

DN 25 up to DN 300

Pneumatic control valve for the control of neutral and aggressive fluids with integrated positioner

- DN 25 up to DN300
- High Kvs-values up to 3840
- Excellent control characteristics
- Suitable for abrasive media
- Easily exchangeable seat ring
- Low maintenance
- Actuators can be easily fitted
- Efficient and easy to install
- Optional volume booster Type 4090 (from DN150) in order to reduce the response time
- Optional with face to face dimension acc. ANSI ISA 75.08.02



Technical Information Valve

| | | | |
|--|--|---|---|
| Design | DN 25 - DN 250 flangeless wafer type DN 300 flange connection | | |
| Nominal sizes | DN 25 up to DN 300 | | |
| Body material | cast parts | 1.4408 (CF8M) | |
| | turned parts | 1.4404 (316L) | |
| Material of the bearing shaft | 1.4122 | | |
| Bearing material | high temperature plain bearing | | |
| Connection to the actuator | mounting kit DIN/ISO 5211 | | |
| Nominal pressure | DN 25 - DN 50 | PN 40 (for flanges PN 10 - PN 40), ANSI150, ANSI 300 | |
| | DN 65 - DN100 | PN 25 (for flanges PN 10 - PN 25), optional PN 40, ANSI150, ANSI 300 | |
| | DN 125 - DN 250 | PN 16 (for flanges PN 10 - PN 16), optional PN 25, ANSI150 | |
| | DN 300 | PN16, ANSI 150 | |
| Fluid Temperature | -40°C up to +220°C | | depending on the sealings |
| Ambient temperature | -20°C up to +80°C | | depending on the sealings |
| | special version on request | | |
| Vacuum | up to 50 mbar abs. | | |
| Characteristic | almost equal percentage | | |
| Rangeability | 300:1 | | |
| Specific leakage rate shaft and body sealing | series KS2, DN25-DN250: ISO FE-BH-CC3-SSA0-t(-40°C/+220°C)-PN40-ISO 15848-1 series KS1; DN300: ISO FE-BH-CC-SSA0-t(RT)-PN16-ISO 15848-1 | | |
| Leakage rate | Seat ring: PTFE / PEEK Ball sector: Polished stainless steel | Seat ring: PTFE / PEEK Ball sector: Hard chrome-plated stainless steel | Seat ring: Stellite Ball sector: Stainless steel hard chrome-plated and lapped |
| % of Kvs IEC 60534-4 | < 0,00001 IV-S1 | < 0,00005 IV-S1 | < 0,0005 IV-S1 |

Working pressure max.

| DN | maximum differential pressure (delta p) | | | | | | | | | |
|---------|---|--------------|--------------|-------------------|--------------|--------------|--------------|--------------------|--------------|--------------|
| | seat ring PTFE | | | seat ring PEEK | | | | seat ring Stellite | | |
| | up to 80°C bar | 120°C bar | 170°C bar | up to 80°C bar | 120°C bar | 170°C bar | 220°C bar | up to 80°C bar | 170°C bar | 220°C bar |
| 25-50 | 25 | 16 | 6 | 40 | 40 | 25 | 16 | 40 | 40 | 25 |
| 65-100 | 16 | 12 | 5 | 25 | 25 | 16 | 10 | 25 | 25 | 16 |
| 125-300 | 16 | 12 | 4 | 16 | 16 | 12 | 8 | 16 | 16 | 12 |

Actuators for mounting according DIN/ISO5211, pilot pressure 5 - 6 bar
(for less than 5 bar pilot pressure, please inform us)

Temperature limits

| Seatring | Viton | | EPDM | | NBR | | FFKM | | PFA-Silicone | |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|-----------|
| | Tmin [°C] | Tmax [°C] | Tmin [°C] | Tmax [°C] | Tmin [°C] | Tmax [°C] | Tmin [°C] | Tmax [°C] | Tmin [°C] | Tmax [°C] |
| PTFE | -15 | 170 | -40 | 140 | -30 | 100 | -15 | 170 | -45 | 170 |
| PEEK | -15 | 200 | -40 | 140 | -30 | 100 | -15 | 220 | -45 | 220 |
| Stellit | -15 | 200 | -40 | 140 | -30 | 100 | -15 | 220 | -45 | 220 |

Operating time with positioner 8049

| DN | operating time opening 5% to 95% | | | operating time closing 5% to 95% | | |
|-----|----------------------------------|-------------------------------------|--|----------------------------------|-------------------------------------|--|
| | Standard 100 NI/min | with volume booster Type 4090 | with external solenoid valves (1500NL) | Standard 100 NI/min | with volume booster Type 4090 | with external solenoid valves (1500NL) |
| 100 | 4,0 s | 1,9 s | 1,0 s | 5,4 s | 3,0 s | 1,2 s |
| 150 | 7,0 s | 2,5 s | 1,5 s | 8,5 s | 4,0 s | 1,6 s |
| 200 | 11,0 s | 4,0 s | 1,8 s | 13,0 s | 8,0 s | 1,9 s |
| 250 | 14,0 s | 5,0 s | 2,5 s | 17,5 s | 10,0 s | 2,6 s |
| 300 | 23,0 s | 9,0 s | 4,5 s | 43,0 s | 18,0 s | 6,0 s |

