



## 2/2-way Globe Control Valve for high-quality cryogenic applications and steam

- Excellent control characteristic
- Standard International face-to-face dimensions
- High operative safety

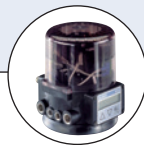
Type 2712 can be combined with...



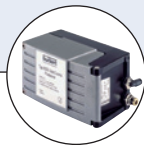
**Type 8692/8693**  
Positioner / Process Controller TopControl



**Type 8694**  
Positioner TopControl Basic



**Type 8630**  
Positioner TopControl



**Type 8635**  
Positioner SideControl



**Type 8792/93**  
SideControl Remote versions

The 2712 system has been specifically engineered for reliable control in applications where control accuracy is paramount. The 2712 is made from an all stainless steel valve body combined with Burkert's classic pneumatic actuator. These parabolic trims provide a reliable and repeatable characteristic to vary the flow. The control cones are available in either stainless steel or with a durable PTFE seal for tight shut-off (up to 1" (DN25)). When actuated by the 8635 SideControl, SideControls 8792/93 Remote versions or the 8694/8692/8693/8630 TopControl it forms a unique control valve system which can be operated as either a simple accurate positioner or an autotune PID process controller for flow, temperature or pressure.

### Applications:

- ▶ Steam up to 150 PSI
- ▶ LN<sub>2</sub>, O<sub>2</sub>, Ar, CO<sub>2</sub>
- ▶ LNG storage and distribution
- ▶ Food processing – lyophilization systems
- ▶ Dewars and tanks
- ▶ Medical facilities
- ▶ Automated filling systems
- ▶ Transfer lines
- ▶ Vacuum jacketed and non-jacketed systems

### Technical data

|  |  |
|--|--|
| <b>Materials</b>                       |  |
| Body                                   | Cast stainless steel 316L (conform to 1.4409)  |
| Actuator                               | PA polyamide (PPS on request)  |
| <b>Sealing</b>                         | St.st./St.st. (stainless steel/stainless steel)<br>PTFE/St.st. (PTFE/stainless steel) up to 1" (DN25)                        |
| <b>Seat leakage</b>                    | Shut-off class IV for St.st./St.st.  |
| <b>IEC 534-4/EN 1349</b>               | Shut-off class VI for PTFE/St.st.  |
| <b>Process media gases and liquids</b> | Water, steam, nitrogen, argon, and liquid oxygen on request  |
| (vacuum version on request)            | 145 PSI / 365°F (10 bar/+180°C)  |
| <b>Viscosity</b>                       | Max. 600 mm <sup>2</sup> /s  |
| <b>Packing gland</b>                   | PTFE V-rings (silicone grease) with spring compensation  |
| <b>Nominal pressure</b>                | PN 25 (body)   |
| <b>Temperatures</b>                    |  |
| Fluid                                  | -320°F to 365°F (-196°C to +180°C)   |
| Ambient                                | 14°F to 140°F <sup>1)</sup> (-10°C to +60°C) (Actuators 80 to 125)<br>14°F to 122°F (-10°C to +50°C) (Actuators 175 and 225) |
| <b>Control media</b>                   | Neutral gases, air   |
| <b>Pilot pressure</b>                  | 79.75 to 101.5 PSI (Actuators 80 to 125)<br>72.5 to 87 PSI (Actuators 175 and 225)   |
| <b>Pilot air ports</b>                 | G 1/4 stainless steel (St.st.)   |
| <b>Flow direction</b>                  | Below seat   |
| <b>Cvs-values</b>                      | Different Cvs-values per port size, see table p. 2   |
| <b>Control ratio (Cvs/CvO)</b>         | 50:1<br>25:1 for orifice 1/4" (DN6)<br>10:1 for orifice 5/32" (DN4)  |
| <b>Port connections</b>                |  |
| Flange                                 | ANSI B16.5 RF <sup>2)</sup> Class 150<br>face-to-face EN 558-2 (ISA S75.03)  |
| <b>Mounting position</b>               | With actuator upright  |

