

# Series D valve islands, Size 5, Multipole and Fieldbus

New

Fieldbus connection with the most common communication protocols

PROFIBUS-DP, PROFINET, CANopen, EtherNET/IP, EtherCAT and IO-Link

Multipole connection with 25 or 44 pins

Valve functions: 2x3/2; 5/2; 5/3 CC; CO; CP



In this configuration, Series D1 and D2 valves (size 10 and 16 mm) can be combined into one unique Island. Some benefits of this version are the small dimensions, only one Multipole or Serial connection point, easy installation and the possibility to have different flow rates.

All size D2 components of this configuration remain unvaried, while for size D1 a longer subbase is used. All electric and pneumatic components and characteristics of the single versions remain unvaried.

The COILVISION function is included also in this version.

Manuals, instruction sheets and configuration files are available on <http://catalogue.camozzi.com> or through the QR code you can find on the product label.

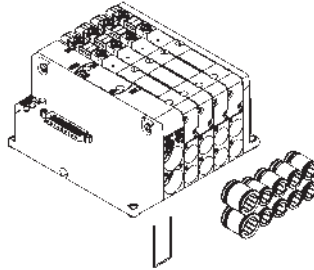
- » A single island with a mix of Series D1 and D2 solenoid valves (size 10,5 and 16 mm)
- » Combination of flow rates from 250 to 950 Nl/min
- » One Multipole or Serial connection point
- » Common positional fixing
- » Individual modular subbases in technopolymer
- » Highly expandable electrically and pneumatically
- » Flexibility in connecting and exchanging I/O modules
- » COILVISION technology to monitor performance parameters
- » Same subbase for monostable and bistable valves
- » Possibility to transmit operational data through WLAN
- » Blinking LEDs indicating different types of operating faults

## GENERAL DATA

<b>PNEUMATIC SECTION</b>	
Valve construction	spool with seals
Valve functions	5/2 monostable and bistable 5/3 CC; CO; CP 2 x 3/2 NC 2 x 3/2 NO 1 x 3/2 NC + 1 x 3/2 NO
Materials	spool: AL spool seals: HNBR other seals: NBR body: AL end caps: polymer subbase size 1: polymer
Connections	size 10,5: tube Ø 4, tube Ø 6 size 16: tube Ø 6, tube Ø 8, tube Ø 10  supply 1: tube Ø 10, tube Ø 12, tube Ø 14 supply 12/14: tube Ø 4  exhaust 3 and 5: tube Ø 10, tube Ø 12, tube Ø 14 exhaust 82/84: tube Ø 4
Temperature	0 ÷ 50°C
Air characteristics	compressed, filtered and non-lubricated air in class 7.4.4 according to ISO 8573-1:2010. In case lubrication should be necessary, only use oils with a maximum viscosity of 32 Cst and the version with external servo-pilot supply. The air quality of the servo-pilot supply must be of class 7.4.4 according to ISO 8573-1:2010 (do not lubricate).
Valve sizes	5 = 10,5 and 16 mm
Operating pressure	-0,9 ÷ 10 bar
Pilot pressure	3 ÷ 7 bar 4,5 ÷ 7 bar (with operating pressure exceeding 6 bar for the version 2x3/2)
Flow rate	10,5 mm = 250 NL/min 16 mm = 950 NL/min
Mounting position	any position
Protection class	IP 65
<b>ELECTRICAL SECTION MULTIPOLE VERSION</b>	
Type of Sub-D connector	25 or 44 pins
Max. absorption	0.8 A (with Sub-D connector 25 pins) 1 A (with Sub-D connector 44 pins)
Supply voltage	24 V DC +/- 10%
Max. number of coils to operate	22 on 11 valve positions (with Sub-D connector 25 pins) 38 on 19 valve positions (with Sub-D connector 44 pins)
Signalling LED	Multipole: green LED - presence of power red LED - anomaly Valve: yellow LED - presence of power blinking yellow LED - operating fault
<b>ELECTRICAL SECTION FIELDBUS VERSION</b>	
General data	see Multi-serial Modules section on the next pages
Max. absorption	2.5 A
Supply voltage	24 V DC +/- 10% logic supply 24 V DC +/- 10% power supply
Max. number of coils to operate	128 on 64 valve positions
Max. number of digital inputs	128
Max. number of analog inputs	16
Max. number of digital outputs	128
Max. number of analog outputs	16
IO-Link version	
Max n° of coils to operate	64 on 32 valve positions
Input and Output	No
Type of port	Class B
IODD Configuration file	up to 12, 24 or 32 valve positions per island
(The IO-Link module on the valve island is auto-configured to operate with the right IODD)	
More information can be found at <a href="http://catalogue.camozzi.com">http://catalogue.camozzi.com</a> Series D "Instructions for use and maintenance"	

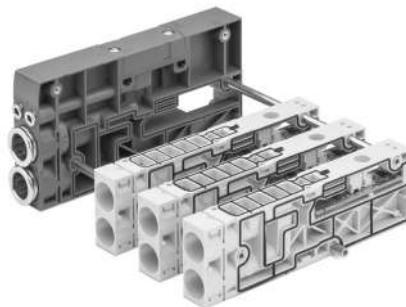
## PNEUMATIC CONNECTION

The subbases, in their different configurations, include tube connection cartridges. Through the removal of fixing clips it is possible to replace these cartridges and adapt them to the necessary dimension. The pneumatic part is the same for both the Multipole and Serial version. The tie rods with different fixed lengths that unite the subbases, can be extended individually through additional tie rods for odd positions.



