

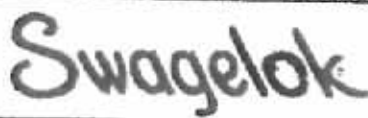
UNIFORM STATUTORY DECLARATION FORM FOR THE REGISTRATION OF FITTING DESIGNS

NEW BRUNSWICK
NUNAVUT

NOVA SCOTIA
YUKON

PRINCE EDWARD ISLAND
NORTHWEST TERRITORIES

NEWFOUNDLAND AND LABRADOR

MANUFACTURERS NAME: <u>Swagelok Company</u>	
MANUFACTURERS ADDRESS: <u>29500 Solon Road, Solon, Ohio 44139 USA</u>	
PLANT LOCATIONS: <u>Headquarters: 29500 Solon Road, Solon, Ohio 44139 USA (See Attachment A)</u>	
CATEGORY OF FITTINGS TO BE REGISTERED. CIRCLE ONE CATEGORY ONLY	
A Pipe fittings, including couplings, tees, elbows, Y's, plugs, unions, pipe caps, or reducers B Flanges: all flanges C Valves: all line valves D Expansion joints, flexible connections, and hose assemblies: all types E Strainers, filters, separators, and steam traps F Measuring devices, including pressure gauges, level gauges, sight glasses, levels, or pressure transmitters G Certified capacity-rated pressure relief devices acceptable as primary over pressure protection on boilers, pressure vessels, piping and fusible plugs H Pressure retaining components that do not fall into one of the above categories I Nuclear components: Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 <input type="checkbox"/> (Meeting AECS or ASME requirements)	TITLE OF THE STANDARD OF CONSTRUCTION ASME B31.1 for unlisted components, ASME B31.3 for unlisted components
SHOW MANUFACTURER'S NAME, TRADEMARK, OR LOGO AS IT WILL APPEAR ON THE PRODUCT	
	
TYPE OF CONSTRUCTION FORGED <input type="checkbox"/> WELDED <input type="checkbox"/> WROUGHT <input checked="" type="checkbox"/> CAST <input type="checkbox"/> OTHER <input type="checkbox"/> DISCLOSE OTHER:	
LIST OF SUPPORTING DOCUMENTATION AND IDENTIFICATION OF THE ACTUAL ITEMS TO BE REGISTERED: <u>ISO 9001:2015 Certificate, Attachment A, Attachment B, Catalog Information and other Support Documents</u>	

DECLARATION:

I, Joel Feldman (JOB TITLE) employed by Swagelok Company and being the person having full authority and responsibility for the quality of the end product do solemnly declare that the information contained in this form is true and to the best of my knowledge represents the product for which registration is sought. The dimensions, materials of construction, pressure temperature ratings, and identification markings are in accordance with the herein named standards. I further declare that the manufacture of these fittings is regulated by a Quality Control Program which extends to each plant where fabrication occurs in whole or in part and has been verified by BSI as being suitable for that purpose and I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

Signature of Declarer: [Signature]
 Declared before me at Solon, Ohio
 This 29th day of November AD 2018
 Commissioner of Oaths
 or Notary Public: (sign) [Signature]
 (Affix Official seal to the right)

THIS SPACE FOR OFFICIAL SEAL
 James L. Blodgett
 Resident Portage County
 Notary Public, State of Ohio
 My Commission Expires: 03/06/2021

This space for Regulatory Authority use This registration must be revalidated after (5) years from the date of acceptance. CRN: <u>0A21025.5</u> FID#: <u>1214</u> Notes: 1. All fittings shall be registered in the name of the Manufacturer. 2. Each category shall be supported with two Statutory Declaration forms and one copy of supporting documentation. 3. The declaration shall be made by the person having full authority and responsibility for the quality of the end product. 4. Quality control programs shall be resubmitted for validation at a minimum interval of five (5) years.	NUNAVUT Boilers and Pressure Vessels Act REGISTERED CRN <u>0A21025.5N</u> Date <u>March 08, 2019</u> Signed <u>[Signature]</u> Chief Inspector
Territorial Registration Fee	

Attachment B. Scope of Registration for Swagelok Stainless Steel Tube Fittings (Category A)

Product Scope

This document represents the scope of Swagelok Stainless Steel Tube Fittings covered by this submission for CRN approval. These Swagelok Tube Fittings have been evaluated in accordance with ASME B31.3-2016 for unlisted components and ASME B31.1-2016 for unlisted components.

