Valve block VB25

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Detailed operating manual available in the service area
www.schunk.com

1 Warranty

The warranty period is 24 months from the date of delivery when utilized as intended and in compliance with the specified operating data.

2 Safety

2.1 Safety notes

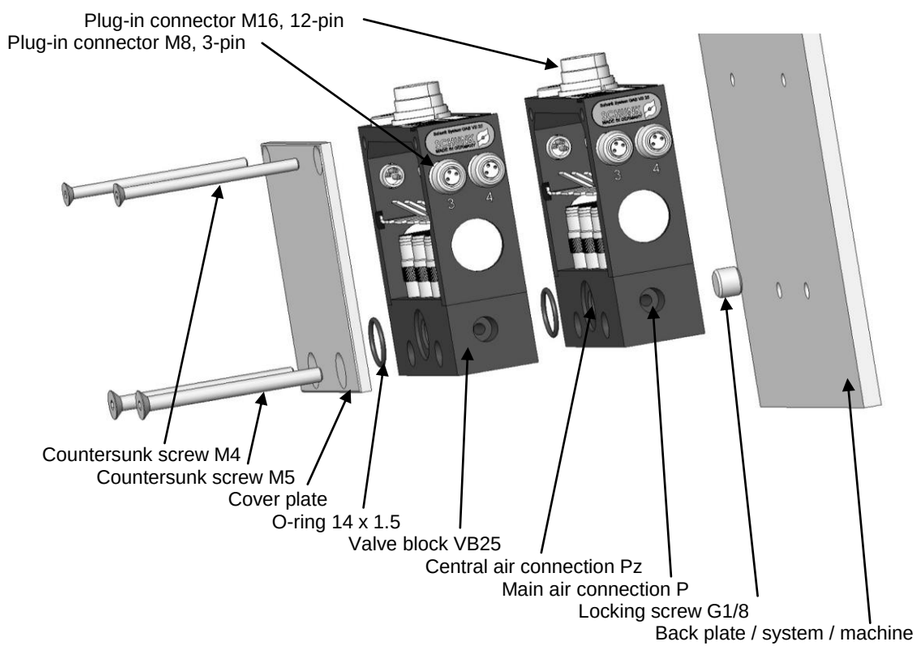
- To prevent injuries, personnel must proceed with caution during assembly of the valve block.
- Prior to commissioning it must be ensured that the valve block and its attachments are installed according to instructions.
- The electric and pneumatic supply must be within the limits specified in Table 1.
- Prior to commissioning, all electric and pneumatic screw connections must be checked to ensure they are properly tightened.

2.2 Intended use

The SCHUNK valve block VB25 is designed for the pneumatic control of compressed air.
The product may be used only within the range of its technical data in accordance with Table 1. This also includes compliance with the commissioning, operating, installation, maintenance and environmental conditions specified by the manufacturer.

3 Assembly and installation

- If the back plate is mounted on the valve block VB25 or if the valve block is mounted on any plate in a machine or device, a non-flanged sealing screw G 1/8 (similar to DIN EN ISO 4026) must be screwed into the central connection on the back plate (see Fig. 1) and sealed.
- If only one block is used, 4 countersunk screws, 2 x M4 X 35 mm and 2 x M5 X 35 mm (DIN EN ISO 10642) are needed.
- If several valve blocks are installed next to each other, the screw length increases by the block width of 28 mm for each block. Also, an O-ring with the dimensions 14 x 1.5 mm must always be inserted between 2 blocks.
- Connect the pneumatic supply as described in section 3.1.
- Establish the electrical connection as described in section 3.2.
- Switch on the operating voltage and the compressed air supply.



3.1 Pneumatic supply

The valve block can be supplied with compressed air at different connections depending on the installation position. Table 1 provides additional data for the compressed air supply
- Connection P on both sides by means of G1/8 threads
- Connection Pz as central connection (G1/8). When several valve blocks are installed, this also serves as a connection between the valve blocks. An O-ring (14 x 1.5) seals the central air connection between the valve blocks toward the outside.
- The 4 control air outputs (A1 - A4) of the valve block are on its bottom side and are provided with a G1/8 threaded hole.

Supply and control air outputs that are not needed must be sealed with a G1/8 sealing screw.

3.2 Electrical supply / operating display

For the electrical supply the valve block has a 12-pin M16 plug-in connector (Fig. 1) for routing the supply voltage and the control signals. The integrated control electronics enable direct control of the 4 valves with currents of less than 1 mA without a power switch.

The display field with 5 indicator lamps is directly next to the plug-in connector
- Operating voltage display +24V, green
- Signal valve 1 active, orange → Output A1 carries compressed air
- Signal valve 2 active, orange → Output A2 carries compressed air
- Signal valve 3 active, orange → Output A3 carries compressed air
- Signal valve 4 active, orange → Output A4 carries compressed air

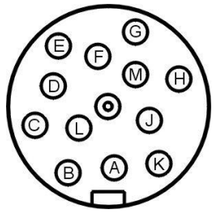


Figure 1

Pin	Signal	Level
3	GND	0 V
4	Sensor output	Sensor signal
1	+24 V	24 V ± 10 %

Table 3

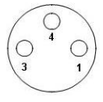


Figure 2

Technical data

Size	VB25
Mechanical operating data	
Weight Control valves	450 g 4 valves MV 25
Dimensions W x H x D	85 mm x 85 mm x 28 mm
Ambient temperature	-15 °C to 40 °C
Seal material	Viton - not compatible with hot water, steam, amines, organic acids and polar solvents
Protection type in assembled state	IP 50 (with cover plates)
Switching times	6 ms Depending on supply pressure
Electrical operating data	
Operating voltage	24 V ± 10 %
Electrical connection	Round plug M16, 12-pin
Electrical sensor connection	4 X round plugs M8, 3-pin
Power consumption per valve	Switch-on phase 0 to 15 ms: 4.5 W Power reduction after 15 ms: 2.5 W
Control inputs	Input impedance 6.8 kΩ For level see Table 2
Pneumatic operating data	
Pressure medium	Filtered compressed air, 40µm, dry, oil-free, compressed air purity classes ISO 8573-1 7 4 2
Control	Valve 1 – valve 4 single
Supply pressure	2 bar to 8 bar
Supply	2 x G 1/8 threaded hole P on side 1 x G 1/8 threaded hole P central
Outputs	4 x G 1/8 threaded holes
Leakage at P = 6 bar	30 mNl/min

Table 1

Pin	Signal	Color	Level
C	+24 V	green	24V ± 10 %
D	+24 V	yellow	24V ± 10 %
E	GND	gray	0 V
F	GND	pink	0 V
B	Signal valve 1	brown	Inactive = 0 V…2 V, active =4 V…26 V
K	Signal valve 2	violet	Inactive = 0 V…2 V, active =4 V…26 V
J	Signal valve 3	black	Inactive = 0 V…2 V, active =4 V…26 V
H	Signal valve 4	red	Inactive = 0 V…2 V, active =4 V…26 V
M	Sensor output 1	red-blue	Sensor signal
G	Sensor output 2	blue	Sensor signal
A	Sensor output 3	white	Sensor signal
L	Sensor output 4	gray-pink	Sensor signal

Table 2