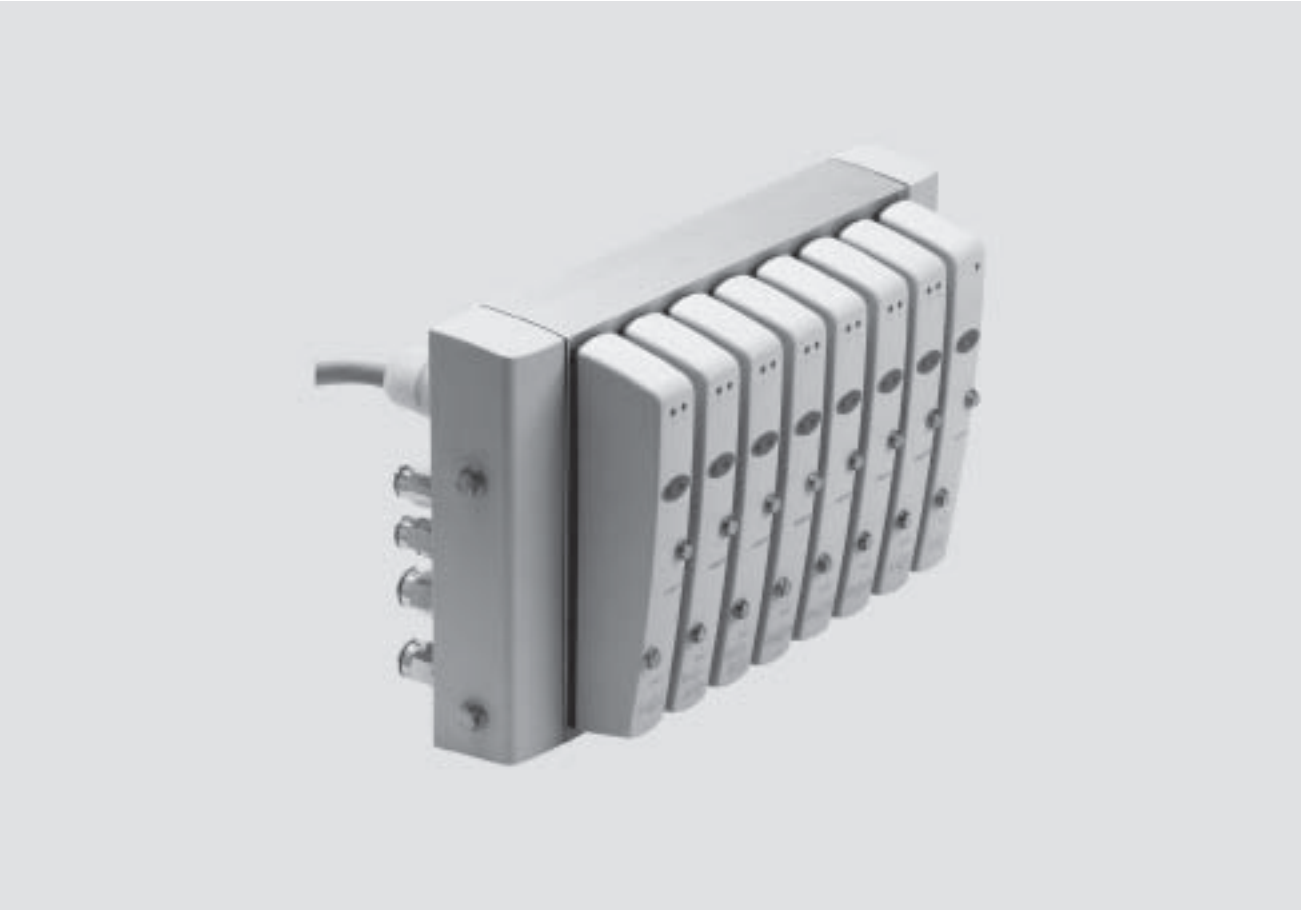
Valve terminal type 15 CDVI, Clean Design

FESTO

- Clean Design modular valve terminal
- Hygienic
- Resistant to corrosion
- Easy to clean
- Certification to HACCP

Valve terminal type 15 CDVI, Clean Design

Key features



The Clean Design valve terminal CDVI

The CDVI combines proven valve technology with a highly resistant polymer material and can be fitted with 5/2-way, 5/2-way double solenoid, 5/3-way, 2 x 3/2-way valves. The modular construction of the 1-valve, 4-valve and 8-valve basic block together with the 2-valve expansion modules and the multi-pin connection ensure that the needs of the food industry are met.

Modularity

- 1, 4 ... 12 valve positions
- 2, 8 ... 24 solenoid coils
- 3 pressure zones
- Multi-pin connection with flexible cable
- Individual sub-base

Developed with practical considerations in mind

- Hygienic
- Resistant to corrosion
- Easy to clean

Multi-functional, variable, modular:

- Flow rate: 300 ... 650 ml/min
- Valve width: 18 mm

Valve terminal configurator

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

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

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

Valve terminal type 15 CDVI, Clean Design

Key features

CDVI – The requirements

The food industry has stricter hygiene requirements than any other sector: There can therefore be no compromise when it comes to easy cleaning and corrosion resistance.

The result: The CDVI.
Developed in close consultation with leading names from the food and packaging industry, the CDVI represents a totally new valve terminal solution for the splash area. The Clean Design valve terminal CDVI has a revolutionary corrosion resistant and easy to clean design that makes it stand out from its competitors.

CDVI – The solution

The new Clean Design valve terminal CDVI – Simply a clean solution

Apart from reduced cleaning times, the CDVI also takes less time to install and assemble. Stainless steel control cabinets have become a thing of the past and the electrical connection is now set up using the pre-fitted, ready to connect cable. The valve terminal is, of course, supplied ex works fully assembled and tested to IP65 and IP67.
This results in minimal installation time. The various equipment options for the valve terminal are included in the tables in the ordering system section on page ➔ 4 / 3.4-19. The valve terminals include common supply ports and exhausts for all valves. The common lines are connected to the end plates.
The CDVI is available with four or eight valve positions in the basic design and can be expanded by up to four valve positions using groups of two valves.
Expansion modules must be used in this case.

Individual sub-base

An individual sub-base for Clean Design valves (Clean Design Single Valve – CDSV) rounds off the lower end of the product range so that even upstream machines and system components can be incorporated into the Clean Design concept.

Clean in theory and practice – The CDVI

The requirements for the hygienic design of machine components to DIN EN 1672-2 and DIN ISO 14 159 have been implemented in the CDVI. They are easy to clean thanks to:

- no sharp edges
- no small radii
- no crevices where dirt can gather
- space between the valves for easy cleaning
- corrosion resistant materials

The CDVI can be cleaned using special cleaning agents from the following manufacturers:

- Henkel
- Ecolab
- Johnson Diversy
- Kärcher

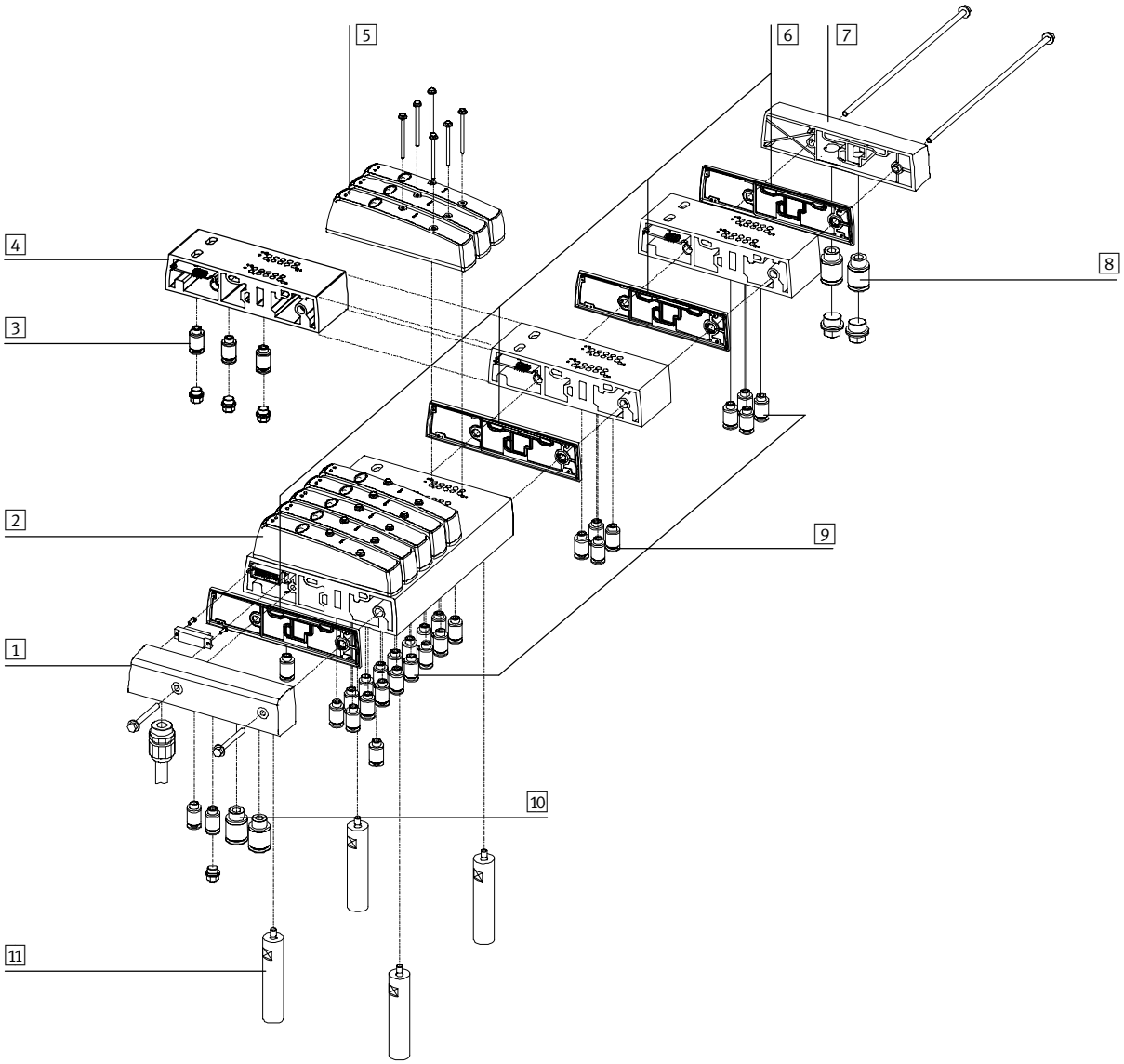
Certified cleanliness

The CDVI has certification to HACCP.

Valve terminal type 15 CDVI, Clean Design

Peripherals overview

Overview – Clean Design valve terminal



1 Left-hand end plate
2 4/8-fold basic block
3 Push-in fittings, supply module
4 Expansion module
5 Valves
6 Seal/separator plate
7 Right-hand end plate
8 Push-in fittings, right-hand end plate
9 Push-in fittings, working lines
10 Push-in fittings, left-hand end plate
11 Spacer bolt

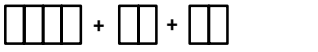
Valve terminal type 15 CDVI, Clean Design

Peripherals overview

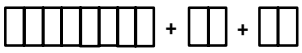
Modularity

Consistent modularity in the grid:
- The CDVI valve terminal with 4 ... 12 valve positions/ 8 ... 24 solenoid coils.

Clean and modular:
- Valve technology



4 + 2 + 2 valve positions



8 + 2 + 2 valve positions

Auxiliary pilot air

The valves used are piloted solenoid valves.

The supply for pilot air duct 12/14 comes from the main supply duct 1 (internal auxiliary pilot air) or via a separate auxiliary pilot air supply in the left-hand end plate (external auxiliary pilot air).

A separate auxiliary pilot air supply is required in any event if supply pressure is less than 3 bar or greater than 6 bar.
In this case it is advisable to restrict auxiliary pilot air to max. 6 bar with a suitable regulator.

The auxiliary pilot air is selected by including a corresponding code letter in the order code (end plate/pressure supply code U, V, Y, Z).
➔ 4 / 3.4-19.

Pressure zones

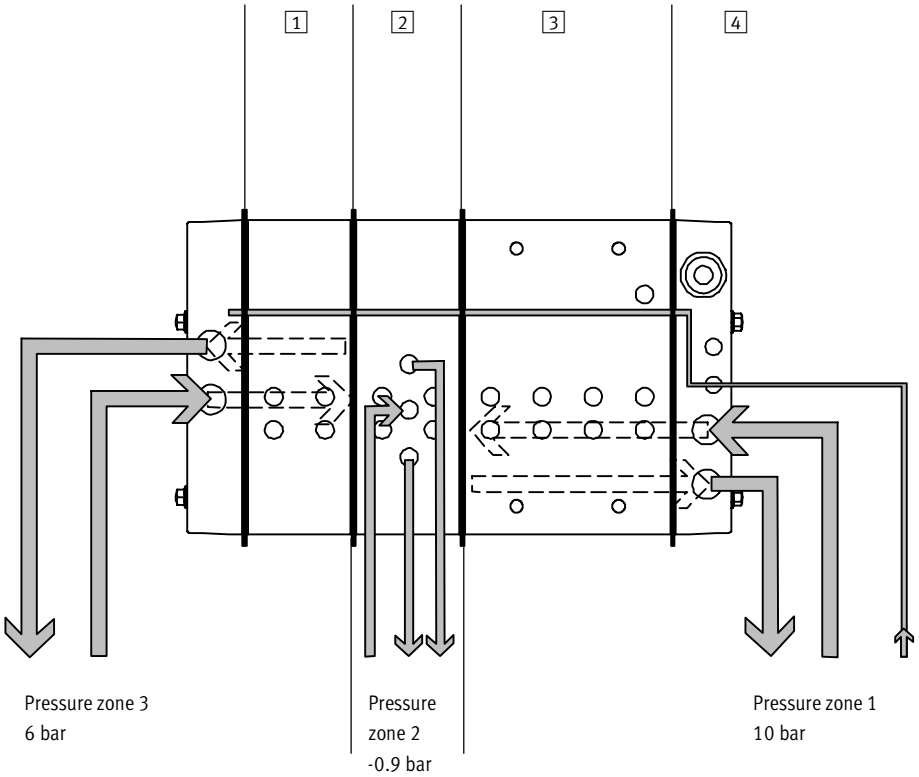
Different supply pressures can be created on a valve terminal by installing a separator plate between the basic block and the expansion module or between both expansion modules.

A maximum of two different pressure zones can be created on valve terminals with one expansion module. The pressure is supplied through the end plates. Compressed air supply at both sides is needed in this case.

A maximum of three different pressure zones can be created on valve terminals with two expansion modules.

The creation of three pressure zones requires pressure supply in both end plates as well as the first expansion module.