## INTERMEDIATE SUBBASES

Intermediate subbases with a diaphragm or additional supply function allow to create diversified pressure and/or exhaust zones, add an incoming air flow and increase the exhaust flow. Furthermore there are subbases available that, besides the aforementioned functions, can interrupt the pneumatic actuation to the coils. This prevents, independently of the electric signal being present or not, to actuate the monostable and bistable valves. The intermediate subbases do not need to be calculated in the number of valve positions.



## SERVOPILOT

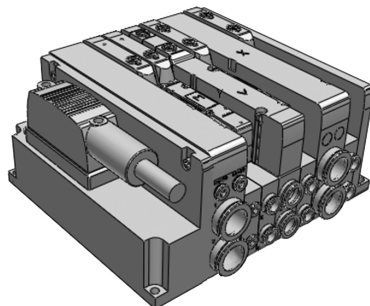
The initial supply and exhaust base can be changed through rotating the upper device of the selected type of servo-pilot. The change from internal to external servo-pilot is obtained without replacing the initial base, this allows for example to include or section the island, adapting its operation also after its installation, for example with valves that operate with vacuum or reduced pressures. The arrow indicates the selected type of servo-pilot.



## CONFIGURATOR

The island configuration is of minimum three positions including the possible base for additional supply and/or exhaust. The maximum number of positions depends on the selected type of electrical connection.

To correctly compose the commercial code and to download drawings, please use the configurator present at <http://catalogue.camozzi.com> in the sections "Configurators" or "Camozzi Partcommunity".



## MULTIPOLE VERSION

The multipole version can be connected quickly and safely through the connecting cable with angled outlet of 25 or 44 pins to the electric Sub-D connector integrated in the island. The single modularity of the subbases allows to create islands with up to a maximum of 11 or 19 valve positions according to the type of connecting cable used.



## FIELD BUS and IO-LINK VERSION

The new CX4 fieldbus module integrated in the Series D valve island enables to interface with the most common fieldbus protocols. Besides managing the pneumatic part (the same as the Multipole version) different kinds of electric modules can be managed. With this configuration it is possible to enlarge the pneumatic part up to a maximum of 64 valve positions with double command and the electric part up to 128 digital inputs and 128 digital outputs, besides 16 analog inputs and 16 analog outputs. Besides the standard voltage and current versions, the analog modules are also available in 2-channel Bridge, RTD and TC versions.

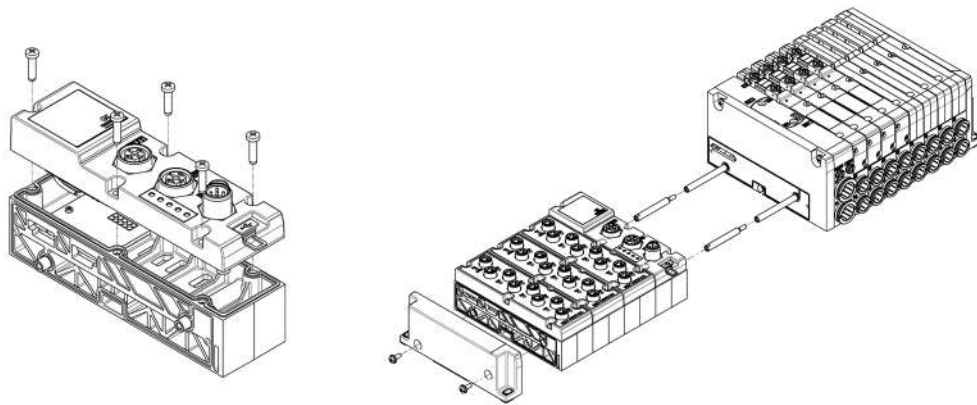
Also in the IO-Link version, the interface module is part of the Series CX4.

In this configuration, the I/O Modules cannot be integrated in the island, a maximum of 64 coils can be managed on 32 valve positions.



