

Rosemount™ 319 Flushing Rings



To meet your variety of flushing ring connection system needs, Rosemount Flushing Rings deliver a diverse product offering that is easy to order, install, and operate. The portfolio includes a wide variety of styles, materials of construction, and valving configurations to address almost any application. Purchasing a Rosemount Flushing Ring with your Rosemount Pressure Transmitter and 1199 Diaphragm seal system can provide you with highest amount of value.

Overview



- Factory assembled and leak-tested
- Full breadth offering including compact and traditional styles
- Available in NACE® compliant materials of construction
- Available with Pressure-Lock™ Valve
- Designs for Rosemount Flanged Flush and Offline Flanged Remote Seal types

Rosemount 319C Compact Flushing Ring



- Compact and lightweight design eliminating leak points
- Available with female NPT flush, socket welds, and butt weld connections
- No exposed bolt configuration enhances reliability
- Special cleaning options available
- Vortex cleaning swirl provides 5x faster and more effective cleaning
- Easy to install with bolt through design

Contents

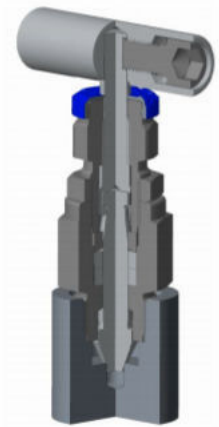
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Rosemount 319T Traditional Flushing Ring



- Factory leak-tested
- Available with needle, ball and gate valves
- Special cleaning options available for needle valves
- Multiple valve orientation options
- ANPT, Seal welded ANPT, and socket welded connections available

Rosemount Pressure-Lock™ Valve Technology



- Two-piece valve stem design provides easier handle turn operation
- Increased operator safety
- Needle-tip safety back seating ensures operator safety during process blowout events
- Enhanced reliability
- Process-isolated stem threads increase overall valve life

Ordering information

Rosemount Flushing Rings can be ordered as a stand-alone product or with a transmitter and seal.

Order a stand alone flushing ring

Procedure

1. Reference the selection guide for assistance on choosing the type of flushing ring.
2. Specify a completed model number by referencing the applicable ordering table for the selected flushing ring type:
 - Rosemount 319C Compact Flushing Ring, see [Rosemount 319C Compact Flushing Ring ordering information](#).
 - Rosemount 319T Traditional Flushing Ring, see [Rosemount 319T Traditional Flushing Ring ordering information](#).

Order a transmitter/seal/flushing ring assembly

Table 1: Ordering Codes for a Transmitter/Seal and Flushing Ring

Transmitter/seal	Flushing ring option code	
Transmitter + 1199 Seal	Required Selection: Flushing Connection	Option "Y" : Supplied with 319 Flushing Connection Ring
3051SAL	Required Selection: Flushing Connection	Option "Y" : Supplied with 319 Flushing Connection Ring
3051L	Optional Selection: Lower Housing Ring Material	Option "FV" : Supplied with 319 Flushing Ring
2051L	Optional Selection: Lower Housing Ring Material	Option "FV" : Supplied with 319 Flushing Ring

Procedure

1. Specify a completed Rosemount transmitter and/or seal model number by referencing the applicable product data sheet.
2. Specify a completed flushing ring model number by referencing the applicable ordering table for the selected manifold type:
 - Rosemount 319C Compact Flushing Ring, see [Rosemount 319C Compact Flushing Ring ordering information](#).
 - Rosemount 319T Traditional Flushing Ring, see [Rosemount 319T Traditional Flushing Ring ordering information](#).

Rosemount 319C Compact Flushing Ring ordering information

Rosemount 319C Compact Flushing Ring



Rosemount Compact Flushing Rings provide a compact and light weight flushing solution.

Online Product Configurator

Many products are configurable online using our Product Configurator. Select the **Configure** button or visit our [website](#) to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

See the Specifications and options section for more details on each configuration. Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See the Material selection section for more information.

Model codes

Model codes contain the details related to each product. Exact model codes will vary; an example of a typical model code is shown in [Figure 1](#).

