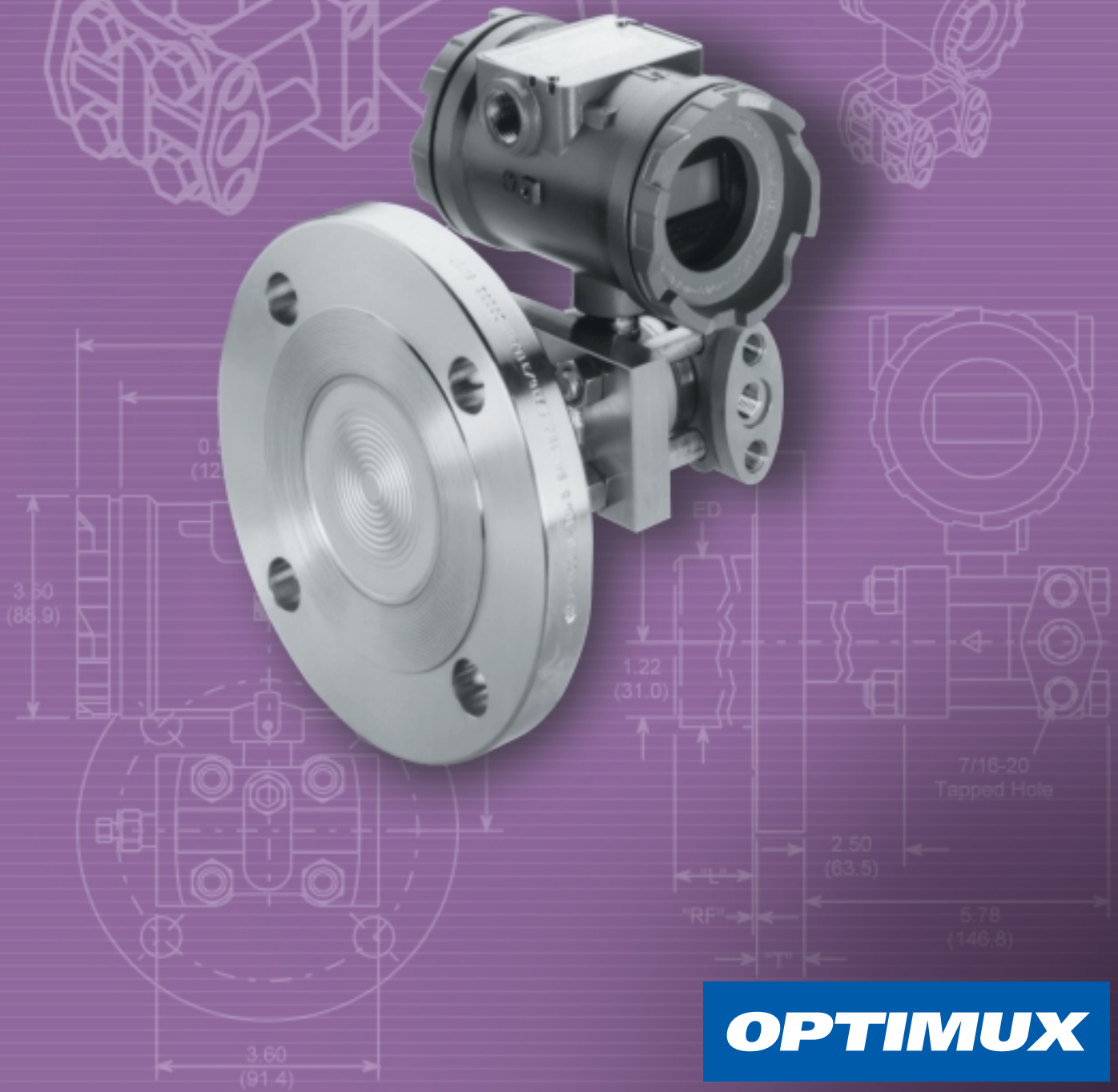


# ***Level*** ***Sensor Technology***

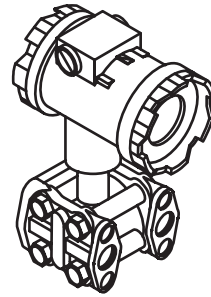


**OPTIMUX**

## MODELS

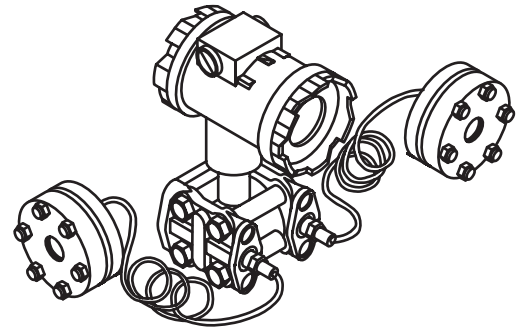
### Model V30D, V40D Differential Pressure

- ▶ Spans from 0.2" H<sub>2</sub>O 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



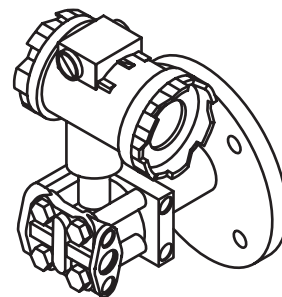
### Model V30D & V40D with Remote Diaphragm Seals

