

Valve terminals CPV-SC, Smart Cubic

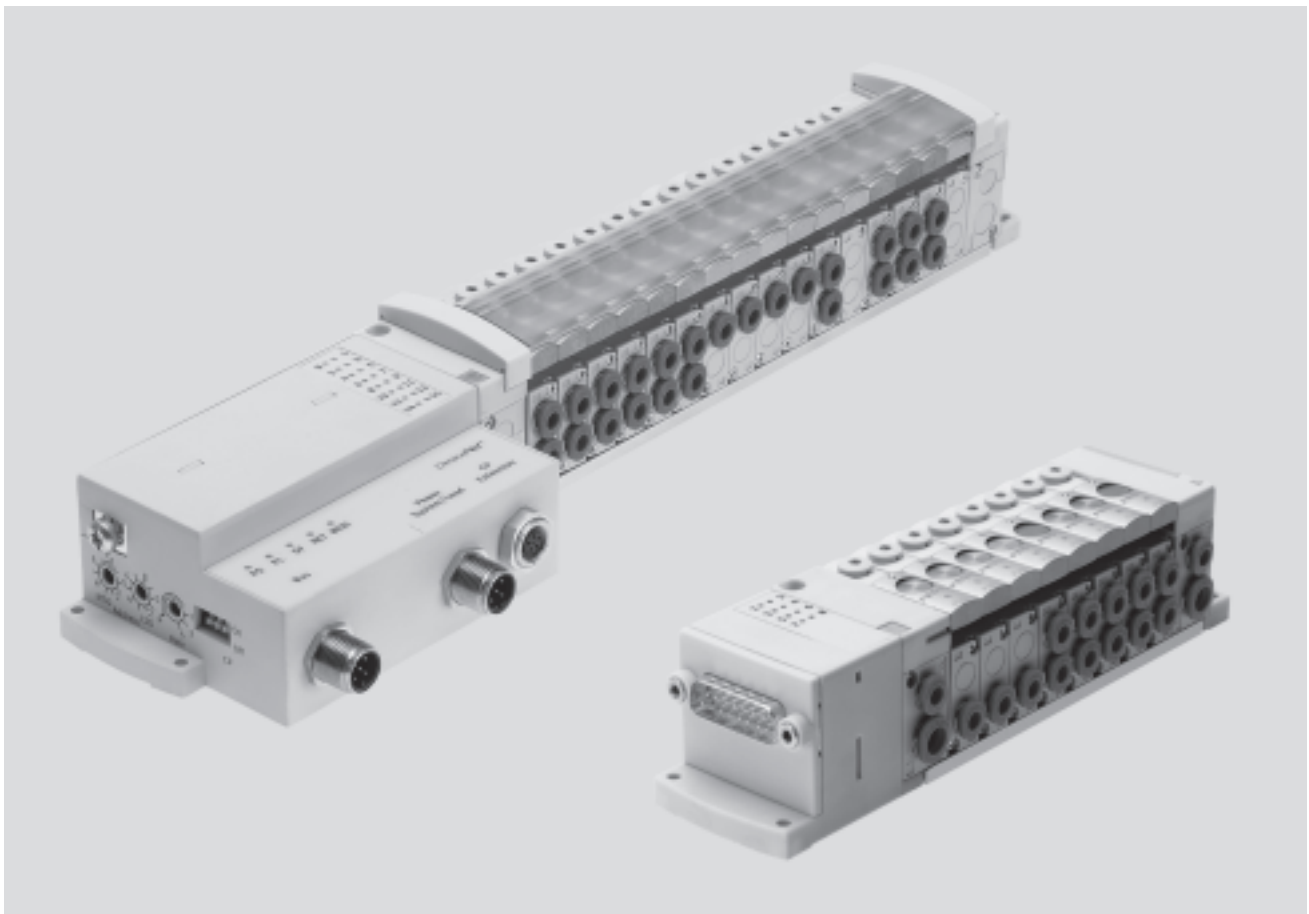
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Valve terminals CPV-SC, Smart Cubic

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Key features



Innovative

- Small, compact valve terminal for a wide range of pneumatic applications
- Enormous flexibility during planning, assembly and operational use
- Multi-pin plug connection and fieldbus interface
- Wide range of selectable valve functions; 5/2-way, 3/2-way and 2/2-way functions
- With flow rates of up to 170 l/min, CPV-SC offers outstanding pneumatic performance for a wide range of applications
- Low weight

Versatile

- Provides 2 ... 16 valve positions on one terminal
- Ideally suited for operating small pneumatic drives in tight spaces
- The flexibility of the pneumatic working ports provides a practical solution to different requirements
- Round silencers, integrated flat plate silencers or screw/plug connection for ducted exhaust air
- Suitable for vacuum
- Enables multiple pressure zones on a single valve terminal

Reliable

- Manual override
- Durable thanks to the use of tried and tested piston spool valves
- Sturdy thanks to metal housing and connecting thread
- Fast troubleshooting thanks to an LED on each valve and diagnostics via fieldbus

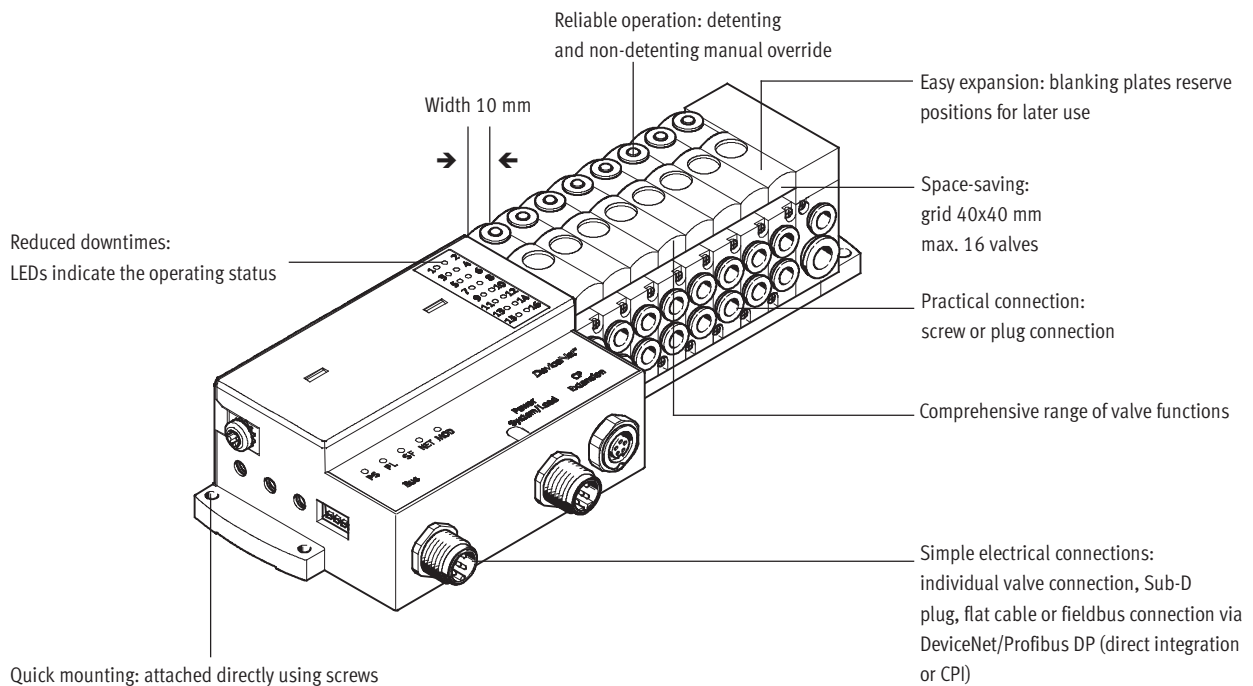
Easy to mount

- Fully assembled and tested valve terminal
- Less complicated when ordering, installing and commissioning
- Suitable for direct mounting even on moving system components

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Equipment options

Valve functions

- 5/2-way valve, single solenoid
- 5/2-way valve, double solenoid
- 3/2-way valve, normally open
- 3/2-way valve, normally closed
- 2/2-way valve, normally closed

Separator plate with additional compressed air supply

- Compressed air channel (1) closed
- Compressed air channel (1) and exhaust duct (3/5) closed

Blanking plate

- Plate without valve function for reserving a valve position

Electrical connection options

Individual connection

- 2 ... 16 valve positions/ max. 16 solenoid coils
- Individual connection, horizontal (H)
- Individual connection, vertical (T)

Multi-pin plug

- 4 ... 16 valve positions/ max. 16 solenoid coils
- Sub-D
- Flat cable

Fieldbus Direct

- 4 ... 16 valve positions/ max. 16 solenoid coils
- Profibus
- DeviceNet

CP string extension

- Further valve terminals CPV-SC-CPI or from the CPV/CPA range
- Electrical I/O modules

CPI interface

- 4 ... 16 valve positions/ max. 16 solenoid coils
- Further valve terminals CPV-SC-CPI or from the CPV/CPA range

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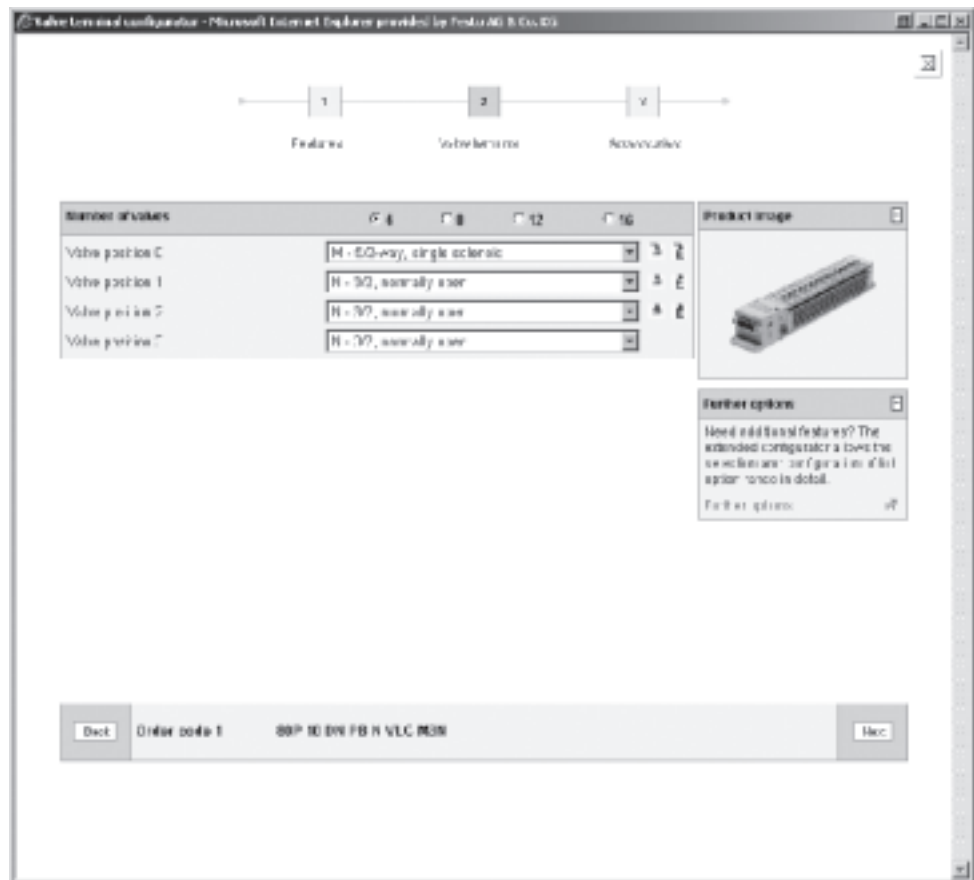
Valve terminal configurator

Online via: → www.festo.com/us/engineering

Selecting a CPV-SC valve terminal using the online catalogue is quick and easy thanks to the convenient valve terminal configurator provided. This makes it much easier to order the right product. The valve terminals are assembled according to your order specifications and are individually tested. This reduces the assembly and installation time to a minimum. The valve terminal CPV-SC is ordered using the order code.

Ordering system for CPV-SC

→ Internet: cpv-sc

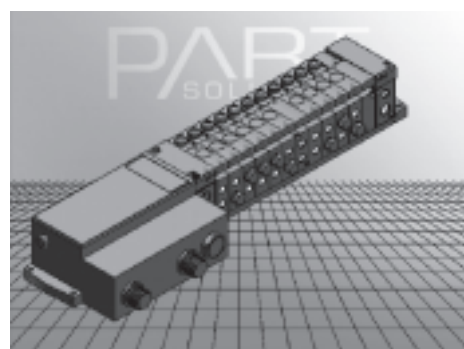


2D/3D CAD data

Online via: → www.festo.com/us/engineering

You can request the CAD data for a valve terminal you have configured. To do so, perform the product search as described above. Go to the shopping basket and click on the CAD icon

(compass). On the next page you can generate a 3D preview or request another data format of your choice by e-mail.

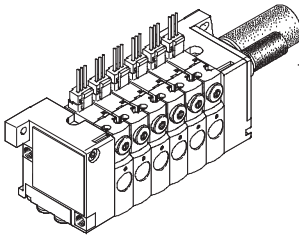


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Individual connection



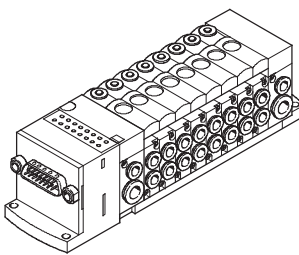
Connection is independent of the control technology used and is flexible thanks to ready to install cables. This ensures correct polarity during installation.

Valves with integrated LED (CPVSC1-M1LH- ...) are available as an option for switching status display. Individual connection permits the selection of 2 to 16 solenoid coils (divided between 2 to 16 valve positions).

Variants

- Individual connection, horizontal
- Individual connection, vertical
- 2 to 16 solenoid coils

Multi-pin plug connection



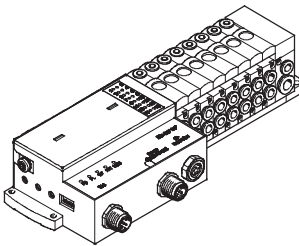
Control signals to the valve terminal are transmitted via a pre-assembled multi-core cable, which substantially reduces installation time.

The multi-pin plug connection enables the selection of 4 to 16 solenoid coils (divided between 4 to 16 valve positions).

Variants

- Sub-D connection
- Flat cable connection
- 4 to 16 solenoid coils

Fieldbus Direct



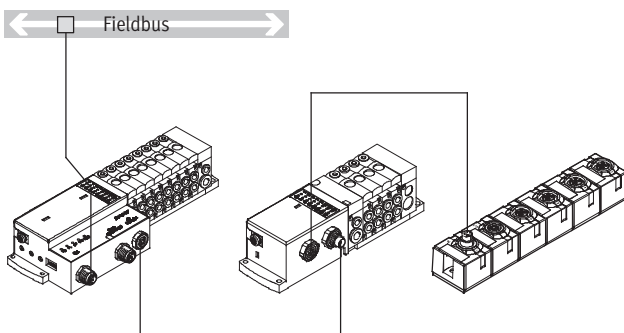
An integrated fieldbus node manages the communication connection to a higher-order PLC. This enables a space-saving pneumatic and electronic solution.

The fieldbus connection enables the selection of 4 to 16 solenoid coils (divided between 4 to 16 valve positions).

Variants

- DeviceNet connection (CP functionality)
- Profibus connection (CPI functionality)
- 4 to 16 solenoid coils

Fieldbus Direct with CP string extension



The optional string extension enables additional valve terminals and I/O modules to be connected to the fieldbus node of the CPV-SC. A CP string of the CPI installation system is integrated in the fieldbus node as an extension. Different input and output modules as well as CPV, MPA, CPV-SC, CPA valve terminals can be connected. The maximum length of the CP string extension is 10 metres, which means that the extension modules can be mounted directly on-site. All of the required electrical signals are transmitted via the CP cable, which in turn means that no further installation is needed on the extension module.

