

INSTRUMENTATION SERIES

Instrumentation Filters

FI | FT | FB | FW SERIES



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All-welded In-line Filters Filters Ordering Number Description

SS - FI - FT8 - FN4 - 100

Body Material		Series	Inlet Type		Inlet Size		Outlet Type		Outlet Size		Element Nominal Pore Size	
SS	316 SS	FT	FN	Female NPT	2	1/8"	FN	Female NPT	2	1/8"	05	0.5 μm (Sintered)
6L	316L SS	FB	MN	Male NPT	4	1/4"	MN	Male NPT	4	1/4"	2	2 μm
S4	304 SS	FI	FR	Female BSPT	6	3/8" or 6 mm	FR	Female BSPT	6	3/8" or 6 mm	7	7 μm
4L	304L SS	FW	MR	Male BSPT	8	1/2" or 8 mm	MR	Male BSPT	8	1/2" or 8 mm	15	15 μm
S1	321 SS		FM	Female Metric Thread (for RP)	10	10 mm	FM	Female Metric Thread (for RP)	10	10 mm	40	40 μm
B	Brass		MM	Male Metric Thread (for RG)	12	3/4" or 12 mm	MM	Male Metric Thread (for RG)	12	3/4" or 12 mm	60	60 μm
904L	904L SS		FP	Female BSPP (for RP)			FP	Female BSPP (for RP)			80	80 μm
			MP	Male BSPP (for RG)			MP	Male BSPP (for RG)			100	100 μm (Strainer)
			FT	Fractional Tube Fitting			FT	Fractional Tube Fitting			150	150 μm (Strainer)
			MT	Metric Tube Fitting			MT	Metric Tube Fitting			250	250 μm (Strainer)
			SW	Fractional Tube Socket Weld			SW	Fractional Tube Socket Weld			450	450 μm (Strainer)
			BW	Fractional Tube Butt Weld			BW	Fractional Tube Butt Weld			EL	Without filter element

Filtration Definitions

- ◉ Sintered element: metal powder (alloys are available) is pressed in a die at sufficient pressure that the powder particles adhere at their contact points.
- ◉ Strainer element: the strainer is cup-shaped and includes an inner cup-shaped support structure having staggered perforations extending through the surfaces thereof, an outer cup-shaped strainer structure constructed of wire mesh is closely received over the support structure.
- ◉ Element nominal pore size: the element nominal pore size is normally calculated from the pressure required to cause air to bubble from the largest pore in the filter element when submerged in a test liquid.

Features

In-line Filters (FI Series)

- ◉ Filtration area type: 2, 4 and 8
- ◉ Compact and space-saving design
- ◉ Element nominal pore size: 0.5, 2, 7, 15, 40, 60, 80, 100, 150, 250 and 450 μm
- ◉ Working pressure up to: 3000 psig (207 bar)
- ◉ Working temperature: -20°F to 900°F (-28°C to 482°C)
- ◉ Body materials: 316 SS, 316L SS, 304 SS, 304L SS, 321 SS, 904L SS and Brass
- ◉ Variety of end connections available

Tee-type Filters (FT Series)

- ◉ Filtration area type: 2, 4 and 8
- ◉ Filter element replaceable without removing body from system
- ◉ Union bonnet design
- ◉ Element nominal pore size: 0.5, 2, 7, 15, 40, 60, 80, 100, 150, 250 and 450 μm
- ◉ Working pressure up to: 6000 psig (414 bar)
- ◉ Working temperature: -20°F to 900°F (-28°C to 482°C)
- ◉ Body materials: 316 SS, 316L SS, 304 SS, 304L SS, 904L SS and Brass
- ◉ Variety of end connections available
- ◉ ECE R110 type approved filters available

