

## 1490 Low Pressure Diaphragm Gauge



- *Glass-filled polysulfone case material, won't rust or dent*
- *Beryllium copper diaphragm*
- *Brass socket*
- *Wetted materials of beryllium copper, brass, polysulfone and RTV silicone*

The Ashcroft® Type 1490 low pressure diaphragm gauge is designed to measure pressure from 10 in. H<sub>2</sub>O to 15 psi, both positive and negative pressures. This gauge uses a very sensitive diaphragm capsule to measure low pressure and vacuum. The gauge is specifically designed for use whenever the pressure medium is a gas that is not corrosive to beryllium copper, brass, polysulfone and RTV silicone. The polysulfone case is suitable for intermittent or continuous service on natural gas provided a .013 throttle plug is installed in the socket. Typical applications are, but not limited to, vacuum pumps, gas leak detectors, air compressors, air filters, gas burners, gas measurement, vacuum ovens, suction regulators and respirators.

### PRODUCT SPECIFICATIONS

|                               |   |
|-------------------------------|---|
| <b>Model Number:</b>          | 1490  |
| <b>Accuracy:</b>              | ±2-1-2% full scale<br>(Grade A, ASME B40.100)   |
| <b>Ranges:</b>                | 10 in. H <sub>2</sub> O through 15 psi<br>including vac. and compound   |
| <b>Dial Size:</b>             | 2½" and 3½" diameter  |
| <b>Case Material:</b>         | Black, glass filled polysulfone   |
| <b>Socket Material:</b>       | Brass   |
| <b>Movement:</b>              | Brass   |
| <b>Sensing Element:</b>       | Beryllium copper diaphragm  |
| <b>Wetted Material:</b>       | Beryllium copper, brass,<br>polysulfone and RTV silicone  |
| <b>Window:</b>                | Polycarbonate, quarter turn<br>bayonet style mounting   |
| <b>Dial:</b>                  | Aluminum, white background,<br>black figures and intervals.   |
| <b>Pointer:</b>               | Black, aluminum, fixed  |
| <b>Connection Size:</b>       | 1/8 NPT (01)<br>1/4 NPT (02)<br>1/8" tubing hose barb (HD)<br>3/16" tubing hose barb (HE)<br>1/4" tubing hose barb (HF)<br>1/4" O.D. polytube hose barb (HG)<br>10-32 2B female thread (HH) |
| <b>Connection Location:</b>   | Lower (L)<br>Center Back (B)<br>Top (T)<br>3 o'clock (D)<br>9 o'clock (E)   |
| <b>Operating Temperature:</b> | -40 to 180°F  |
| <b>Proof Pressure:</b>        | 150% of range   |
| <b>Burst Pressure:</b>        | Up to 5 psi = 50 psi<br>Greater than 5 psi = 100 psi  |

### OPTIONAL FEATURES

|   |     |
|---|-----|
| <b>1% Accuracy:</b>                     | XAN |
| <b>Dial Marking:</b>                    | XDA |
| <b>Stainless Steel Tag:</b>             | XNH |
| <b>Paper Tag:</b>                       | XNN |
| <b>Throttle Plug:</b> <sup>(1)(3)</sup> | XTU |
| <b>Throttle Screw:</b> <sup>(4)</sup>   | XTS |
| <b>U-clamp:</b> <sup>(2)</sup>          | XUC |
| <b>FlutterGuard™:</b>                   | XZY |

- (1) A throttle plug must be installed in the socket whenever the gauge is used for intermittent or continuous service on natural gas.  
 (2) U-clamp furnished when hose barb or female thread is specified.  
 (3) Throttle plug not available with hose barb or female thread connections.  
 (4) .020 throttle screw available with HH connection only.

