

Valve terminals type 23 VTUB-12

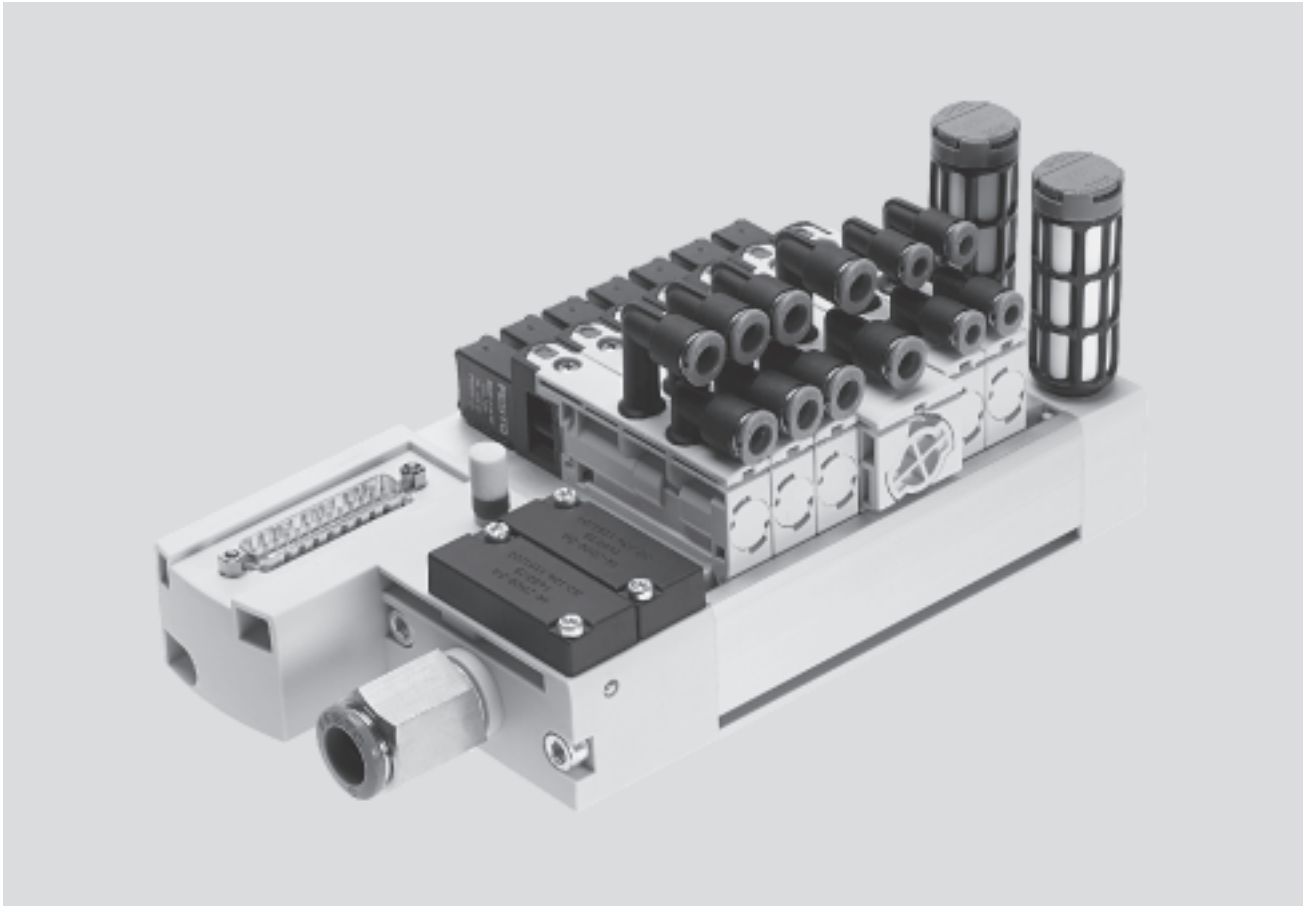
FESTO



Valve terminals type 23 VTUB-12

Key features

FESTO



Innovative

- Valve terminal for a wide range of pneumatic applications
- Weight-optimised metal manifold rail
- Minimal space requirement
- Great flexibility during planning, assembly and operation
- Pneumatic distributor integrated on the valve terminal
- Use in dusty environments

Versatile

- Room for expansion with 2 ... 35 valve positions on one valve terminal
- The flexibility of the pneumatic working ports provides a practical solution to different requirements
- Fast and easy replacement of fittings

Reliable

- Manual override
- Durable
- Sturdy thanks to the polymer housing and metal manifold rail

Easy to mount

- Tested and ready to install unit
- Reduced time and effort when ordering, installing and commissioning
- Quick and secure installation thanks to integrated QS fittings
- Easy valve assembly with just one screw

