



Statutory Declaration Registration of Fittings

(a) Design Qualification

I¹ 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 fittings² covered by this declaration, for which I seek registration, are 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 Unable to get a notary

In the of signature of

The COVID-19 situation Day of AD 20

DocuSigned by:

2/10/2021 | 7:27 AM
C87CBBFFD9F14B7
Signature of Declarer³

A (commissioner for oaths)

For Official Use Only

The application is accepted for registration in Category _____ 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.

Registered Number CRN _____ For the Chief Inspector _____
Date _____



- 1 Three completed copied 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 of highest official in the manufacturing plan where the fitting is produced.



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

Product Scope

The table below represents the scope of Swagelok FJ series hose assemblies covered by this submission for CRN approval. These hose assemblies are assembled by Hose Master LLC and at the Swagelok Company locations in Solon, Ohio and have been evaluated in accordance with ASME B31.3 and ISO 10380. The referenced 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 and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 1/4"	<u>Core</u> 316/316L SS (ASTM A240) <u>Braid</u> 304 SS or 316L SS (ASTM A478) <u>Weld Collar</u> 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269) <u>End Connections</u> 316/316L SS (ASTM A479)	Swagelok Tube Fitting [TA TM SL SM]	1/8" - 1/2" 3mm - 12mm	1600	1184	ASME B31.3 ISO 10380
		Female and Male VCR Metal Gasket Face seal Fitting [RF RM]	1/8" - 1/2"	1600	1184	
		Male High Flow VCR Metal Gasket Face seal Fitting [HRM]	1/4"	1600	1184	
		Female and Male VCO O-ring Face seal Fitting [VF VM]	1/8" - 1/2"	1600 (1)	1336 @550°F (1)	
		Female 37° JIC and male 37° JIC with female swivel nut [AN AS]	1/8" - 1/2"	1600	1184	
		Female and male NPT Tapered Pipe Fitting [PM PF]	1/8" - 1/2"	1600 (2)	1432 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	1/8" - 1/2"	1600 (2)	1432 @450°F (2)	
		Tube Butt Welds [TB MTB]	1/8" - 1/2" 6mm - 12mm	1600	1184	
		Female ISO/BSP Parallel Threads (ISO 228) [FS]	1/4" - 1/2"	1600	1488 @400°F (1)	
		Male UN/UNF (SAE J1926) Stud End [ST]	1/8" - 1/2"	1600 (1)	1488 @400°F (1)	

- (1) Temperature and/or pressure ratings are determined by gasket or O-ring materials. Refer to Swagelok catalog MS-01-147 for ratings.
- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.



Product Series and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 3/8"	<u>Core</u> 316/316L SS (ASTM A240) <u>Braid</u> 304 SS or 316L SS (ASTM A478) <u>Weld Collar</u> 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269) <u>End Connections</u> 316/316L SS (ASTM A479)	Swagelok Tube Fitting [TA TM SL SM]	1/4" - 3/4" 6mm - 18mm	1470	1088	ASME B31.3 ISO 10380
		Female and Male VCR Metal Gasket Face seal Fitting [RF RM]	1/4" - 3/4"	1470	1088	
		Female and Male VCO O-ring Face seal Fitting [VF VM]	1/4" - 3/4"	1470 (1)	1227 @550°F (1)	
		Female 37° JIC and male 37° JIC with female swivel nut [AN AS]	1/4" - 3/4"	1470	1088	
		Female and male NPT Tapered Pipe Fitting [PM PF]	1/4" - 3/4"	1470 (2)	1315 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	1/4" - 3/4"	1470 (2)	1315 @450°F (2)	
		Tube Butt Welds [TB MTB]	1/4" - 3/4" 6mm - 18mm	1470	1088	
		Female ISO/BSP Parallel Threads (ISO 228) [FS]	1/4" - 1/2"	1470	1367 @400°F (1)	
Male UN/UNF (SAE J1926) Stud End [ST]	1/4" - 3/4"	1470 (1)	1367 @400°F (1)			

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- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.



