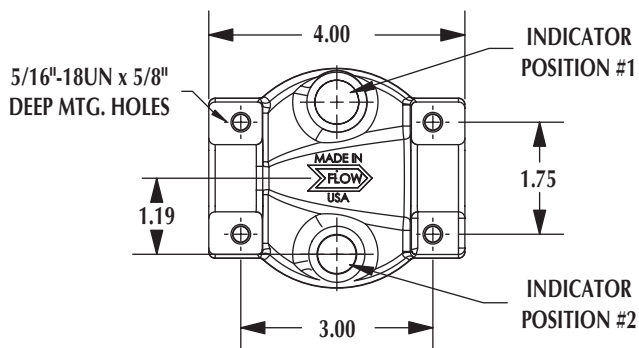
Elements		
Code	Micron, Media	Element Number
003	3 Micron, Cellulose	HP2603
03Z	3 Micron, Z-Glass	ZHP2603
010	10 Micron, Cellulose	HP2610
10M	10 Micron, Wire Cloth	HPM2610
10Z	10 Micron, Z-Glass	ZHP2610
025	25 Micron, Cellulose	HP2625
075	75 Micron, Wire Cloth	HP2675
141	141 Micron, Wire Cloth	HP26141
238	238 Micron, Wire Cloth	HP26238
560	560 Micron, Wire Cloth	HP26560

**PRESSURE FILTERS**



## P3000 SERIES PRESSURE FILTERS WITH $\Delta P$ INDICATOR OPTION

Flows Up To: 30 GPM (114 L/MIN)  
 Port Sizes: 1 1/16"-12 UN (SAE-12)  
 Max. Operating Pressure: 3,000 PSI (207 BAR)  
 Application: Inline Filtration,  
 External Charge Pump Filtration,  
 High Shock Return Line Filtration



### SPECIFICATIONS

Code Number	Removal Rating B <sub>x</sub> > 200
03H	2
03L	3
06L	6
10L	12
10H	15
20L	25
10C	N/A

#### REFERENCE

Beta<sub>x</sub> Rating of 200=99.5% Efficiency

#### PRESSURE RATING

**Maximum Operating:** 3,000 PSI (207 Bar)

**Burst Pressure:** 8,600 PSI (580 Bar)

**Rated Fatigue Pressure:** 2000 PSI (138 Bar)

#### TEMPERATURE RANGE

**Operating:** -40° F to +250° F  
 (-4° to +120° C)

#### BY-PASS SETTING OPTION:

No By-Pass or 50 PSID

#### $\Delta P$ INDICATOR OPTIONS

Visual, Single Wire DC Electrical, or  
 Electrical/Visual w/ DIN Connector

#### FLUID COMPATIBILITY

**Elements:** Suitable For Use with  
 Petroleum Base Fluids. Consul  
 Factory For Use With Other Fluids.

#### MATERIALS

**Head:** Die Cast Aluminum

**Bowl:** Anodized Aluminum (6061-T6)

**By-Pass:** Nylon

**Element Hardware:** Plated Carbon  
 Steel End Caps and Core. Epoxy  
 Endcap Adhesive .

**Filter Media:** Z-Glass Fiber Standard

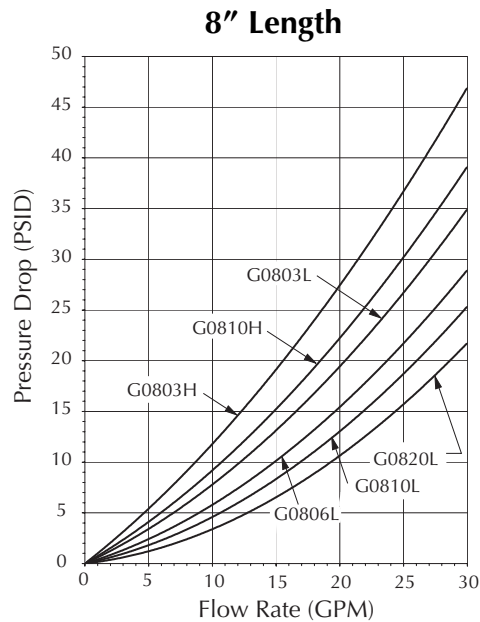
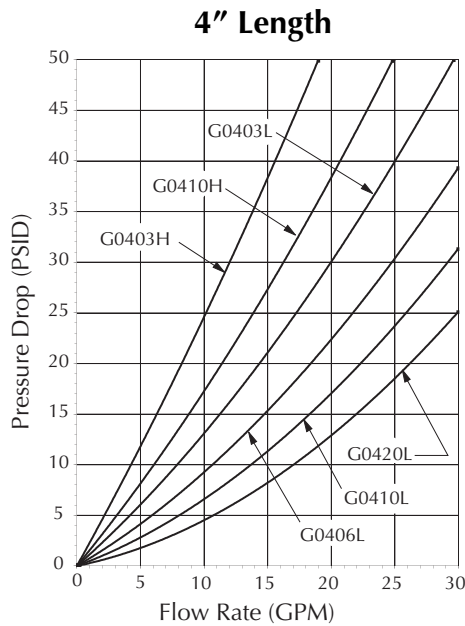
#### WEIGHT

**P3000G04:** 4.2 lbs. (2.2 Kg)

**P3000G08:** 5.2 lbs. (2.8 Kg)

# P3000 Pressure Drop Curves

Fluid Viscosity 150 SUS at 105°F (33 CS at 41°C)



PRESSURE FILTERS

**HOW TO ORDER:**

**P3000 XXX XX XXX XXX X X - G XX XXX X**

Code	Maximum Pressure
P3000	3,000 PSI (207 BAR)

Code	Port
S12	1 1/16"-12 UN (SAE-12)

Code	Nominal Bowl Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Code	Indicator Option	Indicator Series
000	No Indicator	None
V44	Visual	DP04
D44	DC Electrical Single Wire	DP06
H44	Vis/Elec w/DIN Connector	DP05

Code	By-Pass
E	50 PSID (3.4 BAR)
N	No By-Pass*

\*REQUIRES PROPER ELEMENT SELECTION\*

Code	Housing Seal Material
N	Buna "N"
V	Fluorocarbon

Position 1    Position 2

Code	Element Seal Material
N	Buna "N"
V	Fluorocarbon

Filter Element Options	
Code	Micron-Media-Collapse
03L	3 Micron, Z-GLASS, 150 PSID (20.7 BAR)
03H	3 Micron, Z-GLASS, 3,000 PSID (207 BAR)
06L	6 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10L	10 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10H	10 Micron, Z-GLASS, 3,000 PSID (207 BAR)
20L	20 Micron, Z-GLASS, 150 PSID (20.7 BAR)

Code	Nominal Filter Element Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Element Series	
"G" Series	

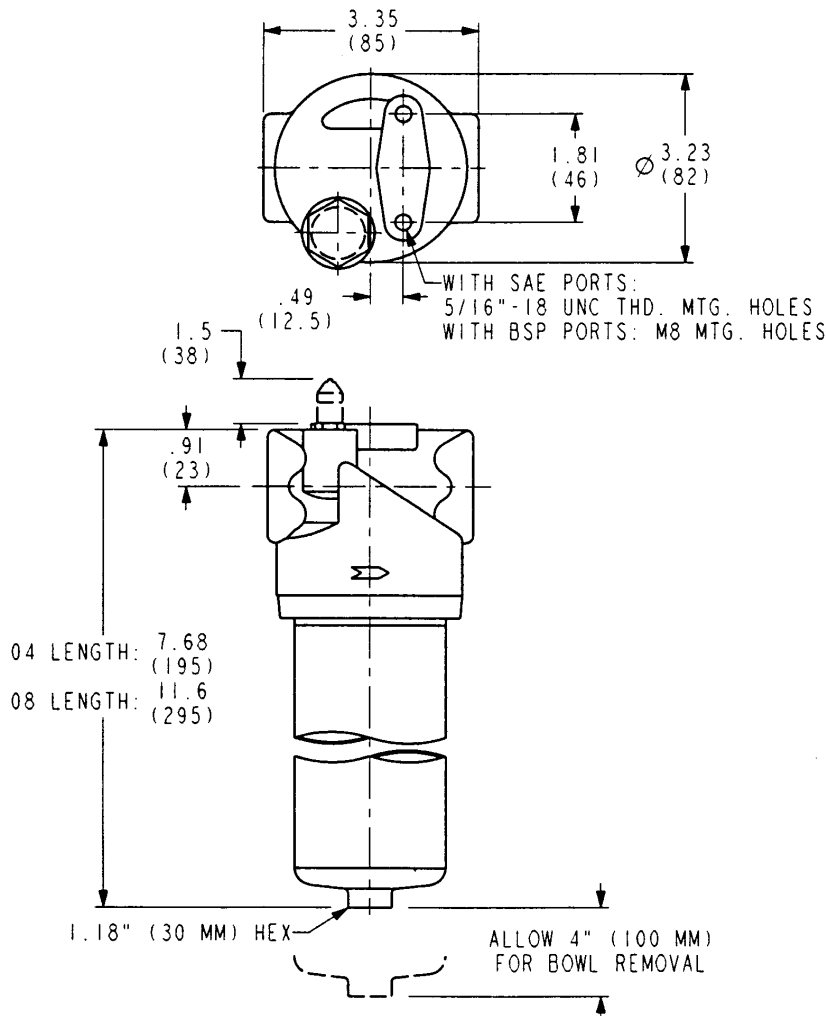




## P6 SERIES PRESSURE FILTERS WITH $\Delta P$ INDICATOR OPTION

Flows Up To: 30 GPM (114 L/MIN)  
 Port Sizes: 1 1/16"-12UN (SAE-12)  
 3/4" BSP (G 3/4"-14)  
 Max. Operating Pressure: 6,000 PSI (414 BAR)  
 Application: Suitable for all conventional  
 hydraulic fluids except  
 phosphate esters

PRESSURE FILTERS



### SPECIFICATIONS

Code Number	Removal Rating $B_x > 200$
03H	2
03L	3
06L	6
10L	12
10H	15
20L	25

#### REFERENCE

Beta<sub>x</sub> Rating of 200=99.5% Efficiency

#### PRESSURE RATING

**Maximum Operating:** 6,000 PSI (414 Bar)

**Burst Pressure:** 18,250 PSI (1,260 Bar)

#### TEMPERATURE RANGE

**Operating:** -15° F to +230° F  
 (-26° to +110° C)

#### BY-PASS SETTING OPTION:

No By-Pass or 90 PSID

#### $\Delta P$ INDICATOR OPTIONS

Visual or

**Ele/Visual w/ DIN connector**

(DIN 43650; IP65)

1NC, 1NC & Com SPDT Switch

125-250 Vac @ 5Amps Res or Ind.

15-30-50-125 Vdc @ 10-5-1-0.5 A  
 respectively Res or Ind.

#### FLUID COMPATIBILITY

**Elements:** Suitable For All  
 Conventional Hydraulic Fluids  
 Except Phosphate Esters

#### MATERIAL

**Head:** Cast Iron

**Bowl:** Steel

**Element Hardware:** Plated Carbon  
 Steel End Caps, and Core

**Filter Media:** Z-Glass Fiber, Epoxy  
 End Cap Adhesive

#### WEIGHT

**P6XXX04:** 10.2 lbs. (4.6 Kg)

**P6XXX08:** 11.5 lbs. (5.2 Kg)

# P6 SERIES PRESSURE FILTERS

HOW TO ORDER: →

**P6 XXX XX X X X - G XX XXX X**

**Housing**                      **Element**

Code	Maximum Pressure
P6	6,000 PSI (414 BAR)

Code	Port
S12	1 1/16"-12 UN (SAE-12)
B12	3/4" BSP (G 3/4"-14)

Code	Nominal Bowl Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Code	Indicator Type
N	No Indicator
V	Visual ΔP**
E	Electrical/Visual ΔP**

\*\*WITH BYPASS 75 PSID (5.2 BAR) • WITHOUT BYPASS 120 PSID (8.3 BAR)

Code	By-Pass
E	90 PSID (6 BAR)
N	No By-Pass*

\*REQUIRES PROPER ELEMENT SELECTION\*

Code	Housing Seal Material
N	Buna "N"
V	Fluorocarbon

Code	Element Seal Material
N	Buna "N"
V	Fluorocarbon

Filter Element Options	
Code	Micron-Media-Collapse
03L	3 Micron, Z-GLASS, 150 PSID (20.7 BAR)
03H	3 Micron, Z-GLASS, 3,000 PSID (207 BAR)
06L	6 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10L	10 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10H	10 Micron, Z-GLASS, 3,000 PSID (207 BAR)
20L	20 Micron, Z-GLASS, 150 PSID (20.7 BAR)

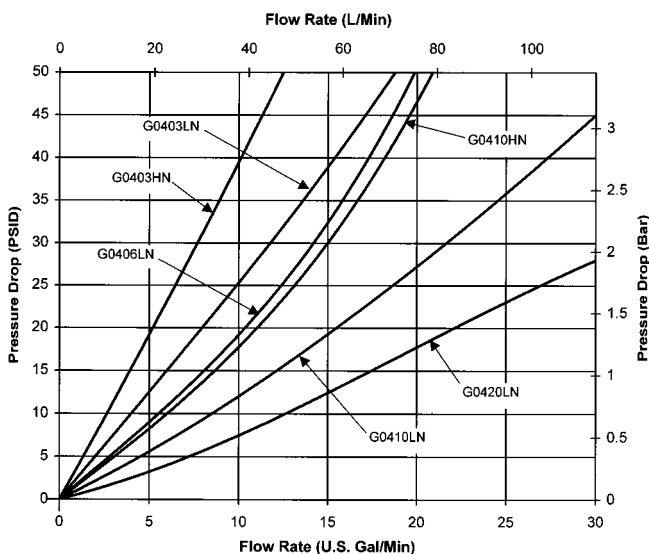
Code	Nominal Filter Element Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Element Series	
"G" Series	

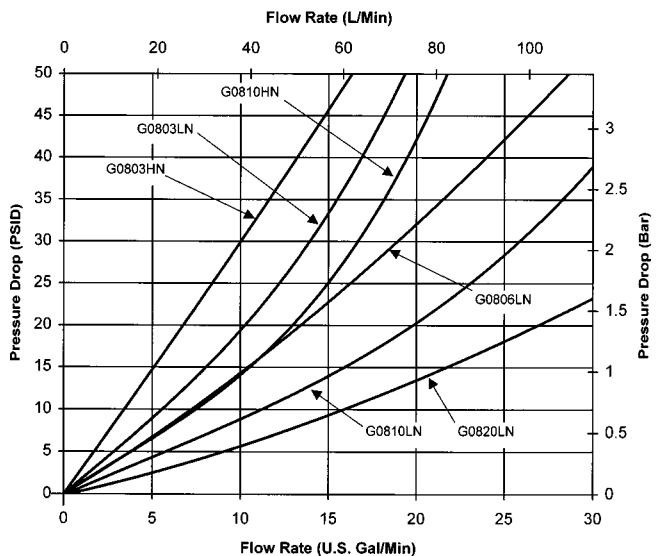
PRESSURE FILTERS

## Average Pressure Drop Through Clean Filter Assembly With 150 SUS Oil at 100°F (33 CS at 40°C)

For 3/4" Ports and 4" (100 MM) Element



For 3/4" Ports and 8" (200 MM) Element

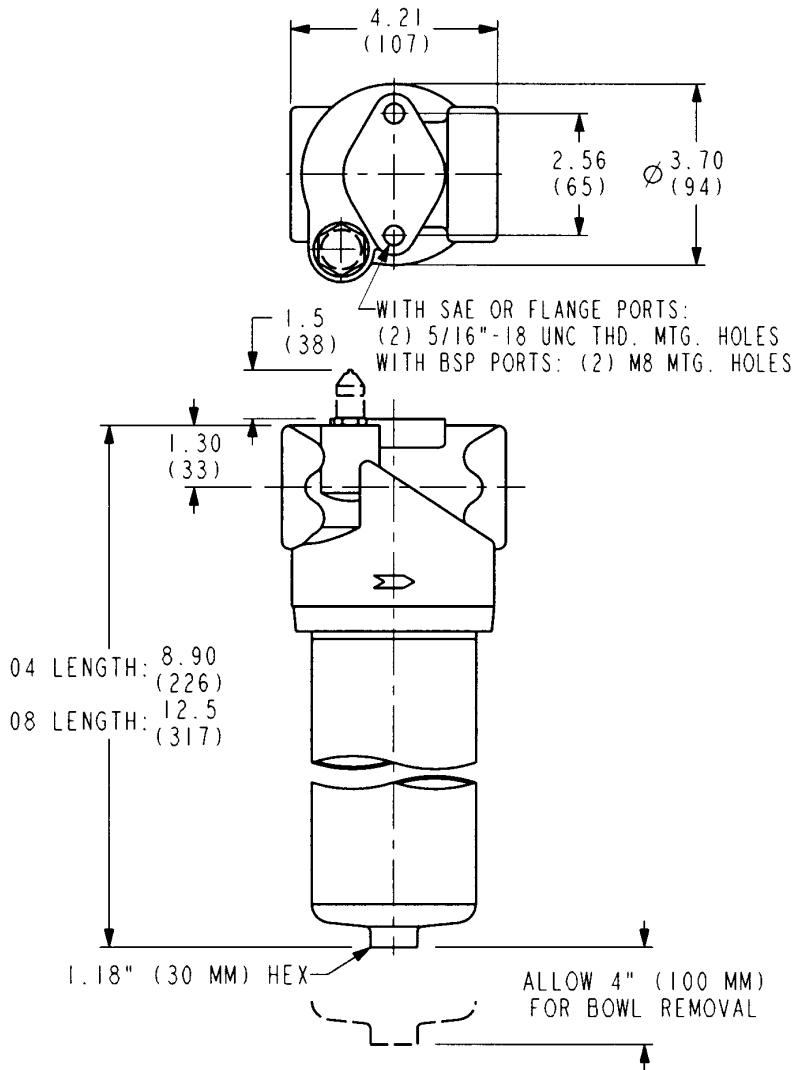






## S6 SERIES PRESSURE FILTERS WITH $\Delta P$ INDICATOR OPTION

Flows Up To: 65 GPM (246 L/MIN)  
 Port Sizes: 1 1/16"-12UN (SAE-12) & 1 5/16"-12UN (SAE-16)  
 3/4" BSP (G3/4"-14) & 1" BSP (1"-11) Max.  
 1" SAE Flange  
 Operating Pressure: 6,000 PSI (414 BAR)  
 Application: Suitable for all conventional  
 hydraulic fluids except  
 phosphate esters



### SPECIFICATIONS

Code Number	Removal Rating $B_x > 200$
03H	2
03L	3
06L	6
10L	12
10H	15
20L	25

#### REFERENCE

Beta<sub>x</sub> Rating of 200=99.5% Efficiency

#### PRESSURE RATING

**Maximum Operating:** 6,000 PSI (414 Bar)

**Burst Pressure:** 18,250 PSI (1,260 Bar)

#### TEMPERATURE RANGE

**Operating:** -15° F to +230° F  
 (-26° to +110° C)

#### BY-PASS SETTING OPTION:

No Bypass or 90 PSID

#### $\Delta P$ INDICATOR OPTIONS

Visual or

**Ele/Visual w/ DIN connector**

(DIN 43650; IP65)

1NC, 1NC & Com SPDT Switch

125-250 Vac @ 5Amps Res or Ind.

15-30-50-125 Vdc @ 10-5-1-0.5 A  
 respectively Res or Ind.

#### FLUID COMPATIBILITY

**Elements:** Suitable For All  
 Conventional Hydraulic Fluids  
 Except Phosphate Esters

#### MATERIAL

**Head:** Cast Iron

**Bowl:** Steel

**Element Hardware:** Plated Carbon  
 Steel End Caps, and Core

**Filter Media:** Z-Glass Fiber, Epoxy  
 End Cap Adhesive

#### WEIGHT

**S6XXX04:** 14.6 lbs. (6.6 Kg)

**S6XXX08:** 18.1 lbs. (8.2 Kg)

# S6 SERIES PRESSURE FILTERS

HOW TO ORDER: →

S6 XXX XX X X X - S XX XXX X

Housing Element

Code	Maximum Pressure
S6	6,000 PSI (414 BAR)

Code	Port
S12	1 1/16"-12 UN (SAE-12)
S16	1 5/16"-12 UN (SAE-16)
B12	3/4" BSP (G 3/4"-14)
B16	1" BSP (G 1"-11)
D16	1" SAE Flange, 3,000 PSI (207 BAR)

Code	Nominal Bowl Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Code	Indicator Type
N	No Indicator
V	Visual ΔP**
E	Electrical/Visual ΔP**

\*\*WITH BY-PASS 75 PSID (5.2 BAR) • WITHOUT BY-PASS 120 PSID (8.3 BAR)

Code	By-Pass/Reverse Flow Valve
E	90 PSID (6 BAR) By-Pass/No Reverse Flow Valve
N	No By-Pass/No Reverse Flow Valve*
R	No By-Pass/Reverse Flow Valve*
P	90 PSID (6 BAR) By-Pass/Reverse Flow Valve

\*REQUIRES PROPER ELEMENT SELECTION\*

Code	Housing Seal Material
N	Buna "N"
V	Fluorocarbon

Code	Element Seal Material
N	Buna "N"
V	Fluorocarbon

Filter Element Options	
Code	Micron-Media-Collapse
03L	3 Micron, Z-GLASS, 300 PSID (20.7 BAR)
03H	3 Micron, Z-GLASS, 3,000 PSID (207 BAR)
06L	6 Micron, Z-GLASS, 300 PSID (20.7 BAR)
10L	10 Micron, Z-GLASS, 300 PSID (20.7 BAR)
10H	10 Micron, Z-GLASS, 3,000 PSID (207 BAR)
20L	20 Micron, Z-GLASS, 300 PSID (20.7 BAR)

Code	Nominal Filter Element Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

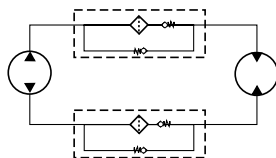
Element Series	
"S" Series	

PRESSURE FILTERS

## Reverse Flow

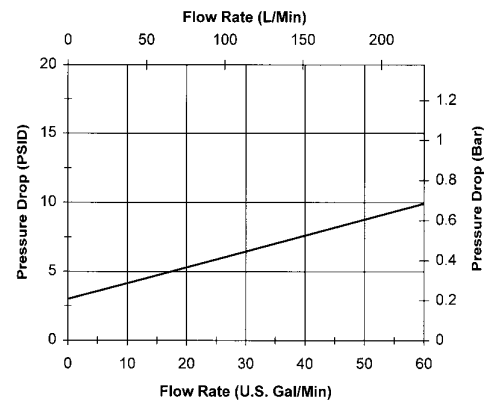
For hydrostatic drives and other systems where reverse flow is required, a valve is incorporated which allows fluid to pass through the element in one direction, and to by-pass the element when flow is reversed.

1. Rugged one piece steel body design that is built to last. Reverse Flow Valve is a spool/disc valve caged in a high strength machined steel body.
2. Applications requiring reverse flow to be mounted vertically, bowl down.



