

Century Valve



Patent Pending

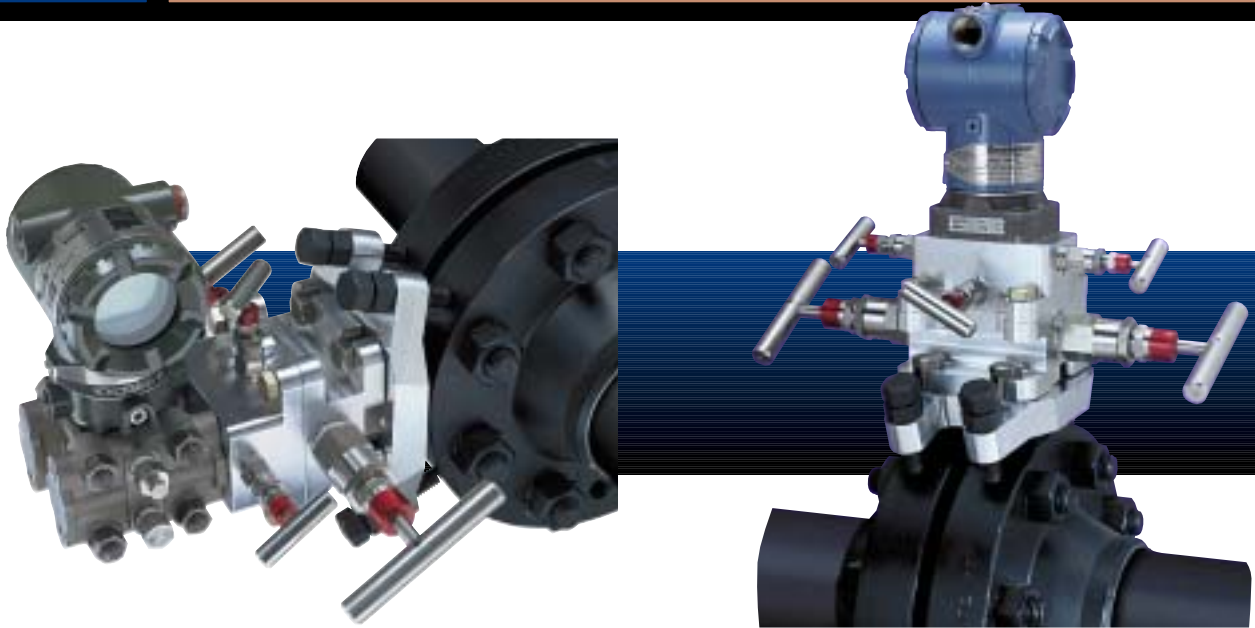
**Manifold and
Isolation Valve
Mounting System
for
Direct Mounting
DP Transmitters**

CenturyMount™

- **Substantial Cost Savings on Installation**
- **Facilitates Cost Savings on Operation and Maintenance**
- **Direct Mounting**
- **Rigid Connection and High Load Capacity**
- **No Impulse Lines or Threaded Connections**
- **No Brackets or Pipe Supports**
- **Less Weight**
- **Less Space**
- **Enhanced Transmitter Performance**
– Close Coupled Straight Through
 $\frac{3}{8}$ -inch [10 mm] Bore to Transmitter



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Introduction

The Century Valve CenturyMount™ has been developed to overcome the problems associated with traditional transmitter/manifold installations that are connected with impulse lines. Traditional remote mounted DP transmitter/manifold installations with impulse lines were first used over 40 years ago to allow technicians access to transmitters that required regular calibration and continuous maintenance. Transmitter technology has been significantly increased, and today's high performance transmitters require less maintenance, and longer periods between calibration.

Impulse lines that connect the orifice flange union to the transmitter/manifold remain a constant source of maintenance and can cause dramatic measurement errors.

Typical problems associated with impulse line installation:

- Plugging/ Blocking
- Hydrostatic Head Error
- Pulsation + Square Root Error
- Leakage of Process and Environment Hazards
- High Installation and Maintenance Costs
- Problems Associated with Pipework Routing and Space
- Bracketry and Pipe Supports for Manifold/Transmitter
- Freezing

Major chemical and gas companies have experienced measurement errors of up to 20% on poorly installed or long impulse lines.

Orifice flange isolation/block valves provide an additional source of leakage and installation issues. Many companies require that any pressure taps must have double block and bleed for high pressure or toxic process to provide guaranteed safe isolation and safety for technicians.