# 1490 Low Pressure Diaphragm Gauge

| STANDARD RANGES            |                  |                  |
|----------------------------|------------------|------------------|
| Pressure                   | Figure Intervals | Minor Graduation |
| 0/10 in.H <sub>2</sub> O   | 1                | 0.1              |
| 0/15 in.H <sub>2</sub> O   | 5                | 0.2              |
| 0/30 in.H <sub>2</sub> O   | 5                | 0.5              |
| 0/60 in.H <sub>2</sub> O   | 10               | 1                |
| 0/100 in.H <sub>2</sub> O  | 10               | 1                |
| 0/160 in.H <sub>2</sub> O  | 20               | 2                |
| 0/200 in.H <sub>2</sub> O  | 20               | 2                |
| 0/300 in.H <sub>2</sub> O  | 50               | 5                |
| 0/10 oz./in. <sup>2</sup>  | 1                | 0.1              |
| 0/15 oz./in. <sup>2</sup>  | 5                | 0.2              |
| 0/30 oz./in. <sup>2</sup>  | 5                | 0.5              |
| 0/60 oz./in. <sup>2</sup>  | 10               | 1                |
| 0/100 oz./in. <sup>2</sup> | 10               | 1                |
| 0/160 oz./in. <sup>2</sup> | 20               | 2                |
| 0/250 oz./in. <sup>2</sup> | 50               | 5                |
| 0/3 psi                    | 0.5              | 0.05             |
| 0/5 psi                    | 1                | 0.1              |
| 0/10 psi                   | 1                | 0.1              |
| 0/15 psi                   | 5                | 0.2              |

| STANDARD RANGES (Cont.)        |                           |  |
|--------------------------------|---------------------------|--|
| Vacuum                         | Figure Intervals          | Minor Graduation   |
| 15/0 in.H <sub>2</sub> O       | 5                         | 0.2  |
| 30/0 in.H <sub>2</sub> O       | 5                         | 0.5  |
| 60/0 in.H <sub>2</sub> O       | 10                        | 1  |
| 100/0 in.H <sub>2</sub> O      | 10                        | 1  |
| 200/0 in.H <sub>2</sub> O      | 20                        | 2  |
| 15/0 oz./in. <sup>2</sup>      | 5                         | 0.2  |
| 30/0 oz./in. <sup>2</sup>      | 5                         | 0.5  |
| 60/0 oz./in. <sup>2</sup>      | 10                        | 1  |
| 100/0 oz./in. <sup>2</sup>     | 10                        | 1  |
| Compound                       |                           |  |
| -30/30 in.H <sub>2</sub> O     | 10                        | 1  |
| -30/30 in.oz./in. <sup>2</sup> | 10                        | 1  |
| -10/10 in.H <sub>2</sub> O     | 2                         | 0.2  |
| Dual Scale                     |                           |  |
| Range                          |                           | Graduations  |
|                                |                           | Inner Scale      Outer Scale   |
| Inner Scale                    | Outer Scale               | Figure Intervals      Minor Grad.      Figure Intervals      Minor Grad. |
| 0/9 oz./in. <sup>2</sup>       | 0/15 in.H <sub>2</sub> O  | 1      0.2      5      0.2   |
| 0/20 oz./in. <sup>2</sup>      | 0/35 in.H <sub>2</sub> O  | 5      0.5      5      0.5   |
| 0/35 oz./in. <sup>2</sup>      | 0/60 in.H <sub>2</sub> O  | 5      0.5      10      1  |
| 0/60 oz./in. <sup>2</sup>      | 0/100 in.H <sub>2</sub> O | 10      1      10      1   |

Other ranges available on request. Consult factory.

| STANDARD METRIC RANGES      |                  |                  |
|-----------------------------|------------------|------------------|
| Pressure                    | Figure Intervals | Minor Graduation |
| 0/60 cm. H <sub>2</sub> O   | 10               | 1                |
| 0/2.5 kPa                   | 0.5              | 0.05             |
| 0/4 kPa                     | 1                | 0.1              |
| 0/10 kPa                    | 1                | 0.1              |
| 0/16 kPa                    | 2                | 0.2              |
| 0/25 kPa                    | 5                | 0.5              |
| 0/40 kPa                    | 10               | 1                |
| 0/100 kPa                   | 10               | 1                |
| Vacuum                      |                  |                  |
| 2.5/0 kPa                   | 0.5              | 0.05             |
| 4/0 kPa                     | 1                | 0.1              |
| 10/0 kPa                    | 1                | 0.1              |
| 16/0 kPa                    | 2                | 0.2              |
| 25/0 kPa                    | 5                | 0.5              |
| 40/0 kPa                    | 10               | 1                |
| 100/0 kPa                   | 10               | 1                |
| Compound                    |                  |                  |
| -10/60 cm H <sub>2</sub> O  | 10               | 1                |
| -10/80 cm H <sub>2</sub> O  | 10               | 1                |
| -20/40 cm H <sub>2</sub> O  | 10               | 1                |
| -10/100 cm H <sub>2</sub> O | 10               | 1                |
| -10/120 cm H <sub>2</sub> O | 20               | 2                |