Reverse Flow Schematic

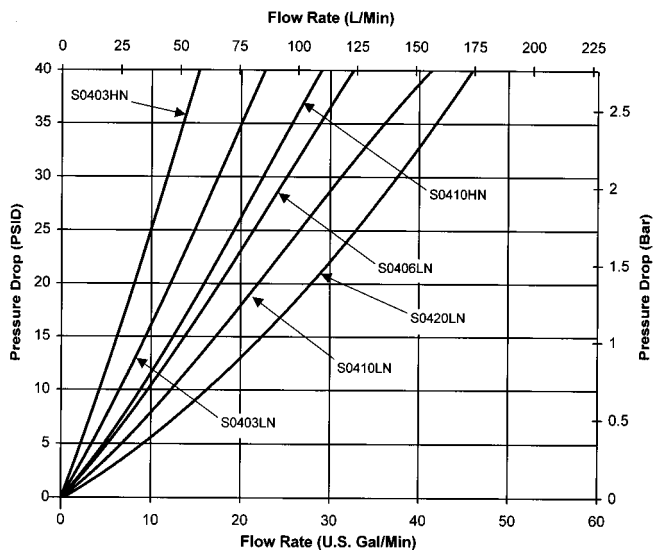
Reverse Flow Valve Pressure Drop  
With 150 SUS Oil at 100°F (32 cSt at 40°C)



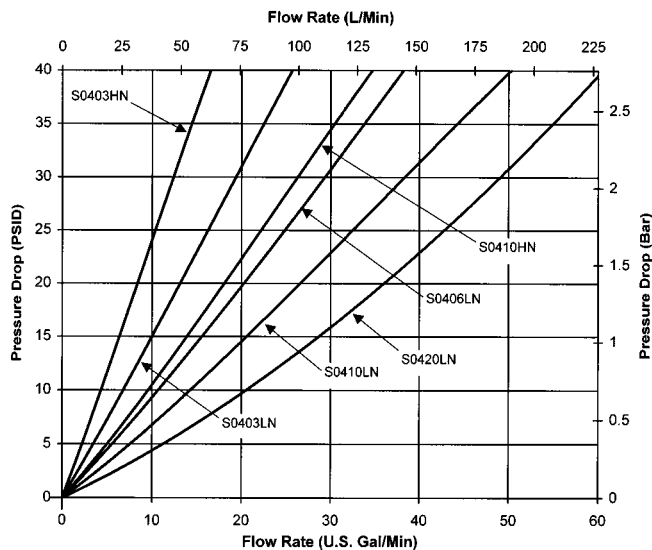
# S6 Pressure Drop Curves

Fluid Viscosity 150 SUS at 100°F (33 CS at 40°C)

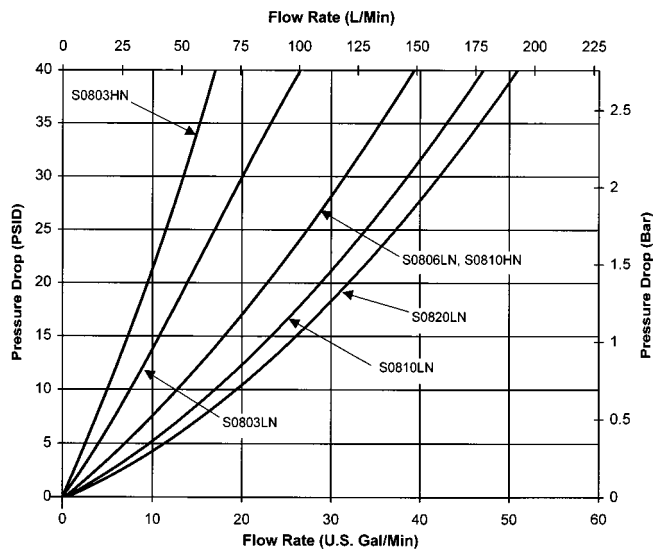
For 3/4" Ports and 4" (100 MM) Element



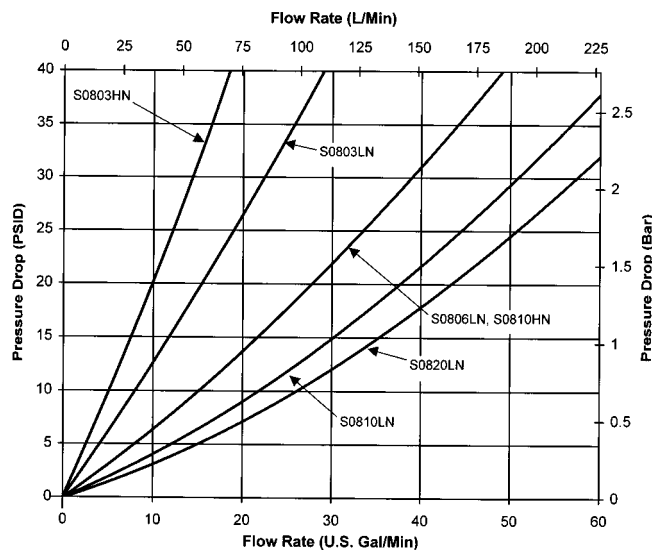
For 1" Ports and 4" (100 MM) Element



For 3/4" Ports and 8" (200 MM) Element



For 1" Ports and 8" (200 MM) Element



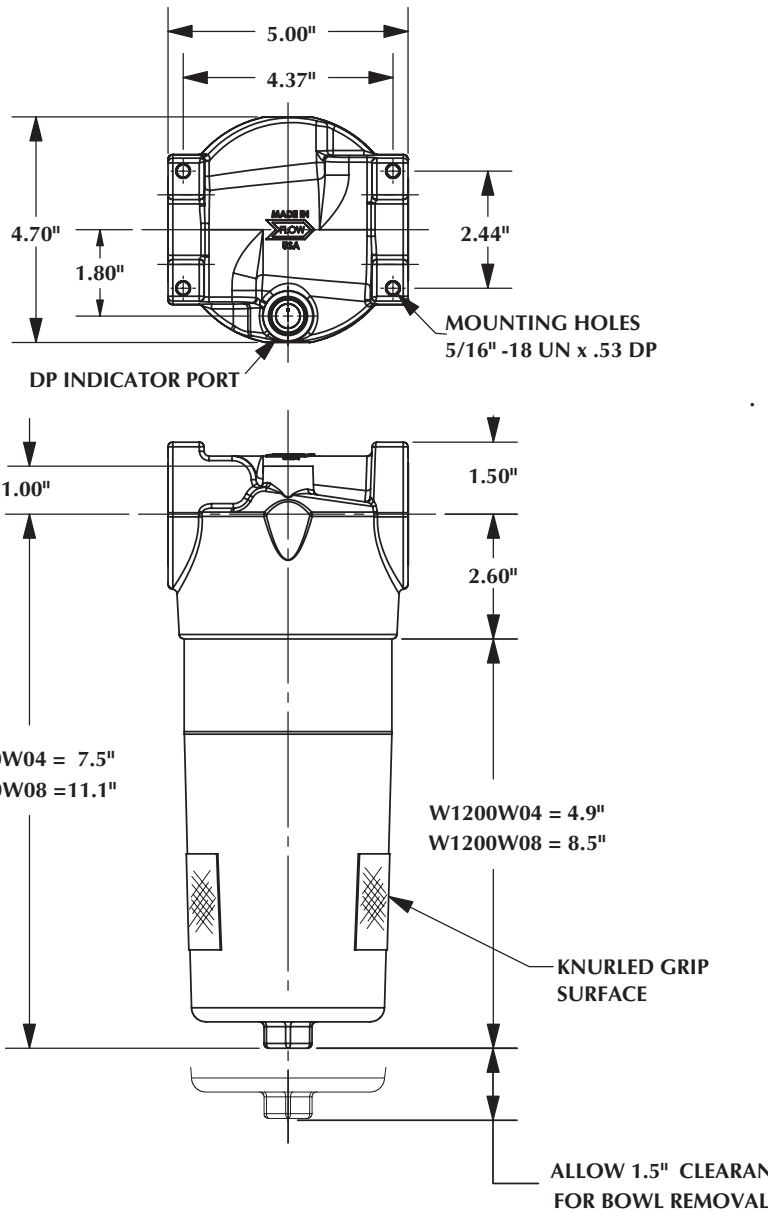
PRESSURE FILTERS



# W1200 SERIES PRESSURE FILTERS WITH ΔP INDICATOR OPTION

Flows Up To: 120 GPM (454 L/MIN)  
 Port Sizes: 1 1/4" & 1 1/2" NPTF  
 1 5/8"-12UN (SAE-20)  
 1 7/8"-12UN (SAE-24)

Max. Operating Pressure: 1,200 PSI (83 BAR)  
 Application: Inline Filtration  
 High Shock Return Line Filtration



## SPECIFICATIONS

Code Number	Removal Rating B <sub>x</sub> > 200
03H	2
03L	3
06L	6
10L	12
10H	15
20L	25

### REFERENCE

Beta<sub>x</sub> Rating of 200=99.5% Efficiency

### PRESSURE RATING

**Maximum Operating:** 1,200 PSI (83 Bar)

**Burst Pressure:** 3,000 PSI (206 Bar)

### Rated Fatigue Pressure:

0-1000-0 PSI for 1,000,000 Cycles  
 Per NFPA T2.6.1 R2-2000

### TEMPERATURE RANGE

**Operating:** -40° F to +250° F  
 (-4° to +120° C)

### BY-PASS SETTING OPTION:

No By-Pass or 50 PSID

### ΔP INDICATOR OPTIONS

Visual, Single Wire DC Electrical, or  
 Electrical/Visual w/ DIN Connector

### FLUID COMPATIBILITY

**Elements:** Suitable For Use with  
 Petroleum Base Fluids. Consult  
 Factory For Use With Other Fluids.

### MATERIALS

**Head:** Die Cast Aluminum

**Bowl:** Anodized Die Cast Aluminum

**By-Pass:** Nylon

**Element Hardware:** Plated Carbon  
 Steel End Caps and Core. Epoxy  
 Endcap Adhesive.

**Filter Media:** Z-Glass Fiber Standard

### WEIGHT

**P3000G04:** 6.6 lbs. (3 Kg)

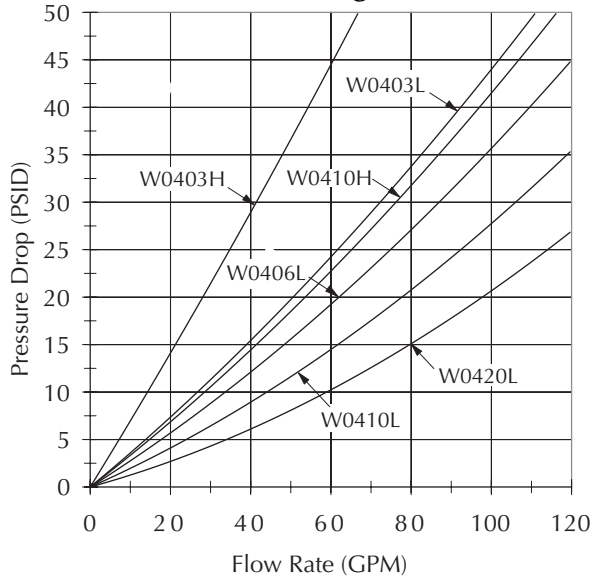
**P3000G08:** 8.8 lbs. (4 Kg)

PRESSURE FILTERS

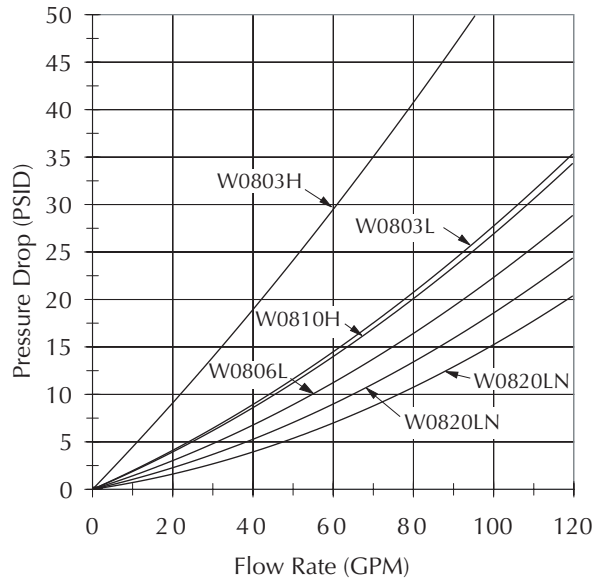
# W1200 Pressure Drop Curves

Fluid Viscosity 150 SUS at 105°F (34 CS at 40°C)

4" Length



8" Length



PRESSURE FILTERS

**HOW TO ORDER:** W1200 XXX XX X XX XX X - W XX XXX X

Code	Maximum Pressure
W1200	1,200 PSI (83 BAR)

Code	Port
N20	1 1/4" NPTF
N24	1 1/2" NPTF
S20	1 5/8" - 12UN (SAE-20)
S24	1 7/8" - 12UN (SAE-24)

Code	Nominal Bowl Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Code	ΔP Indicator Type	Indicator Series
0	No Indicator	None
V	Visual	DP04
D	DC Electrical Single Wire	DP06
H	Vis/Elec w/DIN Connector	DP05

Code	ΔP Indicator Setting
00	No Indicator
44	44 PSID

Code	By-Pass
00	No By Pass *
50	50 PSID (3.4 BAR)
* Proper Element Selection Required	

Code	Element Seal Material
N	Buna "N"
V	Fluorocarbon

Filter Element Options	
Code	Micron-Media-Collapse
03L	3 Micron, Z-GLASS, 150 PSID (20.7 BAR)
03H	3 Micron, Z-GLASS, 3,000 PSID (207 BAR)
06L	6 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10L	10 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10H	10 Micron, Z-GLASS, 3,000 PSID (207 BAR)
20L	20 Micron, Z-GLASS, 150 PSID (20.7 BAR)

Code	Nominal Filter Element Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)

Element Series	
"W" Series	

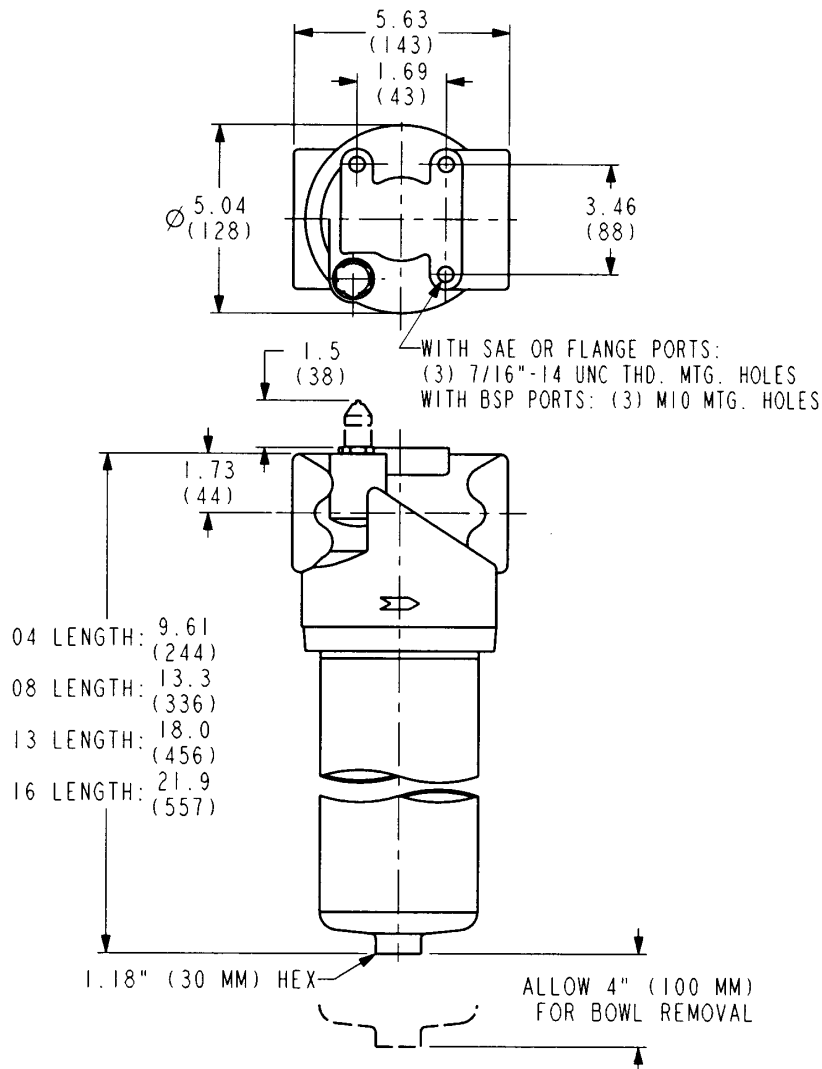
Code	Housing Seal Material
N	Buna "N"
V	Fluorocarbon



## W6 SERIES PRESSURE FILTERS WITH $\Delta P$ INDICATOR OPTION

Flows Up To: 120 GPM (454 L/MIN)  
 Port Sizes: 1 5/8"-12UN (SAE-20)  
 1 7/8"-12UN (SAE-24)  
 1 1/4" BSP (G1 1/4"-11)  
 1 1/2" BSP (G1 1/2"-11)  
 1 1/2" SAE Flange (3000 PSI)  
 1 1/4" SAE Flange (6000 PSI)

Max. Operating Pressure: 6,000 PSI (414 BAR)  
 Application: Suitable for all conventional  
 hydraulic fluids except  
 phosphate esters



### SPECIFICATIONS

Code Number	Removal Rating B <sub>x</sub> > 200
03H	2
03L	3
06L	6
10L	12
10H	15
20L	25

#### REFERENCE

Beta<sub>x</sub> Rating of 200=99.5% Efficiency

#### PRESSURE RATING

**Maximum Operating:** 6,000 PSI (414 Bar)

**Burst Pressure:** 18,250 PSI (1,260 Bar)

#### TEMPERATURE RANGE

**Operating:** -15° F to +230° F

(-26° to +110° C)

#### BY-PASS SETTING OPTION:

No Bypass or 50 PSID

#### $\Delta P$ INDICATOR OPTIONS

Visual or

**Ele/Visual w/ DIN connector**

(DIN 43650; IP65)

1NC, 1NC & Com SPDT Switch

125-250 Vac @ 5Amps Res or Ind.

15-30-50-125 Vdc @ 10-5-1-0.5 A  
 respectively Res or Ind.

#### FLUID COMPATIBILITY

**Elements:** Suitable For All

Conventional Hydraulic Fluids

Except Phosphate Esters

#### MATERIAL

**Head:** Cast Iron

**Bowl:** Steel

**Element Hardware:** Plated Carbon

Steel End Caps, and Core

**Filter Media:** Z-Glass Fiber, Epoxy

End Cap Adhesive

#### WEIGHT

**W6XXX04:** 25 lbs. (11 Kg)

**W6XXX08:** 31 lbs. (13.9 Kg)

**W6XXX13:** 38 lbs. (17.2 Kg)

**W6XXX16:** 49 lbs. (22 Kg)



# W6 SERIES PRESSURE FILTERS

**HOW TO ORDER:** → **W6 XXX XX X X X - W XX XXX X**

**Housing**                      **Element**

Code	Maximum Pressure
W6	6,000 PSI (414 BAR)

Code	Port
S20	1 5/8"-12 UN (SAE-20)
S24	1 7/8"-12 UN (SAE-24)
B20	1 1/4" BSP (G1 1/4"-11)
B24	1 1/2" BSP (G1 1/2"-11)
D24	1 1/2" SAE Flange. 3000 PSI (207 BAR)
E20	1 1/4" SAE Flange. 6000 PSI (414 BAR)

Code	Nominal Bowl Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)
13	13 Inches (300 mm)
16	16 Inches (400 mm)

Code	Indicator Type
N	No Indicator
V	Visual ΔP**
E	Electrical/Visual ΔP**

\*\*WITH BY-PASS 75 PSID ( 5.2 BAR) • WITHOUT BY-PASS 120 PSID (8.3 BAR)

Code	By-Pass/Reverse Flow Valve
E	90 PSID (6 BAR) By-Pass/No Reverse Flow Valve
N	No By-Pass/No Reverse Flow Valve*
R	No By-Pass/Reverse Flow Valve*
P	90 PSID (6 BAR) By-Pass/Reverse Flow Valve

\*REQUIRES PROPER ELEMENT SELECTION\*

Code	Housing Seal Material
N	Buna "N"
V	Fluorocarbon

Code	Element Seal Material
N	Buna "N"
V	Fluorocarbon

Filter Element Options	
Code	Micron-Media-Collapse
03L	3 Micron, Z-GLASS, 150 PSID (20.7 BAR)
03H	3 Micron, Z-GLASS, 3,000 PSID (207 BAR)
06L	6 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10L	10 Micron, Z-GLASS, 150 PSID (20.7 BAR)
10H	10 Micron, Z-GLASS, 3,000 PSID (207 BAR)
20L	20 Micron, Z-GLASS, 150 PSID (20.7 BAR)

Code	Nominal Filter Element Length
04	4 Inches (100 mm)
08	8 Inches (200 mm)
13	13 Inches (300 mm)
16	16 Inches (400 mm)

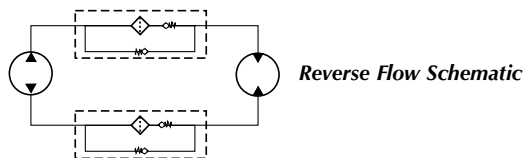
Element Series	
"W" Series	

PRESSURE FILTERS

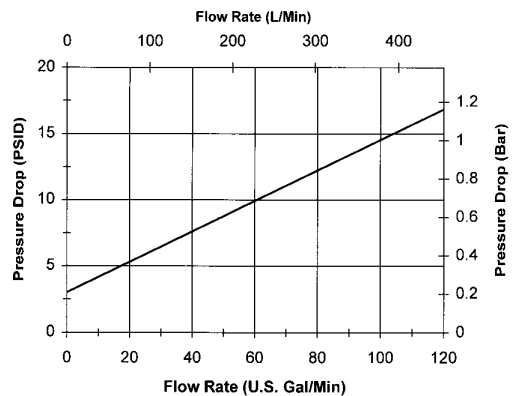
## Reverse Flow

For hydrostatic drives and other systems where reverse flow is required, a valve is incorporated which allows fluid to pass through the element in one direction, and to by-pass the element when flow is reversed.

1. Rugged one piece steel body design that is built to last. Reverse Flow Valve is a spool/disc valve caged in a high strength machined steel body.
2. Applications requiring reverse flow to be mounted vertically, bowl down.



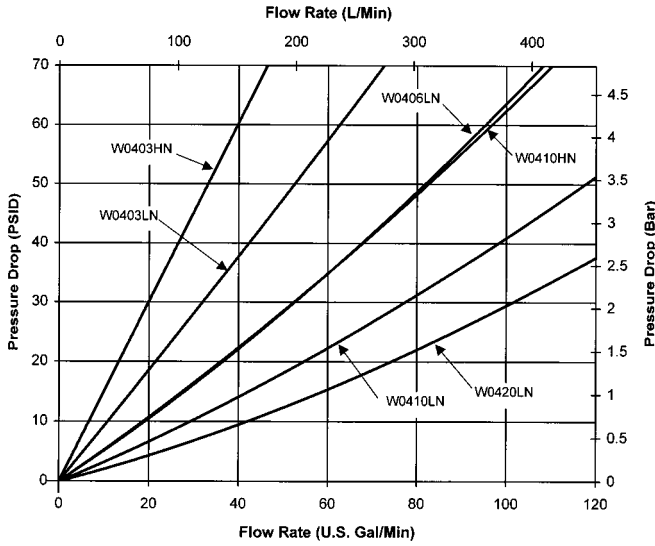
**Reverse Flow Valve Pressure Drop**  
With 150 SUS Oil at 100°F (32 cSt at 40°C)



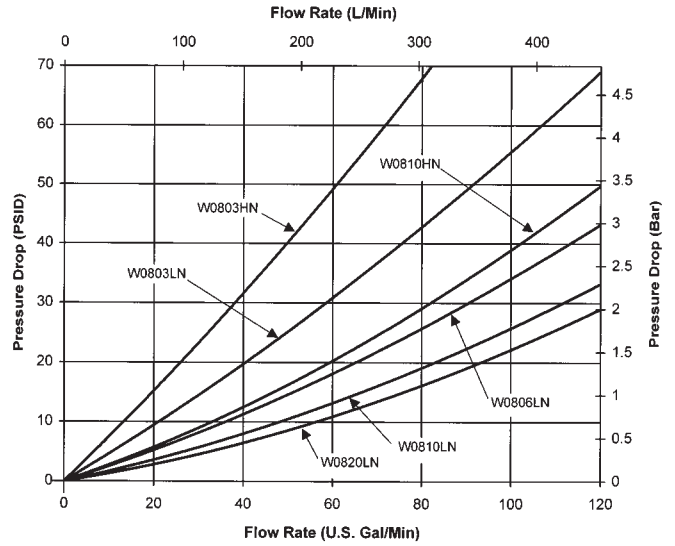
# W6 Pressure Drop Curves

Fluid Viscosity 150 SUS at 100°F (33 CS at 40°C)

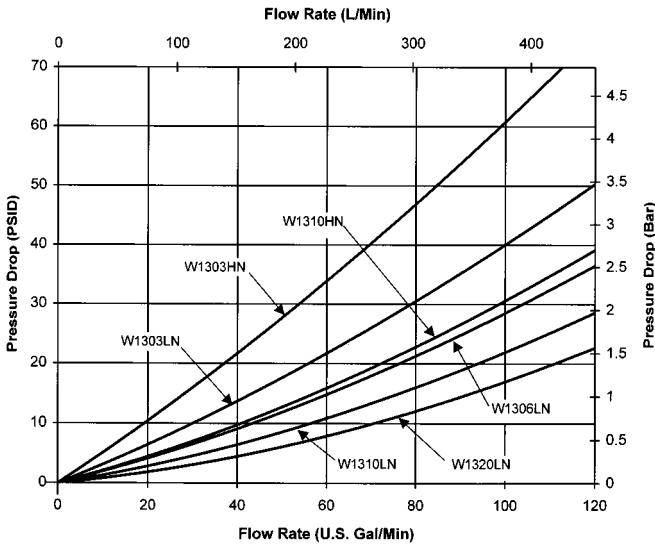
For 1 1/4" Ports and 4" (100 MM) Element