Due to the problems associated with impulse lines, NPT screwed connections and resulting high maintenance costs, many leading companies are mandating that DP transmitter/manifold assemblies are mounted directly onto the orifice flange, negating the use of impulse line pipe work. Installing high accuracy DP Transmitters and Manifolds at the end of long impulse lines can prove to be a false economy. Century Valve developed the CenturyMount™ to provide a compact, leak free and safe modular system with:

- Rigid connection to the orifice flange
- High performance isolation/block valve module
- Choice of instrument modules
- No impulse lines or brackets



Applications

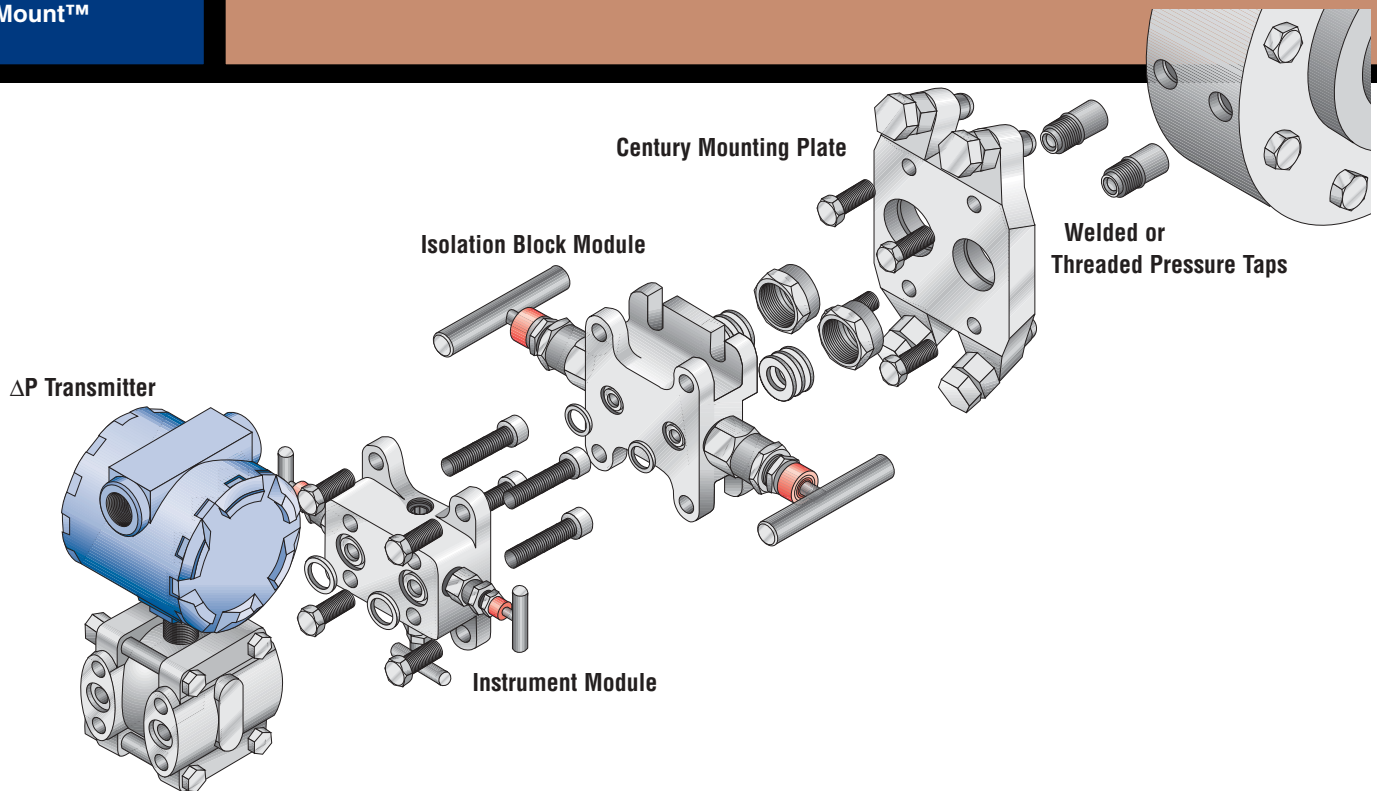
The CenturyMount™ system is designed for close coupling DP transmitters to orifice flange unions. The system can be used on DP measurement for gas, liquids and steam. The CenturyMount™ is totally self draining and can be mounted horizontally or vertically. The system features a straight-through $\frac{3}{8}$ -inch [10 mm] bore directly from the orifice taps to the transmitter sensing module which reduces pulsation induced error. Pulsation error is one of the leading causes of inaccurate transmitter measurement. The system allows mounting of traditional DP or coplanar style (Rosemount 3051) DP transmitters with a choice of 3- or 5-valve instrument manifolds for power, process or natural gas measurement.