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



### Model V30F & V40F Flanged Level

- ▶ 10" H<sub>2</sub>O to 450 PSI (2.5 to 3100 KPA)
- ▶ Standard 316SS diaphragms and wetted parts
- ▶ Standard ANSI and DIN flanges
- ▶ Suitable for level and flanged pressure applications



### Model V30P & V40P Flush Mounted Gauge Pressure

- ▶ Suitable for cost effective level measurement in open tanks
- ▶ 0 - 830" and 0 - 150 psi ranges available

## SPECIFICATIONS

### 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.

#### Accuracy<sup>1,2</sup>

##### Analog Output

###### Range A:

- ±0.1% of calibrated span for spans from 1:1 to 2:1 of URL
- ±(0.075 + 0.013[URL/Span]) % of calibrated span for spans from 2:1 to 25:1 of URL

###### Range B:

- ± 0.075% of calibrated span for spans from 1:1 to 2.5:1 of URL
- ± (0.043 + 0.0128 [URL/span]) % of calibrated span for spans from 2.5:1 to 20:1 of URL

###### Range D,F,G:

- ±0.075% of calibrated span for spans from 1:1 to 10:1 of URL
- ±(0.028 + 0.0047 [URL/span]) % calibrated span for spans from 10:1 to 45:1 of URL

#### Digital Output

##### Range D,F,G:

- ± 0.0625% of calibrated span for spans from 1:1 to 10:1 of URL
- ± (0.0155 + 0.0047 [URL/span]) % calibrated span for spans from 10:1 to 45:1 of URL

#### Ambient Temperature Effect

Models V30D, V40D, V30P, V40P

##### Ranges A-B:

- ±(0.175% URL + 0.075% span) per 28°C (50°F)

##### Ranges D-G:

- ±(0.075% URL + 0.075% span) per 28°C (50°F)

Model V40F

##### Ranges D-F<sup>2</sup>:

- ±(0.075% URL + 0.075% span + 1.5" H<sub>2</sub>O) per 28° C (50°F)

#### Temperature Limits

##### Sensor Assembly<sup>3</sup>:

- 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)

#### V40P Sensor Limits:

All full fluids: 0-85°C (32 to 185°F)

#### Stability

##### Zero Stability:

- Range A: ±0.1% of URL for 12 months
- Ranges B-G: ±0.03% of URL for 36 months
- Span Stability: No Measurable Span Drift

#### Humidity

0-100% relative humidity, non-condensing

#### Vibration Effect

Less than ±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 (V40D)

Range Span Error Correctable To:<sup>4</sup>

- 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 OPTIMUX.
- (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 V30/V40D, V30/V40F, V30/V40P

Range	V30/V40D, V30/V40F	V30/V40P	LRL/URL		
	Min. Span	Min. Span	V30/V40D	V30/V40F	V30/V40P
A	0.20" (.05KPA)		-2/5" (5/1.25KPA)	NA	NA
B	0.75" (0.185KPA)		-15/15" (-3.7/3.7KPA)	NA	NA
D	10" (2.5KPA)	1psi(6.9 KPA)	-450/450" (-112.5/112.5KPA)	-450/450" (-112.5/112.5KPA)	-14.7/30 psig (-101/206.84 KPA)
F	12.6psi (87KPA)	10psi(6.95 KPA)	-150/450psi (-689/3100KPA)	-150/450psi (-689/3100KPA)	-14.7/150 psig (-101/1034 KPA)

#### Zero Elevation and Suppression

The range may be set anywhere between the LRL and URL of the transmitter, as long as the calibrated span does not exceed the minimum allowable span (see Range table). 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

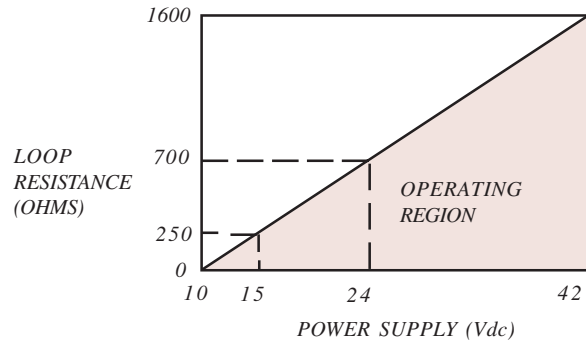
Minimum Terminal to Terminal Compliance

Voltage: +10 Vdc

Maximum Terminal to Terminal Voltage: +42 Vdc

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

- 500 Ohms<sup>1</sup>



#### Maximum Working Pressure<sup>2</sup>

Range	V30/V40D	V30/V40F	V30/V40P
A	+/-60 psi <sup>3</sup> (+/-413KPA)	NA	NA
B	+/-100 psi <sup>3</sup> (+/-689KPA)	NA	NA
D	+/-4000 psi (+/-27.6MPA)	Per Flange	Per Flange
F	+/-4000 psi (+/-27.6MPA)	Per Flange	Per Flange

#### NOTES:

(1) To ensure digital communications, HART requires the loop 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) V40D 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.

