

## 4/2 way Pneumatic Solenoid Valve



- Compact design
- Push-over solenoid coil
- Exhaust air can be regulated
- Tube, threaded and sub-base connections
- Seat valve version

Type 5420 combined with ...



**Type 2508**  
Cable plug



**Type 2510/11**  
Cable plug ASI



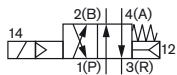
**Type 2012**  
Globe valve



**Type 2030**  
Diaphragm valve

The Type 5420 is a pilot-controlled 4 way seat valve with servo-diaphragms. A minimum differential pressure of 2.5 bar is needed for switch-over. The valve can be mounted on two-channel manifolds with a common pressure supply.

### Circuit function G



4/2 way servo-controlled solenoid valve

| Technical data                  |  |
|---------------------------------|--|
| <b>Orifice</b>                  | DN3.0 mm   |
| <b>Port connection</b>          | G 1/8, tube SL 6/4, sub-base   |
| <b>Body material</b>            | Polyamide  |
| <b>Coil material</b>            | Polyamide, Epoxy   |
| <b>Seal material</b>            | NBR  |
| <b>Medium</b>                   | Neutral medium, e.g. lubricated or unlubricated compressed air   |
| <b>Air pressure quality</b>     | ISO 8573 - 1:2010, class 7.4.4*  |
| <b>Medium Temperature</b>       | - 10 °C to + 60 °C   |
| <b>Medium pressure</b>          | 2.5 to 10 bar  |
| <b>Ambient Temperature</b>      | max. 55 °C   |
| <b>Q<sub>Nn</sub>-Value air</b> | 200 l/min  |
| <b>Operating voltage</b>        | 24 V DC<br>24/ 230 V/ 50-60 Hz   |
| <b>Voltage tolerance</b>        | + 10 %   |
| <b>Power consumption</b>        | version with V DC: 2 W<br>version with V AC: 11 VA (inrush), 6 VA (hold)                               |
| <b>Response time</b>            | opening: 30 ms (pressure rise 0 to 90%)<br>closing: 20 ms (pressure drop 100 to 10%)                   |
| <b>Duty cycle</b>               | 100% continuously rated  |
| <b>Electrical connection</b>    | Tag connectors according to DIN EN 175301 - 803 (previously DIN 43650) Form A for cable plug Type 2508 |
| <b>Protection class</b>         | IP65 with cable plug   |
| <b>Installation</b>             | As required, preferably with actuator upright  |

**Flow rate:** Q<sub>Nn</sub>-value air [l/min]; and response times [ms]:

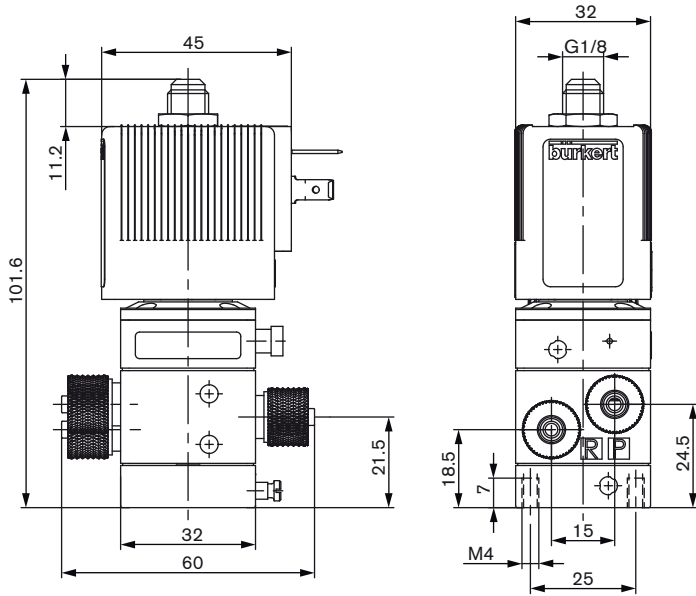
Measured at +20 °C, 6 bar pressure at valve inlet and 1 bar pressure difference.

