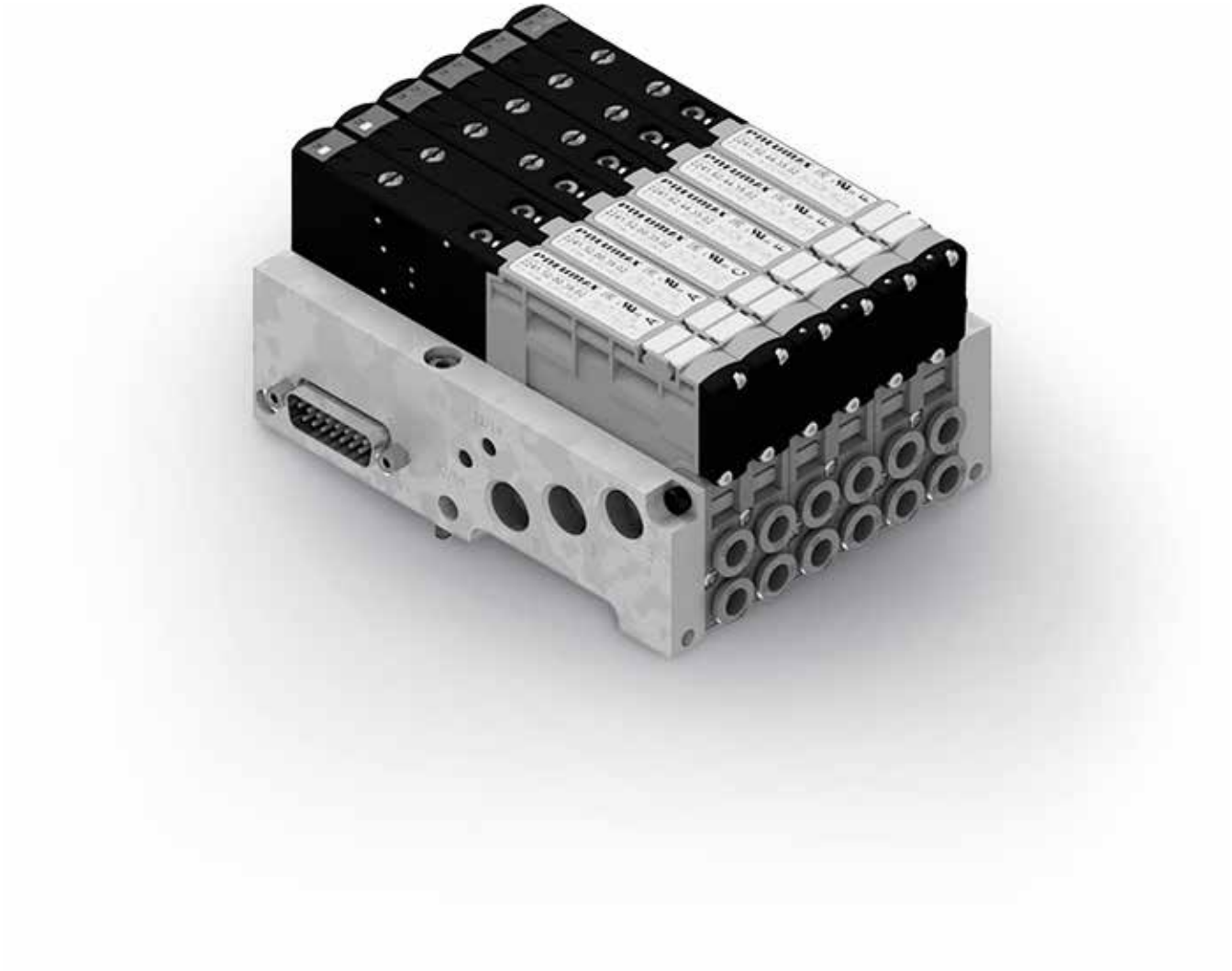
PNEUMAX



SOLENOID VALVES **OPTYMA-Sc**

COMPACT DESIGN

Series 2200 "Optyma-Sc"

Optyma solenoid valves series comes completed by "Compact" version, useful when a limited number of solenoid valves is needed without managing input and output signals.
Standard base blocks provide 4 or 6 solenoid valves positions. Standard base blocks can be individually sold even without solenoid valves to allow maximum configuration flexibility. Solenoid valves can be chosen from whole Opytma-S range.
Manifolds made in this way allow great room and weight saving against corrispondent pneumatic group from Optyma-S series.

