

Vacuum safety system for protection of storage rings or accelerators

Detection of pressure rise in milliseconds

Leak tight closure in milliseconds



Body material

stainless steel

Gate valve with pneumatic actuator

double acting

| DN | | Ordering numbers |
|----|------|------------------|
| mm | inch | |
| 40 | 1½ | 75232-CE44 |

Flap valve with pneumatic actuator

double acting

| DN | | Ordering numbers |
|-----|------|------------------|
| mm | inch | |
| 63 | 2½ | 75036-CE44 |
| 100 | 4 | 75040-CE44 |
| 160 | 6 | 75044-CE44 |
| 200 | 8 | 75046-CE44 |

Controller including accessories

See «Controller for fast closing system Series 77», page 194

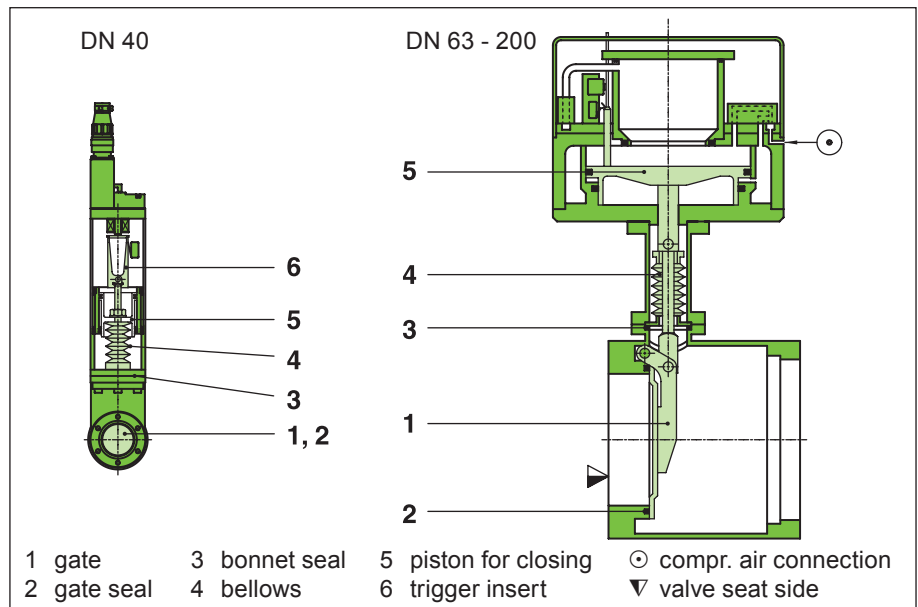
Sealing material

Gate: FKM (VITON)

Bonnet: metal

Feedthrough

Bellows



Features

Closing by releasing a latch (DN 40) or fast venting/evacuation of the pneumatic cylinder (DN 63 - 200)

Pneumatic dampening during closing

Opening by compressed air

Technical data

Continued next page

| | | |
|----------------------------|-------------|--|
| Leak rate | | |
| - Body | | $< 1 \cdot 10^{-10}$ mbar ls ⁻¹ |
| - Valve seat | | $< 1 \cdot 10^{-9}$ mbar ls ⁻¹ |
| Pressure range | | $1 \cdot 10^{-10}$ mbar to 2 bar (abs) |
| Differential pressure | | see table on next page |
| Cycles until first service | | 2000 |
| Temperature ¹⁾ | | |
| - Valve body | | $\leq 200^\circ\text{C}$ (DN 40: trigger insert removed) |
| - Actuator | | $\leq 50^\circ\text{C}$ |
| Radiation resistance | | |
| - Valve body | | 10^5 Gy |
| - Actuator | | 10^4 Gy |
| Material | | |
| - Valve body | DN 40 | AISI 304 (1.4301) |
| | DN 63 - 200 | AISI 316L (1.4435) |
| - Mechanism | DN 40 | AISI 304 (1.4301) |
| | DN 63 - 200 | AISI 316L (1.4435) |
| - Bellows | DN 40 | AISI 633 (AM 350) |
| | DN 63 - 200 | AISI 316L (1.4404) |
| Seal | | |
| - Bonnet | | metal |
| - Gate | | FKM (VITON) |
| Mounting position | | seat side marked ▽ in opposite direction of air inrush |

¹⁾ Maximum values: depending on operating conditions and sealing materials

Option

- Customer specified flanges

Ordering information for option:

Ordering No. of valve-X (e. g. 75040-CE44-X, X = ISO-F flanges)

