

B11

ISO 15218 - 10 mm Nanovalves - 1 W standard

- Flow-rate: 10 NI/min
- Quick response time: 3 ms
- ISO 15218 interface
- 3/2 NC version
- Led standard



TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid temperature	Max +50 °C
Fluid	10 µm filtered air, with or without lubrication
Ways/Positions	3/2 NC, 3/2 NO
Pressure	Max 7 bar
Control	electric
Return	mechanical spring
Operating frequency	5 Hz
Assembly	no. 2 screws M1,6
Connections	ISO 15218 interface
Nominal Ø (mm)	0,7 (3/2 NC) (3/2 NO)
Nominal flow rate (NI/min)	10

CONSTRUCTIVE CHARACTERISTICS

Valve body	self-extinguishing technopolymer
Seals	VITON/NBR
Components	stainless steel - brass

ELECTRIC CHARACTERISTICS

Voltage	24 VDC (12V DC upon request)
Voltage tolerance	±10%
Power consumption	1 W
Electrical connection	connector D535 U40 (IP65), welded pin (IP00), Molex
LED	yellow (standard)
Manual override	monostable button

CODIFICATION KEY

B	1	1	-	4	0	1	L	2	4	D
	1			2	3	4	5		6	

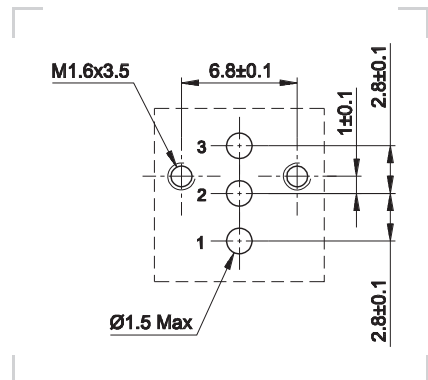
1 Series	2 Model	3 Type	4 Function
B11 = ISO 15218 - 10 mm Nanovalves	4 = Monostable	0 = 3/2 NC 1 = 3/2 NO	1 = With manual override (L variant) 2 = Without manual override (L variant) 3 = With manual override (P variant) 4 = Without manual override (P variant) 5 = With manual override (M variant) 6 = Without manual override (M variant)

5 Variant	6 Voltage
L = 90° connector (protected pins) M = In-line connector protected pins (upon request) P = In-line connector (for assembly on electronic board)	24D = 24 V DC 12D = 12 V DC (upon request)

Fixing screws standard supplied. Max tightening torque 0,15 Nm
Other versions upon request: in-line cables and 90° cables

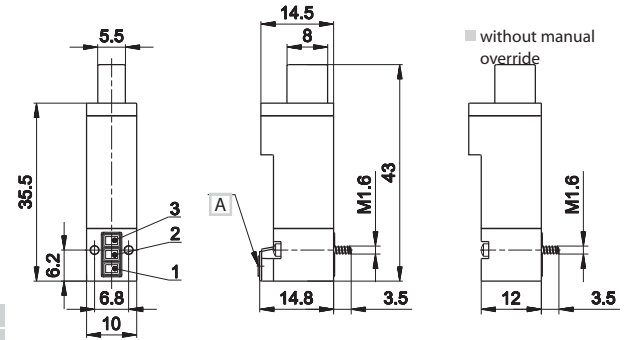
Subject to change

Substructure (ISO 15218)



- 1 = Supply port
- 2 = Use
- 3 = Exhaust

90° Connector - protected pins



Symbol	Pressure bar	Ø mm	Resp. Time (ms)		Weight Kg	Part no.
			En.	De-en.		

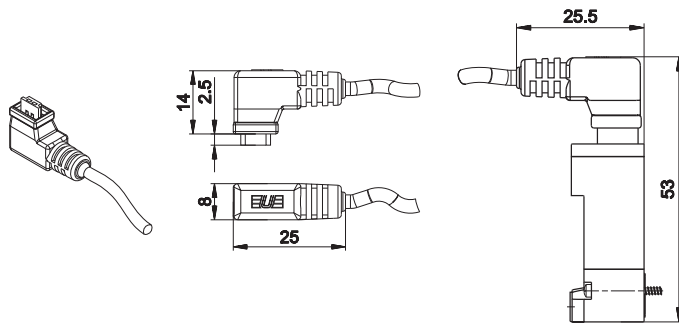
3/2 NC		0÷7	0,7	3	3,5	0,0108	B11-401L24D (a)
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3/2 NC		0÷7	0,7	3	3,5	0,0107	B11-402L24D (b)
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A Manual override

- 1 = Supply port
- 2 = Use
- 3 = Exhaust

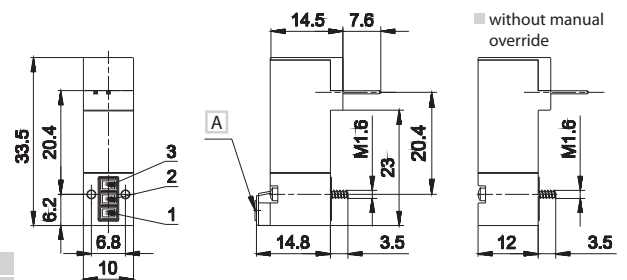
D-535U40300/500



single connector with 0,3-0,5 m wire
 weight Kg: 0,05 D-535U40300 wire L = 300 mm
 0,07 D-535U40500 wire L = 500 mm

3

In-line PIN (for assembly on electronic board)



Symbol	Pressure bar	Ø mm	Resp. Time (ms)		Weight Kg	Part no.
			En.	De-en.		

3/2 NC		0÷7	0,7	3	3,5	0,0104	B11-403P24D (a)
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3/2 NC		0÷7	0,7	3	3,5	0,0103	B11-404P24D (b)
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A Manual override

- 1 = Supply port
- 2 = Use
- 3 = Exhaust

(a) = with manual override (b) = without manual override

B10

ISO 15218 - 10 mm Nanovalves - low power consumption

- Low input standard: 0,3 W
- Flow-rate: 10 NI/min
- Quick response time: 3 ms
- ISO 15218 interface
- 3/2 NC version
- Led standard

Upon request:
- Bistable version



TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid temperature	Max +50 °C
Fluid	10 µm filtered air, with or without lubrication
Ways/Positions	3/2 NC
Pressure	Max 7 bar
Control	electric
Return	mechanical spring
Operating frequency	5 Hz
Assembly	no. 2 screws M1,6
Connections	ISO 15218 interface
Nominal Ø (mm)	0,7 mm
Nominal flow rate (NI/min)	10

CONSTRUCTIVE CHARACTERISTICS

Valve body	self-extinguishing technopolymer
Seals	VITON/NBR
Components	stainless steel - brass

ELECTRIC CHARACTERISTICS

Voltage	24 VDC (12V DC upon request)
Voltage tolerance	±10%
Power consumption	1,3 W (speed-up 1 W)
Electrical connection	connector D535 U40 (IP65), welded pin (IP00), Molex
LED	yellow (standard)
Manual override	monostable button

CODIFICATION KEY

B	1	0	-	4	0	1	L	2	4	D
	1			2	3	4	5		6	

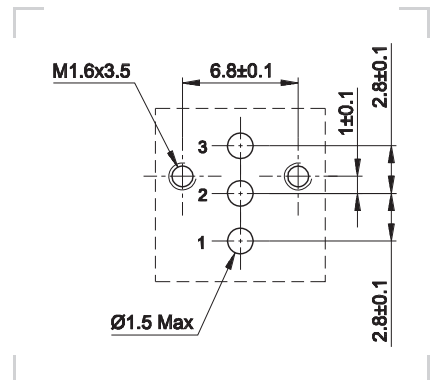
1 Series	2 Model	3 Type	4 Function
B10 = ISO 15218 10 mm Nanovalves low power consumption	4 = Monostable	0 = 3/2 NC	1 = With manual override (L variant) 2 = Without manual override (L variant) 3 = With manual override (P variant) 4 = Without manual override (P variant) 5 = With manual override (M variant) 6 = Without manual override (M variant)

5 Variant	6 Voltage
L = 90° connector (protected pins) M = In-line connector protected pins (upon request) P = In-line connector (for assembly on electronic board)	24D = 24 V DC 12D = 12 V DC (upon request)

Fixing screws standard supplied. Max tightening torque 0,15 Nm
Other versions upon request: in-line cables and 90° cables

Subject to change

Substructure (ISO 15218)



- 1 = Supply port
- 2 = Use
- 3 = Exhaust

B12

ISO 15218 - 10 mm Nanovalves - high flow rate

- High flow-rate: 30 NI/min
- Quick response time: 3 ms
- ISO 15218 interface
- 3/2 NC version
- Led standard

Upon request:

- 40 NI/min flow rate version



TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid temperature	Max +50 °C
Fluid	10 µm filtered air, with or without lubrication
Ways/Positions	3/2 NC
Pressure	Max 7 bar
Control	electric
Return	mechanical spring
Operating frequency	5 Hz
Assembly	no. 2 screws M1,6
Connections	ISO 15218 interface
Nominal Ø (mm)	1,3 mm
Nominal flow rate (NI/min)	28

CONSTRUCTIVE CHARACTERISTICS

Valve body	self-extinguishing technopolymer
Seals	VITON/NBR
Components	stainless steel - brass

ELECTRIC CHARACTERISTICS

Voltage	24 VDC (12V DC upon request)
Voltage tolerance	±10%
Power consumption	0,6 W (speed-up 5,5 W)
Electrical connection	connector D535 U40 (IP65), welded pin (IP00), Molex
LED	yellow (standard)
Manual override	monostable button

CODIFICATION KEY

B	1	2	-	4	0	1	L	2	4	D
	1			2	3	4	5		6	

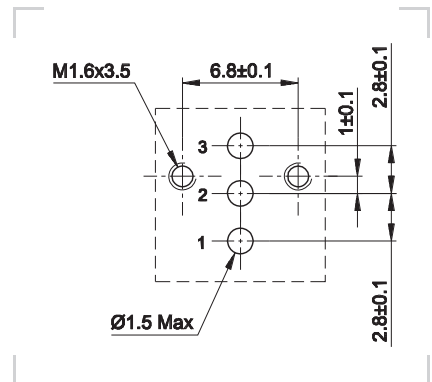
1 Series	2 Model	3 Type	4 Function
B12 = ISO 15218 - 10 mm Nanovalves - high flow rate	4 = Monostable	0 = 3/2 NC	1 = With manual override (L variant) 2 = Without manual override (L variant) 3 = With manual override (P variant) 4 = Without manual override (P variant) 5 = With manual override (M variant) 6 = Without manual override (M variant)

5 Variant	6 Voltage
L = 90° connector (protected pins) M = In-line connector protected pins (upon request) P = In-line connector (for assembly on electronic board)	24D = 24 V DC 12D = 12 V DC (upon request)

Fixing screws standard supplied. Max tightening torque 0,15 Nm
 Other versions upon request: in-line cables and 90° cables, nominal flow rate 40 NI/min

Subject to change

Substructure (ISO 15218)

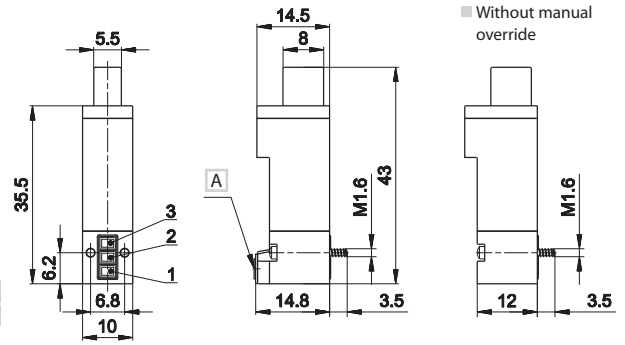


- 1 = Supply port
- 2 = Use
- 3 = Exhaust

90° Connector - protected pins



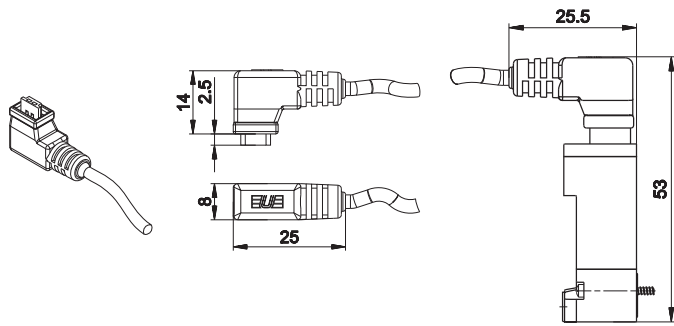
Symbol	Pressure bar	Ø mm	Resp. Time (ms)		Weight Kg	Part no.
			En.	De-en.		
	0÷7	1,3	3	3,5	0,0108	B12-401L24D(a)
	0÷7	1,3	3	3,5	0,0107	B12-402L24D(b)



A Manual override

- 1 = Supply port
- 2 = Use
- 3 = Exhaust

D-535U40300/500



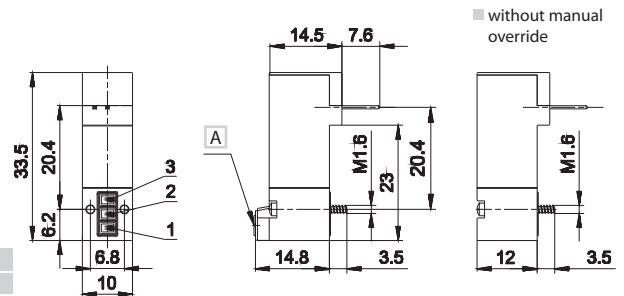
single connector with 0,3-0,5 m wire
 weight Kg: 0,05 D-535U40300 wire L = 300 mm
 0,07 D-535U40500 wire L = 500 mm

3

In-line PIN (for assembly on electronic board)



Symbol	Pressure bar	Ø mm	Resp. Time (ms)		Weight Kg	Part no.
			En.	De-en.		
	0÷7	1,3	3	3,5	0,0104	B12-403P24D(a)
	0÷7	1,3	3	3,5	0,0103	B12-404P24D(b)



A Manual override

- 1 = Supply port
- 2 = Use
- 3 = Exhaust

(a) = with manual override (b) = without manual override

B

10 mm nanovalves

- Flow rate 12 NI/min
- Interface with conveyed discharge or discharge in the air
- Versions 3/2 normally open (NO) and normally closed (NC)
- Interchangeable coil (U04) - rotation by 180°
- Molex-type electrical connector or loose wires

ATEX version available upon request

CE II 3 GD c nA II T5-10°C ≤ Ta ≤ 45°C

TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid temperature	Max +50 °C
Fluid	10 µm filtered air, with or without lubrication
Commutation system	poppet valve
Ways/Positions	3/2 NC, 3/2 NO
Pressure	Max 8 bar
Control	electric
Return	mechanical spring
Connections	on sub-base
Nominal Ø	0,5÷0,6 mm
Nominal flow rate	9÷12 NI/min
Max frequency	2300 ÷ 3000 cycles/min

CONSTRUCTIVE CHARACTERISTICS

Valve body	technopolymer (aluminium external cover)
Seals	nitrile rubber
Components	stainless steel - treated brass

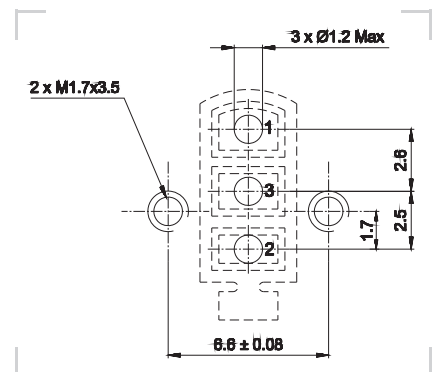
ELECTRIC CHARACTERISTICS

Coil	U04 DE series
Power consumption	1,2 W (1,35 W with LED) - 0,5 W (speed-up 1,2 W)
Electrical connection	Molex bipolar connector or loose cables
Voltage	12 V DC - 24 V DC
Manual override	recessed button - 1 position

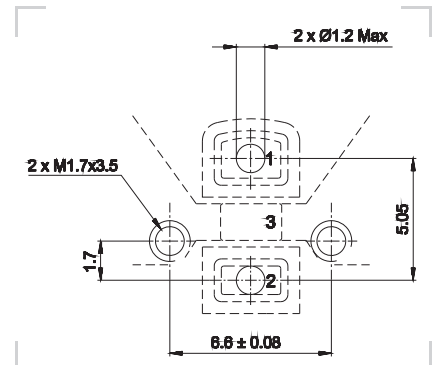


Substructure

Conveyed discharge



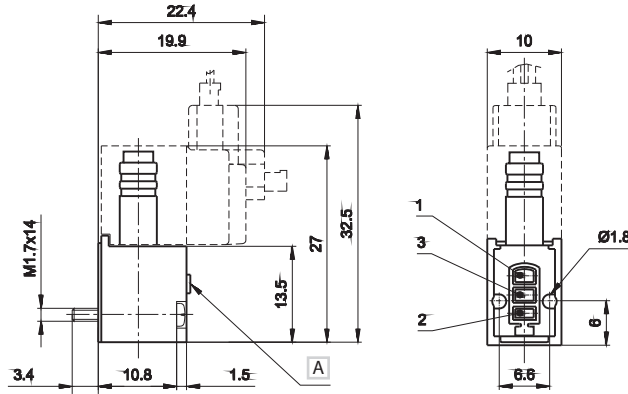
Discharge in the air



NC
1 = Supply port
2 = Use
3 = Exhaust

NO
1 = Exhaust
2 = Use
3 = Supply port

Valves with conveyed discharge

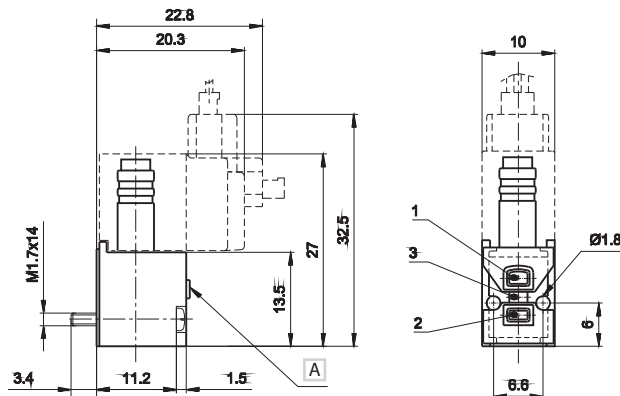


1 = Supply port
2 = Use
3 = Exhaust

A Manual override

Symbol	Nominal Ø	Flow rate NI/min.	Pressure bar	Response Time (ms)		Weight Kg	Part no.
				En.	De-en.		
	0,5	1→2 = 9 2→3 = 12	1,5÷8 (a)	9	10	0,007	B-101N
	0,5	3→2 = 9 2→1 = 10	0÷8	18	8	0,007	B-121N

Valves with discharge in the air



1 = Supply port
2 = Use
3 = Exhaust

A Manual override

Symbol	Nominal Ø	Flow rate NI/min.	Pressure bar	Response Time (ms)		Weight Kg	Part no.
				En.	De-en.		
	0,6	1→2 = 12 2→3 = 15	1,5÷8 (a)	9,5	9	0,007	B-102N

>> Coils



DE-352
24VDC - 1,2 W
DE-355
24VDC - 0,5 W
DE-452
24VDC - 1,35 W



DE-552
24VDC - 1,2 W
DE-555
24VDC - 0,5 W
DE-652
24VDC - 1,35 W



DE-052L030
24VDC - 1,2 W



DE-6421
12VDC - 1,35 W
DE-6521
24VDC - 1,35 W
DE-6551
24VDC - 0,5 W

U04 with integrated upward 90° connector
Weight: 0,006

U04 with in-line connector
Weight: 0,006

U04 with loose wires (300 mm length)
Weight: 0,008

U04 with in-line connector with protecting cover for complete tightness
Weight: 0,006

(a) = upon request: 0 bar operation
For technical features of coils and connectors, see section "Accessories>Coils"
Nanovalves are supplied without coil and connector

A

ISO 15218 - 15 mm Microvalves

- Flow rate max 38 NI/min
- ISO 15218 interface
- 2/2-3/2 versions - normally open (NO) and normally closed (NC)
- Interchangeable coil - 90° orientation
- Single and multiple sub-bases - single and multipolar electric connection

ATEX version available upon request

CE II 3 GD c nA II T5-10°C ≤ Ta ≤ 45°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C	
Fluid temperature	Max +50 °C	
Fluid	10 µm filtered air, with or without lubrication	
Commutation system	poppet	
Ways/Positions	2/2 NC, 3/2 NC, 2/2 NO, 3/2 NO	
Pressure	Max 9 bar	
Control	electric	
Return	mechanical spring	
Connections	ISO 15218 interface	
Nominal Ø	1,2	1,5
Nominal flow rate	26	38
Max frequency	2700 cycles/min	

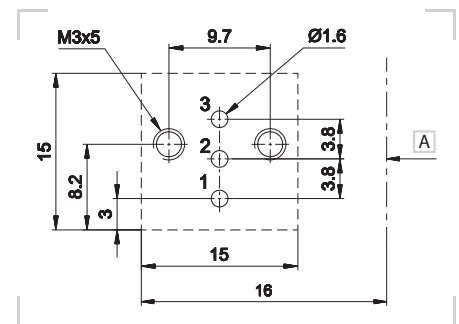
CONSTRUCTIVE CHARACTERISTICS

Valve body	technopolymer (aluminium external cover)
Seals	nitrile rubber
Components	stainless steel, brass

ELECTRIC CHARACTERISTICS

Coil	U05 DD series	
Power consumption	2 W DC / 2,3 VA AC (Ø 1,2) - 2,5 W DC / 3,5 VA AC (Ø 1,5)	
Electrical connection	15 mm connector - Molex bipolar connector or loose cables	
Voltage	24 V DC - 12 V DC - 24 V AC - 110 V AC - 230 V AC	
Manual override	recessed button - 1 position (other manual overrides upon request)	
Protection degree with connector	IP65	

ISO 15218 Substructure



A Pitch

3/2 NC

- 1 = Supply port
- 2 = Use
- 3 = Exhaust

3/2 NO

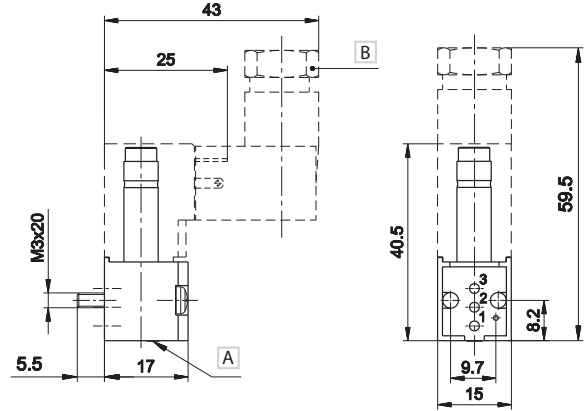
- 1 = Exhaust
- 2 = Use
- 3 = Supply port

2/2 NO

- 1 = Exhaust
- 3 = Supply port

Drilling jig to assemble the valve on a smooth surface with a sealing plate in between. Part no. A-299-11.

15 mm Microvalves



- A Manual override
- B Possible rotation by 180°

3/2 NC	3/2 NO	2/2 NO
1 = Supply port	1 = Exhaust	1 = Exhaust
2 = Use	2 = Use	3 = Supply port
3 = Exhaust	3 = Supply port	

Microvalves Ø 1,2 for direct current coils 2 W

Symbol	Pressure bar	Ø mm	Flow rate Nl/min.	Current	Response Time (ms)		Weight (b) Kg	Part no.
					En.	De-en.		
	0÷9	1,2	26	DC	11	11	0,018 (0,037)	A-141N
	0÷9	1,2	26	DC	11	11	0,018 (0,037)	A-161N
	0÷9	1,2	26	DC	11	11	0,018 (0,037)	A-101N
	0÷9	1,2	26	DC	11	11	0,018 (0,037)	A-121N

Suggested coils	
DD-051 24 V DC - 2 W	Coil with Faston
DD-051L030 24 V DC - 2 W	Coil with flying cables

Upon request 12 V DC

Microvalves Ø 1,5 for direct current coils 2,5 W

Symbol	Pressure bar	Ø mm	Flow rate Nl/min.	Current	Response Time (ms)		Weight (b) Kg	Part no.
					En.	De-en.		
	0÷8	1,5	38	DC	11	11	0,018 (0,037)	A-142N
	0÷8	1,5	38	DC	11	11	0,018 (0,037)	A-162N
	0÷8	1,5	38	DC	11	11	0,018 (0,037)	A-102N
	0÷8	1,5	38	DC	11	11	0,018 (0,037)	A-122N

Suggested coils	
DD-052 24 V DC - 2,5 W	Coil with Faston
DD-052L030 24 V DC - 2,5 W	Coil with flying cables

Upon request 12 V DC

Microvalves Ø 1,2 for direct or alternate current

Symbol	Pressure bar	Ø mm	Flow rate Nl/min.	Current	Response Time (ms)		Weight (b) Kg	Part no.
					En.	De-en.		
	0÷9	1,2	26	DC/AC	11	11	0,018 (0,037)	A-151N
	0÷9	1,2	26	DC/AC	11	11	0,018 (0,037)	A-171N
	0÷9	1,2	26	DC/AC	11	11	0,018 (0,037)	A-111N
	0÷9	1,2	26	DC/AC	11	11	0,018 (0,037)	A-131N

Suggested coils	
DD-040 24 V AC - 50/60 Hz - 2,3 VA	Coil with Faston
DD-041 12 V DC - 2 W	
DD-050 48 V AC - 50/60 Hz - 2,3 VA	
DD-051 24 V DC - 2 W	
DD-070 230 V AC - 50/60 Hz - 2,3 VA	
DD-051L030 24 V DC - 2 W	Coil with flying cables

Upon request 12 V DC

(b) = the weight in brackets refers to coil with faston
 For technical data of coils see "Accessories>Coils"
Microvalves are supplied without coil and connector

Microvalves Ø 1,5 for direct or alternate current

	Symbol	Pressure bar	Ø mm	Flow rate Nl/min.	Current	Response Time (ms)		Weight (b) Kg	Part no.
						En.	De-en.		
2/2 NC		0÷8	1,5	38	DC/AC	11	11	0,018 (0,037)	A-152N
3/2 NC		0÷8	1,5	38	DC/AC	11	11	0,018 (0,037)	A-112N

Suggested coils	
DD-011 24 V AC - 50/60 Hz - 3,5 VA	Coil with Faston
DD-013 230V AC - 50/60 Hz - 3,5 VA	
DD-040 24 V AC - 50/60 Hz - 2,3 VA	
DD-042 12 V DC - 2,5 W	
DD-052 24 V DC - 2,5 W	
DD-060 48 VAC - 50/60 Hz - 3,5 VA	Coil with flying cables
DD-052L030 24 V DC - 2,5 W	

Upon request 12 V DC

>> Coils



U5 flying cables
weight: 0,019 Kg

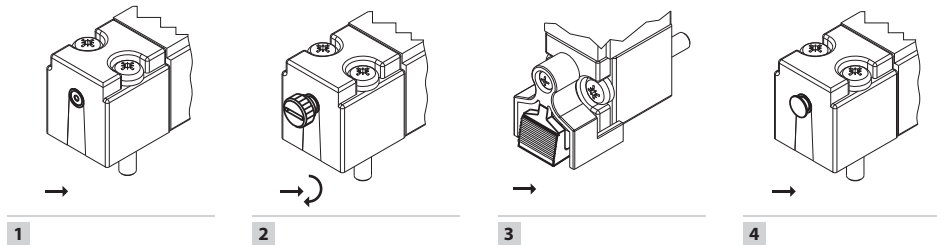
DD-051L030
DD-052L030

U05 15 mm
weight: 0,019 Kg

DD-011 **DD-050**
DD-013 **DD-051**
DD-040 **DD-052**
DD-041 **DD-060**
DD-042 **DD-070**

Standard manual override

Operation	Notes	Symbol
1 = with button with tool, 1 position (standard)	metallic	→
2 = with button, 1-2 positions (upon request)	technopolymer red colour	⊖
3 = with front button, 1 position (upon request)	technopolymer red colour	→
4 = with button, 1 position (upon request)	metallic	→



(b) = the weight in brackets refers to coil with faston

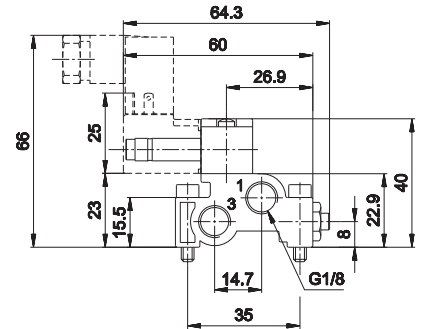
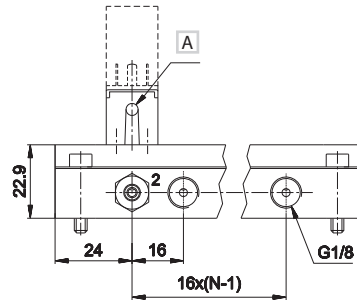
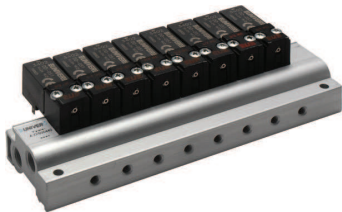
For technical data of coils see "Accessories>Coils"

Microvalves are supplied without coil and connector

Sub-base for external electric connection

Sub-base in extruded anodized aluminium with conveyed supplies and exhausts for assembling NC or NO valves. If NC and NO valves are assembled on just one base, it is necessary to insert the inverter part A-350 for NO valves.

- A - 326A - __^(b) G1/8 threaded connections (standard)
- A - 326B - __^(b) M5 threaded connections (upon request)
- A - 326D - __^(b) push-in connections tube 4 (upon request)



A Manual override

N = Number of valve positions
(b) = Number of positions

3/2 NC

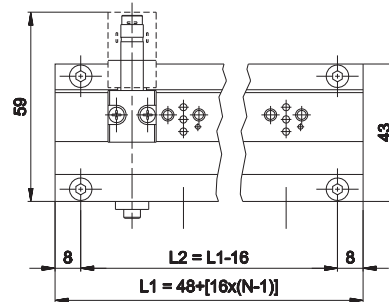
- 1 = Supply port
- 2 = Use
- 3 = Exhaust

3/2 NO

- 1 = Exhaust
- 2 = Use
- 3 = Supply port

2/2 NO

- 1 = Exhaust
- 3 = Supply port

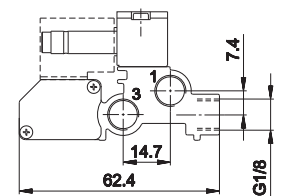
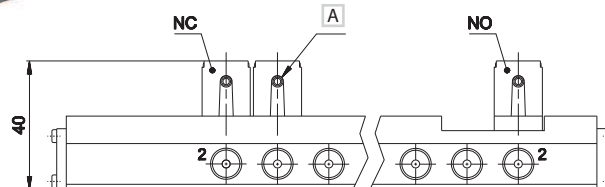
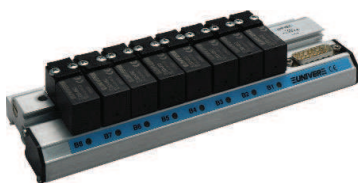


3

Sub-base for integrated electric connection

Sub-base in extruded anodized aluminium up to Max 13 stations with sub-D connector 15 pin (upon request up to 23 with connector 25 pin) and G1/8 threaded standard connections, with conveyed supplies and exhausts for assembling NC or NO valves, with integrated coil connection and optical indication of the valve working status.

If both NO and NC valves are assembled on just one sub-base, NC valves are always mounted on the connector side and afterwards the NO valves. The invert plate (part no. A-350) must be installed for NO valves.



A Manual override

N = Number of valve positions

3/2 NC

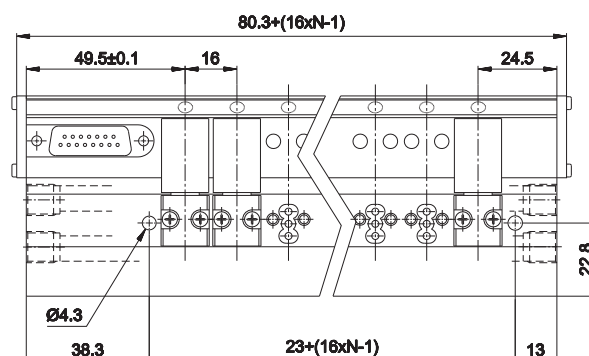
- 1 = Supply port
- 2 = Use
- 3 = Exhaust

3/2 NO

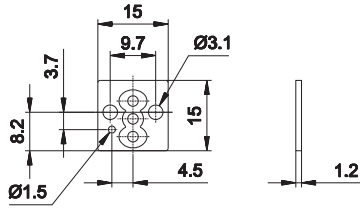
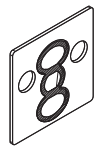
- 1 = Exhaust
- 2 = Use
- 3 = Supply port

2/2 NO

- 1 = Exhaust
- 3 = Supply port



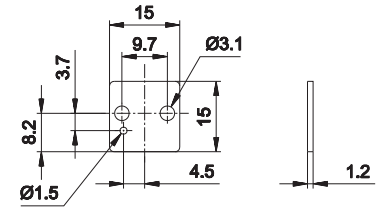
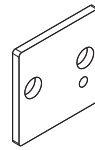
A-299-11



Sealing plate

It blocks the seal in place when the valve is mounted on a smooth surface without a seal housing
 material: aluminium
 weight: 0,003 Kg

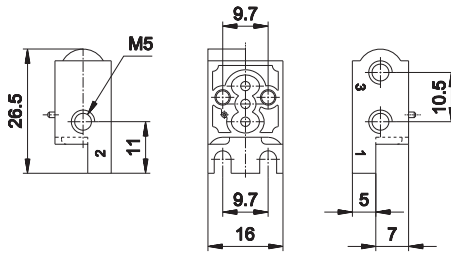
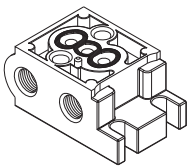
A-301



Blank plate

Unused valve stations must be closed with the blank plate
 material: aluminium
 weight: 0,002 Kg

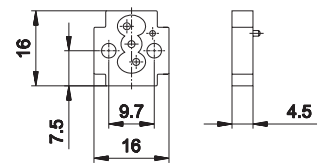
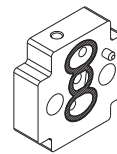
A-305



Single base

material: zamak
 connection: M5
 weight: 0,012 Kg

A-350



Inverter plate

NO and NC valves can be mounted on a single block inserting this device between the NO valve and the sub-base.
 If all installed valves are NO versions, just invert air supply without using the inverter plate.
 material: plastic
 weight: 0,002 Kg

AA

Miniature electropilots U1

- Direct intervention electropilots with poppet valve system and cushioned bottom seals
- Assembly on sub-base, threaded connections on the body, CNOMO interface
 - Orientable coil (360°) separated from mechanical part
 - Versions: 2/2 3/2 NC - NO
 - Original Univer SPEED modular sub-bases

ATEX version available upon request

CE II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C			
Fluid temperature	Max +95 °C			
Fluid	50 µm filtered air, with or without lubrication; neutral gases (upon request other fluids can be used)			
Commutation system	direct intervention poppet valve system with cushioned seals			
Ways/Positions	2/2 NC, 3/2 NC, 3/2 NO^(a)			
Pressure	2/2, 3/2 NC = 0 ÷ 10 3/2 NO = 3 ÷ 10			
Control	electric			
Return	mechanical spring			
Connections	on sub-base or with threaded connections on the body			
	sub-base	G 1/8	M5	CNOMO
Nominal Ø (mm)	1,2 ÷ 1,5	1 ÷ 1,5	1 ÷ 1,5	1,2 ÷ 1,5
Nominal flow rate (NI/min)	30 ÷ 60	28 ÷ 60	30 ÷ 60	33 ÷ 45

CONSTRUCTIVE CHARACTERISTICS

Materials see features below

ELECTRIC CHARACTERISTICS

Series	U1	U3
Coil	DA	DC
Power consumption	3,5 W (DC) - 5 VA (AC)	2,5 W (DC) - 3,3 VA (AC)
Connector	AM 5110	AM 5111
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC	
Protection degree	IP65	

For other electric features see section "Accessories>Coils"



For electropilots in compliance with CSA/UL certification see the related section "Omologated electropilots"

(a) = Mechanical part designed to keep the air supply always from the body
(Useful in case of assembly of more NC-NO pilots in series to have a unique supply port)

U1 Sleeves - with moving core



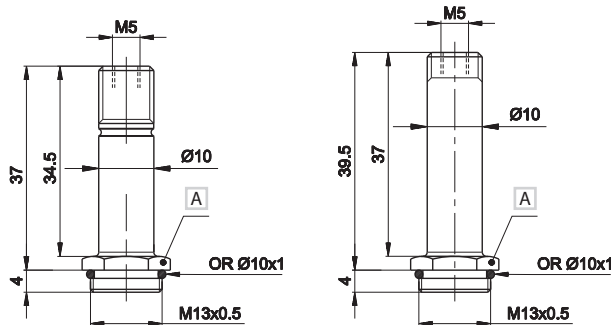
Material:	
sleeve	treated brass
cores and spring	stainless steel
seals	nitrile rubber

	Exhaust Ø mm	Pressure bar	Weight Kg	Part no.
3/2 NO	1,2	3÷10	0,024	AA-0150
3/2 NC	1,5	0÷10	0,022	AA-0157
2/2 NC	-	0÷10	0,022	AA-0170

Upon request viton seals and stainless steel sleeves (only NC versions)

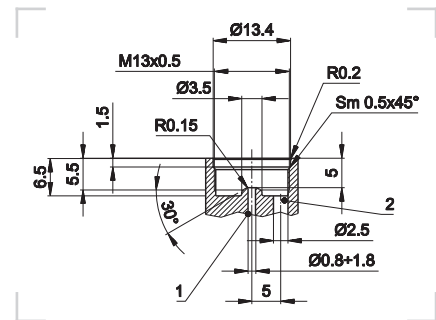
■ NC

■ NO



A Wrench 14

■ Detail of machining



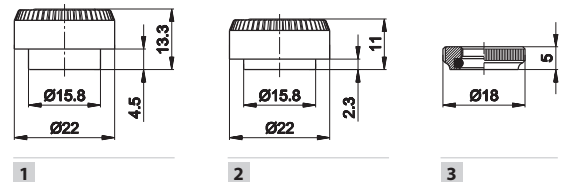
1 = Supply port
2 = Use

Locking rings for coils on sleeves



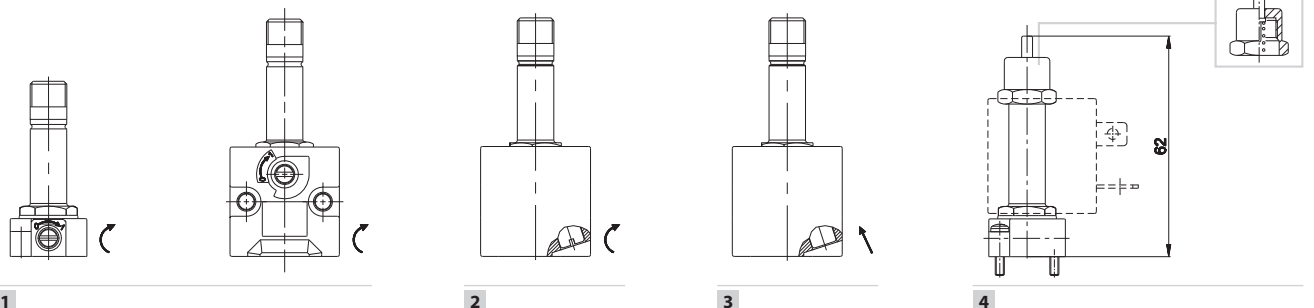
Version	Suitable for sleeves	Material	Coil	Part no.
1 = radial exhausts	3/2 NO	technopolymer	U1	AM-5213A
2 = radial exhausts	3/2 NC	technopolymer	U1	AM-5211A
3 = open exhausts	2/2 NC	brass	U1	AM-5211B

In order to convey exhausts, use version 3



Standard manual overrides

Functionig	Suitable for sleeves	Symbol/Part no.
1 = with 2 position screw	all NC U1 electropilots that can use manual override	⊖
2 = with impulse 1-2 position screw	only CNOMO NC U1 electropilots	⊖
3 = with button with tool	only CNOMO NC U1 electropilots	→
4 = with button, 1 position	U1 3/2 NO electropilots	AM-5201 (a)



(a) = montato sull'estremità del canotto 3/2 NO

⊖ = with 2 position screw
→ = with button with tool

3

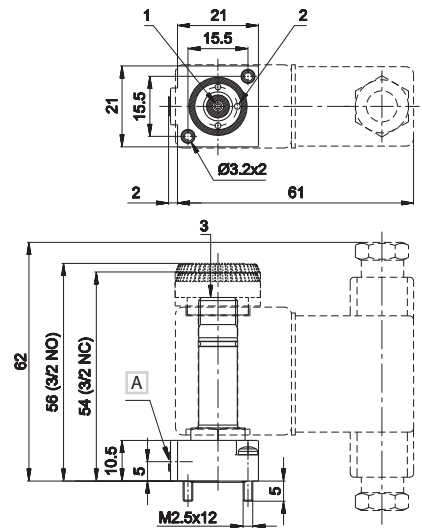
U1 2/2 - 3/2 Electropilot for assembling on sub-base



Material:
 valve body technopolymer
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
		1→2	2→3	En.	De-en.			
3/2 NC 	1,5	60	80	12	12	⊖	0,027	AA-0184
2/2 NC 	1,3	50	-	16	-	⊖	0,027	AA-0186
3/2 NO (b) 	1,2	30	70	11	10	(c)	0,030	AA-0188

Use SPEED subbase to build Manifolds, see following pages.
 Available upon request: brass valve body (without manual override), zamak valve body, stainless steel sleeve, other inner diameters.



A Manual override
 1 = Supply port
 2 = Use
 3 = Exhaust

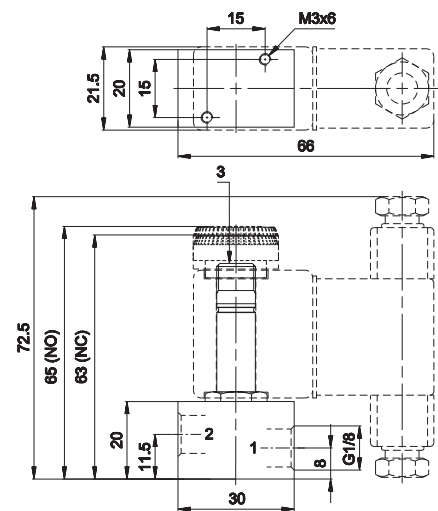
U1 2/2 - 3/2 G1/8 Electropilot



Material:
 valve body brass
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
		1→2	2→3	En.	De-en.			
3/2 NC 	1,5	60	85	12	12	-	0,105	AA-0211
2/2 NC 	1,3	60	-	16	-	-	0,105	AA-0219
3/2 NO (b) 	1,2	28	75	11	9	(c)	0,105	AA-0213

Electropilot to be used alone.
 Brass body suitable for intercepting non-aggressive liquids. No manual override.
 Available upon request: stainless steel sleeve - other inner diameters.



1 = Supply port
 2 = Use
 3 = Exhaust

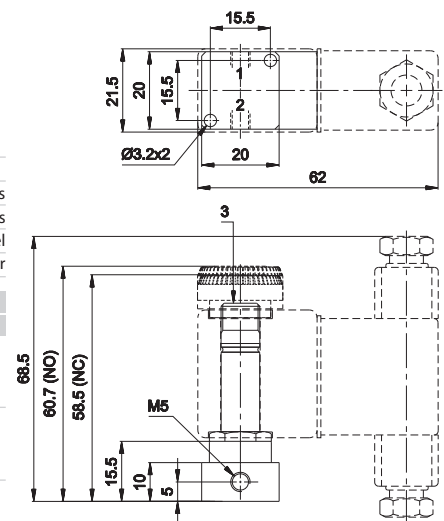
U1 2/2 - 3/2 M5 Electropilot



Material:
 valve body brass
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
		1→2	2→3	En.	De-en.			
3/2 NC 	1,5	60	80	12	12	-	0,065	AA-0231
2/2 NC 	1,3	50	-	16	-	-	0,065	AA-0239
3/2 NO (b) 	1,2	30	70	11	10	(c)	0,065	AA-0233

Electropilot to be used alone.
 Brass body suitable for intercepting non-aggressive liquids. No manual override.
 Available upon request: stainless steel sleeve - other inner diameters.



1 = Supply port
 2 = Use
 3 = Exhaust

(b) = close the exhaust of the 3/2 NO electropilot to get the 2/2 NO one
 (d) = the Ø shown on the 3/2 valves refers to the exhaust

(c) = manual override on AM-5201 ring nut

⊖ = with 2 position screw

Electropilots are supplied without coil and connector

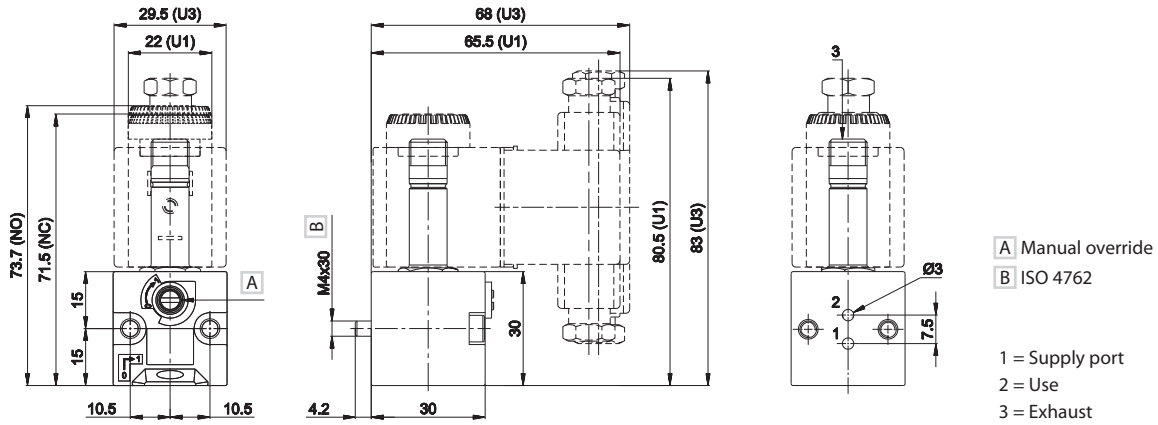
U1 CNOMO 2/2 - 3/2 Electropilot for mounting on sub-bases SPEED U2



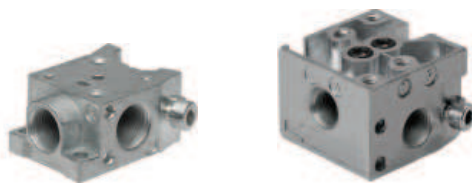
Material:
 valve body technopolymer
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

Symbol	Ø (d) mm	Flow rate (Nl/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
		1→2	2→3	En.	De-en.			
	1,5	45	77	12	12	⊖	0,052	AA-0400
	1,5	45	77	12	12	→	0,052	AA-0400U
	1,3	42	-	18	-	⊖	0,052	AA-0402
	1,2	33	77	11	10	(c)	0,060	AA-0404

Available upon request: zamak valve body, stainless steel sleeve, other inner diameters.



Modular sub-base "SPEED" series U1/U2 G1/8



Electropilot	Connections	Material	Weight Kg	Part no.
U1 sub-base	G 1/8	zamak	0,037	AA-0450
CNOMO sub-base	G 1/8	zamak	0,075	AB-0900

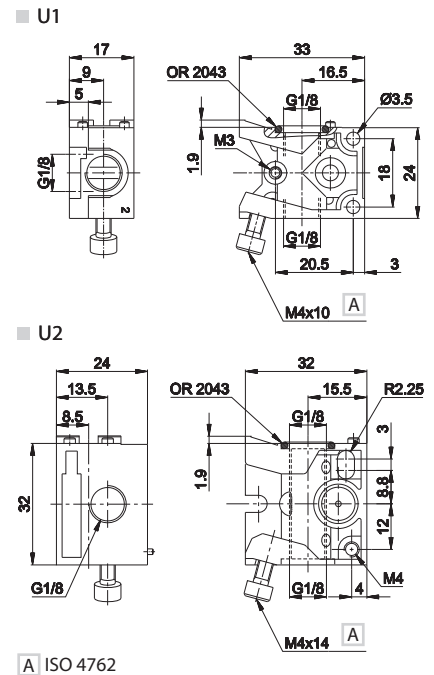
Advantages

The original UNIVER "Speed" series was designed to solve some operational problems

- Possibility of defining the number of sub-bases at the moment of use
- Possibility of freely increasing or reducing the number of elements
- Quick assembly with special screw (built-in) standard supplied
- Reduction of stock holding
- Easy technical intervention

Air supply is rotated by 90° in comparison with side consumption
 Standard (built-in) screw and O-Ring

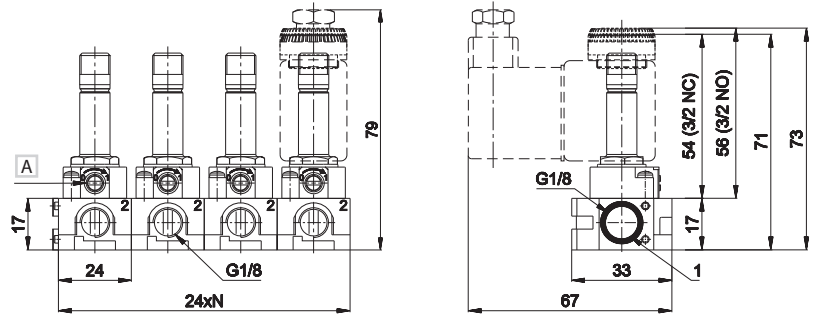
When assembling the manifold, put the bases on a flat surface and tighten the screw until the manifold is perfectly aligned.



