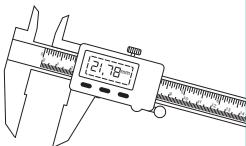
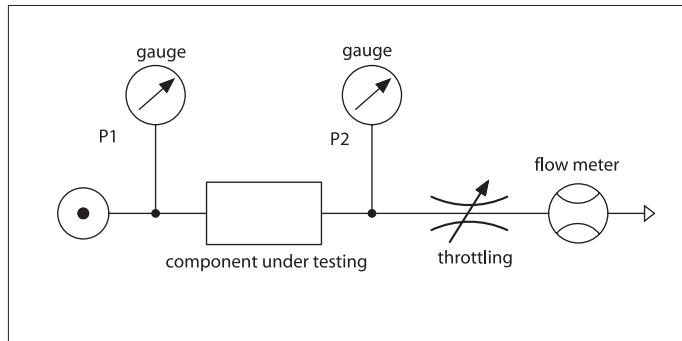


<p>Technical data:</p>  <p>from page 2.1.1</p>	<p>15 mm directly operated solenoid valves</p>  <p>from page 2.2.1</p>	<p>22 mm directly operated solenoid valves</p>  <p>from page 2.3.1</p>	<p>Electrically and pneumatically operated valves 1/8" - 1/4"</p>  <p>from page 2.50.1</p>
<p>Electrically and pneumatically operated NAMUR valves 1/4"</p>  <p>from page 2.88.1</p>	<p>NAMUR solenoid valves </p>  <p>from page 2.88.20</p>	<p>Electrically and pneumatically operated valves 1/2"</p>  <p>from page 2.90.1</p>	<p>Electrically operated valves with multiple connector</p>  <p>from page 2.105.1</p>
<p>Electrically and pneumatically operated valves ISO 1</p>  <p>from page 2.110.1</p>	<p>Electrically and pneumatically operated valves ISO 2</p>  <p>from page 2.130.1</p>	<p>Indirectly operated solenoid valves for water and steam</p>  <p>from page 2.165.1</p>	<p>Integrated circuits</p>  <p>from page 2.170.1</p>
<p>Coils and connectors</p>  <p>from page 2.200.10</p>	<p>Manually operated valves 1/8"</p>  <p>from page 2.230.1</p>	<p>Manually operated valves 1/4"</p>  <p>from page 2.236.1</p>	<p>Foot valves</p>  <p>from page 2.250.10</p>
<p>Microvalves Ø 4 and manual operating devices</p>  <p>from page 2.255.1</p>	<p>Mechanically operated valves Ø 4</p>  <p>from page 2.270.1</p>	<p>Mechanically operated valves 1/8"</p>  <p>from page 2.275.1</p>	<p>Slide valves</p>  <p>from page 2.300.1</p>
<p>Ball valves</p>  <p>from page 2.310.1</p>	<p>Quick exhaust valves</p>  <p>from page 2.360.1</p>	<p>Uni-directional, safety and piloted stop valves</p>  <p>from page 2.370.1</p>	<p>Actuators</p>  <p>from page 2.430.1</p>
<p>Ball valves with actuators</p>  <p>from page 2.431.1</p>	<p>Limit switch box</p>  <p>from page 2.431.30</p>	<p>Handwheel manipulator</p>  <p>from page 2.432.1</p>	

Flow of the valves:

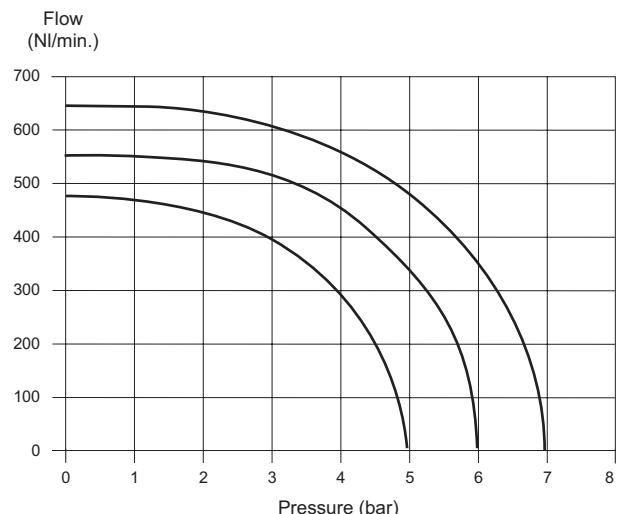
The quantity of compressed air that can flow through the valve depends on the size of the orifices and the type of course that must be followed within the valve itself by the fluid under pressure. The flow of a valve is measured using suitable measuring circuits with the hypothesis that the upstream pressure is constant and that quantity of air required downstream is variable.



Curves known as "**FLOW CHARACTERISTICS**" are drawn, which indicate how the flow of the valve varies with the variation in downstream pressure, with a constant pressure supply. **Once these characteristics are known, the flow of the valve is also known in all working conditions.**

These curves show how the study model adopted for a valve - which consists of comparing it with a converging nozzle that releases a compressible gas with constant upstream pressure - is reasonably valid. Indeed, according to this model, the flow that passes through the nozzle depends on the following factors: the upstream pressure, the difference in pressure Δp and the valvular coefficient K_v .

The coefficient K_v summarizes the characteristics of the internal passages of the valve and is represented by the "**number of litres of water that flow through the valve in one minute, in normal conditions (atmospheric pressure, 20 °C) in the presence of a fall in pressure Δp [AS1]= 1 bar.**



The following formula constitutes the relationship between all the aforementioned elements:

$$Q = 28,3 \text{ } K_v \sqrt{\Delta p} (p_1 - \Delta p) \quad \text{where}$$

Q = flow [nl/min]

K_v = valvular coefficient of the H₂O valve [nl/min]

Δp = $p_1 - p_2$ = fall in pressure between upstream and downstream [bar]

p_1 = absolute pressure upstream [bar]

28,3 = conversion coefficient from water to air

So: the capacities calculated with the given formula differ little from those that can be obtained from the flow characteristic of the corresponding valve.

Furthermore, it also provides confirmation, from the characteristic itself, of the limits of validity of the formula.

It is only valid for $\Delta p < \Omega p_1$; i.e. only up until the fall of pressure across the valve reaches a value equivalent to half the absolute supply pressure.

In this condition the air reaches max. velocity (critical velocity V_c) and consequently maximum capacity Q_{max} .

For $\Delta p < \Omega p_1$, the pressure energy is converted into kinetic energy with an increase in velocity and consequently capacity. For $\Delta p > \Omega p_1$, the extra pressure energy is no longer converted into velocity energy, but dissipated in local turbulences in the form of heat.

All of this is confirmed by the flow characteristics.

From the same characteristics it is possible to discover that the value of the flow with $\Delta p = 1$ bar is $\approx 2/3 Q_{max}$.

The capacity corresponding to $\Delta p = 1$ bar is defined "**NOMINAL FLOW Q_n**".

In the case of a valve, a different flow characteristic exists for each absolute supply pressure, and thus corresponding values for Q_{max} and Q_n .

Falls in pressure of $\Delta p > 1$ bar are too economically onerous, and for this reason it is advisable to limit the falls in pressure to $\Delta p = 0,5$ bar, by choosing a larger size valve.

In the catalogue reference is normally made to the nominal flow, but the flow characteristics and the valvular coefficient are also provided.

Let's calculate, for example, the flow of a valve with $K_v = 12$ NL/min, $P_1 = 6$ bar,

$$\Delta P = 0,5 \text{ bar} \quad Q = 28,3 * 12 \sqrt{0,5} (7-0,5) = 612 \text{ [NL/min]}$$

$$Q_n = 831 \text{ [NL/min]}$$

$$Q_{max} = 1118 \text{ [NL/min]}$$

15 mm directly operated solenoid valves 3/2, normally open and normally closed



Standard executions

Version	Symbol	Code	Item
3/2, N. C. 12 V DC		034601	AE05C01200
3/2, N. C. 24 V DC		034602	AE05C02400
3/2, N. C. 24 V AC		034603	AE05C02450
3/2, N. C. 110 V AC		034604	AE05C11050
3/2, N. C. 230 V AC		034605	AE05C22050
3/2, N. A. 12 V DC		034611	AE05A01200
3/2, N. A. 24 V DC		034612	AE05A02400
3/2, N. A. 24 V AC		034613	AE05A02450
3/2, N. A. 110V AC		034614	AE05A11050
3/2, N. A. 230 V AC		034615	AE05A22050



Series of directly operated poppet valves for single or manifold sub-bases, standard with coil and without connector.

The single base is M5 threaded.

The manifold bases can be supplied with M5 ports or with integral 4 mm push-in fitting.

For sub-bases see page 2.2.2.

For the connectors type A19207.. see page 2.210.10.

Note: The maximum couple of locking of M3 screws must not exceed 0,5 Nm.

(The locking screws are included together with the valve).

2

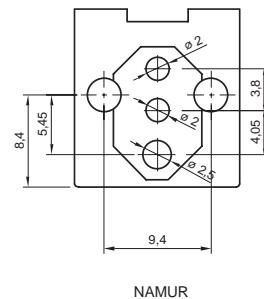
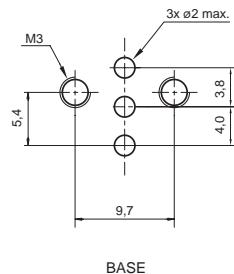
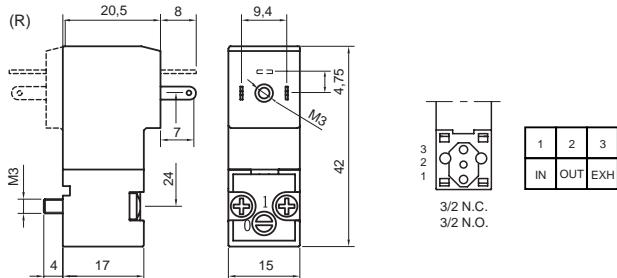
Technical data

Fluid	Compressed filtered air with or without lubrication
Pressure range	0 ÷ 10 bar
Temperature range	-10 °C ÷ + 50°C
Orifice	1,1 mm.
Normal flow at 6 bar	35 NL/min
Manual override	Two stable position, flat
Response time	5 ms (ON) - 6 ms (OFF)
Mounting	In any position
Duty cycle	ED 100%
Voltage tolerance	± 10%
Class protection	IP 65 (with connector already mounted)
Electrical consumption	2 W
Materials	Body: Acetal resin Internal parts: Acetal resin - stainless steel Seals: Nitrile rubber (NBR) Screws: Zinc plated steel

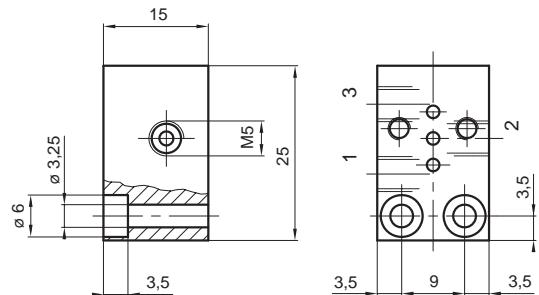
15 mm directly operated solenoid valves 3/2, normally open and normally closed



Type: AE05...



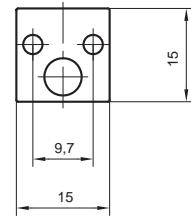
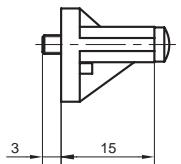
Single base



Type: ABAS05S

Closing plate

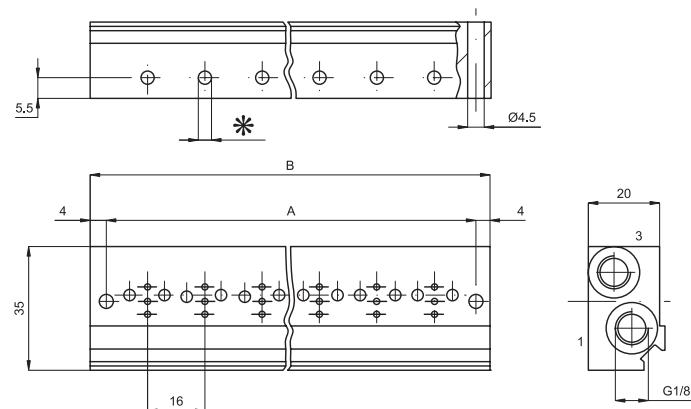
Type: ABAS05T



Code	Item
034621	ABAS05S

Code	Item
034622	ABAS05T

Manifold base



Type: ABAS05...

With M5 ports

Code	Item	Positions	A	B
034625	ABAS050205	2	44	37
034626	ABAS050305	3	60	53
034627	ABAS050405	4	76	69
034628	ABAS050505	5	92	85
034629	ABAS050605	6	108	101
034630	ABAS050705	7	124	117
034631	ABAS050805	8	140	133
034632	ABAS050905	9	156	149
034633	ABAS051005	10	172	165

22 mm directly operated solenoid valves 3/2, normally closed



Standard executions

Version	Symbol	Code	Item
3/2 N.C. with manual override solenoid/spring		034188	A1EM13012M
3/2 N.C. with manual override bistable		034189	A1EM13012B



Series of directly operated poppet valves for panel mounting.
Base set up for single or modular installation.

Coils and connectors have to be ordered separately.

For the coils type ASA12...

see page 2.200.1

For the connectors type A122...

see page 2.210.20

2

Code key

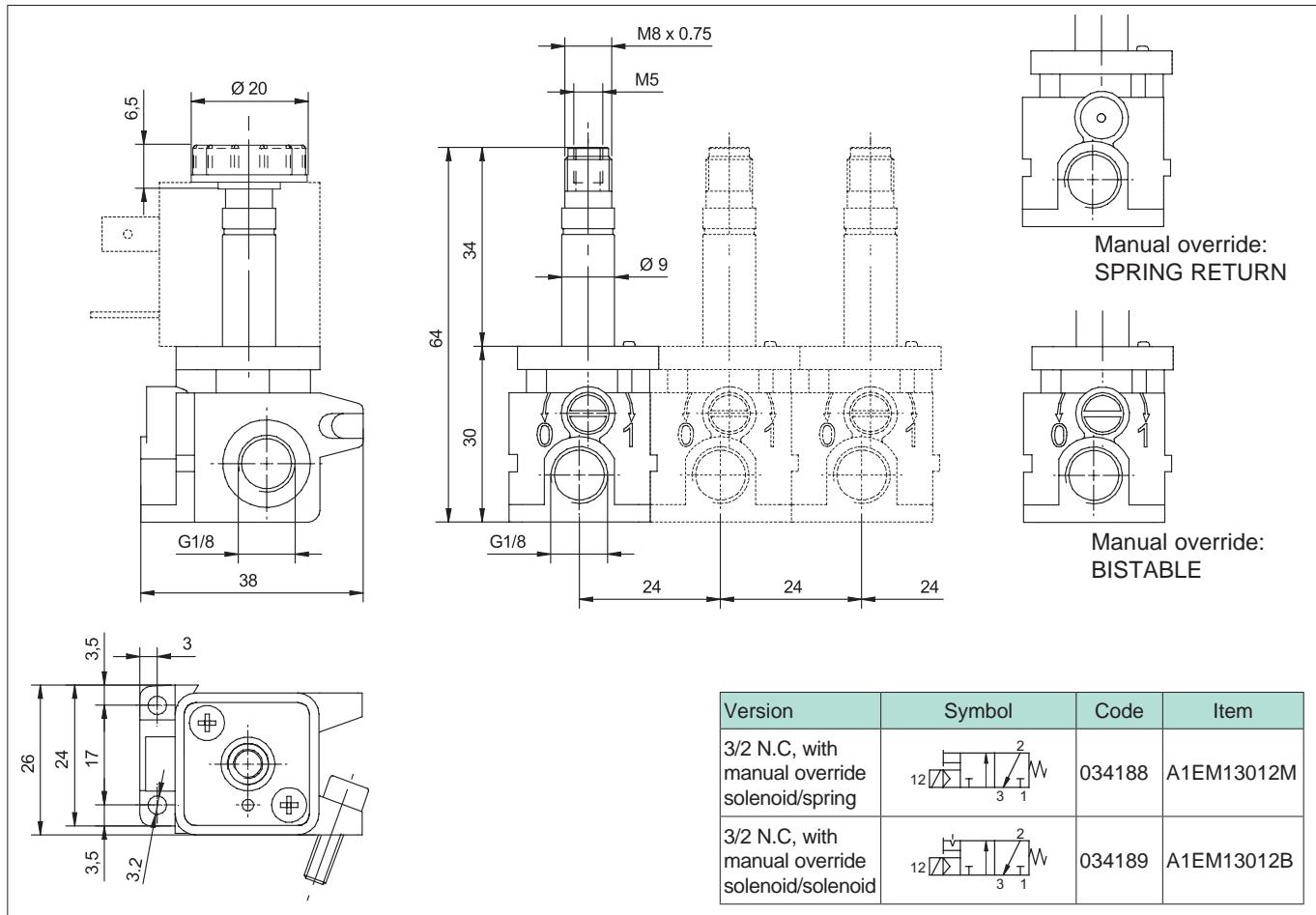
Options	Suffix
Low temperature seals	-25 ÷ +60°C
Seals FKM	-10 ÷ +150°C

Series	Actuation	Size	Function	Orifice	Manual override
A1	EM = electrical modular	1 = 1/8"	30 = 3/2 NC	12 = Ø1.2	M = spring return B = bistable

Technical data

Fluid	Compressed filtered air, min. 5µm, with or without lubrication.		
Pressure range	0 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C (standard)	-25°C ÷ +60°C (BT)	-10°C ÷ +150°C (V)
Orifice	1,2 mm		
Flow	29 NL/min at 6 bar at ΔP 1 bar		
Weight	100 g		
Mounting	In any position		
Manual override	Spring return (M) - Bistable (B)		
Materials	Base: Zinc alloy die cast Tube: Brass Cores: Steel AISI specific Springs: Steel Manual override: Nickel-plated brass Locking nut: Plastic Screws: Zinc plated steel		

22 mm directly operated solenoid valves 3/2, normally closed



22 mm. directly operated solenoid valves 1/8" and 1/4", 3/2, normally closed, electrically operated



Standard executions			
Version	Symbol	Code	Item
1/8", 3/2 N.C., with bistable manual override		034226	A1E130MD
1/4", 3/2 N.C., with bistable manual override		034227	A1E230MD
1/8", 3/2 N.C., with bistable manual override Ex nA		For code key see table below	
1/4", 3/2 N.C., with bistable manual override Ex nA		For code key see table below	



Series of direct operated valves for mounting on the application (on cylinder or on rotary actuator, as shown in the examples at page 2.10.4).



On request, they can be supplied according to 2014/34/EU - ATEX

For versions conforming to ATEX 2014/34/UE Directive, classification Ex nA... see page 2.10.3

For further ATEX classifications ask to our sales department.

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT
Seals FKM (-10°C ÷ +150°C)	V

Standard coils and connectors have to be ordered separately:

For the coils type ASA12... [vedi pag. 2.200.1](#)

For connectors type A122... [vedi pag. 2.210.20](#)

Code key for standard versions

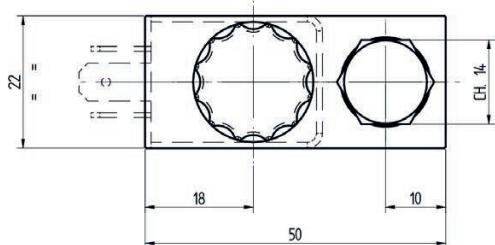
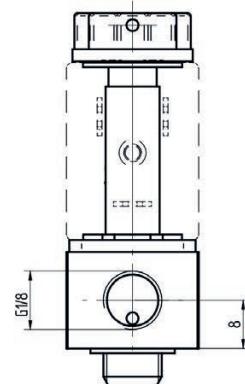
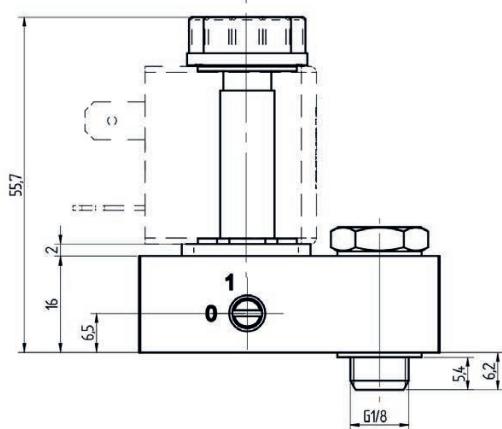
Series	Actuation	Size	Function	Mounting	Options
A1	E = electrical	1 = 1/8" 2 = 1/4"	30 = 3/2 NC	MD = direct	BT = low temp. seals V = FKM seals

Code key for ATEX versions

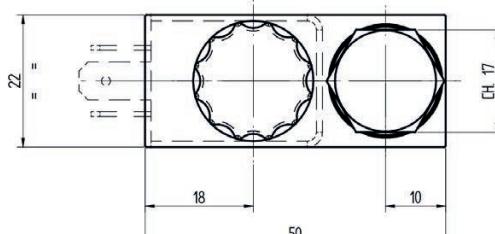
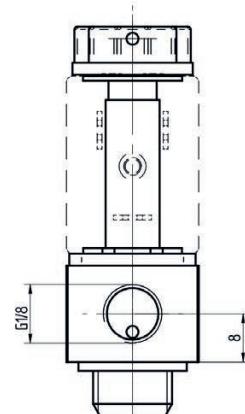
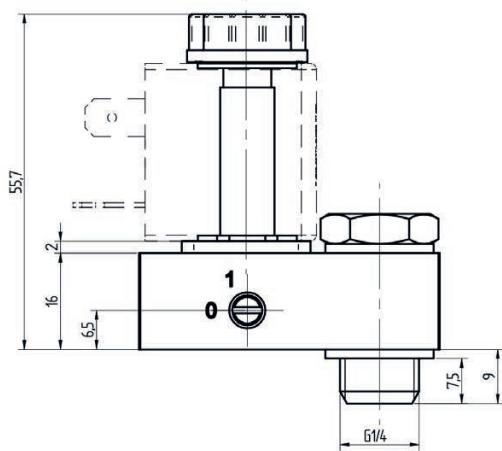
Series	Actuation	Size	Function	Mounting	Hazardous areas	Voltages	Options
A1	E = electrical	1 = 1/8" 2 = 1/4"	30 = 3/2 NC	MD = direct	XX = II 3G Ex nA IIC T5 Gc X II 3D Ex tc IIIC T95°C Dc X	B = 12 VDC C = 24 VDC * F = 24 VAC *	I = 110 VAC * O = 220 VAC * * = Standard voltages

Technical data	
Fluid	Compressed filtered air, min. 5µm, with or without lubrication.
Pressure range	0 ÷ 10 bar
Temperature range	-10°C ÷ +60°C (standard) -25°C ÷ +60°C (BT) -10°C ÷ +150°C (V)
Orifice	1,2 mm.
Flow	29 NL/min. at 6 bar ΔP 1 bar
Weight	100 g.
Mounting	In any position
Materials	Base Zinc alloy die cast
	Tube Brass
	Cores Steel AISI specific
	Springs Spring steel
	Manual override Nickel-plated brass
	Locking nut Plastic
	Screws Zinc plated steel

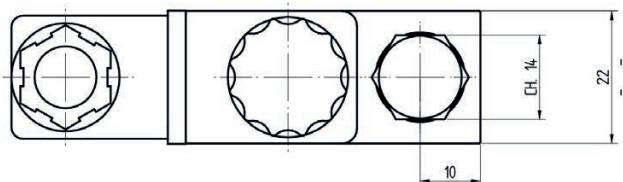
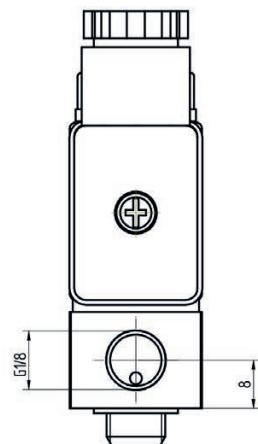
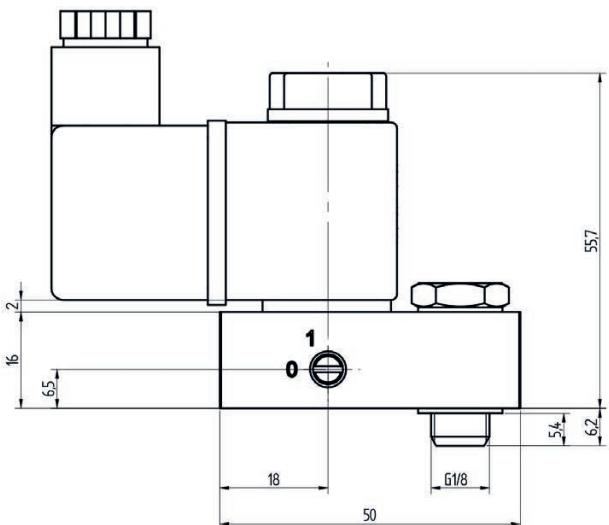
22 mm. directly operated solenoid valves
1/8" and 1/4", 3/2, normally closed, electrically operated



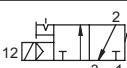
Version	Symbol	Code	Item
1/8", 3/2 N.C., with bistable manual override		034226	A1E130MD

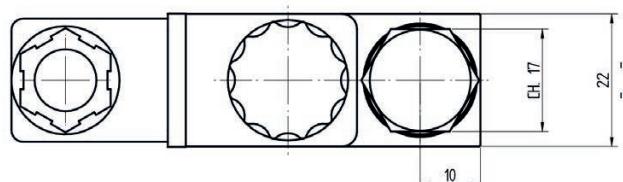
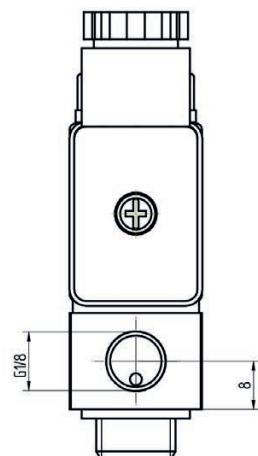
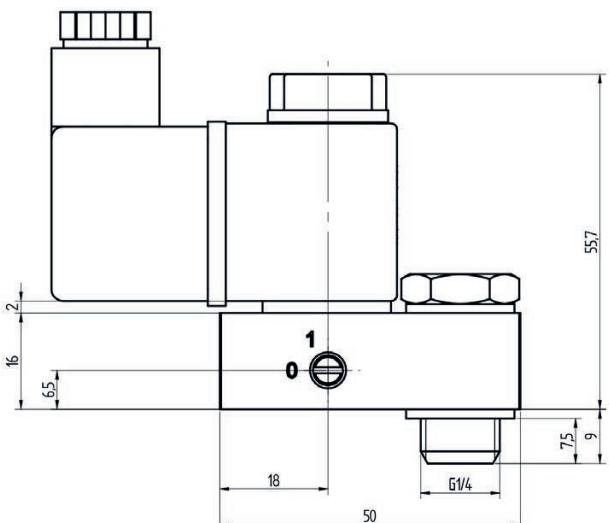


Version	Symbol	Code	Item
1/4", 3/2 N.C., with bistable manual override		034227	A1E230MD

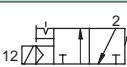


CE  II 3G Ex nA IIC T5 Gc X
 II 3D Ex tc IIIC T95°C Dc X

Version	Symbol	Code	Item
1/8", 3/2 N.C., with bistable manual override			A1E130MDXX..



CE  II 3G Ex nA IIC T5 Gc X
 II 3D Ex tc IIIC T95°C Dc X

Version	Symbol	Code	Item
1/4", 3/2 N.C., with bistable manual override			A1E230MDXX..

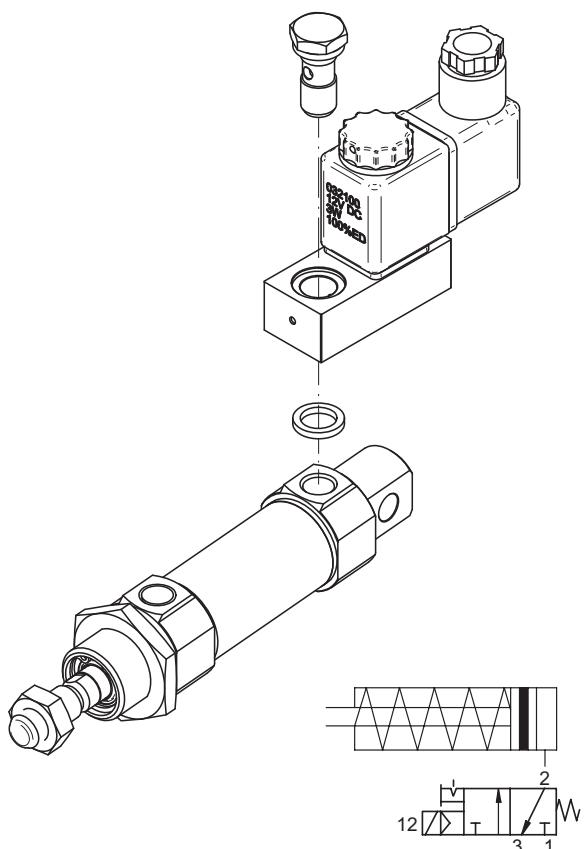
22 mm. directly operated solenoid valves 1/8" and 1/4", 3/2, normally closed, electrically operated



Example of application of the direct control solenoid valve 22 mm. series A1EMD on a single-acting microcylinder series MSM.

The valves of this series can be directly mounted on the cylinder's connection without the use of intermediate pipes.

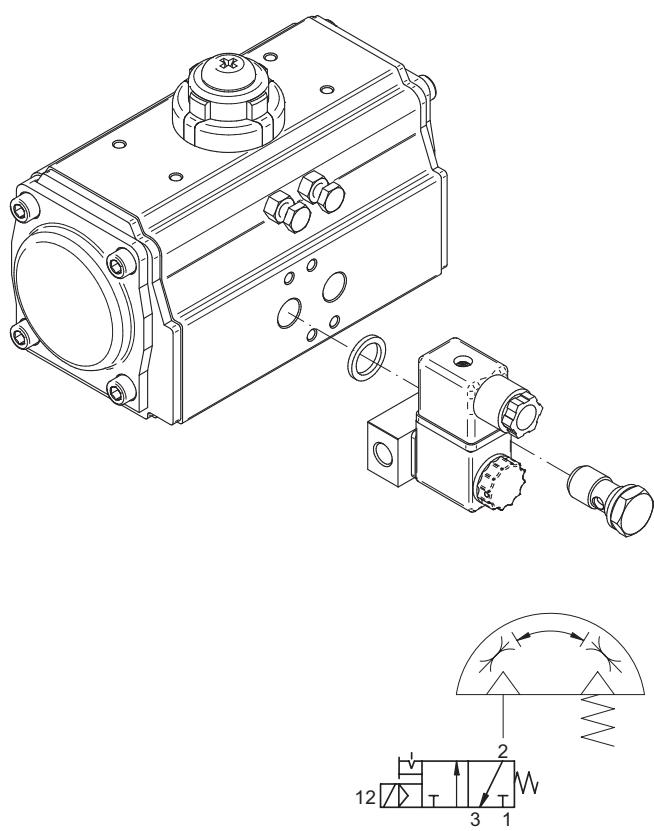
Example: Mounting on micro-cylinder



Example of application of the direct control solenoid valve 22 mm. series A1EMD on a single-acting rotary actuator series AR..SE.

The valves of this series can be directly mounted on the actuator connection without the use of intermediate pipes or plates.

Example: Mounting on rotary actuator



Valves series A1

1/8", 3/2, electrically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC	12	034003	A1E130
3/2 NO	23	034004	A1E131
3/2 solenoid/solenoid	12	034005	A1E132
3/2 NC external air pilot	12	034006	A1K130
3/2 solenoid/solenoid external air pilot	12	034007	A1K132



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Coils and connectors have to be ordered separately.