Product Series and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 1/2"	<u>Core</u> 316/316L SS (ASTM A240) <u>Braid</u> 304 SS or 316L SS (ASTM A478) <u>Weld Collar</u> 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269) <u>End Connections</u> 316/316L SS (ASTM A479)	Swagelok Tube Fitting [TA TM SL SM]	3/8" - 1" 10mm - 25mm	1110	821	ASME B31.3 ISO 10380
		Female and Male VCR Metal Gasket Face seal Fitting [RF RM]	3/8" - 1"	1110	821	
		Female and Male VCO O-ring Face seal Fitting [VF VM]	3/8" - 1"	1110 (1)	927 @550°F (1)	
		Female 37° JIC and male 37° JIC with female swivel nut [AN AS]	3/8" - 1"	1110	821	
		Female and male NPT Tapered Pipe Fitting [PM PF]	3/8" - 1"	1110 (2)	993 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	3/8" - 1"	1110 (2)	993 @450°F (2)	
		Tube Butt Welds [TB MTB]	3/8" - 1" 10mm - 25mm	1110	821	
		Female ISO/BSP Parallel Threads (ISO 228) [FS]	3/8"-1/2"	1110	1032 @400°F (1)	
		Male UN/UNF (SAE J1926) Stud End [ST]	3/8" - 1"	1110 (1)	1032 @400°F (1)	

- (1) Temperature and/or pressure ratings are determined by gasket or O-ring materials. Refer to Swagelok catalog MS-01-147 for ratings.
- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.





Product Series and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 3/4"	<u>Core</u> 316/316L SS (ASTM A240) <u>Braid</u> 304 SS or 316L SS (ASTM A478) <u>Weld Collar</u> 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269) <u>End Connections</u> 316/316L SS (ASTM A479)	Swagelok Tube Fitting [TA TM SL SM]	1/2" - 1 1/4" 12mm - 32mm	860	636	ASME B31.3 ISO 10380
		Female and Male VCR Metal Gasket Face seal Fitting [RF RM]	1/2" - 1"	860	636	
		Female and Male VCO O-ring Face seal Fitting [VF VM]	1/2" - 1"	860 (1)	718 @550°F (1)	
		Female 37° JIC and male 37° JIC with female swivel nut [AN AS]	1/2" - 1"	860	636	
		Female and male NPT Tapered Pipe Fitting [PM PF]	1/2" - 1 1/4"	860 (2)	770 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	1/2" - 1 1/4"	860 (2)	770 @450°F (2)	
		Tube Butt Welds [TB MTB]	1/2" - 1" 12mm - 25mm	860	636	
		Female ISO/BSP Parallel Threads (ISO 228) [FS]	1/2"	860	800 @400°F (1)	
		Male UN/UNF (SAE J1926) Stud End [ST]	1/2" - 1 1/4"	860 (1)	800 @400°F (1)	

- (1) Temperature and/or pressure ratings are determined by gasket or O-ring materials. Refer to Swagelok catalog MS-01-147 for ratings.
- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.





Product Series and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 1"	Core 316/316L SS (ASTM A240)	Swagelok Tube Fitting [TA TM SL SM]	3/4" - 1 1/2" 18mm - 38mm	680	503	ASME B31.3 ISO 10380
		Female and Male VCR Metal Gasket Face seal Fitting [RF RM]	3/4" - 1"	680	503	
	Braid 304 SS or 316L SS (ASTM A478)	Female and Male VCO O-ring Face seal Fitting [VF VM]	3/4" - 1"	680 (1)	568 @550°F (1)	
		Female 37° JIC and male 37° JIC with female swivel nut [AN AS]	3/4" - 1"	680	503	
	Weld Collar 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269)	Female and male NPT Tapered Pipe Fitting [PM PF]	3/4" - 1 1/2"	680 (2)	608 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	3/4" - 1 1/2"	680 (2)	608 @450°F (2)	
	End Connections 316/316L SS (ASTM A479)	Tube Butt Welds [TB MTB]	3/4" - 1" 18mm - 25mm	680	503	
		Male UN/UNF (SAE J1926) Stud End [ST]	3/4" - 1 1/2"	680 (1)	632 @400°F (1)	

- (1) Temperature and/or pressure ratings are determined by gasket or O-ring materials. Refer to Swagelok catalog MS-01-147 for ratings.
- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.





