



ServoSaver™ Series

High Pressure Filters

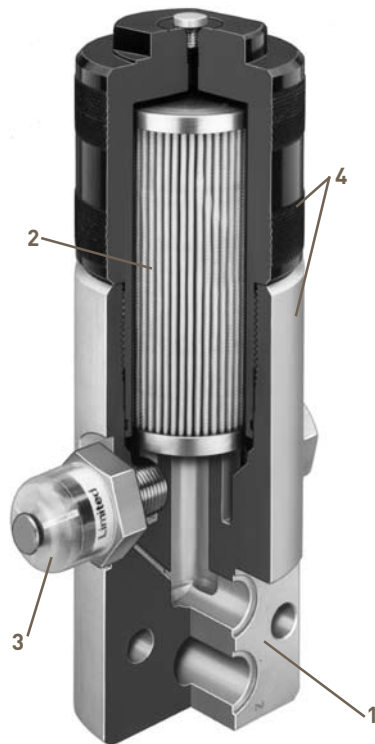


High Pressure Filters

ServoSaver™ Series

Features/Applications for High Pressure Filters ServoSaver™ Series

- Pressures to 4,000 PSI
- Flows to 30 GPM
- Microglass 3000 PSI Collapse Elements in 3 or 15 Micron Absolute
- Point of use filtration



Model HSS981 ServoSaver™ Filter

ServoSaver filters offer point-of-use filtration for some of the most sensitive hydraulic valves that there are, servo/proportional valves. Complete protection is provided by non-bypass filters equipped with high collapse strength elements installed directly at the valve. The ServoSaver is designed specifically for this use and is not an adaption of an in-line filter intended for bypass filtration.

1. The Parker ServoSaver filter can be mounted directly under the servo or proportional pilot valve through use of a subplate or sandwich plate. This eliminates extra plumbing that causes higher pressure drops and system generated contaminant. Direct mounting assures that contaminant is filtered out before it can damage the valve or cause it to malfunction.
2. Microglass elements in 3 and 15 micron absolute ratings provide high efficiency filtration. Actual dirt holding capacity is excellent and contributes to additional cost savings. Elements have a minimum collapse rating of 3000 PSI and can be used with all common hydraulic fluids.
3. TruTell visual or electrical clogging indicators provide advance warning of impending excessive pressure drop across the filter element so that maintenance can be performed before system stability is affected.
4. Filter head and bowl are manufactured from high strength steel alloy to withstand high continuous or intermittent loads.

Filter Specifications

Material:

Head & Bowl:

Electroless Nickel Plated Steel Alloy

Element Hardware:

Plated, Carbon Steel End Caps and Core

Filter Media:

Glass Micro-Fiber, Epoxy End Cap Adhesive

Fluid Compatibility:

Suitable for All Conventional Hydraulic Fluids, Except Phosphate Esters

Pressure Rating:

Maximum Operating:
4000 psi (276 Bar)

Burst Pressure:

19,000 psi (1310 Bar)

Rated Fatigue Pressure:

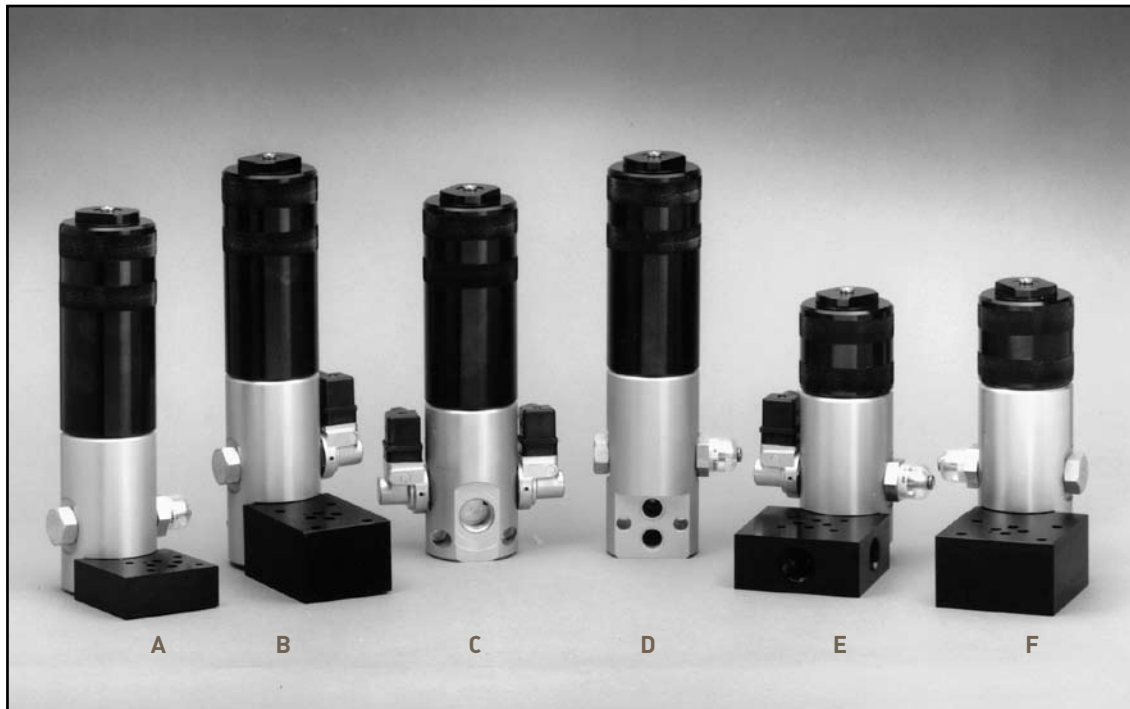
0-3000-0 PSID (0-210-0 Bar)
10⁶ Cycles per NFPA
T2.6.1 R1-1991 (B/99)

Temperature Range:

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

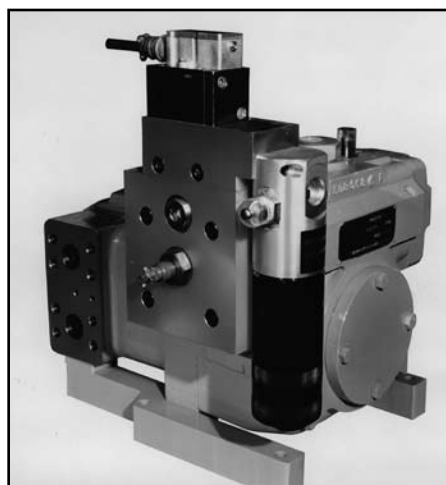
Weight:

04 Length: 11 lbs. (5.0 Kg)
08 Length: 15.5 lbs. (7.0 Kg)



- (A) 'S' Port, Visual Indicator and Sandwich Plate Mounting
- (B) 'M' Port, Electrical Indicator and Sandwich Plate Mounting
- (C) 'S' Port, Dual Electrical Indicator

- (D) 'M' Port, Visual Indicator
- (E) 'S' Port, Visual and Electrical Indicator and Subplate Mounting
- (F) 'M' Port, Visual Indicator and Sandwich Plate Mounting

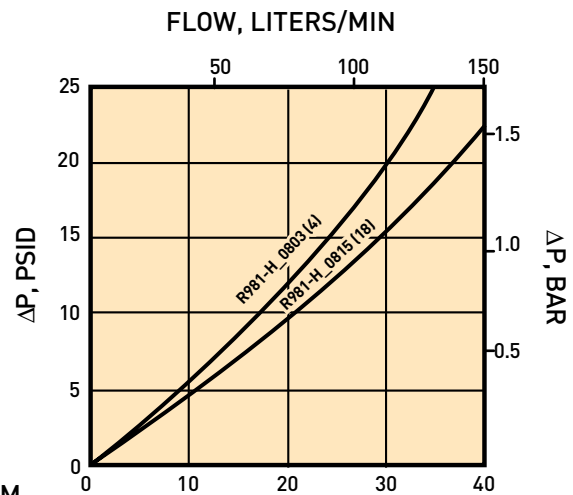
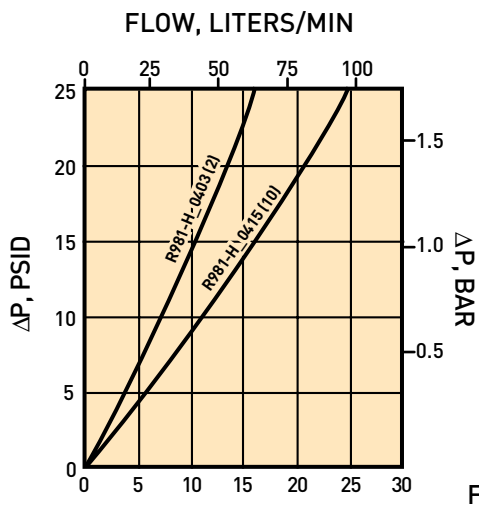


The ServoSaver filter can also be mounted to pumps, cylinders or other hydraulic devices. Special adapter blocks or manifold porting makes direct mounting simple and provides for compact installation.