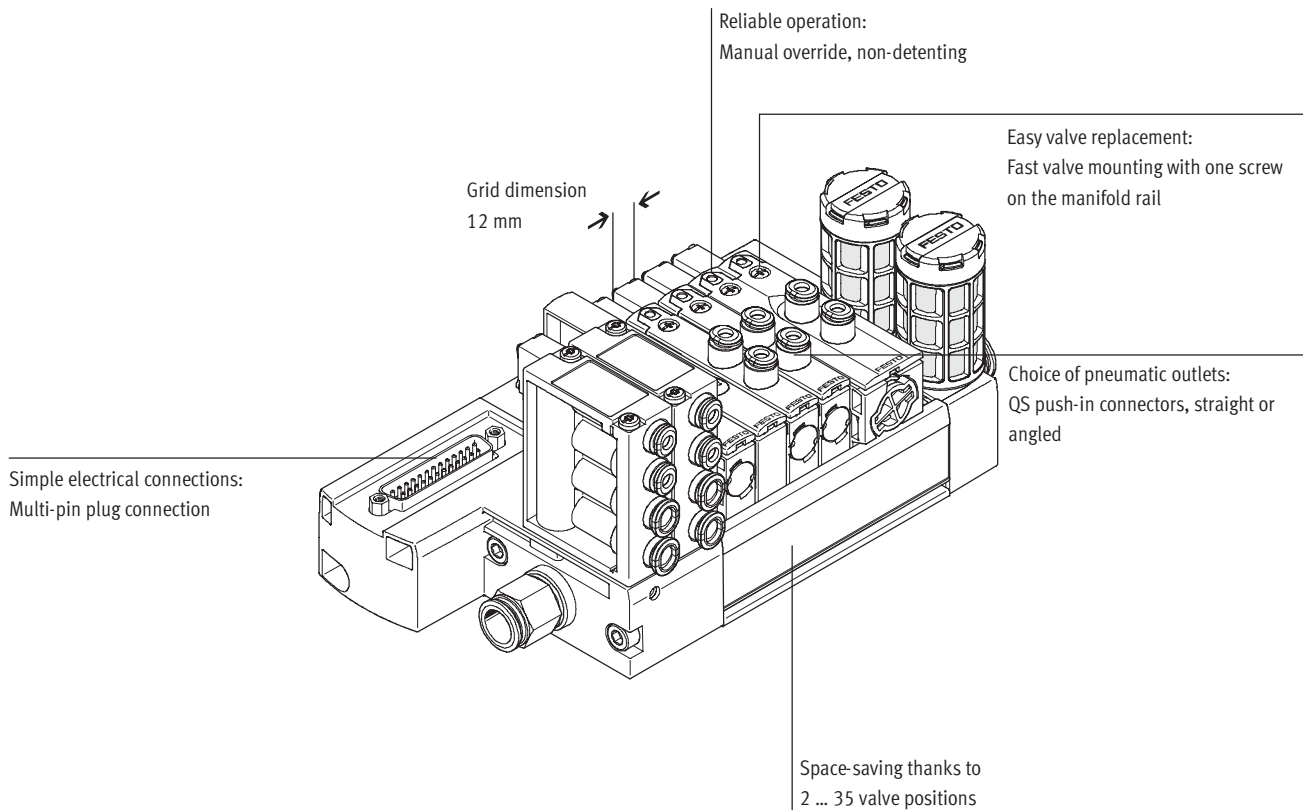
 Note

Ordering system for valve terminal type 23 VTUB

➔ Internet: vtub-12

Valve terminals type 23 VTUB-12

Key features



Equipment options

Valve functions

- 5/2-way valve, single solenoid
- 5/2-way valve, double solenoid
- 3/2-way valve can be formed from a 5/2-way valve using blanking plugs

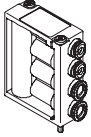
Electrical connection options

- Multiple connector plate
- 2 ... 35 valve positions/ max. 35 solenoid coils
- Sub-D

Valve terminals type 23 VTUB-12

Key features

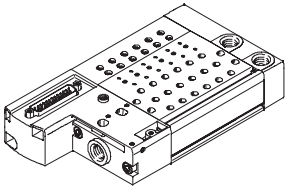
Pneumatic distributor



The pneumatic distributor supplies the operating pressure from port 1 to up to four other ports. Two pneumatic distributors of this type can be

connected to valve terminal type 23 VTUB-12. The pneumatic distributor has integrated QS4 or QS6 connections.

Manifold rail



The manifold rail features a groove into which the semi in-line valves are latched and secured with just one screw.

The valve functions 5/2-way single solenoid and 5/2-way double solenoid are available. The valve functions 3/2-way normally closed and 3/2-way normally open can be created

using blanking plugs. The valves can be supplied as semi in-line valves with cartridges QSP for tubing diameters 4 and 6.

Blanking plate

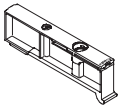


Plate without valve function for reserving valve positions on a valve terminal.

Valves and blanking plates are attached to the manifold rail using one screw.

Blanking plug



Blanking plug for sealing working ports (port 2 or 4) on the valve.

The valve function of a 3/2-way valve, normally open, can be created by sealing port 4 of a 5/2-way single solenoid valve.

The valve function of a 3/2-way valve, normally open, can be created by sealing port 2 of a 5/2-way single solenoid valve.

Valve terminals type 23 VTUB-12

Peripherals overview

Overview – Valve terminals type 23 VTUB-12

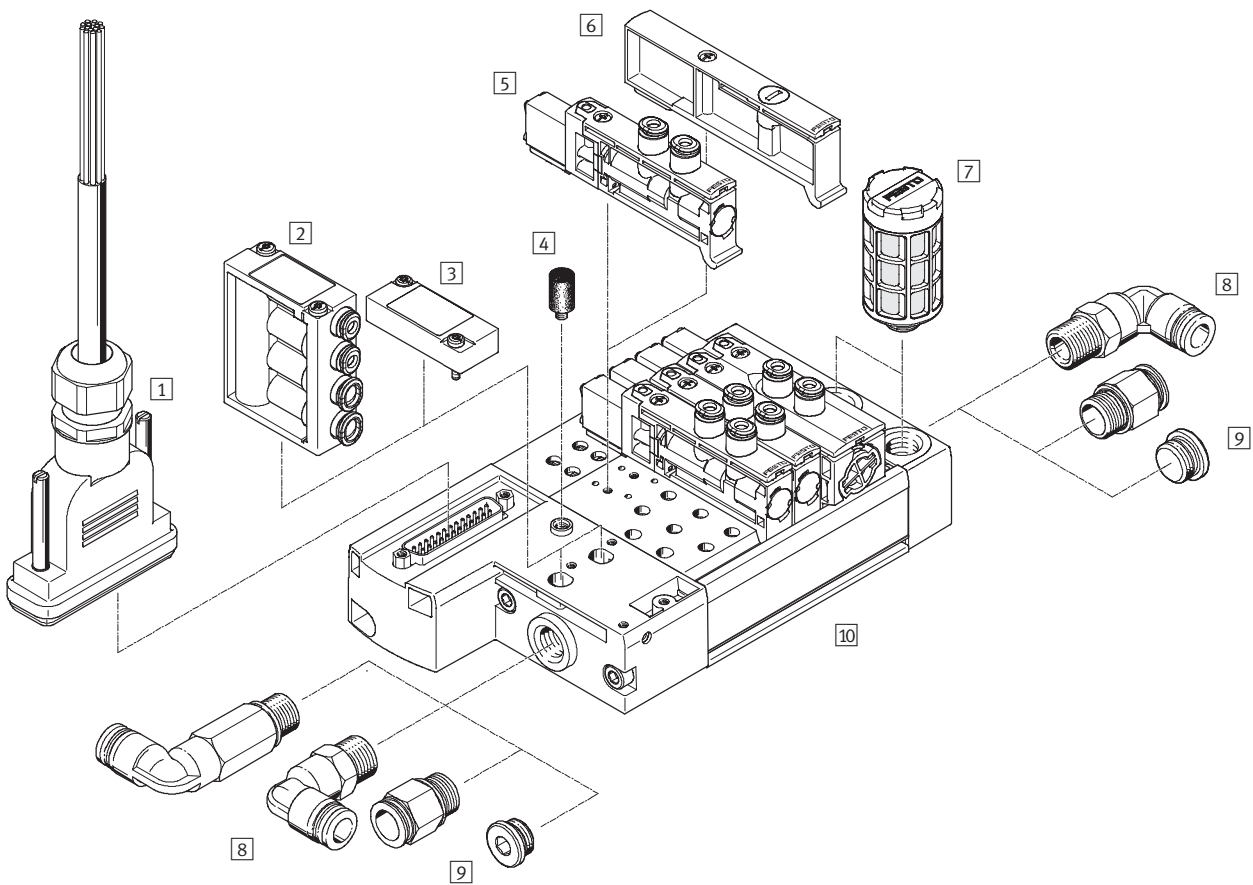
Valve terminal with electrical multi-pin plug connection

