



P R E S S U R E  
T E M P E R A T U R E  
L E V E L  
I N S T R U M E N T A T I O N  
F L O W  
A N A L Y T I C A L

## "EM-Series" 90mm Sanitary Pressure Gauge

- *The industry's only externally adjustable span and offset*
- *Designed specifically for SIP and autoclave applications*
- *Lowest/most narrow profile of any sanitary gauge*
- *Custom pinstamped markings available*

The best just got better! With our re-designed 90mm sanitary pressure gauge, Anderson Instrument has raised the bar relative to performance, reliability, and ease of use.

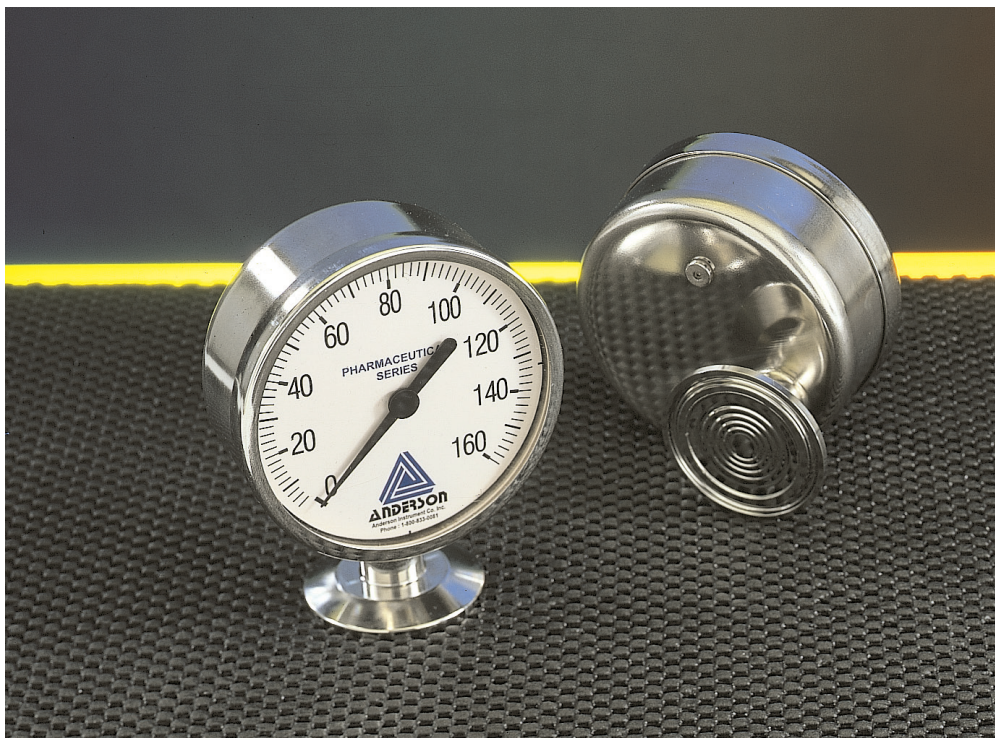
Customers in the Pharmaceutical and Biotech market will recognize at a glance that we've maintained all our unique features like all-welded construction, electro-polished wetted parts, and standard calibration certifications. They'll also appreciate the new, compact profile that fits virtually anywhere while still maximizing readability. But what really

sets this gauge apart is the new offset adjustment that comes as a standard feature on every Pharmaceutical series gauge. Rear-mounted and unobtrusive, we even provide a special tool for the optional span adjustment so it's tamper-proof.

Complete specifications and ordering information are available on the reverse. For more information contact our Customer Service Department at 1-800-833-0081, or visit our website at [www.andinst.com](http://www.andinst.com).

