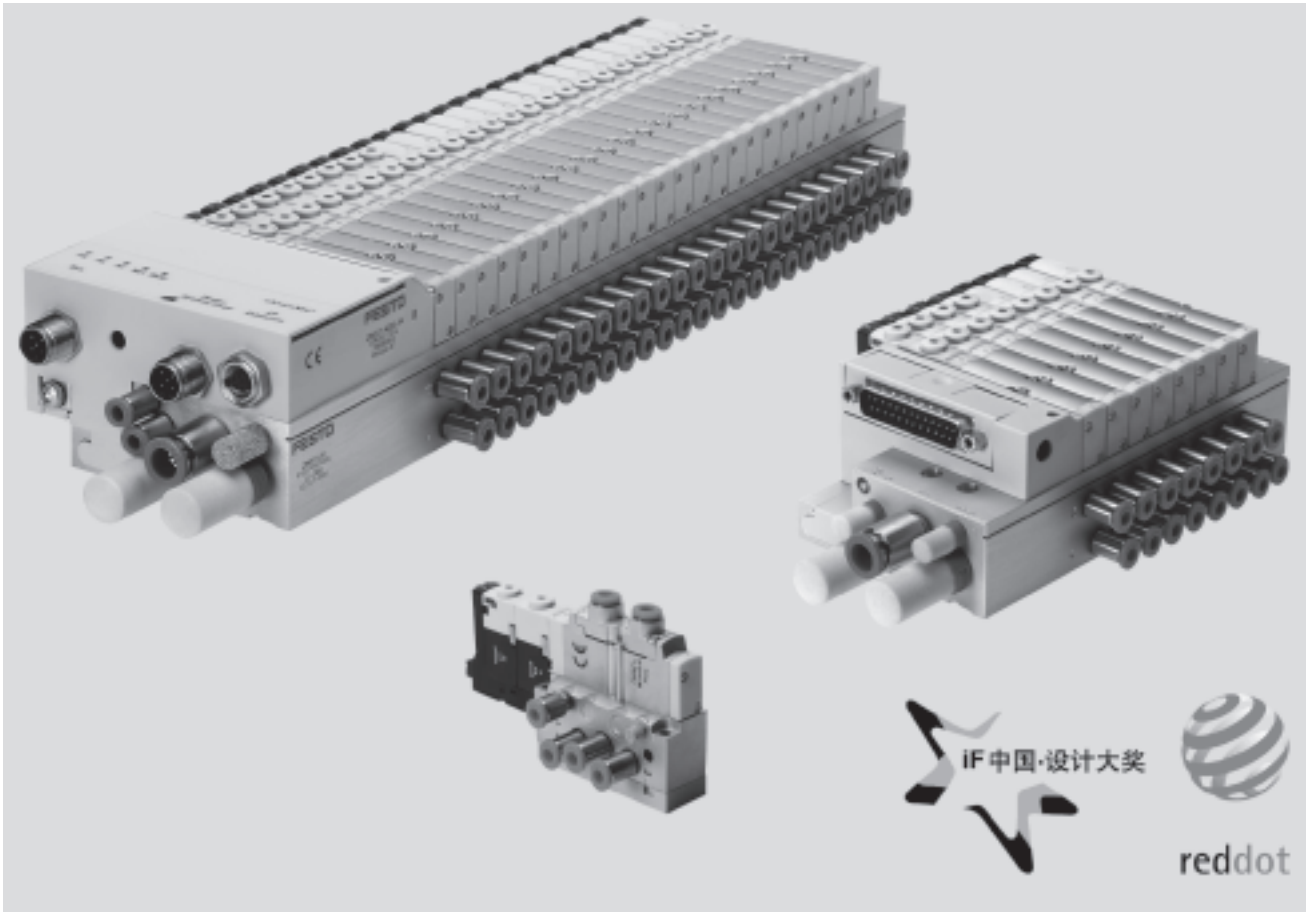
- Modular valve terminal for a wide range of applications
- Space-saving thanks to smaller valve dimensions
- Easy valve replacement
- Manual override and LED operating status display
- Flow rates of up to 150 l/min
- Variety of pneumatic and electrical connection options

Valve terminals type 82 CPA-SC, Smart Cubic

Key features



Innovative

- Compact valve terminal for a wide range of pneumatic applications
- Standardised from the individual valve up to multi-pin plug and fieldbus connections
- Highly versatile during the planning and assembly stages as well as in operational use
- Wide range of selectable valve functions, including valve functions for customised pressure supplies or vacuum application solutions
- Comprehensive, optimally harmonised range of accessories for flow rates of up to 180 l/min

Versatile

- Room for expansion with 2 ... 24 valve positions on one terminal
- Use of individual valves in combination with an individual block
- The flexibility of the pneumatic working connections facilitates a practical solution to different requirements
- Tubing lines can be connected horizontally to the valve or vertically on the sub-base
- High pressure range –0.9 ... 10 bar
- Wide range of electrical connections for 24 V DC operating voltage

Reliable

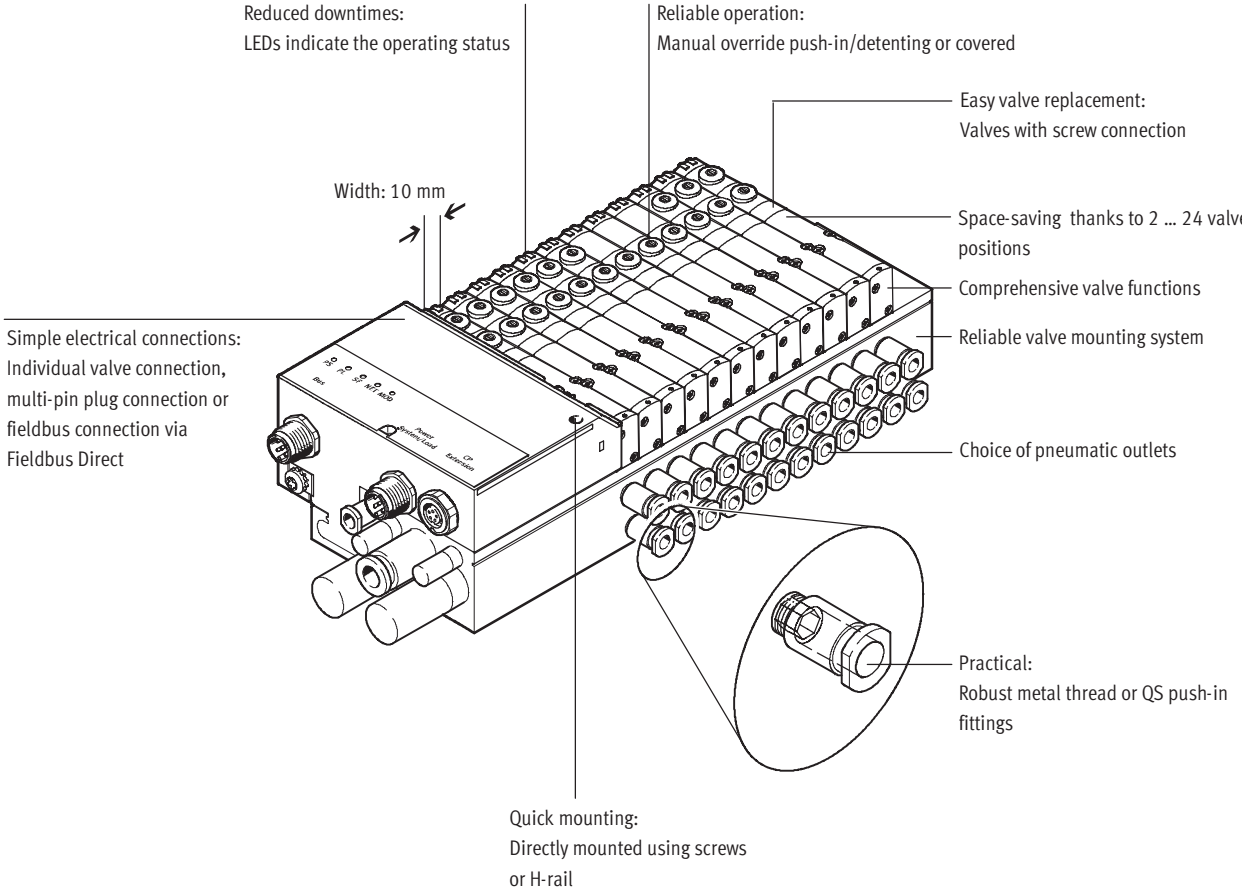
- Manual override facility
- Durable thanks to the use of tried-and-tested piston spool valves
- Sturdy thanks to metal housing and connecting thread
- Fast troubleshooting thanks to LEDs on the valves and diagnosis via fieldbus

Easy-to-mount

- Ready-to-install unit, already assembled and tested
- Minimised expenditure with regard to ordering, installation and commissioning
- Secure wall mounting or via H-rail

Valve terminals type 82 CPA-SC, Smart Cubic

Key features



Equipment options

Valve functions

- 5/2-way valve, single solenoid
- 5/2-way valve, double solenoid
- 2x 3/2-way valve, normally open
- 2x 3/2-way valve, normally closed
- 5/3-way valve, mid-position pressurised
- 5/3-way valve, mid-position closed
- 5/3-way valve, mid-position exhausted
- 1x 3/2-way valve, normally closed, external compressed air supply
- 2x 2/2-way valve, normally closed, dual compressed air supply

All valves have the same compact dimensions with an overall length of 91 mm and a width of 10 mm. Valves with a height of 40 mm are available for applications requiring particularly flat variants.

Electrical connection options

Individual connection/individual sub-base valve
- Plug-in (PI)
- Horizontal connection (HC)

Multi-pin
- Max. 20 valve positions/ max. 20 solenoid coils
- Sub-D
- Flat cable

Fieldbus
- Max. 24 valve positions/ max. 32 solenoid coils

CP string extension
- Further valve terminals from the CPV/CPA range
- Electrical I/O modules

Valve terminals type 82 CPA-SC, Smart Cubic

Key features

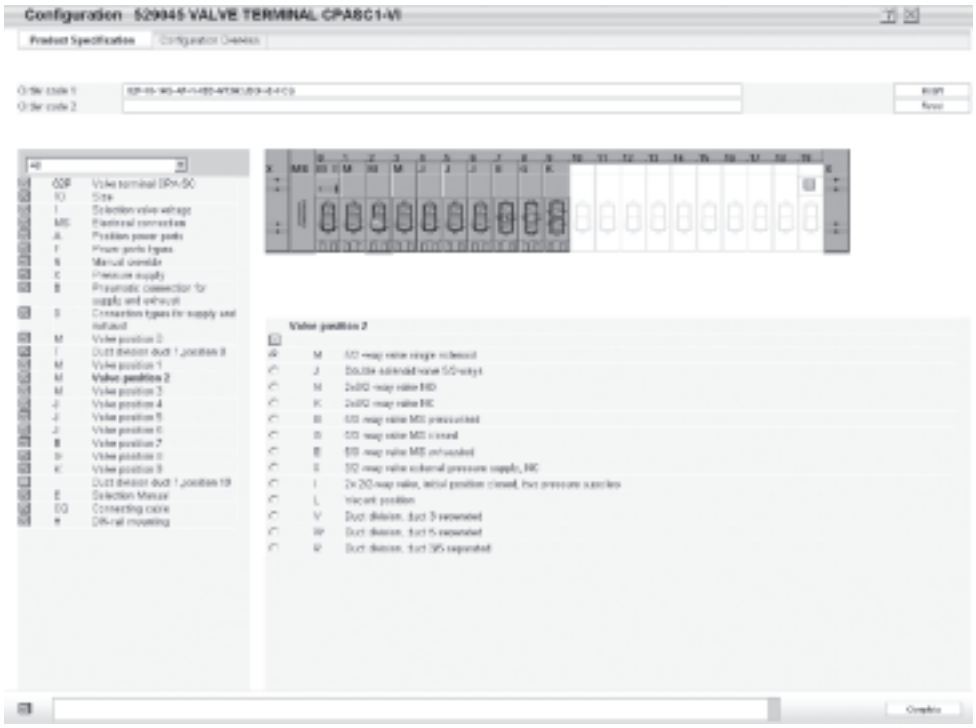
Valve terminal configurator

Online via: ➔ www.festo.com/en/engineering

A valve terminal configurator is available to help you select a suitable CPASC valve terminal. This makes it much easier for you to find the right product.

The valve terminals are fully assembled according to your order specifications and individually tested. This reduces the amount of assembly and installation required to a minimum.
A type 82 valve terminal is ordered via a modular order code.

Ordering system for type 82
➔ 4 / 3.1-76



The illustration above provides an example of a valve terminal configuration.
And this is how you arrive at the order code:

Once you have called up the Festo home page, select the online version of the digital product catalogue from the “Products” submenu: this will bring you directly to the home page for the Pneumatic Catalogue. Activate the “Product Search” menu.

Here you can specify a “Part No.” (e.g. 529045), “Type” (e.g. CPA-SC) or “Article designation” (e.g. valve terminal) to find your “Search result”. Click on the blue shopping basket to complete the selected product according to your specifications (this does not initiate an order). You will then be prompted to configure the product.

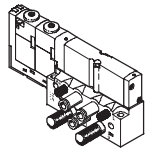
Select “Configurator”.
You can then configure the valve terminal step by step (from the top down) according to your requirements.
Select the “Finish” menu to continue on with the ordering process.

Valve terminals type 82 CPA-SC, Smart Cubic

Key features

Individual connection

Valve on individual sub-base



Valves can also be used on an individual block for actuators further away from the valve terminal.

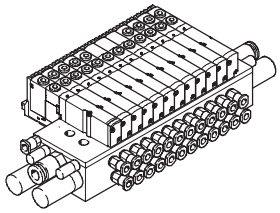
With an individual electrical connection, the plug is connected directly to the valve. Two electrical connection types are available for the valve terminal and for the individual block:
- Horizontal connection (HC)

Version SH:
The electrical connection can be plugged in directly on the valve.

- Plug-in (PI)

Version SP, SQ:
The connector plug is mounted on an adapter. This adapter is then attached to the manifold block.

Valves pneumatically linked on manifold sub-base

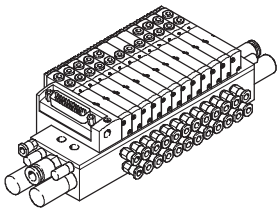


Connection is independent of the control technology used. This ensures correct polarity during installation.

The valve is equipped with an LED which indicates switching status, and an overvoltage protective circuit. It also features a built-in current reduction circuit.

Individual connection permits the selection of 2 to 32 solenoid coils (divided between 2 to 16 valve positions, including in uneven gradations).

Multi-pin plug connection

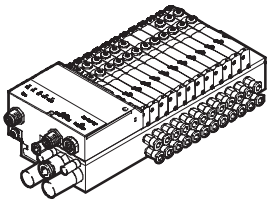


Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-core cable, which substantially reduces installation time.

These valve terminals can be fitted with 2 to 20 solenoid coils.

Variants
- Sub-D connection
- Flat cable connection

Fieldbus Direct

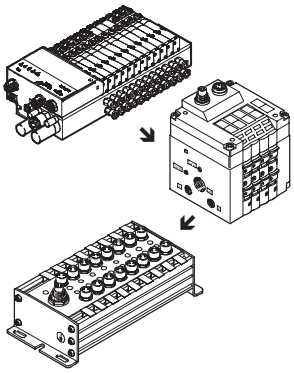


An integrated fieldbus node manages the communication connection to a higher-order PLC. This enables a space-saving pneumatic and electronic solution.
The fieldbus node is directly integrated in the electrical interface of the valve terminal and therefore takes up only a minimal amount of space.

The CP string extension option allows the functions and components of the CP installation system to be used. Valve terminals with fieldbus interfaces can be equipped with 4 to 24 valve positions and 4 to 32 solenoid coils.

Variants
- DeviceNet connection
- Profibus connection
- 4 to 32 solenoid coils

CP string extension



The optional string extension allows additional valve terminals and I/O modules to be connected to the fieldbus node of the CPA-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- and 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:
- 32 input signals
- 32 output signals for output modules 24 V DC or solenoid coils
- Logic and sensor supply for the input modules
- Load voltage supply for the valve terminals
- Logic supply for the output modules

➔ 4 / 4.7-2

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

FESTO

Overview – CPA-SC valve terminal

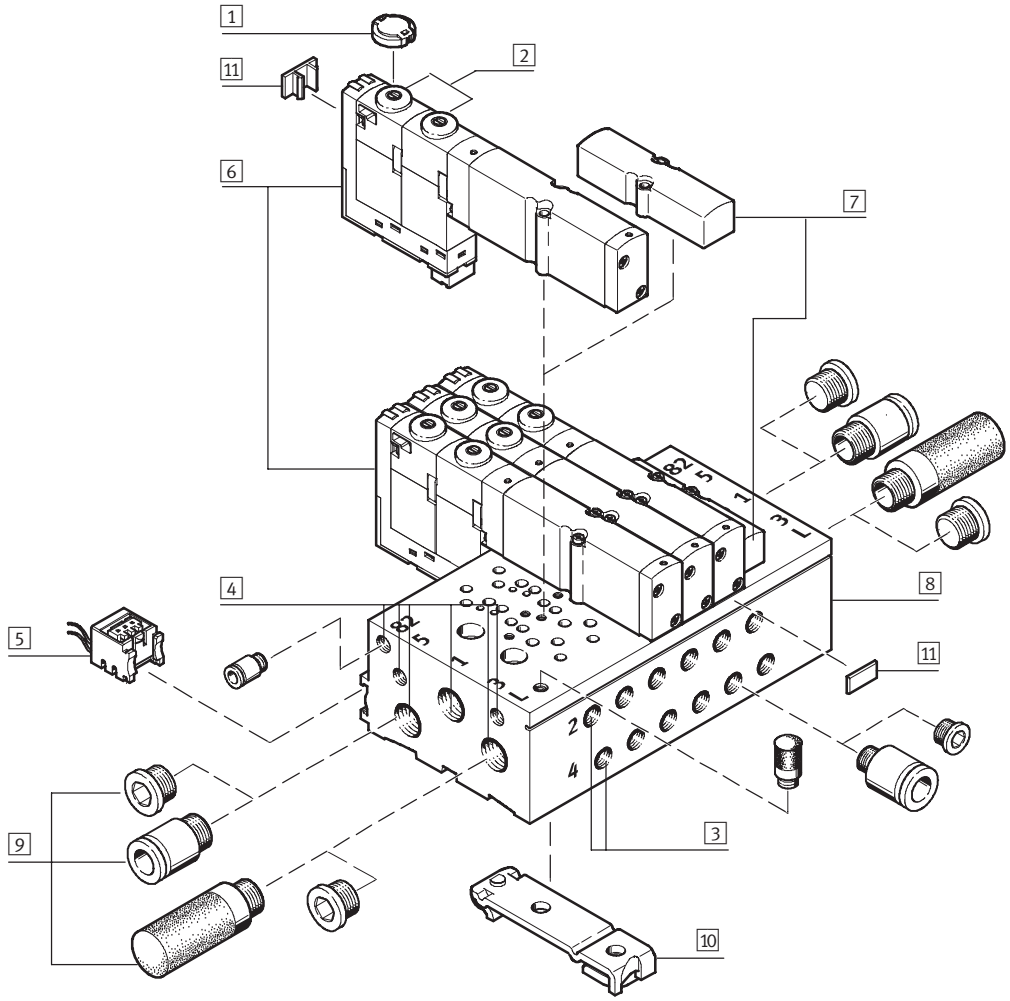
Valve terminal with individual plug-in (PI) electrical connections

Code: IP, IQ

Valve terminals with individual plug-in (PI) electrical connections are available in sizes for 2 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

With an individual PI connection, the connector plug remains on the manifold block. This avoids the valve being connected incorrectly in the event of a recommissioning.

CPA-SC valve terminal with sub-base valves



1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the manifold block (per valve position)
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the left-hand and right-hand side of the manifold block
5 Individual plug-in (PI) connection
6 Valve
7 Cover for vacant position (blanking plate)
8 Manifold block for sub-base valves
9 Connectors, silencers and blanking plugs
10 H-rail mounting
11 Inscription labels

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

FESTO

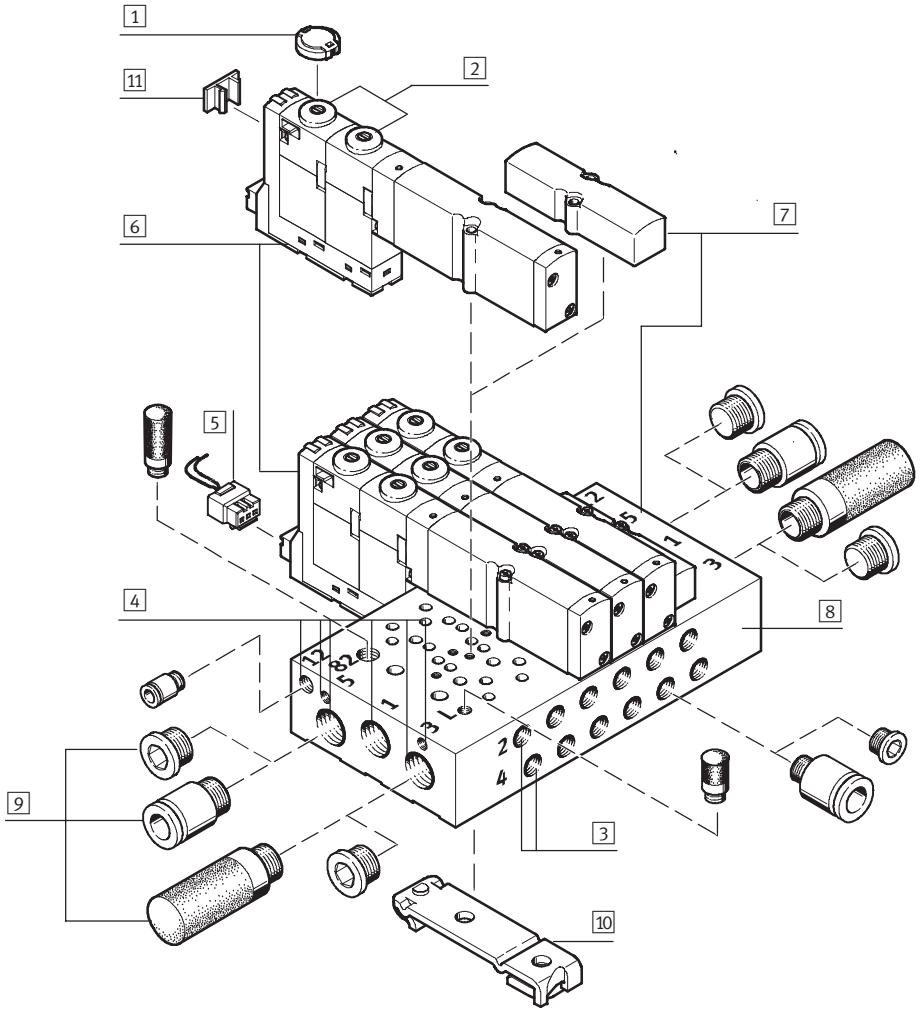
Valve terminal with individual horizontal (HC) electrical connections

Code: IH

Valve terminals with individual horizontal electrical connections (HC) are available in sizes for 2 to max. 16 valve positions. Each valve position can either be equipped with a valve or a blanking plate.

