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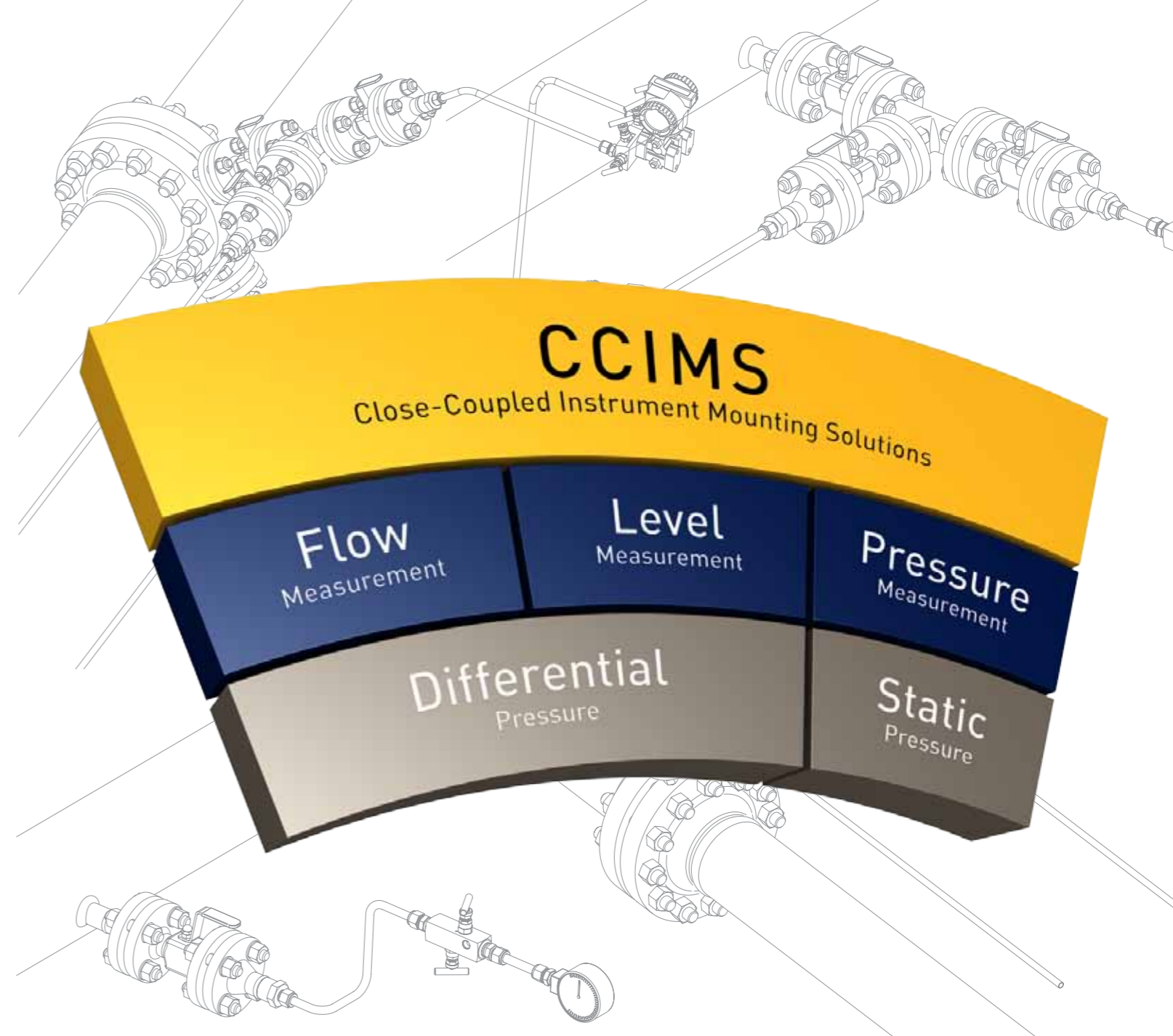
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Catalogue: CCIMS-PROMO



## CCIMS® Close-Coupled Instrument Mounting Solutions

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding

ENGINEERING YOUR SUCCESS.

