

Filters

FT, FB, F and FW Series



 **Finelok**[®]
Instrumentation Solutions

www.finelok.com

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

Tee-type Filters

FT Series

- ★ Filter element replaceable without removing body from system
- ★ Union bonnet design
- ★ Nominal pore sizes for sintered element: 0.5, 2, 7, 15, 40, 60 and 80 μ m
- ★ Nominal pore sizes for strainer element: 100, 150, 250 and 450 μ m
- ★ Maximum working pressure: 6000 psig (414 bar)
- ★ Working temperature: -20F to 900F (-28°C to 482°C)
- ★ Body materials: 316 SS, 316LSS, 304 SS, 304LSS, 904L SS, and Brass
- ★ Variety of end connections available

Bypass Filters

FB Series

- ★ Bypass port at filter bottom for the ease of sampling or purging
- ★ Union bonnet design
- ★ Nominal pore sizes for sintered element: 0.5, 2, 7, 15, 40, 60 and 80 μ m
- ★ Nominal pore sizes for strainer element: 100, 150, 250 and 450 μ m
- ★ Maximum working pressure: 6000 psig (414 bar)
- ★ Working temperature: -20F to 900F (-28°C to 482°C)
- ★ Body materials: 316 SS, 316LSS, 304 SS, 304LSS, 904L SS, and Brass
- ★ Variety of end connections available

In-line Filters

FI Series

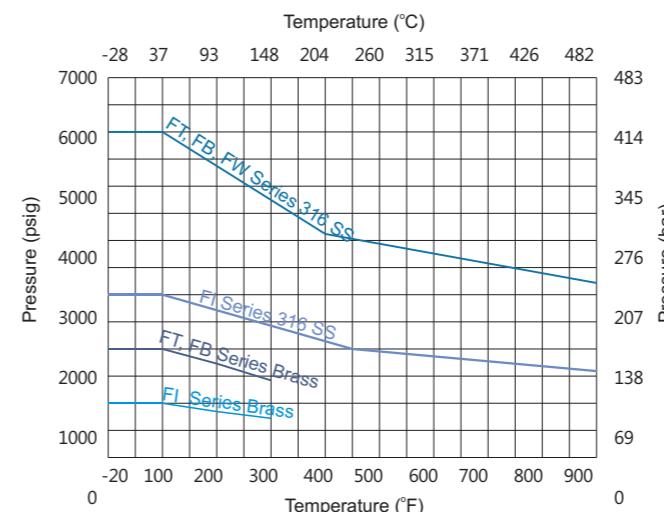
- ★ Compact and space-saving design
- ★ Nominal pore sizes for sintered element: 0.5, 2, 7, 15, 40, 60 and 80 μ m
- ★ Nominal pore sizes for strainer element: 100, 150, 250 and 450 μ m
- ★ Maximum working pressure: 3000 psig (207 bar)
- ★ Working temperature: -20F to 900F (-28°C to 482°C)
- ★ Body materials: 316 SS, 316LSS, 304 SS, 304LSS, 321 SS, 904L SS, and Brass
- ★ Variety of end connections available