The CP string interface offers:

- Logic and sensor supply for the input modules
- Load voltage supply for the valve terminals
- Logic supply for the output modules

With CP functionality:

- 16 input signals
- 16 output signals for output modules 24 V DC or solenoid coils

With CPI functionality:

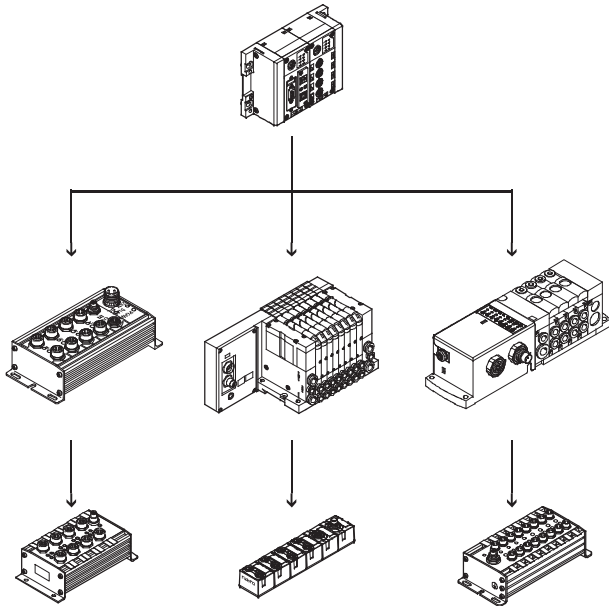
- 32 input signals
- 32 output signals for output modules 24 V DC or solenoid coils

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CPI installation system



Valve terminal for CPI installation system:

Valve terminals with CP connection are intended for connection to higher-order fieldbus nodes or to control blocks. A fieldbus node or control block also enables the connection of decentralised input/output units. The following fieldbus protocols are supported:

- Festo fieldbus, ABB CS31, Moeller Suconet K
- Interbus
- Allen Bradley (1771 RIO)
- DeviceNet
- Profibus DP, 12 MBd
- CC-Link
- CANopen
- Modbus/TCP
- Ethernet
- PROFINET
- EtherCAT

Four strings with up to 32 inputs and outputs can be connected to a fieldbus node or control block. The connecting cables transmit the power supply for the input modules and the load voltage for the valves as well as control signals.

Further information

➔ Internet: ctec

Valve terminals CPV-SC, Smart Cubic

Peripherals overview

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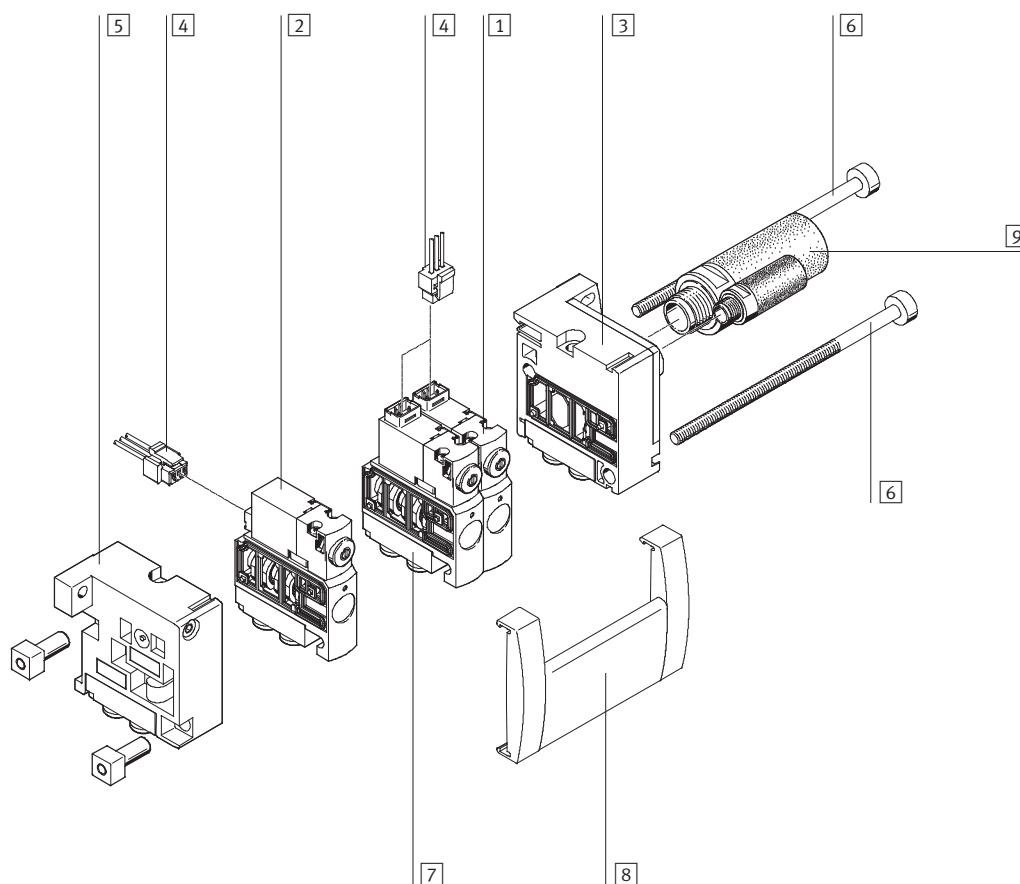
Overview – CPV-SC valve terminal

Valve terminal with individual electrical connections

- Vertical individual connection
Code: T
- Horizontal individual connection
Code: H

Valve terminals with individual electrical connection can be equipped with 2 to max. 16 valve positions.

Each valve position can either be equipped with a valve or a blanking plate.



- 1 Valve with vertical individual connection
- 2 Valve with horizontal individual connection
- 3 Right-hand end plate for unducted exhaust air

- 4 Plug socket with cable for individual electrical connection of valves
- 5 Left-hand end plate for compressed air supply 1 or 12/14

- 6 Tie rod
- 7 Sub-base for working ports (push-in fitting or threaded)

- 8 Inscription label holder
- 9 Silencer

Valve terminals CPV-SC, Smart Cubic

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Peripherals overview

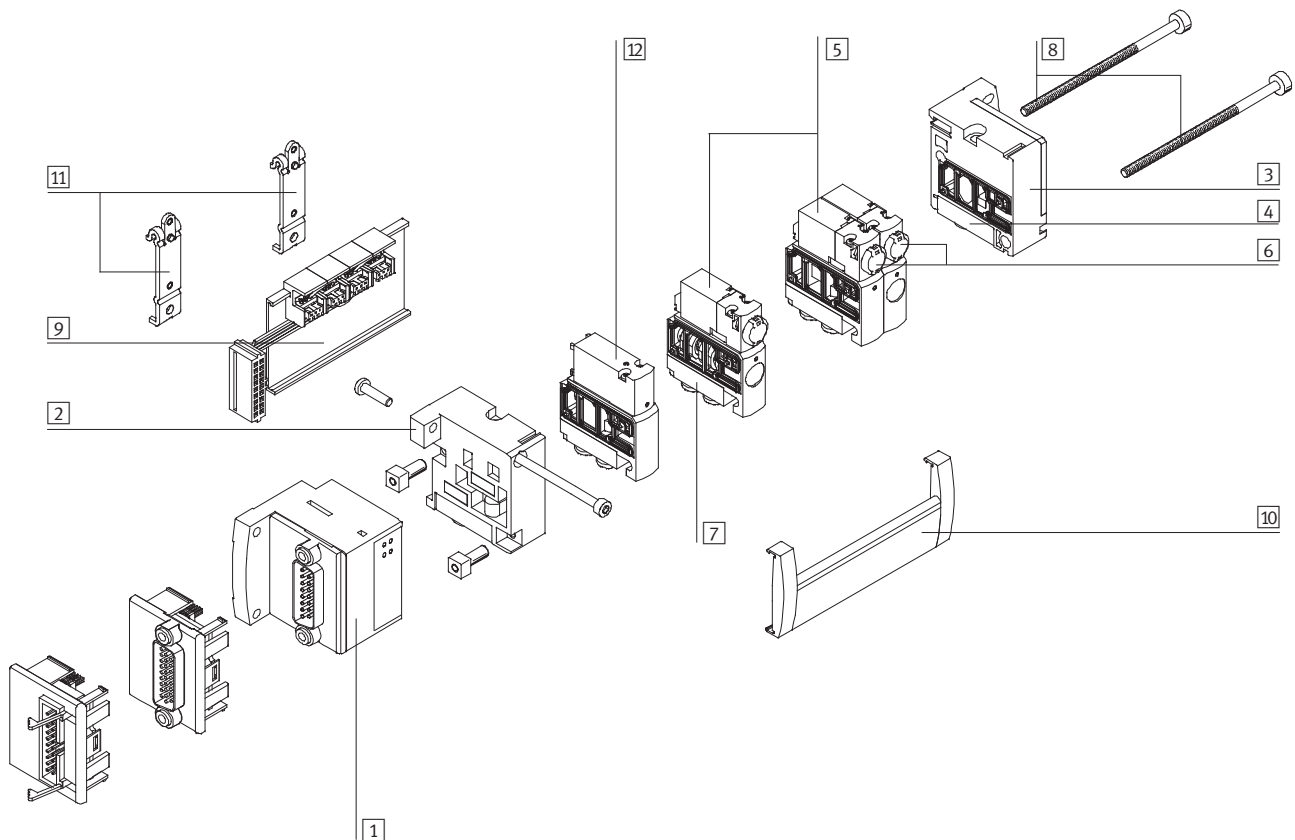
Valve terminal with electrical multi-pin plug connection

- 15- and 26-pin Sub-D multi-pin plug connection
Code: MS, MH
- or
- 20-pin multi-pin plug connection with connector for flat cable
Code: MF

Valves and end plates are the basic pneumatic components of the valve terminal.
The valve terminals are connected to the end plates using tie rods.

Valve terminals with electrical multi-pin plug connection can be equipped with 4 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

The electrical connection is located on the left-hand side, thereby allowing flush mounting of the system.



- | | | | |
|---|--|--|---------------------------------------|
| 1 Electrical control unit (with LED switching status displays) for Sub-D plug or flat cable | 3 Right-hand end plate for ducted exhaust air or silencer (3/5 or 82/84) | 6 Cover for manual override (optional) | 9 Electrical valve linking module |
| 2 Left-hand end plate for compressed air supply 1 or 12/14 | 4 Sub-base for ducted exhaust air (push-in fitting or threaded) | 7 Sub-base for working ports (push-in fitting or threaded) | 10 Inscription label holder |
| | 5 Valve | 8 Tie rod | 11 H-rail mounting |
| | | | 12 Blanking plate for vacant position |

Valve terminals CPV-SC, Smart Cubic

Peripherals overview

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Valve terminal with Fieldbus Direct

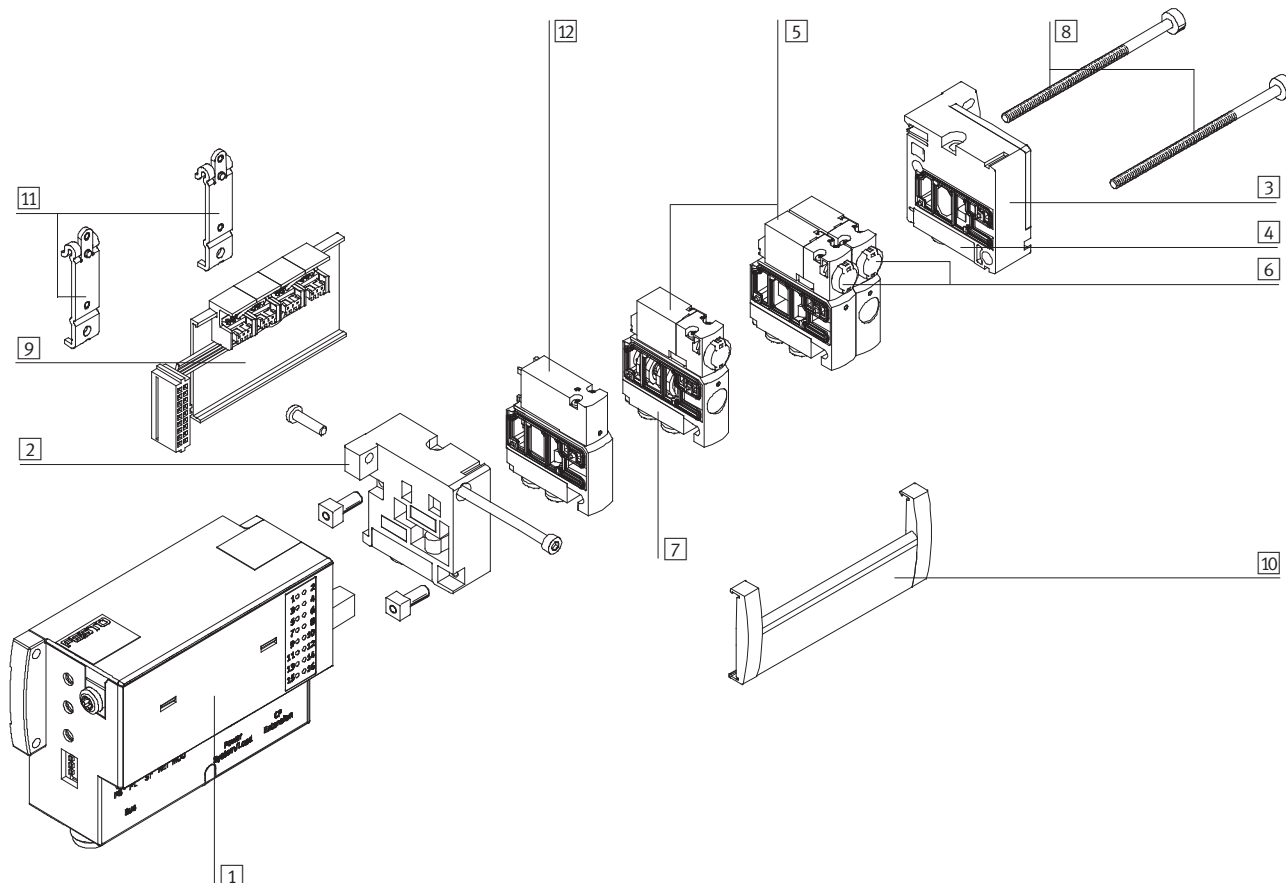
- M12 A-coded DeviceNet connection
Code: DN
- 9-pin Sub-D connection for Profibus
Code: DP

Valves and end plates are the basic pneumatic components of the valve terminal.

The valve terminals are connected to the end plates using tie rods.

Valve terminals with Fieldbus Direct DeviceNet/Profibus DP can be equipped with 4 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

The electrical connection is in the same direction as the tubing in order to save space.