### Flange Rating

Standard	Class	Carbon Steel Rating	Stainless Steel Rating
ANSI	150#	285 psi <sup>1</sup>	275 psi <sup>1</sup>
ANSI	300#	740 psi <sup>1</sup>	720 psi <sup>1</sup>
DIN	PN 10/16	16 bar <sup>2</sup>	16 bar <sup>2</sup>
DIN	PN 25/40	40 bar <sup>2</sup>	40 bar <sup>2</sup>

### 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)

### Weight<sup>3</sup>

V40D 7 lbs

V40F20 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 V40A/G<sup>5</sup>

(1) 1/2" NPTF, no vent/drain (External block and bleed may be purchased separately)

Model V40D

(2) 1/4" NPTF with vent/drains

(1/2" NPTF with optional process adapters)

Model V40F

High Pressure Side: Per flange size and rating selected

Low Pressure Side: 1/4" NPTF with vent/drain (1/2" NPTF with process adapter provided)

### Hazardous Area Classification/Approvals<sup>4</sup>

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) Consult OPTIMUX for information on additional approvals.

## Differential Pressure

### V30D Differential Pressure Transmitter-Controller

#### Input Range: Span Limits, Min/Max

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

#### Output

- B 4-20 mA<sub>dc</sub> with HART Protocol<sup>1,2</sup>
- C 4-20 mA<sub>dc</sub> with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

#### Process Diaphragm

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

#### Body Parts

	Wetted	Vent/Drain	Process Conn.
AA	316SS	End	1/2 NPT <sup>1,2</sup>
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<sup>1,2</sup>
- C Inert<sup>11</sup>
- D Paratherm<sup>11</sup>

#### Output Indicator

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

#### Standard Options

- D B7M Bolts<sup>3</sup>
- E B8M Bolts<sup>17</sup>
- X Oxygen Cleaned<sup>19</sup>
- Y Special Features<sup>4</sup>
- N Not Required<sup>2,5</sup>

#### Mounting Bracket

- 1 2" Pipe Mount Bracket with SS Hardware<sup>2</sup>
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required<sup>5</sup>

#### Housing

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

#### Hazardous Area Classification

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

#### 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 OPTIMUX V48.
- (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 OPTIMUX for information.
- (18) BAS - American Bureau of Shipping
- (19) Oxygen Cleaned Option requires Inert Fill Fluid

V30D D B H AA B 5 N 1 1 3 Sample Model Number

**Flanged Level**

V30F **Flanged Level Transmitter-Controller**

**Input Range: Span Limits, Min./Max.**

- D 10/450 "H<sub>2</sub>O (2.5/112.5 KPA)<sup>2</sup>
- F 12.6/450 psi (87/3100 KPA)<sup>2</sup>

**Output**

- B 4-20 mAdc with HART Protocol<sup>1,2</sup>
- C 4-20 mAdc with HART Protocol & Integral Transient Suppressor

**Body Parts**

	<u>High Side Dia/Wetted</u>	<u>Low Side Dia/Wetted</u>	<u>Extension Length</u>	<u>High Side Dia/Wetted</u>	<u>Low Side Dia/Wetted</u>	<u>Extension Length</u>
A0	316SS	Hastelloy C-276/316SS	Flush Mount <sup>1,2</sup>	H0	Hastelloy C-276 Remote Seal	Flush Mount
A2	316SS	Hastelloy C-276/316SS	2" <sup>15</sup>	H2	Hastelloy C-276 Remote Seal	2" <sup>15</sup>
A4	316SS	Hastelloy C-276/316SS	4" <sup>15</sup>	H4	Hastelloy C-276 Remote Seal	4" <sup>15</sup>
A6	316SS	Hastelloy C-276/316SS	6" <sup>15</sup>	H6	Hastelloy C-276 Remote Seal	6" <sup>15</sup>
B0	Hastelloy C-276	Hastelloy C-276/316SS	Flush Mount	J0	Monel Remote Seal	Flush Mount
B2	Hastelloy C-276	Hastelloy C-276/316SS	2" <sup>15</sup>	J2	Monel Remote Seal	2" <sup>15</sup>
B4	Hastelloy C-276	Hastelloy C-276/316SS	4" <sup>15</sup>	J4	Monel Remote Seal	4" <sup>15</sup>
B6	Hastelloy C-276	Hastelloy C-276/316SS	6" <sup>15</sup>	J6	Monel Remote Seal	6" <sup>15</sup>
C0	Monel	Hastelloy C-276/316SS	Flush Mount	K0	Tantalum Remote Seal	Flush Mount
C2	Monel	Hastelloy C-276/316SS	2" <sup>15</sup>	N0	Hastelloy C-276 Hastelloy C-276	Flush Mount
C4	Monel	Hastelloy C-276/316SS	4" <sup>15</sup>	N2	Hastelloy C-276 Hastelloy C-276	2" <sup>15</sup>
C6	Monel	Hastelloy C-276/316SS	6" <sup>15</sup>	N4	Hastelloy C-276 Hastelloy C-276	4" <sup>15</sup>
D0	Tantalum	Hastelloy C-276/316SS	Flush Mount	N6	Hastelloy C-276 Hastelloy C-276	6" <sup>15</sup>
G0	316SS	Remote Seal	Flush Mount	Q0	Monel Hastelloy C-276	Flush Mount
G2	316SS	Remote Seal	2" <sup>15</sup>	Q2	Monel Hastelloy C-276	2" <sup>15</sup>
G4	316SS	Remote Seal	4" <sup>15</sup>	Q4	Monel Hastelloy C-276	4" <sup>15</sup>
G6	316SS	Remote Seal	6" <sup>15</sup>	Q6	Monel Hastelloy C-276	6" <sup>15</sup>
				R0	Tantalum Hastelloy C-276	Flush Mount

