

REGISTERED



CRN: CSA-0020522.56

Registration Process administered by  
CSA Group of Canada B51

## Statutory Declaration Registration of Fittings

### (a) Design Qualification

I<sup>1</sup> Joel Feldman

Vice President, Engineering

(Position eg. president, plant manager, chief eng.)

Of Swagelok Company

(name of company)

Located at Headquarters: 29500 Solon Road, Solon, Ohio 44139 USA (See Attachment A)

(plant address)

do solemnly declare that the fittings listed hereunder, which are subject to the Boilers & Pressure Vessels Act:

☒ comply with all the requirements of the ANSI/ASME codes as to their dimensions, material, identification & service for which are required

Or

☐ are not covered by the provisions of the ANSI/ASME codes, and are therefore constructed to comply with \_\_\_\_\_ code and standard, and are designed to the best current engineering practice, as shown by the supporting test data.

### (b) Quality control of Manufacture

I further declare the manufacture of these fittings is controlled by a quality control program which complies with the requirements of ISO 9001:2015 and has been verified by the following authority or authorized agency BSI

The fittings<sup>2</sup> covered by this declaration, for which I seek registration, are Category D. Hose

In support of the application, the following information, calculations and/or test data are attached:

ISO 9001:2015 Certificate, Attachment A, Attachment B, Catalog Information and other Support Documents

Declared before me at Solon

In the of State of Ohio

The 01 Day of May

AD 18 2018

Jamie L. Ristau  
Resident Portage County  
Notary Public, State of Ohio  
Commission Expires: 03/06/2019

Jamie L. Ristau  
A (commissioner for oaths)

Joel C. Feldman  
Signature of Declarer<sup>3</sup>

#### For Official Use Only

The application is accepted for registration in Category D in accordance with the Boilers and Pressure Vessels Act and CSA Standard B51.

This registration must be revalidated after ten (10) years from the date of acceptance. July 11, 2028

Registered Number CRN CSA-0020522.56

For the Chief Inspector  
Date



A. BANWATT  
Sep. 19, 2018

- 1 Three completed copies of Statutory Declaration form together with three copies of Catalogs, drawings of Bulletins illustrating above fittings shall be submitted.
- 2 All fittings are required to be registered in the name of the Manufacturer.
- 3 This form shall be completed and signed by the president or highest official in the manufacturing plant where the fitting is produced.



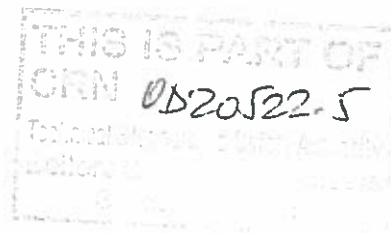
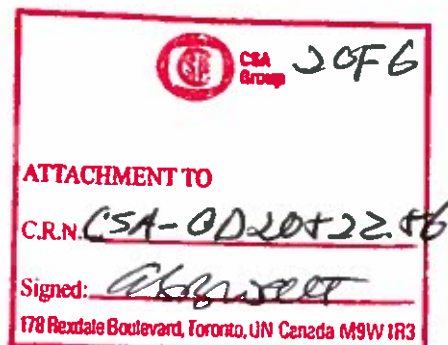
## Attachment B: Scope of Registration for Swagelok FX Series Hose Assemblies (Category D)

