I/A Series® Electronic Pressure Transmitters Options and Accessories

A wide variety of features, options, accessories, and services add to the performance and capabilities of the versatile I/A Series Family of Digital and Analog Output Pressure Transmitters.

FEATURES/ACCESSORIES/SERVICES

- Intelligent digital output transmitters with FoxCom™, HART®, or FOUNDATION® fieldbus communication protocols.
- Transmitters with electronic 4 to 20 mA or low power, low voltage 1 to 5 V dc analog outputs.
- AP, GP, and DP transmitters.
- GP and DP multirange and premium performance transmitters.
- Multivariable transmitters include a process temperature measurement.
- Transmitters with direct connect or capillary connected seals; or with integral end connections for sanitary, and pulp and paper applications.
- Hand-held terminals and PC-based configurator for remote communication.
- Integral LCD indicator with pushbuttons for local configuration.
- Remote mounted indicators.
- Electrical conduit adapters.
- Two- and three-valve bypass manifolds.
- Process venting and bleeding options.
- Special degreasing and cleaning.
- Bracket sets for pipe mounting.
- NACE MR 01-75 compliance.
- Special stainless steel and NACE bolting.
- Low temperature and high pressure options.
- Custom configuration.
- External zero adjustment.
- Quality assurance certificates.
- Compact orifices, orifice plates, and integral flow orifices for very low flow rates.
- Custody transfer cover locks and seals.
- Primary devices (nozzles, Venturis, etc.).
- DP regulators, power supplies, rotameters for control of purge rate, and pressure snubbers.
- Supplemental customer tag.
- Accessories conforming to European Union Directives are marked with “CE” logo.
- Custom options to user's requirements
- Instruction books.
- Standard 2-year warranty; 5-year optional.
- See inside pages for more accessories/services.

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GENERAL INFORMATION

I/A Series Pressure Transmitters

- Differential Pressure (DP)
- Gauge Pressure (GP)
- High Gauge Pressure (High GP)
- Absolute Pressure (AP)
- Multivariable Transmitter for AP, DP, T, Density, and Mass Flow Rate Measurements
- Multivariable Transmitter for AP, DP, and T Measurements
- Multirange GP and DP Transmitters with Very High Turndown Ratios
- Premium Performance Multirange GP and DP Transmitters
- Transmitters with Pressure Seals:
  - Flanged Level - Direct Mount
  - Flanged - Remote or Direct Mount
  - Threaded - Remote or Direct Mount
  - In-Line Saddle Weld - Remote or Direct Mount
  - Sanitary - Remote Mount
  - Sanitary Level - Direct Mount
- Transmitters with Integral Connectors
  - For sanitary processes
  - For pulp and paper processes

Match the Transmitter to the Application

- Select only the option required
- Meet the application needs
- Contact Invensys Foxboro for custom options

Using Suffix Dash (-) Code to Specify Options and Accessories

Options with Model Code Suffix, such as LCD Indicator (-L1) or Stainless Steel Mounting Bracket (-M2) are specified by adding the 2-character code to the end of the transmitter Model Number. For example, for basic transmitter IDP10-D20B2NF, add suffixes -L1M2 (or -M2L1) to make a complete Model Number of IDP10-D20B2NF-L1M2 for a transmitter with LCD Indicator and stainless steel Mounting Bracket options.

For Other Options and Accessories, specify the basic Model Number and Optional Model Code Suffix as indicated above. For optional selections not listed in the Model Code, separately specify the “AS” Reference Code(s), Invensys Foxboro Part Number(s), and/or Accessory Model Number(s), as applicable, and as identified in this document.

For Transmitters with Pressure Seals, specify both the transmitter and pressure seal Model Numbers. The pressure seals are assembled to the transmitter and shipped as a matched transmitter/seal system.

For Transmitters with a Compact Orifice, specify both the transmitter and Compact Orifice Model Numbers. The compact orifice is assembled to the differential pressure transmitter and shipped as an integral unit.

CUSTOM OPTIONS

Many times a particular instrument or option with simple or complex modifications will greatly enhance the versatility of an I/A Series Pressure Transmitter. If you have the need for a custom option not listed in this document, please contact Invensys Foxboro.

OTHER M&I PRODUCTS

Invensys Foxboro provides a broad range of measurement and instrument products, including solutions for pressure, flow, analytical, positioners, temperature, controlling and recording. For a listing of these offerings, visit the Invensys Foxboro web site at:

www.foxboro.com/m&i.

NOTE

Refer to Tables 10 and 11 for a summary of the options and accessories described in this document, and their availability (and applicability) for the numerous offerings in the I/A Series Pressure Transmitter Family. Within each table, “YES” means that the option or accessory is offered, “NO” means that the option or accessory is not offered or not applicable to the particular transmitter listed. For further information regarding Tables 10 and 11, refer to the inside pages or contact Invensys Foxboro.

PRODUCT SPECIFICATION SHEETS (PSSs)

Table 1. I/A Series Intelligent Digital Output Transmitters and Configurators

Transmitter and Configurator Type (a)	Transmitter/Configurator Specification Sheet		
	Electronic Version -D FoxCom Protocol (b)	Electronic Version -T HART Protocol (c)	Electronic Version -F Fieldbus Protocol (d)
IAP10/IAP20 AP Transmitters	PSS 2A-1C13 A	PSS 2A-1C13 B	PSS 2A-1C13 E
IGP10/IGP20 GP Transmitters	PSS 2A-1C13 A	PSS 2A-1C13 B	PSS 2A-1C13 E
IAP10/IGP10 w/Integral Sanitary Connectors	PSS 2A-1C13 K	PSS 2A-1C13 K	PSS 2A-1C13 K
IAP10/IGP10 w/Integral Pulp and Paper Connectors	PSS 2A-1C13 L	PSS 2A-1C13 L	PSS 2A-1C13 L
IGP10 High GP Transmitter	PSS 2A-1C13 F	PSS2A-1C13 F	PSS 2A-1C13 F
IGP25 MR GP Transmitter	PSS 2A-1C13 G	PSS 2A-1C13 G	PSS 2A-1C13 G
IGP25 w/Integral Sanitary Connectors	PSS 2A-1C13 M	PSS 2A-1C13 M	PSS 2A-1C13 M
IGP25 w/Integral Pulp and Paper Connectors	PSS 2A-1C13 N	PSS 2A-1C13 N	PSS 2A-1C13 N
IGP50 PP GP Transmitter	PSS 2A-1C13 H	PSS 2A-1C13 H	PSS 2A-1C13 H
IDP10 DP Transmitter	PSS 2A-1C14 A	PSS 2A-1C14 B	PSS 2A-1C13 E
IDP25 MR DP Transmitter	PSS 2A-1C14 K	PSS 2A-1C14 K	PSS 2A-1C14 K
IDP50 PP DP Transmitter	PSS 2A-1C14 L	PSS 2A-1C14 L	PSS 2A-1C14 L
IMV25 MV Transmitter	PSS 2A-1C15 B	PSS 2A-1C15 B	PSS 2A-1C15 B (e)
IMV30 MV Transmitter	PSS 2A-1C15 A	PSS 2A-1C15 A	Not Applicable
HHT Hand-Held Terminal	PSS 2A-1Z3 A	Not Applicable	Not Applicable
PC20 Field Device Configurator	PSS 2A-1Z3 E	PSS 2A-1Z3 E	Not Applicable
PCMV MV Flow Configurator	PSS 2A-1Z3 F	PSS 2A-1Z3 F	Not Applicable
PC50 Field Device Tool	PSS 2A-1Z3 G	PSS 2A-1Z3 G	Not Applicable

(a) AP = Absolute Pressure; GP = Gauge Pressure; DP = Differential Pressure; MR = Multirange; MV = Multivariable; PP = Premium Performance

(b) Digital and/or 4 to 20 mA output signal.

(c) 4 to 20 mA output with a superimposed digital output signal.

(d) FOUNDATION fieldbus digital output signal only.

(e) Contact Invensys Foxboro for availability status.

Table 2. I/A Series Electronic Analog Output Transmitters

Transmitter Type	Transmitter Specification Sheet	
	Electronic Version -A 4 to 20 mA dc Analog Output (Note a)	Electronic Version -V 1 to 5 V dc Analog Output (Note b)
IAP10/IAP20 Absolute Pressure Transmitters	PSS 2A-1C13 C	PSS 2A-1C13 D
IGP10/IGP20 Gauge Pressure Transmitters	PSS 2A-1C13 C	PSS 2A-1C13 D
IAP10/IGP10 w/ Integral Sanitary Connectors	PSS 2A-1C13 K	PSS 2A-1C13 K
IAP10/IGP10 w/Integral Pulp & Paper Connectors	PSS 2A-1C13 L	PSS 2A-1C13 L
IGP10 High Gauge Pressure Transmitter	PSS 2A-1C13 F	PSS 2A-1C13 F
IDP10 d/p Cell Transmitter	PSS 2A-1C14 C	PSS 2A-1C13 D

(a) The -A Transmitter includes an explosionproof rating, but does not include an Intrinsically Safe rating. For I.S. rated 4 to 20 mA outputs, refer to -T transmitters.

(b) A low power, low voltage transmitter; 9 V dc minimum voltage, 3 mA maximum current.

INTELLIGENT TRANSMITTER CONFIGURATORS

Model HHT Hand-Held Terminal

This battery-powered Hand-Held Terminal permits remote testing, configuration, and diagnostic testing of most Intelligent Transmitters using FoxCom protocol. Refer to PSS 2A-1Z3 A for standard specifications and ordering instructions, and see table below for use of the Model HHT with the transmitters listed in this document.

Transmitter Model and Description	Used with Transmitter
IAP10 AP Transmitter	YES
IAP20 AP Transmitter	YES
IGP10 GP Transmitter	YES
IGP20 GP Transmitter	YES
IGP25 Multirange GP Transmitter	YES
IGP50 Premium Perf. GP Transmitter	YES
IDP10 DP Transmitter	YES
IDP25 Multirange DP Transmitter	YES
IDP50 Premium Perf. DP Transmitter	YES
IMV25 Multivariable Transmitter	NO
IMV30 Multivariable Transmitter	NO

HART Model 275 Configurator (Invensys Foxboro Model HT991)

This battery-powered configurator is the common interface with all microprocessor-based devices using the HART protocol. It will communicate the common commands to any HART device. Specific device descriptions (DDs) have been loaded by Invensys Foxboro to ensure complete functionality with various brands of HART devices. See table below.

Foxboro Part Number	Approval or Certification	DDs Loaded into Configurator
D0165BF	FM	Foxboro (a)
D0165BM	FM	Foxboro, plus (b)
D0165DL	FM	Many (c)
D0165BN	CSA	Foxboro (a)
D0165BP	CSA	Foxboro, plus (b)
D0165DM	CSA	Many (c)

(a) DDs for all Invensys, Action, Viatron, Foxboro, and Foxboro-Eckardt devices.

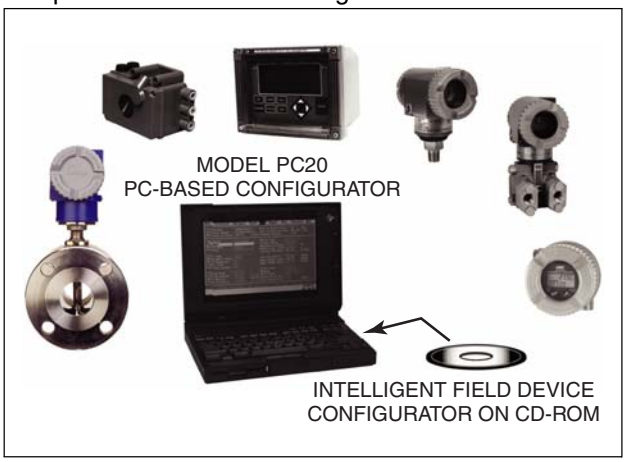
(b) Same as Note (a) above, except with the addition of Rosemount® DDs (Rosemount Analytical excluded).

(c) DDs for devices from approximately 30% of all manufacturers, including all Rosemount DDs.

INTELLIGENT TRANSMITTER CONFIGURATORS (Cont.)

Model PC20 Field Device Configurator

This powerful Windows® 95, Windows NT®, Windows XP, and Windows 2000 based software and hardware package with external modem provides remote bidirectional communications with intelligent field devices having FoxCom or HART communication protocol. The software also supports the Common Practice and Universal HART commands for non-Invensys Foxboro HART devices. See PSS 2A-1Z3 E for specifications and ordering instructions.



Model PCMV Configurator

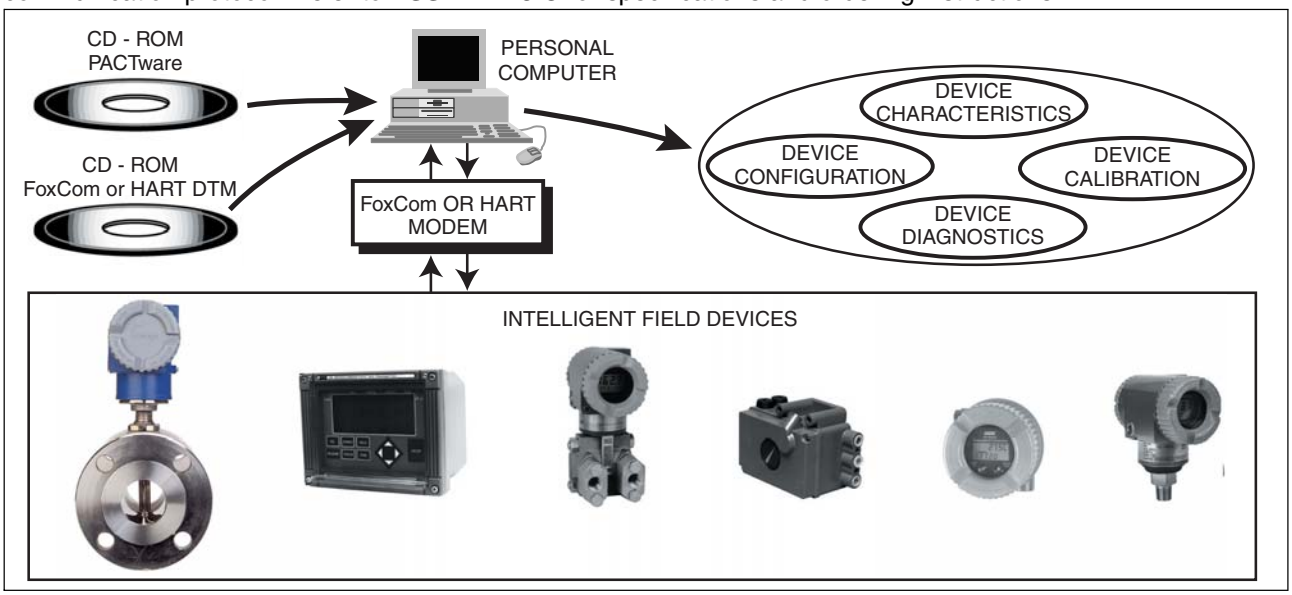
This Configurator is a Windows-based software package for use with IMV25 and IMV30 Multivariable Transmitters. It displays measurements and has full calibration and configuration capability. When used with the IMV30, it also utilizes a fluid properties table and primary device parameters to determine a set of flow coefficients for a specific flow rate application. A modem for use with either HART or FoxCom protocols is required for communication. See table below and PSS 2A-1Z3 F.

Measurements with IMV25 and IMV30 Transmitters

Measurements	w/IMV25	w/IMV30
MA Output	Yes	Yes
Differential Pressure	Yes	Yes
Absolute Pressure	Yes	Yes
Sensor Temperature	Yes	Yes
Electronics Temperature	Yes	Yes
Process Temperature (External RTD)	Yes	Yes
Flow Rate (Calculated)	No	Yes
Process Density (Calculated)	No	Yes

Model PC50 Field Device Tool

The Model PC50, a powerful Windows 2000 and Windows XP based software and hardware package with external modem(s), provides for an intelligent field device life cycle management. It is also designed for open interface and provides bidirectional communication with devices from multiple vendors having FoxCom or HART communication protocol. Refer to PSS 2A-1Z3 G for specifications and ordering instructions.



INDICATOR OPTIONS

A wide choice of indicating meters gives you an easily viewed “window” into the process. These indicators are available integrally-mounted to the transmitter, or for remote mounting.

