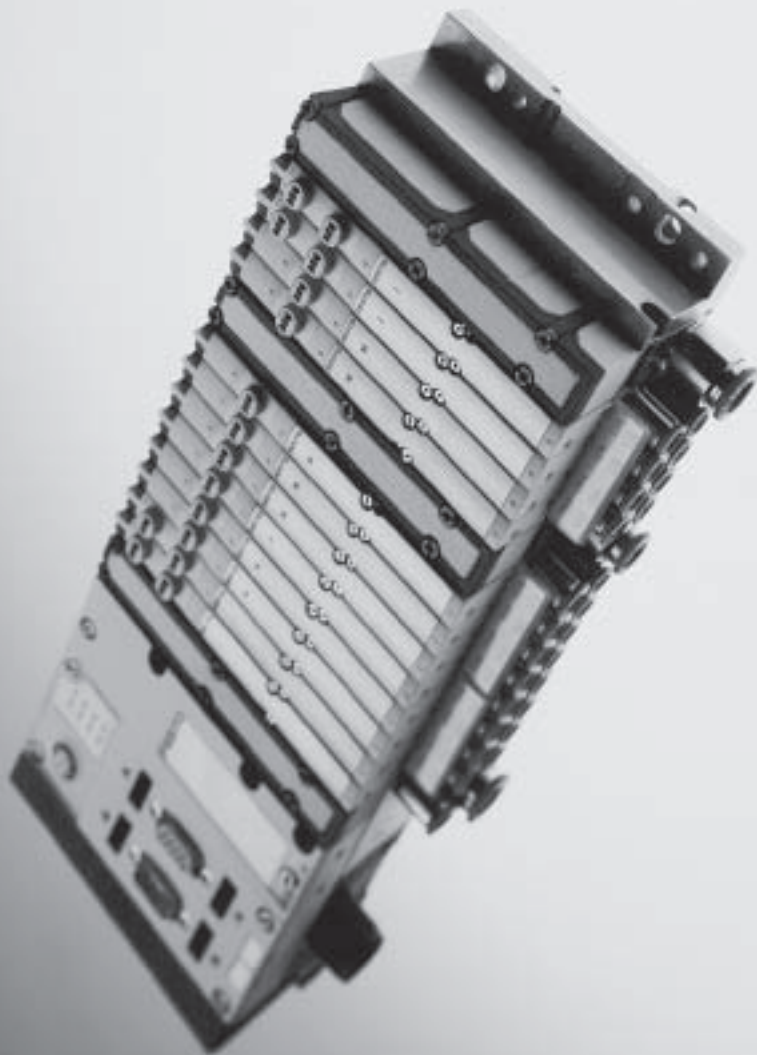


Valve terminal type 32 MPA, Modular Performance

FESTO

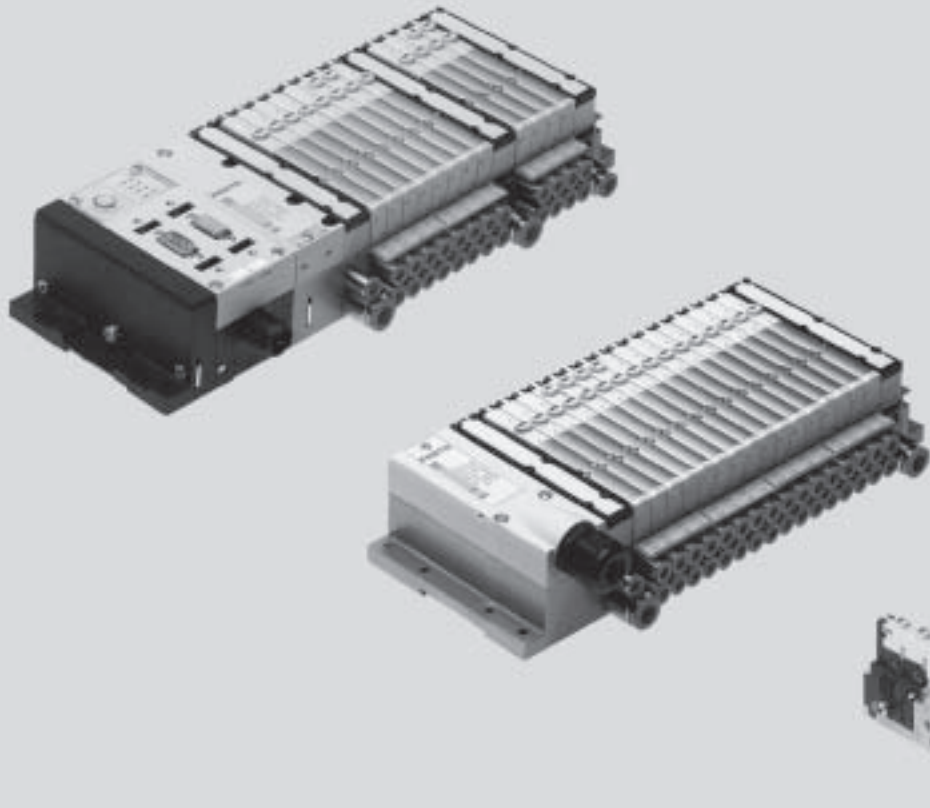


- Modular multi-functional valve terminal for up to 64 valves
- Design suitable for electrical peripherals CPX
- Channel-oriented diagnosis down to the individual valve
- Straightforward valve replacement
- Flow rates of up to 360 l/min
- Valves can be activated via electrical isolation, voltage tolerance $\pm 25\%$

Valve terminal type 32 MPA, Modular Performance

Key features

FESTO



Valve terminals for standard applications
Heavy-duty modular

2.2

Innovative

- Slim high-performance valves in sturdy metal housing, size MPA1 up to 360 l/min
- Standardised from the individual valve up to multi-pin plug and fieldbus connections
- 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 with 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, 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

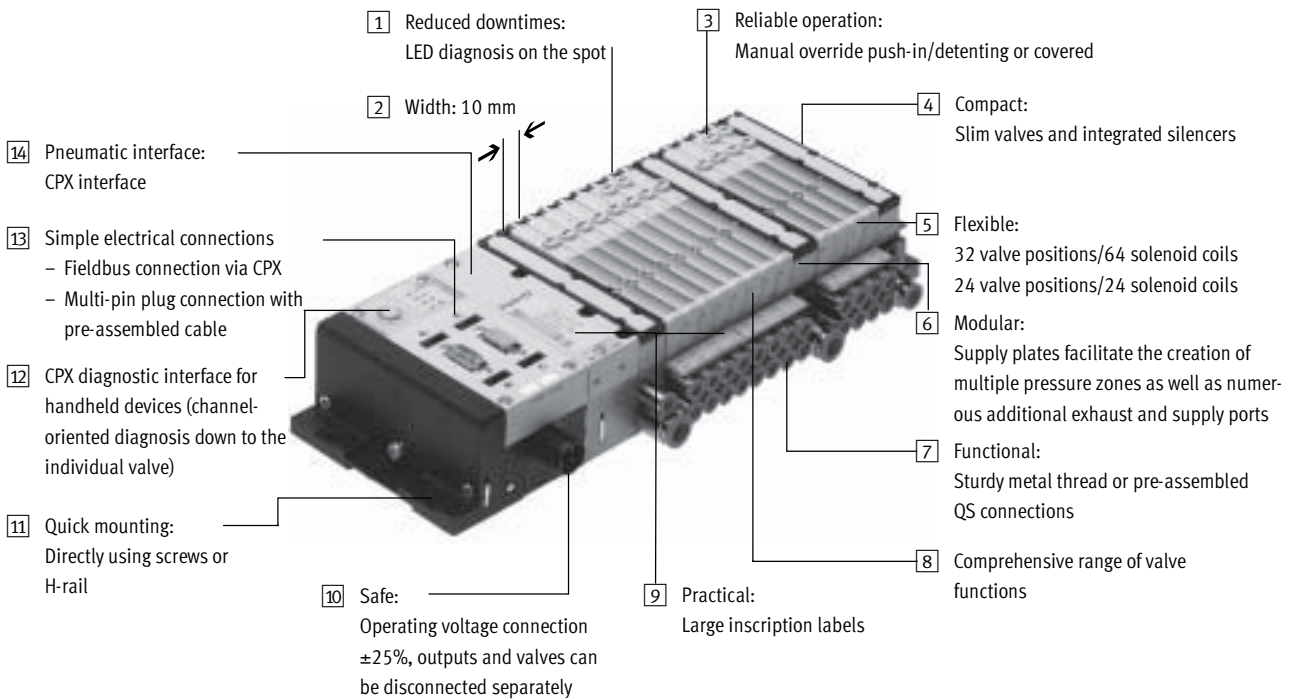
- Sturdy and durable components made of metal
 - Valves
 - Sub-bases
 - Seals
- Fast troubleshooting thanks to LEDs on the valves and diagnosis via fieldbus
- High operating voltage tolerance $\pm 25\%$
- Reliable servicing through replaceable valves and electronics modules
- Manual override either push-in,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

Easy to assemble

- 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, Modular Performance

Key features



Valve terminals for standard applications
Heavy-duty modular

2.2

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
- All valves have the same compact dimensions with an overall length of 107 mm and a width of 10 mm. A height of 55 mm makes them a perfect match with the electrical peripherals CPX.

Special features

Fieldbus terminal

- 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

Multi-pin terminal

- Max. 24 valve positions/ max. 24 solenoid coils
- Parallel valve linking via circuit board
- Electronics module with integrated holding current reduction
- Compressed-air supply left and optionally right
- Second pressure zone possible through the use of a separating seal

Individual valve

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

Valve terminal configurator

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

Valve terminals are equipped and assembled according to customer requirements. This results in minimal installation time. They are also fully inspected before shipment.



