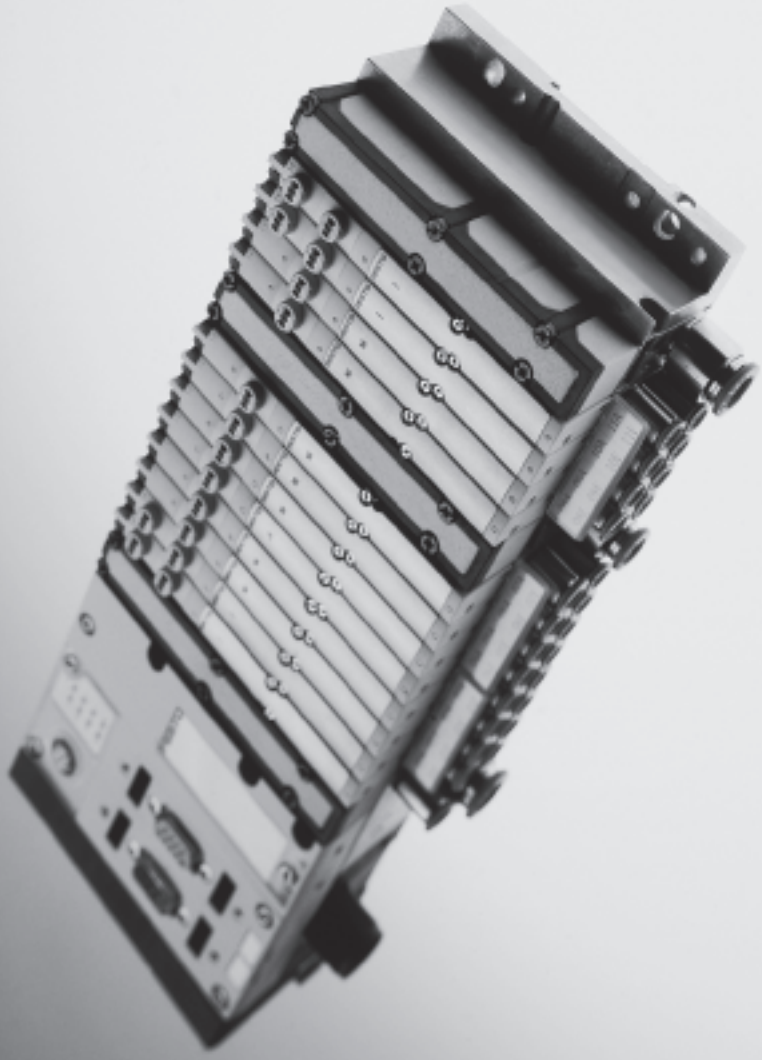
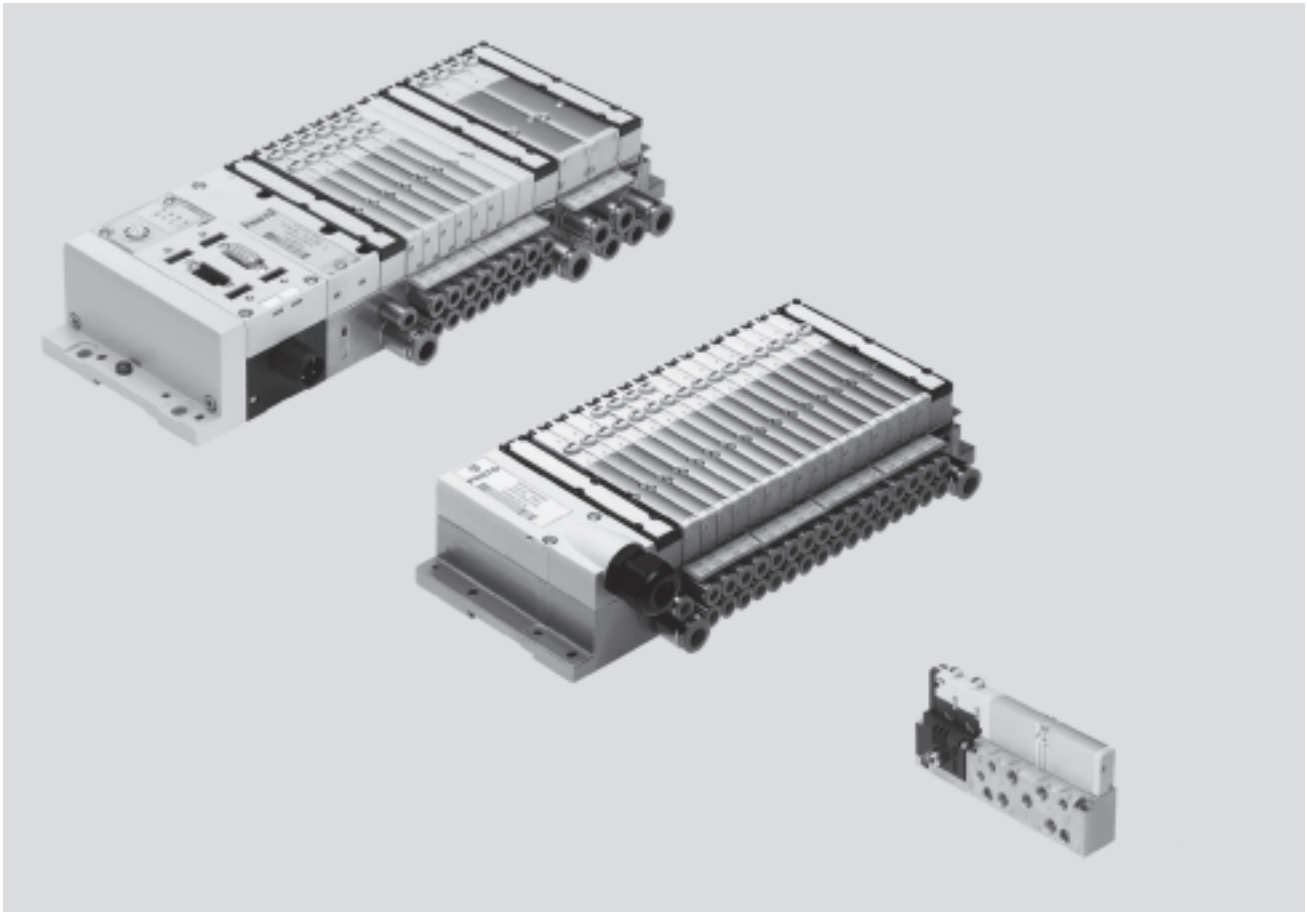


- Modular multi-functional valve terminal for up to 64 valves
- Design suitable for electrical peripherals CPX
- Channel-oriented diagnosis down to the individual valve
- Straightforward valve replacement
- Flow rate up to 360 l/min (MPA1)
- Flow rate up to 700 l/min (MPA2)
- Valves can be activated via electrical isolation, voltage tolerance ±25%

Valve terminal type 32 MPA

Key features



Innovative

- Flat high-performance valves in sturdy metal housing
- MPA1 flow rate up to 360 l/min
- MPA2 flow rate up to 700 l/min
- Standardised from the individual valve up to multi-pin plug and field-bus connections and control block
- Dream team: Fieldbus valve terminal suitable for electrical peripherals CPX. This means
  - Advanced internal communication system for activation of the valves and CPX modules
  - Diagnosis down to the individual valve
  - Valves can either be activated via electrical isolation or without (standard)

Flexible

- Modular system offering a range of configuration options
- Expandable up to 64 solenoid coils
- Can be converted and expanded at a later date
- Manifold blocks can be expanded using just three screws and sturdy separating seals on metal separator plates
- Integration of innovative function modules possible
- Supply plates permit a flexible air supply and variable pressure zones
- High pressure range
  –0.9 ... 10 bar
- Wide range of valve functions

Reliable

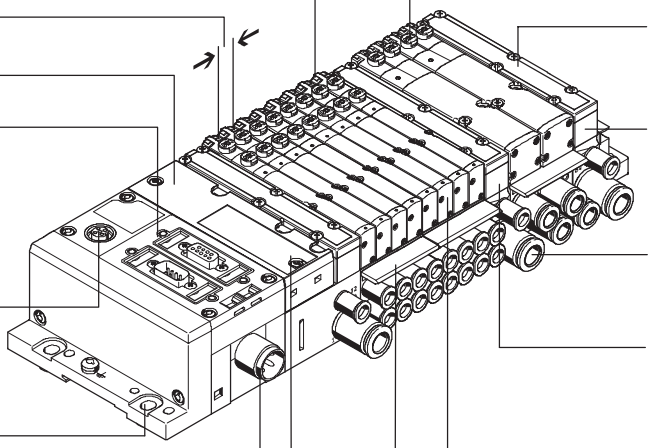
- Sturdy and durable metal components
  - Valves
  - Manifold blocks
  - Seals
- Fast troubleshooting thanks to LEDs on the valves and diagnosis via fieldbus
- High operating voltage tolerance ±25%
- Reliable servicing through replaceable valves and electronics modules
- Manual override either non-detenting, detenting or secured against unauthorised activation (covered)
- Durable thanks to the use of tried-and-tested piston spool valves
- Large and durable labelling system, suitable for barcodes

Easy to mount

- Ready-to-install unit, already assembled and tested
- Lower costs for selection, ordering, assembly and commissioning
- Secure wall mounting or H-rail mounting

Valve terminal type 32 MPA

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

All valves have the same compact dimensions with an overall length of 107 mm and a width of 10.5 mm or 21 mm as appropriate. A height of 55 mm makes them a perfect match for the electrical peripherals CPX.

Special features

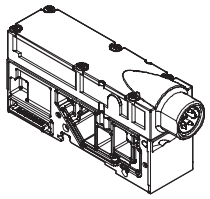
Multi-pin terminal
- Max. 24 valve positions/ max. 24 solenoid coils
- Parallel modular valve linking via circuit boards
- Electronics module with integrated holding current reduction
- Any compressed-air supply
- Any number of pressure zones

Fieldbus terminal/control block
- Max. 32 valve positions/ max. 64 solenoid coils
- Internal CPX bus system for valve activation
- Module for electrical valve activation, with or without electrical isolation
- Any compressed-air supply
- Any number of pressure zones

Individual valve
- Electrical M8 connection, 4-pin with screw connection
- Detachable electronics module with integrated holding current reduction

Combinable
- MPA1 flow rate up to 360 l/min
- MPA2 flow rate up to 700 l/min
- MPA1 and MPA2 can be combined on one valve terminal

Electrical supply plate



- Increases the maximum number of valve positions possible to 64, with max. 128 solenoid coils
- Facilitates the creation of electrically isolated, individually disconnectable voltage zones
- Greater economy thanks to the higher number of valves/solenoid coils per valve terminal
- Greater safety through individual disconnection of valve groups, for example for EMERGENCY-STOP functions

- Note

The electrical supply plate is available either with M18 or 7/8" connection.

Valve terminal type 32 MPA

Key features

Valve terminal configurator

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

A valve terminal configurator is available to help you select a suitable MPA 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.
You order a valve terminal type 32 using the order code.

Ordering system for type 32
➔ 4 / 2.2-39

The illustration above provides an example of a valve terminal configuration.
The following steps explain 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 “Direct Search” menu.

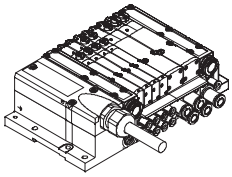
Here you can specify a “Part No.” (e.g. 539105 or 530411), the “Type” (e.g. VMPA) or “Article name” (e.g. valve terminal) to find your “Search result”. Click on the blue shopping basket to complete the selected product according to your specifications (this does not initiate an order).

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 terminal type 32 MPA

Key features

Multi-pin plug connection

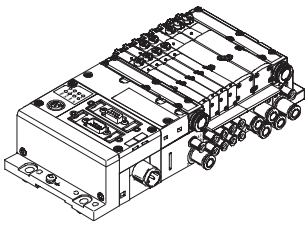


Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-wire cable or a self-assembly multi-pin plug connection, which substantially reduces installation time.

The valve terminals can be fitted with max. 24 solenoid coils. This corresponds to 4 to 24 MPA1 or 2 to 24 MPA2 valves, or a combination of both.

Variants
- Sub-D connection
- Multi-pin cable, pre-assembled
- Multi-pin plug connection, for self-assembly

Fieldbus connection from the CPX system

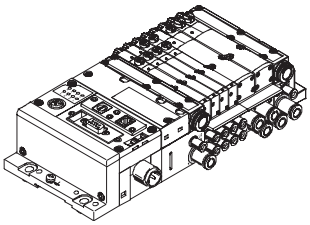


An integrated fieldbus node manages the communication connection to a higher-order PLC. This enables a space-saving pneumatic and electronic solution.

Valve terminals with fieldbus interfaces can be configured with up to 8 connection plates. This means that 64 solenoid coils can be activated in combination with MPA1 and 8 solenoid coils per manifold block. With MPA2, 2 to 16 valves can be activated.

Variants
- Profibus DP
- Interbus
- DeviceNet connection
- CANopen
- CC-Link
- CPX terminal
  ➔ 4 / 4.8-2

Control block connection from the CPX system

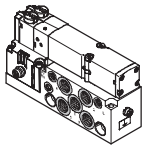


Controllers integrated in the Festo valve terminals permit the construction of stand-alone control units to IP65, without control cabinets.

Using the slave operation mode, these valve terminals can be used for intelligent pre-processing and are therefore ideal modules for designing decentralised intelligence.

In the master operation mode, terminal groups can be designed with many options and functions, which can autonomously control a medium-sized machine/system.
- CPX terminal
  ➔ 4 / 4.8-2

Individual connection



Valves can also be used on individual sub-bases for actuators further away from the valve terminal.

The electrical connection is established using a standard 4-pin M8 plug (VDMA 24 571).

Valve terminal type 32 MPA

Peripherals overview

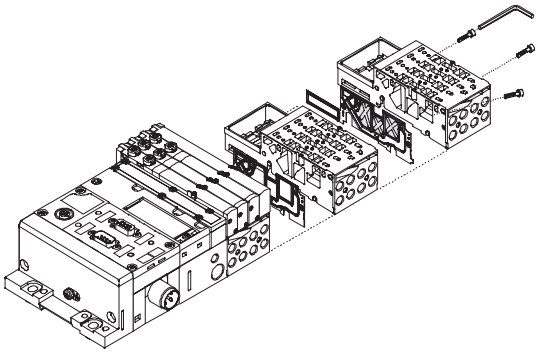
Modular pneumatic components

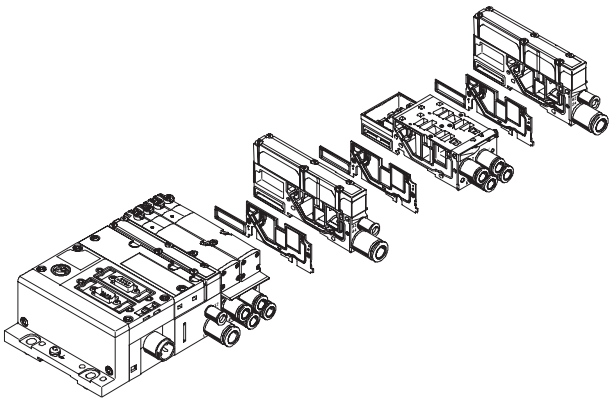
The modular design of the MPA facilitates maximum flexibility right from the planning stage and offers maximum ease of service in operation.

The system consists of manifold blocks and valves.
The manifold blocks are screwed together and thus form the support system for the valves.

Inside, the manifold blocks contain the connection ducts for supplying compressed air to and venting from the valve terminal as well as the working lines for the pneumatic cylinders for each valve.

Each manifold block is connected to the next using three screws. Individual terminal sections can be isolated and further blocks inserted by loosening these screws. This ensures that the valve terminal can be rapidly and reliably expanded.





Modular electrical peripherals

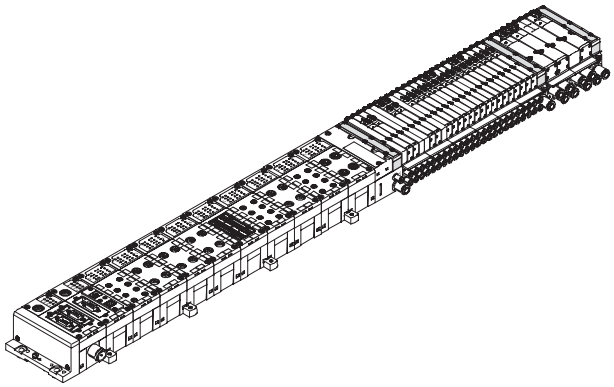
The manner in which the valves are activated differs according to whether you are using a multi-pin terminal, fieldbus terminal or individual valve.

The MPA with CPX interface is based on the internal bus system of the CPX and uses this serial communication system for all solenoid coils and a range of electrical input and output functions.