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Flow/Pressure Drop Curves



Dirt Holding Capacity in Parenthesis (Grams)

Fluid Conditions: Viscosity 140 SSU (30 cSt) and Specific Gravity 0.88 Note: Element ΔP is directly proportional to viscosity.

Find Filter Assembly Pressure Drop

Filter assembly ΔP is equal to the sum of element and housing pressure drops taken from the appropriate curves and adjusted for operating viscosity and specific gravity.

Example:

Filter Model: HSS981A-VR-S0803

Flow: 20 GPM (76 L/min)

Viscosity: 78 SSU, Sp. Gr.: 0.96

Step 1. Correct element ΔP for viscosity.

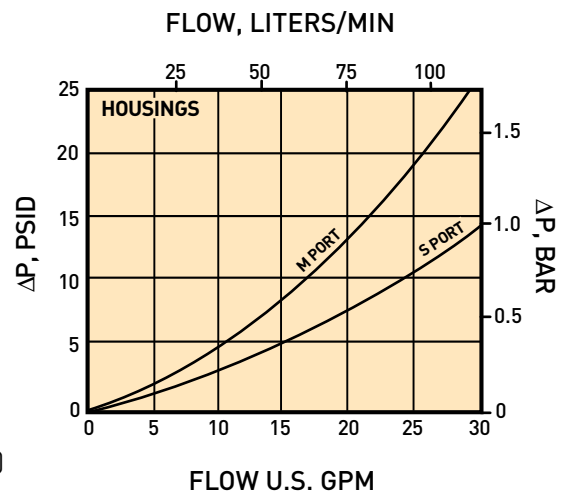
Element ΔP = 14 psi x 78SSU/140SSU = 7.8 psi
(1.0 bar x 14.6 cSt/30 cSt = 0.5 bar)

Step 2. Correct housing ΔP for specific gravity.

Housing ΔP = 7 psi x 0.96/0.88 = 7.6 psi (0.5 bar x 0.96/0.88 = 0.55 bar)

Step 3. Calculate assembly ΔP.

Assy ΔP = 7.8 psi + 7.6 psi = 15.4 psi (0.5 bar + 0.55 bar = 1.05 bar)



Fluid Conditions: Specific gravity 0.88
Note: Housing ΔP is directly proportional to specific gravity.

Microglass Media High Performance

Media Code	Nominal Micron Rating	β _x >200	Multipass Test Results To ISO 4572 (Time Weighted Averages)						
			β ₃	β ₆	β ₁₀	β ₁₂	β ₁₅	β ₂₀	β ₂₅
03	1	3	200 99.5	>1000 99.9	>3000 99.96	>5000 99.98	∞	∞	∞
15	10	15	3 66.66	12 91.66	50 98.0	75 98.67	>200 99.50	>2000 99.95	>5000 99.98