| SELECTION TABLE |        |      |                              |                 |                  |                   |   |                     |             |        |                             |                      |                  |
|-----------------|--------|------|------------------------------|-----------------|------------------|-------------------|---|---------------------|-------------|--------|-----------------------------|----------------------|------------------|
| Dial Size       |        | Type |                              | Wetted Material |                  | Conn. Size & Type |   | Connection Location |             | Ranges |                             | Optional Features    |                  |
| Code            | Desc.  | Code | Description                  | Code            | Description      | Code              | Description                                   | Code                | Description | Code   | Description                 | Code                 | Description      |
| 25              | 2 1/2" | 1490 | Low Pressure Diaphragm Gauge | A               | Beryllium Copper | 01                | 1/8 NPT                                       | L                   | Lower       | 10 IW  | 0 to 10 in.H <sub>2</sub> O | XAN                  | 1% Opt. Accuracy |
| 35              | 3 1/2" |      |                              |                 | Brass            | 02                | 1/4 NPT                                       | B                   | Center Back |        |                             | XDA                  | Dial Marking     |
|                 |        |      |                              |                 | Polysulfone      | HD                | 1/8" I.D.Tubing Hose Barb <sup>(2,3)</sup>    | T                   | Top         |        |                             | XNH                  | Stain. Steel Tag |
|                 |        |      |                              |                 | RTV Silicone     | HE                | 3/16" I.D.Tubing Hose Barb <sup>(2,3)</sup>   | D                   | 3 O'Clock   |        |                             | XNN                  | Paper Tag        |
|                 |        |      |                              |                 |                  | HF                | 1/4" I.D.Tubing Hose Barb <sup>(2,3)</sup>    | E                   | 9 O'Clock   |        |                             | XTU <sup>(1,3)</sup> | Throttle Plug    |
|                 |        |      |                              |                 |                  | HG                | 1/4" O.D. Polytube Hose Barb <sup>(2,3)</sup> |                     |             |        |                             | XTS <sup>(4)</sup>   | Throttle Screw   |
|                 |        |      |                              |                 |                  | HH                | 10-32-2B Female Thread <sup>(2,3,5)</sup>     |                     |             |        |                             | XUC <sup>(2)</sup>   | U-clamp          |
|                 |        |      |                              |                 |                  |                   |   |                     |             |        |                             | XZY                  | FlutterGuard™    |

(1) A throttle plug must be installed in the socket whenever the gauge is used for intermittent or continuous service on natural gas.

(2) U-clamp furnished when hose barb or female thread is specified.

(3) Throttle plug not available with hose barb or female thread connections.

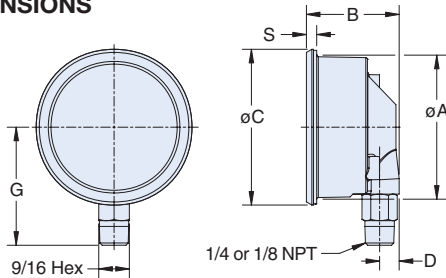
(4) .020 throttle screw available with HH connection only.

## HOW TO ORDER: 25 1490 A 02L XXX 10 IW

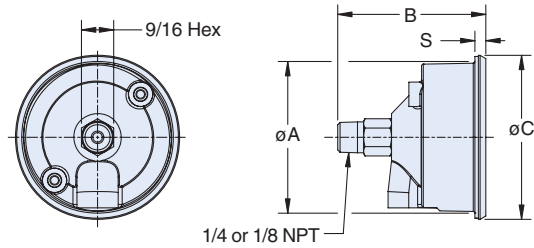
- Dial size – 2 1/2 (25), 3 1/2 (35)
- Case type
- Wetted material
- Connection size – 1/4 (02), 1/8 (01)
- Connection location – Lower (L), Back (B)
- Optional features
- Standard pressure range – 10 in.H<sub>2</sub>O