With an individual horizontal connection, the electrical connection for a valve must be removed when the valve is being replaced.

CPA-SC valve terminal with sub-base valves



1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the manifold block (per valve position)
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the left-hand and right-hand side of the manifold block
5 Individual horizontal connection (HC)
6 Valve
7 Cover for vacant position (blanking plate)
8 Manifold block for sub-base valves
9 Connectors, silencers and blanking plugs
10 H-rail mounting
11 Inscription labels

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

FESTO

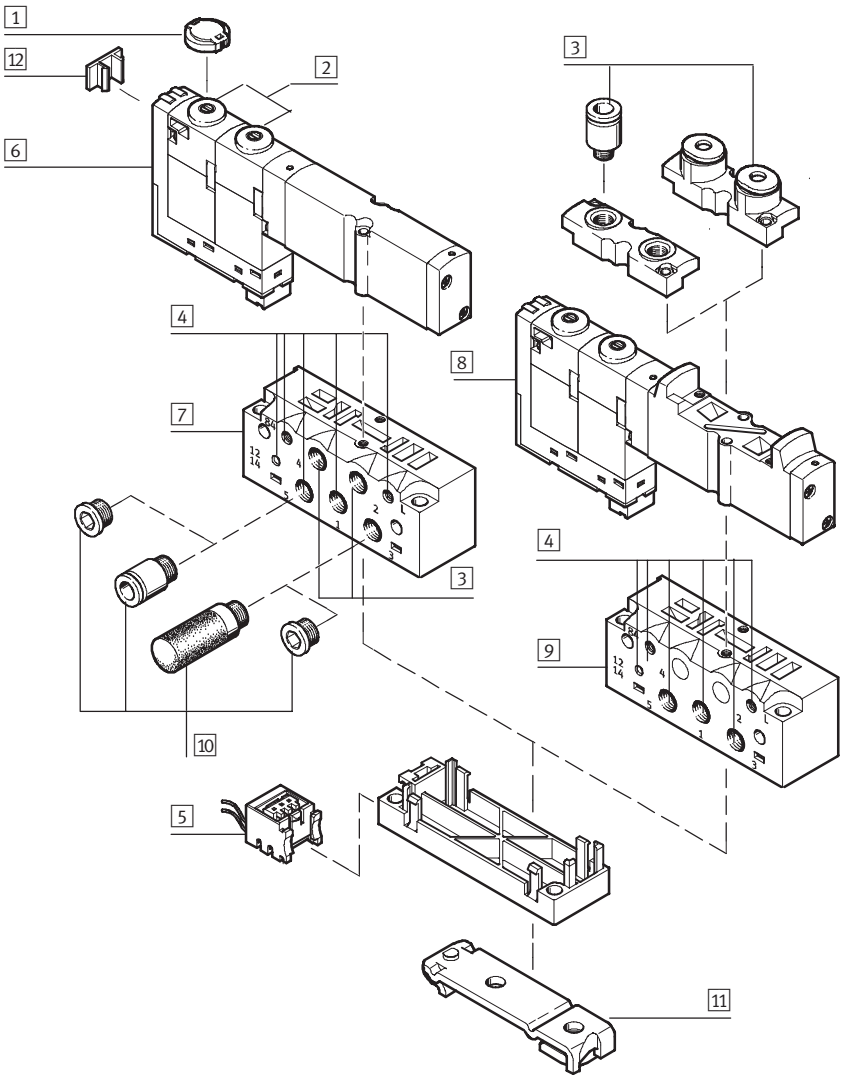
Overview – CPA-SC individual block

Individual block with individual plug-in (PI) electrical connection

Code: SP, SQ

With an individual PI connection, the connector plug remains on the manifold block.

CPA-SC individual block with sub-base valve or semi in-line valve



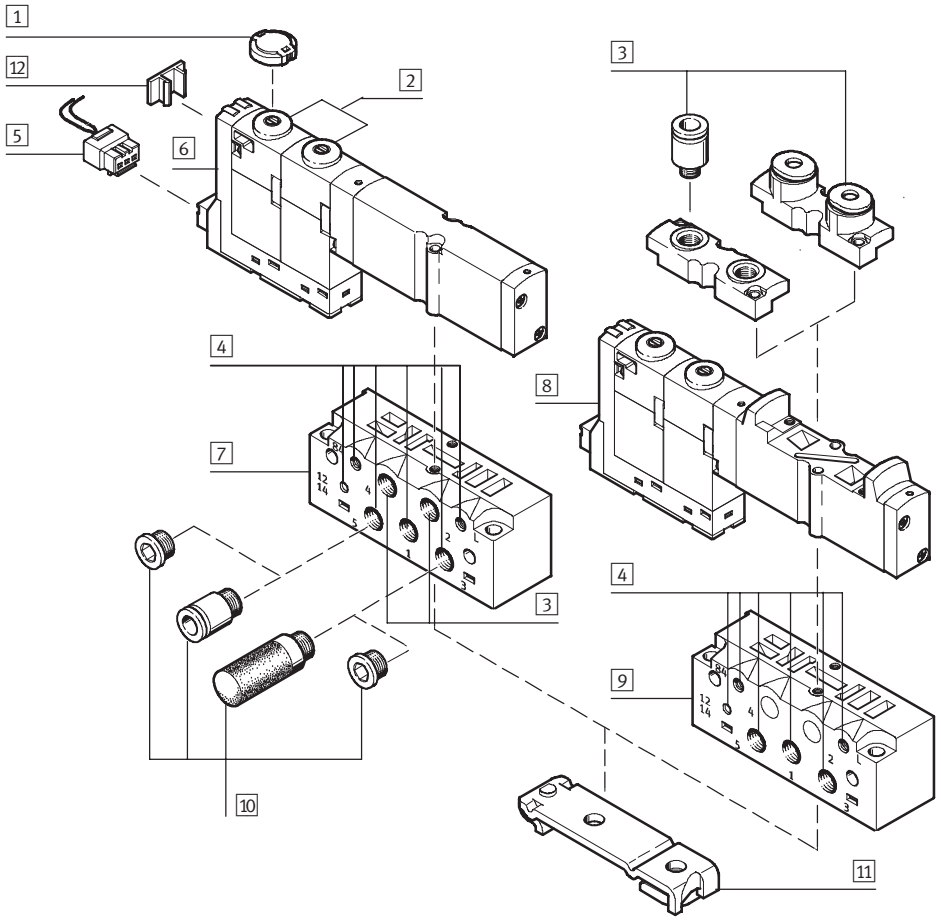
1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the individual block or on the valve (semi in-line version)
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the individual block
5 Individual horizontal connection (HC)
6 Sub-base valve
7 Individual block for sub-base valve
8 Semi in-line valve
9 Individual block for semi in-line valve
10 Connectors, silencers and blanking plugs
11 H-rail mounting
12 Inscription label

Individual block with individual horizontal electrical connection (HC)

Code: SH

With an individual horizontal connection, the electrical connection for a valve must be removed when the valve is being replaced.

CPA-SC individual block with sub-base valve or semi in-line valve



1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the individual block or on the valve (semi in-line version)
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the individual block
5 Individual horizontal connection (HC)
6 Sub-base valve
7 Individual block for sub-base valve
8 Semi in-line valve
9 Individual block for semi in-line valve
10 Connectors, silencers and blanking plugs
11 H-rail mounting
12 Inscription label

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

FESTO

Overview – CPA-SC valve terminal

Valve terminal with electrical multi-pin plug connection

- 25-pin Sub-D multi-pin plug connection
  Code: MS

or

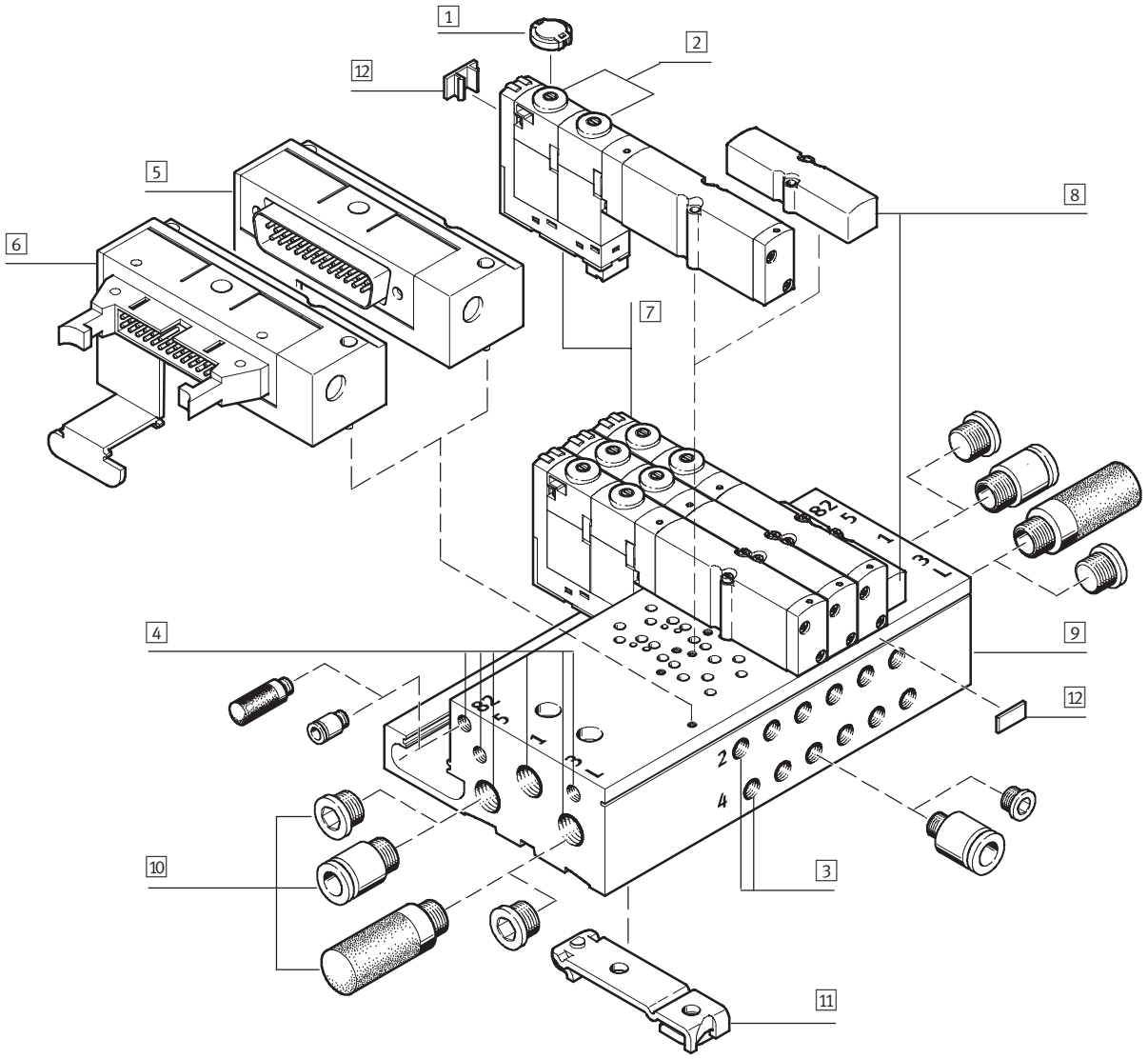
- 26-pin multi-pin plug connection with connector for flat cable
  Code: MF

Valve terminals with electrical multi-pin plug connection are available in sizes for 2 to max. 20 valve positions (code: MS) or for 4 to max. 20 valve positions (code: MF). Each valve position can either be equipped with a valve or a blanking plate.

A maximum of 20 valve solenoid coils can be actuated via the electrical multi-pin plug connection.

The electrical connection is located on the left-hand side. It can be rotated by 90°, thereby allowing flush mounting of the system.

CPA-SC valve terminal with sub-base valves

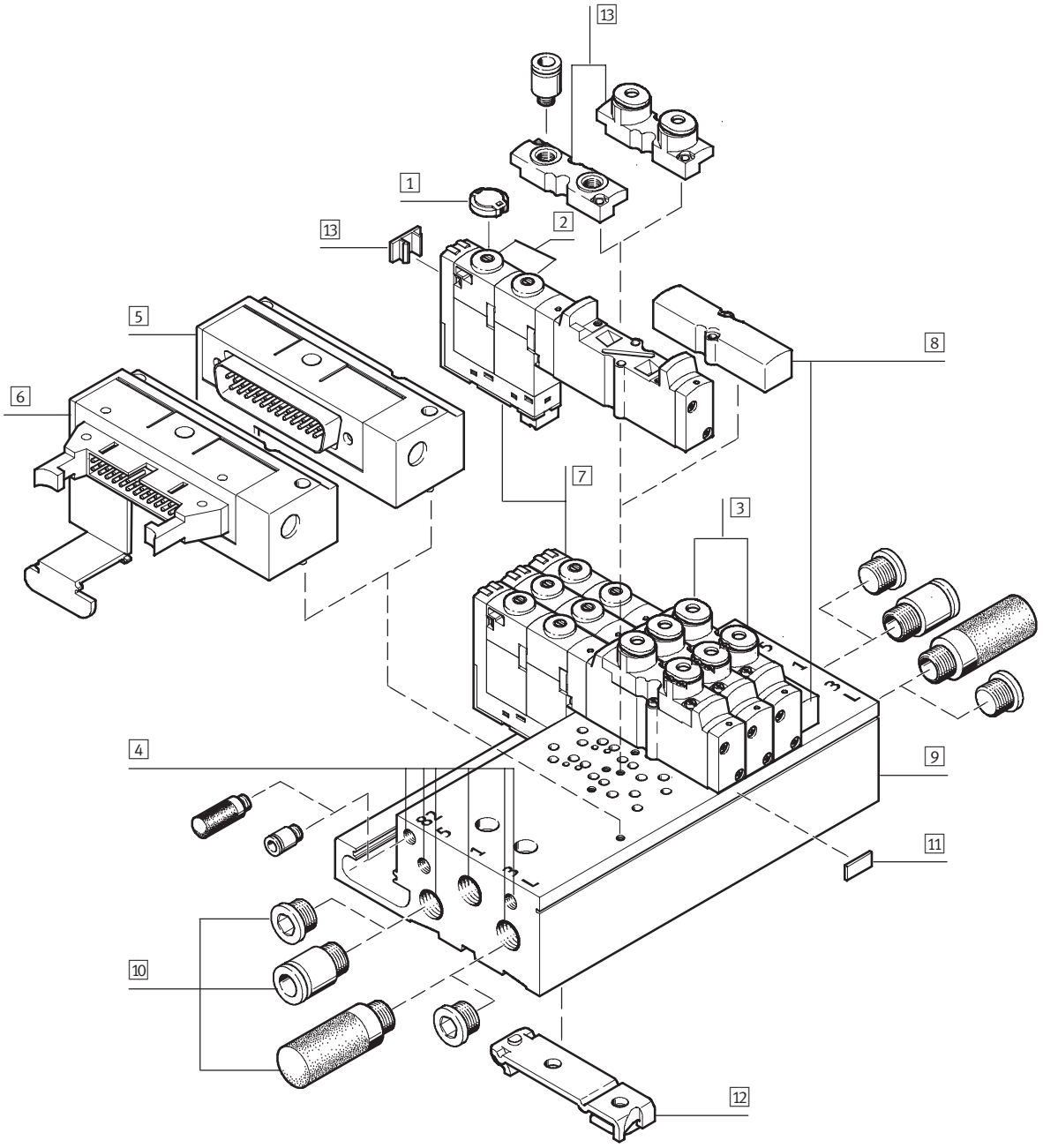


1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the manifold block (per valve position)
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the left-hand and right-hand side of the manifold block
5 Multi-pin plug connection Sub-D
6 Multi-pin plug connection with connector for flat cable
7 Valve
8 Cover for vacant position (blanking plate)
9 Manifold block for sub-base valves
10 Connectors, silencers and blanking plugs
11 H-rail mounting
12 Inscription labels

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

CPA-SC valve terminal with semi in-line valves



1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the valve
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the left-hand and right-hand side of the manifold block
5 Multi-pin plug connection Sub-D
6 Multi-pin plug connection with connector for flat cable
7 Valve
8 Cover for vacant position (blanking plate)
9 Manifold block for semi in-line valves
10 Connectors, silencers and blanking plugs
11 Inscription labels
12 H-rail mounting
13 Pneumatic connection plates for semi in-line valves

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

FESTO

Overview – CPA-SC valve terminal

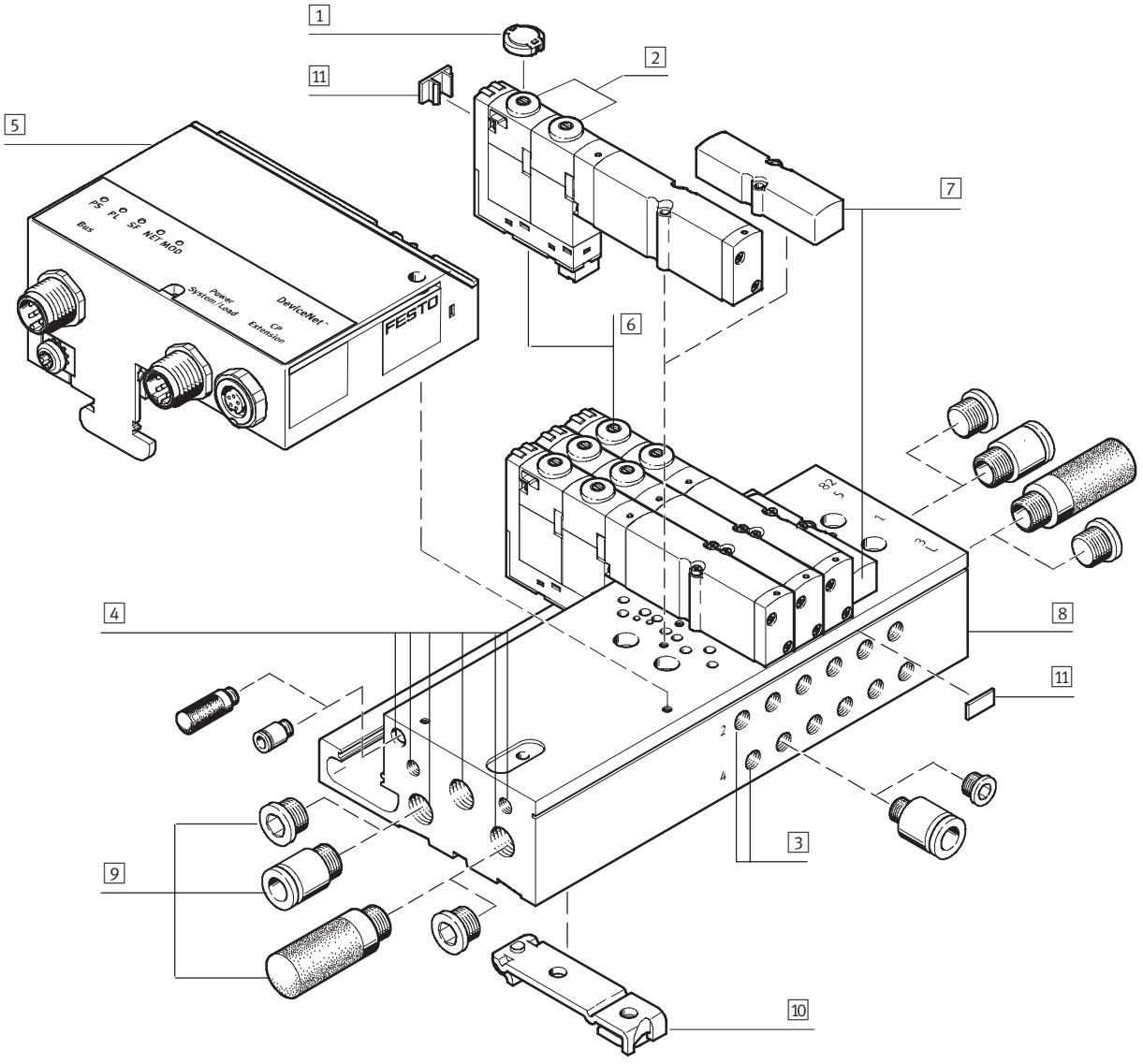
Valve terminal with Fieldbus Direct

Valve terminals with fieldbus connection are available in sizes for 4 to max. 24 valve positions.

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

A maximum of 32 valve solenoid coils can be actuated via the fieldbus connection.