Element Beta ratio β_x

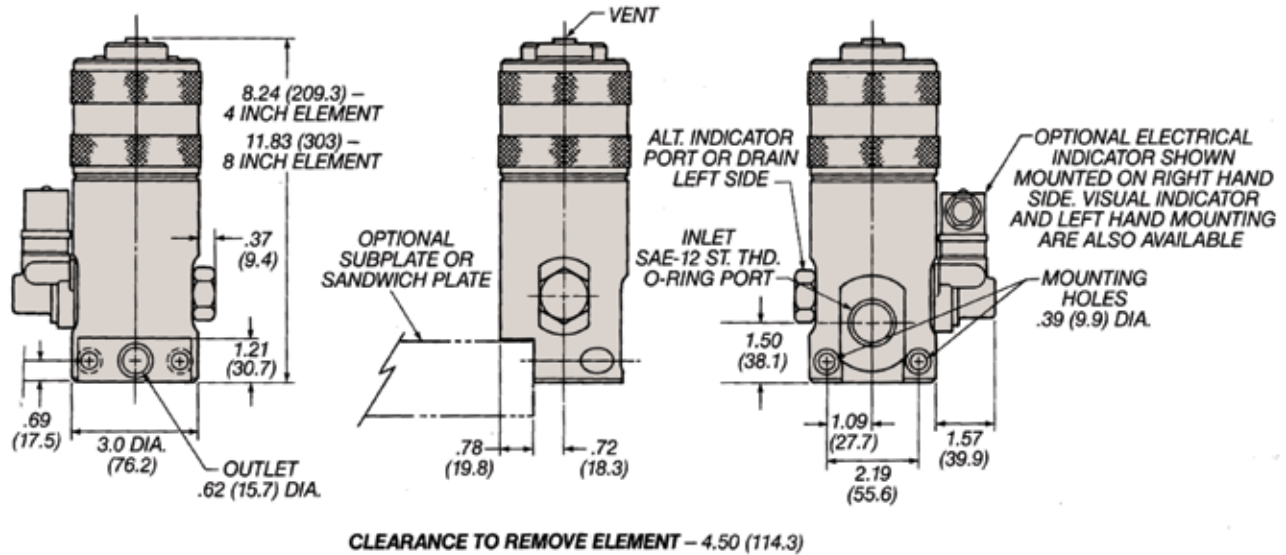
Element efficiency in percent

BETA RATING

Beta ratings are the recognized industry standard for measuring filter efficiency. They offer the user an accurate method of comparing different filters' efficiency. Beta ratings are obtained from strictly controlled laboratory tests, to ISO Specification 4572. The higher the Beta ratio the greater the filter's capacity to capture particles larger than the indicated Beta size. A Beta rating of B_x ≥ 75 with a corresponding efficiency of 98.6 % is normally considered the absolute rating.

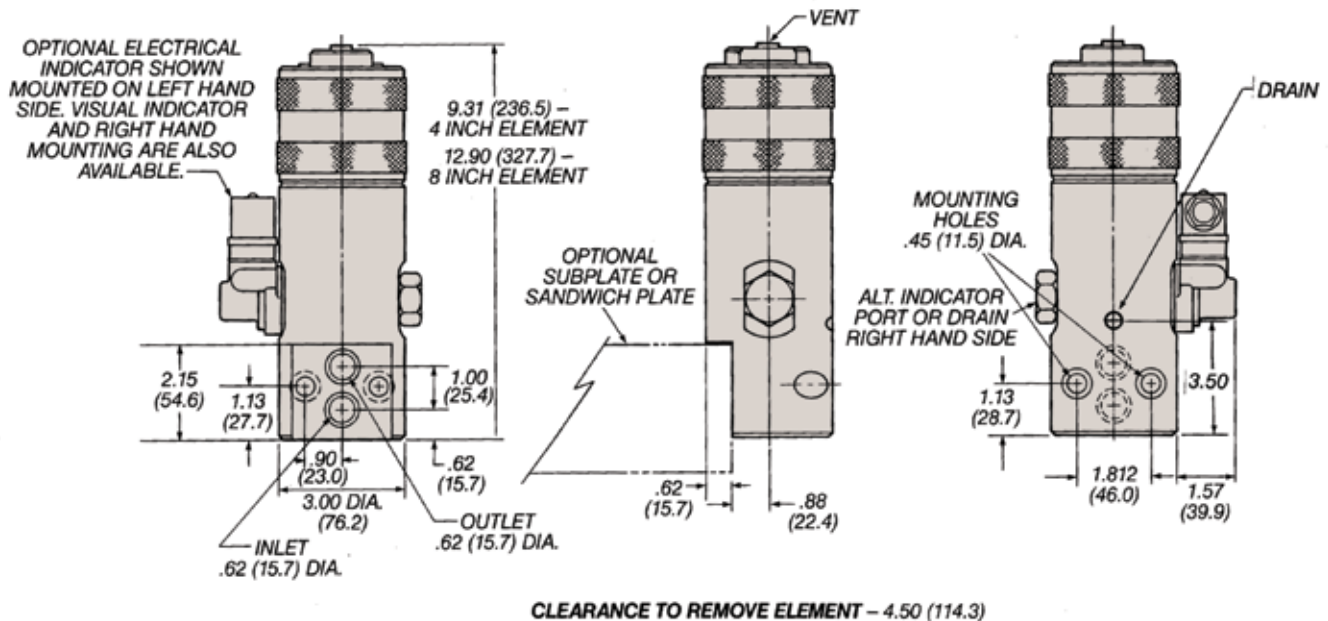
Dimensions - S Port Inches (mm)

'S' Port Option The pressure line is connected directly to the inlet port of the ServoSaver. The outlet port of the filter is internally connected to the valve through our subplate or a specific manifold pad provided by the user.