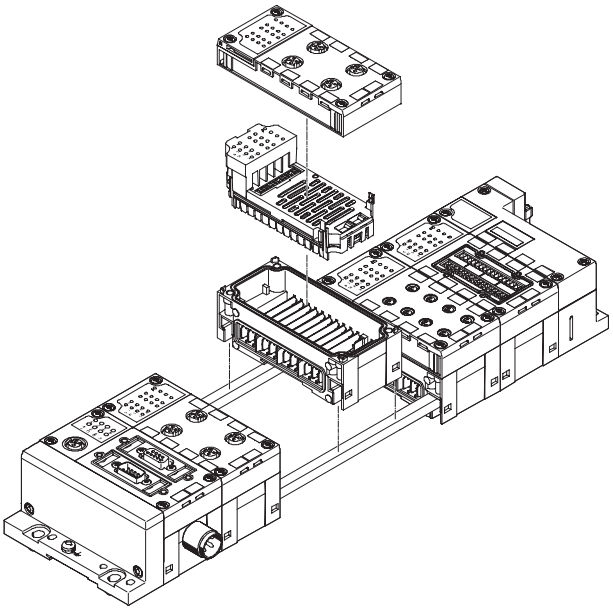
Serial linking facilitates the following:
- Transmission of switching information
- High valve density
- Compact design
- Position-based diagnosis
- Separate voltage supply for valves
- Flexible conversion without address shifting
- Transmission of status, parameter and diagnostic data

➔ 4 / 4.8-2

MPA with electrical peripherals CPX



Modularity with electrical peripherals CPX



Valve terminal type 32 MPA

Peripherals overview

FESTO

Valve terminal with multi-pin plug connection

Order code:
- 32P-... for the pneumatic components
- 32E-... for the electrical components

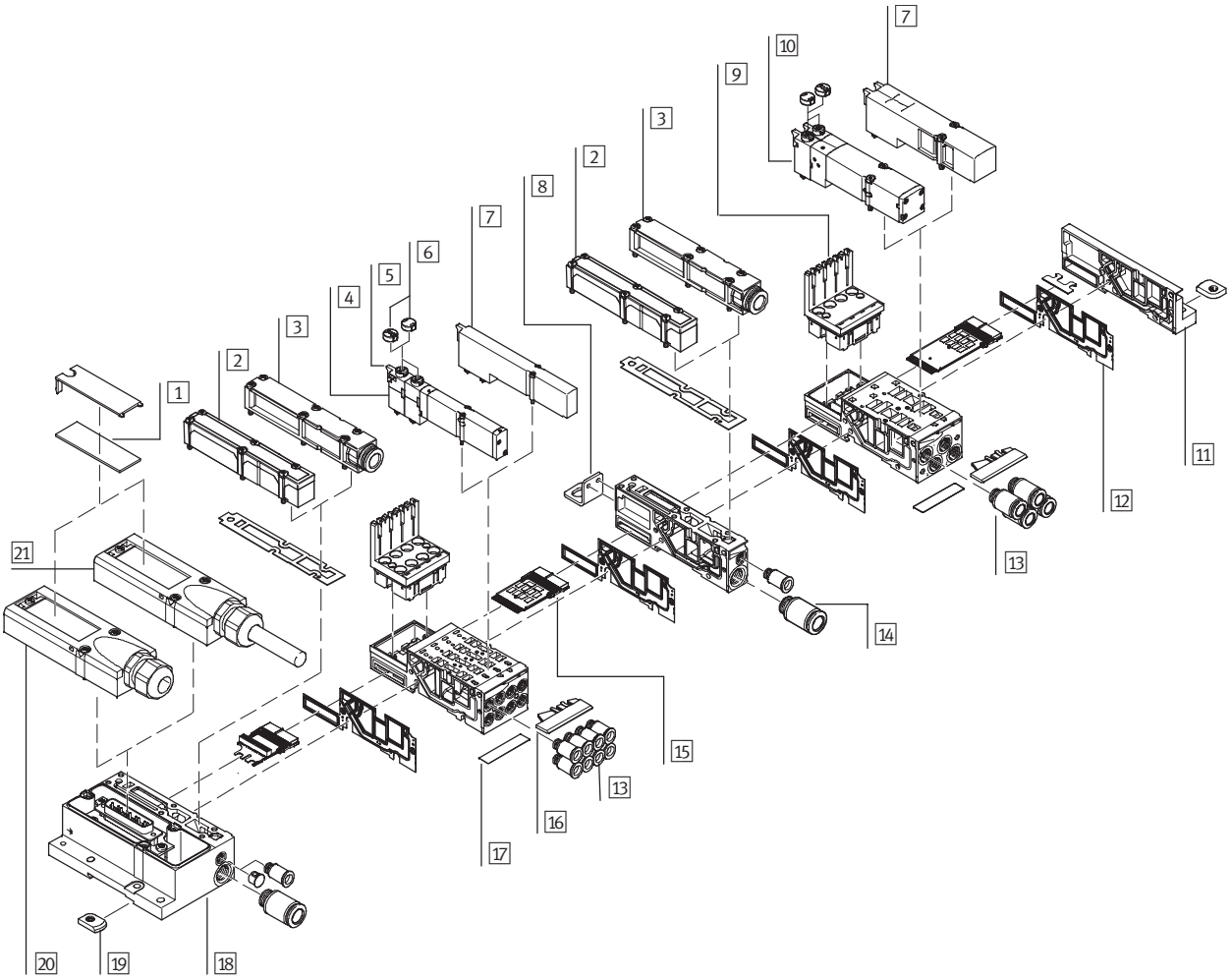
MPA valve terminals with multi-pin plug connection can be expanded with up to 24 solenoid coils. The manifold blocks are either prepared for:
- 2 or 4 single solenoid valves
- 2 or 4 double solenoid valves

depending on the size.

- Double solenoid valve positions can be equipped with any valve or a blanking plate.
- Single solenoid valve positions can only be equipped with single solenoid valves.

The multi-pin plug connection is designed as a removable 25-pin Sub-D connection to IP65.
The associated cable can be selected when ordering:
- 2.5 m
- 5 m
- 10 m

Each can be used for max. 8 or 24 valves.



1 Inscription label, large
2 Surface mounted silencer
3 Exhaust plate for ducted exhaust air
4 MPA1 valve
5 Manual override (per solenoid coil, non-detenting/ rotary-detenting)
6 Cover for manual override (non-detenting, covered only)
7 Blanking plate for vacant valve position
8 Mounting bracket (optional)
9 Electronics module MPA1 or MPA2
10 MPA2 valve
11 Right-hand end plate
12 Separating seal
13 Threaded connectors for working lines
14 Threaded connectors for supply plate
15 Electrical connection module for modular multi-pin plug connection
16 Inscription label holder
17 Inscription label
18 Electrical interface (multi-pin plug)
19 H-rail mounting
20 Multi-pin plug connection, for self-assembly
21 Multi-pin plug connection with multi-pin cable

Valve terminal type 32 MPA

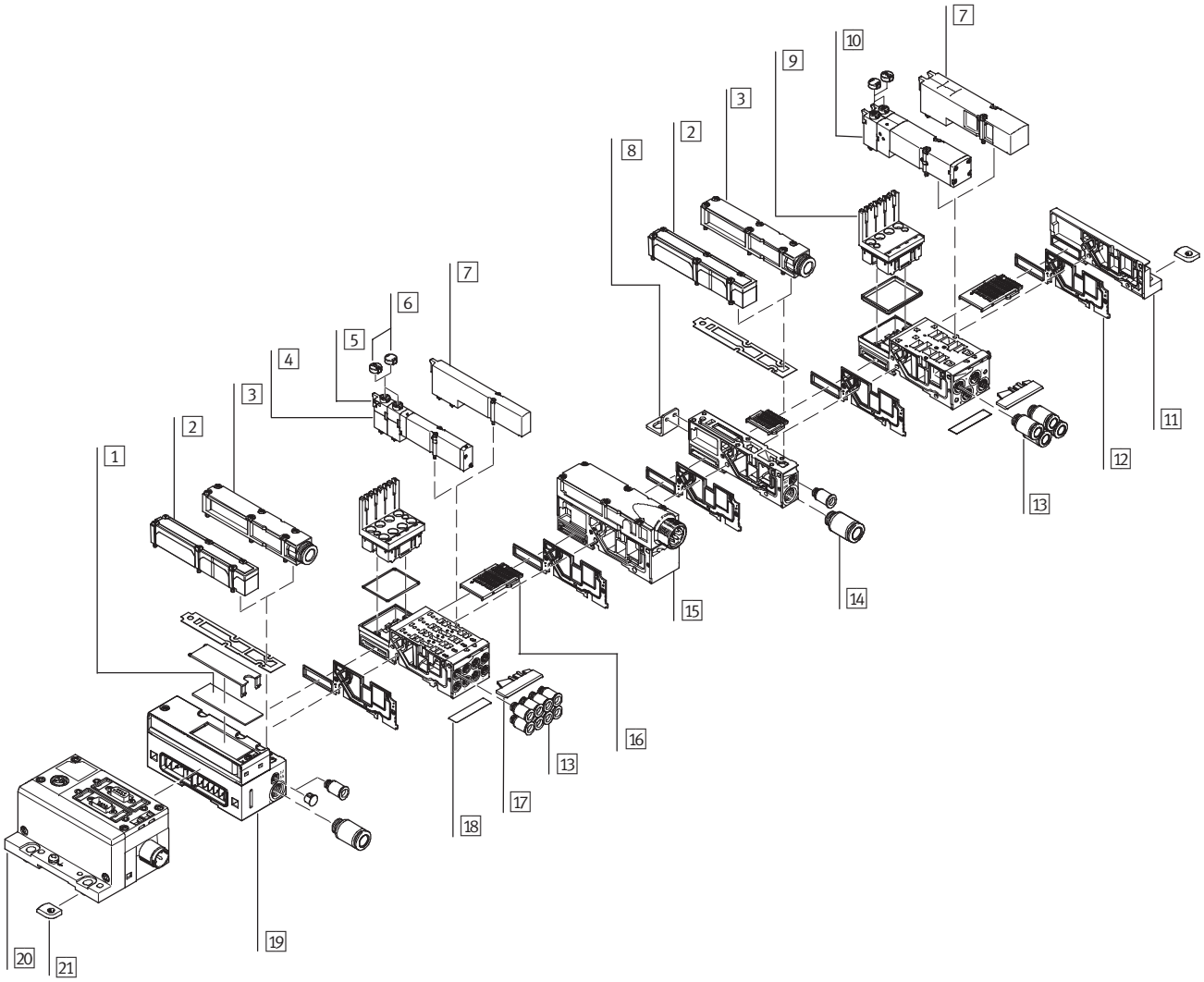
Peripherals overview

FESTO

Valve terminal with fieldbus connection, control block (electrical peripherals CPX)

Order code:
- 32P-... for the pneumatic components
- 50E-... for the electrical components

Valve terminals with fieldbus interfaces can be configured with up to 8 manifold blocks. In conjunction with MPA1 and 8 solenoid coils per manifold block, 64 solenoid coils can thus be fitted.
Each valve position can be equipped with any valve or a blanking plate. The rules for CPX apply to the equipment that can be used in combination with the electrical peripherals CPX.
In general:
- Max. 10 electrical modules
- Digital inputs/outputs
- Analogue inputs/outputs
- Parameterisation of inputs and outputs
- Integrated high-feature diagnostic system
- Preventive maintenance concepts



1 Inscription label, large
2 Surface mounted silencer
3 Exhaust plate for ducted exhaust air
4 MPA1 valve
5 Manual override (per solenoid coil, non-detenting/ rotary-detenting)
6 Cover for manual override (non-detenting, covered only)
7 Blanking plate for vacant valve position
8 Mounting bracket (optional)
9 Electronics module MPA1 or MPA2
10 MPA2 valve
11 Right-hand end plate
12 Separating seal
13 Threaded connectors for working lines
14 Threaded connectors for supply plate
15 Electrical supply plate
16 Electrical connection module for fieldbus connection
17 Inscription label holder
18 Inscription label
19 Pneumatic interface (CPX interface)
20 CPX modules
21 H-rail mounting

Valve terminal type 32 MPA

Peripherals overview

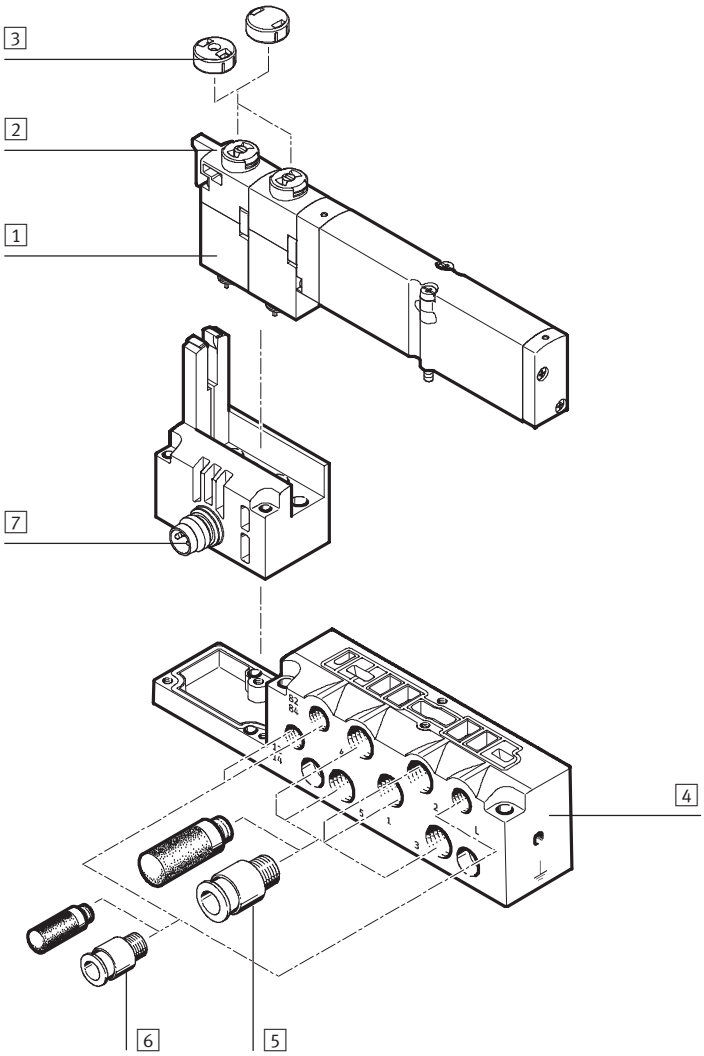
FESTO

Individual sub-base size 1

Order:
- Using individual part numbers

Individual sub-bases can be equipped with any valve.

The electrical connection is established using a standard 4-pin M8 plug (VDMA 24571).



1 MPA1 valve
2 Manual override (per solenoid coil, non-detenting/rotary-detenting)
3 Cover for manual override (non-detenting, covered only)
4 Sub-base for individual valve MPA1
5 Threaded connectors and/or silencers M7 for working lines (2, 4) and supply air/exhaust ports (1, 3, 5)
6 Threaded connectors, silencers or blanking plugs M5 for pilot air supply/exhaust air (12/14, 82/84) and pressure compensation
7 Electrical connection M8, 4-pin

Valve terminal type 32 MPA

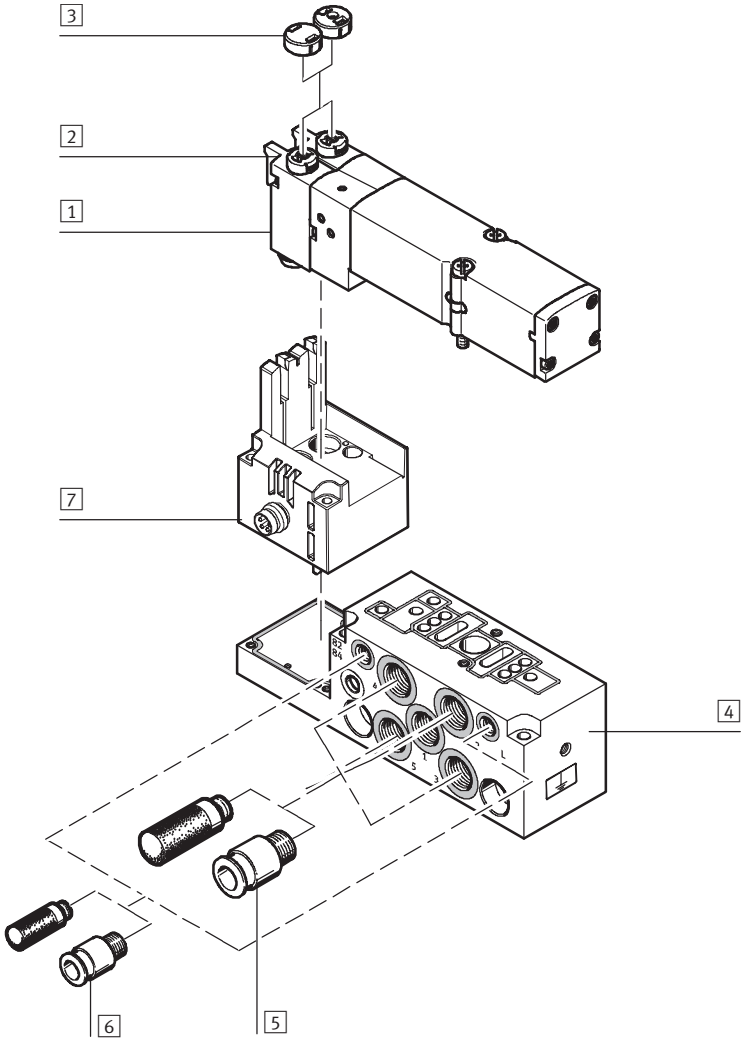
Peripherals overview

Individual sub-base size 2

Order:
- Using individual part numbers

Individual sub-bases can be equipped with any valve.

The electrical connection is established using a standard 4-pin M8 plug (VDMA 24571).



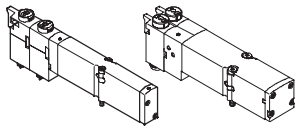
1 MPA2 valve
2 Manual override (per solenoid coil, non-detenting/rotary-detenting)
3 Cover for manual override (non-detenting, covered only)
4 Sub-base for individual valve MPA2
5 Threaded connectors and/or silencers M7 for working lines (2, 4) and supply air/exhaust ports (1, 3, 5)
6 Threaded connectors, silencers or blanking plugs M5 for pilot air supply/exhaust air (12/14, 82/84) and pressure compensation
7 Electrical connection M8, 4-pin

Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

Sub-base valve



MPA offers a comprehensive range of valve functions. All valves are equipped with piston spool and patented sealing system which facilitates efficient sealing, a broad pressure range and long service life. To increase power they have a pneumatic pilot control supplied by pilot air.