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

Note
→ 4 / 4.8-2 Modular electrical terminal CPX

Valve terminal type 32 MPA, Modular Performance

Peripherals overview



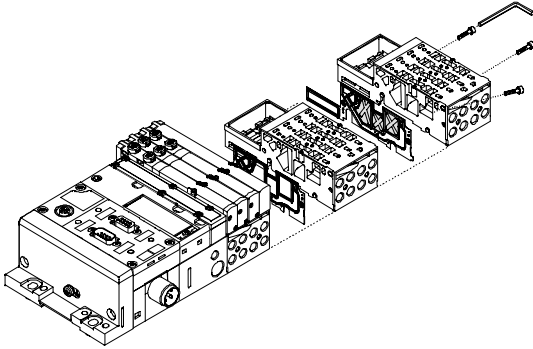
Modular pneumatic components

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 channels 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 fieldbus terminal, multi-pin 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

MPA with CPX interface



Modular electrical peripherals CPX



Valve terminal type 32 MPA, Modular Performance

Peripherals overview

Overview – MPA valve terminal
Valve terminal with fieldbus connection (electrical peripherals CPX)

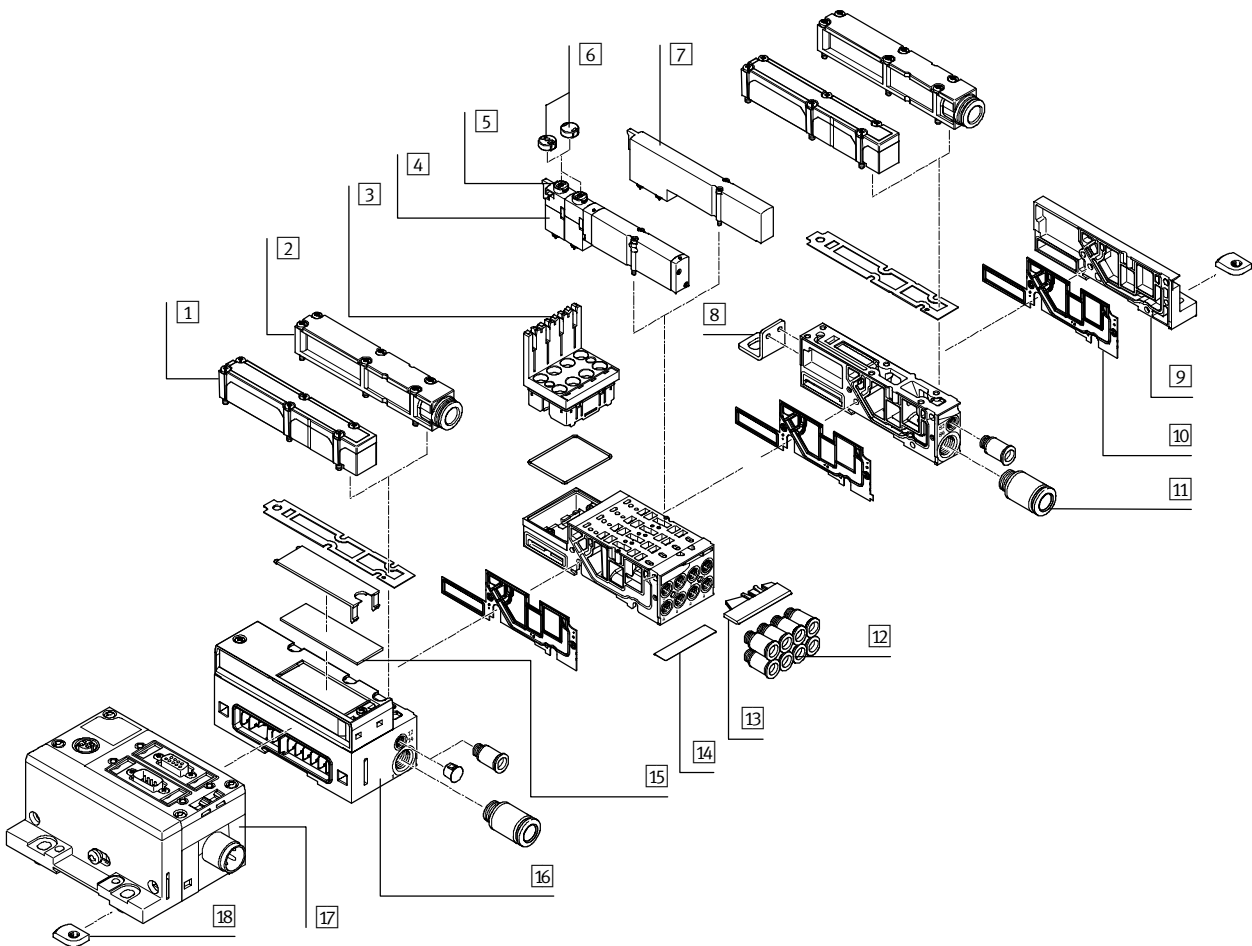
Order code:

- 32P-... for the pneumatic components
- 50E-... for the electrical components

MPA valve terminals with fieldbus connection can be expanded from 4 to 32 valves and 4 to 64 solenoid coils.
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
- Preventative maintenance concepts



- | | | | |
|---|---|--|--|
| 1 Integrated silencer | 6 Cover for manual override (push-in, covered only) | 10 Separating seal | 14 Inscription label |
| 2 Ducted exhaust | 7 Blanking plate for vacant position | 11 Threaded connectors for supply plate | 15 Inscription label, large |
| 3 Electronics module | 8 Mounting bracket (optional) | 12 Threaded connectors for working lines | 16 Pneumatic interface (CPX interface) |
| 4 MPA valve | 9 Right-hand end plate | 13 Inscription label holder | 17 CPX modules |
| 5 Manual override (per solenoid coil, push-in/rotary-detenting) | | | 18 Attachment for H-rail mounting |

Valve terminal type 32 MPA, Modular Performance

Peripherals overview

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 from 4 to 24 valves and 4 to 24 solenoid coils. The manifold blocks are either prepared for:

- 4 single solenoid valves
- 4 double solenoid valves

The manifold blocks for the double solenoid valves are mounted directly after the pneumatic interface, followed by the manifold blocks for the single solenoid valves.

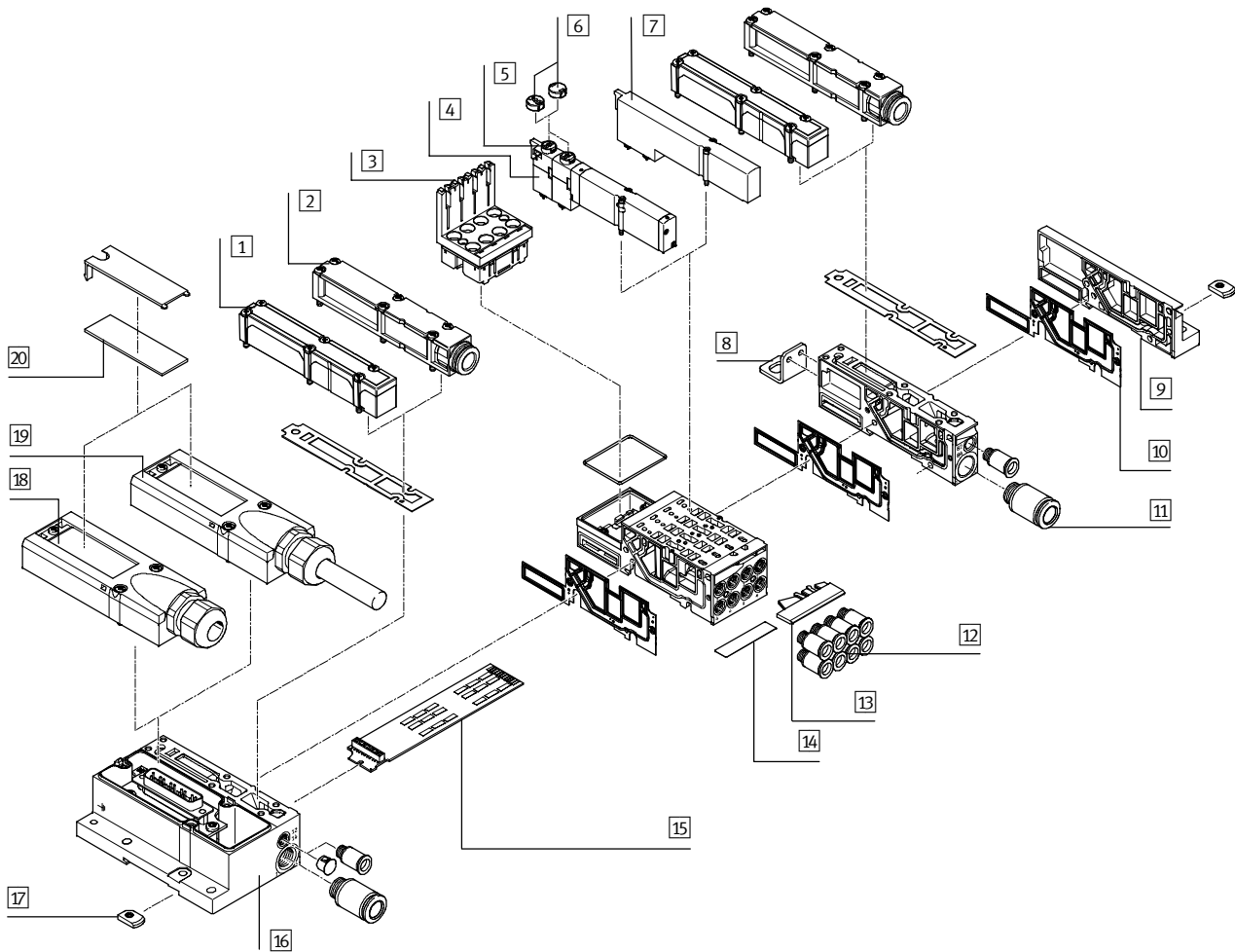
- Double solenoid valve positions can be equipped with any valve or a blanking plate.
- Single solenoid valve positions can only be equipped with single solenoid valves.

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 Integrated silencer | 6 Cover for manual override (push-in, covered only) | 12 Threaded connectors for working lines | 17 Attachment for H-rail mounting |
| 2 Ducted exhaust | 7 Blanking plate for vacant position | 13 Inscription label holder | 18 Multi-pin plug connection, for self-assembly |
| 3 Electronics module | 8 Mounting bracket (optional) | 14 Inscription label | 19 Multi-pin cable |
| 4 MPA valve | 9 Right-hand end plate | 15 Multi-pin circuit board | 20 Inscription label, large |
| 5 Manual override (per solenoid coil, push-in/rotary-detenting) | 10 Separating seal | 16 Pneumatic interface, multi-pin | |
| | 11 Threaded connectors for supply plate | | |

Valve terminal type 32 MPA, Modular Performance

Peripherals overview

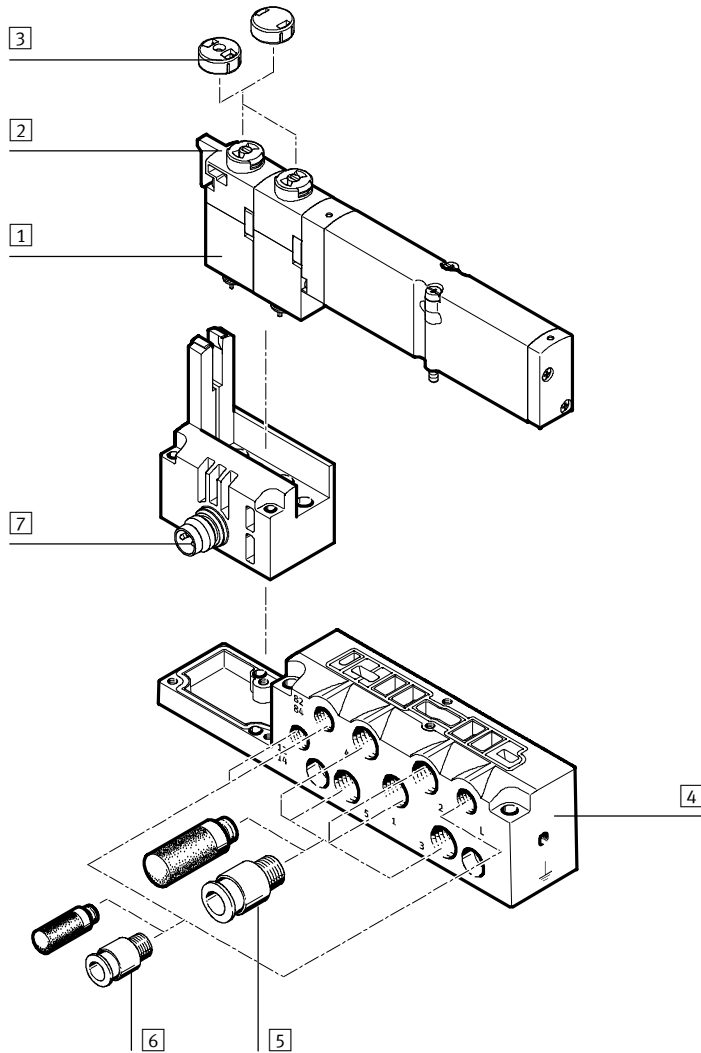
Individual sub-base

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 24 571).



