

REGISTRATION OF A PRESSURE FITTING DESIGN

07-Jul-23

TSSA
345 Carlingview Drive
Toronto, Ontario
M9W 6N9

Attention: Cecylia Garbacz

File Number: 13703 [0 F]

Re: Manufacturer: Swagelok Company
Item: Swagelok FL Series Hose Assemblies
Catalog or Drawing: Per Swagelok Scope of Registration (Attachment B - June 15, 2022)

TSASK Codes and Standards Compliance has registered the design listed above in accordance with The Boiler and Pressure Vessel Act and Regulations and CSA B51. The Canadian Registration Number (CRN) is:

0D21780.53 Expiry Date: September 15, 2029

Please note that every fitting shall be constructed in strict accordance with the registered design.

Fitting registrations are required to be resubmitted for validation after ten (10) years from the registration date in accordance with CSA B51, Clause 4.2.1.

Should you require anything further, please do not hesitate to contact the Codes and Standards Compliance Office at your convenience.

Yours truly,



Athan Syrgiannis, P.Eng.
Codes and Standards Compliance

Remarks:

A valid quality control program must be maintained at the production facilities for the fitting registration to remain valid until the expiry date.

Revision to existing registration. Conditional upon compliance with the notes on the revised TSSA registration.

See Attachment A for list of manufacturing locations and Attachment B for updated Scope of Registration.



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 D. Hoses 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 SOLON in the STATE of OHIO

the 31 day of JANUARY AD 2023



JEFFREY C. TRUMBULL
 Notary Public
 State of Ohio
 Recorded in Lake County
 Certificate # 2020-RE-813693
 My Commission Expires
 April 15, 2025

Commissioner for Oaths:

JEFFREY C TRUMBULL

(Printed name)

[Signature]
(Signature)

[Signature]
(Signature of Declarer)

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 _____

CRN: _____

Registered by: _____

Dated: _____

Technical Safety Authority
of Saskatchewan

Registration No. OD21780.53

File No. 13703

Registered

Date: July 7, 2023

Expiry Date: September 15, 2029

Codes & Standards Compliance Office

NOTE: This registration expires on: _____

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

Attachment B: Scope of Registration for Swagelok FL Series Hose Assemblies (Category D)

The table below represents the scope of Swagelok FL series hose assemblies covered by this submission for CRN approval. These hose assemblies have been evaluated in accordance with ASME B31.3:2016 Process Piping as unlisted components. The referenced port connections and product catalog(s) do not represent the full scope of the submission but rather detail some of the most common options.

Summary Table

Product Series	Pressure Retaining Material	Nom. Hose Size (in)	End Connections & Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				Up to 100°F	@ Max. Temp.	
FL Series Metal Hose	Core 316L SS (EN 10088-228-7 or ASTM A240)	1/4	Tube Fitting [TA, TM, SL, SM] 1/4" – 1/2" (6mm – 10mm)	1500	840 @850°F	ASME B31.3 (Unlisted Components)
			Male & Female VCR Metal Gasket Face Seal Fittings [RM, RF] 1/4" – 1/2"			
			SAE 37° (JIC) Female Swivel [AS] 1/4" – 3/8"			
	Tube Butt Welds [TB] 1/4"	1500	975 @500°F			
	Female VCO O-Ring Face Seal Fittings [VF] 1/4"					
	Male & Female Pipe Threads, NPT [PM, PF] 1/4" – 1/2"					
Braid 321 SS (EN 10088-3 or ASTM A580)	1/4	ISO/BSP Tapered (ISO 7) [MT][FT] 1/4" – 1/2"	1500	1050 @400°F		
		Tube Fitting [TA, TM, SL, SM] 1/4" – 3/4" (6mm – 18mm)			1200	672 @850°F
		Male & Female VCR Metal Gasket Face Seal Fittings [RM, RF] 1/4" – 3/4"				
SAE 37° (JIC) Female Swivel [AS] 1/2" – 5/8"						
Tube Butt Welds [TB] 1/2"	1200	780 @500°F				
Female VCO O-Ring Face Seal Fittings [VF] 1/2"						
End Connections Strain-Hardened 316 SS, 316L SS, or 316LV SS (ASTM A479)	1/2	Tube Butt Welds [TB] 1/2"	1200	780 @500°F		
		Female VCO O-Ring Face Seal Fittings [VF] 1/2"				



			Male Pipe Threads, NPT [PM] 1/4" – 3/4"			
			Female Pipe Threads, NPT [PF] 3/8" – 1/2"	1200	840 @400°F	
			ISO/BSP Tapered (ISO 7) [MT][FT] 3/8" – 1/2"			

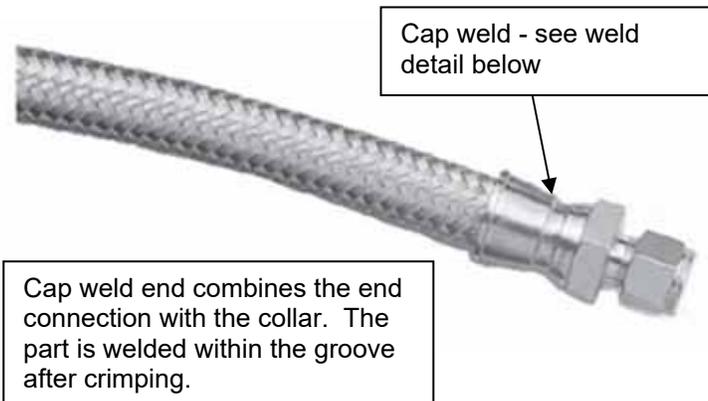
Product Illustration



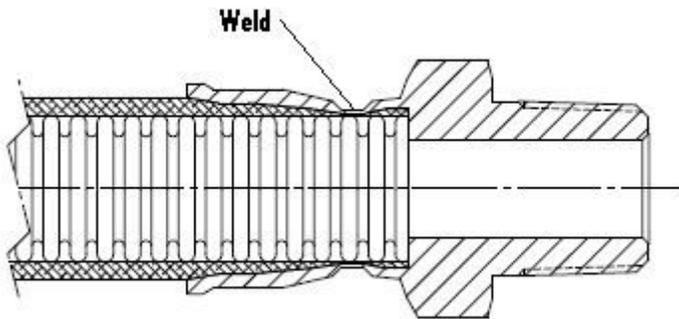
Configuration Example:

FL hoses are available in two sizes with many end types, end sizes, and possible overall lengths.

The corrugated tubing and braid are attached to the end connection with a Gas Tungsten Arc Weld (GTAW) cap weld process.



Weld Detail:



Product Options:

Additional options and non-pressure boundary alterations that do not affect pressure ratings may be made available within the scope of this approval. Examples of these would include the following:

- Cover Options (ex. fire jacket, thermosleeve, etc.)
- Tag and Marking Options (ex. tags, lanyards, retaining clamps, etc.)
- Special Testing Options (ex. hydrostatic pressure test, inboard helium leak test, nitrogen leak test, etc.)
- Other Options (ex. traceable certificates for product).

Additional options that may affect pressure and/or temperature ratings may be made available within the scope of this approval. Examples of these would include the following:

- End Connection Seals or Sealant Options (ex. VCO O-rings, VCR gaskets, pipe thread sealant, etc.)

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

- Hose Assemblies, Bulk Hose, and End Connections Product Catalog MS-01-180, Rev. S

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

