Instrumentation Manifolds: Traditional, C13ST Series
For DPharp EJX & EJA-E Differential Pressure and Pressure Transmitters
Introduction

The partnership of Yokogawa and AS-Schneider creates a real added value to our customers.

Yokogawa Electric Corporation with its headquarters in Japan is one of the World’s Leading Manufacturers and Engineering Service Provider in the fields of Automation, Measurement, and Control.

The AS-Schneider Group with its headquarters in Germany is one of the World’s Leading Manufacturers of Instrumentation Valves and Manifolds. AS-Schneider offers a large variety of Valves and Manifolds as well as numerous accessories needed for the instrumentation installations globally.

In this catalogue you will find C13ST Manifolds for Yokogawa’s DP Harp EJX Series and EJA Series Transmitters for Differential Pressure, Gauge and Absolute Pressure Applications and the relevant Installation Accessories.

Continuous product development may from time to time necessitate changes in the details contained in this catalogue. AS-Schneider and Yokogawa reserve the right to make such changes at their discretion and without prior notice.

All dimensions shown in this catalogue are approximate and subject to change.
Body Material Options

<table>
<thead>
<tr>
<th>Material Group</th>
<th>AS Material Designation</th>
<th>Material No.</th>
<th>Short Name</th>
<th>Equivalent UNS-No.</th>
<th>Material Grade acc. to ASTM</th>
<th>acc. to JIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austenitic Stainless Steel</td>
<td>316 quadruple certified*</td>
<td>1.4401</td>
<td>X5CrNiMo17-12-2</td>
<td>S31600</td>
<td>316 SUS316</td>
<td></td>
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<td></td>
<td></td>
<td>1.4404</td>
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<td>S31603</td>
<td>316L SUS316L</td>
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<td>Austenitic-Ferritic Stainless Steel</td>
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<td></td>
<td>1.4410</td>
<td>X2CrNiMoN25.7.4</td>
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<td>F53</td>
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<tr>
<td>Nickel Based Alloys</td>
<td>Alloy 400</td>
<td>2.4360</td>
<td>NiCu30Fe</td>
<td>N04400</td>
<td></td>
<td>NW4400</td>
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<tr>
<td></td>
<td>Alloy C-276</td>
<td>2.4819</td>
<td>NiMo 16 Cr 15 W</td>
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<td>NW0276</td>
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<tr>
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<td>Alloy 625</td>
<td>2.4856</td>
<td>NiCr22Mo9Nb</td>
<td>N06625</td>
<td></td>
<td>NCF 625</td>
</tr>
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</table>

* Quadruple certified means 316 / 316L / 1.4401 / 1.4404

Standard Features

- Bore Size 5 mm
- Manifolds are not supplied with plugs unless specified.
- Anti-Tamper Head Unit Options see Page 6.

Needle Seal:
PTFE and Graphite Packings are available for all valve types. When Graphite Packing is selected, material of Flange Seal and Tape for Tapered Pipe Threads is also Graphite (when applicable).

Sour Gas Service:
Wetted Parts according to a.m. material list are supplied as standard according to NACE MR0175/MR0103 and ISO 15156 (latest issue).

Pressure Test:
A Shell Test and a Seat Leakage Test are performed at 1.5 times the max. allowable (working) pressure acc. to EN 12266-1 - P10, P11 and P12 respectively MSS-SP61 at every Standard Manifold → 100% Pressure Tested!

Certification:
Inspection Certificate 3.1 acc. to EN 10 204 for valve body material and pressure test available as standard.

The manifolds can be provided upon request with a
• CRN Certificate
• EAC Certificate – Manifolds are marked with EAC

PMI Test on request. Test points are one each on body and valve bonnet. A combined certificate for each order is provided listing the chemical analysis for each manifold.

Graphite packed manifolds are Fire Safe Tested and Certified as standard.

Optional Features

Fugitive Emission Application:
For Fugitive Emission Applications AS-Schneider is providing ISO 15848 and TA-Luft Solutions. For more details see Pages 5.

Oxygen Service:
An option with Reinforced PTFE Packing is offered duly cleaned and lubricated for Oxygen Service:

Pressure-Temperature Rating:
Max. 420 bar (6,092 psi) @ 60°C (140°F)
Max. 200°C (392°F) @ 90 bar (1,305 psi)

Not every Valve Type is available for Oxygen Service!