Integral LCD Indicator with Pushbuttons

(Standard with Output Codes -A and -V)
(Optional with Output Codes -D, -F, and -T)

Indicator is integrally mounted to electronics housing (transmitter topworks). “CE” Logo marked on product indicates conformance to applicable European Union Directives.

Indicator Provides:

- Top Line Display for Measurement Readout
  - For -D, -F, and -T Electronics: 5 numeric characters (4 if minus sign is used)
  - For -A and -V Electronics: 4 numeric characters
- Bottom Line Display for Measurement Units
  - Seven alphanumeric characters available
- Configuration and Calibration prompts.

Pushbuttons (two) typically provide the following Configuration and Calibration Functions, depending on the electronics used:

- Linear and Square Root Output (as Applicable)
- Forward or Reverse Output
- Damping Adjustment
- Failsafe Action (High or Low)
- Units Label on Bottom Line of Display
- Settable LRVs and URVs for Transmission and Display (on Top Line)
- Zero and Span settings, non-interactive to automatically set output to either 4 mA or 20 mA using the “NEXT” and “ENTER” pushbuttons (with 4 to 20 mA Output Transmitters only)
- 4 and 20 mA Jog Settings, allowing the user to easily increment the mA output signal up or down in fine steps to match a value shown on an external calibrator (with 4 to 20 mA Output Transmitters only)
- Reranging to set new calibrated ranges without applying pressure
- Temperature Sensor Failure Strategy
- Enable/Disable Optional External Zero
- Tag (with Digital Output Transmitters only)

Model Code Suffix	Description
-L1	LCD Indicator with Window Cover (-D, -F, and -T Versions Only)
-L2	Blind Solid Cover over Standard LCD Indicator (-A and -V Versions Only)

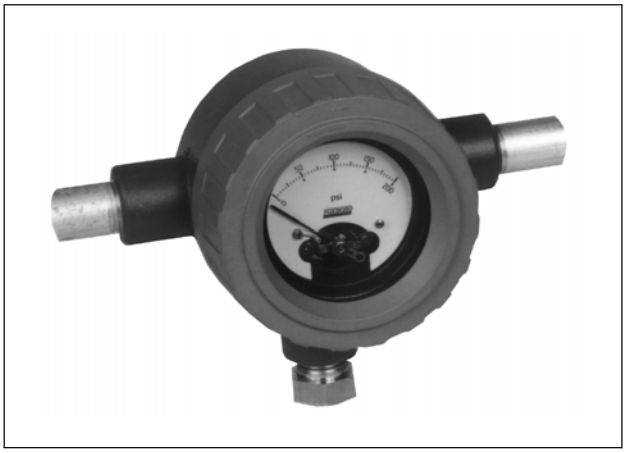
TOPWORKS SHOWN WITH COVER REMOVED

INDICATOR OPTIONS (Cont.)

4 to 20 mA Output Indicator – Conduit Mounting

For 4 to 20 mA output signals only. This is a rugged, remotely-mounted (to conduit) indicator. Enclosure meets IEC IP65 and provides the environmental protection of NEMA® Type 4. See MI 020-438 for details. Scales available are as follows:

"AS" Code	Indicator Scale
LMO-A	0 to 100 Percent Linear
LMO-B	0 to 100 Percent Square Root
LMO-C	Scale as Specified
LMO-D	0 to 10 Percent Square Root



Model 65FS – Surface or Conduit Mounting

For 4 to 20 mA output signals only. This Model 65FS indicator may be mounted to a surface or conduit. It has a NEMA 4 rating, and Invensys Foxboro certified for use in Class I, Groups B, C, and D, Division 2 hazardous locations. The “CE” Logo Marked on product indicates conformance to applicable European Union Directives. This indicator is available with linear, square root, or custom scales. Order with a transmitter by specifying “AS” Code “FMI” plus the mounting, electrical classification, and scale required. Or order separately by specifying the Model Number shown in PSS 2A-3B1 C.

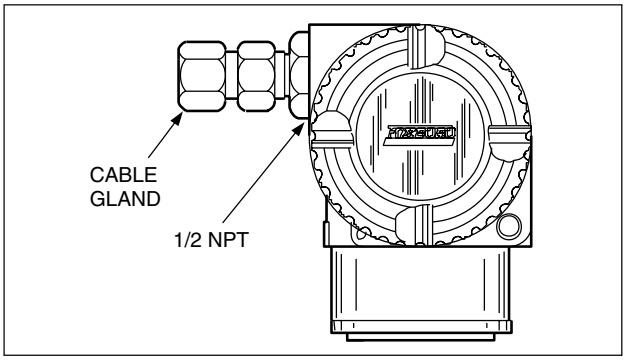
ELECTRICAL CONDUIT THREAD ADAPTER

The electronics housing has two PG 13.5 or 1/2 NPT conduit connections for field wiring. The following optional adapters are for use with the conduit connections. Unused conduit openings must be closed with a metal plug.

Hawke-Type 1/2 NPT Brass Cable Gland

Used with a 1/2 NPT Conduit Connection. Hawke-type cable gland with 1/2 NPT external thread. Used with Electrical Safety Codes per table below.

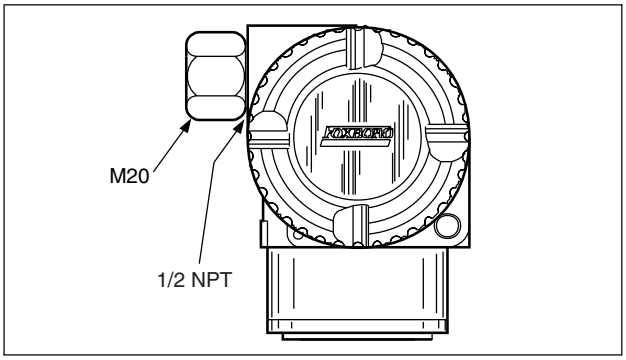
Model Code Suffix	Description
-A1	Hawke-Type 1/2 NPT Cable Gland



M20 Stainless Steel Threaded Adapter

Used with a 1/2 NPT Conduit Connection, and has an M20 x 1.5 - 6H internal thread. Used with Electrical Safety Codes per table below.

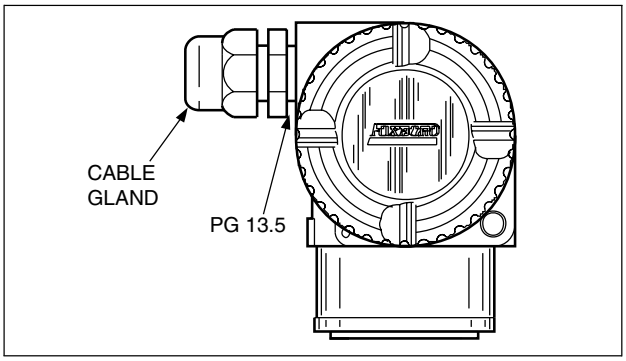
Model Code Suffix	Description
-A3	M20 Threaded Adapter, 303 ss



PG 13.5 Plastic Cable Gland

Used with a PG 13.5 conduit connection. A nylon cable gland for cable diameters from 9 to 14 mm used with Electrical Safety Codes per table below.

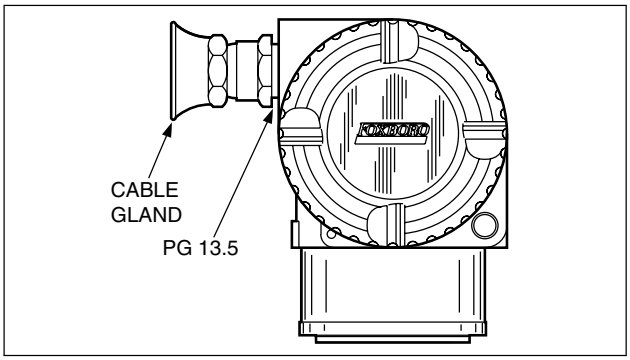
Model Code Suffix	Description
-A2	Plastic PG 13.5 Cable Gland



PG 13.5 Nickel-Plated Brass Cable Gland

Used with PG 13.5 conduit connection. Provides a smooth, strain-relieved support for cable diameters from 9 to 14 mm. See table below.

Model Code Suffix	Description
-A4	Trumpet-Shaped PG 13.5 Cable Gland



Conduit Adapters Available with Electric Safety Codes

Adapter Code	Available with the Following Electrical Safety Codes:	
	Safety Code	Electrical Safety Code Description
A1, A2, A3, A4	E	ATEX II 1 G, EEx ia IIC, or II 1/2 G, EEx ib IIC
A1 and A3 only	D	ATEX II 2 G, EEx d IIC
A1 and A3 only	N	ATEX II 3 G, EEx n IIC

BOLTING, DEGREASING, AND CLEANING – PROCESS RELATED OPTIONS

B7M Bolting (NACE)

For IDP10, IDP25, IDP50, IGP20, IAP20, IMV25, and IMV30 Transmitters. Where the bolting is directly exposed to sour environments, will be buried, insulated, or otherwise denied atmospheric exposure, or if the bolting may be exposed to sour environments through leakage, bleeding of vent screws, etc., Foxboro offers NACE Class II bolting. This bolting is in accordance with ASTM A193 Gr. B7M and A194 Gr. 2HM (Nuts). Not available with DIN 19213 construction options, or Structure Codes 78 and 79 (pvdf inserts). See table below.

Model Code Suffix	Description	Static Pressure Rating (a)	Proof Pressure Rating
-B3	B7M Bolts and Nuts	20 MPa (2900 psi)	70 MPa (11 150 psi)

(a) Same pressure rating as standard B7 bolting.

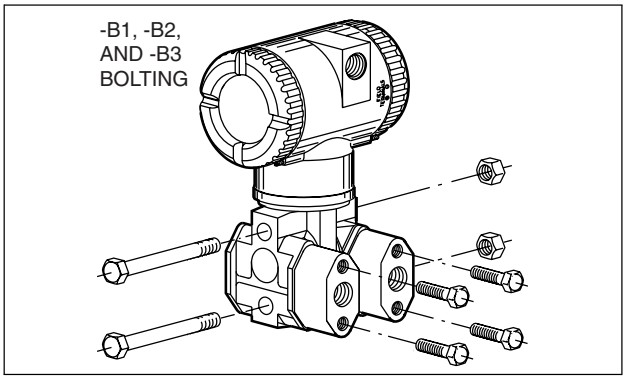
316 ss or 17-4 ss Bolting

For IDP10, IDP25, IDP50, IGP20, IAP20, IMV25, and IMV30 Transmitters. Either 316 ss or 17-4 ss bolts and nuts are provided, as specified. See table below for pressure ratings with these options. Not available with DIN 19213 construction options, or Structure Codes 78 and 79 (pvdf inserts). See table below.

Model Code Suffix	Description	Static Pressure Rating	Proof Pressure Rating
-B1 (a)	316 ss Bolts and Nuts	15 MPa (2175 psi)	60 MPa (8700 psi)
-B2 (b)	17-4 ss Bolts and Nuts	25 MPa (3625 psi)	100 MPa (14 500 psi)

(a) Option -B1 is derated to the values listed. This option is not applicable to transmitters with seals.

(b) There is no pressure derating with the -B2 option (value listed is same as standard B7 bolting). Not available with Option -X3 since 17-4 ss bolts and nuts are provided with the -X3 option.



NACE MR 01-75 Service

Used in sour gas service. All metallic, process wetted parts comply with NACE Standard MR 01-75 for resistance to sulfide stress cracking. For additional information on material conformance to NACE, refer to Foxboro Technical Instruction, TI 005-102.

"AS" Reference Code	Description
MR-01	Compliance of Foxboro Instruments with NACE Standard MR 01-75

Special Degreasing

For transmitters with silicone filled sensors only. Transmitter is cleaned, calibrated, labeled, and packaged in a Clean Room. NOT FOR USE ON OXYGEN, CHLORINE, OR OTHER FLUIDS THAT MAY REACT WITH SILICONE OIL. Also not available with gold-plated sensor, Structure Code 26.

Model Code Suffix	Description
-X1	Special Degreasing

Oxygen or Chlorine Service Cleaning

For transmitters with fluorinert filled sensors only. Transmitter is cleaned, calibrated, labeled, and packaged in a Clean Room. Oxygen or chlorine service not offered when carbon steel process covers or gold-plated sensor (Structure Code 2G) is used.

Model Code Suffix	Description
-X2	Oxygen Service Cleaning
-X3 (a)	Chlorine Service Cleaning

(a) Not available with Option -B2.

NOTE

Degreasing and Oxygen/Chlorine Service Cleaning options (-X1, -X2, -X3) are not available with transmitters having direct connect pressure seals, or having integral process connectors for sanitary, or pulp and paper processes.

MOUNTING HARDWARE, MANIFOLD VALVES, AND PROCESS CONNECTIONS

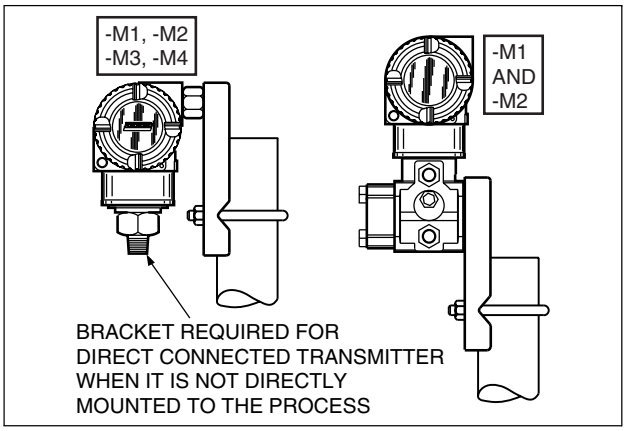
The I/A Series Transmitters, because of their small size and lightweight design, are often self-supported by the process piping, making the installation quicker, easier, and less expensive. But, Mounting Bracket Sets are offered for installations that require pipe stand mounting. Bypass Manifolds and Valves are also offered to mount transmitters and isolate them from the process.

Mounting Bracket Set

Used for all transmitters except when a transmitter is directly connected to the process (i.e., capillary not used). The transmitter attaches to a mounting bracket, which then attaches to user-supplied horizontal or vertical DN 50 or 2-in pipe.

Model Code Suffix	Description
-M1	Painted Steel Bracket and Plated Steel Bolts - 1/2 NPT
-M2	316 ss Bracket and Bolts - 1/2 NPT
-M3 (a)	Painted Steel Bracket and Plated Steel Bolts - PG 13.5
-M4 (a)	316 ss Brackets and Bolts - PG 13.5

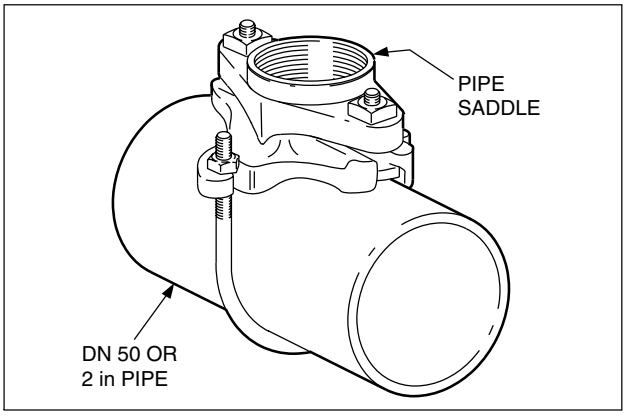
(a) With IGP10, IAP10, IGP25, and IGP50 only, when they are not directly mounted to the process.



Leveling Pipe Saddle

For quick and easy attachment of a DN50 or 2-in mounting pipe to another pipe. Saddle is cast iron and includes U-bolts and nuts. For pipe sizes larger than DN150 or 6 in, contact Foxboro.

Foxboro Part No.	Description
0032017	For DN 50 or 2-in Pipe
0046935	For DN 80 or 3-in Pipe
0016508	For DN 100 or 4-in Pipe
0036694	For DN 150 or 6-in Pipe

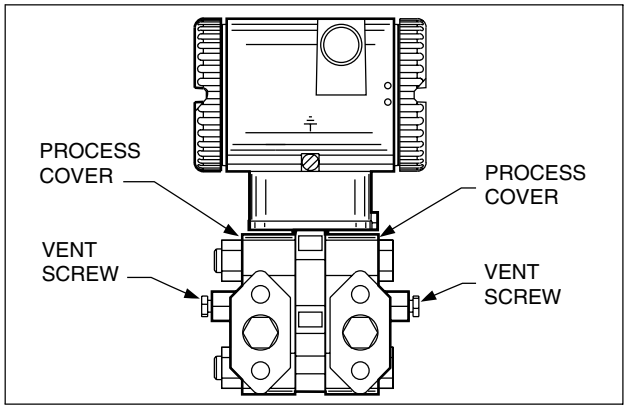


MOUNTING HARDWARE, MANIFOLD VALVES, AND PROCESS CONNECTIONS (Cont.)