(b) = close the exhaust of the 3/2 NO electropilot to get the 2/2 NO one (c) = manual override on ring nut AM-5201
 (d) = the Ø shown on the 3/2 valves refers to the exhaust
 Electropilots are supplied without coil and connector

⊖ = with 2 position screw
 → = with button with tool

U1 G1/8 sub-base

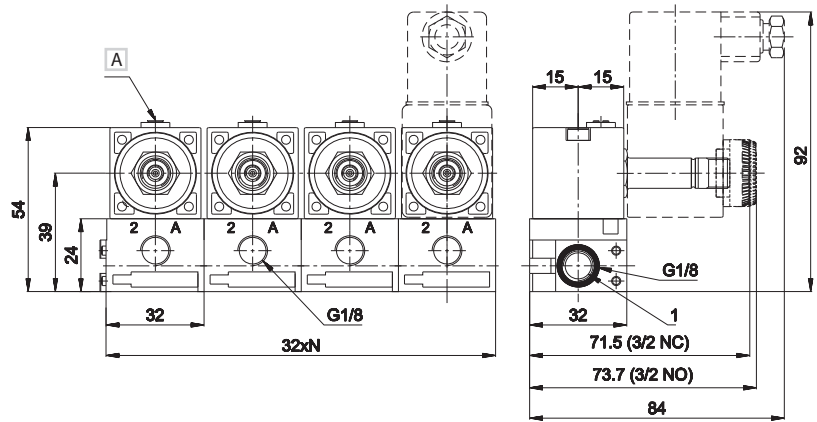


A Manual override

1 = Supply port
2 = Use

N = Number of valve positions

U1 G1/8 CNOMO sub-base



A Manual override

1 = Supply port
2 - A = Use

N = Number of valve positions

AB

Miniature electropilots U2

Direct intervention electropilots with poppet valve system and bottom cushioned seals

- Assembly on sub-base
- Threaded connections on the body
- CNOMO interface
- Orientable coil (360°) separated from mechanical part
- Versions: 2/2 3/2 - NC NO
- Original Univer SPEED modular sub-base

ATEX version available upon request

CE II 3 GD c nA II T5-10°C ≤ Ta ≤ 45°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C			
Fluid temperature	Max +95 °C			
Fluid	10 µm filtered air, with or without lubrication; neutral gases (versions for different fluids available upon request)			
Commutation system	direct intervention poppet with cushioned seals			
Ways/Positions	2/2 NC, 3/2 NC, 3/2 NO ^(a)			
Pressure	2/2, 3/2 NC = 0 ÷ 10 bar 3/2 NO = 3 ÷ 10 bar			
Control	electric			
Return	mechanical spring			
Connections	on sub-base / threaded on the body			
	sub-base	G 1/8	G 1/4	CNOMO
Nominal Ø (mm)	2,1 ÷ 2,4	2,1 ÷ 2,4	1,6 ÷ 6	2,1 ÷ 2,4
Nominal flow rate (NI/min)	92 ÷ 150	100 ÷ 155	95 ÷ 650	92 ÷ 110

CONSTRUCTIVE CHARACTERISTICS

Materials see features below

ELECTRIC CHARACTERISTICS

Series	U2			
Coil	DB			
Power consumption	11W (DC) - 10 VA (AC)			
Connector	AM 5111			
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC			
Protection degree	IP65			

For other electric features see section "Accessories>Coils"



For electropilots in compliance with CSA/UL certification see the related section "Omologated electropilots"

(a) = Mechanical part designed to keep the air supply always from the body
(Useful in case of assembly of more NC-NO pilots in series to have a unique supply port)

U2 Sleeves - with moving core



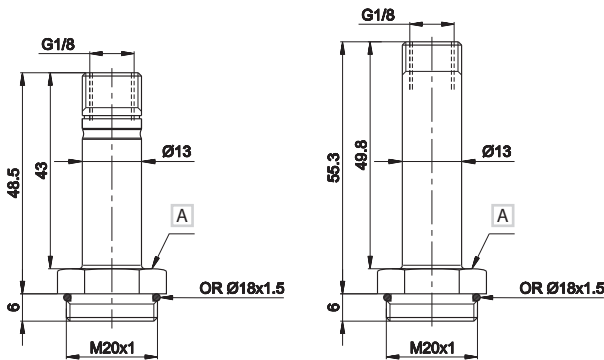
Material:
 sleeve treated brass
 cores and springs stainless steel
 seals nitrile rubber

3/2 NO
 3/2 NC
 2/2 NC
 2/2 NC (a)

Exhaust Ø	Pressure	Weight	Part no.
mm	bar	Kg	
2,4	3÷10	0,06	AB-0600
2,4	0÷10	0,05	AB-0613
-	0÷10	0,06	AB-0640
-	0÷10	0,06	AB-0643

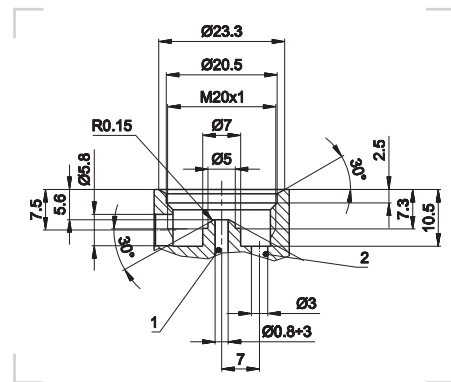
Upon request viton seals and stainless steel sleeves (only NC options)

- NC
- NO



A Wrench 22

Detail of machining



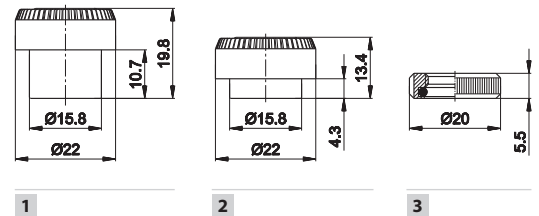
1 = Supply port
 2 = Use

3

Locking rings for coils on sleeves



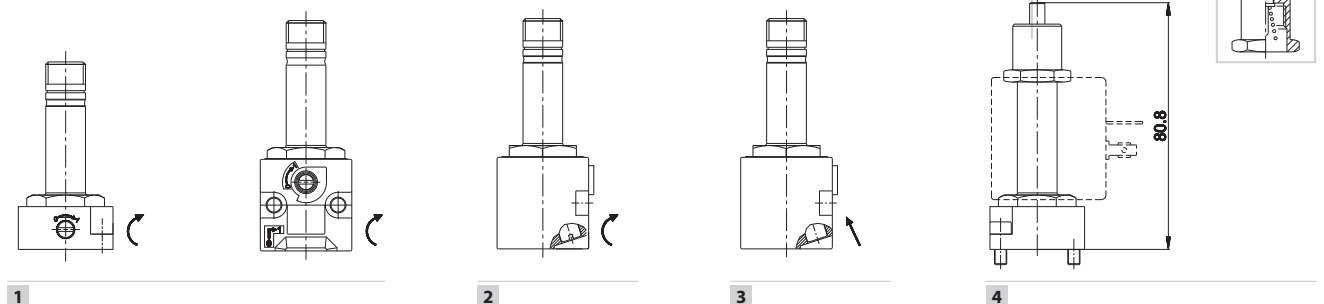
Version	Suitable for sleeves	Material	Coil	Part no.
1 = radial exhausts	3/2 NC	technopolymer	U2	AM-5212A
2 = radial exhausts	3/2 NO	technopolymer	U2	AM-5214A
3 = open exhausts	2/2 NC	brass	U2	AM-5212B



In order to convey exhausts, use version 3

Standard manual overrides with electropilots

Functionig	Suitable for sleeves	Symbol/Part no.
1 = with 2 position screw	all NC U2 electropilots that can use manual override	⊖
2 = with impulse 1-2 position screw	only CNOMO NC U2 electropilots	⊖
3 = with button with tool	only CNOMO NC U2 electropilots	→
4 = with button, 1 position	U2 NO 3/2 electropilots	AM-5203 (b)

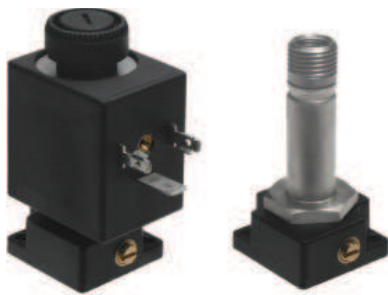


(a) = Suitable for sub-bases with diameter from 3 ÷ 6

(b) = Mounted on the 3/2 NO sleeve

⊖ = with 2 position screw
 → = with button with tool

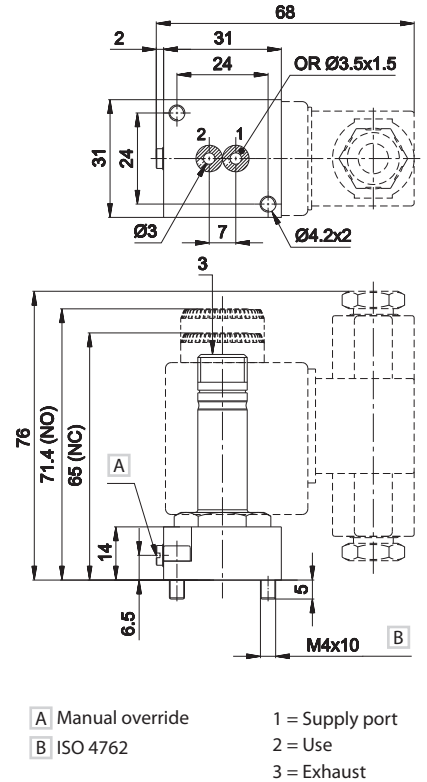
U2 2/2 - 3/2 Electropilot for assembling on sub-base



Material:
 valve body zamak
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

	Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
			1→2	2→3	En.	De-en.			
3/2 NC		2,4	150	160	13	10	-	0,12	AB-0681
3/2 NC		2,4	150	160	13	10	⊖	0,12	AB-0687
2/2 NC		2,1	130	-	13	-	-	0,12	AB-0722
2/2 NC		2,1	130	-	13	-	⊖	0,12	AB-0728
3/2 NO (c)		2,4	92	148	14	10	(e)	0,13	AB-0685

Sub-base: SPEED U2. Available upon request: stainless steel sleeve - other inner diameters.



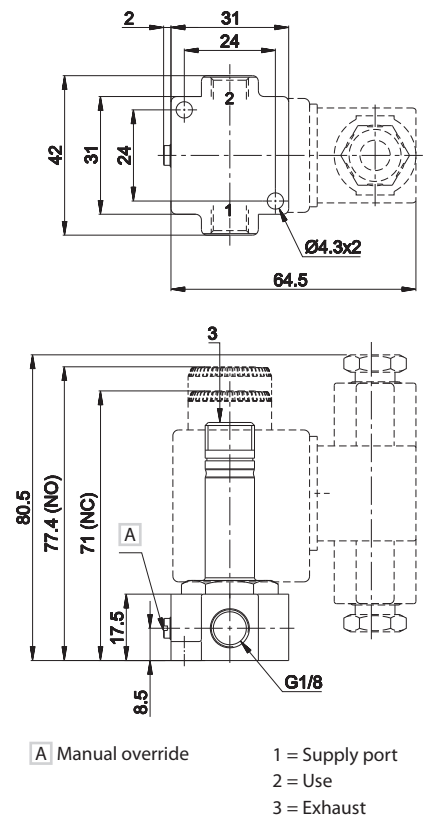
U2 2/2 - 3/2 G1/8 Electropilot



Material:
 valve body zamak
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

	Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
			1→2	2→3	En.	De-en.			
3/2 NC		2,4	155	210	13	10	-	0,14	AB-0751
3/2 NC		2,4	155	210	13	10	⊖	0,14	AB-0757
2/2 NC		2,1	155	-	12	-	-	0,14	AB-0765
2/2 NC		2,1	155	-	12	-	⊖	0,14	AB-0771
3/2 NO (c)		2,4	100	150	14	14	(e)	0,15	AB-0755

Available upon request: stainless steel sleeve - other inner diameters.



(c) = close the exhaust of the 3/2 NO electropilot to get the 2/2 NO one (d) = the Ø shown on the 3/2 valves refers to the exhaust ⊖ = with 2 position screw
 (e) = manual override on ring nut AM-5203

Electropilots are supplied without coil and connector

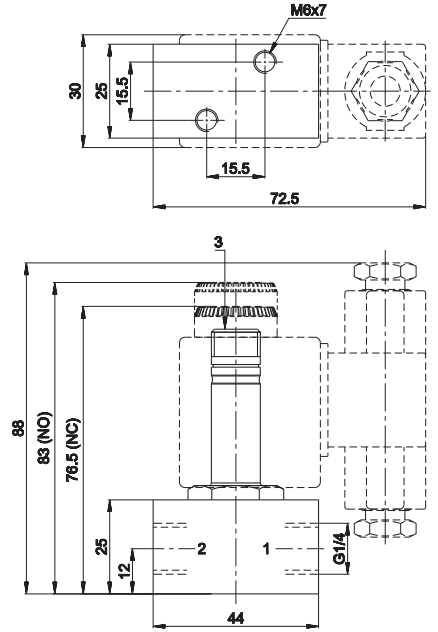
U2 3/2 G1/4 Electropilot



Material:
 valve body brass
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

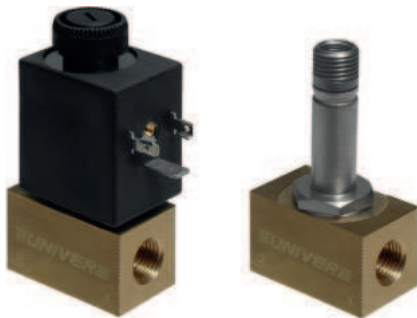
Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
		1→2	2→3	En.	De-en.			
3/2 NC 	2,1	200	210	13	11	-	0,22	AB-0822
3/2 NO (c) 	2,1	95	160	12	10	(e)	0,23	AB-0819

Suitable for intercepting non-aggressive liquids. Upon request: stainless steel body and sleeve.



1 = Supply port
 2 = Use
 3 = Exhaust

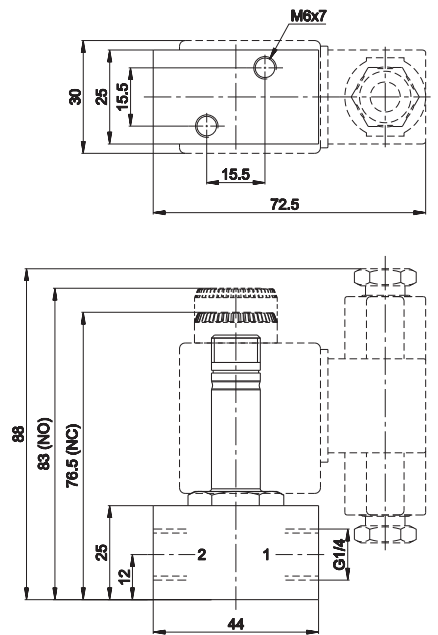
U2 2/2 G1/4 Electropilot



Material:
 valve body brass
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

Symbol	Ø (d) mm	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
				En.	De-en.		
2/2 NC 	1,6	108	0÷30	6	-	0,23	AB-0824
	2	165	0÷20	9	-	0,23	AB-0825
	2,4	210	0÷15	11	-	0,23	AB-0826
	3	280	0÷10	12	-	0,23	AB-0827
	3,5	350	0÷9	-	10	0,23	AB-0828
	4	450	0÷8	-	13	0,23	AB-0829
	4,5	500	0÷7	-	13	0,23	AB-0830
	5	550	0÷6,5	-	16	0,23	AB-0831
	5,5	600	0÷6	-	21	0,23	AB-0832
	6	650	0÷5	-	29	0,23	AB-0833

Suitable for intercepting non-aggressive liquids.



1 = Supply port
 2 = Use

	Coil U2 - 17 VA	Voltage
		24V AC - 50/60 Hz DB-0607
		110V AC - 50/60 Hz DB-0608
		220V AC - 50/60 Hz DB-0610

(c) = close the exhaust of the 3/2 NO electropilot to get the 2/2 NO one. (d) = the Ø shown on the 3/2 valves refers to the exhaust. ⊖ = with 2 position screw.

(e) = manual override on AM-5203 ring nut

Electropilots are supplied without coil and connector

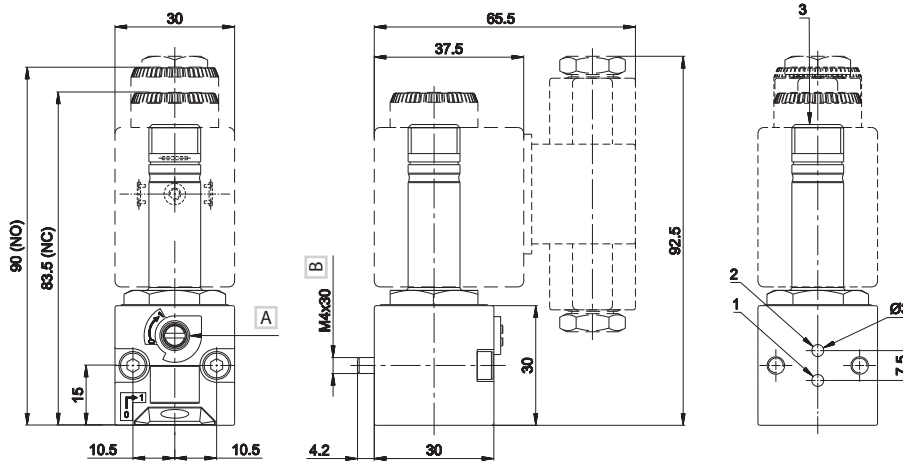
U2 CNOMO 2/2 - 3/2 Electropilot for mounting on sub-bases SPEED U2



Material:
 valve body technopolymer
 sleeve treated brass
 core and spring stainless steel
 seals nitrile rubber

	Symbol	Ø (d) mm	Flow rate (NI/min)		Resp. Time (ms)		Manual override	Weight Kg	Part no.
			1→2	2→3	En.	De-en.			
3/2 NC		2,4	110	170	13	12	⊖	0,08	AB-0885
2/2 NC		2,1	115	-	12	-	⊖	0,08	AB-0886
3/2 NO (c)		2,4	92	148	13	10	(e)	0,09	AB-0888

Available upon request: zamak valve body, stainless steel sleeve, other inner diameters.

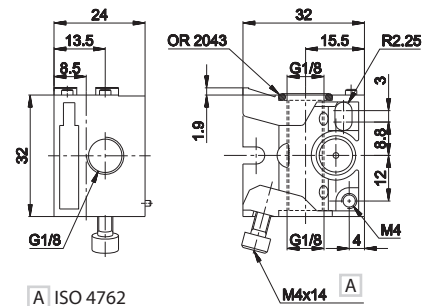


A Override manual
 B ISO 4762
 1 = Supply port
 2 = Use
 3 = Exhausts

Modular sub-base SPEED series U2 G1/8



Electropilot	Connections	Material	Weight kg	Part no.
U2 for base	G 1/8	zamak	0,075	AB-0900



Advantages

The original UNIVER "Speed" series was realized to solve some operational problems

- Possibility of defining the number of sub-bases at the moment of use
- Possibility of freely increasing or reducing the number of elements
- Quick assembly with special screw (built-in) standard supplied
- Reduction of stock holding
- Easy technical intervention

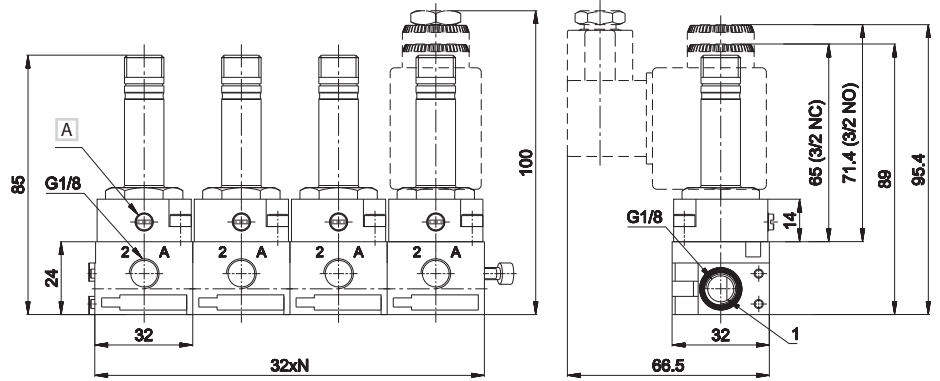
Air supply is rotated by 90° in comparison with side consumption
 Standard (built-in) screw and O-Ring

When assembling the manifold, put the bases on a flat surface and tighten the screw until the manifold is perfectly aligned.

(c) = close the exhaust of the 3/2 NO electropilot to get the 2/2 NO one (d) = the Ø shown on the 3/2 valves refers to the exhaust ⊖ = with 2 position screw
 (e) = manual override on ring nut AM-5203

Electropilots are supplied without coil and connector

U2 G1/8 Sub-base

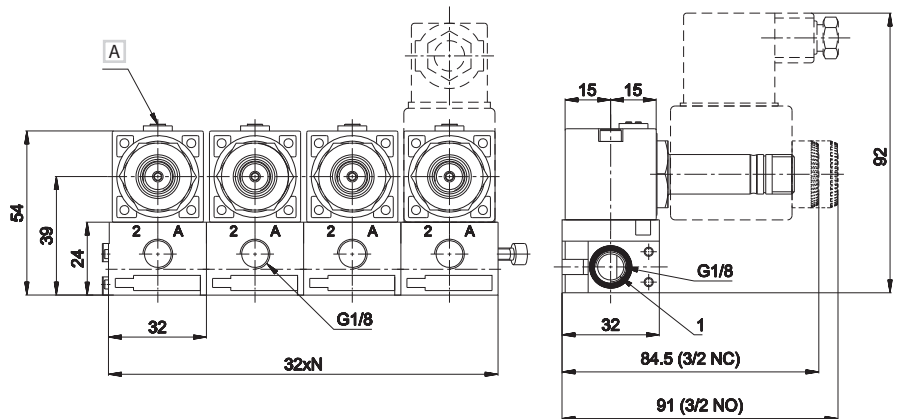
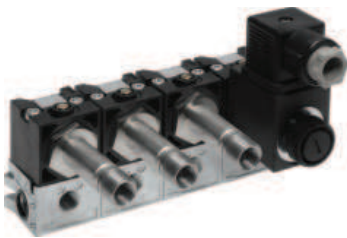


A Manual override

1 = Supply port
2 - A = Use

N = Number of valve position

U2 G1/8 CNOMO Sub-base



A Manual override

1 = Supply port
2 - A = Use

N = Number of valve position

3

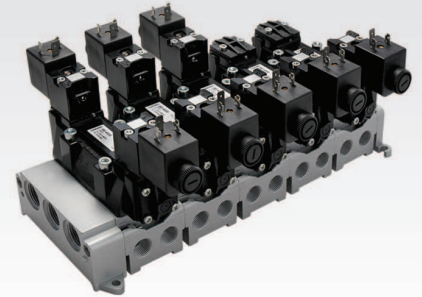
BE/BE12

ISO 5599/1 Valves

- Complying with ISO 5599/1 international standards
- Full range: 1 - 2 - 3 - 4 size
- Two different internal commutation systems: mixed and spool
- High capacity
- Short internal stroke
- No lubrication
- Electric connection M12 for Automotive sector (1 - 2 - 3 sizes)
- Modular and single bases
- Possibility of combination of different sub-base sizes with proper interfaces

Available ATEX version upon request

CE II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C			
Fluid temperature	Max +50 °C			
Fluid	50 µm filtered air (mixed system) 50 µm filtered air, with or without lubrication (spool system)			
Commutation system	mixed system, spool system			
Ways/Positions	5/2, 5/3			
Pressure	10 bar Max			
Control	indirect electro-pneumatic, pneumatic			
Return	mechanical spring, pneumomechanical spring, pneumatic, electric			
Connections	ISO 5599/1 interface			
	size 1	size 2	size 3	size 4
Nominal Ø (mm)	8	10	15	19
Nominal flow rate (NI/min)	1480	2300	4200	6600

CONSTRUCTIVE CHARACTERISTICS

Valve body	acetalic resin
Cover	aluminium
Seals	mixed system: nitrile rubber and polyurethane spool system: nitrile rubber
Sub-base	zamak - aluminium
Actuators	technopolymer
Spool	aluminium

ELECTRIC CHARACTERISTICS

Electropilot	AA series
Coil	U3
Power consumption	2,5 W (DC) - 5 VA (AC)
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Connector	AM 5111
Manual override	impulse screw - 2 positions, button with tool (BE) recessed button - 1 position (BE12)



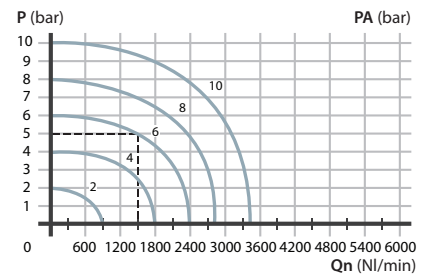
MIXED
for heavy applications



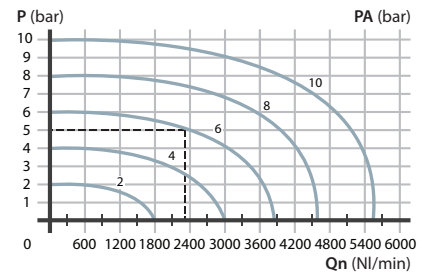
SPOOL
for all applications

Flow rate characteristics

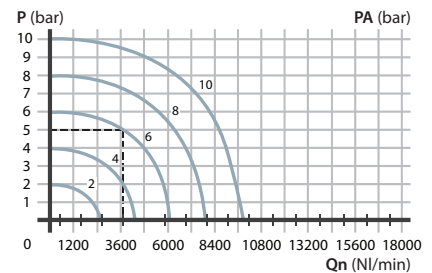
>> ISO 1



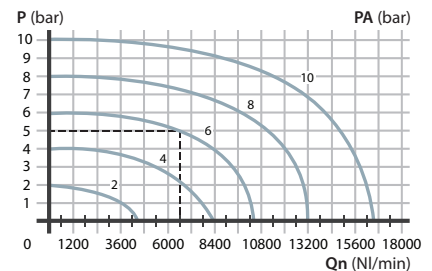
>> ISO 2



>> ISO 3



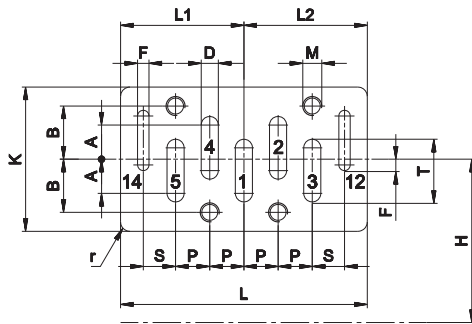
>> ISO 4



P = Working pressure
PA = Supply pressure
Qn = Nominal flow rate

ISO 5599/1 Standard

The ISO standard for pneumatic valves is accepted by industry and by the majority of the main important pneumatic valve manufactures throughout the world. The choice of valves according to ISO standard guarantees to the user the interchangeability of both the valve body and the electromagnetic part.



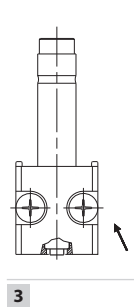
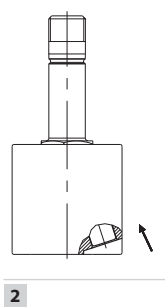
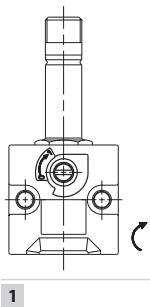
	A	B	D	F	H	K	L	L1	L2	M	P	r	S	T
ISO 1	9	14	4,5	3	43	38	65	32,5	32,5	M5	9	2,5	8,5	16,5
ISO 2	10	19	7	3	56	50	81	40,5	40,5	M6	12	3	10	22
ISO 3	11,5	24	10	4	71	64	106	53	53	M8	16	4	13	29
ISO 4	14,5	29	13	4	82	74	142	77,5	64,5	M8	20	4	15,5	36,5

ISO Standard 5599/1 fixes the dimensions of the bearing surface of the valve and provides accommodation between two contiguous planes while guaranteeing, at the time of replacement, that any suitable valve can be inserted in the manifold assembly. It also provides a clear numbering system for the ports. Main connecting ports:

- 1 = Supply port
 - 2 - 4 = Use
 - 3 - 5 = Exhaust
 - 12 - 14 = Pilots
- (e.g. single electrical impulse solenoid mounted side 14 single pneumatic impulse control at 14)

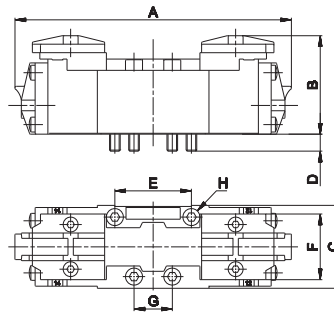
Standard manual overrides

Functioning	Suitable for valve	Symbol/Part no.
1 = with 2 position screw	BE	⊖
2 = with button with tool	BE	→
3 = with recessed button, 1 position	BE12	→



3

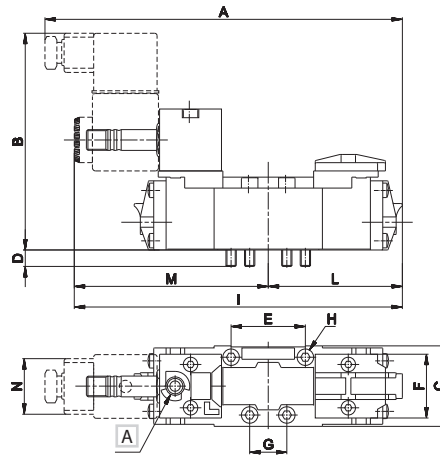
Single/double pneumatic impulse



	ISO 1	ISO 2	ISO 3	ISO 4
A	128	145	191	222
B	47	47	63	63
C	39	52	64	74
D	5	5	10	10
E	36	48	64	80
F	28	38	48	58
G	18	24	32	40
H	M5x38	M6x35	M8x50	M8x50

	Symbol	Control	Return	Size	Pressure	Response Time (ms)		Weight	Part no.
						En.	De-en.		
		14	12		bar				
MIXED SYSTEM									
5/2		pneumatic amplified	pneumomechanical spring	1	2÷10	9	18	0,30	BE-3100
				2	2,3÷10	11	14	0,40	BE-4100
				3	2,5÷10	19	49	0,65	BE-5100
				4	3÷10	23	46	0,87	BE-6100
5/2		pneumatic amplified	pneumatic amplified	1	1÷10	5	5	0,30	BE-3150
				2	1÷10	6	6	0,40	BE-4150
				3	1÷10	10	10	0,65	BE-5150
				4	1,3÷10	12	12	0,87	BE-6150
5/2		pneumatic amplified	pneumatic not amplified	1	2÷10	5	16	0,30	BE-3170
				2	2÷10	6	13	0,40	BE-4170
				3	2,2÷10	10	35	0,65	BE-5170
				4	2,2÷10	12	32	0,87	BE-6170
SPOOL SYSTEM									
5/2		pneumatic amplified	pneumomechanical spring	1	1,8÷10	11	22	0,30	BE-3800
				2	2÷10	13	19	0,40	BE-4800
				3	2,2÷10	21	52	0,65	BE-5800
				4	2,8÷10	24	29	0,87	BE-6800
5/2		pneumatic amplified	pneumatic amplified	1	0,8÷10	6	6	0,30	BE-3850
				2	1÷10	7	7	0,40	BE-4850
				3	1÷10	12	12	0,65	BE-5850
				4	1÷10	14	14	0,87	BE-6850
5/2		pneumatic amplified	pneumatic not amplified	1	1,5÷10	6	15	0,30	BE-3870
				2	1,8÷10	7	14	0,40	BE-4870
				3	2÷10	12	38	0,65	BE-5870
				4	2÷10	14	31	0,87	BE-6870

Single electric impulse



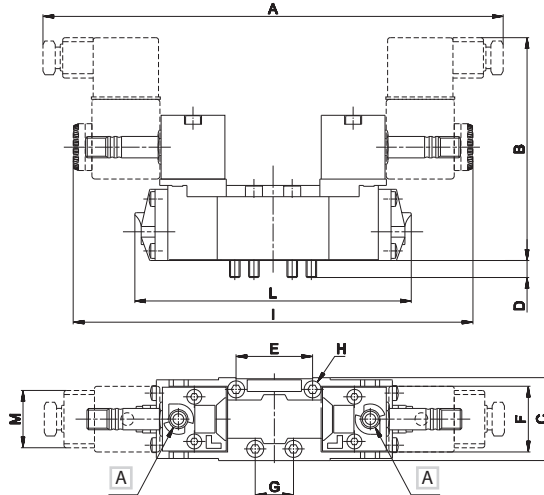
	ISO 1	ISO 2	ISO 3	ISO 4
A	169,5	195,5	219	253
B	105	105	118	118
C	39	52	64	74
D	5	5	10	10
E	36	48	64	80
F	28	38	48	58
G	18	24	32	40
H	M5x38	M6x35	M8x50	M8x50
I	159,5	176	208,5	235
L	64	72,5	95,5	111
M	95,5	103,5	113	124
N	30	30	30	30

A Manual override

	Symbol	Control	Return	Size	Pressure	Response Time (ms)		Weight	Part no.
						En.	De-en.		
		14	12		bar				
MIXED SYSTEM									
5/2		electric amplified	pneumomechanical spring	1	2÷10	20	32	0,37	BE-3000
				2	2,3÷10	24	25	0,47	BE-4000
				3	2,5÷10	32	71	0,82	BE-5000
				4	3÷10	38	62	1,04	BE-6000
5/2		electric amplified	pneumatic amplified	1	1÷10	16	6	0,37	BE-3060
				2	1÷10	17	7	0,47	BE-4060
				3	1÷10	23	15	0,82	BE-5060
				4	1,3÷10	25	16	1,04	BE-6060
SPOOL SYSTEM									
5/2		electric amplified	pneumomechanical spring	1	2÷10	21	35	0,37	BE-3700
				2	2,2÷10	24	30	0,47	BE-4700
				3	2,3÷10	33	74	0,82	BE-5700
				4	2,8÷10	39	68	1,04	BE-6700
5/2		electric amplified	pneumatic amplified	1	1÷10	17	8	0,37	BE-3760
				2	1÷10	18	9	0,47	BE-4760
				3	1÷10	26	17	0,82	BE-5760
				4	1,3÷10	27	18	1,04	BE-6760

For manual version with button, add "U" to the end of the part number
Electrovalves are supplied without coil, connector and locking ring

Double electric impulse



	ISO 1	ISO 2	ISO 3	ISO 4
A	211	226	247	268
B	105	105	118	118
C	39	52	64	74
D	5	5	10	10
E	36	48	64	80
F	28	38	48	58
G	18	24	32	40
H	M5x38	M6x35	M8x50	M8x50
I	191	207	226	248
L	128	145	191	222
M	30	30	30	30

A Manual override

	Symbol	Control	Return	Size	Pressure	Response Time (ms)		Weight	Part no.
						bar	En.		
		14	12						
MIXED SYSTEM									
5/2		electric amplified	electric amplified	1	1÷10	16	16	0,39	BE-3020
				2	1÷10	17	17	0,64	BE-4020
				3	1÷10	23	23	1,04	BE-5020
				4	1,3÷10	25	25	1,21	BE-6020
5/2		electric amplified	electric non amplified	1	2÷10	16	34	0,39	BE-3030
				2	2÷10	17	29	0,64	BE-4030
				3	2,2÷10	23	54	1,04	BE-5030
				4	2,2÷10	25	45	1,21	BE-6030
5/3 o.c.		electric amplified	electric amplified	1	3÷10	50	26	0,39	BE-3200
				2	3÷10	54	24	0,64	BE-4200
				3	3÷10	108	36	1,04	BE-5200
				4	3÷10	115	115	1,21	BE-6200
5/3 p.c.		electric amplified	electric amplified	1	2÷10	50	26	0,39	BE-3205
				2	2,3÷10	54	24	0,64	BE-4205
				3	2,5÷10	108	36	1,04	BE-5205
				4	3÷10	115	115	1,21	BE-6205
SPOOL SYSTEM									
5/2		electric amplified	electric amplified	1	1÷10	17	17	0,39	BE-3720
				2	1÷10	18	18	0,64	BE-4720
				3	1÷10	26	26	1,04	BE-5720
				4	1÷10	27	27	1,21	BE-6720
5/2		electric amplified	electric non amplified	1	1,8÷10	17	28	0,39	BE-3730
				2	1,8÷10	18	25	0,64	BE-4730
				3	2,5÷10	26	46	1,04	BE-5730
				4	2,5÷10	27	42	1,21	BE-6730
5/3 o.c.		electric amplified	electric amplified	1	2,3÷10	17	25	0,39	BE-3900
				2	2,5÷10	18	27	0,64	BE-4900
				3	2,5÷10	26	50	1,04	BE-5900
				4	2,5÷10	30	47	1,21	BE-6900
5/3 c.c.		electric amplified	electric amplified	1	2,3÷10	17	25	0,39	BE-3940
				2	2,5÷10	18	27	0,64	BE-4940
				3	2,5÷10	26	50	1,04	BE-5940
				4	2,5÷10	30	47	1,21	BE-6940

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

For manual version with button, add "U" to the end of the part number

Electrovalves are supplied without coil, connector and locking ring

The use of pneumatic component in the automotive field, coupled with electric components, led to the development of a traditional ISO valve with electric connector M12 placed in central position, for both valves with single as well as double electric control.

Single/double electric impulse

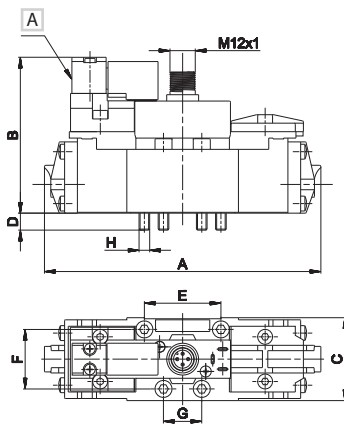


	Symbol	Control	Return	Size	Pressure bar	Response Time (ms)		Weight Kg	Part no.
						En.	De-en.		
		14	12						
SINGLE IMPULSE - MIXED SYSTEM									
5/2		electric amplified	pneumomechanical spring	1	2÷9	18	29	0,45	BE12-3000
				2	2,3÷9	23	24	0,55	BE12-4000
				3	2,5÷9	35	78	0,90	BE12-5000
SINGLE IMPULSE - SPOOL SYSTEM									
5/2		electric amplified	pneumomechanical spring	1	2÷9	19	32	0,45	BE12-3700
				2	2,2÷9	23	28	0,55	BE12-4700
				3	2,3÷9	36	82	0,90	BE12-5700
DOUBLE IMPULSE - MIXED SYSTEM									
5/2		electric amplified	electric amplified	1	1÷9	14	14	0,55	BE12-3020
				2	1÷9	16	16	0,80	BE12-4020
				3	1÷9	25	25	1,20	BE12-5020
5/3 p.c.		electric amplified	electric amplified	1	2÷9	45	23	0,55	BE12-3205
				2	2,3÷9	51	23	0,80	BE12-4205
				3	2,5÷9	119	40	1,20	BE12-5205
DOUBLE IMPULSE - SPOOL SYSTEM									
5/2		electric amplified	electric amplified	1	1÷9	15	15	0,55	BE12-3720
				2	1÷9	17	17	0,80	BE12-4720
				3	1÷9	29	29	1,20	BE12-5720
5/3 o.c.		electric amplified	electric amplified	1	2,3÷9	15	22	0,55	BE12-3900
				2	2,5÷9	17	26	0,80	BE12-4900
				3	2,5÷9	29	55	1,20	BE12-5900
5/3 c.c.		electric amplified	electric amplified	1	2,3÷9	15	22	0,55	BE12-3940
				2	2,5÷9	17	26	0,80	BE12-4940
				3	2,5÷9	29	55	1,20	BE12-5940

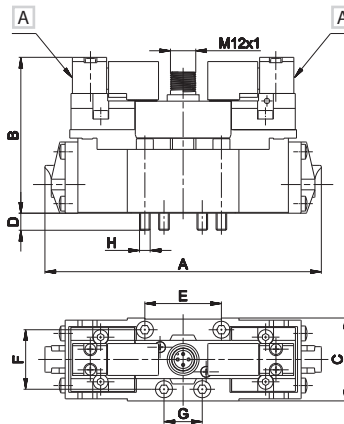
o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Valves are supplied with 24 V DC coil

Single electric impulse



Double electric impulse



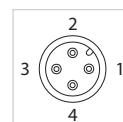
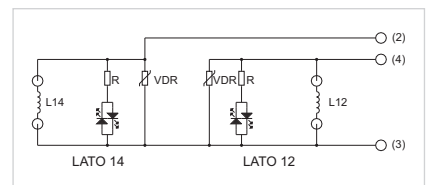
	ISO 1	ISO 2	ISO 3
A	128	145	191
B	73	73	90
C	39	52	64
D	5	5	10
E	36	48	64
F	28	38	48
G	18	24	32
H	M5x38	M6x35	M8x50

A Manual override

ELECTRIC CHARACTERISTICS

- Central electric connector M12x1
- IP 65 protection degree
- 24 V DC voltage
- 2,5 W nominal power
- DD-052** series coil (without faston)
- ED 100%
- LED indicator

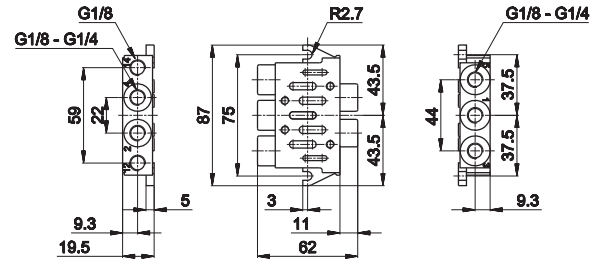
Available upon request other voltages
max 48 V DC



ISO 1 - Single sub-base, side connections



Notes	Connection	Material	Weight Kg	Part no.
in line connections	G1/8	zamak	0,25	BF-1060
in line connections	G1/4	zamak	0,25	BF-1061

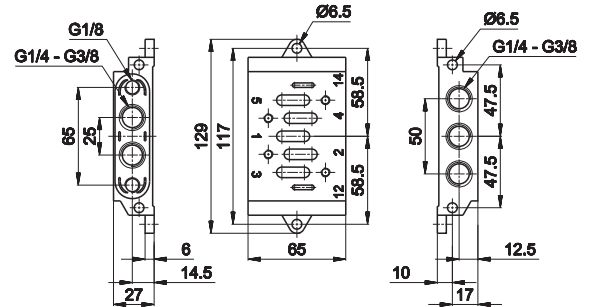


1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
12 - 14 = Pilots

ISO 2 - Single sub-base, side connections



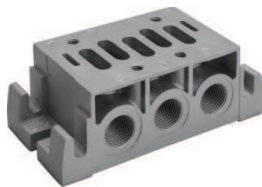
Notes	Connection	Material	Weight Kg	Part no.
in line connections	G1/4	zamak	0,65	BF-1150
in line connections	G3/8	zamak	0,65	BF-1151



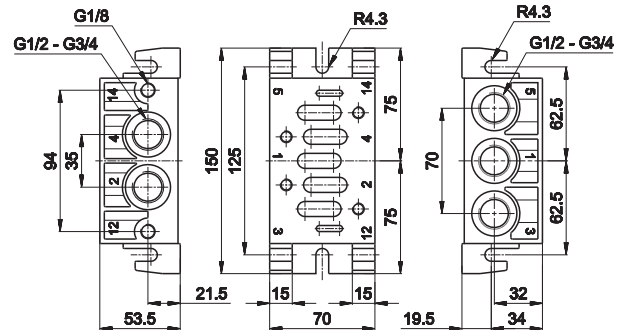
1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
12 - 14 = Pilots

3

ISO 3 - Single sub-base, side connections

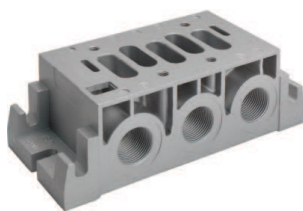


Notes	Connection	Material	Weight Kg	Part no.
in line connections	G1/2	aluminium	0,74	BF-3060
in line connections	G3/4	aluminium	0,74	BF-3061

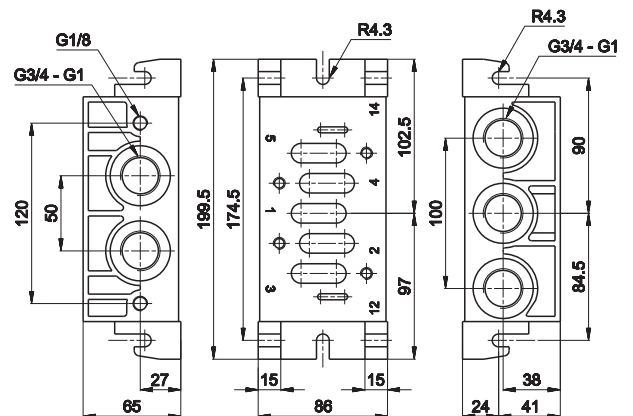


1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
12 - 14 = Pilots

ISO 4 - Single sub-base, side connections

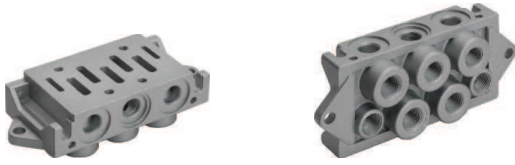


Notes	Connection	Material	Weight Kg	Part no.
in line connections	G3/4	aluminium	1,28	BF-4060
dorsal and side connections	G1	aluminium	1,28	BF-4061



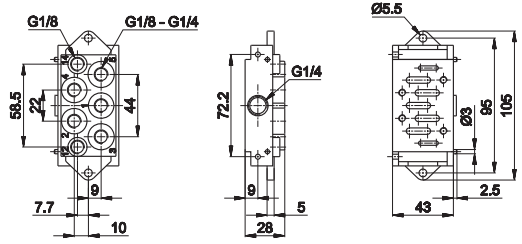
1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
12 - 14 = Pilots

ISO 1 - Single modular or Manifold sub-base, dorsal connections, separate exhausts



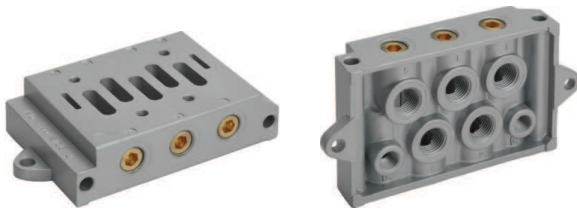
Notes	Connection	Material	Weight Kg	Part no.
dorsal connections	G1/8	zamak	0,35	BF-1062
dorsal connections	G1/4	zamak	0,33	BF-1063

Single assembly: close side ports (G1/8 - G1/4)
 Manifold assembly with common inlet: close dorsal connections n.1
 With incorporated screws and seal

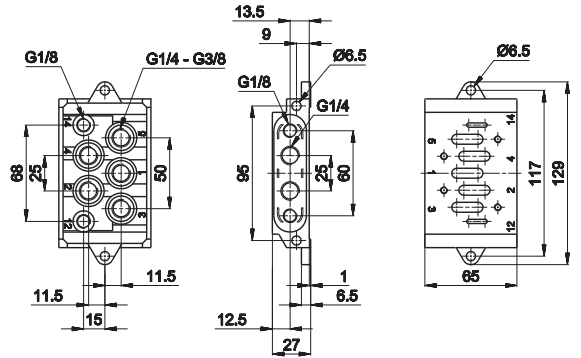


1 = Supply port 3 - 5 = Exhaust
 2 - 4 = Use 12 - 14 = Pilots

ISO 2 - Single sub-base, dorsal connections

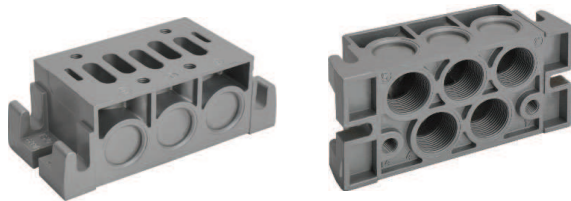


Notes	Connection	Material	Weight Kg	Part no.
dorsal connections	G1/4	zamak	0,65	BF-1152
dorsal connections	G3/8	zamak	0,65	BF-1153

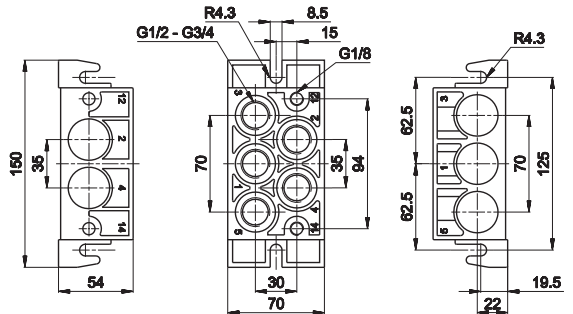


1 = Supply port 3 - 5 = Exhaust
 2 - 4 = Use 12 - 14 = Pilots

ISO 3 - Single sub-base, dorsal connections

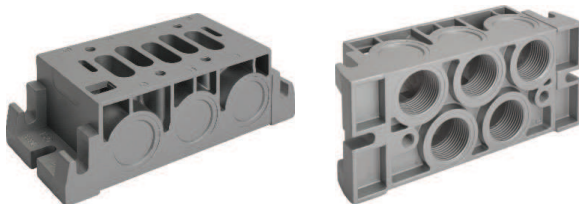


Notes	Connection	Material	Weight Kg	Part no.
dorsal connections	G3/4	aluminium	0,72	BF-3063

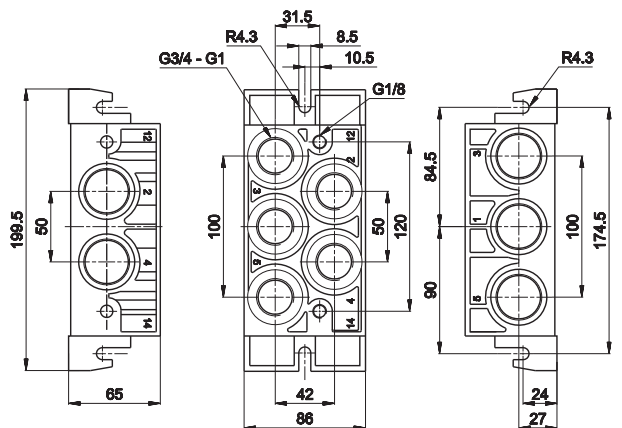


1 = Supply port 3 - 5 = Exhaust
 2 - 4 = Use 12 - 14 = Pilots

ISO 4 - Single sub-base, dorsal connections

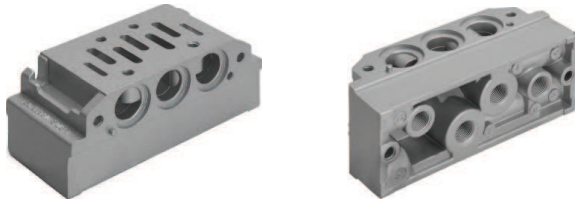


Notes	Connection	Material	Weight Kg	Part no.
dorsal connections	G3/4	aluminium	1,24	BF-4062
dorsal connections	G1	aluminium	1,24	BF-4063



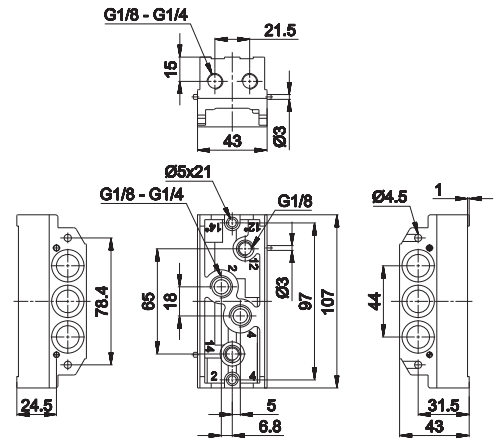
1 = Supply port 3 - 5 = Exhaust
 2 - 4 = Use 12 - 14 = Pilots

ISO 1 - Manifold universal system sub-base, dorsal and side connections, conveyed exhausts



Notes	Connection	Material	Weight	Part no.
			Kg	
dorsal and side connections	G1/8	aluminium	0,28	BF-1071
dorsal and side connections	G1/4	aluminium	0,28	BF-1072
side pneumatic impulses	G1/8	aluminium	0,30	BF-1071S
side pneumatic impulses	G1/4	aluminium	0,30	BF-1072S

Dorsal and side connections possible. Close unused ports with caps.
With incorporated screws, seals and caps included



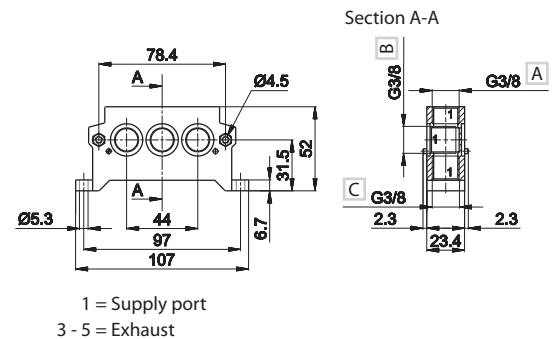
1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
12 - 14 = Pilots
12* - 14* = Side pilots

ISO 1 - Manifold universal system inlet plate

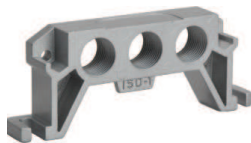


- A On top connections
- B In line connections
- C Dorsal connetions

Notes	Connection	Material	Weight	Part no.
			Kg	
on top connections	G3/8	zamak	0,35	BF-1065
dorsal connections	G3/8	zamak	0,35	BF-1066



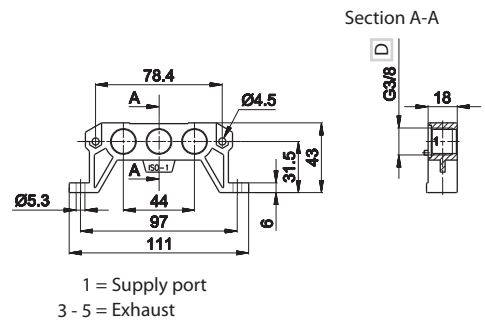
1 = Supply port
3 - 5 = Exhaust



- D Only in line connections

Notes	Connection	Material	Weight	Part no.
			Kg	
only in line connections	G3/8	aluminium	0,12	BF-1068

When battery exceeds 4 units, the mounting of 2 plates is recommended
Mixed version available upon request
With incorporated screws and seal



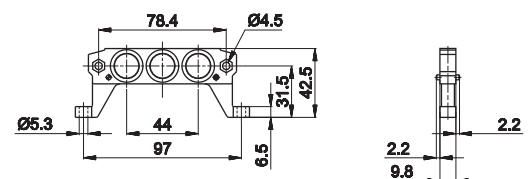
1 = Supply port
3 - 5 = Exhaust

ISO 1 - Manifold universal system diaphragm

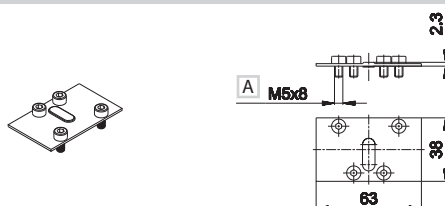


Notes	Connection	Material	Weight	Part no.
			Kg	
-	-	zamak	0,09	BF-1070

The diaphragm is not only the end plate of the manifold but it is also coupled with the exhaust regulator to separate two sub-bases and regulate the valves independently. In this case break the central blind hole.
To get two or more pressures, break the two side blind holes.