**Mounting Flange**

	<u>Size</u>	<u>Rating</u>	<u>Material</u>	<u>Size</u>	<u>Rating</u>	<u>Material</u>	<u>Size</u>	<u>Rating</u>	<u>Material</u>
A	2"	150#	CS	J 3"	150#	SS <sup>2</sup>	S 100mm	10/16 Bar	CS
B	2"	300#	CS	K 3"	300#	SS	T 100mm	25/40 Bar	CS
C	3"	150#	CS <sup>2</sup>	L 4"	150#	SS	U 50mm	10/16 Bar	SS
D	3"	300#	CS	M 4"	300#	SS	V 50mm	25/40 Bar	SS
E	4"	150#	CS	N 50mm	10/16 Bar	CS	W 80mm	10/16 Bar	SS
F	4"	300#	CS	P 50mm	25/40 Bar	CS	X 80mm	25/40 Bar	SS
G	2"	150#	SS	Q 80mm	10/16 Bar	CS	Y 100mm	10/16 Bar	SS
H	2"	300#	SS	R 80mm	25/40 Bar	CS	Z 100mm	25/40 Bar	SS

**Fill Fluid**

	<u>High Side</u>	<u>Low Side</u>
B	Silicone DC200	Silicone DC200 <sup>1,2</sup>
C	Fluorolube	Inert
D	NEOBEE	Paratherm
E	Silicone DC550	Silicone DC200
F	Silicone DC704	Silicone DC200
G	Syltherm 800	Silicone DC200

**Output Indicator**

- 5 4-1/2 Digit Digital Smart Display<sup>2</sup>
- N Not Required

**Standard Options**

- D B7M Bolts<sup>3</sup>
- E B8M Bolts<sup>17</sup>
- X Oxygen Cleaned<sup>19</sup>
- Y Special Features<sup>4</sup>
- N Not Required<sup>2</sup>

**Mounting Bracket**

- N Not Required

**Housing**

- 1 Aluminum 1/2" - 14 NPT<sup>1,2</sup>
- 2 Aluminum M20 x 1.5<sup>6</sup>
- 3 316 SS 1/2" - 14 NPT
- 4 316 SS M20-1.5<sup>6</sup>

**Hazardous Area Classification**

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

V30F D B A0 C B 5 N N 1 3 *Sample Model Number*

*See notes on previous page.*

## Gauge Pressure Flush Mounted

### V30P Flush-Mount Gauge Pressure Transmitter

**Input Range: Span Limits Min/Max**

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

**Output**

- B 4-20 mA<sub>dc</sub> with HART Protocol
- C 4-20 mA<sub>dc</sub> with HART Protocol & Integral Transient Suppressor

**Process Diaphragm**

- H Hastelloy-C276

**Body Parts**

- |    |               |                           |
|----|---------------|---------------------------|
|    | <u>Wetted</u> | <u>Process Connection</u> |
| AS | 316 SS        | Threaded, 1.59i Diameter  |

**Fill Fluid**

- B Silicone DC200<sup>1</sup>
- C Inert Fill<sup>1</sup>
- D Paratherm

**Output Indicator**

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

**Standard Options**

- Y Special Features<sup>4</sup>
- N Not Required

**Mounting (Includes Gasket or O-Ring)**

- G 2" 150# 316 Stainless Steel Flange<sup>1</sup>
- H 2" 300# 316 Stainless Steel Flange<sup>1</sup>
- J 3" 150# 316 Stainless Steel Flange<sup>1</sup>
- K 3" 300# 316 Stainless Steel Flange<sup>1</sup>
- L 4" 150# 316 Stainless Steel Flange<sup>1</sup>
- M 4" 300# 316 Stainless Steel Flange<sup>1</sup>

**Housing**

- 1 Aluminum 1/2"-14 NPT<sup>1,2</sup>
- 2 Aluminum M20 X 1.5<sup>3</sup>
- 3 316 SS 1/2"-NPT
- 4 316 SS M 20 X 1.5<sup>3</sup>

**Hazardous Area Classifications**

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

V30P D B H AS B N N G 1 3 *Sample Model Number*

*Notes*

- (1) AS Threaded Body Only
- (3) Not available with FM/CSA Approval
- (4) Please describe modification or provide a quotation reference number

**Differential Pressure**

**V40D Differential Pressure Transmitter-Controller**

**Input Range: Span Limits, Min/Max**

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

**Output**

- B 4-20 mAdc with HART Protocol<sup>1,2</sup>
- C 4-20 mAdc with HART Protocol & Integral Transient Suppressor
- D Spare Capsule