- Flow rate: up to 550[Nl/min], using the modular base with Ø8 quick fitting tube.
- Modular base available with Ø4, Ø6, Ø8 quick fitting tube.
- The solenoid pilots are low consumption and fitted on the same side of the valve.
- Mono and bistable valves have the same dimension.
- Easy and fast assembly on the sub base thanks to the “one screw” mounting solution.
- Possibility to replace a valve without the need of disconnecting the pneumatic pipes.
- Electrical and pneumatic connections positioned on the same side.
- Possibility to operate with different pressures and vacuum.
- 4 or 6 electric signals management (two signals per position, indipendently of the mounted solenoid valve).
- The electrical connection is achieved thanks to a 9 or 15 poles connector.
- The protection grade is IP65 directly integrated in the manifold components.

“Shifting time of pneumatic directional control valves or moving parts, logic devices were measured in accordance to ISO 12238:2001”

Construction characteristics

Body	Technopolymer
Seals	NBR
Piston seals	NBR
Springs	Stainless Steel
Operators	Technopolymer
Pistons	Technopolymer
Spools	Stainless Steel

Operational characteristics

Supply voltage	24V DC ±10%
Pilot consumption	1,3W nominal in energy saving mode
Pilot working pressure (12-14)	from 2,5 to 7 bar max.
Valve working pressure [1]	from 0 to 10 bar max.
Operating temperature	from -5°C to +50°C
Protection degree	IP40
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous

Rules and configuration scheme

CONFIGURATION CODE ← C - [ ] - E - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

Electrical connection		
MP	9	Multi-pin 9 poles PNP connector
	1	Multi-pin 15 poles PNP connector
MN	9	Multi-pin 9 poles NPN connector
	1	Multi-pin 15 poles NPN connector
MA	9	Multi-pin 9 poles AC connector
	1	Multi-pin 15 poles AC connector

Left endplates	
E	External feeding

Module 1	
...-...	See “single pneumatic module configurator”

Diaphragm plug (optional)	
X	Diaphragm plug on port 1
Y	Diaphragm plug on port 3
Z	Diaphragm plug on port 5

Module 2	
...-...	See “single pneumatic module configurator”

Diaphragm plug (optional)	only for 15 poles connector
X	Diaphragm plug on port 1
Y	Diaphragm plug on port 3
Z	Diaphragm plug on port 5

Module 3	only for 15 poles connector
...-...	See “single pneumatic module configurator”

Right endplates	
P0	Endplate closed
P1	Endplate with connection ports

Single pneumatic module configurator

Module configurator - [ ] [ ] [ ] [ ] [ ] [ ] -

Base type	
4	Bistable two-position base Ø4
6	Bistable two-position base Ø6
8	Bistable two-position base Ø8

Base version	
	5-1-3 free (standard sub-base)
3	Intermediate diaphragm plug on ports 1 and 5
4	Intermediate diaphragm plug on ports 1 and 3
5	Intermediate diaphragm plug on port 5
6	Intermediate diaphragm plug on ports 1, 3, 5
7	Intermediate diaphragm plug on port 1
8	Intermediate diaphragm plug on ports 3 and 5
9	Intermediate diaphragm plug on port 3

Solenoid valve version	
A	S.V. 5/2 solenoid-spring
B	S.V. 5/2 solenoid-differential
C	S.V. 5/2 solenoid-solenoid
E	S.V. 5/3 solenoid-solenoid
F	S.V. 2x3/2 NC-NC
G	S.V. 2x3/2 NO-NO
H	S.V. 2x3/2 NO-NC
I	S.V. 2x3/2 NC-NO
T	Plug

Only bases manifold version	
V	No valve

S.V. accessories (optional)	
5	Separed exhaust
6	Separed air supply

Accessories not available for only bases manifold

**It’s possible to order an only base manifold by select the field V as described.
This selection MUST be done for every place into the manifold.
It’s NOT possible to configure manifolds with positions both filled with S.V. and free.**