<sup>1)</sup> High temperature on request

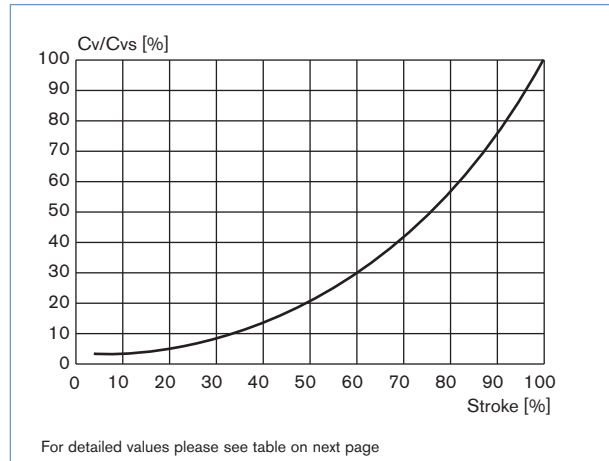
<sup>2)</sup> Raised face (RF)

Technical data, continued

Cvs values

| Port size (connection) |        | Actuator size | Orifice DN (seat) [inch] |       |      |       |      |       |      |      |        |        |      |        |     |    |
|------------------------|--------|---------------|--------------------------|-------|------|-------|------|-------|------|------|--------|--------|------|--------|-----|----|
| [mm]                   | [inch] |               | [mm]                     | 5/32" | 1/4" | 5/16" | 3/8" | 9/16" | 3/4" | 1"   | 1 1/4" | 1 1/2" | 2"   | 2 1/2" | 3"  | 4" |
| 15                     | 9/16"  | F – 80        | 0.58                     | 1.3   | 2.4  | 3.6   | 5.0  | –     | –    | –    | –      | –      | –    | –      | –   | –  |
| 20                     | 3/4"   | F – 80        | –                        | –     | –    | 3.7   | 6.0  | 8.2   | –    | –    | –      | –      | –    | –      | –   | –  |
| 25                     | 1"     | F – 80        | –                        | –     | –    | –     | 6.1  | 8.4   | 13.9 | –    | –      | –      | –    | –      | –   | –  |
| 40                     | 1 1/2" | G – 100       | –                        | –     | –    | –     | –    | –     | 15.8 | 23.4 | 27.6   | –      | –    | –      | –   | –  |
| 50                     | 2"     | H – 125       | –                        | –     | –    | –     | –    | –     | –    | 24.4 | 28.5   | 42.9   | –    | –      | –   | –  |
| 65                     | 2 1/2" | H – 125       | –                        | –     | –    | –     | –    | –     | –    | –    | 20.3   | 30.2   | 60.3 | –      | –   | –  |
| 65                     | 2 1/2" | K – 175       | –                        | –     | –    | –     | –    | –     | –    | –    | 29.6   | 45.8   | 71.9 | –      | –   | –  |
| 80                     | 3"     | L – 225       | –                        | –     | –    | –     | –    | –     | –    | –    | –      | 48.7   | 81.2 | 116    | –   | –  |
| 100                    | 4"     | L – 225       | –                        | –     | –    | –     | –    | –     | –    | –    | –      | –      | 87.0 | 133    | 162 | –  |

Flow curve and description



Remarks on the flow characteristic

- Equipercntile parabolic plug for the orifices 5/16" to 2 1/2" (DN8 to DN65)
- Linear plug for the orifices 5/32" (DN4) and 1/4" (DN6)
- Flow characteristic runs within DIN/IEC 534-2-4
- Theoretical control ratio (Cvs/Cvo):
  - 50:1 for the orifices 5/16" to 2 1/2" (DN8 to DN65)
  - 25:1 for the orifice 1/4" (DN6)
  - 10:1 for the orifice 5/32" (DN4)
- CVR value at 5% of stroke for DN > 10 mm  
CVR value at 10% of stroke for DN ≤ 10 mm

(CVR value = smallest Cv value at which the gradient tolerance to DIN/IEC 534-2-4 is still complied with)

