

General Specifications

GS 22B01C05-00EN-A

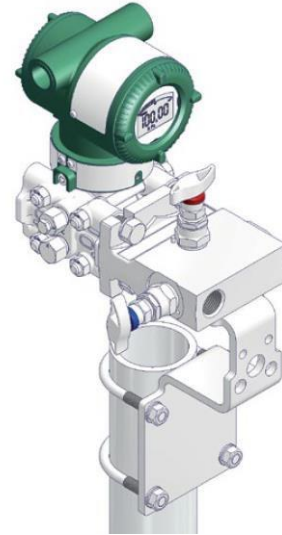
C13ST
Manifolds for Traditional Mount
Gauge and Absolute Pressure Transmitters

Designed and manufactured by AS-Schneider, Yokogawa C13ST-2 2-Valve manifolds are designed for mounting to traditional mount gauge or absolute pressure transmitters.

Designed in accordance with IEC 61518, they are available in Wafer-Style, T-Style, or H-Style.

Optional needle valve assemblies are available that are compliant with ASME B31.1 (Power) standards, ISO15848 FE Type 1 standards, ISO15848 FE Type 3 standards, or TA-Luft standards.

These manifolds can be purchased separately or attached to the pressure transmitter. If attached, the entire assembly can be tested to ANSI B16.5 standard.



■ FEATURES

□ Wetted Material

Wetted material conform to NACE standards MR0175 / MR0103 and ISO15156.

□ Packing

PTFE and Graphite packings are available for all valve types. When Graphite is selected, material of flange seal and tape for pipe threads are also Graphite.

□ Pressure Test

100% of manifolds are pressure testing to 1.5 times the max allowable (working) pressure in accordance to standard EN 12266-1-P10, P11, and P12 respectively MSS-SP61. Test certificate complies with section 3.1 of EN 10204.

□ Material Traceability Certification

Material Traceability Certification is supplied with each manifold. Certificate complies with section 3.1 of EN 10204.

□ Rolled Valve Stem Threads

The Valve Stem has cold rolled threads for high strength, smooth operation, and longer life.

□ Optional Oxygen Service

An option for Reinforced PTFE Packing is offered cleaned and lubricated for Oxygen Service.

□ Fire Safe Tested and Certified

Manifolds with Graphite packing are Fire Safe tested and certified as standard per ISO 10497 / API 607.

□ Handle

Ergonomic T-handle design is standard. Anti-tamper and Hand Wheel designs are also available.

□ Back Seat

Standard metal-to-metal secondary needle seal is of non-removable anti-blow out design.

□ Mounting Bolts

Standard carbon steel mounting bolts are provided. 316 SST or ASTM A453 Grade 660 (Class D) bolts available as an option.

□ Color Coded Dust Caps

Reinforced plastic dust caps protect the threads from contamination while the color coding ensures proper operation of the valves.

| | |
|-------------|-------|
| Isolate | Blue |
| Vent / Test | Red |
| Equalize | Green |

Options are also coded onto the dust caps.

| | |
|------------------|-------|
| Graphite Packing | Black |
| Oxygen Service | White |

□ Optional Transmitter Mounting

As an option, the manifold can be mounted to the transmitter and the entire assembly pressure tested per ANSI B16.5 and a certificate issued.

■ Needle Valve Assembly

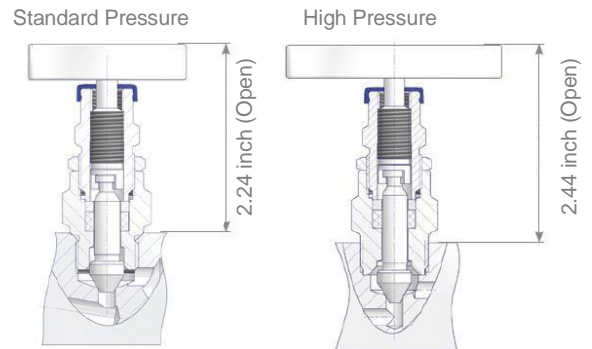
□ Common Features

- Integral Valve Seat – Metal-to-Metal seated.
- Non-rotating Needle
- External Stem Thread – Packing below stem threads. Stem threads are protected from process media (Threads are non-wetted), helps to prevent stems from galling.
- Stem with cold rolled threads.
- Blow-out proof Needle.
- Back-seat – Metal-to-metal secondary needle seal.
- Color coded dust cap for operating thread protection.
- Anti-tamper valve handle options available.
- All non-wetted parts are 316 Stainless Steel.

□ Standard Needle Valves

Common Features plus:

- Screwed Bonnet
- Stem Seal: Packing
- Lock Pin – Eliminates unauthorized removal of the bonnet
- Standard Packing is PTFE with Graphite available as an option.