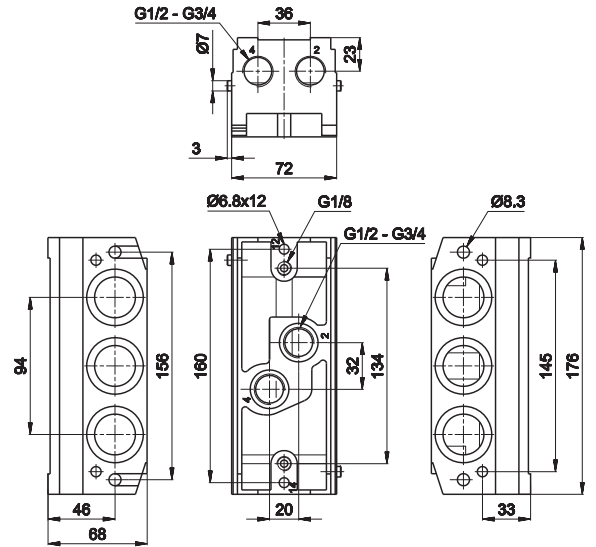
BF-1085



A ISO 4762

ISO 1 - Closing plate for sub-base 1
material: steel
weight: 0,03 Kg (for all sub-base versions)

ISO 3 - Manifold universal system sub-base, dorsal and side connections, conveyed exhausts

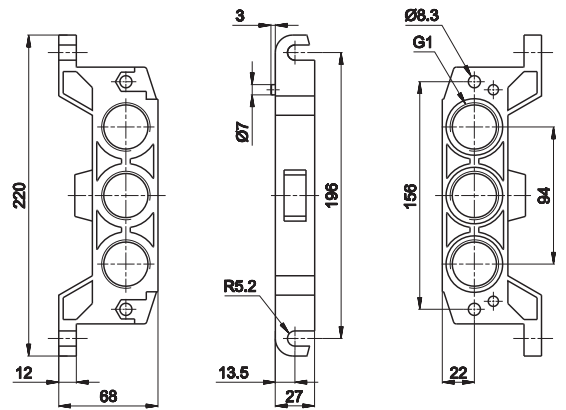


Notes	Connection	Material	Weight Kg	Part no.
dorsal and side connections	G1/2	aluminium	1,10	BF-3071
dorsal and side connections	G3/4	aluminium	1,10	BF-3072

Dorsal and side connections possible. Close unused ports with caps.
With incorporated screws, seals and caps included

1 = Supply port 3 - 5 = Exhaust
2 - 4 = Use 12 - 14 = Pilots

ISO 3 - Manifold Universal system inlet plate

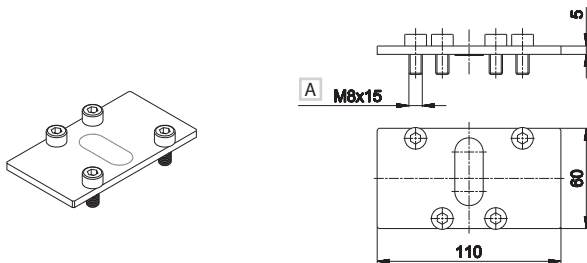


Notes	Connection	Material	Weight Kg	Part no.
in line connections	G1	aluminium	0,44	BF-3064

When battery exceeds 4 units, the mounting of 2 plates is recommended
Mixed version available upon request
With incorporated screws and seals

BF-3175

BF-3082



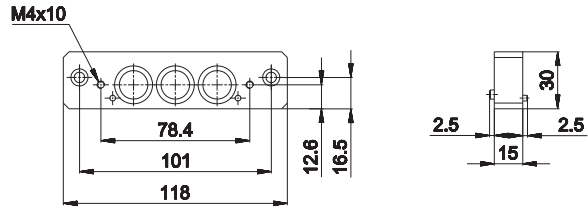
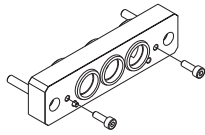
A ISO 4762



ISO 3 - Closing plate for sub-base 3
material: steel
weight: 0,08 Kg (for all sub-base versions)

ISO 3 - Universal system Cap
material: steel
weight: 0,20 Kg
To be used to reach two pressures

BF-1190

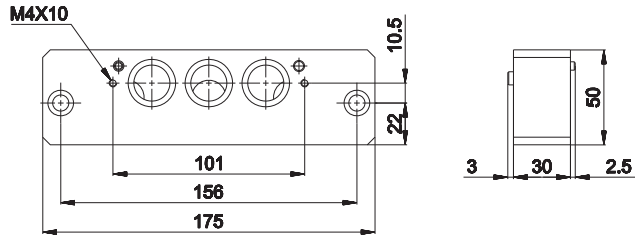
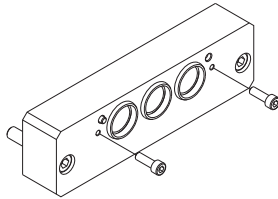


Connecting interface for universal sub-bases size 1 and 2

material: steel
weight: 0,11 Kg

It allows the use of size 1 and 2 valves in one manifold with conveyed pressure and exhausts. (Upon request: pressure and/or exhausts separated)

BF-3190

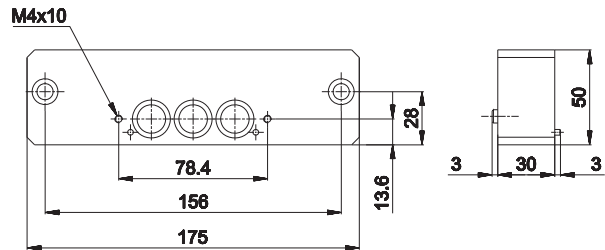
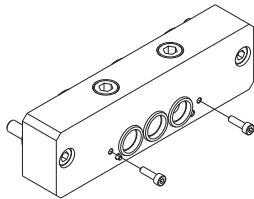


Connecting interface for universal sub-bases size 2 and 3

material: steel
weight: 0,57 Kg

It allows the use of size 2 and 3 valves in one manifold with conveyed pressure and exhausts. (Upon request: pressure and/or exhausts separated)

BF-3191



Connecting interface for universal sub-bases size 1 and 3

material: steel
weight: 0,57 Kg

It allows the use of size 1 and 3 valves in one manifold with conveyed pressure and exhausts. (Upon request: pressure and/or exhausts separated)

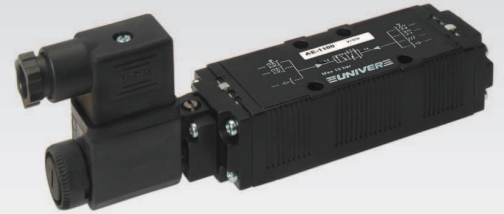
AE

ISO 5599/1 Light Series Valves

Light series: technopolymer valve body with metall cover
Interchangeability: ISO 5599/1 sub-base mounting (size 1 and 2)
Reliability: the mixed internal system (poppet-spool) has been used and appreciated for decades
Performance: high flow rate (size 1 = 1480 NI/min - size 2 = 2300 NI/min), fast commutation, functioning without lubrication

Available ATEX version upon request

CE II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C	
Fluid temperature	+50 °C Max	
Fluid	50 µm filtered air, with or without lubrication	
Commutation system	mixed system	
Ways/Positions	5/2	
Pressure	max 10 bar	
Control	indirect electro - pneumatic and pneumatic	
Return	pneumomechanical spring	
Connections	ISO 5599/1 interface (BF series sub-base)	
	size 1	size 2
Nominal Ø (mm)	8	10
Nominal flow rate (NI/min)	1480	2300

CONSTRUCTIVE CHARACTERISTICS

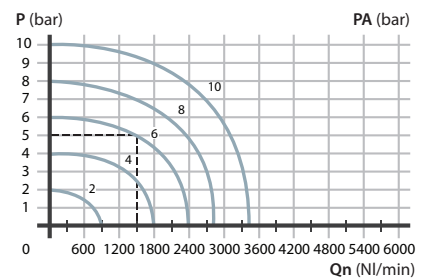
Valve body	acetalic resin
Seals	nitrile rubber - polyurethane
Spool	aluminium
Cover	zamak

ELECTRIC CHARACTERISTICS

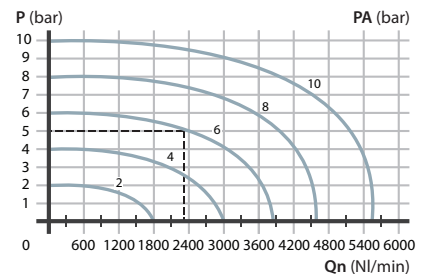
Electropilot	U1 - AA series
Coil	DA series
Power consumption	3,5 W (DC) - 5 VA (AC)
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Connector	AM-5110
Manual override	impulse screw - 2 positions

Flow rate characteristics

>> ISO 1

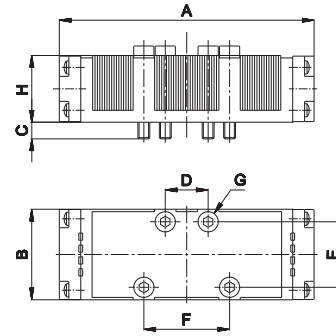


>> ISO 2



P = Working pressure
 PA = Supply pressure
 Qn = Nominal flow rate

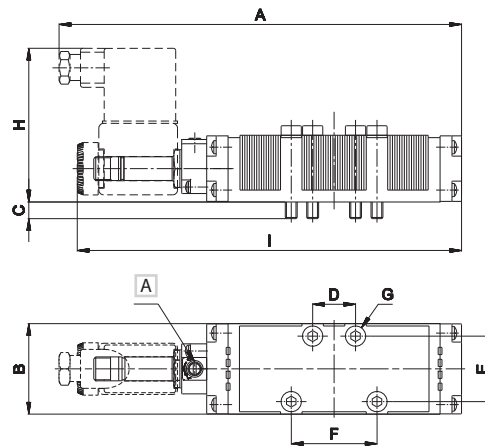
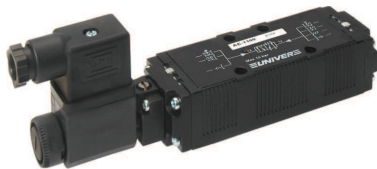
Single/double pneumatic impulse



	A	B	C	D	E	F	G	H
size 1	108	38	7	18	28	36	M5x35	28
size 2	120	50	7	24	38	48	M6x35	28

	Symbol	Control	Return	Size	Pressure bar	Response Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		14	12						
5/2		14	12						
5/2		14	12						
5/2		14	12						

Single electric impulse

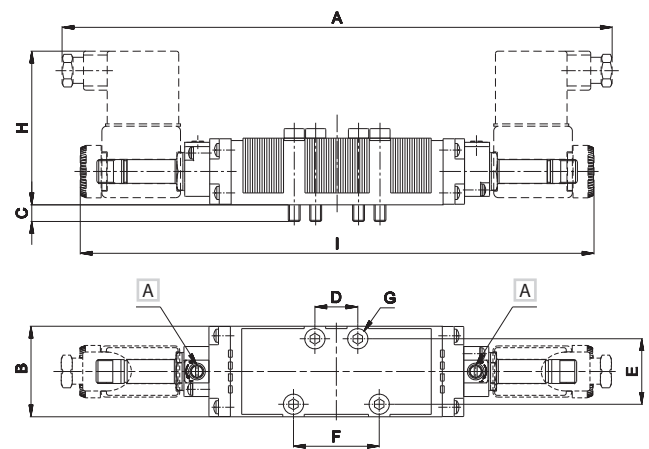
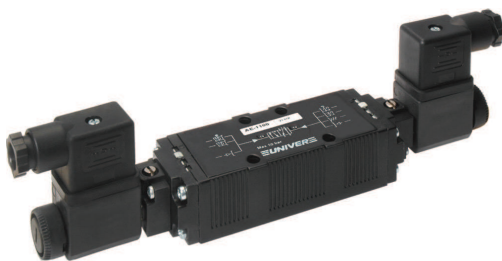


	A	B	C	D	E	F	G	H	I
size 1	171	38	7	18	28	36	M5x35	64	161
size 2	183	50	7	24	38	48	M6x35	64	173

	Symbol	Control	Return	Size	Pressure bar	Response Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		14	12						
5/2		14	12						

A Manual override

Double electric impulse



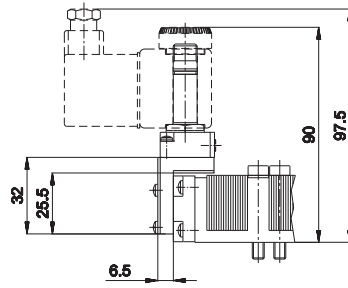
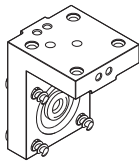
	A	B	C	D	E	F	G	H	I
size 1	234	38	7	18	28	36	M5x35	64	208
size 2	246	50	7	24	38	48	M6x35	64	220

	Symbol	Control	Return	Size	Pressure bar	Response Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		14	12						
5/2		14	12						

A Manual override

Electrovalves are supplied without coil, connector and locking ring

AM-5151



"H" option solenoid square
weight: 0,035 Kg

>> ISO 1 - ISO 2 sub-base



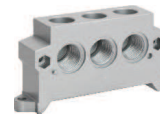
ISO 1 - single sub-base, side connections
BF-1060
G1/8 in-line connections
BF-1061
G1/4 in-line connections



ISO 1 - single modular or Manifold subbase, dorsal connections with separate exhausts
BF-1062
G1/8 dorsal connections
BF-1063
G1/4 dorsal connections



ISO 1 - Manifold universal system sub-base, dorsal and side connections conveyed exhausts
BF-1071
G1/8 dorsal and side connections
BF-1071S
G1/8 side pneumatic impulse
BF-1072
G1/4 dorsal and side connections
BF-1072S
G1/4 side pneumatic impulse



ISO 1 - Manifold universal system inlet plate
G3/8 in-line connections
BF-1065
G3/2 on top connections
BF-1066
G3/2 dorsal connections
BF-1068
G3/2 only in-line connections



ISO 1 - Manifold universal system diaphragm
BF-1070



ISO 2 - single sub-base, side connections
BF-1150
G1/4 in-line connections
BF-1151
G3/8 in-line connections



ISO 2 - single sub-base, dorsal connections
BF-1152
G1/4 dorsal connections
BF-1153
G3/8 dorsal connections



ISO 2 - Manifold universal system sub-base, dorsal and side connections conveyed exhausts
BF-1160
G1/4 dorsal and side connections
BF-1161
G3/8 dorsal and side connections



ISO 2 - Manifold universal system inlet plate
BF-1154
G1/2 in-line connections
BF-1155
G1/2 dorsal connections



ISO 2 - Manifold universal system diaphragm
BF-1162

For sub-base dimensions refer to section "Standardized valves>BE/BE12"

BD

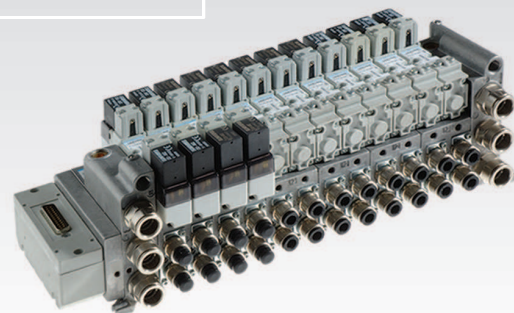
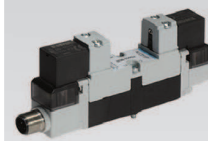
ISO 15407-1/2 (VDMA 24563) ISO 02 (18 mm) - ISO 01 (26 mm) Valves

- BDE** = solenoid valves ISO 15407/2 with integrated electric connection
- BDB** = solenoid valves ISO 15407/1 with M12 electric connection
- BDA** = valves and solenoid valves ISO 15407/1 with standard electrical connection (without coils and connectors to be ordered separately)

- TC Serial communication system available for BDE series
- Modular sub-base ISO-VDMA
- Sub-base with increased capacity

Available ATEX version upon request

CE Ex II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-20 ÷ +50 °C
Fluid temperature	Max +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Ways/Positions	3/2+3/2, 5/2, 5/3
Pressure	electric control = 9 bar max pneumatic control = 10 bar max
Control	indirect electro - pneumatic, pneumatic
Return	mechanical spring, pneumomechanical spring
Nominal Ø (mm)	18 mm = 6, 26 mm = 8

Nominal flow rate (NI/min) for valves and solenoid valves side 18 mm (a)

Sub-base in die-cast aluminium according to standard

Fittings:	VDMA-ISO			Oversize		
	Ø4	Ø6	Ø8	Ø4	Ø6	Ø8
5/2	200	440	620	200	480	800
5/3	200	440	580	200	460	720
3/2+3/2	200	440	600	200	460	720

Nominal flow rate (NI/min) for valves and solenoid valves side 26 mm (b)

Sub-base in die-cast aluminium according to standard

Fittings:	VDMA-ISO				Oversize			
	Ø6	Ø8	Ø10	Ø12(c)	Ø6	Ø8	Ø10	Ø12(c)
5/2	500	950	1200	1250	500	1050	1500	1700
5/3	500	900	1100	1150	500	1050	1300	1400
3/2+3/2	500	950	1150	1250	500	1050	1450	1650

(a) = manifold sub-base 2 valve places and end plates with side connections in aluminium and fixing plate for fittings standard supplied with sub-base.

(b) = manifold sub-base 1 valve place and end plates with side connections in aluminium and fixing plate for fittings standard supplied with sub-base.

(c) = the external Ø of the G 3/8 fitting for tube Ø12 mm must not exceed 20 mm

CONSTRUCTIVE CHARACTERISTICS

Body valve	acetalic resin with aluminium cover
Seals	nitrile rubber
Sub-base	die-cast aluminium
Actuators	technopolymer
Spool	aluminium

ELECTRIC CHARACTERISTICS

Electropilot/Coil	A series/U05
Voltage	24 V DC (± 10%), 12 V DC upon request
Power consumption	2 W
Protection degree	IP65
Manual override	recessed button - 1 position

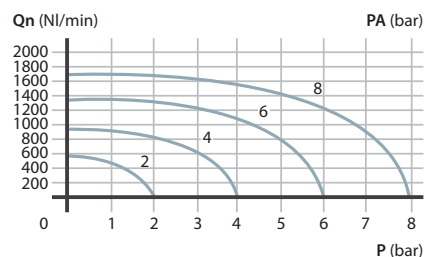
See ATEX Catalogue for types and versions

Subject to change

Flow rate characteristics

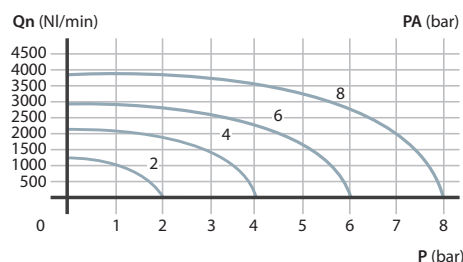
>> Valves and solenoid valves side 18 mm

5/2 Oversize sub-base for Ø8 mm tube



>> Valves and solenoid valves side 26 mm

5/2 Increased sub-base for Ø12 mm tube



P = Working pressure

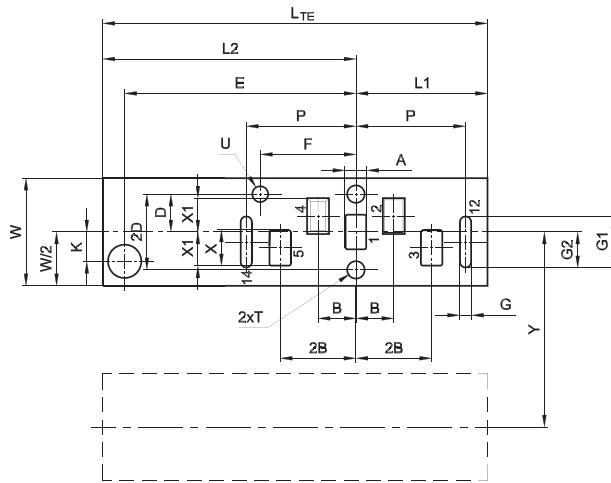
PA = Supply pressure

Qn = Nominal flow rate

ISO 15407 specifications

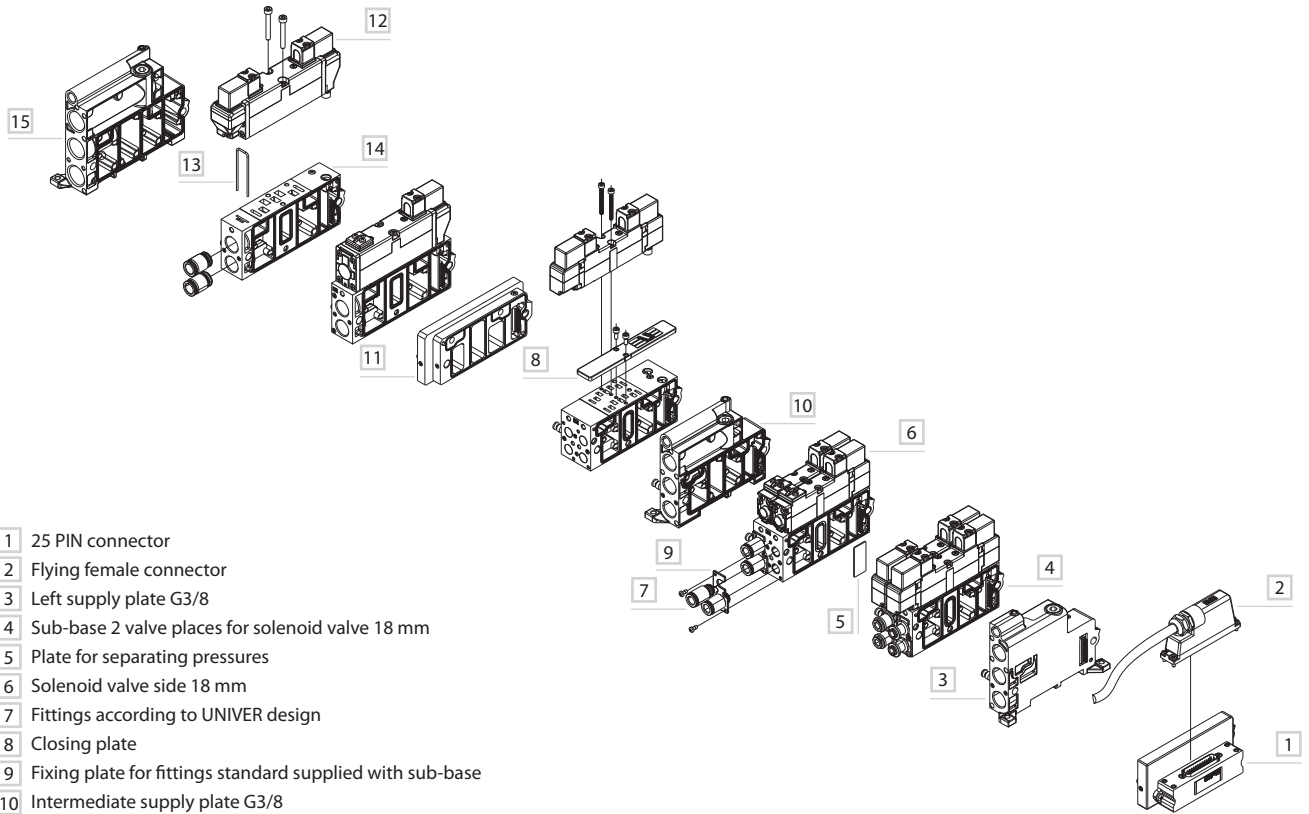
They establish the dimensions of the bearing surface and the minimum distance between two valve places, guaranteeing the interchangeability and possibility to include any valve providing it complies with above specifications.

>> Dimensioning of the bearing surface according to ISO 15407-1/2 specification with integrated electric connector



Y = Min. distance between two interface axes of the same dimension mounting on the same manifolds
 U = Position bore, depth V

	A	B	D	E	F	G	G1	G2	K	L1	L2	LTE	P	T	U	V	W	X	X1	Y			
											min.	min.	min.										
18 mm	3,5	7	6,25	50	17	2	8	6	3,35	25	55,5	80,5	20	M3	3,2	4	18	6,5	5,25	19			
26 mm	5,5	9,5	9,5	58	24	3	13	9	7,35	33	63,5	96,5	27,5	M4	3,2	4	26	9	8,5	27			



- 1 25 PIN connector
- 2 Flying female connector
- 3 Left supply plate G3/8
- 4 Sub-base 2 valve places for solenoid valve 18 mm
- 5 Plate for separating pressures
- 6 Solenoid valve side 18 mm
- 7 Fittings according to UNIVER design
- 8 Closing plate
- 9 Fixing plate for fittings standard supplied with sub-base
- 10 Intermediate supply plate G3/8
- 11 Interface for connecting valves side 18/26 mm
- 12 Solenoid valve side 26 mm
- 13 Clamping fork for fittings
- 14 Sub-base 1 valve place for solenoid valve 26 mm
- 15 Right supply plate G1/2

3

CODIFICATION KEY

B	D	E	-	3	3	4	4	2	4	
1				2	3	4	5	6		7

1 Series	2 Size	3 Type	4 Control 14
BDE = solenoid valves with integrated electric connection 24 V DC (including coil and connector) BDB = solenoid valves with integrated electric connection 24 V DC, with M12 connector (including coil and connector)	3 = side 18 mm 4 = side 26 mm	2 = 5/2 3 = 5/3 o.c. 4 = 5/3 c.c. 5 = 5/3 p.c. 6 = 3/2+3/2 NC-NC 7 = 3/2+3/2 NC-NO 8 = 3/2+3/2 NO-NO	4 = electric amplified

5 Return 12	6 Coil voltage	7 Options
0 = pneumomechanical spring 1 = mechanical spring 4 = electric amplified 7 = electric not amplified	24 = 24 V DC (standard) 12 = 12 V DC (upon request)	D = externally servoassisted electropilot

o.c. = open centres c.c. = closed centres p.c. = pressurized centre

B	D	A	-	3	3	4	4		
1				2	3	4	5	6	7

1 Series	2 Size	3 Type	4 Control 14
BDA = valves and solenoid valves (without coil and connectors to be ordered separately)	3 = side 18 mm 4 = side 26 mm	2 = 5/2 3 = 5/3 o.c. 4 = 5/3 c.c. 5 = 5/3 p.c. 6 = 3/2+3/2 NC-NC 7 = 3/2+3/2 NC-NO 8 = 3/2+3/2 NO-NO	3 = pneumatic amplified 4 = electric amplified only DC 5 = electric amplified DC and AC

5 Return 12	6 Options	7 ATEX Options
0 = pneumomechanical spring 1 = mechanical spring 2 = pneumatic not amplified 3 = pneumatic amplified 4 = electric amplified only DC 5 = electric amplified DC and AC 7 = electric non amplified only DC 8 = electric non amplified DC and AC	D = externally servoassisted electropilot	X = Atex (upon request) See ATEX Catalogue for types and versions

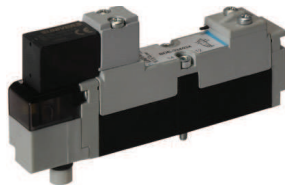
o.c. = open centres c.c. = closed centres p.c. = pressurized centre

>> Coils U05 side 15 mm

Part no.	Nominal voltage		Frequency	Power consumption			
	DC v	AC v		CCW		CA	VA
			HZ	rating	start	rating	start
DD-040	-	24	50/60	-	-	2,3	3,2
DD-042	12	-	-	2,5	2,5	-	-
DD-050	-	48	50/60	-	-	2,3	3,2
DD-051	24	-	-	2	2	-	-
DD-052	24	-	-	2,5	2,5	-	-
DD-060	-	110	50/60	-	-	3,5	3,2
DD-070	-	230	50/60	-	-	2,3	3,2

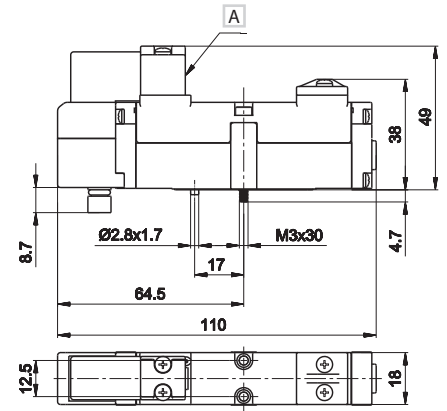
LED connector AM-5109/AM5105 24V DC 50/60 Hz
It can rotate by 180° on the coil - IP65 - cable connection PG9

Single electric impulse 18 mm



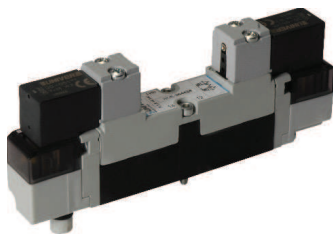
Weight (Kg): 0,112

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14	12	1,8÷9	15	25	BDE-324024
5/2		14	12	2,5÷9	14	37	BDE-324124



A Manual override

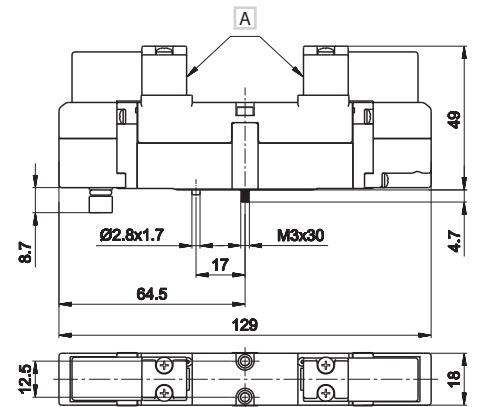
Double electric impulse 18 mm



Weight (Kg): 0,131

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14	12	0,8÷9	16	16	BDE-324424
5/3 c.c.		14	12	2,1÷9	14	31	BDE-334424
5/3 o.c.		14	12	2,1÷9	14	31	BDE-344424
5/3 p.c.		14	12	2,1÷9	31	14	BDE-354424
3/2 NC + 3/2 NC		14	12	1,8÷9	17	22	BDE-364424
3/2 NC + 3/2 NO		14	12	1,8÷9	17	22	BDE-374424
3/2 NO + 3/2 NO		14	12	1,8÷9	17	22	BDE-384424

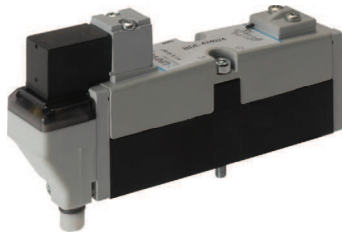
o.c. = open centres c.c. = closed centres p.c. = pressurized centres



A Manual override

3

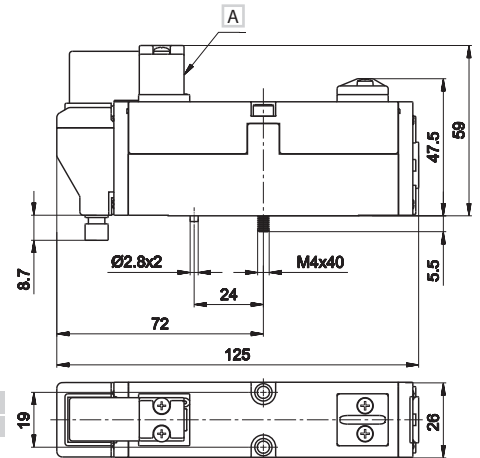
Single electric impulse 26 mm



Weight (Kg): 0,205

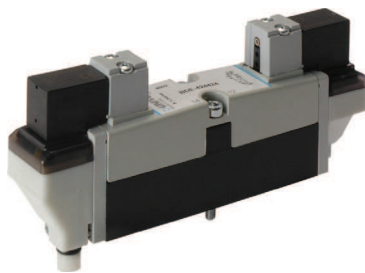
	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
		14	12		En.	De-en.	
5/2		electric amplified	pneumo mechanical spring	1,8÷9	21	40	BDE-424024

5/2		electric amplified	mechanical spring	2,5÷9	20	50	BDE-424124
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A Manual override

Double electric impulse 26 mm



Weight (Kg): 0,232

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
		14	12		En.	De-en.	
5/2		electric amplified	electric amplified	0,8÷9	17	17	BDE-424424

5/3 c.c.		electric amplified	electric amplified	2,1÷9	16	54	BDE-434424
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5/3 o.c.		electric amplified	electric amplified	2,1÷9	16	54	BDE-444424
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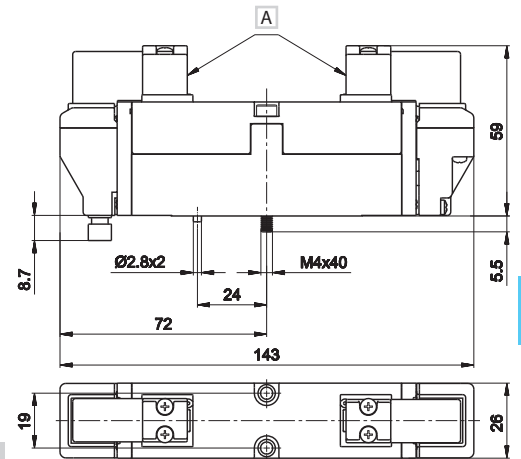
5/3 p.c.		electric amplified	electric amplified	2,1÷9	63	16	BDE-454424
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3/2 NC + 3/2 NC		electric amplified	electric amplified	1,8÷9	20	27	BDE-464424
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3/2 NC + 3/2 NO		electric amplified	electric amplified	1,8÷9	20	27	BDE-474424
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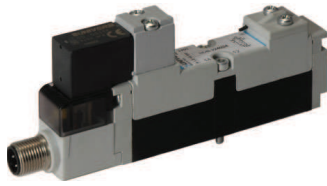
3/2 NO + 3/2 NO		electric amplified	electric amplified	1,8÷9	20	27	BDE-484424
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o.c. = open centres c.c. = closed centres p.c. = pressurized centres



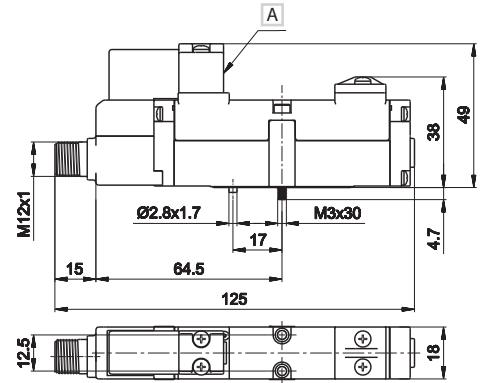
A Manual override

Single electric impulse 18 mm



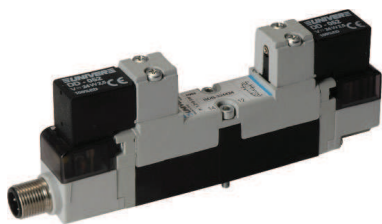
Weight (Kg): 0,117

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14 electric amplified	12 pneumo mechanical spring	1,8÷9	15	25	BDB-324024
5/2		14 electric amplified	12 mechanical spring	2,5÷9	14	37	BDB-324124



A Manual override

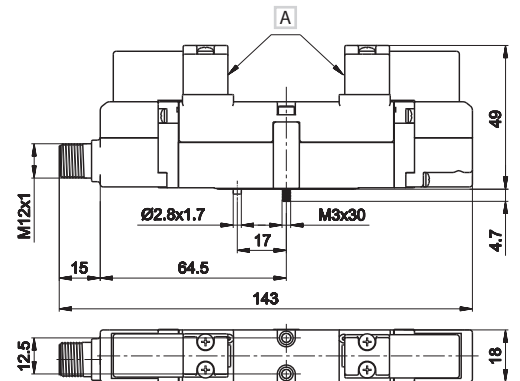
Double electric impulse 18 mm



Weight (Kg): 0,136

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14 electric amplified	12 electric amplified	0,8÷9	16	16	BDB-324424
5/3 c.c.		14 electric amplified	12 electric amplified	2,1÷9	14	31	BDB-334424
5/3 o.c.		14 electric amplified	12 electric amplified	2,1÷9	14	31	BDB-344424
5/3 p.c.		14 electric amplified	12 electric amplified	2,1÷9	31	14	BDB-354424
3/2 NC + 3/2 NC		14 electric amplified	12 electric amplified	1,8÷9	17	22	BDB-364424
3/2 NC + 3/2 NO		14 electric amplified	12 electric amplified	1,8÷9	17	22	BDB-374424
3/2 NO + 3/2 NO		14 electric amplified	12 electric amplified	1,8÷9	17	22	BDB-384424

o.c. = open centres c.c. = closed centres p.c. = pressurize centres

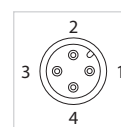
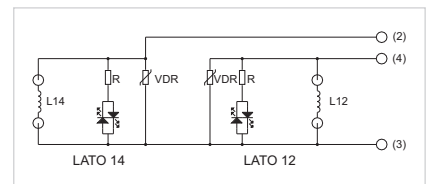


A Manual override

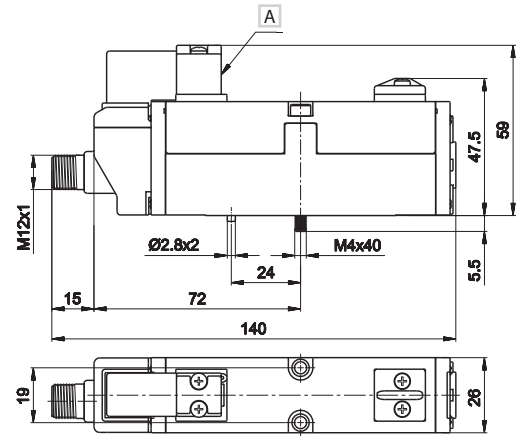
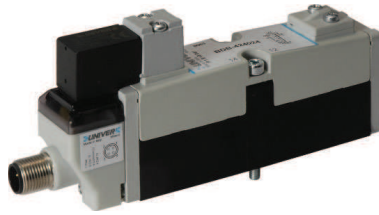
ELECTRIC CHARACTERISTICS

- Electric connector M12x1
- IP 65 protection degree
- 24 V DC voltage
- 2,5 W nominal power
- DD-052** series coil (without faston)
- ED 100%
- LED indicator

Available upon request other voltages
max 48V DC



Single electric impulse 26 mm

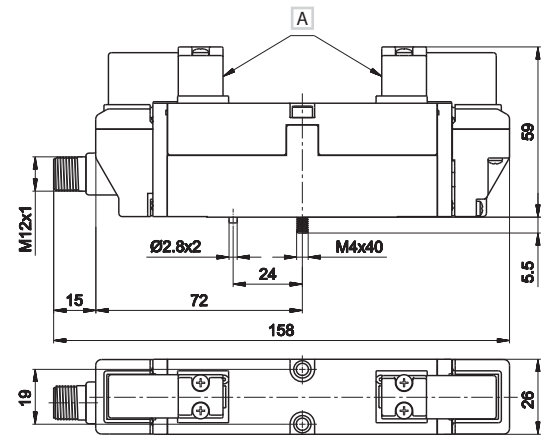
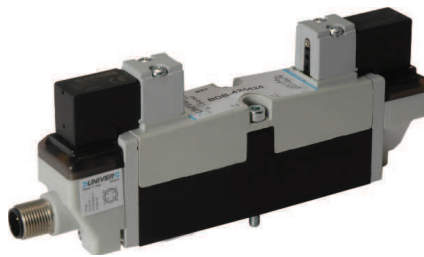


A Manual override

Weight (Kg): 0,205

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14	12	1,8÷9	21	40	BDB-424024
5/2		electric amplified	molla pneumo mechanical	1,8÷9	21	40	BDB-424024
5/2		14	12	2,5÷9	20	50	BDB-424124
5/2		electric amplified	molla mechanical	2,5÷9	20	50	BDB-424124

Double electric impulse 26 mm



A Manual override

Weight (Kg): 0,236

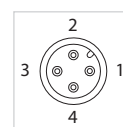
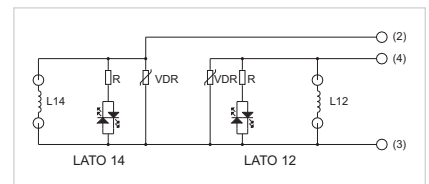
	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14	12	2,5÷9	17	17	BDB-424424
5/2		electric amplified	electric amplified	2,5÷9	17	17	BDB-424424
5/3 c.c.		14	12	2,1÷9	16	54	BDB-434424
5/3 c.c.		electric amplified	electric amplified	2,1÷9	16	54	BDB-434424
5/3 o.c.		14	12	2,1÷9	16	54	BDB-444424
5/3 o.c.		electric amplified	electric amplified	2,1÷9	16	54	BDB-444424
5/3 p.c.		14	12	2,1÷9	63	16	BDB-454424
5/3 p.c.		electric amplified	electric amplified	2,1÷9	63	16	BDB-454424
3/2 NC + 3/2 NC		14	12	1,8÷9	20	27	BDB-464424
3/2 NC + 3/2 NC		electric amplified	electric amplified	1,8÷9	20	27	BDB-464424
3/2 NC + 3/2 NO		14	12	1,8÷9	20	27	BDB-474424
3/2 NC + 3/2 NO		electric amplified	electric amplified	1,8÷9	20	27	BDB-474424
3/2 NO + 3/2 NO		14	12	1,8÷9	20	27	BDB-484424
3/2 NO + 3/2 NO		electric amplified	electric amplified	1,8÷9	20	27	BDB-484424

o.c. = open centres c.c. = closed centres p.c. = pressurize centres

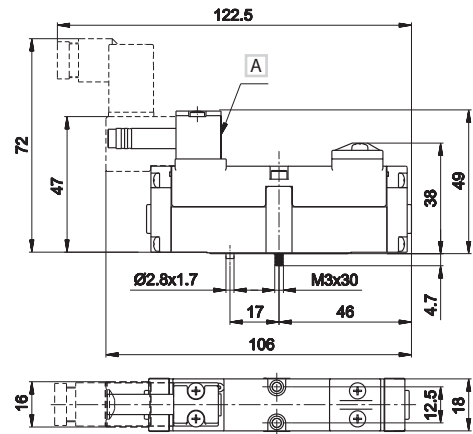
ELECTRIC CHARACTERISTICS

- Electric connector M12x1
- IP 65 protection degree
- 24 V DC voltage
- 2,5 W nominal power
- DD-052** series coil (without faston)
- ED 100%
- LED indicator

Available upon request other voltages
max 48V DC



Single electric impulse 18 mm

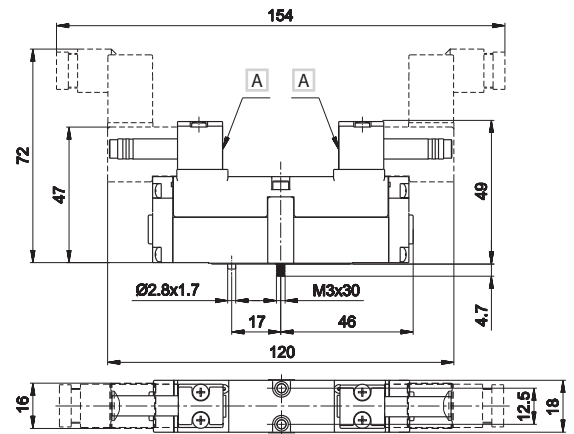
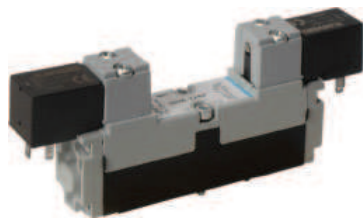


Weight (Kg): 0,107

	Symbol	Control	Return	Pressure	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14 electric amplified	12 pneumo mechanical spring	bar 1,8÷9	15	25	BDA-3240
5/2		14 electric amplified	12 mechanical spring	bar 2,5÷9	14	37	BDA-3241

A Manual override

Double electric impulse 18 mm



Weight (Kg): 0,123

	Symbol	Control	Return	Pressure	Resp. Time (ms)		Part no.
					En.	De-en.	
5/2		14 electric amplified	12 electric amplified	bar 0,8÷9	16	16	BDA-3244
5/3 c.c.		14 electric amplified	12 electric amplified	bar 2,1÷9	14	31	BDA-3344
5/3 o.c.		14 electric amplified	12 electric amplified	bar 2,1÷9	14	31	BDA-3444
5/3 p.c.		14 electric amplified	12 electric amplified	bar 2,1÷9	31	14	BDA-3544
3/2 NC + 3/2 NC		14 electric amplified	12 electric amplified	bar 1,8÷9	17	22	BDA-3644
3/2 NC + 3/2 NO		14 electric amplified	12 electric amplified	bar 1,8÷9	17	22	BDA-3744
3/2 NO + 3/2 NO		14 electric amplified	12 electric amplified	bar 1,8÷9	17	22	BDA-3844

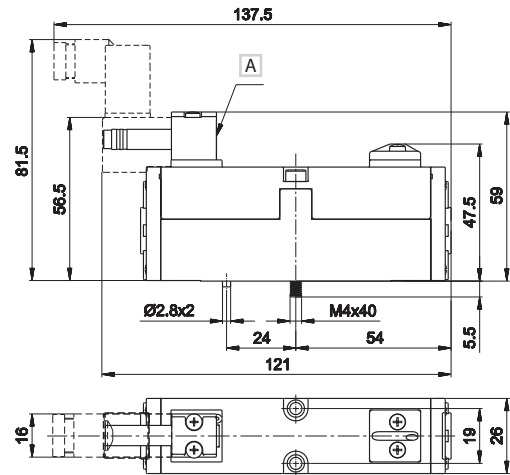
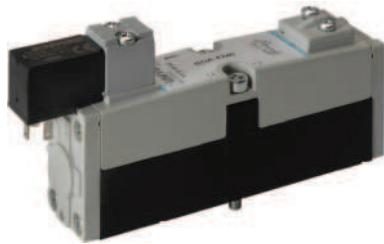
A Manual override

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

BDA solenoid valves are supplied without coils and connectors

3

Single electric impulse 26 mm

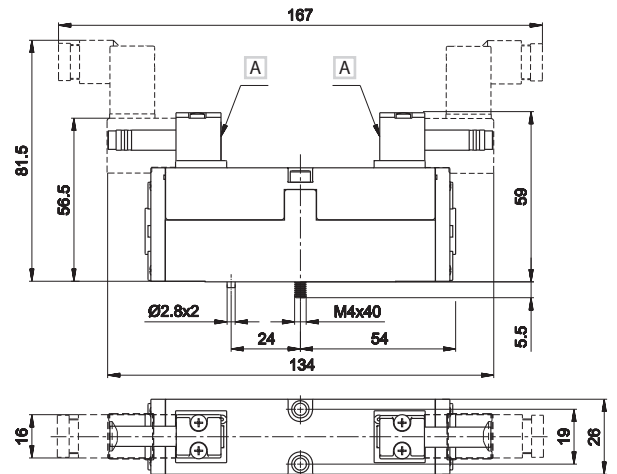
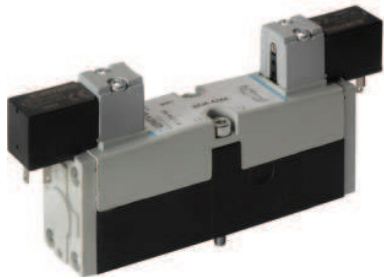


Weight (Kg): 0,197

	Symbol	Mando	Return	Pressure	Resp. Time (ms)		Part no.
		14	12	bar	En.	De-en.	
5/2		electric amplified	pneumo mechanical spring	1,8÷9	21	40	BDA-4240
5/2		electric amplified	mechanical spring	2,5÷9	20	50	BDA-4241

A Manual override

Double electric impulse 26 mm



Weight (Kg): 0,218

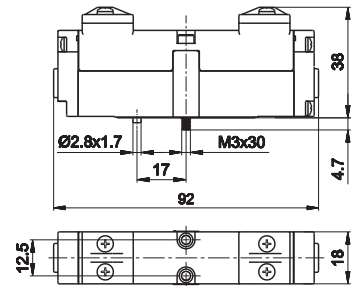
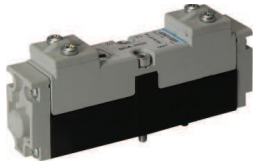
	Symbol	Control	Return	Pressure	Resp. Time (ms)		Part no.
		14	12	bar	En.	De-en.	
5/2		electric amplified	electric amplified	1,2÷9	17	17	BDA-4244
5/3 c.c.		electric amplified	electric amplified	2,1÷9	16	54	BDA-4344
5/3 o.c.		electric amplified	electric amplified	2,1÷9	16	54	BDA-4444
5/3 p.c.		electric amplified	electric amplified	2,1÷9	63	16	BDA-4544
3/2 NC + 3/2 NC		electric amplified	electric amplified	1,8÷9	20	27	BDA-4644
3/2 NC + 3/2 NO		electric amplified	electric amplified	1,8÷9	20	27	BDA-4744
3/2 NO + 3/2 NO		electric amplified	electric amplified	1,8÷9	20	27	BDA-4844

A Manual override

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

BDA solenoid valves are supplied without coils and connectors

Single/double **pneumatic impulse 18 mm**



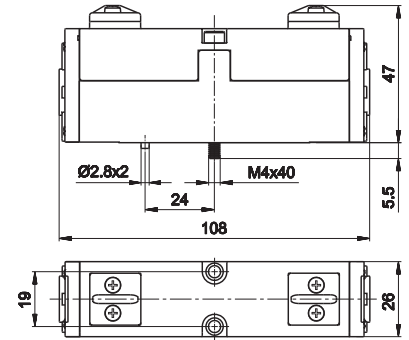
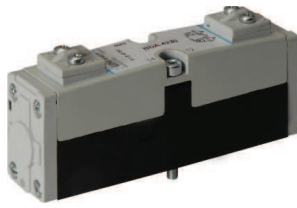
Weight (Kg): 0,092/0,098

