

## DN15 – DN200 / 1/2" - 8" full port, 5"-10" reduced port

Ideally suited for positive shut-off, flow control and throttling of corrosive, abrasive or even toxic process media in either liquid or gaseous state.

### Modular Design

Ball Valves SBV Series are available as DIN- or ANSI-valves, with handlever for manual quarter turn operation as per standard or with bare shaft for easy installation of actuator units.

The sturdy design bodies are made of cast steel 1.0619 (WCB A216), RAL 5005 signal-blue epoxy-coated or compl. of SS316 casting 1.4408 (CF-8M), with resistant linings such as PFA or PFA-AS (conductive).



**CE** Conformity according to European Pressure Equipment Directive 2014/68/EU (PED)

### Main Features

- Heavy-duty, robust construction, maintenance-free
- Body halves friction-locked (metal-to-metal)
- Bubble-tight shut-off throughout the full pressure and temperature range
- One-piece ball/shaft, PFA-encapsulated
- Zero stem leakage provided by an innovative Live-loaded stem sealing mechanism
- Consistent low operating torque
- Maximum flow rates at lowest pressure drops
- Integrated ISO top flange for standard actuators
- Flanges acc. to DIN PN16/40 resp. ANSI 150lbs for installation into existing piping systems

### Actuator Options



#### Automated

Body 1.0619 (WCB A216)/PFA-lined, pneumatic quarter turn actuator, DA or FC



#### Stainless Steel

Body 1.4408 (CF-8M)/PFA-lined, bare shaft



#### Padlock

Handlever on ISO top flange, with safety lock

### Operating Conditions

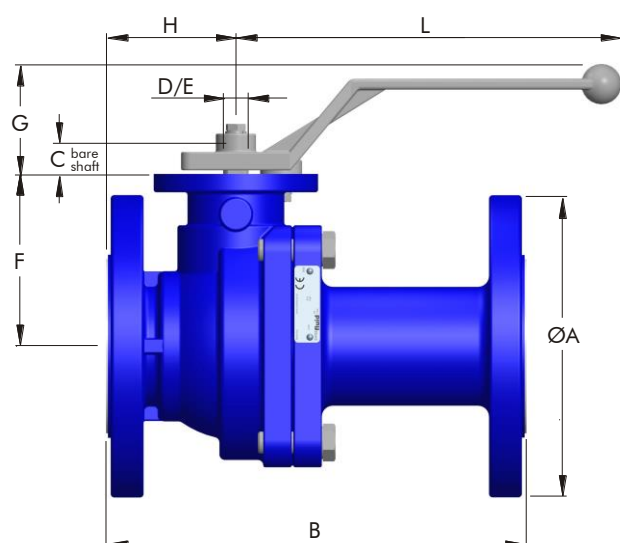
- Temperature range from  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ) up to  $+200^{\circ}\text{C}$  ( $+392^{\circ}\text{F}$ ), depending on lining material
- Pressure range from 1mbar (0.01 psi) up to 16 bar (232 psi), depending on size/pressure/temperature

### Testing / Marking

- Pressure- and tightness testing acc. to EN 12266-1, leakage rate A, resp. API 598.
- Marking of valves on body and name plate acc. to EN 19.
- Material- resp. test certificates acc. to EN 10204-3.1/2.2/2.1

### Manual Valve

Standard version with handlever

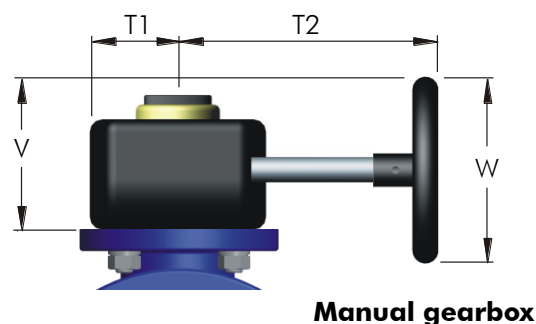
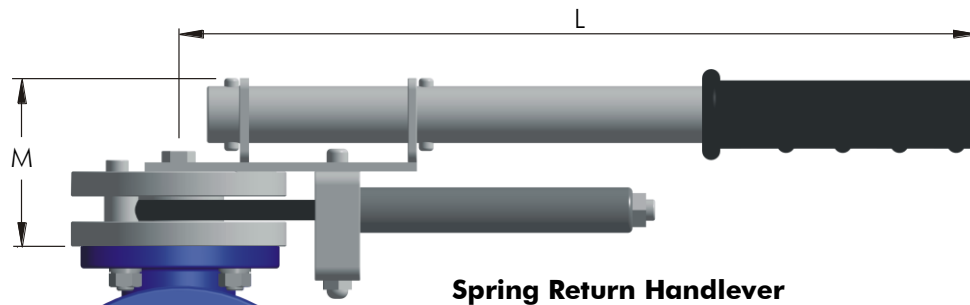