Seal kit

Consisting of

- Gate with seal and bonnet seal (DN40)
- Gate O-ring and bonnet seal (DN 63 - 200)

Ordering No.: see operating manual or price list

Technical data

Series 752: DN 40 gate valve

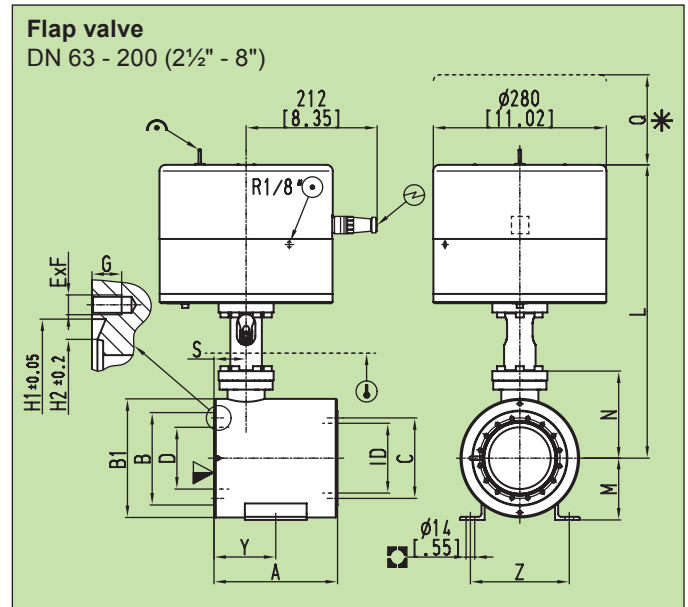
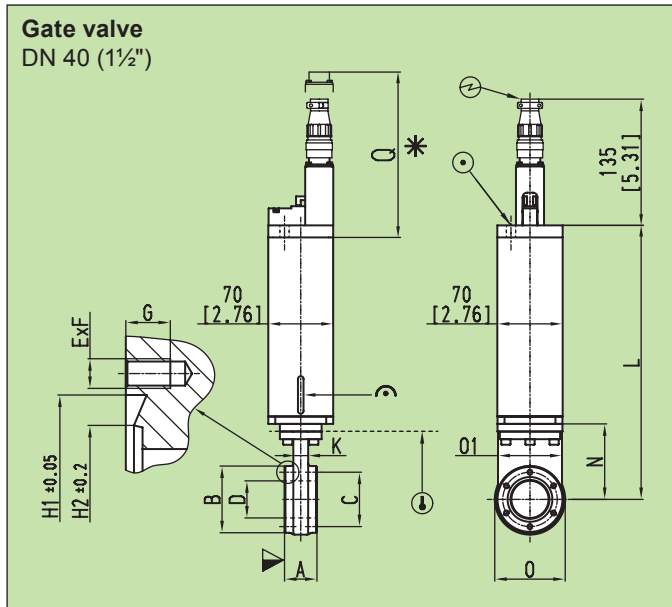
*) from sensor signal to leak tight valve

| DN (nominal I. D.) | | standard flanges CF-F | molecular flow conductance | differential pressure: valve closed | | differential pressure at opening | | compressed air pressure min. - max. overpressure | | volume of air cylinder | | total closing time *) | opening time | weight | |
|-----------------------|------|-----------------------|-------------------------------|---|-------------------------|--|-------------------------|---|---------|------------------------|-----------------|-----------------------|--------------|--------|-----|
| mm | inch | O.D. | ls ⁻¹ | in closing direction | in opening direction | in closing direction | in opening direction | bar | psi | l | ft ³ | ms | s | kg | lbs |
| 40 | 1½ | 2¾ | 160 | ≤1.2 | ≤1.2 | ≤30 | ≤30 | 4 - 5 | 55 - 70 | 0.032 | 0.001 | <10 | 9 | 2 | 4.5 |