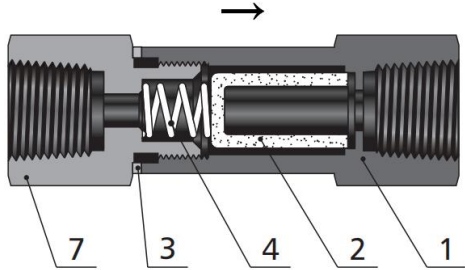
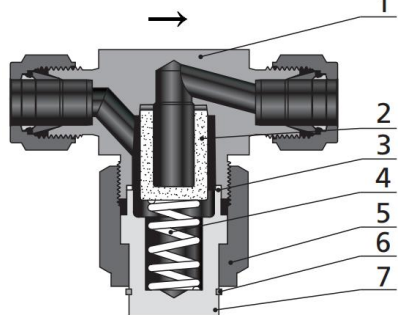
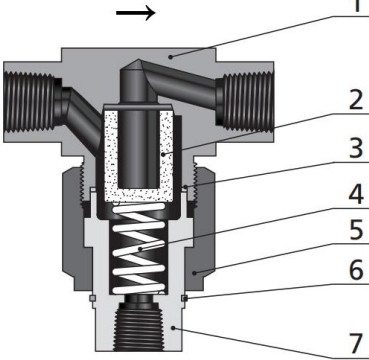
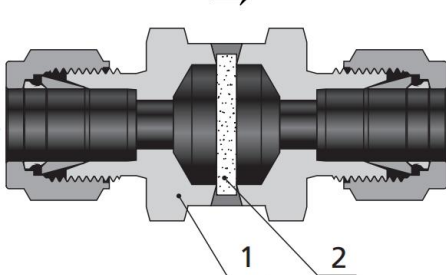
Bypass Filters (FB Series)

- ◉ Filtration area type: 2, 4 and 8
- ◉ Bypass port at filter bottom for the ease of sampling or purging
- ◉ Union bonnet design
- ◉ Element nominal pore size: 0.5, 2, 7, 15, 40, 60, 80, 100, 150, 250 and 450 μm
- ◉ Working pressure up to: 6000 psig (414 bar)
- ◉ Working temperature: -20°F to 900°F (-28°C to 482°C)
- ◉ Body materials: 316 SS, 316L SS, 304 SS, 304L SS, 904L SS and Brass
- ◉ Variety of end connections available

All-welded In-line Filters (FW Series)

- ◉ Large filtration area and high flow coefficient
- ◉ All-welded construction for elimination of leakage
- ◉ Easy cleaning of filters by backflushing
- ◉ Full-penetration weld between body and filter element
- ◉ Element nominal pore size: 0.5, 2, 7, 15 and 40 μm
- ◉ Working pressure up to: 6000 psig (414 bar)
- ◉ Working temperature: -20°F to 900°F (-28°C to 482°C)
- ◉ Body materials: 316 SS, 316L SS, 304 SS, 304L SS and 904L SS
- ◉ Variety of end connections available

Standard Materials of Construction

FI Series		FT Series	
			
FB Series		FW Series	
			
Component		Material Grade/ ASTM Specification	
		SS 316	Brass
1	Body	316 SS/A182 (FT, FB Series), 316 SS/A479 (FI, FW Series)	Brass C37700/B283 (FT, FB Series) Brass C36000/B16 (FI Series)
2	Element	Sintered 316 SS or strainer 316 SS	Sintered 316 SS or strainer 316 SS
3	Gasket	316 SS/A479 with PTFE/D1710 coating or silver-plated	PTFE/D1710 or aluminum/B209
4	Spring	302 SS/A313	302 SS/A313
5	Bonnet Nut	316 SS/A479	C36000/B16
6	Backup Ring	Stainless steel	
7	Bonnet	316 SS/A479	C36000/B16

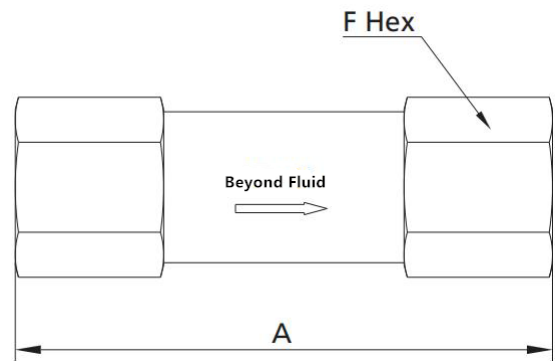
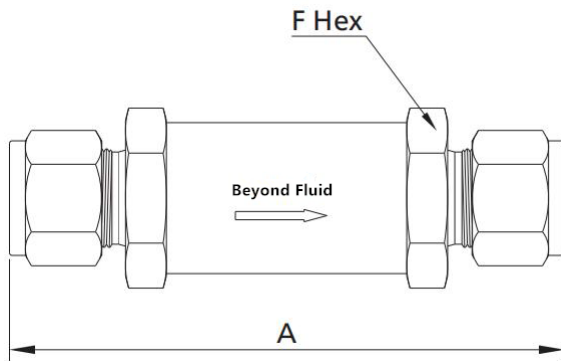
Filter Elements

Filter elements remove 95% of particles larger than the nominal pore size.