Summary Table

Product Description or Series	Material (Standard)	Port Connections and Sizes	Maximum Allowable Working Pressure		Design Code of Construction	
			Up to 100°F	At maximum temperature		
Gaugeable Tube Fittings and Adapter Fittings	316 SS (ASTM A479) For straight fittings, hardware F316 SS (ASTM A182) For shaped fittings	Swagelok End Connection 1/16 - 2 inch (Fractional) 3mm - 50 mm (Metric)	See Table on Page 2	See Table on Page 2	ASME B31.3 (Unlisted Components) ASME B31.1 (Unlisted Components)	
		NPT Male 1/16 - 2 inch	11000 - 3900 psig	6160-2184 psig** @1000°F (537°C)	Based on ASME B1.20.1 listed in Table 326.1 of B31.3 and Table 126.1 of B31.1	
		NPT Female 1/16 - 2 inch	6700 - 3900 psig	3752-2184 psig** @1000°F (537°C)		
		ISO/BSP (parallel) - PR Male 1/8 - 1 inch	4568 - 2320 psig* (low limit 15°F)	4568 - 2320 psig @150°F (65°C)	ASME B31.3 (Unlisted Components)	
		ISO/BSP (parallel) - RP Male 1/8 - 1/2 inch	6700-2400 psig with copper gasket*	6700 - 2400 psig @400°F (204°C) with copper gasket*		
		ISO/BSP (parallel) RS Male 1/8-1 inch	6500-2700 psig with FKM bonded gasket* (limit -20°F)	6500-2700 psig @400°F (204°C) with FKM bonded gasket*		
		ISO/BSP (parallel) RG Female 1/4 - 1/2 inch	4036 psig with copper gasket*	4036 psig @400°F (204°C) with copper gasket*		
		ISO-7 (tapered)(RT) Male 1/8 - 2 inch	11000 - 3900 psig	6160-2184 psig** @1000°F (537°C)		ASME B31.1 (Unlisted Components)
		ISO-7 (tapered)(RT) Female 1/8 - 2 inch	6700 - 3900 psig	3752-2184 psig** @1000°F (537°C)		
		UN / UNF(SAE) Stud (ST) Male 1/8 - 2 inch	4568 - 1813 psig*	4568 - 1813 psig @400°F (204°C)		ASME B31.1 (Unlisted Components)
		UN / UNF (SAE) Pos. (ST) Male 1/8 - 2 inch	4568 - 1450 psig*	4568 - 1450 psig @400°F (204°C)		
		Tube Socket Weld 1/8 - 1 inch	12500 - 5600 psig	7000 - 3136 psig @1000°F (537°C)		
		Male Pipe Weld 1/4 - 1 inch	10300 - 6000 psig	5768-3360 psig @1000°F (537°C)		ASME B36.10M
		Unified (UNJ) (AN) Male Straight 1/8 - 1 inch	10000 - 5000 psig	5650-2825 psig @1000°F (537°C)		
		Unified (UNJ) (AN) Male Shape 1/8 - 1 inch	10000 - 4100 psig	5650-2316 psig @1000°F (537°C)		
		Unified (UNJ) (AN) Female w/ Swivel Nut 1/8 - 1 inch	4500 - 2500 psig	2542-1412 psig @1000°F (537°C)		

* Temperature rating is gasket, or O-ring material dependent

**Rating for fitting material (may be limited by thread sealant)

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 Technical Standards & Safety Authority
 Boilers & Pressure Vessels
 Safety Program



