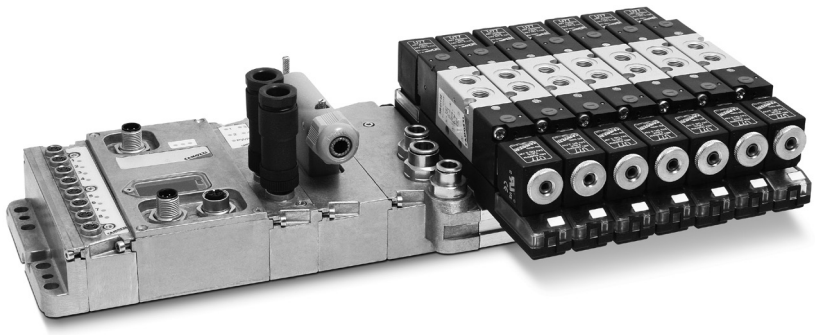
Series 3 Fieldbus valve islands

Fieldbus system combined with Series 3 solenoid valves, G1/8 ports.
Interface with: Profibus-DP, CANopen, DeviceNet. Valve functions:
2x3/2, 5/2 and 5/3-way CO CC CP



This Fieldbus system, realized with Series 3 solenoid valves (G1/8 ports) and delivered completely assembled and tested, can accomodate up to 9 valve positions. Moreover, it offers the possibility to manage up to 64 I/O.

- » Flexible assembly
- » Easy installation
- » Conform with standards EN-61326-1 and EN-61010-1

It is possible to combine the pneumatic electric modules by simply attaching them to each other up to a maximum of 9 valve positions. The pneumatic modularity of 2 and 3 positions offers the possibility to create manifolds with different pressure/ exhaust supplies.

To check the suitable connectors see the section 2/3.25.

GENERAL DATA AND ELECTRIC CHARACTERISTICS

Valve construction	spool type
Valve functions	5/2 - 5/3 CC CO CP - 2x3/2 NO - 2x3/2 NC - 1 3/2 NO+1 3/2 NC
Materials	AL body, stainless steel spool, NBR seals, technopolymer
Ports	valve = G1/8 - manifold = G3/8
Mounting	through holes in the valve body
Installation	in any position
Operating temperature	0-50 °C
Nominal flow rate	Qn 700 Nl/min
Nominal diameter	7 mm
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil and to never interrupt the lubrication.
FieldBus protocol	3F8: Profibus-DP - 3R8: DeviceNet - 3G8: CANopen
Fieldbus signalling Led	3F8: 1 led green RUN, 1 led red DIA, 1 led red BF 3R8: 1 led green IO, 1 led red NS, 1 led red MS 3G8: 1 led green RUN, 1 led red DIA, 1 led red BF
Valve signalling Led	yellow led
Logical supply voltage	24VDC (-15% / + 20%)
Power supply voltage	24VDC (for the tolerance, consider the total loads of the connected inputs)
Duty cycle	ED 100%
Maximum number of nodes	3F8: 32/127 - 3R8: 64 - 3G8: 127
Maximum Baud rate	3F8: 12 Mbit/sec - 3R8: 500 Kbit/sec - 3G8: 1 Mbit/sec
Solenoid power consumption	3W
Electric power supply connector	M12
Number of digital input / output	64 / 64
Maximum input / output absorption	1,5 A / 3 A (the total absorption must never exceed 3,5 A)
Protections	against overload and reverse polarity
Protection class	IP65

* The voltage range can change according to the range required by the connected external elements.