For the coils type ASA12...

see page 2.200.1

For the connectors type A122...

see page 2.210.20

For the sub-bases type A1B1...

see page 2.65.1



On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

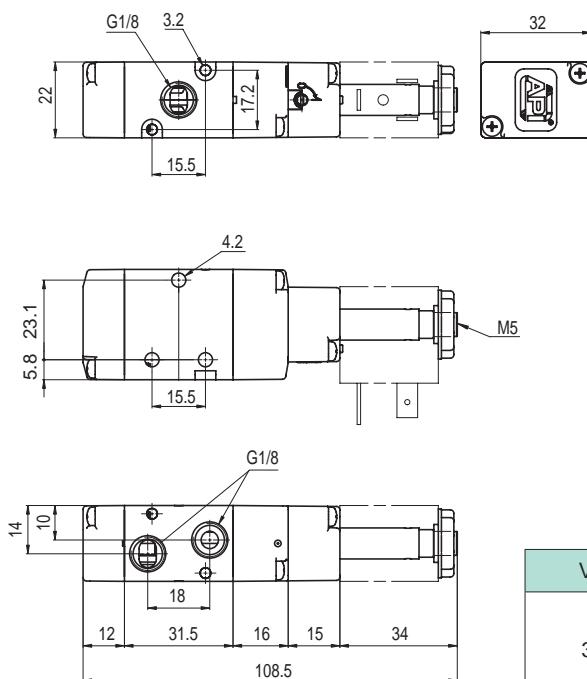
Code key

Series	Actuation	Size	Function	Options
A1	E = electrical K = electrical with external air pilot	1 = 1/8"	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 sol./sol.	BT = low temp. seals

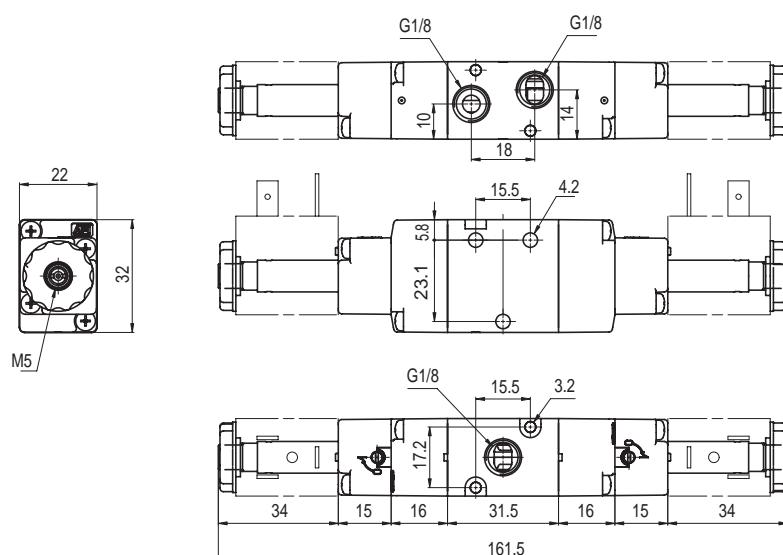
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.					
Pressure range	Spring return: 1,5 ÷ 10 bar		Bistable: 1 ÷ 10 bar			
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)			
Orifice	6,5 mm					
Flow	650 NL/min a 6 bar con ΔP 1 bar					
Minimum external air pressure	1,5 bar					
Mounting	In any position					
Manual override	Bistable					
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid			
	Energising: 35 ms	De-energising: 15 ms	Energising: 20 ms	De-energising: 20 ms		
Materials	Body:	Anodised aluminium				
	Covers:	Hostaform C 13031				
	Spool:	Hard aluminium anodized				
	Distancers:	Ixef 1022				
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)				

Valves series A1 1/8", 3/2, electrically operated



Version	Symbol	Code	Item
3/2 NC	12	034003	A1E130
3/2 NO	23	034004	A1E131

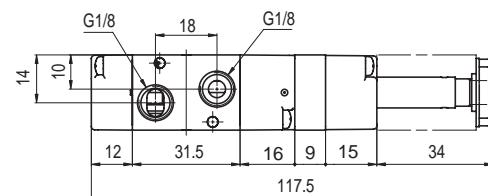
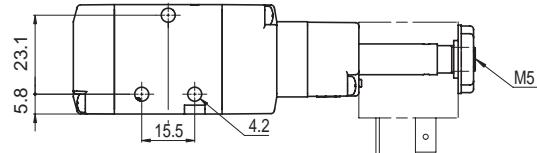
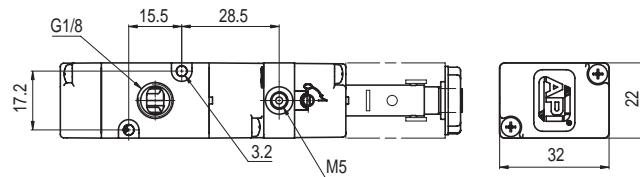


Version	Symbol	Code	Item
3/2 solenoid/solenoid	12	034005	A1E132

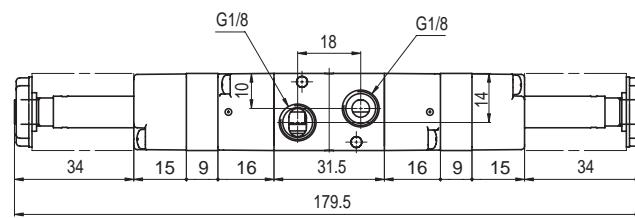
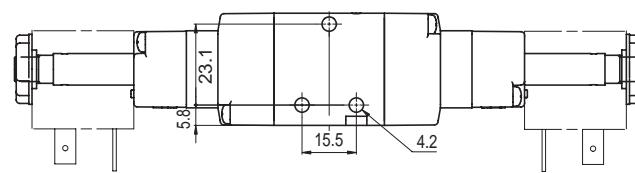
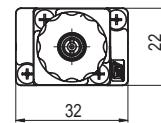
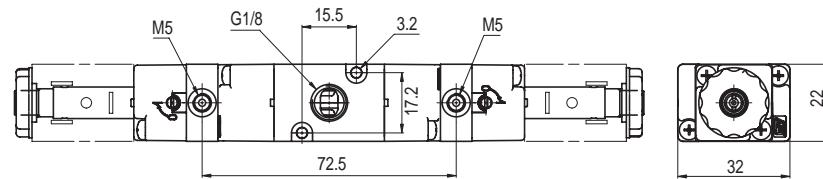
Valves series A1
1/8", 3/2, electrically operated



2



Version	Symbol	Code	Item
3/2 NC external air pilot		034006	A1K130



Version	Symbol	Code	Item
3/2 solenoid/solenoid external air pilot		034007	A1K132

Valves series A1

1/8", 5/2 - 5/3, electrically operated



Standard executions

Version	Symbol	Code	Item
5/2 solenoid/spring		034011	A1E150
5/2 solenoid/solenoid		034021	A1E151
5/3 with closed centres		034031	A1E170
5/3 with open centres		034033	A1E171
5/3 with pressurised centres		034032	A1E172
5/2 solenoid/spring, external air pilot		034012	A1K150
5/2 solenoid/solenoid external air pilot		034008	A1K151
5/3 with closed centres, external air pilot		034009	A1K170
5/3 with open centres, external air pilot		034010	A1K171
5/3 with pressurised centres, external air pilot		034013	A1K172

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Coils and connectors have to be ordered separately.

For the coils type ASA12... see page 2.200.1

For the connectors type A122... see page 2.210.20

For the sub-bases type A1B1... see page 2.65.1

Code key

Series	Actuation	Size	Function	Options
A1	E = electrical K = electrical with external air pilot	1 = 1/8"	50 = 5/2 sol./spring 51 = 5/2 sol./sol. 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC	BT = low temp. seals

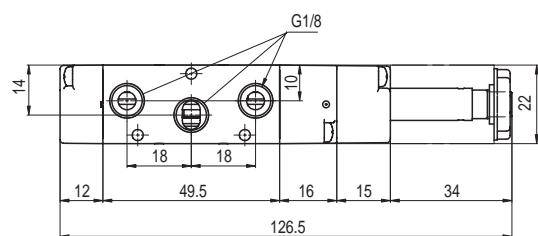
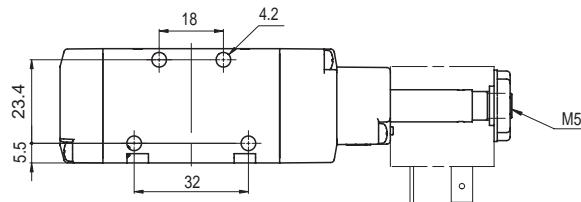
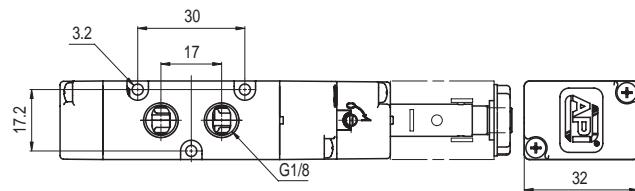


On request, they can be supplied according to 2014/34/EU - ATEX

Technical data

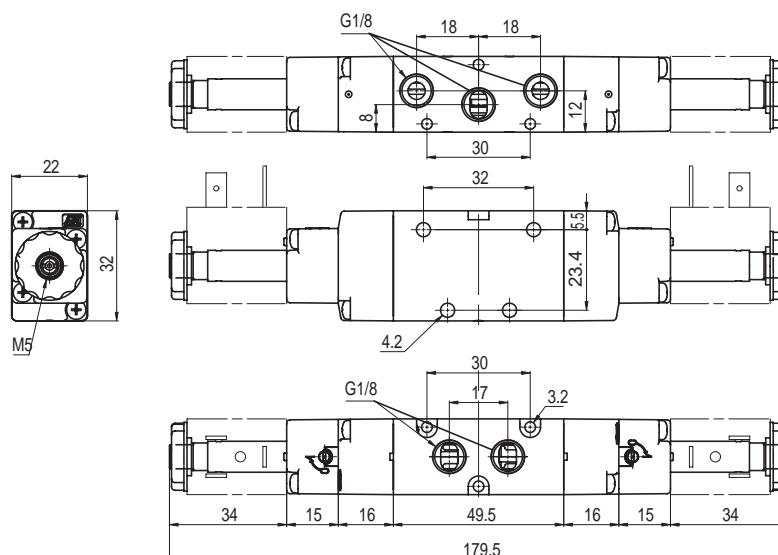
Fluid	Compressed filtered air with or without lubrication. Lubrication, if be used, must be continous.					
Pressure range	Spring return: 1,5 ÷ 10 bar		Bistable: 1 ÷ 10 bar	3 position: 2,5 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)			
Orifice	6,5 mm					
Flow	650 NL/min. at 6 bar with ΔP 1bar					
Minimum external air pressure	1,5 bar					
Mounting	In any position					
Manual override	Bistable					
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid			
	Energising: 35 ms	De-energising: 15 ms	Energising: 20 ms	De-energising: 20 ms		
Materials	Body:	Anodised aluminium				
	Covers:	Hostaform C 13031				
	Spool:	Hard aluminium anodized				
	Distancers:	Ixef 1022				
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)				

**Valves series A1
1/8", 5/2 - 5/3, electrically operated**



Version	Symbol	Code	Item
5/2 solenoid/spring	14 [4 2] / [5 1 3] 12	034011	A1E150

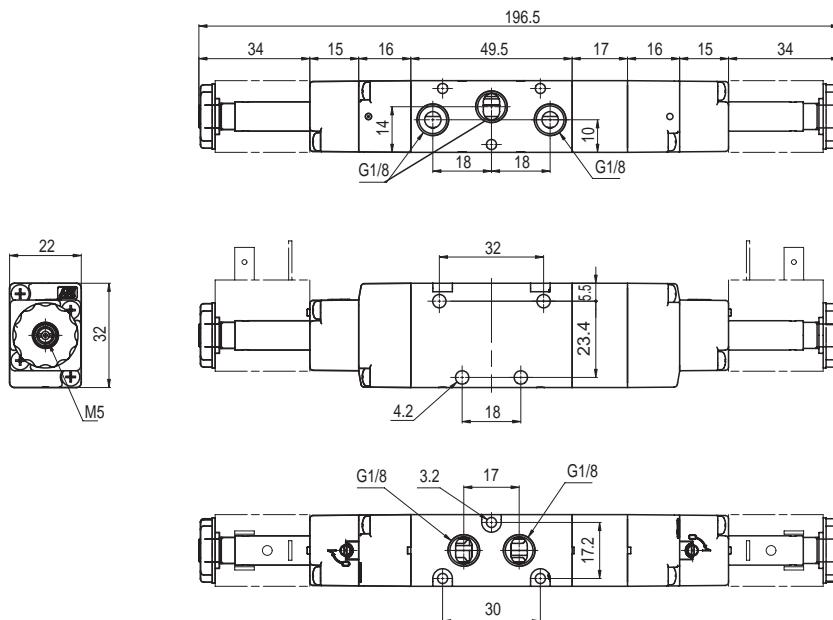
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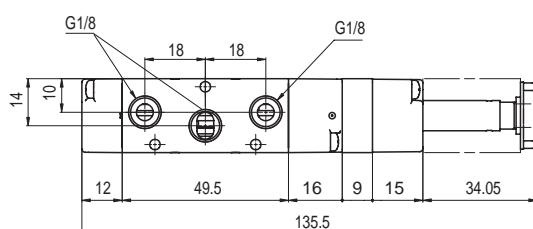
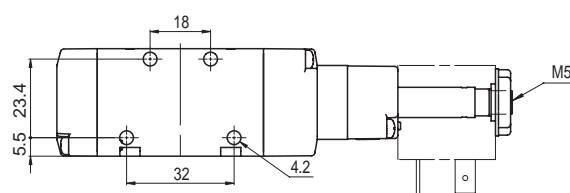
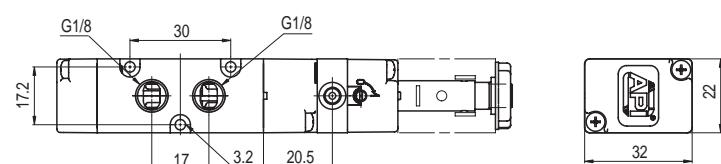
Version	Symbol	Code	Item
5/2 solenoid/solenoid	14 [4 2] / [5 1 3] 12	034021	A1E151

Valves series A1

1/8", 5/2 - 5/3, electrically operated



Version	Symbol	Code	Item
5/3 with closed centres		034031	A1E170
5/3 with open centres		034033	A1E171
5/3 with pressurised centers		034032	A1E172

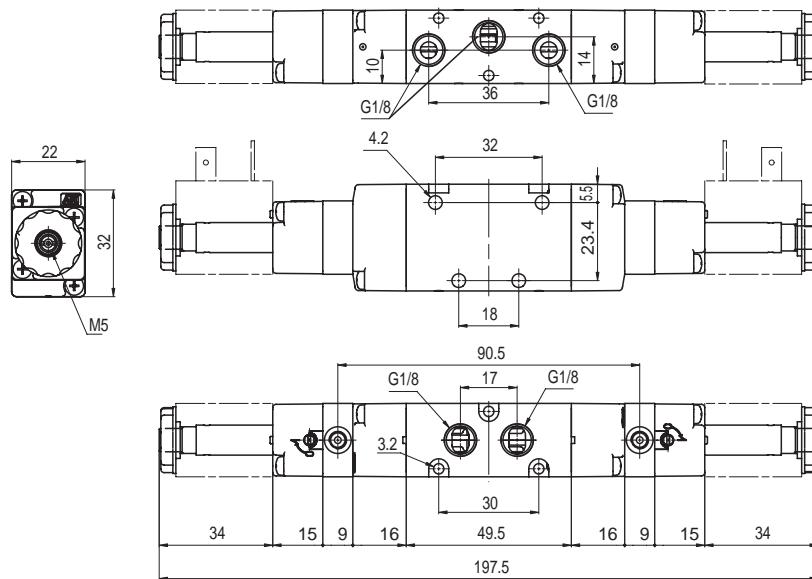


Version	Symbol	Code	Item
5/2 solenoid/spring, external air pilot		034012	A1K150

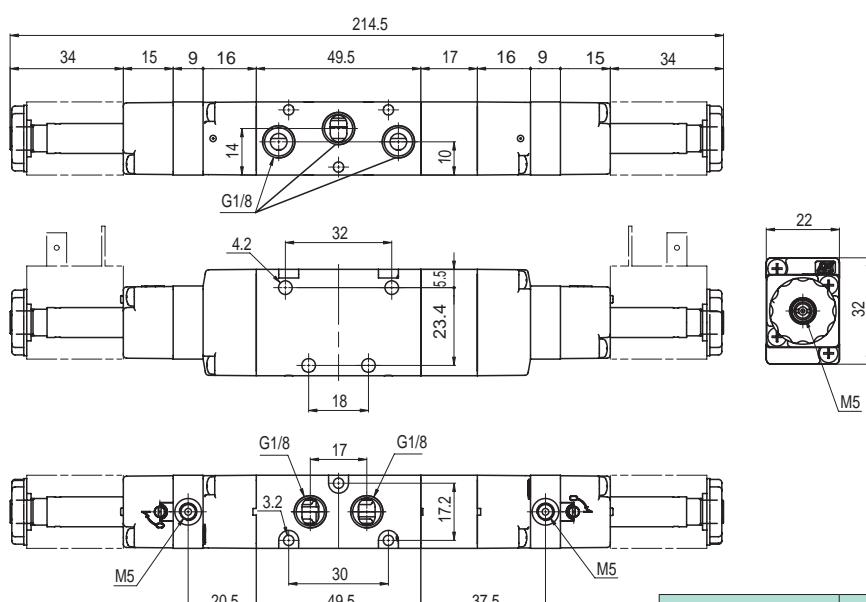
Valves series A1
1/8", 5/2 - 5/3, electrically operated



2



Version	Symbol	Code	Item
5/2 solenoid/solenoid external air pilot		034008	A1K151



Version	Symbol	Code	Item
5/3 with closed centres, external air pilot		034009	A1K170
5/3 with open centres, external air pilot		034010	A1K171
5/3 with pressurised centres external air pilot		034013	A1K172

Valves series A1

1/8", 3/2, pneumatically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC		034014	A1P130
3/2 NO		034015	A1P131
3/2 pilot/pilot		034016	A1P132
3/2 pilot/pilot differential		034017	A1P133



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

For the sub-bases type A1B1... see page.2.65.1



On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

Series	Actuation	Size	Function	Options
A1	P = pneumatic	1 = 1/8"	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 pilot/pilot 33 = 3/2 pilot/pilot differential	BT = low temp. seals

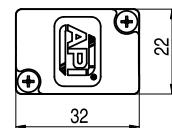
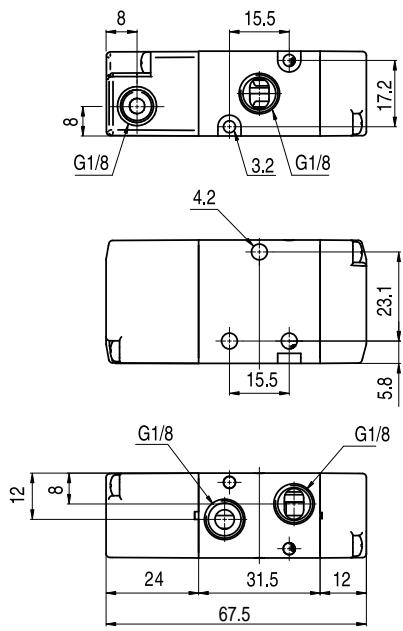
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if be used, must be continuous.		
Pressure range	Spring return: 1,5 ÷ 10 bar		Bistable: 1 ÷ 10 bar
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)
Orifice	6,5 mm		
Flow	650 NL/min at 6 bar with ΔP 1bar		
Minimum piloting pressure	1,5 bar		
Mounting	In any position		
Materials	Body:	Anodised aluminium	
	Covers:	Hostaform C 13031	
	Spool:	Hard aluminium anodized	
	Distancers:	Ixef 1022	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

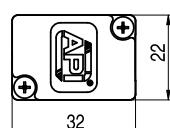
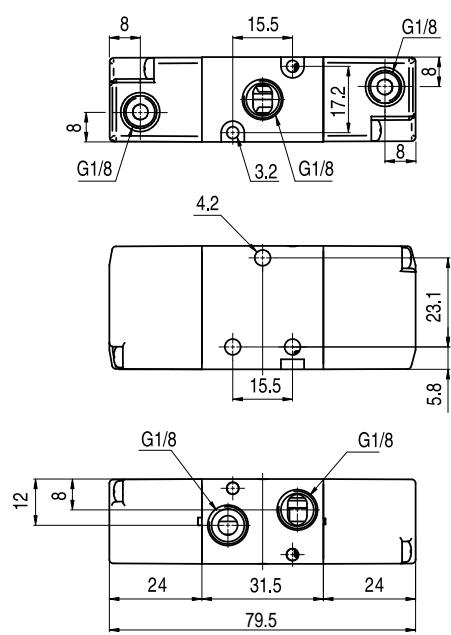
Valves series A1
1/8", 3/2, pneumatically operated



2



Version	Symbol	Code	Item
3/2 NC		034014	A1P130
3/2 NO		034015	A1P131



Version	Symbol	Code	Item
3/2 pilot/pilot		034016	A1P132
3/2 pilot/pilot differential		034017	A1P133

Valves series A1

1/8", 5/2 - 5/3, pneumatically operated



Standard executions

Version	Symbol	Code	Item
5/2 pilot/pilot		034001	A1P150
5/2 pilot/pilot		034002	A1P151
5/2 pilot/pilot differential		034018	A1P152
5/3 with closed centres		034019	A1P170
5/3 with open centres		034020	A1P171
5/3 with pressurised centres		034022	A1P172
5/3 with closed centres differential		034175	A1P173



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

For the sub-bases type A1B1... see page 2.65.1

Code key

Series	Actuation	Size	Function	Options
A1	P = pneumatic	1 = 1/8"	50 = 5/2 pilot/spring 51 = 5/2 pilot/pilot 52 = 5/2 pilot/pilot differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC 73 = 5/3 CC differential	BT = low temp. seals



On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

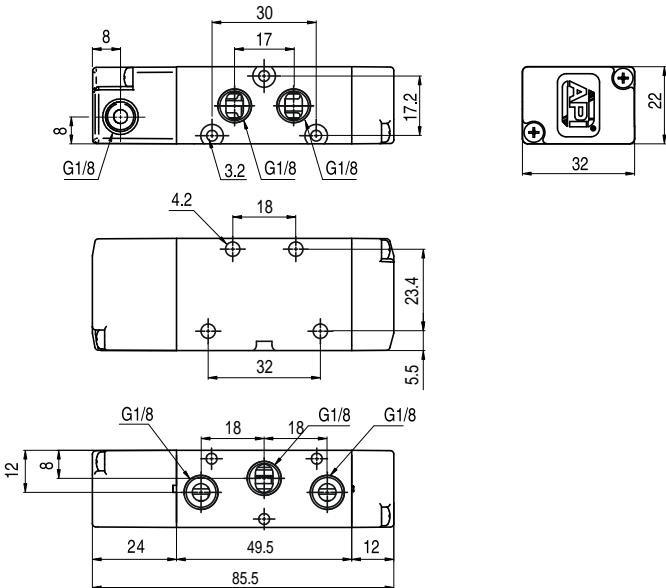
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	Spring return: 1,5 ÷ 10 bar	Bistable: 1 ÷ 10 bar	3 position: 2,5 ÷ 10 bar
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)
Orifice	6,5 mm		
Flow	650 NL/min at 6 bar with ΔP 1bar		
Minimum piloting pressure	1,5 bar		
Mounting	In any position		
Materials	Body:	Anodised aluminium	
	Covers:	Hostaform C 13031	
	Spool:	Hard aluminium anodized	
	Distancers:	Ixef 1022	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

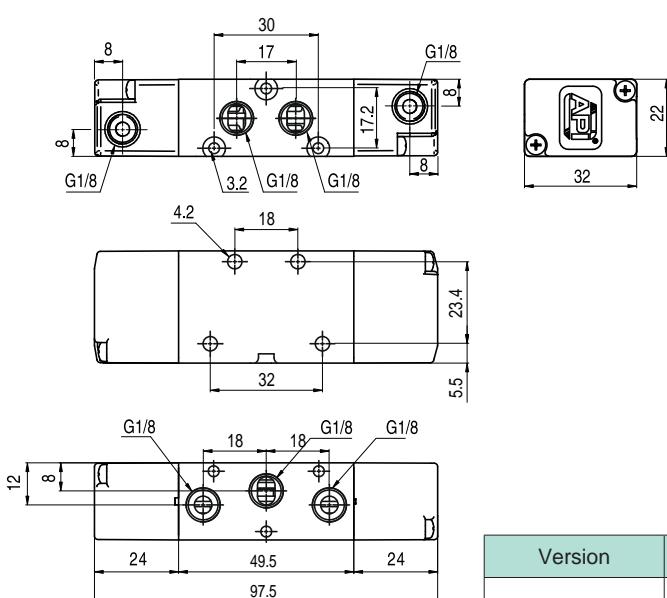
Valves series A1
1/8", 5/2 - 5/3, pneumatically operated



2

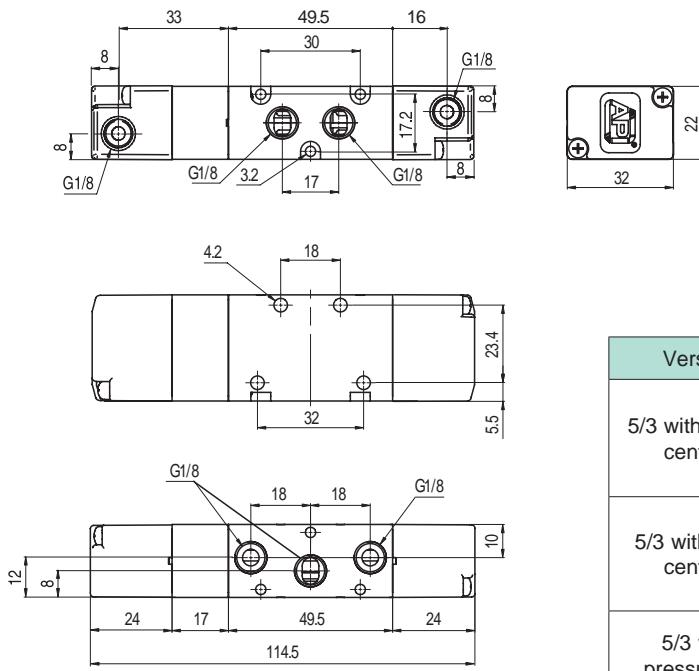


Version	Symbol	Code	Item
5/2 pilot/spring	14 4 2 12 1 5 13	034001	A1P150



Version	Symbol	Code	Item
5/2 pilot/pilot	14 4 2 12 1 5 13	034002	A1P151
5/2 pilot/pilot differential	14 4 2 12 1 5 13	034018	A1P152

Valves series A1
1/8", 5/2 - 5/3, pneumatically operated



Version	Symbol	Code	Item
5/3 with closed centres		034019	A1P170
5/3 with open centres		034020	A1P171
5/3 with pressurised centres		034022	A1P172
5/3 with closed centres differential		034175	A1P173

Valves series A1 1/8", sub-bases



Standard executions

Version	Code	Item
2 positions	034041	A1B102
3 positions	034042	A1B103
4 positions	034043	A1B104
5 positions	034044	A1B105
6 positions	034045	A1B106
7 positions	034046	A1B107
8 positions	034047	A1B108
9 positions	034048	A1B109
10 positions	034049	A1B110
blanking plate	034050	A1C1
plug	034051	A1T1



Multi-position sub-bases with fixed position, for valves series A1, 3 and 5 ways. 2 fixing screws for each position and the relevant seals are included in the base kit.

Spare positions can be blanked with plate.

2

Material:	Profiled anodised aluminium
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Code key

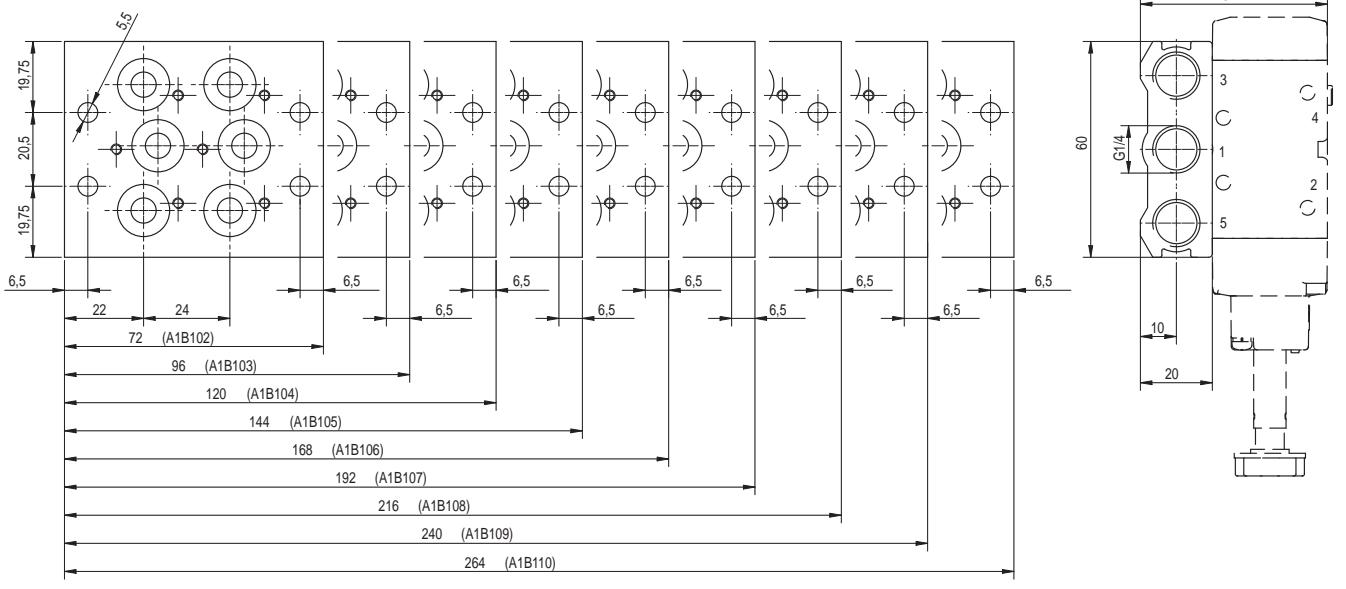
Series	Product	Size	N° positions
A1	B = base C = blanking plate T = plug	1 = 1/8"	from 02 to 10



On request, they can be supplied according to 2014/34/EU - ATEX

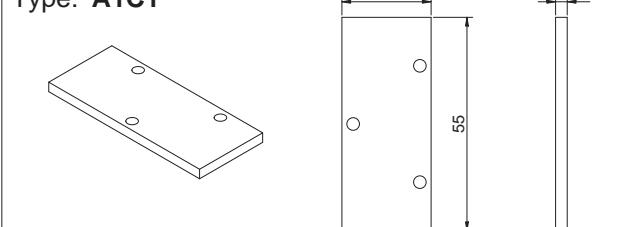
Multi position sub-base

Type: A1B1..



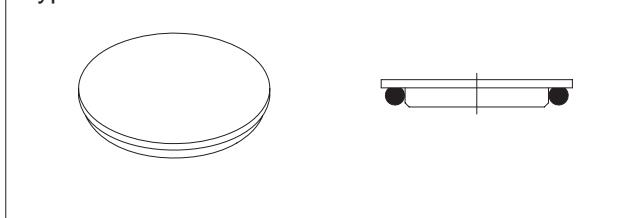
Blanking plate

Type: A1C1



Plug

Type: A1T1



Valves series A1

1/4", 3/2, electrically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC	12	034025	A1E230
3/2 NO	23	034040	A1E231
3/2 solenoid/solenoid	12	034024	A1E232
3/2 NC external air pilot	12	034039	A1K230
3/2 solenoid/solenoid external air pilot	12	034023	A1K232



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Coils and connectors have to be ordered separately.