All-welded In-line Filters

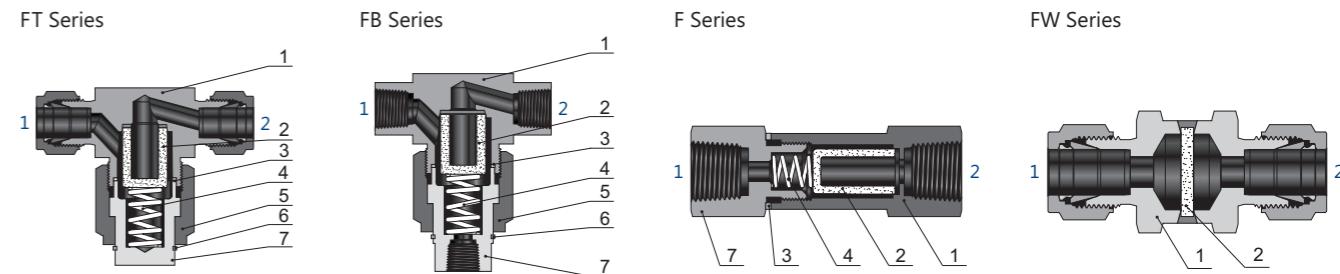
FW Series

- ★ 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 element
- ★ Nominal pore sizes for sintered element: 0.5, 2, 7, 15, 40, 60 and 80 μ m
- ★ Maximum working pressure: 6000 psig (414 bar)
- ★ Working temperature: -20F to 900F (-28°C to 482°C)
- ★ Body materials: 316 SS, 316LSS, 304 SS, 304LSS, and 904L SS
- ★ Variety of end connections available

Pressure vs. Temperature



Contact the authorized representative or FINELOK for curve graph of other materials.



Standard Materials of Construction

Component	Material Grade/ASTM Specification	
	316 SS	Brass
1 Body	316 SS/A479	Brass C36000/B16
2 Element	Sintered 316 SS or strainer 316 SS	Sintered 316 SS or strainer 316 SS
3 Gasket	PTFE/D1710 or silver-plated 316 SS/A240	PTFE/D1710 or aluminum/B209
4 Spring	302 SS/A313	302 SS/A313
5 Bonnet Nut	316 SS/A479	C36000/B16
6 Backup Ring	316 SS/A276	
7 Bonnet	316 SS/A479	C36000/B16

1. FW Series filters not available in brass

2. Lubricants: molybdenum disulfide-based and silicone-based

Maximum Differential Pressure of Clean Filter at 70°F (20°C)

Series	Maximum Differential Pressure psig (bar)										
	0.5 micron	2 micron	7 micron	15 micron	40 micron	60 micron	80 micron	100 micron	150 micron	250 micron	450 micron
FT, FB, F	2250 (155.2)	2250 (155.2)	1950 (134.5)	1750 (120.3)	1150 (79.3)	1150 (79.3)	1000 (68.9)	1000 (68.9)	1000 (68.9)	1000 (68.9)	1000 (68.9)
FW	600 (41.4)	100 (6.9)	100 (6.9)	100 (6.9)	—	—	—	—	—	—	—

Elements

Nominal Pore Size μm	Pore Size Range μm	Element Type
0.5	0.5 to 2	Sintered
2	1 to 4	
7	5 to 10	
15	11 to 25	
40	35 to 53	
60	50 to 75	
80	70 to 95	
100	—	
150	—	
250	—	
450	—	
Strainer		

Filtration Area

Series	Orifice in. (mm)	Filtration Area in. ² (mm ²)	
		Sintered	Strainer
2FT, 2FB	0.094 (2.04)	1.30 (830)	1.00 (640)
4FT, 4FB	0.172 (4.36)	1.30 (830)	1.00 (640)
6FT, 6FB	0.213 (5.41)	2.00 (1280)	1.70 (1090)
8FT, 8FB	0.250 (6.35)	2.00 (1280)	1.70 (1090)
2F	0.094 (2.39)	0.55 (350)	—
4F	0.187 (4.75)	1.30 (830)	1.00 (640)
6F	0.281 (7.14)	2.00 (1280)	1.70 (1090)
8F	0.406 (10.30)	2.00 (1280)	1.70 (1090)
4FW	0.187 (4.75)	0.44 (283)	—

Flow Data at 70°F (20°C)