### APPLICATIONS

- Fermentation
- Filtration
- All sanitary pressure dependent processes



# Complete Product Ordering Matrix

E M ☐ ☐ ☐ 0 1 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

## RANGE

|     |                   |     |            |
|-----|-------------------|-----|------------|
| 029 | 30" Hg/0/30 PSIG  | 055 | -1/0/2 BAR |
| 031 | 30" Hg/0/60 PSIG  | 057 | 0/2 BAR    |
| 032 | 30" Hg/0/100 PSIG | 056 | -1/0/4 BAR |
| 033 | 30" Hg/0/160 PSIG | 058 | 0/2.5 BAR  |
| 034 | 30" Hg/0/300 PSIG | 060 | 0/6 BAR    |
| 066 | 0/30 PSIG         | 061 | 0/10 BAR   |
| 069 | 0/60 PSIG         | 064 | 0/16 BAR   |
| 071 | 0/100 PSIG        | 067 | 0/40 BAR   |
| 074 | 0/160 PSIG        |     |            |
| 077 | 0/300 PSIG        |     |            |
| 082 | 0/600 PSIG        |     |            |

## DUAL SCALE RANGES

|     |                                 |
|-----|---------------------------------|
| 241 | -0.1/0.0.2 MPa/BAR              |
| 242 | -0.1/0.0.4 MPa/BAR              |
| 367 | -0.1/0.0.7 MPa/BAR              |
| 243 | 0/0.25 MPa/BAR                  |
| 244 | 0/0.4 MPa/BAR                   |
| 245 | 0/0.6 MPa/BAR                   |
| 246 | 0/1 MPa/BAR                     |
| 857 | 0/2 MPa/BAR                     |
| 929 | 30" Hg/0/30 psig - -1/0/2 BAR   |
| 931 | 30" Hg/0/60 psig - -1/0/4 BAR   |
| 932 | 30" Hg/0/100 psig - -1/0/7 BAR  |
| 933 | 30" Hg/0/160 psig - -1/0/11 BAR |
| 934 | 30" Hg/0/300 psig - -1/0/20 BAR |
| 966 | 0/30 psig - 0/2 BAR             |
| 969 | 0/60 psig - 0/4 BAR             |
| 971 | 0/100 psig - 0/7 BAR            |
| 974 | 0/160 psig - 0/11 BAR           |
| 977 | 0/300 psig - 0/20 BAR           |
| 982 | 0/600 psig - 0/40 BAR           |

## NAME ON DIAL

01 Anderson Instrument Co.

## MATERIALS OF CONSTRUCTION

|   |   |
|---|---|
| A | Standard                                    |
| B | C22 diaphragm*                              |
| C | C22 All product contact surface**           |
| L | Standard w/Custom markings                  |
| M | C22 Diaphragm w/Custom markings*            |
| N | C22 All contact surface w/Custom markings** |

## CAPILLARY FILL

|   |                              |
|---|------------------------------|
| 1 | Mineral Oil (Standard)       |
| 5 | Propylene Glycol (Neobee-20) |

## CALIBRATION ADJUSTMENT/STOP

|   |   |
|---|---|
| 1 | w/Re-Zero (Standard)                    |
| 2 | w/Re-Zero & Re-Span                     |
| 3 | w/Re-Zero w/ max pointer stop           |
| 4 | w/Re-Zero & Re-Span w/ max pointer stop |

## DAMPENING

|   |                                  |
|---|----------------------------------|
| 0 | Standard Dampening               |
| 1 | Glycerine Filled Case (OF)       |
| 2 | Mechanical Dampening (MD)        |
| 3 | Vented Case/Standard Dampening   |
| 4 | Vented Case/Mechanical Dampening |

## MOUNT

|   |        |   |       |   |     |
|---|--------|---|-------|---|-----|
| 1 | Bottom | 5 | Left  | 7 | Top |
| 4 | Back   | 6 | Right |   |     |

\* 1-1/2" TC & 2" TC, other fittings available consult factory

\*\* Available 1-1/2" TC & 2" TC only

## FITTING

|     |                            |
|-----|----------------------------|
| 004 | 1-1/2" Tri-Clamp®          |
| 005 | 2" Tri-Clamp®              |
| 016 | 1-1/2" Cherry "I" (male)   |
| 017 | 2" Cherry "I" (male)       |
| 027 | 1-1/2" G&H "H" Line (male) |
| 028 | 2" G&H "H" Line (male)     |
| 123 | AIC CPM Flush Mount        |
| 099 | 2" Varivent                |