Figure 1: Model Code Example

3051C D 2 X 2 2 M5 B4

1 2

1. Required model components (choices available on most)
2. Additional options (variety of features and functions that may be added to products)

Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for the fastest delivery times. The non-starred offerings are subject to additional delivery lead time.

Required model components

Model

Code	Description	
319C	Compact Flushing Ring with Valves	★

Process connection type

Code	Description	
A3 ⁽¹⁾	ASME Flat Face and Raised Face (125-250 Ra)	★
A5	ASME Ring Type Joint (RTJ)	★
DV ⁽²⁾	EN1092-1 TYPE A (125-500 Ra)	★

(1) ASME Flat Face is compatible with ASME Raised Face Remote seal and process connections.

(2) EN1092 Type A is compatible with AN1092 Type B Remote seal and process connections.

Process connection size

Code	ASME	EN1092-1/GOST 33259-15	
1	½-in.	N/A	★
2	¾-in.	N/A	★
3	1-in.	DN25	★
5	1½-in.	DN40	★
6	2-in.	DN50	★
8	3-in.	DN80	★
9	4-in.	DN100	

Process connection rating

Code	ASME	EN1092-1/GOST 33259-15	
1	150#	PN10	★
2	300#	PN16	★
4	600#	PN40	★
5	900#	PN63	★
6	1500#	PN100	
7	2500#	PN160	
D	N/A	PN6	

Seal connection type and size

Code	ASME	EN1092-1/GOST 33259-15	
B3	Flanged flush bolt through 1-in.	Flanged flush bolt through DN25	★
B5	Flanged flush bolt through 1-½-in.	Flanged flush bolt through DN40	★
B6	Flanged flush bolt through 2-in.	Flanged flush bolt through DN50	★
B8	Flanged flush bolt through 3-in.	Flanged flush bolt through DN80	★
B9	Flanged flush bolt through 4-in.	Flanged flush bolt through DN100	★
S2	Off-line flanged stud bolted 2.4-in.		★
S4	Off-line flanged stud bolted 4.1-in.		★
T2	Off-line flanged insert bolt through 2.4-in.		★
U2	Off-line flanged insert bolt through 2.4-in./O-ring		
N2	Off-line flanged stud bolted 2.4-in./O-ring		

Code	ASME	EN1092-1/GOST 33259-15	
T4	Off-line flanged insert bolt through 4.1-in.		
U4	Off-line flanged insert bolt through 4.1-in./O-ring		
N4	Off-line flanged stud bolted 4.1-in./O-ring		

Flushing port type and quantity

Code	Description	
A1	(1) NPT	★
A2	(2) NPT	★
B1	(1) Butt-weld	★
B2	(2) Butt-weld	★
C1	(1) Socket	★
C2	(2) Socket	★
D1	(1) BSPT	★
D2	(2) BSPT	★

Flushing connection port size

Code	NPT/Butt-Weld/Socket	BSPT	
2	¼-in.	Rc¼	★
3	½-in.	Rc½	★
4	¾-in.	Rc¾	★

Valve type

Code	Description	
A	Needle	★

Valve outlet

Code	Description	
0	None	★

Wetted materials

Code	Description	
AA	316/316L SST	★
SG ⁽¹⁾	316/316L SST Sour Gas	★
AC	Alloy C-276	
AV	Alloy 400	

(1) Meets NACE® MR0175/ISO 15156, MR 01031.

Valve packing material

Code	Description	
A	PTFE	★
B	Graphite	★

Additional options**Remote seal flushing plug**

Code	Description	
D1	Plug material same as wetted material	★
D2	Alloy C-276 Plug(s) for flushing connection(s)	★
D3	316 SST Plug(s) for flushing connection(s)	★

Bolting options

Code	Description	
B2	316 SST Stud bolts	★
B4	304 SST Stud bolts	
B5 ⁽¹⁾	321 SST Stud bolts	
B6	ASTM A193 Grade B7M Stud bolts	

(1) Only available for ASME standard flange.