Standard Valve Assembly

□ ASME B31.1 (Power) Needle Valves [Packing code P2]

Common Features plus:

- Screw Bonnet
- Stem Seal: Graphite Packing
- Locking Plate - Eliminates unauthorized removal of the bonnet



ASME B31.1 Locking Plate

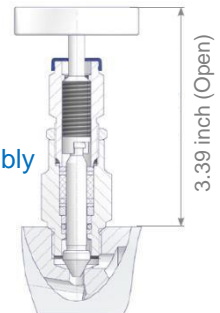
□ ISO15848 (Fugitive Emissions) Needle Valves

[Packing code D2 or E2]

Common Features plus:

- Screwed Bonnet
- Stem Seal: Type 1 O-Ring + Graphite packing
Type 3 PTFE Packing
- Lock Pin – Eliminates unauthorized removal of the bonnet
- FKM O-Ring Needle Seal – RGD (Rapid Gas Decompression) resistant
- PTFE or Graphite Packing
- Also complies with TA-Luft 2002

ISO15848 Valve Assembly



| ISO FE Type 1 | | | |
|---------------|--------------|-----------------|--|
| Class A | 1,500 Cycles | -20°F to +104°F | |
| Class A | 500 Cycles | -20°F to +392°F | |
| Class B | 1,500 Cycles | -20°F to +392°F | |

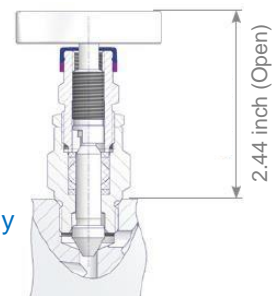
| ISO FE Type 3 | | | |
|---------------|--------------|-----------------|--|
| Class B | 1,500 Cycles | -20°F to +392°F | |

□ TA-Luft Needle Valves [Packing code W2]

Common Features plus:

- Cup & Cone Packing (Reinforced PTFE)
- Lock Pin – Eliminates unauthorized removal of the bonnet

TA-Luft Valve Assembly

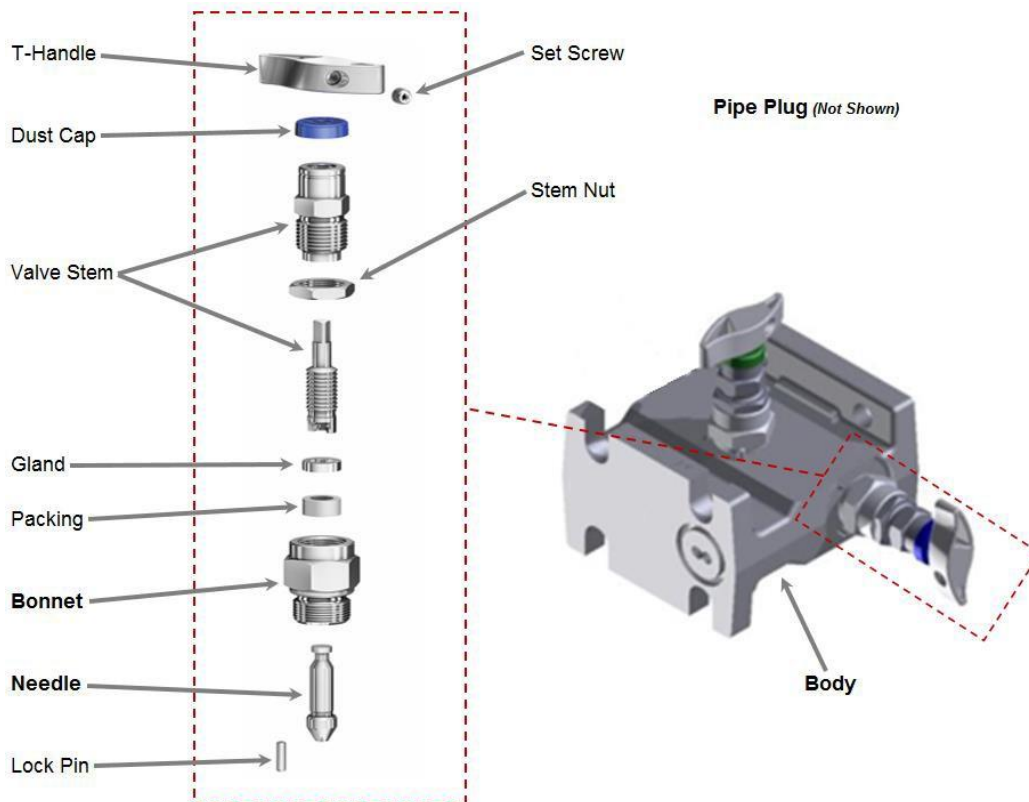


■ Materials

□ Material by Manifold Component

| Model Code | Stainless Steel | Exotic Alloys | | | | |
|------------------|------------------------------|---------------|-------------|---------------|---------------------|-----------|
| | S | M | H | E | W | C |
| Components | Material / Material Standard | | | | | |
| Body | 316 / 316L SST | Alloy 400 | Alloy C-276 | Duplex S31803 | Super Duplex S32750 | Alloy 625 |
| Bonnet | | | | | | |
| Needle | | | | | | |
| Pipe Plug | | | | | | |
| Valve Stem | 316 / 316L SST | | | | | |
| Gland | 316 SST | | | | | |
| Packing | PTFE or Graphite | | | | | |
| Stem Nut | 316 SST | | | | | |
| Lock Nut | 316 SST | | | | | |
| Set Screw | 316 SST | | | | | |
| T-Handle | 316 SST | | | | | |
| Lock Pin | A4 (316 SST) | | | | | |