Example: Valve terminal with three pressure zones



1 Expansion module 2 with separator plate and 2 valve positions
2 Expansion module 1 with supply module and 2 valve positions
3 Basic block with 4 valve positions
4 End plate/pressure supply: Supply at both sides, external auxiliary pilot air supply

Separator plates		
Code	Pictorial examples	Notes
B		No duct separated
D		Duct 1 closed, 3/5 open
F		Duct 3 and 5 closed
H		Duct 1, 3 and 5 closed

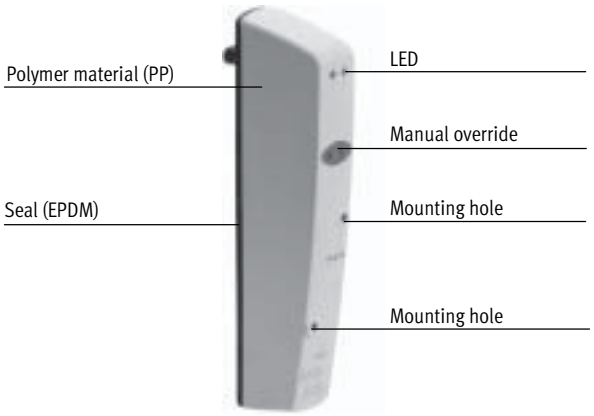
- Note

Normally only duct 1 is separated. Ducts 3 and 5 or 1, 3 and 5 can also be separated for special applications.

Valve terminal type 15 CDVI, Clean Design

Key features – Pneumatic components

The features



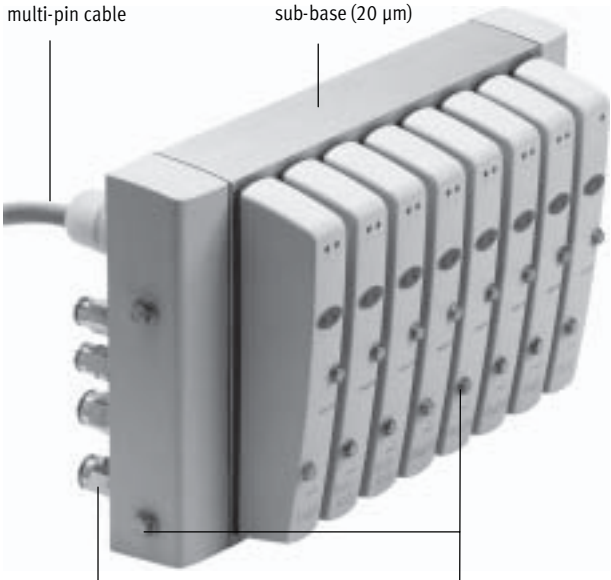
The CDVI supports the following combinations:

- 5/2-way valve, single solenoid
- 5/2-way valve, double solenoid
- 5/3-way valve, mid-position pressurised
- 5/3-way valve, mid-position exhausted
- 5/3-way valve, mid-position closed
- 2x 3/2-way valve, single solenoid, normally closed
- 2x 3/2-way valve, single solenoid, normally open
- 2x 3/2-way valve, single solenoid, 1x normally open, 1x normally closed

The ideal range for the food industry

Chemical resistant multi-pin cable

Anodised aluminium sub-base (20 µm)



Push-in fittings QS-F (nickel and chrome-plated brass)

Stainless steel screws

Choose from

- a wide range from actuators to accessories in corrosion resistant designs that are easy to clean,
- a variety of valves as well as,
- stainless steel fittings and flow control valves and
- tubing approved for use in the food industry.

All have been tested using cleaning agents from leading manufacturers.

Accessories

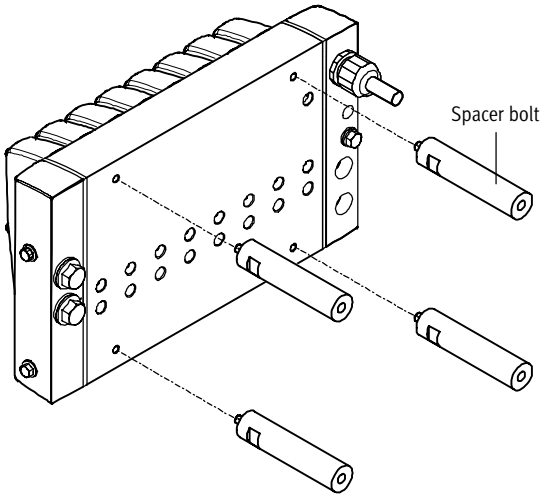
Tubing PLN

Push-in fitting QS-F/QSL-F-...

You should only use accessories that have been approved by Festo. This is the only way of ensuring optimum performance from the CDVI in the following areas:

- Resilience
- Corrosion resistance
- Easy cleaning

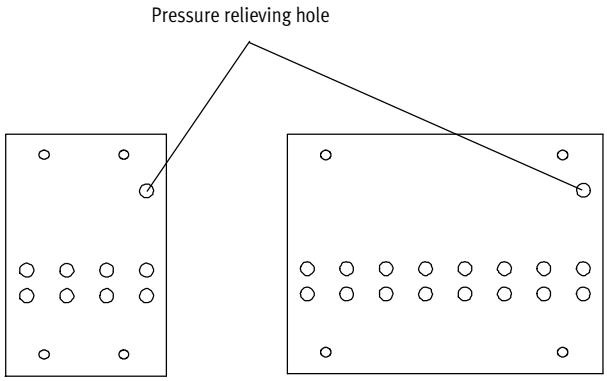
Mounting



The CDVI can be mounted directly on earthed mounting surfaces using the four threaded holes in the basic block and the spacer bolts ordered with the order code (accessories order code Y).

The CDVI can be mounted in any position. However, the selected mounting position should allow for the cleaning off of dirt and the draining off of cleaning agent.

Pressure compensation



The collected exhaust air from the pilot solenoid coils of the valves is drawn off via the pressure relieving hole on the rear side. If you have included fittings with your order, the pressure relieving hole is also equipped with a QS fitting.

Individual sub-base

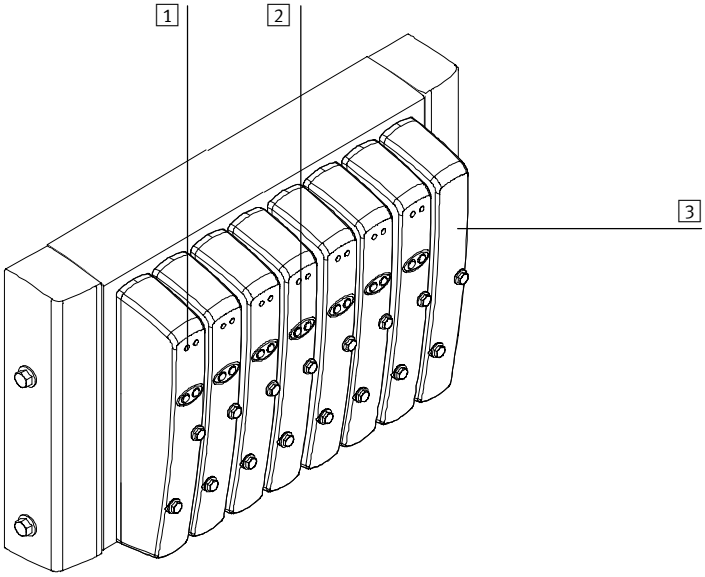
All CDVI valves can be assembled on an individual sub-base CDSV.
The CDSV has a connection for external auxiliary pilot air, is pre-assembled with valve and 10 m of PVC cable and is fully inspected before shipment. Pre-assembled push-in fittings will be included upon request.