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
		14	12		En.	De-en.	
5/2		pneumatic amplified	pneumo mechanical spring	1,8÷10	13	30	BDA-3230
5/2		pneumatic amplified	mechanical spring	2,5÷10	11	35	BDA-3231
5/2		pneumatic amplified	pneumatic amplified	0,8÷10	8	8	BDA-3233
5/3 c.c.		pneumatic amplified	pneumatic amplified	2,1÷10	9	15	BDA-3333
5/3 o.a.		pneumatic amplified	pneumatic amplified	2,1÷10	9	15	BDA-3433
5/3 p.p.		pneumatic amplified	pneumatic amplified	2,1÷10	9	15	BDA-3533
3/2 NC + 3/2 NC		pneumatic amplified	pneumatic amplified	1,8÷10	5	14	BDA-3633
3/2 NC + 3/2 NO		pneumatic amplified	pneumatic amplified	1,8÷10	5	14	BDA-3733
3/2 NO + 3/2 NO		pneumatic amplified	pneumatic amplified	1,8÷10	5	14	BDA-3833

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

3

Single/double **pneumatic impulse 26 mm**

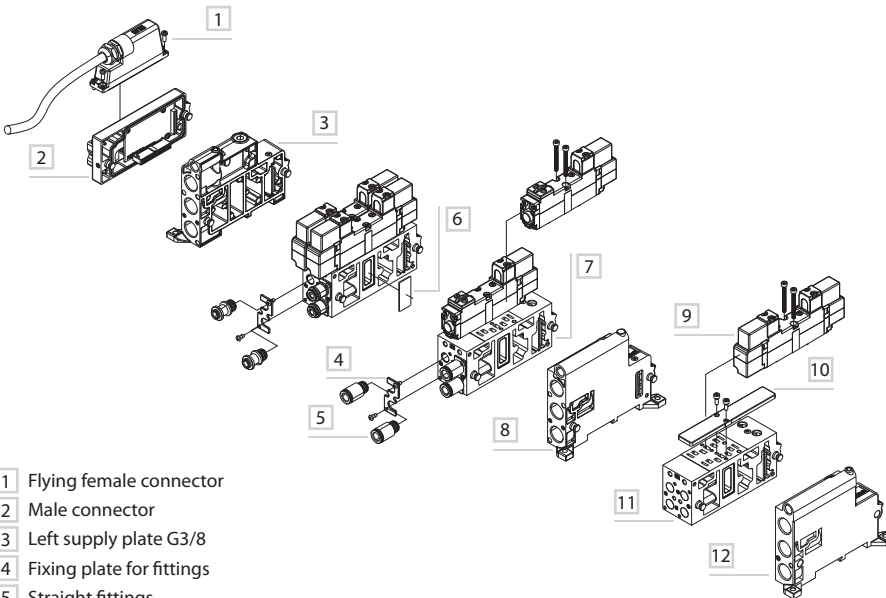
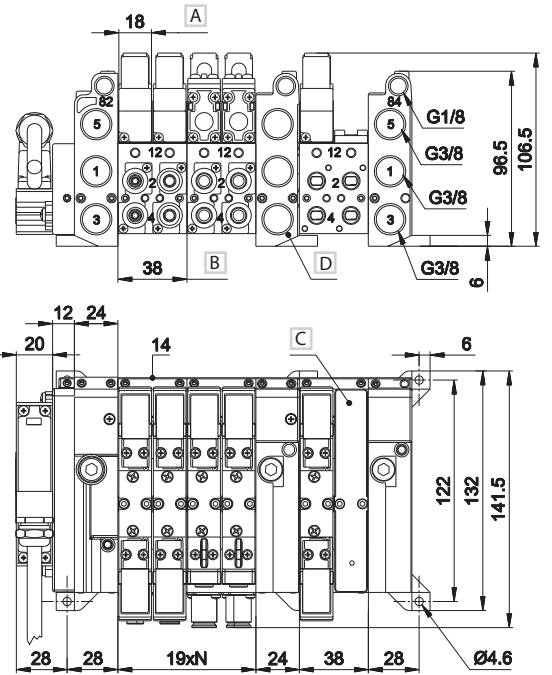
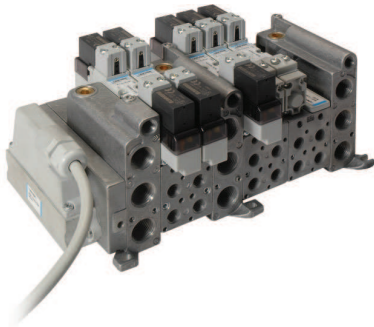


Weight (Kg): 0,185/0,204

	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Part no.
		14	12		En.	De-en.	
5/2		pneumatic amplified	pneumo mechanical spring	1,8÷10	15	33	BDA-4230
5/2		pneumatic amplified	mechanical spring	2,5÷10	13	38	BDA-4231
5/2		pneumatic amplified	pneumatic amplified	1,2÷10	10	10	BDA-4233
5/3 c.c.		pneumatic amplified	pneumatic amplified	1,2÷10	14	18	BDA-4333
5/3 e.s.		pneumatic amplified	pneumatic amplified	1,2÷10	14	18	BDA-4433
5/3 p.p.		pneumatic amplified	pneumatic amplified	1,2÷10	14	18	BDA-4533
3/2 NC + 3/2 NC		pneumatic amplified	pneumatic amplified	1,8÷10	8	14	BDA-4633
3/2 NC + 3/2 NO		pneumatic amplified	pneumatic amplified	1,8÷10	8	14	BDA-4733
3/2 NO + 3/2 NO		pneumatic amplified	pneumatic amplified	1,8÷10	8	14	BDA-4833

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Integrated electric connection side 18 mm



- A Valve thickness
- B Sub-base 2 valve
- C Closing plate for unused valve place BDF-3185
- D Intermediate supply plate
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return
- N = Number of valve places

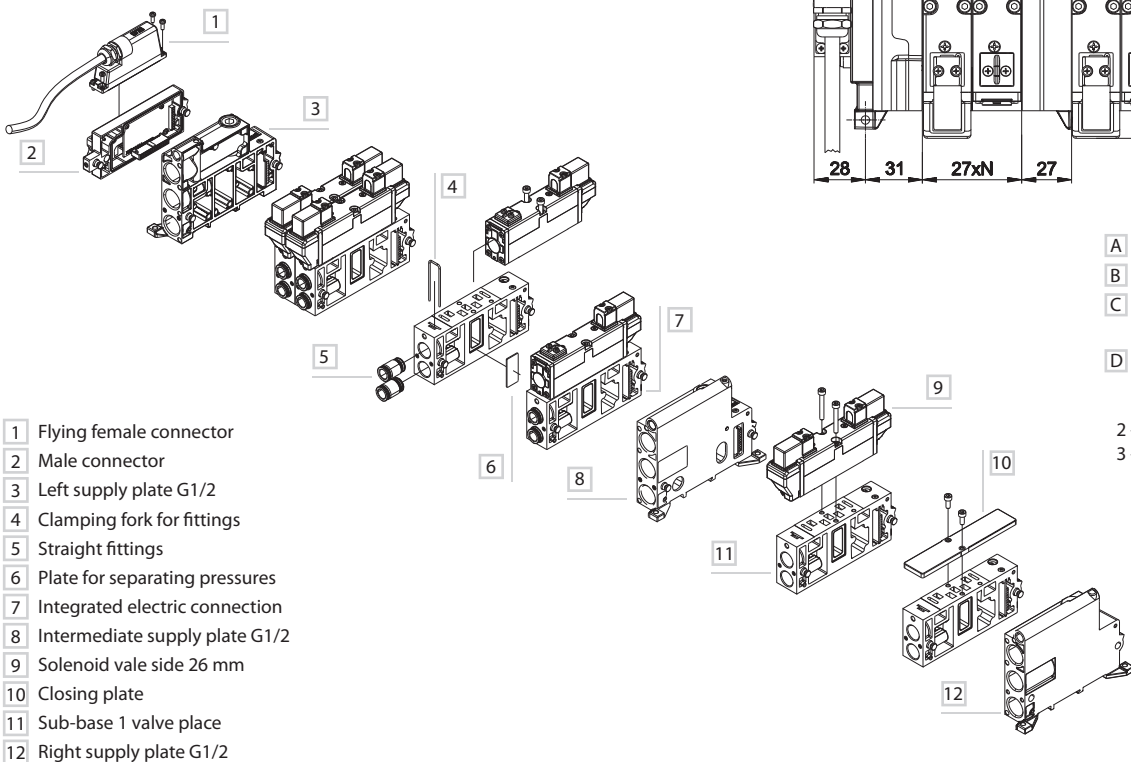
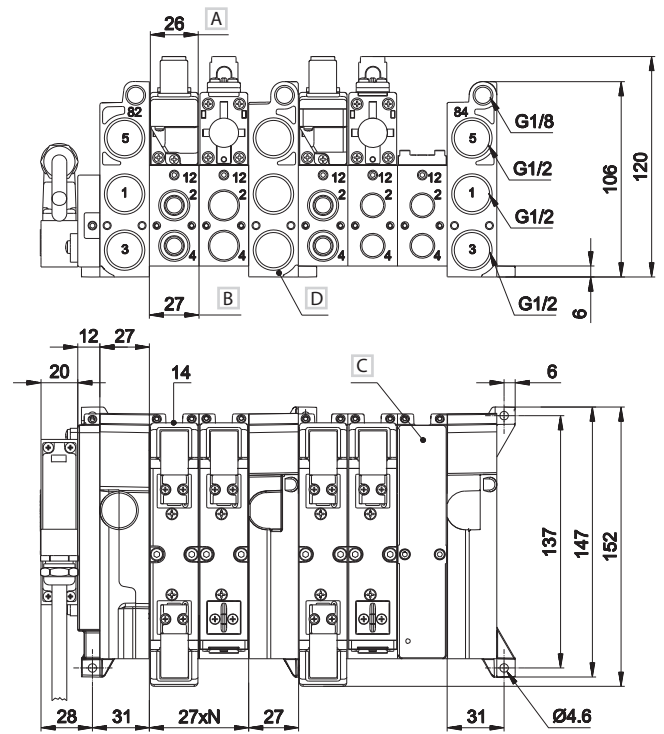
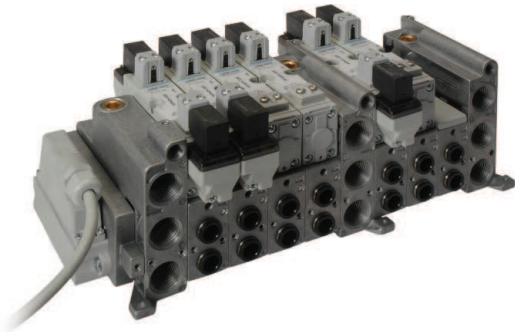
3

- 1 Flying female connector
- 2 Male connector
- 3 Left supply plate G3/8
- 4 Fixing plate for fittings
- 5 Straight fittings
- 6 Plate for separating pressures
- 7 Integrated electric connection
- 8 Intermediate supply plate G3/8
- 9 Solenoid valve side 18 mm
- 10 Closing plate
- 11 Sub-base 2 valve places
- 12 Right supply plate G3/8

BDF-3100	BDF-3115	BDF-3120	BDF-3140TIM	BDF-3180	BDF-3185	BDF-3190
left supply plate G3/8 with integrated electric connection weight: 0,292 Kg	right supply plate G3/8 weight: 0,276 Kg	intermediate supply plate G3/8 with integrated electric connection weight: 0,29 Kg	multiway connection module, 25 poles male type D side 18 mm weight: 0,158 Kg	plate for separating supply pressures weight: 0,002 Kg	plate for closing unused valve place weight: 0,038 Kg	interface for connecting valves side 18-26 mm with integrated electric connection weight: 0,216 Kg
BDF-3210 (b)	BDF-3230 (a) - (b)	BDF-3310 (b)	BDF-3330 (a) - (b)	BDF-3400	GZR-100	GZR-V10004/06/08
sub base 2 places according to VDMA-ISO specifications flow rate 620 NI/min G1/8 connections weight: 0,324 Kg	sub base 2 places according to VDMA-ISO specifications flow rate 620 NI/min for fittings Ø 4-6-8 mm weight: 0,334 Kg	sub base 2 places with increased capacity 800 NI/min G1/8 connections weight: 0,322 Kg	sub base 2 places with increased capacity 800 NI/min for fittings Ø 4-6-8 mm weight: 0,334 Kg	single sub-base 1 place with increased capacity G1/8 connections weight: 0,12 Kg	screw plug weight: 0,01 Kg	fittings according to UNIVER design (package 50 pcs.) GZR-V10004 Ø4 mm GZR-V10006 Ø6 mm GZR-V10008 Ø8 mm weight: 0,01 Kg each.

(a) = sub-base including fixing plates for fittings (fittings excluded) (b) = part no. codification: 0 = electric integrated

Integrated electric connection side 26 mm



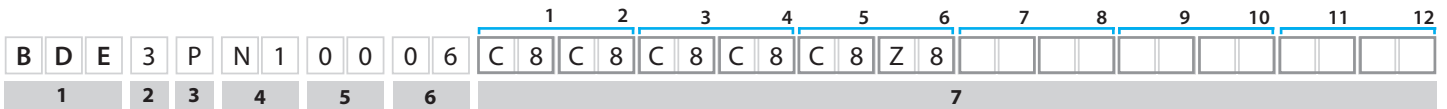
- 1 Flying female connector
- 2 Male connector
- 3 Left supply plate G1/2
- 4 Clamping fork for fittings
- 5 Straight fittings
- 6 Plate for separating pressures
- 7 Integrated electric connection
- 8 Intermediate supply plate G1/2
- 9 Solenoid valve side 26 mm
- 10 Closing plate
- 11 Sub-base 1 valve place
- 12 Right supply plate G1/2

- A Valve thickness
- B Sub-base 1 place valve
- C Closing plate for unused valve place BDF-4185
- D Intermediate supply plate
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return
- N = Number of valve place

BDF-4100	BDF-4115	BDF-4120	BDF-4140TIM	BDF-4180	BDF-4185
left supply plate G1/2 with integrated electric connection weight: 0,396 Kg	right supply plate G1/2 weight: 0,418 Kg	intermediate supply plate G1/2 with integrated electric connection weight: 0,396 Kg	multiway connection module, 25 poles male type D side 26 mm weight: 0,158 Kg	plate for separating supply pressures weight: 0,002 Kg	plate for closing unused valve place weight: 0,08 Kg
BDF-4210/20 (b)	BDF-4230 (a) - (b)	BDF-4310/20(b)	BDF-4330/31/32(a) - (b)	BDF-4400	GZR-VV1006/08/10
sub base 1 place according to VDMA-ISO specification flow rate 1250 NI/min G1/4 connections BDF-4210 weight: 0,254 Kg G3/8 connections BDF-4220 weight: 0,246 Kg	sub base 1 place according to VDMA-ISO specification flow rate 1250 NI/min for fittings Ø 6-8-10 mm BDF-4230 weight: 0,23 Kg	sub base 1 place with increased capacity flow rate 1700 NI/min G1/4 connections BDF-4310 weight: 0,254 Kg G3/8 connections BDF-4320 weight: 0,246 Kg	sub base 1 place with increased capacity flow rate 1700 NI/min for fittings Ø 6-8-10 mm BDF-4330 weight: 0,23 Kg	single sub-base 1 place with increased capacity G3/8 connections weight: 0,226 Kg	fittings according to UNIVER design (package 50 pcs.) GZR-VV1006 Ø 6mm GZR-VV1008 Ø 8mm GZR-VV1010 Ø 10mm weight: 0,014 Kg each.

(a) = sub-base including fixing plates for fittings (fittings excluded) (b) = part no. codification: 0 = electric integrated

CONFIGURATION KEY



1 Valve series BDE = Solenoid valves with integrated electrical connection 24 V DC	2 Valve size 3 = 18 mm	3 Electrical Connection and Bus Modules ** M* = Multipin C = CANopen P = Profinet D = DeviceNet B = Profibus L* = IO Link E = Ethernet T = EtherCAT
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* = Auxiliary Inputs and Outputs cannot be added
** = For more details see section "Serial Communication Systems"

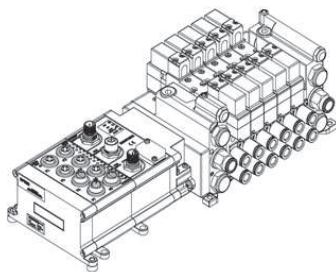
4 Auxiliary Inputs	5 Auxiliary Outputs														
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>INPUT module M12</th> <th>Number of modules</th> </tr> </thead> <tbody> <tr> <td>0 = no additional module</td> <td>0 no additional module</td> </tr> <tr> <td>N = 16 input</td> <td>1-2-3-4 up to max. 4 modules</td> </tr> <tr> <td>H = 8 input</td> <td>1-2-3-4-5-6-7-8 up to max. 8 modules</td> </tr> </tbody> </table>	INPUT module M12	Number of modules	0 = no additional module	0 no additional module	N = 16 input	1-2-3-4 up to max. 4 modules	H = 8 input	1-2-3-4-5-6-7-8 up to max. 8 modules	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>OUTPUT module M12</th> <th>Number of modules</th> </tr> </thead> <tbody> <tr> <td>0 = no additional module</td> <td>0 no additional module</td> </tr> <tr> <td>U = 8 output</td> <td>1-2-3-4-5-6-7-8 up to max. 8 modules (Profinet, Ethernet) up to max. 5 modules (Profibus, CANopen, DeviceNet)</td> </tr> </tbody> </table>	OUTPUT module M12	Number of modules	0 = no additional module	0 no additional module	U = 8 output	1-2-3-4-5-6-7-8 up to max. 8 modules (Profinet, Ethernet) up to max. 5 modules (Profibus, CANopen, DeviceNet)
INPUT module M12	Number of modules														
0 = no additional module	0 no additional module														
N = 16 input	1-2-3-4 up to max. 4 modules														
H = 8 input	1-2-3-4-5-6-7-8 up to max. 8 modules														
OUTPUT module M12	Number of modules														
0 = no additional module	0 no additional module														
U = 8 output	1-2-3-4-5-6-7-8 up to max. 8 modules (Profinet, Ethernet) up to max. 5 modules (Profibus, CANopen, DeviceNet)														

6 Valve Places	7 Valve/Base Stations
<p>02 = 2 places 04 = 4 places 06 = 6 places 08 = 8 places 10 = 10 places 12 = 12 places up to max. 24 signals</p>	<p>Every station is made of 1 double sub-base hosting 2 valve places. The choice of the sub-base kind is valid for the complete station</p> <p>Valve A = 5/2 monostable mechanical spring B = 5/2 monostable pneumatic spring C = 5/2 bistable D = 5/3 c.c. E = 5/3 o.c. F = 5/3 p.c. G = 3/2+3/2 NC-NC H = 3/2+3/2 NC-NO L = 3/2+3/2 NO-NO Z = closing plate V = void place</p> <p>Sub-base kind 1 = ISO interface - G1/8 (fittings not included) 2 = ISO interface - tube 4 3 = ISO interface - tube 6 4 = ISO interface - tube 8 5 = OVERSIZED interface - G1/8 (fittings not included) 6 = OVERSIZED interface - tube 4 7 = OVERSIZED interface - tube 6 8 = OVERSIZED interface - tube 8</p> <p style="text-align: center;">o.c. = open centres c.c. = closed centres p.c. = pressurized centre</p>

Note

- External pilot supply available upon request
- Special configurations available upon request
- Accessories (fittings, silencers, supply adapters, connectors, intermediate supply plates etc) can be added upon request

Example



Part no BDE3806201221

Description BDE3PN10006C8C8C8C8Z8+accessories

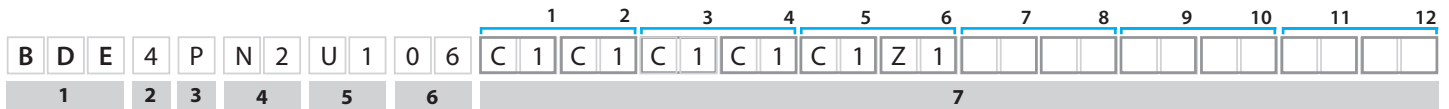
BDE3PN10006C8C8C8C8Z8

BDE-324424	5/2 bistable EL/EL	5
BDF-3100	left plate 3/8 electrical integrated	1
BDF-3115	right plate 3/8	1
BDF-3140TIM	module TIM 25 poles male	1
BDF-3185	closing plate	1
BDF-3330	2 pos. OVERSIZED base electrical integrated	3
GZR-V10008	straight fitting Ø 8	12
TCXPN	ProfiNet module 16 inputs M12	1
TC16I812	16 inputs M12	1
TFP060	2 module supports 6 mm VDMA 18-26	1

Accessories (to be requested separately)

HC510018	silencer 1/8	2
HC510038	silencer 3/8	4
HA260800	plug Ø 8	2
HA261000	plug Ø 10	1
HB041038	straight male tube 10 3/8	2

CONFIGURATION KEY



1 Valve series BDE = Solenoid valves with integrated electrical connection 24 V DC	2 Valve size 3 = 26 mm	3 Electrical Connection and Bus Modules ** M* = Multipin C = CANopen P = Profinet D = DeviceNet B = Profibus L* = IO Link E = Ethernet T = EtherCAT
--	----------------------------------	--

* = Auxiliary Inputs and Outputs cannot be added
** = For more details see section "Serial Communication Systems"

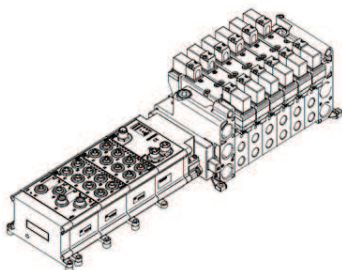
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<table border="1"> <thead> <tr> <th>INPUT module M12</th> <th>Number of modules</th> </tr> </thead> <tbody> <tr> <td>0 = no additional module</td> <td>0 no additional module</td> </tr> <tr> <td>N = 16 input</td> <td>1-2-3-4 up to max. 4 modules</td> </tr> <tr> <td>H = 8 input</td> <td>1-2-3-4-5-6-7-8 up to max. 8 modules</td> </tr> </tbody> </table>	INPUT module M12	Number of modules	0 = no additional module	0 no additional module	N = 16 input	1-2-3-4 up to max. 4 modules	H = 8 input	1-2-3-4-5-6-7-8 up to max. 8 modules	<table border="1"> <thead> <tr> <th>OUTPUT module M12</th> <th>Number of modules</th> </tr> </thead> <tbody> <tr> <td>0 = no additional module</td> <td>0 no additional module</td> </tr> <tr> <td>U = 8 output</td> <td>1-2-3-4-5-6-7-8 up to max. 8 modules (Profinet, Ethernet) up to max. 5 modules (Profibus, CANopen, DeviceNet)</td> </tr> </tbody> </table>	OUTPUT module M12	Number of modules	0 = no additional module	0 no additional module	U = 8 output	1-2-3-4-5-6-7-8 up to max. 8 modules (Profinet, Ethernet) up to max. 5 modules (Profibus, CANopen, DeviceNet)
INPUT module M12	Number of modules														
0 = no additional module	0 no additional module														
N = 16 input	1-2-3-4 up to max. 4 modules														
H = 8 input	1-2-3-4-5-6-7-8 up to max. 8 modules														
OUTPUT module M12	Number of modules														
0 = no additional module	0 no additional module														
U = 8 output	1-2-3-4-5-6-7-8 up to max. 8 modules (Profinet, Ethernet) up to max. 5 modules (Profibus, CANopen, DeviceNet)														

6 Valve Places	7 Valve/Base Stations
<p>02 = 2 places 03 = 3 places 04 = 4 places 05 = 5 places 06 = 6 places 07 = 7 places 08 = 8 places 09 = 9 places 10 = 10 places 11 = 11 places 12 = 12 places</p> <p>up to max. 24 signals</p>	<p>Every station is made of 1 double sub-base hosting 2 valve places. The choice of the sub-base kind is valid for the complete station</p> <p>Valve A = 5/2 monostable mechanical spring B = 5/2 monostable pneumatic spring C = 5/2 bistable D = 5/3 c.c. E = 5/3 o.c. F = 5/3 p.c. G = 3/2+3/2 NC-NC H = 3/2+3/2 NC-NO L = 3/2+3/2 NO-NO Z = closing plate V = void place</p> <p>Sub-base kind 1 = ISO interface - G1/4 (fittings not included) 2 = ISO interface - G3/8 (fittings not included) 3 = ISO interface - tube 6 4 = ISO interface - tube 8 5 = ISO interface - tube 10 6 = OVERSIZED interface - G1/4 (fittings not included) 7 = OVERSIZED interface - G3/8 (fittings not included) 8 = OVERSIZED interface - tube 6 9 = OVERSIZED interface - tube 8 10 = OVERSIZED interface - tube 10</p> <p>o.c. = open centres c.c. = closed centres p.c. = pressurized centre</p>

Note

- External pilot supply available upon request
- Special configurations available upon request
- Accessories (fittings, silencers, supply adapters, connectors, intermediate supply plates etc) can be added upon request

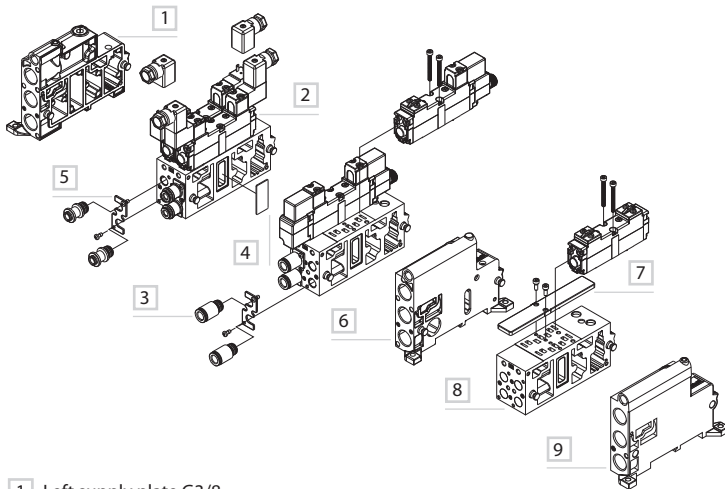
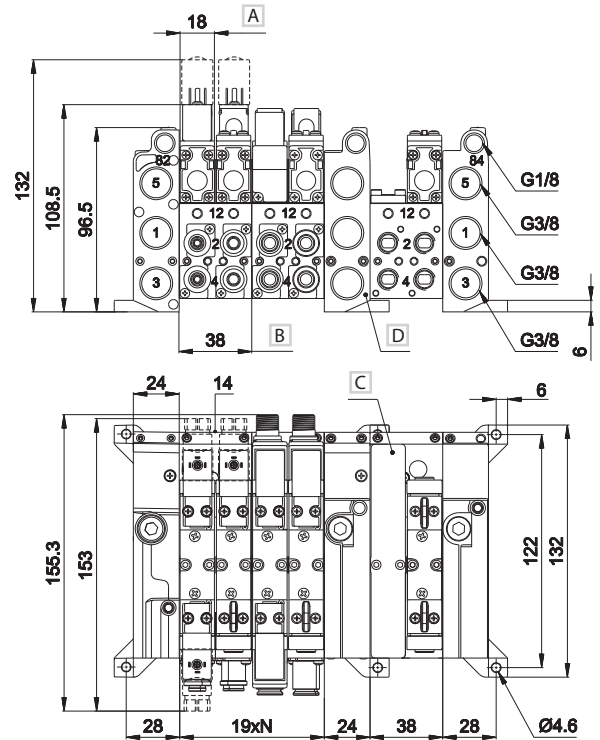
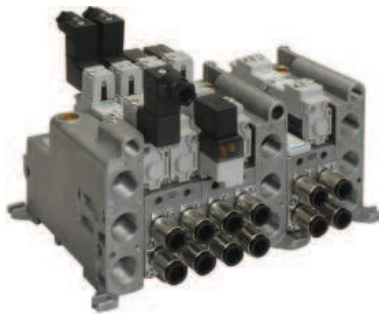
Example



Part no **BDE4206201211**
Description **BDE4PN2U106C1C1C1C1C1**

BDE4PN2U106C1C1C1C1C1		
BDE-424424	5/2 bistable EL/EL	6
BDF-4100	left plate 3/8 electrical integrated	1
BDF-4115	right plate 1/2	1
BDF-4140TIM	module TIM 25 poles male	1
BDF-4210	base 1/4 port. VDMA electrical integrated	6
TCXPN	module ProfiNet 32	1
TC16I812	16 Input M12	2
TC8U412	8 output M12	1
TFP060	2 module supports 6 mm VDMA 18-26	4

Electric connection with external connector side 18 mm



- 1 Left supply plate G3/8
- 2 Solenoid valve
- 3 Straight fittings
- 4 Plate for separating pressures
- 5 Fixing plate for fittings
- 6 Intermediate supply plate G3/8
- 7 Closing plate
- 8 Sub-base 2 valve places
- 9 Right supply plate G3/8

- A Valve thickness
- B Sub-base 2 places valve
- C Closing plate for unused valve place BDF-3185
- D Intermediate supply plate

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return
- N = Number of valve places

3

BDF-3110 BDF-3115 BDF-3125 BDF-3180 BDF-3185 BDF-3191 BDF-3400

left supply plate G3/8 weight: 0,288 Kg	right supply plate G3/8 weight: 0,276 Kg	intermediate supply plate G3/8 without integrated electric connection weight: 0,31 Kg	plate for separating pressures weight: 0,002 Kg	plate for closing unused valve place weight: 0,038 Kg	interface for connecting valves side 18-26 mm with integrated electric connection weight: 0,212 Kg	single sub-base 1 place with increased capacity G1/8 connections weight: 0,12 Kg

BDF-3210/1/2 (b) BDF-3230/1/2 (a) - (b) BDF-3310/1/2 (b) BDF-3330/1/2 (a) - (b) GZR-100 GZR-V10004/6/8 DD-051/..

sub base 2 places according to VDMA-ISO specifications flow rate 620 NI/min G1/8 connections BDF-3210 BDF-3211 BDF-3212 weight: 0,316 Kg	sub base 2 places according to VDMA-ISO specifications flow rate 620 NI/min for fittings Ø 4-6-8 mm BDF-3230 BDF-3231 BDF-3232 weight: 0,326 Kg	sub base 2 places with increased capacity 800 NI/min attacchi G1/8 BDF-3310 BDF-3311 BDF-3312 weight: 0,316 Kg	sub base 2 places with increased capacity flow rate 800 NI/min for fittings Ø 4-6-8 mm BDF-3330 BDF-3331 BDF-3332 weight: 0,326 Kg	screw plug weight: 0,01 Kg	fittings according to UNIVER design (package 50 pcs.) GZR-V10004 Ø4 mm GZR-V10006 Ø6 mm GZR-V10008 Ø8 mm weight: 0,01 Kg cad.	U05 coil side 15 mm (for technical features refer to section "Accessories>Coils") weight: 0,019 Kg

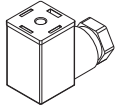
(a) = sub-base including fixing plates for fittings (fittings excluded)
(b) = part no. codification: 0 = electric integrated

1 = electric non integrated

2 = only pneumatic

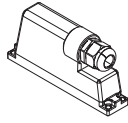
Electric connection

AM-5109



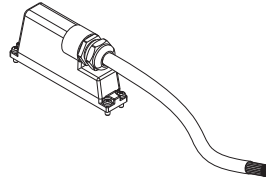
■ 15 mm connector

TSCFN24S000



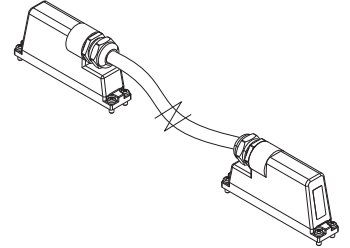
■ female connector
25 poles type D-sub
no cable
M3 x 8 fixing screws

TSCFN24S0300
TSCFN24S0500
TSCFN24S1000



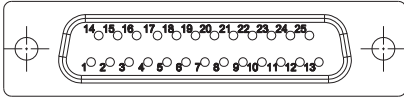
■ female connector
25 poles type D-sub
cable 3-5-10 m
M3 x 8 fixing screws

TSCFN16D0300
TSCFN16D0500
TSCFN16D1000



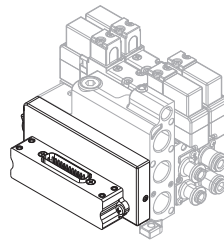
■ male/female flying connector
sub D (upon request)
prewired for 24 coils with
cable Ø 8 mm (3-5-10 m length)
suitable for mobile laying
M3 x 8 fixing screws

Female connector D-SUB 25 poles
for connection 12+12 coils



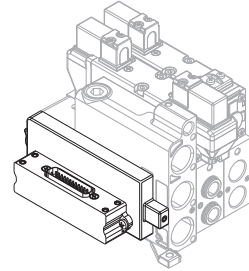
PIN No.	Control side	Valve N°	Colour	Coil
1	14	1	white	1
2	12	1	brown	2
3	14	2	green	3
4	12	2	yellow	4
5	14	3	grey	5
6	12	3	pink	6
7	14	4	blue	7
8	12	4	red	8
9	14	5	black	9
10	12	5	violet	10
11	14	6	grey-pink	11
12	12	6	red-blue	12
13	14	7	white-green	13
14	12	7	green-brown	14
15	14	8	white-yellow	15
16	12	8	yellow-brown	16
17	14	9	white-grey	17
18	12	9	grey-brown	18
19	14	10	white-pink	19
20	12	10	pink-brown	20
21	14	11	white-blue	21
22	12	11	brown-blue	22
23	14	12	white-red	23
24	-	-	brown-red	common low
			brown-black	
			shield	
25	12	12	white-black	24

BDF-3140 TIM



■ multiway connection module
25 poles male type D
side 18 mm

BDF-4140 TIM



■ multiway connection module
25 poles male type D
side 26 mm

COMMUNICATION SYSTEMS

Possibility to configure manifolds with serial communication systems



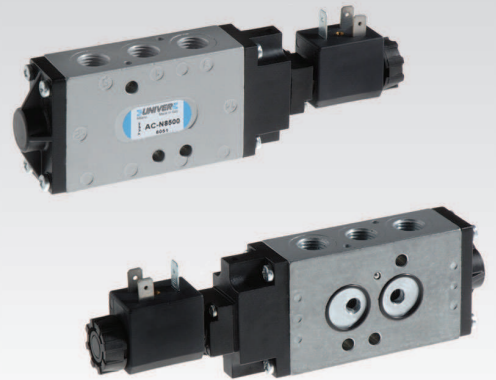
AC-N

NAMUR valve

- Mixed commutation system (spool-poppet)
- High flow rate
- Quick response time
- High cycle rates
- Control: pneumatic, electric
- Suitable for rotating pneumatic actuators used in industrial plants for the distribution of fluids
- NAMUR VDI/VDE 3845 interface

Available ATEX version upon request

CE II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ 45 °C
Fluid temperature	-10 ÷ 50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	poppet mixed
Ways/Positions	5/2 (3/2*)
Pressure	10 bar max
Control	pneumatic, electric
Return	pneumomechanical spring, pneumatic, electric
Connections	1-3-5: G1/4 2-4: NAMUR interface
Nominal Ø	8 mm
Nominal flow rate	1200 NI/min

CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber, polyurethane
Actuators	technopolymer
Spool	aluminium

ELECTRIC CHARACTERISTICS

Electropilot	AA series
Coil	U1-U3
Power consumption	3,5 W (DC) - 5 VA (AC)
Connector	AM-5110
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Manual override	impulse screw - 2 positions

* = This can be achieved with isolating disc, standard supplied

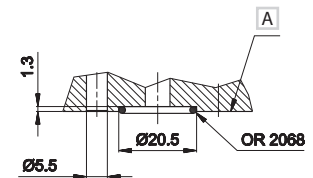


MIXED
for heavy applications

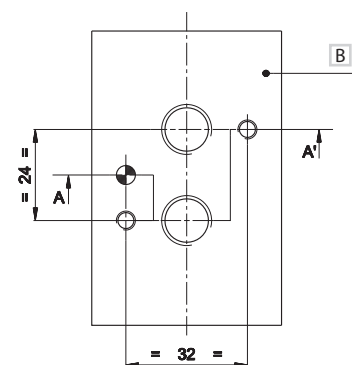
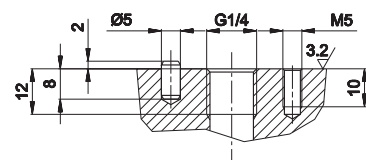


SPOOL
for all applications

NAMUR interface



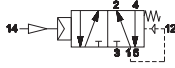
A-A' section



A Electrovalve surface
B Flange surface

ATEX Upon request:
 Components suitable for use
 in potentially explosive environments.
 Group II Zona 2G e 22D

Single pneumatic impulse

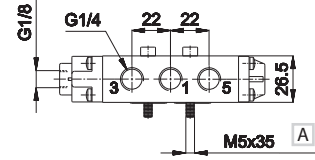
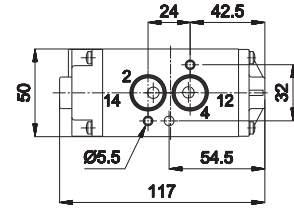


A ISO 4762

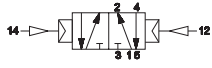
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Control	Return	Pressure bar	Response Time (ms)		Weight Kg	Part no.
			En.	De-en.		
14	12	2,3÷10	10	10	0,564	AC-N8100
pneumatic amplified	pneumo mechanical spring					

5/2



Double pneumatic impulse

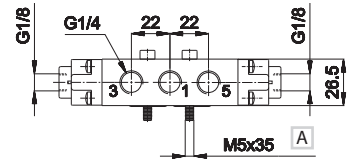
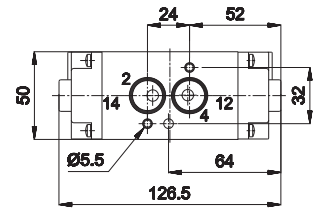


A ISO 4762

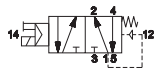
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Control	Return	Pressure bar	Response Time (ms)		Weight Kg	Part no.
			En.	De-en.		
14	12	0,8÷10	6	6	0,564	AC-N8120
pneumatic amplified	pneumatic amplified					

5/2



Single electric impulse



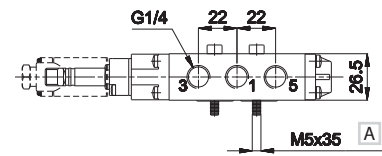
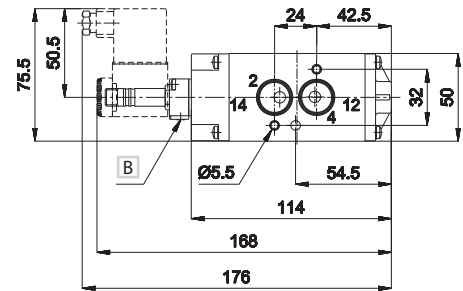
A ISO 4762

B Manual override

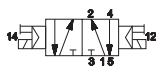
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Control	Return	Pressure bar	Response Time (ms)		Weight Kg	Part no.
			En.	De-en.		
14	12	2,3÷10	22	22	0,6	AC-N8500
electric amplified	pneumo mechanical spring					

5/2



Double electric impulse



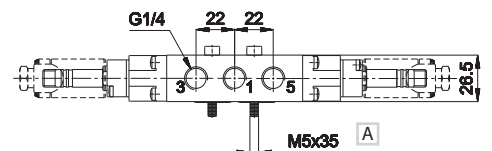
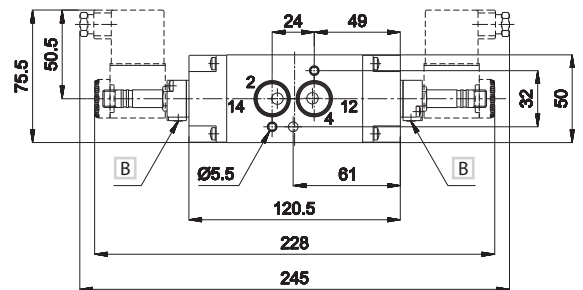
A ISO 4762

B Manual override

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Control	Return	Pressure bar	Response Time (ms)		Weight Kg	Part no.
			En.	De-en.		
14	12	0,8÷10	14	14	0,636	AC-N8520
electric amplified	electric amplified					

5/2



Upon request 3/2 version
Electrovalves are supplied without coil, connector and locking ring

CL-CM

UNIVERSAL Valves G1/8 - G1/4

- UNIVERSAL Modular System: possibility to create a lot of different valves with short number of basis elements
- Control: manual, mechanical, pneumatic, electric
- Traditional UNIVER spool system: fluctuating seals of special compound to reduce friction and prevent sticking
- High flow rate, high cycle life, suitable for vacuum application
- Modular sub-bases

Available ATEX version upon request

CE Ex II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +50 °C	
Fluid temperature	Max +50 °C	
Fluid	50 µm filtered air, with or without lubrication	
Commutation system	spool	
Ways/Positions	3/2 NC, 3/2 NO, 3/2 NC-NO, 5/2, 5/3	
Pressure	max 10 bar	
Control	indirect electro-pneumatic, pneumatic, manual, mechanical	
Return	pneumatic spring, mechanical spring	
Connections	G1/8	G1/4
Nominal Ø mm	6,5	8,5
Nominal flow rate (NI/min)	890	1480

CONSTRUCTIVE CHARACTERISTICS

Valve body	G1/8 = die-cast zamak
	G1/4 = aluminium
Seals	nitrile rubber
Actuators	technopolymer/aluminium
Spool	aluminium
Sub-base	zamak

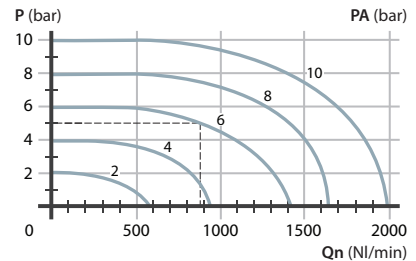
ELECTRIC CHARACTERISTICS

Electropilot	AA
Coil	U1-U3
Power consumption	3,5 W (DC) - 5 VA (AC)
Connector	AM 5110
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Manual override	impulse screw - 2 positions

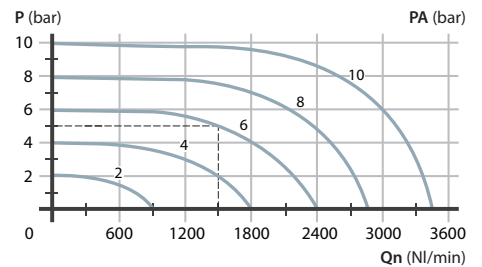
See ATEX Catalogue for types and versions

Flow rate characteristics

>> G1/8

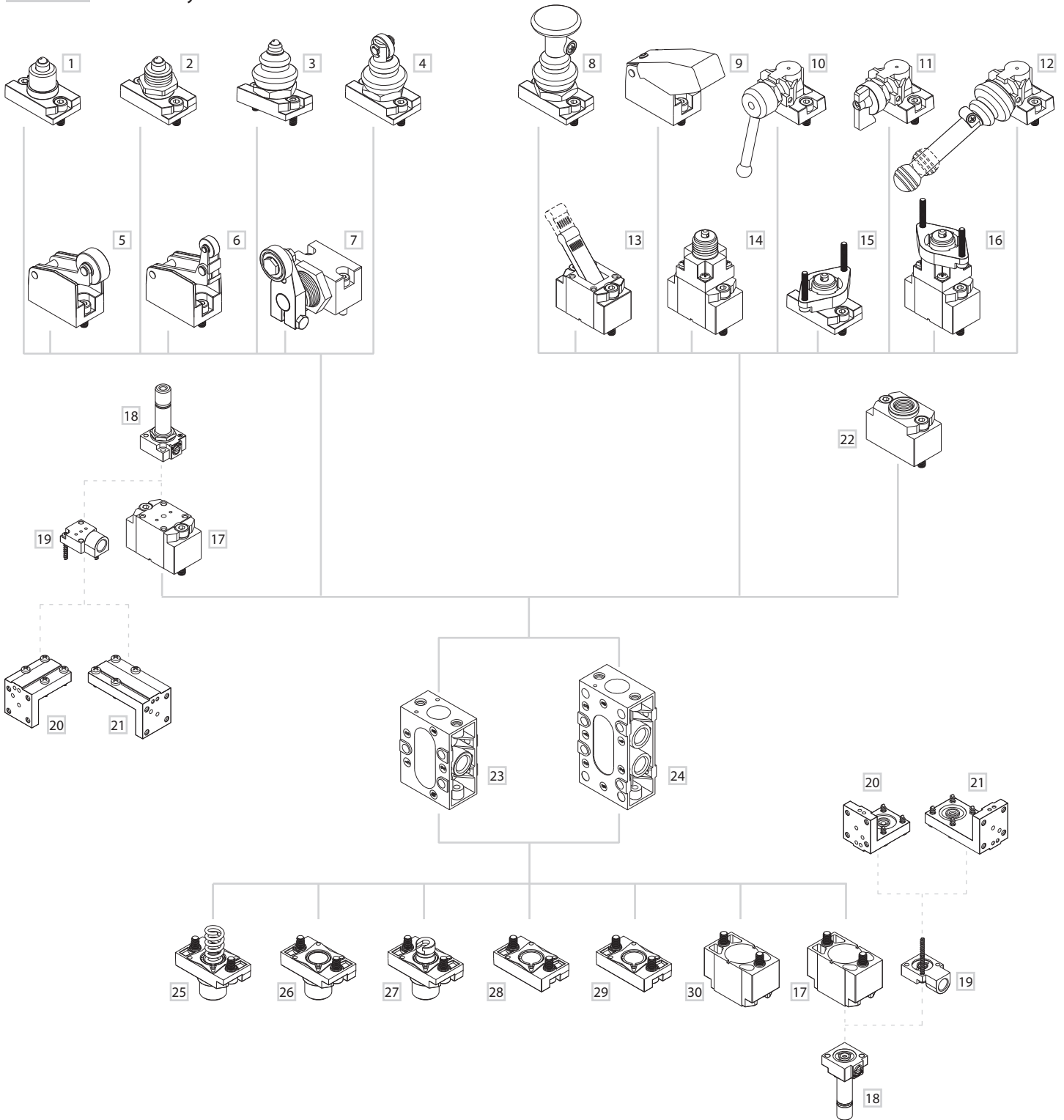


>> G1/4



P = Working pressure
PA = Supply pressure
Qn = Flow rate

Modular system UNIVERSAL series



MECHANICAL CONTROL

- 1 Ball-push
- 2 Ball-push for screw panel mounting
- 3 Ball-push with dust protection
- 4 Roller with dust protection
- 5 Roller lever
- 6 Uni-directional roller lever
- 7 Bidirectional side roller lever

MANUAL CONTROL

- 8 Push-pull
- 9 Push
- 10 Rotating lever
- 11 Selector

- 12 90° short/long lever

- 13 Short/long lever
- 14 Threaded indirect operation
- 15 Direction operation for panel mounting
- 16 Indirect control for panel mounting

ELECTRIC CONTROL

- 17 Electric amplified
- 18 U1 electropilot
- 19 Plate for external servoassistance

- 20 "H" option angle plate
- 21 "P" option angle plate

PNEUMATIC CONTROL

- 22 Pneumatic amplified

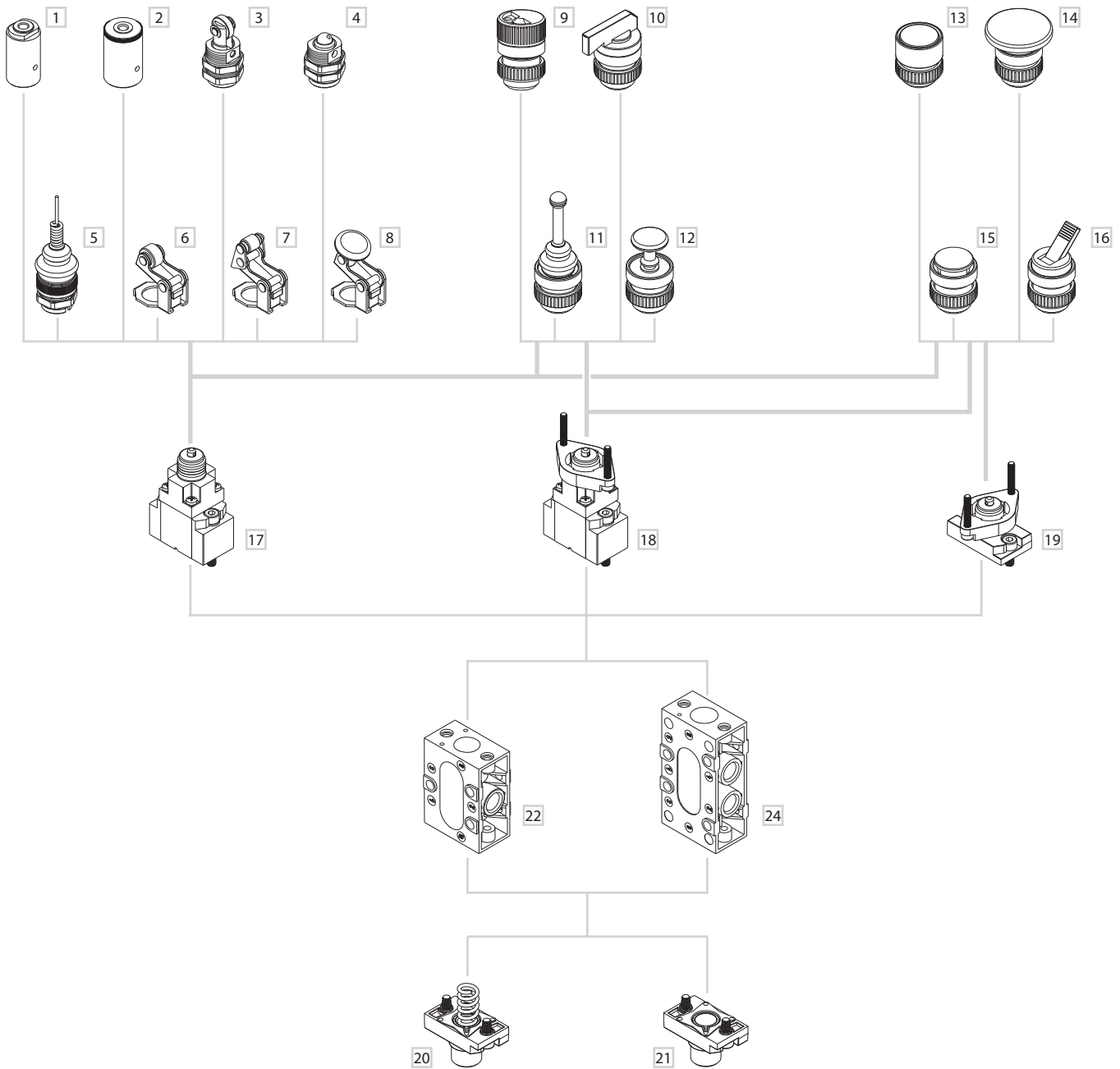
BODY

- 23 3/2 body
- 24 5/2 body

RETURN

- 25 Mechanical spring
- 26 Pneumatic not amplified
- 27 2/3 positions plate
- 28 Bottom plate
- 29 Pneumatic spring
- 30 Pneumatic amplified

Modular system actuators/buttons



PNAUMATIC/MACHANICAL ACTUATORS

- 1 Pneumatic actuators
- 2 Pneumatic actuators amplified
- 3 Roller operator 1 position
- 4 Ball operator 1 position
- 5 Operator with omni-directional antenna 1 position
- 6 Roller lever operator 1 position
- 7 Articulated roller lever operator 1 position
- 8 Key operator 1 position

