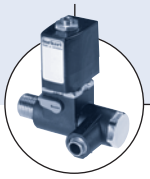
# 2/2-way Angle-Seat Valve, compact valve body, for media up to +180 °C, DN13-65



- Ultra compact version, short face-to-face length
- Long service life
- Valve body in gunmetal and stainless steel
- Deliverable with flow direction below or above seat

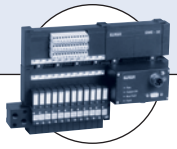
Type 2002 can be combined with...



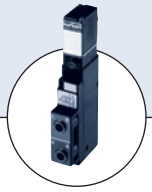
**Type 6012/6014 P**
Pilot valve



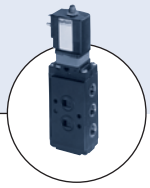
**Type 8631**
TopControl On/Off



**Type 8640/8644**
Valve block



**Type 5470**
Solenoid valve



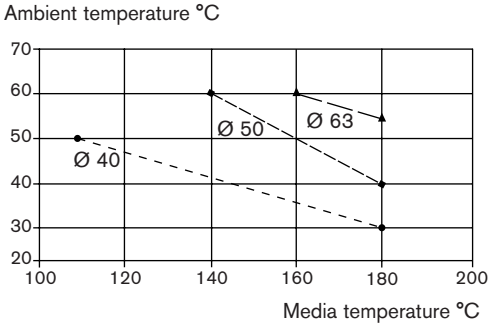
**Type 6519**
**NAMUR**

The pneumatically operated 2/2-way valve is operated with a piston actuator.

The actuator is available in two different materials, depending on the ambient temperature. The standard material is PA for high ambient temperatures (e.g. external sterilization) PPS is available for temperatures up to 140°C.High flow rates are attained with the gunmetal or stainless steel 2-way body with a short face-to-face length. Compatible with the Type 0251.

The reliable self-adjusting packing gland provides high sealing integrity. These maintenance-free and robust valves can be retrofitted with a comprehensive range of accessories for position indication, stroke limitation or manual override.

[1]**Note:** For PA actuators in the sizes 40, 50 and 63, the combination of max. media temperature and max. ambient temperature is as shown in the following chart:



