

FILTERS FOR GAS AND FLUID

WVWF

**Western Valve
& Fitting**

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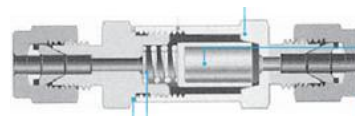
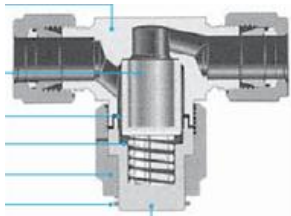


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Features

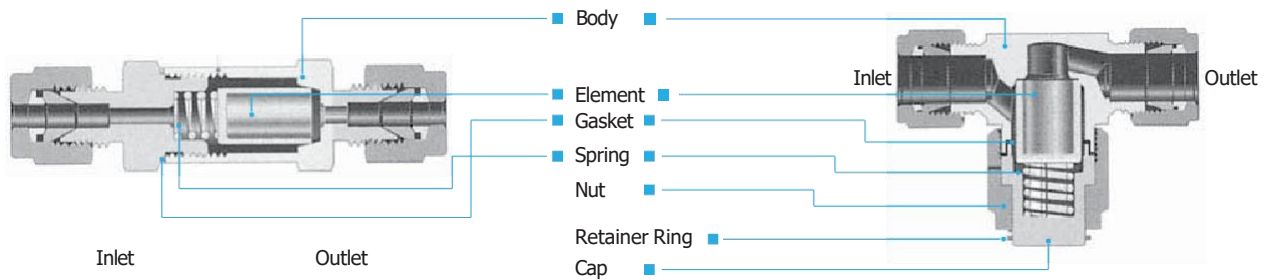
- Traps fine contamination to maintain system purity
- Gas and liquid filtration
- Standard micron filtering ranges
- Sintered Elements : 0.5, 2, 7, 15, 60 and 90 micron
- Strainer Elements : 40,140,230 and 440 micron
- Replaceable SS316 sintered and strainer elements
- SS316 and Brass body construction
- Choice of reliable Compression, NPT & ISO pipe end connections
- Heat Code Traceability

IF Series In-line Filters

- In-line filters are applicable where space is limited and elements don't have to be replaced often.
- Compact in-line design with large filtration area
- Maximum working pressure 3,000 psig @100°F(206 bar @38°C)

TF Series Tee Filters

- Filter Element replaceable with the valve in-line.
- Safety union bonnet design for high pressure rating
- Optional Bypass for sampling or purging of process fluid.
- Maximum working pressure 6,000 psig @100 °F(413 bar @38°C)



Materials of Construction

Component	V73 Series		V76 Series	
	Grade/ASTM Specification			
Body	SS316 / A276	Brass / B16	SS316 / A276	Brass / B16
Nut	-	-	SS316 / A276	Brass / B16
Cap	-	-	SS316 / A276	Brass / B16
Retainer Ring	-	-	Stainless Steel	
Element	SS316 (Sintered, Strainer)			
Spring	SS30 2			
Gasket	SS316 / A240 silver plated			

Filtration Definitions

- **Filter Element :**
The component within the filter which traps media contamination.
- **Filtration Area :**
The actual surface area of the filter element available to trap contamination.
- **Micron**
A unit of measure to describe the mean pore diameter of the filter element or the mean particle diameter of media contamination. One micron = 0.001mm or 0.00004 inch

Wetted components are listed in red

Sintered Elements Technical Information

- Stainless steel 316 sintered
- High heat resistance and thermal stability up to 1,500°F(815°C)
- High permeability with low-pressure drop.
- Shape-stability with self-supporting structural elements
- Suitable for compression, vibration, and high impulse pressures.
- Precise filtration because pore size and distribution are exact and uniform.
- Chemical resistance against acids and caustic solutions in various ranges of pH.

