

Series 61.5

Main applications

Downstream pressure control and isolation valve for SEMI, FPD, PV, SOLAR and industrial processes

Optimal for fast and demanding processes, e. g. CVD



Ordering information

Valve with stepper motor and integrated pressure controller

| DN | | Ordering numbers | | | | | | | | | | |
|-----|------|-------------------------|---|-------|----------|-----------------|----------|-------|---|----------|---|---|
| mm | inch | aluminum, hard anodized | | | | stainless steel | | | | | | |
| | | ISO-KF | | ISO-F | | ISO-KF | | ISO-F | | | | |
| 40 | 1½ | 61532-KH | x | y | | | 61532-KE | x | y | | | |
| 50 | 2 | 61534-KH | x | y | | | 61534-KE | x | y | | | |
| 63 | 2½ | | | | 61536-PH | x | y | | | 61536-PE | x | y |
| 80 | 3 | | | | 61538-PH | x | y | | | 61538-PE | x | y |
| 100 | 4 | | | | 61540-PH | x | y | | | 61540-PE | x | y |

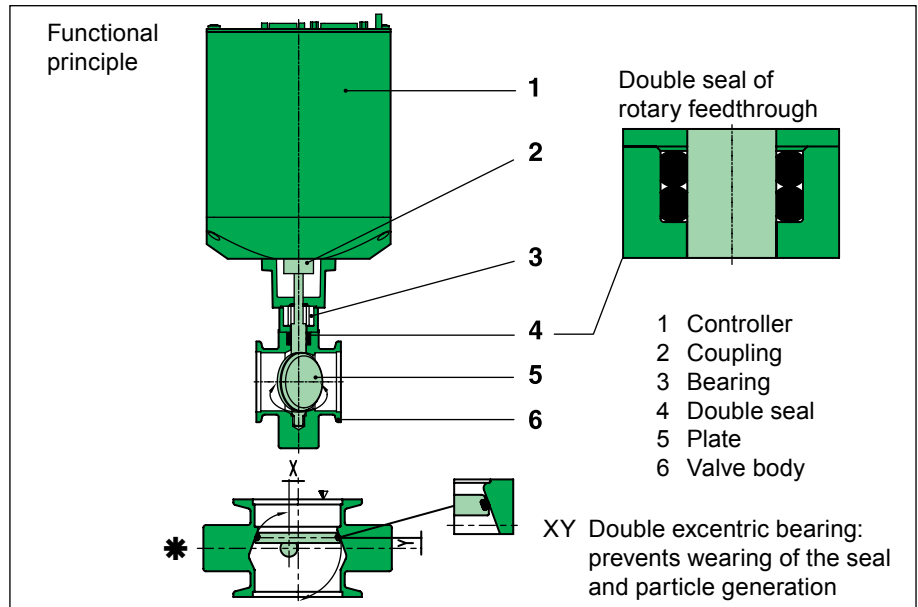
| | | | | | | |
|----------------------------------|-------------------|--|---|--|----------------------------------|-------------------|
| Controller configurations: | x | | y | | Interface | Number of sensors |
| | G = basic version | | | | | |
| A = with SPS | | | | | H = RS232 | 2 |
| H = with PFO | | | | | C = Logic | 1 |
| C = with SPS and PFO | | | | | E = Logic | 2 |
| T = basic version with VC master | | | | | P = DeviceNet® | 1 |
| V = with SPS and VC master | | | | | Q = DeviceNet® | 2 |
| U = with PFO and VC master | | | | | D = Profibus | 1 |
| W = with SPS, PFO and VC master | | | | | F = Profibus | 2 |
| | | | | | J = RS485 | 1 |
| | | | | | K = RS485 | 2 |
| | | | | | Y = Ethernet | 1 |
| | | | | | Z = Ethernet | 2 |
| | | | | | L = CC-Link | 1 |
| | | | | | N = CC-Link | 2 |
| | | | | | I = EtherCAT | 1 |
| | | | | | X = EtherCAT | 2 |
| | | | | | S = VC slave (without interface) | |

Example: 61534-KHGE
 = Aluminum valve, hard anodized,
 with ISO-KF DN 50 flanges,
 Logic interface, for 2 sensors

Pressure controller: see pages 146 – 149

Features

- Body material: aluminum, hard anodized or stainless steel
- Compact design
- Fast operation
- Integrated pressure controller
- Extremely short control response times
- Automatic service signal (contamination)
- Position indication
- Service port for connecting a computer or a service box 2
- Accurate pressure control at high pressures and low flows
- Easy maintenance



B

The plate acts 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 fast and accurate process pressure control even in very demanding processes with high pressures and low flows.

The seal which is attached to the plate reduces the minimum controllable conductance and allows leak tight closing of the valve. In closed position, the seal is pressed on the body. See detail * in above drawing.