# Smarter instrument mounting solutions using close-coupled techniques

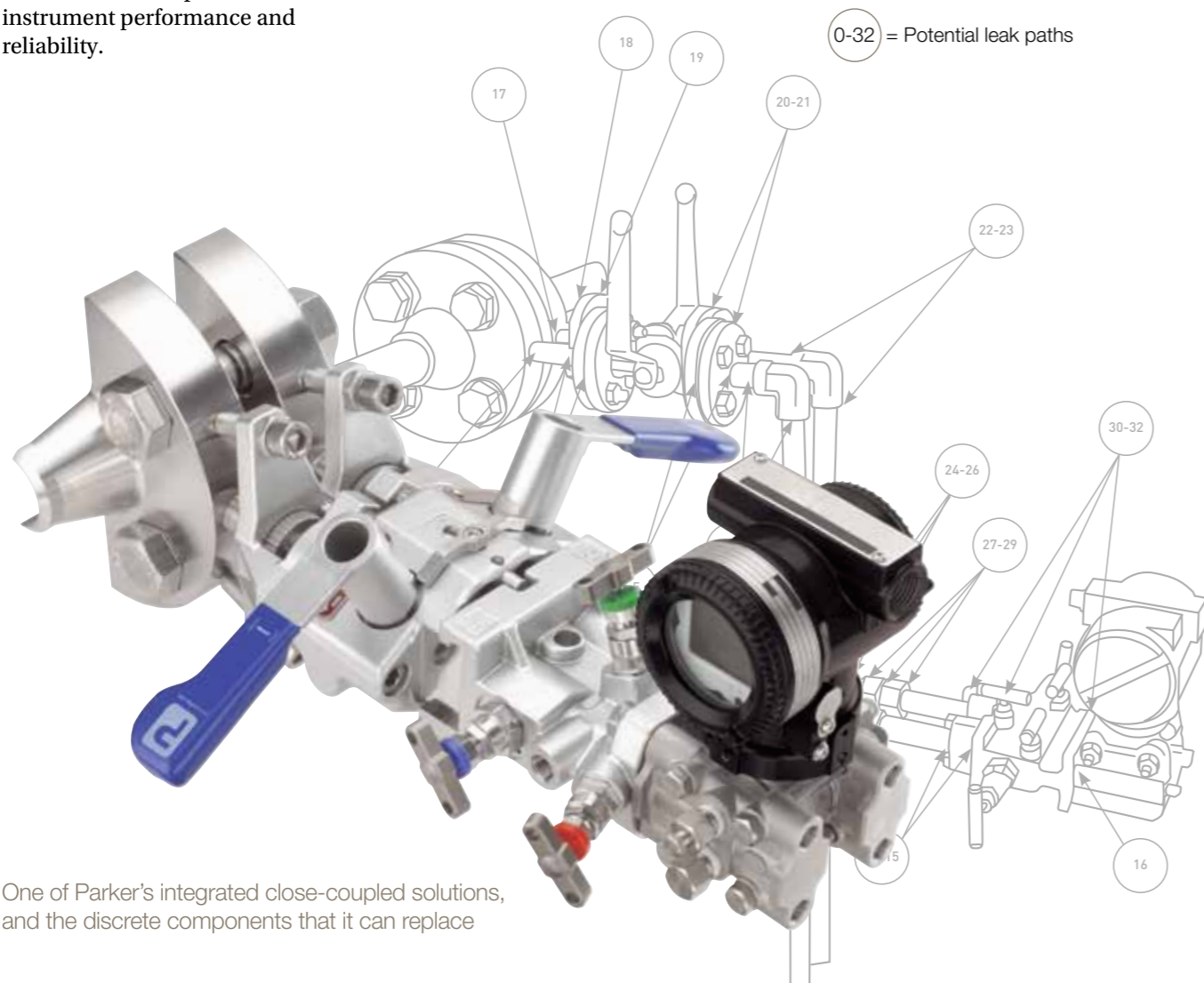
Innovations in the design of primary isolation valves and manifolds for mounting pressure instrumentation can deliver enormous advantages to both instrument and piping engineers, ranging from significantly enhanced measurement accuracy, to simpler installation and reduced maintenance.