**Pressure ranges [bar]:** Overpressure to the atmospheric pressure

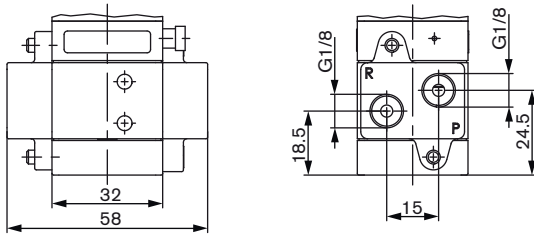
\* To prevent freezing of the expanded compressed air, the pressure dew point must be at least 10 K lower than the temperature of the medium.

Dimensions - Standard version [mm]

Tube connection for semi-soft plastic tubes (outer-Ø 6 mm, inner-Ø 4 mm).  
 For battery mounting, the union nuts on the Ports 1 and 3 are replaced by O-rings (10 × 2).



Threaded connection G 1/8



Ordering chart for valves - Standard version

Corrosion-resistant body in polyamide, with coil AC10 (32 mm), 2 W, seal material NBR, without cable plug

| Circuit function | Port connection 1 and 3 | Port connection 2 and 4 | Orifice [mm] | Q <sub>50</sub> value air [l/min] | Pressure range [bar] | Article no. per voltage/frequency [V/Hz] |             |             |
|------------------|-------------------------|-------------------------|--------------|-----------------------------------|----------------------|--|-------------|-------------|
|                  |                         |                         |              |                                   |                      | 024/DC                                   | 024/50 - 60 | 230/50 - 60 |
|                  | G 1/8                   | G 1/8                   | 3.0          | 200                               | 2.5 - 10             | 134622                                   | 134623      | 134625      |
|                  | Hose fitting 6/4        | Hose fitting 6/4        | 3.0          | 200                               | 2.5 - 10             | 134630                                   | 134631      | 134633      |
|                  | Flange for manifold     | G 1/8                   | 3.0          | 200                               | 2.5 - 10             | 134634                                   | 134635      | 134637      |
|                  | Flange for manifold     | Hose fitting 6/4        | 3.0          | 200                               | 2.5 - 10             | 134638                                   | 134639      | 134641      |

A pressure difference of 2.5 bar is necessary for switch-over.

## Type 5420 - ATEX/IECEx version



The approval Ex m is achieved by the mounting of an approved push-over coil. The cable connection and the cable are non-detachable and sealed together with the valve. The valves can be used individually or in blocks.

| Technical data               |  |
|------------------------------|--|
| <b>Body material</b>         | Polyamide  |
| <b>Seal material</b>         | NBR  |
| <b>Medium</b>                | neutral medium, e.g. lubricated or unlubricated compressed air   |
| <b>Air pressure quality</b>  | ISO 8573 - 1:2010, class 7.4.4*  |
| <b>Medium temperature</b>    | -10 °C to +60 °C   |
| <b>Ambient temperature</b>   |  |
| Single mounting              | -30 °C to +60 °C   |
| Block mounting               | -30 °C to +50 °C   |
| <b>Port connection</b>       | G 1/8, tube SL 6/4, sub-base   |
| <b>Operating voltage</b>     | 24/ 110/ 230 V UC  |
| <b>Voltage tolerance</b>     | + 10 %   |
| <b>Duty cycle</b>            | 100 % continuously rated   |
| <b>Electrical connection</b> | 3 m cable, moulded<br>Junction box (without fuse), moulded   |
| <b>Protection class</b>      | IP65   |
| <b>Type of protection</b>    |  |
| Coil                         | PTB 14 ATEX 2023 X / IECEx PTB 14.0049 X<br>II 2G Ex mb IIC T5 Gb<br>II 2D Ex mb IIIC T 100 °C Db      |
| Junction box                 | EPS 16 ATEX 1046 X / IECEx EPS 16.0021 X<br>II 2G EX eb mb IIC T5 Gb<br>II 2D EX mb tb IIIC T100 °C Db |
| <b>Installation</b>          | As required, preferably with actuator upright  |

\* To prevent freezing of the expanded compressed air, the pressure dew point must be at least 10 K lower than the temperature of the medium.