Bold Components indicate Wetted Materials

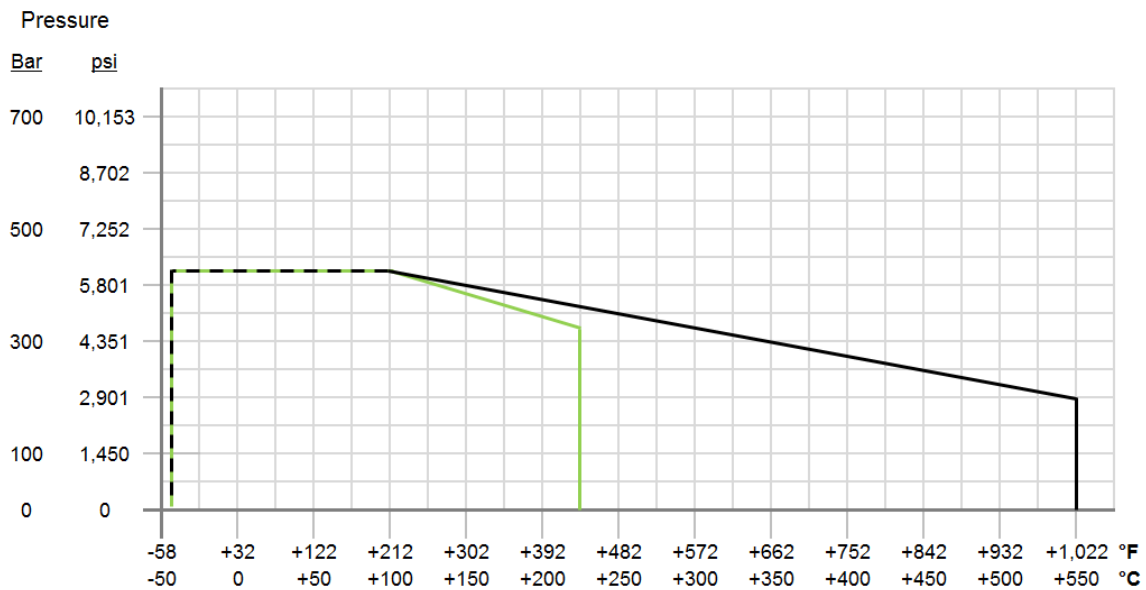


Material Standards

| Material Group | AS Material Designation | Yokogawa Model Code | Material Number | Short Name | Equivalent UNS-No. | Material Grade | |
|-------------------------------------|--------------------------|---------------------|-----------------|-----------------|--------------------|----------------|-----------|
| | | | | | | Per ASTM | Per JIS |
| Austenitic Stainless Steel | 316 Quadruple certified* | S | 1.4401 | X5CrNiMo17-12-2 | S31600 | 316 | SUS316 |
| | | | 1.4404 | X2CrNiMo17-12-2 | S31603 | 316L | SUS316L |
| Austenitic-Ferritic Stainless Steel | Duplex | E | 1.4462 | X2CrNiMoN22-5-3 | S31803 | F51 | SUS329J3L |
| | Super Duplex | W | 1.4410 | X2CrNiMoN25.7.4 | S32750 | F53 | |
| Nickel Based Alloy | Alloy 400 | M | 2.4360 | NiCu30Fe | N04400 | | NW4400 |
| | Alloy C-276 | H | 2.4819 | NiMo 16 Cr 15 W | N10276 | | NW0276 |
| | Alloy 625 | C | 2.4856 | NiCr22Mo9Nb | N06625 | | NCF 625 |

* Quadruple certifies means the material is in compliance with 316 / 316L / 1.4401 / 1.4404

Pressure / Temperature Chart



| Code | Description | Packing | Low-Temperature Rating (°F) | High-Temperature Rating (°F) | Max. Allowable (Working) Pressure ¹ | Graph |
|------|----------------|----------|-----------------------------|------------------------------|--|-------|
| -NN | Standard Valve | PTFE | -40 | +450 | 6,092 psi | ——— |
| -G2 | Standard Valve | Graphite | -40 | +1,022 | 6,092 psi | ——— |
| -P2 | Power (B31.1) | Graphite | -40 | +1,022 | 6,092 psi | ——— |
| -D2 | ISO FE Type 1 | Graphite | -40 | +1,022 | 6,092 psi | ——— |
| -E2 | ISO FE Type 3 | PTFE | -40 | +450 | 6,092 psi | ——— |
| -W2 | TA Luft | PTFE | -40 | +450 | 6,092 psi | ——— |
| -L2 | Arctic | PTFE | -67 | +450 | 6,092 psi | ——— |

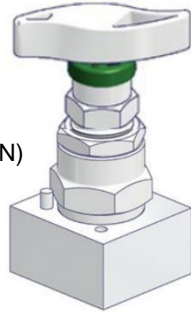
Note 1: Option codes may effect MWP.