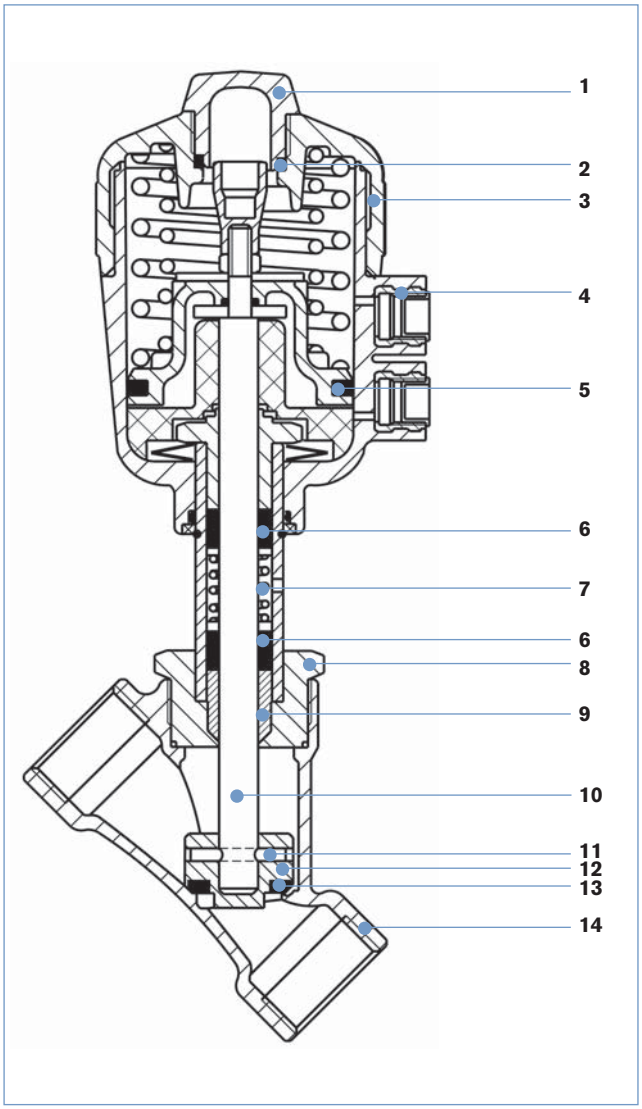

| **Technical data** | Flow direction below seat (for gases and fluids) |
|---|---|
| **Orifice** | DN 13 - 65 |
| **Body materials** | Gunmetal, cast stainless steel 316L |
| **Actuator material** | PA or PPS |
| **Seal material** | PTFE (NBR, FPM and EPDM on request) |
| **Media** | Water, alcohol, oils, fuels, salt solutions, hydraulic fluids alkaline solutions, steam, organic solutions |
| **Viscosity** | Max. 600 $mm^2/s$ |
| **Packing gland** (with silicone grease ) | PTFE V-rings with spring compensation |
| **Media temperature**[1] | -10 to +180 °C with PTFE seal |
| **Ambient temperature**<br>**PA actuator**[1]<br>**PPS actuator**<br>Actuator sizes Ø 40-80<br>Actuator sizes Ø 100-125 | <br>-10 to +60 °C<br><br>+5 to +140 °C<br>+5 to +90 °C, (briefly up to 140° C) |
| **Face-to-face length** | As Bürkert Type 0251 |
| **Installation** | As required, preferably with actuator in upright position |
| **Control medium** | Neutral gases, air |
| **Max. pilot pressure**<br>Actuator size Ø 40 - 80<br>Actuator size Ø 100<br>Actuator size Ø 100<br>Actuator size Ø 125 | <br>PA/PPS 10 bar<br>PA 10 bar<br>PPS 7 bar<br>PA/PPS 7 bar |
| **Port connections** | G 3/8 to G 2 1/2 (NPT on request) |

| | |
|---|---|
| **Flow rate**<br>Kv-value Water [$m^3/h$] | Measured at +20 °C, 1 bar pressure at valve inlet and free outlet |
| **Pressure values [bar]** | Gauge pressures with respect to the prevailing atmosphere pressure |



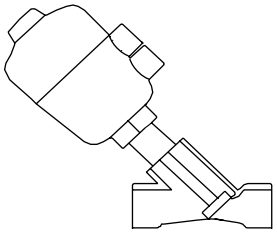
bürkert
Fluid Control Systems

## Materials

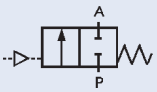



| | Description | Gunmetal body | Stainless steel body |
|---|---|---|---|
| 1 | Transparent cap | PC/PSU | PC/PSU |
| 2 | O-Ring | FPM | FPM |
| 3 | Actuator | PA/PPS | PA/PPS |
| 4 | Pilot air ports G 1/8 | Brass | 1.4305 |
| 5 | Cylinder seal | NBR/FPM | NBR/FPM |
| 6 | V-seals | PTFE | PTFE |
| 7 | Tension spring | 1.4310 | 1.4310 |
| 8 | Nipple | Brass CuZn | Brass CuZn |
| 9 | Wiper | PTFE | PTFE |
| 10 | Spindle | 1.4401 | 1.4401 |
| 11 | Pin | 1.4401 | 1.4401 |
| 12 | Swivel plate | CuZb36Pb1.5 | 1.4401 |
| 13 | Seals | PTFE | PTFE |
| 14 | Valve body | Gunmetal G-CuSn5ZnPb2%Ni | Stainless steel 1.4408 |

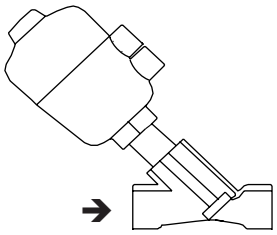
## **Ordering chart for valves** with flow direction below the seat (other versions on request)