FT, FB Series

Pressure Drop to Atmosphere Δp psig (bar)	2 Series		4 Series		6, 8 Series	
	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)
	0.5 Micron Cv = 0.035	0.5 Micron Cv = 0.035	0.5 Micron Cv = 0.035	0.5 Micron Cv = 0.052	0.5 Micron Cv = 0.038	0.5 Micron Cv = 0.187
5 (0.34)	0.07 (0.26)	0.40 (11.3)	0.07 (0.26)	0.40 (11.3)	0.11 (0.43)	0.47 (13.3)
10 (0.69)	0.11 (0.42)	0.50 (14.2)	0.11 (0.42)	0.50 (14.2)	0.16 (0.62)	0.74 (21.0)
50 (3.45)	0.25 (0.95)	1.33 (37.7)	0.25 (0.95)	1.33 (37.7)	0.36 (1.38)	1.96 (55.5)
	2 Micron Cv = 0.068	2 Micron Cv = 0.072	2 Micron Cv = 0.096	2 Micron Cv = 0.106	2 Micron Cv = 0.112	2 Micron Cv = 0.374
5 (0.34)	0.15 (0.56)	0.77 (21.8)	0.16 (0.60)	0.82 (23.2)	0.21 (0.81)	1.09 (30.9)
10 (0.69)	0.22 (0.83)	0.97 (27.5)	0.22 (0.83)	1.02 (28.9)	0.30 (1.14)	1.37 (38.8)
50 (3.45)	0.48 (1.81)	2.58 (73.1)	0.51 (1.93)	2.72 (77.0)	0.67 (2.53)	3.64 (103.1)
	7 Micron Cv = 0.158	7 Micron Cv = 0.165	7 Micron Cv = 0.35	7 Micron Cv = 0.45	7 Micron Cv = 0.515	7 Micron Cv = 1.05
5 (0.34)	0.35 (1.32)	1.80 (51.0)	0.37 (1.40)	1.88 (53.2)	0.78 (2.96)	4.00 (113.3)
10 (0.69)	0.50 (1.89)	2.25 (63.7)	0.52 (1.96)	2.35 (66.5)	1.10 (4.18)	5.00 (141.6)
50 (3.45)	1.12 (4.22)	5.98 (169.3)	1.16 (4.38)	6.25 (177.0)	2.47 (9.35)	13.30 (376.6)
	15 Micron Cv = 0.19	15 Micron Cv = 0.20	15 Micron Cv = 0.37	15 Micron Cv = 0.42	15 Micron Cv = 0.515	15 Micron Cv = 1.05
5 (0.34)	0.42 (1.61)	2.16 (61.2)	0.44 (1.66)	2.28 (64.6)	0.82 (3.12)	4.20 (118.9)
10 (0.69)	0.60 (2.27)	2.71 (76.7)	0.63 (2.38)	2.85 (80.7)	0.82 (3.12)	5.28 (149.5)
50 (3.45)	1.34 (5.06)	7.20 (203.9)	1.41 (5.33)	7.58 (214.6)	2.61 (9.88)	14.00 (396.4)
	40 Micron Cv = 0.23	40 Micron Cv = 0.24	40 Micron Cv = 0.42	40 Micron Cv = 0.42	40 Micron Cv = 0.515	40 Micron Cv = 1.05