Stainless Steel 316 Bolts:
Manifold mounting bolts are supplied in Carbon Steel as Standard. SS316 Bolts are available as an option.

Stainless Steel 660 D Bolts:
When NACE Compliant Bolting is required please use Bolting Option N2 or N4 → ASTM A453 Gr. 660 Class D.

If you don’t find your options in this catalogue please contact Yokogawa.

Low-temperature Limits:
- Standard Valves with PTFE and Graphite Packing: -40°C (-40°F)
- Valves with PTFE Packing and Arctic Operations Option, Option Code L [ ]: -55°C (-67°F)

Packaging 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.
Standard Valve Head Units

Standard Bonnet Design

**T Handle**
Ergonomic Handle Design.
Operating options are Anti-Tamper features or a Stainless Steel Handwheel.

**Valve Stem**
Stem with cold rolled threads for high strength and smooth operation.

**Needle Seal**
Standard: PTFE or Graphite Packing

**Needle**
Non-rotating Needle for smooth operation and minimum wear of sealing elements.

**Back Seat**
Metal to Metal secondary needle seal and therefore the needle is anti-blowout / non-removable – For your safety.

**Needle Tip**
Choices of Needle Tip Materials, same as body material.

**Valve Seat**
Metal seated (integral type).

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Color Coded Dust Cap

For operating thread protection:
- **Isolate**
- **Vent/Test**
- **Equalize**

Color Coded Options

Following options are also color coded below dust cap:
- **Oxygen Service**
- **Graphite Packing**
- **TA-Luft Option**

**Lock Pin**
Eliminates unauthorized removal of the bonnet assembly.

**Bonnet**
Metal to Metal Seal to Valve Body.

**Traceability of Materials**

All Manifolds have material traceability. A unique code is stamped on all valve bodies linking them with their material and chemical analysis certificates.

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Flow Data

Needle Valves Standard Head Unit – Bore Size 5 mm

Materials of Construction

<table>
<thead>
<tr>
<th>Components</th>
<th>Stainless Steel</th>
<th>Exotic Alloys</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Material / Material No.</td>
<td></td>
</tr>
<tr>
<td><strong>Body</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bonnet</strong></td>
<td>S316 / 316L</td>
<td>Alloy 400</td>
</tr>
<tr>
<td><strong>Needle</strong></td>
<td></td>
<td>Alloy C-276</td>
</tr>
<tr>
<td><strong>Pipe Plug</strong></td>
<td></td>
<td>Duplex S31803</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Super Duplex S32750</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alloy 625</td>
</tr>
<tr>
<td><strong>Valve Stem</strong></td>
<td>316 / 316L</td>
<td></td>
</tr>
<tr>
<td><strong>Gland</strong></td>
<td>316</td>
<td></td>
</tr>
<tr>
<td><strong>Packing</strong></td>
<td>PTFE or Graphite</td>
<td></td>
</tr>
<tr>
<td><strong>Stem Nut</strong></td>
<td>316</td>
<td></td>
</tr>
<tr>
<td><strong>Lock Nut</strong></td>
<td>316</td>
<td></td>
</tr>
<tr>
<td><strong>Set Screw</strong></td>
<td>316</td>
<td></td>
</tr>
<tr>
<td><strong>T Handle</strong></td>
<td>316</td>
<td></td>
</tr>
<tr>
<td><strong>Lock Pin</strong></td>
<td>A4 (316)</td>
<td></td>
</tr>
</tbody>
</table>

Wetted components listed in bold.
Standard Needle Valves

**Screwed Bonnet** – Stem Seal: Packing

**Features**
- Lock Pin – Eliminates unauthorized removal of the bonnet
- Standard Packing in PTFE and Graphite available
- Max. allowable (Working) Pressures (PS):
  - Block & Bleed Manifolds for In-Line Mount Transmitters
    - 689 bar (10,000 psi) – For PTFE Packing
    - 500 bar (7,252 psi) – For Graphite Packing
  - Direct Mount Manifolds acc. to IEC 61518
    - 420 bar (6,092 psi)
  - Direct Mount Manifolds with Flange Connection for High Pressure Type MWP 500 bar (7,252 psi)

