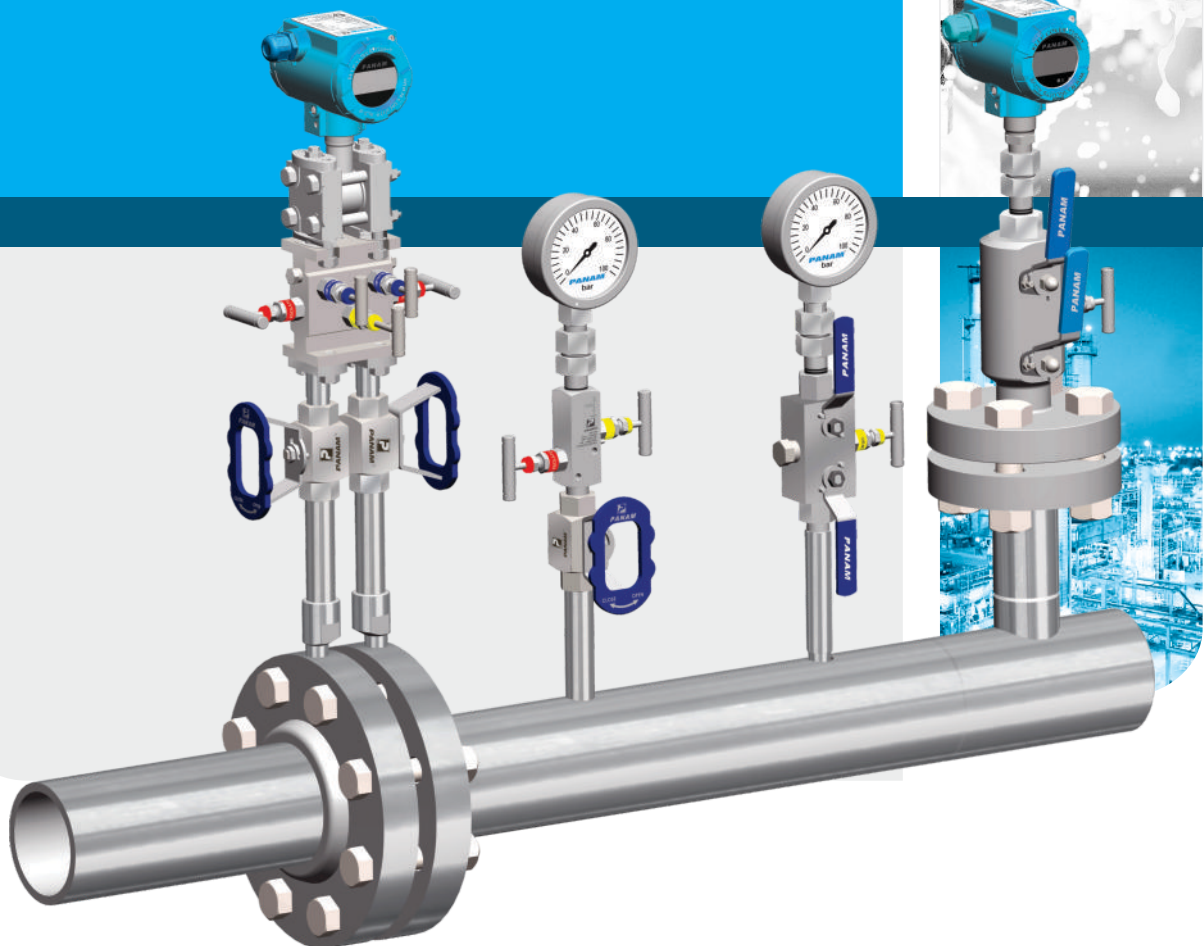




PANAM[®]
ENGINEERING
BEYOND
LIMITS

Prefabricated Instrumentation Hook-ups



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Introduction

PANAM[®] has emerged as renowned name in global market for Prefabricated Instrumentation Hook ups, Instrumentation Fittings & Valves. Since its inception in 1998 to present day, **PANAM**[®] has added new product every year and has broadened its product portfolio and its clientele base by supplying to potential customers worldwide. Key core values like Timely Delivery, Quality Consistency, Product Improvisation and After Sales Service has been instrumental in the phase wise evolution of company. Continuous improvement is the key to success, Customer feedback are taken with positive attitude and products are constantly upgraded to a new quality and performance level to cope up with the changing Industry requirements. Our products are known for providing high-quality, high-reliability, low-cost options for various industries Worldwide. Over the year, the company has evolved from a product based company to a complete system solution provider. **PANAM**[®] has built its reputation on inspired development, precision engineering and high quality with an emphasis on customer service that exceeds the expectations of industries worldwide.