The Instrumentation Products Division of Parker Hannifin has created a comprehensive range of manifold mounting solutions for the main types of pressure instrumentation, employing close-coupling techniques which eliminate impulse lines and connections to improve overall instrument performance and reliability.

### What is close-coupling?

There is no formal definition for close-coupling, but it has come to mean any instrument mounting system that enables a user to connect an instrument directly on to the process line, and primary isolation valve.

The overriding objective of this is to optimise the accuracy of measurement, by eliminating the long runs of tubing, and bends and joints between process pipe and instrument that can cause pressure drops, and gauge/impulse line errors.



One of Parker's integrated close-coupled solutions, and the discrete components that it can replace

# Faster installation and maintenance

Transmitter 'hook-ups' are often configured individually for each application, and can be large, heavy and difficult to install. By replacing such arrangements with purpose-designed close-coupled manifold/mounting solutions, users are able to optimise accuracy and reap a whole range of additional benefits - see Value proposition opposite.

### Value proposition

#### SMARTER

- Increased transmitter accuracy and repeatability by eliminating impulse lines
- Reduced size and weight, less stress on the process pipework
- Easy winterisation, no heat traced impulse lines to power up or freeze

#### FASTER

- Installation, and the option of transmitter assembly and testing
- Reduced maintenance, and higher instrument up time

#### SAFER

- Elimination of threaded connections

#### CLEANER

- Simpler design with less components and less leak paths
- No risk of impulse lines blocking, as impulse lines are eliminated
- Pre engineered compact design eliminates the need for impulse line field design

### A broad product range

Parker has developed a comprehensive range of close-coupled manifolds for static pressure instrumentation, and differential pressure systems for measuring flow or level. Although every product is available with NPT threaded connections, Parker additionally offers each manifold with 'A-LOK®' compression-assembly end connections, to eliminate threads and any need for thread sealants - which can be a common cause of leakage in the field.

### The CCIMS® range is described in the following pages and includes:



**1. CCIMS® Flow Measurement**  
Provides a highly-integrated solution for differential pressure measurement applications on orifice plate, venturis and carrier primary elements.



**2. CCIMS® Monoflange Static Pressure Measurement**  
Provides an integrated double-block-and-bleed manifold assembly, to directly mount flanged or threaded pressure transmitters.



**3. CCIMS® Level-flange Level Measurement**  
An integrated double block-and-bleed manifold assembly for differential pressure level measurement applications.

### Associated products include:



**4. CCIMS® Flanged to A-LOK® Connector**  
A.N.S.I flange connections can be connected to tubing systems with an integrally forged one piece adapter.