**Dimensions** in mm (lbs = kg x 2.2)

| DN<br>Size nom. | ØA<br>DIN | ØA<br>ANSI | B<br>DIN | B<br>ANSI | C  | D<br>dia. | E<br>DD | F   | G  | H   | L   | ISO | kg<br>DIN | kg<br>ANSI | kg<br>Handle |
|-----------------|-----------|------------|----------|-----------|----|-----------|---------|-----|----|-----|-----|-----|-----------|------------|--------------|
| 15/1/2"         | 95        | 95         | 130      | 130       | 19 | 14        | 11      | 64  | 58 | 50  | 161 | F05 | 3.6       | 3.6        | 0.32         |
| 20/3/4"         | 105       | 105        | 150      | 150       | 19 | 14        | 11      | 66  | 58 | 50  | 161 | F05 | 4.5       | 4.5        | 0.32         |
| 25/1"           | 115       | 108        | 160      | 127       | 19 | 14        | 11      | 70  | 58 | 50  | 161 | F05 | 5.3       | 4.9        | 0.32         |
| 32/1 1/4"       | 140       | 140        | 180      | 180       | 19 | 14        | 11      | 75  | 58 | 60  | 161 | F05 | 6.1       | 6.1        | 0.32         |
| 40/1 1/2"       | 150       | 127        | 200      | 165       | 19 | 14        | 11      | 87  | 58 | 64  | 211 | F07 | 9.7       | 8.6        | 0.36         |
| 50/2"           | 165       | 152        | 230      | 178       | 19 | 14        | 11      | 94  | 58 | 71  | 211 | F07 | 12.2      | 11.3       | 0.36         |
| 65/2 1/2"       | 185       | 178        | 290      | 190       | 23 | 18        | 14      | 106 | 58 | 77  | 315 | F07 | 16.8      | 15.0       | 0.41         |
| 80/3"           | 200       | 190        | 310      | 203       | 23 | 18        | 14      | 115 | 62 | 81  | 315 | F07 | 20.3      | 18.6       | 0.41         |
| 100/4"          | 220       | 229        | 350      | 229       | 23 | 24        | 17      | 130 | 62 | 92  | 315 | F10 | 31.0      | 30.9       | 0.90         |
| 125/5"RP        | 250       | 254        | 400      | 254       | 23 | 24        | 17      | 130 | 62 | 103 | 315 | F10 |           |            | 0.90         |
| 6"RP            | -         | 279        | -        | 267       | 23 | 24        | 17      | 130 | 62 | 112 | 315 | F10 | -         | 64         | 0.90         |
| 150/6"          | 282       | 282        | 480      | 267       | 30 | 30        | 22      | 189 | -  | 131 | -   | F12 | 92        | 63         | -            |
| 8"RP            | -         | 340        | -        | 292       | 30 | 30        | 22      | 189 | -  | 200 | -   | F12 | -         | 83         | -            |
| 200/8"          | 340       | 340        | 600      | 457       | 35 | 50        | 14      | 189 | -  | 200 | -   | F14 | -         | 135        | -            |
| 10"RP           | -         | 406        | -        | 330       | 35 | 50        | 14      | 235 | -  | 162 | -   | F14 | -         | 160        | -            |

Face to face B acc. to DIN EN 558-1 range 1 resp. ASME B16.10, \*150/200 red. with DIN lengths = ANSI valves with spool piece(s)  
 DN125 red./5" red. and 6" red. with eff. throughput dia. 100 mm, DN200/8" red. with eff. throughput dia. 150 mm