PANAM[®] provides Sturdy & Compact Prefabricated Hook-ups for safe containment for measurement of flow, pressure & level. This Prefabricated Hook-ups are a convenient way of Eliminating / Reducing Impulse lines by using sandwich construction Valves. The primary isolation Valve comes with the option of Full / Reduced Bore Metal / Soft Seated Ball Valve, Gate Valve, Globe Valve, etc. as per customer requirements. In-house 3D Model and FEA Facility by a dedicated R&D Team produces the Prefabricated Instrumentation Hook-ups as per exact customer requirements. This reduces total engineering time, procurement and installation time of the project.

PANAM[®] offers Prefabricated Instrumentation Hook-ups in Stainless Steel, Alloy Steel and has the capacity to handle specific requirements with exotic materials.

PANAM[®] new manufacturing facility has given added technical ability and resources to rapidly develop custom products for the most demanding or unusual applications.

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General Information

Features

- Close Coupled Instrument mounting for optimum measurement performance.
- Eliminates impulse lines and minimises connections to improve overall instrument performance and reliability.
- Optimises the accuracy of measurement, by eliminating the long runs of tubing, bends and joints between process pipe and instrument that can cause pressure drops, and gauge/impulse line errors.
- Prefabricated 'Plug & Play' Instrument assemblies to reduce site work by 90%.
- Increased employee safety and low cost of ownership.
- Long Service Life, by using latest technology and best material with low maintenance.
- Manufacturing as per 3D models / PDMS drawings approved by client
- Each hook-up is individually packed as per Tag number
- Complete traceability-based compliance to Quality Control documents
- All Hook-ups can be supplied with Ultra Low Emission valve technology to meet with the ISO specification 15848, to comply with leakage rates 'A' or 'B'.

Technical Specifications

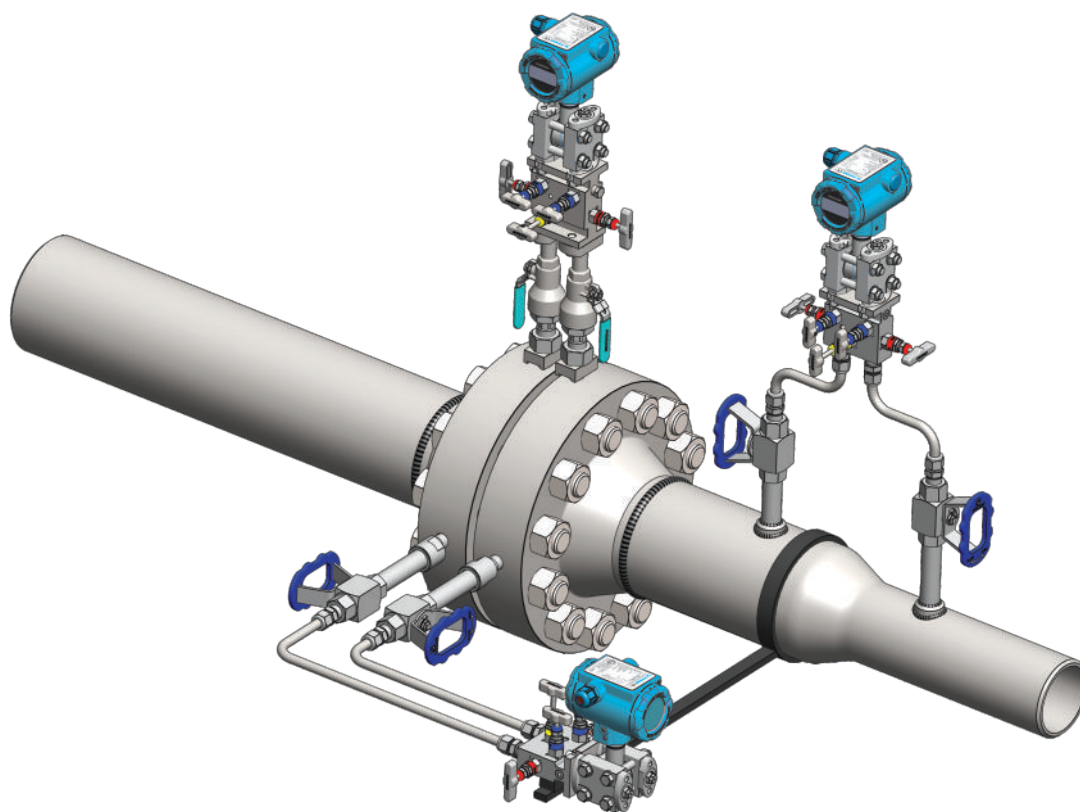
- Working Pressure - Up to 6000 psi
- Temperature Range - Up to 450°C
- Material - SS 316
- Isolation Valve - Needle Valve, Ball Valve & DBB
- Process Connections - Inlet 1/2" to 2"
- Instrument Connection - Outlet 1/2" NPT Male & Female