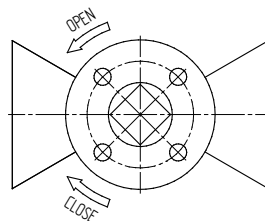
Kvs-Values

| DN | Kvs-Value reduced to | | | | | |
|-----|----------------------|------|-----|-----|-----|------|
| | 100% | 63% | 40% | 25% | 16% | 6,3% |
| 25 | 25 | 12,7 | 7,9 | 5,3 | 3,6 | 1,45 |
| 40 | 70 | 40 | 25 | | | |
| 50 | 109 | 65 | 41 | | | |
| 65 | 190 | | | | | |
| 80 | 300 | | | | | |
| 100 | 390 | | | | | |
| 125 | 756 | | | | | |
| 150 | 995 | | | | | |
| 200 | 1365 | | | | | |
| 250 | 2220 | | | | | |
| 300 | 3840 | | | | | |

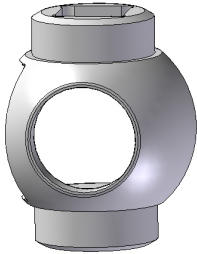
Torques and mounting kits

for retrofitting actuators

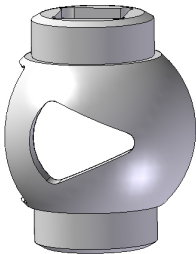
| DN | rotation angle nominal | max. nominal pressure PN | max. nominal pressure ANSI | req. torque [Nm] | | mounting kit ISO 5211 diagonal square shaft | |
|-----|---------------------------|-----------------------------|-------------------------------|------------------|-------------------|--|----------|
| | | | | on/off-operation | control operation | series 1 | series 2 |
| 25 | 90° | PN40 | ANSI 300 | 15 | 25 | F04/SW11 | F05/SW14 |
| 40 | 90° | PN40 | ANSI 300 | 30 | 50 | F05/SW14 | F07/SW17 |
| 50 | 90° | PN40 | ANSI 300 | 30 | 50 | F05/SW14 | F07/SW17 |
| 65 | 90° | PN25 | ANSI 300 | 60 | 100 | F07/SW17 | F10/SW22 |
| 80 | 90° | PN25 | ANSI 300 | 60 | 100 | F07/SW17 | F10/SW22 |
| 100 | 90° | PN25 | ANSI 300 | 90 | 150 | F07/SW17 | F10/SW22 |
| 125 | 90° | PN16 | ANSI 150 | 150 | 250 | F10/SW22 | F12/SW27 |
| 150 | 90° | PN16 | ANSI 150 | 150 | 250 | F10/SW22 | F12/SW27 |
| 200 | 90° | PN16 | ANSI 150 | 210 | 350 | F12/SW27 | F14/SW36 |
| 250 | 90° | PN16 | ANSI 150 | 360 | 600 | F12/SW27 | F14/SW36 |
| 300 | 90° | PN16 | ANSI 150 | 900 | 1500 | F14/SW36 | F16/SW46 |



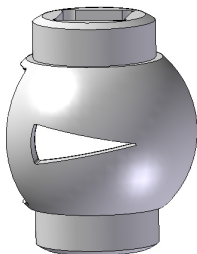
Ball Sector Valve with reduced Kvs-values



