

# Baumann™ 24000SB Barstock Control Valve

This rugged Baumann control valve is recommended for low-flow, high-pressure, industrial control applications. S31600 / S31603 stainless steel barstock valve body and bonnet is suitable for process pressures up to 413 barg (6000 psig).

The 24000SB is the ideal solution for applications that exceed the operating range of our other 24000 series valves. Various end connections ranging from threaded (standard), buttweld, and flanged add versatility to this high-pressure product line. Special high nickel alloy constructions are available and round out the basic S31600/S31603 stainless steel offering.

## Features

- Compact and light-weight design reduces installed piping costs.
- Dual plug and stem guiding provides increased stability during plug travel.
- Multiple trim capacity reductions available to meet changing process requirements with  $C_v$  ratings as low as 0.00013.
- Optional extended bonnet for applications ranging from -195 to 537°C (-320 to 1000°F).
- Optional ENVIRO-SEAL™ packing system to meet critical emission control requirements.



W9756

**24000SB Control Valve with Baumann 32 Actuator and FIELDVUE DVC2000 Digital Valve Controller**



W9757

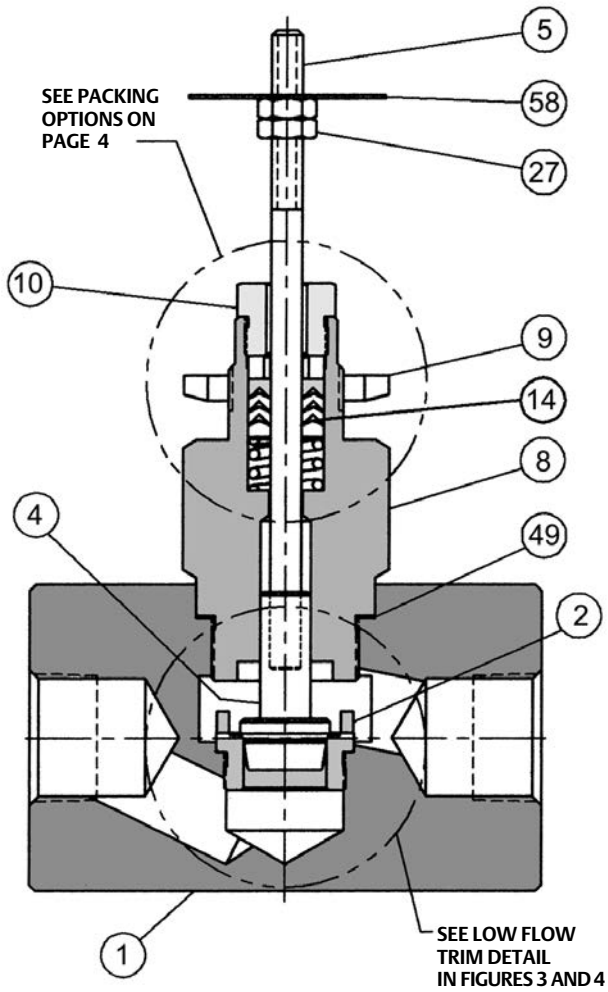


W9758

**Baumann 24000SB Control Valve with Flanges and Extension Bonnet**

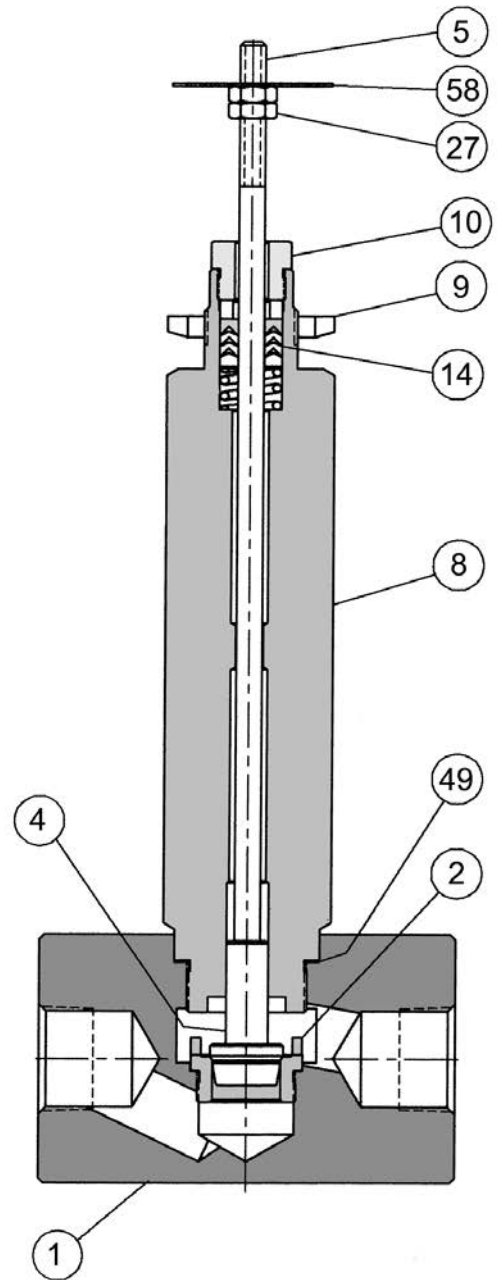
- Fisher™ FIELDVUE™ digital valve controller available for remote calibration and diagnostics in facilities utilizing the PlantWeb™ architecture.