- Up to 20 valve positions/solenoid coils, 25-pin Sub-D multi-pin plug connection, code: M
- From 21 valve positions/solenoid coils, 44-pin Sub-D multi-pin plug connection, code: M

Valve terminals with electrical multi-pin plug connection are available in gradations from 2 to max. 35 valve positions.

Each valve position can either be equipped with a valve or a blanking plate. Double solenoid valves occupy two valve positions.

A maximum of 35 valve solenoid coils can be actuated via the electrical multi-pin plug connection.

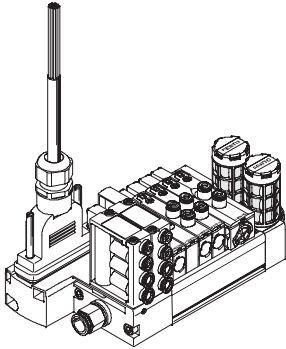


Accessories		Brief description	→ Page/Internet	
1	Connecting cable	NEBV	Connecting cable for multi-pin plug connection, with Sub-D plug, 25-pin	19
2	Pneumatic distributor	VABF	For connecting additional distributors to the air supply (port 1)	18
3	Blanking plate	VABB	Blanking plate for vacant position (pneumatic distributor)	18
4	Silencer	U	For venting hole	19
5	Single solenoid valve	VUVB-...-M	-	18
6	Blanking plate	VABB	Blanking plate for vacant position (solenoid valve)	18
7	Silencer	U	For fitting on exhaust ports	19
8	Fittings	QS	For connecting compressed air tubing with standard outside diameter	19
9	Blanking plug	B	For adapting valve functions	18
10	Manifold rail	VABM	With multi-pin plug connection, for connecting max. 35 valves	18

Valve terminals type 23 VTUB-12

Key features

Multi-pin plug connection



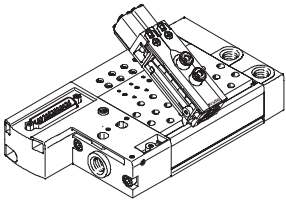
Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-core cable, which substantially reduces installation time.

This valve terminal can be fitted with 2 ... 35 valves.

Versions

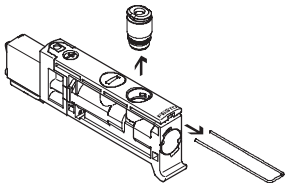
- Sub-D connection

Wide range of pneumatic components



- The use of the same basic valves for the 3/2-way and 5/2-way valve function permits fast and flexible conversion and multiple use of parts.
- Flexible construction thanks to assembled and tested units or individual components as modules for individual configurations.
- Flow rates from 230 ... 400 l/min depending on the valve used and appropriate QS connections.

Changing of fittings on port 2/4

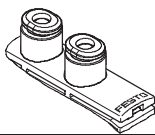
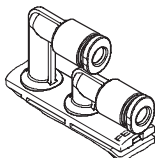


The cartridges (port 2/4) can be changed quickly and easily by removing the spring clip. The ports can be sealed by screwing in a blanking plug (→ 18).

3/2-way function

- The function of a 3/2-way valve, normally closed, can be created by sealing port 2 of the 5/2-way single solenoid valve.
- The function of a 3/2-way valve, normally open, can be created by sealing port 4 of the 5/2-way single solenoid valve.

Connection on the valve

	Code	Description
Code for valve connection position: T		
	P4	Push-in connector 4 mm Connection position on top, straight
	P6	Push-in connector 6 mm Connection position on top, straight
Code for valve connection position: TB, TA, TC		
	P4	Push-in connector 4 mm Connection position on top, angled outlet to the front/rear, front, rear
	P6	Push-in connector 6 mm Connection position on top, angled outlet to the front/rear, front, rear

Valve terminals type 23 VTUB-12

Key features – Pneumatic components

Constructional design

Valve replacement

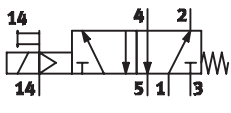
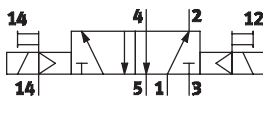
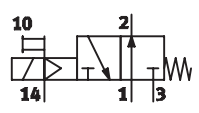
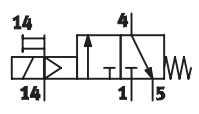
The valves are attached to the aluminium manifold rail using one screw, which means that they can be easily

replaced. Use of high-quality plastics guarantees minimum weight and maximum performance.

Extension

Blanking plates can be replaced by valves at a later date. The dimensions, mounting points and existing

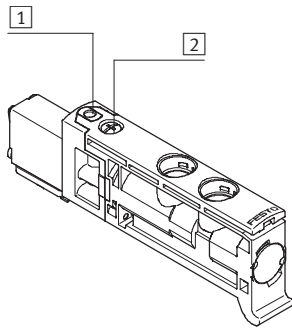
pneumatic installations remain unchanged during this process.

Valve function				
Code	Circuit symbol	Width		Description
		12 mm	24 mm	
M		■	–	5/2-way valve, single solenoid <ul style="list-style-type: none"> • Spring return • Non-reversible • Not suitable for vacuum
J		–	■	5/2-way valve, double solenoid <ul style="list-style-type: none"> • Mechanical spring return • Non-reversible • Not suitable for vacuum
N		■	–	3/2-way valve, single solenoid <ul style="list-style-type: none"> • Normally open • Mechanical spring return • Non-reversible • Not suitable for vacuum • Formed from a 5/2-way single solenoid valve by sealing port 4
K		■	–	3/2-way valve, single solenoid <ul style="list-style-type: none"> • Normally closed • Mechanical spring return • Non-reversible • Not suitable for vacuum • Formed from a 5/2-way single solenoid valve by sealing port 2

Valve terminals type 23 VTUB-12

Key features – Display and operation

Display and operation

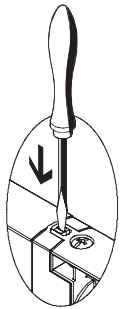


- 1 Manual override (non-detenting)
- 2 Screw for valve assembly

The manual override (MO) enables the valve to be activated without electronic control or power supply. The valve is activated by pushing the manual override. The set switching status cannot be locked.