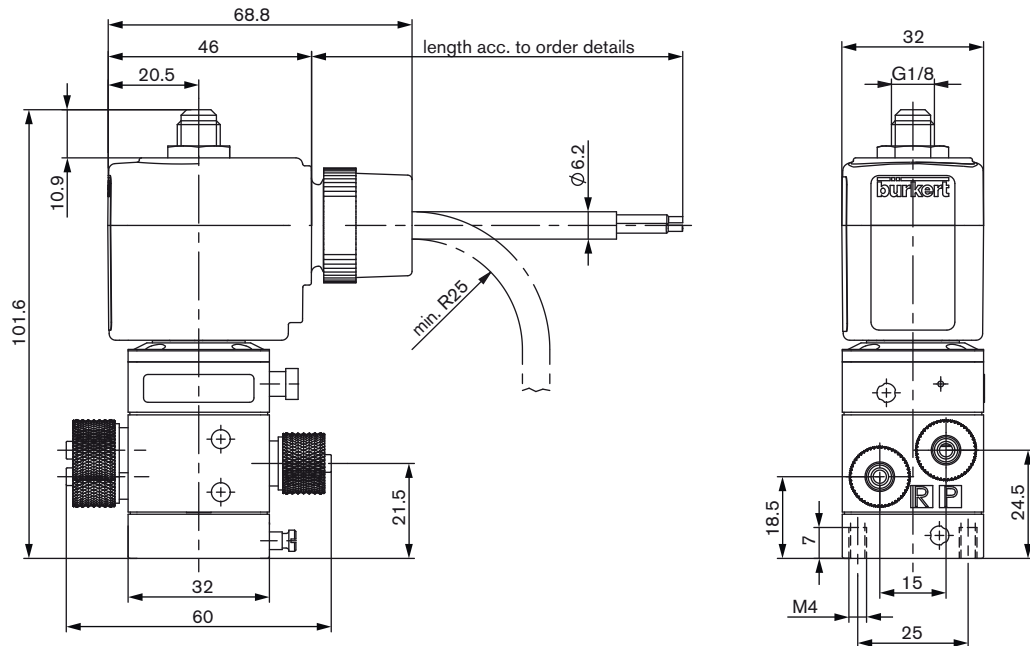
| Orifice<br>[mm] | Q <sub>Nn</sub> value<br>[l/min] | Port connection |         | Coil power<br>[W] | Pressure range<br>[bar] | Response times |              | Weight<br>[kg] |
|-----------------|----------------------------------|-----------------|---------|-------------------|-------------------------|----------------|--------------|----------------|
|                 |                                  | 1 and 3         | 2 and 4 |                   |                         | opening [ms]   | closing [ms] |                |
| 3               | 200                              | G 1/8           | G 1/8   | 3                 | 2.5 to 10               | 30             | 20           | ca 0.4         |
|                 |                                  | SL 6/4          | SL 6/4  |                   |                         |                |              |                |
|                 |                                  | sub-base *      | G 1/8   |                   |                         |                |              |                |
|                 |                                  | sub-base **     | SL 6/4  |                   |                         |                |              |                |

\* For full opening a differential pressure of 2.5 bar is required.