CODING EXAMPLE

3F	8	-	2A	-	BC	-	EBB	-	BCT2M2B	-	U77	

3F	CONNECTION: 3F = Profibus-DP 3R = DeviceNet 3G = CANopen
8	SOLENOID VALVES PORTS: 8 = 1/8
2A	ELECTRIC INPUTS MODULES: 0 = no module A = module 8 input M8
BC	ELECTRIC OUTPUTS MODULES: 0 = no module B = 4 outputs M12 duo C = 8 outputs SUB-D 37 pin D = 16 outputs SUB-D 37 pin E = 24 outputs SUB-D 37 pin F = 32 outputs SUB-D 37 pin
EBB	SUB-BASES COMPOSITION: see page 2.3.07.03
BCT2M2B	VALVES FUNCTIONS: see page 2.3.07.04
U77	SOLENOID TYPE: MATERIAL DIMENSION VOLTAGE G = PA 7 = 22 x 22 7 = 24V DC U = PET
	VERSIONS: = standard S = special (to be specified)

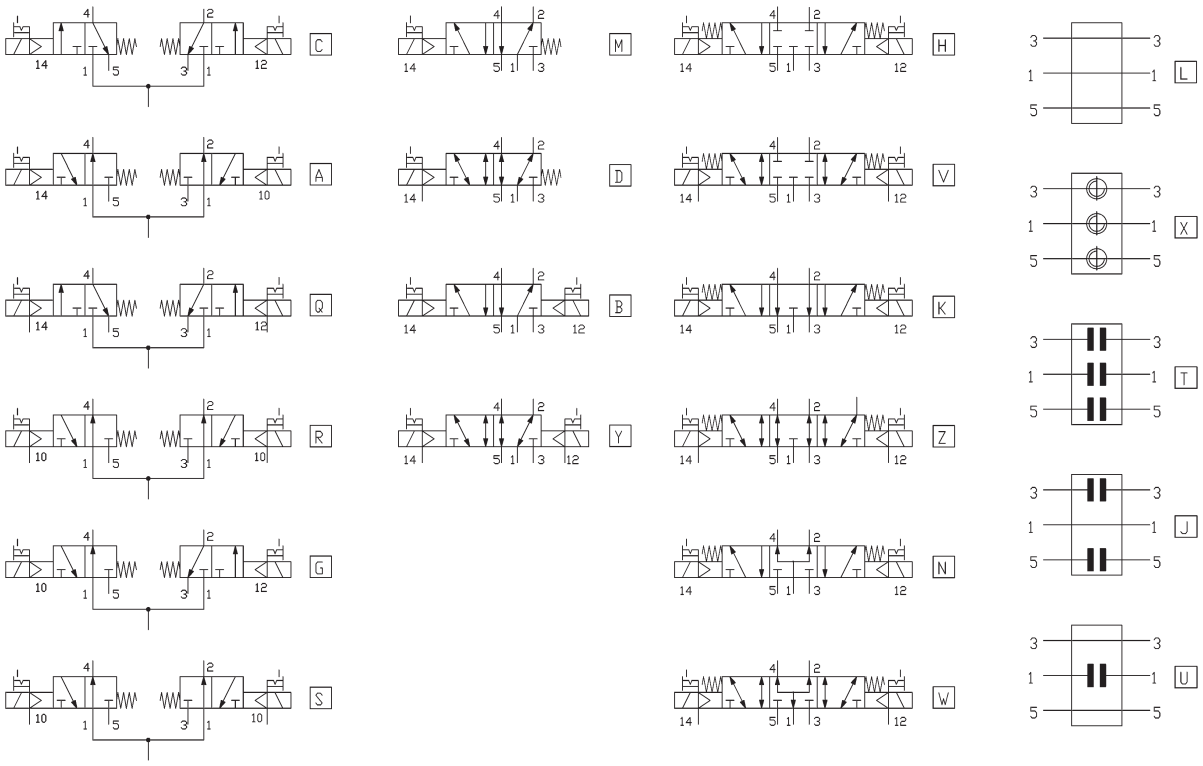
3F8-2A-BC-EBB-BCT2M2B-U77 = Valve Island with Fieldbus node Profibus-DP, 2x inlet modules, 1x outlet B mod. + 1x outlet C mod., subbase of 6 pos., valve composed by 3x mod. of 2 pos., 1x solenoid valve (SV) mod. B, 1x SV mod. C, separation channels 1/3/5, 2x SV mod. M, 2x SV mod. B, solenoids mod. U77.