■ Handles

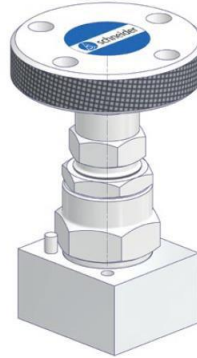
□ T- Handles / Wheel Handles

Yokogawa offers two different handles. The standard is the T-handle design. The wheel-handle is offered as an option.

Standard T-handle
(Handle Type Code NN)



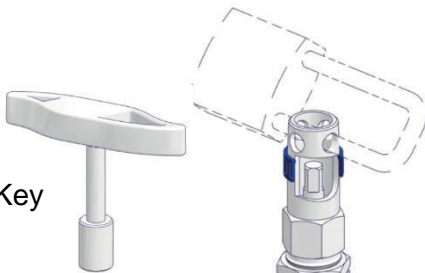
Wheel-handle
(Handle Type Code H2)



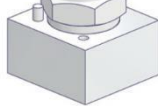
□ Anti-Tamper Handles

Two types of anti-tamper handles are offered. Both types are lockable with a padlock (not included) or a lock-out tag. The standard anti-tamper design is operated with an AT-key. The AT-key fits in the key guide and turns the valve. Without the key, the valve cannot be turned. The standard design also includes holes to secure it with a padlock. The wheel-handle designs adds a locking plate that allows a padlock or a lock-out tag to be attached

AT-Key



Standard Anti-tamper Handle
(Handle Type Code R2 or T2)



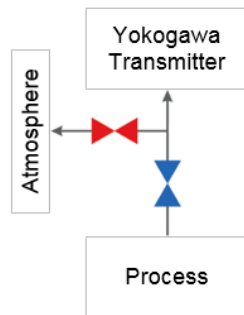
Anti-tamper Wheel-handle
(Handle Type Code L2)

■ 2-valve Manifold

□ Applicable Transmitter Models

| DPharp Pressure Transmitter Model | Application | Max. Working Pressure (psi) | Manifold Connection Type |
|-----------------------------------|---------------------|-----------------------------|--|
| EJA310E | Absolute Pressure | 2,300 | Standard Pressure (Model Code A or B) |
| EJX310A | | | |
| EJA430E | Gauge Pressure | 2,300 | Standard Pressure (Model Code A or B) |
| EJX430A | | | |
| EJA440E | High Gauge Pressure | 7,200 | High Pressure (Model Code Y or W) |
| EJX440A | | | |

□ Manifold Diagram



| | |
|-------------|--------------|
| Isolate | Blue |
| Vent / Test | Red |
| Equalize | Green |



Packing adjustment may be required during the service life of the valves.

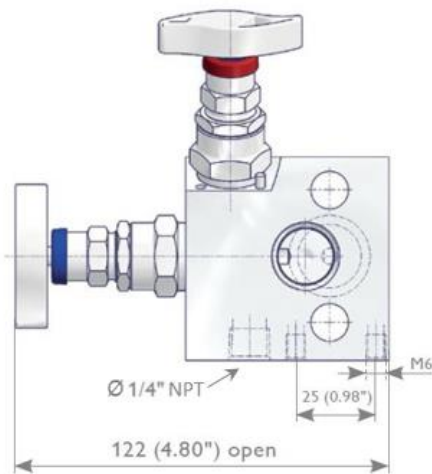


Valves that have not been cycled for a period of time may have a higher initial actuation torque.

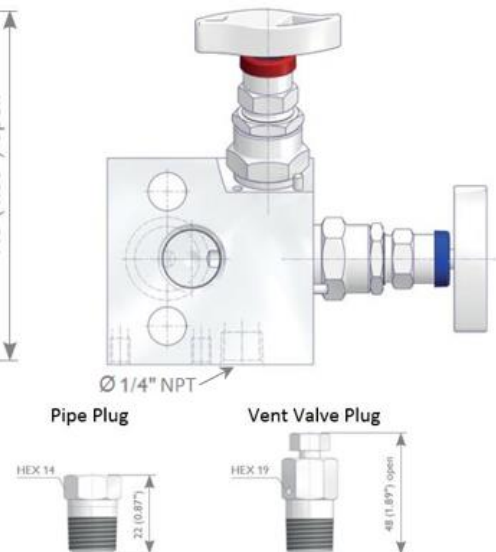
□ Wafer-Style

½-inch NPT Female x Flanged (Vent Ports on Bottom Face)
(Type used for Horizontal Impulse Piping Installations)

