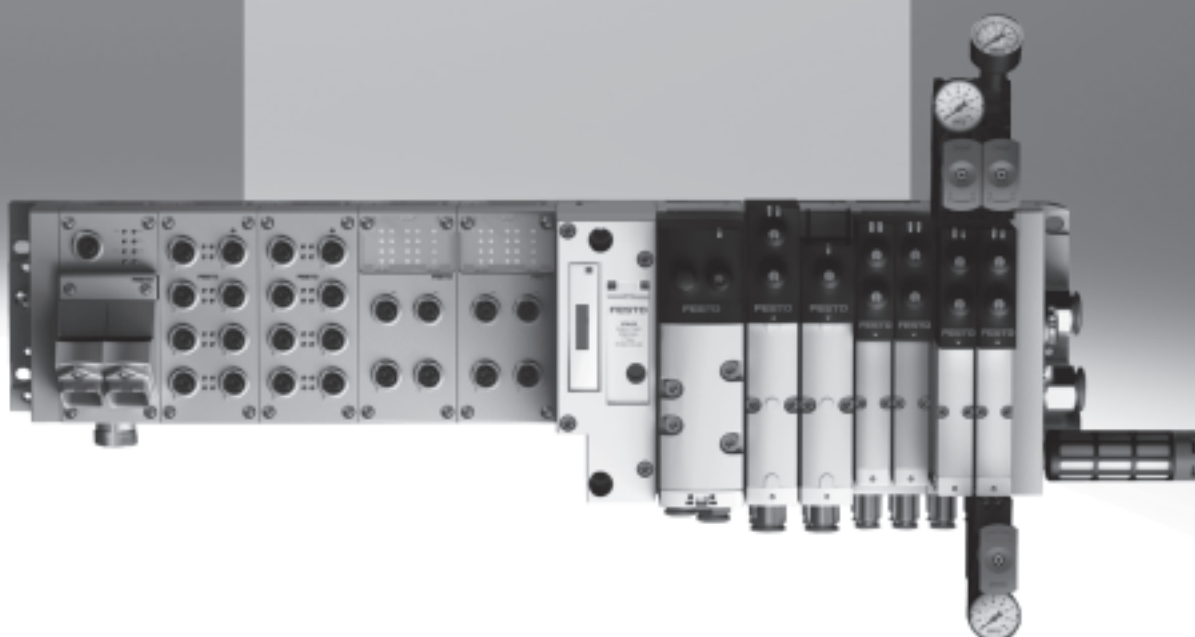


## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

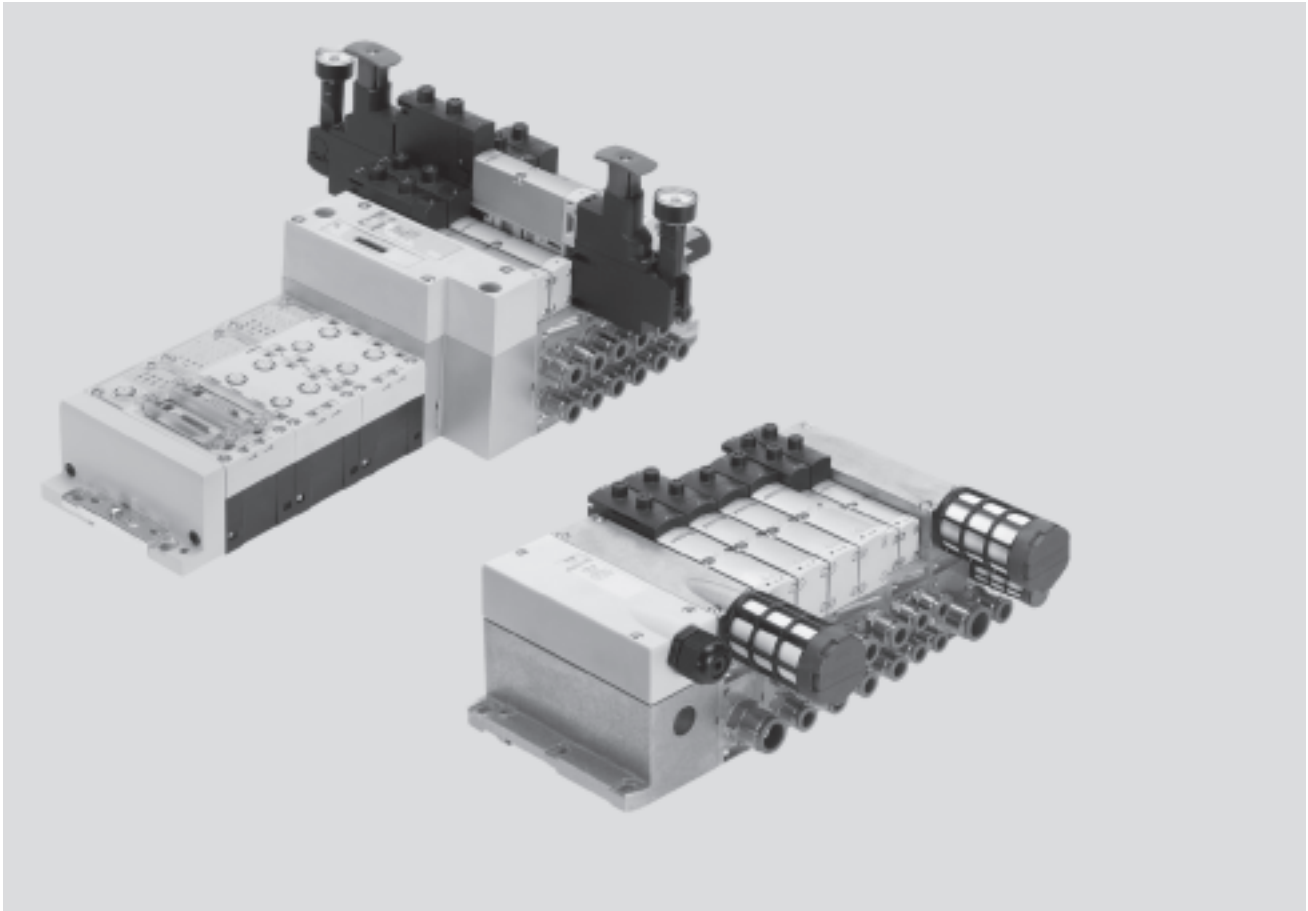
**FESTO**



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

Key features



## Innovative

- High-performance valves in sturdy metal housing
- Standardised: from the multi-pin plug connection up to the fieldbus connection and control block
- Dream team: Fieldbus valve terminal suitable for CPX electrical peripherals. This means
  - Future-ready internal communication system for actuation of valves and CPX modules

## Flexible

- Modular system offering a range of configuration options
- Expandable up to 32 solenoid coils
- Conversions and extensions are possible at any time
- Manifold sub-bases can be extended using four screws, sturdy duct separation on metal substrate
- Integration of innovative function modules possible
- Supply plates permit a flexible air supply and variable pressure zones
- Reverse operation
- Wide pressure range
  - 0.9 ... 10 bar
- Wide range of valve functions
- Valve supply: 24 V DC or 110 V AC

## Reliable

- Sturdy and durable metal components
  - Valves
  - Manifold sub-bases
  - Seals
- Fast troubleshooting thanks to LEDs on the valves and diagnostics via fieldbus
- Reliability of service thanks to valves that can be replaced easily and quickly
- Manual override: pushing, pushing/detented or with cover
- Durable, thanks to tried-and-tested spool valves
- Large and durable labelling system
- 100% duty cycle

## Easy to assemble

- Ready to install, already assembled and tested
- Lower cost of selection, ordering, installation and commissioning
- Secure wall mounting or DIN H-rail mounting

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

## Key features

Reduced downtimes:  
LED diagnosis on the spot

Width 18 mm, 26 mm and  
42 mm can be combined on a  
single terminal without adapter

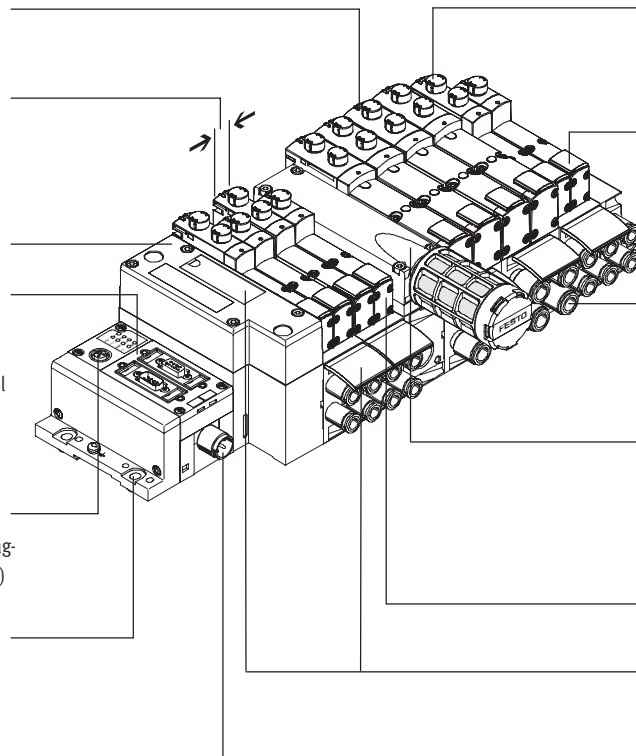
Pneumatic interface to CPX

Simple electrical connections  
– Fieldbus connection via CPX  
– Multi-pin plug connection with  
pre-assembled cable or terminal  
strip (Cage Clamp)  
– Control block via CPX  
– Individual connection

CPX diagnostic interface for hand-  
held devices (channel-oriented diag-  
nosis down to the individual valve)

Quick mounting:  
Direct mounting using screws or  
DIN H-rail

Secure:  
Valves, outputs and logic  
voltage can be switched off  
separately



Reliable operation:  
Manual override: pushing/detented  
or with cover

Flexible:  
– 32 valve positions/32 solenoid coils  
– One valve series for a wide range of  
flow rates

Functional:  
Large ports, flow-optimised ducts,  
robust metal thread or pre-assembled  
QS connections

Modular:  
Supply plates facilitate the creation of  
multiple pressure zones as well as  
numerous additional exhaust and supply  
ports

Comprehensive range of valve functions

Practical:  
Large inscription labels

## Equipment options

### Valve functions

- 5/2-way valve
  - Single solenoid valve, pneumatic/spring return
  - Double solenoid valve
  - Double solenoid valve with dominant signal
- 2x 3/2-way valve, single solenoid
  - Normally open
  - Normally open, reversible
  - Normally closed
  - Normally closed, reversible
- 2x 3/2-way valve, single solenoid
  - 1x normally open, 1x normally closed
  - 1x normally open, 1x normally closed, reversible
- 5/3-way valve
  - Mid-position pressurised
  - Mid-position closed
  - Mid-position exhausted

## Special features

- |  |   |  |  |
|--|---|--|--|
| <p><b>Individual valve</b></p> <ul style="list-style-type: none"> <li>• Electrical connection via standardised 4-pin M12 plug or via 4-pin clamped terminal connection for configuration by the user</li> <li>• Available with internal/external pilot air supply</li> </ul> | <p><b>Terminal with individual connection</b></p> <ul style="list-style-type: none"> <li>• Max. 32 valve positions/ max. 32 solenoid coils</li> <li>• Any compressed air supply</li> <li>• Any number of pressure zones</li> </ul> <p><b>AS-interface</b></p> <ul style="list-style-type: none"> <li>• 1 to 8 valve positions/ max. 8 solenoid coils</li> </ul> | <p><b>Multi-pin plug terminal</b></p> <ul style="list-style-type: none"> <li>• Max. 32 valve positions/ max. 32 solenoid coils</li> <li>• Parallel modular valve linking</li> <li>• Any compressed air supply</li> <li>• Any number of pressure zones</li> </ul> | <p><b>Fieldbus terminal/control block</b></p> <ul style="list-style-type: none"> <li>• Max. 32 valve positions/ max. 32 solenoid coils</li> <li>• Any compressed air supply</li> <li>• Any number of pressure zones</li> </ul> |
|--|---|--|--|

### Combinable

- Width 18 mm: valve flow rate up to 550 l/min
- Width 26 mm: valve flow rate up to 1,100 l/min
- Width 42 mm: valve flow rate up to 1,500 l/min
- Width 42 mm, 26 mm and 18 mm can be combined on a single valve terminal



Note

Valve terminal type 44 VTSA complies with ISO 15407-2 in width 18 and 26 mm and with ISO 5599-2 in width 42 mm.

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features

### Valve terminal configurator

Online via: → [www.festo.com](http://www.festo.com)

A valve terminal configurator is available to help you select a suitable VTSA 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 are individually tested. This reduces the amount of assembly and installation to a minimum.

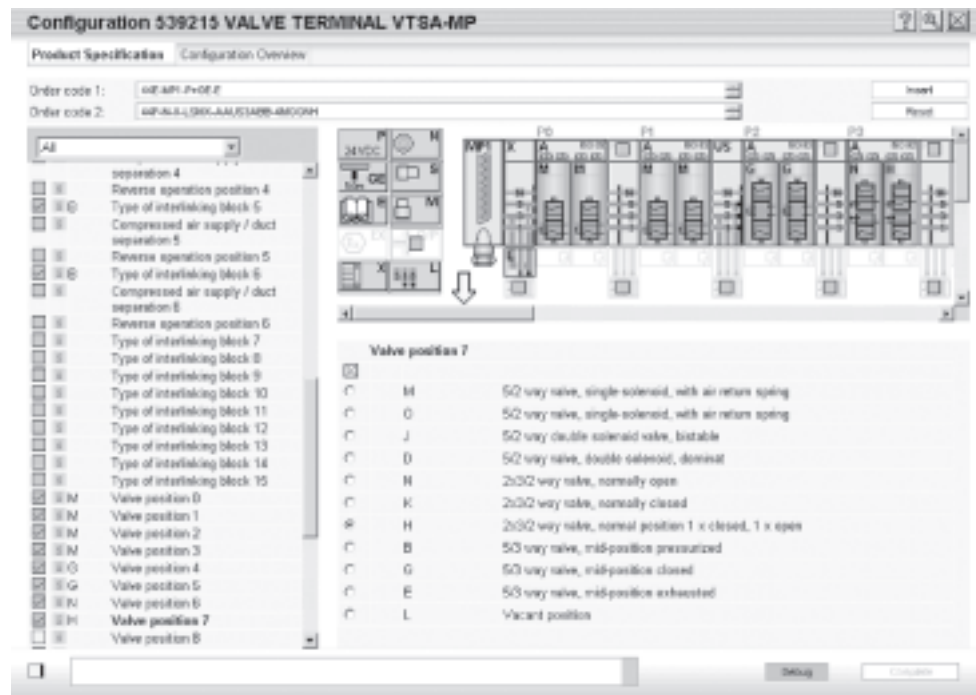
You order a valve terminal type 44 using the order code.

Ordering system for type 44

→ Internet: type 44

Ordering system, CPX

→ Internet: cpx



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 → [www.festo.com](http://www.festo.com), select the online version of the digital product catalogue from the “Products” submenu. Activate the “Direct Search” menu.

Here you can specify a “Part No.” (e.g. 539 215 or 539 217), the “Type” (e.g. VTSA) 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 create 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.

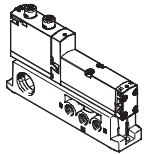
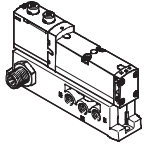


# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features

**FESTO**

## Individual connection

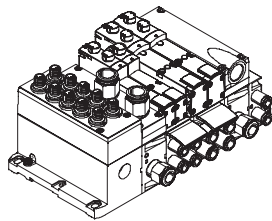


Valves on individual sub-bases can be used for actuators further away from the valve terminal.

The electrical connection is established using a standard 4-pin M12 plug 24 V DC (EN 61076-2-101) or it

can be configured by the user with a 4-pin clamped terminal connection or cable end 24 V DC or 110 V AC.

## Terminal with individual connection

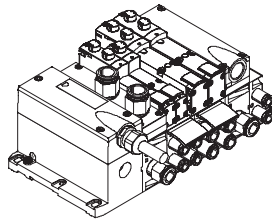


An individual connecting cable carries the control signal between the controller and the valve terminal.

The valve terminals can be fitted with max. 20 valves and max. 20 solenoid coils.

The electrical connection is established via a 5-pin M12 plug 24 V DC

## Terminal with multi-pin plug connection



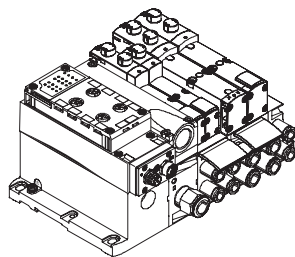
Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-core cable or a self-assembled multi-pin plug connection (Cage Clamp), which substantially reduces installation time.

The valve terminals can be fitted with max. 32 valves and max. 32 solenoid coils.

Variants

- Multi-pin plug connection with terminal strip (Cage Clamp) 24 V DC or 110 V AC
- Pre-assembled connecting cable 24 V DC
- Sub-D plug connector for fitting by users, 37-pin
- Round plug connector M23, 19-pin, 24 V DC

## AS-interface connection



A special feature of the AS-interface is the simultaneous transmission of data and energy via a 2-core cable. Due to the coded cable form, incorrect polarity can be excluded. The valve terminal with AS-interface is available in the following designs:

- With up to eight modular valve locations (max. 8 solenoid coils). This corresponds to 1 to 8 VTSA valves.
- With all available valve functions.

The design of the inputs can be selected as with CPX: M8, M12, quick connectors, Sub-D, spring-loaded terminal (IP20 terminals).

Further information

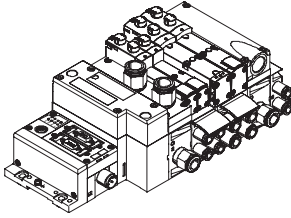
➔ Internet: as-interface

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features

**FESTO**

## Terminal with fieldbus connection via the CPX system



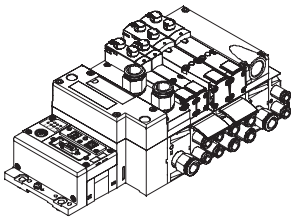
An integrated fieldbus node manages the communication connection to a higher-order PLC. This enables a space-saving pneumatic and electronic solution.

Valve terminals with fieldbus interfaces can be configured with up to 16 manifold sub-bases. With 2 solenoid coils per connection, up to 32 solenoid coils can thus be actuated.

### Variants

- Profibus DP
- Interbus
- DeviceNet
- CANopen
- CC-Link
- CPX terminal
- ➔ Internet: cpx

## Terminal with control block connection via the CPX system



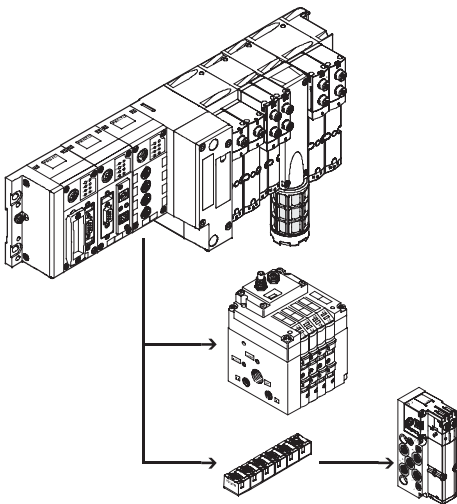
Controllers integrated in the Festo valve terminals enable the construction of stand-alone control units to IP65, without control cabinets.

Using the slave operation mode, these valve terminals can be used for intelligent pre-processing and are therefore ideal modules for designs using 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 or system.

- CPX terminal
- ➔ Internet: cpx

## CP string extension



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

The CP string interface offers:

- 32 input signals
- 32 output signals for output modules 24 V DC or solenoid coils
- Logic and sensor supply for the input modules
- Load voltage supply for the valve terminals
- Logic supply for the output modules

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Peripherals overview

FESTO

## Modular pneumatic components

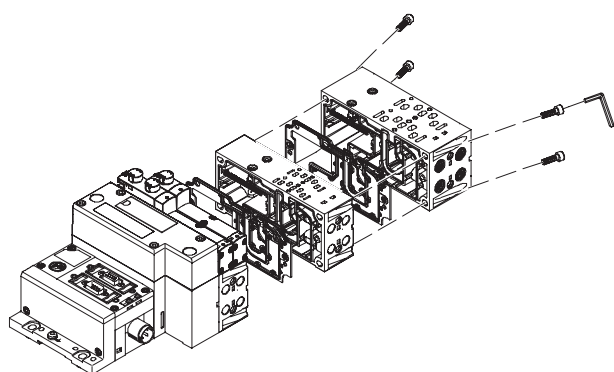
The modular design of the VTSA ensures maximum flexibility right from the planning stage and offers maximum ease of service in operation.

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

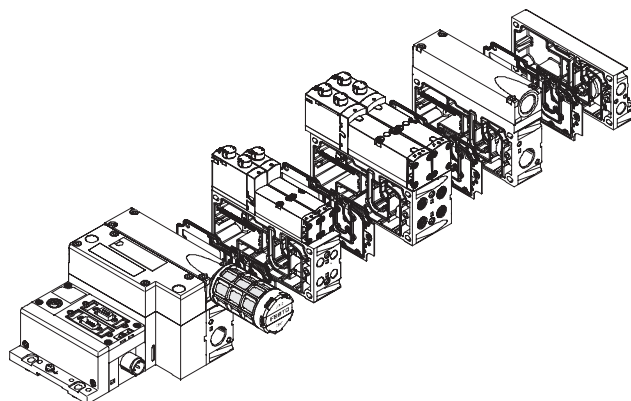
Inside the manifold blocks are the connection channels for supplying compressed air to and venting from the valves on the terminal as well as the working lines for the pneumatic cylinders for each valve.

Each manifold sub-base is connected to the next using four 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 extended.

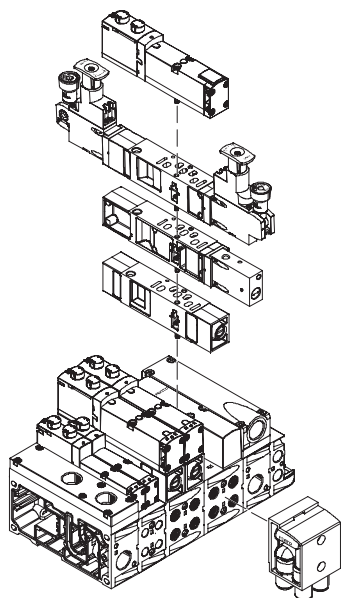
## Basic system modularity



## Valve modularity



## Stacking modularity



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Peripherals overview

## Modular electrical peripherals

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

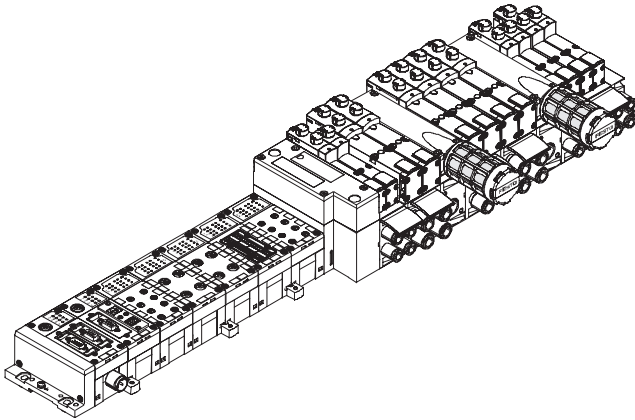
The VTSA with CPX interface is based on the internal bus system of the CPX and uses this communication system for all solenoid coils and a range of electrical input and output functions.

Parallel linking facilitates the following:

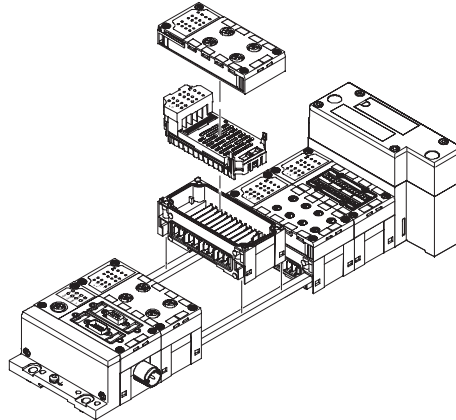
- Transmission of switching information
- High valve density
- Compact design
- Position-based diagnostics

- Separate voltage supply for valves
- Flexible alteration without address shifting
- Transmission of status, parameter and diagnostic data  
→ Internet: cpx
- Option of CP interface
- CPX-FEC as autonomous controller with access via Ethernet and web server

## VTSA with electrical peripherals CPX



## Modularity with electrical peripherals CPX



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Peripherals overview

## Individual sub-base

Order code:

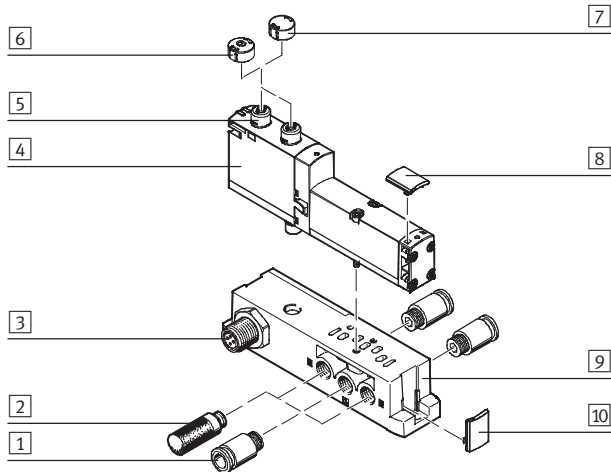
- Using individual part numbers

Individual sub-bases can be fitted with any valve.

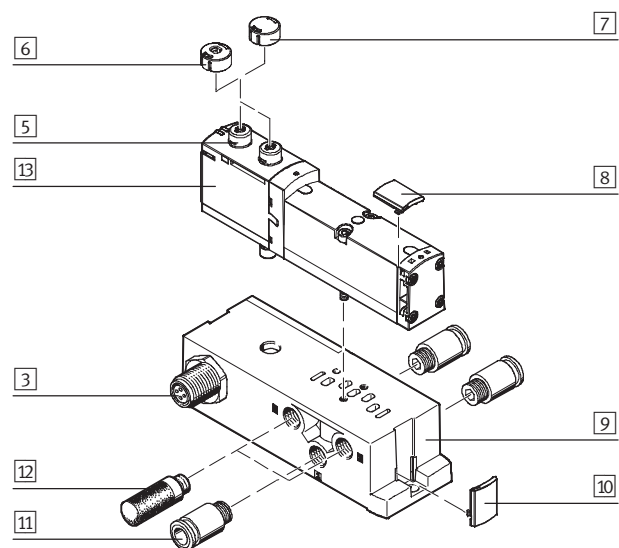
The electrical connection is established using a standard 4-pin M12 plug (EN 61076-2-101) or it can be

configured by the user with a 4-pin clamped terminal connection/open cable end.

### Width 18 mm with M12 plug



### Width 26 mm with M12 plug



	Brief description	→ Page/Internet
1	Fitting G $\frac{1}{8}$ or $\frac{1}{8}$ NPT for supply/exhaust ports (1, 3, 5) and working ports (2, 4)	87
2	Silencer G $\frac{1}{8}$ or $\frac{1}{8}$ NPT for supply/exhaust ports (1, 3, 5)	87
3	Electrical connection M12 <sup>1)</sup> 4-pin	–
4	VSVA valve Width 18 mm	78
5	Manual override Pushing/detenting, per solenoid coil	–
6	Cover cap For manual override, pushing	87
7	Cover cap For manual override, covered	87
8	Inscription label holder For valves	87
9	Individual sub-base For valve VSVA	81
10	Inscription label holder For manifold blocks	87
11	Fitting G $\frac{1}{4}$ or $\frac{1}{4}$ NPT for supply/exhaust ports (1, 3, 5) and working ports (2, 4)	87
12	Silencer G $\frac{1}{4}$ or $\frac{1}{4}$ NPT for supply/exhaust ports (1, 3, 5)	87
13	VSVA valve Width 26 mm	78

1) Only for 24 V DC

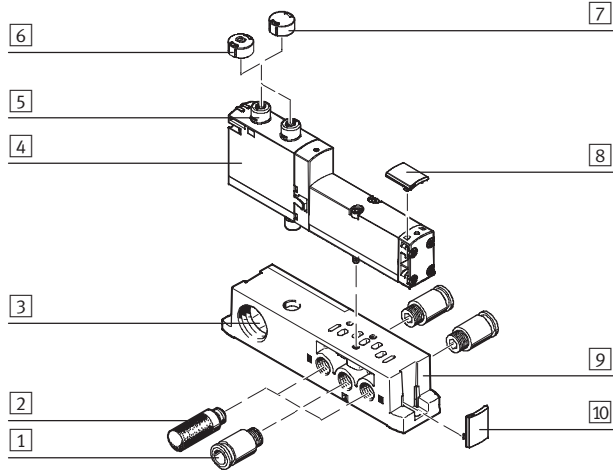
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

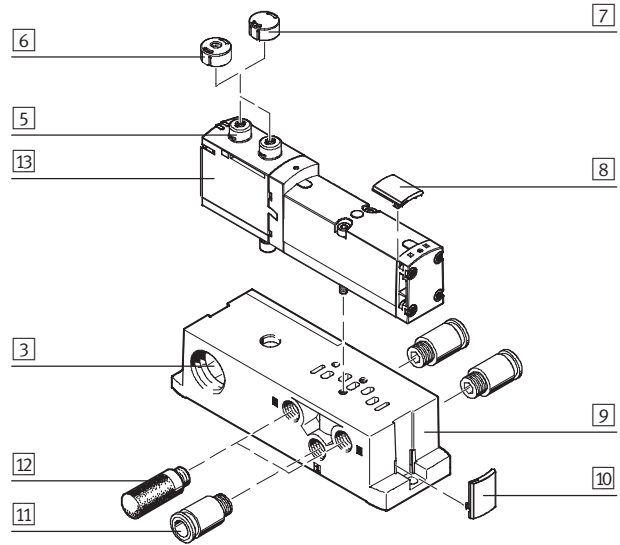
Peripherals overview

## Individual sub-base

Width 18 mm with clamped terminal connection



Width 26 mm with clamped terminal connection



	Brief description		→ Page/Internet
1	Fitting	G $\frac{1}{8}$ or $\frac{1}{8}$ NPT for supply/exhaust ports (1, 3, 5) and working ports (2, 4)	87
2	Silencer	G $\frac{1}{8}$ or $\frac{1}{8}$ NPT for supply/exhaust ports (1, 3, 5)	87
3	Clamped terminal connection <sup>1)</sup>	4-pin, configured by the user	–
4	VSVA valve	Width 18 mm	78
5	Manual override	Pushing/detenting, per solenoid coil	–
6	Cover cap	For manual override, pushing	87
7	Cover cap	For manual override, covered	87
8	Inscription label holder	For valves	87
9	Individual sub-base	For valve VSVA	81
10	Inscription label holder	For manifold blocks	87
11	Fitting	G $\frac{1}{4}$ or $\frac{1}{4}$ NPT for supply/exhaust ports (1, 3, 5) and working ports (2, 4)	87
12	Silencer	G $\frac{1}{4}$ or $\frac{1}{4}$ NPT for supply/exhaust ports (1, 3, 5)	87
13	VSVA valve	Width 26 mm	78

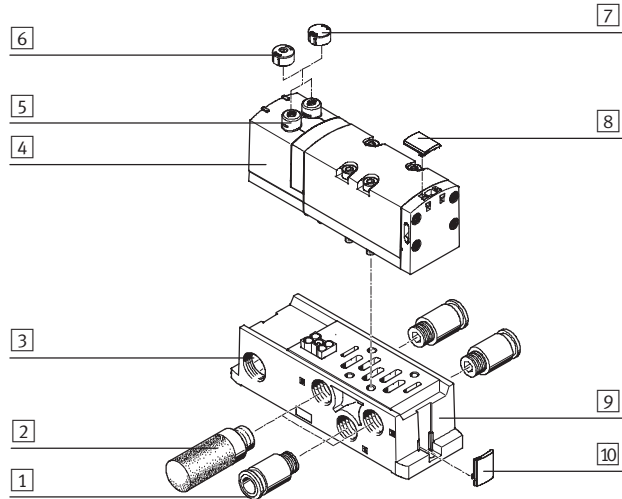
1) 24 V DC or 110 V AC

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

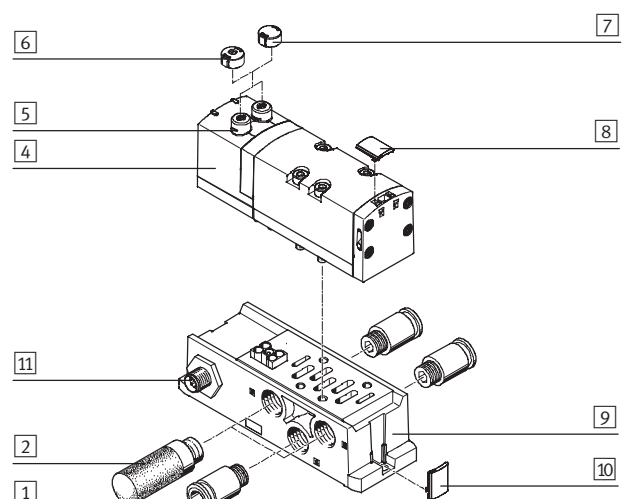
Peripherals overview

### Individual sub-base

Width 42 mm with spring-loaded terminal/open end



Width 42 mm with M12 plug



	Brief description		→ Page/Internet
1	Fitting	G $\frac{3}{8}$ or $\frac{3}{8}$ NPT for supply/exhaust ports (1, 3, 5) and working ports (2, 4)	87
2	Silencer	G $\frac{3}{8}$ or $\frac{3}{8}$ NPT for supply/exhaust ports (1, 3, 5)	87
3	Clamped terminal connection/open end <sup>1)</sup>	4-pin, configured by the user	–
4	VSVA valve	Width 42 mm	78
5	Manual override	Pushing/detenting, per solenoid coil	–
6	Cover cap	For manual override, pushing	87
7	Cover cap	For manual override, covered	87
8	Inscription label holder	For valves	87
9	Individual sub-base	For valve VSVA	81
10	Inscription label holder	For manifold blocks	87
11	Electrical connection M12 <sup>2)</sup>	4-pin	–