Sub-base valves can be quickly replaced since the pipe connection remains on the sub-base.
This design is also particularly slim.

Irrespective of the valve function there are sub-base valves with one solenoid coil (single solenoid) or with two solenoid coils for double solenoid or double valve functions.

Blanking plate

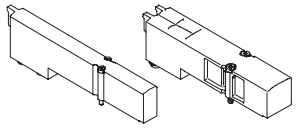
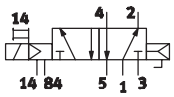
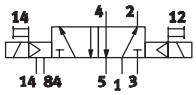
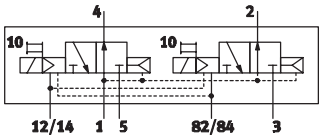
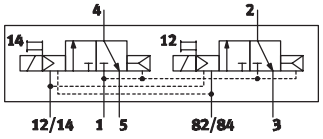
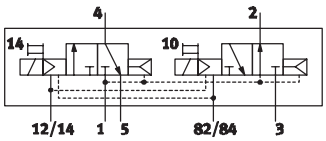
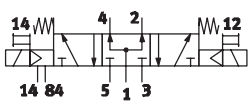


Plate without valve function for reserving valve positions on a valve terminal.

Valves and blanking plates are attached to the manifold block using two screws.

Valve function

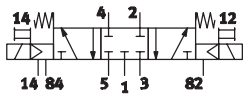
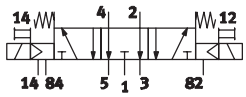
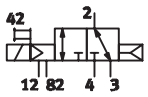
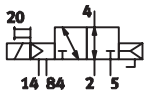
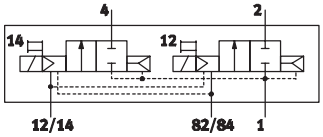
Code	Circuit symbol	Size 1	Size 2	Description
M		■	■	5/2-way valve, single solenoid • Pneumatic spring return
J		■	■	5/2-way valve, double solenoid
N		■	■	2x 3/2-way valve, single solenoid • Normally open • Pneumatic spring return • Operating pressure > 3 bar
K		■	■	2x 3/2-way valve, single solenoid • Normally closed • Pneumatic spring return • Operating pressure > 3 bar
H		■	■	2x 3/2-way valve, single solenoid • Normal position – 1x open – 1x closed • Pneumatic spring return • Operating pressure > 3 bar
B		■	■	5/3-way valve • Mid-position pressurised[1)] • Spring force return

1) If neither of the two solenoid coils is energized, the valve will assume mid-position due to spring pressure.
If both solenoid coils are energized simultaneously, the valve will remain in its switch position.

Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

Valve function				
Code	Circuit symbol	Size 1	Size 2	Description
G		■	■	5/3-way valve • Mid-position closed[1)] • Spring force return
E		■	■	5/3-way valve • Mid-position exhausted[1)] • Spring force return
X		■	■	1x 3/2-way valve, external compressed-air supply • Normally closed • Pneumatic spring return Compressed air (–0.9 ... +10 bar) supplied at working line 4 can be switched whether using either internal or external pilot air
W		■	■	1x 3/2-way valve, single solenoid • Normally open, external compressed-air supply • Pneumatic spring return
D		■	■	2x 2/2-way valve • Normally closed • Pneumatic spring return • Operating pressure > 3 bar
L		■	■	For valve terminal only: Blanking plate for vacant valve position

1) If neither of the two solenoid coils is energized, the valve will assume mid-position due to spring pressure.
If both solenoid coils are energized simultaneously, the valve will remain in its switch position.

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.

Extension

Blanking plates can be replaced by valves at a later date. The dimensions, mounting points and existing pneumatic installations remain unchanged during this process.
The valve code (M, J, N, K, H, B, G, E, X, W, D) is located on the front of the valve beneath the manual override.

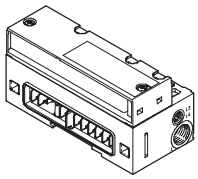
Valve terminal type 32 MPA

Key features – Pneumatic components

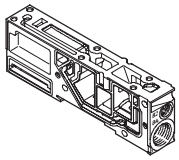
FESTO

Compressed-air supply and venting

Pneumatic interface



Supply plate



The valve terminal MPA can be supplied with compressed air at one or more points. This is a reliable way of ensuring that the terminal will always have a sufficient supply of compressed air and that this air will be vented, even with large-scale expansions.

The main supply to the terminal is located on the pneumatic interface, which links the electrical and the pneumatic parts. Additional provision is made for a number of supply plates. Venting is performed either using surface mounted silencers or common lines for ducted exhaust.

These vents are located on the pneumatic interface as well as on the supply plates.
In the case of ducted exhaust, at least one additional supply plate is required which then contains the exhaust port for the pilot air (port 82/84).

Pilot air supply

The port for the main pneumatic supply is located on the pneumatic interface.
The ports differ for the following types of pilot air supply:

- internal
- external

Internal pilot air supply
An internal pilot air supply can be selected if the required working pressure is between 3 and 8 bar.
The pilot air is then branched from the compressed-air supply 1 at the pneumatic interface using an internal connection. The port 12/14 is closed using a blanking plug.

External pilot air supply
If the supply pressure is less than 3 bar or greater than 8 bar, you must operate your MPA valve terminal using an external pilot air supply. In this case the pilot air is supplied externally via port 12/14 in the pneumatic interface.

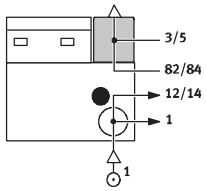
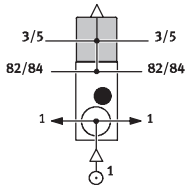
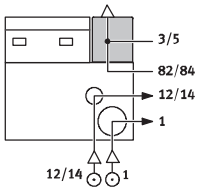
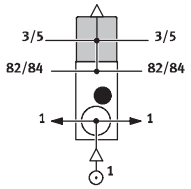
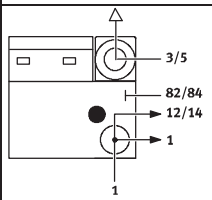
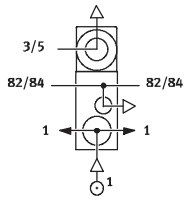
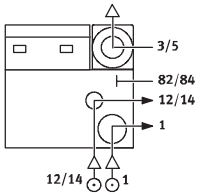
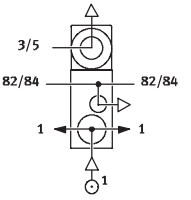
Note

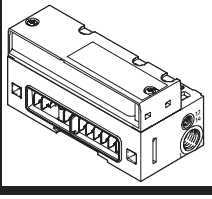
If a gradual pressure build-up is required in the system by means of a soft-start valve, then external pilot air should be selected whereby the pilot pressure is already applied at the point of switch on.

Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

Compressed-air supply and pilot air supply					
Code	Graphical symbol		Size		Notes
	Type of compressed-air supply and pilot air supply		1	2	
	Pneumatic interface	Supply plate			
S			■	■	Internal pilot air supply, surface mounted silencer • Pilot air supply is branched internally from port 1 in the pneumatic interface • Exhaust port 3/5 and pilot exhaust port 82/84 via flat plate silencer • For operating pressure in the range 3 ... 8 bar
T			■	■	External pilot air supply, surface mounted silencer • Pilot air supply between 3 and 8 bar is connected at port 12/14 • Exhaust port 3/5 and pilot exhaust port 82/84 via flat plate silencer • For operating pressure in the range –0.9 ... 10 bar (suitable for vacuum)
V			■	■	Internal pilot air supply, ducted exhaust air • Pilot air supply is branched internally from port 1 in the pneumatic interface • Exhaust port 3/5: Connection to pneumatic interface and supply plate • Pilot exhaust port 82/84: Connection to supply plate only • For operating pressure in the range 3 ... 8 bar
X			■	■	External pilot air supply, ducted exhaust air • Pilot air supply between 3 and 8 bar is connected at port 12/14 • Exhaust port 3/5: Connection to pneumatic interface and supply plate • Pilot exhaust port 82/84: Connection to supply plate only • For operating pressure in the range –0.9 ... 10 bar (suitable for vacuum)

Pneumatic interface					
Code	Pneumatic interface design variants		Size		Notes
	Graphical symbol	Type	1	2	
M		VMPA-...-EPL-...	■	■	• Used together with compressed-air supply S, T, V, X • The pilot exhaust air must be vented at least at one supply plate when using V or X. In the case of multiple supply plates, the port 82/84 is open on the last supply plate ex works.

Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

Supply plate

Additional supply plates can be used for larger terminals or to create pressure zones.

If several valves are operated simultaneously at full flow rate, it is recommended that a supply plate be positioned after every 8 valves (MPA1), or 4 valves (MPA2) as the case may be.

MPA with CPX
Supply plates can be configured at any point before or after manifold blocks.

MPA with MPM connection (modular multi-pin plug)
Supply plates can be configured at any point before or after manifold blocks.

MPA with ducted exhaust air
At least one supply plate via which the exhaust port 82/84 is vented is mandatory with ducted exhaust air.

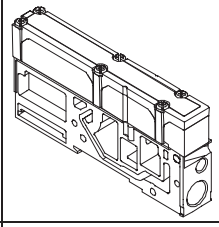
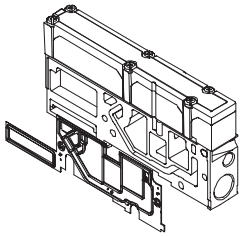
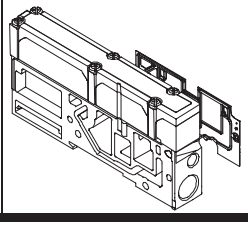
Supply plates contain the ports:
- Compressed-air supply (1)
- Venting of the pilot air supply (82/84) and pressure compensation
- Exhaust air 3/5

Depending on your order, the exhaust air channels are either ducted or vented via the flat plate silencer.

The supply plate is configured using the code letter U if no directly adjoining separating seal is required.

If a separating seal (S, T or R) is selected to the direct right or left of the supply plate, then the code letter V or W identifies the position of the left-hand or right-hand separating seal. The code for the separating seal (S, T or R) is placed in front of the code for the supply plate (V or W).

Supply plate

Code[1]	Graphical symbol	Type	Size 1	Size 2	Notes
U		VMPA1-...-SP...	■	■	Supply plate without separating seal (no R, S or T selected)
V		VMPA1-...-SP...	■	■	Supply plate with separating seal on left, if R, S or T selected
W		VMPA1-...-SP...	■	■	Supply plate with separating seal on right, if R, S or T selected

1) The supply plate is equipped with silencer or exhaust plate depending on the code for the compressed-air supply S, T, V, X.

Electrical supply plate

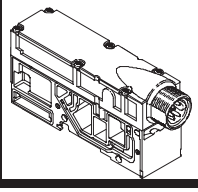
Additional electrical supply plates can be used for large terminals.
This enables up to 64 valve positions/128 solenoid coils to be supplied.

MPA with CPX
Electrical supply plates can be configured at any point before or after manifold blocks.

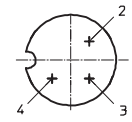
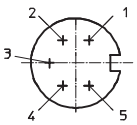
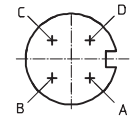
Note
Electrical supply plates must not be configured between two supplies (pneumatic short circuit).

MPA with MPM connection (modular multi-pin plug)
The restriction to 12 valve positions/24 solenoid coils means that no electrical supply plates are needed.

Electrical supply plate

Code	Graphical symbol	Type	Size 1	Size 2	Notes
L		VMPA-FB-SP-V-SP	■	■	Electrical supply plate with M18 plug connection, 3-pin
		VMPA-FB-SP-7/8-V-5POL	■	■	Electrical supply plate with 7/8" plug connection, 5-pin
		VMPA-FB-SP-7/8-V-4POL	■	■	Electrical supply plate with 7/8" plug connection, 4-pin

Pin allocation for voltage supply

	Pin	Allocation
Pin allocation for M18		
	2	24 V DC valves
	3	0 V DC
	4	FE (earth)
Pin allocation for 7/8", 5-pin		
	1	0 V DC valves
	2	n.c.
	3	FE (leading)
	4	n.c.
	5	24 V DC valves
Pin allocation for 7/8", 4-pin		
	A	n.c.
	B	24 V DC valves
	C	FE (earth)
	D	0 V DC valves (leading)

Valve terminal type 32 MPA

Key features – Pneumatic components

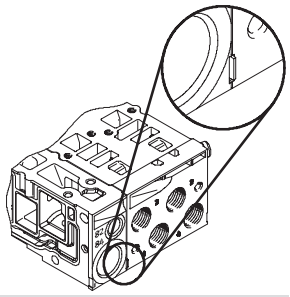
FESTO

Creation of pressure zones and separation of exhaust air

MPA offers a number of options for creating pressure zones if different working pressures are required. Pressure zones are created by isolating the internal supply ducts in the manifold blocks using an appropriate separating seal or using a separator that is firmly incorporated in the manifold block (code I).

Compressed air is supplied and vented via a supply plate. The position of the supply plates and separating seals can be freely selected for MPA with CPX and MPM (multi-pin plug).

Separating seals are integrated ex-works as per your order. Separating seals can be distinguished through their coding, even when the valve terminal is assembled.

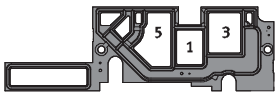
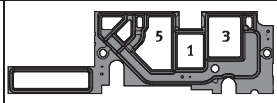
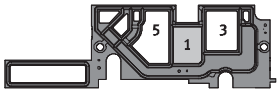
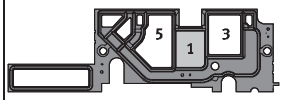
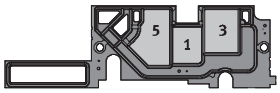
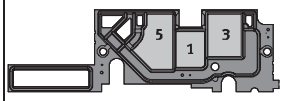
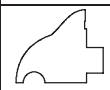
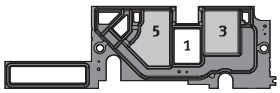
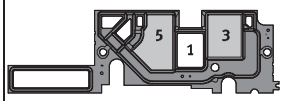


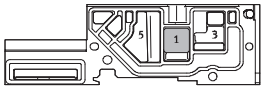
Note

The following must be taken into consideration with subsequent expansion or conversions:

Operation with ducted exhaust air and operation with surface mounted silencers requires different separating seals.

Creating pressure zones

Code	Separating seal for operation with surface mounted silencer		Separating seal for operation with ducted exhaust air		Size		Notes
	Pictorial examples	Coding	Pictorial examples	Coding	1	2	
–	 VMPA...-DPU		 VMPA...-DP		■	■	No duct separation
T	 VMPA...-DPU-P		 VMPA...-DP-P		■	■	Duct 1 separated
S	 VMPA...-DPU-PRS		 VMPA...-DP-PRS		■	■	Duct 1 and 3/5 separated
R	 VMPA...-DPU-RS		 VMPA...-DP-RS		■	■	Duct 3/5 separated

Code	Duct separation in manifold block for operation with flat plate silencer or with ducted exhaust air		Size		Notes
	Pictorial examples	Coding	1	2	
I		–	■	■	Duct 1 separated

Note

Duct separation in the manifold block is performed in the centre of the manifold block

(between valve 2 and 3 with MPA1, or between valve 1 and 2 with MPA2).

Valve terminal type 32 MPA

Key features – Pneumatic components

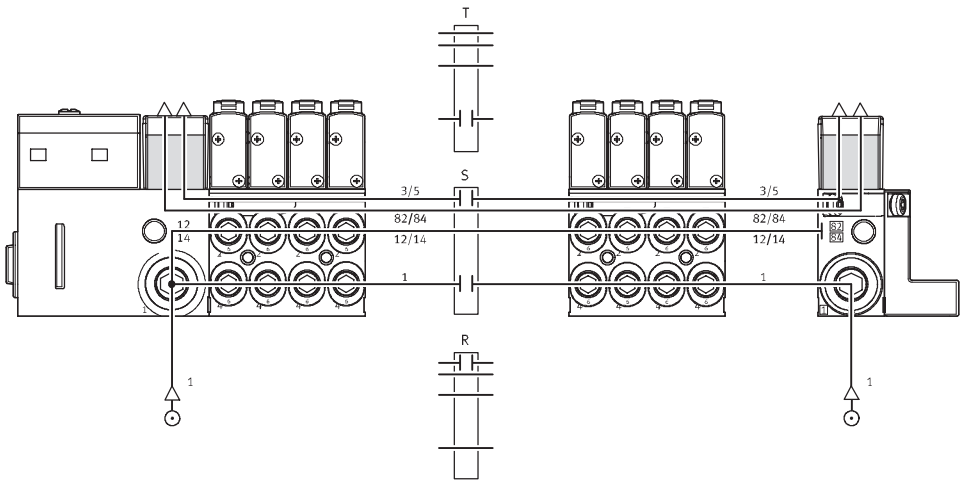
Examples: Compressed-air supply and pilot air supply

Internal pilot air supply, surface mounted silencer

Pneumatic valve terminal supply:
Code S

The diagram opposite shows an example for the configuration and connection of the compressed-air supply in the case of internal pilot air supply. Port 12/14 on the pneumatic interface or the electrical interface (multi-pin plug) as appropriate is tightly sealed. Ports 3/5 and 82/84 are drawn off via the surface mounted silencer. Port 82/84 is tightly sealed. Separating seals can be used optionally to create pressure zones.