Extended product warranty

Code	Description	
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★

Positive Material Identification (PMI) test

Code	Description	
Q76	PMI verification and certificate	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1B	★

Dye penetrant exam

Code	Description	
P5	Dye penetrant exam	★

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	★

NACE® Certificate

Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Tagging and fastener material

Code	Description	
Y2	316SST Wire-on tag(s), and fasteners	★

Flush adaptor

Code	Description	
F4	⅜-in. Flush adaptor	★
F5	½-in. Flush adaptor	★
F6	¾-in. Flush adaptor	★

Rosemount 319T Traditional Flushing Ring ordering information

Rosemount 319T Traditional Flushing Ring



Rosemount Traditional Flushing Rings provide variety of solutions for flushing seal diaphragms.

Online Product Configurator

Many products are configurable online using our Product Configurator. Select the **Configure** button or visit our [website](#) to start. With this tool's built-in logic and continuous validation, you can configure your products more quickly and accurately.

Specifications and options

See the Specifications and options section for more details on each configuration. Specification and selection of product materials, options, or components must be made by the purchaser of the equipment. See the Material selection section for more information.

Model codes

Model codes contain the details related to each product. Exact model codes will vary; an example of a typical model code is shown in [Figure 2](#).

Figure 2: Model Code Example

3051C D 2 X 2 2 M5 B4

1 2

1. Required model components (choices available on most)
2. Additional options (variety of features and functions that may be added to products)

Optimizing lead time

The starred offerings (★) represent the most common options and should be selected for the fastest delivery times. The non-starred offerings are subject to additional delivery lead time.

Required model components

Model

Code	Description	
319T	Traditional Flushing Ring with Valves	★

Process connection type

Code	Description	
A1	ASME Raised Face (125-250 Ra)	★
A3	ASME Flat Face (125-250 Ra)	★
A5	ASME Ring Type Joint (RTJ)	★
DD	EN1092-1 TYPE B1/ GOST 33259-15 TYPE B (125-250 Ra)	★
DV	EN1092-1 TYPE A (125-500 Ra)	★

Process connection size

Code	ASME	EN1092-1/GOST 33259-15	
1	½-in.	N/A	★
2	¾-in.	N/A	★
3	1-in.	DN25	★
5	1½-in.	DN40	★
6	2-in.	DN50	★
8	3-in.	DN80	★
9	4-in.	DN100	

Process connection rating

Code	ASME	EN1092-1/GOST 33259-15	
1	150#	PN10	★
2	300#	PN16	★
4	600#	PN40	★
5	900#	PN63	★
6	1500#	PN100	
7	2500#	PN160	
D	N/A	PN6	

Seal connection type and size

Code	ASME	EN1092-1/GOST 33259-15	
B3	Flanged flush bolt through 1-in.	Flanged flush bolt through DN25	★
B5	Flanged flush bolt through 1½-in.	Flanged flush bolt through DN40	★
B6	Flanged flush bolt through 2-in.	Flanged flush bolt through DN50	★
B8	Flanged flush bolt through 3-in.	Flanged flush bolt through DN80	★
B9	Flanged flush bolt through 4-in.	Flanged flush bolt through DN100	★
F3	Flanged flush 1-in.	Flanged flush DN25	★
F5	Flanged flush 1½-in.	Flanged flush DN40	★
F6	Flanged Flush 2-in.	Flanged flush DN50	
F8	Flanged flush 3-in.	Flanged flush DN80	★

Code	ASME	EN1092-1/GOST 33259-15	
F9	Flanged flush 4-in.	Flanged flush DN100	
R2	Off-line flanged insert 2.4-in.		★
G2	Off-line flanged insert 2.4-in./O-ring		
S2	Off-line flanged stud bolted 2.4-in.		★
S4	Off-line flanged stud bolted 4.1-in.		★
R4	Off-line flanged insert 4.1-in.		
G4	Off-line flanged insert 4.1-in./O-ring		
N4	Off-line flanged stud bolted 4.1-in./O-ring		

