

UNIFORM STATUTORY DECLARATION FORM FOR THE REGISTRATION OF FITTING DESIGNS

NEW BRUNSWICK
NUNAVUT

NOVA SCOTIA
YUKON

PRINCE EDWARD ISLAND
NORTHWEST TERRITORIES

NEWFOUNDLAND AND LABRADOR

| | |
|---|---|
| MANUFACTURERS NAME: <u>Swagelok Company</u> | |
| MANUFACTURERS ADDRESS: <u>29500 Solon Road, Solon, Ohio 44139 USA</u> | |
| PLANT LOCATIONS: <u>Headquarters: 29500 Solon Road, Solon, Ohio 44139 USA (See Attachment A)</u> | |
| <p align="center">CATEGORY OF FITTINGS TO BE REGISTERED. CIRCLE ONE CATEGORY ONLY</p> <p><input checked="" type="radio"/> A Pipe fittings, including couplings, tees, elbows, Ys, plugs, unions, pipe caps, or reducers</p> <p>B Flanges: all flanges</p> <p>C Valves: all line valves</p> <p>D Expansion joints, flexible connections, and hose assemblies: all types</p> <p>E Strainers, filters, separators, and steam traps</p> <p>F Measuring devices, including pressure gauges, level gauges, sight glasses, levels, or pressure transmitters</p> <p>G Certified capacity-rated pressure relief devices acceptable as primary over pressure protection on boilers, pressure vessels, piping and fusible plugs</p> <p>H Pressure retaining components that do not fall into one of the above categories</p> <p>N Nuclear components: Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 <input type="checkbox"/> (Meeting AECB or ASME requirements)</p> | <p align="center">TITLE OF THE STANDARD OF CONSTRUCTION</p> <p>ASME B16.5 and ASME B31.3 Chapter IX, for unlisted components where applicable</p> |
| <p>SHOW MANUFACTURERS NAME, TRADEMARK, OR LOGO AS IT WILL APPEAR ON THE PRODUCT</p> <p align="center" style="font-size: 2em;">Swagelok</p> | <p align="center">TYPE OF CONSTRUCTION</p> <p>FORGED <input checked="" type="checkbox"/> WELDED <input type="checkbox"/> WROUGHT <input type="checkbox"/> CAST <input type="checkbox"/> OTHER <input type="checkbox"/> DESCRIBE OTHER:</p> |
| <p>LIST OF SUPPORTING DOCUMENTATION AND IDENTIFICATION OF THE ACTUAL ITEMS TO BE REGISTERED:</p> <p>ISO 9001:2015 Quality System Certificate, Support Documents, Attachment B, Catalog Information, Attachment A</p> | |

DECLARATION:

I David H. Peace (see note 3) employed by Swagelok Company and being the person having full authority and responsibility for the quality of the end product do solemnly declare that the information contained in this form is true and to the best of my knowledge represents the product for which registration is sought. The dimensions, materials of construction, pressure temperature ratings, and identification markings are in accordance with the herein named standards. I further declare that the manufacture of these fittings is regulated by a Quality Control Program which extends to each plant where fabrication occurs in whole or in part and has been verified by BSI as being suitable for that purpose and I make this own declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

Signature of Declarer: [Signature]

Declared before me at Solon, Ohio Jamie L. Ristau S E T H I S P

This 3rd day of May AD 2017 Resident Portage County OFFICIAL

Commissioner of Oaths or Notary Public: Jamie L. Ristau My Commission Expires: 03/04/2018

(Affix Official seal to the right)



This space for Regulatory Authority use

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

CRN: 0A17712.2

FID#: 1214

Notes:

1. All fittings shall be registered in the name of the Manufacturer.
2. Each category shall be supported with two Statutory Declaration forms and one copy of supporting documentation.
3. The declaration shall be made by the person having full authority and responsibility for the quality of the end product.
4. Quality control programs shall be resubmitted for validation at a maximum interval of five (5) years.



**Attachment B: Scope of Registration for 316 SS ASME (ANSI) Flange Adapters
(Category A)**

Product Scope

The table below presents the scope of Swagelok ANSI Flange Adapters with tube connections covered by this submission for CRN approval. The referenced product catalogues do not represent the full scope of the submission but rather detail some of the most common options..

