

Registration No. 0D21781.53

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File No. 11224

File No. 11221

Date: September 17, 2019

Date: September 17, 2019

Expiry Date: September 15, 2020

Expiry Date: September 15, 2020

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Statutory Declaration (Registration of Fittings)

TSK-1008

I. Declaration Information

I, Joel Feldman  
Vice President, Engineering  
(company title, e.g. vice president, plant manager, chief engineer)  
 (must be in a position of authority in the manufacturing plant where the fitting is produced)

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting.



of: Swagelok Company  
(name of manufacturer)

located at: Headquarters: 29500 Solon Road Solon, Ohio 44139 USA  
(Plant Address - Apt/Street) (City, Prov) (Postal Code)

do solemnly declare that the fittings listed hereinunder, which are subject to the **Saskatchewan Boiler and Pressure Vessel Safety Act** (check one)

- Comply with the requirements of ASME B31.3 which specifies the dimensions, (title of recognized North American Standard) Materials of construction, pressure / temperature ratings and identification marking of the fittings, 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, materials of construction, pressure / temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacturer of these fittings is controlled by a quality control program which has been verified by the following authority, BSI as being suitable for the manufacturer of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are Category D. Hose

In support of this 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

II. Declaration

DECLARED before me at solon In the state of Ohio  
 this 18th day of July, 2019  
Brenda Hammel (print name) \_\_\_\_\_ (Signature) Joel C. Feldman  
Brenda Hammel  
(Signature of Commissioner of Oaths)

III. Office Use Only

To the best of my knowledge and belief, the application meets the requirements of the **Boiler and Pressure Vessel Safety Act** and **CSA B51, Clause 4.2**, and is accepted for registration in Category \_\_\_\_\_

(Registration Number)

(Date Registered - MM DD YYYY)  
 (For the Administrator / Chief Inspector)

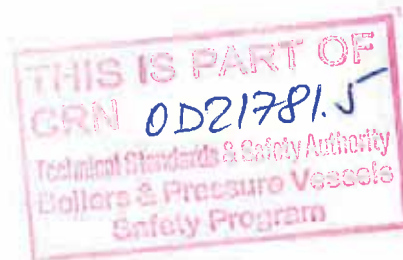
(Expiry Date - MM DD YYYY)

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

The table below represents the scope of Swagelok FM 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.	
FM Series Metal Hose	<b>Core</b> 316L SS (ASTM A240)  <b>Braid</b> 316L SS (ASTM A580)  <b>End Connections</b> Strain-Hardened 316 SS, 316L SS, or 316LV SS (ASTM A479)	1/4	Tube Fitting [TA, TM, SL, SM] 1/4" – 1/2" (6mm – 10mm)  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"	3100	1736 @850°F	ASME B31.3 (Unlisted Components)
			Female VCO O-Ring Face Seal Fittings [VF] 1/4"	3100	2015 @500°F	
			Male & Female Pipe Threads, NPT [PM, PF] 1/4" – 1/2"  ISO/BSP Tapered (ISO 7) [MT][FT] 1/4" – 1/2"	3100	2170 @400°F	




**Technical Safety Authority**  
 of Saskatchewan

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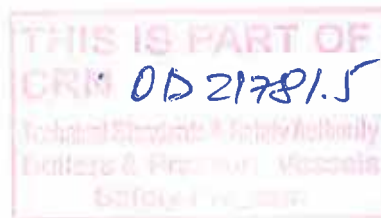
**Summary Table (cont'd)**

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.	
FM Series Metal Hose	<u>Core</u> 316L SS (ASTM A240)  <u>Braid</u> 316L SS (ASTM A580)  <u>End Connections</u> Strain-Hardened 316 SS, 316L SS, or 316LV SS (ASTM A479)	3/8	Tube Fitting [TA, TM, SL, SM] 1/4" – 1/2" (6mm – 10mm)  Male & Female VCR Metal Gasket Face Seal Fittings [RM, RF] 1/4" – 1/2"  SAE 37° (JIC) Female Swivel [AS] 3/8" – 1/2"  Tube Butt Welds [TB] 3/8" – 1/2"	2000	1120 @850°F	ASME B31.3 (Unlisted Components)
			Female VCO O-Ring Face Seal Fittings [VF] 3/8"	2000	1300 @500°F	
			Male & Female Pipe Threads, NPT [PM, PF] 1/4" – 1/2"	2000	1400 @400°F	
			ISO/BSP Tapered (ISO 7) [MT][FT] 3/8"			
			Tube Fitting [TA, TM, SL, SM] 1/4" – 3/4" (6mm – 18mm)  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"	1800	1008 @850°F	
			Female VCO O-Ring Face Seal Fittings [VF] 1/2"	1800	1170 @500°F	
		Male Pipe Threads, NPT [PM] 1/4" – 3/4"	1800	1260 @400°F		
		Female Pipe Threads, NPT [PF] 3/8" – 1/2"				
		ISO/BSP Tapered (ISO 7) [MT][FT] 3/8" – 1/2"				