100%



reduced to
63%

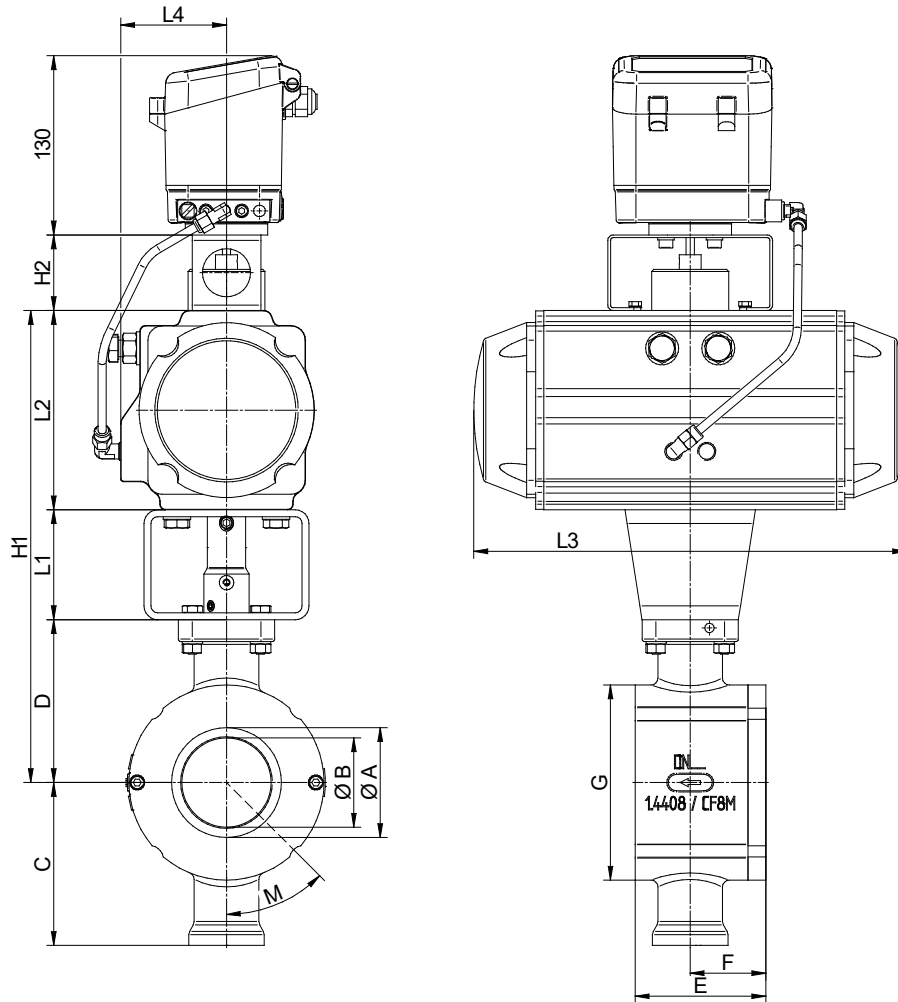


reduced to
25%

Ball Sector Valve Type 4040 with hand wheel gear box



Dimensions KS2 with actuator and positioner 8049

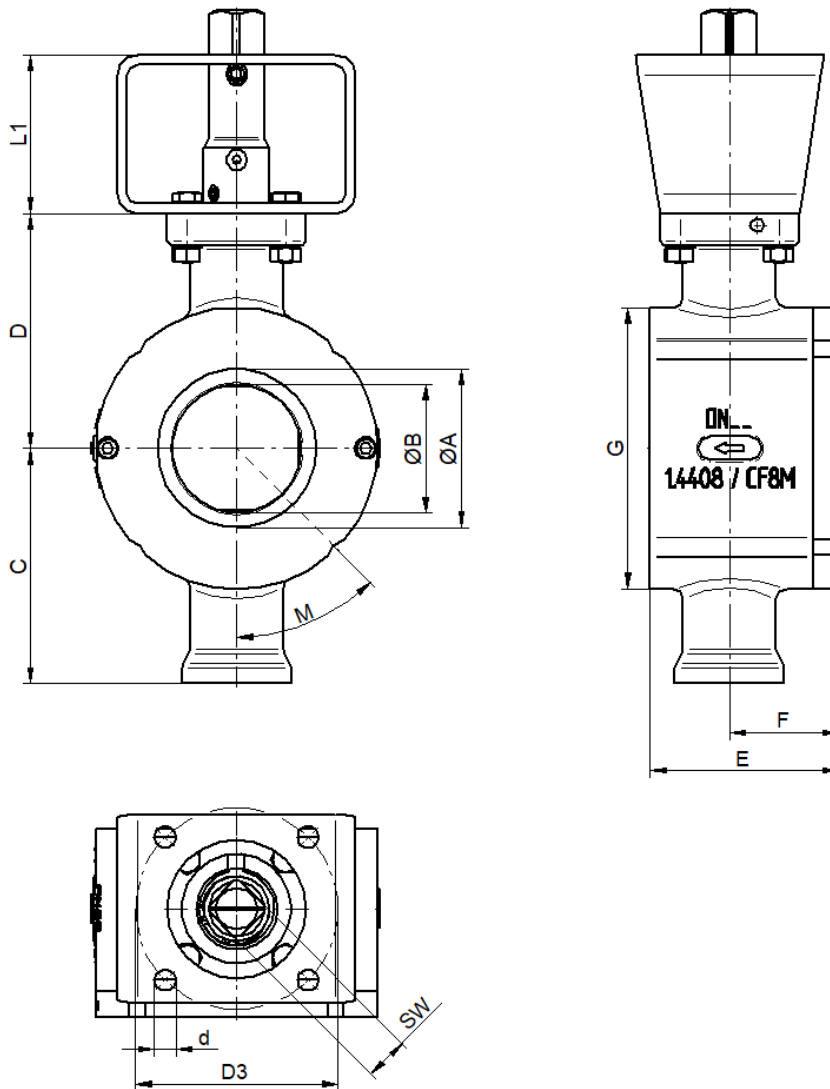


| DN | actuator single acting | | | | | | actuator double acting | | | | | |
|-----|------------------------|-------|-------|------|-------|-------------|------------------------|-----|-------|-------|-------|-------------|
| | L1 | L2 | L3 | L4 | H1 | weight [kg] | L1 | L2 | L3 | L4 | H1 | weight [kg] |
| 25 | 60 | 102 | 210,5 | 52 | 247 | 6,2 | 60 | 85 | 158,5 | 47 | 230 | 4,3 |
| 40 | 60 | 115 | 247,5 | 56,8 | 267 | 8,3 | 60 | 102 | 210,5 | 52 | 254 | 6,7 |
| 50 | 60 | 115 | 247,5 | 56,8 | 270 | 9,1 | 60 | 102 | 210,5 | 52 | 257 | 7 |
| 65 | 80 | 145 | 315 | 77 | 340,5 | 16,6 | 60 | 115 | 247,5 | 53,8 | 290,5 | 11,3 |
| 80 | 80 | 145 | 315 | 77 | 343,5 | 17,4 | 60 | 115 | 247,5 | 53,8 | 293,5 | 12,1 |
| 100 | 80 | 157 | 345 | 82 | 366,5 | 24 | 60 | 127 | 268,5 | 67 | 316,5 | 17,2 |
| 125 | 80 | 177 | 408,5 | 91,5 | 434,5 | 37,6 | 80 | 157 | 345 | 82 | 414,5 | 26,2 |
| 150 | 80 | 177 | 408,5 | 91,5 | 444 | 40,6 | 80 | 157 | 345 | 82 | 424 | 34 |
| 200 | 80 | 220,5 | 487 | 105 | 516,5 | 72,3 | 80 | 177 | 408,5 | 961,5 | 473 | 55,2 |
| 250 | 80 | 245 | 543 | 112 | 567 | 109 | 80 | 196 | 437,5 | 99 | 518 | 84,8 |

