

## Control blocks for two-hand start ZSB

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# Control blocks for two-hand start ZSB

Key features

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## Function

This pneumatic control block for two-hand start ZSB is used where a manually started operation, such as the triggering of compressed air cylinders, would otherwise involve danger for a machine operator, or with other devices where machine operators have to have both hands clear of a danger zone when starting a machine.

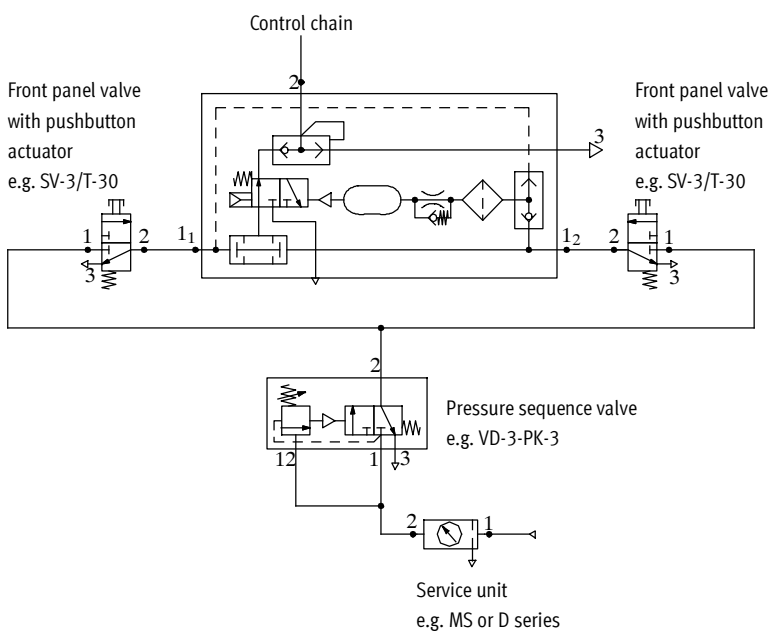
The ZSB will only switch if pressure is applied simultaneously via 3/2-way pushbutton valves to the two inlet ports 1<sub>1</sub> and 1<sub>2</sub> of the ZSB, i.e. within max. 0.5 seconds, and if there is an output signal at port 2. If both pushbutton valves are activated, outlet port 2 is pressurised.

Releasing one or both pushbutton valves interrupts the flow immediately and the outlet port 2 becomes unpressurised. The system vents from 2 to 3.

The pneumatic control block for two-hand start is a safety component in accordance with the EU Machinery Directive.

It falls within Category 1, PL "c" according to EN ISO 13849-1 (only in conjunction with a pressure sequence valve such as VD-3-PK-3) and conforms to Type III A according to EN 574.