Flushing connection type and quantity

Code	Description	
A1	(1) NPT	★
A2	(2) NPT	★
C1	(1) Socket	★
C2	(2) Socket	★
D1	(1) BSPT	★
D2	(2) BSPT	★
F1	(1) Seal-welded NPT	★
F2	(2) Seal-welded NPT	★

Flushing connection port size

Code	NPT/Butt-Weld/Socket	BSPT	
2	¼-in.	Rc¼	★
3	½-in.	Rc½	★
4	¾-in.	Rc¾	★

Valve type

Code	Description	
0	None	★
A	Needle	★
B	Ball	
G	Gate	

Valve outlet

Code	Description	
0	None	★
1	NPT	★
3	Socket weld	★

Wetted materials

Code	Description	
AA	316/316L SST	★
SG	316/316L SST sour gas	★
AC	Alloy C-276	
AV	Alloy 400	

Valve packing seat material

Code	Description	
0	No valve	★
A ⁽¹⁾	PTFE	★
B	Graphite	★
E	PEEK	

(1) Ball valves may have PTFE, reinforced PTFE or PCTFE seats.

Additional options

Valve orientation

Code	Description	
V1	90-Degrees	★

Pipe schedule

Code	Description	
FF	SCH 40	
FJ	SCH 80	★
FQ	SCH 160	
FR	SCH XXS	

Remote seal flushing plug

Code	Description	
D1	Plug material same as wetted material	★
D2	Alloy C-276 Plug(s) for flushing connection(s)	★
D3	316 SST Plug(s) for flushing connection(s)	★

Bolting options

Code	Description	
B2	316 SST Stud bolts	★
B4	304 SST Stud bolts	
B5 ⁽¹⁾	321 SST Stud bolts	

Code	Description	
B6	ASTM A193 Grade B7M Stud bolts	

(1) Only available for ASME standard flange.

Extended product warranty

Code	Description	
WR3	3-year limited warranty	★
WR5	5-year limited warranty	★

Positive Material Identification (PMI) test

Code	Description	
Q76	PMI verification and certificate	★

Material traceability certification

Code	Description	
Q8	Material traceability certification per EN 10204 3.1B	★

Dye penetrant exam

Code	Description	
P5	Dye penetrant exam	★

Pressure testing

Code	Description	
P1	Hydrostatic testing with certificate	★

NACE® Certificate

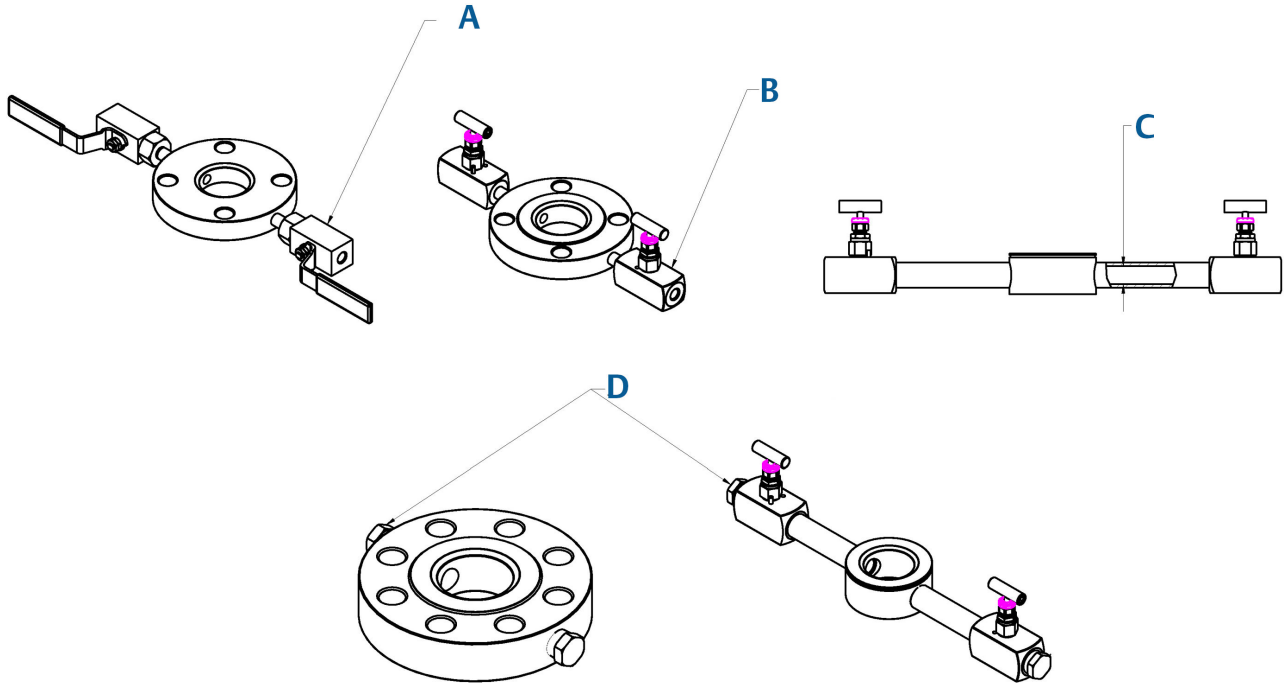
Code	Description	
Q15	Certificate of compliance to NACE MR0175/ISO 15156 for wetted materials	★
Q25	Certificate of compliance to NACE MR0103 for wetted materials	★

