

UNIFORM STATUTORY DECLARATION FORM FOR THE REGISTRATION OF FITTING DESIGNS

NEW BRUNSWICK
NUNAVUT

NOVA SCOTIA
YUKON

PRINCE EDWARD ISLAND
NORTHWEST TERRITORIES

NEWFOUNDLAND AND LABRADOR

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

DECLARATION:
 I, Joel Feldman (see note 2) 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 solemn 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: Joel C. Feldman
 Declared before me at Solon, Ohio
 This 29th day of November AD 2018
 Commissioner of Oaths (or Notary Public: (sign) Jamie L. Ristau
 (Affix Official seal to the right)

USE THIS SPACE FOR THE OFFICIAL SEAL

Jamie L. Ristau
 Resident Portage County
 Notary Public, State of Ohio
 My Commission Expires: 03/06/2019

NUNAVUT

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| This registration must be revalidated after ten (10) years from the date of acceptance. CRN: <u>OC21138.5</u> FID#: <u>1214</u> 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. | This space for Regulatory Agency use Nunavut Boilers and Pressure Vessels Act REGISTERED CRN <u>OC21138.5N</u> Date <u>March 29, 2019</u> Signed <u>[Signature]</u> Chief Inspector Territorial Registration Fee |
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Swagelok

Canadian Registration Number Submittal #60BALL-2018
 Category C: Swagelok 60 Series Ball Valves

Date: January 22, 2019
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Attachment B: Scope for Swagelok 60 Series Ball Valves (Category C)

This document represents the scope of the 60 Series Ball Valves covered by this submission for CRN approval. The Swagelok 60 Series Ball Valves were designed and evaluated in accordance with ASME B31.1-2016 for unlisted components and ASME B31.3-2016 for unlisted components.

Summary Tables

| Product Series | Main Pressure Bearing Component | Main Pressure Bearing Material | Port Connections, Sizes* | Maximum Rated Pressure (Note 1) | | Design Code of Construction |
|----------------|---------------------------------|-----------------------------------|--|---|---|---|
| | | | | At 100°F | At Max Temp | |
| 62 | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/8", 1/4" Female ISO 1/4" Tube Butt Weld 1/4", 3/8" Pipe Butt Weld 1/4", 3/8" Tube Socket Weld 1/4", 3/8" Male VCO Fitting 1/4" Male VCR Fitting 1/4" | 3000 psig (4 bolt body) 2500 psig (8 bolt body) | 800 psig @450°F (4 bolt body) 200 psig@600°F (8 bolt body) | ASME B31.1 (Unlisted Components) and ASME B31.3 (Unlisted Components) |
| | | | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/8", 1/4" Tube Butt Weld 1/4", 3/8" Pipe Butt Weld 1/4", 3/8" Tube Socket Weld 1/4", 3/8" | 3000 psig (4 bolt body) 2500 psig (8 bolt body) | 800 psig @450°F (4 bolt body) 200 psig @600°F (8 bolt body) | |
| | | | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/8", 1/4" | 2000 psig | 100 psig @400°F | |
| | | | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/4" | 1500 psig | 1470 psig @150°F | |
| | | | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/4" | 1500 psig | 1470 psig @150°F | |
| | | | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/4" | 1500 psig | 1380 psig @150°F | |
| 63 | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 1/2", 3/4" Female NPT 3/8", 1/2" Female ISO 1/2" Tube Butt Weld 1/2" Pipe Butt Weld 1/2" Tube Socket Weld 1/2", 3/4" Pipe Socket Weld 1/2" Male VCO Fitting 1/2" Male VCR Fitting 1/2" | 2500 psig (4 bolt and 8 bolt bodies) 3000 psig (welded bodies) | 800 psig @450°F (4 bolt body) 1000 psig @850°F (8 bolt body) 100 psig @450°F (welded) | ASME B31.1 (Unlisted Components) and ASME B31.3 (Unlisted Components) |
| | | | Swagelok Tube Fitting 1/2", 3/4" Female NPT 3/8", 1/2" Female ISO 1/2" Tube Butt Weld 1/2" Pipe Butt Weld 1/2" Tube Socket Weld 1/2", 3/4" Pipe Socket Weld 1/2" | 2500 psig | 800 psig @450°F (4 bolt body) 200 psig @800°F (8 bolt body) | |
| | | | Swagelok Tube Fitting 1/4", 3/8" Female NPT 1/8", 1/4" | 1500 psig | 100 psig @400°F | |
| | | | Swagelok Tube Fitting 1/2" Female NPT 1/2" | 1500 psig | 1470 psig @150°F | |
| | | | Swagelok Tube Fitting 1/2" Female NPT 1/2" | 1500 psig | 1470 psig @150°F | |
| | | | Swagelok Tube Fitting 1/2" Female NPT 1/2" | 1500 psig | 1380 psig @150°F | |