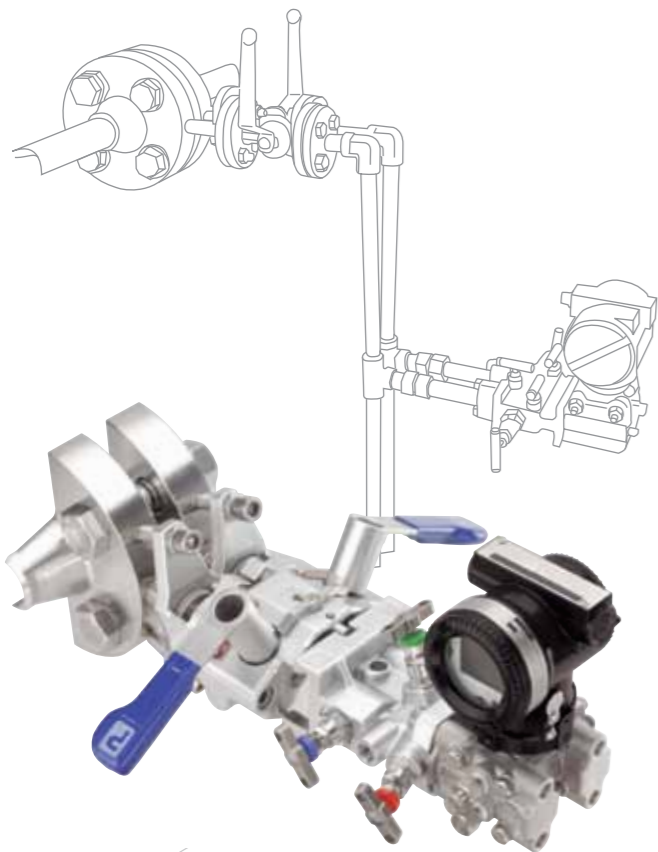


**5. Ultra Low Emissions**  
All close-coupled solutions can be supplied with Ultra Low Emissions valve technology to meet with the ISO specification 15848, to comply with leakage rates 'A' or 'B'.



**6. CCIMS® Enclosure System**  
Close-coupled solutions are much simpler to winterise, enclose and heat trace. This avoids the use of expensive insulated tubing bundles.

# Close-coupled product range



**CCIMS® Flow Measurement** is a breakthrough solution for direct-mounting differential pressure transmitters to orifice carriers and flanges in a close-coupled installation

CCIMS® combines an instrument manifold and a piping isolation valve interface giving a simplified modular means of connecting instruments.

**The CCIMS® Flow Measurement assembly comprises of:**

- Only 5 connections
- Straight through flow path
- Unique 'PhasFit' interlocked

**Reduced:**

- Installation labour time/cost - up to 75%
- Installation problems
- Plant down time, when calibrating instrument
- Problems from impulse lines (no leakage or blocking)
- Potential leak paths - up to 85%
- Cost of ownership

**Improved:**

- Safety
- Measurement accuracy
- Connection interface
- Easy interlock system
- Orifice mounting system
- Patented PEEK seal system maintains 100% leak tight seal for up to 10,000 psi (689 bar) use
- Available with Primary (Isolation) module or Secondary (Instrument) module (3 or 5 valve)

**CCIMS® Monoflange** is a breakthrough solution for direct-mounting static pressure transmitters in a close-coupled installation.

The close-coupled monoflange combines an instrument manifold integrally into a piping isolation monoflange giving a simplified modular means of connecting instruments.

**The CCIMS® Monoflange assembly comprises of:**

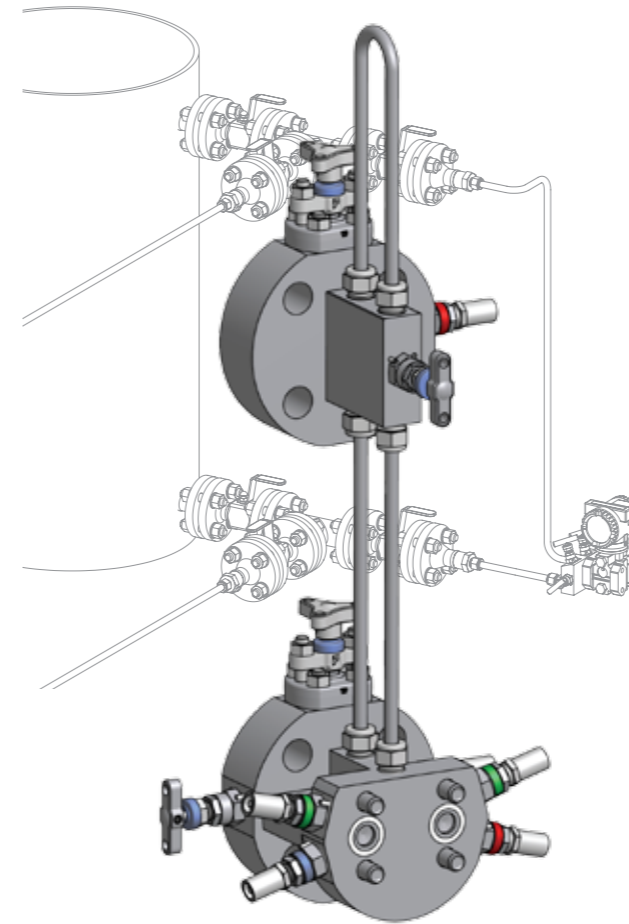
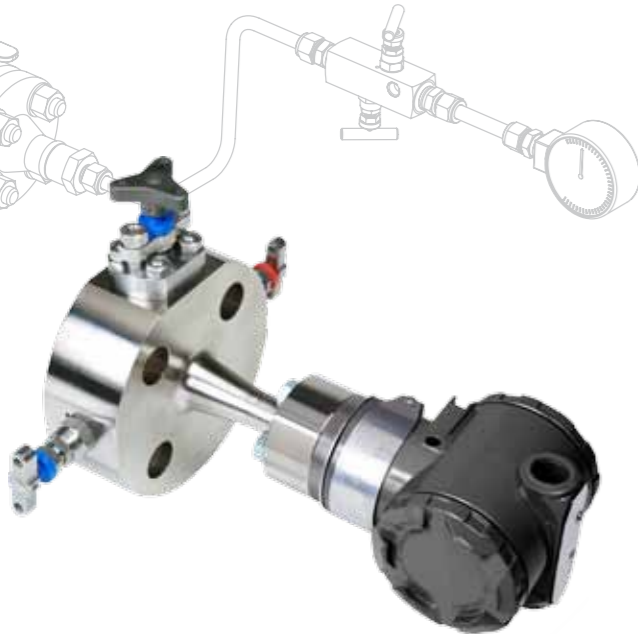
- Only 2 connections
- Reduced length flow path