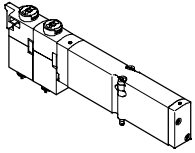
- 1 MPA valve
- 2 Manual override (per solenoid coil, push-in/rotary-detenting)
- 3 Cover for manual override (push-in only, covered)
- 4 Sub-base for individual valve
- 5 Threaded connectors and/or silencers M7 for working lines (2, 4) and supply air/exhaust ports (1, 3, 5)
- 6 Threaded connectors,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

Valve terminal type 32 MPA, Modular Performance

Key features – Pneumatic components



Sub-base valve



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

Sub-base valves can be quickly replaced since the pipe connection remains on the manifold block. 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 (double solenoid).

Blanking plate

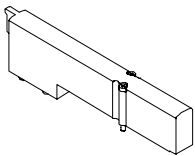


Plate without valve function for reserving valve positions on a valve terminal.

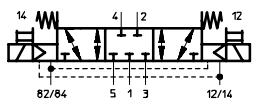
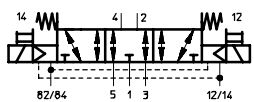
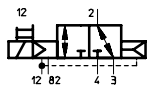
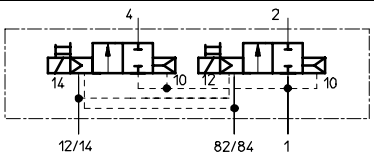
Valve sub-bases and blanking plates are attached to the manifold block using two screws.

Valve function			
Code	Circuit symbol	Size 10	Description
M		■	5/2-way valve, single solenoid ■ Pneumatic spring return
J		■	5/2-way valve, double solenoid
N		■	2x 3/2-way valve, single solenoid ■ Normally open ■ Pneumatic spring return
K		■	2x 3/2-way valve, single solenoid ■ Normally closed ■ Pneumatic spring return
H		■	2x 3/2-way valve, single solenoid ■ Normal position 1x open 1x closed ■ Pneumatic spring return
B		■	5/3-way valve ■ Mid-position pressurised ¹⁾ ■ Spring force return

1) Mid-position can be reached without electrical signal or using both signals

Valve terminal type 32 MPA, Modular Performance

Key features – Pneumatic components

Valve function			
Code	Circuit symbol	Size 10	Description
G		■	5/3-way valve <ul style="list-style-type: none"> ■ Mid-position closed¹⁾ ■ Spring force return
E		■	5/3-way valve <ul style="list-style-type: none"> ■ Mid-position exhausted¹⁾ ■ Spring force return
X		■	1x 3/2-way valve, external compressed-air supply <ul style="list-style-type: none"> ■ 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 auxiliary pilot air
D		■	2x 2/2-way valve <ul style="list-style-type: none"> ■ Normally closed ■ Pneumatic spring return
L		■	For valve terminal only: Blanking plate for vacant position

1) Mid-position can be reached without electrical signal or using both signals

Constructional design

Valve replacement

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

Expansion

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

unchanged during this process.

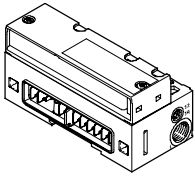
The valve code (M, J, N, K, B, G, E, X, D) is located on the front of the valve beneath the manual override.

Valve terminal type 32 MPA, Modular Performance

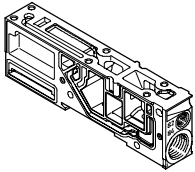
Key features – Pneumatic components

Compressed-air supply and venting

Pneumatic interface



Supply plate



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 integrated 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 auxiliary 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 pilot air supply types:

- 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 auxiliary 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

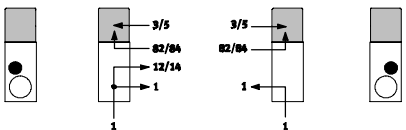
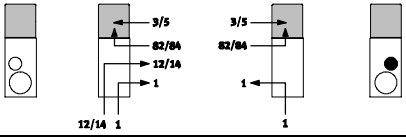
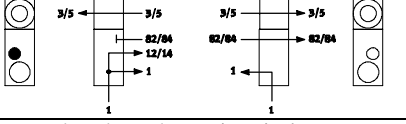
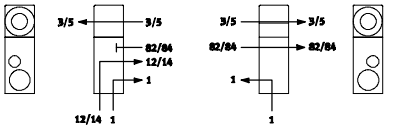
If the supply pressure is less than 3 bar or greater than 8 bar, you must operate your MPA valve terminal using an external pilot air supply. In this case the auxiliary pilot air is supplied externally via port 12/14 in the pneumatic interface.

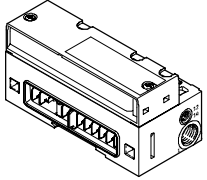
 Note

If a gradual pressure build-up is required in the system using a soft-start valve, an external pilot air supply should be selected whereby the control pressure applied during activation is already very high.

Valve terminal type 32 MPA, Modular Performance

Key features – Pneumatic components

Compressed-air supply and auxiliary pilot air			
Code	Graphical symbol Type of compressed-air supply and auxiliary pilot air	Size 10	Notes
S	Internal auxiliary pilot air, integrated silencer 	■	<ul style="list-style-type: none"> ■ Auxiliary pilot air is branched internally from port 1 in the pneumatic interface ■ Exhaust port 3/5 and pilot exhaust port 82/84 via integrated silencer ■ For operating pressure in the range 3 ... 8 bar
T	External auxiliary pilot air, integrated silencer 	■	<ul style="list-style-type: none"> ■ Auxiliary pilot air between 3 and 8 bar is connected at port 12/14 ■ Exhaust port 3/5 and pilot exhaust port 82/84 via integrated silencer ■ For operating pressure in the range -0.9 ... 10 bar (suitable for vacuum)
V	Internal auxiliary pilot air, ducted exhaust air 	■	<ul style="list-style-type: none"> ■ Auxiliary pilot air 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 auxiliary pilot air, ducted exhaust air 	■	<ul style="list-style-type: none"> ■ Auxiliary pilot air 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	Graphical symbol Pneumatic interface design variants	Size 10	Notes
M	In combination with compressed-air supply S, T, V, X  VMPA-...-EPL-...	■	<ul style="list-style-type: none"> ■ 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, Modular Performance

Key features – Pneumatic components

Supply plate

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

MPA with CPX

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

MPA with MP connection

A supply plate can only be selected after the last manifold block. This facilitates the creation of an additional pressure zone.

Supply plates contain the ports:

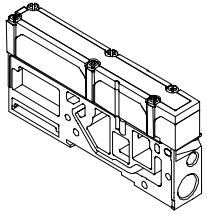
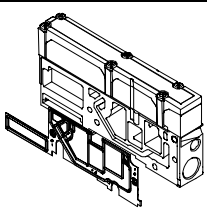
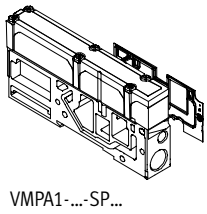
- Compressed-air supply (1)
 - Venting of the auxiliary pilot air (82/84) and pressure compensation
 - Exhaust air (3/5) at exhaust plate
- Depending on your order, the exhaust air channels are either ducted or vented via the integrated silencer.

MPA with ducted exhaust

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

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	Graphical symbol ¹⁾	Size 10	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.

Valve terminal type 32 MPA, Modular Performance

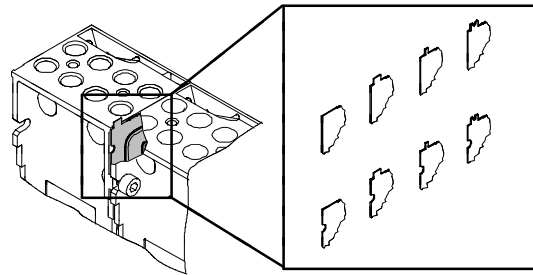
Key features – Pneumatic components

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 channels in the sub-bases using an appropriate separating seal.

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, whilst only one supply plate is possible for MPA with multi-pin (→ 4 / 2.2-14).

Separating seals are integrated ex works as per your order. Separating seals can be distinguished through their coding.



Note

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

ordered when the valve terminal is operated using ducted exhaust or integrated silencer.