1) 24 VDC or 110 VAC

2) Only for 24 VDC

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

Peripherals overview

### Pneumatik for valve terminal

The manifold sub-bases width 18 and 26 mm are either prepared for:

- 2 single solenoid valves
- 2 double solenoid valves

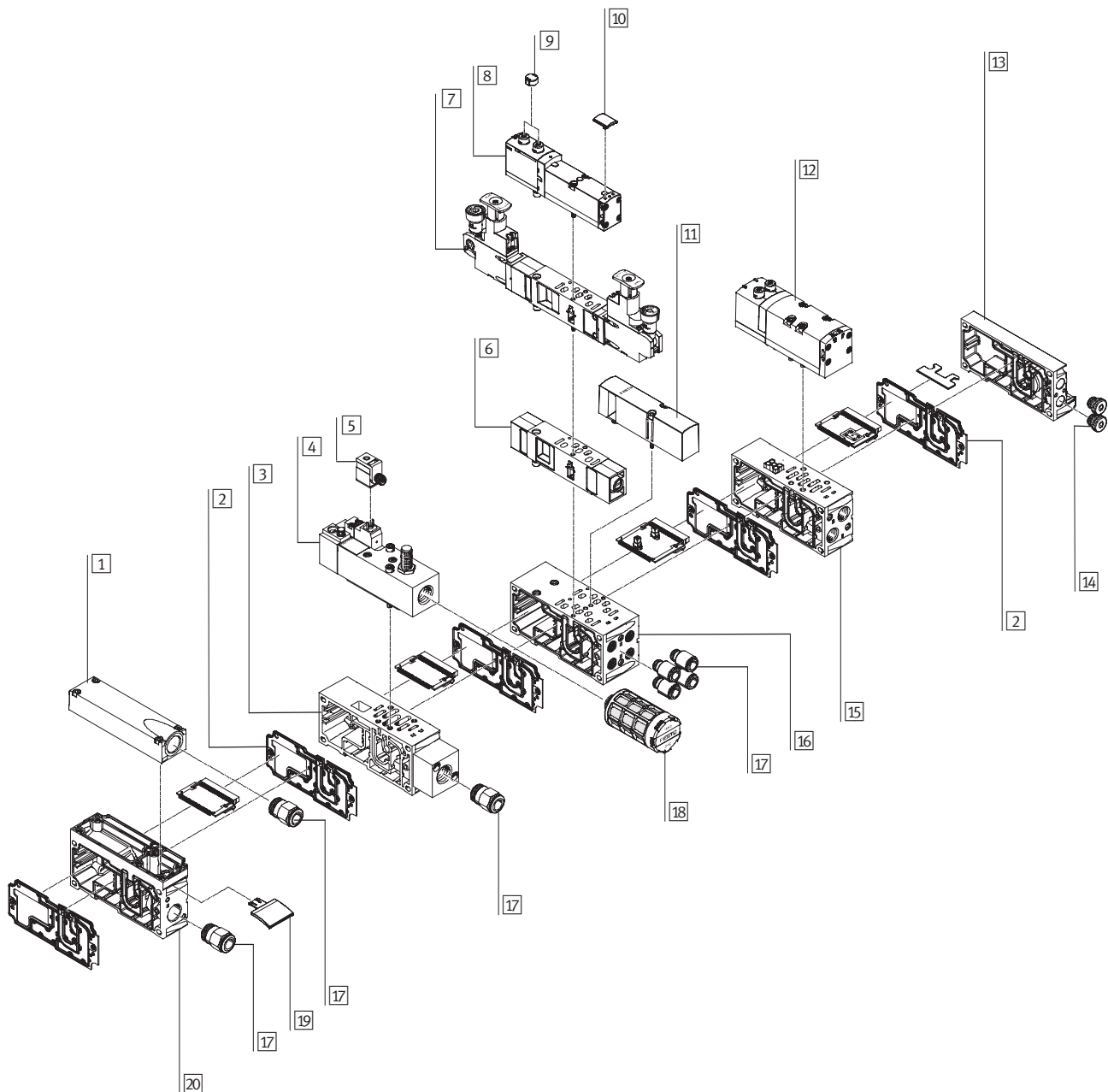
The manifold sub-bases width 42 mm are prepared for:

- 1 single solenoid valve
- 1 double solenoid valve

depending on the size.

- Double solenoid valve positions can be fitted with any valve or a blanking plate.

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





## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

Peripherals overview

Pneumatik for valve terminal		
	Brief description	→ Page/Internet
1 Exhaust port cover	For ducted exhaust air (ports 3 and 5 combined)	82
2 Duct separation/seal		82
3 Fittings	For soft start valve	75
4 Soft start valve		75
5 Plug socket		77
6 Flow control plate		85
7 Pressure regulator plate		83
8 Valve	Width 26 mm	78
9 Cover cap	For manual override, pushing, covered	87
10 Inscription label holder	For valves	87
11 Blanking plate	For unused valve position (vacant position)	87
12 Valve	Width 42 mm	80
13 End plate with pilot air selector		80
14 Blanking plug		88
15 Manifold sub-base	For valves with a width of 42 mm	80
16 Manifold sub-base	For valves with a width of 26 mm	80
17 Fittings		87
18 Silencer		87
19 Silencer	for manifold sub-base,	87
20 Supply plate		82

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Peripherals overview

**FESTO**

### Valve terminal with individual connection

Order code:

- 44E for the electrical components
- 44P for the pneumatic components

VTSA valve terminals with individual connection can be expanded with up to 20 valves with max. 20 solenoid coils.

The manifold sub-bases width 18 and 26 mm are either prepared for:

- 2 single solenoid valves
- 2 double solenoid valves

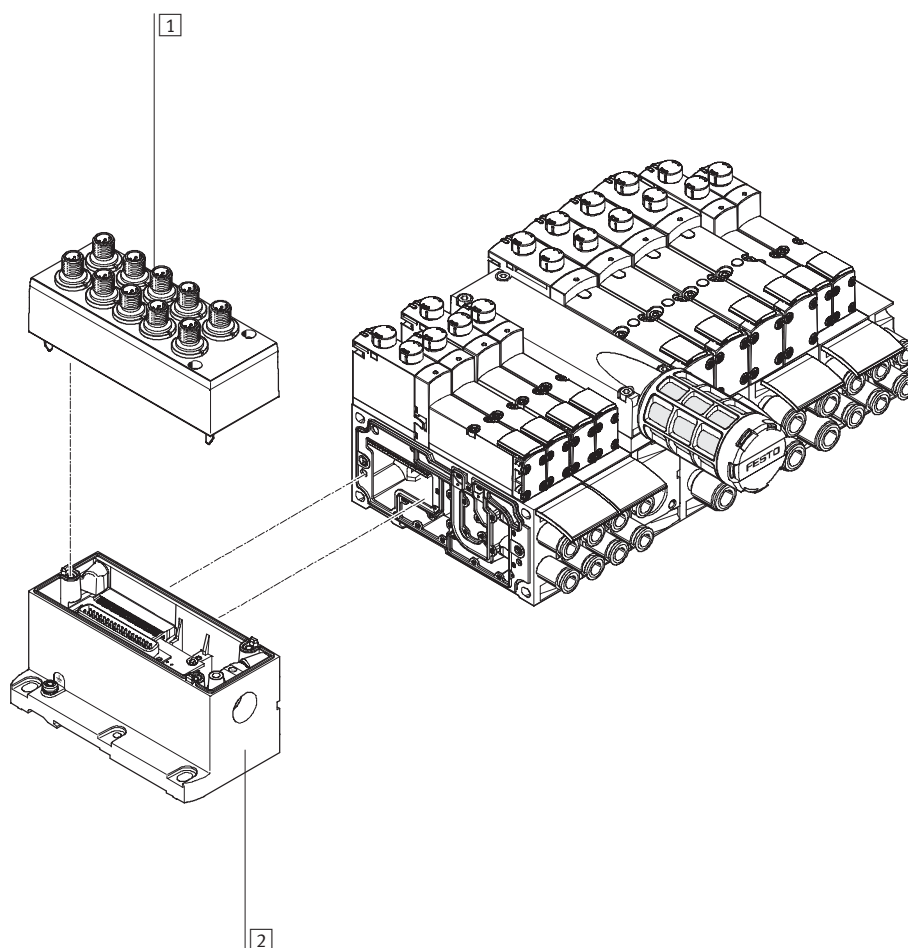
The manifold sub-bases width 42 mm are prepared for:

- 1 single solenoid valve
- 1 double solenoid valve

depending on the size.

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

The electrical connection is established via a 5-pin M12 plug (24 V DC).



	Brief description	→ Page/Internet
1 Cover	For individual connection	85
2 Multi-pin plug connection	Individual connection with M12, 10-way or 6-way (including cover)	85

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Peripherals overview

### Valve terminal with multi-pin plug connection

Order code:

- 44E for the electrical components
- 44P for the pneumatic components

VTSA valve terminals with multi-pin plug connection can be expanded with up to 32 valves with max. 32 solenoid coils.

The manifold sub-bases width 18 and 26 mm are prepared for:

- 2 single solenoid valves
- 2 double solenoid valves

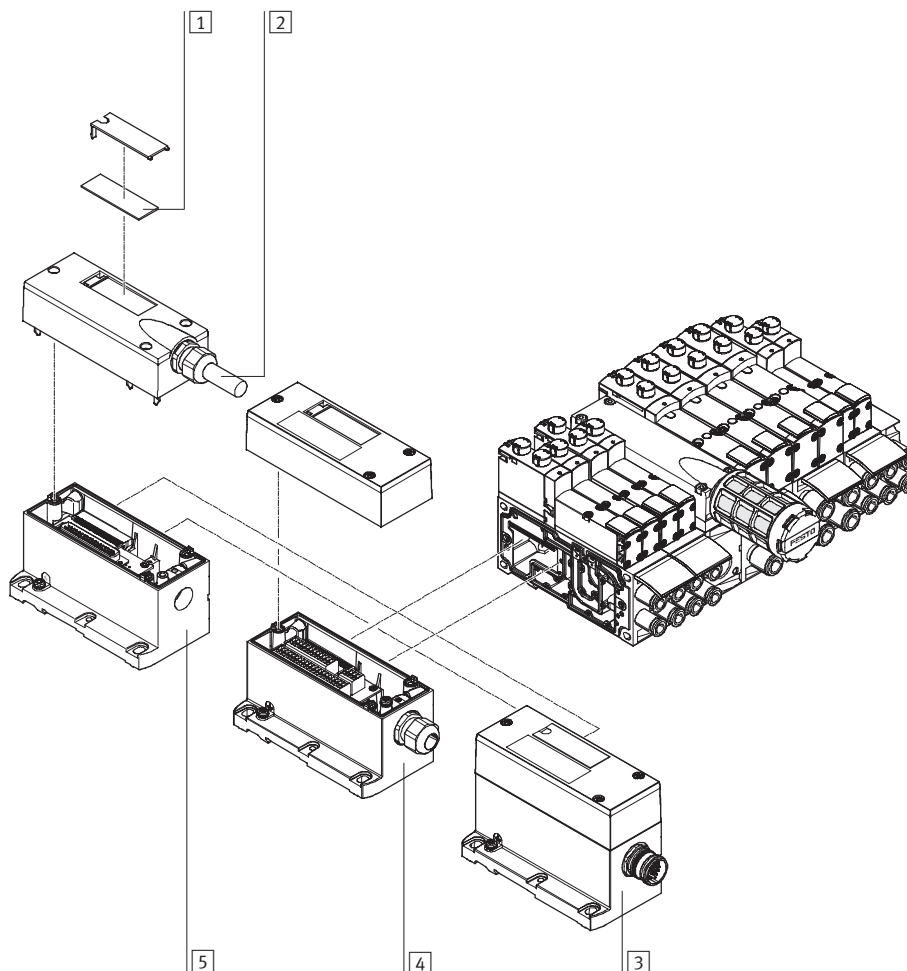
The manifold sub-bases width 42 mm are prepared for:

- 1 single solenoid valve
- 1 double solenoid valve depending on the size.

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

The following multi-pin plug connections to IP65 are available:

- 37-pin Sub-D connection (24 V DC):  
The connecting cable can be ordered in lengths of 2.5 m, 5 m and 10 m for max. 8, 22 or 32 solenoid coils
- Terminal strip  
(24 V DC or 110 V AC)
- 19-pin round plug connector  
(24 V DC)



	Brief description	→ Page/Internet
1	Inscription labels	Large, for multi-pin plug connection
2	Multi-core cable	86
3	Multi-pin plug connection	Via M23 round plug connection, 24 V DC
4	Multi-pin plug connection	Via terminal strip (CageClamp) 24 V DC or 110 V AC
5	Multi-pin plug connection	With multi-core cable 24 V DC

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Peripherals overview

**FESTO**

### Valve terminal with AS-interface connection

Order code:

- 52E for the electrical components
- 44P for the pneumatic components

VTSA valve terminals with AS-interface plug connection can be expanded with up to 8 valves with max. 8 solenoid coils.

The manifold sub-bases width 18 and 26 mm are prepared for:

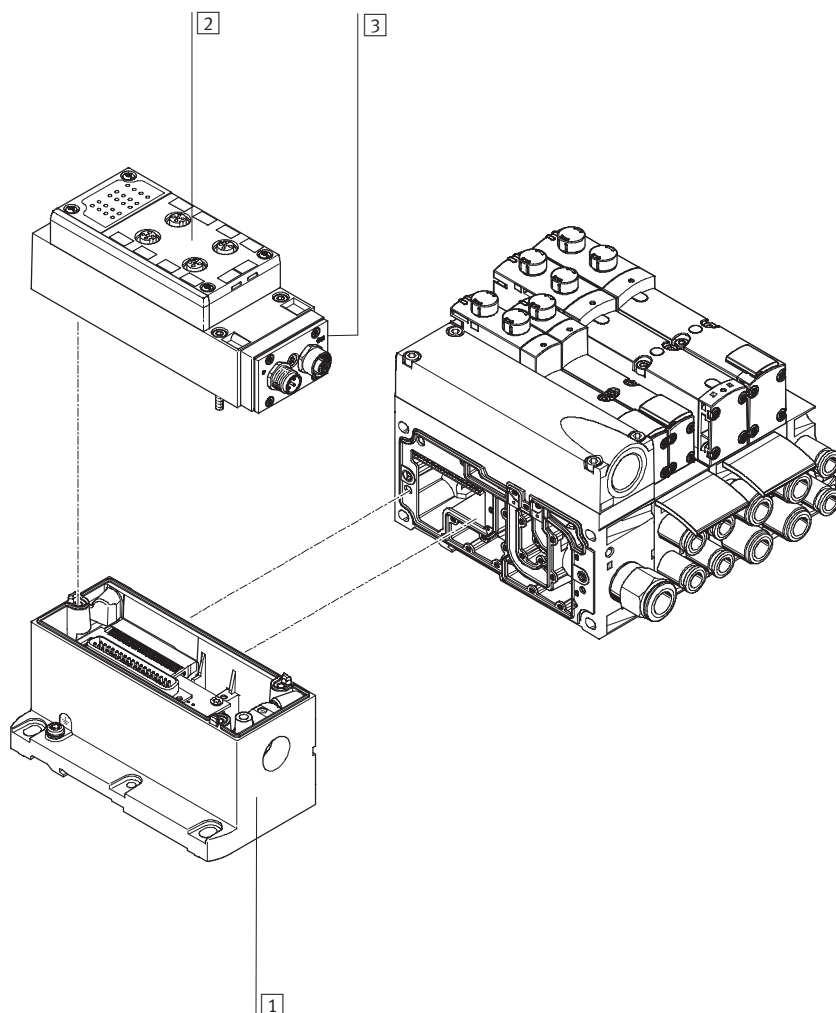
- 2 single solenoid valves
- 2 double solenoid valves

The manifold sub-bases width 42 mm are prepared for:

- 1 single solenoid valve
- 1 double solenoid valve

depending on the size.

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



	Brief description	→ Page/Internet
1	Multi-pin plug connection	Can be ordered together with AS-interface module as electrical interface for AS-interface 86
2	Connection block for AS-interface	86
3	AS-i module	86

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Peripherals overview

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

Order code:

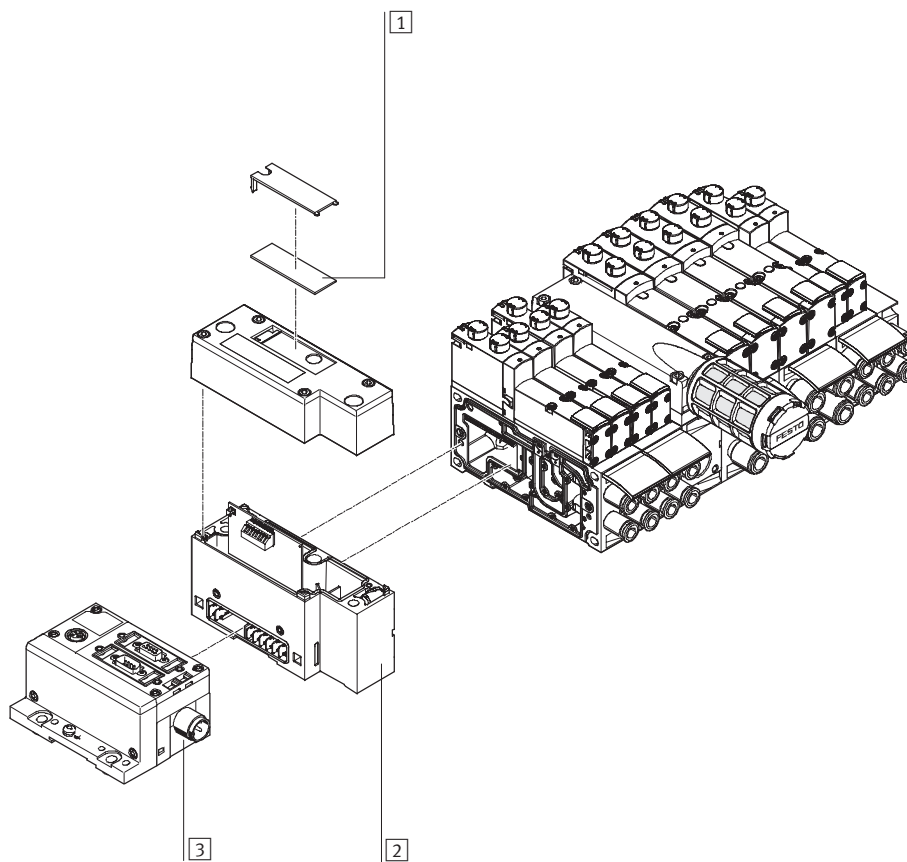
- 50E-... for the electrical peripherals
- 51E-... for the electrical peripherals, metal manifold module
- 44P for the pneumatic components

VTSA valve terminals with fieldbus interface can be expanded with up to 32 valves with max. 32 solenoid coils. Each valve position can be fitted 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 feature-rich diagnostic system
- Preventive maintenance concepts



	Brief description	→ Page/Internet
1	Inscription labels	Large, for pneumatic interface CPX
2	Pneumatik Interface	85
3	Fieldbus interface	cpx

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Peripherals overview

**FESTO**

### Valve terminal with fieldbus connection/multipin plug connection and individually connected valve

In applications with certain emergency stop conditions, it may be necessary to be able to switch one or several valves separately from the terminal controller.

For this purpose, (VSVA) standard

valves with individual electric connections (round or square plugs) are fitted on the valve terminal.

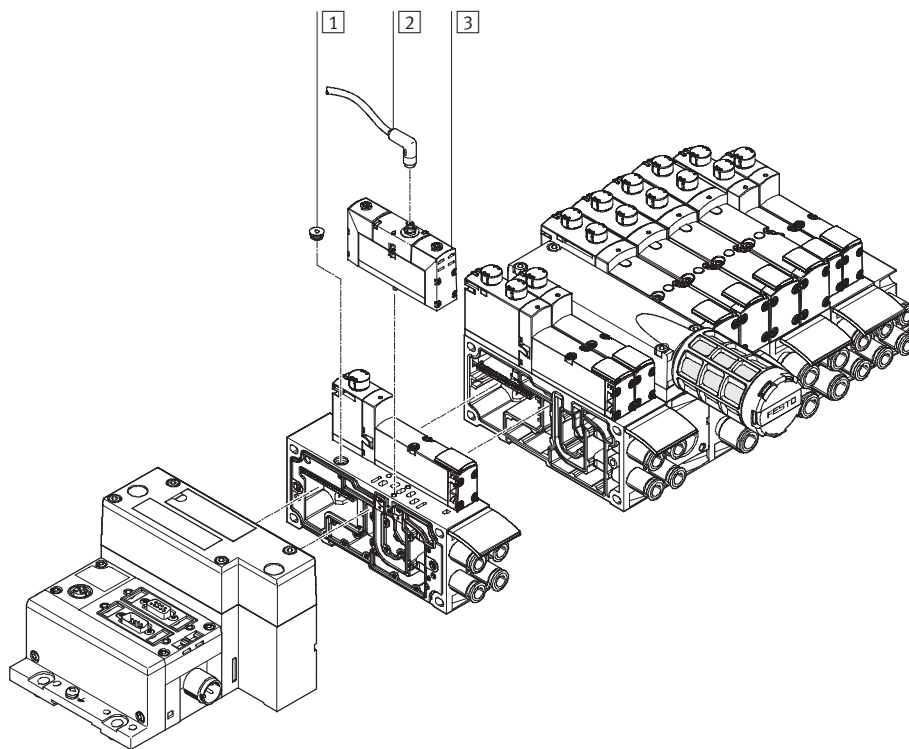
In order to comply with protection class IP65, the then functionless opening for the electrical connection

on the sub-base must be sealed.

A sealing cap is available for sizes 18 mm and 26 mm.

For central control of the valve terminal via multipin or fieldbus connec-

tion, the occupied valve location represents a reserve location, i.e. the address assigned in the fieldbus node or the corresponding connection in the multipin connection is occupied.



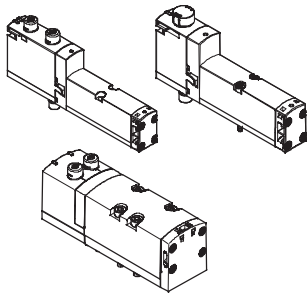
	Brief description	→ Page/Internet
1	Sealing cap	For sealing the electrical connection on the sub-base
2	Connecting cable	
3	Valve	Width 18 mm or width 26 mm

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

## Sub-base valve



VTSA offers a comprehensive range of valve functions. All valves are fitted with piston spool and patented sealing system which ensure good tightness, a wide operating pressure range and long service life.

Sub-base valves can be quickly replaced since the tubing connections remain on the sub-base. Irrespective of the valve function there are sub-base valves with one solenoid coil (monostable) or with two solenoid coils for bistable or double valve functions.

### Reverse/vacuum operation

Select reverse operation (code Z) if you wish to operate an actuator (cylinder) with different pressures for the forward and return stroke. Please note that these valves must be operated via a separate pressure zone. The 3/2-way valves, reversible, are also suitable for vacuum operation.

## Blanking plate

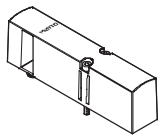


Plate without valve function for reserving valve positions on a valve terminal.

Valves and blanking plates are attached to the manifold sub-base using two screws.

Valve function					
Code	Circuit symbol	Width			Description
		18 mm	26 mm	42 mm	
M		■	■	■	5/2-way valve, double solenoid • Pneumatic spring return
O		■	■	■	5/2-way valve, single solenoid • Spring return
J		■	■	■	5/2-way valve, double solenoid
D		■	■	■	5/2-way valve, double solenoid • Dominant signal with port 14 on the control side
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

-  - Note

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

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Pneumatic components

Valve function					
Code	Circuit symbol	Width			Description
		18 mm	26 mm	42 mm	
H		■	■	■	2x 3/2-way valve, single solenoid <ul style="list-style-type: none"> <li>• Normal position                             <ul style="list-style-type: none"> <li>– 1x closed</li> <li>– 1x open</li> </ul> </li> <li>• Pneumatic spring return</li> <li>• Operating pressure &gt; 3 bar</li> </ul>
B		■	■	■	5/3-way valve <ul style="list-style-type: none"> <li>• Mid-position pressurised<sup>1)</sup></li> <li>• Spring return</li> </ul>
G		■	■	■	5/3-way valve <ul style="list-style-type: none"> <li>• Mid-position closed<sup>1)</sup></li> <li>• Spring return</li> </ul>
E		■	■	■	5/3-way valve <ul style="list-style-type: none"> <li>• Mid-position exhausted<sup>1)</sup></li> <li>• Spring return</li> </ul>
P		■	■	■	2x 3/2-way valve, single solenoid <ul style="list-style-type: none"> <li>• Reverse operation</li> <li>• Normally open</li> <li>• Pneumatic spring return</li> </ul>
Q		■	■	■	2x 3/2-way valve, single solenoid <ul style="list-style-type: none"> <li>• Reverse operation</li> <li>• Normally closed</li> <li>• Pneumatic spring return</li> </ul>
R		■	■	■	2x 3/2-way valve, single solenoid <ul style="list-style-type: none"> <li>• Reverse operation</li> <li>• Normal position                             <ul style="list-style-type: none"> <li>– 1x closed</li> <li>– 1x open</li> </ul> </li> <li>• Pneumatic spring return</li> </ul>
L		■	■	■	For valve terminal only: Blanking plate for vacant valve position

- 1) If neither solenoid coil is energised, the valve moves to its mid-position by means of spring force.  
 If both coils are energised at the same time, the valve remains in the previously assumed switching position

Design		Expansion	
Valve replacement			
The valves are attached to the metal manifold sub-base using two screws, which means that they can be easily	replaced. The mechanical robustness of the manifold sub-base guarantees good long-term seal tightness.	Vacant positions can be fitted with valves at a later date. The dimensions, mounting points and existing pneumatic installations remain unchanged	during this process. The order code VSVA-... is located on the front of the valve beneath the manual override.

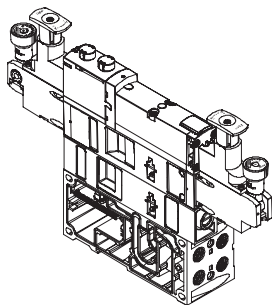


# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

FESTO

## Vertical stacking



Additional functions can be added to each valve position between the sub-base and the valve. These functions are known as vertical stacking, and

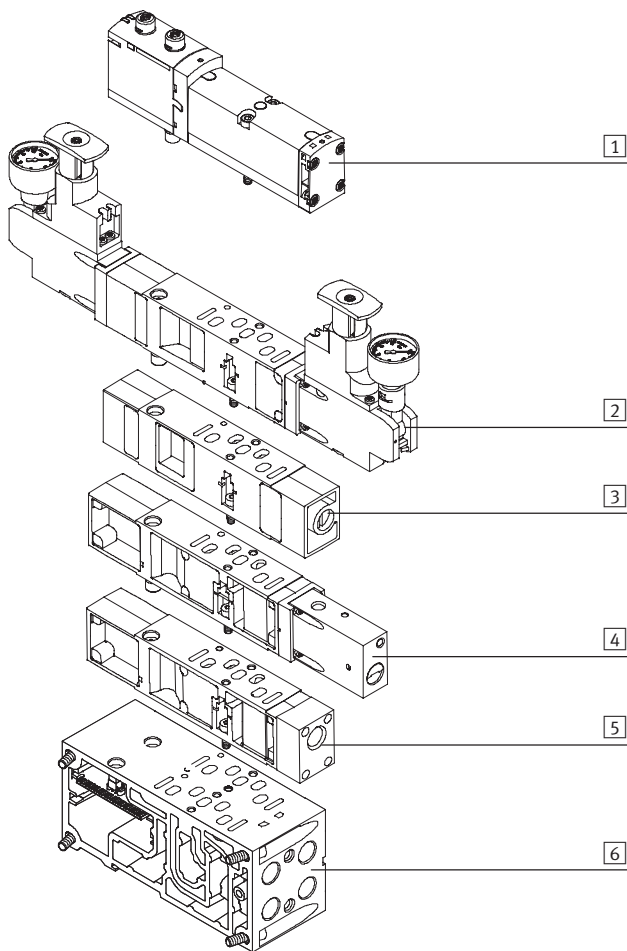
enable special functioning or control of an individual valve position. Combinations of several valve sizes on one valve terminal are possible.



Note

Certain combinations are not recommended due to the design of the individual vertical stacking components.

## Vertical stacking components



The following component sequence is recommended for valve positions with vertical stacking:

- 1 ISO valve
- 2 Pressure regulator plate
- 3 Flow control plate
- 4 Vertical shut-off plate
- 5 Vertical supply plate
- 6 Manifold sub-base

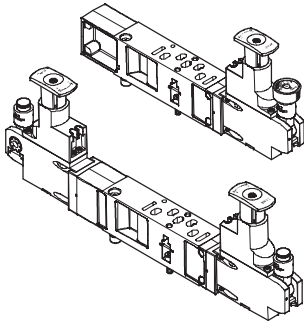
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

## Vertical stacking

### Pressure regulator plate



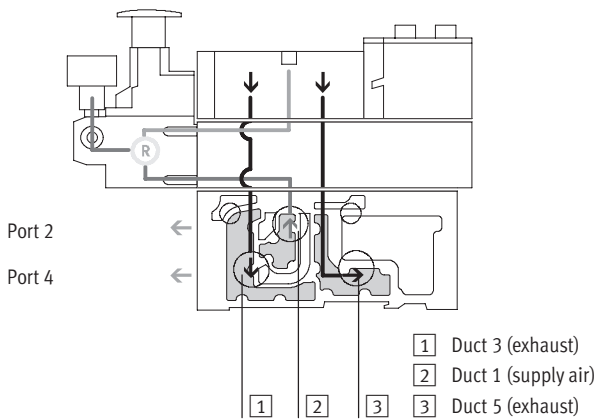
An adjustable pressure regulator can be installed between the sub-base and the valve in order to control the force of the respective actuator.

This pressure regulating valve maintains an essentially constant output pressure (secondary side) independent of pressure fluctuations (primary side) and air consumption.

Standard version:

- Standard port pattern to ISO 15407-2 or ISO 5599-2
- For supply pressure up to 6 bar or up to 10 bar
- Without pressure gauge (optional)
- Regulator knob with 3 positions (locked, reference position, free running)

### Mode of operation of pressure regulator plate (P regulator) for port 1; code: ZA, ZAY, ZF, ZFY



This pressure regulator regulates the pressure before the valve in duct 1. Ducts 2 and 4 thus have the same regulated pressure.

During venting, the exhaust flow in the valve is from duct 2 to duct 3 and from duct 4 to duct 5.

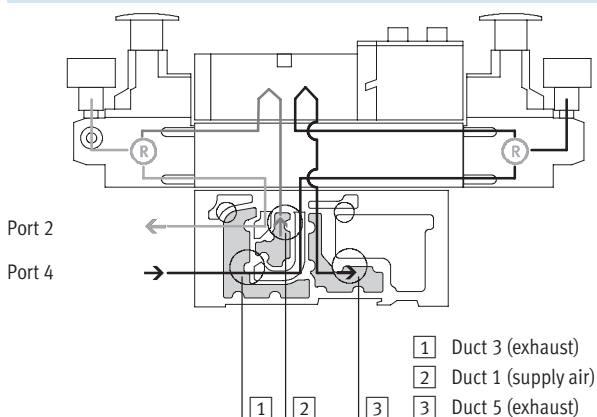
### Advantages

- The pressure regulator is not affected by venting, since the pressure is regulated before the valve.
- The pressure regulator can always be adjusted, since the pressure from the valve terminal is always present.

### Application examples

- An equal working pressure is required at working ports 2 and 4. (e.g. 3 bar) than the operating pressure present on the valve terminal
- A lower working pressure (e.g. 8 bar) is required.

### Mode of operation of the pressure regulator plate (AB regulator) for ports 2 and 4; code: ZD, ZDY, ZI, ZIY



This pressure regulator regulates the pressure in ducts 2 and 4 after the pressure medium flows through the valve. During venting, the exhaust flow in the valve is from duct 2 to duct 3 and from duct 4 to duct 5 via the pressure regulator.