**Reduced:**

- Installation labour time/cost - up to 85%
- Installation problems
- Plant down time, when calibrating instrument
- Problems from impulse lines (no leakage or blocking)
- Potential leak paths - up to 85%
- Cost of ownership

**Improved:**

- Safety
- Measurement accuracy
- Connection interface
- Up to 10,000 psi (689 bar) use



**CCIMS® Level-flange** is a breakthrough solution for direct-mounting differential pressure transmitters in a close-coupled liquid level installation.

The CCIMS® Level-flange combines an instrument manifold integrally in to a piping isolation monoflange giving a simplified modular means of connecting instruments. The CCIMS® Level-flange is mounted at the bottom of the tank (or wet leg), and allows the differential pressure transmitter to be directly mounted to the monoflange, and connects the high pressure connection. The low pressure (or dry leg) is connected to a monoflange, which then is connected with a balance line to the CCIMS® Level-flange.

**The CCIMS® Level-flange assembly comprises of:**

- Only 4 connections
- Shorter length flow path

**Reduced:**

- Installation labour time/cost - up to 85%
- Installation problems
- Plant down time, when calibrating instrument
- Problems from impulse lines (no leakage or blocking)
- Potential leak paths - up to 85%
- Cost of ownership

**Improved:**

- Safety
- Measurement accuracy
- Connection interface

# Other associated products



## CCIMS® Flanged Connector

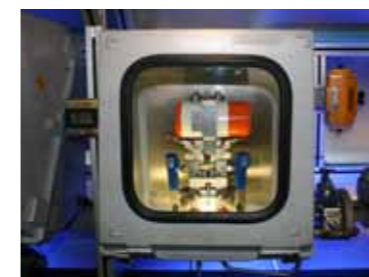
One piece integral connectors allow the user to switch from piping flange standards to instrument compression with minimal cost and added safety. This solution also eliminates the need for additional connectors.

Outlet connectors are preferable with A-LOK® compression fittings. The use of A-LOK® or inverted A-LOK® removes a potential leak path and reduces assembly and maintenance time, compared to an NPT connection.



## Ultra Low Emissions

We can now offer the complete CCIMS® range with our latest valve technology to meet either class 'A' or class 'B' levels of the ISO 15848 standard for Ultra Low Emissions, as required. This new valve technology helps us provide process instrument interfaces of outstanding integrity to help processing organisations dramatically enhance their LDAR (leak detection and repair) programmes.