For the coils type ASA12...

see page 2.200.1

For the connectors type A122...

see page 2.210.20

For the sub-bases type A1B2...

see page 2.85.1



On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

Series	Actuation	Size	Function	Options
A1	E = electrical K = electrical with external air pilot	2 = 1/4"	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 sol./sol.	BT = low temp. seals

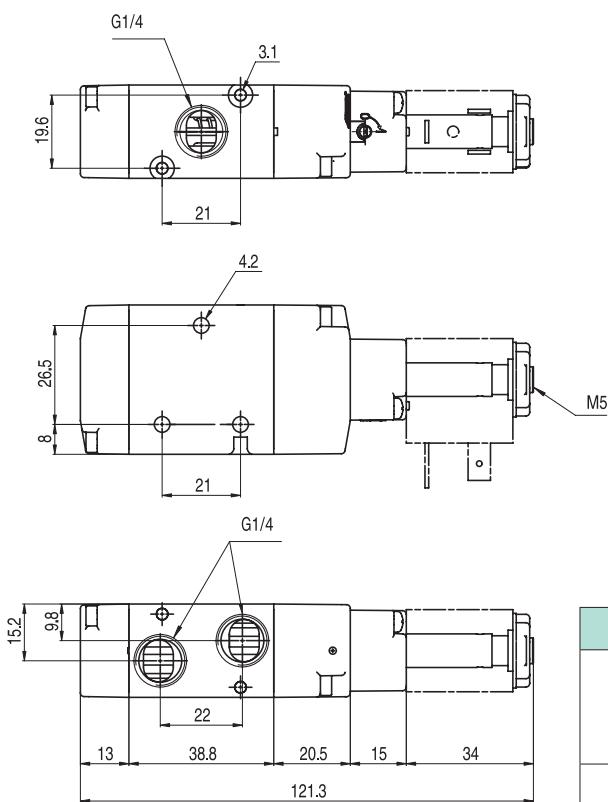
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.					
Pressure range	Spring return: 1,5 ÷ 10 bar		Bistable: 1 ÷ 10 bar			
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)			
Orifice	8 mm					
Flow	1.100 Nl/min at 6 bar with ΔP 1 bar					
Minimum external air pressure	1,5 bar					
Mounting	In any position					
Manual override	Bistable					
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid			
	Energising: 45 ms	De-energising: 19 ms	Energising: 21 ms	De-energising: 21 ms		
Materials	Body:	Anodised aluminium				
	Covers:	Hostaform C 13031				
	Spool:	Hard aluminium anodized				
	Distancers:	Ixef 1022				
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)				

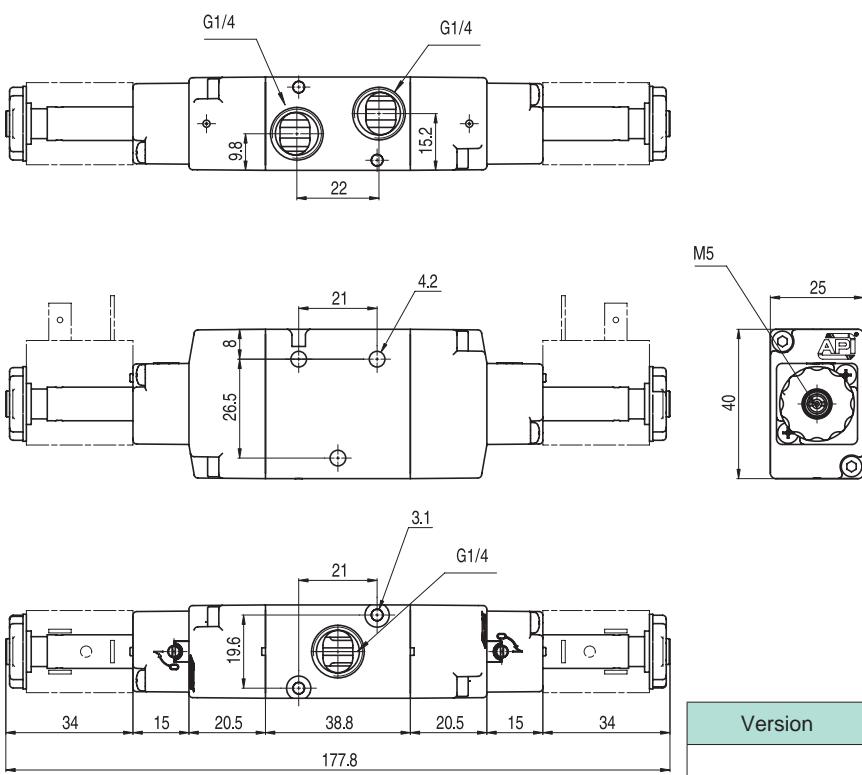
Valves series A1 1/4", 3/2, electrically operated



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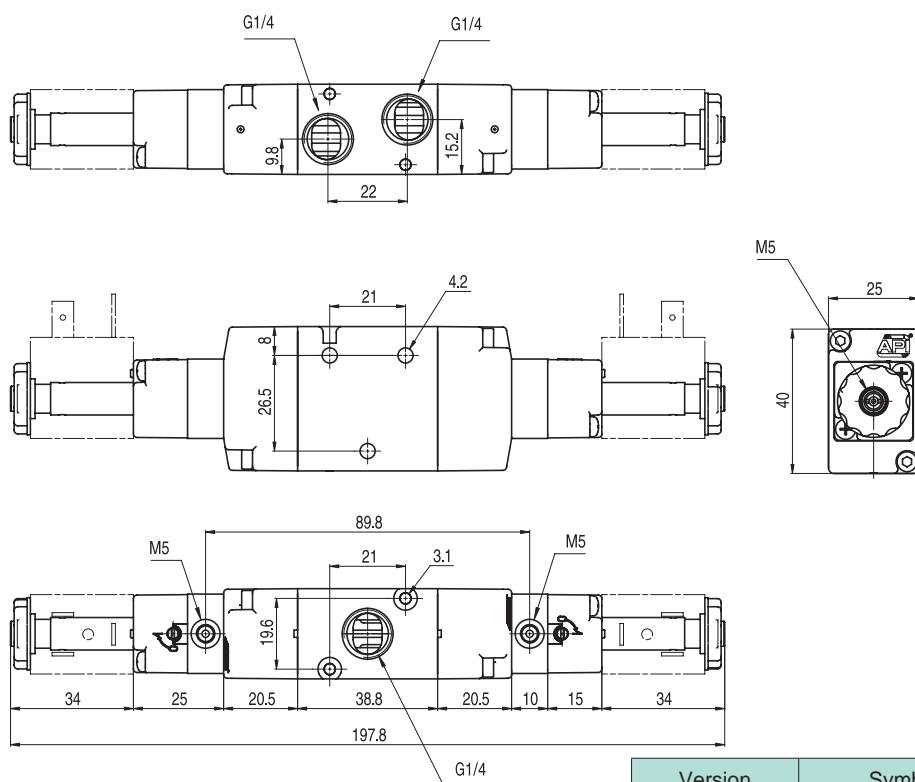
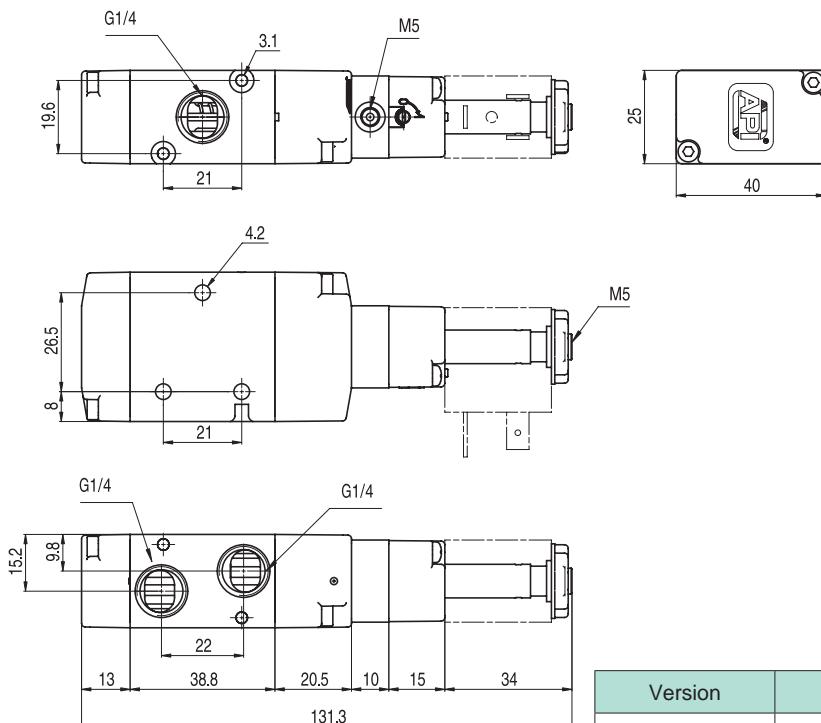


Version	Symbol	Code	Item
3/2 NC	12	034025	A1E230
3/2 NO	23	034040	A1E231



Version	Symbol	Code	Item
3/2 solenoid/solenoid	12	034024	A1E232

**Valves series A1
1/4", 3/2, electrically operated**



Valves series A1

1/4", 5/2 - 5/3, electrically operated



Standard executions

Version	Symbol	Code	Item
5/2 solenoid/spring	14 4 2 5 1 3 12	034111	A1E250
5/2 solenoid/solenoid	14 4 2 5 1 3 12	034121	A1E251
5/3 with closed centres	14 4 2 5 1 3 12	034131	A1E270
5/3 with open centres	14 4 2 5 1 3 12	034133	A1E271
5/3 with pressurised centres	14 4 2 5 1 3 12	034132	A1E272
5/2 solenoid/spring, external air pilot	14 4 2 5 1 3 12	034035	A1K250
5/2 solenoid/solenoid external air pilot	14 4 2 5 1 3 12	034034	A1K251
5/3 with closed centres, external air pilot	14 4 2 5 1 3 12	034037	A1K270
5/3 with open centres, external air pilot	14 4 2 5 1 3 12	034038	A1K271
5/3 with pressurised centres external air pilot	14 4 2 5 1 3 12	034036	A1K272

Options	Suffix
Low temperature seals	(-25 ÷ +60°C)



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Coils and connectors have to be ordered separately.

For the coils type ASA12... see page 2.200.1

For the connectors type A122... see page 2.210.20

For the sub-bases type A1B2... see page 2.85.1

Code key

Series	Actuation	Size	Function	Options
A1	E = electrical K = electrical with external air pilot	2 = 1/4"	50 = 5/2 sol./spring 51 = 5/2 sol./sol. 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC	BT = low temp. seals

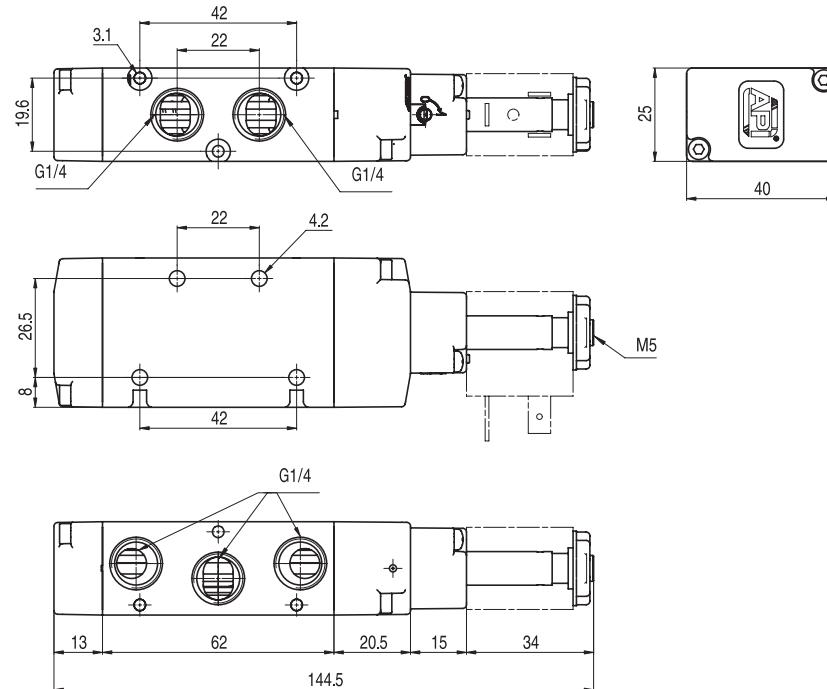


On request, they can be supplied according to 2014/34/EU - ATEX

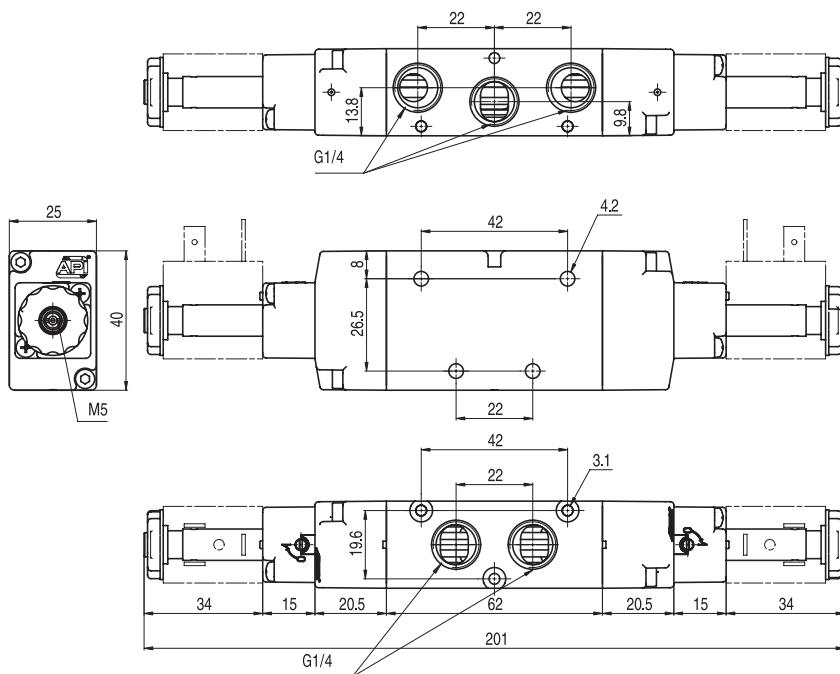
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.					
Pressure range	Spring return: 1,5 ÷ 10 bar		Bistable: 1 ÷ 10 bar	3 position: 2,5 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)			
Orifice	8 mm					
Flow	1.100 NL/min at 6 bar with ΔP 1 bar					
Minimum external air pressure	1,5 bar					
Mounting	In any position					
Manual override	Bistable					
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid			
	Energising: 45 ms	De-energising: 19 ms	Energising: 21 ms	De-energising: 21 ms		
Materials	Body: Covers: Spool: Distancers: Seals:	Anodised aluminium Hostaform C 13031 Hard aluminium anodized Ixef 1022 Hydrogenated Nitrile Butadiene Rubber (HNBR)				

**Valves series A1
1/4", 5/2 - 5/3, electrically operated**



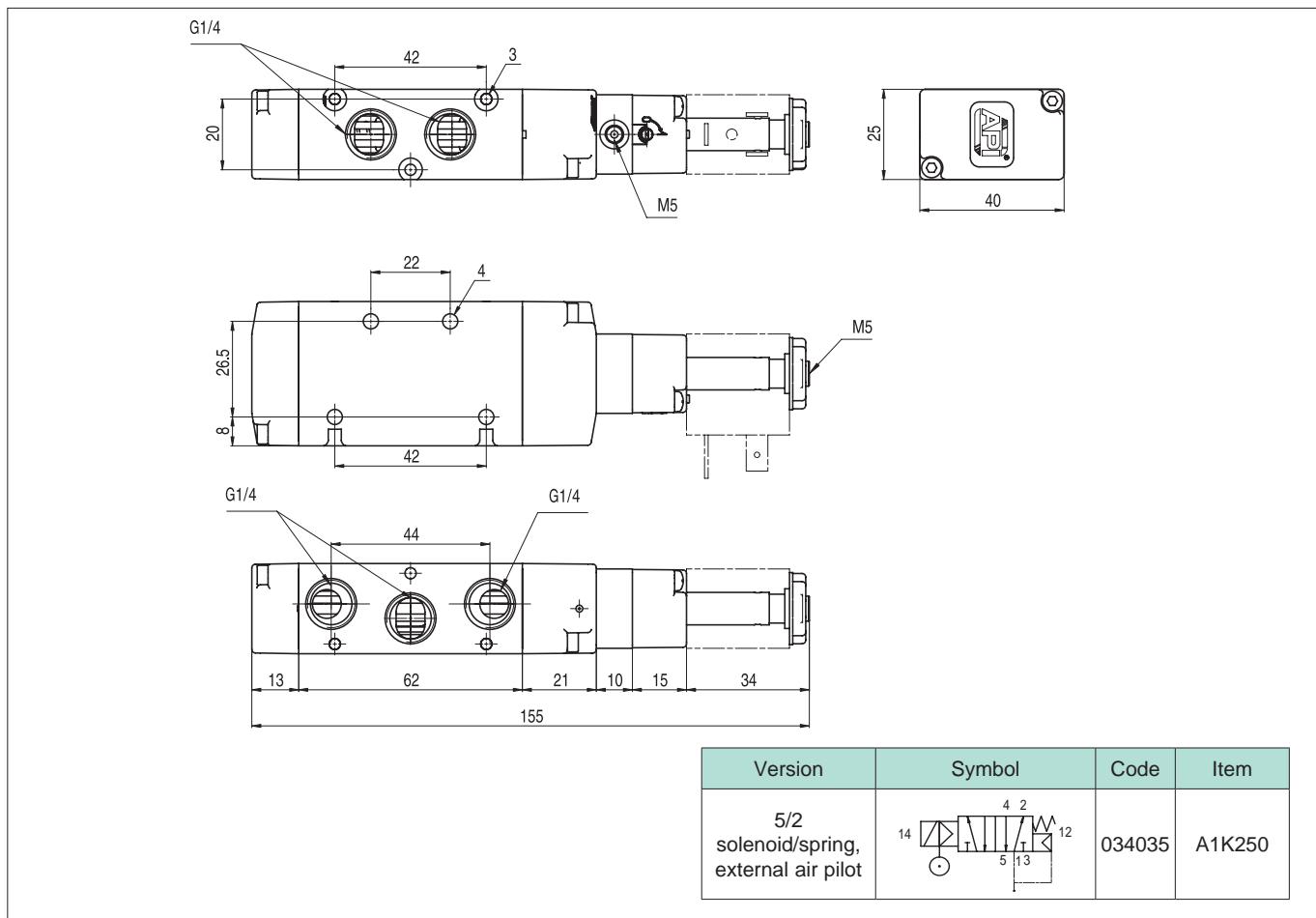
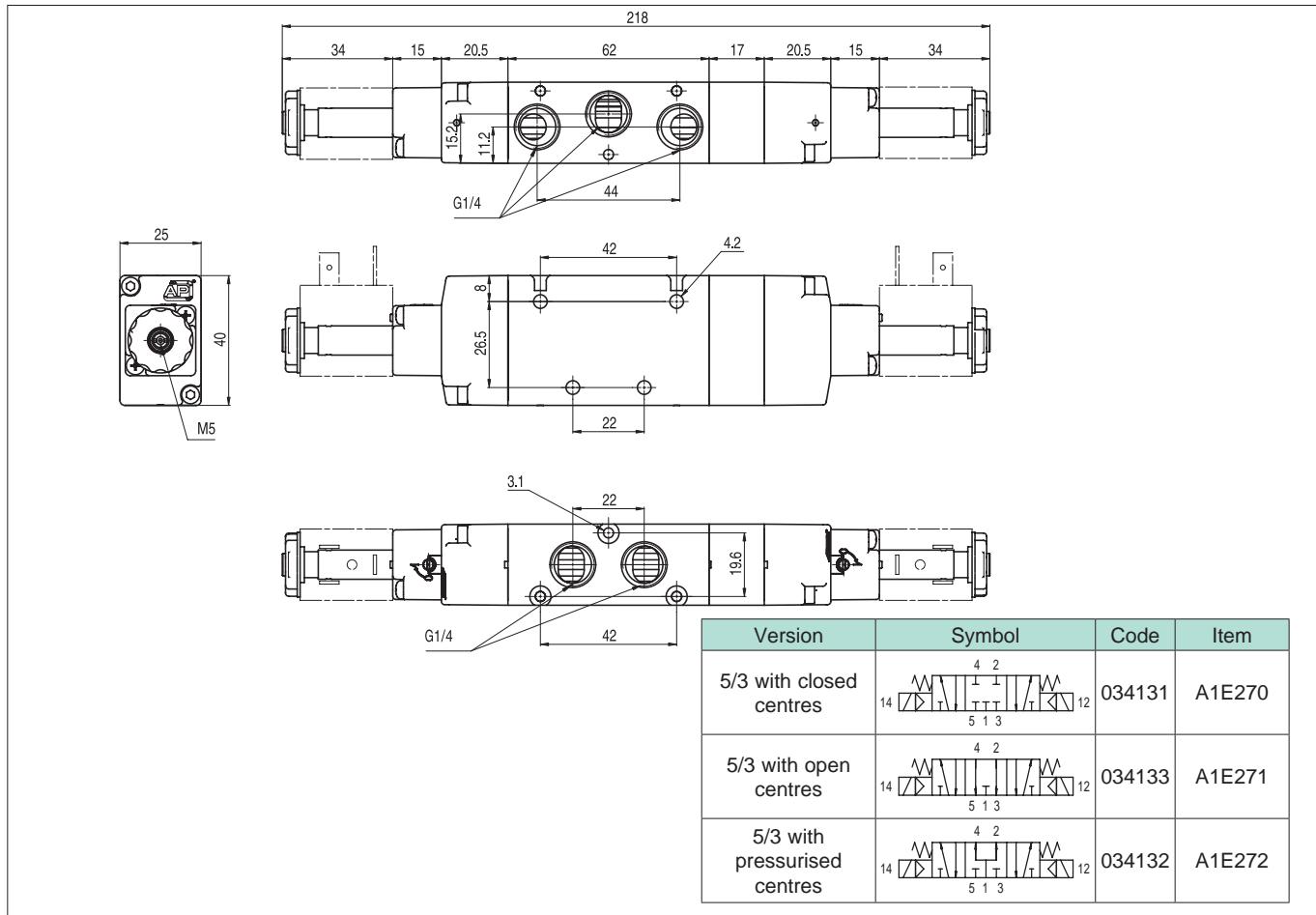
Version	Symbol	Code	Item
5/2 solenoid/spring	14 [] 4 2 / T T 5 1 3 [] 12	034111	A1E250



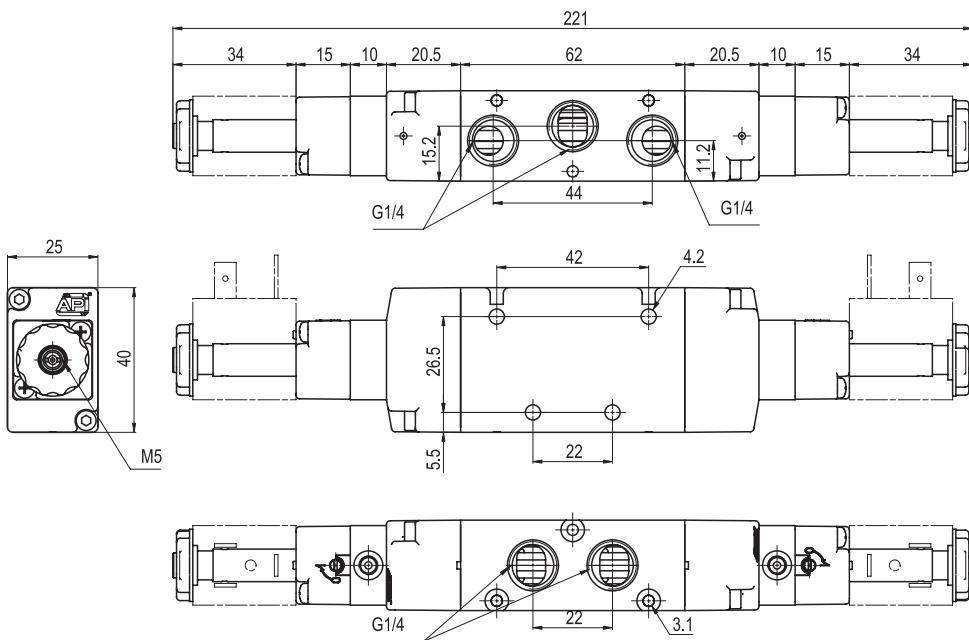
Version	Symbol	Code	Item
5/2 solenoid/solenoid	14 [] 4 2 / T T 5 1 3 [] 12	034121	A1E251

Valves series A1

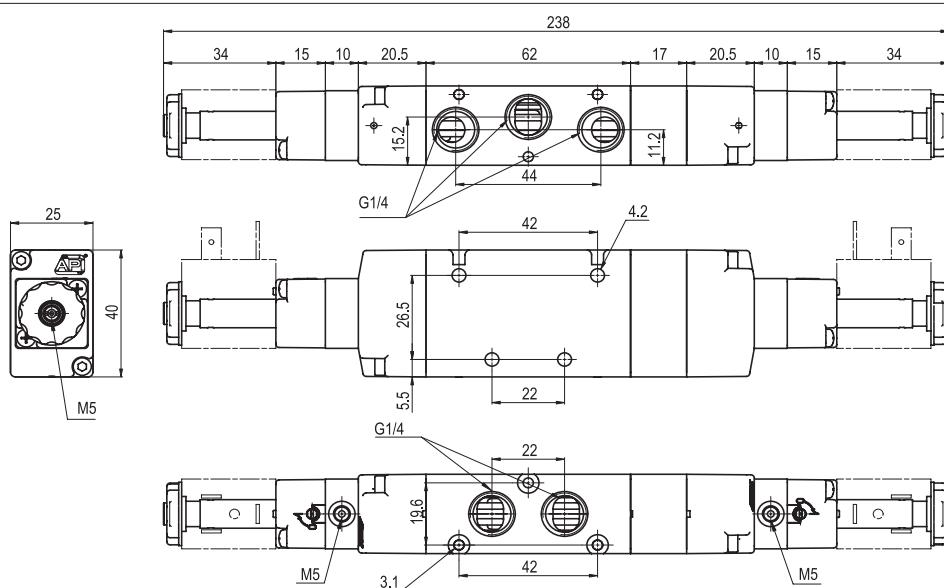
1/4", 5/2 - 5/3, electrically operated



**Valves series A1
1/4", 5/2 - 5/3, electrically operated**



Version	Symbol	Code	Item
5/2 solenoid/solenoid external air pilot	14 4 2 5 1 3 12	034034	A1K251



Version	Symbol	Code	Item
5/3 with closed centres, external air pilot	14 4 2 5 1 3 12	034037	A1K270
5/3 with open centres, external air pilot	14 4 2 5 1 3 12	034038	A1K271
5/3 with pressurised centres external air pilot	14 4 2 5 1 3 12	034036	A1K272

Valves series A1 1/4", 3/2, pneumatically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC	12	034027	A1P230
3/2 NO	23	034054	A1P231
3/2 pilot/pilot	12	034026	A1P232
3/2 pilot/pilot differential	12	034055	A1P233



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

For the sub-bases type A1B2... see page 2.85.1

2



II 2Gc IIB T5
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

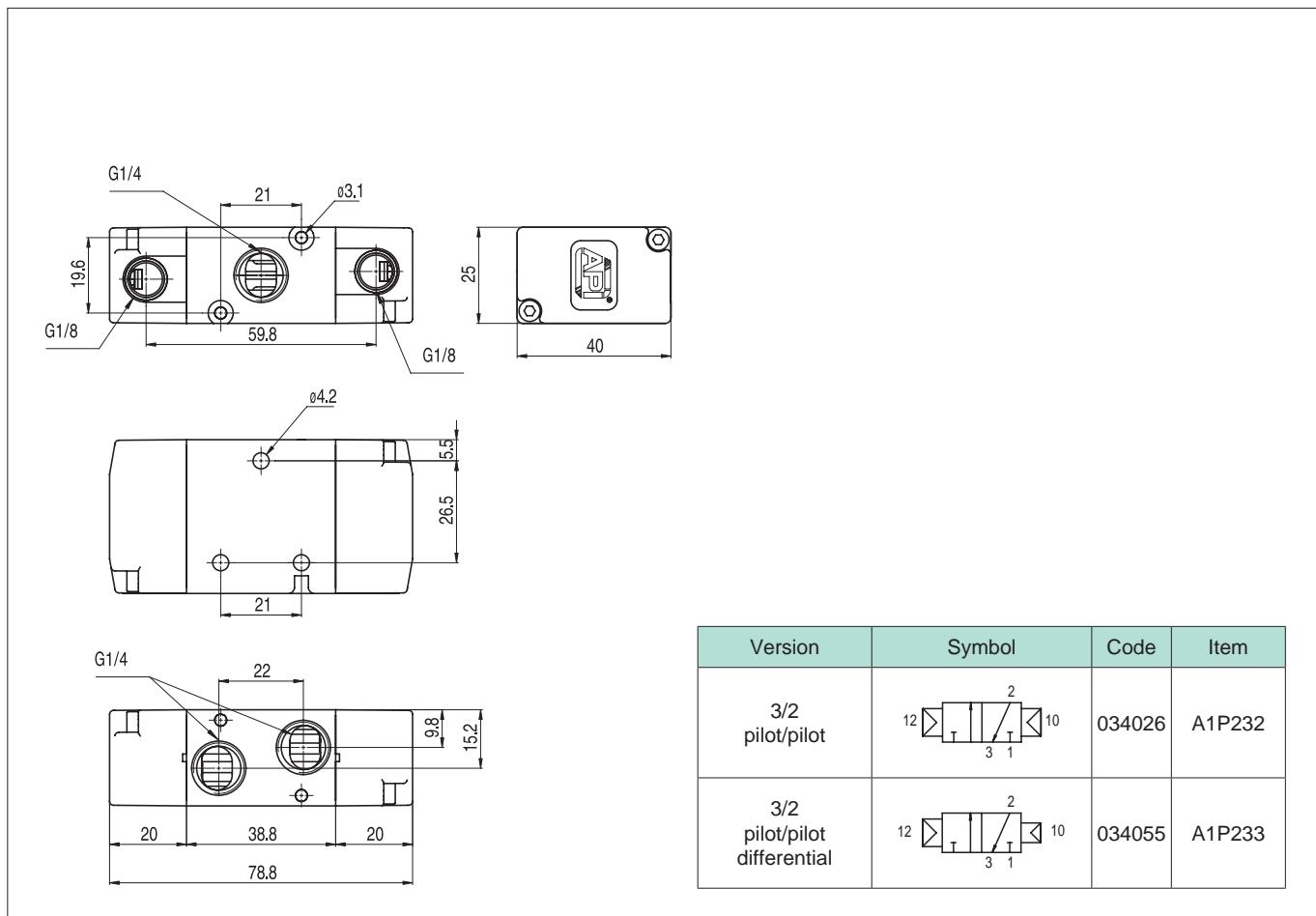
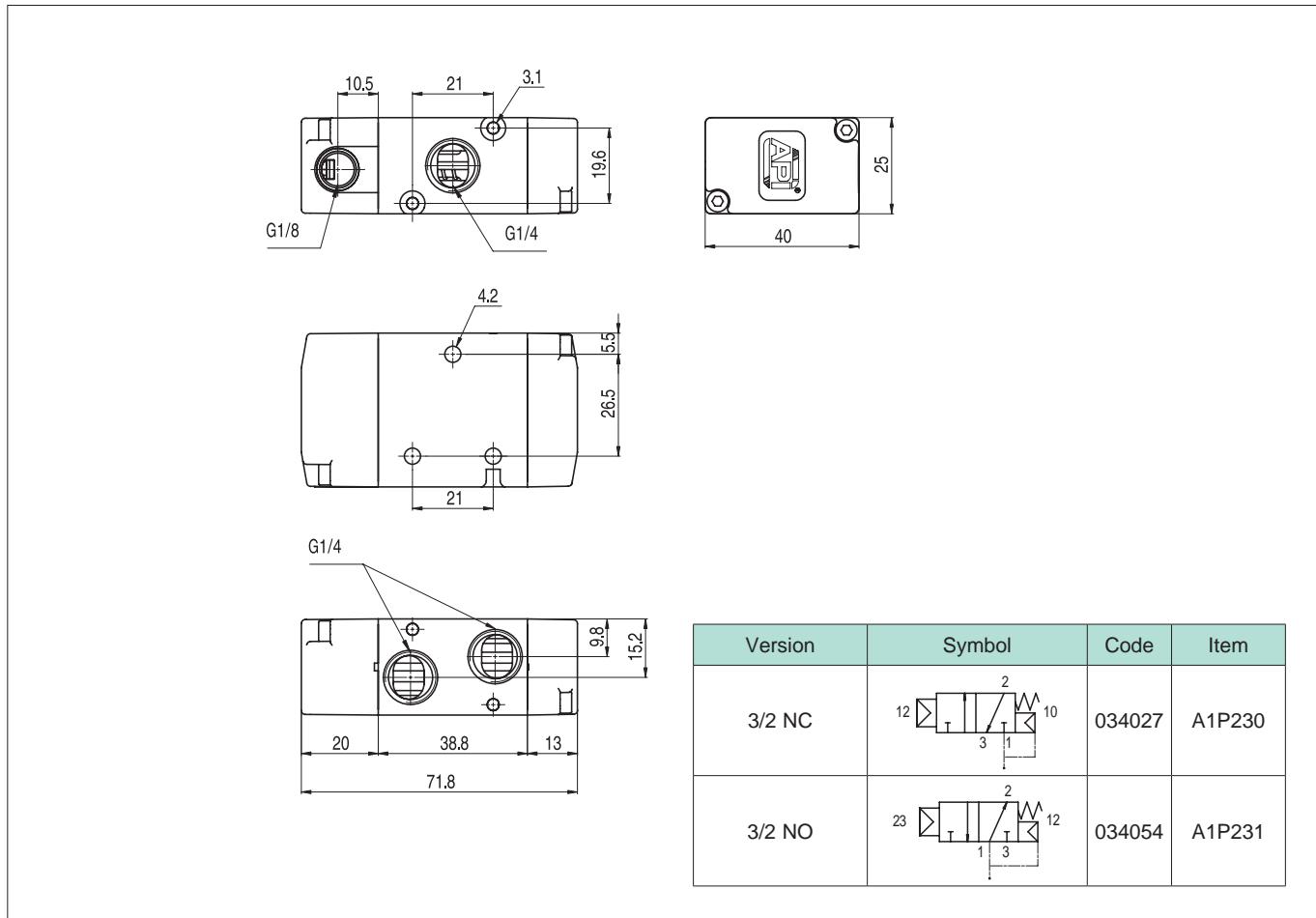
Series	Actuation	Size	Function	Options
A1	P = pneumatic	2 = 1/4"	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 pilot/pilot 33 = 3/2 pilot/pilot differential	BT = low temp. seals

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	Spring return: 1,5 ÷ 10 bar	Bistable: 1 ÷ 10 bar	
Temperature range	-10°C ÷ +60°C (standard)	-25°C ÷ +60°C (BT)	
Orifice	8 mm		
Flow	1.100 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	1,5 bar		
Manual override	Bistable		
Materials	Body:	Anodised aluminium	
	Covers:	Hostaform C 13031	
	Spool:	Hard aluminium anodized	
	Distancers:	Ixef 1022	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

Valves series A1

1/4", 3/2, pneumatically operated



Valves series A1

1/4", 5/2 - 5/3, pneumatically operated



Standard executions

Version	Symbol	Code	Item
5/2 pilot/spring	4 2 14 [] T T 12 5 13	034101	A1P250
5/2 pilot/pilot	4 2 14 [] T T 12 5 13	034102	A1P251
5/2 pilot/pilot differential	4 2 14 [] T T 12 5 13	034056	A1P252
5/3 with closed centres	4 2 14 [] T T T T 12 5 1 3	034029	A1P270
5/3 with open centres	4 2 14 [] T T T T 12 5 1 3	034030	A1P271
5/3 with pressurised centres	4 2 14 [] T T T T 12 5 1 3	034028	A1P272



