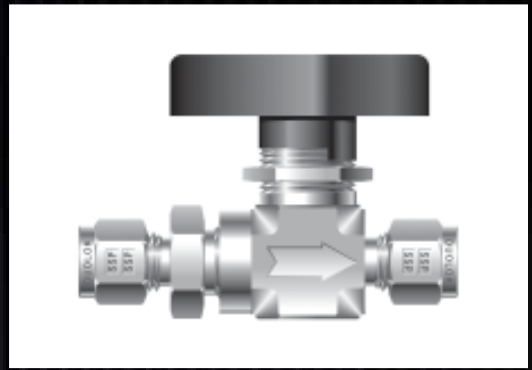


FloLok[®] Valves

VALVES FOR
INSTRUMENTATION &
PROCESS SYSTEMS



Made in USA

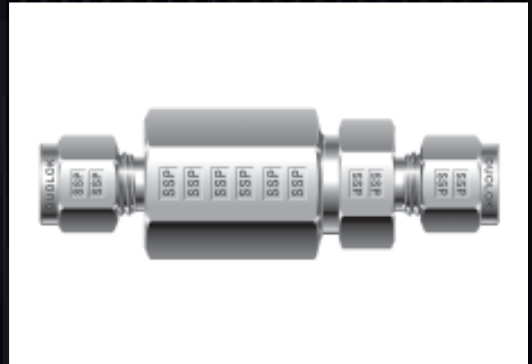


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SSP Fittings Corp. (SSP)

Since its inception in 1926, SSP has developed into an internationally recognized manufacturer of the highest quality machined products. This successful U.S. corporation's heritage of craftsmanship and business expertise provide the foundation for a valve division specializing in providing alternatives in quality instrumentation and process system valves...



FloLok®

From its origination in 1960, FloLok® Valves have been manufactured to meet the highest quality and performance standards associated with the instrumentation, control, and process industry marketplace. The FloLok® product line was initiated and expanded in response to expressed needs for solutions in unique flow control applications. Out of its original beginnings of specialization, standard product lines became available to serve a wide variety of applications and customers. The broad offering of operating pressure and temperature ranges, flow control options and end connections has made FloLok® the product of choice for many applications.

In 2001, the FloLok® product lines were acquired by SSP to supplement and complement SSP's historic product offering of quality

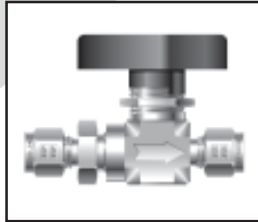


tube, pipe, weld, hose and adapter fittings. SSP's world-renowned manufacturing, engineering, quality, sales and distribution now support valve product line expansion and provide the end-user with a single source for their instrumentation and process system valve and fitting needs.

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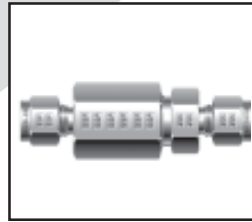


Ball Valves



- Pressures to 5000 psig
- Temperatures to 350°F
- PTFE & Kel-F (PCTFE) Seats
- 316 Stainless Steel, Brass
- Two & Three Way
- **Standard Production Testing:** Every ball valve is assembled and tested @ 1000 psig (68.9 bar) with Nitrogen

Check Valves



- Pressures to 6000 psig
- Temperatures to 350°F
- O-ring Seat Seal
- 316 Stainless Steel
- Cracking Pressures: 1/3, 1, 5, 10, 15, 25, 50 psig
- **Standard Production Testing:** Every check valve is tested for crack and reseal performance.

Tee Filters



- Pressures to 5000 psig
- Temperatures to 450°F
- PTFE Gaskets
- 316 Stainless Steel, Brass
- Elements (Micron) 1, 2, 5, 10, 20, 40, 60, 100, 200, 400
- **Installation:** The best installation practice to help prevent contaminants from entering the system during element change is to orient the filter with the cap downwards.

Toggle Valves



- Pressures to 200 psig
- Temperatures to 200°F
- PTFE Seats
- 316 Stainless Steel, Brass
- Straight & Angle Patterns
- **Standard Production Testing:** Every toggle valve is assembled and tested @ 200 psig with Nitrogen.

Plug Valves



- Pressures to 3000 psig
- Temperatures to 400°F
- Replaceable Plug
- 316 Stainless Steel, Brass
- One Piece Body Design
- **Standard Production Testing:** Every plug valve is assembled and tested @ 1000 psig (68.9 bar) with Nitrogen

Needle, Metering & Lower Packing Valves



- Pressures to 6000 psig
- Temperatures to 450°F
- Metal-to-Metal & Soft Seat Stems
- 316 Stainless Steel, Brass
- Straight & Angle Patterns
- **Standard Production Testing:** Every needle, metering and lower packing valve is assembled and tested @ 1000 psig with Nitrogen.

Purge Valves



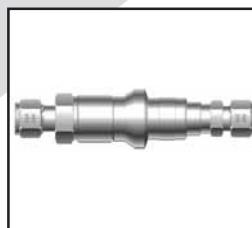
- Pressures to 4000 psig
- Temperatures to 600°F
- Quick Opening and Closing
- 316 Stainless Steel, Brass
- Low Operating Torque
- **Standard Production Testing:** Every purge valve is assembled and tested @ 1000 psig (68.9 bar) with Nitrogen

Inline Filters



- Pressures to 3000 psig
- Temperatures to 900°F
- Replaceable Filter Elements
- 316 Stainless Steel, Brass
- Elements (Micron) 1, 2, 5, 10, 20, 40, 60, 100, 200

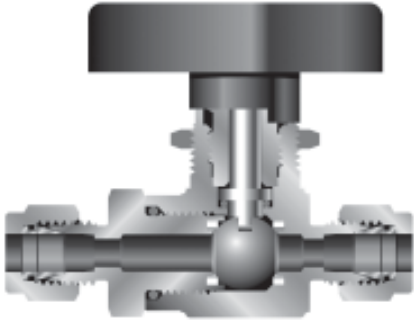
Quick Connects



- Pressures to 3000 psig
- DESO and SESO stem options
- Keyed Couplings Available
- 316 Stainless Steel, Brass
- Stem Caps & Body Plugs Available

Two-Way Ball Valves

FloLok® manually operated two-way ball valves provide quick ¼ turn directional flow control of fluids in instrumentation and process systems. Valve body, and Seat Material options provide a broad range of temperature and pressures at which the valve may be used.



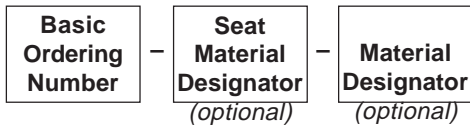
Features

- Directional handle indicates flow direction
- Panel mountable
- 90 degree actuation
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Straight through flow path
- Micro finished ball provides positive seal
- Free floating ball design provides compensation for seat wear for repetitive sealing
- Blow-out proof ball & stem
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Material Designator and the desired Seat Material Designator as a suffix to the basic ordering number found in the table on page 13.

Part Number Configuration



Material Designators

- Brass** – No suffix required
- 316 Stainless Steel** – 316

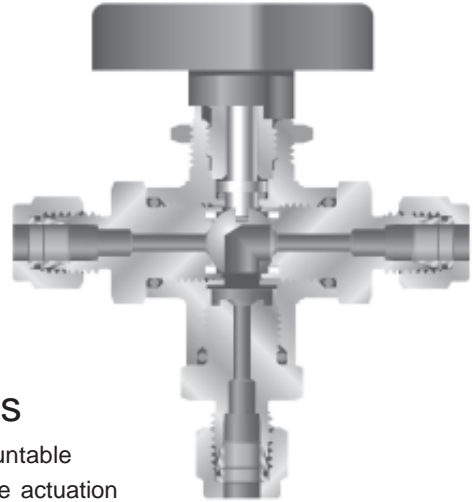
Seat Material

- PTFE** – No suffix required (standard Seat Material)
- Kel-F (PCTFE)** – K

	Specifications			
	Stainless Steel		Brass	
Temp Rating	PTFE Seats	-40°F to 350°F	PTFE Seats	-40°F to 350°F
	Kel-F Seats	-40°F to 350°F	Kel-F Seats	-40°F to 350°F
Pressure Rating @ 100°F	PTFE Seats 1500 psi		PTFE Seats 1500 psi	
	Kel-F Seats 5000 psi		Kel-F Seats 3000 psi	

Three-Way Ball Valves

FloLok® manually operated three-way ball valves accept media through the bottom port and allow selection of flow through a selected port. Valve body, and Seat Material options provide a broad range of temperatures and pressures at which the valve may be used.



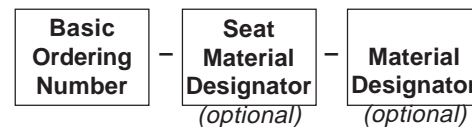
Features

- Panel mountable
- 180 degree actuation
- Directional handle indicates flow direction
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Micro finished ball provides positive seal
- Free floating ball design provides compensation for seat wear for repetitive sealing
- Blow-out proof ball and stem

Ordering Information

To order, add the Material Designator and the desired Seat Material Designator as a suffix to the basic ordering number found in the table on page 15.

Part Number Configuration



Material Designators

- Brass** – No suffix required
- 316 Stainless Steel** – 316

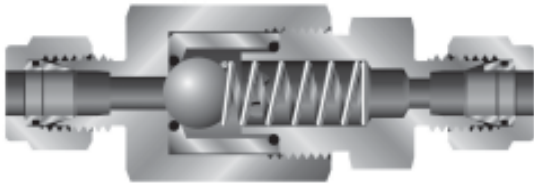
Seat Material

- PTFE** – No suffix required (standard Seat Material)
- Kel-F (PCTFE)** – K

	Specifications			
	Stainless Steel		Brass	
Temp Rating	PTFE Seats	-40°F to 350°F	PTFE Seats	-40°F to 350°F
	Kel-F Seats	-40°F to 350°F	Kel-F Seats	-40°F to 350°F
Pressure Rating @ 100°F	PTFE Seats 1500 psi		PTFE Seats 1500 psi	
	Kel-F Seats 5000 psi		Kel-F Seats 3000 psi	

Check Valves

FloLok® Check Valves are designed for uni-directional flow control of fluids in instrumentation and process systems.



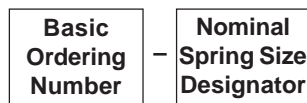
Features

- O-ring seat for tight shut-off
- Minimum flow resistance
- Cracking pressures include: 1/3, 1, 5, 10, 15, 25, 50 psi
- Micro finished ball provides positive seal
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections

Ordering Information

To order, add the desired Nominal Spring Size Designator after the basic ordering number. The Nominal Spring Size as well as the basic ordering number, are found in the tables on page 17.

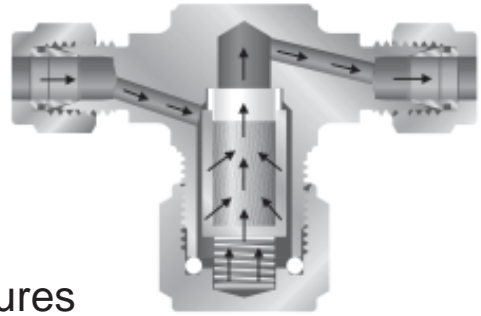
Part Number Configuration



Specifications	
Stainless Steel	
Temp Rating	-15°F to 350°F
Pressure Rating @ 100°F	6000 psig

Tee Filters

FloLok® Tee Filters are designed to remove system contaminants and maintain fluid purity in instrumentation and process systems.



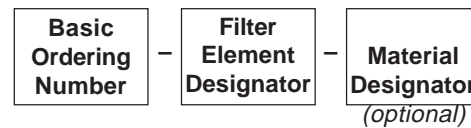
Features

- Replacement of filter element without removing filter body from system
- Available in 316 Stainless Steel and Brass
- Replaceable sintered or strainer elements are available in a choice of micron sizes
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections

Ordering Information

To order, add the Material Designator and the desired Filter Element Designator as a suffix to the basic ordering number found on page 19.

Part Number Configuration



Material Designators

Brass – No suffix required

Stainless Steel – 316

Filter Element Designators

Sintered: 1, 2, 5, 10, 20, 40, 60, 100, 200

Strainer: 140, 400

Specifications		
Stainless Steel		Brass
Temp Rating	-20°F to 450°F	-20°F to 450°F
Pressure Rating @ 100°F	5000 psig	3000 psig

Inline Filters

FloLok® Inline Filters are designed to remove system contaminants and maintain fluid purity in instrumentation and process systems.



Features

- Replaceable Filter Elements
- Choice of Micron Sizes from 1 to 200
- Filters trap foreign particles to protect sensitive equipment
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Filter Element Designator and the Material Designator as a suffix to the Basic ordering number found on page 20.

Part Number Configuration



Filter Element Designators

Sintered: 1, 2, 5, 10, 20, 40, 60, 100, 200

Strainer: 140, 400

Material Designators

Brass – No suffix required

Stainless Steel – 316

	Specifications			
	Stainless Steel		Brass	
Inlet/Outlet Size	1/8" & 1/4"	3/8" & 1/2"	1/8" & 1/4"	3/8" & 1/2"
Temp. Rating	-20° to 900°F	-20° to 900°F	-20 to 300°F	-20° to 300°F
Pressure Rating @ 100°F	3,000 psig	2,500 psig	1,000 psig	1,000 psig

Metering Valves

FloLok® Metering Valves are designed for instrumentation, research and analytical applications where accurate control and flow rates are required.



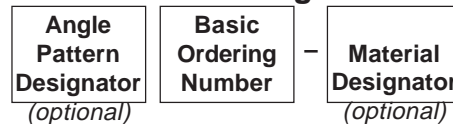
Features

- Straight and Angle patterns available
- Panel mountable
- Orifice sizes from .047" to .250"
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Available in 316 Stainless Steel and Brass
- Optional color coded handles

Ordering Information

To order, add the Material Designator as a suffix and the Angle Pattern Designator as a prefix to the basic ordering number found in the tables on pages 22-23.

Part Number Configuration



Material Designators

Brass - No suffix required

Stainless Steel – 316

Angle Pattern Designator

Straight Pattern – No prefix required
(Straight Pattern standard)

Angle Pattern – A (prefix to basic ordering number)

	Specifications	
	Stainless Steel	Brass
Temp Rating	-40°F to 450°F	-40°F to 450°F
Pressure Rating @ 100°F	6000 psig	3000 psig

Needle Valves

FloLok® Needle Valves are designed for positive shut-off and regulation control of media in instrumentation and process systems. A variety of end connections, temperature ranges, and pressures provide the user the utmost in control and flexibility.



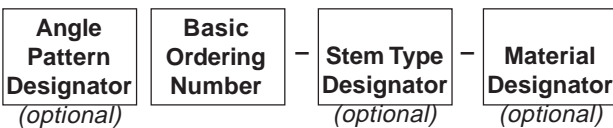
Features

- Panel mountable
- Choice of two Stem Types:
 - All metal, blunt stem tip (Vee)
 - Kel-F stem tip (Soft seat)
- Straight and Angle patterns available
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Optional color coded handles
- Stainless Steel T-bar and knurled Stainless Steel handles available

Ordering Information

To order, add the Material Designator and desired Stem Type Designator as a suffix and Angle Pattern Designator as a prefix to the basic ordering number found in the table on page 25.

Part Number Configuration



Material Designators

Brass - No suffix required

Stainless Steel – 316

Stem Designator

Metal Stem Tip (Vee) – No suffix required (standard)

Kel-F (PCTFE) Stem Tip (Soft Seat) – K

Angle Pattern Designator

Straight Pattern – No prefix required

Angle Pattern – A (prefix to basic ordering number)

	Specifications			
	Stainless Steel		Brass	
	Temp Rating	Metal Stem	-40°F to 450°F	Metal Stem
	Kel-F Stem Point	-40°F to 200°F	Kel-F Stem Point	-40°F to 200°F
Pressure Rating @ 100°F	6000 psig		3000 psig	

Lower Packing Valves

FloLok® Lower Packing Valves are designed with packing below the threads, isolating the threads and thread lubricant from the flow of media for thread protection, lubricant washout, contamination, and protection from potentially damaging media.