Configurable on Cadenas platform

CADENAS

Note:

When composing the configuration, always bear in mind that the maximum number of electrical signals available is:

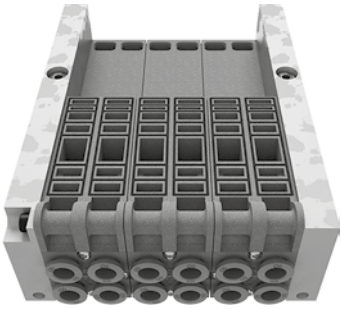
- 8 for multi-pin 9 poles connector (MP9)
- 12 for multi-pin 15 poles connector (MP1)

Consider that every base uses 4 signals and the number of avaliable signals depends on the electrical connection type, so the number of bases you can use is related to the electrical connection you chose. You can order a “bases only” manifold by selecting “V” option in the solenoid valves dedicated field.
If a monostable valve is used on a bistable type base (2 electrical signals occupied), an electrical signal is lost.
However, this makes it possible to replace the monostable valve with a bistable valve in the same position.
Diaphragm plugs are used to interrupt ports 1, 3 and 5 of the sub-base.
If it is necessary to interrupt more than one port at the same time, put the letters that identify their position in sequence (e.g.: if it is necessary to intercept the ports 3 and 5 you must put the letters YZ).

Only base configuration example: C-MP1-E-6VV-6VV-6VV-P0

- 15 poles multi-pin connection
- Standard left endplate
- Bistable standard base Ø6 without solenoid valves (6VV)
- Bistable standard base Ø6 without solenoid valves (6VV)
- Bistable standard base Ø6 without solenoid valves (6VV)
- Right Endplates closed

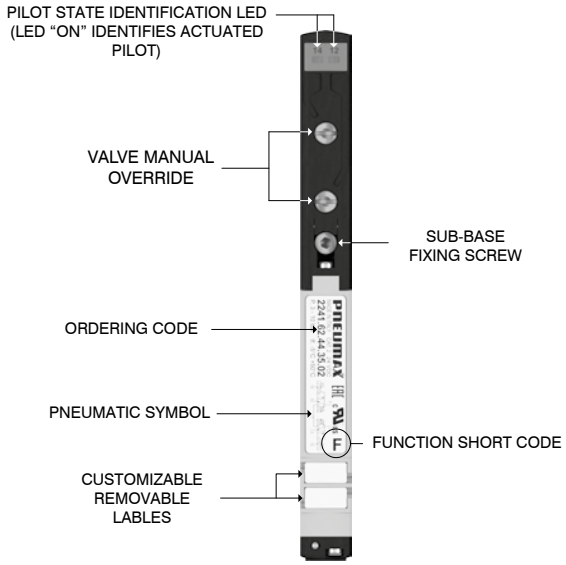
Attention: Complete with solenoid valves before use.



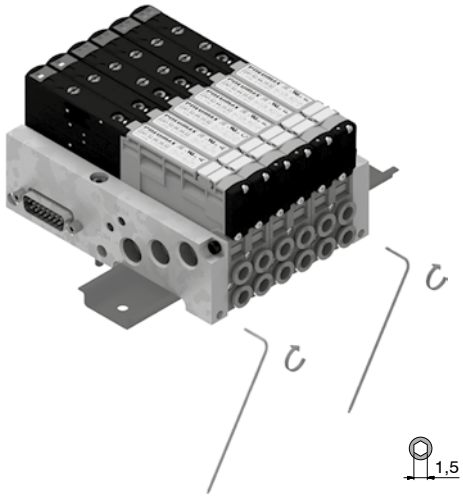
Standard configuration example: C-MP1-E-6AA-6CF-6FF-P1

- 15 poles multi-pin connection
- Standard left endplate
- Bistable standard base Ø6 with AA type solenoid valves (6AA)
- Bistable standard base Ø6 with CF type solenoid valves (6CF)
- Bistable standard base Ø6 with FF type solenoid valves (6FF)
- Right endplate with supply and exhaust ports