II 2Gc IIB T5
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

For the sub-bases type A1B2... see page 2.85.1

Code key

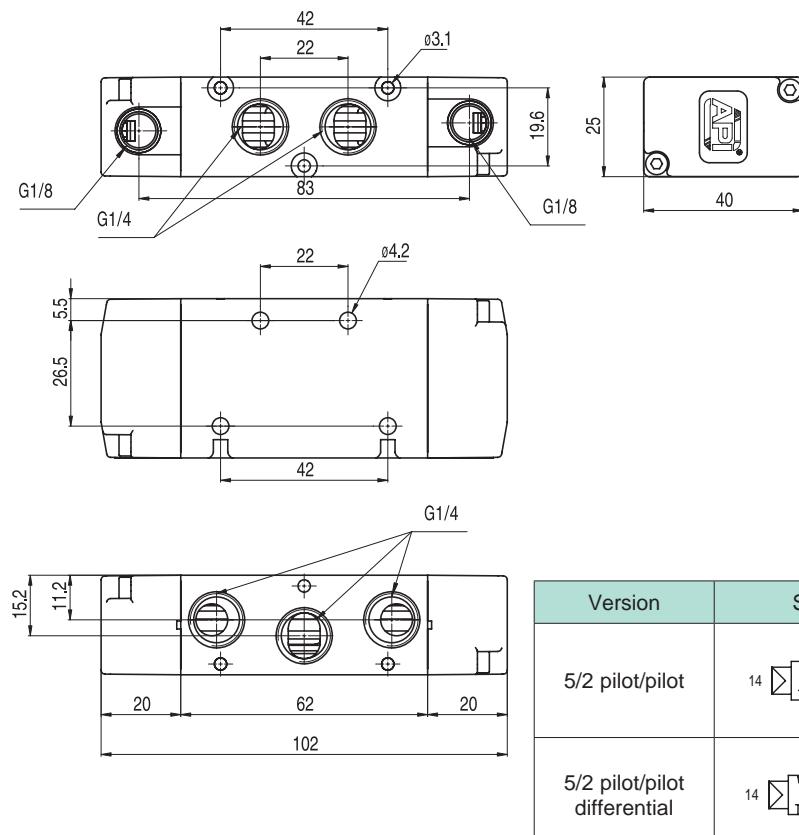
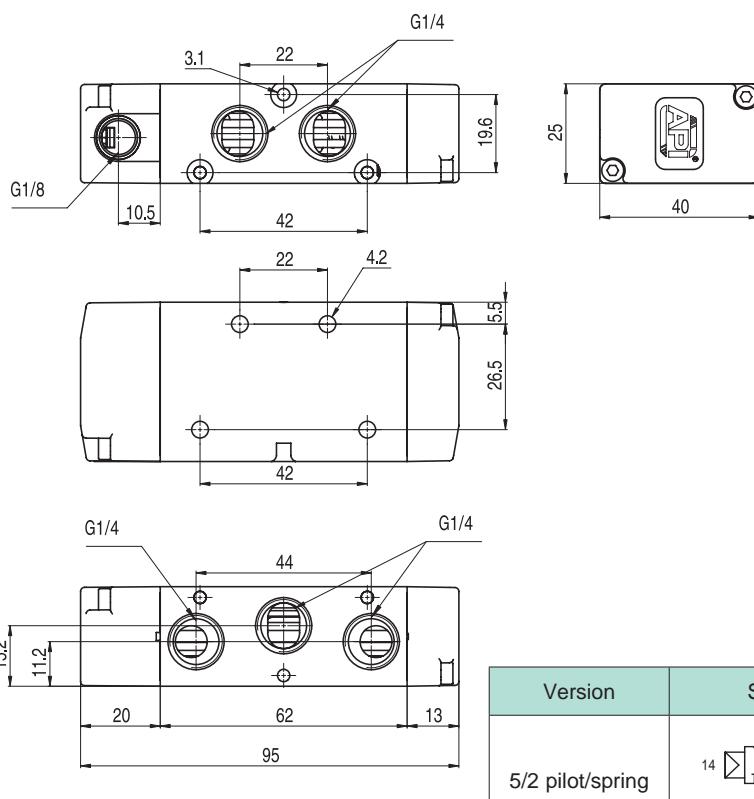
Series	Actuation	Size	Function	Options
A1	P = pneumatic	2 = 1/4"	50 = 5/2 pilot/spring 51 = 5/2 pilot/pilot 52 = 5/2 pilot/pilot differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC	BT = low temp. seals

Technical data

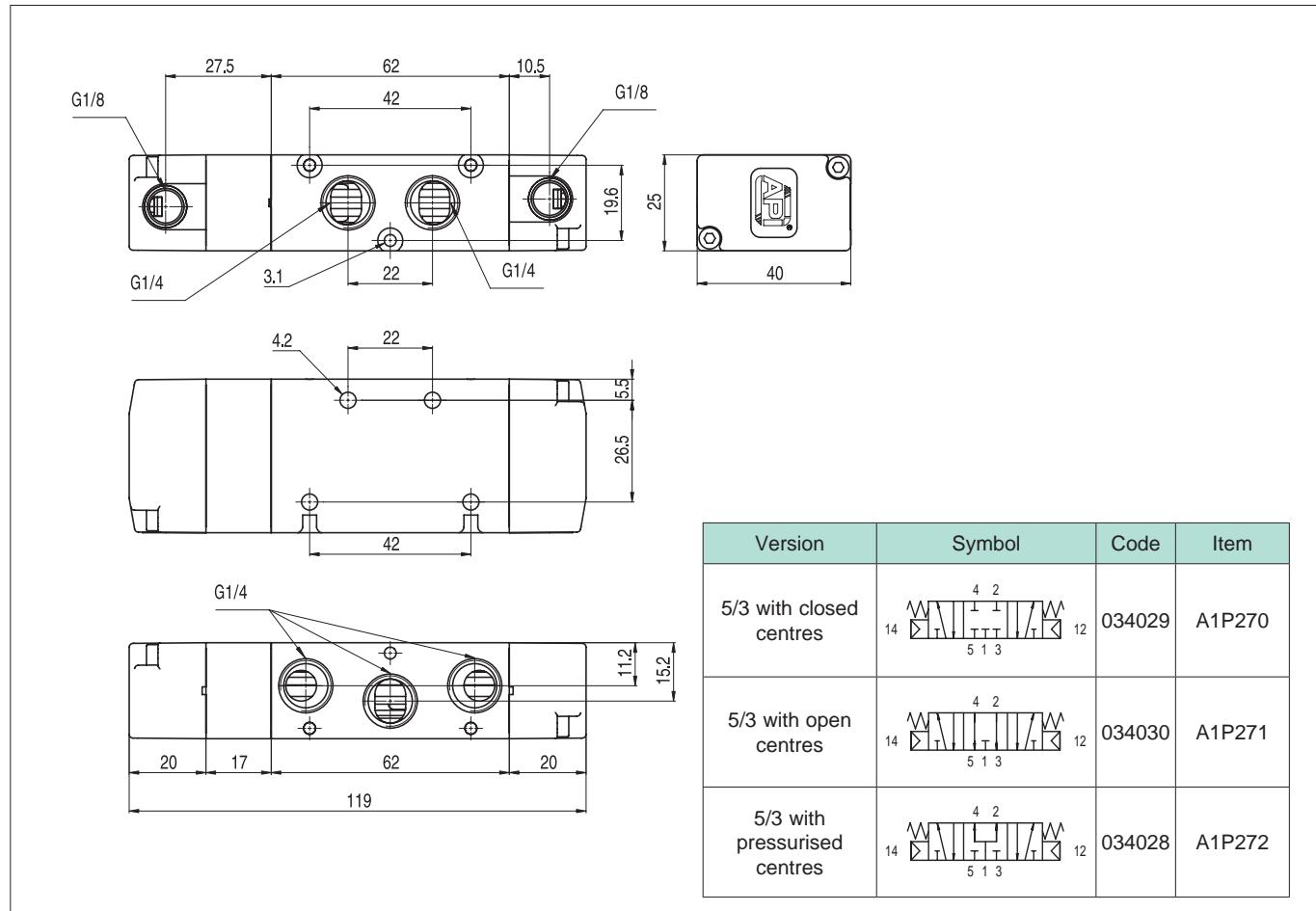
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	Spring return: 1,5 ÷ 10 bar	Bistable: 1 ÷ 10 bar	3 position: 2,5 ÷ 10 bar
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)
Orifice	8 mm		
Flow	1.100 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	1,5 bar		
Manual override	Bistable		
Materials	Body:	Anodised aluminium	
	Covers:	Hostaform C 13031	
	Spool:	Hard aluminium anodized	
	Distancers:	Ixef 1022	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

Valves series A1

1/4", 5/2 - 5/3, pneumatically operated



Valves series A1
1/4", 5/2 - 5/3, pneumatically operated



Valves series A1 1/4", sub-bases



Standard executions

Version	Code	Item
2 positions	034141	A1B202
3 positions	034142	A1B203
4 positions	034143	A1B204
5 positions	034144	A1B205
6 positions	034145	A1B206
7 positions	034146	A1B207
8 positions	034147	A1B208
9 positions	034148	A1B209
10 positions	034149	A1B210
blanking plate	034150	A1C2
plug	034151	A1T2



Multi-position sub-bases with fixed position, for valves series A1, 3 and 5 ways. 2 fixing screws for each position and the relevant seals are included in the base kit.

Spare positions can be blanked with plate.

Material:	Profiled anodised aluminium
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II 2Gc IIB T5
II 2Dc T100°C

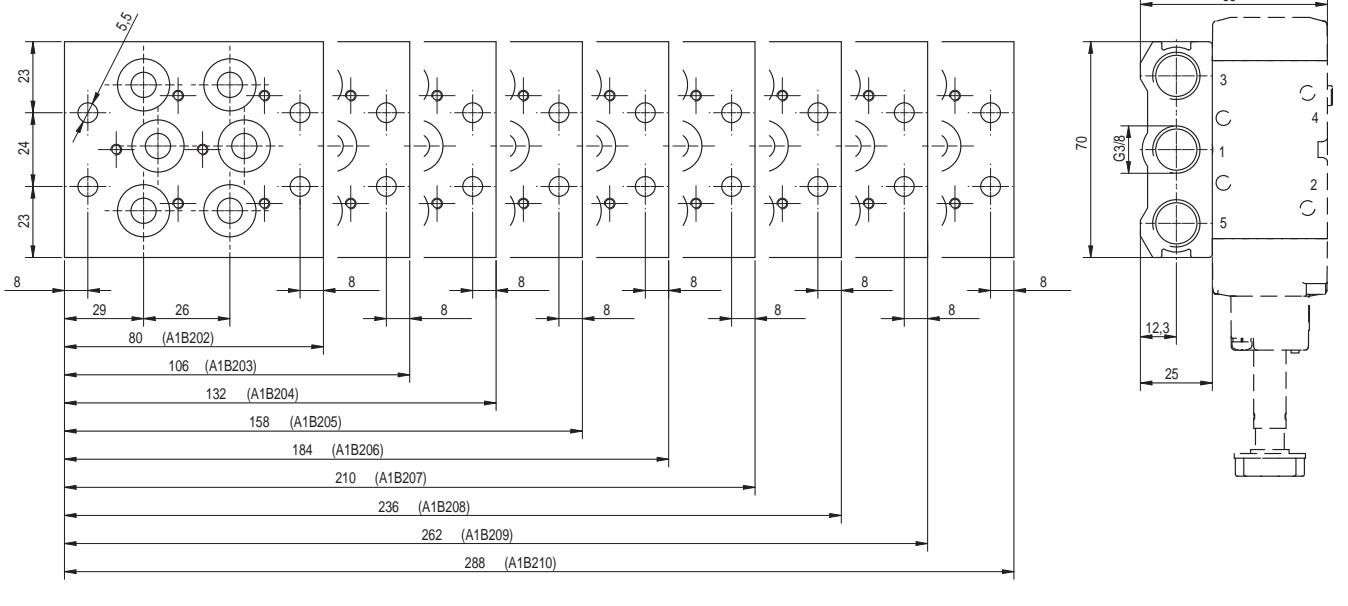
On request, they can be supplied according to 2014/34/EU - ATEX

Code key

Series	Product	Size	Nº positions
A1	B = base C = blanking plate T = plug	2 = 1/4"	from 02 to 10

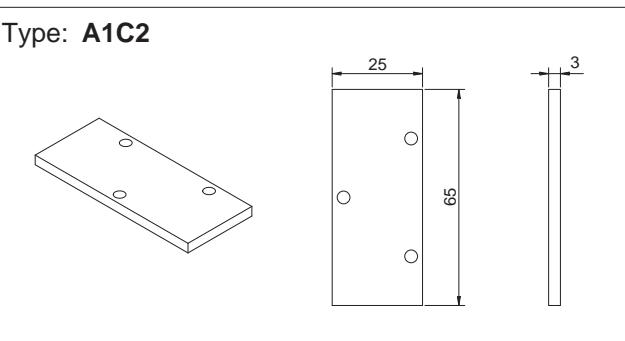
Multi position sub-base

Type: A1B2..



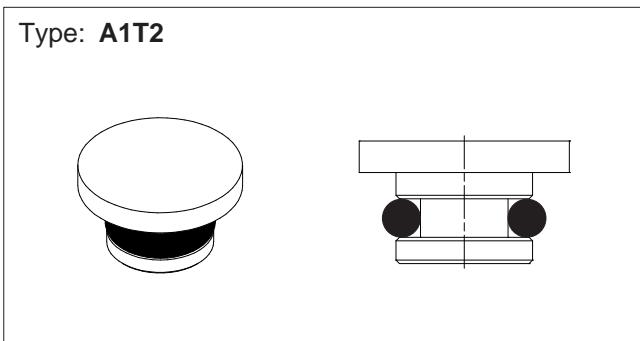
Blanking plate

Type: A1C2



Plug

Type: A1T2



Valves series A1N

1/4", 3/2 - 5/2 - 5/3, NAMUR interface, electrically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC solenoid/spring		034059	A1NE230
3/2 solenoid/solenoid		034060	A1NE232
5/2 solenoid/spring		034057	A1NE250
5/2 solenoid/solenoid		034058	A1NE251
5/3 with closed centres		034174	A1NE270
5/3 with open centres		034179	A1NE271
5/3 with pressurised centres		034254	A1NE272



II 2Gc IIB T5
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT



Series of spool valves, with static seals, high flow, for mounting on NAMUR interface.

Coils and connectors have to be ordered separately.

For the coils type ASA12...

see page 2.200.1

For the coils type ASA2... (1)

see from page. 2.200.10

For the connectors type A122...

see page 2.210.20

Code key

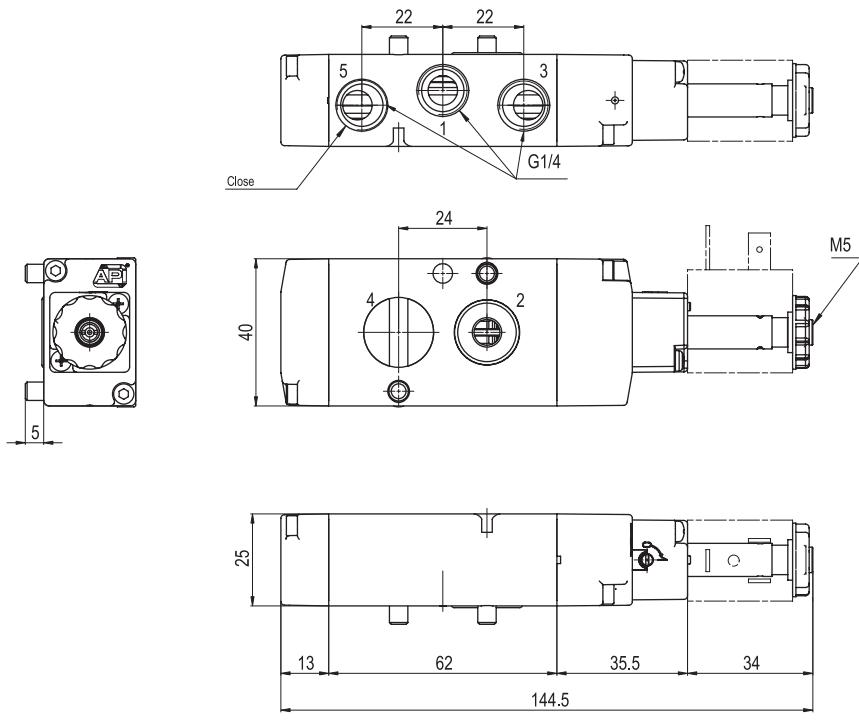
Series	Actuation	Size	Function	Options
A1N = NAMUR	E = electrical	2 = 1/4"	30 = 3/2 NC 32 = 3/2 sol./sol. 50 = 5/2 sol./spring 51 = 5/2 sol./sol. 70 = 5/3 CC 71 = 5/3 OC 71 = 5/3 OC	BT = low temp. seals

Note (1)	Code	Item
For assembling coils type ASA2... order plate PSN...	034203	PSN 3/2
	034166	PSN 5/2

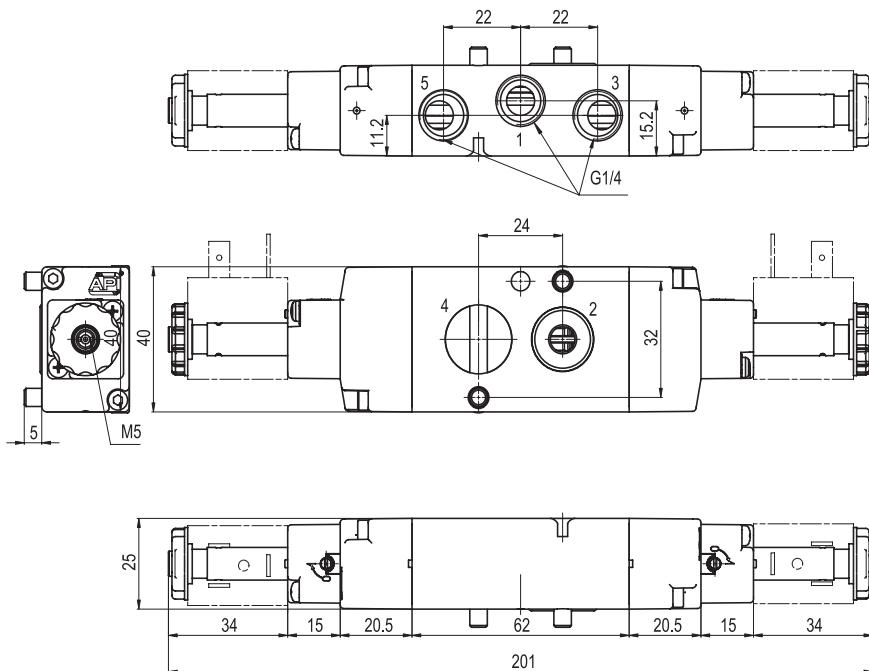
Technical data							
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.						
Pressure range	1 ÷ 10 bar						
Temperature range	-10°C ÷ +60°C (standard)	-25°C ÷ +60°C (BT)					
Orifice	7 mm						
Flow	1.000 NL/min at 6 bar with ΔP 1 bar						
Minimum piloting pressure	1,5 bar						
Minimum external air pressure	1,5 bar						
Mounting	In any position						
Manual override	Bistable						
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid				
	Energising: 45 ms	De-energising: 19 ms	Energising: 21 ms	De-energising: 21 ms			
Materials	Body: Covers: Spool: Distancers: Seals:	Die-cast painted aluminium Hostaform C 13031 Hard aluminium anodized Ixef 1022 Hydrogenated Nitrile Butadiene Rubber (HNBR)					

Valves series A1N

1/4", 3/2 - 5/2 - 5/3, NAMUR interface, electrically operated



Version	Symbol	Code	Item
3/2 NC solenoid/spring		034059	A1NE230



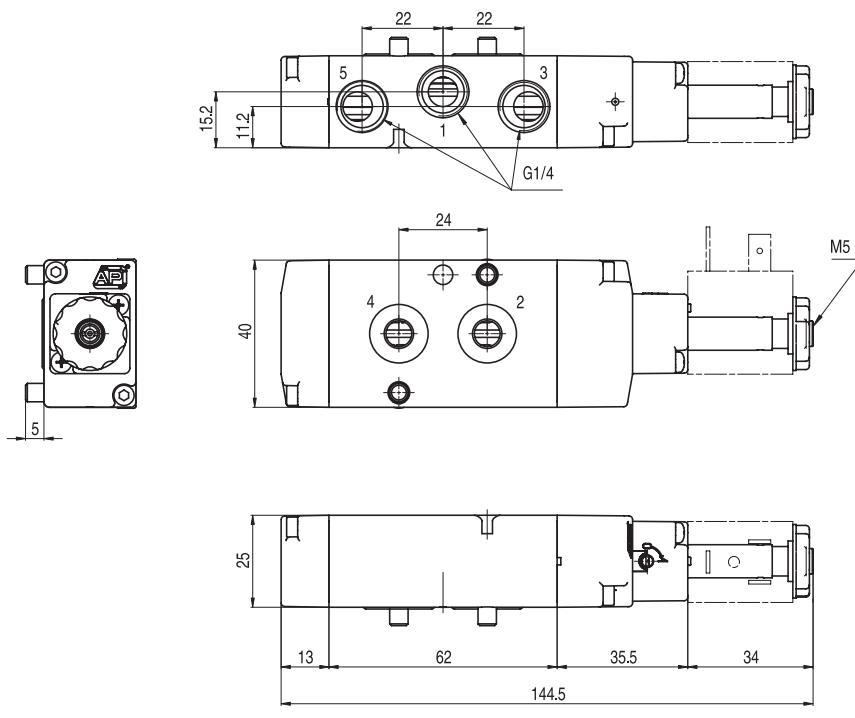
Version	Symbol	Code	Item
3/2 solenoid/solenoid		034060	A1NE232

Valves series A1N

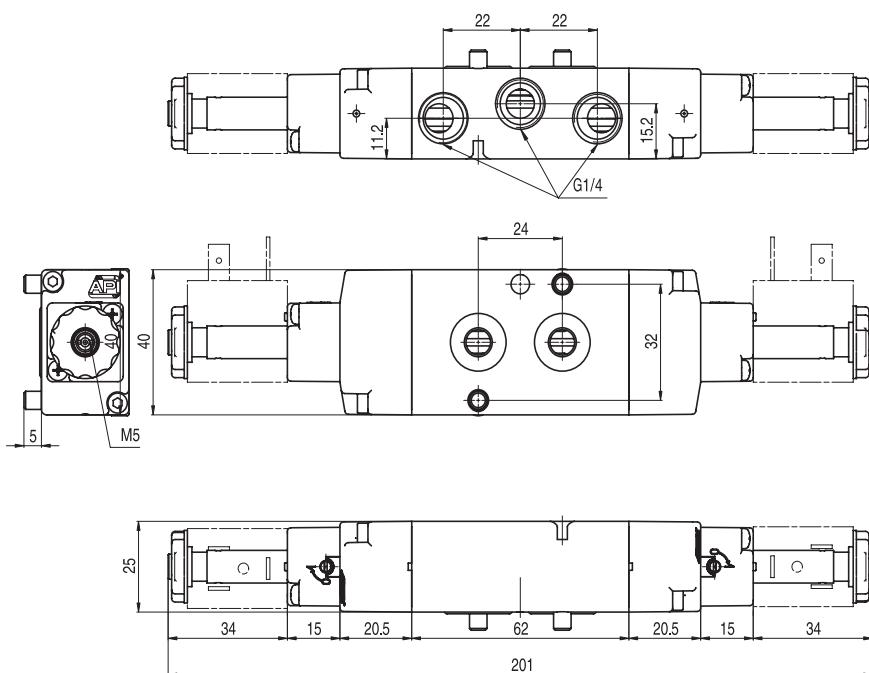
1/4", 3/2 - 5/2 - 5/3, NAMUR interface, electrically operated



2



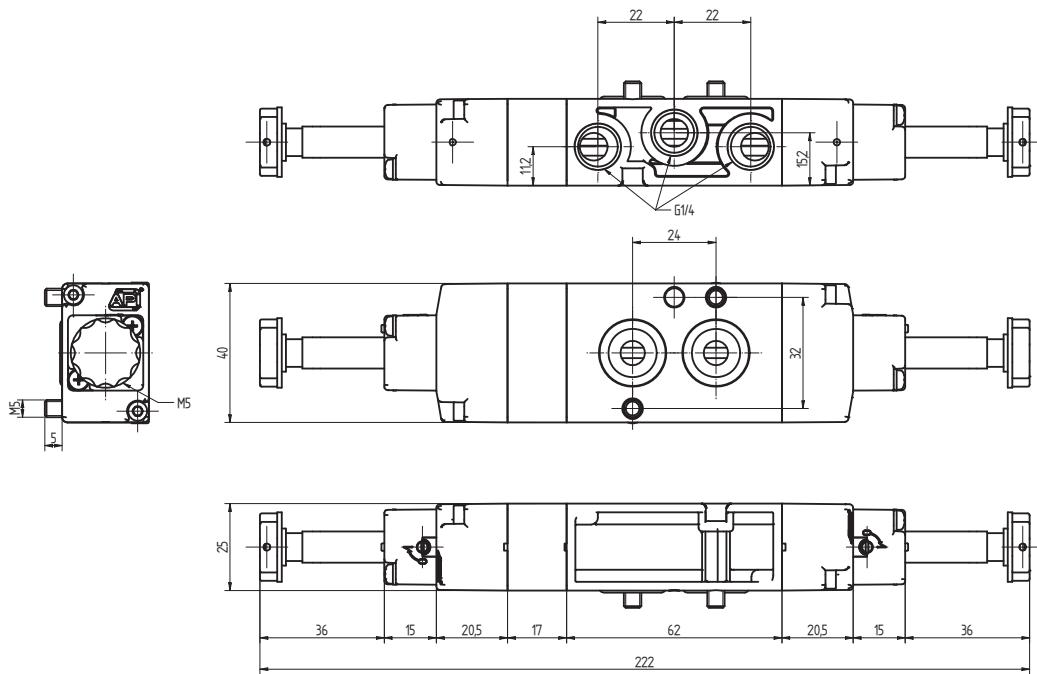
Version	Symbol	Code	Item
5/2 solenoid/spring		034057	A1NE250



Version	Symbol	Code	Item
5/2 solenoid/solenoid		034058	A1NE251

Valves series A1N

1/4", 3/2 - 5/2 - 5/3, NAMUR interface, electrically operated



Version	Symbol	Code	Item
5/3 with closed centres	4 2 14 □/□ T T T T T T T T T T T T 12 5 1 3	034174	A1NE270
5/3 with open centres	4 2 14 □/□ T T T T T T T T T T T T 12 5 1 3	034179	A1NE271
5/3 with pressurised centres	4 2 14 □/□ T T T T T T T T T T T T 12 5 1 3	034254	A1NE272

Valves series A1N

1/4", 3/2 - 5/2 - 5/3, NAMUR interface, pneumatically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC pilot/spring	12	034238	A1NP230
3/2 pilot/pilot	12	034239	A1NP232
5/2 pilot/spring	14	034108	A1NP250
5/2 pilot/pilot	14	034240	A1NP251
5/3 with closed centres	14	034251	A1NP270
5/3 with open centres	14	034252	A1NP271
5/3 with pressurised centres	14	034253	A1NP272

New



Series of spool valves, with static seals, high flow, for mounting on NAMUR interface.

Code key

Series	Actuation	Size	Function	Options
A1N = NAMUR	P = pneumatic	2 = 1/4"	30 = 3/2 NC 32 = 3/2 pilot/pilot 50 = 5/2 pilot/spring 51 = 5/2 pilot/pilot 70 = 5/3 CC 71 = 5/3 OC 71 = 5/3 OC	BT = low temp. seals



On request, they can be supplied according to 2014/34/EU - ATEX

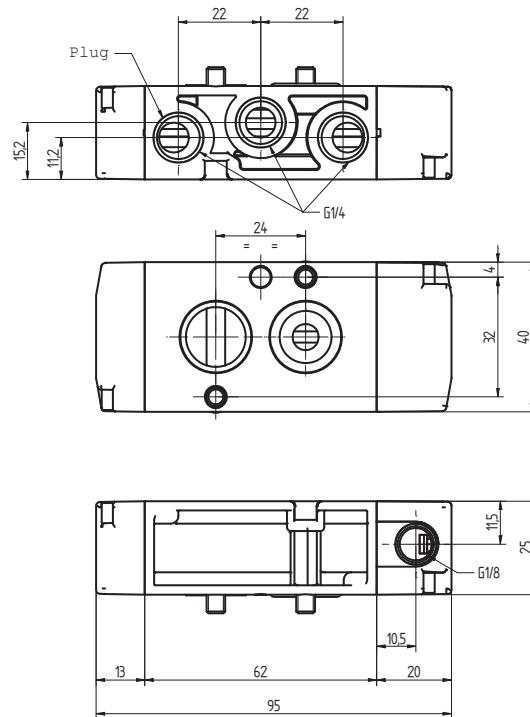
Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Technical data

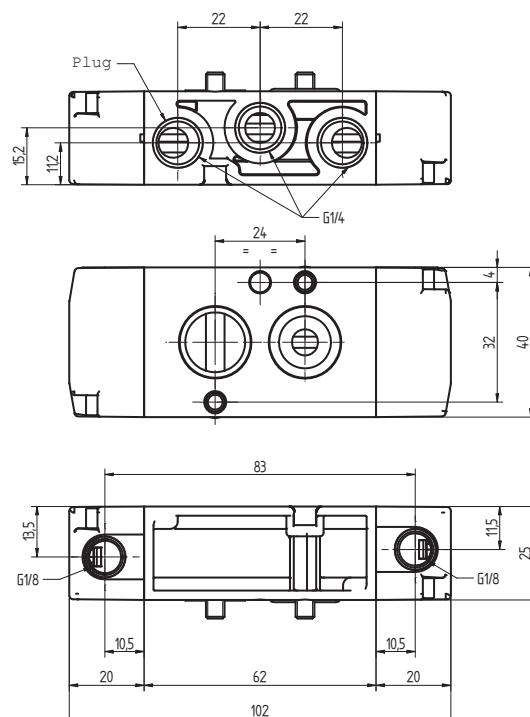
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	1 ÷ 10 bar	
Temperature range	-10°C ÷ +60°C (standard)	-25°C ÷ +60°C (BT)
Orifice	7 mm	
Flow	1.000 NL/min at 6 bar with ΔP 1 bar	
Minimum piloting pressure	1,5 bar	
Minimum external air pressure	1,5 bar	
Mounting	In any position	
Manual override	Bistable	
Materials	Body:	Die-cast painted aluminium
	Covers:	Hostaform C 13031
	Spool:	Hard aluminium anodized
	Distancers:	Ixef 1022
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)

Valves series A1N

1/4", 3/2 - 5/2 - 5/3, NAMUR interface, pneumatically operated



Version	Symbol	Code	Item
3/2 NC pilot/spring		034238	A1NP230



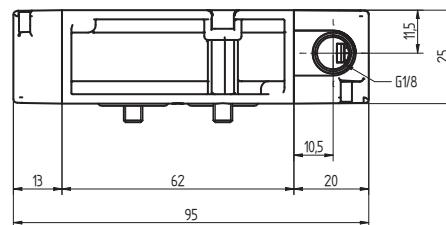
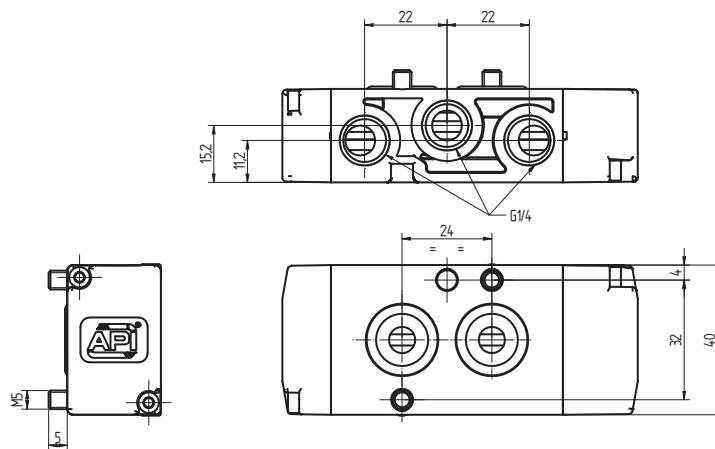
Version	Symbol	Code	Item
3/2 pilot/pilot		034239	A1NP232

Valves series A1N

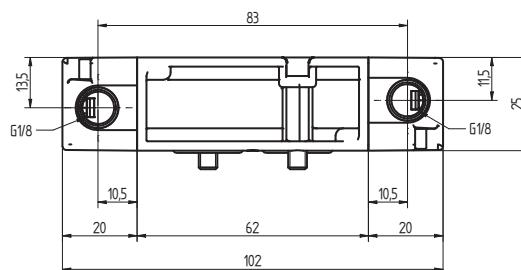
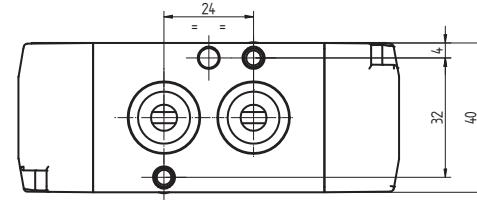
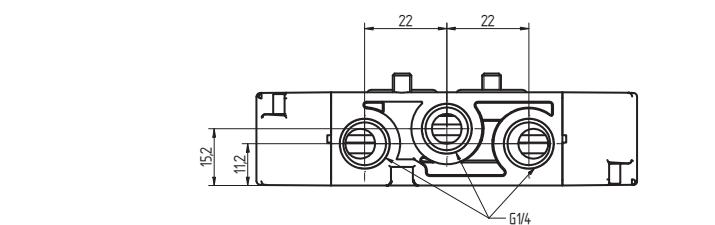
1/4", 3/2 - 5/2 - 5/3, NAMUR interface, pneumatically operated



2



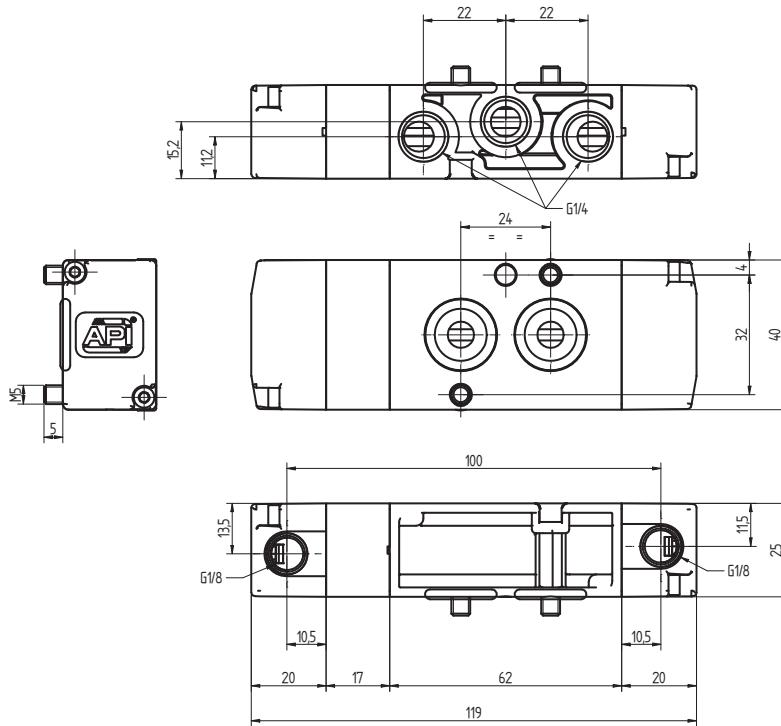
Version	Symbol	Code	Item
5/2 pilot/spring	14 4 2 1 13 12	034108	A1NP250



Version	Symbol	Code	Item
5/2 pilot/pilot	14 4 2 1 13 12	034240	A1NP251

Valves series A1N

1/4", 3/2 - 5/2 - 5/3, NAMUR interface, pneumatically operated



Version	Symbol	Code	Item
5/3 with closed centres	4 2 14 △ T T T T T T T T T T T T 12 5 1 3	034251	A1NP270
5/3 with open centres	4 2 14 △ T T T T T T T T T T T T 12 5 1 3	034252	A1NP271
5/3 with pressurised centres	4 2 14 △ T T T T T T T T T T T T 12 5 1 3	034253	A1NP272

Standard executions		
Version	Symbol	Code
3/2 NC		For code key see table below
3/2 solenoid/solenoid		
5/2 solenoid/spring		
5/2 solenoid/solenoid		



Options	Suffix
Low temperature seals	-15°C ÷ +50°C BT

Solenoid operator with a special coil for pneumatic application in potentially explosive environment (group II).

