



Mycro **SENSOR** TECHNOLOGIES

Precision Measurement and Specialty Sensor Technology



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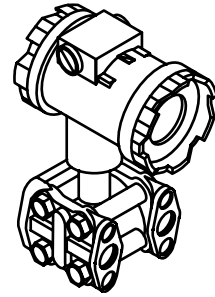
Introduced in 1990, XTC pressure tradition of innovation, which seeks to unify traditionally separate products for reduced life-cycle costs. As such, XTC 340 transmitter-controllers minimize costs via an integral PID controller that delivers process sensing and control capabilities in a single instrument, thereby eliminating the need for a separate controller to handle basic PD loops.

There are XTC products for differential, gauge, absolute, and flanged level differential pressure measurement and control. Both rotatable SmartDisplay and housing further application versatility, while fully interchangeable components reduce overall inventory requirements. Moreover, remote options via a number of HART[®] devices and control systems ensure maximum flexibility.

MODELS

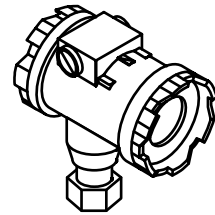
Model 330D & 340D Differential Pressure

- ▶ Spans from 0.2" H₂O to 450 PSID (0.05 to 3100 KPA)
- ▶ Standard Hastelloy-C diaphragms and 316SS wetted parts (Ranges D & F)
- ▶ 1/4" NPTF or 1/2" NPTF process connection
- ▶ Suitable for DP, level, and flow applications



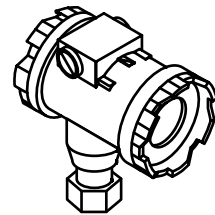
Model 330A/G & 340A/G Absolute or Gauge Pressure

- ▶ 10" H₂O Abs to 450 PSIA (2.5 to 3100 KPA abs)
- ▶ 10" H₂O to 5500 PSIG (2.5 to 37920 KPA)
- ▶ Standard Hastelloy-C diaphragms and 316SS wetted parts
- ▶ 1/2" NPTF process connection
- ▶ Suitable for pressure applications



Model 330P & 340P Flush Mount Gauge Pressure

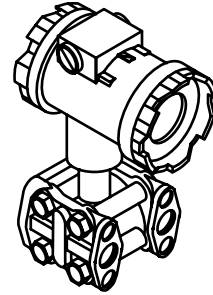
- ▶ 1 psig to 30 psig (6.895 KPA to 206.84 KPA)
- ▶ 10 psig to 150 psig (68.95 KPA to 1.034 MPA)
- ▶ Flush diaphragm connections retrofitable to existing spuds for easy upgrades
- ▶ Corrosion resistant for long trouble-free life



PROCESS CONNECTIONS

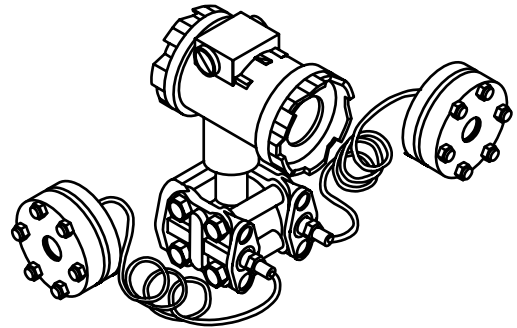
Model 330 & 340 with Tantalum Diaphragms

- ▶ Available in DP, GP, and AP configurations
- ▶ Suitable for harsh process fluids



Model 330 & 340 with Remote Diaphragm Seals

- ▶ Available in various materials and process connections including threaded, flanged, weld-in, and sanitary



PERFORMANCE SPECIFICATIONS

Reference conditions: Zero-based, positive spans, ambient temperature 23°C, D/A trim values equal to span end points, Silicone fill, standard diaphragms, 1 second damping.

Reference Accuracy^{1,2}

Analog Output

Range A:

$\pm 0.10\%$ of calibrated span for spans from 1:1 to 2:1 of URL

$\pm (0.074 + 0.013[\text{URL}/\text{Span}])$ % of calibrated span for spans from 2:1 to 25:1 of URL

Range B:

$\pm 0.075\%$ of calibrated span for spans from 1:1 to 2.5:1 of URL

$\pm (0.043 + 0.0128 [\text{URL}/\text{span}])$ % of calibrated span for spans from 2.5:1 to 20:1 of URL

Range D,F,G:

$\pm 0.075\%$ of calibrated span for spans from 1:1 to 10:1 of URL

$\pm (0.028 + 0.0047 [\text{URL}/\text{span}])$ % calibrated span for spans from 10:1 to 45:1 of URL

Digital Output

Range A:

$\pm 0.0875\%$ of calibrated span for spans from 1:1 to 2:1 of URL

$\pm (0.0615 + 0.013[\text{URL}/\text{Span}])$ % of calibrated span for spans from 2:1 to 25:1 of URL

Range B:

$\pm 0.0625\%$ of calibrated span for spans from 1:1 to 2.5:1 of URL

$\pm (0.0305 + 0.0128 [\text{URL}/\text{span}])$ % of calibrated span for spans from 2.5:1 to 20:1 of URL

Range D,F,G:

$\pm 0.0625\%$ of calibrated span for spans from 1:1 to 10:1 of URL

$\pm (0.0155 + 0.0047 [\text{URL}/\text{span}])$ % calibrated span for spans from 10:1 to 45:1 of URL

Ambient Temperature Effect

Models 330 (A,G,D,P) & 340 (A,G,D,P)

Ranges A-B:

$\pm(0.175\% \text{ URL} + 0.075\% \text{ span})$ per 28C (50°F)

Ranges D-G:

$\pm(0.075\% \text{ URL} + 0.075\% \text{ span})$ per 28C (50°F)

Temperature Limits

Sensor Assembly³:

Silicon: -40 to 125°C (-40 to 257°F)

Inert Fill: 0 to 85°C (32 to 185°F)

Paratherm: -20 to 125°C (-4 to 257°F)

Electronics: -40 to 85°C (-40 to 185°F)

340P Sensor Limits:

All full fluids: 0-85°C (32 to 185°F)

Stability

Zero Stability:

Range A: $\pm 0.1\%$ of URL for 12 months

Ranges B-G: $\pm 0.03\%$ of URL for 36 months

Span Stability: No measurable span drift

Humidity

0-100% relative humidity, non-condensing

Vibration Effect

Less than $\pm 0.05\%$ of maximum span per G for 0 to 60 Hz in any axis up to 2 Gs max.

Power Supply Effect

Less than 0.005% of output span per volt

EMI/RFI Susceptibility

Less than 0.25% of max. span at 30 V/m, 30 MHz - 1 GHz

ESD Susceptibility

IEC severity level 4, 15 kV

Static Pressure Effect (330D & 340D)

Range span error correctable to:⁴

B 0.2% per 100psi

D 0.2% per 1000psi

F 0.2% per 1000psi

NOTES:

- (1) Accuracy includes the effects of linearity, hysteresis and repeatability.
- (2) Specifications for 3" & 4" flange size only. For smaller flange sizes, consult MycroSENSOR.
- (3) Limit to 85°C (185°F) in vacuum service.
- (4) Zero effect eliminated at operating pressure.

Specifications subject to change without notice.

FUNCTIONAL SPECIFICATIONS

Range and Sensor Limits Model 330/340A, 330/340D, 330/340G, 330/340P

Range	Min. Span	LRL/URL			
		330/340A	330/340D	330/340G	330/340P ⁴
A	0.20" (.05KPA)	NA	-2/5" (5/1.25KPA)	NA	NA
B	0.75" (0.185KPA)	NA	-15/15" (-3.7/3.7KPA)	NA	NA
D	10" (2.5KPA)	0/450" (0/112.5KPAabs)	-450/450" (-112.5/112.5KPA)	-407/450" (-101/112.5KPA)	-14.7/30 psig (-101/206.84KPA)
F	12.6psi (87KPA)	0/450psia (0/3045KPAabs)	-150/450psi (-689/3100KPA)	-14.7/450psig (-101/3100KPA)	-14.7/150 psig (-101/1034 KPA)
G	300psi (2068KPA)	NA	NA	0/5500psig (0/37920KPA)	NA

Zero Elevation and Suppression

The range may be set anywhere between the LRL and URL of the transmitter, so long as the calibrated span meets the minimum allowable span in the table above. Zero and span in the XTC are non-interactive.