## Manual Valve

Versions with manual gearbox or spring return handlever

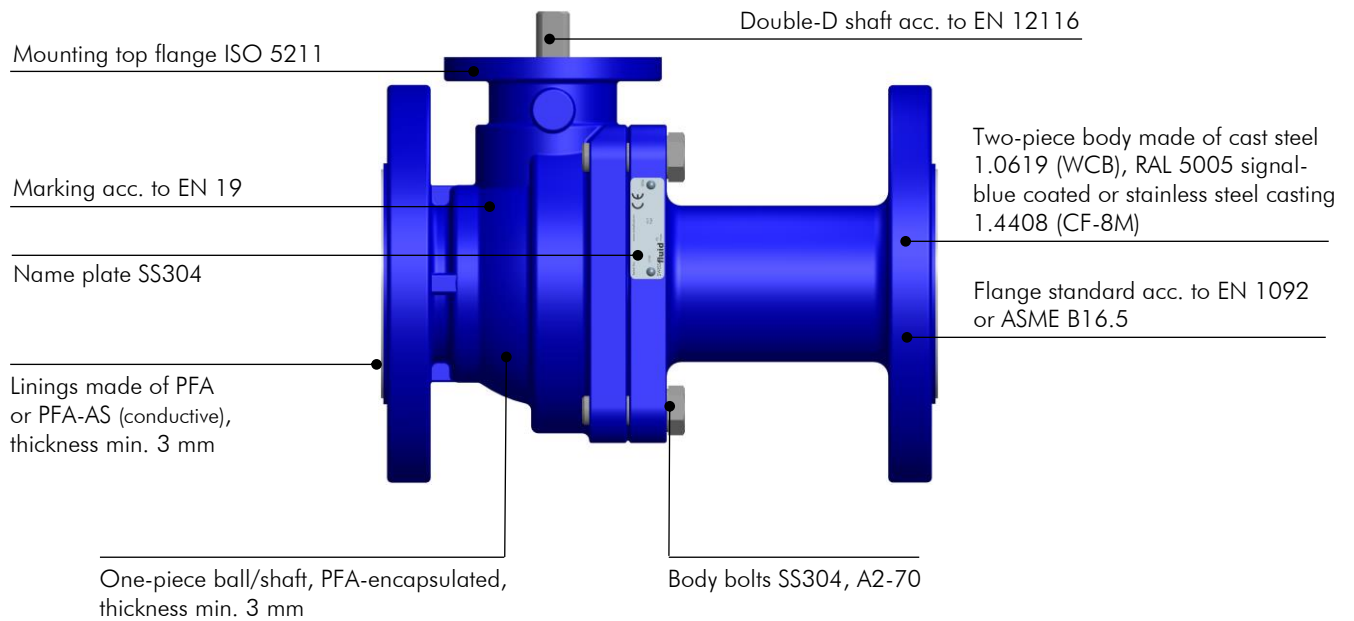


Note: Gearbox and spring return handlever to be mounted onto valve across to pipeline