CPA-SC valve terminal with sub-base valves

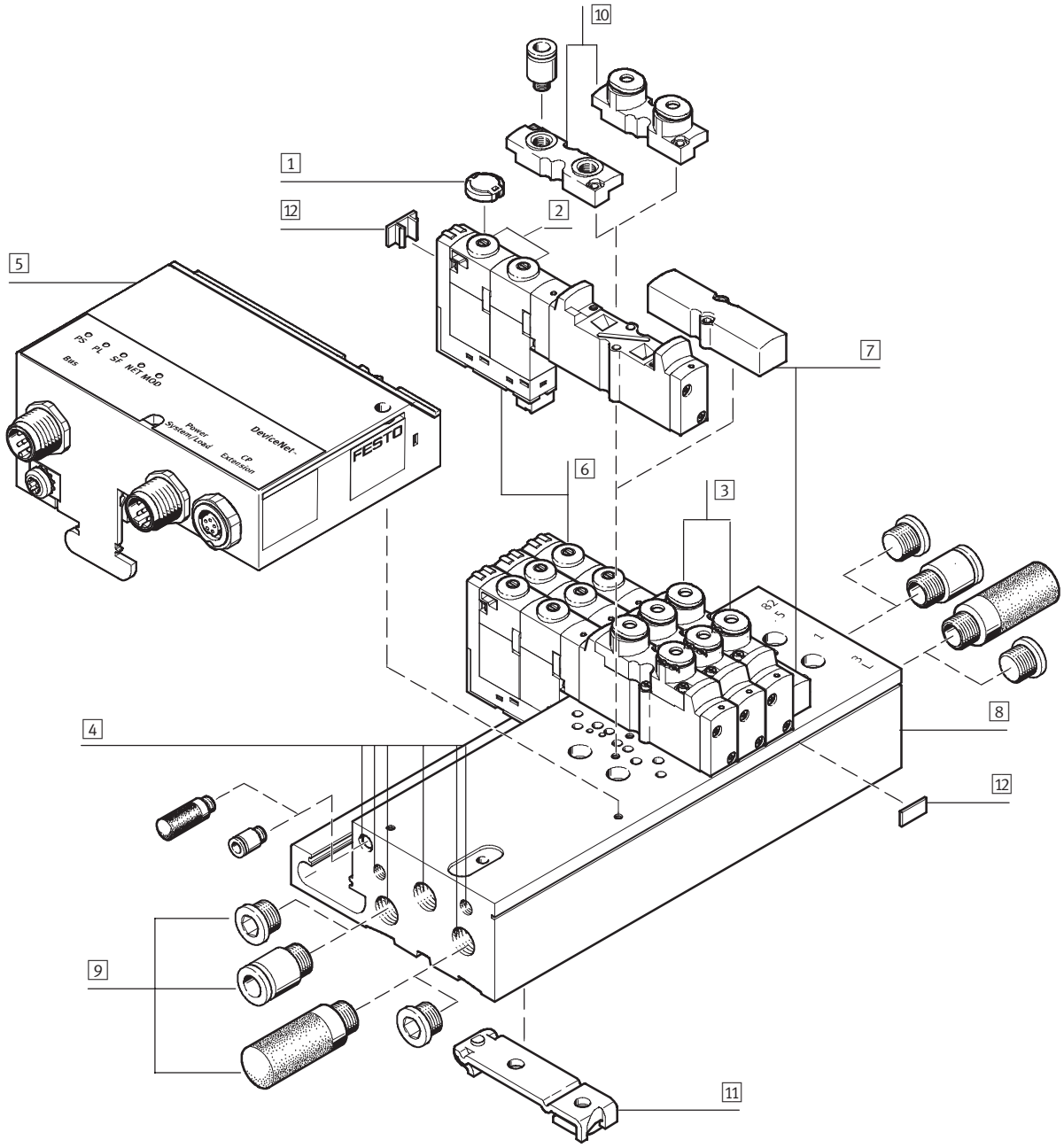


1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the manifold block (per valve position)
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the left-hand and right-hand side of the manifold block
5 Fieldbus Direct
6 Valve
7 Cover for vacant position (blanking plate)
8 Manifold block for sub-base valves
9 Connectors, silencers and blanking plugs
10 H-rail mounting
11 Inscription labels

Valve terminals type 82 CPA-SC, Smart Cubic

Peripherals overview

CPA-SC valve terminal with semi in-line valves



1 Cover for manual override (optional)
2 Manual override (per solenoid coil, push-in/rotary-detenting)
3 Working lines (2, 4) on the valve
4 Supply ports (1, 12/14), exhaust ports (3, 5, 82/84) and pressure compensating port (L) on the left-hand and right-hand side of the manifold block
5 Fieldbus Direct
6 Valve
7 Cover for vacant position (blanking plate)
8 Manifold block for semi in-line valves
9 Connectors, silencers and blanking plugs
10 Pneumatic connection plates for semi in-line valves
11 H-rail mounting
12 Inscription labels

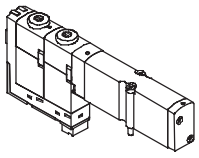
Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Pneumatic components

FESTO

Valves

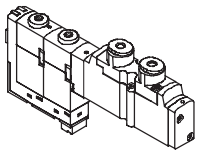
Sub-base valve



Sub-base valves can be quickly replaced since the tubing connections remain on the manifold block.

This design is also particularly slim.

Semi in-line valve (with working ports on the valve)



With semi in-line valves the pneumatic connections are on the top. This means that elbow connectors are not needed.

There are sub-base valves and semi in-line valves with one solenoid coil (single solenoid) or with two solenoid coils (double solenoid) irrespective of the valve function.

Blanking plate

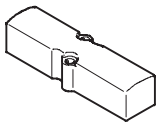
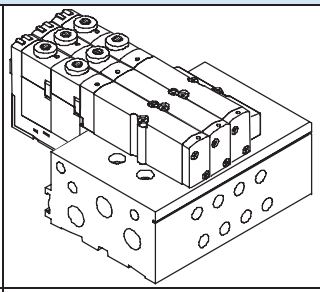
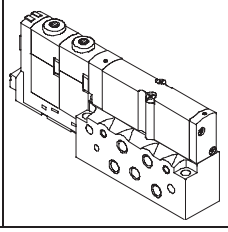
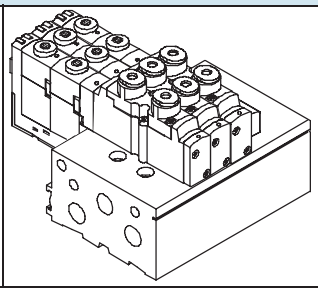
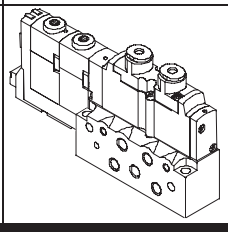


Plate without valve function for reserving valve positions on a valve terminal.

Valve sub-bases and blanking plates are attached to the manifold block using two screws.

Manifold blocks			
Manifold block		Number of valve positions	Manifold block connections
Code A – Working ports (2, 4) on the manifold block			
Manifold block for sub-base valves and blanking plates		2 ... 20	• With working ports (2, 4), M5 threaded hole • With ports for supply air (1, 12/14) and exhaust air (3, 5, 82/84) • With pressure compensating port (L)
Individual sub-base for sub-base valve		1	
Code P – Working ports (2, 4) on the valve			
Manifold block for semi in-line valves and blanking plates		2 ... 20	• Without working ports • With ports for supply air (1, 12/14) and exhaust air (3, 5, 82/84) • With pressure compensating port (L)
Individual sub-base for semi in-line valve		1	

- Note

Semi in-line valves can also be mounted on manifold blocks for sub-base valves. In this case the corresponding working ports on the manifold block must be sealed using blanking plugs.

The compressed air supply and exhaust air outlet for the valve terminal can either be on the left-hand side or the right-hand side of the valve terminal. Supply at both sides is also possible. Ports that are not required must be sealed with a blanking plug.

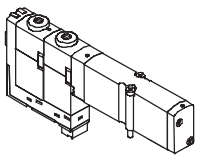
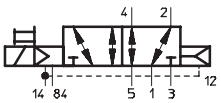
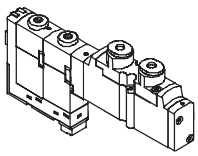
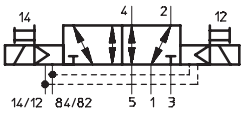
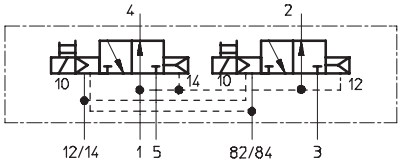
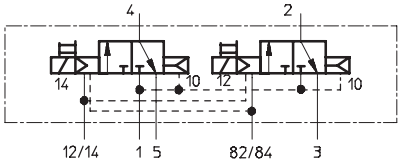
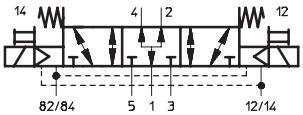
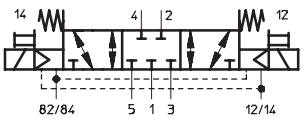
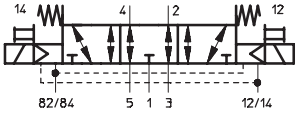
An individual sub-base is the ideal solution in cramped space conditions. All available valve types can be used.

Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Pneumatic components

FESTO

Valves

	Code	Circuit symbol	Size 10	Description
	M		■	5/2-way valve, single solenoid • Pneumatic spring return
	J		■	5/2-way valve, double solenoid
	N		■	2x 3/2-way valve, single solenoid • Normally open • Pneumatic spring return
	K		■	2x 3/2-way valve, single solenoid • Normally closed • Pneumatic spring return
	B		■	5/3-way valve • Mid-position pressurised[1)] • Spring force return The piston rod of a connected cylinder advances when the valve is in the normal position due to the differential piston areas.
	G		■	5/3-way valve • Mid-position closed[1)] • Spring force return The piston rod side of a connected cylinder remains held under pressure when the valve is in the normal position.
	E		■	5/3-way valve • Mid-position exhausted[1)] • Spring force return The piston rod of a connected cylinder remains freely movable when the valve is in the normal position.

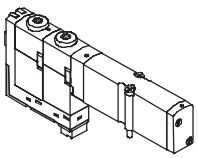
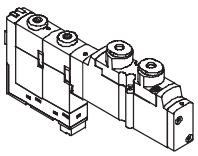
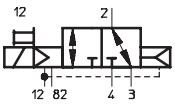
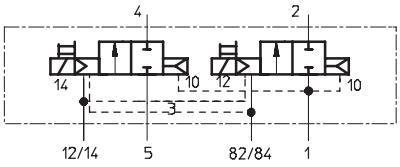
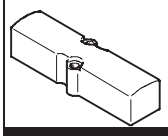
1) If neither solenoid coil is being supplied with power, the valve assumes its mid-position by means of spring force.
If both coils are being supplied with power simultaneously, the valve remains in the switching position previously assumed.

Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Pneumatic components

FESTO

Valves

	Code	Circuit symbol	Size 10	Description
 	X		■	1x 3/2-way valve • Normally closed • External compressed air supply • Pneumatic spring return Compressed air (–0.9 ... +10 bar) supplied at working port 4 can be switched.
	I		■	2x 2/2-way valve • Normally closed (operating pressure at 1 or 5) • Dual compressed air supply (e.g. for vacuum switching with ejector pulse) • Pneumatic spring return – The vacuum is connected at port 5 – Port 14 switches the vacuum – Port 12 switches the ejector pulse – An external T-connection must be established between port 2, 4 and the vacuum generator –
	L		■	Blanking plate for vacant position For valve terminal only

Constructional design

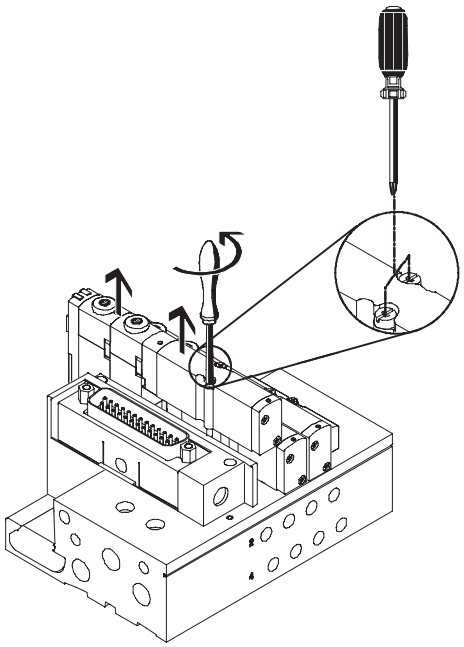
Valve replacement

The valves are attached to the metal manifold block using two screws. This means that they can be easily replaced. The mechanical robustness of the manifold block guarantees good long-term sealing tightness.

Expansion

Vacant positions can be replaced by valves at a later date. The dimensions, mounting points and existing pneumatic installations remain unchanged by this.

The valve code (M, J, N, K, B, G, E, X, I) is located on the front of the valve beneath the manual override.

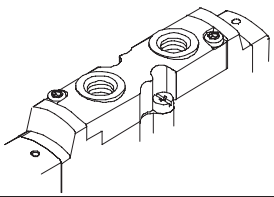
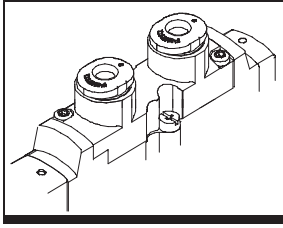


Note

Plug-in versions

If a vacant position is replaced by a valve, a plug-in socket must also be ordered and inserted into the slot.

When ordering a HC terminal, you must determine the number and length of connecting cable you need and specify them in the order code.

Working port		
	Code	Description
	B	M5 threaded connection
	E	QS-3 push-in connector
	F	QS-4 push-in connector

Pneumatic connection

Supply and exhaust

The valves are supplied with compressed air via various valve terminal manifold blocks or individual blocks.

These contain common lines for compressed air supply, exhaust and pilot exhaust for all valves.

The common lines on a CPA-SC valve terminal can be connected
- at the left (code L)
- at the right (code R) or
- at both ends (code B)

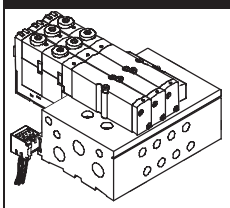
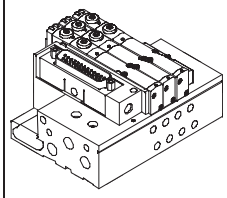
Pilot air

The CPA-SC valve terminal is suitable for internal or external pilot air.
Graphs ➔ 4 / 3.1-57

Internal pilot air
If supply pressure for the CPA-SC valve is within a range of 3 to 8 bar, it can be operated with internally distributed pilot air. The pilot air in the left-hand end plate (electrical multi-pin plug connection and Fieldbus Direct) or in the right-hand end plate (individual electrical connection) is branched off from port 1 in this case.

External pilot air
If supply pressure for the CPA-SC valve terminal is within a range of –0.9 to +10 bar, it must be operated with external pilot air. The pilot air is supplied via port 12/14 in this case.

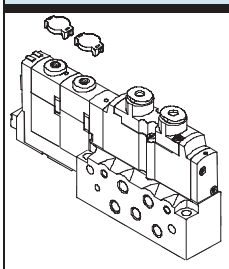
Pneumatic supply

With CPA-SC valve terminal	Code	Port		Connections for supply and exhaust		
				Designation	Code H QS connection metric, 8 mm Type	Code D Threaded connection G1/8 Type
	Compressed air supplied by means of internal pilot air, exhausting via silencer					
	S	1	Compressed air/vacuum supply	Push-in fitting	QS-G1/8-8-I	–
		3/5	Exhaust air	Silencer	UC-1/8	–
		12/14	Pilot air	–	–	–
		82/84	Pilot exhaust air	Silencer	UC-M5	–
		L	Pressure relieving port	Silencer	UC-M5	–
	Compressed air supplied via external pilot air, exhausting via silencer					
	T	1	Compressed air/vacuum supply	Push-in fitting	QS-G1/8-8-I	–
		3/5	Exhaust air	Silencer	UC-1/8	–
		12/14	Pilot air	Push-in fitting	QSM-M5-4-I	–
		82/84	Pilot exhaust air	Silencer	UC-M5	–
		L	Pressure relieving port	Silencer	UC-M5	–
	Compressed air supplied by means of internal pilot air, ducted exhaust					
	V	1	Compressed air/vacuum supply	Push-in fitting	QS-G1/8-8-I	–
		3/5	Exhaust air	Push-in fitting	QS-G1/8-8-I	–
		12/14	Pilot air	–	–	–
		82/84	Pilot exhaust air	Push-in fitting	QSM-M5-4-I	–
		L	Pressure relieving port	Silencer	UC-M5	–
	Compressed air supplied via external pilot air, ducted exhaust					
	X	1	Compressed air/vacuum supply	Push-in fitting	QS-G1/8-8-I	–
		3/5	Exhaust air	Push-in fitting	QS-G1/8-8-I	–
		12/14	Pilot air	Push-in fitting	QSM-M5-4-I	–
		82/84	Pilot exhaust air	Push-in fitting	QSM-M5-4-I	–
		L	Pressure relieving port	Silencer	UC-M5	–

Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Pneumatic components

FESTO

Pneumatic supply						
With CPA-SC individual block	Code	Port		Connections for supply and exhaust		
				Designation	Code B Threaded connection M5 Type	Code F Push-in connector QS4 Type
	Compressed air supplied by means of internal pilot air, exhausting via silencer					
	S	1	Compressed air/vacuum supply	Push-in fitting	–	QSM-M5-4-I
		3/5	Exhaust air	Silencer	–	UC-M5
		12/14	Pilot air	–	–	–
		82/84	Pilot exhaust air	Silencer	–	U-M3
		L	Pressure relieving port	Silencer	–	U-M3
	Compressed air supplied via external pilot air, exhausting via silencer					
	T	1	Compressed air/vacuum supply	Push-in fitting	–	QSM-M5-4-I
		3/5	Exhaust air	Silencer	–	UC-M5
		12/14	Pilot air	Push-in fitting	–	QSM-M3-3-I
		82/84	Pilot exhaust air	Silencer	–	U-M3
		L	Pressure relieving port	Silencer	–	U-M3
	Compressed air supplied by means of internal pilot air, ducted exhaust					
	V	1	Compressed air/vacuum supply	Push-in fitting	–	QSM-M5-4-I
		3/5	Exhaust air	Push-in fitting	–	QSM-M5-4-I
		12/14	Pilot air	–	–	–
		82/84	Pilot exhaust air	Push-in fitting	–	QSM-M3-3-I
		L	Pressure relieving port	Silencer	–	U-M3
	Compressed air supplied via external pilot air, ducted exhaust					
	X	1	Compressed air/vacuum supply	Push-in fitting	–	QSM-M5-4-I
		3/5	Exhaust air	Push-in fitting	–	QSM-M5-4-I
		12/14	Pilot air	Push-in fitting	–	QSM-M3-3-I
		82/84	Pilot exhaust air	Push-in fitting	–	QSM-M3-3-I
		L	Pressure relieving port	Silencer	–	U-M3

- Note

The port L compensates the pressure between moving parts inside the valve and the surrounding environment.

A silencer protects against contamination.
The port L must not be sealed by blanking plugs at both ends.

Instructions for using pressure zones

The CPA-SC valve terminal can be operated with a maximum of 2 pressure zones, supplied either from the left or from the right.

Pressure zones are created by means of separators that can be used in the following ducts:

- Supply duct 1 (code T) and
- exhaust duct 3 (code V) or
- exhaust duct 5 (code W) or
- exhaust duct 3 and 5 (code R)

Pilot air

The pilot air is branched off from port 1 in the left-hand end plate (electrical multi-pin plug connection and Fieldbus Direct) or in the right-hand end plate (individual electrical connection).

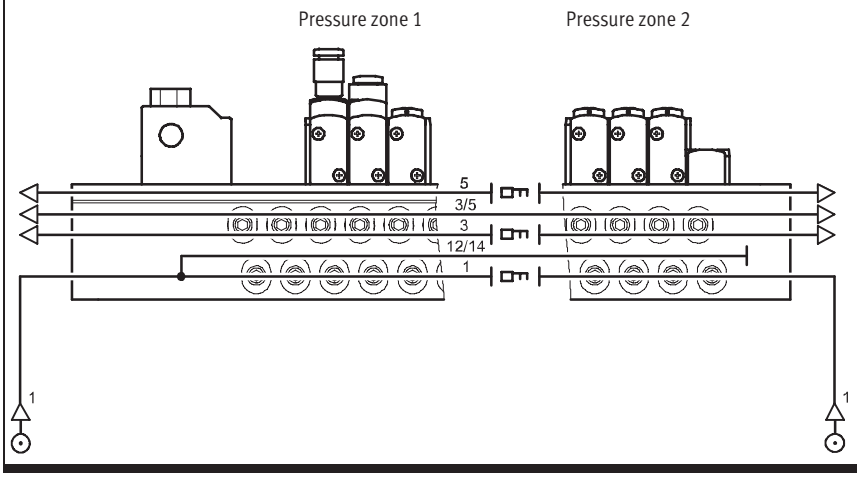
Internal pilot air is only possible at an operating pressure within a range of 3 to 8 bar.
It must therefore be noted in connection with pressure zone separation that the valve terminal is supplied with internal pilot air via the left-hand side when using a multi-pin plug connection and Fieldbus Direct and via the right-hand side when using an individual electrical connection. This means that the operating pressure at this port must be within a range of 3 to 8 bar.

Note

The addition of a separator element results in the following valve sub-bases being supplied with less compressed air:

- Valve sub-base at the valve position in which the locating pin is inserted
- Valve sub-bases at the two adjacent valve positions

Creation of pressure zones and duct separation

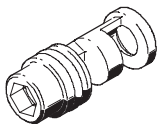


Code	Description
T	Duct 1 closed
V	Duct 3 closed
W	Duct 5 closed
R	Duct 3/5 closed

Note

The separator element can also be mounted subsequently using an Allen key. An assembly tool for long terminals is available as an accessory.

Separator CPASC-KT



Valve terminals type 82 CPA-SC, Smart Cubic

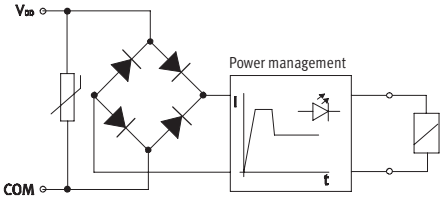
Key features – Electrical components

FESTO

Electrical power as a result of current reduction

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

All valve types are additionally equipped with integrated current reduction.



Individual electrical connection

With an individual electrical connection, the plug is connected directly to the valve.

Two types of individual electrical connection are available for the valve terminal and for the individual sub-base:

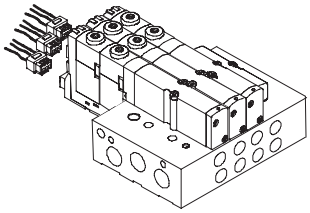
- Horizontal connection (HC) or
- Plug-in (PI)

Note

Connecting cables with 2- or 3-wires are available for single solenoid valves with one solenoid coil or double solenoid valves with two solenoid coils.