MANUAL PUSH

- 9 Rotating selector
- 10 Rotating lever selector
- 11 Omni-directional lever
- 12 Push pull actuators
- 13 Recessed button
- 14 Head button
- 15 Button
- 16 Lever operator

VERRIDE

- 17 Threaded indirect operation
- 18 Indirect operation for panel mounting
- 19 Direct operation for panel mounting

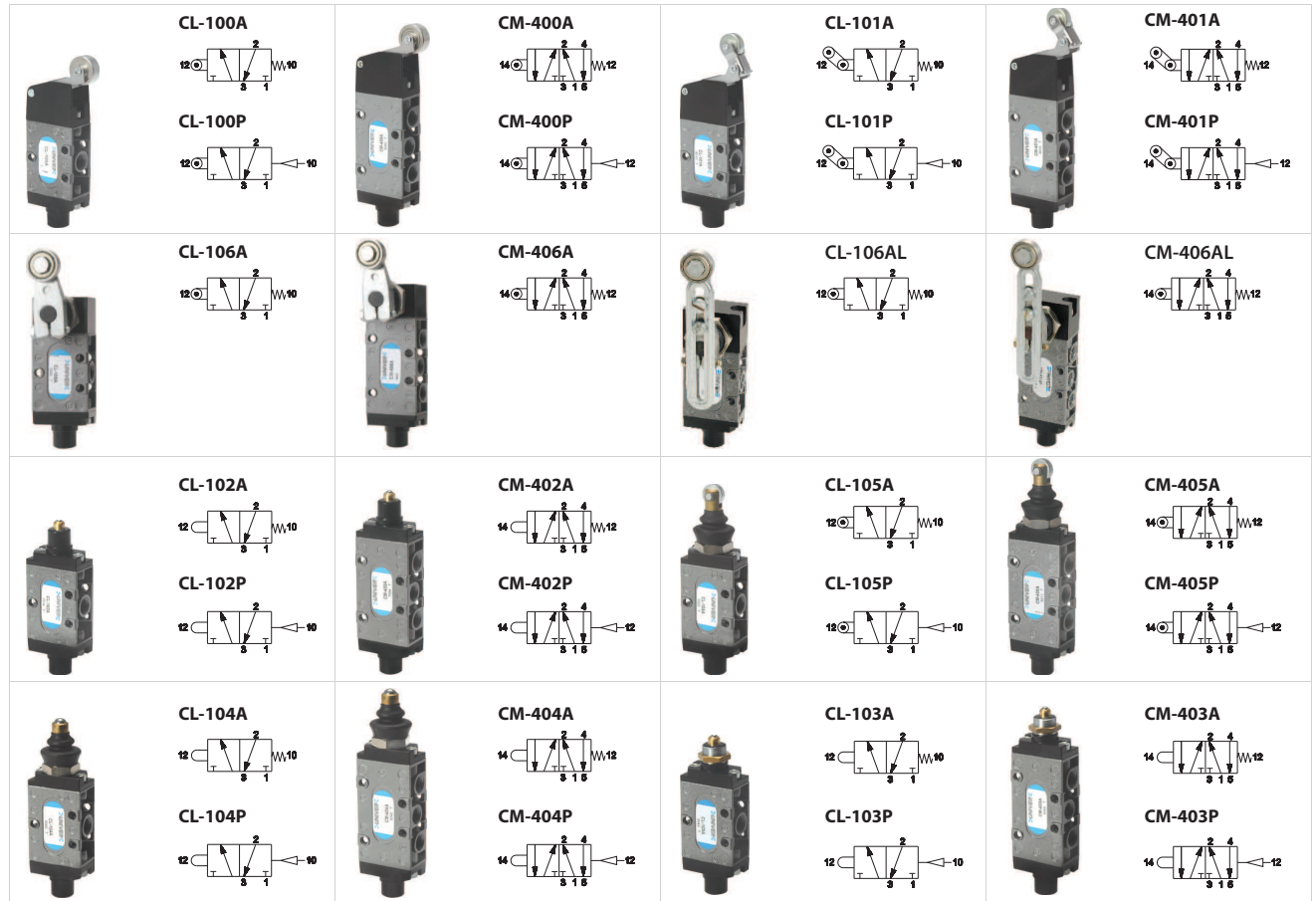
BODY

- 22 3/2 Body
- 24 5/2 Body

RETURN

- 20 Mechanical spring
- 21 Pneumatic not amplified

G1/8 Valves with direct mechanical operation



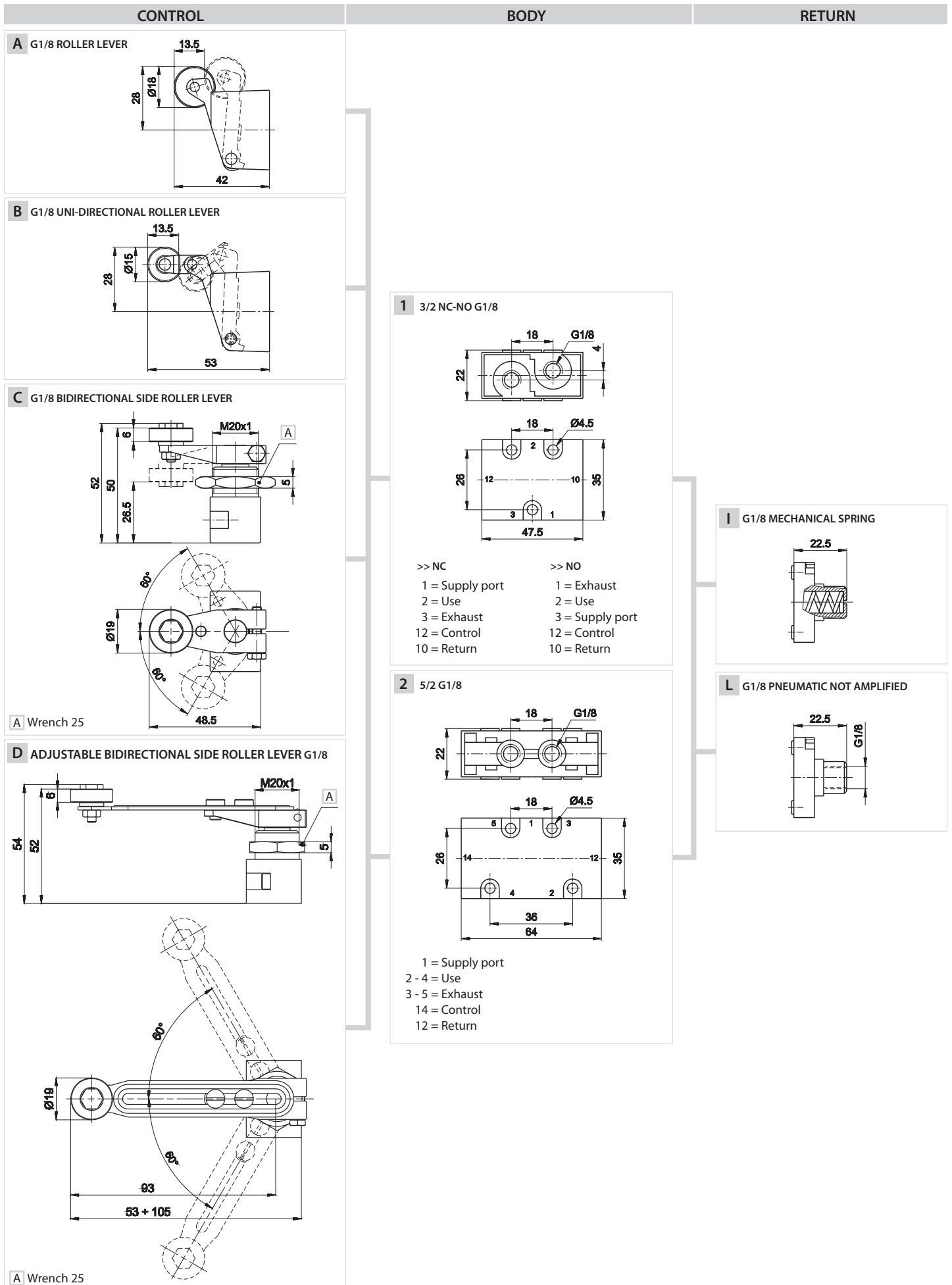
	Return	Flow rate (NI/min)	Ø mm	Weight Kg	Force N	Part no.	Composition (a)			Tot L. mm
							Control	Body	Return	
ROLLER LEVER										
3/2 NC-NO	mechanical spring	890	6,5	0,21	23	CL-100A	A	1	I	112
	pneumatic not amplified	890	6,5	0,21	6	CL-100P	A	1	L	112
5/2	mechanical spring	890	6,5	0,25	23	CM-400A	A	2	I	129
	pneumatic not amplified	890	6,5	0,25	6	CM-400P	A	2	L	129
ONE-WAY ROLLER LEVER										
3/2 NC-NO	mechanical spring	890	6,5	0,22	18	CL-101A	B	1	I	123
	pneumatic not amplified	890	6,5	0,22	6	CL-101P	B	1	L	123
5/2	mechanical spring	890	6,5	0,26	18	CM-401A	B	2	I	139,5
	pneumatic not amplified	890	6,5	0,26	6	CM-401P	B	2	L	139,5
TWO-WAY SIDE ROLLER LEVER										
3/2 NC-NO	mechanical spring	890	6,5	0,30	25	CL-106A	C	1	I	118,5
	mechanical spring	890	6,5	0,34	25	CM-406A	C	2	I	135
ADJUSTABLE TWO-WAY SIDE ROLLER LEVER										
3/2 NC-NO	mechanical spring	890	6,5	0,30	25	CL-106AL	D	1	I	123÷175
	mechanical spring	890	6,5	0,34	25	CM-406AL	D	2	I	139,5÷191,5
BALL-PUSH										
3/2 NC-NO	mechanical spring	890	6,5	0,19	64	CL-102A	E	1	I	97,7
	pneumatic not amplified	890	6,5	0,19	25	CL-102P	E	1	L	97,7
5/2	mechanical spring	890	6,5	0,23	64	CM-402A	E	2	I	114,2
	pneumatic not amplified	890	6,5	0,23	25	CM-402P	E	2	L	114,2
ROLLER WITH DUST PROTECTION										
3/2 NC-NO	mechanical spring	890	6,5	0,19	64	CL-105A	F	1	I	117
	pneumatic not amplified	890	6,5	0,18	25	CL-105P	F	1	L	117
5/2	mechanical spring	890	6,5	0,23	68	CM-405A	F	2	I	133,5
	pneumatic not amplified	890	6,5	0,22	26	CM-405P	F	2	L	133,5
BALL-PUSH WITH DUST PROTECTION										
3/2 NC-NO	mechanical spring	890	6,5	0,19	64	CL-104A	G	1	I	110
	pneumatic not amplified	890	6,5	0,18	25	CL-104P	G	1	L	110
5/2	mechanical spring	890	6,5	0,23	68	CM-404A	G	2	I	126,5
	pneumatic not amplified	890	6,5	0,22	26	CM-404P	G	2	L	126,5
BALL-PUSH FOR SCREW PANEL MOUNTING										
3/2 NC-NO	mechanical spring	890	6,5	0,19	64	CL-103A	H	1	I	97,7
	pneumatic not amplified	890	6,5	0,18	25	CL-103P	H	1	L	97,7
5/2	mechanical spring	890	6,5	0,23	68	CM-403A	H	2	I	114,2
	pneumatic not amplified	890	6,5	0,22	25	CM-403P	H	2	L	114,2

To get 3/2 NO version, supply the valve from port 3
Pressure 0 ÷ 10 bar for all part numbers

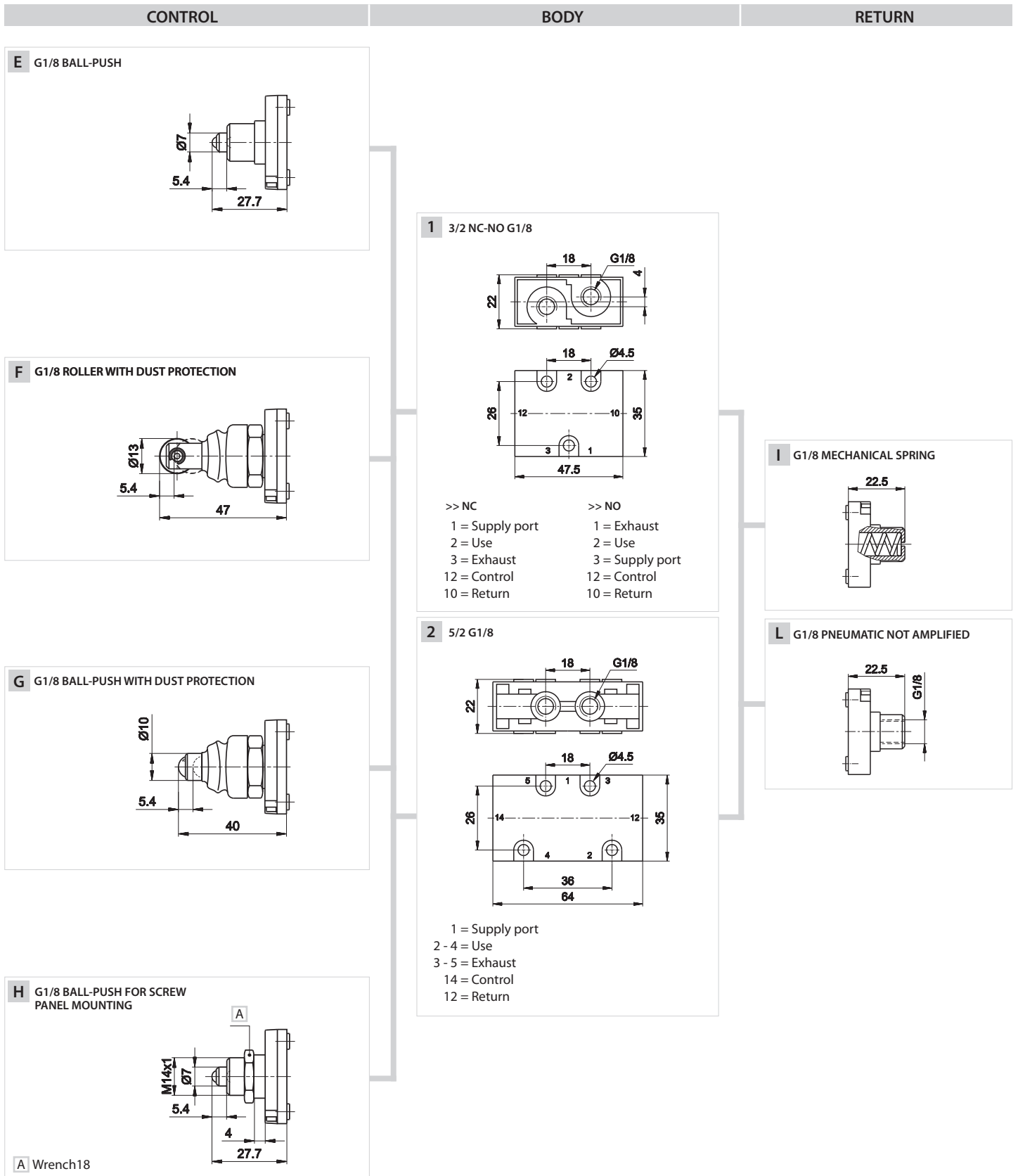
(a) = see page 3_7

3

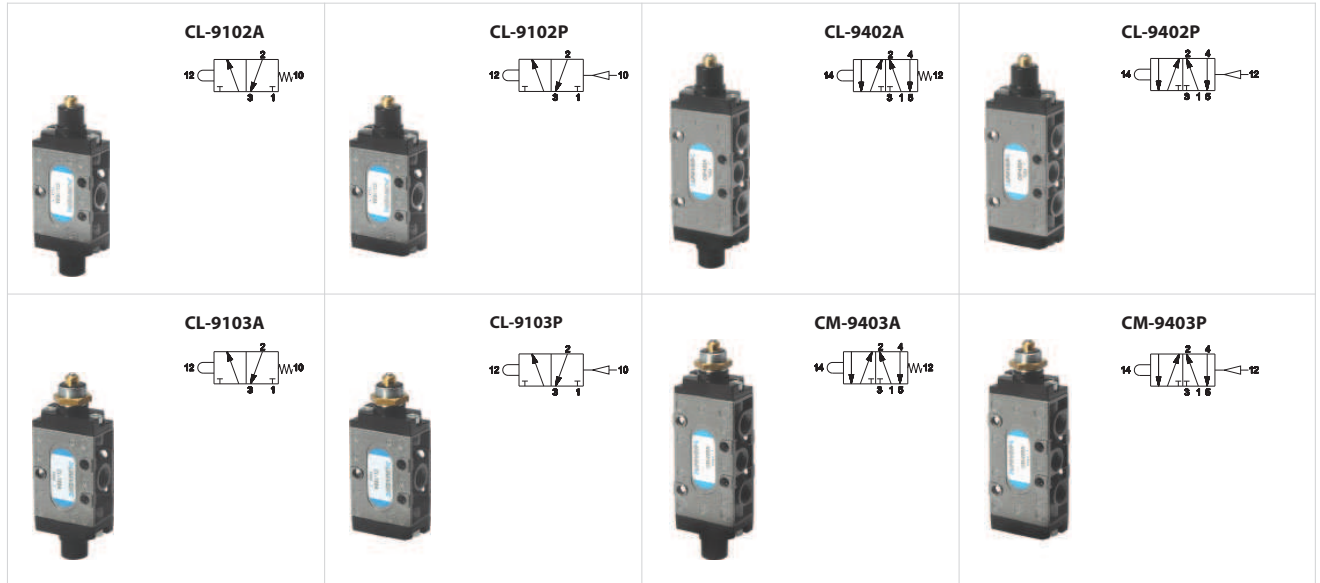
Composition



Composition



G1/4 Valves with direct mechanical operation



	Return	Flow rate (NI/min)	Ø mm	Weight Kg	Force N	Part no.	Composition (a)			Tot L. mm
							Control	Body	Return	
BALL-PUSH										
3/2 NC-NO	mechanical spring	1480	8,5	0,26	68	CL-9102A	D	1	H	117
	pneumatic not amplified	1480	8,5	0,26	26	CL-9102P	D	1	I	106
5/2	mechanical spring	1480	8,5	0,28	68	CM-9402A	D	2	H	134,5
	pneumatic not amplified	1480	8,5	0,28	26	CM-9402P	D	2	I	123,5
BALL-PUSH FOR SCREW PANEL MOUNTING										
3/2 NC-NO	mechanical spring	1480	8,5	0,26	68	CL-9103A	G	1	H	117
	pneumatic not amplified	1480	8,5	0,24	26	CL-9103P	G	1	I	106
5/2	mechanical spring	1480	8,5	0,28	64	CM-9403A	G	2	H	134,5
	pneumatic not amplified	1480	8,5	0,26	26	CM-9403P	G	2	I	123,5

To get 3/2 NO version, supply the valve from port 3
 Pressure 0 ÷ 10 bar for all part numbers

(a) = see page 3_9

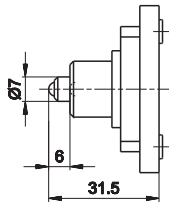
Composition

CONTROL

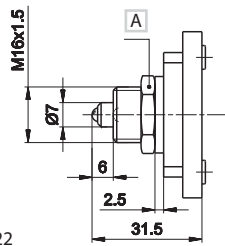
BODY

RETURN

D G1/4 BALL-PUSH

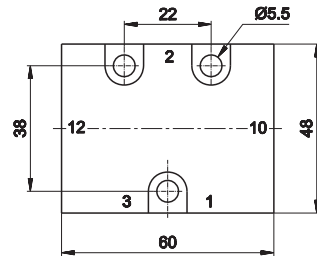
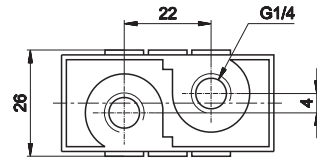


G G1/4 BALL-PUSH FOR SCREW PANEL MOUNTING



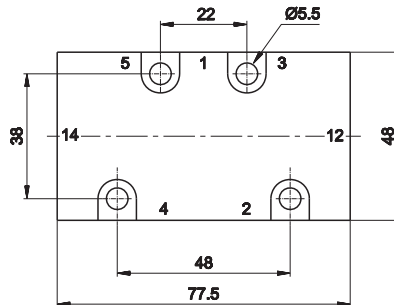
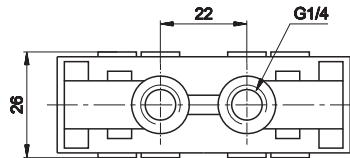
A Wrench 22

1 3/2 NC-NO G1/4



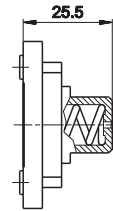
- | | |
|-----------------|-----------------|
| >> NC | >> NO |
| 1 = Supply port | 1 = Exhaust |
| 2 = Use | 2 = Use |
| 3 = Exhaust | 3 = Supply port |
| 12 = Control | 12 = Control |
| 10 = Return | 10 = Return |

2 5/2 G1/4

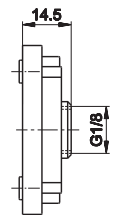


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

H G1/4 MECHANICAL SPRING

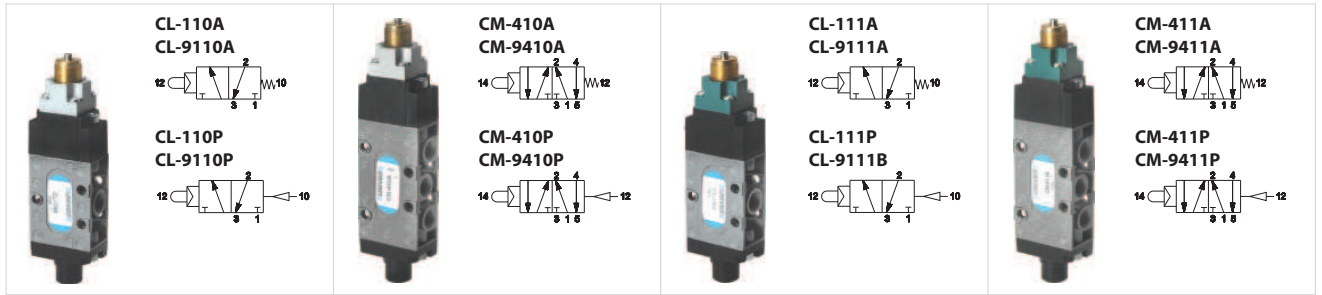


I G1/4 PNEUMATIC SPRING



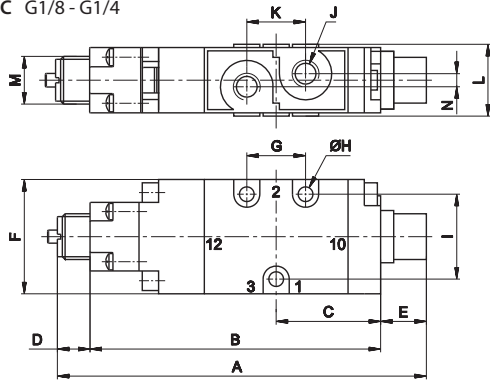
3

G1/8 - G1/4 Valves with indirect mechanical operator for pneumatic and mechanical actuators



	Thread	Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Force N	Part no.	
3/2 NC	BALL-PUSH								
	G1/8	mechanical spring	2,5÷10	890	6,5	0,19	11	CL-110A	
	G1/8	pneumatic not amplified	1÷10	890	6,5	0,18	11	CL-110P	
	G1/4	mechanical spring	2÷10	1480	8,5	0,26	11	CL-9110A	
	G1/4	pneumatic not amplified	1÷10	1480	8,5	0,24	11	CL-9110P	
	5/2	G1/8	mechanical spring	3÷10	890	6,5	0,23	11	CM-410A
		G1/8	pneumatic not amplified	1,2÷10	890	6,5	0,22	11	CM-410P
		G1/4	mechanical spring	2÷10	1480	8,5	0,28	11	CM-9410A
G1/4		pneumatic not amplified	1,2÷10	1480	8,5	0,26	11	CM-9410P	
3/2 NC	SENSITIVE BALL-PUSH								
	G1/8	mechanical spring	2,5÷10	890	6,5	0,19	3	CL-111A	
	G1/8	pneumatic not amplified	1÷10	890	6,5	0,18	3	CL-111P	
	G1/4	mechanical spring	2÷10	1480	8,5	0,26	3	CL-9111A	
	G1/4	pneumatic not amplified	1÷10	1480	8,5	0,24	3	CL-9111P	
	5/2	G1/8	mechanical spring	3÷10	890	6,5	0,23	3	CM-411A
		G1/8	pneumatic not amplified	1,2÷10	890	6,5	0,22	3	CM-411P
		G1/4	mechanical spring	2÷10	1480	8,5	0,28	3	CM-9411A
G1/4		pneumatic not amplified	1,2÷10	1480	8,5	0,26	3	CM-9411P	

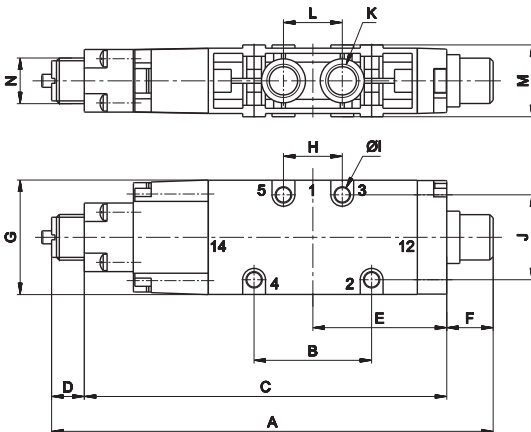
3/2 NC G1/8 - G1/4



1 = Supply port
 2 = Use
 3 = Exhaust
 12 = Control
 10 = Return

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
G1/8	116	92	32	10	14	35	18	4,5	26	G1/8	18	22	M14x1	4
G1/4	136,5	112	41	10	14,5	48	22	5,5	38	G1/4	22	26	M14x1	4

































5/2 G1/8 - G1/4



1 = Supply port
 2 - 4 = Use
 3 - 5 = Exhaust
 14 = Control
 12 = Return

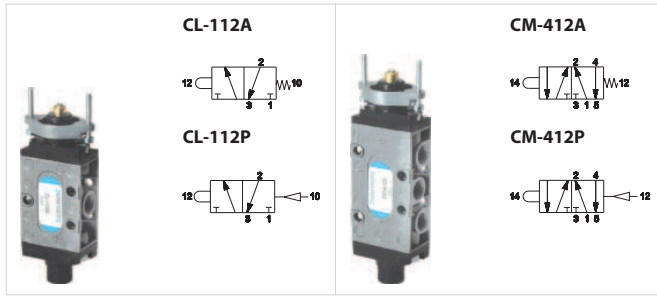
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
G1/8	135	36	111	10	41	14	35	18	4,5	26	G1/8	18	22	M14x1
G1/4	154	48	129,5	10	49,7	14,5	48	22	5,5	38	G1/4	22	26	M14x1

G1/8 - G1/4 Valves with direct mechanical operator for pneumatic and mechanical actuators

PNEUMATIC AND MECHANICAL ACTUATORS			MANUAL ACTUATORS		
	Pneumatic operator	AI-3550 		Recessed button ■ BLACK ■ RED ■ GREEN	AI-3511 AI-3512 AI-3513 
	Amplified pneumatic operator	AI-3551 		Head button ■ RED ■ BLACK ■ RED ■ BLACK	AI-3514 AI-3516 AI-3514D AI-3516D 
	Roller operator 1 position	AI-3560 		Button ■ GREEN ■ RED ■ BLACK	AI-3515 AI-3517 AI-3519 
	Ball-push operator 1 position	AI-3562 		Accident prevention rotating selector ■ BLACK ■ BLACK	AI-3520 AI-3521 
	Operator with omni-directional antenna 1 position	AI-3563 		Rotating lever selector ■ BLACK ■ BLACK	AI-3522 AI-3523 
	Roller lever operator 1 position	AI-3570 		Lever operator ■ BLACK	AI-3524 
	Articulated roller operator 1 position Complete actuation with stroke 2,5 mm, max stroke 4,7 mm	AI-3571 		Omni-directional operator ■ BLACK	AI-3525 
	Key operator 1 position	AI-3572 		Push-pull operator ■ BLACK	AI-3526 

For actuators dimensions see section "Accessories>Actuators"

3

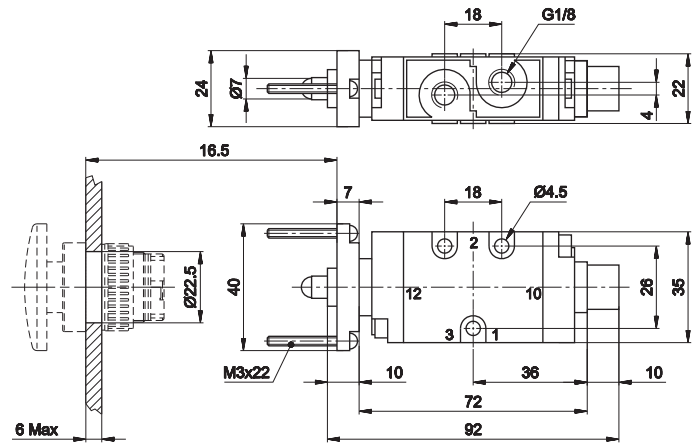


Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Force N	Part no.
BALL-PUSH						
3/2 NC-NO mechanical spring	0÷10	890	6,5	0,19	64	CL-112A
pneumatic not amplified	0÷10	890	6,5	0,18	25	CL-112P
5/2 mechanical spring	0÷10	890	6,5	0,23	64	CM-412A
pneumatic not amplified	0÷10	890	6,5	0,22	25	CM-412P

To get 3/2 NO version supply the valve from port 3

	Recessed button	<ul style="list-style-type: none"> ■ YELLOW AI-3511Q ■ RED AI-3512Q ■ GREEN AI-3513Q 	
	Head button	<ul style="list-style-type: none"> ■ RED AI-3514Q ■ BLACK AI-3516Q 	
	Button	<ul style="list-style-type: none"> ■ GREEN AI-3515Q ■ RED AI-3517Q ■ BLACK AI-3519Q 	
	Lever operator	<ul style="list-style-type: none"> ■ BLACK AI-3524Q 	

3/2 NC-NO G1/8



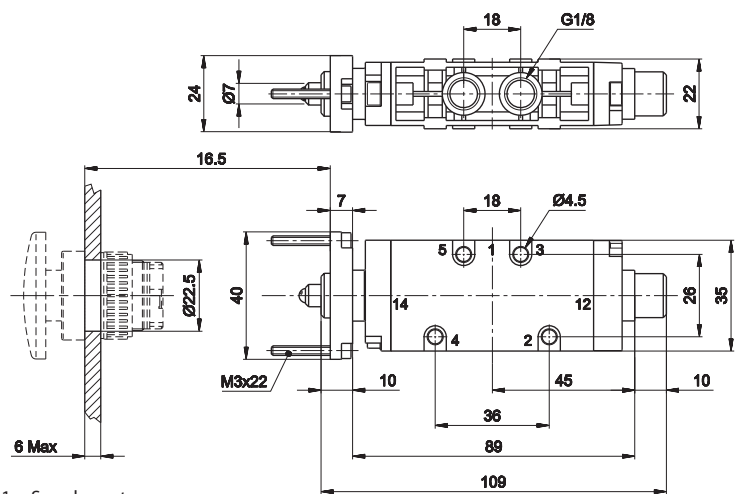
>> NC

- 1 = Supply port
- 2 = Use
- 3 = Exhaust
- 12 = Control
- 10 = Return

>> NO

- 1 = Exhaust
- 2 = Use
- 3 = Supply port
- 12 = Control
- 10 = Return

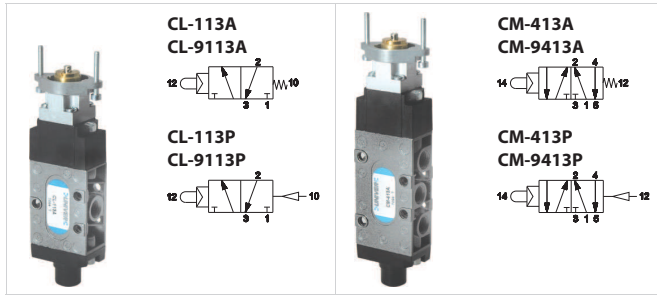
5/2 G1/8



- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

For actuator dimensions see section "Accessories>Buttons"

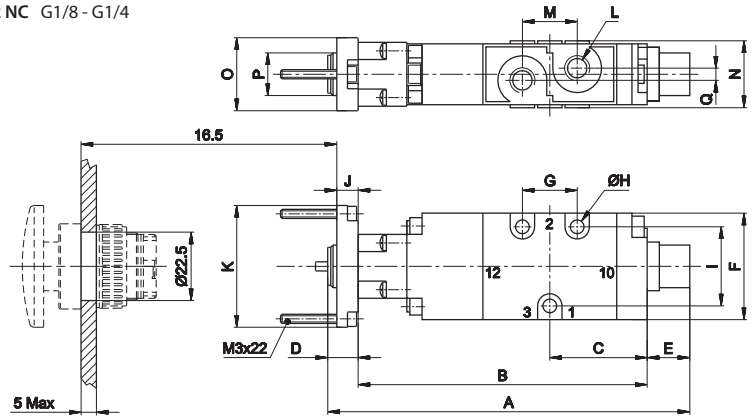
G1/8 - G1/4 Valves with indirect operator for panel mounting actuators



	Thread	Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Force N	Part no.
3/2 NC	BALL-PUSH							
	G1/8	mechanical spring	2,5÷10	890	6,5	0,20	11	CL-113A
	G1/8	pneumatic non amplified	1÷10	890	6,5	0,19	11	CL-113P
	G1/4	mechanical spring	2÷10	1480	8,5	0,27	11	CL-9113A
	G1/4	pneumatic non amplified	1÷10	1480	8,5	0,26	11	CL-9113P
5/2	G1/8	mechanical spring	3÷10	890	6,5	0,24	11	CM-413A
	G1/8	pneumatic non amplified	1,2÷10	890	6,5	0,23	11	CM-413P
	G1/4	mechanical spring	2÷10	1480	6,5	0,29	11	CM-9413A
	G1/4	pneumatic non amplified	1,2÷10	1480	6,5	0,28	11	CM-9413P

	Recessed button	<ul style="list-style-type: none"> BLACK AI-3511Q RED AI-3512Q GREEN AI-3513Q 	
	Head button	<ul style="list-style-type: none"> RED AI-3514Q BLACK AI-3516Q RED AI-3514QD BLACK AI-3516QD 	
	Button	<ul style="list-style-type: none"> GREEN AI-3515Q RED AI-3517Q BLACK AI-3519Q 	
	Accident prevention rotating selector	<ul style="list-style-type: none"> BLACK AI-3520Q BLACK AI-3521Q 	
	Lever operator	<ul style="list-style-type: none"> BLACK AI-3524Q 	
	Rotating lever selector	<ul style="list-style-type: none"> BLACK AI-3523Q BLACK AI-3522Q 	
	Omni-directional lever	<ul style="list-style-type: none"> BLACK AI-3525Q 	
	Push-pull operator	<ul style="list-style-type: none"> BLACK AI-3526Q 	

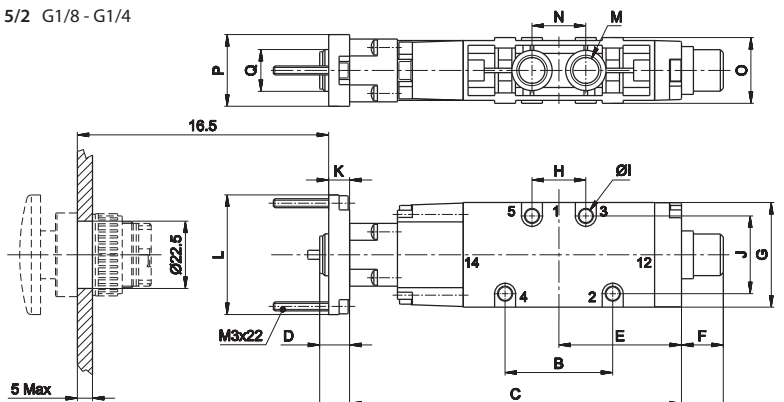
3/2 NC G1/8 - G1/4



- 1 = Supply port
- 2 = Use
- 3 = Exhaust
- 12 = Control
- 10 = Return

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
G1/8	116	92	32	10	14	35	18	4,5	26	7	40	G1/8	18	22	24	M14X1	4
G1/4	136,5	112	41	10	14,5	48	22	5,5	38	7	40	G1/4	22	26	24	M14X1	4

5/2 G1/8 - G1/4

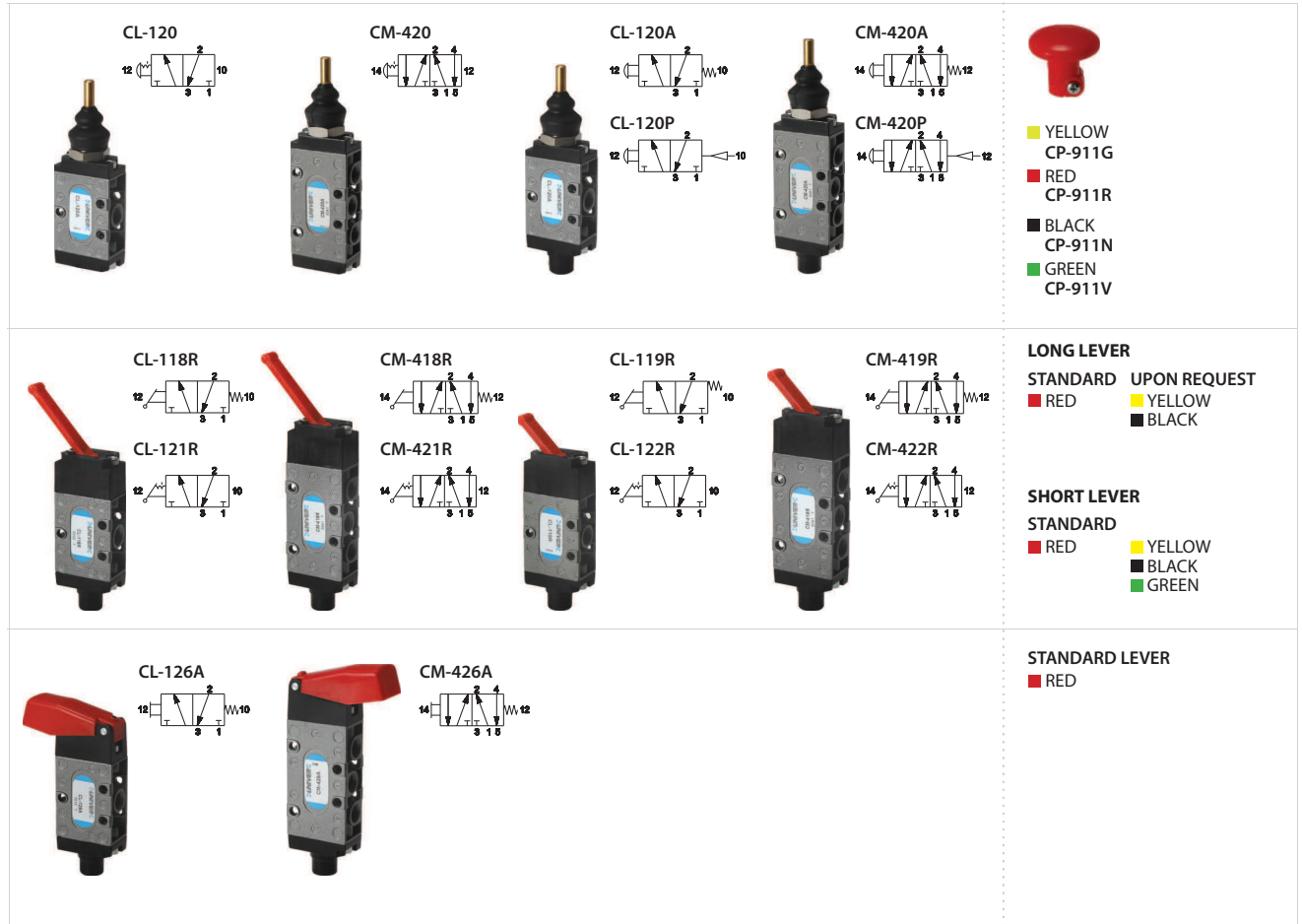


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
G1/8	135	36	111	10	41	14	35	18	4,5	22	7	40	G1/8	18	22	24	M14X1
G1/4	154	48	129,5	10	49,7	14,5	48	22	5,5	26	7	40	G1/4	22	26	24	M14X1

For actuator dimensions see section "Accessories>Buttons"

G1/8 Manually operated valves



Return	Flow rate (Nl/min)	Ø mm	Weight Kg	Force N	Part no.	Composition (a)			Tot L. mm	
						Control	Body	Return		
PUSH-PULL (b)										
3/2 NC-NO	push-pull	890	6,5	0,19	25	CL-120	A	1	H	108,5
5/2	push-pull	890	6,5	0,22	25	CM-420	A	2	H	125
3/2 NC-NO	mechanical spring	890	6,5	0,19	25	CL-120A	A	1	F	121
5/2	mechanical spring	890	6,5	0,22	25	CM-420A	A	2	F	137,5
3/2 NC-NO	pneumatic not amplified	890	6,5	0,18	25	CL-120P	A	1	I	121
5/2	pneumatic not amplified	890	6,5	0,21	25	CM-420P	A	2	I	137,5
BUTTON										
3/2 NC-NO	mechanical spring	890	6,5	0,20	15	CL-126A	B	1	F	100
5/2	mechanical spring	890	6,5	0,23	15	CM-426A	B	2	F	116,5
LONG LEVER (STANDARD RED COLOUR)										
3/2 NC-NO	mechanical spring	890	6,5	0,17	10	CL-118R	C	1	F	126
5/2	mechanical spring	890	6,5	0,21	10	CM-418R	C	2	F	142,5
3/2 NC-NO	lever	890	6,5	0,16	10	CL-121R	C	1	G	126
5/2	lever	890	6,5	0,20	10	CM-421R	C	2	G	142,5
SHORT LEVER (STANDARD RED COLOUR)										
3/2 NC-NO	mechanical spring	890	6,5	0,17	20	CL-119R	C	1	F	112
5/2	mechanical spring	890	6,5	0,21	20	CM-419R	C	2	F	128,5
3/2 NC-NO	lever	890	6,5	0,16	20	CL-122R	C	1	G	112
5/2	lever	890	6,5	0,20	20	CM-422R	C	2	G	128,5

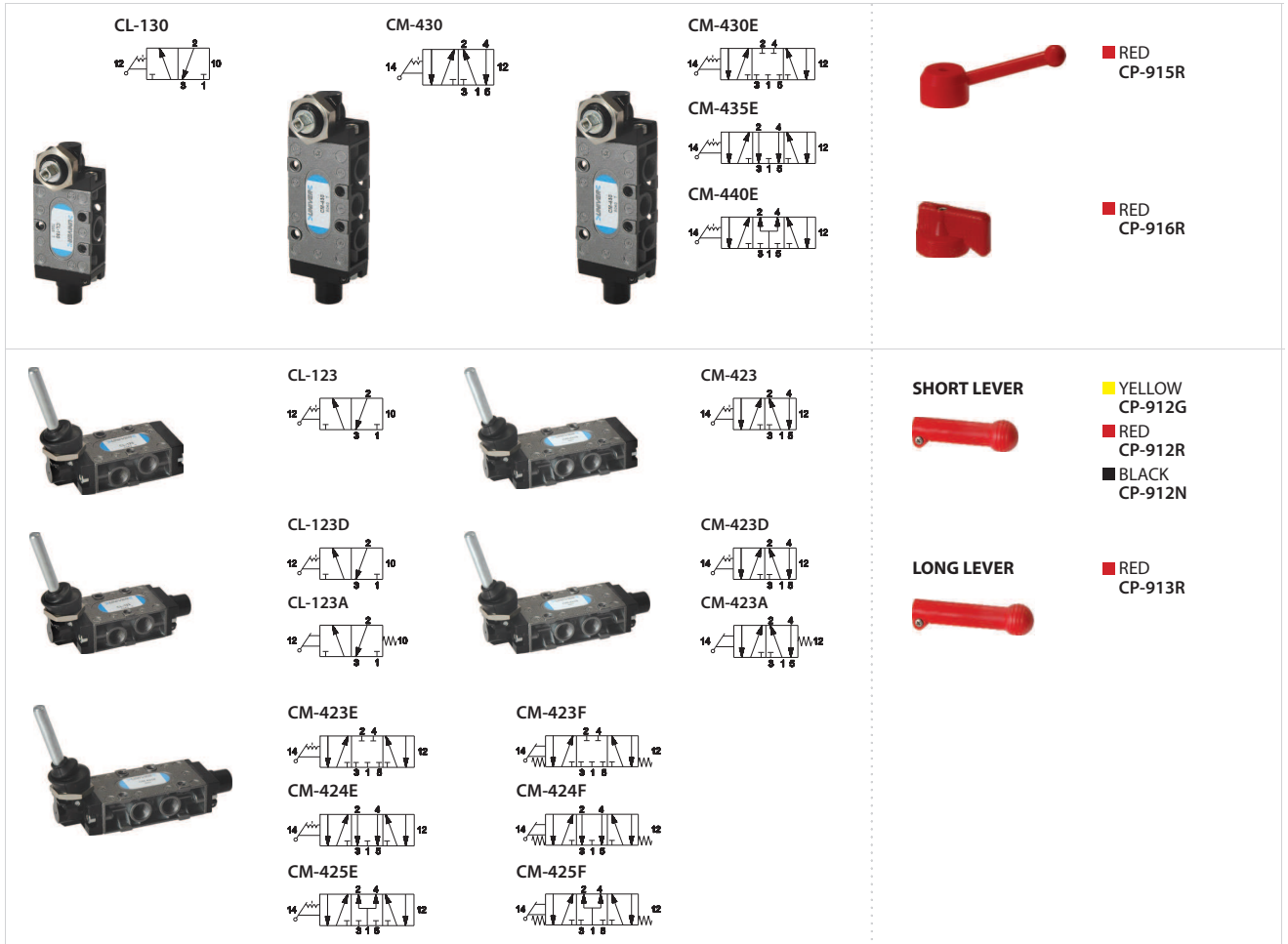
To get 3/2 NO version, supply the valve from port 3

(b) = valves are supplied without operator Pressure 0 ÷ 10 bar for all part numbers

(a) = see pages 3_18

Overall dimensions include operator

G1/8 Manually operated valves

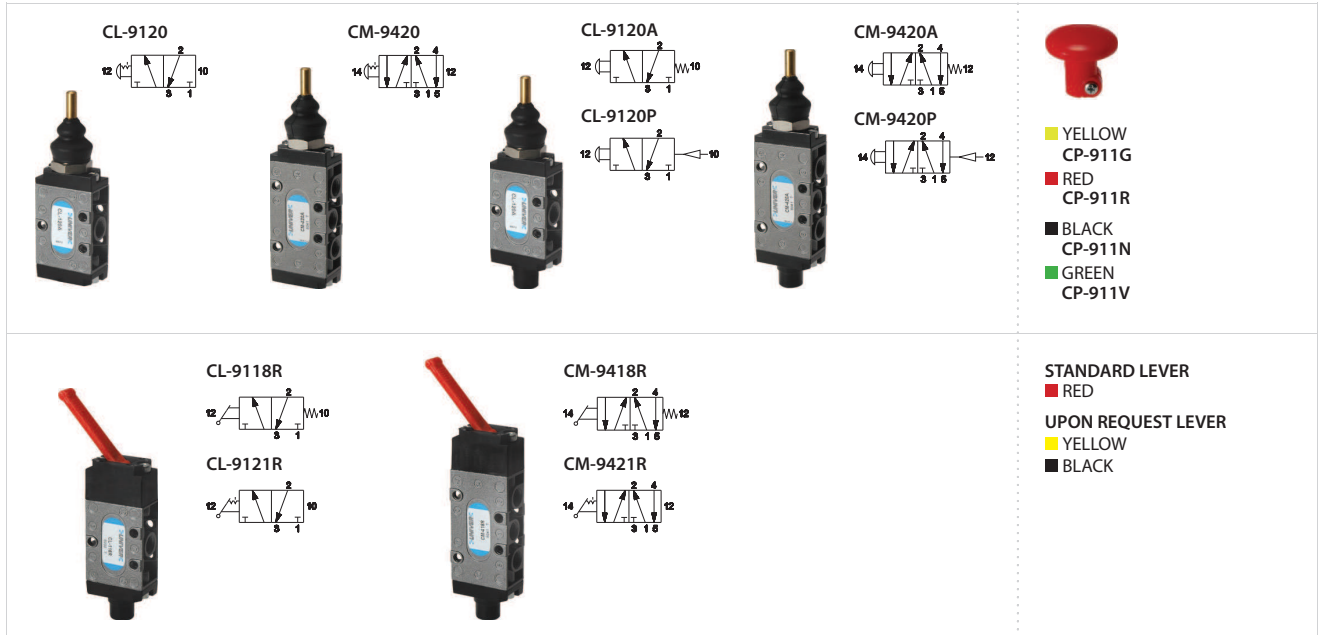


	Return	Flow rate (Nl/min)	Ø mm	Weight Kg	Force N	Part no.	Composition (a)			Tot L. mm
							Control	Body	Return	
ROTATING LEVER (SELECTOR UPON REQUEST) (b)										
3/2 NC-NO	rotating lever	890	6,5	0,22	27	CL-130	D	1	G	97
5/2	rotating lever	890	6,5	0,25	27	CM-430	D	2	G	113,5
5/3 c.c.	rotating lever	890	6,5	0,25	27	CM-430E	D	2	G	113,5
5/3 o.c.	rotating lever	890	6,5	0,24	27	CM-435E	D	2	G	113,5
5/3 p.c.	rotating lever	890	6,5	0,24	27	CM-440E	D	2	G	113,5
90° LEVER - 3 POSITION (b)										
3/2 NC-NO	lever	890	6,5	0,17	2,5÷4	CL-123	E	1	H	79,5
5/2	lever	890	6,5	0,23	2,5÷4	CM-423	E	2	H	96
3/2 NC-NO	lever	890	6,5	0,17	3,5÷5	CL-123D	E	1	G	92
5/2	lever	890	6,5	0,23	3,5÷5	CM-423D	E	2	G	108,5
3/2 NC-NO	mechanical spring	890	6,5	0,18	9÷13	CL-123A	E	1	F	92
5/2	mechanical spring	890	6,5	0,23	9÷13	CM-423A	E	2	F	108,5
5/3 c.c.	lever	890	6,5	0,23	3,5÷5	CM-423E	E	2	G	108,5
	lever	890	6,5	0,23	6,5÷10	CM-423F	E	2	G	108,5
5/3 o.c.	lever	890	6,5	0,23	3,5÷3	CM-424E	E	2	G	108,5
	lever	890	6,5	0,23	6,5÷10	CM-424F	E	2	G	108,5
5/3 p.c.	lever	890	6,5	0,23	7,5÷5	CM-425E	E	2	G	108,5
	lever	890	6,5	0,23	6,5÷10	CM-425F	E	2	G	108,5

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
 To get 3/2 NO version, supply the valve from port 3
 (b) = valves are supplied without operator Pressure 0 ÷ 10 bar for all part numbers