Testing

- Material Tests
- Dimensional Tests
- Hydrotest
- Seat Leakage Tests
- Performance Test
- Vibration Tests (On request)
- NDT (DPT, Radiography etc. - On request)
- Helium Leak Test (on request)

Application

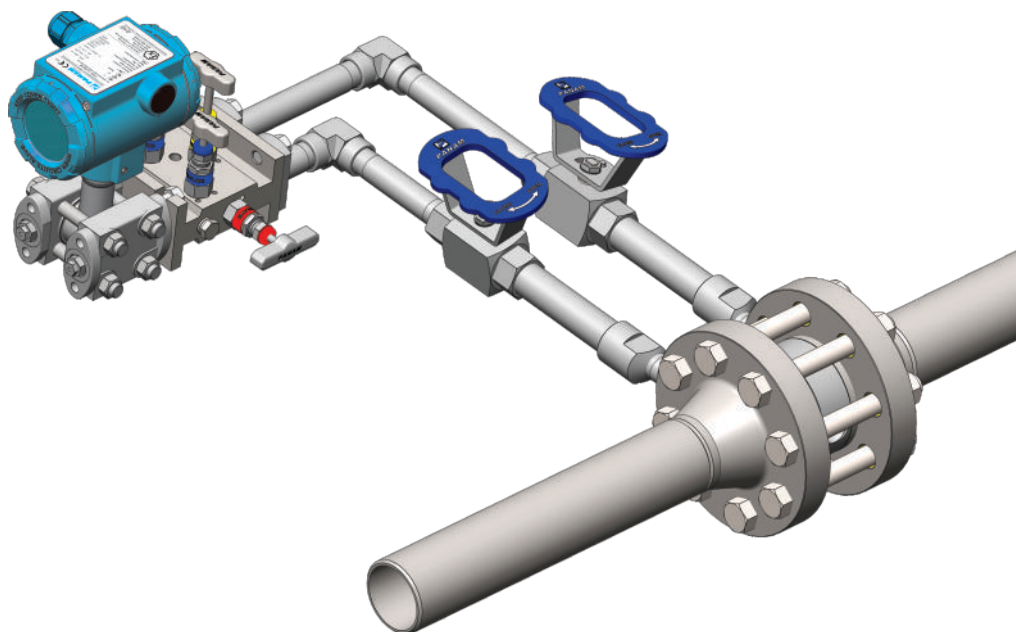
- Oil & Gas Industry
- Chemical & Petrochemical Industry
- Pharmaceutical Industry
- Food & Beverage Industry
- Water & Wastewater Industry
- Power Industry etc.