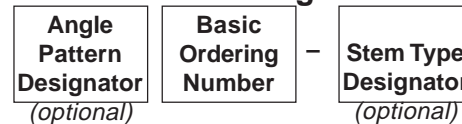
Features

- Panel mountable
- Straight and Angle patterns available
- Choice of two Stem Types:
 - All metal, blunt stem tip (Vee)
 - Kel-F stem tip (soft seat)
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Available in 316 Stainless Steel
- Optional color coded handles
- Optional Stainless Steel T-bar handles

Ordering Information

To order, add the Material Designator and the desired Stem Type Designator as a suffix and the Angle Pattern Designator as a prefix to the basic ordering number found on page 27.

Part Number Configuration



Stem Designator

Metal Stem Tip (Vee) – No suffix required (standard)

Kel-F (PCTFE) Stem Tip (Soft Seat) – K

Angle Pattern Designator

Straight Pattern – No prefix required (standard)

Angle Pattern – A (prefix to basic ordering number)

	Specifications	
	Stainless Steel	
Temp Rating	Metal Stem	-40°F to 450°F
	Kel-F Stem Point	-40°F to 200°F
Pressure Rating @ 100°F	5000 psig	

Toggle Valves

FloLok® Toggle Valves are designed for quick actuation and positive on-off control of media in low pressure and temperature applications encountered in instrumentation and process systems.



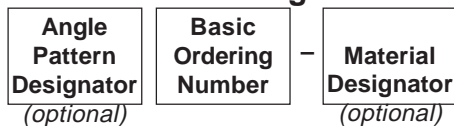
Features

- Quick opening and closing
- Straight and angle patterns available
- Panel mountable
- Rugged, compact design
- PTFE stem tip provides repetitive shut-off
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Material Designator as a suffix and the Angle Pattern Designator as a prefix to the basic ordering number found in the table on page 29.

Part Number Configuration



Material Designators

- Brass** – No suffix required
- Stainless Steel** – 316

Angle Pattern Designators

- Straight Pattern** – No prefix required
(Straight Pattern standard)
- Angle Pattern** – A (prefix to basic ordering number)

	Specifications	
	Stainless Steel	Brass
Temp Rating	- 20°F to 200°F	- 20°F to 200°F
Pressure Rating @ 100°F	200 psig	200 psig

Plug Valves

FloLok® manually operated Plug Valves are designed to provide positive shut-off to stop forward flow with up to 3000 psig in instrumentation and process systems.



Features

- Quick opening and closing
- Replaceable Pug
- 1/4 Turn Operation
- Low Operating Torque
- One Piece Body Design
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Material Designator as a suffix to the Basic ordering number found on page 31.

Part Number Configuration



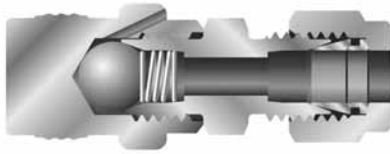
Material Designators

- Brass** – No suffix required
- Stainless Steel** – 316

	Specifications		
	Stainless Steel	Brass	
	PV4, PV6	PV4	PV6
Temp Rating	-10° to 400° F	-10° to 400° F	-10° to 400° F
Pressure Rating @ 100° F*	3000 psig	3000 psig	2000 psig

Purge Valves

FloLok® manually operated Purge Valves are designed to bleed, vent or drain system media or pressure and provide a leak tight seal up to 4000 psig.



Features

- Quick opening and closing
- Leak Tight Seal
- 1/4 Turn From Finger Tight
- Low Operating Torque
- Optional PTFE Ball
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Available in 316 Stainless Steel and Brass

Ordering Information

To order, add the Material Designator and the Ball Designator as a suffix to the basic ordering number found on page 33.

Part Number Configuration



Material Designators

- Brass** – No suffix required
- Stainless Steel** – 316

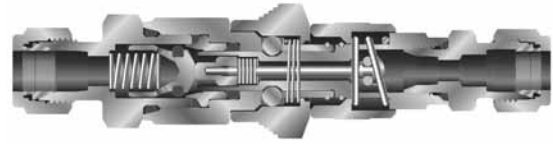
Ball Designators

- Stainless Ball** – No suffix required
- PTFE Ball** – TFE

	Specifications	
	Stainless Steel	Brass
Temp Rating	-65° to 600° F	-65° to 400° F
Pressure Rating @ 100° F*	4000 psig	3000 psig

Quick Connects

FloLok® Quick Connects are designed to provide a convenient way to connect and disconnect fluid lines, creating a leak tight seal without the use of tools.



Features

- Viton® (Fluorocarbon FKM Rubber) O-Rings Provide Leak Tight Sealing
- Both DESO (Double End Shut Off) and SESO (Single End Shut Off) Stem Designs
- Push to Connect Design Means No Tools Required
- Keyed Couplings Available to Prevent Accidental Connection
- Choice of Duolok®, Unilok®, Griplok® tube fittings and TruFit® NPT pipe end connections
- Stem Plugs and Body Caps available to prevent contamination

Ordering Information

To order, add the Material Designator and the Key Color as a suffix to the basic ordering number found on pages 35-36.

Part Number Configuration



Material Designators

- Brass** – No suffix required
- Stainless Steel** – 316

Key Color

- Black** – K1
- Orange** – K2
- Green** – K3
- Yellow** – K4
- Blue** – K5
- White** – K6
- Purple** – K7
- Brown** – K8

Series	Specifications					
	316 SS			Brass		
	QC4	QC6	QC8	QC4	QC6	QC8
Coupled	3000 psig	1500 psig	750 psig	2000 psig	1000 psig	500 psig
Uncoupled	3000 psig	1500 psig	750 psig	2000 psig	1000 psig	500 psig
Connect Under Pressure	250 psig	250 psig	250 psig	250 psig	250 psig	250 psig

FloLok® Valves

LIFETIME LIMITED WARRANTY

FloLok® valves are guaranteed to be free from defects in materials and workmanship. To initiate a warranty claim, suspected defective product must be returned with the nature of potential defect documented for factory evaluation. Any product with a determined defect in material or workmanship will be replaced with equivalent product at no charge.

This warranty comprises the sole and entire warranty pertaining to items provided hereunder. There is no other warranty, guarantee, express or implied representation of any kind whatsoever. All other warranties including, but not limited to, merchantability and fitness for purpose, whether express, implied, or arising by operation of law, course of dealing, or trade usage are hereby disclaimed. There are no warranties that extend beyond the description on the face hereof; and this warranty does not apply in cases of abuse, mishandling, or normal use depreciation. In no event, whether alleged to arise from breach of contract, express or implied warranty, by operation of law, negligence or otherwise, will there be any liability for any incidental, consequential, lost property, or other special damages of any kind whatsoever. The exclusive, only remedy under this warranty is the replacement of determined defective parts as set forth above.

Safety

To help ensure the safe and reliable performance of valve products, complete system design must be considered prior to the installation of the valves and end connections.








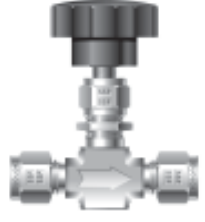




Determining the design compatibility of materials, media, flows, temperatures and pressures, as well as implementing proper installation, operation and maintenance of the system are the responsibilities of the systems' owners, designers and users.

FloLok Safety Reminders

All FloLok products are designed and manufactured with safety in mind. The following is a limited list of general safety tips as reminders of good safety practices:





- Do not install, tighten or loosen a valve or filter while the system is under pressure.
- Do not loosen a valve, filter, nut or end connection to relieve or bleed system pressure.
- Always use a back-up wrench to hold the valve or filter body steady when tightening or loosening end connections.
- There is no need to disassemble a new valve or filter prior to use.
- Use proper thread lubricants and sealants on tapered pipe threads.
- If Fractional Tube Fitting end connections are used with very soft pliable plastic tubing, a tube insert is required for proper installation.
- Valve Tube Fitting end connection and tubing material should be similar (stainless steel fittings on stainless steel tubing, brass fittings on copper tubing, etc.) with the tubing material being fully annealed.

Selection Guide

<p>Two-Way Ball Valves</p>  <p>12</p>	<p>Three-Way Ball Valves</p>  <p>14</p>	<p>Check Valves</p>  <p>16</p>	<p>Tee Filters</p>  <p>18</p>
<p>Inline Filters</p>  <p>20</p>	<p>Metering Valves</p>  <p>21</p>	<p>Needle Valves</p>  <p>24</p>	<p>Lower Packing Valves</p>  <p>26</p>
<p>Toggle Valves</p>  <p>28</p>	<p>Plug Valves</p>  <p>30</p>	<p>Purge Valves</p>  <p>32</p>	<p>Quick Connects</p>  <p>34</p>

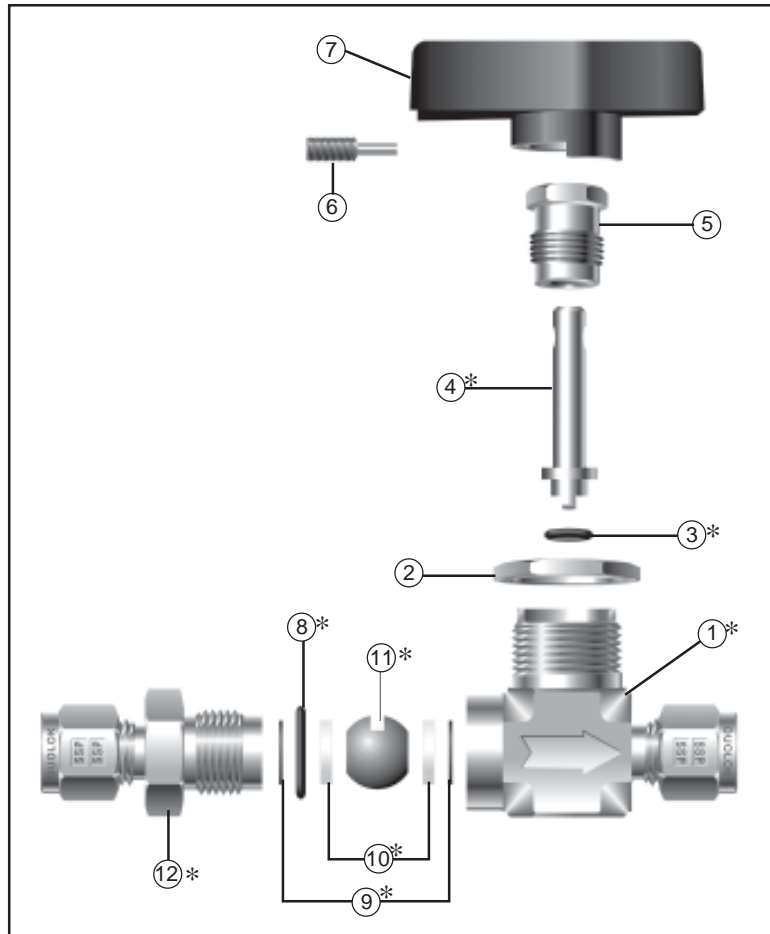
End Connections

FloLok valves are available with a choice of Duolok®, Unilok® and Griplok® fractional tube fittings and TruFit® pipe end connections.

<p>Duolok®</p> <p>Tube fitting end connections directly interchangeable/intermixable with Swagelok® tube fittings.</p> 	<p>Griplok®</p> <p>Tube fitting end connections directly interchangeable/intermixable with Hoke® Gyrolok® tube fittings.</p> 
<p>Unilok®</p> <p>Tube fitting end connections directly interchangeable/intermixable with Parker CPI® tube fittings.</p> 	<p>TruFit®</p> <p>Pipe fitting end connections directly interchangeable with fittings provided by Swagelok®/Cajon®, Parker® and Hoke®.</p> 

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A-lok® and Parker CPI® are registered trademarks of Parker Hannifin Corp. Viton™ is a registered trademark of DuPont. Kel-F™ is a registered trademark of 3M Company.

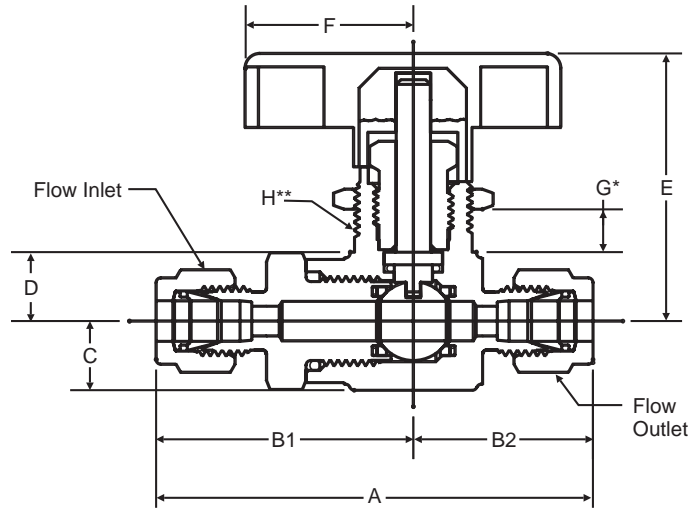


*Wetted components.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	316 Stainless Steel	Brass
3	Stem O-ring*	Viton	Viton
4	Stem*	316 Stainless Steel	316 Stainless Steel
5	Bonnet	316 Stainless Steel	Brass
6	Handle Set Screw	Stainless Steel	Stainless Steel
7	Handle^	Nylon	Nylon
8	Connector O-ring*	Viton	Viton
9	Back-up Rings*	Viton	Viton
10	Seats*	PTFE / Kel-F	PTFE / Kel-F
11	Ball*	316 Stainless Steel	316 Stainless Steel
12	Connector*	316 Stainless Steel	Brass

*Wetted components.

^Handle contains brass insert for extra strength and wear resistance.