Product Series and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 1 1/4"	<u>Core</u> 316/316L SS (ASTM A240) <u>Braid</u> 304 SS or 316L SS (ASTM A478) <u>Weld Collar</u> 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269) <u>End Connections</u> 316/316L SS (ASTM A479)	Swagelok Tube Fitting [TA TM SL SM]	1" - 2" 25mm - 50mm	680	503	ASME B31.3 ISO 10380
		Female and Male VCR Metal Gasket Face seal Fitting [RF RM]	1"	680	503	
		Female and Male VCO O-ring Face seal Fitting [VF VM]	1"	680 (1)	568 @550°F (1)	
		Female 37° JIC and male 37° JIC with female swivel nut [AN AS]	1"	680	503	
		Female and male NPT Tapered Pipe Fitting [PM PF]	1" - 2"	680 (2)	608 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	1" - 2"	680 (2)	608 @450°F (2)	
		Tube Butt Welds [TB MTB]	1" 25mm	680	503	
		Male UN/UNF (SAE J1926) Stud End [ST]	1" - 2"	680 (1)	632 @400°F (1)	

- (1) Temperature and/or pressure ratings are determined by gasket or O-ring materials. Refer to Swagelok catalog MS-01-147 for ratings.
- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.





Product Series and Size (in)	Pressure Retaining Material (Standard)	Port Connections	Port Connection Sizes	Maximum Working Pressure (psig)		Design Code of Construction
				At Min Temp (-325°F to 100°F)	At Max Temp (800°F)	
FJ Series Metal Hose- 1 1/2"	<u>Core</u> 316/316L SS (ASTM A240) <u>Braid</u> 304 SS or 316L SS (ASTM A478) <u>Weld Collar</u> 304/304L SS (ASTM A269) or 316/316L SS (ASTM A269)	Swagelok Tube Fitting [TA TM SL SM]	1 1/4" - 2" 32mm - 50mm	520	385	ASME B31.3 ISO 10380
		Female and male NPT Tapered Pipe Fitting [PM PF]	1 1/4" - 2"	520 (2)	465 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	1 1/4" - 2"	520 (2)	465 @450°F (2)	
		Male UN/UNF (SAE J1926) Stud End [ST]	1 1/4" - 2"	520 (1)	484 @400°F (1)	
FJ Series Metal Hose- 2"	<u>End Connections</u> 316/316L SS (ASTM A479)	Swagelok Tube Fitting [TA TM SL SM]	1 1/2" - 2" 38mm - 50mm	450	333	
		Female and male NPT Tapered Pipe Fitting [PM PF]	1 1/2" - 2"	450 (2)	403 @450°F (2)	
		Female and male ISO/BSP Tapered (ISO 7) Pipe Threads [MT FT]	1 1/2" - 2"	450 (2)	403 @450°F (2)	
		Male UN/UNF (SAE J1926) Stud End [ST]	1 1/2" - 2"	450 (1)	419 @400°F (1)	

- (1) Temperature and/or pressure ratings are determined by gasket or O-ring materials. Refer to Swagelok catalog MS-01-147 for ratings.
- (2) Temperature and/or pressure ratings are determined by pipe thread sealant type. Refer to Swagelok catalog MS-01-91 for ratings.

