Product Overview

The M9 (block and bleed) gauge valve is specifically designed to facilitate safe, compact, and economical gauge installation.

Block valve seating is interchangeable between ‘hard’ or ‘soft’ without changing the bonnet assembly. This feature enhances the value of the M9 by extending the useful life of the valve.

The M9’s Bleed Plug is integral and employs metal-to-metal seating. It enables pressure to be safely vented without breaking threaded connections.

Applications

Static pressure gauge and instrument installation for isolation and venting.

Features and Benefits

- **Packing below threads (O-ring bonnet)** prevents lubricant washout, thread corrosion, and keeps solids from entering thread area, which can cause galling. It also prevents process contamination.

- **Adjustable packing** – Teflon® and GRAFOIL® packed bonnets adjust easily, decreasing packing replacement downtime and increasing valve life.

- **Safety back seating** prevents stem blowout or accidental removal while in operation and provides a metal-to-metal secondary stem seal while in the full open position.

- **Chrome plating of 316 SS stem** prevents galling or freezing of stem threads when similar metals mate. CS valves use a 303 SS stem.

- **Rolled threads** provide additional thread strength. The stem, bonnet, and male NPT threads are rolled, not cut.

- **Mirror stem finish** burnished to a 16 RMS finish in the packing area enabling smooth stem operation and extending packing life.

- **One-piece handle design** prevents loss of the valve handle due to vibration or during maintenance.

- **Soft or metal seat for bubble-tight shutoff** is field replaceable for easy maintenance. The V-tipped stem provides accurate flow control.

- **Extended valve life**, if soft seat becomes damaged it can be removed, leaving a metal seated valve.

**Note**

1. Teflon® is a registered trademark of the E.I. duPont de Nemours Company.
Block and Bleed Gauge Valve – M9 Specifications

### M9RIS – 44 Dimensions with O-ring Bonnet¹, inches [mm]

- **Max. Open**: 2.50 [63.5]
- **Hex**: 1.25 [31.8]
- **Flow**: 1.19 [30.2]
- **Washer**: 1.62 [41.1]
- **Max. Open**: 3.50 [88.9]

### M9VIS – 4M Dimensions with Teflon® Bonnet¹, inches [mm]

- **Max. Open**: 3.10 [78.7]
- **Hex**: 1.25 [31.8]
- **Flow**: 1.69 [42.9]
- **Washer**: 2.12 [53.8]
- **Max. Open**: 4.00 [101.6]

### Notes

1. Bonnets interchangeable between all body configurations.
2. 4.00-inch [101.6 mm] for -44C, -46C.

Optional Soft Seat

Section Through Bleed Plug
Block and Bleed Gauge Valve – M9 Specifications

### Standard Materials

**Metal Seat**

<table>
<thead>
<tr>
<th>Valve f</th>
<th>Body</th>
<th>Bonnet</th>
<th>Stem</th>
<th>Packing</th>
<th>Bleed Plug</th>
<th>Seat</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>A108 CS</td>
<td>A108 CS</td>
<td>A581-303 SS</td>
<td>Teflon® or BUNA-N O-ring</td>
<td>A108 CS</td>
<td>Integral</td>
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<tr>
<td>SS</td>
<td>A479-316 SS</td>
<td>A479-316 SS</td>
<td>A276-316 SS</td>
<td>Teflon® or BUNA-N O-ring</td>
<td>A276-316 SS</td>
<td>Integral</td>
</tr>
<tr>
<td>SG</td>
<td>A479-316 SS</td>
<td>A479-316 SS</td>
<td>Monel® 400</td>
<td>Teflon®</td>
<td>A279-316 SS</td>
<td>Integral</td>
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<tr>
<td>Monel®</td>
<td>Monel® R405</td>
<td>Monel® R405</td>
<td>Monel® R405</td>
<td>Teflon®</td>
<td>Monel® R405</td>
<td>Integral</td>
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</table>