A Clean Design mounting set comprising two screws and blanking plugs (blanking plugs already fitted in the photo) permits mounting from the front or from the rear.

Valve terminal type 15 CDVI, Clean Design

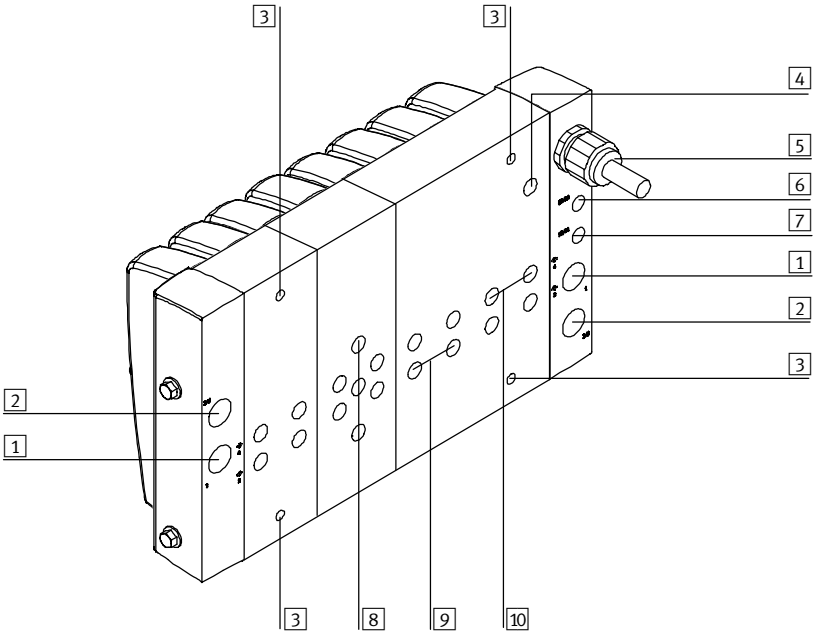
Key features – Pneumatic components

Display and control elements – CDVI



1 Yellow LEDs (one per valve solenoid)
2 Manual override (one per solenoid valve coil)
3 Vacant valve position with blanking plate

Connection elements – CDVI

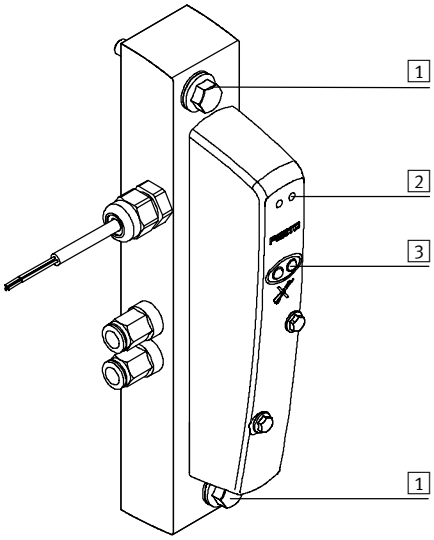


1 Supply port (1)
2 Exhaust port (3/5)
3 4 threaded holes for spacer bolts
4 Pressure relieving port
5 Electrical multi-pin connection
6 Pilot exhaust port (82/84)
7 Auxiliary pilot air connection (12/14)
8 Supply port for third pressure zone
9 Working line (2) per valve
10 Working line (4) per valve

Valve terminal type 15 CDVI, Clean Design

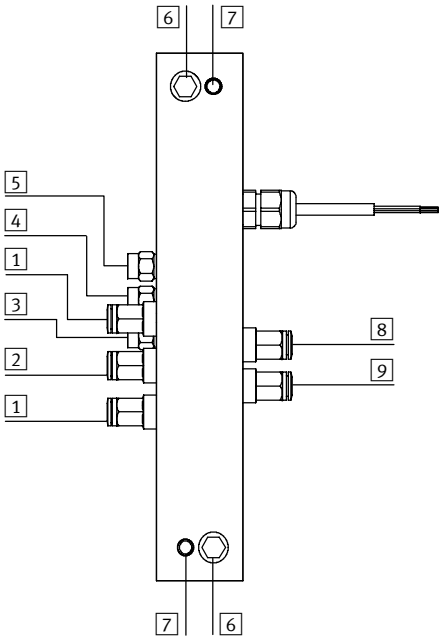
Key features – Pneumatic components

Assembly, display and operating elements – CDSV



1 Hole for front mounting (CDSV) using M6 screws; the hole can be covered with blanking plug G1⁄8 if front mounting is not required.
2 Yellow LEDs (one per valve solenoid)
3 Manual override (one per solenoid valve coil)

Assembly and connection elements – CDSV



1 Exhaust port (3/5)
2 Supply port (1)
3 Pilot exhaust port (82/84)
4 Auxiliary pilot air connection (12/14)
5 Pressure relieving port
6 Threaded hole M6 for mounting from the rear
7 Hole for front mounting using M6 screws;
this hole can be covered with blanking plug G1⁄8.
8 Working line (4) per valve
9 Working line (2) per valve

Valve terminal type 15 CDVI, Clean Design

Key features – Electrical components

Terminal allocation – Multi-pin cable for valve terminal CDVI[1)]				
Valve	Coil	Address	Pin	Core colour
1	14	0	A01	white
	12	1	A02	green
2	14	2	B01	yellow
	12	3	B02	grey
3	14	4	C01	pink
	12	5	C02	blue
4	14	6	A03	red
	12	7	A04	magenta
5	14	8	B03	grey-pink
	12	9	B04	red-blue
6	14	10	C03	white-green
	12	11	C04	brown-green
7	14	12	A05	white-yellow
	12	13	A06	yellow-brown
8	14	14	B05	white-grey
	12	15	B06	grey-brown
9	14	16	C05	white-pink
	12	17	C06	pink-brown
10	14	18	A07	white-blue
	12	19	A08	brown-blue
11	14	20	B07	white-red
	12	21	B08	brown-red
12	14	22	C07	white-black
	12	23	C08	brown-black
com			B10	brown
			C10	black

1) max. 24 solenoid coils

Terminal allocation – Cable for individual sub-base CDSV	
Core colour	Allocation
brown	Coil 14
black	Coil 12 (not at 5/2-way valve, single solenoid)
blue	com[1)]

1) 0 V for positive switching valves; connect 24 V for negative switching control signals

Valve terminal type 15 CDVI, Clean Design

Technical data

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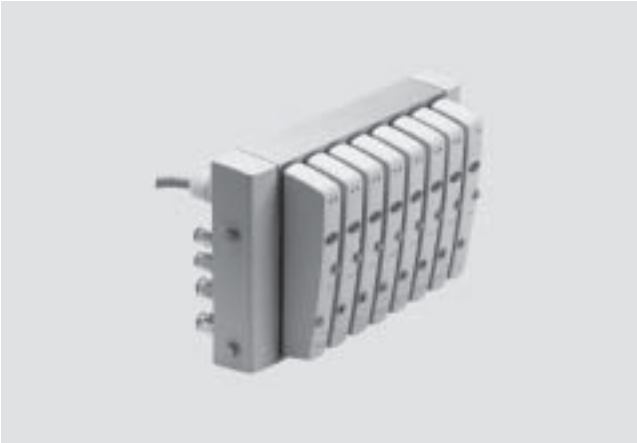
- Flow rate
  300 ... 650 l/min