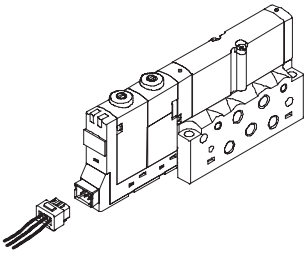
Individual electrical connection – Horizontal connection (HC)

Valve on manifold block — Code IH



The valve terminal can be configured with 2 to max. 16 valve positions. This means that max. 32 valve solenoid coils can be actuated with this type of electrical connection. The horizontal connection (HC) must be removed when replacing the valve.

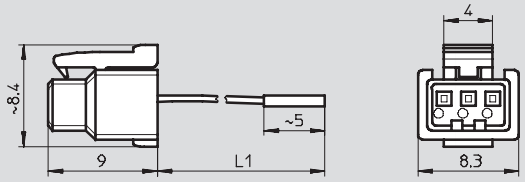
Valve on individual block — Code SH



With the individual sub-base, the electrical connection is also plugged in directly on the valve.

Dimensions – Horizontal connection (HC)

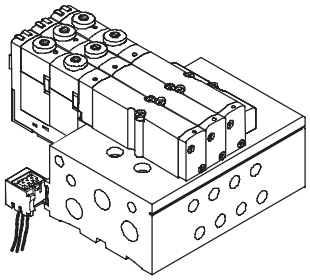
Download CAD data ➔ **www.festo.com/en/engineering**



Type	Code	L1 Cable length [m]	Number of valve solenoid coils	Cable colour		
				Pin 1 Common	Pin 2 Solenoid coil 12	Pin 3 Solenoid coil 14
KMH-0,5	CH	0.5	1 coil	Black	–	Red
KMH-1	CI	1	1 coil	Black	–	Red
KMH-2,5	CJ	2.5	1 coil	Black	–	Red
KMH-5	CK	5	1 coil	Black	–	Red
KMH-D-0,5	CD	0.5	2 coils	Black	Blue	Red
KMH-D-1	CE	1	2 coils	Black	Blue	Red
KMH-D-2,5	CF	2.5	2 coils	Black	Blue	Red
KMH-D-5	CG	5	2 coils	Black	Blue	Red

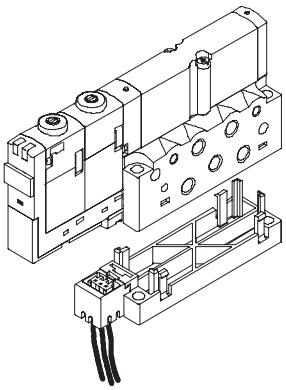
Individual electrical connection – Plug-in (PI)

Valve on manifold block — Code IP, IQ



The valve terminal can be configured with 2 to max. 16 valve positions. This means that max. 32 valve solenoid coils can be actuated with this type of electrical connection.
The connector plug is inserted into the slot on the manifold block.
To replace a valve or extend the terminal (vacant position), all you need do is loosen two screws; the connector plug remains in the slot.

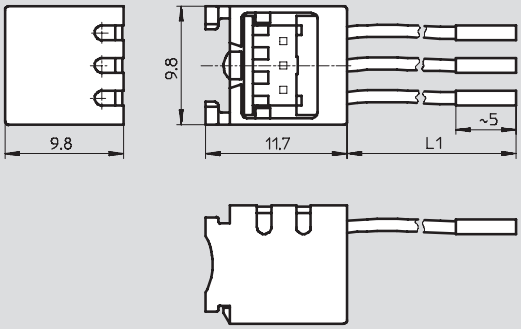
Valve on individual block — Code SP, SQ



With this electrical connection variant, the connector plug is mounted on an adapter. This adapter is then attached to the manifold block.

Dimensions – Plug-in (PI) connection

Download CAD data ➔ **www.festo.com/en/engineering**



Type	Code	L1 Cable length [m]	Number of valve solenoid coils	Cable colour		
				Pin 1 Common	Pin 2 Solenoid coil 12	Pin 3 Solenoid coil 14
MHAP-PI	–	0.5	1 coil	Black	–	Red
MHAP-PI-1	–	1	1 coil	Black	–	Red
MHAP-PI-D-0,5	–	0.5	2 coils	Black	Blue	Red
MHAP-PI-D-1	–	1	2 coils	Black	Blue	Red

Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Electrical components

Electrical multi-pin plug connection

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

- Sub-D multi-pin plug connection (25-pin) or
- Multi-pin plug connection with connector for flat cable (26-pin)

Pins 1 ... 20 are used for coils 1 ... 20 in order. If there are fewer than 20 coils on the valve terminal, the remaining pins up to 20 are left free. Pins 21 and above are reserved for neutral conductors. Four solenoid coils are always combined on one neutral conductor.
This means that individual valve groups can be switched off separately or a mixture of negative- and positive-switching valves achieved.

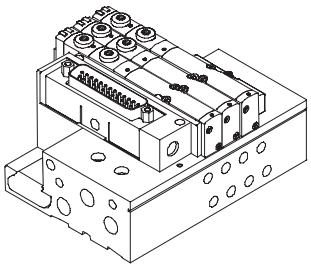
Each pin on the multi-pin plug can activate only one valve solenoid coil. If the maximum configurable number of valve positions is 20, this means that 20 valves each with a single solenoid can be addressed.
With 10 or less valve positions, 2 valve solenoid coils per valve can be addressed.
With 12 or more valve positions, the number of available valve positions for valves with two solenoid coils decreases (➔ table below).

Example:
With 16 valve positions, valves with one or two solenoid coils can be actuated on the first four (0 ... 3) positions. Valves with just one solenoid coil are permissible at positions 4 ... 15.

Address/ solenoid coil	Number of the valve position																			
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1				
20	2	2	2	2	2	2	2	2	1	1	1	1								
20	2	2	2	2	2	2	2	2	2	2										
16	2	2	2	2	2	2	2	2												
12	2	2	2	2	2	2														
8	2	2	2	2																

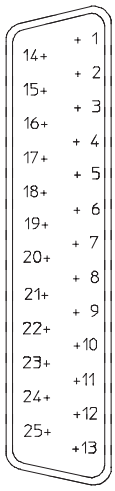
Electrical multi-pin plug connection – Sub-D

Code MS



With this electrical connection variant, all valves are centrally actuated via the 25-pin connector plug.
The electrical connection is located on the left-hand side and can be re-positioned by 90°.

Pin allocation – Connector for Sub-D, 25-pin cable

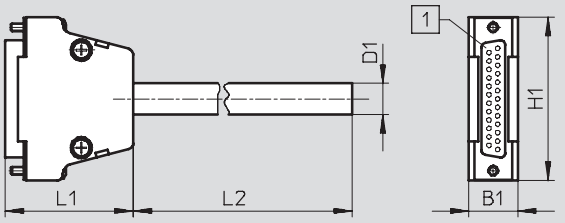


Pin	Address/ solenoid coil	Core colour[2] KMP6-25P-1 2-...	KMP6-25P-2 0-...	Valve positions[1] 2	4	6	8	10	12	16	20
				Valve position no./coil designation							
1	0	WH	WH	0/14	0/14	0/14	0/14	0/14	0/14	0/14	0/14
2	1	BN	BN	0/12	0/12	0/12	0/12	0/12	0/12	0/12	1/14
3	2	GN	GN	1/14	1/14	1/14	1/14	1/14	1/14	1/14	2/14
4	3	YE	YE	1/12	1/12	1/12	1/12	1/12	1/12	1/12	3/14
5	4	GY	GY		2/14	2/14	2/14	2/14	2/14	2/14	4/14
6	5	PK	PK		2/12	2/12	2/12	2/12	2/12	2/12	5/14
7	6	BU	BU		3/14	3/14	3/14	3/14	3/14	3/14	6/14
8	7	RD	RD		3/12	3/12	3/12	3/12	3/12	3/12	7/14
9	8	BK	BK			4/14	4/14	4/14	4/14	4/14	8/14
10	9	VT	VT			4/12	4/12	4/12	4/12	5/14	9/14
11	10	GY PK	GY PK			5/14	5/14	5/14	5/14	6/14	10/14
12	11	RD BU	RD BU			5/12	5/12	5/12	5/12	7/14	11/14
13	12	–	WH GN				6/14	6/14	6/14	8/14	12/14
14	13	–	BN GN				6/12	6/12	6/12	9/14	13/14
15	14	–	WH YE				7/14	7/14	7/14	10/14	14/14
16	15	–	YE BN				7/12	7/12	7/12	11/14	15/14
17	16	–	WH GN					8/14	8/14	12/14	16/14
18	17	–	BN GN					8/12	9/14	13/14	17/14
19	18	–	WH YE					9/14	10/14	14/14	18/14
20	19	–	YE BN					9/12	11/14	15/14	19/14
21	com	–	WH BU	Coil 16 ... 19							
22	com	–	BN BU	Coil 12 ... 15							
23	com	WH GN	WH RD	Coil 8 ... 11							
24	com	BN DN	BN RD	Coil 4 ... 7							
25	com	WH YE	WH BK	Coil 0 ... 3							
Number of solenoid coils				4	8	12	16	20	20	20	20

1) Valve positions for actuation of 2 coils are shown against a grey background
2) To IEC 757

Dimensions – Sub-D plug with cable

Download CAD data ➔ **www.festo.com/en/engineering**



1 25-pin plug

Type	Code	B1 [mm]	D1 [mm]	H1 [mm]	L1 [mm]	L2 [m]
KMP6-25P-20-2,5	CP	16	10.3	53.4	37.7	2.5
KMP6-25P-20-5	CQ	16	10.3	53.4	37.7	5
KMP6-25P-20-10	CR	16	10.3	53.4	37.7	10
KMP6-25P-12-2,5	CV	16	8.5	53.4	37.7	2.5
KMP6-25P-12-5	CW	16	8.5	53.4	37.7	5
KMP6-25P-12-10	CX	16	8.5	53.4	37.7	10

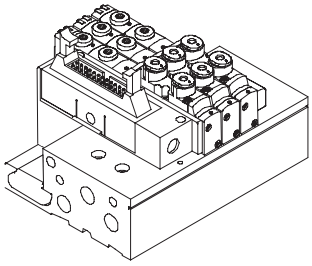
Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Electrical components

FESTO

Electrical multi-pin plug connection – Connector for flat cable

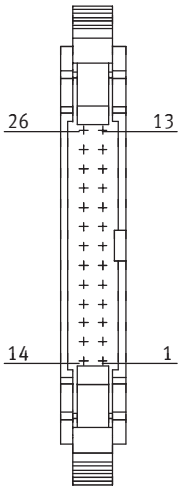
Code MF



With this electrical connection variant, all valves are centrally actuated via the 26-pin connector plug.
The electrical connection is located on the left-hand side and can be re-positioned by 90°.

This connection is intended for flat cables to DIN EN 60603-13, cable cross section AWG26.

Pin allocation – Connector for flat cable



Pin	Address/ solenoid coil	Valve positions[1]						
		4	6	8	10	12	16	20
		Valve position no./coil designation						
1	0	0/14	0/14	0/14	0/14	0/14	0/14	0/14
2	1	0/12	0/12	0/12	0/12	0/12	0/12	1/14
3	2	1/14	1/14	1/14	1/14	1/14	1/14	2/14
4	3	1/12	1/12	1/12	1/12	1/12	1/12	3/14
5	4	2/14	2/14	2/14	2/14	2/14	2/14	4/14
6	5	2/12	2/12	2/12	2/12	2/12	2/12	5/14
7	6	3/14	3/14	3/14	3/14	3/14	3/14	6/14
8	7	3/12	3/12	3/12	3/12	3/12	3/12	7/14
9	8		4/14	4/14	4/14	4/14	4/14	8/14
10	9		4/12	4/12	4/12	4/12	5/14	9/14
11	10		5/14	5/14	5/14	5/14	6/14	10/14
12	11		5/12	5/12	5/12	5/12	7/14	11/14
13	12			6/14	6/14	6/14	8/14	12/14
14	13			6/12	6/12	6/12	9/14	13/14
15	14			7/14	7/14	7/14	10/14	14/14
16	15			7/12	7/12	7/12	11/14	15/14
17	16				8/14	8/14	12/14	16/14
18	17				8/12	9/14	13/14	17/14
19	18				9/14	10/14	14/14	18/14
20	19				9/12	11/14	15/14	19/14
21 (free)	–	–						
22	com	Coil 16 ... 19						
23	com	Coil 12 ... 15						
24	com	Coil 8 ... 11						
25	com	Coil 4 ... 7						
26	com	Coil 0 ... 3						
Number of solenoid coils		8	12	16	20	20	20	20

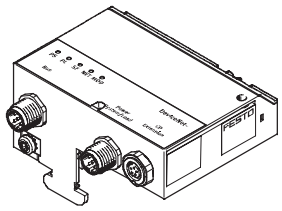
1) Valve positions for actuation of 2 coils are shown against a grey background

Valve terminals type 82 CPA-SC, Smart Cubic

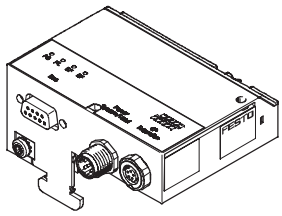
Key features – Electrical components

Fieldbus Direct

DeviceNet



Profibus DP



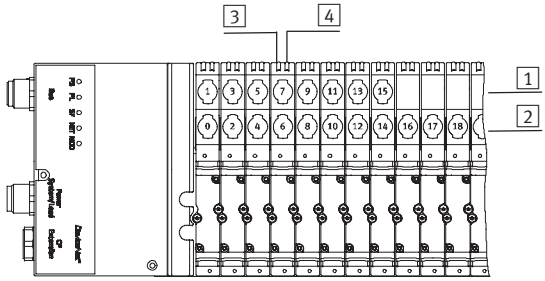
Properties

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.

➔ Info 243 CPI installation system

Address allocation – Solenoid coils



1 Solenoid coils 12
2 Solenoid coils 14
3 LED solenoid coil 12
4 LED solenoid coil 14

The addresses of the valve solenoids on the CPASC-DN/CPASC-DP are allocated from left to right, while the addresses of the individual valve positions are allocated from front to back.

Example:
Valve terminal where the first 8 valve positions are prepared for 2 solenoids each.

Each valve position can actuate one or two solenoid coils depending on the configuration (number of valve positions and internal wiring). It then occupies one or two addresses. The internal wiring cannot be changed subsequently.

The number of addresses each valve position occupies has nothing to do with what is actually mounted on the valve position (valve, blanking plate).

If a valve position for 2 addresses is actually equipped with two solenoid coils, the following allocation applies:
- Solenoid coil 14 occupies the less significant address
- Solenoid coil 12 occupies the more significant address

If a valve position for 2 addresses is equipped with only one solenoid coil, the more significant address remains unused. The valve position occupies two addresses nonetheless.

Address/ solenoid coil	Number of the valve position																							
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
32	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	–	–	–	–
32	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	–	–	–	–	–	–	–	–
24	2	2	2	2	2	2	2	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–	–	–
20	2	2	2	2	2	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16	2	2	2	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
12	2	2	2	2	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	2	2	2	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Display and operation – Multi-pin plug and individual valve connection

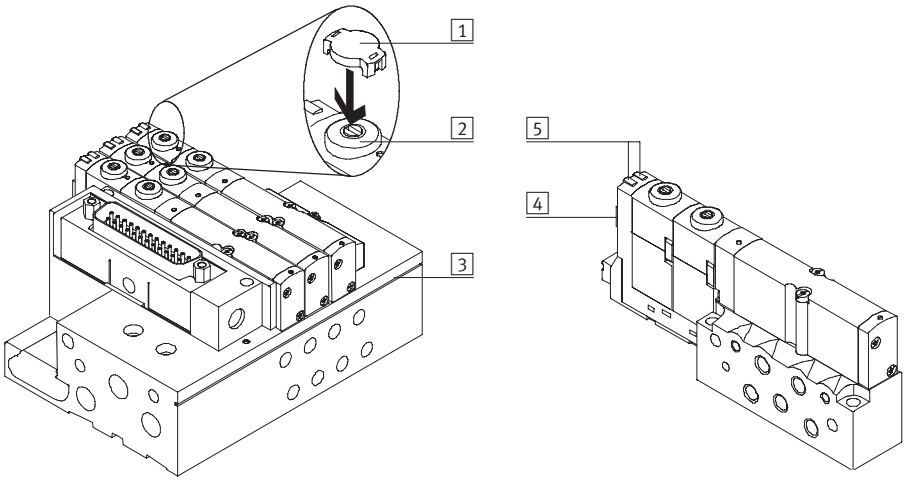
Each valve solenoid coil is allocated an LED which indicates its operating status. Inscription labels (type IBS-6x10) can be applied to each valve for labelling purposes. Alternatively inscription labels (type MH-BZ-80x) can also be affixed to the slot in the manifold block.

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 turning the manual override.

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

Note

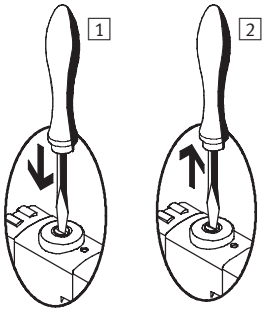
A manually activated valve (manual override) cannot be reset electrically. Conversely, an electrically activated valve cannot be reset using the manual override facility.



1 Cover for manual override (code V or accessory CPASC-MO-V)
2 Optional manual override (pushing and detenting via turning using a screwdriver)
3 Slot for inscription labels type MH-BZ-80x
4 Location for valve inscription label type ISB-6x10
5 LED signal status display per solenoid coil

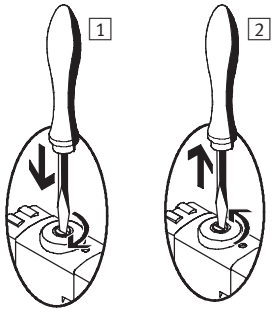
Manual override (MO)

Manual override with automatic return (non-detenting)



1 Press in the stem of the MO with a screwdriver.
⇢ Valve is in switching position
2 Remove the screwdriver.
Spring force pushes the stem of the MO back.
⇢ Valve returns to initial position (not with double solenoid valve code J).

MO with detent (turning with detent)



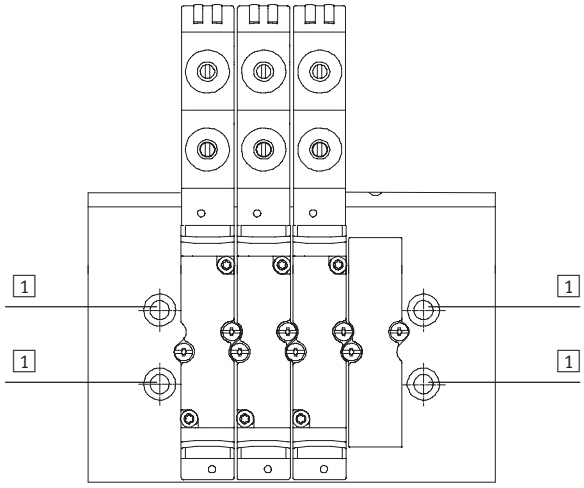
1 Press in the stem of the MO with a screwdriver until the valve switches and then turn the stem clockwise by 90° until the stop is reached.
⇢ Valve remains in switching position
2 Turn the stem anti-clockwise by 90° until the stop is reached and then remove the screwdriver.
Spring force pushes the stem of the MO back.
⇢ Valve returns to initial position (not with double solenoid valve code J).

Valve terminals type 82 CPA-SC, Smart Cubic

Key features – Mounting types

Mounting – Valve terminal

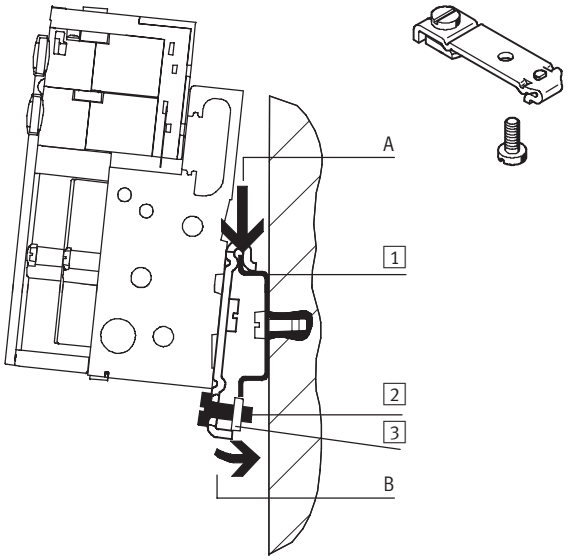
Wall mounting



The CPA-SC valve terminal is screwed onto the mounting surface using four M4 screws.

1 Holes for wall mounting

H-rail mounting



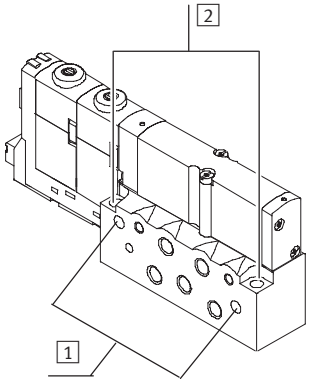
The CPA-SC valve terminal is attached to the H-rail (see arrow A).
The CPA-SC valve terminal is then swivelled on the H-rail and secured in place with the clamping component (see arrow B).

For H-rail mounting of the CPA valve terminal, you will need the mounting kit CPA-BG-NRH. This enables the valve terminal to be mounted on a H-rail to EN 60715.

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

Mounting – Individual sub-base

Wall mounting



The individual sub-base for wall mounting is designed for integration into a system or machine.