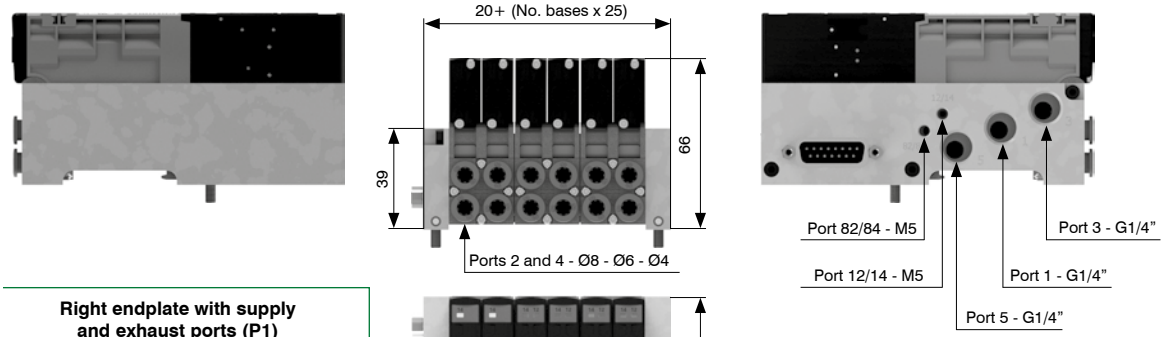
Attention: The signal allocation is 2 signals for every positions, regardless of solenoid valve type.



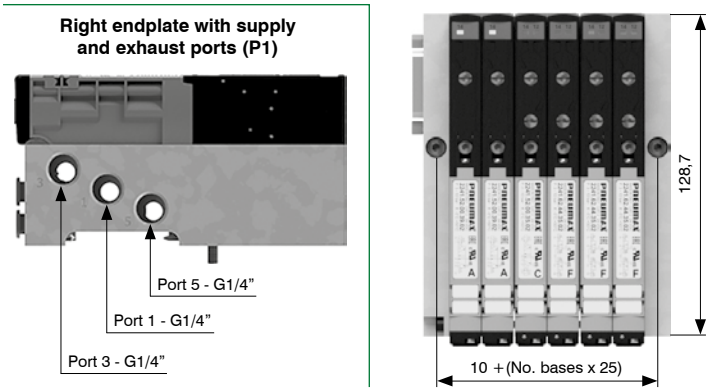
DIN rail fixing



Supply ports and maximum possible size according to valves used

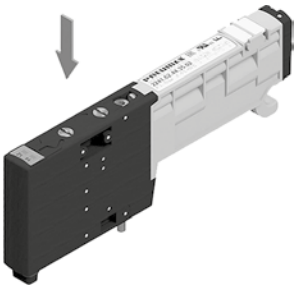


Right endplate with supply and exhaust ports (P1)

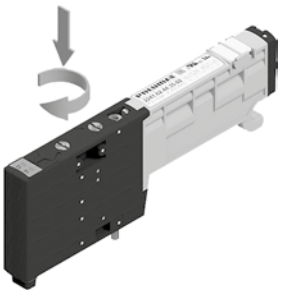


Manual override actuation

Instable function:
Push to actuate
(when released it moves back to the original position)

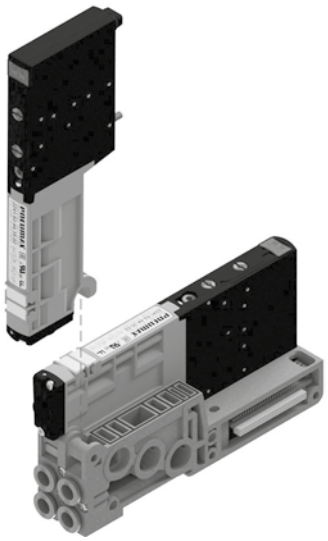


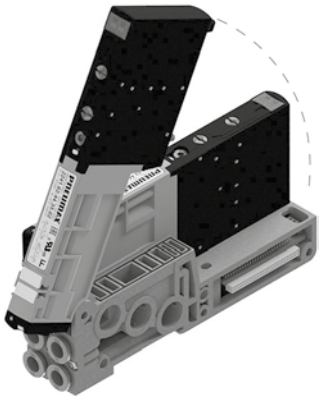
Bistable function:
Push and turn to get the bistable function