Tagging and fastener material

Code	Description	
Y2	316SST Wire-on tag(s), and fasteners	★

Specification

Traditional assembled lower F/flanged flush/pancake general assembly



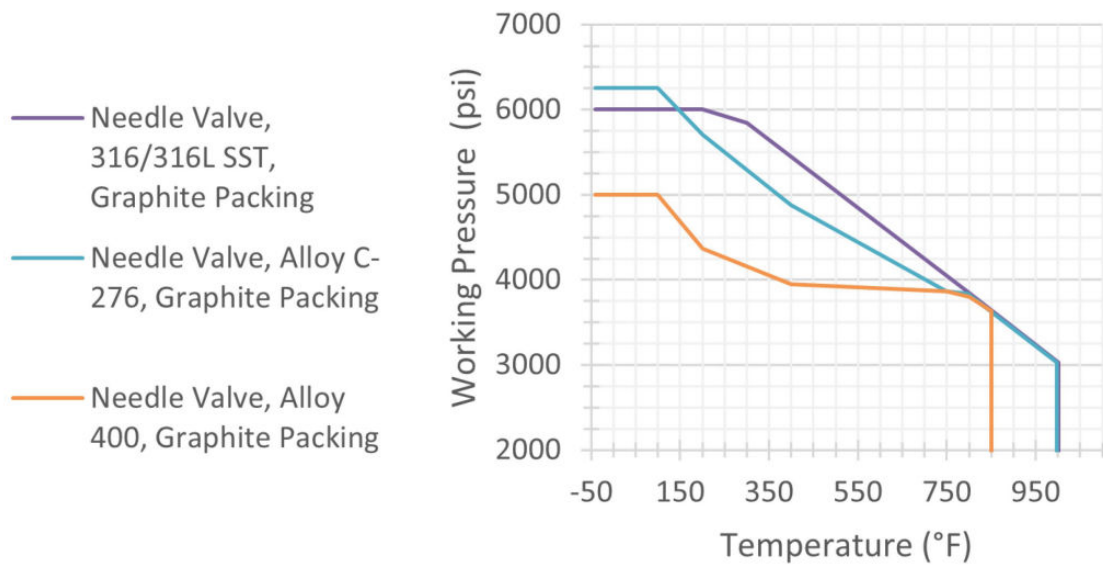
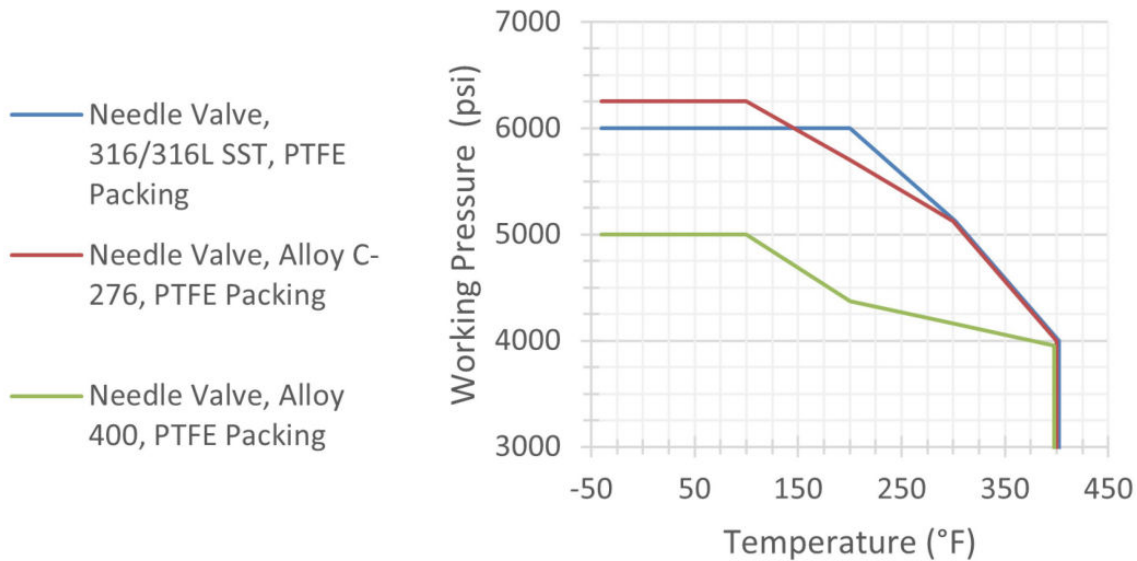
- A. *Default valve orientation*
- B. *Valve orientation with V1 (90° valve orientation)*
- C. *Pipe schedule optional option changes pipe ID*
- D. *Assembly with P4, P6, or PC*