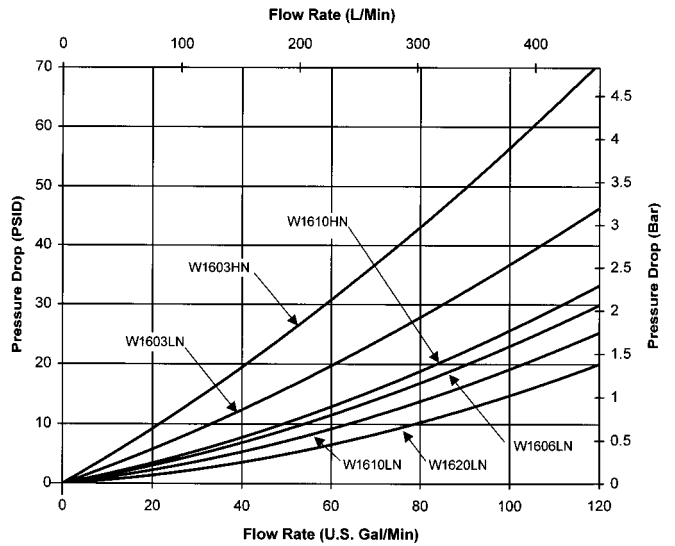
For 1 1/4" Ports and 8" (200 MM) Element



For 1 1/4" Ports and 13" (300 MM) Element



For 1 1/4" Ports and 16" (400 MM) Element

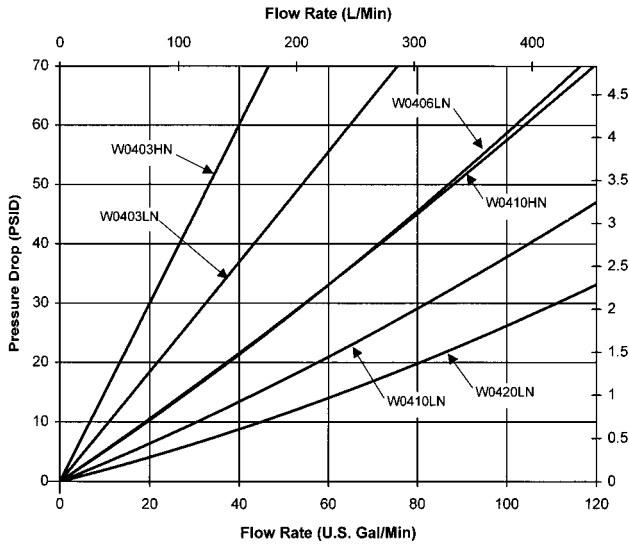


PRESSURE FILTERS

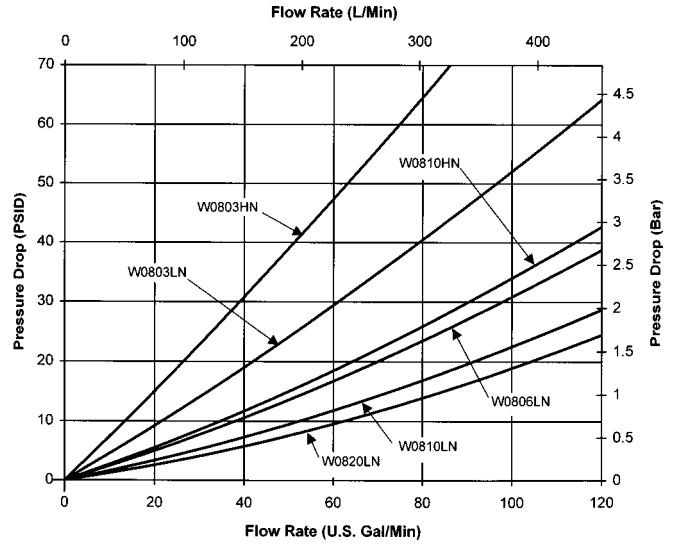
# W6 Pressure Drop Curves

Fluid Viscosity 150 SUS at 100°F (33 CS at 40°C)

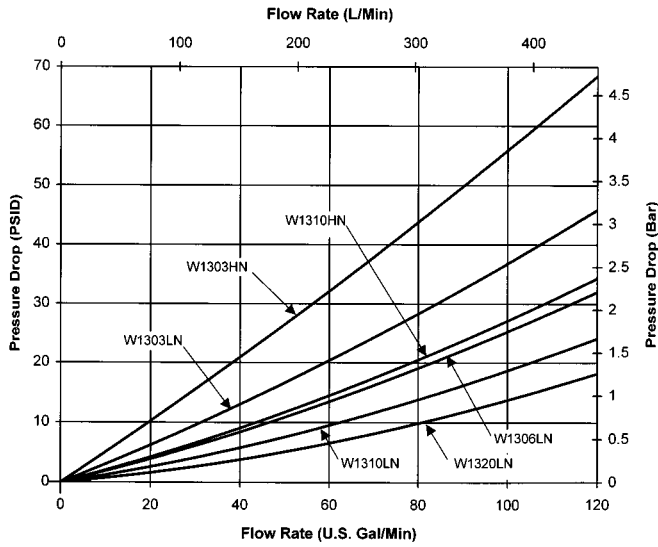
For 1 1/2" Ports and 4" (100 MM) Element



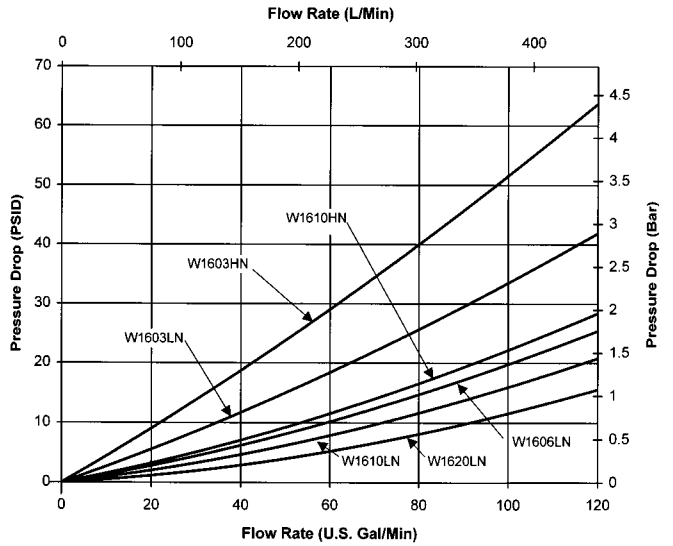
For 1 1/2" Ports and 8" (200 MM) Element



For 1 1/2" Ports and 13" (300 MM) Element



For 1 1/2" Ports and 16" (400 MM) Element



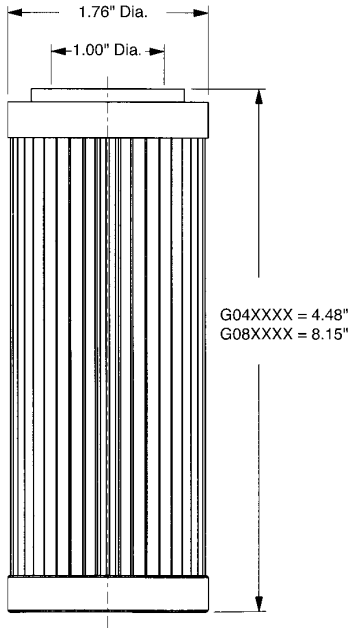
PRESSURE FILTERS



# G SERIES ELEMENTS

## PALL 9020/9021 INTERCHANGE

Media: Zinga Synthetic Z-Glass Media  
 $B_x > 200$  Absolute Filtration  
 Application: P3000 & P6 Series Pressure Filters  
 Temperature: Nitrile Seals -45°F to +225°F  
 Fluorocarbon Seals -20°F to +275°F



150 PSID RATED ELEMENTS		
(For Use in Filters with Bypass Valve Only)		
ZINGA P/N	$B_x > 200$	PALL P/N
G0403LN	3 Micron	HC9020FDP4H
G0406LN	6 Micron	HC9020FDN4H
G0410LN	10 Micron	HC9020FDS4H
G0420LN	20 Micron	HC9020FDT4H
G0803LN	3 Micron	HC9020FDP8H
G0806LN	6 Micron	HC9020FDN8H
G0810LN	10 Micron	HC9020FDS8H
G0820LN	20 Micron	HC9020FDT4H

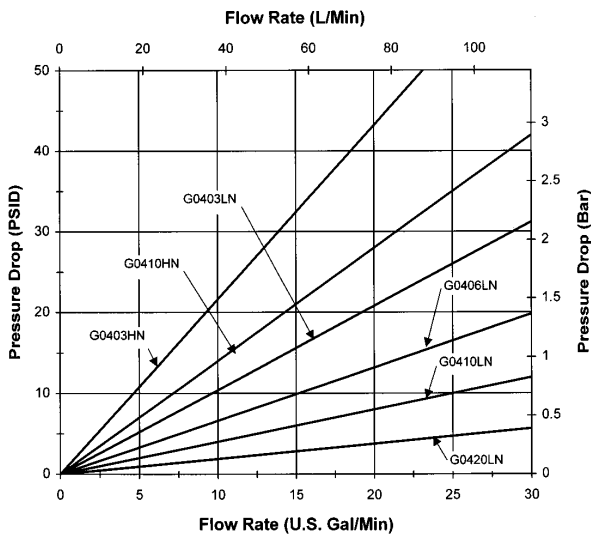
Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

3000 PSID RATED ELEMENTS		
ZINGA P/N	$B_x > 200$	PALL P/N
G0403HN	3 Micron	HC9021FUP4H
G0410HN	10 Micron	HC9021FUT4H
G0803HN	3 Micron	HC9021FUP8H
G0810HN	10 Micron	HC9021FUT8H

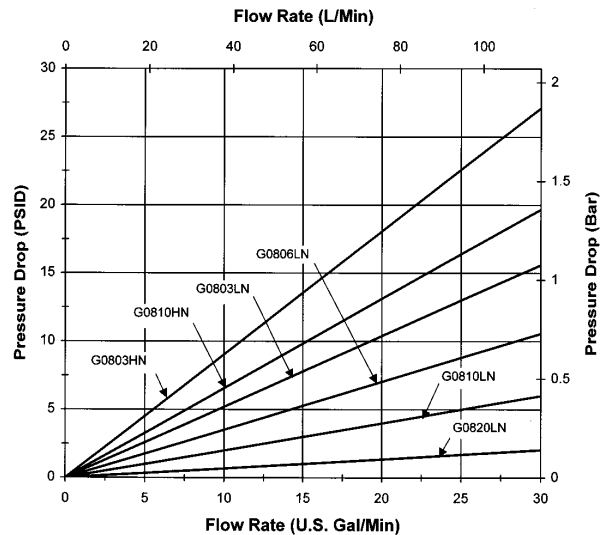
Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

PRESSURE FILTERS

Average Pressure Drop Through Clean Element  
 With 150 SUS Oil At 100° F (32 cSt at 40° C)



G04 Series



G08 Series



# S SERIES ELEMENTS

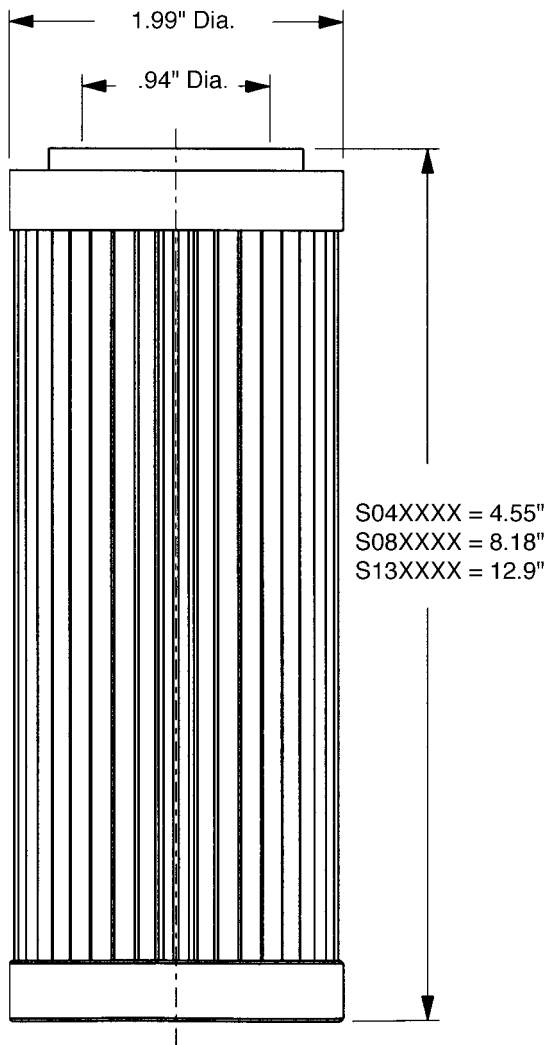
## PALL 9800/9801 INTERCHANGE

Media: Zinga Synthetic Z-Glass Media  
 $B_x > 200$  Absolute Filtration

Application: S6 Series High Pressure Filters

Temperature: Nitrile Seals -45°F to +225°F  
 Fluorocarbon Seals -20F to +275F

PRESSURE FILTERS



### 150 PSID RATED ELEMENTS

(For Use in Filters with Bypass Valve Only)

ZINGA P/N	$B_x > 200$	PALL P/N
S0403LN	3 Micron	HC9800FDP4H
S0406LN	6 Micron	HC9800FDN4H
S0410LN	10 Micron	HC9800FDS4H
S0420LN	20 Micron	HC9800FDT4H
S0803LN	3 Micron	HC9800FDP8H
S0806LN	6 Micron	HC9800FDN8H
S0810LN	10 Micron	HC9800FDS8H
S0820LN	20 Micron	HC9800FDT4H
S1303LN	3 Micron	HC9800FUP13H
S1306LN	6 Micron	HC9800FUN13H
S1310LN	10 Micron	HC9800FUS13H
S1320LN	20 Micron	HC9800FUT13H

Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

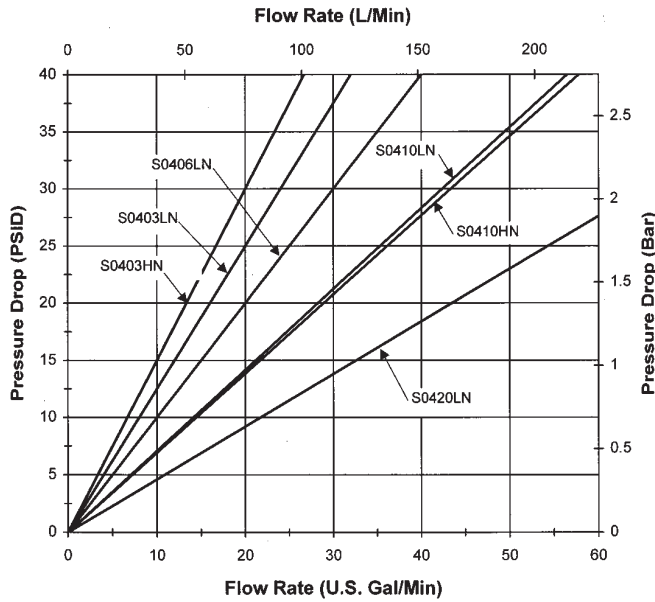
### 3000 PSID RATED ELEMENTS

ZINGA P/N	$B_x > 200$	PALL P/N
S0403HN	3 Micron	HC9801FUP4H
S0410HN	10 Micron	HC9801FUT4H
S0803HN	3 Micron	HC9801FUP8H
S0810HN	10 Micron	HC9801FUT8H
S1303HN	3 Micron	HC9801FUP13H
S1310HN	10 Micron	HC9801FUT13H

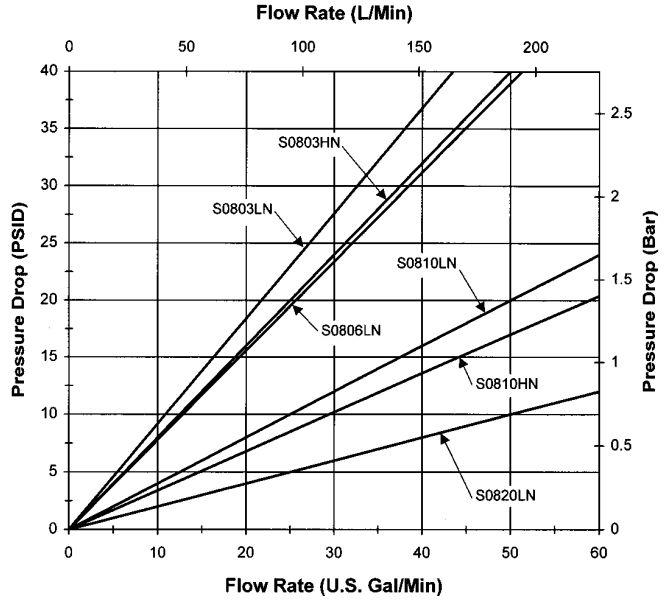
Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

# S SERIES ELEMENTS

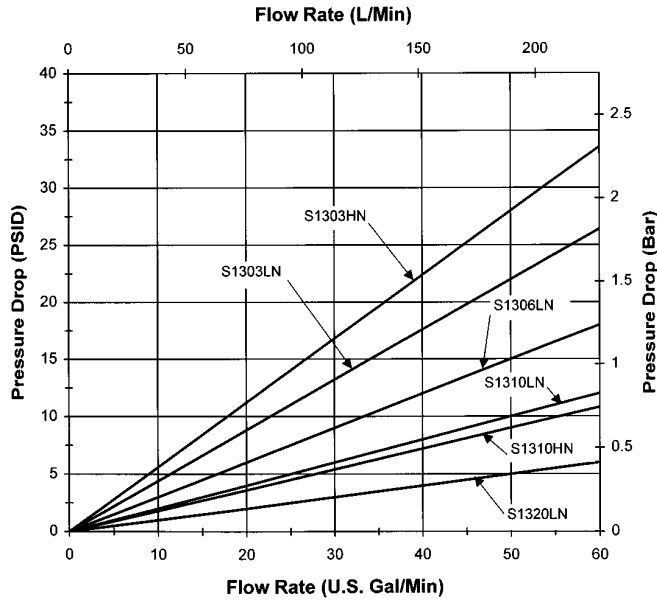
Average Pressure Drop Through Clean Element  
With 150 SUS Oil At 100° F (32 cSt at 40° C)



S04 Series



S08 Series



S13 Series

PRESSURE FILTERS





# W SERIES ELEMENTS

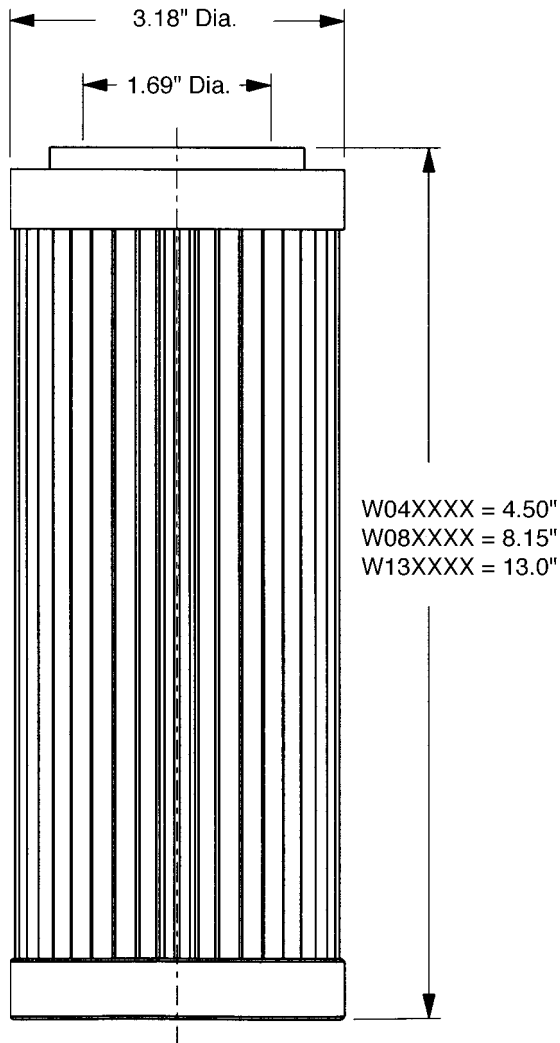
## PALL 9600/9601 INTERCHANGE

Media: Zinga Synthetic Z-Glass Media  
 $B_x > 200$  Absolute Filtration

Application: W1200 & W6 Series Pressure Filters

Temperature: Nitrile Seals -45F to +225F  
 Fluorocarbon Seals -20F to +275F

PRESSURE FILTERS



### 150 PSID RATED ELEMENTS

(For Use in Filters with By-Pass Valve Only)

ZINGA P/N	$B_x > 200$	PALL P/N
W0403LN	3 Micron	HC9600FDP4H
W0406LN	6 Micron	HC9600FDN4H
W0410LN	10 Micron	HC9600FDS4H
W0420LN	20 Micron	HC9600FDT4H
W0803LN	3 Micron	HC9600FDP8H
W0806LN	6 Micron	HC9600FDN8H
W0810LN	10 Micron	HC9600FDS8H
W0820LN	20 Micron	HC9600FDT8H
W1303LN	3 Micron	HC9600FDP13H
W1306LN	6 Micron	HC9600FDN13H
W1310LN	10 Micron	HC9600FDS13H
W1320LN	20 Micron	HC9600FDT13H
W1603LN	3 Micron	HC9600FDP16H
W1606LN	6 Micron	HC9600FDN16H
W1610LN	10 Micron	HC9600FDS16H
W1620LN	20 Micron	HC9600FDT16H

Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

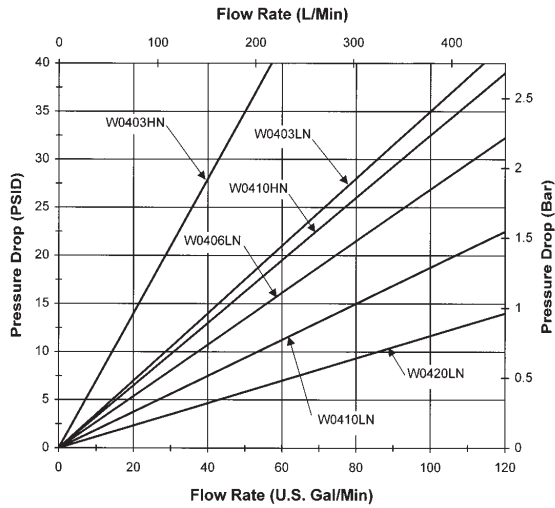
### 3000 PSID RATED ELEMENTS

ZINGA P/N	$B_x > 200$	PALL P/N
W0403HN	3 Micron	HC9601FUP4H
W0410HN	10 Micron	HC9601FUT4H
W0803HN	3 Micron	HC9601FUP8H
W0810HN	10 Micron	HC9601FUT8H
W1303HN	3 Micron	HC9601FUP13H
W1310HN	10 Micron	HC9601FUT13H
W1603HN	3 Micron	HC9601FUP16H
W1610HN	10 Micron	HC9601FUT16H

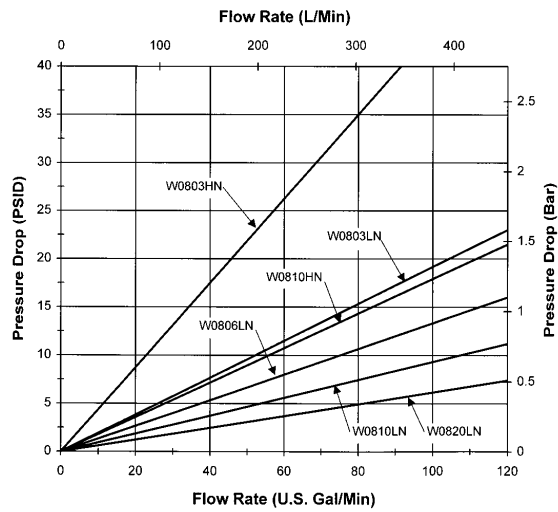
Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

# W SERIES ELEMENTS

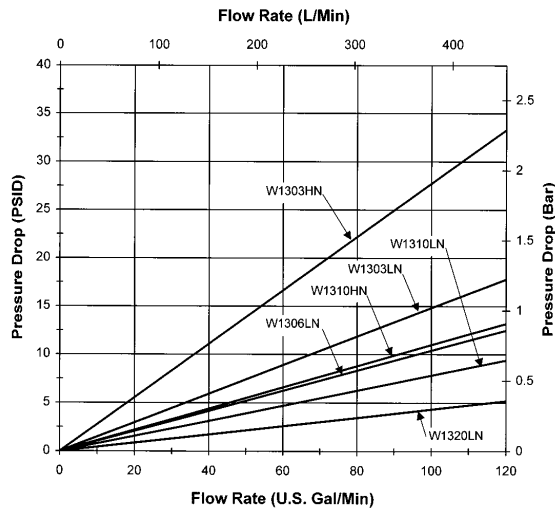
Average Pressure Drop Through Clean Element  
With 150 SUS Oil At 100° F (32 cSt at 40° C)