Stainless Steel Swagelok Tube Fitting Pressure Rating Table

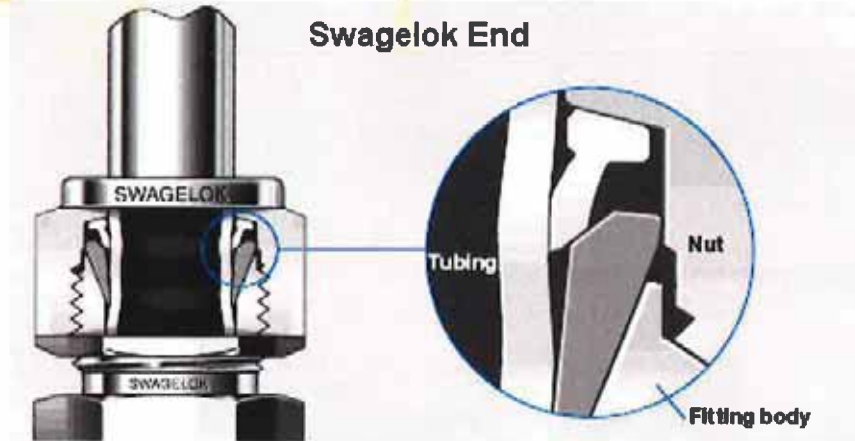
Swagelok End Connection Size	Maximum Allowable Working Pressure (1)	
	Up to 100°F	At maximum temperature 1000°F (537°C)
1/16 inch	12 000 psig	9 120 psig
1/8 inch	10 900 psig	8 284 psig
3/16 inch	10 200 psig	7 752 psig
1/4 inch	10 200 psig	7 752 psig
5/16 inch	8 000 psig	6 080 psig
3/8 inch	7 500 psig	5 700 psig
1/2 inch	6 700 psig	5 092 psig
5/8 inch	6 000 psig	4 560 psig
3/4 inch	5 800 psig	4 408 psig
7/8 inch	4 800 psig	3 648 psig
1 inch	4 700 psig	3 572 psig
1 1/4 inch	4 800 psig	3 648 psig
1 1/2 inch	4 900 psig	3 724 psig
2 inch	3 600 psig	2 736 psig
3 mm	670 bar	509 bar
6 mm	710 bar	540 bar
8 mm	520 bar	395 bar
10 mm	580 bar	441 bar
12 mm	470 bar	357 bar
14 mm	430 bar	327 bar
15 mm	400 bar	304 bar
16 mm	400 bar	304 bar
18 mm	370 bar	281 bar
20 mm	380 bar	289 bar
22 mm	340 bar	258 bar
25 mm	320 bar	243 bar
28 mm	330 bar	251 bar
30 mm	310 bar	236 bar
32 mm	330 bar	251 bar
38 mm	310 bar	236 bar
50 mm	270 bar	205 bar

Note (1): Values based on thickest wall tubing and stress values per ASME B31.3. Thinner tubing may be used but in all cases the ratings are less than, or equal to, those shown in the table.

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 CRN 0A2025-5
 Technical Services
 Ontario, Canada

Product Description

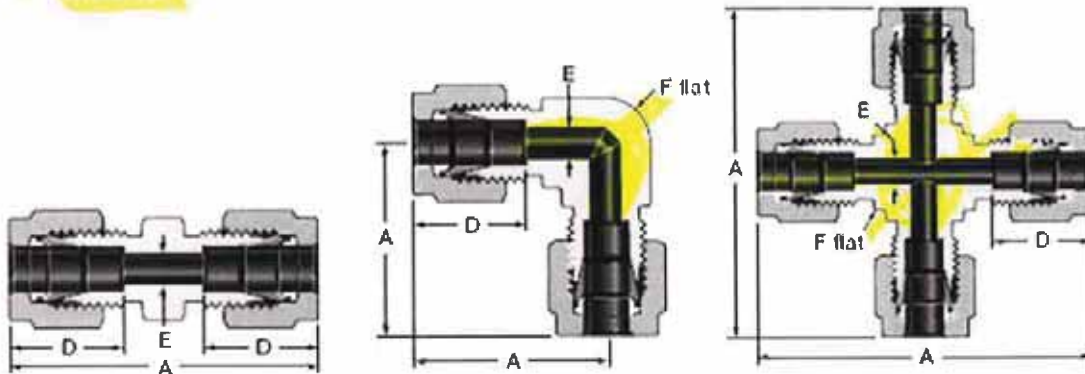
Swagelok Fittings are furnished in a variety of configurations and shapes (straight, elbow, tee or cross). Swagelok Fittings consist of at least one Swagelok End – a two-ferrule mechanical-grip design. The Swagelok end is a proprietary design, and the assembly consists of Swagelok body, nut, front and back ferrule (see detail). The table above, as well as the “Configurations” section, covers a variety of other end connections.