Example with the following switching position:

The supply air flows from duct 1 of the manifold sub-base via the valve to duct 2, it is then regulated and made available at port 2 of the manifold sub-base. At the same time, venting takes place via duct 4 of the manifold sub-base, via the regulator and via the valve into duct 5 of the manifold sub-base.

### Restrictions

- The pressure regulator cannot be adjusted in the exhaust position. For example, the pressure regulator for duct 4 cannot be adjusted when the valve is pressurised in the switching position from duct 1 to duct 2 and exhausted from duct 4 to duct 5.

### Application examples

- When two different working pressures are required instead of the valve terminal operating pressure at ports 2 and 4.

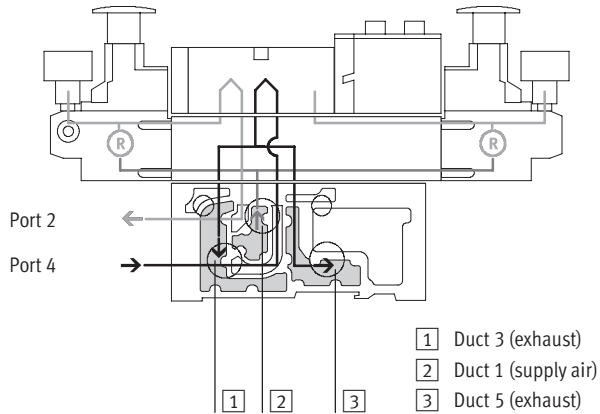
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

## Vertical stacking

Mode of operation of the pressure regulator plate (AB regulator, reversible) for ports 2 and 4, reversible; code: ZE, ZEY, ZJ, ZJY



With this pressure regulator, the supply air (duct 1) is split and routed directly to both pressure regulators. The regulated compressed air is present in ducts 3 and 5 on the valve. The valve is thus operated in reversible mode.

This means

- Duct 3 routes the working pressure to port 2
- Duct 5 routes the working pressure to port 4

Example with the following switching position:

The supply air in duct 1 is split among ducts 3 and 5 in the regulator and flows from here to the valve. In the valve, the supply air is routed to port 2 of the manifold sub-base. The exhaust air is simultaneously routed via duct 4 of the manifold sub-base and via the valve to regulator duct 1, where it is split between ducts 3 and 5 and then drawn off via the manifold sub-base.

## Application examples

- When two different pressures are required in ducts 2 and 4 instead of the operating pressure.
- When fast exhaust performance is required.
- When the pressure regulator must always be adjustable.

 Note

- Reversible pressure regulator plates may only be combined with valves that can be operated in reversible mode.
- Valves in valve positions with vertical shut-off plates are operated with internal pilot air supply, even when the valve terminal is operated with external pilot air supply.
- The following combination of reversible valve terminals with vertical stacking components is not permitted:
  - Reversible pressure regulator plates
  - Flow control plates
  - Vertical shut-off plates
  - Vertical supply plates

## Advantages

- Fast cycle times.
- 50% higher exhaust flow rate, as air is not exhausted via the pressure regulator. The load on the pressure regulator is also reduced.
- No quick exhaust valves are required.
- Operating pressure is always present at the pressure regulator, as the pressure is regulated before the valve, i.e. the regulator can always be adjusted.


## Disadvantages

- 2x 3/2-way valves (code N, K, H) not used, as pressure is present at ports 3 and 5.
- No practical combination with a flow control plate possible.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Pneumatic components

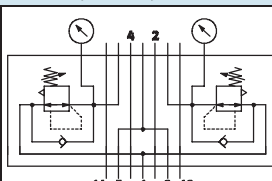

Vertical stacking – Pressure regulator plate								
Code		Type	Width			Input pressure		Description
			18 mm	26 mm	42 mm	6 bar	10 bar	
Pressure regulator plate for port 1 (P regulator)								
ZA		VABF-S4-...-R1C2-C-10	■	■	■	–	■	• Regulates the operating pressure in duct 1 before the directional control valve
ZAY <sup>1)</sup>		VABF-S4-...-R1C2-C-10E	■	■	–	–	■	
ZF		VABF-S4-...-R1C2-C-6	■	■	■	■	■	
ZFY <sup>1)</sup>		VABF-S4-...-R1C2-C-6E	■	■	–	■	–	
Pressure regulator plate for port 2 (B regulator)								
ZC		VABF-S4-...-R2C2-C-10	■	■	■	–	■	• Regulates the operating pressure in duct 2 after the directional control valve
ZCY <sup>1)</sup>		VABF-S4-...-R2C2-C-10E	■	■	–	–	■	
ZH		VABF-S4-...-R2C2-C-6	■	■	■	■	–	
ZHY <sup>1)</sup>		VABF-S4-...-R2C2-C-6E	■	■	–	■	–	
Pressure regulator plate for port 4 (A regulator)								
ZB <sup>1)</sup>		VABF-S4-...-R3C2-C-10	■	■	■	–	■	• Regulates the operating pressure in duct 4 after the directional control valve
ZG <sup>1)</sup>		VABF-S4-...-R3C2-C-6	■	■	■	■	–	
Pressure regulator plate for ports 2 and 4 (AB regulator)								
ZD		VABF-S4-...-R4C2-C-10	■	■	■	–	■	• Regulates the operating pressure in ducts 2 and 4 after the directional control valve
ZDY <sup>1)</sup>		VABF-S4-...-R4C2-C-10E	■	■	■	–	■	
ZI		VABF-S4-...-R4C2-C-6	■	■	■	■	–	
ZI <sup>1)</sup>		VABF-S4-...-R4C2-C-6E	■	■	–	■	–	
<div> Note These pressure regulator plates cannot be combined with reversible 2x 3/2-way valves (code P, Q, R).</div>								
Pressure regulator plate for port 2, reversible (B regulator)								
ZL		VABF-S4-...-R6C2-C-10	■	■	■	–	■	• Reversible pressure regulator for port 2
ZLY <sup>1)</sup>		VABF-S4-...-R6C2-C-10E	■	■	–	–	■	
ZN		VABF-S4-...-R6C2-C-6	■	■	■	■	–	
ZNY <sup>1)</sup>		VABF-S4-...-R6C2-C-6E	■	■	–	■	–	
Pressure regulator plate for port 4, reversible (A regulator)								
ZK <sup>1)</sup>		VABF-S4-...-R7C2-C-10	■	■	■	–	■	• Reversible pressure regulator for port 4
ZM <sup>1)</sup>		VABF-S4-...-R7C2-C-6	■	■	■	■	–	

1) Also suitable for valves with symmetrical design

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

Vertical stacking – Pressure regulator plate									
Code		Type	Width			Input pressure		Description	
			18 mm	26 mm	42 mm	6 bar	10 bar		
Pressure regulator plate for ports 2 and 4, reversible (AB regulator)									
ZE		VABF-S4-...-R5C2-C-10	■	■	■	–	■	<ul style="list-style-type: none"><li>• Reversible pressure regulator for ports 2 and 4</li><li>• Pressure regulation before the valve</li><li>• Redirects the operating pressure from duct 1 to ducts 3 and 5</li><li>• Routes the exhaust air from duct 1 to ducts 3 and 5</li></ul>	
ZEY <sup>1)</sup>		VABF-S4-...-R5C2-C-10E	■	■	–	–	■		
ZJ		VABF-S4-...-R5C2-C-6E	■	■	■	■	–		<div><div></div><div>Note</div></div> <p>These pressure regulator plates cannot be combined with standard 2x 3/2-way valves (code N, K, H). Reversible 2x 3/2-way valves (code P, Q, R) must not be operated in a separate pressure zone in combination with these pressure regulators.</p>
ZJY <sup>1)</sup>		VABF-S4-...-R5C2-C-6	■	■	–	■	–		

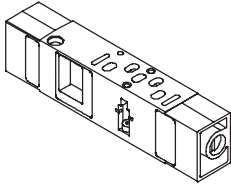
1) Also suitable for valves with symmetrical design

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

FESTO

## Vertical stacking – Flow control plate



This plate is used for exhaust air flow control in ducts 3 and 5 of a valve in order to adjust the speed of the actuator.

Ducts 3 and 5 can be adjusted independently of each other.

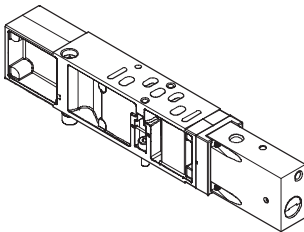


Note

On reversible valve terminals, supply air flow control takes place in ducts 3 and 5 before the valve.

Code		Type	Width			Description
			18 mm	26 mm	42 mm	
X		VABF-S4-...F1B1-C	■	■	■	<ul style="list-style-type: none"> <li>Controls the flow of exhaust air after the valve to ducts 3 and 5</li> </ul>

## Vertical stacking – Vertical shut-off plate



With this plate a valve can be shut off from the supply pressure of the terminal. This means that the valve can be removed without shutting off the pressure.

Following activation of the shut-off, the exhaust air/return air from the cylinder is drawn off via the M5 threaded connection.

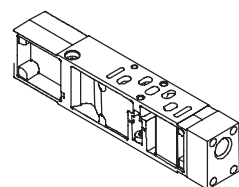


Note

It must be ensured that the operating pressure of the valve terminal lies within the range of the required pilot pressure (i.e. min. 3 bar).

Code		Type	Width			Description
			18 mm	26 mm	42 mm	
ZT		VABF-S4-...L1D1-C	■	■	■	<ul style="list-style-type: none"> <li>2/2-way valve for shutting off the operating pressure at the valve position</li> <li>Blocks ducts 12 and 14 for the valve position</li> <li>Supplies the valve position with internal pilot air</li> </ul>

## Vertical stacking – Vertical supply plate



With this plate a valve can be supplied with individual operating pressure independently of the operating pressure of the terminal.

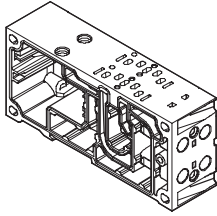
Code		Type	Width			Description
			18 mm	26 mm	42 mm	
ZU		VABF-S4-...P1A3-...	■	■	■	<ul style="list-style-type: none"> <li>Plate with port 11 for supplying an individual operating pressure for a valve position</li> </ul>

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

## Manifold sub-base



VTSA is based on a modular system which consists of manifold sub-bases and valves. Manifold sub-bases are available for valve width 18 mm and width 26 mm in a double grid, i.e. two valves per manifold sub-base. For width 42 mm there are manifold sub-bases for one valve per sub-base. The manifold sub-base contains a ducting seal and electrical linking and can be

freely mixed within a valve terminal. The manifold sub-bases are screwed together and thus form the support system for the valves.

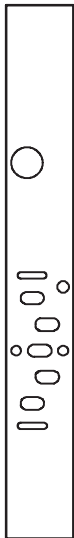
Inside the manifold blocks are the connection channels for supplying compressed air to and venting from the valves on the terminal as well as the working lines for the pneumatic

cylinders for each valve.

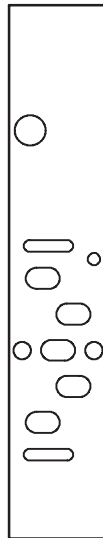
Each manifold sub-base is connected to the next using four screws. Individual terminal sections can be isolated and further manifold sub-bases inserted by loosening these screws. This ensures that the valve terminal can be rapidly and reliably extended.

## Port patterns on the manifold sub-base

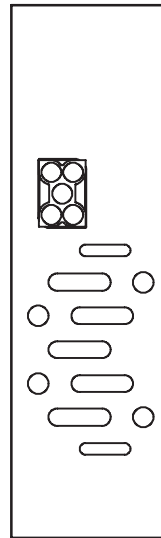
Width 18 mm



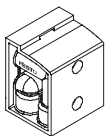
Width 26 mm



Width 42 mm



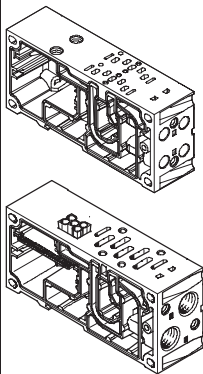
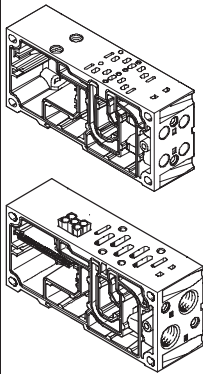
## 90° connection plate for working ports (2 and 4) of the manifold sub-bases

Code		Type	Width			Ports	Working ports (2, 4) in the 90° connection plate
			18 mm	26 mm	42 mm		
P		Threaded connection: VABF-S4-...-A2G2-G... NPT thread: VABF-S4-...-A2G2-N...	■	■	■	2 and 4	Outlet at bottom • Connection sizes for 18 mm width: G1/8, 1/8NPT • Connection sizes for 26 mm width: G1/4, 1/4NPT • Connection sizes for 42 mm width: G3/8, 3/8NPT

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Pneumatic components

Manifold sub-base variants							
Code		Type	Width			No. of valve positions/ solenoid coils	Working ports (2, 4) on manifold sub-base
			18 mm	26 mm	42 mm		
Manifold sub-base for multi-pin plug/fieldbus connection for double solenoid valves							
A AK		Threaded connection: VABV-S4-2S-G18-2T2 NPT thread: VABV-S4-2S-N18-2T2	■	–	–	2/4	<ul style="list-style-type: none"><li>Connection sizes for 18 mm width: G1/8, QS-G1/8-8, QS-G1/8-6,  1/8NPT, QS-1/8-5/16-U, QS-1/8-1/4-U</li></ul>
B BK		Threaded connection: VABV-S4-1S-G14-2T2 NPT thread: VABV-S4-1S-N14-2T2	–	■	–	2/4	<ul style="list-style-type: none"><li>Connection sizes for 26 mm width: G1/4, QS-G1/4-10, QS-G1/4-8,  1/4NPT, QS-1/4-3/8-U, QS-1/4-5/16-U</li></ul>
C CK		Threaded connection: VABV-S2-1S-G38-T2 NPT thread: VABV-S2-1S-N38-T2	–	–	■	1/2	<ul style="list-style-type: none"><li>Connection sizes for 42 mm width: G3/8 QS-G3/8-12, QS-G3/8-10,  3/8NPT, QS-3/8-3/8-U, QS-3/8-1/2-U</li></ul>
Manifold sub-base for multi-pin plug/fieldbus connection for single solenoid valves							
E EK		Threaded connection: VABV-S4-2S-G18-2T1 NPT thread: VABV-S4-2S-N18-2T1	■	–	–	2/2	<ul style="list-style-type: none"><li>Connection sizes for 18 mm width: G1/8, QS-G1/8-8, QS-G1/8-6,  1/8NPT, QS-1/8-5/16-U, QS-1/8-1/4-U</li></ul>
F FK		Threaded connection: VABV-S4-1S-G14-2T1 NPT thread: VABV-S4-1S-N14-2T1	–	■	–	2/2	<ul style="list-style-type: none"><li>Connection sizes for 26 mm width: G1/4, QS-G1/4-10, QS-G1/4-8, 1/4NPT, QS-1/4-3/8-U, QS-1/4-5/16-U</li></ul>
G GK		Threaded connection: VABV-S2-1S-G38-T1 NPT thread: VABV-S2-1S-N38-T1	–	–	■	1/1	<ul style="list-style-type: none"><li>Connection sizes for 42 mm width: G3/8 QS-G3/8-12, QS-G3/8-10,  3/8NPT, QS-3/8-3/8-U, QS-3/8-1/2-U</li></ul>



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

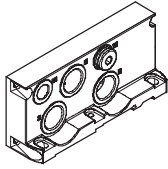
Key features – Pneumatic components

**FESTO**

## Compressed air supply and venting

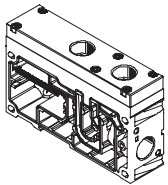
Right-hand end plate

- Code V



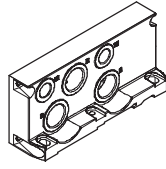
Port configuration for supply plates  
Exhaust air 3/5 separated

- Code K



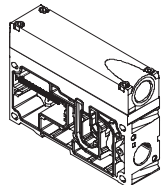
Right-hand end plate

- Code X



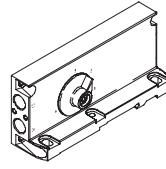
Port configuration for supply plates  
Exhaust port 3/5 common

- Code L



End plate with pilot air selector

- Code Y, U, Z, W



The valve terminal VTSA can be supplied with compressed air at one or more points. This is a reliable way of ensuring that all functional components will always offer good performance, even with large-scale expansions. The valve terminal is supplied via supply plates (max. 16 per terminal) or via an end plate. Venting is performed either using silencers or ports for ducted exhaust air on the supply plates and/or on the right-hand end plate. There are two types of supply plates:

- Exhaust port 3/5 common
- Exhaust air 3/5 separated

## Pilot air supply supply

The port for the pneumatic supply is located on the supply plates or the right-hand end plate. The ports differ for the following types of pilot air supply supply:

- Internal
- External

### Internal pilot air supply

Internal pilot air supply can be selected if the working pressure is between 3 and 10 bar. The pilot air supply supply is then branched from the compressed air supply 1 using an internal connection. Port 14 on the right-hand end plate is sealed with a blanking plug.

### External pilot air supply

If the supply pressure is less than 3 bar, you must operate your VTSA valve terminal using external pilot air supply. The pilot air supply is supplied via port 14 on the right-hand end plate to this end. This is the case even if the valve terminal is operated with different pressure zones.



Note

If a gradual pressure build-up in the system using a pressurised on-off valve is required, external pilot air supply where the control pressure applied during switch-on is already very high should be selected.

## Right-hand end plate

Different right-hand end plates are available.

With the following two end plates, the outgoing direction of the ports is aligned with the horizontal stacking direction.

Right-hand end plates with pilot air supply/pilot exhaust air

- Internal pilot air supply: Code V
- External pilot air supply: Code X

For end plates with pilot air selector, the outgoing direction of the ports is to the front face of the valve terminal. This means that all of the ports on the terminal can be combined in one outgoing direction. The special feature of the end plates with pilot air selector is the selector switch itself, which has four settings for different pilot air supply/pilot exhaust air.

End plates with pilot air selector switch set at the factory for:

- Internal pilot air supply: Code Y
- External pilot air supply: Code Z
- Internal pilot air supply, ducted pilot exhaust air: Code U
- External pilot air supply, ducted pilot exhaust air: Code W



Note

The end plate with pilot air selector must be used in combination with a supply plate. The reversible 3/2-way valves (code P, Q, R) must only be operated in selector position 1 or 2.

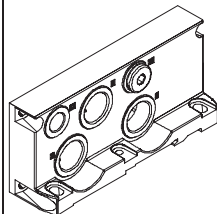
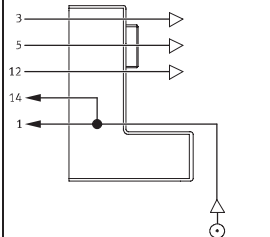
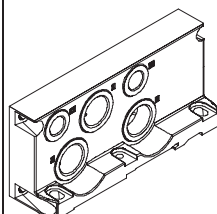
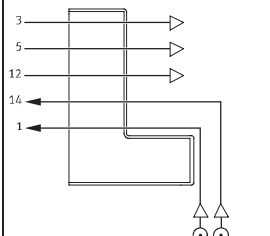
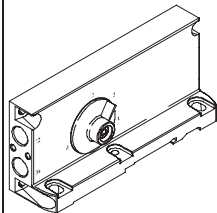
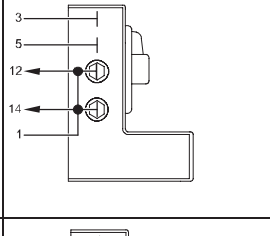
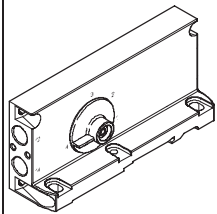
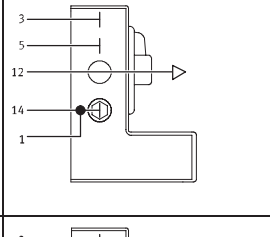
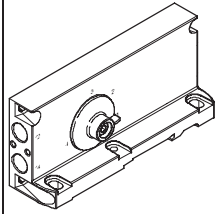
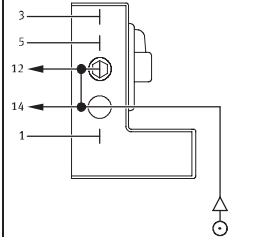
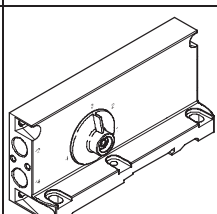
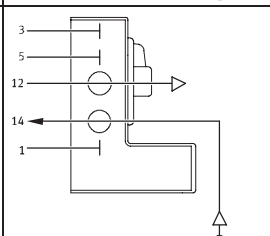
## Right-hand end plate with pilot air selector

Code	Selector position
Z	1
Y	2
W	3
U	4

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Pneumatic components

Right-hand end plate						
Code	Type of compressed air supply and pilot air supply	Width			Description	
		18 mm	26 mm	42 mm		
Right-hand end plate						
V			■	■	■	<p>Internal pilot air supply, silencer</p> <ul style="list-style-type: none"><li>• Pilot air supply is branched internally from port 1</li><li>• Port 14 is sealed with a blanking plug</li><li>• Exhaust 3/5 via silencer</li><li>• For operating pressure in the range 3 ... 10 bar</li><li>• Pilot exhaust<sup>1)</sup></li></ul>
X			■	■	■	<p>External pilot air supply, silencer</p> <ul style="list-style-type: none"><li>• Pilot air supply between 2 and 10 bar is connected at port 14</li><li>• Exhaust 3/5 via silencer</li><li>• For operating pressure in the range -0.9 ... 10 bar (suitable for vacuum)</li><li>• Pilot exhaust<sup>1)</sup></li></ul>
Code <sup>2)</sup> End plate with pilot air selector						
Y (2)			■	■	■	<p>Internal pilot air supply</p> <ul style="list-style-type: none"><li>• Pilot air supply is branched internally from port 1</li><li>• Ports 1/12/14 are internally connected</li><li>• Ports 12/14 are sealed with blanking plugs</li><li>• Pilot exhaust air unducted via valve housing</li></ul>
U (4)			■	■	■	<p>Internal pilot air supply, ducted exhaust air</p> <ul style="list-style-type: none"><li>• Pilot air supply is branched internally from port 1</li><li>• Ports 1/14 are internally connected</li><li>• Port 14 is sealed with a blanking plug</li><li>• Pilot exhaust via port 12 with silencer<sup>1)</sup></li></ul>
Z (1)			■	■	■	<p>External pilot air supply</p> <ul style="list-style-type: none"><li>• Pilot air supply is connected at port 14</li><li>• Port 12 is sealed with a blanking plug</li><li>• Ports 12/14 are internally connected</li><li>• Pilot exhaust air unducted via valve housing</li></ul>
W (3)			■	■	■	<p>External pilot air supply, ducted exhaust air</p> <ul style="list-style-type: none"><li>• Pilot air supply is connected at port 14</li><li>• Pilot exhaust via port 12 with silencer<sup>1)</sup></li></ul>

1) Ducted pilot exhaust air is only possible with turned seals on the valve

2) Selector setting in brackets

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

## Compressed air supply/duct separation

Additional supply plates can be used for larger terminals or to create pressure zones. These can be selected at any point before or after manifold sub-bases.

Supply plates contain the ports:

- Compressed air supply (1)
- Exhaust port (3/5) common or separated

Depending on your order, the exhaust air ducts are either ducted or vented via silencers.

### VTSA with ducted exhaust air

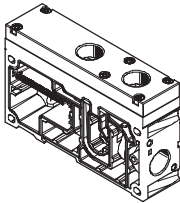
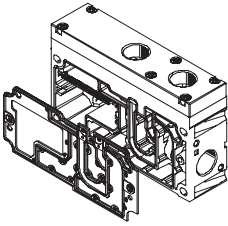
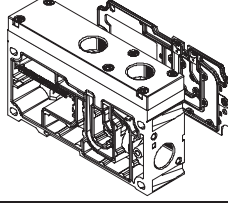
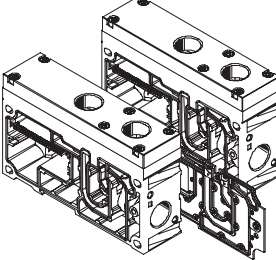
With ducted exhaust air, venting can be performed via a supply plate or a right-hand end plate (code V or X).

If duct separation is required, there are three different options:

- Duct separation 1, 3, 5: Code S
- Duct separation 1: Code T
- Duct separation 3, 5: Code R

If a combination of duct separation (S, T or R) and one or two supply plates is required, the following variants can be selected:

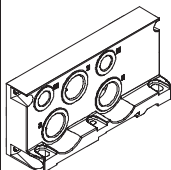
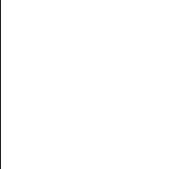
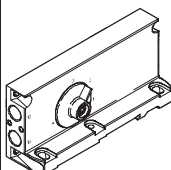
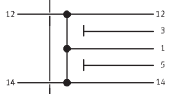
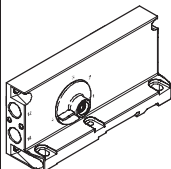
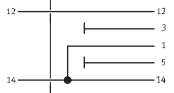
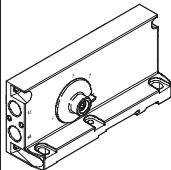
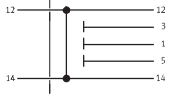
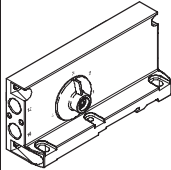
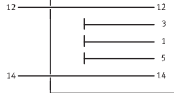
- Supply plate with duct separation on the left-hand side: Code SU, TU, RU
- Supply plate with duct separation on the right-hand side: Code US, UT, UR
- 2 supply plates with intermediate duct separation: Code USU, UTU, URU

Supply plates						
Code		Type	Width			Description
			18 mm	26 mm	42 mm	
U		<ul style="list-style-type: none"> <li>• Exhaust port 3/5 common For threaded connection: VABF-S6-10-P1A7-G12 For NPT thread: VABF-S6-10-P1A7-N12</li> <li>• Exhaust air 3/5 separated For threaded connection: VABF-S6-10-P1A6-G12 For NPT thread: VABF-S6-10-P1A6-N12</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Supply plate without duct separation (no R, S or T selected)
SU TU RU			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Supply plate with duct separation on left, if R, S or T selected
US UT UR			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Supply plate with duct separation on right, if R, S or T selected
USU UTU URU			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 supply plates with duct separation in centre, if R, S or T selected

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Pneumatic components

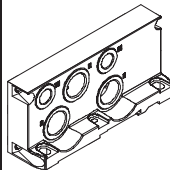
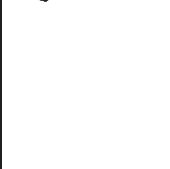
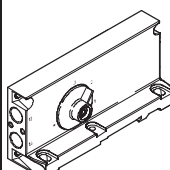
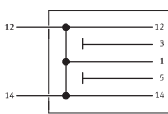
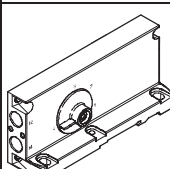
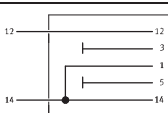
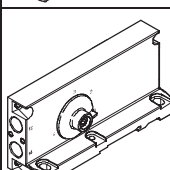
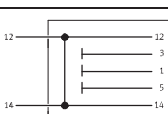
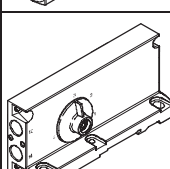
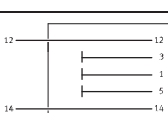
Configuration of all pneumatic threaded connections							
Code <sup>1)</sup>			Connection	Designation	Code M Plug connector large	Code N Plug connector small	
V		—	Right-hand end plate, internal pilot air supply, silencer				
			1	Compressed air/ vacuum supply	Push-in fitting	QS-G1/2-16	QS-G1/2-12
			3/5	Exhaust air	Via silencer	U-1/2-B	U-1/2-B
			14	Pilot air supply	Blanking plug	B-1/4	B-1/4
X		—	Right-hand end plate, external pilot air supply, silencer				
			1	Compressed air/ vacuum supply	Push-in fitting	QS-G1/2-16	QS-G1/2-12
			3/5	Exhaust air	Via silencer	U-1/2-B	U-1/2-B
			12	Pilot exhaust air	Via silencer	U-1/4	U-1/4
			14	Pilot air supply	Push-in fitting	QS-G1/4-10	QS-G1/4-8
Y (2)			End plate with pilot air selector, internal pilot air supply				
			12	Pilot air supply	Blanking plug	B-1/4	B-1/4
			14	Pilot exhaust air	Push-in fitting	QS-G1/4-10	QS-G1/4-8
U (4)			End plate with pilot air selector, internal pilot air supply, ducted exhaust air				
			12	Pilot air supply	Blanking plug	B-1/4	B-1/4
			14	Pilot exhaust air	Blanking plug	B-1/4	B-1/4
Z (1)			End plate with pilot air selector, external pilot air supply				
			12	Pilot air supply	Push-in fitting or silencer	QS-G1/4-10 or U-1/4	QS-G1/4-8 or U-1/4
			14	Pilot exhaust air	Push-in fitting	QS-G1/4-10	QS-G1/4-8
W (3)			End plate with pilot air selector, external pilot air supply, ducted exhaust air				
			12	Pilot air supply	Push-in fitting or silencer	QS-G1/4-10 or U-1/4	QS-G1/4-8 or U-1/4
			14	Pilot exhaust air	Blanking plug	B-1/4	B-1/4

1) Selector setting in brackets

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

**FESTO**

Design of all pneumatic connections with NPT thread						
Code <sup>1)</sup>			Connection	Designation	Code M Plug connector large	Code N Plug connector small
V		—	Right-hand end plate, internal pilot air supply, silencer			
1			Compressed air/ vacuum supply	Push-in fitting	QS-1/2-5/8-U	QS-1/2-1/2-U
3/5			Exhaust air	Via silencer	U-1/2-B-NPT	U-1/2-B-NPT
14			Pilot air supply	Blanking plug	B-1/4-NPT	B-1/4-NPT
X		—	Right-hand end plate, external pilot air supply, silencer			
1			Compressed air/ vacuum supply	Push-in fitting	QS-1/2-5/8-U	QS-1/2-1/2-U
3/5			Exhaust air	Via silencer	U-1/2-B-NPT	U-1/2-B-NPT
12			Pilot exhaust air	Via silencer	U-1/4-B-NPT	U-1/4-B-NPT
14			Pilot air supply	Push-in fitting	QS-1/4-3/8-U	QS-1/4-5/16-U
Y (2)			End plate with pilot air selector, internal pilot air supply			
12			Pilot air supply	Blanking plug	B-1/4-NPT	B-1/4-NPT
14			Pilot exhaust air	Push-in fitting	QS-1/4-3/8-U	QS-1/4-5/16-U
U (4)			End plate with pilot air selector, internal pilot air supply, ducted exhaust air			
12			Pilot air supply	Blanking plug	B-1/4-NPT	B-1/4-NPT
14			Pilot exhaust air	Blanking plug	B-1/4-NPT	B-1/4-NPT
Z (1)			End plate with pilot air selector, external pilot air supply			
12			Pilot air supply	Push-in fitting or silencer	QS-1/4-3/8-U or U-1/4-B-NPT	QS-1/4-5/16-U or U-1/4-B-NPT
14			Pilot exhaust air	Push-in fitting	QS-1/4-3/8-U	QS-1/4-5/16-U
W (3)			End plate with pilot air selector, external pilot air supply, ducted exhaust air			
12			Pilot air supply	Push-in fitting or silencer	QS-1/4-3/8-U or U-1/4-B-NPT	QS-1/4-5/16-U or U-1/4-B-NPT
14			Pilot exhaust air	Blanking plug	B-1/4-NPT	B-1/4-NPT

1) Selector setting in brackets

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

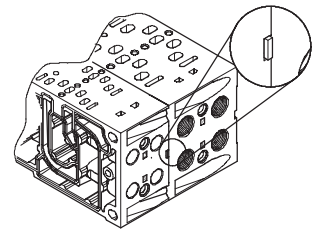
**FESTO**

### Creation of pressure zones and separation of exhaust air

The valve terminal VTSA 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 between the manifold sub-bases using appropriate duct separation.

Compressed air is supplied and vented by using a supply plate. The position of the supply plates and duct separations can be freely selected for VTSA.

Duct separations are integrated ex-works as per your order. Duct order and separations can be distinguished by their coding, even when the valve terminal is assembled.



