

Series 65.2

Main applications

Downstream pressure control and isolation valve for SEMI and FPD processes

Optimal for corrosive etching and cleaning processes



Ordering information

Valve with stepper motor and integrated pressure controller

| DN | | Ordering numbers | | | | | | | | | | | |
|-----|------|------------------|---|-----|----------|-------------------------|---|----------|---|---|----------|---|---|
| mm | inch | aluminum | | | | aluminum, hard anodized | | | | | | | |
| | | ISO-F | | JIS | | ISO-F | | JIS | | | | | |
| 200 | 8 | 65246-PA | x | y | 65246-JA | x | y | 65246-PH | x | y | 65246-JH | x | y |
| 250 | 10 | 65248-PA | x | y | 65248-JA | x | y | 65248-PH | x | y | 65248-JH | x | y |

Controller configurations:

- G = basic version
- A = with SPS
- H = with PFO
- C = with SPS and PFO
- T = basic version with VC master
- V = with SPS and VC master
- U = with PFO and VC master
- W = with SPS, PFO and VC master

SPS = Sensor Power Supply
(±15VDC power supply for sensor)

PFO = Power Failure Option
(valve closes/opens automatically at power failure)

VC = Valve Cluster
(for operating several valves synchronously)

Interface

- G = RS232
- H = RS232
- C = Logic
- E = Logic
- P = DeviceNet®
- Q = DeviceNet®
- D = Profibus
- F = Profibus
- J = RS485
- K = RS485
- Y = Ethernet
- Z = Ethernet
- L = CC-Link
- N = CC-Link
- I = EtherCAT
- X = EtherCAT
- S = VC slave (without interface)

Number of sensors

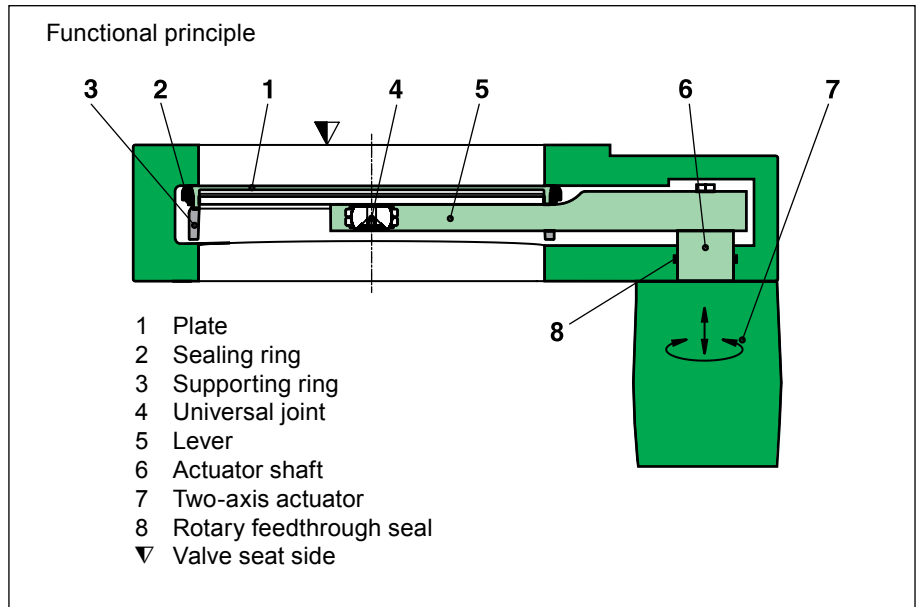
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Example: 65246-PAGG
= Aluminum valve
with ISO-F DN 200 flanges,
RS232 interface, for 1 sensor