### Product Scope

The table below represents the scope of Swagelok FX series hose assemblies covered by this submission for CRN approval. These hose assemblies have been evaluated in accordance with ASME B31.3 and ISO 10380. The referenced product catalogues 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	End Connection & Sizes	Nom. Hose Size (in.)	Maximum Working Pressure in (Psig)		Design Code of Construction
				@ Min. Temp.	@ Max. Temp.	
FX Series Metal Hose	<b>Core:</b> 316L SS (ASTM A240)  <b>Braid:</b> 321 SS (ASTM A478) Or 316L SS (ASTM A240)  <b>Weld Collar:</b> 304 SS (ASTM A269)  <b>End Connections:</b> Strain-Hardened 316 SS (ASTM A479)	Tube Fitting 1/4" – 1/2", 4-10 mm [TA, TM, SL, SM]	1/4	6000 @ -325°F	4236 @ 1000°F	ASME B31.3, ISO 10380
		NPT Female 1/8" – 1/4" [PF]		6000 @ -60°F	5640 @ 400°F	
		NPT Male 1/8" – 1/2" [PM]				
		Female VCO Fitting 1/4"				
		Male ISO/BSP Tapered threads (ISO 7) 1/4" – 1/2" [MT]				
		Female ISO/BSP Tapered Threads (ISO 7) 1/4" [FT]				
		Male Swivel Nut VCR 1/4" [RM]		5500 @ -325°F	3883 @ 1000°F	
		Female VCR Fitting 1/4" [RF]		5365 @ -325°F	3787 @ 1000°F	
		Tube Fitting 12mm [TM]		5300 @ -60°F	4982 @ 400°F	
		NPT Female 3/8" [PF]		5100 @ -325°F	3600 @ 1000°F	
		Tube Butt Weld 1/4" [TB]		4900 @ -60°F	4606 @ 400°F	
		NPT Female 1/2" [PF]		3700 @ -325°F	2612 @ 1000°F	
		Tube Butt Weld 1/2" [TB]		3000 @ -325°F	2118 @ 1000°F	
		Male Swivel Nut VCR 1/2" [RM]				
		Female VCR Fitting 1/2" [RF]				



Product Series	Pressure Retaining Material	End Connection & Sizes	Nom. Hose Size (in.)	Maximum Working Pressure in (Psig)		Design Code of Construction
				@ Min. Temp.	@ Max. Temp.	
FX Series Metal Hose	<b>Core:</b> 316L SS (ASTM A240)  <b>Braid:</b> 321 SS (ASTM A478) or 316L SS (ASTM A240)  <b>Weld Collar:</b> 304 SS (ASTM A269)  <b>End Connections:</b> Strain-Hardened 316 SS (ASTM A479)	Tube Fitting 1/4" – 1/2", 4-12 mm [TA, TM, SL, SM] Female VCO Fitting 1/2" [VF] Male Swivel Nut VCR 1/4" [RM] Female VCR Fitting 1/4" [RF]	3/8	5000 @ -325°F	3530 @ 1000°F	ASME B31.3, ISO 10380
		NPT Female 1/4" – 1/4" [PF] NPT Male 1/4" – 1/2" [PM] Male ISO/BSP Tapered threads (ISO 7) 1/4" – 3/8" [MT]		5000 @ -60°F	4700 @ 400°F	
		NPT Female 1/2" [PF]		4900 @ -60°F	4606 @ 400°F	
		Tube Butt Weld 1/2" [TB]		3700 @ -325°F	2612 @ 1000°F	
		Tube Butt Weld 3/8" [TB]		3300 @ -325°F	2329 @ 1000°F	
		Male Swivel Nut VCR 1/2" [RM] Female VCR Fitting 1/2" [RF]		3000 @ -325°F	2118 @ 1000°F	
		Tube Fitting 1/4" – 3/4", 6-18 mm [TA, TM, SL, SM] Male Swivel Nut VCR 1/4" [RM] Female VCR Fitting 1/4" [RF] Female VCO Fitting 1/2" [VF]	1/2	4500 @ -325°F	3177 @ 1000°F	
		NPT Female 3/8-1/2" [PF] NPT Male 1/4" – 3/4" [PM] Female VCO Fitting 1/4"		4500 @ -60°F	4230 @ 400°F	
		Male ISO/BSP Tapered threads (ISO 7) 3/8" – 1/2" [MT] Female ISO/BSP Tapered Threads (ISO 7) 1/2" [FT]		4400 @ -60°F	4092 @ 400°F	
		NPT Female 1" [PF]		3700 @ -325°F	2612 @ 1000°F	
		Tube Butt Weld 1/2" [TB]		3000 @ -325°F	2118 @ 1000°F	
		Male Swivel Nut VCR 1/2" [RM] Female VCR Fitting 1/2" [RF]		2800 @ -325°F	1976 @ 1000°F	
		Male Swivel Nut VCR 3/4" [RM] Female VCR Fitting 3/4" [RF]				