Traditional Method V/S Smart Instrument Hook-ups

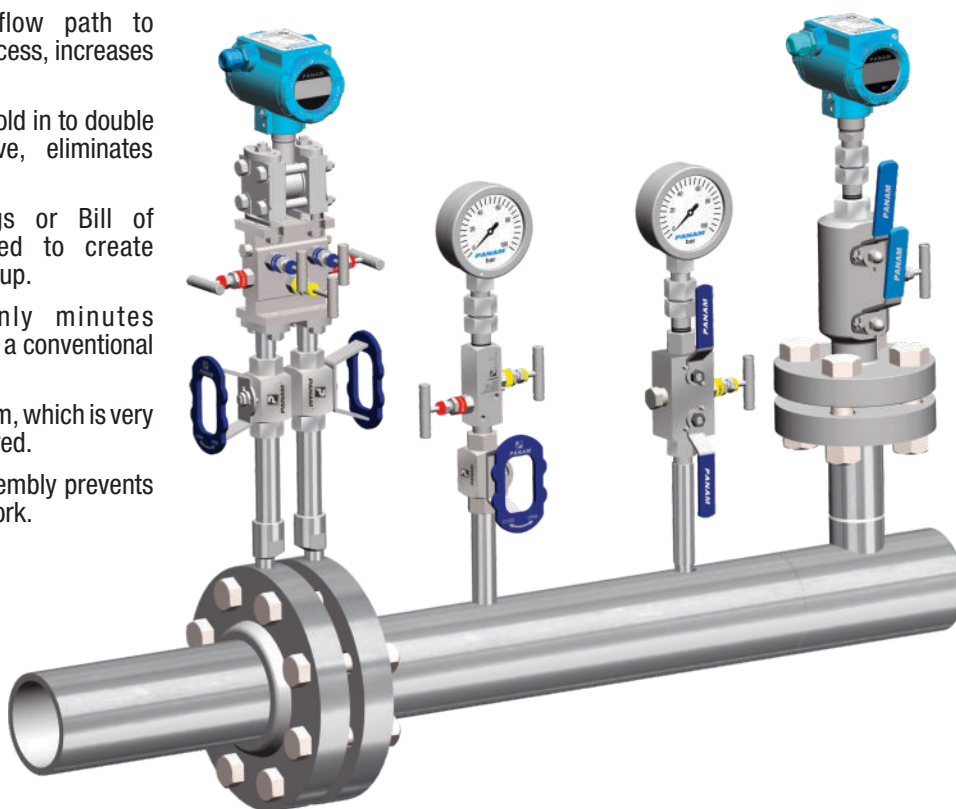
Traditional Method

This traditional solution uses two sets of valve assemblies to create the double block and bleed valves, which are connected with impulse lines and fittings 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.

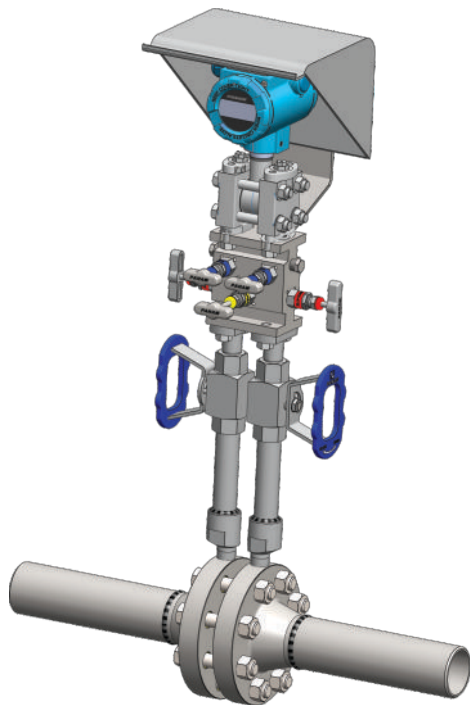


Smart Instrument Hook-ups

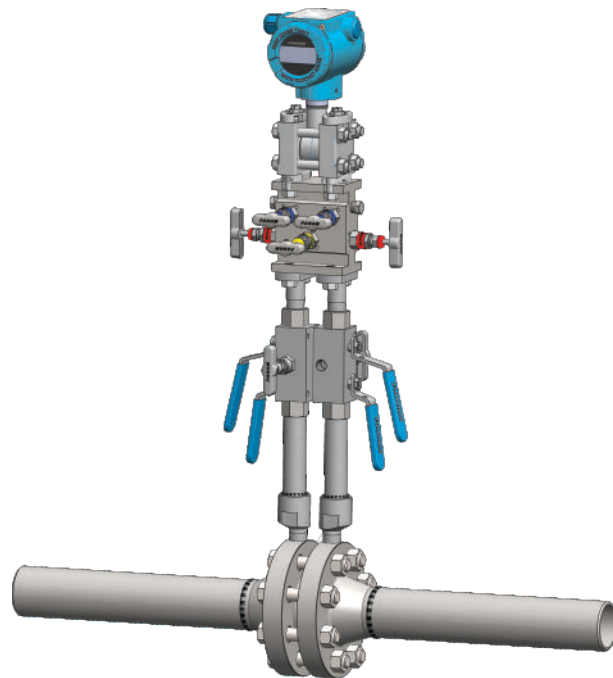
- Short and straight flow path to instrument from the process, increases measurement accuracy.
- Integration of the manifold in to double block and bleed valve, eliminates numerous leak paths.
- No hook-up drawings or Bill of Materials are required to create smart instrument hook-up.
- Assembly takes 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 prevents less stress on the pipework.



