

Valve terminals type 84 VTOC

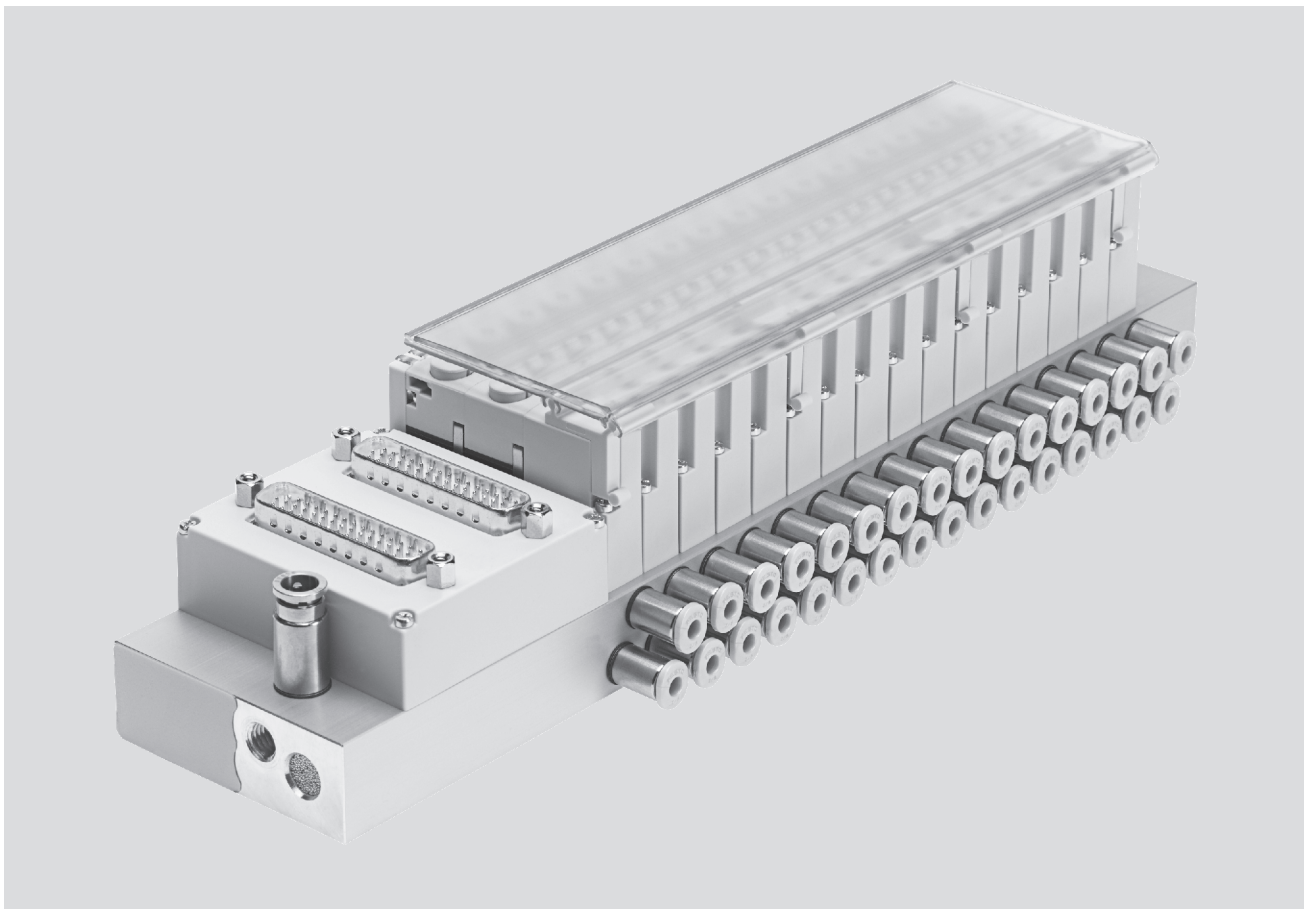
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Valve terminals type 84 VTOC

Key features

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Innovative

- Valve terminal for a wide range of pneumatic applications
- Weight-optimised metal manifold rail
- Space-saving thanks to 2x3/2-way valves on one valve position
- Great flexibility during planning, assembly and operation
- Configurable manifold rails (pneumatic and electric connections)

Versatile

- Provides 2 ... 24 valve positions on one terminal
- Flexibility of the pneumatic working lines provides a practical solution to different requirements
- Wide range of electrical outlet directions
- Multi-pin plug connection with Sub-D plug or flat cable

Reliable

- Manual override
- Durable
- Sturdy thanks to simple structure

Easy to mount

- Ready-to-install and tested unit
- Lower ordering, installation and commissioning costs
- Easy valve assembly



Note

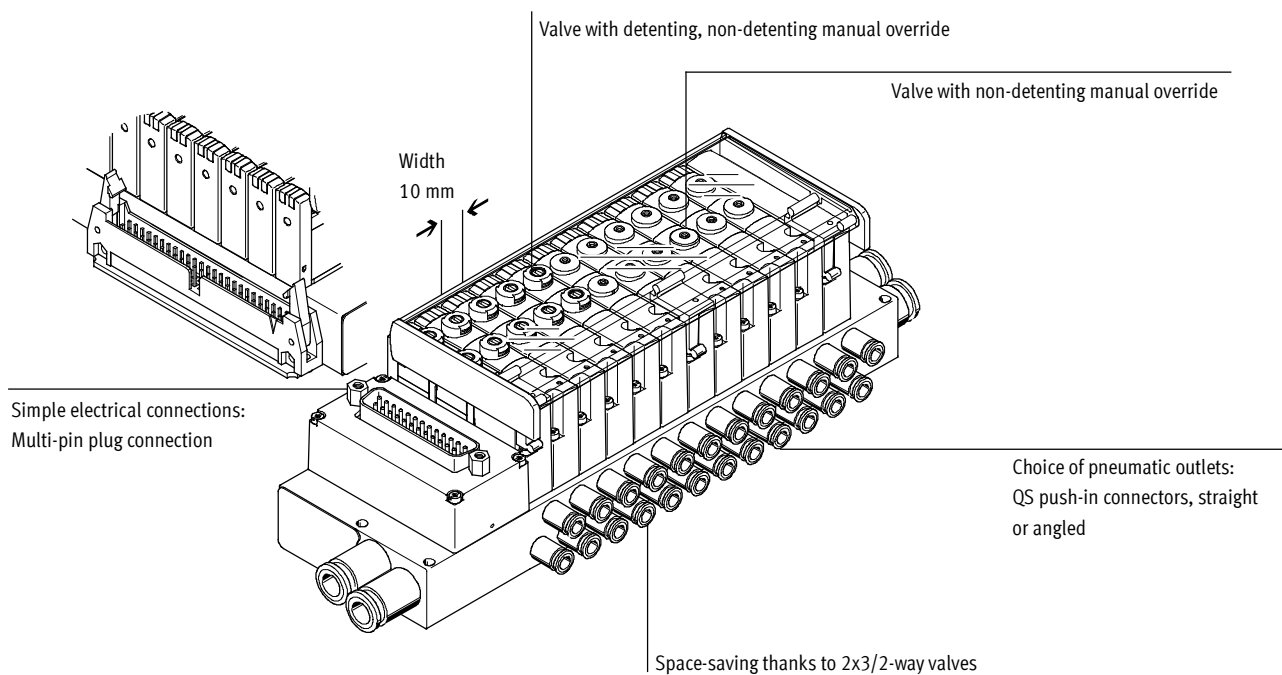
Ordering system for valve terminal type 84 VTOC

➔ Internet: vtoc

Valve terminals type 84 VTOC

Key features

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Equipment options

Valve functions

- 2x3/2-way valve, single solenoid, normally closed
- Valve with non-detenting manual override
- Valve with detenting, non-detenting manual override

Electrical connection options

- Multi-pin plug
- 2 ... 24 valve positions/
max. 48 solenoid coils
- Sub-D/flat cable

Valve terminals type 84 VTOC

Peripherals overview

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Overview of valve terminals type 84 VTOC

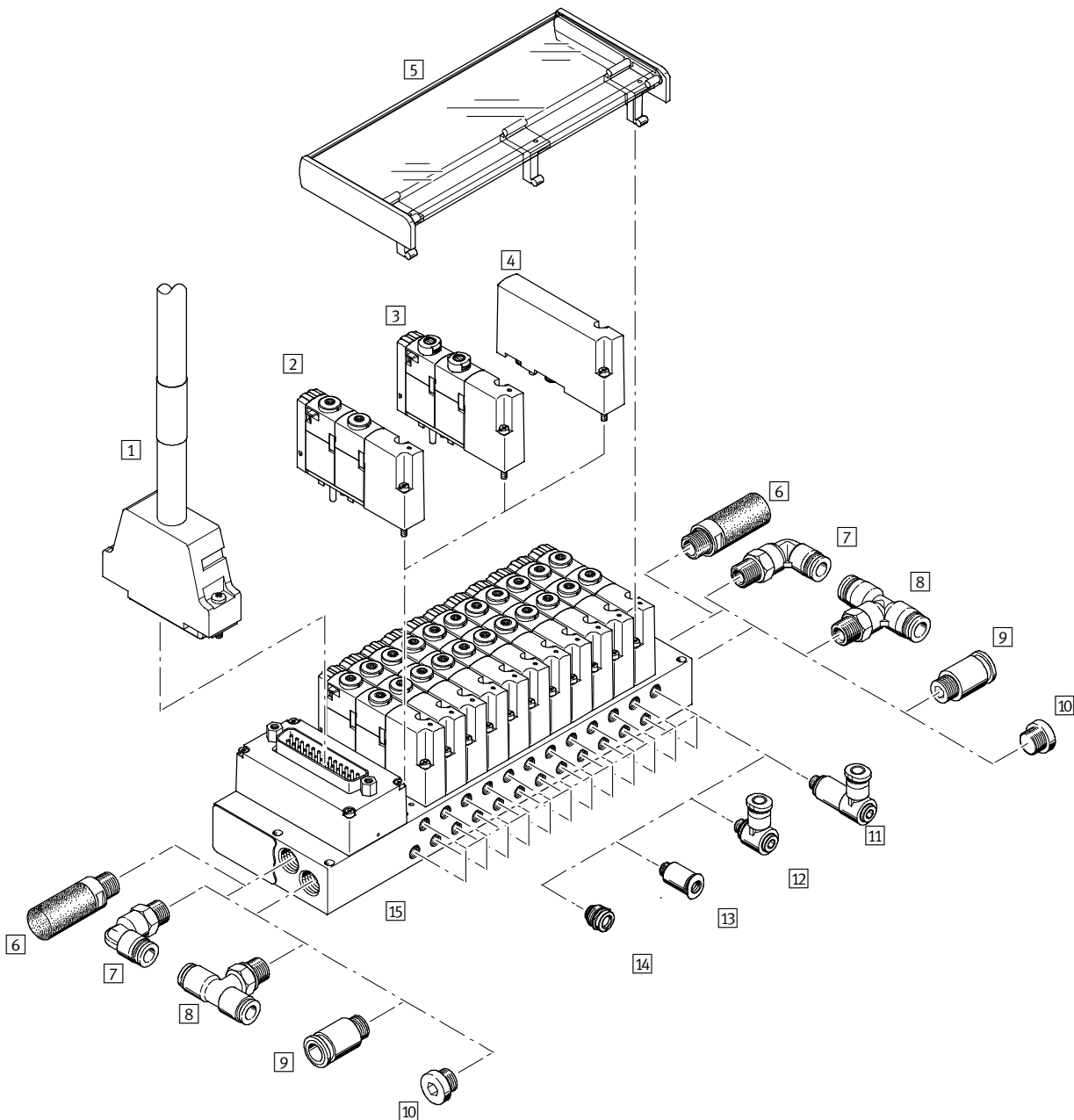
Valve terminal with electrical multi-pin plug connection