Vent Screw

Vent screw(s) are provided to vent each cavity as shown below. The user may invert IDP10, IDP25, IDP50, IGP20, IAP20, IMV25, and IMV30 process cover(s) and use the vent screw as a bottom drain.

Model Code Suffix	Description
-V	Vent Screw in Side(s) of Process Cover(s), as follows: IDP10, IDP25, IDP50 – HI/LO Sides IAP20 – Hi Side Only IGP20 – Hi Side Only IMV25, IMV30 – HI/LO Sides



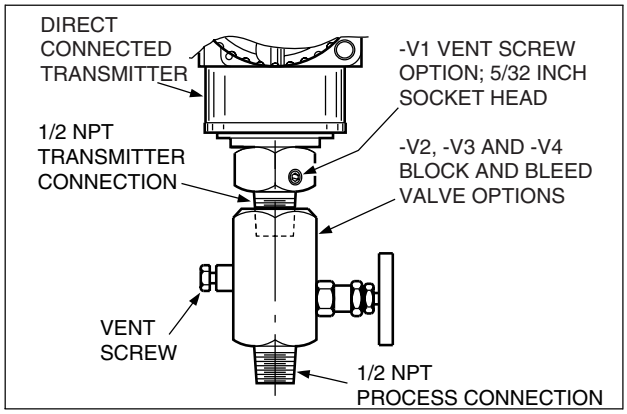
Block and Bleed Valve

Not used with -G connector option. For quick and easy mounting, blocking, and venting of a direct-connected AP or GP transmitter. Process connection is external 1/2 NPT. Stem packing is corrosion resistant ptfe, suitable for 40 MPa (6000 psi) maximum at 38°C (100°F), or 25 MPa (4000 psi) maximum at 250°C (400°F). Transmitter can be easily field-calibrated using calibration screw F0101ES described below.

Model Code Suffix	Description
-V1 (a)	Vent Screw in Process Connection
-V2 (b)	Block and Bleed Valve, Carbon Steel
-V3 (b)	Block and Bleed Valve, 316 ss
-V4 (b)	Block and Bleed Valve, 316 ss Body with Monel Trim (NACE Approved)

(a) Not available with Structure Codes 24, 26, 28, 30, 31, 32, 33, S3, S4, SC, SD; or Option -X1; or with transmitters having integral connectors for sanitary, or pulp and paper processes.

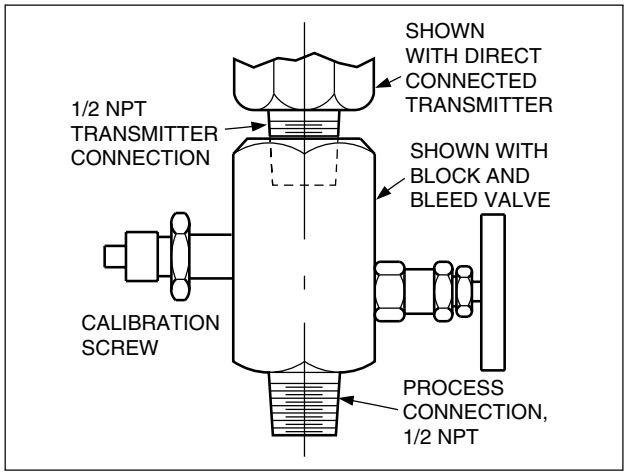
(b) Not available with Structure Codes 24, 26, 28, S3, S4, SC, SD; or Option -X1; or with transmitters having integral connectors for sanitary, or pulp and paper processes.



Calibration Screw

Allows a d/p Cell or multivariable transmitter, or a direct-connected transmitter with optional block and bleed valve, to be easily field calibrated without having to remove the transmitter from the process.

Foxboro Part No.	Description
F0101ES	Calibration Screw; use with Poly-Flo fitting (to 0.7 MPa [100 psi])



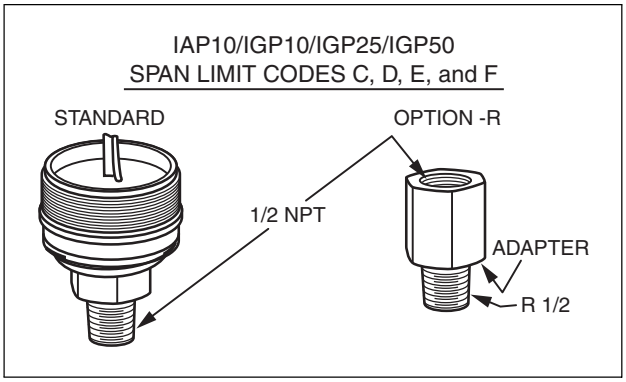
MOUNTING HARDWARE, MANIFOLD VALVES, AND PROCESS CONNECTIONS (Cont.)

R 1/2 Process Connection Adapter

For IAP10/IGP10/IGP20/IGP50 direct connect transmitters having Span Limit Codes C, D, E, and F only. Adapts a 1/2 NPT process connection to a R 1/2 process connection.

Model Code Suffix	Description
-R (a)	R 1/2 Process Connection Adapter

(a) Not available with Structure Codes 24, 26, 28, 30, 31, 32, 33, S3, S4, SC, SD; or with transmitters having integral process connectors for sanitary, and pulp and paper processes.

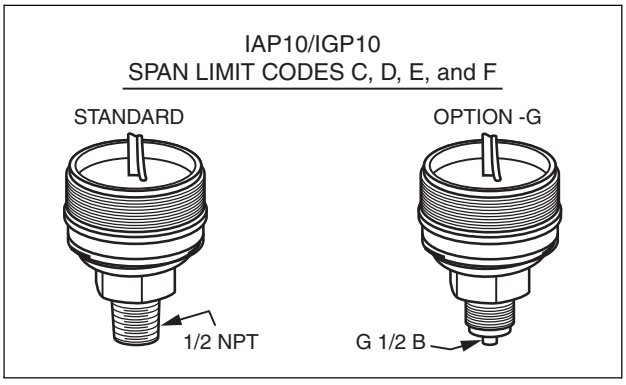


G 1/2 Form B Process Connection

For IAP10 and IGP10 Transmitters having Span Limit Codes C, D, E, F, and G only. A G 1/2 Form B external thread is used in lieu of the standard 1/2 NPT process connection.

Model Code Suffix	Description
-G (a)	G 1/2 Form B External Thread

(a) Not available with Structure Codes 24, 26, 28, 30, 31, 32, 33, S3, S4, SC, SD; or with transmitters having integral process connectors for sanitary, or pulp and paper processes.



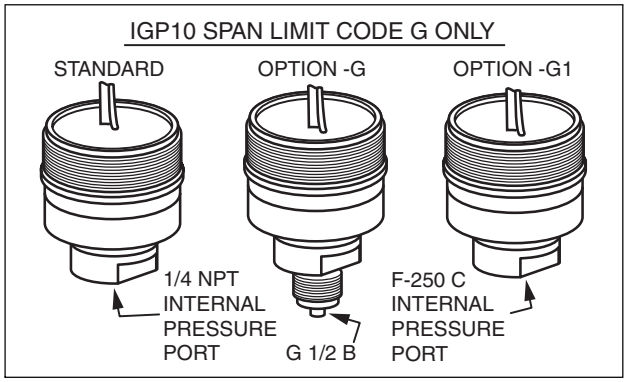
Optional Process Connections for IGP10 High Gauge Pressure Transmitters

Available only with Span Limit Code G.

A G 1/2 Form B external thread (Option -G), or an Autoclave F-250 C internal pressure port (Option -G1) is used in place of the standard 1/4 NPT internal pressure port.

Model Code Suffix	Description
-G (a)	G 1/2 Form B External Thread
-G1 (a)	Autoclave F-250 C Internal Pressure Port

(a) Not available with high gauge pressure transmitter Structure Code 28.

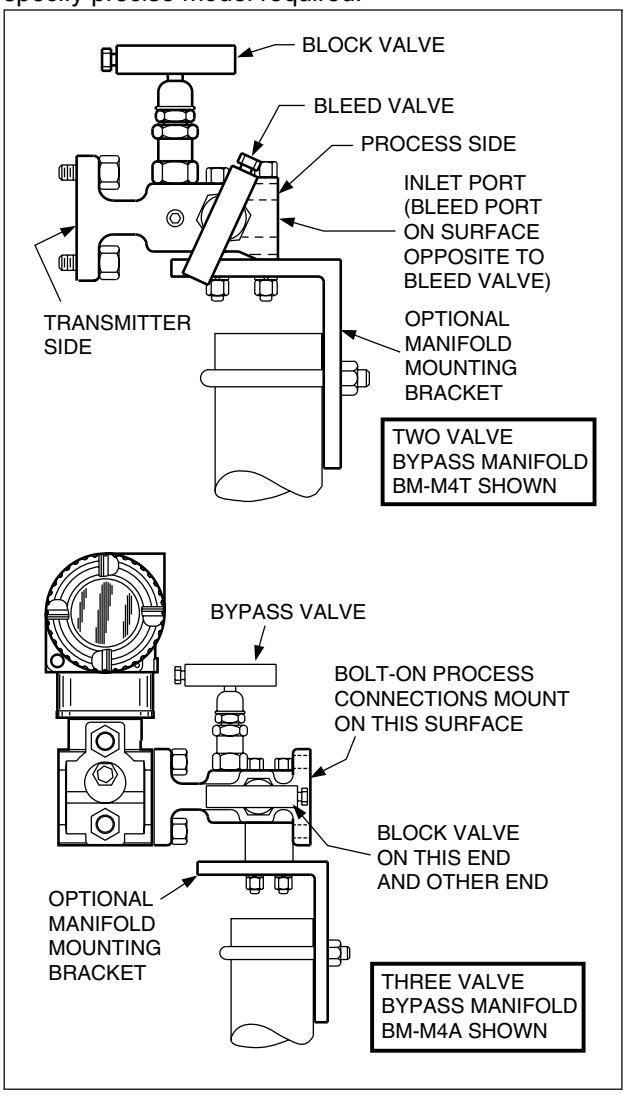


MOUNTING HARDWARE, MANIFOLD VALVES, AND PROCESS CONNECTIONS (Cont.)

Two- and Three-Valve Bypass Manifolds

A two-valve manifold is offered specifically for transmitters having no process connector (Connector Code “0”, cover tapped for 1/4 NPT). A block valve isolates transmitter from process and is open during normal operation. When block valve is closed, the bleed valve vents pressure from the transmitter. See PSS 2B-1Z2 A to specify manifold materials, and optional manifold mounting bracket, if required.

Three-valve manifolds offered in large selection of configurations and materials. They provide a quick means of installing the combination of one bypass and two block valves as a single unit. The manifolds are used to easily and economically adapt a d/p Cell transmitter to flow or liquid level measurement devices. They are also available with brackets for mounting manifold to a pipe. See PSS 2B-1Z2 A to specify precise model required.



DIN 19213 Construction Options

Process Covers (316 ss only) used with IDP10, IDP25, IDP50, IAP20, IGP20, IMV25, and IMV30 when Process Connector Code “0” is selected. These options have the following pressure ratings.

DIN 19213 Option	Pressure Rating
-D9	40 MPa (5800 psi) (a)
-D3 and -D7	25 MPa (3625 psi) (b)
-D1	16 MPa (2320 psi) (c)
-D5	15 MPa (2175 psi) (c)
-D2, -D4, -D6, -D8 (d)	10 MPa (1500 psi) (c)

(a) Option -D9 has a higher rating than standard (Note b).

(b) Standard pressure rating is 25 MPa (3625 psi).

(c) Options -D1, -D2, -D4, -D5, -D6, and -D8 are derated as listed.

(d) Options D2, -D4, -D6, -D8 limited to 0 to 60°C (32 to 140°F).

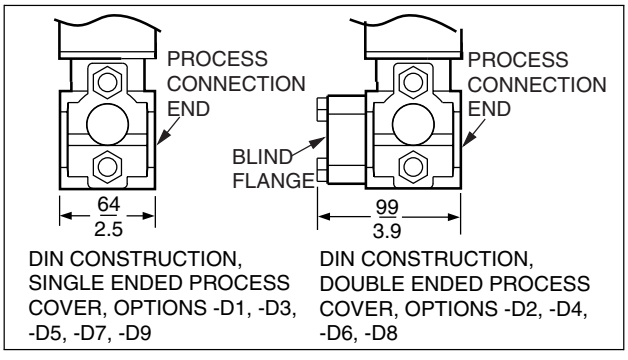
Model Code Suffix	Description
-D1 (a)	Single Ended Process Cover, M10, B7 Steel Bolting
-D2 (a)(b)	Double Ended Process Cover, M10, B7 Steel Bolting/Blind Flange
-D3 (a)	Single Ended Process Cover, 7/16 in, B7 Steel Bolting
-D4 (a)(b)	Double Ended Process Cover, 7/16 in, B7 Steel Bolting/Blind Flange
-D5 (a)	Single Ended Process Cover, 7/16 in, 316 ss Bolting
-D6 (a)(b)	Double Ended Process Cover, 7/16 in, 316 ss Bolting/Blind Flange
-D7 (a)	Single Ended Process Cover, 7/16 in, 17-4 ss Bolting
-D8 (a)(b)	Double Ended Process Cover, 7/16 in, 17-4 ss Bolting/Blind Flange
-D9 (a)(c)(d)	Single Ended Process Cover, 7/16 in, 17-4 ss

(a) Not available with pressure seals.

(b) Not available with Mounting Bracket Sets.

(c) Not with Span Codes A, D, E, or Options -B1, -B2, -B3, -V, -Y.

(d) Not with IMV25 or IMV30 Transmitters.



DIN CONSTRUCTION, SINGLE ENDED PROCESS COVER, OPTIONS -D1, -D3, -D5, -D7, -D9

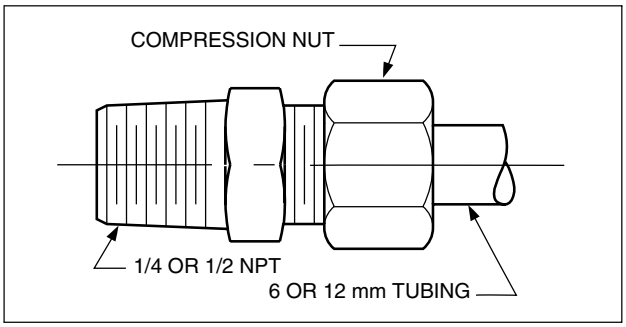
DIN CONSTRUCTION, DOUBLE ENDED PROCESS COVER, OPTIONS -D2, -D4, -D6, -D8

MOUNTING HARDWARE, MANIFOLD VALVES, AND PROCESS CONNECTIONS (Cont.)

Tubing Connectors

For IAP20, IGP20, IDP10, IDP25, IDP50, IMV25, and IMV50 Transmitters (not with level transmitters and transmitters with seals). Carbon steel (cs) or stainless steel (ss) compression fittings for connecting 6 or 12 mm tubing to 1/4 or 1/2 NPT process connections.

Model Code Suffix	Description
-E1	Connector, 6 mm, 1/4 NPT, cs
-E2	Connector, 12 mm, 1/2 NPT, cs
-E3	Connector, 6 mm, 1/4 NPT, ss
-E4	Connector, 12 mm, 1/2 NPT, ss



MISCELLANEOUS PRODUCT ENHANCING OPTIONS

Electronics Housing Features

External Zero Adjustment

An external, moisture sealed pushbutton is provided on the electronics housing. This zero adjust pushbutton function is non-intrusive and magnetically operated through the housing. This allows the user to locally reset zero without removing the housing cover. Not offered with IMV25 or IMV30 Multivariable Transmitter.

