



## Ball Valves with Pneumatic Actuator

screw thread and flange connection,  
welded connection



measuring  
•  
monitoring  
•  
analysing

**KUP-KA, ZA, VH,  
VN, PD, VO, VK**



- $p_{\max}$ : PN 16;  $t_{\max}$ : 160 °C
- Connections:  
screw thread G 1/4 ... G 4  
welded connection DN 15 ... DN 100  
flanges DN 15 ... DN 200
- Pilot pressure: 6 ... 8 bar
- Double-acting or spring return
- Brass, stainless steel, cast iron
- 2- and 3-way version
- T and L bore  
(with 3-way ball valve)



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KOBOLD Messring GmbH  
Nordring 22-24  
D-65719 Hofheim/Ts.  
Head Office:  
+49(0)6192 299-0  
+49(0)6192 23398  
info.de@kobold.com  
www.kobold.com

### Description

The actuator is a double-piston actuator, specially designed for operating ball valves and flaps. Two versions are available: double-acting and spring return (single-acting). The double piston design allows high torque with small external dimensions. You can adjust the angular stroke by  $\pm 6^\circ$  with the standard end position.

### Design

The force from the reciprocating pistons is transmitted to a pinion by two racks attached to the pistons. This arrangement delivers a linear torque characteristic across the full stroke.

### Principle of operation double-acting

The space between both pistons is pressurised through point »A« forcing the pistons apart. The force of both pistons is transmitted through the racks to the pinion »C«. When pressure is applied at connection »B« and »A« is vented, both external chambers are pressurised and the pistons are forced together. You can set the angular stroke by undoing lock nuts »E« and adjusting the final stroke position setting screws »D«.

### Principle of operation single-acting

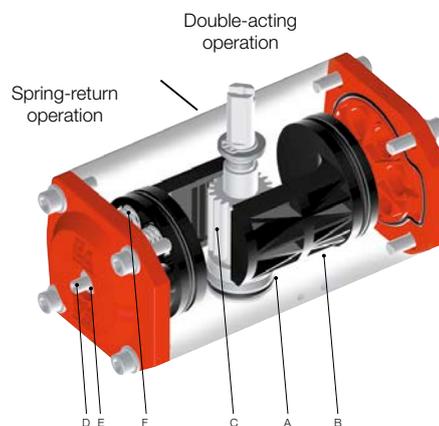
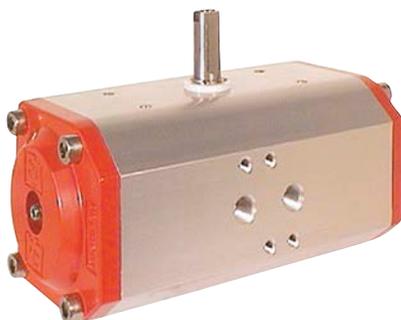
The space between both pistons is pressurised through point »A« – forcing the pistons apart and forcing the springs together. The force of both pistons is transmitted through the racks to the pinion »C«. If no pressure is applied at connection »B« and »A« is vented, the pistons are forced to their home positions by the spring resistance. You can set the angular stroke by undoing lock nuts »E« and adjusting the final stroke position setting screws »D«.

### Technical Details

|                      |  |
|----------------------|--|
| Design:              | double-piston rotary actuator, maintenance-free, pneumatic double acting or single-acting with spring return                                       |
| Mounting:            | four or eight DIN ISO 5211 female threads on the bottom, pinion as per DIN 3337, interface for solenoid valves and signal transmitter as per NAMUR |
| <b>Materials</b>     |  |
| Body:                | aluminium alloy (anodised)   |
| Cap:                 | plastic, fibre-reinforced or aluminium   |
| Piston:              | special plastic, fibre-reinforced or aluminium   |
| Pinion:              | stainless steel or steel, zinc-coated  |
| Bearings:            | smooth plastic   |
| Gaskets:             | NBR  |
| Nuts and bolts:      | stainless steel  |
| Pilot media:         | filtered air, to PNEUROP/ISO-class 4 standard at least   |
| Temperature range:   | ambient temperature<br>-20 °C... +85 °C  |
| Rotation:            | 90° (adjustable $\pm 6^\circ$ )  |
| Torque moment range: | 5...300 Nm (depending on size used)  |
| Pilot pressure:      | 2...10 bar   |
| Options:             | 3/2- or 5/2-way electrical solenoid valve/mechanical limit switch  |

Actuator, adapter and ball valve are perfectly matched and supplied as a complete unit for faultless operation.