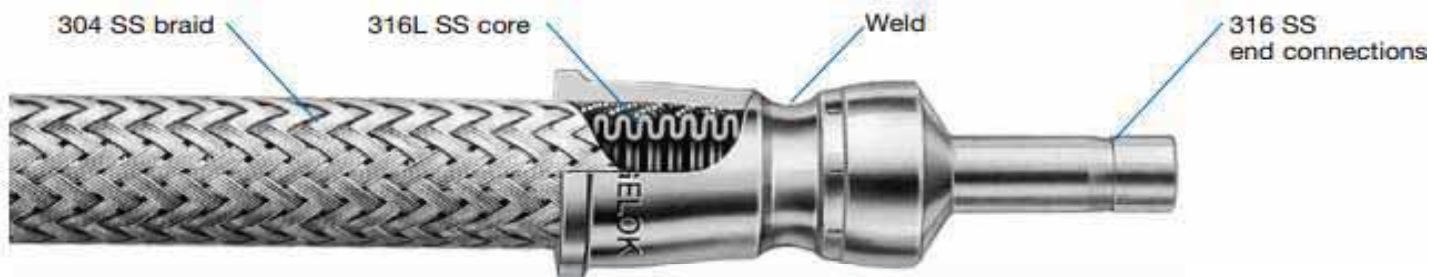


Product Illustration

Swagelok FJ Series Manual Weld Assembly (1/4" and larger)



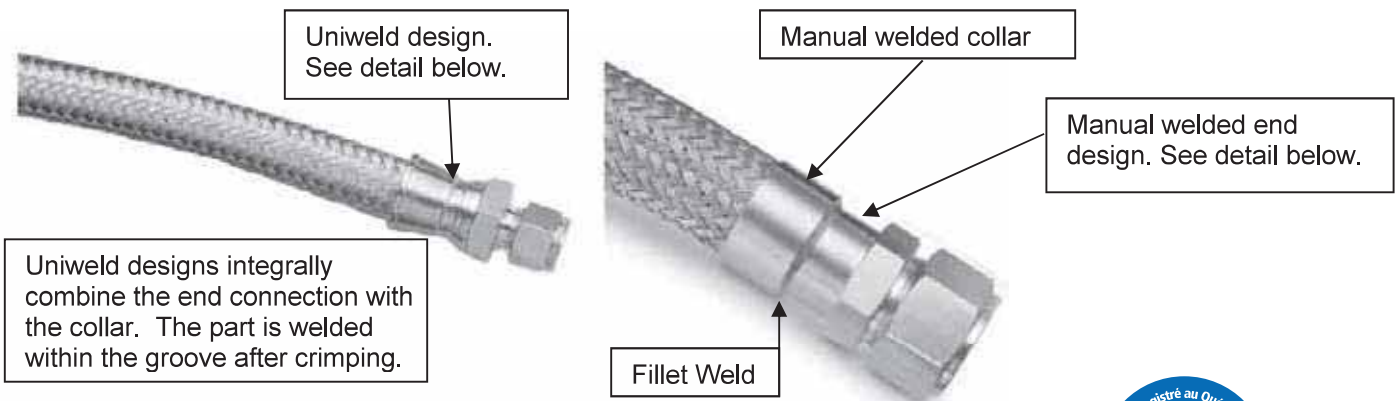
Swagelok FJ Series Automatic Weld Assembly (1/2" and under)



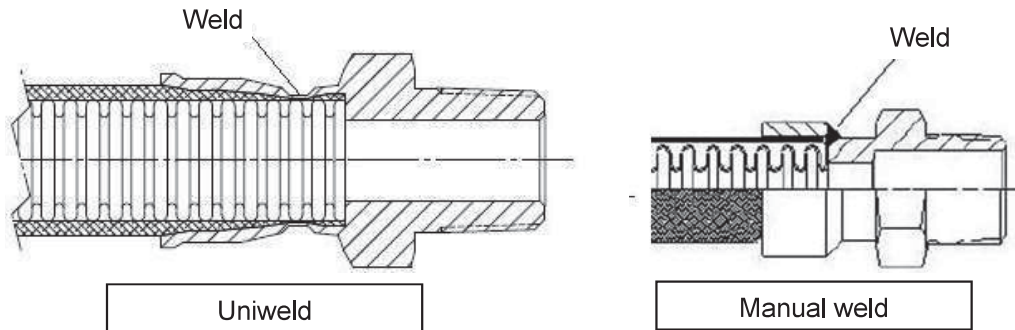
Configuration Example:

FJ 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) Uniweld with Integral Weld Collar (1/2" and under)
- Manual Weld with Manual Weld Collar (1/4" and larger)



Weld Detail:



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

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

- 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 FJ series hose assemblies are manufactured at Hose Master LLC and at the Swagelok Company locations in Solon, Ohio.

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

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