Creating pressure zones				
Code	Pictorial examples for operation with integrated silencer	Pictorial examples for operation with ducted exhaust	Size 10	Notes
-	VMPA1-DPU	VMPA1-DP	■	Seal, no channel separation
T	VMPA1-DPU-P	VMPA1-DP-P	■	Seal, channel 1 separated
S	VMPA1-DPU-PRS	VMPA1-DP-PRS	■	Seal, channel 1 and 3/5 separated
R	VMPA1-DPU-RS	VMPA1-DP-RS	■	Seal, channel 3/5 separated

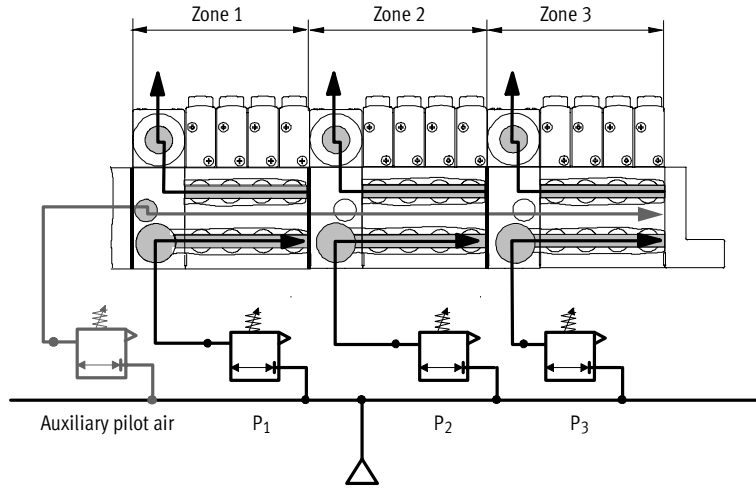
Valve terminal type 32 MPA, Modular Performance

Key features – Pneumatic components

Examples: Creating pressure zones

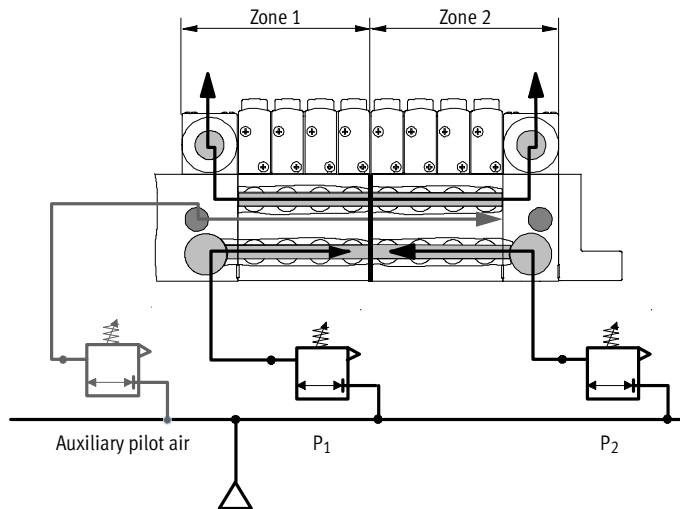
MPA with CPX

MPA1 allows the creation of up to eight pressure zones. The following diagram shows examples for the creation and connection of three pressure zones – with an external auxiliary pilot air supply.



MPA with multi-pin plug connection

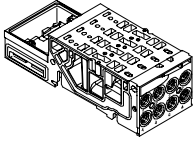
MPA1 allows the creation of up to two pressure zones. The following diagram shows examples for the creation and connection of the pressure zones – with an external auxiliary pilot air supply.



Valve terminal type 32 MPA, Modular Performance

Key features – Pneumatic components

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

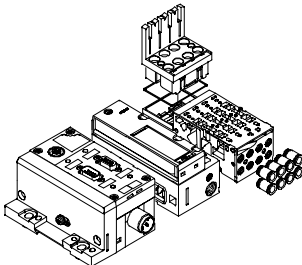
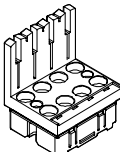
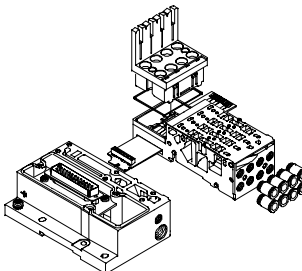
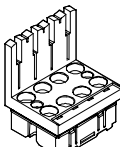
the connection channels for supplying compressed air to and venting from the valve terminal as well as the working lines for the pneumatic cylinders for each valve.

Each manifold block is connected to

the next using three screws.

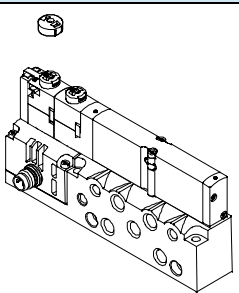
Individual terminal sections can be isolated and further blocks inserted by loosening these screws. This ensures that the valve terminal can be rapidly and reliably expanded.

Manifold block variants


Code		Size 10	Number of valve positions (solenoid coils)	Notes
A	Fieldbus connection			
	Manifold block	■	4 ... 32 (max. 64)	<ul style="list-style-type: none"> ■ Working lines (2, 4) at manifold block ■ Connection sizes: M7, QS4, QS6
	 <p>VMPA1-FB-AP-4-1</p>			
	Electronics module	■	4 (8)	<p>The electronics module contains the serial communication system and facilitates:</p> <ul style="list-style-type: none"> ■ 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 <p>There are two variants:</p> <ul style="list-style-type: none"> ■ Not electrically isolated (standard) ■ Electrically isolated
	 <p>VMPA1-FB-EM-...-8</p>			
	Multi-pin plug connection			
	Manifold block	■	4 ... 24 (max. 24)	<ul style="list-style-type: none"> ■ Working lines (2, 4) at manifold block ■ Connection sizes: M7, QS4, QS6
	 <p>VMPA1-MP-AP-4-1</p>			
Electronics module	■	4 (8)	<p>The electronics module contains the parallel communication system and facilitates:</p> <ul style="list-style-type: none"> ■ Individual transmission of the switching voltage ■ Integrated holding current reduction 	
 <p>VMPA1-MP-EM-...-...</p>				

Valve terminal type 32 MPA, Modular Performance

Key features – Pneumatic components

Manifold block variants				
Code		Size 10	Number of valve positions (solenoid coils)	Notes
–	Individual connection			
	 <p>VMPA1-M1H-...-M7-PI</p>	■	1 (max. 2)	<ul style="list-style-type: none"> ■ With working lines M7, QS4, QS6 ■ With ports for supply air (1, 12/14) and exhaust air (3, 5, 82/84)

Permissible combinations of manifold blocks with multi-pin plug connection								
MPA1	Valve allocation per manifold block						Number of valve positions	Number of solenoid coils
Pneumatic interface	Single/double solenoid	–	–	–	–	–	4	8
	Single/double solenoid	Single/double solenoid	–	–	–	–	8	16
	Single/double solenoid	Single/double solenoid	Single/double solenoid	–	–	–	12	24
	Single/double solenoid	Single/double solenoid	Single solenoid	Single solenoid	–	–	16	24
	Single/double solenoid	Single solenoid	Single solenoid	Single solenoid	Single solenoid	–	20	24
	Single solenoid	Single solenoid	Single solenoid	Single solenoid	Single solenoid	Single solenoid	24	24

 **Note**

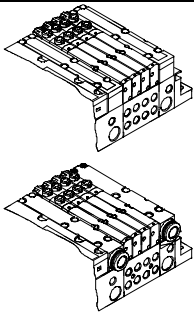
With MPA with multi-pin plug connection, parallel linking defines whether a manifold block can activate double solenoid or exclusively single solenoid valves. The double solenoid manifold blocks are mounted directly following the pneumatic interface. Note the permissible combinations as per the table above.

Electronics modules for 4 or 8 solenoid coils are mounted in accordance with the above combination.

Valve terminal type 32 MPA, Modular Performance



Key features – Pneumatic components

Ports for supply and exhaust							
	Code	Port	Designation	Code L Push-in connector, large	Code K Push-in connector, small	Code D Thread for supply	
	S	Internal auxiliary pilot air, silencer					
		1	Compressed-air/vacuum supply	Push-in fitting	QS-G $\frac{1}{4}$ -10-l	QS-G $\frac{1}{4}$ -8-l	G $\frac{1}{4}$
		3/5	Exhaust air	Integrated silencer	–	–	–
		12/14	Auxiliary pilot air	–	–	–	–
		82/84	Exhaust for auxiliary pilot air	Integrated silencer	–	–	–
			Pressure compensation	Vented to atmosphere via silencer			
	T	External auxiliary pilot air, silencer					
		1	Compressed-air/vacuum supply	Push-in fitting	QS-G $\frac{1}{4}$ -10-l	QS-G $\frac{1}{4}$ -8-l	G $\frac{1}{4}$
		3/5	Exhaust air	Integrated silencer	–	–	–
		12/14	Auxiliary pilot air	Push-in fitting	QSM-M7-6-l	QSM-M7-4-l	M7
		82/84	Exhaust for auxiliary pilot air	Integrated silencer	–	–	–
			Pressure compensation	Vented to atmosphere via silencer			
	V	Internal auxiliary pilot air, ducted exhaust air					
		1	Compressed-air/vacuum supply	Push-in fitting	QS-G $\frac{1}{4}$ -10-l	QS-G $\frac{1}{4}$ -8-l	G $\frac{1}{4}$
		3/5	Exhaust air	Push-in fitting	QS-G $\frac{1}{4}$ -10-l	QS-G $\frac{1}{4}$ -8-l	G $\frac{1}{4}$
		12/14	Auxiliary pilot air	–	–	–	–
		82/84	Exhaust for auxiliary pilot air	Push-in fitting	QSM-M7-6-l	QSM-M7-4-l	M7
			Pressure compensation	Vented into channels 82/84			
	X	External auxiliary pilot air, ducted exhaust air					
		1	Compressed-air/vacuum supply	Push-in fitting	QS-G $\frac{1}{4}$ -10-l	QS-G $\frac{1}{4}$ -8-l	G $\frac{1}{4}$
3/5		Exhaust air	Push-in fitting	QS-G $\frac{1}{4}$ -10-l	QS-G $\frac{1}{4}$ -8-l	G $\frac{1}{4}$	
12/14		Auxiliary pilot air	Push-in fitting	QSM-M7-6-l	QSM-M7-4-l	M7	
82/84		Exhaust for auxiliary pilot air	Push-in fitting	QSM-M7-6-l	QSM-M7-4-l	M7	
		Pressure compensation	Vented into channels 82/84				

Valve terminal type 32 MPA, Modular Performance

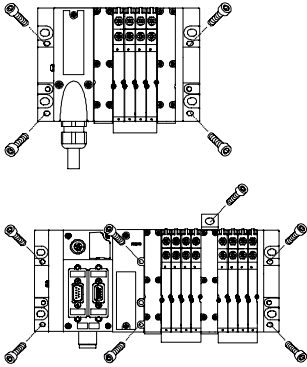
Key features – Assembly

Valve terminal assembly

Sturdy terminal assembly thanks to:

- Four through-holes for wall mounting
- Additional mounting bracket
- Attachment for 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:

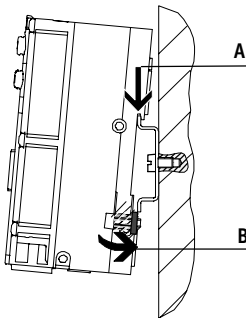
- Multi-pin plug (4 pieces): at the pneumatic interface and the right-hand end plate
- Fieldbus (6 pieces): at the left-hand end plate (CPX) and right-hand end plate MPA. The pneumatic interface additionally provides further

mounting holes as well as optional mounting brackets.