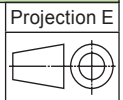
Series 750: DN 63 - 200 flap valve

| DN (nominal I. D.) | | standard flanges CF-F | molecular flow conductance | differential pressure: valve closed | | differential pressure at opening | | compressed air pressure min. - max. overpressure | | volume of air cylinder | | total closing time *) | opening time | weight | |
|-----------------------|------|-----------------------|-------------------------------|---|-------------------------|--|-------------------------|---|----------|------------------------|-----------------|-----------------------|--------------|--------|-----|
| mm | inch | O.D. | ls ⁻¹ | in closing direction | in opening direction | in closing direction | in opening direction | bar | psi | l | ft ³ | ms | s | kg | lbs |
| 63 | 2½ | 4½ | 200 | ≤2 | ≤1.2 | ≤600 | ≤1 | 5 - 8 | 70 - 110 | 1.77 | 0.06 | 13 | 7 | 25 | 55 |
| 100 | 4 | 6 | 700 | ≤2 | ≤1.2 | ≤180 | ≤1 | 5 - 8 | 70 - 110 | 1.77 | 0.06 | 15 | 7 | 29 | 64 |
| 160 | 6 | 8 | 1700 | ≤2 | ≤0.5 | ≤50 | ≤1 | 5 - 8 | 70 - 110 | 1.77 | 0.06 | 23 | 7 | 36 | 80 |
| 200 | 8 | 10 | 2500 | ≤2 | ≤0.07 | ≤25 | ≤1 | 5 - 8 | 70 - 110 | 1.77 | 0.06 | 40 | 7 | 42 | 93 |

Dimensions



- ▼ valve seat side
- ⊙ compressed air connection
- ⊕ electrical connection
- ⊖ mechanical position indication
- ◻ for attachment
- ⦿ bake-out area



| DN | mm | 40 | | | |
|-------|------|--------|--|--|--|
| | inch | 1½ | | | |
| A | mm | 35 | | | |
| | inch | 1.38 | | | |
| B | mm | 72 | | | |
| | inch | 2.83 | | | |
| C | mm | 58.7 | | | |
| | inch | 2.31 | | | |
| D | mm | 40 | | | |
| | inch | 1.57 | | | |
| E x F | | 6 x M6 | | | |
| G | mm | 7 | | | |
| | inch | 0.28 | | | |
| H1 | mm | 48.35 | | | |
| | inch | 1.9 | | | |
| H2 | mm | 42 | | | |
| | inch | 1.65 | | | |
| K | mm | 16 | | | |
| | inch | 0.63 | | | |
| L | mm | 295.5 | | | |
| | inch | 11.63 | | | |
| N | mm | 81.5 | | | |
| | inch | 3.21 | | | |
| O | mm | 76 | | | |
| | inch | 2.99 | | | |
| O1 | mm | 69 | | | |
| | inch | 2.72 | | | |
| Q | mm | 195 | | | |
| | inch | 7.68 | | | |

| DN | mm | 63 | 100 | 160 | 200 |
|-------|------|--------|---------|---------|---------|
| | inch | 2½ | 4 | 6 | 8 |
| A | mm | 150 | 200 | 250 | 300 |
| | inch | 5.91 | 7.87 | 9.84 | 11.81 |
| B | mm | 113.5 | 152 | 202.5 | 253 |
| | inch | 4.47 | 5.98 | 7.97 | 9.96 |
| B1 | mm | 154 | 192 | 242 | 306 |
| | inch | 6.06 | 7.56 | 9.53 | 12.05 |
| C | mm | 92.1 | 130.3 | 181 | 231.8 |
| | inch | 3.63 | 5.13 | 7.13 | 9.13 |
| D | mm | 63 | 100 | 150 | 200 |
| | inch | 2.48 | 3.94 | 5.91 | 7.87 |
| E x F | | 8 x M8 | 16 x M8 | 20 x M8 | 24 x M8 |
| G | mm | 12 | 12 | 12 | 12 |
| | inch | 0.47 | 0.47 | 0.47 | 0.47 |
| H1 | mm | 82.55 | 120.65 | 171.5 | 222.35 |
| | inch | 3.25 | 4.75 | 6.75 | 8.75 |
| H2 | mm | 77.4 | 115.5 | 166 | 217 |
| | inch | 3.05 | 4.55 | 6.54 | 8.54 |
| ID | mm | 76 | 113 | 164 | 214 |
| | inch | 2.99 | 4.45 | 6.47 | 8.43 |
| L | mm | 456 | 475 | 500 | 526 |
| | inch | 17.95 | 18.7 | 19.69 | 20.71 |
| M | mm | 80 | 100 | 125 | 160 |
| | inch | 3.15 | 3.94 | 4.92 | 6.3 |
| N | mm | 122 | 141 | 166 | 192 |
| | inch | 4.8 | 5.55 | 6.54 | 7.56 |
| Q | mm | 83 | 83 | 85 | 84 |
| | inch | 3.27 | 3.27 | 3.35 | 3.31 |
| S | mm | 52 | 52 | 52 | 52 |
| | inch | 2.05 | 2.05 | 2.05 | 2.05 |
| Y | mm | 75 | 100 | 125 | |
| | inch | 2.95 | 3.94 | 4.92 | |
| Z | mm | 120 | 160 | 160 | 200 |
| | inch | 4.72 | 6.3 | 6.3 | 7.87 |