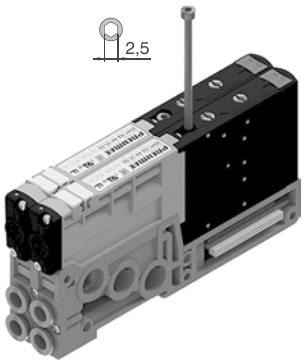


Note: we recommend the manual override is returned to it's original position when not in use

Solenoid valves installation

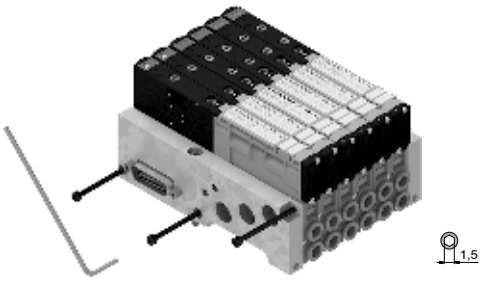






Note: Torque moment 0,8 Nm

Sub-base assembly



Minimum torque moment: 2 Nm
Maximum fixing torque for fittings: 2,5 Nm

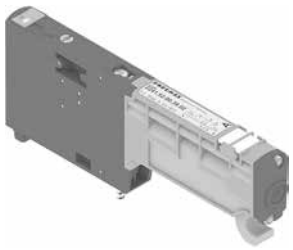
Solenoid-Spring

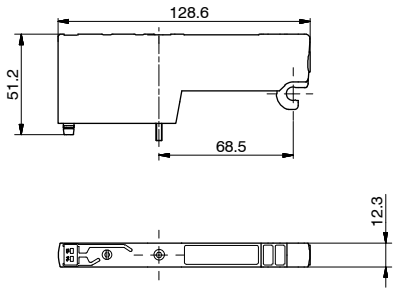
Coding: 2241.52.00.39.Ⓥ

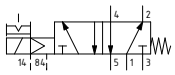
Technical characteristics		
Fluid		Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)		From vacuum to 10
Pilot pressure (bar)		2,5 ... 7
Temperature °C		-5 ... +50
Flow rate at 6 bar with Δp=1 (Nl/min)	with modular base, tube ø4	140
	with modular base, tube ø6	300
	with modular base, tube ø8	400
Response time according to ISO 12238, activation time (ms)		15
Response time according to ISO 12238, deactivation time (ms)		20

Ⓥ	VOLTAGE
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "A"







Weight 67 g

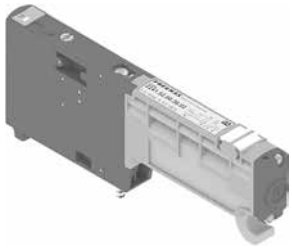
Solenoid-Differential

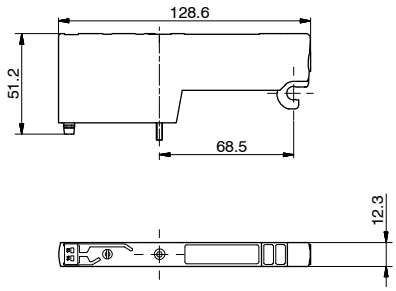
Coding: 2241.52.00.36.Ⓥ

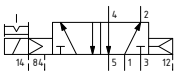
Technical characteristics		
Fluid		Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)		From vacuum to 10
Pilot pressure (bar)		2,5 ... 7
Temperature °C		-5 ... +50
Flow rate at 6 bar with Δp=1 (Nl/min)	with modular base, tube ø4	140
	with modular base, tube ø6	400
	with modular base, tube ø8	550
Response time according to ISO 12238, activation time (ms)		20
Response time according to ISO 12238, deactivation time (ms)		25

Ⓥ	VOLTAGE
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "B"