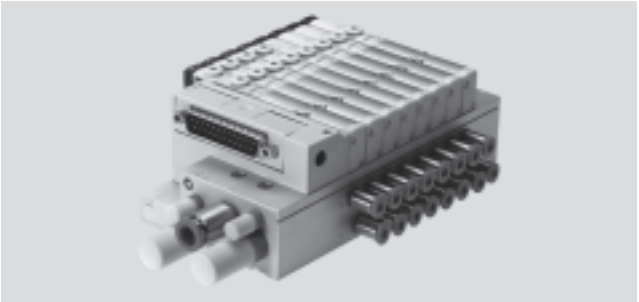
Mounting holes
1 Horizontal mounting
2 Vertical mounting

Valve terminals type 82 CPA-SC, Smart Cubic

Technical data

FESTO

- Flow rate
  150 l/min
- Width
  10 mm
- Voltage
  24 V DC

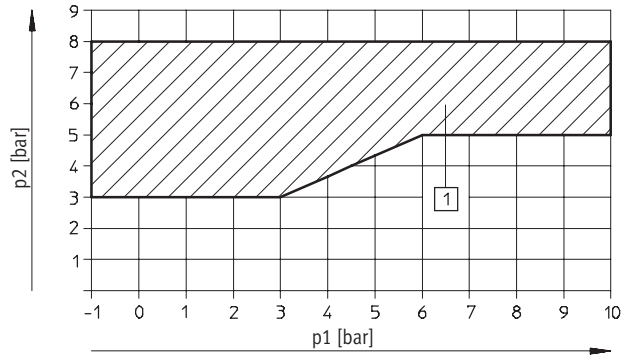


General technical data										
Valve		5/2-way valve		2x 3/2-way valve		5/3-way valve			1x 3/2-way valve	2x 2/2-way valve
				Normally		Mid-position			Normally	
		Single solenoid	Double solenoid	open	closed	pressurised	closed	exhausted	closed	closed
Valve function ordering code		M	J	N	K	B	G	E	X	I
Design		Electromagnetically actuated piston spool valve								
Width	[mm]	10								
Nominal diameter	[mm]	2.5								
Lubrication		Lubricated for life, PWIS-free (free of paint-wetting impairment substances)								
Type of mounting		Wall mounting								
		On H-rail to EN 60715								
Assembly position		Any								
Manual override		Pushing/detented by turning								
Pneumatic connections										
Pneumatic connection		Via manifold block, PRS manifold or individual connection								
Supply port	1	G1⁄8 (M5 with individual block)								
Exhaust port	3/5	G1⁄8 (M5 with individual block)								
Working lines	2/4	Depending on the connection type selected • M5 • QS-3 • QS-4								
Pilot air port	12/14	M5 (M3 with individual block)								
Pilot exhaust air port	82/84	M5 (M3 with individual block)								
Pressure compensating port	L	M5, M3								

Operating pressure [bar]									
Valve function ordering code	M	J	N	K	B	G	E	X	I
With internal pilot air supply	+3 ... +8								
With external pilot air supply	–0.9 ... +10		+3 ... +10		–0.9 ... +10				+3 ... +10

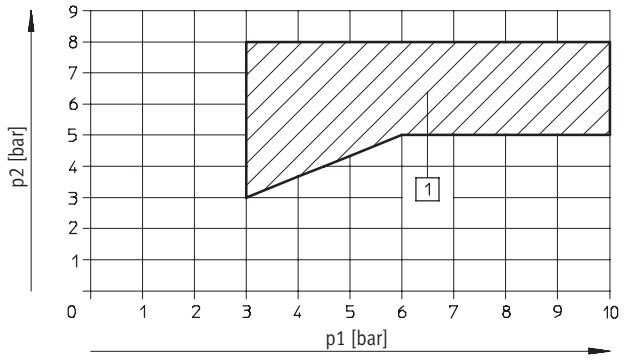
Pilot pressure p2 as a function of working pressure p1 with external pilot air supply

for valve sub-bases with code M, J, B, G, E, X



1 Operating range for valves with external pilot air supply

for valve sub-bases with code N, K, I



1 Operating range for valves with external pilot air supply

Valve response times [ms]									
Valve function ordering code		M	J	N	K	B	G	E	X	I
Response times	on	10	–	10	10	10	10	10	10	10
	off	20	–	20	20	25	25	25	20	20
	change-over	–	10	–	–	–	–	–	–	–

Operating and environmental conditions									
Valve function ordering code		M	J	N	K	B	G	E	X	I
Operating medium		Filtered compressed air, lubricated or unlubricated, inert gases ➔ 4 / 3.1-61								
Grade of filtration	[µm]	40								
Ambient temperature	[°C]	–5 ... +60		–5 ... +40[2)]		–5 ... +60				–5 ... +40[2)]
Ambient temperature in case of fieldbus connection	[°C]	–5 ... +50		–5 ... +40[2)]		–5 ... +50				–5 ... +40[2)]
Storage temperature	[°C]	–20 ... +40								
Corrosion resistance class CRC[1)]		1								
Certification		c UL us - Recognized (OL)								

1) Corrosion resistance class 1 according to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

2) Restricted ambient temperature in case of two permanently activated solenoid coils per valve location, otherwise same temperature range as ordering code M.

Valve terminals type 82 CPA-SC, Smart Cubic

Technical data

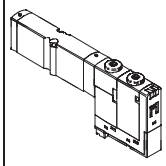
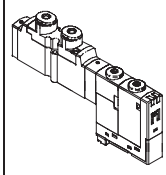
FESTO

Electrical data										
Valve function ordering code		M	J	N	K	B	G	E	X	I
Electromagnetic compatibility of the CPA-SC valve terminal (Sub-D or flat cable connection)		Interference emission tested to EN 61000-6-4, industry								
		Interference immunity[1] tested to 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								
Operating voltage of valves and electronic components										
Nominal operating voltage	[V]	24 DC								
Operating voltage range	[V]	20.4 ... 26.4 DC								
Electrical power consumption										
Electronic components	[mA]	200 and current consumption of sensors								
Valves	[W]	Pull: 1, hold: 0.3								
Residual ripple	[Vss]	4								
Cut-off pause	[ms]	Min. 1								
Switching frequency	[Hz]	Max. 10								
Duty cycle		100%								
Protection class to EN 60529		IP40 (in assembled state and with detenting plug)								
Relative air humidity		90% at 40°C, non-condensing								
Vibration resistance		To DIN/IEC 68/EN 60068, Parts 2-6, severity level 2								
Continuous shock resistance		To DIN/IEC 68/EN 60068, Parts 2-27, severity level 2								

1) The maximum signal line length is 10 m

Materials									
Valve function ordering code	M	J	N	K	B	G	E	X	I
Manifold block	Wrought aluminium alloy								
Valve sub-base	Die-cast aluminium								
Seal	Nitrile rubber								

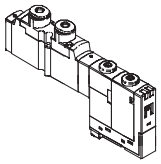
Product weight [g]	Approx. weights								
Valve function ordering code	M	J	N	K	B	G	E	X	I
Basic manifold block weight	125								
Additional manifold block weight per valve position	40								
Individual block	45								
per valve sub-base	40								
Fieldbus connection	150								

Standard nominal flow rate [l/min]						
	Code	Valve function	Valve	Individual block	CPA-SC valve terminal with multi-pin plug connection/individual PI connections	CPA-SC valve terminal with individual horizontal connections
	**Sub-base valve**					
	M	5/2-way valve, single solenoid	220	170	150	120
	J	5/2-way valve, double solenoid	220	170	150	120
	N	2x 3/2-way valve, normally open	220	170	150	120
	K	2x 3/2-way valve, normally closed	180	150	120	120
	B	5/3-way valve, mid-position pressurised	220	150	120	120
	G	5/3-way valve, mid-position closed	180	150	120	120
	E	5/3-way valve, mid-position exhausted	180	150	120	120
	X	1x 3/2-way valve	120	–	100	85
	I	2x 2/2-way valve	150	140	140	120
	**Semi in-line valve with working port M5**					
	M	5/2-way valve, single solenoid	200	180	180	180
	J	5/2-way valve, double solenoid	200	180	180	180
	N	2x 3/2-way valve, normally open	200	180	180	180
	K	2x 3/2-way valve, normally closed	150	150	150	150
	B	5/3-way valve, mid-position pressurised	180	180	180	180
	G	5/3-way valve, mid-position closed	150	150	150	150
	E	5/3-way valve, mid-position exhausted	180	170	180	170
	X	1x 3/2-way valve	120	–	120	120
	I	2x 2/2-way valve	150	150	150	150

Valve terminals type 82 CPA-SC, Smart Cubic

Technical data

FESTO

Standard nominal flow rate [l/min]						
	Code	Valve function	Valve	Individual block	CPA-SC valve terminal with multi-pin plug connection/individual PI connections	CPA-SC valve terminal with individual horizontal connections
	**Semi in-line valve, working port with QS-3 fitting**					
	M	5/2-way valve, single solenoid	140	140	140	140
	J	5/2-way valve, double solenoid	140	140	140	140
	N	2x 3/2-way valve, normally open	140	140	140	140
	K	2x 3/2-way valve, normally closed	130	130	130	130
	B	5/3-way valve, mid-position pressurised	140	140	140	140
	G	5/3-way valve, mid-position closed	130	130	130	130
	E	5/3-way valve, mid-position exhausted	140	140	140	140
	X	1x 3/2-way valve	100	–	100	100
	I	2x 2/2-way valve	130	130	130	130
	Semi in-line valve, working port with QS-4 fitting					
	M	5/2-way valve, single solenoid	180	170	180	180
	J	5/2-way valve, double solenoid	180	170	180	180
	N	2x 3/2-way valve, normally open	180	170	180	180
	K	2x 3/2-way valve, normally closed	150	150	150	150
	B	5/3-way valve, mid-position pressurised	180	170	180	170
	G	5/3-way valve, mid-position closed	150	150	150	150
	E	5/3-way valve, mid-position exhausted	170	170	170	170
	X	1x 3/2-way valve	120	–	120	120
	I	2x 2/2-way valve	150	140	150	150

Pneumatic equipment

Operate your equipment with unlubricated compressed air if possible. Festo valves and cylinders are designed for operation under normal use without any additional lubrication, yet still have 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).

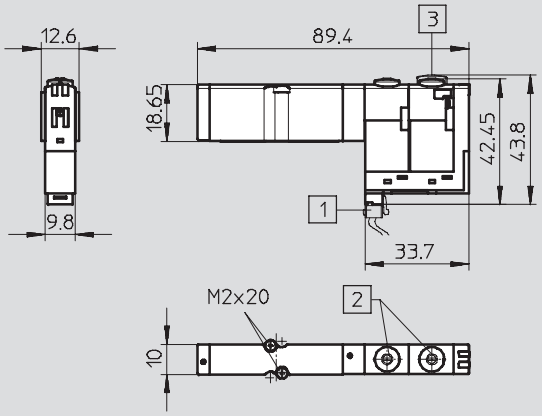
Bio-oils
When using bio-oils (oils which are based upon synthetic or native ester, e.g. rapeseed oil methyl ester), the maximum residual oil content of 0.1 mg/m^3 must not be exceeded (see ISO 8573-1 Class 2).

Mineral oils
When using mineral oils (e.g. HLP oils to DIN 51524, parts 1 through 3) or similar oils based on poly-alpha-olefins (PAO), the maximum residual oil content of 5 mg/m^3 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.

Dimensions – Sub-base valve

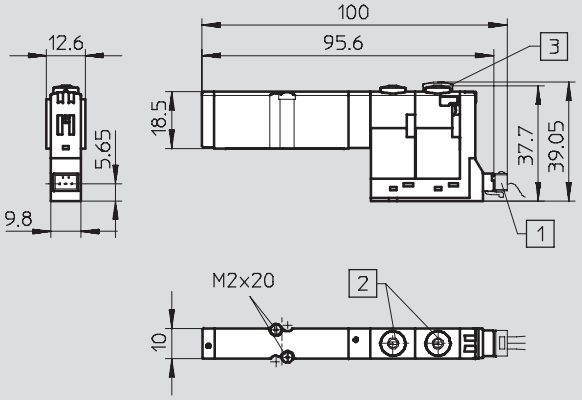
Download CAD data ➔ **www.festo.com/en/engineering**

With individual plug-in (PI) connection



1 Individual PI connection
2 Manual override (MO)
3 Manual override cover

With individual horizontal connection (HC)

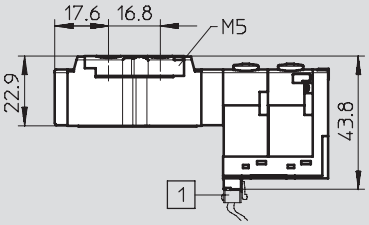


1 Individual horizontal connection
2 Manual override (MO)
3 Manual override cover

Dimensions – Semi in-line valve with working port M5

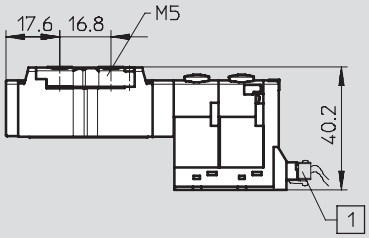
Download CAD data ➔ **www.festo.com/en/engineering**

With individual plug-in (PI) connection



1 Individual PI connection

With individual horizontal connection (HC)

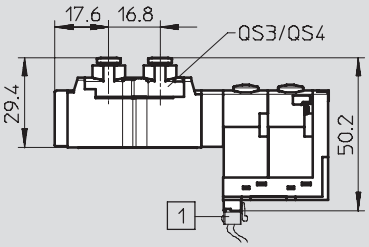


1 Individual horizontal connection

Dimensions – Semi in-line valve with working port QS-3/QS-4

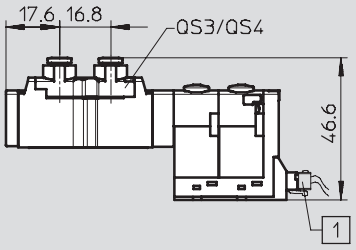
Download CAD data ➔ **www.festo.com/en/engineering**

With individual plug-in (PI) connection



1 Individual PI connection

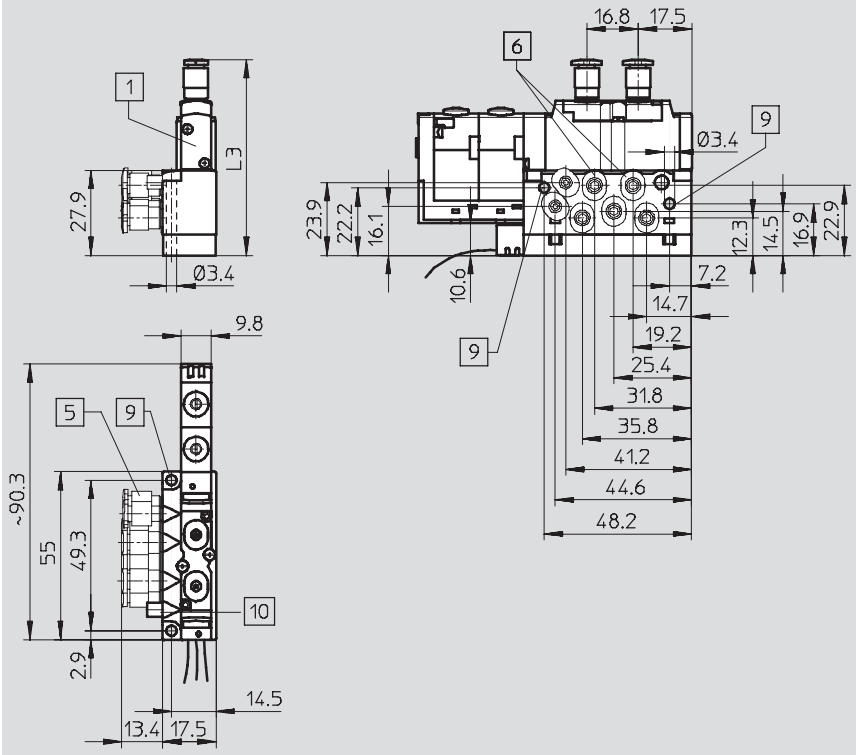
With individual horizontal connection (HC)



1 Individual horizontal connection

Dimensions – Individual sub-base Download CAD data ➔ **www.festo.com/en/engineering**

With individual plug-in (PI) connection

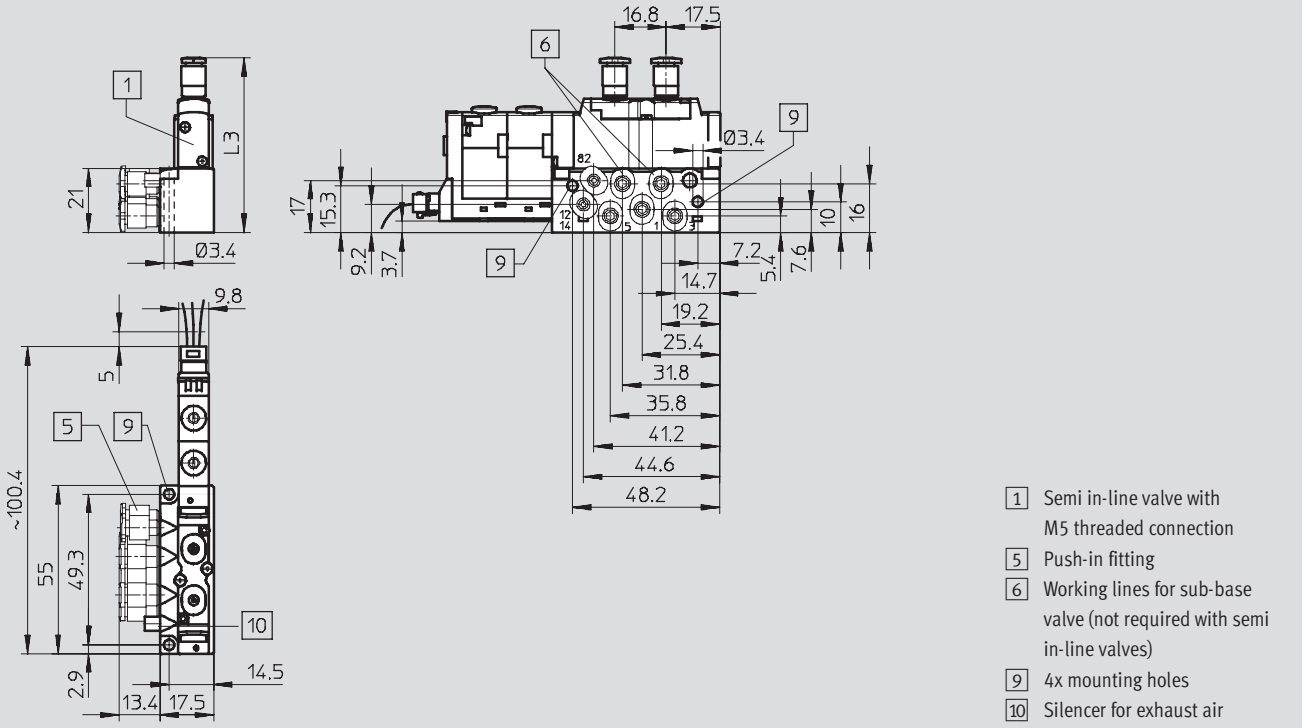


1 Semi in-line valve with M5 threaded connections
5 Push-in fitting
6 Working lines for sub-base valve (not required with semi in-line valves)
9 4x mounting holes
10 Silencer for exhaust air

Valve type		L3
Semi in-line valve	with working port M5	50.8
	with working port QS-3	57.2
	with working port QS-4	57.2
Sub-base valve		48.3
Blanking plate		37.1

Dimensions – Individual sub-base Download CAD data ➔ **www.festo.com/en/engineering**

With individual horizontal connection (HC)

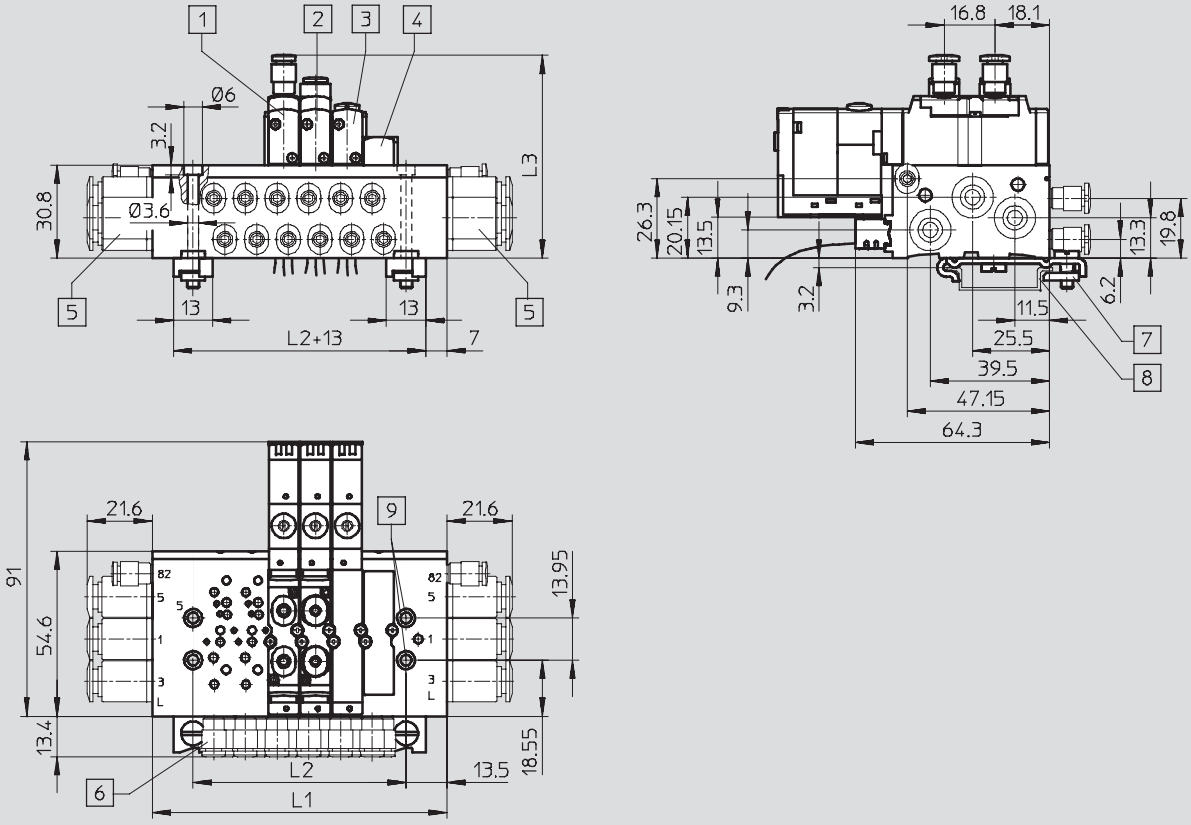


1 Semi in-line valve with M5 threaded connection
5 Push-in fitting
6 Working lines for sub-base valve (not required with semi in-line valves)
9 4x mounting holes
10 Silencer for exhaust air