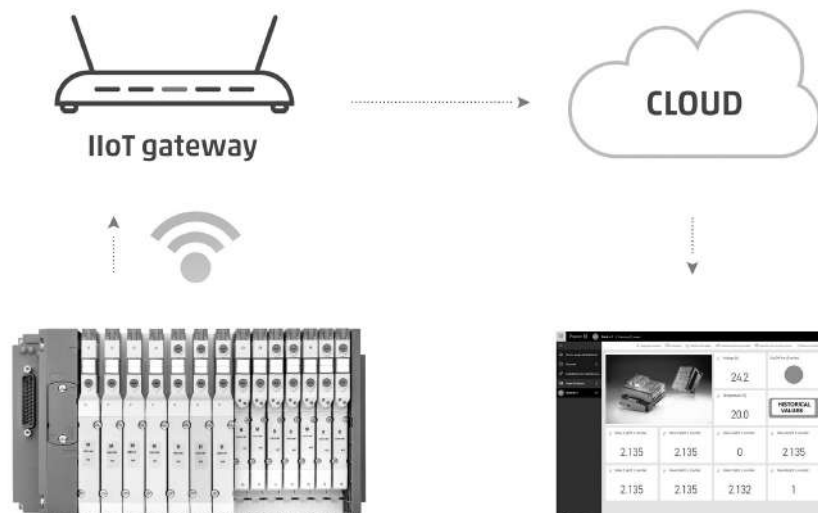
## ELECTRICAL MODULE

The electric modules are composed of two parts: the base to connect the different modules, which is the same for all types, and different covers on which the connectors are positioned. This solution enables to easily change the connection points with the sensors or functions of the machine. Also the electric modules, like the subbases in the pneumatic part, can be added or removed thanks to the modular connection system.



## COILVISION

This is a standard function in all our valve islands with Multipole and Serial connection. Its purpose is to monitor the proper function of each solenoid valve individually, particularly the solenoid. The electronics installed in the subbase allows to constantly monitor the efficiency of the driving coil of the solenoid valve. Possible variations with respect to the ideal operating conditions, like for example a higher power consumption, different response times or an increased temperature, are reported by means of a blinking yellow LED of the interested solenoid. Besides the blinking of this LED, also a general red LED blinks located on the Sub-D module. These indications are combined with an alert message sent to the PLC. By selecting code W from the "Interface" menu of the encryption code, besides the described signals, it is possible to gather all operational data of the islands and send them through WLAN to the corporate net or onto the Cloud to be analysed.



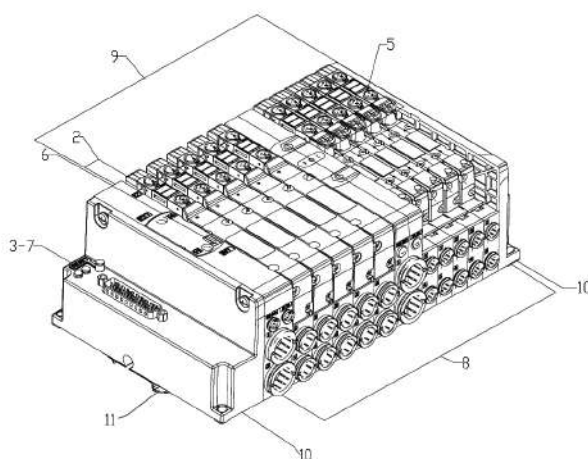
## CODING EXAMPLE - MULTIPOLE VERSION

<b>DM</b>	<b>C</b>	<b>5</b>	<b>M</b>	<b>W</b>	<b>R</b>	<b>A</b>	<b>-</b>	<b>15R</b>	<b>-</b>	<b>2CD2NSHDN</b>	<b>-</b>	<b>2MBLC2B</b>	<b>-</b>	<b>F</b>	<b>R</b>
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<b>DM</b>	MODULAR ISLAND
<b>C</b>	VALVE C = VC Model
<b>5</b>	SIZE 5 = 10,5mm (D1) + 16 mm (D2)
<b>M</b>	ELECTRICAL CONNECTION M = Multipole 25 pin PNP Q = Multipole 44 pin PNP
<b>W</b>	INTERFACE O = without interface W = WLAN
<b>R</b>	MANUAL OVERRIDE P = push button R = with push and turn device
<b>A</b>	SERVO-PILOT SUPPLY A = internal B = external
<b>15R</b>	CONNECTOR O = without connector CONNECTOR R WITH CABLE 03R = 3 mt 05R = 5 mt 10R = 10 mt 15R = 15 mt 20R = 20 mt 25R = 25 mt
<b>2CD2NSHDN</b>	SUBBASES DIAPHRAGM N = cartridges tube Ø4 (D1) M = cartridges tube Ø6 (D1) B = cartridges tube Ø6 (D2) C = cartridges tube Ø8 (D2) D = cartridges tube Ø10 (D2)  SUBBASE Q = diaphragm on channels 1, 3, 5 R = diaphragm on channel 1 S = diaphragm on channels 3 and 5  WITH DIAPHRAGM AND EXTERNAL SERVO-PILOT SUPPLY QT = diaphragm on channels 1, 3, 5; 12/14 external RT = diaphragm on channel 1; 12/14 external ST = diaphragm on channels 3, 5; 12/14 external  WITH DIAPHRAGM AND INTEGRATED SILENCER QH = diaphragm on channels 1, 3, 5 RH = diaphragm on channel 1 SH = diaphragm on channels 3, 5  SUBBASE FOR ADDITIONAL FLOW X = supply (1) and exhausts (3, 5) XH = supply (1) and exhausts (3, 5) with integrated silencer  INTERFACE SUBBASE FOR ADDITIONAL FLOW WITH EXTERNAL SERVO-PILOT SUPPLY XT = additional supply (1) and exhausts (3, 5)  FOR POWER SUPPLY K = separation of power supply
<b>2MBLC2B</b>	VALVES M = 5/2 monostable B = 5/2 bistable C = 2X3/2 NC A = 2 X 3/2 NO G = 2 X 3/2 (NC+NO) V = 5/3 CC K = 5/3 CO N = 5/3 CP L = free position
<b>F</b>	TERMINALS AND PLATES Tube dimensions for port sizes 1,3,5  C = cartridge Ø 8 D = cartridge Ø 10 E = cartridge Ø 12 F = cartridge Ø 14  CS = cartridge Ø 8 and external silencer (2939-8) DS = cartridge Ø 10 and external silencer (2939-10)
<b>R</b>	FIXING TYPE = direct R = DIN rail