The fieldbus version additionally provides a bracket for wall mounting (bracket type MPA, part number 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



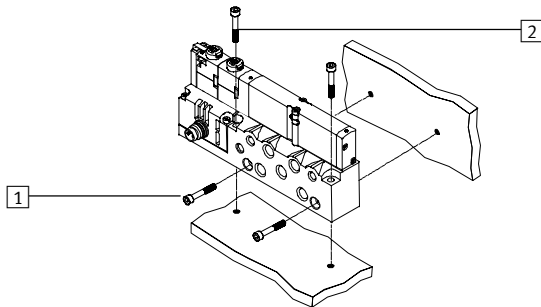
The MPA valve terminal is attached to the H-rail (see arrow A).

The terminal is then rotated on 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 the H-rail to DIN EN 50 022.

Individual valve assembly



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

- 1 Horizontal mounting holes
- 2 Vertical mounting holes

Valve terminal type 32 MPA, Modular Performance

Key features – Display and operation

Display and operation

Each valve solenoid coil is allocated an LED which indicates its switching 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

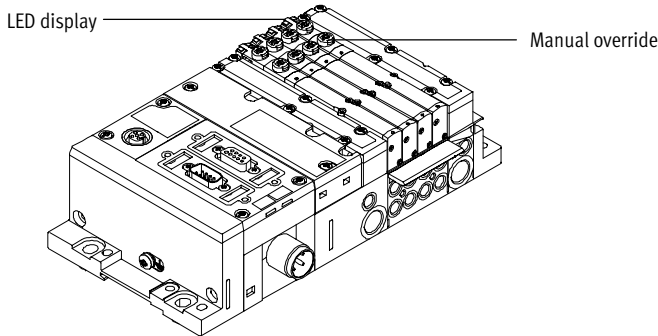
The manual override (MO) allows the valve to be activated without electronic control or power supply. The valve is activated by pressing the manual override. The set switching status can also be locked by rotating

the manual override (code: R).

Alternatives:

- A cover (code: N) 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.

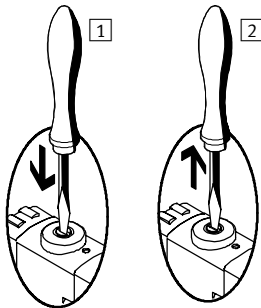


Note

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

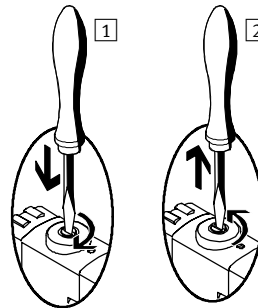
Manual override (MO)

Manual override with automatic return (pushing)



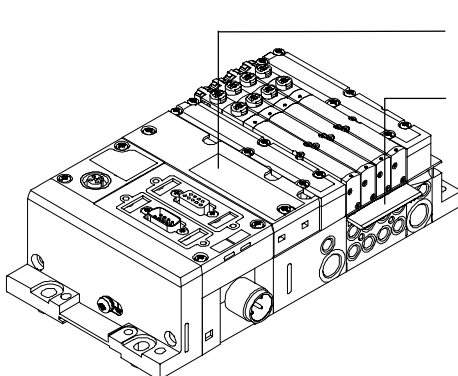
- 1 Press in the stem of the MO using a pin or screwdriver.
→ Valve is activated
- 2 Remove pin or screwdriver.
Spring force pushes the stem of the MO back.
→ Valve returns to initial position (not with double solenoid valve code J)

Manual override with lock (detenting)



- 1 Press in the stem of the MO using a pin or screwdriver until the valve activates 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 initial position (not with double solenoid valve code J)

Inscription system



Inscription area approx. 20 x 45 mm

Inscription area approx. 38 x 9 mm

4-fold inscription label holders MPA1-ST-1-4 (part number 658 291) can be applied to each manifold block 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

Valve terminal type 32 MPA, Modular Performance

Key features – Electrical components

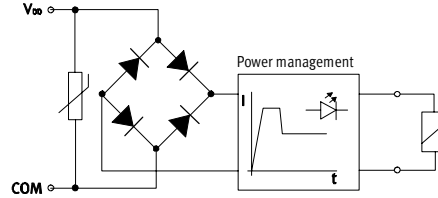
Electrical power as a result of current reduction

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.



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 Modular electrical terminal CPX

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 coils 1 ... 24 in order.

If there are fewer than 24 coils on 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 exactly 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.

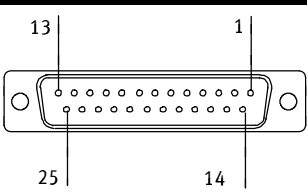
The manifold blocks for valves with two solenoid coils are always mounted directly following the electrical multi-pin plug connection, followed by the manifold blocks for single solenoid valves. The following table provides details of all possible variants and their assignment to pin allocation and core colour (areas shown against a grey background indicate the manifold blocks for double solenoid valves):

 Note


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

Valve terminal type 32 MPA, Modular Performance

Key features – Electrical components

Pin allocation – Sub-D socket, cable									
	Pin	Address	Core colour	Valve positions					
				4	8	12	16	20	24
				Valve position no./coil designation					
	1	0	white	0/14	0/14	0/14	0/14	0/14	0/14
	2	1	green	0/12	0/12	0/12	0/12	0/12	1/14
	3	2	yellow	1/14	1/14	1/14	1/14	1/14	2/14
	4	3	grey	1/12	1/12	1/12	1/12	1/12	3/14
	5	4	pink	2/14	2/14	2/14	2/14	2/14	4/14
	6	5	blue	2/12	2/12	2/12	2/12	2/12	5/14
	7	6	red	3/14	3/14	3/14	3/14	3/14	6/14
	8	7	purple	3/12	3/12	3/12	3/12	3/12	7/14
	9	8	grey-pink		4/14	4/14	4/14	4/14	8/14
	10	9	red-blue		4/12	4/12	4/12	5/14	9/14
	11	10	white-green		5/14	5/14	5/14	6/14	10/14
	12	11	brown-green		5/12	5/12	5/12	7/14	11/14
	13	12	white-yellow		6/14	6/14	6/14	8/14	12/14
	14	13	yellow-brown		6/12	6/12	6/12	9/14	13/14
	15	14	white-grey		7/14	7/14	7/14	10/14	14/14
	16	15	grey-brown		7/12	7/12	7/12	11/14	15/14
	17	16	white-pink			8/14	8/14	12/14	16/14
	18	17	pink-brown			8/12	9/14	13/14	17/14
	19	18	white-blue			9/14	10/14	14/14	18/14
	20	19	brown-blue			9/12	11/14	15/14	19/14
	21	20	white-red			10/14	12/14	16/14	20/14
	22	21	brown-red			10/12	13/14	17/14	21/14
	23	22	white-black			11/14	14/14	18/14	22/14
	24	23	brown			11/12	15/14	19/14	23/14
	25	0 V	black		1)				

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

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

Valve terminals for standard applications
 Heavy-duty modular
2.2

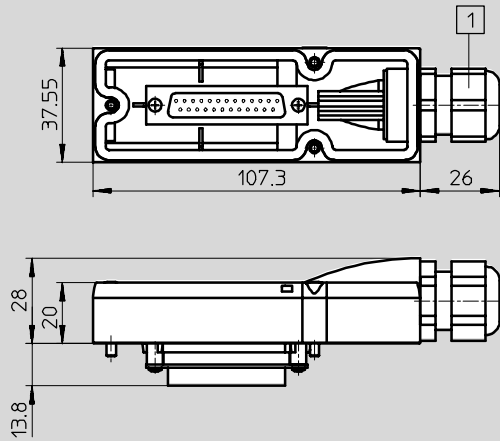
Valve terminal type 32 MPA, Modular Performance

Key features – Electrical components

Dimensions

Download CAD data → www.festo.com/en/engineering

Multi-pin 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

Valve terminals for standard applications
Heavy-duty modular

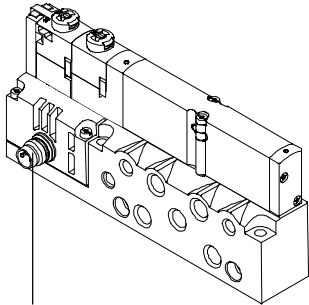
2.2

Type	Sheath	Length [m]	Core x mm ²	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

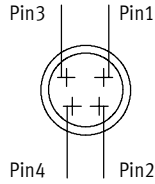
Valve terminal type 32 MPA, Modular Performance

Key features – Electrical components

Electrical connection, individual valve



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



Pin allocation on individual valve to VDMA 24 571

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

Valve terminal type 32 MPA, Modular Performance

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 51 524-HLP32; basic oil viscosity 32 CST at 40 °C).

Bio-oils




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

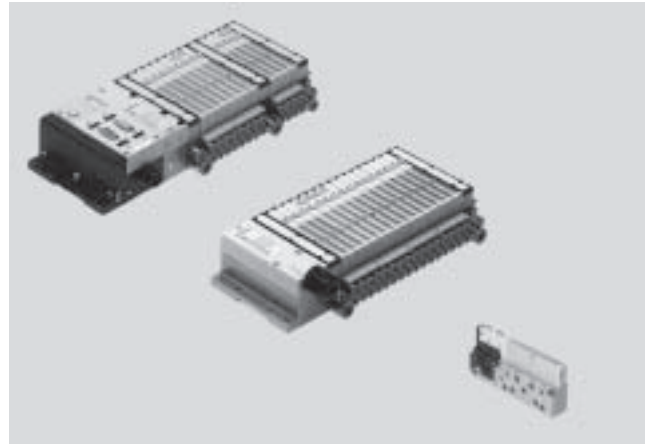
Mineral oils

When using mineral oils (e.g. HLP oils to DIN 51 524, parts 1 through 3) or similar oils based on poly-alpha-olefins (PAO), the maximum residual oil content of 5 mg/m³ must not be exceeded (see ISO 8573-1 Class 4). A higher residual oil content irrespective of the compressor oil cannot be permitted, as the basic lubricant would be washed away over time.