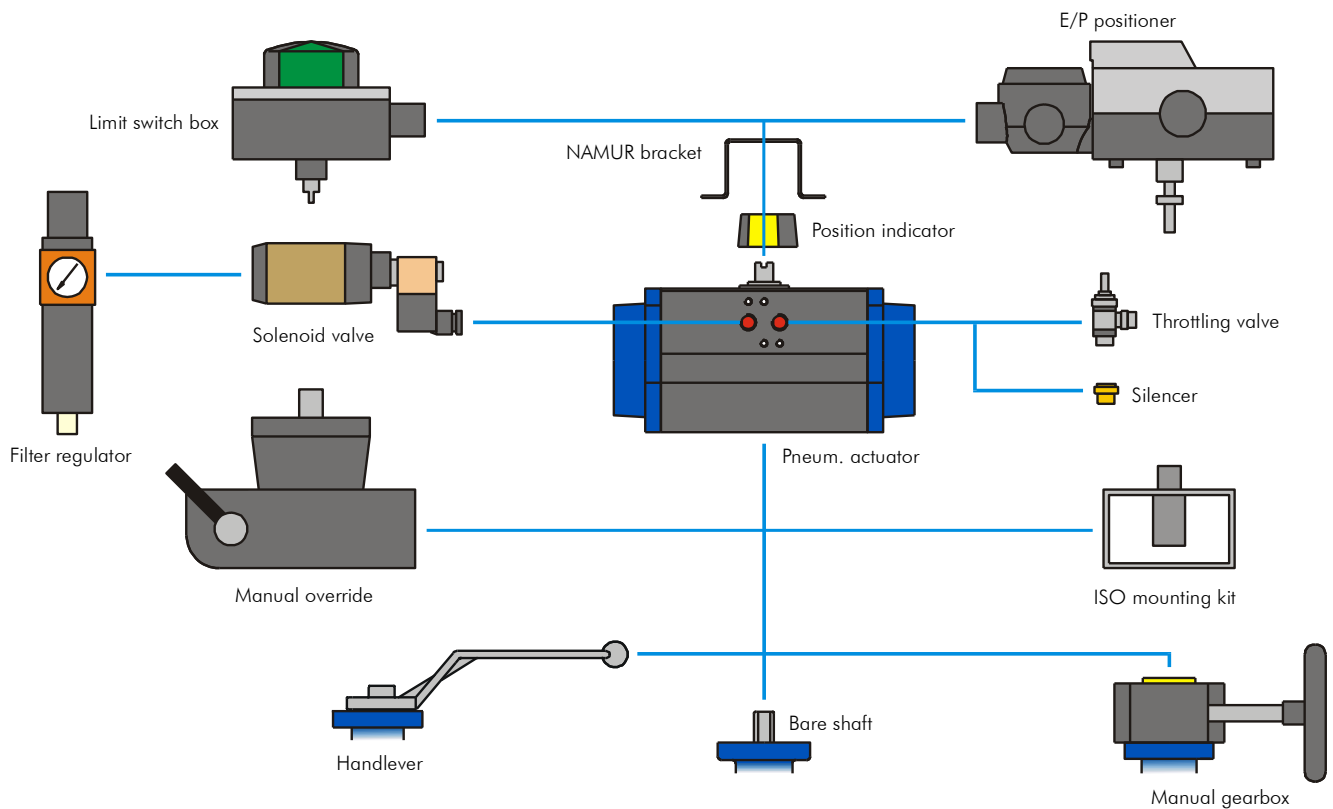
**Dimensions** in mm (lbs = kg x 2.2)

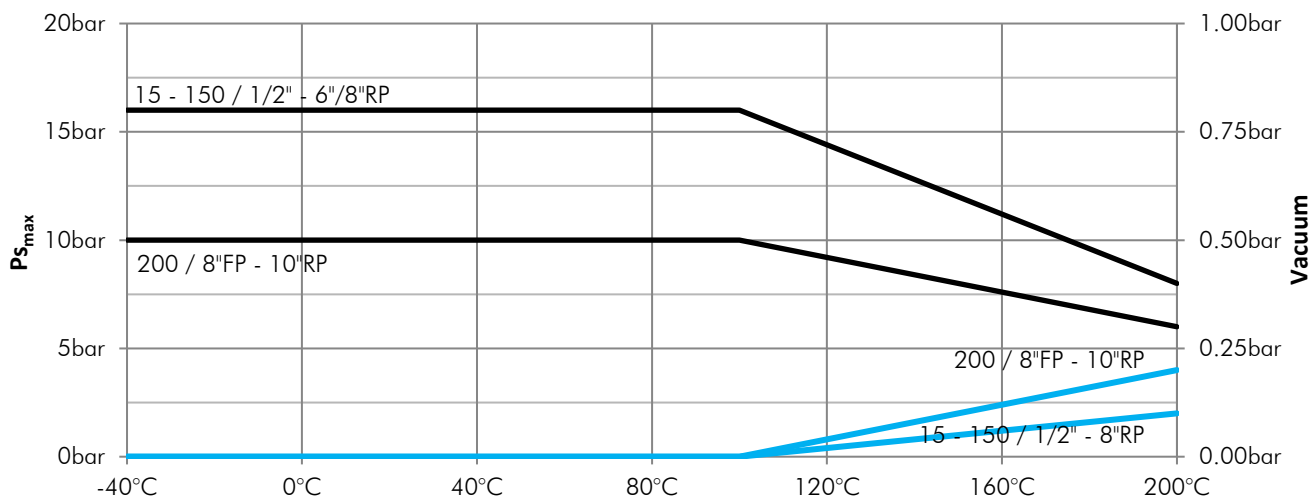
| DN<br>Size nom. | L   | M  | T1 | T2  | V   | W   | kg<br>SR Lever | kg<br>Gearbox |
|-----------------|-----|----|----|-----|-----|-----|----------------|---------------|
| 15/1/2"         | 347 | 74 | 58 | 110 | 90  | 125 | 1.6            | 2.3           |
| 20/3/4"         | 347 | 74 | 58 | 110 | 90  | 125 | 1.6            | 2.3           |
| 25/1"           | 347 | 74 | 58 | 110 | 90  | 125 | 1.6            | 2.3           |
| 32/1 1/4"       | 416 | 74 | 58 | 110 | 90  | 125 | 2.0            | 2.3           |
| 40/1 1/2"       | 416 | 74 | 58 | 110 | 90  | 125 | 2.0            | 2.3           |
| 50/2"           | 416 | 74 | 58 | 110 | 90  | 125 | 2.0            | 2.3           |
| 65/2 1/2"       | -   | -  | 58 | 110 | 90  | 125 | -              | 2.3           |
| 80/3"           | -   | -  | 58 | 110 | 90  | 125 | -              | 2.3           |
| 100/4"          | -   | -  | 58 | 200 | 127 | 200 | -              | 3.5           |
| 5"RP            | -   | -  | 58 | 200 | 127 | 200 | -              | 3.5           |
| 6"RP            | -   | -  | 58 | 200 | 127 | 200 | -              | 3.5           |
| 150/6"          | -   | -  | 73 | 280 | 190 | 300 | -              | 6.8           |
| 8"RP            | -   | -  | 73 | 280 | 190 | 300 | -              | 6.8           |
| 200/8"          | -   | -  | 90 | 400 | 245 | 400 | -              | 17.3          |
| 10"RP           | -   | -  | 90 | 400 | 245 | 400 | -              | 17.3          |