## Sample circuit



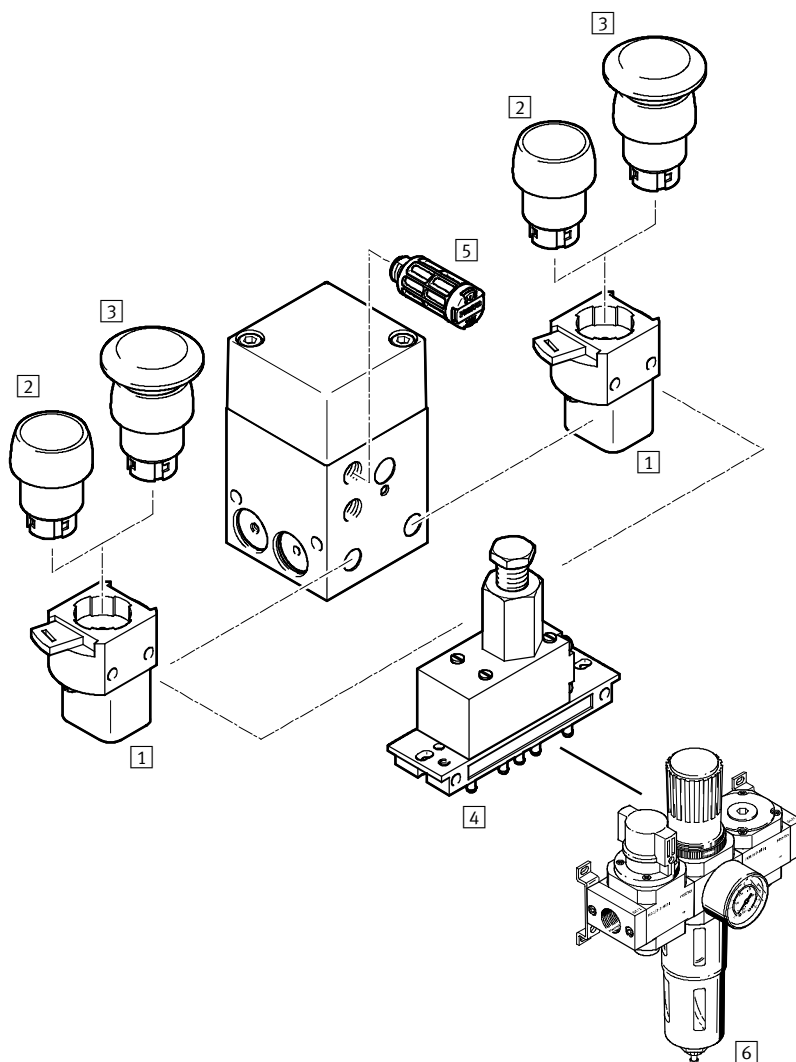
Note

When installing the two pushbutton valves which actuate the control block for two-hand start, make sure that the protective function cannot easily be bypassed, for example by pressing the pushbutton valves with the hand and elbow of the same arm. If necessary, the pushbutton valves should be fitted with an additional guard plate.

# Control blocks for two-hand start ZSB

Peripherals overview

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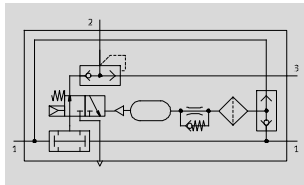
| Accessories   |   |                 |
|---|---|-----------------|
|   | Brief description   | → Page/Internet |
| 1 Front panel valve SV                                  | Poppet valve with quick latching coupler for actuator attachments | 6               |
| 2 Pushbutton actuator T                                 | Actuator attachment for front panel valve SV                      | 6               |
| 3 Mushroom pushbutton P                                 | Actuator attachment for front panel valve SV                      | 6               |
| 4 Pressure sequence valve VD                            | For ensuring the minimum pressure of 3 bar required for operation | 6               |
| 5 Silencer U  | For noise reduction at the exhaust port                           | 6               |
| 6 Service unit combination<br>– D series<br>– MS series | For compressed air preparation                                    | lfr*k*<br>msb   |




# Control blocks for two-hand start ZSB

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Technical data

Function



-  - Flow rate  
up to 50 l/min
-  - Temperature range  
0 ... +60°C
-  - Operating pressure  
4 ... 8 bar



| Safety data                                   |  |
|---|--|
| Lift  | Two-hand operation in accordance with EN ISO 12100   |
| Performance Level (PL)                        | Two-hand operation: Category 1, PL c according to EN ISO 13849-1   |
| Safety Integrity Level (SIL)                  | Two-hand operation: SIL 1 according to IEC 61508 (can be used in SIL 1 controllers according to IEC 62061) |
| Reliable component                            | Yes  |
| Standard approval                             | Type III A according to EN 574   |
| Certificate issuing authority                 | IFA 1201046  |
| CE marking<br>(see declaration of conformity) | To EU Machinery Directive  |
| Shock resistance                              | Shock test with severity level 2 according to FN 942017-5 and EN 60068-2-27                                |

| General technical data             |                                       |
|------------------------------------|---------------------------------------|
| Pneumatic connection               | G $\frac{1}{8}$                       |
| Nominal size [mm]                  | 4                                     |
| Actuation type                     | Pneumatic                             |
| Design                             | Poppet valve with spring return       |
| Type of mounting                   | Via through-hole<br>Via female thread |
| Mounting position                  | Any                                   |
| Standard nominal flow rate [l/min] | 50                                    |
| Product weight [g]                 | 420                                   |

| Operating and environmental conditions       |   |
|--|---|
| Operating pressure [bar]                     | 4 ... 8   |
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4] |
| Ambient temperature [°C]                     | 0 ... +60   |
| Corrosion resistance class CRC <sup>1)</sup> | 1   |
| CE mark (see declaration of conformity)      | To EU Machinery Directive                                 |