**Standard Features applicable for all illustrated valve types:**
- Integral Valve Seat – Metal to Metal Seated
- Non-rotating Needle
- External Stem Thread – Packing below stem threads. Stem Threads are protected from process media (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 Head Options available
- All non-wetted parts in 316 stainless steel

Needle Valves according ASME B31.1 (Power Piping)

**Screwed Bonnet** – Stem Seal: Graphite Packing

Meet the requirements of ASME B31.1 (Power Piping).
Max. allowable (Working) Pressure (PS): 500 bar (7,252 psi)
A Locking Plate eliminates an unauthorized removal of the bonnet.

→ Standard Features see above table with a grey colored background.

Needle Valves acc. to ISO 15848

**Screwed Bonnet** – Type 1 O-Ring Stem Seal + Graphite Packing
Type 3 PTFE Packing

**Features**
- Max. allowable (Working) Pressure (PS): 420 bar (6,092 psi)
- Lock Pin – Eliminates unauthorized removal of the bonnet
- FKM O-Ring Needle Seal – RGD (Rapid Gas Decompression) resistant
- PTFE or Graphite Packing
- Types also comply with the requirements of TA-Luft 2002

→ Standard Features see above table with a grey colored background.

ISO FE Performance Data

ISO FE Type 1:
Class A 1,500 cycles / –29°C to 40°C
Class A 500 cycles / –29°C to 200°C

ISO FE Type 3:
Class B 1,500 cycles / –29°C to 200°C

ISO FE Type 3:
Class B 1,500 cycles / –29°C to 200°C

Class B 1,500 cycles / –29°C to 200°C
(–20°F to 392°F)
Valve Head Unit Options

Needle Valves according to TA-Luft

The German TA-Luft (Technical Guidelines for Air Pollution Control) gives guidelines for compliance with permissible leak rates. The TA-Luft requirement is considered to be complied with if bellows sealed head units with a safety packing or similar sealing systems are used; whereby the equivalence in the verification system must be confirmed in accordance with VDI 2440.

Features
- Max. allowable (Working) Pressure (PS): 420 bar (6,092 psi)
- Cup & Cone Packing (Reinforced PTFE) – TA-Luft Option
- Lock Pin – Eliminates unauthorized removal of the bonnet

→ Standard Features see table with the grey colored background on Page 5.

Anti-Tamper Valve Head Unit Options

Two types of Anti-Tamper Valve Head Units are offered, both types are lockable with a padlock (not supplied with manifold). Please refer to Page 19 for detail of Ordering Information.

Standard Anti-Tamper Head Unit

The valves are operated with a special Anti-Tamper Key (AT-Key), which fits exactly in the key guide. The valve can therefore only be operated with the AT-Key. In addition to this safety function, installing a padlock prevents the AT-Key being inserted into the key guide. Operating the valve is therefore no longer possible which protects your equipment against unauthorized opening and closing of the valve head units. The valve can be locked reliably in every position required.

Stainless Steel Handwheel and ‘Locking Plate’ Design

The valves can be ordered optional with Stainless Steel Handwheel (Option Code H) and also with an additional fitted locking plate (Option Code L). This design allows minimum handle movements and is ideal as protection against unauthorised closing of the valve.
Flange Connections

Flange Connection according to IEC 61518

According to IEC 61518 the manifold-transmitter interface is applicable for a max. allowable (Working) Pressure (PS) of 413 bar*3 (6,000 psi) and a max. allowable Temperature (TS) of 120°C (248°F) for liquids, gas or vapors. The max. allowable Temperature (TS) of 120°C (248°F) is considering the requirement that manifolds and transmitters need to be protected against heating by hot media. This can be achieved by using adequate hook-ups or by instrument impulse lines with sufficient length. However the Manifolds are suitable for temperatures up to 550°C (1,022°F), PTFE up to 232°C (450°F), Graphite up to 550°C (1,022°F).