(Left-side High Pressure)

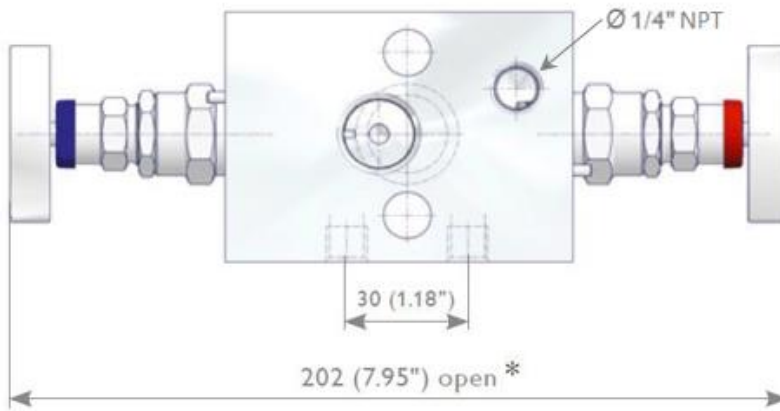


(Right-side High Pressure)

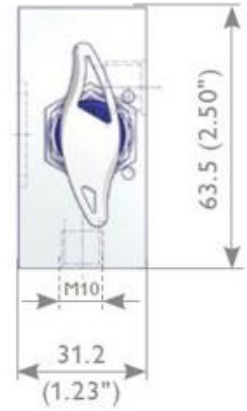


*High-pressure type add 5mm

½-inch NPT Female x Flanged (Vent Ports on Process Side)
 (Type used for Vertical Impulse Piping Installations or Bottom Process Connection Transmitters)



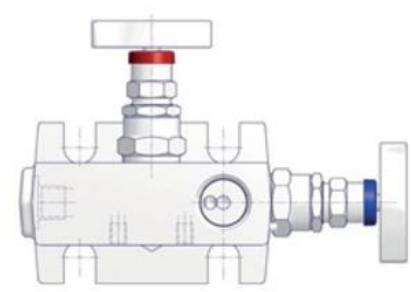
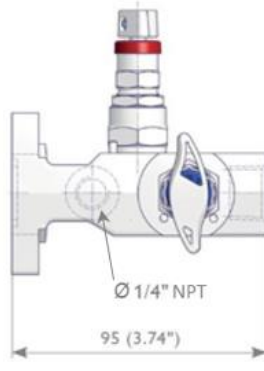
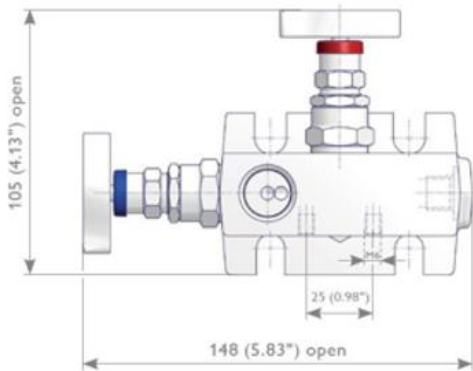
*High-pressure type add 10mm



□ **T-Style** (Flange x Pipe)
 Flanged x ½-inch NPT Female

(Left-side High Pressure)

(Right-side High Pressure)

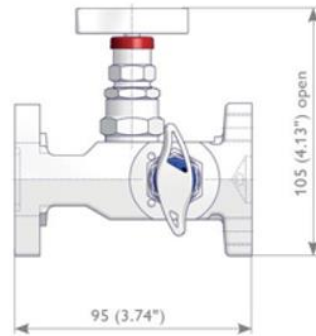
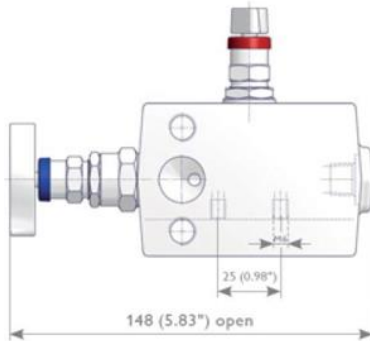


*High-pressure type add 5mm

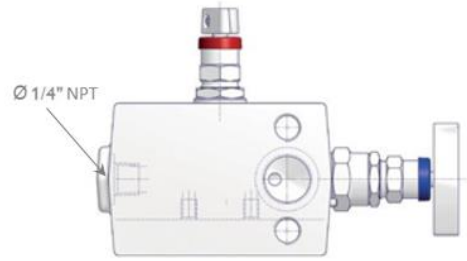
- ⚠ Packing adjustment may be required during the service life of the valves.
- ⚠ Valves that have not been cycled for a period of time may have a higher initial actuation torque.