Solenoid system is conforming to 2014/34/EU Directive, certified:

 II 3G Ex nA IIC T5 Gc X
II 3D Ex tc IIIC T95°C Dc X IP65

Connectors have to be ordered separately:

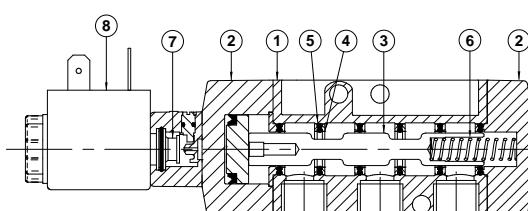
For connector type A12209N/ATEX

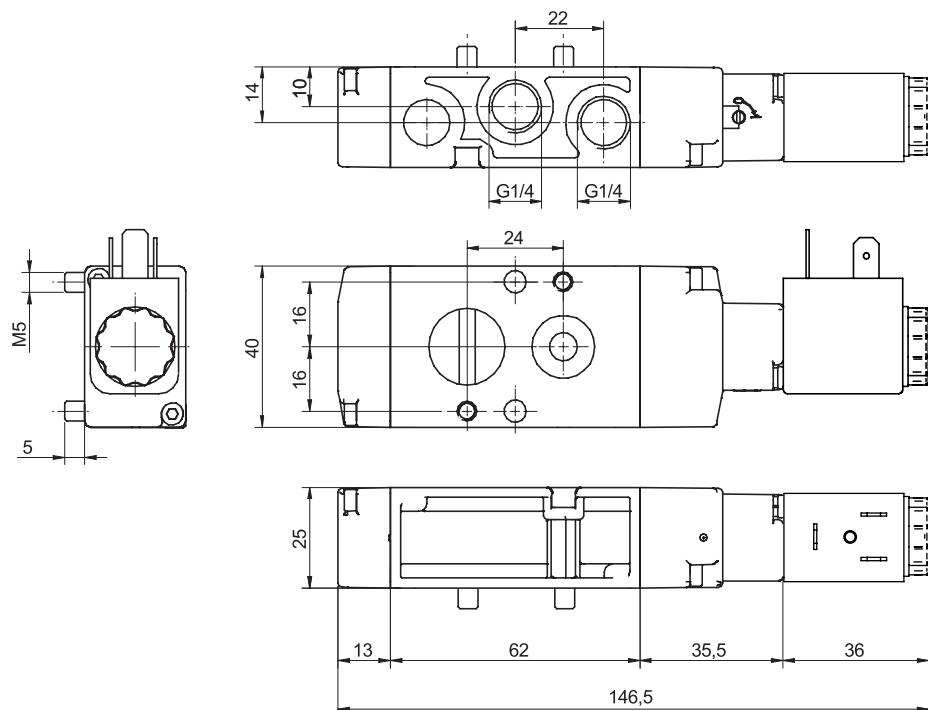
see page 2.210.50

2

Code key						
Series	Actuation	Size	Function	Hazardous areas	Voltages	Options
A1N = NAMUR	E = electrical Ø9	2 = 1/4 Gas	30 = 3/2 NC 32 = 3/2 solenoid/solenoid 50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid	XX = II 3G Ex nA IIC T5 Gc X II 3D Ex tc IIIC T95°C Dc X IP65	B = 12 VDC C = 24 VDC *	F = 24 VAC * I = 110 VAC * O = 220 VAC *
* = Standard voltages						

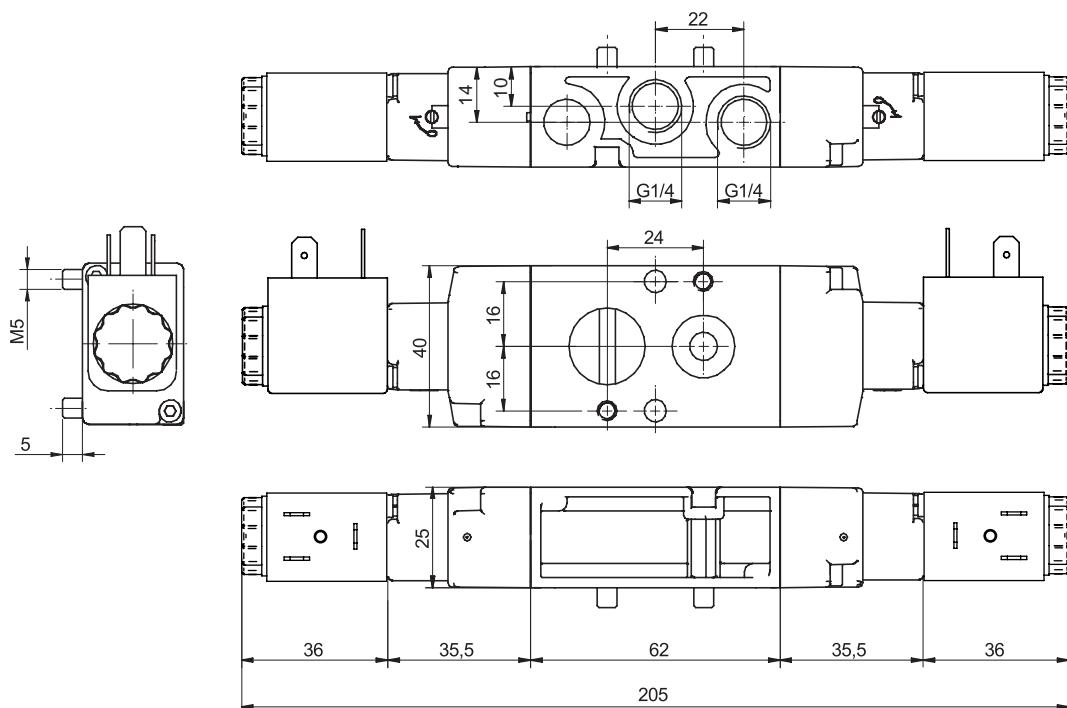
Technical data									
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.								
Threaded connection	1/4 Gas								
Pressure range	Spring return: 1,5 ÷ 10 bar								
Temperature range	-10°C ÷ +50°C (standard)								
Protection grade	IP 65								
Ø Orifice	7 mm								
Flow	1.000 NL/min at 6 bar with ΔP 1 bar								
Mounting	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)								
Manual override	Bistable								
Electrical characteristics	Nominal voltage	12 VDC	24 VDC	24 VAC	110 VAC	220 VAC			
	Frequency	-	-	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz			
	Nominal current	0.250 A	0.120 A	0.208 A	0.045 A	-0.023 A			
	Nominal power	3 W	3 W	5 VA	5 VA	5 VA			
	Duty cycle	100% ED							
	Temp. class	T5							
Response time (at 6 bar)		Energising: - ms		Energising: - ms		Energising: - ms			
		De-energising: - ms		De-energising: - ms		De-energising: - ms			
Materials	① Body:	Die-cast painted aluminium							
	② Cover:	Hostaform C 13031							
	③ Spool:	Hard aluminium anodized							
	④ Distancers:	Ixef 1022							
	⑤ Seals:	Hydrogenate Nitrile Butadiene Rubber (HNBR)							
	⑥ Spring:	Stainless steel							
	⑦ Operator:	Brass							
	⑧ Coil:	Thermoset resin							





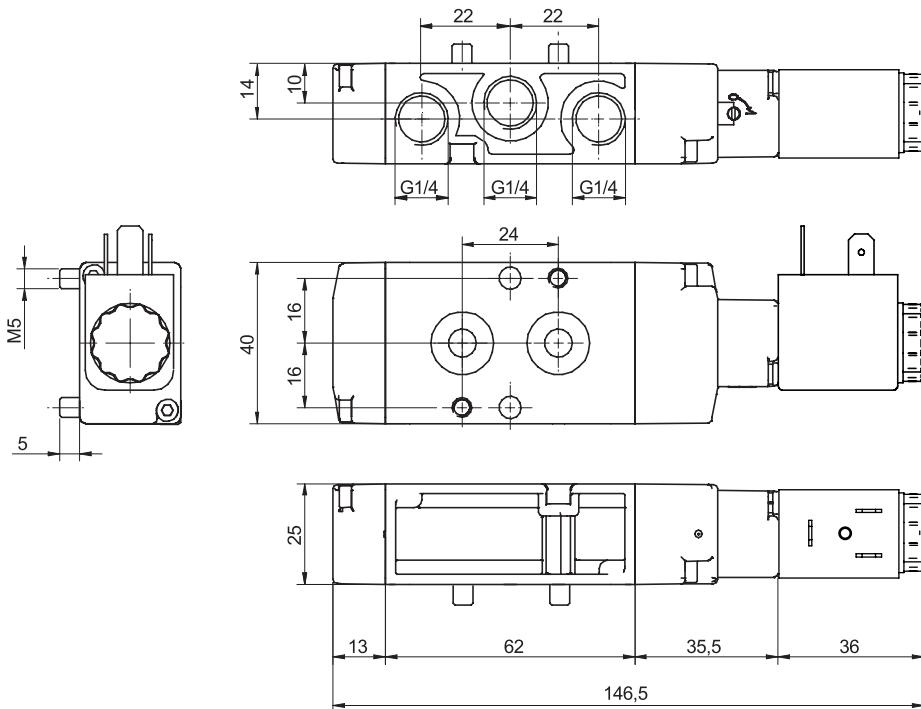
Version	Symbol	Code	Item
3/2 NC			A1NE230XX_*

* For coil voltage: see code key at page 2.88.20



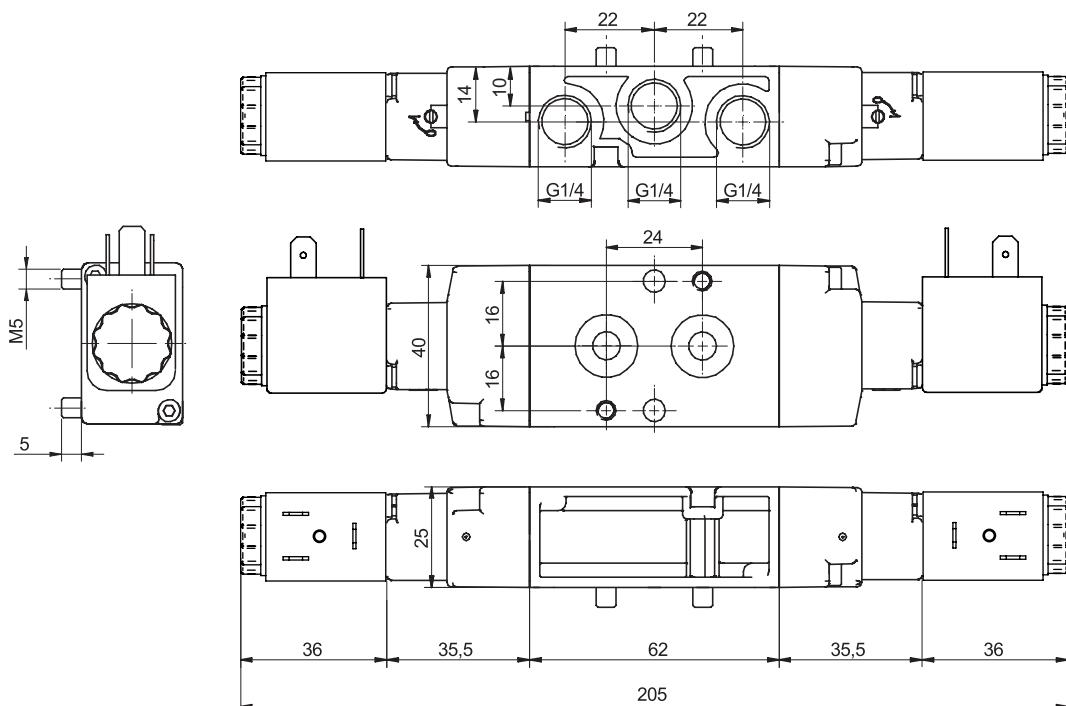
Version	Symbol	Code	Item
3/2 solenoid/solenoid			A1NE232XX_*

* For coil voltage: see code key at page 2.88.20



Version	Symbol	Code	Item
5/2 solenoid/spring			A1NE250XX*

* For coil voltage: see code key at page 2.88.20



Version	Symbol	Code	Item
5/2 solenoid/solenoid			A1NE251XX*

* For coil voltage: see code key at page 2.88.20

Notes

Standard executions		
Version	Symbol	Code
3/2 NC		
3/2 solenoid/solenoid		
5/2 solenoid/spring		
5/2 solenoid/solenoid		

For code key see table below



Options	Suffix
Low temperature seals	-25°C ÷ +60°C -25°C ÷ +50°C

Series of spool valves, with static seals, high flow, for mounting on NAMUR interface

Low consumption solenoid operator, conforming to 2014/34/EU Directive, certified:



II 2G Ex ia IIC T6 Gb
II 2D Ex tb IIIC T80°C Db X IP65

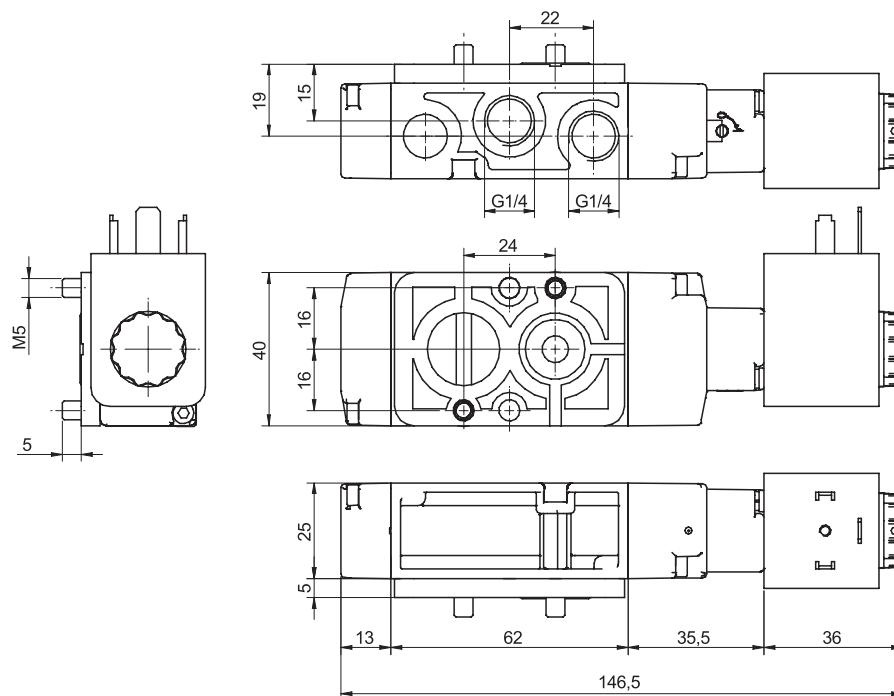


II 2G Ex ia IIC T4 Gb
II 2D Ex tb IIIC T80°C Db X IP65

Coil and connector included.

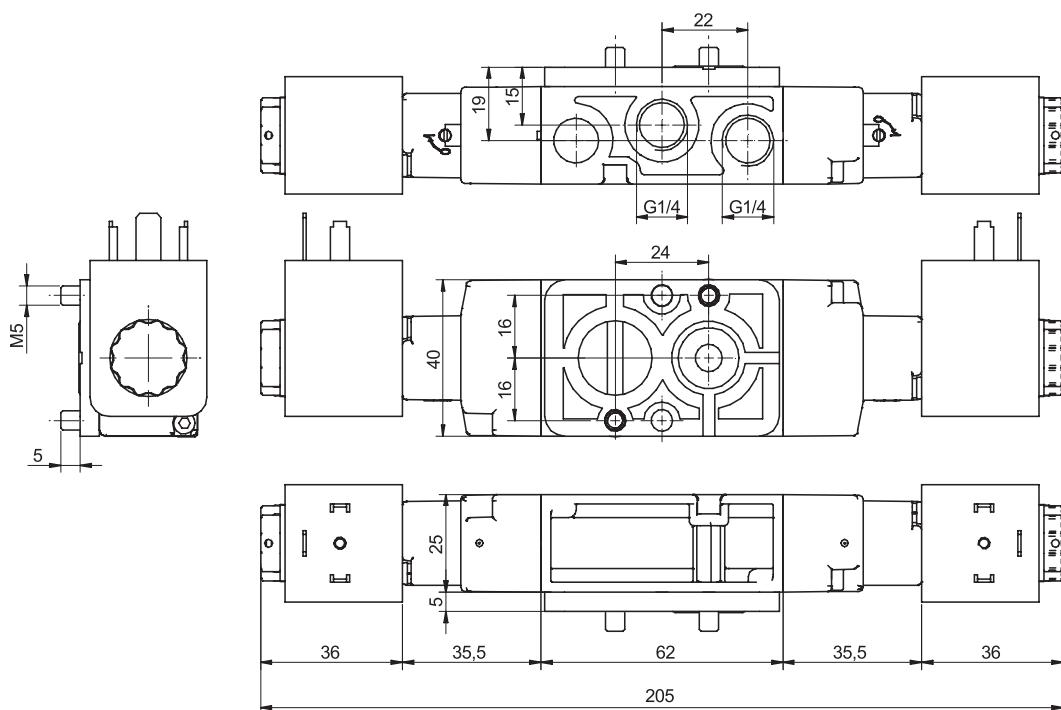
Code key						
Series	Actuation	Size	Function	Hazardous areas	Voltages	Options
A1N = NAMUR	E = electrical Ø9	2 = 1/4 Gas	30 = 3/2 NC 32 = 3/2 solenoid/solenoid 50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid	XA = II 2G Ex ia IIC T6 Gb II 2D Ex tb IIIC T80°C Db X IP65 XA1 = II 2G Ex ia IIC T4 Gb II 2D Ex tb IIIC T80°C Db X IP65	C = 24 VDC	BT = low temp. seals

Technical data								
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.							
Threaded connection	1/4 Gas							
Pressure range	Spring return: 2 ÷ 7 bar				Bistable: 2 ÷ 7 bar			
Minimum external air pressure	2 bar							
Temperature range	-10°C ÷ +60°C (XA standard)		-10°C ÷ +50°C (XA1 standard)		-25°C ÷ +60°C (XA BT)	-25°C ÷ +50°C (XA1 BT)		
Protection grade	IP 65							
Ø Orifice	7 mm							
Flow	1.000 NL/min a 6 bar con ΔP 1 bar							
Mounting	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)							
Manual override	Bistable							
Electrical characteristics	Nominal voltage	21.6 ÷ 28 VDC			21.6 ÷ 28 VDC			
	Max voltage	28 VDC			28 VDC			
	Nominal current	0.115 A (at 28 VDC)			0.115 A (at 28 VDC)			
	Nominal power	1.6 W (at 28 VDC)			1.6 W (at 28 VDC)			
	Duty cycle	100% ED			100% ED			
	Temp. class	T6			T4			
Response time (at 6 bar)		Energising: - ms		Energising: - ms		Energising: - ms		
		De-energising: - ms		De-energising: - ms		De-energising: - ms		
Materials	① Body:	Die-cast painted aluminium						
	② Cover:	Hostaform C 13031						
	③ Spool:	Hard aluminium anodized						
	④ Distancers:	Ixef 1022						
	⑤ Seals:	Hydrogenate Nitrile Butadine Rubber (HNBR)						
	⑥ Spring:	Stainless steel						
	⑦ Operator:	Brass						
	⑧ Coil:	Thermoset resin						



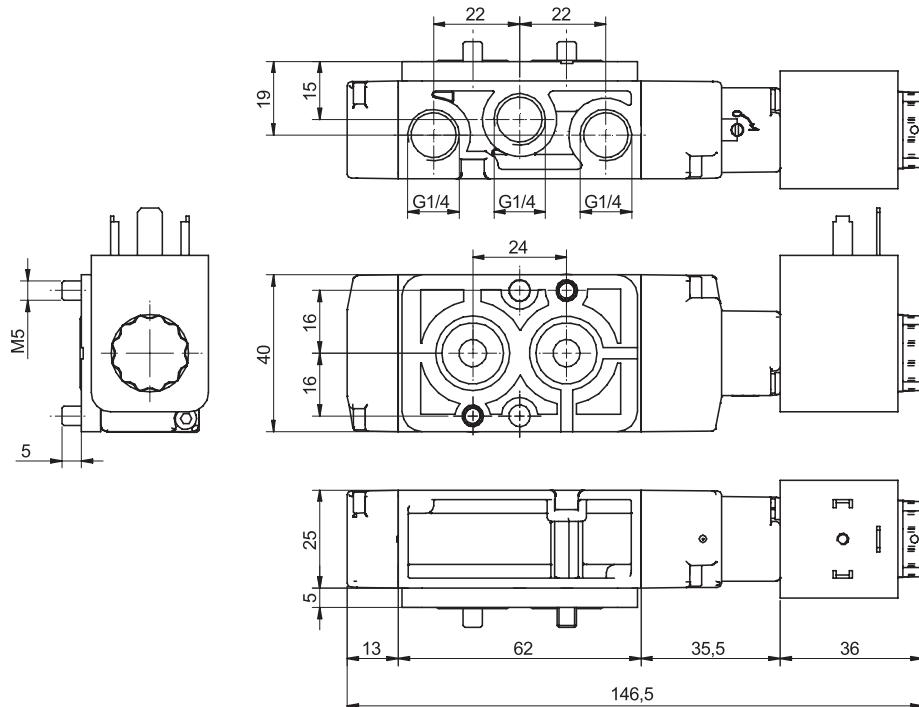
Version	Symbol	Code	Item
3/2 NC			A1NE230XA_*

* For coil voltage: see code key at page 2.88.40



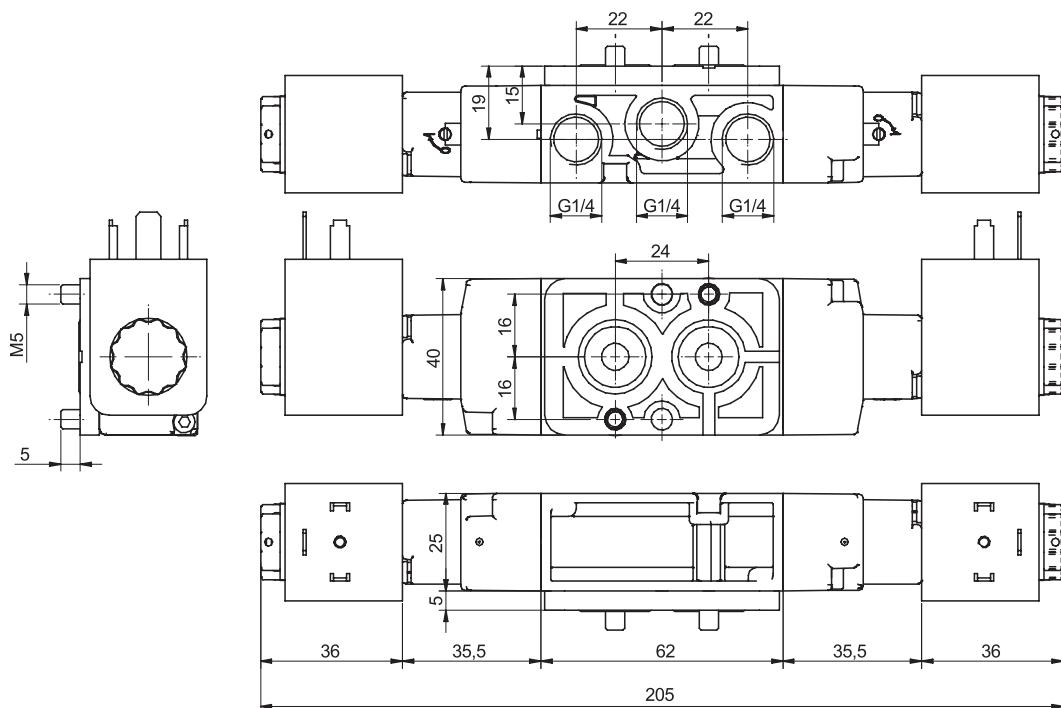
Version	Symbol	Code	Item
3/2 solenoid/solenoid			A1NE232XA_*

* For coil voltage: see code key at page 2.88.40



Version	Symbol	Code	Item
5/2 solenoid/spring			A1NE250XA*

* For coil voltage: see code key at page 2.88.40



Version	Symbol	Code	Item
5/2 solenoid/solenoid			A1NE251XA*

* For coil voltage: see code key at page 2.88.40

Notes

Standard executions		
Version	Symbol	Code
3/2 NC		For code key see table below
3/2 solenoid/solenoid		
5/2 solenoid/spring		
5/2 solenoid/solenoid		



Series of spool valves, with static seals, high flow, for mounting on NAMUR interface.

Options	Suffix
Low temperature seals	-25°C ÷ +50°C

BT

Solenoid operator with a special coil for pneumatic application in potentially explosive environment (group II).

The protection is assured by a thermal fuse that, in case of damage, disconnects the coil from power.

Solenoid system is conforming to 2014/34/EU Directive, certified:



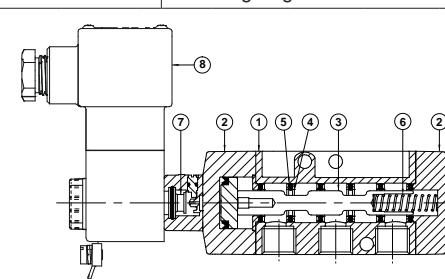
II 2G Ex db mb IIC T5 Gb

II 2D Ex tb IIIC T95°C Db IP66

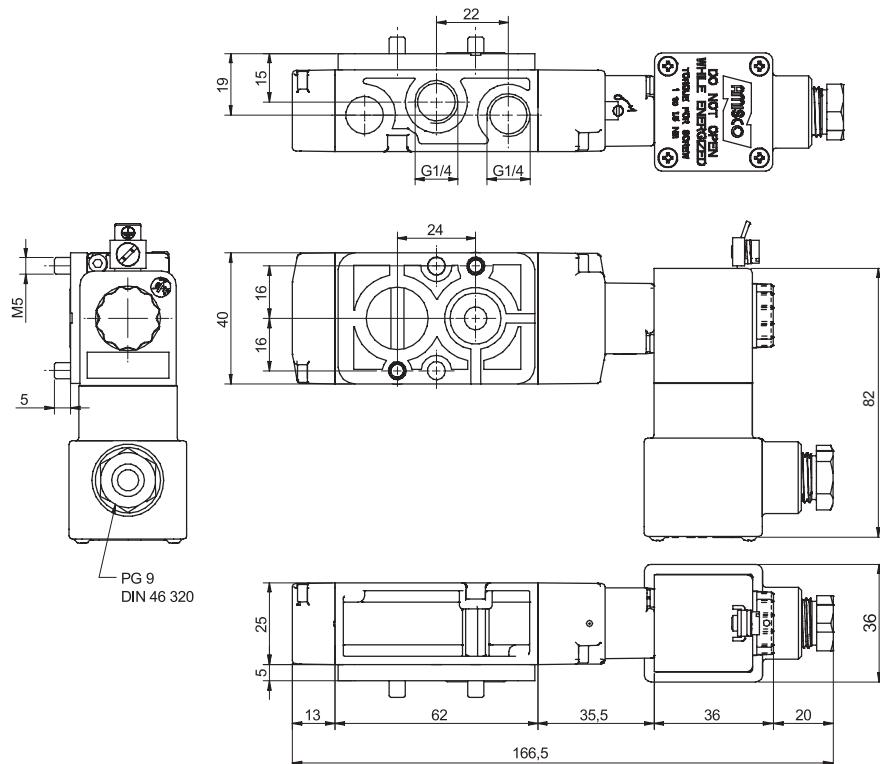
Code key							
Series	Actuation	Size	Function	Hazardous areas	Voltages	Options	
A1N = NAMUR	E = electrical Ø9	2 = 1/4 Gas	30 = 3/2 NC 32 = 3/2 solenoid/solenoid 50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid	XB = II 2G Ex db mb IIC T5 Gb II 2D Ex tb IIIC T95°C Db IP66	A = 6 VDC B = 12 VDC C = 24 VDC * D = 48 VDC	E = 12 VAC F = 24 VAC G = 48 VAC H = 100 VAC I = 110 VAC L = 115 VAC M = 120 VAC O = 220 VAC P = 230 VAC Q = 240 VAC	BT = low temp. seals

* = Standard voltages

Technical data																							
Fluid		Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.																					
Threaded connection		1/4 Gas																					
Pressure range		Spring return: 1.5 ÷ 10 bar																					
Minimum external air pressure		1.5 bar																					
Temperature range		-10°C ÷ +50°C (standard)																					
Protection grade		IP 66																					
Ø Orifice		7 mm																					
Flow		1.000 NL/min at 6 bar with ΔP 1 bar																					
Mounting		In any position (vertical assembly is not recommended for bistable valves subjected to vibration)																					
Manual override		Bistable																					
Electrical characteristics	Nominal voltage	6VDC	12VDC	24VDC	48VDC	12VAC	24VAC	48VAC	100VAC	110VAC	115VAC	120VAC	220VAC	230VAC	240VAC								
	Frequency	-	-	-	-	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz								
	Nominal current	0.510 A	0.250 A	0.125 A	0.063 A	0.270 A	0.133 A	0.067 A	0.032 A	0.029 A	0.028 A	0.027 A	0.014 A	0.014 A	0.013 A								
	Nominal power	3W	3W	3W	3W	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA								
	Duty cycle	100% ED																					
	Temp. class	T5																					
Response time (at 6 bar)		Energising: - ms				Energising: - ms				Energising: - ms													
		De-energising: - ms				De-energising: - ms				De-energising: - ms													
Materials	① Body:	Die-cast painted aluminium																					
	② Cover:	Hostaform C 13031																					
	③ Spool:	Hard aluminium anodized																					
	④ Distancers:	Ixef 1022																					
	⑤ Seals:	Hydrogenate Nitrile Butadiene Rubber (HNBR)																					
	⑥ Spring:	Stainless steel																					
	⑦ Operator:	Brass																					
	⑧ Coil:	Thermoset resin																					