Manual override (MO)

MO with automatic return (non-detenting)

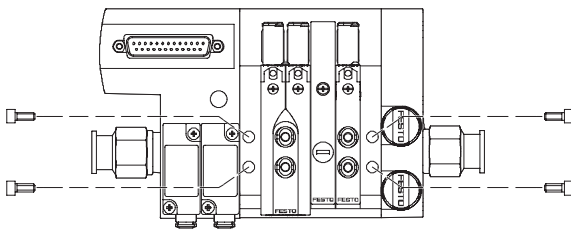


Press in the stem of the MO with a pin or screwdriver.
 → Valve is in switching position.
 Remove the pin or screwdriver.
 Spring force pushes the stem of the MO back.
 → Valve returns to normal position.

Note

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

Mounting – Valve terminal



Sturdy terminal mounting thanks to:

- Four through-holes for wall mounting (M5 screws)

Valve terminals type 23 VTUB-12

Key features – Electrical components

Electrical multi-pin plug connection

The following multi-pin plug connections are offered for the valve terminal VTUB-12:

- Sub-D multi-pin plug connection (25-pin)
- Sub-D multi-pin plug connection (44-pin)

Pins 1 ... 44 are used for addresses 0 ... 43 in order.

If fewer than 44 addresses are used for the valve terminal, the remaining pins are left free. Pins 22 ... 25 or 41 ... 44 are reserved for the neutral conductor or 24 V.

The valves are switched by means of positive or negative logic (positive switching or negative switching).

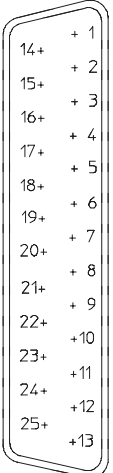
Mixed operation is not permitted.


Each pin on the multi-pin plug can actuate exactly one valve solenoid coil. If the maximum configurable number of valve positions is 35, this means that 35 valves can be addressed with one solenoid coil (single solenoid).

 Note

A double solenoid valve occupies two valve positions. With 17 or more valve positions, the number of available valve positions for double solenoid valves.

Pin allocation – Sub-D plug, 25-pin

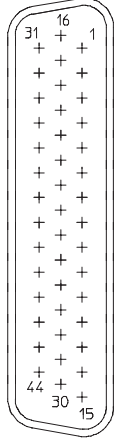
	Multi-pin plug connection on manifold rail		Connecting cable		
	Pin	Address/coil	Pin	25-wire Wire colour ¹⁾	15-wire Wire colour ¹⁾
	1	0	1	WH	WH
	2	1	2	BN	BN
	3	2	3	GN	GN
	4	3	4	YE	YE
	5	4	5	GY	GY
	6	5	6	PK	PK
	7	6	7	BU	BU
	8	7	8	RD	RD
	9	8	9	BK	BK
	10	9	10	VT	VT
	11	10	11	GY PK	GY PK
	12	11	12	RD BU	RD BU
	13	12	13	GN WH	–
	14	13	14	BN GN	–
	15	14	15	YE WH	–
	16	15	16	BN YE	–
	17	16	17	GY WH	–
	18	17	18	BN GY	–
	19	18	19	WH PK	–
	20	19	20	BN PK	–
	21	–	21	BU WH	–
	22	0 V/24 V	22	BN BU	–
	23	0 V/24 V	23	RD WH	GN WH
	24	0 V/24 V	24	BN RD	BN GN
	25	0 V/24 V	25	BK WH	YE WH


 Note
The drawing shows the view on the pins of the Sub-D plug.

1) To IEC 757

Valve terminals type 23 VTUB-12

Key features – Applications

Pin allocation – Sub-D plug, 44-pin				
	Pin	Address/coil	Pin	Address/coil
	1	0	23	22
	2	1	24	23
	3	2	25	24
	4	3	26	25
	5	4	27	26
	6	5	28	27
	7	6	29	28
	8	7	30	29
	9	8	31	30
	10	9	32	31
	11	10	33	32
	12	11	34	33
	13	12	35	34
	14	13	36	–
	15	14	37	–
	16	15	38	–
	17	16	39	–
	18	17	40	–
	19	18	41	0 V/24 V
	20	19	42	0 V/24 V
	21	20	43	0 V/24 V
	22	21	44	0 V/24 V

 **Note**
The drawing shows the view on the pins of the Sub-D plug.

System equipment

Operate system equipment with unlubricated compressed air if possible. Festo valves and cylinders are designed so that, if used as designated, they will not require additional lubrication and will still achieve 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 system 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 on synthetic or native ester, e.g. rapeseed oil methyl ester), the maximum residual oil content of 0.1 mg/m³ must not be exceeded (see ISO 8573-1 Class 2).

Mineral oils
When using mineral oils (e.g. HLP oils to DIN 51524, parts 1 through 3) or similar oils based on poly-alpha-olefins (PAO), the maximum residual oil content of 5 mg/m³ must not be exceeded (see ISO 8573-1 Class 4). A higher residual oil content irrespective of the compressor oil cannot be permitted, as the basic lubricant would be flushed out over time.