The choice of the cartridge made in the Terminal Plates section is also valid for the diaphragm and additional sub-bases

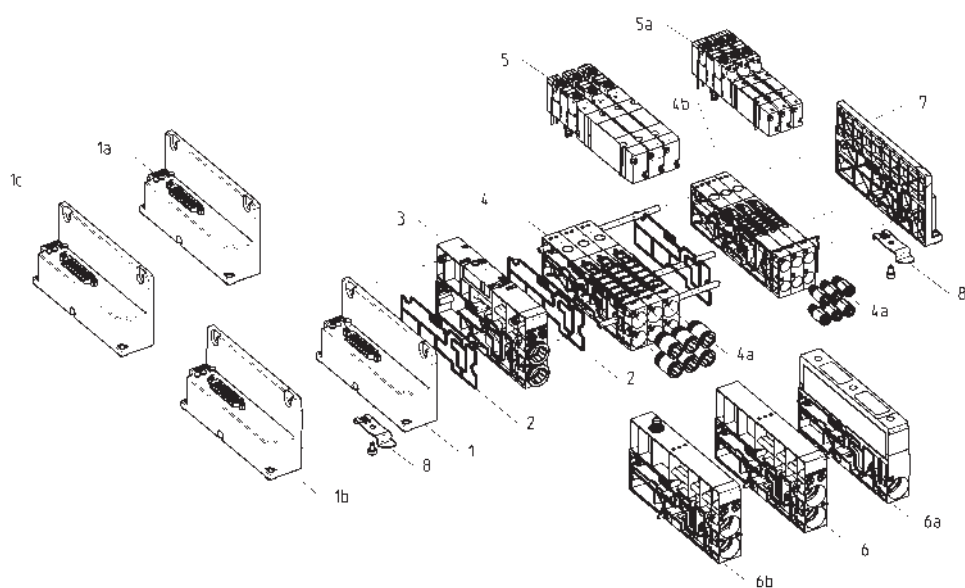
# CODING MULTIPOLE VERSION



1	2	3	4	5	6	7	8	9	10	11						
D	M	C	S	M	W	R	A	-	15R	-	5DX5N	-	4B3C3V	-	E	R

(1)	VALVE MODEL VC	(2)	SIZE	(3)	ELECTRICAL CONNECTION	(4)	INTERFACE	(5)	MANUAL OVERRIDE	(6)	SERVO-PILOT
	DMC		5		M Q		O W		P R		A B
(7)	CONNECTION	(8)	SUBBASES WITH DIAPHRAGM	(9)	VALVES	(10)	TERMINAL PLATES	(11)	MOUNTING		
	0		N		M		C		R		
	03R		M		B		CS				
	05R		B		C		D				
	10R		C		A		DS				
	15R		D		G		E				
	20R		SUBBASES DIAPHRAGM		V		F				
	25R		Q		K						
			R		N						
			S		L						
			WITH DIAPHRAGM AND EXTERNAL SERVO-PILOT SUPPLY								
			QT								
			RT								
			ST								
			WITH DIAPHRAGM AND INTEGRATED SILENCER								
			QH								
			RH								
			SH								
			SUBBASE FOR ADDITIONAL FLOW								
			X								
			XH								
			INTERFACE SUBBASE FOR ADDITIONAL FLOW WITH EXTERNAL SERVO-PILOT SUPPLY								
			XT								
			FOR POWER SUPPLY								
			K								

