

TECHNICAL STANDARDS & SAFETY AUTHORITY
345 CARLINGVIEW DRIVE
TORONTO ON M9W 6N9

Date: July 6, 2021
Account #: 35231
Journal #: 78274

Attn: TSSA

Re: Application for Design Registration

The design, as detailed in your, 0A23299.5 - SWAGELOK COMPANY, for a Fitting is accepted for registration as follows:

Registered To: SWAGELOK COMPANY **CRN:** 0A23299.51

Drawing #: Scope of Registration

Drawing Revision: N/A

This design was registered based on a technical review performed by the province of initial registration in accordance with the Association of Chief Inspectors policy on reciprocal recognition of design review.

Reviewer's Notes:

Scope: See attachments A and B for scope of registration- Swagelok SS Medium Pressure Tube Fittings

As required by CSA B51 4.2.1, this registration expires on 07-Jun-2031. This CRN is valid until the expiry date as long as the Manufacturer maintains a valid quality control program verified by an acceptable third-party agency until that date. Should the certification of the quality control program lapse before the expiry date, this registration shall become void. Any additional conditions of registration stated in TSSA CRN# 0A23299.5 registration shall apply to BC registration.

Contact me if you have any questions. The invoice for registration will be forwarded under separate cover.

Emilia Tam

emilia.tam@technicalsaftybc.ca
Design Administration

cc:



Technical Standards and Safety Authority
345 Carlingview Drive
Toronto, Ontario M9W 6N9
www.tssa.org

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below

Swagelok

STATUTORY DECLARATION Registration of Fittings

I, Joel Feldman, Vice President of Engineering
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of Swagelok Company
(Name of Manufacturer)

Located at 29500 Solon Road, Solon, Ohio 44139 USA (440) 248-4600 (440) 349-5970
(Plant Address) (Telephone No.) (Fax No.)

do solemnly declare that the fittings listed hereunder, which are subject to the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, comply with all of the requirements of ASME B31.3 for unlisted components
(Title of recognized North American Standard)
which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of ISO 9001:2015 which has been verified by the following authority, BSI

The items covered by this declaration, for which I seek registration, are category A. Fitting type fittings. In support of this application, the following information and/or test data are attached as follows:
ISO 9001:2015 Certificate, Attachment A, Attachment B, Catalog Information and other Support Documents
(drawings, calculations, test reports, etc.)

Declared before me at _____ in the _____ of _____
the _____ day of _____ AD 20_____.

Commissioner for Oaths:

Unable to get a notary signature or seal due to COVID-19 situation
(Printed name)

(Signature)

DocuSigned by:

(Signature)
4/26/2021 | 7:44 AM EDT

C87CBBFE5DF14B7

Technical Standards and Safety Authority
Boilers and Pressure Vessels Safety Program

REGISTERED

C.R.N.: 0A23299.5

Signed: *ll*

Date: June 7, 2021.

FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, and CSA Standard B51 and is accepted for registration in Category A

CRN: 0A23299.5

Registered by: LILIANA CONSTANTINESCU

Dated: JUNE 7, 2021

NOTE: This registration expires on: JUNE 7, 2031



This Document has been digitally signed. The stamp size has been optimized for 11 x 17 documents

The fittings rating is based on the lower rating between the type of end connections.
The CRN Code Compliance Summary document lists the rating for each size and type of end connection

*Information provided in this application is releasable under the Freedom of Information and Privacy Protection Act and may be disclosed upon request.



THIS IS PART OF CRN

0A23299.5

Technical Standards and Safety Authority

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

This document represents the scope of Swagelok 316 Stainless Steel Medium Pressure Tube Fittings covered by this submission for CRN approval. These Swagelok Medium Pressure Tube Fittings have been evaluated in accordance with ASME B31.3 for unlisted components.

