


**STATUTORY DECLARATION
Registration of Fittings**

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


I, Joel Feldman, Vice President, Engineering
(name of applicant) (position title) (must be in a position of authority)
of Swagelok Company
(name of manufacturer)

located at 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 Safety Codes Act (check one)

- comply with the requirements of ASME B31.1 and 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 (title of code of construction or other applicable document) 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 manufacture of these fittings is controlled by a quality control program which has been verified by the following authority, BSI as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are Category A Type Fittings *
(brief description of fittings)

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

DECLARED before me at Solon in the state of Ohio
(city) (province or state)

this 21st day of Nov, 2019
(Month) (Year)

(print) Brenda Nammel
(a Commissioner of Oaths or Notary Public)

(sign) Brenda Nammel
(a Commissioner of Oaths or Notary Public)

Joel C. Feldman
(signature of applicant)

For ABSA Office Use Only:

NOTES: *VCO O-Ring Face Seal Fittings ^{AD.}

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Clause 4.2, and is accepted for registration in Category 'A'

Registration Number: 0A 22161.52 T. M. (ASHLING) D. O. C.
(Signature of the Administrator/SCO)

Date Registered: MAR 04 2020 Expiry Date: Feb 10 2030

The information you provide is necessary only for the administration of the programs as required by the Alberta Safety Codes Act and Regulations in the Pressure Equipment Discipline.

MAR 04 2020

Swagelok

Canadian Registration Number Submittal
Category A: Swagelok VCO® O-Ring Face Seal FittingsDate: January 20, 2020
Page 1 of 4**Attachment B: Scope of Registration for VCO
O-Ring Face Seal Fittings (Category A)**

This document represents the scope of Swagelok's VCO O-Ring Gasket Face Seal Fittings covered by this submission for CRN approval in compliance with the requirements of ASME B31.1-2018 "Power Piping" as unlisted components per Section 104.7.2 and ASME B31.3-2018 "Process Piping" as unlisted components per Section 304.7.2.

Summary Table

Product Series (Size)	Pressure Retaining Materials	Pressure Retaining Components	End Connections and Sizes	Maximum Rated Pressure (psig)		Design Code of Construction
				At 100°F	At Max Temp*	
-2 VCO (1/8")	316 SS (ASTM A479, ASTM A276) for straight fittings and glands F316 SS (ASTM A182) for shaped fittings	Gland, Body	Tube Socket Weld 1/8"	12,600	8,120 @ 550°F	ASME B31.1 (Unlisted Components) and ASME B31.3 (Unlisted Components)
-4 VCO (1/4")		Gland, Body	Tube Socket Weld 1/4"	6,800	4,380 @ 550°F	
			Reducing Tube Socket Weld 1/8"	12,600	8,120 @ 550°F	
			Male Tube Weld 1/8", 1/4"	11,200	7,220 @ 550°F	
			Automatic Tube Weld 1/4"	5,100	2,700 @ 550°F	
			Swagelok Tube Fitting 1/8", 1/4"	10,900-10,200	8,120 @ 550°F	
			Male SAE/MS 7/16-20, 9/16-18	4,500	4,500 @ 400°F	
			Male NPT 1/8", 1/4"	10,000-8,000	6,900-5,520 @ 450°F with sealant	
			Female NPT 1/8", 1/4"	8,400-6,600	5,790-4,550 @ 450°F with sealant	
-6 VCO (3/8")		Gland, Body	Tube Socket Weld 3/8"	8,100	5,220 @ 550°F	
-8 VCO (1/2")	316 SS (ASTM A479, ASTM A276) for straight fittings and glands	Gland, Body	Tube Socket Weld 1/2"	3,000	1,935 @ 550°F	
			Reducing Tube Socket Weld 1/4"	10,700	6,900 @ 550°F	
			Male Tube Weld 1/4", 3/8", 1/2"	11,100-7,500	7,160-4,830 @ 550°F	
			Automatic Tube Weld 3/8", 1/2"	3,500-3,300	1,850-1,750 @ 550°F	
			Swagelok Tube Fitting 3/8", 1/2"	7,500-6,700	6,600-4,830 @ 550°F	
			Male NPT 3/8", 1/2"	10,000-7,800	6,900-5,310 @ 450°F with sealant	
			Female NPT 3/8", 1/2"	6,600-4,900	4,450-3,380 @ 450°F with sealant	
	F316 SS (ASTM A182) for shaped fittings	Body	Male NPT 3/8", 1/2"	7,800 – 7,700 @ 100°F	5,380 – 5,310 @ 450°F with sealant	
			Swagelok Tube Fitting 3/8", 1/2"	7,500 – 6,700 @ 100°F	6,600 – 4,830 @ 550°F	
			Male SAE/MS 9/16-18, 3/4-16	3,600	3,600 @ 400°F	