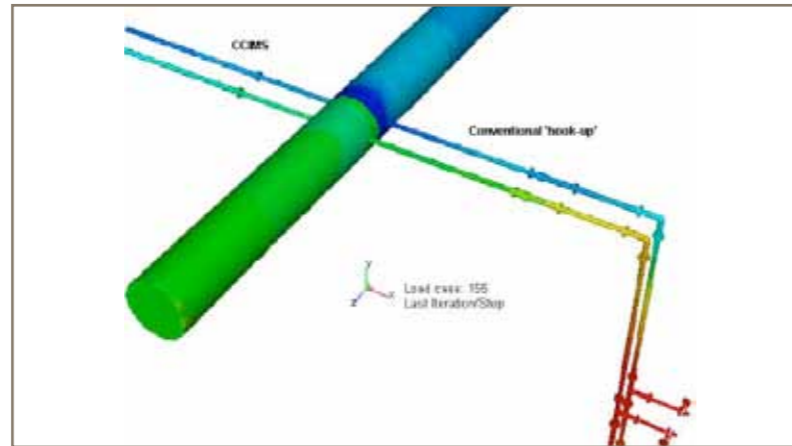
## CCIMS® Enclosure System

The CCIMS® Enclosure System can be supplied fully populated, with manifolds, tubing and electrical heating systems to provide protection for the most demanding site conditions and process applications. Parker will supply completed enclosure solutions to provide frost protection right through to elevated temperature maintenance.

# Faster process measurement

'Hook-ups' for pressure transmitters often involve the custom configuration of complex arrangements of tubing, with multiple connections and valves.

Measurement errors can be introduced as a result of long length impulse lines. These errors are frequently compounded by the use of different tube, fitting and valve components whose diameters may vary throughout an instrument installation. Inaccuracies can distort the pressure impulse signal, causing errors of up to 15% (on flow measurements).



Computer simulation of pressure variation for a close-coupled differential pressure transmitter installation (left hand branch) and a conventional 'hook-up' (right) - illustrating the pressure changes that can occur because of the length, bends, and any variation in bore caused by the different components used (valves, manifolds, straight joints, elbow joints, etc).



## Traditional 'hook-up' for a differential pressure transmitter

This traditional solution uses two sets of valve assemblies to create the double block and bleed valves, which are connected with impulse lines and connectors to the instrument manifold. It involves numerous discrete components, with all the associated costs and assembly time, and introduces bends that cause attenuation and turbulence that can affect measurement accuracy. If not carefully specified, other measurement accuracy problems can arise from differences in bore diameters of the various components, and unequal lengths of tubing.

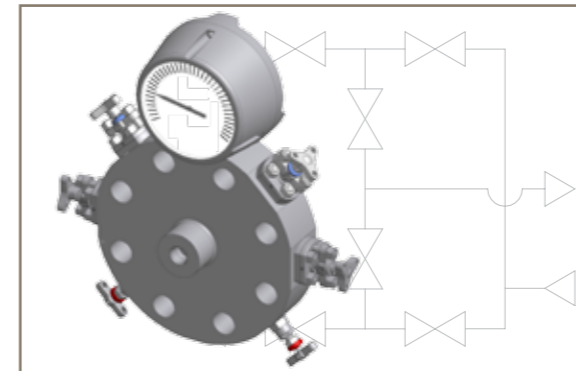


## The close-coupled alternative

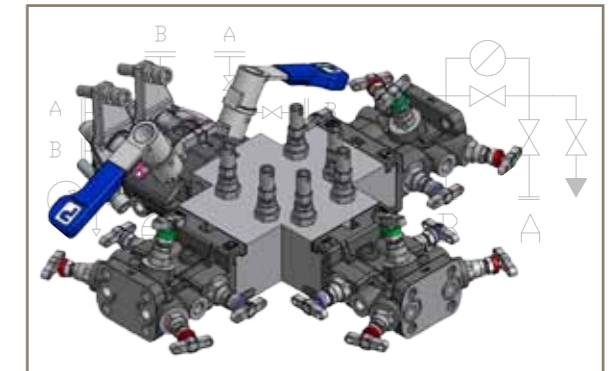
- Short and straight flow path to instrument from the process, increases transmitter accuracy.
- Integration of the manifold in to double block and bleed valve, eliminates numerous leak paths.
- No hook-up drawings or Bill of Materials are required to create an instrument hook-up.
- Assembly takes only minutes compared to hours with a conventional impulse line system.
- Low maintenance system, which is very easy to maintain if required.
- Smaller and lighter assembly placing much less stress on the pipework.