Manifold Connection acc. to IEC 61518 Type B

<table>
<thead>
<tr>
<th>Connection at the manifold acc. to IEC 61518 Type B</th>
<th>Flange Connection for High Pressure Type*4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. allowable (Working) Pressure (PS) in bar (psi)</td>
<td>413 (6,000)*3</td>
</tr>
<tr>
<td>Temperature Range in °C (°F)</td>
<td>-10 to +80 (14 to 176)</td>
</tr>
<tr>
<td>-40 to +120 (-40 to 248)</td>
<td></td>
</tr>
<tr>
<td>Seal Ring*2 Material: Flat Ring 25.4 x 20 x 2.7</td>
<td>Flat Ring 25.4 x 20.9 x 2.9 Material: Graphite</td>
</tr>
<tr>
<td>Min. Thread Engagement in mm</td>
<td>9</td>
</tr>
</tbody>
</table>

*1 IEC 61518 I Mating dimensions between pressure measuring instruments and flanged-on shut-off devices up to 413 bar (6,000 psi).
*2 Materials and temperature limits for the flat rings and the O-Rings are for reference only. It is the responsibility of the user to ensure compatibility between the selected gasket ring material and the process requirements, such as pressure, temperature, and chemical compatibility.
*3 IEC 61518 is stating 413 bar (6,000 psi), AS-Schneider however confirms 420 bar (6,092 psi).
*4 For Transmitter Model EJ [] 440 and EJ [] 130 with MWP ≥ 320 bar to ≤ 500 bar.

Flange Connection for High Pressure Type MWP 500 bar*4

A Yokogawa proprietary flange connection for High Pressure Transmitters is also available optionally.
**Connections**

**Manifold-to-Transmitter and Process Connector-to-Manifold Assembly**

**1 Direct Mount Manifolds are supplied as standard with Carbon Steel Bolts and PTFE Seal Rings**:

- **Wafer Style**
  - 2 Valve Manifolds: 2 Bolts, 1 Seal Ring
  - 3 & 5 Valve Manifolds: 4 Bolts, 2 Seal Rings
    - Bolt Length 1.75"

- **T-Style and H-Style**
  - 2 Valve Manifolds: 4 Bolts, 4 Washers, 1 Seal Ring
  - 3 & 5 Valve Manifolds: 4 Bolts, 4 Washers, 2 Seal Rings
    - Bolt Length 1"

* Reinforced PTFE Seal Rings for High Pressure Type Manifolds

**2 Process Connector Option for H-Style Manifolds supplied as standard with Carbon Steel Bolts and PTFE Seal Rings**:

- 2 Valve Manifolds: 2 Bolts, 1 Seal Ring
- 3 & 5 Valve Manifolds: 4 Bolts, 2 Seal Rings
  - Bolt Length 1.5"

**Connection Size of Process Connector**: 1/2 NPT Female

**3 Process Connector Option for High Pressure Type H-Style Manifolds**:

Seal Ring Material depends on maximum working pressure of pressure Transmitter – could be either Fluorinated rubber or Reinforced PTFE.

**Process Connector incl. bolts and flange seal for High Pressure Type are in the scope of supply by default and are not available as accessory.**

**Hex Bolt Material used**:

- Carbon Steel: According to ASTM A449 – Type 1.
- 316 Stainless Steel: According to ASTM A193 B8M Class 2.
- NACE Compliant Bolting: According to ASTM A453 Gr. 660 Class D.

<table>
<thead>
<tr>
<th>Connection</th>
<th>Bolt Installation Torque Values</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial Torque Value</td>
</tr>
<tr>
<td>IEC 61518</td>
<td>300 in.lb. (34 Nm)</td>
</tr>
<tr>
<td>Flange Connection for High Pressure Type</td>
<td></td>
</tr>
</tbody>
</table>

**Bolt Installation Instructions**:

1. Finger-tighten the bolts.
2. Torque the bolts to the initial torque value using a crossing pattern.
3. Torque the bolts to the final torque value using the same crossing pattern.
Block & Bleed Manifolds for In-Line Mount
Absolute & Gauge Pressure Transmitters with Male or Female NPT Process Connection

**Block & Bleed Manifolds (2 Valve Manifold)**

Block & Bleed Manifolds are designed for In-Line Mount Absolute & Gauge Pressure Transmitters with Male or Female NPT Process Connection. The standard vent connection is 1/4 NPT female. Pipe Plugs are not supplied as standard. For Plugged Vent Ports (factory installed) and other Options see Pages 21 - 23 – Ordering Information.