**Flow direction below the seat**

| Control function | Orifice [mm] | Port connection | Actuator size Ø [mm] | Kv value water [m³/h] | Min. pilot pressure [bar] | Max. operating pressure to 180°C [bar] | Weight | Gunmetal body | | Stainless steel body | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Item no. PA actuator | Item no. PPS actuator | Item no. PA actuator | Item no. PPS actuator |
| **A**  2/2-way valve, NC with spring action | 13 | G 3/8 | 40 | 3.8 | 4.0 | 15 | 0.7 | 142 609 | 141 400 | 140 331 | 141 403 |
| | | G 1/2 | 40 | 3.8 | 4.0 | 15 | 0.7 | 140 321 | 141 401 | 140 332 | 141 404 |
| | | G 3/8 | 50 | 4.2 | 3.9 | 16 | 0.8 | 140 323 | 140 913 | 140 334 | 140 938 |
| | | G 1/2 | 50 | 4.2 | 3.9 | 16 | 0.8 | 140 324 | 140 914 | 140 335 | 140 939 |
| | 20 | G 3/4 | 40 | 7.0 | 4.0 | 6.5 | 0.9 | 140 322 | 142 869 | 140 333 | 141 780 |
| | | | 50 | 8.5 | 3.9 | 11 | 1.0 | 140 325 | 140 917 | 140 336 | 140 942 |
| | | | 63 | 9.0 | 4.2 | 16 | 1.5 | 140 919 | 142 871 | 140 944 | 142 876 |
| | 25 | G 1 | 63 | 18 | 4.2 | 11 | 1.8 | 140 326 | 140 922 | 140 337 | 140 947 |
| | | | 80 | 18 | 5.0 | 16 | 2.2 | 140 925 | 141 317 | 140 950 | 142 882 |
| | 32 | G 1 1/4 | 63 | 25 | 4.2 | 6.0 | 2.7 | 140 924 | 142 884 | 140 949 | 142 889 |
| | | | 80 | 27 | 5.0 | 15 | 3.1 | 140 327 | 140 927 | 140 338 | 140 952 |
| | 40 | G 1 1/2 | 80 | 38 | 5.0 | 10 | 3.5 | 140 928 | 140 929 | 140 953 | 140 954 |
| | | | 100 | 40 | 4.4 | 12.5 | 5.6 | 140 328 | 140 930 | 140 339 | 140 955 |
| | | | 125 | 40 | 3.2 | 16 | 9.0 | 140 933 | 142 891 | 140 958 | 142 897 |
| | 50 | G 2 | 100 | 60 | 4.4 | 7.2 | 7.0 | 140 931 | 140 932 | 140 956 | 140 957 |
| | | | 125 | 60 | 3.2 | 10 | 9.4 | 140 329 | 140 934 | 140 340 | 141 318 |
| | 65 | G 2 1/2 | 125 | 88 | 3.2 | 5.2 | 11.0 | 140 330 | 142 909 | 140 341 | 140 959 |

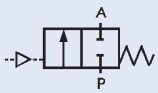
## **Ordering chart for valves** with flow direction above seat (other versions on request)



**Flow direction above the seat**

**Attention!**
Valves with flow over the seat are only conditionally usable for liquid media. There is a danger of waterhammer!

Various actuator and body materials
Minimum pilot pressure depending on operating pressure, please see Charts 1 and 2