### Pneumatic actuator



### 3/2-way solenoid valve for single-acting actuators

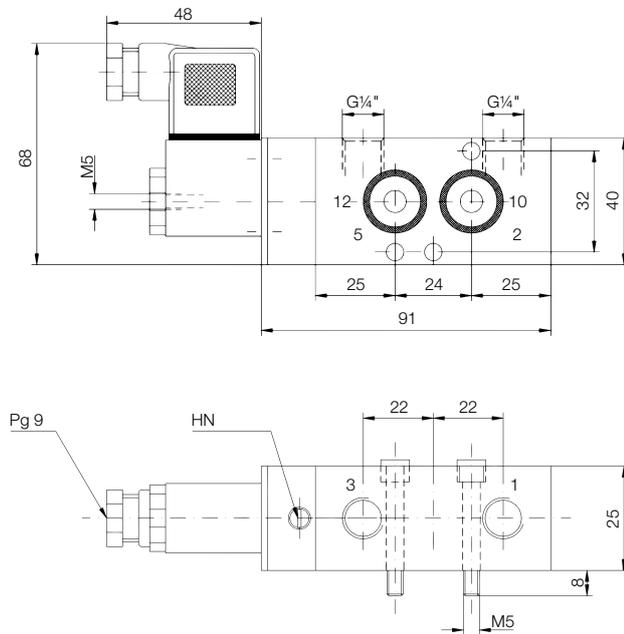


#### Technical Details

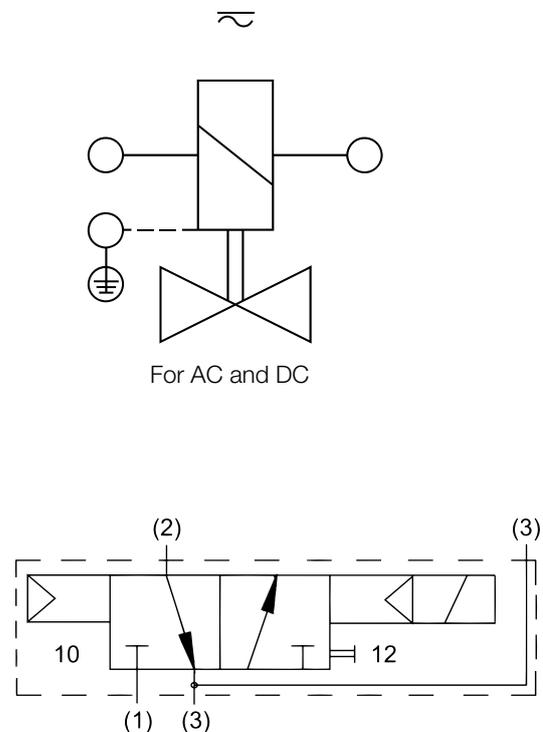
Design: sliding valve with manual override  
 Operation: 3/2-ways  
**Material:**  
 Body: aluminium (anodised)  
 Internal parts: brass and plastic  
 Sealing: NBR  
 Electr. connection: AC or DC with connection socket acc. to DIN 43650

Voltages: 24 V<sub>DC</sub>  
 230 V<sub>AC</sub> 50/60 Hz  
 Power consumption: AC: 7.0/4.0 VA  
 DC: 4.2 W  
 Duty cycle: 100 %  
 Protection: IP65 acc. to VDE 0470/EN60529  
 Pressure range: 3 ... 10 bar  
 Medium: air  
 Temperature range: -10 ... +70 °C

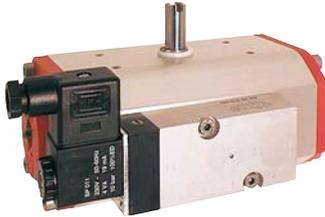
#### Dimensions [mm]



#### Wiring diagram



### 5/2-way solenoid valve for double acting actuators



#### Technical Details

Design: sliding valve with manual override

#### Operation:

5/2-ways:

De-energised port P(1) - B(2) and A(4) - R(5) are connected. When the solenoid is energised, port P(1) - A(4) and B(2) - S(3) are connected.

Valve closes by air spring return. The exhaust air can be throttled at the ports R(5) and S(3).

#### Material:

Body: aluminium (anodised)

Internal parts: brass and plastic

Sealing: NBR (Perbunan®)

Electr. connection: AC or DC with connection socket acc. to DIN 43650

Voltages: 24 V<sub>DC</sub>  
230 V<sub>AC</sub> 50/60 Hz

Power consumption: AC: 7.0/4.0 VA  
DC: 4.2 W

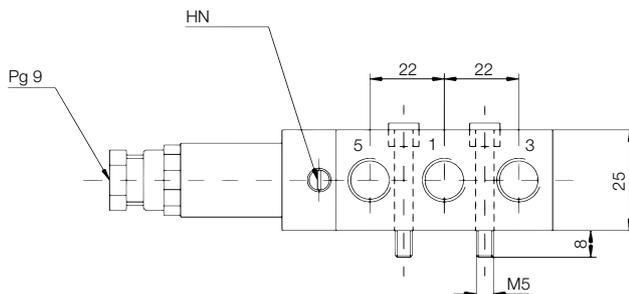
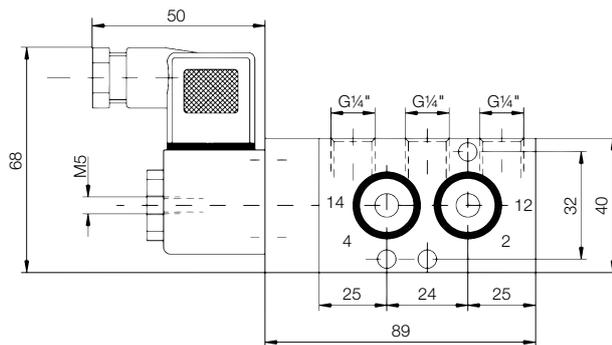
Duty cycle: 100 %

Protection: IP65 acc. to VDE 0470/EN60529

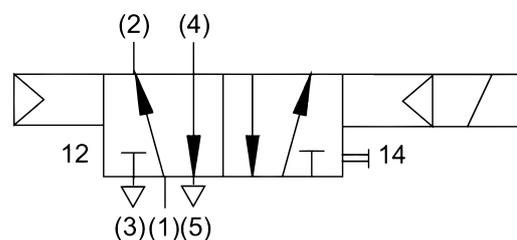
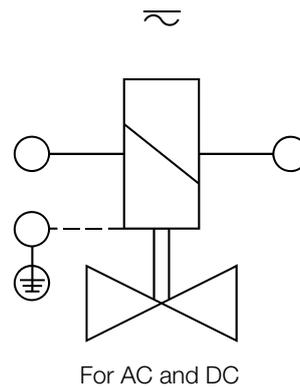
Medium: air