Electronic Damping (Digital Filter)

Adjustable between 0 and 30 seconds

Transmitter Outputs

Each transmitter has:

1. Analog, Two-Wire 4-20mA
2. Digital, HART Communications
3. Optional Transient Suppressor

Power Supply Requirements

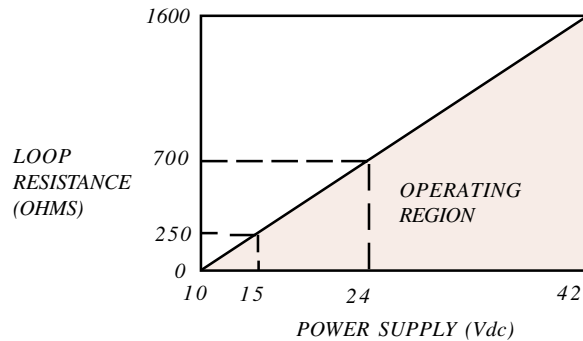
Minimum Terminal to Terminal Compliance

Voltage: +10 Vdc

Maximum Terminal to Terminal Voltage: +42 Vdc

Maximum Load: $RL = 50 * (\text{Supply Voltage})$

- 500 Ohms¹



Maximum Working Pressure²

Range	330/340A	330/340D	330/340G	330/340P
A	NA	+/-60 psi ³ (+/-413KPA)	NA	NA
B	NA	+/-100 psi ³ (+/-689KPA)	NA	NA
D	250psi (1.72MPA)	+/-4000 psi (+/-27.6MPA)	250 psi (1.72MPA)	250 psig (1720 KPA)
F	1500psi (10.3MPA)	+/-4000 psi (+/-27.6MPA)	1500 psi (10.3 MPA)	1200 psig (8270 KPA) ⁵
G	NA	NA	9,000 psi (SS only 62.0MPA)	NA

NOTES:

(1) To ensure digital communications, HART requires resistance to remain between 250 and 1100 Ohms. HART also imposes the following requirements on the loop power supply:

Ripple: 0.2 Vp-p, 47-125 Hz
Noise: 0.6 mV RMS maximum
Impedance: 10 Ohms maximum

(2) The Maximum Working Pressure (MWP) is defined as the maximum pressure which can be applied to the cell without damage, static or otherwise.

(3) 340D Range A and Range B sensors have a body rating of +/- 4000 psi; however, no over pressure protection is employed in these units thereby limiting the MWP to +/- 100 psi.

(4) 330 & 340 PD and PF minimum spans are 1 psig (6.895 KPA) and 10 psig (206.84 KPA) respectively.

(5) MWP for miniature bolt in place process connection is 250 psig regardless of range.

**Surge Protection
(with optional Transient Suppressor)**

Maximum clamping voltage (either loop terminal to enclosure)
DC: 68V
100 kV per microsecond AC surge: 70V peak
1000 kV per microsecond AC surge: 120V peak
Transient surge current
Up to 5000 amp for 20 microseconds, repeated strikes
Turn-On Time
The transmitter will begin operating within 5 seconds after power is applied. The transmitter will perform within specifications within 60 seconds after power is applied.

Local Indication
Optional 4 1/2 Digit SmartDisplay

MECHANICAL SPECIFICATIONS

Dimensions
See Installation Drawings (Pages 97-99)

Weight³
330, 340A/G ⁴ 4 lbs
330, 340D 7 lbs

Electronics Housing
Epoxy Powder Coated, Low Copper Cast Aluminum
316 SS (optional)
NEMA 4X/6P (IP66/68)
(2) 1/2" -14 NPTF Electrical Conduit Entrances (M20 x 1.5 optional)

Process Wetted Parts
Various Materials Available
NACE MR0175 compliant with options as noted in the model number breakdown.

Process Connections

Model 330/340A/G⁵
(1) 1/2" NPTF, no vent/drain (External block and bleed may be purchased separately)
Model 330/340D
(2) 1/4" NPTF with vent/drains
(1/2" NPTF with optional process adapters)
Model 330/340P
Standard thread (1.59" Dia.) and miniature bolt in place (1.049" Dia.)

Hazardous Area Classification/Approvals⁶

FM/CSA Approval:
Intrinsically Safe:
Class I, Div. 1, Groups A, B, C, & D
Class II, Div. 1, Groups E, F, & G
Class III, Div. 1
Explosion Proof:
Class I, Div. 1, Groups B, C, & D
Class II, Div. 1, Groups E, F, & G
Class III, Div. 1
Non-Incendive:
Class I, Div. 2, Groups A, B, C, & D

American Bureau of Shipping (ABS) type approval per 2002 steel vessel rules 4-9-2/11.3

NOTES:

- (1) At 100°F (38°C), the rating decreases with increasing temperature.
- (2) At 120°C, the rating decreases with increasing temperature.
- (3) Weights approximate.
- (4) 340A/G with tantalum diaphragm: 7 lbs.
- (5) 340A/G Transmitters with tantalum diaphragms are differential style units. Process connections are similar to 340D. See drawings.
- (6) Consult MycroSENSOR for information on additional approvals.





MODEL NUMBER

Absolute Pressure

330A **Absolute Pressure Transmitter**

Input Range: Span Limits, Min/Max

D 10/450" H₂O abs (2.5/112.5 KPA abs)

F 12.6/450 psia (87/3100 KPA abs)

Output

B 4-20 mA_{dc} with HART Protocol¹

C 4-20 mA_{dc} with HART Protocol & Integral Transient Suppressor

D Spare Capsule

Process Diaphragm

H Hastelloy C-276^{1,3}

S 316L SS

B Hastelloy C-276 with 1 Remote Seal (Specify AA for Body Parts)

Body Parts

	<u>Wetted</u>	<u>Process Connection</u>
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AA	316SS	1/2" NPT ¹
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BA	Hastelloy-C276	1/2" NPT
----	----------------	----------

Fill Fluid

B Silicone DC200¹

C Inert

D Paratherm

Output Indicator

5 4-1/2 Digit Digital SmartDisplay

N Not Required⁵

Standard Options

X Oxygen Cleaned¹⁹

Y Special Features⁴

N Not Required⁵

Mounting Bracket

1 2" Pipe Mount Bracket with SS Hardware

2 Universal Bracket

3 2" Pipe Mount 316SS Bracket

N Not Required⁵

Housing

1 Aluminum 1/2" - 14 NPT¹

2 Aluminum M20 x 1.5⁶

3 316 SS 1/2" - 14 NPT

4 316 SS M20 x 1.5⁶

N Not Required⁵

Hazardous Area Classification

2 CSA/CRN

3 FM/CSA All¹

N Non-Approved⁵

W FM/CSA All & ABS¹⁸ Type Approval

330A F B H AAB 5 N N 1 3 *Sample Model Number*

See notes on page D-11.