# Specifications

## Typical Performance

|                              |   |
|------------------------------|---|
| Over-Range Capability:       | at least 25% over range   |
| Calibrated Accuracy:         | ± .75% F.S. from 10-90% of range  |
| Repeatability:               | ± .25% of full scale  |
| Linearity:                   | ±.25% of full scale   |
| Hysteresis:                  | ±.25% of full scale   |
| Stability:                   | Within specified accuracy for 6 months under normal operating conditions. |
| Process Temperature Limits:  | 25° to 250°F (-3° to 121°C)   |
| Ambient Temperature Limits:  | 40° to 120°F (4° to 49°C)   |
| CIP Temperature Limit:       | 250°F (121°C) continuous  |
| SIP Temperature Limit:       | 300°F (149°C) for one hour  |
| Autoclave Temperature Limit: | 300°F (149°C) for one hour (unfilled case only)                           |
| Temperature Effect:          | Less than .16% per 10°F change in process or ambient temperature          |
| Storage Temperature Limits:  | -22°F to 195°F (-30°C to 91°C)<br>-22°F to 250°F (-30°C to 121°C)*        |

\* Vented Case

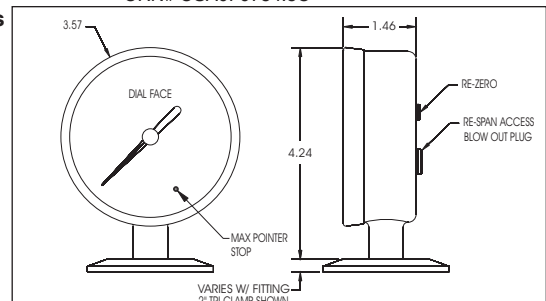
## Construction/Finish

|  |  |
|--|--|
| All Product Contact Surface (Diaphragm and fitting): | Welded 316L stainless steel, electropolished.<br>Maximum R <sub>a</sub> = 8 microinches (.2 microns).<br>Bronze bourdon/brass socket with silver soldered connections. |
| Bourdon Tube/Socket Construction:                    | Brass.   |
| Movement Mechanism:                                  | Welded 304 stainless steel (polished).   |
| Case/Stem:   | Adhesive-backed printed Mylar in various scales, 90mm diameter min.  |
| Dial:  | Corrosion resistant polysulfone able to withstand 325°F  |
| Lens/Dial Plate                                      |  |
| Bezel:   | 304 stainless steel, polished, compression formed to case (non-removable).   |
| Viewing Angle:                                       | 100 degrees minimum.   |

## Operational

|                       |   |
|-----------------------|---|
| Actuating Fill:       | 100% mineral oil. Meets FDA requirements (21CFR, 172.878 and 178.3620(a))<br>Neobee-20 optional.  |
| Case Fill:            | Optional, glycerine 100% USP Food Grade.  |
| Mechanical Dampening: | Optional. Standard and case filled gauges dampened to 25% to 50%. Mechanical dampening dampens 50% to 80% of pressure variations.   |
| Re-Zero Adjustment:   | Tamper resistant adjustment, +/-5% of span. Non interactive with span. External adjustment integrally located on back of case.  |
| Re-Span Adjustment:   | Externally accessible with tool (AIC #4523800000) through rear of case. Adjustment up to +/-5% of span.   |
| Standards:            | Designed and manufactured to sound engineering practices in accordance with Article 3.3 of the PED 97/23/EC.<br>Designed and tested in accordance with ASME B40.100.<br>NEMA 4X, IP-66<br>CSA B51-03<br>CRN# CSA0F9754.5C |

## Dimensions



FORM AIC5017

© January 2004

Revised: July 2010

Supersedes: May 2007