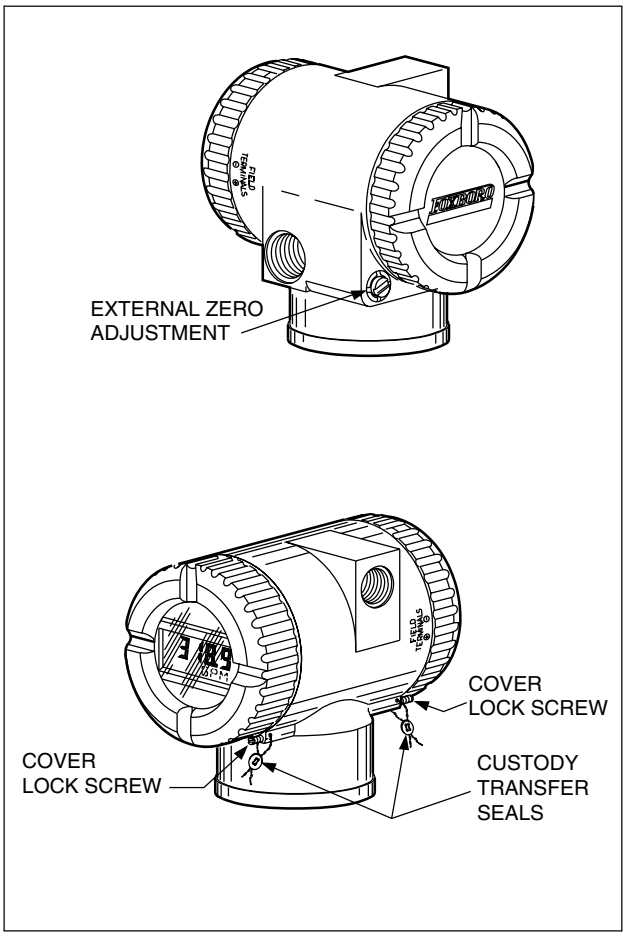
Custody Transfer Lock and Seal

Offered for use in custody transfer applications. Two set screws are used to position and lock the two housing covers after they are fully engaged. Two approved custody transfer seals are used to indicate entry into the electronics housing.

External Zero Adjustment and Custody Transfer Lock and Seal

This option provides both External Zero Adjustment and Custody Transfer Lock and Seal. Not offered with IMV25 or IMV30 Multivariable Transmitter.

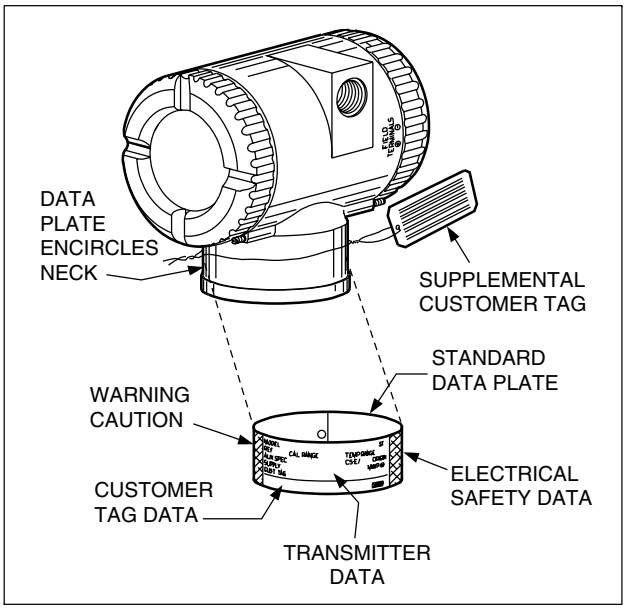
Model Code Suffix	Description
-Z1	External Zero Adjustment
-Z2	Custody Transfer Cover Locks and Seals
-Z3	Both External Zero Adjustment and Custody Transfer Cover Locks and Seals



MISCELLANEOUS PRODUCT ENHANCING OPTIONS (Cont.)

Standard Data Plate

All Transmitters are supplied with a stainless steel data plate using embossed characters. The data plate encircles the neck of the electronics housing, and is secured. If order is supplied with tag data, it is automatically included on the data plate (approximately thirty characters). For additional tag space, refer to “Supplemental Customer Tag”.



Supplemental Customer Tag

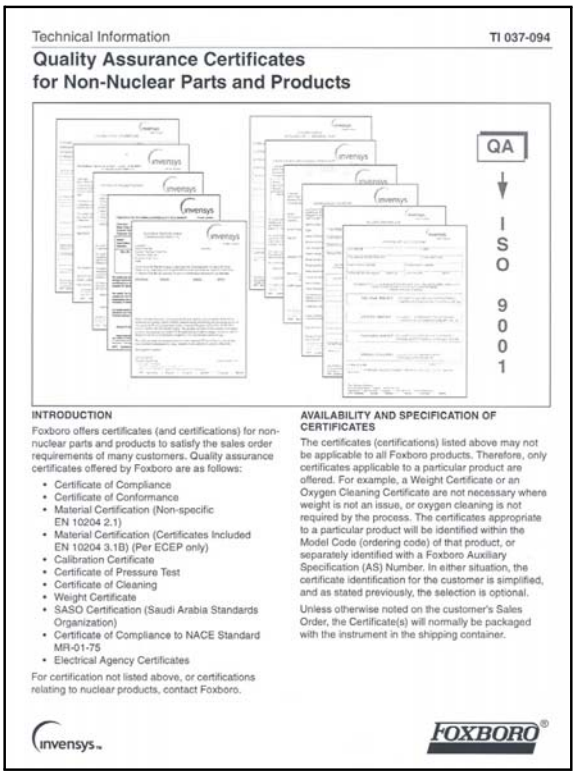
The standard, permanently-attached, stainless steel data plate provides one line of space, 76 mm (3 in) long for customer tagging information. This option adds a 90 x 40 mm (3.5 x 1.5 in) stainless steel tag, for additional customer data. The tag is fastened to the transmitter with stainless steel wire.

Model Code Suffix	Description
-T	Supplemental Customer Tag

Quality Assurance Certificate

Foxboro offers certificates for parts and products to satisfy the needs of many customers. Quality assurance certificates offered are for compliance, conformance, material and parts, calibration, pressure test, cleaning, weight, SASO, electrical safety classifications, and custom certificates not listed above. Refer to TI 037-094 for a detailed description of the certificates.

Order by Specifying	Description
CERT-A	Certificate of Compliance/Quality Statement
CERT-B	Certificate of Conformance
CERT-C	Material Certificate (Typical) Listing, Description, and Conformance statements
CERT-D	Material Certificate - Same as CERT-C except that material certificates are included in package.
CERT-E	Calibration Certificate
CERT-F	Certificate of Hydrostatic/Pressure Test
CERT-G	Certificate of Cleaning
CERT-H	Weight Certificate
CERT-I	SASO Certificate
CERT-J	Cover Sheet
CERT-K	Certificate of Compliance/Quality Statement
Other	Contact Foxboro



Technical Information TI 037-094

Quality Assurance Certificates for Non-Nuclear Parts and Products

QA

ISO 9001

INTRODUCTION

Foxboro offers certificates (and certifications) for non-nuclear parts and products to satisfy the sales order requirements of many customers. Quality assurance certificates offered by Foxboro are as follows:

- Certificate of Compliance
- Certificate of Conformance
- Material Certification (Non-specific EN 10204 2.1)
- Material Certification (Certificates Included EN 10204 3.1B) (Per ECEP only)
- Calibration Certificate
- Certificate of Pressure Test
- Certificate of Cleaning
- Weight Certificate
- SASO Certification (Saudi Arabia Standards Organization)
- Certificate of Compliance to NACE Standard MR-01-75
- Electrical Agency Certificates

For certification not listed above, or certifications relating to nuclear products, contact Foxboro.

AVAILABILITY AND SPECIFICATION OF CERTIFICATES

The certificates (certifications) listed above may not be applicable to all Foxboro products. Therefore, only certificates applicable to a particular product are offered. For example, a Weight Certificate or an Oxygen Cleaning Certificate are not necessary where weight is not an issue, or oxygen cleaning is not required by the process. The certificates appropriate to a particular product will be identified within the Model Code (ordering code) of that product, or separately identified with a Foxboro Auxiliary Specification (AS) Number. In either situation, the certificate identification for the customer is simplified, and as stated previously, the selection is optional.

Unless otherwise noted on the customer's Sales Order, the Certificate(s) will normally be packaged with the instrument in the shipping container.

invensys FOXBORO®

MISCELLANEOUS PRODUCT ENHANCING OPTIONS (Cont.)

Transmitter Instructions

The standard transmitter is shipped with a common paper Instruction Manual, a "Getting Started" brochure, and a full documentation set (MIs, PLs, DPs, etc.) on a CD-ROM.

Optionally the user can select the -K1 option, which provides only a brief "Getting Started" brochure.

If the user does not require the standard transmitter documentation with an order of many identical transmitters, then the -K1 option is generally specified for the additional transmitters.

For example, to order ten identical transmitters with only one standard documentation set:

- For the 1st transmitter, the -K1 option is not specified, and you then receive the standard documentation with the 1st transmitter;
- And for the 2nd through 10th transmitters, specify Option -K1, and you then receive a "Getting Started" brochure with the 2nd through 10th transmitters, but not the standard documentation set.

Optional Custom Configurations – -C1, -C2

Transmitter databases can be changed via:

- Electronic Version -D (FoxCom/Digital and 4 to 20 mA): HHT; PC-based configurator; I/A Series system; or optional LCD Indicator with on-board pushbuttons
- Electronic Version -T (HART/ Digital and 4 to 20 mA): Model 275 HART Communicator; or optional LCD Indicator with on-board pushbuttons
- Electronic Version -F (FOUNDATION Fieldbus/ Digital only): I/A Series system host workstation having a Fieldbus Interface Electronics PWA; PC host having a Fieldbus Interface Electronics PWA; or optional LCD Indicator with on-board pushbuttons
- Electronic Version -A (4 to 20 mA dc Analog Output): Standard LCD Indicator with on-board pushbuttons
- Electronic Version -V (1 to 5 V dc Analog Output): Standard LCD Indicator with on-board pushbuttons

Foxboro modifies the default configuration per user's request when Optional Selection Code -C1 or -C2 is specified.

See tables in each transmitter PSS for the standard configuration, and an example of optional custom configuration -C2.

Model Code Suffix	Description
-C1	Digital Output Configuration (for Electronics Version -D only). There is a 4 to 20 mA default if Option -C1 is not selected.
-C2	Custom Configuration. Factory Configuration per User's Requirement (User must fill out Data Form for factory to custom configure the Transmitter)

MISCELLANEOUS PRODUCT ENHANCING OPTIONS (Cont.)

Static Pressure Rating Increase

This option applies to the IDP10, IDP25, and IDP50 Transmitters only. This option increases the static pressure rating from 25 to 40 MPa (from 3625 to 5800 psi). See table below.

Model Code Suffix (a)	Description
-Y	Static Pressure Rating Extended to 40 MPa (5800 psi)

(a) - Only available with Span Codes B and C
- Not available with Options -B1, -B2, -B3
- Not available with Din Construction Options -D1 to -D9
- Not available with Structure Codes 78 and 79
- Not available with transmitters having pressure seals.

Lowering of Operating Temperature Limit

This option offered for transmitters having silicone filled sensors only. The low temperature operative limit of the electronics housing of -40°C (-40°F) is extended down to -50°C (-58°F). This limit applies to transmitters not having the LCD Indicator. However, although the indicator will not be damaged at these low temperatures, its readability will start to decrease at temperatures below -20°C (-4°F).

Model Code Suffix	Description
-J (a)(b)	Low Temperature Operative Limits of Electronics Housing Extended down to -50°C (-58°F)

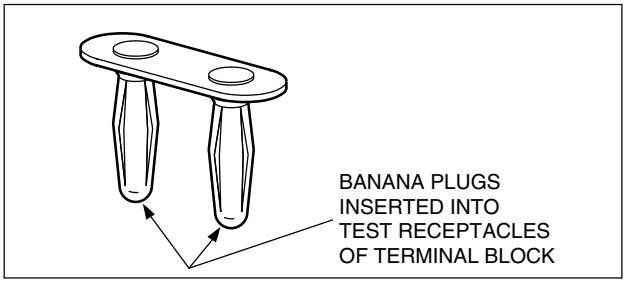
(a) For transmitters having silicone filled sensors only.

(b) Not available with Electronics Version -V.

Shorting Plug

The nominal supply voltage limits for many of these transmitters are 11.5 and 42 V dc. If required by the user, the 11.5 V dc minimum voltage can be reduced to 11 V dc by inserting a plug-in shorting bar across the test receptacles in the field wiring compartment terminal block. Not applicable to transmitters with Electronics Codes -F and -V, nor with the IMV25 or IMV30 Multivariable Transmitters.

"AS" Reference Code	Description
SB-11	Plug-in Shorting Bar



Five Year Warranty

The standard two-year warranty is increased to a five year warranty. In either case, the I/A Series Pressure Transmitters provide outstanding quality, service, and reliability that users have come to expect from Invensys Foxboro transmitters.

Model Code Suffix	Description
-W	Five Year Warranty

COMPACT ORIFICES, ORIFICE ASSEMBLIES, AND ORIFICE PLATES

Compact Orifice

The compact orifice (Model CO) comprises an orifice plate with an integral 3-valve isolation manifold and forms a one-piece, rugged wafer body assembly. The 25 mm (1 in) thick orifice wafer body can be installed between DIN or ANSI flanges in pipelines ranging from DN 15 to DN 200 (1/2 in to 8 in) sizes. Alignment rings for use with the DIN or ANSI flanges are provided to accurately center the concentric orifice within the pipeline, and to generally simplify the entire installation procedure.

This orifice/manifold assembly is shipped directly assembled to either an IDP10, IDP25, IDP50, IMV25, or IMV30 Transmitter. The figure below shows the assembly relationship of the various components, and also depicts three of the eight orifice sizes offered.

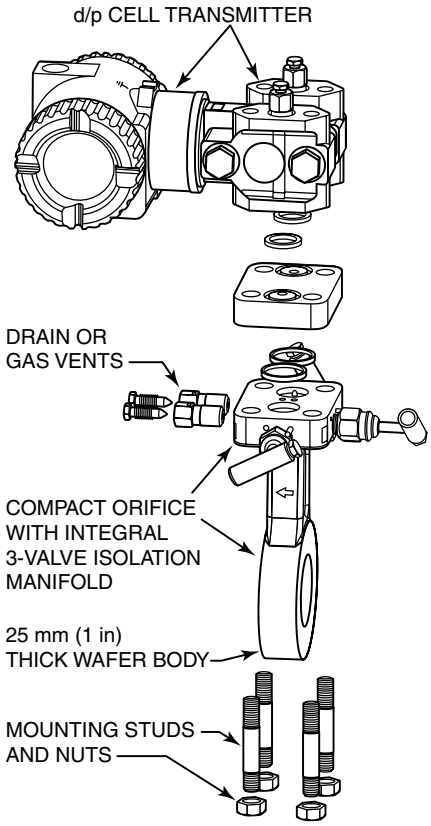
Beta ratios of 0.40 or 0.65 can be selected with each orifice size. These betas are optimal for most concentric orifice flow applications.

The direct mounting of the orifice to the transmitter eliminates field interconnections, provides more consistent and improved performance when compared to remote transmitter installations, and reduces overall assembly and field installation costs.

The compact orifice can be used with clean liquids, gases, and low velocity steam. The orifice and transmitter are ordered separately, but shipped as one unit. Refer to the applicable PSSs listed in the table below for compact orifice and transmitter specifications and ordering instructions.

Model	Description	Specify Model Number From
CO	Compact Orifice	PSS 3-5A1 E
IDP10	DP Transmitter	See Tables 1 and 2.
IDP25	MR Transmitter	See Table 1.
IDP50	PP Transmitter	See Table 1.
IMV25	MV Transmitter	PSS 2A-1C15 B
IMV30	MV Transmitter	PSS 2A-1C15 A

(a) Transmitters listed measure differential pressure (DP). They include multirange (MR), premium performance (PP), and multivariable (MV) transmitters.