- Up to 24 valve positions/
48 solenoid coils
- Flat cable connection type, code: RC
- Sub-D plug connection type, code: SD

Valve terminals with electrical multi-pin plug connection are available in gradations from 2 to max. 24 valve positions. Each valve position can either be equipped with a valve body or a blanking plate.

Only valve bodies containing two single solenoid 3/2-way valves are available.

A maximum of 48 valve solenoid coils can be actuated via the electrical multi-pin plug connection.



Valve terminals type 84 VTOC

Peripherals overview

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Accessories				
	Type	Brief description	➔ Page/ Internet	
1	Connecting cable	KMP6	Connecting cable for multi-pin plug connection, with Sub-D plug, 25-pin	26
2	Single solenoid valve	VOVC	Solenoid valve with non-detenting manual override	26
3	Single solenoid valve	VOVC	Solenoid valve with detenting, non-detenting manual override	26
4	Blanking plate	VABB	Blanking plate for vacant position	26
5	Inscription label holder	ASCF	For labelling the valves/manual override cover	26
6	Silencer	U	For fitting in exhaust ports	27
7	Push-in L-fitting	QSL	For connecting to the air supply or exhaust	27
8	T-fitting	QST	For connecting to the air supply or exhaust	27
9	Straight fitting	OS	For connecting to the air supply or exhaust	27
10	Blanking plug	B	For sealing the port for the air supply or exhaust	26
11	Push-in L-fitting, long	QSMLLV	Long elbow connector for working lines	27
12	Push-in L-fitting	QSMLV	Elbow connector for working lines	27
13	Push-in fitting	QS	Straight push-in fitting for working lines	27
14	Push-in fitting	QSIMG	Straight countersunk push-in fitting for working lines (compact)	–
15	Manifold rail	VABB	With multi-pin plug connection for max. 24 valve positions	–

Valve terminals type 84 VTOC

Peripherals overview

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	Number of valve positions	Pin allocation variants									
Flat cable		Top left (LT)				Bottom left (LB)		Top right (RT)			
		26 pins, 1-way	26 pins, 2-way	50 pins, 1-way	50 pins, 2-way	26 pins, 1-way	26 pins, 2-way	40 pins, 1-way	40 pins, 2-way	50 pins, 1-way	50 pins, 2-way
		4-12	V14	–	–	–	V8	–	–	–	–
		8-12	–	–	V11 ¹⁾	–	–	–	–	V10 ¹⁾	–
		6-10	–	–	–	–	–	V9 ¹⁾²⁾	–	–	–
		13-24	–	V15	–	–	V17	–	–	–	–
		16-24	–	–	–	V16 ¹⁾	–	–	–	–	–
		16-20	–	–	–	–	–	–	V18 ¹⁾²⁾	–	–
		18-24	–	–	–	–	–	–	–	–	V19 ¹⁾

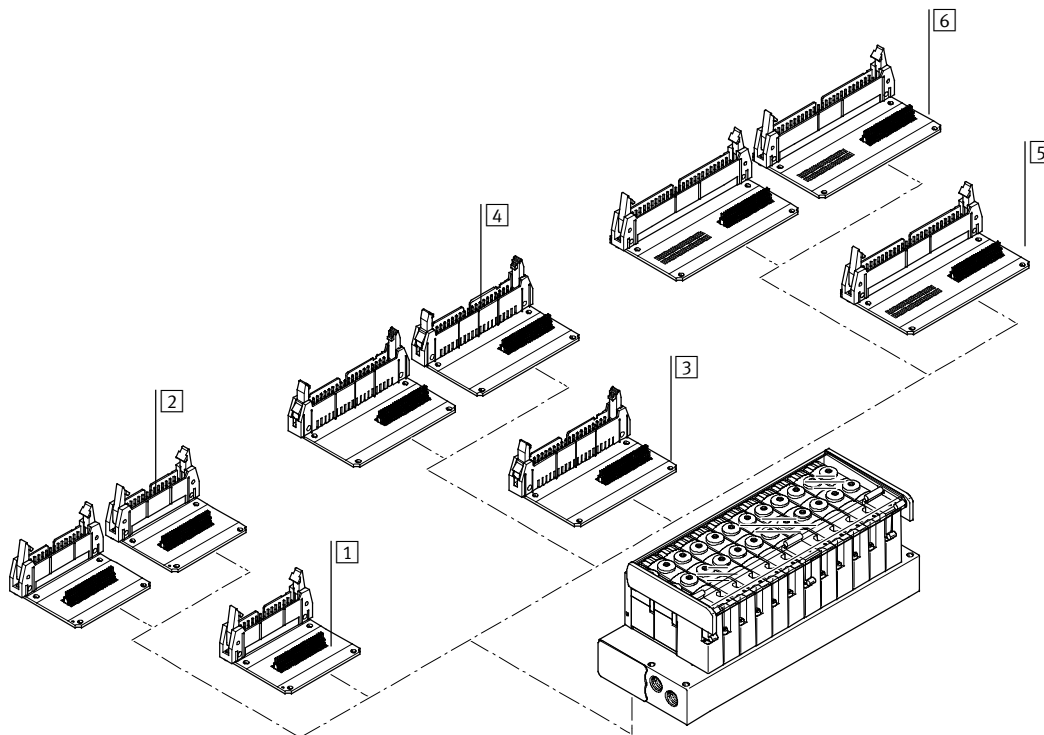
1) Individual ground

2) Not bi-directional

Overview of electrical connections

Valve terminal with flat cable connection on top

- Flat cable connection type, code: RC
 - Connection direction:
 - Top left (code LT)
 - Top right (code RT)
- A total of 10 pin allocation variants are available. Detailed pin allocation → p. 16



Accessories				
	Code	Brief description	Number of valve positions	Variants
1 Flat cable, 26-pin	LT	1-way, top left	4-12	V14
2 Flat cable, 26-pin		2-way, top left	13-24	V15
3 Flat cable, 40-pin	RT	1-way, top right	6-10	V9
4 Flat cable, 40-pin		2-way, top right	16-20	V18
5 Flat cable, 50-pin	RT	1-way, top right	8-12	V10
6 Flat cable, 50-pin		2-way, top right	18-24	V19
5 Flat cable, 50-pin	LT	1-way, top left	8-12	V11
6 Flat cable, 50-pin		2-way, top left	16-24	V16

Valve terminals type 84 VTOC

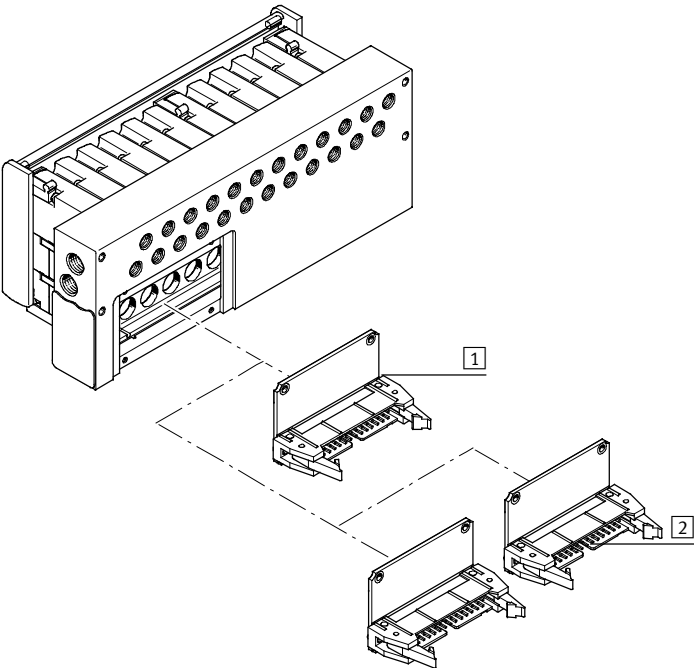
Peripherals overview



Overview of electrical connections

Valve terminal with flat cable connection underneath

- Flat cable connection type, code: RC
- Connection direction:
 - Bottom left (code LB)
- A total of 10 pin allocation variants are available.
- Detailed pin allocation → p. 16



Accessories				
	Code	Brief description	Number of valve positions	Variants
1 Flat cable, 26-pin	LB	1-way, bottom left	4–12	V8
2 Flat cable, 26-pin		2-way, bottom left	13–24	V17