| Control function | Orifice [mm] | Port connection | Actuator size Ø [mm] | Kv value water [m³/h] | Max. operating pressure to 180°C [bar] | Gunmetal body | | Stainless steel | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Item no. PA actuator | Item no. PPS actuator | Item no. PA actuator | Item no. PPS actuator |
| **A**  2/2-way valve, NC with spring action | 13 | G 3/8 | 40 | 3.8 | 16 | 140 342 | 141 406 | 140 355 | 141 409 |
| | | G 1/2 | 40 | 3.8 | 16 | 140 343 | 141 407 | 140 356 | 141 410 |
| | | G 3/8 | 50 | 4.2 | 16 | 140 345 | 140 963 | 140 358 | 140 983 |
| | | G 1/2 | 50 | 4.2 | 16 | 140 346 | 140 964 | 140 359 | 140 984 |
| | 20 | G 3/4 | 40 | 7.0 | 16 | 140 344 | 142 870 | 140 357 | 142 875 |
| | | | 50 | 8.5 | 16 | 140 347 | 140 967 | 140 360 | 141 320 |
| | 25 | G 1 | 50 | 10.0 | 16 | 140 969 | 142 877 | 140 987 | 142 881 |
| | | | 63 | 18.0 | 16 | 140 348 | 140 972 | 140 361 | 140 990 |
| | 32 | G 1 1/4 | 63 | 25.0 | 16 | 140 349 | 140 974 | 140 362 | 141 321 |
| | 40 | G 1 1/2 | 63 | 35.0 | 16 | 140 350 | 140 975 | 140 363 | 140 992 |
| | | | 80 | 38.0 | 16 | 140 351 | 141 319 | 140 364 | 142 896 |
| | 50 | G 2 | 63 | 52.0 | 16 | 140 352 | 140 976 | 140 365 | 142 905 |
| | | | 80 | 52.0 | 16 | 140 353 | 140 977 | 140 366 | 141 322 |
| | 65 | G 2 1/2 | 80 | 70.0 | 14 | 140 354 | 140 978 | 140 367 | – |
| | | | 100 | 88.0 | 16 | 140 979 | 142 908 | 140 993 | – |

### Pressure charts

with control function A and flow direction above the seat

**Chart 1**

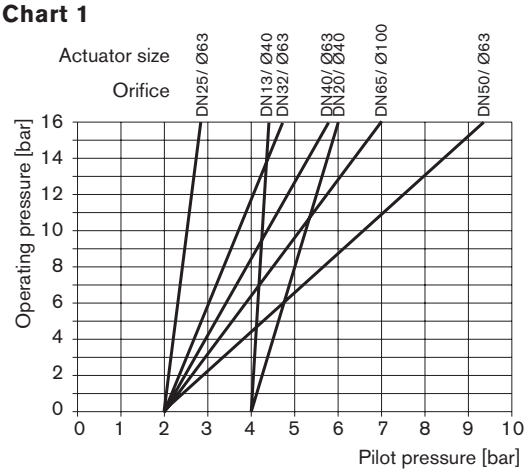
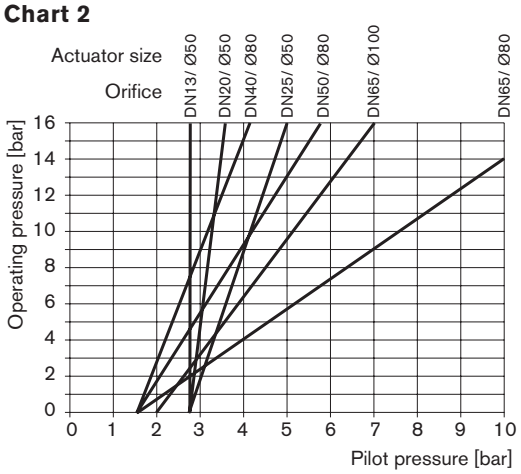
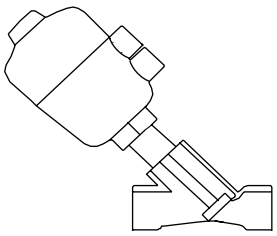



**Chart 2**

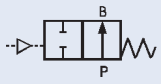


## **Ordering chart for valves** with flow direction below the seat (other versions on request)



**Flow direction below the seat**

Different actuators and body materials
Minimum pilot pressure depending on operating pressure, please see Charts 3 and 4