Temperature range: -10 °C...+70 °C

#### Dimensions [mm]



#### Wiring diagram

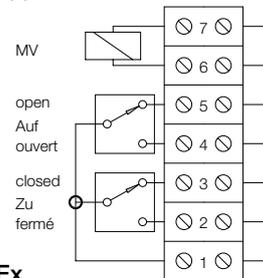


**Electric-mechanic limit switches in a protective casing**

**IP65**



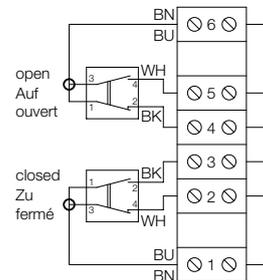
**Wiring diagram for IP65**



**EEx**



**Wiring diagram for EEx**



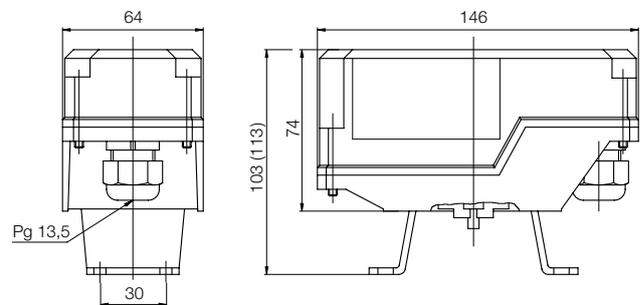
**Technical Details**

Design: 2 electromechanical microswitches in a protective casing  
 Protection type: IP65 as per DIN 40050  
 EEx d IIC T6 to EN 50014

**Materials**

Housing: Vestamid®, black  
 Cover: Macrolon®, transparent (IP65)  
 Vestamid®, black (EEx)  
 Voltage rating: max. 250 V  
 Electrical connection: cable gland, conduit thread PG 13,5  
 Contact rating: max. 16 A (IP65)  
 max. 6 A (EEx)  
 Switching function: two N/O / N/C contacts  
 Temperature: -20 °C ... +100 °C (IP65)  
 -20 °C ... +85 °C (EEx)

**Dimensions**





## 2-Way Brass Ball Valve with Pneumatic Actuator Model KUP-KA

### Design

Two-piece threaded joint body design with full cylindrical bore and mounting pad for actuator mounting. With stamping as per ISO 5200 instructions A4.

Operation: pneumatic single- or double-acting  
 Pilot pressure: 6... 8 bar  
 Pilot media: filtered air  
 Mounting position: any  
 Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

### KUP-KA



### Technical Details Flow Fitting

Connections: female thread Rp 1/2 ... Rp 4 (nach DIN 2999)

Temperature range: -30 °C ... +120 °C

Nominal pressure: PN 16

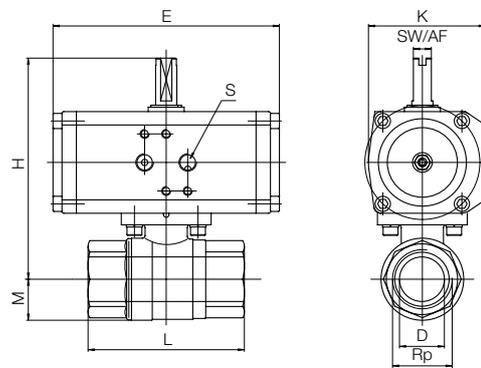
### Materials

Body: brass, nickel-plated

Ball: brass, hard-chrome plated

Ball gaskets: PTFE/FKM

Spindle gasket: FKM



### Dimensions

| Screw thread [Rp] | D [mm] | L [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S [G] | SW/AF <sup>1)</sup> [mm] | SW/AF <sup>2)</sup> [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|-------------------|--------|--------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|-------|--------------------------|--------------------------|-----------------------------|-----------------------------|
| 1/2               | 15     | 65     | 116                  | 116                  | 16     | 126                  | 126                  | 65                   | 65                   | 1/8   | 10                       | 10                       | 1.2                         | 1.2                         |
| 3/4               | 20     | 75     | 121                  | 121                  | 19     | 126                  | 126                  | 65                   | 65                   | 1/8   | 10                       | 10                       | 1.3                         | 1.3                         |
| 1                 | 24     | 86     | 124                  | 138                  | 23     | 126                  | 163                  | 65                   | 78                   | 1/8   | 10                       | 10                       | 1.6                         | 2.1                         |
| 1 1/4             | 30     | 95     | 129                  | 143                  | 28     | 126                  | 163                  | 65                   | 78                   | 1/8   | 10                       | 10                       | 1.8                         | 2.4                         |
| 1 1/2             | 38     | 100    | 157                  | 171                  | 35     | 163                  | 193                  | 78                   | 86                   | 1/8   | 10                       | 10                       | 2.5                         | 4.2                         |
| 2                 | 47     | 120    | 164                  | 178                  | 42     | 163                  | 193                  | 78                   | 86                   | 1/8   | 10                       | 10                       | 3.4                         | 5.1                         |
| 2 1/2             | 64     | 195    | 197                  | 212                  | 57     | 193                  | 231                  | 100                  | 115                  | 1/4   | 10                       | 10                       | 6.4                         | 7.6                         |
| 3                 | 76     | 188    | 207                  | 222                  | 68     | 193                  | 231                  | 100                  | 115                  | 1/4   | 10                       | 10                       | 9.3                         | 10.5                        |
| 4                 | 95     | 225    | 242                  | 270                  | 78     | 231                  | 260                  | 115                  | 143                  | 1/4   | 10                       | 19                       | -                           | -                           |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

### Order Details (example: KUP-KA R15 C A 0)

| Model  | Connection size  | Actuation   | Solenoid valve   | Limit switch                        |
|--------|--|---|--|-------------------------------------|
| KUP-KA | R15 = Rp 1/2<br>R20 = Rp 3/4<br>R25 = Rp 1<br>R32 = Rp 1 1/4<br>R40 = Rp 1 1/2<br>R50 = Rp 2<br>R65 = Rp 2 1/2<br>R80 = Rp 3<br>R1H = Rp 4 | C = single-acting, default CLOSED<br>O = single-acting, default OPEN<br>D = double-acting | A = without<br>B = 3/2-way (24 V <sub>DC</sub> )<br>C = 3/2-way (230 V <sub>AC</sub> ) | 0 = without<br>2 = 2 limit switches |
|        |  |   | F = 5/2-way (24 V <sub>DC</sub> )<br>G = 5/2-way (230 V <sub>AC</sub> )                |                                     |



**Design**

Three-piece threaded joint body design with full cylindrical bore.