39F6

OD20522.5


ATTACHMENT TO

C.R.N. CSA-OD20522.5

Signed [Signature]

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

Product Series	Pressure Retaining Material	End Connection & Sizes	Nom. Hose Size (in.)	Maximum Working Pressure in (Psig)		Design Code of Construction
				@ Min. Temp.	@ Max. Temp.	
FX Series Metal Hose	<b>Core:</b> 316L SS (ASTM A240)  <b>Braid:</b> 321 SS (ASTM A478) Or 316L SS (ASTM A240)  <b>Weld Collar:</b> 304 SS (ASTM A269)  <b>End Connections:</b> Strain-Hardened 316 SS (ASTM A479)	Tube Fitting 1/2" – 1", 12-20 mm [TA, TM, SL, SM] Female VCO Fitting 1/2" – 3/4" [VF]	3/4	3600 @ -325°F	2541 @ 1000°F	
		NPT Female 1/2"-3/4" [PF] NPT Male 1/2" – 1" [PM] Female VCO Fitting 1/4" Male ISO/BSP Tapered threads (ISO 7) 1/2"-1" [MT] Female ISO/BSP Tapered Threads (ISO 7) 3/4"-1" [FT]		3600 @ -60°F	3384 @ 400°F	
		Male Swivel Nut VCR 1/2" [RM] Female VCR Fitting 1/2"-1" [RF]		3000 @ -325°F	2118 @ 1000°F	
		Male Swivel Nut VCR 5/8"-3/4" [RM] Female VCR Fitting 3/4" [RF]		2800 @ -325°F	1976 @ 1000°F	
		Tube Butt Weld 3/4"-1" [TB]		2400 @ -325°F	1694 @ 1000°F	
		Tube Fitting 1/2" – 1-1/4", 16-28 mm [TA, TM, SL, SM] Male Swivel Nut VCR 1" [RM] Female VCR Fitting 1" [RF] Female VCO Fitting 1" [VF]	1	3000 @ -325°F	2118 @ 1000°F	
		NPT Female 1" [PF] NPT Male 1/2" – 1" [PM] Female VCO Fitting 1/4" Male ISO/BSP Tapered threads (ISO 7) 1" [MT] Female ISO/BSP Tapered Threads (ISO 7) 1" [FT]		3000 @ -60°F	2820 @ 400°F	
		Male Swivel Nut VCR 3/4" [RM] Female VCR Fitting 3/4" [RF]		2800 @ -325°F	1976 @ 1000°F	
		Tube Butt Weld 3/4"-1" [TB]		2400 @ -325°F	1694 @ 1000°F	

 40F6

ATTACHMENT TO  
 C.R.N. CSA-0020522.16  
 Signed: [Signature]  
 178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