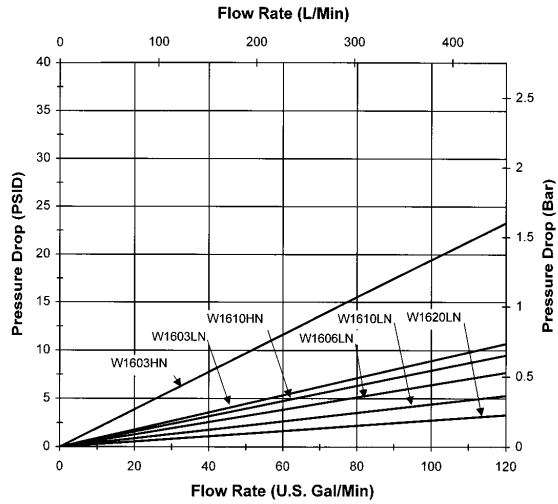
W04 Series



W08 Series



W13 Series



W16 Series

PRESSURE FILTERS



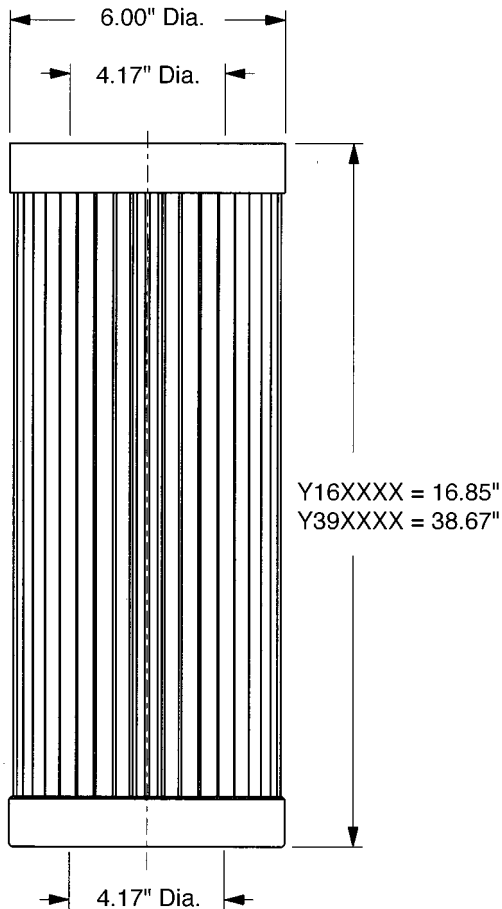
# Y SERIES ELEMENTS

## PALL 8300/8310 INTERCHANGE

Media: Zinga Synthetic Z-Glass Media  
 $B_x > 200$  Absolute Filtration

Temperature: Nitrile Seals -45F to +225F  
 Fluorocarbon Seals -20F to +275F

PRESSURE FILTERS



### 150 PSID RATED ELEMENTS

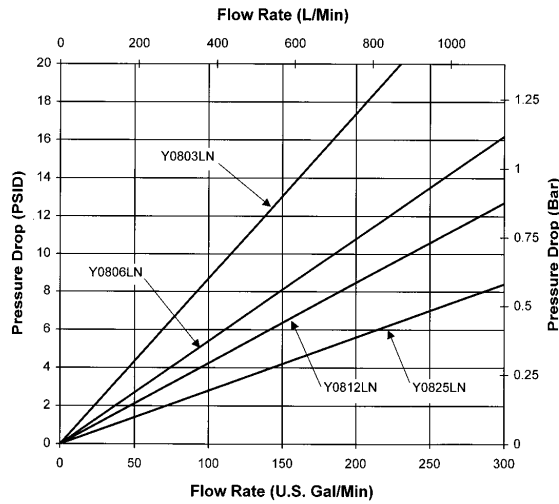
(For Use in Filters with By-Pass Valve Only)

ZINGA P/N	$B_x > 200$	PALL P/N
Y0803LN	3 Micron	HC8300FDP8H
Y0806LN	6 Micron	HC8300FDN8H
Y0812LN	12 Micron	HC8300FDS8H
Y0825LN	25 Micron	HC8300FDT8H
Y1603LN	3 Micron	HC8300FDP16H
Y1606LN	6 Micron	HC8300FDN16H
Y1612LN	12 Micron	HC8300FDS16H
Y1625LN	25 Micron	HC8300FDT16H
Y3903LN	3 Micron	HC8300FDP39H
Y3906LN	6 Micron	HC8300FDN39H
Y3912LN	12 Micron	HC8300FDS39H
Y3925LN	25 Micron	HC8300FDT39H
Y3903LND	3 Micron	HC8310FKP39H
Y3906LND	6 Micron	HC8310FKN39H
Y3912LND	12 Micron	HC8310FKS39H
Y3925LND	25 Micron	HC8310FKT39H

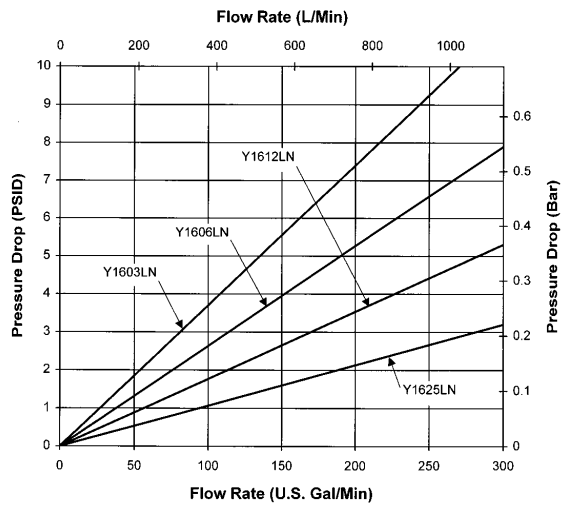
Buna-N Seals Standard. Replace "N" in P/N with "V" for Fluorocarbon.

# Y SERIES ELEMENTS

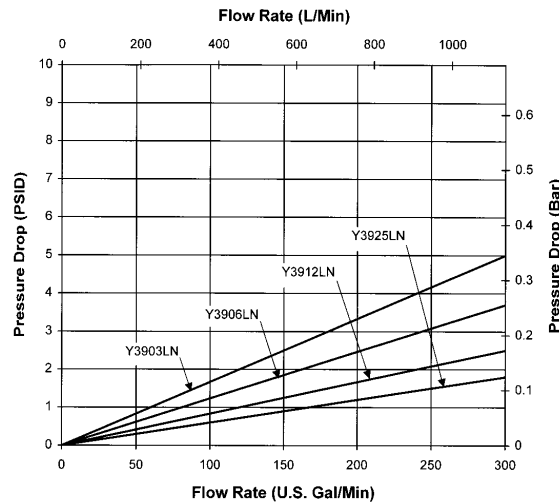
Average Pressure Drop Through Clean Element  
With 150 SUS Oil At 100° F (32 cSt at 40° C)



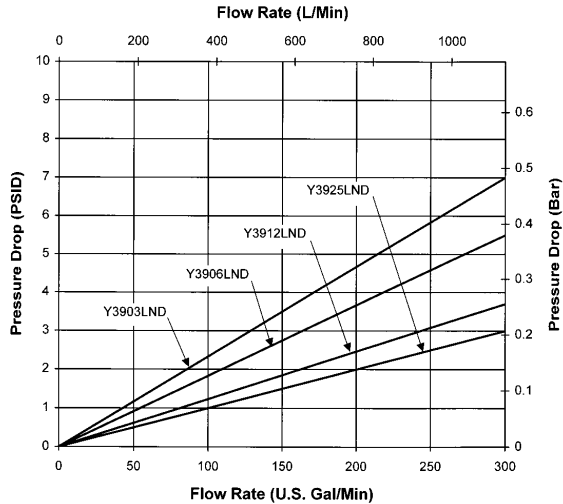
Y08 Series



Y16 Series

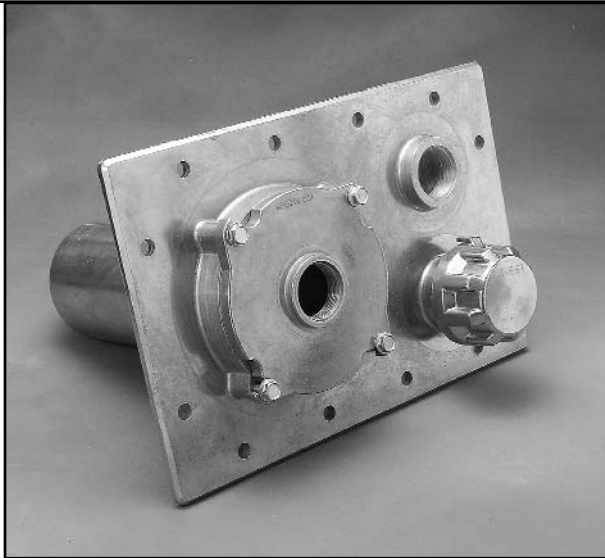


Y39XXX Series



Y39XXXD Series

PRESSURE FILTERS



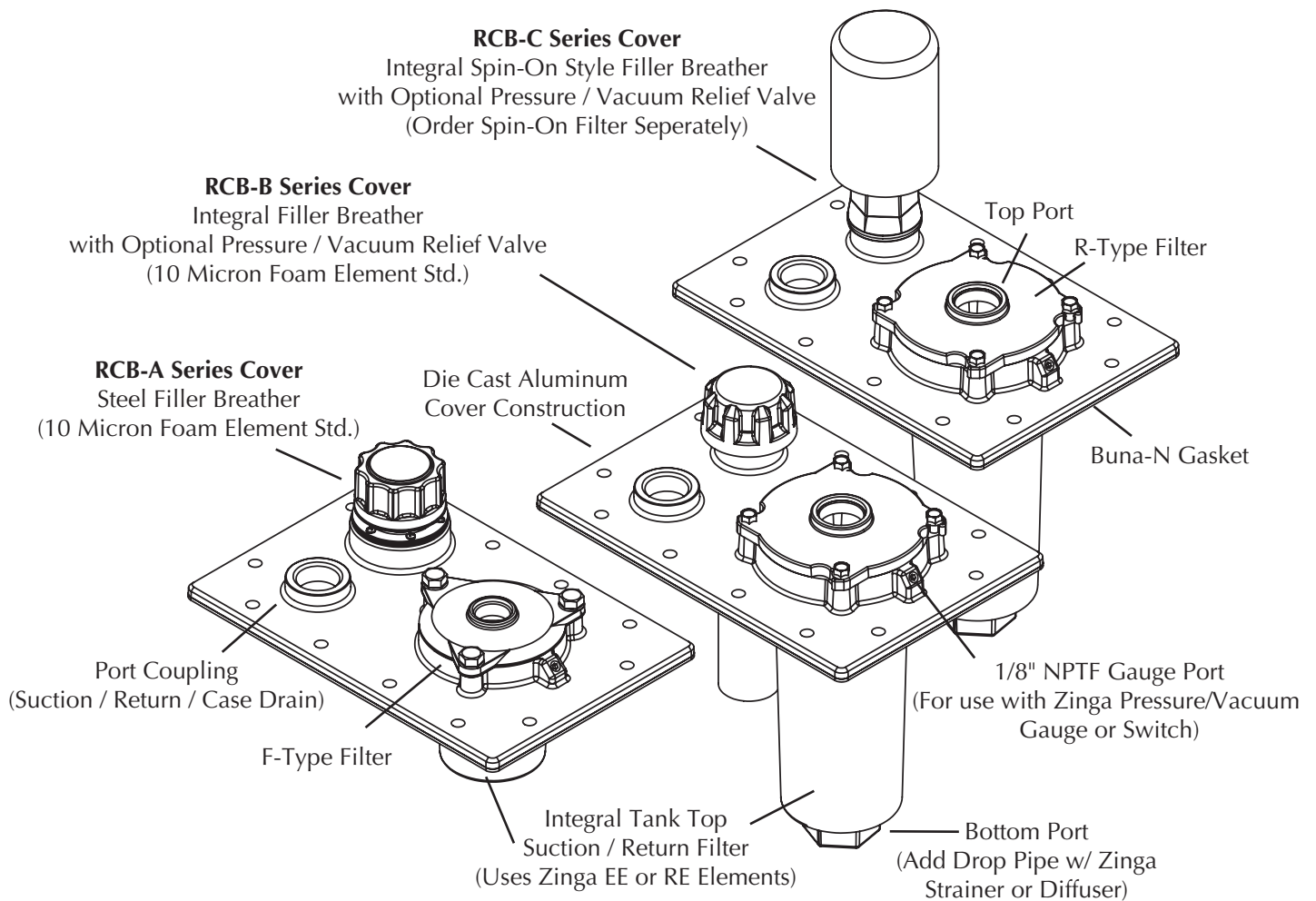
## RCB SERIES RESERVOIR COVER

Flows Up To:	96 GPM (Return) 32 GPM (Suction)
Integral Filter Port Sizes:	<ul style="list-style-type: none"> <li>• 7/8" - 14 UN (SAE-10) to 1 7/8" - 12 UN (SAE - 24)</li> </ul>
Integral Filler Breathers:	<ul style="list-style-type: none"> <li>• Zinga SFB, FB or FTB Series</li> </ul>
Suction/Return Port Coupling:	<ul style="list-style-type: none"> <li>• 3/8" to 1 1/4" NPTF</li> </ul>
Filter Operating Pressure:	100 PSI Max.
	<b>Warning: 80 PSI <math>\Delta</math>P max. without by-pass valve.</b>
Temperature:	Up to +250° F.
Application:	Petroleum based fluids only. Consult factory for synthetic fluid.

**RCB-C Series Cover**  
Integral Spin-On Style Filler Breather  
with Optional Pressure / Vacuum Relief Valve  
(Order Spin-On Filter Separately)

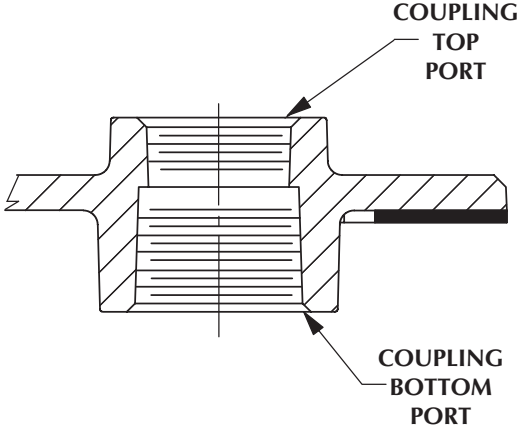
**RCB-B Series Cover**  
Integral Filler Breather  
with Optional Pressure / Vacuum Relief Valve  
(10 Micron Foam Element Std.)

**RCB-A Series Cover**  
Steel Filler Breather  
(10 Micron Foam Element Std.)



**OPTION 1: COUPLING**

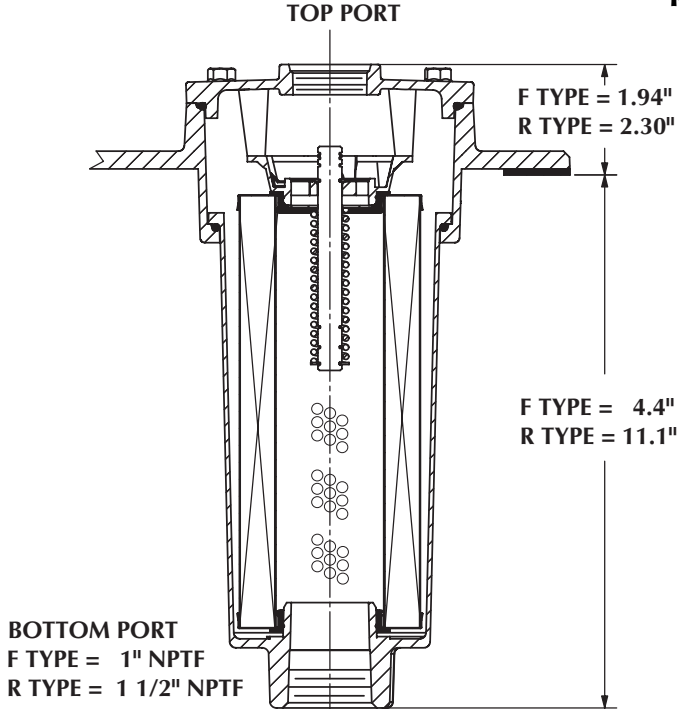
RCB OPTION 1 MODEL CODE: **XXX**  
(a)



CODE (a)	TOP PORT	BOTTOM PORT
06P	3/8" NPTF	3/4" NPTF
08P	1/2" NPTF	3/4" NPTF
12P	3/4" NPTF	1 1/4" NPTF
16P	1" NPTF	1 1/4" NPTF
20P	1 1/4" NPTF	1 1/2" NPTF

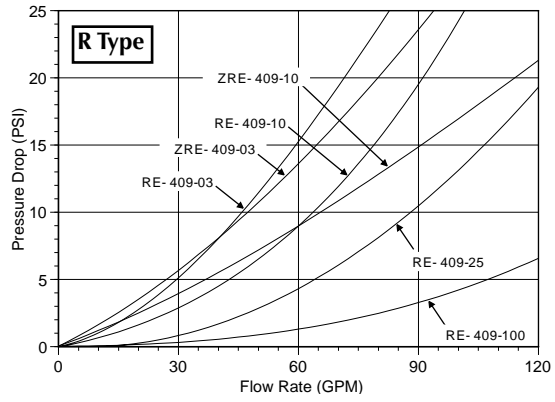
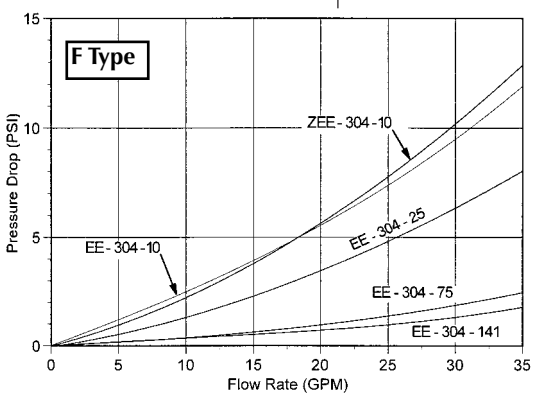
**OPTION 2: FILTER**

RCB OPTION 2 MODEL CODE: **XXXX XX**  
(b) (c)



CODE (b)	TOP PORT	ELEMENT SERIES
F10S	7/8"-14UN (SAE-10)	EE / ZEE
F12S	1 1/16"-12UN (SAE-12)	EE / ZEE
F16S	1 5/16"-12UN (SAE-16)	EE / ZEE
R20P	1 1/4" NPTF	RE / ZRE
R20S	1 5/8"-12UN (SAE-20)	RE / ZRE
R24S	1 7/8"-12UN (SAE-24)	RE / ZRE

CODE (c)	BYPASS SETTING	APPLICATION
00	NO VALVE	
03	3 PSID	SUCTION
05	5 PSID	SUCTION
15	15 PSID	RETURN
25	25 PSID	RETURN
50	50 PSID	RETURN

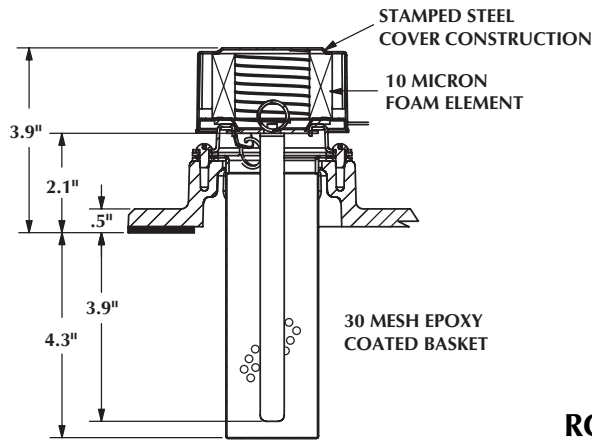


Average Pressure Drop Through Assembly with 150 SUS Oil at 105° F

**RESERVOIR COVERS**

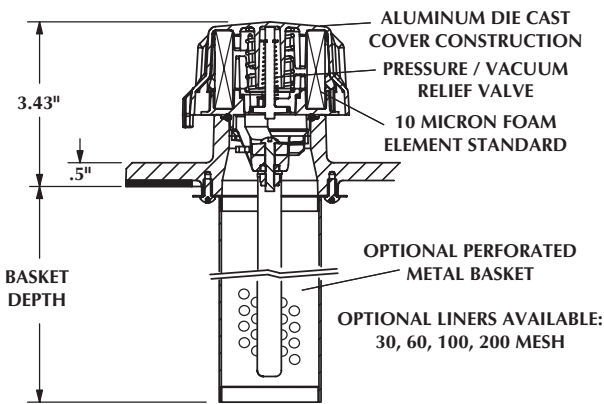
**OPTION 3: FILLER BREATHER**

RCB OPTION 3 MODEL CODE: **A**



**- OR -**

RCB OPTION 3 MODEL CODE: **BXX X XX X**  
(d) (e) (f) (g)



Code (d)	Basket Depth
00	None
04	4.3"
06	6.3"
09	9.3"
12	12.3"

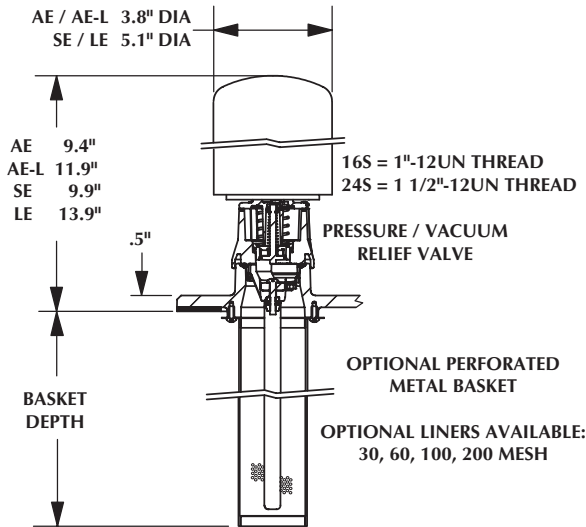
Code (f)	Pressure Relief
00	None
03	3 PSI
05	5 PSI
10	10 PSI

Code (e)	Liner Mesh
0	None
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code (g)	Dipstick
0	None
D	To Fit Basket (13" Std.)