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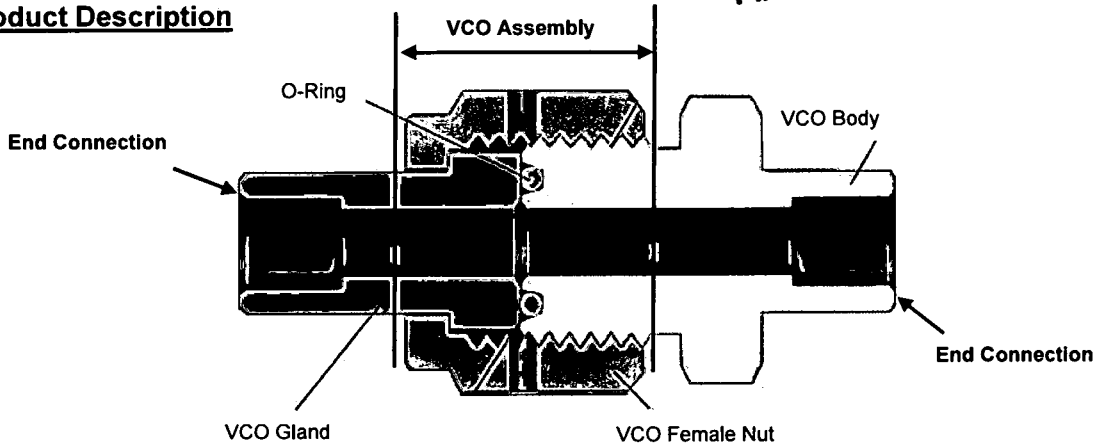
Summary Table (cont'd)

Product Series (Size)	Pressure Retaining Materials	Pressure Retaining Components	End Connections and Sizes	Maximum Rated Pressure (psig)		Design Code of Construction
				At 100°F	At Max Temp*	
-12 VCO (3/4")	316 SS (ASTM A479, ASTM A276) for straight fittings and glands	Gland, Body	Tube Socket Weld 3/4"	3,700	2,385 @ 550°F	ASME B31.1 (Unlisted Components) and ASME B31.3 (Unlisted Components)
			Automatic Tube Weld 3/4"	2,200	1,160 @ 550°F	
			Swagelok Tube Fitting 3/4"	5,800	5,100 @ 550°F	
			Male NPT 3/4"	7,300	6,420 @ 450°F with sealant	
			Female NPT 3/4"	4,600	3,170 @ 450°F with sealant	
			Male SAE/MS 1-1/16-12	3,800	3,800 @ 400°F	
	F316 SS (ASTM A182) for shaped fittings	Body	Male NPT 3/4"	5,800	5,030 @ 450°F with sealant	
			Swagelok Tube Fitting 3/4"	5,800	5,100 @ 550°F	
			Male SAE/MS 1-1/16-12	2,900	2,900 @ 400°F	
-16 VCO (1")	316 SS (ASTM A479, ASTM A276) for straight fittings and glands	Gland, Body	Tube Socket Weld 1"	3,000	1,935 @ 550°F	
			Automatic Tube Weld 1"	2,200	1,160 @ 550°F	
			Swagelok Tube Fitting 1"	4,700	4,130 @ 550°F	
			Male SAE/MS 1-5/16-12	2,900	2,900 @ 400°F	
			Male NPT 1"	4,700	3,150 @ 450°F with sealant	
			Female NPT 1"	4,400	3,030 @ 450°F with sealant	
	F316 SS (ASTM A182) for shaped fittings	Body	Male NPT 1"	4,700	3,150 @ 450°F with sealant	
			Swagelok Tube Fitting 1"	4,700	4,130 @ 550°F	
			Male SAE/MS 1-5/16-12	2,300	2,300 @ 400°F	

* Maximum temperature of the VCO based on Perfluoroelastomer o-ring material

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Product Description



Body Configurations

VCO Straights	
VCO Tees	
VCO Elbows	

Product Options

Some of the product options listed below affect the pressure-temperature ratings shown in the Summary Table above, but in all cases the ratings are less than those shown in the above table.

- O-ring Material Options
 - Fluorocarbon FKM
 - Buna N
 - PTFE
 - Perfluoroelastomer
 - Ethylene propylene
- VCO Blind Nuts
- Pressure Bearing Component Material Options (allowable variations of 316 material) that may affect high temperature rating
 - 316L
 - 316LV (VAR)
 - 316LVV (VIMVAR)



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

- VCO Blind Bodies
- Protective Caps
- Caps and Plugs with Lanyards
- Flow Restrictors
- "Bore-through" fitting through holes

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Quality System

The Swagelok Company quality system complies with the requirements of ISO 9001:2015. 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.

- VCO O-Ring Face Seal Fittings Product Catalog MS-01-28, Rev I

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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