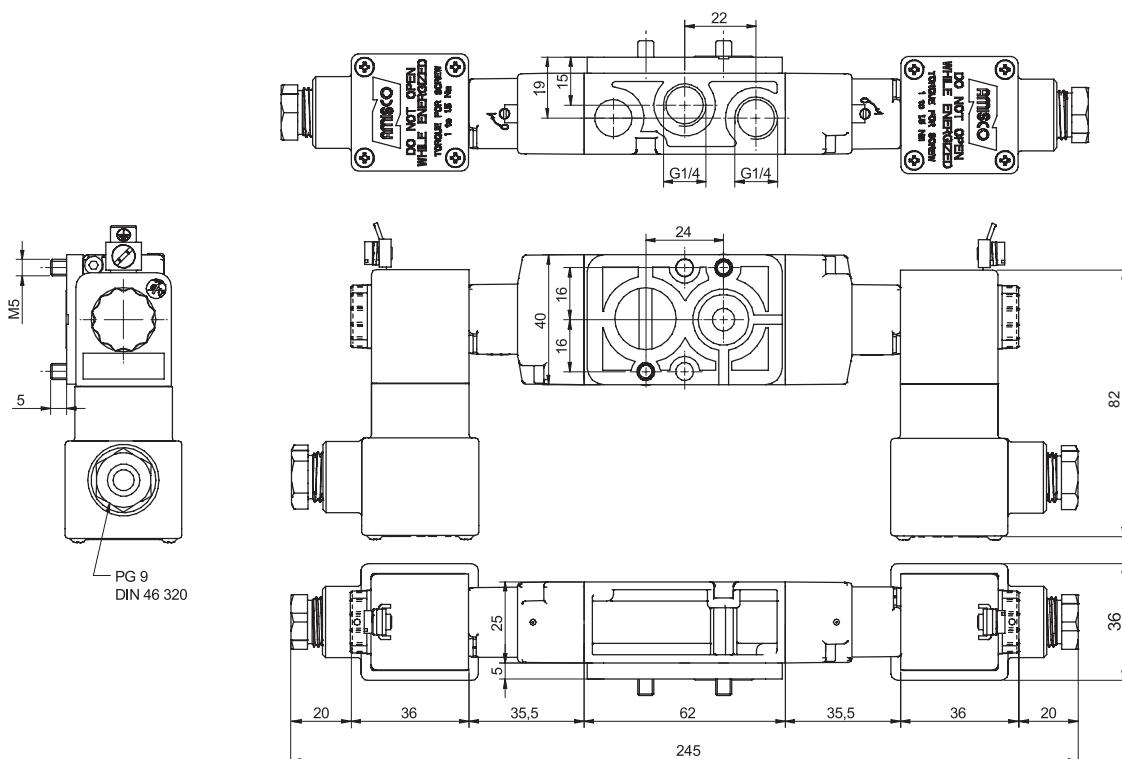


Valves series A1N - Encapsulated coil Ex dm
1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex dm



Version	Symbol	Code	Item
3/2 NC			A1NE230XB_*

* For coil voltage: see code key at page 2.88.60



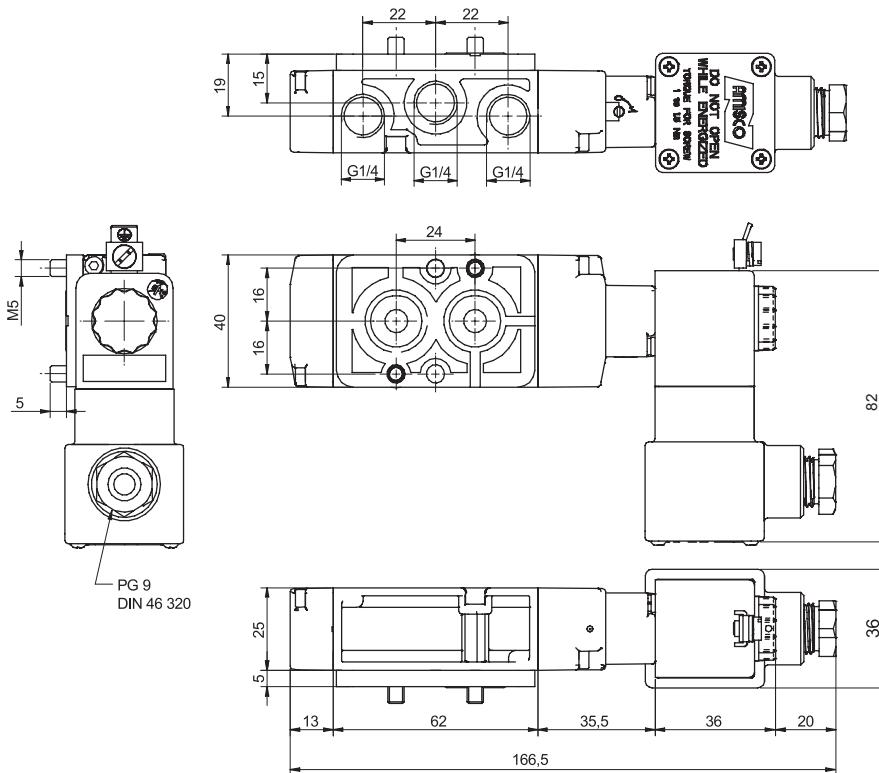
Version	Symbol	Code	Item
3/2 solenoid/solenoid			A1NE232XB_*

* For coil voltage: see code key at page 2.88.60

Valves series A1N - Encapsulated coil Ex dm
1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex dm

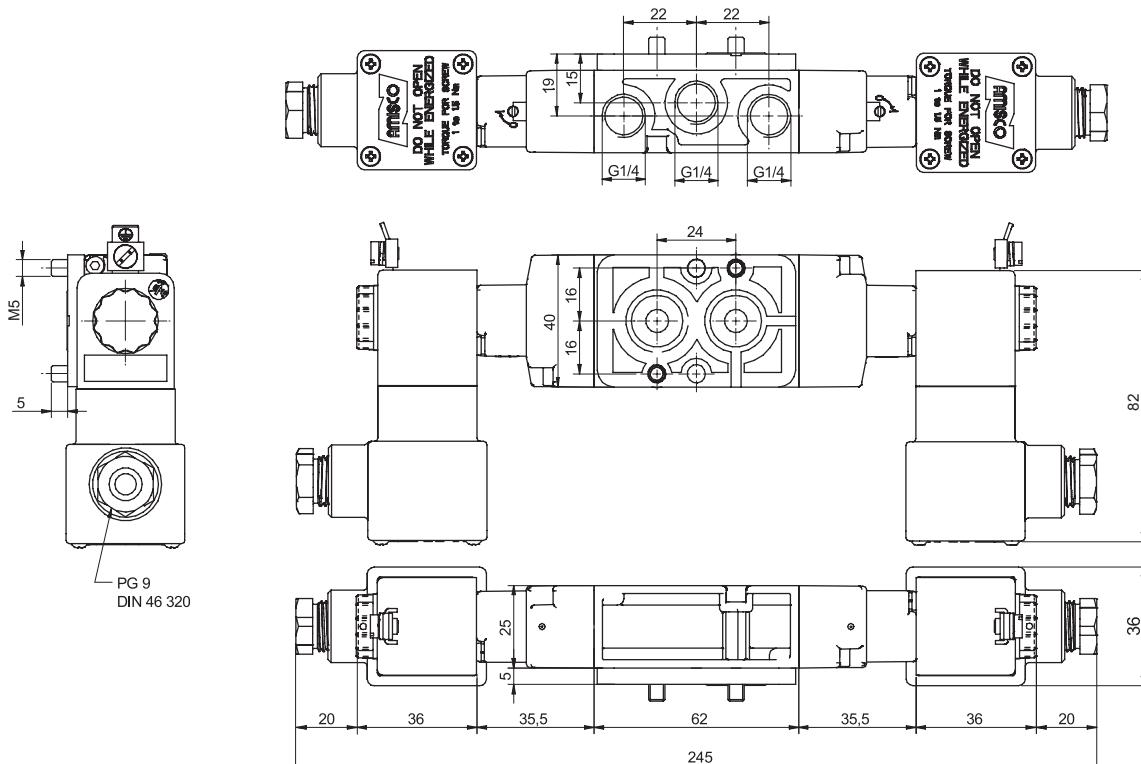


2



Version	Symbol	Code	Item
5/2 solenoid/spring			A1NE250XB_*

* For coil voltage: see code key at page 2.88.60



Version	Symbol	Code	Item
5/2 solenoid/solenoid			A1NE251XB_*

* For coil voltage: see code key at page 2.88.60

Notes

Valves series A1N - Flameproof coil Ex db 1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex db



Standard executions		
Version	Symbol	Code
3/2 NC		For code key see table below
3/2 solenoid/solenoid		
5/2 solenoid/spring		
5/2 solenoid/solenoid		



Options	Suffix
Low temperature seals	-20°C ÷ +60°C

BT

Series of spool valves, with static seals, high flow, for mounting on NAMUR interface

Flameproof solenoid operator is used extensively to prevent possible overheating or sparking of electrical equipment causing ignition in potentially explosive atmosphere.

Flameproof solenoid coil is enclosed in a robust enclosure which will contain an internal explosion should it occur and prevent its transmission to the surrounding atmosphere.

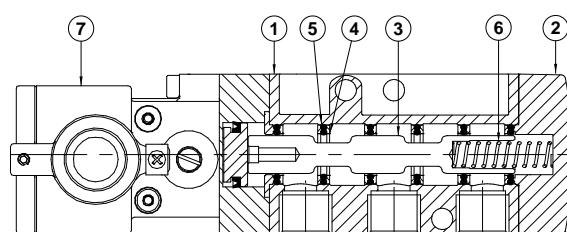
All construction joints in the enclosure are known as flame paths which prevent the transmission of a flame from the enclosure to the outside atmosphere.



2

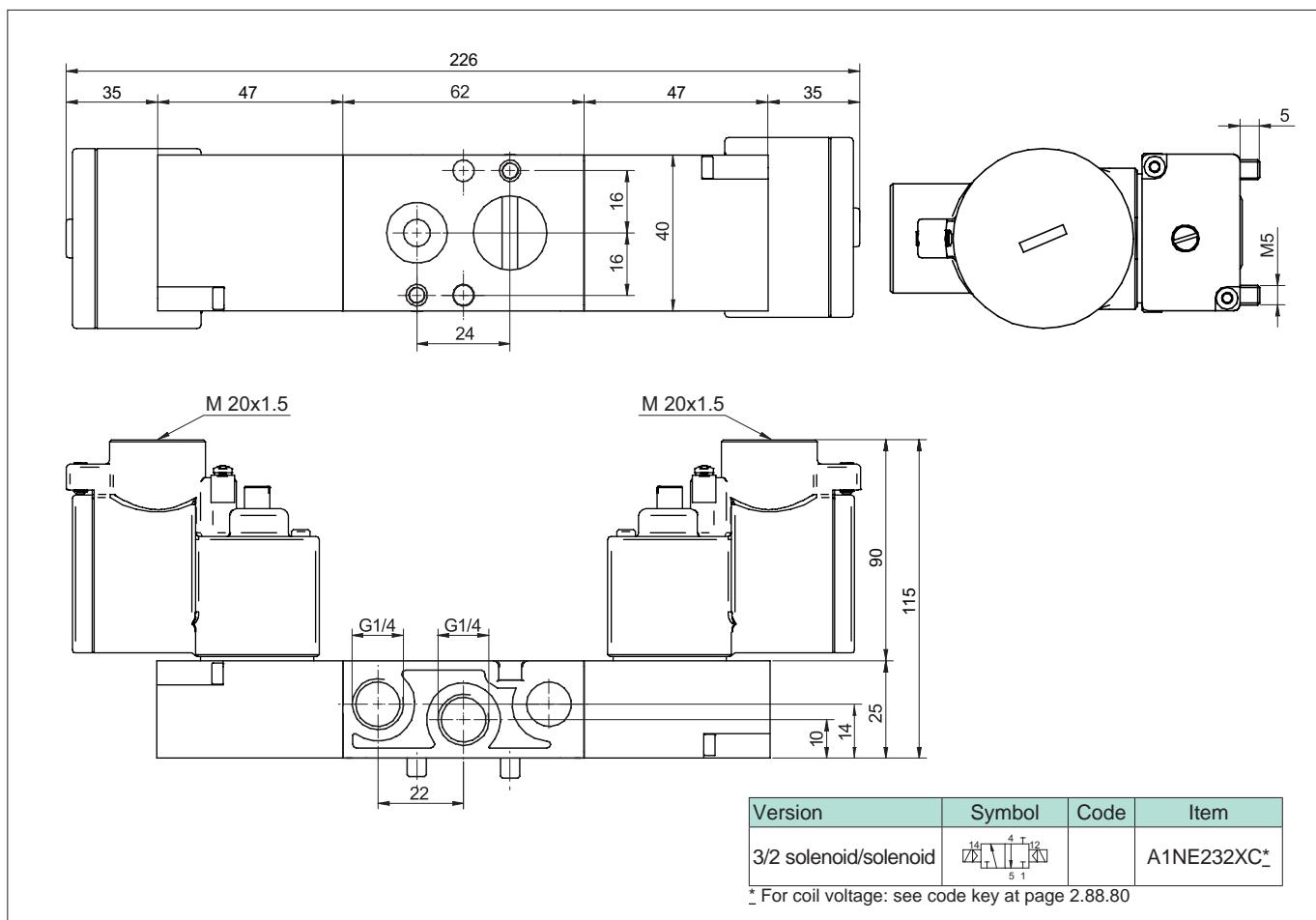
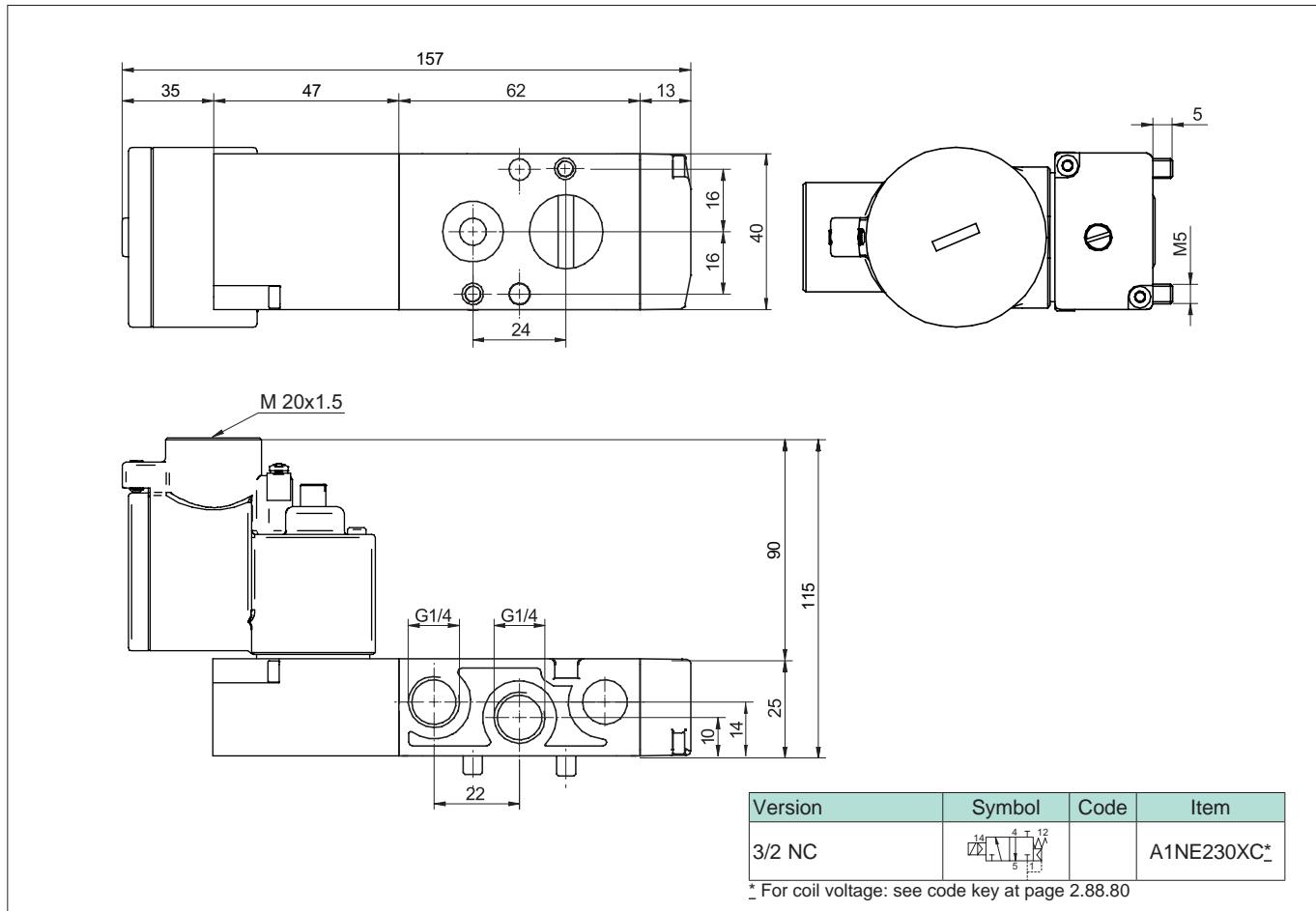
Code key							
Series	Actuation	Size	Function	Hazardous areas	Voltages	Options	
A1N = NAMUR	E = electrical Ø9	2 = 1/4 Gas	30 = 3/2 NC 32 = 3/2 solenoid/solenoid 50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid	XC = II 2G Ex db IIC T6 Gb	B = 12 VDC C = 24 VDC *	F = 24 VAC * I = 110 VAC M = 120 VAC * O = 220 VAC * Q = 240 VAC	BT = low temp. seals
* = Standard voltages							

Technical data											
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.										
Threaded connection	1/4 Gas										
Pressure range	Spring return: 2 ÷ 8 bar										
Temperature range	-10°C ÷ +60°C (standard)										
Protection grade	-										
Ø Orifice	7 mm										
Flow	1.000 NL/min a 6 bar con ΔP 1 bar										
Mounting	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)										
Manual override	Bistable										
Electrical characteristics	Nominal voltage	12 VDC	24 VDC	24 VAC	110VAC	120 VAC	220 VAC				
	Frequency	-	-	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz				
	Nominal current										
	Nominal power	3.5 W	3.5 W	4 VA	4 VA	4 VA	4 VA				
	Duty cycle	100% ED									
	Temp. class	T6									
Response time (at 6 bar)		Energising: - ms		Energising: - ms		Energising: - ms					
		De-energising: - ms		De-energising: - ms		De-energising: - ms					
Materials	① Body:	Die-cast painted aluminium									
	② Cover:	Hostaform C 13031									
	③ Spool:	Hard aluminium anodized									
	④ Distancers:	Ixef 1022									
	⑤ Seals:	Hydrogenate Nitrile Butadine Rubber (HNBR)									
	⑥ Spring	Stainless steel									
	⑦ Operator:	Die-cast painted aluminium									



2.88.80

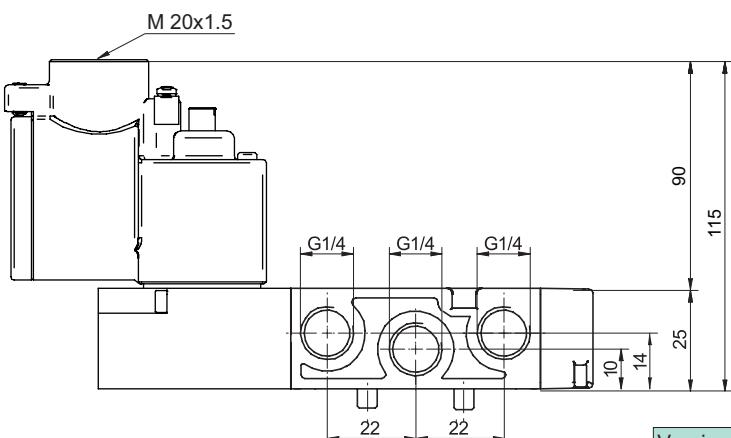
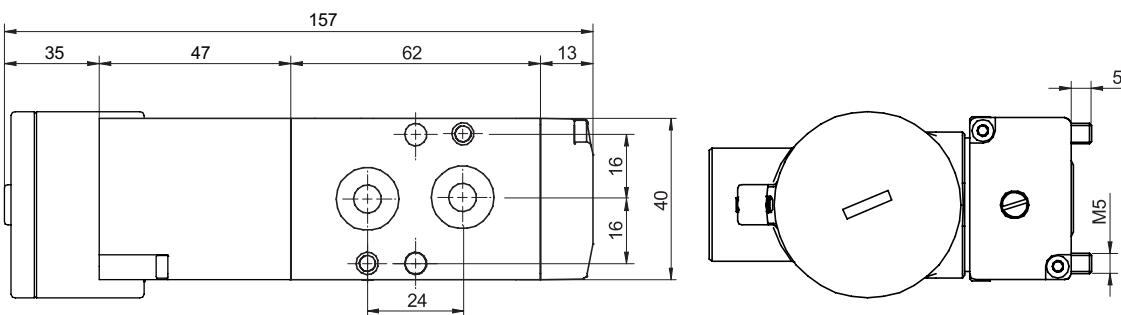
Valves series A1N - Flameproof coil Ex db
1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex db



Valves series A1 - Flameproof coil Ex db
1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex db

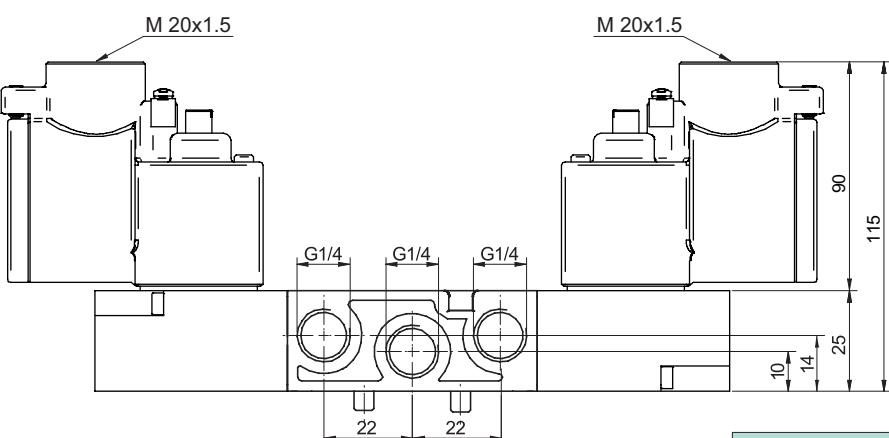
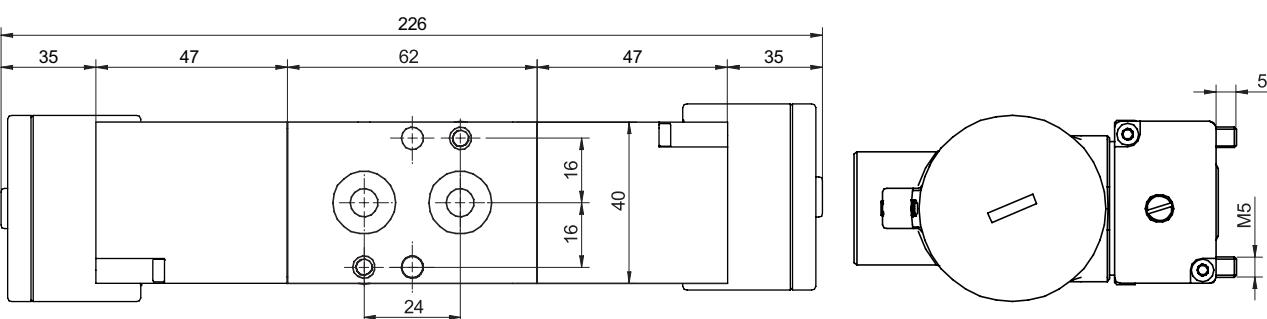


2



Version	Symbol	Code	Item
5/2 solenoid/spring			A1NE250XC_*

* For coil voltage: see code key at page 2.88.80

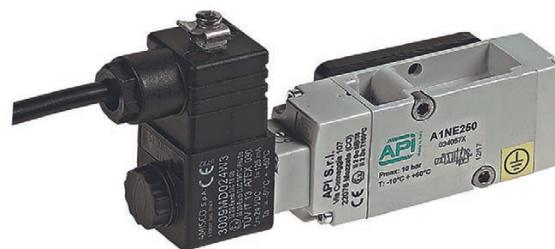


Version	Symbol	Code	Item
5/2 solenoid/solenoid			A1NE251XC_*

* For coil voltage: see code key at page 2.88.80

Notes

Standard executions		
Version	Symbol	Code
3/2 NC		For code key see table below
3/2 solenoid/solenoid		
5/2 solenoid/spring		
5/2 solenoid/solenoid		



Series of spool valves, with static seals, high flow, for mounting on NAMUR interface.

Options	Suffix
Low temperature seals	-25°C ÷ +50°C

BT

Solenoid operator with a special coil for pneumatic application in potentially explosive environment (group II).

Solenoid system is conforming to 2014/34/EU Directive, certified:



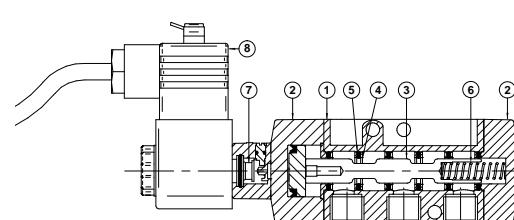
II 2G Ex mb IIC T5 Gb

II 2D Ex tb IIIC T95°C Db IP66

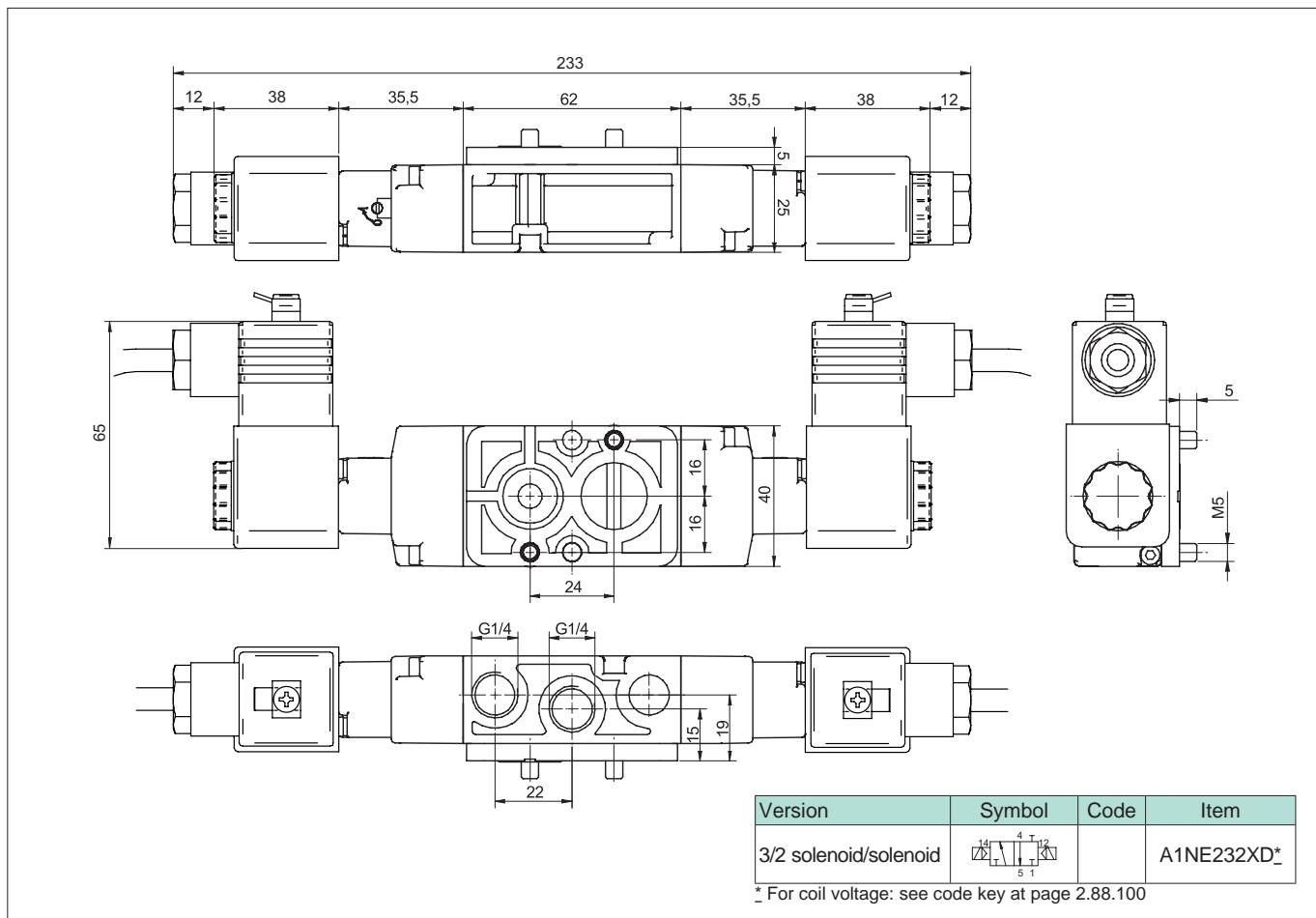
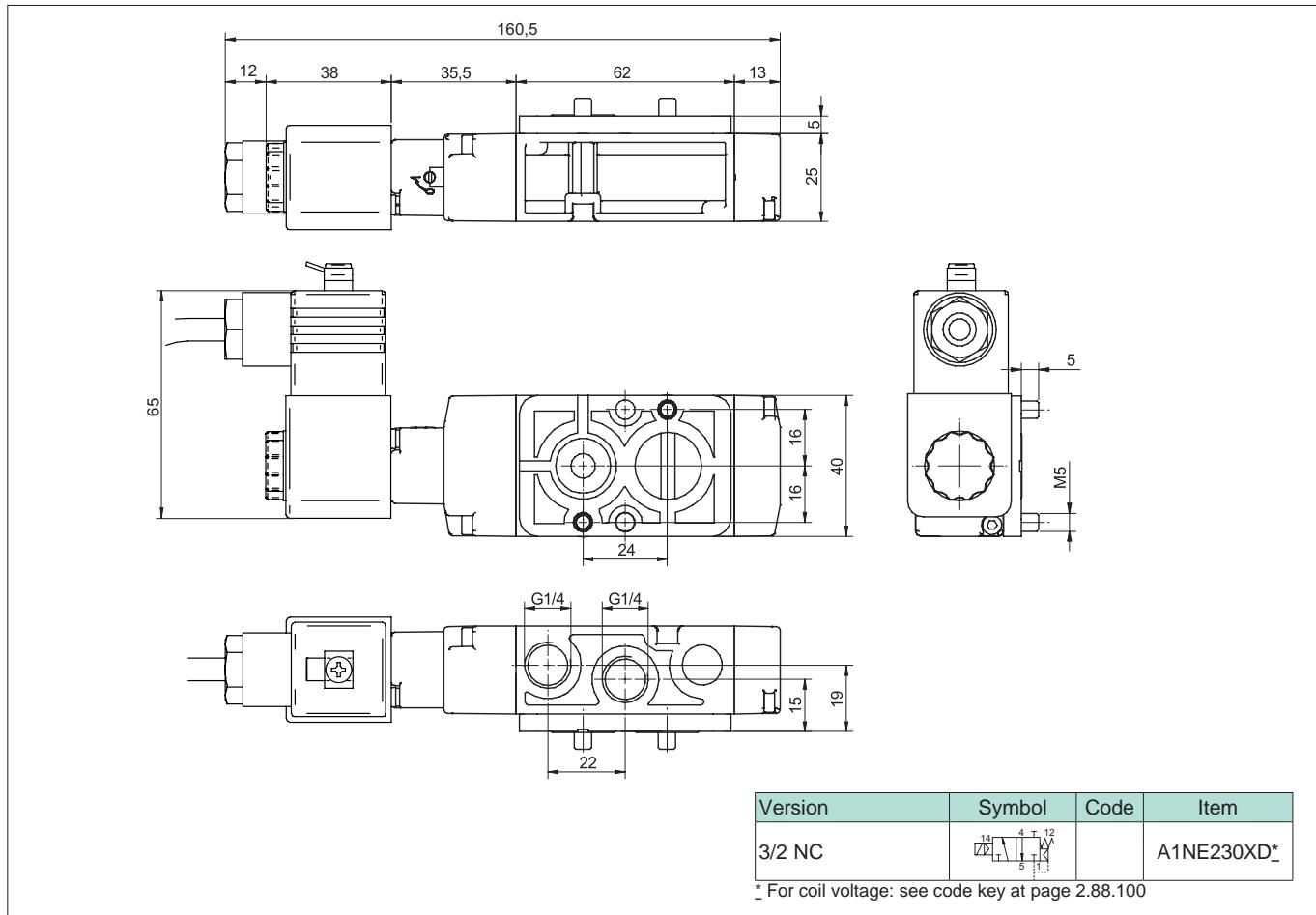
2

Code key																										
Series	Actuation	Size	Function	Hazardous areas	Voltages	Options																				
A1N = NAMUR	E = electrical Ø9	2 = 1/4 Gas	30 = 3/2 NC 32 = 3/2 solenoid/solenoid 50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid	XD = II 2G Ex mb IIC T5 Gb II 2D Ex tb IIIC T95°C Db IP66	<table border="1"> <tr> <td>A = 6 VDC</td> <td>E = 12 VAC</td> </tr> <tr> <td>B = 12 VDC</td> <td>F = 24 VAC*</td> </tr> <tr> <td>C = 24 VDC *</td> <td>G = 48 VAC*</td> </tr> <tr> <td>D = 48 VDC</td> <td>H = 100 VAC</td> </tr> <tr> <td></td> <td>I = 110 VAC*</td> </tr> <tr> <td></td> <td>L = 115 VAC</td> </tr> <tr> <td></td> <td>M = 120 VAC</td> </tr> <tr> <td></td> <td>O = 220 VAC*</td> </tr> <tr> <td></td> <td>P = 230 VAC</td> </tr> <tr> <td></td> <td>Q = 240 VAC</td> </tr> </table> <p>* = Standard voltages</p>	A = 6 VDC	E = 12 VAC	B = 12 VDC	F = 24 VAC*	C = 24 VDC *	G = 48 VAC*	D = 48 VDC	H = 100 VAC		I = 110 VAC*		L = 115 VAC		M = 120 VAC		O = 220 VAC*		P = 230 VAC		Q = 240 VAC	BT = low temp. seals
A = 6 VDC	E = 12 VAC																									
B = 12 VDC	F = 24 VAC*																									
C = 24 VDC *	G = 48 VAC*																									
D = 48 VDC	H = 100 VAC																									
	I = 110 VAC*																									
	L = 115 VAC																									
	M = 120 VAC																									
	O = 220 VAC*																									
	P = 230 VAC																									
	Q = 240 VAC																									