**- OR -**

RCB OPTION 3 MODEL CODE: **CXXX XX X XX X**  
(h) (i) (j) (k) (l)



Code (h)	Spin-On Series
16S	AE / AE-L
24S	SE / LE

Code (k)	Pressure Relief
00	None
03	3 PSI
05	5 PSI
10	10 PSI

Code (i)	Basket Depth
00	None
04	4"
06	6"
09	9"
12	12"

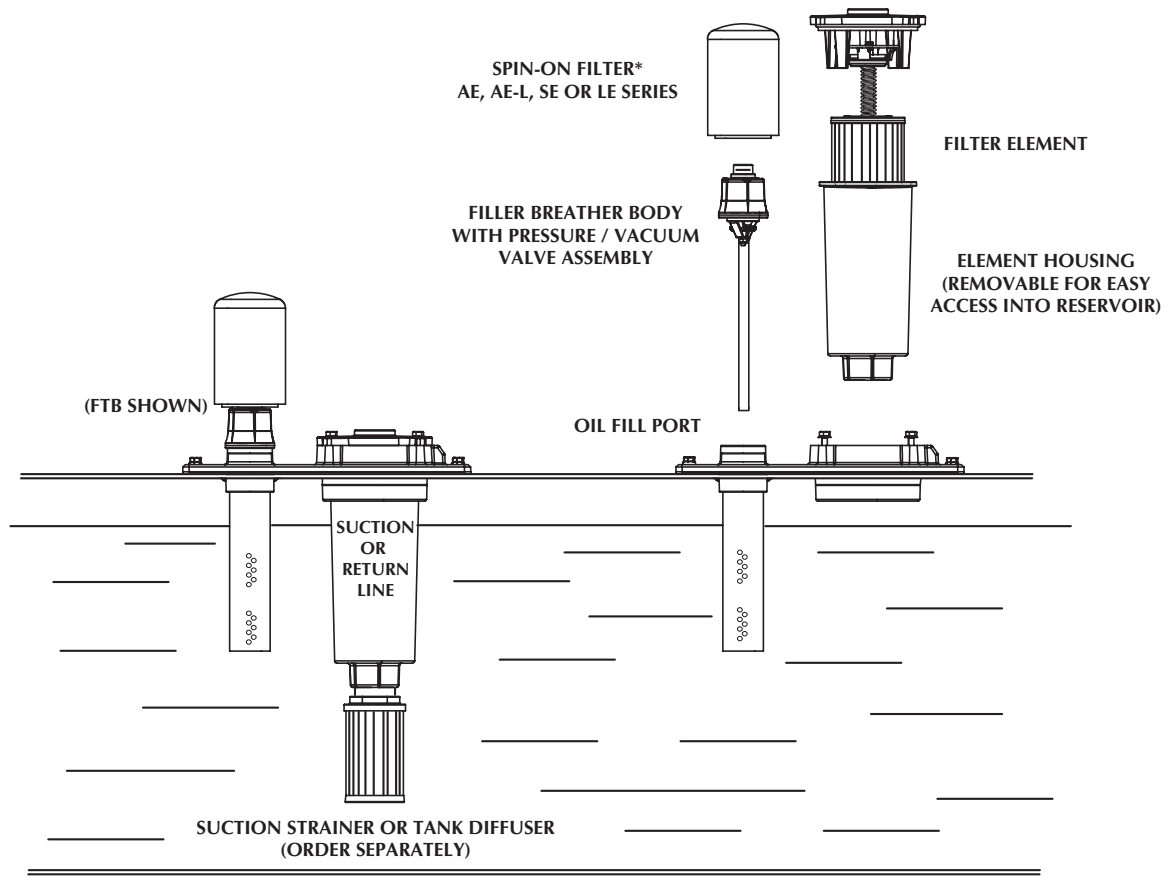
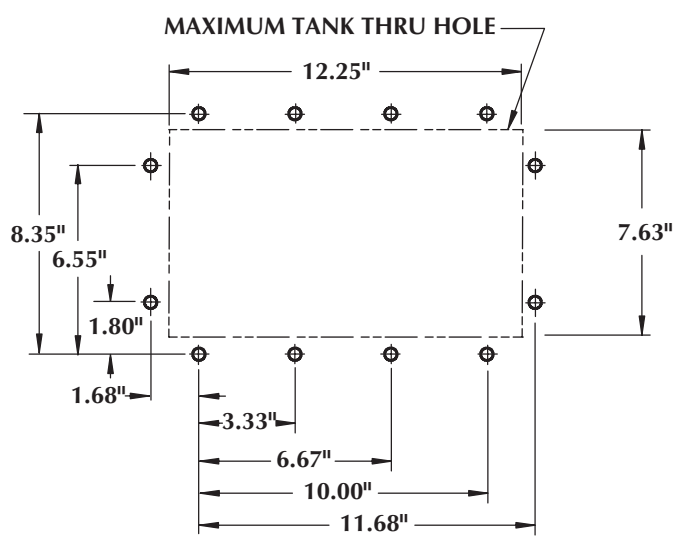
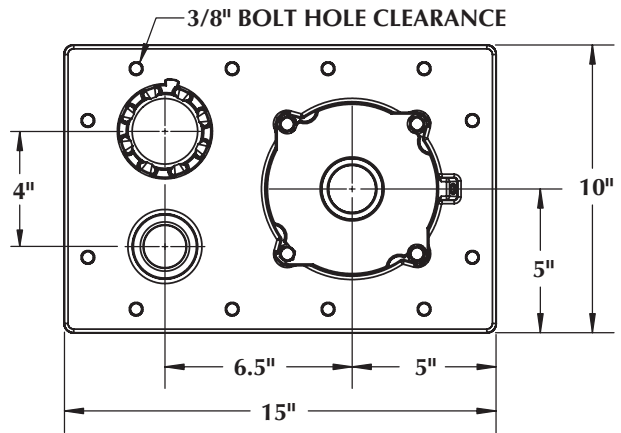
Code (l)	Dipstick
0	None
D	To Fit Basket (13" Std.)

Code (j)	Liner Mesh
0	None
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

**RESERVOIR COVERS**



# INSTALLATION INFORMATION



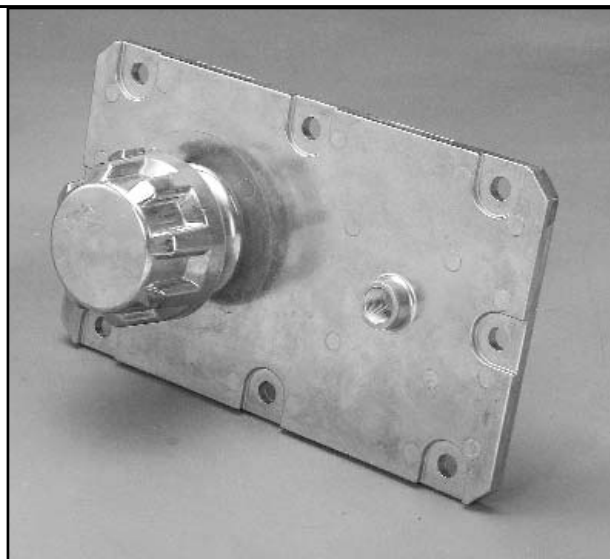
\* SPIN-ON FILTERS WITH ANTI-DRAIN BACK VALVES SHOULD NOT BE USED FOR BREATHER APPLICATIONS. ZINGA STANDARD SPIN-ON FILTERS DO NOT HAVE ANTI-DRAIN BACK VALVES

RESERVOIR COVERS

**HOW TO ORDER:**

**RCB - OPTION 1 - OPTION 2 - OPTION 3**

<b>Coupling Port Size</b> (See Page F2)	<b>Filter Type</b> (See Page F2)	<b>Filler Breather</b> (Page F3)
--	-------------------------------------	-------------------------------------



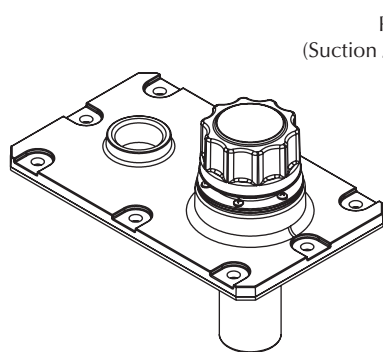
# RCA SERIES RESERVOIR COVER

Integral Filler Breathers:  
Suction/Return Port Coupling

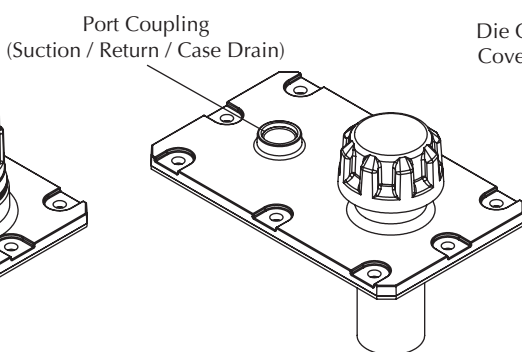
- Zinga SFB, FB or FTB Series
  - 3/8" to 1 1/4" NPTF
  - SAE-6 to SAE-20
- Buna - N Flat Gasket

Temperature:  
Application:

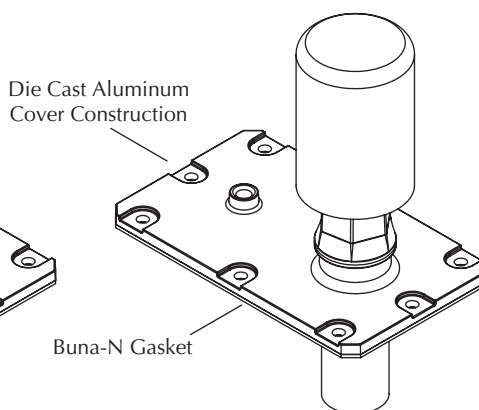
Up to +250° F.  
Petroleum based fluids only.  
Consult factory for synthetic fluid.



**RCA-A Series Cover**  
Steel Filler Breather  
(10 Micron Foam Element Std.)



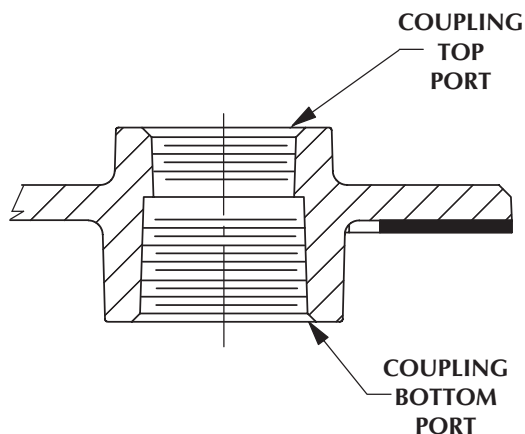
**RCA-B Series Cover**  
Integral Filler Breather with  
Optional Pressure / Vacuum Relief Valve  
(10 Micron Foam Element Std.)



**RCA-C Series Cover**  
Integral Spin-On Style Filler Breather with  
Optional Pressure / Vacuum Relief Valve  
(Order Spin-On Filter Separately)

RESERVOIR COVERS

## OPTION 1: COUPLING



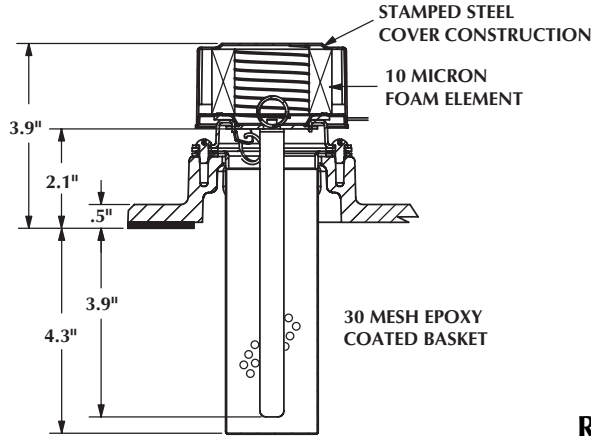
## RCA OPTION 1 MODEL CODE: XXX

(a)

CODE (a)	TOP PORT	BOTTOM PORT
06P	3/8" NPTF	3/4" NPTF
08P	1/2" NPTF	3/4" NPTF
12P	3/4" NPTF	1 1/4" NPTF
16P	1" NPTF	1 1/4" NPTF
20P	1 1/4" NPTF	1 1/2" NPTF
06S	9/16"-18 UNF (SAE-6)	3/4" NPTF
08S	3/4"-16 UNF (SAE-8)	3/4" NPTF
12S	1 1/16"-12UN (SAE-12)	3/4" NPTF
16S	1 5/16"-12UN (SAE-16)	1 1/4" NPTF
20S	1 5/8"-12UN (SAE-20)	1 1/4" NPTF

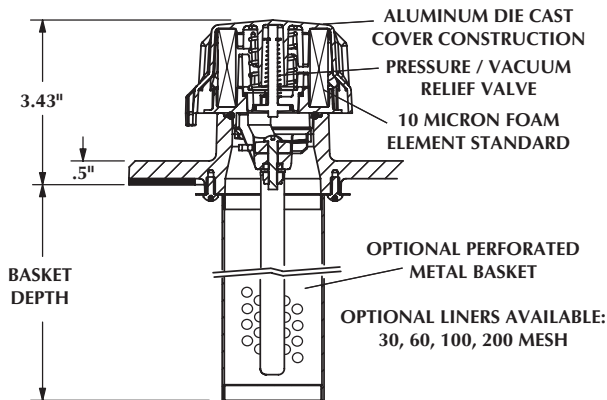
**OPTION 2: FILLER BREATHER**

RCA OPTION 2 MODEL CODE: A



**- OR -**

RCA OPTION 2 MODEL CODE: BXX X XX X  
 (b) (c) (d) (e)



Code (b)	Basket Depth
00	None
04	4.3"
06	6.3"
09	9.3"
12	12.3"

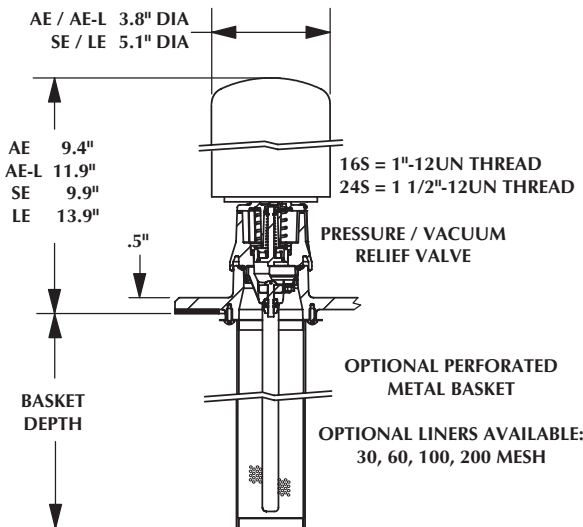
Code (d)	Pressure Relief
00	None
03	3 PSI
05	5 PSI
10	10 PSI

Code (c)	Liner Mesh
0	None
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code (e)	Dipstick
0	None
D	To Fit Basket (13" Std.)

**- OR -**

RCA OPTION 2 MODEL CODE: CXXX XX X XX X  
 (f) (g) (h) (i) (j)



Code (f)	Spin-On Series
16S	AE / AE-L
24S	SE / LE

Code (i)	Pressure Relief
00	None
03	3 PSI
05	5 PSI
10	10 PSI

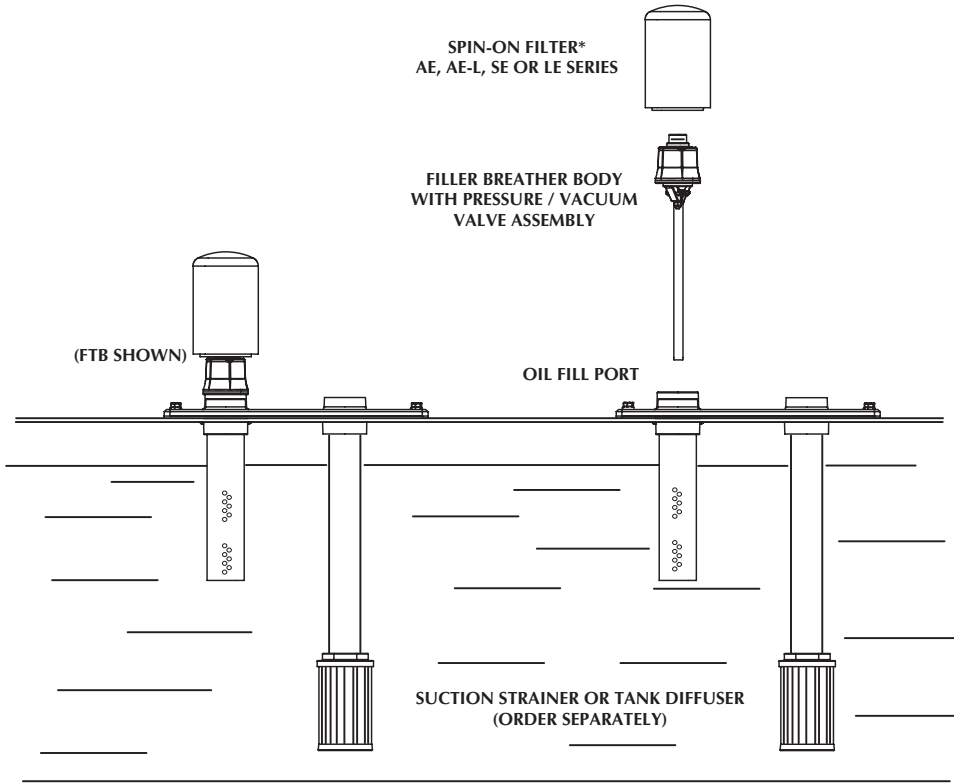
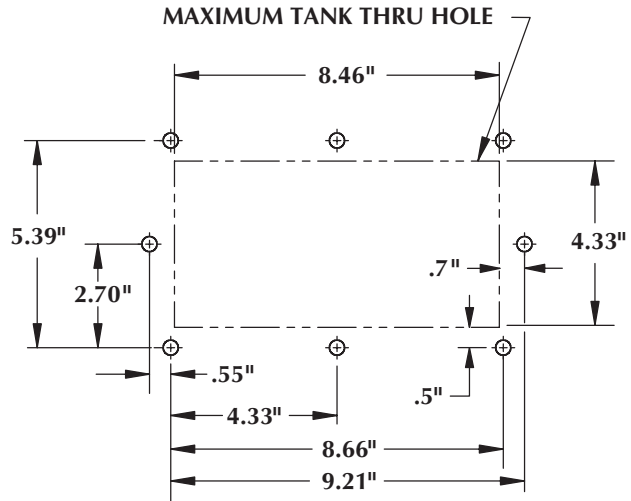
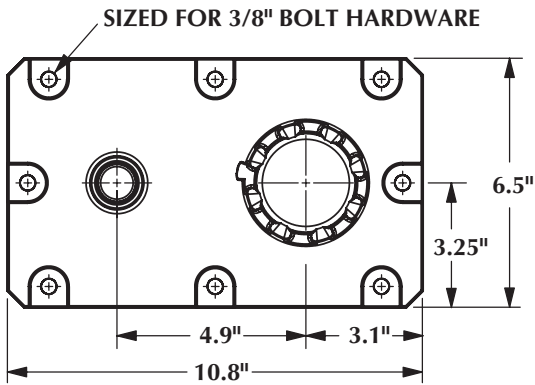
Code (g)	Basket Depth
00	None
04	4"
06	6"
09	9"
12	12"

Code (j)	Dipstick
0	None
D	To Fit Basket (13" Std.)

Code (h)	Liner Mesh
0	None
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

**RESERVOIR COVERS**

**INSTALLATION INFORMATION**



\* SPIN-ON FILTERS WITH ANTI-DRAIN BACK VALVES SHOULD NOT BE USED FOR BREATHER APPLICATIONS. ZINGA STANDARD SPIN-ON FILTERS DO NOT HAVE ANTI-DRAIN BACK VALVES

**HOW TO ORDER:**

**RCA - OPTION 1 - OPTION 2**

Coupling Port Size  
(See Page F5)

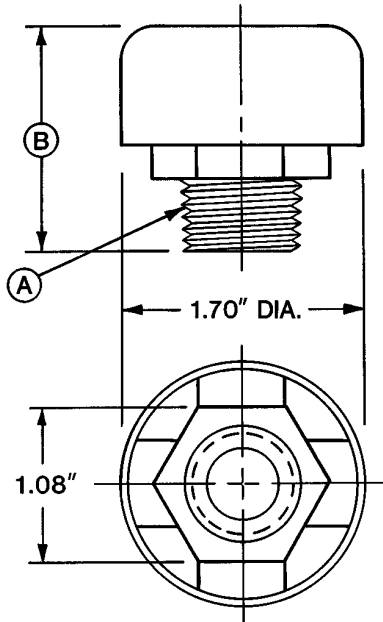
Filler Breather  
(Page F6)

RESERVOIR COVERS



# MB SERIES MINIATURE TANK BREATHERS

- 10 Micron Filtration (Nominal)
- Shatter Resistant Plastic Construction
- Temperatures Up to +225°F

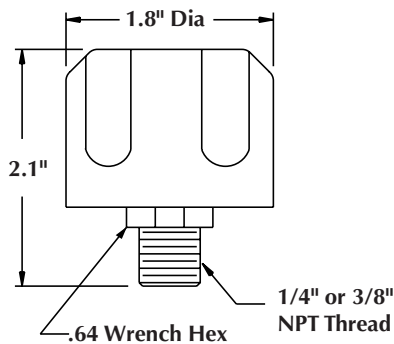


Model Number	A Thread Size	B Overall Height
MB-02-10	1/4" NPT	1.8"
MB-03-10	3/8" NPT	1.5"
MB-05-10	1/2" NPT	1.6"
MB-07-10	3/4" NPT	1.6"



# SMB SERIES MINIATURE TANK BREATHERS

- Chrome Plated Steel Cap
- Temperatures up To 212° F



**HOW TO ORDER: SMB - XX - XX**

Code	Thread
02	1/4" NPT
03	3/8" NPT

Code	Nominal Filtration
10	10 Micron
40	40 Micron

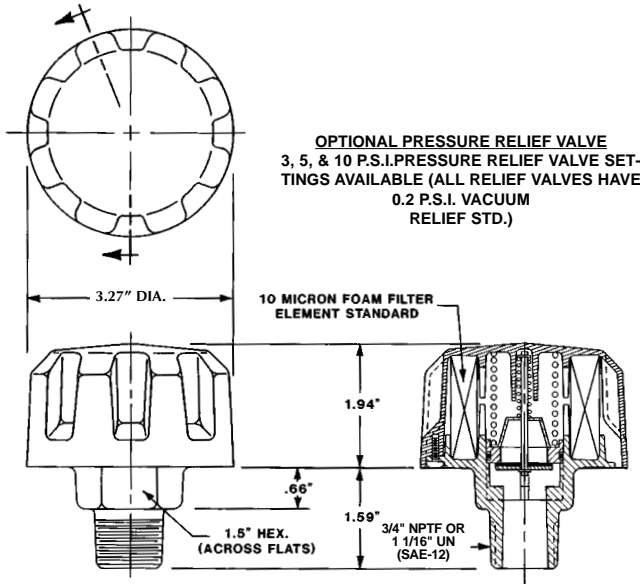
ACCESSORIES



# RB SERIES RESERVOIR BREATHERS

- Die Cast Aluminum
- 3/4" NPTF or 1-1/16" UN Threads
- Optional 3, 5, & 10 Pressure Relief Valve

**HOW TO ORDER: RB - XX - 10 - XX**



Code	Mounting Thread
07	3/4" NPTF
11	1 1/16"-12 UN (SAE-12)

10 Micron Foam Filter  
Element Standard

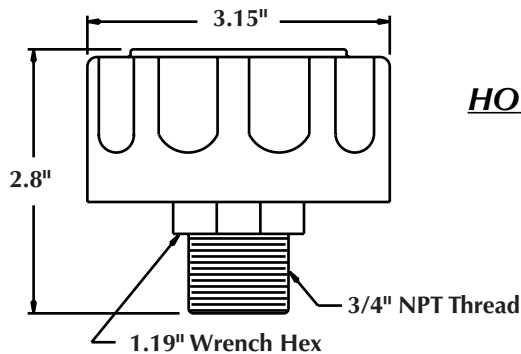
Code	Pressure Relief Valve Setting
00	No Valve
03	3 PSI
05	5 PSI
10	10 PSI



# SRB / WSRB SERIES RESERVOIR BREATHERS

- Chrome Plated Steel Cap
- Epoxy Coated Weatherproof Option
- 40 Micron Foam Filter Element
- 3/4" NPTF Threads

**HOW TO ORDER: XRB - 075 - 40**



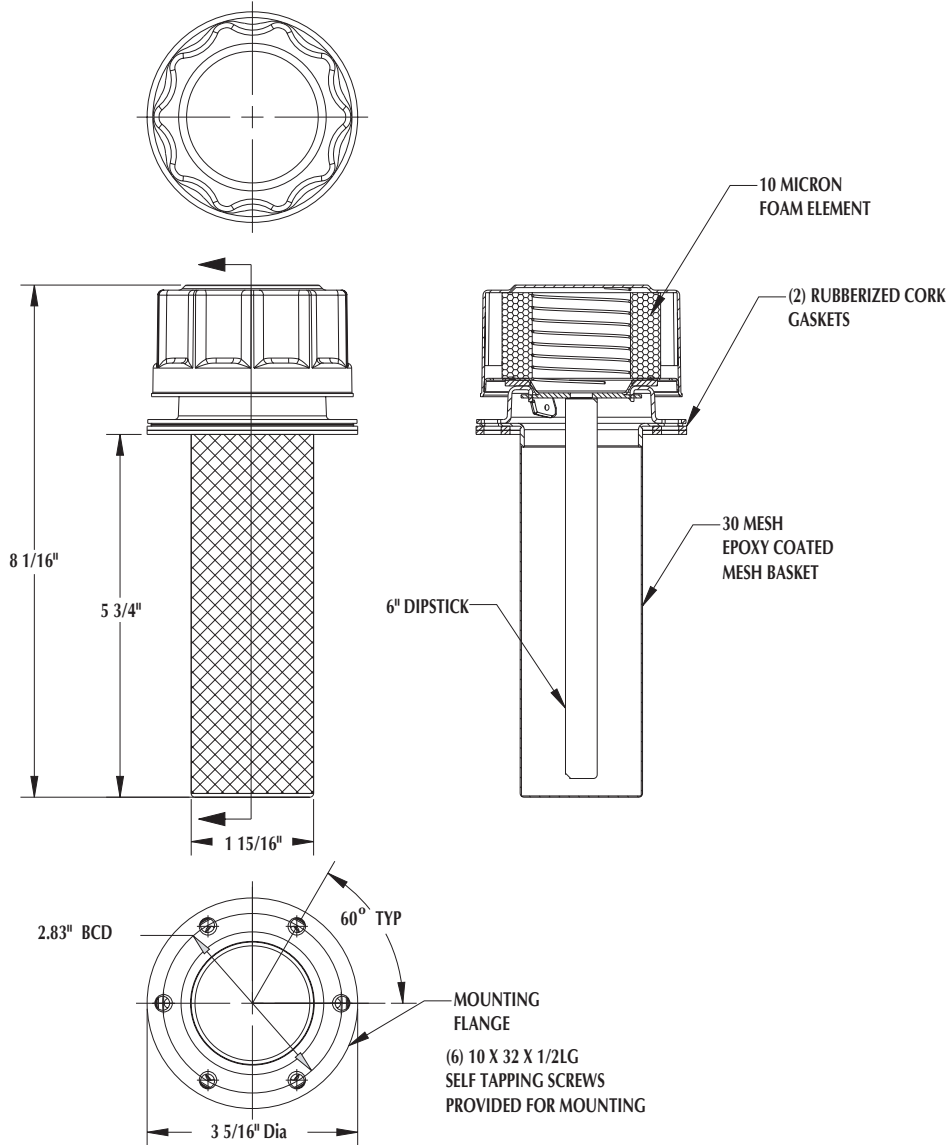
Code	Style
S	Chrome Plated Steel Cap
WS	Weatherproof Epoxy Plated Cap