# Smarter close-coupled solutions

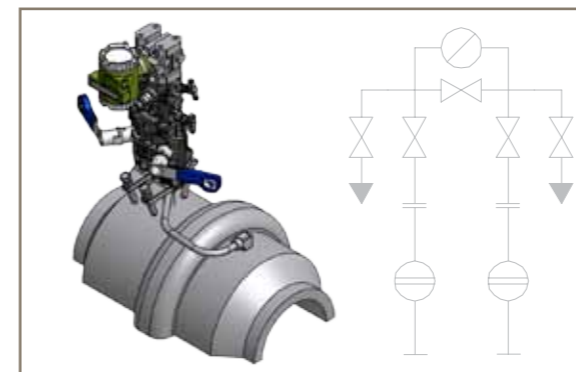
Parker's close-coupled solutions conform to the IPPC directive, so you can be sure that by reducing potential leak paths, your process is cleaner as well as safer, making the Parker offering an environmentally friendly choice.



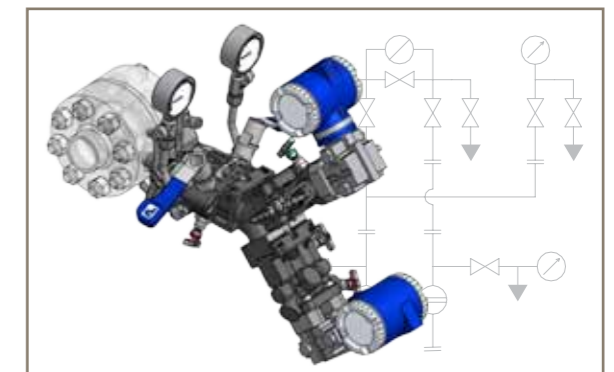
High pressure single point pressure measurement installation is designed for two instruments with independent double block and bleed functionality. The CCIMS® Monoflange option will reduce weight, save space and lower cost of installation and ownership.



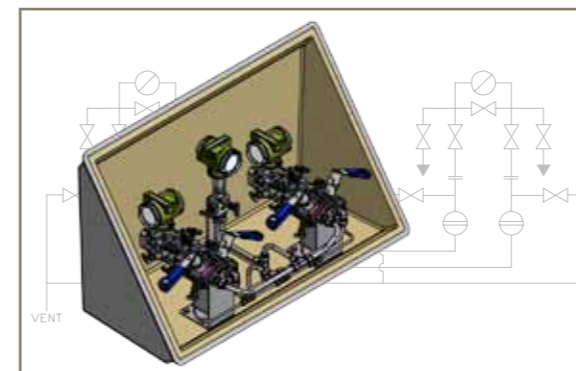
The fiscal metering application is for single point installation for three flow transmitters. This smart solution will significantly reduce the cost of installation and ownership whilst also reducing weight, saving space and giving greater accuracy readings.



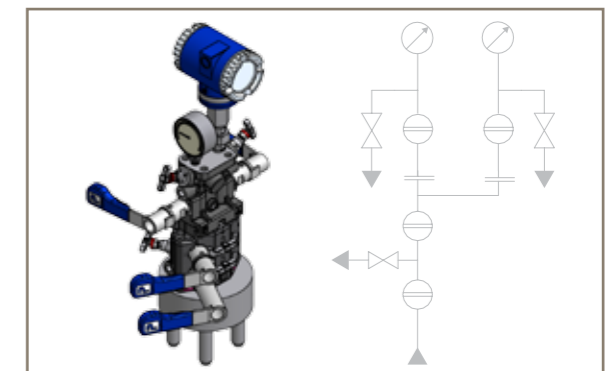
Compact solution for instrument attachment to Venturi flow meter. Improves accuracy of measurement, therefore lowers the cost of ownership.



Single point installation for the combine measurement of flow and absolute pressure, gives greater accuracy, reduces weight, space, cost of installation and ownership.



Close-coupled solution of multiple instruments to single point installation where winterisation is required.



High pressure critical service installation on viscous fluid where large bore and short impulse lines are required