Valve type		L3
Semi in-line valve	with working port M5	43.9
	with working port QS-3	50.3
	with working port QS-4	50.3
Sub-base valve		41.4
Blanking plate		30.2

Dimensions – Valve terminal Download CAD data ➔ **www.festo.com/en/engineering**

With individual plug-in (PI) connection



1 Semi in-line valve with M5 threaded connection
2 Semi in-line valve with integrated push-in fitting
3 Sub-base valve
4 Blanking plate for vacant position
5 Push-in fitting
6 Working lines for sub-base valves (not required with semi in-line valves)
7 Mounting for H-rail TH 35-7.5 EN60 715
8 H-rail
9 4x mounting holes

Valve positions	L1	L2
2	55,5	28.5
4	76.5	49.5
6	97.5	70.5
8	118.5	91.5
10	139.5	112.5
12	160.5	133.5
16	202.5	175.5

Valve type		L3
Semi in-line valve	with working port M5	53.7
	with working port QS-3	60.1
	with working port QS-4	60.1
Sub-base valve		51.2
Blanking plate		40

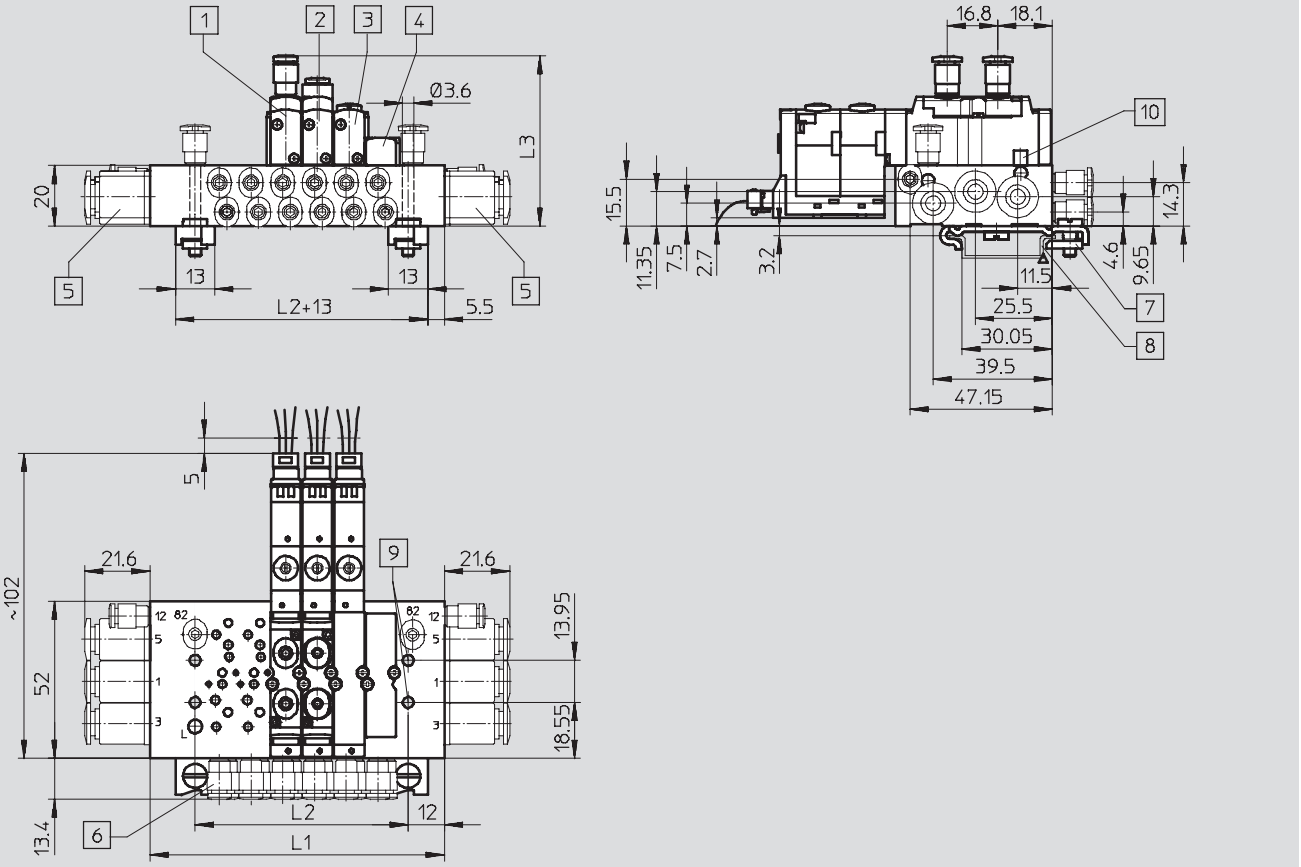
Valve terminals type 82 CPA-SC, Smart Cubic

Technical data

FESTO

Dimensions – Valve terminal Download CAD data ➔ **www.festo.com/en/engineering**

With individual horizontal connection (HC)



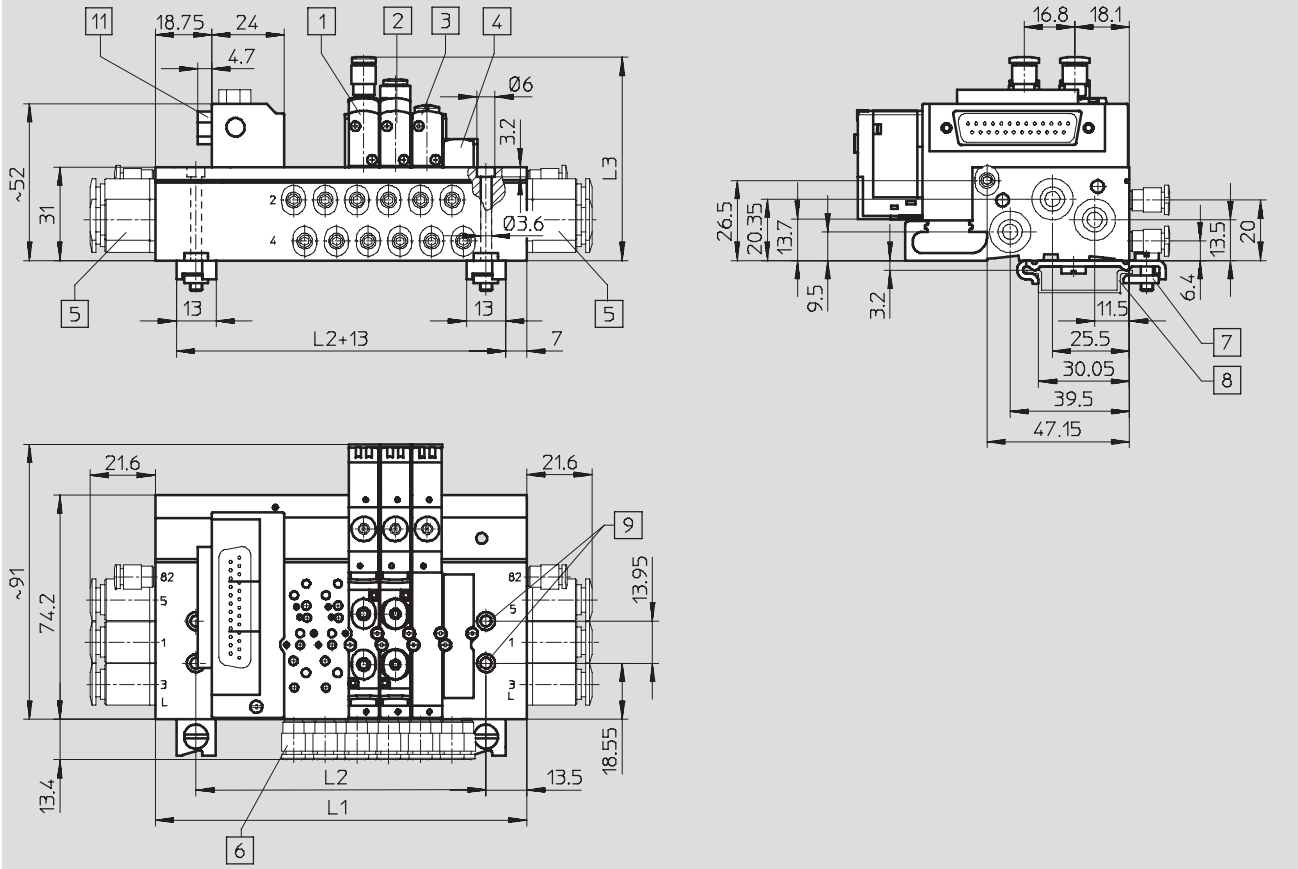
1 Semi in-line valve with M5 threaded connection
2 Semi in-line valve with integrated push-in fitting
3 Sub-base valve
4 Blanking plate for vacant position
5 Push-in fitting
6 Working lines for sub-base valves (not required with semi in-line valves)
7 Mounting for H-rail TH 35-7.5 EN60 715
8 H-rail
9 4x mounting holes
10 Silencer for exhaust air

Valve positions	L1	L2
2	54.5	29
4	75.5	50
6	96.5	71
8	117.5	92
10	138.5	113
12	159.5	134
16	201.5	176

Valve type		L3
Semi in-line valve	with working port M5	42.9
	with working port QS-3	49.3
	with working port QS-4	49.3
Sub-base valve		40.4
Blanking plate		29.2

Dimensions – Valve terminal Download CAD data ➔ **www.festo.com/en/engineering**

With Sub-D multi-pin plug connection



1 Semi in-line valve with M5 threaded connection
2 Semi in-line valve with integrated push-in fitting
3 Sub-base valve
4 Blanking plate for vacant position
5 Push-in fitting
6 Working lines for sub-base valves (not required with semi in-line valves)
7 Mounting for H-rail TH 35-7.5 EN60 715
8 H-rail
9 4x mounting holes
11 Sub-D multi-pin plug connection, 25-pin, 90° rotatable

Valve positions	L1	L2
2	81	54
4	102	75
6	123	96
8	144	117
10	165	138
12	186	159
16	228	201
20	270	243

Valve type		L3
Semi in-line valve	with working port M5	53.9
	with working port QS-3	60.3
	with working port QS-4	60.3
Sub-base valve		51.4
Blanking plate		40.2

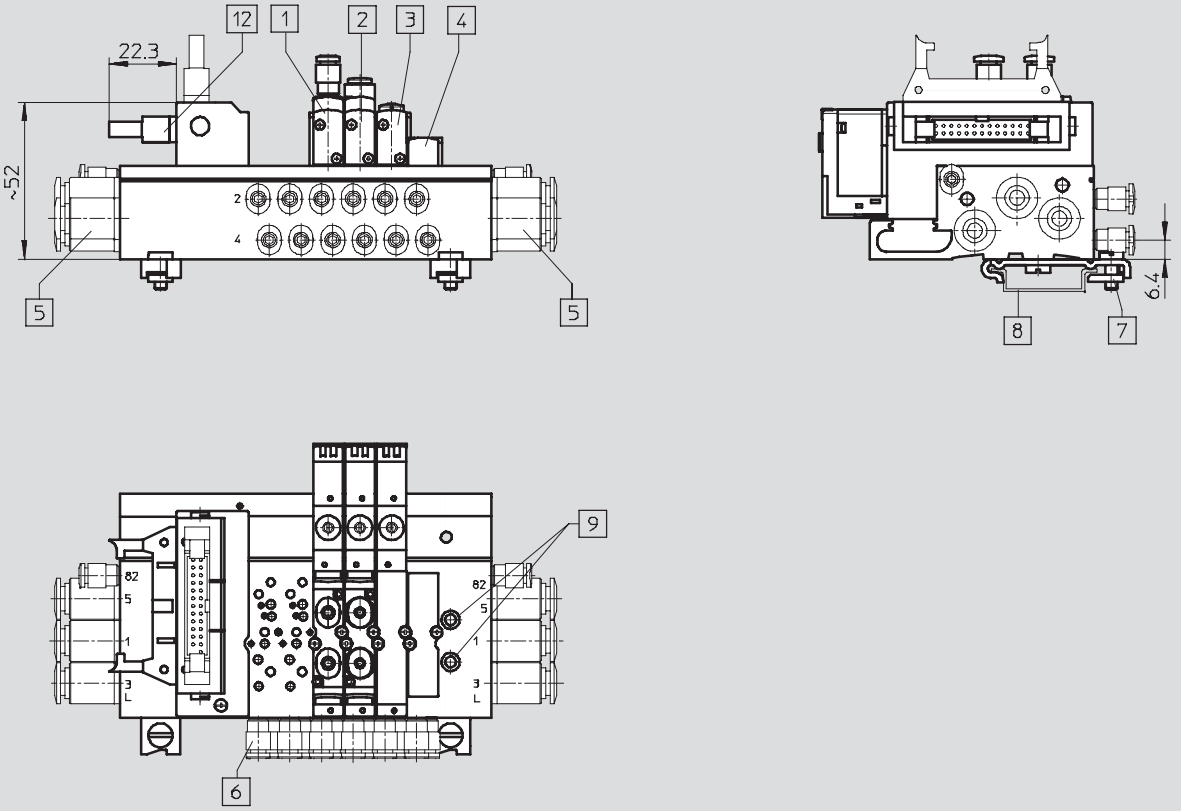
Valve terminals type 82 CPA-SC, Smart Cubic

Technical data

FESTO

Dimensions – Valve terminal Download CAD data ➔ **www.festo.com/en/engineering**

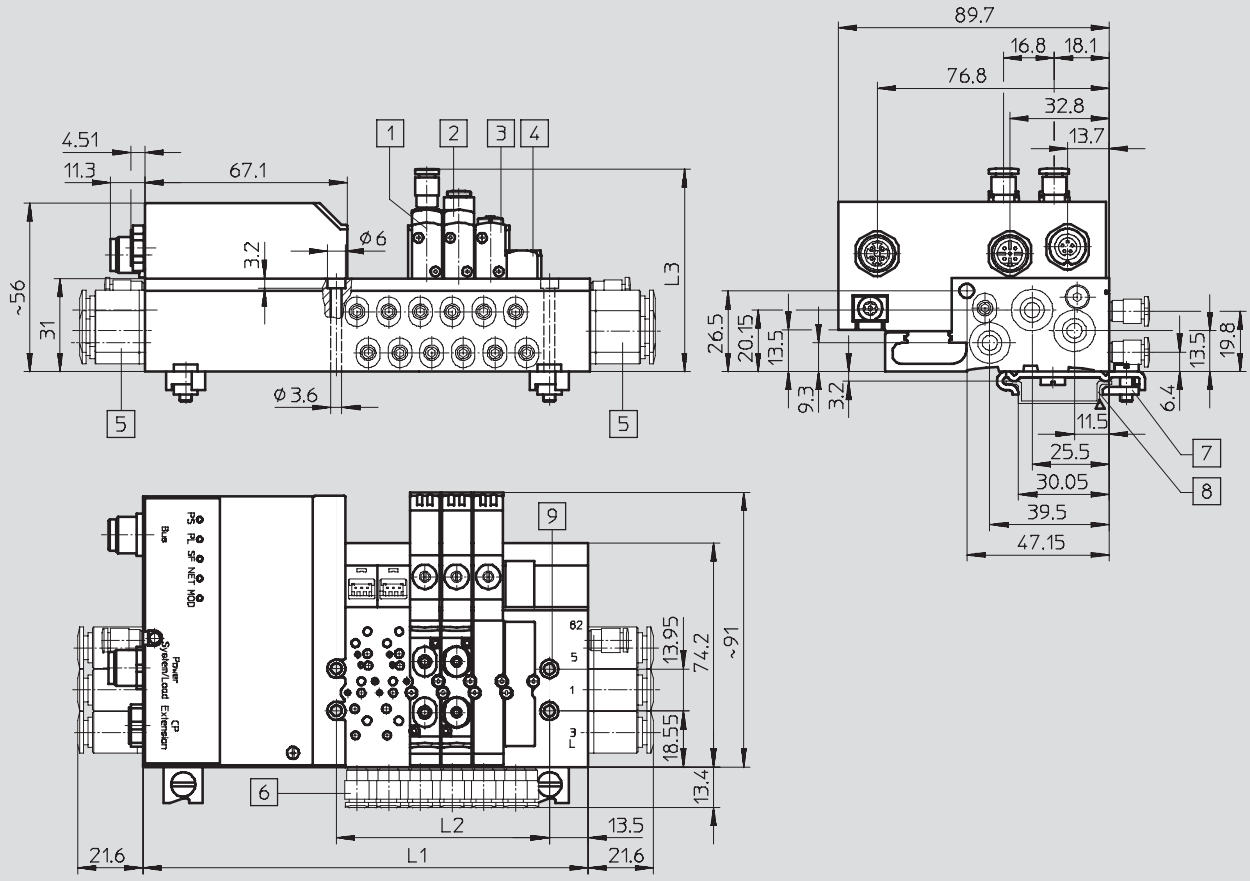
With multi-pin connector for flat cable



1 Semi in-line valve with M5 threaded connection
2 Semi in-line valve with integrated push-in fitting
3 Sub-base valve
4 Blanking plate for vacant position
5 Push-in fitting
6 Working lines for sub-base valves (not required with semi in-line valves)
7 Mounting for H-rail TH 35-7.5 EN60 715
8 H-rail
9 4x mounting holes
12 Connector for flat cable, 26-pin, 90° rotatable

Dimensions – Valve terminal Download CAD data ➔ **www.festo.com/en/engineering**

With fieldbus connection



1 Semi in-line valve with M5 threaded connection
2 Semi in-line valve with integrated push-in fitting
3 Sub-base valve
4 Blanking plate for vacant position
5 Push-in fitting
6 Working lines for sub-base valves (not required with semi in-line valves)
7 Mounting for H-rail TH 35-7.5 EN60715
8 H-rail
9 4x mounting holes

Valve positions	L1	L2
4	127.2	49.5
6	148.2	70.5
8	169.2	91.5
10	190.2	112.5
12	211.2	133.5
16	253.2	175.5
20	295.2	217.5
24	337.2	259.5

Valve type		L3
Semi in-line valve	with working port M5	53.9
	with working port QS-3	60.3
	with working port QS-4	67.3
Sub-base valve		51.4
Blanking plate		40.2

Valve terminals type 82 CPA-SC, with individual plug-in connection

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Valve terminal	Size		Solenoid voltage selection	Electrical connection		Position of the working ports	Type of working ports		Manual over-ride		Pneumatic supply	Pneumatic supply connection	Type of connections
529 045	82P	10		1	IP IQ		P A	B E F I J		N V		S T V X	L R B	H G D
Order example														
529 045	**82P**	**10**	–	**1**	**IP**	–	**P**	**E**	–	**N**	–	**S**	**R**	**D**
1	**2**	**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Ordering table

Size			10	Condi-tions	Code		Enter code
M	**1**	Module No.	**529 045**				
	2	Valve terminal	Valve terminal type 82, Smart Cubic, CPA-SC		**82P**		82P
	3	Size [mm]	10		**-10**		-10
	4	Solenoid voltage selection [V]	Power supply for valves 24 DC		**-1**		-1
	5	Electrical connection	Individual plug-in connection, cable, PI socket, 0.5 m, 2 coils		**IP**		
			Individual plug-in connection, cable, PI socket, 1 m, 2 coils		**IQ**		
	6	Position of the working ports	Working ports on the valve		**-P**		
			Working ports on the sub-base		**-A**		
	7	Type of working ports	Threaded connection M5		**B**		
			Push-in connector QS-3		**E**		
			Push-in connector QS-4		**F**		
			Push-in connector QS-⅛"		**I**		
			Push-in connector QS-5/32"		**J**		
	8	Manual override	Pushing/detenting		**-N**		
			Blocked		**-V**		
	9	Pneumatic supply	Internal pilot air, exhausting via silencer		**-S**		
			External pilot air, exhausting via silencer		**-T**		
			Internal pilot air, ducted exhaust air		**-V**		
			External pilot air, ducted exhaust air		**-X**		
	10	Pneumatic supply connection	Supply air at left		**L**		
			Supply air at right		**R**		
			Pneumatic supply at both ends		**B**		
	11	Type of connections	Push-in connector QS-8		**H**		
			Push-in connector QS-5/16"		**G**		
↓			Threaded connection G⅛		**D**		

Transfer order code

529 045	82P	–	10	–	1		–			–		–			
1	**2**		**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Valve terminals type 82 CPA-SC, with individual plug-in connection

Ordering data – Modular products

FESTO

M Mandatory data																O Options		
Equipment at valve position 0 ... 15																User documentation		Accessories
12 Valve functions: M, J, N, K, B, G, E, X, I, L, V, W, R 13 Duct separation, duct 1, valve position 0 ... 14: T																D, E, F, I, S, V		H
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
–	M	M	M	J	J	K	G	L	L	M	M	J				–	D	+ H
12 + 13																14		15

Ordering table

Size			10	Conditions	Code		Enter code
↓	12	Equipment at valve position 0 ... 15			-		-
M		Valve functions	5/2-way valve, single solenoid		M		Enter equipment selection for valve positions in order code
			5/2-way valve, double solenoid		J		
			2x 3/2-way valve, normally open		N		
			2x 3/2-way valve, normally closed		K		
			5/3-way valve, mid-position pressurised		B		
			5/3-way valve, mid-position closed		G		
			5/3-way valve, mid-position exhausted		E		
			3/2-way valve, normally closed, external supply air	1	X		
			2x 2/2-way valve, 1x normally closed and 1x normally closed, reversible		I		
			Blanking plate for vacant valve position		L		
			Duct separation, duct 3 separated	2	V		
			Duct separation, duct 5 separated	2	W		
			Duct separation, duct 3/5 separated	2	R		
	13	Duct separation, duct 1, valve position 0 ... 14	Duct 1 separated	2	T		
	14	User documentation	German		-D		
			English		-E		
			French		-F		
			Italian		-I		
			Spanish		-S		
			Swedish		-V		
O	15	Accessories			+		+
		H-rail mounting	1		H		

1 **X** Not together with duct separation T at one valve position.

2 **V, W, R, T** Only with pneumatic supply connection B (pneumatic supply at both ends).
Only one duct separation per valve terminal can be selected for the supply and for the exhaust.
Only duct separation T is permissible at the first valve position.
Duct separation is not permissible at the last valve position.

