



DR3000 Draft Range Differential Pressure Transmitters

FOR POWER GENERATION, GAS PIPELINE, COMPRESSOR, CHEMICAL, OIL, AND GAS APPLICATIONS



DRAFT RANGE DIFFERENTIAL PRESSURE TRANSMITTER

AMETEK's DR3000 Draft Range Differential Pressure Transmitters are designed to measure very low pressures, 2" - 5" of H₂O (1" H₂O consult factory). The compact design does not require the use of large seals typically associated with this very low pressure measurement. Additionally, the unit can withstand overpressures of up to 100 psi without damage.

The DR3000 offers all 316 SST welded hermetically sealed construction, making it ideal for aggressive media applications.

This unit provides excellent range ability via zero and span adjustments and via magnetic coupling with zero suppression and elevation to 60% of maximum span.



FEATURES AND BENEFITS

- 100 psi static pressure rating
- 4-20 mA output
- ±0.25% accuracy
- 500 ms response time (optional)
- Hermetically sealed submersible 316 SST housing is protective to 1500 meters
- Explosion-proof and intrinsically safe certifications FMS, CSA, GENELEC ATEX
- Non-interacting zero and span
- Five year warranty

SPECIFICATIONS

FUNCTIONAL DATA

Range Limits

- 0-2" to 0-5" H₂O (0-1" H₂O consult factory)

Service

- Gas, liquid or vapor

Power Required

- 12-55 VDC (30 VDC maximum hazardous locations) reverse polarity protected

Output

- 4-20 mA, (27 mA maximum)

Overpressure Limits

- 100 psig (0.69 MPa) at either connection without damage to transmitter system.

Temperature Limits

- Operating: -20° to 180°F (-29° to 82°C)
- Maximum Process: -65° to 250°F (-54° to 121°C)
- Storage: -65° to 200°F (-54° to 93°C)

Humidity Limits

- 0-100% RH



SPECIFICATIONS

PERFORMANCE

(% of Factory calibrated span or URL)
 Note: Performance is based on DR3000 with 316 SST diaphragms and Silicone Oil DC-200 fill fluid.

Accuracy

- $\pm 0.25\%$ of factory calibrated span, including non-linearity, hysteresis and repeatability

Repeatability (included in above specifications):

- $\pm 0.1\%$ at factory calibration

Stability

- $\pm 0.5\%$ of URL for 6 months

Output

- 4-20 mA (27 mA maximum)

Overpressure Limits

- 100 psig (0.69 MPa) at either connection without damage to transmitter system

Ambient Temperature Effect

- $\pm 1.5\%$ URL from -20° to 180°F (-29° to 82°C) reference at 80°F (27°C)

Vibration Effect

- $< 2'' \text{ H}_2\text{O/g}$ ($< 0.5 \text{ kPa/g}$) at URL perpendicular to diaphragms and $\leq 0.1'' \text{ H}_2\text{O/g}$ ($\leq 0.025 \text{ kPa/g}$) parallel to diaphragms

RFI/EMI Effect:

- Negligible to 500 MHz at 5 watts direct contact

Mounting Position Effect

- Up to $1.5'' \text{ H}_2\text{O}$ (0.325 kPa) zero shift perpendicular to diaphragms (corrected by zero adjustment)
 No effect in plane of diaphragms; no span effect

Zero Elevation

- -60% of full range

Zero Suppression

- $+60\%$ of URL

Note: Elevation or suppression cannot exceed maximum range of transmitters.

PHYSICAL MATERIALS

Pressure Retaining

- CRES 316

Mounting Bracket

- Carbon Steel (standard)
- CRES 316 (optional)

Process Connection

- $1/4''$ NPTF on 2- $1/8''$ centers
- $1/2''$ NPTF on 2'', 2- $1/8''$, or 2- $1/4''$ centers (with flange adaptors)

Process Connection

- $3/4''$ NPTM

Weight

- Transmitter: 11.1 lbs. (5.1 kg)
- Junction Box: 2.3 lbs. (1.1 kg)
- Meter: 4.0 lbs. (1.8 kg)
- Bracket: 2.0 lbs. (0.9 kg)

APPROVALS

Enclosure Rating(s):

- NEMA 3, 4, 6, 7 & 9

CE Mark

NACE

- MR-01-75 (95)

ELECTRICAL TERMINATIONS

Leads

- White: Negative, Black: Positive, Green: Ground

DR3000 Ordering Information

TYPICAL MODEL NUMBER (coded by color)

DR3000	-005	-5	8	-22	-21	-1	1	-52
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Code Description

DR3000 Sealed Adjustable Draft Range Pressure Transmitter

Pressure Range

005 0-2" to 0-5" H₂O (0-1" H₂O consult factory)