Accessories like Mounting Brackets, Vent Valves, and Pipe Plugs etc. see also Pages 18 and 20.

### Applicable for In-Line Mount DPharp Absolute & Gauge Pressure Transmitters

<table>
<thead>
<tr>
<th>DPharp Pressure Transmitter Model</th>
<th>Application</th>
<th>Max. allowable (Working) Pressure (PS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MPa</td>
</tr>
<tr>
<td>EJX Series</td>
<td>EJX510A</td>
<td>50</td>
</tr>
<tr>
<td>EJX Series</td>
<td>EJX610A</td>
<td>70</td>
</tr>
<tr>
<td>EJA Series</td>
<td>EJA510E</td>
<td>50</td>
</tr>
<tr>
<td>EJX Series</td>
<td>EJX530A</td>
<td>50</td>
</tr>
<tr>
<td>EJX Series</td>
<td>EJX630A</td>
<td>70</td>
</tr>
<tr>
<td>EJA Series</td>
<td>EJA530E</td>
<td>50</td>
</tr>
</tbody>
</table>

**Block & Bleed Manifolds – Female Threaded Instrument Connection**

**Connection Type D**  
1/2 NPT Female Process x 1/2 NPT Female Instrument

**Connection Type E**  
1/2 NPT Male Process x 1/2 NPT Female Instrument

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**Example for a Typical Installation**
Direct Mount Manifolds
Differential Pressure and Pressure Transmitters with Flanged Body

Direct Mount Manifolds (2, 3 and 5 Valve Manifolds)

Direct Mount Manifolds are designed for direct mounting to Differential Pressure and Pressure Transmitters with Standard Flange Connection in accordance with IEC 61518. A Yokogawa proprietary flange connection for High Pressure Transmitters EJX440 is also available optionally on the 2 valve manifolds as well as for the High Pressure Transmitters EJX130 on the 3 & 5 Valve Manifolds, but only in Stainless Steel 316. The standard vent connection is 1/4 NPT female. Pipe Plugs are not supplied as standard. For Plugged Vent Ports (factory installed) and other Options see Pages 21 - 23 – Ordering Information.

3 Valve Manifolds are as standard without vent/purge connections.

Following Body Styles are offered:
- **Wafer Style Manifolds & T- Style Manifolds** – Both Manifolds 1/2 NPT Female x Flange
- **H-Style Manifolds** – Flange x Flange

Accessories like Mounting Brackets, Vent Valves, and Pipe Plugs etc. see also Pages 18 - 20.

Direct Mount 2 Valve Manifolds for
DPharp Absolute & Gauge Pressure Transmitters

**Applicable for Direct Mount DPharp Absolute &
Gauge Pressure Transmitters**

<table>
<thead>
<tr>
<th>DPharp Pressure Transmitter Model</th>
<th>Application</th>
<th>Max. allowable (Working) Pressure (PS)</th>
<th>MPa</th>
<th>bar</th>
<th>psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJX Series EJX310A</td>
<td>Absolute Pressure</td>
<td>16</td>
<td>160</td>
<td>2,300</td>
<td></td>
</tr>
<tr>
<td>EJA Series EJA310E</td>
<td></td>
<td></td>
<td>160</td>
<td>2,300</td>
<td></td>
</tr>
<tr>
<td>EJX Series EJX430A</td>
<td>Gauge Pressure</td>
<td>16</td>
<td>160</td>
<td>2,300</td>
<td></td>
</tr>
<tr>
<td>EJA Series EJA430E</td>
<td></td>
<td></td>
<td>160</td>
<td>2,300</td>
<td></td>
</tr>
<tr>
<td>EJX Series EJX440A</td>
<td>High Gauge</td>
<td>50</td>
<td>500</td>
<td>7,200</td>
<td></td>
</tr>
<tr>
<td>EJA Series EJA440E</td>
<td></td>
<td></td>
<td>500</td>
<td>7,200</td>
<td></td>
</tr>
</tbody>
</table>

**Wafer Style 2 Valve Manifolds – Vent Ports on Bottom Face**
1/2 NPT Female x Flanged
This type is basically used for Horizontal Impulse Piping Installations

Isolate Valve as standard on left side (for transmitters with High Pressure on left side)

Isolate Valve optional on right side (for transmitters with High Pressure on right side)