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| Product Series | Main Pressure Bearing Component | Main Pressure Bearing Material | Port Connections, Sizes* | Maximum Rated Pressure (Note 1) | | Design Code of Construction |
|--------------------|---------------------------------|--|--|---|---|---|
| | | | | At 100°F | At Max temp | |
| 65 | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 1" Female NPT 3/4", 1" Female ISO 3/4", 1" Pipe Butt Weld 3/4", 1" Tube Butt Weld 3/4", 1" Tube Socket Weld 1" Pipe Socket Weld 3/4", 1" | 2500 psig (4 bolt and 8 bolt bodies) 3000 psig (Welded bodies) | 800 psig @450°F (4 bolt body) 1000 psig @850°F (8 bolt body) 100 psig @450°F (welded) | |
| | | WCB Carbon Steel (ASTM A216) | Swagelok Tube Fitting 1" Female NPT 3/4", 1" Female ISO 3/4", 1" Pipe Butt Weld 3/4", 1" Tube Butt Weld 3/4", 1" Tube Socket Weld 1" Pipe Socket Weld 3/4", 1" | 2500 psig | 800 psig @450°F (4 bolt body) 200 psig @800°F (8 bolt body) | |
| | | Brass C36000 or C35600 (ASTM B16) | Swagelok Tube Fitting 1" Female NPT 3/4", 1" | 1500 psig | 100 psig @400°F | |
| | | Alloy C276 bar (ASTM B574) or CW-12MW Cast (ASTM A494) | Female NPT 1" | 1500 psig | 1470 psig @150°F | |
| | | Alloy 400 N04400 (ASTM B164) | Swagelok Tube Fitting 1" Female NPT 1" | 1500 psig | 1470 psig @150°F | |
| | | Titanium Grade 4 UNS R50700 (ASTM B348) | Female NPT 1" | 1500 psig | 1380 psig @150°F | |
| 67 | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 1-1/2" Female NPT 1-1/4", 1-1/2" Female ISO 1-1/4" Pipe Butt Weld 1-1/2" Tube Butt Weld 1-1/2" Tube Socket Weld 1-1/4", 1-1/2" Pipe Socket Weld 1-1/4", 1-1/2" | 1500 psig (4 bolt body) 2000 psig (8 bolt body) | 500 psig @450°F (4 bolt body) 500 psig @850°F (8 bolt body) | ASME B31.1 (Unlisted Components) and ASME B31.3 (Unlisted Components) |
| | | WCB Carbon Steel (ASTM A216) | Swagelok Tube Fitting 1-1/2" Female NPT 1-1/4", 1-1/2" Female ISO 1-1/4" Pipe Butt Weld 1-1/2" Tube Butt Weld 1-1/2" Tube Socket Weld 1-1/4", 1-1/2" Pipe Socket Weld 1-1/4", 1-1/2" | 2200 psig | 800 psig @450°F (4 bolt body) 200 psig @800°F (8 bolt body) | |
| 68 | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 2" Female NPT 2" Female ISO 2" Pipe Butt Weld 2" Tube Butt Weld 2" Tube Socket Weld 2" Pipe Socket Weld 2" | 1500 psig (4 bolt body) 2000 psig (8 bolt body) | 500 psig @450°F (4 bolt body) 500 psig @850°F (8 bolt body) | |
| | | WCB Carbon Steel (ASTM A216) | Swagelok Tube Fitting 2" Female NPT 2" Female ISO 2" Pipe Butt Weld 2" Tube Butt Weld 2" Tube Socket Weld 2" Pipe Socket Weld 2" | 2200 psig (4 bolt body) 2000 psig (8 bolt body) | 800 @450°F (4 bolt body) 200 psig @800°F (8 bolt body) | |
| 62, 63, 65 (3-way) | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 1/4", 3/8", 1/2" Female NPT 1/8", 1/4", 1/2", 1" Female ISO 1/4", 1/2, 3/4", 1" | 1000 psig | 800 psig @450°F | |
| 67, 68 (3-way) | Body | 316SS (ASTM A479 or ASTM A351) | Swagelok Tube Fitting 1-1/2" 2" Female NPT 1-1/4", 1-1/2", 2" Female ISO 1-1/4", 1-1/2", 2" Tube Socket Weld 1-1/4", 1-1/2", 2" Pipe Socket Weld 1-1/4", 1-1/2", 2" | 500 psig | 500 psig @450°F | |