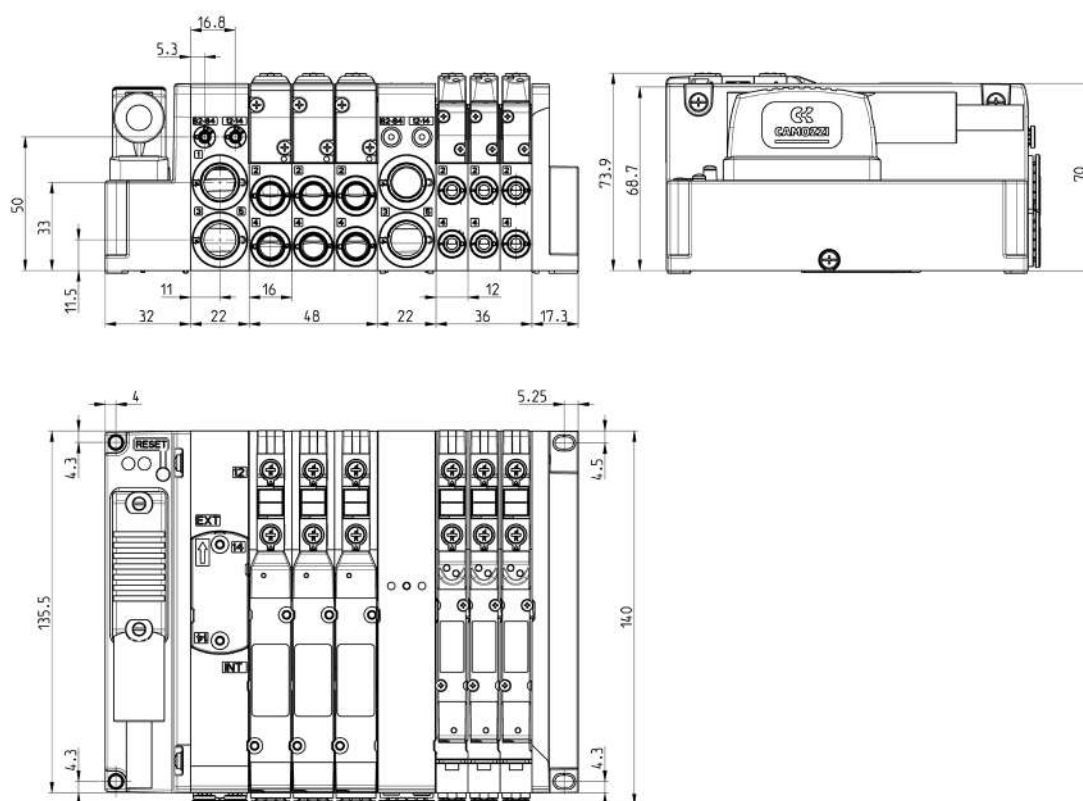
## MULTIPOLE version COMPONENTS



COMPONENTS	
1	Electric interface group - multipole 25 pins
1a	Electric interface group - multipole 25 pins WLAN interface
1b	Electric interface group - multipole 44 pins
1c	Electric interface group - multipole 44 pins WLAN interface
2	Interface seals
3	Initial pneumatic supply module
4	Modular subbase size 2
4a	Interchangeable quick-release couplings
4b	Subbases for valve size 1 (code N or M)
5	Solenoid valve size 2
5a	Solenoid valve size 1
6	Additional module to convey supply and exhaust channels
6a	Module to supply and to silence the exhaust channel
6b	Module to separate power supply
7	Terminal plate
8	Mounting bracket for DIN rail



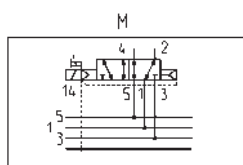
## MULTIPOLE version 25 and 44 pin DIMENSIONS



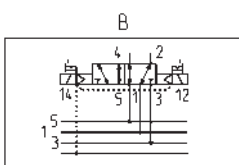
## CODING EXAMPLE

<b>D</b>	<b>2</b>	<b>E</b>	<b>VC</b>	<b>-</b>	<b>M</b>	<b>P</b>
<b>D</b>	SERIES					
<b>2</b>	SIZE: 1 = 10,5 mm 2 = 16 mm					
<b>E</b>	VERSION: E = solenoid valve					
<b>VC</b>	COMPONENT: VC = plugin valve					
<b>M</b>	TYPE OF SOLENOID VALVE M = 5/2 monostable B = 5/2 bistable C = 2 x 3/2 NC A = 2 x 3/2 NO G = 2 x 3/2 (NC+NO) V = 5/3 CC K = 5/3 CO N = 5/3 CP					
<b>P</b>	MANUAL OVERRIDE: P = push button R = with push and turn device					

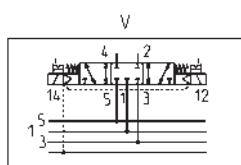
## AVAILABLE FUNCTION - SYMBOLS FOR SOLENOID VALVES