### Construction of Valve



### Mounting Options



**Pressure-/Temperature Diagram**


Low temperature or austenitic steels are required for use below -10°C operating temperature.

**Torque Values** in Nm (in-lbs = Nm x 8.85)

Max. torque values for PFA-encapsulated balls and PFA-lined bodies

| DN<br>Size nom. | 15<br>1/2" | 20<br>3/4" | 25<br>1" | 32<br>1 1/4" | 40<br>1 1/2" | 50<br>2" | 65<br>2 1/2" | 80<br>3" | 100<br>4"/5"RP/6"RP | 150/200RP<br>6"/8"RP | 200<br>8"/10"RP |
|-----------------|------------|------------|----------|--------------|--------------|----------|--------------|----------|---------------------|----------------------|-----------------|
| Torque nom.     | 8          | 8          | 12       | 18           | 23           | 30       | 50           | 65       | 95                  | 240                  | 600             |
| max. allow.     | 145        | 145        | 145      | 145          | 145          | 206      | 320          | 320      | 700                 | 1'200                | 5'500           |

- Stated values to be break-away torques without any consideration of safety factors (min. 1.3) for pneum. actuators.

**Flow Rate Values Kv** m<sup>3</sup>/h (Cv = Kv • 1.16)

| DN<br>Size nom. | 15<br>1/2" | 20<br>3/4" | 25<br>1" | 32<br>1 1/4" | 40<br>1 1/2" | 50<br>2" | 65<br>2 1/2" | 80<br>3" | 100<br>4"/5"RP/6"RP | 150/200RP<br>6"/8"RP | 200<br>8"/10"RP |
|-----------------|------------|------------|----------|--------------|--------------|----------|--------------|----------|---------------------|----------------------|-----------------|
| Flow Rate       | 16         | 31         | 50       | 85           | 120          | 183      | 370          | 530      | 830                 | 2'000                | 3'400           |