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Technical data

-  Voltage
24 V DC
-  Pressure
+2.8 ... +8 bar
-  Temperature range
-5 ... +60 °C



General technical data			
Valve function		Single solenoid	Double solenoid
Constructional design		Poppet valve	
Sealing principle		Soft	
Actuation type		Electric	
Reset method		Mechanical spring	
Control type		Piloted	
Pilot air supply		Internal	
Direction of flow		Non-reversible	
Exhaust function		No flow control	
Manual override		Non-detenting (pushing)	
Type of mounting		Via through-holes	
Grid dimension	[mm]	12	24
Nominal size	[mm]	3	
Max. number of valve positions		35	17
Max. number of pressure zones		1	
Standard nominal flow rate	qnN [l/min]	400	
Pneumatic connection		1; 3	G $\frac{3}{4}$
Pneumatic working line		2; 4	QS-4 or QS-6

Operating and environmental conditions			
Operating medium		Dried and filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm	
Operating pressure	[bar]	+2.8 ... +8	
Ambient temperature	[°C]	-5 ... +60	
Temperature of medium	[°C]	+5 ... +50	
Note on materials		Conforms to RoHS	

Product weight		
Approx. weights	[g]	
Valves		
• Single solenoid (code M), ducted solenoid exhaust		27.8
• Double solenoid (code J), ducted solenoid exhaust		57.4
• Single solenoid (code M), not ducted solenoid exhaust		27.5
• Double solenoid (code J), not ducted solenoid exhaust		57.1
Blanking plate for vacant position		13.8

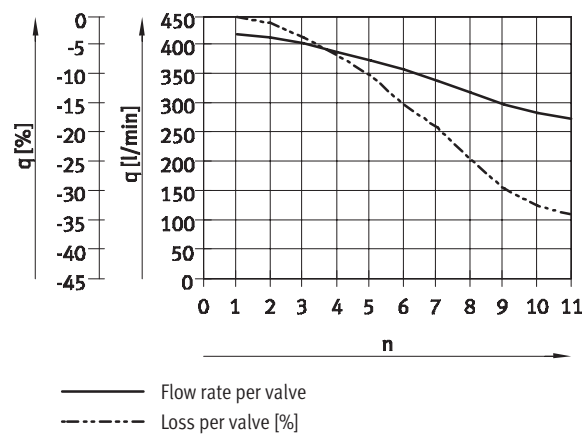
Valve terminals type 23 VTUB-12

Technical data

Electrical data		Single solenoid	Double solenoid
Valve function			
Electrical actuation		Multi-pin plug	
Nominal operating voltage	[V DC]	24	
Permissible voltage fluctuations		±10%	
Electrical power consumption	[W]	1	
Protection class to EN 60529		IP65	
Duty cycle	[%]	100	

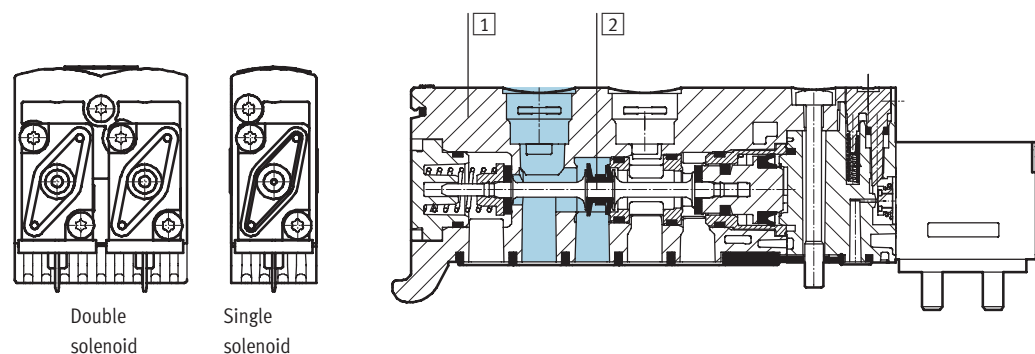
Valve switching times [ms]			
Valve function	3/2	5/2-way, single solenoid	5/2-way, double solenoid
On	6	6	–
Off	14	14	–
Changeover	–	–	10

Flow rate per valve with multiple (n) valves switched simultaneously



Materials

Sectional view – Valves



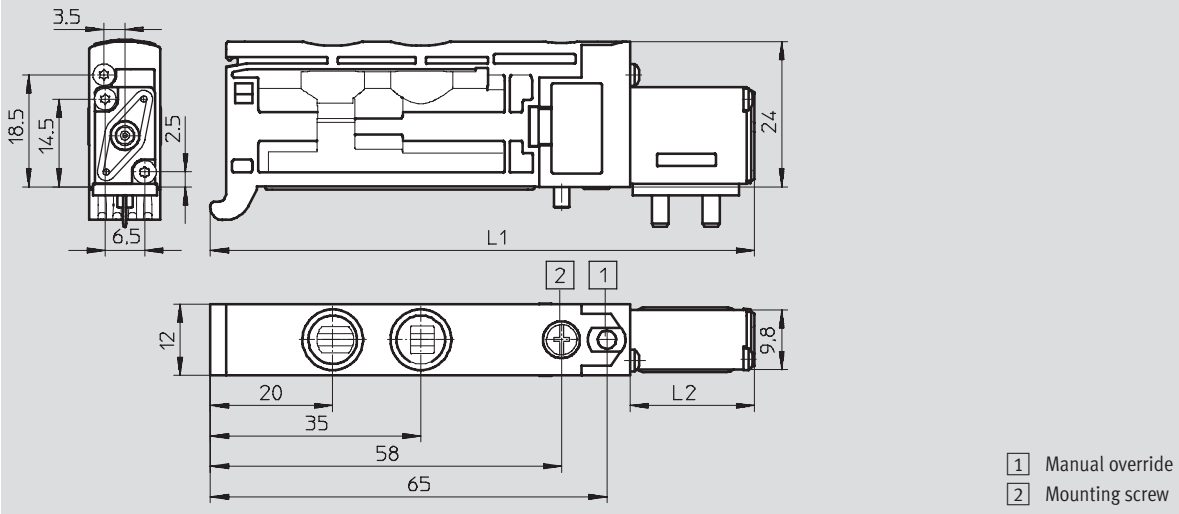
1	Housing	Reinforced polyamide
2	Piston spool	Wrought aluminium alloy
–	Seals	Nitrile rubber, thermoplastic polyurethane
–	Manifold rail with multi-pin plug	Wrought aluminium alloy
–	Power supply module	Reinforced polyamide
–	Blanking plate for vacant position	Reinforced polyamide