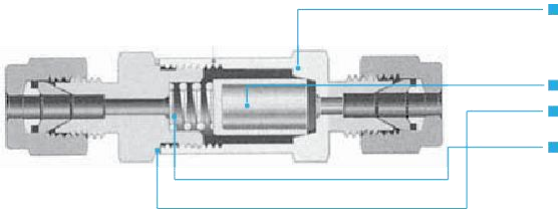
Element Designator	Nominal Pore Size, μm	Pore Size Range, μm	Element Porosity	Cv Factor	Max. Pressure Differential Across Clean Filters at 70°F (21°C) 1160 psig (80.0 bar)
05	0.5	0.5 - 2	17%	0.046	
2	2	1 - 4	22%	0.056	
7	7	5 - 10	27%	0.12	
15	15	11 - 25	36%	0.13	
60	60	50 - 75	44%	0.38	
90	90	75 - 110	45%	0.50	

Element Replacement

- The sintered elements don't permit the contaminants in the gas and liquid to pass through the elements when they are bigger than the pore size of micron.
- Contaminants are trapped by element pores and it results in pressure buildup.
- Contamination comes earlier when flow volume is high and media is not clean.
- The filtering elements need to be replaced for minimum pressure drop as well as system purity.

Note : Clean filter valve components whenever the element is replaced.

IF Series In-line Filters



Flow Capacities

Ordering Information and Dimensions

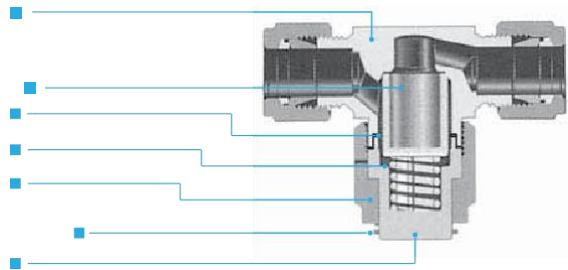
Basic Ordering Number	End Connections Inlet and Outlet	Orifice inch (mm)	Dimensions. mm (in.)		
			L	H	
IF-	C-1/8-	1/8 in. Compression	0.09 (2.4)	59.7 (2.35)	9/16
	F-1/8-	1/8 in. Female NPT		54.9 (2.16)	
	C-3M-	3mm Compression		60.5 (2.38)	
IF-	C-1/4-	1/4 in. Compression	0.19 (4.7)	74.9 (2.95)	3/4
	M-1/4-	1/4 in. Male NPT		68.3 (2.69)	
	F-1/4-	1/4 in. Female NPT		72.9 (2.87)	
	C-6M-	6mm Compression		75.2 (2.96)	
IF-	M-1/2-	1/2 in. Male NPT	0.28 (7.1)	81.3 (3.20)	1
	C-3/8-	3/8 in. Compression		81.5 (3.21)	
IF-	C-1/2-	1/2 in. Compression	0.41 (10.3)	88.6 (3.49)	1

Filter Series	Nominal Pore Micron	Pressure Drop		
		20 psi	60 psi	120 psi
Water GPM @70°F (21°C)				
IF- 1/8, 3mm	05	0.01	0.44	0.13
	2	0.11	0.26	0.44
	7	0.14	0.33	0.53
	15	0.17	0.39	0.64
	60	0.21	0.55	0.77
	90	0.28	0.55	0.66
IF- 1/4, 6mm	05	0.06	0.19	0.32
	2	0.34	0.94	1.42
	7	0.57	1.42	2.19
	15	0.71	1.42	2.30
	60	1.27	3.61	5.04
	90	1.70	4.60	6.68
IF- 3/8, 1/2	05	0.13	0.44	0.83
	2	0.37	1.20	1.75
	7	0.91	2.41	3.83
	15	1.19	2.85	4.49
	60	2.83	7.34	10.95
	90	3.25	8.32	12.05
	40,140,230,440	2.7	6.04	9.4

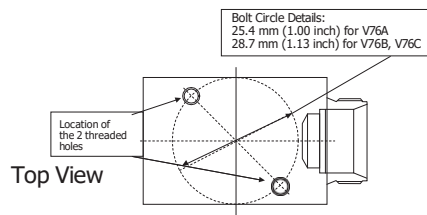
Technical Information

Filter Series	Pressure Rating @100 °F (38 °C), psig (bar)		Temperature Rating, °F (°C)		Filtration Area in. ² (mm ²)	
	SS316	Brass	SS316	Brass	Sintered	Strainer
IF-1/8, 6mm	3000 (206)	3000 (206)	-20 to 900 (-28 to 482)	-20 to 300 (-28 to 148)	0.55(350)	-
IF-1/4, 6mm					1.30(830)	1.0(640)
IF-3/8, 1/2	2500 (172)	2000 (137)			2.0(1280)	1.7(1090)