Pressure controller: see pages 146 – 149

Features

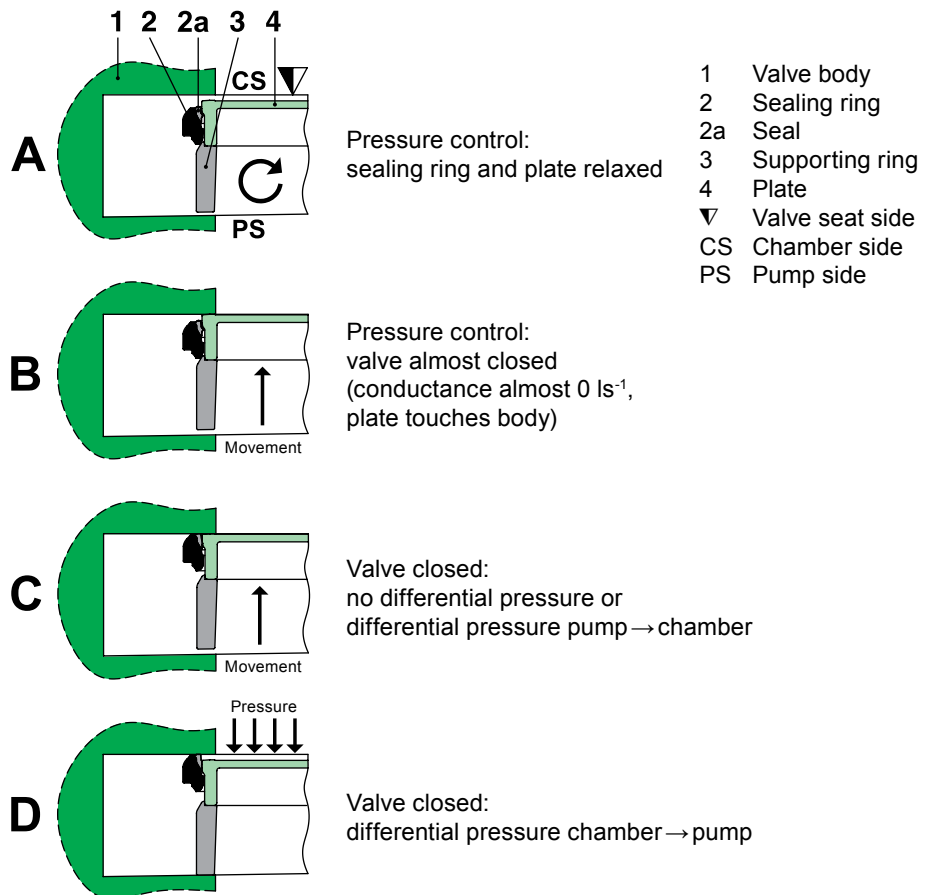
- Body material:
aluminum or
aluminum, hard anodized
- Compact design
- Very fast, virtually particle-free and
shock-free operation
- Purely electrical actuation
- Integrated or external pressure controller
- Conductance control to almost 0 ls^{-1}
- Position indication
- Service port for connecting a computer
or a service box 2
- Vulcanized seal (no dead volumes at the
plate seal): see glossary



B

The plate acts, due to its pendulum and stroke movement, as a throttling element and varies the conductance of the valve opening. The pressure controller calculates the required plate position to achieve the setpoint pressure. See also principle drawing on page 280. Actuation is performed by a stepper motor. An encoder monitors the position. This principle ensures very fast and accurate process pressure control.

For leaktight closing the sealing ring moves upwards. Opening and closing are performed by the second actuator axis.



Technical data

| | |
|--|--|
| Leak rate ¹⁾ : valve body | |
| – Aluminum | 1 · 10 ⁻⁹ mbar ls ⁻¹ |
| – Aluminum, hard anodized | 1 · 10 ⁻⁵ mbar ls ⁻¹ |
| Leak rate ¹⁾ : valve seat | |
| – Aluminum | 1 · 10 ⁻⁹ mbar ls ⁻¹ |
| – Aluminum, hard anodized | 1 · 10 ⁻⁴ mbar ls ⁻¹ |
| Pressure range ¹⁾ | |
| – Aluminum | 1 · 10 ⁻⁸ mbar to 1.2 bar (abs) |
| – Aluminum, hard anodized | 1 · 10 ⁻⁶ mbar to 1.2 bar (abs) |
| Cycles until first service ²⁾ | |
| – Pressure control | 2.5 million |
| – Closing/opening | 20000 |
| Temperature ²⁾ | |
| – Valve body | ≤ 120 °C |
| – Ambient | ≤ 50 °C |
| Material | |
| – Valve body | EN AW-6082 (3.2315) |
| – Plate | EN AW-6082 (3.2315), partly PTFE coated, EN AC-42100 (3.2371.62) |
| – Lever | EN AW-6082 (3.2315), AISI 304 (1.4301), hard-chrome plated |
| – Actuator shaft | AISI 304 (1.4301) |
| Seal: bonnet, plate, feedthrough | FKM (Viton®) |
| Feedthrough | rotary feedthrough |
| Mounting position | any ³⁾ |