Valve terminals type 23 VTUB-12

Technical data

Dimensions – 5/2-way valve, single solenoid

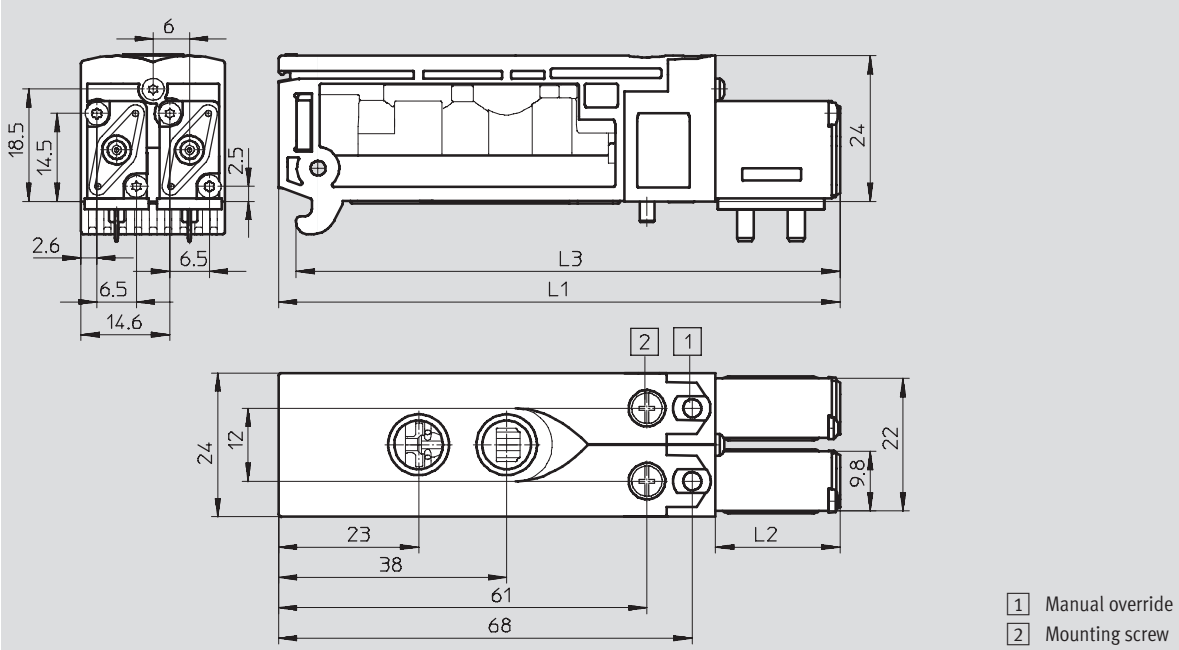
Download CAD data → www.festo.com



Type	L1	L2
VUVB-ST12-M52-MZH-QX-1T1	89.6	20.5
VUVB-ST12-M52-MZH-QX-D-1T1	89.6	20.8

Dimensions – 5/2-way valve, double solenoid

Download CAD data → www.festo.com



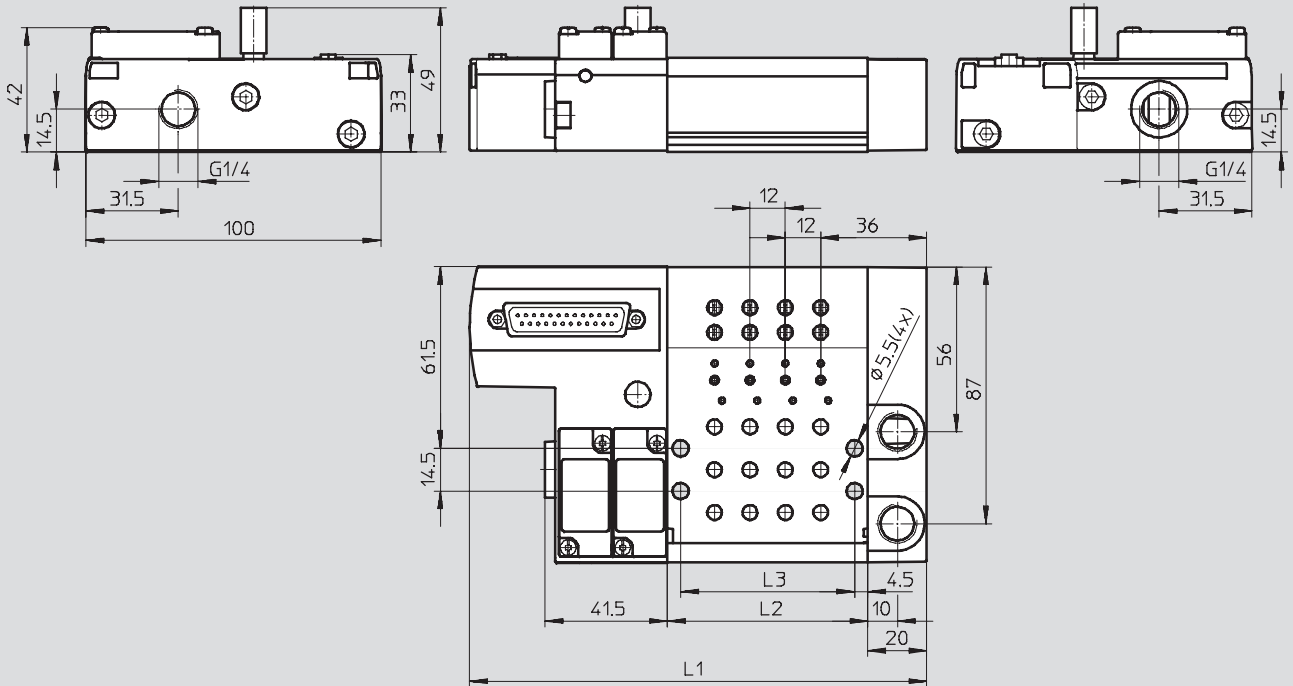
Type	L1	L2	L3
VUVB-ST12-B52-ZH-QX-1T1	92.4	20.5	89.5
VUVB-ST12-B52-ZH-QX-D-1T1	92.7	20.8	89.9

Valve terminals type 23 VTUB-12

Technical data

Dimensions – Manifold rail

Download CAD data → www.festo.com



- 1 5/2-way valve
- 2 Blanking plate for vacant position
- 3 Silencer/threaded port M5
- 4 SUB-D plug, 25-pin or 44-pin with 21 or more solenoid coils
- 5 Silencer/threaded port G1/4
- 6 Hole for wall mounting, Ø 5.5 mm
- 7 Fittings for air supply port