Figure 1. Valve Body Subassembly with Standard PTFE Spring-Loaded V-Ring Packing



E1263

Figure 2. Valve Body with Extension Bonnet



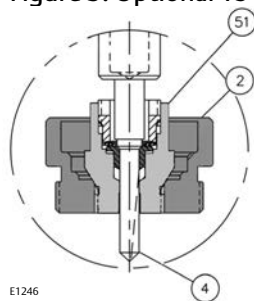
E1264

**Table 1. Materials of Construction**

| Key No.           | Description   | Material  |                                    |                                    |                                    |
|-------------------|---|---|------------------------------------|------------------------------------|------------------------------------|
|                   |   | S31603 Stainless Steel  | N10276 Nickel Alloy <sup>(1)</sup> | N08020 Nickel Alloy <sup>(1)</sup> | N04400 Nickel Alloy <sup>(1)</sup> |
| 1 <sup>(1)</sup>  | Valve Body  | ASME SA479 S31600/<br>S31603 Dual Certified   | ASME SB574 N10276                  | ASTM B473 N08020                   | ASME SB164 N04400                  |
| 2 <sup>(1)</sup>  | Seat Ring (standard) (For low flow trim, refer to tables 2 & 3) | ASTM A276 S31600/<br>S31603 Dual Certified  | ASME SB574 N10276                  | ASTM B473 N08020                   | ASME SB164 N04400                  |
| 4 <sup>(1)</sup>  | Plug (Metal Seat) Cv ≤ 2.5                                      | ASME SA479 S21800 (standard) / ASTM A582 S41600 Condition T (optional)                | ASME SB574 N10276                  | ASTM B473 N08020                   | ASME SB164 N04400                  |
|                   | Plug (Metal Seat) Cv ≥ 4.0                                      | ASTM A276 S31600/<br>S31603(standard) /<br>ASTM A582 S41600<br>Condition T (optional) |                                    |                                    |                                    |
|                   | Plug (Soft Seat)  | ASTM A276 S31600/<br>S31603 with PTFE (Polytetrafluoroethylene) insert                | ASME SB574 N10276/PTFE             | ASTM B473 N08020/PTFE              | ASME SB164 N04400/<br>PTFE         |
| 5 <sup>(1)</sup>  | Stem  | ASTM A276 S31600  | ASME SB574 N10276                  | ASTM B473 N08020                   | ASME SB164 N04400                  |
| 8 <sup>(1)</sup>  | Bonnet  | ASME SA479 S31600/<br>S31603 Dual Certified   | ASME SB574 N10276                  | ASTM B473 N08020                   | ASME SB164 N04400                  |
| 9                 | Drive Nut (Yoke)  | S30400  |                                    |                                    |                                    |
| 10 <sup>(1)</sup> | Packing Follower  | ASTM A276 S31600/<br>S31603 Dual Certified  | ASME SB574 N10276                  | ASTM B473 N08020                   | ASME SB164 N04400                  |
| 14 <sup>(1)</sup> | V-Ring Packing (standard)                                       | Refer to page 4   |                                    |                                    |                                    |
|                   | Packing (optional)  | Refer to page 4   |                                    |                                    |                                    |
| 27                | Lock Nut  | Stainless Steel (18-8 Stainless Steel)  |                                    |                                    |                                    |
| 49                | Body Gasket   | Graphite Grade GHR with S31600 Insert   |                                    |                                    |                                    |
| 58                | Travel Indicator  | ASME SA240 S30400   |                                    |                                    |                                    |

1. For optional valve and trim materials, consult your [Emerson sales office](#) or Local Business Partner for price and delivery. N08020 and N04400 nickel alloy materials have pressure-temperature ratings less than 206 barg (3000 psig) or 413 barg (6000 psig) respectively.

**Figure 3. Optional 151 Low Flow Trim Assembly**

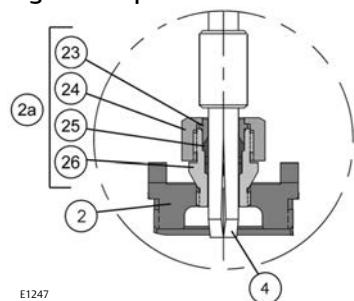


**Table 2. 151 Low Flow Trim**

| Key Number        | Description       | Material                 |
|-------------------|-------------------|--------------------------|
| 2 <sup>(1)</sup>  | Seat Ring         | ASTM A276 S31600/ S31603 |
| 4 <sup>(1)</sup>  | Plug              | ASME SA479 S21800        |
| 51 <sup>(1)</sup> | Seat Sub-Assembly |                          |
|                   | Cage              | ASTM A276 S31600/ S31603 |
|                   | Seat              | PTFE                     |
|                   | Collar            | ASTM A276 S31600/ S31603 |
|                   | Washer            | ASTM A276 S31600 Cond B  |
|                   | Insert            | ASTM A276 S31600/ S31603 |