G* – Max. Panel Thickness

H** – Panel Hole Drill Size

Model Shown: End Connection Type Fractional Tube Fitting

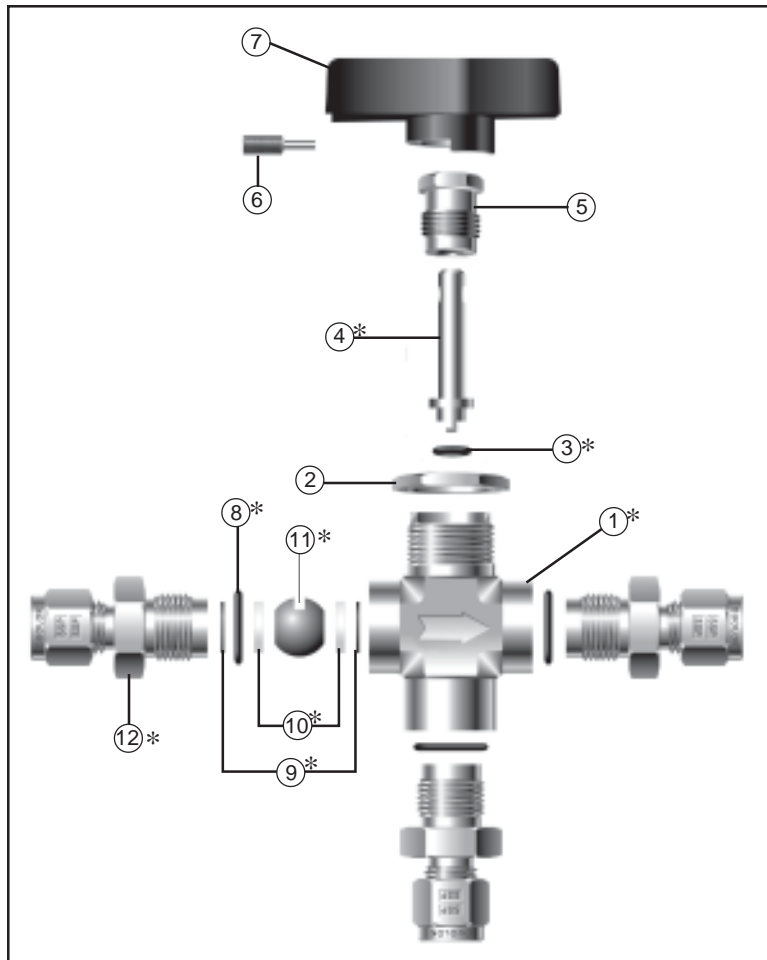
End Connection			Basic Ordering Number	Orifice		Dimensions																	
Type	Inlet Size	Outlet Size		In.	mm	A		B1		B2		C		D		E		F		G		H	
						In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	350	0.093	2.36	2.22	56.49	1.24	31.60	0.98	24.89	0.40	10.16	0.38	9.53	1.27	32.26	0.94	23.93	0.25	6.35	19/32	15.08
	1/4	1/4	352	0.125	3.18	2.41	61.29	1.34	33.99	1.08	27.31	0.40	10.16	0.38	9.53	1.27	32.26	0.94	23.93	0.25	6.35	19/32	15.08
			312	0.187	4.75	2.77	70.28	1.63	41.40	1.14	28.88	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8	3/8	320	0.250	6.35	2.88	73.23	1.69	42.88	1.20	30.35	0.44	11.13	0.44	11.10	1.69	42.93	1.06	27.00	0.25	6.35	25/32	19.84
	1/2*	1/2*	322	0.250	6.35	3.11	78.89	1.80	45.69	1.31	33.20	0.51	12.85	0.51	12.83	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
358			0.437	11.10	3.77	95.81	2.15	54.58	1.62	41.22	0.75	19.05	0.75	19.05	2.21	56.01	1.51	38.25	0.25	6.35	1 1/32	26.19	
Fractional Tube Fitting to Female NPT	1/2*	1/2	323	0.437	11.10	3.56	90.35	2.15	54.58	1.41	35.76	0.75	19.05	0.75	19.05	2.21	56.01	1.51	38.25	0.25	6.35	1 1/32	26.19
Fractional Tube Fitting to Male NPT	1/2*	1/2	362	0.437	11.10	3.59	91.16	2.15	54.58	1.44	36.58	0.75	19.05	0.75	19.05	2.21	56.01	1.51	38.25	0.25	6.35	1 1/32	26.19
Female NPT	1/8	1/8	351	0.125	3.18	2.02	51.38	1.15	29.16	0.88	22.23	0.40	10.16	0.38	9.53	1.27	32.26	0.94	23.93	0.25	6.35	19/32	15.08
	1/4	1/4	306	0.250	6.35	2.64	67.08	1.58	40.13	1.06	26.92	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8*	3/8*	319	0.250	6.35	3.26	82.80	2.01	51.05	1.25	31.75	0.75	19.05	0.75	19.05	2.21	56.13	1.51	38.35	0.25	6.35	1 1/32	26.19
	1/2	1/2	357	0.437	11.10	3.42	86.89	2.01	51.13	1.41	35.76	0.75	19.05	0.75	19.05	2.21	56.01	1.51	38.25	0.25	6.35	1 1/32	26.19
Female NPT to Fractional Tube Fitting	1/4	1/4	310	0.187	4.75	2.72	68.99	1.58	40.13	1.14	28.88	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	1/4	3/8	315	0.250	6.35	2.77	70.46	1.58	40.13	1.20	30.35	0.44	11.13	0.44	11.10	1.69	42.93	1.06	27.00	0.25	6.35	25/32	19.84
Female NPT to Male NPT	1/8	1/8	355	0.125	3.18	1.93	49.00	1.15	29.16	0.78	19.84	0.40	10.16	0.38	9.53	1.27	32.26	0.94	23.93	0.25	6.35	19/32	15.08
Male NPT	1/8	1/8	353	0.125	3.18	1.83	46.38	1.05	26.54	0.78	19.84	0.40	10.16	0.38	9.53	1.27	32.26	0.94	23.93	0.25	6.35	19/32	15.08
	1/4	1/4	301	0.250	6.35	2.64	67.08	1.58	40.13	1.06	26.92	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8*	3/8*	314	0.250	6.35	2.71	68.73	1.58	40.13	1.13	28.58	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	1/2	1/2	360	0.437	11.10	3.45	87.71	2.01	51.13	1.44	36.58	0.75	19.05	0.75	19.05	2.21	56.01	1.51	38.25	0.25	6.35	1 1/32	26.19
Male NPT to Fractional Tube Fitting	1/8	1/4	354	0.125	3.18	2.12	53.85	1.05	26.54	1.08	27.31	0.40	10.16	0.38	9.53	1.27	32.26	0.94	23.93	0.25	6.35	19/32	15.08
	1/4	1/4	304	0.187	4.75	2.72	68.99	1.58	40.13	1.14	28.88	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	1/4	3/8	307	0.250	6.35	2.77	70.46	1.58	40.13	1.20	30.35	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8*	3/8	318	0.250	6.35	2.78	70.51	1.58	40.13	1.20	30.35	0.44	11.13	0.44	11.10	1.69	42.93	1.06	27.00	0.25	6.35	25/32	19.84
Male NPT to Female NPT	1/4	1/4	302	0.250	6.35	2.64	67.08	1.58	40.13	1.06	26.92	0.44	11.13	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	1/2	1/2	361	0.437	11.10	3.42	86.89	2.01	51.13	1.41	35.76	0.75	19.05	0.75	19.05	2.21	56.01	1.51	38.25	0.25	6.35	1 1/32	26.19
	3/8*	3/8	321	0.437	11.10	3.06	77.72	1.81	45.97	1.25	31.75	0.75	19.05	0.75	19.05	2.21	56.13	1.51	38.35	0.25	6.35	1 1/32	26.19

*Spacer included for panel mounting.

Complete ordering information is provided on page 4.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

When ordering, add the Material Designator and the desired Seat Material Designator as a suffix to the basic ordering number.

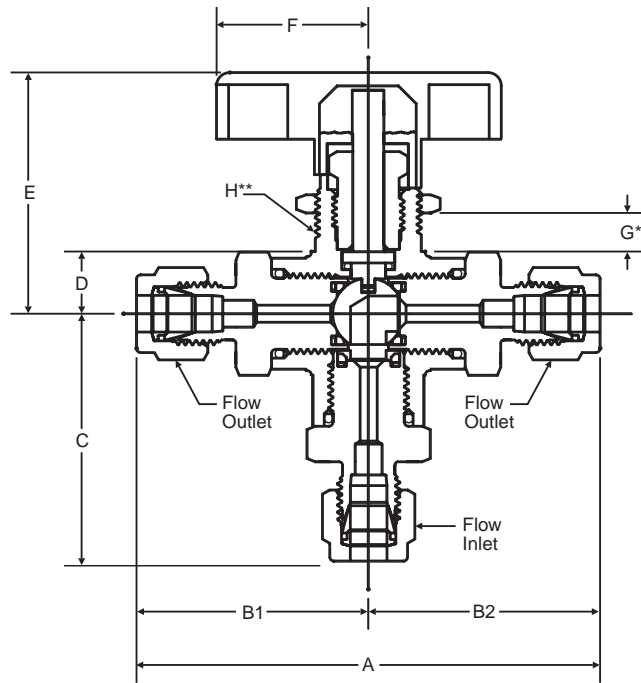


*Wetted components.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	316 Stainless Steel	Brass
3	Stem O-ring*	Viton	Viton
4	Stem*	316 Stainless Steel	316 Stainless Steel
5	Bonnet	316 Stainless Steel	Brass
6	Handle Set Screw	Stainless Steel	Stainless Steel
7	Handle^	Nylon	Nylon
8	Connector O-ring*	Viton	Viton
9	Back-up Rings*	Viton	Viton
10	Seats*	PTFE / Kel-F	PTFE / Kel-F
11	Ball*	316 Stainless Steel	316 Stainless Steel
12	Connector*	316 Stainless Steel	Brass

*Wetted components.

^Handle contains brass insert for extra strength and wear resistance.



G* – Max. Panel Thickness

H** – Panel Hole Drill Size

Model Shown: End Connection Type Fractional Tube Fitting

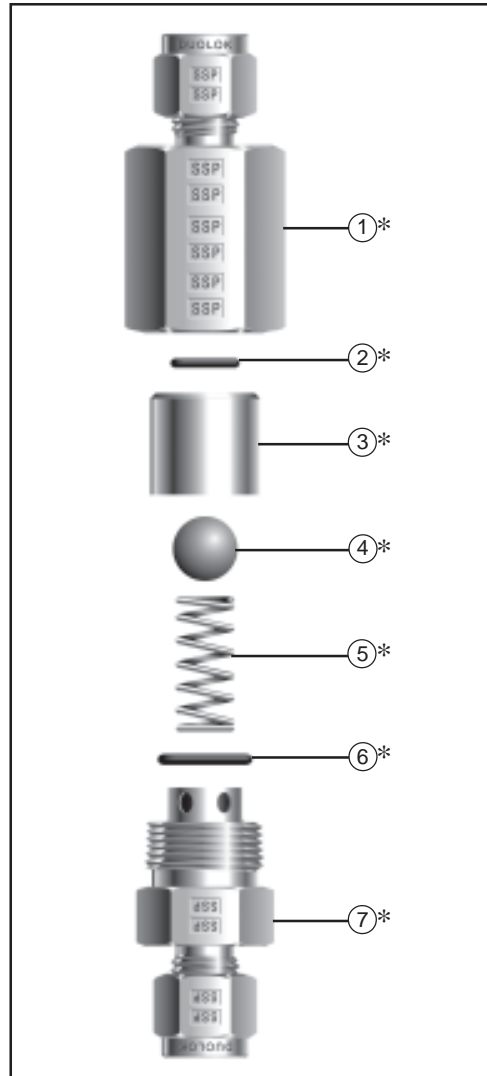
End Connection			Basic Ordering Number	Orifice		Dimensions																	
Type	Inlet Size	Outlet Size		In.	mm	A		B1		B2		C		D		E		F		G		H	
						In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	350-3	0.093	2.36	2.49	63.20	1.24	31.60	1.24	31.60	1.42	36.14	0.38	9.53	1.27	32.23	0.94	23.88	0.25	6.35	19/32	15.08
	1/4	1/4	352-3	0.125	3.18	2.68	68.02	1.34	34.01	1.34	34.01	1.52	38.56	0.38	9.53	1.27	32.23	0.94	23.88	0.25	6.35	19/32	15.08
			312-3	0.187	4.75	3.26	82.70	1.63	41.35	1.63	41.35	1.82	46.18	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8	3/8	320-3	0.250	6.35	3.38	85.75	1.69	42.88	1.69	42.88	1.88	47.70	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
			322-3	0.250	6.35	3.60	91.39	1.80	45.69	1.80	45.69	1.99	50.52	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	1/2*	1/2*	358-3	0.437	11.10	4.30	109.17	2.15	54.58	2.15	54.58	2.54	64.62	0.75	19.05	2.21	56.01	1.51	38.35	0.25	6.35	1 1/32	26.19
359-3			0.437	11.10	4.30	109.17	2.15	54.58	2.15	54.58	2.54	64.62	0.75	19.05	2.21	56.01	1.51	38.35	0.25	6.35	1 1/32	26.19	
Female NPT	1/8	1/8	351-3	0.125	3.18	2.30	58.32	1.15	29.16	1.15	29.16	1.33	33.71	0.38	9.53	1.27	32.23	0.94	23.88	0.25	6.35	19/32	15.08
	1/4	1/4	306-3	0.250	6.35	3.16	80.21	1.58	40.11	1.58	40.11	1.77	44.93	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8*	3/8*	319-3	0.250	6.35	3.41	86.56	1.70	43.28	1.70	43.28	1.89	48.11	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	1 1/32	26.19
	1/2	1/2	357-3	0.437	11.10	4.03	102.26	2.01	51.13	2.01	51.13	2.41	61.16	0.75	19.05	2.21	56.01	1.51	38.35	0.25	6.35	1 1/32	26.19
Male NPT	1/8	1/8	353-3	0.125	3.18	2.09	53.09	1.05	26.54	1.05	26.54	1.22	31.09	0.38	9.53	1.27	32.23	0.94	23.88	0.25	6.35	19/32	15.08
	1/4	1/4	301-3	0.250	6.35	3.16	80.21	1.58	40.11	1.58	40.11	1.77	44.93	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84
	3/8*	3/8*	314-3	0.250	6.35	3.16	80.31	1.58	40.16	1.58	40.16	1.77	44.98	0.44	11.10	1.71	43.43	1.06	27.00	0.25	6.35	25/32	19.84

*Spacer included for panel mounting.

Complete ordering information is provided on page 4.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

When ordering, add the Material Designer and the Seat Material Designer as a suffix to the basic ordering number.

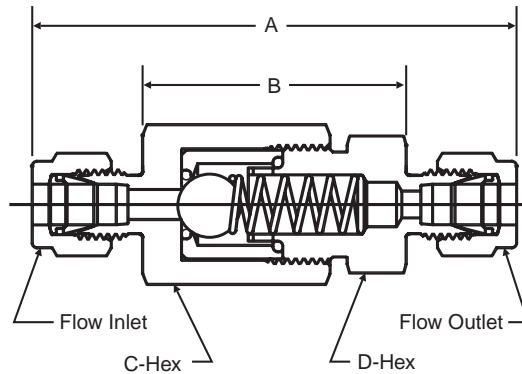


*All components are wetted.

Materials of Construction		
#	Component	Stainless Steel
1	Body*	316 Stainless Steel
2	O-ring*	Viton*
3	Ball Cage*	316 Stainless Steel
4	Ball*	316 Stainless Steel
5	Spring*	316 Stainless Steel
6	O-ring*	Viton*
7	Stem*	316 Stainless Steel

*All components are wetted.

*Viton standard; optional materials upon request.



Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions							
Type	Inlet Size	Outlet Size		In.	mm	A		B		C		D	
						In.	mm	In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	4002*-316	0.09	2.36	2.60	66.14	1.39	35.41	0.75	19.05	0.63	15.88
	1/4	1/4	4012*-316	0.19	4.78	2.67	67.79	1.27	32.33	0.75	19.05	0.63	15.88
	3/8	3/8	4022*-316	0.28	7.16	3.06	77.80	1.55	39.32	0.88	22.23	0.75	19.05
	1/2	1/2	4032*-316	0.28	7.16	3.29	83.44	1.13	28.60	0.88	22.35	0.75	19.05
Fractional Tube Fitting to Female	1/4	1/8	4013*-316	0.19	4.78	2.50	63.50	-	-	0.75	22.23	0.63	15.88
	1/2	1/2	4042*-316	0.28	7.16	3.29	83.57	-	-	0.88	22.35	1.13	28.58
Fractional Tube Fitting to Male NPT	1/8	1/8	4005*-316	0.09	2.36	2.44	61.98	1.44	36.58	0.75	19.05	0.63	15.88
		1/8	4011*-316	0.19	4.78	2.50	63.50	1.41	35.81	0.75	19.05	0.63	15.88
	1/4	1/4	4015*-316	0.19	4.78	2.50	63.50	1.23	31.24	0.75	19.05	0.63	15.88
	3/8	1/2	4023*-316	0.28	7.16	3.05	77.47	1.55	39.37	0.88	22.23	0.88	22.23
	1/2	1/2	4031*-316	0.28	7.16	3.17	80.52	1.55	39.37	0.88	22.23	0.88	22.23
Female NPT	1/8	1/8	4010*-316	0.19	4.78	2.33	59.16	-	-	0.75	19.05	0.63	15.88
	1/4	1/4	4020*-316	0.19	4.78	2.71	68.71	-	-	0.75	19.05	0.75	19.05
	3/8	3/8	4030*-316	0.28	7.16	2.92	74.17	-	-	0.88	22.23	0.88	22.35
	1/2	1/2	4040*-316	0.28	7.16	3.33	84.53	-	-	1.13	28.58	1.13	28.58
Male NPT to Female NPT	1/8	1/8	4009*-316	0.19	4.78	2.33	59.18	-	-	0.75	19.05	0.63	15.88
	1/4	1/4	4021*-316	0.19	4.78	2.58	65.53	-	-	0.75	19.05	0.63	15.88
	3/8	3/8	4027*-316	0.28	7.16	2.92	74.17	-	-	0.88	22.23	0.88	22.23
	1/2	3/8	4037*-316	0.28	7.16	2.92	74.17	-	-	0.88	22.23	0.88	22.23
		1/2	4039*-316	0.28	7.16	3.05	77.47	-	-	0.88	22.23	0.88	22.23
Male NPT	1/8	1/8	4006*-316	0.19	4.78	2.33	59.18	1.55	39.37	0.75	19.05	0.63	15.88
	1/4	1/4	4016*-316	0.19	4.78	2.33	59.16	1.19	30.23	0.75	19.05	0.63	15.88
	3/8	3/8	4026*-316	0.28	7.16	2.80	70.99	1.66	42.04	0.88	22.35	0.75	19.05
	1/2	1/2	4036*-316	0.28	7.16	2.92	74.17	1.42	36.07	0.88	22.35	0.88	22.23
Male NPT to Fractional Tube Fitting	1/8	1/8	4004*-316	0.09	2.36	2.50	63.50	1.50	38.10	0.75	19.05	0.63	15.88
		1/4	4007*-316	0.19	4.78	2.50	63.50	1.41	35.81	0.75	19.05	0.63	15.88
		1/4	4014*-316	0.19	4.78	2.50	63.45	1.23	31.24	0.75	19.05	0.63	15.88
	3/8	3/8	4024*-316	0.28	7.16	2.93	74.40	1.60	40.67	0.88	22.23	0.75	19.05
		1/2	4033*-316	0.28	7.16	3.04	77.22	1.60	40.64	0.88	22.23	0.88	22.23
	1/2	3/8	4035*-316	0.28	7.16	2.92	74.17	1.42	36.07	0.88	22.23	0.88	22.23
		1/2	4034*-316	0.28	7.16	3.04	77.22	1.42	36.07	0.88	22.23	0.88	22.23
Female NPT to Male NPT	1/8	1/8	4008*-316	0.19	4.78	2.33	59.18	-	-	0.75	19.05	0.63	15.88
	1/4	1/8	4017*-316	0.19	4.78	2.46	62.48	-	-	0.75	19.05	0.63	15.88
		1/4	4018*-316	0.19	4.78	2.45	62.33	-	-	0.75	19.05	0.63	15.88
	3/8	3/8	4028*-316	0.28	7.16	2.80	70.99	-	-	0.88	22.23	0.75	19.05
	1/2	1/2	4038*-316	0.28	7.16	3.20	81.36	-	-	1.13	28.58	0.88	22.23
Female NPT to Fractional Tube Fitting	1/8	1/4	4003*-316	0.19	4.78	2.50	63.50	-	-	0.75	19.05	0.63	15.88
	1/4	1/4	4019*-316	0.19	4.78	2.62	66.55	-	-	0.75	19.05	0.63	15.88
	3/8	3/8	4029*-316	0.28	7.16	2.93	74.42	-	-	0.88	22.35	0.75	19.05
	1/2	3/8	4039*-316	0.28	7.16	3.32	84.33	-	-	1.13	28.58	0.75	19.05
		1/2	4041*-316	0.28	7.16	3.32	84.33	-	-	1.13	28.58	0.75	19.05

Designator	Cracking ¹ and Reseal ² Pressures @ 70°F	
	Nominal Spring Size	Cracking Pressure Range
		Reseal Pressure
1/3	0 - 1	6
1	0 - 3	6
5	3 - 8	2
10	7 - 15	3
15	10 - 20	15
25	20 - 30	17
50	40 - 60	45

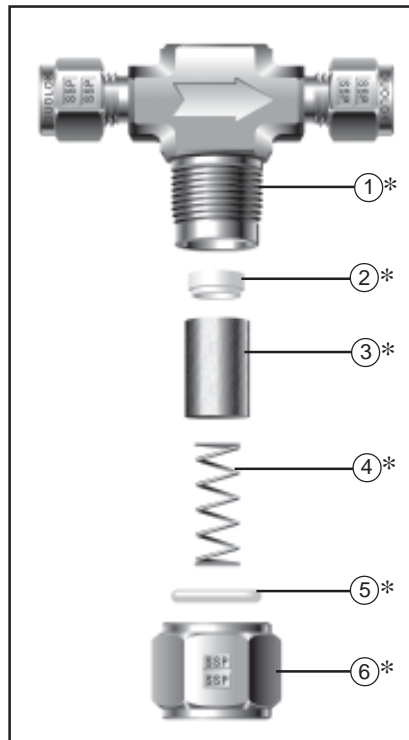
Valves that are not actuated for a period of time may crack initially at pressures higher than the above cracking ranges.

¹ Cracking pressure – the upstream pressure at which the first indication of flow occurs.

² Reseal pressure – the upstream pressure at which there is no indication of flow.

*Insert Nominal Spring Size Designator as shown in the Cracking and Reseal Pressures table above. Complete ordering information is provided on page 5.

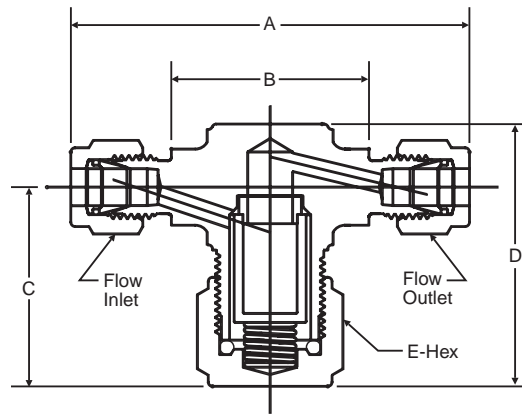
Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change. When ordering, add the Nominal Spring Size Designator after the basic ordering number.



*All components are wetted.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Filter Seal*	PTFE	PTFE
3	Filter Element*	316 Stainless Steel	316 Stainless Steel
4	Spring*	316 Stainless Steel	316 Stainless Steel
5	Body O-ring Seal*	PTFE	PTFE
6	Cap*	316 Stainless Steel	Brass

*All components are wetted.



Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions									
Type	Inlet Size	Outlet Size		In.	mm	A		B		C		D		E	
					In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
Fractional Tube Fitting	1/8	1/8	3000	0.078	1.98	2.71	68.86	1.50	38.15	1.38	35.13	1.82	46.25	7/8	22.23
	1/4	1/4	3008	0.156	3.96	2.91	73.89	1.51	38.43	1.38	35.13	1.82	46.25	7/8	22.23
	3/8	3/8	3016	0.172	4.37	2.77	70.26	1.25	31.78	1.38	35.13	1.82	46.25	7/8	22.23
	1/2	1/2	3020	0.172	4.37	2.99	75.97	1.25	31.80	1.38	35.13	1.82	46.25	7/8	22.23
Female NPT	1/4	1/4	3014	0.172	4.37	2.25	57.15	0.81	20.47	1.38	35.13	1.82	46.25	7/8	22.23
Male NPT	1/8	1/8	3004	0.156	3.96	2.19	55.55	1.41	35.74	1.38	35.13	1.82	46.25	7/8	22.23
	1/4	1/4	3012	0.140	3.56	2.19	55.55	1.05	26.59	1.38	35.13	1.82	46.25	7/8	22.23
	3/8	3/8	3019	0.172	4.37	2.25	57.15	1.11	28.19	1.38	35.13	1.82	46.25	7/8	22.23
Male NPT to Fractional	1/4	1/4	3010	0.156	3.96	2.48	63.02	1.21	30.81	1.38	35.13	1.82	46.25	7/8	22.23
	3/8	3/8	3018	0.172	4.37	2.51	63.70	1.18	30.00	1.38	35.13	1.82	46.25	7/8	22.23

Filtration Definitions

- **Micron (mm)** – A unit of measure used to describe the mean particle diameter of media contamination or the mean pore diameter of the filter element.
1 micron = 0.00004 in. • 1 micron = 0.001mm
- **Filter Element** – The component of a filter that captures the contaminants. Available as sintered element or strainer.

Sintered

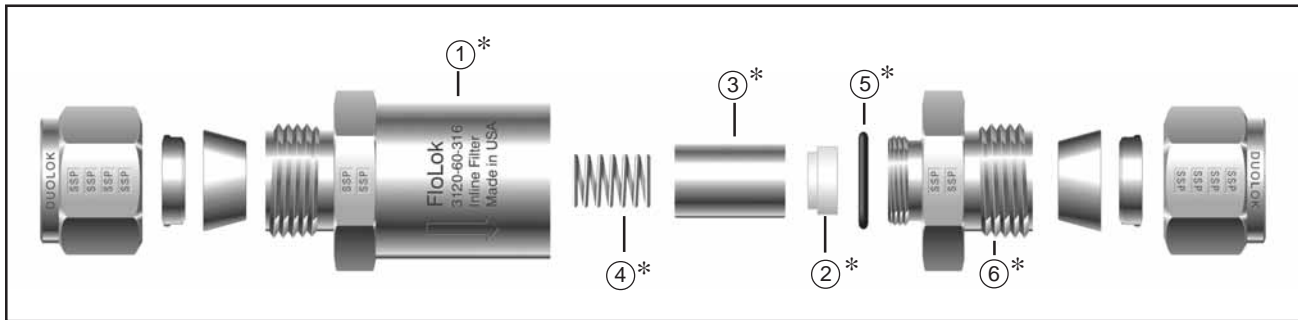
- Traps fine contamination particles
- Choice of micron sizes (1 to 200)
- 316 Stainless Steel

Strainer

- Effectively removes large particles
- Choice of micron sizes (140 or 400)
- 316 Stainless Steel

Complete Ordering information can be found on page 5.

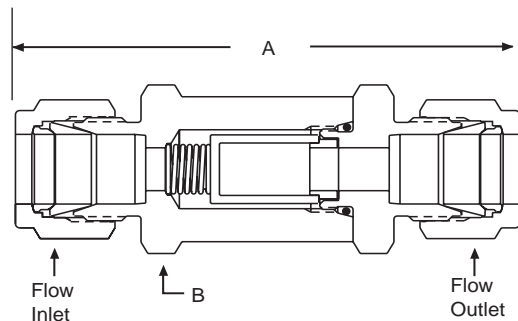
Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change. When ordering, add the Material Designator and the Filter Element Designator to the basic ordering number.



*Wetted components.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Seal*	Viton	Viton
3	Filter Element*	316 Stainless Steel	316 Stainless Steel
4	Spring*	316 Stainless Steel	316 Stainless Steel
5	O-Ring*	PTFE	PTFE
6	Body Connector*	316 Stainless Steel	Brass

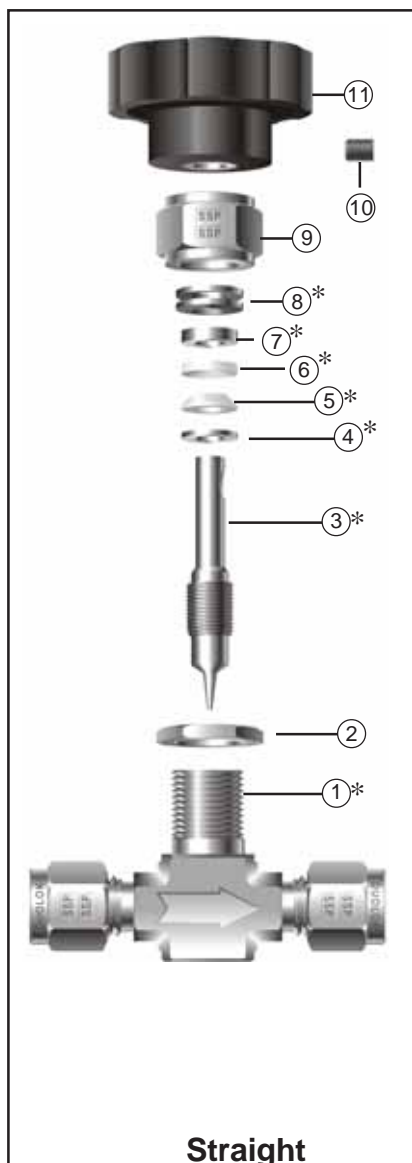
*Wetted components.



Model Shown: End Connection Type Fractional Tube Fitting

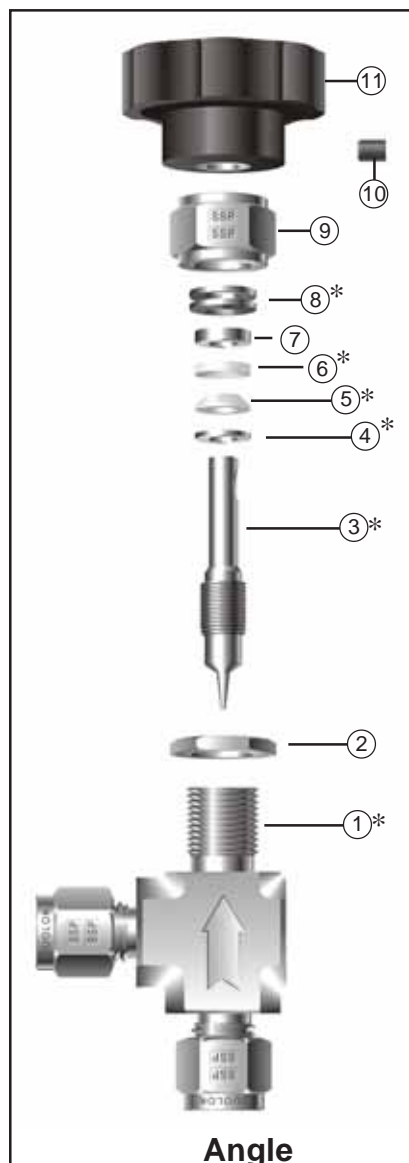
End Connection			Basic Ordering Number	Orifice		Dimensions			
Type	Inlet Size	Outlet Size		In.	mm	A		B (Hex)	
						In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	3100	0.095	2.41	2.87	72.89	13/16	20.63
	1/4	1/4	3108	0.189	4.80	2.95	74.93	13/16	20.63
	3/8	3/8	3116	0.312	7.93	3.21	81.53	1-1/16	26.98
	1/2	1/2	3120	0.312	7.93	3.49	88.64	1-1/16	26.98
Female NPT	1/4	1/4	3114	0.312	7.93	2.87	72.89	13/16	20.63
	1/2	1/2	3115	0.312	7.93	3.49	88.64	1-1/16	26.98
Male NPT	1/8	1/8	3104	0.312	7.93	2.95	74.93	13/16	20.63
	1/4	1/4	3112	0.312	7.93	2.95	74.93	13/16	20.63
	3/8	1/2	3119	0.312	7.93	3.29	83.57	1-1/16	26.98
Male NPT to Fractional Tube Fitting	1/4	1/4	3110	0.189	4.80	2.81	71.5	13/16	20.63
	3/8	3/8	3118	0.312	7.93	3.02	76.8	1-1/16	26.98

Complete Ordering information can be found on page 5.



Straight

*Wetted components.