n	L1	L2	L3
Number of single solenoid valves	L2 + 87	L3 + 9	(n x 12) + 11

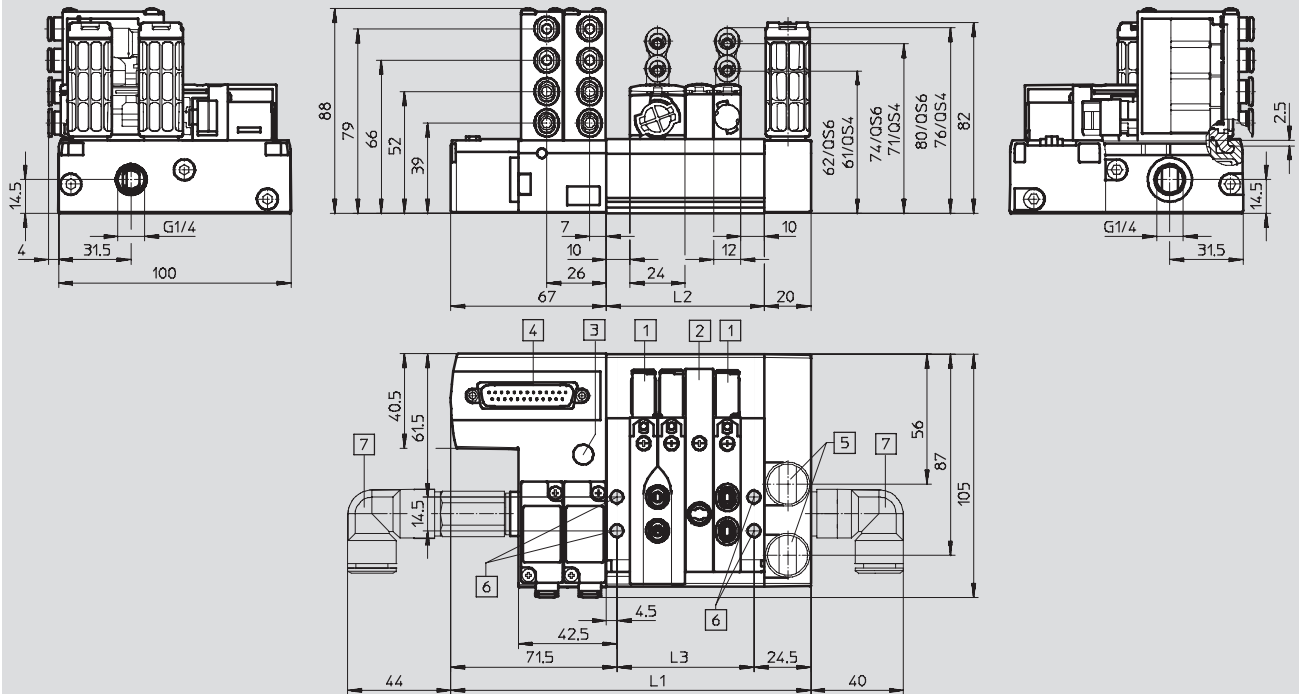
Valve terminals type 23 VTUB-12

Technical data

Dimensions – Valve terminal

Download CAD data → www.festo.com

With electrical multi-pin plug



- 1 5/2-way valve
- 2 Blanking plate for vacant position
- 3 Silencer/threaded port M5
- 4 SUB-D plug, 25-pin or 44-pin
- 5 Silencer/threaded port G $\frac{1}{4}$
- 6 Hole for wall mounting, \varnothing 5.5 mm
- 7 Fittings for air supply port

n	L1	L2	L3
Number of single solenoid valves	L2 + 87	L3 + 9	(n x 12) + 11

Valve terminals type 23 VTUB-12

Ordering data – Modular products

Ordering table		Condi- tions	Code	Enter code
M	Module No.	553 983		
	Product type	Valve terminal	VTUB	VTUB
	Size	Size 12	-12	-12
	Electrical connection	Multi-pin plug connection	-M	-M
	Multi-pin plug connection type	Sub-D plug	SD	SD
	Valve type	Semi in-line valve	-S	-S
	Nominal operating voltage	24 V DC	1	1
	Manual override	Non-detenting (pushing)	H	H
O	Pilot air supply	Internal	–	
M	Compressed air supply connection	Thread G1/4 (standard)	-G14	
		Push-in connector 8 mm	-Q8	
		Push-in connector 10 mm	-Q10	
		Push-in connector 12 mm	-Q12	
O	Compressed air supply connection position	Both ends	–	
		Left	L	
		Right	R	
	Compressed air supply connection type	Thread/straight screw connector	–	
		Elbow connector	A	
		Elbow connector left, long	AL	

1 SD Only in combination with electrical multi-pin plug M and must then be selected

4 AL Only in combination with compressed air supply connection position both ends or left

3 L, R, A, D Only in combination with compressed air supply connection Q8, Q10, Q12

Transfer order code

535 008 VTUB - 12 M - SD S 1 H - - - - -

Valve terminals type 23 VTUB-12

Ordering data – Modular products

Ordering table		Condi- tions	Code	Enter code
M	Module No.	553 983		
	Exhaust connection	Ducted (corresponds to the compressed air supply connection)	3	-D
		Silencer		-U
	Exhaust connection position	Right		R
	Valve connection	Push-in connector 4 mm		-P4
		Push-in connector 6 mm		-P6
	Valve connection position	Top	6	T
		Top, angled front/rear	6	TB
		Top, angled front	6	TA
		Top, angled rear	6	TC
O	Pilot exhaust	None/not ducted		-
		Ducted	5	D
	Pneumatic distributor connection, left	No pneumatic distributor		-
		Push-in connector 4 mm		AL
		Push-in connector 6 mm		BL
		Push-in connector 4 and 6 mm		CL
	Pneumatic distributor connection, right	No pneumatic distributor		-
		Push-in connector 4 mm		AR
		Push-in connector 6 mm		BR
		Push-in connector 4 and 6 mm		CR
M	Manifold block	Size 1		-A
	Valve position 0 ... 34		5	-
	Position function 0 ... 34	3/2-way valve, normally closed		K
		3/2-way valve, normally open		N
		5/2-way valve, single solenoid, mechanical spring		M
		5/2-way valve, double pilot, 2 valve positions	12	J
		Please note when entering: valve J occupies 2 valve positions		
		Blanking plate for vacant valve position		L
O	Alternative working line 0 ... 34	As selected		-
		Push-in connector 4 mm	11	P4
	Alternative working line position 0 ... 34	Push-in connector 6 mm	11	P6
		As selected		-
	Alternative working line position 0 ... 34	Top, straight outlet		TD
		Top, angled outlet to the front		TA
		Top, angled outlet to the front/rear		TB
		Top, angled outlet to the rear		TC
	Electrical accessories			
	Valve connection	Connecting cable multi-pin plug, 2.5 m	10	-M1
		Connecting cable multi-pin plug, 5 m	10	-M2
		Connecting cable multi-pin plug, 10 m	10	-M3