| Control function | Orifice [mm] | Actuator size Ø [mm] | Port connection | Kv value water [m³/h] | Max. operating pressure to 180°C [bar] | Gunmetal body | | Stainless steel body | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Item no. PA actuator | Item no. PPS actuator | Item no. PA actuator | Item no. PPS actuator |
| **B**  2/2-way valve, NO with spring action | 13 | G 3/8 | 40 | 3.8 | 16 | 142 610 | 141 412 | 140 379 | 141 415 |
| | | G 1/2 | | 3.8 | 16 | 140 369 | 141 413 | 140 380 | 141 416 |
| | | G 3/8 | 50 | 4.2 | 16 | 140 995 | 140 997 | 141 016 | 141 018 |
| | | G 1/2 | | 4.2 | 16 | 140 370 | 140 998 | 140 381 | 141 019 |
| | 20 | G 3/4 | 40 | 7.0 | 16 | 140 371 | 142 910 | 140 382 | 142 911 |
| | | G 3/4 | 50 | 8.5 | 16 | 140 372 | 141 001 | 140 383 | 141 022 |
| | 25 | G 1 | 50 | 10 | 16 | 141 003 | 142 912 | 141 024 | 142 913 |
| | | G 1 | 63 | 18 | 16 | 140 373 | 141 006 | 140 384 | 141 027 |
| | 32 | G 1 1/4 | 63 | 25 | 16 | 140 374 | 141 008 | 140 385 | 141 029 |
| | | G 1 1/4 | 80 | 38 | 16 | 141 009 | 142 914 | 141 030 | 142 915 |
| | 40 | G 1 1/2 | 63 | 35 | 16 | 140 375 | 141 010 | 140 386 | 141 031 |
| | | G 1 1/2 | 80 | 40 | 16 | 140 376 | 142 916 | 140 387 | 142 917 |
| | 50 | G 2 | 63 | 52 | 13 | 140 377 | 141 011 | 140 388 | 141 032 |
| | | G 2 | 80 | 55 | 15 | 140 378 | 141 012 | 140 389 | – |
| | 65 | G 2 1/2 | 80 | 70 | 16 | 141 013 | 141 014 | 141 033 | 141 034 |

### Pressure charts

with control function B and flow direction below the seat

**Chart 3**

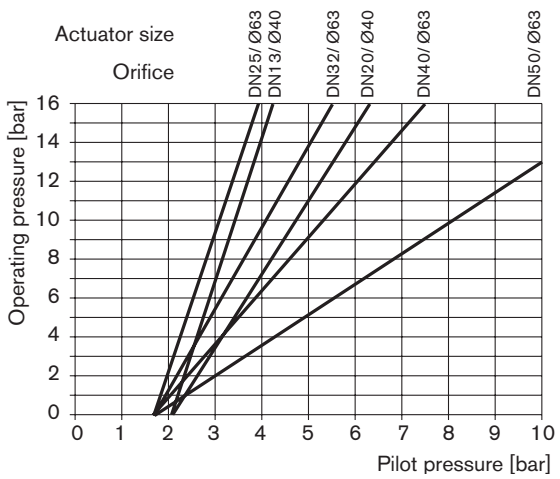
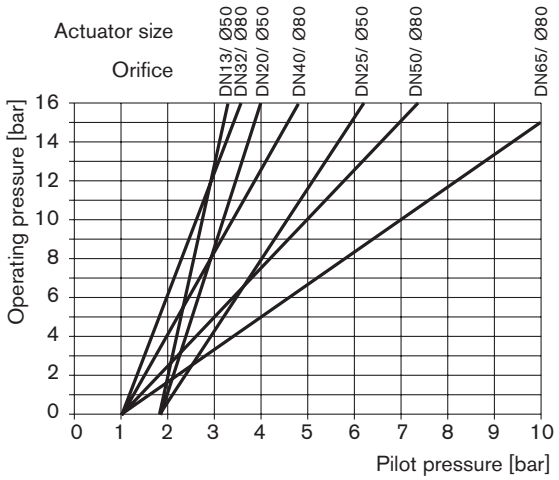



**Chart 4**



## Ordering chart for accessories (3/2-way pilot valves Types 6012P and 6014P with banjo bolt)

| Pilot valve according to actuator size | Voltage | Item no. |
|---|---|---|
| Type 6012 P for actuator Ø 40 mm | 024 V/DC | 425 299 |
| Control media inserts G 1/8 | 230 V/50 Hz | 425 304 |
| Type 6012 P for actuator Ø 50 and 63 mm | 024 V/DC | 425 285 |
| Control media inserts G 1/4 | 230 V/50 Hz | 425 290 |
| Type 6014 P for actuator Ø 80 to125 mm | 024 V/DC | 424 103 |
| Control media inserts G 1/4 | 230 V/50 Hz | 424 107 |