Pressure Cap Configuration (100 psi static working pressure)

	PLUGS or DRAIN/VENT and ADAPTOR	O-RINGS
1	Rear plugs with adaptors	Viton [®]
5	Rear drain/vent valves with adaptors	Viton
A	Drain/vent valves in rear, no adaptor	Viton
B	Rear drain/vent valves, no adaptor	Viton

Electrical Terminations

- 0 3 conductor cable, 18 AWG, TEFLON[®] insulation, 5' length standard
- 2 3 leads, 3' length standard, PVC insulation, 3rd wire is ground
- 6 Factory molded submersible neoprene cable, 10' length standard (specify length to 500)*
- 8 Factory mounting of electrical accessory (e.g. MA136 Junction Box)

Process Wetted Parts

	FLANGES and ADAPTORS PLUGS or VENT/DRAINS	DIAPHRAGMS/ BOLTS	FILL FLUID
21	316 SST	HASTELLOY C-276/316 SST	Silicone Oil DC-200
22	316 SST	316 SST/316 SST	Silicone Oil DC-200

Electrical Accessories (Mounted)

- XX None
- 02 TP114 - Transient Protector, 55 V Maximum
- 07 C100 - Electrical Connector (Receptacle)
- 08 C100 and C101 Electrical Connectors (Receptacle/Plug)
- 19 MA134 - Linear Meter (0-100%)
- 20 MA135 - Square Root Meter (0-100%)
- 21 MA136 - Junction Box, short
- 25 MA134 with TP131 - Transient Protector
- 27 MA135 with TP131 - Transient Protector
- 29 MA136 with TP131 - Transient Protector

Mechanical Accessories

- 0 None
- 1 Standard Mounting Bracket B1 (CS)
- 2 Optional Mounting Bracket B7 (CRES)

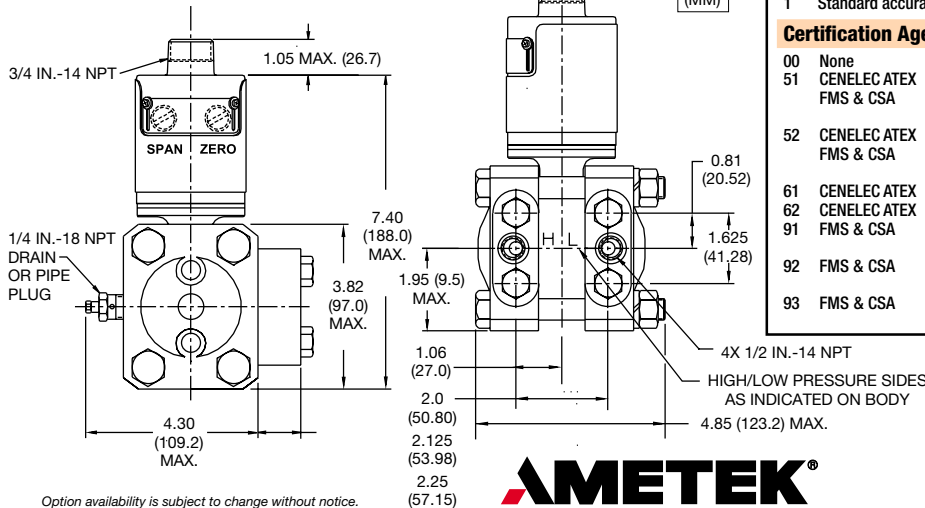
Accuracy and Response Selection

	ACCURACY	RESPONSE
0	Standard accuracy = $\pm 0.25\%$	Standard response - 800mS
1	Standard accuracy = $\pm 0.25\%$	Fast response - 500mS

Certification Agency

00	None		
51	CENELEC ATEX FMS & CSA	I.S.	EEx ia IIC T5 CL I, Div I, GRP A, B, C, D CL II, Div I, GRP E, F, G
52	CENELEC ATEX FMS & CSA	Exp Exp	EEx d IIC T5 CL I, Div I, GRP A, B, C, D CL II, Div I, GRP E, F, G
61	CENELEC ATEX	I.S.	EEx ia IIC T5
62	CENELEC ATEX	Exp	EEx d IIC T5
91	FMS & CSA	I.S.	CL I, Div I, GRP A, B, C, D CL II, Div I, GRP E, F, G
92	FMS & CSA	Exp	CL I, Div I, GRP A, B, C, D CL II, Div I, GRP E, F, G
93	FMS & CSA	I.S. & Exp	CL I, Div I, GRP A, B, C, D CL II, Div I, GRP E, F, G

* Unit not certified for this configuration
 † All other company, product, and service names and logos are registered trademarks of their respective owners.



Option availability is subject to change without notice.



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ISO 9001 Certified