Prefabricated Hook-ups for Flow Measurement

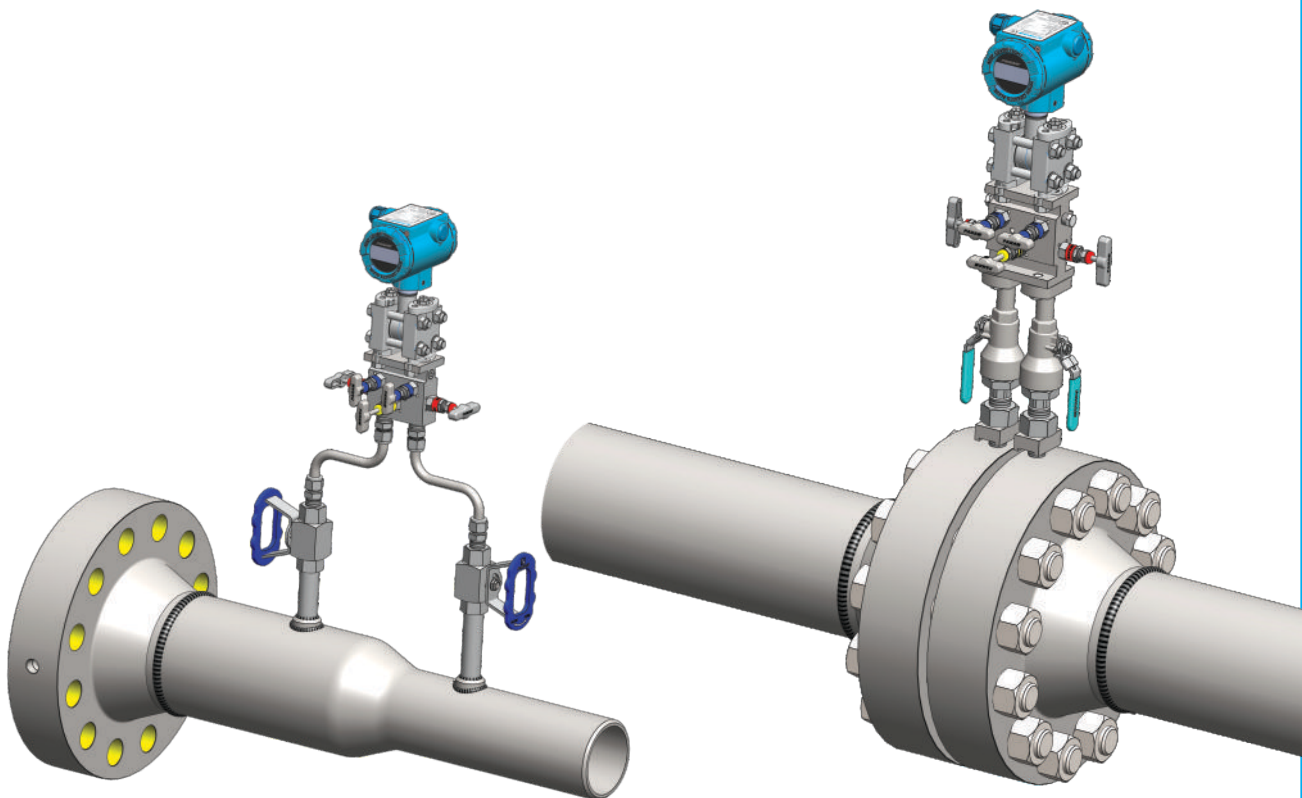


Pressure Rating upto 6000 psi with
Soft Seated Ball Valve



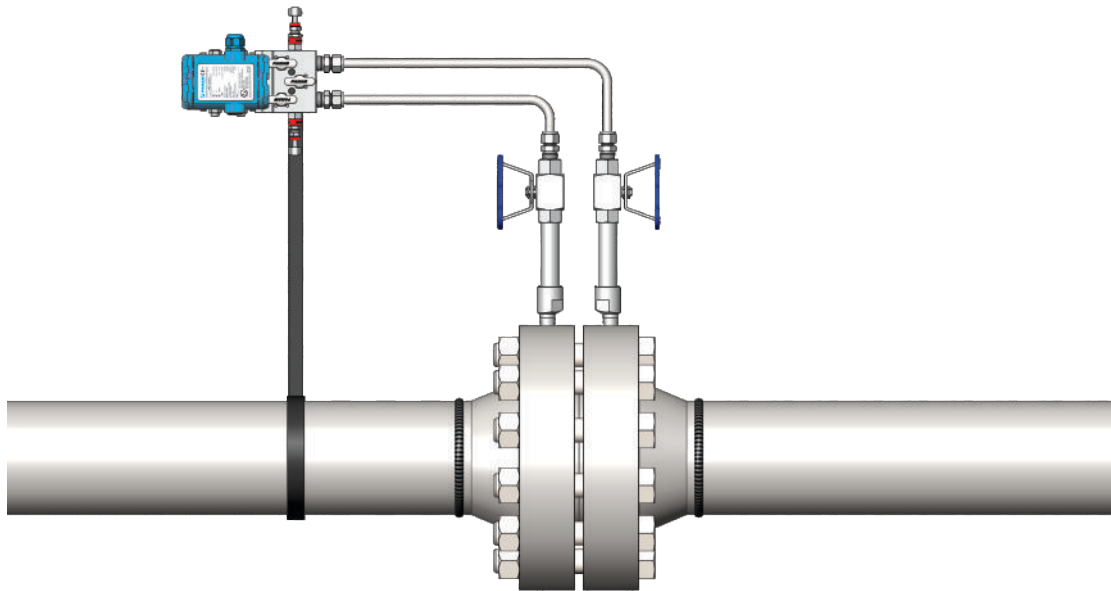