TF Series Tee Filters



Top mounting



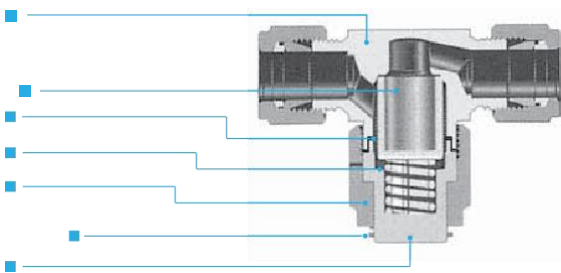
Hole details:
M5 x 0.8 pitch threads,
6.5 mm (0.25 inch) deep

Ordering Information and Dimensions

Basic Ordering Number	End Connections Inlet & Outlet	Orifice mm (in.)	Dimensions, mm (in.)		
			L	L1	H
TF-	F-1/8-	4.4 (0.17)	50.8 (2.0)	47.5 (1.87)	-
	C-1/8-		57.7 (2.27)		7/16
	C-1/4-		62.7 (2.47)		9/16
	M-1/4-		54.1 (2.13)		1"
	F-1/4-		54.1 (2.13)		-
	C-6M-		62.5 (2.46)		14mm
TF-	C-3/8-	5.4 (0.21)	72.1 (2.84)	56 (2.2)	11/16
	C-8M-		72.1 (2.84)		1-1/8"
TF-	M-3/8-	6.4 (0.25)	60.5 (2.38)	56 (2.2)	-
	C-10M-		72.6 (2.86)		19mm
	C-12M-		77.2 (3.04)		1-1/8"
	C-1/2-		77.2 (3.04)		7/8
	M-1/2-		69.9 (2.75)		-

Technical Information

Filter Series	Pressure Rating @100 °F (38 °C), psig (bar)		Temperature Rating, °F (°C)		Filtration Area in. ² (mm ²)	
	SS316	Brass	SS316	Brass	Sintered	Strainer
TF-3/8,8mm	6000(413)	2000(137)	-20 to 900 (-28 to 482)	-20 to 300 (-28 to 148)	1.3(830)	1.0(640)
TF-3/8, 1/2, 10mm, 12mm	6000(413)	2000(137)			2.0(1280)	1.7(1090)



By-pass port

Bypass port of female 1/8 in. or 1/4 in. NPT is available for sampling and purging of process fluid. To use, replace the cap on Tee filter with the by-pass port.

Operation

Keep the cap downwards to prevent contaminants from entering the system during element replacement

Filter Series	Nom. Pore Micron	Pressure Drop		
		20	60 psi	120
		Water GPM @ 70 °F(21 °C)		
TF-1/8,1/4 6m	05	0.06	0.19	0.32
	2	0.11	0.26	0.44
	7	0.14	0.33	0.53
	15	0.17	0.39	0.64
	60	0.21	0.55	0.77
	90	0.28	0.55	0.66
TF-3/8,8m	05	0.06	0.19	0.32
	2	0.34	0.94	1.42
	7	0.57	1.42	2.19
	15	0.71	1.42	2.30
	60	1.13	2.96	4.27
	90	1.56	3.72	5.37
TF-3/8,1/2 TF-10m,12m	05	0.13	0.44	0.83
	2	0.37	1.20	1.75
	7	0.91	2.41	3.83
	15	1.19	2.85	4.49
	60	2.12	5.26	7.34
	90	2.40	6.02	8.33
	40,140, 230, 440	0.28	0.55	0.66

*Filter Rebuild Kits are available for the IF and the TF series, and are available upon request.

The Selection of a Filter for any application or system design must be considered to ensure safe performance. Filter function, Filter rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Our Company accepts no liability for any improper selection, installation, operation or maintenance.

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