(a) = see pages 3_18
 Overall dimensions include operator

G1/4 Manually operated valves



	Return	Flow rate (NI/min)	Ø mm	Weight Kg	Force N	Part no.	Composition (a)			Tot L. mm
							Control	Body	Return	
PUSH-PULL (b)										
3/2 NC-NO	push-pull	1480	8,5	0,26	26	CL-9120	A	1	H	127
5/2	push-pull	1480	8,5	0,26	26	CM-9420	A	2	H	144,5
3/2 NC-NO	mechanical spring	1480	8,5	0,26	26	CL-9120A	A	1	F	138
5/2	mechanical spring	1480	8,5	0,26	26	CM-9420A	A	2	F	155,5
3/2 NC-NO	pneumatic not amplified	1480	8,5	0,24	26	CL-9120P	A	1	I	127
5/2	pneumatic not amplified	1480	8,5	0,24	26	CM-9420P	A	2	I	144,5
LONG LEVER (standard red colour)										
3/2 NC-NO	mechanical spring	1480	8,5	0,23	11	CL-9118R	C	1	F	144
5/2	mechanical spring	1480	8,5	0,25	11	CM-9418R	C	2	F	161,5
3/2 NC-NO	lever	1480	8,5	0,22	11	CL-9121R	C	1	G	144
5/2	lever	1480	8,5	0,24	11	CM-9421R	C	2	G	161,5

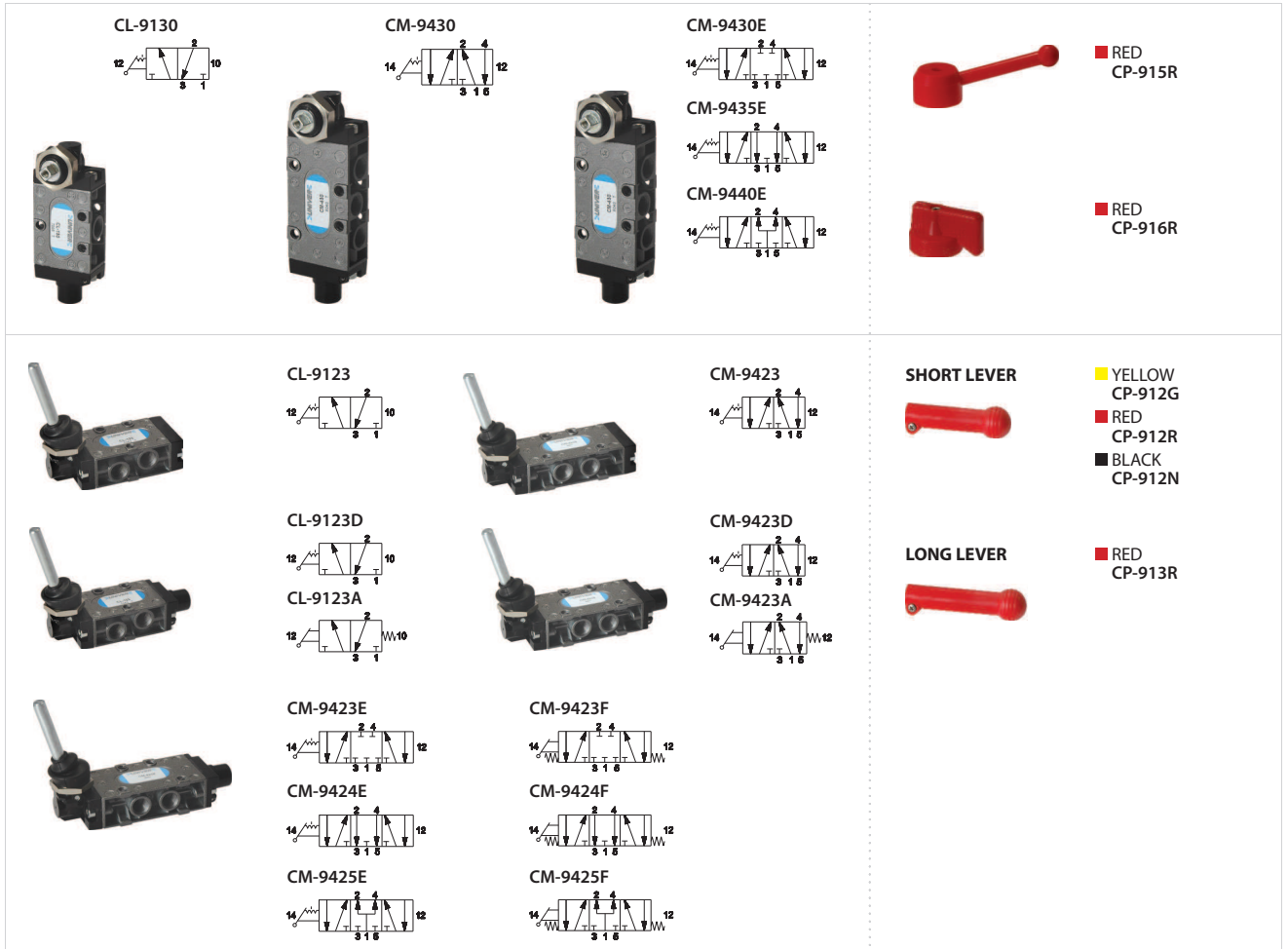
To get 3/2 NO version, supply the valve from port 3

(b) = valves are supplied without operator Pressure 0 ÷ 10 bar for all part numbers

(a) = see pages 3_18

Overall dimensions include operator

G1/4 Manually operated valves



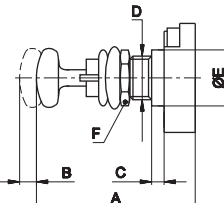
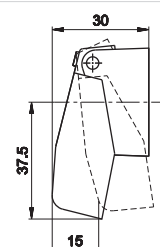
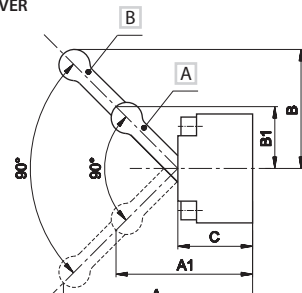
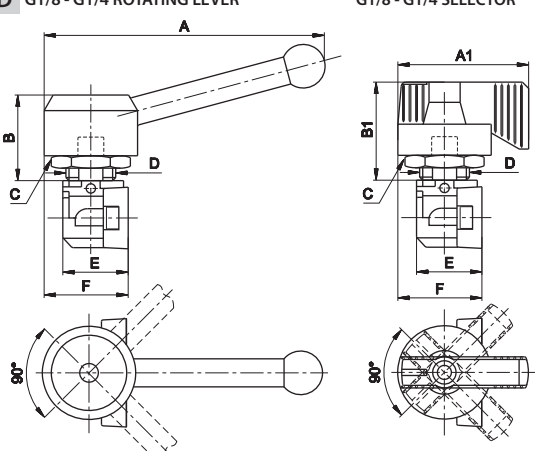
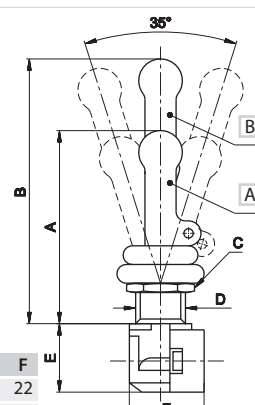
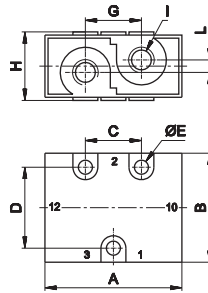
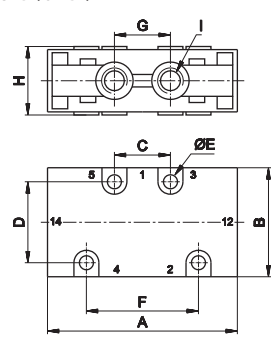
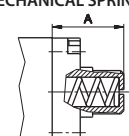
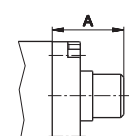
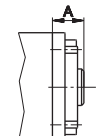
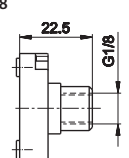
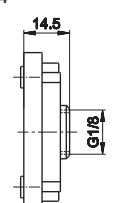
	Return	Flow rate (Nl/min)	Ø mm	Weight Kg	Force N	Part no.	Composition(a)			Tot L. mm
							Control	Body	Return	
ROTATING LEVER (SELECTOR UPON REQUEST)										
3/2 NC-NO 5/2	rotating lever	1480	8,5	0,25	29	CL-9130	D	1	G	113
	rotating lever	1490	8,5	0,27	29	CM-9430	D	2	G	130,5
	rotating lever	1480	8,5	0,27	29	CM-9430E	D	2	G	130,5
	rotating lever	1480	8,5	0,26	29	CM-9435E	D	2	G	130,5
	rotating lever	1480	8,5	0,26	29	CM-9440E	D	2	G	130,5
90° LEVER - 3 POSITION (b)										
3/2 NC-NO 5/2	lever	1480	8,5	0,23	2,7÷4,5	CL-9123	E	1	H	99,5
	lever	1480	8,5	0,28	2,7÷4,5	CM-9423	E	2	H	117,5
3/2 NC-NO 5/2	lever	1480	8,5	0,23	3,6÷5,2	CL-9123D	E	1	G	110,5
	lever	1480	8,5	0,28	3,6÷5,2	CM-9423D	E	2	G	128
3/2 NC-NO 5/2	mechanical spring	1480	8,5	0,24	10÷14	CL-9123A	E	1	F	110,5
	mechanical spring	1480	8,5	0,28	10÷14	CM-9423A	E	2	F	128
5/3 c.c.	lever	1480	8,5	0,28	3,6÷5,2	CM-9423E	E	2	G	128
	lever	1480	8,5	0,28	6,7÷11	CM-9423F	E	2	G	128
5/3 o.c.	lever	1480	8,5	0,28	3,6÷5,2	CM-9424E	E	2	G	128
	lever	1480	8,5	0,28	6,7÷11	CM-9424F	E	2	G	128
5/3 p.c.	lever	1480	8,5	0,28	3,6÷5,2	CM-9425E	E	2	G	128
	lever	1480	8,5	0,28	6,7÷11	CM-9425F	E	2	G	128

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
 To get 3/2 NO version, supply the valve from port 3
 (b) = valves are supplied without operator Pressure 0 ÷ 10 bar for all part numbers

(a) = see pages 3_18
 Overall dimensions include operator

3

Composition

CONTROL	BODY	RETURN																														
<p>A G1/8 - G1/4 PUSH-PULL</p>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>51</td> <td>5,4</td> <td>4</td> <td>M14x1</td> <td>16</td> <td>18</td> </tr> <tr> <td>G1/4</td> <td>52,5</td> <td>6</td> <td>2,5</td> <td>M16x1,5</td> <td>22</td> <td>22</td> </tr> </tbody> </table>		A	B	C	D	E	F	G1/8	51	5,4	4	M14x1	16	18	G1/4	52,5	6	2,5	M16x1,5	22	22											
	A	B	C	D	E	F																										
G1/8	51	5,4	4	M14x1	16	18																										
G1/4	52,5	6	2,5	M16x1,5	22	22																										
<p>B G1/8 BUTTON</p> 																																
<p>C G1/8 - G1/4 LONG/SHORT LEVER</p>  <p>A Short lever B Long lever</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>A1</th> <th>B</th> <th>B1</th> <th>C</th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>56</td> <td>42</td> <td>38,5</td> <td>24</td> <td>22,5</td> <td>G1/4</td> <td>58,5</td> <td>32</td> <td>26</td> </tr> </tbody> </table>		A	A1	B	B1	C	A	B	C	G1/8	56	42	38,5	24	22,5	G1/4	58,5	32	26													
	A	A1	B	B1	C	A	B	C																								
G1/8	56	42	38,5	24	22,5	G1/4	58,5	32	26																							
<p>D G1/8 - G1/4 ROTATING LEVER G1/8 - G1/4 SELECTOR</p>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>A1</th> <th>B</th> <th>B1</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>89</td> <td>42</td> <td>32</td> <td>29</td> <td>22</td> <td>M16x1,5</td> <td>22</td> <td>27</td> </tr> <tr> <td>G1/4</td> <td>89</td> <td>42</td> <td>32</td> <td>29</td> <td>24</td> <td>M18x1,5</td> <td>25</td> <td>27,5</td> </tr> </tbody> </table>		A	A1	B	B1	C	D	E	F	G1/8	89	42	32	29	22	M16x1,5	22	27	G1/4	89	42	32	29	24	M18x1,5	25	27,5					
	A	A1	B	B1	C	D	E	F																								
G1/8	89	42	32	29	22	M16x1,5	22	27																								
G1/4	89	42	32	29	24	M18x1,5	25	27,5																								
<p>E G1/8 - G1/4 90° LEVER</p>  <p>A Short lever B Long lever</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>62</td> <td>85</td> <td>22</td> <td>M16x1,5</td> <td>21,5</td> <td>22</td> </tr> <tr> <td>G1/4</td> <td>90</td> <td>110</td> <td>24</td> <td>M18x1,5</td> <td>29</td> <td>25</td> </tr> </tbody> </table>		A	B	C	D	E	F	G1/8	62	85	22	M16x1,5	21,5	22	G1/4	90	110	24	M18x1,5	29	25											
	A	B	C	D	E	F																										
G1/8	62	85	22	M16x1,5	21,5	22																										
G1/4	90	110	24	M18x1,5	29	25																										
	<p>1 3/2 NC-NO G1/8 - G1/4</p>  <p>>> NC 1 = Supply port 2 = Use 3 = Exhaust 12 = Control 10 = Return</p> <p>>> NO 1 = Exhaust 2 = Use 3 = Supply port 12 = Control 10 = Return</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>G</th> <th>H</th> <th>I</th> <th>L</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>47,5</td> <td>35</td> <td>18</td> <td>26</td> <td>4,5</td> <td>18</td> <td>22</td> <td>G1/8</td> <td>4</td> </tr> <tr> <td>G1/4</td> <td>60</td> <td>48</td> <td>22</td> <td>38</td> <td>5,5</td> <td>22</td> <td>26</td> <td>G1/4</td> <td>4</td> </tr> </tbody> </table>		A	B	C	D	E	G	H	I	L	G1/8	47,5	35	18	26	4,5	18	22	G1/8	4	G1/4	60	48	22	38	5,5	22	26	G1/4	4	
	A	B	C	D	E	G	H	I	L																							
G1/8	47,5	35	18	26	4,5	18	22	G1/8	4																							
G1/4	60	48	22	38	5,5	22	26	G1/4	4																							
	<p>2 5/2 - 5/3 G1/8 - G1/4</p>  <p>1 = Supply port 2 - 4 = Use 3 - 5 = Exhaust 14 = Control 12 = Return</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> <th>I</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>64</td> <td>35</td> <td>18</td> <td>26</td> <td>4,5</td> <td>36</td> <td>18</td> <td>22</td> <td>G1/8</td> </tr> <tr> <td>G1/4</td> <td>77,5</td> <td>48</td> <td>22</td> <td>38</td> <td>5,5</td> <td>48</td> <td>22</td> <td>26</td> <td>G1/4</td> </tr> </tbody> </table>		A	B	C	D	E	F	G	H	I	G1/8	64	35	18	26	4,5	36	18	22	G1/8	G1/4	77,5	48	22	38	5,5	48	22	26	G1/4	
	A	B	C	D	E	F	G	H	I																							
G1/8	64	35	18	26	4,5	36	18	22	G1/8																							
G1/4	77,5	48	22	38	5,5	48	22	26	G1/4																							
		<p>F G1/8 - G1/4 MECHANICAL SPRING</p>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>22,5</td> </tr> <tr> <td>G1/4</td> <td>25,5</td> </tr> </tbody> </table>		A	G1/8	22,5	G1/4	25,5																								
	A																															
G1/8	22,5																															
G1/4	25,5																															
		<p>G G1/8 - G1/4 2/3 POSITION</p>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>22,5</td> </tr> <tr> <td>G1/4</td> <td>25,5</td> </tr> </tbody> </table>		A	G1/8	22,5	G1/4	25,5																								
	A																															
G1/8	22,5																															
G1/4	25,5																															
		<p>H BOTTOM PLATE WITHOUT SPRING G1/8 - G1/4</p>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>A</th> </tr> </thead> <tbody> <tr> <td>G1/8</td> <td>10</td> </tr> <tr> <td>G1/4</td> <td>14,5</td> </tr> </tbody> </table>		A	G1/8	10	G1/4	14,5																								
	A																															
G1/8	10																															
G1/4	14,5																															
		<p>I G1/8 - G1/4 PNEUMATIC NOT AMPLIFIED</p> <p>>> G1/8</p>  <p>>> G1/4</p> 																														

G1/8 Valves with pneumatic control



	Control	Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Resp. Time (ms)		Part no.	Composition (a)			Tot L. mm
							En.	De-en.		Control	Body	Return	
SINGLE IMPULSE													
3/2 NC	pneumatic amplified	pneumatic spring	2,3÷10	890	6,5	0,20	11	14	CL-200	B	1	E	82,5
3/2 NO	pneumatic amplified	pneumatic spring	2,3÷10	890	6,5	0,20	11	14	CL-203	B	1	E	82,5
3/2 NC-NO	pneumatic amplified	mechanical spring	2,5÷10	890	6,5	0,21	9	17	CL-200A	B	1	D	95
5/2	pneumatic amplified	pneumatic spring	2,5÷10	890	6,5	0,20	10	15	CM-500	B	2	E	99
	pneumatic amplified	mechanical spring	3÷10	890	6,5	0,19	10	18	CM-500A	B	2	D	111,5
DOUBLE IMPULSE													
3/2 NC-NO	pneumatic amplified	pneumatic amplified	1÷10	890	6,5	0,16	6	6	CL-220	B	1	F	97,5
	pneumatic amplified	pneumatic not amplified	1,7÷10	890	6,5	0,15	6	8	CL-221	B	1	G	95
	pneumatic non amplified	pneumatic not amplified	1,7÷10	890	6,5	0,14	8	8	CL-224	C	1	G	92,5
5/2	pneumatic amplified	pneumatic amplified	1,2÷10	890	6,5	0,18	7	7	CM-520	B	2	F	114
	pneumatic amplified	pneumatic not amplified	2÷10	890	6,5	0,19	7	9	CM-521	B	2	G	111,5
	pneumatic non amplified	pneumatic not amplified	2÷10	890	6,5	0,20	9	9	CM-524	C	2	G	109
5/3 c.c.	pneumatic amplified	pneumatic amplified	2,5÷10	890	6,5	0,21	8	12	CM-580	B	2	F	114
5/3 o.c.	pneumatic amplified	pneumatic amplified	2,5÷10	890	6,5	0,21	8	12	CM-585	B	2	F	114
5/3 p.c.	pneumatic amplified	pneumatic amplified	2,5÷10	890	6,5	0,21	8	12	CM-590	B	2	F	114

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
To get 3/2 NO version, supply the valve from port 3

(a) = see page 3_23

3

G1/4 Valves with pneumatic control

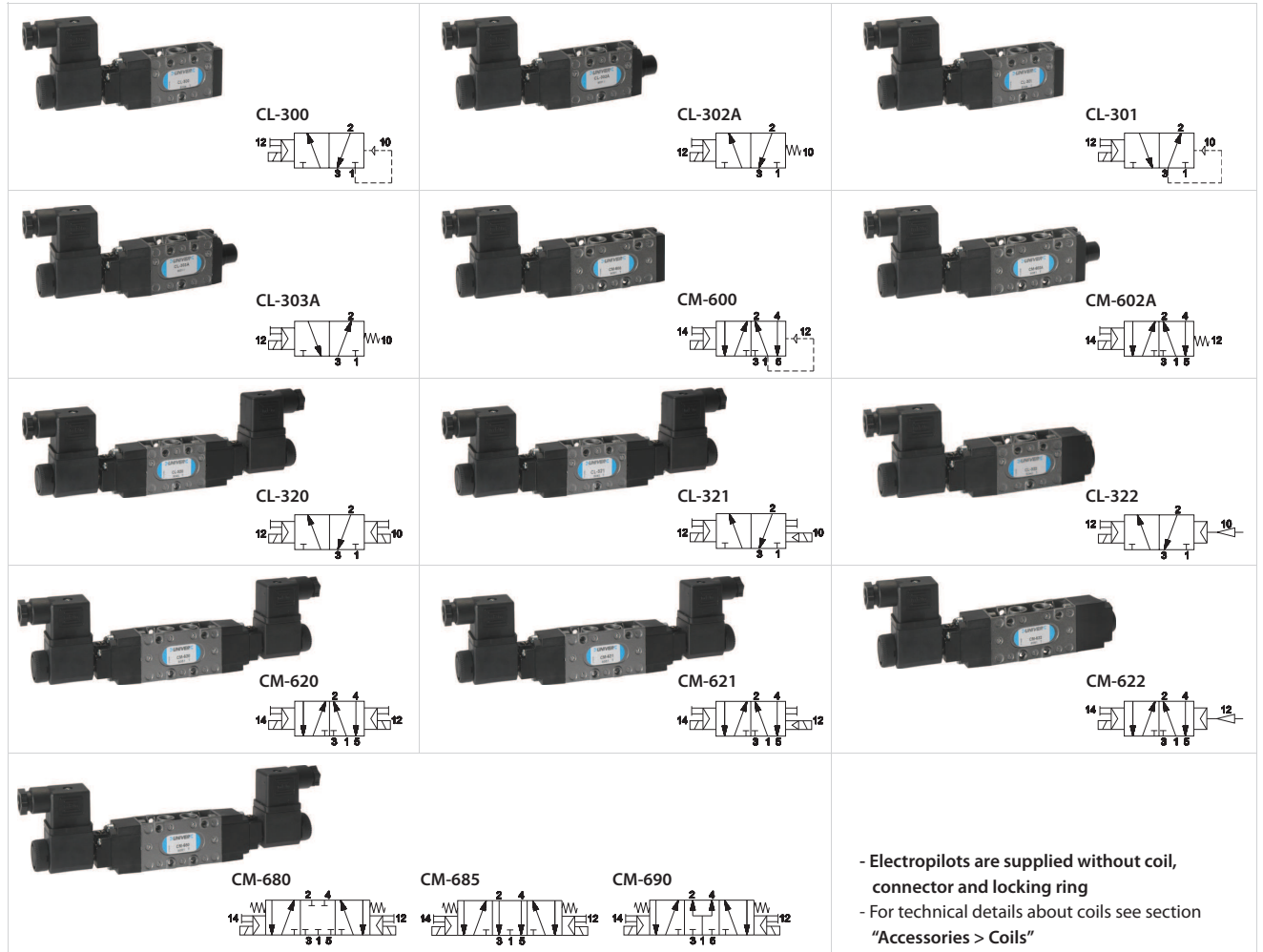


	Control	Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Resp. Time (ms)		Part no.	Composition (a)			Tot L. mm
							En.	De-en.		Control	Body	Return	
SINGLE IMPULSE													
3/2 NC	pneumatic amplified	pneumatic spring	2÷10	1480	8,5	0,23	13	16	CL-9200	B	1	E	103
3/2 NO	pneumatic amplified	pneumatic spring	2÷10	1480	8,5	0,23	13	16	CL-9203	B	1	E	103
3/2 NC-NO	pneumatic amplified	mechanical spring	2÷10	1480	8,5	0,24	10	19	CL-9200A	B	1	D	114
5/2	pneumatic amplified	pneumatic spring	2÷10	1480	8,5	0,26	13	16	CM-9500	B	2	E	120,5
	pneumatic amplified	mechanical spring	2÷10	1480	8,5	0,17	11	20	CM-9500A	B	2	D	131,5
DOUBLE													
3/2 NC-NO	pneumatic amplified	pneumatic amplified	1÷10	1480	8,5	0,21	8	8	CL-9220	B	1	F	117
	pneumatic amplified	pneumatic not amplified	1,5÷10	1480	8,5	0,22	8	10	CL-9221	B	1	G	103
	pneumatic not amplified	pneumatic not amplified	1,5÷10	1480	8,5	0,24	10	10	CL-9224	C	1	G	89
5/2	pneumatic amplified	pneumatic amplified	1,5÷10	1480	8,5	0,24	9	9	CM-9520	B	2	F	134,5
	pneumatic amplified	pneumatic not amplified	1,8÷10	1480	8,5	0,25	9	10	CM-9521	B	2	G	120,5
	pneumatic not amplified	pneumatic not amplified	1,8÷10	1480	8,5	0,27	10	10	CM-9524	C	2	G	198,5
5/3 c.c.	pneumatic amplified	pneumatic amplified	2,8÷10	1480	8,5	0,30	10	13	CM-9580	B	2	F	134,5
5/3 o.c.	pneumatic amplified	pneumatic amplified	2,8÷10	1480	8,5	0,30	10	13	CM-9585	B	2	F	134,5
5/3 p.c.	pneumatic amplified	pneumatic amplified	1,8÷10	1480	8,5	0,30	10	13	CM-9590	B	2	F	134,5

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
To get 3/2 NO version, supply the valve from port 3

(a) = see page 3_23

G1/8 Valves with electric control



- Electropilots are supplied without coil, connector and locking ring
 - For technical details about coils see section "Accessories > Coils"

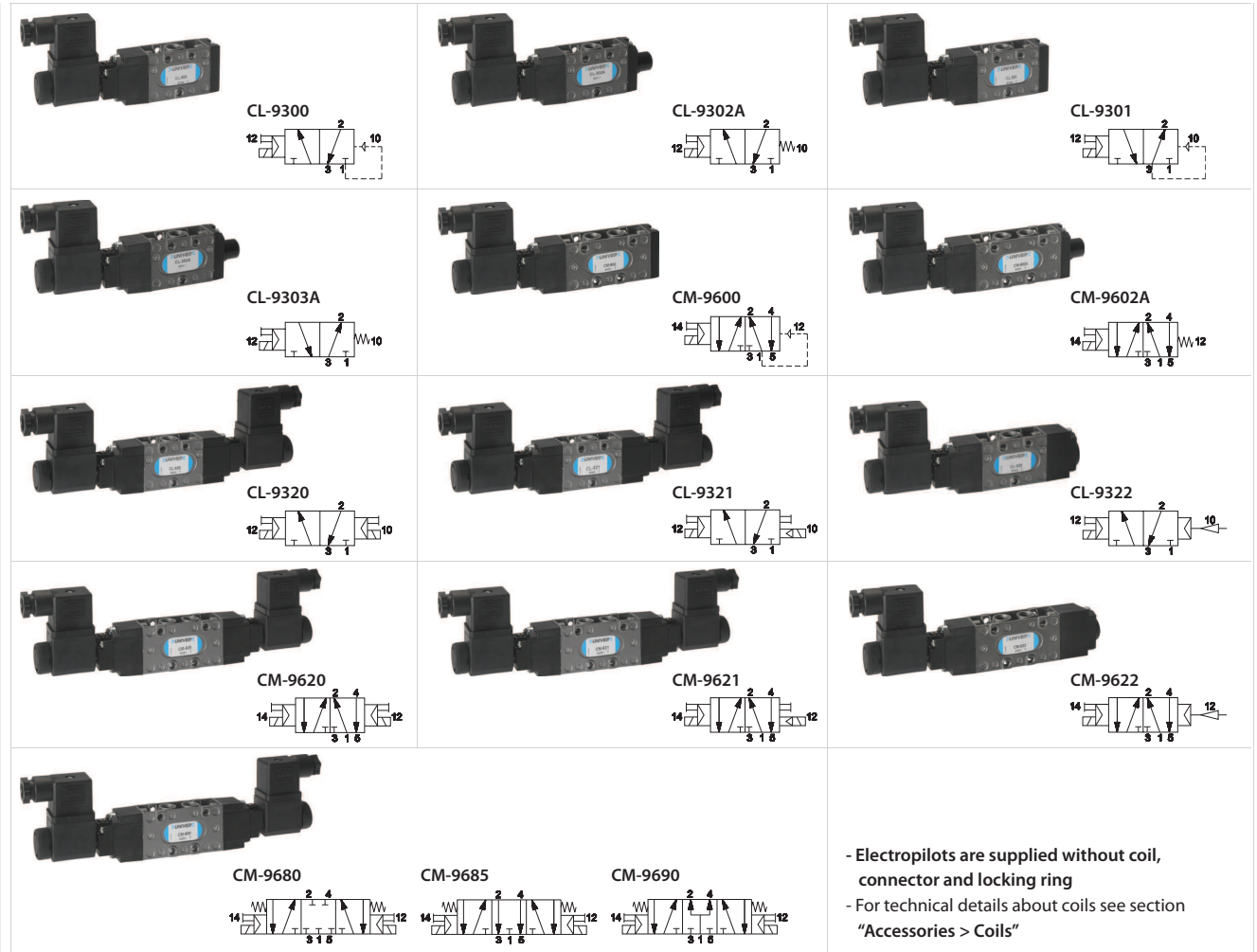
	Control	Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Resp. Time (ms)		Part no.	Composition (a)			Tot L. mm
							En.	De-en.		Control	Body	Return	
SINGLE IMPULSE													
3/2 NC	electrical amplified	pneumatic spring	2,3÷10	890	6,5	0,20	23	19	CL-300	A	1	E	140,5
	electrical amplified	mechanical spring	2,5÷10	890	6,5	0,21	20	24	CL-302A	A	1	D	153
3/2 NO	electrical amplified	pneumatic spring	2,3÷10	890	6,5	0,20	23	19	CL-301	A	1	E	140,5
	electrical amplified	mechanical spring	2,5÷10	890	6,5	0,21	20	24	CL-303A	A	1	D	153
5/2	electrical amplified	pneumatic spring	2,5÷10	890	6,5	0,24	24	20	CM-600	A	2	E	157
	electrical amplified	mechanical spring	3÷10	890	6,5	0,25	21	25	CM-602A	A	2	D	169,5
DOUBLE IMPULSE													
3/2 NC-NO	electrical amplified	electrical amplified	1÷10	890	6,5	0,24	17	17	CL-320	A	1	H	213,5
	electrical amplified	electrical not amplified	1,7÷10	890	6,5	0,24	17	20	CL-321	A	1	H	213,5
	electrical amplified	pneumatic amplified	2,5÷10	890	6,5	0,21	20	7	CL-322	A	1	F	155,5
5/2	electrical amplified	electrical amplified	1,2÷10	890	6,5	0,28	20	20	CM-620	A	2	H	230
	electrical amplified	electrical not amplified	2÷10	890	6,5	0,28	20	23	CM-621	A	2	H	230
	electrical amplified	pneumatic amplified	1,2÷10	890	6,5	0,24	20	8	CM-622	A	2	F	172
5/3 c.c.	electrical amplified	electrical amplified	2,5÷10	890	6,5	0,21	18	24	CM-680	A	2	H	230
5/3 o.c.	electrical amplified	electrical amplified	2,5÷10	890	6,5	0,21	18	24	CM-685	A	2	H	230
5/3 p.c.	electrical amplified	electrical amplified	2,5÷10	890	6,5	0,21	18	24	CM-690	A	2	H	230

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
 To get 3/2 NO version, supply the valve from port 3

(a) = see page 3_23

3

G1/4 Valves with electric control



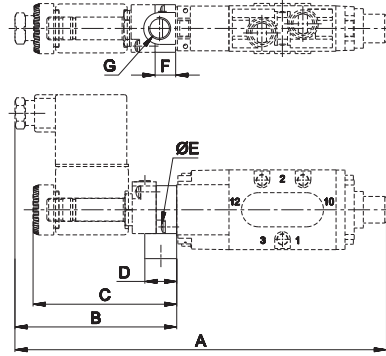
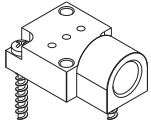
- Electropilots are supplied without coil, connector and locking ring
 - For technical details about coils see section "Accessories > Coils"

	Control	Return	Pressure bar	Flow rate (NI/min)	Ø mm	Weight Kg	Resp. Time (ms)		Part no.	Composition (a)			Tot L. mm
							En.	De-en.		Control	Body	Return	
SINGLE IMPULSE													
3/2 NC	electrical amplified	pneumatic spring	2÷10	1480	8,5	0,27	24	28	CL-9300	A	1	E	161
	electrical amplified	mechanical spring	2÷10	1480	8,5	0,28	22	35	CL-9302A	A	1	D	172
3/2 NO	electrical amplified	pneumatic spring	2÷10	1480	8,5	0,27	24	28	CL-9301	A	1	E	161
	electrical amplified	mechanical spring	2÷10	1480	8,5	0,28	22	35	CL-9303A	A	1	D	172
5/2	electrical amplified	pneumatic spring	2÷10	1480	8,5	0,30	25	32	CM-9600	A	2	E	178,5
	electrical amplified	mechanical spring	2÷10	1480	8,5	0,31	22	43	CM-9602A	A	2	D	189,5
DOUBLE IMPULSE													
3/2 NC_NO	electrical amplified	electrical amplified	2÷10	1480	8,5	0,29	18	18	CL-9320	A	1	H	233
	electrical amplified	elettrico not amplified	1,5÷10	1480	8,5	0,30	18	22	CL-9321	A	1	H	233
	electrical amplified	pneumatic amplified	2÷10	1480	8,5	0,26	22	8	CL-9322	A	1	F	175
5/2	electrical amplified	electrical amplified	1,5÷10	1480	8,5	0,32	22	22	CM-9620	A	2	H	250,5
	electrical amplified	elettrico not amplified	1,8÷10	1480	8,5	0,32	22	25	CM-9621	A	2	H	250,5
	electrical amplified	pneumatic amplified	1,5÷10	1480	8,5	0,29	22	10	CM-9622	A	2	F	192,5
5/3 c.c.	electrical amplified	electrical amplified	2,8÷10	1480	8,5	0,30	20	35	CM-9680	A	2	H	250,5
5/3 o.c.	electrical amplified	electrical amplified	2,8÷10	1480	8,5	0,30	20	35	CM-9685	A	2	H	250,5
5/3 p.c.	electrical amplified	electrical amplified	2,8÷10	1480	8,5	0,30	20	35	CM-9690	A	2	H	250,5

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
 To get 3/2 NO version, supply the valve from port 3

(a) = see pages 3_23

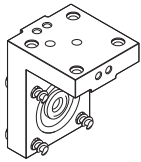
AM-5148



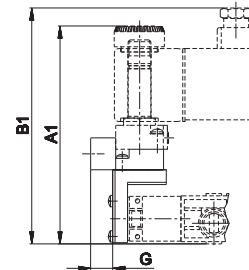
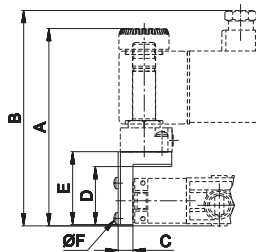
	G1/8	G1/4
A	163	175,5
B	71	71
C	63	63
D	14	14
E	2,9x10	2,9x10
F	9	9
G	G1/8	G1/8

Plate for external servoassistance
weight: 0,03 Kg

AM-5151



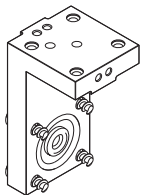
■ AM-5151 + AM-5148



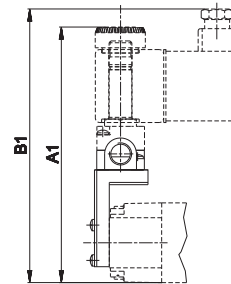
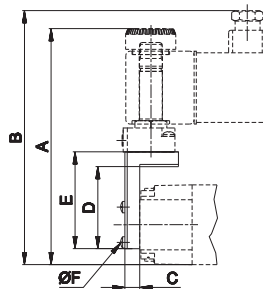
	G1/8	G1/4
A	86,7	88,7
A1	95,7	97,7
B	94,5	96,5
B1	103,5	105,5
C	6,5	6,5
D	25,5	25,5
E	32	32
F	2,9x10	2,9x10
G	9,7	9,7

"H" option angle plate
weight: 0,035 Kg

AM-5152



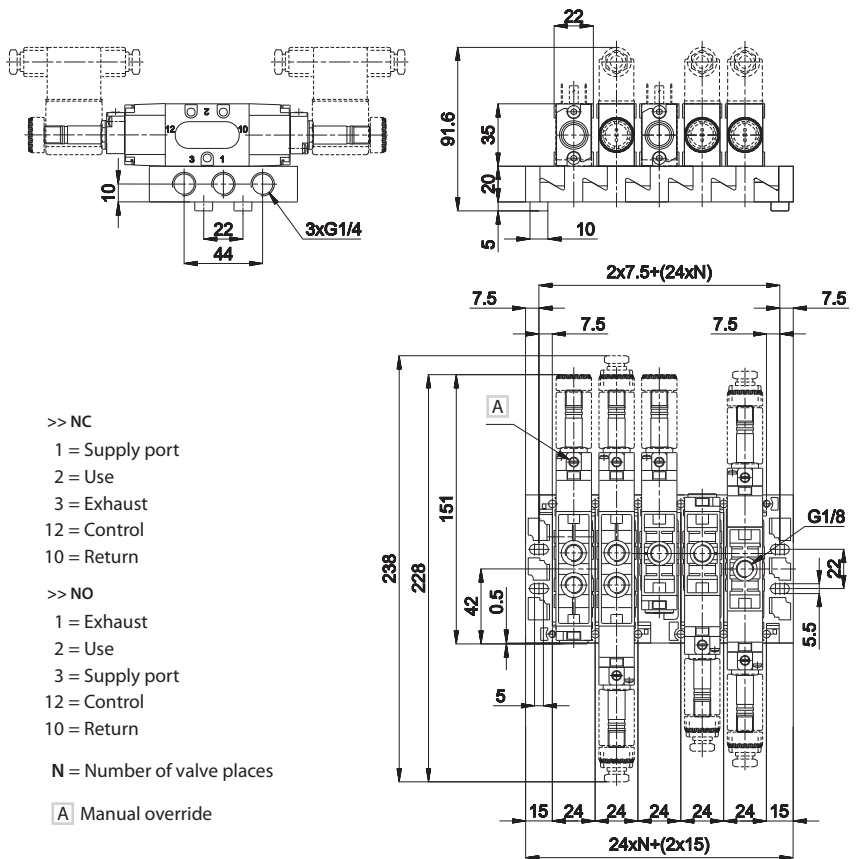
■ AM-5152 + AM-5148



	G1/8	G1/4
A	103,5	110
A1	112,2	118,7
B	111,5	118
B1	120	126,5
C	6,5	6,5
D	36	36
E	42,5	42,5
F	2,9x10	2,9x10

"P" option angle plate
weight: 0,05 Kg

G1/8 Modular subbase "CLIPS" for 3/2 - 5/2 - 5/3 valves



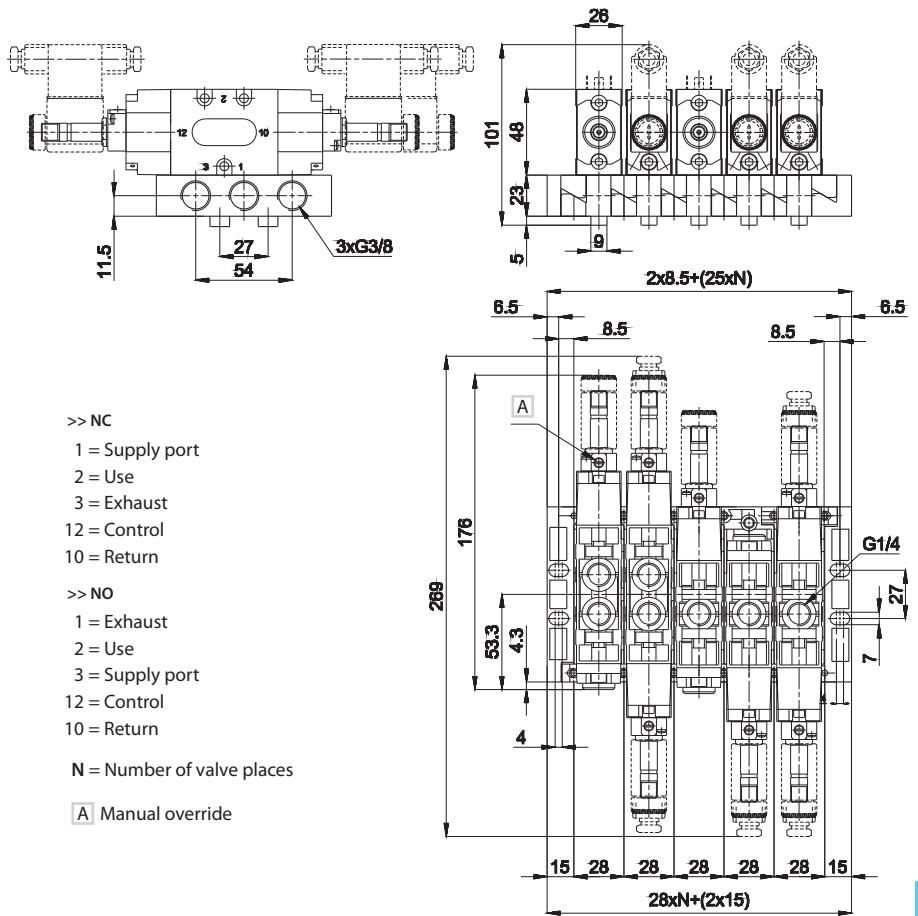
- >> NC
 - 1 = Supply port
 - 2 = Use
 - 3 = Exhaust
 - 12 = Control
 - 10 = Return
- >> NO
 - 1 = Exhaust
 - 2 = Use
 - 3 = Supply port
 - 12 = Control
 - 10 = Return
- N = Number of valve places
- A Manual override

3

When assembling the manifold put the sub-base on a flat surface and tighten the special screw supplied. This will give perfect alignment.

CP-100	CP-101	CP-105	CP-110	CP-111	CP-112	CP-113
modular sub-base with regulated and conveyed exhausts connections: G1/8 material: zamak weight: 0,136 Kg	modular sub-base without exhaust regulator connections: G1/8 material: zamak weight: 0,136 Kg	inlet plate side connections connections: G1/4 material: zamak weight: 0,086 Kg	coupling connections: G1/8 material: brass weight: 0,028 Kg	separator pressioni differenziali connessione: G1/8 materiale: alluminio peso: 0,013 Kg	cap for 3/2 valve mounting connections: G1/8 material: alluminio weight: 0,010 Kg	adjustment screw mounting connections: G1/8 material: brass weight: 0,006 Kg
standard supplied: screws, seals, exhausts regulator and fixing coupling	standard supplied: screws, seals and fixing coupling of valve	standard supplied: screws and seals				
For each additional pressure, one coupling and two separators must be ordered.			Cap for mounting of 3/2 NC-NO valves on "CLIPS" sub-base to close non-used way. Standard sub-base with adjustment screw. The screw head has a slot for screwdrivers. Upon request: adjustment screw with crimped head.			

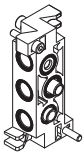
G1/4 Modular subbase "CLIPS" for 3/2 - 5/2 - 5/3 valves



- >> NC
 - 1 = Supply port
 - 2 = Use
 - 3 = Exhaust
 - 12 = Control
 - 10 = Return
- >> NO
 - 1 = Exhaust
 - 2 = Use
 - 3 = Supply port
 - 12 = Control
 - 10 = Return
- N = Number of valve places
- A Manual override

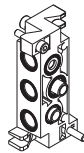
When assembling the manifold put the sub-base on a flat surface and tighten the special screw supplied. This will give perfect alignment.

CP-9100 CP-9101 CP-9105



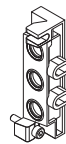
modular sub-base regulated and conveyed exhausts connections: G1/4 material: zamak weight: 0,210 Kg

standard supplied: screws, seals, exhaust regulator and fixing coupling



modular sub-base **without exhaust regulator** connections: G1/4 material: zamak weight: 0,210 Kg

standard supplied: screws, seals and fixing coupling of valve



inlet plate side connections connections: G3/8 material: zamak weight: 0,120 Kg

standard supplied: screws and seals

CP-9110 CP-9111 CP-9112 CP-9113



coupling connections: G1/4 material: brass weight: 0,028 Kg



separator of differential pressure connections: G1/4 material: aluminium weight: 0,013 Kg



cap for 3/2 valve mounting connections: G1/4 material: aluminium weight: 0,010 Kg



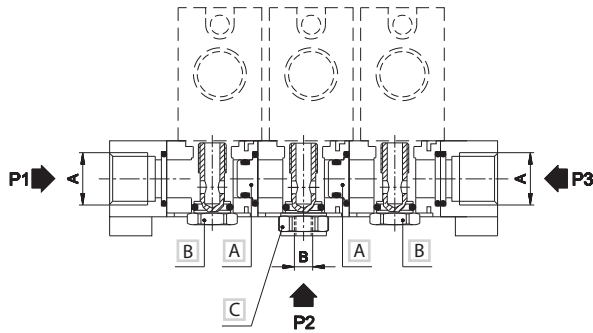
adjustment screw connections: G1/4 material: ottone weight: 0,006 Kg

For each additional pressure, one coupling and two separators must be ordered.

Cap for mounting of 3/2 NC-NO valves on "CLIPS" sub-base to close non-used way. Standard sub-base with adjustment screw. The screw head has a slot for screwdrivers. Upon request: adjustment screw with crimped head.

Assembly examples

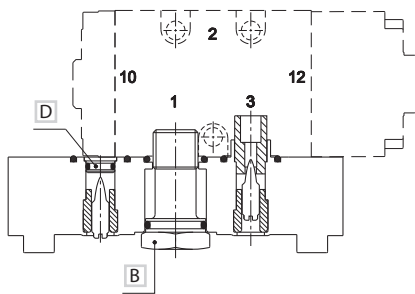
■ Manifold 3 pressures



	A	B
G1/8	G1/4	G1/8
G1/4	G3/8	G1/4

- A Separator of differential pressures CP-111/CP-9111
- B Fixing coupling for valve inside the sub-base
- C Coupling CP-110/CP-9110

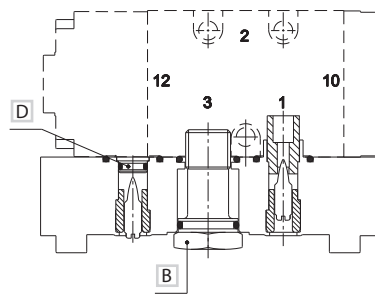
■ Mounting of 3/2 NC valve



- B Fixing coupling for valve inside the sub-base
- D Cap for valve mounting CP-112/CP-9112

- | | |
|-----------------|-----------------|
| >> NC | >> NO |
| 1 = Supply port | 1 = Exhaust |
| 2 = Use | 2 = Use |
| 3 = Exhaust | 3 = Supply port |
| 12 = Control | 12 = Control |
| 10 = Return | 10 = Return |

■ Mounting of 3/2 NO valve



- B Fixing coupling for valve inside the sub-base
- D Cap for valve mounting CP-112/CP-9112

- | | |
|-----------------|-----------------|
| >> NC | >> NO |
| 1 = Supply port | 1 = Exhaust |
| 2 = Use | 2 = Use |
| 3 = Exhaust | 3 = Supply port |
| 12 = Control | 12 = Control |
| 10 = Return | 10 = Return |

In case there should be no need to regulate exhaust, plastic insert has to be removed whilst the adjustment screw must remain in its place.