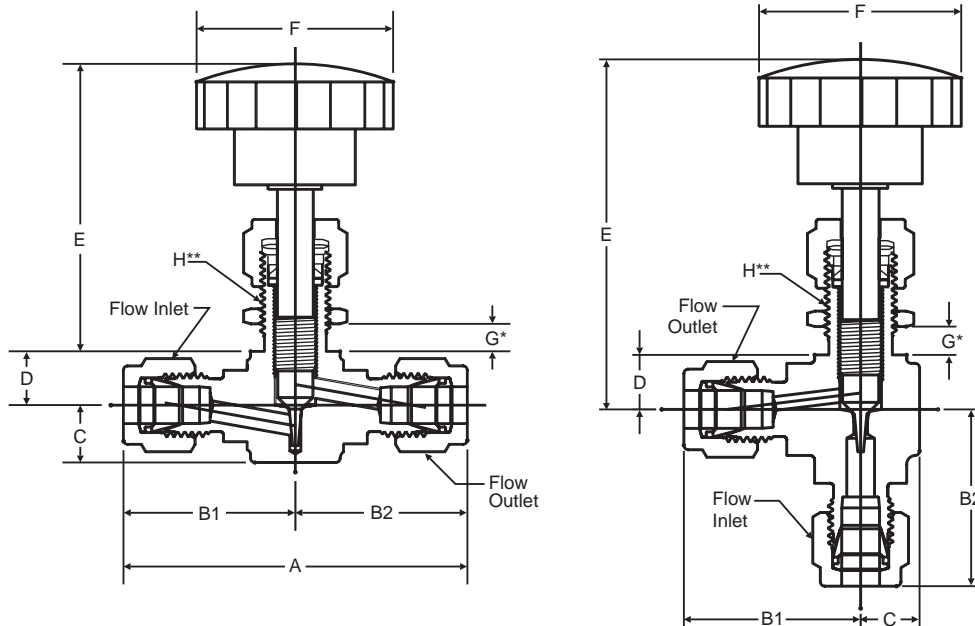
Angle

*Wetted components.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	316 Stainless Steel	Brass
3	Stem*	316 Stainless Steel	316 Stainless Steel
4	Packing Support*	316 Stainless Steel	316 Stainless Steel
5	Lower Packing*	PTFE	PTFE
6	Upper Packing*	PTFE	PTFE
7	Packing Pusher*	316 Stainless Steel	316 Stainless Steel
8	Packing Springs*	316 Stainless Steel	316 Stainless Steel
9	Packing Nut	316 Stainless Steel	Brass
10	Set Screw	Stainless Steel	Stainless Steel
11	Handle^	Nylon	Nylon

*Wetted components.

^Handle contains brass insert for extra strength and wear resistance.



G* – Max. Panel Thickness

H** – Panel Hole Drill Size

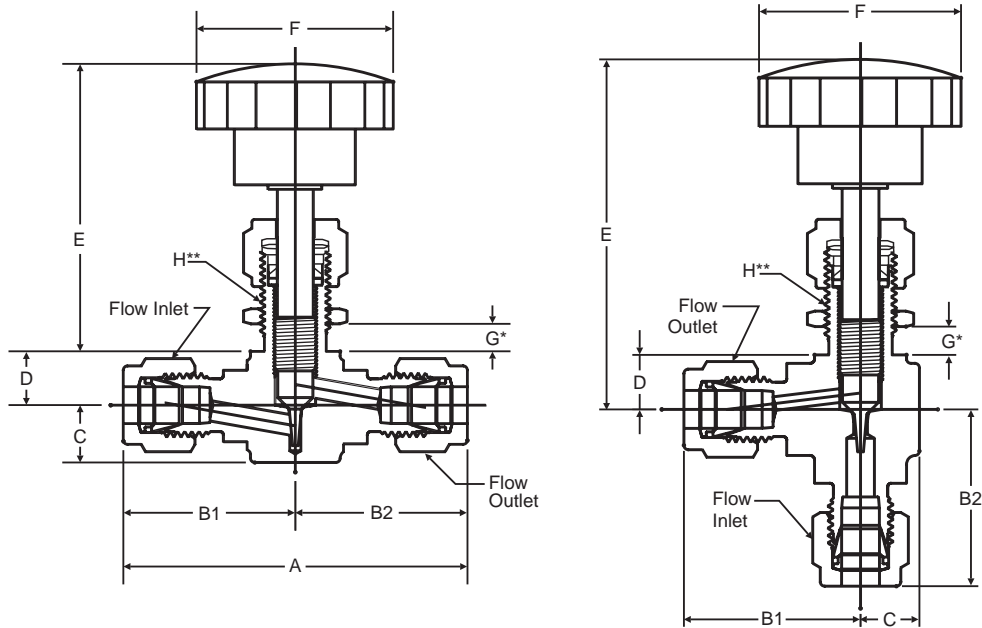
Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions																		
Type	Inlet Size	Outlet Size		In.	mm	A		B1		B2		C		D		E		F		G		H		
					In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	504	0.047	1.19	2.34	59.33	1.17	29.67	1.17	29.67	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			504-1	0.062	1.57	2.34	59.33	1.17	29.67	1.17	29.67	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			504-3	0.078	1.98	2.34	59.33	1.17	29.67	1.17	29.67	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
	1/4	1/4	506	0.047	1.19	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.65	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			506-1	0.062	1.57	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.65	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			506-3	0.078	1.98	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.65	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			506-5	0.094	2.39	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.65	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			506-7	0.125	3.18	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.65	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
			506-9	0.144	3.66	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.65	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
			506-11	0.172	4.37	2.40	60.96	1.20	30.38	1.20	30.48	0.40	10.16	0.38	9.65	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
	3/8	3/8	512	0.047	1.19	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.65	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			512-1	0.062	1.57	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.65	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			512-3	0.078	1.98	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.65	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			512-5	0.094	2.39	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.65	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			512-7	0.125	3.18	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.65	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
			512-9	0.144	3.66	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.65	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
1/2	1/2	520	0.250	6.35	2.62	66.45	1.31	33.22	1.31	33.27	0.51	12.95	0.53	13.49	3.20	81.28	1.38	34.93	0.38	9.65	25/32	19.84		
Female NPT	1/8	1/8	510	0.047	1.19	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			510-1	0.062	1.57	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			510-3	0.078	1.98	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			510-5	0.094	2.39	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
			510-7	0.125	3.18	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
			510-9	0.144	3.66	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
			510-11	0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
	1/4	1/4	514	0.047	1.19	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.81	71.37	1.38	34.93	0.38	9.65	17/32	13.49	
			514-1	0.062	1.57	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			514-3	0.078	1.98	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			514-5	0.094	2.39	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
			514-7	0.125	3.18	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.81	71.48	1.38	34.93	0.38	9.65	17/32	13.49	
			514-9	0.144	3.66	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.81	71.48	1.38	34.93	0.38	9.65	17/32	13.49	
			514-11	0.172	4.37	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.53	2.81	71.37	1.38	34.93	0.38	9.65	17/32	13.49	
			514-13	0.250	6.35	2.30	58.42	1.15	29.21	1.15	29.21	0.40	10.16	0.38	9.53	3.22	81.69	1.38	34.93	0.38	9.65	25/32	19.84	

Complete ordering information is provided on page 6.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

When ordering, add the Angle Pattern Designator as a prefix and the Material Designator as a suffix to the basic ordering number.



G* – Max. Panel Thickness

H** – Panel Hole Drill Size

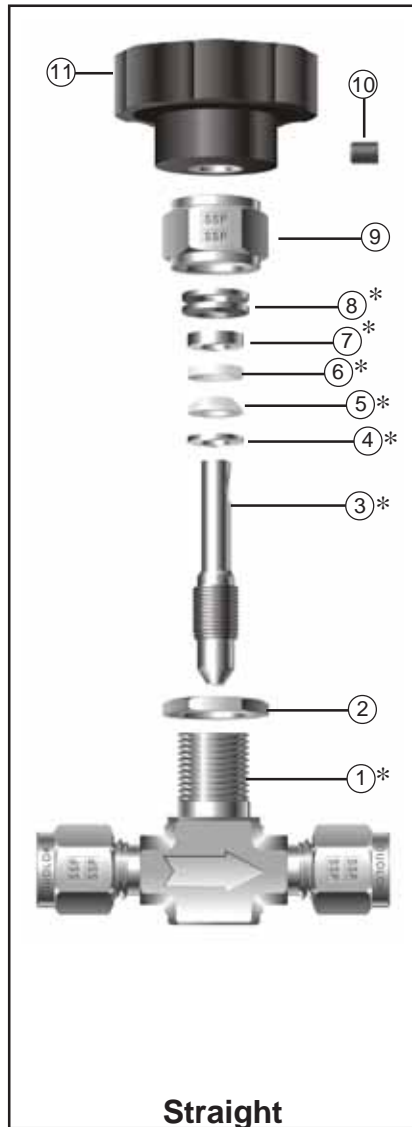
Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions																			
Type	Inlet Size	Outlet Size		In.	mm	A		B1		B2		C		D		E		F		H					
						In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm				
Male NPT	1/8	1/8	500	0.047	1.19	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49		
			500-1	0.062	1.57	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			500-3	0.078	1.98	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			500-5	0.094	2.39	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			500-7	0.125	3.18	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49		
			500-9	0.144	3.66	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49		
	1/4	1/4	502	0.047	1.19	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49		
			502-1	0.062	1.57	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			502-3	0.078	1.98	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			502-5	0.094	2.39	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			502-7	0.125	3.18	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49		
			502-9	0.144	3.66	1.81	46.02	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49		
Male NPT to Fractional Tube Fitting	1/8	1/4	508	0.047	1.19	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49		
			508-1	0.062	1.57	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			508-3	0.078	1.98	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			508-5	0.094	2.39	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			508-7	0.125	3.18	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49		
			508-9	0.144	3.66	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49		
	1/4	1/4	509	0.047	1.19	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49		
			509-1	0.062	1.57	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			509-3	0.078	1.98	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			509-5	0.094	2.39	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49		
			509-7	0.125	3.18	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49		
			509-9	0.144	3.66	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49		
		3/8	3/8	509-11	0.172	4.37	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
				503	0.047	1.19	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49	
				503-1	0.062	1.57	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
				503-3	0.078	1.98	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
				503-5	0.094	2.39	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.69	68.43	1.38	34.93	0.38	9.65	17/32	13.49	
				503-7	0.125	3.18	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49	
			3/8	3/8	503-9	0.144	3.66	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.90	1.38	34.93	0.38	9.65	17/32	13.49
					503-11	0.172	4.37	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.75	69.85	1.38	34.93	0.38	9.65	17/32	13.49

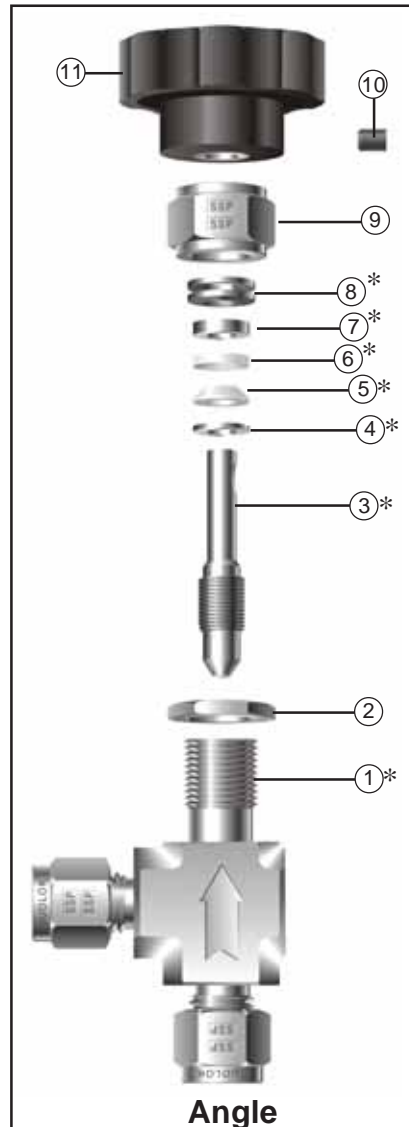
Complete ordering information is provided on page 6.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

When ordering, add the Angle Pattern Designator as a prefix and the Material Designator as a suffix to the basic ordering number.



*Wetted components.

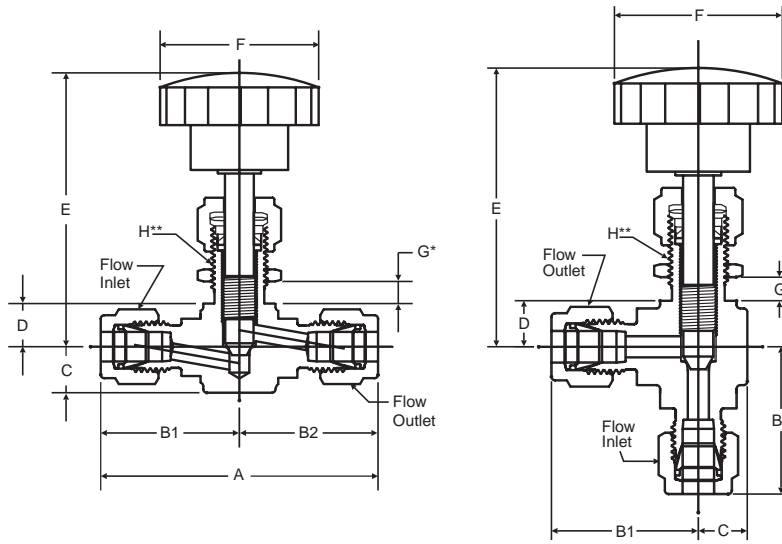


*Wetted components.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Panel Nut	Stainless Steel	Brass
3	Stem*	316 Stainless Steel	316 Stainless Steel
4	Packing Support*	316 Stainless Steel	316 Stainless Steel
5	Lower Packing*	PTFE	PTFE
6	Upper Packing*	PTFE	PTFE
7	Packing Pusher*	316 Stainless Steel	316 Stainless Steel
8	Packing Springs*	316 Stainless Steel	316 Stainless Steel
9	Packing Nut	316 Stainless Steel	Brass
10	Set Screw	Stainless Steel	Stainless Steel
11	Handle^	Nylon	Nylon

*Wetted components.

^Handle contains brass insert for extra strength and wear resistance.