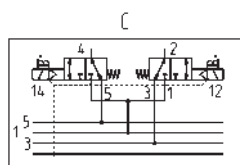
M = 5/2, Monostable



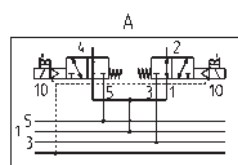
B = 5/2, Bistable



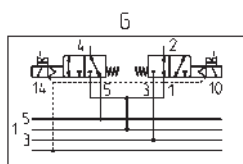
V = 5/3 Centres Closed



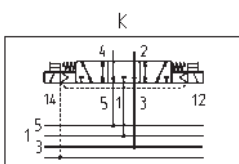
C = 2 x 3/2 NC



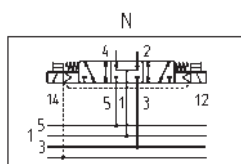
A = 2 x 3/2 NO



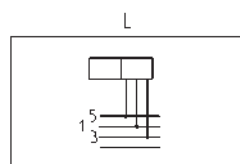
G = 1 x 3/2 NC +  
1 x 3/2 NO



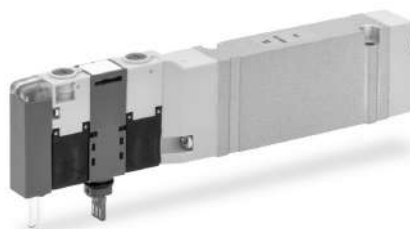
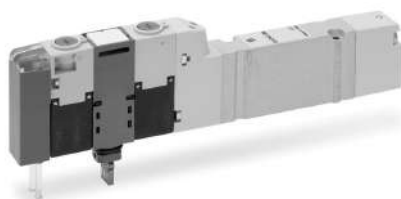
K = 5/3 CO



N = 5/3 CP



L = free position



## Free valve position L-10,5

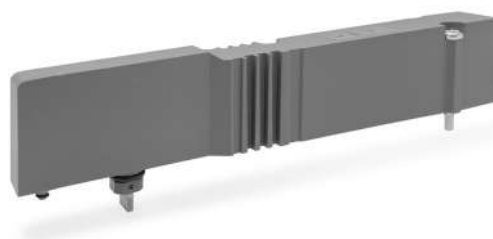
The supply includes:  
1 fake valve  
2 fixing screws



Mod.
D1EVC-L

## Free valve position L-16

The supply includes:  
1 fake valve  
2 fixing screws



Mod.
D2EVC-L

### INTERMEDIATE SUBBASES CODING EXAMPLE

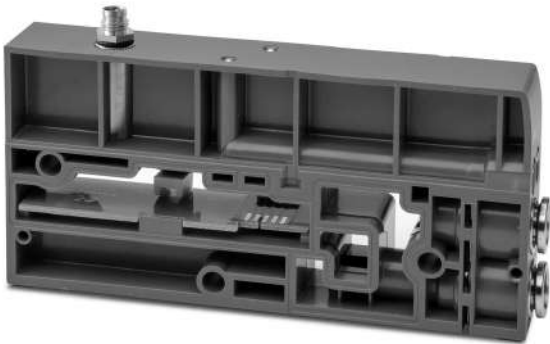
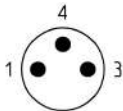
<b>D</b>	<b>AM</b>	<b>2</b>	<b>S</b>	<b>-</b>	<b>QH</b>	<b>-</b>	<b>D</b>	<b>T</b>
<b>D</b>	SERIES							
<b>AM</b>	ACCESSORIES AM = modular accessories							
<b>2</b>	SIZE: 2 = 16 mm							
<b>S</b>	COMPONENT: S = modular subbase							
<b>QH</b>	<p>INTERMEDIATE DIAPHRAGM SUBBASE Q = diaphragm on channels 1, 3, 5 R = diaphragm on channel 1 S = diaphragm on channels 3, 5</p> <p>DIAPHRAGM WITH EXTERNAL SERVO-PILOT SUPPLY QT = diaphragm on channels 1, 3, 5; 12/14 external RT = diaphragm on channels 1; 12/14 external ST = diaphragm on channels 3, 5; 12/14 external</p> <p>DIAPHRAGM WITH INTEGRATED SILENCER QH = diaphragm on channels 1, 3, 5 RH = diaphragm on channel 1 SH = diaphragm on channels 3, 5</p> <p>SUBBASE FOR ADDITIONAL FLOW X = supply (1) and exhausts (3,5) XH = supply (1) and exhausts (3,5) with integrated silencer</p> <p>INTERFACE SUBBASE FOR ADDITIONAL FLOW WITH EXTERNAL SERVO-PILOT SUPPLY XT = additional supply (1) and exhausts (3, 5)</p> <p>FOR POWER SUPPLY K = separation of power supply</p>							
<b>D</b>	<p>VERSION: T = Without cartridge C = cartridge tube Ø8 D = cartridge tube Ø10</p> <p>E = cartridge tube Ø12 F = cartridge tube Ø14</p>							
<b>T</b>	<p>TIE RODS = without tie rods T = with tie rods</p>							

MODULE K TO SEPARATE POWER SUPPLY

This module allows to interrupt and provide a separate power supply to the subsequent solenoid valves besides additional supply and exhaust.

