

“MPP” Modular Pressure Transmitter

Introduction

The model MPP modular pressure transmitter has been specifically designed for placement in sanitary process applications in the Life Sciences industry where accurate and repeatable pressure measurements in difficult (vibration, wide temperature swings, humidity) environments are required. A sanitary diaphragm on the process boundary acts on an FDA and USP approved actuating fluid transferring pressure to an internally sealed piezo resistive transducer. The transducer's millivolt output is then converted an analog 4-20 mA DC-signal that is proportional to the pressure exerted on the diaphragm. The resulting signal may be interfaced with Anderson-Negele Digital Indicators, PLC or other customer supplied instrumentation. The MPP is sealed from environmental conditions via fully potted electronics, patented double o-ring sealed enclosure and all welded construction. Modular construction allows a high degree of field customization with the benefit of individual component replacement. All product contact surfaces are constructed of 316L stainless steel, (available Hastelloy) and electropolished with a surface finish not exceeding 8 micro inch Ra. Non-product contact surfaces are constructed of both 316L and 304.

For more information on this product, or any of our other products, visit www.anderson-negele.com or call our Customer Service Department directly at 1-800-833-0081.



Features

- State of the art sanitary design delivers class leading performance
- Replaceable components reduce cost of ownership
- Diagnostic routines promote reliability, display verifies problem free operation
- Intuitive menu driven setup simplifies commissioning

Applications

- Bio-reactor head space pressure monitoring
- Chromatography column pressure measurement
- SIP monitoring
- Pressure measurement of sterile gas lines
- Pressure measurement within sterile transfer lines
- Pressure measurement within filtration processes

Specifications

PERFORMANCE MECHANICAL & ELECTRICAL:

Calibrated Accuracy: ± 0.07% of calibrated range up to 5:1 turndown
 (± 0.10% if over 5:1 turndown)
 Repeatability: 0.05% as calibrated
 Long Term Stability: 0.2% URL for 2 years
 Process Temperature Effect: ± 0.1 psi/10°F (5.5°C) typical
 Ambient Temperature Effect: ± 0.1 psi/10°F (5.5°C) typical
 Over-Range Capability: 30/100/500 psi stem:
 1.5x URL no effect on accuracy
 2x URL to failure
 1000 psi stem:
 1.1x URL no effect on accuracy
 1.25x URL to failure
 Response Time: <100 Milliseconds
 Sampling Rate: <50 Milliseconds
 Damping: Menu adjustable
 Range Turndown Capability: 10 to 1 turn down from URL
 Ranges, URL (PSI): 30,100,500,1K compound
 30,100,500 absolute
 Ranges, URL (BAR): 2,7,35,70 compound
 2,7,35 absolute

ENVIRONMENTAL:

Process Temperature Limits:
 0 to 350°F (-18 to 177°C) with ambient temperatures to 140°F (60°C) and
 0 to 330°F (-18 to 165°C) with ambient temperatures to 160°F (71°C)
 Ambient Temperature Limits: 32 to 160°F (0 to 71°C)
 Enclosure Protection: NEMA 4X & IP67
 IP69K(when equipped with QDR)

CONSTRUCTION / FINISH:

Product Contact: 316L Electropolished and finished to a Max. Ra <8 microinches. Optional: Hastelloy® diaphragm
 Non-Product Contact Metal: 316L & 304 finished to a Max. Ra <32 microinches and polished to a high gloss
 Non-Product Contact Plastic: polycarbonate threaded cap. Delrin atmospheric vent
 Wiring Connection: M16 x 1.5 threaded housing electrical entry

Equipped with: Standard - replaceable M12 5 pin Eurofast QDR
 Optional - M16 Cord Grip, M16 x 1.5" NPTF adaptor, Minifast 7/8" 4pin

OPERATIONAL:

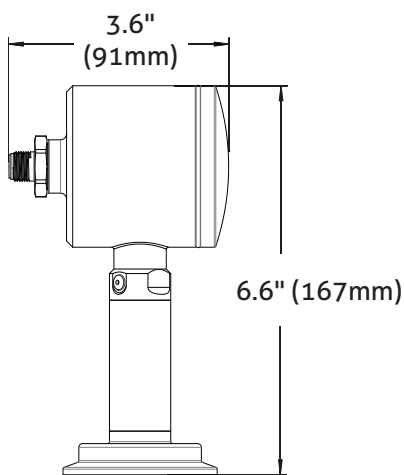
Internal Fill: ETR (Extended Temperature Range) FDA approved mineral oil
 Optional Neobee M-20
 Output: 2 wire, HART 7.0 with user selectable 4-20 mA DC or 20-4 ma DC, or Foundation Fieldbus
 Internal Display: 4 digit LED nominally displays loop current.
 Display Interface: Modular field replaceable. User selectable units - Millibar, Torr & Kg/cm2, PSI, BAR, kPA, In H2O, In Hg, mm H2O, mA
 Loop Resistance: 0-300 ohms at 24 VDC
 Electrical Connection: screw terminals with a conductor cross section range of 14-26 AWG
 Recommended Cable: Anderson shielded molded cordset, alternatively: 22-24 AWG, foil shielded, 0.17 - 0.26" Cable Sheath OD for use with cord grip or field wiring connector
 Electrical Protection: Voltage spike and reverse polarity
 Operating Voltage: 18-36 VDC (24 VDC Nominal regulated or unregulated)
 Zero Adjustment: one touch
 Re-Span: With switch through user interface & with or without a reference pressure source
 Electronics Puck: Modular, Field replaceable
 Fitting & Sensor Stem: Modular, Field replaceable