1. For optional trim materials, consult your Emerson sales office or Local Business Partner for price and delivery.

**Figure 4. Optional 177 Low Flow Trim Assembly**

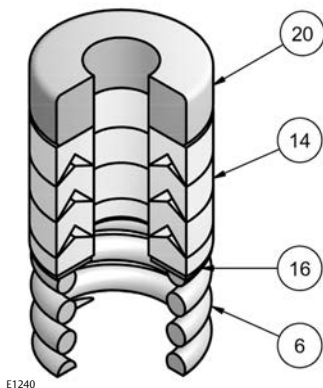


**Table 3. 177 Low Flow Trim**

| Key Number        | Description       | Material                 |                          |
|-------------------|-------------------|--------------------------|--------------------------|
| 2 <sup>(1)</sup>  | Seat Ring         | ASTM A276 S31600/ S31603 |                          |
| 2a <sup>(1)</sup> | Seat Sub-Assembly |                          |                          |
|                   | 23                | Gland                    | ASTM A276 S31600/ S31603 |
|                   | 24                | Retainer Nut             | ASTM A276 S31600/ S31603 |
|                   | 25                | Insert                   | Reinforced PTFE          |
|                   | 26                | Housing                  | ASTM A276 S31600/ S31603 |
| 4 <sup>(1)</sup>  | Plug              | ASME SA479 S21800        |                          |

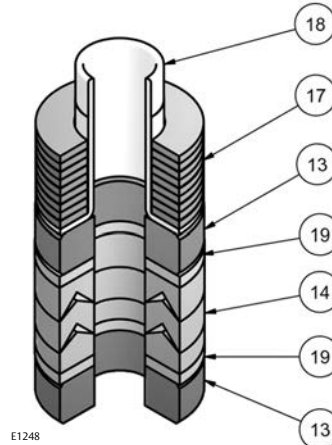
1. For optional trim materials, consult your Emerson sales office or Local Business Partner for price and delivery.

**Figure 5. Standard Spring-Loaded PTFE V-Ring Packing Kit**



E1240

**Figure 7. ENVIRO-SEAL Packing Kit (Optional)**



E1248

**Table 4. Standard Spring-Loaded PTFE V-Ring Packing Kit**

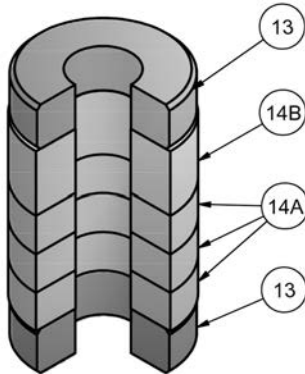
| Key Number       | Description | Material   |
|------------------|-------------|--|
| 6 <sup>(1)</sup> | Spring      | ASTM A313 S30200   |
| 14               | Packing Set | PTFE (Polytetrafluoroethylene) / PTFE, 25% carbon filled |
| 16               | Washer      | ASME SA240 S31600  |
| 20               | Spacer      | J-2000 (filled-Polytetrafluoroethylene)                  |

1. N10276 nickel alloy valve body construction is furnished with N10276 nickel alloy spring.

**Table 6. ENVIRO-SEAL Packing Kit (Optional)**

| Key Number | Description       | Material   |
|------------|-------------------|--|
| 13         | Bushings          | Carbon-Graphite  |
| 14         | Packing Rings     | PTFE (Polytetrafluoroethylene) / PTFE, 25% carbon filled |
| 17         | Belleville Spring | N06600 Nickel Alloy (ASTM B637 N07718, 40 HRC max)       |
| 18         | Bushing           | PEEK (polyetheretherketone)                              |
| 19         | Washers           | Modified PTFE  |

**Figure 6. Molded Graphite (Flexible Graphite) Packing Kit (Optional)**



E1241

**Table 5. Molded Graphite (Flexible Graphite) Packing Kit (Optional)**

| Key Number | Description   | Material        |
|------------|---------------|-----------------|
| 13         | Bushings      | Carbon-Graphite |
| 14A        | Packing Rings | Graphite        |
| 14B        | Packing Ring  | Graphite        |

## Special ENVIRO-SEAL Packing Note

The ENVIRO-SEAL PTFE packing system is suitable for 100 ppm environmental applications on services up to 51.7 barg (750 psig) and process temperatures ranging from -46 to 232°C (-50 to 450°F).

For non-environmental applications, this packing system offers excellent performance at the same temperature range up to the maximum valve working pressure.

Temperature limits apply to packing arrangements only. Complete valve assembly temperature limits may differ, refer to appropriate pressure/temperature ratings.

Reference Fisher Packing Selection Guidelines for Sliding-Stem Valves Bulletin 59.1:062 ([D101986X012](#)).