Valve terminals type 84 VTOC

Peripherals overview

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	Number of valve positions	Pin allocation variants									
Sub-D		Top left (LT)								Top right (RT)	
		25 pins, 1-way			25 pins, 2-way	25 pins, 2-way	44 pins, 1-way	44 pins, 2-way		44 pins, 1-way	
	2-12	V2	V3 ²⁾	V1	–	–	–	–	–	–	–
	4-12	–	–	–	–	V12 ¹⁾	–	–	–	–	–
	13-21	–	–	–	–	–	V5	–	–	V13	–
	13-22	–	–	–	–	–	–	V7 ¹⁾	V6 ¹⁾²⁾	–	–
	13-24	–	–	–	V4	–	–	–	–	–	–

1) Individual ground

2) Not bi-directional

Overview of electrical connections

Valve terminal with Sub-D connection on top

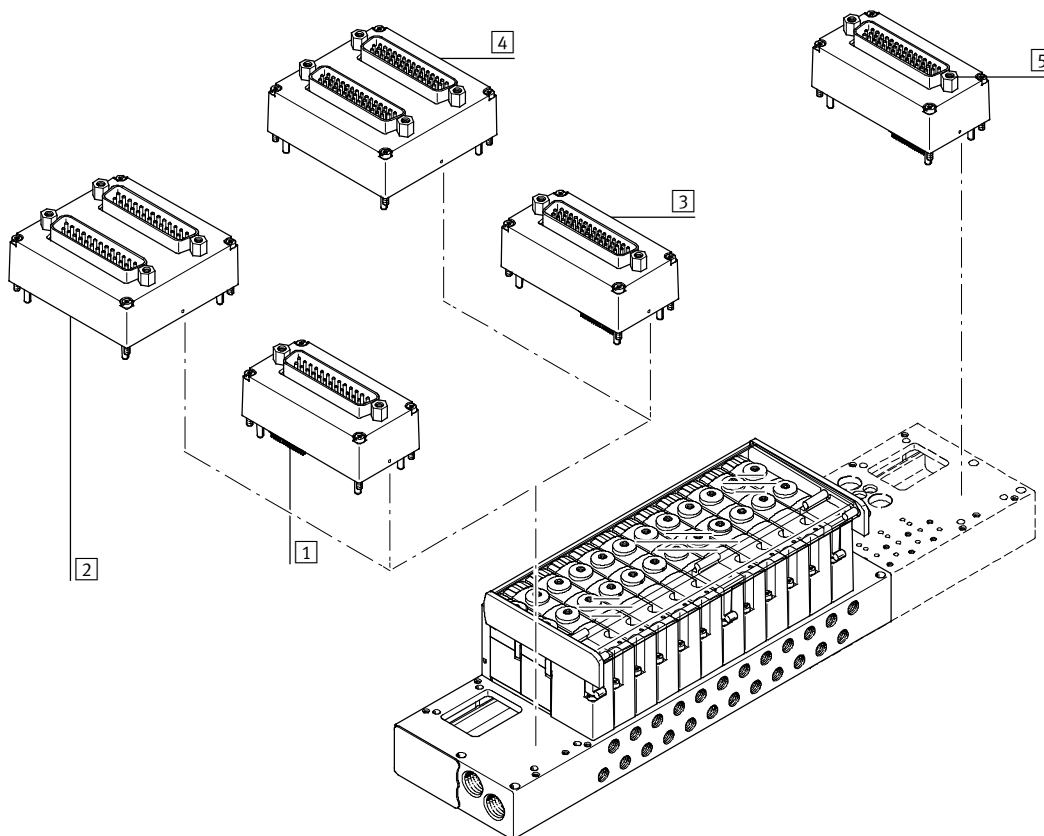
- Sub-D connection type, code: SD

Connection direction:

- Top left (code LT)
- Top right (code RT)

A total of 9 pin allocation variants are available.

Detailed pin allocation → p. 14



Accessories				
	Code	Brief description	Number of valve positions	Variants
1	LT	1-way, top left	2...12	V1, V2, V3
2		2-way, top left	13...24	V4
			4...12	V12
3	LT	1-way, top left	13...21	V5
4		2-way, top left	13...22	V6, V7
5	RT	1-way, top right	13...20	V13

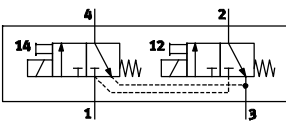
Valve terminals type 84 VTOC

Key features – Pneumatic components



Design

The valves are mounted on the metal manifold rail using two screws. The use of 2x3/2 directional control valves per valve position guarantees optimum use of space with maximum performance. The valves only differ in the type of manual override. The assembled and tested units or individual components as modules enable a custom configuration. Blanking plates can be replaced by valves at a later date. The dimensions, mounting points and existing pneumatic and electrical installations remain unchanged during this process.

Valve function			
Code	Circuit symbol	Width	Description
		10 mm	
K		■	2x3/2-way valve, single solenoid • Mechanical spring return • Non-reversible

Valve terminals type 84 VTOC

Key features – Pneumatic components

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Fittings

Port 1/3

Wide range of connection sizes:

- Threaded connection M7, G1/8, 1/8 NPT
- Push-in connector QS-6-, QS-8, QS- 3/8 or QS-1/4 (compressed air supply)
- Push-in connector QS6, QS-1/4 or silencer (exhaust air)

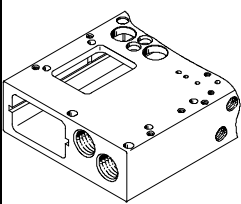
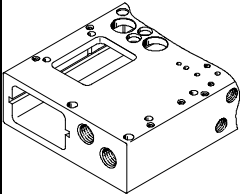
Variable connection types for port 1, compressed air supply and port 3, exhaust air:

- Straight
- Push-in L-fitting
- T-fitting

Flexible connection positions for the compressed air supply and exhaust:

- Both sides
- Left-hand
- Right-hand

Port 1/3

Connection direction: front	Code	Description
	-G18	Manifold block G1/8 (diagram shows example of Sub-D electrical connection on left) Basis for design: • Push-in connector QS8 • Push-in connector QS-3/8"
	-M7	Manifold block M7 (diagram shows example of Sub-D electrical connection on left) Basis for design: • Push-in connector QS6 • Push-in connector QS-1/4" • Exhaust port via push-in fitting or silencer

Valve terminals type 84 VTOC

Key features – Pneumatic components

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Fittings

Port 2/4

Wide range of connection sizes:

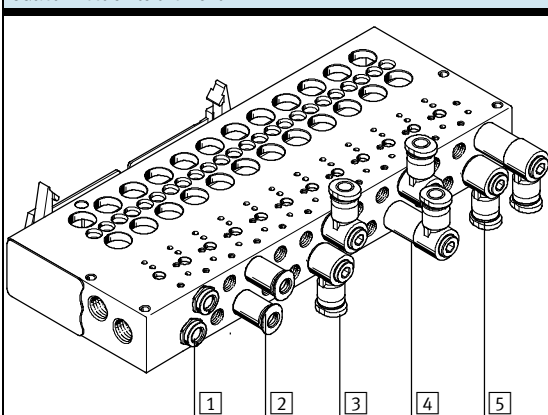
- Threaded connection M5
- 10-32 UNF
- Push-in connector QS-3, QS-4 or 1/8"

Outlet direction:

- Front
- Underneath

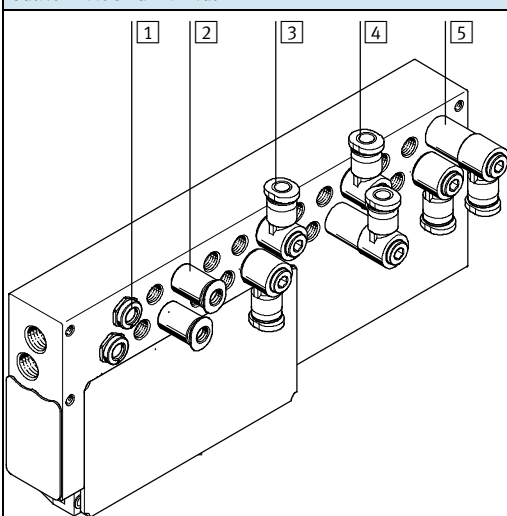
Connection on the valve (port 2/4)

Outlet direction to the front



	Code	Description
1	X	Straight countersunk outlet (compact)
2	–	Straight outlet
3	FB	Angled output, upwards/downwards
4	FA	Angled outlet, upwards
5	FC	Angled outlet, downwards

Outlet direction underneath



1	X	Straight countersunk outlet (compact)
2	U	Straight outlet
3	UB	Angled outlet, to the front/rear
4	UA	Angled outlet, to the front
5	UC	Angled outlet, to the rear

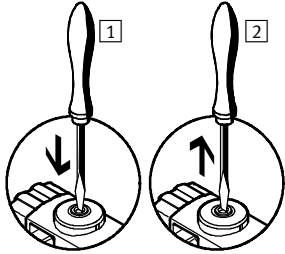
Valve terminals type 84 VTOC

Key features – Display and operation

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Manual override (MO)

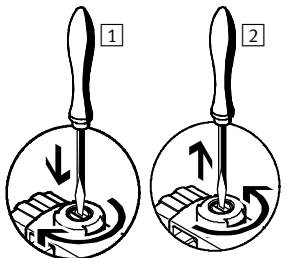
Manual override with automatic return (non-detenting)



- 1 Press in the stem of the manual override with a pointed object or screwdriver.
The valve switches.

- 2 Remove the pointed object or screwdriver.
Spring force pushes the manual override back.
Valve returns to normal position.

Manual override with lock (non-detenting/detenting)



- 1 Press in the stem of the manual override with a screwdriver until the valve switches and then turn the stem clockwise by 90° until the stop is reached.
The valve remains switched.

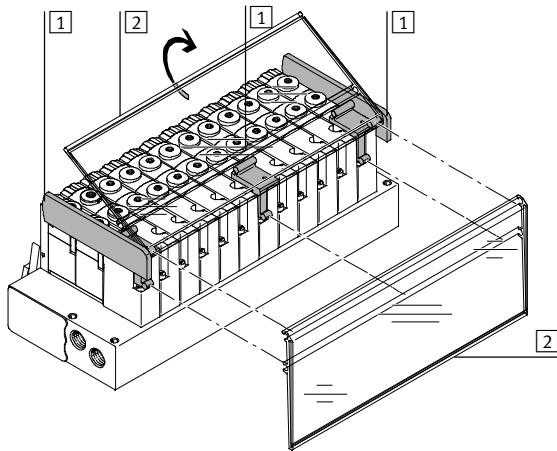
- 2 Turn the stem anti-clockwise by 90° until the stop is reached and then remove the screwdriver.
Spring force pushes the manual override back.
Valve returns to normal position.