Operation: pneumatic single- or double-acting

Pilot pressure: 6...8 bar

Pilot media: filtered air

Mounting position: any

Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

**KUP-ZA**

**Technical Details Flow Fitting**

Connections: female thread G 1/2... G 4  
welded connection DN 15... DN 100

Temperature range: -30 °C...+110 °C

Nominal pressure: PN 16

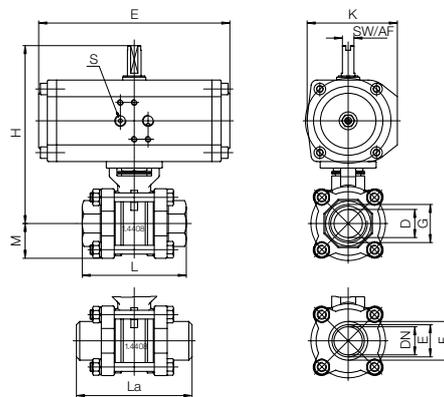
**Materials**

Body: stainless steel 1.4408

Ball: stainless steel 1.4408

Ball gaskets: PTFE glass-fibre-reinforced

Spindle gasket: PTFE/FKM



**Dimensions**

| Screw thread [G] | DN [mm] | Ø D [mm] | L [mm] | Ø E [mm] | Ø F [mm] | La [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S [G] | SW/AF <sup>1)</sup> [mm] | SW/AF <sup>2)</sup> [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|------------------|---------|----------|--------|----------|----------|---------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|-------|--------------------------|--------------------------|-----------------------------|-----------------------------|
| 1/2              | 15      | 15       | 75     | 18       | 21.3     | 75      | 134                  | 148                  | 22.5   | 126                  | 163                  | 65                   | 78                   | 1/8   | 10                       | 10                       | 1.5                         | 2.0                         |
| 3/4              | 20      | 20       | 80     | 26       | 26.9     | 90      | 139                  | 153                  | 27.0   | 126                  | 163                  | 65                   | 78                   | 1/8   | 10                       | 10                       | 1.8                         | 2.3                         |
| 1                | 25      | 25       | 90     | 28       | 33.7     | 100     | 161                  | 175                  | 30.0   | 163                  | 197                  | 78                   | 86                   | 1/8   | 10                       | 10                       | 2.5                         | 3.0                         |
| 1 1/4            | 32      | 32       | 110    | 36       | 42.0     | 110     | 166                  | 180                  | 36.5   | 163                  | 197                  | 78                   | 86                   | 1/8   | 10                       | 10                       | 3.5                         | 3.5                         |
| 1 1/2            | 40      | 40       | 120    | 43       | 48.3     | 125     | 193                  | 205                  | 40.5   | 197                  | 193                  | 86                   | 100                  | 1/8   | 10                       | 10                       | 4.5                         | 6.2                         |
| 2                | 50      | 50       | 140    | 54       | 60.3     | 150     | 200                  | 227                  | 50.0   | 197                  | 231                  | 86                   | 115                  | 1/8   | 10                       | 10                       | 7.7                         | 8.9                         |
| 2 1/2            | 65      | 65       | 185    | 70       | 76.1     | 190     | 230                  | 273                  | 72.5   | 193                  | 266                  | 100                  | 143                  | 1/4   | 10                       | 19                       | 12.9                        | -                           |
| 3                | 80      | 80       | 205    | 82       | 88.9     | 220     | 256                  | 284                  | 89.0   | 231                  | 266                  | 115                  | 143                  | 1/4   | 10                       | 19                       | 19.1                        | -                           |
| 4                | 100     | 100      | 240    | 106      | 114.3    | 270     | 307                  | -                    | 102.0  | 266                  | -                    | 143                  | -                    | 1/4   | 19                       | -                        | 27.4                        | -                           |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

**Order Details** (example: KUP-ZA R15 C A 0)

| Model  |                   | Connection size  | Actuation  | Solenoid valve   | Limit switch                        |
|--------|-------------------|--|--|--|-------------------------------------|
| KUP-ZA | female thread     | R15 = G 1/2<br>R20 = G 3/4<br>R25 = G 1<br>R32 = G 1 1/4<br>R40 = G 1 1/2<br>R50 = G 2<br>R65 = G 2 1/2<br>R80 = G 3<br>R1H = G 4    | C = single-acting, default CLOSED<br>O = single-acting, default OPEN | A = without<br>B = 3/2-way (24 V <sub>DC</sub> )<br>C = 3/2-way (230 V <sub>AC</sub> ) | 0 = without<br>2 = 2 limit switches |
|        | welded connection | W15 = DN 15<br>W20 = DN 20<br>W25 = DN 25<br>W32 = DN 32<br>W40 = DN 40<br>W50 = DN 50<br>W65 = DN 65<br>W80 = DN 80<br>W1H = DN 100 | D = double-acting  | F = 5/2-way (24 V <sub>DC</sub> )<br>G = 5/2-way (230 V <sub>AC</sub> )                |                                     |



## 2-Way Stainless Steel Ball Valve with Pneumatic Actuator Model KUP-VH

### Design

Two-piece threaded joint body design with full cylindrical bore.