Weight 67 g

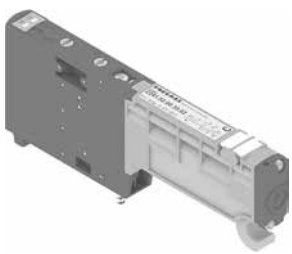
Solenoid-Solenoid

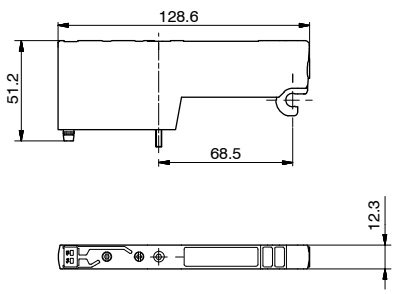
Coding: 2241.52.00.35.Ⓥ

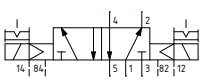
Technical characteristics		
Fluid		Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)		From vacuum to 10
Pilot pressure (bar)		2,5 ... 7
Temperature °C		-5 ... +50
Flow rate at 6 bar with Δp=1 (Nl/min)	with modular base, tube ø4	140
	with modular base, tube ø6	400
	with modular base, tube ø8	550
Response time according to ISO 12238, activation time (ms)		10
Response time according to ISO 12238, deactivation time (ms)		10

Ⓥ	VOLTAGE
	02 = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "C"







Weight 67 g

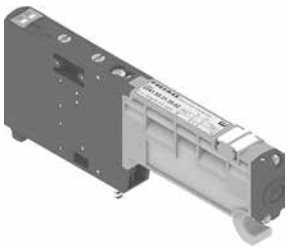
Solenoid-Solenoid 5/3 (Closed centres)

Coding: 2241.53.31.35.Ⓥ

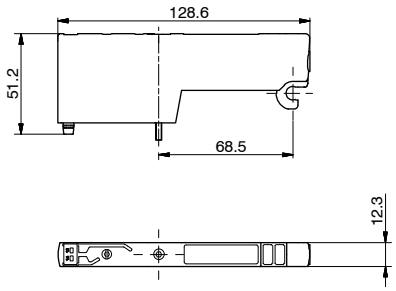
Technical characteristics		
Fluid		Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)		From vacuum to 10
Pilot pressure (bar)		2,5 ... 7
Temperature °C		-5 ... +50
Flow rate at 6 bar with Δp=1 (Nl/min)	with modular base, tube ø4	140
	with modular base, tube ø6	300
	with modular base, tube ø8	400
Response time according to ISO 12238, activation time (ms)		15
Response time according to ISO 12238, deactivation time (ms)		20

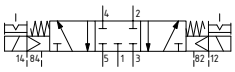
	VOLTAGE
Ⓥ	**02** = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

SHORT FUNCTION CODE "E"



Weight 83 g





Solenoid-Solenoid 2x3/2

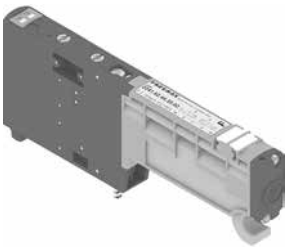
Coding: 2241.62.Ⓕ.35.Ⓥ

Technical characteristics		
Fluid		Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)		From vacuum to 10
Pilot pressure (bar)		≥3+(0,2xInlet pressure)
Temperature °C		-5 ... +50
Flow rate at 6 bar with Δp=1 (Nl/min)	with modular base, tube ø4	140
	with modular base, tube ø6	360
	with modular base, tube ø8	420
Response time according to ISO 12238, activation time (ms)		15
Response time according to ISO 12238, deactivation time (ms)		25

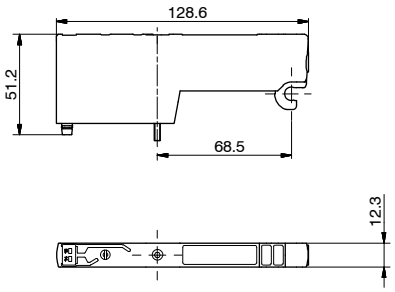
	FUNCTION
Ⓕ	**44** = NC-NC (5/3 Open centres)
	45 = NC-NO (normally closed-normally open)
	54 = NO-NC (normally open-normally closed)
	55 = NO-NO (5/3 Pressured centres)
	VOLTAGE
Ⓥ	**02** = 24 VDC PNP
	12 = 24 VDC NPN
	05 = 24 VAC