**Options**
**Cs-Ball**

to prevent media residues inside ball cavity, for full drainage


**V-Port-Ball**

suitable for control applications, with various contours


**Vented Ball**

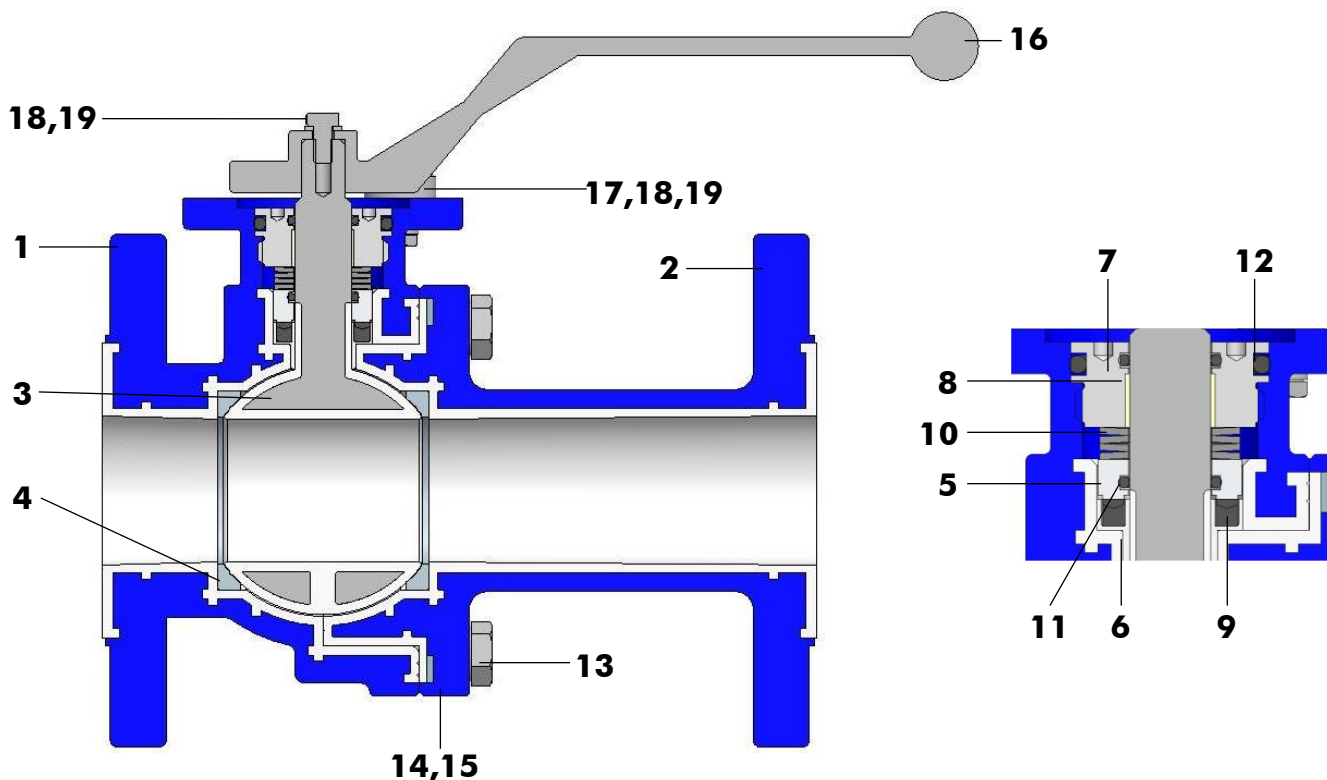
with drilled vent hole, suited for upstream pressure relief


**Typical Service Applications**

- Chemical CPI
- Petro-Chemical
- Bio-Technical
- Pharmaceutical Industry
- Pulp and Paper
- Food Processing
- Paint and Pigments
- Fertilizers
- Textile Industry
- Mining and Steel
- Water Treatment
- ...

Special trims upon request

**Standard Version** (Picture showing Valve DN25 PN16 CF-8M, PFA-lined, with Handlever)

 Parts List  
 Manual Valve compl.


| Item | Qty. | Description                        | Material<br>Description | Material No.<br>DIN 17440/41 |
|------|------|------------------------------------|-------------------------|------------------------------|
| 1    | 1    | Body Half Left, lined, RAL 5005    | WCB/PFA                 | 1.0619                       |
| 2    | 1    | Body Half Right, lined, RAL 5005   | WCB/PFA                 | 1.0619                       |
| 3    | 1    | Ball/Shaft one-piece, encapsulated | Duplex/PFA              | 1.4462                       |
| 4    | 2    | Ball Seat                          | PTFE                    |                              |
| 5    | 1    | Pressure Sleeve                    | SS316L                  | 1.4404                       |
| 6    | 1    | Sealing Sleeve                     | PTFE                    |                              |
| 7    | 1    | Threaded Bushing                   | SS316L                  | 1.4404                       |
| 8    | 1    | Bearing                            | C.Steel/PTFE            |                              |
| 9    | 1    | Elastomer Insert                   | VMQ                     |                              |
| 10   | 4    | Belleville Spring                  | Spring Steel            | 1.8159                       |
| 11   | 2    | O-Ring                             | FPM                     |                              |
| 12   | 1    | O-Ring                             | FPM                     |                              |
| 13   | 4    | Hex. Head Cap Screw                | A2-70                   | 1.4310                       |
| 14   | 1    | Name Plate 42 x 14 CE              | A2                      | 1.4301                       |
| 15   | 2    | Hammer Screw 2.49 x 4.76           | A2                      | 1.4310                       |
| 16   | 1    | Handlever                          | SS304                   | 1.4308                       |
| 17   | 1    | Stop                               | SS316L                  | 1.4404                       |
| 18   | 2    | Hex. Head Cap Screw                | A2-70                   | 1.4310                       |
| 19   | 2    | Lock Washer                        | SS304                   | 1.4310                       |