Note

VTOC provides two valves with the same valve function but different types of manual override. There is no provision for subsequent modification of the type of manual override (e.g. by attaching a cover).

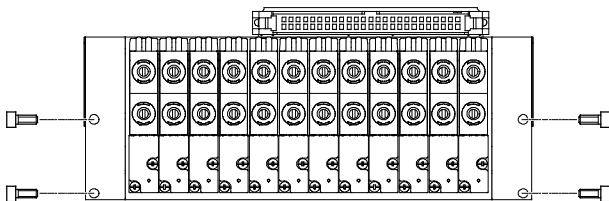
Identification system



- 1 Retainer for inscription label holder
The retainer for the inscription label holder is fastened to the valves with one screw and enables the inscription label holder to be mounted in two different directions. The retainers at the side are flanged to prevent the inscription label sliding out.

- 2 Inscription label holder
A transparent inscription label holder ASCF-H-L2 (code F/T in the order code) can be mounted for labelling the valves.
Inscription labels can be inserted in the holders for labelling purposes. Templates for printing the inscription label are available on request.

Mounting – Valve terminal



Sturdy terminal mounting thanks to:

- Four through-holes for wall mounting (hole Ø: 3.3 mm)
- Four holes with thread on the reverse side:
 - Thread M3
 - Thread M4

- Thread 8-32 UNC
- Thread 10-32 UNC-2B

Valve terminals type 84 VTOC

Key features – Electrical components

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Electrical multi-pin plug connection

The following multi-pin plug connections are available for the valve terminal VTOC:

- Sub-D multi-pin plug connection (25-pin, 1-way or 2-way)
- Sub-D multi-pin plug connection (44-pin, 1-way or 2-way)
- Flat cable plug (26-pin, 1-way or 2-way)
- Flat cable plug (40-pin, 1-way or 2-way)
- Flat cable plug (50-pin, 1-way or 2-way)

Connection directions:

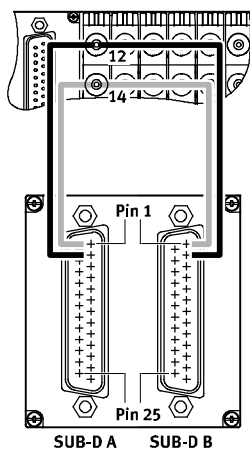
- Sub-D connection (top left/right)
- Flat cable (top/bottom left, top/bottom right)

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

The valves are switched by means of positive or negative logic (positive switching or negative switching). Mixed operation is not permitted. Each pin on the multi-pin plug can actuate exactly one solenoid coil. If the maximum configurable number of valve positions is 24, then

48 valves can be addressed with one solenoid coil (single solenoid). The multi-pin plug connection is available with 19 different pin allocation variants. Other variants on request.

Explanation of pin allocation (V12)



The example shows the pin allocation code V12. The solenoid coils are wired in ascending order of the valves so that solenoid coil 14 occupies the low-value pin and solenoid coil 12 the next pin of both Sub-D connections:

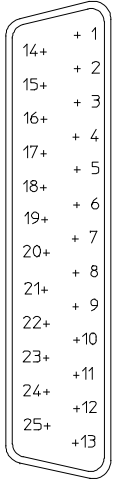
- Pin 1 of Sub-D A and Sub-D B at valve position 1, coil 14.
 - Pin 2 of Sub-D A and Sub-D B at valve position 1, coil 12.
- The following tables show the different pin allocation variants.

The circuitry may differ from the example depending on the multi-pin plug connection chosen.

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Key features – Electrical components

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Pin allocation – Sub-D plug, 25-pin															
	Pin	-V2		-V3		-V1		-V4				-V12			
								Sub-D A ¹⁾		Sub-D B ²⁾		Sub-D A ¹⁾		Sub-D B ²⁾	
	1	VP1	14	VP1	14-	VP1	12	VP1	14	VP13	14	VP1	14	VP1	14
	2	VP2	14	VP2	14-	VP1	14	VP1	12	VP13	12	VP1	12	VP1	12
	3	VP3	14	VP3	14-	VP2	12	VP2	14	VP14	14	VP2	14	VP2	14
	4	VP4	14	VP4	14-	VP2	14	VP2	12	VP14	12	VP2	12	VP2	12
	5	VP5	14	VP5	14-	VP3	12	VP3	14	VP15	14	VP3	14	VP3	14
	6	VP6	14	VP6	14-	VP3	14	VP3	12	VP15	12	VP3	12	VP3	12
	7	VP7	14	VP7	14-	VP4	12	VP4	14	VP16	14	VP4	14	VP4	14
	8	VP8	14	VP8	14-	VP4	14	VP4	12	VP16	12	VP4	12	VP4	12
	9	VP9	14	VP9	14-	VP5	12	VP5	14	VP17	14	VP5	14	VP5	14
	10	VP10	14	VP10	14-	VP5	14	VP5	12	VP17	12	VP5	12	VP5	12
	11	VP11	14	VP11	14-	VP6	12	VP6	14	VP18	14	VP6	14	VP6	14
	12	VP12	14	VP12	14-	VP6	14	VP6	12	VP18	12	VP6	12	VP6	12
	13	Com		Com+		VP7	12	VP7	14	VP19	14	VP7	14	VP7	14
	14	VP1	12	VP1	12-	VP7	14	VP7	12	VP19	12	VP7	12	VP7	12
	15	VP2	12	VP2	12-	VP8	12	VP8	14	VP20	14	VP8	14	VP8	14
	16	VP3	12	VP3	12-	VP8	14	VP8	12	VP20	12	VP8	12	VP8	12
	17	VP4	12	VP4	12-	VP9	12	VP9	14	VP21	14	VP9	14	VP9	14
	18	VP5	12	VP5	12-	VP9	14	VP9	12	VP21	12	VP9	12	VP9	12
	19	VP6	12	VP6	12-	VP10	12	VP10	14	VP22	14	VP10	14	VP10	14
	20	VP7	12	VP7	12-	VP10	14	VP10	12	VP22	12	VP10	12	VP10	12
 Note The drawing shows the view onto the Sub-D plug on the valve terminal.	21	VP8	12	VP8	12-	VP11	12	VP11	14	VP23	14	VP11	14	VP11	14
	22	VP9	12	VP9	12-	VP11	14	VP11	12	VP23	12	VP11	12	VP11	12
	23	VP10	12	VP10	12-	VP12	12	VP12	14	VP24	14	VP12	14	VP12	14
	24	VP11	12	VP11	12-	VP12	14	VP12	12	VP24	12	VP12	12	VP12	12
	25	VP12	12	VP12	12-	Com		Com 1-12		Com 13-24		–	–	–	–

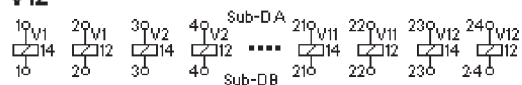
VP Valve position

1) Sub-D A, first Sub-D plug

2) Sub-D B, second Sub-D plug

Example of pin allocation V12

V12

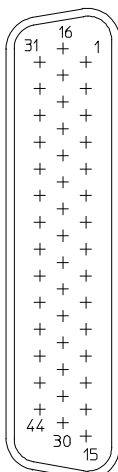


Valve terminals type 84 VTOC

Key features – Electrical components

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Pin allocation – Sub-D plug, 44-pin

	Pin	-V5		-V7				-V6				-V13		
				Sub-D A ¹⁾		Sub-D B ²⁾		Sub-D A ¹⁾		Sub-D B ²⁾				
	1	VP1	14	VP1	14	VP1	14	VP1	14+	VP1	14-	VP1	12	
	2	VP1	12	VP1	12	VP1	12	VP1	12+	VP1	12-	VP1	14	
	3	VP2	14	VP2	14	VP2	14	VP2	14+	VP2	14-	VP2	12	
	4	VP2	12	VP2	12	VP2	12	VP2	12+	VP2	12-	VP2	14	
	5	VP3	14	VP3	14	VP3	14	VP3	14+	VP3	14-	VP3	12	
	6	VP3	12	VP3	12	VP3	12	VP3	12+	VP3	12-	VP3	14	
	7	VP4	14	VP4	14	VP4	14	VP4	14+	VP4	14-	VP4	12	
	8	VP4	12	VP4	12	VP4	12	VP4	12+	VP4	12-	VP4	14	
	9	VP5	14	VP5	14	VP5	14	VP5	14+	VP5	14-	VP5	12	
	10	VP5	12	VP5	12	VP5	12	VP5	12+	VP5	12-	VP5	14	
	11	VP6	14	VP6	14	VP6	14	VP6	14+	VP6	14-	VP6	12	
	12	VP6	12	VP6	12	VP6	12	VP6	12+	VP6	12-	VP6	14	
	13	VP7	14	VP7	14	VP7	14	VP7	14+	VP7	14-	VP7	12	
	14	VP7	12	VP7	12	VP7	12	VP7	12+	VP7	12-	VP7	14	
	15	VP8	14	VP8	14	VP8	14	VP8	14+	VP8	14-	VP8	12	
	16	VP8	12	VP8	12	VP8	12	VP8	12+	VP8	12-	VP8	14	
	17	VP9	14	VP9	14	VP9	14	VP9	14+	VP9	14-	VP9	12	
	18	VP9	12	VP9	12	VP9	12	VP9	12+	VP9	12-	VP9	14	
	19	VP10	14	VP10	14	VP10	14	VP10	14+	VP10	14-	VP10	12	
	20	VP10	12	VP10	12	VP10	12	VP10	12+	VP10	12-	VP10	14	
	21	VP11	14	VP11	14	VP11	14	VP11	14+	VP11	14-	VP11	12	
	22	VP11	12	VP11	12	VP11	12	VP11	12+	VP11	12-	VP11	14	
	23	VP12	14	VP12	14	VP12	14	VP12	14+	VP12	14-	VP12	12	
	24	VP12	12	VP12	12	VP12	12	VP12	12+	VP12	12-	VP12	14	
	25	VP13	14	VP13	14	VP13	14	VP13	14+	VP13	14-	VP13	12	
	26	VP13	12	VP13	12	VP13	12	VP13	12+	VP13	12-	VP13	14	
	27	VP14	14	VP14	14	VP14	14	VP14	14+	VP14	14-	VP14	12	
	28	VP14	12	VP14	12	VP14	12	VP14	12+	VP14	12-	VP14	14	
	29	VP15	14	VP15	14	VP15	14	VP15	14+	VP15	14-	VP15	12	
	30	VP15	12	VP15	12	VP15	12	VP15	12+	VP15	12-	VP15	14	
	31	VP16	14	VP16	14	VP16	14	VP16	14+	VP16	14-	VP16	12	
	32	VP16	12	VP16	12	VP16	12	VP16	12+	VP16	12-	VP16	14	
	33	VP17	14	VP17	14	VP17	14	VP17	14+	VP17	14-	VP17	12	
	34	VP17	12	VP17	12	VP17	12	VP17	12+	VP17	12-	VP17	14	
	35	VP18	14	VP18	14	VP18	14	VP18	14+	VP18	14-	VP18	12	
	36	VP18	12	VP18	12	VP18	12	VP18	12+	VP18	12-	VP18	14	
	37	VP19	14	VP19	14	VP19	14	VP19	14+	VP19	14-	VP19	12	
	38	VP19	12	VP19	12	VP19	12	VP19	12+	VP19	12-	VP19	14	
	39	VP20	14	VP20	14	VP20	14	VP20	14+	VP20	14-	VP20	12	
 Note The drawing shows the view onto the Sub-D plug on the valve terminal.	40	VP20	12	VP20	12	VP20	12	VP20	12+	VP20	12-	VP20	14	
	41	VP21	14	VP21	14	VP21	14	VP21	14+	VP21	14-	Com		
	42	VP21	12	VP21	12	VP21	12	VP21	12+	VP21	12-	Com		
	43	Com			VP22	14	VP22	14	VP22	14+	VP22	14-	Com	
	44	Com			VP22	12	VP22	12	VP22	12+	VP22	12-	Com	