Creating pressure zones						
Code	Separating seal		Width			Description
	Pictorial examples	Coding	18 mm	26 mm	42 mm	
T			■	■	■	Duct 1 separated
S			■	■	■	Duct 1 and 3/5 separated
R			■	■	■	Duct 3/5 separated

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

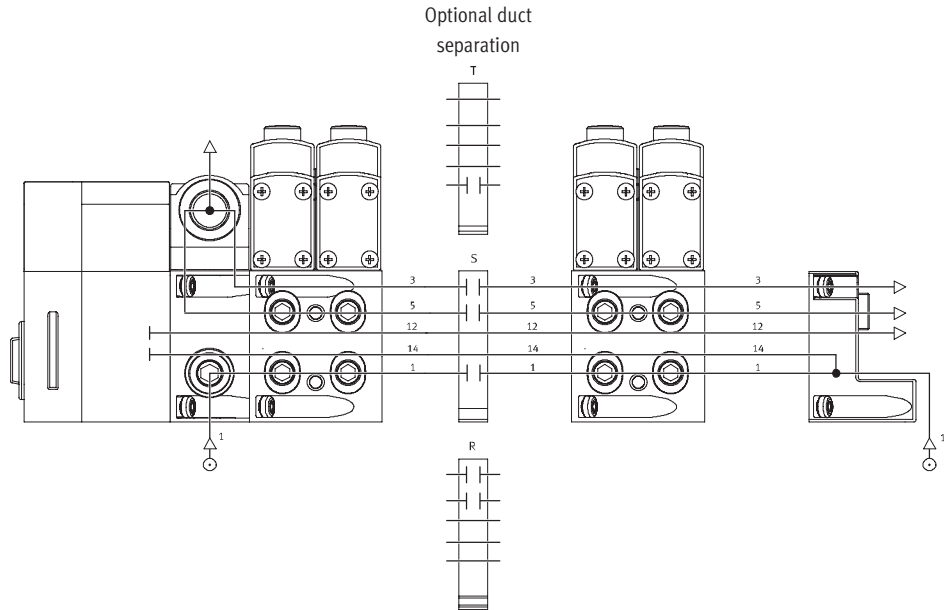
FESTO

### Examples: Compressed air supply and pilot air supply, right-hand end plate

#### Internal pilot air supply, silencer/ducted exhaust air

Right-hand end plate: Code V

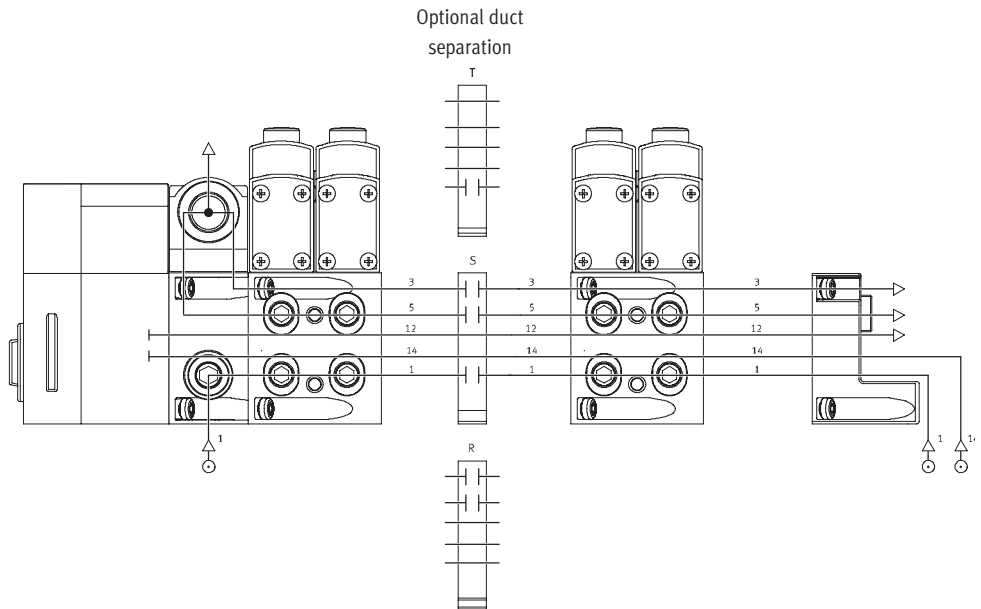
The diagram opposite shows an example for the configuration and connection of the compressed air supply with internal pilot air supply. Port 14 on the right-hand end plate is tightly sealed. Exhaust air port 3/5 is drawn off via the silencer. Duct separations can be used optionally to create pressure zones.



#### External pilot air supply, silencer/ducted exhaust air

Right-hand end plate: Code X

The diagram opposite shows an example for the configuration and connection of the compressed air supply with external pilot air supply. Port 14 on the right-hand end plate is equipped with a fitting for this. Exhaust air port 3/5 is drawn off via the silencer. Duct separations can be used optionally to create pressure zones.



## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

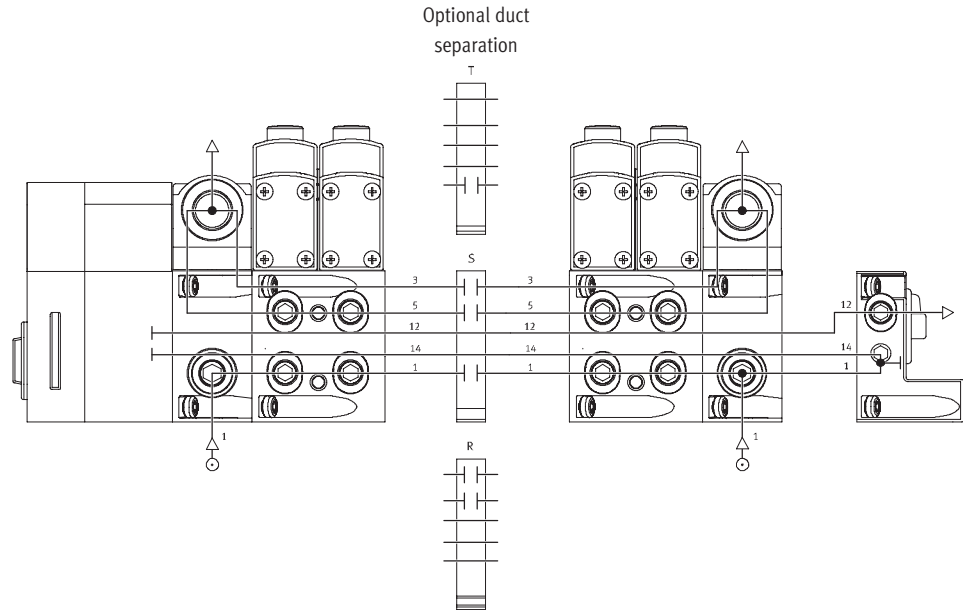
FESTO

Key features – Pneumatic components

### Examples: Compressed air supply and pilot air supply via right-hand end plate with pilot air selector

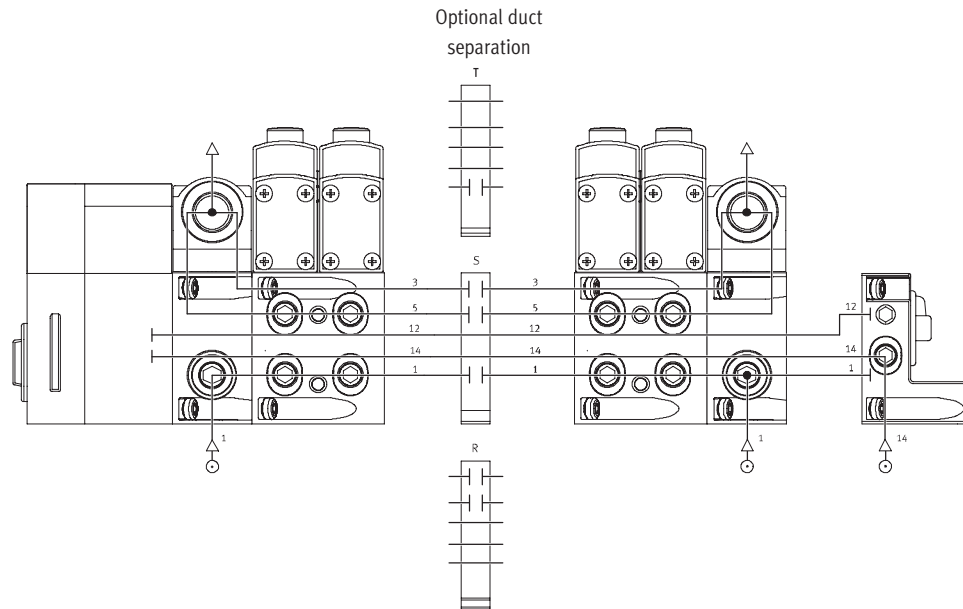
#### Internal pilot air supply, ducted exhaust air/silencer

Right-hand end plate: Code Y, U  
The diagram opposite shows an example for the configuration and connection of the compressed air supply with internal pilot air supply. Port 14 on the right-hand end plate is tightly sealed. Exhaust air port 3/5 is ducted or drawn off via the silencer. Duct separations can be used optionally to create pressure zones.



#### External pilot air supply, ducted exhaust air/silencer

Right-hand end plate: Code Z, W  
The diagram opposite shows an example for the configuration and connection of the compressed air supply with external pilot air supply. Port 14 on the right-hand end plate is equipped with a fitting for this. Exhaust air port 3/5 is ducted or drawn off via the silencer. Duct separations can be used optionally to create pressure zones.





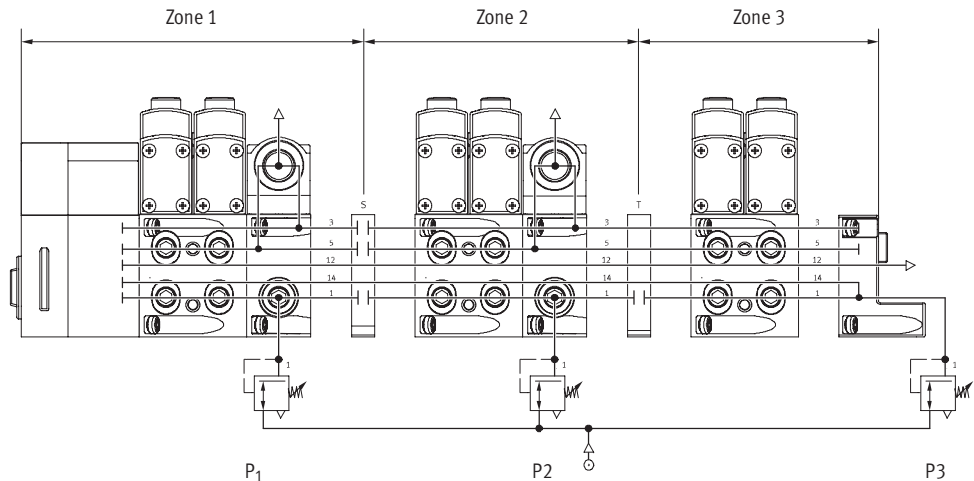
## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Pneumatic components

### Examples: Creation of pressure zones

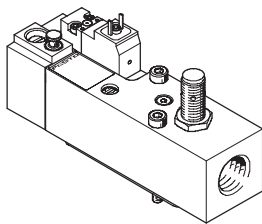
VTSA with CPX terminal connection

VTSA allows the creation of up to 16 pressure zones (32 pressure zones if only (42 mm) size 1, ISO 5599-2, is fitted). The diagram shows an example for the configuration and connection of three pressure zones using duct separations – with internal pilot air supply.



### Soft start valve

Valve



The purpose of the soft-start valve is to smoothly build up the supply pressure in duct 1 of the valve terminal or to quickly exhaust it.

The piston position of the soft-start valve can be monitored using a sensor. This sensor registers whether the valve has switched and thus whether the valve terminal is being supplied

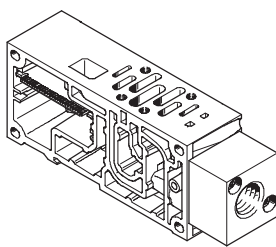
with working air. Pressure sensing via a pressure gauge (optional) is also possible.

The valve terminal can either be supplied with internal pilot air via the soft-start valve or with internal or external pilot air via the various end plate variants. The type of pilot air supply is determined by the seal of

the soft-start valve. If internal pilot air supply (duct 14) via the soft-start valve is chosen, there must be no other pilot air supply within the valve terminal.

Exhaust air cannot be expelled via the soft-start valve. If it is being operated in a pressure zone with duct 3/5 separated, an exhaust plate is required.

### Manifold sub-base



For the soft-start valve there are modified manifold sub-bases in size 42 mm. This manifold sub-base supplies the pressure zone on the valve terminal with compressed air and provides a high flow range.

The pneumatic interface as per

ISO 5599-1 is used here, so that conventional ISO individual sub-bases in combination with the soft-start valve can also be used as an alternative to this manifold sub-base. The manifold sub-base is supplied with blanking plugs for sealing the connections on

the end plate VABE-S6-1RZ-...

Depending on the position/pressure zone of the soft-start valve on the valve terminal and the use of internal or external control air supply, the connections on the end plate are sealed with blanking plugs.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

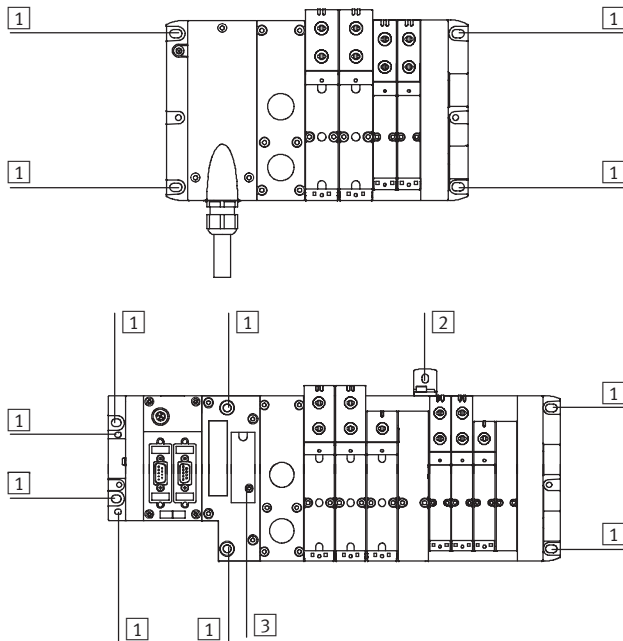
Key features – Assembly

## Valve terminal assembly

Sturdy terminal assembly thanks to:

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

### Wall mounting



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

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

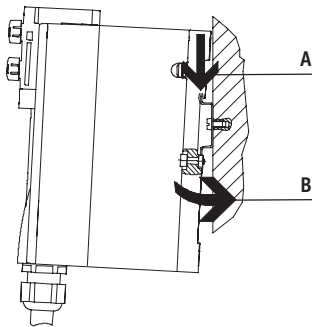


Note

When mounting valve terminals with more than 5 manifold sub-bases onto a wall, use additional mounting brackets of type VAME-SI-10-W in order to prevent damage to the valve terminal. The mounting brackets must be fitted onto the pneumatic supply plates.

- 1 Hole for M6 screw
- 2 Hole for M5 screw
- 3 Hole for DIN H-rail mounting

### DIN H-rail mounting



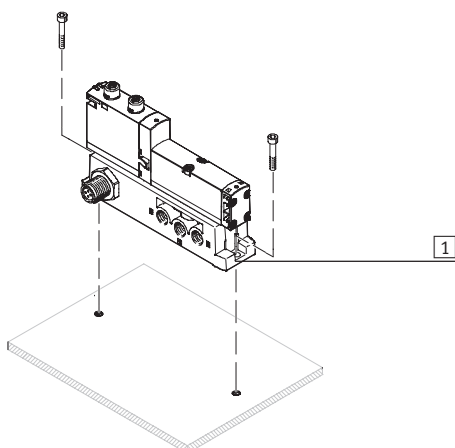
The VTSA valve terminal is hooked onto the DIN H-rail (see arrow A). The VTSA valve terminal is swivelled about the DIN H-rail, then swung into place and secured with the clamping shim (see arrow B).

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

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

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

### Individual valve assembly



- 1 Vertical mounting holes

The individual manifold block is designed for wall mounting for integration into a system or machine. It is mounted vertically.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Display and operation

## Display and operation

Each 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

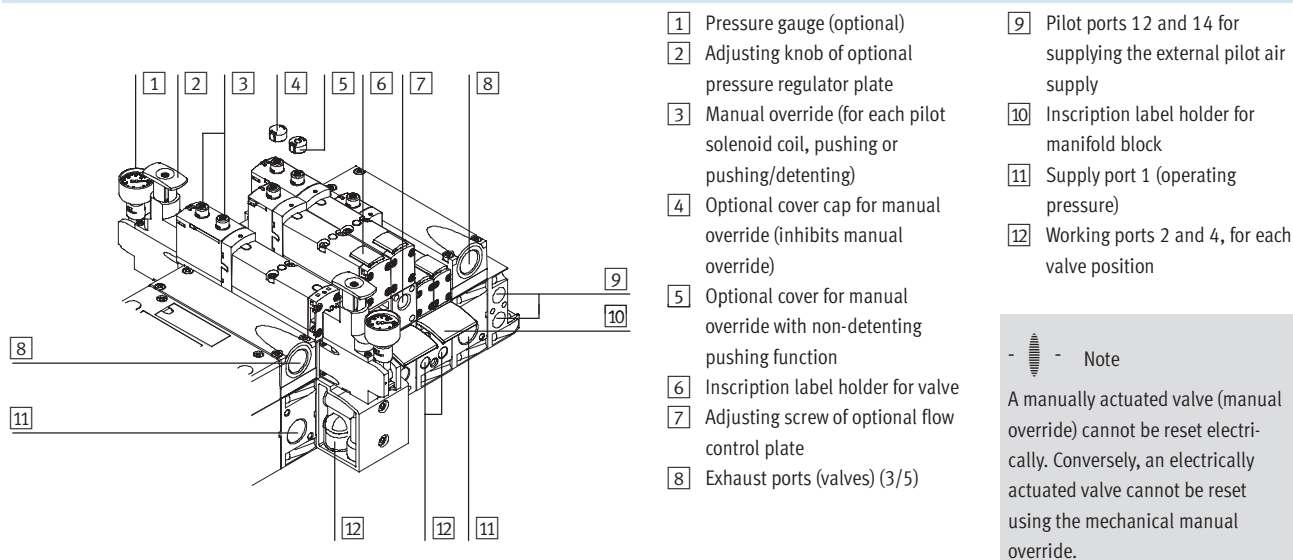
The manual override allows the valve to be switched when in the electrically non-activated or de-energised status. The valve is actuated by pushing the manual override. The set switching status can also be fixed by turning the manual override.

Alternatives:

- A cover cap (accessory code N) can be fitted over the manual override to prevent it from being turned. The valve can only be actuated by pressing it.

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

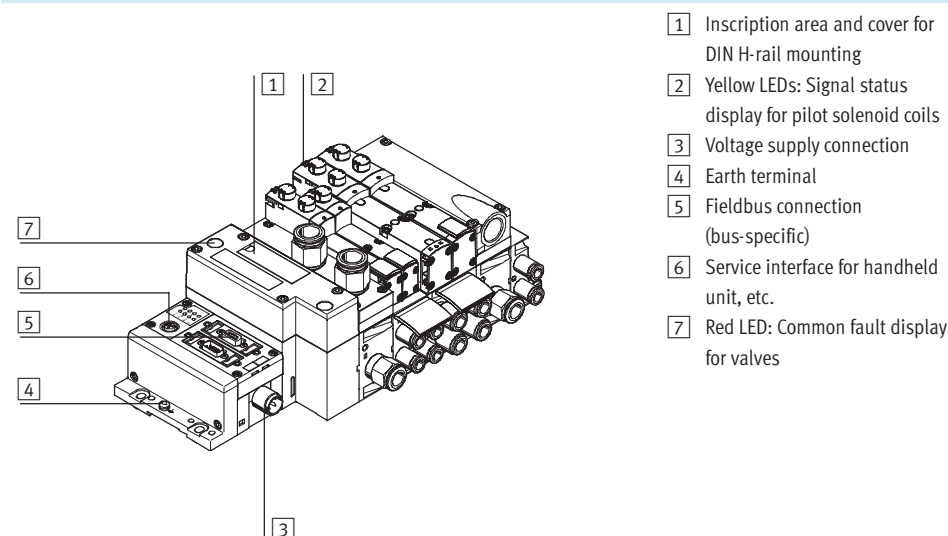
## Pneumatic connection and control elements



## Note

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

## Electrical connection and display components



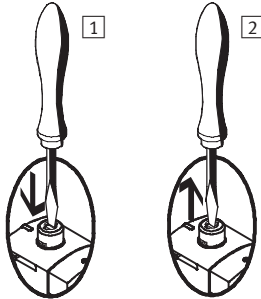
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Display and operation

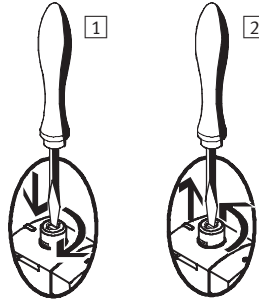
## Manual override (MO)

### Manual override with automatic return (pushing)



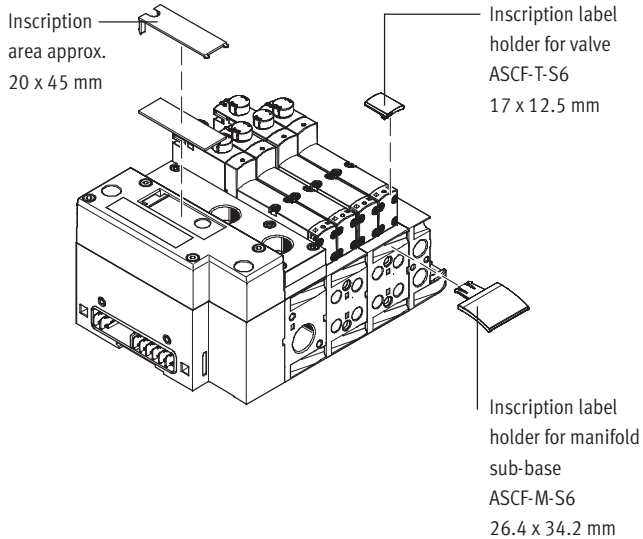
- 1 Press in the stem of the manual override using a pin or screwdriver. Valve is then actuated.
- 2 Remove the screwdriver. Spring force pushes the stem of the manual override back. Valve returns to the initial position (not with double solenoid valve code J).

### Manual override set via turning (covered)



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

## Inscription system



Inscription label holders can be applied to the valves and manifold sub-bases to identify them. These inscription label holders can be ordered by entering the code B or T in the order code for accessories.  
Scope of delivery: Inscription label holder including inscription label.  
The following inscription labels can be used as spares:

- Inscription label holder for valve type ASCF-T-S6: Part No. 540 888
- Inscription label holder for manifold sub-base type ASCF-M-S6: Part No. 540 889

Large inscription labels can be attached to the pneumatic interface as an alternative or in addition to the smaller labels.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

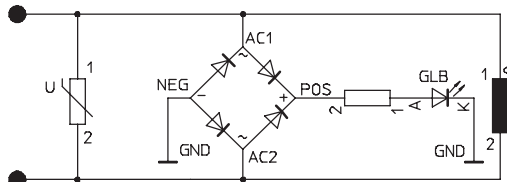
Key features – Electrical components

**FESTO**

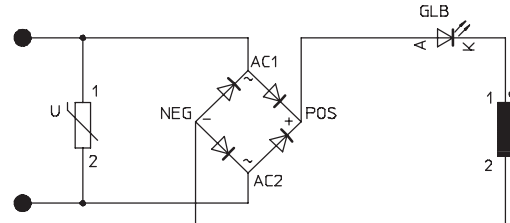
## Protective circuit

Each VTSA solenoid coil is protected with a spark arresting protective circuit as well as against reverse-polarity protection.

### 24 V DC version



### 110 V AC version



## Individual valve

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

- Electrical M12 connector, 4 pin 24 V DC
- 4-pin clamped terminal connection for configuration by the user 24 V DC or 110 V AC

## Electrical individual connection

A maximum of 20 solenoid coils can be activated. 2 solenoid coils per valve can be addressed.

- Individual electrical connection M12 6-way or 10-way 5-pin 24 V DC

## Electrical multi-pin plug connection

The following multi-pin plug connection variants are offered for the valve terminal VTSA:

- Sub-D multi-pin plug connection (37-pin for 24 V DC): This valve terminal is available with 1 ... 16 valve positions fitted with double solenoid valves and 1 ... 32 valve positions fitted with single solenoid valves. A maximum of 32 solenoid coils can be activated.
- Terminal box (terminal strip for 24 V DC or 110 V AC): This valve terminal is available with 1 ... 16 valve positions fitted with double solenoid valves and

- 1 ... 32 valve positions fitted with single solenoid valves. A maximum of 32 solenoid coils can be activated.
- Multi-pin node (round plug connector): Electrical multi-pin plug connection with round plug connector, 19-pin to CNOMO E03.62.530.N, connecting thread M23 for 24 V DC. The valve terminals can be fitted with max. 16 solenoid coils.

The valves are switched by means of positive or negative logic (PNP or

NPN). Mixed operation is not permitted.

Each pin on the Sub-D multi-pin plug or terminal box (terminal strip) can activate exactly a single solenoid coil. If the maximum configurable number of valve positions is 32, this means that 32 valves, each with a single solenoid coil, can be addressed. With 16 or less valve positions, 2 e solenoid coils per valve can be addressed.



Note

Use the following 37-pin connecting cables from Festo to connect the valve terminal VTSA with Sub-D multi-pin plug connection:

- NEBV-S1W37-...-LE10 for max. 8 solenoid coils
- NEBV-S1W37-...-LE26 for max. 22 solenoid coils
- NEBV-S1W37-...-LE37 for max. 32 solenoid coils
- NECV-S1W37 pre-assembled plug connector

## Fieldbus connection/control block

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 CPX operating voltage connection.
- The valves are supplied and switched independently via a separate port on the CPX.



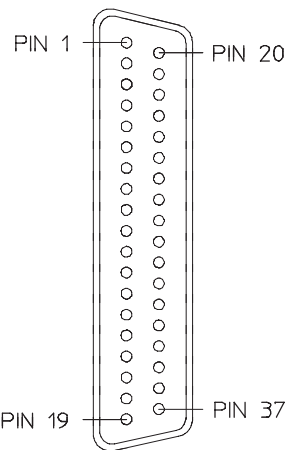

Note

Further information can be found in  
➔ Internet: cpx

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Electrical components

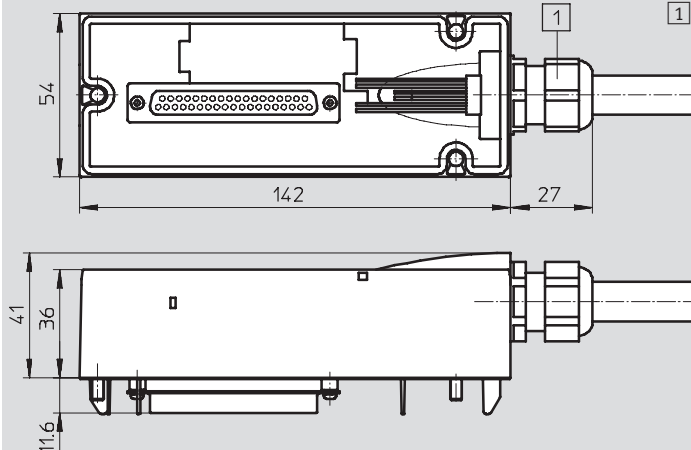
Pin allocation – Sub-D plug socket, 24 V DC; electrical connection code MP1							
	Pin <sup>2)</sup>	Address/coil	Core colour <sup>1)</sup>		Pin <sup>2)</sup>	Address/coil	Core colour <sup>1)</sup>
	1	0	WH		17	16	WH PK
	2	1	BN		18	17	PK BN
	3	2	GN		19	18	WH BU
	4	3	YE		20	19	BN BU
	5	4	GY		21	20	WH RD
	6	5	PK		22	21	BN RD
	7	6	BU		23	22	GY GN
	8	7	RD		24	23	YE GY
	9	8	GY PK		25	24	PK GN
	10	9	RD BU		26	25	YE PK
	11	10	WH GN		27	26	GN BU
	12	11	BN GN		28	27	YE BU
	13	12	WH YE		29	28	GN RD
	14	13	YE BN		30	29	YE RD
	15	14	WH GY		31	30	GN BK
	16	15	GY BN		32	31	GY BU
<p> Note</p> <p>The drawing shows the view onto the Sub-D plug socket at the multi-core cable NEBV-S1W37-....</p>	Conductor						
	33	0 V <sup>3)</sup>	YE BK		35	0 V <sup>3)</sup>	BN BK
	34	0 V <sup>3)</sup>	WH BK		36	0 V <sup>3)</sup>	BK
	Earthing						
	37	FE (earth)	VT		–	–	–

- 1) To IEC 757  
 2) Pin 9 ... 35: Not available with cable NEBV-S1-W37-...-LE10  
 Pin 23 ... 33: Not available with cable NEBV-S1-W37-...-LE26  
 3) 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.

## Dimensions

Connecting cable NEBV-S1W37-...

Download CAD data → [www.festo.com](http://www.festo.com)



1 Cable conduit fitting M20x1.5

The wire colours refer to the following pre-assembled multi-core cables from Festo:

- NEBV-S1W37-...-10 for valve terminal with max. 8 solenoid coils
- NEBV-S1W37-...-26 for valve terminal with max. 22 solenoid coils
- NEBV-S1W37-...-37 for valve terminal with max. 32 solenoid coils

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

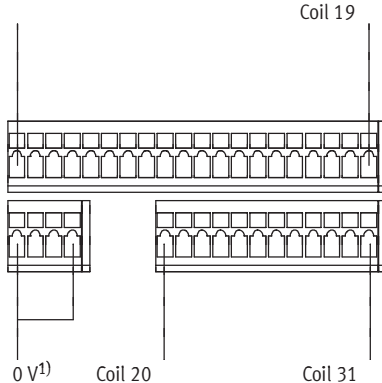

Key features – Electrical components

Sub-D plug, 24 V DC; electrical connection code MP1					
Type	Sheath	Length [m]	Wire x mm <sup>2</sup> [mm²]	Cable Ø [mm]	Part No.
NEBV-S1W37-E2,5-LE10	Polyurethane	2.5	10 x 0.34	7.7	539 240
NEBV-S1W37-E5-LE10		5			539 241
NEBV-S1W37-E10-LE10		10			539 242
NEBV-S1W37-E2,5-LE26		2.5	26 x 0.34	11.5	539 243
NEBV-S1W37-E5-LE26		5			539 244
NEBV-S1W37-E10-LE26		10			539 245
NEBV-S1W37-K2,5-LE37		2.5	37 x 0.34	13	539 246
NEBV-S1W37-K5-LE37		5			539 247
NEBV-S1W37-K10-LE37		10			539 248
NEBV-S1W37-KM-2,5-LE10	Polyvinyl chloride	2.5	10 x 0.34	7.7	543 271
NEBV-S1W37-KM-5-LE10		5			543 272
NEBV-S1W37-KM-10-LE10		10			543 273
NEBV-S1W37-KM-2,5-LE27		2.5	27 x 0.34	11.5	543 274
NEBV-S1W37-KM-5-LE27		5			543 275
NEBV-S1W37-KM-10-LE27		10			543 276
NEBV-S1W37-KM-2,5-LE37		2.5	37 x 0.34	13	543 277
NEBV-S1W37-KM-5-LE37		5			543 278
NEBV-S1W37-KM-10-LE37		10			543 279

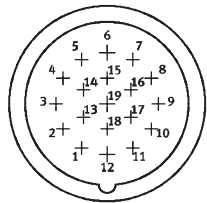
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Electrical components

Pin allocation – Multi-pin terminal strip (CageClamp), 24 V DC and 110 V AC; electrical connection code T					
	Terminal	Coil/address		Terminal	Coil/address
<p>Each solenoid coil must be assigned to a specific terminal on the terminal strip in order for actuation of the valves to take place.</p> <p>Coil 0</p>  <p>Coil 19</p> <p>0 V<sup>1)</sup></p> <p>Coil 20</p> <p>Coil 31</p>	1	0		17	16
	2	1		18	17
	3	2		19	18
	4	3		20	19
	5	4		21	20
	6	5		22	21
	7	6		23	22
	8	7		24	23
	9	8		25	24
	10	9		26	25
	11	10		27	26
	12	11		28	27
	13	12		29	28
	14	13		30	29
	15	14		31	30
	16	15		32	31
<p> Note</p> <p>The drawing shows the view onto the multi-pin terminal strip (CageClamp).</p>	Conductor				
	33	0 V		35	0 V
	34	0 V		36	0 V

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

Pin allocation – Round plug connector, 24 V DC; electrical connection code MP4					
	Address	Pin <sup>1)</sup>		Address	Pin <sup>1)</sup>
	0	15		8	17
	1	7		9	9
	2	5		10	2
	3	4		11	13
	4	16		12	11
	5	8		13	10
	6	3		14	1
	7	14		15	18

1) Pin 6: 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.

Pin 12: Earth

Pin 19: Unused

## Rules for addressing

- Address allocation does not depend on whether single or double solenoid valve are fitted.
- Addresses are allocated in ascending order without gaps, from left to right.

- A valve position for two solenoid coil activations occupies two addresses (type VABV-...-...T2).
- A valve position for single solenoid coil activation occupies one address (type VABV-...-...T1).