- Valve width
  18 mm



General technical data									
Valve function		5/2-way valve		2x 3/2-way valve Normal position			5/3-way valve Mid-position		
		single solenoid	double solenoid	open	closed	1x open 1x closed	pressurised	exhausted	closed
Valve function order code		M	J	N	K	H	B	E	G
Constructional design		Piston spool valve							
Width	[mm]	18							
Nominal size	[mm]	5							
Lubrication		Lubrication for life, PWIS-free (free of paint wetting impairment substances)							
Type of mounting ■ Valves and end plate ■ Valve terminal		 Via 2 screws (DIN 6921) Via spacer bolt							
Mounting position		Any							
Manual override		Pushing							
Pneumatic connections									
Supply port	1	G3⁄8 (G1⁄8 on expansion module CDVI5.0-EBX and CDSV)							
Exhaust port	3/5	G3⁄8 (G1⁄8 on expansion module CDVI5.0-EBX and CDSV)							
Working lines	2/4	G1⁄8							
Pilot air port	12/14	G1⁄8 (M5 on CDSV)							
Pilot exhaust air port	82/84	G1⁄8 (M5 on CDSV)							
Pressure compensation port		G1⁄8 (M5 on CDSV)							

Operating pressure [bar]									
Valve function order code		M	J	N	K	H	B	E	G
With internal auxiliary pilot air		3 ... 6 (not available on the CDSV)							
With external auxiliary pilot air		3 ... 6							
P1		–0.9 ... +10		3 ... 10[1)]			–0.9 ... +10		

1) 3/2-way valves not suitable for vacuum

Valve response times [ms]									
Valve function order code		M	J	N	K	H	B	E	G
Response times	on	12	–	10	10	10	12	12	12
	off	22	–	22	22	22	25	25	25
	change-over	–	10	–	–	–	17	17	17

Valve terminal type 15 CDVI, Clean Design

Technical data

Operating and environmental conditions									
Valve function order code	M	J	N	K	H	B	E	G
Operating medium	Filtered compressed air, lubricated or unlubricated							
Grade of filtration [µm]	40							
Operating temperature [°C]	−5 ... +50							
Temperature of medium [°C]	−5 ... +50							
Corrosion resistance class CRC[1)]	3							

1) Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Electrical data								
Valve function order code	M	J	N	K	H	B	E	G
Electromagnetic compatibility	Interference immunity tested to EN 61 000-6-2							
Operating voltage [V]	24 DC (±10%)							
Minimum power supply requirements	0.4 V/ms voltage increase time to reach the high-current phase							
Residual ripple [Vss]	4							
Switch-on current consumption ■ per solenoid coil at 24 V (with LEDs) ■ total at 24 V and max. number of solenoid coils (with LEDs)	 Typical 60 mA Typical 1.44 A							
Current consumption during operation ■ per solenoid coil at 24 V (with LEDs) ■ total at 24 V and max. number of solenoid coils (with LEDs)	 Min. 26 mA Typical 0.72 A							
Electrical power consumption per solenoid coil (with LED) [W]	1.5							
Duty cycle	100%							
Protection class to EN 60 529	IP65/67 (fully assembled)							
Vibration resistance	To DIN/IEC 68/EN 60 068, Parts 2-6 and IEC 721/EN 60 068, Parts 2-3							
Shock resistance	To DIN/IEC 68/EN 60 068, Parts 2-27 and IEC 721							
Continuous shock resistance	To DIN/IEC 68/EN 60 068, Parts 2-29: +/−15 g at 6 ms, 1000 cycles							

Materials								
Valve function order code	M	J	N	K	H	B	E	G
Cover	Polypropylene (PP), TPE, polyamide (PA)							
Sub-base	AL (anodised min. 20 µm)							
Blanking plug	VA (material no.: 1.4303 or 1.4301)							
End plate	PP							
Screws	VA (material no.: 1.4303 or 1.4301)							
Spacer bolt	AL (anodised min. 20 µm)							
Valve	AL, PEI, polyacetate (POM), polyphenylene sulphide (PPS), polyamide (PA), nitrile rubber (NBR), Ms, St, polycarbonate (PC), polypropylene (PP), TPE, ESA-BA, Novolem							

Valve terminal type 15 CDVI, Clean Design

Technical data

Product weight [g]	Approx. weights							
Valve function order code	M	J	N	K	H	B	E	G
CDVI with 4 valve positions	2900							
CDVI with 8 valve positions	4700							
Expansion module (2 valve positions)	1000							
Valve	210							
CDSV individual sub-base	690							

Nominal flow rate [l/min]								
Valve function order code	M	J	N	K	H	B	E	G
	650	650	300	300	300	500/300[1)]	400/200[1)]	600