Pressure Rating upto 6000 psi with
Double Block & Bleed Valve

Prefabricated Hook-ups with Stabilizer for Flow Measurement



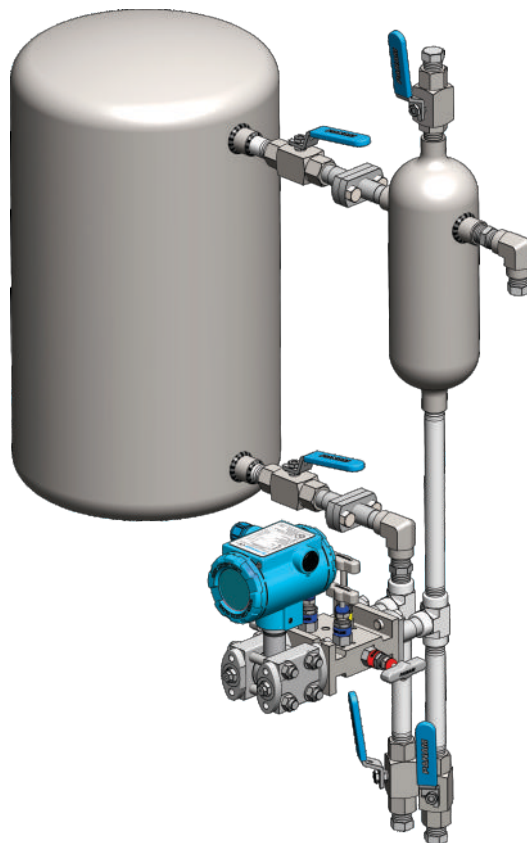
With options of Globe Valve or Soft Seated Ball Valve