Differential Pressure

330D Differential Pressure Transmitter

Input Range: Span Limits, Min/Max

- A 0.2/5 "H₂O (0.05/1.25 KPA)¹⁰ (Remote seals not available with this range.)
- B 0.75/15 "H₂O (0.185/3.7 KPA)² (Matched remote seals only with this range.)
- D 10/450 "H₂O (2.5/112.5 KPA)²
- F 12.6/450 psi (87/3100 KPA)²

Output

- B 4-20 mAdc with HART Protocol^{1,2}
- C 4-20 mAdc with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

Process Diaphragm

- H Hastelloy C-276^{2,3,8,11}
- S 316L SS^{2,7}
- A Hastelloy C-276 with 2 Remote Seals^{9,11}
- B Hastelloy C-276 with 1 Remote Seal on high side^{9,12}
- C Hastelloy C-276 with 1 Remote Seal on low side^{9,12}

Body Parts

	<u>Wetted</u>	<u>Vent/Drain</u>	<u>Process Conn.</u>
AA	316SS	End	1/2 NPT ^{1,2}
AB	316SS	Side (top)	1/2 NPT
AC	316SS	Side (bottom)	1/2 NPT
AD	316SS	Side (dual)	1/2 NPT
AE	316SS	End	1/4 NPT
AF	316SS	Side (top)	1/4 NPT
AG	316SS	Side (bottom)	1/4 NPT
AH	316SS	Side (dual)	1/4 NPT
BA	Hastelloy C-276	End	1/2 NPT
BB	Hastelloy C-276	Side (top)	1/2 NPT
BC	Hastelloy C-276	Side (bottom)	1/2 NPT
BD	Hastelloy C-276	Side (dual)	1/2 NPT
BE	Hastelloy C-276	End	1/4 NPT
BF	Hastelloy C-276	Side (top)	1/4 NPT
BG	Hastelloy C-276	Side (bottom)	1/4 NPT
BH	Hastelloy C-276	Side (dual)	1/4 NPT
RR	Remote Seals		

Fill Fluid

- B Silicone DC200^{1,2}
- C Inert¹¹
- D Paratherm¹¹

Output Indicator

- 5 4-1/2 Digit Digital SmartDisplay²
- N Not Required⁵

Standard Options

- D B7M Bolts³
- E B8M Bolts¹⁷
- X Oxygen Cleaned¹⁹
- Y Special Features⁴
- N Not Required^{2,5}

Mounting Bracket

- 1 2" Pipe Mount Bracket with SS Hardware²
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required⁵

Housing

- 1 Aluminum 1/2" - 14 NPT^{1,2}
- 2 Aluminum M20 x 1.5
- 3 316 SS 1/2" - 14 NPT
- 4 316 SS M20 x 1.5⁶
- N Not Required⁵

Hazardous Area Classification

- 2 CSA/CRN
- 3 FM/CSA All^{1,2}
- N Non-Approved
- W FM/CSA All & ABS¹⁸ Type Approval

330D D B H AA B 5 N 1 1 3 *Sample Model Number*

See notes on page D-11.

Gauge Pressure

330G Gauge Pressure Transmitter

Input Range: Span Limits, Min/Max

- D 10/450 "H₂O (2.5/112.5 KPA)²
- F 12.6/450 psig (87/3100 KPA)²
- G 300/5500 psig 2008/37920 KPA)²

Output

- B 4-20 mAdc with HART Protocol^{1,2}
- C 4-20 mAdc with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

Process Diaphragm

- H Hastelloy C-276^{1,2,3}
- S 316L SS
- B Hastelloy C-276 with 1 Remote Seal (Specify AA for Body Parts)

Body Parts

	Wetted	Process Connection
AA	316SS	1/2" NPT ^{1,2}
BA	Hastelloy C-276	1/2" NPT

Fill Fluid

- B Silicone DC200^{1,2}
- C Inert
- D Paratherm

Output Indicator

- 5 4-1/2 Digit Digital SmartDisplay²
- N Not Required⁵

Standard Options

- X Oxygen Cleaned¹⁹
- Y Special Features⁴
- N Not Required⁵

Mounting Bracket

- 1 2" Pipe Mount Bracket with SS Hardware²
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required⁵

Housing

- 1 Aluminum 1/2" - 14 NPT^{1,2}
- 2 Aluminum M20 x 1.5⁶
- 3 316 SS 1/2" - 14 NPT
- 4 316 SS M20 x 1.5⁶
- N Not Required⁵

Hazardous Area Classification

- 2 CSA/CRN
- 3 FM/CSA All^{1,2}
- N Non-Approved⁵
- W FM/CSA All & ABS¹⁸ Type Approval

330G F B H AA B 5 N 1 1 3 *Sample Model Number*

See notes on page D-11.

Gauge Pressure Flush Mounted

330P Flush-Mount Gauge Pressure Transmitter

Input Range: Span Limits Min/Max

- D 1/30 psig
- F 10/150 psig

Output

- B 4-20 mA_{dc} with HART Protocol
- C 4-20 mA_{dc} with HART Protocol & Integral Transient Suppressor

Process Diaphragm

- H Hastelloy-C276

Body Parts

- | | |
|---------------|--|
| <u>Wetted</u> | <u>Process Connection</u> |
| AB 316 SS | Miniature Bolt-In-Place, 1.049i Diameter (2) |
| AS 316 SS | Threaded, 1.59i Diameter |

Fill Fluid

- B Silicone DC200¹
- C Inert Fill
- D Paratherm

Output Indicator

- 5 4 1/2 Digit Smart Display
- N Not Required

Standard Options

- Y Special Features
- N Not Required

Mounting (Includes Gasket or O-Ring)

- B Miniature Bolt-In-Place, SPUD
- S Standard Threaded Spud
- G 2" 150# 316 Stainless Steel Flange¹⁹
- H 2" 300# 316 Stainless Steel Flange¹⁹
- J 3" 150# 316 Stainless Steel Flange¹⁹
- K 3" 300# 316 Stainless Steel Flange¹⁹
- L 4" 150# 316 Stainless Steel Flange¹⁹
- M 4" 300# 316 Stainless Steel Flange¹⁹
- N Not Required

Housing

- 1 Aluminum 1/2"-14 NPT^{1,2}
- 2 Aluminum M20 X 1.5⁶
- 3 316 SS 1/2"-NPT
- 4 316 SS M 20 X 1.5⁶

Hazardous Area Classifications

- 3 FM/CSA All (Standard on All Ranges)
- N Non-Approved

330P D B H AS B N N N 1 3 Sample Model Number

See notes on page D-11.

Accessories

- | | |
|---------------|--|
| P/N 20027-331 | Standard Teflon Gasket |
| P/N 2938-50 | Miniature Buna-N O-ring (bolt-in-place mounting) |
| P/N 20027-311 | Standard Threaded Plug |
| P/N 20027-332 | Standard Threaded Spud |
| P/N 20027-313 | Miniature Bolt-In-Place Plug |
| P/N 20027-336 | Miniature Bolt-In-Place Spud |
| P/N 20027-314 | Standard Threaded Spud Kit* |
| P/N 20027-316 | Miniature Bolt-In-Place Spud Kit* |
| P/N 20027-317 | Miniature Bolt-In-Place SS Set Screw & Lock Washer |
| P/N 20027-318 | Standard Threaded Aluminum Test Nipple |
| P/N 20027-320 | Miniature Bolt-In-Place Aluminum Test Nipple |

*Spud Kit includes Spud, O-Ring/Gasket & Plug



Tantalum Diaphragms

330 Absolute, Gauge & Differential Pressure Transmitter with Tantalum Diaphragms

Type and Input Range: Span Limits, Min/Max

Type	Span Limits, Min/Max
DD Differential	10/450 "H ₂ O (2.5/112.5 KPA)
GD Gauge	10/450 "H ₂ O (2.5/112.5 KPA)
GF Gauge	12.6/450 psi (87/3100 KPA)
AD Absolute	10/450 "H ₂ O Abs (2.5/112.5 KPA)
AF Absolute	12.6/450 psia (87/3100 KPA)

Output

- B 4-20 mAdc with HART Protocol¹
- C 4-20 mAdc with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

Diaphragm

- T Tantalum

Body Parts

	Hi Side	Lo Side	Use With
TB	Hastelloy-C	316SS	A, G
TC	Hastelloy-C	Hastelloy-C	D
TD	Monel	316SS	A, G ¹
TE	Monel	Monel	D ¹

Fill Fluid

- B Silicone DC200
- C Inert¹³

Output Indicator

- 5 4-1/2 Digit Digital SmartDisplay
- N Not Required

Standard Options

- D B7M Bolts³
- E B8M Bolts¹⁷
- X Oxygen Cleaned¹⁹
- Y Special Features⁴
- N Not Required⁵