Material selection

Emerson provides a variety of Rosemount products with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Rosemount product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (e.g., all chemical components, temperature, pressure, flow rate, abrasives, contaminants), when specifying product materials, options and components for the particular application. Emerson is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product options, configuration or materials of construction selected. For more information on material compatibility, refer to the Material Selection and Compatibility Considerations for Rosemount Pressure Transmitters.

Pressure and temperature ratings

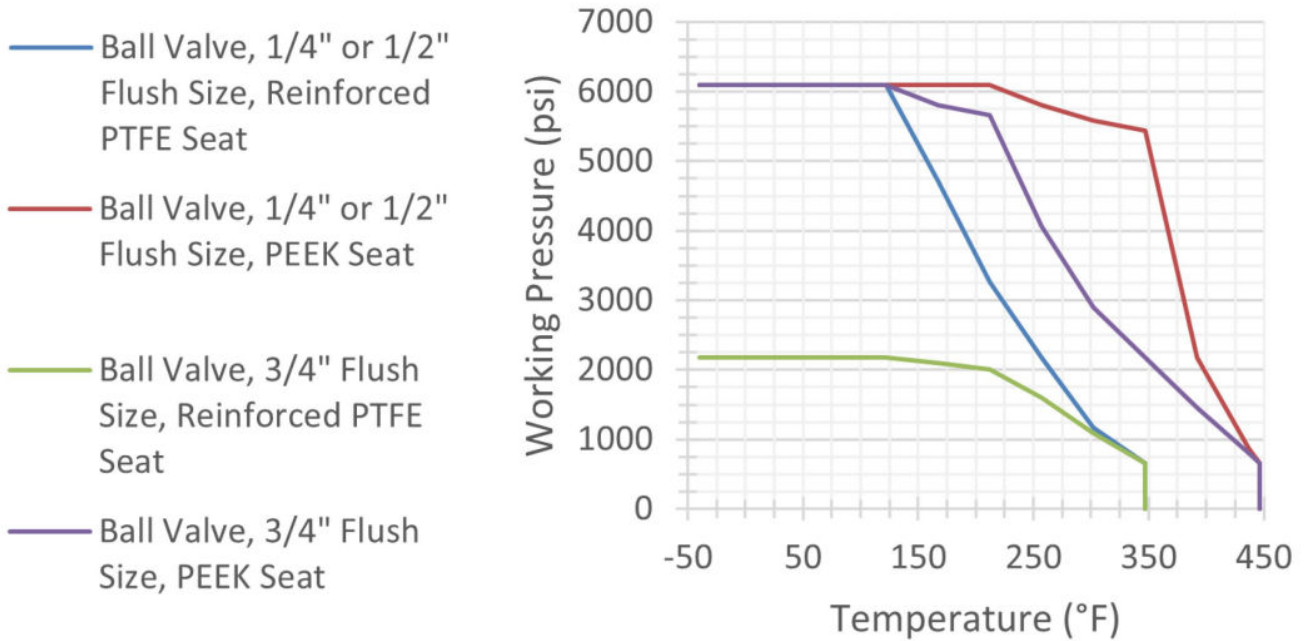
Figure 3: Needle valves



Note

- Flushing ring assembly pressure-temperature (p-t) ratings meet or exceed the ASME B16.5/EN1092-1 flange class p-t ratings for equivalent materials but are limited to the valve p-t limits specified in the tables above. For example: a 316/316L SST flushing ring assembly used for 150#-600# classes meets or exceeds the class 600 pressure-temperature ratings of ASME B16.5 group 2.2 materials.
- Default sch 80 pipe extensions do not derate pressure-temperature.

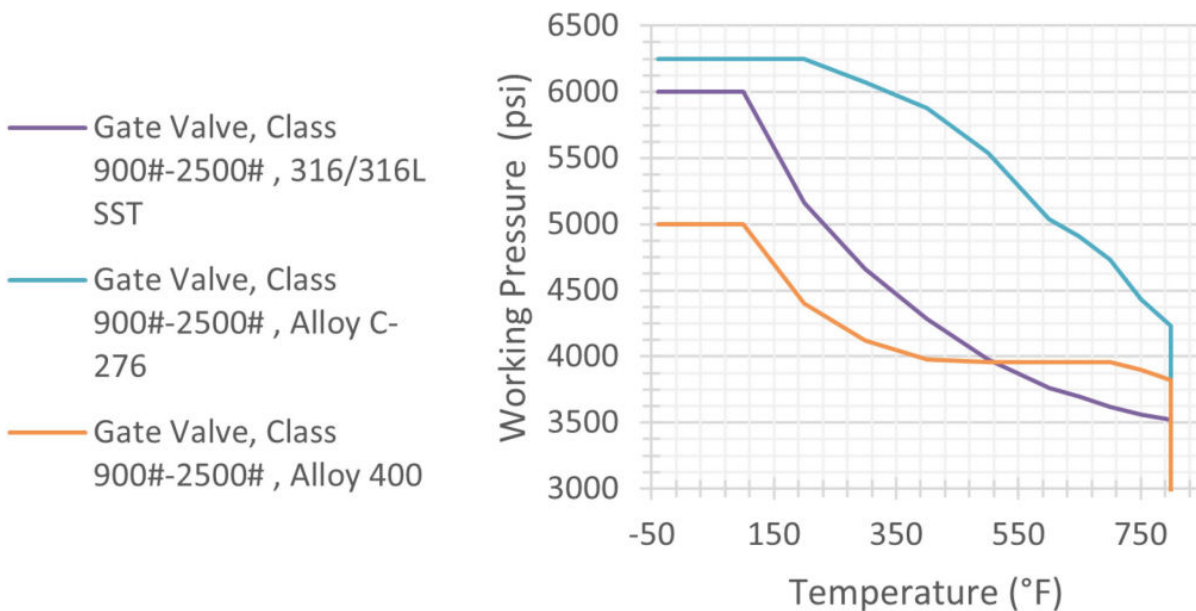
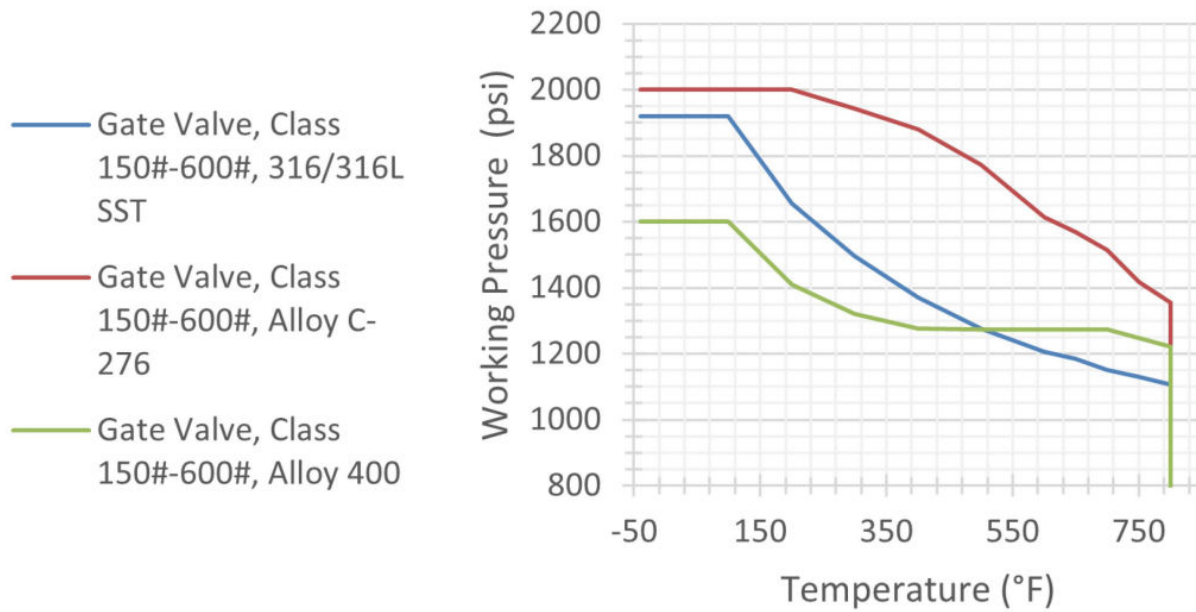
Figure 4: Ball valves