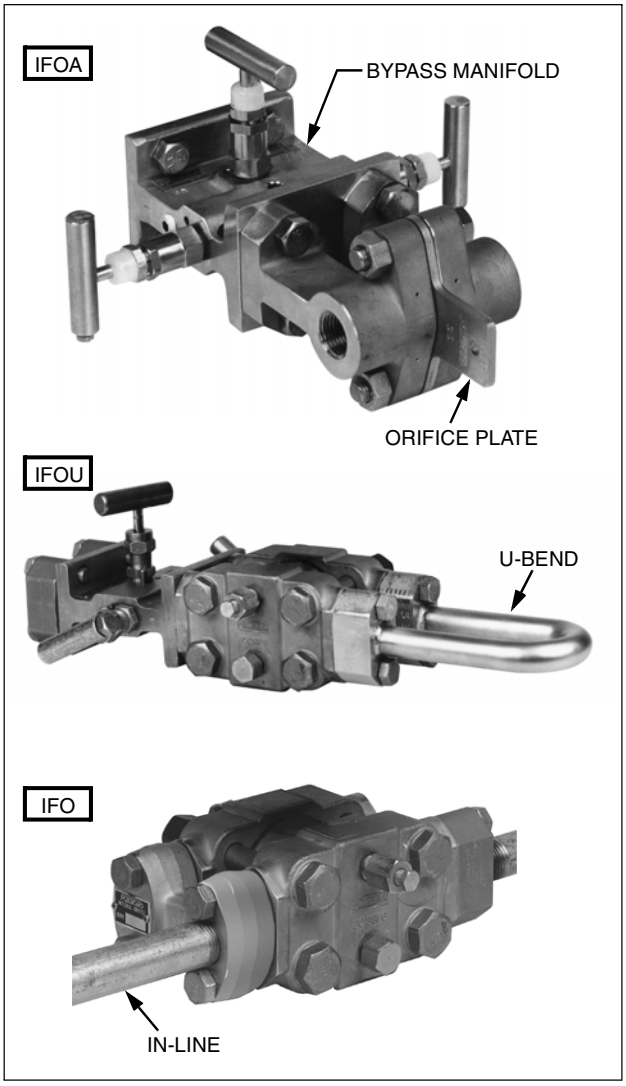


COMPACT ORIFICES, ORIFICE ASSEMBLIES, AND ORIFICE PLATES (Cont.)

Integral Flow Orifices

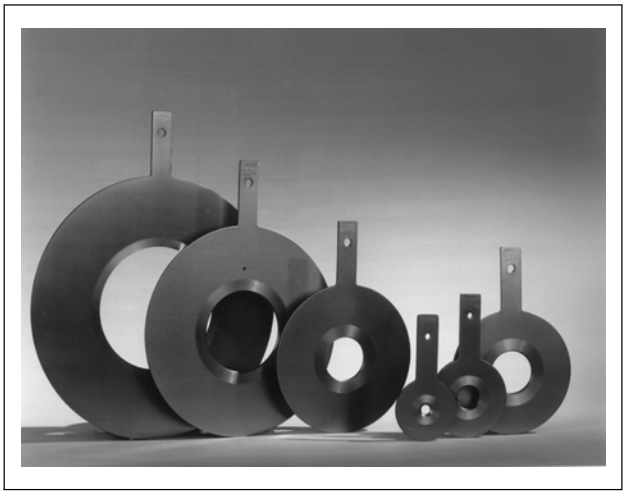
A wide variety of integral flow orifices, for use with d/p Cell transmitters, are offered for measurement of extremely low flow rates. They are available as in-line (Model IFO) or U-bend (Model IFOU) types that mount integral to the process connectors, or offered as assemblies that mount directly to the process connector or manifold and that feature no flow through the transmitter body (Model IFOA). The orifice plates themselves are easily replaceable.

Model	Specify Model Number From
IFOA	PSS 3-5A1 B
IFOU	PSS 3-5A1 C
IFO	PSS 3-5A1 D



Orifice Plates

An orifice plate is used for installation in a pipeline. A square edge orifice plate is a very common and popular restriction for clean liquids, gases, and low velocity steam in 2-inch and larger pipe sizes. They are available in a wide selection of materials and sizes. Orifice plate holding rings, orifice plate spacers, orifice flange unions, and orifice meter pipe assemblies are offered. Contact Invensys Foxboro for details on the square edged orifice plate, and also other special purpose plates (eccentric and segmental) available as low cost alternatives for troublesome applications.



TRANSMITTER ACCESSORIES

Invensys Foxboro stocks a wide variety of accessories to help tailor your installation. These accessories may be ordered by using the Foxboro Part Numbers listed, or by contacting Invensys Foxboro directly for application and other information.

Power Supply

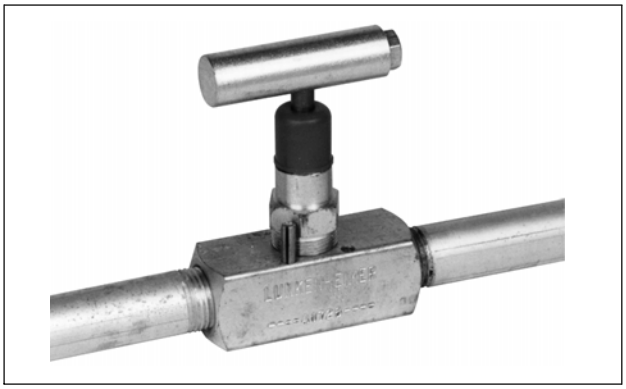
Acopian plug-in power supply capable of powering as many as three transmitters with 4 to 20 mA dc output signal. Each power supply requires an octal socket.

Foxboro Part No.	Description
P0300BR	Power Supply
B0113AA	Octal Socket

Hand Valves

For installation at process piping. Steel construction with 1/2 NPT internal thread at both ends.

Foxboro Part No.	Description
0046091	Valve for 10.5 MPa (1500 psi) at 38°C (100°F) maximum
0019883	Valve for 20 MPa (3000 psi) at 230°C (450°F) maximum



Siphon Pigtail

To rapidly reduce temperature at transmitter with a minimum of process piping. Steel construction with 1/4 NPT male threads at both ends. Approximately 115 mm (4.6 in) in length. Suitable to 14 MPa (2000 psi) at up to 340°C (650°F), or to 7 MPa (1000 psi) at up to 480°C (900°F).

Foxboro Part No.	Description
0005838	Siphon Pigtail

Differential Pressure Regulator

Maintains a constant pressure drop to control the purge rate in purge or bubble tube systems. Refer to MI 11-170 and MI 020-328 for additional information.

Foxboro Part No.	Description
B0107XY	10 kPa (1.5 psi) Differential (Air Only)
B0107XX	20 kPa (3 psi) Differential (Liquid or Gas)

TRANSMITTER ACCESSORIES (Cont.)

Rotameter

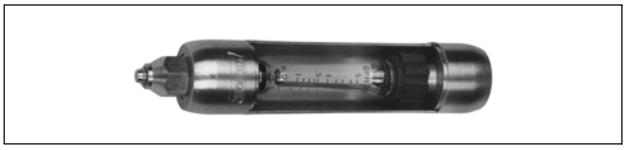
For control of purge rate and visual indication in a purge or bubble tube system. For additional details refer to Instruction Manuals MI 005-529 and MI 020-328.

Suitable for gas or liquid purges up to 1.4 MPa (200 psi) at 70°C (160°F). See descriptions below.

Foxboro Part No.	Description
D0105NX	0.2 to 30 scfh (Gas), or 0.1 to 5 gph (Liquid)
D0105PF	5 to 60 scfh (Gas)
D0105PB	4 to 40 gph (Liquid)
M0153YM	5 to 200 mL/s (Gas), or 0.1 to 5 mL/s (Liquid)
M0153YN	20 to 500 mL/s (Gas)
M0153YP	5 to 40 mL/s (Liquid)

Suitable for gas or liquid purges up to 1.4 MPa (200 psi) at 90°C (200°F). See descriptions below.

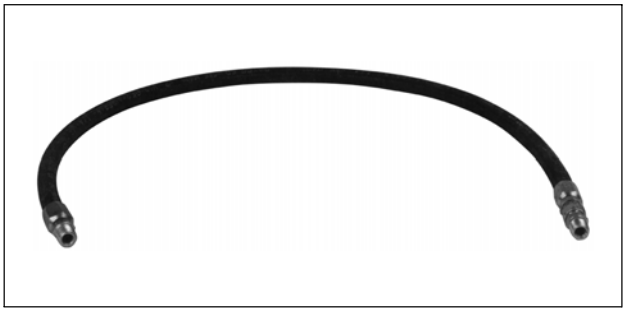
Foxboro Part No.	Description
D0127MF	0.2 to 30 scfh (Gas), or 0.1 to 5 gph (Liquid)
D0127ML	5 to 60 scfh (Gas)
D0127MK	4 to 40 gph (Liquid)



Flexible Hose Connector

Anchor coupling or Dayco braided hose with 1/4 NPT swivel connections for use as impulse piping between process and transmitter. Suitable for up to 17.5 MPa (2500 psi).

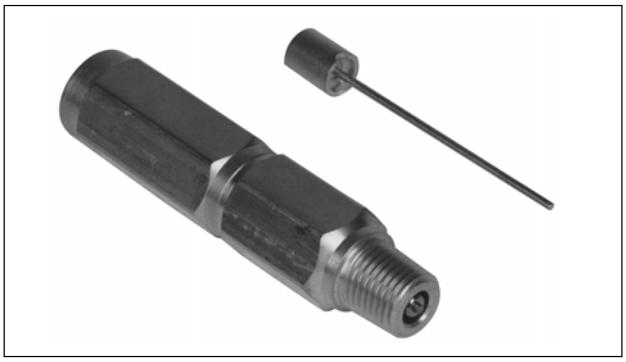
Foxboro Part No.	Description
B0110EB	3 ft Hose
B0110EC	6 ft Hose



Pressure Snubbers

For installation in the process line to reduce or eliminate any unwanted pressure pulsations, 1/4 NPT at both ends.

Foxboro Part No.	Description
0045162	Brass, 1500 psi (100 Bar) For air, water, or steam
0045163	303 ss, 5000 psi (340 Bar) For thin liquids and gases
0044596	Brass, 1500 psi (100 Bar) For oils and thick liquids
0044597	303 ss, 5000 psi (340 Bar) For oils and thick liquids



TRANSMITTER ACCESSORIES (Cont.)

Condensing Chamber

Good for steam service up to 7 MPa (1000 psi) absolute at 510°C (950°F) if condensing chamber temperature does not exceed 340°C (650°F). Chamber has 1/2 NPT connections with top vent screw assembly.

Foxboro Part No.	Description
0045776	Condensing Chamber

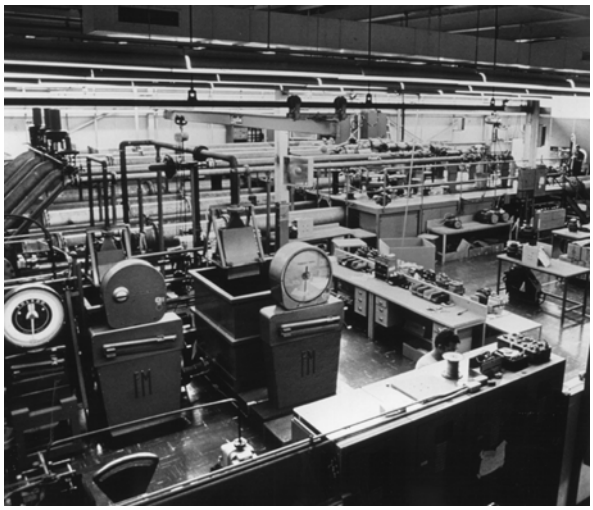
Vapor Trap

A vapor trap is for installation at the manifold when the manifold is above the transmitter and transmitter is above the process line. Available for applications where the pressure does not exceed 140 bar (2000 psi).

Foxboro Part No.	Description
0022817	Vapor Trap

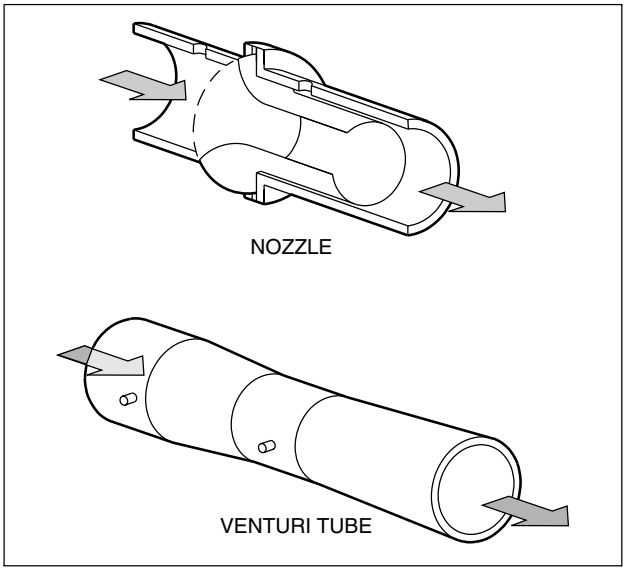
Laboratory Flow Calibration

Precision flow calibration of primary device and d/p Cell Transmitters are performed in the Foxboro Flow Laboratory. Refer to Invensys Foxboro.



Other Primary Devices

In addition to orifice plates and orifice assemblies, flow nozzles and venturi tubes are used as primary devices and are directly installed in the pipeline. Contact Invensys Foxboro to specify your requirements.



CALIBRATION

All I/A Series Pressure Transmitters are factory calibrated to customer's specified range. This calibrated range is also stamped on the data plate. If a calibrated range is not specified, the transmitter will be calibrated at its maximum span with the data plate left blank. Calibrations are done at ambient temperature and pressure.

The following is a 5-point check, sample calibration certificate which can be provided (note, computer-generated calibration available from Foxboro, MA only).

FOXBORO, MASS., U. S. A.
CALIBRATION
DATA SHEET

Customer

Date 5 Dec 2001
Time 06:45

Customer P.O.

Cal. by DB
Dept. 1329

Customer Tag -

Foxboro Order
Serial # 01481168

Inst. type IDP10-A
HRTCOM

Range 0.0000 to 60.0000 Mm H2O

Actual input in Mm H2O	Actual output in Mm H2O		Digital error in % of Span		Analog error in % of Span	
	Inc.	Decr.	Inc.	Decr.	Inc.	Decr.
.005	.014		+.02		+.01	
15.015	15.035		+.03		+.02	
30.005	30.017		+.02		+.03	
44.994	45.003		+.01		+.03	
60.002	60.009		+.01		+.03	

Max. Digital ERROR .03 % at 25 % of Span
Max. Analog ERROR .03 % at 75 % of Span

(FOR SALES ORDER REQUIREMENTS ONLY)

Approved by _____

S7G1

Title _____

All measurement standards are calibrated at scheduled intervals against certified standards which are traceable to the National Institute of Standards and Technology.

Form 2759A(1/93)

PRESSURE SEALS FOR I/A Series PRESSURE TRANSMITTERS (IASPT)

Pressure Seals

Many styles available for use with AP, GP, and DP transmitters. Seals are used to isolate transmitter from corrosive or viscous process mediums, or mediums that tend to solidify. They can be direct-connected or used with capillary tubing. The pressure seal system is filled with a suitable fluid. GP versions with integral end connections specifically for sanitary, and pulp and paper applications are also available. (See applicable sections further in document.)

Tables 3 and 4 identify the different pressure seals available and their applicability with each transmitter model. Also, seals are shipped assembled to the transmitter as a matched system. Both a transmitter and seal Model Number are required. Refer to the applicable transmitter PSS and Pressure Seal PSS 2A-1Z11 E for further information and ordering instructions. Also see Vacuum Service Metal Gasket option.

Vacuum Service Metal Gasket Option

This is a required option when pressure seals are used with IDP10 and IGP20 transmitters in vacuum applications. This option substitutes a vacuum service metal gasket for the standard ptfe process cover gasket. The metal gasket is standard with IAP20 Transmitters.

Model Code Suffix (a)	Description
-G1 (a)	Gasket for vacuum service with pressure seals

(a) Available only with seal Structure Codes F1-F4, S1-S6, and SA-SF.