- | | | | |
|--|---|--|---------------------------------------|
| 1 Fieldbus Direct | 4 Sub-base for ducted exhaust air (push-in fitting or threaded) | 7 Sub-base for working ports (push-in fitting or threaded) | 10 Inscription label holder |
| 2 Left-hand end plate for compressed air supply 1 or 12/14 | 5 Valve | 8 Tie rod | 11 H-rail mounting |
| 3 Right-hand end plate for ducted exhaust air or silencer (3/5 or 82/84) | 6 Cover for manual override (optional) | 9 Electrical valve linking module | 12 Blanking plate for vacant position |

Valve terminals CPV-SC, Smart Cubic

Peripherals overview

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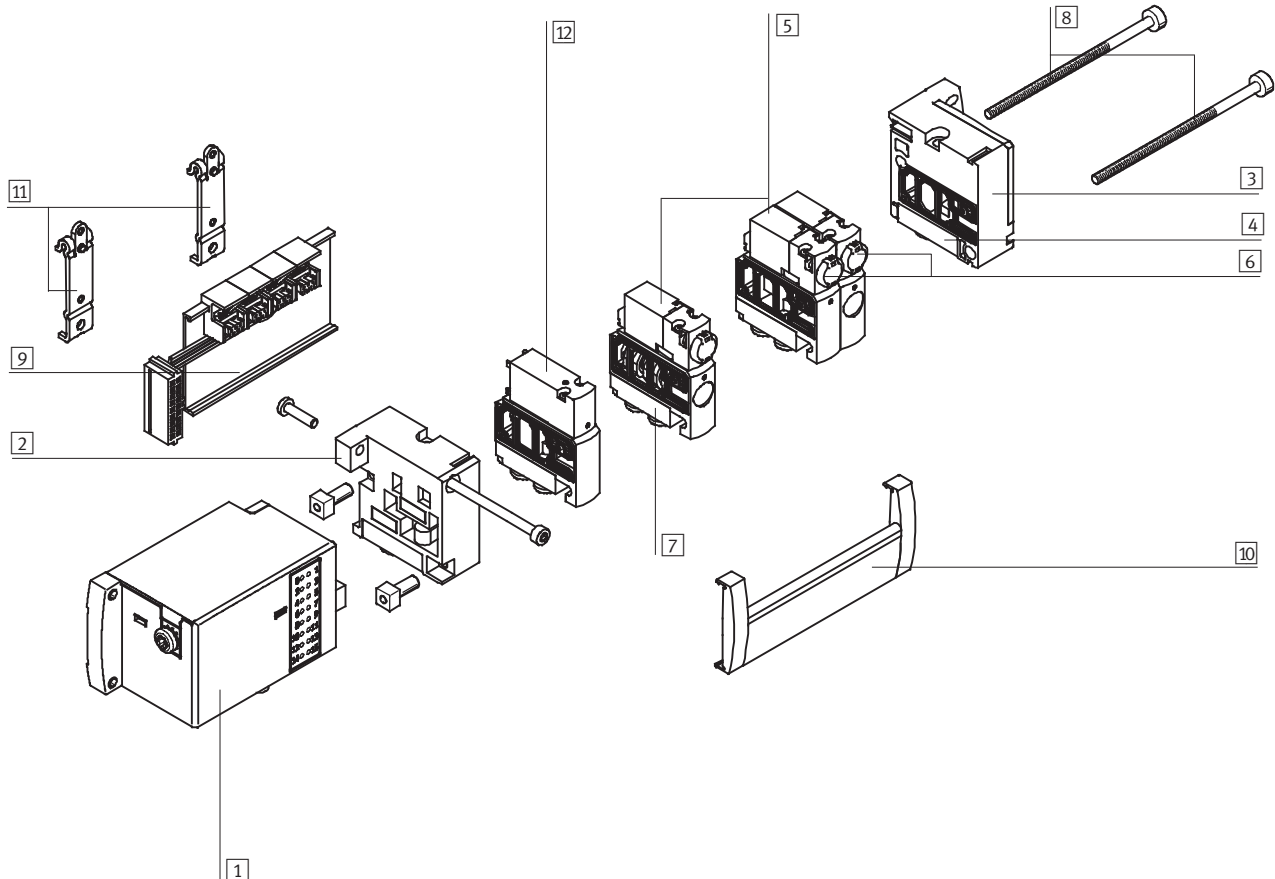
Valve terminal with CPI connection

CP interface M9, 5-pin
Code: CP

Valves and end plates are the basic pneumatic components of the valve terminal.
The valve terminals are connected to the end plates using tie rods.

Valve terminals with CPI interface can be equipped with 4 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

The electrical connection is in the same direction as the tubing in order to save space.



- | | | | |
|--|---|--|---------------------------------------|
| 1 CPI connection | 4 Sub-base for ducted exhaust air (push-in fitting or threaded) | 7 Sub-base for working ports (push-in fitting or threaded) | 10 Inscription label holder |
| 2 Left-hand end plate for compressed air supply 1 or 12/14 | 5 Valve | 8 Tie rod | 11 H-rail mounting |
| 3 Right-hand end plate for ducted exhaust air or silencer (3/5 or 82/84) | 6 Cover for manual override (optional) | 9 Electrical valve linking module | 12 Blanking plate for vacant position |

Valve terminals CPV-SC, Smart Cubic

Key features – Pneumatic components

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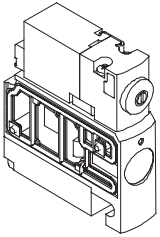
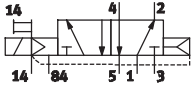
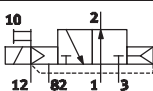

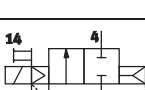
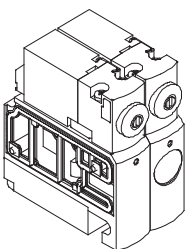

Valves

CPVSC1 valves are valves with integrated sub-base, i.e. in addition to the valve function they contain all of the ducts for supply, exhaust and the

working ports. The supply ducts are a central component of the valve slices and enable a direct flow of air. This helps achieve maximum flow rates. All

valves have a pneumatic pilot control for optimising performance. The valve function is based on a piston spool system with a patented sealing

principle that guarantees its suitability for a wide range of applications as well as a long service life.

| Valve functions | Code | Circuit symbol | Valve size 10 mm | Description |
|---|------|---|---------------------|--|
|  | M |  | ■ | 5/2-way single solenoid valve • Pneumatic spring return |
| | N |  | ■ | 3/2-way single solenoid valve • Normally open • Pneumatic spring return |
| | K |  | ■ | 3/2-way single solenoid valve • Normally closed • Pneumatic spring return |
| | D |  | ■ | 2/2-way single solenoid valve • Normally closed • Pneumatic spring return |
|  | J |  | ■ | 5/2-way double solenoid valve This valve consists of two valve housing units and therefore occupies two valve positions. The pilot control with coil 12 is located on the left and labelled "J12". If both coils are actuated, the signal at port "14" dominates in switching position. |

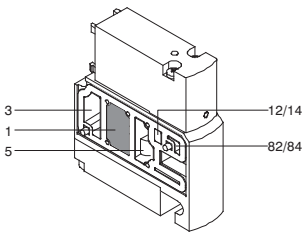
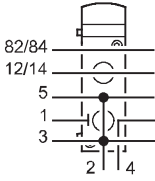
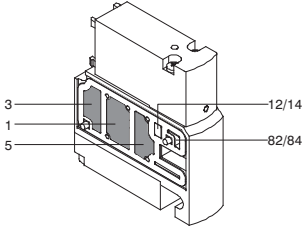
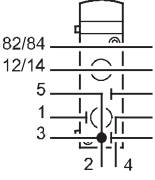
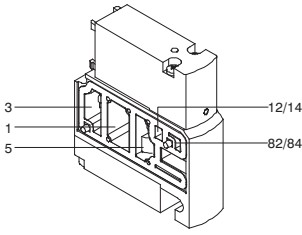
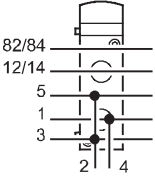
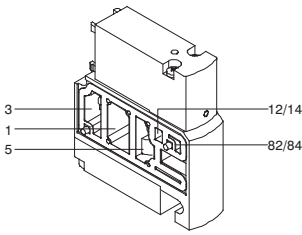
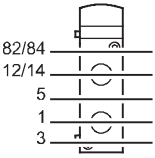
Note

For vacuum operation valves require a filter. This is to avoid that foreign matter is drawn into the valve (e.g. when using a suction cup).

Valve terminals CPV-SC, Smart Cubic

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Key features – Pneumatic components

| Valves | | | | |
|---|------|---|---------------------|---|
| Valve functions | Code | Circuit symbol | Valve size 10 mm | Description |
| Pneumatic supply plate with duct separation | | | | |
|  | T |  | ■ | Compressed air channel (1) closed For separating pressure zones with a common exhaust. (Using pressure zones → 14) Pneumatic connection: QS-4, M5 |
|  | S |  | ■ | Compressed air channel (1) and exhaust duct (3/5) closed For separating pressure zones with a separate exhaust. (Using pressure zones → 14) Pneumatic connection: QS-4, M5 |
| Pneumatic supply plate without duct separation | | | | |
|  | U |  | ■ | Additional compressed air supply (1) and additional exhaust (3/5). Pneumatic connection: QS-4, M5 |
| Blanking plate | | | | |
|  | L |  | ■ | Plate without valve function for reserving a valve position. No pneumatic connection |

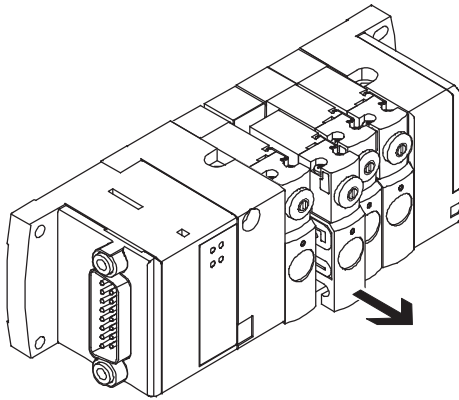
In the case of compressed air supply configuration code S or T (exhausting via flat plate silencer), a plug-in silencer UC-QS-4H is included with supply plates.

Valve terminals CPV-SC, Smart Cubic

Key features – Pneumatic components

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Constructional design



Valve replacement

Valves can be replaced quickly and easily in just a few movements. Separating seals between the valves are based on a metal support and are secured in place.

Extension

Valves can be ordered as accessories and are available with fully assembled sub-bases with QS or threaded connections. The functionality of the valve terminal can therefore be extended by equipping vacant positions. For ordering purposes, valves have the valve code printed on the front and the product type on the back.

Materials

The valve housing and thread in the sub-bases are metallic, while other housing sections are made from robust plastic materials.

Note

The valve with the working sub-base has been tested by Festo for leak tightness.

Pilot air supply

The port for the main pneumatic supply is located on the left-hand end plate.

The ports differ for the following types of pilot air supply:

- Internal
- External

Internal pilot air supply

An internal pilot air supply can be selected if the terminal is working in an operating pressure range between 3 and 7¹⁾ bar.

The pilot air supply in the left-hand end plate is then branched from the compressed air supply 1 using an internal connection. The port 12/14 is closed using a blanking plug.

External pilot air supply

If the terminal is working in an operating pressure range from –0.9 to 3 bar, you must operate your CPV-SC valve terminal using an external pilot air supply. The pilot air supply is also supplied via port 12/14 on the left-hand end plate in this case.

1) 8 bar upon request

Creation of pressure zones and separation of exhaust air

The CPV-SC valve terminal can be operated with multiple pressure zones. After two zones, a supply with duct separation is required for each subsequent pressure zone. It always

occupies one valve position. An isolating disc T separates the compressed air supply of a valve group on the left from the compressed air supply of a valve group on the

right. The right-hand pressure zone is supplied at port 4 of the supply plate. Port 2 also allows the left-hand pressure zone to be exhausted. All of the exhaust ducts of the valve are

interconnected and are exhausted through the right-hand end plate. An isolating disc S also separates exhaust ducts 3 and 5 in addition to pressure duct 1.

Note

Larger or simultaneously operating cylinders generate a back pressure in the exhaust duct of the valve terminal, the level of which depends on the exhaust capacity of the silencer. In order to prevent

interaction with adjacent valves, valves can be separated by means of duct separation using isolating disc S. The pressure zone located to the left of an isolating disc S is

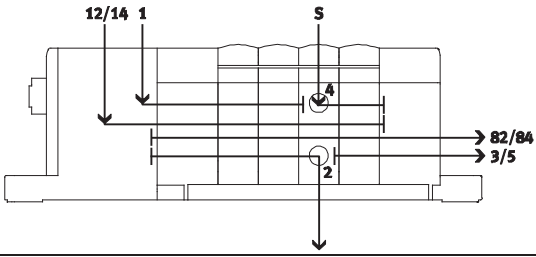
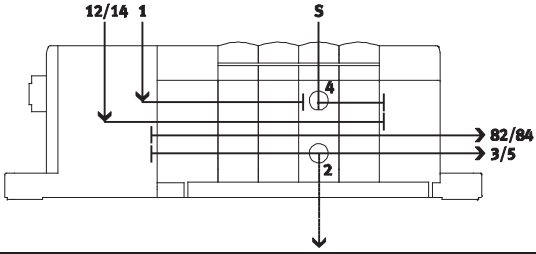
exhausted using the supplied plug-in silencer. Where there are more than two valves in such a pressure zone, an additional supply with additional exhaust may be required. It is

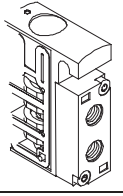
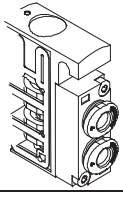
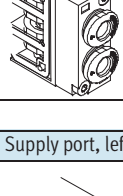
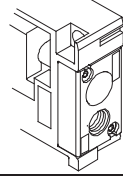
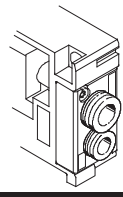
therefore useful to meet the higher exhaust requirements in the pressure zone that is exhausted by the right-hand end plate.

Valve terminals CPV-SC, Smart Cubic

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Key features – Pneumatic components

| Creating pressure zones | | |
|---|------|--------------------------|
| | Code | Description |
|  | S | Duct 1 and 3/5 separated |
|  | T | Duct 1 separated |

| Pneumatic working ports | | |
|---|------|--|
| | Code | Description |
| Working port | | |
|  | B | M5 threaded connection |
|  | E | QS-3 push-in connector |
|  | F | QS-4 push-in connector |
| Supply port, left-hand end plate | | |
|  | C | Threaded connection <ul style="list-style-type: none"> • M7 (internal pilot air supply) • M5 and M7 (external pilot air supply) |
|  | G | Push-in connection <ul style="list-style-type: none"> • QS-6 (internal pilot air supply) • QS-4 and QS-6 (external pilot air supply) |

Valve terminals CPV-SC, Smart Cubic

Key features – Pneumatic components

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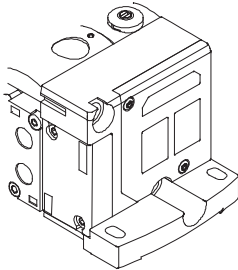
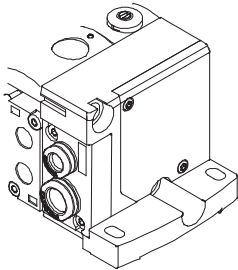
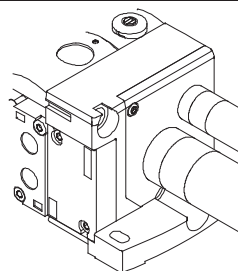
Ports for supply and exhaust

Supply and exhaust

A basic feature of a CPV-SC valve terminal are the two end plates.

The left-hand end plate is used to supply compressed air, while the right-hand end plate is used to exhaust the valve terminal.