CONFIGURATION TABLE OF THE VALVE ISLAND

The valve island code is always read from left to right, the electrical module is positioned to the side of the pneumatic manifold, as on the photo on page 2.3.07.01. It is also possible to create 2 or more pressure/exhaust zones in the valve island by inserting the diaphragm Mod. CNVL-TP between the modules.

The letter represents the number of valve positions	Number of valve positions, showing the combination of the modules from which the valve island is built.	Configuration code n° of positions	Configuration code of the sub-base
A = 2 pos.	(2)	A	A - B
B = 3 pos.	(3)	B	A - B
C = 4 pos.	(2) (2)	C	A - B
D = 5 pos.	(3) (2) (2) (3)	D D	A - B A - D
E = 6 pos.	(3) (3) (2) (2) (2)	E E	A - B B - B
F = 7 pos.	(2) (3) (2) (2) (2) (3) (3) (2) (2)	F F F	A - B B - B B - D
G = 8 pos.	(3) (3) (2) (2) (3) (3) (2) (2) (2) (2) (3) (2) (3)	G G G G	A - B A - D B - B B - D
H = 9 pos.	(3) (3) (3) (3) (2) (2) (2) (2) (3) (2)(2) (2) (2) (3) (2) (2) (2) (2) (3)	H H H H H	A - B B - B B - D B - F B - H