| DN | A | B | C | D | E | F | G | H2 | Number of releases by pressure stage | | |
|-----|-----|-----|-------|-------|-----|-----|-----|----|--------------------------------------|---------|---------|
| | | | | | | | | | PN | ANSI150 | ANSI300 |
| 25 | 25 | 20 | 85 | 85 | 50 | 26 | 75 | 45 | 4 | 4 | 4 |
| 40 | 41 | 32 | 92 | 92 | 58 | 31 | 96 | 45 | 4 | 4 | 4 |
| 50 | 53 | 40 | 95 | 95 | 71 | 38 | 112 | 45 | 4 | 4 | 0 |
| 65 | 65 | 50 | 115,5 | 115,5 | 85 | 49 | 129 | 55 | 0 | 4 | 0 |
| 80 | 80 | 65 | 118,5 | 118,5 | 95 | 55 | 142 | 55 | 0 | 4 | 0 |
| 100 | 100 | 80 | 129,5 | 129,5 | 112 | 62 | 174 | 55 | 8 | 0 | 0 |
| 125 | 100 | 125 | 177,5 | 177,5 | 148 | 85 | 200 | 55 | 8 | 8 | - |
| 150 | 150 | 120 | 187 | 187 | 170 | 95 | 220 | 55 | 0 | 0 | - |
| 200 | 200 | 155 | 216 | 216 | 210 | 120 | 275 | 75 | 0 | 0 | - |
| 250 | 250 | 195 | 242 | 242 | 270 | 145 | 338 | 75 | 12 | 0 | - |

Dimensions in mm

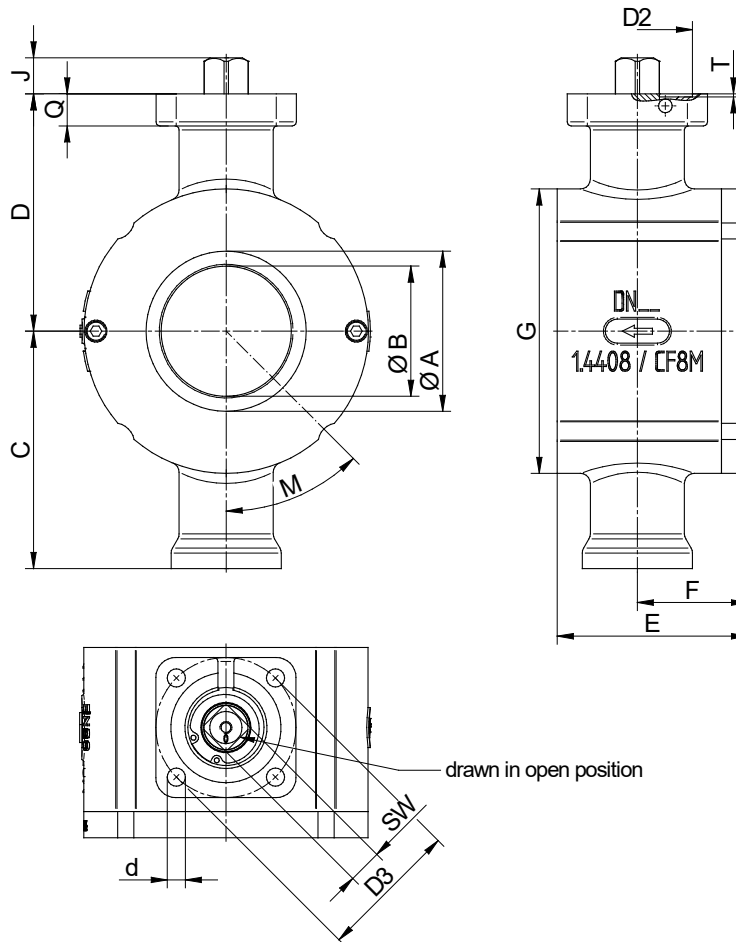
Dimensions KS2 without actuator (with mounting kit ISO 5211)