Summary Table

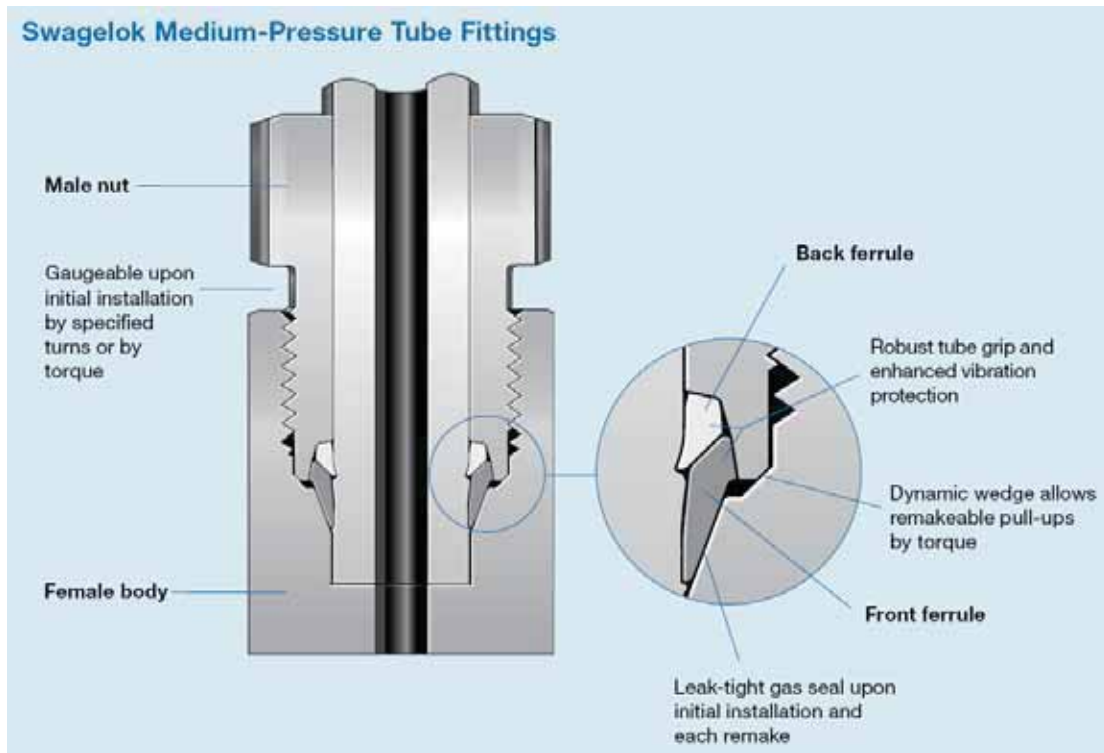
Product Description or Series	Material (Standard)	Port Connections and Sizes	Maximum Allowable Working Pressure		Design Code of Construction
			Up to 100°F (psig)	At maximum temperature per ASME B31.3 (psig)	
Medium Pressure Tube Fittings and Adapter Fittings	316 SS (ASTM A479) straight fittings, shaped fittings, hardware	Medium Pressure Tube Fitting FK 1/4 – 1 inch, 6mm, 10mm, 12mm	15 000 - 6250*	12 540 – 4781 @1000°F*	Unlisted Component in ASME B31.3
		Medium Pressure Tube Adapter FK-TA 1/4 – 1 inch 6mm, 10mm, 12mm	15 000 - 6250	12 540 - 5225 @1000°F	
		NPT Male and Female, Medium Pressure Design 1/16 - 1 inch	15 000 - 10 000	12 540 – 8360 @1000°F	
		UN/UNF(SAE) Heavy Duty STH Male Non-Positionable Stud 1/4 inch, 3/8 inch	9137**	9137 @400°F**	
		Cone & Thread MP, Male and Female 1/4 – 1 inch	15 000	12 540 @1000°F	
		Cone & Thread Tube Nipple CW 1/4 – 1 inch	15 000	12 540 @1000°F	

* Medium Pressure Tube Fitting (FK) pressure rating is tubing dependent

** SAE Heavy Duty (STH) pressure rating is O-Ring dependent

Product Description

Swagelok Medium Pressure Tube Fittings are furnished in a variety of configurations and shapes (straight, elbow, tee or cross). Swagelok Medium Pressure Tube Fittings consist of at least one Swagelok Medium Pressure Tube Fitting or Tube Adapter End, which have two-ferrule mechanical-grip design. The Swagelok medium pressure tube fitting end is a proprietary design, and the assembly consists of a body, nut, front and back ferrule (see detail). The table above, as well as the "Configurations" section, covers a variety of other end connections.



Configurations

1. Unions. (Straight, Elbow, Tee, Cross)

Swagelok Medium Pressure Tube Fitting (FK) End Connections



2. Tube Adapter

Swagelok Medium Pressure Tube Fitting (FK) with Medium Pressure Tube Adapter (FK-TA)
End Connection

Swagelok Medium Pressure Tube Adapter (FK-TA) to an NPT (Male) End Connection



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0A23299.5
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Program

3. Male and Female Connectors / Adapters

Swagelok Medium Pressure Tube Fitting (FK) End Connection, adapting to an:

- NPT (Male or Female) End Connection
- SAE Heavy Duty (Male), STH End Connection
- Cone & Thread (Male or Female), MP End Connection
- Cone and Thread Tube Nipple (Male), CW End Connection

Straight Fittings: 1/4" – 1", 6mm-12mm FK End Connections may adapt to any of the above listed end connections.

Shape Fittings: 1/4" – 3/4", 6mm-12mm FK End Connections may adapt to NPT, SAE, or Cone & Thread MP end connections.



4. Caps and Plugs

Swagelok Medium Pressure Tube Fitting



(For dimensions see catalog.)

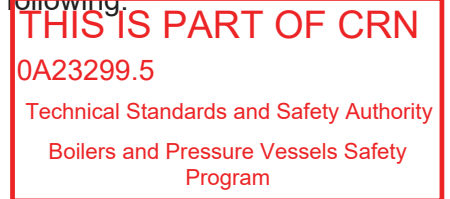
Product Options:

The product option 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. Sealant for tapered pipe threads (NPT):
 - 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 ($\frac{1}{4}$ " – $\frac{3}{4}$ ", 6mm-12mm sizes only)
5. Equivalent metric or fractional hex sizes



All the above options, those that affect pressure and/or temperature ratings and those that do not, 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.

- Medium- and High-Pressure Fittings, Tubing, Valves, and Accessories MS-02-472, Rev O

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 Limited Ballafletcher Road Tromode IM4 4RA Isle of Man