Table 7. Technical Specifications

|                          |                                |   |
|--------------------------|--------------------------------|---|
| <b>NOMINAL PIPE SIZE</b> |                                | DN 15, 20, and 25 (NPS 1/2, 3/4, and 1)                             |
| <b>END CONNECTIONS</b>   | <b>Standard</b>                | Threaded (NPT)  |
|                          | <b>Available<sup>(1)</sup></b> | Buttweld, Flanged (CL150 to CL2500)                                 |
| <b>PRESSURE RATING</b>   |                                | See Pressure-Temperature Ratings, tables 10, 11, 12, 13, 14, and 15 |
| <b>CHARACTERISTIC</b>    |                                | Equal Percentage or Linear  |

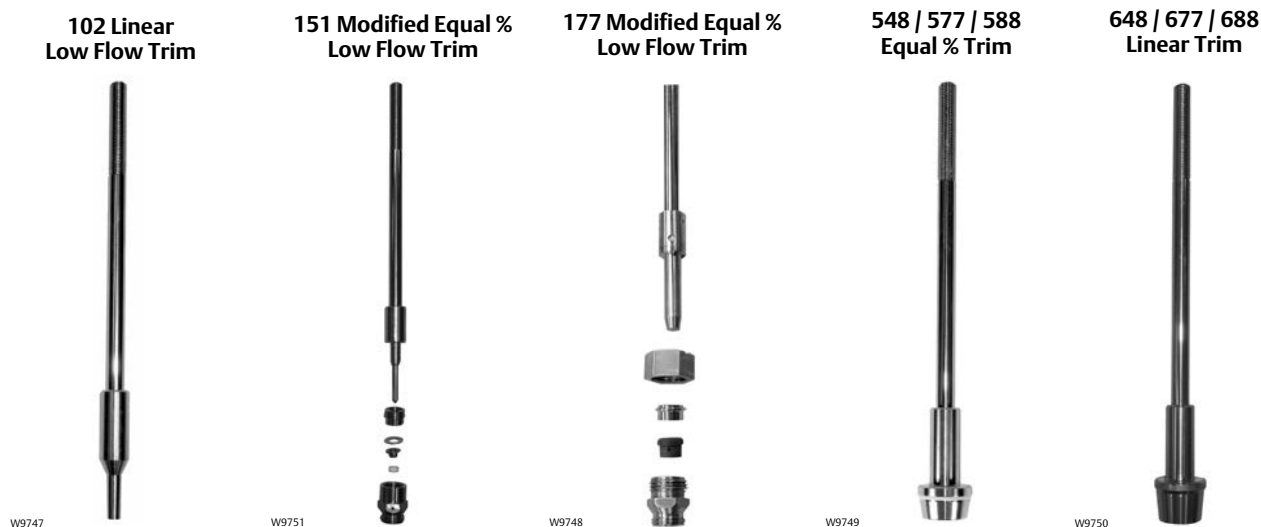
1. Consult your [Emerson sales office](#) or Local Business Partner for other available connections.

Table 8. Temperature Ratings for Packing and Seat Material<sup>(1)</sup>

|  |                                      |                              |                                |
|--|--------------------------------------|------------------------------|--------------------------------|
| <b>SEATING MATERIAL</b>                | <b>PTFE Soft Seat</b>                | 151 Trim                     | -29 to 177°C (-20 to 350°F)    |
|  |                                      | 577 & 677 Trim               | -73 to 232°C (-100 to 450°F)   |
|  | <b>Reinforced PTFE</b>               | 177 Trim                     | -73 to 232°C (-100 to 450°F)   |
|  | <b>Metal Seat</b>                    | 102, 548, 588, 648, 688 Trim | -195 to 537°C (-320 to 1000°F) |
| <b>PACKING AND BONNET COMBINATIONS</b> | <b>BONNET STYLE</b>                  | <b>PACKING</b>               | <b>TEMPERATURE LIMIT</b>       |
|  | <b>Standard Bonnet<sup>(2)</sup></b> | Spring Loaded PTFE Packing   | -73 to 232°C (-100 to 450°F)   |
|  |                                      | ENVIRO-SEAL                  | -45 to 232°C (-50 to 450°F)    |
|  |                                      | Graphite                     | -73 to 232°C (-100 to 450°F)   |
|  |                                      | Spring Loaded PTFE Packing   | -195 to 232°C (-320 to 450°F)  |
|  | <b>Extension Bonnet</b>              | ENVIRO-SEAL                  | -45 to 232°C (-50 to 450°F)    |
|  |                                      | Graphite                     | -195 to 537°C (-320 to 1000°F) |

1. Temperature limits apply to seating or packing arrangements only. Complete valve assembly temperature limits may differ, refer to appropriate pressure/temperature ratings. For more information on packing selection, reference Fisher Packing Selection Guidelines for Sliding-Stem Valves Bulletin 59.1:062 ([D101986X012](#)).  
2. PTFE packing may be used in cryogenic service but becomes stiff.