* For High Pressure Type C13ST-2WSY please add 5 mm (0.20")
Direct Mount Manifolds

Wafer Style 2 Valve Manifolds - Vent Ports on Process Side
1/2 NPT Female x Flanged
For direct mounting to Bottom Connection Type Transmitters and for Vertical Impulse Piping Installations

* For High Pressure Type C13ST-2BSY please add 10 mm (0.40")

Example for a Horizontal and Vertical Impulse Piping Installation

Example for a Bottom Connection Type Transmitter
Direct Mount 2 Valve Manifolds

T-Style 2 Valve Manifolds
1/2 NPT Female x Flanged

H-Style 2 Valve Manifolds
Flanged x Flanged

* For High Pressure Type C13ST-2TSY Resp. C13ST-2HSW please add 5 mm (0.20"")

Examples for
Horizontal and Vertical Impulse Piping Installations
**Direct Mount 3 Valve Manifolds**

3 Valve Manifolds applicable for Direct Mount DPharp Differential Pressure Transmitters

<table>
<thead>
<tr>
<th>DPharp Pressure Transmitter Model</th>
<th>Application</th>
<th>Max. allowable (Working) Pressure (PS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJX Series EJX110A</td>
<td>Differential Pressure</td>
<td>25 MPa, 250 bar, 3,600 psi</td>
</tr>
<tr>
<td>EJA Series EJA110E</td>
<td>Differential Pressure</td>
<td>16 MPa, 160 bar, 2,300 psi</td>
</tr>
<tr>
<td>EJX Series EJX120A</td>
<td>Draft Range</td>
<td>0.05 MPa, 0.5 bar, 7.25 psi</td>
</tr>
<tr>
<td>EJA Series EJA120E</td>
<td>Draft Range</td>
<td>0.05 MPa, 0.5 bar, 7.25 psi</td>
</tr>
<tr>
<td>EJX Series EJX130A</td>
<td>Differential Pressure (High Static)</td>
<td>32 MPa, 320 bar, 4,500 psi</td>
</tr>
<tr>
<td>EJA Series EJA130E</td>
<td>Differential Pressure (High Static)</td>
<td>32 MPa, 320 bar, 4,500 psi</td>
</tr>
<tr>
<td>EJX Series EJX910A</td>
<td>Multivariable Transmitter</td>
<td>25 MPa, 250 bar, 3,600 psi</td>
</tr>
<tr>
<td>EJX Series EJX930A</td>
<td>Multivariable Transmitter</td>
<td>32 MPa, 320 bar, 4,500 psi</td>
</tr>
</tbody>
</table>

**Wafer Style 3 Valve Manifolds**
1/2 NPT Female x Flanged

* For High Pressure Type C13ST-3WSY please add 5mm (0.20")
** For High Pressure Type C13ST-3WSY please add 10 mm (0.40")

Example for a Horizontal and Vertical Impulse Piping Installation

Example for a Bottom Connection Type Transmitter

Mounting Bracket C13SA-MDPS0 could also be used.
Direct Mount 3 Valve Manifolds

T-Style 3 Valve Manifolds
1/2 NPT Female x Flanged

H-Style 3 Valve Manifolds
Flanged x Flanged

* For High Pressure Type C13ST-3TSY resp. C13ST-3HSW please add 5 mm (0.20”)
** For High Pressure Type C13ST-3TSY resp. C13ST-3HSW please add 10 mm (0.40”)

Examples for
Horizontal and Vertical Impulse Piping Installations
Direct Mount 5 Valve Manifolds

Direct Mount 5 Valve Manifolds for DPharp Differential Pressure Transmitters

5 Valve Manifolds applicable for Direct Mount DPharp Differential Pressure Transmitters

<table>
<thead>
<tr>
<th>DPharp Pressure Transmitter Model</th>
<th>Application</th>
<th>Max. allowable (Working) Pressure (PS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MPa</td>
</tr>
<tr>
<td>EJX Series EJX110A</td>
<td>Differential Pressure</td>
<td>25</td>
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<tr>
<td>EJA Series EJA110E</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>EJX Series EJX120A</td>
<td>Draft Range</td>
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Wafer Style 5 Valve Manifolds - Vent Ports on Bottom Face
1/2 NPT Female x Flanged
This type is basically used for Horizontal Impulse Piping Installations