ACCESSORIES



# SFB SERIES RESERVOIR FILLER BREATHER

- Chrome Plated Cover
- 10 Micron Foam Filter Element
- 6" Dipstick
- 30 Mesh Basket
- Consult Factory for Other Options



**HOW TO ORDER: SFB - 10 - 6S - D0**

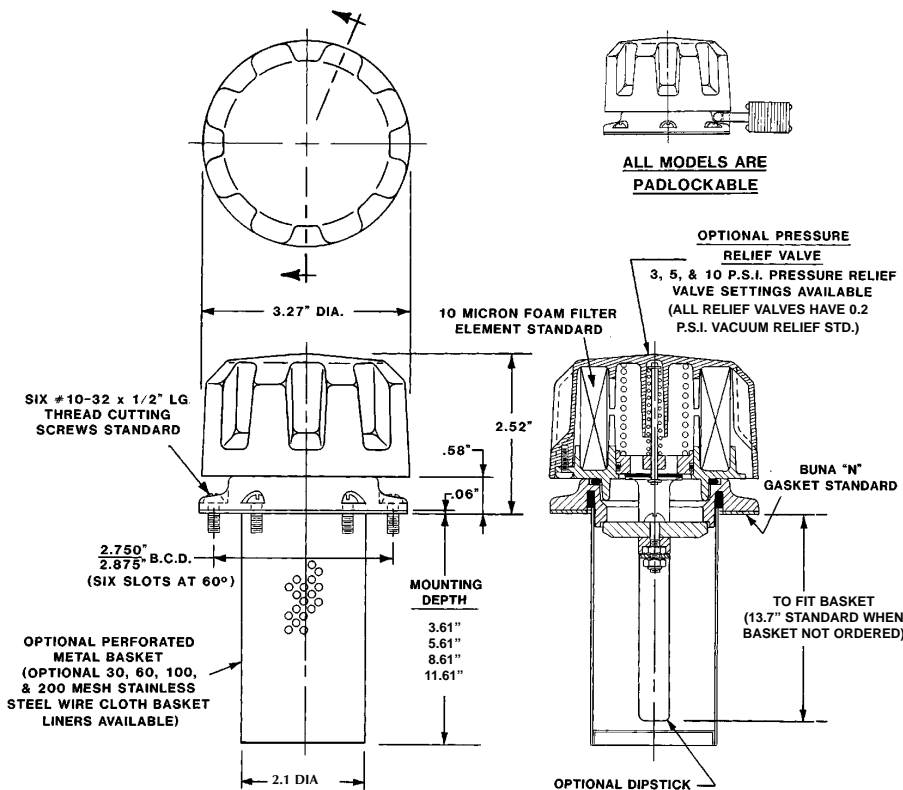
ACCESSORIES



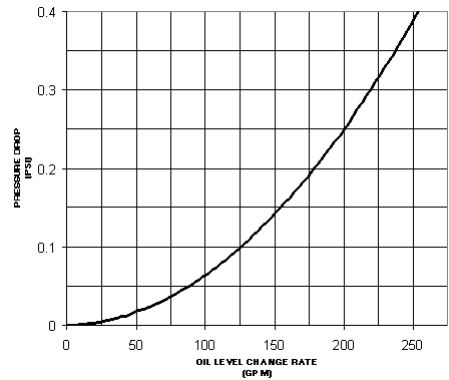
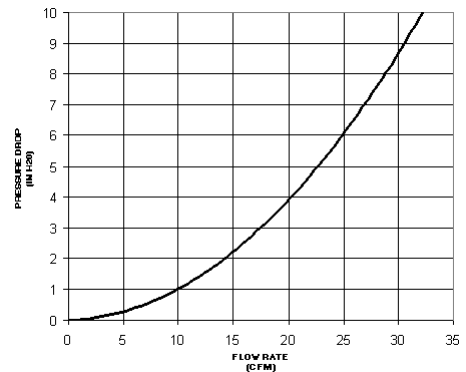


# FB SERIES RESERVOIR FILLER BREATHERS

- 10 Micron Foam Filter Element
- Cap To Base Chain Connection
- Padlockable
- Wire Mesh Lined Basket Available



Average Pressure Drop Through Assembly Without Relief Valve



## HOW TO ORDER: FB - 10 - XX - X XX - X

10 Micron Foam Filter Element Standard

Code	Mounting Depth
00	No Basket
04	3.61 Inches
06	5.61 Inches
09	8.61 Inches
12	11.61 Inches

Code	Liner Mesh
0	No Mesh
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	Dipstick Options
0	No Dipstick
D	To Fit Basket (13.7" Standard When Basket Not Ordered)

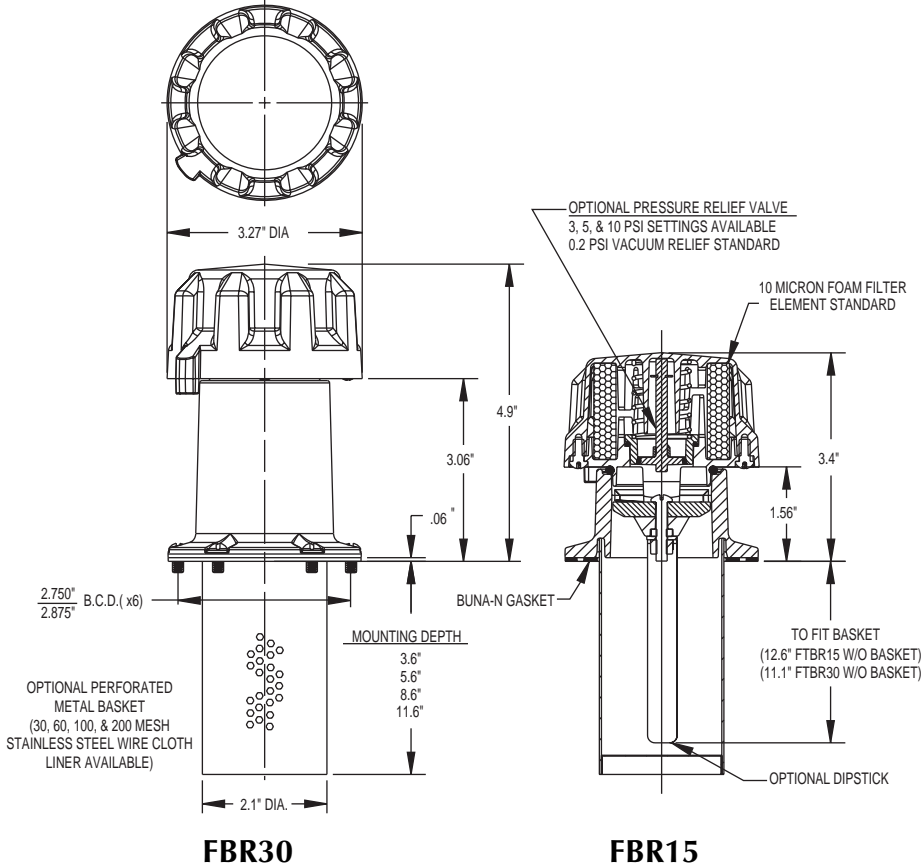
Code	Pressure Relief Valve Setting
00	No Valve
03	3 PSI
05	5 PSI
10	10 PSI

ACCESSORIES

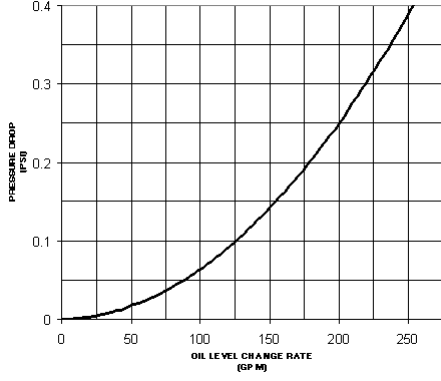
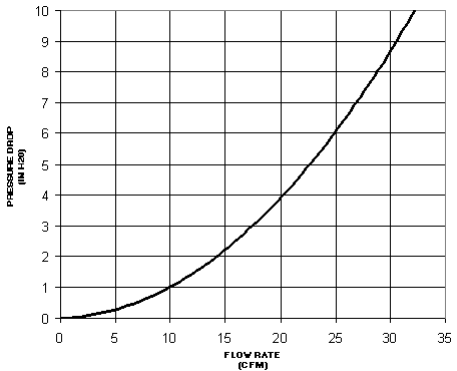


# FBR SERIES RAISED FILLER BREATHERS

- 1 1/2" and 3" Risers
- 10 Micron Foam Filter Element Standard
- Cap To Base Chain Connection
- Wire Mesh Lined Basket Available



Average Pressure Drop Through Assembly Without Relief Valve



**HOW TO ORDER: FBRXX - 10 - XX - X XX - X**

Code	Riser Height
15	1 1/2"
30	3"

**10 Micron Foam Filter Element Standard**

Code	Mounting Depth
00	No Basket
04	3.61 Inches
06	5.61 Inches
09	8.61 Inches
12	11.61 Inches

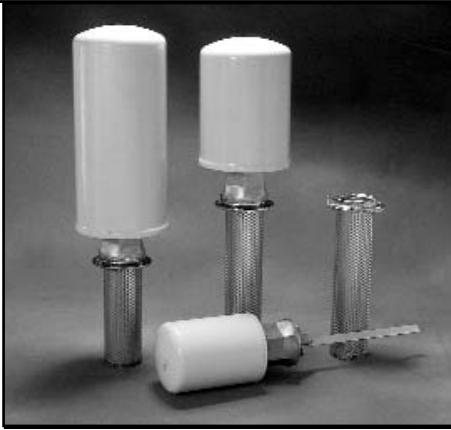
Code	Liner Mesh
0	No Mesh
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	Dipstick Options
0	No Dipstick
D	To Fit Basket (FBR15=12.6" and FBR30=11.1" Standard When Basket Not Ordered)

Code	Pressure Relief Valve Setting
00	No Valve
03	3 PSI
05	5 PSI
10	10 PSI

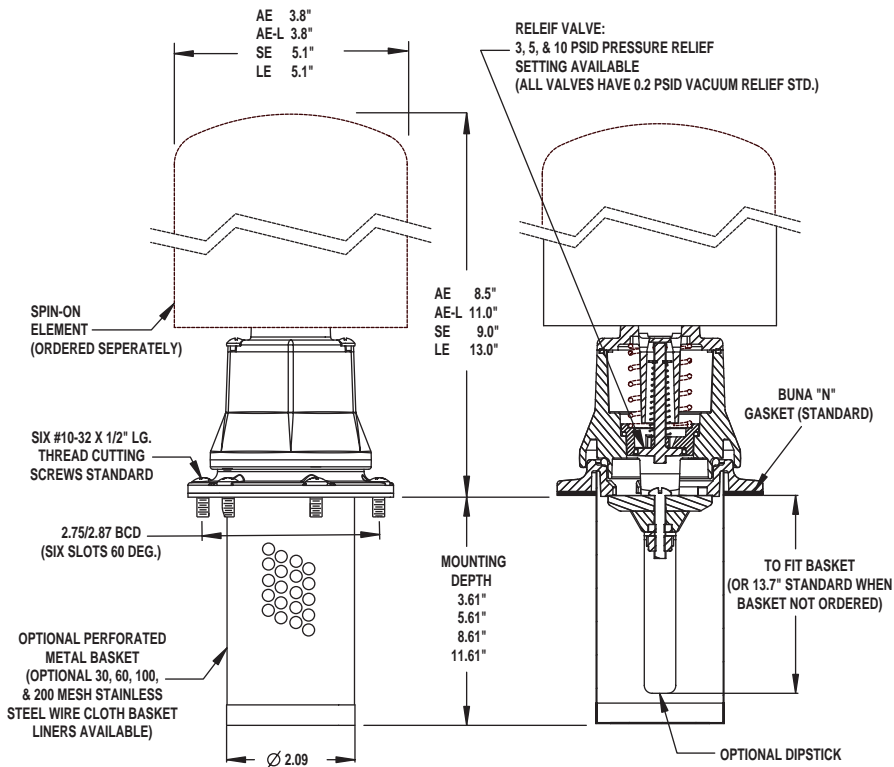
**ACCESSORIES**



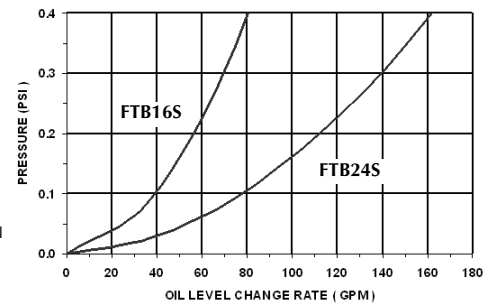
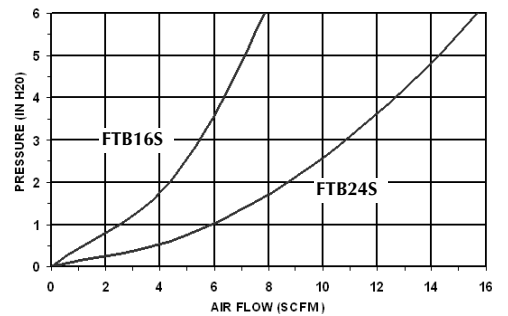


# FTB SERIES SPIN-ON ELEMENT FILLER BREATHERS

- Pressure / Vacuum Relief Valve
- Cap To Base Chain Connection
- Wire Mesh Lined Basket Available



Average Pressure Drop Through Assembly Without Relief Valve



Note: Spin-On Filters with Anti-Drain Back Valves Should Not be Used for Breather Applications.

Zinga Standard Spin-On Filters do NOT have Anti-Drain Back Valves.

## HOW TO ORDER: FTB - XXX - XX - X - XX - X

Code	Mtg Thread	For Use With
16S	1"-12 UNF-2A	AE & ZAE
24S	1 1/2"-16 UN-2A	SE, LE, ZSE, & ZLE

Code	Mounting Depth
00	No Basket
04	3.61 Inches
06	5.61 Inches
09	8.61 Inches
12	11.61 Inches

Code	Liner Mesh
0	No Mesh
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	Dipstick Options
0	No Dipstick
D	To Fit Basket (13.7" Standard When Basket Not Ordered)

Code	Pressure Relief Valve Setting
00	No Valve
03	3 PSI
05	5 PSI
10	10 PSI

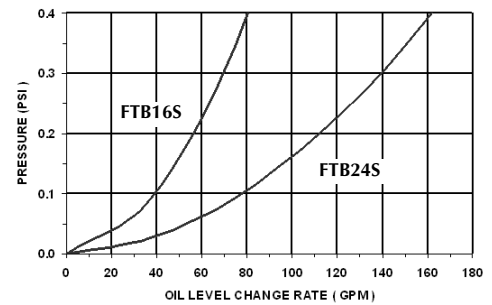
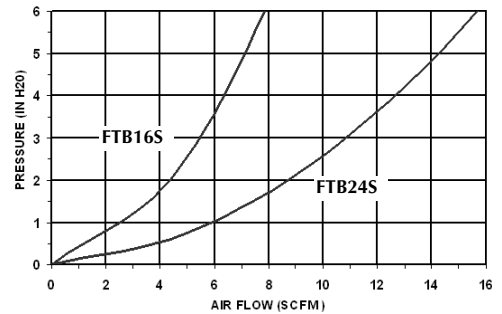
ACCESSORIES



# FTBR SERIES RAISED SPIN-ON ELEMENT FILLER BREATHERS

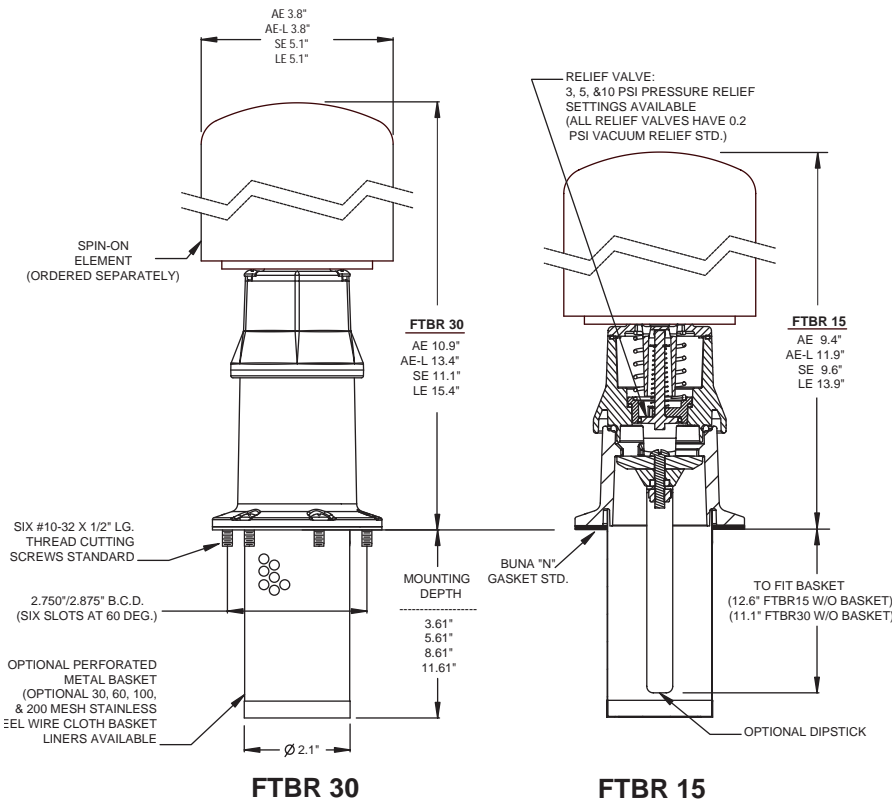
- 1 1/2" and 3" Risers
- Pressure / Vacuum Relief Valve
- Cap To Base Chain Connection
- Wire Mesh Lined Basket Available

Average Pressure Drop Through Assembly Without Relief Valve



Note: Spin-On Filters with Anti-Drain Back Valves Should Not be Used for Breather Applications.

Zinga Standard Spin-On Filters do NOT have Anti-Drain Back Valves.



## HOW TO ORDER: FTBRXX - XXX - XX - X -XX - X

Code	Riser Height
15	1 1/2"
30	3"

Code	Mtg Thread	For Use With
16S	1"-12 UNF-2A	AE & ZAE
24S	1 1/2"-16 UN-2A	SE, LE, ZSE, & ZLE

Code	Mounting Depth
00	No Basket
04	3.61 Inches
06	5.61 Inches
09	8.56 Inches
12	11.61 Inches

Code	Liner Mesh
0	No Mesh
1	100 Mesh
2	200 Mesh
3	30 Mesh
6	60 Mesh

Code	Dipstick Options
0	No Dipstick
D	To Fit Basket (FTBR15=12.6" & FTBR30=11.1" Standard When Basket Not Ordered)

Code	Pressure Relief Valve Setting
00	No Valve
03	3 PSI
05	5 PSI
10	10 PSI

ACCESSORIES

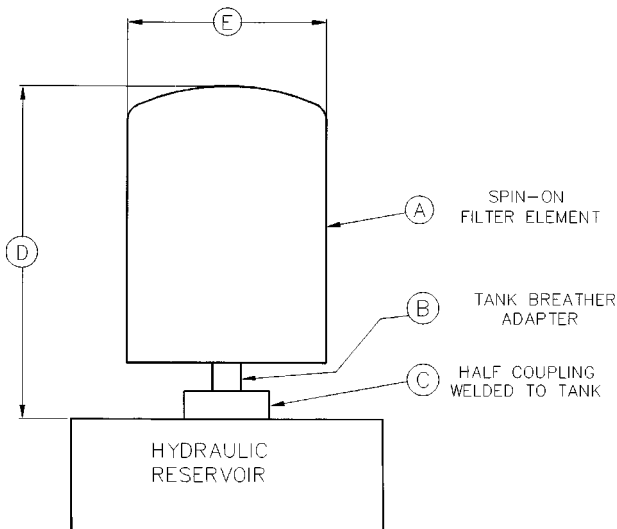
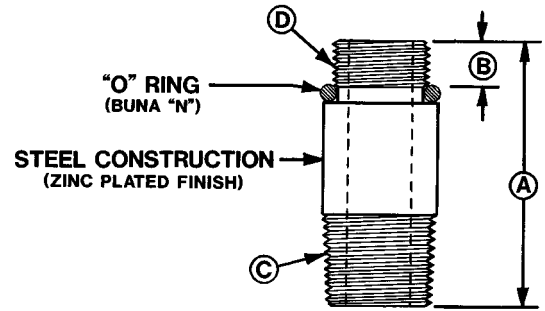




# TB SERIES TANK BREATHERS

## CONVERT SPIN-ON ELEMENTS TO 3 OR 10 MICRON TANK BREATHERS

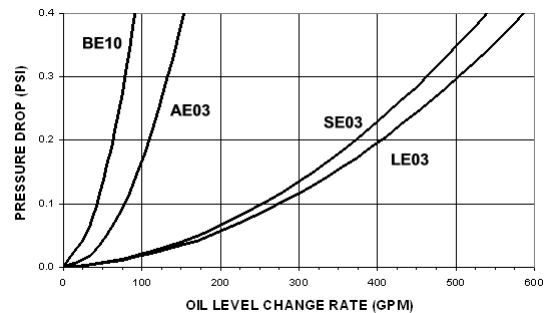
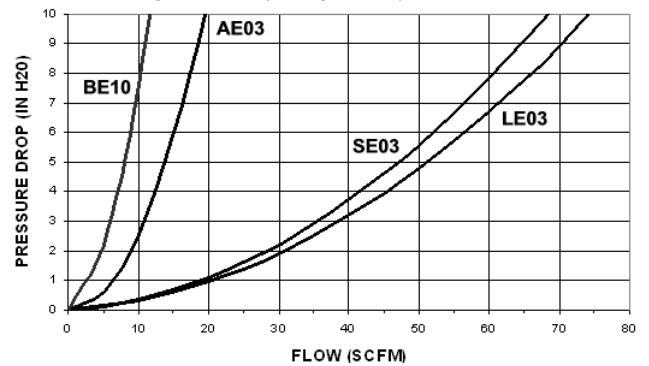
Tank Breather Adapter Part No.	A Overall Length	B Thread Length	C Male Pipe Thread	D Element Attachment Thread
TB-050	1.6"	.44"	1/2" NPT	3/4" - 16 UNF - 2A
TB-075	2.0"	.5"	3/4" NPT	1" - 12 UNF - 2A
TB-125	3.0"	.5"	1 1/4" NPT	1 1/2" - 16 UN - 2A



Note: Spin-On Filters with Anti-Drain Back Valves Should Not be Used for Breather Applications.

Zinga Standard Spin-On Filters do NOT have Anti-Drain Back Valves.