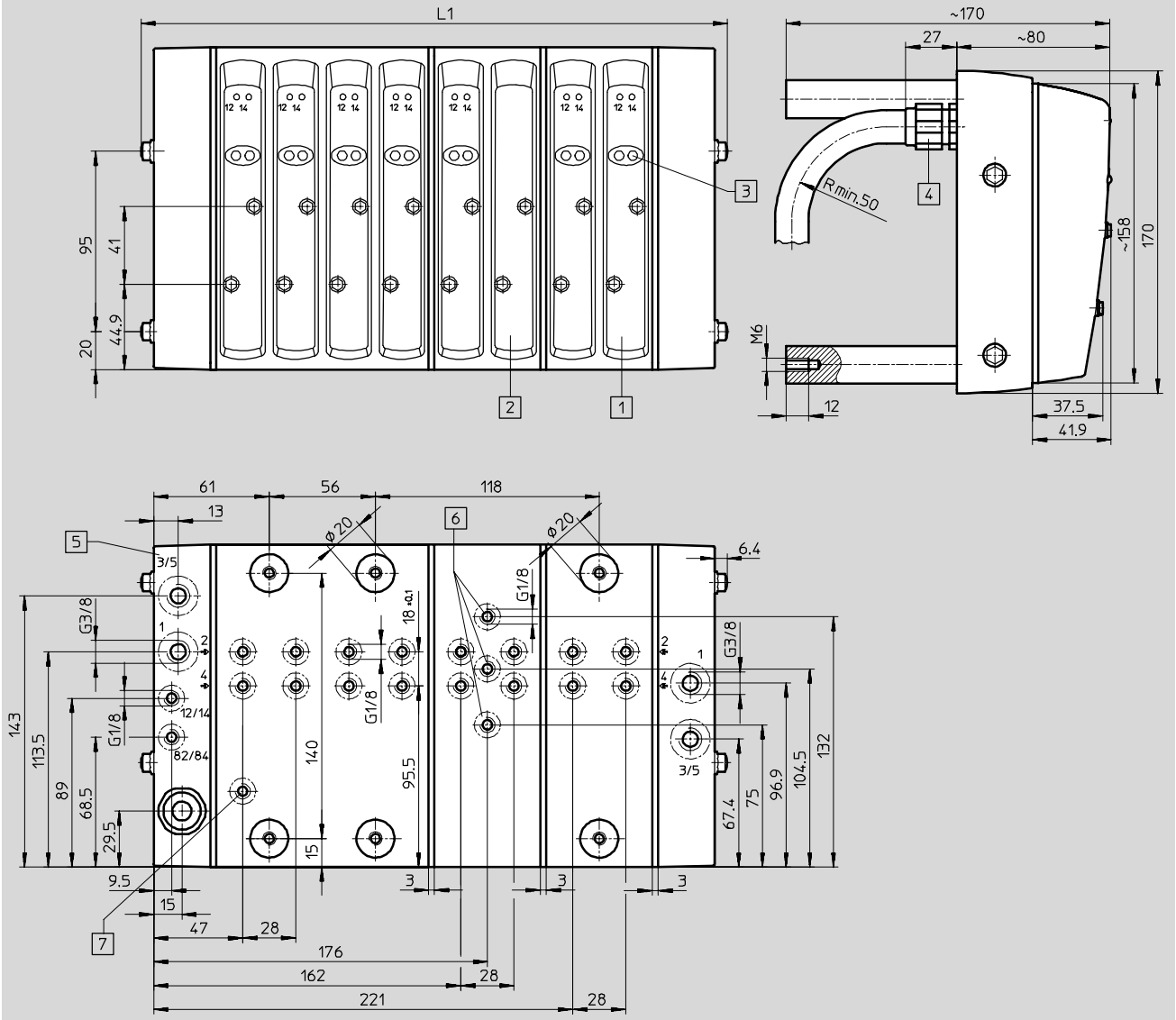
1) Mid-position

Valve terminal type 15 CDVI, Clean Design

Technical data

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

Four-valve block with two expansion modules

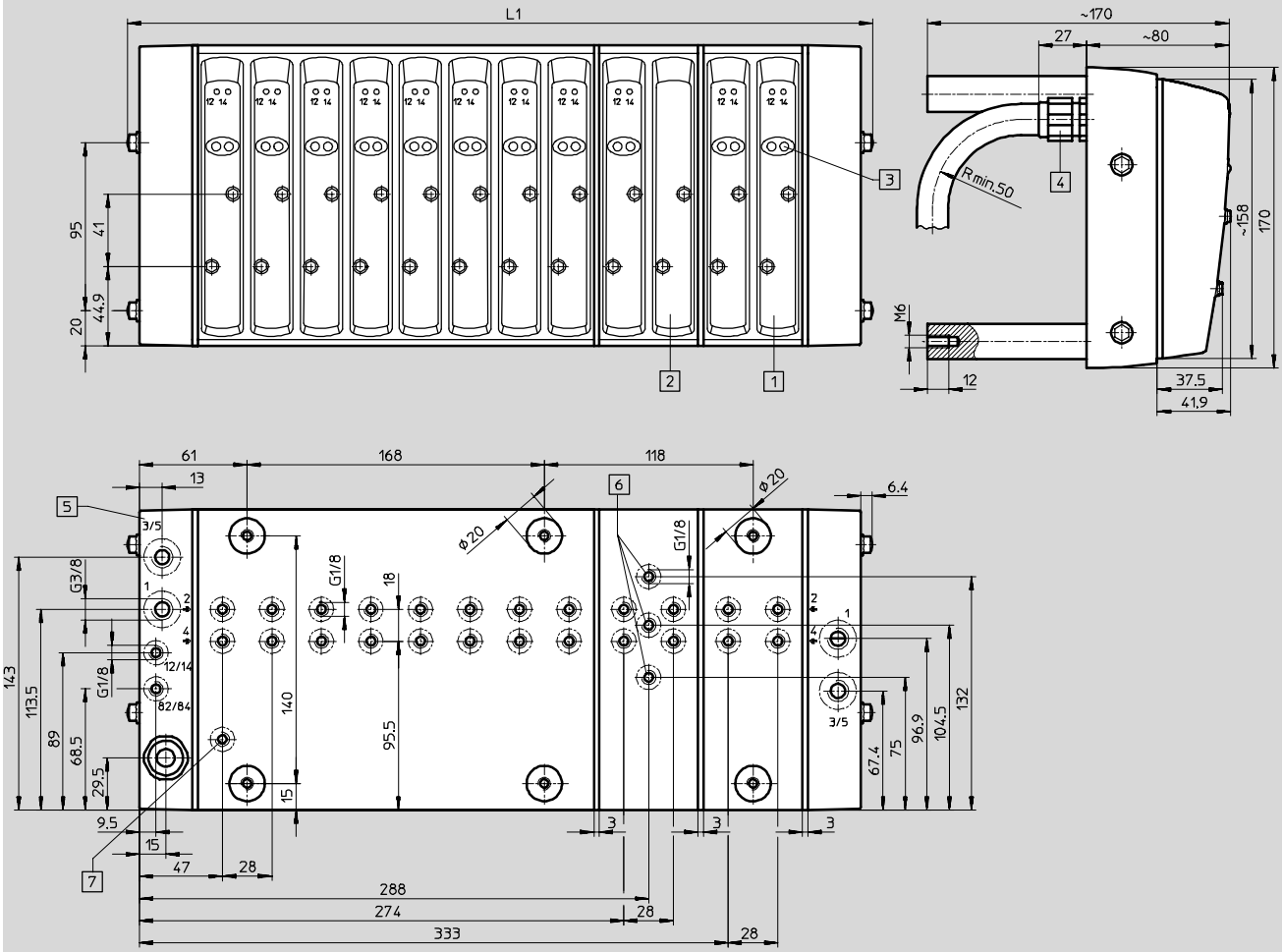


1 Choice of single solenoid or double solenoid valve
2 Blanking plate
3 Manual override
4 Cable conduit fitting M20x1.5
5 End plate, right-hand: Optional external auxiliary pilot air or internal auxiliary pilot air
6 Port for third pressure zone
7 Exhaust hole

	4-valve block	4-valve block + 1 expansion module	4-valve block +2 expansion modules
L1	190.8	249.8	308.8

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

Eight-valve block with two expansion modules

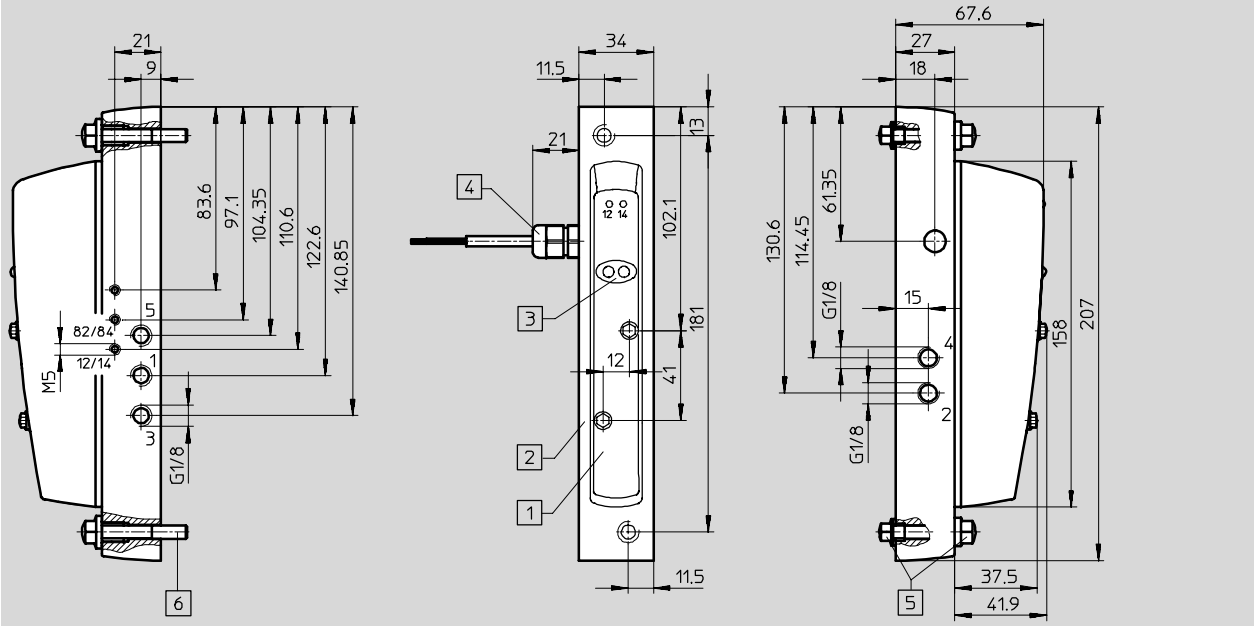


1 Choice of single solenoid or double solenoid valve
2 Blanking plate
3 Manual override
4 Cable conduit fitting M20x1.5
5 End plate, right-hand: Optional external auxiliary pilot air or internal auxiliary pilot air
6 Port for third pressure zone
7 Exhaust hole