F

Controller for operating
- fast closing valves, Series 75
- fast closing shutters, Series 77

Processing of the sensor signals and triggering the closing or opening movement of the fast closing valve or shutter



Construction

Basic device VF-2 fitted with various modules

Basic device VF-2

Ordering number see price list

- 19" rack insert with Power Supply
- Storage spaces for max. 10 modules
- Mains voltage: 100 - 240 V $\pm 10\%$, 50/60 Hz, max. 150 VA
- Key switch for «LOCAL», «LOCKED», «REMOTE»
- Ambient temperature 0 - 50°C
- Dimensions (w x h x d):
 - 19" rack insert, 3 height units
 - 445 x 132.5 x 300 mm (17.5" x 5.2" x 11.8")
 - Depth with plugs 410 mm (16.1")
- Weight: 11 kg (24 lbs)

Modules for basic device VF-2

Ordering number see price list

CONTROL module

- Storage space for 1 module required
- System control module for max. 6 sensors and 4 fast closing valves / shutters
- External trigger
- 8-pole plug for «REMOTE» control
- LED display «READY», «EXTERNAL TRIGGER»
- Push button «RESET»

FV-SENSOR module

- Storage space for 1 module required
- Connection of a fine vacuum sensor by a Triax connector (LEMO)
- Sensor voltage 3.5 kV
- LED display «READY», «INRUSH», «EXT. SIGNAL», «INTERLOCK»
- 8-pole plug for «REMOTE» control

HV-SENSOR module

- Storage space for 2 modules required
- Connection of a high vacuum sensor by a Triax connector (LEMO)
- Sensor voltage 3.5 kV
- LED display for pressure
- Trigger pressure adjustable between $2 \cdot 10^{-8}$ and $8 \cdot 10^{-4}$ mbar
- Trigger time adjustable between 1 and 7 msec
- 8-pole plug for «REMOTE» control

- VALVE module**
 - Storage space for 1 module required
 - Connection of a fast closing valve or shutter
 - LED display «READY», «TRIGGERED», «READY TO OPEN», «INTERLOCK»
 - Push buttons «OPEN», «CLOSE», «INTERLOCK»
 - 19-pole plug for connecting the valve / shutter
 - 12-pole plug for «REMOTE» control

- 1-GATE module**
 - Storage space for 1 module required
 - Connection of an isolation valve
 - LED display «READY»
 - Push buttons «OPEN», «CLOSE»
 - 12-pole plug for connecting the isolation valve
 - 19-pole plug for «REMOTE» control

- 2-GATE module**
 - Storage space for 1 module required
 - Connection of two isolation valves
 - LED display «READY» for each isolation valve
 - Push buttons «OPEN», «CLOSE» for each isolation valve
 - 2 x 12-pole plug for connecting the isolation valves
 - 19-pole plug for «REMOTE» control

- LINK module**
 - Storage space for 1 module per rack required
 - To link two basic devices if the 9 storage spaces of one basic device are insufficient

Cable

Ordering number see price list

| | |
|-------------------------------|--|
| Sensor – SENSOR module | max. 300 m, Triax cable 3.5 mm ² |
| Valve/shutter – VALVE module | max. 150 m, 12-pole cable 0.75 mm ² |
| Isolation valve – GATE module | max. 200 m, 7-pole cable 0.75 mm ² |

Vacuum sensor

Ordering number see price list

| | | |
|-----------------------|----|--|
| Trigger pressure: | FV | approx. $1 \cdot 10^{-2}$ mbar |
| | HV | 10^{-8} to 10^{-3} mbar adjustable |
| Response time: | FV | approx. 1 ms |
| | HV | 2 ms (air inrush 1 bar) |
| Radiation resistance: | FV | 10^8 Gy (10^{10} rad) |
| | HV | 10^7 Gy (10^9 rad) |
| Flange | | CF-F 40 |
| Weight | | approx. 1 kg (2 lbs) |

Fine vacuum sensor (FV)
glow discharge



High vacuum sensor (HV)
cold cathode