# 1490 Low Pressure Diaphragm Gauge

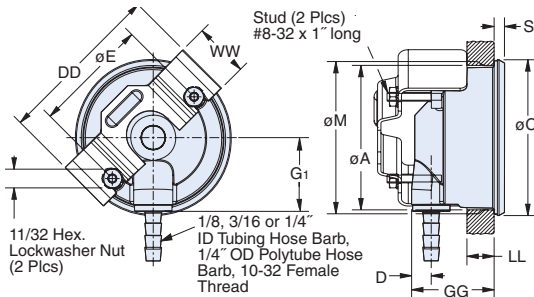
## DIMENSIONS



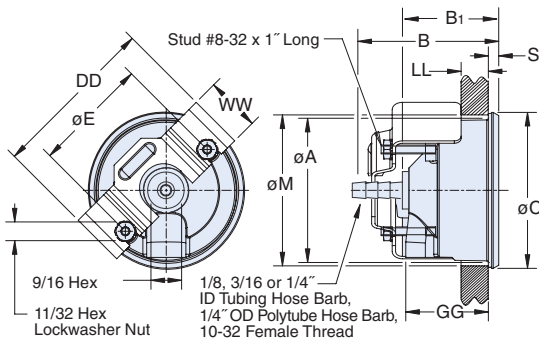
| Size | øA                                      | B                                       | øC                                      | D                                     | G                                      | S                                     |
|------|---|---|---|---------------------------------------|--|---------------------------------------|
| 25   | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 1 <sup>23</sup> / <sub>32</sub><br>(44) | 2 <sup>7</sup> / <sub>8</sub><br>(73)   | 3 <sup>5</sup> / <sub>8</sub><br>(10) | 2 <sup>3</sup> / <sub>16</sub><br>(55) | 1 <sup>3</sup> / <sub>64</sub><br>(5) |
| 35   | 3 <sup>2</sup> / <sub>32</sub><br>(93)  | 1 <sup>1</sup> / <sub>16</sub><br>(43)  | 3 <sup>3</sup> / <sub>32</sub><br>(101) | 3 <sup>5</sup> / <sub>8</sub><br>(10) | 2 <sup>2</sup> / <sub>32</sub><br>(69) | 1 <sup>3</sup> / <sub>64</sub><br>(5) |



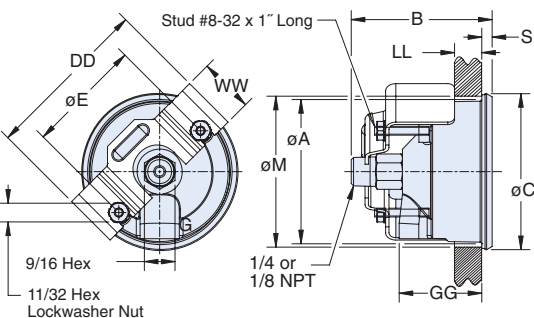
| Size | øA                                      | B                                       | øC                                      | S                                     |
|------|---|---|---|---------------------------------------|
| 25   | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 2 <sup>7</sup> / <sub>8</sub><br>(73)   | 1 <sup>3</sup> / <sub>64</sub><br>(5) |
| 35   | 3 <sup>2</sup> / <sub>32</sub><br>(93)  | 2 <sup>9</sup> / <sub>16</sub><br>(65)  | 3 <sup>3</sup> / <sub>32</sub><br>(101) | 1 <sup>3</sup> / <sub>64</sub><br>(5) |



| Size | øA                                      | øC                                       | D                                     | øE                                     | G                                      |   |   |  | G1                                      | øM                                      | S                                     | DD                                     | GG                                      | LL Max.     | WW        |
|------|---|--|---------------------------------------|--|--|---|---|--|---|---|---------------------------------------|--|---|-------------|-----------|
|      |   |  |                                       |  | 1/8 ID Tubing                          | 3/16 ID Tubing                          | 1/4 ID Tubing                           | 1/2 OD Tubing                          | 10-32 Female                            |   |                                       |  |   |             |           |
| 25   | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 2 <sup>7</sup> / <sub>8</sub><br>(73)    | 3 <sup>5</sup> / <sub>8</sub><br>(10) | 2 <sup>1</sup> / <sub>8</sub><br>(54)  | 1 <sup>3</sup> / <sub>4</sub><br>(44)  | 2 <sup>1</sup> / <sub>8</sub><br>(54)   | 2 <sup>3</sup> / <sub>32</sub><br>(54)  | 1 <sup>3</sup> / <sub>4</sub><br>(44)  | 1 <sup>11</sup> / <sub>32</sub><br>(34) | 2 <sup>21</sup> / <sub>32</sub><br>(67) | 1 <sup>3</sup> / <sub>64</sub><br>(5) | 3 <sup>1</sup> / <sub>16</sub><br>(78) | 1 <sup>19</sup> / <sub>32</sub><br>(40) | 1/2<br>(13) | 1<br>(25) |
| 35   | 3 <sup>21</sup> / <sub>32</sub><br>(93) | 3 <sup>31</sup> / <sub>32</sub><br>(101) | 3 <sup>5</sup> / <sub>8</sub><br>(10) | 3 <sup>3</sup> / <sub>16</sub><br>(67) | 2 <sup>5</sup> / <sub>16</sub><br>(59) | 2 <sup>21</sup> / <sub>32</sub><br>(81) | 2 <sup>13</sup> / <sub>16</sub><br>(54) | 2 <sup>5</sup> / <sub>16</sub><br>(59) | 1 <sup>31</sup> / <sub>32</sub><br>(50) | 3 <sup>3</sup> / <sub>4</sub><br>(95)   | 1 <sup>3</sup> / <sub>64</sub><br>(5) | 4 <sup>1</sup> / <sub>8</sub><br>(105) | 1 <sup>17</sup> / <sub>32</sub><br>(39) | 1/2<br>(13) | 1<br>(25) |