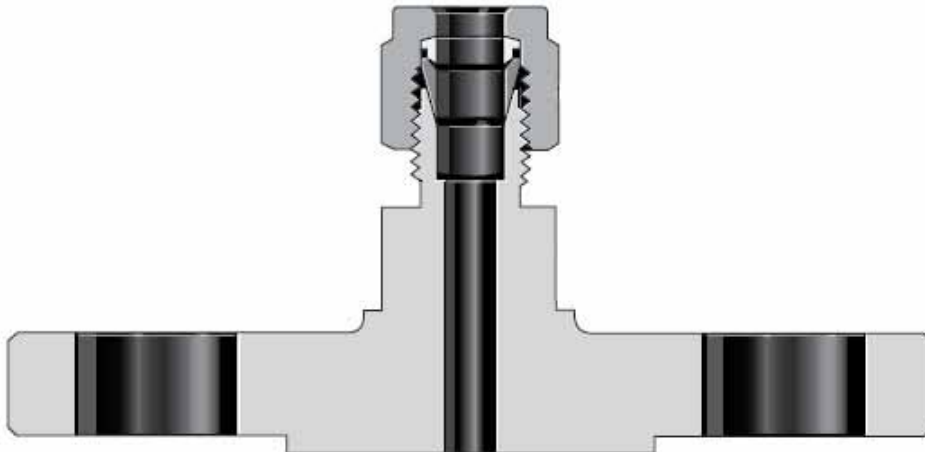
Summary Table

| Product Description or Series | Material | Port Connections and Sizes | Maximum Allowable Working Pressure | | Design Code of Construction |
|-------------------------------|----------------------|---|--|------------------------|--|
| | | | Up to 100°F | At maximum temperature | |
| Swagelok Flange Adapters | F316 SS ASTM A182 | Swagelok End Connection 1/16 - 2 inch (Fractional) 3mm - 50 mm (Metric) | As documented in ASME B16.5 Class and pressure ratings. See "Swagelok SS Tube Fitting Pressure Rating Table" on p.2 as the fitting end may be a limiting factor. | | <ul style="list-style-type: none"> • ASME B16.5 • ASME B31.1 for unlisted components • ASME B31.3 for unlisted components |

Product Description And Ratings

The Swagelok Flange Fitting body is a combination of a flange end designed and machined to ASME B16.5 dimensions and requirements, and Swagelok's proprietary design tube fitting end which is identical to the design approved in Swagelok SS Tube Fitting CRN 0A12577.5 (0A10622.2 for Alberta). Flange pressure ratings are based on Class and pressure-temperature ratings as documented in ASME B16.5-2013. Actual flange product ratings may be reduced due to the tube fitting end acting as the limiting factor (see table below for Tube fitting pressure ratings)

An example flange adapter section view is shown below. All Swagelok Flange Fitting wall thicknesses are the same or thicker than those noted in the above Swagelok SS Tube Fitting CRNs.



Swagelok SS Tube Fitting Pressure Rating Table

| Swagelok End Connection Size | Maximum Allowable Working Pressure (1) | |
|------------------------------|--|---|
| | -60°F to 100°F | At maximum temperature 1000°F (537°C) (2) |
| 1/16" | 12 000 psig | 9120 psig |
| 1/8" | 10 900 psig | 8284 psig |
| 3/16" | 10 200 psig | 7752 psig |
| 1/4" | 10 200 psig | 7752 psig |
| 5/16" | 8 000 psig | 6080 psig |
| 3/8" | 7500 psig | 5700 psig |
| 1/2" | 6700 psig | 5092 psig |
| 5/8" | 6000 psig | 4560 psig |
| 3/4" | 5800 psig | 4408 psig |
| 7/8" | 4800 psig | 3648 psig |
| 1" | 4700 psig | 3572 psig |
| 1 1/4" | 4900 psig | 3724 psig |
| 1 1/2" | 4900 psig | 3724 psig |
| 2" | 3600 psig | 2736 psig |
| 3 mm | 670 bar | 509 bar |
| 6 mm | 710 bar | 540 bar |
| 8 mm | 520 bar | 395 bar |
| 10 mm | 580 bar | 441 bar |
| 12 mm | 470 bar | 357 bar |
| 14 mm | 430 bar | 327 bar |
| 15 mm | 400 bar | 304 bar |
| 16 mm | 400 bar | 304 bar |
| 18 mm | 370 bar | 281 bar |
| 20 mm | 380 bar | 289 bar |
| 22 mm | 340 bar | 258 bar |
| 25 mm | 320 bar | 243 bar |
| 28 mm | 330 bar | 251 bar |
| 30 mm | 310 bar | 236 bar |
| 32 mm | 330 bar | 251 bar |
| 38 mm | 310 bar | 236 bar |
| 50 mm | 270 bar | 205 bar |

Note (1): Values based on thickest wall tubing. Thinner tubing may be used but in all cases the ratings are less than, or equal to, those shown in the table.

Note (2): The working pressure ratings for stainless steel Swagelok end connections are based on the allowable working pressure for stainless steel tubing (TP316 A269 listed in ASME B31.3), and are de-rated for use at 1000°F by a derating factor of 0.76 per the Swagelok Tubing Data publication MS-01-107.



Quality System

The Swagelok Company quality system complies with the requirements of BS EN 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 catalogs noted below do not represent the full scope of registration, but rather details some of the most common options.

- Flange Adapters MS-02-200
- Tubing Data Sheet MS-01-107