Valve terminal type 32 MPA, Modular Performance

Technical data

-  - Flow rates of up to 360 l/min
-  - Valve width 10 mm
-  - Voltage 24 V DC



General technical data										
Valve function	5/2-way valve		2x 3/2-way valve Normal position			5/3-way valve Mid-position			1x 3/2-way valve	2x 2/2-way valve
	Single solenoid	Double solenoid	Open	Closed	1x open 1x closed	Pressurised	Closed	Exhausted	Closed	Closed
Valve function order code	M	J	N	K	H	B	G	E	X	D
Constructional design	Electromagnetically actuated piston spool valve									
Width [mm]	10									
Nominal size [mm]	2.5									
Lubrication	Lubrication for life, PWIS-free (free of paint-wetting impairment substances)									
Type of mounting	Wall mounting On H-rail to DIN EN 50 022									
Mounting position	Any									
Manual override	Push-in, rotary/detenting, covered									
Pneumatic connections										
Pneumatic connection	Via manifold block or individual connection									
Supply port	1	G $\frac{1}{4}$ (M5 with individual sub-base)								
Exhaust port	3/5	G $\frac{1}{4}$ (M5 with individual sub-base)								
Working lines	2/4	Depending on the connection type selected <ul style="list-style-type: none"> ■ M7 ■ QS-4 ■ QS-6 								
Pilot air port	12/14	M7 (M3 with individual sub-base)								
Pilot exhaust air port	82/84	M7 (M3 with individual sub-base)								
Pressure compensation port	With ducted exhaust air: M7 via port 82/84 (M3 with individual sub-base) With integrated silencer: Venting to atmosphere									

Valve terminal type 32 MPA, Modular Performance

Technical data

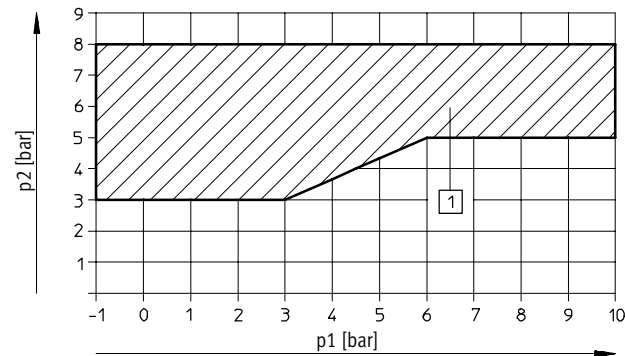
Valve terminals for standard applications
Heavy-duty modular

2.2

Operating pressure [bar]										
Valve function order code	M	J	N	K	H	B	G	E	X	D
Without pilot air supply	3 ... 8									
With pilot air supply	-0.9 ... +10		3 ... 10			-0.9 ... +10			3 ... 10	

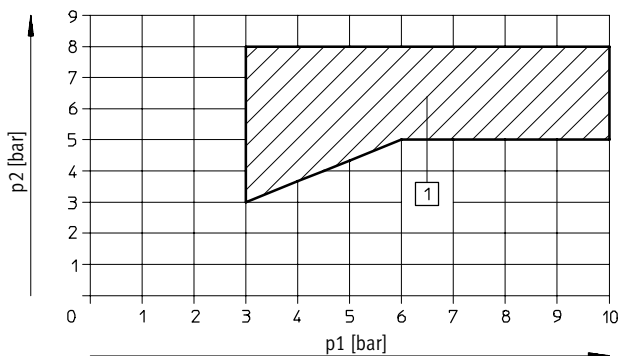
Pilot pressure p2 as a function of the working pressure p1 with external auxiliary pilot air

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



1 Operating range for valves with external auxiliary pilot air

for valves with code N, K, H, D



1 Operating range for valves with external auxiliary pilot air

Valve response times [ms]										
Valve function order code	M	J	N	K	H	B	G	E	X	D
Response times	on	10	-	10	10	10	10	10	10	10
	off	20	-	20	20	20	35	35	35	20
	change-over	-	10	-	-	-	-	-	-	-

Operating and environmental conditions										
Valve function order code	M	J	N	K	H	B	G	E	X	D
Operating medium	Filtered compressed air, lubricated or unlubricated, inert gases → 4 / 2.2-24									
Grade of filtration [µm]	40 (average pore size)									
Ambient temperature [°C]	-5 ... +50									
Storage temperature ²⁾ [°C]	-20 ... +40									
Corrosion resistance class CRC ¹⁾	1									

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

Valve terminal type 32 MPA, Modular Performance

Technical data

Electrical data	
Valve function order code	M J N K H B G E X D
Electromagnetic compatibility of the MPA valve terminal with Sub-D or fieldbus connection	Interference emission tested to EN 61 000-6-4, industry
	Interference immunity ¹⁾ tested to EN 61 000-6-2, industry
Protection against electric shock (protection against direct and indirect contact to EN 60204-1/IEC 204)	Through PELV power supply unit
Operating voltage [V]	24 (±25%)
Intrinsic current consumption at operating voltage 24 V with CPX terminal	13 ... 20 ²⁾
Load voltage with CPX terminal [V]	24 (±25%)
Intrinsic current consumption at load voltage 24 V ■ Not electrically isolated ■ Electrically isolated	8 ²⁾ 25 ²⁾
Current consumption per solenoid coil ■ With CPX terminal ■ With MP connection	at 18 V at 24 V at 30V Nominal pull current (up to 20 ms) 60 mA/nominal current with current reduction (after 20 ms) 25 mA Nominal pull current (up to 20 ms) 60 mA/nominal current with current reduction (after 20 ms) 20 mA Nominal pull current (up to 20 ms) 80 mA/nominal current with current reduction (after 20 ms) 20 mA Nominal pull current (up to 20 ms) 100 mA/nominal current with current reduction (after 20 ms) 20 mA
Electrical power consumption [W]	Pull: 1 Hold: 0.24
Duty cycle	100% at 40°C ambient temperature
Protection class to EN 60 529	IP65 (in assembled state and with detenting plug)
Relative air humidity	90% at 40°C, non-condensing
Vibration resistance	To DIN/IEC 68/EN 60 068, Parts 2-6 ■ Up to 5 manifold blocks (without additional mounting): 0.35 mm at 10 ... 60 Hz, 5 g at 60 ... 150 Hz ■ Up to 6 manifold blocks (with additional mounting): 0.35 mm at 10 ... 60 Hz, 5 g at 60 ... 150 Hz ■ 6 manifold blocks or more (without additional mounting): 0.15 mm at 10 ... 58 Hz, 2 g at 58 ... 150 Hz
Shock resistance	To DIN/IEC 68/EN 60 068, Parts 2-27 ■ Up to 5 manifold blocks (without additional mounting): +/-30 g at 11 ms, 15 cycles ■ Up to 6 manifold blocks (with additional mounting): +/-30 g at 11 ms, 15 cycles ■ 6 manifold blocks or more (without additional mounting): +/-15 g at 11 ms, 15 cycles
Continuous shock resistance	To DIN/IEC 68/EN 60 068, Parts 2-29: +/-15 g at 6 ms, 1000 cycles

1) The maximum signal line length is 10 m
2) Intrinsic current consumption per electronics module

Materials	
Valve function order code	M J N K H B G E X D
Manifold block	Die-cast aluminium
Valve	Die-cast aluminium, PPS, ST, PA-GF
Seals	NBR, HNBR, Viton
Supply plate	Die-cast aluminium
Right-hand end plate	Die-cast aluminium
Left-hand pneumatic interface	Die-cast aluminium, polyamide 6 (cover)
Exhaust plate	Polyamide
Integrated silencer	Polyethylene
Electronics module	POM/polycarbonate
Electrical manifold module	CuBe/PBT

Valve terminal type 32 MPA, Modular Performance

Technical data

Product weight [g] Valve function order code	Approx. weights									
	M	J	N	K	H	B	G	E	X	D
Basic manifold block weight (4-off) ¹⁾	185									
Individual sub-base	45									
Per valve M, X	49									
Per valve J, N, K, H, B, G, E, D	56									
Per vacant position L	24									
Right-hand end plate	55									
Left-hand pneumatic interface ¹⁾										
■ With integrated silencer	315									
■ With ducted exhaust air	324									
Supply plate ¹⁾										
■ With integrated 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-G ¹ / ₄ -8-I	22									
QS-G ¹ / ₄ -10-I	23									

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

Nominal flow rate [l/min] ¹⁾			
Code	Valve function	Valve (1 → 2) ²⁾	Valve (2 → 3) ²⁾
Sub-base valve			
M	5/2-way valve, single solenoid	360	360
J	5/2-way valve, double solenoid	360	360
N	2x 3/2-way valve, normally open	300	300
K	2x 3/2-way valve, normally closed	230	310
H	2x 3/2-way valve, 1x normally open 1x normally closed	280	305
B	5/3-way valve, mid-position pressurised	300	270
G	5/3-way valve, mid-position closed	320	320
E	5/3-way valve, mid-position exhausted	240	240
X	1x 3/2-way valve	255	295
D	2x 2/2-way valve	230	230

1) Flow rates measured on sub-base with QS-6 push-in connectors

2) Values refer to the flow direction 1 → 2 or 2 → 3, values also apply to individual sub-bases

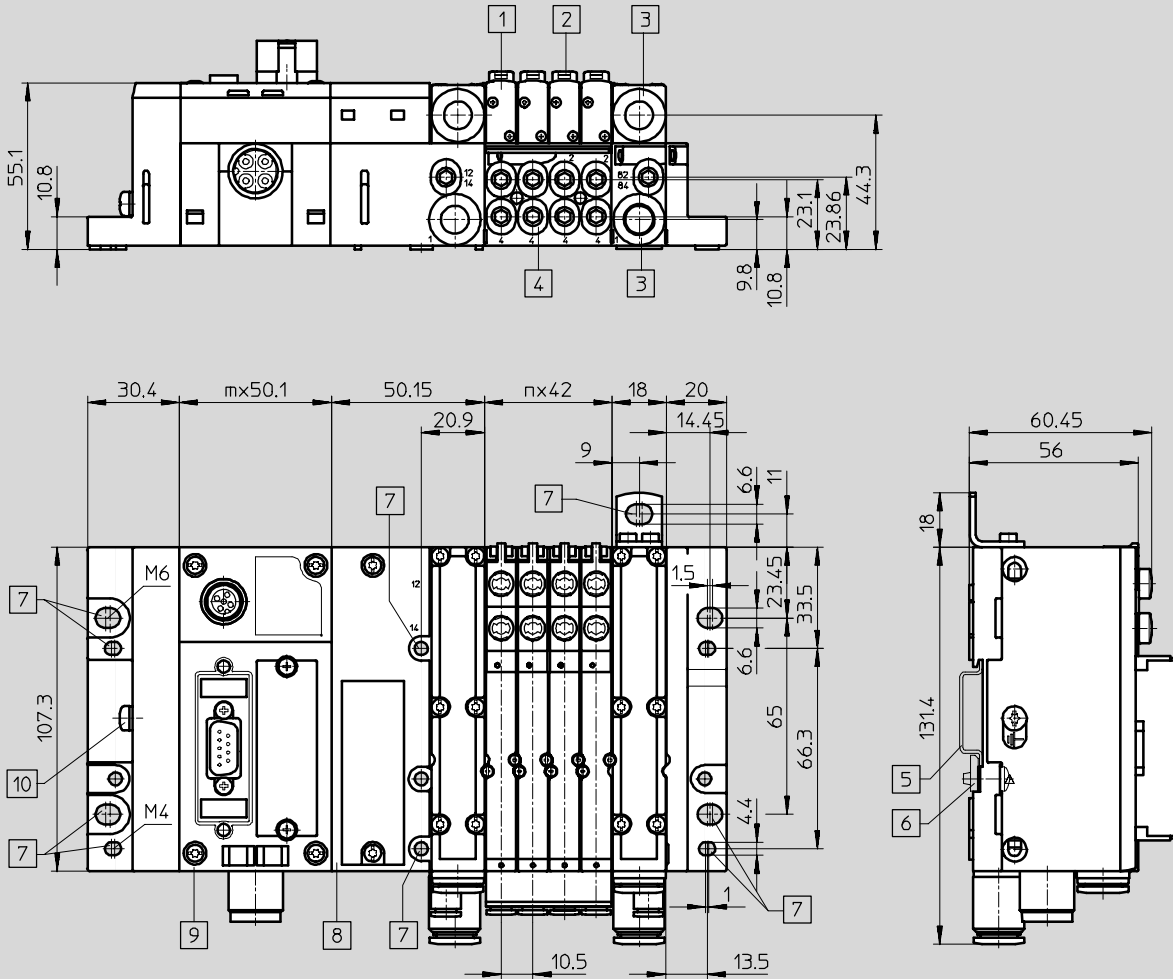
Valve terminal type 32 MPA, Modular Performance