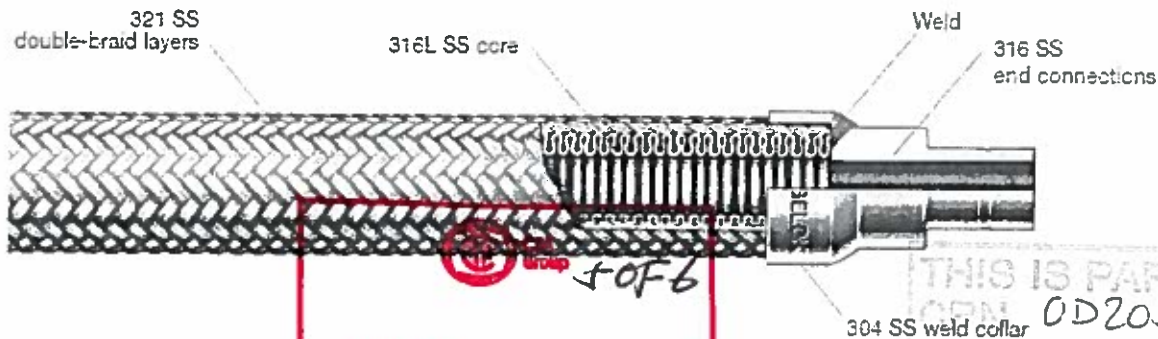
0020522.15



Product Series	Pressure Retaining Material	End Connection & Sizes	Nominal Hose Size (in.)	Maximum Working Pressure in (Psig)		Design Code of Construction
				@ Min. Temp.	@ Max. Temp.	
FX Series Metal Hose	<b>Core:</b> 316L SS (ASTM A240)  <b>Braid:</b> 321 SS (ASTM A478) or 316L SS (ASTM A240)  <b>Weld Collar:</b> 304 SS (ASTM A269)  <b>End Connections:</b> Strain-Hardened 316 SS (ASTM A479)	Tube Fitting 1-1/4" – 1-1/2", 28-32 mm [TA, TM, SL, SM]	1-1/4	2600 @ -325°F	1835 @ 1000°F	ASME B31.3, ISO 10380
		NPT Female 1-1/4" [PF] NPT Male 1" – 1-1/4" [PM] Male ISO/BSP Tapered threads (ISO 7) 1-1/4" [MT]		2600 @ -60°F	2444 @ 400°F	
		Tube Butt Weld 1-1/4" [TB]		2400 @ -325°F	1694 @ 1000°F	
		Tube Fitting 1-1/2", 38 mm [TA, TM, SL, SM] Tube Butt Weld 1-1/2" [TB]	1-1/2	2200 @ -325°F	1553 @ 1000°F	
		NPT Female 1-1/2" [PF] NPT Male 1" – 1-1/2" [PM] Male ISO/BSP Tapered threads (ISO 7) 1-1/2" – 2" [MT]		2200 @ -60°F	2068 @ 400°F	
		Tube Fitting 2" [TA, SL] Tube Butt Weld 2" [TB]		1675 @ -325°F	1182 @ 1000°F	
		NPT Male 1-1/2" – 2" [PM] Male ISO/BSP Tapered threads (ISO 7) 2" [MT]	2	1675 @ -60°F	1574 @ 400°F	

## Product Illustration

All end connections are welded onto the hose using weld collars.



ATTACHMENT TO

C.R.N. CSA-0020522.56

Signed: [Signature]

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

## Product Options:

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:

### Braid Options

- 316L SS

### Cover Options

- Armor guard - Interlocking, flexible 302 stainless steel.
- Fire jacket - Woven fiberglass coated with specially compounded aerospace-grade silicone rubber
- Thermosleeve - Braided fiberglass with saturated synthetic material coating.

### Tag and Marking Options

- Mat tag - Polyester tag with customer-specified text
- Lanyard tag - Stainless steel tag with customer-specified text
- Clamp tag - Stainless steel tag with customer-specified text

### End Connection Seals or Sealant Options

- VCO - O-rings
- VCR - Gasket
- Pipe Thread ends - thread sealant

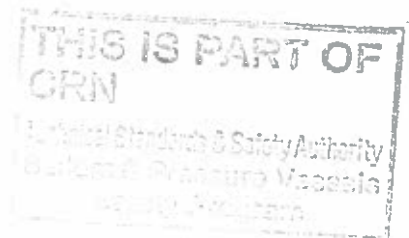
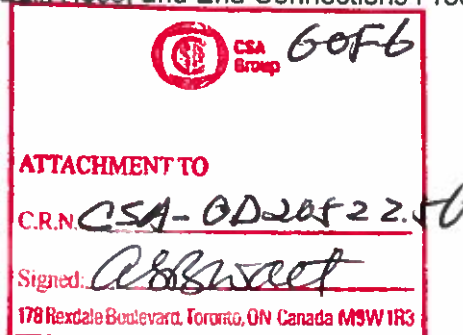
## Quality System

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. The Swagelok FX series hose assemblies are manufactured at Hose Master and at Swagelok Company location in Solon, Ohio.

## References

The 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



## 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. Gallerstrasse 84 Lachen, Switzerland 8853 Switzerland
Swagelok Limited Ballafletcher Road Tromode IM4 4RA Isle of Man	



10F6

ATTACHMENT TO

C.R.N. CSA-OD20522.56

Signed:

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

 THIS IS PART OF  
 ORN OD20522.5