Dimensions - M Port Inches (mm)

'M' Port Option This unique porting provides internal inlet and outlet porting of the filter as well as an inlet to the valve without any disruption to the existing plumbing. Connection to the valve can be accomplished through our sandwich plate or a specific manifold pad provided by the user.

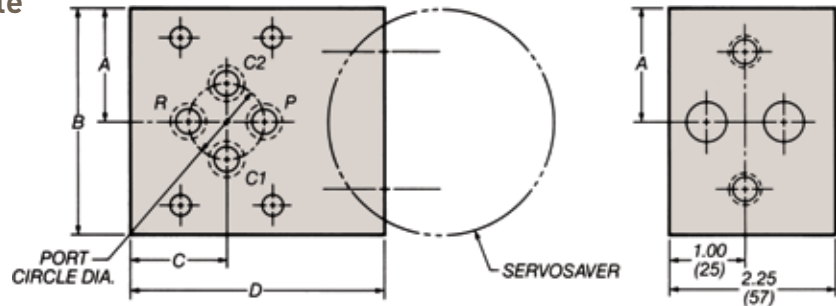


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Dimensions - M port Sandwich Plate Inches (mm)

Sandwich (Manifold) Plate Mounting:
The ServoSaver filter assembly is mounted to a manifold that is sandwiched between the subplate and valve.

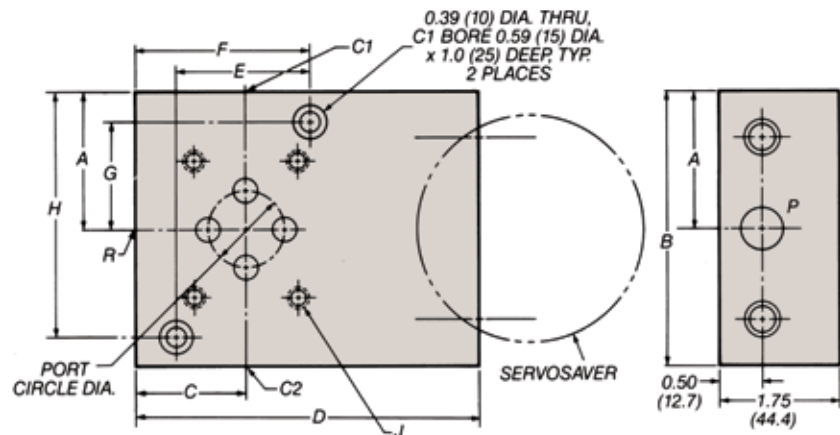
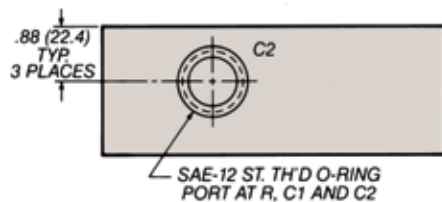


CODE	VALVE INTERFACE	PORT CIRCLE DIA.	A	B	C	D
1A	Vickers SM4-10; Atchley 206 Moog 770 Type II	.625 (15.9)	1.38 (35.1)	2.75 (69.9)	1.19 (30.2)	3.19 (81.0)
2A	Atchley 207, 211; Moog 770 Type III	.780 (19.8)	1.38 (35.1)	2.75 (69.9)	1.19 (30.2)	3.19 (81.0)
1D	NFPA D01, CETOP-3+NG-6	Diamond Pattern	1.44 (36.6)	2.88 (73.2)	.94 (23.9)	2.75 (69.9)
1M	Moog 62; Atchley 215A	.875 (22.2)	1.50 (38.1)	3.00 (76.2)	1.62 (41.1)	4.38 (111.3)
4M	Vickers SM4-40; Parker BD-30	1.750 (44.5)	2.25 (57.2)	4.50 (114.3)	1.68 (42.7)	4.12 (104.6)
1P	Pegasus 142A, 162A, 162R	.937 (23.8)	1.50 (38.1)	3.00 (76.2)	1.19 (30.2)	3.25 (82.6)
2P	Pegasus 122 A	.625 (15.9)	1.38 (35.1)	2.75 (69.9)	1.19 (30.2)	3.19 (81.0)
1V	Vickers SM4-15, Atchley 218A	.937 (23.8)	1.50 (38.1)	3.00 (76.2)	1.19 (30.2)	3.25 (82.6)

FOR DIMENSIONAL INFORMATION ON OTHER SUBPLATES CONTACT PARKER.