Average Pressure Drop Through Assembly Without Relief Valve



Degree of Filtration (Nominal)	A Element Part No.	B Tank Breather Adapter Part No.	C Half Coupling Required	D Total Height	E Element Diameter	* Maximum Recommended Air Flow SCFM/GPM
3 Micron	AE-03	TB-075	3/4" NPT	7.3"	3.7"	15 / 112
	SE-03	TB-125	1 1/4" NPT	9.1"	5.1"	45 / 336
	LE-03	TB-125	1 1/4" NPT	13.1"	5.1"	50 / 374
10 Micron	BE10-18	TB-050	1/2" NPT	5.2"	3.1"	8 / 60
	AE-10	TB-075	3/4" NPT	7.3"	3.7"	13 / 97
	AE-10L	TB-075	3/4" NPT	10.6"	3.7"	14 / 104
	SE-10	TB-125	1 1/4" NPT	9.1"	5.1"	45 / 336
	LE-10	TB-125	1 1/4" NPT	13.1"	5.1"	50 / 374

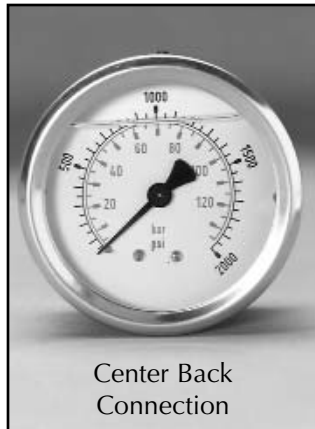
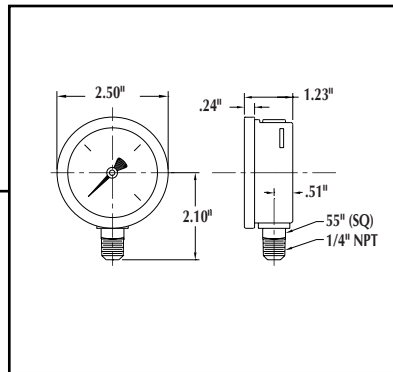
\* Based on maximum pressure drop of 5 Inches H<sub>2</sub>O (0.18 PSID) through clean filter element

# LG SERIES GAUGES GLYCERIN FILLED

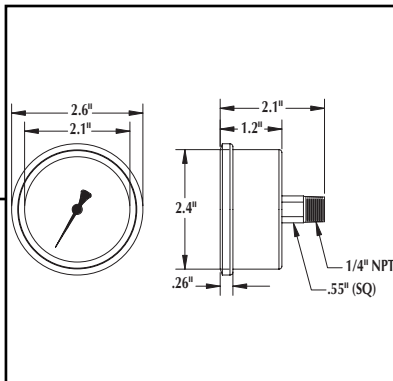
Accuracy  $\pm 1.5\%$  full scale  
 2 1/2" dia. 304 stainless steel case  
 Glycerin filled  
 Dual Scale: PSI & Bar  
 Temperature: -4°F to 140°F operating



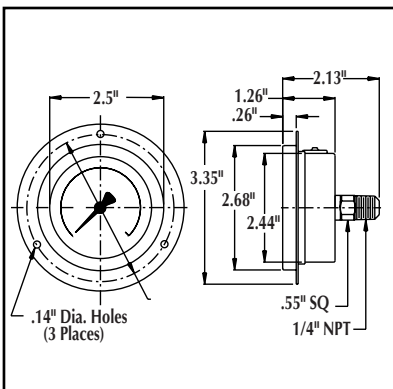
Bottom Connection



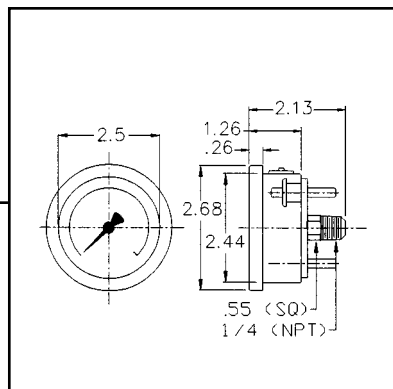
Center Back Connection



3 Hole Panel Flange Mount



Clamp Panel Mount



- Style Code
- A
  - B
  - C
  - D

Order Code	Range
01	0-30 in. hg.
04	0-60 psi
05	0-100 psi
06	0-160 psi
07	0-200 psi
08	0-300 psi
10	0-600 psi
11	0-1,000 psi
12	0-1,500 psi
13	0-2,000 psi
14	0-3,000 psi
15	0-5,000 psi
16	0-6,000 psi
17	0-10,000 psi

**HOW TO ORDER: LG - X - XX**

Example: 2 1/2" Bottom connected  
 3,000 PSI gauge  
 Part # LG-A-14

All Gauges standard with 1/4" NPT connections. Other connections available by special order. Consult factory.

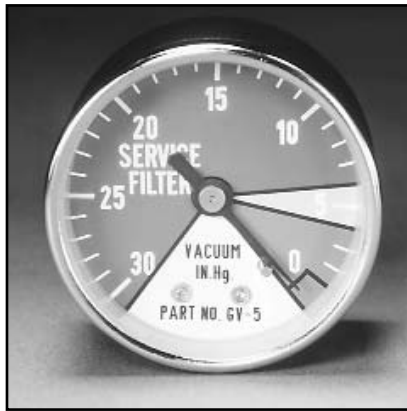
**ACCESSORIES**



Filter Condition Indicators  
 Suction & Return Line Filter Gauges Indicate  
 When To Replace Filter Element  
 Operating Temperatures: -40 to +140°F.

# GV & CI SERIES FILTER GAUGES VACUUM & PRESSURE

## VACUUM GAUGES (Suction Line Filter Installations)



**Part No. GV-05**  
 For Use With 3 PSI  
 Filter By-Pass Valve



**Part No. GV-10**  
 For Use With 5 PSI  
 Filter By-Pass Valve

## PRESSURE GAUGES (Return Line Filter Installations)



**Part No. CI-12**  
 For Use With 15 PSI  
 Filter By-Pass Valve



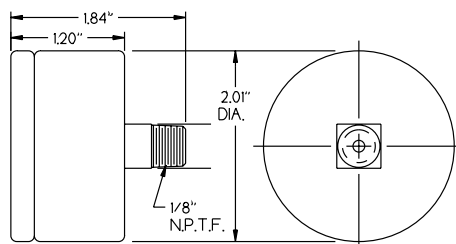
**Part No. CI-20**  
 For Use With 25 PSI  
 Filter By-Pass Valve



**Part No. CI-40**  
 For Use With 50 PSI  
 Filter By-Pass Valve

**Gauge Construction:**

- Black Steel Case
- Brass Stem
- Acrylic Lens



**ACCESSORIES**



Filter Condition Indicators  
Suction & Return Line Filter Gauges Indicate  
When To Replace Filter Element  
Vacuum & Pressure

## GVL & CIL SERIES STAINLESS STEEL GLYCERIN-FILLED FILTER GAUGES

### STAINLESS STEEL GLYCERIN-FILLED GAUGES OFFER:

- Resistance against vibration
- Resistance against condensation
- Resistance against damage from pressure fluctuations
- Resistance against corrosion

#### Glycerin-Filled Pressure Gauges (Return Line Filter Installations)



**Part No. CI-20L**  
For Use With 25 PSI  
Filter By-Pass Valve

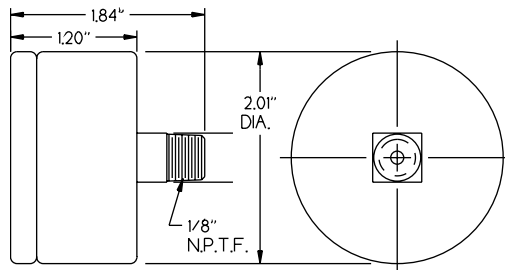
#### Glycerin-Filled Vacuum Gauges (Suction Line Filter Installations)



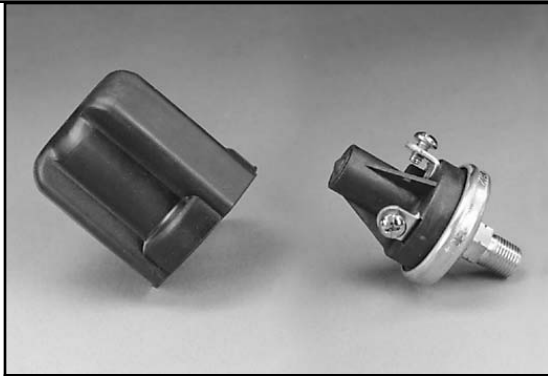
**Part No. GV-05L**  
For Use With 3 PSI  
Filter By-Pass Valve

#### Gauge Construction:

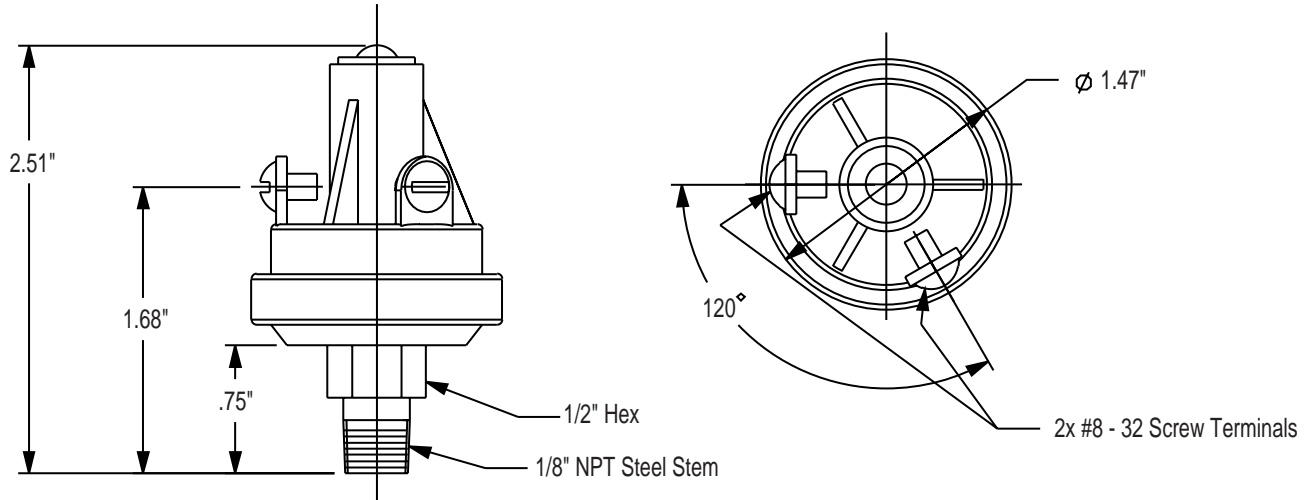
- Stainless Steel Case
- Brass Stem
- Acrylic Lens



**Part No. GV-10L**  
For Use With 5 PSI  
Filter By-Pass Valve



# VI & PI SERIES VACUUM & PRESSURE INDICATOR SWITCHES



**Specifications:**

- Operating Pressures:
  - VI-5: 150 PSI max.
  - VI-10: 150 PSI max.
  - PI-15: 150 PSI max.
  - PI-25: 250 PSI max.
  - PI-40: 250 PSI max.
- Circuit: SPST - N.O.
- Operating Temperatures: -40° to +250° F
- Ratings:
  - Resistive:
    - 15 AMP - 6 VDC
    - 8 AMP - 12 VDC
    - 4 AMP - 24 VDC
  - Inductive:
    - 1 AMP - 120 VAC
    - 0.5 AMP - 240 VAC

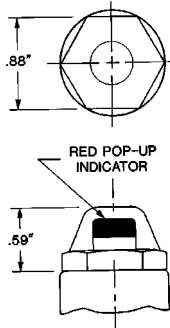
Part Number	Description
VI-5	Vacuum switch set to activate a panel light at 5" Hg. (For use on a filter with a 3 PSI by-pass valve setting)
VI-10	Vacuum switch set to activate a panel light at 10" Hg. (For use on a filter with a 5 PSI by-pass valve setting)
PI-15	Pressure switch set to activate a panel light at 15 PSI (For use on a filter with a 15 PSI by-pass valve setting)
PI-25	Pressure switch set to activate a panel light at 25 PSI (For use on a filter with 25 PSI by-pass valve setting)
PI-40	Pressure switch set to activate a panel light at 40 PSI (For use on a filter with a 50 PSI by-pass valve setting)
IC-1	Optional rubber weather cover

ACCESSORIES

# DIFFERENTIAL PRESSURE ( $\Delta P$ ) INDICATORS

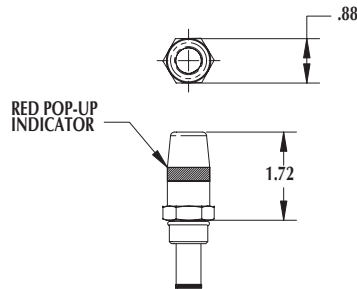
For Use With DF, DHF, HF, MF, MFT, SF-12X, SF-122/125, & ZDF Filters

## DP03 Series



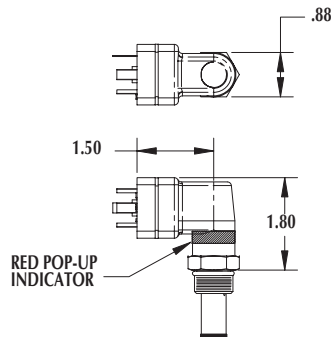
Low Pressure Visual Indicator  
200 psi max Operating Pressure  
Temperatures up to 150F  
Automatic Resetting  
Factory Installed. Available as kit for field replacement.  
For use with DF, SF, MF, MFT, & ZDF Series Only

## DP04 Series

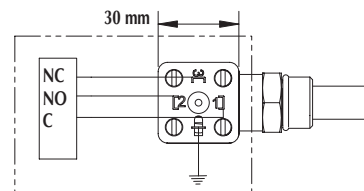


Cartridge Style Visual Indicator  
6000 psi max Operating Pressure  
Temperatures up to 200F  
Automatic Resetting  
Factory Installed. Available as kit for field replacement.

## DP05 Series



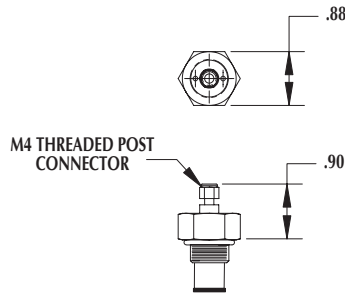
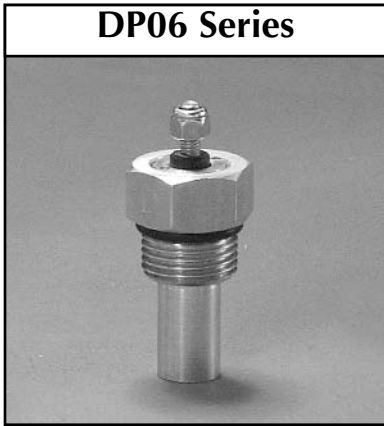
Cartridge Style Visual/Electrical Indicator  
Hirschman (DIN 43650 Type AM Receptacle 11mm)  
1NO, 1NC, & Common SPDT Switch (3 pole & ground)  
5A; 125/250 VAC, 24 VDC (Resistive)  
6000 psi max Operating Pressure  
Temperatures up to 200F  
Automatic Resetting  
Factory Installed. Available as kit for field replacement.



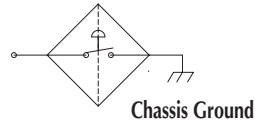
ACCESSORIES

# DIFFERENTIAL PRESSURE ( $\Delta P$ ) INDICATORS

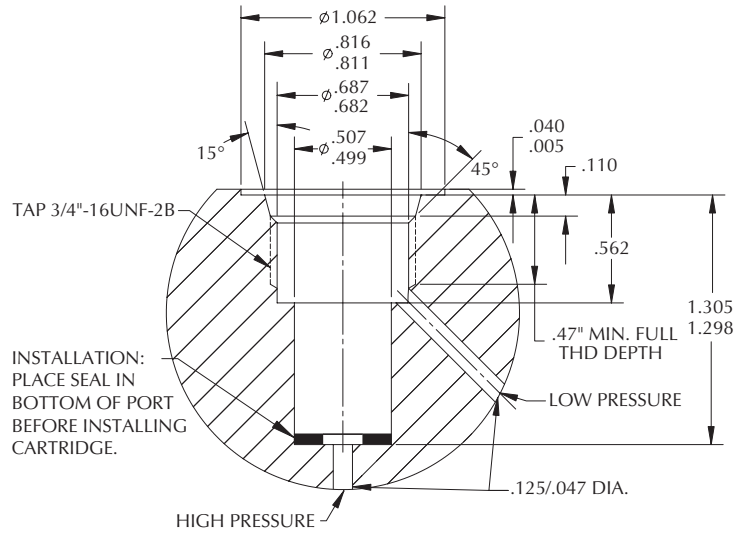
For Use With DF, DHF, HF, MF, MFT, SF-12X, SF-122/125, & ZDF Filters



Cartridge Style Single Wire DC Indicator  
 200mA @ 36VDC  
 Momentary - Normally Open Circuit  
 6000 psi max Operating Pressure  
 Temperatures up to 200F  
 Automatic Resetting  
 Factory Installed. Available as kit for field replacement.  
 Ground Through Filter Head to Chassis. (In Oil)



## INDICATOR PORT DETAIL



NOTE: TOP PORTION OF INDICATOR PORT EQUIVALENT TO SAE-8

### HOW TO ORDER:

**DPXX - XXX**

Code	Indicator Setting	Filter Bypass Setting
04K	4 PSID	5 psid
13K	13 PSID	15 psid
22K	22 PSID	25 psid
44K	44 PSID	50 psid

Code	Type
03*	Visual Low Pressure*
04	Visual Cartridge
05	Visual / Electrical DIN
06	Single Wire DC Electrical

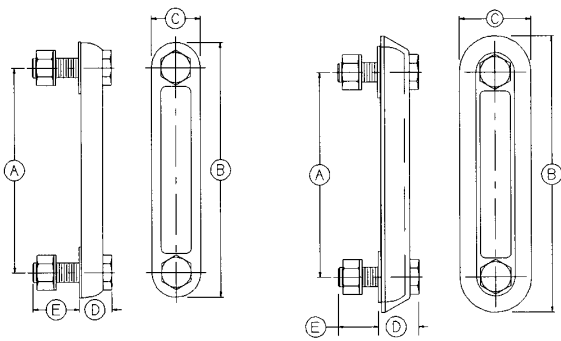
\* Use on DF, SF, MF, MFT, & ZDF Series Only

ACCESSORIES

# SG SERIES RESERVOIR SIGHT LEVEL GAUGES

- Temperature: 212° F. Max.
- Optional Thermometer
- Optional Aluminum Guard
- UV Resistant Housing

For use with petroleum base and water base hydraulic fluids. Consult factory for other fluids.



Model Number	A	B	C	D	E
SG-03X-X-0	3.00"	4.22"	1.22"	0.81"	1.16"
SG-03X-X-G	3.00"	4.75"	1.75"	0.93"	0.82"
SG-05X-X-0	5.00"	6.22"	1.22"	0.81"	1.16"
SG-05X-X-G	5.00"	6.75"	1.75"	0.93"	0.82"
SG-10X-X-0	10.00"	11.22"	1.22"	0.81"	1.16"
SG-10X-X-G	10.00"	11.75"	1.75"	0.93"	0.82"

## HOW TO ORDER:

SG - XXX - X - X

CODE	BOLT CENTER DISTANCE
03	3"
05	5"
10	10"

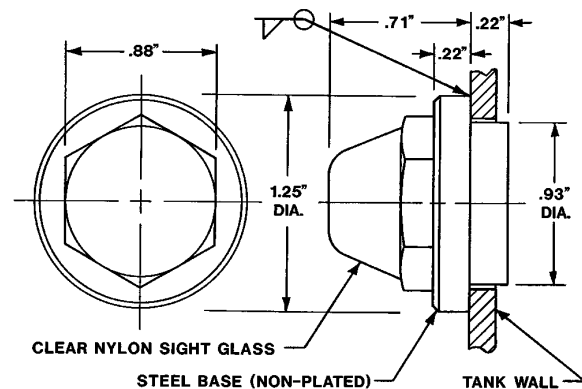
Code	Bolt Type
A	1/2" - 13 UN
M	M12 X 1.75
Q	M10x1.50

Code	Thermometer
0	No Thermometer
T	With Thermometer

Code	Guard
0	No Guard
G	With Guard

- Fluid Level Sight Glass & Steel Weld Port
- For Use With Petroleum Base And Water Base Hydraulic Fluids
- Temperature: -65° To 150°F For Pressure Applications
- Pressure to 400 PSI

## OE-1 SERIES OIL-EYE

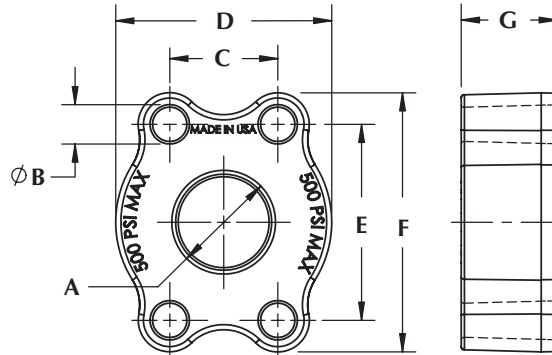


ACCESSORIES



# FA SERIES PIPE THREAD SAE (4) BOLT O-RING FLANGES

- Suction and return line applications.
- Sizes: 1 1/4", 1 1/2", 2", 2 1/2", 3"
- Flanges sold with or without O-ring and bolts.
- Maximum Operating Pressure: 500 PSI.



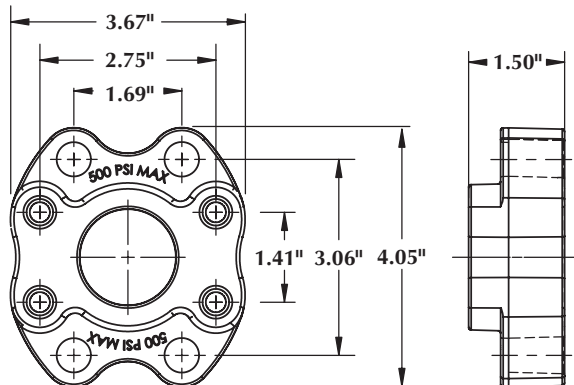
Part Number	Flange Size	A Female Thread Size	B	C	D	E	F	G	* O-Ring Code	** Bolt Size
FA1212P	1 1/4"	1 1/4" NPTF	.47"	1.19"	2.28"	2.31"	3.20"	1.38"	- 222	7/16" - 14 x 2" LG
FA1515P	1 1/2"	1 1/2" NPTF	.53"	1.41"	2.62"	2.75"	3.75"	1.50"	- 225	1/2" - 13 x 2 1/4" LG
FA20XXX	2"	See How To Order Code	.53"	1.69"	3.37"	3.06"	4.05"	1.50"	- 228	1/2" - 13 x 2 1/4" LG
FA2525P	2 1/2"	2 1/2" NPTF	.53"	2.00"	4.09"	3.50"	4.59"	1.75"	- 232	1/2" - 13 x 2 1/4" LG
FA3030P	3"	3" NPTF	.66"	2.44"	4.76"	4.19"	5.54"	1.75"	- 237	5/8" - 11 x 2 1/2" LG
<b>FA2015F</b>	<b>2" TO 1 1/2" SAE 4 BOLT FLANGE ADAPTER (SEE DIAGRAM BELOW FOR DIMENSIONS)</b>								<b>-228</b>	<b>1/2" - 13 x 2 1/4" LG</b>

\* Buna N, 70 Duro. O-Ring Standard, Fluorocarbon Optional. \*\* Grade 5 Bolts Standard.

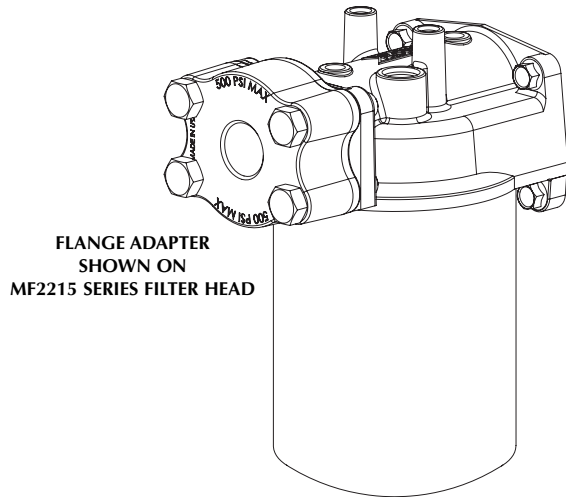
All Dimensions In Inches.