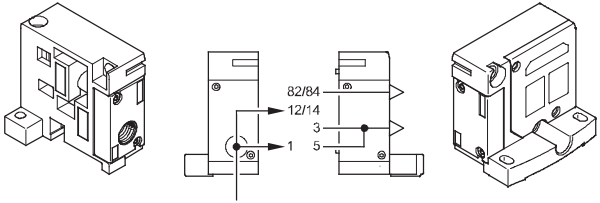
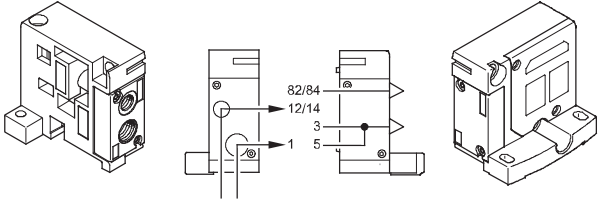
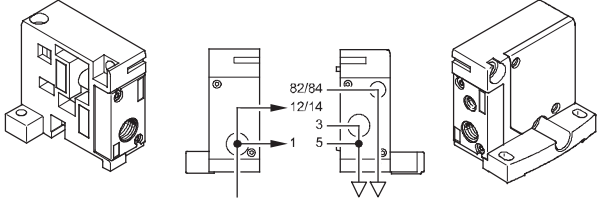
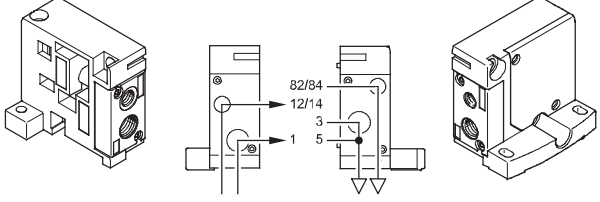
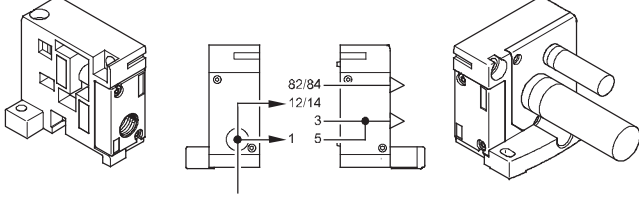
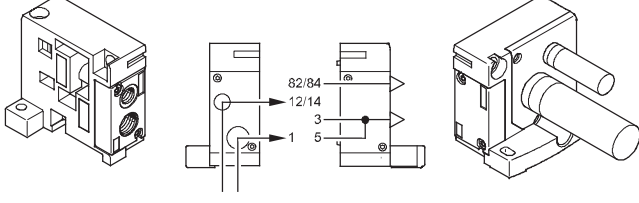
Exhaust air escapes either via an integrated flat plate silencer, round silencer or via a push-in or threaded connection.

| Ports for exhaust | | |
|---|------|---|
| | Code | Description |
|  | S | <ul style="list-style-type: none"> Internal pilot air supply Exhaust from duct 3/5 as well as 82/84 is via a flat plate silencer Replacement part (insert) for flat plate silencer: Type CPVSC1-UA |
| | T | <ul style="list-style-type: none"> External pilot air supply Exhaust from duct 3/5 as well as 82/84 is via a flat plate silencer Replacement part (insert) for flat plate silencer: Type CPVSC1-UA |
|  | V | <ul style="list-style-type: none"> Internal pilot air supply Exhaust from duct 3/5 as well as 82/84 is via ducted exhaust air |
| | X | <ul style="list-style-type: none"> External pilot air supply Exhaust from duct 3/5 as well as 82/84 is via ducted exhaust air |
|  | Y | <ul style="list-style-type: none"> Internal pilot air supply Exhaust from duct 3/5 as well as 82/84 is via a round silencer |
| | Z | <ul style="list-style-type: none"> External pilot air supply Exhaust from duct 3/5 as well as 82/84 is via a round silencer |

Valve terminals CPV-SC, Smart Cubic

FESTO

Key features – Pneumatic components

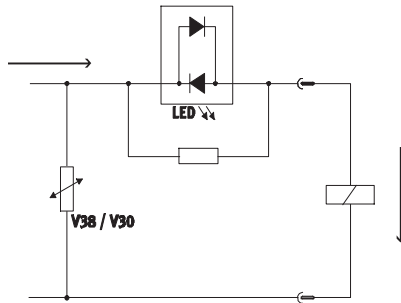
| Pneumatic supply | | |
|---|------|--|
| End plate combination | Code | Description |
|  | S | <p>Internal pilot air supply, flat plate silencer</p> <p>For operating pressure in the range 3 ... 7 bar</p> |
|  | T | <p>External pilot air supply, flat plate silencer</p> <p>For operating pressure in the range -0.9 ... +7 bar</p> |
|  | V | <p>Internal pilot air supply, ducted exhaust air</p> <p>For operating pressure in the range 3 ... 7 bar</p> |
|  | X | <p>External pilot air supply, ducted exhaust air</p> <p>For operating pressure in the range -0.9 ... +7 bar</p> |
|  | Y | <p>Internal pilot air, round silencer</p> <p>For operating pressure in the range 3 ... 7 bar</p> |
|  | Z | <p>External pilot air supply, round silencer</p> <p>For operating pressure in the range -0.9 ... +7 bar</p> |

Valve terminals CPV-SC, Smart Cubic

Key features – Electrical components

FESTO

Protective circuit



Each solenoid coil is protected with a spark arresting protection circuit as well as against polarity reversal.

Electrical multi-pin plug connection

The following multi-pin plug connection types are offered for the valve terminal CPV-SC:

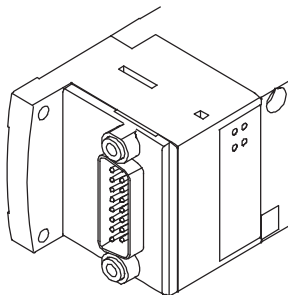
- Sub-D multi-pin plug connection (15- and 26-pin) or
- Multi-pin plug connection with connector for flat cable (20-pin)

CPV-SC is connected via a multi-pin plug connection with Sub-D or flat cable. Each pin of the multi-pin plug is assigned a maximum of one valve position and therefore one coil or one address.

Double solenoid valves “J” occupy two valve positions. The left-hand valve position with pilot control 12 is actuated by the less significant of the two addresses.

Electrical multi-pin plug connection – Sub-D

Code MS, MH



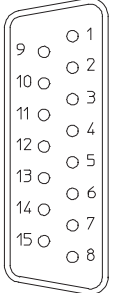
With this electrical connection variant, all valves are centrally actuated via the 15 and 26-pin connector plug. The electrical connection is located on the left-hand side.

Ordering data – Connecting cable Sub-D

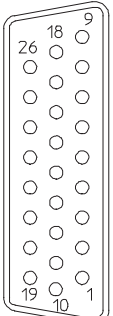
| | Code | Description | Cable length [m] | Part No. | Type |
|--|------|-------------------------------|------------------|----------|-----------------|
| | CP | 15-pin for 12 coils (code MS) | 2.5 | 527543 | KMP6-15P-12-2,5 |
| | CQ | Material: PVC | 5 | 527544 | KMP6-15P-12-5 |
| | CR | | 10 | 527545 | KMP6-15P-12-10 |
| | CP | 26-pin for 16 coils (code MH) | 2.5 | 527546 | KMP6-26P-16-2,5 |
| | CQ | Material: PVC | 5 | 527547 | KMP6-26P-16-5 |
| | CR | | 10 | 527548 | KMP6-26P-16-10 |

Valve terminals CPV-SC, Smart Cubic

Key features – Electrical components

| Pin allocation for 15-pin Sub-D (code MS) | | | | |
|---|--|-----|--------------|-------------------|
| KMP6-15P-12-... | Description | Pin | Core colour | Address/coil |
|  | Plug socket with cable for the CPV-SC valve terminal with max. 12 valve positions | 1 | White | Coil 0 |
| | | 2 | Brown | Coil 1 |
| | | 3 | Green | Coil 2 |
| | | 4 | Yellow | Coil 3 |
| | | 5 | Grey | Coil 4 |
| | | 6 | Pink | Coil 5 |
| | | 7 | Blue | Coil 6 |
| | | 8 | Red | Coil 7 |
| | | 9 | Black | Coil 8 |
| | Note The drawing shows a plan view of the Sub-D socket on the multi-pin cable KMP6-15P-12-.... | 10 | Purple | Coil 9 |
| | | 11 | Grey-pink | Coil 10 |
| | | 12 | Red-blue | Coil 11 |
| | | 13 | White-green | n.c. |
| | | 14 | Brown-green | 0 V ¹⁾ |
| | | 15 | White-yellow | 0 V ¹⁾ |

- 1) Pin 14 to pin 15 are bridged in the valve terminal.
 0 V for positive switching control signals; 24 V can be connected for negative switching control signals.

| Pin allocation for 26-pin Sub-D (code MH) | | | | |
|---|--|-----|--------------|-------------------|
| KMP6-26P-16-... | Description | Pin | Core colour | Allocation |
|  | Plug socket with cable for the CPV-SC valve terminal with 16 valve positions | 1 | White | Coil 0 |
| | | 2 | Brown | Coil 1 |
| | | 3 | Green | Coil 2 |
| | | 4 | Yellow | Coil 3 |
| | | 5 | Grey | Coil 4 |
| | | 6 | Pink | Coil 5 |
| | | 7 | Blue | Coil 6 |
| | | 8 | Red | Coil 7 |
| | | 9 | Black | Coil 8 |
| | | 10 | Purple | Coil 9 |
| | | 11 | Grey-pink | Coil 10 |
| | | 12 | Red-blue | Coil 11 |
| | | 13 | White-green | Coil 12 |
| | | 14 | Brown-green | Coil 13 |
| | | 15 | White-yellow | Coil 14 |
| | | 16 | Yellow-brown | Coil 15 |
| | Note The drawing shows a plan view of the Sub-D socket on the multi-pin cable KMP6-26P-12-.... | 17 | – | n.c. |
| | | 18 | – | n.c. |
| | | 19 | – | n.c. |
| | | 20 | – | n.c. |
| | | 21 | – | n.c. |
| | | 22 | – | n.c. |
| | | 23 | White-grey | 0 V ¹⁾ |
| | | 24 | Grey-brown | 0 V ¹⁾ |
| | | 25 | White-pink | 0 V ¹⁾ |
| | | 26 | Pink-brown | 0 V ¹⁾ |

- 1) Pin 17 to pin 22 are bridged in the valve terminal.
 0 V for positive switching control signals; 24 V can be connected for negative switching control signals.

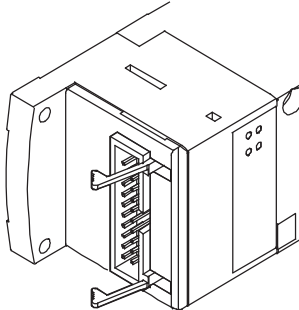
Valve terminals CPV-SC, Smart Cubic

Key features – Electrical components

FESTO

Electrical multi-pin plug connection – Connector for flat cable

Code MF



With this electrical connection variant, all valves are centrally actuated via the 20-pin connector plug.
The electrical connection is located on the left-hand side.

Pin allocation – Connector for flat cable (code MF)

| | Pin | Allocation |
|--|-----|-------------------|
| | 1 | Coil 0 |
| | 2 | Coil 1 |
| | 3 | Coil 2 |
| | 4 | Coil 3 |
| | 5 | Coil 4 |
| | 6 | Coil 5 |
| | 7 | Coil 6 |
| | 8 | Coil 7 |
| | 9 | Coil 8 |
| | 10 | Coil 9 |
| | 11 | Coil 10 |
| | 12 | Coil 11 |
| | 13 | Coil 12 |
| | 14 | Coil 13 |
| | 15 | Coil 14 |
| | 16 | Coil 15 |
| | 17 | 0 V ¹⁾ |
| | 18 | 0 V ¹⁾ |
| | 19 | 0 V ¹⁾ |
| | 20 | 0 V ¹⁾ |
| CPV-SC valve terminal with up to 16 valve positions and 20-pin multi-pin socket for flat cables to DIN 41561-1, -2 or IEC 60603-13-C020FD-7C1E-2G Contact surface gold Flat cable grid 1.27 mm Conductor cross section 0.13 mm ² | | |

1) Pin 17 to pin 20 are bridged in the valve terminal.

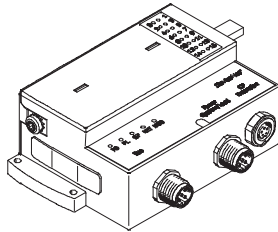
Valve terminals CPV-SC, Smart Cubic

Key features – Electrical components

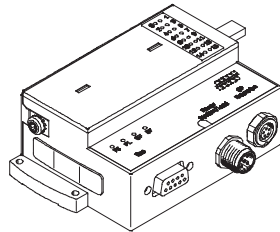
FESTO

Fieldbus Direct

DeviceNet



Profibus DP



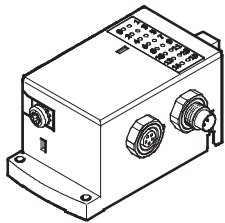
Properties

Fieldbus Direct is a system for the compact connection of a valve terminal of various sizes to different fieldbus standards.
The CP string extension option allows the functions and components of the CPI installation system to be used.

The I/O modules and cables for the CP string extension are ordered using the order code for the CPI installation system.

➔ Internet: ctec

Fieldbus connection CP



All CP valve terminals and CP modules are connected using a ready to install CP cable, and are attached to the CP interface. Four modules, for example one CPV-SC valve terminal and one to three CP input modules, make up an installation string that ends at the CP

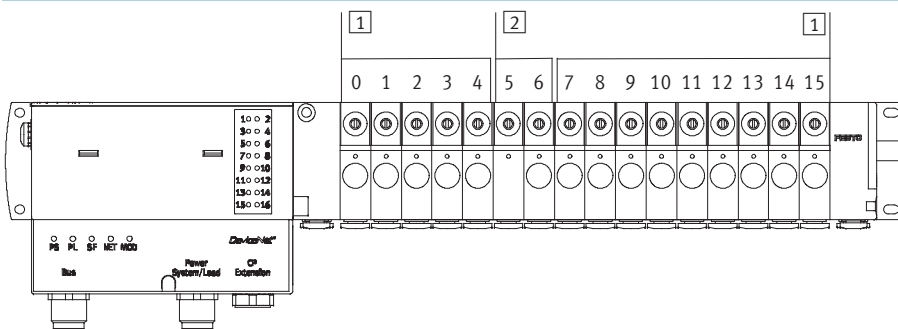
interface. The installation system supports a maximum of 4 installation strings, which can be connected to a CP fieldbus node.
The CP interface of CPV-SC is represented in the CP/CPI system by a module with 16 outputs.

Note

Further information can be found in

➔ Internet: ctec

Address allocation – Solenoid coils



1 Single solenoid valves occupy one valve position

2 Double solenoid valves occupy two valve positions

Example:

Valve terminal where valve positions 5 and 6 are prepared for double solenoid valves.

The addresses of the valve positions on the CPV-SC-DN/CPV-SC-DP are assigned from left to right. Each valve position has an address, regardless of whether or not a valve is mounted there.

Double solenoid valves “J” occupy two valve positions. The left-hand valve position with pilot control 12 is actuated by the less significant of the two addresses.

Valve terminals CPV-SC, Smart Cubic

FESTO

Key features – Display and operation

Display and operation

The switching status of every solenoid coil is displayed on the control unit LED. Inscription labels (type MH-BZ-80x) can be applied to each valve for labelling purposes.

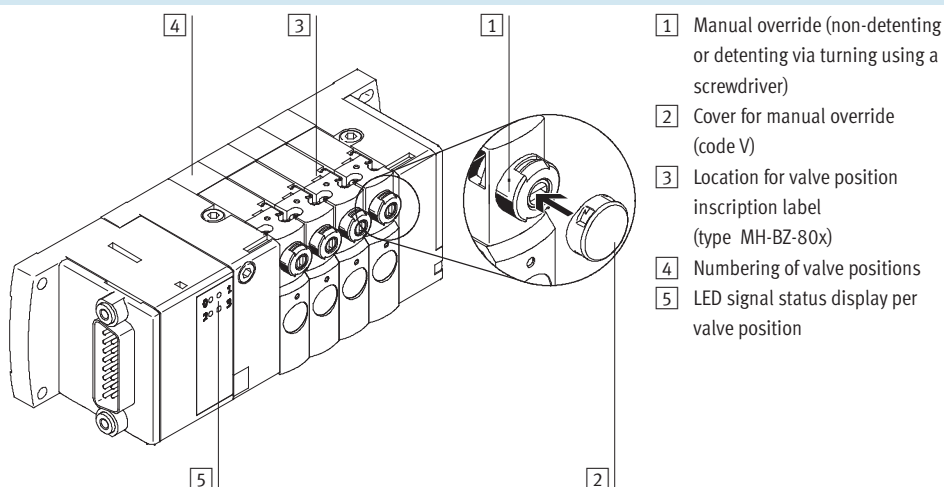
The manual override (MO) allows the valve to be activated without electronic control or power supply. The valve is activated by pushing the manual override. The set switching status can also be secured by rotating the manual override.

A cover can be fitted over the manual override to prevent it from being activated accidentally (code V).

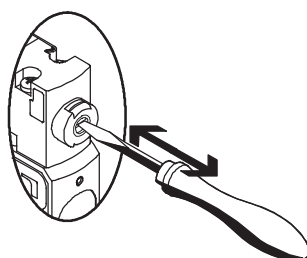
Note

A manually activated valve (manual override) cannot be reset electrically. Conversely, an electrically activated valve cannot be reset using the manual override facility.