5 (0.34)	0.51 (1.94)	2.62 (74.2)	0.54 (2.04)	2.74 (77.6)	0.93 (3.54)	4.80 (135.9)
10 (0.69)	0.73 (2.76)	3.28 (96.8)	0.76 (2.87)	3.42 (96.8)	1.32 (5.02)	6.00 (169.9)
50 (3.45)	1.63 (6.16)	8.74 (247.5)	1.70 (6.42)	9.11 (258.0)	2.96 (11.20)	15.90 (450.2)
	60 Micron Cv = 0.24	60 Micron Cv = 0.25	60 Micron Cv = 0.45	60 Micron Cv = 0.45	60 Micron Cv = 0.515	60 Micron Cv = 1.05
5 (0.34)	0.54 (2.04)	2.74 (77.6)	0.56 (2.11)	2.85 (80.7)	1.00 (3.78)	5.10 (144.4)
10 (0.69)	0.76 (2.87)	3.42 (96.8)	0.79 (2.98)	3.57 (101.1)	1.42 (5.37)	6.40 (181.2)
50 (3.45)	1.70 (6.42)	9.11 (258.0)	1.77 (6.70)	9.49 (268.7)	3.18 (12.00)	17.00 (481.4)
	80 Micron Cv = 0.25	80 Micron Cv = 0.26	80 Micron Cv = 0.67	80 Micron Cv = 0.67	80 Micron Cv = 0.72	80 Micron Cv = 1.05
5 (0.34)	0.56 (2.11)	2.85 (80.7)	0.58 (2.19)	2.96 (83.8)	1.49 (5.66)	7.64 (216.3)
10 (0.69)	0.79 (2.98)	3.57 (101.1)	0.82 (3.10)	3.70 (104.8)	2.11 (5.89)	9.55 (270.4)
50 (3.45)	1.77 (6.70)	9.49 (268.7)	1.84 (6.95)	9.80 (277.5)	4.73 (17.90)	25.40 (719.2)
	100 Micron Cv = 0.27	100 Micron Cv = 0.28	100 Micron Cv = 0.72	100 Micron Cv = 0.72	100 Micron Cv = 0.72	100 Micron Cv = 1.05
5 (0.34)	0.60 (2.27)	3.08 (87.2)	0.62 (2.34)	3.20 (90.6)	1.61 (6.08)	8.20 (232.2)
10 (0.69)	0.85 (3.21)	3.85 (109.0)	0.88 (3.30)	4.00 (113.2)	2.27 (8.61)	10.20 (288.8)
50 (3.45)	1.91 (7.22)	10.20 (288.8)	1.98 (7.48)	5.30 (150.1)	5.09 (19.20)	27.20 (770.2)
	150, 250, 450 Micron Cv = 0.55	150, 250, 450 Micron Cv = 0.58	150, 250, 450 Micron Cv = 0.82	150, 250, 450 Micron Cv = 0.82	150, 250, 450 Micron Cv = 0.82	150, 250, 450 Micron Cv = 1.05
5 (0.34)	1.23 (4.65)	6.28 (177.8)	1.30 (4.91)	6.60 (186.9)	1.83 (6.93)	9.36 (265.0)
10 (0.69)	1.74 (6.58)	7.85 (222.3)	1.83 (6.91)	8.20 (232.2)	2.59 (9.80)	11.70 (331.3)
50 (3.45)	3.89 (14.70)	20.80 (589.0)	4.10 (15.50)	21.90 (620.1)	5.79 (21.90)	27.20 (770.2)