You only need to connect the +24V to one of the three pins

- 1 = +24V
- 3 = +24V
- 4 = +24V

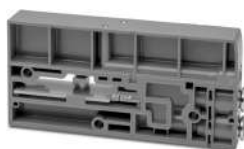


GENERAL DATA	
Connection	M8 3 pins
Dimensions	135,5 x 22 mm
Signalling	None
Supply	24 V DC (+/- 10%)
Protection class	IP 65
Temperature	0°C ÷ 50°C
Material	technopolymer
Weight	340 g

## AVAILABLE FUNCTIONS – SUBBASE TYPES



R



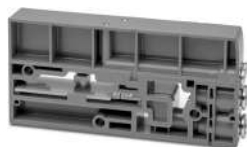
Q



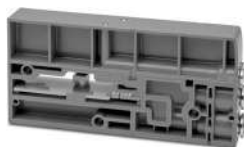
S



X



RT



QT



ST



XT



RH



QH



SH



XH



K

R = diaphragm on channel 1

Q = diaphragm on channels 1, 3, 5

S = diaphragm on channels 3, 5

X = additional supply channel 1 and exhaust channels 3, 5

RT = diaphragm on channels with external supply 12/14

QT = diaphragm on channels with external supply 12/14

ST = diaphragm on channels with external supply 12/14

XT = additional supply channel 1, 12/14 and exhaust channels 3, 5

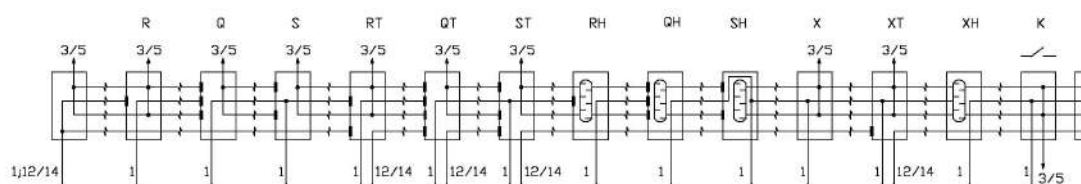
RH = diaphragm on channel 1 with integrated silencer

QH = diaphragm on channels 1, 3, 5 with integrated silencer

SH = diaphragm on channels 3, 5 with integrated silencer

XH = additional supply channel 1 and exhaust channels 3, 5 with integrated silencer

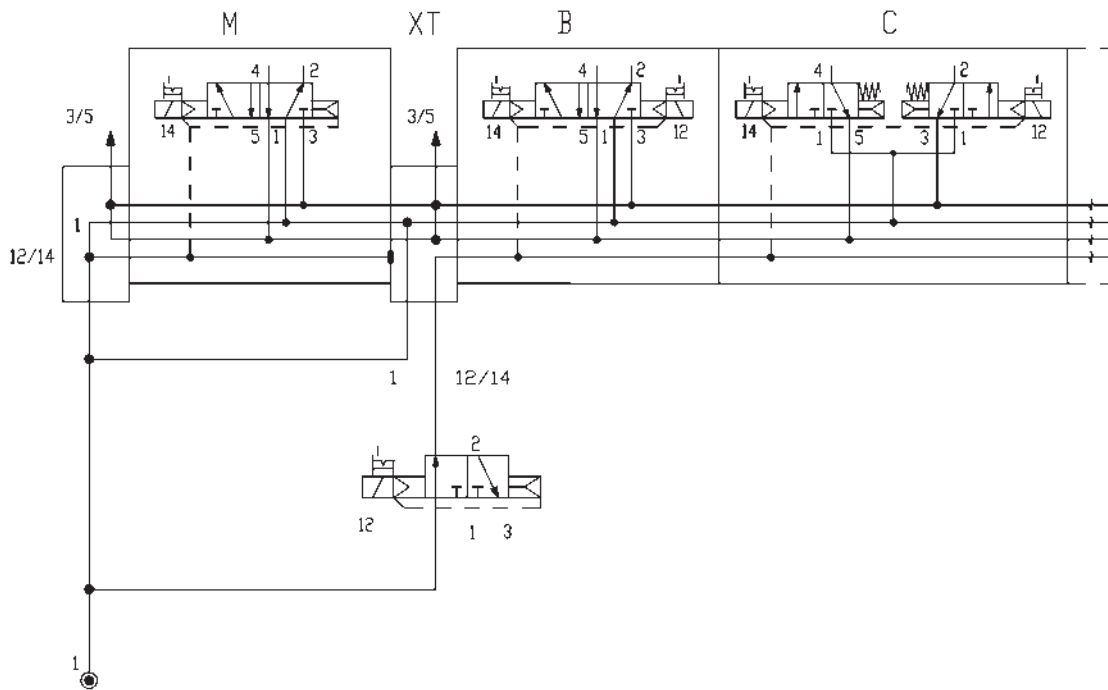
K = Separation of power supply



## INTERMEDIATE SUBBASE FOR A SEPARATE SERVO-PILOT SUPPLY

In order for the solenoid valves to operate, they need an electric signal and pressure on channel 12/14. This intermediate subbase, available with different diaphragm functions on channels 1 and 3/5, always has channel 12/14 closed, the solenoid valves assembled on the subbases in subsequent positions cannot operate if there is no pressure. In the example below the solenoid valve type M is pneumatically supplied on all channels, solenoid valve B is installed next to subbase XT, which has channel 12/14 closed. The solenoid valve 3/2 which is not part of the island, is always activated under regular operating conditions (as indicated in the image) enabling all solenoid valves to operate properly. In case of any problems, by removing the actuation of this solenoid valve, it is possible to interrupt the functioning of the subsequent positions.