The system does not require impulse lines, thereby considerably reducing installation and maintenance costs.

Features and Benefits

- Reduced weight and space envelope
- Close coupling compact system
 - ⇒ Rigid connection to the orifice flange, no support brackets.
- Line class isolation (block) module valves
 - $\frac{3}{8}$ -inch [10 mm] bore
 - ⇒ Provides compact replacement to bulky conventional isolation/root valves
 - ⇒ Choice of single block or double block and bleed configurations
 - ⇒ Choice of multi-turn rising stem plug valve with metal or soft seats
 - ⇒ Valves rated to ANSI 2500 - 6000 psig [414 barg] maximum
 - ⇒ Fully roddable
- Suitable for gas liquid service
 - ⇒ System mounts vertically or horizontally
 - ⇒ Fully self-draining
- All flanged connections, reducing number of potential leakage points
 - ⇒ Reduced environmental hazards and process leakage
- Constant orifice size $\frac{3}{8}$ -inch [10 mm] bore from taps to transmitter
 - ⇒ Reduction of induced pulsation and square root error
 - ⇒ Increased transmitter measurement accuracy and repeatability
- Choice of transmitter service modules
 - ⇒ Mounts single or dual transmitters (for gas measurement applications)
 - ⇒ Mounts conventional Bi-planar or Coplanar™ style transmitters
 - ⇒ Choice of 3 valve, 5 valve (gas) or 5 valve (power) pattern instrument modules
- Factory assembled complete systems
 - ⇒ Fully assembled with tag plate identification
 - ⇒ Fully pressure tested and pre-packaged
 - ⇒ 70% savings in site time and installation cost
- No impulse lines required
 - ⇒ 65% savings on maintenance and operational costs
 - ⇒ No pipe work installation or manifold bracket
 - ⇒ No pipe work routing or space problems
 - ⇒ No leakage of process causing potential environment hazards
 - ⇒ No impulse line plugging, freezing or cleaning
 - ⇒ No hydrostatic head induced transmitter error
 - ⇒ Elimination of pulsation and square root error
 - ⇒ Reduction in process loss on system depressurisation
 - ⇒ Enhanced transmitter performance and accuracy

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Product Overview

Developed by the industry leader in instrumentation valves, the CenturyMount™ represents the first compact manifold/transmitter mounting system that offers modular construction combining the following components:

- FIRESAFE
- The orifice flange taps feature 3/8-inch [10mm] bores which can be welded (optional thread) into the orifice flange unions (2.125-inch [54 mm] centers).
- Century Mounting Plate
 - Provides rigid connection to orifice flange
 - Connects isolation/block module to orifice flange taps
- Isolation Block Module, 3/8-inch [10mm] bore plug valve (metal or soft seated)
 - Flanges directly to tap connection
 - Available in either single block or double block and bleed configurations
- Instrument Module
 - Mounts directly to isolation/block module with flange connections
 - Choice of 3-valve, 5-valve power or 5-valve gas pattern styles. Integral dual instrument connections (DP and P) are available for gas measurement applications.

CenturyMount™ Configurations

Isolation/Block Modules

The CenturyMount™ isolation/block module features high performance 3/8-inch [10 mm] bore rising plug isolation valves with a choice of soft or metal seats. The block module provides primary isolation, with bubble-tight performance. The isolation/ block modules can be FIRESAFE to API 607 Addition 4 and BS6755 Part 2.