□ **H-Style**
Flanged x Flanged

(Left-side High Pressure)



(Right-side High Pressure)



Pipe Plug

Vent Valve Plug



*High-pressure type add 5mm

□ **Overview**

| Model | Transmitter | | Manifold (C13ST-2) | |
|---------|---------------|-------------------|--------------------|-------------------|
| | High-pressure | Installation Code | High-pressure | Installation Code |
| EJA310E | Left-side | -7 | Left-side | 1 |
| EJX310A | | -9 | | |
| EJA430E | | -U | | B |
| EJX430A | | -B | | |
| | Right-side | -3 | Right-side | 2 |
| | | -8 | | |
| EJA440E | Left-side | -7 | Left-side | 1 |
| EJX440A | | -9 | | |
| | | -U | | 2 |
| | | -B | | |
| | Right-side | -3 | Right-side | 2 |
| | | -8 | | |

LH062117-01

- ⚠ Packing adjustment may be required during the service life of the valves.
- ⚠ Valves that have not been cycled for a period of time may have a higher initial actuation torque.

■ Model and Suffix Codes

□ Main Model Code

| | |
|------------------------|---|
| C13ST | Traditional-mount manifold |
| Valves -2 | 2-Valve |
| Style | W Wafer-Style (Vent ports on bottom face) ¹ B Wafer-Style (Vent ports on process side) ¹ T T-Style ¹ H H-Style ² |
| Material | S 316 / 316L SST H Alloy C-276 M Alloy 400 E Duplex S31803 W Super Duplex S32750 C Alloy 625 |
| Connection Type | A Wafer-Style or T-Style Y Wafer-Style or T-Style (High Pressure) ³ B H-Style W H-Style (High Pressure) ³ |
| Installation | 1 Left-side High Pressure ⁸ 2 Right-side High Pressure ⁸ B Bottom Process Connection ⁹ |
| Bolting | -NN Carbon Steel Bolting -S2 316 SST Bolting ⁴ -S4 316 SST Bolting ⁵ -N2 ASTM A453 Grade 660 Class D Bolting ⁴ -N4 ASTM A453 Grade 660 Class D Bolting ⁵ |
| Packing | -NN PTFE -G2 Graphite -P2 Power (B31.1) -D2 ISO FE Type 1 -E2 ISO FE Type 3 -W2 TA-Luft -L2 Arctic Operation |

LH062117-02

| | | |
|-----------------------------|------------------|---|
| Plugs | N | No plugs supplied ⁶ |
| | P | Pipe Plug |
| | V | Vent Valve Plug |
| Plug Material | N | No plugs supplied ⁶ |
| | S | 316 / 316L SST |
| | H | Alloy C-276 |
| | M | Alloy 400 |
| | E | Duplex S31803 |
| | W | Super Duplex S32750 |
| | C | Alloy 625 |
| Number of Plugs | N | No plugs supplied ⁶ |
| | 1 | One plug |
| Cleaning for Oxygen Service | -NN | Not cleaned for Oxygen Service |
| | -K2 | Cleaned for Oxygen Service ^{7, 10} |
| Handle Type | NN | Standard T-Handle |
| | H2 | Hand Wheel |
| | L2 | Hand Wheel with locking plate |
| | R2 | Anti-tamper with key |
| | T2 | Anti-tamper without key |

Example Model Code:

LH062117-03

C13ST -2 B S A 2 -S4 -P2 P S 1 -NN NN /□

Notes:

- Note 1: Requires Connection Type code A or Y.
- Note 2: Requires Connection Type code B or W.
- Note 3: Applicable to EJA440E or EJX440A ONLY. Available with Material code S ONLY.
- Note 4: Applicable to Style code W or B.
- Note 5: Applicable to Style code T or H.
- Note 6: Plugs are required if option code /HTAS is selected.
- Note 7: Applicable for Packing code NN or L2 ONLY.
- Note 8: Applicable to Style W, T, or H.
- Note 9: Applicable to Style B ONLY.
- Note 10: Not applicable with option code /HTAS.



□ **Option Codes**

| Item | Description | Code |
|--|--|--------------|
| Attachment | Manifold connected to transmitter, but not torqued or pressure tested. Installer must complete assembly. | /ATCH |
| Attachment / Pressure Test ¹¹ | Manifold attached to transmitter and pressure tested per ANSI B16.5. Certificate issued. | /HTAS |

LH062117-04

Notes:

- Note 11: Requires Plugs code P or V.