- A valve position for two solenoid coil activations occupies two addresses (type VABV-...-...T2). The following allocation applies in this case:

- Coil 14: Lower-value address
- Coil 12: Higher-value address



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Electrical components



Pin allocation – Round plug connector, 24 V DC; electrical connection – CNOMO assignment					
	Pin	Valve position/sole-noid coils		Pin	Valve position/coil
	1	8/14		10	7/12
	2	6/14		11	7/14
	3	4/14		12	FE (earth)
	4	2/12		13	6/12
	5	2/14		14	4/12
	6	0 V <sup>1)</sup>		15	1/14
	7	1/12		16	3/14
	8	3/12		17	5/14
	9	5/12		18	8/12
				19	Unused

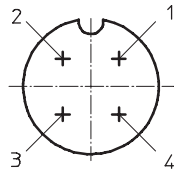
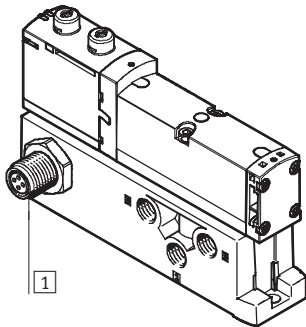
1) 0 V for positive switching control signals; connect 24 V for negative switching control signals; mixed operation is not permitted.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Key features – Electrical components

## Electrical connection, individual valve 24 V DC



1 Connector plug M12x1, male, 4-pin to EN 61076-2-101

Pin allocation M12 on individual valve to ISO 20401

With positive logic:

Pin1 – Unused

Pin2 –  $U_B$  for coil 12

Pin3 – 0 V for coil 12 and 14

Pin4 –  $U_B$  for coil 14

With negative logic:

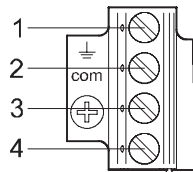
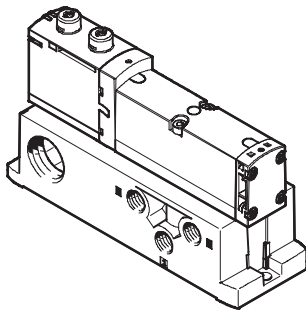
Pin1 – Unused

Pin2 – 0 V for coil 12

Pin3 –  $U_B$  for coil 12 and 14

Pin4 – 0 V for coil 14

## Electrical connection, individual valve, 24 V DC or 110 V AC



Pin allocation for assembly by the user

With positive logic:

Pin1 – Unused (with 110 V AC connection for earthing)

Pin2 –  $U_B$  for coil 12

Pin3 – 0 V for coil 12 and 14

Pin4 –  $U_B$  for coil 14

With negative logic:

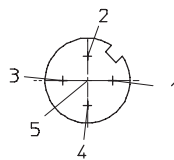
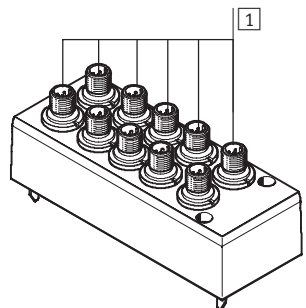
Pin1 – Unused

Pin2 – 0 V for coil 12

Pin3 –  $U_B$  for coil 12 and 14

Pin4 – 0 V for coil 14

## Individual electrical connection, 6-way or 10-way, 24 V DC; code: MP2, MP3



1 Connector plug M12x1, male, 5-pin

Pin allocation M12

Pin1 – Unused

Pin2 –  $U_B$  for coil 12

Pin3 – 0 V for coil 12 and 14

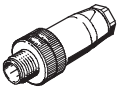
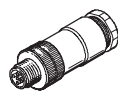

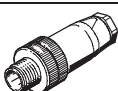

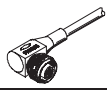
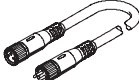
Pin4 –  $U_B$  for coil 14

Pin5 – Functional earth

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Key features – Electrical components

**FESTO**

Electrical connection technology				
	Electrical connection	Type of mounting/cable length	Type	Part No.
Sensor plug/socket for inputs/outputs				
	Straight plug, 4-pin, screw terminal	Threaded connector M12	SEA-GS-7	18 666
			SEA-GS-9	18 778
			SEA-GS-11-DUO	18 779
				
	Plug socket, angled, 4-pin, screw terminal	Union nut M12	SEA-M12-4WD-PG7	185 498
	Straight plug, 4-pin, screw terminal	Threaded connector M12	SEA-4GS-7-2,5	192 008
Plug socket with cable for connecting individual valves or sensors				
	Straight socket, 4-pin, M12	5 m	SIM-M12-4GD-5-PU	164 259
	Angled socket, 4-pin, M12	5 m	SIM-M12-4WD-5-PU	164 258
	Modular system for connecting cables	–	NEBU-... → Internet: nebu	–

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

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 and 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.

Unsuitable additional oil and an excessive 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<sup>3</sup> 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<sup>3</sup> 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 44 VTSA, ISO 15407-2 / ISO 5599-2

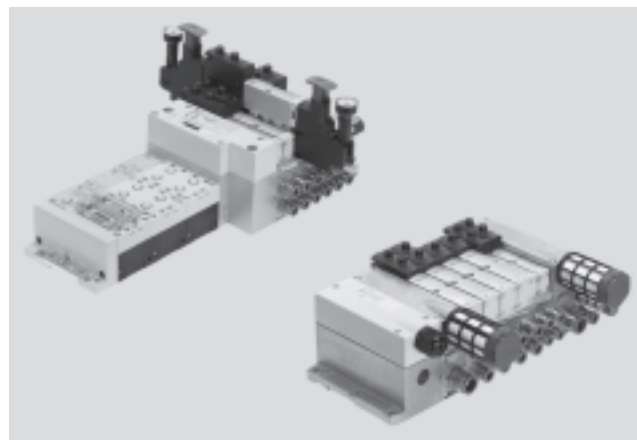
FESTO

## Technical data

-  - Flow rate  
Width 18 mm:  
Up to 550 l/min  
Width 26 mm:  
Up to 1,100 l/min  
Width 42 mm:  
Up to 1,500 l/min

-  - Valve width  
02: 18 mm  
01: 26 mm  
1: 42 mm

-  - Voltage  
24 V DC  
110 V AC



General technical data							
Width	18 mm			26 mm		42 mm	
Design	Electromagnetically actuated piston spool valve						
Lubrication	Lubrication for life						
Type of mounting	Wall mounting						
	On DIN H-rail to EN 60715						
Mounting position	Any						
Manual override	Pushing, pushing/detenting, covered						
Width	18 mm			26 mm		42 mm	
Pneumatic connections	Threaded connection	NPT thread	Threaded connection	NPT thread	Threaded connection	NPT thread	
Pneumatic connection	Via manifold sub-base						
Supply port	1	G $\frac{1}{2}$ , QS-G $\frac{1}{2}$ -12, QS-G $\frac{1}{2}$ -16	$\frac{1}{2}$ NPT, QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U, QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U	G $\frac{1}{2}$ , QS-G $\frac{1}{2}$ -12, QS-G $\frac{1}{2}$ -16	$\frac{1}{2}$ NPT, QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U, QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U	G $\frac{1}{2}$ , QS-G $\frac{1}{2}$ -12, QS-G $\frac{1}{2}$ -16	$\frac{1}{2}$ NPT, QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U, QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U
Exhaust port	3/5	G $\frac{1}{2}$ , QS-G $\frac{1}{2}$ -12, QS-G $\frac{1}{2}$ -16	$\frac{1}{2}$ NPT, QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U, QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U	G $\frac{1}{2}$ , QS-G $\frac{1}{2}$ -12, QS-G $\frac{1}{2}$ -16	$\frac{1}{2}$ NPT, QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U, QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U	G $\frac{1}{2}$ , QS-G $\frac{1}{2}$ -12, QS-G $\frac{1}{2}$ -16	$\frac{1}{2}$ NPT, QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U, QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U
Working ports	2/4	Depending on the connection type selected					
		• G $\frac{1}{8}$ • QS-G $\frac{1}{8}$ -6 • QS-G $\frac{1}{8}$ -8	• $\frac{1}{8}$ NPT • QS- $\frac{1}{8}$ - $\frac{1}{4}$ -U • QS- $\frac{1}{8}$ - $\frac{5}{16}$ -U	• G $\frac{1}{4}$ • QS-G $\frac{1}{4}$ -8 • QS-G $\frac{1}{4}$ -10	• $\frac{1}{4}$ NPT • QS- $\frac{1}{4}$ - $\frac{5}{16}$ -U • QS- $\frac{1}{4}$ - $\frac{3}{8}$ -U	G $\frac{3}{8}$ , QS-G $\frac{3}{8}$ -12, QS-G $\frac{3}{8}$ -10	$\frac{3}{8}$ NPT, QS- $\frac{3}{8}$ - $\frac{3}{8}$ -U, QS- $\frac{3}{8}$ - $\frac{1}{2}$ -U
Port for external pilot supply air	14	G $\frac{1}{4}$	$\frac{1}{4}$ NPT	G $\frac{1}{4}$	$\frac{1}{4}$ NPT	G $\frac{1}{4}$	$\frac{1}{4}$ NPT
Pilot exhaust air port	12	G $\frac{1}{4}$	$\frac{1}{4}$ NPT	G $\frac{1}{4}$	$\frac{1}{4}$ NPT	G $\frac{1}{4}$	$\frac{1}{4}$ NPT

-  - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Technical data

Standard nominal flow rate [l/min]														
Valve function order code	M	O	J	D	N	K	H	B	G	E	P	Q	R	
Width 18 mm														
Flow rate of valve	750				600			700 <sup>1)</sup> 430 <sup>2)</sup>			600			
Flow rate of valve on individual sub-base	600				500			550 <sup>1)</sup> 360 <sup>2)</sup>			500			
Flow rate of valve on valve terminal	550				400			450 <sup>1)</sup> 300 <sup>2)</sup>			400			
Width 26 mm														
Flow rate of valve	1 400				1 250			1 400 <sup>1)</sup> 1 000 <sup>2)</sup>			1 250			
Flow rate of valve on individual sub-base	1 200				1 100			1 200 <sup>1)</sup> 850 <sup>2)</sup>			1 000			
Flow rate of valve on valve terminal	1 100				900			1 000 <sup>1)</sup> 700 <sup>2)</sup>			900			
Width 42 mm														
Flow rate of valve	1 800				1 400			1 700 <sup>1)</sup> 750 <sup>2)</sup>			1 400			
Flow rate of valve on individual sub-base	1 300				1 200			1 200 <sup>1)</sup> 800 <sup>2)</sup>			1 200			
Flow rate of valve on valve terminal	1 500				1 200			1 400 <sup>1)</sup> 800 <sup>2)</sup>			1 200			

1) Switching position

2) Mid-position

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Technical data

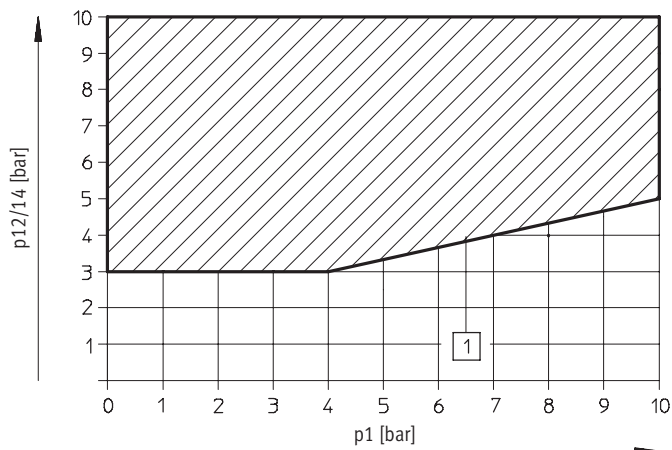
**FESTO**

Operating and environmental conditions														
Valve function order code	M	O	J	D	N	K	H	B	G	E	P	Q	R	
Operating medium	Filtered compressed air, lubricated or unlubricated, inert gases → 48													
Grade of filtration	[μm]	40 (average pore size)												
Operating pressure	[bar]	-0.9 ... +10			3 ... 10			-0.9 ... +10						
Operating pressure for valve termina with internal pilot air supply	[bar]	3 ... 10												
Pilot pressure	[bar]	3 ... 10												
Ambient temperature	[°C]	-5 ... +50												
Temperature of medium	[°C]	-5 ... +50												
Storage temperature <sup>1)</sup>	[°C]	-20 ... +40												
CE marking	In accordance with EU Low Voltage Directive													
Relative air humidity	[%]	90												

1) Long-term storage

## Pilot pressure p12/14 as a function of operating pressure p1

For 3/2-way valves



1) Operating range for valves with external pilot air supply

Valve response times [ms]														
Valve function order code		M	O	J	D	N	K	H	B	G	E	P	Q	R
18 mm														
Response times	on	22	12	–	–	12	12	12	15	15	15	25	25	25
	off	28	38	–	–	30	30	30	44	44	44	12	12	12
	change-over	–	–	11	11	–	–	–	–	–	–	–	–	–
26 mm														
Response times	on	25	20	–	–	20	20	20	22	22	22	32	32	32
	off	45	65	–	–	38	38	38	65	65	65	30	30	30
	change-over	–	–	18	18	–	–	–	–	–	–	–	–	–
42 mm														
Response times	on	27	22	–	–	20	20	20	22	22	22	34	34	34
	off	45	60	–	–	38	38	38	65	65	65	28	28	28
	change-over	–	–	16	16	–	–	–	–	–	–	–	–	–

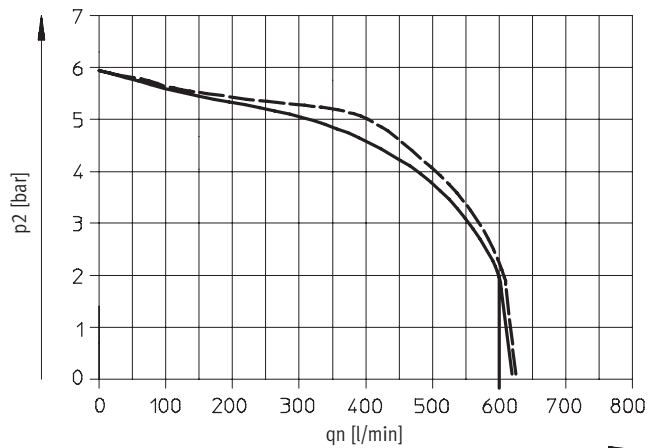
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Technical data

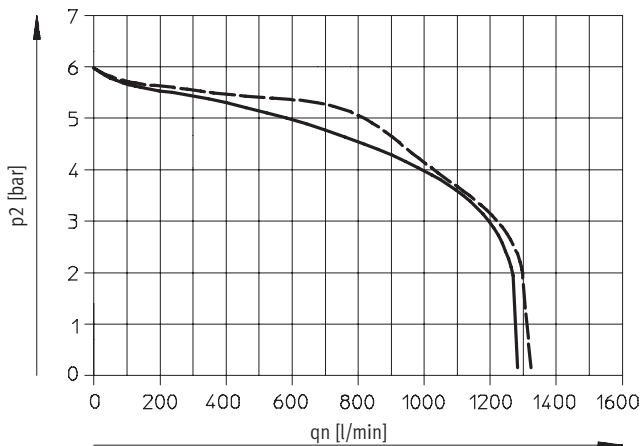
## Flow rate $q_n$ as a function of output pressure $p_2$ with pressure regulator plates (P regulator plate) for port 1

Width 18 mm



--- 6 bar  
— 10 bar

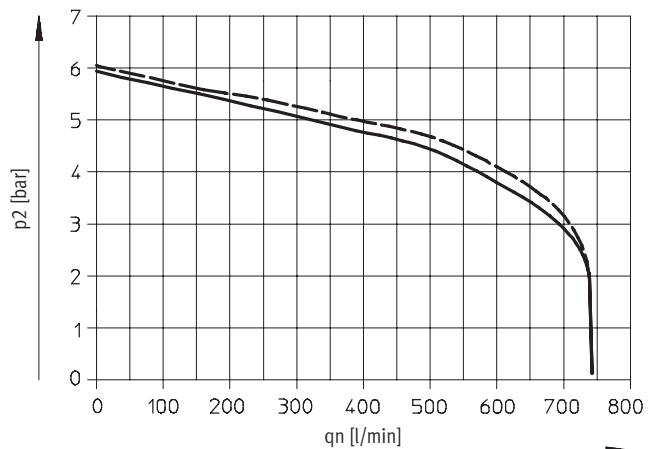
Width 26 mm



--- 6 bar  
— 10 bar

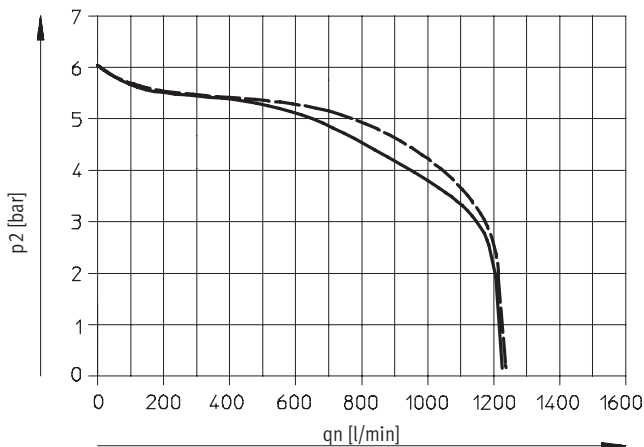
## Flow rate $q_n$ as a function of output pressure $p_2$ with pressure regulator plates (AB regulator plates) for port 2, 4 or ports 4/2

Width 18 mm



--- 6 bar  
— 10 bar

Width 26 mm



--- 6 bar  
— 10 bar



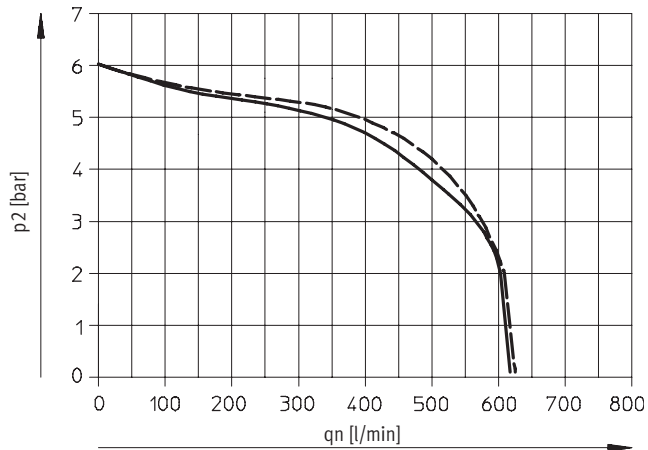
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Technical data

FESTO

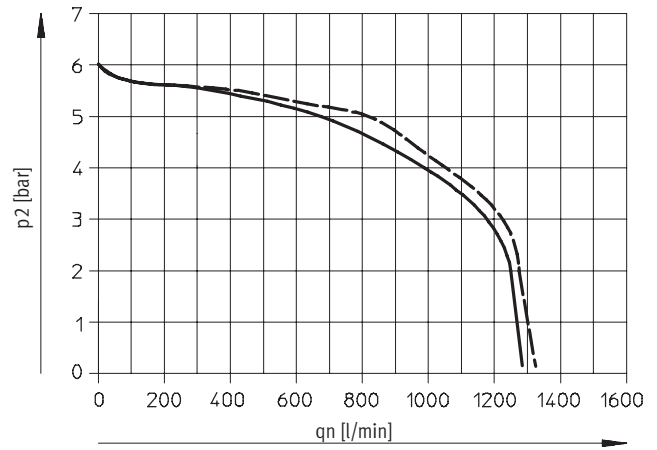
## Flow rate $q_n$ as a function of output pressure $p_2$ with pressure regulator plates (AB regulator plates, rev.) for ports 4/2, reversible

Width 18 mm



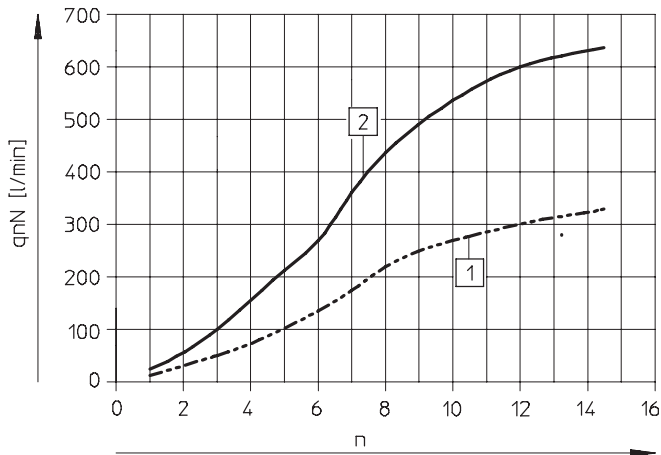
--- 6 bar  
— 10 bar

Width 26 mm



--- 6 bar  
— 10 bar

## Flow rate $q_n$ as a function of flow control



1 Width 18 mm  
2 Width 26 mm  
n Revolutions of the adjusting screw

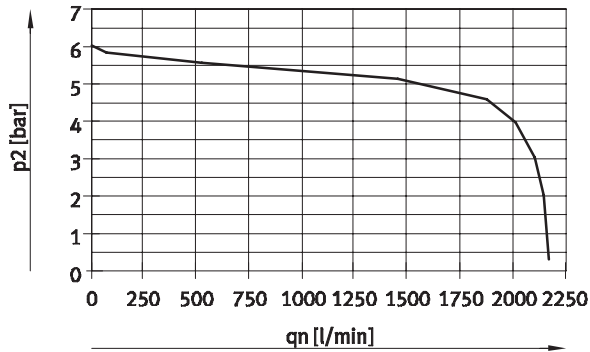
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Technical data

## Flow rate $q_n$ as a function of output pressure $p_2$ with pressure regulator plates (P regulator plate) for port 1

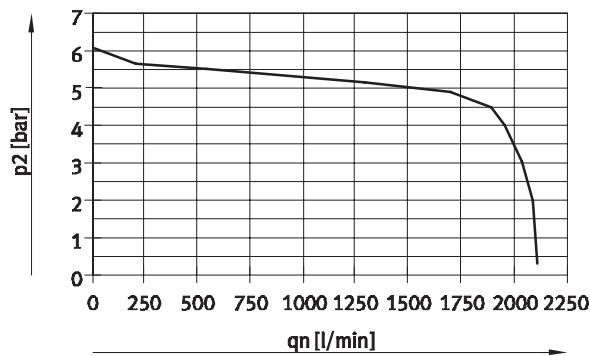
Width 42 mm



input pressure 10 bar,  
set controller pressure 6 bar

## Flow rate $q_n$ as a function of output pressure $p_2$ with pressure regulator plates (AB regulator plates) for port 2, 4 or ports 4/2

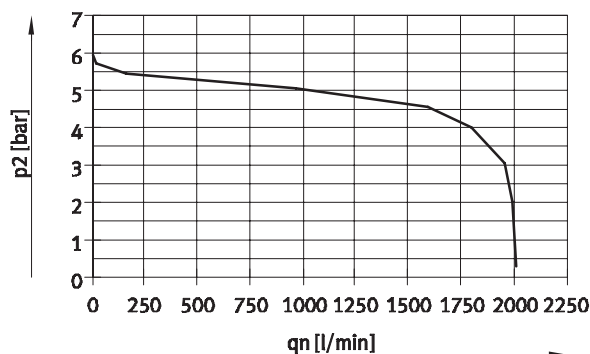
Width 42 mm



input pressure 10 bar,  
set controller pressure 6 bar

## Flow rate $q_n$ as a function of output pressure $p_2$ with pressure regulator plates (AB regulator plates, rev.) for ports 4/2, reversible

Width 42 mm



input pressure 10 bar,  
set controller pressure 6 bar

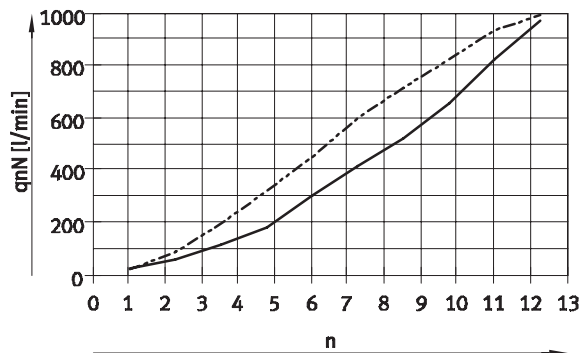
## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Technical data

FESTO

### Flow rate $q_N$ as a function of flow control

Width 42 mm



— Drosselschraube von 2 → 3

- - - Drosselschraube von 4 → 5

n    Revolutions of the adjusting  
screw

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Technical data

Electrical data				
VTSA with CPX terminal		18 mm	26 mm	42 mm
Voltage supply for electronics (V <sub>EL</sub> /SEN)				
Operating voltage		[V DC]	24 ±10%	
Max. intrinsic current consumption at 24 V DC		[mA]	20	
Duty cycle			100%	
Load voltage supply for valves (V <sub>val</sub> )				
Operating voltage		[V DC]	24 ±10%	
Diagnostic message undervoltage V <sub>OFF</sub> load voltage outside function range		[V]	21.6 ... 21.5	
Protection class to EN 60529			IP65 (for all types of signal transmission in assembled state)	
Power consumption at 24 V DC				
2x 3/2-way valve		[W]	1.3	
5/2-way valve, 5/3-way valve		[W]	1.6	

Electrical data				
VTSA with multi-pin plug connection		18 mm	26 mm	42 mm
Load voltage supply for valves (V <sub>val</sub> )				
Operating voltage	[V DC]	24 ±10%		
	[V AC]	110 ± 10% (50 ... 60 Hz)		
Maximum resultant current	[A]	6		
Current load at 40 °C	[A]	1		
Surge strength	[kV]	1.5		
Degree of contamination		3		
Duty cycle		100%		
Protection class to EN 60529		IP65 (for all types of signal transmission in assembled state)		
Power consumption at 24 V DC				
2x 3/2-way valve	[W]	1.3		
5/2-way valve, 5/3-way valve	[W]	1.6		
Power consumption at 110 V AC				
2x 3/2-way valve	[VA]	1		
5/2-way valve, 5/3-way valve	[VA]	1.6		

Electrical data				
VTSA with individual connection		18 mm	26 mm	42 mm
Load voltage supply for valves (V <sub>val</sub> )				
Operating voltage		[V]	24 DC ±10%	
Maximum resultant current		[A]	10	
Duty cycle		100%		
Protection class to EN 60529		IP65 (for all types of signal transmission in assembled state)		
Power consumption at 24 V DC				
2x 3/2-way valve		[W]	1.3	
5/2-way valve, 5/3-way valve		[W]	1.6	

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

Technical data

Electrical data				
valve on individual sub-base		18 mm	26 mm	42 mm
Current load at 40 °C	{A}	2 (1A per coil)		
Variants with round plug M12				
Operating voltage	[V DC]	24		
Surge strength	[kV]	0.8		
Variants with cable conduit fitting				
Operating voltage	[V DC]	300		
	[V DC]	300		
Surge strength	[kV]	4		

Materials			
	18 mm	26 mm	42 mm
Manifold sub-base	Die-cast aluminium		
Valve	Die-cast aluminium, reinforced polyamide		
Seals	Nitrile rubber, elastomer (support made of steel)		
Supply plate	Die-cast aluminium		
Right-hand end plate	Die-cast aluminium		
Left-hand pneumatic interface	Die-cast aluminium		
Flow control plate	Die-cast aluminium		
Pressure regulator plate	Die-cast aluminium, reinforced polyamide		
Multi-pin connection block	Die-cast aluminium		
Cover for the pneumatic interface and multi-pin plug connection	Wellamid, reinforced polyamide		

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

Technical data

Product weight	Design			
Approx. weights	[g]	18 mm	26 mm	42 mm
Sub-D multi-pin interface module or terminal strip <sup>1)</sup>	550			
Interface module CPX <sup>1)</sup>	1,470			
Electrical connection AS-interface	300			
AS-interface module	850			
Supply plate <sup>2)</sup>				
• Exhaust plate with 3 and 5 common	617			
• Exhaust port cover with 3 and 5 separated	597			
Right-hand end plate <sup>3)</sup>				
• Axial	339			
• Selector	281			
Manifold sub-base <sup>4)</sup>	447	634	340	
90° connection plate <sup>3)</sup>	170	230	176	
Pressure regulator plate				
for port 1	350	402	640	
for port 4 or 2	367	448	640	
for ports 4/2	611	692	920	
Flow control plate	228	320	220	
Vertical supply plate <sup>3)</sup>	140	191	340	
Vertical shut-off plate	209	273	600	
Valves				
• 5/3-way valve (code: B, G, E)	191	320	456	
• 5/2-way valve, single solenoid (code: M, O)	163	293	426	
• 5/2-way valve, double solenoid (code: J, D)	172	276	439	
• 2x 3/2-way valve (code: N, K, H, P, Q, R)	190	335	442	
Blanking plate	34.4	73.3	68	

1) With thin metal seal, printed circuit board

2) With thin metal seal and electrical manifold module

3) With screws

4) With thin metal seal, electrical manifold module, inscription label holder, 4 screws

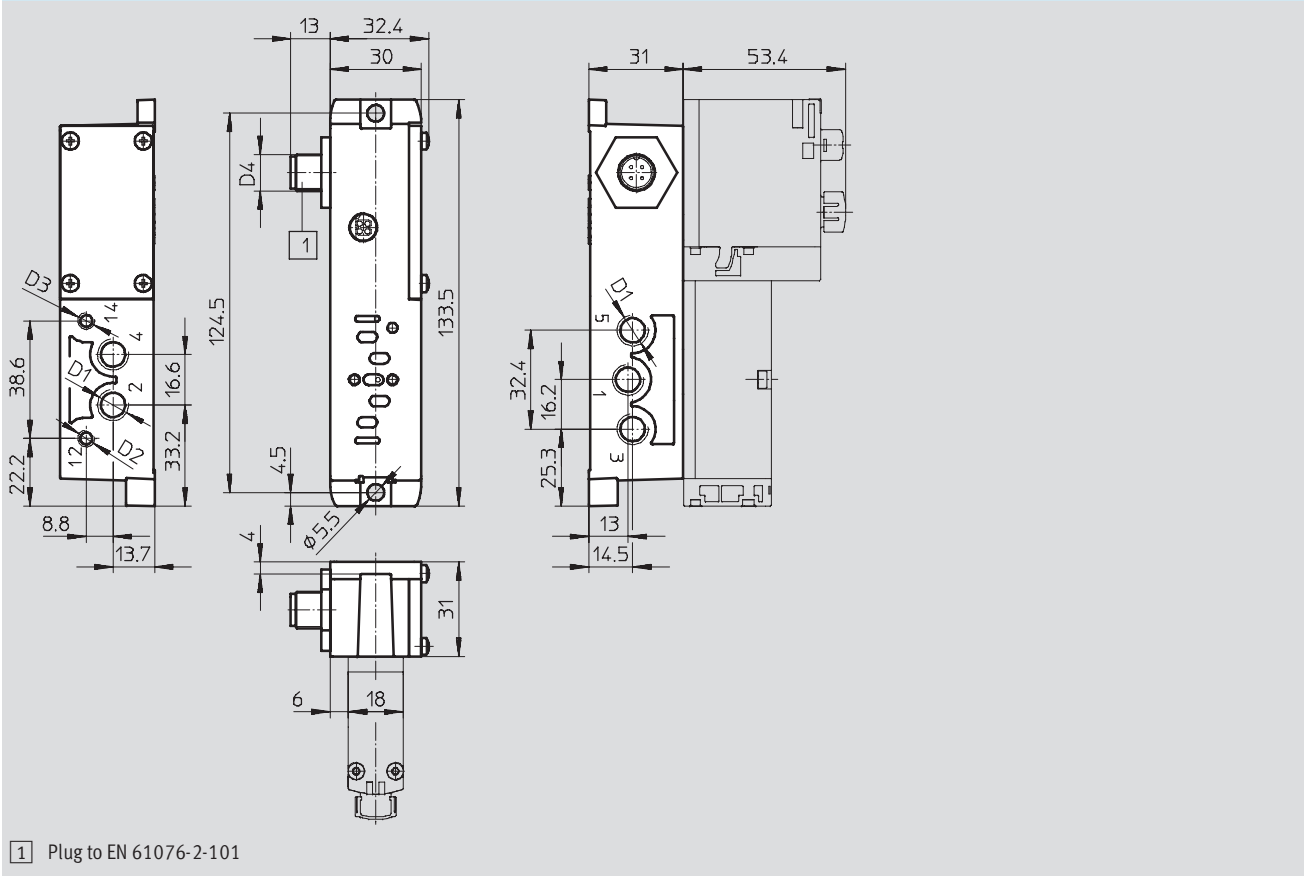
# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Technical data



Dimensions
Download CAD data → [www.festo.com](http://www.festo.com)

Individual sub-base with M12 plug, width 18 mm



Type	D1	D2	D3	D4
External pilot air supply, M12 plug				
VABS-S4-2S-G18-R3	G1/8	M5	M5	M12
Internal pilot air supply, M12 plug				
VABS-S4-2S-G18-B-R3	G1/8	M5	–	M12