Isolation/block module is available in two configurations to suit end user preference and piping code requirements:

- SB, Single Block
 - Single isolation to both high and low pressure tap connections
- DB, Double Block and Bleed
 - Double block, with intermediate bleed to both high and low pressure tap connections
 - Bleed valves are CM2's
 - Bleed vent ports are 1/4-inch [64 mm] NPT female

Instrument Modules

The CenturyMount™ instrument module features CM2's 3/16-inch [5.0 mm] bore needle/globe valves for venting and equalize duty. Instrument modules are available in three configurations to suit end user preference and process measurement applications:

- Single Equalize
 - Single Equalize
 - 1/4-inch NPT female test connections to both high and low pressure taps
- Single Equalize With Vent Valves
 - Single equalize
 - 1/4-inch NPT female vent ports to both high and low pressure taps controlled by 2 x vent valves
- Double Equalize, Single Vent
 - Double equalize to both high and low pressure taps
 - Single 1/4-inch NPT female vent port controlled by single vent valve
 - 1/4-inch NPT female test connections to both high and low pressure taps

Optional Mounting of Dual Transmitters

Consult factory for details.

Materials

Technical Data

Standard Material Traceability

Standard material traceability to EN10204-3.1.B, 50049-3.1.b, instrument and isolation/block modules bodies only.

Valve Packings and Flange Seals

Teflon® (Standard)

Maximum pressure - 6,000 psig [414 barg]

Maximum temperature - 500°F [260°C]

GRAFOIL® (Optional)

Maximum pressure - 6,000 psig [414 barg]

Maximum temperature - 1022°F [550°C]

Function Ring Label

Each valve bonnet is identified with a colored stainless steel ring label.

Blue - Isolate

Green - Equalize

Red - Vent

Standard

SS Valve

Body — 316 SS

Bonnet — 316 SS

Stem — 316 SS

Non-Wetted Parts — Austenitic SS

SG Valve

Body — 316 SS

Bonnet — 316 SS

Stem — 316 SSL

Non-Wetted Parts — Austenitic SS

Special

For severe service, manifolds are available in the following exotic materials:

Monel® Alloy 400

Duplex S31803

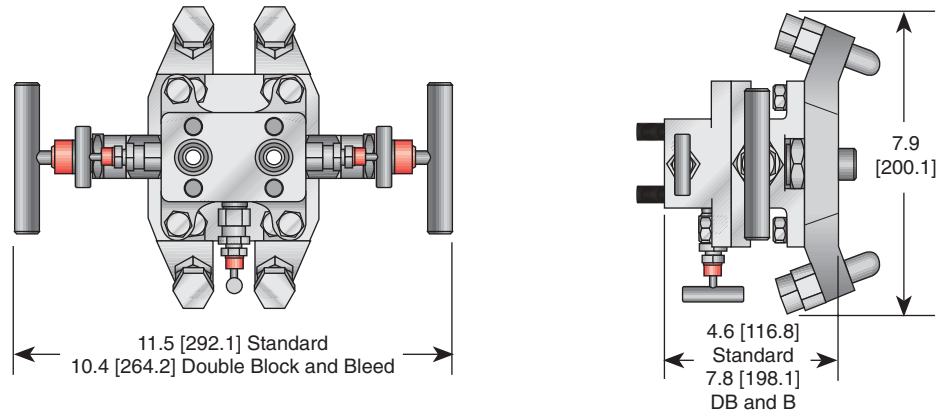
Hastelloy®00 C276

Bolting

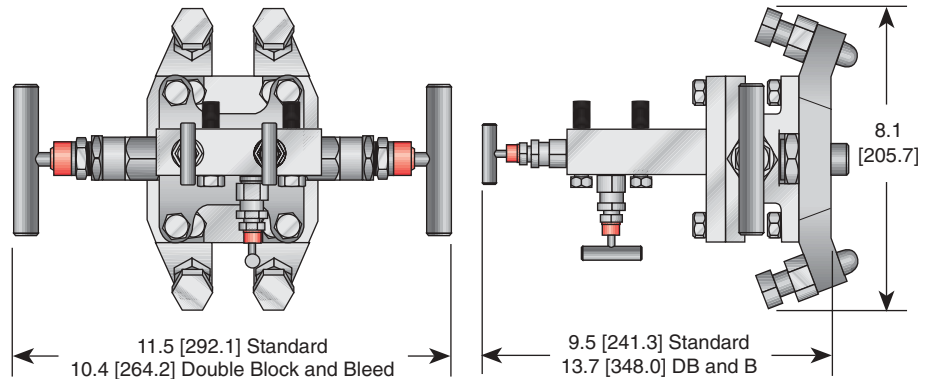
All CenturyMount™ assemblies are supplied with high tensile steel bolts as standard. Optional stainless steel bolts (B8M Class 2) are available; please specify when ordering.