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* Fractional port connection sizes shown. Equivalent metric size ranges are also in scope, and have the same pressure/temperature ratings

Note 1: Pressure ratings shown are the maximum possible for the combination of valve series and body material. Seat and flange seals will affect ratings; please refer to product literature.

Product Illustration

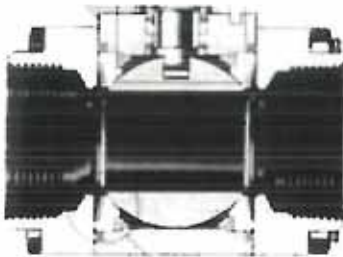


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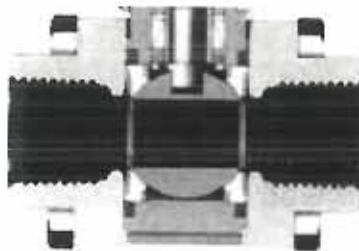
Configurations

The pressure retaining components of the 60 Series ball valve bodies can be categorized into three main types of assemblies based on the method used to attach the flanges to the body:

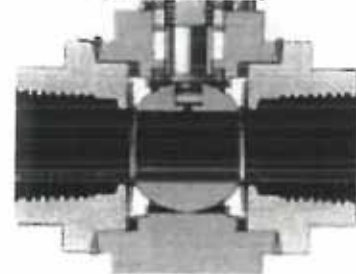
4 bolt (with nuts)
(fasteners through body)



8 bolt
(fasteners thread into body)



welded
(no fasteners)



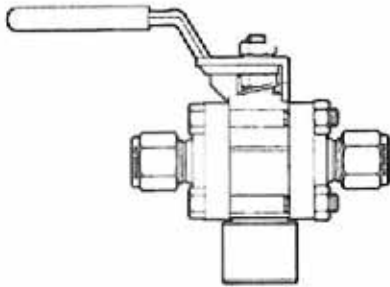
The 4 bolt type assemblies are available in all body materials.
The 8 bolt type assemblies are available in Stainless Steel and Carbon Steel only.
The welded assemblies are available in Stainless Steel only.

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60 Series 3-Way Valves



3-Way valves are available in the 4-bolt type assembly and Stainless Steel material only.

Product Options:

The product options listed below affect pressure and/or temperature ratings shown in the above Summary Table, but in all cases the ratings are less than those shown in the table.

Flange Seal Material Options

Fluorocarbon, FKM
Buna N
Buna C
Ethylene Propylene
Neoprene
Grafoil
PTFE

Stem Seal Material Options

PTFE, virgin
Fluorocarbon, FKM
Buna C
Ethylene Propylene
Grafoil
PEEK (virgin, coated, or reinforced)

Seat Material Options

PTFE, virgin
PTFE, reinforced
PTFE, carbon glass filled
PEEK (virgin, coated, or reinforced)
UHMWPE
Inconel X-750

Additional options that do not increase the pressure and/or temperature ratings may be made available within the scope of this approval. Examples of these would include the following:

Handle options
Actuators (e.g. pneumatic, electric)
Panel mounting
Low dead space inserts

All of the above options, those that affect pressure and/or temperature ratings and those that do not, are within the scope of this approval.



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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 product catalog does not represent the full scope of registration, but rather details some of the most common options.

- 60 Series Ball Valve Catalog MS-01-146, Rev U



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 Company A.G. (European Technology Center) St. GallerstraBe 84 Lachen, Switzerland 8853 Switzerland |
| Swagelok Limited Ballafletcher Road Tromode IM4 4RA Isle of Man | |

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