Operation: pneumatic single- or double-acting

Pilot pressure: 6...8 bar

Pilot media: filtered air

Mounting position: any

Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

### KUP-VH

### Technical Details Flow Fitting

Connections: female thread G 1/2... G 2

Temperature range: -20 °C...+110 °C

Nominal pressure: PN 16

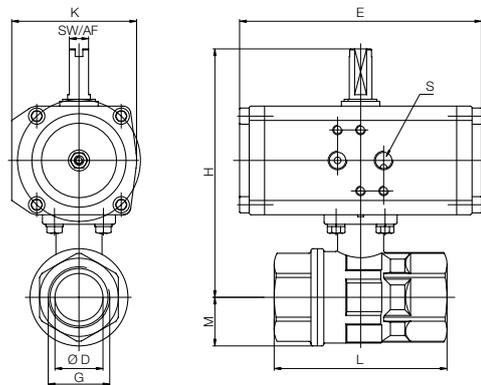
### Materials

Body: stainless steel 1.4408

Ball: stainless steel 1.4401

Ball gaskets: PTFE

Spindle gasket: PTFE/FKM



### Dimensions

| Screw thread [G] | Ø D [mm] | L [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S [G] | SW/AF [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|------------------|----------|--------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|-------|------------|-----------------------------|-----------------------------|
| 1/2              | 15       | 67     | 118                  | 132                  | 17     | 126                  | 163                  | 65                   | 78                   | 1/8   | 10         | 1.2                         | 1.7                         |
| 3/4              | 20       | 78     | 120                  | 134                  | 21     | 126                  | 163                  | 65                   | 78                   | 1/8   | 10         | 1.4                         | 2.0                         |
| 1                | 24       | 90     | 130                  | 144                  | 26     | 126                  | 163                  | 65                   | 78                   | 1/8   | 10         | 1.9                         | 2.4                         |
| 1 1/4            | 32       | 100    | 134                  | 162                  | 32     | 126                  | 197                  | 65                   | 86                   | 1/8   | 10         | 2.2                         | 2.8                         |
| 1 1/2            | 40       | 112    | 162                  | 188                  | 39     | 163                  | 193                  | 78                   | 100                  | 1/8   | 10         | 3.6                         | 5.2                         |
| 2                | 50       | 135    | 171                  | 197                  | 49     | 163                  | 193                  | 78                   | 100                  | 1/8   | 10         | 4.8                         | 6.5                         |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

### Order Details (example: KUP-VH R15 C A 0)

| Model  | Connection size  | Actuation   | Solenoid valve   | Limit switch                        |
|--------|--|---|--|-------------------------------------|
| KUP-VH | R15 = G 1/2<br>R20 = G 3/4<br>R25 = G 1<br>R32 = G 1 1/4<br>R40 = G 1 1/2<br>R50 = G 2 | C = single-acting, default CLOSED<br>O = single-acting, default OPEN<br>D = double-acting | A = without  | 0 = without<br>2 = 2 limit switches |
|        |  |   | B = 3/2-way (24 V <sub>DC</sub> )<br>C = 3/2-way (230 V <sub>AC</sub> )<br>F = 5/2-way (24 V <sub>DC</sub> )<br>G = 5/2-way (230 V <sub>AC</sub> ) |                                     |



**Design**

Four-piece threaded joint body design, with mounting pad for actuator mounting, full cylindrical bore, T or L bore, universal sealing. Does not prevent crossover flow.

- Operation: pneumatic single- or double-acting
- Position: specify with order! (see table)
- Pilot pressure: 6... 8 bar
- Pilot media: filtered air
- Mounting position: any
- Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

**Technical Details Flow Fitting**

- Connections: female thread G 1/2... G 2
- Temperature range: -20 °C... +150 °C
- Nominal pressure: PN 16 (up to G 1)  
PN 10 (from G 1 1/4)

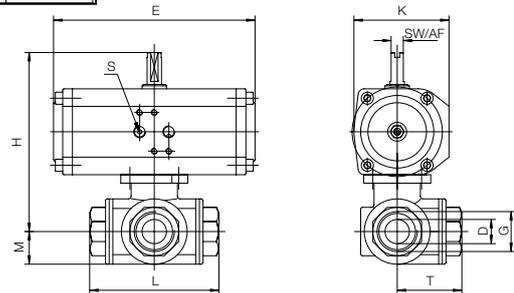
**Materials**

- Body: brass, nickel-plated
- Ball: brass, hart chrome-plated
- Ball gaskets: PTFE
- Spindle gasket: PTFE/FKM

**Positions**

|                             | T-bore |  |  |  | L-bore |  |  |
|-----------------------------|--------|--|--|--|--------|--|--|
| Handle or actuator mounting |        |  |  |  |        |  |  |
| 0° position                 |        |  |  |  |        |  |  |
| 90° position                |        |  |  |  |        |  |  |

**KUP-VN**



**Dimensions**

| Screw thread [G] | Ø D [mm] | L [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S <sup>1)</sup> [G] | S <sup>2)</sup> [G] | T [mm] | SW/AF [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|------------------|----------|--------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|--------|------------|-----------------------------|-----------------------------|
| 1/4              | 8        | 67.0   | 135                  | 135                  | 17.0   | 126                  | 126                  | 65                   | 65                   | 1/8                 | 1/8                 | 33,5   | 10         | 1.5                         | 1.5                         |
| 3/8              | 10       | 77.0   | 135                  | 135                  | 17.0   | 126                  | 126                  | 65                   | 65                   | 1/8                 | 1/8                 | 33,5   | 10         | 1.5                         | 1.5                         |
| 1/2              | 15       | 77.0   | 139                  | 153                  | 20.0   | 126                  | 163                  | 65                   | 78                   | 1/8                 | 1/8                 | 38,5   | 10         | 1.6                         | 2.1                         |
| 3/4              | 20       | 87.0   | 152                  | 166                  | 24.0   | 126                  | 163                  | 64                   | 78                   | 1/8                 | 1/8                 | 43,5   | 10         | 1.9                         | 2.4                         |
| 1                | 25       | 105.0  | 179                  | 193                  | 30.0   | 163                  | 197                  | 78                   | 86                   | 1/8                 | 1/8                 | 52,5   | 10         | 3.1                         | 3.1                         |
| 1 1/4            | 32       | 122.5  | 192                  | 206                  | 36.0   | 163                  | 197                  | 78                   | 86                   | 1/8                 | 1/8                 | 61,3   | 10         | 4.1                         | 5.8                         |
| 1 1/2            | 40       | 138.5  | 221                  | 233                  | 43.0   | 197                  | 193                  | 86                   | 100                  | 1/8                 | 1/4                 | 69,3   | 10         | 7.6                         | 7.6                         |
| 2                | 50       | 166.0  | 240                  | 267                  | 55.5   | 197                  | 231                  | 86                   | 115                  | 1/8                 | 1/4                 | 83,0   | 10         | 11.4                        | 12.6                        |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