	8-valve block	8-valve block + 1 expansion module	8-valve block +2 expansion modules
L1	302.8	361.8	420.8

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

Individual sub-base



1 Choice of single solenoid or double solenoid valve
2 Sub-base
3 Manual override
4 Cable conduit fitting M20x1.5
5 For mounting from rear:
2x screw M6x20
2x blanking plug G⅛
2x sealing ring G⅛
6 For mounting from front:
2x screw M6x4-A2-80
2x sealing ring CRO-M6

Valve terminal type 15 CDVI, Clean Design

Ordering system

Ordering system information

Like all valve terminals, the CDVI is selected using an order code. This order code specifies the valve functions, the number of valves and vacant positions and the type of compressed air supply.

As is the case with all Festo products, the CDVI and CDSV are:
- fully pre-assembled
- fitted with QS...-F fittings on the working lines and end plates on request
- tested for electrical functions
- tested for pneumatic functions
- packed securely together with full instructions (user documentation) and delivered

Notes on the order code and ordering procedure

15P-K10-8A-UR-8M-E+Y
Terminal with 10 m multi-pin cable, 8-valve basic block with straight QS8-F fittings in the working lines and QS12-F fittings in the supply and exhaust ports, compressed air supply at left side only with internal auxiliary pilot air supply, fitted with eight 5/2-way single solenoid valves, English manual and spacer bolts for mounting.

Individual sub-base
The individual sub-base can be ordered either via the order code of the valve terminal or via individual part numbers.
Ordering example:
15P-K10-1B-**XR**-M-**B+**Z
Order codes in bold print do not permit alternative selections.

15P-K10-4A-ZR-4M-K-2K-H-2M-D+Y
Terminal with 10 m multi-pin cable, 4-valve basic block and two expansion modules, straight QS8-F fitting in the working lines, external auxiliary pilot air supply via straight QS8-F connection in the left-hand end plate
- fitted with four 5/2-way single solenoid valves, basic block compressed air supply and exhaust via straight QS12-F fitting in the left-hand end plate
- first expansion with separate compressed air supply, fitted with two 2x3/2-way valves, normally closed, compressed air supply via straight QS8-F fitting in the expansion module, exhaust air drawn off via the basic block in the left-hand end plate
- second expansion fitted with two 5/2-way single solenoid valves, compressed air supply and exhaust via straight QS12-F fitting in the right-hand end plate
- German manual and spacer bolts

Fittings
The basic valve terminal price includes the following:
- The straight QS-F-G1⁄8 fittings in the working lines for optimum flow
- Suitable straight QS-F-G3⁄8 fittings for compressed air supply and main exhaust air in the end plates

These sets of fittings for the end plates are always correctly assembled before leaving the factory. Vacant ports are sealed with easy to clean blanking plugs (with supply at one side or internal auxiliary pilot air).

Valve terminal configurator

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

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

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

Valve terminal type 15 CDVI, Clean Design

Ordering data – Modular products

FESTO

M Mandatory data →

Module No.	Valve terminal, pneumatic part		Electrical connection		No. of valves on the basic block	Pneumatic connection		End plates/ pressure supply	Seal type		Basic block equipment at valve position 0 ... 7 Valves
197 648	15P		K05, K10		4, 8	A, B, C, D, G		U, V, Y, Z	R		M, J, G, E, B, K, N, H, A Valve position 0 1 2 3 4 5 6 7
Ordering example											
197 648	**15P**	–	**K10**	–	**8**	**C**	–	**Y**	**R**	–	**E B H H M G M B**
1	2		3		4	5		6	7		8

Ordering table

				Conditions	Code		Enter code
M	1	Module No.	**197648**				
	2	Valve terminal, pneumatic part	Clean Design CDVI type 15		**15P**		15P
	3	Electrical connection	Multi-pin cable, 5 m		**-K05**		
			Multi-pin cable, 10 m		**-K10**		
	4	No. of valves on the basic block	4		**-4**		
			8		**-8**		
	5	Pneumatic connection	QS fittings, straight, tubing 8 mm		**A**		
			QS fittings, straight, tubing 6 mm		**B**		
			QS fittings, angled, tubing 8 mm	1	**C**		
			QS fittings, angled, tubing 6 mm	1	**D**		
			No fitting		**G**		
	6	End plates/pressure supply	Supply at left side, internal auxiliary pilot air supply	2	**-U**		
			Supply at left side, external auxiliary pilot air supply	2	**-V**		
			Supply at both sides, internal auxiliary pilot air supply		**-Y**		
			Supply at both sides, external auxiliary pilot air supply		**-Z**		
	7	Seal type	Resistant to cleaning agents		**R**		R
	8	Basic block equipment	Valve position 0 ... 7	3	**-**		-
		Valves	5/2-way valve, single solenoid		**M**		Enter equipment selection for valve positions in order code.
			5/2-way valve, double solenoid		**J**		
			5/3-way valve, mid-position closed		**G**		
			5/3-way valve, mid-position exhausted		**E**		
			5/3-way valve, mid-position pressurised		**B**		
			2x3/2-way valve, normally closed		**K**		
			2x3/2-way valve, normally open		**N**		
			2x3/2-way valve, 1x normally open, 1x closed		**H**		
↓			Blanking plate for double position		**A**		

1 **C, D** Not with power supply modules K, I.

2 **U, V** Not with separator plates/power supply modules D, F, H, K, I.

3 **Basic block equipment**
Number of valve positions: Basic block: 4, 8.
Expansion module: 2

4 **B, D, F, H, K, I**
2 valve positions must be occupied after the separator plate/power supply module.
Depending on the separator plate/power supply module selection made for expansion module 1, only the following selections are available for expansion module 2 → 5 ... 10:

5 **B** Expansion module 1: B;
selection for expansion module 2: separator plate B, D, F or H.

6 **D** Expansion module 1: D;
selection for expansion module 2: separator plate B or F.

7 **F** Expansion module 1: F;
selection for expansion module 2: separator plate B or D.

8 **H** Expansion module 1: H;
selection for expansion module 2: separator plate B.

9 **K** Expansion module 1: K;
selection for expansion module 2: separator plate D or H.
K may only be attached directly after the basic block.

10 **I** Expansion module 1: I;
selection for expansion module 2: separator plate D or H.
I may only be attached directly after the basic block.