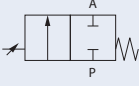
Technical data, continued

Cvs values

| Port size (connection) |        | Orifice (seat) |        | Actuator size | Stroke [%] |         |      |      |      |      |      |      |      |      |      |      |      |
|------------------------|--------|----------------|--------|---------------|------------|---------|------|------|------|------|------|------|------|------|------|------|------|
| [mm]                   | [inch] | [mm]           | [inch] |               | 5          | 10      | 20   | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  |      |      |
| 15                     | 9/16"  | 4              | 5/32"  | F - 80        | 0.05       | 0.06    | 0.12 | 0.19 | 0.26 | 0.31 | 0.37 | 0.42 | 0.46 | 0.51 | 0.58 |      |      |
|                        |        | 6              | 1/4"   | F - 80        | 0.06       | 0.14    | 0.37 | 0.56 | 0.72 | 0.88 | 1.02 | 1.14 | 1.24 | 1.31 | 1.39 |      |      |
|                        |        | 8              | 5/16"  | F - 80        | 0.08       | 0.09    | 0.13 | 0.15 | 0.22 | 0.31 | 0.50 | 0.73 | 1.10 | 1.86 | 2.40 |      |      |
|                        |        | 10             | 3/8"   | F - 80        | 0.10       | 0.13    | 0.17 | 0.22 | 0.36 | 0.57 | 0.87 | 1.28 | 1.97 | 2.90 | 3.60 |      |      |
|                        |        | 15             | 9/16"  | F - 80        | 0.16       | 0.20    | 0.26 | 0.41 | 0.60 | 0.93 | 1.39 | 2.10 | 3.10 | 4.30 | 5.00 |      |      |
| 20                     | 3/4"   | 10             | 3/8"   | F - 80        | 0.13       | 0.14    | 0.19 | 0.23 | 0.38 | 0.60 | 0.89 | 1.39 | 2.10 | 3.00 | 3.70 |      |      |
|                        |        | 15             | 9/16"  | F - 80        | 0.16       | 0.20    | 0.26 | 0.41 | 0.60 | 0.93 | 1.39 | 2.10 | 3.40 | 4.60 | 6.00 |      |      |
|                        |        | 20             | 3/4"   | F - 80        | 0.23       | 0.29    | 0.35 | 0.52 | 0.81 | 1.28 | 1.86 | 2.80 | 4.10 | 6.00 | 8.20 |      |      |
| 25                     | 1"     | 15             | 9/16"  | F - 80        | 0.16       | 0.20    | 0.26 | 0.41 | 0.60 | 0.93 | 1.39 | 2.10 | 3.40 | 4.80 | 6.10 |      |      |
|                        |        | 20             | 3/4"   | F - 80        | 0.23       | 0.29    | 0.36 | 0.55 | 0.81 | 1.28 | 1.86 | 2.90 | 4.40 | 6.30 | 8.40 |      |      |
|                        |        | 25             | 1"     | F - 80        | 0.41       | 0.44    | 0.75 | 1.16 | 1.74 | 2.60 | 3.90 | 5.90 | 8.10 | 10.9 | 13.9 |      |      |
| 40                     | 1 1/2" | 25             | 1"     | G - 100       | 0.46       | 0.58    | 0.87 | 1.28 | 1.97 | 3.00 | 4.40 | 6.50 | 9.30 | 12.4 | 15.8 |      |      |
|                        |        | 32             | 1 1/4" | G - 100       | 0.56       | 0.70    | 0.99 | 1.51 | 2.40 | 3.70 | 5.30 | 8.00 | 12.8 | 17.4 | 23.4 |      |      |
|                        |        | 40             | 1 1/2" | G - 100       | 0.70       | 0.81    | 1.28 | 1.97 | 3.10 | 4.60 | 7.00 | 10.7 | 16.0 | 21.1 | 27.6 |      |      |
| 50                     | 2"     | 32             | 1 1/4" | H - 125       | 0.56       | 0.70    | 1.04 | 1.51 | 2.40 | 3.70 | 5.30 | 8.00 | 13.5 | 18.6 | 24.4 |      |      |
|                        |        | 40             | 1 1/2" | H - 125       | 0.70       | 0.81    | 1.16 | 1.97 | 3.00 | 4.60 | 6.80 | 10.7 | 16.2 | 21.9 | 28.5 |      |      |
|                        |        | 50             | 2"     | H - 125       | 1.04       | 1.28    | 2.20 | 3.40 | 5.20 | 7.90 | 12.2 | 18.0 | 25.5 | 34.0 | 42.9 |      |      |
| 65                     | 2 1/2" | 40             | 1 1/2" | H - 125       | 0.52       | 0.75    | 1.10 | 1.51 | 2.20 | 3.20 | 4.60 | 6.40 | 9.00 | 13.6 | 20.3 |      |      |
|                        |        | 50             | 2"     | H - 125       | 0.81       | 1.16    | 1.86 | 2.80 | 4.10 | 5.70 | 8.00 | 11.4 | 16.4 | 23.1 | 30.2 |      |      |
|                        |        | 65             | 2 1/2" | H - 125       | 0.93       | 1.51    | 2.40 | 3.70 | 6.40 | 10.6 | 17.1 | 28.4 | 43.6 | 52.9 | 60.3 |      |      |
|                        |        | 40             | 1 1/2" | K - 175       | 0.52       | 0.64    | 0.99 | 1.51 | 2.30 | 3.60 | 5.30 | 7.90 | 12.4 | 20.0 | 29.6 |      |      |
|                        |        | 50             | 2"     | K - 175       | 0.87       | 1.04    | 1.74 | 2.70 | 4.10 | 5.70 | 8.20 | 12.8 | 20.3 | 30.2 | 45.8 |      |      |
| 65                     | 2 1/2" | 65             | 2 1/2" | K - 175       | 1.28       | 1.62    | 2.40 | 3.70 | 5.70 | 9.30 | 13.9 | 21.5 | 36.5 | 53.9 | 71.9 |      |      |
|                        |        | 80             | 3"     | 50            | 2"         | L - 225 | 0.99 | 1.16 | 1.74 | 2.70 | 4.10 | 5.80 | 8.20 | 12.2 | 18.6 | 29.0 | 48.7 |
|                        |        |                |        | 65            | 2 1/2"     | L - 225 | 1.62 | 1.97 | 2.90 | 4.40 | 6.60 | 9.50 | 14.2 | 22.6 | 37.7 | 58.0 | 81.2 |
| 80                     | 3"     |                |        | L - 225       | 2.40       | 3.00    | 4.90 | 8.10 | 12.2 | 18.6 | 29.0 | 46.4 | 69.6 | 96.3 | 116  |      |      |
| 100                    | 4"     | 65             | 2 1/2" | L - 225       | 1.62       | 1.97    | 3.00 | 4.40 | 6.60 | 9.60 | 14.6 | 23.2 | 37.1 | 59.2 | 87.0 |      |      |
|                        |        | 80             | 3"     | L - 225       | 2.40       | 3.00    | 5.00 | 8.10 | 12.8 | 19.7 | 30.7 | 51.0 | 75.4 | 103  | 133  |      |      |
|                        |        | 100            | 4"     | L - 225       | 3.70       | 4.50    | 6.60 | 10.4 | 15.7 | 23.8 | 37.1 | 59.2 | 96.3 | 137  | 162  |      |      |