3

E

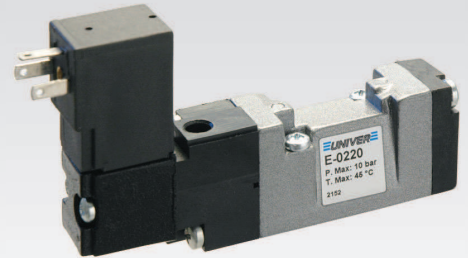
COMPA 2 Miniature Valves

- Compact design: 15 mm body
- Original Univer spool system appreciated for decades
- Wide range of actuators and manual operators for panels - original Univer

Available ATEX version upon request

CE Ex II 2Gc IICT5 II 2Dc T100°C

CE Ex II 3 GD c nA II T5-10°C ≤ Ta ≤ 45°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C
Fluid temperature	-20 ÷ +50 °C
Fluid	10 µm filtered air
Commutation system	spool
Ways/Positions	5/2
Pressure	max 10 bar
Control	manual, mechanical
Return	mechanical spring
Connections	M5, for sub-base
Nominal Ø	2 mm
Nominal flow rate	150 NI/min

CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber
Actuators	technopolymer
Spool	aluminium

ELECTRIC CHARACTERISTICS

Electropilot/coil	A series/U05
Voltage	24 V DC - 12 V DC - 24 V AC - 110 V AC - 230 V AC (only for version with integrated electrical connection)
Power consumption	U05 = 2 W (DC) 2,3 VA (AC) U04 = 1,2 W (DC)
Protection degree	IP65
Manual override	recessed button – 1 position

CODIFICATION KEY

E	-	0	2	2	4	
1		2	3	4	5	

1 Series	2 Type	3 Control 14	4 Return 12
E = COMPA 2 Miniature Valves	02 = 5/2 Sub-base mounting 04 = 5/2 Threaded body M5 05 = 5/3 c.c. Sub-base mounting 06 = 5/3 o.c. Sub-base mounting 07 = 5/3 p.c. Sub-base mounting 08 = 5/3 c.c. Threaded body M5 09 = 5/3 o.c. Threaded body M5 10 = 5/3 p.c. Threaded body M5	2 = Electrical amplified DC 4 = Pneumatic amplified 7 = Electrical amplified DC/AC	0 = Pneumomechanical spring 2 = Electrical amplified DC 4 = Pneumatic amplified 7 = Electrical amplified DC/AC

5 ATEX version

X = Atex (upon request)

See ATEX Catalogue for types and versions

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Single pneumatic impulse

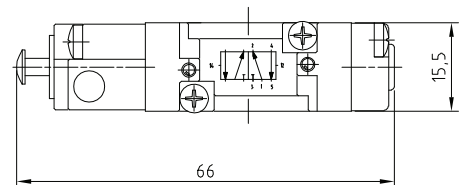
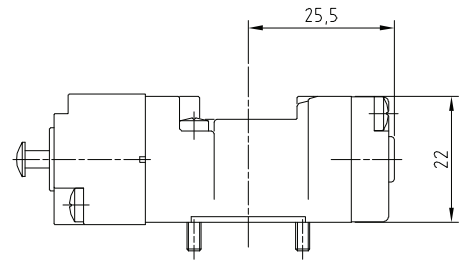


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,068

Symbol	Control	Return	Part no.
	14	12	

5/2		Pneumatic amplified	Pneumomechanical spring	E-0240
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Double pneumatic impulse

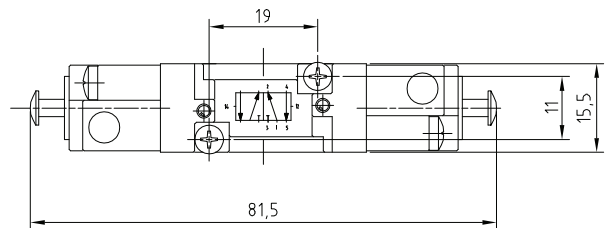
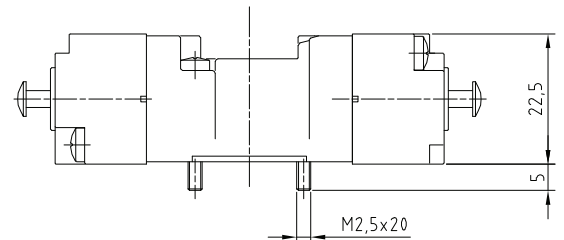


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

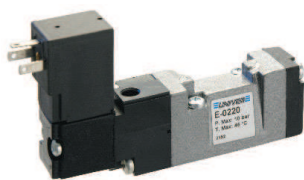
Weight (Kg): 0,082

Symbol	Control	Return	Part no.
	14	12	

5/2		Pneumatic amplified	Pneumatic amplified	E-0244
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Single electrical impulse

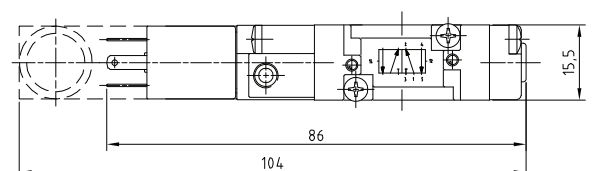
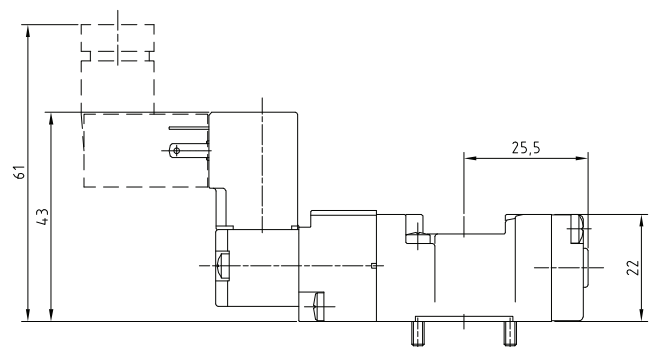


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,066

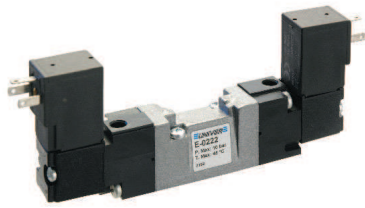
Symbol	Control	Return	Part no.
	14	12	

5/2		Electrical amplified	Pneumomechanical spring	E-0220 E-0270
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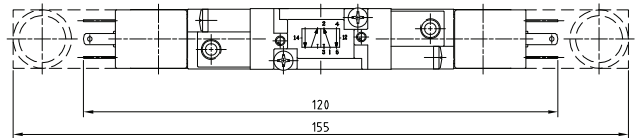
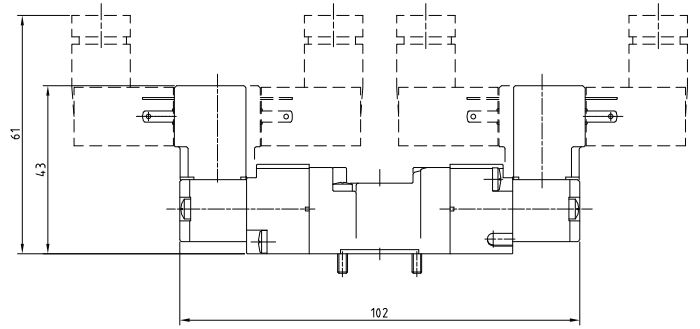


Solenoid valves are supplied without coil and connector

Double electrical impulse



- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

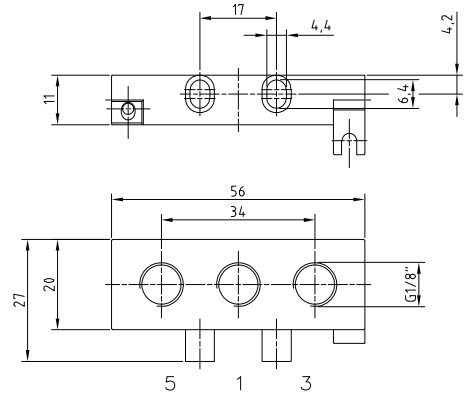


Weight (Kg): 0,066

Symbol	Control 14	Return 12	Part no.	
5/2		Electrical amplified	Electrical amplified	E-0222 E-0277
5/3 c.c.		Electrical amplified	Electrical amplified	E-0522
5/3 o.c.		Electrical amplified	Electrical amplified	E-0622
5/3 p.c.		Electrical amplified	Electrical amplified	E-0722

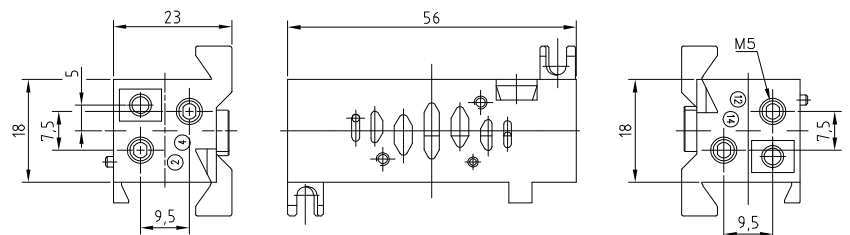
o.c. = open centres c.c. = closed centres p.c. = pressurized centres

E-4500



Inlet plate G1/8
material: zamak
weight: 0,055 Kg

E-4505



Manifold sub-base, side connections M5
material: zamak
weight: 0,095 Kg

Solenoid valves are supplied without coil and connector

Single pneumatic impulse

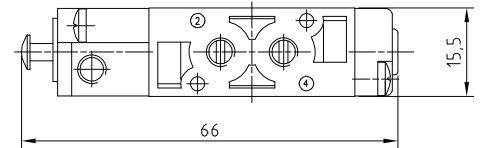
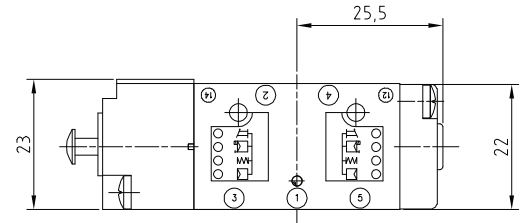


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,068

Symbol	Control	Return	Part no.
	14	12	

5/2		Pneumatic amplified	Pneumomechanical spring	E-0440
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Double pneumatic impulse

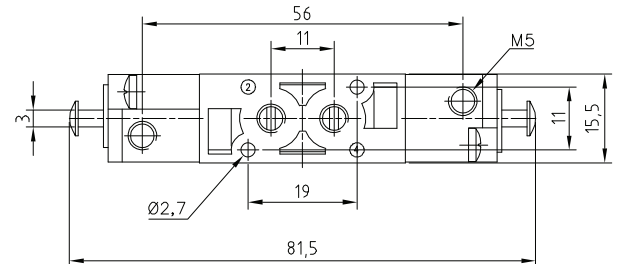
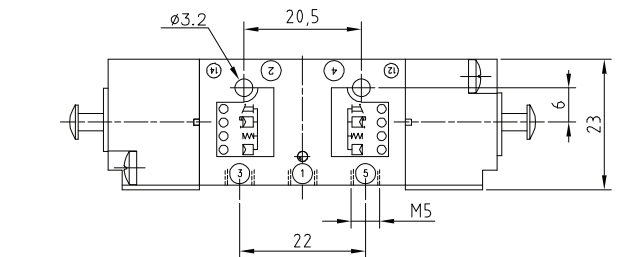


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

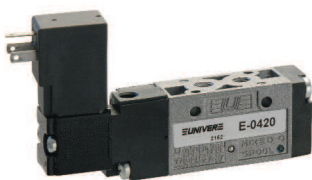
Weight (Kg): 0,082

Symbol	Control	Return	Part no.
	14	12	

5/2		Pneumatic amplified	Pneumatic amplified	E-0444
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Single electrical impulse

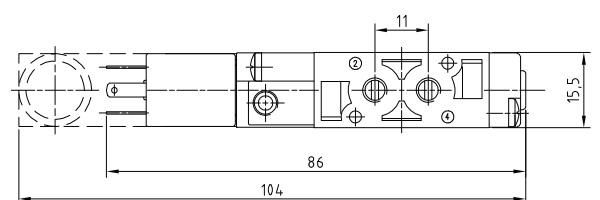
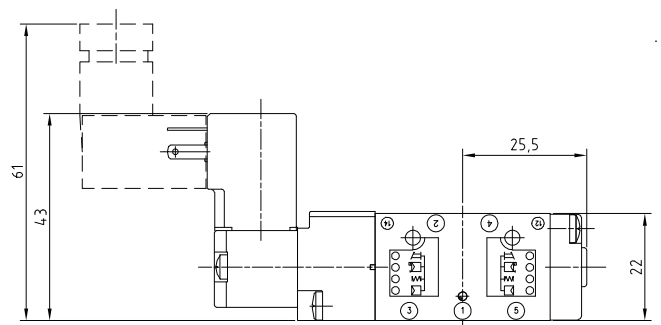


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,082

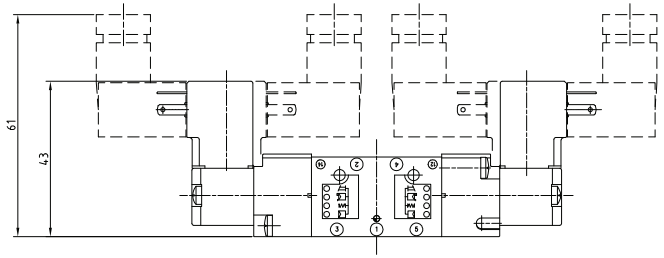
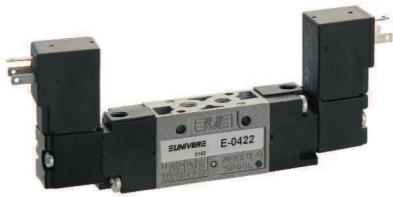
Symbol	Control	Return	Part no.
	14	12	

5/2		Electrical amplified	Pneumomechanical spring	E-0420 E-0470
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Solenoid valves are supplied without coil and connector

Double electrical impulse



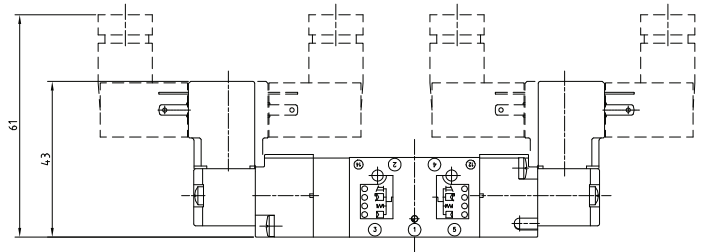
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,066

Symbol	Control	Return	Part no.
	14	12	

5/2		Electrical amplified	Electrical amplified	E-0422 E-0477
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Double electrical impulse



- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,066

Symbol	Control	Return	Part no.
	14	12	

5/3 c.c.		Electrical amplified	Electrical amplified	E-0822
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5/3 o.c.		Electrical amplified	Electrical amplified	E-0922
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5/3 p.c.		Electrical amplified	Electrical amplified	E-1022
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o.c. = open centres c.c. = closed centres p.c. = pressurized centres

DIN C (8 mm)



For further information please contact our Sales Office

Solenoid valves are supplied without coil and connector

Subject to change

Lever valve

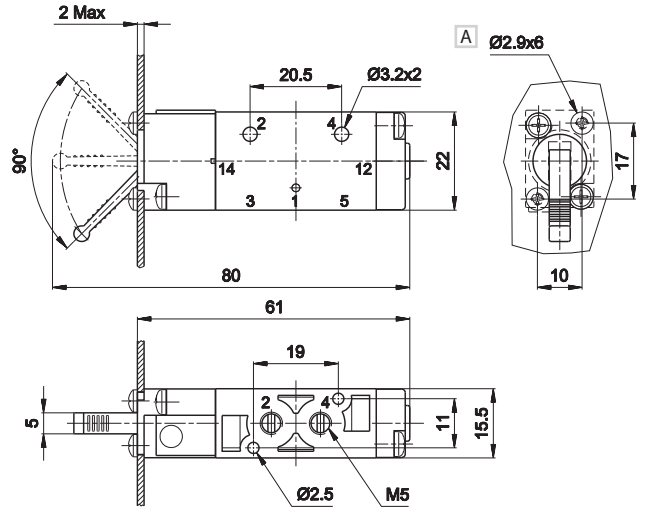


A Nr. 02 screws for plastic

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,068

Symbol	Control	Return	Lever colour	Part no.
	14	12		
5/2	lever	lever	yellow	E-15422G
			black	E-15422N
			red	E-15422R



Push-pull valve

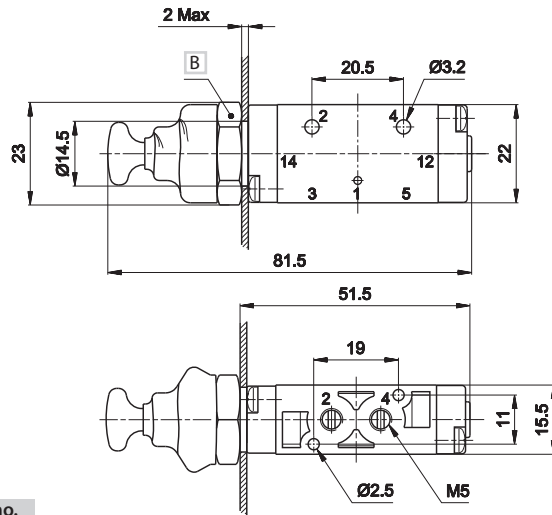


B Wrench 20

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,082

Symbol	Control	Return	Lever colour	Part no.
	14	12		
5/2	push-pull	push-pull	black	E-15420
5/2	push-pull	mechanical spring	black	E-15420A



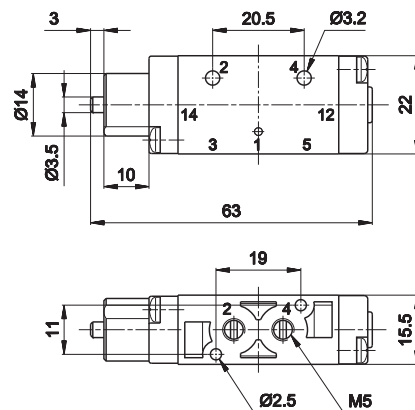
Tappet valve



- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,066

Symbol	Control	Return	Part no.
	14	12	
5/2	ball-push	mechanical spring	E-15402A



Ball-pushrod valve for mechanical screw operator



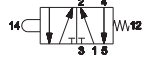
A Wrench 17

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,066

Symbol	Control	Return	Part no.
	14	12	

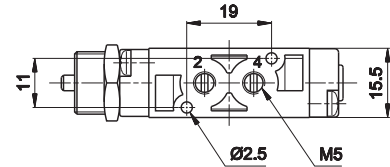
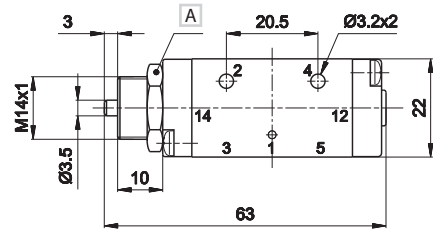
5/2



ball-pushrod

mechanical spring

E-15403A



PNEUMATIC AND MECHANICAL ACTUATORS			MANUAL ACTUATORS		
	Pneumatic actuator	AI-3550 [Symbol]		Recessed button ■BLACK AI-3511 ■RED AI-3512 ■GREEN AI-3513 [Symbol]	
	Amplified pneumatic actuator	AI-3551 [Symbol]		Head button ■RED AI-3514 ■BLACK AI-3516 ■RED AI-3514D ■BLACK AI-3516D [Symbol]	
	Roller operator 1 position	AI-3560 [Symbol]		Button ■GREEN AI-3515 ■RED AI-3517 ■BLACK AI-3519 [Symbol]	
	Ball-push operator 1 position	AI-3562 [Symbol]		Rotating selector ■BLACK AI-3520 ■BLACK AI-3521 [Symbol]	
	Omni-directional operator	AI-3563 [Symbol]		Rotating lever selector ■BLACK AI-3522 ■BLACK AI-3523 [Symbol]	
	Roller lever operator 1 position	AI-3570 [Symbol]		Lever ■BLACK AI-3524 [Symbol]	
	Articulated roller lever operator 1 position Complete actuation with stroke 2,5 mm max stroke 4,7 mm	AI-3571 [Symbol]		Omni-directional operator ■BLACK AI-3525 [Symbol]	
	Key operator 1 position	AI-3572 [Symbol]		Push-pull operator ■BLACK AI-3526 [Symbol]	

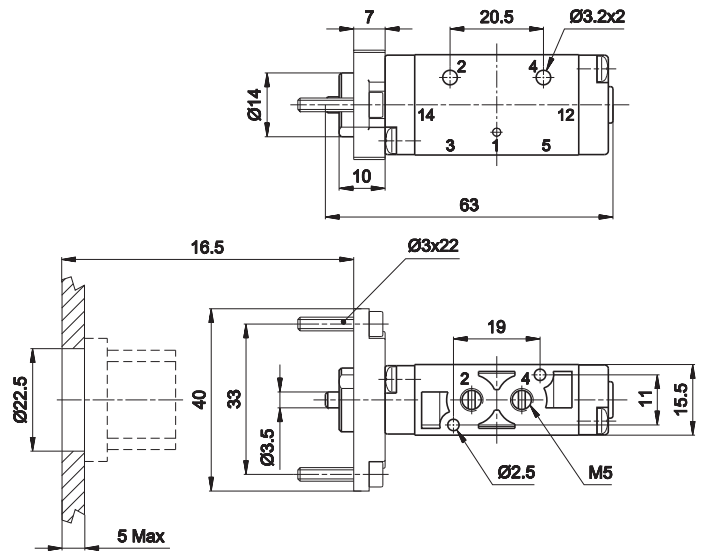
For technical features of coils and connector, see section "Accessories>Buttons"

Valve for mechanical operator for panel mounting



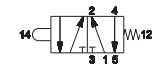
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,082



Symbol	Control	Return	Part no.
	14	12	E-15412A

5/2



ball-push

mechanical spring

E-15412A

MANUAL ACTUATORS

	Recessed button	<ul style="list-style-type: none"> ■BLACK AI-3511Q ■RED AI-3512Q ■GREEN AI-3513Q 	
	Head button	<ul style="list-style-type: none"> ■RED AI-3514Q ■BLACK AI-3516Q 	
	Button	<ul style="list-style-type: none"> ■GREEN AI-3515Q ■RED AI-3517Q ■BLACK AI-3519Q 	
	Rotating selector	<ul style="list-style-type: none"> ■BLACK AI-3520Q ■BLACK AI-3521Q 	
	Rotating lever selector	<ul style="list-style-type: none"> ■BLACK AI-3522Q ■BLACK AI-3523Q 	
	Lever	<ul style="list-style-type: none"> ■BLACK AI-3524Q 	
	Omni-directional operator	<ul style="list-style-type: none"> ■BLACK AI-3525Q 	
	Push-pull operator	<ul style="list-style-type: none"> ■BLACK AI-3526Q 	

For technical features of coils and connector, see section "Accessories>Buttons"

3

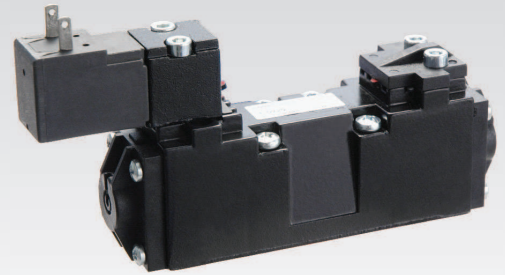
F

COMPA 4 Miniature Valves

Available ATEX version upon request

CE Ex II 2Gc IICT5 II 2Dc T100°C

CE Ex II 3 GD c nA II T5-10°C ≤ Ta ≤ 45°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C
Fluid temperature	-20 ÷ +50 °C
Fluid	10 µm filtered air
Commutation system	spool
Ways/Positions	5/2
Pressure	max 10 bar
Control	manual, mechanical
Return	mechanical spring
Connections	for sub-base
Nominal Ø	4 mm
Nominal flow rate	390 NI/min

CONSTRUCTIVE CHARACTERISTICS

Valve body	acetalic resin
Seals	nitrile rubber
Actuators	technopolymer
Spool	aluminium

ELECTRIC CHARACTERISTICS

Electropilot/coil	A series/U05
Voltage	24 V DC - 12 V DC - 24 V AC - 110 V AC - 230 V AC (only for version with integrated electrical connection)
Power consumption	U05 = 2 W (DC) 2,3 VA (AC) U04 = 1,2 W (DC)
Protection degree	IP65
Manual override	recessed button – 1 position

CODIFICATION KEY

F	-	0	2	2	4	
1		2	3	4	5	

1 Series	2 Type	3 Control 14	4 Return 12
F = COMPA 4 Miniature Valves	02 = 5/2 Sub-base mounting 05 = 5/3 c.c. Sub-base mounting 06 = 5/3 o.c. Sub-base mounting 07 = 5/3 p.c. Sub-base mounting	2 = Electrical DC 4 = Pneumatic 7 = Electrical DC/AC	0 = Pneumomechanical spring 2 = Electrical DC 4 = Pneumatic impulse 7 = Electrical DC/AC

5 ATEX version
X = Atex (upon request)
See ATEX Catalogue for types and versions

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Single pneumatic impulse

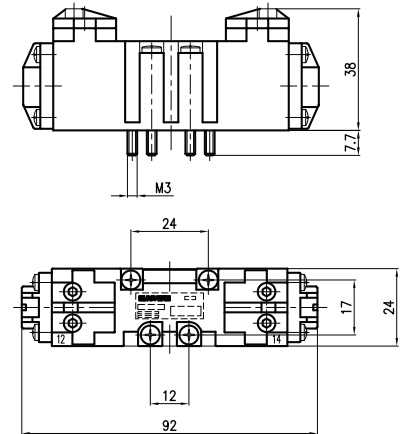


- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

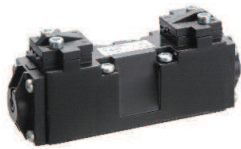
Weight (Kg): 0,068

Symbol	Control	Return	Part no.
	14	12	

5/2		Pneumatic amplified	Pneumomechanical spring	F-0240
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Double pneumatic impulse



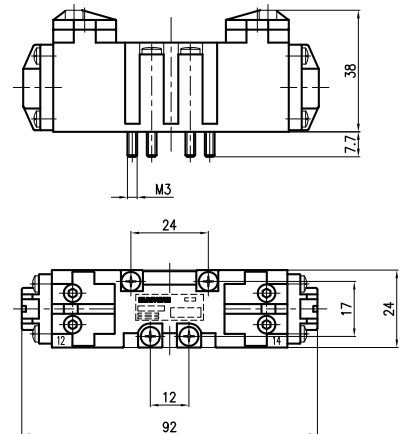
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

Weight (Kg): 0,082

Symbol	Control	Return	Part no.
	14	12	

5/2		Pneumatic amplified	Pneumatic amplified	F-0244
5/3 c.c.		Pneumatic amplified	Pneumatic amplified	F-0544
5/3 o.c.		Pneumatic amplified	Pneumatic amplified	F-0644
5/3 p.c.		Pneumatic amplified	Pneumatic amplified	F-0744

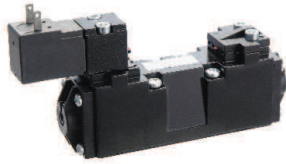
o.c. = open centres c.c. = closed centres p.c. = pressurized centres



3

Solenoid valves are supplied without coil and connector

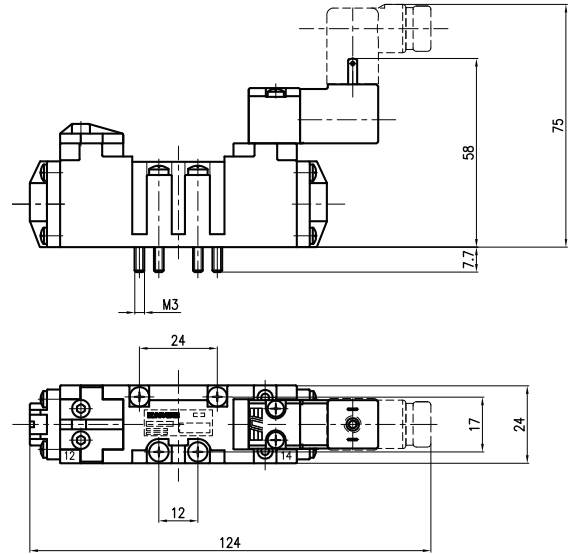
Single electrical impulse



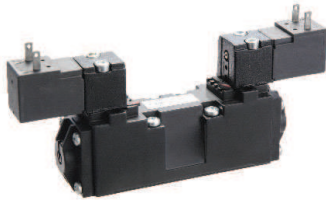
1 = Supply port
 2 - 4 = Use
 3 - 5 = Exhaust
 14 = Control
 12 = Return

Weight (Kg): 0,066

Symbol	Control	Return	Part no.
	14	12	
5/2	Electrical amplified	Pneumomechanical spring	E-0220 E-0270



Double electrical impulse

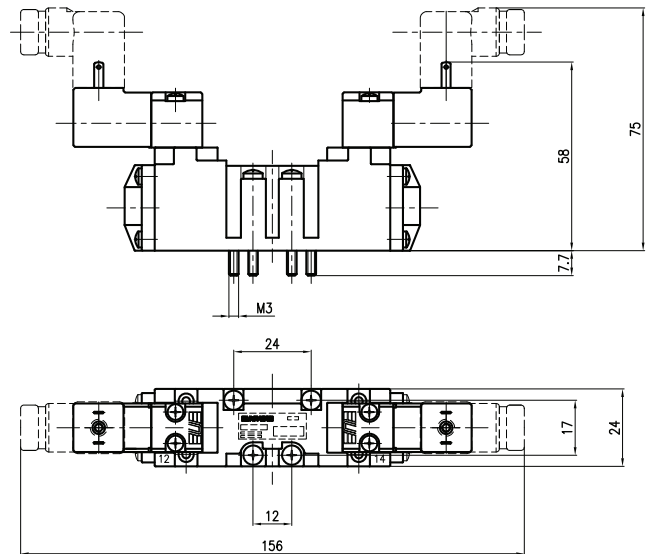


1 = Supply port
 2 - 4 = Use
 3 - 5 = Exhaust
 14 = Control
 12 = Return

Weight (Kg): 0,066

Symbol	Control	Return	Part no.
	14	12	
5/2	Electrical amplified	Electrical amplified	F-0222 F-0277
5/3 c.c.	Electrical amplified	Electrical amplified	F-0522 F-0577
5/3 o.c.	Electrical amplified	Electrical amplified	F-0622 F-0677
5/3 p.c.	Electrical amplified	Electrical amplified	F-0722 F-0777

o.c. = open centres c.c. = closed centres p.c. = pressurized centres



DIN C (8 mm)

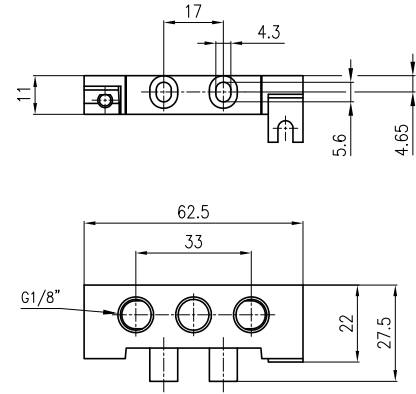


For further information please contact our Sales Office

Solenoid valves are supplied without coil and connector

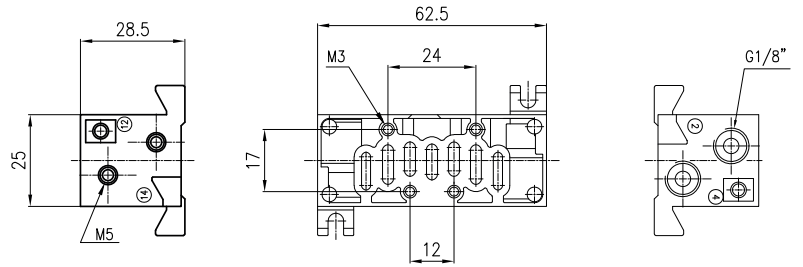
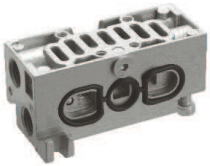
Subject to change

F-4500



Inlet plate G1/8
 material: aluminium
 weight: 0,050 Kg

F-4505



Manifold sub-base, threaded connections G1/8
 material: aluminium
 weight: 0,062 Kg

G6

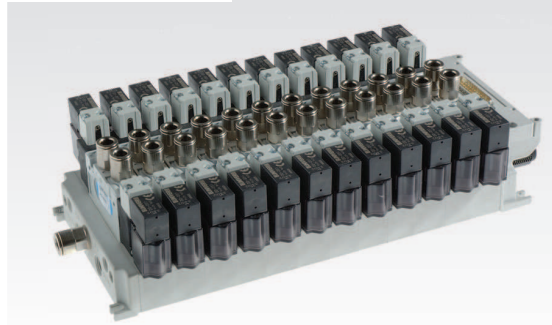
20 mm - Valves and Solenoid Valves - Threaded body G1/8

- G1/8 threaded valve body with traditional Univer spool system
- Version with integrated electrical connection and external connection
- Compact design
- High flow rate
- Versions available: 5/2 - 5/3 - 3/2+3/2

Available ATEX version upon request

CE Ex II 2Gc IICT5 II 2Dc T100°C

CE Ex II 3GD c nA IIT5-10°C ≤ Ta ≤ 45°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid temperature	max +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Ways/Positions	5/2, 5/3, 3/2+3/2
Pressure	1,5 ÷ 9 bar
Control	indirect electro-pneumatic, pneumatic
Return	mechanical spring, pneumomechanical spring
Connections	G1/8
Nominal Ø	5 mm
Nominal flow rate (NI/min)	5/2 = 770 5/3 = 700 3/2+3/2 = 670

CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber
Subbase and actuators	self-extinguishing technopolymes
Spool	aluminum

ELECTRIC CHARACTERISTICS

Electropilot/coil	A series/U05 - B series/U04
Voltage	24 V DC - 12 V DC - 24 V AC - 110 V AC - 230 V AC (only for version with integrated electrical connection)
Power consumption	U05 = 2 W (DC) 2,3 VA (AC) U04 = 1,2 W (DC)
Protection degree	IP65
Manual override	recessed button – 1 position

CODIFICATION KEY

G	-	6	6	4	4		
1		2	3	4	5	6	

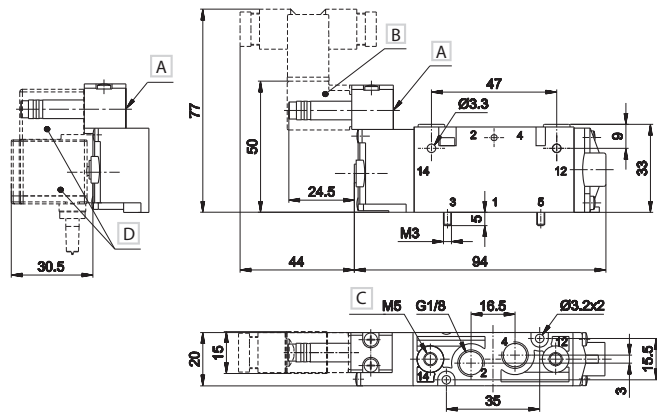
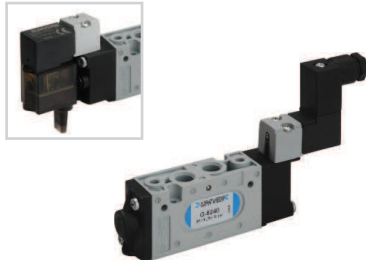
1 Series	2 Type	3 Control 14	4 Return 12
G-6 = 20 mm - Valves and solenoid valves threaded body G1/8	2 = 5/2 3 = 5/3 c.c. 4 = 5/3 o.c. 5 = 5/3 p.c. 6 = 3/2+3/2 NC-NC 7 = 3/2+3/2 NC-NO 8 = 3/2+3/2 NO-NO	3 = Pneumatic amplified 4 = Electrical amplified DC 5 = Electrical amplified DC/AC 6 = Electrical amplified DC - B series 10 mm electropilot	0 = Pneumomechanical spring 1 = Mechanical spring 3 = Pneumatic amplified 4 = Electrical amplified DC 5 = Electrical amplified DC/AC 6 = Electrical amplified DC (B series 10 mm electropilot)
5 Option	6 ATEX version		
D = External servoassisted pilot	X = Atex (upon request)		

See ATEX Catalogue for types and versions

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Subject to change

Single electric impulse

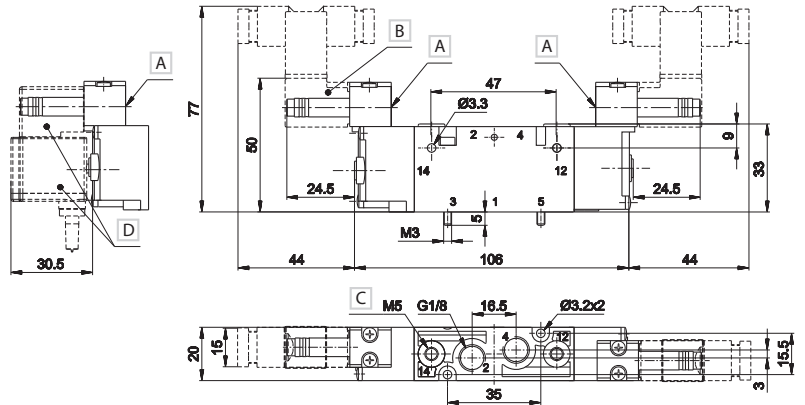
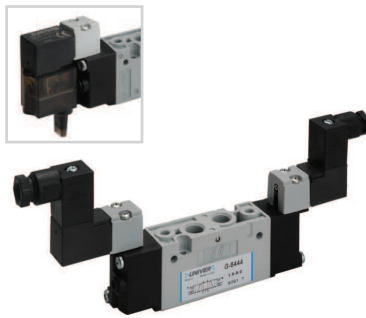


- A Manual override
- B Coil with connector for single connection
- C External servoassisted pilot
- D Coil with integrated connector for multipolar version DD-051-2C/DD-040-2C

1 = Supply port
 2 - 4 = Use
 3 - 5 = Exhaust
 14 = Control
 12 = Return

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		electrical amplified	pneumomechanical spring	770	1,5÷9	21	30	0,112	G-6240 G-6250
5/2		electrical amplified	mechanical spring	770	1,5÷9	18	64	0,112	G-6241 G-6251

Double electric impulse



- A Manual override
- B Coil with connector for single connection
- C External servoassisted pilot
- D Coil with integrated connector for multipolar version DD-051-2C/DD-040-2C

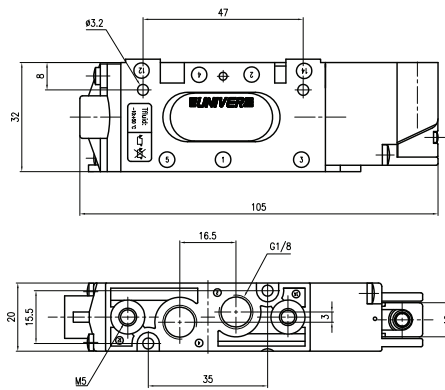
1 = Supply port
 2 - 4 = Use
 3 - 5 = Exhaust
 14 = Control
 12 = Return

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		electrical amplified	electrical amplified	770	0,6÷9	16	16	0,143	G-6244 G-6255
5/3 c.c.		electrical amplified	electrical amplified	700	1,9÷9	16	47	0,148	G-6344 G-6355
5/3 o.c.		electrical amplified	electrical amplified	700	2,0÷9	16	47	0,148	G-6444 G-6455
5/3 p.c.		electrical amplified	electrical amplified	700	1,9÷9	16	47	0,148	G-6544 G-6555
3/2 NC + 3/2 NC		electrical amplified	electrical amplified	670	1,5÷9	14	17	0,140	G-6644 G-6655
3/2 NC + 3/2 NO		electrical amplified	electrical amplified	670	1,5÷9	14	17	0,140	G-6744 G-6755
3/2 NO + 3/2 NO		electrical amplified	electrical amplified	670	1,5÷9	14	17	0,140	G-6844 G-6855

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
 Solenoid valves are supplied without coil and connector

3

Single electric impulse

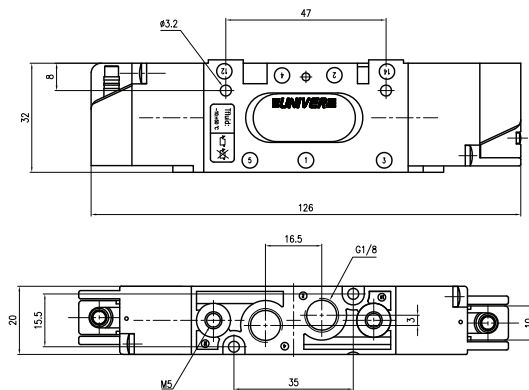


- A Manual override
- B Coil with connector for single connection
- C External servoassisted pilot

1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return

Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
					En.	De-en.		
5/2	14 electrical amplified	12 pneumomechanical spring	770	1,5÷9	21	30	0,112	G-6260 G-6261

Double electric impulse



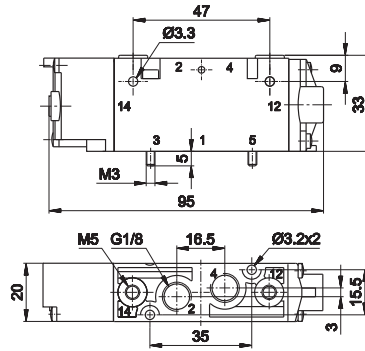
- A Manual override
- B Coil with connector for single connection
- C External servoassisted pilot

1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return

Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
					En.	De-en.		
5/2	14 electrical amplified	12 electrical amplified	770	0,6÷9	16	16	0,143	G-6266
5/3 c.c.	14 electrical amplified	12 electrical amplified	700	1,9÷9	16	47	0,148	G-6366
5/3 o.c.	14 electrical amplified	12 electrical amplified	700	2,0÷9	16	47	0,148	G-6466
5/3 p.c.	14 electrical amplified	12 electrical amplified	700	1,9÷9	16	47	0,148	G-6566
3/2 NC + 3/2 NC	14 electrical amplified	12 electrical amplified	670	1,5÷9	14	17	0,140	G-6666
3/2 NC + 3/2 NO	14 electrical amplified	12 electrical amplified	670	1,5÷9	14	17	0,140	G-6766
3/2 NO + 3/2 NO	14 electrical amplified	12 electrical amplified	670	1,5÷9	14	17	0,140	G-6866

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
Solenoid valves are supplied without coil and connector

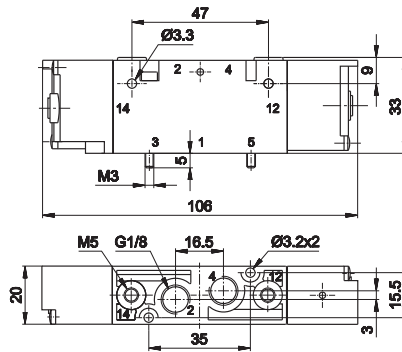
Single pneumatic impulse



1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		pneumatic amplified	pneumomechanical spring	770	1,5÷10	7	16	0,092	G-6230
5/2		pneumatic amplified	mechanical spring	770	1,5÷10	6	18	0,092	G-6231

Double pneumatic impulse



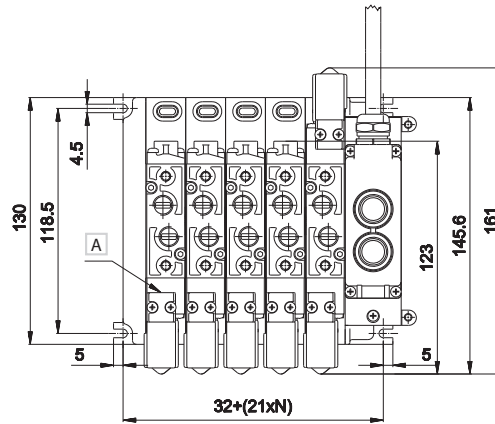
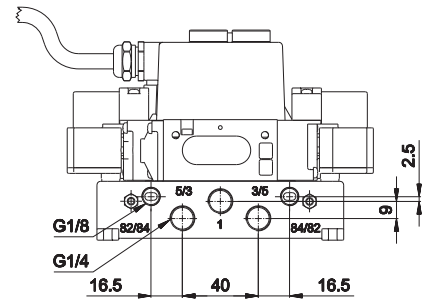
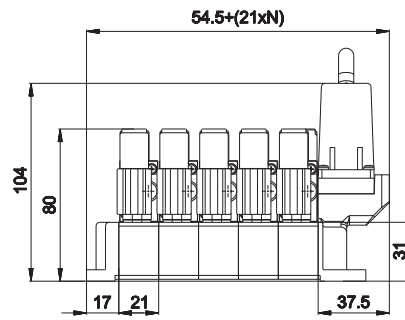
1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		pneumatic amplified	pneumatic amplified	770	0,7÷10	5	5	0,103	G-6233
5/3 c.c.		pneumatic amplified	pneumatic amplified	700	1,9÷9	6	19	0,192	G-6333
5/3 o.c.		pneumatic amplified	pneumatic amplified	700	2,0÷9	6	19	0,192	G-6433
5/3 p.c.		pneumatic amplified	pneumatic amplified	700	1,9÷9	6	19	0,192	G-6533
3/2 NC + 3/2 NC		pneumatic amplified	pneumatic amplified	670	1,5÷9	3	14	0,188	G-6633
3/2 NC + 3/2 NO		pneumatic amplified	pneumatic amplified	670	1,5÷9	3	14	0,188	G-6733
3/2 NO + 3/2 NO		pneumatic amplified	pneumatic amplified	670	1,5÷9	3	14	0,188	G-6833

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

3

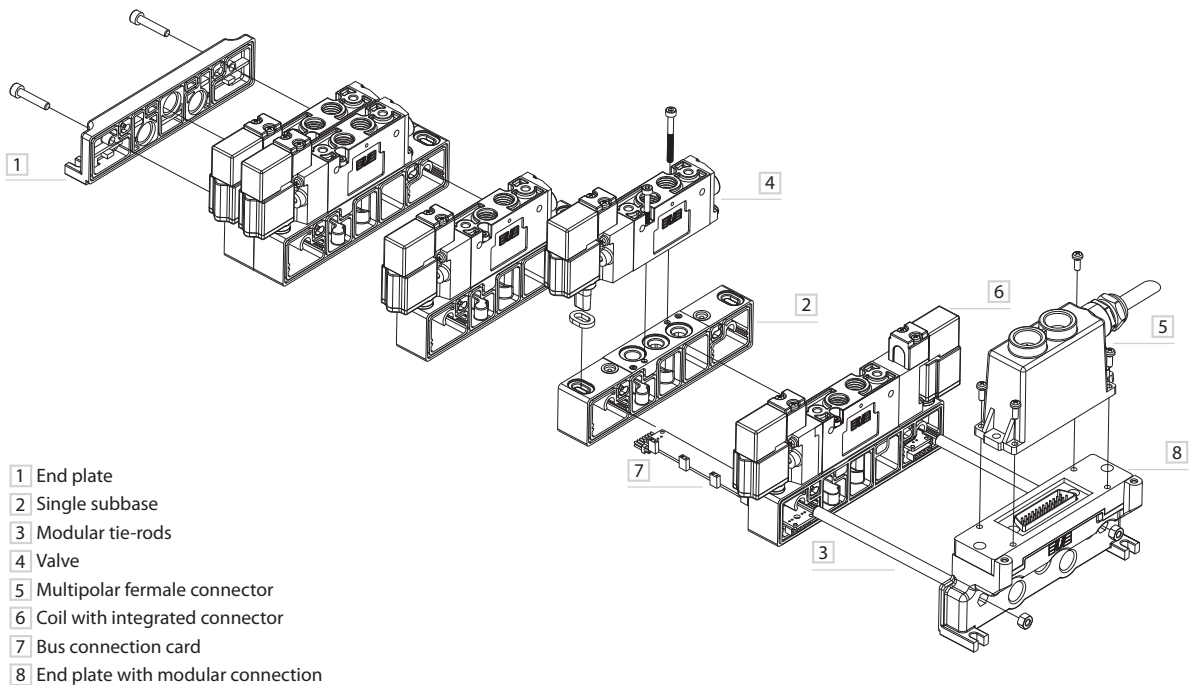
Multipolar electrical connection



A Manual override

1 = Supply port
5/3 - 3/5 = Exhaust G1/4
82/84 - 84/82 = Electropilot exhaust G1/8

N = Number of valve positions

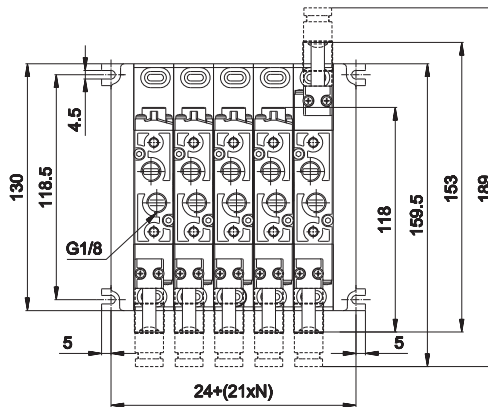
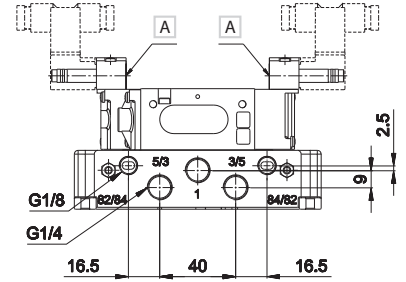
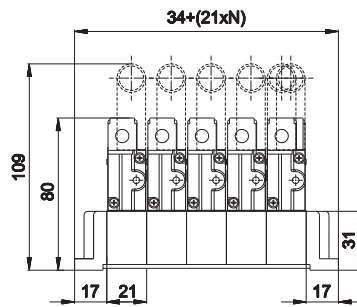


- 1 End plate
- 2 Single subbase
- 3 Modular tie-rods
- 4 Valve
- 5 Multipolar female connector
- 6 Coil with integrated connector
- 7 Bus connection card
- 8 End plate with modular connection

Tightening torque for fittings

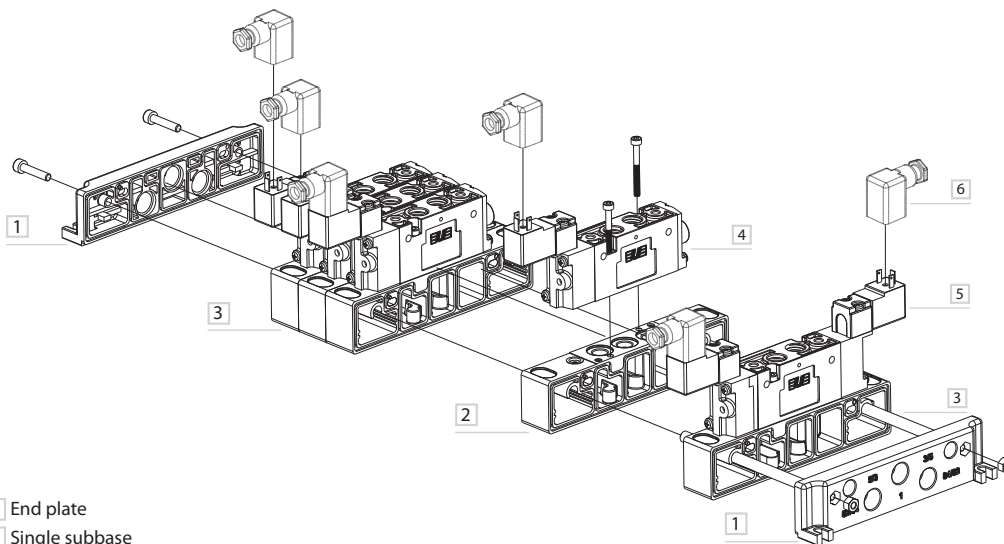
Thread	max pair (Nm)
M5	3
M7	3
G1/8	3
G1/4	10

Electrical connection with external connector



A Manual override

- 1 = Supply port
- 5/3 - 3/5 = Exhaust G1/4
- 82/84 - 84/82 = Electropilot exhaust G1/8
- N = Number of valve positions



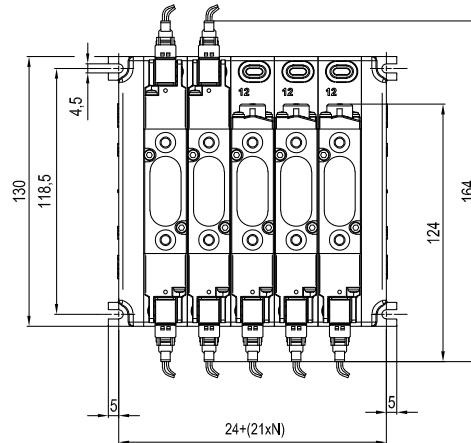
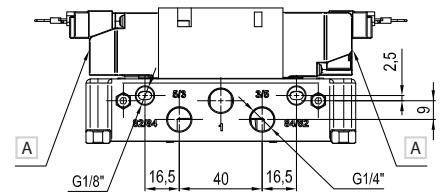
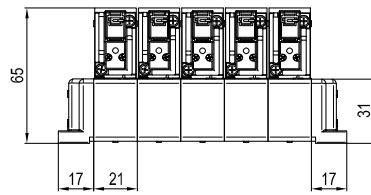
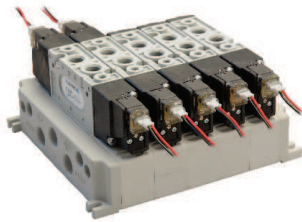
- 1 End plate
- 2 Single subbase
- 3 Modular tie-rods
- 4 Valve
- 5 Coil
- 6 Single connector

Tightening torque for fittings

Thread	max pair (Nm)
M5	3
M7	3
G1/8	3
G1/4	10

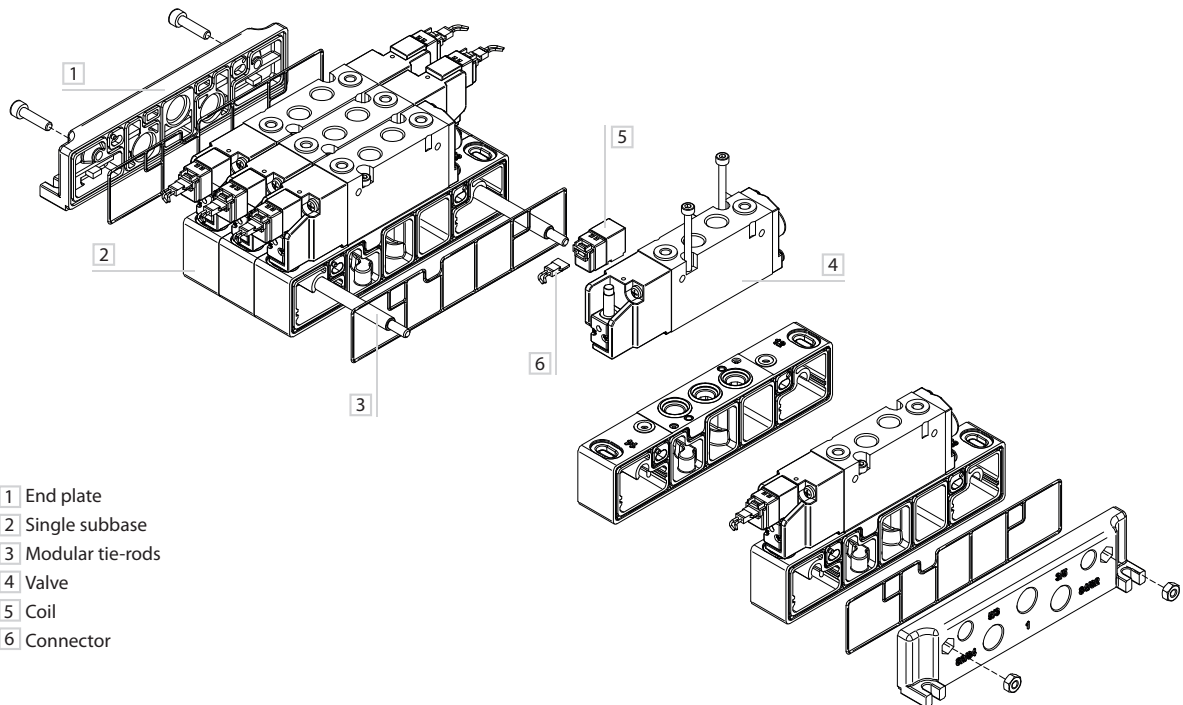
3

Electrical connection with loose cables



A Manual override

1 = Supply port
 5/3 - 3/5 = Exhaust G1/4
 82/84 - 84/82 = Electropilot exhaust G1/8
 N = Number of valve positions