Manual override (MO)

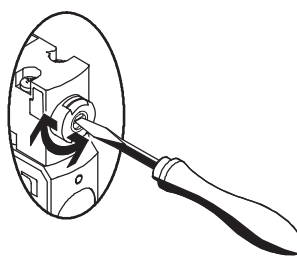


Manual override with automatic return (non-detenting)



Manual override is actuated by pushing it with a pointed object or screwdriver and reset by spring force.

Manual override set via turning (detenting)



Manual override remains active until it is reset with a screwdriver.

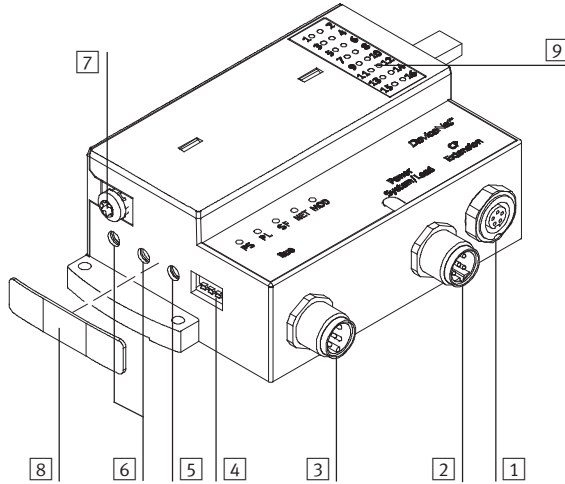
Valve terminals CPV-SC, Smart Cubic

Key features – Display and operation

FESTO

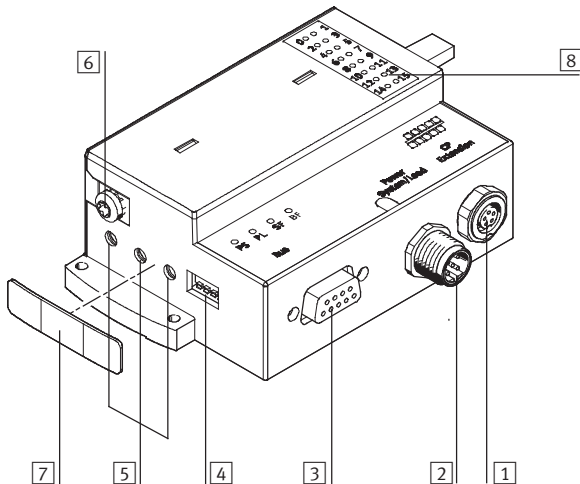
Display and operation

Fieldbus Direct – DeviceNet



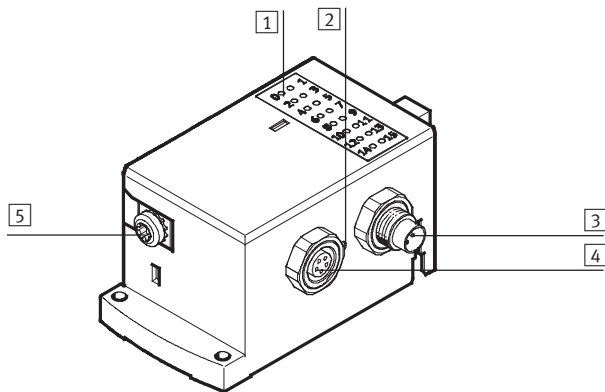
- 1 Connection for CP extension (with CP functionality)
- 2 Connection for power supply
- 3 Connection for fieldbus
- 4 DIL switch for CP extension
- 5 Rotary switch for baud rate
- 6 Rotary switch for station number
- 7 Earth terminal
- 8 Cover (for IP40 protection)
- 9 Switching status display per valve

Fieldbus Direct – Profibus DP



- 1 Connection for CP extension (with CPI functionality)
- 2 Connection for power supply
- 3 Connection for fieldbus
- 4 DIL switch for CP extension
- 5 Rotary switch for station number
- 6 Earth terminal
- 7 Cover (for IP40 protection)
- 8 Switching status display per valve

CP interface



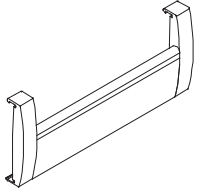
- 1 Status LEDs for valves
- 2 Status LED for CP communication
- 3 CP connection, incoming
- 4 CP connection, outgoing
- 5 Earth terminal

Valve terminals CPV-SC, Smart Cubic

Key features – Display and operation

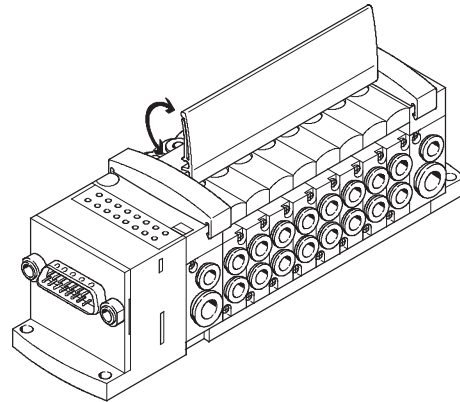
FESTO

Inscription label holder



The transparent inscription label holder provides sufficient space for individually created labels on paper or foil.

Labelling templates are available on
→ www.festo.com



Valve terminals CPV-SC, Smart Cubic

FESTO

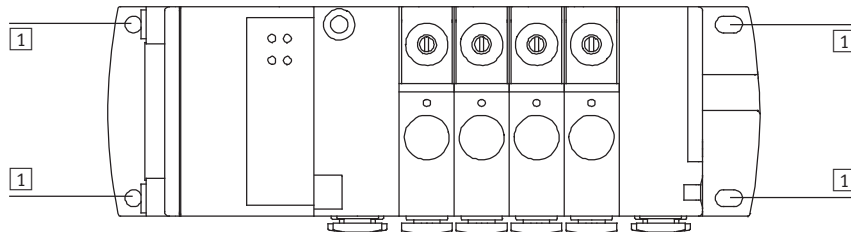
Key features – Mounting types

Mounting – Valve terminal

Sturdy terminal mounting thanks to:

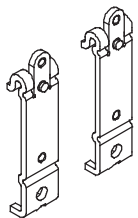
- Four through-holes for wall mounting
- H-rail mounting

Wall mounting

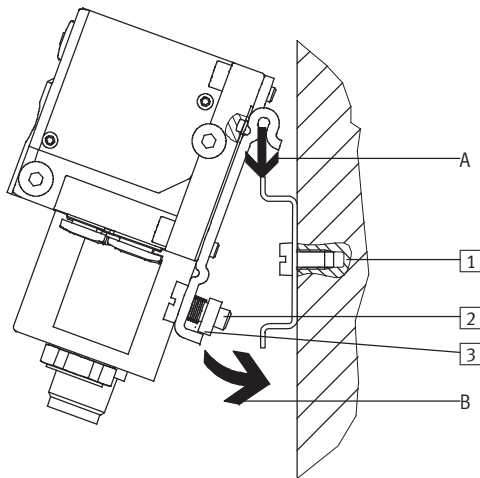


1 Mounting holes for screws M3

H-rail mounting



The mounting CPVSC1-HS35 facilitates mounting on a H-rail to EN 60715.



The CPV-SC valve terminal is attached to the H-rail (see arrow A).

The valve terminal is then swivelled on the H-rail and secured in place with the clamping component (see arrow B).

- 1 Holes for wall mounting
- 2 Self-tapping M4x10 screw of the H-rail clamping unit
- 3 Clamping component of the H-rail clamping unit

Valve terminals CPV-SC, Smart Cubic

FESTO

Technical data

Flow rate

170 l/min

Width

10 mm

Voltage

5, 12, 24 V DC



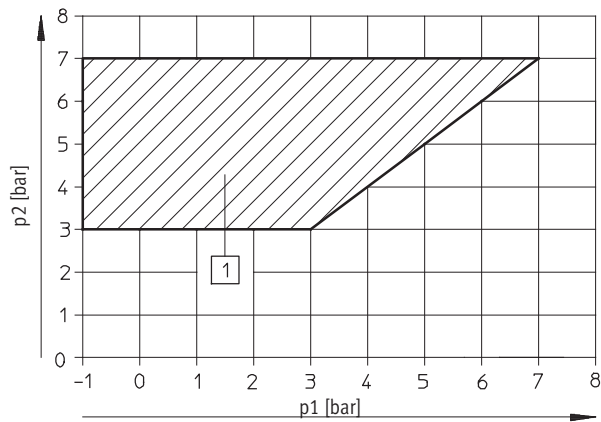
| General technical data | | | | | |
|------------------------------------|--|-----------------|------------------|------------------|------------------|
| Valve | 5/2-way valve | | 3/2-way valve | | 2/2-way valve |
| | Single solenoid | Double solenoid | Normally open | Normally closed | Normally closed |
| Valve function order code | M | J | N | K | D |
| Constructional design | Electromagnetically actuated piston spool valve | | | | |
| Reset method | Pneumatic spring | – | Pneumatic spring | Pneumatic spring | Pneumatic spring |
| Valve size [mm] | 10 | | 10 | | 10 |
| Nominal diameter [mm] | 2.5 | | 2.5 | | 2.5 |
| Standard nominal flow rate [l/min] | 170 | | 170 | | 150 |
| Sealing principle | Soft | | | | |
| Control type | Piloted | | | | |
| Lubrication | Life-time lubrication | | | | |
| Type of mounting | Wall mounting | | | | |
| Mounting position | Any | | | | |
| Manual override | Non-detenting/detenting/blocked | | | | |
| Exhaust function | No flow control | | | | |
| Direction of flow | Non-reversible | | | | |
| | | | | | |
| Pneumatic connections | | | | | |
| Supply 1 | M7, QS-6 | | | | |
| Exhaust port 3/5 | M7, QS-6, round silencer or integrated flat plate silencer | | | | |
| Working ports 2/4 | Depending on the connection type selected <ul style="list-style-type: none">• M5• QS-3• QS-4 | | | | |
| Pilot air port 12/14 | M5, QS-4 | | | | |
| Pilot exhaust air port 82/84 | M5, QS-4, round silencer or integrated flat plate silencer | | | | |

Valve terminals CPV-SC, Smart Cubic

Technical data

FESTO

Pilot pressure p2 as a function of operating pressure p1



1 Operating range for valves with external pilot air

Valve response times [ms]

| Valve function order code | | M | J | N | K | D |
|---------------------------|------------|----|---|----|----|----|
| Response times | on | 10 | – | 10 | 10 | 10 |
| | off | 10 | – | 10 | 10 | 10 |
| | changeover | – | 8 | – | – | – |

Operating and environmental conditions

| | | | |
|--|--|------------|--|
| Operating medium | Compressed air in accordance with ISO 8573-1:2010 [7:4:4] ➔ 28 | | |
| Note on operating/pilot medium | Operation with lubricated medium possible (in which case lubricated operation will always be required) | | |
| Paint-wetting impairment substances criterion | Yes (free of paint-wetting impairment substances) | | |
| Certification | c UL us recognized (OL) | | |
| Operating pressure | bar] | −9 ... +7 | |
| Operating pressure for valve terminal with internal pilot air supply | bar] | 3 ... 7 | |
| Pilot pressure | bar] | 3 ... 7 | |
| Ambient temperature | [°C] | −5 ... +50 | |
| Temperature of medium | [°C] | −5 ... +50 | |
| CE mark (see declaration of conformity) | To EU EMC Directive ¹⁾ | | |
| Note on materials | RoHS-compliant | | |

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com → Support → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Valve terminals CPV-SC, Smart Cubic

Technical data

FESTO

| Electrical data | | | |
|--|------------------------------|--|-----------------------------|
| Electrical connection | | Individual connection | |
| | | Multi-pin | |
| | | CPI installation system | |
| | | Fieldbus | |
| Electromagnetic compatibility of the CPV-SC valve terminal with Sub-D or flat cable connection | | Interference emission tested to DIN EN 61000-6-4, industry | |
| | | Interference immunity ¹⁾ tested to DIN EN 61000-6-2, industry | |
| Protection against electric shock (protection against direct and indirect contact to EN 60204-1/IEC 204) | | By means of PELV power supply unit | |
| Nominal operating voltage of valve terminal | Multi-pin plug connection | [V DC] | 24 |
| | Individual sub-base | [V] | 5, 12, 24 |
| Permissible voltage fluctuations | | [%] | ±10 |
| Coil characteristics | Nominal voltage | [V DC] | 5, 12, 22, 24 |
| | Electrical power consumption | [W] | 1 |
| Duty cycle | | 100% at 40°C ambient temperature | |
| Protection class to EN 60529 | | IP40 (in assembled state and with detenting plug) | |
| Relative air humidity | | [%] | 90 at 40 °C, non-condensing |

1) The maximum signal line length is 10 m

| Materials | |
|--------------------------------|--------------------|
| Electrical interface | Polymer |
| End plate, electrical sub-base | Polymer |
| Seals | NBR |
| Valve slice | Die-cast aluminium |
| Sub-base for working ports | PA |

| Product weight [g] | |
|-------------------------------------|------|
| 5/2-way, 3/2-way valve | 30.5 |
| 5/2-way double solenoid valve | 56.5 |
| Blanking plate | 22.5 |
| Right-hand end plate | 42.5 |
| Left-hand end plate | 28 |
| Actuator housing | 43 |
| Tie rod, 16-fold | 29.6 |
| Electrical manifold module, 16-fold | 64 |
| Control unit (fieldbus) | 200 |
| Electrical interface CPI | 150 |

Valve terminals CPV-SC, Smart Cubic

Technical data

FESTO

Equipment

Operate your equipment with unlubricated compressed air if possible. Festo valves and cylinders are designed so that, if used as designated, they will not require additional lubrication and will still achieve a long service life. The quality of compressed air downstream from the compressor must correspond to that of unlubricated compressed air. If possible, do not operate all of your equipment with lubricated compressed air. The lubricators should, where possible, always be installed directly upstream of the cylinders used.

Incorrect additional oil and too high an oil content in the compressed air reduces the service life of a valve terminal.

Use Festo special oil OFSW-32 or the alternatives listed in the Festo catalogue (as specified in DIN 51524 HLP32; basic oil viscosity 32 CST at 40°C).

Bio-oils

When using bio-oils (oils which are based upon synthetic or native ester, e.g. rapeseed oil methyl ester), the maximum residual oil content of 0.1 mg/m³ must not be exceeded (see ISO 8573-1 Class 2).

Mineral oils

When using mineral oils (e.g. HLP oils to DIN 51524, Parts 1 to 3) or similar oils based on poly-alpha-olefins (PAO), the maximum residual oil content of 5 mg/m³ must not be exceeded (see ISO 8573-1 Class 4). A higher residual oil content irrespective of the compressor oil cannot be permitted, as the basic lubricant would be flushed out over time.