Ordering chart for Globe Valve (without positioner)

Threaded Port G: DIN ISO 228 T1, flow below seat

| Control function  | Port size (tube) |        | Orifice DN (seat) |        | Actuator size Ø [mm] | Operating pressure ≤ 365°F [PSI] | Item no. |
|---|------------------|--------|-------------------|--------|----------------------|----------------------------------|----------|
|   | [mm]             | [inch] | [mm]              | [inch] |                      |                                  |          |
| <p><b>A</b></p>  <p>2/2-way, NC by spring return</p> | 10               | 3/8"   | 4                 | 5/32"  | 80                   | 232                              |          |
|   |                  |        | 6                 | 1/4"   | 80                   | 232                              |          |
|   |                  |        | 8                 | 5/16"  | 80                   | 232                              |          |
|   |                  |        | 10                | 3/8"   | 80                   | 232                              |          |
|   | 15               | 9/16"  | 4                 | 5/32"  | 80                   | 232                              |          |
|   |                  |        | 6                 | 1/4"   | 80                   | 232                              |          |
|   |                  |        | 8                 | 5/16"  | 80                   | 232                              |          |
|   |                  |        | 10                | 3/8"   | 80                   | 232                              |          |
|   |                  |        | 15                | 9/16"  | 80                   | 232                              |          |
|   | 20               | 3/4"   | 10                | 3/8"   | 80                   | 232                              |          |
|   |                  |        | 15                | 9/16"  | 80                   | 232                              |          |
|   |                  |        | 20                | 3/4"   | 80                   | 232                              |          |
|   | 25               | 1"     | 15                | 9/16"  | 80                   | 232                              |          |
|   |                  |        | 20                | 3/4"   | 80                   | 232                              |          |
|   |                  |        | 25                | 1"     | 80                   | 232                              |          |
|   | 32               | 1 1/4" | 20                | 3/4"   | 100                  | 232                              |          |
|   |                  |        | 25                | 1"     | 100                  | 232                              |          |
|   |                  |        | 32                | 1 1/4" | 100                  | 232                              |          |
|   | 40               | 1 1/2" | 25                | 1"     | 100                  | 232                              |          |
|   |                  |        | 32                | 1 1/4" | 100                  | 232                              |          |
|   |                  |        | 40                | 1 1/2" | 100                  | 232                              |          |
|   | 50               | 2"     | 32                | 1 1/4" | 125                  | 232                              |          |
|   |                  |        | 40                | 1 1/2" | 125                  | 232                              |          |
|   |                  |        | 50                | 2"     | 125                  | 232                              |          |
| 65  | 2 1/2"           | 40     | 1 1/2"            | 125    | 217.5                |                                  |          |
|   |                  | 50     | 2"                | 125    | 217.5                |                                  |          |
|   |                  | 65     | 2 1/2"            | 125    | 145                  |                                  |          |
|   |                  | 40     | 1 1/2"            | 175    | 217.5                |                                  |          |
|   |                  | 50     | 2"                | 175    | 217.5                |                                  |          |
|   |                  | 65     | 2 1/2"            | 175    | 217.5                |                                  |          |