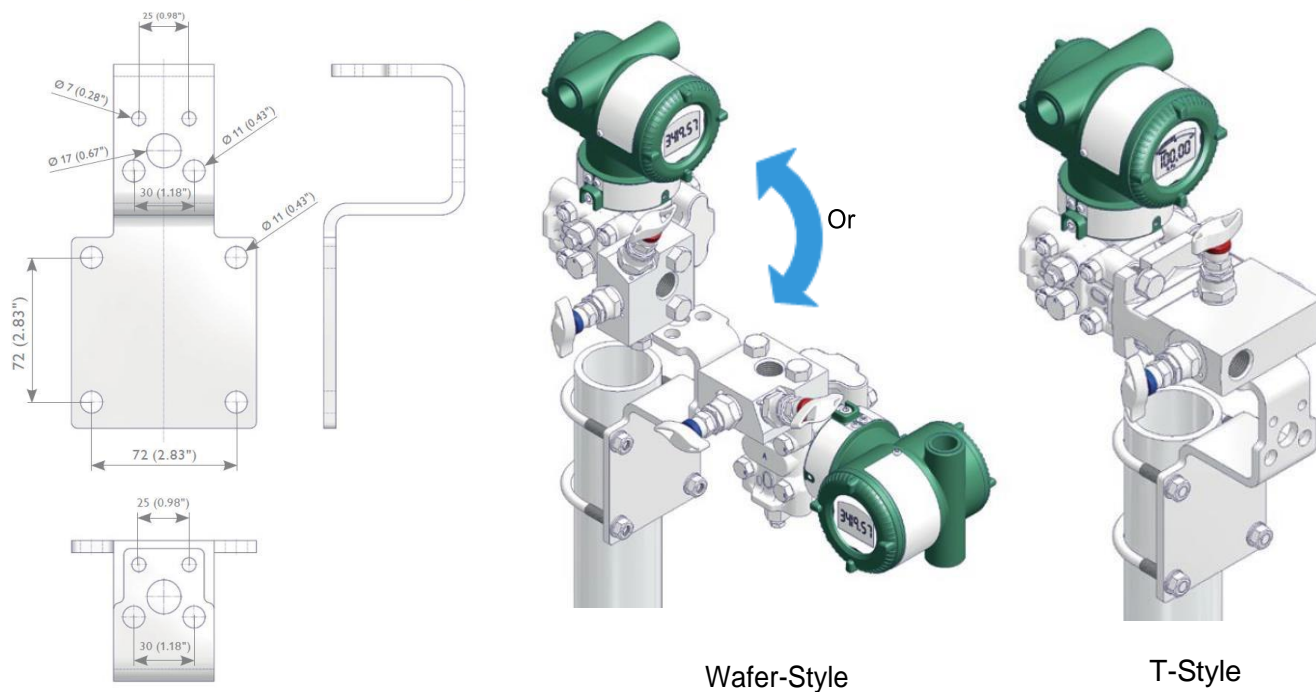
-  Packing adjustment may be required during the service life of the valves.
-  Valves that have not been cycled for a period of time may have a higher initial actuation torque.

■ Accessories

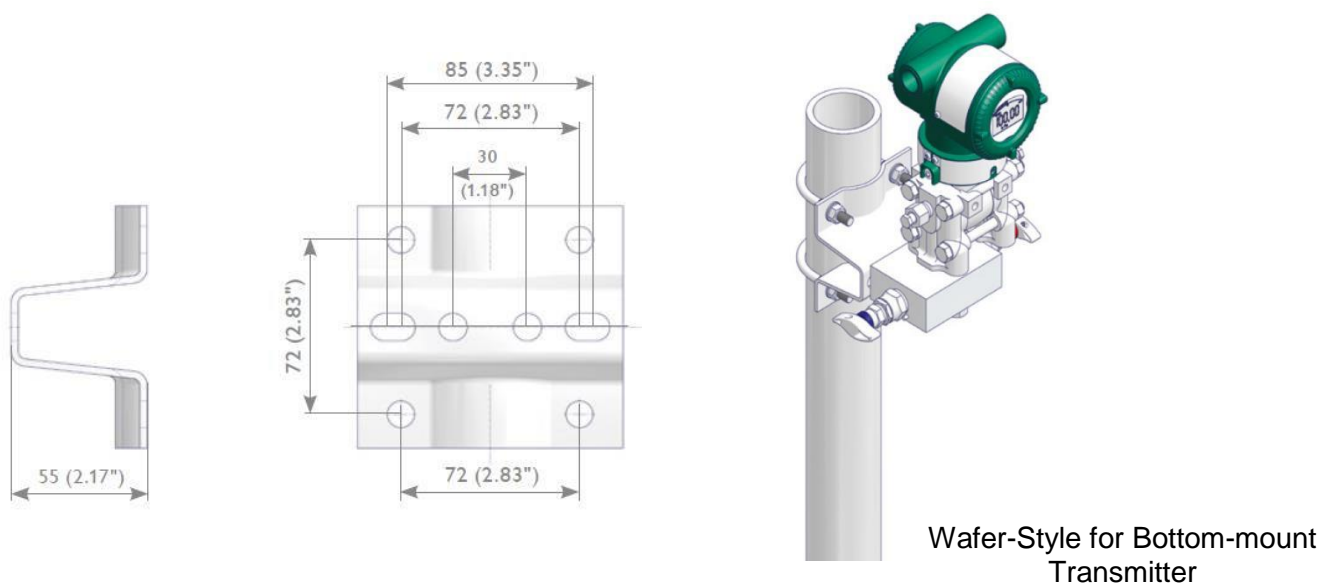
Accessories are sold as a separate line items.