**Order Details** (example: KUP-VN T 1 R08 C A 0)

| Model  | 3-way version | Position*                   | Connection size   | Actuation  | Solenoid valve   | Limit switch                        |
|--------|---------------|-----------------------------|---|--|--|-------------------------------------|
| KUP-VN | T = T-bore    | 1 = standard<br>2<br>3<br>4 | R08 = G 1/2<br>R10 = G 3/8<br>R15 = G 1/2<br>R20 = G 3/4<br>R25 = G 1 | C = single-acting, default CLOSED<br>O = single-acting, default OPEN | A = without<br>B = 3/2-way (24 V <sub>DC</sub> )<br>C = 3/2-way (230 V <sub>AC</sub> ) | 0 = without<br>2 = 2 limit switches |
|        | L = L-bore    | 5 = standard<br>6<br>7      | R32 = G 1 1/4<br>R40 = G 1 1/2<br>R50 = G 2                           | D = double-acting  | F = 5/2-way (24 V <sub>DC</sub> )<br>G = 5/2-way (230 V <sub>AC</sub> )                |                                     |

\* See above



## 3-Way Stainless Steel Ball Valve with Pneumatic Actuator Model KUP-PD

### Design

Four-piece threaded joint body design with mounting pad for actuator mounting, reduced cylindrical bore, T or L bore, universal sealing. Does not prevent crossover flow.

Operation: pneumatic single- or double-acting  
 Position: specify with order! (see table)  
 Pilot pressure: 6...8 bar  
 Pilot media: filtered air  
 Mounting position: any  
 Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

### Technical Details Flow Fitting

Connections: female thread G 1/2... G 2  
 Temperature range: -30 °C...+110 °C  
 Nominal pressure: PN 16

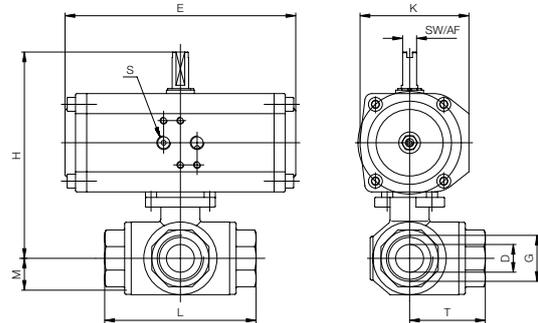
### Materials

Body: stainless steel 1.4408  
 Ball: stainless steel 1.4408  
 Ball gaskets: PTFE  
 Spindle gasket: PTFE/FKM

### Positions

|                             | T-bore |  |  |  | L-bore |  |  |
|-----------------------------|--------|--|--|--|--------|--|--|
| Handle or actuator mounting |        |  |  |  |        |  |  |
| 0° position                 |        |  |  |  |        |  |  |
| 90° position                |        |  |  |  |        |  |  |

### KUP-PD



### Dimensions

| Screw thread [G] | Ø D [mm] | L [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S <sup>1)</sup> [G] | S <sup>2)</sup> [G] | T [mm] | SW/AF [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|------------------|----------|--------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|--------|------------|-----------------------------|-----------------------------|
| 1/2              | 11       | 79     | 136                  | 150                  | 18.0   | 126                  | 163                  | 65                   | 78                   | 1/8                 | 1/8                 | 40.0   | 10         | 1.6                         | 2.2                         |
| 3/4              | 16       | 88     | 150                  | 164                  | 22.5   | 126                  | 163                  | 65                   | 78                   | 1/8                 | 1/8                 | 44.0   | 10         | 2.0                         | 2.6                         |
| 1                | 20       | 108    | 171                  | 185                  | 26.0   | 163                  | 197                  | 78                   | 86                   | 1/8                 | 1/8                 | 55.0   | 10         | 3.1                         | 4.1                         |
| 1 1/4            | 25       | 124    | 203                  | 215                  | 33.5   | 197                  | 193                  | 86                   | 100                  | 1/8                 | 1/4                 | 61.0   | 10         | 4.8                         | 5.8                         |
| 1 1/2            | 32       | 134    | 225                  | 240                  | 37.5   | 193                  | 231                  | 100                  | 115                  | 1/4                 | 1/4                 | 67.0   | 10         | 6.9                         | 8.4                         |
| 2                | 40       | 164    | 259                  | 287                  | 48.0   | 231                  | 266                  | 115                  | 143                  | 1/4                 | 1/4                 | 84.0   | 10         | 13.5                        | 13.5                        |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

### Order Details (example: KUP-PD T 1 R15 C A 0)

| Model  | 3-way version | Position*                   | Connection size  | Actuation  | Solenoid valve   | Limit switch                        |
|--------|---------------|-----------------------------|--|--|--|-------------------------------------|
| KUP-PD | T = T-bore    | 1 = standard<br>2<br>3<br>4 | R15 = G 1/2<br>R20 = G 3/4<br>R25 = G 1<br>R32 = G 1 1/4 | C = single-acting, default CLOSED<br>O = single-acting, default OPEN | A = without<br>B = 3/2-way (24 V <sub>DC</sub> )<br>C = 3/2-way (230 V <sub>AC</sub> ) | 0 = without<br>2 = 2 limit switches |
|        | L = L-bore    | 5 = standard<br>6<br>7      | R40 = G 1 1/2<br>R50 = G 2                               | D = double-acting  | F = 5/2-way (24 V <sub>DC</sub> )<br>G = 5/2-way (230 V <sub>AC</sub> )                |                                     |

\* see above



**Design**

Multipart body design with full cylindrical bore (DN 25 ... DN 125: single-part version; DN 150 ... DN 200: two-part version), with mounting pad for actuator as per ISO 5211.