¹⁾ Unheated on delivery

²⁾ Maximum values: depending on operating conditions and sealing materials

³⁾ Valve seat on chamber side recommended

| DN (nominal I. D.) | | Conductance (molecular flow) | Minimum controllable conductance (molecular flow) | Max. differential pressure on the plate | Max. differential pressure during operation | Typical closing/opening time | | | | Weight | |
|-----------------------|------|---------------------------------|---|--|--|------------------------------|----------------------------------|---------------|---------------|--------|-----|
| | | | | | | Open → optically closed | Open → minimum conductance | Open → closed | Closed → open | | |
| mm | inch | ls ⁻¹ | ls ⁻¹ | mbar | mbar | s | s | s | s | kg | lbs |
| 200 | 8 | 12000 | 0.20 | 1200 | 10 | 0.8 | 1.2 | 1.9 | 2.6 | 27 | 60 |
| 250 | 10 | 22000 | 0.25 | 1200 | 10 | 0.9 | 1.3 | 2.2 | 3.1 | 34 | 75 |

Technical data for pressure controller: see pages 146–149

Spare parts

- **Seals**
on request (specify fabrication number of valve)

Accessories

- **Flange connections**
for installation of the valve: see series 32

Options

Certain options are not available for some nominal diameters or cannot be combined. Moreover, options can affect the general technical data.



Actuator

- Controller with configurable PID parameters (adaptive, upstream, downstream, soft-pump)
- RS232 interface with 2 analog outputs

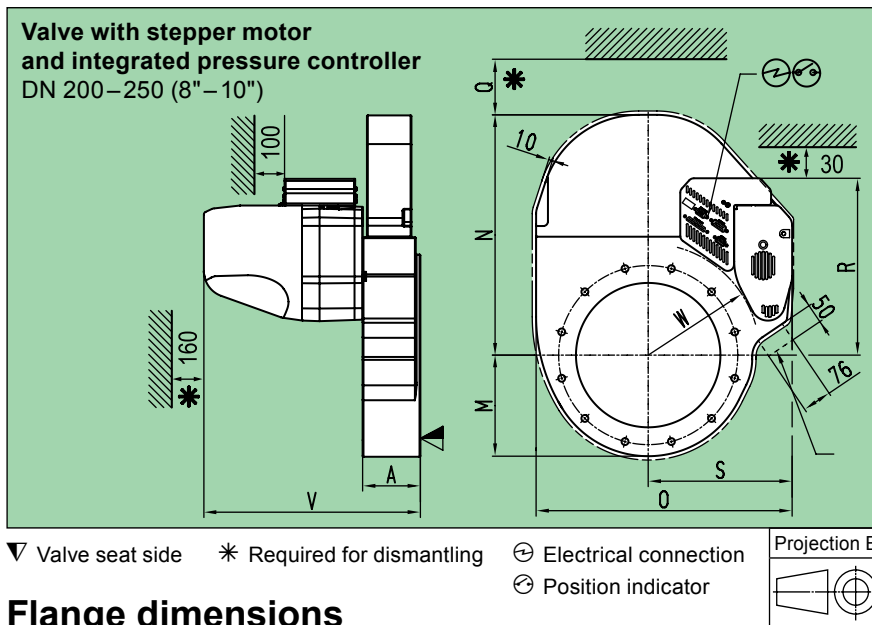
Valve

- Other sizes, e.g. DN 160, 320, 350
- O-ring seal in plate (standard: vulcanized seal)
- Valve with external pressure controller
- Heater with insulation (picture) for valve temperatures up to 120 °C