Dimensions

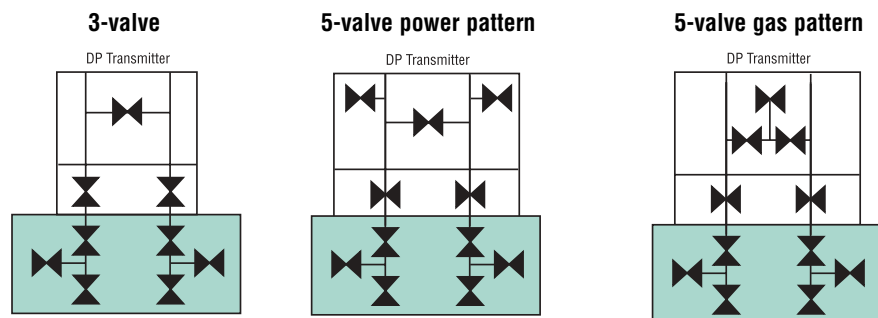
BI-Planar Model, inches [mm]



Coplanar™ Model, inches [mm]



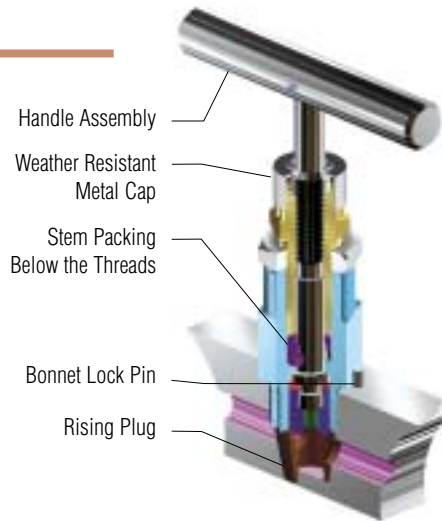
Configurations



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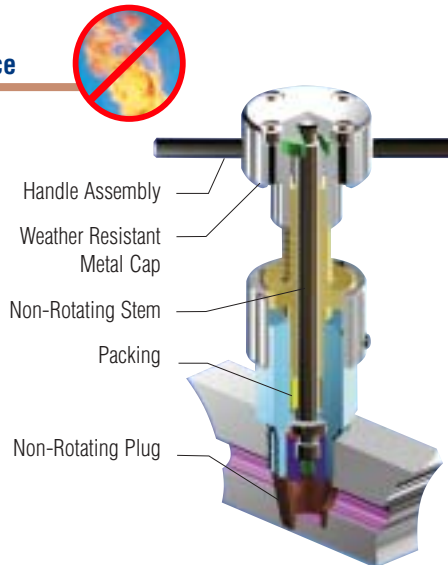
H Bonnet For Isolation Service

- Rising plug valve
- 3/8-inch [10 mm] bore
- Rotating stem and plug
- Soft or metal seats
- 6000 psig [414 barg]
- Soft seat - Delrin®, Teflon®, PEEK
- Hard seat - 316/316L SS



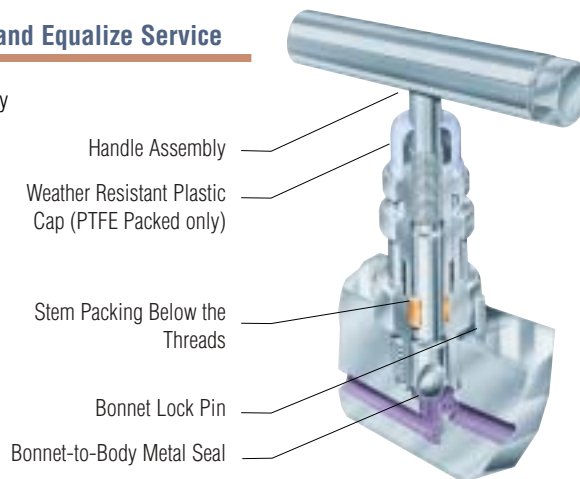
P Bonnet For FIRESAFE Service

- API 607 FIRESAFE Addition 4, BS6755 Part 2
- Rising (non-rotating stem) plug valve
- 3/8-inch [10 mm] bore
- Non-rotating stem and plug
- Soft or metal seats
- 6000 psig [414 barg]
- Soft seat - Delrin®, Teflon®, PEEK
- Hard seat - 316/316L SS



D Bonnet for Venting and Equalize Service

- Needle/globe bonnet assembly
- 0.2-inch [5.0 mm] bore
- Free swivel ball end stem
- 6000 psig [414 barg]
- -71°F to 1022°F [-57°C to 550°C]



Valve Technical Specifications

The CenturyMount™ features high performance valves for reliable bubble-tight performance.