- Operation: pneumatic single- or double-acting
- Position: specify with order! (see table)
- Pilot pressure: 6 ... 8 bar
- Pilot media: filtered air
- Mounting position: any
- Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

**KUP-VO**

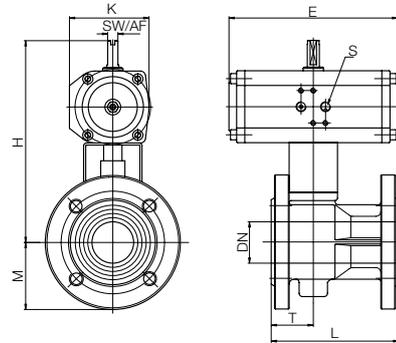


**Technical Details Flow Fitting**

- Connections: flanges as per DIN 2533  
DN 25 ... DN 200  
overall length as per DIN 3202-F4/5
- Temperature range: -20 °C ... +160 °C
- Nominal pressure: PN 16 dimensioned, with threaded holes

**Materials**

- Body: cast iron GG-25
- Ball: stainless steel 1.4301
- Ball gaskets: PTFE
- Spindle gasket: PTFE/FKM



**Dimensions**

| Flange [DN] | L [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S <sup>1)</sup> [G] | S <sup>2)</sup> [G] | T [mm] | SW/AF <sup>1)</sup> [mm] | SW/AF <sup>2)</sup> [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|-------------|--------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|--------|--------------------------|--------------------------|-----------------------------|-----------------------------|
| 25          | 125    | 166                  | 194                  | 58,0   | 126                  | 197                  | 65                   | 86                   | 1/8                 | 1/8                 | 42     | 10                       | 10                       | 4.2                         | 4.7                         |
| 32          | 130    | 187                  | 201                  | 70,0   | 163                  | 197                  | 78                   | 86                   | 1/8                 | 1/4                 | 47     | 10                       | 10                       | 6.4                         | 8.1                         |
| 40          | 140    | 216                  | 242                  | 75,0   | 163                  | 193                  | 78                   | 100                  | 1/8                 | 1/4                 | 49     | 10                       | 10                       | 7.7                         | 9.4                         |
| 50          | 150    | 236                  | 251                  | 83,0   | 197                  | 193                  | 86                   | 100                  | 1/8                 | 1/4                 | 52     | 10                       | 10                       | 9.9                         | 12.3                        |
| 65          | 170    | 262                  | 277                  | 93,0   | 193                  | 231                  | 100                  | 115                  | 1/4                 | 1/4                 | 65     | 10                       | 10                       | 14.5                        | 15.3                        |
| 80          | 180    | 288                  | 316                  | 100,0  | 231                  | 266                  | 115                  | 143                  | 1/4                 | 1/4                 | 66     | 10                       | 19                       | 18.2                        | 20.4                        |
| 100         | 190    | 335                  | 355                  | 110,0  | 266                  | 300                  | 143                  | 137                  | 1/4                 | 1/4                 | 89     | 19                       | 20                       | 26.2                        | 28.6                        |
| 125         | 200    | 357                  | 377                  | 125,0  | 266                  | 300                  | 143                  | 137                  | 1/4                 | 1/4                 | 100    | 19                       | 20                       | 39.1                        | 40.9                        |
| 150         | 210    | 440                  | 478                  | 142,5  | 300                  | 380                  | 137                  | 172                  | 1/4                 | 1/4                 | 105    | 20                       | 28                       | 52.9                        | 60.1                        |
| 200         | 400    | 520                  | 577                  | 170,0  | 380                  | 478                  | 172                  | 224                  | 1/4                 | 1/4                 | 200    | 28                       | 32                       | 113.1                       | 128.2                       |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

**Order Details** (example: KUP-VO F25 C A 0)

| Model  | Connection size  | Actuation   | Solenoid valve | Limit switch                        |
|--------|--|---|----------------|-------------------------------------|
| KUP-VO | F25 = DN25<br>F32 = DN32<br>F40 = DN40<br>F50 = DN50<br>F65 = DN65<br>F80 = DN80<br>F1H = DN100<br>F1Z = DN125<br>F1F = DN150<br>F2H = DN200 | C = single-acting, CLOSED<br>O = single-acting, OPEN                    | A = without    | 0 = without<br>2 = 2 limit switches |
|        | B = 3/2-way (24 V <sub>DC</sub> )<br>C = 3/2-way (230 V <sub>AC</sub> )  |   |                |                                     |
|        | D = double-acting  | F = 5/2-way (24 V <sub>DC</sub> )<br>G = 5/2-way (230 V <sub>AC</sub> ) |                |                                     |



## 2-Way Stainless Steel Flange Ball Valve with Pneumatic Actuator Model KUP-VK

### Design

Single-part body design with full cylindrical bore, with mounting pad for actuator as per ISO5211. Approval to TA-Luft (German Technical Instructions on Air Quality).