Technical data																									
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.																								
Threaded connection	1/4 Gas																								
Pressure range	Spring return: 1.5 ÷ 10 bar																								
Minimum external air pressure	1,5 bar																								
Temperature range	-10°C ÷ +50°C (standard)																								
Protection grade	IP 66																								
Ø Orifice	7 mm																								
Flow	1.000 NL/min at 6 bar with ΔP 1 bar																								
Mounting	In any position (vertical assembly is not recommended for bistable valves subjected to vibration)																								
Cable lenght	3 mt.																								
Manual override	Bistable																								
Electrical characteristics	Nominal voltage	6VDC	12VDC	24VDC	48VDC	12VAC	24VAC	48VAC	100VAC	110VAC	115VAC	120VAC	220VAC	230VAC	240VAC										
	Frequency	-	-	-	-	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz										
	Nominal current	0.510 A	0.250 A	0.125 A	0.063 A	0.270 A	0.133 A	0.067 A	0.032 A	0.029 A	0.028 A	0.027 A	0.014 A	0.014 A	0.013 A										
	Nominal power	3W	3W	3W	3W	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA	3.2VA										
	Duty cycle	100% ED																							
	Temp. class	T5																							
Response time (at 6 bar)		Energising: - ms				Energising: - ms				Energising: - ms															
		De-energising: - ms				De-energising: - ms				De-energising: - ms															
Materials	① Body:	Die-cast painted aluminium																							
	② Cover:	Hostaform C 13031																							
	③ Spool:	Hard aluminium anodized																							
	④ Distancers:	Ixef 1022																							
	⑤ Seals:	Hydrogenate Nitrile Butadiene Rubber (HNBR)																							
	⑥ Spring:	Stainless steel																							
	⑦ Operator:	Brass																							
	⑧ Coil:	Thermoset resin																							



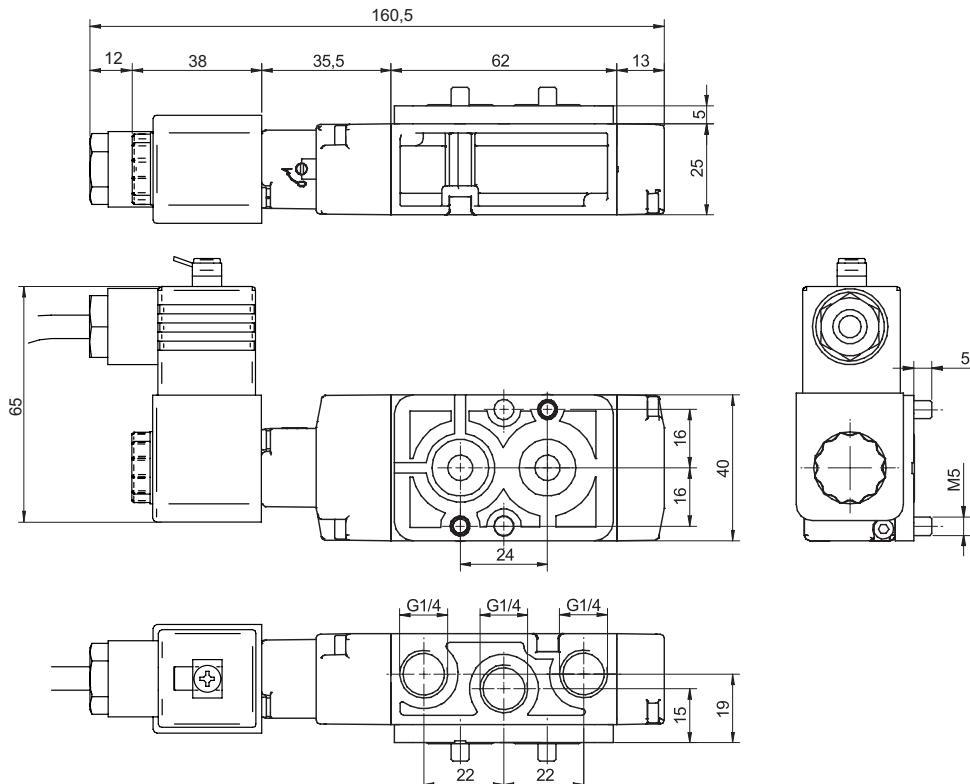
Valves series A1N - Encapsulated coil Ex mb
1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex mb



Valves series A1N - Encapsulated coil Ex mb
1/4", 3/2 - 5/2, NAMUR interface, electrically operated Ex mb

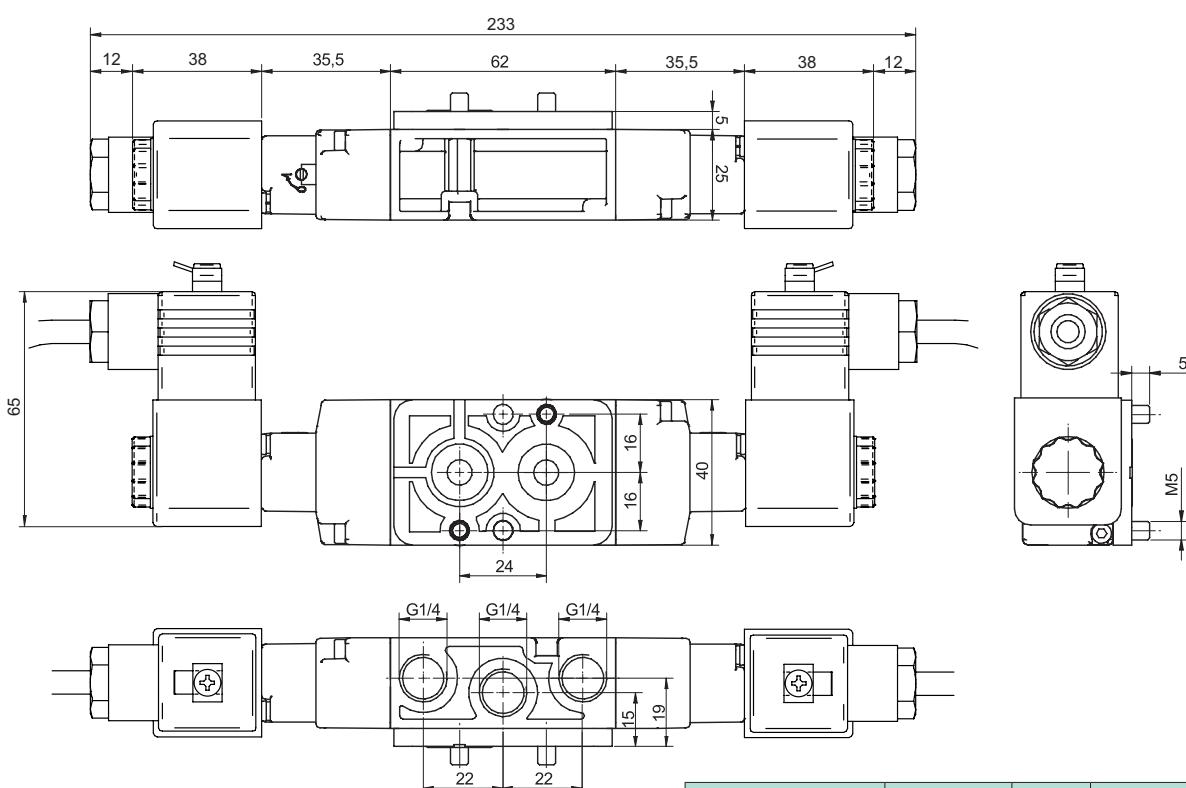


2



Version	Symbol	Code	Item
5/2 solenoid/spring			A1NE250XD_*

* For coil voltage: see code key at page 2.88.100



Version	Symbol	Code	Item
5/2 solenoid/solenoid			A1NE251XD_*

* For coil voltage: see code key at page 2.88.100

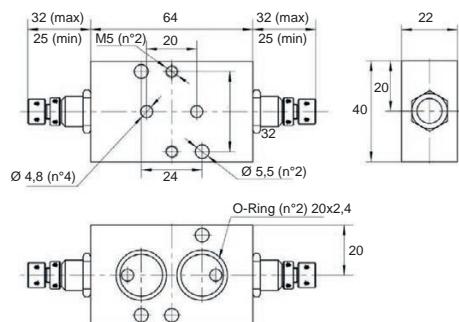
Speed controllers and mounting plates for NAMUR interface



Standard executions			
Version	Symbol	Code	Item
For 5/2 double acting actuators		810152	APNRDA
For 3/2 spring return actuators		810153	APNRSR



Type: APNRDA

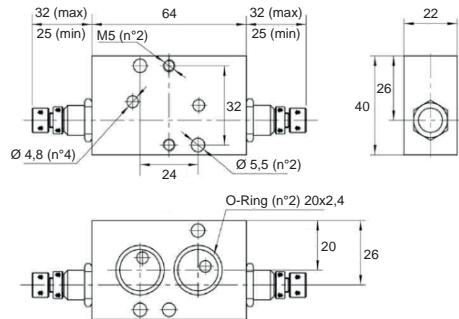


Speed controllers for double acting (APNRDA type) and spring return (APNRSR type) pneumatic actuators, to mount directly on the actuator or using with NAMUR solenoid valves and/or positioners.

These speed regulators was designed with an advanced throttling technology that was specifically made for the use of controlling the opening and closing speeds of pneumatic actuators.

The speed controller is able to control the rotary speed of the actuator at any rate accurately, consistently and safely without the fluctuation that is commonly found in the standard speed controllers.

Type: APNRSR



Technical data

Item	APNRDA	APNRSR
Fluid	Compressed filtered and dried air	
Function	5/2 Double acting	3/2 Spring return
Pressure range	1,5 ÷ 10 bar	
Temperature range	-20°C ÷ +60°C	
Orifice Ø	3,74 mm.	
Flow	750 NL/min at 5 bar	
Connections	NAMUR	
Screws	M5x50 (2), M5x55 (2), M5x40 (2, for PNF plate)	
Materials	Body: Seals: Screws: Elements in contact wit fluid:	Anodized aluminium NBR Stainless Steel Aluminium, brass, NBR

Speed controllers and mounting plates for NAMUR interface

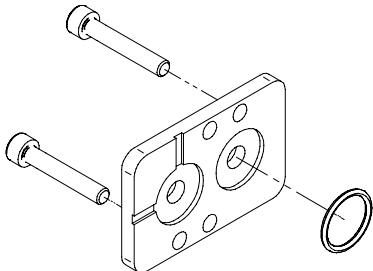


Standard executions

Version	Code	Item
For valves NAMUR 3/2	034203	PSN 3/2
For valves NAMUR 5/2	034166	PSN 5/2
For speed controllers	034228	PNF



Type: PSN 3/2

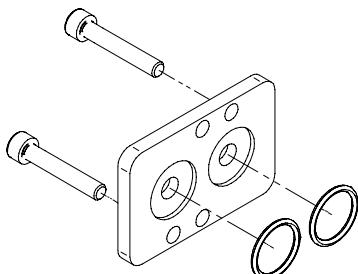


The Kit include 2 screws and 1 O-ring

Plates to be mounted between NAMUR valve body and actuator in presence of coils thicker than the valve body (PSN type), and plates to be mounted at the speed regulator body as adapter for pipes connections (PNF type). Supplied complete with screws and O-rings.

2

Type: PSN 5/2

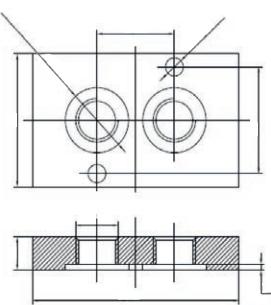


The Kit include 2 screws and 2 O-ring

Materials (PSN type)

Plate	Technopolymer
Screws	Stainless steel
Seals	Hydrogenated Nitrile Butadiene Rubber (HNBR)

Type: PNF



The Kit include 2 screws and 2 O-ring

Materials (PNF type)

Plate	Anodised aluminium
Screws	Stainless steel
Seals	Hydrogenated Nitrile Butadiene Rubber (HNBR)

Notes

Valves series A1

1/2", 3/2, electrically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC		034113	A1E430
3/2 NO		034122	A1E431
3/2 solenoid/solenoid		034123	A1E432
3/2 NC external air pilot		034137	A1K430
3/2 solenoid/solenoid external air pilot		034158	A1K432



2

Series of spool valves, with static seals, high flow, for panel mounting.

Coils and connectors have to be ordered separately.

For the coils type ASA12.../ASA2... see page 2.200.1

For the connectors type A122... see page 2.210.20



On request, they can be supplied according to 2014/34/EU - ATEX

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

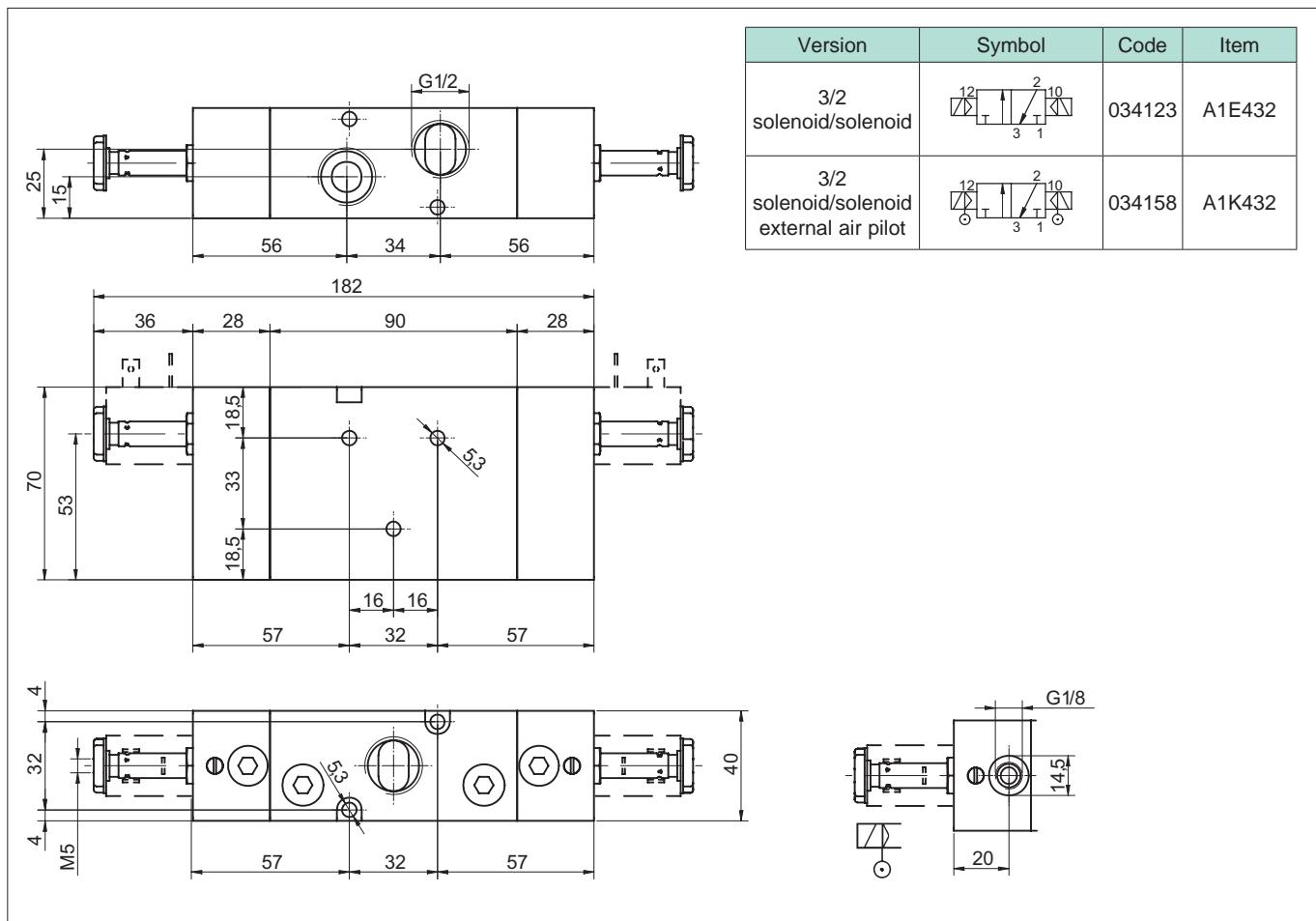
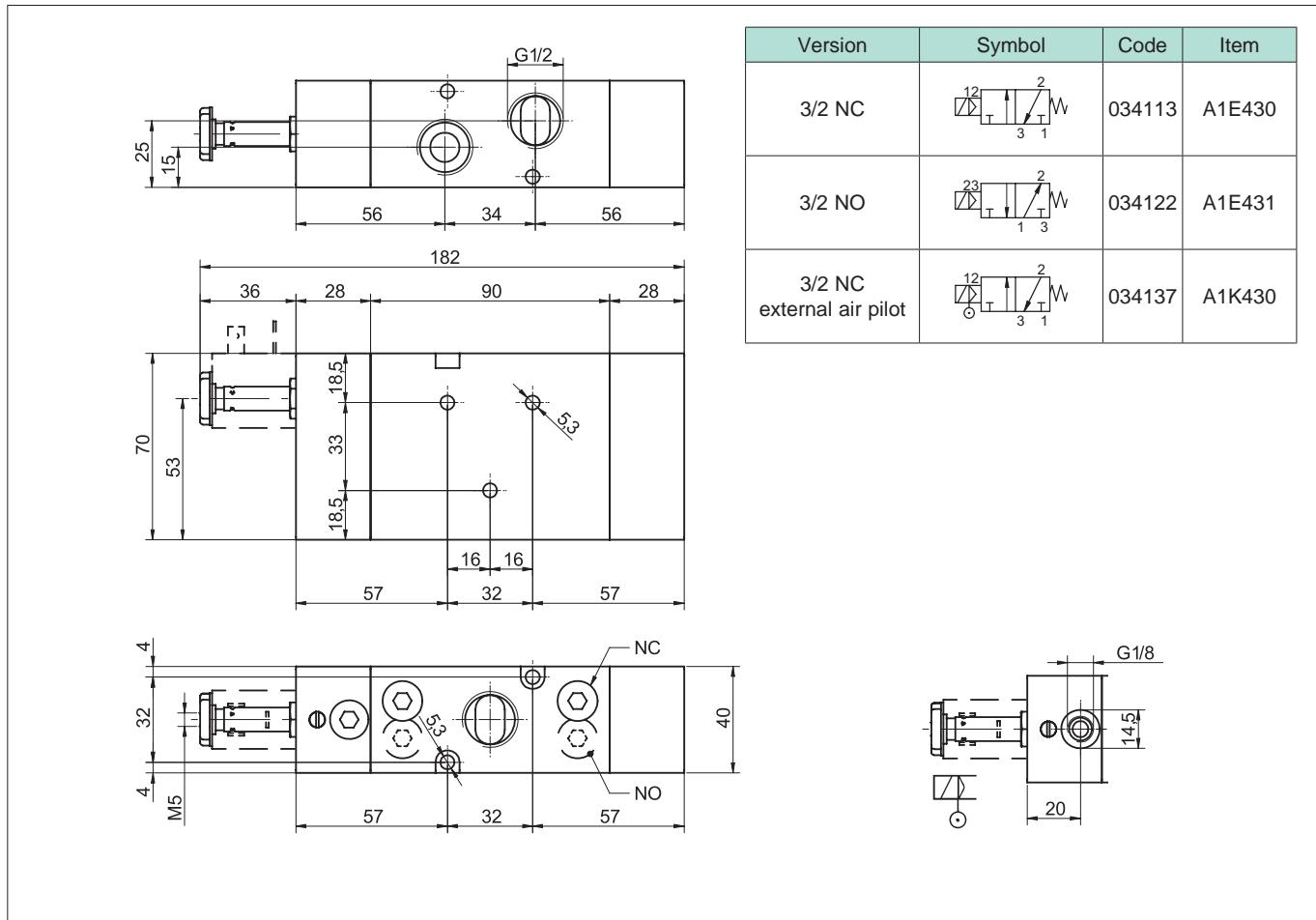
Series	Actuation	Size	Function	Options
A1	E = electrical K = electrical with external air pilot	4 = 1/2"	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 sol./sol.	BT = low temp. seals

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.					
Pressure range	2,5 ÷ 10 bar					
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)			
Orifice	15 mm					
Flow	2900 NL/min at 6 bar with ΔP 1 bar					
Minimum piloting pressure	Spring return: 2,5 bar		Bistable: 1 bar			
Mounting	In any position					
Manual override	Bistable					
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid			
	Energising: 60 ms	De-energising: 36 ms	Energising: 30 ms	De-energising: 30 ms		
Materials	Body: Covers: Spool: Distancers: Seals:	Anodised aluminium Anodised aluminium Hard aluminium anodized Aluminium Hydrogenated Nitrile Butadiene Rubber (HNBR)				

Valves series A1

1/2", 3/2, electrically operated



Valves series A1

1/2", 5/2 - 5/3, electrically operated



Standard executions

Version	Symbol	Code	Item
5/2 solenoid/spring		034114	A1E450
5/2 solenoid/solenoid		034115	A1E451
5/2 solenoid/solenoid differential		034139	A1E452
5/3 with closed centres		034124	A1E470
5/3 with open centres		034125	A1E471
5/3 with pressurised centres		034126	A1E472
5/2 solenoid/spring, external air pilot		034138	A1K450
5/2 solenoid/solenoid external air pilot		034140	A1K451
5/3 with closed centres, external air pilot		034159	A1K470
5/3 with open centres, external air pilot		034160	A1K471
5/3 with pressurised centres external air pilot		034161	A1K472



2

Series of spool valves, with static seals, high flow, for panel mounting.

Coils and connectors have to be ordered separately.

For the coils type ASA12.../ASA2... see page 2.200.1
For the connectors type A122... see page 2.210.20

Code key

Series	Actuation	Size	Function	Options
A1	E = electrical K = electrical with external air pilot	4 = 1/2"	50 = 5/2 sol./spring 51 = 5/2 sol./sol. 52 = 5/2 sol./sol. differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC	BT = low temp. seals

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

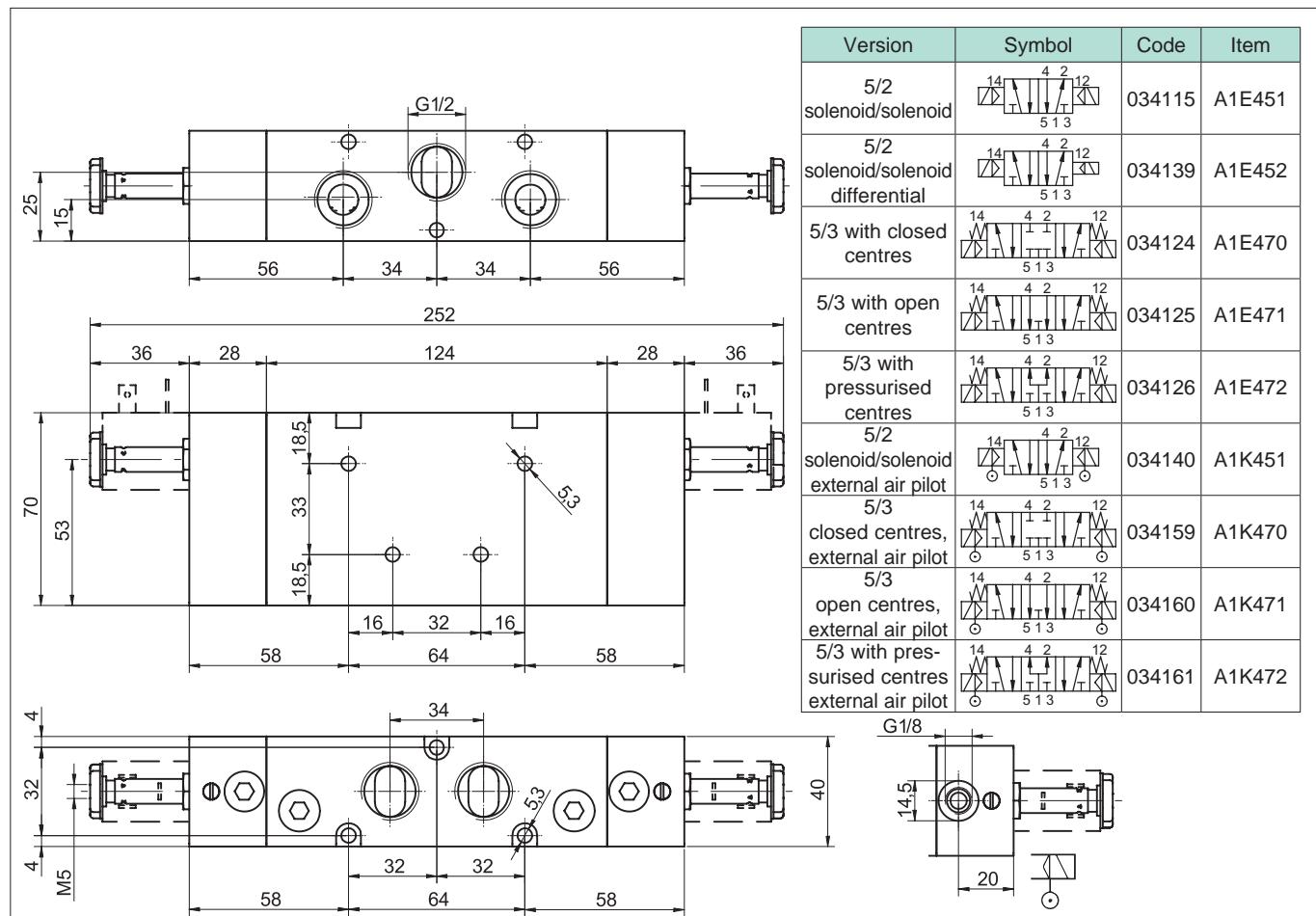
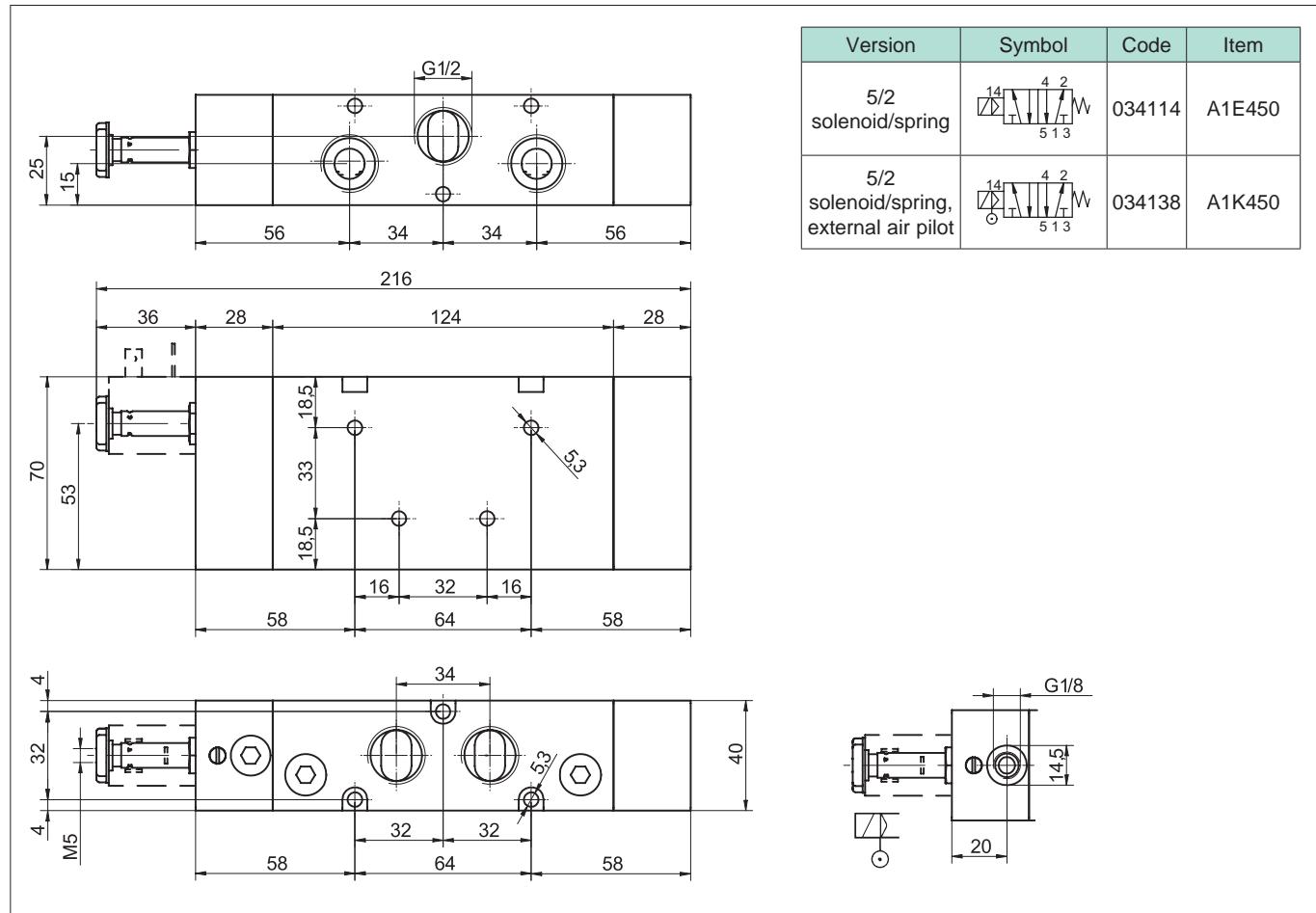


On request, they can be supplied according to 2014/34/EU - ATEX

Technical data						
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.					
Pressure range	2,5 ÷ 10 bar					
Temperature range	-10°C ÷ +60°C (standard)		-25°C ÷ +60°C (BT)			
Orifice	15 mm					
Flow	2900 Nl/min at 6 bar with ΔP 1 bar					
Minimum piloting pressure	Spring return: 2,5 bar		Bistable: 1 bar	3 positions: 2,5 bar		
Mounting	In any position					
Manual override	Bistable					
Response time (at 6 bar)	solenoid/spring		solenoid/solenoid			
	Energising: 60 ms	De-energising: 36 ms	Energising: 30 ms	De-energising: 30 ms		
Materials	Body:	Anodised aluminium				
	Covers:	Anodised aluminium				
	Spool:	Hard aluminium anodized				
	Distancers:	Aluminium				
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)				

Valves series A1

1/2", 5/2 - 5/3, electrically operated



Valves series A1

1/2", 3/2, pneumatically operated



Standard executions			
Version	Symbol	Code	Item
3/2 NC		034116	A1P430
3/2 NO		034127	A1P431
3/2 pilot/pilot		034128	A1P432



On request, they can be supplied according to 2014/34/EU - ATEX

Series of spool valves, with static seals, high flow, for panel mounting.

2

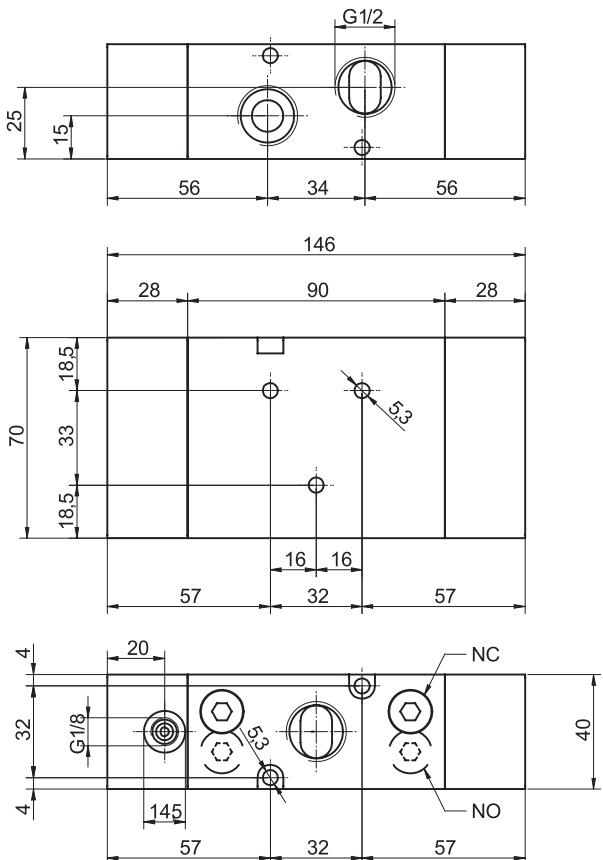
Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

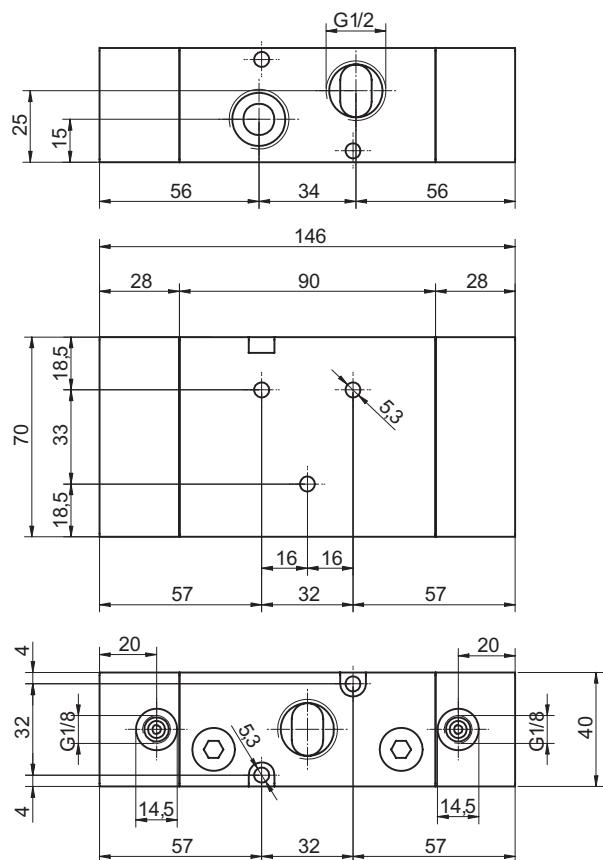
Series	Actuation	Size	Function	Options
A1	P = pneumatic	4 = 1/2"	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 pilot/pilot 33 = 3/2 pilot/pilot differential	BT = low temp. seals

Technical data		
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	2,5 ÷ 10 bar	
Temperature range	-10°C ÷ +60°C (standard)	-25°C ÷ +60°C (BT)
Orifice	15 mm	
Flow	2900 NL/min at 6 bar with ΔP 1 bar	
Minimum piloting pressure	Spring return: 2,5 bar	Bistable: 1 bar
Mounting	In any position	
Materials	Body: Covers: Spool: Distancers: Seals:	Anodised aluminium Anodised aluminium Hard aluminium anodized Aluminium Hydrogenated Nitrile Butadiene Rubber (HNBR)

Valves series A1
1/2", 3/2, pneumatically operated



Version	Symbol	Code	Item
3/2 NC		034116	A1P430
3/2 NO		034127	A1P431



Version	Symbol	Code	Item
3/2 solenoid/ solenoid		034128	A1P432

Valves series A1

1/2", 5/2 - 5/3, pneumatically operated



Standard executions

Version	Symbol	Code	Item
5/2 pilot/spring		034117	A1P450
5/2 pilot/pilot		034118	A1P451
5/2 pilot/pilot differential		034136	A1P452
5/3 with closed centres		034129	A1P470
5/3 with open centres		034130	A1P471
5/3 with pressurised centres		034135	A1P472



2

Series of spool valves, with static seals, high flow, for panel mounting.



