

Snubber Fittings

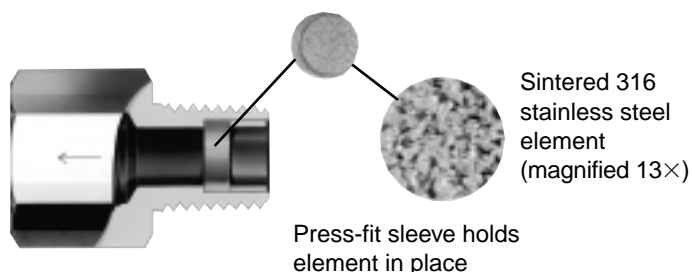
Gauge Protectors

Swagelok® snubber fittings protect gauges and instruments from system pressure surges and shocks. Pressure damping (snubbing) is accomplished through the use of a porous sintered 316 stainless steel element.

When a Swagelok snubber is installed upstream from a pressure-sensitive instrument, the response rate of the instrument is reduced and generally varies with the initial pressure drop across the porous metal element, and allows the instrument to smoothly come to line pressure.

Elements

With five basic elements available, snubber fittings can meet the requirements of fluid applications ranging from light gases to liquids with viscosities above 1000 SUS (Saybolt Universal Seconds) (220 cSt [mm²/s]). Element designators are stamped on all fittings for proper identification.



Fluid	Average Fluid Flow Estimate L/min ^①	Element Designator
Light gases from 69 to 79 SUS (13 to 16 cSt [mm ² /s])	0.05 at 25 psig (1.72 bar)	G
Air-Steam from 75 to 119 SUS (15 to 25 cSt [mm ² /s])	2.4 at 25 psig (1.72 bar)	A
Water, light oils from 75 to 250 SUS (15 to 54 cSt [mm ² /s])	3.3 at 25 psig (1.72 bar)	W
Oils from 250 to 1000 SUS (54 to 220 cSt [mm ² /s])	1.3 at 10 psig (0.69 bar)	L
Oils of 1000 SUS (220 cSt [mm ² /s]) and above	0.9 at 10 psig (0.69 bar)	H ^②

^① Product is tested with air at ambient temperature. Flow estimate is the average air flow multiplied by a ratio of nominal kinematic viscosities (air/fluid).

^② Not available for the -4-SRA-2.

Typical installation



Effective Element Area

Fittings with 1/8 in. male NPT:

0.019 in.² (12.3 mm²)

All other fittings:

0.062 in.² (40.0 mm²)

Materials of Construction

Component	Material Grade/ASTM Specification
Fitting body, ferrules, nut	316 SS/A276 or brass/B453
Sleeve	316 SS/A276
Element	316 SS

Pressure Ratings

Calculations based on ASME Code for Process Piping B31.3, at 70°F (20°C).

Fitting Material	Maximum Temperature
Brass	400°F (204°C)
316 SS	1000°F (538°C)

Maximum Differential Pressure

Stainless steel fittings with 1/8 in. male NPT: 5000 psig (344 bar)

All other snubbers: stated working pressures

⚠ Pressure must be applied only in the direction of the flow arrow.

NOTE: Snubber fittings should only be used to protect against pressure shocks, impulses, and surges. Systems requiring control of contaminants should use filters suited to the application. See the Swagelok *Filters* catalog.

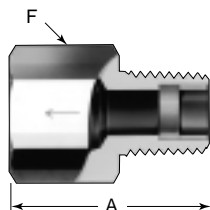
Ordering Information and Dimensions

To order, add a body material designator as a prefix and an element designator as a suffix to a basic ordering number.

Material	Designator
316 SS	SS
Brass	B

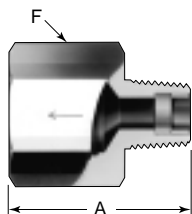
Example: **SS-4-SA-EG**

Adapter



NPT Male/Female Pipe Size in.	Basic Ordering Number	Dimensions, in. (mm)		Working Pressure at 70°F (20°C) psig (bar)	
		A	F Flat	Brass	316 SS
1/4	-4-SA-E	1.40 (35.6)	3/4	2200 (151)	4400 (303)
1/2	-8-SA-E	1.94 (49.3)	1 1/16	2400 (165)	4900 (337)

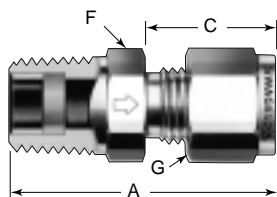
Reducing Adapter



NPT Female Pipe Size in.	NPT Male Pipe Size in.	Basic Ordering Number	Dimensions, in. (mm)		Working Pressure at 70°F (20°C) psig (bar)	
			A	F Flat	Brass	316 SS
1/4	1/8	-4-SRA-2-E	1.26 (32.0)	3/4	3300 (227)	6600 (454)
1/2	1/4	-8-SRA-4-E	1.76 (44.7)	1 1/16	2200 (151)	4400 (303)
	3/8	-8-SRA-6-E	1.83 (46.5)		2400 (165)	4900 (337)

① Maximum Differential Pressure: 5000 psig (344 bar)

Male NPT to Swagelok Tube Fitting



NPT Male Pipe Size in.	Tube OD	Basic Ordering Number	Dimensions, in. (mm)				Working Pressure ^② at 70°F (20°C) psig (bar)	
			A	C	F Flat	G Flat	Brass	316 SS
1/4	1/4	-4-SM-A-400	1.48 (37.6)	0.70 (17.8)	9/16	9/16	2200 (151)	4400 (303)
	3/8	-4-SM-A-600	1.57 (39.9)	0.76 (19.3)	5/8	11/16		

② For more information about pressure ratings of Swagelok tube fittings, see the Swagelok *Tubing Data* catalog.

Dimensions are for reference only, and are subject to change. Dimensions are shown with Swagelok nuts finger-tight.

Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.