| Size | øA                                      | B                                      |   |  |  | B1                                      | øC                                      | øE                                     | øM                                     | S                                     | DD                                     | GG                                      | LL Max.     | WW        |
|------|---|--|---|--|--|---|---|--|--|---------------------------------------|--|---|-------------|-----------|
|      |   | 1/8 ID Tubing                          | 3/16 ID Tubing                          | 1/4 ID Tubing                          | 1/2 OD Tubing                          | 10-32 Female                            |   |  |  |                                       |  |   |             |           |
| 25   | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 2 <sup>3</sup> / <sub>16</sub><br>(55) | 2 <sup>17</sup> / <sub>32</sub><br>(64) | 2 <sup>1</sup> / <sub>16</sub><br>(68) | 2 <sup>3</sup> / <sub>16</sub><br>(55) | 1 <sup>25</sup> / <sub>32</sub><br>(45) | 2 <sup>7</sup> / <sub>8</sub><br>(73)   | 2 <sup>1</sup> / <sub>8</sub><br>(54)  | 2 <sup>2</sup> / <sub>32</sub><br>(67) | 1 <sup>3</sup> / <sub>64</sub><br>(5) | 3 <sup>1</sup> / <sub>16</sub><br>(78) | 1 <sup>19</sup> / <sub>32</sub><br>(40) | 1/2<br>(13) | 1<br>(25) |
| 35   | 3 <sup>2</sup> / <sub>32</sub><br>(93)  | 2 <sup>1</sup> / <sub>8</sub><br>(54)  | 2 <sup>1</sup> / <sub>2</sub><br>(63)   | 2 <sup>2</sup> / <sub>32</sub><br>(67) | 2 <sup>1</sup> / <sub>8</sub><br>(54)  | 1 <sup>23</sup> / <sub>32</sub><br>(44) | 3 <sup>3</sup> / <sub>32</sub><br>(101) | 3 <sup>3</sup> / <sub>16</sub><br>(81) | 3 <sup>3</sup> / <sub>4</sub><br>(95)  | 1 <sup>3</sup> / <sub>64</sub><br>(5) | 4 <sup>1</sup> / <sub>8</sub><br>(105) | 1 <sup>17</sup> / <sub>32</sub><br>(39) | 1/2<br>(13) | 1<br>(25) |



## U-clamp Option

| Size | øA                                      | B                                       | øC                                      | øE                                     | øM                                     | S                                     | DD                                     | GG                                      | LL MAX      | WW        |
|------|---|---|---|--|--|---------------------------------------|--|---|-------------|-----------|
| 25   | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 2 <sup>19</sup> / <sub>32</sub><br>(66) | 2 <sup>7</sup> / <sub>8</sub><br>(73)   | 2 <sup>1</sup> / <sub>8</sub><br>(54)  | 2 <sup>2</sup> / <sub>32</sub><br>(67) | 1 <sup>3</sup> / <sub>64</sub><br>(5) | 3 <sup>1</sup> / <sub>16</sub><br>(78) | 1 <sup>19</sup> / <sub>32</sub><br>(40) | 1/2<br>(13) | 1<br>(25) |
| 35   | 3 <sup>2</sup> / <sub>32</sub><br>(93)  | 2 <sup>9</sup> / <sub>16</sub><br>(65)  | 3 <sup>3</sup> / <sub>32</sub><br>(101) | 3 <sup>3</sup> / <sub>16</sub><br>(81) | 3 <sup>3</sup> / <sub>4</sub><br>(95)  | 1 <sup>3</sup> / <sub>64</sub><br>(5) | 4 <sup>1</sup> / <sub>8</sub><br>(105) | 1 <sup>17</sup> / <sub>32</sub><br>(39) | 1/2<br>(13) | 1<br>(25) |