Table 3. Pressure Seals Used with I/A Series Pressure Transmitters

Direct Connect Pressure Seal Assemblies		
Seal Model	**Seal Description**	**Process Connections**
PSFLT	Flanged, Direct Connect (Flanged Level), Flush or Extended Diaphragm	ANSI Class 150/300/600 flanges and BS/DIN PN 10/40, 10/16, 25/40 flanges
PSFAD	Flanged, Direct Connect, Recessed Diaphragm	ANSI CLass 150, 300, 600, 1500 flanges
PSTAD	Threaded, Direct Connect, Recessed Diaphragm	1/4, 1/2, 3/4, 1, or 1 1/2 NPT internal thread
PSISD	In-Line Saddle Weld, Direct Connect, Recessed Diaphragm	Lower housing of seal is in-line saddle welded to nominal 3- or 4-inch (and larger) Pipe
PSSCT	Sanitary, Direct Connect (Level Seal), Flush Diaphragm	Process Connection to Sanitary Piping with 2- or 3-inch Tri®-Clamp
PSSST	Sanitary, Direct Connect (Level Seal), Extended Diaphragm	Process Connection to 2-in Mini Spud or 4-in Standard Spud; Tri-Clamp
Remote Mount, Capillary-Connected Pressure Seal Assemblies		
Seal Model	**Seal Description**	**Process Connections**
PSFPS	Flanged, Remote Mount, Flush Diaphragm	ANSI Class 150/300/600 flanges and BS/DIN PN 10/40 flanges
PSFES	Flanged, Remote Mount, Extended Diaphragm	ANSI Class 150/300/600 flanges and BS/DIN PN 10/40, 10/16, 25/40 flanges
PSFAR	Flanged, Remote Mount, Recessed Diaphragm	ANSI Class 150/300/600/1500 flanges
PSTAR	Threaded, Remote Mount, Recessed Diaphragm	1/4, 1/2, 3/4, 1, or 1 1/2 NPT internal thread
PSISR	In-Line Saddle Weld, Remote Mount, Recessed Diaphragm	Lower housing of seal is in-line saddle welded to nominal 3- or 4-inch (and larger) Pipe
PSSCR	Sanitary, Remote Mount, Flush Diaphragm	Process Connection secured with a Tri-Clamp to a 2- or 3-inch pipe
PSSSR	Sanitary, Remote Mount, Extended Diaphragm	Process Connection to 2-in Mini Spud or 4-in Standard Spud; Tri-Clamp

Table 4. I/A Series Pressure Transmitters and Applicable Pressure Seals

Transmitter Model (a)	**Used with Pressure Seal Model: (b)**												
	FLT	**FAD**	**TAD**	**ISD**	**SCT**	**SST**	**FPS**	**FES**	**FAR**	**TAR**	**ISR**	**SCR**	**SSR**
IAP10	–	✓	✓	✓	–	–	✓	✓	✓	✓	✓	✓	✓
IAP20	–	–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓
IGP10	–	✓	✓	✓	–	–	✓	✓	✓	✓	✓	✓	✓
IGP20	✓	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
IGP25	–	✓	✓	✓	–	–	✓	✓	✓	✓	✓	✓	✓
IGP50	–	–	–	–	–	–	–	–	–	–	–	–	–
IDP10	✓	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
IDP25	✓	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
IDP50	–	–	–	–	–	–	–	–	–	–	–	–	–
IMV25	–	–	–	–	–	–	–	–	–	–	–	–	–
IMV30	–	–	–	–	–	–	–	–	–	–	–	–	–

(a) For applicable transmitter PSSs, see Tables 1 and 2.

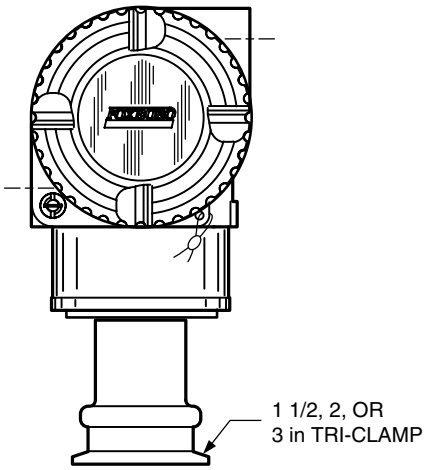
(b) Pressure Seal models are shown with an abbreviated code; all seal codes have a PS prefix; for example, FLT is really Model PSFLT.

TRANSMITTERS WITH INTEGRAL CONNECTORS FOR SANITARY PROCESSES

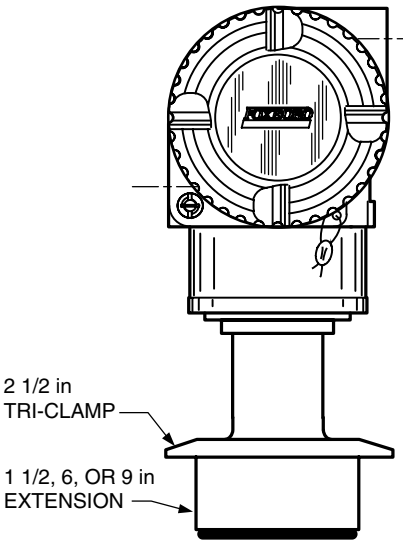
IGP10 and IGP25 Gauge Pressure Transmitters are offered with integral sanitary process connections. They include Tri-Clamp, mini tank spud, extended mini tank spud, and threaded spud type process connectors. The transmitters are characterized with the integral process connection for improved performance. Neobee M-20 fill fluid is used, and industry standard 316L ss is offered for process connection and sensor wetted parts material.

These instruments conform to 3A sanitary standards. See figures below and ACCESSORIES section that follows.

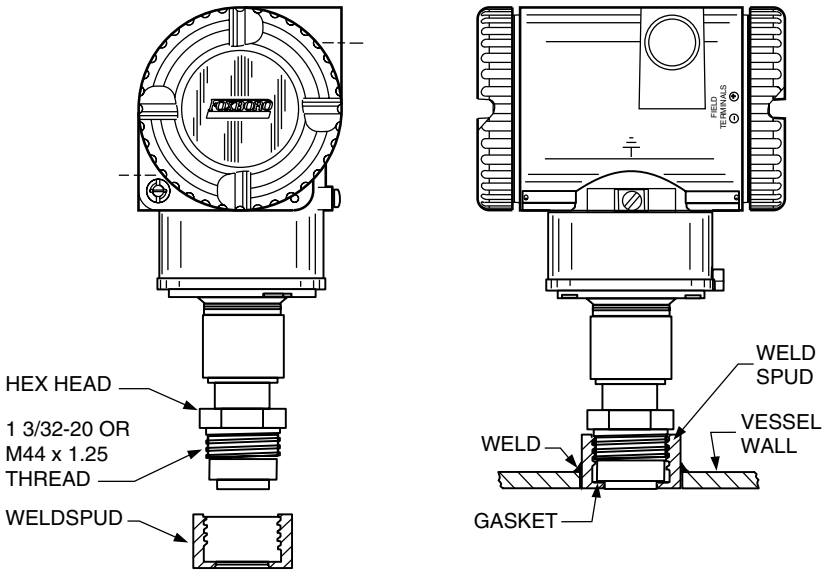
TRANSMITTER WITH INTEGRAL
SANITARY TRI-CLAMP
PROCESS CONNECTOR



TRANSMITTER WITH INTEGRAL
MINI TANK SPUD SEAL
TRI-CLAMP CONNECTOR



TRANSMITTER WITH INTEGRAL
THREADED, SPUD TYPE
PROCESS CONNECTOR



TRANSMITTERS WITH INTEGRAL CONNECTORS FOR SANITARY PROCESSES (Cont.)

Accessories

Numerous accessories are offered for use with the IGP10 and IGP25 Transmitters with integral sanitary process connectors. See Tables 5, 6, and 7 for part numbers, descriptions, and configurations of these accessories.

Table 5. Sanitary Process Connector Accessories - Weld Spuds, Heat Sink/Plugs, Calibration Adapters, and O-Rings/Gaskets (a)

Description	Used with Structure Code	Part Number (b)
For use with Mini Tank Spud Connector		
Weld Spud, 1.5-inch Extension	M1	N1212GG (d)
Weld Spud, 6-inch Extension	M6	N1214BP (d)
Weld Spud, 9-inch Extension	M9	N1214BQ (d)
O-Rings	M1, M6, M9	N1212LB
For use with 1-inch Flush, Threaded Connector		
Weld Spud (c)	PX	N1214XW (d)
Heat Sink/Plug (c)	PX	N1214YS (d)
Calibration Adapter	PX	N1214XX (d)
Gasket (Gylon®)	PX	N1212YX
For use with 1.5-inch Flush, Threaded Connector		
Weld Spud (c)	PZ	N1214LG (d)
Heat Sink/Plug (c)	PZ	N1214YR (d)
Calibration Adapter	PZ	N1214MN (d)
Gasket (Gylon)	PZ	N1212YV

(a) Accessories are ordered and supplied separately.

(b) Refer to Table 7 for configuration and dimensions of accessories listed.

(c) When ordering a weld spud with a threaded type connector, note that use of a heat sink/plug is required to prevent metal distortion due to the high temperature of the welding process.

(d) Weld spuds, heat sink/plugs, and calibration adapters are supplied by user.

(e) Part number is for a package of five O-rings or gaskets. Each transmitter is shipped with its required gaskets or O-rings. This package of gaskets/O-rings is recommended extras or spares.

Table 6. Sanitary Process Connector Accessories - Tri-Clamps Supplied by User Unless Otherwise Noted (a)

Nominal Tube O.D.	MWP at 70°F	MWP at 250°F	Part Number
1.5 in Tube	500 psi	300 psi	N1212DA
2 in Tube	450 psi	300 psi	N1212DB
3 in Tube	350 psi	195 psi	N1212DC
1.5 in Tube	600 psi	300 psi	N1212PP
2 in Tube	550 psi	275 psi	N1212PQ
2.5 in Tube (a)	450 psi	225 psi	N1212HG (a)
3 in Tube	350 psi	175 psi	N1212PR
4 in Tube	300 psi	150 psi	N1212PS
1.5 in Tube	1500 psi	1200 psi	N1212FV
2 in Tube	1000 psi	800 psi	N1212FW
4 in Tube	800 psi	600psi	N1212AW

(a) The N1212HG Tri-Clamp for a 2.5 in Tube is used with Mini Tank Spud connectors M1, M6, and M9, and is supplied by Invensys Foxboro.

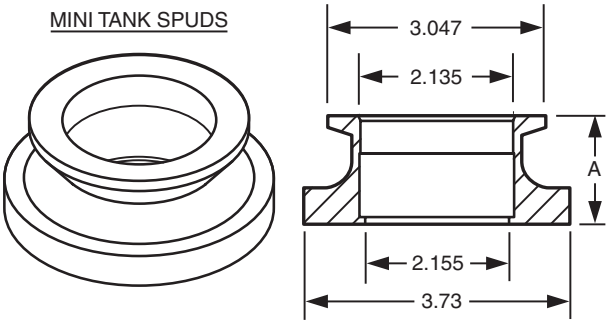
(b) The maximum working pressure (MWP) of the transmitter system is 2100 kPa (300 psi), or the MWP of the Tri-Clamp, whichever is less.

TRANSMITTERS WITH INTEGRAL CONNECTORS FOR SANITARY PROCESSES (Cont.)

Accessories (Cont.)

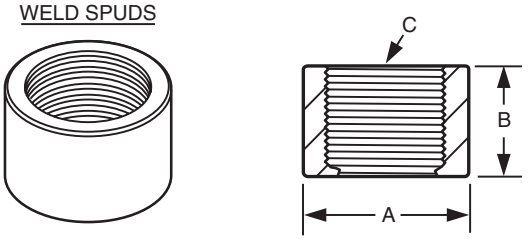
Table 7. Sanitary Process Connector Accessories -
Configuration of Weld Spuds, Heat Sink/Plugs, and Calibration Adapters

MINI TANK SPUDS



Part No.	Spud Extension A	Structure Code
N1212GG	1.50	M1
N1214BP	6.00	M6
N1214BQ	9.00	M9

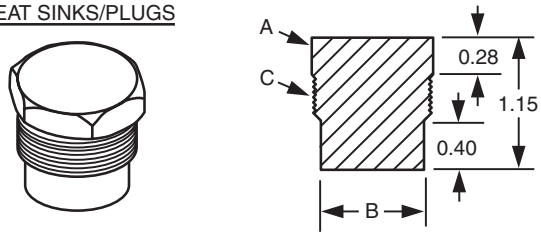
WELD SPUDS



Part No. (a)	A	B	Thread C	Structure Code
N1214XW	1.50	0.80	1 3/32-20	PX
N1214LG	2.12	0.80	M44 x 1.25	PZ

(a) Must be used with heat sinks/plugs below to prevent metal distortion due to high temperature of welding process.

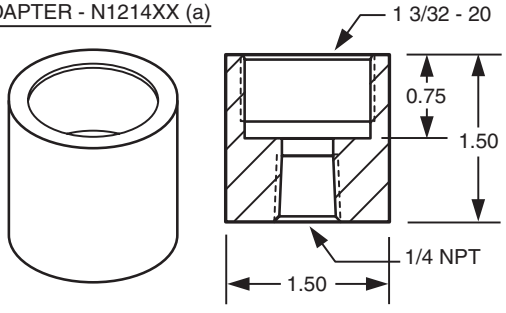
HEAT SINKS/PLUGS



Part No. (a)	Hex Hd A	Diameter B	Thread C	Structure Code
N1214YS	1.125	1.000	1 3/32 - 20	PX
N1214YR	1.75	1.595	M44 x 1.25	PZ

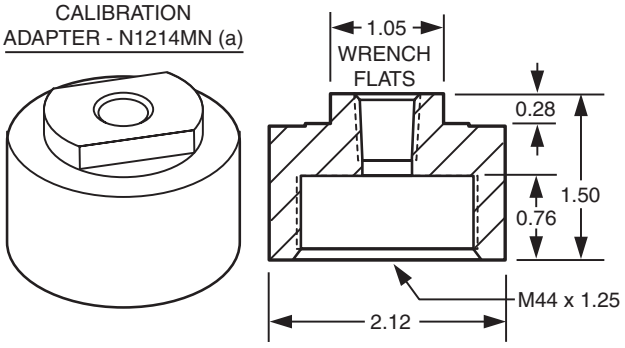
(a) Must be used with weld spuds above to prevent distortion due to high temperature of welding process.

CALIBRATION ADAPTER - N1214XX (a)



(a) Used with Structure Code PX.

CALIBRATION ADAPTER - N1214MN (a)



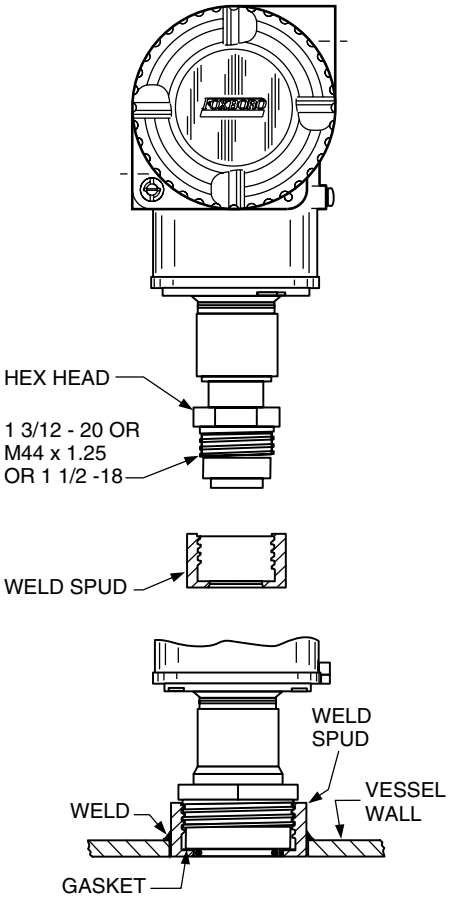
(a) Used with Structure Code PZ.