Technical data

| | |
|--|--|
| Leak rate ¹⁾ : valve body | |
| – Aluminum, hard anodized | 1 · 10 ⁻⁵ mbar ls ⁻¹ |
| – Stainless steel | 1 · 10 ⁻⁹ mbar ls ⁻¹ |
| Leak rate ¹⁾ : valve seat | |
| – Aluminum, hard anodized | 1 · 10 ⁻⁴ mbar ls ⁻¹ |
| – Stainless steel | 1 · 10 ⁻⁹ mbar ls ⁻¹ |
| Pressure range ¹⁾ | |
| – Aluminum, hard anodized | 1 · 10 ⁻⁶ mbar to 1.2 bar (abs) |
| – Stainless steel | 1 · 10 ⁻⁸ mbar to 1.2 bar (abs) |
| Cycles until first service ²⁾ | |
| – Pressure control | 2 million |
| – Closing/opening | |
| - DN 40– 50 | 250 000 |
| - DN 63– 100 | 100 000 |
| Temperature ²⁾ | |
| – Valve body | ≤ 120 °C |
| – Ambient | ≤ 50 °C |

¹⁾ Unheated on delivery

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

Further technical data on next page →

Continued Technical data

Material

- Valve body, plate
- aluminum
- stainless steel
- Shaft
- Other parts

EN AW-6082 (3.2315)
 AISI 316L (1.4404 or 1.4435)
 AISI 316L (1.4404 or 1.4435)
 iglidur®X, AISI 316L (1.4404 or 1.4435)

Seal: plate, feedthrough

FKM (Viton®)

Feedthrough

rotary feedthrough

Mounting position

valve seat towards chamber

| DN (nominal I.D.) | | Conductance (molecular flow) | Minimum controllable conductance (molecular flow) | Max. differential pressure on the plate | Operating time for throttling | Typical closing or opening time | Weight | | | |
|----------------------|------|---------------------------------|--|---|----------------------------------|------------------------------------|-------------------|------|--------------------------|------|
| | | | | | | | Aluminum valve | | Stainless steel valve | |
| mm | inch | ls ⁻¹ | ls ⁻¹ | mbar | s | s | kg | lbs | kg | lbs |
| 40 | 1½ | 60 | 0.05 | 1000 | 0.5 | 0.6 | 2.5 | 5.5 | 3.3 | 7.3 |
| 50 | 2 | 120 | 0.1 | 1000 | 0.5 | 0.6 | 2.7 | 6 | 3.6 | 7.9 |
| 63 | 2½ | 220 | 0.15 | 1000 | 0.5 | 0.6 | 3.8 | 8.4 | 5.9 | 13 |
| 80 | 3 | 360 | 0.2 | 1000 | 0.5 | 0.6 | 4.8 | 10.6 | 8.8 | 19.4 |
| 100 | 4 | 600 | 0.25 | 1000 | 0.5 | 0.6 | 5.2 | 11.5 | 9.7 | 21.4 |

Technical data for pressure controller: see pages 146 – 149

Options

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



Actuator

- Ultra fast actuator (0.18/0.2 s)
- Controller with configurable PID parameters (adaptive, upstream, downstream, soft-pump)
- RS232 interface with 2 analog outputs

Valve

- Other flanges, e.g. JIS, ASA-LP, CF-F
- Customer specified flanges
- Other sealing materials
- Heater (picture) for valve temperatures up to 120 °C (DN 40 and 50 with insulation)

Ordering information for options:

Ordering No. of valve-X (e. g. 61534-KHGG-X, X = valve with heater for 120 °C)

Spare parts

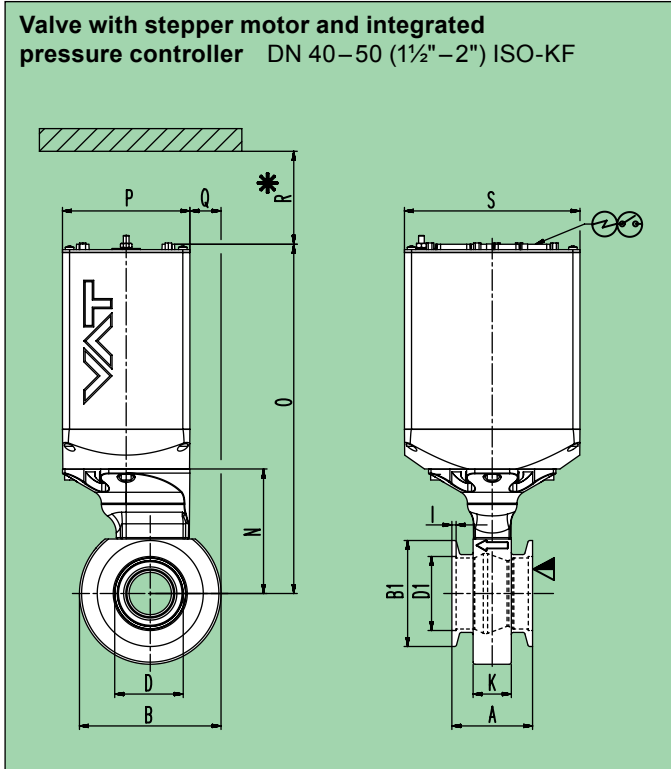
- **Seals**
on request (specify fabrication number of valve)