**Process Diaphragm**

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

**Body Parts**

	<u>Wetted</u>	<u>Vent/Drain</u>	<u>Process Conn.</u>
AA	316SS	End	1/2 NPT <sup>1,2</sup>
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<sup>1,2</sup>
- C Inert<sup>11</sup>
- D Paratherm<sup>11</sup>

**Output Indicator**

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

**Standard Options**

- D B7M Bolts<sup>3</sup>
- E B8M Bolts<sup>17</sup>
- X Oxygen Cleaned<sup>19</sup>
- Y Special Features<sup>4</sup>
- N Not Required<sup>2,5</sup>

**Mounting Bracket**

- 1 2" Pipe Mount Bracket with SS Hardware<sup>2</sup>
- 2 Universal Bracket
- 3 2" Pipe Mount 316SS Bracket
- N Not Required<sup>5</sup>

**Housing**

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

**Hazardous Area Classification**

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

**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 OPTIMUX V48.
- (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 OPTIMUX for information.
- (18) BAS - American Bureau of Shipping
- (19) Oxygen Cleaned Option requires Inert Fill Fluid

V40D D B H AA B 5 N 1 1 3 **Sample Model Number**

## Flanged Level

### V40F Flanged Level Transmitter-Controller

#### Input Range: Span Limits, Min./Max.

D 10/450 "H<sub>2</sub>O (2.5/112.5 KPA)<sup>2</sup>

F 12.6/450 psi (87/3100 KPA)<sup>2</sup>

#### Output

B 4-20 mAdc with HART Protocol<sup>1,2</sup>

C 4-20 mAdc with HART Protocol & Integral Transient Suppressor

#### Body Parts

	High Side Dia/Wetted	Low Side Dia/Wetted	Extension Length	High Side Dia/Wetted	Low Side Dia/Wetted	Extension Length
A0 316SS		Hastelloy C-276/316SS	Flush Mount <sup>1,2</sup>	H0 Hastelloy C-276	Remote Seal	Flush Mount
A2 316SS		Hastelloy C-276/316SS	2" <sup>15</sup>	H2 Hastelloy C-276	Remote Seal	2" <sup>15</sup>
A4 316SS		Hastelloy C-276/316SS	4" <sup>15</sup>	H4 Hastelloy C-276	Remote Seal	4" <sup>15</sup>
A6 316SS		Hastelloy C-276/316SS	6" <sup>15</sup>	H6 Hastelloy C-276	Remote Seal	6" <sup>15</sup>
B0 Hastelloy C-276		Hastelloy C-276/316SS	Flush Mount	J0 Monel	Remote Seal	Flush Mount
B2 Hastelloy C-276		Hastelloy C-276/316SS	2" <sup>15</sup>	J2 Monel	Remote Seal	2" <sup>15</sup>
B4 Hastelloy C-276		Hastelloy C-276/316SS	4" <sup>15</sup>	J4 Monel	Remote Seal	4" <sup>15</sup>
B6 Hastelloy C-276		Hastelloy C-276/316SS	6" <sup>15</sup>	J6 Monel	Remote Seal	6" <sup>15</sup>
C0 Monel		Hastelloy C-276/316SS	Flush Mount	K0 Tantalum	Remote Seal	Flush Mount
C2 Monel		Hastelloy C-276/316SS	2" <sup>15</sup>	N0 Hastelloy C-276	Hastelloy C-276	Flush Mount
C4 Monel		Hastelloy C-276/316SS	4" <sup>15</sup>	N2 Hastelloy C-276	Hastelloy C-276	2" <sup>15</sup>
C6 Monel		Hastelloy C-276/316SS	6" <sup>15</sup>	N4 Hastelloy C-276	Hastelloy C-276	4" <sup>15</sup>
D0 Tantalum		Hastelloy C-276/316SS	Flush Mount	N6 Hastelloy C-276	Hastelloy C-276	6" <sup>15</sup>
G0 316SS		Remote Seal	Flush Mount	Q0 Monel	Hastelloy C-276	Flush Mount
G2 316SS		Remote Seal	2" <sup>15</sup>	Q2 Monel	Hastelloy C-276	2" <sup>15</sup>
G4 316SS		Remote Seal	4" <sup>15</sup>	Q4 Monel	Hastelloy C-276	4" <sup>15</sup>
G6 316SS		Remote Seal	6" <sup>15</sup>	Q6 Monel	Hastelloy C-276	6" <sup>15</sup>
				R0 Tantalum	Hastelloy C-276	Flush Mount

#### Mounting Flange

Size	Rating	Material	Size	Rating	Material	Size	Rating	Material
A 2"	150#	CS	J 3"	150#	SS <sup>2</sup>	S 100mm	10/16 Bar	CS
B 2"	300#	CS	K 3"	300#	SS	T 100mm	25/40 Bar	CS
C 3"	150#	CS <sup>2</sup>	L 4"	150#	SS	U 50mm	10/16 Bar	SS
D 3"	300#	CS	M 4"	300#	SS	V 50mm	25/40 Bar	SS
E 4"	150#	CS	N 50mm	10/16 Bar	CS	W 80mm	10/16 Bar	SS
F 4"	300#	CS	P 50mm	25/40 Bar	CS	X 80mm	25/40 Bar	SS
G 2"	150#	SS	Q 80mm	10/16 Bar	CS	Y 100mm	10/16 Bar	SS
H 2"	300#	SS	R 80mm	25/40 Bar	CS	Z 100mm	25/40 Bar	SS