Technical data

Dimensions

Download CAD data → www.festo.com/en/engineering

Valve terminal with fieldbus connection



- | | | | |
|-------------------------------|------------------------------|--|--|
| 1 Solenoid valve | 4 Working lines | 7 Mounting holes | 10 Earthing screw |
| 2 Manual override | 5 H-rail | 8 Pneumatic interface (CPX interface) | n Number of sub-bases in a grid of 4 valves |
| 3 Supply/exhaust ports | 6 Mounting for H-rail | 9 CPX module | m Number of CPX modules |

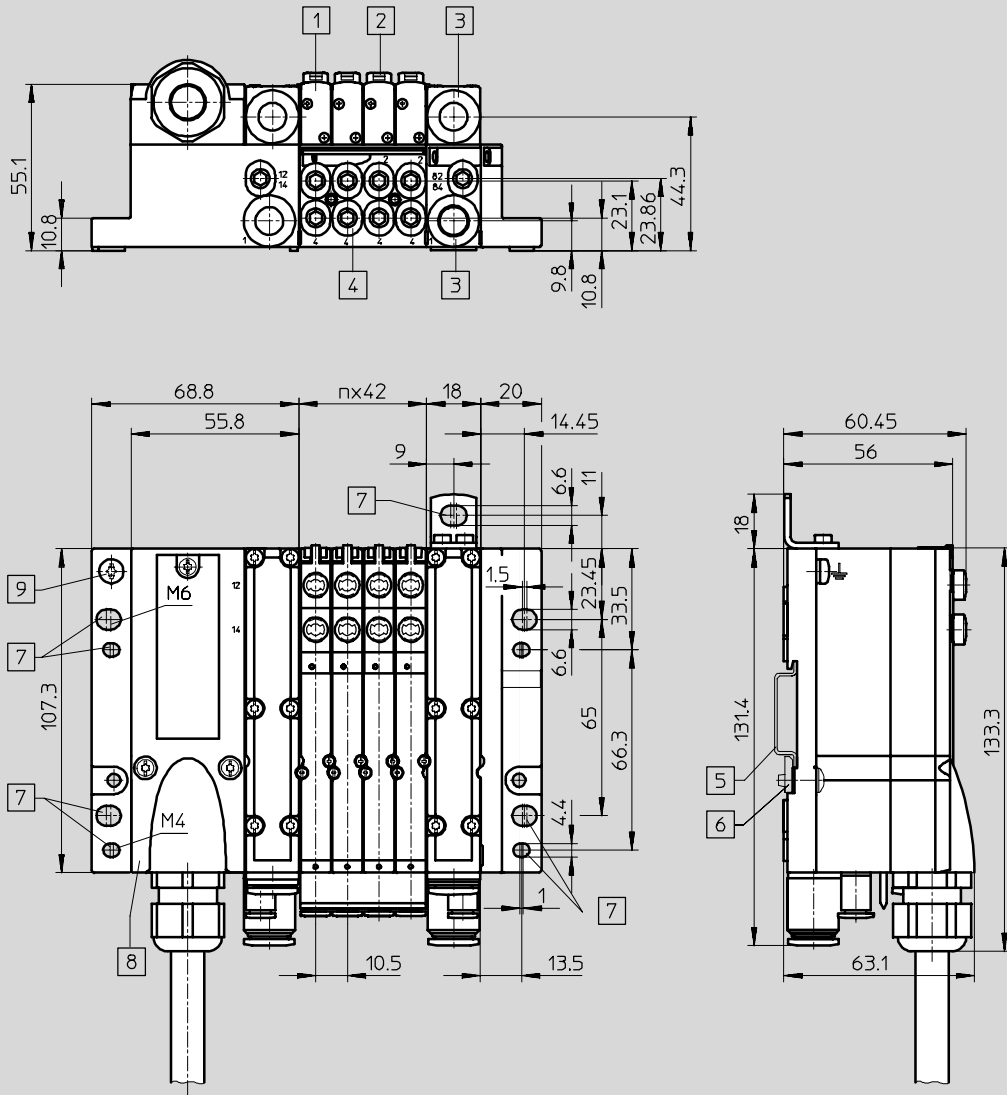
Valve terminal type 32 MPA, Modular Performance

Technical data

Dimensions

Download CAD data → www.festo.com/en/engineering

Valve terminal with multi-pin plug connection



- | | | | |
|-------------------------------|------------------------------|------------------------------------|--|
| 1 Solenoid valve | 4 Working lines | 7 Mounting holes | 9 Earthing screw |
| 2 Manual override | 5 H-rail | 8 Multi-pin plug connection | n Number of sub-bases in a grid of 4 valves |
| 3 Supply/exhaust ports | 6 Mounting for H-rail | | |

Valve terminals for standard applications
Heavy-duty modular

2.2

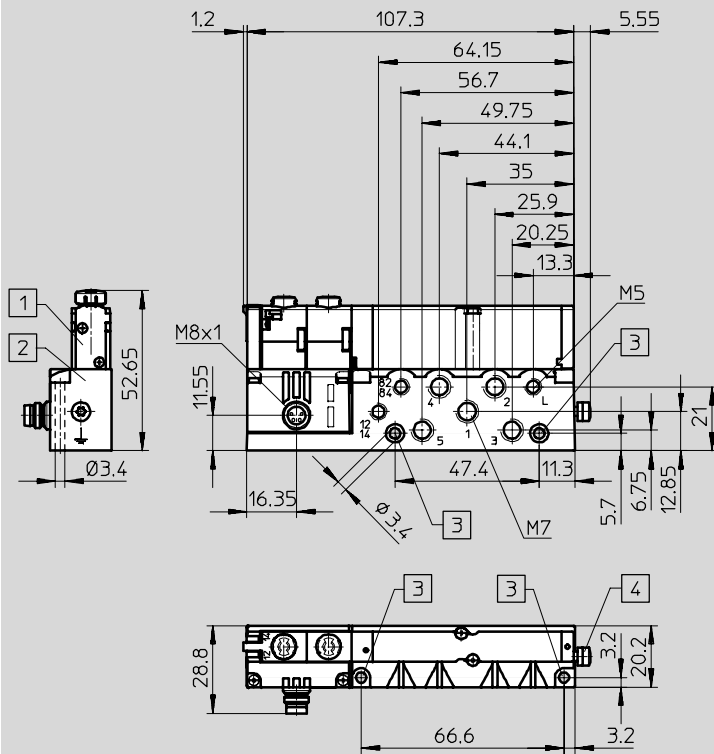
Valve terminal type 32 MPA, Modular Performance

Technical data

Dimensions

Download CAD data → www.festo.com/en/engineering

Valve on individual sub-base



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

Valve terminal type 32 MPA, Modular Performance – Electrical part MP1

Ordering data – Modular products

Valve terminals for standard applications
Heavy-duty modular

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[M] Mandatory data				[O] Options
Module No.	Valve terminal, electrical part	Electrical actuation	User documentation	Electrical accessories
533 203	32E	MP1	D E F I S V B	H A B C D E F GA GB GC GD GE GF
Ordering example				
533 203	32E	- MP1	- D	+ HGD

Ordering table				
Size	10	Condi- tions	Code	Enter code
[M] Module No.	533 203			
Valve terminal, electrical part	MPA valve terminal with multi-pin plug connection		32E	32E
Electrical actuation	Multi-pin plug connection		-MP1	-MP1
User documentation	German		-D	
	English		-E	
	French		-F	
	Italian		-I	
	Spanish		-S	
	Swedish		-V	
	Express waiver - no manual to be included (already available)		-B	
[O] Electrical accessories			+	+
Attachment for H-rail mounting	1		H	
Pre-assembled multi-pin cable	Pre-assembled multi-pin cable for 8 valves, 2.5 m, Sub-D, PVC	1	A	
	Pre-assembled multi-pin cable for 8 valves, 5 m, Sub-D, PVC	1	B	
	Pre-assembled multi-pin cable for 8 valves, 10 m, Sub-D, PVC	1	C	
	Pre-assembled multi-pin cable for 24 valves, 2.5 m, Sub-D, PVC		D	
	Pre-assembled multi-pin cable for 24 valves, 5 m, Sub-D, PVC		E	
	Pre-assembled multi-pin cable for 24 valves, 10 m, Sub-D, PVC		F	
	Pre-assembled multi-pin cable for 8 valves, 2.5 m, Sub-D, PUR	1	GA	
	Pre-assembled multi-pin cable for 8 valves, 5 m, Sub-D, PUR	1	GB	
	Pre-assembled multi-pin cable for 8 valves, 10 m, Sub-D, PUR	1	GC	
	Pre-assembled multi-pin cable for 24 valves, 2.5 m, Sub-D, PUR		GD	
	Pre-assembled multi-pin cable for 24 valves, 5 m, Sub-D, PUR		GE	
	Pre-assembled multi-pin cable for 24 valves, 10 m, Sub-D, PUR		GF	

[1] A, B, C, GA, GB, GC

Only 1 manifold block can be selected for size 1.