FUNCTIONS OF SERIES 3 SOLENOID VALVES

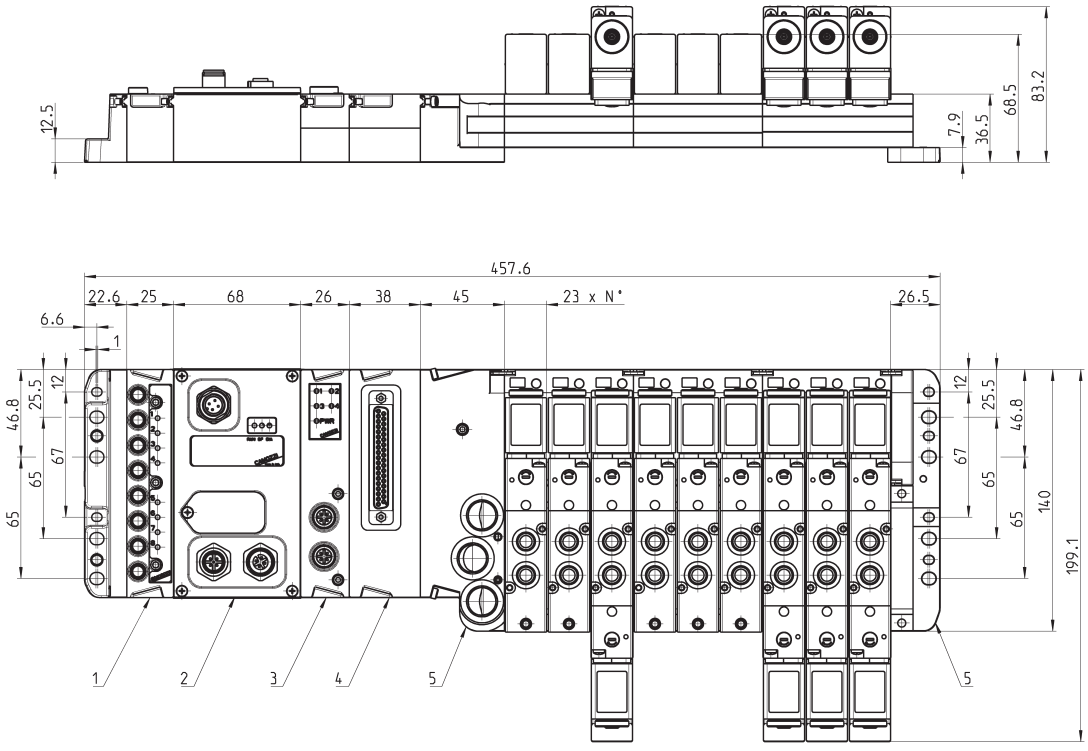


Mod.	Function	Actuation/return	Pilot supply	Working pressure (bar)	Pilot pressure (bar)	Code
338D-015-02	2 x 3/2 NC	solenoid/spring	Internal	2,5 ÷ 10	-	**C**
348D-015-02	2 x 3/2 NO	solenoid/spring	Internal	2,5 ÷ 10	-	**A**
398D-015-02	1 3/2 NC + 1 3/2 NO	solenoid/spring	Internal	2,5 ÷ 10	-	**G**
358-015-02	5/2 monostable	solenoid/spring	Internal	2,5 ÷ 10	-	**M**
358-011-02	5/2 bistable	solenoid/solenoid	Internal	1,5 ÷ 10	-	**B**
368-011-02	5/3 CC	solenoid/solenoid	Internal	2 ÷ 10	-	**H**
378-011-02	5/3 CO	solenoid/solenoid	Internal	2 ÷ 10	-	**K**
388-011-02	5/3 CP	solenoid/solenoid	Internal	2 ÷ 10	-	**N**
338D-E15-02	2 x 3/2 NC	solenoid/spring	External	-0,9 ÷ 10	2,5 ÷ 10	**Q**
348D-E15-02	2 x 3/2 NO	solenoid/spring	External	-0,9 ÷ 10	2,5 ÷ 10	**R**
398D-E15-02	1 3/2 NC + 1 3/2 NO	solenoid/spring	External	-0,9 ÷ 10	2,5 ÷ 10	**S**
358-E15-02	5/2 monostable	solenoid/spring	External	-0,9 ÷ 10	2,5 ÷ 10	**D**
358-E11-02	5/2 bistable	solenoid/solenoid	External	-0,9 ÷ 10	1,5 ÷ 10	**Y**
368-E11-02	5/3 CC	solenoid/solenoid	External	-0,9 ÷ 10	2 ÷ 10	**V**
378-E11-02	5/3 CO	solenoid/solenoid	External	-0,9 ÷ 10	2 ÷ 10	**Z**
388-E11-02	5/3 CP	solenoid/solenoid	External	-0,9 ÷ 10	2 ÷ 10	**W**
CNVL/1L	free position	-	-	-	-	**L**
CNVL-3P1	plate for supply and outlets	-	-	-	-	**X**
CNVL-3H-TP (x1)	diaphragm for supply (1)	-	-	-	-	**U**
CNVL-3H-TP (x2)	diaphragm for outlets (3-5)	-	-	-	-	**J**
CNVL-3H-TP (x3)	diaphragm for supply (1) and outlets (3-5)	-	-	-	-	**T**

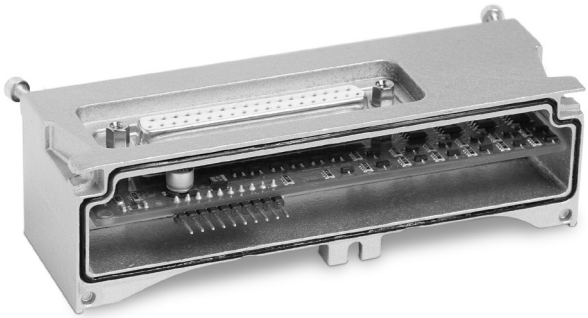
Valve Island - characteristics

Bus-In Bus-Out system for connection to the Fieldbus network. Double electrical supplies (1 for control and 1 for power). Addressing of every node via rotary switches. Leds indicating the working state. Handling of a max n° of 64 inputs and 64 outputs (I/O). Electric outputs mod. on the right side of the node are available with connection M12 duo and/or Sub-D a 37 poles and connected to pneumatic sub-bases (max 9 pos. mono/bistable valves). It's possible to pilot other multipole island valves and/or systems, managed through digital signals, using connection cables 37/25 pin. Similarly, on the left side of the node it's possible to connect Input Mod. 8 (8 connections M8 every Mod.). All Mod. I/O can be easily inserted thanks to their direct connection to the plate. Manuals and configuration files are available on our website: http://catalogue.camozzi.com/Downloads.