In this condition, the 2x3/2 valves assume the rest position.



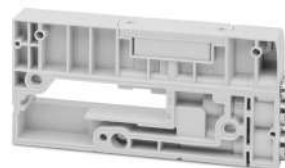
## VALVE SUBBASES CODING EXAMPLE

D	AM	2	S	-	N	T
<b>D</b>	SERIES					
<b>AM</b>	ACCESSORIES AM = modular accessories					
<b>2</b>	SIZE 5 = 10,5 mm 2 = 16 mm					
<b>S</b>	COMPONENT S = modular subbase					
<b>N</b>	TYPE OF CONNECTION N = cartridges tube Ø4 (D1) M = cartridges tube Ø6 (D1) B = cartridges tube Ø6 (D2) C = cartridges tube Ø8 (D2) D = cartridges tube Ø10 (D2)					
<b>T</b>	TIE RODS = without tie rods      T = with tie rods					



## SUPPLY MODULE/SERVOPILOT CODING EXAMPLE

D	AM	2	0	-	KC
<b>D</b>	SERIES				
<b>AM</b>	ACCESSORIES AM = modular accessories				
<b>2</b>	SIZE 2 = 16 mm				
<b>0</b>	SERVO-PILOT SUPPLY 0 = internal / external				
<b>KC</b>	INITIAL PNEUMATIC TERMINAL PLATE KC = cartridge tube Ø8 KD = cartridge tube Ø10 KE = cartridge tube Ø12 KF = cartridge tube Ø14				



## CODING EXAMPLE

D	AM	2	T	-	Q	0
<b>D</b>	SERIES					
<b>AM</b>	ACCESSORIES AM = modular accessories					
<b>2</b>	SIZE 2 = 16 mm					
<b>T</b>	COMPONENT T = electrical terminal plate					
<b>Q</b>	TYPE OF TERMINAL PLATE M = multipole 25 pins      Q = multipole 44 pins					
<b>0</b>	INTERFACE 0 = without interface      W = WLAN					



## Pneumatic terminal plate

The supply includes:  
1 terminal plate  
3 fixing screws



Mod.

DAM20-RT

## Connection interface between electrical section and valves

The supply includes:  
1 terminal plate  
3 fixing screws for valve section  
2 fixing screws for serial section  
1 interface



ME4-00D2-DI

## Closing terminal of fieldbus electrical section

The supply includes:  
1 terminal plate  
2 fixing screws

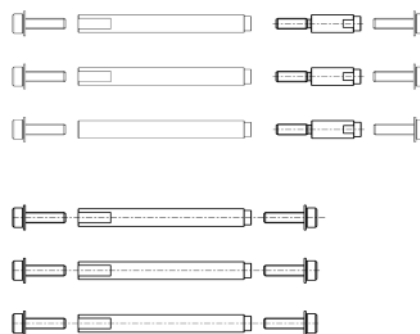


CX4AP-L



<b>DA5K</b>	<b>-</b>	<b>01</b>	<b>-</b>	<b>02</b>
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<b>DA5K</b>	Kit tie rods D5
<b>01</b>	Valve quantity D1
<b>02</b>	Valve quantity D2
N.B.: The possible combinations of D5 (D1+D2) have a range from 3 to 64 valves in total. The kit includes screws and tie rods.	
Tie rod size 1 for single position:DA1K-1 Tie rod size 2 for single position:DA2K-1	



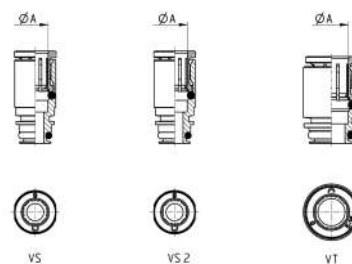
## Interchangeable cartridges for subbases and terminal plates/diaphragms



### TABLE LEGEND:

**x** = compatible with  
 VS = subbase version D5  
 VS 2 = subbase version D2  
 VT = terminal plate/diaphragm version

Mod.	ø A	VS	VS 2	VT
6700 4-D1	4	x		
6700 6-D1	6	x		
6700 6-D2	6		x	
6700 8-D2	8		x	x
6700 10-D2	10		x	x
6700 12-D2	12			x
6700 14-D2	14			x

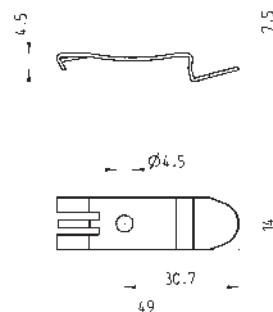


## Mounting brackets for DIN rail



DIN EN 50022 (mm 7,5 x 35 - width 1)

Supplied with:  
 2x plates  
 2x screws M4x8 UNI 5931



Mod.
<b>PCF-D1</b>