**Soft Seat**

<table>
<thead>
<tr>
<th>Valve f</th>
<th>Body</th>
<th>Bonnet</th>
<th>Stem</th>
<th>Packing</th>
<th>Flow Washer</th>
<th>Bleed Plug</th>
<th>Seat d</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>A108 CS</td>
<td>A108 CS</td>
<td>A581-303 SS</td>
<td>Teflon® or BUNA-N O-ring</td>
<td>316 SS</td>
<td>A108 CS</td>
<td>Delrin®</td>
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<tr>
<td>SS</td>
<td>A479-316 SS</td>
<td>A479-316 SS</td>
<td>A276-316 SS</td>
<td>Teflon® or Viton® O-ring</td>
<td>316 SS</td>
<td>A276-316 SS</td>
<td>PCTFE®</td>
</tr>
<tr>
<td>SG</td>
<td>A479-316 SS</td>
<td>A479-316 SS</td>
<td>Monel® 400</td>
<td>Teflon®</td>
<td>316 SS</td>
<td>A276-316 SS</td>
<td>PCTFE®</td>
</tr>
</tbody>
</table>

### Notes

2. CS is zinc-cobalt plated to prevent corrosion (except male plain end is black oxide coated).
3. SG (Sour Gas) meets the requirements of NACE MR0175-latest revision.
4. PEEK available.
5. PCTFE (Polychlorotrifluoroethylene) is the exact equivalent of Kel-F®.
6. Viton® and Delrin® are registered trademarks of the E.I. duPont de Nemours Company.
7. Monel® is a registered trademark of the International Nickel Company.

### Pressure and Temperature Ratings

#### Ratings with Teflon® Bonnet

**Hard Seat**

- 6000 psig @ 200°F [414 barg @ 93°C]
- 4000 psig @ 500°F [276 barg @ 260°C]

**Delrin® and PCTFE®**

- 3000 psig @ 200°F [207 barg @ 93°C]

**PEEK Seat**

- 6000 psig @ 200°F [414 barg @ 93°C]
- 3000 psig @ 300°F [207 barg @ 149°C]

#### Ratings with O-ring Bonnet

**Hard Seat**

- 6000 psig @ 200°F [414 barg @ 93°C]

**Delrin® and PCTFE®**

- 3000 psig @ 200°F [207 barg @ 93°C]

**PEEK Seat**

- 6000 psig @ 200°F [414 barg @ 93°C]

### Pressure vs. Temperature

![Graph showing pressure vs. temperature ratings for different seat types and materials.](image)

(V) = with Teflon® Bonnet Assembly
(R) = with O-ring Bonnet Assembly
Block and Bleed Gauge Valve – M9 Specifications

<table>
<thead>
<tr>
<th>Ordering Information</th>
<th></th>
<th></th>
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<th>44C</th>
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<tbody>
<tr>
<td>M9</td>
<td>V</td>
<td>I</td>
<td>S</td>
<td></td>
<td>SG</td>
</tr>
</tbody>
</table>

Packing
- V – Teflon® Bonnet (standard for 316 SS)
- R – O-ring Bonnet

Seat
- I – Integral
- D – Delrin® (standard)
- E – PEEK
- K – PCTFE®

Body Materials
- C – CS
- S – SS
- M – Monel®

Connections (Inlet/Outlet)
- 44 – 1/2-inch MNPT x 1/2-inch FNPT
- 46 – 3/4-inch MNPT x 1/2-inch FNPT
- 4M – 1/2-inch MNPT x 1/2-inch MNPT
- C – Male plain end (CS is black oxide coated)

Options
- AL – Arctic Lubricant (Low Temperature Service) Not available for CS valves.
- CLC – Chlorine Cleaning
- HD – Hydrostatic Testing (100%) (MSS-SP-61)
- MS – Monel® Stem
- OC – Oxygen Cleaning
- PHB – Phenolic Black Handle
- PHG – Phenolic Green Handle
- PHR – Phenolic Red Handle
- PM – Panel Mount (Teflon® packed only)
- SG – Sour Gas meets the requirements of NACE MR0175-latest revision (SS only)
- SP – Special Requirements - please specify

Note
1. PCTFE (Polychlorotrifluoroethylene) is the exact equivalent of Kel-F®.