Mounting Bracket

- 1 2" Pipe Mount Bracket with SS Hardware
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required⁵

Housing

- 1 Aluminum 1/2" - 14 NPT¹
- 2 Aluminum M20 x 1.5⁶
- 3 316 SS 1/2" - 14 NPT
- 4 316 SS M20 x 1.5⁶
- N Not Required⁵

Hazardous Area Classification

- 2 CSA/CRN
- 3 FM/CSA All¹
- N Non-Approved
- W FM/CSA All & ABS¹⁸ Type Approval

330 DB B T TE B N N N 1 3 *Sample Model Number*

NOTES:

- (1) Standard for all ranges.
- (2) Stock Model Selection.
- (3) NACE MR0175 compliance requires this option.
- (4) Please describe the modification or provide a quotation reference number.
- (5) Required selection for OUTPUT option "D", direct connection to the MycroSENSOR 348.
- (6) Not available with FM/CSA approvals.
- (7) Standard on Input Ranges A & B.
- (8) Standard on Input Ranges D & F.
- (9) Must specify Body Parts code "RR".
- (10) Must select Body Parts "AA".
- (11) Not available with Input Range "A".
- (12) Not available with Input Range "A" or "B".
- (13) Available with Body Parts "TD" or "TE" only.
- (14) CENELEC EExd & SAA units are only available with OUTPUT code "B".
- (15) 2" flanges not available with extended diaphragms
- (16) 3" and 4" flanges with an extension will fit into Schedule 80 and larger i.d. pipes.
- (17) B8M (316SS) bolting may have a reduced pressure rating. Consult MycroSENSOR for information.
- (18) ABS-American Bureau of Shipping.
- (19) Oxygen cleaned option requires inert fill.



MODEL NUMBER

Absolute Pressure

340A Absolute Pressure Transmitter-Controller

Input Range: Span Limits, Min/Max

D 10/450" H₂O abs (2.5/112.5 KPA abs)

F 12.6/450 psia (87/3100 KPA abs)

Output

B 4-20 mA_{dc} with HART Protocol¹

C 4-20 mA_{dc} with HART Protocol & Integral Transient Suppressor

D Spare Capsule

Process Diaphragm

H Hastelloy C-276^{1,3}

S 316L SS

B Hastelloy C-276 with 1 Remote Seal (Specify AA for Body Parts)

Body Parts

	<u>Wetted</u>	<u>Process Connection</u>
--	---------------	---------------------------

AA	316SS	1/2" NPT ¹
----	-------	-----------------------

BA	Hastelloy-C276	1/2" NPT
----	----------------	----------

Fill Fluid

B Silicone DC200¹

C Inert

D Paratherm

Output Indicator

5 4-1/2 Digit Digital SmartDisplay

N Not Required⁵

Standard Options

X Oxygen Cleaned¹⁹

Y Special Features⁴

N Not Required⁵

Mounting Bracket

1 2" Pipe Mount Bracket with SS Hardware

2 Universal Bracket

3 2" Pipe Mount 316SS Bracket

N Not Required⁵

Housing

1 Aluminum 1/2" - 14 NPT¹

2 Aluminum M20 x 1.5⁶

3 316 SS 1/2" - 14 NPT

4 316 SS M20 x 1.5⁶

N Not Required⁵

Hazardous Area Classification

2 CSA/CRN

3 FM/CSA All¹

N Non-Approved⁵

W FM/CSA All & ABS¹⁸ Type Approval

340AF B H AAB 5 N N 1 3 Sample Model Number

See notes on page D-16.

Differential Pressure

340D Differential Pressure Transmitter-Controller

Input Range: Span Limits, Min/Max

- A 0.2/5 "H₂O (0.05/1.25 KPA)¹⁰ (Remote seals not available with this range.)
- B 0.75/15 "H₂O (0.185/3.7 KPA)² (Matched remote seals only with this range.)
- D 10/450 "H₂O (2.5/112.5 KPA)²
- F 12.6/450 psi (87/3100 KPA)²

Output

- B 4-20 mA_{dc} with HART Protocol^{1,2}
- C 4-20 mA_{dc} with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

Process Diaphragm

- H Hastelloy C-276^{2,3,8,11}
- S 316L SS^{2,7}
- A Hastelloy C-276 with 2 Remote Seals^{9,11}
- B Hastelloy C-276 with 1 Remote Seal on high side^{9,12}
- C Hastelloy C-276 with 1 Remote Seal on low side^{9,12}

Body Parts

	Wetted	Vent/Drain	Process Conn.
AA	316SS	End	1/2 NPT ^{1,2}
AB	316SS	Side (top)	1/2 NPT
AC	316SS	Side (bottom)	1/2 NPT
AD	316SS	Side (dual)	1/2 NPT
AE	316SS	End	1/4 NPT
AF	316SS	Side (top)	1/4 NPT
AG	316SS	Side (bottom)	1/4 NPT
AH	316SS	Side (dual)	1/4 NPT
BA	Hastelloy C-276	End	1/2 NPT
BB	Hastelloy C-276	Side (top)	1/2 NPT
BC	Hastelloy C-276	Side (bottom)	1/2 NPT
BD	Hastelloy C-276	Side (dual)	1/2 NPT
BE	Hastelloy C-276	End	1/4 NPT
BF	Hastelloy C-276	Side (top)	1/4 NPT
BG	Hastelloy C-276	Side (bottom)	1/4 NPT
BH	Hastelloy C-276	Side (dual)	1/4 NPT
RR	Remote Seals		

Fill Fluid

- B Silicone DC200^{1,2}
- C Inert¹¹
- D Paratherm¹¹

Output Indicator

- 5 4-1/2 Digit Digital SmartDisplay²
- N Not Required⁵

Standard Options

- D B7M Bolts³
- E B8M Bolts¹⁷
- X Oxygen Cleaned¹⁹
- Y Special Features⁴
- N Not Required^{2,5}

Mounting Bracket

- 1 2" Pipe Mount Bracket with SS Hardware²
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required⁵

Housing

- 1 Aluminum 1/2" - 14 NPT^{1,2}
- 2 Aluminum M20 x 1.5⁶
- 3 316 SS 1/2" - 14 NPT
- 4 316 SS M20 x 1.5⁶
- N Not Required⁵

Hazardous Area Classification

- 2 CSA/CRN
- 3 FM/CSA All^{1,2}
- N Non-Approved
- W FM/CSA All & ABS¹⁸ Type Approval

340D D B H AA B 5 N 1 1 3 Sample Model Number

See notes on page D-16.

Gauge Pressure

340G Gauge Pressure Transmitter-Controller

Input Range: Span Limits, Min/Max

- D 10/450 "H₂O (2.5/112.5 KPA)²
- F 12.6/450 psig (87/3100 KPA)²
- G 300/5500 psig 2008/37920 KPA)²

Output

- B 4-20 mA_{dc} with HART Protocol^{1,2}
- C 4-20 mA_{dc} with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

Process Diaphragm

- H Hastelloy C-276^{1,2,3}
- S 316L SS
- B Hastelloy C-276 with 1 Remote Seal (Specify AA for Body Parts)

Body Parts

	Wetted	Process Connection
AA	316SS	1/2" NPT ^{1,2}
BA	Hastelloy C-276	1/2" NPT

Fill Fluid

- B Silicone DC200^{1,2}
- C Inert
- D Paratherm

Output Indicator

- 5 4-1/2 Digit Digital SmartDisplay²
- N Not Required⁵

Standard Options

- X Oxygen Cleaned¹⁹
- Y Special Features⁴
- N Not Required⁵

Mounting Bracket

- 1 2" Pipe Mount Bracket with SS Hardware²
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required⁵

Housing

- 1 Aluminum 1/2" - 14 NPT^{1,2}
- 2 Aluminum M20 x 1.5⁶
- 3 316 SS 1/2" - 14 NPT
- 4 316 SS M20 x 1.5⁶
- N Not Required⁵

Hazardous Area Classification

- 2 CSA/CRN
- 3 FM/CSA All^{1,2}
- N Non-Approved⁵
- W FM/CSA All & ABS¹⁸ Type Approval

340G F B H AA B 5 N 1 1 3 *Sample Model Number*

See notes on page D-16.