## Specification

|                               |  |                     |  |                      |  |
|-------------------------------|--|---------------------|--|----------------------|--|
| <b>Project-/Customer Data</b> |  | Inquiry/Date: _____ |  | <b>Ref. SF</b> _____ |  |
| Company:                      |  | Contact Person:     |  | Phone:               |  |
| Address:                      |  | Function:           |  | Fax:                 |  |
| ZIP/Place:                    |  | Department:         |  | E-mail:              |  |
| Project:                      |  | Phone direct:       |  | Mobile:              |  |

**Operating Conditions**
**Media / Chemical Composition:**

|                                   |   |   |   |  |
|-----------------------------------|---|---|---|--|
| <input type="checkbox"/> liquid   | <input type="checkbox"/> powdery          | <input type="checkbox"/> crystallizing  | <input type="checkbox"/> sticky                             | <input type="checkbox"/> Spec. Grav. _____ |
| <input type="checkbox"/> gaseous  | <input type="checkbox"/> Solids ____ %    | <input type="checkbox"/> viscous        | <input type="checkbox"/> Flow Velocity _____ m/s            |  |
| <input type="checkbox"/> abrasive | <input type="checkbox"/> Particle ____ mm | <input type="checkbox"/> Visc. _____ cp | <input type="checkbox"/> Flow Rate _____ m <sup>3</sup> /hr |  |

**Pressure**

max. \_\_\_\_ bar

min. \_\_\_\_ bar

**Temperature**

max. \_\_\_\_ °C

min. \_\_\_\_ °C

**Mode**
 On/Off

 Flow Control

\_\_\_\_ cycles/ \_\_\_\_

**Installation / Environment**
 horizontal

 vertical

 \_\_\_\_\_

 Room dry

 Room humid

 outdoor

Remarks: \_\_\_\_\_

**SBV Product Code**

## Specification of a complete Ball Valve SBV Series

| Product code | Nom. size                              | Flange conn.                                    | Body                 | Lining body   | Elastomer                      | Ball encaps./solid   | Shaft end                                       | Options  |
|--------------|--|---|----------------------|---|--------------------------------|--|---|--|
| <b>SBV</b>   | <b>DN50</b>                            | <b>PN16</b>                                     | <b>G10</b>           | <b>A85</b>  | <b>E68</b>                     | <b>U85</b>   | <b>DD</b>                                       |  |
|              | DN15 - 150<br>1/2" - 6"<br>6"RP - 8"RP | PN16<br>PN40<br>ANSI150#<br>ANSI300#<br>JIS 10K | G10 WCB<br>G15 CF-8M | A85 PFA<br>A86 PFA-AS<br>A88 PVDF<br>A89 PP<br>A91 ETFE | E60 EPDM<br>E67 FPM<br>E68 VMQ | U85 PFA<br>U86 PFA-AS<br>U88 PVDF<br>U89 PP<br>U91 ETFE<br>S32 SS316L<br>S40 Tit. Gr.2<br>S41 Tit. Gr.7<br>S43 Hast. C-276 | DD DD drive<br>SP SQ parallel<br>SR SQ 45° rot. | Cs Cs ball<br>Vh vented ball<br>Vp15 15° V-port<br>Vp30 30° V-port<br>Vp45 45° V-port<br>Vp60 60° V-port<br>B7 B7 body bolts<br>Ti Ti body bolts<br>RAL... special paint |

Note: Actuator options and accessories to be specified on orders separately.