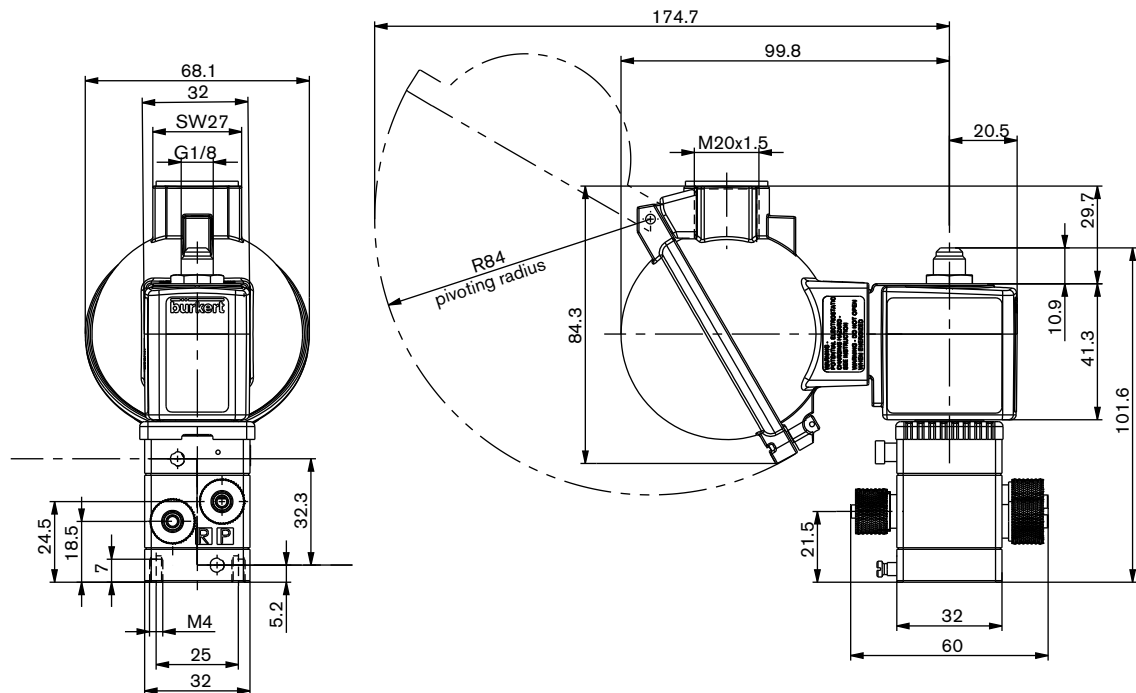
\*\* Sub-base for mounting on manifolds.

## Dimensions - ATEX/IECEx versions [mm]

## Version with moulded cable (3 m)



## Version with junction box



## Ordering chart - ATEX/IECEX versions

### Versions acc. to Ex m II T5, Polyamide body with manual override; with moulded cable (3 m long)

The maximum fluid temperature may never exceed the permissible temperature class (T4 135 °C, T5 100 °C, T6 85 °C) minus 5K.

| Circuit function | Port connections 1 and 3 | Port connections 2 and 4 | Orifice [mm] | C <sub>Nr</sub> value air [l/min] | Pressure range [bar] | Electrical connection usage | Article no. per voltage/frequency [V/Hz] |        |        |
|------------------|--------------------------|--------------------------|--------------|-----------------------------------|----------------------|-----------------------------|--|--------|--------|
|                  |                          |                          |              |                                   |                      |                             | 024/UC                                   | 110/UC | 230/UC |
| G 4/2 way valve  | G 1/8                    | G 1/8                    | 3.0          | 200                               | 2.5 - 10             | single device               | 278134                                   | x      | x      |
|                  | Hose fitting 6/4         | Hose fitting 6/4         | 3.0          | 200                               | 2.5 - 10             | Block mounted               | 278125                                   | x      | 278127 |
|                  | Sub-base for manifold    | G 1/8                    | 3.0          | 200                               | 2.5 - 10             |                             | 278130                                   | 278131 | 278132 |
|                  | Sub-base for manifold    | Hose fitting 6/4         | 3.0          | 200                               | 2.5 - 10             |                             | 278128                                   | x      | 278129 |

Note: Junction box on request

x on request

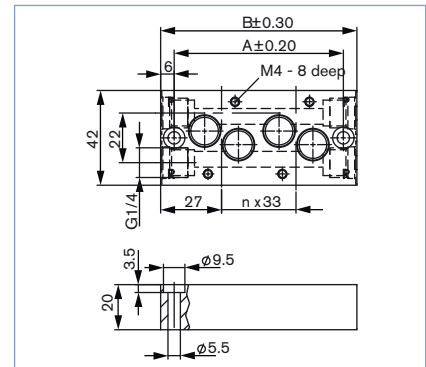
## Ordering chart for accessories

### Side by side manifolds made of light metal (Aluminium)

| Total Manifolds | Hole spacing A [mm] | Total length B [mm] | Article no. |
|-----------------|---------------------|---------------------|-------------|
| 2               | 75                  | 87                  | 005356      |
| 3               | 108                 | 120                 | 005357      |
| 4               | 141                 | 153                 | 005372      |
| 5               | 174                 | 186                 | 005373      |
| 6               | 207                 | 219                 | 005374      |
| 8               | 273                 | 285                 | 006553      |