- ▯ - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

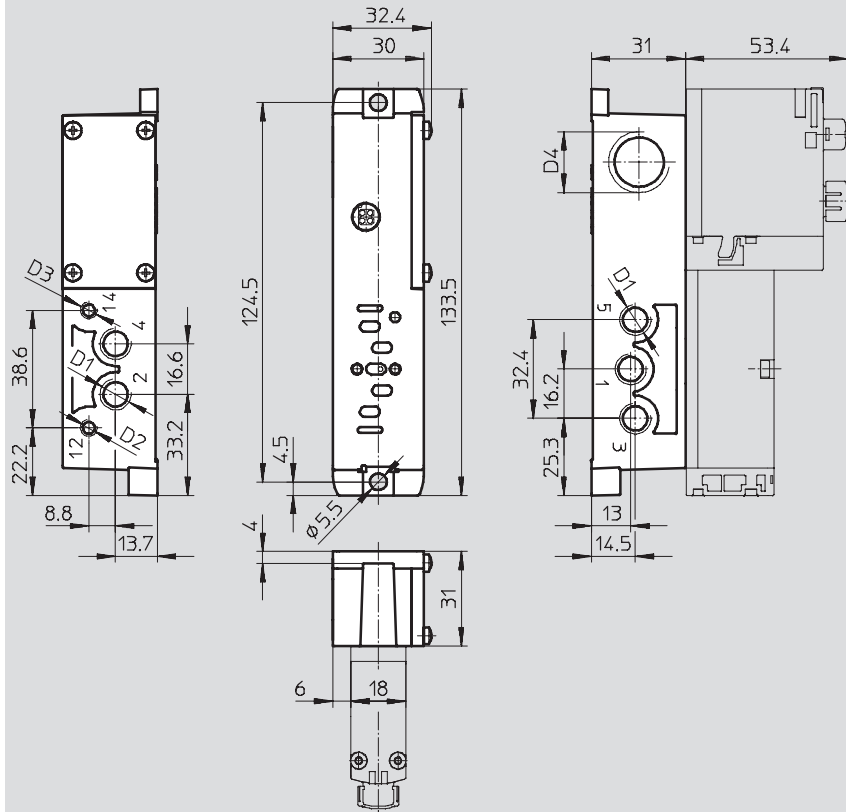
FESTO

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Individual sub-base with cable terminals, width 18 mm



Type	D1	D2	D3	D4
External pilot air supply, cable terminals				
VABS-S4-2S-G18-K2	G1/8	M5	M5	M20x1.5
VABS-S4-2S-N18-K2	1/8NPT	10-32 UNF-2B	10-32 UNF-2B	1/2NPT
Internal pilot air supply, cable terminals				
VABS-S4-2S-G18-B-K2	G1/8	M5	–	M20x1.5
VABS-S4-2S-N18-B-K2	1/8NPT	10-32 UNF-2B	–	1/2NPT

– Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

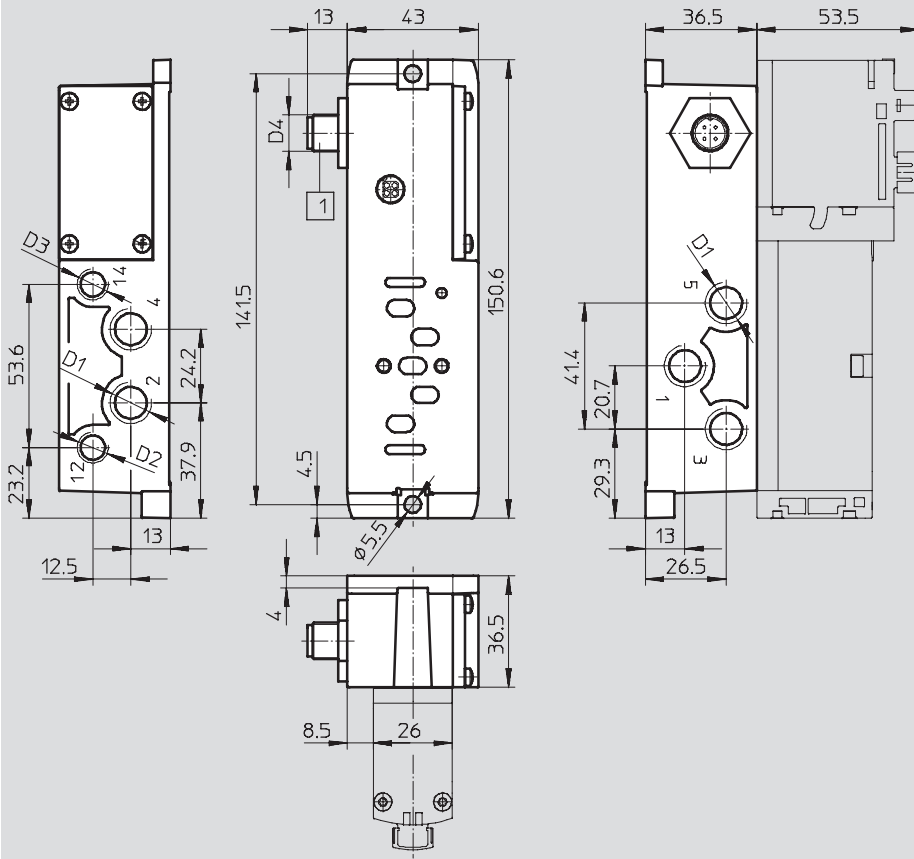
Technical data

**FESTO**

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Individual sub-base with M12 plug, width 26 mm



1 Plug to EN 61076-2-101

Type	D1	D2	D3	D4
External pilot air supply, M12 plug				
VABS-S4-1S-G14-R3	G $\frac{1}{4}$	G $\frac{1}{8}$	G $\frac{1}{8}$	M12
Internal pilot air supply, M12 plug				
VABS-S4-1S-G14-B-R3	G $\frac{1}{4}$	G $\frac{1}{8}$	–	M12

– Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

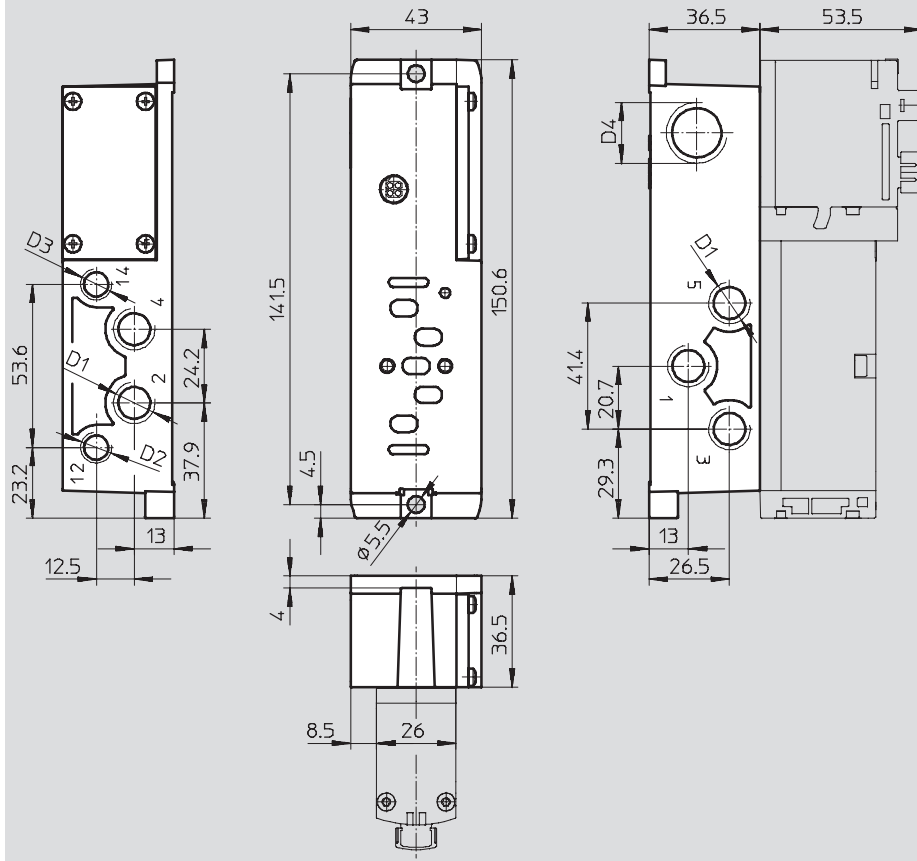
FESTO

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Individual sub-base with cable terminals, width 26 mm



Type	D1	D2	D3	D4
External pilot air supply, cable terminals				
VABS-S4-1S-G14-K2	G $\frac{1}{4}$	G $\frac{1}{8}$	G $\frac{1}{8}$	M20x1.5
VABS-S4-1S-N14-K2	$\frac{1}{4}$ NPT	$\frac{1}{8}$ NPT	$\frac{1}{8}$ NPT	$\frac{1}{2}$ NPT
Internal pilot air supply, cable terminals				
VABS-S4-1S-G14-B-K2	G $\frac{1}{4}$	G $\frac{1}{8}$	–	M20x1.5
VABS-S4-1S-N14-B-K2	$\frac{1}{4}$ NPT	$\frac{1}{8}$ NPT	–	$\frac{1}{2}$ NPT

– || – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

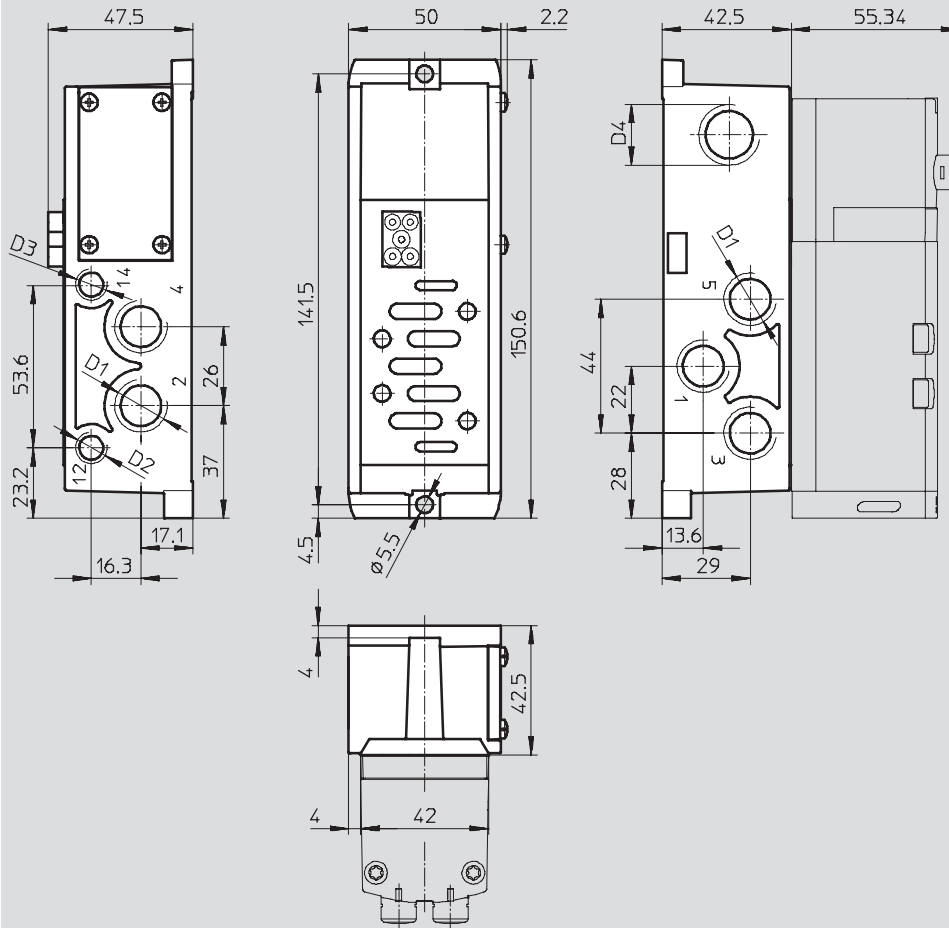
Technical data

**FESTO**

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Individual sub-base with spring-loaded terminal (C1) or for self-assembly (K1), width 42 mm



Type	D1	D2	D3	D4
External pilot air supply				
VABS-S2-1S-G38-K1(C1)	G $\frac{3}{8}$	G $\frac{1}{8}$	G $\frac{1}{8}$	M20x1.5
VABS-S2-1S-N38-K1(C1)	$\frac{3}{8}$ NPT	$\frac{1}{8}$ NPT	$\frac{1}{8}$ NPT	$\frac{1}{2}$ NPT
Internal pilot air supply				
VABS-S2-1S-G14-B-K1(C1)	G $\frac{3}{8}$	G $\frac{1}{8}$	–	M20x1.5
VABS-S2-1S-N14-B-K1(C1)	$\frac{3}{8}$ NPT	$\frac{1}{8}$ NPT	–	$\frac{1}{2}$ NPT

– † – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

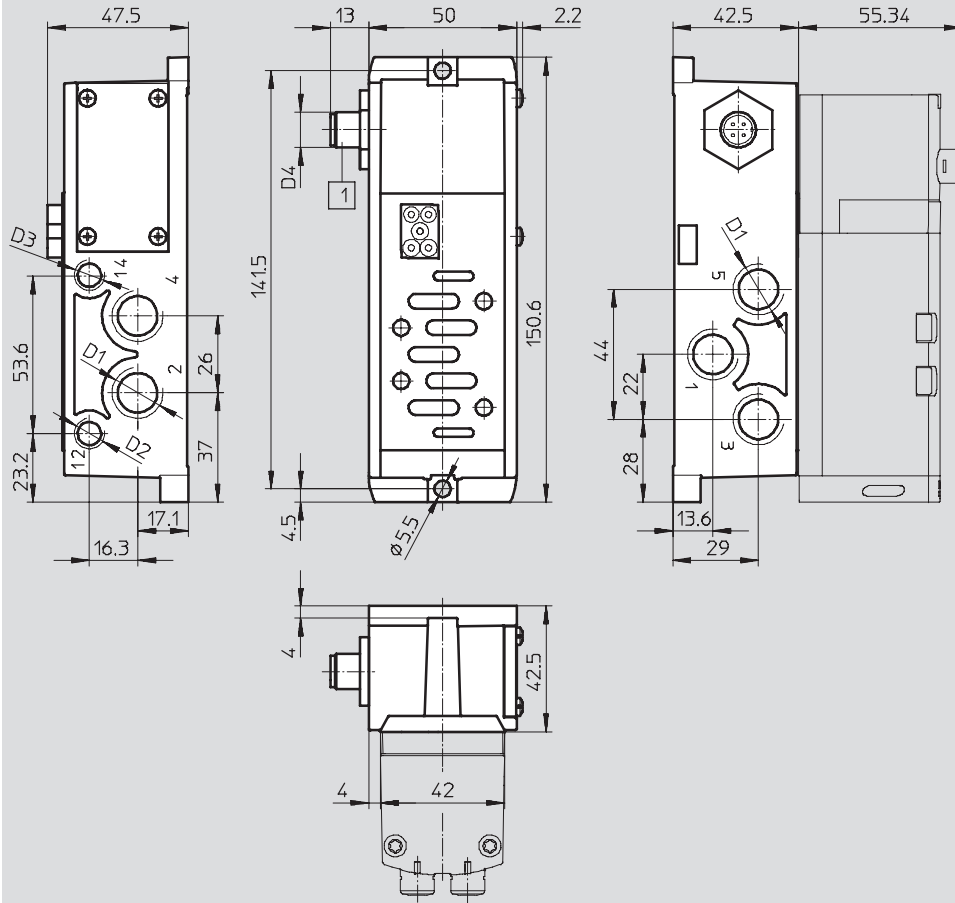
FESTO

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Individual sub-base with M12 plug, width 42 mm



Type	D1	D2	D3	D4
External pilot air supply				
VABS-S2-1S-G38-R3	G3/8	G1/8	G1/8	M12
Internal pilot air supply				
VABS-S2-1S-G14-B-R3	G3/8	G1/8	–	M12

• • Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

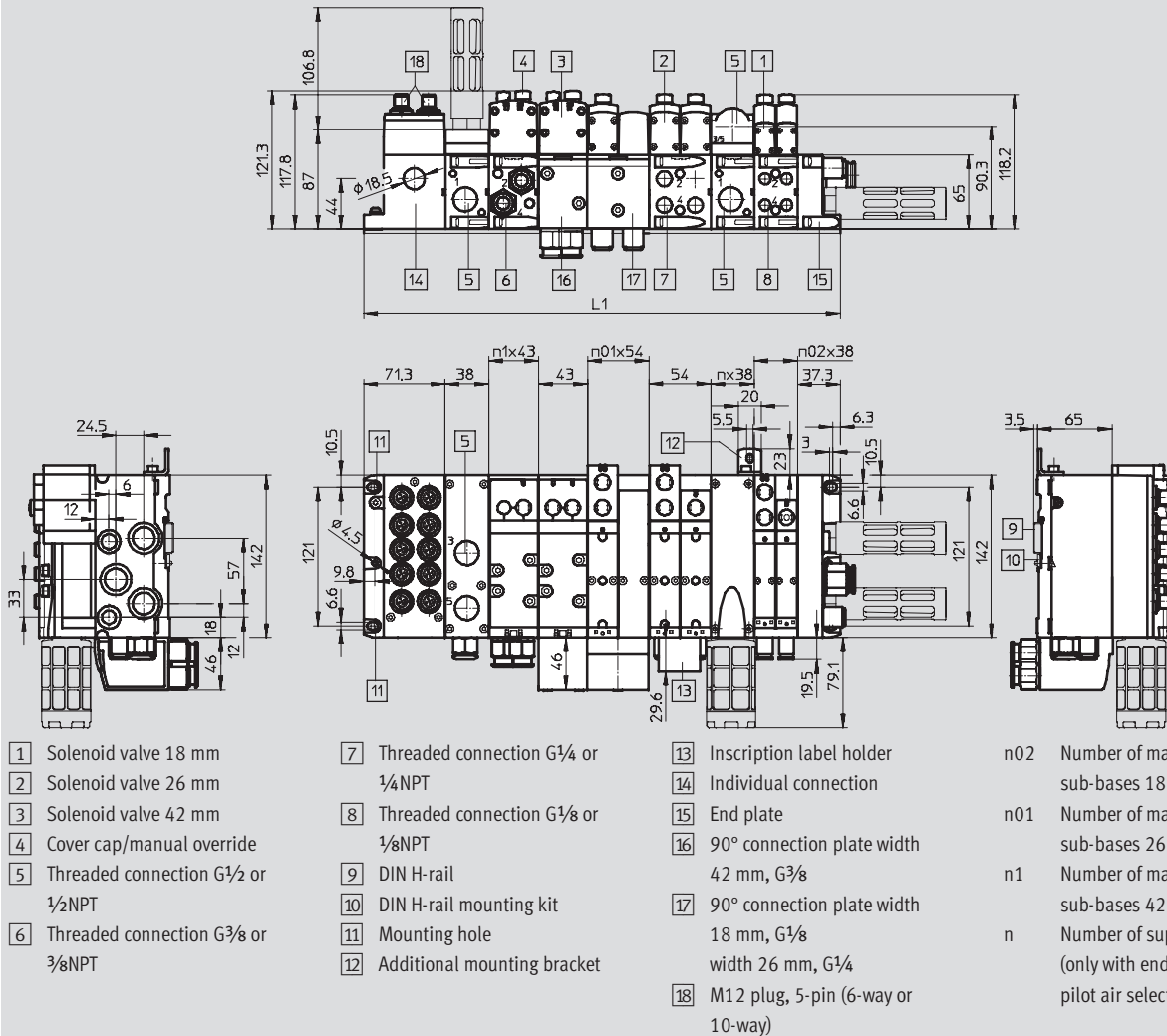
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Valve terminal with individual electrical connection



Width	L1
18 mm	$71.3 + n02 \times 38 + n \times 38 + 37.3$
26 mm	$71.3 + n01 \times 54 + n \times 38 + 37.3$
42 mm	$71.3 + n1 \times 43 + n \times 38 + 37.3$
Mixture of 18 mm, 26 mm and 42 mm	$71.3 + n02 \times 38 + n01 \times 54 + n1 \times 43 + n \times 38 + 37.3$

· ¶ · Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

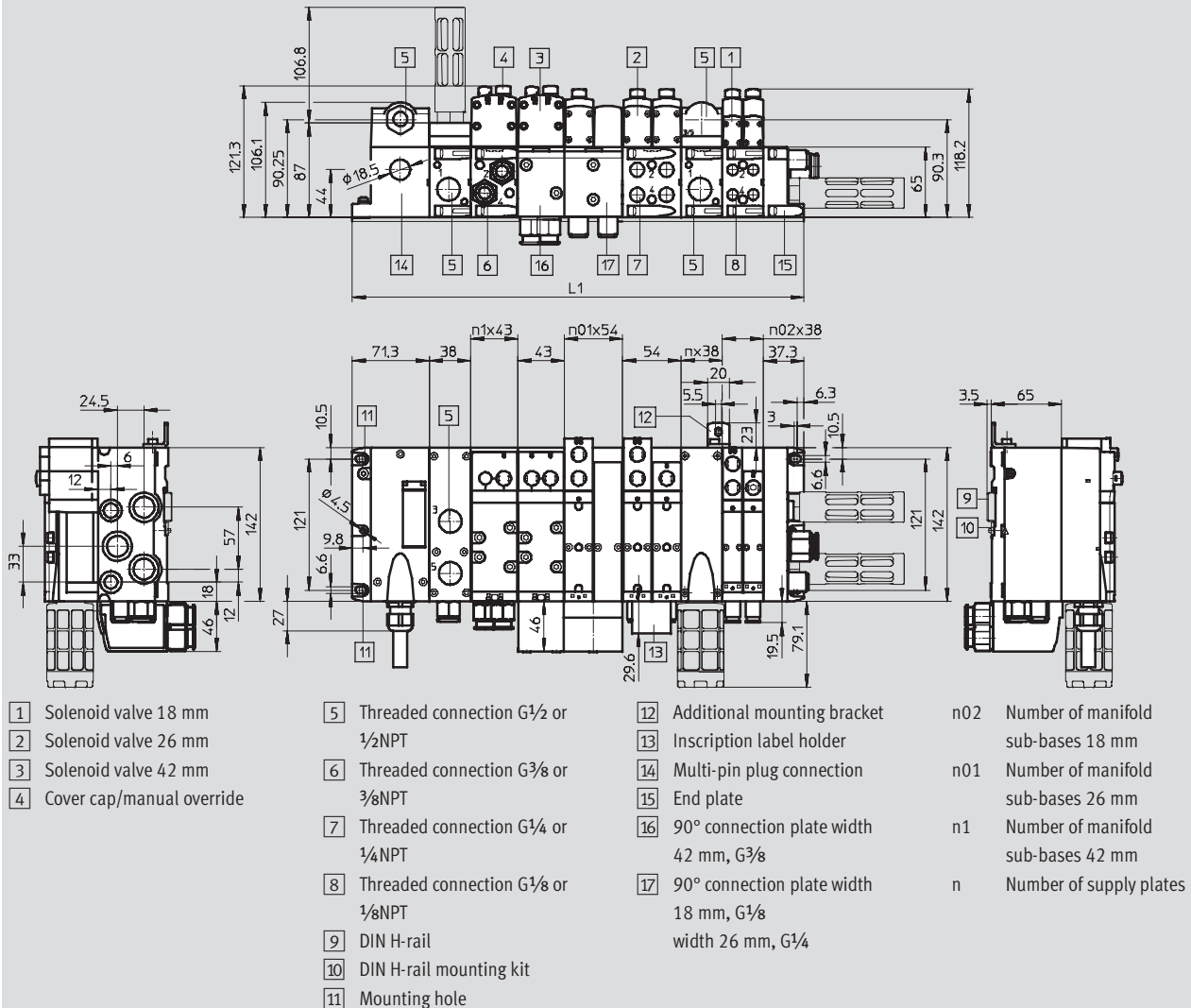
FESTO

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

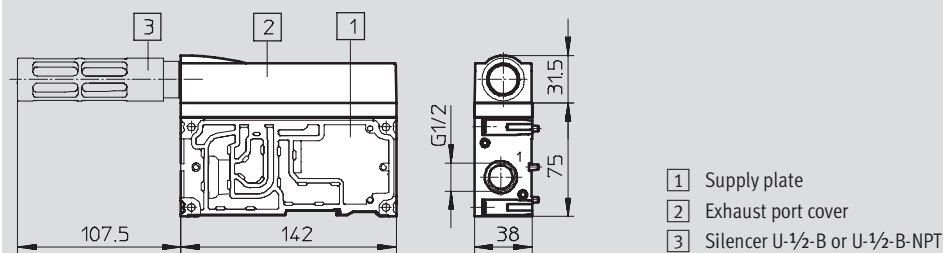
Valve terminal with multi-pin plug connection



Width	L1
18 mm	$71.3 + n02 \times 38 + n \times 38 + 37.3$
26 mm	$71.3 + n01 \times 54 + n \times 38 + 37.3$
42 mm	$71.3 + n1 \times 43 + n \times 38 + 37.3$
Mixture of 18 mm, 26 mm and 42 mm	$71.3 + n02 \times 38 + n01 \times 54 + n1 \times 43 + n \times 38 + 37.3$

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Supply plate with silencer



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

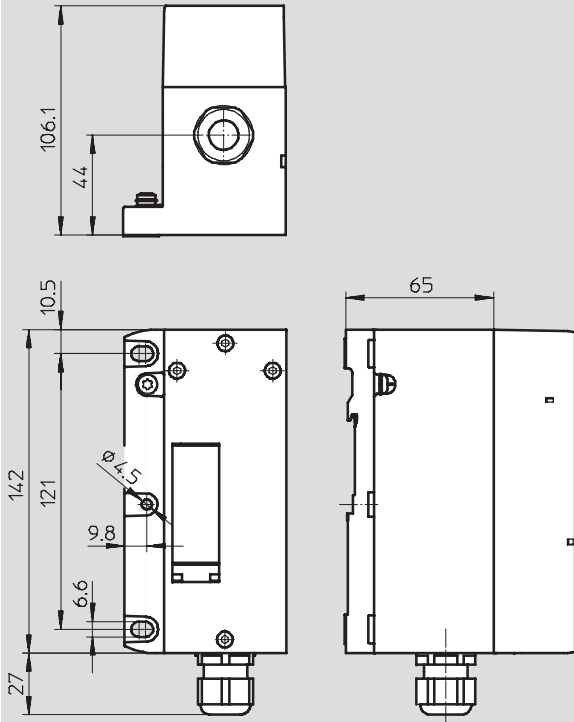
Technical data

**FESTO**

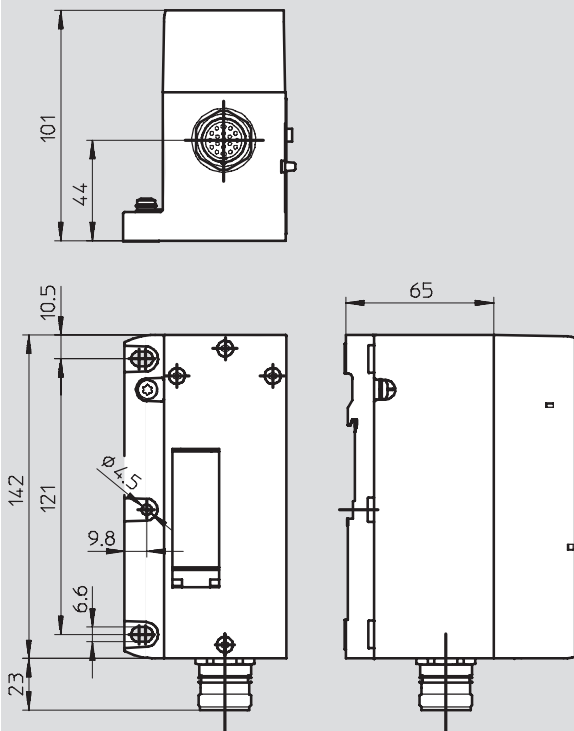
## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Multi-pin, terminal strip (CageClamp)



Multi-pin, round plug connector



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

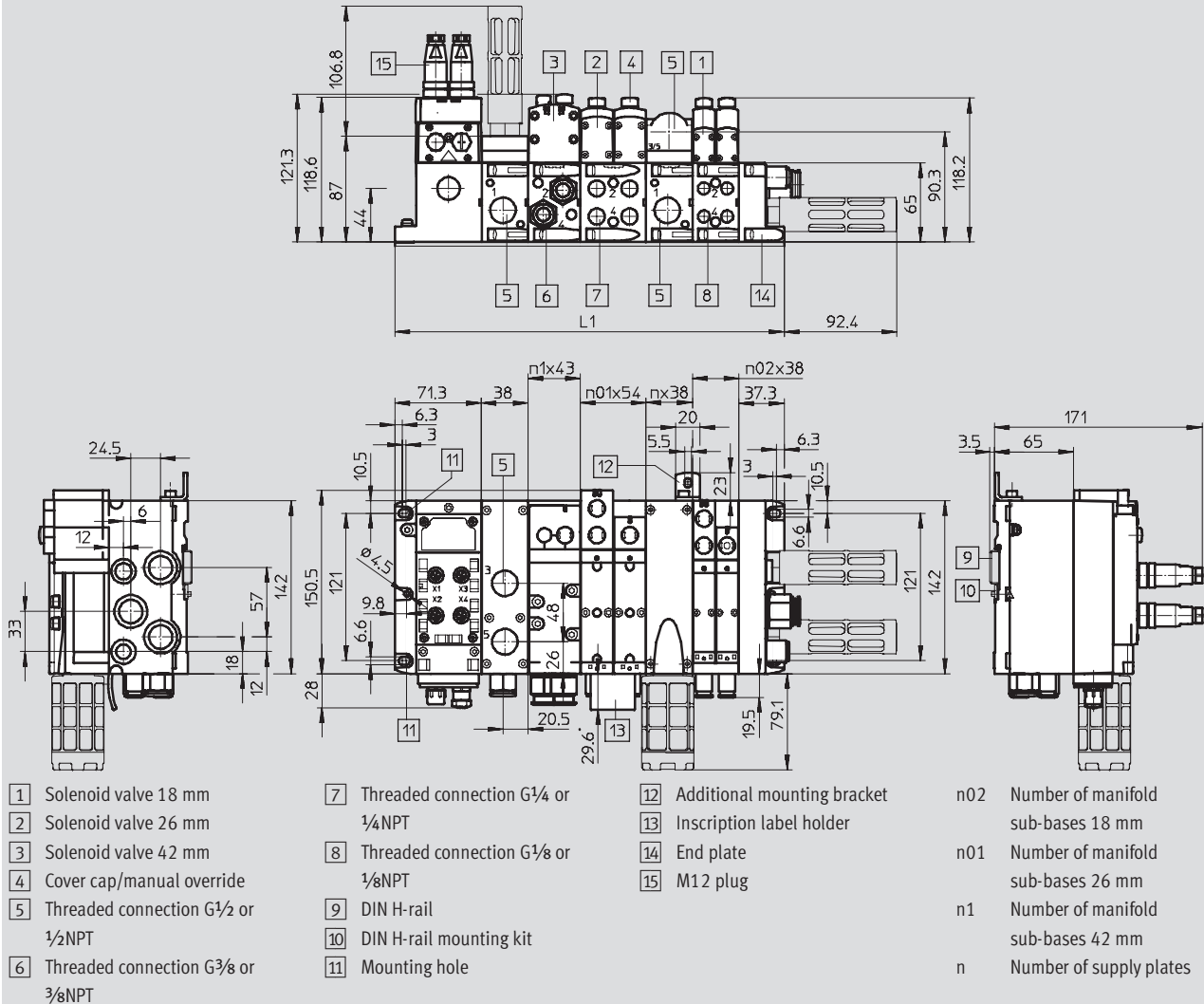
FESTO

Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Valve terminal with AS-Interface



Width	L1
18 mm	$71.3 + n02 \times 38 + n \times 38 + 37.3$
26 mm	$71.3 + n01 \times 38 + n \times 38 + 37.3$
42 mm	$71.3 + n1 \times 38 + n \times 38 + 37.3$
Mixture of 18 mm, 26 mm and 42 mm	$71.3 + n02 \times 38 + n01 \times 54 + n1 \times 43 + n \times 38 + 37.3$