Operation: pneumatic single- or double-acting  
 Position: specify with order! (see table)  
 Pilot pressure: 6...8 bar  
 Pilot media: filtered air  
 Mounting position: any  
 Options: 3/2- or 5/2-way solenoid valve electric /mechanic limit switches

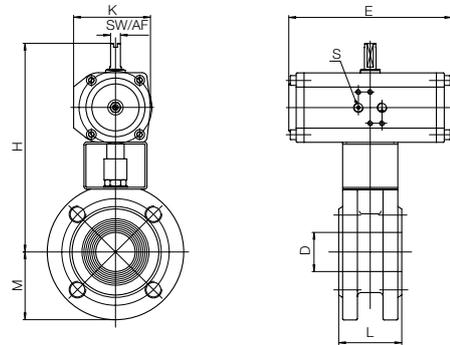
### Technical Details Flow Fitting

Connections: flanges as per DIN 2533  
 DN 15...DN 200  
 Temperature range: -20°C...+160°C  
 Nominal pressure: PN 16 dimensioned, with threaded holes

### Materials

Body: stainless steel 1.4408/01  
 Ball: stainless steel 1.4401  
 Ball gaskets: PTFE  
 Spindle gasket: PTFE/FKM

### KUP-VK



### Dimensions

| Flange [DN] | D [mm] | L [mm] | H <sup>1)</sup> [mm] | H <sup>2)</sup> [mm] | M [mm] | E <sup>1)</sup> [mm] | E <sup>2)</sup> [mm] | K <sup>1)</sup> [mm] | K <sup>2)</sup> [mm] | S <sup>1)</sup> [G] | S <sup>2)</sup> [G] | SW/AF <sup>1)</sup> [mm] | SW/AF <sup>2)</sup> [mm] | Weight <sup>1)3)</sup> [kg] | Weight <sup>2)3)</sup> [kg] |
|-------------|--------|--------|----------------------|----------------------|--------|----------------------|----------------------|----------------------|----------------------|---------------------|---------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|
| 15          | 15     | 35     | 149                  | 163                  | 45.0   | 126                  | 163                  | 65                   | 78                   | 1/8                 | 1/8                 | 10                       | 10                       | 2.2                         | 2.4                         |
| 20          | 20     | 40     | 153                  | 167                  | 50.0   | 126                  | 163                  | 65                   | 78                   | 1/8                 | 1/8                 | 10                       | 10                       | 2.8                         | 3.3                         |
| 25          | 25     | 46     | 168                  | 196                  | 55.0   | 126                  | 197                  | 65                   | 86                   | 1/8                 | 1/8                 | 10                       | 10                       | 3.6                         | 4.1                         |
| 32          | 32     | 54     | 189                  | 203                  | 64.0   | 163                  | 197                  | 78                   | 86                   | 1/8                 | 1/8                 | 10                       | 10                       | 5.6                         | 7.3                         |
| 40          | 40     | 63     | 214                  | 240                  | 75.0   | 163                  | 193                  | 78                   | 100                  | 1/8                 | 1/4                 | 10                       | 10                       | 5.7                         | 7.4                         |
| 50          | 50     | 82     | 237                  | 249                  | 82.5   | 197                  | 193                  | 86                   | 100                  | 1/8                 | 1/4                 | 10                       | 10                       | 8.8                         | 10.0                        |
| 65          | 65     | 103    | 264                  | 279                  | 92.0   | 193                  | 231                  | 100                  | 115                  | 1/4                 | 1/4                 | 10                       | 10                       | 8.9                         | 12.2                        |
| 80          | 80     | 122    | 288                  | 309                  | 100.0  | 231                  | 266                  | 115                  | 143                  | 1/4                 | 1/4                 | 10                       | 19                       | 17.8                        | 18.3                        |
| 100         | 100    | 153    | 333                  | 373                  | 110.0  | 266                  | 300                  | 143                  | 137                  | 1/4                 | 1/4                 | 19                       | 20                       | 25.4                        | 29.5                        |
| 125         | 125    | 196    | 325                  | 395                  | 127.0  | 266                  | 300                  | 143                  | 137                  | 1/4                 | 1/4                 | 19                       | 20                       | 42.0                        | 45.7                        |
| 150         | 150    | 232    | 440                  | 478                  | 152.0  | 300                  | 380                  | 137                  | 172                  | 1/4                 | 1/4                 | 20                       | 28                       | 57.1                        | 64.3                        |
| 200         | 200    | 317    | 552                  | 579                  | 200.0  | 380                  | 478                  | 172                  | 224                  | 1/4                 | 1/4                 | 28                       | 32                       | 94.7                        | 111.3                       |

<sup>1)</sup> Double-acting actuator    <sup>2)</sup> Single-acting actuator    <sup>3)</sup> Weight without springs

### Order Details (example: KUP-VK F15 C A 0)

| Model  | Connection size  | Actuation  | Solenoid valve  | Limit switch  |
|--------|--|--|---|---|
| KUP-VK | <b>F15</b> = DN 15<br><b>F20</b> = DN 20<br><b>F25</b> = DN 25<br><b>F32</b> = DN 32<br><b>F40</b> = DN 40<br><b>F50</b> = DN 50<br><b>F65</b> = DN 65<br><b>F80</b> = DN 80<br><b>F1H</b> = DN 100<br><b>F1Z</b> = DN 125<br><b>F1F</b> = DN 150<br><b>F2H</b> = DN 200 | <b>C</b> = single-acting, default CLOSED<br><br><b>O</b> = single-acting, default OPEN | <b>A</b> = without  | <b>0</b> = without<br><br><b>2</b> = 2 limit switches |
|        |  |  | <b>B</b> = 3/2-way (24 V <sub>DC</sub> )<br><b>C</b> = 3/2-way (230 V <sub>AC</sub> ) |   |
|        |  | <b>D</b> = double-acting   | <b>F</b> = 5/2-way (24 V <sub>DC</sub> )<br><b>G</b> = 5/2-way (230 V <sub>AC</sub> ) |   |