#### Accessories for Manifolds

|  |        |
|--|--------|
| Silencer   | 005424 |
| Screw plug for unused ports 1 or 4                       | 005390 |
| Cover, complete, for unused valve positions on manifolds | 005432 |
| Nipple with O-rings for connecting junction plate        | 005049 |



### Cable plug Type 2508 acc. to DIN 43650 Form A

| Description           | Voltage           | Article no. |
|-----------------------|-------------------|-------------|
| Standard cable plug   | 0 - 250 V AC/DC   | 008376      |
| with LED              | 12 - 24 V AC/DC   | 008360      |
| with LED              | 100 - 120 V AC/DC | 008361      |
| with LED and varistor | 12 - 24 V AC/DC   | 008367      |
| with LED and varistor | 100 - 120 V AC/DC | 008368      |
| with LED and varistor | 200 - 240 V AC/DC | 008369      |

Note: The delivery of a cable plug includes the flat seal and fixing screw.



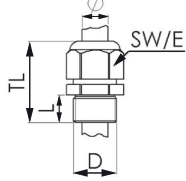


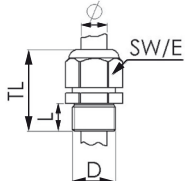
A wide selection of further cable plugs is available. Please refer to data sheet Type 2508.

[More info.](#)



**Accessories (continued)**

**Ex-Cable gland**

(polyamide version included in delivery / surcharge applied for brass nickel plated version)

| Photo   | Description                          | Ex Approvals                              |   | Article no  | Drawing   |    |          |   |       |   |    |    |       |   |       |
|---|--------------------------------------|---|---|---|---|----|----------|---|-------|---|----|----|-------|---|-------|
|   |                                      | Certification                             | Identifica-tion                                   |   |   |    |          |   |       |   |    |    |       |   |       |
|  | Brass, nickelplat-<br>ed,<br>6-13 mm | PTB 04 ATEX 1112 X,<br>IECEX PTB 13.0027X | II 2 G Ex e IIC Gb,<br>II 2 D Ex tb IIIC Db IP68, | 773278  |  <table border="1"> <tr><td>TL</td><td>29-37 mm</td></tr> <tr><td>L</td><td>6 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>27 mm</td></tr> </table>  | TL | 29-37 mm | L | 6 mm  | D | 20 | SW | 24 mm | E | 27 mm |
| TL  | 29-37 mm                             |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| L   | 6 mm                                 |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| D   | 20                                   |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| SW  | 24 mm                                |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| E   | 27 mm                                |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
|  | Polyamide,<br>7-13 mm                | PTB 13 ATEX 1015 X,<br>IECEX PTB 13.0034X | II 2 G Ex e IIC Gb,<br>II 2 D Ex tb IIIC Db IP68  | 773277  |  <table border="1"> <tr><td>TL</td><td>36-45 mm</td></tr> <tr><td>L</td><td>10 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>28 mm</td></tr> </table> | TL | 36-45 mm | L | 10 mm | D | 20 | SW | 24 mm | E | 28 mm |
| TL  | 36-45 mm                             |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| L   | 10 mm                                |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| D   | 20                                   |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| SW  | 24 mm                                |   |   |   |   |    |          |   |       |   |    |    |       |   |       |
| E   | 28 mm                                |   |   |   |   |    |          |   |       |   |    |    |       |   |       |

**Special tool to turn the junction box (not included in delivery)**

| Photo   | Description                                       | Article no.  |
|---|---|--|
|  | Set SC02-AC10<br>Special wrench<br>Service Manual | 293488  |

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