* For High Pressure Type C13ST-5WSY please add 5 mm (0.20")
** For High Pressure Type C13ST-5WSY please add 10 mm (0.40")
Direct Mount 5 Valve Manifolds

Wafer Style 5 Valve Manifolds - Vent Ports on Process Side
1/2 NPT Female x Flanged
For direct mounting to Bottom Connection Type Transmitters and for Vertical Impulse Piping Installations

Example for a Horizontal and Vertical Impulse Piping Installation

Example for a Bottom Connection Type Transmitter Installation

* For High Pressure Type C13ST-5BSY please add 5 mm (0.20")
** For High Pressure Type C13ST-5BSY please add 16 mm (0.63")

Mounting Bracket C13SA-MUP50 could also be used.
Direct Mount 5 Valve Manifolds

**T-Style 5 Valve Manifolds**
1/2 NPT Female x Flanged

**H-Style 5 Valve Manifolds**
Flanged x Flanged

* For High Pressure Type C13ST-5TSY resp. C13ST-5HSW please add 5 mm (0.20")
** For High Pressure Type C13ST-5TSY resp. C13ST-5HSW please add 10 mm (0.40")

Examples for Horizontal and Vertical Impulse Piping Installations
Additional Features

Mounting Bracket Kit for Block & Bleed Manifolds, C13SA-MSPS0

Mounting Bracket Kit for Direct Mount Manifolds – Wafer & T-Style Bodies, C13SA-MUPS0
Mounting Bracket Kit for Direct Mount Wafer Style Manifolds and Bottom Connection Type Transmitter, C13SA-MDPS0

Mounting Bracket Kit for Direct Mount Manifolds – H-Style Bodies, C13SA-MUPSH

Additional Features

Spacer
Mounting Bracket Kits for Sunshade Installation Applications, C13SA-MKPS0 / C13SA-MKPS1

Additional Features / Accessories

Mounting Bracket Kits for Sunshade Installation Applications are available in 2 different lengths:

Mounting Bracket Kits for Standard Pressure Transmitters
C13SA-MKPS0
L = 284mm (11.81”)

Mounting Bracket Kits for High Pressure Transmitters EJ130, EJ1440,
C13SA-MKPS1
L = 329mm (12.95”)

Note:
The Sunshades are not in the scope of supply.

Accessories
(see also Pages 21 - 23 – Ordering Information)

1/4 NPT Pipe Plugs and Vent Valves

Pipe Plug  Vent Valve

Process Connector for H-Style Manifolds only:
Flange Connection acc. to IEC 61518 Type B x 1/2 NPT Female
(Not applicable to Connection Type Code W.)

Process Connector and Mounting Kit added separately.
## Model Suffix Codes

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</tr>
<tr>
<td></td>
<td>-5</td>
<td>5 Valve</td>
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<td>W</td>
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<td>B</td>
<td>Wafer Style - Vent Ports on Process Side</td>
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<td>T-Style</td>
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<td>Duplex S31803</td>
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<td></td>
<td>W</td>
<td>Super Duplex S32750</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>Alloy 625</td>
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</tbody>
</table>

### Body Type & Material

- **-2**.............. 2 Valve
- **-3**.............. 3 Valve
- **-5**.............. 5 Valve
- **W**.............. Wafer Style - Vent Ports on Bottom Face
- **B**.............. Wafer Style - Vent Ports on Process Side
- **T**.............. T-Style
- **H**.............. H-Style
- **G**.............. Block & Bleed Manifold
- **S**.............. SS 316/316L
- **H**.............. Alloy C-276
- **M**.............. Alloy 400
- **E**.............. Duplex S31803
- **W**.............. Super Duplex S32750
- **C**.............. Alloy 625

### Connection Types

#### For Wafer & T-Style Body
- **A**.............. 1/2 NPT Female
- **Y**.............. 1/2 NPT Female

#### For H-Style Body
- **B**.............. Flange Connection IEC 61518
- **W**.............. Flange Connection PCHP

#### For Block & Bleed Manifold
- **C**.............. 1/2 NPT Female
- **D**.............. 1/2 NPT Female
- **E**.............. 1/2 NPT Male