Note

- Flushing ring assembly pressure-temperature (p-t) ratings meet or exceed the ASME B16.5/EN1092-1 flange class p-t ratings for equivalent materials but are limited to the valve p-t limits specified in the tables above. For example: a 316/316l SST flushing ring assembly used for 150#-600# classes meets or exceeds the class 600 pressure-temperature ratings of ASME B16.5 group 2.2 materials.
- Default sch 80 pipe extensions do not derate pressure-temperature.

Figure 5: Gate valves



Note

- Flushing ring assembly pressure-temperature (p-t) ratings meet or exceed the ASME B16.5/EN1092-1 flange class p-t ratings for equivalent materials but are limited to the valve p-t limits specified in the tables above.
For example: a 316/316L SST flushing ring assembly used for 150#-600# classes meets or exceeds the class 600 pressure-temperature ratings of ASME B16.5 group 2.2 materials.
- Default sch 80 pipe extensions do not derate pressure-temperature.
- Gate valves with PTFE packing are limited to 400 °F.

Reference Data

Ordering information, Specifications, and Dimensional drawings

To view current Rosemount 319 Ordering information, Specifications, and Dimensional drawings, follow these steps:

Procedure

1. Go to [Emerson.com/Rosemount](https://emerson.com/rosemount).
2. Scroll as needed to the green menu bar and click **Documents & Drawings**.
3. For installation drawings, click **Drawings & Schematics** and select the appropriate document.
4. For ordering information, specifications, and dimensional drawings, click **Data Sheets & Bulletins** and select the appropriate Product Data Sheet.

Options

P2 cleaning for special services

This option minimizes process contaminants and prepares the unit for special service by cleaning wetted surfaces and providing material and packaging considerations per ASTM G93-96.

Other publications

For additional information, go to [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

For more information: [Emerson.com](https://www.emerson.com)

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ROSEMOUNT™