VP Valve position

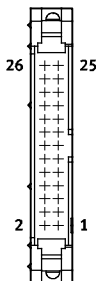
1) Sub-D A, first Sub-D plug

2) Sub-D B, second Sub-D plug

Valve terminals type 84 VTOC

Key features – Electrical components

FESTO

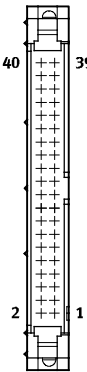
Pin allocation – Flat cable, 26-pin													
	Pin	-V14		-V15				-V8		-V17			
				Plug 1		Plug 2				Plug 1		Plug 2	
	1	VP1	14	VP1	14	VP13	14	VP1	14	VP12	14	VP24	14
	2	VP1	12	VP1	12	VP13	12	VP1	12	VP12	12	VP24	12
	3	VP2	14	VP2	14	VP14	14	VP2	14	VP11	14	VP23	14
	4	VP2	12	VP2	12	VP14	12	VP2	12	VP11	12	VP23	12
	5	VP3	14	VP3	14	VP15	14	VP3	14	VP10	14	VP22	14
	6	VP3	12	VP3	12	VP15	12	VP3	12	VP10	12	VP22	12
	7	VP4	14	VP4	14	VP16	14	VP4	14	VP9	14	VP21	14
	8	VP4	12	VP4	12	VP16	12	VP4	12	VP9	12	VP21	12
	9	VP5	14	VP5	14	VP17	14	VP5	14	VP8	14	VP20	14
	10	VP5	12	VP5	12	VP17	12	VP5	12	VP8	12	VP20	12
	11	VP6	14	VP6	14	VP18	14	VP6	14	VP7	14	VP19	14
	12	VP6	12	VP6	12	VP18	12	VP6	12	VP7	12	VP19	12
	13	VP7	14	VP7	14	VP19	14	VP7	14	VP6	14	VP18	14
	14	VP7	12	VP7	12	VP19	12	VP7	12	VP6	12	VP18	12
	15	VP8	14	VP8	14	VP20	14	VP8	14	VP5	14	VP17	14
	16	VP8	12	VP8	12	VP20	12	VP8	12	VP5	12	VP17	12
	17	VP9	14	VP9	14	VP21	14	VP9	14	VP4	14	VP16	14
	18	VP9	12	VP9	12	VP21	12	VP9	12	VP4	12	VP16	12
	19	VP10	14	VP10	14	VP22	14	VP10	14	VP3	14	VP15	14
	20	VP10	14	VP10	14	VP22	12	VP10	14	VP3	12	VP15	12
	21	VP11	14	VP11	14	VP23	14	VP11	14	VP2	14	VP14	14
 - Note The drawing shows the view onto the flat cable plug on the valve terminal.	22	VP11	12	VP21	12	VP23	12	VP11	12	VP2	12	VP14	12
	23	VP12	14	VP12	14	VP24	14	VP12	14	VP1	14	VP13	14
	24	VP12	12	VP12	12	VP24	12	VP12	12	VP1	12	VP13	12
	25	Com		Com		Com		Com		Com		Com	
	26	Com		Com		Com		Com		Com		Com	

VP Valve position

Valve terminals type 84 VTOC

Key features – Electrical components

FESTO

Pin allocation – Flat cable, 40-pin							
	Pin	-V9		-V18			
				Plug 1		Plug 2	
	1	VP10	12+	VP10	12+	VP11	14+
	2	VP10	12-	VP10	12-	VP11	14-
	3	VP10	14+	VP10	14+	VP11	12+
	4	VP10	14-	VP10	14-	VP11	12-
	5	VP9	12+	VP9	12+	VP12	14+
	6	VP9	12-	VP9	12-	VP12	14-
	7	VP9	14+	VP9	14+	VP12	12+
	8	VP9	14-	VP9	14-	VP12	12-
	9	VP8	12+	VP8	12+	VP13	14+
	10	VP8	12-	VP8	12-	VP13	14-
	11	VP8	14+	VP8	14+	VP13	12+
	12	VP8	14-	VP8	14-	VP13	12-
	13	VP7	12+	VP7	12+	VP14	14+
	14	VP7	12-	VP7	12-	VP14	14-
	15	VP7	14+	VP7	14+	VP14	12+
	16	VP7	14-	VP7	14-	VP14	12-
	17	VP6	12+	VP6	12+	VP15	14+
	18	VP6	12-	VP6	12-	VP15	14-
	19	VP6	14+	VP6	14+	VP15	12+
	20	VP6	14-	VP6	14-	VP15	12-
	21	VP5	12+	VP5	12+	VP16	14+
	22	VP5	12-	VP5	12-	VP16	14-
	23	VP5	14+	VP5	14+	VP16	12+
	24	VP5	14-	VP5	14-	VP16	12-
	25	VP4	12+	VP4	12+	VP17	14+
	26	VP4	12-	VP4	12-	VP17	14-
	27	VP4	14+	VP4	14+	VP17	12+
	28	VP4	14-	VP4	14-	VP17	12-
	29	VP3	12+	VP3	12+	VP18	14+
	30	VP3	12-	VP3	12-	VP18	14-
	31	VP3	14+	VP3	14+	VP18	12+
	32	VP3	14-	VP3	14-	VP18	12-
	33	VP2	12+	VP2	12+	VP19	14+
	34	VP2	12-	VP2	12-	VP19	14-
	35	VP2	14+	VP2	14+	VP19	12+
 Note The drawing shows the view onto the flat cable plug on the valve terminal.	36	VP2	14-	VP2	14-	VP19	12-
	37	VP1	12+	VP1	12+	VP20	14+
	38	VP1	12-	VP1	12-	VP20	14-
	39	VP1	14+	VP1	14+	VP20	12+
	40	VP1	14-	VP1	14-	VP20	12-

VP Valve position

Example of pin allocation V18

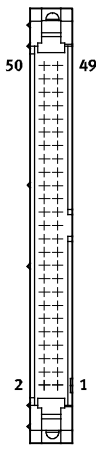
V18

19 ⁺ V10 20 ⁻	39 ⁺ V10 40 ⁻	59 ⁺ V9 60 ⁻	79 ⁺ V9 80 ⁻	A	339 ⁺ V2 340 ⁻	359 ⁺ V2 360 ⁻	379 ⁺ V1 380 ⁻	399 ⁺ V1 400 ⁻
19 ⁺ V20 20 ⁻	39 ⁺ V20 40 ⁻	59 ⁺ V19 60 ⁻	79 ⁺ V19 80 ⁻	B	339 ⁺ V12 340 ⁻	359 ⁺ V12 360 ⁻	379 ⁺ V11 380 ⁻	399 ⁺ V11 400 ⁻