APPROVALS AND DOCUMENTATION

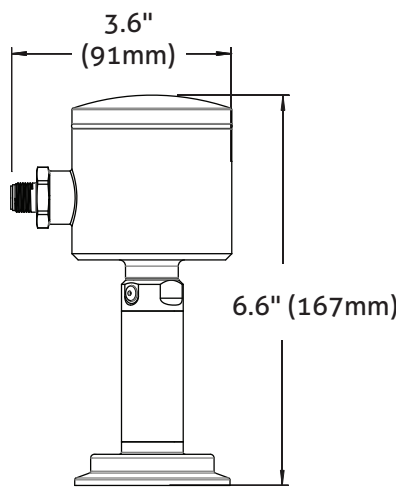
Sanitary: ASME-BPE 2012 compliant
 Compliance: HART 7.0 Compatible
 Foundation Registered
 CE compliant²
 Intrinsically safe for use in Class I, II, and III, Div. 1, Hazardous (Classified) Locations
 CSA 22.2 No. 157-2
 CSA-B51-03
 CRN# CSAOF9754.5R1
 Warranty: 2 years

² Foundation Fieldbus product is not ROHS compliant

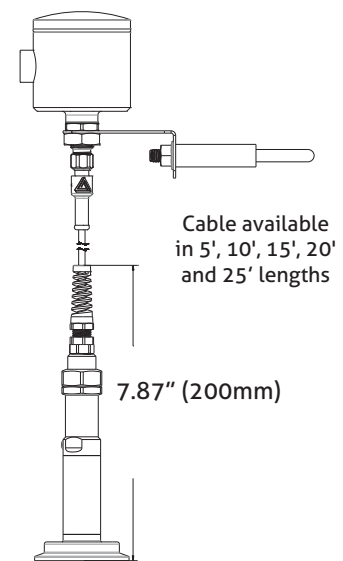
Dimensions



Horizontal Orientation



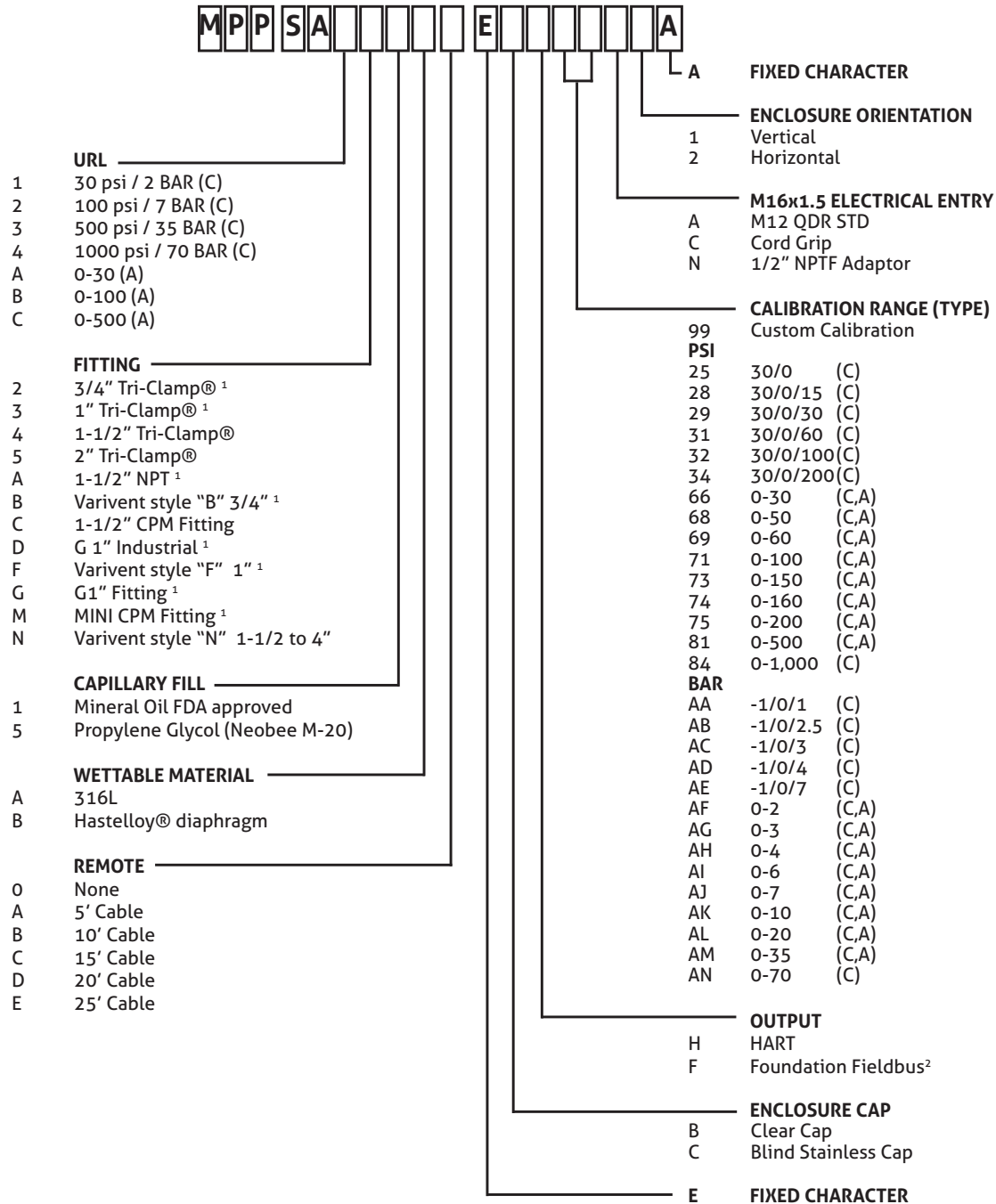
Vertical Orientation



Remote Mounting
 (also available in a kit)

Cable available in 5', 10', 15', 20' and 25' lengths

Order Information (complete unit)



¹ Not available in Hastelloy[®]
All added cost fittings are non-cancellable/non-returnable and have additional lead times

² Foundation Fieldbus product is not ROHS compliant

Order Information (Modular Components)

Stem



- URL**
- 1 30 psi / 2 BAR (C)
 - 2 100 psi / 7 BAR (C)
 - 3 500 psi / 35 BAR (C)
 - 4 1000 psi / 70 BAR (C)
 - A 0-30 (A)
 - B 0-100 (A)
 - C 0-500 (A)

- FITTING**
- 2 3/4" Tri-Clamp®¹
 - 3 1" Tri-Clamp®¹
 - 4 1-1/2" Tri-Clamp®
 - 5 2" Tri-Clamp®
 - A 1-1/2" NPT¹
 - B Varivent style "B" 3/4"¹
 - C 1-1/2" CPM Fitting
 - D G 1" Industrial¹
 - F Varivent style "F" 1"¹
 - G G1" Fitting¹
 - M MINI CPM Fitting¹
 - N Varivent style "N" 1-1/2 to 4"

- REMOTE**
- O None
 - A 5' Cable
 - B 10' Cable
 - C 15' Cable
 - D 20' Cable
 - E 25' Cable