Optional
separating seal

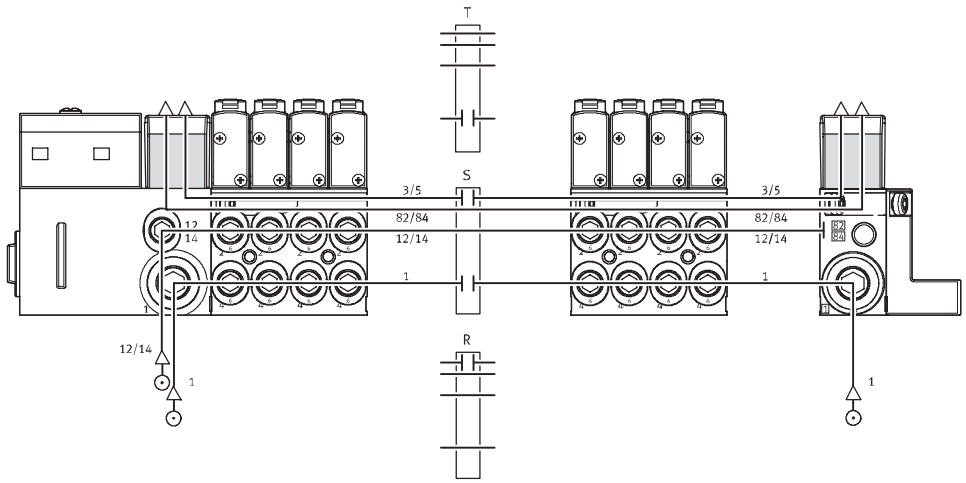


External pilot air supply, surface mounted silencer

Pneumatic valve terminal supply:
Code T

The diagram opposite shows an example for the configuration and connection of the compressed-air supply with external pilot air supply. Port 12/14 on the pneumatic interface/electrical interface (multi-pin plug) is equipped with a threaded connector for this purpose. Ports 3/5 and 82/84 are drawn off via the surface mounted silencer. Port 82/84 is tightly sealed. Separating seals can be used optionally to create pressure zones.

Optional
separating seal



Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

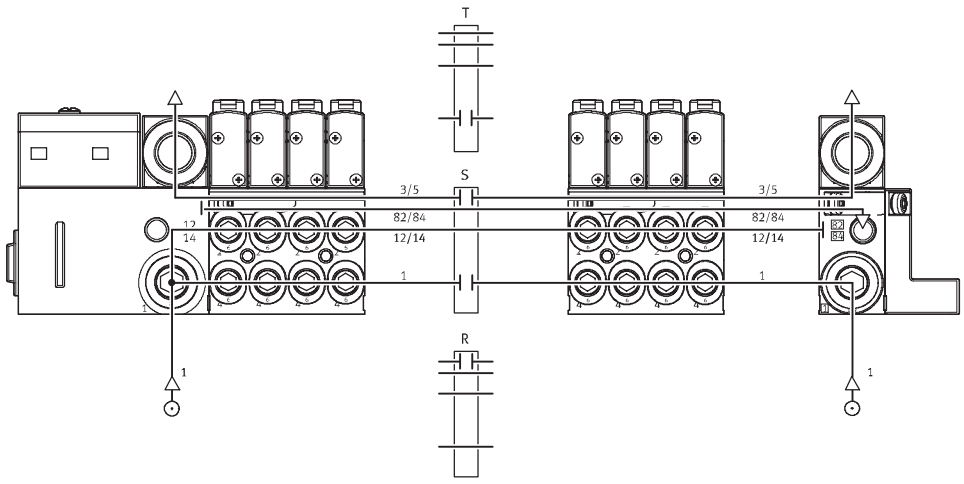
Examples: Compressed-air supply and pilot air supply

Internal pilot air supply, ducted exhaust air

Pneumatic valve terminal supply:
Code V

The diagram opposite shows an example for the configuration and connection of the compressed-air supply with internal pilot air supply. Port 12/14 on the pneumatic interface/electrical interface (multi-pin plug) is tightly sealed. Ports 3/5 and 82/84 are drawn off via the appropriate connections. Separating seals can be used optionally to create pressure zones.

Optional
separating seal

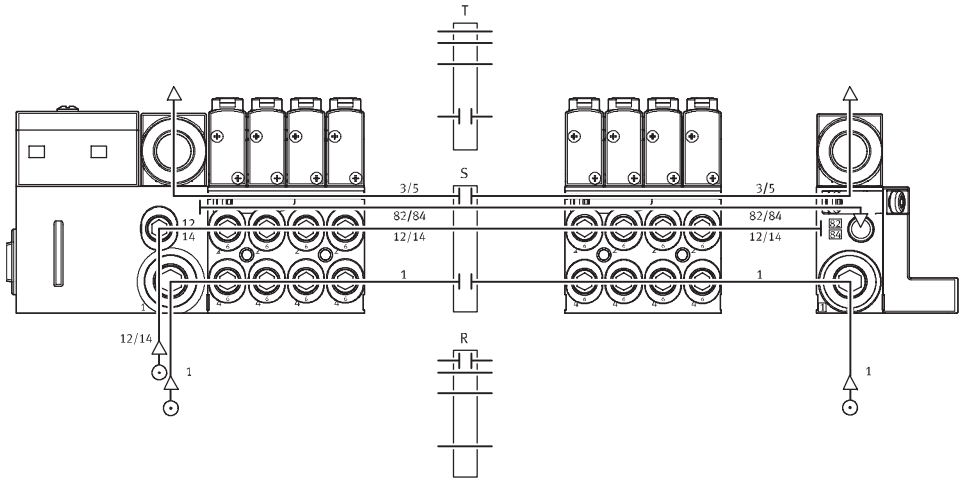


External pilot air supply, ducted exhaust air

Pneumatic valve terminal supply:
Code X

The diagram opposite shows an example for the configuration and connection of the compressed-air supply with external pilot air supply. Port 12/14 on the pneumatic interface/electrical interface (multi-pin plug) is equipped with a threaded connector for this purpose. Ports 3/5 and 82/84 are drawn off via the appropriate connections. Separating seals can be used optionally to create pressure zones.

Optional
separating seal



Valve terminal type 32 MPA

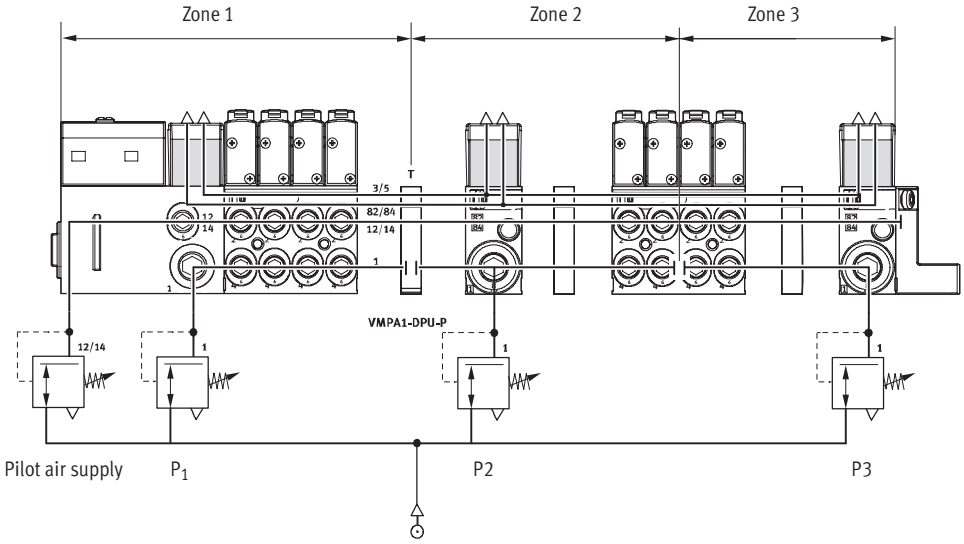
Key features – Pneumatic components

FESTO

Examples: Creating pressure zones

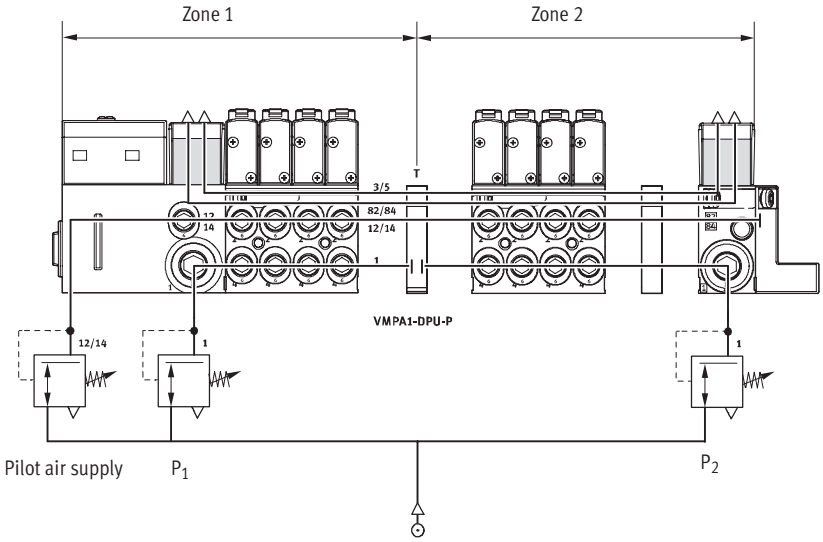
MPA with CPX terminal connection

MPA allows the creation of up to 8 pressure zones. The diagram shows an example for the configuration and connection of three pressure zones using separating seals – with external pilot air supply.



MPA with multi-pin plug connection

This design facilitates the creation of up to 12 pressure zones. The diagram shows an example for the configuration and connection of the pressure zones – with external pilot air supply.



Valve terminal type 32 MPA

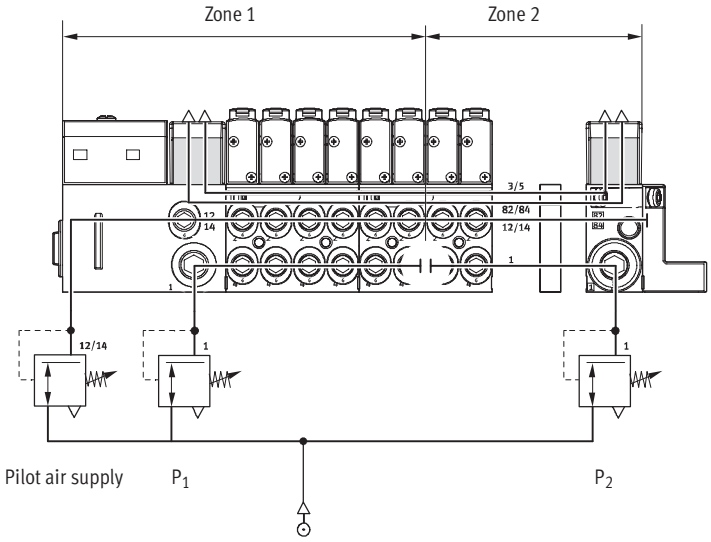
Key features – Pneumatic components

FESTO

Examples: Creating pressure zones

Manifold block with pressure zone separation

Another way of creating pressure zones is to use manifold blocks with pressure zone separation. Only duct 1 is separated here however.

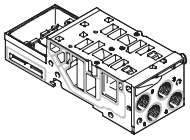


Valve terminal type 32 MPA

Key features – Pneumatic components

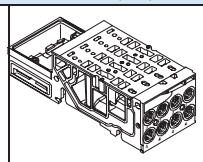
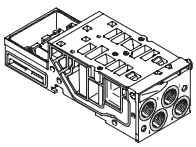
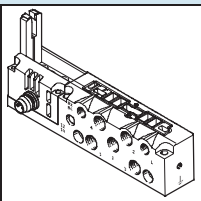
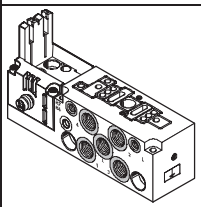
FESTO

Manifold block



MPA is based on a modular system which consists of manifold blocks and valves. The manifold blocks are screwed together and thus form the support system for the valves.
Inside, the manifold blocks contain the connection ducts for supplying compressed air to and venting from the valve terminal as well as the working lines for the pneumatic cylinders for each valve.
Each manifold block is connected to the next using three screws. Individual terminal sections can be isolated and further blocks inserted by loosening these screws. This ensures that the valve terminal can be rapidly and reliably expanded.

Manifold block variants

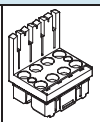
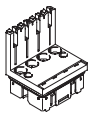
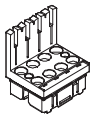
Code	Graphical symbol	Type	Size 1	Size 2	Number of valve positions (solenoid coils)	Notes
Manifold block for multi-pin plug/fieldbus connection						
A, C* AI, CI*		VMPA1-FB-AP-4-1 VMPA1-FB-AP-4-1-T1 (code I)	■	–	4 (8/4*)	Working lines (2, 4) on the manifold block • Connection sizes: MPA1: M7, QS4, QS6 • Code I: Separation in duct 1 in the manifold block
B, D* BI, DI*		VMPA2-FB-AP-2-1 VMPA2-FB-AP-2-1-TO (code I)	–	■	2 (4/2*)	Working lines (2, 4) on the manifold block • Connection sizes MPA2: G1⁄8, QS6, QS8 • Code I: Separation in duct 1 in the manifold block
Individual sub-base						
–		VMPA1-1-IC-AP-1** VMPA1-1-IC-AP-S-1***	■	–	1 (2)	• With working lines MPA1: M7, QS4, QS6 • With ports for supply air (1, 12/14) and exhaust air (3, 5, 82/84) • For internal/external pilot air supply
–		VMPA2-IC-AP-1** VMPA2-IC-AP-S-1***	–	■	1 (2)	• With working lines MPA2: G1⁄8, QS6, QS8 • With ports for supply air (1, 12/14) and exhaust air (3, 5, 82/84) • For internal/external pilot air supply

* Only possible with multi-pin plug connection
** Internal pilot air supply
*** External pilot air supply

Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

Electrical interface variants						
Code	Graphical symbol	Type	Size 1	Size 2	Number of valve positions (solenoid coils)	Notes
Electronics module for multi-pin plug (MPM)						
A, B, C, D		VMPA1-MPM-EMM-8 VMPA1-MPM-EMM-4	■	–	4 (8) 4 (4)	Each valve solenoid coil must be assigned to a specific pin of the multi-pin plug in order for activation of the valves to take place. Regardless of the blanking plates or valves equipped, valve positions occupy • 1 address for activation of 1 coil • 2 addresses for activation of 2 coils
		VMPA2-MPM-EMM-4 VMPA2-MPM-EMM-2	–	■	2 (4) 2 (2)	
Electronics module for fieldbus						
A, B, H		VMPA...-FB-EMS-... VMPA...-FB-EMG-...	■	–	4 (8)	The electronics module contains the serial communication system and facilitates: • Transmission of switching information • Activation of up to 8 solenoid coils • Position-based diagnosis • Separate voltage supply for valves • Transmission of status, parameter and diagnostic data There are two variants: • Not electrically isolated (VMPA...-FB-EMS-...) • Electrically isolated (VMPA...-FB-EMG-...)
			–	■	2 (4)	

Note

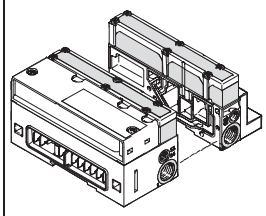
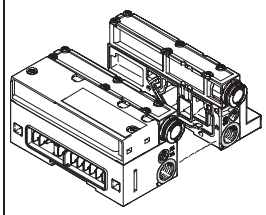
- Multi-pin plug with modular linking
- Manifold blocks MPA1 and MPA2 can be combined as required
- Positive or negative switching activation is possible (mixed operation is not permitted)
- Double solenoid valves cannot be mounted on single solenoid electronics modules
- Single solenoid valves can be mounted on double solenoid electronics modules

Valve terminal type 32 MPA

Key features – Pneumatic components

FESTO

Ports for supply and venting

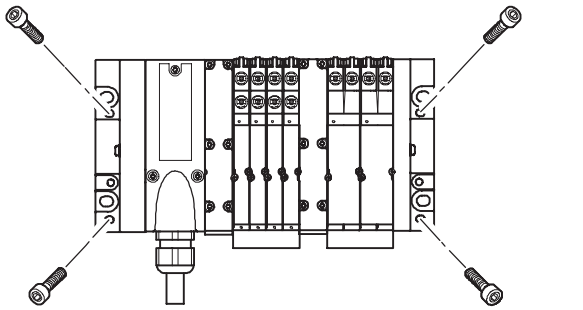
Code		Port		Designation	**Code L** Push-in connector large	**Code K** Push-in connector small	**Code D** Thread for supply
S		Internal pilot air supply, silencer					
		1	Compressed air/ vacuum supply	Push-in fitting	QS-G¼-10-I	QS-G¼-8-I	G¼
		3/5	Exhaust air	Surface mounted silencer	–	–	–
		12/14	Pilot air supply	–	–	–	–
		82/84	Pilot exhaust air	Surface mounted silencer	–	–	–
			Pressure relieving port	Vents into the atmosphere via silencer			
T		External pilot air supply, silencer					
		1	Compressed air/ vacuum supply	Push-in fitting	QS-G¼-10-I	QS-G¼-8-I	G¼
		3/5	Exhaust air	Surface mounted silencer	–	–	–
		12/14	Pilot air supply	Push-in fitting	QSM-M7-6-I	QSM-M7-6-I	M7
		82/84	Pilot exhaust air	Surface mounted silencer	–	–	–
			Pressure relieving port	Vents into the atmosphere via silencer			
V		Internal pilot air supply, ducted exhaust air					
		1	Compressed air/ vacuum supply	Push-in fitting	QS-G¼-10-I	QS-G¼-8-I	G¼
		3/5	Exhaust air	Push-in fitting	QS-10	QS-10	QS-10
		12/14	Pilot air supply	–	–	–	–
		82/84	Pilot exhaust air	Push-in fitting	QSM-M7-6-I	QSM-M7-6-I	M7
			Pressure relieving port	Vents into duct 82/84			
X		External pilot air supply, ducted exhaust air					
		1	Compressed air/ vacuum supply	Push-in fitting	QS-G¼-10-I	QS-G¼-8-I	G¼
		3/5	Exhaust air	Push-in fitting	QS-10	QS-10	QS-10
		12/14	Pilot air supply	Push-in fitting	QSM-M7-6-I	QSM-M7-6-I	M7
		82/84	Pilot exhaust air	Push-in fitting	QSM-M7-6-I	QSM-M7-6-I	M7
			Pressure relieving port	Vented into duct 82/84			

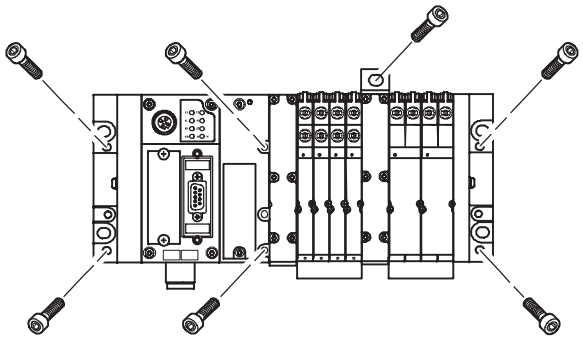
Valve terminal assembly

Sturdy terminal attachment thanks to:

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

Wall mounting



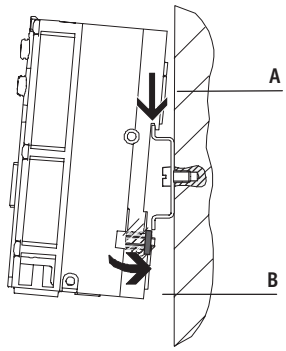


The MPA valve terminal is screwed onto the mounting surface using four M4 or M6 screws. The mounting holes are located at the following points:

- Multi-pin plug (4 pieces):
  at the pneumatic interface and the right-hand end plate
- Fieldbus (6 pieces):
  at the left-hand end plate (CPX) and right-hand end plate MPA. The pneumatic interface additionally provides further mounting holes as well as optional mounting brackets.