Tantalum Diaphragms

340 Absolute, Gauge & Differential Pressure Transmitter-Controllers with Tantalum Diaphragms

Type and Input Range: Span Limits, Min/Max

Type	Span Limits, Min/Max
DD	Differential 10/450 "H ₂ O (2.5/112.5 KPA)
GD	Gauge 10/450 "H ₂ O (2.5/112.5 KPA)
GF	Gauge 12.6/450 psi (87/3100 KPA)
AD	Absolute 10/450 "H ₂ O Abs (2.5/112.5 KPA)
AF	Absolute 12.6/450 psia (87/3100 KPA)

Output

B	4-20 mAdc with HART Protocol ¹
C	4-20 mAdc with HART Protocol & Integral Transient Suppressor
D	Spare Capsule

Diaphragm

T Tantalum

Body Parts

	Hi Side	Lo Side	Use With
TB	Hastelloy-C	316SS	A, G
TC	Hastelloy-C	Hastelloy-C	D
TD	Monel	316SS	A, G ¹
TE	Monel	Monel	D ¹

Fill Fluid

B	Silicone DC200
C	Inert ¹³

Output Indicator

5	4-1/2 Digit Digital SmartDisplay
N	Not Required

Standard Options

D	B7M Bolts ³
E	B8M Bolts ¹⁷
X	Oxygen Cleaned ¹⁹
Y	Special Features ⁴
N	Not Required ⁵

Mounting Bracket

1	2" Pipe Mount Bracket with SS Hardware
2	Universal Bracket
3	2" Pipe Mount 316SS Bracket
N	Not Required ⁵

Housing

1	Aluminum 1/2" - 14 NPT ¹
2	Aluminum M20 x 1.5 ⁶
3	316 SS 1/2" - 14 NPT
4	316 SS M20 x 1.5 ⁶
N	Not Required ⁵

Hazardous Area Classification

2	CSA/CRN
3	FM/CSA All ¹
N	Non-Approved
W	FM/CSA All & ABS ¹⁸ Type Approval

340 DB B T TE B N N N 1 3 Sample Model Number

NOTES:

- (1) Standard for all ranges.
- (2) Stock Model Selection.
- (3) NACE MR0175 compliance requires this option.
- (4) Please describe the modification or provide a quotation reference number.
- (5) Required selection for OUTPUT option "D", direct connection to the MycroSENSOR 348.
- (6) Not available with FM/CSA approvals.
- (7) Standard on Input Ranges A & B.
- (8) Standard on Input Ranges D & F.
- (9) Must specify Body Parts code "RR".
- (10) Must select Body Parts "AA".
- (11) Not available with Input Range "A".
- (12) Not available with Input Range "A" or "B".
- (13) Available with Body Parts "TD" or "TE" only.
- (14) CENELEC EExd & SAA units are only available with OUTPUT code "B".
- (15) 2"
- (16) 3" and 4" flanges with an extension will fit into Schedule 80 and larger i.d. pipes.
- (17) B8M (316SS) bolting may have a reduced pressure rating. Consult MycroSENSOR for information.
- (18) ABS-American Bureau of Shipping.
- (19) Oxygen cleaned option requires inert fill.
- (20) AS threaded body only.

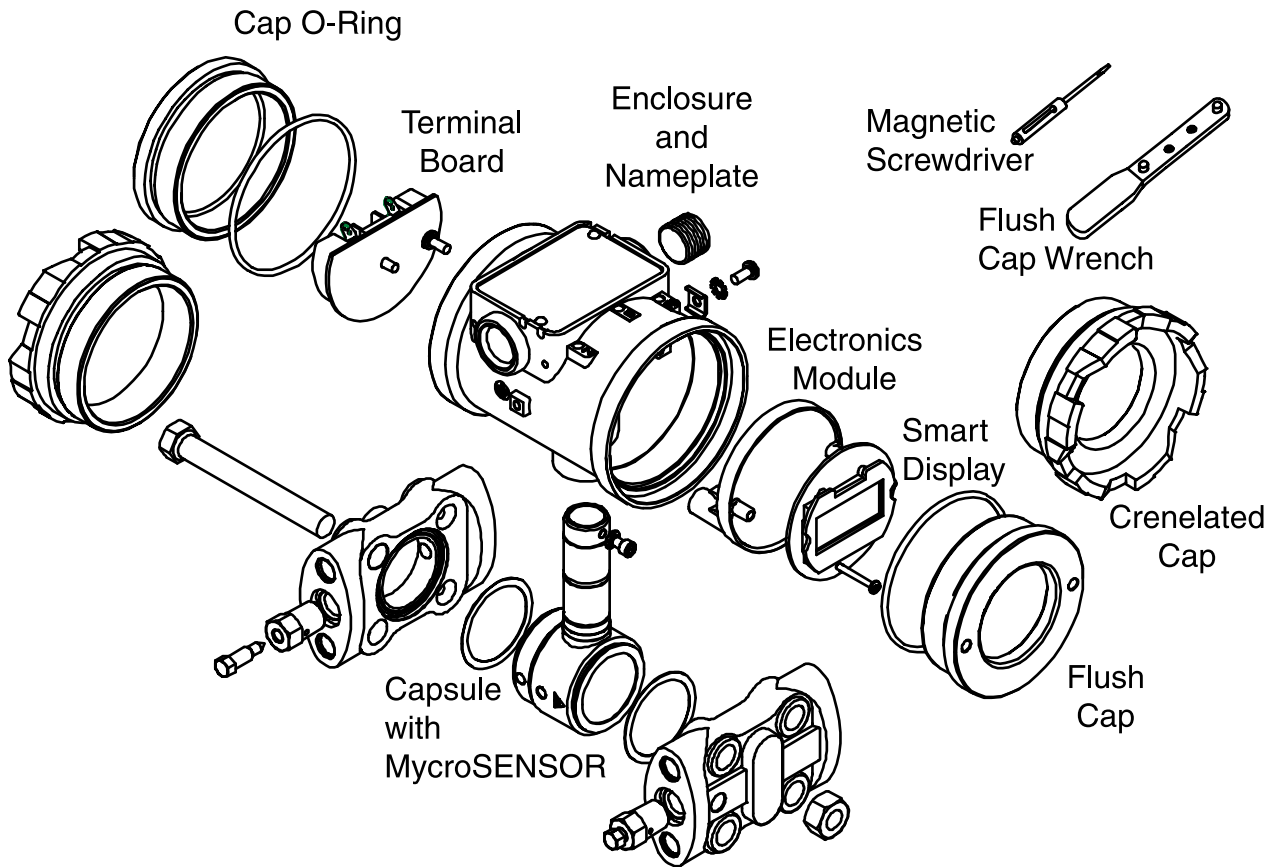
MODEL DIFFERENCES & MODIFICATIONS

If no range is selected, the instrument will be calibrated as follows:

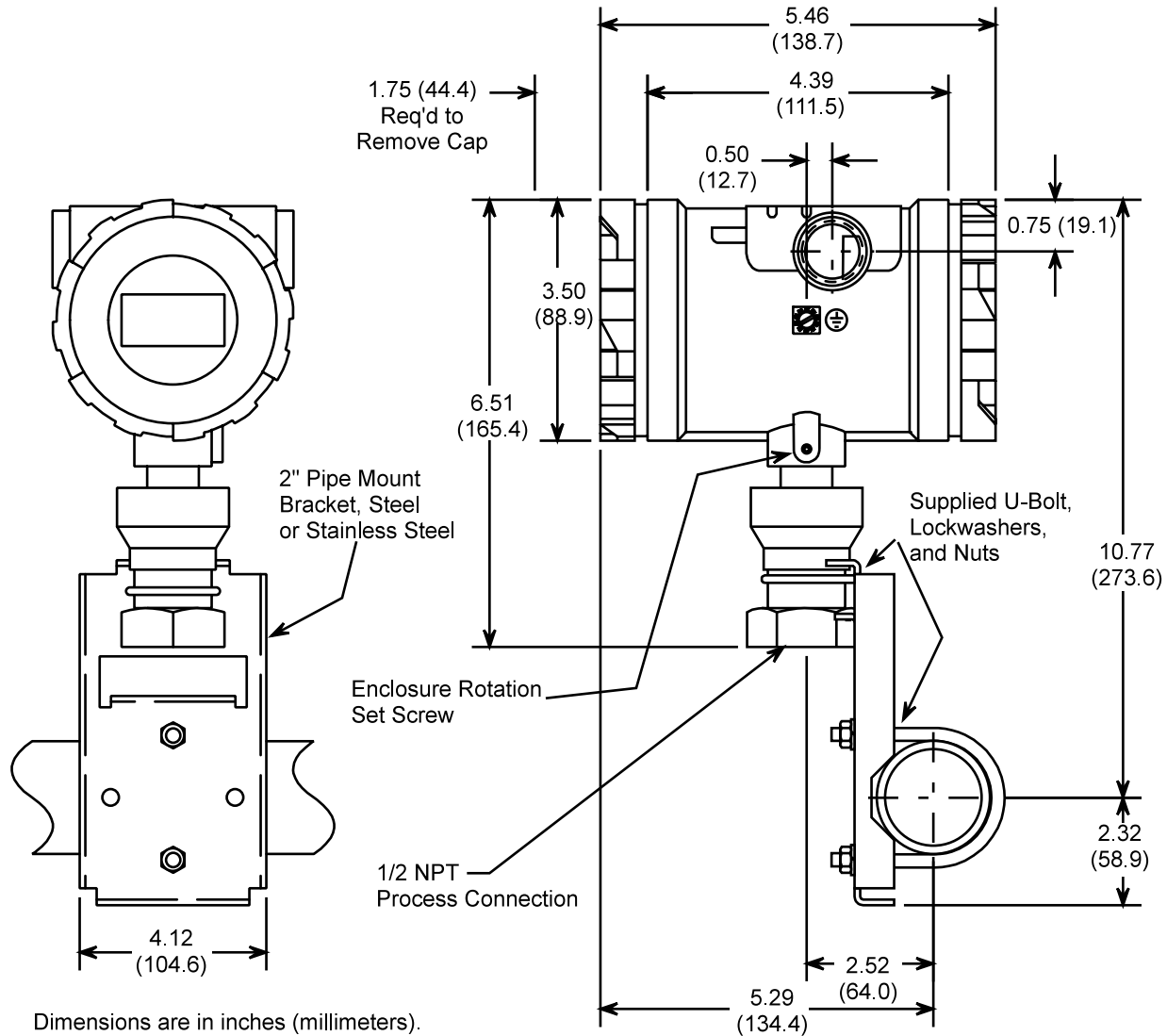
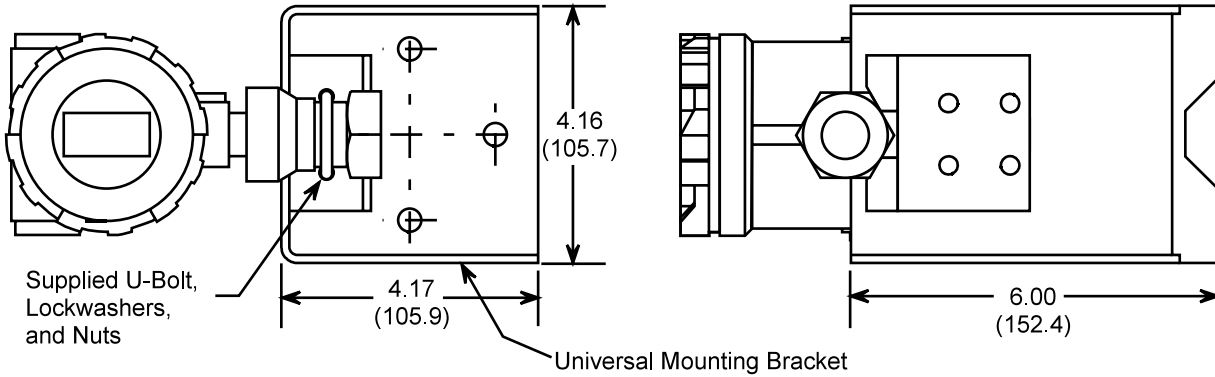
Range Code	Default Calibration
A	-0.5 to 0.5 "H ₂ O
B	0 to 10 "H ₂ O
D	0 to 100 "H ₂ O (or "H ₂ O abs)
F	0 to 100 PSI (or PSIA)
G	0 to 1000 PSIG

Common modifications can be specified by selecting a Y in the Special Features category and describing the modification. **Always consult your salesperson before ordering a modification.**