Sintered		Strainer	
Element Nominal PoreSize μm	Pore Size Range μm	Nominal PoreSize μm	Mesh
0.5	0.5 to 2	2	6250
2	1 to 4	7	3500
7	5 to 10	15	800
15	11 to 25	40	400
40	35 to 53	60	230
60	50 to 75	80	200
80	70 to 95	100	140
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---	---	250	60
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In-line Filters

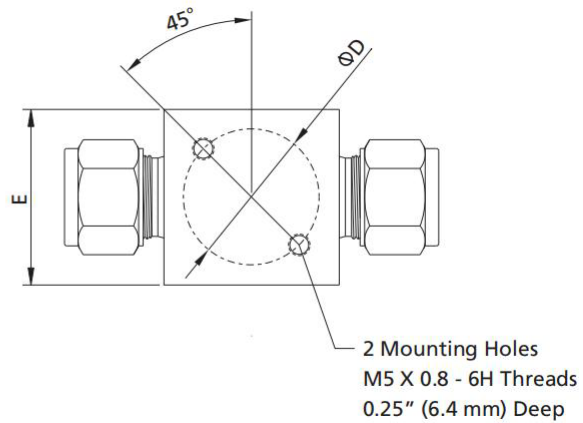
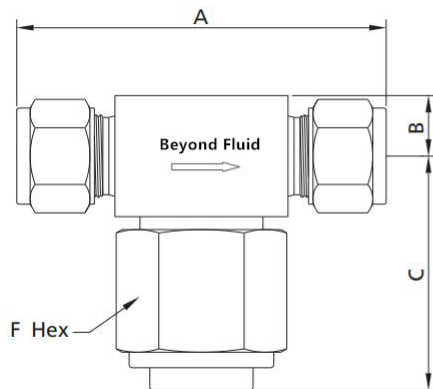
FI Series



Basic Ordering Number	Connection Type and Size		Filtration Area Type	Dimensions in.(mm)	
	Inlet	Outlet		A	F
-FI-FT2	1/8" Tube	1/8" Tube	2	2.35 (59.7)	9/16 (14.3)
-FI-FT4	1/4" Tube	1/4" Tube	4	2.95 (74.9)	3/4 (19.1)
-FI-FT6	3/8" Tube	3/8" Tube	8	3.21 (81.5)	1 (25.4)
-FI-FT8	1/2" Tube	1/2" Tube	8	3.49 (88.6)	
-FI-MT3	3 mm Tube	3 mm Tube	2	2.38 (60.5)	9/16 (14.3)
-FI-MT6	6 mm Tube	6 mm Tube	4	2.96 (75.2)	3/4 (19.1)
-FI-FN2	1/8 Female NPT	1/8 Female NPT	2	2.16 (54.9)	9/16 (14.3)
-FI-FN4	1/4 Female NPT	1/4 Female NPT	4	2.87 (72.9)	3/4 (19.1)
-FI-FN6	3/8 Female NPT	3/8 Female NPT	8	2.95 (74.9)	1 (25.4)
-FI-MN2	1/8 Male NPT	1/8 Male NPT	2	1.88 (47.7)	9/16 (14.3)
-FI-MN4	1/4 Male NPT	1/4 Male NPT	4	2.69 (68.3)	3/4 (19.1)
-FI-MN6	3/8 Male NPT	3/8 Male NPT	4	2.69 (68.3)	3/4 (19.1)
-FI-FR2	1/8 Female BSPT	1/8 Female BSPT	2	2.16 (54.9)	9/16 (14.3)
-FI-FR4	1/4 Female BSPT	1/4 Female BSPT	4	2.87 (72.9)	3/4 (19.1)
-FI-FR6	3/8 Female BSPT	3/8 Female BSPT	8	2.95 (74.9)	1 (25.4)
-FI-MR2	1/8 Male BSPT	1/8 Male BSPT	2	1.88 (47.7)	9/16 (14.3)
-FI-MR4	1/4 Male BSPT	1/4 Male BSPT	4	2.69 (68.3)	3/4 (19.1)
-FI-MR6	3/8 Male BSPT	3/8 Male BSPT	4	2.69 (68.3)	3/4 (19.1)