G* – Max. Panel Thickness

H** – Panel Hole Drill Size

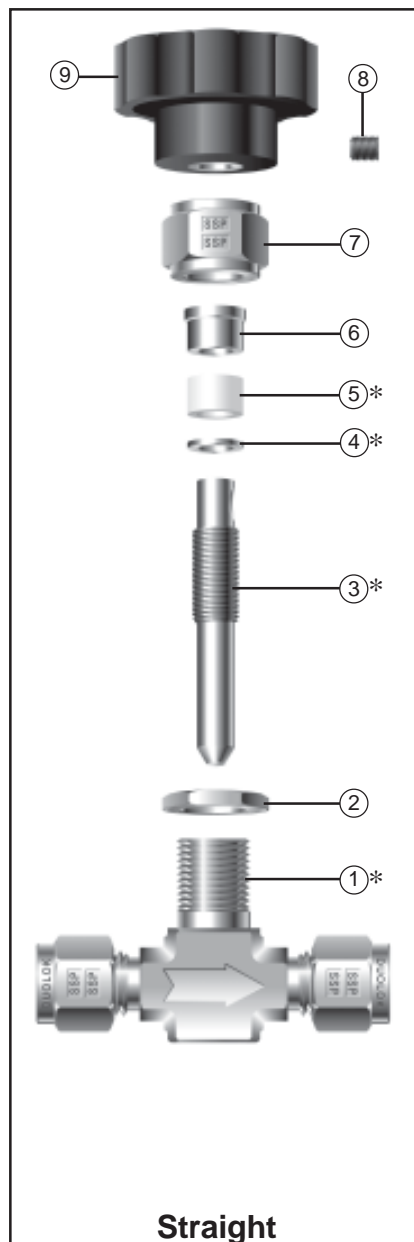
Models Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions																	
Type	Inlet Size	Outlet Size		In.	mm	A		B1		B2		C		D		E		F		G		H	
						In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	104	0.063	1.60	2.34	59.33	1.17	29.72	1.17	29.67	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
			106	0.063	1.60	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
	1/4	1/4	118	0.172	4.37	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
			124	0.172	4.37	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
	3/8	3/8	626	0.250	6.35	2.58	65.53	1.29	32.77	1.29	32.77	0.44	11.13	0.44	11.13	3.15	80.01	1.75	44.32	0.38	9.65	25/32	19.84
			651	0.250	6.35	2.80	71.22	1.40	35.61	1.40	35.61	0.44	11.13	0.44	11.13	3.15	80.01	1.75	44.32	0.38	9.65	25/32	19.84
1/2	1/2	654	0.312	7.92	2.80	71.22	1.40	35.61	1.40	35.61	0.44	11.13	0.44	11.13	3.15	80.01	1.75	44.32	0.38	9.65	25/32	19.84	
		657	0.343	8.71	2.80	71.22	1.40	35.61	1.40	35.61	0.44	11.13	0.44	11.13	3.15	80.01	1.75	44.32	0.38	9.65	25/32	19.84	
Female NPT	1/8	1/8	110	0.063	1.60	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
			114	0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
	1/4	1/4	600	0.063	1.60	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.13	2.61	66.29	1.38	34.93	0.38	9.65	17/32	13.49
			600-2	0.172	4.37	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.13	2.61	66.29	1.38	34.93	0.38	9.65	17/32	13.49
	3/8	3/8	600-3	0.201	5.11	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.13	2.61	66.29	1.38	34.93	0.38	9.65	17/32	13.49
			660	0.250	6.35	2.50	63.50	1.25	31.75	1.25	31.75	0.75	19.00	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84
	1/2	1/2	660-2	0.312	7.92	2.50	63.50	1.25	31.75	1.25	31.75	0.75	19.00	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84
			660-3	0.343	8.71	2.50	63.50	1.25	31.75	1.25	31.75	0.75	19.00	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84
	1/2	1/2	664	0.250	6.35	2.62	66.65	1.31	33.32	1.31	33.32	0.75	19.05	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84
			664-2	0.312	7.92	2.62	66.65	1.31	33.32	1.31	33.32	0.75	19.05	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84
1/2	1/2	664-3	0.343	8.71	2.62	66.65	1.31	33.32	1.31	33.32	0.75	19.05	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84	
		664-3	0.343	8.71	2.62	66.65	1.31	33.32	1.31	33.32	0.75	19.05	0.69	17.42	3.36	85.34	1.75	44.32	0.38	9.65	25/32	19.84	
Male NPT	1/8	1/8	100	0.063	1.60	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
			112	0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
	1/4	1/4	102	0.063	1.60	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49
116			0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49	
3/8	3/8	636	0.250	6.35	2.28	57.96	1.14	28.98	1.14	28.98	0.44	11.13	0.44	11.13	3.15	80.01	1.75	44.32	0.38	9.65	25/32	19.84	
		Male NPT to Fractional Tube Fitting	1/8	1/8	105	0.063	1.60	2.08	52.83	0.91	23.01	1.17	29.67	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65
1/4	1/4	122			0.172	4.37	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32
		1/4	3/8	123	0.172	4.37	2.11	53.59	0.91	23.01	1.20	30.38	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32
Male NPT to Female NPT	1/4			1/4	603	0.063	1.60	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.13	2.61	66.29	1.38	34.93	0.38	9.65
		603-2	0.172		4.37	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.13	2.61	66.29	1.38	34.93	0.38	9.65	17/32	13.49
		603-3	0.201		5.11	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.13	2.61	66.29	1.38	34.93	0.38	9.65	17/32	13.49
Fractional Tube Fitting to Male NPT	3/8	1/4	125	0.172	4.37	2.11	53.59	1.20	30.38	0.91	23.01	0.40	10.16	0.38	9.53	2.55	64.77	1.38	34.93	0.38	9.65	17/32	13.49

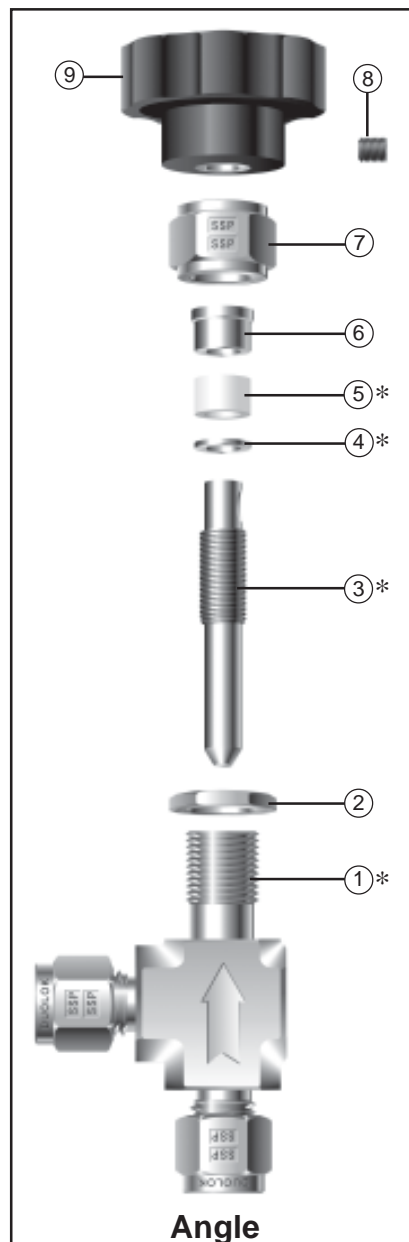
Complete ordering information is provided on page 7.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

When ordering, add the Material Designator and Stem Type Designator as a suffix and the Angle Pattern Designator as a prefix to the basic ordering number.



*Wetted components.

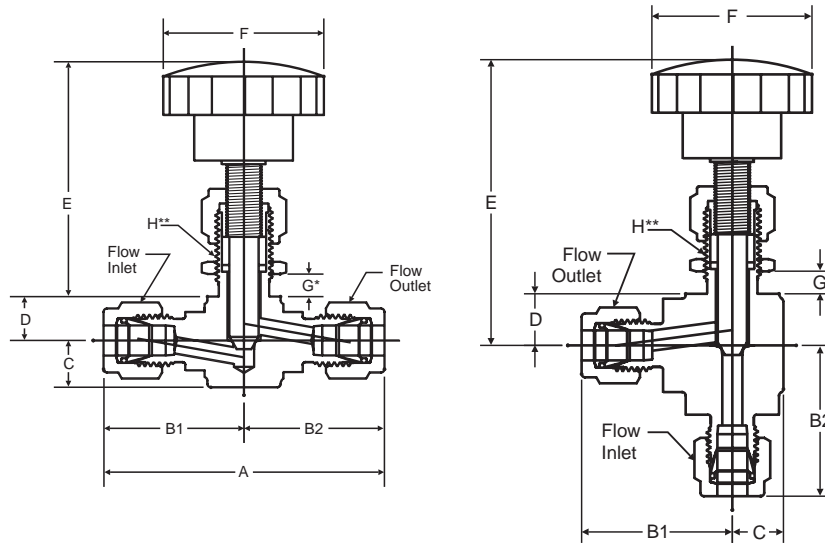


*Wetted components.

Materials of Construction		
#	Component	Stainless Steel
1	Body*	316 Stainless Steel
2	Panel Nut	316 Stainless Steel
3	Stem*	316 Stainless Steel
4	Packing Support*	316 Stainless Steel
5	Packing*	PTFE
6	Packing Pusher	316 Stainless Steel
7	Packing Nut	316 Stainless Steel
8	Set Screw	Stainless Steel
9	Handle^	Nylon

*Wetted components.

^Handle contains brass insert for extra strength and wear resistance.



G* – Max. Panel Thickness

H** – Panel Hole Drill Size

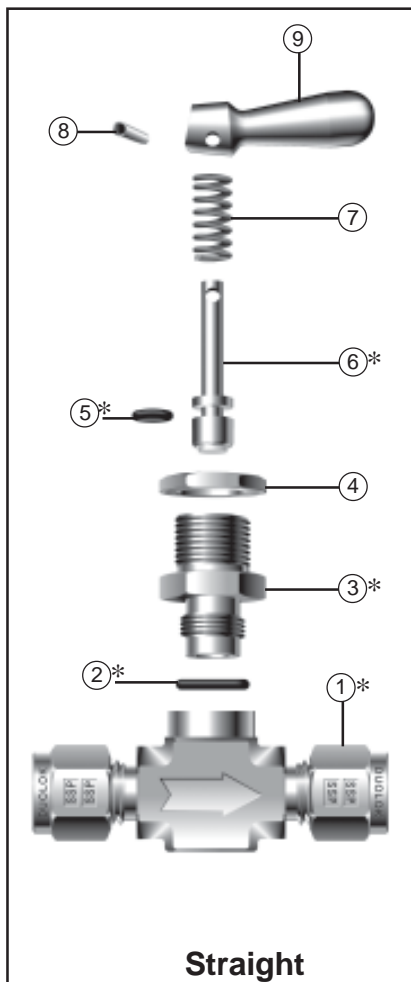
Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions																	
Type	Inlet Size	Outlet Size		In.	mm	A	B1	B2	C	D	E	F	G	H									
Fractional Tube Fitting	1/8	1/8	400-316	0.172	4.37	2.34	59.33	1.17	29.67	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08		
	1/4	1/4	422-316	0.172	4.37	2.40	60.96	1.20	30.48	1.20	30.48	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
	3/8	3/8	428-316	0.172	4.37	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.40	10.08	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
	1/2	1/2	436-316	0.172	4.37	2.62	66.45	1.31	33.22	1.31	33.22	0.51	12.83	0.51	12.83	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
Female NPT	1/8	1/8	408-316	0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
	1/4	1/4	418-316	0.172	4.37	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.23	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
	3/8	3/8	438-316	0.250	6.35	2.50	63.50	1.25	31.75	1.25	31.75	0.75	19.05	0.75	19.05	1.38	34.93	0.25	6.35	2.75	69.85	19/32	15.08
	1/2	1/2	440-316	0.312	7.92	2.62	66.65	1.31	33.32	1.31	33.32	0.75	19.05	0.75	19.05	3.00	76.20	0.25	6.35	2.86	72.64	25/32	19.84
	3/4	3/4	442-316	0.438	11.13	2.90	73.66	1.45	36.83	1.45	36.83	0.75	19.05	0.75	19.05	0.35	8.89	0.25	6.35	4.00	101.60	1 11/32	34.13
Male NPT	1/8	1/8	406-316	0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
	1/4	1/4	410-316	0.172	4.37	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
	3/8	3/8	430-316	0.172	4.37	2.26	57.40	1.13	28.58	1.13	28.58	0.44	11.13	0.44	11.23	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
Male NPT to Fractional	1/4	1/4	414-316	0.172	4.37	2.11	53.59	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
		3/8	416-316	0.172	4.37	2.11	53.59	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.53	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08
Male NPT to Female NPT	1/4	1/4	412-316	0.172	4.37	2.00	50.80	1.00	25.40	1.00	25.40	0.44	11.13	0.44	11.23	2.50	63.50	1.38	34.93	0.25	6.35	19/32	15.08

Complete ordering information is provided on page 7.

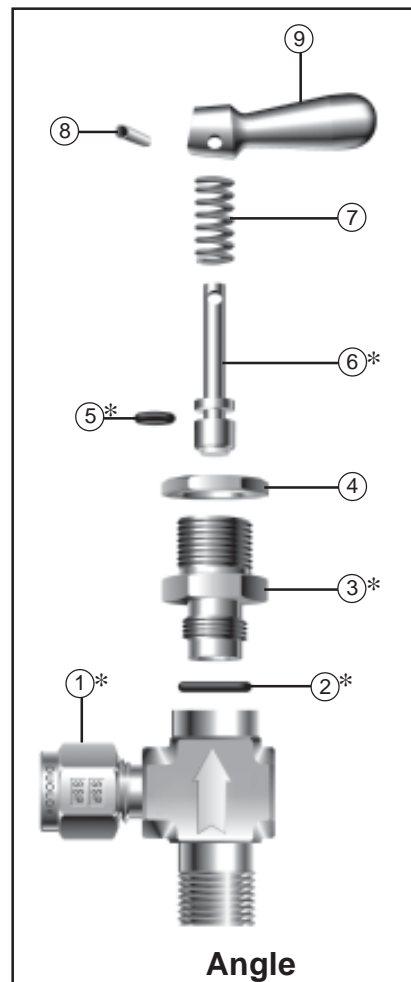
Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

When ordering, add the Material Designator and Stem Type Designator as a suffix and the Angle Pattern Designator as a prefix to the basic ordering number.



Straight

*Wetted components.



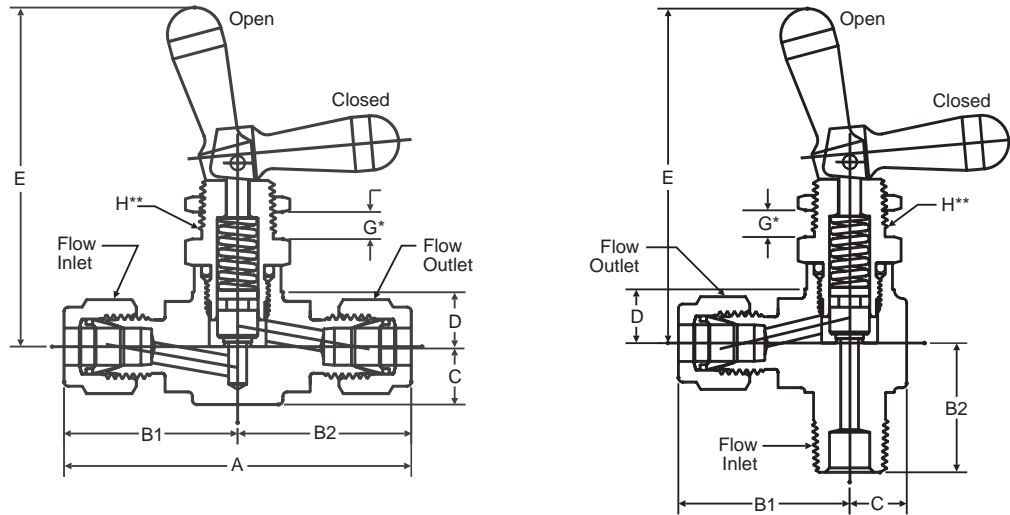
Angle

*Wetted components.

Materials of Construction

#	Component	Stainless Steel	Brass
1	Body*	316 Stainless Steel	Brass
2	Bonnet O-ring Seal*	Viton	Viton
3	Bonnet*	316 Stainless Steel	Brass
4	Panel Nut	316 Stainless Steel	Brass
5	Stem O-ring Seal*	Viton	Viton
6	Stem*	316 Stainless Steel with PTFE tip	316 Stainless Steel with PTFE Tip
7	Spring	316 Stainless Steel	316 Stainless Steel
8	Handle Pin	Stainless Steel	Stainless Steel
9	Handle	Brass Chrome Plated	Brass

*Wetted components.