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 GRN 0D21781.5  
 Technical Standards & Safety Authority  
 Eclairage & Procurement Vasculaires  
 Safety Programs

**Summary Table (cont'd)**

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.	
FM Series Metal Hose	<b>Core</b> 316L SS (ASTM A240)  <b>Braid</b> 316L SS (ASTM A580)  <b>End Connections</b> Strain-Hardened 316 SS, 316L SS, or 316LV SS (ASTM A479)	3/4	Tube Fitting [TA, TM, SL, SM] 1/2" – 1" (12mm – 25mm)	1500	840 @850°F	ASME B31.3 (Unlisted Components)
			Male VCR Metal Gasket Face Seal Fittings [RM] 1/2" – 3/4"			
			Female VCR Metal Gasket Face Seal Fittings [RF] 1/2" – 1"			
			SAE 37° (JIC) Female Swivel [AS] 3/4"	1500	975 @500°F	
			Tube Butt Welds [TB] 3/4"			
			Female VCO O-Ring Face Seal Fittings [VF] 1/2" – 3/4"			
Male Pipe Threads, NPT [PM] 1/2" – 1"	1500	1050 @400°F				
Female Pipe Threads, NPT [PF] 1/2" – 3/4"						
ISO/BSP Tapered (ISO 7) [MT][FT] 3/4" – 1"						



**Summary Table (cont'd)**

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.	
FM Series Metal Hose	<u>Core</u> 316L SS (ASTM A240)  <u>Braid</u> 316L SS (ASTM A580)  <u>End Connections</u> Strain-Hardened 316 SS, 316L SS, or 316LV SS (ASTM A479)	1	Tube Fitting [TA, TM, SL, SM] 1/2" – 1" (16mm – 25mm)  Male & Female VCR Metal Gasket Face Seal Fittings [RM, RF] 1"  SAE 37° (JIC) Female Swivel [AS] 1"  Tube Butt Welds [TB] 3/4" – 1"	1200	672 @850°F	ASME B31.3 (Unlisted Components)
			Female VCO O-Ring Face Seal Fittings [VF] 1"	1200	780 @500°F	
			Male Pipe Threads, NPT [PM] 1/2" – 1"	1200	840 @400°F	
			Female Pipe Threads, NPT [PF] 1"			
ISO/BSP Tapered (ISO 7) [MT][FT] 1"						

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 GRN 0D21781.5  
 Technical Standards & Safety Authority  
 Before a Pressure Vessels  
 Safety Program



**Summary Table (cont'd)**

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.	
FM Series Metal Hose	<u>Core</u> 316L SS (ASTM A240)  <u>Braid</u> 316L SS (ASTM A580)  <u>Weld Collar</u> Strain-Hardened 316 SS (ASTM A479)  <u>End Connections</u> Strain-Hardened 316 SS, 316L SS, or 316LV SS (ASTM A479)	1 1/4	Tube Fitting [TA, TM, SL, SM] 1 1/4" (32mm)	950	532 @850°F	ASME B31.3 (Unlisted Components)
			Male Pipe Threads, NPT [PM] 1" – 1 1/4"	950	665 @400°F	
			Female Pipe Threads, NPT [PF] 1 1/4"			
			ISO/BSP Tapered (ISO 7) [MT][FT] 1 1/4"			
		1 1/2	Tube Fitting [TA, TM, SL, SM] 1 1/2" (38mm)	900	504 @850°F	
			Male Pipe Threads, NPT [PM] 1" – 1 1/2"	900	630 @400°F	
			Female Pipe Threads, NPT [PF] 1 1/2"			
			ISO/BSP Tapered (ISO 7) [MT][FT] 1 1/2" – 2"			
		2	Tube Fitting [TA, TM, SL, SM] 2" (50mm)	500	280 @850°F	
			Male Pipe Threads, NPT [PM] 1 1/2" – 2"	500	350 @400°F	
			Female Pipe Threads, NPT [PF] 2"			
			ISO/BSP Tapered (ISO 7) [MT][FT] 2"			

THIS IS PART OF  
 ORN 0021781.5  
 National Safety & Quality Authority  
 Lifting & Pressure Vessels  
 Safety Program