| DN | A | B | C | D | E | F | G | series 1 | | | | series 2 | | | | weight [kg] | | |
|-----|-----|-----|-------|-------|-----|-----|-----|----------|----|------|-----|--------------|----|----|------|-------------|------|--------------|
| | | | | | | | | L1 | SW | d | D3 | DIN ISO 5211 | L1 | SW | d | | D3 | DIN ISO 5211 |
| 25 | 25 | 20 | 85 | 85 | 50 | 26 | 75 | 60 | 11 | 5,5 | 42 | F 04 | 60 | 14 | 6,6 | 50 | F 05 | 2,2 |
| 40 | 41 | 32 | 92 | 92 | 58 | 31 | 96 | 60 | 14 | 6,6 | 50 | F 05 | 60 | 17 | 9 | 70 | F 07 | 3 |
| 50 | 53 | 40 | 95 | 95 | 71 | 38 | 112 | 60 | 14 | 6,6 | 50 | F 05 | 60 | 17 | 9 | 70 | F 07 | 3,8 |
| 65 | 65 | 50 | 115,5 | 115,5 | 85 | 49 | 129 | 60 | 17 | 9 | 70 | F 07 | 80 | 22 | 11 | 102 | F 10 | 6,4 |
| 80 | 80 | 65 | 118,5 | 118,5 | 95 | 55 | 142 | 60 | 17 | 9 | 70 | F 07 | 80 | 22 | 11 | 102 | F 10 | 7,2 |
| 100 | 100 | 80 | 129,5 | 129,5 | 112 | 62 | 174 | 60 | 17 | 9 | 70 | F 07 | 80 | 22 | 11 | 102 | F 10 | 11 |
| 125 | 100 | 125 | 177,5 | 177,5 | 148 | 85 | 200 | 80 | 22 | 11 | 102 | F 10 | 80 | 27 | 13,5 | 125 | F 12 | 20 |
| 150 | 150 | 120 | 187 | 187 | 170 | 95 | 220 | 80 | 22 | 11 | 102 | F 10 | 80 | 27 | 13,5 | 125 | F 12 | 23 |
| 200 | 200 | 155 | 216 | 216 | 210 | 120 | 275 | 80 | 27 | 13,5 | 125 | F 12 | 80 | 36 | 17 | 140 | F 14 | 40 |
| 250 | 250 | 195 | 242 | 242 | 270 | 145 | 338 | 80 | 27 | 13,5 | 125 | F 12 | 80 | 36 | 17 | 140 | F 14 | 66 |

Dimensions in mm

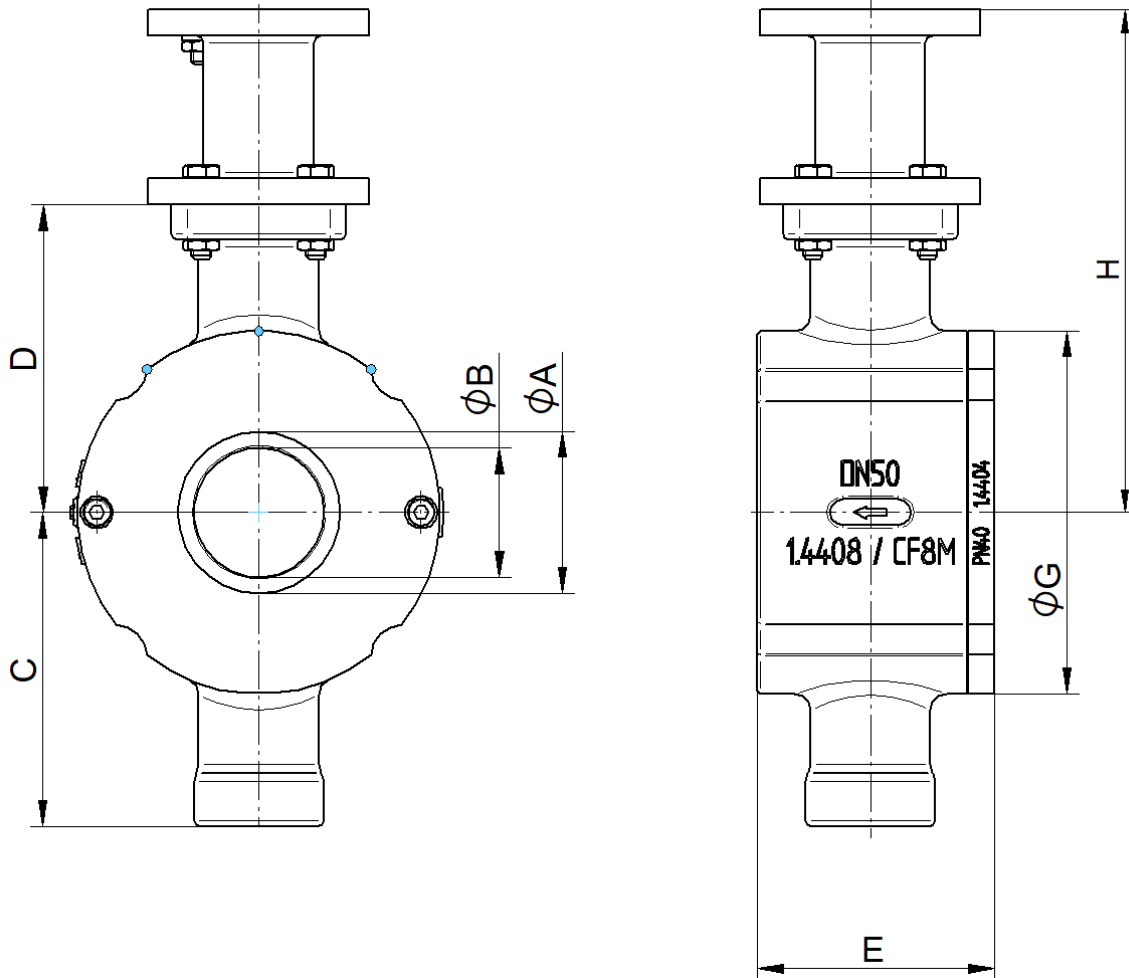
Dimensions KS2 without actuator version with square shaft