ACCESSORIES

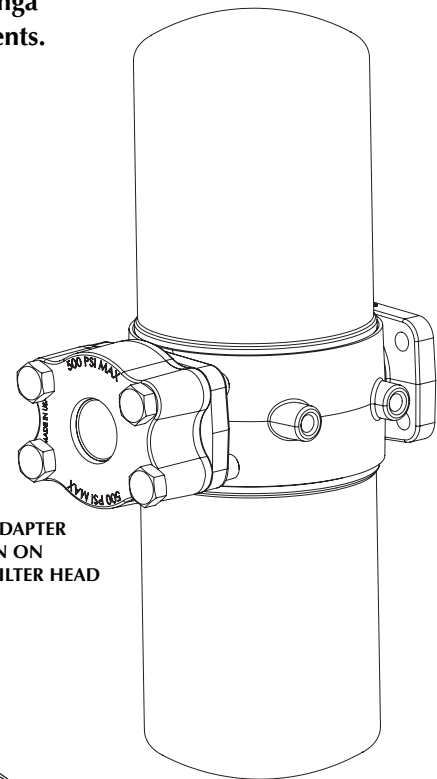
FA2015F 2" TO 1 1/2" SAE FLANGE ADAPTER



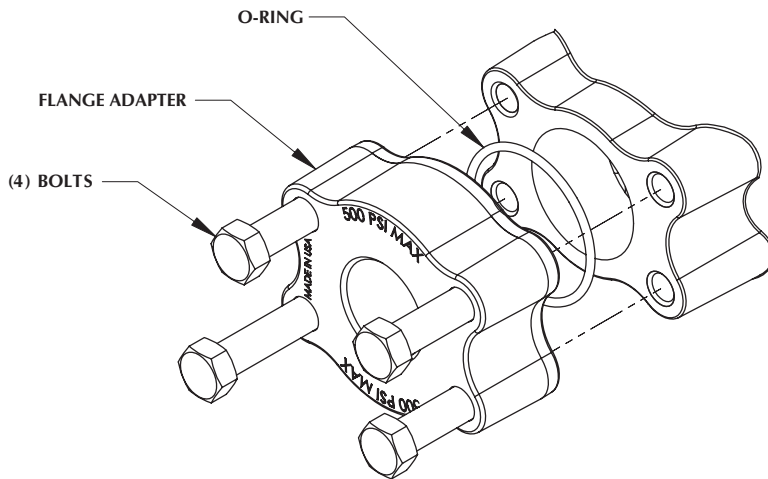
**APPLICATION:** The FA Series Flange Adapter can be Applied to Zinga SAE (4) Bolt Mounting Flanges to Meet Custom Application Requirements.



FLANGE ADAPTER SHOWN ON MF2215 SERIES FILTER HEAD



FLANGE ADAPTER SHOWN ON DF15 SERIES FILTER HEAD



**HOW TO ORDER:**

**FA - XXXXX - X**

Code	Flange Size	Port Size
1212P	1 1/4"	1 1/4" NPTF
1515P	1 1/2"	1 1/2" NPTF
2010C	2"	1" BSP (G1"-11)
2010P	2"	1" NPTF
2012C	2"	1 1/4" BSP (G1 1/4"-11)
2012P	2"	1 1/4" NPTF
2013S	2"	1 5/16"-12UN (SAE-16)
2015C	2"	1 1/2" BSP (G1 1/2"-11)
2016S	2"	1 5/8"-12UN (SAE-20)
2018S	2"	1 7/8"-12UN (SAE-24)
2020C	2"	2" BSP (G2"-11)
2020P	2"	2" NPTF
2525P	2 1/2"	2 1/2" NPTF
3030P	3"	3" NPTF
2015F	2" TO 1 1/2" SAE 4 BOLT ADAPTER FLANGE	

Code	Bolt & Seal Kit Description
0	Flange Only (No Bolts or O-Ring)
N	Flange with Buna N O-Ring & Bolts Kit
V	Flange With Fluorocarbon O-Ring & Bolts Kit

ACCESSORIES

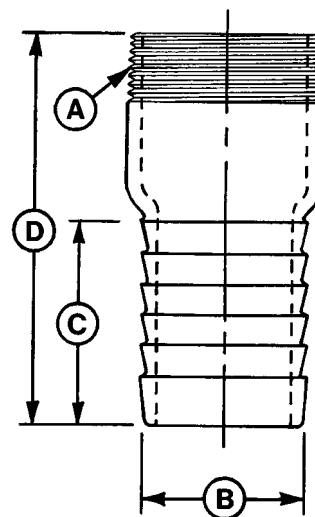




## FT SERIES FILTER TANK ADAPTERS

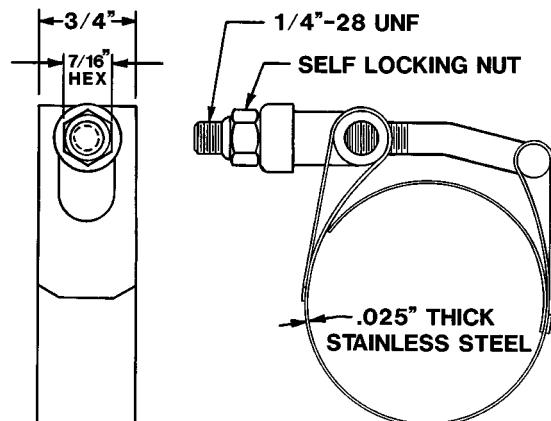
ZP suffix on fitting indicates Zinc Plated finish as standard. Black pipe finish is available.

Part Number	A Male Thread	B Hose ID	C Barb Length	D Overall Length
FT-0505-ZP	1/2" NPT	.50"	1.35"	3.44"
FT-0507-ZP	1/2" NPT	.75"	1.35"	2.94"
FT-0707-ZP	3/4" NPT	.75"	1.35"	3.12"
FT-0710-ZP	3/4" NPT	1.00"	1.35"	2.94"
FT-1007-ZP	1" NPT	.75"	1.35"	4.25"
FT-1010-ZP	1" NPT	1.00"	1.35"	3.38"
FT-1012-ZP	1" NPT	1.25"	1.65"	3.44"
FT-1212-ZP	1 1/4" NPT	1.25"	1.65"	3.88"
FT-1215-ZP	1 1/4" NPT	1.50"	1.65"	3.58"
FT-1515-ZP	1 1/2" NPT	1.50"	1.75"	3.88"
FT-1520-ZP	1 1/2" NPT	2.00"	2.20"	4.50"
FT-2015-ZP	2" NPT	1.50"	1.75"	5.42"
FT-2020-ZP	2" NPT	2.00"	2.20"	4.50"
FT-2025-ZP	2" NPT	2.50"	2.40"	5.00"
FT-2525-ZP	2 1/2" NPT	2.50"	2.40"	5.50"
FT-2520-ZP	2 1/2" NPT	2.00"	2.20"	6.13"
FT-2530-ZP	2 1/2" NPT	3.00"	3.00"	6.13"
FT-3030-ZP	3" NPT	3.00"	3.00"	6.00"
FT-3025-ZP	3" NPT	2.50"	2.40"	7.13"
FT-4040-ZP	4" NPT	4.00"	3.80"	7.25"



## HC SERIES HOSE CLAMPS SEVERE SERVICE "T" BOLT TYPE

Hose Clamp Part Number	Clamping Range		No. of Clamps Recommended Per Hose End
	Min.	Max	
HC 075	1.19"	1.37"	One
HC 100	1.38"	1.56"	One
HC 125	1.63"	1.88"	One
HC 138	1.81"	2.12"	One
HC 150	1.94"	2.19"	One
HC 187	2.19"	2.44"	One
HC 200	2.38"	2.69"	One
HC 238	2.81"	3.12"	One
HC 250	2.94"	3.25"	Two
HC 300	3.50"	3.81"	Two
HC 400	4.50"	4.81"	Two



# PV SERIES PUMP - VALVE ADAPTERS

All steel construction and Zinc plated unless otherwise noted.

## PIPE THREAD TO HOSE BEAD

45° Flow Fitting



Fitting No.	Pipe Thread	Hose ID
PV-0505-45	1/2"	1/2"
PV-0507-45	1/2"	3/4"
PV-0707-45	3/4"	3/4"
PV-0710-45	3/4"	1"
PV-1010-45	1"	1"
PV-1012-45	1"	1 1/4"
PV-1212-45	1 1/4"	1 1/4"
PV-1215-45	1 1/4"	1 1/2"
PV-1515-45	1 1/2"	1 1/2"

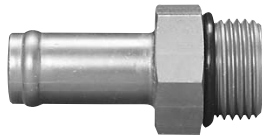
90° Flow Fitting



Fitting No.	Pipe Thread	Hose ID
PV-0505-90	1/2"	1/2"
PV-0507-90	1/2"	3/4"
PV-0707-90	3/4"	3/4"
PV-0710-90	3/4"	1"
PV-1010-90	1"	1"
PV-1012-90	1"	1 1/4"
PV-1212-90	1 1/4"	1 1/4"
PV-1215-90	1 1/4"	1 1/2"
PV-1515-90	1 1/2"	1 1/2"

## SAE STRAIGHT THREAD TO HOSE BEAD BUNA N - 70 DUROMETER O-RING INCLUDED WITH FITTING

Straight Flow Fitting



45° Flow Fitting



90° Flow Fitting



Fitting No.	Thread Size	Hose ID	Fitting No.	Thread Size	Hose ID	Fitting No.	Thread Size	Hose ID
PV-0805	3/4" - 16	1/2"	PV-0805-45	3/4" - 16	1/2"	PV-0805-90	3/4" - 16	1/2"
PV-0807	3/4" - 16	3/4"	PV-0807-45	3/4" - 16	3/4"	PV-0807-90	3/4" - 16	3/4"
PV-0905	7/8" - 14	1/2"	PV-0905-45	7/8" - 14	1/2"	PV-0905-90	7/8" - 14	1/2"
PV-0907	7/8" - 14	3/4"	PV-0907-45	7/8" - 14	3/4"	PV-0907-90	7/8" - 14	3/4"
PV-0910	7/8" - 14	1"	PV-0910-45	7/8" - 14	1"	PV-0910-90	7/8" - 14	1"
PV-1105	1 1/16" - 12	1/2"	PV-1105-45	1 1/16" - 12	1/2"	PV-1105-90	1 1/16" - 12	1/2"
PV-1107	1 1/16" - 12	3/4"	PV-1107-45	1 1/16" - 12	3/4"	PV-1107-90	1 1/16" - 12	3/4"
PV-1110	1 1/16" - 12	1"	PV-1110-45	1 1/16" - 12	1"	PV-1110-90	1 1/16" - 12	1"
PV-1112	1 1/16" - 12	1 1/4"	PV-1112-45	1 1/16" - 12	1 1/4"	PV-1112-90	1 1/16" - 12	1 1/4"
PV-1307	1 5/16" - 12	3/4"	PV-1307-45	1 5/16" - 12	3/4"	PV-1307-90	1 5/16" - 12	3/4"
PV-1310	1 5/16" - 12	1"	PV-1310-45	1 5/16" - 12	1"	PV-1310-90	1 5/16" - 12	1"
PV-1312	1 5/16" - 12	1 1/4"	PV-1312-45	1 5/16" - 12	1 1/4"	PV-1312-90	1 5/16" - 12	1 1/4"
PV-1315	1 5/16" - 12	1 1/2"	PV-1315-45	1 5/16" - 12	1 1/2"	PV-1315-90	1 5/16" - 12	1 1/2"
PV-1612	1 5/8" - 12	1 1/4"	PV-1612-45	1 5/8" - 12	1 1/4"	PV-1612-90	1 5/8" - 12	1 1/4"
PV-1615	1 5/8" - 12	1 1/2"	PV-1615-45	1 5/8" - 12	1 1/2"	PV-1615-90	1 5/8" - 12	1 1/2"
PV-1815	1 7/8" - 12	1 1/2"	PV-1815-45	1 7/8" - 12	1 1/2"	PV-1815-90	1 7/8" - 12	1 1/2"

ACCESSORIES



# FC-6 SERIES FILTER CART

## Portable Fluid Filter & Transfer Unit

### Specifications:

- Application: Petroleum base fluids only. Consult factory for synthetic fluids.
- Motor: 1725 RPM, 3/4 HP, TEFC, 115 Volts AC.
- Flow Rate: 6.5 GPM
- Dimensions: 21" Wide x 19" Deep (not including handle) x 49" High

### Design Features:

- Double Element RF Series inlet filter with 100 mesh stainless wire cloth elements standard to protect the pump.
- Double Element WF-2 Series outlet filter housing with 3 Micron Aqua-Zorb™ filter elements standard for final filtration.
- Color Indicator vacuum and pressure gauges to indicate when filter elements require servicing.
- Draincocks provided at the bottom of both filter housings.
- 1" ID x 10 foot long inlet and outlet hoses provided can be neatly coiled around attached hanger hooks.
- 12" diameter wheels for easy movement.
- 25 foot retractable reel type power cord provided.
- A 40 PSI pressure relief valve is provided between the pump outlet and the outlet filter housing. The valve will divert oil back to the inlet filter if the outlet filter elements are clogged.
- All major components are clamped or bolted in place to facilitate servicing or component replacement.

### HOW TO ORDER:

FC - 6 - X - X

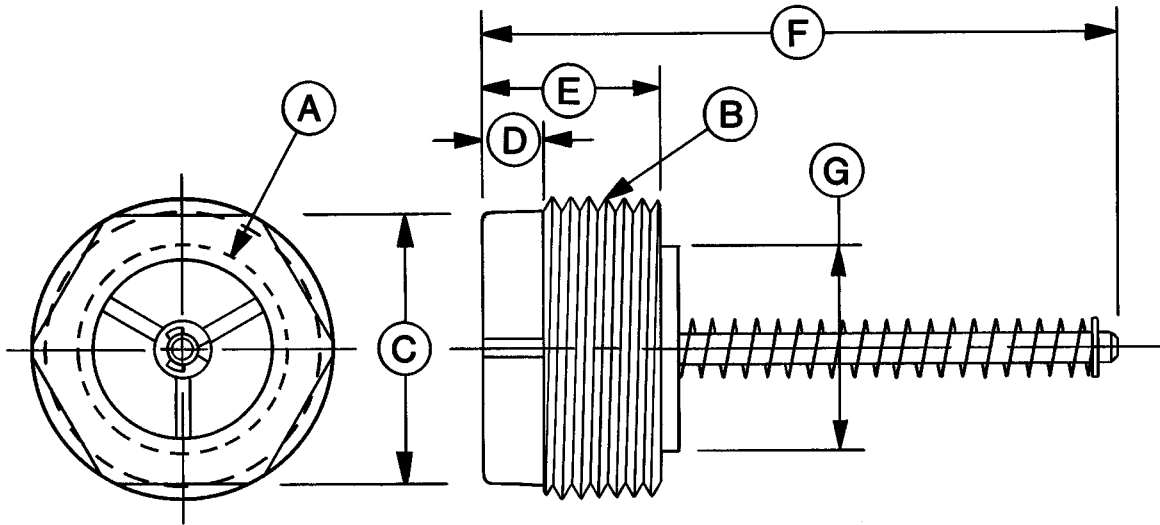
Code	Inlet Filter Degree of Filtration
100	100 Mesh Stainless Steel Wire Cloth (141 Micron) - Standard
100M	100 Mesh Stainless Steel Wire Cloth With Magnets (141 Micron)
"RE" & "ZRE" Element Data: See Page: E18	

Code	Outlet Filter Degree of Filtration
03	3 Micron Nominal
03AZ	3 Micron Aqua-Zorb - Standard
10	10 Micron Nominal
10AZ	10 Micron Aqua-Zorb™
25	25 Micron Nominal
200	200 Mesh Stainless Steel Wire Cloth (75 Micron)
Z03	3 Micron Absolute
Z10	10 Micron Absolute
"WE" & "ZWE" Element Data: See Page E18	

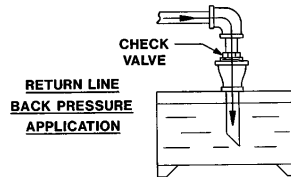
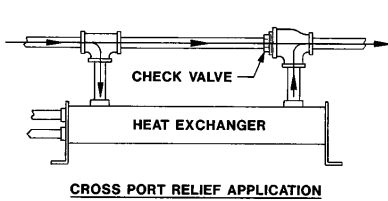
ACCESSORIES



# BRV SERIES BACK PRESSURE INDUCING CHECK VALVES



Part Number	A	B	C	D	E	F (max)	G
BRV-0712-2-XX	3/4" NPTF	1 1/4" NPTF	1.50"	.32"	1.10"	2.90"	.81"
BRV-1015-2-XX	1" NPTF	1 1/2" NPTF	1.75"	.32"	1.10"	4.04"	1.25"
BRV-1220-2-XX	1 1/4" NPTF	2" NPTF	2.09"	.30"	1.22"	4.36"	1.75"
BRV-2030-2-XX	2" NPTF	3" NPTF	3.06"	.63"	1.78"	6.35"	2.50"



**HOW TO ORDER:**

**BRV - XXXX - 2 - XX**

Part Number
0712
1015
1220

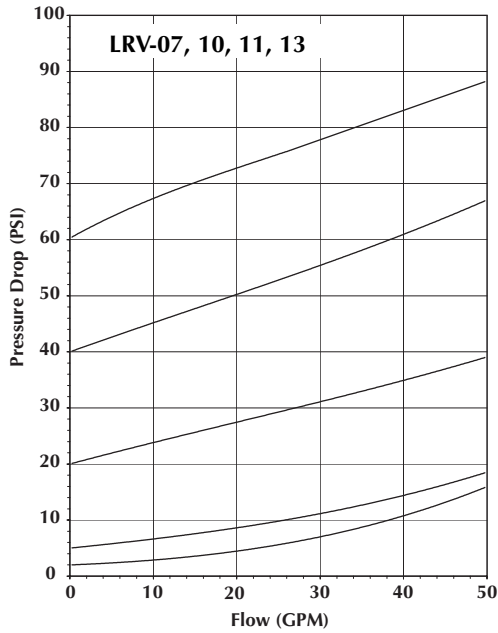
Code	* Check Valve
03	3 PSI
05	5 PSI
15	15 PSI
25	25 PSI

\* Other pressure setting available upon special request. Consult factory

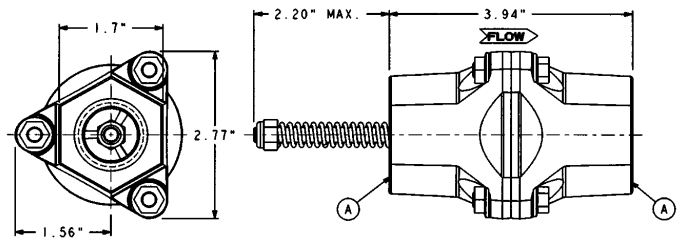
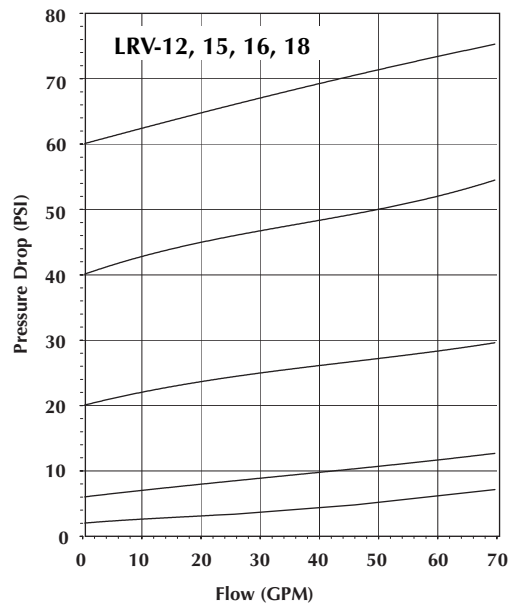


# LRV SERIES CHECK VALVES

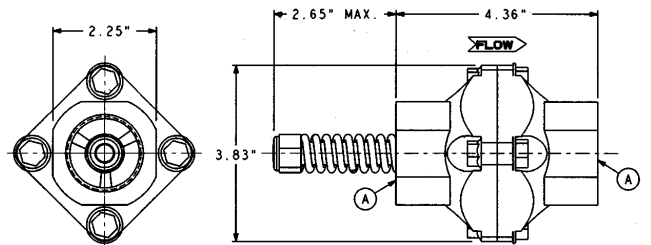
*Heat Exchanger / Cross Port Relief Valves*



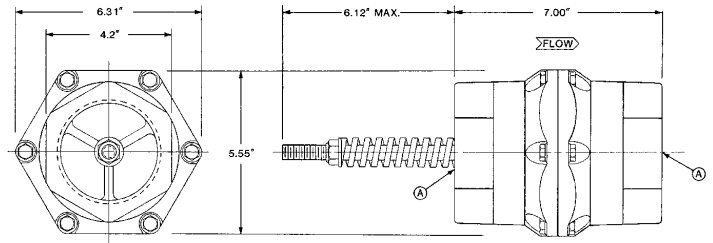
*Average Pressure Drop with 150 SUS Oil at 100° F.*



**Part Numbers  
LRV-07, 10, 11, 13  
500 PSI Max**

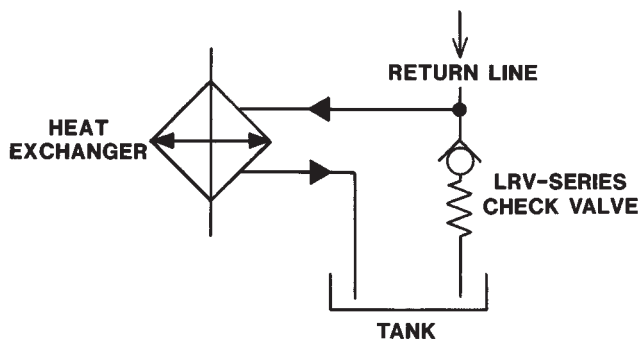


**Part Numbers  
LRV-12, 15, 16, 18  
500 PSI Max**



**Part Number LRV-30  
300 PSI Max**

Heat Exchanger Cross Port Relief Valve Application.



HOW TO ORDER: LRV - XX - X

Code	A Port Size & Type
07	3/4" NPTF
10	1" NPTF
11	1 1/16" - 12 (SAE-12)
13	1 5/16" - 12 (SAE-16)

Code	Description
02	PSI Valve Setting (Initial Cracking Pressure)
06	
20	
40	
60	



HOW TO ORDER: LRV - XX - X

Code	A Port Size & Type
12	1 1/4" NPTF
15	1 1/2" NPTF
16	1 5/8" - 12 (SAE-20)
18	1 7/8" - 12 (SAE-24)

Code	Description
02	PSI Valve Setting (Initial Cracking Pressure)
06	
20	
40	
60	



HOW TO ORDER: LRV - XX - X

Code	A Port Size & Type
30	3" NPTF

Code	Description
02	PSI Valve Setting (Initial Cracking Pressure)
06	
20	
40	
50	

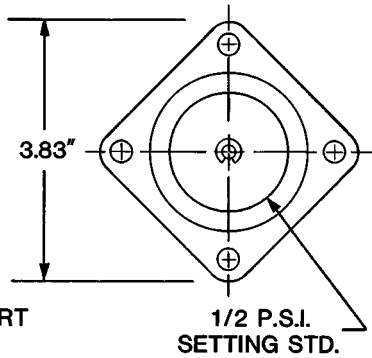
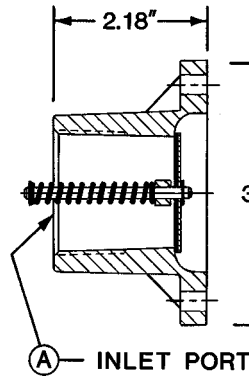
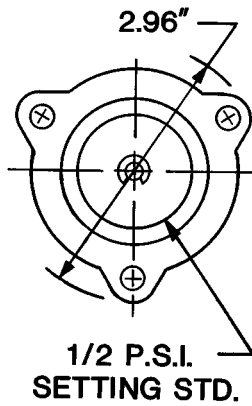
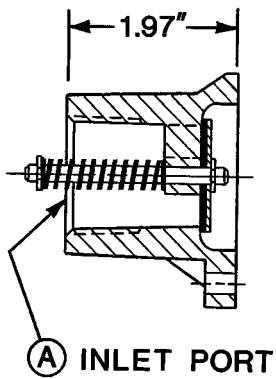


VALVES



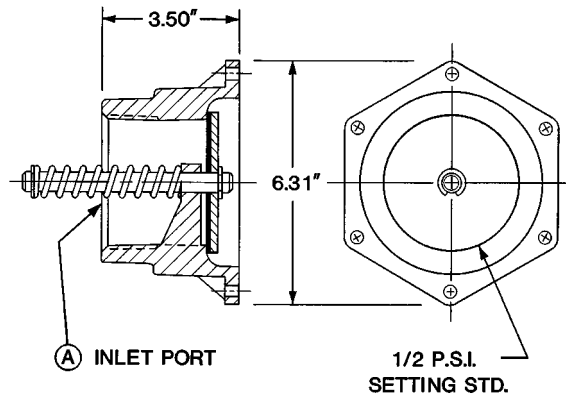
# RV SERIES RETURN LINE TANK MOUNTED CHECK VALVES

Maximum Operating Pressure: 50 PSI  
Standard Valve Setting: 1/2 PSI



Part Numbers  
RV-07-1-1 & RV-10-1-1

Part Numbers  
RV-12-1-1 & RV-15-1-1



Part Number RV-30-1-1

Part Number	A Inlet Port
RV - 07 - 1 - 01	3/4" NPTF
RV - 10 - 1 - 01	1" NPTF
RV - 12 - 1 - 01	1 1/4" NPTF
RV - 15 - 1 - 01	1 1/2" NPTF
RV - 30 - 1 - 01	3" NPTF

NOTE: Buna "N" seals standard, Fluorocarbon seals optional