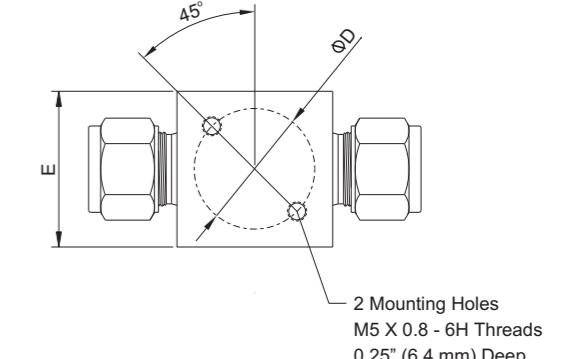
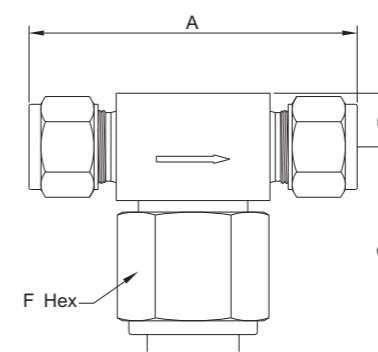
FI Series

Pressure Drop to Atmosphere Δp psig (bar)	2 Series		4 Series		6, 8 Series	
	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)
	0.5 Micron Cv = 0.008	0.5 Micron Cv = 0.038	0.5 Micron Cv = 0.028	0.5 Micron Cv = 0.112	0.5 Micron Cv = 0.406	0.5 Micron Cv = 1.05
5 (0.34)	0.01 (0.03)	0.09 (2.6)	0.08 (0.30)	0.42 (11.9)	0.41 (1.54)	2.09 (59.2)
10 (0.69)	0.02 (0.07)	0.11 (3.1)	0.12 (0.45)	0.52 (14.7)	0.59 (2.23)	2.56 (72.5)
50 (3.45)	0.05 (0.18)	0.30 (8.5)	0.26 (0.98)	1.42 (40.2)	1.32 (4.98)	6.99 (197.9)
	2 Micron Cv = 0.022	2 Micron Cv = 0.106	2 Micron Cv = 0.22	2 Micron Cv = 0.406	2 Micron Cv = 1.05	2 Micron Cv = 3.74
5 (0.34)	0.04 (0.15)	0.24 (6.8)	0.23 (0.86)	1.18 (33.4)	0.83 (3.13)	4.20 (118.9)
10 (0.69)	0.06 (0.22)	0.30 (8.5)	0.42 (1.58)	1.45 (41.1)	1.18 (4.46)	5.13 (145.3)
50 (3.45)	0.15 (0.56)	0.82 (23.2)	0.74 (2.79)	3.96 (112.1)	2.64 (9.97)	14.00 (396.4)
	7 Micron Cv = 0.028	7 Micron Cv = 0.112	7 Micron Cv = 0.28	7 Micron Cv = 0.515	7 Micron Cv = 1.05	7 Micron Cv = 3.74
5 (0.34)	0					

Pressure Drop to Atmosphere Δp psig (bar)	4 Series	
	Water Flow, U.S. gal (L/min)	Air Flow, std ft ³ /min (std L/min)
0.5 Micron Cv = 0.008		
5 (0.34)	0.01 (0.03)	0.09 (2.6)
10 (0.69)	0.02 (0.07)	0.11 (3.1)
50 (3.45)	0.05 (0.18)	0.30 (8.5)
2 Micron Cv = 0.42		
5 (0.34)	0.93 (3.50)	4.72 (133.7)
10 (0.69)	1.32 (4.98)	5.77 (163.4)
50 (3.45)	2.96 (11.10)	15.70 (444.6)
7 Micron Cv = 0.45		
5 (0.34)	1.00 (3.78)	5.04 (142.7)
10 (0.69)	1.42 (5.36)	6.16 (174.4)
50 (3.45)	3.18 (12.00)	16.80 (475.7)
15 Micron Cv = 0.76		
5 (0.34)	1.69 (6.22)	8.55 (242.1)
10 (0.69)	2.40 (9.07)	10.40 (294.5)
50 (3.45)	5.37 (20.30)	28.50 (807.0)

Dimensions

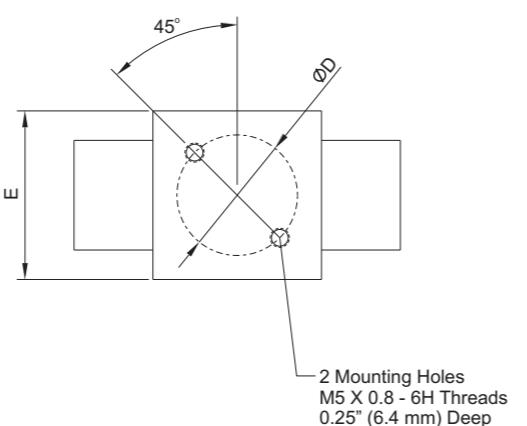
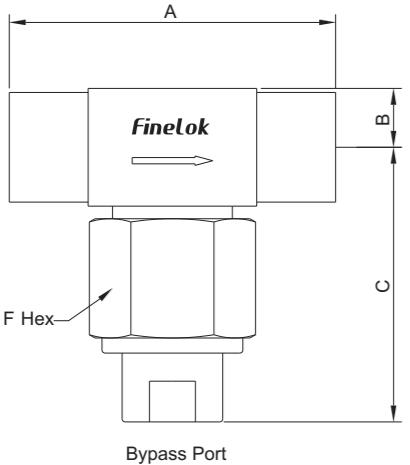
FT Series