- 1 End plate
- 2 Single subbase
- 3 Modular tie-rods
- 4 Valve
- 5 Coil
- 6 Connector

Tightening torque for fittings

Thread	max pair (Nm)
M5	3
M7	3
G1/8	3
G1/4	10

GP-6100	GP-6110	GP-611212	GP-611806	GP-6310/1/2	GP-6320/1/2
threaded end plate weight: 0,046 Kg	blank end plate weight: 0,050 Kg	threaded end plate with male connector 25 poles 12+12 coils control 12-14 weight: 0,100 Kg	threaded end plate with male connector 25 poles 18 coils control 14 6 coils control 12 (only for control 14 more than 12 coils max 18) weight: 0,102 Kg	sub-base with open diaphragms GP-6310 without electrical connection GP-6311 monostable GP-6312 bistable weight: 0,060 Kg	sub-base with closed diaphragms GP-6320 without electrical connection GP-6321 monostable GP-6322 bistable weight: 0,062 Kg

GP-6330/1/2	GP-6340/1/2	GP-6380	GP-6385
3 1 5 sub-base with closed supply and open exhausts GP-6330 without electrical connection GP-6331 mostable GP-6332 bistable weight: 0,062 Kg	3 1 5 sub-base with open supply and closed exhausts GP-6340 without electrical connection GP-6341 mostable GP-6342 bistable weight: 0,062 Kg	intermediate supply plate (to be used only with GP-63... series) sub-base weight: 0,036 Kg	closing plate for unused station weight: 0,018 Kg

GP-6400-1	GP-6400-2	GP-6400-5	GP-6512-01/..MF	GP-6514-01/..MF	GP-651418
modular tie-rod 1 valve place weight: 0,004 Kg (package 100 pcs.)	modular tie-rod 2 valve places weight: 0,010 Kg (package 100 pcs.)	modular tie-rod 5 valve places weight: 0,022 Kg (package 100 pcs.)	BUS connection card control side 12 with 12 pin GP-6512-01MF 1 place GP-6512-02MF 2 places GP-6512-03MF 3 places GP-6512-05MF 5 places GP-6512-06MF 6 places weight: 0,003 Kg (for each place)	BUS connection card control side 14 with 12 pin GP-6514-01MF 1 place GP-6514-02MF 2 places GP-6514-03MF 3 places GP-6514-05MF 5 places GP-6514-06MF 6 places weight: 0,003 Kg (for each place)	BUS connection card control side 14 with 18 pin (only 12 places) for manifolds with control 14 and more than 12 coils up to 18 coils use GP-651418 card 12 places and then GP-6514... weight: 0,003 Kg (for each place)

AZ4-VN0416 screw M04x16 for tie-rods (package 100 pcs.)
AZ4-SN004A hexagonal nut M4 (package 100 pcs.)

upon request customized solutions up to 12 places

DD-...	DD-051-2C/DD-040-2C	DE-652I	D-530-30/50/200
24 V CC 2 W coil for single connection weight: 0,019 Kg	24 V CC 2 W coil with integrated connector for multipolar version weight: 0,028 Kg	24 V DC 1,35 W coil with in-line connector with protection for a complete tightness weight: 0,013 Kg	Miniature connector with loose cables D-530-30 = wire length 300 mm D-530-50 = wire length 500 mm D-530-200 = wire length 2000 mm

DIN C (8 mm)

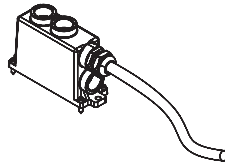
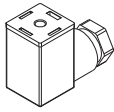


For further information please contact our Sales Office

Electrical connections

AM-5109

TSCF24S0300
TSCF24S0500
TSCF24S1000

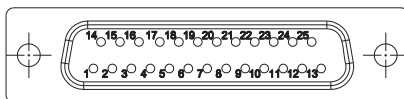


■ 15 mm connector

■ flying female connector sub D according to CEI 20-22 O.R. II (upon request) prewired for 24 coils M3 x 12 fixing screws

Colour identification according to standard DIN 47100

Female connector D-SUB 25 poles for 12+12 coils



PIN No.	Colour	Coil	Control side		Valve No.
			GP-611212	GP-611806	
1	white	1	14	14	1
2	brown	2	12	12	1
3	green	3	14	14	2
4	yellow	4	12	12	2
5	grey	5	14	14	3
6	pink	6	12	12	3
7	blue	7	14	14	4
8	red	8	12	12	4
9	black	9	14	14	5
10	violet	10	12	12	5
11	grey-pink	11	14	14	6
12	red-blue	12	12	12	6
13	white-green	13	14	14	7
14	brown-green	14	12	14	7
15	white-yellow	15	14	14	8
16	yellow-brown	16	12	14	8
17	white-grey	17	14	14	9
18	grey-brown	18	12	14	9
19	white-pink	19	14	14	10
20	pink-brown	20	12	14	10
21	white-blue	21	14	14	11
22	brown-blue	22	12	14	11
23	white-red	23	14	14	12
24	brown-red brown-black shield	common low	-	-	-
25	white-black	24	12	14	12

GL6

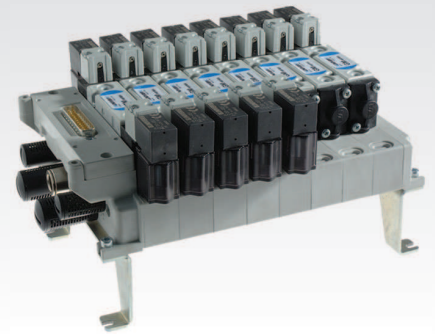
20 mm - G1/8 Valves and solenoid valves for base assembly

- Valve body for base assembly with traditional Univer spool system
- Version with integrated electrical connection and external connection
- Compact design, high flow rate
- Versions available: 5/2 - 5/3 - 3/2+3/2

Available ATEX version upon request

CE Ex II 2Gc IICT5 II 2Dc T100°C

CE Ex II 3 GD c nA II T5-10°C ≤ Ta ≤ 45°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-5 ÷ +50 °C
Fluid temperature	max +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Ways/Positions	5/2, 5/3, 3/2+3/2
Pressure	1,5 ÷ 9 bar
Control	indirect electro-pneumatic, pneumatic
Return	mechanical spring, pneumomechanical spring
Connections	sub-base interface
Nominal Ø (mm)	5 mm

Nominal flow rate (NI/min) according to the type of fittings	5/2	5/3	3/2+3/2
streight tube Ø8 mm	740	670	640
90° tube Ø8 mm	620	550	520
streight tube Ø6 mm	510	510	510
90° tube Ø6 mm	370	370	370
streight tube Ø4 mm	200	200	200
90° tube Ø4 mm	140	140	140

CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber
Subbase and actuators	self-extinguishing technopolymer
Spool	aluminum

ELECTRIC CHARACTERISTICS

Electropilot/coil	A series/U05 - B series/U04
Voltage	24 V DC - 12 V DC - 24 V AC - 110 V AC - 230 V AC (only version with external connection)
Power consumption	U05 = 2 W (DC) 2,3 VA (AC) U04 = 1,2 W (DC)
Protection degree	IP65
Manual override	recessed button - 1 position

CODIFICATION KEY

G	L	-	6	6	4	4		
	1		2	3	4	5	6	

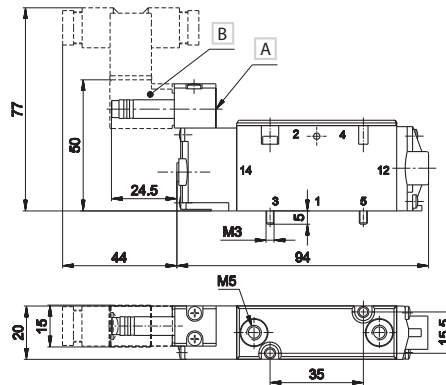
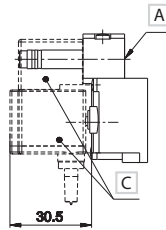
1 Series	2 Type	3 Control 14	4 Return 12
GL-6 = 20 mm - Valves and Solenoid Valves for sub-base mounting	2 = 5/2 3 = 5/3 c.c. 4 = 5/3 o.c. 5 = 5/3 p.c. 6 = 3/2+3/2 NC-NC 7 = 3/2+3/2 NC-NO 8 = 3/2+3/2 NO-NO	3 = Pneumatic amplified 4 = Electrical amplified DC 5 = Electrical amplified DC/AC 6 = Electrical amplified DC B series 10 mm electropilot	0 = Pneumomechanical spring 1 = Mechanical spring 3 = Pneumatic amplified 4 = Electrical amplified DC 5 = Electrical amplified DC/AC 6 = Electrical amplified DC (B series 10 mm electropilot)
5 Option	6 ATEX version		
D = External servoassisted pilot	X = Atex (upon request)		

See ATEX Catalogue for types and versions

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Subject to change

Single electric impulse

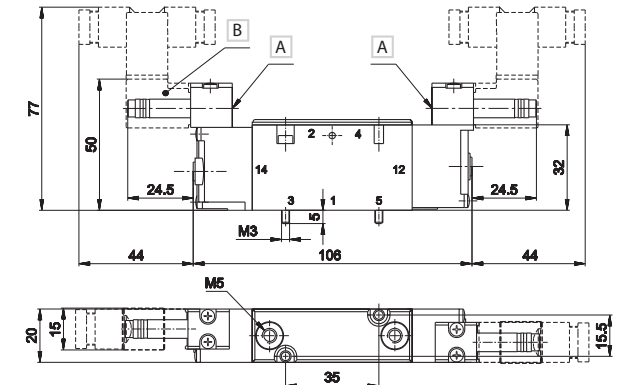
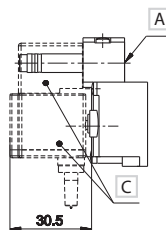
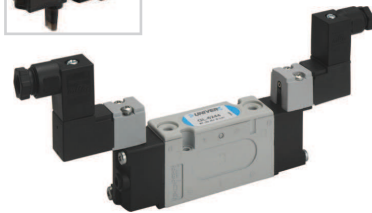


- A Manual override
- B Coil with connector for single connection
- C Coil with intergrated connector for multipolar version DD-051-2C/DD-040-2C

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
		14	12			En.	De-en.		
5/2		electrical amplified	spring pneumomechanical	740	1,5÷9	21	30	0,112	GL-6240 GL-6250
5/2		electrical amplified	spring mechanical	740	1,5÷9	18	64	0,112	GL-6241 GL-6251

Double electric impulse



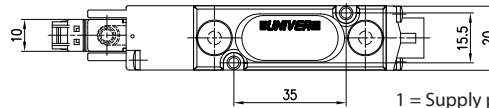
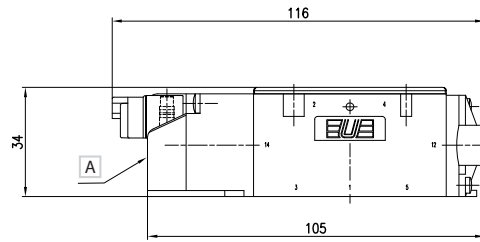
- A Manual override
- B Coil with connector for single connection
- C Coil with intergrated connector for multipolar version DD-051-2C/DD-040-2C

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
		14	12			En.	De-en.		
5/2		electrical amplified	electrical amplified	740	0,6÷9	16	16	0,143	GL-6244 GL-6255
5/3 c.c.		electrical amplified	electrical amplified	670	1,5÷9	16	47	0,148	GL-6344 GL-6355
5/3 o.c.		electrical amplified	electrical amplified	670	2,0÷9	16	47	0,148	GL-6444 GL-6455
5/3 p.c.		electrical amplified	electrical amplified	670	1,5÷9	16	47	0,148	GL-6544 GL-6555
3/2 NC + 3/2 NC		electrical amplified	electrical amplified	640	1,5÷9	14	17	0,140	GL-6644 GL-6655
3/2 NC + 3/2 NO		electrical amplified	electrical amplified	640	1,5÷9	14	17	0,140	GL-6744 GL-6755
3/2 NO + 3/2 NO		electrical amplified	electrical amplified	640	1,5÷9	14	17	0,140	GL-6844 GL-6855

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
Solenoid valves are supplied without coil and connector

Single electric impulse

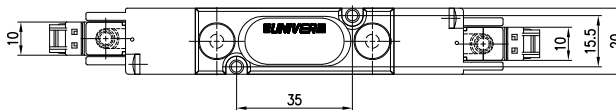
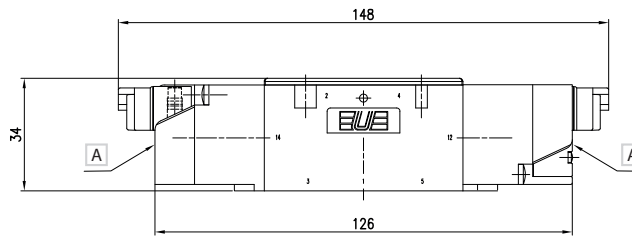


A Manual override

1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return

Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
	14	12			En.	De-en.		
5/2	electrical amplified	pneumomechanical spring	740	1,5÷9	21	30	0,112	GL-6260 GL-6261

Double electric impulse



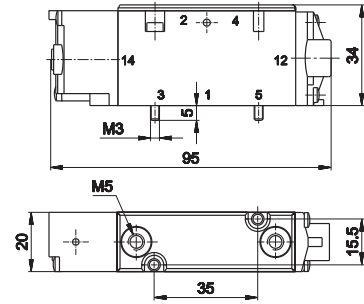
A Manual override

1 = Supply port
2 - 4 = Use
3 - 5 = Exhaust
14 = Control
12 = Return

Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
	14	12			En.	De-en.		
5/2	electrical amplified	electrical amplified	740	0,6÷9	16	16	0,143	GL-6266
5/3 c.c.	electrical amplified	electrical amplified	670	1,5÷9	16	47	0,148	GL-6366
5/3 o.c.	electrical amplified	electrical amplified	670	2,0÷9	16	47	0,148	GL-6466
5/3 p.c.	electrical amplified	electrical amplified	670	1,5÷9	16	47	0,148	GL-6566
3/2 NC + 3/2 NC	electrical amplified	electrical amplified	640	1,5÷9	14	17	0,140	GL-6666
3/2 NC + 3/2 NO	electrical amplified	electrical amplified	640	1,5÷9	14	17	0,140	GL-6766
3/2 NO + 3/2 NO	electrical amplified	electrical amplified	640	1,5÷9	14	17	0,140	GL-6866

o.c. = open centres c.c. = closed centres p.c. = pressurized centres
Solenoid valves are supplied without coil and connector

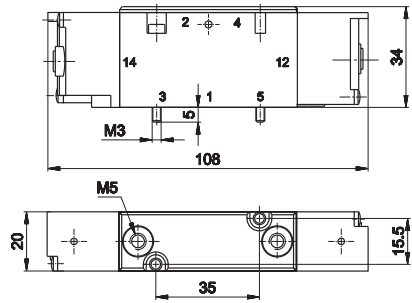
Single pneumatic impulse



1 = Supply port 14 = Control
 2 - 4 = Use 12 = Return
 3 - 5 = Exhaust

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		pneumatic amplified	pneumomechanical spring	740	1,5÷10	7	16	0,092	GL-6230
5/2		pneumatic amplified	mechanical spring	740	0,9÷10	6	18	0,092	GL-6231

Double pneumatic impulse



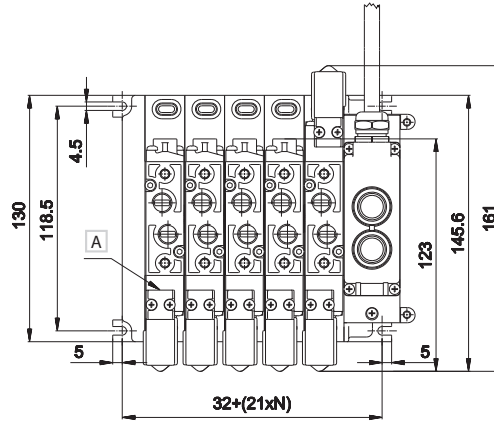
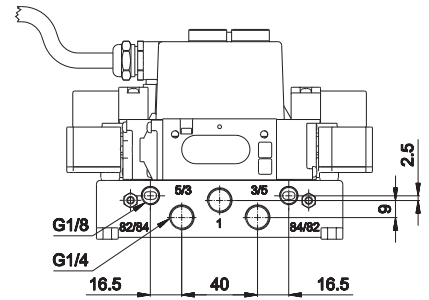
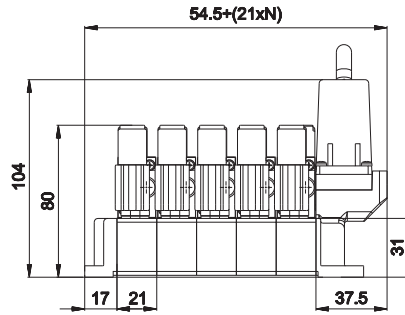
1 = Supply port 14 = Control
 2 - 4 = Use 12 = Return
 3 - 5 = Exhaust

	Symbol	Control	Return	Flow rate (NI/min)	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
						En.	De-en.		
5/2		pneumatic amplified	pneumatic amplified	740	0,7÷10	5	5	0,103	GL-6233
5/3 c.c.		pneumatic amplified	pneumatic amplified	670	1,5÷9	6	19	0,192	GL-6333
5/3 o.c.		pneumatic amplified	pneumatic amplified	670	2,0÷9	6	19	0,192	GL-6433
5/3 p.c.		pneumatic amplified	pneumatic amplified	670	1,5÷9	6	19	0,192	GL-6533
3/2 NC + 3/2 NC		pneumatic amplified	pneumatic amplified	640	1,5÷9	3	14	0,188	GL-6633
3/2 NC + 3/2 NO		pneumatic amplified	pneumatic amplified	640	1,5÷9	3	14	0,188	GL-6733
3/2 NO + 3/2 NO		pneumatic amplified	pneumatic amplified	640	1,5÷9	3	14	0,188	GL-6833

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

3

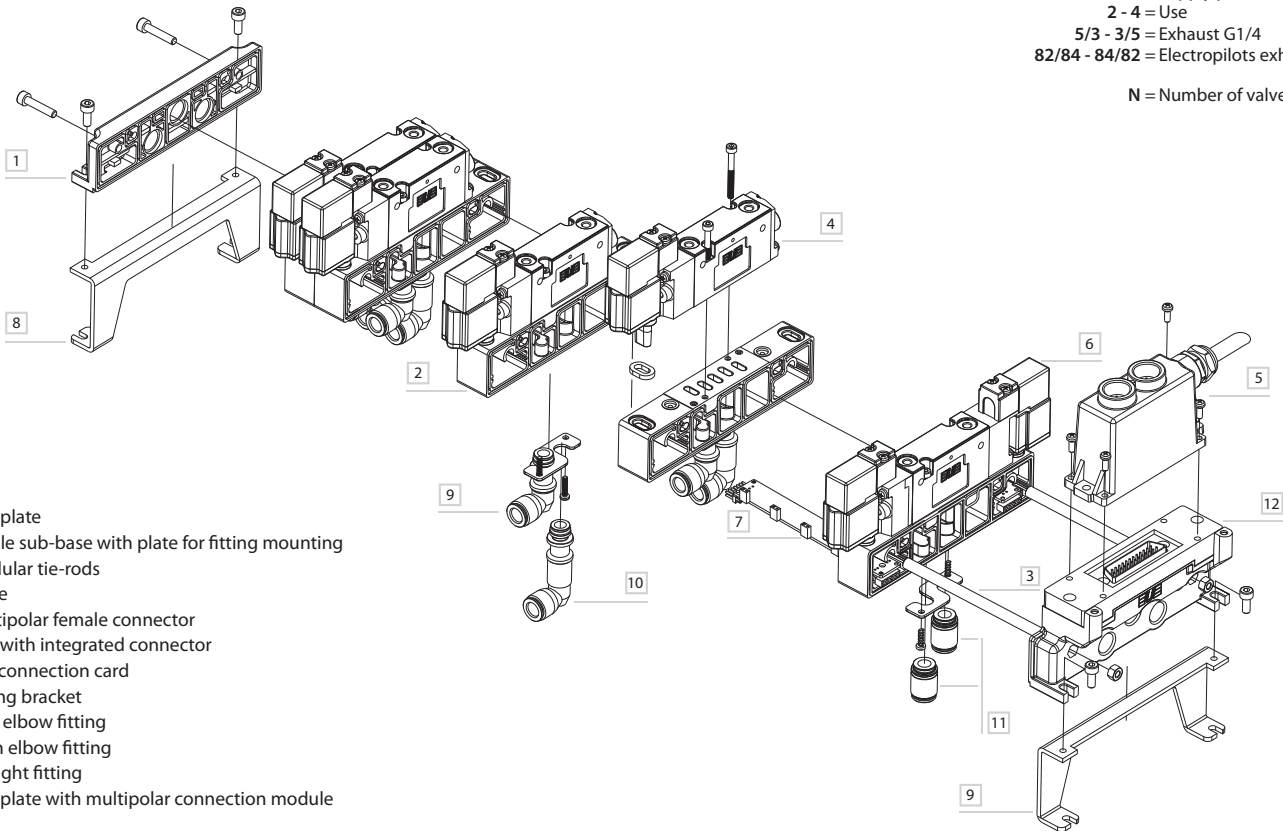
Multipolar electrical connection



A Manual override

1 = Supply port
 2 - 4 = Use
 5/3 - 3/5 = Exhaust G1/4
 82/84 - 84/82 = Electropilots exhaust G1/8

N = Number of valve positions



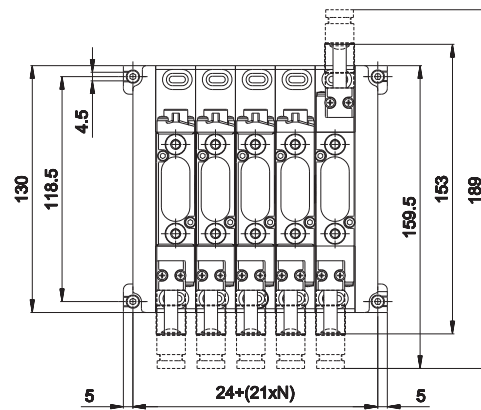
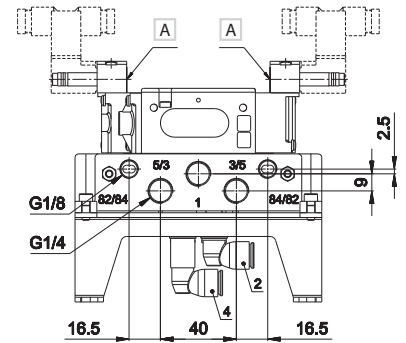
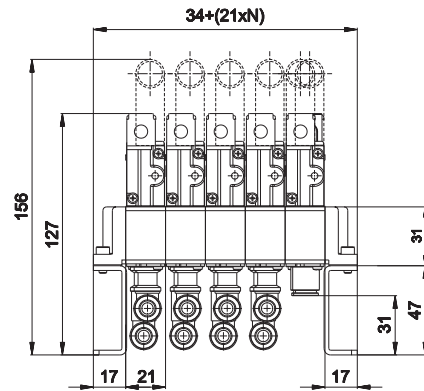
- 1 End plate
- 2 Single sub-base with plate for fitting mounting
- 3 Modular tie-rods
- 4 Valve
- 5 Multipolar female connector
- 6 Coil with integrated connector
- 7 Bus connection card
- 8 Lifting bracket
- 9 Low elbow fitting
- 10 High elbow fitting
- 11 Straight fitting
- 12 End plate with multipolar connection module

Tightening torque for fittings

Thread	max pair (Nm)
M5	3
M7	3
G1/8	3
G1/4	10

Subject to change

Electrical connection with external connector

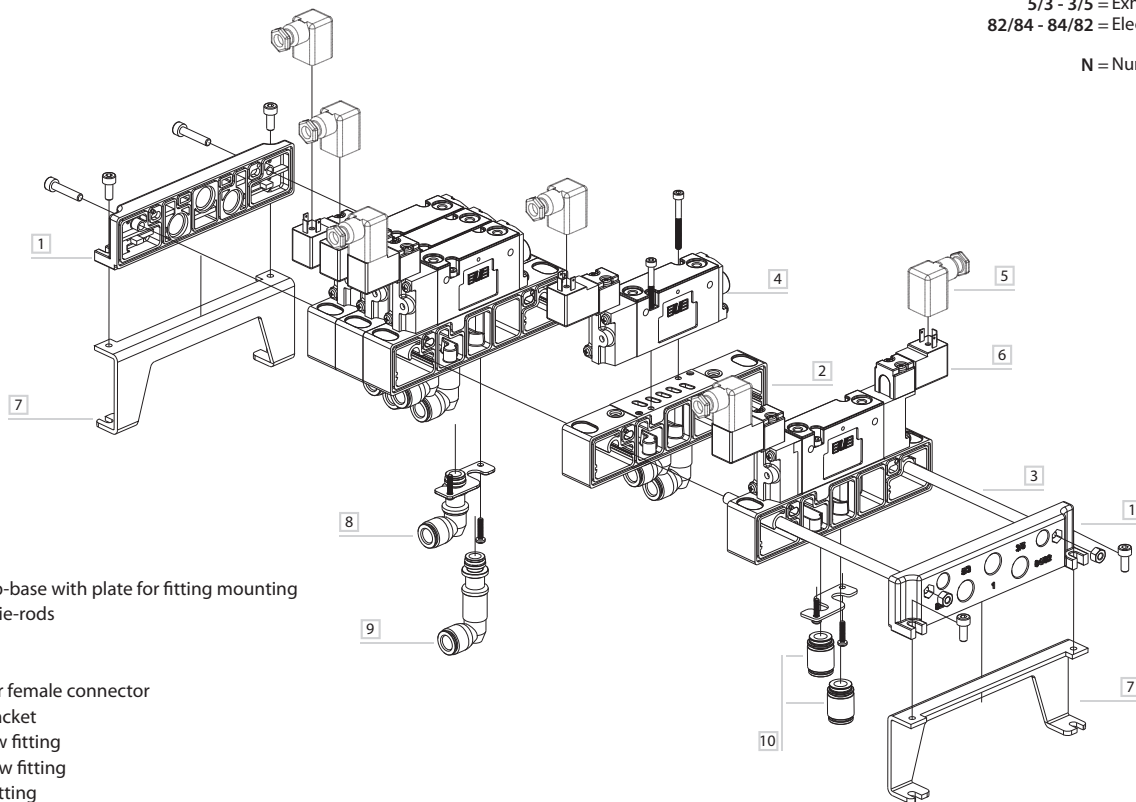


A Manual override

1 = Supply port
 2 - 4 = Use
 5/3 - 3/5 = Exhaust G1/4
 82/84 - 84/82 = Electropilot exhaust G1/8

N = Number of valve position

3

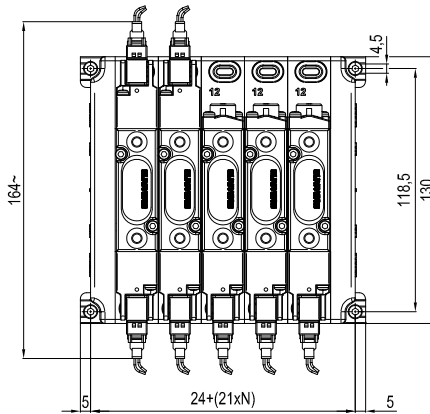
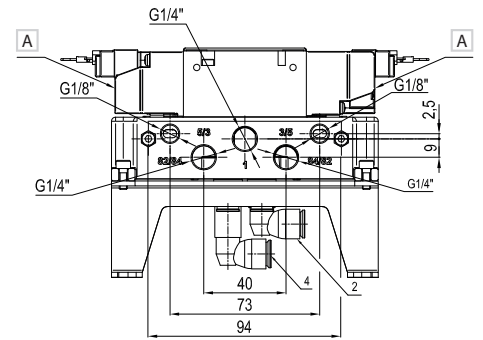
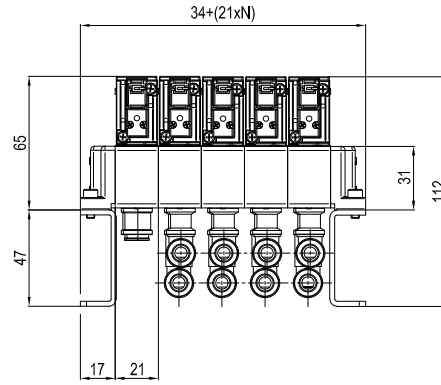
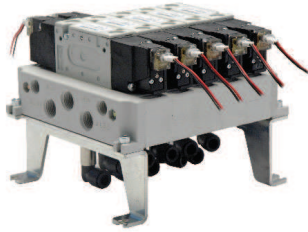


- 1 End plate
- 2 Single sub-base with plate for fitting mounting
- 3 Modular tie-rods
- 4 Valve
- 5 Coil
- 6 Multipolar female connector
- 7 Lifting bracket
- 8 Low elbow fitting
- 9 High elbow fitting
- 10 Straight fitting

Tightening torque for fittings

Thread	max pair (Nm)
M5	3
M7	3
G1/8	3
G1/4	10

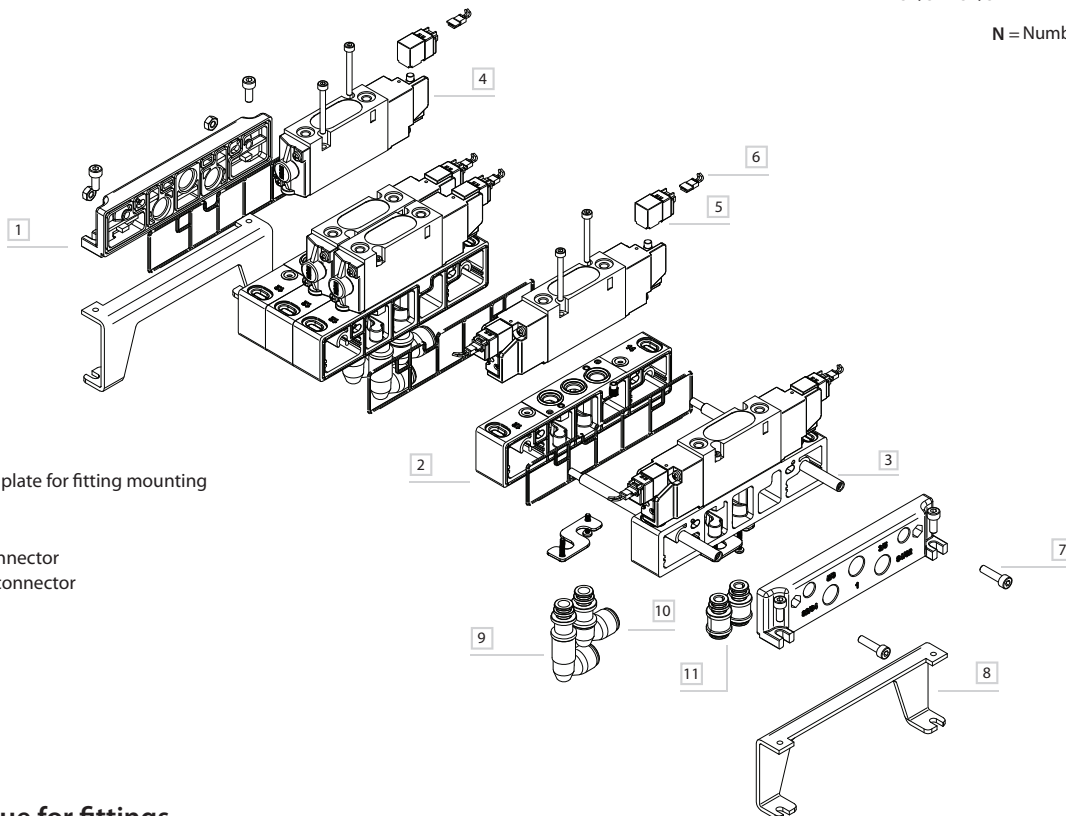
Electrical connection with loose cables



A Manual override

1 = Supply port
 2 - 4 = Use
 5/3 - 3/5 = Exhaust G1/4
 82/84 - 84/82 = Electropilots exhaust G1/8

N = Number of valve positions



- 1 End plate
- 2 Single sub-base with plate for fitting mounting
- 3 Modular tie-rods
- 4 Valve
- 5 Multipolar female connector
- 6 Coil with integrated connector
- 7 Bus connection card
- 8 Lifting bracket
- 9 Low elbow fitting
- 10 High elbow fitting
- 11 Straight fitting

Tightening torque for fittings

Thread	max pair (Nm)
M5	3
M7	3
G1/8	3
G1/4	10

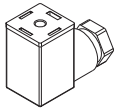
Subject to change

GP-6100	GP-6110	GP-611212	GP-611806	GP-6210/1/2	GP-6220/1/2
threaded end plate weight: 0,046 Kg	blank end plate weight: 0,050 Kg	end plate with male connector 25 poles 12+12 coils control 12-14 weight: 0,100 Kg	end plate with male connector 25 poles 18 coils control 14 6 coils control 12 (only for control 14 more than 12 coils max 18) weight: 0,102 Kg	sub-base with open diaphragms GP-6210 without electrical connection GP-6211 monostable GP-6212 bistable weight: 0,060 Kg	sub-base with closed diaphragms GP-6220 without electrical connection GP-6221 monostable GP-6222 bistable weight: 0,062 Kg
GP-6230/1/2	GP-6240/1/2	GP-6380	GP-6285	GP-6411	
sub-base with closed supply and open exhausts GP-6230 without electrical connection GP-6231 mostable GP-6232 bistable weight: 0,062 Kg	sub-base with open supply and closed exhausts GP-6240 without electrical connection GP-6241 mostable GP-6242 bistable weight: 0,062 Kg	intermediate supply plate (to be used only with GP-63... series sub-base) weight: 0,036 Kg	closing plate for unused station weight: 0,018 Kg	lifting bracket weight: 0,086 Kg	
GP-6400-1	GP-6400-2	GP-6400-5	GP-6512-01/..MF	GP-6514-01/..MF	GP-651418
modular tie-rod 1 valve place weight: 0,004 Kg (package 100 pcs.) AZ4-VN0416 screw M04x16 for tie-rods (package 100 pcs.) AZ4-SN004A hexagonal nut M4 (package 100 pcs.)	modular tie-rod 2 valve places weight: 0,010 Kg (package 100 pcs.)	modular tie-rod 5 valve places weight: 0,022 Kg (package 100 pcs.)	BUS connection card control side 12 with 12 pin GP-6512-01MF 1 place GP-6512-02MF 2 places GP-6512-03MF 3 places GP-6512-05MF 5 places GP-6512-06MF 6 places weight: 0,003 Kg (for each place)	BUS connection card control side 14 with 12 pin GP-6514-01MF 1 place GP-6514-02MF 2 places GP-6514-03MF 3 places GP-6514-05MF 5 places GP-6514-06MF 6 places weight: 0,003 Kg (for each place)	BUS connection card control side 14 with 18 pin (only 12 places) for manifold assemblies with control 14 with more than 12 coils up to 18 coils use card GP-651418 12 places and then GP-6514-... weight: 0,003 Kg (for each place)
[upon request customized solutions up to 12 places]					
GZR-100	GZR-V10004/6/8	GZR-V20004/6/8	GZR-V20L004/6/8		
blanking plug weight: 0,010 Kg	straight fitting (package 50 pcs.) GZR-V10004 tube: 4 mm GZR-V10006 tube: 6 mm GZR-V10008 tube: 8 mm weight: 0,010 Kg	low elbow fitting (package 50 pcs.) GZR-V20004 tube: 4 mm weight: 0,013 Kg GZR-V20006 tube: 6 mm weight: 0,014 Kg GZR-V20008 tube: 8 mm weight: 0,015 Kg	high elbow fitting (package 50 pcs.) GZR-V20L004 tube: 4 mm weight: 0,017 Kg GZR-V20L006 tube: 6 mm weight: 0,021 Kg GZR-V20L008 tube: 8 mm weight: 0,027 Kg		
DD-..	DD-051-2C/DD-040-2C	DE-652I	D-530-30/50/200	DIN C (8 mm)	
24 V CC 2 W coil for single connection weight: 0,019 Kg	24 V CC 2 W coil with integrated connector for multipolar version weight: 0,028 Kg	24 V DC 1,35 W coil with in-line connector with protection for a complete tightness weight: 0,013	Miniature connector with loose cables D-530-30 = wire length 300 mm D-530-50 = wire length 500 mm D-530-200 = wire length 2000 mm	For further information please contact our Sales Office	

For subbases suitable for servoassistance add "S" to the part number (ex. GP-6210S)

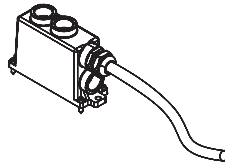
Electrical connections

AM-5109



■ 15 mm connector

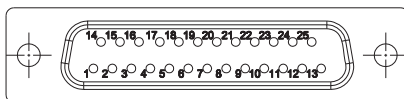
TSCF24S0300
TSCF24S0500
TSCF24S1000



■ flying female connector sub D according to CEI 20-22 O.R. II (upon request) prewired for 24 coils M3 x 12 fixing screws

Colour identification according to standard DIN 47100

Female connector D-SUB 25 poles for 12+12 coils

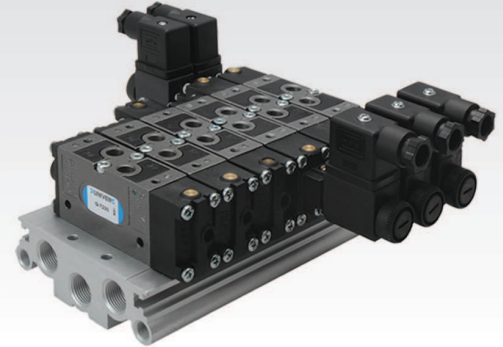


PIN No.	Colour	Coil	Control side		Valve No.
			GP-611212	GP-611806	
1	white	1	14	14	1
2	brown	2	12	12	1
3	green	3	14	14	2
4	yellow	4	12	12	2
5	grey	5	14	14	3
6	pink	6	12	12	3
7	blue	7	14	14	4
8	red	8	12	12	4
9	black	9	14	14	5
10	violet	10	12	12	5
11	grey-pink	11	14	14	6
12	red-blue	12	12	12	6
13	white-green	13	14	14	7
14	brown-green	14	12	14	7
15	white-yellow	15	14	14	8
16	yellow-brown	16	12	14	8
17	white-grey	17	14	14	9
18	grey-brown	18	12	14	9
19	white-pink	19	14	14	10
20	pink-brown	20	12	14	10
21	white-blue	21	14	14	11
22	brown-blue	22	12	14	11
23	white-red	23	14	14	12
24	brown-red brown-black shield	common low	-	-	-
25	white-black	24	12	14	12

G7

26 mm G1/8 valves and solenoid valves

Available ATEX version upon request
 CE Ex II 2Gc IIC T5 II 2Dc T100°C



TECHNICAL CHARACTERISTICS

Ambient temperature	-10 ÷ +45 °C
Fluid temperature	max +50 °C
Fluid	50 µm filtered air, with or without lubrication
Commutation system	spool
Ways/Positions	5/2, 5/3
Pressure	10 bar max
Control	indirect electro - pneumatic, pneumatic
Return	mechanical spring, pneumomechanical spring
Connections	G1/8
Nominal Ø	6 mm
Nominal flow rate	860 NI/min

CONSTRUCTIVE CHARACTERISTICS

Valve body	zamak
Seals	nitrile rubber
Actuators	technopolymer
Spool	aluminium

ELECTRIC CHARACTERISTICS

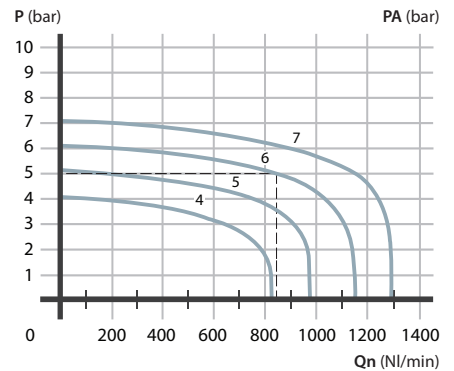
Electropilot	AA series
Coil	U1-U3
Power consumption	3,5 W (DC) - 5 VA (AC)
Connector	AM-5110
Voltage	12 V DC - 24 V DC - 24 V AC - 110 V AC - 230 V AC
Manual override	impulse screw – 2 positions

CODIFICATION KEY

G	-	7	3	9	0		
1		2	3	4	5	6	

1 Series G-7 = G1/8 26 mm Valves	2 Type 2 = 5/2 3 = 5/3 c.c. 4 = 5/3 o.c. 5 = 5/3 p.c.	3 Control 14 3 = Pneumatic on the body 9 = In line electric U1 pilot	4 Return 12 0 = Pneumomechanical spring 1 = Mechanical spring 3 = Pneumatic on the body 9 = In line electric U1 pilot
5 Option D = Pilot external servo-assistance on valve body (M5) G = Manual override on the valve body (only bistable versions)	6 ATEX version X = Atex (upon request) See ATEX Catalogue for types and versions		

Flow rate characteristics



P = Working pressure
 PA = Supply pressure
 Qn = Flow rate

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Single/double pneumatic impulse

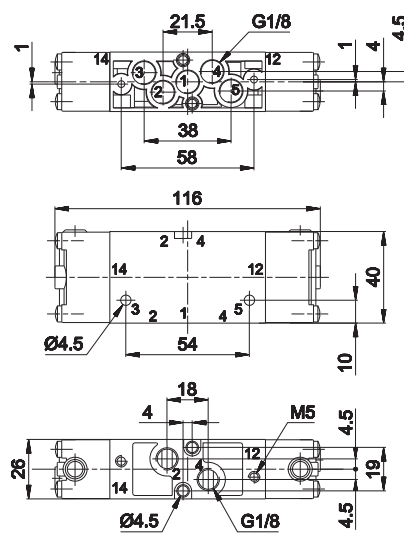
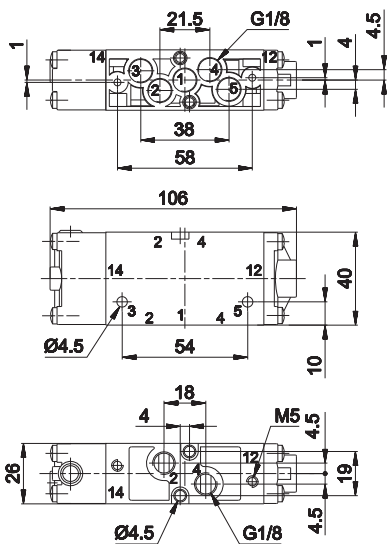


	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
		14	12		En.	De-en.		
SINGLE PNEUMATIC IMPULSE								
5/2		pneumatic amplified	pneumomechanical spring	1,5÷10	8	14	0,190	G-7230
5/2		pneumatic amplified	mechanical spring	1,5÷9	18	64	0,190	G-7231
DOUBLE PNEUMATIC IMPULSE								
5/2		pneumatic amplified	pneumatic amplified	0,7÷10	4	4	0,190	G-7233
5/3 c.c.		pneumatic amplified	pneumatic amplified	2÷10	8	8	0,200	G-7333
5/3 o.c.		pneumatic amplified	pneumatic amplified	2÷10	8	8	0,200	G-7433
5/3 p.c.		pneumatic amplified	pneumatic amplified	2÷10	8	8	0,200	G-7533

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Single pneumatic impulse

Double pneumatic impulse



- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

The valve is supplied with two plugs to be mounted with locite onto the unused 2-4 connections
Electropilots are supplied without coil, connector and locking ring

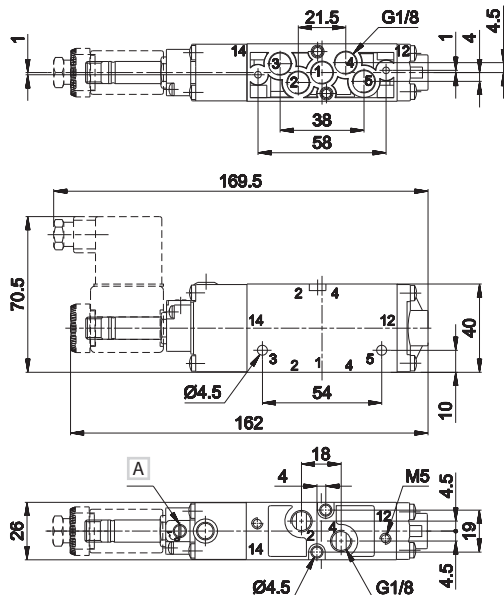
Single/double electric impulse



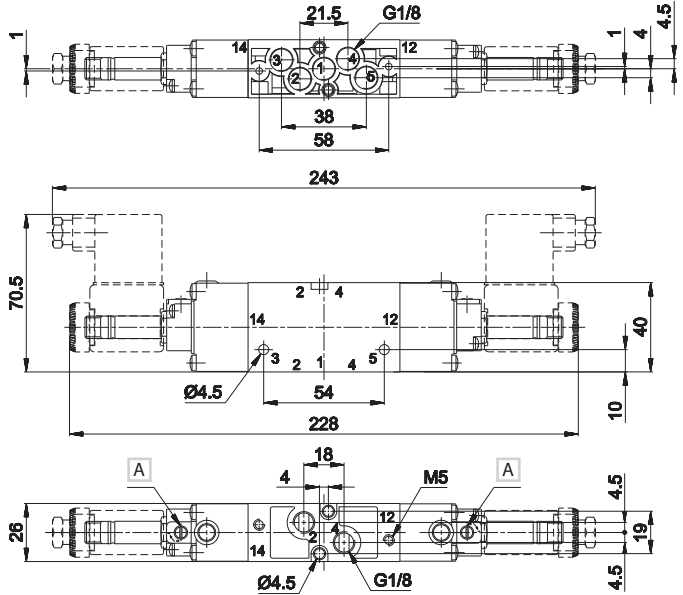
	Symbol	Control	Return	Pressure bar	Resp. Time (ms)		Weight Kg	Part no.
		14	12		En.	De-en.		
SINGLE ELECTRIC IMPULSE								
5/2		electric amplified	pneumomechanical spring	1,5÷10	15	23	0,214	G-7290
5/2		electric amplified	mechanical spring	1,5÷9	13	34	0,214	G-7291
DOUBLE ELECTRIC IMPULSE								
5/2		electric amplified	electric amplified	0,7÷10	12	12	0,280	G-7299
5/3 c.c.		electric amplified	electric amplified	2÷10	14	18	0,309	G-7399
5/3 o.c.		electric amplified	electric amplified	2÷10	14	18	0,309	G-7499
5/3 p.c.		electric amplified	electric amplified	2÷10	14	18	0,309	G-7599

o.c. = open centres c.c. = closed centres p.c. = pressurized centres

Single electric impulse



Double electric impulse



A Manual override

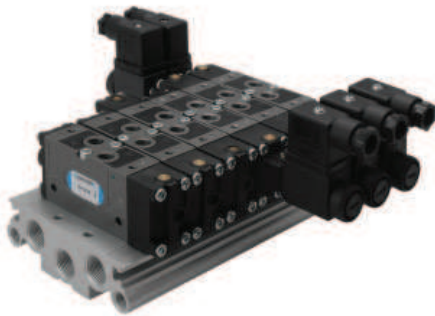
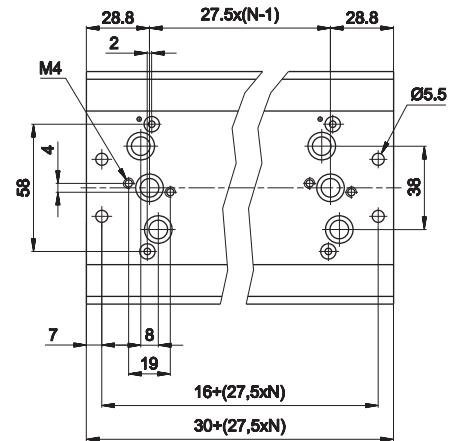
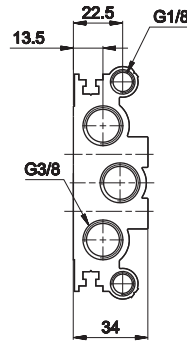
- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

The valve is supplied with two plugs to be mounted with locite onto the unused 2-4 connections
Electropilots are supplied without coil, connector and locking ring

Multiple sub-base G1/8

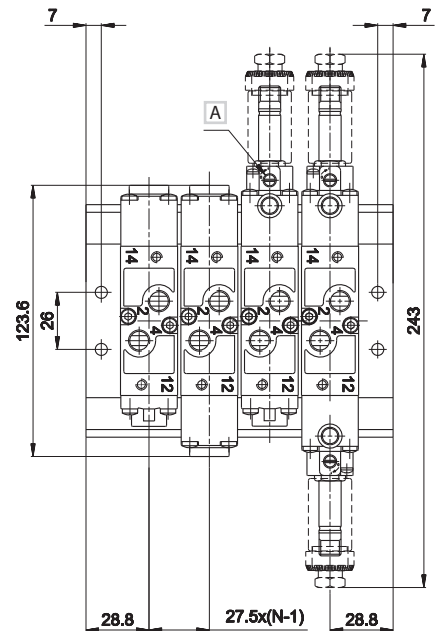
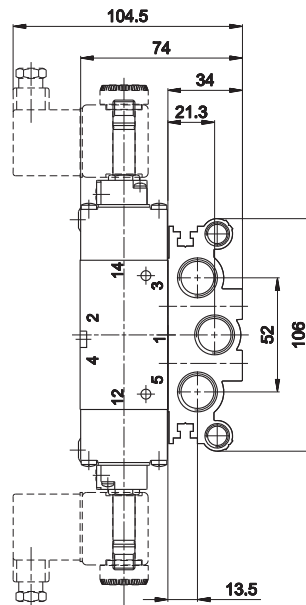


Places N.	Weight Kg	Part no.
2	0,455	G-7900-02
3	0,594	G-7900-03
4	0,733	G-7900-04
5	0,872	G-7900-05
6	1,011	G-7900-06
7	1,150	G-7900-07
8	1,289	G-7900-08
9	1,428	G-7900-09
10	1,567	G-7900-10
11	1,706	G-7900-11
12	1,845	G-7900-12

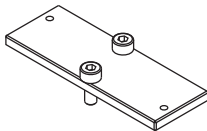


A Manual override

- 1 = Supply port
- 2 - 4 = Use
- 3 - 5 = Exhaust
- 14 = Control
- 12 = Return

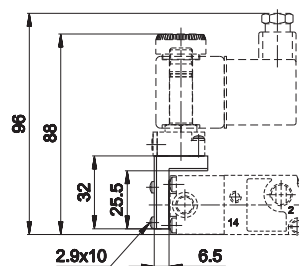
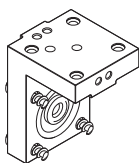


G-7885



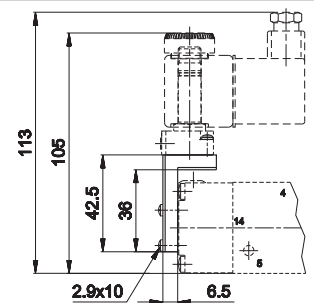
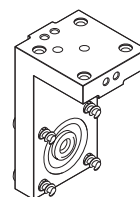
covering-plate for sub-base place
weight: 0,019 Kg

AM-5151



"H" option solenoid square
weight: 0,035 Kg

AM-5152



"P" option solenoid square
weight: 0,05 Kg

3