

Statutory Declaration Registration of Fittings

(a)	(a) Design Qualification					
ľ	ı' Joel Feldman					
	ice President, Engineering					
	(Position eg, president, plant manager, chief eng.)					
Of	Of Swagelok Company					
	(name of company)					
Loc	Located at Headquarters: 29500 Solon Road, Solon, Ohio 44139 USA (See Attachmen (plant address)	nt A)				
do :	do solemnly declare that the fittings listed hereunder, which are subject to the Boilers & Pressure Vessels	Act:				
⊠ Or	required.					
	are not covered by the provisions of the ANSI/ASME codes, and are therefore constructed to compare the code and standard, and are designed to the best current engineering practice, a data.					
I fur	(b) Quality control of Manufacture I further declare the manufacture of these fittings is controlled by a quality control program which complies 1SO 9001:2015, and has been verified by the following authority or authorized agency	with the requirements of				
Dec In the	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 declared before me at 50100 In the of 5tate of 5hio AD 20 19 Bunda Namel A (commissioner for oaths) A (commissioner for oaths)					
_	For Official Use Only	Enegistré au Quebe				
		gie histimant				
Т	This registration must be revalidated after ten (10) years from the date of acceptance.	Québec 🖥 🖺				
R	Registered Number CRN	Record de conciliation NE				

2 All fittings are required to be registered in the name of the Manufacturer.

Three completed copied of Statutory Declaration form together with three copies of Catalogs, drawings of Bulletins illustrating above fittings shall be submitted.

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 VCO O-Ring Face Seal Fittings (Category A)

Date: January 20, 2020

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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	Pressure Retaining	Pressure Retaining	End Connections and Sizes	Maximum Rated Pressure (psig)		Design Code of
(Size)	Materials	Components	01203	At 100°F	At Max Temp*	Construction
-2 VCO (1/8")		Gland, Body	Tube Socket Weld 1/8"	12,600	8,120 @ 550°F	
	316 SS (ASTM A479, ASTM A276) for straight fittings and glands F316 SS (ASTM A182) for shaped fittings	Gland, Body	Tube Socket Weld 1/4"	6,800	4,380 @ 550°F	ASME B31.1
			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	
-4 VCO			Automatic Tube Weld 1/4"	5,100	2,700 @ 550°F	
(1/4")			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	(Unlisted Components)
-6 VCO (3/8")		Gland, Body	Tube Socket Weld 3/8"	8,100	5,220 @ 550°F	and
			Tube Socket Weld 1/2"	3,000	1,935 @ 550°F	ASME B31.3
			Reducing Tube Socket Weld 1/4"	10,700	6,900 @ 550°F	(Unlisted Components)
	316 SS (ASTM A479,		Male Tube Weld 1/4", 3/8", 1/2"	11,100- 7,500	7,160-4,830 @ 550°F	
	ASTM A276) for straight	Gland, Body	Automatic Tube Weld 3/8", 1/2"	3,500-3,300	1,850-1,750 @ 550°F	
	fittings and glands		Swagelok Tube Fitting 3/8", 1/2"	7,500-6,700	6,600-4,830 @ 550°F	
-8 VCO (1/2")			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	1 A182) naped Body	Male NPT 3/8", 1/2"	7,800 – 7,700 @ 100°F	5,380 – 5,310 @ 450°F with sealant	
	(ASTM A182) for shaped fittings		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	



Summary Table (cont'd)

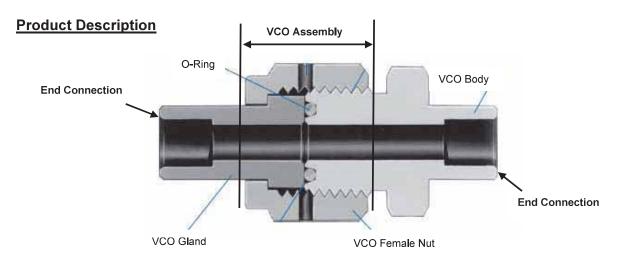
Product Series	Pressure Retaining	Pressure Retaining	End Connections and Sizes	Maximum Rated Pressure (psig)		Design Code of
(Size)	Materials	Components		At 100°F	At Max Temp*	Construction
	316 SS (ASTM A479, ASTM A276) for straight fittings and glands	Gland, Body	Tube Socket Weld 3/4"	3,700	2,385 @ 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	
-12 VCO (3/4")			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	
	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	
-16 VCO (1")			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	r shaped 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	

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





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



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

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	Swagelok Company (Falon 1)
29500 Solon Road	348 Bishop Road
Solon, Ohio 44139	Highland Heights, Ohio 44143
USA	USA
Swagelok Company (Highland)	Swagelok Company (Falon 2)
318 Bishop Road	358 Bishop Road
Highland Heights, Ohio 44143	Highland Heights, Ohio 44143
USA	USA
Swagelok Company (OFC)	Swagelok Company (HPF)
29495 F.A. Lennon Drive	6050 Cochran Road
Solon, Ohio 44139	Solon, Ohio 44139
USA	USA
Swagelok Company (Atlantic)	Swagelok Company (Snow Metal)
26651 Curtiss Wright Parkway	6060 Cochran Road
Willoughby Hills, Ohio 44092	Solon, Ohio 44139
USA	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)	Swagelok Company (Strongsville)
29900 Solon Industrial Parkway	15400 Foltz Road
Solon, Ohio 44139	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