- WETTABLE MATERIAL**
- A 316L
 - B Hastelloy® diaphragm

- CAPILLARY FILL**
- 1 Mineral Oil FDA approved
 - 5 Propylene Glycol (Neobee M-20)

¹ Not available in Hastelloy®

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Puck/Enclosure



- ENCLOSURE**
- A Puck Only
 - B Puck and Enclosure w/Clear Cap
 - C Puck and Enclosure w/SS Cap
- OUTPUT**
- H HART
 - F Foundation Fieldbus²
- CALIBRATION RANGE**
- 00 Field Calibration

- A FIXED CHARACTER**
- ENCLOSURE ORIENTATION**
- 1 Vertical
 - 2 Horizontal
 - 0 For Puck only (enclosure option A)
- M16x1.5 ELECTRICAL ENTRY**
- A M12 QDR STD
 - C Cord Grip
 - N 1/2" NPTF Adaptor
 - 0 For Puck only (enclosure option A)

² Foundation Fieldbus product is not ROHS compliant

ACCESSORIES

Cord Sets

Shielded Molded w/25' cable	42117K0025	1/2" NPTF adaptor	SP5633200000
Shielded Molded w/50' cable	42117K0050	Seal Kit (6) gaskets	5633000001
Shielded Molded w/100' cable	42117K0100	Field Wireable Connector-Straight	42119B0000
		Field Wireable Connector-90°	42119A0000
Clear Cap w/gaskets	56328P0001	Display Kit - HART option	SP56741P0066
Stainless Steel Cap w/gaskets	56329P0001	Display Kit - FFB option	SP56741F0066
Enclosure w/Clear cap w/gaskets	SP5632700066	5' Remote Kit	SP73228A0005
Enclosure w/SS cap w/gaskets	SP56327A0066	10' Remote Kit	SP73228A0010
M12 Quick Disconnect Receptacle	SP56726A0002	15' Remote Kit	SP73228A0015
Cord Grip	SP5633100000	20' Remote Kit	SP73228A0020
		25' Remote Kit	SP73228A0025