Valve terminals CPV-SC, Smart Cubic

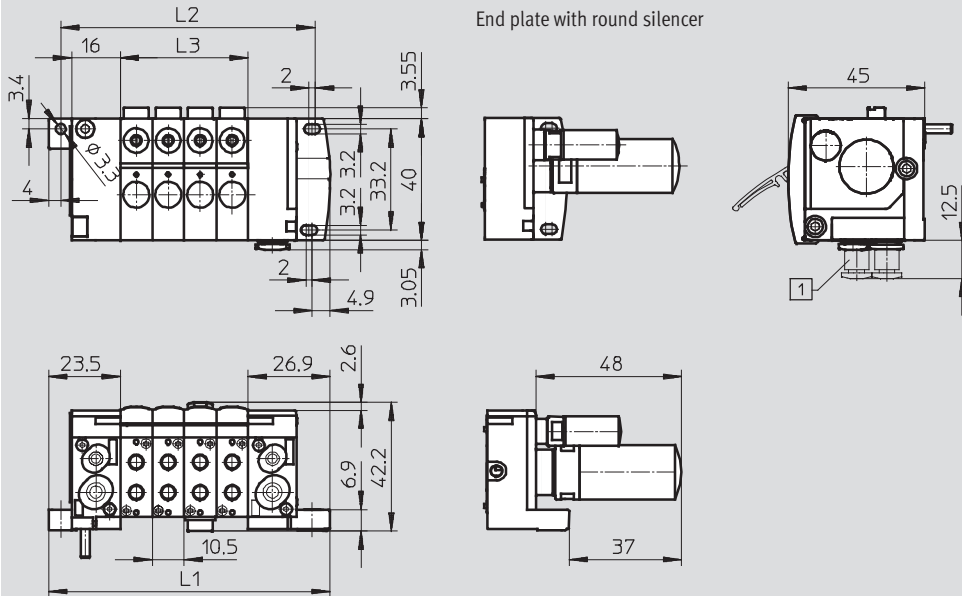
Technical data

FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

With individual connection



| Valve positions n | L1 | L2 | L3 |
|-------------------|-------|-------|-------|
| 2 | 71.4 | 62.5 | 21 |
| 3 | 81.9 | 73 | 31.5 |
| 4 | 92.4 | 83.5 | 42 |
| 5 | 102.9 | 94 | 52.5 |
| 6 | 113.4 | 104.5 | 63 |
| 7 | 123.9 | 115 | 73.5 |
| 8 | 134 | 125.1 | 84 |
| 9 | 144.9 | 136 | 94.5 |
| 10 | 155.4 | 146.5 | 105 |
| 11 | 165.9 | 157 | 115.5 |
| 12 | 176.4 | 167.5 | 126 |
| 13 | 186.9 | 178 | 136.5 |
| 14 | 197.4 | 188.5 | 147 |
| 15 | 207.9 | 199 | 157.5 |
| 16 | 218.4 | 209.5 | 168 |

Valve terminals CPV-SC, Smart Cubic

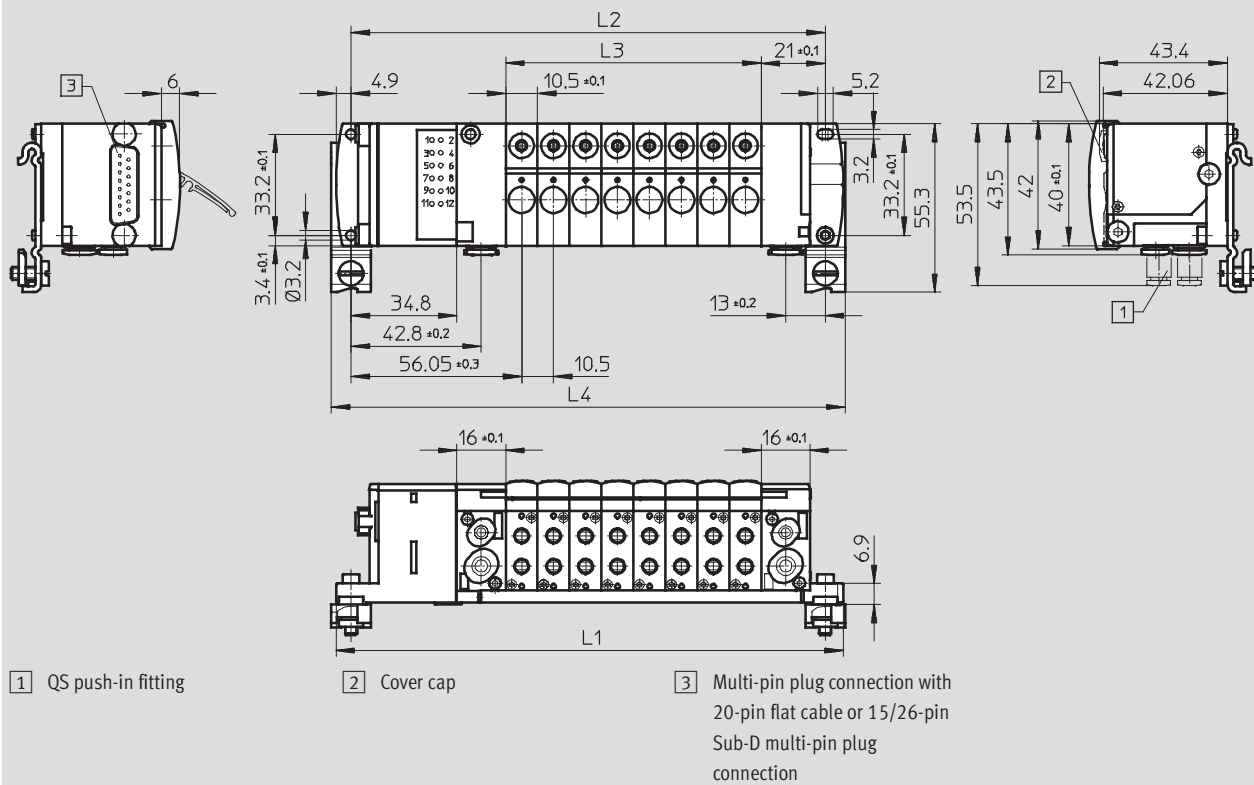
Technical data

FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

With multi-pin plug connection



| Valve positions n | L1 | L2 | L3 |
|-------------------|-------|-------|-------|
| 4 | 125 | 114 | 42 |
| 5 | 135.5 | 124.5 | 52.5 |
| 6 | 146 | 135 | 63 |
| 7 | 146.5 | 145.5 | 73.5 |
| 8 | 167 | 156 | 84 |
| 9 | 177.5 | 166.5 | 94.5 |
| 10 | 188 | 177 | 105 |
| 11 | 198.5 | 187.5 | 115.5 |
| 12 | 209 | 198 | 126 |
| 13 | 219.5 | 208.5 | 136.5 |
| 14 | 230 | 219 | 147 |
| 15 | 240.5 | 229.5 | 157.5 |
| 16 | 251 | 240 | 168 |

Valve terminals CPV-SC, Smart Cubic

Technical data



Dimensions – Sub-D plug with cable

Download CAD Data → www.festo.com/us/cad

1 15-/26-pin plug

| Type | B1 | D1 | H1 | L1 | L2 | | | Number of pins |
|-----------------|----|-----|----|------|-------|-------|--------|----------------|
| KMP6-15P-12-... | 16 | 8.5 | 40 | 34.5 | 2,500 | 5,000 | 10,000 | 15 |
| KMP6-26P-16-... | 16 | 8.6 | 40 | 34.5 | 2,500 | 5,000 | 10,000 | 26 |

Valve terminals CPV-SC, Smart Cubic

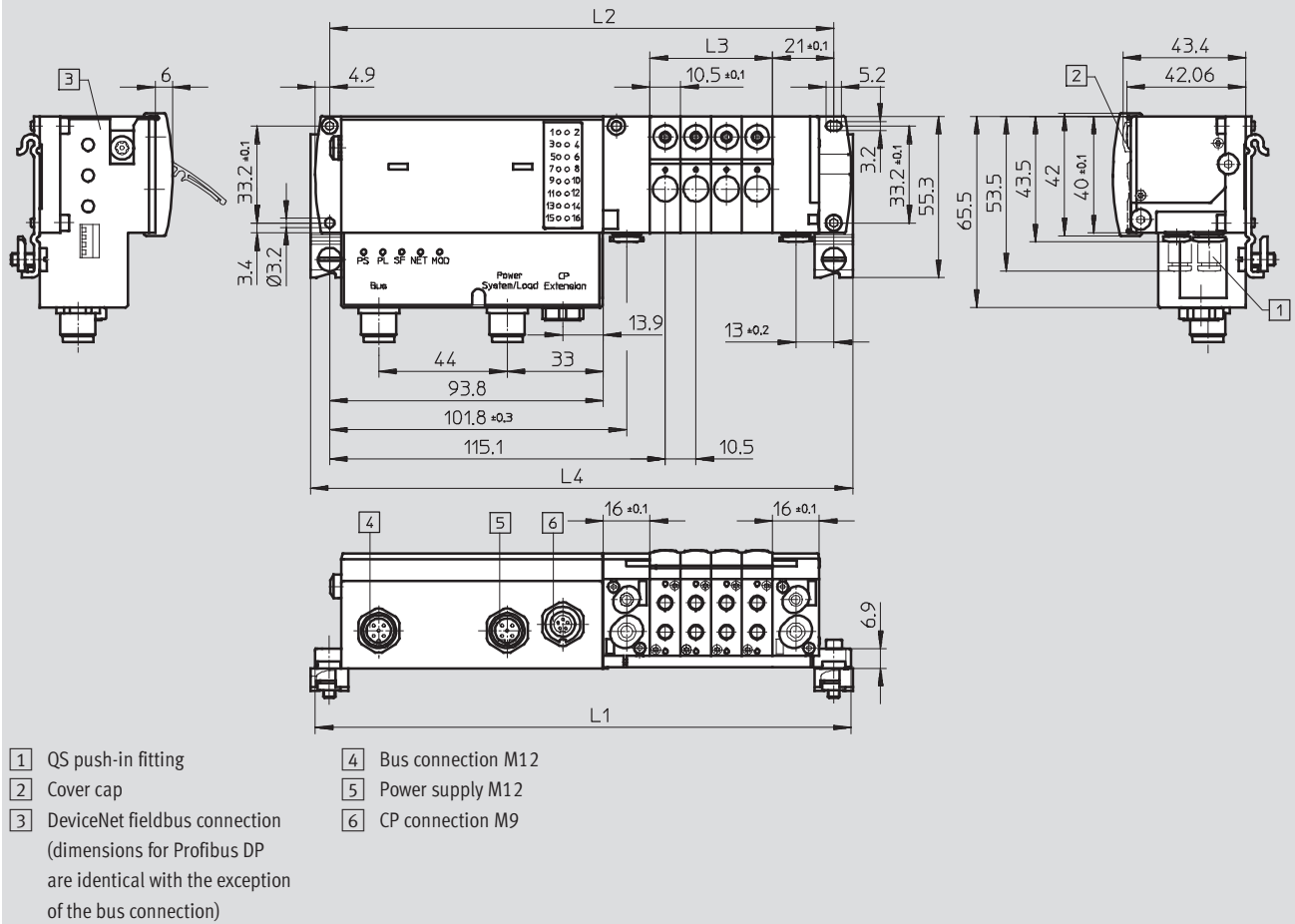
Technical data

FESTO

Dimensions – Valve terminal

Download CAD Data → www.festo.com/us/cad

With fieldbus connection



| Valve positions n | L1 | L2 | L3 | L4 |
|-------------------|-------|-------|-------|-------|
| 4 | 183.6 | 172.8 | 42 | 185.4 |
| 5 | 194.1 | 183.3 | 52.5 | 195.9 |
| 6 | 204.6 | 193.8 | 63 | 206.4 |
| 7 | 215.1 | 204.3 | 73.5 | 216.9 |
| 8 | 225.6 | 214.8 | 84 | 227.4 |
| 9 | 236.1 | 225.3 | 94.5 | 237.9 |
| 10 | 246.6 | 235.8 | 105 | 248.4 |
| 11 | 257.1 | 246.3 | 115.5 | 258.9 |
| 12 | 267.6 | 256.8 | 126 | 269.4 |
| 13 | 278.1 | 267.3 | 136.5 | 279.9 |
| 14 | 288.6 | 277.8 | 147 | 290.4 |
| 15 | 299.1 | 288.3 | 157.5 | 300.9 |
| 16 | 309.6 | 298.8 | 168 | 311.4 |

Valve terminals CPV-SC, Smart Cubic

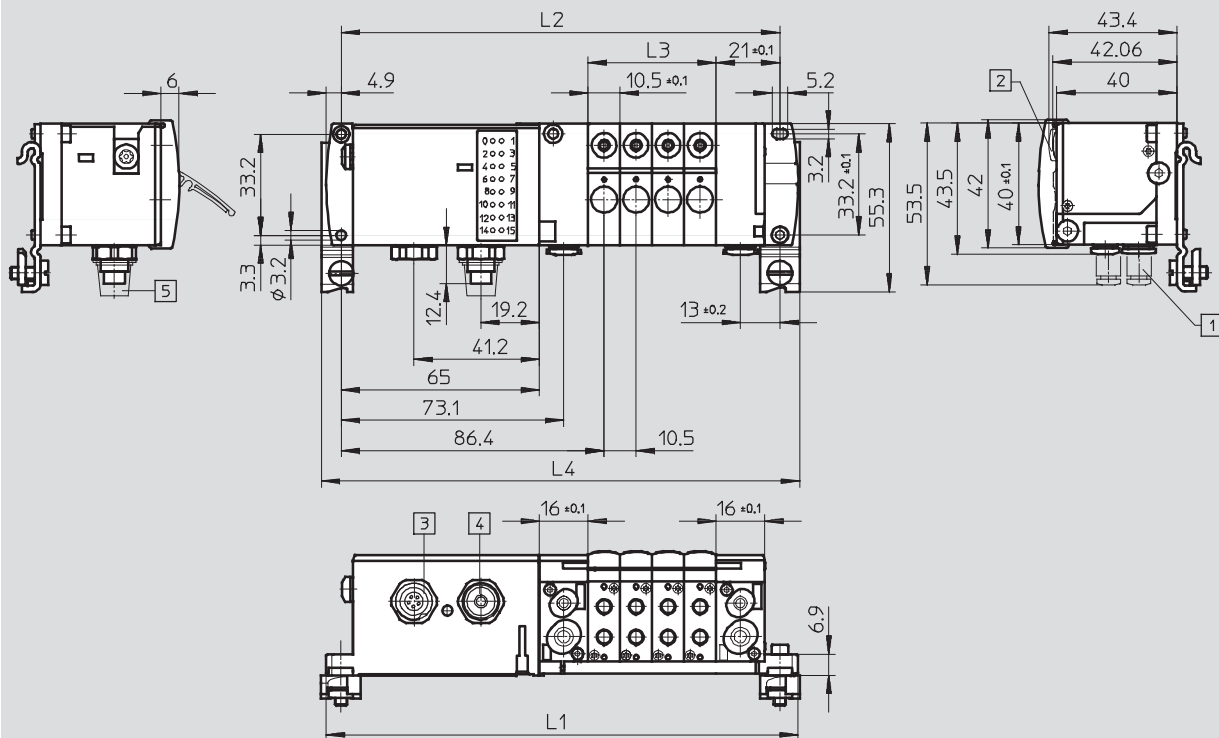
Technical data

FESTO

Dimensions – Valve terminal

Download CAD Data → www.festo.com/us/cad

With CPI interface



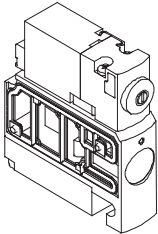
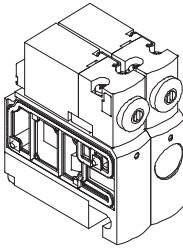
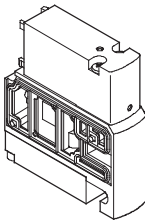
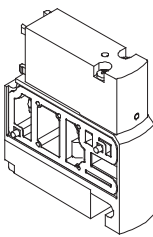
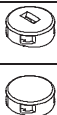
- 1 QS push-in fitting
- 2 Cover cap for manual override
- 3 CP connection M9, outgoing
- 4 CP connection M9, incoming
- 5 Cover cap for CP connection

| Valve positions n | L1 | L2 | L3 | L4 |
|-------------------|-------|-------|-------|-------|
| 4 | 154.9 | 144.1 | 42 | 156.7 |
| 5 | 165.4 | 154.6 | 52,5 | 167.2 |
| 6 | 175.9 | 165.1 | 63 | 177.7 |
| 7 | 186.4 | 175.6 | 73,5 | 188.2 |
| 8 | 196.9 | 186.1 | 84 | 198.7 |
| 9 | 207.4 | 196.6 | 94,5 | 209.2 |
| 10 | 217.9 | 207.1 | 105 | 219.7 |
| 11 | 228.4 | 217.6 | 115,5 | 230.2 |
| 12 | 238.9 | 228.1 | 126 | 240.7 |
| 13 | 249.4 | 238.6 | 136,5 | 251.2 |
| 14 | 259.9 | 249.1 | 147 | 261.7 |
| 15 | 270.4 | 259.6 | 157,5 | 272.2 |
| 16 | 280.9 | 270.1 | 168 | 282.7 |