TRANSMITTER COMPONENTS



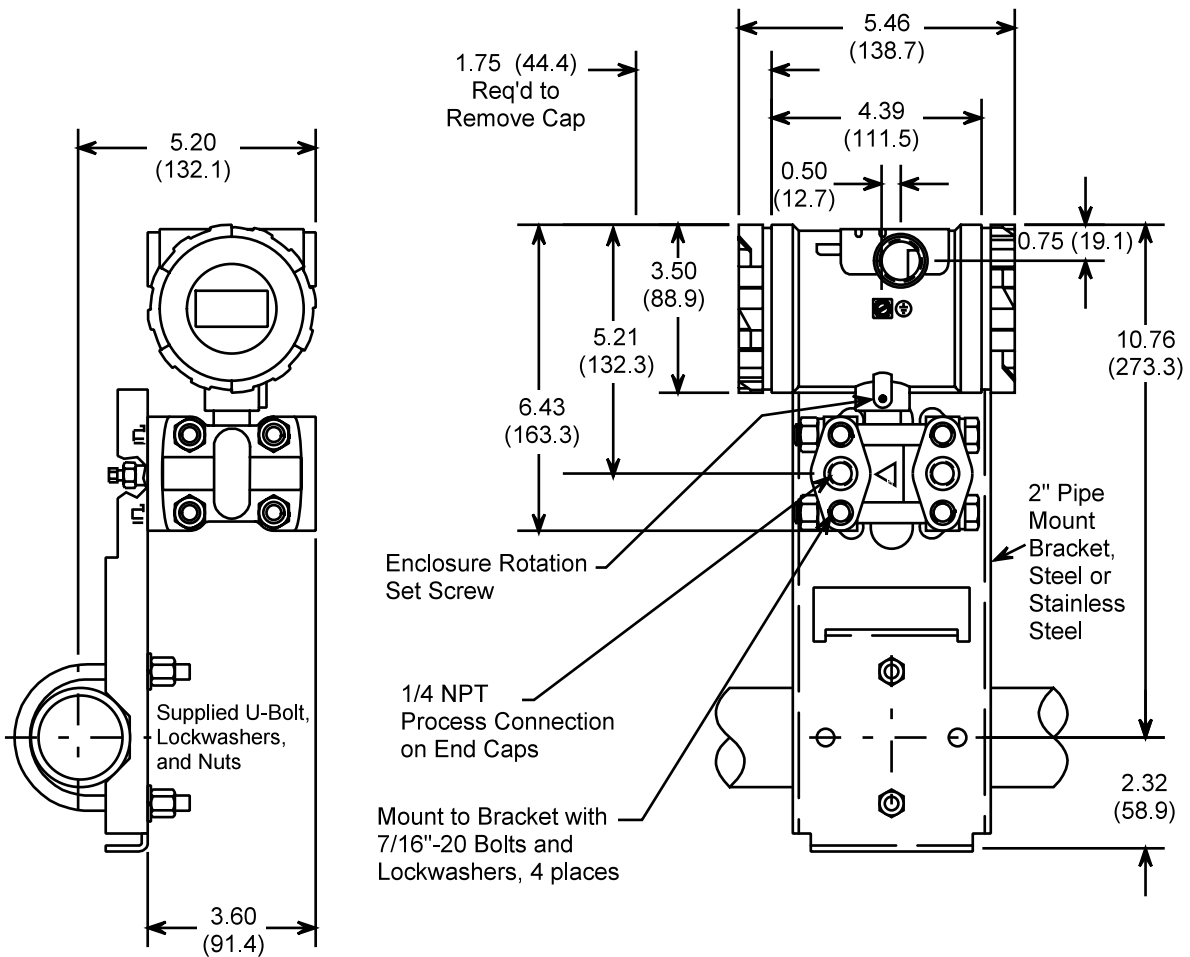
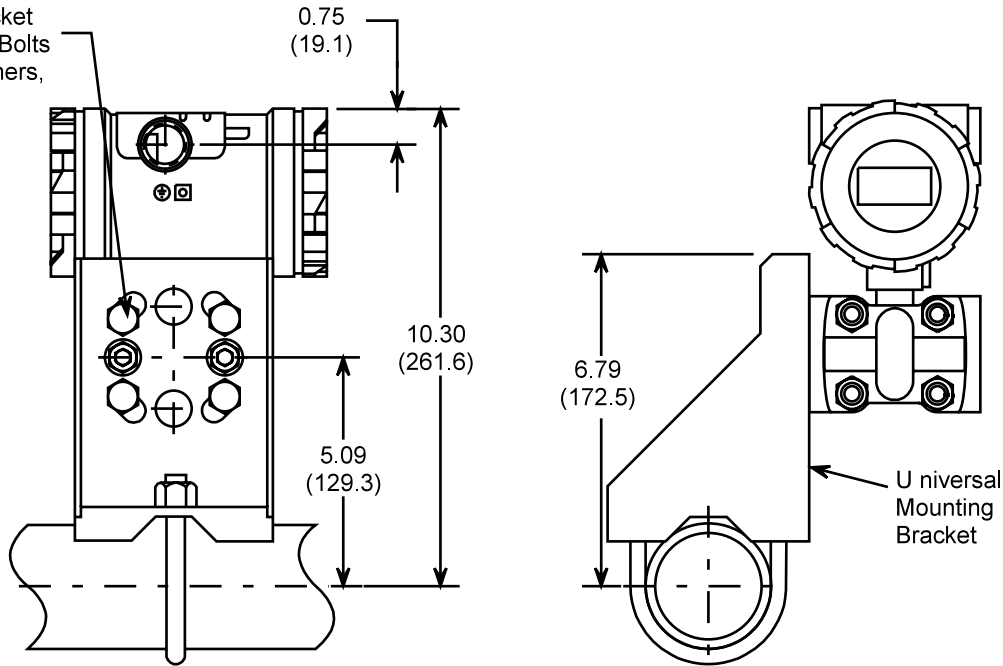
INSTALLATION DRAWINGS



Dimensions are in inches (millimeters).

Models 340A and Model 340G

Mount to Bracket with 7/16"-20 Bolts and Lockwashers, 4 places

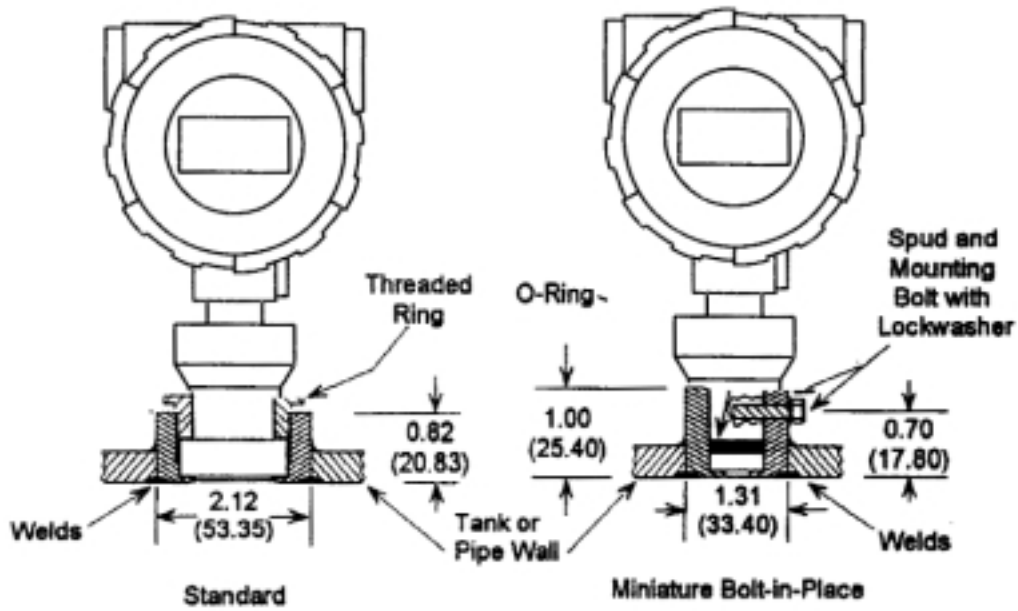


Dimensions are in inches (millimeters).