Dimensions - S port Sandwich Plate Inches (mm)

Subplate Mounting: The ServoSaver filter assembly is mounted to a subplate which provides all of the necessary threaded work ports as well as the manifolding surface for the valve.



CODE	VALVE INTERFACE	PORT CIRCLE DIA.	A	B	C	D	E	F	G	H	I
1A	Vickers SM4-10; Atchley 206; Moog 770 Type II	.625 (15.9)	2.00 (50.8)	4.31 (109.4)	2.00 (50.8)	4.00 (101.6)	2.69 (68.3)	3.34 (84.8)	1.75 (44.5)	3.75 (95.3)	10-32
2A	Atchley 207, 211; Moog 770 Type III	.780 (19.8)	2.00 (50.8)	4.31 (109.4)	2.00 (50.8)	4.00 (101.6)	2.69 (68.3)	3.34 (84.8)	1.75 (44.5)	3.75 (95.3)	10-32
1D	NFPA D01, CETOP-3+NG-6	Diamond	2.12 (53.8)	4.25 (108)	1.75 (44.4)	3.75 (95.2)	2.50 (63.5)	3.00 (76.2)	1.72 (43.7)	3.00 (76.2)	10-24
1M	Moog 62; Atchley 215A	.875 (22.2)	2.00 (50.8)	4.00 (101.6)	2.00 (50.8)	4.62 (117.3)	2.56 (65.0)	3.28 (83.3)	1.51 (38.4)	3.52 (89.4)	5/16-18
1P	Pegasus 142A, 162A, 162R	.937 (23.8)	2.00 (50.8)	4.31 (109.4)	2.00 (50.8)	4.00 (101.6)	2.69 (68.3)	3.28 (83.3)	1.75 (44.5)	3.75 (95.3)	1/4-20
2P	Pegasus 122 A	.625 (15.9)	2.00 (50.8)	4.31 (109.4)	2.00 (50.8)	4.00 (101.6)	2.69 (68.3)	3.34 (84.8)	1.75 (44.5)	3.75 (95.3)	10-32
1V	Vickers SM4-15, Atchley 218A	.937 (23.8)	2.00 (50.8)	4.31 (109.4)	2.00 (50.8)	4.00 (101.6)	2.69 (68.3)	3.34 (84.8)	2.31 (58.7)	3.75 (95.3)	1/4-20

FOR DIMENSIONAL INFORMATION ON OTHER SUBPLATES CONTACT PARKER.