The fieldbus version additionally provides a bracket for wall mounting (type MPA, Part No. 665 983).
The mounting brackets can be used with very long valve terminals (6 manifold blocks or more) to improve load capacity during vibrations or shocks.

H-rail mounting



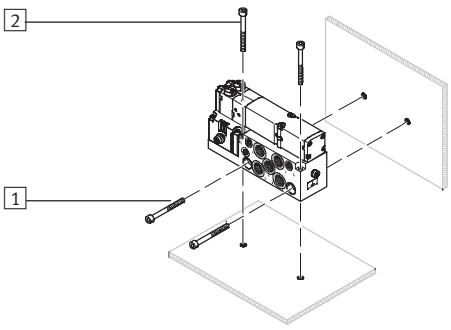
The MPA valve terminal is attached to the H-rail (see arrow A).
The terminal is then swivelled about the H-rail and secured in place with the clamping component (see arrow B).

For H-rail mounting of the valve terminal you will need the following MPA mounting kit:

- With multi-pin plug:
  CPA-BG-NRH
- With fieldbus:
  CPX-CPA-BG-NRH

This permits mounting of the valve terminal on a H-rail to EN 60715.

Individual valve assembly



1 Horizontal mounting holes
2 Vertical mounting holes

The individual sub-base is designed for wall mounting for integration into a system or machine. It can be mounted horizontally or vertically.

Valve terminal type 32 MPA

Key features – Display and operation

Display and operation

Each valve solenoid coil is allocated an LED which indicates its operating status.

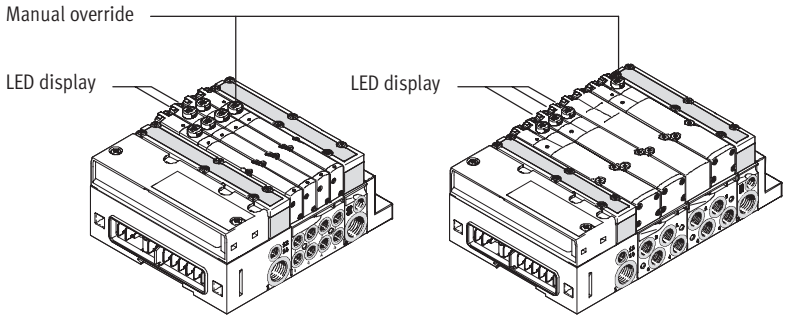
- Indicator 12 shows the switching status of the pilot control for output 2
- Indicator 14 shows the switching status of the pilot control for output 4

Manual override

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 locked by rotating the manual override (code R or as accessory).

Alternatives:

- A cover (code N or as accessory) can be fitted to prevent the manual override from being locked. The valve can only be activated by pressing it.
- A cover (code V) can be fitted over the manual override to prevent it from being activated accidentally.

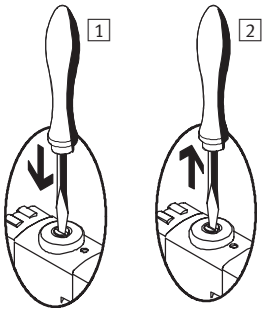


Note

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

Manual override (MO)

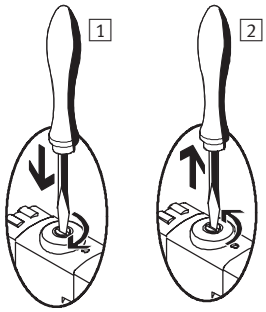
Manual override with automatic return (non-detenting)



1 Press in the stem of the MO with a pin or screwdriver.
Valve is then activated.

2 Remove the pin or screwdriver.
Spring force pushes the stem of the MO back.
Valve returns to the initial position (not with double solenoid valve code J).

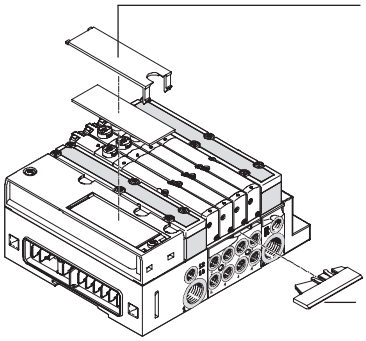
Manual override with lock (detenting)



1 Press in the stem of the MO using a screwdriver until the valve switches and then turn the stem clockwise by 90° until the stop is reached.
Valve remains activated.

2 Turn the stem anti-clockwise by 90° until the stop is reached and then remove the pin or screwdriver. Spring force pushes the stem of the MO back.
Valve returns to the initial position (not with double solenoid valve code J).

Inscription system



An inscription label holder VMPA1-ST-1-4 (Part No. 658 291) can be applied to each manifold block with a width of 42 mm for the purpose of labelling the valves. These inscription label holders can be ordered by entering the code T in the order code.
Scope of delivery: Inscription label holder including inscription label.
The following inscription labels can be used as spares:

- Inscription label MPA (38 x 9 mm): Part No. 663 739

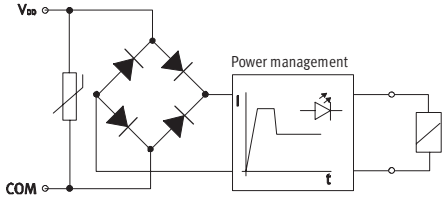
Large inscription labels can be applied to the pneumatic interface as an alternative or complement to the smaller labels.
The following inscription labels can be used as spares:

- Inscription label MPA (20 x 45 mm): Part No. 663 010

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 an integrated current reduction, e.g. for fieldbus:
- Pull current: 60 mA
- Holding current after 20 ms: 25 mA

MPA valves are supplied with operating voltage in the range 18 ... 30 V (24 V +/–25%). This high tolerance is made possible through integrated control electronics and offers additional security, e.g. if the operating voltage drops.



Individual valve

Valves can also be used on individual sub-bases for actuators further away from the valve terminal.

- Electrical M8 connection, 4-pin with screw connection
- Detachable electronics module with integrated holding current reduction

Electrical multi-pin plug connection

The following multi-pin plug connection is offered for the valve terminal MPA:
- Sub-D multi-pin plug connection (25-pin)

Pins 1 ... 24 are used for addresses 1 ... 24 in order.
If fewer than 24 addresses are used for the valve terminal, the remaining pins up to 24 are left free. Pin 25 is reserved for the neutral conductor.
The valves are switched by means of positive or negative logic (PNP or NPN). Mixed operation is not permitted.
Each pin on the multi-pin plug can activate only one valve solenoid coil. If the maximum configurable number of valve positions is 24, this means that 24 valves can be addressed with one valve solenoid coil.
With 12 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.

- Note

If a single solenoid valve is assembled on a double solenoid valve position, the second address is unused.

Guidelines on addressing for valves/valve solenoids

- The maximum possible number of addresses with a multi-pin plug connection is 24.
- Each manifold block/electronics module occupies a defined number of addresses/pins:
  - Manifold block MPA1 for 4 single solenoid valves: 4
  - Manifold block MPA1 for 4 double solenoid valves: 8
  - Manifold block MPA2 for 2 single solenoid valves: 2
  - Manifold block MPA2 for 2 double solenoid valves: 4
- The numbering of the addresses goes from left to right in ascending consecutive order. The following holds true at the individual valve positions: Address x for coil 14 and address x+1 for coil 12.
- If single solenoid valves are mounted on manifold blocks for double solenoid valves, the address of coil 12 and the assigned pin will remain unused.

Fieldbus connection

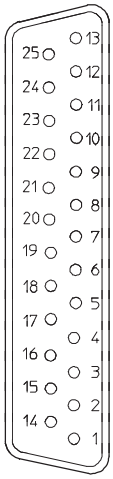
All functions and features of the electrical peripherals CPX are permitted in connection with the CPX interface. This means:

- The valves and electrical outputs are supplied via the operating voltage connection of the CPX
- The valves are supplied and disconnected separately via a separate port on the CPX (code V)

- Note

Further information can be found in
➔ 4 / 4.8-2

Pin allocation – Sub-D socket, cable



Pin	Address/coil	Core colour[2]	Pin	Address/coil	Core colour[2]
1	0	WH	17	16	WH PK
2	1	GN	18	17	PK BN
3	2	YE	19	18	WH BU
4	3	GY	20	19	BN BU
5	4	PK	21	20	WH RD
6	5	BU	22	21	BN RD
7	6	RD	23	22	WH BK
8	7	VT	24	23	BN
9	8	GY PK	25	0 V[1]	BK
10	9	RD BU			
11	10	WH GN			
12	11	BN GN			
13	12	WH YE			
14	13	YE BN			
15	14	WH GY			
16	15	GY BN			

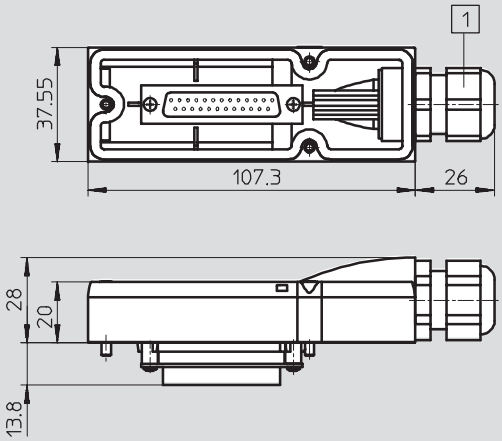
- Note

The drawing shows the view on the Sub-D socket at the multi-pin cable VMPA-KMS1-....

1) 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.
2) To IEC 757

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

Connecting cable

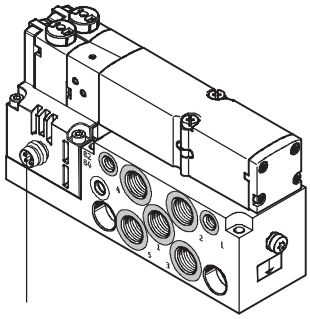


[1] Cable conduit fitting with clamping range 6 ... 12 mm

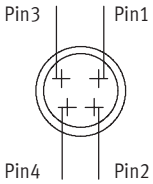
The core colours refer to the following pre-assembled multi-pin cables from Festo:
- VMPA-KMS1-8-... Valve terminal for up to 4 valve positions (8 coils)
- VMPA-KMS1-24-... Valve terminal with 8 ... 24 valve positions

Type	Sheath	Length [m]	Core x mm²	D [mm]	Part No.
VMPA-KMS1-8-2.5	PVC	2.5	10 x 0.34	6.9	**533 195**
VMPA-KMS2-8-2.5-PUR	PUR	2.5	10 x 0.25	8.3	**533 504**
VMPA-KMS1-8-5	PVC	5	10 x 0.34	6.9	**533 196**
VMPA-KMS2-8-5-PUR	PUR	5	10 x 0.25	8.3	**533 505**
VMPA-KMS1-8-10	PVC	10	10 x 0.34	6.9	**533 197**
VMPA-KMS2-8-10-PUR	PUR	10	10 x 0.25	8.3	**533 506**
VMPA-KMS1-24-2.5	PVC	2.5	25 x 0.34	11.4	**533 192**
VMPA-KMS2-24-2.5-PUR	PUR	2.5	25 x 0.25	11.2	**533 501**
VMPA-KMS1-24-5	PVC	5	25 x 0.34	11.4	**533 193**
VMPA-KMS2-24-5-PUR	PUR	5	25 x 0.25	11.2	**533 502**
VMPA-KMS1-24-10	PVC	10	25 x 0.34	11.4	**533 194**
VMPA-KMS2-24-10-PUR	PUR	10	25 x 0.25	11.2	**533 503**
VMPA-KMS-H	Cover for self-assembly				**533 198**

Electrical connection, individual valve



Connector plug M8 x 1, 4-pin to EN 60 947-5-2



Pin allocation on individual valve to VDMA 24571

With positive logic:
Pin1 – Not allocated
Pin2 – U_B for coil 12
Pin3 – 0 V for coils 12 and 14
Pin4 – U_B for coil 14

With negative logic:
Pin1 – Not allocated
Pin2 – 0 V for coil 12
Pin3 – U_B for coils 12 and 14
Pin4 – 0 V for coil 14

Tightening torque for M8 plug
0.25 ... 0.5 Nm (manual torque)

Connecting cable

Type	Designation	Version	Cable length [m]	Part No.
SIM-M8-4GD-2,5-PU	Plug socket with cable	Straight socket	2.5	**158 960**
SIM-M8-4GD-5-PU	Plug socket with cable	Straight socket	5	**158 961**
SIM-M8-4WD-2,5-PU	Plug socket with cable	Angled socket	2.5	**158 962**
SIM-M8-4WD-5-PU	Plug socket with cable	Angled socket	5	**158 963**

Instructions for use

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 actuator used.

Incorrect additional oil and too high an oil content in the compressed air reduce the service life of the 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.

Valve terminal type 32 MPA

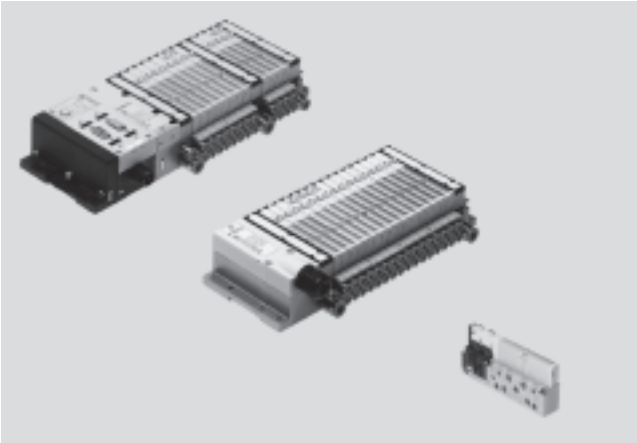
Technical data

FESTO

Flow rate
MPA1: up to 360 l/min
MPA2: up to 700 l/min

Valve width
MPA1: 10 mm
MPA2: 21 mm

Voltage
24 V DC



General technical data			
		MPA1	MPA2
Design		Electromagnetically actuated piston spool valve	
Lubrication		Lubrication for life, PWIS-free (free of paint-wetting impairment substances)	
Type of mounting		Wall mounting	
		On H-rail to EN 60 715	
Assembly position		Any	
Manual override		Non-detenting, rotary/detenting, covered	
Width	[mm]	10.5	21
Nominal size	[mm]	2.5	
Pneumatic connections			
Pneumatic connection		Via manifold block or individual connection	
Supply port	1	G¼ (M7 with individual sub-base)	
Exhaust port	3/5	QS-10 (M7 with individual sub-base)	
Working lines	2/4	Depending on the connection type selected	
		• M7 • QS4 • QS6	• G⅛ • QS6 • QS8
Pilot air supply port	12/14	M7 (M5 with individual sub-base)	
Pilot exhaust air port	82/84	M7 (M5 with individual sub-base)	
Pressure relieving port		With ducted exhaust air: via port 82/84 (M5 with individual sub-base) With surface mounted silencer: venting to atmosphere	

Valve terminal type 32 MPA

Technical data

FESTO

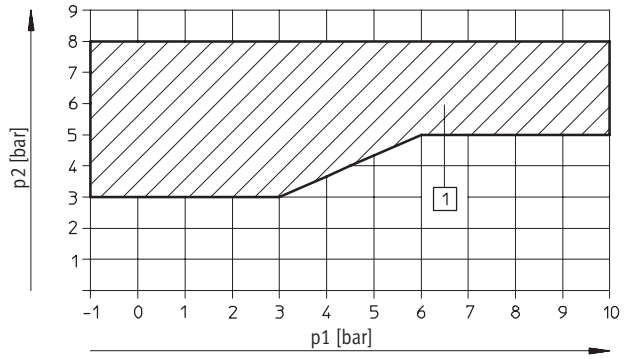
Operating and environmental conditions												
Valve function order code			M	J	N	K	H	B	G	E	X	W	D
Operating medium			Filtered compressed air, lubricated or unlubricated, inert gases ➔ 4 / 2.2-29										
Grade of filtration		[µm]	40 (average pore size)										
Operating pressure	with internal pilot air supply	[bar]	3 … 8										
	with external pilot air supply	[bar]	–0.9 … +10	3 … 10				–0.9 … +10					3 … 10
	Pilot air supply	[bar]	3 … 8										
Ambient temperature		[°C]	–5 … +50										
Temperature of medium		[°C]	–5 … +50										
Storage temperature[1]		[°C]	–20 … +40										
Relative air humidity at 40° C		[%]	90										
UL			Certification as per UL 429, CSA C22.2 No. 139										
Corrosion resistance class CRC[2]			1										

1) Long-term storage

2) 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.