Valve terminals type 84 VTOC

Key features – Electrical components

FESTO

Pin allocation – Flat cable, 50-pin														
	Pin	-V11		-V16				-V10		-V19				
				Plug 1		Plug 2				Plug 1		Plug 2		
	1	VP1	12	VP1	12	VP24	12	VP12	12	VP12	12	VP13	12	
	2	VP1	12	VP1	12	VP24	12	VP12	12	VP12	12	VP13	12	
	3	VP1	14	VP1	14	VP24	14	VP12	14	VP12	14	VP13	14	
	4	VP1	14	VP1	14	VP24	14	VP12	14	VP12	14	VP13	14	
	5	VP2	12	VP2	12	VP23	12	VP11	12	VP11	12	VP14	12	
	6	VP2	12	VP2	12	VP23	12	VP11	12	VP11	12	VP14	12	
	7	VP2	14	VP2	14	VP23	14	VP11	14	VP11	14	VP14	14	
	8	VP2	14	VP2	14	VP23	14	VP11	14	VP11	14	VP14	14	
	9	VP3	12	VP3	12	VP22	12	VP10	12	VP10	12	VP15	12	
	10	VP3	12	VP3	12	VP22	12	VP10	12	VP10	12	VP15	12	
	11	VP3	14	VP3	14	VP22	14	VP10	14	VP10	14	VP15	14	
	12	VP3	14	VP3	14	VP22	14	VP10	14	VP10	14	VP15	14	
	13	VP4	12	VP4	12	VP21	12	VP9	12	VP9	12	VP16	12	
	14	VP4	12	VP4	12	VP21	12	VP9	12	VP9	12	VP16	12	
	15	VP4	14	VP4	14	VP21	14	VP9	14	VP9	14	VP16	14	
	16	VP4	14	VP4	14	VP21	14	VP9	14	VP9	14	VP16	14	
	17	VP5	12	VP5	12	VP20	12	VP8	12	VP8	12	VP17	12	
	18	VP5	12	VP5	12	VP20	12	VP8	12	VP8	12	VP17	12	
	19	VP5	14	VP5	14	VP20	14	VP8	14	VP8	14	VP17	14	
	20	VP5	14	VP5	14	VP20	14	VP8	14	VP8	14	VP17	14	
	21	VP6	12	VP6	12	VP19	12	VP7	12	VP7	12	VP18	12	
	22	VP6	12	VP6	12	VP19	12	VP7	12	VP7	12	VP18	12	
	23	VP6	14	VP6	14	VP19	14	VP7	14	VP7	14	VP18	14	
	24	VP6	14	VP6	14	VP19	14	VP7	14	VP7	14	VP18	14	
	25	VP7	12	VP7	12	VP18	12	VP6	12	VP6	12	VP19	12	
	26	VP7	12	VP7	12	VP18	12	VP6	12	VP6	12	VP19	12	
	27	VP7	14	VP7	14	VP18	14	VP6	14	VP6	14	VP19	14	
	28	VP7	14	VP7	14	VP18	14	VP6	14	VP6	14	VP19	14	
	29	VP8	12	VP8	12	VP17	12	VP5	12	VP5	12	VP20	12	
	30	VP8	12	VP8	12	VP17	12	VP5	12	VP5	12	VP20	12	
	31	VP8	14	VP8	14	VP17	14	VP5	14	VP5	14	VP20	14	
	32	VP8	14	VP8	14	VP17	14	VP5	14	VP5	14	VP20	14	
	33	VP9	12	VP9	12	VP16	12	VP4	12	VP4	12	VP21	12	
	34	VP9	12	VP9	12	VP16	12	VP4	12	VP4	12	VP21	12	
	35	VP9	14	VP9	14	VP16	14	VP4	14	VP4	14	VP21	14	
	36	VP9	14	VP9	14	VP16	14	VP4	14	VP4	14	VP21	14	
	37	VP10	12	VP10	12	VP15	12	VP3	12	VP3	12	VP22	12	
	38	VP10	12	VP10	12	VP15	12	VP3	12	VP3	12	VP22	12	
	39	VP10	14	VP10	14	VP15	14	VP3	14	VP3	14	VP22	14	
	40	VP10	14	VP10	14	VP15	14	VP3	14	VP3	14	VP22	14	
	41	VP11	12	VP11	12	VP14	12	VP2	12	VP2	12	VP23	12	
	42	VP11	12	VP11	12	VP14	12	VP2	12	VP2	12	VP23	12	
	43	VP11	14	VP11	14	VP14	14	VP2	14	VP2	14	VP23	14	
	44	VP11	14	VP11	14	VP14	14	VP2	14	VP2	14	VP23	14	
	45	VP12	12	VP12	12	VP13	12	VP1	12	VP1	12	VP24	12	
	 - Note The drawing shows the view onto the flat cable plug on the valve terminal.	46	VP12	12	VP12	12	VP13	12	VP1	12	VP1	12	VP24	12
		47	VP12	14	VP12	14	VP13	14	VP1	14	VP1	14	VP24	14
		48	VP12	14	VP12	14	VP13	14	VP1	14	VP1	14	VP24	14
		49	-	-	-	-	-	-	-	-	-	-	-	-
		50	-	-	-	-	-	-	-	-	-	-	-	-

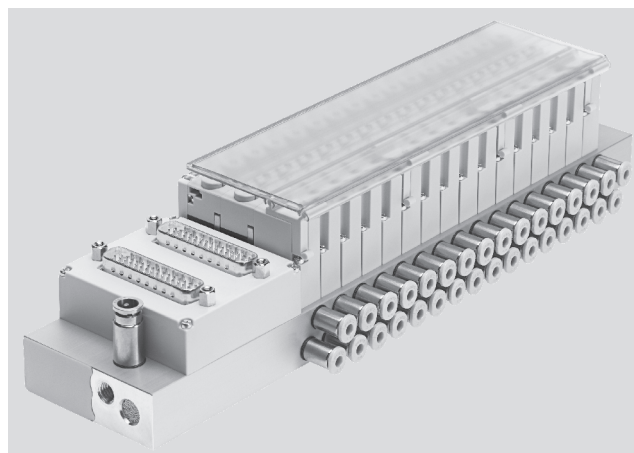
VP Valve position

Valve terminals type 84 VTOC

Technical data

FESTO

-  Voltage
24 V DC
-  Pressure
0 ... +8 bar
-  Temperature range
-5 ... +50 °C



General technical data				
Valve function		2x3/2-way valve, single solenoid, closed		
Design		Poppet valve with spring return		
Sealing principle		Soft		
Actuation type		Electrical		
Reset method		Mechanical spring		
Type of control		Direct		
Direction of flow		Non-reversible		
Exhaust function		No flow control		
Manual override		Non-detenting, detenting and non-detenting		
Type of mounting		Via through-hole or thread		
Width		[mm]	10	
Nominal size		[mm]	0.65	
Max. number of valve positions			24	
Standard nominal flow rate		qnN	[l/min]	10

Operating and environmental conditions		
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)
Operating pressure	[bar]	0 ... +8
Ambient temperature	[°C]	−5 ... +50
Temperature of medium	[°C]	−5 ... +50
Note on materials		RoHS-compliant

Product weight	
Approx. weight	[g]
Valve	30
Blanking plate for vacant position	20

Electrical data		
Electrical actuation	Multi-pin plug (Sub-D/flat cable)	
Nominal operating voltage	[V DC]	24
Permissible voltage fluctuations	[%]	±10
Protection class to EN 60529	IP40	
Duty cycle	[%]	100

Valve switching times	
	[ms]
On	4.7
Off	5.2

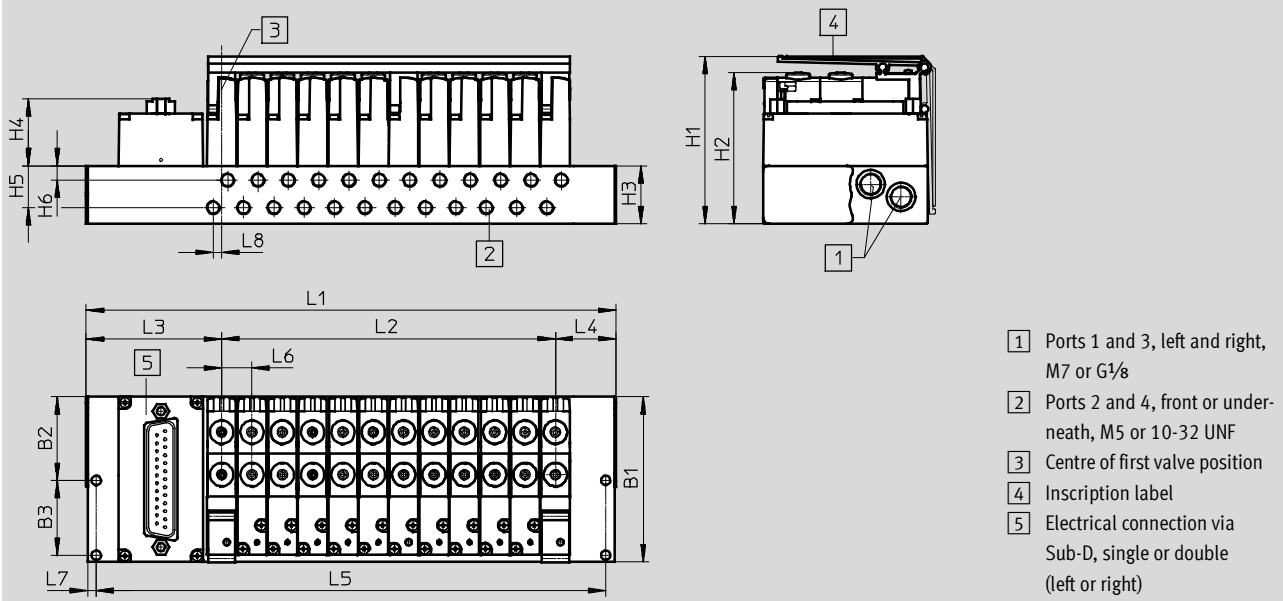
Valve terminals type 84 VTOC

Technical data

FESTO

Dimensions – Sub-D, single or double

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	Comment	Electrical connection on top, single			Electrical connection on top, double		
Pneumatic connection	–	M7	G $\frac{1}{8}$	G $\frac{1}{8}$	M7	G $\frac{1}{8}$	G $\frac{1}{8}$
Through-hole	–	Ø 3.3	Ø 3.3	M4	Ø 3.3	Ø 3.3	M4
L1	–	L2+L3+L4	L2+L3+L4	L2+L3+L4	L2+L3+L4	L2+L3+L4	L2+L3+L4
L2	–	(n-1)x10.5	(n-1)x10.5	(n-1)x10.5	(n-1)x10.5	(n-1)x10.5	(n-1)x10.5
L3	Distance from centre of first valve position to outer edge on left-hand side	41.4	46.4	36.9	66.4	71.4	66.4
	Sub-D connection, 44-pin, top right, 1-way: Distance from centre of first valve position to outer edge on left-hand side	14.4	20.4	20.4	–	–	–
L4	Distance from centre of last valve position to outer edge on right-hand side	14.4	20.4	20.4	–	–	–
	Sub-D connection, 44-pin, top right, 1-way: Distance from centre of last valve position to outer edge on right-hand side	41.4	46.4	36.9	–	–	–
L5	–	(L1-6)	(L1-6)	(L1-6)	(L1-6)	(L1-6)	(L1-6)