Figure 8. Baumann 24000SB Trims



**Table 9. Cv Values at 100% Plug Opening ( $K_v = 0.86 \times C_v$ )<sup>(4)</sup>**

| VALVE SIZE | ORIFICE DIAMETER | PLUG TRAVEL | PLUG SERIES            |   |   |               |                 |                            |           |
|------------|------------------|-------------|------------------------|---|---|---------------|-----------------|----------------------------|-----------|
|            |                  |             | 102                    | 151   | 177   | 577           | 548 / 588       | 677                        | 648 / 688 |
| NPS        | inch             | inch        | Cv                     | Cv  | Cv  | Cv            | Cv              | Cv                         | Cv        |
| 1/2        | 0.156            | 0.50        | ---                    | 0.00013, 0.00025, 0.0005, 0.001, 0.002, 0.004, 0.008, 0.015, 0.03, 0.06, 0.10, 0.20, 0.45 | ---   | ---           | ---             | ---                        | ---       |
|            | 0.25             | 0.50        | 0.02, 0.05, 0.10, 0.20 | ---   | ---   | ---           | 0.20, 0.50, 1.0 | ---                        | 0.50, 1.0 |
|            | 0.3125           | 0.50        | ---                    | ---   | 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05 | ---           | ---             | ---                        | ---       |
|            | 0.375            | 0.50        | ---                    | ---   | ---   | 1.0, 1.5, 2.0 | 1.5, 2.0        | 0.10, 0.20, 0.50, 1.0, 2.0 | 1.5, 2.0  |
| 3/4        | 0.156            | 0.50        | ---                    | 0.00013, 0.00025, 0.0005, 0.001, 0.002, 0.004, 0.008, 0.015, 0.03, 0.06, 0.10, 0.20, 0.45 | ---   | ---           | ---             | ---                        | ---       |
|            | 0.25             | 0.50        | 0.02, 0.05, 0.10, 0.20 | ---   | ---   | ---           | 0.20, 0.50, 1.0 | ---                        | 0.50, 1.0 |
|            | 0.3125           | 0.50        | ---                    | ---   | 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05 | ---           | ---             | ---                        | ---       |
|            | 0.375            | 0.50        | ---                    | ---   | ---   | 1.0, 1.5, 2.5 | 1.5, 2.5        | 0.10, 0.20, 0.50, 1.0, 2.5 | 1.5, 2.5  |
|            | 0.8125           | 0.50        | ---                    | ---   | ---   | 3.8           | 3.8             | 3.8                        | 3.8       |
| 1          | 0.156            | 0.50        | ---                    | 0.00013, 0.00025, 0.0005, 0.001, 0.002, 0.004, 0.008, 0.015, 0.03, 0.06, 0.10, 0.20, 0.45 | ---   | ---           | ---             | ---                        | ---       |
|            | 0.25             | 0.50        | 0.02, 0.05, 0.10, 0.20 | ---   | ---   | ---           | 0.20, 0.50, 1.0 | ---                        | 0.50, 1.0 |
|            | 0.3125           | 0.50        | ---                    | ---   | 0.0005, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05 | ---           | ---             | ---                        | ---       |
|            | 0.375            | 0.50        | ---                    | ---   | ---   | 1.0, 1.5, 2.5 | 1.5, 2.5        | 0.10, 0.20, 0.50, 1.0, 2.5 | 1.5, 2.5  |
|            | 0.8125           | 0.50        | ---                    | ---   | ---   | 4.0, 6.8      | 4.0, 6.8        | 4.0                        | 4.0, 6.8  |

1. For DN 15 (NPS 1/2)  
 2. For DN 20 (NPS 3/4)  
 3. For DN 25 (NPS 1)  
 4. See [Fisher Catalog 12](#) for a full range of flow and sizing information.

**⚠ WARNING**

Refer to pressure - temperature rating tables 10, 11, 12, 13, 14, and 15 and consult your [Emerson sales office](#) or Local Business Partner for potential cavitation and noise concerns.

Table 10. Pressure-Temperature Ratings for S31600/S31603 Dual Certified Stainless Steel Valve Body - 3000 psig (Standard)<sup>(1)</sup>

| Temperature (°C) <sup>(2)</sup> | Working Pressure (barg) | Temperature (°F) <sup>(2)</sup> | Working Pressure (psig) |
|---------------------------------|-------------------------|---------------------------------|-------------------------|
| -195 to 37                      | 206                     | -320 to 100                     | 3000                    |
| 93                              | 177                     | 200                             | 2580                    |
| 148                             | 160                     | 300                             | 2330                    |
| 204                             | 147                     | 400                             | 2141                    |
| 232                             | 142                     | 450                             | 2066                    |
| 260                             | 137                     | 500                             | 1992                    |
| 287                             | 133                     | 550                             | 1936                    |
| 315                             | 129                     | 600                             | 1880                    |
| 343                             | 127                     | 650                             | 1849                    |
| 371                             | 124                     | 700                             | 1810                    |
| 398                             | 122                     | 750                             | 1779                    |
| 426                             | 121                     | 800                             | 1758                    |
| 454                             | 120                     | 850                             | 1742                    |
| 482                             | 119                     | 900                             | 1729                    |
| 510                             | 110                     | 950                             | 1609                    |
| 537                             | 100                     | 1000                            | 1458                    |

1. Caution: When the valve is furnished with CL150 through CL900 flanges, the pressure-temperature ratings are limited to the values published in ASME B16.34. Valve assemblies with CL1500 flanges are limited to 206 barg (3000 psig) maximum Cold Working Pressure (CWP).  
2. Do not exceed seating and packing material ratings.