#### Fill Fluid

	High Side	Low Side
B	Silicone DC200	Silicone DC200 <sup>1,2</sup>
C	Fluorolube	Inert
D	NEOBEE	Paratherm
E	Silicone DC550	Silicone DC200
F	Silicone DC704	Silicone DC200
G	Syltherm 800	Silicone DC200

#### Output Indicator

5 4-1/2 Digit Digital Smart Display<sup>2</sup>

N Not Required

#### Standard Options

D B7M Bolts<sup>3</sup>

E B8M Bolts<sup>17</sup>

X Oxygen Cleaned<sup>19</sup>

Y Special Features<sup>4</sup>

N Not Required<sup>2</sup>

#### Mounting Bracket

N Not Required

#### Housing

1 Aluminum 1/2" - 14 NPT<sup>1,2</sup>

2 Aluminum M20 x 1.5<sup>6</sup>

3 316 SS 1/2" - 14 NPT

4 316 SS M20-1.5<sup>6</sup>

#### Hazardous Area Classification

2 CSA/CRN

3 FM/CSA All<sup>1,2</sup>

N Non-Approved

W FM/CSA All & ABS<sup>18</sup> Type Approval

V40FD B A0 C B 5 N N 1 3 Sample Model Number

See notes on previous page.

## Gauge Pressure Flush Mounted

### V40P Flush-Mount Gauge Pressure Transmitter

**Input Range: Span Limits Min/Max**

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

**Output**

- B 4-20 mAdc with HART Protocol
- C 4-20 mAdc with HART Protocol & Integral Transient Suppressor

**Process Diaphragm**

- H Hastelloy-C276

**Body Parts**

- |    |               |                           |
|----|---------------|---------------------------|
|    | <u>Wetted</u> | <u>Process Connection</u> |
| AS | 316 SS        | Threaded, 1.59i Diameter  |

**Fill Fluid**

- B Silicone DC200<sup>1</sup>
- C Inert Fill<sup>1</sup>
- D Paratherm

**Output Indicator**

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

**Standard Options**

- Y Special Features<sup>4</sup>
- N Not Required

**Mounting (Includes Gasket or O-Ring)**

- G 2" 150# 316 Stainless Steel Flange<sup>1</sup>
- H 2" 300# 316 Stainless Steel Flange<sup>1</sup>
- J 3" 150# 316 Stainless Steel Flange<sup>1</sup>
- K 3" 300# 316 Stainless Steel Flange<sup>1</sup>
- L 4" 150# 316 Stainless Steel Flange<sup>1</sup>
- M 4" 300# 316 Stainless Steel Flange<sup>1</sup>

**Housing**

- 1 Aluminum 1/2"-14 NPT<sup>1,2</sup>
- 2 Aluminum M20 X 1.5<sup>3</sup>
- 3 316 SS 1/2"-NPT
- 4 316 SS M 20 X 1.5<sup>3</sup>

**Hazardous Area Classifications**

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

V40P D B H AS B N N G 1 3 *Sample Model Number*

*Notes*

- (1) AS Threaded Body Only
- (3) Not available with FM/CSA Approval
- (4) Please describe modification or provide a quotation reference number