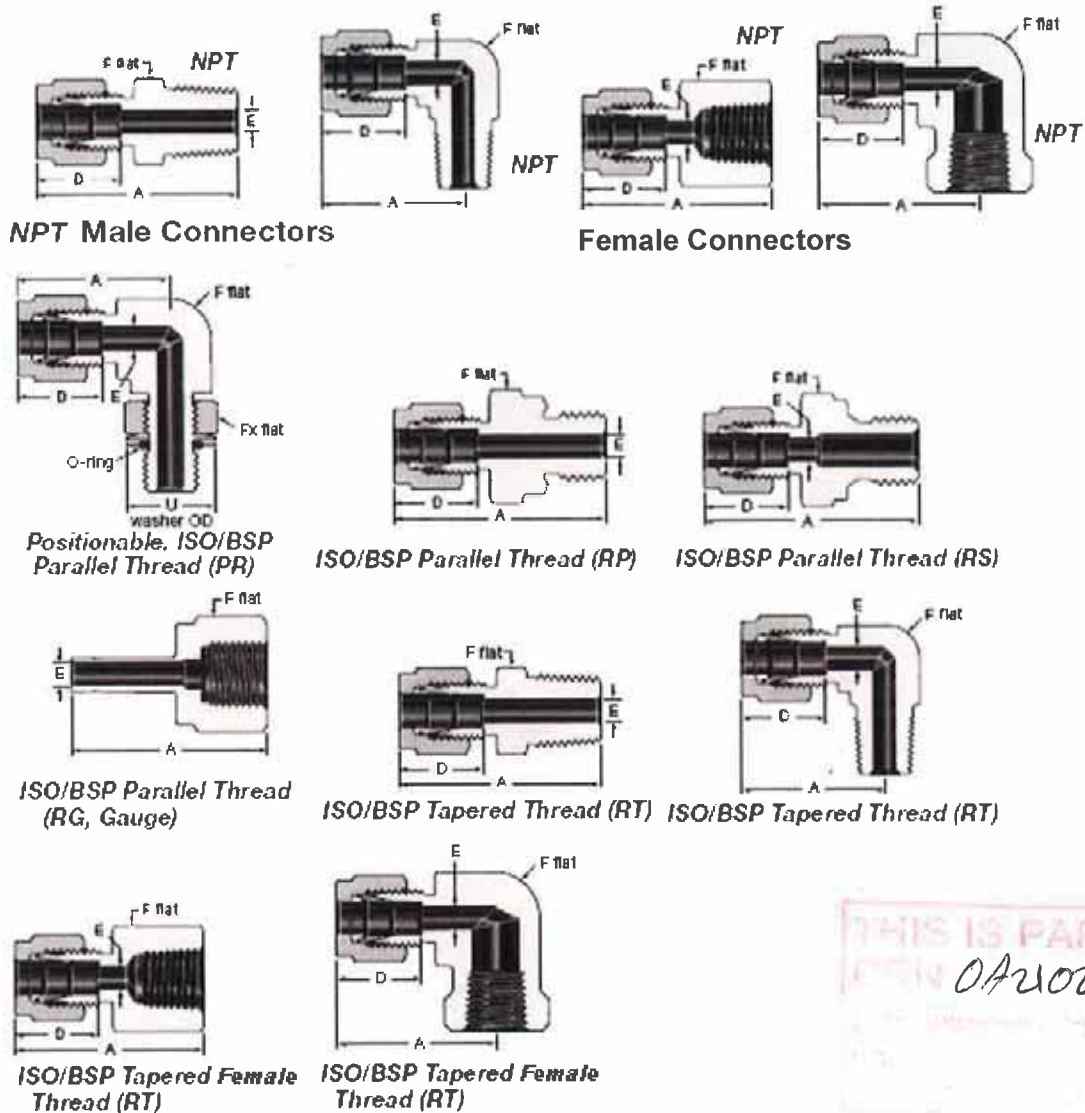
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Configurations

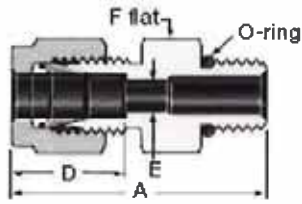
1. Unions.



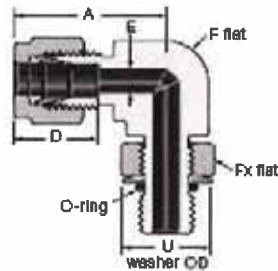
2. Male and Female connectors / adapters.



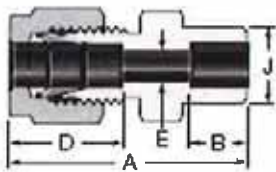
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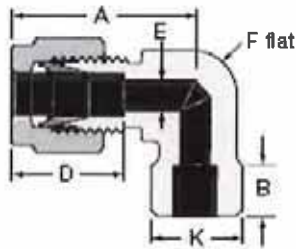
SAE/MS Straight Thread Stud (ST)



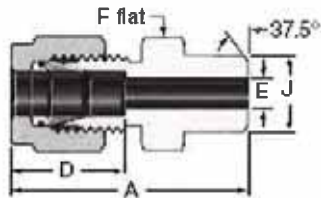
Positionable. SAE/MS Straight Thread (ST)