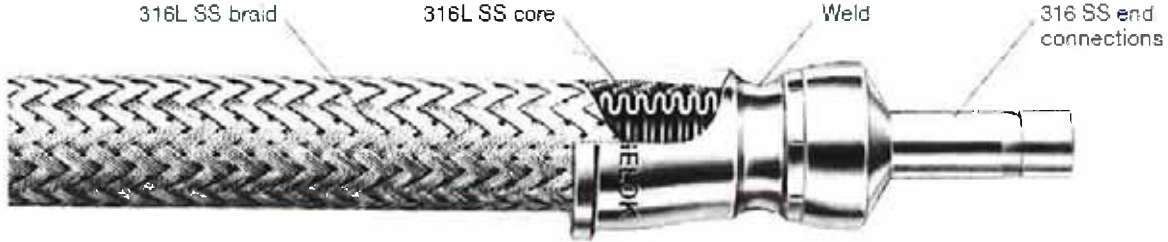
# Swagelok

Canadian Registration Number Submittal  
Category D Submission # FM-HOSE-2019

September 4, 2019  
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## Product Illustration

### Swagelok FM Series Assembly (1" and under)



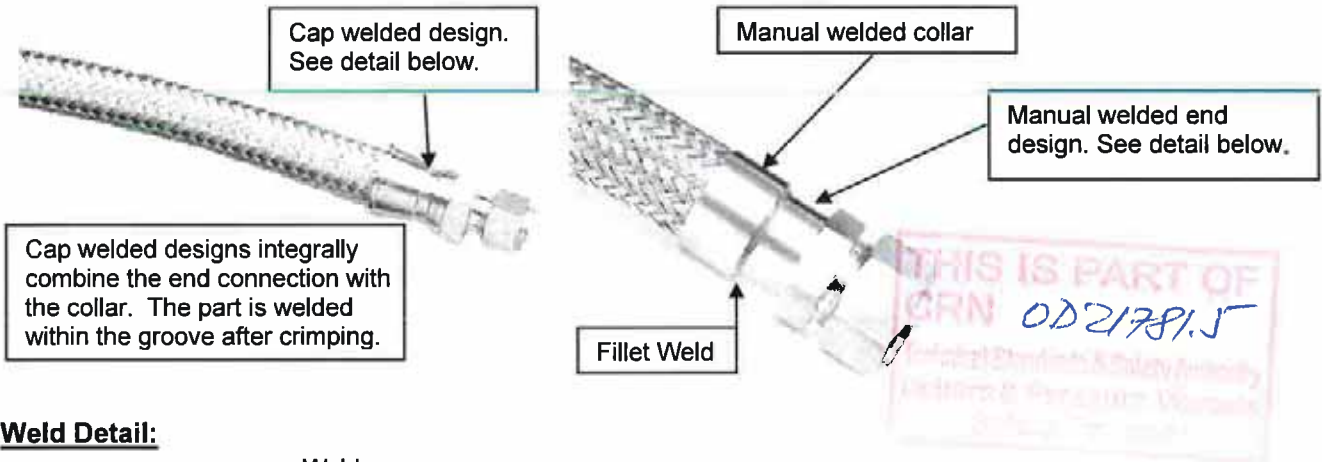
### Swagelok FM Series Assembly (1 1/4" and larger)



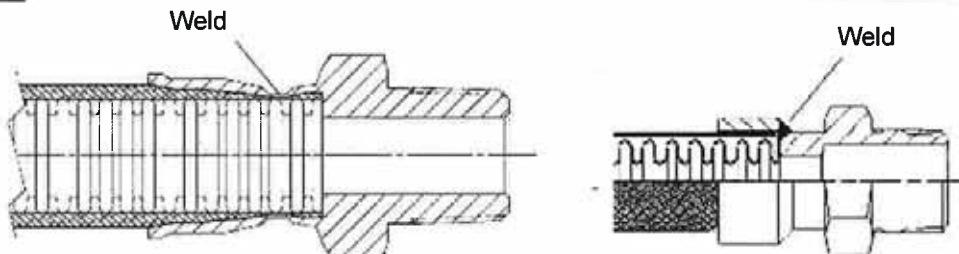
## Configuration Example:

FM hoses are available in two styles with many end types, end sizes, and possible overall lengths. There are two ways the hose end connections are attached to the tube and braid depending on the size of the hose:

- Gas Tungsten Arc Weld (GTAW) Cap Weld with Integral Weld Collar (1" and under)
- Manual Weld with Manual Weld Collar (1 1/4" and larger)



## 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, but are not limited to:

- Cover Options (ex. fire jacket, thermosleeve, spring guard, etc.)
- Tag and Marking Options (ex. tags, lanyards, retaining clamps, etc.)
- Special Testing Options (ex. hydrostatic pressure test, inboard helium leakage 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.)

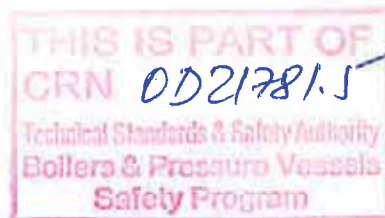
## Quality System

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


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