Transfer order code

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
–																–		+
12 + 13																14		15

Valve terminals type 82 CPA-SC, with horizontal individual connection

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Valve terminal	Size		Solenoid voltage selection	Electrical connection		Position of the working ports	Type of working ports		Manual over-ride		Pneumatic supply	Pneumatic supply connection	Type of connections
529 045	82P	10		1	IH		P A	B E F I J		N V		S T V X	L R B	H G D
Order example														
529 045	**82P**	**10**	–	**1**	**IH**	–	**P**	**E**	–	**N**	–	**S**	**R**	**D**
1	**2**	**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Ordering table

Size			10	Condi-tions	Code	Enter code
M	**1**	Module No.	**529 045**			
	2	Valve terminal	Valve terminal type 82, Smart Cubic, CPA-SC		**82P**	82P
	3	Size [mm]	10		**-10**	-10
	4	Solenoid voltage selection [V]	Power supply for valves 24 DC		**-1**	-1
	5	Electrical connection	Individual horizontal electrical connection		**IH**	IH
	6	Position of the working ports	Working ports on the valve		**-P**	
			Working ports on the sub-base		**-A**	
	7	Type of working ports	Threaded connection M5		**B**	
			Push-in connector QS-3		**E**	
			Push-in connector QS-4		**F**	
			Push-in connector QS-⅛"		**I**	
			Push-in connector QS-5/32"		**J**	
	8	Manual override	Pushing/detenting		**-N**	
			Blocked		**-V**	
	9	Pneumatic supply	Internal pilot air, exhausting via silencer		**-S**	
			External pilot air, exhausting via silencer		**-T**	
			Internal pilot air, ducted exhaust air		**-V**	
			External pilot air, ducted exhaust air		**-X**	
	10	Pneumatic supply connection	Supply air at left		**L**	
			Supply air at right		**R**	
			Pneumatic supply at both ends		**B**	
	11	Type of connections for pneumatic supply	Push-in connector QS-8		**H**	
			Push-in connector QS-5/16		**G**	
↓			Threaded connection G1/8		**D**	

Transfer order code

529 045	**82P**	–	**10**	–	**1**	**IH**	–			–		–			
1	**2**		**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Valve terminals type 82 CPA-SC, with horizontal individual connection

Ordering data – Modular products

FESTO

M Mandatory data																	O Options		
Equipment at valve position 0 ... 15																	User documentation		Accessories
12 Valve functions: M, J, N, K, B, G, E, X, I, L																	D, E, F, I, S, V		H, ...CD, ...CE, ...CF, ...CG, ...CH, ...CI, ...CJ, ...CK
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
–	M	M	M	J	J	K	G	L	L	M	M	M					– D	+	H
	12																13		14

Ordering table

Size				10	Conditions	Code		Enter code
↓	12	Equipment at valve position 0 ... 15				-		-
M		Valve functions		5/2-way valve, single solenoid		M		Enter equipment selection for valve positions in order code
				5/2-way valve, double solenoid		J		
				2x 3/2-way valve, normally open		N		
				2x 3/2-way valve, normally closed		K		
				5/3-way valve, mid-position pressurised		B		
				5/3-way valve, mid-position closed		G		
				5/3-way valve, mid-position exhausted		E		
				3/2-way valve, normally closed, external supply air		X		
				2x 2/2-way valve, 1x normally closed and 1x normally closed, reversible		I		
				Blanking plate for vacant valve position		L		
	13	User documentation		German		-D		
				English		-E		
				French		-F		
				Italian		-I		
				Spanish		-S		
				Swedish		-V		
O	14	Accessories				+		+
		H-rail mounting		1		H		
		HC connecting cable, 2 coils	0.5 m	1 ... 99		...CD		
			1 m	1 ... 99		...CE		
			2.5 m	1 ... 99		...CF		
			5 m	1 ... 99		...CG		
		HC connecting cable, 1 coil	0.5 m	1 ... 99		...CH		
			1 m	1 ... 99		...CI		
			2.5 m	1 ... 99		...CJ		
			5 m	1 ... 99		...CK		

Transfer order code

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
–																	–	+	
	12																13		14

Valve terminals type 82 CPA-SC, with individual sub-base

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Valve terminal	Size		Solenoid voltage selection	Electrical connection		Position of the working ports	Type of working ports		Manual over-ride		Pneumatic supply	Pneumatic supply connection	Type of connections
529 045	82P	10	–	1	SP SQ SH		P A	B E F I J		N V		S T V X	L	B F J
Order example														
529 045	**82P**	**10**	**–**	**1**	**SQ**	**–**	**A**	**F**	**–**	**V**	**–**	**V**	**L**	**F**
1	**2**	**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Ordering table

Size			10	Condi-tions	Code	Enter code
M	**1**	Module No.	**529 045**			
	2	Valve terminal	Valve terminal type 82, Smart Cubic, CPA-SC		**82P**	82P
	3	Size [mm]	10		**-10**	-10
	4	Solenoid voltage selection [V]	Power supply for valves 24 DC		**-1**	-1
	5	Electrical connection	Individual plug-in sub-base, connecting cable 0.5 m	1	**SP**	
			Individual plug-in sub-base, connecting cable 1 m	1	**SQ**	
			Individual sub-base, horizontal connection	1	**SH**	
	6	Position of the working ports	Working ports on the valve		**-P**	
			Working ports on the sub-base		**-A**	
	7	Type of working ports	Threaded connection M5		**B**	
			Push-in connector QS-3		**E**	
			Push-in connector QS-4		**F**	
			Push-in connector QS-1/8"		**I**	
			Push-in connector QS-5/32"		**J**	
	8	Manual override	Pushing/detenting		**-N**	
			Blocked		**-V**	
	9	Pneumatic supply	Internal pilot air, exhausting via silencer		**-S**	
			External pilot air, exhausting via silencer		**-T**	
			Internal pilot air, ducted exhaust air		**-V**	
			External pilot air, ducted exhaust air		**-X**	
	10	Pneumatic supply connection	Supply air at left		**L**	L
	11	Type of connections for pneumatic supply	Threaded connection M5		**B**	
			Push-in connector QS-4		**F**	
↓			Push-in connector QS-5/32"		**J**	

1 **SP, SQ, SH** No user documentation selectable

Transfer order code

529 045	82P	–	10	–	1		–			–		–		L	
1	**2**		**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Valve terminals type 82 CPA-SC, with individual sub-base

Ordering data – Modular products

FESTO

M Mandatory data	O Options
Equipment for valve positions	**Accessories**
12 Valve functions: M, J, N, K, B, G, E, I	...CD, ...CE, ...CF, ...CG, ...CH, ...CI, ...CJ, ...CK
– **E** (12)	+ (13)

Ordering table

Size			10	Condi-tions	Code		Enter code
↓	12	Equipment for valve positions			-		-
M		Valve functions	5/2-way valve, single solenoid		M		Enter equipment selection for valve positions in order code
			5/2-way valve, double solenoid		J		
			2x 3/2-way valve, normally open		N		
			2x 3/2-way valve, normally closed		K		
			5/3-way valve, mid-position pressurised		B		
			5/3-way valve, mid-position closed		G		
			5/3-way valve, mid-position exhausted		E		
			2x 2/2-way valve, 1x normally closed and 1x normally closed, reversible		I		
O	13	Accessories			+		+
		HC connecting cable, 2 coils, 0.5 m	1 ... 99	2	...CD		
		HC connecting cable, 2 coils, 1 m	1 ... 99	2	...CE		
		HC connecting cable, 2 coils, 2.5 m	1 ... 99	2	...CF		
		HC connecting cable, 2 coils, 5 m	1 ... 99	2	...CG		
		HC connecting cable, 1 coil, 0.5 m	1 ... 99	2	...CH		
		HC connecting cable, 1 coil, 1 m	1 ... 99	2	...CI		
		HC connecting cable, 1 coil, 2.5 m	1 ... 99	2	...CJ		
		HC connecting cable, 1 coil, 5 m	1 ... 99	2	...CK		

2 **CD, CE, CF, CG, CH, CI, CJ, CK**
Only in combination with electrical connection SH

Transfer order code

– (12) + (13)

Valve terminals type 82 CPA-SC, Smart Cubic – Multi-pin plug connection

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Valve terminal		Size		Solenoid voltage selection	Electrical connection		Position of the working ports	Type of working ports		Manual over-ride		Pneumatic supply	Pneumatic supply connection	Type of connec-tions
529 045	82P		10		1	MS MF		P A	B E F I J		N V		S T V X	L R B	H G D
Order example															
529 045	**82P**	–	**10**	–	**1**	**MF**	–	**P**	**E**	–	**V**	–	**S**	**B**	**D**
1	**2**		**3**		**4**	**5**		**6**	**7**		**8**		**9**	**10**	**11**

Ordering table

Size			10	Condi-tions	Code		Enter code
M	**1**	Module No.	**529 045**				
	2	Valve terminal	Valve terminal type 82, Smart Cubic, CPA-SC		**82P**		82P
	3	Size [mm]	10		**-10**		-10
	4	Solenoid voltage selection [V]	Power supply for valves 24 DC		**-1**		-1
	5	Electrical connection	Multi-pin plug connection for Sub-D, 25-pin	1	**MS**		
			Multi-pin plug connection for flat cable, 25-pin	2	**MF**		
	6	Position of the working ports	Working ports on the valve		**-P**		
			Working ports on the sub-base		**-A**		
	7	Type of working ports	Threaded connection M5		**B**		
			Push-in connector QS-3		**E**		
			Push-in connector QS-4		**F**		
			Push-in connectors QS-1/8"		**I**		
			Push-in connectors QS-5/32"		**J**		
	8	Manual override	Pushing/detenting		**-N**		
			Blocked		**-V**		
	9	Pneumatic supply	Internal pilot air, exhausting via silencer		**-S**		
			External pilot air, exhausting via silencer		**-T**		
			Internal pilot air, ducted exhaust air		**-V**		
			External pilot air, ducted exhaust air		**-X**		
	10	Pneumatic supply connection	Supply air at left		**L**		
			Supply air at right		**R**		
			Pneumatic supply at both ends		**B**		
	11	Type of connections for pneumatic supply	Push-in connector QS-8		**H**		
			Push-in connector QS-5/16"		**G**		
↓			Threaded connection G1/8		**D**		

1 **MS** At least 2 valve positions must be equipped

2 **MF** At least 4 valve positions must be equipped

Valve terminals type 82 CPA-SC, Smart Cubic – Multi-pin plug connection

Ordering data – Modular products

FESTO

M Mandatory data																					O Options		
Equipment at valve position 0 ... 19																					User documentation	+	Accessories
12 Valve functions: M, J, N, K, B, G, E, X, I, L, V, W, R 13 Duct separation, duct 1, valve position 0 ... 18: T																					D, E, F, I, S, V		H, CP, CQ, CR, CV, CW, CX
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
– M	J	M	J	J	K	G	L	L	M	T M	M										– D	+	H
12 + 13																					14		15

Ordering table

Size			10	Conditions	Code		Enter code
↓	12	Equipment at valve position 0 ... 19			-		-
M		Valve functions	5/2-way valve, single solenoid		M		Enter equipment selection for valve positions in order code
			5/2-way valve, double solenoid		J		
			2x 3/2-way valve, normally open		N		
			2x 3/2-way valve, normally closed		K		
			5/3-way valve, mid-position pressurised		B		
			5/3-way valve, mid-position closed		G		
			5/3-way valve, mid-position exhausted		E		
			3/2-way valve, normally closed, external supply air	3	X		
			2x 2/2-way valve, 1x normally closed and 1x normally closed, reversible		I		
			Blanking plate for vacant valve position		L		
			Duct separation, duct 3 separated	4	V		
			Duct separation, duct 5 separated	4	W		
			Duct separation, duct 3/5 separated	4	R		
	13	Duct separation, duct 1, valve position 0 ... 18	Duct 1 separated	4	T		
	14	User documentation	German		-D		
			English		-E		
			French		-F		
			Italian		-I		
			Spanish		-S		
			Swedish		-V		
O	15	Accessories			+		+
		H-rail mounting	1		H		
		Connecting cables	Sub-D 25-pin, 20 coils, 2.5 m	5	CP		
			Sub-D 25-pin, 20 coils, 5 m	5	CQ		
			Sub-D 25-pin, 20 coils, 10 m	5	CR		
			Sub-D 25-pin, 12 coils, 2.5 m	5	CV		
			Sub-D 25-pin, 12 coils, 5 m	5	CW		
			Sub-D 25-pin, 12 coils, 10 m	5	CX		

3 **X** Not together with duct separation T at one valve position.

4 **V, W, R, T** Only with pneumatic supply connection B (pneumatic supply connection at both ends).
Only one duct separation per valve terminal can be selected for the supply and for the exhaust.
Only duct separation T is permissible at the first valve position.
Duct separation is not permissible at the last valve position.

5 **CP, CQ, CR, CV, CW, CX**
Only in combination with electrical connection MS, whereby CV, CW and CX are only permissible with 2, 4 or 6 valve positions.

Valve terminals type 82 CPA-SC, Smart Cubic – Fieldbus

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Valve terminal	Size		Electrical connection		Position of the working ports	Type of working ports		Manual over-ride		Compressed air supply	Pneumatic connection	Type of connections
538 509	82P	10	–	DN DP	–	P A	B E F I J	–	N V	–	S T V X	L R B	H G D
Order example													
538 509	**82P**	**10**	–	**DN**	–	**P**	**E**	–	**N**	–	**S**	**B**	**D**
1	**2**	**3**		**4**		**5**	**6**		**7**		**8**	**9**	**10**

Ordering table

Size			10	Condi-tions	Code		Enter code
M	1	Module No.	**538 509**				
	2	Valve terminal	Valve terminal type 82, Smart Cubic, CPA-SC		**82P**		82P
	3	Size [mm]	10		**-10**		-10
	4	Electrical connection	DeviceNet		**-DN**		
			Profibus		**-DP**		
	5	Position of the working ports	Working ports on the valve		**-P**		
			Working ports on the sub-base		**-A**		
	6	Type of working ports	Thread M5		**B**		
			Push-in connector QS-3		**E**		
			Push-in connector QS-4		**F**		
			Push-in connector QS-⅛"		**I**		
			Push-in connector QS-5/32"		**J**		
	7	Manual override	Pushing/detenting		**-N**		
			Blocked		**-V**		
	8	Compressed air supply	Internal pilot air, silencer		**-S**		
			External pilot air, silencer		**-T**		
			Internal pilot air, ducted exhaust air		**-V**		
			External pilot air, ducted exhaust air		**-X**		
	9	Pneumatic connection for supply and exhaust	Supply air at left		**L**		
			Supply air at right		**R**		
			Supply at both ends		**B**		
	10	Type of connections for supply and exhaust	Push-in connector QS-8		**H**		
			Push-in connector QS-5/16"		**G**		
↓			Threaded connection G⅛		**D**		

Transfer order code

538 509	82P	10	–		–			–		–			
1	**2**	**3**		**4**		**5**	**6**		**7**		**8**	**9**	**10**

Valve terminals type 82 CPA-SC, Smart Cubic – Fieldbus

Ordering data – Modular products

FESTO

M Mandatory data			O Options
Equipment at valve position 0 … 23		User documentation	Accessories
11 Valve functions: M, J, N, K, B, G, E, X, I, L, V, W, R **12 Duct separation, duct 1, valve position 0 … 22:** T		D, E, F, I, S, V	H, …D, …M, …N
Valve position 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23			
– **M J M J J K G L L MT M E**	–	**E**	+ **H4D**
11 + 12		**13**	**14**

Ordering table

Size			10	Conditions	Code		Enter code
↓	**11**	Equipment at valve position 0 … 23			**-**		-
M		Valve functions	5/2-way valve, single solenoid		**M**		Enter equipment selection for valve positions in order code
			5/2-way valve, double solenoid		**J**		
			2x 3/2-way valve, normally open		**N**		
			2x 3/2-way valve, normally closed		**K**		
			5/3-way valve, mid-position pressurised		**B**		
			5/3-way valve, mid-position closed		**G**		
			5/3-way valve, mid-position exhausted		**E**		
			3/2-way valve, normally closed, external supply air		**X**		
			2x 2/2-way valve, 1x normally closed and 1x normally closed, reversible		**I**		
			Blanking plate for vacant valve position		**L**		
			Duct separation, duct 3 separated	1	**V**		
			Duct separation, duct 5 separated	1	**W**		
			Duct separation, duct 3/5 separated	1	**R**		
	12	Duct separation, duct 1, valve position 0 … 22	Duct 1 separated	1	**T**		
	13	User documentation	German		**-D**		
			English		**-E**		
			French		**-F**		
			Italian		**-I**		
			Spanish		**-S**		
			Swedish		**-V**		
O	**14**	Accessories			**+**		+
		H-rail mounting	1		**H**		
		Straight connection socket for DeviceNet	1 … 99	2	**…D**		
		B-coded	1 … 99	2	**…M**		
		Straight connection socket for Profibus DP A-coded	1 … 99	3	**…N**		

1 **V, W, R, T** Only with pneumatic supply connection B (pneumatic supply connection at both ends).
Only one duct separation per valve terminal can be selected for the supply and for the exhaust.
Only duct separation T is permissible at the first valve position.
Duct separation is not permissible at the last valve position.

2 **D, M** Only with electrical connection DN.

3 **N** Only with electrical connection DP.

Transfer order code

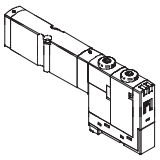
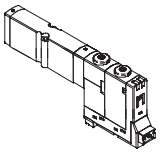
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23			
–		–	+
11 + 12		**13**	**14**

Valve terminals type 82 CPA-SC, Smart Cubic

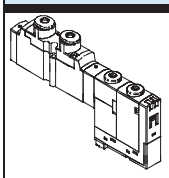
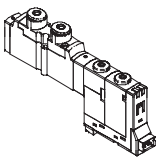
Ordering data – Individual valve

FESTO

Ordering data – Sub-base valves

	Code	Valve function	Electrical plug-in connection			Electrical horizontal connection	
			Type	Part No.		Type	Part No.
	M	5/2-way valve, single solenoid	**CPASC1-M1H-M-P-2,5**	**526 990**		**CPASC1-M1H-M-H-2,5**	**527 008**
	J	5/2-way valve, double solenoid	**CPASC1-M1H-J-P-2,5**	**526 992**		**CPASC1-M1H-J-H-2,5**	**527 010**
	N	2x 3/2-way valve, normally open	**CPASC1-M1H-N-P-2,5**	**526 994**		**CPASC1-M1H-N-H-2,5**	**527 012**
	K	2x 3/2-way valve, normally closed	**CPASC1-M1H-K-P-2,5**	**526 996**		**CPASC1-M1H-K-H-2,5**	**527 014**
	B	5/3-way valve, mid-position pressurised	**CPASC1-M1H-B-P-2,5**	**526 998**		**CPASC1-M1H-B-H-2,5**	**527 016**
	G	5/3-way valve, mid-position closed	**CPASC1-M1H-G-P-2,5**	**527 000**		**CPASC1-M1H-G-H-2,5**	**527 018**
	E	5/3-way valve, mid-position exhausted	**CPASC1-M1H-E-P-2,5**	**527 002**		**CPASC1-M1H-E-H-2,5**	**527 020**
	X	1x 3/2-way valve	**CPASC1-M1H-X-P-2,5**	**527 004**		**CPASC1-M1H-X-H-2,5**	**527 022**
	I	2x 2/2-way valve	**CPASC1-M1H-I-P-2,5**	**527 006**		**CPASC1-M1H-I-H-2,5**	**527 024**

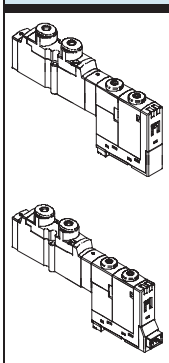
Ordering data – Semi in-line valves

	Code	Valve function	Electrical plug-in connection			Electrical horizontal connection	
			Type	Part No.		Type	Part No.
	Semi in-line valve with M5 working ports						
	M	5/2-way valve, single solenoid	**CPPSC1-M1H-M-P-M5**	**527 294**		**CPPSC1-M1H-M-H-M5**	**527 303**
	J	5/2-way valve, double solenoid	**CPPSC1-M1H-J-P-M5**	**527 295**		**CPPSC1-M1H-J-H-M5**	**527 304**
	N	2x 3/2-way valve, normally open	**CPPSC1-M1H-N-P-M5**	**527 296**		**CPPSC1-M1H-N-H-M5**	**527 305**
	K	2x 3/2-way valve, normally closed	**CPPSC1-M1H-K-P-M5**	**527 297**		**CPPSC1-M1H-K-H-M5**	**527 306**
	B	5/3-way valve, mid-position pressurised	**CPPSC1-M1H-B-P-M5**	**527 298**		**CPPSC1-M1H-B-H-M5**	**527 307**
	G	5/3-way valve, mid-position closed	**CPPSC1-M1H-G-P-M5**	**527 299**		**CPPSC1-M1H-G-H-M5**	**527 308**
	E	5/3-way valve, mid-position exhausted	**CPPSC1-M1H-E-P-M5**	**527 300**		**CPPSC1-M1H-E-H-M5**	**527 309**
	X	1x 3/2-way valve	**CPPSC1-M1H-X-P-M5**	**527 301**		**CPPSC1-M1H-X-H-M5**	**527 310**
	I	2x 2/2-way valve	**CPPSC1-M1H-I-P-M5**	**527 302**		**CPPSC1-M1H-I-H-M5**	**527 311**
	Semi in-line valve with QS-3 working ports						
	M	5/2-way valve, single solenoid	**CPPSC1-M1H-M-P-Q3**	**527 330**		**CPPSC1-M1H-M-H-Q3**	**527 339**
	J	5/2-way valve, double solenoid	**CPPSC1-M1H-J-P-Q3**	**527 331**		**CPPSC1-M1H-J-H-Q3**	**527 340**
	N	2x 3/2-way valve, normally open	**CPPSC1-M1H-N-P-Q3**	**527 332**		**CPPSC1-M1H-N-H-Q3**	**527 341**
	K	2x 3/2-way valve, normally closed	**CPPSC1-M1H-K-P-Q3**	**527 333**		**CPPSC1-M1H-K-H-Q3**	**527 342**
	B	5/3-way valve, mid-position pressurised	**CPPSC1-M1H-B-P-Q3**	**527 334**		**CPPSC1-M1H-B-H-Q3**	**527 343**
	G	5/3-way valve, mid-position closed	**CPPSC1-M1H-G-P-Q3**	**527 335**		**CPPSC1-M1H-G-H-Q3**	**527 344**
	E	5/3-way valve, mid-position exhausted	**CPPSC1-M1H-E-P-Q3**	**527 336**		**CPPSC1-M1H-E-H-Q3**	**527 345**
	X	1x 3/2-way valve	**CPPSC1-M1H-X-P-Q3**	**527 337**		**CPPSC1-M1H-X-H-Q3**	**527 346**
	I	2x 2/2-way valve	**CPPSC1-M1H-I-P-Q3**	**527 338**		**CPPSC1-M1H-I-H-Q3**	**527 347**

Valve terminals type 82 CPA-SC, Smart Cubic

Ordering data – Individual valve, manifold block

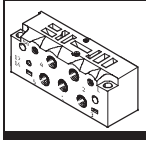
Ordering data – Semi in-line valves

	Code	Valve function	Electrical plug-in connection		Electrical horizontal connection	
			Type	Part No.	Type	Part No.
	Semi in-line valve with QS-4 working ports					
	M	5/2-way valve, single solenoid	**CPPSC1-M1H-M-P-Q4**	**527 312**	**CPPSC1-M1H-M-H-Q4**	**527 321**
	J	5/2-way valve, double solenoid	**CPPSC1-M1H-J-P-Q4**	**527 313**	**CPPSC1-M1H-J-H-Q4**	**527 322**
	N	2x 3/2-way valve, normally open	**CPPSC1-M1H-N-P-Q4**	**527 314**	**CPPSC1-M1H-N-H-Q4**	**527 323**
	K	2x 3/2-way valve, normally closed	**CPPSC1-M1H-K-P-Q4**	**527 315**	**CPPSC1-M1H-K-H-Q4**	**527 324**
	B	5/3-way valve, mid-position pressurised	**CPPSC1-M1H-B-P-Q4**	**527 316**	**CPPSC1-M1H-B-H-Q4**	**527 325**
	G	5/3-way valve, mid-position closed	**CPPSC1-M1H-G-P-Q4**	**527 317**	**CPPSC1-M1H-G-H-Q4**	**527 326**
	E	5/3-way valve, mid-position exhausted	**CPPSC1-M1H-E-P-Q4**	**527 318**	**CPPSC1-M1H-E-H-Q4**	**527 327**
	X	1x 3/2-way valve	**CPPSC1-M1H-X-P-Q4**	**527 319**	**CPPSC1-M1H-X-H-Q4**	**527 328**
	I	2x 2/2-way valve	**CPPSC1-M1H-I-P-Q4**	**527 320**	**CPPSC1-M1H-I-H-Q4**	**527 329**

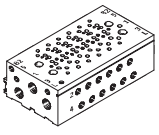
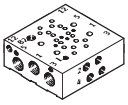
Note

Manifold blocks with multi-pin plug or fieldbus connection can only be equipped with valves with electrical plug-in connection.