Parts Breakdown ServoSaver™ Series

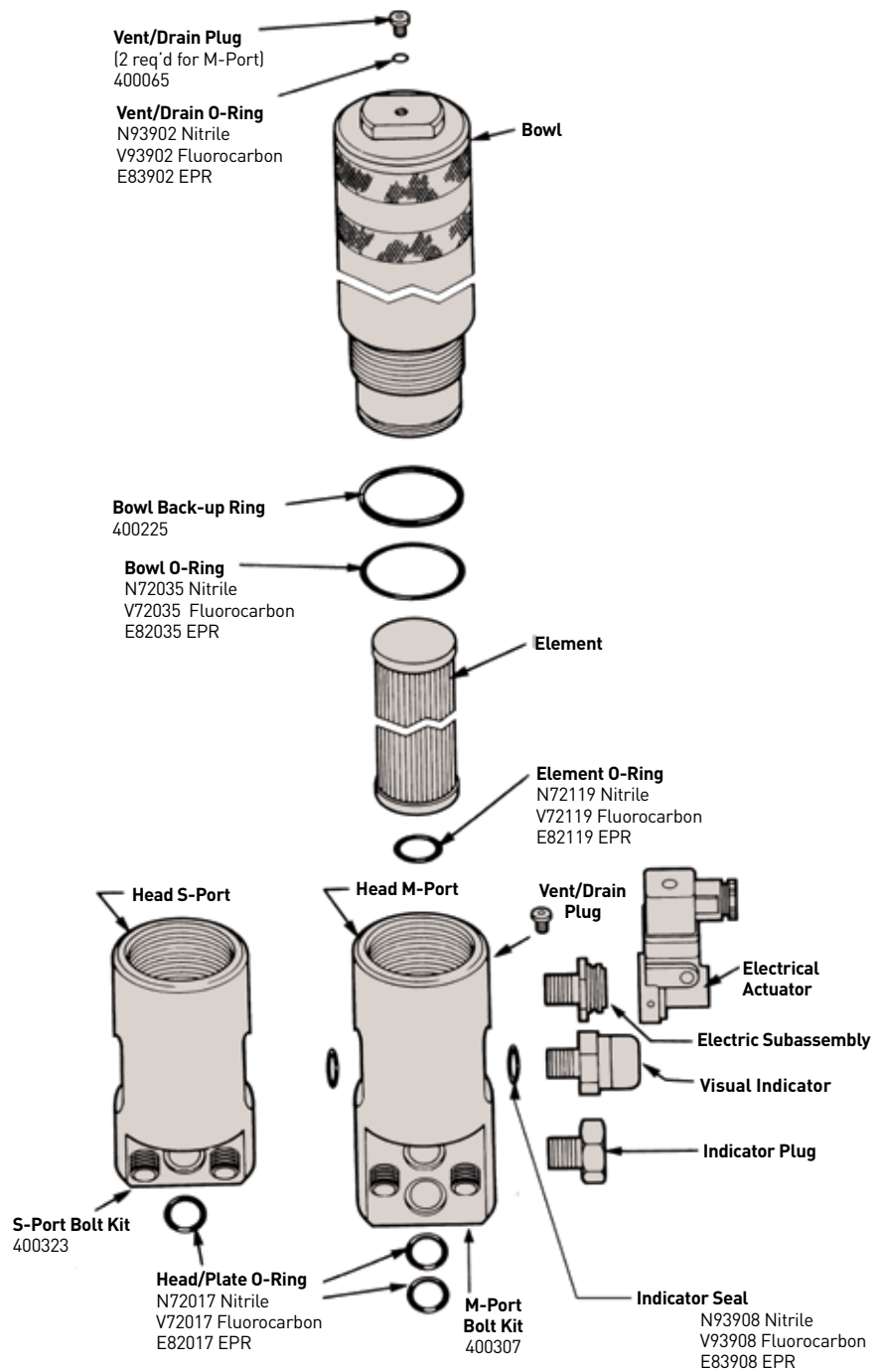
SEAL KIT	
Nitrile	936077
EPR	400913
Fluorocarbon	936078

BOWL	
LENGTH CODE	PART NUMBER
04	401766
08	401767

HEAD ASSEMBLY	
PORT TYPE	PART NUMBER
M	402065
S	402066

VISUAL INDICATOR	
INDICATOR CODE	PART NUMBER
V	401810
B	401811

INDICATOR PLUG	
INDICATOR CODE	PART NUMBER
E, N, V	505918



ELECTRICAL INDICATOR				
INDICATOR CODE	SUB-ASSEMBLY		ACTUATOR	
	QTY	PART NUMBER	PART NUMBER	QTY
B,E	1	401814	FF3468	1
D	1	401814	FF3468	2
	1	401813		

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HOW TO ORDER:

Select the desired symbol (in the correct position) to construct a model code.

Example:

STD	BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
HSS981	A	VR	M	04	03		1D

BOX 1: SEALS	
Symbol	Description
A	Nitrile
H	Fluorocarbon (FKM)

BOX 3: PORT OPTIONS	
Symbol	Description
M	Manifold inlet & outlet

BOX 7: VALVE INTERFACE PLATE	
Symbol	Description
OMIT	Direct Mount, No Plate Required
1D	NFPA D03, CETOP-3+NG-6

BOX 2: INDICATOR	
Symbol	Description
ER	Electrical Indicator
VR	Visual Indicator

BOX 4: ELEMENT LENGTH	
Symbol	Description
04	Single length
08	Double length

BOX 5: DEGREE OF FILTRATION	
Symbol	Description
03	3 Micron
15	15 Micron

BOX 6: MOUNTING STYLE	
Symbol	Description
OMIT	Direct mount
W	Sandwich Plate

Replacement Elements

Media	Single length	Double length
2μ Microglass III	935191	935193
10μ Microglass III	935192	935192

Please note the bolded options reflect standard options with a reduced lead-time. Consult factory on all other lead-time options.