3 L, R, A, D Only in combination with compressed air supply connection Q8, Q10, Q12

5 Permissible number of valves: 2,3,4,5,...,35

6 T, TB, TA, TC, D Only in combination with semi in-line valve "S"

10 M1, M2, M3 Only in combination with electrical multi-pin plug connection M
Selection only up to equipping of 20 valve positions permissible

11 P4, P6 Not in combination with blanking plate for valve position L

12 J The occupied valve positions are indicated explicitly in the ident. code with a letter (selecting 'J' generates '_JJ_' in the ident. code)

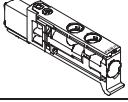
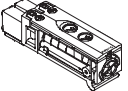
Transfer order code

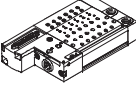
- **R** - - - **A** -

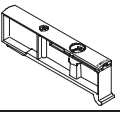
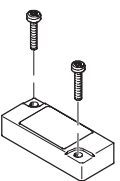
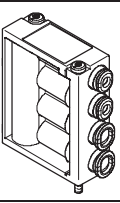


Valve terminals type 23 VTUB-12

Accessories

FESTO



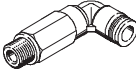





Ordering data – Solenoid valves					
	Code	Valve function	Solenoid exhaust air	Part No.	Type
	M	5/2-way valve, single solenoid	None/not ducted	557 649	VUVB-ST12-M52-MZH-QX-1T1
			Ducted	558 369	VUVB-ST12-M52-MZH-QX-D-1T1
	J	5/2-way valve, double solenoid	None/nor ducted	557 650	VUVB-ST12-B52-ZH-QX-1T1
			Ducted	558 370	VUVB-ST12-B52-ZH-QX-D-1T1

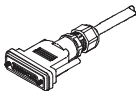
Ordering data – Manifold rail					
	Code	Description	Valve positions	Part No.	Type
	M	Multi-pin plug with Sub-D plug, 25-pin	2	557 651	VABM-C8-12E-G14-2-M1
			4	557 653	VABM-C8-12E-G14-4-M1
			6	557 655	VABM-C8-12E-G14-6-M1
			8	557 657	VABM-C8-12E-G14-8-M1
			10	557 659	VABM-C8-12E-G14-10-M1
			12	557 661	VABM-C8-12E-G14-12-M1
			14	557 663	VABM-C8-12E-G14-14-M1
			16	557 665	VABM-C8-12E-G14-16-M1
			18	557 667	VABM-C8-12E-G14-18-M1
			20	557 669	VABM-C8-12E-G14-20-M1
		Multi-pin plug with Sub-D plug, 44-pin	24	557 673	VABM-C8-12E-G14-24-M1
			28	557 677	VABM-C8-12E-G14-28-M1
			32	557 681	VABM-C8-12E-G14-32-M1
			35	557 684	VABM-C8-12E-G14-35-M1

Ordering data					
	Code	Description	Part No.	Type	
Blanking plate					
	L	Blanking plate for vacant valve position	562 461	VABB-C8-12-ET	
	–	Blanking plate for pneumatic distributor position	562 460	VABB-C8-12-A	
Distributors					
	AL	Push-in connector 4 mm	562 457	VABF-C8-12-V1P4-Q4	
	BL	Push-in connector 6 mm	562 458	VABF-C8-12-V1P4-Q6	
	CL	Push-in connector 4 and 6 mm	562 459	VABF-C8-12-V1P4-Q4-Q6	
Blanking plugs					
		Connection Ø 10 mm	562 243	QSPC10	
	–	For thread G $\frac{1}{4}$, 10 pieces	3 569	B- $\frac{1}{4}$	

Valve terminals type 23 VTUB-12

Accessories

Ordering data						
	Code	Description	Tubing O.D.	Packaging unit	Part No.	Type
Push-in fitting Technical data → Internet: quick star						
	-	With sealing ring	8 mm	10 pieces	186 099	QS-G$\frac{1}{4}$-8
	-	Connection G $\frac{1}{4}$	10 mm	10 pieces	186 101	QS-G$\frac{1}{4}$-10
	-		12 mm	10 pieces	186 350	QS-G$\frac{1}{4}$-12
Push-in L-fitting Technical data → Internet: quick star						
	-	With sealing ring	8 mm	10 pieces	186 120	QSL-G$\frac{1}{4}$-8
	-	Connection G $\frac{1}{4}$	10 mm	10 pieces	186 122	QSL-G$\frac{1}{4}$-10
	-		12 mm	10 pieces	186 351	QSL-G$\frac{1}{4}$-12
Push-in L-fitting (long) Technical data → Internet: quick star						
	-	With sealing ring	8 mm	10 pieces	186 131	QSL-L-G$\frac{1}{4}$-8
	-	Connection G $\frac{1}{4}$	10 mm	10 pieces	186 133	QSL-L-G$\frac{1}{4}$-10
	-		12 mm	10 pieces	132 596	QSL-L-G$\frac{1}{4}$-12
Cartridge fitting with push-in connector						
	-	Straight	4 mm	10 pieces	172 972	QSP10-4
	-	Connection \varnothing 10 mm	6 mm	10 pieces	172 973	QSP10-6
	-	L-shape	4 mm	10 pieces	132 601	QSPL10-4
	-	Connection \varnothing 10 mm	6 mm	10 pieces	132 602	QSPL10-6
	-	L-shape, long	4 mm	10 pieces	132 603	QSPLL10-4
	-	Connection \varnothing 10 mm	6 mm	10 pieces	132 604	QSPLL10-6
Silencer Technical data → Internet: u						
	-	For thread M5		1 piece	4 645	U-M5
	-	For thread G $\frac{1}{4}$		1 piece	2 316	U-$\frac{1}{4}$

Ordering data – Connecting cable for multi-pin plug						
	Code	Description	Voltage [V]	Cable length [m]	Part No.	Type
	M1	Sub-D, 25-pin, up to 12 coils, IP65	24 DC	2.5	538 222	NEBV-S1G25-K-2,5-N-LE15
	M2		24 DC	5	538 223	NEBV-S1G25-K-5-N-LE15
	M3		24 DC	10	538 224	NEBV-S1G25-K-10-N-LE15
	M1	Sub-D, 25-pin, up to 20 coils, IP65	24 DC	2.5	538 225	NEBV-S1G25-K-2,5-N-LE25
	M2		24 DC	5	538 226	NEBV-S1G25-K-5-N-LE25
	M3		24 DC	10	538 227	NEBV-S1G25-K-10-N-LE25