Extended Prefabricated Hook-ups For Flow Measurement

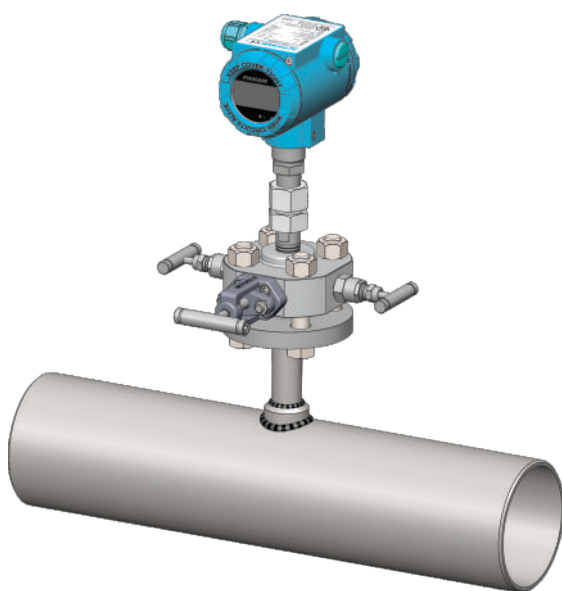


Flow Measurement at High Temperature
from 200°C to 450°C

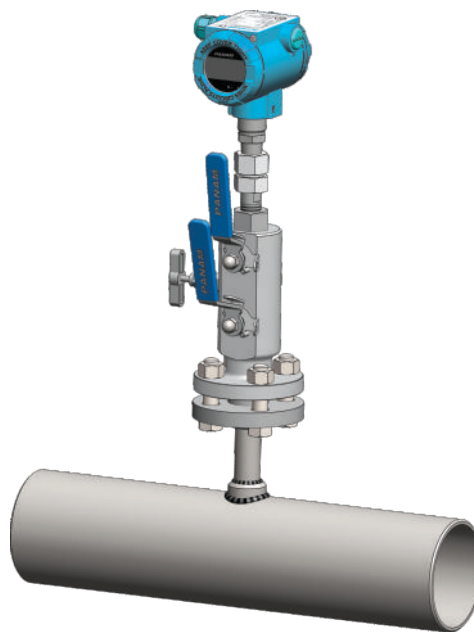
Prefabricated Hook-ups for Level Measurement



Prefabricated Hook-ups for Pressure Measurement

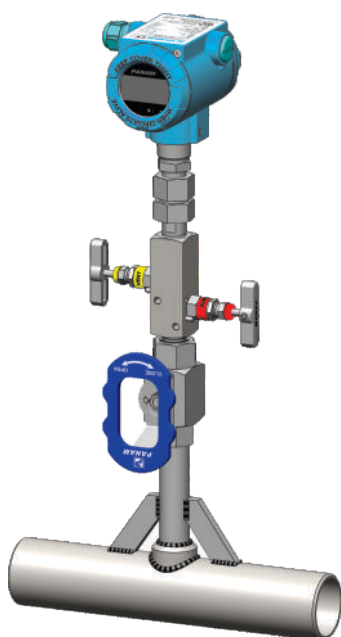


Piping Pressure Class upto 2500 with
Double Block & Bleed Valve (Mono Flange)

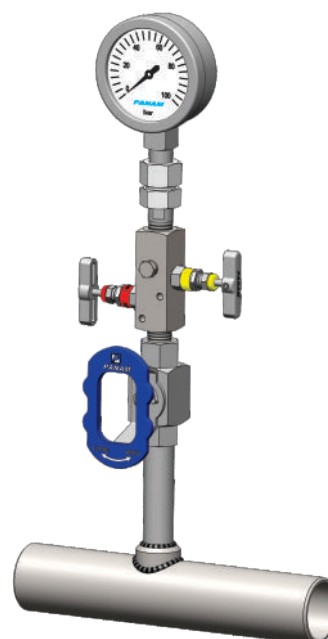


Piping Pressure Class upto 2500 with
Double Block & Bleed Valve

Prefabricated Hook-ups for Pressure Measurement



Mount Configuration up to 6000 psi
with Ball Valve & Transmitter



Mount Configuration up to 6000 psi
with Ball Valve & Gauge

Ordering Information

PPFH-PG-15-SW3K-BV-2VM-TB-SS-A

PANAM®

Prefabricated Hook-Ups

Type

- PG** - Pressure Gauge
- DPG** - Differential Pressure Gauge
- DS** - Diaphragm Seal
- PT** - Pressure Transmitter
- DPT** - Differential Pressure Transmitter / Flow Transmitters
- LT** - Level Transmitter