Valve terminals CPV-SC, Smart Cubic

Accessories

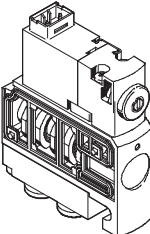
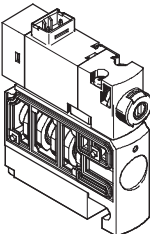
FESTO

| Ordering data – Valves with electrical plug-in connection | | | |
|--|---|---------------------------|--------------------|
| Designation | | Part No. | Type |
|   | Solenoid valve with M5 connections | | |
| | 5/2-way single solenoid valve | 527550 | CPVSC1-M1H-M-P-M5 |
| | 5/2-way double solenoid valve | 527553 | CPVSC1-M1H-J-P-M5 |
| | 3/2-way valve, normally open | 527551 | CPVSC1-M1H-N-P-M50 |
| | 3/2-way valve, normally closed | 527552 | CPVSC1-M1H-K-P-M5C |
| | 2/2-way valve, normally closed | 527554 | CPVSC1-M1H-D-P-M5C |
| | Solenoid valve with QS-3 push-in connectors | | |
| | 5/2-way single solenoid valve | 527555 | CPVSC1-M1H-M-P-Q3 |
| | 5/2-way double solenoid valve | 527558 | CPVSC1-M1H-J-P-Q3 |
| | 3/2-way valve, normally open | 527556 | CPVSC1-M1H-N-P-Q30 |
| | 3/2-way valve, normally closed | 527557 | CPVSC1-M1H-K-P-Q3C |
| | 2/2-way valve, normally closed | 527559 | CPVSC1-M1H-D-P-Q3C |
| | Solenoid valve with QS-4 push-in connectors | | |
| | 5/2-way single solenoid valve | 527560 | CPVSC1-M1H-M-P-Q4 |
| | 5/2-way double solenoid valve | 527563 | CPVSC1-M1H-J-P-Q4 |
| | 3/2-way valve, normally open | 527561 | CPVSC1-M1H-N-P-Q40 |
| | 3/2-way valve, normally closed | 527562 | CPVSC1-M1H-K-P-Q4C |
| | 2/2-way valve, normally closed | 527564 | CPVSC1-M1H-D-P-Q4C |
|  | Blanking plates with integrated connections | | |
| | Vacant position, with blanking plate | 527527 | CPVSC1-RP-B |
|  | Supply plate M5 | | |
| | Duct 1 separated | 527528 | CPVSC1-SP-P-M5 |
| | Duct 1/3/5 separated | 527530 | CPVSC1-SP-PRS-M5 |
| | Without duct separation | 527532 | CPVSC1-SP-M5 |
| | Supply plate, QS-4 push-in connector | | |
| | Duct 1 separated | 527529 | CPVSC1-SP-P-Q4 |
| | Duct 1/3/5 separated | 527531 | CPVSC1-SP-PRS-Q4 |
| | Without duct separation | 527533 | CPVSC1-SP-Q4 |
| |  | Cover for manual override | |
| Non-detenting, 10 pieces | | 540897 | VMPA-HBT-B |
| Covered, 10 pieces | | 540898 | VMPA-HBV-B |

Valve terminals CPV-SC, Smart Cubic

Accessories

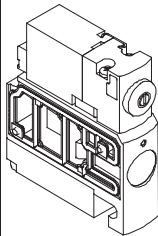
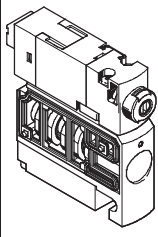
FESTO

| Ordering data – Valves with individual electrical connection, detenting manual override, vertical plug, 24 V DC | | | |
|---|---|---------------------|---------------------|
| Designation | | Part No. | Type |
|  | Solenoid valve with M5 connections | | |
| | 5/2-way single solenoid valve | 547276 | CPVSC1-M1H-M-T-M5 |
| | 5/2-way double solenoid valve | 547277 | CPVSC1-M1H-J-T-M5 |
| | 3/2-way valve, normally open | 547275 | CPVSC1-M1H-N-T-M5O |
| | 3/2-way valve, normally closed | 547274 | CPVSC1-M1H-K-T-M5C |
| | 2/2-way valve, normally closed | 547273 | CPVSC1-M1H-D-T-M5C |
| | | | |
| | Solenoid valve with M5 connections and LED | | |
| | 5/2-way single solenoid valve | 547306 | CPVSC1-M1LH-M-T-M5 |
| | 5/2-way double solenoid valve | 547307 | CPVSC1-M1LH-J-T-M5 |
|  | 3/2-way valve, normally open | 547305 | CPVSC1-M1LH-N-T-M5O |
| | 3/2-way valve, normally closed | 547304 | CPVSC1-M1LH-K-T-M5C |
| | 2/2-way valve, normally closed | 547303 | CPVSC1-M1LH-D-T-M5C |
| | | | |
| | Solenoid valve with QS-3 push-in connectors | | |
| | 5/2-way single solenoid valve | 547281 | CPVSC1-M1H-M-T-Q3 |
| | 5/2-way double solenoid valve | 547282 | CPVSC1-M1H-J-T-Q3 |
| | 3/2-way valve, normally open | 547280 | CPVSC1-M1H-N-T-Q3O |
| | 3/2-way valve, normally closed | 547279 | CPVSC1-M1H-K-T-Q3C |
| | 2/2-way valve, normally closed | 547278 | CPVSC1-M1H-D-T-Q3C |
| | | | |
| Solenoid valve with QS-3 push-in connectors and LED | | | |
| 5/2-way single solenoid valve | 547311 | CPVSC1-M1LH-M-T-Q3 | |
| 5/2-way double solenoid valve | 547312 | CPVSC1-M1LH-J-T-Q3 | |
| 3/2-way valve, normally open | 547310 | CPVSC1-M1LH-N-T-Q3O | |
| 3/2-way valve, normally closed | 547309 | CPVSC1-M1LH-K-T-Q3C | |
| 2/2-way valve, normally closed | 547308 | CPVSC1-M1LH-D-T-Q3C | |
| | | | |
| Solenoid valve with QS-4 push-in connectors | | | |
| 5/2-way single solenoid valve | 547286 | CPVSC1-M1H-M-T-Q4 | |
| 5/2-way double solenoid valve | 547287 | CPVSC1-M1H-J-T-Q4 | |
| 3/2-way valve, normally open | 547285 | CPVSC1-M1H-N-T-Q4O | |
| 3/2-way valve, normally closed | 547284 | CPVSC1-M1H-K-T-Q4C | |
| 2/2-way valve, normally closed | 547283 | CPVSC1-M1H-D-T-Q4C | |
| | | | |
| Solenoid valve with QS-4 push-in connectors and LED | | | |
| 5/2-way single solenoid valve | 547316 | CPVSC1-M1LH-M-T-Q4 | |
| 5/2-way double solenoid valve | 547317 | CPVSC1-M1LH-J-T-Q4 | |
| 3/2-way valve, normally open | 547315 | CPVSC1-M1LH-N-T-Q4O | |
| 3/2-way valve, normally closed | 547314 | CPVSC1-M1LH-K-T-Q4C | |
| 2/2-way valve, normally closed | 547313 | CPVSC1-M1LH-D-T-Q4C | |

Valve terminals CPV-SC, Smart Cubic

FESTO

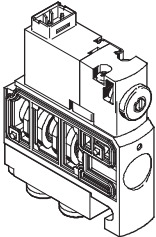
Accessories

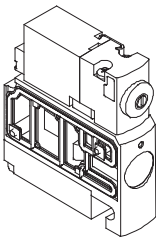
| Ordering data – Valves with individual electrical connection, detenting manual override, horizontal plug, 24 V DC | | | |
|--|---|---------------------|---------------------|
| Designation | | Part No. | Type |
|   | Solenoid valve with M5 connections | | |
| | 5/2-way single solenoid valve | 547291 | CPVSC1-M1H-M-H-M5 |
| | 5/2-way double solenoid valve | 547292 | CPVSC1-M1H-J-H-M5 |
| | 3/2-way valve, normally open | 547290 | CPVSC1-M1H-N-H-M50 |
| | 3/2-way valve, normally closed | 547289 | CPVSC1-M1H-K-H-M5C |
| | 2/2-way valve, normally closed | 547288 | CPVSC1-M1H-D-H-M5C |
| | | | |
| | Solenoid valve with M5 connections and LED | | |
| | 5/2-way single solenoid valve | 547322 | CPVSC1-M1LH-M-H-M5 |
| | 5/2-way double solenoid valve | 547323 | CPVSC1-M1LH-J-H-M5 |
| | 3/2-way valve, normally open | 547321 | CPVSC1-M1LH-N-H-M50 |
| | 3/2-way valve, normally closed | 547320 | CPVSC1-M1LH-K-H-M5C |
| | 2/2-way valve, normally closed | 547318 | CPVSC1-M1LH-D-H-M5C |
| | | | |
| | Solenoid valve with QS-3 push-in connectors | | |
| | 5/2-way single solenoid valve | 547296 | CPVSC1-M1H-M-H-Q3 |
| | 5/2-way double solenoid valve | 547297 | CPVSC1-M1H-J-H-Q3 |
| | 3/2-way valve, normally open | 547295 | CPVSC1-M1H-N-H-Q30 |
| | 3/2-way valve, normally closed | 547294 | CPVSC1-M1H-K-H-Q3C |
| | 2/2-way valve, normally closed | 547293 | CPVSC1-M1H-D-H-Q3C |
| | | | |
| Solenoid valve with QS-3 push-in connectors and LED | | | |
| 5/2-way single solenoid valve | 547327 | CPVSC1-M1LH-M-H-Q3 | |
| 5/2-way double solenoid valve | 547328 | CPVSC1-M1LH-J-H-Q3 | |
| 3/2-way valve, normally open | 547326 | CPVSC1-M1LH-N-H-Q30 | |
| 3/2-way valve, normally closed | 547325 | CPVSC1-M1LH-K-H-Q3C | |
| 2/2-way valve, normally closed | 547324 | CPVSC1-M1LH-D-H-Q3C | |
| | | | |
| Solenoid valve with QS-4 push-in connectors | | | |
| 5/2-way single solenoid valve | 547301 | CPVSC1-M1H-M-H-Q4 | |
| 5/2-way double solenoid valve | 547302 | CPVSC1-M1H-J-H-Q4 | |
| 3/2-way valve, normally open | 547300 | CPVSC1-M1H-N-H-Q40 | |
| 3/2-way valve, normally closed | 547299 | CPVSC1-M1H-K-H-Q4C | |
| 2/2-way valve, normally closed | 547298 | CPVSC1-M1H-D-H-Q4C | |
| | | | |
| Solenoid valve with QS-4 push-in connectors and LED | | | |
| 5/2-way single solenoid valve | 547332 | CPVSC1-M1LH-M-H-Q4 | |
| 5/2-way double solenoid valve | 547333 | CPVSC1-M1LH-J-H-Q4 | |
| 3/2-way valve, normally open | 547331 | CPVSC1-M1LH-N-H-Q40 | |
| 3/2-way valve, normally closed | 547330 | CPVSC1-M1LH-K-H-Q4C | |
| 2/2-way valve, normally closed | 547329 | CPVSC1-M1LH-D-H-Q4C | |

Valve terminals CPV-SC, Smart Cubic

Accessories

FESTO

| Ordering data – Valves with individual electrical connection, pushing manual override, vertical plug, 24 V DC | | | |
|---|---|--------|---------------------|
| Designation | Part No. | Type | |
|  | Solenoid valve with M5 connections | | |
| | 5/2-way single solenoid valve | 548037 | CPVSC1-M1HT-M-T-M5 |
| | 5/2-way double solenoid valve | 548038 | CPVSC1-M1HT-J-T-M5 |
| | 3/2-way valve, normally open | 548036 | CPVSC1-M1HT-N-T-M50 |
| | 3/2-way valve, normally closed | 548035 | CPVSC1-M1HT-K-T-M5C |
| | 2/2-way valve, normally closed | 548034 | CPVSC1-M1HT-D-T-M5C |
| | Solenoid valve with QS-3 push-in connectors | | |
| | 5/2-way single solenoid valve | 548043 | CPVSC1-M1HT-M-T-Q3 |
| | 5/2-way double solenoid valve | 548044 | CPVSC1-M1HT-J-T-Q3 |
| | 3/2-way valve, normally open | 548042 | CPVSC1-M1HT-N-T-Q30 |
| | 3/2-way valve, normally closed | 548041 | CPVSC1-M1HT-K-T-Q3C |
| | 2/2-way valve, normally closed | 548040 | CPVSC1-M1HT-D-T-Q3C |
| | Solenoid valve with QS-4 push-in connectors | | |
| | 5/2-way single solenoid valve | 548048 | CPVSC1-M1HT-M-T-Q4 |
| | 5/2-way double solenoid valve | 548049 | CPVSC1-M1HT-J-T-Q4 |
| | 3/2-way valve, normally open | 548047 | CPVSC1-M1HT-N-T-Q40 |
| | 3/2-way valve, normally closed | 548046 | CPVSC1-M1HT-K-T-Q4C |
| | 2/2-way valve, normally closed | 548045 | CPVSC1-M1HT-D-T-Q4C |

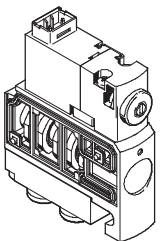
| Ordering data – Valves with individual electrical connection, pushing manual override, horizontal plug, 24 V DC | | | |
|---|---|--------|---------------------|
| Designation | Part No. | Type | |
|  | Solenoid valve with M5 connections | | |
| | 5/2-way single solenoid valve | 548053 | CPVSC1-M1HT-M-H-M5 |
| | 5/2-way double solenoid valve | 548054 | CPVSC1-M1HT-J-H-M5 |
| | 3/2-way valve, normally open | 548052 | CPVSC1-M1HT-N-H-M50 |
| | 3/2-way valve, normally closed | 548051 | CPVSC1-M1HT-K-H-M5C |
| | 2/2-way valve, normally closed | 548050 | CPVSC1-M1HT-D-H-M5C |
| | Solenoid valve with QS-3 push-in connectors | | |
| | 5/2-way single solenoid valve | 548058 | CPVSC1-M1HT-M-H-Q3 |
| | 5/2-way double solenoid valve | 548059 | CPVSC1-M1HT-J-H-Q3 |
| | 3/2-way valve, normally open | 548057 | CPVSC1-M1HT-N-H-Q30 |
| | 3/2-way valve, normally closed | 548056 | CPVSC1-M1HT-K-H-Q3C |
| | 2/2-way valve, normally closed | 548055 | CPVSC1-M1HT-D-H-Q3C |
| | Solenoid valve with QS-4 push-in connectors | | |
| | 5/2-way single solenoid valve | 548063 | CPVSC1-M1HT-M-H-Q4 |
| | 5/2-way double solenoid valve | 548064 | CPVSC1-M1HT-J-H-Q4 |
| | 3/2-way valve, normally open | 548062 | CPVSC1-M1HT-N-H-Q40 |
| | 3/2-way valve, normally closed | 548061 | CPVSC1-M1HT-K-H-Q4C |
| | 2/2-way valve, normally closed | 548060 | CPVSC1-M1HT-D-H-Q4C |

Valve terminals CPV-SC, Smart Cubic

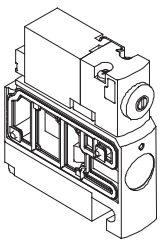
Accessories

FESTO

Ordering data – Valves with individual electrical connection, detenting manual override, vertical plug, 12 V DC

| Designation | Part No. | Type |
|---|---|---------------------------|
|  | Solenoid valve with M5 connections | |
| | 5/2-way single solenoid valve | 547367 CPVSC1-M5H-M-T-M5 |
| | 5/2-way double solenoid valve | 547368 CPVSC1-M5H-J-T-M5 |
| | 3/2-way valve, normally open | 547366 CPVSC1-M5H-N-T-M50 |
| | 3/2-way valve, normally closed | 547365 CPVSC1-M5H-K-T-M5C |
| | 2/2-way valve, normally closed | 547364 CPVSC1-M5H-D-T-M5C |
| | Solenoid valve with QS-3 push-in connectors | |
| | 5/2-way single solenoid valve | 547372 CPVSC1-M5H-M-T-Q3 |
| | 5/2-way double solenoid valve | 547373 CPVSC1-M5H-J-T-Q3 |
| | 3/2-way valve, normally open | 547371 CPVSC1-M5H-N-T-Q30 |
| | 3/2-way valve, normally closed | 547370 CPVSC1-M5H-K-T-Q3C |
| | 2/2-way valve, normally closed | 547369 CPVSC1-M5H-D-T-Q3C |
| | Solenoid valve with QS-4 push-in connectors | |
| | 5/2-way single solenoid valve | 547377 CPVSC1-M5H-M-T-Q4 |
| | 5/2-way double solenoid valve | 547378 CPVSC1-M5H-J-T-Q4 |
| | 3/2-way valve, normally open | 547376 CPVSC1-M5H-N-T-Q40 |
| | 3/2-way valve, normally closed | 547375 CPVSC1-M5H-K-T-Q4C |
| | 2/2-way valve, normally closed | 547374 CPVSC1-M5H-D-T-Q4C |