Tee-type Filters

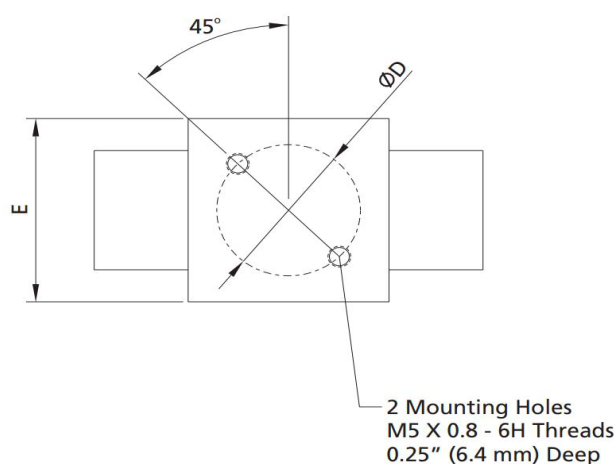
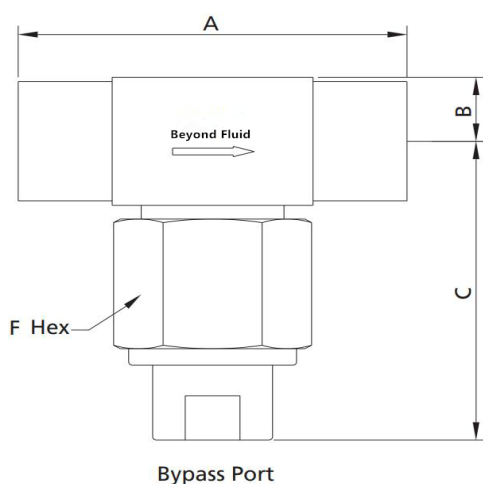
FT Series



Basic Ordering Number	Connection Type and Size		Filtration Area Type	Dimensions in.(mm)					
	Inlet	Outlet		A	B	C	D	E	F
-FT-FT2	1/8" Tube	1/8" Tube	2	2.27 (57.7)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FT-FT4	1/4" Tube	1/4" Tube	4	2.47 (62.7)					
-FT-FT6	3/8" Tube	3/8" Tube	8	2.84 (72.1)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FT-FT8	1/2" Tube	1/2" Tube	8	3.04 (77.2)					
-FT-MT3	3 mm Tube	3 mm Tube	2	2.27 (57.7)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FT-MT6	6 mm Tube	6 mm Tube	4	2.47 (62.7)					
-FT-MT8	8 mm Tube	8 mm Tube	8	2.84 (72.1)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FT-MT10	10 mm Tube	10 mm Tube	8	2.86 (72.6)					
-FT-MT12	12 mm Tube	12 mm Tube	8	3.04 (77.2)					
-FT-FN2	1/8 Female NPT	1/8 Female NPT	2	2.00 (50.8)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
-FT-FN4	1/4 Female NPT	1/4 Female NPT	4	2.13 (54.1)					
-FT-FN6	3/8 Female NPT	3/8 Female NPT	8	2.16 (56.9)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FT-FN8	1/2 Female NPT	1/2 Female NPT	8	2.55 (64.8)					
-FT-MN4	1/4 Male NPT	1/4 Male NPT	4	2.13 (54.1)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
-FT-MN6	3/8 Male NPT	3/8 Male NPT	8	2.38 (60.5)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FT-MN8	1/2 Male NPT	1/2 Male NPT	8	2.75 (69.9)					
-FT-FR4	1/4 Female BSPT	1/4 Female BSPT	4	2.13 (54.1)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
-FT-FR6	3/8 Female BSPT	3/8 Female BSPT	8	2.16 (56.9)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FT-FR8	1/2 Female BSPT	1/2 Female BSPT	8	2.55 (64.8)					