DRAWING LEGEND:
1 = digital inputs module
2 = Fieldbus module
3 = digital outputs module M12 connector
4 = digital outputs module connector 37 poles
5 = penumatic/electric interface module + foot

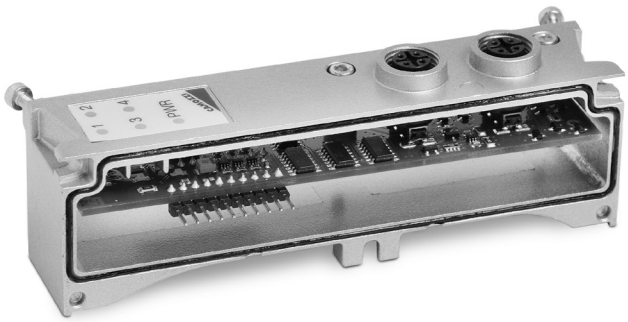


Digital outputs module with connector 37 poles Mod. ME-xxxx-DD



GENERAL DATA				
	ME-0032-DD	ME-0024-DD	ME-0016-DD	ME-0008-DD
Number of digital outputs	32	24	16	8
Connection	female SUB-D 37 poles	female SUB-D 37 poles	female SUB-D 37 poles	female SUB-D 37 poles
Number of connectors	1	1	1	1
Dimensions	130 x 38 mm	130 x 38 mm	130 x 38 mm	130 x 38 mm
Type of signal	24 V DC PNP	24 V DC PNP	24 V DC PNP	24 V DC PNP
Overload protection	1 A every 8 outputs	1 A every 8 outputs	1 A every 8 outputs	1 A every 8 outputs
Power consumption without load	5 mA	5 mA	5 mA	5 mA
Protection class	IP65	IP65	IP65	IP65
Operating temperature	0°C ÷ 50 °C	0°C ÷ 50 °C	0°C ÷ 50 °C	0°C ÷ 50 °C
Material	Aluminium	Aluminium	Aluminium	Aluminium
Weight	100 g	100 g	100 g	100 g

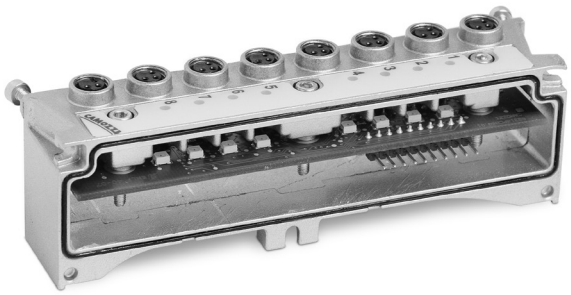
Digital outputs module with connector M12 Duo Mod. ME-0004-DL



GENERAL DATA	
	ME-0004-DL
Number of digital outputs	4
Connection	female M12 5 Poles Duo
Number of connectors	2
Dimensions	130 x 25 mm
Signalling	1 Yellow Led for each single outlet 1 Green Led for power supply presence on the module
Outlet voltage	24 V DC
Type of signal	24 V DC PNP
Overload protection - Supply voltage	total 900 mA
Power consumption without load	10 mA
Protection class	IP65
Temperature	0°C ÷ 50 °C
Material	Aluminium
Weight	100 g

Digital inputs Module Mod. ME-0800-DC*

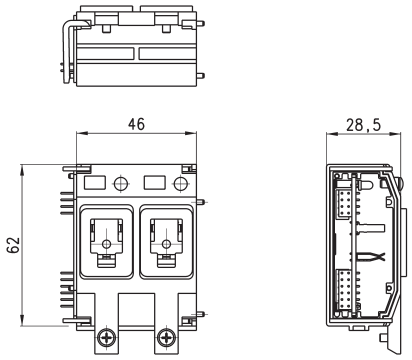
* Not for DeviceNet



GENERAL DATA	
Number of digital inputs	8
Connection	female M8 3 poles
Number of connectors	8
Dimensions	130 x 25 mm
Signalling	1 yellow led for each inlet
Sensors supply	24VDC
Overloaded protection	400 mA every 4 sensors
Power consumption	10 mA
Type of signal	PNP
Protection class	IP65
Operating temperature	0-50°C
Material	Aluminium
Weight	110 g