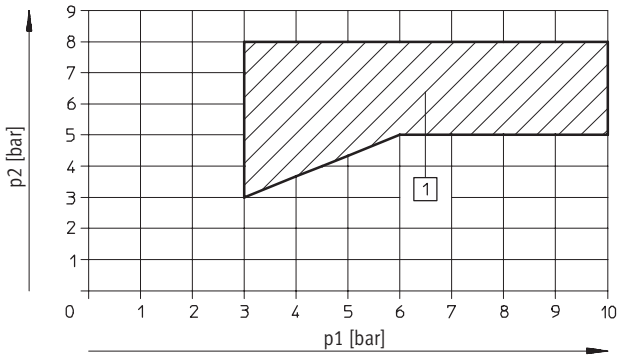
Pilot pressure p2 as a function of working pressure p1 with external pilot air supply

for valves with code M, J, B, G, E, X



1 Operating range for valves with external pilot air supply

for valves with code N, K, H, D



1 Operating range for valves with external pilot air supply

Valve terminal type 32 MPA

Technical data

FESTO

Nominal flow rate [l/min][1]					
Code	Valve function	Without fitting		With fitting[2]	
		from port 1 to 2, or 1 to 4	from port 2 to 3/5, or 4 to 3/5	from port 1 to 2, or 1 to 4	from port 2 to 3/5, or 4 to 3/5
MPA1					
M	5/2-way valve, single solenoid	360	360	360	360
J	5/2-way valve, double solenoid	360	360	360	360
N	2x 3/2-way valve, normally open	300	300	300	300
K	2x 3/2-way valve, normally closed	230	310	230	310
H	2x 3/2-way valve, 1x normally open and 1x normally closed	280	305	280	305
B	5/3-way valve, mid-position pressurised	300 (195)[3]	270	300 (195)[3]	270
G	5/3-way valve, mid-position closed	320	320	320	320
E	5/3-way valve, mid-position exhausted	240	240 (180)[3]	240	240 (180)[3]
X	1x 3/2-way valve	255	295	255	295
W	1x 3/2-way valve	255	295	255	295
D	2x 2/2-way valve	230	230	230	230
MPA2					
M	5/2-way valve, single solenoid	700	700	660	670
J	5/2-way valve, double solenoid	700	700	660	670
N	2x 3/2-way valve, normally open	560	490	550	480
K	2x 3/2-way valve, normally closed	500	560	500	540
H	2x 3/2-way valve, 1x normally open and 1x normally closed	500	490	500	480
B	5/3-way valve, mid-position pressurised	520	650 (350)[3]	510	600 (350)[3]
G	5/3-way valve, mid-position closed	630	630	600	610
E	5/3-way valve, mid-position exhausted	610	440 (350)[3]	590	420 (350)[3]
X	1x 3/2-way valve	500	590	470	560
W	1x 3/2-way valve	500	590	470	560
D	2x 2/2-way valve	680	–	650	–

1) Values also apply to individual sub-bases
2) Flows measured on manifold block with fitting QS-M7-6-I for MPA1 and QS-G⅛-8-I for MPA2
3) Value for mid-position

Valve response times [ms]												
Valve function order code		M	J	N	K	H	B	G	E	X	W	D
MPA1												
Response times	on	10	–	10	10	10	10	10	10	10	10	10
	off	20	–	20	20	20	35	35	35	20	20	20
	reversing	–	10	–	–	–	–	–	–	–	–	–
MPA2												
Response times	on	15	9	8	8	8	11	10	11	13	13	7
	off	28	–	28	28	28	46	40	47	22	22	25
	reversing	–	22	–	–	–	23	21	23	–	–	–

Valve terminal type 32 MPA

Technical data

FESTO

Electrical data			
MPA with CPX terminal			
Voltage supply for electronics ($U_{EL/SEN}$)			
Nominal voltage	[V]	24 DC	
Operating voltage range	[V]	18 ... 30 DC	
Max. intrinsic current consumption per electronics module at 24 V (regardless of the switching status of the valves)	[mA]	20	
Load voltage supply for valves (Uval)			
Nominal voltage	[V]	24 DC	
Operating voltage range	[V]	18 ... 30 DC	
Max. intrinsic current consumption at 24 V (regardless of the switching status of the valves) per electronics module			
VMPA1-FB-EMS-8 or VMPA2-FB-EMS-4	[mA]	8 not electrically isolated (max. signal line length 10 m)	
VMPA1-FB-EMG-8 or VMPA2-FB-EMG-4	[mA]	25 electrically isolated	
Diagnostic message on undervoltage U_{OFF} Load voltage outside function range	[V]	17.5 ... 16	
Protection class to EN 60529		IP65 (for all types of signal transmission in assembled state)	
Max. current consumption per solenoid coil at nominal voltage		MPA1	MPA2
Nominal pull current/duration	[mA]	45/20 ms	90/20 ms
Nominal current with current reduction	[mA]	8 after 20 ms	18 after 20 ms
Calculation example			
Current consumption with two solenoid coils MPA2 switched in parallel and one electronics module without electrical isolation	[mA]	$I_{EI/SEN}$ = 20	
Nominal pull current	[mA]	I_{VAL} = 8 + 2 x 90 = 188	
Nominal current with current reduction	[mA]	I_{VAL} = 8 + 2 x 18 = 44	

MPA with multi-pin plug connection			
Power supply			
Nominal voltage	[V]	24 DC	
Operating voltage range	[V]	18 ... 30 DC	
Residual ripple		4 Vss	
Current consumption at Sub-D multi-pin plug connection per solenoid coil at nominal voltage		MPA1	MPA2
Nominal pull current/duration	[mA]	80/25 ms	100/50 ms
Nominal current with current reduction	[mA]	25 after 25 ms	20 after 50 ms

Valve terminal type 32 MPA

Technical data

FESTO

Data on vibrations and shock in accordance with DIN/EC68		
	MPA1	MPA2
Vibration[1)]	Tested to DIN/IEC68 / EN 60 068 Parts 2 ... 6 With horizontal H-rail mounting: Severity level 1 With wall mounting: [2)]	
Shock[1)]	Tested to DIN/IEC68 / EN 60 068 Parts 2 ... 27 With horizontal H-rail mounting: Severity level 1 With wall mounting: Severity level 1 ... 2[2)]	
Continuous shock	Tested to DIN/IEC68 / EN 60 068 Parts 2 ... 29 With wall and H-rail mounting: Severity level 1	

1) See the CPX System Description for information on vibrations and shock for the CPX terminal.
2) Valve terminal MPA with MPM connection and more than 5 manifold blocks: Severity level 1
Valve terminal MPA with CPX terminal or MPM connection and
up to 5 manifold blocks without additional mountings: Severity level 2
6 or more manifold blocks without additional mounting (wall bracket) after 2 to max. 4 manifold blocks: Severity level 2

Test conditions			
Severity level	Vibration	Shock	Continuous shock
1	0.15 mm travel at 10 ... 58 Hz; 2 g acceleration at 58 - 150 Hz	±15 g at 11 ms duration; 5 shocks per direction	±15 g at 6 ms duration; 1000 shocks per direction
2	0.35 mm travel at 10 - 60 Hz; 5 g acceleration at 60 - 150 Hz	±30 g at 11 ms duration; 5 shocks per direction	–
Continuous shock resistance	To DIN/IEC 68/EN 60 068, Parts 2-29: +/–15 g at 6 ms, 1000 cycles		

Valve terminal type 32 MPA

Technical data

FESTO

Materials		
	MPA1	MPA2
Connection block	Die-cast aluminium	
Valve	Die-cast aluminium	
Seals	NBR, elastomer	
Supply plate	Die-cast aluminium	
Right-hand end plate	Die-cast aluminium	
Left-hand pneumatic interface	Die-cast aluminium, polyamide	
Exhaust plate	Polyamide	
Surface mounted silencer	Polyethylene	
Electronics module	Polycarbonate	
Electrical manifold module	Bronze/polybutylene terephthalate	

Product weight		
Approx. weights [g]	MPA1	MPA2
Basic connection block weight[1)]	400 (4 valve positions)	400 (2 valve positions)
Manifold block[1)]	185	
Individual sub-base	45	
per valve M, X, W	49	
per valve J, N, K, H, B, G, E, D	56	100
per vacant position L	24	44
Right-hand end plate	55	
Left-hand pneumatic interface[1)]		
• with flat plate silencer	315	
• with ducted exhaust air	324	
Supply plate[1)]		
• with flat plate silencer	111	
• with ducted exhaust air	120	
QSM-M5-3-I	3	
QSM-M5-4-I	4	
QSM-M5-6-I	5	
QSM-M7-4-I	4	
QSM-M7-6-I	5	
QS-G⅛-6-I	22	
QS-G⅛-8-I	13	
QS-G¼-8-I	22	
QS-G¼-10-I	23	

1) With thin metal seal, inscription label holder, screws

Valve terminal type 32 MPA

Technical data

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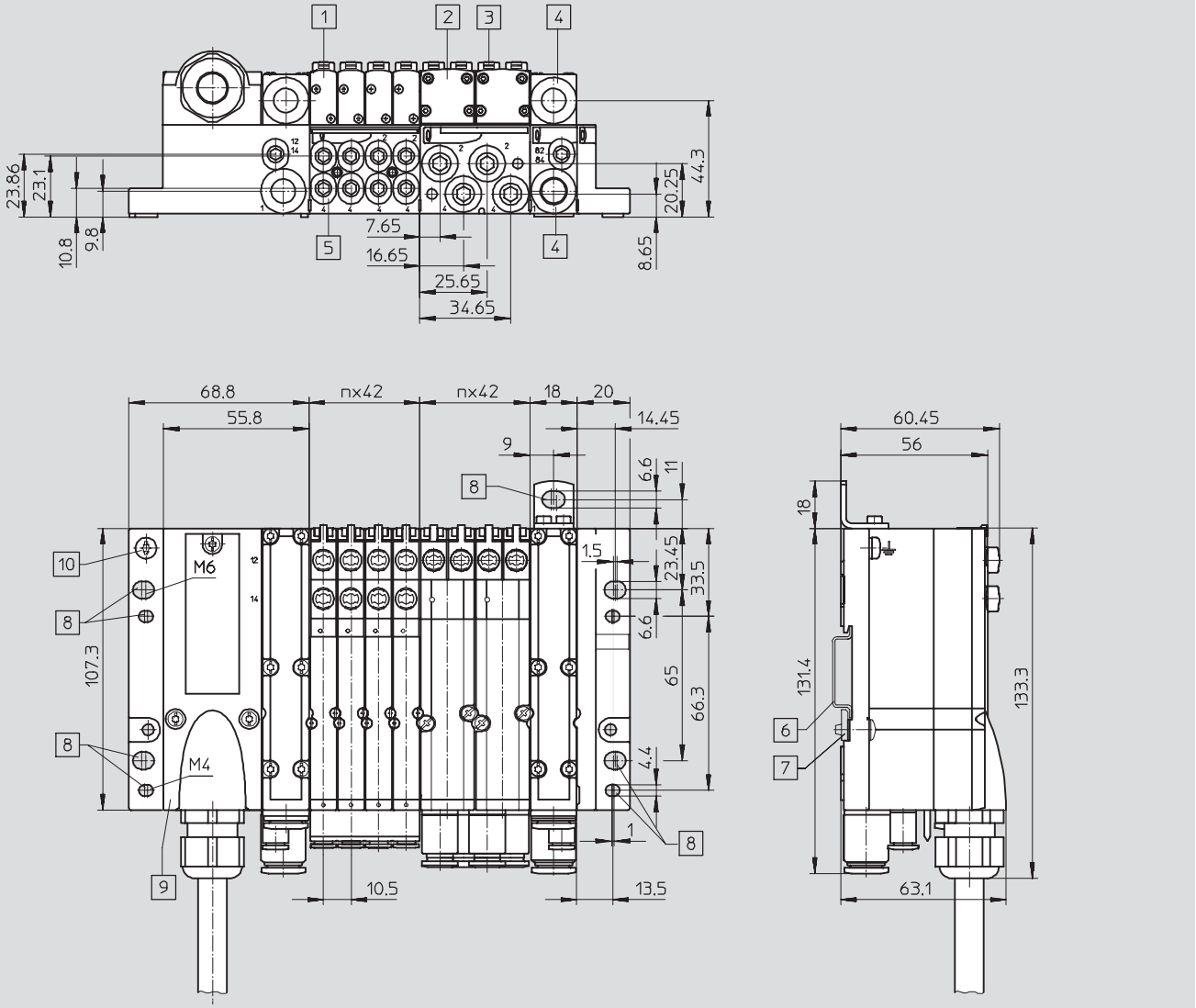
Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

Valve terminal with multi-pin plug connection



1 Solenoid valve MPA1	5 Working lines	8 Mounting holes	n Number of manifold blocks in a grid of 4 MPA1 or 2 MPA2 valves
2 Solenoid valve MPA2	6 H-rail	9 Multi-pin plug connection	
3 Manual override	7 H-rail mounting	10 Earthing screw	
4 Supply/exhaust ports			

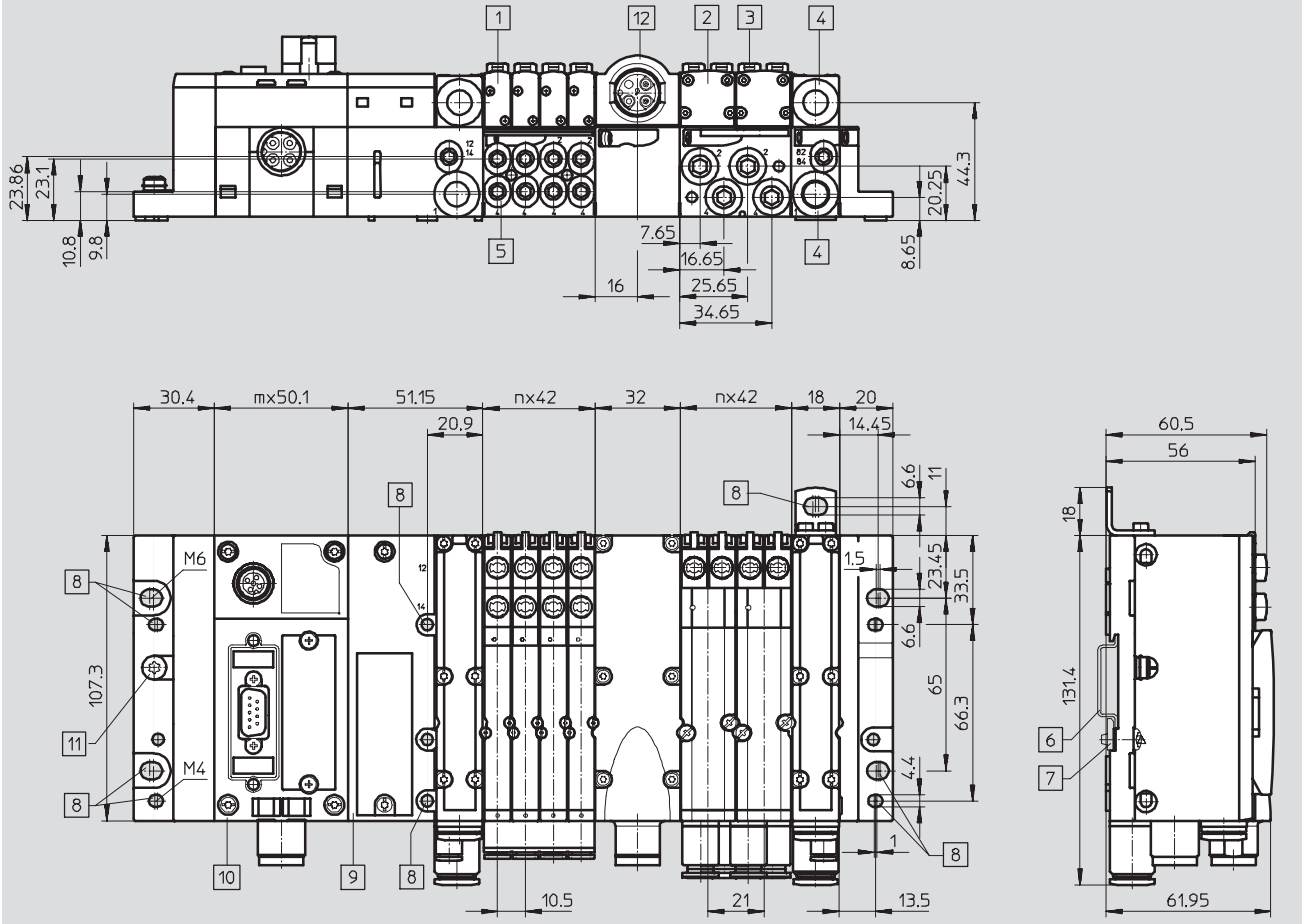
Valve terminal type 32 MPA

Technical data

FESTO

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

Valve terminal with fieldbus connection



1 Solenoid valve MPA1	5 Working lines	9 Left-hand end plate	n Number of manifold blocks in a grid of 4 MPA1 or 2 MPA2 valves
2 Solenoid valve MPA2	6 H-rail	10 CPX module	
3 Manual override	7 H-rail mounting	11 Earthing screw	
4 Supply/exhaust ports	8 Mounting holes	12 Electrical supply plate	m Number of CPX modules