Accessories

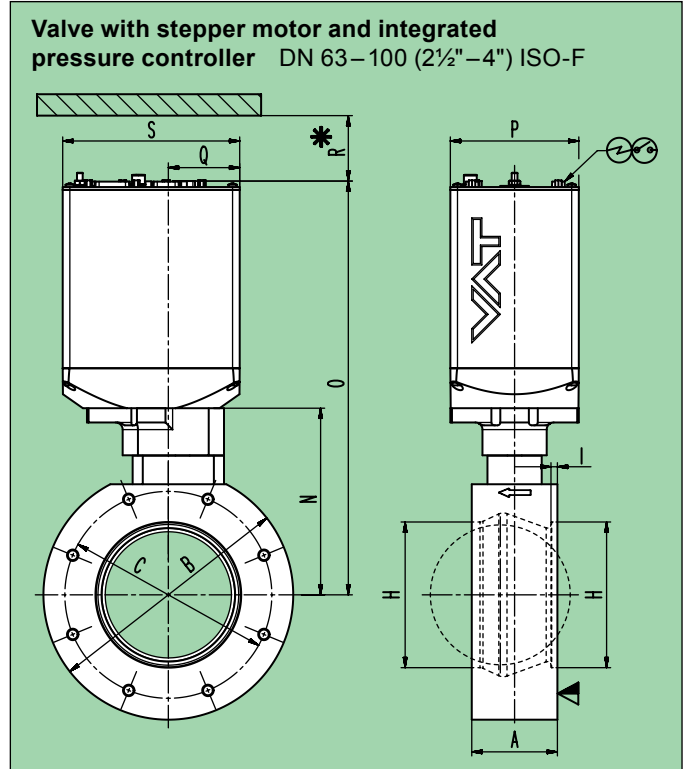
- **Flange connections**
for installation of the valve: see series 31 and 32

Dimensions

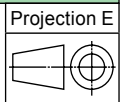
Valve with stepper motor and integrated pressure controller DN 40–50 (1½"–2") ISO-KF



Valve with stepper motor and integrated pressure controller DN 63–100 (2½"–4") ISO-F



- ▽ Valve seat side
- * Required for dismantling
- ⊕ Electrical connection
- ⊙ Position indicator



| DN | mm inch | 40 1½ | 50 2 | |
|----|------------|---------------|---------------|--|
| A | mm inch | 57 2.24 | 57 2.24 | |
| B | mm inch | 90 3.54 | 100 3.94 | |
| B1 | mm inch | 54.90 2.16 | 74.90 2.95 | |
| D | mm inch | 40 1.57 | 50 1.97 | |
| D1 | mm inch | 41.30 1.63 | 52.30 2.06 | |
| I | mm inch | 3 0.12 | 3 0.12 | |
| K | mm inch | 27 1.06 | 27 1.06 | |
| N | mm inch | 83 3.27 | 88 3.46 | |
| O | mm inch | 242 9.53 | 247 9.72 | |
| P | mm inch | 90 3.54 | 90 3.54 | |
| Q | mm inch | 18 0.71 | 22 0.87 | |
| R | mm inch | 70 2.76 | 70 2.76 | |
| S | mm inch | 124 4.88 | 124 4.88 | |

| DN | mm inch | 63 2½ | 80 3 | 100 4 |
|----|------------|--------------|--------------|----------------|
| A | mm inch | 40 1.57 | 50 1.97 | 60 2.36 |
| B | mm inch | 130 5.12 | 165 6.50 | 175 6.89 |
| C | mm inch | 110 4.33 | 125 4.92 | 145 5.71 |
| H | mm inch | 70 2.76 | 83 3.27 | 102.10 4.02 |
| I | mm inch | 4.50 0.18 | 4.50 0.18 | 4.50 0.18 |
| N | mm inch | 108 4.25 | 126 4.96 | 131 5.16 |
| O | mm inch | 267 10.51 | 285 11.22 | 290 11.42 |
| P | mm inch | 90 3.54 | 90 3.54 | 90 3.54 |
| Q | mm inch | 46 1.81 | 48 1.89 | 50 1.97 |
| R | mm inch | 70 2.76 | 70 2.76 | 70 2.76 |
| S | mm inch | 124 4.88 | 124 4.88 | 124 4.88 |