Inlet Size (Process)

- | | | |
|------------------|--------------------|--------------------|
| 15 - 1/2" | 25 - 1" | 40 - 1-1/2" |
| 20 - 3/4" | 32 - 1-1/4" | 50 - 2" |

Inlet Connection Type (Process)

- | | |
|--------------------------------------------|------------------------------------|
| 300RF/RTJ - Flanged End 300RF/RTJ | SW3K - Socket Weld 3000 psi |
| 600RF/RTJ - Flanged End 600RF/RTJ | BW3K - Butt Weld 3000 psi |
| 900RF/RTJ - Flanged End 900RF/RTJ | NM - NPT (Male) |
| 1500RF/RTJ - Flanged End 1500RF/RTJ | SW6K - Socket Weld 6000 psi |
| 2500RF/RTJ - Flanged End 2500RF/RTJ | BW6K - Butt Weld 6000 psi |
| 150RF/RTJ - Flanged End 150RF/RTJ | |

Primary Valve

- | | |
|-----------------------------------|--------------------------------------------------------|
| BV - Ball Valve | STBCBV - Stabilizer Connector with Ball Valve |
| DBB - Double Block & Bleed | STBCNV - Stabilizer Connector with Needle Valve |
| SBB - Single Block & Bleed | DBB51 - Double Block & Bleed Mono Flange Type |
| BB - Block & Bleed | SBB51 - Single Block & Bleed Mono Flange Type |
| 2VM - 2 Valve Manifold | NV - Needle Valve |

Secondary Valve

- | | | |
|-------------------------------|-------------------------------|-------------------------------|
| None - None | 3VM - 3 Valve Manifold | NV - Needle Valve |
| 2VM - 2 Valve Manifold | BV - Ball Valve | 5VM - 5 Valve Manifold |

Instrument Connection

- | | |
|-------------------------------------------|-------------------------------------------|
| 8NM - 1/2" NPT Male | TB - T Type Manifold (IEC 61508-B) |
| 8NF - 1/2" NPT Female | H - H Type Manifold (MSS SP-99) |
| T - T Type Manifold (MSS SP-99) | HA - H Type Manifold (IEC 61508-A) |
| TA - T Type Manifold (IEC 61508-A) | HB - H Type Manifold (IEC 61508-B) |

Material

- SS** - SS 316

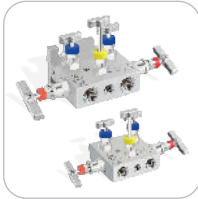
Option

- | | |
|--------------------------|-------------------------------|
| A - Angle Pattern | TM - Traditional Mount |
| OC - Open Canopy | CT5 - Cooling Tower |
| CC - Close Canopy | HT - High Temperature |
| SY1 - Syphon Tube | SG - NACE (Mr0175) |

* Customized prefabricated hookups with other materials and configurations are available on request

Notes

Other Products



2-3-5 VALVE MANIFOLDS



BELLOW SEAL VALVES



GAUGE ROOT VALVES



NEEDLE VALVES



HP NEEDLE VALVES



BALL VALVES



HP BALL VALVES



DOUBLE BLOCK & BLEED VALVES



MONO FLANGE VALVES



CHECK VALVES



RELIEF VALVES



FILTERS



TUBE FITTINGS



PIPE FITTINGS



HP PIPE FITTINGS



SWIVEL FITTINGS



JIC FITTINGS



WELD FITTINGS



HIGH PRESSURE FITTINGS



GAUGE SAVERS



PRESSURE GAUGES



TEMPERATURE GAUGES



PRESSURE TRANSMITTERS



TEMPERATURE TRANSMITTERS



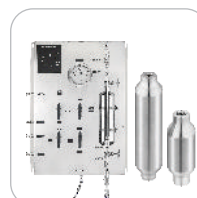
PRESSURE REGULATORS



CONDENSATE POTS



AIR HEADERS



GRAB SAMPLING SYSTEM



PRE-FABRICATED HOOK UPS



FLANGE ADAPTERS



SWIVEL GAUGE ADAPTERS



THERMOWELLS



BLEED PLUGS



DIE-ELECTRIC FITTINGS



TUBING



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