B1	B2 ± 0.1	B3 ± 0.1	H1	H2	H3	H4	H5	H6	L6	L7 ± 0.1	L8
57	28.9	25.9	57.9	52.3	20	23.1	14.5	5	10.5	3	2.9

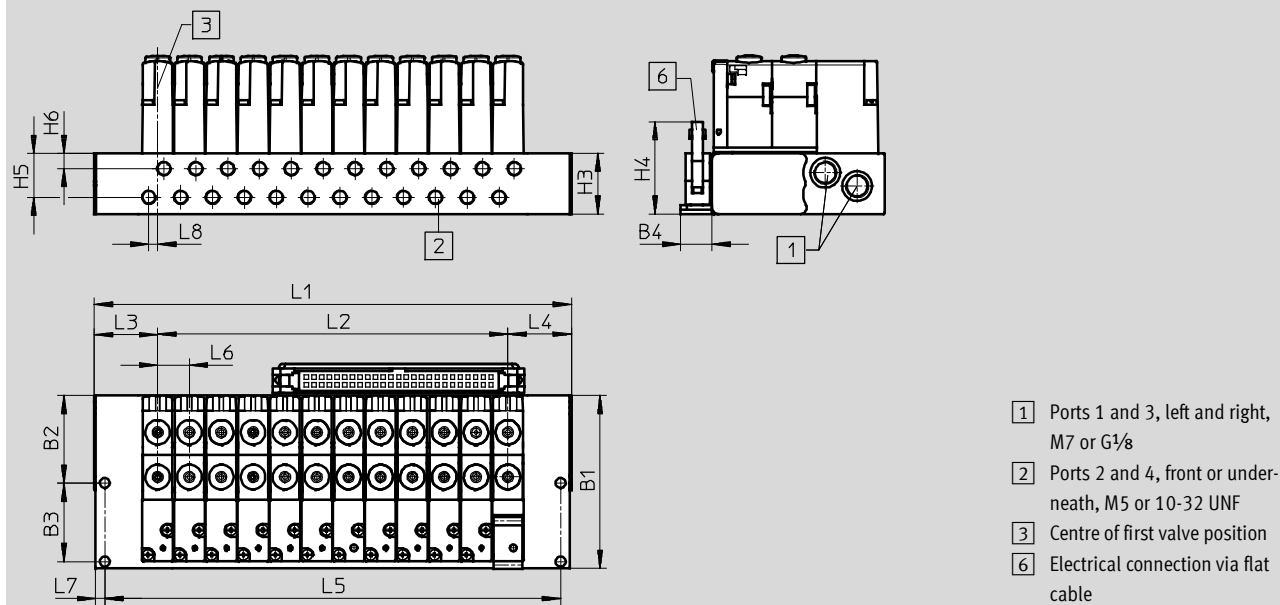
Valve terminals type 84 VTOC

Technical data

FESTO

Dimensions – Flat cable on top

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	Comment			
Pneumatic connection	–	M7	G1/8	G1/8
Through-hole	–	Ø 3.3	Ø 3.3	M4
L1	–	L2+L3+L4	L2+L3+L4	L2+L3+L4
L2	–	(n-1)x10.5	(n-1)x10.5	(n-1)x10.5
L3	Distance from centre of first valve position to outer edge on left-hand side	14.4	46.4	36.9
L4	Distance from centre of last valve position to outer edge on right-hand side	14.4	20.4	20.4
L5	–	(L1-6)	(L1-6)	(L1-6)

B1	B2 ± 0.1	B3 ± 0.1	B4	H3	H4	H5	H6	L6	L7 ± 0.1	L8
57	28.9	25.9	10.4	20	30.5	14.5	5	10.5	3	2.9

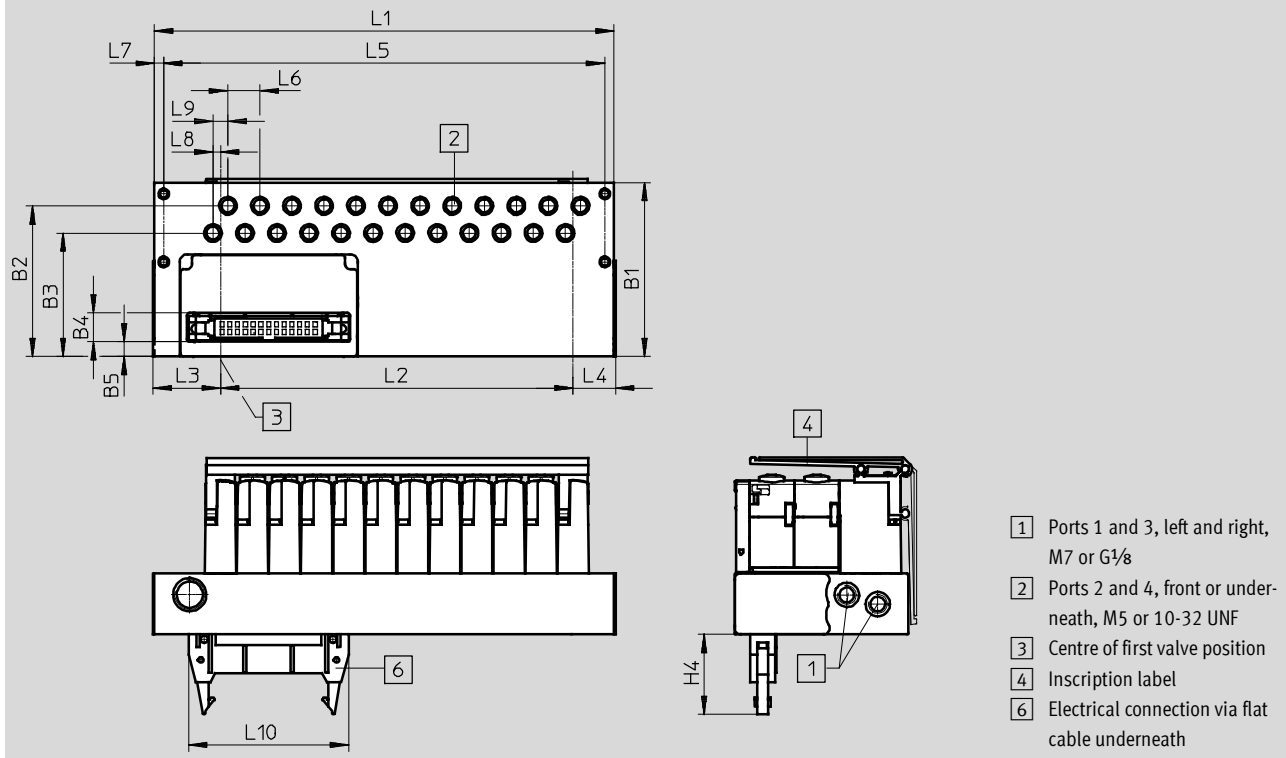
Valve terminals type 84 VTOC

Technical data

FESTO

Dimensions – Flat cable underneath

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	Comment					
Pneumatic connection	–	M7 left	M7 front	G $\frac{1}{8}$ front	G $\frac{1}{8}$ left	G $\frac{1}{8}$ left
Through-hole	–	Ø 3.3	Ø 3.3	Ø 3.3	Ø 3.3	M4
L1	–	L2+L3+L4	L2+L3+L4	L2+L3+L4		
L2	–	(n-1)x10.5	(n-1)x10.5	(n-1)x10.5		
L3	Distance from centre of first valve position to outer edge on left-hand side	14.4	25.55	21.6	20.4	20.4
L4	Distance from centre of last valve position to outer edge on right-hand side	14.4	28.55	20.4	20.4	20.4
L5	–	(L1-6)	(L1-6)	(L1-6)	(L1-6)	(L1-6)

B1	B2 ± 0.1	B3 ± 0.1	B4	H3	H4	H5	H6	L6	L7 ± 0.1	L8	L9	L10
57	28.9	25.9	10.4	20	30.5	14.5	5	10.5	3	2.5	4.9	52.5

Valve terminals type 84 VTOC

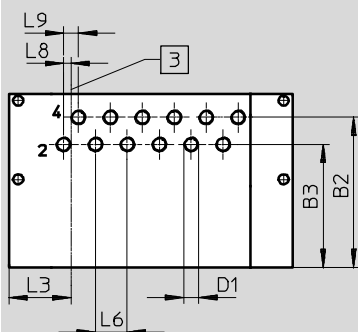
Technical data

FESTO

Dimensions – Pneumatic connections

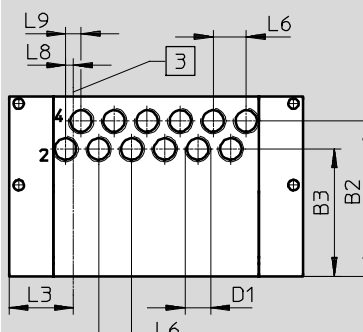
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Ports 2 and 4 underneath, M5 (10-32 UNF)



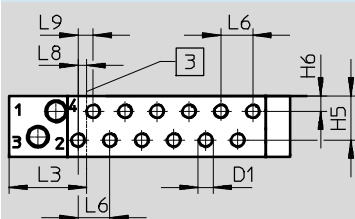
3 Centre of first valve position

Ports 2 and 4 underneath, compact



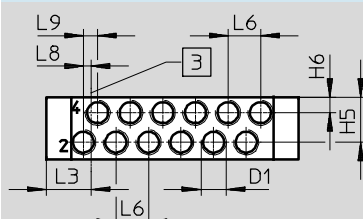
3 Centre of first valve position

Ports 2 and 4 at front, M5 (10-32 UNF)



3 Centre of first valve position

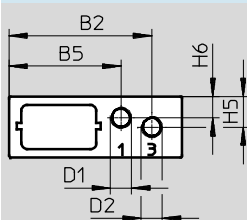
Ports 2 and 4 at front, compact



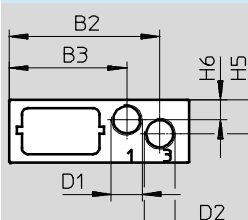
3 Centre of first valve position

Ports	B2	B3 ± 0.1	D1	H5	H6	L6	L8	L9
Underneath, M5 (10-32 UNF)	49.3	40.4	M5	–	–	10.5	2.5	4.9
Underneath, compact	49.3	40.4	M8x0.5	–	–	10.5	2.5	4.9
Front, M5 (10-32 UNF)	–	–	M5	14.5	5	10.5	2.9	5
Front, compact	–	–	M8x0.5	14.5	5	10.5	2.5	4.6