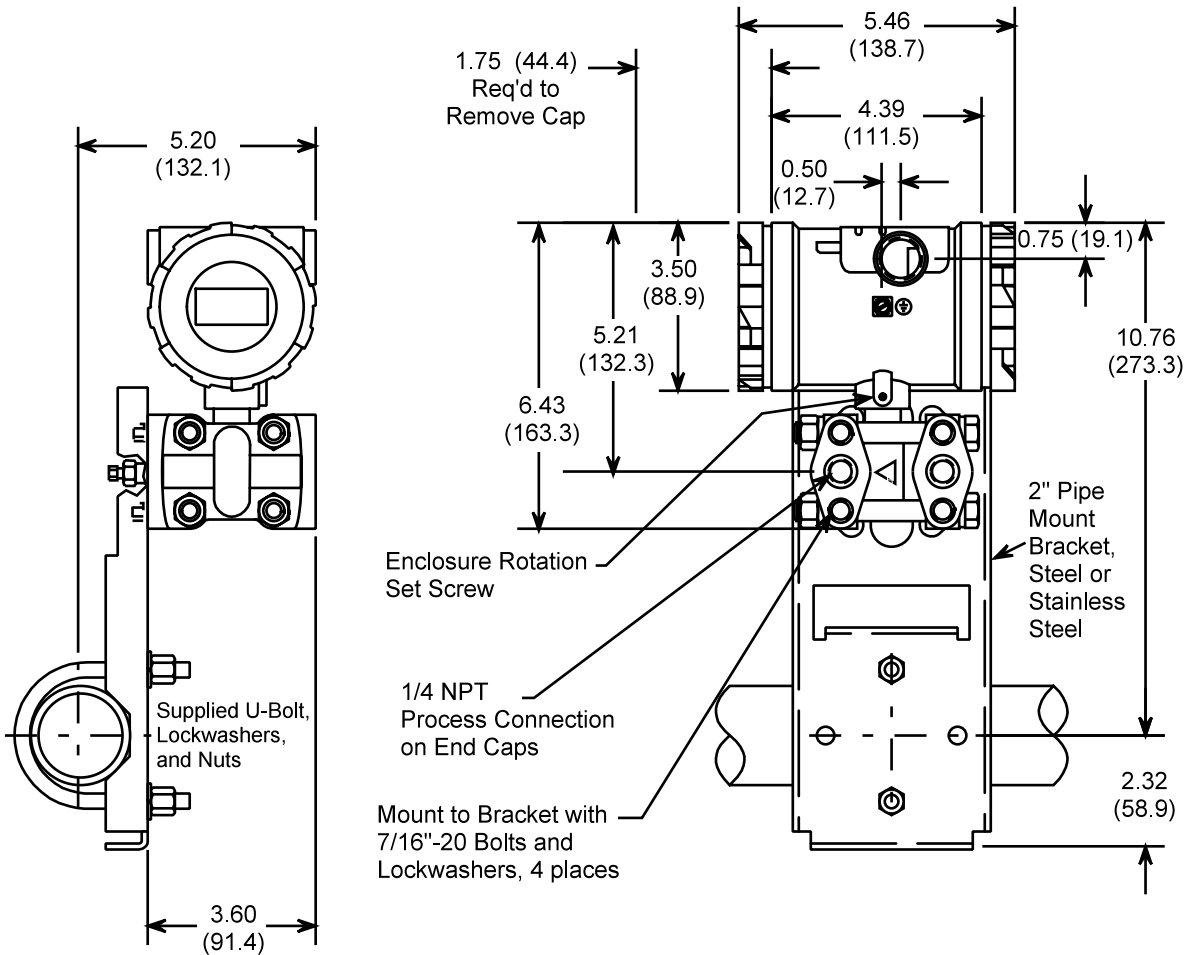
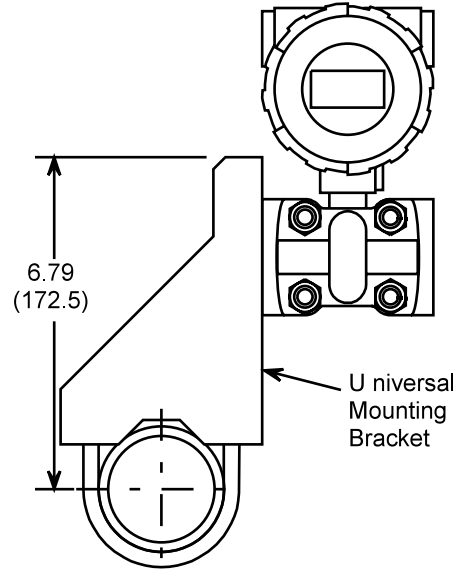
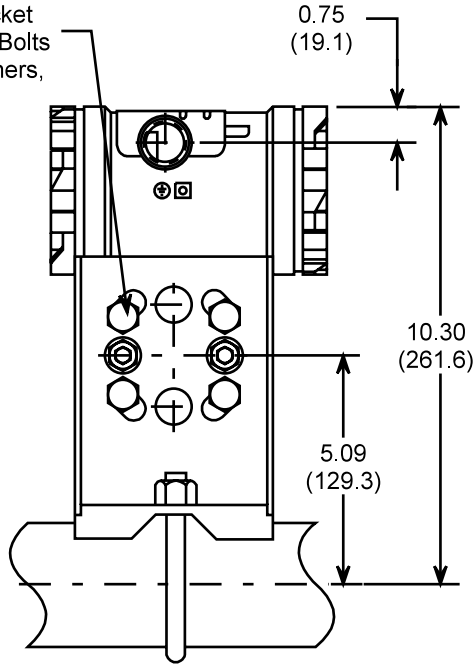
Models 340A and 340G with Tantalum Diaphragms



340P – Mounting



Mount to Bracket with 7/16"-20 Bolts and Lockwashers, 4 places



Dimensions are in inches (millimeters).

Model 330D and 340D

MycroSENSOR 330P & 340P ACCESSORIES

The following accessories are for use with MycroSENSOR 330P, 340P Flush-Mount Gauge Transmitters.

Spuds

These spuds, or nipples, must be welded to the process pipe or vessel in order to mount a MycroSENSOR 340P. The spuds are made from stainless steel.

Spud Kit

- Mini Bolt P/N 20027-316
- Standard Threaded P/N 20027-314

The spud kit includes all necessary parts to properly install a spud. Parts include the spud, plug, and o-ring/gasket.

O-rings/Gaskets

The spud kit includes all necessary parts to properly install a spud. Parts include the spud, plug, and o-ring/gasket. MycroSENSOR 330P, 340P is installed. An o-ring or gasket is included with each MycroSENSOR 340P.

Plugs

These are used for two reasons. First, the all SS plug should be used as a heat sink during the weld procedure. This will prevent the spud from deforming. Second, the plug can be used to seal the process connection when a transmitter is taken out of service for maintenance.

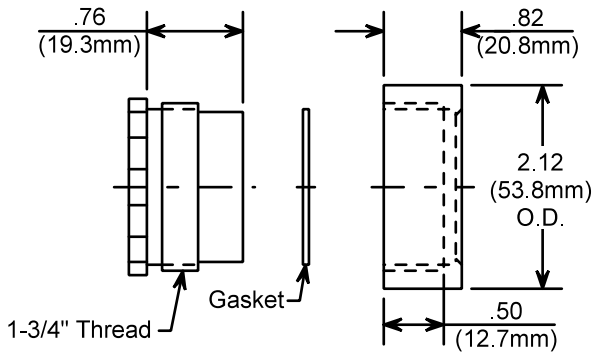


Figure 9 1-1/2" Spud & Plug
P/N 20027-311 & 20027-332

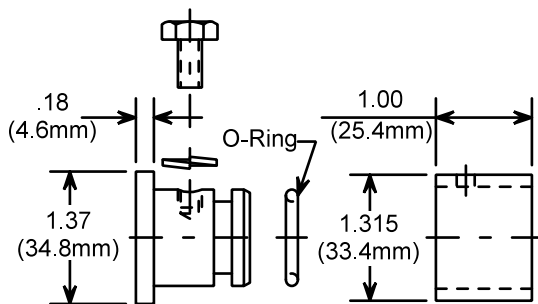


Figure 10 1" Spud & Plug
P/N 20027-313 & 20027-336

SS Set Screw

P/N 20027-317

This is used for the MycroSENSOR 330P and 340P with miniature bolt-in-place connection. This set screw and lock-washer hold the transmitter into the spud. A set screw and lockwasher is included with each MycroSENSOR 340P with miniature bolt-in-place connection.

1" NPT Adapter

This accessory can be used to convert the MycroSENSOR 330P, 340P with miniature bolt-in-place connection into 1" NPT connection. The adapter is carbon steel.

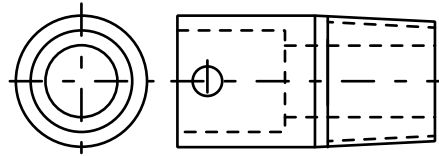


Figure 11 1" NPT Adapter

Test Fittings

These fittings are for bench testing MycroSENSOR 330P, 340P Transmitters. The fittings are aluminum and have a 1/4" NPT connection for applying pressure.

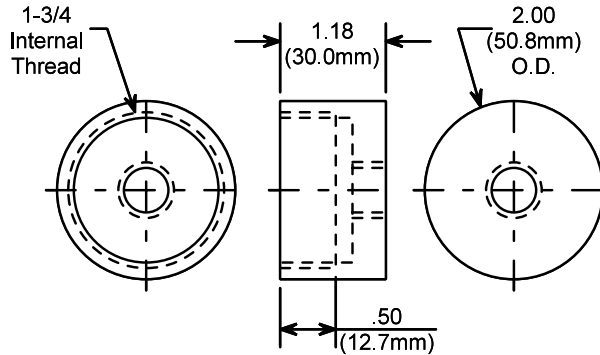


Figure 12 1-1/2" Test Nipple
P/N 20027-318

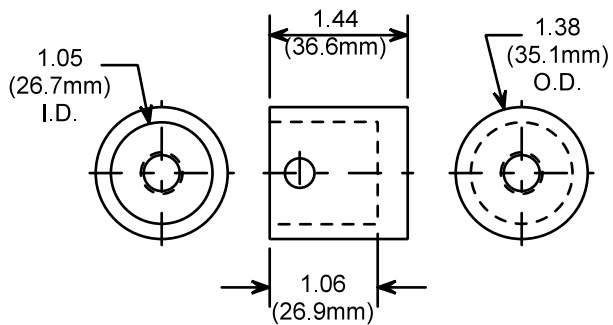


Figure 13 1" Test Nipple
P/N 20027-320

