

“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 (70°C)
 Ambient Temperature Limits: 32 to 160°F (0 to 70°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:

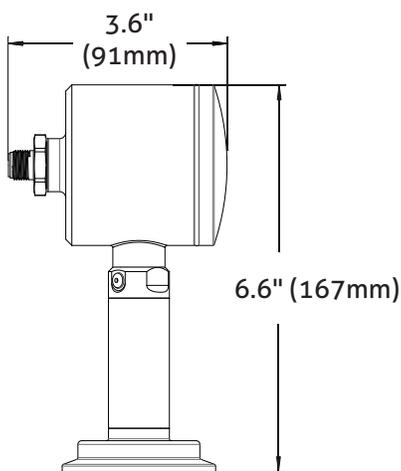
Internal Fill: ETR (Extended Temperature Range) FDA approved mineral oil
 Optional Neobee M-20
 Output: 2 wire, HART 7.0 with user selectable 4-20 mA DC or 20-4 ma DC
 Internal Display: 4 digit LED nominally displays loop current.
 Display Interface: Modular field replaceable. User selectable units - 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

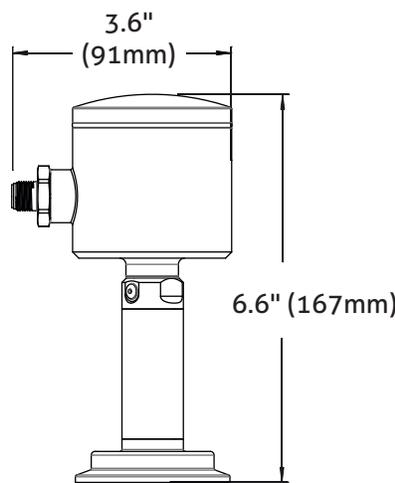
Sanitary: ASME-BPE 2012 compliant
 Compliance: HART 7.0 Compatible
 CE compliant²
 Intrinsically safe for use in Class I, II, and III, Div. 1 Hazardous (Classified) Locations
 CSA C22.2#157:1992 Ed. 3+G1;U2
 UL 913:2013 Ed. 8
 CSA-B51-03
 CRN# CSAOF9754.5R1

Warranty: 2 years

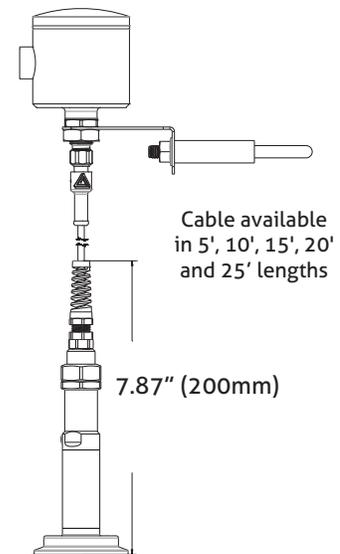
Dimensions



Horizontal Orientation

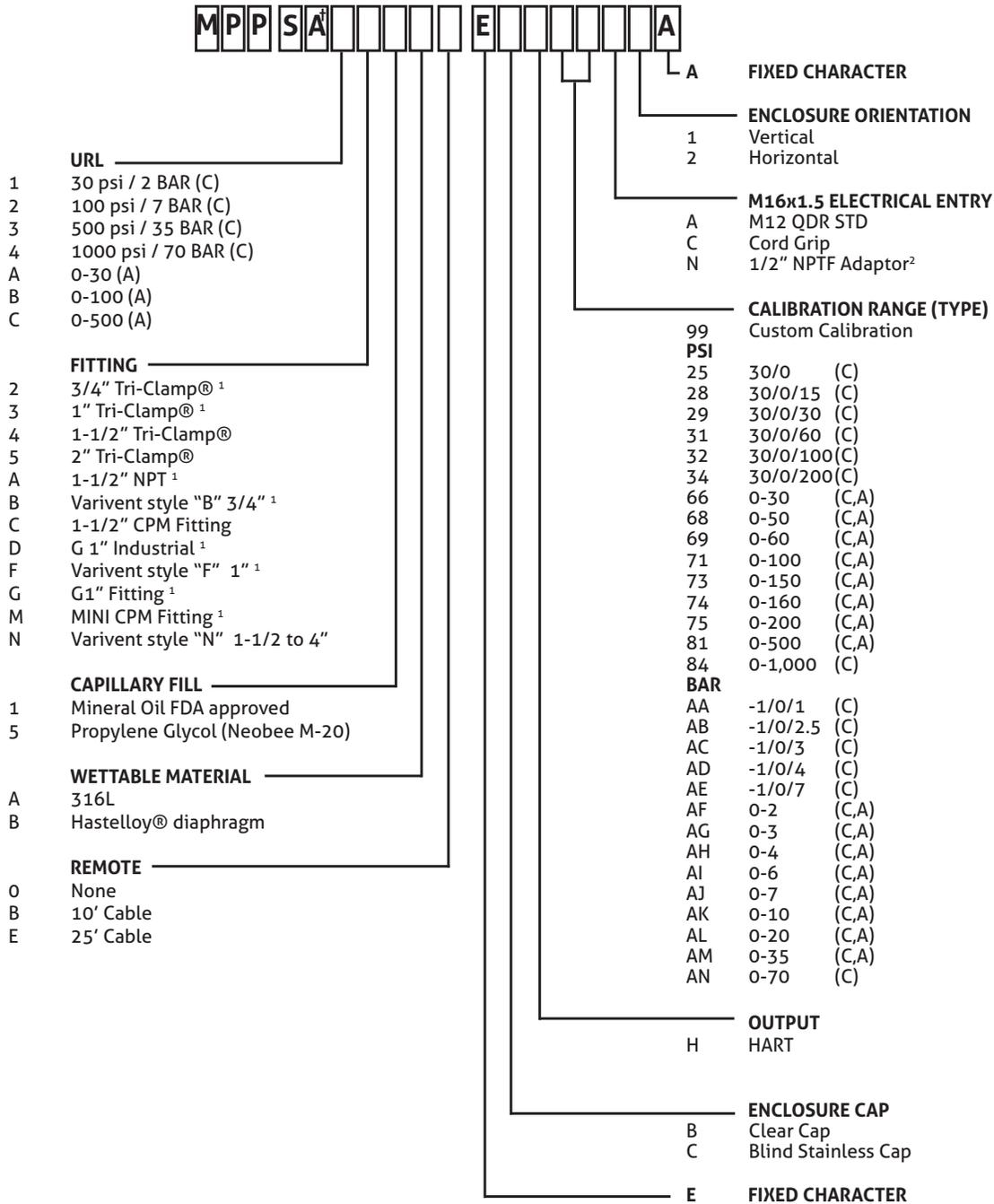


Vertical Orientation



Remote Mounting
 (also available in a kit)

Order Information (complete unit)



[†] Assembled stem and enclosure. Stem will be marked with modular part number SG...

¹ Not available in Hastelloy[®]

² 1/2" NPTF Adaptor is not Intrinsically Safe approved

All added cost fittings are non-cancellable/non-returnable and have additional lead times

Order Information (Modular Components) (All modular components will not be labeled for intrinsic safety use)

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-Clamp¹
 - 3 1" Tri-Clamp¹
 - 4 1-1/2" Tri-Clamp¹
 - 5 2" Tri-Clamp¹
 - 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**
- 0 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[®]

All added cost fittings are non-cancellable/non-returnable and have additional lead times

Puck/Enclosure



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

- FIXED CHARACTER**
- A
- 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)

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 |