\*seal system: • St.st./St.st.: plug stainless steel/seat stainless steel  
 • PTFE/St.st.: (soft sealing) plug PTFE/seat stainless steel

DTS 1000150904 EN Version: - Status: RL (released | freigegeben | validé) printed: 22.09.2017

**i Further versions on request**

**Material**  
 Actuator: PPS for actuator sizes 80-125 mm

## Ordering information for valve system Continuous Classic Type 8802-GB, continued

A valve system Continuous Classic Type 8802-GB consists of an globe control valve Type 2712 and a digital electropneumatic Positioner Type 8692, a digital electropneumatic Process Controller Type 8693, a digital electropneumatic Positioner Basic Type 8694 (previous page) or a valve actuation system TopControl Type 8630, SideControl Type 8635 or an electropneumatic positioner Type 8792/8793 (below) (see separate datasheets).


You order two components and receive a complete assembled and certified valve.



**Ordering the valve system Continuous Classic Type 8802-GB**

| Globe control valve<br>Type 2712                         | Positioner | Positioner/<br>Process Controller<br>Type 8630                                | Positioner/<br>Process Controller<br>Type 8635                                | Positioner<br>Type 8792/<br>Process<br>Controller<br>Type 8793   |
|--|------------|---|---|--|
|  |            |   |   |  |
| <b>Globe control valve<br/>with desired control unit</b> |            | <b>Valve system<br/>Continuous Classic<br/>Type 8802-GB-A<br/>2712 + 8630</b> | <b>Valve system<br/>Continuous Classic<br/>Type 8802-GB-B<br/>2712 + 8635</b> | <b>Valve system<br/>Continuous Classic<br/>Type 8802-GB-P<br/>2712 + 8792 /<br/>Type 8802-GB-Q<br/>2712 + 8793</b> |

If you click on any of the "More info" orange boxes below you will be taken to the product on our website where you can download the datasheet.

**TopControl Type 8630** [More info.](#)

 0/4-20 mA  
0-5/10 V


  DeviceNet™



The Type 8630 is an electro-pneumatic positioner for usage with pneumatically operated process valves. The compact design with integrated position encoder and LCD display was developed for demanding applications of the process industry.

Main customer benefits are:

- Time saving algorithms for temperature, flow and pressure PID parameters through ProcessTUNE function.
- Quick and simple menu driven parameterization through keyboard
- Field bus communication via Profibus DPV1 or DeviceNet
- Fits seamlessly to Bürkert's process valve systems
- Break resistant housing
- Suitable for hazardous locations per zone 2 and 22

**SideControl Type 8635, 2-wire, intrinsically safe** [More info.](#)

 4-20 mA



Type 8635 is a digital electro-pneumatic positioner with an optional, integrated process controller for precise control requirements. The compact design with integrated position encoder and LCD display was developed for demanding applications of the process industry.



Main customer benefits are:

- Time saving algorithms for temperature, flow and pressure PID parameters through ProcessTUNE function.
- Quick and simple menu driven parameterization through keyboard or Profibus PA
- Remote setpoint adjustment via a 4-20 mA signal
- Adaptation according to IEC534-6 for lift and swivel drives
- Rugged anodised aluminium housing
- Suitable for hazardous locations per zone 1, zone 21 or zone 2 and 22

**Positioner SideControl Type 8792** [More info.](#)

**Process Controller SideControl Type 8793** [More info.](#)

Type 8792/8793 is a digital electro-pneumatic positioner with an optional, integrated process controller (8793) for precise control requirements. The compact design with integrated position encoder and LCD display was developed for demanding applications of the process industry. A Profibus DPV1 communication interface is available as an option.

Main customer benefits are:

- Time saving algorithms for temperature, flow and pressure PID parameters through ProcessTUNE function.
- Quick and simple menu driven parameterization through keyboard or Profibus DPV1 PA
- Adaption acc. to IEC534-6 and VDI/VDE 3845 for lift and swivel drives or as a Remote version together with Bürkert process valves
- Rugged anodised aluminium housing
- Suitable for hazardous locations per zone 2/22