| DN | A | B | C | D | E | F | J | SW | Q | d | D2 | T | D3 | DIN ISO 5211 | Weight [kg] |
|-----|-----|-----|-------|-------|-----|-----|------|----|----|------|----|-----|-----|--------------|-------------|
| 25 | 25 | 20 | 85 | 85 | 50 | 26 | 15 | 14 | 11 | 6,6 | 35 | 1 | 50 | F 05 | 2,2 |
| 40 | 41 | 32 | 92 | 92 | 58 | 31 | 15 | 14 | 11 | 6,6 | 35 | 1 | 50 | F 05 | 3 |
| 50 | 53 | 40 | 95 | 95 | 71 | 38 | 15 | 14 | 11 | 6,6 | 35 | 1 | 50 | F 05 | 3,8 |
| 65 | 65 | 50 | 115,5 | 115,5 | 85 | 49 | 18 | 17 | 16 | 9 | 55 | 1,5 | 70 | F 07 | 6,4 |
| 80 | 80 | 65 | 118,5 | 118,5 | 95 | 55 | 18 | 17 | 16 | 9 | 55 | 1,5 | 70 | F 07 | 7,2 |
| 100 | 100 | 80 | 129,5 | 129,5 | 112 | 62 | 18 | 17 | 16 | 9 | 55 | 1,5 | 70 | F 07 | 11 |
| 125 | 100 | 125 | 177,5 | 177,5 | 148 | 85 | 22,5 | 22 | 17 | 11 | 70 | 1,5 | 102 | F 10 | 20 |
| 150 | 150 | 120 | 187 | 187 | 170 | 95 | 22,5 | 22 | 17 | 11 | 70 | 1,5 | 102 | F 10 | 23 |
| 200 | 200 | 155 | 216 | 216 | 210 | 120 | 27,5 | 27 | 17 | 13,5 | 85 | 1,5 | 125 | F 12 | 40 |
| 250 | 250 | 195 | 242 | 242 | 270 | 145 | 27,5 | 27 | 17 | 13,5 | 85 | 1,5 | 125 | F 12 | 66 |