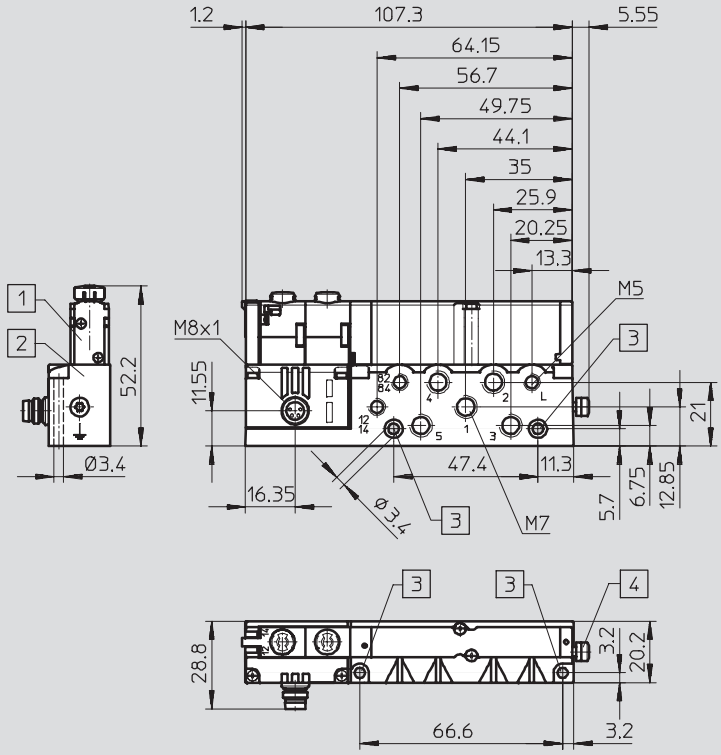
Valve terminal type 32 MPA

Technical data

FESTO

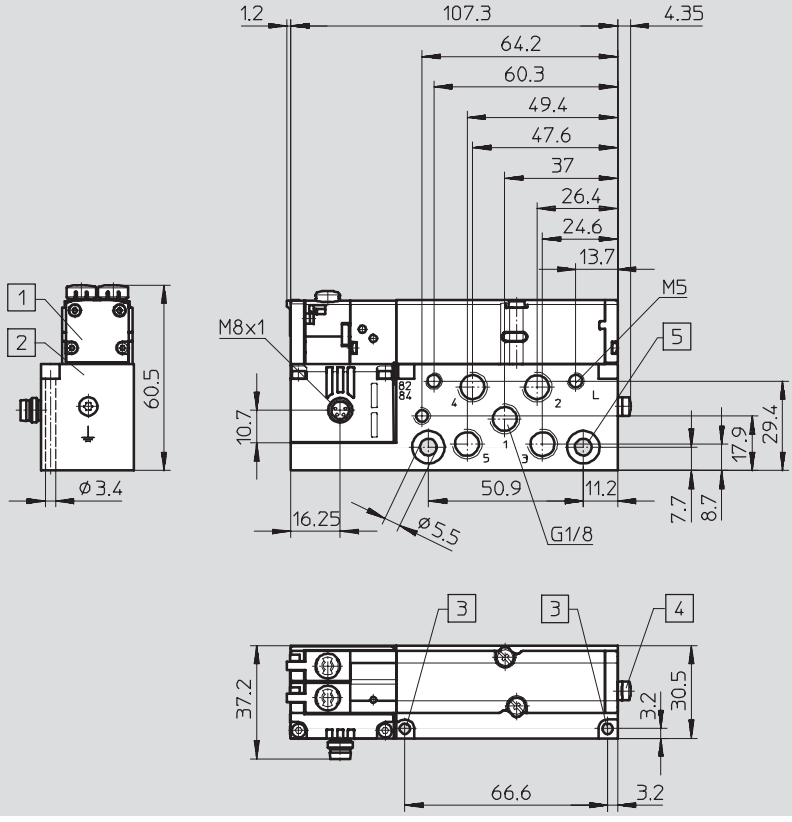
Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

MPA1 valve on individual sub-base



1 Solenoid valve
2 Individual sub-base
3 4x mounting holes for screw M3
4 Earthing screw

MPA2 valve on individual sub-base



1 Solenoid valve
2 Individual sub-base
3 2x mounting holes for screw M3
4 Earthing screw
5 2x mounting holes for screw M5

Valve terminal type 32 MPA – Electrical part MPM

Ordering data – Modular products

FESTO

M Mandatory data			O Options	
Module No.	**Valve terminal, electrical part**	**Electrical connection**	**User documentation**	**Electrical accessories**
539 105	32E	MPM	D, E, F, I, S, V	H A, B, C D, E, F GA, GB, GC GD, GE, GF
Ordering example				
539 105	**32E**	**– MPM**	**– D**	**+ D**
1	**2**	**3**	**4**	**5**

Ordering table

Size			1	Condi-tions	Code		Enter code
M	1	Module No.	**539 105**				
	2	Valve terminal, electrical part	Valve terminal type 32, MPA, with multi-pin plug connection		**32E**		32E
	3	Electrical connection	Multi-pin plug connection, modular		**-MPM**		-MPM
O	4	User documentation	German		**-D**		
			English		**-E**		
			French		**-F**		
			Italian		**-I**		
			Spanish		**-S**		
			Swedish		**-V**		
	5	Electrical accessories			**+**		+
		H-rail mounting	1		**H**		
		Multi-pin cable, Polyvinyl chloride	Pre-assembled multi-pin cable for max. 8 addresses, 2.5 m, Sub-D	1	**A**		
			Pre-assembled multi-pin cable for max. 8 addresses, 5 m, Sub-D	1	**B**		
			Pre-assembled multi-pin cable for max. 8 addresses, 10 m, Sub-D	1	**C**		
			Pre-assembled multi-pin cable for max. 24 addresses, 2.5 m, Sub-D		**D**		
			Pre-assembled multi-pin cable for max. 24 addresses, 5 m, Sub-D		**E**		
			Pre-assembled multi-pin cable for max. 24 addresses, 10 m, Sub-D		**F**		
		Multi-pin cable, Polyurethane	Pre-assembled multi-pin cable for max. 8 addresses, 2.5 m, Sub-D	1	**GA**		
			Pre-assembled multi-pin cable for max. 8 addresses, 5 m, Sub-D	1	**GB**		
			Pre-assembled multi-pin cable for max. 8 addresses, 10 m, Sub-D	1	**GC**		
			Pre-assembled multi-pin cable for max. 24 addresses, 2.5 m, Sub-D		**GD**		
			Pre-assembled multi-pin cable for max. 24 addresses, 5 m, Sub-D		**GE**		
			Pre-assembled multi-pin cable for max. 24 addresses, 10 m, Sub-D		**GF**		

1 **A, B, C, GA, GB, GC**

Note the maximum permissible number of addresses for the module blocks!

Transfer order code

539 105	**32E**	**– MPM**	**–**	**+**	
1	**2**	**3**	**4**	**5**	

Valve terminal type 32 MPA – Pneumatic part MPM

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Valve terminal, pneumatic part		Pneumatic supply	Pneumatic working port	Pneumatic supply connection		Manual override
539 105	32P		S, T, V, X	G, F, C	L, K, D		N, R, V
Ordering example							
539 105	**32P**	–	**V**	**C**	**D**	–	**R**
1	**2**		**3**	**4**	**5**		**6**

Ordering table

Size		1	2	Conditions	Code	Enter code
M 1	Module No.	**539 105**	**539 105**			
2	Valve terminal, pneumatic part	Valve terminal type 32, MPA, modular sub-base valves			**32P**	32P
3	Pneumatic supply to valve terminal	Internal pilot air supply, silencer			**-S**	
		External pilot air supply, silencer			**-T**	
		Internal pilot air supply, ducted exhaust air		1	**-V**	
		External pilot air supply, ducted exhaust air		1	**-X**	
4	Pneumatic working port	Large push-in connector in working port (6 mm)	(8 mm)		**G**	
		Small push-in connector in working port (4 mm)	(6 mm)		**F**	
		Thread in working port (M7)	(G⅛)		**C**	
5	Pneumatic supply connection	Push-in fitting QS10 for supply			**L**	
		Push-in fitting QS8 for supply			**K**	
		Thread G¼ for supply			**D**	
6	Manual override	Pushing			**-N**	
		Pushing/detenting			**-R**	
↓		Covered			**-V**	

1 **V, X** At least 1 pneumatic supply plate U, V or W must be selected (position freely selectable)

Transfer order code

539 105	**32P**	–				–	
1	**2**		**3**	**4**	**5**		**6**

Valve terminal type 32 MPA – Pneumatic part MPM

Ordering data – Modular products

FESTO

M Mandatory data

Pneumatic module blocks 0 ... 12

7 Type of module block: M, A, B, C, D

O Options

8 Duct separation: I

9 Duct separation: S, T, R

10 Supply plate: U, V, W

Module position

	0	1	2	3	4	5	6	7	8	9	10	11	12
–	**M**	**B**	**B**	**B**	**U**	**B**	**D**						

7 + 8 + 9 + 10

Ordering table

	Size		1	2	Conditions	Code		Enter code
↓		**Pneumatic module blocks 0 ... 12**				**-**		-
M	**7**	Type of module block for block 0 ... 12	Pneumatic interface		2	**M**		Enter equipment selection for module positions in order code
			Connection block for size 1, 8 addresses	–	3	**A**		
			–	Connection block for size 2, 4 addresses	3	**B**		
			Connection block for size 1, 4 addresses (single)	–	3	**C**		
			–	Connection block for size 2, 2 addresses (single)	3	**D**		
O	**8**	Duct separation in connection block 1 ... 12	Separation duct 1		4	**I**		
	9	Duct separation for block 0 ... 12	Separating seal for duct 1, 3, 5		4	**S**		
			Separating seal for duct 1		4	**T**		
			Separating seal for duct 3, 5		4	**R**		
	10	Pneumatic supply plate for block 1 ... 12	Supply plate		5	**U**		
			Supply plate with separating seal on left		6	**V**		
↓			Supply plate with separating seal on right		6	**W**		

2 **M** Only on block 0

3 **A, B, C, D**
Each module block must be fully equipped

4 **I, S, T, R**
If a duct is separated, a pneumatic supply plate U, V or W must be selected to the right of it before the next duct separation of the same duct or before the right-hand end plate

5 **U** Must be selected if no duct separation R, S or T was selected

6 **V, W** Must be selected if duct separation R, S or T was selected

Transfer order code

Module position

	0	1	2	3	4	5	6	7	8	9	10	11	12
–													

7 + 8 + 9 + 10

Valve terminal type 32 MPA – Pneumatic part MPM

Ordering data – Modular products

FESTO

➔ M **Mandatory data** | O **Options**

Pneumatic valve positions 0 ... 23	**Pneumatic accessories**
M, J, N, K, H, B, G, E, D, X, W, L	...T, ...J

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	+	
	J	K	M	M	M	D	L	J	M	M															+	8T2J
	11																									12

Ordering table

Size			1	2	Conditions	Code		Enter code
M	11	Pneumatic valve positions 0 ... 23				-		-
		Valves	5/2-way valve, single solenoid			M		Enter equipment selection for valve positions in order code
			5/2-way valve, double solenoid		7	J		
			2x 3/2-way valve, normally open		7	N		
			2x 3/2-way valve, normally closed		7	K		
			2x 3/2-way valve, 1x normally open, 1x closed		7	H		
			5/3-way valve, mid-position pressurised		7	B		
			5/3-way valve, mid-position closed		7	G		
			5/3-way valve, mid-position exhausted		7	E		
			2x 2/2-way valve, normally closed		7	D		
			3/2-way valve, normally closed, external supply air			X		
			3/2-way valve, normally open, external compressed air supply			W		
			Vacant position			L		
O	12	Pneumatic accessories				+		+
		Inscription label per manifold block	1 ... 99			...T		
		Mounting bracket for additional wall mounting	1 ... 99			...J		

7 **J, N, K, H, B, G, E, D**
Cannot be selected on module block C or D

Transfer order code

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	+	
	11																									12

Valve terminal type 32 MPA – Pneumatic part CPX

Ordering data – Modular products

FESTO

M Mandatory data →

Module No.	Valve terminal, pneumatic part		Pneumatic supply	Pneumatic working port	Pneumatic supply connection		Manual override
530 411	32P		S, T, V, X	G, F, C	L, K, D		N, R, V
Ordering example							
530 411	**32P**	–	**V**	**C**	**D**	–	**R**
1	**2**		**3**	**4**	**5**		**6**

Ordering table

Size			1	2	Conditions	Code		Enter code
M	**1**	Module No.	**530 411**	**530 411**				
	2	Valve terminal, pneumatic part	Valve terminal type 32, MPA, modular sub-base valves			**32P**		32P
	3	Pneumatic supply to valve terminal	Internal pilot air supply, silencer			**-S**		
			External pilot air supply, silencer			**-T**		
			Internal pilot air supply, ducted exhaust air		1	**-V**		
			External pilot air supply, ducted exhaust air		1	**-X**		
	4	Pneumatic working port	Large push-in connector in working port (6 mm)	(8 mm)		**G**		
			Small push-in connector in working port (4 mm)	(6 mm)		**F**		
			Thread in working port (M7)	(G1⁄8)		**C**		
	5	Pneumatic supply connection	Push-in fitting QS10 at supply port			**L**		
			Push-in fitting QS8 at supply port			**K**		
			Thread G1⁄4 for supply port			**D**		
	6	Manual override	Pushing			**-N**		
			Pushing/detenting			**-R**		
↓			Covered			**-V**		

1 **V, X** At least 1 pneumatic supply plate U, V or W must be selected (position freely selectable)

Transfer order code

530 411	**32P**	–				–	
1	**2**		**3**	**4**	**5**		**6**

Valve terminal type 32 MPA – Pneumatic part CPX

Ordering data – Modular products

FESTO

M Mandatory data

Pneumatic module blocks 0 ... 16

7 Type of interlinking block: M, A, B

O Options

8 Electrical module: H

9 Duct separation in interlinking block: I

10 Duct separation: S, T, R

11 Supply plate: U, V, W

12 Electrical supply plate: L

Module position

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
–	**M**	**A**	**A**	**A**	**A**	**A**	**U**										

7 + 8 + 9 + 10 + 11 + 12

Ordering table

Size		1	2	Conditions	Code		Enter code
M	**Pneumatic module blocks 0 ... 16**				-		-
	7 Type of interlinking block 0 ... 16	Pneumatic interface		2	**M**		Enter equipment selection for module positions in order code
		Manifold block for size 1	–	3 4	**A**		
		–	Manifold block for size 2	4 5	**B**		
O	**8** Electrical module for block 1 ... 16	Electrical module, electrically isolated		6	**H**		
	9 Duct separation in interlinking block 1 ... 16	Separation duct 1		7	**I**		
	10 Duct separation for block 0 ... 15	Seal with duct separation 1, 3, 5		7	**S**		
		Seal with duct separation 1		7	**T**		
		Seal with duct separation 3, 5		7	**R**		
	11 Pneumatic supply plate for block 1 ... 16	Supply plate		8	**U**		
		Supply plate with separating seal on left		9	**V**		
		Supply plate with separating seal on right		9	**W**		
	12 Electrical supply plate for block 0 ... 16	Electrical supply plate		10	**L**		

2 **M** Only on block 0

3 **A** 4 valve positions. Occupies 8 digital outputs

4 **A, B** The connection block must be fully equipped.
Module blocks A or B must not be used without electrical module, electrically isolated H to the right of an electrical supply plate L or if an interlinking block with valve supply V, QP or QV was selected in the CPX part

5 **B** 2 valve positions. Occupies 4 digital outputs

6 **H** Electrical supply plate L must be selected before the first H, unless the entire valve terminal has only module blocks with electrical module, electrically isolated H

7 **I, S, T, R**
If a duct is separated, a pneumatic supply plate U, V or W must be selected to the right of it before the next duct separation of the same duct or before the right-hand end plate

8 **U** Must be selected if no separating seal R, S or T was selected

9 **V, W** Must be selected if separating seal R, S or T was selected

10 **L** Only module blocks with electrical module, electrically isolated H may be selected to the right of an electrical supply plate L.
At least one electrical supply plate L must be selected after each group of 8 connection blocks.
A maximum of 8 electrical supply plates L may be selected per valve terminal

Transfer order code

Module position

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
–																	

7 + 8 + 9 + 10 + 11 + 12

Valve terminal type 32 MPA – Pneumatic part CPX

Ordering data – Modular products

FESTO

M Mandatory data	O Options
Pneumatic valve positions 0 … 64	**Pneumatic accessories**
M, J, N, K, H, B, G, E, D, X, W, L	…T, …J

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	24	25	26	27	28	29	…	64
–	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M											+