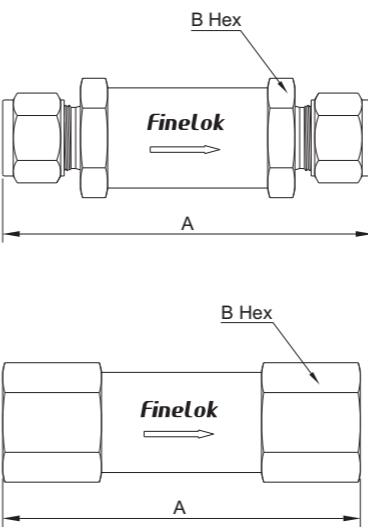
Basic Ordering Number	Connection Type and Size		Element Series	Dimension, in. (mm)					
	Inlet	Outlet		A	B	C	ΦD	E	F
-FT-S2-	1/8" FINELOK	1/8" FINELOK	2	2.27 (57.7)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FT-S4-	1/4" FINELOK	1/4" FINELOK	4	2.47 (62.7)					
-FT-S6-	3/8" FINELOK	3/8" FINELOK	6	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-S8-	1/2" FINELOK	1/2" FINELOK	8	3.04 (77.2)					
-FT-SM6-	6 mm FINELOK	6 mm FINELOK	4	2.46 (62.5)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FT-SM8-	8 mm FINELOK	8 mm FINELOK	6	2.84 (72.1)					
-FT-SM10-	10 mm FINELOK	10 mm FINELOK	8	2.86 (72.6)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)
-FT-SM12-	12 mm FINELOK	12 mm FINELOK	8	3.04 (77.2)					
-FT-FS4-	1/4" FS	1/4" FS	4	1.68 (42.7)	0.38 (9.7)	1.49 (37.8)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FT-FS6-	3/8" FS	3/8" FS	4						
-FT-FB4-	1/4" FB	1/4" FB	4						
-FT-FB6-	3/8" FB	3/8" FB	4						
-FT-FNT2-	1/8 Female NPT	1/8 Female NPT	2	2.00 (50.8)	2.13 (54.1)	0.46 (11.7)	1.74 (44.2)	1.13 (28.7)	1.13 (28.7)
-FT-FNT4-	1/4 Female NPT	1/4 Female NPT	4						
-FT-NT4-	1/4 Male NPT	1/4 Male NPT	4						
-FT-NT6-	3/8 Male NPT	3/8 Male NPT	6	2.38 (60.5)					
-FT-NT8-	1/2 Male NPT	1/2 Male NPT	8	2.75 (69.9)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1 (25.4)	1 1/8 (28.6)
-FT-CR4-	1/4 Male CR	1/4 Male CR	4	2.30 (58.4)					
-FT-CR8-	1/2 Male CR	1/2 Male CR	8	2.55 (64.8)					