Isolation is achieved with the 'H' series plug valve or the optional "P" (use SN or DN designation) non-rotating stem bonnet assembly for FIRESAFE service. Venting and equalizing are achieved with the CM2 needle/globe valve.

Features and Benefits

- Body to bonnet pressure seals below threads preventing process from corroding bonnet retention threads which are loaded in compression for additional strength.
- Backseat design provides secondary stem seating and prevents stem blowout.
- Adjustable gland follower allows easy access to adjust the packing gland.
- Stem threads are located above the spindle packing and are completely isolated from the process.
- Stem packing with GRAFOIL® or Teflon® for bubble-tight sealing.
- FIRESAFE to API 607 Addition 4 and BS6755 Part 2.

Notes

- 1 Teflon® and Delrin® are registered trademarks of the E.I. duPont de Nemours Company.
- 2 Monel® is a registered trademark of International Nickel Company.
- 3 Hastelloy® is a registered trademark of Haynes International.
- 4 GRAFOIL® is a registered trademark of UCAR Carbon.

Ordering Information

Century Valve
Instrumentation
Products
CenturyMount™

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CM60 A S 1 SP 1 G 1 5P T 16 NC SP

Standard Requirements

Orifice Flange Size

- A – 2 thru 12-inch
- B – 14 thru 28-inch
- C – 28-inch + or special flange

Orifice Flange Tap Connection Type



- T – Threaded 1/2-inch NPT Male
- S – Socket Weld 1/2-inch NB pipe
- SP – Other (please specify)

Orifice Tap Connection Material

- 1 – 316 SS 3 – Carbon Steel

Block Module

Block Module

- SP – Single block plug 3/8-inch orifice
- DP – Double block and bleed with plug valves 3/8-inch orifice
- SB – Single block ball valve 3/8-inch orifice
- DB – Double block and bleed with ball valves 3/8-inch orifice
- SN – Single non-rotating stem bonnet assembly API 607
FIRESAFE Addition 4 and BS6755 Part 2 
- DN – Double block and bleed non-rotating stem bonnet assembly
FIRESAFE to API 607 Addition 4 and BS6755 Part 2 

Block/Instrument Module Body Material

- 1 – 316 SS 3 – CS

Block Module Packing

- T – Teflon® G – GRAFOIL®

Block Module Seat Material

- 1 – 316 SS 15 – Peek 17 – Teflon®
- 7 – Monel® 16 – Delrin®

Instrument Module

Instrument Module

- 3 (instrument module has single equalize valve, 2 x test connections)
- 5P (instrument module has single equalize and 2 vent valves)
- 5G (instrument module has double equalize and single vent valve, 2 x test connections)
- Add "V" for vertical configuration (Horizontal Configuration Standard)

Instrument Module Packing

- T – Teflon® G – GRAFOIL®

Instrument Module Seat

- I – Integral 15 – Peek 16 – Delrin® 17 – Teflon®

Instrument Module, Transmitter Connection (Single and Dual Instrument)

- B Bi-planar (e.g., 2.125-inch transmitter[Foxboro], conventional type)
- C Coplanar™ (Rosemount 3051/3095 **with** coplanar flange - 2.125-inch connections)
- NC Coplanar™ (Rosemount 3051/3095 **without** coplanar flange - 1.3-inch connections)
- BD Bi-planar dual instrument mounting (e.g., 2.125-inch transmitter [Foxboro], conventional type DP and pressure units)
- CD Coplanar™ (dual instrument mounting **with** coplanar flange - 2.125-inch connections DP and pressure units)
- NCD Coplanar™ (dual instrument mounting **without** coplanar flanges - 1.3-inch connections DP and pressure units)

Options

- Oxygen Cleaning (OC), SS Bolting - B8M (SSR), SS Bolting - B8M CL2 (SSB), Special Requirements (SP, consult factory)



CenturyMount™

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