1) CRC1: Corrosion resistance class to Festo standard 940 070  
Components with light corrosion exposure. Protection for transport and storage. Components without significant decorative function or surface, e.g. installed out of sight internally or behind covers.

| Materials         |                                  |
|-------------------|----------------------------------|
| Housing           | Anodised wrought aluminium alloy |
| End cap           | Die-cast aluminium               |
| Seals             | NBR                              |
| Note on materials | RoHS-compliant                   |

# Control blocks for two-hand start ZSB

Technical data



Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

1 Filter

1<sub>1</sub>, 1<sub>2</sub> = Inlet ports  
2 = Outlet port  
3 = Vent

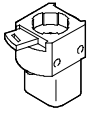
| B1 | B2 | B3   | B4 | D1   | D2 | D3<br>Ø | H1 | H2 | H3 | H4   | H5   | H6 | L1 | L2 | L3 |
|----|----|------|----|------|----|---------|----|----|----|------|------|----|----|----|----|
| 50 | 38 | 30.1 | 7  | G1/8 | M5 | 5.3     | 88 | 38 | 22 | 48.5 | 32.5 | 11 | 50 | 40 | 8  |

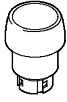
| Ordering data                    |          |           |
|----------------------------------|----------|-----------|
|                                  | Part No. | Type      |
| Control block for two-hand start | 576656   | ZSB-1/8-B |

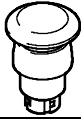
## Control blocks for two-hand start ZSB

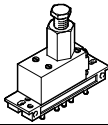
Accessories


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| Ordering data – Front panel valve SV  |                      |  |                          | Technical data → Internet: sv |                |
|---|----------------------|--|--------------------------|-------------------------------|----------------|
|   | Pneumatic connection | Valve function                         | Operating pressure [bar] | Part No.                      | Type           |
|  | M5                   | 3/2-way valve, single solenoid, closed | –0.95 ... 8              | <b>6817</b>                   | <b>SV-3-M5</b> |

| Ordering data – Pushbutton actuator T   |        |                            | Technical data → Internet: t |                |
|---|--------|----------------------------|------------------------------|----------------|
|   | Colour | Installation diameter [mm] | Part No.                     | Type           |
|  | Black  | 22.5                       | <b>9289</b>                  | <b>T-22-SW</b> |
|   |        | 30.5                       | <b>9291</b>                  | <b>T-30-SW</b> |

| Ordering data – Mushroom pushbutton P  |        |                            | Technical data → Internet: p |                |
|--|--------|----------------------------|------------------------------|----------------|
|  | Colour | Installation diameter [mm] | Part No.                     | Type           |
|  | Black  | 22.5                       | <b>9293</b>                  | <b>P-22-SW</b> |
|  |        | 30.5                       | <b>9295</b>                  | <b>P-30-SW</b> |

| Ordering data – Pressure sequence valve VD  |                      |   |                          | Technical data → Internet: vd |                  |
|---|----------------------|---|--------------------------|-------------------------------|------------------|
|   | Pneumatic connection | Valve function  | Operating pressure [bar] | Part No.                      | Type             |
|  | PK-3                 | 3/2-way valve, normally closed, adjustable switching pressure | 1.8 ... 8                | <b>9270</b>                   | <b>VD-3-PK-3</b> |

| Ordering data – Silencer U  |                      |                    | Technical data → Internet: u |                |
|---|----------------------|--------------------|------------------------------|----------------|
|   | Pneumatic connection | Material           | Part No.                     | Type           |
|  | G1/8                 | Polyacetal         | <b>2307</b>                  | <b>U-1/8</b>   |
|   |                      | Die-cast aluminium | <b>6841</b>                  | <b>U-1/8-B</b> |