Mounting holes not available with 1/4 female NPT end connections

FB Series



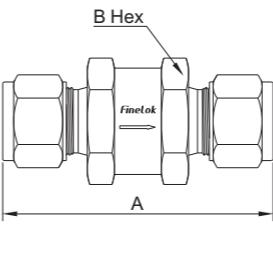
FI Series



Basic Ordering Number	Connection Type and Size		Element Series	Dimension, in. (mm)					
	Inlet	Outlet		A	B	C	ØD	E	F
-FB-S2-	1/8" FINELOK	1/8" FINELOK	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-S4-	1/4" FINELOK	1/4" FINELOK	4	2.47 (62.7)		2.44 (61.9)			
-FB-S6-	3/8" FINELOK	3/8" FINELOK	6	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-S8-	1/2" FINELOK	1/2" FINELOK	8	3.04 (77.2)		2.96 (74.2)			
-FB-SM6-	6 mm FINELOK	6 mm FINELOK	4	2.46 (62.5)	0.38 (9.7)	2.44 (61.9)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FB-SM8-	8 mm FINELOK	8 mm FINELOK	6	2.84 (72.1)		2.74 (69.1)			
-FB-SM10-	10 mm FINELOK	10 mm FINELOK	8	2.86 (72.6)	0.46 (11.7)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)	
-FB-SM12-	12 mm FINELOK	12 mm FINELOK	8	3.04 (77.2)		2.96 (74.2)			
-FB-FS4-	1/4" FS	1/4" FS	4						
-FB-FS6-	3/8" FS	3/8" FS	4						
-FB-FB4-	1/4" FB	1/4" FB	4						
-FB-FB6-	3/8" FB	3/8" FB	4						
-FB-FNT2-	1/8 Female NPT	1/8 Female NPT	2	2.00 (50.8)					
-FB-FNT4-	1/4 Female NPT	1/4 Female NPT	4						
-FB-NT4-	1/4 Male NPT	1/4 Male NPT	4						
-FB-NT6-	3/8 Male NPT	3/8 Male NPT	6	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-NT8-	1/2 Male NPT	1/2 Male NPT	8	2.75 (69.9)					
-FB-CR4-	1/4 Male CR	1/4 Male CR	4	2.38 (60.5)	0.38 (9.7)	2.44 (61.9)	1.00 (25.4)	1.00 (25.4)	1 (25.4)
-FB-CR8-	1/2 Male CR	1/2 Male CR	8	2.75 (69.9)	0.46 (11.7)	2.96 (74.2)	1.13 (28.7)	1.13 (28.7)	1 1/8 (28.6)