Table 11. Pressure-Temperature Ratings for S31600/S31603 Dual Certified Stainless Steel Valve Body - 6000 psig (Optional)<sup>(1)</sup>

| Temperature (°C) <sup>(2)</sup> | Working Pressure (barg) | Temperature (°F) <sup>(2)</sup> | Working Pressure (psig) |
|---------------------------------|-------------------------|---------------------------------|-------------------------|
| -195 to 37                      | 413.7                   | -320 to 100                     | 6000                    |
| 93                              | 355.8                   | 200                             | 5160                    |
| 149                             | 321.3                   | 300                             | 4660                    |
| 204                             | 295.1                   | 400                             | 4280                    |
| 232                             | 284.8                   | 450                             | 4130                    |
| 260                             | 274.4                   | 500                             | 3980                    |
| 288                             | 266.8                   | 550                             | 3870                    |
| 316                             | 259.2                   | 600                             | 3760                    |
| 343                             | 253.7                   | 650                             | 3680                    |
| 371                             | 249.6                   | 700                             | 3620                    |
| 399                             | 245.5                   | 750                             | 3560                    |
| 427                             | 242.7                   | 800                             | 3520                    |
| 454                             | 239.9                   | 850                             | 3480                    |
| 482                             | 238.6                   | 900                             | 3460                    |
| 510                             | 222.0                   | 950                             | 3220                    |
| 538                             | 208.9                   | 1000                            | 3030                    |

1. Caution: When the valve is furnished with CL150 through CL1500 flanges, the pressure-temperature ratings are limited to the values published in ASME B16.34.  
2. Do not exceed seating and packing material ratings.

**Table 12. Pressure-Temperature Ratings for N10276 Nickel Alloy Valve Body - 3000 psig (Optional)<sup>(1)</sup>**

| Temperature (°C) <sup>(2)</sup> | Working Pressure (barg) | Temperature (°F) <sup>(2)</sup> | Working Pressure (psig) |
|---------------------------------|-------------------------|---------------------------------|-------------------------|
| -195 to 37                      | 215                     | -320 to 100                     | 3125                    |
| 93                              | 215                     | 200                             | 3125                    |
| 148                             | 209                     | 300                             | 3033                    |
| 204                             | 202                     | 400                             | 2941                    |
| 232                             | 196                     | 450                             | 2856                    |
| 260                             | 190                     | 500                             | 2770                    |
| 287                             | 182                     | 550                             | 2645                    |
| 315                             | 173                     | 600                             | 2520                    |
| 343                             | 168                     | 650                             | 2450                    |
| 371                             | 163                     | 700                             | 2366                    |
| 398                             | 152                     | 750                             | 2216                    |
| 426                             | 145                     | 800                             | 2116                    |
| 454                             | 139                     | 850                             | 2029                    |
| 482                             | 128                     | 900                             | 1870                    |
| 510                             | 110                     | 950                             | 1608                    |
| 537                             | 104                     | 1000                            | 1516                    |

1. Caution: When the valve is furnished with CL150 through CL900 flanges, the pressure-temperature ratings are limited to the values published in ASME B16.34. Valve assemblies with CL1500 flanges are limited to 206 barg (3000 psig) maximum Cold Working Pressure (CWP).  
2. Do not exceed seating and packing material ratings.

**Table 13. Pressure-Temperature Ratings for N10276 Nickel Alloy Valve Body - 6000 psig (Optional)<sup>(1)</sup>**

| Temperature (°C) <sup>(2)</sup> | Working Pressure (barg) | Temperature (°F) <sup>(2)</sup> | Working Pressure (psig) |
|---------------------------------|-------------------------|---------------------------------|-------------------------|
| -195 to 37                      | 430.9                   | -320 to 100                     | 6250                    |
| 93                              | 430.9                   | 200                             | 6250                    |
| 149                             | 418.5                   | 300                             | 6070                    |
| 204                             | 401.3                   | 400                             | 5820                    |
| 232                             | 391.6                   | 450                             | 5680                    |
| 260                             | 382.0                   | 500                             | 5540                    |
| 288                             | 364.7                   | 550                             | 5290                    |
| 316                             | 347.5                   | 600                             | 5040                    |
| 343                             | 338.2                   | 650                             | 4905                    |
| 371                             | 326.1                   | 700                             | 4730                    |
| 399                             | 305.4                   | 750                             | 4430                    |
| 427                             | 291.6                   | 800                             | 4230                    |
| 454                             | 279.9                   | 850                             | 4060                    |
| 482                             | 258.2                   | 900                             | 3745                    |
| 510                             | 222.0                   | 950                             | 3220                    |
| 538                             | 208.9                   | 1000                            | 3030                    |

1. Caution: When the valve is furnished with CL150 through CL1500 flanges, the pressure-temperature ratings are limited to the values published in ASME B16.34.  
2. Do not exceed seating and packing material ratings.