Mounting Brackets

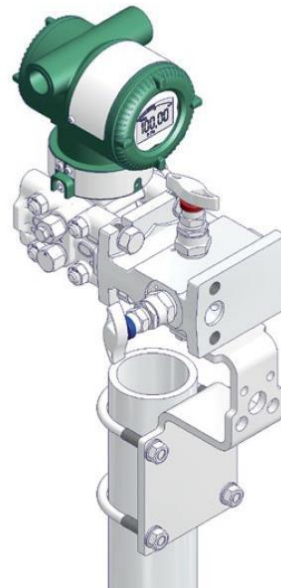
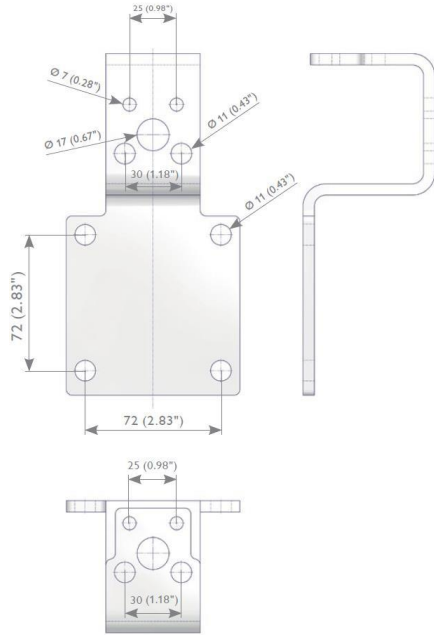
- **Bracket for Wafer-Style and T-Style 2-valve Manifolds**
(Model Code: C13SA-MUPS0)



- **Bracket for Wafer 2-valve Manifold with Bottom Connection Type Transmitter**
(Model Code: C13SA-MDPS0)



□ **Bracket for H-Style 2-valve Manifolds**
 (Model Code: C13SA-MUPSH)



H-Style

Mounting Brackets Overview

| Item | Description | Code |
|------------------|---|-------------|
| Mounting Bracket | 2-Valve Wafer-style used with Bottom Process Connection Transmitter | C13SA-MDPS0 |
| Mounting Bracket | For Wafer-Style or T-Style 2-Valve traditional-mount manifold | C13SA-MUPS0 |
| Mounting Bracket | For H-Style 2-Valve traditional-mount manifold | C13SA-MUPSH |

Note: All brackets compatible with both standard pressure and high pressure models.

Accessories are ordered as separate line items.

Accessories are ordered as separate line items.

Replacement Seal Ring (Gasket)

| Item | Description | Size (mm) | Code |
|--------------------|---|-------------------|--------------------|
| Seal Ring (Gasket) | One IEC B PTFE Ring (Standard Pressure) | 25.4 x 20.0 x 2.7 | C13SA-SRPBN |
| Seal Ring (Gasket) | One IEC B Graphite Ring (Standard Pressure) | 25.4 x 19.9 x 2.9 | C13SA-SRGBN |
| Seal Ring (Gasket) | One Reinforced PTFE (High Pressure) | 25.2 x 21.6 x 2.0 | C13SA-SRPYN |

PMI Test Report

| Item | Description | Code |
|-----------------|----------------------|--------------------|
| PMI Test Report | For 2-Valve Manifold | C13SA-PMIR2 |

Certificate of Origin

| Item | Description | Code |
|-----------------------|----------------------|-------------------|
| Certificate of Origin | For 2-Valve Manifold | C13CO-ASDE |

Spare AT-Key

| Item | Description | Code |
|--------|--------------|--------------------|
| AT-Key | Spare AT-Key | C13SA-ATKES |

Accessories are ordered as separate line items.

■ How to Order

Ordering Information

1. Select the proper model code from this GS.
2. If /ATCH or /HTAS option is selected, indicate which transmitter the manifold is to be attached.
3. If a bracket is required, order as a separate line item.
4. If any accessories are required, order as a separate line item.

■ Related Products

| Product | Type | General Specification |
|---------|----------------------------------|-----------------------|
| EJA310E | Absolute Pressure Transmitter | GS 01C31D01-01EN |
| EJX310A | Absolute Pressure Transmitter | GS 01C25D01-01EN |
| EJA430E | Gauge Pressure Transmitter | GS 01C31E01-01EN |
| EJX430A | Gauge Pressure Transmitter | GS 01C25E01-01EN |
| EJA440E | Gauge Pressure Transmitter | GS 01C25E02-01EN |
| EJX440A | Gauge Pressure Transmitter | GS 01C31E02-01EN |

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