G* – Max. Panel Thickness
 H** – Panel Hole Drill Size

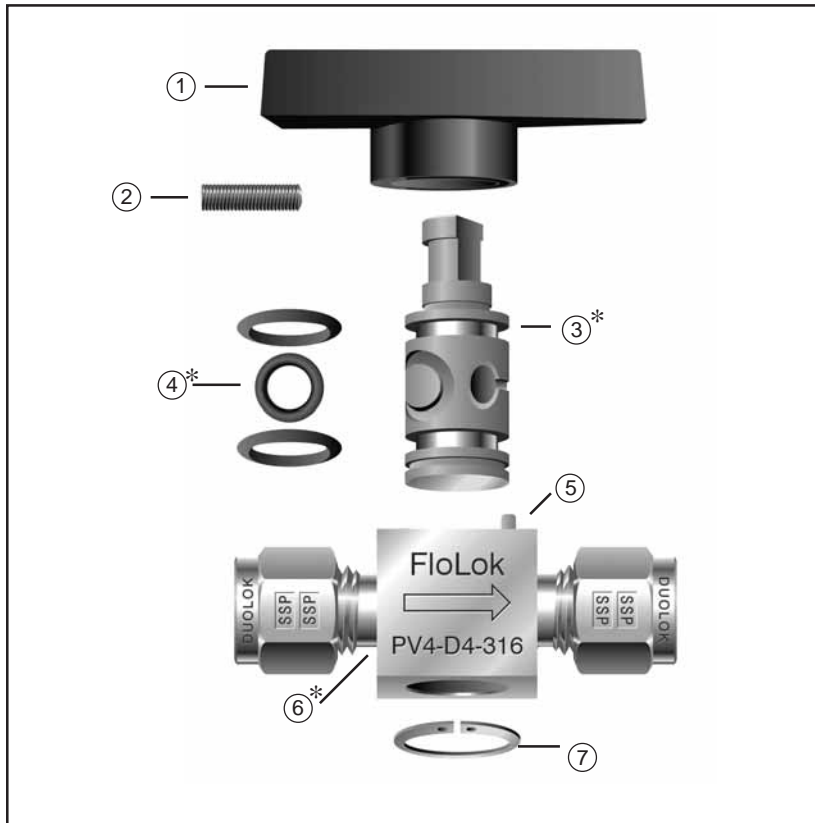
Models Shown: End Connection Type Fractional Tube Fitting (Straight Pattern)
 End Connection Type Male NPT to Fractional Tube Fitting (Angle Pattern)

End Connection			Basic Ordering Number	Orifice		Dimensions																	
Type	Inlet Size	Outlet Size		In.	mm	A		B1		B2		C		D		E		F		G		H	
					In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
Fractional Tube Fitting	1/8	1/8	206	0.094	2.39	2.34	59.33	1.17	29.67	1.17	29.67	0.40	10.16	0.38	9.55	2.34	59.54	1.12	28.45	0.25	6.35	17/32	13.49
	1/4	1/4	208	0.125	3.18	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.55	2.34	59.44	1.12	28.45	0.25	6.35	17/32	13.49
	3/8	3/8	212	0.125	3.18	2.40	60.96	1.20	30.38	1.20	30.38	0.40	10.16	0.38	9.55	2.34	59.54	1.12	28.45	0.25	6.35	17/32	13.49
Female NPT	1/8	1/8	202	0.125	3.18	3.62	92.05	1.81	46.02	1.81	46.02	0.40	10.16	0.38	9.55	2.34	59.54	1.12	28.45	0.25	6.35	17/32	13.49
	1/4	1/4	215	0.125	3.18	2.00	50.80	1.00	25.40	1.00	25.40	0.40	10.16	0.38	9.65	2.40	60.96	1.12	28.45	0.25	6.35	17/32	13.49
Male NPT	1/8	1/8	200	0.125	3.18	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.55	2.34	59.54	1.12	28.45	0.25	6.35	17/32	13.49
	1/4	1/4	204	0.125	3.18	1.82	46.23	0.91	23.01	0.91	23.01	0.40	10.16	0.38	9.55	2.34	59.54	1.12	28.45	0.25	6.35	17/32	13.49
Male NPT to Fractional Tube Fitting	1/4	1/4	209	0.125	3.18	2.11	53.49	0.91	23.01	1.20	30.48	0.40	10.16	0.38	9.55	2.34	59.54	1.12	28.45	0.25	6.35	17/32	13.49

Complete ordering information is provided on page 8.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change.

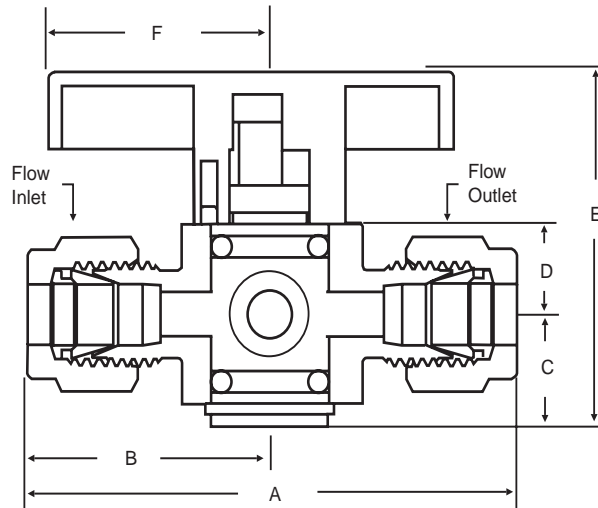
When ordering, add Angle Pattern Designator as a prefix and Material Designator as a suffix to the basic ordering number.



*Wetted components.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Handle	Nylon	Nylon
2	Pin	316 Stainless Steel	316 Stainless Steel
3	Plug*	PTFE coated 316 Stainless Steel	PTFE coated Brass
4	O-rings*	PTFE coated fluorocarbon FKM	PTFE coated fluorocarbon FKM
5	Pin	316 Stainless Steel	316 Stainless Steel
6	Body*	316 Stainless Steel	Brass
7	Snap Ring	PH 15-7 Mo® SS	PH 15-7 Mo® SS

*Wetted components.

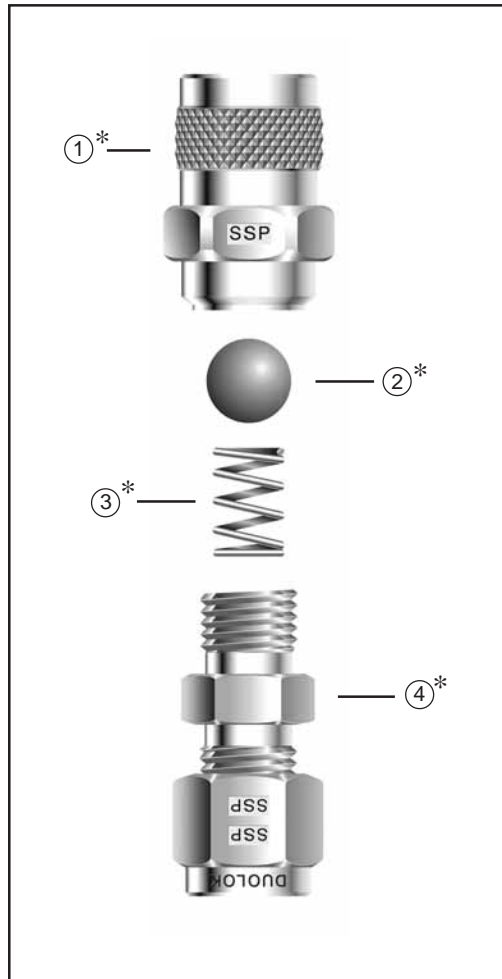


Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Basic Ordering Number	Orifice		Dimensions											
Type	Inlet Size	Outlet Size		In.	mm	A		B		C		D		E		F	
						In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	1/8	1/8	PV4-D2	0.093	2.3	1.99	50.5	0.98	24.9	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	1/4	1/4	PV4-D4	0.172	4.4	2.17	55.1	1.08	27.4	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	3/8	3/8	PV4-D6	0.172	4.4	2.29	58.2	1.14	29.0	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	3/8	3/8	PV6-D6	0.283	7.2	2.66	67.6	1.33	33.8	0.66	16.76	0.56	14.22	2.18	55.37	2.63	66.80
	1/2	1/2	PV6-D8	0.283	7.2	2.88	73.2	1.44	36.6	0.66	16.76	0.56	14.22	2.18	55.37	2.63	66.80
Female NPT	1/8	1/8	PV4-2PF	0.172	4.4	1.78	45.2	0.89	22.6	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	1/4	1/4	PV4-4PF	0.172	4.4	2.09	53.1	1.05	26.7	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	1/4	1/4	PV6-4PF	0.283	7.2	2.38	60.5	1.19	30.2	0.66	16.76	0.56	14.22	2.18	55.37	2.63	66.80
	1/2	1/2	PV6-8PF	0.283	7.2	2.88	73.2	1.44	36.6	0.66	16.76	0.56	14.22	2.18	55.37	2.63	66.80
Male NPT	1/8	1/8	PV4-2PM	0.172	4.4	1.53	38.9	0.76	19.3	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	1/4	1/4	PV4-4PM	0.172	4.4	1.90	48.3	0.95	24.1	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
	1/2	1/2	PV6-8PM	0.283	7.2	2.64	67.1	1.32	33.5	0.66	16.76	0.56	14.22	2.18	55.37	2.63	66.80
Male NPT to Fractional Tube Fitting	1/4	1/4	PV4-4PM-D4	0.172	4.4	2.03	51.2	0.95	24.1	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80
Male NPT to Female NPT	1/4	1/4	PV4-4PM-4PF	0.172	4.4	2.00	50.8	0.95	24.1	0.46	11.68	0.37	9.40	1.64	41.66	2.00	50.80

Complete ordering information is provided on page 8.

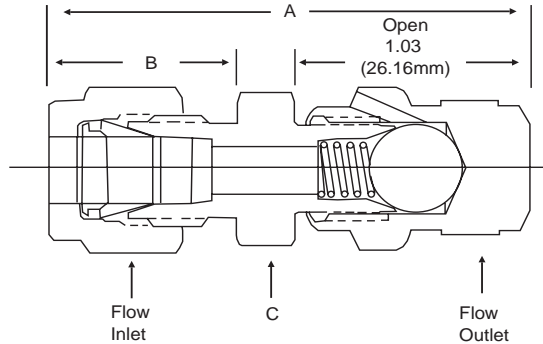
Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change. When ordering, add the Material Designator as a suffix to the basic ordering number.



*All components wetted.

Materials of Construction			
#	Component	Stainless Steel	Brass
1	Cap*	316 Stainless Steel	Brass
2	Ball*	316 Stainless Steel	316 Stainless Steel
3	Spring*	316 Stainless Steel	316 Stainless Steel
4	Body*	316 Stainless Steel	Brass

*All components wetted.



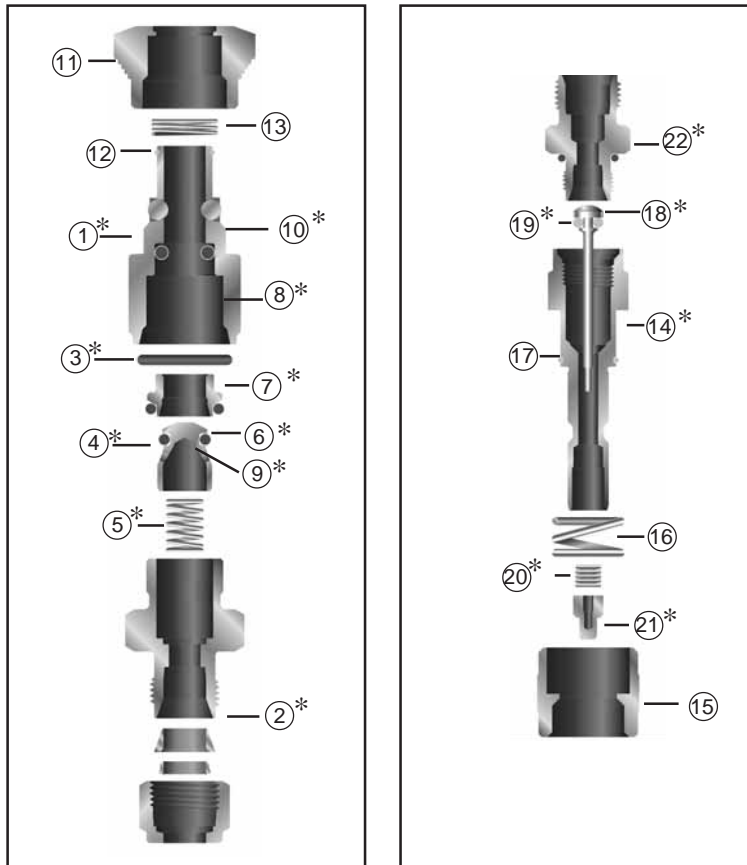
Model Shown: End Connection Type Fractional Tube Fitting

End Connection			Dimensions					
Type	Inlet Size	Ordering Number	A *		B		C	
			In.	mm	In.	mm	In.	mm
Fractional tube fitting	1/8	4902	1.84	46.74	0.59	14.99	1/2	12.70
	1/4	4912	1.94	49.28	0.69	17.53	1/2	12.70
	3/8	4922	2.03	51.56	0.75	19.05	5/8	15.88
	1/2	4932	2.19	55.63	0.88	22.35	13/16	20.64
Female NPT	1/8	4910	1.56	39.62	0.53	13.46	9/16	14.29
	1/4	4920	1.75	44.45	0.72	18.29	3/4	19.05
	3/8	4930	1.89	48.01	0.78	19.81	7/8	22.23
	1/2	4940	1.98	50.29	0.97	24.64	1-1/16	26.99
Male NPT	1/8	4906	1.62	41.15	0.38	9.65	1/2	12.70
	1/4	4916	1.81	45.97	0.56	14.22	9/16	14.29
	3/8	4926	1.84	46.74	0.56	14.22	11/16	17.47
	1/2	4936	2.09	53.09	0.75	19.05	7/8	22.23
Tube Adapter	1/8	4952	1.79	45.47	0.53	13.46	1/2	12.70
	1/4	4954	1.87	47.50	0.63	16.00	1/2	12.70
	3/8	4956	1.94	49.28	0.69	17.53	1/2	12.70
	1/2	4958	2.15	54.61	0.91	23.11	9/16	14.29

* A Dimension shown in open position.

Complete ordering information is provided on page 9.

Finger-tight assembly dimensions (shown in inches and millimeters) are for reference only and subject to change. When ordering, add the Material Designator and the Ball designator as a suffix to the basic ordering number.

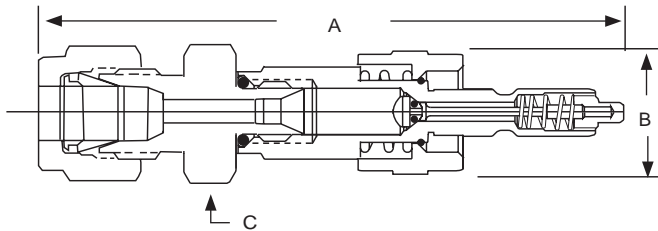


Materials of Construction			
#	Component	Stainless Steel	Brass
1	Body*	316 SS	Brass
2	Body Adapter*	316 SS	Brass
3	Body Adapter Seal*	Viton O-Ring	Buna N O-Ring
4	Body Valve*	316 SS	316 SS
5	Body Valve Spring*	316 SS	316 SS
6	Body Valve Seal*	Viton O-Ring	Buna N O-Ring
7	Insert*	316 SS	316 SS
8	Insert Seal*	Viton O-Ring	Buna N O-Ring
9	Poppet*	316 SS	316 SS
10	Locking Ball*	316 SS	316 SS
11	Body Sleeve	316 SS	Brass
12	Sleeve Snap Ring	316 SS	316 SS
13	Body Sleeve Springs	316 SS	316 SS
14	Stem Body*	316 SS	Brass
15	Stem Sleeve	316 SS	Brass
16	Sleeve Spring	316 SS	316 SS
17	Snap Ring	316 SS	316 SS
18	DESO Valve*^	316 SS	316 SS
19	DESO Valve O-Ring*^	Viton O-Ring	Buna N O-Ring
20	Valve Cap Spring*	316 SS	316 SS
21	Valve Cap*	316 SS	Brass
22	Stem Adapter*	316 SS	Brass

*Wetted components.

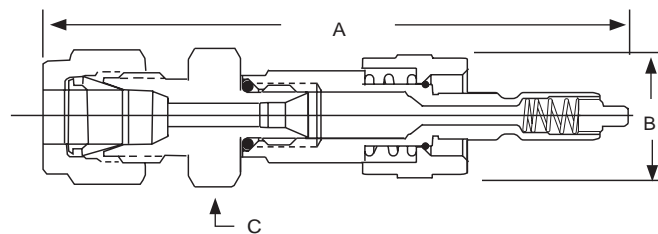
^ Not Assembled in SESO stem.