Intermediate left electrical Module - 2 positions

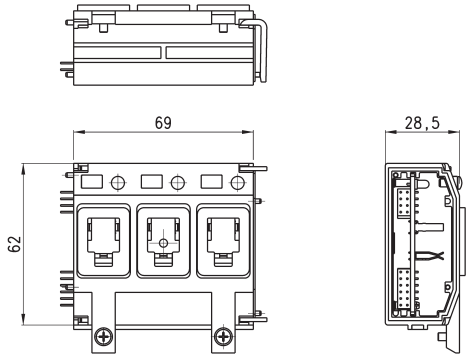
It can be mounted with sub-base Mod. CNVL-3H2



Mod.
3PAC-R-LI2

Intermediate left electrical Module - 3 positions

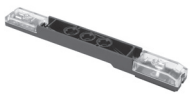
It can be mounted with sub-base Mod. CNVL-3I3

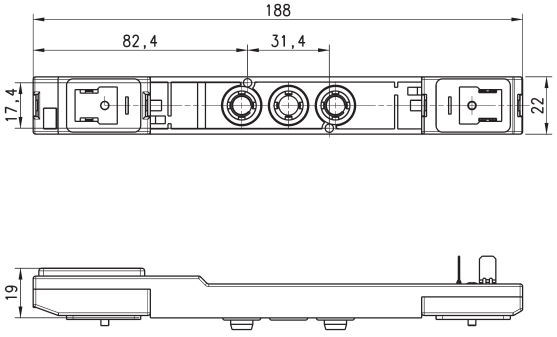


Mod.
3PAC-R-LI3

Electrical Module for a bistable solenoid valve

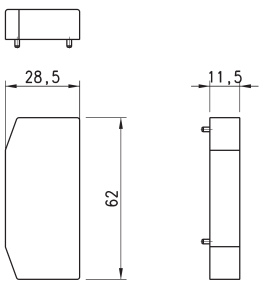
Supplied with:
2x screws for valve mounting
2x screws for solenoid mounting
1x interface seal
2x interface seals for solenoid





Mod.
3PAC-R-IF1

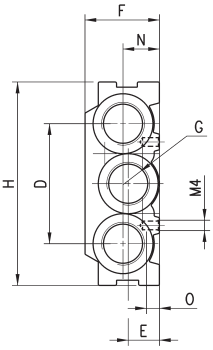
Terminal end cap for electric module

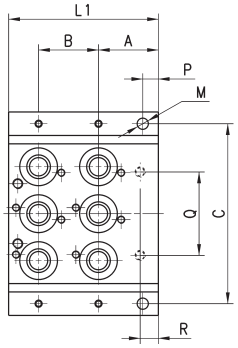


Mod.
3PAC-R-TP1

Initial/terminal pneumatic Module - 2 positions

Supplied with:
3x O-rings
2x fixing screws
2x junction plugs
6x interface seals module/valve

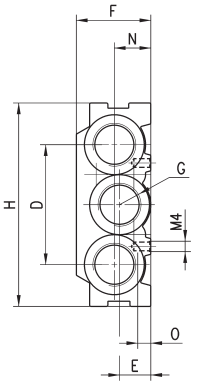


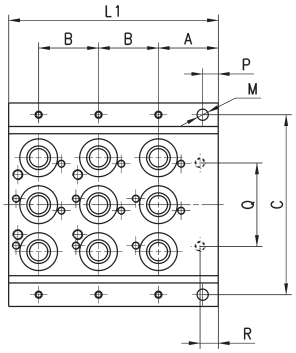


Mod.	A	B	C	D	E	F	G	H	L1	M	N	O	P	Q	R
CNVL-3H2	23	23	69,5	46	12	29	3/8	78	57,5	4,3	14	5	6	32	7

Initial/terminal pneumatic Module - 3 positions

Supplied with:
3x O-rings
2x fixing screws
2x junction plugs
9x interface seals module/valve