Ordering information for options:

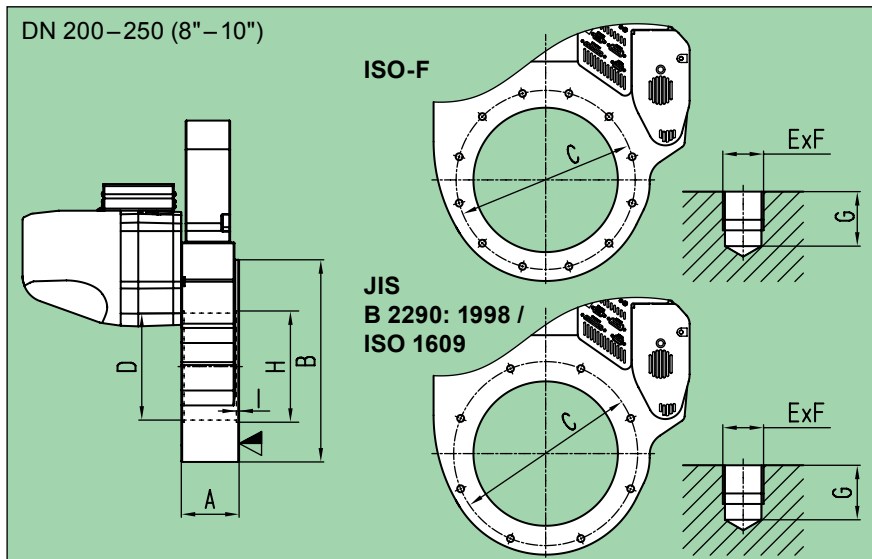
Ordering No. of valve-X (e. g. 65248-PAGH-X, X = valve with heater for 120 °C)

Main dimensions



| | | | |
|----|------|--------|-------|
| DN | mm | 200 | 250 |
| | inch | 8 | 10 |
| A | mm | 86 | 100 |
| | inch | 3.39 | 3.94 |
| M | mm | 150 | 175 |
| | inch | 5.91 | 6.89 |
| N | mm | 330 | 416 |
| | inch | 12.99 | 16.38 |
| O | mm | 384.50 | 443 |
| | inch | 15.14 | 17.44 |
| Q | mm | 20 | 20 |
| | inch | 0.79 | 0.79 |
| R | mm | 294 | 306 |
| | inch | 11.57 | 12.05 |
| S | mm | 223 | 249 |
| | inch | 8.78 | 9.80 |
| V | mm | 361 | 375 |
| | inch | 14.21 | 14.76 |
| W | mm | 165 | 195 |
| | inch | 6.50 | 7.68 |

Flange dimensions



| | | ISO-F | | JIS | |
|-------|------|----------|----------|---------|----------|
| DN | mm | 200 | 250 | 200 | 250 |
| | inch | 8 | 10 | 8 | 10 |
| A | mm | 86 | 100 | 86 | 100 |
| | inch | 3.39 | 3.94 | 3.39 | 3.94 |
| B | mm | 300 | 350 | 300 | 350 |
| | inch | 11.81 | 13.78 | 11.81 | 13.78 |
| C | mm | 260 | 310 | 270 | 320 |
| | inch | 10.24 | 12.20 | 10.63 | 12.60 |
| D | mm | 200 | 254 | 200 | 254 |
| | inch | 8 | 10 | 8 | 10 |
| E × F | | 12 × M10 | 12 × M10 | 8 × M12 | 12 × M12 |
| G | mm | 15 | 16 | 15 | 16 |
| | inch | 0.59 | 0.63 | 0.59 | 0.63 |
| H | mm | 213.20 | 261 | - | - |
| | inch | 8.39 | 10.28 | - | - |
| I | mm | 5 | 5 | - | - |
| | inch | 0.20 | 0.20 | - | - |