Ordering data – Valves with individual electrical connection, pushing manual override, horizontal plug, 12 V DC

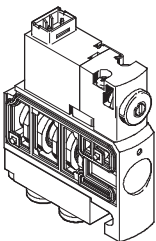
| Designation | Part No. | Type |
|---|---|---------------------------|
|  | Solenoid valve with M5 connections | |
| | 5/2-way single solenoid valve | 547382 CPVSC1-M5H-M-H-M5 |
| | 5/2-way double solenoid valve | 547383 CPVSC1-M5H-J-H-M5 |
| | 3/2-way valve, normally open | 547381 CPVSC1-M5H-N-H-M50 |
| | 3/2-way valve, normally closed | 547380 CPVSC1-M5H-K-H-M5C |
| | 2/2-way valve, normally closed | 547379 CPVSC1-M5H-D-H-M5C |
| | Solenoid valve with QS-3 push-in connectors | |
| | 5/2-way single solenoid valve | 547387 CPVSC1-M5H-M-H-Q3 |
| | 5/2-way double solenoid valve | 547388 CPVSC1-M5H-J-H-Q3 |
| | 3/2-way valve, normally open | 547386 CPVSC1-M5H-N-H-Q30 |
| | 3/2-way valve, normally closed | 547385 CPVSC1-M5H-K-H-Q3C |
| | 2/2-way valve, normally closed | 547384 CPVSC1-M5H-D-H-Q3C |
| | Solenoid valve with QS-4 push-in connectors | |
| | 5/2-way single solenoid valve | 547392 CPVSC1-M5H-M-H-Q4 |
| | 5/2-way double solenoid valve | 547393 CPVSC1-M5H-J-H-Q4 |
| | 3/2-way valve, normally open | 547391 CPVSC1-M5H-N-H-Q40 |
| | 3/2-way valve, normally closed | 547390 CPVSC1-M5H-K-H-Q4C |
| | 2/2-way valve, normally closed | 547389 CPVSC1-M5H-D-H-Q4C |

Valve terminals CPV-SC, Smart Cubic

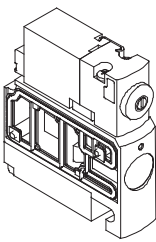
Accessories

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Ordering data – Valves with individual electrical connection, detenting manual override, vertical plug, 5 V DC

| Designation | Part No. | Type |
|---|---|---------------------------|
|  | Solenoid valve with M5 connections | |
| | 5/2-way single solenoid valve | 547337 CPVSC1-M4H-M-T-M5 |
| | 5/2-way double solenoid valve | 547338 CPVSC1-M4H-J-T-M5 |
| | 3/2-way valve, normally open | 547336 CPVSC1-M4H-N-T-M50 |
| | 3/2-way valve, normally closed | 547335 CPVSC1-M4H-K-T-M5C |
| | 2/2-way valve, normally closed | 547334 CPVSC1-M4H-D-T-M5C |
| | Solenoid valve with QS-3 push-in connectors | |
| | 5/2-way single solenoid valve | 547342 CPVSC1-M4H-M-T-Q3 |
| | 5/2-way double solenoid valve | 547343 CPVSC1-M4H-J-T-Q3 |
| | 3/2-way valve, normally open | 547341 CPVSC1-M4H-N-T-Q30 |
| | 3/2-way valve, normally closed | 547340 CPVSC1-M4H-K-T-Q3C |
| | 2/2-way valve, normally closed | 547339 CPVSC1-M4H-D-T-Q3C |
| | Solenoid valve with QS-4 push-in connectors | |
| | 5/2-way single solenoid valve | 547347 CPVSC1-M4H-M-T-Q4 |
| | 5/2-way double solenoid valve | 547348 CPVSC1-M4H-J-T-Q4 |
| | 3/2-way valve, normally open | 547346 CPVSC1-M4H-N-T-Q40 |
| | 3/2-way valve, normally closed | 547345 CPVSC1-M4H-K-T-Q4C |
| | 2/2-way valve, normally closed | 547344 CPVSC1-M4H-D-T-Q4C |

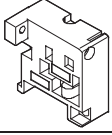
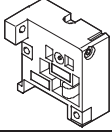
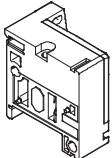
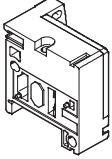
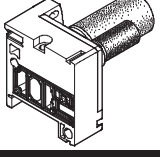
Ordering data – Valves with individual electrical connection, pushing manual override, horizontal plug, 5 V DC

| Designation | Part No. | Type |
|---|---|---------------------------|
|  | Solenoid valve with M5 connections | |
| | 5/2-way single solenoid valve | 547352 CPVSC1-M4H-M-H-M5 |
| | 5/2-way double solenoid valve | 547353 CPVSC1-M4H-J-H-M5 |
| | 3/2-way valve, normally open | 547351 CPVSC1-M4H-N-H-M50 |
| | 3/2-way valve, normally closed | 547350 CPVSC1-M4H-K-H-M5C |
| | 2/2-way valve, normally closed | 547349 CPVSC1-M4H-D-H-M5C |
| | Solenoid valve with QS-3 push-in connectors | |
| | 5/2-way single solenoid valve | 547357 CPVSC1-M4H-M-H-Q3 |
| | 5/2-way double solenoid valve | 547358 CPVSC1-M4H-J-H-Q3 |
| | 3/2-way valve, normally open | 547356 CPVSC1-M4H-N-H-Q30 |
| | 3/2-way valve, normally closed | 547355 CPVSC1-M4H-K-H-Q3C |
| | 2/2-way valve, normally closed | 547354 CPVSC1-M4H-D-H-Q3C |
| | Solenoid valve with QS-4 push-in connectors | |
| | 5/2-way single solenoid valve | 547362 CPVSC1-M4H-M-H-Q4 |
| | 5/2-way double solenoid valve | 547363 CPVSC1-M4H-J-H-Q4 |
| | 3/2-way valve, normally open | 547361 CPVSC1-M4H-N-H-Q40 |
| | 3/2-way valve, normally closed | 547360 CPVSC1-M4H-K-H-Q4C |
| | 2/2-way valve, normally closed | 547359 CPVSC1-M4H-D-H-Q4C |

Valve terminals CPV-SC, Smart Cubic

Accessories

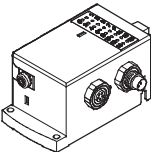
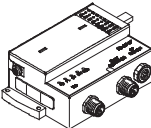
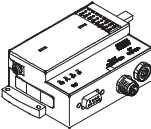
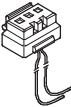
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| Ordering data – End plates | | | |
|---|---|----------|---------------|
| Designation | | Part No. | Type |
| Left-hand end plates | | | |
|  | With external pilot air supply | 527585 | CPVSC1-EPL-E |
|  | With internal pilot air supply | 527583 | CPVSC1-EPL-I |
| Right-hand end plates | | | |
|  | With ducted exhaust air | 527587 | CPVSC1-EPR-G |
|  | With unducted exhaust air and flat plate silencer | 527589 | CPVSC1-EPR-U |
|  | With unducted exhaust air and round silencer | 536060 | CPVSC1-EPR-UC |

Valve terminals CPV-SC, Smart Cubic

Accessories

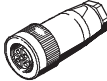




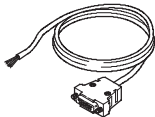


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| Ordering data – Accessories | | | | |
|---|-------------------------------|-------|----------|-----------------|
| Designation | | | Part No. | Type |
| CPI interface | | | | |
|  | Electrical connection | | 541975 | CPVSC1-AE16-CPI |
| Control unit | | | | |
|  | Fieldbus Direct – DeviceNet | | 538654 | CPVSC1-AE16-DN |
|  | Fieldbus Direct – Profibus DP | | 541919 | CPVSC1-AE16-DP |
| Individual electrical connection | | | | |
|  | Plug socket with cable, IP40 | 0.5 m | 197263 | KMH-0,5 |
| | | 1 m | 197264 | KMH-1 |
| | | 2.5 m | 527400 | KMH-2,5 |
| | | 5 m | 527401 | KMH-5 |

Valve terminals CPV-SC, Smart Cubic

Accessories


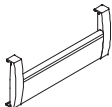



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| Ordering data – Accessories | | | | |
|---|---|--------------------------|----------|-----------------------|
| Designation | | | Part No. | Type |
| Power supply | | | | |
|  | Micro Style M12, 5-pin socket (B-coded) for DeviceNet | for 0.75 mm ² | 538999 | NTSD-GD-9-M12-5POL-RK |
|  | M12, 5-pin socket (A-coded) for Profibus DP | for 0.75 mm ² | 18324 | FBSD-GD-9-5POL |
| Fieldbus connection | | | | |
|  | Fieldbus socket for Micro Style connection, M12, 5-pin socket (A-coded) | | 18324 | FBSD-GD-9-5POL |
|  | Straight plug, 5-pin, screw terminal | | 175380 | FBS-M12-5GS-PG9 |
|  | T-adapter, 5-pin, for DH-485/DeviceNet | | 171175 | FB-TA-M12-5POL |
| Connecting cable, IP40, for multi-pin plug connection | | | | |
|  | Sub-D, 15-pin, up to 12 valve positions for code MS Material: PVC | 2.5 m | 527543 | KMP6-15P-12-2,5 |
| | | 5 m | 527544 | KMP6-15P-12-5 |
| | | 10 m | 527545 | KMP6-15P-12-10 |
| | Sub-D, 26-pin, up to 16 valve positions for code MH Material: PVC | 2.5 m | 527546 | KMP6-26P-16-2,5 |
| | | 5 m | 527547 | KMP6-26P-16-5 |
| | | 10 m | 527548 | KMP6-26P-16-10 |
| Valve terminal connection | | | | |
|  | Angled plug-angled socket | 0.25 m | 540327 | KVI-CP-3-WS-WD-0,25 |
| | Angled plug-angled socket | 0.5 m | 540328 | KVI-CP-3-WS-WD-0,5 |
| | Angled plug-angled socket | 2 m | 540329 | KVI-CP-3-WS-WD-2 |
| | Angled plug-angled socket | 5 m | 540330 | KVI-CP-3-WS-WD-5 |
| | Angled plug-angled socket | 8 m | 540331 | KVI-CP-3-WS-WD-8 |
|  | GS-GD, straight plug-straight socket | 2 m | 540332 | KVI-CP-3-GS-GD-2 |
| | Straight plug-straight socket | 5 m | 540333 | KVI-CP-3-GS-GD-5 |
| | Straight plug-straight socket | 8 m | 540334 | KVI-CP-3-GS-GD-8 |

Valve terminals CPV-SC, Smart Cubic

Accessories



FESTO

| Ordering data – Accessories | | | | |
|---|--|------------------------|----------|--------------|
| Designation | | | Part No. | Type |
| Inscription labels for valve identification | | | | |
|  | 80 pieces, 9x4.5 mm | | 197259 | MH-BZ-80x |
| Inscription label holder | | | | |
|  | 1 piece | for 2 valve positions | 547395 | CPVSC1-ST-2 |
| | | for 3 valve positions | 547396 | CPVSC1-ST-3 |
| | | for 4 valve positions | 527631 | CPVSC1-ST-4 |
| | | for 5 valve positions | 547397 | CPVSC1-ST-5 |
| | | for 6 valve positions | 547398 | CPVSC1-ST-6 |
| | | for 7 valve positions | 547399 | CPVSC1-ST-7 |
| | | for 8 valve positions | 527633 | CPVSC1-ST-8 |
| | | for 9 valve positions | 547400 | CPVSC1-ST-9 |
| | | for 10 valve positions | 547401 | CPVSC1-ST-10 |
| | | for 11 valve positions | 547402 | CPVSC1-ST-11 |
| | | for 12 valve positions | 527635 | CPVSC1-ST-12 |
| | | for 13 valve positions | 547403 | CPVSC1-ST-13 |
| | | for 14 valve positions | 547404 | CPVSC1-ST-14 |
| | | for 15 valve positions | 547405 | CPVSC1-ST-15 |
| | | for 16 valve positions | 527637 | CPVSC1-ST-16 |
| | | Tie rod | | |
|  | 1 piece | for 2 valve positions | 547416 | CPVSC1-ZA-2 |
| | | for 3 valve positions | 547417 | CPVSC1-ZA-3 |
| | | for 4 valve positions | 532807 | CPVSC1-ZA-4 |
| | | for 5 valve positions | 547418 | CPVSC1-ZA-5 |
| | | for 6 valve positions | 547419 | CPVSC1-ZA-6 |
| | | for 7 valve positions | 547420 | CPVSC1-ZA-7 |
| | | for 8 valve positions | 532808 | CPVSC1-ZA-8 |
| | | for 9 valve positions | 547421 | CPVSC1-ZA-9 |
| | | for 10 valve positions | 547422 | CPVSC1-ZA-10 |
| | | for 11 valve positions | 547423 | CPVSC1-ZA-11 |
| | | for 12 valve positions | 532809 | CPVSC1-ZA-12 |
| | | for 13 valve positions | 547424 | CPVSC1-ZA-13 |
| | | for 14 valve positions | 547425 | CPVSC1-ZA-14 |
| | | for 15 valve positions | 547426 | CPVSC1-ZA-15 |
| | | for 16 valve positions | 532810 | CPVSC1-ZA-16 |
| | | Mounting | | |
|  | Screw for additional terminal mounting | | 527643 | M3x45 |
|  | Mounting | | 527639 | CPVSC-HS35 |

Valve terminals CPV-SC, Smart Cubic

Accessories

FESTO

| Ordering data – Accessories | | | | |
|---|---|---------|----------|------------------------|
| Designation | | | Part No. | Type |
| User documentation | | | | |
|  | User documentation – Pneumatics, valve terminal CPV-SC | German | 530925 | P.BE-CPVSC-DE |
| | | English | 530926 | P.BE-CPVSC-EN |
| | | French | 530927 | P.BE-CPVSC-FR |
| | | Spanish | 530928 | P.BE-CPVSC-ES |
| | | Italian | 530929 | P.BE-CPVSC-IT |
| | | Swedish | 530930 | P.BE-CPVSC-SV |
|  | User documentation – DeviceNet fieldbus | German | 539008 | P.BE-CPASC-CPVSC-DN-DE |
| | | English | 539009 | P.BE-CPASC-CPVSC-DN-EN |
| | | French | 539010 | P.BE-CPASC-CPVSC-DN-FR |
| | | Spanish | 539011 | P.BE-CPASC-CPVSC-DN-ES |
| | | Italian | 539012 | P.BE-CPASC-CPVSC-DN-IT |
| | | Swedish | 539013 | P.BE-CPASC-CPVSC-DN-SV |
| | User documentation – Profibus DP fieldbus | German | 548725 | P.BE-CPASC-CPVSC-DP-DE |
| | | English | 548726 | P.BE-CPASC-CPVSC-DP-EN |
| | | French | 548728 | P.BE-CPASC-CPVSC-DP-FR |
| | | Spanish | 548727 | P.BE-CPASC-CPVSC-DP-ES |
| | | Italian | 548729 | P.BE-CPASC-CPVSC-DP-IT |
| | | Swedish | 548730 | P.BE-CPASC-CPVSC-DP-SV |

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