Bypass Filters

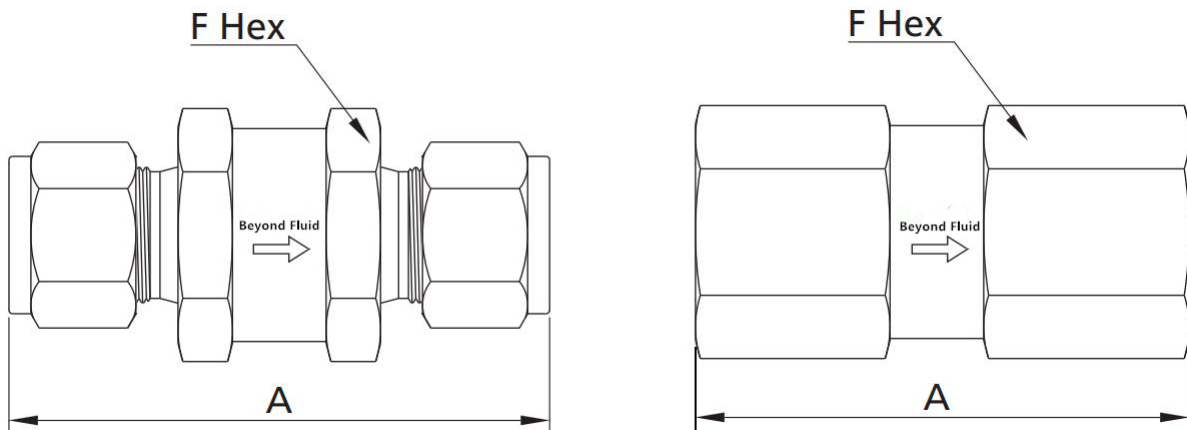
FB Series



Basic Ordering Number	Connection Type and Size		Filtration Area Type	Dimensions in.(mm)					
	Inlet	Outlet		A	B	C	D	E	F
-FB-FT2	1/8" Tube	1/8" Tube	2	2.27 (57.7)	0.38 (9.7)	1.98 (50.2)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FB-FT4	1/4" Tube	1/4" Tube	4	2.47 (62.7)		2.44 (61.9)			
-FB-FT6	3/8" Tube	3/8" Tube	8	2.84 (72.1)	0.46 (11.7)	2.74 (69.1)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FB-FT8	1/2" Tube	1/2" Tube	8	3.04 (77.2)		2.96 (74.2)			
-FB-MT3	3 mm Tube	3 mm Tube	2	2.27 (57.7)	0.38 (9.7)	1.98 (50.2)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FB-MT6	6 mm Tube	6 mm Tube	4	2.47 (62.7)		2.44 (61.9)			
-FB-MT8	8 mm Tube	8 mm Tube	8	2.84 (72.1)	0.46 (11.7)	2.74 (69.1)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FB-MT10	10 mm Tube	10 mm Tube	8	2.86 (72.6)		2.96 (74.2)			
-FB-MT12	12 mm Tube	12 mm Tube	8	3.04 (77.2)					
-FB-FN2	1/8 Female NPT	1/8 Female NPT	2	2.00 (50.8)	0.38 (9.7)	1.71 (43.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
-FB-FN4	1/4 Female NPT	1/4 Female NPT	4	2.13 (54.1)					
-FB-FN6	3/8 Female NPT	3/8 Female NPT	8	2.16 (56.9)	0.46 (11.7)	2.00 (50.8)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FB-FN8	1/2 Female NPT	1/2 Female NPT	8	2.55 (64.8)					
-FB-MN4	1/4 Male NPT	1/4 Male NPT	4	2.13 (54.1)	0.38 (9.7)	1.71 (43.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
-FB-MN6	3/8 Male NPT	3/8 Male NPT	8	2.38 (60.5)	0.46 (11.7)	2.00 (50.8)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FB-MN8	1/2 Male NPT	1/2 Male NPT	8	2.75 (69.9)					
-FB-FR4	1/4 Female BSPT	1/4 Female BSPT	4	2.13 (54.1)	0.38 (9.7)	1.71 (43.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
-FB-FR8	1/2 Female BSPT	1/2 Female BSPT	8	2.55 (64.8)	0.46 (11.7)	2.00 (50.8)	1.13 (28.7)	1.13 (28.7)	1.13 (28.7)

All-welded In-line Filters

FW Series



Basic Ordering Number	Connection Type and Size		Dimensions in.(mm)	
	Inlet	Outlet	A	F
-FB-FT4	1/4" Tube	1/4" Tube	2.15 (54.6)	1.00 (25.4)
-FB-MT6	6 mm Tube	6 mm Tube	2.15 (54.6)	1.00 (25.4)
-FB-FN4	1/4 Female NPT	1/4 Female NPT	1.57 (39.9)	1.00 (25.4)
-FB-MN4	1/4 Male NPT	1/4 Male NPT	1.89 (48.0)	1.00 (25.4)
-FB-FR4	1/4 Female BSPT	1/4 Female BSPT	1.57 (39.9)	1.00 (25.4)
-FB-MR4	1/4 Male BSPT	1/4 Male BSPT	1.89 (48.0)	1.00 (25.4)

1. Sintered element available for FW series 0.5 μ m nominal pore size only, and strainer element option for the other nominal pore sizes.
2. Sizes and types listed are standard. Other sizes and types are available upon request.
3. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact Beyond Fluid Company or our authorized distributors.



BEYOND FLUID

Precision fluid system components

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