Stems



DESO

Stem has valve, shuts off when uncoupled.



SESO

Stem has no valve, remains open when uncoupled.

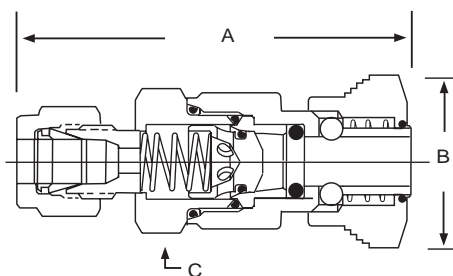
Models Shown: End Connection Type Fractional Tube Fitting

End Connection Type	SESO/DESO Stem Design	Basic Ordering Number	Connector Size	Dimensions					
				A		B*		C	
				In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	DESO	QC4-D-D2	1/8	2.82	71.63	0.62	15.75	7/16	11.11
		QC4-D-D4	1/4	2.94	74.68	0.62	15.75	1/2	12.70
		QC6-D-D6	3/8	3.05	77.47	0.74	18.80	5/8	15.88
		QC8-D-D8	1/2	3.27	83.06	0.87	22.10	13/16	20.64
Female NPT	DESO	QC4-D-2PF	1/8	2.55	64.77	0.62	15.75	9/16	14.29
		QC4-D-4PF	1/4	2.74	69.60	0.62	15.75	3/4	19.05
		QC6-D-4PF	1/4	2.76	70.10	0.74	18.80	3/4	19.05
		QC6-D-6PF	3/8	2.83	71.88	0.74	18.80	7/8	22.23
		QC8-D-8PF	1/2	3.37	85.60	0.87	22.10	1-1/16	26.99
Male NPT	DESO	QC4-D-2PM	1/8	2.61	66.29	0.62	15.75	7/16	11.11
		QC4-D-4PM	1/4	2.82	71.63	0.62	15.75	9/16	14.29
		QC6-D-4PM	1/4	2.84	72.14	0.74	18.80	9/16	14.29
		QC6-D-6PM	3/8	2.86	72.64	0.74	18.80	11/16	17.46
		QC8-D-8PM	1/2	3.46	87.88	0.87	22.10	7/8	22.23
Fractional Tube Fitting	SESO	QC4-S-D2	1/8	2.82	71.63	0.62	15.75	7/16	11.11
		QC4-S-D4	1/4	2.94	74.68	0.62	15.75	1/2	12.70
		QC6-S-D6	3/8	3.05	77.47	0.74	18.80	5/8	15.88
		QC8-S-D8	1/2	3.27	83.06	0.87	22.10	13/16	20.64
Female NPT	SESO	QC4-S-2PF	1/8	2.55	64.77	0.62	15.75	9/16	14.29
		QC4-S-4PF	1/4	2.74	69.60	0.62	15.75	3/4	19.05
		QC6-S-4PF	1/4	2.76	70.10	0.74	18.80	3/4	19.05
		QC6-S-6PF	3/8	2.83	71.88	0.74	18.80	7/8	22.23
		QC8-S-8PF	1/2	3.37	85.60	0.87	22.10	1-1/16	26.99
Male NPT	SESO	QC4-S-2PM	1/8	2.61	66.29	0.62	15.75	7/16	11.11
		QC4-S-4PM	1/4	2.82	71.63	0.62	15.75	9/16	14.29
		QC6-S-4PM	1/4	2.84	72.14	0.74	18.80	9/16	14.29
		QC6-S-6PM	3/8	2.86	72.64	0.74	18.80	11/16	17.46
		QC8-S-8PM	1/2	3.46	87.88	0.87	22.10	7/8	22.23

*For Outside diameter of keyed stems see page 37.

Complete ordering information is provided on page 9.

Bodies

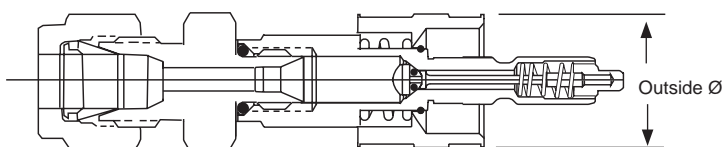


Model Shown: End Connection Type Fractional Tube Fitting

End Connection Type	Basic Ordering Number	Connector Size	Dimensions					
			A		B*		C	
			In.	mm	In.	mm	In.	mm
Fractional Tube Fitting	QC4-B-D2	1/8	2.02	51.31	0.86	21.84	5/8	15.88
	QC4-B-D4	1/4	2.11	53.59	0.86	21.84	5/8	15.88
	QC6-B-D6	3/8	2.38	60.45	0.98	24.89	3/4	19.05
	QC8-B-D8	1/2	3.30	83.82	1.21	30.73	15/16	23.81
Female NPT	QC4-B-2PF	1/8	1.94	49.28	0.86	21.84	5/8	15.88
	QC4-B-4PF	1/4	2.13	54.10	0.86	21.84	3/4	19.05
	QC6-B-4PF	1/4	2.34	59.44	0.98	24.89	3/4	19.05
	QC6-B-6PF	3/8	2.41	61.21	0.98	24.89	7/8	22.23
	QC8-B-8PF	1/2	2.96	75.18	1.21	30.73	1-1/16	26.99
Male NPT	QC4-B-2PM	1/8	1.80	45.72	0.86	21.84	5/8	15.88
	QC4-B-4PM	1/4	1.98	50.29	0.86	21.84	5/8	15.88
	QC6-B-4PM	1/4	2.20	55.88	0.98	24.89	3/4	19.05
	QC6-B-6PM	3/8	2.20	55.88	0.98	24.89	3/4	19.05
	QC8-B-8PM	3/8	2.56	65.02	1.21	30.73	15/16	23.81

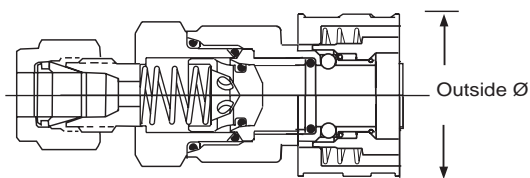
*For Outside diameter of keyed bodies see page 35.

Keys



Model Shown: End Connection Type Fractional Tube Fitting

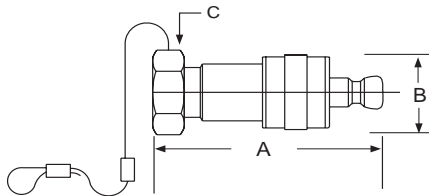
QUICK CONNECT KEY NUMBERS AND STEM SLEEVE OUTSIDE DIAMETERS						
Key Number and Color	QC4		QC6		QC8	
	Ø Stem Sleeve		Ø Stem Sleeve		Ø Stem Sleeve	
	In.	mm	In.	mm	In.	mm
K1 black	0.82	20.83	0.99	25.15	1.11	28.19
K2 orange	0.85	21.59	1.02	25.91	1.14	28.96
K3 green	0.88	22.35	1.05	26.67	1.17	29.72
K4 yellow	0.91	23.11	1.08	27.43	1.20	30.48
K5 blue	0.94	23.88	1.11	28.19	1.23	31.24
K6 white	0.97	24.64	1.14	28.96	1.26	32.00
K7 purple	1.00	25.40	1.17	29.72	1.29	32.77
K8 brown	1.03	26.16	1.2	30.48	1.32	33.53



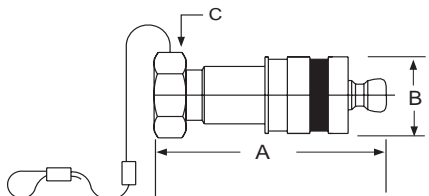
Model Shown: End Connection Type Fractional Tube Fitting

QUICK CONNECT KEY NUMBERS AND BODY SLEEVE OUTSIDE DIAMETERS						
Key Number and Color	QC4		QC6		QC8	
	Ø Body Sleeve		Ø Body Sleeve		Ø Body Sleeve	
	In.	mm	In.	mm	In.	mm
K1 black	0.96	24.38	1.13	28.70	1.26	32.00
K2 orange	0.99	25.15	1.16	29.46	1.29	32.77
K3 green	1.02	25.91	1.19	30.23	1.32	33.53
K4 yellow	1.05	26.67	1.22	30.99	1.35	34.29
K5 blue	1.08	27.43	1.25	31.75	1.38	35.05
K6 white	1.11	28.19	1.28	32.51	1.41	35.81
K7 purple	1.14	28.96	1.31	33.27	1.44	36.58
K8 brown	1.17	29.72	1.35	34.29	1.47	37.34

Plugs and Caps



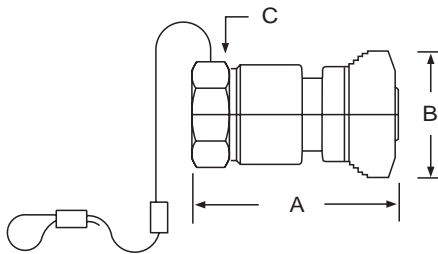
STEM PLUGS								
Series	Part Number	Body Size	A		B		C	
			In.	mm	In.	mm	In.	mm
QC4	QC4-SP-316	1/4	2.25	57.15	0.62	15.75	9/16	14.29
QC4	QC4-SP-B	1/4	2.25	57.15	0.62	15.75	9/16	14.29
QC6	QC6-SP-316	3/8	2.47	62.74	0.74	18.80	11/16	17.46
QC6	QC6-SP-B	3/8	2.47	62.74	0.74	18.80	11/16	17.46
QC8	QC8-SP-316	1/2	3.38	85.85	0.87	22.10	7/8	22.23
QC8	QC8-SP-B	1/2	3.38	85.85	0.87	22.10	7/8	22.23



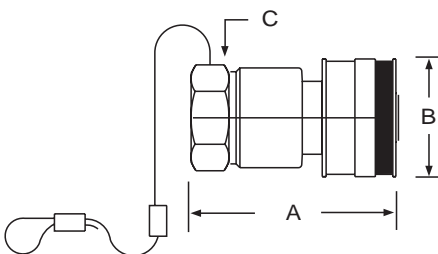
KEYED STEM PLUGS								
Series	Part Number	Body Size	A		B	C		
			In.	mm		In.	mm	
QC4	QC4-SP-316	1/4	2.25	57.15	*	9/16	14.29	
QC4	QC4-SP-B	1/4	2.25	57.15	*	9/16	14.29	
QC6	QC6-SP-316	3/8	2.47	62.74	*	11/16	17.46	
QC6	QC6-SP-B	3/8	2.47	62.74	*	11/16	17.46	
QC8	QC8-SP-316	1/2	3.38	85.85	*	7/8	22.23	
QC8	QC8-SP-B	1/2	3.38	85.85	*	7/8	22.23	

When stem is uncoupled, the use of a stem plug is recommended to guard against damage and contaminants. Stem plugs are not pressure containing devices.

* For outside diameter of keyed stem plugs see page 37.



BODY CAPS								
Series	Part Number	Body Size	A		B		C	
			In.	mm	In.	mm	In.	mm
QC4	QC4-BC-316	1/4	1.42	36.07	0.86	21.84	9/16	14.29
QC4	QC4-BC-B	1/4	1.42	36.07	0.86	21.84	9/16	14.29
QC6	QC6-BC-316	3/8	1.63	41.40	0.98	24.89	11/16	17.46
QC6	QC6-BC-B	3/8	1.63	41.40	0.98	24.89	11/16	17.46
QC8	QC8-BC-316	1/2	2.01	51.05	1.21	30.73	7/8	22.23
QC8	QC8-BC-B	1/2	2.01	51.05	1.21	30.73	7/8	22.23



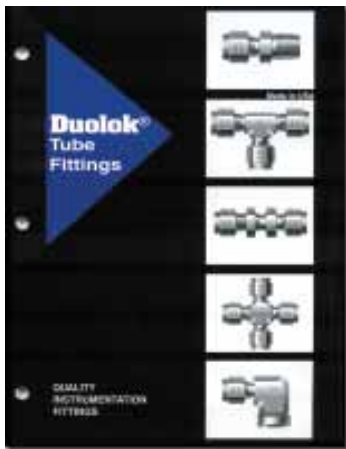
KEYED BODY CAPS								
Series	Part Number	Body Size	A		B	C		
			In.	mm		In.	mm	
QC4	QC4-BC-316	1/4	1.42	36.07	*	9/16	14.29	
QC4	QC4-BC-B	1/4	1.42	36.07	*	9/16	14.29	
QC6	QC6-BC-316	3/8	1.63	41.40	*	11/16	17.46	
QC6	QC6-BC-B	3/8	1.63	41.40	*	11/16	17.46	
QC8	QC8-BC-316	1/2	2.01	51.05	*	7/8	22.23	
QC8	QC8-BC-B	1/2	2.01	51.05	*	7/8	22.23	

When body is uncoupled, the use of a body cap is recommended to guard against damage and contaminants. Body caps are not pressure containing devices.

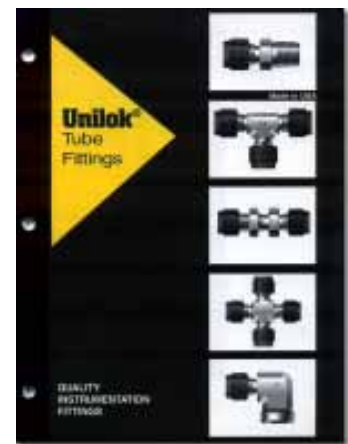
* For outside diameter of keyed body caps see page 37.

*To order Keyed Stem Plugs or Keyed Body Caps add the key color as a suffix to the basic ordering number.

For more information on fittings for process and instrumentation systems manufactured by SSP, please request the catalogs pictured below.



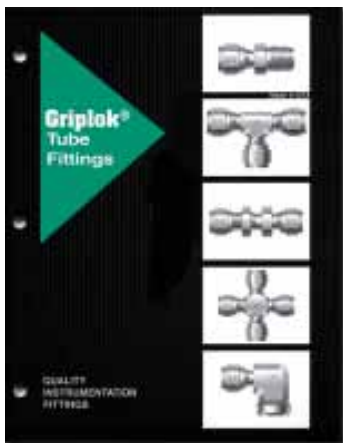
Duolok® Tube Fittings



Unilok® Tube Fittings



TruFit® Fabricated Hose



Griplik® Tube Fittings

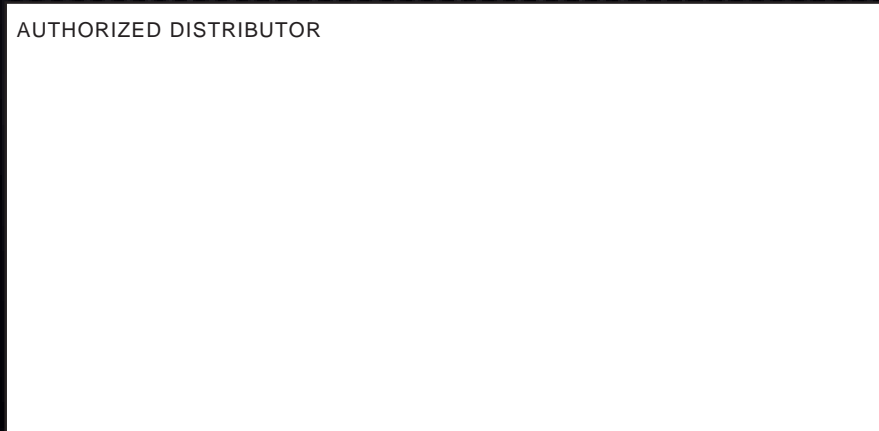


TruFit® Pipe, Weld and Adapter Fittings



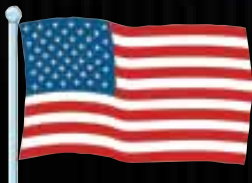
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