**Table 14. Pressure-Temperature Ratings for N08020 Nickel Alloy Valve Body (Optional)<sup>(1)</sup>**

| Temperature (°C) <sup>(2)</sup> | Working Pressure (barg) | Temperature (°F) <sup>(2)</sup> | Working Pressure (psig) |
|---------------------------------|-------------------------|---------------------------------|-------------------------|
| -195 to 37                      | 172                     | -320 to 100                     | 2500                    |
| 93                              | 150                     | 200                             | 2175                    |
| 148                             | 140                     | 300                             | 2041                    |
| 204                             | 140                     | 400                             | 2041                    |
| 232                             | 140                     | 450                             | 2041                    |
| 260                             | 140                     | 500                             | 2041                    |
| 287                             | 140                     | 550                             | 2041                    |
| 315                             | 140                     | 600                             | 2041                    |
| 343                             | 140                     | 650                             | 2041                    |
| 371                             | 140                     | 700                             | 2041                    |
| 398                             | 140                     | 750                             | 2041                    |
| 426                             | 140                     | 800                             | 2041                    |

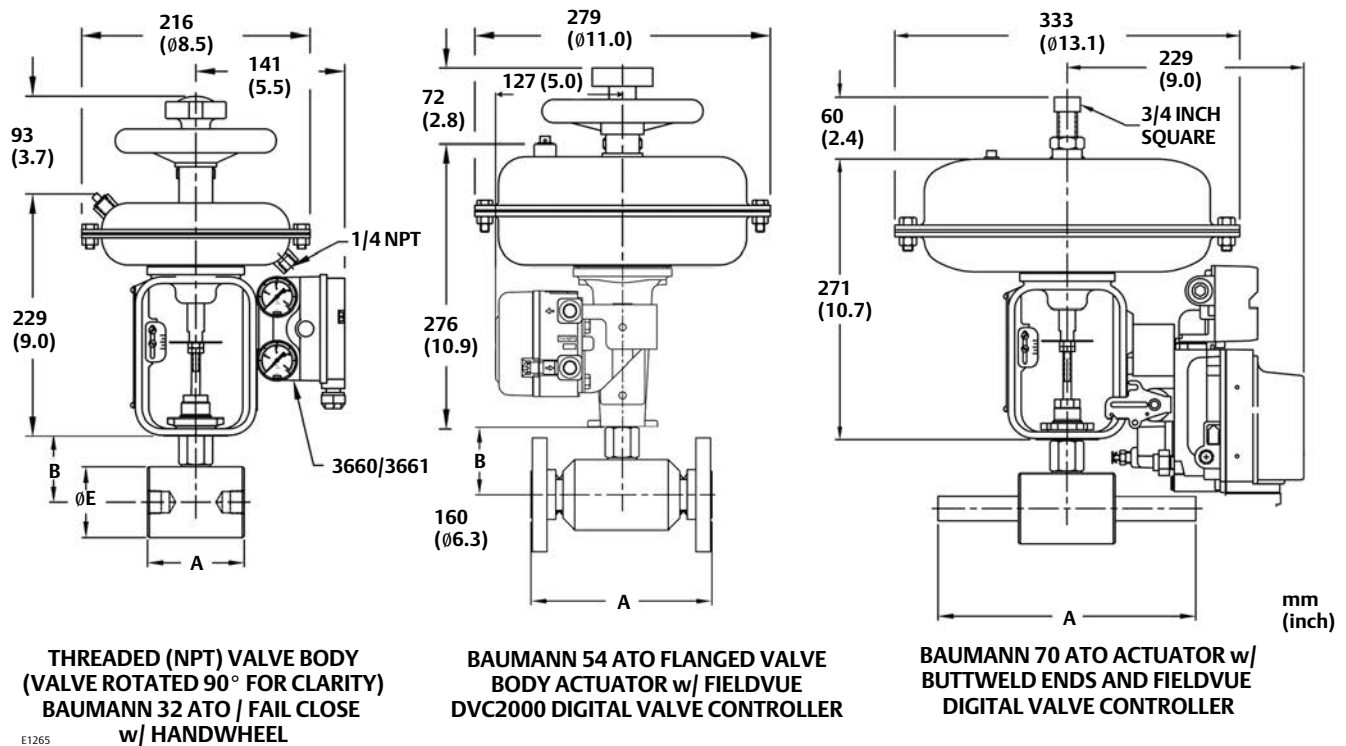
1. Caution: When the valve is furnished with CL150 through CL900 flanges, the pressure-temperature ratings are limited to the values published in ASME B16.34. Valve assemblies with CL1500 flanges are limited to 206 barg (3000 psig) maximum Cold Working Pressure (CWP).  
2. Do not exceed seating and packing material ratings.