Ordering data – Individual sub-base

	With internal pilot air	**CPPSC1-PRS-1-5-HC**	**527 384**
	With external pilot air	**CPPSC1-PRS-1-5S-HC**	**527 388**

Ordering data – Manifold block for sub-base valves

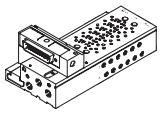
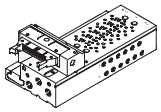
	Valve positions	Internal pilot air		External pilot air	
		Type	Part No.	Type	Part No.
Individual plug-in connection					
	2	**CPASC1-PRS-2-5-M5-PI**	**527 106**	**CPASC1-PRS-2-5S-M5-PI**	**527 218**
	4	**CPASC1-PRS-4-5-M5-PI**	**527 108**	**CPASC1-PRS-4-5S-M5-PI**	**527 220**
	6	**CPASC1-PRS-6-5-M5-PI**	**527 110**	**CPASC1-PRS-6-5S-M5-PI**	**527 222**
	8	**CPASC1-PRS-8-5-M5-PI**	**527 112**	**CPASC1-PRS-8-5S-M5-PI**	**527 224**
	10	**CPASC1-PRS-10-5-M5-PI**	**527 114**	**CPASC1-PRS-10-5S-M5-PI**	**527 226**
	12	**CPASC1-PRS-12-5-M5-PI**	**527 116**	**CPASC1-PRS-12-5S-M5-PI**	**527 228**
	16	**CPASC1-PRS-16-5-M5-PI**	**527 118**	**CPASC1-PRS-16-5S-M5-PI**	**527 230**
Individual horizontal connection					
	2	**CPASC1PRS-2-5-M5-HC**	**527 078**	**CPASC1PRS-2-5S-M5-HC**	**527 190**
	4	**CPASC1PRS-4-5-M5-HC**	**527 080**	**CPASC1PRS-4-5S-M5-HC**	**527 192**
	6	**CPASC1PRS-6-5-M5-HC**	**527 082**	**CPASC1PRS-6-5S-M5-HC**	**527 194**
	8	**CPASC1PRS-8-5-M5-HC**	**527 084**	**CPASC1PRS-8-5S-M5-HC**	**527 196**
	10	**CPASC1PRS-10-5-M5-HC**	**527 086**	**CPASC1PRS-10-5S-M5-HC**	**527 198**
	12	**CPASC1PRS-12-5-M5-HC**	**527 088**	**CPASC1PRS-12-5S-M5-HC**	**527 200**
	16	**CPASC1PRS-16-5-M5-HC**	**527 090**	**CPASC1PRS-16-5S-M5-HC**	**527 202**

Valve terminals type 82 CPA-SC, Smart Cubic

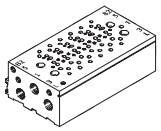
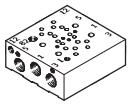
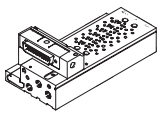
FESTO

Ordering data – Individual valve, manifold block

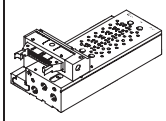
Ordering data – Manifold block for sub-base valves

	Valve positions	Internal pilot air			External pilot air	
		Type	Part No.		Type	Part No.
Multi-pin plug connection, Sub-D						
	2	**CPASC1-PRS-2-5-M5-MP**	**539 898**		**CPASC1-PRS-2-5S-M5-MP**	**539 896**
	4	**CPASC1-PRS-4-5-M5-MP**	**527 134**		**CPASC1-PRS-4-5S-M5-MP**	**527 246**
	6	**CPASC1-PRS-6-5-M5-MP**	**527 136**		**CPASC1-PRS-6-5S-M5-MP**	**527 248**
	8	**CPASC1-PRS-8-5-M5-MP**	**527 138**		**CPASC1-PRS-8-5S-M5-MP**	**527 250**
	10	**CPASC1-PRS-10-5-M5-MP**	**527 140**		**CPASC1-PRS-10-5S-M5-MP**	**527 252**
	12	**CPASC1-PRS-12-5-M5-MP**	**527 142**		**CPASC1-PRS-12-5S-M5-MP**	**527 254**
	16	**CPASC1-PRS-16-5-M5-MP**	**527 144**		**CPASC1-PRS-16-5S-M5-MP**	**527 256**
	20	**CPASC1-PRS-20-5-M5-MP**	**527 146**		**CPASC1-PRS-20-5S-M5-MP**	**527 258**
Multi-pin plug connection, flat cable						
	4	**CPASC1-PRS-4-5-M5-FL**	**527 162**		**CPASC1-PRS-4-5S-M5-FL**	**527 274**
	6	**CPASC1-PRS-6-5-M5-FL**	**527 164**		**CPASC1-PRS-6-5S-M5-FL**	**527 276**
	8	**CPASC1-PRS-8-5-M5-FL**	**527 166**		**CPASC1-PRS-8-5S-M5-FL**	**527 278**
	10	**CPASC1-PRS-10-5-M5-FL**	**527 168**		**CPASC1-PRS-10-5S-M5-FL**	**527 280**
	12	**CPASC1-PRS-12-5-M5-FL**	**527 170**		**CPASC1-PRS-12-5S-M5-FL**	**527 282**
	16	**CPASC1-PRS-16-5-M5-FL**	**527 172**		**CPASC1-PRS-16-5S-M5-FL**	**527 284**
	20	**CPASC1-PRS-20-5-M5-FL**	**527 174**		**CPASC1-PRS-20-5S-M5-FL**	**527 286**

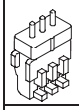
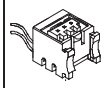
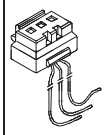
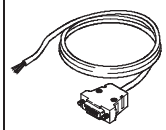
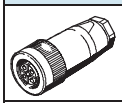
Ordering data – Manifold block for semi in-line valves

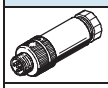
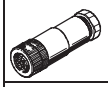
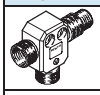
	Valve positions	Internal pilot air			External pilot air	
		Type	Part No.		Type	Part No.
Individual plug-in connection						
	2	**CPPSC1-PRS-2-5-PI**	**527 092**		**CPPSC1-PRS-2-5S-PI**	**527 204**
	4	**CPPSC1-PRS-4-5-PI**	**527 094**		**CPPSC1-PRS-4-5S-PI**	**527 206**
	6	**CPPSC1-PRS-6-5-PI**	**527 096**		**CPPSC1-PRS-6-5S-PI**	**527 208**
	8	**CPPSC1-PRS-8-5-PI**	**527 098**		**CPPSC1-PRS-8-5S-PI**	**527 210**
	10	**CPPSC1-PRS-10-5-PI**	**527 100**		**CPPSC1-PRS-10-5S-PI**	**527 212**
	12	**CPPSC1-PRS-12-5-PI**	**527 102**		**CPPSC1-PRS-12-5S-PI**	**527 214**
	16	**CPPSC1-PRS-16-5-PI**	**527 104**		**CPPSC1-PRS-16-5S-PI**	**527 216**
Individual horizontal connection						
	2	**CPPSC1PRS-2-5-HC**	**527 064**		**CPPSC1PRS-2-5S-HC**	**527 176**
	4	**CPPSC1PRS-4-5-HC**	**527 066**		**CPPSC1PRS-4-5S-HC**	**527 178**
	6	**CPPSC1PRS-6-5-HC**	**527 068**		**CPPSC1PRS-6-5S-HC**	**527 180**
	8	**CPPSC1PRS-8-5-HC**	**527 070**		**CPPSC1PRS-8-5S-HC**	**527 182**
	10	**CPPSC1PRS-10-5-HC**	**527 072**		**CPPSC1PRS-10-5S-HC**	**527 184**
	12	**CPPSC1PRS-12-5-HC**	**527 074**		**CPPSC1PRS-12-5S-HC**	**527 186**
	16	**CPPSC1PRS-16-5-HC**	**527 076**		**CPPSC1PRS-16-5S-HC**	**527 188**
Multi-pin plug connection, Sub-D						
	2	**CPPSC1-PRS-2-5-MP**	**539 902**		**CPPSC1-PRS-2-5S-MP**	**539 900**
	4	**CPPSC1-PRS-4-5-MP**	**527 120**		**CPPSC1-PRS-4-5S-MP**	**527 232**
	6	**CPPSC1-PRS-6-5-MP**	**527 122**		**CPPSC1-PRS-6-5S-MP**	**527 234**
	8	**CPPSC1-PRS-8-5-MP**	**527 124**		**CPPSC1-PRS-8-5S-MP**	**527 236**
	10	**CPPSC1-PRS-10-5-MP**	**527 126**		**CPPSC1-PRS-10-5S-MP**	**527 238**
	12	**CPPSC1-PRS-12-5-MP**	**527 128**		**CPPSC1-PRS-12-5S-MP**	**527 240**
	16	**CPPSC1-PRS-16-5-MP**	**527 130**		**CPPSC1-PRS-16-5S-MP**	**527 242**
	20	**CPPSC1-PRS-20-5-MP**	**527 132**		**CPPSC1-PRS-20-5S-MP**	**527 244**

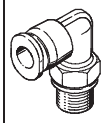
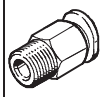
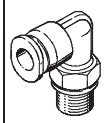
Ordering data – Manifold block for semi in-line valves

	Valve positions	Internal pilot air		External pilot air	
		Type	Part No.	Type	Part No.
Multi-pin plug connection, flat cable					
	4	**CPPSC1-PRS-4-5-FL**	**527 148**	**CPPSC1-PRS-4-5S-FL**	**527 260**
	6	**CPPSC1-PRS-6-5-FL**	**527 150**	**CPPSC1-PRS-6-5S-FL**	**527 262**
	8	**CPPSC1-PRS-8-5-FL**	**527 152**	**CPPSC1-PRS-8-5S-FL**	**527 264**
	10	**CPPSC1-PRS-10-5-FL**	**527 154**	**CPPSC1-PRS-10-5S-FL**	**527 266**
	12	**CPPSC1-PRS-12-5-FL**	**527 156**	**CPPSC1-PRS-12-5S-FL**	**527 268**
	16	**CPPSC1-PRS-16-5-FL**	**527 158**	**CPPSC1-PRS-16-5S-FL**	**527 270**
	20	**CPPSC1-PRS-20-5-FL**	**527 160**	**CPPSC1-PRS-20-5S-FL**	**527 272**

Ordering data – Accessories

Designation			Type	Part No.
Soldering base for plug-in connection				
	3-pin	Scope of delivery 10 pieces	**PCBC-B-10**	**539 904**
	3-pin	Scope of delivery 100 pieces	**PCBC-B-100**	**539 905**
Plug socket with cable for plug-in connection				
	For 1 coil	0.5 m	**MHAP-PI**	**197 260**
		1 m	**MHAP-PI-1**	**532 182**
	For 2 coils	0.5 m	**MHAP-PI-D-0,5**	**529 116**
		1 m	**MHAP-PI-D-1**	**527 395**
Plug socket with cable for horizontal connection				
	For 1 coil, 2-wire	0.5 m	**KMH-0,5**	**197 263**
		1 m	**KMH-1**	**197 264**
		2.5 m	**KMH-2,5**	**527 400**
		5 m	**KMH-5**	**527 401**
	For 2 coils, 3-wire	0.5 m	**KMH-D-0,5**	**527 396**
		1 m	**KMH-D-1**	**527 397**
		2.5 m	**KMH-D-2,5**	**527 398**
		5 m	**KMH-D-5**	**527 399**
Connecting cable to IP40				
	Sub-D, 25-pin, up to 20 coils	2.5 m	**KMP6-25P-20-2,5**	**530 046**
		5 m	**KMP6-25P-20-5**	**530 047**
		10 m	**KMP6-25P-20-10**	**530 048**
	Sub-D, 25-pin, up to 12 coils	2.5 m	**KMP6-25P-12-2,5**	**530 049**
		5 m	**KMP6-25P-12-5**	**530 050**
		10 m	**KMP6-25P-12-10**	**530 051**
Power supply				
	MicroStyle M12, 5-pin socket (B-coded) for DeviceNet	for 0.75 mm^2	**NTSD-GD-9-M12-5POL-RK**	**538 999**
	M12, 5-pin socket (A-coded) for Profibus DP	for 0.75 mm^2	**FBSD-GD-9-5POL**	**18 324**

Ordering data – Accessories				
Designation			Type	Part No.
Fieldbus connection				
	Plug to IP65, M12, 5-pin, PG9 for DeviceNet	for 0.75 mm^2	**FBS-M12-5GS-PG9**	**175 380**
	Fieldbus socket for MicroStyle connection, M12, socket (A-coded) for DeviceNet	for 0.75 mm^2	**FBSD-GD-9-5POL**	**18 324**
Adapter				
	T-adapter, 5-pin, for DH-485/DeviceNet	–	**FB-TA-M12-5POL**	**171 175**
Valve terminal connection				
	Connecting cable WS-WD, angled plug-angled socket	0.25 m	**KVI-CP-3-WS-WD-0,25**	**540 327**
		0.5 m	**KVI-CP-3-WS-WD-0,5**	**540 328**
		2 m	**KVI-CP-3-WS-WD-2**	**540 329**
		5 m	**KVI-CP-3-WS-WD-5**	**540 330**
		8 m	**KVI-CP-3-WS-WD-8**	**540 331**
	Connecting cable GS-GD, straight plug-straight socket	2 m	**KVI-CP-3-GS-GD-2**	**540 332**
		5 m	**KVI-CP-3-GS-GD-5**	**540 333**
		8 m	**KVI-CP-3-GS-GD-8**	**540 334**

Ordering data – Accessories				
Designation			Type	Part No.
Push-in fitting for working ports				
	Connecting thread M5 for tubing O.D.	3 mm	QSM-M5-3	153 302
		4 mm	QSM-M5-4	153 304
		3 mm	QSM-M5-3-I	153 313
		4 mm	QSM-M5-4-I	153 315
Push-in L-fitting for working ports				
	Connecting thread M5 for tubing O.D.	3 mm	QSML-M5-3	153 331
		4 mm	QSML-M5-4	153 333
		6 mm	QSML-M5-6	153 335
		4 mm	QSMLL-M5-4	153 339
		6 mm	QSMLL-M5-6	153 341
Push-in fitting for manifold block				
	Connecting thread M3 for tubing O.D.	3 mm	QSM-M3-3	153 301
		4 mm	QSM-M3-4	153 303
		3 mm	QSM-M3-3-I	153 312
		4 mm	QSM-M3-4-I	153 314
	Connecting thread M5 for tubing O.D.	3 mm	QSM-M5-3	153 302
		4 mm	QSM-M5-4	153 304
		6 mm	QSM-M5-6	153 306
		3 mm	QSM-M5-3-I	153 313
		4 mm	QSM-M5-4-I	153 315
		6 mm	QSM-M5-6-I	153 317
	Connecting thread G1/8 for tubing O.D.	4 mm	QSM-G1/8-4-I	186 266
		6 mm	QSM-G1/8-6-I	186 267
		8 mm	QS-G1/8-8-I	186 109
	Connecting thread R1/8 for tubing O.D.	4 mm	QSM-1/8-4	153 305
		6 mm	QSM-1/8-6	153 307
		4 mm	QSM-1/8-4-I	153 316
		6 mm	QSM-1/8-6-I	153 318
Push-in L-fitting for manifold block				
	Connecting thread M3 for tubing O.D.	3 mm	QSML-M3-3	153 330
		4 mm	QSML-M3-4	153 332
		3 mm	QSMLL-M3-3	153 337
		4 mm	QSMLL-M3-4	153 338
	Connecting thread M5 for tubing O.D.	3 mm	QSML-M5-3	153 331
		4 mm	QSML-M5-4	153 333
		6 mm	QSML-M5-6	153 335
		4 mm	QSMLL-M5-4	153 339
		6 mm	QSMLL-M5-6	153 341
	Connecting thread R1/8 for tubing O.D.	4 mm	QSML-1/8-4	153 334
		6 mm	QSML-1/8-6	153 336
		4 mm	QSMLL-1/8-4	153 340
		6 mm	QSMLL-1/8-6	153 342

Valve terminals type 82 CPA-SC, Smart Cubic

Accessories

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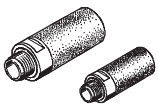
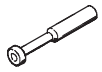
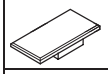
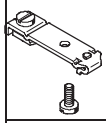
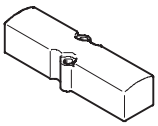
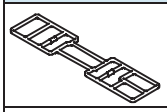
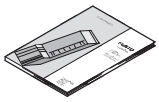
Ordering data – Accessories

Designation			Type	Part No.
Silencer				
	Connecting thread	M3	**U-M3**	**163 978**
		M5	**U-M5**	**4 645**
		M5	**UC-M5**	**165 003**
		G⅛	**UC-⅛**	**161 419**
	Push-in sleeve connection	3 mm	**UC-QS-3H**	**165 005**
		4 mm	**UC-QS-4H**	**165 006**
		6 mm	**UC-QS-6H**	**165 007**
		8 mm	**UC-QS-8H**	**175 611**
Blanking plug				
	Thread M5		**B-M5**	**3 843**
	Thread M5		**B-M5-B**	**174 308**
	Thread G⅛		**B-⅛**	**3 568**
	Blanking plug for tubing O.D.	4 mm	**QSC-4H**	**153 267**
		6 mm	**QSC-6H**	**153 268**
		8 mm	**QSC-8H**	**153 269**
		3 mm	**QSMC-3H**	**153 382**
Inscription labels				
	6x10 in frames, 64 pieces for valve identification		**IBS-6x10**	**18 576**
	4.5x9 mm, 80 pieces for manifold block identification		**MH-BZ-80x**	**197 259**
Mounting				
	For H-rail		**CPASC1-BG-NRH**	**527 392**
Blanking plate				
	Cover for vacant position[1)]		**CPASC1-RP**	**527 062**
	Cover for manual override		**CPASC1-MO-V**	**527 393**
Valve seal				
	For manifold block		**CPASC1-SEAL-A**	**527 394**
Separator and assembly tool				
	Separator		**CPASC1-KT**	**536 942**
	Assembly tool for separator		**CPASC1-MWKT**	**536 943**

1) A self-adhesive label is supplied.

Ordering data – Accessories				
Designation			Type	Part No.
User documentation				
	User documentation – CPA-SC	German	P.BE-CPASC-DE	530 932
		English	P.BE-CPASC-EN	530 933
		French	P.BE-CPASC-FR	530 934
		Spanish	P.BE-CPASC-ES	530 935
		Italian	P.BE-CPASC-IT	530 936
		Swedish	P.BE-CPASC-SV	530 937
	User documentation – DeviceNet fieldbus	German	P.BE-CPASC-CPVSC-DN-DE	539 008
		English	P.BE-CPASC-CPVSC-DN-EN	539 009
		French	P.BE-CPASC-CPVSC-DN-FR	539 010
		Spanish	P.BE-CPASC-CPVSC-DN-ES	539 011
		Italian	P.BE-CPASC-CPVSC-DN-IT	539 012
		Swedish	P.BE-CPASC-CPVSC-DN-SV	539 013
	User documentation – Profibus DP fieldbus	German	P.BE-CPASC-CPVSC-DP-DE	548 725
		English	P.BE-CPASC-CPVSC-DP-EN	548 726
		French	P.BE-CPASC-CPVSC-DP-FR	548 728
		Spanish	P.BE-CPASC-CPVSC-DP-ES	548 727
		Italian	P.BE-CPASC-CPVSC-DP-IT	548 729
		Swedish	P.BE-CPASC-CPVSC-DP-SV	548 730