### Installation

- **0**.............. Always '0' for 3 Valve and 5 Valve
- **1**.............. Left Side High Pressure (for 2 Valve Manifold, except C13ST-2B)
- **2**.............. Right Side High Pressure (for 2 Valve Manifold, except C13ST-2B)
- **B**.............. Always 'B' for 2 Valve Manifold, C13ST-2B
- **T**.............. Always 'T' for Block & Bleed Manifold

### Bolting

- **-S2**........... For 2 Valve, Wafer Style (2 Bolts), SS 316
- **-S4**........... For Other Styles (4 Bolts), SS 316
- **-N2**........... For 2 Valve, Wafer Style (2 Bolts), ASTM A453 Grade 660, Class D
- **-N4**........... For Other Styles (4 Bolts), ASTM A453 Grade 660, Class D
- **-NN**........... Carbon Steel Bolts as Standard (always 'NN' – None for Block & Bleed Manifold)

### Bonnet Options

- **PTFE Packing**
  - **-G2**........... For 2 Valve
  - **-G3**........... For 3 Valve
  - **-G5**........... For 5 Valve
  - **-N2**........... For 2 Valve, Wafer Style (2 Bolts), SS 316
  - **-N4**........... For Other Styles (4 Bolts), SS 316
  - **-NN**........... Carbon Steel Bolts as Standard (always 'NN' – None for Block & Bleed Manifold)

### Additional Features

- **Power Piping ASME B31.1 - Graphite Packing, MWP 500 bar**
  - **-P2**........... For 2 Valve
  - **-P3**........... For 3 Valve
  - **-P5**........... For 5 Valve
- **ISO FE Type 1 - Graphite Packing + O-Ring Stem Seal, MWP 420 bar**
  - **-D2**........... For 2 Valve
  - **-D3**........... For 3 Valve
  - **-D5**........... For 5 Valve
- **ISO FE Type 3 - Reinforced PTFE Packing, MWP 420 bar**
  - **-E2**........... For 2 Valve
  - **-E3**........... For 3 Valve
  - **-E5**........... For 5 Valve
- **TA-Luft - Reinforced PTFE Packing, MWP 420 bar**
  - **-W2**........... For 2 Valve
  - **-W3**........... For 3 Valve
  - **-W5**........... For 5 Valve
- **Arctic Operations -55°C (-67°F) – PTFE Packing**
  - **-L2**........... For 2 Valve
  - **-L3**........... For 3 Valve
  - **-L5**........... For 5 Valve

---

* For Transmitters with MWP ≥ 320 bar to ≤ 500 bar and Body Material SS 316 / 316L only. Definition of MCHP- / PCHP-Style see Page 7.
## Ordering Information

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<thead>
<tr>
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<td>Pipe Plug</td>
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<td>E</td>
<td>Duplex S31803</td>
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<td>W</td>
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<tr>
<td></td>
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<td>For 1 Port, 2 Valve</td>
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<td>For 2 Ports, 5 Valve</td>
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### Additional Features

#### Pipe Plugs / Vent Plugs

| Cleaning for Oxygen Service –  
For Manifolds with PTFE Packing only -  
Bonnet Option Code -NN or -L[], MWP 420 bar |
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#### Valve Operator

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### Example for building up the Part No. of a 5 Valve Wafer Style Manifold acc. to the above mentioned Ordering Information:

**C13ST-5WSA0-S4-NNPS2-NNNN**  
**Manifold (AS-Schneider) - Traditional Mounting**

**C13ST-5**  
5 Valve Manifold

**........ W**  
Wafer Style – Vent Ports on Bottom Face

**........ S**  
Material: SS 316/316L

**........ A**  
Process Side: 1/2NPT Female Connection, Instrument Side: Flange Connection (IEC 61518-B)  
Always '0' for 5 Valve Manifolds

**........ -S4**  
Bolting: SS 316

**.................. -NN**  
PTFE Packing as Standard

**................ PS2**  
Pipe Plugs: SS 316, installed in Vent Ports

**....................... -NN**  
Cleaning for Oxygen Service: None

**............................ NN**  
Valve Operator: Standard (T Handle)
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Products are designed and manufactured by Armaturenfabrik Franz Schneider (AS-Schneider) for Yokogawa Electric Corporation.

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