**Table 15. Pressure-Temperature Ratings for N08020 Nickel Alloy Valve Body (Optional)<sup>(1)</sup>**

| Temperature (°C) <sup>(2)</sup> | Working Pressure (barg) | Temperature (°F) <sup>(2)</sup> | Working Pressure (psig) |
|---------------------------------|-------------------------|---------------------------------|-------------------------|
| (-)195 to 37                    | 430.9                   | (-) 320 to 100                  | 6250                    |
| 93                              | 426.1                   | 200                             | 6180                    |
| 149                             | 408.2                   | 300                             | 5920                    |
| 204                             | 391.6                   | 400                             | 5680                    |
| 232                             | 384.0                   | 450                             | 5570                    |
| 260                             | 376.5                   | 500                             | 5460                    |
| 288                             | 362.0                   | 550                             | 5250                    |
| 316                             | 347.5                   | 600                             | 5040                    |
| 343                             | 338.2                   | 650                             | 4905                    |
| 371                             | 326.1                   | 700                             | 4730                    |
| 399                             | 305.4                   | 750                             | 4430                    |
| 427                             | 291.6                   | 800                             | 4230                    |

1. Caution: When the valve is furnished with CL150 through CL1500 flanges, the pressure-temperature ratings are limited to the values published in ASME B16.34.  
2. Do not exceed seating and packing material ratings.

Figure 9. Dimensional Drawings



Note: Actuator removal requires 115 mm (4.5 inches) vertical clearance.

Table 16. Valve Dimensions

| VALVE SIZE |     | A VALVE BODY |      |         |      |       |      |       |      |            |       |        |       |          |       |
|------------|-----|--------------|------|---------|------|-------|------|-------|------|------------|-------|--------|-------|----------|-------|
|            |     | NPT          |      | Flanged |      |       |      |       |      |            |       |        |       | Buttweld |       |
|            |     |              |      | CL150   |      | CL300 |      | CL600 |      | CL900/1500 |       | CL2500 |       |          |       |
| DN         | NPS | mm           | inch | mm      | inch | mm    | inch | mm    | inch | mm         | inch  | mm     | inch  | mm       | inch  |
| 15         | 1/2 | 102          | 4.00 | 184     | 7.25 | 191   | 7.50 | 203   | 8.00 | 273        | 10.25 | 264    | 10.38 | 387      | 15.25 |
| 20         | 3/4 | 105          | 4.13 | 184     | 7.25 | 194   | 7.62 | 206   | 8.12 | 273        | 10.75 | 273    | 10.75 | 387      | 15.25 |
| 25         | 1   | 127          | 5.00 | 184     | 7.25 | 197   | 7.75 | 210   | 8.25 | 273        | 10.75 | 308    | 12.12 | 406      | 16.00 |

Table 17. Valve Dimensions

| VALVE SIZE |     | B BONNET |     |           |      | E DIAMETER |      |
|------------|-----|----------|-----|-----------|------|------------|------|
|            |     | Standard |     | Extension |      |            |      |
|            |     | DN       | NPS | mm        | inch | mm         | inch |
| 15         | 1/2 | 71       | 2.8 | 208       | 8.2  | 64         | 2.50 |
| 20         | 3/4 | 74       | 2.9 | 211       | 8.3  | 76         | 3.00 |
| 25         | 1   | 74       | 2.9 | 211       | 8.3  | 76         | 3.00 |

Table 18. Valve Assembly Weights

| VALVE SIZE        |                  | WEIGHT |      |
|-------------------|------------------|--------|------|
| DN                | NPS              | kg     | lb   |
| 15                | 1/2              | 3.0    | 6.6  |
| 20                | 3/4              | 3.1    | 6.9  |
| 25 <sup>(1)</sup> | 1 <sup>(1)</sup> | 5.1    | 11.3 |
| 25 <sup>(2)</sup> | 1 <sup>(2)</sup> | 5.8    | 12.8 |

1. For 206 barg (3000 psig) valve body.  
2. For 413 barg (6000 psig) valve body.

Table 19. Model Numbering System

| 24                |             |   |              | S                   | B             |              |           |
|-------------------|-------------|---|--------------|---------------------|---------------|--------------|-----------|
| Valve Body Series | Plug Series | Characteristic  | Seat Leakage | Valve Body Material | Barstock Body | Bonnet Style |           |
| ---               | 548         | Equal % / Metal Seat (S41600)                                   | IV           | S                   | ---           | ---          | Standard  |
|                   | 577         | Equal % / PTFE Seat   | VI           |                     |               | E            | Extension |
|                   | 588         | Equal % / Metal Seat<br>(S21800 Cv ≤ 2.5 or<br>S31600 Cv ≥ 4.0) | IV           |                     |               |              |           |
|                   | 648         | Linear / Metal Seat (S41600)                                    | IV           |                     |               |              |           |
|                   | 677         | Linear / PTFE Seat  | VI           |                     |               |              |           |
|                   | 688         | Linear / Metal Seat   | IV           |                     |               |              |           |

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**2400SB Valve**  
D103334X012

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