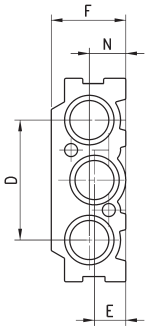


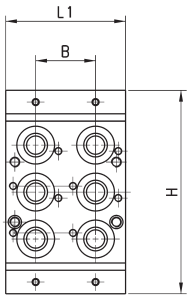


Mod.	A	B	C	D	E	F	G	H	L1	M	N	O	P	Q	R
CNVL-3H3	23	23	69,5	46	12	29	3/8	78	80,5	4,3	14	5	6	32	7

Intermediate pneumatic Module - 2 positions

Supplied with:
3x O-Rings
2x fixing screws
2x junction plugs
6x interface seals module/valve

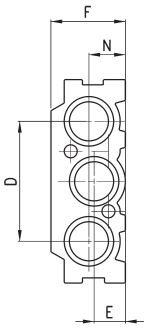


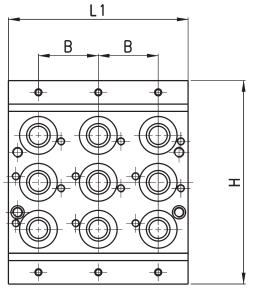


Mod.	B	D	E	F	H	L1	N
CNVL-3I2	23	46	12	29	78	46	14

Intermediate pneumatic Module - 3 positions

Supplied with:
3x O-rings
2x fixing screws
2x junction plugs
9x interface seals module/valve

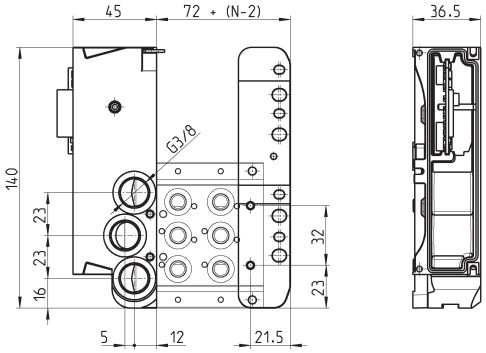




Mod.	B	D	E	F	H	L1	N
CNVL-3I3	23	46	12	29	78	69	14

Pneumatic/electric interface Module

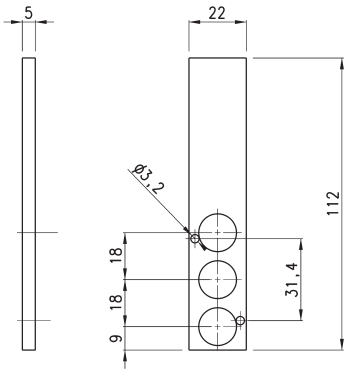
Supplied with:
1x module with card
1x foot for manifold



Mod.
ME-0018-DS

Excluder tap for free position (cod. L)

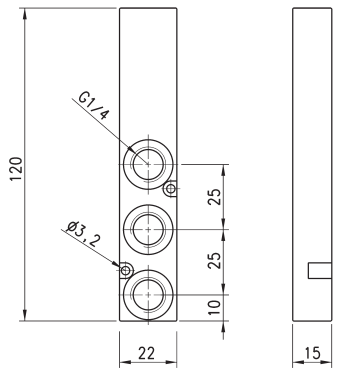
Supplied with:
3x O-rings
2x screws



Mod.
CNVL/1L

Intermediate plate for manifolds with outlets (cod. X)

Supplied with:
3x O-rings
2x screws

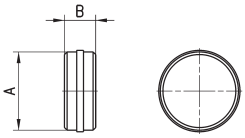


Mod.
CNVL-3P1

Diaphragm for separation channels 1 - 3 - 5 (cod. U - J or T)

Supplied with:
1x diaphragm.
If you need cod. U, please order 1 piece.
If you need cod. J, please order 2 pieces.
If you need cod. T, please order 3 pieces.

See pag. 2/3.07.04



Mod.	A	B
CNVL-3H-TP	15,6	6