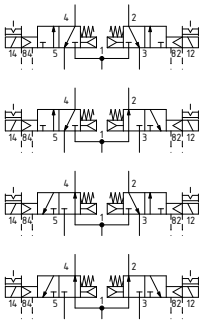
SHORT FUNCTION CODE:
NC-NC (5/3 Open centres)="F"
N.O. - N.O. (5/3 Pressured centres)="G"
N.C.-N.O.="H"
N.O.-N.C.="I"

Example: If inlet pressure is set at 5 bar then pilot pressure must be at least Pp=3+(0,2*5)=4 bar



Weight 75 g



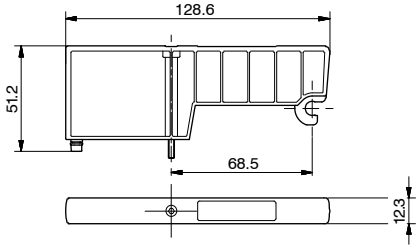


Closing plate

Coding: 2240.00

Technical characteristics		
Fluid		Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)		From vacuum to 10
Pilot pressure (bar)		2,5 ... 7
Temperature °C		-5 ... +50

Weight 30 g



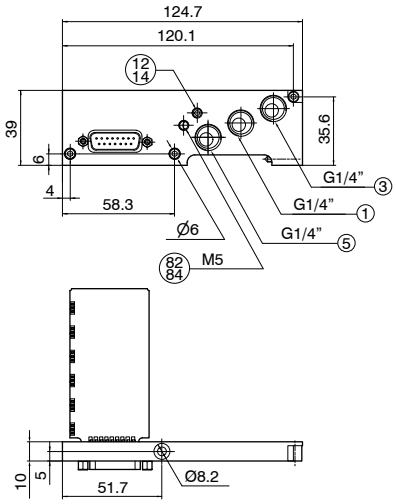
SHORT FUNCTION CODE "T"

Left Endplate

Coding: 22C0.Ⓥ.S

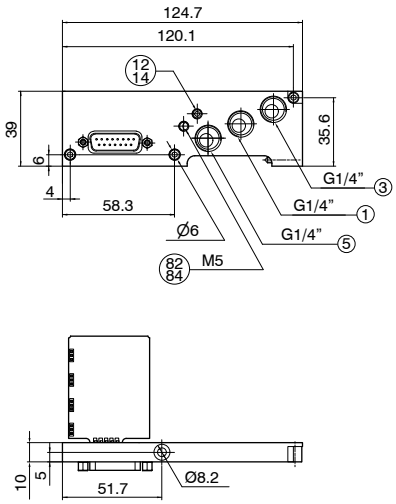
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Ⓥ	VERSION
	15 = 15 poles multi-pin connection
	09 = 9 poles multi-pin connection



PORT 12/14 SEPARED FROM PORT 1.
DO NOT PRESSURIZE PORT 82/84.
PILOTS EXHAUST.
Weight 199 g

22C0.15.S



PORT 12/14 SEPARED FROM PORT 1.
DO NOT PRESSURIZE PORT 82/84.
PILOTS EXHAUST.
Weight 199 g

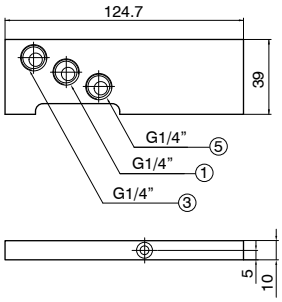
22C0.09.S

Right Endplate

Coding: 22C0.Ⓥ

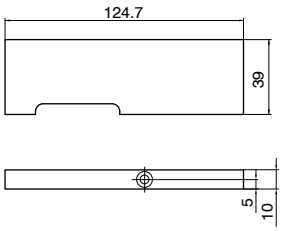
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Pilot pressure (bar)	2,5 ... 7
Temperature °C	-5 ... +50

Ⓥ	VERSION
	00 = Blind plate
	03 = With alimentation/exhaust ports



PORT 12/14 SEPARED FROM PORT 1.
DO NOT PRESSURIZE PORT 82/84.
PILOTS EXHAUST.
Weight 148g

22C0.03



Weight 148g

22C0.00

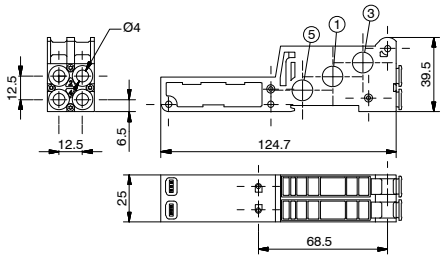
AIR DISTRIBUTION

Modular base (2 places)