Dimensions in mm

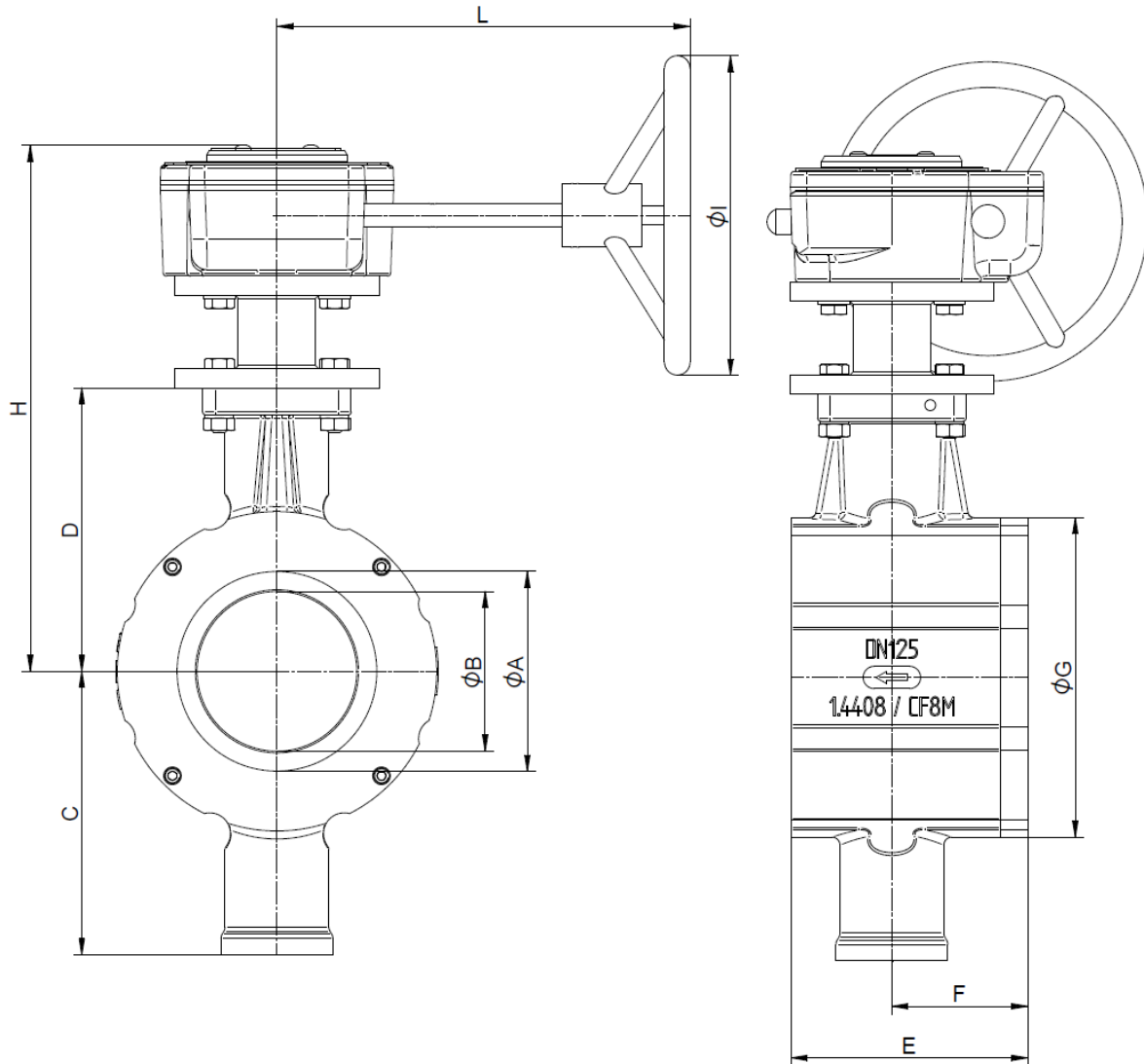
Dimensions KS2 with stem extension



| DN | A | B | C | D | E | F | G | H | Weight (kg) |
|-----|-----|----|-----|-----|-----|----|-----|-----|-------------|
| 25 | 25 | 20 | 85 | 85 | 50 | 26 | 73 | 145 | 2,86 |
| 40 | 41 | 32 | 92 | 92 | 58 | 31 | 94 | 152 | 3,66 |
| 50 | 53 | 40 | 95 | 95 | 71 | 38 | 112 | 155 | 4,46 |
| 65 | 65 | 50 | 116 | 116 | 85 | 49 | 112 | 196 | 7,96 |
| 80 | 80 | 65 | 119 | 119 | 95 | 55 | 142 | 199 | 8,76 |
| 100 | 100 | 80 | 130 | 130 | 112 | 62 | 174 | 210 | 12,56 |

Dimensions in mm

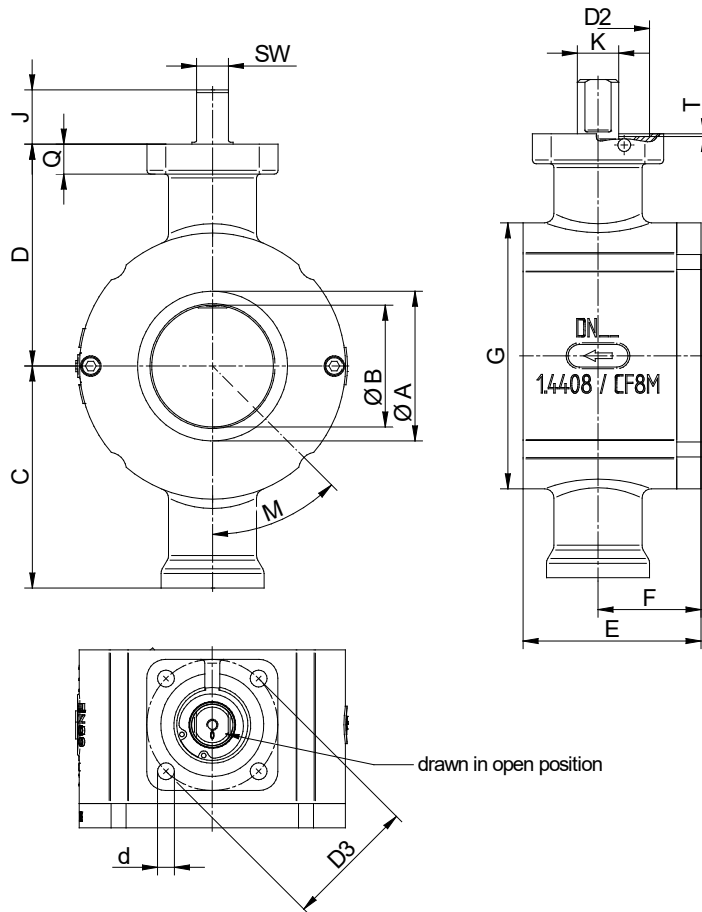
Dimensions KS2 with stem extension and hand wheel gearbox



| DN | A | B | C | D | E | F | G | H | I | L | Weight (kg) |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|
| 25 | 25 | 20 | 85 | 85 | 50 | 26 | 73 | 198 | 200 | 213 | 5 |
| 40 | 41 | 32 | 92 | 92 | 58 | 31 | 94 | 205 | 200 | 213 | 6 |
| 50 | 53 | 40 | 95 | 95 | 71 | 38 | 112 | 208 | 200 | 213 | 7 |
| 65 | 65 | 50 | 116 | 116 | 85 | 49 | 112 | 255 | 200 | 213 | 10 |
| 80 | 80 | 65 | 119 | 119 | 95 | 55 | 142 | 258 | 200 | 213 | 11 |
| 100 | 100 | 80 | 130 | 130 | 112 | 62 | 174 | 269 | 200 | 213 | 15 |
| 125 | 125 | 100 | 178 | 178 | 148 | 85 | 200 | 330 | 200 | 259 | 28 |
| 150 | 150 | 120 | 187 | 187 | 170 | 95 | 220 | 339 | 200 | 259 | 31 |
| 200 | 200 | 155 | 216 | 216 | 210 | 120 | 275 | 358 | 200 | 259 | 49,2 |
| 250 | 250 | 195 | 242 | 242 | 270 | 145 | 344 | 384 | 200 | 259 | 75,2 |