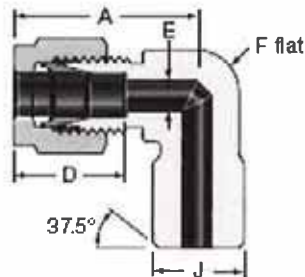
Tube Socket Weld



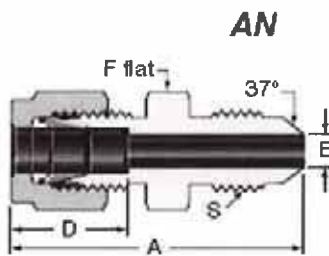
Tube Socket Weld



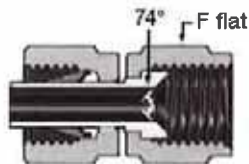
Male Pipe Weld



Male Pipe Weld



AN



AN Female

(For dimensions see catalog.)

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 CRM 0A21025-5

Product Options:

The product options listed below affect pressure and/or temperature ratings shown in the above Summary Table, but in all cases the ratings are less than, or equal to, those shown in the table.

1. Bored-Through Fittings.
2. RP gaskets:
 - a. Copper
 - b. Nickel
 - c. PTFE
3. RS gaskets:
 - a. Metal-and-elastomer bonded
 - b. Non-bonded stainless steel
 - c. Copper
4. RG gaskets:
 - a. Copper
 - b. Nickel
 - c. PTFE
5. Sealant for tapered pipe threads (NPT and ISO-7):
 - a. Curable resin with PTFE
 - b. PTFE tape

Additional options that do not affect pressure and/or temperature ratings may be made available within the scope of this approval. Examples of these would include the following:

1. Special marking
2. Special cleaning
3. Wire drills
4. bulkhead configurations
5. Snubbers/frits and orifice plates
6. Equivalent metric or fractional hex sizes

All of the above options are within the scope of this approval.

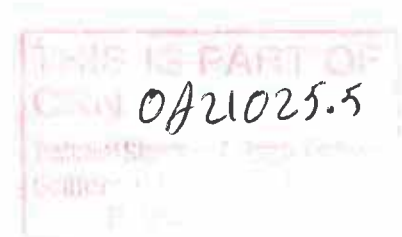
Quality System

The Swagelok Company quality system complies with the requirements of ISO 9001:2015. The Swagelok Company maintains BSI Certificate of Registration Number FM 01729, which applies to all locations listed on the Certificate.

References

The product catalog does not represent the full scope of the registration but rather details some of the most common options.

- Gaugeable Tube Fittings and Adapter Fittings MS-01-140, Rev X
- Swagelok Tubing Data Sheet MS-01-107, Rev N



Attachment A. Swagelok Manufacturing Locations

This document lists the Swagelok locations where end item or component level manufacturing activities take place.

Swagelok Company 29500 Solon Road Solon, Ohio 44139 USA	Swagelok Company (Falon 1) 348 Bishop Road Highland Heights, Ohio 44143 USA
Swagelok Company (Highland) 318 Bishop Road Highland Heights, Ohio 44143 USA	Swagelok Company (Falon 2) 358 Bishop Road Highland Heights, Ohio 44143 USA
Swagelok Company (OFC) 29495 F.A. Lennon Drive Solon, Ohio 44139 USA	Swagelok Company (HPF) 6050 Cochran Road Solon, Ohio 44139 USA
Swagelok Company (Atlantic) 26651 Curtiss Wright Parkway Willoughby Hills, Ohio 44092 USA	Swagelok Company (Snow Metal) 6060 Cochran Road Solon, Ohio 44139 USA
Swagelok Company (Micro) 26653 Curtiss Wright Parkway Willoughby Hills, Ohio 44092 USA	Swagelok Company (Alfred) 29500 Ambina Drive Solon, Ohio 44139
Swagelok Hose Services Company (SHSC) 29900 Solon Industrial Parkway Solon, Ohio 44139	Swagelok Company (Strongsville) 15400 Foltz Road Strongsville, Ohio 44119
Swagelok (China) Fluid System Technologies Ltd, Changshu Export Process Zone Changshu Economic Development Zone Changshu, Jiangshu 215513 China	Swagelok Company A.G. (European Technology Center) St. GallerstraBe 84 Lachen, Switzerland 8853 Switzerland
Swagelok Limited Ballafletcher Road Tromode IM4 4RA Isle of Man	