Transfer order code

197 648	15P	–		–			–		R	–								
1	2		3		4	5		6	7		0	1	2	3	4	5	6	7
											8							

Valve terminal type 15 CDVI, Clean Design

Ordering data – Modular products

FESTO

O Options				M Mandatory data	O Options
Expansion module 1	Expansion module 1 equipment (valve position 0 … 1)	Expansion module 2	Expansion module 2 equipment (valve position 0 … 1)	User documentation	Accessories
B, D, F, H, K, I	M, J, G, E, B, K, N, H, A Valve position 0 1	B, D, F, H	M, J, G, E, B, K, N, H, A Valve position 0 1	D, E, I, V, B	Y
– [ ]	– [ ] [ ]	– [ ]	– [ ] [ ]	– B	+ [ ]
9	10	11	12	13	14

Ordering table

Module No.			197 648	Conditions	Code		Enter code
O 9	Expansion module 1	Separator plates	With single solenoid valves, no duct separated	4 5	-B		
			With single solenoid valves, duct 1 separated	4 6	-D		
			With single solenoid valves, duct 3/5 separated	4 7	-F		
			With single solenoid valves, duct 1+3/5 separated	4 8	-H		
		Supply modules	With single solenoid valves with extra supply, duct 1 separated	4 9	-K		
			With single solenoid valves with extra supply, duct 1+3/5 separated	4 10	-I		
10	Equipment		Expansion module 1 (valve position 0 … 1)		-		-
	Valves		5/2-way valve, single solenoid		M		Enter equipment selection for valve positions in order code.
			5/2-way valve, double solenoid		J		
			5/3-way valve, mid-position closed		G		
			5/3-way valve, mid-position exhausted		E		
			5/3-way valve, mid-position pressurised		B		
			2x3/2-way valve, normally closed		K		
			2x3/2-way valve, normally open		N		
			2x3/2-way valve, 1x normally open, 1x closed		H		
			Blanking plate for double position		A		
11	Expansion module 2	Separator plates	With single solenoid valves, no duct separated		-B		
			With single solenoid valves, duct 1 separated		-D		
			With single solenoid valves, duct 3/5 separated		-F		
			With single solenoid valves, duct 1+3/5 separated		-H		
12	Equipment		Expansion module 2 (valve position 0 … 1)		-		-
	Valves		5/2-way valve, single solenoid		M		Enter equipment selection for valve positions in order code.
			5/2-way valve, double solenoid		J		
			5/3-way valve, mid-position closed		G		
			5/3-way valve, mid-position exhausted		E		
			5/3-way valve, mid-position pressurised		B		
			2x3/2-way valve, normally closed		K		
			2x3/2-way valve, normally open		N		
			2x3/2-way valve, 1x normally open, 1x closed		H		
			Blanking plate for double position		A		
M 13	User documentation		German		-D		
			English		-E		
			Italian		-I		
			Swedish		-V		
			Express waiver - no manual to be included (already available)		-B		
O 14	Accessories				+		+
	Mounting		Spacer bolt, length 1		Y		

Transfer order code														
	0	1			0	1								
– [ ]	– [ ]	[ ]	– [ ]	[ ]	– [ ]	[ ]	– [ ]	[ ]	– [ ]	[ ]	+ [ ]	[ ]		
9	10		11		12		13		14					

Valve terminal type 15 CDVI, Clean Design – Individual valves

Ordering data – Modular products

FESTO

M Mandatory data →

Module No.	Valve terminal, pneumatic part		Electrical connection		No. of valves on the basic block	Pneumatic connection		End plates/ pressure supply	Seal type		Basic block equipment, valve position 0
											Valves
197 648	15P		K10		1	B, G		X	R		M, J, G, E, B, K, N, H, A
Ordering example											Valve position 0
197 648	**15P**	–	**K10**	–	**1**	**B**	–	**X**	**R**	–	**M**
1	2		3		4	5		6	7		8

→ **M Mandatory data**

User documentation	
B	
B	
9	

O Options

Accessories	
Z	
10	

Ordering table

				Conditions	Code		Enter code
M	1	Module No.	**197648**				
	2	Valve terminal, pneumatic part	Clean Design CDVI type 15		**15P**		15P
	3	Electrical connection	Multi-pin cable, 10 m		**-K10**		-K10
	4	No. of valves on the basic block	1		**-1**		-1
	5	Pneumatic connection	QS fittings, straight, tubing 6 mm		**B**		
			No fitting		**G**		
	6	End plates/pressure supply	Supply at right side, external auxiliary pilot air supply		**-X**		-X
	7	Seal type	Resistant to cleaning agents		**R**		R
	8	Basic block equipment	Valve position 0		**-**		-
		Valves	5/2-way valve, single solenoid		**M**		
			5/2-way valve, double solenoid		**J**		
			5/3-way valve, mid-position closed		**G**		
			5/3-way valve, mid-position exhausted		**E**		
			5/3-way valve, mid-position pressurised		**B**		
			2x3/2-way valve, normally closed		**K**		
			2x3/2-way valve, normally open		**N**		
			2x3/2-way valve, 1x normally open, 1x closed		**H**		
	9	User documentation	Express waiver - no manual to be included (already available)		**-B**		-B
O	10	Accessories			**+**		+
		Pneumatic accessories	Adapter kit for individual valve CDSV		**Z**		

Transfer order code

197 648	15P	–	K10	–	1		–	X	R	–	Valve position 0	→
1	2		3		4	5		6	7		8	

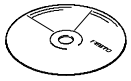
–	**B**	+	
	9		10

Valve terminal type 15 CDVI, Clean Design

Ordering data – Individual valve

FESTO

Ordering data				
Individual sub-base valve				
	Code	Valve function	Type	Part No.
	M	5/2-way valve, single solenoid	**CDVI5.0-MT2H-5LS**	**196 657**
	J	5/2-way valve, double solenoid	**CDVI5.0-MT2H-5JS**	**196 659**
	N	2x 3/2-way valve, normally open	**CDVI5.0-MT2H-2x3OLS**	**196 663**
	K	2x 3/2-way valve, normally closed	**CDVI5.0-MT2H-2x3GLS**	**196 661**
	H	2x 3/2-way valve, 1x normally open 1x normally closed	**CDVI5.0-MT2H-2x3OLS-3GLS**	**196 665**
	B	5/3-way valve, mid-position pressurised	**CDVI5.0-MT2H-5/3BS**	**196 655**
	E	5/3-way valve, mid-position exhausted	**CDVI5.0-MT2H-5/3ES**	**196 653**
	G	5/3-way valve, mid-position closed	**CDVI5.0-MT2H-5/3GS**	**196 651**

Ordering data				
Designation			Type	Part No.
Sub-base				
	Individual sub-base		**CDSV5.0-AS-1/8**	**534 434**
Mounting				
	Mounting kit		**CDSV5.0**	**534 436**
Blanking plugs				
	Blanking plug G3⁄8 for end plates		**CDVI-5.0-B-G3⁄8**	**196 712**
	Blanking plug G1⁄8 for end plates		**CDVI-5.0-B-G1⁄8**	**196 720**
Plugs				
	Blanking plug for tubing O.D.	6 mm	**QSC-6H**	**153 268**
		8 mm	**QSC-8H**	**153 269**
		10 mm	**QSC-10H**	**153 270**
		12 mm	**QSC-12H**	**153 271**
User documentation				
	CDVI Pneumatics	German	**P.BE-CDVI-DE**	**197 361**
		English	**P.BE-CDVI-EN**	**197 363**
		Italian	**P.BE-CDVI-IT**	**197 369**
		Swedish	**P.BE-CDVI-SV**	**197 371**
Software				
	CD-ROM	Valve terminal user documentation (PDF)	**P.CD-VALVE-T**	**183 350**
		Utilities	**P.CD-VI-UTILITIES-2**	**533 500**