TRANSMITTERS WITH INTEGRAL CONNECTORS FOR PULP AND PAPER PROCESSES

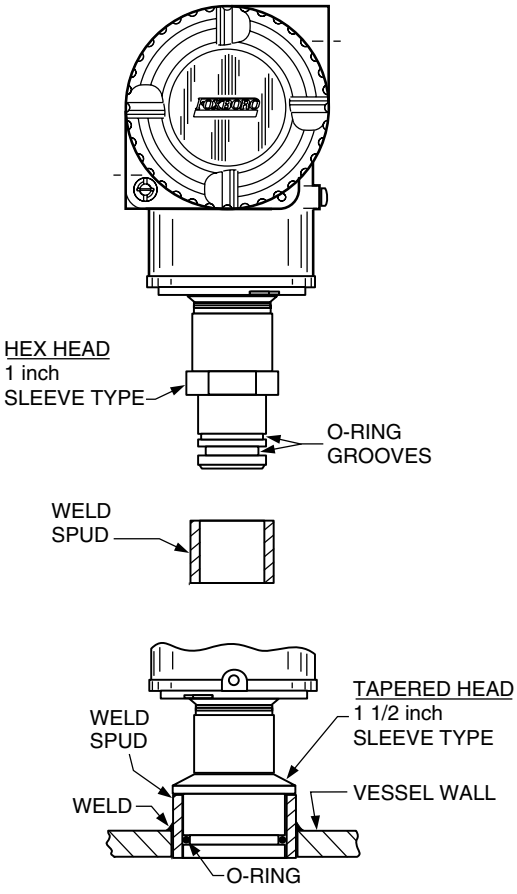
IGP10 and IGP25 Gauge Pressure Transmitters are offered with integral connectors for pulp and paper processes. They include 1 and 1 1/2 inch sleeve and threaded type connectors; also a 1 1/2 inch threaded type connector to fit an Ametek spud. The transmitters are characterized with the integral process connector for improved performance.

Diaphragm materials are either 316L ss or Hastelloy C, and the fill fluid is silicone.

TRANSMITTER WITH INTEGRAL PULP AND PAPER THREADED TYPE CONNECTOR



TRANSMITTER WITH INTEGRAL PULP AND PAPER SLEEVE TYPE CONNECTOR



TRANSMITTERS WITH INTEGRAL CONNECTORS FOR PULP AND PAPER PROCESSES (Cont.)

Accessories

Numerous accessories are offered for use with the IGP10 and IGP25 Transmitters with integral connectors for the pulp and paper industry. See Tables 8 and 9 for part numbers, descriptions, and configurations of these accessories.

Table 8. Weld Spuds, Calibration Adapters, Heat Sinks/Plugs, O-Rings, and Gaskets used with Threaded and Sleeve Type Process Connectors

Description of Accessory	Used with Structure Code	Part Number (b)
For use with 1-inch Sleeve Type Connector		
Weld Spud	PA, PE	N1214LH
Calibration Adapter	PA, PE	N1214MP
Process O-Ring at Diaphragm (Viton), 1-in Sleeve (d)	PA, PE	N1214YY
Process O-Ring, Outer (Viton), 1-in Sleeve (d)	PA, PE	N1214YZ
For use with 1-inch Flush, Threaded Type Connector		
Weld Spud (c)	PB, PF	N1214XW
Heat Sink/Plug (c)	PB, PF	N1214YS
Calibration Adapter	PB, PF	N1214XX
Process Gasket (Gylon) (d)	PB, PF	N1214YX
For use with 1.5-inch Sleeve Type Connector		
Weld Spud	PC, PG	N1214MM
Calibration Adapter	PC, PG	N1214MQ
Process O-Ring (Viton) (d)	PC, PG	N1214YW
For use with 1.5-inch Flush, Threaded Type Connector		
Weld Spud (c)	PD, PH	N1214LG
Heat Sink/Plug (c)	PD, PH	N1214YR
Calibration Adapter	PD, PH	N1214MN
Process Gasket (Gylon) (d)	PD, PH	N1214YV
For use with 1.5-inch Threaded Type Connector for Ametek Spud		
Weld Spud (c)	PJ	N1216AM
Heat Sink/Plug (c)	PJ	N1216AP
Calibration Adapter	PJ	N1216AN
Process Gasket (Gylon) (d)	PJ	N1216AQ

(a) Accessories are ordered and supplied separately.

(b) Refer to Table 9 for configuration and dimensions of certain accessories listed.

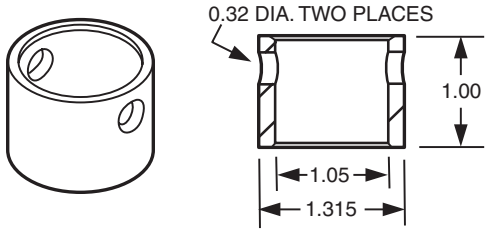
(c) When ordering a weld spud for use with a threaded type connector, note that use of a heat sink/plug is required to prevent metal distortion due to the high temperature of the welding process.

(d) Each transmitter is shipped with its required gaskets or O-rings. The gaskets and O-rings listed are offered as extras (spares).

TRANSMITTERS WITH INTEGRAL CONNECTORS FOR PULP AND PAPER PROCESSES (Cont.)

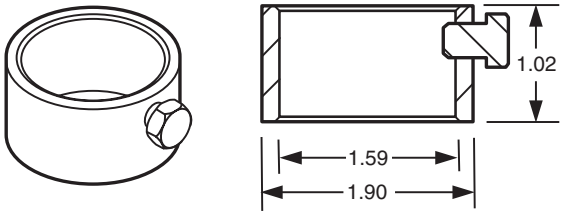
Table 9. Pulp and Paper Process Connector Accessories - Configuration of Weld Spuds, Heat Sinks/Plugs, and Calibration Adapters

WELD SPUD - N1214LH (a)



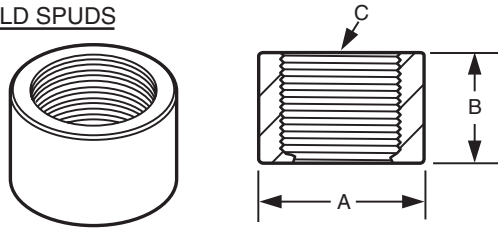
(a) Used with Structure Codes PA, PE

WELD SPUD - N1214MM (a)



(a) Used with Structure Codes PC, PG

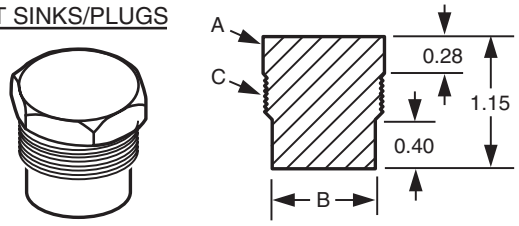
WELD SPUDS



Part No. (a)	A	B	Thread C	Struct. Code
N1214XW	1.50	0.80	1 3/32-20	PB, PF
N1214LG	2.12	0.80	M44 x 1.25	PD, PH
N1216AM	1.99	1.00	1 1/2-18	PJ

(a) Must be used with heat sinks/plugs below to prevent metal distortion due to high temperature of welding process.

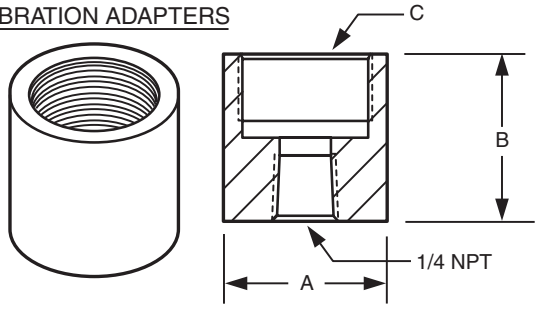
HEAT SINKS/PLUGS



Part No. (a)	A	B	Thread C	Struct. Code
N1214YS	1.125	1.000	1 3/32 - 20	PB, PF
N1214YR	1.75	1.595	M44 x 1.25	PD, PH
N1216AP	1.75	1.595	1 1/2-18	PJ

(a) Must be used with weld spuds above to prevent metal distortion due to high temperature of welding process.

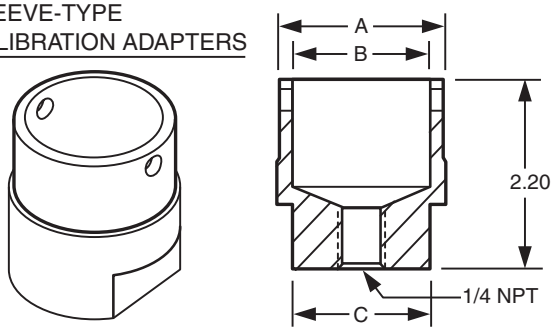
THREADED-TYPE CALIBRATION ADAPTERS



Part No.	A	B	Thread C	Struct. Code
N1214XX	1.50	1.50	1 3/32-20	PB, PF
N1216AN (a)	1.99	1.75	1 1/2-18	PJ

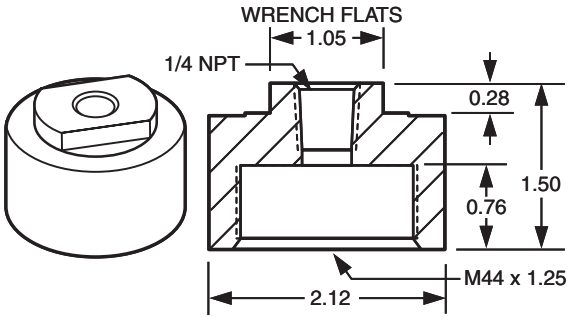
(a) For Ametek spud.

SLEEVE-TYPE CALIBRATION ADAPTERS



Part No.	A	B	C	Struct. Code
N1214MG	1.90	1.60	1.62	PA, PE
N1216MP	1.315	1.05	1.05	PC, PG

THREADED-TYPE CALIBRATION ADAPTER - N1214MN (a)



(a) Used with Structure Codes PD, PH

Table 10. Summary Selection Table - IAP10/IGP10/IAP20/IGP20/IGP25/IGP50/IDP10 Transmitters

Option or Accessory, and Description		Model Code Optional Suffix (-); AS Code, or Part No. (PN); or PSS No.	I/A Series Intelligent Pressure Transmitters				
			IAP10 and IGP10	IAP20 and IGP20	IGP25 Multi-Range	IGP50 Multi-Range	IDP10
Intelligent Transmitter Configurators	Model HHT (a)	PSS 2A-1Z3 A	YES	YES	YES	YES	YES
	Model PC20 (b)	PSS 2A-1Z3 E	YES	YES	YES	YES	YES
	Model PC50 (b)	PSS 2A-1Z3 G	YES	YES	YES	YES	YES
	Model PCMV (b)	PSS 2A-1Z3 F	NO	NO	NO	NO	NO
	HART Model 275 (c)	Inside Pages	YES	YES	YES	YES	YES
	Model HT991 (c)	Inside Pages	YES	YES	YES	YES	YES
LCD Indicator with on-board Pushbuttons, Integral (d)		-L1 Suffix	YES	YES	YES	YES	YES
Blind Cover replaces Glass Window Cover on LCD Indicator (e)		-L2 Suffix	YES	YES	NO	NO	YES
Indicator, 4 to 20 mA Output Remote-Mounted to Conduit	0 to 100% Uniform	AS-LMO-A	YES	YES	YES	YES	YES
	0 to 100% Square Root	AS-LMO-B	NO	NO	NO	NO	YES
	Scale as Specified	AS-LMO-C	YES	YES	YES	YES	YES
	0 to 10% Square Root	AS-LMO-D	NO	NO	NO	NO	YES
Indicator, 4 to 20 mA Output (Model 65FS or AS-FMI) Remote-Mounted to Surface or Conduit		PSS 2A-3B1 C	YES	YES	YES	YES	YES
Mounting Bracket Set for DN50 or 2-in Pipe (Bracket and Bolts)	Painted Steel (1/2 NPT)	-M1 Suffix	YES	YES	YES	YES	YES
	Stainless Steel (1/2 NPT)	-M2 Suffix	YES	YES	YES	YES	YES
	Painted Steel (PG 13.5)	-M3 Suffix	YES	NO	YES	YES	NO
	Stainless Steel (PG 13.5)	-M4 Suffix	YES	NO	YES	YES	NO
Levelling Pipe Saddle Attaches DN50 or 2-in Pipe to Another Pipe	DN50 or 2 in Pipe	PN 0032017	YES	YES	YES	YES	YES
	DN80 or 3 in Pipe	PN 0046935	YES	YES	YES	YES	YES
	DN100 or 4 in Pipe	PN 0016508	YES	YES	YES	YES	YES
	DN150 or 6 in Pipe	PN 0036694	YES	YES	YES	YES	YES
Manometer Process Connector, G 1/2 Form B External Thread		-G Suffix	YES	NO	NO	NO	NO
Autoclave F-250C Process Connector (Internal Pressure Port) with IGP10 High Gauge Pressure Span Limit Code G only		-G1 Suffix	YES	NO	NO	NO	NO
Metal Gasket for Vacuum Service when Pressure Seals are used; IGP20 & IDP10 only		-G1 Suffix	NO	YES (h)	NO	NO	YES
R 1/2 Process Connection, Adapts 1/2 NPT to R 1/2		-R Suffix	YES	NO	YES	YES	NO
Vent Screw	In Side of each Process Cover (f)	-V Suffix	NO	YES	NO	NO	YES
	In Process Connection	-V1 Suffix	YES	NO	NO	NO	NO
Block and Bleed Valve	Carbon Steel Body	-V2 Suffix	YES	NO	YES	YES	NO
	316 ss Body	-V3 Suffix	YES	NO	YES	YES	NO
	316 ss Body w/Monel Trim, NACE Approved	-V4 Suffix	YES	NO	YES	YES	NO
Tubing Connectors for Connecting 6 or 12 mm Tubing to 1/4 or 1/2 NPT Process Connectors	6 mm, 1/4 NPT, cs	-E1 Suffix	NO	YES	NO	NO	YES
	12 mm, 1/2 NPT, cs	-E2 Suffix	NO	YES	NO	NO	YES
	6 mm, 1/4 NPT, ss	-E3 Suffix	NO	YES	NO	NO	YES
	12 mm, 1/2 NPT, ss	-E4 Suffix	NO	YES	NO	NO	YES
Calibration Screw	up to 0.7 MPa (100 psi)	PN F0101ES	YES	YES	YES	YES	YES
DIN 19213 Construction (Process Covers)	Single Ended Cover, M10, B7 Bolting (g)	-D1 Suffix	NO	YES	NO	NO	YES
	Double Ended Cover, M10, B7 Bolting (g)	-D2 Suffix	NO	YES	NO	NO	YES
	Single Ended Cover, 7/16 in, B7 Bolting (Standard 25 MPa, 3600 psi rating)	-D3 Suffix	NO	YES	NO	NO	YES
	Double Ended Cover, 7/16 in, B7 Bolting (g)	-D4 Suffix	NO	YES	NO	NO	YES
	Single Ended Cover, 7/16 in, 316 ss Bolting (g)	-D5 Suffix	NO	YES	NO	NO	YES
	Double Ended Cover, 7/16 in, 316 ss Bolting (g)	-D6 Suffix	NO	YES	NO	NO	YES
	Single Ended Cover, 7/16 in, 17-4 ss Bolting (Standard 25 MPa, 3600 psi rating)	-D7 Suffix	NO	YES	NO	NO	YES
	Double Ended Cover, 7/16 in, 17-4 ss Bolting (g)	-D8 Suffix	NO	YES	NO	NO	YES
	Single Ended Process Cover, 7/16 in, (1704 ss Bolting (40 MPa, 5800 psi rating)	-D9 Suffix	NO	YES	NO	NO	YES
Electrical Conduit Connectors	Hawke-Type 1/2 NPT Cable Gland	-A1 Suffix	YES	YES	YES	YES	YES
	Plastic PG 13.5 Cable Gland	-A2 Suffix	YES	YES	YES	YES	YES
	M20 Connector (1/2 NPT to M20)	-A3 Suffix	YES	YES	YES	YES	YES
	Brass Trumpet-Shaped PG 13.5 Cable Gland	-A4 Suffix	YES	YES	YES	YES	YES

(a) For use with Output Code -D, FoxCom Communications, only.
(b) For use with Output Codes D and T (FoxCom and HART).
(c) For use with Output Code -T, HART Communications, only.
(d) For use with Digital Output Transmitters, Output Codes -D, -T, and -F.
(e) For use with Analog Output Transmitters, Output Codes -A and -V only.
(f) In hi-side process cover only for IAP20 and IGP20.
(g) See inside pages for pressure derating with these options.
(h) Metal gasket is standard with IAP20 Transmitters.

Table 10. Summary Selection Table - IAP10/IGP10/IAP20/IGP20/IGP25/IGP50/IDP10 Transmitters (Cont.)