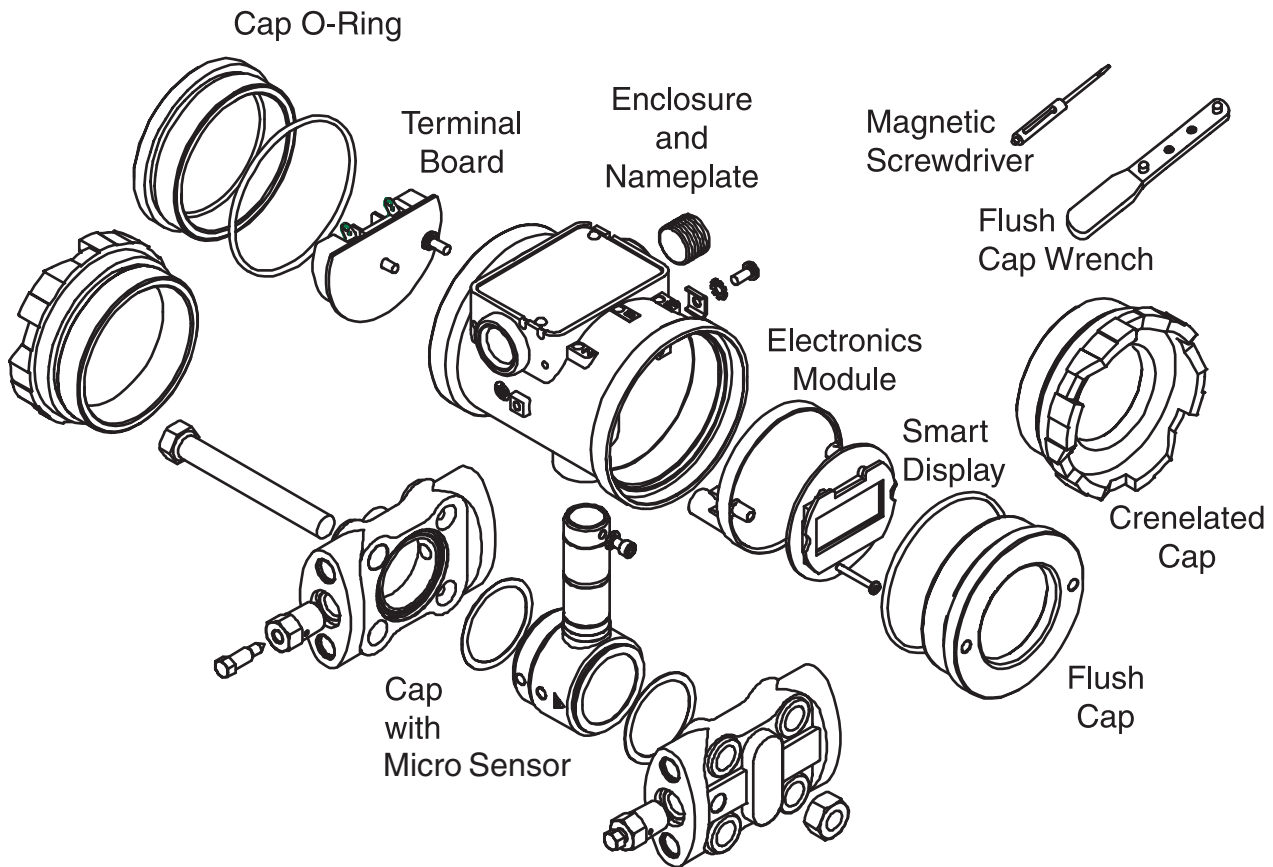
## MODEL DIFFERENCES & MODIFICATIONS

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

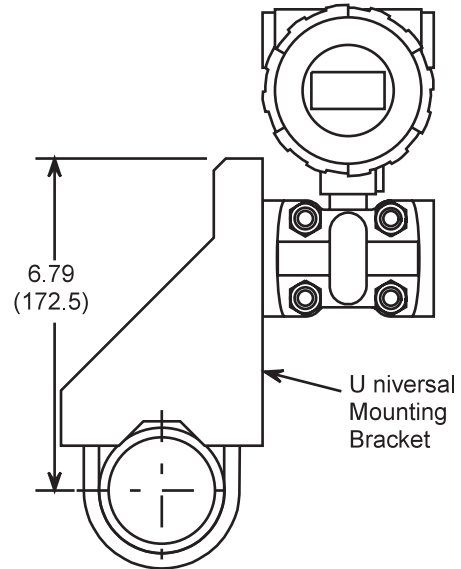
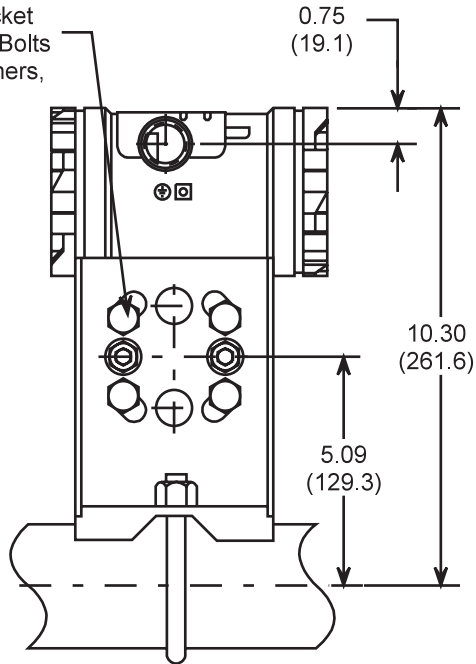
Range Code	Default Calibration
A	-0.5 to 0.5 H <sub>2</sub> O
B	0 to 10" H <sub>2</sub> O
D	0 to 100 "H <sub>2</sub> O (or "H <sub>2</sub> O abs)
F	0 to 100 PSI (or PSIA)