13 14

5T1J

Ordering table

Size			1	2	Conditions	Code		Enter code
M	13	Pneumatic valve positions 0 … 64				-		-
		Valves	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		
			2x 3/2-way valve, 1x normally open, 1x closed			H		
			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, normally closed			D		
			3/2-way valve, normally closed, external supply air			X		
			3/2-way valve, normally open, external supply air			W		
			Vacant position			L		
O	14	Pneumatic accessories				+		+
		Inscription label per manifold block	1 … 99			…T		
		Mounting bracket for additional wall mounting	1 … 99		11	…J		

11 **J** Can only be selected if at least one pneumatic supply plate U, V or W is used

Transfer order code

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	24	25	26	27	28	29	…	64
–																															+

13 14

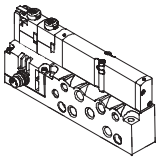
Valve terminal type 32 MPA

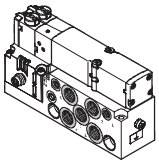
Ordering data – Individual valve

FESTO

Ordering data

Valves on individual sub-base

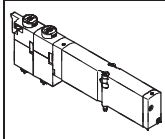
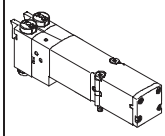




Code	Valve function	Type	Part No.
Internal pilot air supply			
M	5/2-way valve, single solenoid	**VMPA1-M1H-M7-PI**	**533 376**
		VMPA2-M1H-M-G1⁄8-PI	**537 963**
J	5/2-way valve, double solenoid	**VMPA1-M1H-J-M7-PI**	**533 377**
		VMPA2-M1H-J-G1⁄8-PI	**537 964**
N	2x 3/2-way valve, normally open	**VMPA1-M1H-N-M7-PI**	**533 382**
		VMPA2-M1H-N-G1⁄8-PI	**537 969**
K	2x 3/2-way valve, normally closed	**VMPA1-M1H-K-M7-PI**	**533 381**
		VMPA2-M1H-K-G1⁄8-PI	**537 968**
H	2x 3/2-way valve, 1x normally open, 1x normally closed	**VMPA1-M1H-H-M7-PI**	**533 383**
		VMPA2-M1H-H-G1⁄8-PI	**537 970**
B	5/3-way valve, mid-position pressurised	**VMPA1-M1H-B-M7-PI**	**533 378**
		VMPA2-M1H-B-G1⁄8-PI	**537 965**
G	5/3-way valve, mid-position closed	**VMPA1-M1H-G-M7-PI**	**533 379**
		VMPA2-M1H-G-G1⁄8-PI	**537 966**
E	5/3-way valve, mid-position exhausted	**VMPA1-M1H-E-M7-PI**	**533 380**
		VMPA2-M1H-E-G1⁄8-PI	**537 967**
D	2x 2/2-way valve, normally closed	**VMPA1-M1H-D-M7-PI**	**533 384**
		VMPA2-M1H-D-G1⁄8-PI	**537 971**
External pilot air supply			
M	5/2-way valve, single solenoid	**VMPA1-M1H-MS-M7-PI**	**533 385**
		VMPA2-M1H-MS-G1⁄8-PI	**537 972**
J	5/2-way valve, double solenoid	**VMPA1-M1H-JS-M7-PI**	**533 386**
		VMPA2-M1H-JS-G1⁄8-PI	**537 973**
N	2x 3/2-way valve, normally open	**VMPA1-M1H-NS-M7-PI**	**533 391**
		VMPA2-M1H-NS-G1⁄8-PI	**537 978**
K	2x 3/2-way valve, normally closed	**VMPA1-M1H-KS-M7-PI**	**533 390**
		VMPA2-M1H-KS-G1⁄8-PI	**537 977**
H	2x 3/2-way valve, 1x normally open, 1x normally closed	**VMPA1-M1H-HS-M7-PI**	**533 392**
		VMPA2-M1H-HS-G1⁄8-PI	**537 979**
B	5/3-way valve, mid-position pressurised	**VMPA1-M1H-BS-M7-PI**	**533 387**
		VMPA2-M1H-BS-G1⁄8-PI	**537 974**
G	5/3-way valve, mid-position closed	**VMPA1-M1H-GS-M7-PI**	**533 388**
		VMPA2-M1H-GS-G1⁄8-PI	**537 975**
E	5/3-way valve, mid-position exhausted	**VMPA1-M1H-ES-M7-PI**	**533 389**
		VMPA2-M1H-ES-G1⁄8-PI	**537 976**
D	2x 2/2-way valve, normally closed	**VMPA1-M1H-DS-M7-PI**	**533 393**
		VMPA2-M1H-DS-G1⁄8-PI	**537 980**

Ordering data

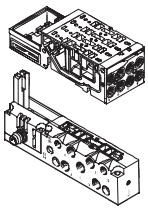
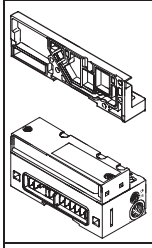
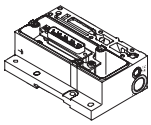
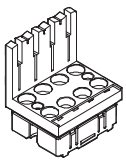
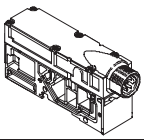
Individual sub-base valve

	Code	Valve function	Electrical plug-in connection	
			Type	Part No.
	M	5/2-way valve, single solenoid	**VMPA1-M1H-M-PI**	**533 342**
			VMPA2-M1H-M-PI	**537 952**
	J	5/2-way valve, double solenoid	**VMPA1-M1H-J-PI**	**533 343**
			VMPA2-M1H-J-PI	**537 953**
	N	2x 3/2-way valve, normally open	**VMPA1-M1H-N-PI**	**533 348**
			VMPA2-M1H-N-PI	**537 958**
	W	2x 3/2-way valve, normally open, reversible direction of flow	**VMPA2-M1H-W-PI**	**540 051**
	K	2x 3/2-way valve, normally closed	**VMPA1-M1H-K-PI**	**533 347**
			VMPA2-M1H-K-PI	**537 957**
	H	2x 3/2-way valve, 1x normally open, 1x normally closed	**VMPA1-M1H-H-PI**	**533 349**
			VMPA2-M1H-H-PI	**537 959**
	B	5/3-way valve, mid-position pressurised	**VMPA1-M1H-B-PI**	**533 344**
			VMPA2-M1H-B-PI	**537 954**
	G	5/3-way valve, mid-position closed	**VMPA1-M1H-G-PI**	**533 345**
			VMPA2-M1H-G-PI	**537 955**
	E	5/3-way valve, mid-position exhausted	**VMPA1-M1H-E-PI**	**533 346**
			VMPA2-M1H-E-PI	**537 956**
	X	1x 3/2-way valve, normally closed, external compressed-air supply	**VMPA1-M1H-X-PI**	**534 415**
			VMPA2-M1H-X-PI	**537 961**
	D	2x 2/2-way valve, normally closed	**VMPA1-M1H-D-PI**	**533 350**
			VMPA2-M1H-D-PI	**537 960**

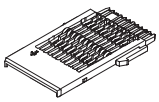
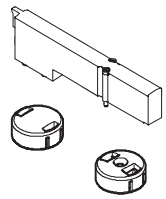
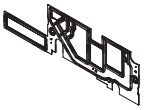
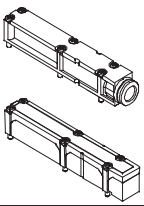
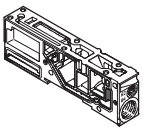
Valve terminal type 32 MPA

Accessories

FESTO

Ordering data				
Designation			Type	Part No.
Inscription labels				
	6 x 10 in frames, pack of 64 for CPX identification		**IBS-6x10**	**18 576**
	Inscription label holder for manifold block, 4-fold		**VMPA1-ST-1-4**	**533 362**
	38 x 9 for manifold block		**MPA**	**663 739**
	20 x 45 for pneumatic interface		**MPA**	**663 010**
Mounting				
	For H-rail	MPA with fieldbus	**CPX-CPA-BG-NRH**	**526 032**
	For H-rail	MPA with multi-pin plug connection	**CPA-BG-NRH**	**173 498**
	Mounting bracket		**VMPA-BG-RW**	**534 416**
Manifold block/sub-base				
	4-fold		**VMPA1-FB-AP-4-1**	**533 352**
	2-fold		**VMPA2-FB-AP-2-1**	**538 000**
	4-fold, duct 1 closed		**VMPA1-FB-AP-4-1-T1**	**538 657**
	2-fold, duct 1 closed		**VMPA2-FB-AP-2-1-T0**	**538 677**
	Individual connection, internal pilot air supply		**VMPA1-IC-AP-1**	**533 394**
			VMPA2-IC-AP-1	**537 981**
	Individual connection, external pilot air supply		**VMPA1-IC-AP-S-1**	**533 395**
			VMPA2-IC-AP-S-1	**537 982**
End plates and fieldbus pneumatic interface				
	Right-hand end plate		**VMPA-EPR**	**533 373**
	Pneumatic interface, ducted exhaust air, internal pilot air supply		**VMPA-FB-EPL-G**	**533 370**
	Pneumatic interface, ducted exhaust air, external pilot air supply		**VMPA-FB-EPL-E**	**533 369**
	Pneumatic interface, flat plate silencer, internal pilot air supply		**VMPA-FB-EPL-GU**	**533 372**
	Pneumatic interface, flat plate silencer, external pilot air supply		**VMPA-FB-EPL-EU**	**533 371**
Electrical interface for multi-pin plug connection				
	External pilot air supply, ducted exhaust air		**VMPA1-MPM-EPL-E**	**540 893**
	Internal pilot air supply, ducted exhaust air		**VMPA1-MPM-EPL-G**	**540 894**
	External pilot air supply, silencer		**VMPA1-MPM-EPL-EU**	**540 895**
	Internal pilot air supply, silencer		**VMPA1-MPM-EPL-GU**	**540 896**
Electronics modules				
	For fieldbus connection, not electrically isolated, standard	4 coils MPA2	**VMPA2-FB-EMS-4**	**537 983**
		8 coils MPA1	**VMPA1-FB-EMS-8**	**533 360**
	For fieldbus connection, electrically isolated	4 coils MPA2	**VMPA2-FB-EMG-4**	**537 984**
		8 coils MPA1	**VMPA-FB-EMG-8**	**533 361**
	For modular multi-pin plug connection (MPM)	2 coils MPA2	**VMPA2-MPM-EMM-2**	**537 985**
		4 coils MPA2	**VMPA2-MPM-EMM-4**	**537 986**
		4 coils MPA1	**VMPA1-MPM-EMM-4**	**537 987**
		8 coils MPA1	**VMPA1-MPM-EMM-8**	**537 988**
Electrical supply plate				
	M18 plug connection, 3-pin		**VMPA-FB-SP-V**	**541 082**
	7/8" plug connection, 5-pin		**VMPA-FB-SP-7/8-V-5POL**	**541 083**
	7/8" plug connection, 4-pin		**VMPA-FB-SP-7/8-V-4POL**	**541 084**

Ordering data

Designation		Type	Part No.
Electrical connection module			
 • Connection module for multi-pin plug connection	2 coils MPA2	**VMPA2-MPM-EV-AB-2**	**537 989**
	4 coils MPA1, MPA2	**VMPA1-MPM-EV-AB-4**	**537 993**
	8 coils MPA1	**VMPA1-MPM-EV-AB-8**	**537 994**
• Connection module for multi-pin plug connection • Pneumatic supply plate	2 coils MPA2	**VMPA2-MPM-EV-ABV-2**	**537 991**
	4 coils MPA1, MPA2	**VMPA1-MPM-EV-ABV-4**	**537 995**
	8 coils MPA1	**VMPA1-MPM-EV-ABV-8**	**537 996**
For fieldbus connection	Manifold block MPA1 and MPA2	**VMPA1-FB-EV-AB**	**537 998**
	Pneumatic supply plate	**VMPA1-FB-EV-V**	**537 999**
Cover			
 Blanking plate for vacant valve position[1)]		**VMPA1-RP**	**533 351**
		VMPA2-RP	**537 962**
Cover for manual override, detenting (10 pieces)		**VMPA1-HBT**	**533 366**
Cover for manual override, covered (10 pieces)		**VMPA1-HBV**	**535 257**
Seals for manifold block			
 MPA with ducted exhaust air	No duct separated	**VMPA1-DP**	**533 359**
	Duct 1 separated	**VMPA1-DP-P**	**533 363**
	Duct 3/5 separated	**VMPA1-DP-RS**	**533 364**
	Duct 1 and 3/5 separated	**VMPA1-DP-PRS**	**533 365**
MPA with surface mounted silencer	No duct separated	**VMPA1-DPU**	**533 355**
	Duct 1 separated	**VMPA1-DPU-P**	**533 356**
	Duct 3/5 separated	**VMPA1-DPU-RS**	**533 357**
	Duct 1 and 3/5 separated	**VMPA1-DPU-PRS**	**533 358**
Exhaust plate			
 For ducted exhaust air, with 10 mm push-in connector		**VMPA-AP**	**533 375**
For surface mounted silencer		**VMPA-APU**	**533 374**
Supply plates (without exhaust plate)			
 For ducted exhaust air		**VMPA1-FB-SP**	**533 354**
For surface mounted silencer		**VMPA1-FB-SPU**	**533 353**

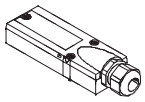
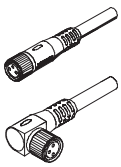
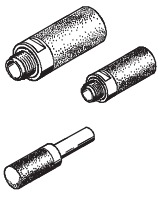
1) A self-adhesive label is supplied.

Valve terminal type 32 MPA

Accessories

FESTO

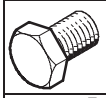
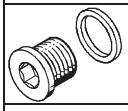
Ordering data

Designation			Type	Part No.
Multi-pin plug connection, electrical				
	Cover without connecting cable for self-assembly		**VMPA-KMS-H**	**533 198**
	PVC connecting cable for 8 solenoid coils	2.5 m	**VMPA-KMS1-8-2,5**	**533 195**
		5 m	**VMPA-KMS1-8-5**	**533 196**
		10 m	**VMPA-KMS1-8-10**	**533 197**
	PVC connecting cable for 24 solenoid coils	2.5 m	**VMPA-KMS1-24-2,5**	**533 192**
		5 m	**VMPA-KMS1-24-5**	**533 193**
		10 m	**VMPA-KMS1-24-10**	**533 194**
	PUR connecting cable for 8 solenoid coils, suitable for chain link trunking	2.5 m	**VMPA-KMS2-8-2,5-PUR**	**533 504**
		5 m	**VMPA-KMS2-8-5-PUR**	**533 505**
		10 m	**VMPA-KMS2-8-10-PUR**	**533 506**
	PUR connecting cable for 24 solenoid coils, suitable for chain link trunking	2.5 m	**VMPA-KMS2-24-2,5-PUR**	**533 501**
		5 m	**VMPA-KMS2-24-5-PUR**	**533 502**
		10 m	**VMPA-KMS2-24-10-PUR**	**533 503**
Individual connection, electrical				
	Plug socket with cable	2.5 m	**SIM-M8-4GD-2,5-PU**	**158 960**
		5 m	**SIM-M8-4GD-5-PU**	**158 961**
	Plug socket with cable	2.5 m	**SIM-M8-4WD-2,5-PU**	**158 962**
		5 m	**SIM-M8-4WD-5-PU**	**158 963**
Push-in fitting for manifold block, pneumatic interface, supply plate				
	Connecting thread M5 for tubing O.D.	3 mm (10 pieces)	**QSM-M5-3-I**	**153 313**
		4 mm (10 pieces)	**QSM-M5-4-I**	**153 315**
		6 mm (10 pieces)	**QSM-M5-6-I**	**153 317**
	Connecting thread M7 for tubing O.D.	4 mm (10 pieces)	**QSM-M7-4-I**	**153 319**
		6 mm (10 pieces)	**QSM-M7-6-I**	**153 321**
	Connecting thread G1/8 for tubing O.D.	6 mm (10 pieces)	**QS-G1/8-6-I**	**186 107**
		8 mm (10 pieces)	**QS-G1/8-8-I**	**186 109**
	Connecting thread G1/4 for tubing O.D.	8 mm (10 pieces)	**QS-G1/4-8-I**	**186 110**
		10 mm (10 pieces)	**QS-G1/4-10-I**	**186 112**
Silencer				
	Connecting thread	M5	**UC-M5**	**165 003**
		M7	**UC-M7**	**161 418**
		G1/4	**UC-1/4**	**165 004**
		G1/8	**UC-1/8**	**161 419**
	Push-in sleeve connection type	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**
		10 mm	**UC-QS-10H**	**526 475**
	Surface mounted silencer MPA			**662 567**

Valve terminal type 32 MPA

Accessories

FESTO

Ordering data				
Designation			Type	Part No.
Blanking plug				
	Thread M5		**B-M5**	**3 843**
	Thread M7		**B-M7**	**174 309**
	Thread G1⁄8		**B-1⁄8**	**3 568**
	Thread G1⁄4		**B-1⁄4**	**3 569**
Plug				
	Blanking plug for tubing O.D.	4 mm	**QSC-4H**	**153 267**
		6 mm	**QSC-6H**	**153 268**
		8 mm	**QSC-8H**	**153 269**
		10 mm	**QSC-10H**	**153 270**
User documentation				
	MPA user documentation	German	**P.BE-MPA-DE**	**534 240**
		English	**P.BE-MPA-EN**	**534 241**
		French	**P.BE-MPA-FR**	**534 243**
		Spanish	**P.BE-MPA-ES**	**534 242**
		Italian	**P.BE-MPA-IT**	**534 244**
		Swedish	**P.BE-MPA-SV**	**534 245**