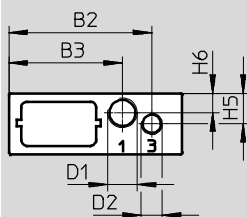
Ports 1 and 3, M7 left



Ports 1 and 3, G1/8 left



Ports 1 and 3, G1/8, left with mounting hole M4



Ports 1 and 3	B2	B3	D1	D2	H5	H6
M7 left	47	36.8	M7	M7	10	7
G1/8 left	47.8	37.3	G1/8	G1/8	10.8	6.4
G1/8 left with mounting hole M4	47	37.3	G1/8	M7	10	6.4

Valve terminals type 84 VTOC

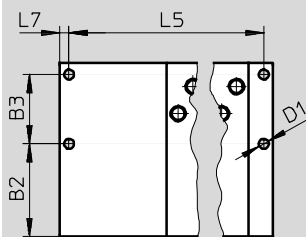
Technical data

FESTO

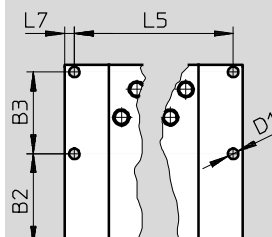
Dimensions – Mounting hole

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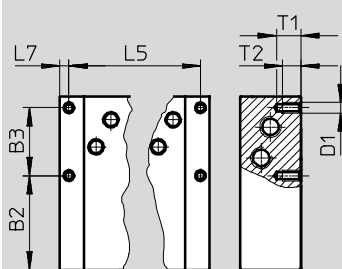
Ø 3.3 underneath, ports 1 and 3, M7



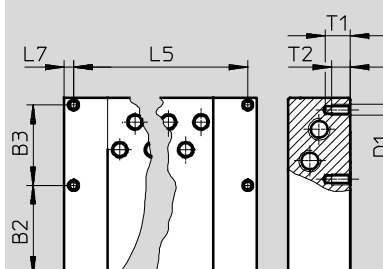
Ø 3.3 underneath, ports 1 and 3, G1/8



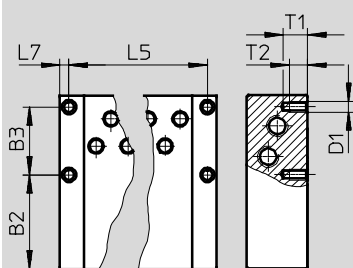
M3 underneath, ports 1 and 3, M7



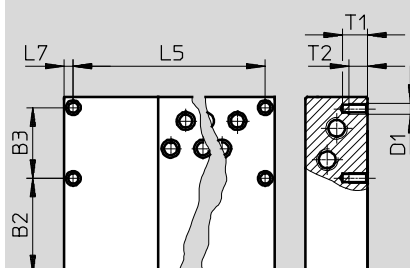
M3 underneath, ports 1 and 3, G1/8



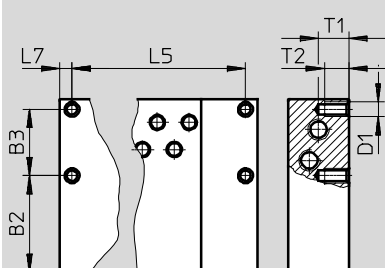
M4 underneath, ports 1 and 3, M7



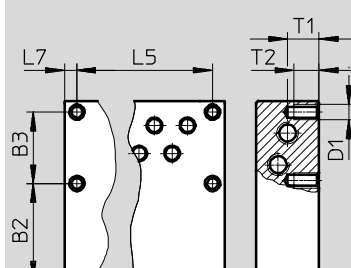
M4 or 8-32UNC underneath, ports 1 and 3, G1/8



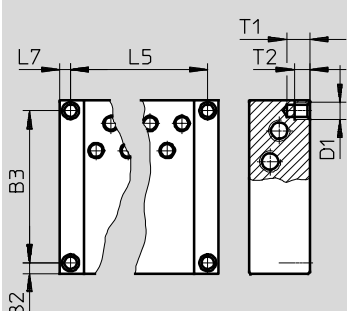
8-32UNC underneath, ports 1 and 3, M7



8-32UNC underneath, ports 1 and 3, G1/8



10-32UNF-2B underneath, ports 1 and 3, M7 or G1/8



Valve terminals type 84 VTOC

FESTO

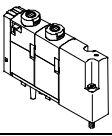
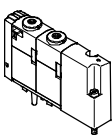
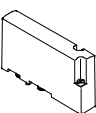
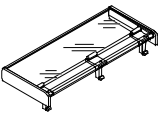
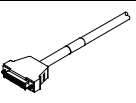
Technical data

	B2	B3	D1	L5	L7	T1	T2
3.3 underneath, ports 1 and 3, M7	30.5	22.8	3.3	L1-2xL7	3	–	–
3.3 underneath, ports 1 and 3, G1/8	28.9	25.9	3.3		3	–	–
M3 underneath, ports 1 and 3, M7	31	22.3	M3		3	8	6
underneath, ports 1 and 3, G1/8	28.9	25.9	M3		3	8	6
M4 underneath, ports 1 and 3, M7	31	22.3	M4		3	7.5	6
M4 or 8-32UNC underneath, ports 1 and 3, G1/8	30.8	22.8	M4/8-32UNC		3	7.5	6
8-32UNC underneath, ports 1 and 3, M7	31.8	21.8	8-32UNC		4	10	8
8-32UNC underneath, ports 1 and 3, G1/8	30.8	22.8	8-32UNC		4	10	8
10-32UNF-2B underneath, ports 1 and 3, M7 or G1/8	3.5	50	10-32UNF-28		3.5	7.5	5

Valve terminals type 84 VTOC

Accessories

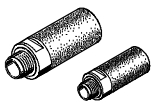
FESTO

Ordering data				
	Code	Valve function	Part No.	Type
Solenoid valves				
	K	2x3/2-way valve, single solenoid, normally closed, detenting, non-detenting/ detenting manual override	565450	VOVC-BT-T32C-MT-F-1T1
	K	2x3/2-way valve, single solenoid, normally closed, non-detenting manual override	565449	VOVC-BT-T32C-MH-F-1T1
Blanking plate				
	L	Blanking plate for vacant position	565451	VABB-L2-P3
Blanking plug				
	–	For sealing the air supply or exhaust port	3568	B-1/8
			174309	B-M7
Inscription label holder				
	–	Inscription label holder for identifying the valves	3 valve positions	565571 ASCF-H-L2-3V
			4 valve positions	565572 ASCF-H-L2-4V
			5 valve positions	565573 ASCF-H-L2-5V
			6 valve positions	565574 ASCF-H-L2-6V
			7 valve positions	565575 ASCF-H-L2-7V
			8 valve positions	565576 ASCF-H-L2-8V
			9 valve positions	565577 ASCF-H-L2-9V
			10 valve positions	565578 ASCF-H-L2-10V
			11 valve positions	565579 ASCF-H-L2-11V
			12 valve positions	565580 ASCF-H-L2-12V
			13 valve positions	565581 ASCF-H-L2-13V
			14 valve positions	565582 ASCF-H-L2-14V
			15 valve positions	565583 ASCF-H-L2-15V
			16 valve positions	565584 ASCF-H-L2-16V
			17 valve positions	565585 ASCF-H-L2-17V
			18 valve positions	565586 ASCF-H-L2-18V
			19 valve positions	565587 ASCF-H-L2-19V
			20 valve positions	565588 ASCF-H-L2-20V
			21 valve positions	565589 ASCF-H-L2-21V
			22 valve positions	565590 ASCF-H-L2-22V
			23 valve positions	565591 ASCF-H-L2-23V
			24 valve positions	565592 ASCF-H-L2-24V
Connecting cable				
	–	Sub-D, 25-pin, 15-wire cable	2.5 m	530049 KMP6-25P-12-2,5
			5 m	530050 KMP6-25P-12-5
			10 m	530051 KMP6-25P-12-10
		Sub-D, 25-pin, 25-wire cable	2.5 m	530046 KMP6-25P-20-2,5
			5 m	530047 KMP6-25P-20-5
			10 m	530048 KMP6-25P-20-10

Valve terminals type 84 VTOC

Accessories

FESTO

Ordering data						
	Code	Description	Tubing O.D.	Packaging unit	Part No.	Type
Push-in fittings					Technical data ➔ Internet: quick star	
	-	QS push-in fitting	1/4"	1 piece	183741	QS-1/8-1/4-I-U-M
			3/8"	1 piece	567773	QS-1/8-3/8-U
			8 mm	10 pieces	153015	QS-1/8-8-I
			6 mm	10 pieces	153321	QSM-M7-6-I
			1/4"	1 piece	183740	QSM-M7-1/4-I-U-M
			1/8"	10 pieces	183749	QSM-M5-1/8-I-U-M
			5/32"	10 pieces	130593	QSM-M5-5/32-I-U-M
			3 mm	10 pieces	153313	QSM-M5-3-I
			4 mm	10 pieces	153315	QSM-M5-4-I
	-	Push-in L-fitting	8 mm	20 pieces	130928	QSL-B-1/8-8-20
			3/16	1 piece	533234	QBL-1/8-3/16-U-M
			1/4	1 piece	533235	QBL-1/8-1/4-U-M
			3/8	1 piece	562578	QBL-1/8-3/8-U-M
			3 mm	10 pieces	130830	QSMLV-M5-3-I
			4 mm	10 pieces	130831	QSMLV-M5-4-I
	-	Push-in L-fitting, long	3 mm	10 pieces	130834	QSMLLV-M5-3-I
			4 mm	10 pieces	130835	QSMLLV-M5-4-I
	-	T-fitting	1/4	1 piece	533254	QST-H-1/8-1/4-U-M
			3/8	1 piece	562579	QST-H-1/8-3/8-U-M
			8 mm	20 pieces	130940	QST-B-1/8-8-20
Silencer					Technical data ➔ Internet: quick star	
	U	Silencer	-	1 piece	161418	UC-M7
				50 pieces	534218	UC-M7-50