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.**

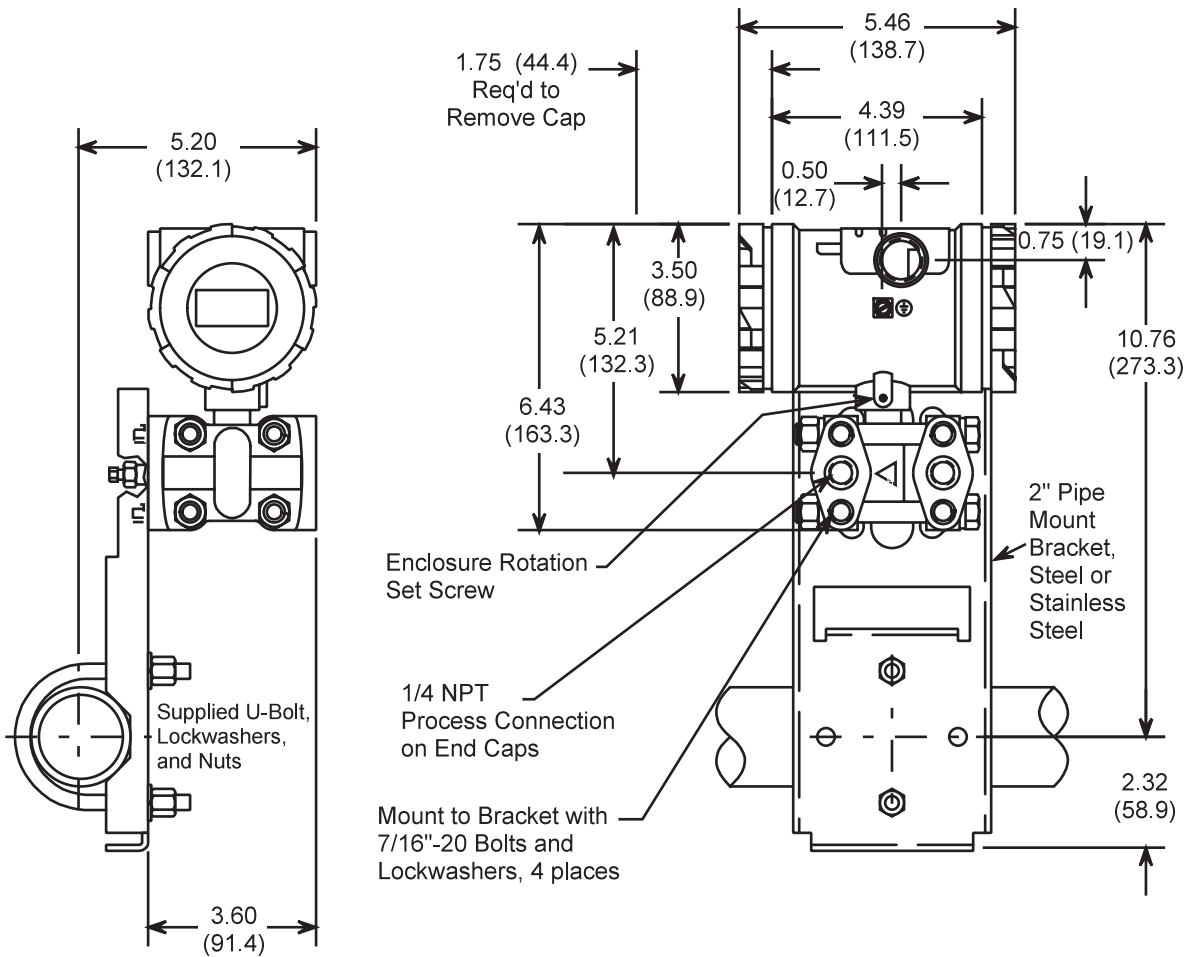
## TRANSMITTER COMPONENTS



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



U niversal Mounting Bracket



Dimensions are in inches (millimeters).

**Model V30D & V40D**

## Flange Dimensions

SIZE	DIM "D"	DIM "BC"	DIM "T"	DIM "RF"	BOLT DIA.	BOLT NO.	FLANGE PER	DIM "ED"
2"-150#	6.00 (152.40)	4.75 (120.65)	0.75 (19.05)		5/8	4		1.95 (49.53)
2"-300#	6.50 (165.10)	5.00 (127.00)	0.88 (22.23)		5/8	8		1.95 (49.53)
3"-150#	7.50 (190.50)	6.00 (152.40)	0.94 (23.81)	0.06 (1.58)	5/8	4		2.81 (71.37)
3"-300#	8.25 (209.55)	6.625 (168.28)	1.13 (28.58)		3/4	8	ANSI B16.5	2.81 (71.37)
4"-150#	9.00 (228.60)	7.50 (190.50)	0.94 (23.81)		5/8	8		3.70 (93.98)
4"-300#	10.00 (254.00)	7.875 (200.03)	1.25 (31.75)		3/4	8		3.70 (93.98)
50MM-10/16 BAR	6.50 (165.00)	4.92 (125.00)	0.71 (18.00)		M16	4		
50MM-25/40 BAR	6.50 (165.00)	4.92 (125.00)	0.79 (20.00)		M16	4		
80MM-10/16 BAR	7.87 (200.00)	6.30 (160.00)	0.79 (20.00)	0.12 (3.00)	M16	8	DIN 2526	Consult
80MM-25/40 BAR	7.87 (200.00)	6.30 (160.00)	0.94 (24.00)		M16	8	TYPE C	OPTIMUX
100MM-10/16 BAR	8.66 (220.00)	7.09 (180.00)	0.79 (20.00)		M16	8		
100MM-25/40 BAR	9.25 (235.00)	7.48 (190.00)	0.94 (24.00)		M20	8		

### EXTENSION LENGTH

(Not available on 2" or 50mm flanges.)

DIM "L"	0	2.00	4.00	6.00
	(0.00)	(50.80)	(101.60)	(152.40)

### Model V40F Flange Mounted Transmitter