**Options and accessories (on request)**

- Control function I (double-acting actuator)
- TopControl On/Off Type 8631
- Electrical position feedback Type 1060 and 1062
- Magnet-inductive proximity sensors Type 1071
- Stroke limitation max. and min./max.
- Manual actuator
- NAMUR adapter for pilot valves with NAMUR flange
- Mounting key for actuator cover

**Note:**

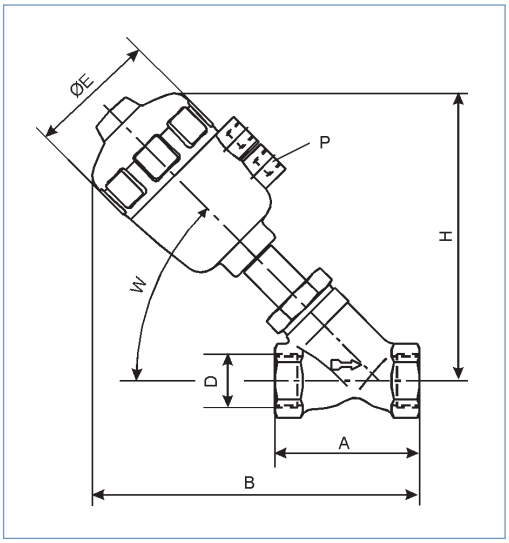
For design reasons, some of the accessories cannot be supplied for actuator size Ø 40 mm.
Please request the Accessories datasheet 2XXX.

**Approvals**

GL Approvals on request.

## Dimensions [mm]

| Orifice | Actuator size Ø | Port connection D | A | B | Ø E | H | P |
|---|---|---|---|---|---|---|---|
| 13 | 40 | G 3/8 | 65 | 137 | 53 | 113 | G 1/8 |
| | 40 | G 1/2 | 65 | 137 | 53 | 113 | G 1/8 |
| | 50 | G 3/8 | 65 | 163 | 64 | 136 | G 1/4 |
| | 50 | G 1/2 | 65 | 163 | 64 | 136 | G 1/4 |
| 20 | 40 | G 3/4 | 75 | 144 | 53 | 118 | G 1/8 |
| | 50 | G 3/4 | 75 | 167 | 64 | 144 | G 1/4 |
| | 63 | G 3/4 | 75 | 195 | 80 | 169 | G 1/4 |
| 25 | 50 | G 1 | 90 | 175 | 64 | 145 | G 1/4 |
| | 63 | G 1 | 90 | 199 | 80 | 170 | G 1/4 |
| | 80 | G 1 | 90 | 221 | 101 | 192 | G 1/4 |
| 32 | 63 | G 1 1/4 | 110 | 226 | 80 | 186 | G 1/4 |
| | 80 | G 1 1/4 | 110 | 255 | 101 | 210 | G 1/4 |
| 40 | 63 | G 1 1/2 | 120 | 229 | 80 | 189 | G 1/4 |
| | 80 | G 1 1/2 | 120 | 249 | 101 | 213 | G 1/4 |
| | 100 | G 1 1/2 | 120 | 300 | 127 | 260 | G 1/4 |
| | 125 | G 1 1/2 | 120 | 328 | 153 | 288 | G 1/4 |
| 50 | 63 | G 2 | 150 | 250 | 80 | 205 | G 1/4 |
| | 80 | G 2 | 150 | 270 | 101 | 225 | G 1/4 |
| | 100 | G 2 | 150 | 316 | 127 | 271 | G 1/4 |
| | 125 | G 2 | 150 | 346 | 153 | 301 | G 1/4 |
| 65 | 80 | G 2 1/2 | 185 | 296 | 101 | 239 | G 1/4 |
| | 100 | G 2 1/2 | 185 | 344 | 127 | 287 | G 1/4 |
| | 125 | G 2 1/2 | 185 | 372 | 153 | 315 | G 1/4 |




Angle **W** for gunmetal body 45°
for stainless steel body 42°

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In case of special application conditions, please consult for advice.

We reserve the right to make technical changes without notice.

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