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

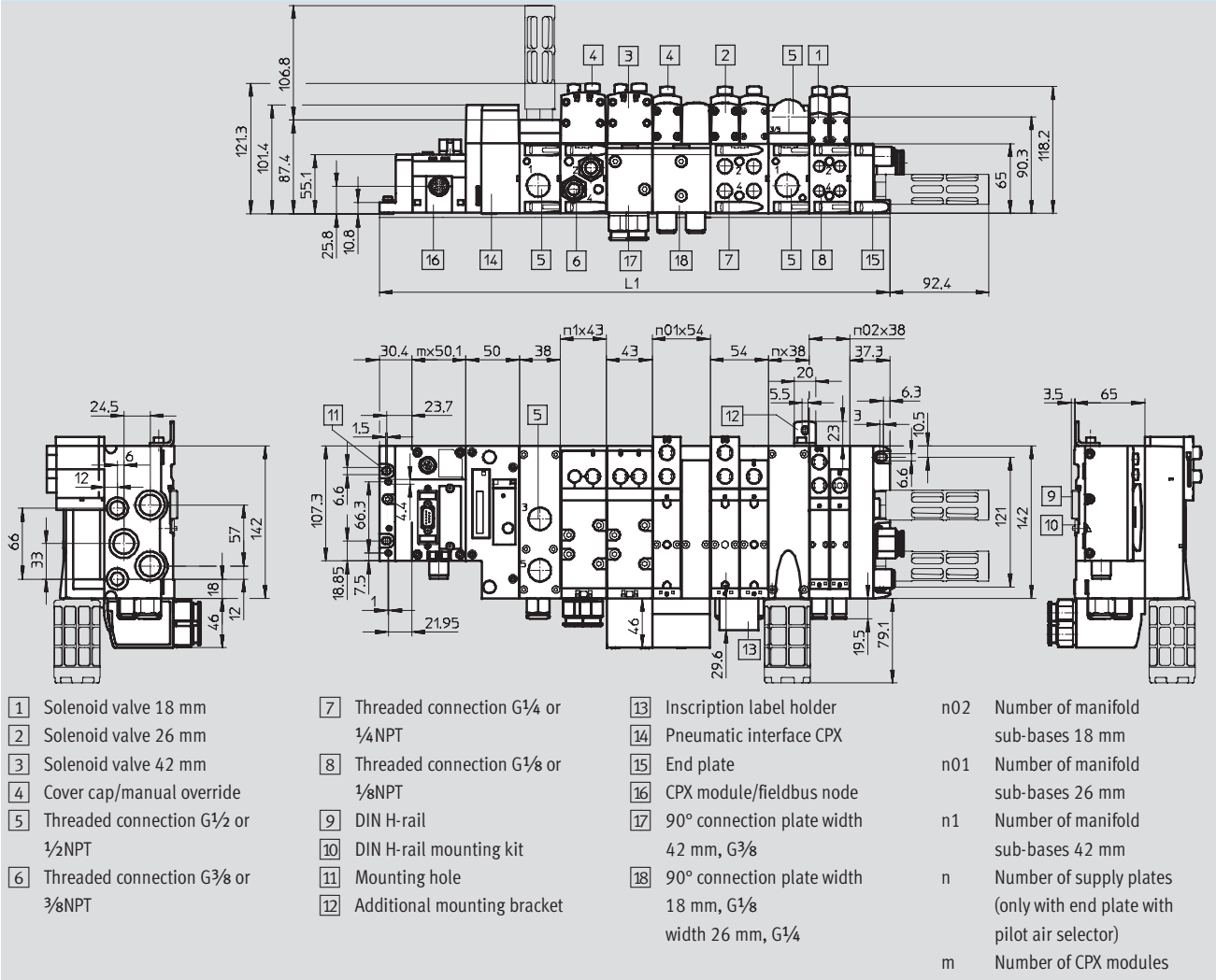
Technical data

**FESTO**

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

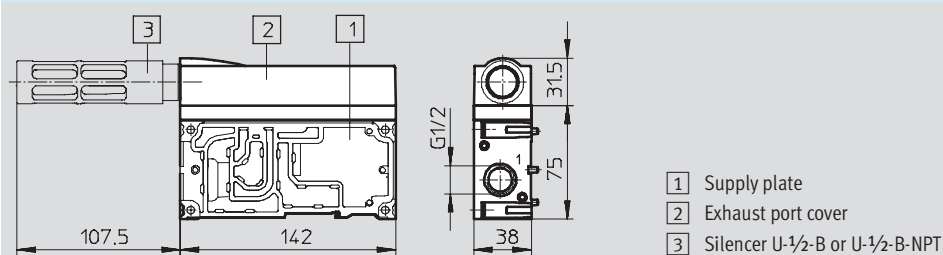
Valve terminal with fieldbus connection



Width	L1
18 mm	$30.4 + m \times 50.1 + 50 + n02 \times 38 + n \times 38 + 37.3$
26 mm	$30.4 + m \times 50.1 + 50 + n01 \times 54 + n \times 38 + 37.3$
42 mm	$30.4 + m \times 50.1 + 50 + n1 \times 43 + n \times 38 + 37.3$
Mixture of 18 mm, 26 mm and 42 mm	$30.4 + m \times 50.1 + 50 + n02 \times 38 + n01 \times 54 + n1 \times 43 + n \times 38 + 37.3$

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Supply plate with silencer



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

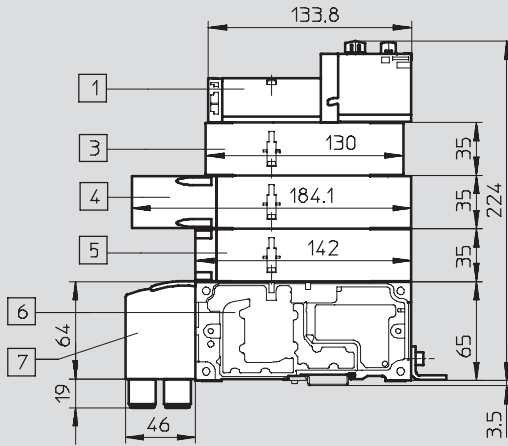
FESTO

Technical data

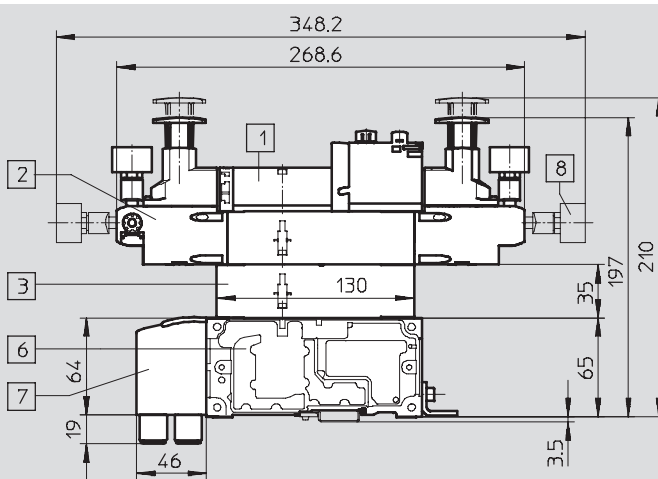
## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Vertical stacking components, width 18 mm

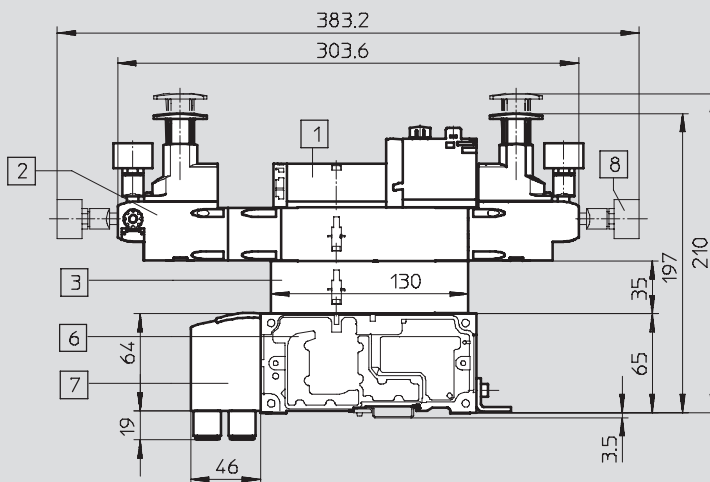


- 1 Solenoid valve with 2 solenoid coils, wide 18 mm
- 3 Flow control plate
- 4 Vertical shut-off plate
- 5 Vertical supply plate
- 6 Manifold sub-base
- 7 90° connection plate



- 1 Solenoid valve with 2 solenoid coils, wide 18 mm
- 2 Pressure regulating plate
- 3 Flow control plate
- 4 Vertical shut-off plate
- 5 Vertical supply plate
- 6 Manifold sub-base
- 7 90° connection plate
- 8 Pressure gauge, freely positionable

Vertical stacking components, width 18 mm, with a pressure regulating plate that is also suitable for valves with symmetrical design



- 1 Solenoid valve with 2 solenoid coils, wide 18 mm
- 2 Pressure regulating plate
- 3 Flow control plate
- 4 Vertical shut-off plate
- 5 Vertical supply plate
- 6 Manifold sub-base
- 7 90° connection plate
- 8 Pressure gauge, freely positionable

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

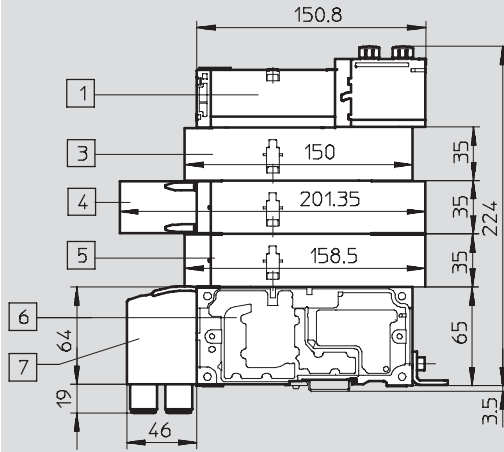
Technical data

**FESTO**

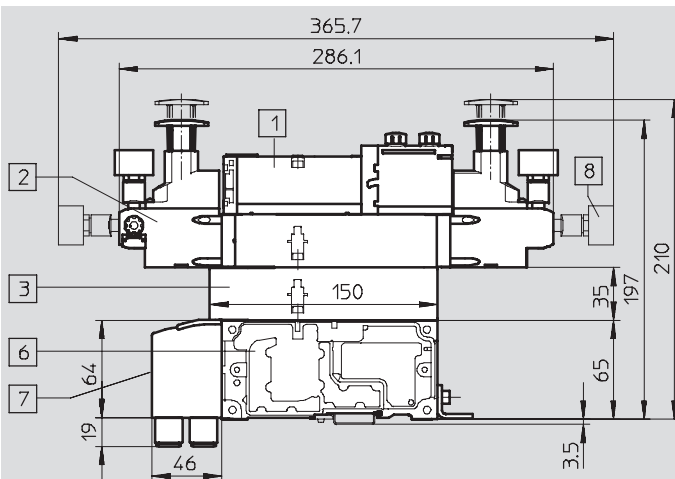
## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Vertical stacking components, width 26 mm

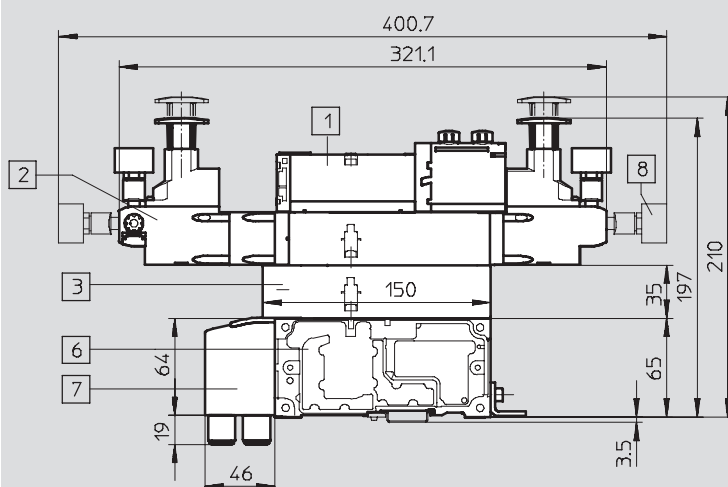


- 1 Solenoid valve with 2 solenoid coils, wide 26 mm
- 3 Flow control plate
- 4 Vertical shut-off plate
- 5 Vertical supply plate
- 6 Manifold sub-base
- 7 90° connection plate



- 1 Solenoid valve with 2 solenoid coils, wide 26 mm
- 2 Pressure regulating plate
- 3 Flow control plate
- 4 Vertical shut-off plate
- 6 Manifold sub-base
- 7 90° connection plate
- 8 Pressure gauge, freely positionable

Vertical stacking components, width 26 mm, with a pressure regulating plate that is also suitable for valves with symmetrical design



- 1 Solenoid valve with 2 solenoid coils, wide 26 mm
- 2 Pressure regulating plate
- 3 Flow control plate
- 6 Manifold sub-base
- 7 90° connection plate
- 8 Pressure gauge, freely positionable

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

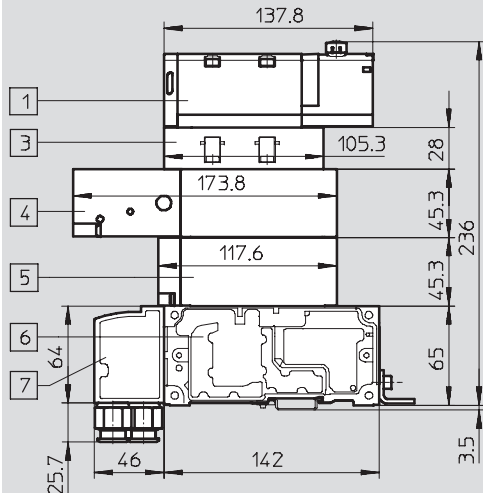
FESTO

Technical data

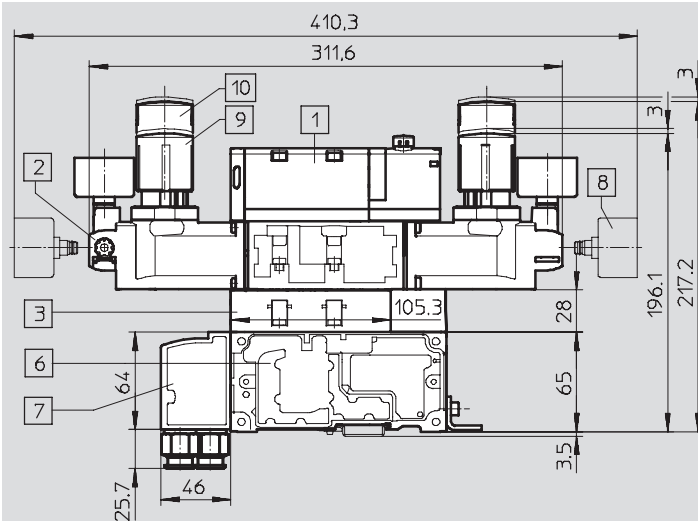
## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Vertical stacking components, width 43 mm



- |                      |                           |                        |
|----------------------|---------------------------|------------------------|
| 1 Solenoid valve     | 4 Vertical shut-off plate | 6 Manifold sub-base    |
| 3 Flow control plate | 5 Vertical supply plate   | 7 90° connection plate |



- |                            |                      |                                       |                         |
|----------------------------|----------------------|---------------------------------------|-------------------------|
| 1 Solenoid valve           | 3 Flow control plate | 7 90° connection plate                | 9 Standard rotary knob  |
| 2 Pressure regulator plate | 6 Manifold sub-base  | 8 Pressure gauge, freely positionable | 10 Lockable rotary knob |

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

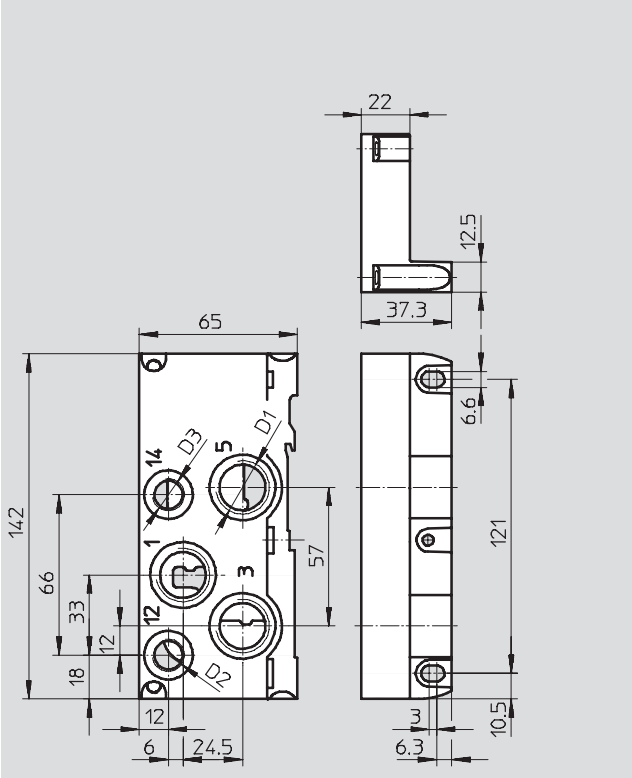
Technical data

**FESTO**

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

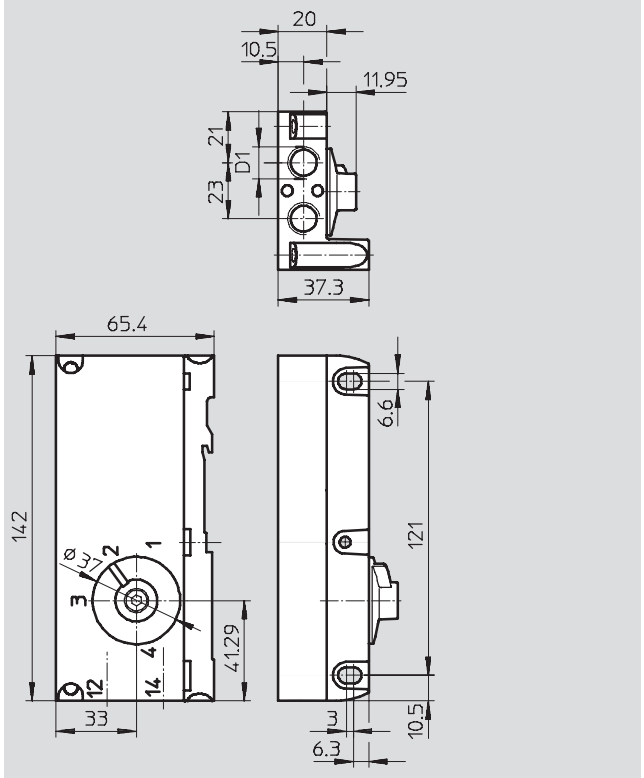
### Right-hand end plate



Type	D1	D2	D3
VABE-S6-1R-G12	G $\frac{1}{2}$	G $\frac{1}{4}$	G $\frac{1}{4}$
VABE-S6-1RZ-G12			
VABE-S6-1R-N12	$\frac{1}{2}$ NPT	$\frac{1}{4}$ NPT	$\frac{1}{4}$ NPT
VABE-S6-1RZ-N12			

• • Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

### Right-hand end plate with pilot air selector



Type	D1
VABE-S6-1RZ-G-B1	G $\frac{1}{4}$
VABE-S6-1RZ-N-B1	$\frac{1}{4}$ NPT

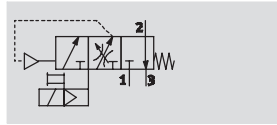
• • Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.




## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

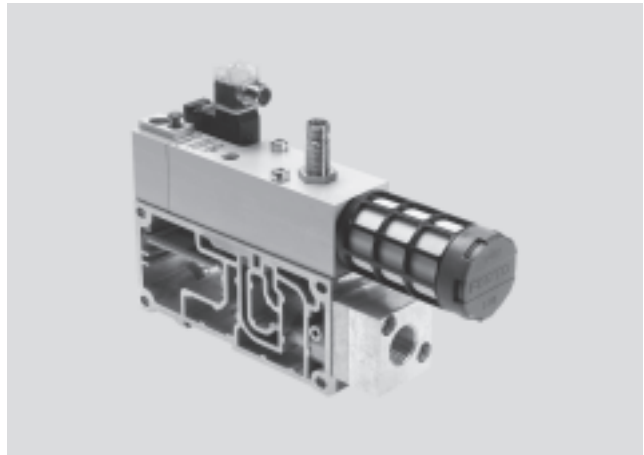
**FESTO**

Technical data – Soft-start valve

### Function



-  - Flow rate  
Pressurisation: 3,000 l/min  
Exhaust: 3,300 l/min
-  - Temperature range  
-5 ... +50 °C
-  - Operating pressure  
2 ... 10 bar



### Application

#### Function

The purpose of the soft-start valve is to smoothly build up the supply pressure in duct 1 of the valve terminal or to quickly exhaust it.

Switch-on takes place in two stages:

- First the working pressure provided for duct 1 gradually increases (the speed can be adjusted using a flow control screw).

- Once the working pressure in duct 1 reaches a previously set value, the soft-start valve switches the full operating pressure at duct 1 of the valve terminal.

The switching point for full operating pressure is set to 4 bar at the factory,

but can be changed using an adjusting screw.

The full operating pressure is applied to duct 14 (pilot air) at all times. This pressure causes the valves on the valve terminal to immediately move to the required switching position.

When the valve is not switched, duct 1 of the valve terminal is exhausted via the soft-start valve's exhaust port. A self-resetting manual override is available for maintenance and service purposes.

### Diagnostics

The piston position of the soft-start valve can be monitored using a sensor. This sensor registers whether the valve has switched and thus whether

the valve terminal is being supplied with working air. Pressure sensing via a pressure gauge (optional) is also possible.

The soft-start valve can alternatively be ordered with a sensor (retrofitting of a sensor is very complicated due to the necessary sensor calibration).

Connecting cables with integrated LED display are available for displaying status/signal status.

### Pilot air supply

The valve terminal can either be supplied with internal pilot air via the soft-start valve or with internal or

external pilot air via the various end plate variants. The type of pilot air supply is determined by the seal of the

soft-start valve. The scope of delivery of the soft-start valve includes both the seal for

internal pilot air supply and the seal for external pilot air supply.

### Restrictions

#### Compressed air supply

There must be no other elements supplying compressed air in the pressure zone in which the soft-start valve is being operated.

#### Exhaust air

Exhaust air cannot be expelled via the soft-start valve. If it is being operated in a pressure zone with duct 3/5 separated, an exhaust plate is required.

#### Pilot air supply

If internal pilot air supply (duct 14) via the soft-start valve is chosen, there must be no other pilot air supply within the valve terminal.

#### Reverse operation

The soft-start valve is not approved for reverse operation.

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Technical data – Soft-start valve

General technical data	
Constructional design	Piston spool
Actuation type	Electric
Sealing principle	Soft
Type of mounting	On sub-base
Mounting position	Any
Valve function	Pressure build-up function
Manual override	Via pushing
Reset method	Mechanical spring
Type of control	Piloted
Pilot air supply	Internal, external
Direction of flow	Non-reversible

Standard nominal flow rate q <sub>N</sub> [l/min]	
Pressurisation	3,000
Exhaust	3,300

Electrical data		
Type	VABF-S6-1-P5A4-...-2A	VABF-S6-1-P5A4-...-1
Electrical connection	Plug type C to DIN EN 175301-803, square design	
Nominal operating voltage [V]	110 AC	24 DC
Operating voltage range [V]	110 AC ±10%	24 DC ±10%
Coil characteristics	110 V AC: 50/60 Hz, 2.1 VA Pull 110 V AC: 50/60 Hz, 2.4VA Hold	24 V DC: 2.5 W
Protection class to EN 60529	IP65	

Operating and environmental conditions		
Type	VABF-S6-1-P5A4-...-2A	VABF-S6-1-P5A4-...-1
Operating pressure [bar]	2 ... 10	
Switchover pressure [bar]	4	
Switchover pressure presetting		
Operating medium	Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm	
Ambient temperature [°C]	–5 ... +50	
CE mark (see declaration of conformity)	In accordance with EU EMC directive	–

Weight [g]	
Manifold sub-base	570
Soft-start valves without proximity sensor	590
Soft-start valves with proximity sensor	605

Materials	
Housing	Wrought aluminium alloy
Seals	Nitrile rubber
Screws	Galvanised steel

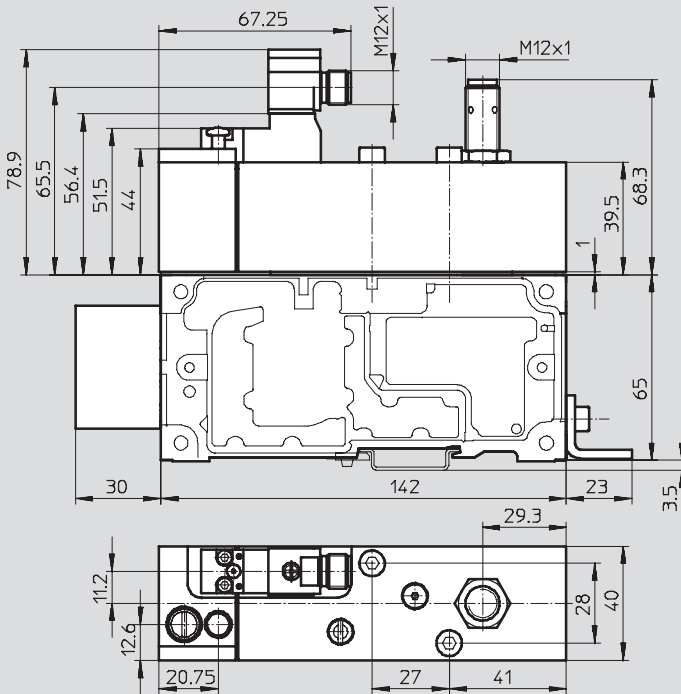
## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Technical data – Soft-start valve

**FESTO**

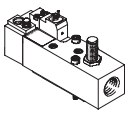
### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

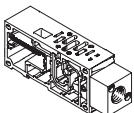


1 Socket head screw M5x48  
DIN 912, captive

### Ordering data – Valves

	Nominal operating voltage		Sensor output	Pneumatic connection	Type	Part No.
	24 V DC	110 V AC				
	–	■	None	G $\frac{1}{2}$	VABF-S6-1-P5A4-G12-4-2A	558 228
	–	■	None	$\frac{1}{2}$ NPT	VABF-S6-1-P5A4-N12-4-2A	558 229
	■	–	None	G $\frac{1}{2}$	VABF-S6-1-P5A4-G12-4-1	558 230
	■	–	None	$\frac{1}{2}$ NPT	VABF-S6-1-P5A4-N12-4-1	558 231
	■	–	PNP	G $\frac{1}{2}$	VABF-S6-1-P5A4-G12-4-1-P	557 377
	■	–	PNP	$\frac{1}{2}$ NPT	VABF-S6-1-P5A4-N12-4-1-P	558 232
	■	–	NPN	G $\frac{1}{2}$	VABF-S6-1-P5A4-G12-4-1-N	558 233
	■	–	NPN	$\frac{1}{2}$ NPT	VABF-S6-1-P5A4-N12-4-1-N	558 234







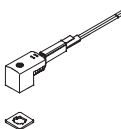
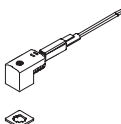



### Ordering data – Manifold sub-bases

	Pneumatic connection	Type	Part No.
	G $\frac{1}{2}$	VABV-S6-1Q-G12	556 989
	$\frac{1}{2}$ NPT	VABV-S6-1Q-N12	556 988



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

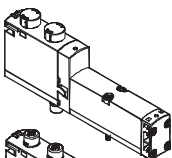
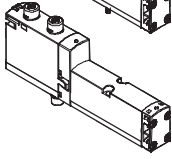
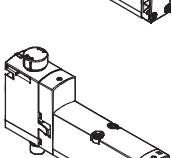
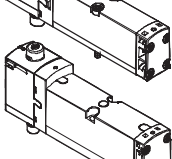
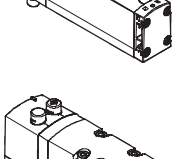
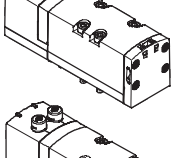
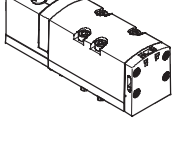



Technical data – Soft-start valve

Ordering data – Accessories				
			Type	Part No.
	Angled socket, for solenoid coil, 2-pin; straight plug, 2-pin, M12		MSSD-EB-M12-MONO	188 024
	Protective cap M12 for sealing the sensor opening		ISK-M12	165 592
	Proximity sensor	PNP	SIEN-M12B-PS-S-L	150 403
		NPN	SIEN-M12B-NS-S-L	150 401
	4-wire connecting cable, straight socket M12x1	5 m cable	SIM-M12-4GD-5-PU	164 259
	3-wire connecting cable, angled socket M12x1	5 m cable	NEBU-M12W5-K-5-LE3	541 370
	Connecting cable 3-wire, straight socket M12x1	5 m cable	NEBU-M12G5-K-5-LE3	541 364
	Connecting cable, angled socket, type C, for solenoid coil 24 V DC, with LED for switching status display	2.5 m cable	KMEB-1-24-2,5-LED	151 688
		5 m cable	KMEB-1-24-5-LED	151 689
		10 m cable	KMEB-1-24-10-LED	193 457
	Connecting cable, angled socket, type C, for solenoid coil 230 V AC	2.5 m cable	KMEB-1-230AC-2,5	151 690
		5 m cable	KMEB-1-230-5	151 691
	Connecting cable, angled socket, type C, for solenoid coil 24 V DC, with LED for switching status display	2.5 m cable	KMEB-2-24-2,5-LED	174 844
		5 m cable	KMEB-2-24-5-LED	174 845
	Connecting cable, angled socket, type C, for solenoid coil 230 V AC	2.5 m cable	KMEB-2-230AC-2,5	174 846
		5 m cable	KMEB-2-230-5	174 847
	Blanking plug for thread G1/2	scope of delivery 10 pieces	B-1/2	3 571
	Pressure gauge 0 ... 10 bar	Pneumatic connection M5	MA-27-10-M5	526 323

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

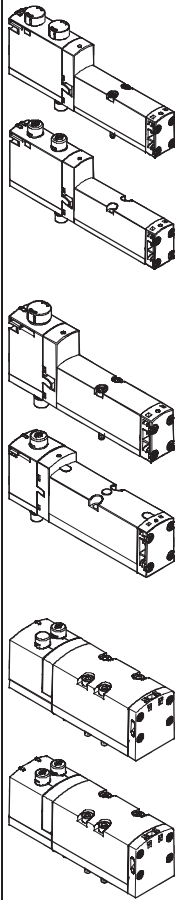
Individual valve

Ordering data					
	Code	Valve function	Width	Type	Part No.
Solenoid valves, 24 V DC					
	M	5/2-way valve, single solenoid, pneumatic spring return	18 mm	VSVA-B-M52-AZD-A2-1T1L	539 184
			26 mm	VSVA-B-M52-AZD-A1-1T1L	539 158
			42 mm	VSVA-B-M52-AZD-D1-1T1L	543 698
	O	5/2-way valve, single solenoid, mechanical spring return	18 mm	VSVA-B-M52-MZD-A2-1T1L	539 185
			26 mm	VSVA-B-M52-MZD-A1-1T1L	539 159
			42 mm	VSVA-B-M52-MZD-D1-1T1L	543 699
	J	5/2-way valve, double solenoid,	18 mm	VSVA-B-B52-ZD-A2-1T1L	539 182
			26 mm	VSVA-B-B52-ZD-A1-1T1L	539 156
			42 mm	VSVA-B-B52-ZD-D1-1T1L	543 696
	D	5/2-way valve, double solenoid, dominant signal	18 mm	VSVA-B-D52-ZD-A2-1T1L	539 183
			26 mm	VSVA-B-D52-ZD-A1-1T1L	539 157
			42 mm	VSVA-B-D52-ZD-D1-1T1L	543 697
	N	2x 3/2-way valve, single solenoid, normally open	18 mm	VSVA-B-T32U-AZD-A2-1T1L	539 178
			26 mm	VSVA-B-T32U-AZD-A1-1T1L	539 152
			42 mm	VSVA-B-T32U-AZD-D1-1T1L	543 692
	K	2x 3/2-way valve, single solenoid, normally closed	18 mm	VSVA-B-T32C-AZD-A2-1T1L	539 176
			26 mm	VSVA-B-T32C-AZD-A1-1T1L	539 150
			42 mm	VSVA-B-T32C-AZD-D1-1T1L	543 690
	H	2x 3/2-way valve, single solenoid, 1x normally open, 1x normally closed	18 mm	VSVA-B-T32H-AZD-A2-1T1L	539 180
			26 mm	VSVA-B-T32H-AZD-A1-1T1L	539 154
			42 mm	VSVA-B-T32H-AZD-D1-1T1L	543 694
	B	5/3-way valve, mid-position pressurised	18 mm	VSVA-B-P53U-ZD-A2-1T1L	539 186
			26 mm	VSVA-B-P53U-ZD-A1-1T1L	539 160
			42 mm	VSVA-B-P53U-ZD-D1-1T1L	543 700
	G	5/3-way valve, mid-position closed	18 mm	VSVA-B-P53C-ZD-A2-1T1L	539 188
			26 mm	VSVA-B-P53C-ZD-A1-1T1L	539 162
			42 mm	VSVA-B-P53C-ZD-D1-1T1L	543 702
	E	5/3-way valve, mid-position exhausted	18 mm	VSVA-B-P53E-ZD-A2-1T1L	539 187
			26 mm	VSVA-B-P53E-ZD-A1-1T1L	539 161
			42 mm	VSVA-B-P53E-ZD-D1-1T1L	543 701
	P	2x 3/2-way valve, single solenoid, reverse operation, normally open	18 mm	VSVA-B-T32F-AZD-A2-1T1L	539 179
			26 mm	VSVA-B-T32F-AZD-A1-1T1L	539 153
			42 mm	VSVA-B-T32F-AZD-D1-1T1L	543 693
	Q	2x 3/2-way valve, single solenoid, reverse operation, normally closed	18 mm	VSVA-B-T32N-AZD-A2-1T1L	539 177
			26 mm	VSVA-B-T32N-AZD-A1-1T1L	539 151
			42 mm	VSVA-B-T32N-AZD-D1-1T1L	543 691
	R	2x 3/2-way valve, single solenoid, reverse operation, 1x normally open, 1x normally closed	18 mm	VSVA-B-T32W-AZD-A2-1T1L	539 181
			26 mm	VSVA-B-T32W-AZD-A1-1T1L	539 155
			42 mm	VSVA-B-T32W-AZD-D1-1T1L	543 695