Option or Accessory, and Description			Model Code Optional Suffix (-); AS Code, or Part No. (PN); or PSS No.	I/A Series Intelligent Pressure Transmitters				
				IAP10 and IGP10	IAP20 and IGP20	IGP25 Multi-Range	IGP50 Multi-Range	IDP10
Process-Wetted Parts in Compliance with NACE MR 01-75			AS-MR-01	YES	YES	YES	YES	YES
Nonprocess-Wetted Bolting		316 ss Bolts and Nuts (a)	-B1 Suffix	NO	YES	NO	NO	YES
		17-4 ss Bolts and Nuts (b)	-B2 Suffix	NO	YES	NO	NO	YES
		B7M Bolts and Nuts (b) NACE Class II	-B3 Suffix	NO	YES	NO	NO	YES
Transmitter Cleaning (Clean Room)	Special Degreasing (Silicone Sensors)		-X1 Suffix	NO	YES	NO	NO	YES
	Oxygen Service Cleaning (Fluorinert Sensors)		-X2 Suffix	NO	YES	NO	NO	YES
	Chlorine Service Cleaning (Fluorinert Sensors)		-X3 Suffix	NO	YES	NO	NO	YES
Bypass Manifolds, w/wo Mounting Bracket			PSS 2B-1Z2 A	NO	YES	NO	NO	YES
Compact Orifices (AS Code CO)			PSS 3-5A1 E	NO	NO	NO	NO	YES
Orifice Plates			Contact Foxboro	NO	NO	NO	NO	YES
Integral Flow Orifices	IFOA; no flow through bottomworks		PSS 3-5A1 B	NO	NO	NO	NO	YES
	IFOU; U-bend, flow through bottomworks		PSS 3-5A1 C	NO	NO	NO	NO	YES
	IFO; In-line, flow through bottomworks		PSS 3-5A1 D	NO	NO	NO	NO	YES
Pressure Seals (See inside pages for more details)	Flanged Level - Direct Mount (Flush/Extended)		PSFLT	NO	YES	NO	NO	YES
	Flanged Level - Remote Mount (Flush)		PSFPS	YES	YES	YES	NO	YES
	Flanged - Remote Mount (Extended)		PSFES	YES	YES	YES	NO	YES
	Flanged - Remote Mount (Recessed)		PSFAR	YES	YES	YES	NO	YES
	Flanged - Direct Mount (Recessed)		PSFAD	YES	NO	YES	NO	NO
	Threaded - Direct Mount (Recessed)		PSTAD	YES	NO	YES	NO	NO
	Threaded - Remote Mount (Recessed)		PSTAR	YES	YES	YES	NO	YES
	In-line Weld - Direct Mount (Recessed)		PSISD	YES	NO	YES	NO	NO
	In-line Weld - Remote Mount (Recessed)		PSISR	YES	YES	YES	NO	YES
	Sanitary Level - Direct Mount (Flush)		PSSCT	NO	YES	NO	NO	YES
	Sanitary - Remote Mount (Flush)		PSSCR	YES	YES	YES	NO	YES
	Sanitary Level - Direct Mount (Extended)		PSSST	NO	YES	NO	NO	YES
	Sanitary - Remote Mount (Extended)		PSSSR	YES	YES	YES	NO	YES
Electronics Housing Features	External Zero Adjustment		-Z1 Suffix	YES	YES	YES	YES	YES
	Custody Transfer Lock and Seal		-Z2 Suffix	YES	YES	YES	YES	YES
	Both Extended Zero and Custody Transfer		-Z3 Suffix	YES	YES	YES	YES	YES
Custom Configuration	Digital Output Configuration (c)		-C1 Suffix	YES	YES	YES	YES	YES
	Custom Configuration (d)		-C2 Suffix	YES	YES	YES	YES	YES
Accessories for Purging or Bubble Type Installations		Diff. Press Regulator	Inside Pages	NO	NO	NO	NO	YES
		Rotameters	Inside Pages	NO	NO	NO	NO	YES
Pressure Accessories and Hardware			Inside Pages	YES	YES	YES	YES	YES
Calibration to Customer's Specified Range (e)			Inside Pages	YES	YES	YES	YES	YES
Transmitter Instruction (f)	Brief “Getting Started” Document provided		-K1	YES	YES	YES	YES	YES
Lowering of Operative Temperature Limit to -50°C (-58°F) (g)			-J Suffix	YES	YES	NO	NO	YES
Supplemental Customer Tag (for surplus data)			-T Suffix	YES	YES	YES	YES	YES
Five Year Warranty			-W Suffix	YES	YES	YES	YES	YES
40 MPa (5800 psi) Static Pressure Rating			-Y Suffix	NO	NO	NO	NO	YES
Plug-in Shorting Bar - Reduces Voltage from 11.5 to 11 V dc (h)			AS-SB-11	YES	YES	YES	YES	YES
Quality Assurance Certificates			Inside Pages	YES	YES	YES	YES	YES

(a) See inside pages for pressure derating with this option.
(b) Standard pressure rating of 25 MPa, 3625 psi.
(c) Applies to FoxCom Electronics Version -D only. There is a 4 to 20 mA default if -C1 is not selected.
(d) User must fill out a data form for this selection.
(e) Calibration certificate will be provided, and calibrated range will be stamped on data plate.
(f) Standard transmitter (without the -K1 option) is shipped with paper Instruction Manual and full documentation set on CD-ROM.
(g) Low temperature limit option for transmitters with silicone filled sensors only.
(h) Not for use with Electronics Versions -V or -F.

Table 11. Summary Selection Table - IDP25/IDP50/IMV25/IMV30 Transmitters

Option or Accessory, and Description		Model Code Optional Suffix (-); AS Code, or Part No. (PN); or PSS No.	I/A Series Intelligent Pressure Transmitters			
			IDP25 Multi-Range	IDP50 Multi-Range	IMV25 Multi-Variable	IMV30 Multi-Variable
Intelligent Transmitter Configurators	Model HHT (a)	PSS 2A-1Z3 A	YES	YES	NO	NO
	Model PC20 (b)	PSS 2A-1Z3 E	YES	YES	NO	NO
	Model PC50 (b)	PSS 2A-1Z3 G	YES	YES	NO	NO
	Model PCMV (b)	PSS 2A-1Z3 F	NO	NO	YES	YES
	HART Model 275 (c)	Inside Pages	YES	YES	YES	YES
	Model HT991 (c)	Inside Pages	YES	YES	YES	YES
LCD Indicator with on-board Pushbuttons, Integral (d)		-L1 Suffix	YES	YES	YES	YES
Blind Cover replaces Glass Window Cover on LCD Indicator (e)		-L2 Suffix	NO	NO	NO	NO
Indicator, 4 to 20 mA Output Remote-Mounted to Conduit	0 to 100% Uniform	AS-LMO-A	YES	YES	YES	YES
	0 to 100% Square Root	AS-LMO-B	YES	YES	YES	YES
	Scale as Specified	AS-LMO-C	YES	YES	YES	YES
	0 to 10% Square Root	AS-LMO-D	YES	YES	YES	YES
Indicator, 4 to 20 mA Output (Model 65FS or AS-FMI) Remote-Mounted to Surface or Conduit		PSS 2A-3B1 C	YES	YES	YES	YES
Mounting Bracket Set for DN50 or 2-in Pipe (Bracket and Bolts)	Painted Steel (1/2 NPT)	-M1 Suffix	YES	YES	YES	YES
	Stainless Steel (1/2 NPT)	-M2 Suffix	YES	YES	YES	YES
	Painted Steel (PG 13.5)	-M3 Suffix	NO	NO	NO	NO
	Stainless Steel (PG 13.5)	-M4 Suffix	NO	NO	NO	NO
Levelling Pipe Saddle Attaches DN50 or 2-in Pipe to Another Pipe	DN50 or 2 in Pipe	PN 0032017	YES	YES	YES	YES
	DN80 or 3 in Pipe	PN 0046935	YES	YES	YES	YES
	DN100 or 4 in Pipe	PN 0016508	YES	YES	YES	YES
	DN150 or 6 in Pipe	PN 0036694	YES	YES	YES	YES
Manometer Process Connector, G 1/2 Form B External Thread		-G Suffix	NO	NO	NO	NO
Autoclave F-250C Process Connector (Internal Pressure Port) with IGP10 High Gauge Pressure Span Limit Code G only		-G1 Suffix	NO	NO	NO	NO
Metal Gasket for Vacuum Service when Pressure Seals are used; IGP20 & IDP10 only		-G1 Suffix	NO	NO	NO	NO
R 1/2 Process Connection, Adapts 1/2 NPT to R 1/2		-R Suffix	NO	NO	NO	NO
Vent Screw	In Side of each Process Cover (f)	-V Suffix	YES	YES	YES	YES
	In Process Connection	-V1 Suffix	NO	NO	NO	NO
Block and Bleed Valve	Carbon Steel Body	-V2 Suffix	NO	NO	NO	NO
	316 ss Body	-V3 Suffix	NO	NO	NO	NO
	316 ss Body w/Monel Trim, NACE Approved	-V4 Suffix	NO	NO	NO	NO
Tubing Connectors for Connecting Tubing to Process Connectors	6 mm, 1/4 NPT, cs	-E1 Suffix	YES	YES	YES	YES
	12 mm, 1/2 NPT, cs	-E2 Suffix	YES	YES	YES	YES
	6 mm, 1/4 NPT, ss	-E3 Suffix	YES	YES	YES	YES
	12 mm, 1/2 NPT, ss	-E4 Suffix	YES	YES	YES	YES
Calibration Screw	up to 0.7 MPa (100 psi)	PN F0101ES	YES	YES	YES	YES
DIN 19213 Construction (Process Covers)	Single Ended Cover, M10, B7 Bolting	-D1 Suffix	YES	YES	YES	YES
	Double Ended Cover, M10, B7 Bolting (g)	-D2 Suffix	YES	YES	YES	YES
	Single Ended Cover, 7/16 in, B7 Bolting (Standard 25 MPa, 3600 psi rating)	-D3 Suffix	YES	YES	YES	YES
	Double Ended Cover, 7/16 in, B7 Bolting (g)	-D4 Suffix	YES	YES	YES	YES
	Single Ended Cover, 7/16 in, 316 ss Bolting (g)	-D5 Suffix	YES	YES	YES	YES
	Double Ended Cover, 7/16 in, 316 ss Bolting (g)	-D6 Suffix	YES	YES	YES	YES
	Single Ended Cover, 7/16 in, 17-4 ss Bolting (Standard 25 MPa, 3600 psi rating)	-D7 Suffix	YES	YES	YES	YES
	Double Ended Cover, 7/16 in, 17-4 ss Bolting (g)	-D8 Suffix	YES	YES	YES	YES
	Single Ended Cover, 7/16 in, 17-4 ss Bolting (40 MPA, 5800 psi rating)	-D9 Suffix	YES	YES	NO	NO
Electrical Conduit Connectors	Hawke-Type 1/2 NPT Cable Gland	-A1 Suffix	YES	YES	YES	YES
	Plastic PG 13.5 Cable Gland	-A2 Suffix	YES	YES	YES	YES
	M20 Connector (1/2 NPT to M20)	-A3 Suffix	YES	YES	YES	YES
	Brass Trumpet-Shaped PG 13.5 Cable Gland	-A4 Suffix	YES	YES	YES	YES

(a) For use with Output Code -D, FoxCom Communications, only.
(b) For use with Output Codes -D and -T (FoxCom and HART).
(c) For use with Output Code -T, HART Communications, only.
(d) For use with Digital Output Transmitters, Output Codes -D, -T, and-F.
(e) For use with Analog Output Transmitters, Output Codes -A and -V only.
(f) In hi-side process cover only for IAP20 and IGP20.
(g) See inside pages for pressure derating with these options.

Table 11. Summary Selection Table - IDP25/IDP50/IMV25/IMV30 Transmitters (Cont.)

Option or Accessory, and Description			Model Code Optional Suffix (-); AS Code, or Part No. (PN); or PSS No.	I/A Series Intelligent Pressure Transmitters			
				IDP25 Multi-Range	IDP50 Multi-Range	IMV25 Multi-Variable	IMV30 Multi-Variable
Process-Wetted Parts in Compliance with NACE MR 01-75			AS-MR-01	YES	YES	YES	YES
Nonprocess-Wetted Bolting		316 ss Bolts and Nuts (a)	-B1 Suffix	YES	YES	YES	YES
		17-4 ss Bolts and Nuts (b)	-B2 Suffix	YES	YES	YES	YES
		B7M Bolts and Nuts (b) NACE Class II	-B3 Suffix	YES	YES	YES	YES
Transmitter Cleaning (Clean Room)	Special Degreasing		-X1 Suffix	YES	YES	YES	YES
	Oxygen Service Cleaning		-X2 Suffix	YES	NO	YES	YES
	Chlorine Service Cleaning		-X3 Suffix	YES	NO	YES	YES
Compact Orifices (AS Code CO)			PSS 3-5A1 E	YES	YES	YES	YES
Orifice Plates			Contact Foxboro	YES	YES	YES	YES
Integral Flow Orifices	IFOA; no flow through bottomworks		PSS 3-5A1 B	YES	YES	YES	YES
	IFOU; U-bend, flow through bottomworks		PSS 3-5A1 C	YES	YES	YES	YES
	IFO; In-line, flow through bottomworks		PSS 3-5A1 D	YES	YES	YES	YES
Pressure Seals (See inside pages for more details)	Flanged Level - Direct Mount (Flush/Extended)		PSFLT	YES	NO	NO	NO
	Flanged Level - Remote Mount (Flush)		PSFPS	YES	NO	NO	NO
	Flanged - Remote Mount (Extended)		PSFES	YES	NO	NO	NO
	Flanged - Remote Mount (Recessed)		PSFAR	YES	NO	NO	NO
	Flanged - Direct Mount (Recessed)		PSFAD	NO	NO	NO	NO
	Threaded - Direct Mount (Recessed)		PSTAD	NO	NO	NO	NO
	Threaded - Remote Mount (Recessed)		PSTAR	YES	NO	NO	NO
	In-line Weld - Direct Mount (Recessed)		PSISD	NO	NO	NO	NO
	In-line Weld - Remote Mount (Recessed)		PSISR	YES	NO	NO	NO
	Sanitary Level - Direct Mount (Flush)		PSSCT	YES	NO	NO	NO
	Sanitary - Remote Mount (Flush)		PSSCR	YES	NO	NO	NO
	Sanitary Level - Direct Mount (Extended)		PSSST	YES	YES	NO	NO
	Sanitary - Remote Mount (Extended)		PSSSR	YES	YES	NO	NO
Electronics Housing Features	External Zero Adjustment		-Z1 Suffix	YES	YES	NO	NO
	Custody Transfer Lock and Seal		-Z2 Suffix	YES	YES	YES	YES
	Both Extended Zero and Custody Transfer		-Z3 Suffix	YES	YES	NO	NO
Custom Configuration	Digital Output Configuration (c)		-C1 Suffix	YES	YES	YES	YES
	Custom Configuration (d)		-C2 Suffix	YES	YES	YES	YES
Accessories for Purging or Bubble Type Installations		Diff. Press Regulator	Inside Pages	YES	YES	NO	NO
		Rotameters	Inside Pages	YES	YES	NO	NO
Pressure Accessories and Hardware			Inside Pages	YES	YES	YES	YES
Calibration to Customer's Specified Range (e)			Inside Pages	YES	YES	YES	YES
Transmitter Instruction (f)	Brief “Getting Started Document provided		-K1	YES	YES	NO	NO
Lowering of Operative Temperature Limit to -50°C (-58°F)			-J Suffix	NO	NO	YES	YES
Supplemental Customer Tag (for surplus data)			-T Suffix	YES	YES	YES	YES
Five Year Warranty			-W Suffix	YES	YES	YES	YES
40 MPa (5800 psi) Static Pressure Rating (g)			-Y Suffix	YES	YES	NO	NO
Plug-in Shorting Bar - Reduces Voltage from 11.5 to 11 V dc (h)			AS-SB-11	YES	YES	NO	NO
Quality Assurance Certificates			Inside Pages	YES	YES	YES	YES

(a) See inside pages for pressure derating with these options.
(b) Standard pressure rating of 25 MPa, 3625 psi.
(c) Applies to FoxCom Electronics Version -D only. There is a 4 to 20 mA default if -C1 is not selected.
(d) User must fill out a data form for this selection.
(e) Calibration certificate will be provided, and calibrated range will be stamped on data plate.
(f) Standard transmitter (without -K1 option) is shipped with paper Instruction Manual and full documentation set on CD-ROM.
(g) Low temperature limit option for transmitters with silicone filled sensors only.
(h) Not for use with Electronics Versions -V or -F.

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MB 010 Printed in U.S.A. 0903