Transfer order code

533 203	32E	-	MP1	-		+	
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Valve terminal type 32 MPA, Modular Performance – Pneumatic part MP1

Ordering data – Modular products

Mandatory data						
Module No.	Valve terminal, pneumatic part	Compressed-air supply to valve terminal	Pneumatic working line	Pneumatic connection to supply	Manual override	Pneumatic module blocks 0 ... 6
533 203	32P	S, T, V, X	G, F, C	L, K, D	N, R, V	Type of module block M, A
Ordering example						Module position 0 1 2 3 4 5 6
533 203	32P	X	C	L	V	M A
						R
						U
						U
						Supply plate
						S, T, R
						Channel separation
						Options

Valve terminals for standard applications
Heavy-duty modular

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Ordering table				
Size	10	Condi-tions	Code	Enter code
M	Module No.	533 203		
	Valve terminal, pneumatic part	MPA modular sub-base valves		32P
	Compressed-air supply to valve terminal	Internal auxiliary pilot air, silencer		-S
		External auxiliary pilot air, silencer		-T
		Internal auxiliary pilot air, ducted	[2]	-V
		External auxiliary pilot air, ducted	[2]	-X
		Pneumatic working line	Push-in connector large on working line	
	Push-in connector small on working line			F
	Thread on working line			C
	Pneumatic connection to supply	Push-in connector large for supply		L
		Push-in connector small for supply		K
		Thread for supply		D
	Manual override	Push-in		-N
		Push-in/detenting		-R
		Covered		-V
	Pneumatic module blocks 0 ... 6			-
	Type of module block 0 ... 6	Pneumatic interface	[3]	M
		Manifold block for size 1		A
	Channel separation for block 0 ... 6	Separating seal for channel 1, 3, 5		S
		Separating seal for channel 1		T
		Separating seal for channel 3, 5		R
	Supply plate for block 1 ... 6	Supply plate	[4]	U

[2] V, X Supply plate U must be selected.

[4] U Only at the end of the pneumatic part.

[3] M Only at module position 0.

Transfer order code

533 203 32P - [] - [] - [] - [] - [] - [] - [] - [] - [] - []

Valve terminal type 32 MPA, Modular Performance – Pneumatic part CPX

Ordering data – Modular products



Valve terminals for standard applications
Heavy-duty modular

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M Mandatory data	O Options
Pneumatic valve positions 0 ... 31 M, J, N, K, H, B, G, E, D, X, L 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 30 31 - J J L G M M B + 7T7	Pneumatic accessories ...T, ...J

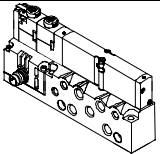
Ordering table				
Size	10	Condi- tions	Code	Enter code
	Equipment at valve position 0 ... 31		-	-
M	Valves	5/2-way valve, single solenoid	M	Enter equip- ment selection for valve positions in order code
		5/2-way valve, double solenoid	J	
		2x 3/2-way valve, normally open	N	
		2x 3/2-way valve, normally 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 air supply	X	
	Vacant position	L		
O	Pneumatic accessories		+	+
	Inscription label, size 1	1 ... 99	...T	
	Mounting bracket for additional wall mounting	1 ... 99	...J	

Transfer order code

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	-					
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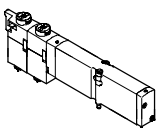
Valve terminal type 32 MPA, Modular Performance

Ordering data – Individual valve

Ordering data				
Valves on individual sub-base				
	Code	Valve function	Type	Part No.
	Internal auxiliary pilot air			
	M	5/2-way valve, single solenoid	VMPA1-M1H-M7-PI	533 376
	J	5/2-way valve, double solenoid	VMPA1-M1H-J-M7-PI	533 377
	N	2x 3/2-way valve, normally open	VMPA1-M1H-N-M7-PI	533 382
	K	2x 3/2-way valve, normally closed	VMPA1-M1H-K-M7-PI	533 381
	H	2x 3/2-way valve, 1x normally open 1x normally closed	VMPA1-M1H-H-M7-PI	533 383
	B	5/3-way valve, mid-position pressurised	VMPA1-M1H-B-M7-PI	533 378
	G	5/3-way valve, mid-position closed	VMPA1-M1H-G-M7-PI	533 379
	E	5/3-way valve, mid-position exhausted	VMPA1-M1H-E-M7-PI	533 380
	D	2x 2/2-way valve normally closed	VMPA1-M1H-D-M7-PI	533 384
External auxiliary pilot air				
M	5/2-way valve, single solenoid	VMPA1-M1H-MS-M7-PI	533 385	
J	5/2-way valve, double solenoid	VMPA1-M1H-JS-M7-PI	533 386	
N	2x 3/2-way valve, normally open	VMPA1-M1H-NS-M7-PI	533 391	
K	2x 3/2-way valve, normally closed	VMPA1-M1H-KS-M7-PI	533 390	
H	2x 3/2-way valve, 1x normally open 1x normally closed	VMPA1-M1H-HS-M7-PI	533 392	
B	5/3-way valve, mid-position pressurised	VMPA1-M1H-BS-M7-PI	533 387	
G	5/3-way valve, mid-position closed	VMPA1-M1H-GS-M7-PI	533 388	
E	5/3-way valve, mid-position exhausted	VMPA1-M1H-ES-M7-PI	533 389	
D	2x 2/2-way valve normally closed	VMPA1-M1H-DS-M7-PI	533 393	

Valve terminal type 32 MPA, Modular Performance

Accessories



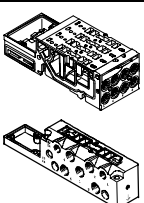
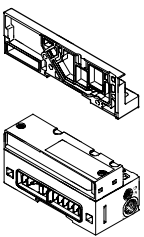
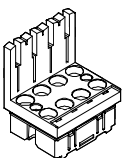
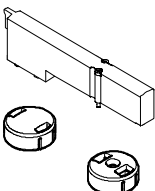
Ordering data				
Individual sub-base valve				
	Code	Valve function	Electrical plug-in connection	
			Type	Part No.
	M	5/2-way valve, single solenoid	VMPA1-M1H-M-PI	533 342
	J	5/2-way valve, double solenoid	VMPA1-M1H-J-PI	533 343
	N	2x 3/2-way valve, normally open	VMPA1-M1H-N-PI	533 348
	K	2x 3/2-way valve, normally closed	VMPA1-M1H-K-PI	533 347
	H	2x 3/2-way valve, 1x normally open 1x normally closed	VMPA1-M1H-H-PI	533 349
	B	5/3-way valve, mid-position pressurised	VMPA1-M1H-B-PI	533 344
	G	5/3-way valve, mid-position closed	VMPA1-M1H-G-PI	533 345
	E	5/3-way valve, mid-position exhausted	VMPA1-M1H-E-PI	533 346
	X	1x 3/2-way valve normally closed, external compressed-air supply	VMPA1-M1H-X-PI	534 415
	D	2x 2/2-way valve normally closed	VMPA1-M1H-D-PI	533 350

Valve terminals for standard applications
Heavy-duty modular

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Valve terminal type 32 MPA, Modular Performance

Accessories

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
Sub-base				
	4-fold		VMPA1-FB-AP-4-1	533 352
	Individual connection, internal auxiliary pilot air		VMPA1-IC-AP-1	533 394
	Individual connection, external auxiliary pilot air		VMPA1-IC-AP-S-1	533 395
End plates and pneumatic interface fieldbus				
	Right-hand end plate		VMPA-EPR	533 373
	Pneumatic interface, ducted exhaust air, internal auxiliary pilot air		VMPA-FB-EPL-G	533 370
	Pneumatic interface, ducted exhaust air, external auxiliary pilot air		VMPA-FB-EPL-E	533 369
	Pneumatic interface, integrated silencer, internal auxiliary pilot air		VMPA-FB-EPL-GU	533 372
	Pneumatic interface, integrated silencer, external auxiliary pilot air		VMPA-FB-EPL-EU	533 371
Electronics modules				
	Fieldbus, standard		VMPA1-FB-EMS-8	533 360
	Fieldbus, electrically isolated		VMPA-FB-EMG-8	533 361
	Multi-pin, 4 coils		VMPA-MP-EMS-4	533 367
	Multi-pin, 8 coils		VMPA-MP-EMS-8	533 368
Blanking plate				
	Blanking plate for vacant position ¹⁾		VMPA1-RP	533 351
	Cover for manual override, detenting (10 pieces)		VMPA1-HBT	533 366
	Cover for manual override, covered (10 pieces)		VMPA1-HBV	535 257

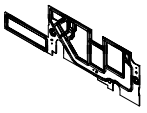
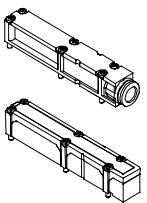
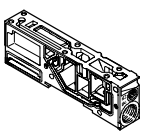
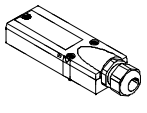
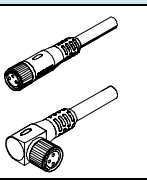

1) One self-adhesive label supplied.

Valve terminal type 32 MPA, Modular Performance

Accessories

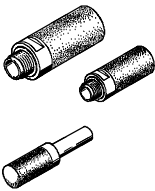



Valve terminals for standard applications
Heavy-duty modular

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Ordering data				
Designation			Type	Part No.
Seals for manifold block				
	MPA with ducted exhaust air	No channel separated	VMPA1-DP	533 359
		Channel 1 separated	VMPA1-DP-P	533 363
		Channel 3/5 separated	VMPA1-DP-RS	533 364
		Channel 1 and 3/5 separated	VMPA1-DP-PRS	533 365
	MPA with integrated silencer	No channel separated	VMPA1-DPU	533 355
		Channel 1 separated	VMPA1-DPU-P	533 356
		Channel 3/5 separated	VMPA1-DPU-RS	533 357
		Channel 1 and 3/5 separated	VMPA1-DPU-PRS	533 358
Exhaust plate				
	With ducted exhaust air		VMPA-AP	533 375
	With integrated silencer		VMPA-APU	533 374
Supply plates (without exhaust plate)				
	With ducted exhaust air		VMPA1-FB-SP	533 354
	With integrated silencer		VMPA1-FB-SPU	533 353
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-KMS1-8-2,5	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-KMS2-24-2,5-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, straight	2.5 m	SIM-M8-4GD-2,5-PU	158 960
		5 m	SIM-M8-4GD-5-PU	158 961
	Plug socket with cable, angled	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
		8 mm (10 pieces)	QS-G¼-8-I	186 110
	Connecting thread G¼ for tubing O.D.	10 mm (10 pieces)	QS-G¼-8-I	186 112

Valve terminal type 32 MPA, Modular Performance

Accessories

Ordering data					
Designation			Type	Part No.	
Silencer					
	Connecting thread	M5	UC-M5	165 003	
		M7	UC-M7	161 418	
		G ³ / ₄	UC-G ³ / ₄	165 004	
	Connection type, push-in sleeve	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	
Integrated silencer MPA				662 567	
Blanking plug					
	Thread M5		B-M5	3 843	
	Thread M7		B-M7	174 309	
	Thread G ³ / ₄		B- ³ / 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					
	User documentation – MPA		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