Coding: 224Ⓒ.ⒻC

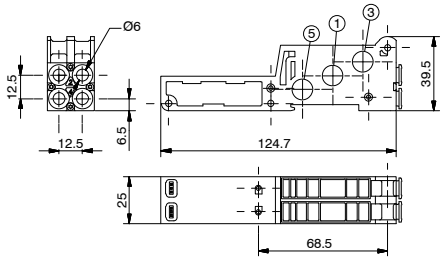
Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10
Temperature °C	-5 ... +50

Ⓒ	TUBE DIAMETER
	4 = Ø4
	6 = Ø6
	8 = Ø8
Ⓕ	FUNCTION
	01 = Opened ports
	03 = Ports 1-5 separated
	04 = Ports 1-3 separated
	05 = Port 5 separated
	06 = Separated ports
	07 = Port 1 separated
	08 = Ports 3-5 separated
	09 = Port 3 separated



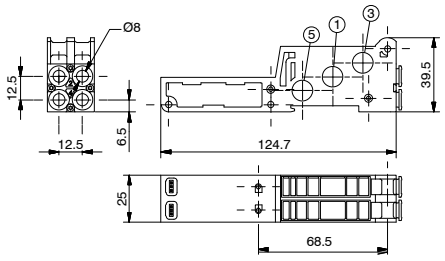
Weight 75 g

2244.ⒻC



Weight 75 g

2246.ⒻC



Weight 75 g

2248.ⒻC

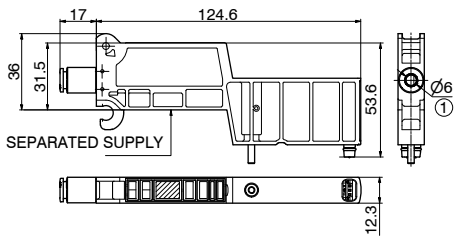
Individual supply or exhaust module

Coding: 22E0.Ⓥ.06

Technical characteristics	
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous
Working pressure (bar)	From vacuum to 10 3 ... 7 (piloting 12/14)
Temperature °C	-5 ... +50

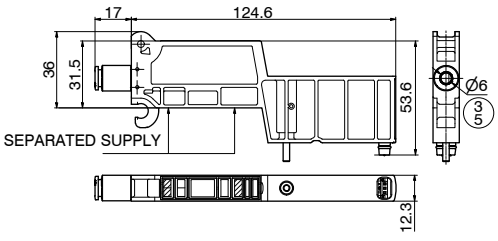
Ⓥ	VERSION
	01 = Port 1 separated
	35 = Ports 3-5 separated

The flow rate of the solenoid valve will be reduced compared to that shown in the general catalogue



Weight 44 g

22E0.01.06



Weight 44 g

22E0.35.06

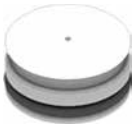
SEP type silencer

Coding: SEP14

Weight 2 g

Diaphragm plug

Coding: 2230.17

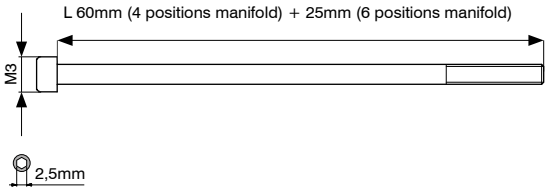


Weight 1,3 g

TCEI M3 screw kit

Coding: 22C0.KV.Ⓥ

Ⓥ	VERSION
	04 = L 60mm (4 positions manifold)
	06 = L 60mm (6 positions manifold)



The Kit includes 3 pieces

Cable complete with connector, 9 Poles, IP40

Coding: 2400.09.Ⓛ.00

Ⓛ	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

Cable complete with connector, 15 Poles, IP40

Coding: 2400.15.Ⓛ.00

Ⓛ	CABLE LENGTH
	03 = 3 meters
	05 = 5 meters
	10 = 10 meters

AIR DISTRIBUTION

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D.NW.111-EN-REV.A-01/2025