Mounting holes not available with 1/4 female NPT end connections

FW Series



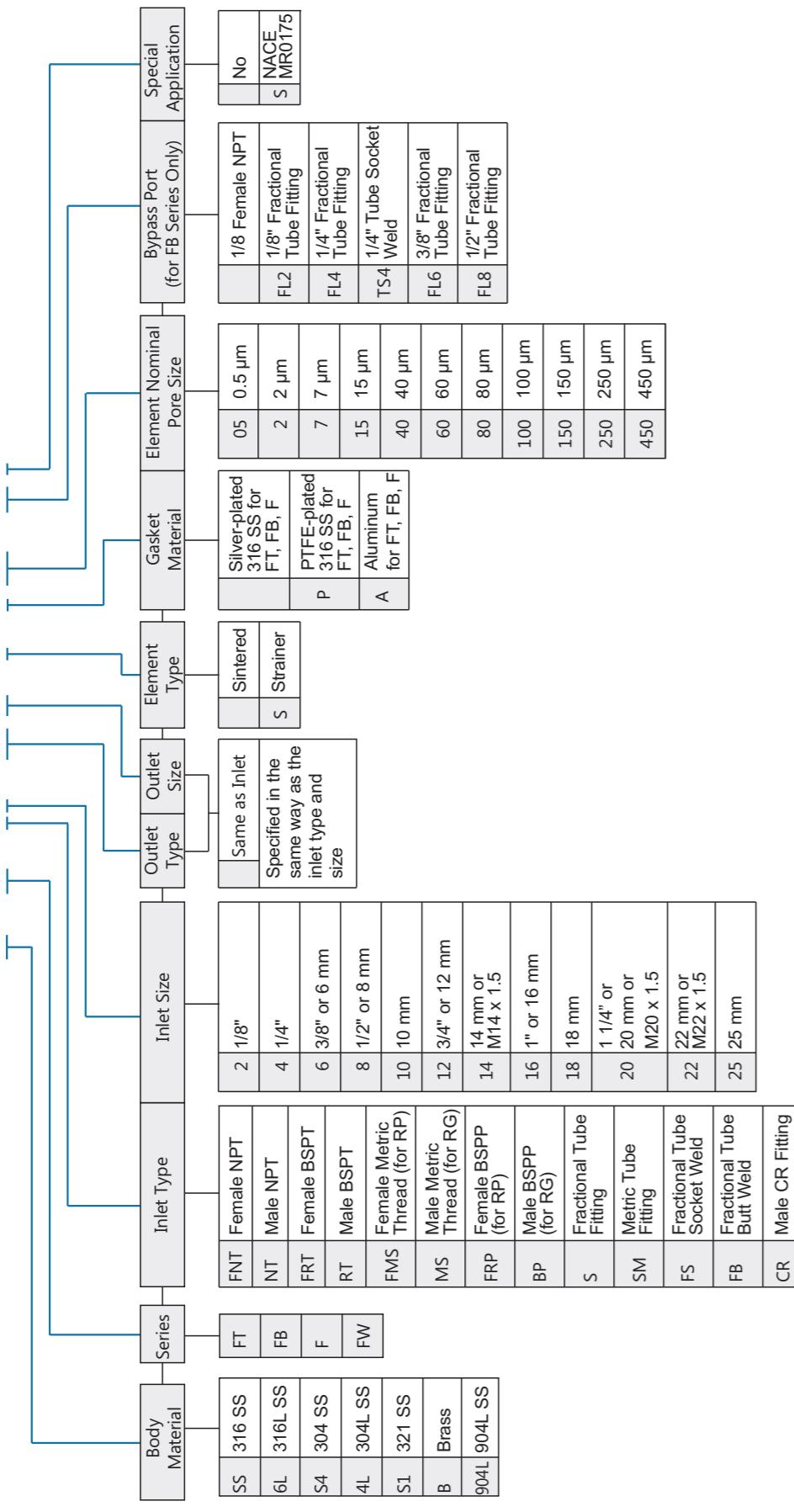
Basic Ordering Number	Connection Type and Size		Element Series	Dimension, in. (mm)	
	Inlet	Outlet		A	B
-FW-S4-	1/4" FINELOK	1/4" FINELOK	4	0.187(4.75)	2.15(54.6)
-FW-SM6-	6 mm FINELOK	6 mm FINELOK	6		
-FW-FNT4-	1/4 Female NPT	1/4 Female NPT	4	0.453(11.5)	1.57(39.9)
-FW-NT4-	1/4 Male NPT	1/4 Male NPT	4	0.281(7.14)	1.89(48.0)
-FW-CR4-	1/4 Male CR	1/4 Male CR	4	0.187(4.75)	2.04(51.8)

1. FINELOK means FINELOK double ferrule tube fittings, CR means metal gasket seal fittings, FS means fractional tube socket weld, FB means fractional tube butt weld.
2. Sizes and types listed are standard. Other sizes and types are available upon request.
3. Dimensions are shown with FINELOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FINELOK.

Filters Ordering Information

9 Filters

SS - FB - S8 - SM10 - S - P150 - S4S



1. Standard thread pitch for metric threads are as follows:

- M10 and below: 1 mm
- M12 to M24: 1.5 mm
- M27 and above: 2 mm

Standard thread pitch should be ignored in the ordering number, others should be specified.

Elements Ordering Information

Filters 10

SS - E - SN8 - 60

Material	Part Name	Element Type	Element Series	Element Nominal Pore Size
SS 316 SS	E Element	SN Sintered	2 (only for sintered)	05 0.5 μm
		ST Strainer	4	2 2 μm
			8	7 7 μm
				15 15 μm
				40 40 μm
				60 60 μm
				80 80 μm
				100 100 μm
				150 150 μm
				250 250 μm
				450 450 μm