Dimensions in mm

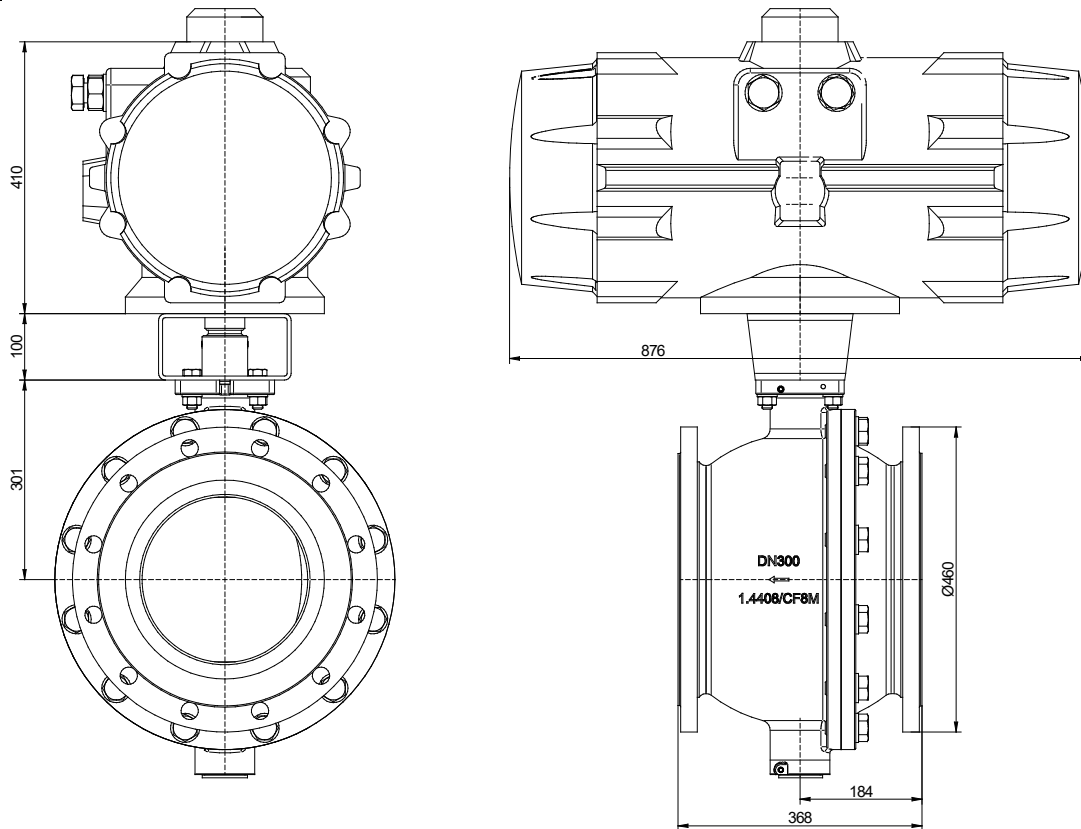
Dimensions KS2 without actuator version with double flat



| DN | A | B | C | D | E | F | J | SW | K | Q | d | D2 | T | D3 | DIN ISO 5211 | weight [kg] |
|-----|-----|-----|-------|-------|-----|-----|------|----|----|----|------|----|-----|-----|--------------|-------------|
| 25 | 25 | 20 | 85 | 85 | 50 | 26 | 24 | 14 | 18 | 11 | 6,6 | 35 | 1 | 50 | F 05 | 2,2 |
| 40 | 41 | 32 | 92 | 92 | 58 | 31 | 24 | 14 | 18 | 11 | 6,6 | 35 | 1 | 50 | F 05 | 3 |
| 50 | 53 | 40 | 95 | 95 | 71 | 38 | 24 | 14 | 18 | 11 | 6,6 | 35 | 1 | 50 | F 05 | 3,8 |
| 65 | 65 | 50 | 115,5 | 115,5 | 85 | 49 | 29 | 17 | 22 | 16 | 9 | 55 | 1,5 | 70 | F 07 | 6,4 |
| 80 | 80 | 65 | 118,5 | 118,5 | 95 | 55 | 29 | 17 | 22 | 16 | 9 | 55 | 1,5 | 70 | F 07 | 7,2 |
| 100 | 100 | 80 | 129,5 | 129,5 | 112 | 62 | 29 | 17 | 22 | 16 | 9 | 55 | 1,5 | 70 | F 07 | 11 |
| 125 | 100 | 125 | 177,5 | 177,5 | 148 | 85 | 37,5 | 22 | 28 | 17 | 11 | 70 | 1,5 | 102 | F 10 | 20 |
| 150 | 150 | 120 | 187 | 187 | 170 | 95 | 37,5 | 22 | 28 | 17 | 11 | 70 | 1,5 | 102 | F 10 | 23 |
| 200 | 200 | 155 | 216 | 216 | 210 | 120 | 46,5 | 27 | 36 | 17 | 13,5 | 85 | 1,5 | 125 | F 12 | 40 |
| 250 | 250 | 195 | 242 | 242 | 270 | 145 | 46,5 | 27 | 36 | 17 | 13,5 | 85 | 1,5 | 125 | F 12 | 66 |

Dimensions in mm

Dimensions KS1 DN300 with AirTorque actuator (designed for a pilot pressure of 5 - 6 bar)



Dimension in mm