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Individual valve

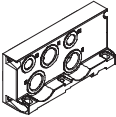
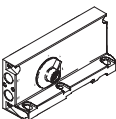
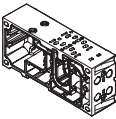
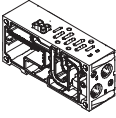
**FESTO**

Ordering data					
	Code	Valve function	Width	Type	Part No.
Solenoid valves, 110 V AC					
	M	5/2-way valve, single solenoid, pneumatic spring return	18 mm	VSVA-B-M52-AZD-A2-2AT1L	539 171
			26 mm	VSVA-B-M52-AZD-A1-2AT1L	539 145
			42 mm	VSVA-B-M52-AZD-D1-2AT1L	543 685
	O	5/2-way valve, single solenoid, mechanical spring return	18 mm	VSVA-B-M52-MZD-A2-2AT1L	539 172
			26 mm	VSVA-B-M52-MZD-A1-2AT1L	539 146
			42 mm	VSVA-B-M52-MZD-D1-2AT1L	543 686
	J	5/2-way valve, double solenoid,	18 mm	VSVA-B-B52-ZD-A2-2AT1L	539 169
			26 mm	VSVA-B-B52-ZD-A1-2AT1L	539 143
			42 mm	VSVA-B-B52-ZD-D1-2AT1L	543 683
	D	5/2-way valve, double solenoid, dominant signal	18 mm	VSVA-B-D52-ZD-A2-2AT1L	539 170
			26 mm	VSVA-B-D52-ZD-A1-2AT1L	539 144
			42 mm	VSVA-B-D52-ZD-D1-2AT1L	543 684
	N	2x 3/2-way valve, single solenoid, normally open	18 mm	VSVA-B-T32U-AZD-A2-2AT1L	539 165
			26 mm	VSVA-B-T32U-AZD-A1-2AT1L	539 139
			42 mm	VSVA-B-T32U-AZD-D1-2AT1L	543 679
	K	2x 3/2-way valve, single solenoid, normally closed	18 mm	VSVA-B-T32C-AZD-A2-2AT1L	539 163
			26 mm	VSVA-B-T32C-AZD-A1-2AT1L	539 137
			42 mm	VSVA-B-T32C-AZD-D1-2AT1L	543 677
	H	2x 3/2-way valve, single solenoid, 1x normally open, 1x normally closed	18 mm	VSVA-B-T32H-AZD-A2-2AT1L	539 167
			26 mm	VSVA-B-T32H-AZD-A1-2AT1L	539 141
			42 mm	VSVA-B-T32H-AZD-D1-2AT1L	543 681
	B	5/3-way valve, mid-position pressurised	18 mm	VSVA-B-P53U-ZD-A2-2AT1L	539 173
			26 mm	VSVA-B-P53U-ZD-A1-2AT1L	539 147
			42 mm	VSVA-B-P53U-ZD-D1-2AT1L	543 687
	G	5/3-way valve, mid-position closed	18 mm	VSVA-B-P53C-ZD-A2-2AT1L	539 175
			26 mm	VSVA-B-P53C-ZD-A1-2AT1L	539 149
			42 mm	VSVA-B-P53C-ZD-D1-2AT1L	543 689
	E	5/3-way valve, mid-position exhausted	18 mm	VSVA-B-P53E-ZD-A2-2AT1L	539 174
			26 mm	VSVA-B-P53E-ZD-A1-2AT1L	539 148
			42 mm	VSVA-B-P53E-ZD-D1-2AT1L	543 688
	P	2x 3/2-way valve, single solenoid, reverse operation, normally open	18 mm	VSVA-B-T32F-AZD-A2-2AT1L	539 166
			26 mm	VSVA-B-T32F-AZD-A1-2AT1L	539 140
			42 mm	VSVA-B-T32F-AZD-D1-2AT1L	543 680
	Q	2x 3/2-way valve, single solenoid, reverse operation, normally closed	18 mm	VSVA-B-T32N-AZD-A2-2AT1L	539 164
			26 mm	VSVA-B-T32N-AZD-A1-2AT1L	539 138
			42 mm	VSVA-B-T32N-AZD-D1-2AT1L	543 678
	R	2x 3/2-way valve, single solenoid, reverse operation, 1x normally open, 1x normally closed	18 mm	VSVA-B-T32W-AZD-A2-2AT1L	539 168
			26 mm	VSVA-B-T32W-AZD-A1-2AT1L	539 142
			42 mm	VSVA-B-T32W-AZD-D1-2AT1L	543 682

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

FESTO

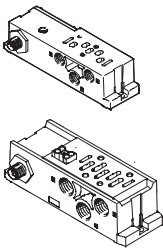
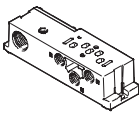
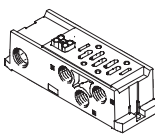
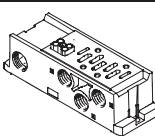
Accessories

Ordering data					
Designation	Code	Description	Width	Type	Part No.
Right-hand end plate					
	Threaded connection				
	V	With work air/exhaust air, internal pilot air supply, G1/2		VABE-S6-1R-G12	539 234
	X	With work air/exhaust air, external pilot air supply, G1/2		VABE-S6-1RZ-G12	539 236
	NPT thread				
	V	With work air/exhaust air, internal pilot air supply, NPT1/2		VABE-S6-1R-N12	539 235
	X	With work air/exhaust air, external pilot air supply, NPT1/2		VABE-S6-1RZ-N12	539 237
End plate with pilot air selector					
	Threaded connection				
	Y	Internal pilot air supply		VABE-S6-1RZ-G-B1	539 238
	U	Internal pilot air supply, ducted pilot exhaust air			
	Z	External pilot air supply			
	W	External pilot air supply, ducted pilot exhaust air			
	NPT thread				
	Y	Internal pilot air supply		VABE-S6-1RZ-N-B1	539 239
	U	Internal pilot air supply, ducted pilot exhaust air			
	Z	External pilot air supply			
	W	External pilot air supply, ducted pilot exhaust air			
Manifold sub-base, port pattern to ISO 15407-2 and ISO 5599-2					
 	Threaded connection				
	A	2 valve positions, 4 addresses, for double solenoid valves	18 mm	VABV-S4-2S-G18-2T2	539 224
	B	2 valve positions, 4 addresses, for double solenoid valves	26 mm	VABV-S4-1S-G14-2T2	539 220
	C	1 valve position, 2 addresses, for double solenoid valves	42 mm	VABV-S2-1S-G38-T2	542 458
	E	2 valve positions, 2 addresses, for single solenoid valves	18 mm	VABV-S4-2S-G18-2T1	539 226
	F	2 valve positions, 2 addresses, for single solenoid valves	26 mm	VABV-S4-1S-G14-2T1	539 222
	G	1 valve position, 1 address, for single solenoid valves	42 mm	VABV-S2-1S-G38-T1	542 459
	NPT thread				
	A	2 valve positions, 4 addresses, for double solenoid valves	18 mm	VABV-S4-2S-N18-2T2	539 223
	B	2 valve positions, 4 addresses, for double solenoid valves	26 mm	VABV-S4-1S-N14-2T2	539 219
	C	1 valve position, 2 addresses, for double solenoid valves	42 mm	VABV-S2-1S-N38-T2	542 460
	E	2 valve positions, 2 addresses, for single solenoid valves	18 mm	VABV-S4-2S-N18-2T1	539 225
	F	2 valve positions, 2 addresses, for single solenoid valves	26 mm	VABV-S4-1S-N14-2T1	539 221
	G	1 valve position, 1 address, for single solenoid valves	42 mm	VABV-S2-1S-N38-T1	542 461

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Accessories




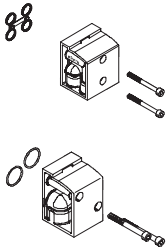
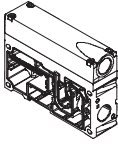
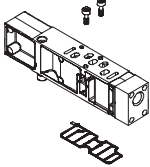
**FESTO**

Ordering data					
Designation	Code	Description	Width	Type	Part No.
Individual sub-base, port pattern to ISO 15407-2 and ISO 5599-2, electrical connection with plug connector M12					
	Threaded connection, internal pilot air supply				
	–	Connections at side, G $\frac{1}{8}$	18 mm	VABS-S4-2S-G18-B-R3	541 070
	–	Connections at side, G $\frac{1}{4}$	26 mm	VABS-S4-1S-G14-B-R3	541 069
	–	Connections at side, G $\frac{3}{8}$	42 mm	VABS-S2-1S-G38-B-R3	546 104
	Threaded connection, external pilot air supply				
	–	Connections at side, G $\frac{1}{8}$	18 mm	VABS-S4-2S-G18-R3	541 064
	–	Connections at side, G $\frac{1}{4}$	26 mm	VABS-S4-1S-G14-R3	541 063
	–	Connections at side, G $\frac{3}{8}$	42 mm	VABS-S2-1S-G38-R3	546 101
Individual sub-base, port pattern to ISO 15407-2, electrical connection with cable terminals					
	Threaded connection, internal pilot air supply				
	–	Connections at side, G $\frac{1}{8}$	18 mm	VABS-S4-2S-G18-B-K2	541 067
	–	Connections at side, G $\frac{1}{4}$	26 mm	VABS-S4-1S-G14-B-K2	541 065
	Threaded connection, external pilot air supply				
	–	Connections at side, G $\frac{1}{8}$	18 mm	VABS-S4-2S-G18-K2	539 723
	–	Connections at side, G $\frac{1}{4}$	26 mm	VABS-S4-1S-G14-K2	539 725
	NPT thread, internal pilot air supply				
	–	Connections at side, $\frac{1}{8}$ NPT	18 mm	VABS-S4-2S-N18-B-K2	541 068
	–	Connections at side, $\frac{1}{4}$ NPT	26 mm	VABS-S4-1S-N14-B-K2	541 066
	NPT thread, external pilot air supply				
	–	Connections at side, $\frac{1}{8}$ NPT	18 mm	VABS-S4-2S-N18-K2	539 724
	–	Connections at side, $\frac{1}{4}$ NPT	26 mm	VABS-S4-1S-N14-K2	539 726
Individual sub-base, port pattern to ISO 5599-2, electrical connection with spring-loaded terminal					
	Threaded connection, internal pilot air supply				
	–	Connections at side, G $\frac{3}{8}$	42 mm	VABS-S2-1S-G38-B-C1	546 762
	Threaded connection, external pilot air supply				
	–	Connections at side, G $\frac{3}{8}$	42 mm	VABS-S2-1S-G38-C1	546 760
	NPT thread, internal pilot air supply				
	–	Connections at side, $\frac{3}{8}$ NPT	42 mm	VABS-S2-1S-N38-B-C1	546 763
	NPT thread, external pilot air supply				
	–	Connections at side, $\frac{3}{8}$ NPT	42 mm	VABS-S2-1S-N38-C1	546 761
Individual sub-base, port pattern to ISO 5599-2, electrical connection for self-assembly					
	Threaded connection, internal pilot air supply				
	–	Connections at side, G $\frac{3}{8}$	42 mm	VABS-S2-1S-G38-B-K1	546 102
	Threaded connection, external pilot air supply				
	–	Connections at side, G $\frac{3}{8}$	42 mm	VABS-S2-1S-G38-K1	546 099
	NPT thread, internal pilot air supply				
	–	Connections at side, $\frac{3}{8}$ NPT	42 mm	VABS-S2-1S-N38-B-K1	546 103
	NPT thread, external pilot air supply				
	–	Connections at side, $\frac{3}{8}$ NPT	42 mm	VABS-S2-1S-N38-K1	546 100

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

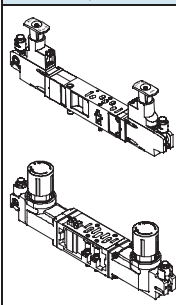
Accessories

Ordering data					
Designation	Code	Description	Width	Type	Part No.
Separator plate					
	S	Duct separation 1, 3, 5		VABD-S6-10-P3-C	539 228
	T	Duct separation 1		VABD-S6-10-P1-C	539 227
	R	Duct separation 3, 5		VABD-S6-10-P2-C	539 229
90° connection plate					
	Threaded connection				
	P	Outlet at bottom, connecting thread G $\frac{1}{8}$	18 mm	VABF-S4-2-A2G2-G18	539 719
	P	Outlet at bottom, connecting thread G $\frac{1}{4}$	26 mm	VABF-S4-1-A2G2-G14	539 721
	P	Outlet at bottom, connecting thread G $\frac{3}{8}$	42 mm	VABF-S2-1-A1G2-G38	546 097
	NPT thread				
	P	Outlet at bottom, connecting thread $\frac{1}{8}$ NPT	18 mm	VABF-S4-2-A2G2-N18	539 720
	P	Outlet at bottom, connecting thread $\frac{1}{4}$ NPT	26 mm	VABF-S4-1-A2G2-N14	539 722
	P	Outlet at bottom, connecting thread $\frac{3}{8}$ NPT	42 mm	VABF-S2-1-A1G2-N38	546 098
Supply plate					
	Threaded connection				
	L	With exhaust plate, 3/5 common, G $\frac{1}{2}$		VABF-S6-10-P1A7-G12	539 231
	K	With exhaust port cover, 3/5 separated, G $\frac{1}{2}$		VABF-S6-10-P1A6-G12	539 230
	NPT thread				
	L	With exhaust plate, 3/5 common, NPT $\frac{1}{2}$		VABF-S6-10-P1A7-N12	539 233
	K	With exhaust port cover, 3/5 separated, NPT $\frac{1}{2}$		VABF-S6-10-P1A6-N12	539 232
Vertical supply plate					
	Threaded connection				
	ZU	Connecting thread G $\frac{1}{8}$	18 mm	VABF-S4-2-P1A3-G18	540 173
		Connecting thread G $\frac{1}{4}$	26 mm	VABF-S4-1-P1A3-G14	540 171
		Connecting thread G $\frac{3}{8}$	42 mm	VABF-S2-1-P1A3-G38	546 093
	NPT thread				
	ZU	Connecting thread $\frac{1}{8}$ NPT	18 mm	VABF-S4-2-P1A3-N18	540 174
		Connecting thread $\frac{1}{4}$ NPT	26 mm	VABF-S4-1-P1A3-N14	540 172
		Connecting thread $\frac{3}{8}$ NPT	42 mm	VABF-S2-1-P1A3-N38	546 094

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Accessories

**FESTO**

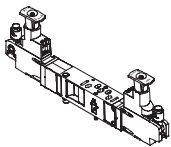
Ordering data					
Designation	Code	Description	Width	Type	Part No.
Regulator plate					
	ZA	For port 1, 10 bar	18 mm	VABF-S4-2-R1C2-C-10	540 153
		For port 1, 10 bar	26 mm	VABF-S4-1-R1C2-C-10	540 154
		For port 1, 10 bar	42 mm	VABF-S2-1-R1C2-C-10	546 084
	ZF	For port 1, 6 bar	18 mm	VABF-S4-2-R1C2-C-6	540 151
		For port 1, 6 bar	26 mm	VABF-S4-1-R1C2-C-6	540 152
		For port 1, 6 bar	42 mm	VABF-S2-1-R1C2-C-6	546 083
	ZB <sup>1)</sup>	For port 4, 10 bar	18 mm	VABF-S4-2-R3C2-C-10	540 157
		For port 4, 10 bar	26 mm	VABF-S4-1-R3C2-C-10	540 158
		For port 4, 10 bar	42 mm	VABF-S2-1-R3C2-C-10	546 086
	ZG <sup>1)</sup>	For port 4, 6 bar	18 mm	VABF-S4-2-R3C2-C-6	540 155
		For port 4, 6 bar	26 mm	VABF-S4-1-R3C2-C-6	540 156
		For port 4, 6 bar	42 mm	VABF-S2-1-R3C2-C-6	546 085
	ZC	For port 2, 10 bar	18 mm	VABF-S4-2-R2C2-C-10	540 161
		For port 2, 10 bar	26 mm	VABF-S4-1-R2C2-C-10	540 162
		For port 2, 10 bar	42 mm	VABF-S2-1-R2C2-C-10	546 088
	ZH	For port 2, 6 bar	18 mm	VABF-S4-2-R2C2-C-6	540 159
		For port 2, 6 bar	26 mm	VABF-S4-1-R2C2-C-6	540 160
		For port 2, 6 bar	42 mm	VABF-S2-1-R2C2-C-6	546 087
	ZD	For ports 2 and 4, 10 bar	18 mm	VABF-S4-2-R4C2-C-10	540 165
		For ports 2 and 4, 10 bar	26 mm	VABF-S4-1-R4C2-C-10	540 166
		For ports 2 and 4, 10 bar	42 mm	VABF-S2-1-R4C2-C-10	546 090
	ZI	For ports 2 and 4, 6 bar	18 mm	VABF-S4-2-R4C2-C-6	540 163
		For ports 2 and 4, 6 bar	26 mm	VABF-S4-1-R4C2-C-6	540 164
		For ports 2 and 4, 6 bar	42 mm	VABF-S2-1-R4C2-C-6	546 089
	ZE	For ports 2 and 4, reversible, 10 bar	18 mm	VABF-S4-2-R5C2-C-10	540 169
		For ports 2 and 4, reversible, 10 bar	26 mm	VABF-S4-1-R5C2-C-10	540 170
		For ports 2 and 4, reversible, 10 bar	42 mm	VABF-S2-1-R5C2-C-10	546 092
	ZJ	For ports 2 and 4, reversible, 6 bar	18 mm	VABF-S4-2-R5C2-C-6	540 167
		For ports 2 and 4, reversible, 6 bar	26 mm	VABF-S4-1-R5C2-C-6	540 168
		For ports 2 and 4, reversible, 6 bar	42 mm	VABF-S2-1-R5C2-C-6	546 091
	ZL	For port 2, reversible, 10 bar	18 mm	VABF-S4-2-R6C2-C-10	546 252
		For port 2, reversible, 10 bar	26 mm	VABF-S4-1-R6C2-C-10	546 251
		For port 2, reversible, 10 bar	42 mm	VABF-S2-1-R6C2-C-10	546 832
	ZN	For port 2, reversible, 6 bar	18 mm	VABF-S4-2-R6C2-C-6	546 248
		For port 2, reversible, 6 bar	26 mm	VABF-S4-1-R6C2-C-6	546 247
		For port 2, reversible, 6 bar	42 mm	VABF-S2-1-R6C2-C-6	546 831
	ZK	For port 4, reversible, 10 bar	18 mm	VABF-S4-2-R7C2-C-10	546 254
		For port 4, reversible, 10 bar	26 mm	VABF-S4-1-R7C2-C-10	546 253
		For port 4, reversible, 10 bar	42 mm	VABF-S2-1-R7C2-C-10	546 834
	ZM	For port 4, reversible, 6 bar	18 mm	VABF-S4-2-R7C2-C-6	546 250
		For port 4, reversible, 6 bar	26 mm	VABF-S4-1-R7C2-C-6	546 249
		For port 4, reversible, 6 bar	42 mm	VABF-S2-1-R7C2-C-6	546 833

1) Also suitable for valves with symmetrical design

## Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Accessories

**FESTO**




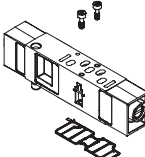
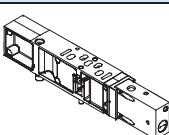
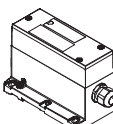
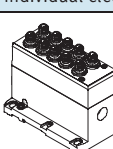

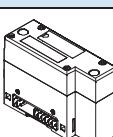
Ordering data					
Designation	Code	Description	Width	Type	Part No.
Regulator plate for valves wit symmetrical desyn					
	ZAY	For port 1, 10 bar	18 mm	VABF-S4-2-R1C2-C-10E	560 756
		For port 1, 10 bar	26 mm	VABF-S4-1-R1C2-C-10E	560 757
	ZFY	For port 1, 6 bar	18 mm	VABF-S4-2-R1C2-C-6E	560 758
		For port 1, 6 bar	26 mm	VABF-S4-1-R1C2-C-6E	549 876
	ZCY	For port 2, 10 bar	18 mm	VABF-S4-2-R2C2-C-10E	560 763
		For port 2, 10 bar	26 mm	VABF-S4-1-R2C2-C-10E	560 764
	ZHY	For port 2, 6 bar	18 mm	VABF-S4-2-R2C2-C-6E	560 765
		For port 2, 6 bar	26 mm	VABF-S4-1-R4C2-C-6E	560 766
	ZDY	For ports 2 and 4, 10 bar	18 mm	VABF-S4-2-R4C2-C-10E	560 767
		For ports 2 and 4, 10 bar	26 mm	VABF-S4-1-R4C2-C-10E	560 768
	ZIY	For ports 2 and 4, 6 bar	18 mm	VABF-S4-2-R4C2-C-6E	560 769
		For ports 2 and 4, 6 bar	26 mm	VABF-S4-1-R4C2-C-6E	560 770
	ZEY	For ports 2 and 4, reversible, 10 bar	18 mm	VABF-S4-2-R5C2-C-10E	560 771
		For ports 2 and 4, reversible, 10 bar	26 mm	VABF-S4-1-R5C2-C-10E	560 772
	ZJY	For ports 2 and 4, reversible, 6 bar	18 mm	VABF-S4-2-R5C2-C-6E	560 773
		For ports 2 and 4, reversible, 6 bar	26 mm	VABF-S4-1-R5C2-C-6E	560 774
	ZLY	For port 2, reversible, 10 bar	18 mm	VABF-S4-2-R6C2-C-10E	560 775
		For port 2, reversible, 10 bar	26 mm	VABF-S4-1-R6C2-C-10E	560 776
	ZNY	For port 2, reversible, 6 bar	18 mm	VABF-S4-2-R6C2-C-6E	560 777
		For port 2, reversible, 6 bar	26 mm	VABF-S4-1-R6C2-C-6E	560 778



# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Accessories

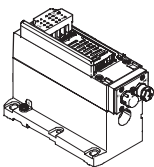
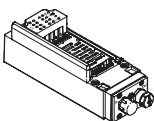
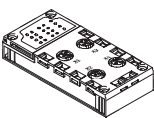

**FESTO**

Ordering data					
Designation	Code	Description	Width	Type	Part No.
Pressure gauge					
	T	With cartridge connection for regulator, 10 bar for regulator plate, code ZA, ZB, ZC, ZD, ZE	18 mm	PAGN-26-16-P10	543 487
			26 mm		
			42 mm	PAGN-40-16-P10	548 010
	U	With cartridge connection for regulator, 6 bar for regulator plate, code ZF, ZG, ZH, ZI, ZJ	18 mm	PAGN-26-10-P10	543 488
			26 mm		
			42 mm	PAGN-40-10-P10	548 009
	–	For soft-start valves	42 mm	MA-27-10-M5	526 323
Cartridge for regulator plate					
	–	For tubing O.D. 4 mm		QSP10-4	172 972
	–	For tubing O.D. 3/16"		QSP10-3/16U	172 975
Flow control plate					
	X	Controls the flow of exhaust air after the valve to ducts 3 and 5	18 mm	VABF-S4-2-F1B1-C	540 176
			26 mm	VABF-S4-1-F1B1-C	540 175
			42 mm	VABF-S2-1-F1B1-C	546 095
Vertical shut-off plate					
	ZT	2/2-way valve for shutting off the operating pressure at the valve position	18 mm	VABF-S4-2-L1D1-C	542 884
			26 mm	VABF-S4-1-L1D1-C	542 885
			42 mm	VABF-S2-1-L1D1-C	546 096
Multi-pin node					
	T	Tension spring, for threaded connection, 36-pin		VABE-S6-1LF-C-M1-C36M	543 412
		Tension spring, for NPT connection, 36-pin		VABE-S6-1LF-C-M1-C36N	543 413
	MP1	Sub-D plug, 37-pin		VABE-S6-1LT-C-M1-S37	543 414
	MP4	Round plug, 19-pin		VABE-S6-1LF-C-M1-R19	543 415
Individual electrical connection					
	-MP2	Multi-pin node with individual connection M12, 6-way		VABE-S6-LT-C-S6-R5	549 046
	-MP3	Multi-pin node with individual connection M12, 10-way		VABE-S6-LT-C-S10-R5	549 047
	–	Cover for individual connection M12, 6-way		VAEM-S6-C-S6-R5	549 048
	–	Cover for individual connection M12, 10-way		VAEM-S6-C-S10-R5	549 049
Pneumatic interface					
	–	For electrical terminal CPX, plastic design		VABA-S6-1-X1	543 416
	–	For electrical terminal CPX, metal design		VABA-S6-1-X2	550 663

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

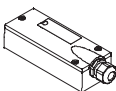
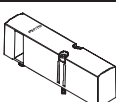





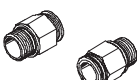
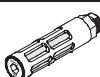

Accessories

Ordering data					
Designation	Code	Description	Type	Part No.	
for AS-Interface					
	–	4 inputs/4 outputs	VABE-S6-1LF-C-A4	549 042	
	–	4 inputs/8 outputs	VABE-S6-1LF-C-A8	549 043	
AS-Interface module					
	–	4 inputs/4 outputs	VAEM-S6-S-FAS-4-4E	549 044	
	–	4 inputs/8 outputs	VAEM-S6-S-FAS-8-8E	549 045	
Connection block for AS-interface					
	X	4xM12, 5-pin, double, socket	CPX-AB-4-M12x2-5POL	195 704	
	GW	4xM12, 5-pin, metal thread, socket	CPX-AB-4-M12x2-5POL-R	541 254	
	R	8xM8, 3-pin, socket	CPX-AB-8-M8-3POL	195 706	
	J	8x CageClamp clamps, 4-pin	CPX-AB-8-KL-4POL	195 708	
	H	4xHarax®, 4-pin, socket	CPX-AB-4-HAR-4POL	525 636	
	B	Sub-D 25-pin, socket	CPX-AB-1-SUB-BU-25POL	525 676	
Connecting cable with Sub-D plug socket					
	Polyurethane, IP65				
	GA	Connecting cable for max. 8 solenoid coils, 10-pin, suitable for chain link trunking	2.5 m	NEBV-S1W37-E-2,5-LE10	539 240
	GB		5 m	NEBV-S1W37-E-5-LE10	539 241
	GC		10 m	NEBV-S1W37-E-10-LE10	539 242
	GD	Connecting cable for max. 22 solenoid coils, 26-pin, suitable for chain link trunking	2.5 m	NEBV-S1W37-E-2,5-LE26	539 243
	GE		5 m	NEBV-S1W37-E-5-LE26	539 244
	GF		10 m	NEBV-S1W37-E-10-LE26	539 245
	GG	Connecting cable for max. 32 solenoid coils, 37-pin	2.5 m	NEBV-S1W37-K-2,5-LE37	539 246
	GH		5 m	NEBV-S1W37-K-5-LE37	539 247
	GI		10 m	NEBV-S1W37-K-10-LE37	539 248
	Polyvinyl chloride, IP65				
	GK	Connecting cable for max. 8 solenoid coils, 10-pin	2.5 m	NEBV-S1W37-KM-2,5-LE10	543 271
	GL		5 m	NEBV-S1W37-KM-5-LE10	543 272
	GM		10 m	NEBV-S1W37-KM-10-LE10	543 273
GN	Connecting cable for max. 22 solenoid coils, 27-pin	2.5 m	NEBV-S1W37-KM-2,5-LE27	543 274	
GO		5 m	NEBV-S1W37-KM-5-LE27	543 275	
GP		10 m	NEBV-S1W37-KM-10-LE27	543 276	
GQ	Connecting cable for max. 32 solenoid coils, 37-pin	2.5 m	NEBV-S1W37-KM-2,5-LE37	543 277	
GR		5 m	NEBV-S1W37-KM-5-LE37	543 278	
GS		10 m	NEBV-S1W37-KM-10-LE37	543 279	

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

Accessories


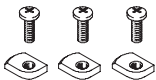


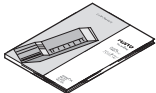
**FESTO**

Ordering data					
Designation	Code	Description	Type	Part No.	
Cover for multi-pin plug					
	–	For user configuration	NECV-S1W37	545 974	
Cover					
	L	Blanking plate for vacant position	18 mm	VABB-S4-2-WT	539 213
			26 mm	VABB-S4-1-WT	539 212
			42 mm	VABB-S2-1-WT	543 186
	N	Cover cap for manual override, pushing	10 pieces	VAMC-S6-CH	541 010
	V	Cover cap for manual override, covered	10 pieces	VAMC-S6-CS	541 011
	–	End cap for electrical manifold module, size 18 mm and 26 mm	10 pieces	VABD-S4-E-C	547 713
Inscription label holder					
	B	Clip-on inscription label holder for valve cap	5 pieces	ASCF-T-S6	540 888
	T	Inscription label holder for manifold blocks	5 pieces	ASCF-M-S6	540 889
Push-in fitting					
	Threaded connection				
	–	Connecting thread G $\frac{3}{4}$ for tubing O.D. 10 mm	10 pieces	QS-G $\frac{3}{4}$ -10	186 101
		Connecting thread G $\frac{3}{4}$ for tubing O.D. 8 mm	10 pieces	QS-G $\frac{3}{4}$ -8	186 099
		Connecting thread G $\frac{1}{8}$ for tubing O.D. 10 mm	10 pieces	QS-G $\frac{1}{8}$ -10	190 643
		Connecting thread G $\frac{1}{8}$ for tubing O.D. 8 mm	10 pieces	QS-G $\frac{1}{8}$ -8	186 098
		Connecting thread G $\frac{1}{8}$ for tubing O.D. 6 mm	10 pieces	QS-G $\frac{1}{8}$ -6	186 096
		Connecting thread G $\frac{1}{2}$ for tubing O.D. 16 mm	1 piece	QS-G $\frac{1}{2}$ -16	186 105
		Connecting thread G $\frac{3}{8}$ for tubing O.D. 10 mm	10 pieces	QS-G $\frac{3}{8}$ -10	186 102
		Connecting thread G $\frac{3}{8}$ for tubing O.D. 12 mm	10 pieces	QS-G $\frac{3}{8}$ -12	186 103
	NPT thread				
	–	Connecting thread $\frac{1}{4}$ NPT for tubing O.D. $\frac{5}{16}$ "		QS- $\frac{1}{4}$ - $\frac{5}{16}$ -U	153 609
		Connecting thread $\frac{1}{4}$ NPT for tubing O.D. $\frac{1}{2}$ "		QS- $\frac{1}{4}$ - $\frac{1}{2}$ -U	190 681
		Connecting thread $\frac{1}{8}$ NPT for tubing O.D. $\frac{5}{16}$ "		QS- $\frac{1}{8}$ - $\frac{5}{16}$ -U	153 608
		Connecting thread $\frac{1}{8}$ NPT for tubing O.D. $\frac{1}{4}$ "		QS- $\frac{1}{8}$ - $\frac{1}{4}$ -U	153 605
		Connecting thread $\frac{1}{2}$ NPT for tubing O.D. $\frac{1}{2}$ "		QS- $\frac{1}{2}$ - $\frac{1}{2}$ -U	153 615
		Connecting thread $\frac{1}{2}$ NPT for tubing O.D. $\frac{5}{8}$ "		QS- $\frac{1}{2}$ - $\frac{5}{8}$ -U	190 682
	Silencer				
 	Threaded connection				
	–	Connecting thread G $\frac{1}{4}$		U- $\frac{1}{4}$	2316
	L	Connecting thread G $\frac{1}{2}$		U- $\frac{1}{2}$	2310
	K	Connecting thread G $\frac{1}{2}$		U- $\frac{1}{2}$ -B	6844
	NPT thread				
	–	Connecting thread $\frac{1}{4}$ NPT		U- $\frac{1}{4}$ -B-NPT	12 639
	K, L	Connecting thread $\frac{1}{2}$ NPT		U- $\frac{1}{2}$ -B-NPT	12 741

# Valve terminal type 44 VTSA, ISO 15407-2 / ISO 5599-2

**FESTO**

Accessories

Ordering data					
Designation	Code	Description	Type	Part No.	
Blanking plug					
	Threaded connection				
	–	Thread G1/8	10 pieces	B-1/8	3568
	–	Thread G1/4	10 pieces	B-1/4	3569
	NPT thread				
	–	Thread 1/8NPT	1 piece	B-1/8-NPT	173 985
	–	Thread 1/4NPT	1 piece	B-1/4-NPT	174 165
DIN H-rail mounting					
	–	VTSA with fieldbus	3 piece	CPX-CPA-BG-NRH	526 032
	–	VTSA with multi-pin plug	2 pieces	CPA-BG-NRH	173 498
Wall mounting					
	U	Mounting bracket	VAME-S6-10-W		539 214
User manual					
	D	User manual for valve terminal VTSA	German	P.BE-VTSA-44-DE	538 922
	E		English	P.BE-VTSA-44-EN	538 923
	S		Spanish	P.BE-VTSA-44-ES	538 924
	F		French	P.BE-VTSA-44-FR	538 925
	I		Italian	P.BE-VTSA-44-IT	538 926
	V		Swedish	P.BE-VTSA-44-SV	538 927