On request, they can be supplied according to 2014/34/EU - ATEX

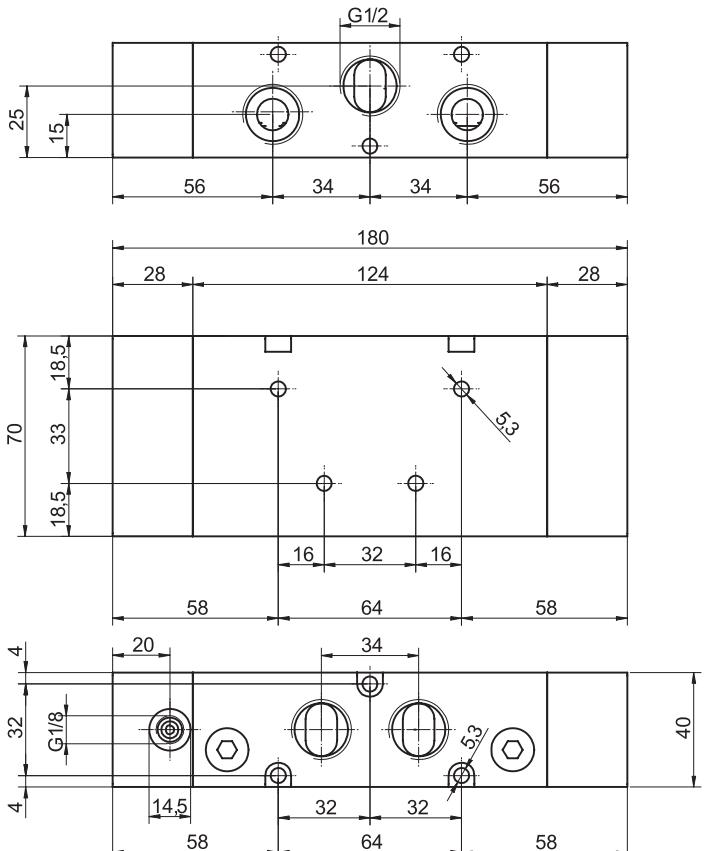
Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

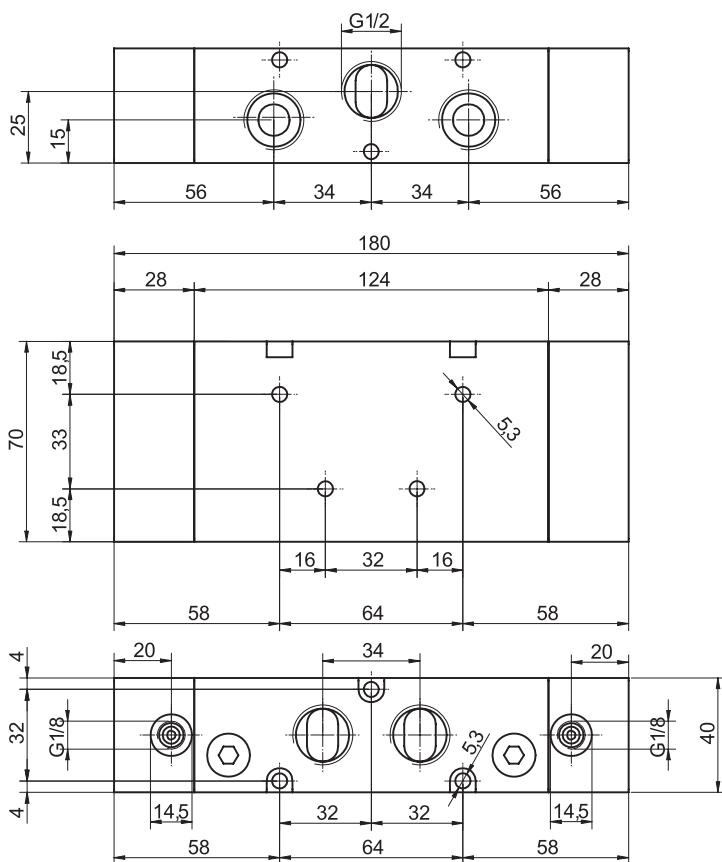
Series	Actuation	Size	Function	Options
A1	P = pneumatic	4 = 1/2"	50 = 5/2 pilot/spring 51 = 5/2 pilot/pilot 52 = 5/2 pilot/pilot differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC	BT = low temp. seals

Technical data	
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	2,5 ÷ 10 bar
Temperature range	-10°C ÷ +60°C (standard) -25°C ÷ +60°C (BT)
Orifice	15 mm
Flow	2900 NL/min at 6 bar with ΔP 1 bar
Minimum piloting pressure	Spring return: 2,5 bar Bistable: 1 bar 3 positions: 2,5 bar
Mounting	In any position
Materials	Body: Anodised aluminium Covers: Anodised aluminium Spool: Hard aluminium anodized Distancers: Aluminium Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR)

Valves series A1
1/2", 5/2 - 5/3, pneumatically operated



Version	Symbol	Code	Item
5/2 solenoid/ spring		034117	A1P450



Version	Symbol	Code	Item
5/2 solenoid/ solenoid		034118	A1P451
5/2 solenoid/ solenoid differential		034136	A1P452
5/3 with closed centres		034129	A1P470
5/3 with open centres		034130	A1P471
5/3 with pressurised centres		034135	A1P472

Solenoid valves series A2 1/4", with multiple connector



Standard executions

Version	Symbol	Code	Item
3/2 NC - 24VDC		036000	A230A
3/2 NC - 12VDC		036030	A230B
3/2 NO - 24VDC		036001	A231A
3/2 NO - 12VDC		036031	A231B
3/2 solenoid/solenoid - 24VDC		036002	A232A
3/2 solenoid/solenoid - 12VDC		036032	A232B
2-3/2 NC-NO - 24VDC		036040	A233A
2-3/2 NC-NC - 24VDC		036041	A234A
2-3/2 NO-NO - 24VDC		036042	A235A
5/2 solenoid/spring - 24VDC		036003	A250A
5/2 solenoid/spring - 12VDC		036033	A250B
5/2 solenoid/solenoid - 24VDC		036004	A251A
5/2 solenoid/solenoid - 12VDC		036034	A251B
5/3 CC - 24VDC		036005	A270A
5/3 CC - 12VDC		036035	A270B
5/3 OC - 24VDC		036006	A271A
5/3 OC - 12VDC		036036	A271B
5/3 PC - 24VDC		036007	A272A
5/3 PC - 12VDC		036037	A272B



Series of spool valves, for multi-pole connection on island sub-base.

This series of modern valves are innovative and highly performing:

- With reduced overall dimensions and high flow rates;
- Electric pilots on solenoid / solenoid version are both on same side;
- Coils with low power consumption;
- Possibility of feeding with different pressures different valves (by integrating a membrane module within the base);
- Can be set for separate internal feeding;
- Fast and practical assembly: each valve, even if in an intermediate position, can be easily replaced by individually operating on such valve only;
- "Push" manual override, spring return and two position;
- With LED.

For bases and accessories

see page 2.105.4

For island configuration

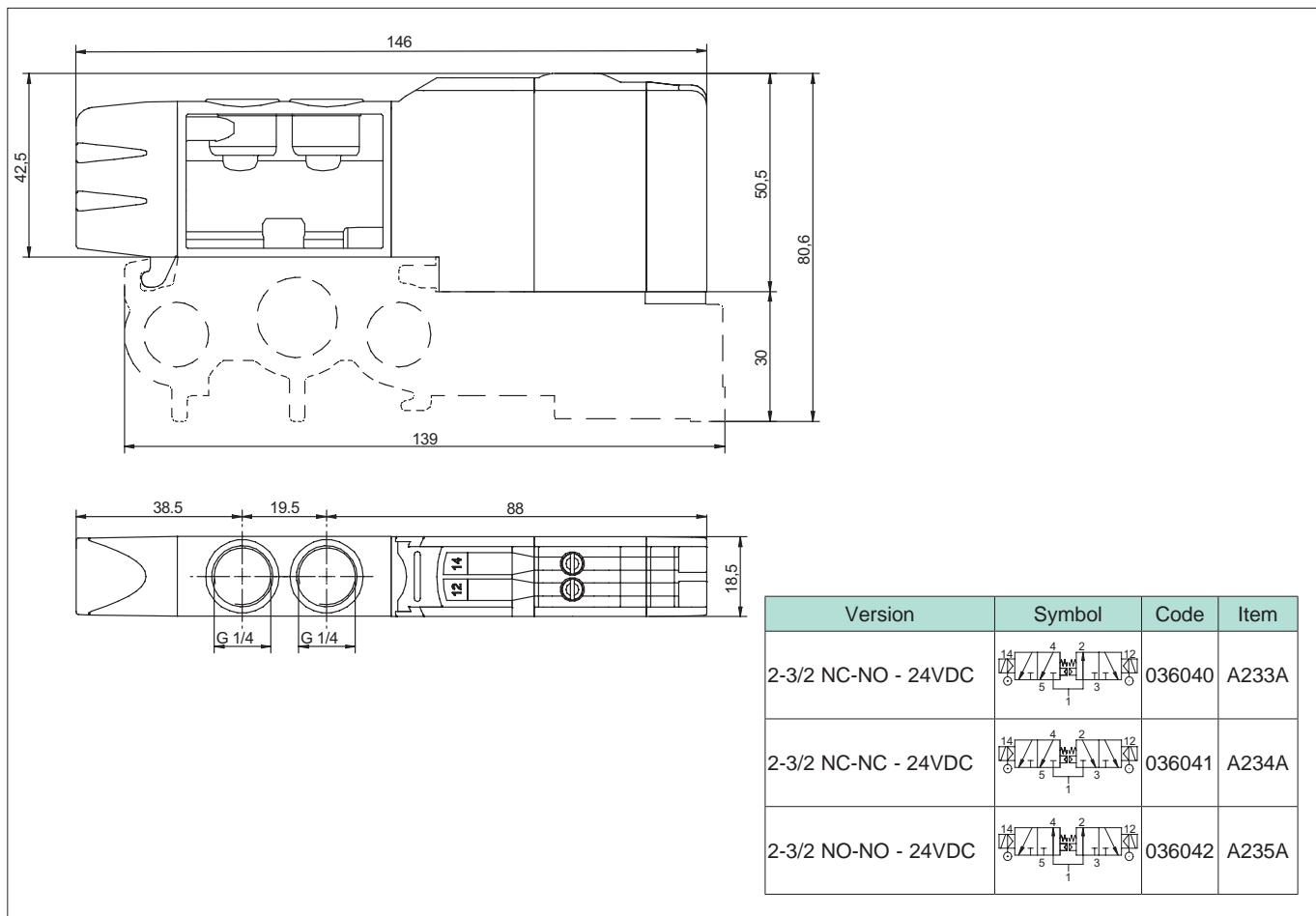
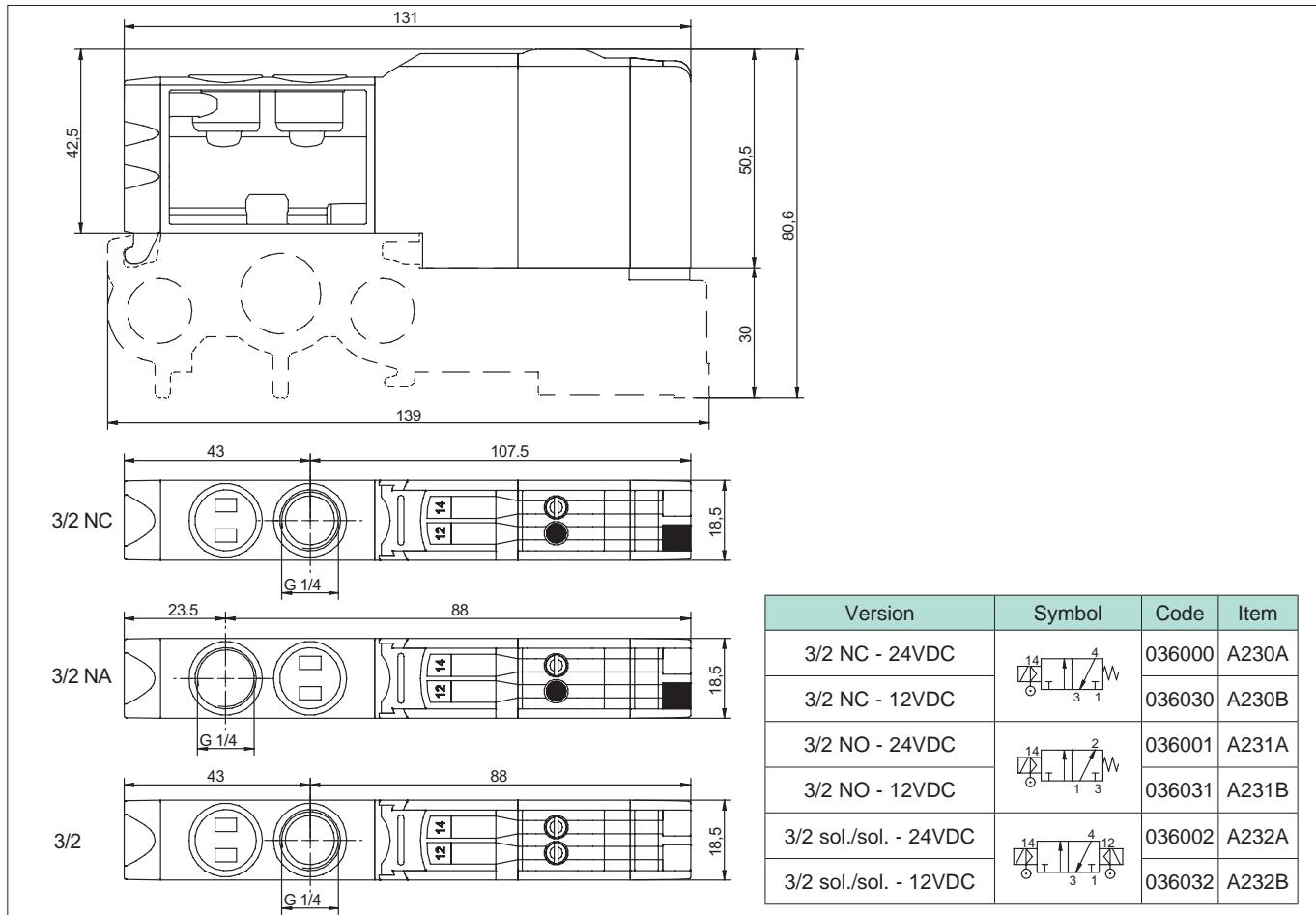
see page 2.105.7

Series	Function	Voltage
A2	30 = 3/2 NC 31 = 3/2 NO 32 = 3/2 solenoid/solenoid 33 = 2-3/2 NC-NO 34 = 2-3/2 NC-NC 35 = 2-3/2 NO-NO 50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid	A = 24VDC B = 12VDC

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.			
Pressure range	Max 7 bar			
Temperature range	-5 °C ÷ + 50°C			
Minimum piloting pressure	Spring return: 2,5 bar	Bistable: 1 bar	3 positions: 2,5 bar	2 - 3/2: 3 bar
Orifice	7 mm			
Flow	850 l/min at 6 bar with ΔP 1 bar			
Mounting	In any position			
Manual override	Push mono and two stable positions			
Electric control	24 VDC (standard)		12 VDC (on request)	
Electrical consumption	1.5 W		1.4 W	
Duty cycle	100% ED		100% ED	
LED	Red		Red	
Materials	Body: Covers: Spool: Distancers: Seals:	Die-cast painted aluminium PBT Hard aluminium anodized Aluminium Hydrogenated Nitrile Butadiene Rubber (HNBR)		

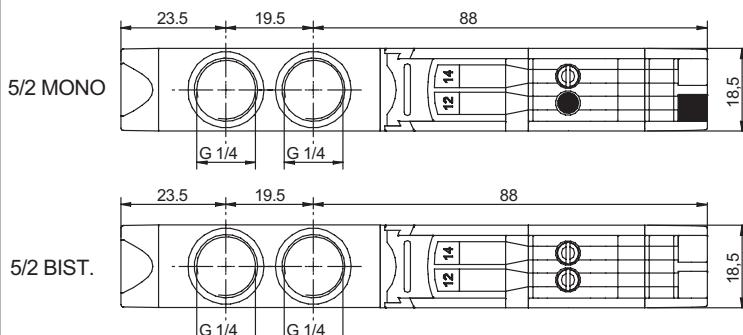
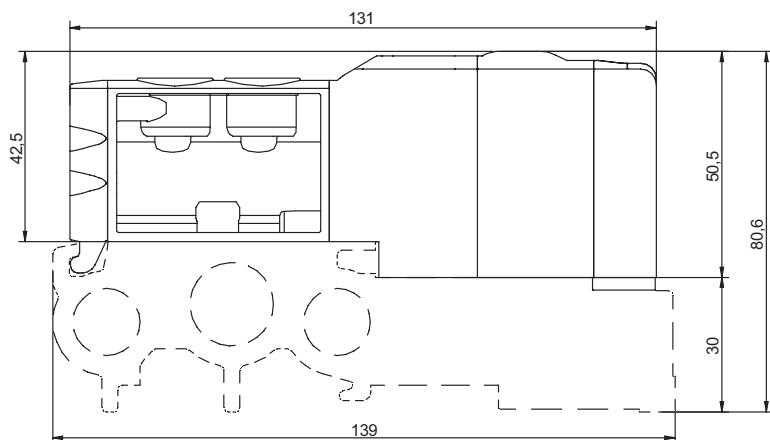
Solenoid valves series A2 1/4", with multiple connector



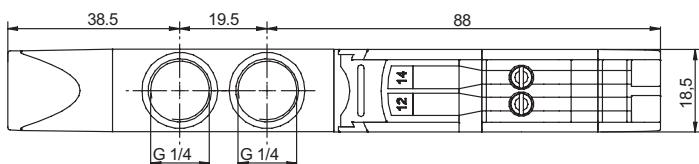
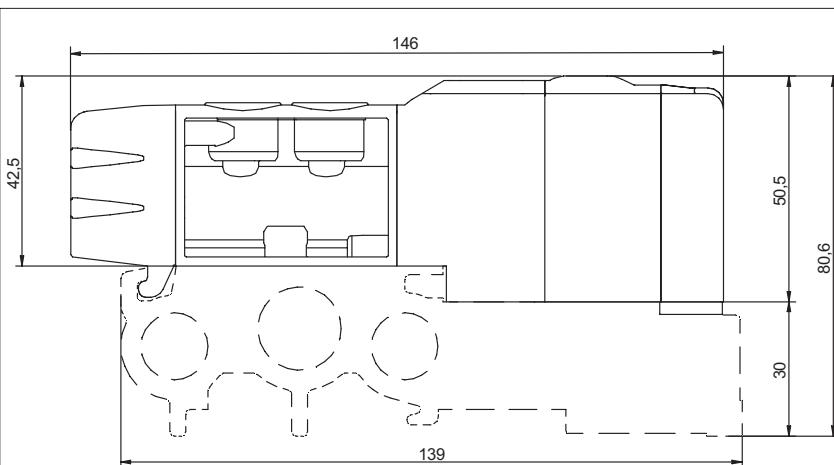
Solenoid valves series A2 1/4", with multiple connector



2



Version	Symbol	Code	Item
5/2 sol./spring - 24VDC		036003	A250A
5/2 sol./spring - 12VDC		036033	A250B
5/2 sol./sol. - 24VDC		036004	A251A
5/2 sol./sol. - 12VDC		036034	A251B



Version	Symbol	Code	Item
5/3 CC - 24VDC		036005	A270A
5/3 CC - 12VDC		036035	A270B
5/3 OC - 24VDC		036006	A271A
5/3 OC - 12VDC		036036	A271B
5/3 PC - 24VDC		036007	A272A
5/3 PC - 12VDC		036037	A272B

Solenoid valves series A2

Sub-bases, accessories, SUB-D connector



Standard executions

Version	Code	Item
Base 4 positions (min.)	036011	A2B04
Base 5 positions	036012	A2B05
Base 6 positions	036013	A2B06
Base 7 positions	036014	A2B07
Base 8 positions	036015	A2B08
Base 9 positions	036016	A2B09
Base 10 positions	036017	A2B10
Base 11 positions	036018	A2B11
Base 12 positions	036019	A2B12



Sub-bases with fix position for A2 series valves, with standard 25 poles SUB-D connector, can be mounted on DIN EN 50 035 guides.

On each base, one position on the opposite side of the SUB-D connector is dedicated to the module for the external piloting of the valves.

The main feeding of the valves (1) can be divided by applying an internal diaphragm, in case feeding with two different pressures should be required.

Likewise, the exhausts (3 – 5) can be divided with the suitable diaphragms.

The base is mainly composed by aluminium, anodized to grant last in time.

The covers in PBT glass charged, are sealed with an internal o-ring to protect the electrical circuit from external atmospheric agents.

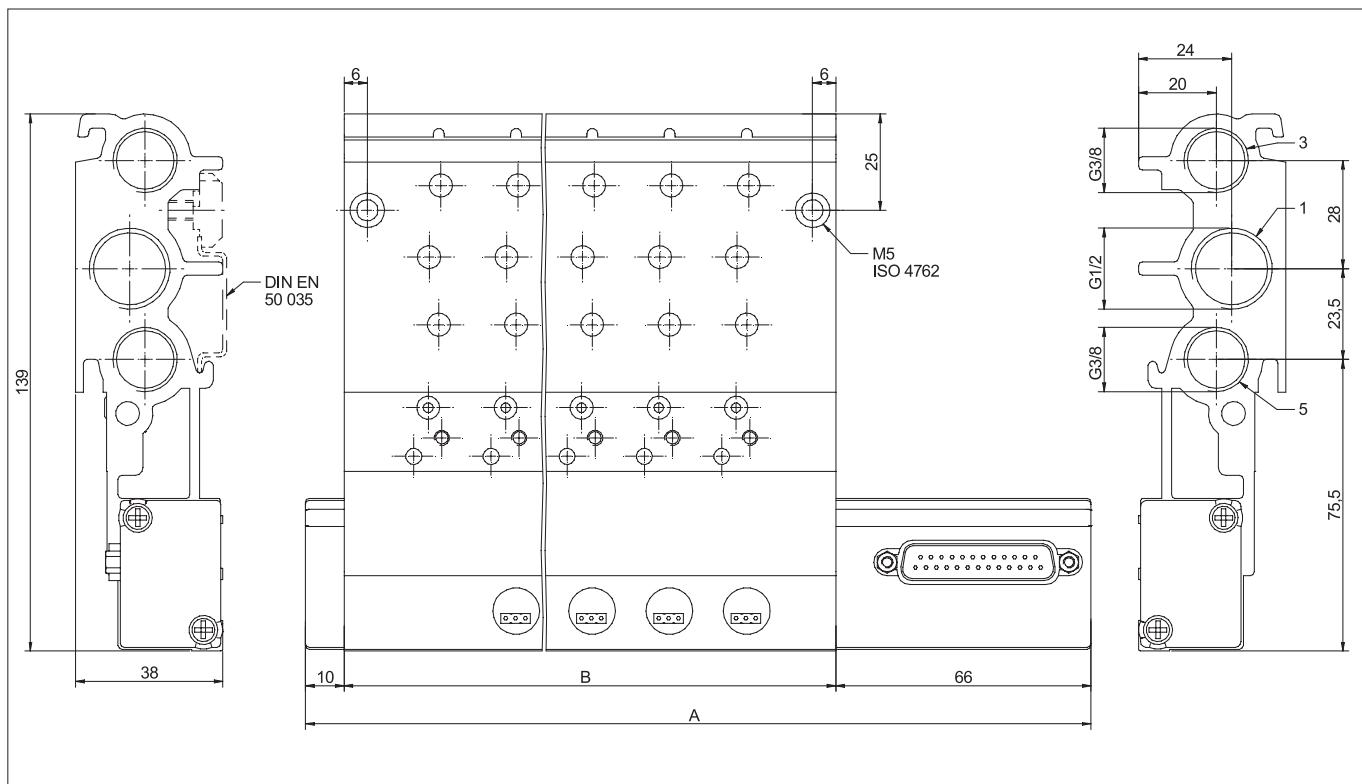
For the external pilot modules

see page 2.105.5

For the feeding / exhausts diaphragms

see page 2.105.6

Version	A	B
Base 4 positions (min.)	203.5	127.5
Base 5 positions	223.5	147.5
Base 6 positions	243.5	167.5
Base 7 positions	263.5	187.5
Base 8 positions	283.5	207.5
Base 9 positions	303.5	227.5
Base 10 positions	323.5	247.5
Base 11 positions	343.5	267.5
Base 12 positions	363.5	287.5



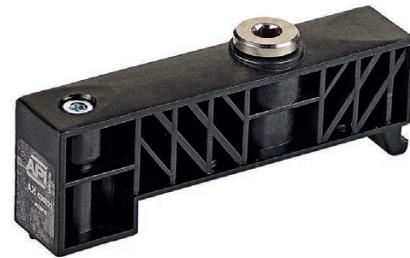
Solenoid valves series A2

Sub-bases, accessories, SUB-D connector



Standard executions

Version	Code	Item
Feeding module for internal piloting	036021	A2I
Feeding module for external piloting	036022	A2E
Blanking module for unused positions	036024	A2PC



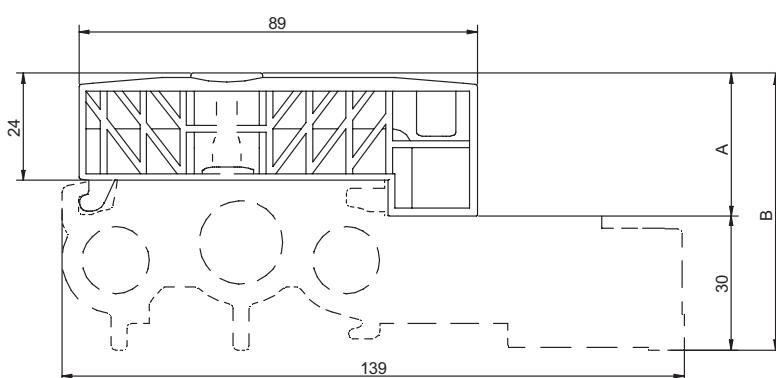
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The pneumatic feeding to the valve pilots mounted on the island, is by a feeding module, which takes on the base a dedicated position, on the opposite side of the SUB-D connector.

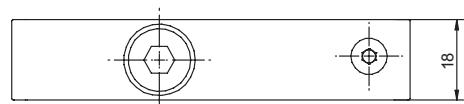
The module can be:

- Internal piloted, when the piloting pressure is the same as the main feeding on;
- External piloted, when the piloting pressure and main feeding on 1 are differentiated.

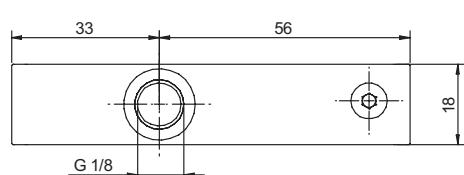
To complete the range, there is the blanking module for the unused position. The electrical connection in this case will be protected by a suitable plug.



A2I
A2PC



A2E



Version	A	B
Feeding module for internal piloting	35	65
Feeding module for external piloting	32	62
Blanking module for unused positions	35	65

Solenoid valves series A2

Sub-bases, accessories, SUB-D connector



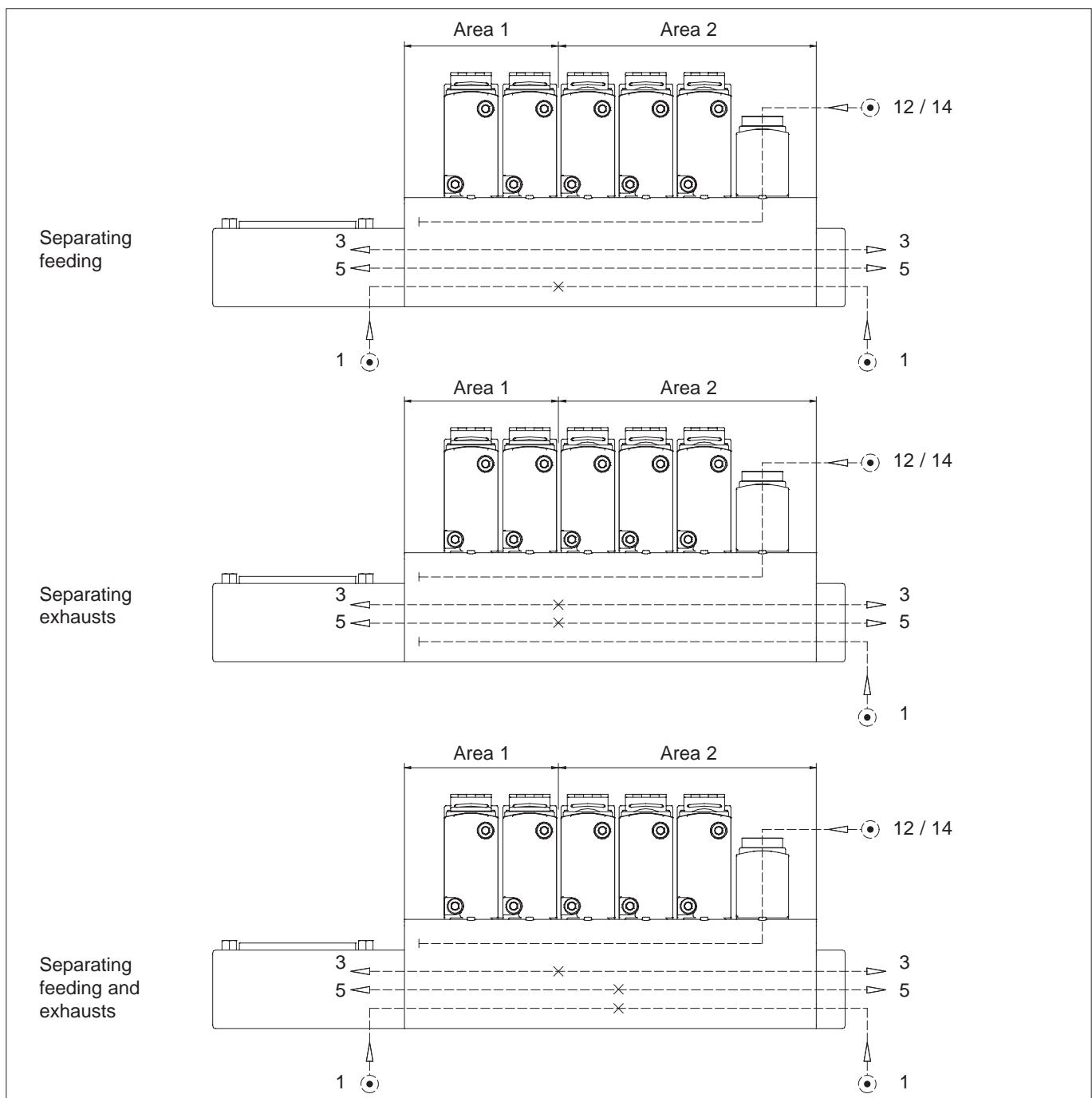
Standard executions		
Version	Code	Item
Blanking diaphragm for separating the feedings	036020	A2T
Blanking diaphragm for separating the exhausts	036027	A2S



The valve units A2 can work with two zones of different pressures by using blanking diaphragms:

- Diaphragm for differentiated main feeding: In case two different pressures should be needed on the same island and feeding two separated groups of valves. In this case base should be fed on both sides;
- Diaphragm for differentiated exhausts: In case is necessary to separate the exhausts on 3 or 5 or both. This way, the exhausts of two groups of valves can be conveyed separately;

Both types of diaphragms can be mounted without occupying any valve position on the base and for this reason they can be applied also later.



Solenoid valves series A2

Sub-bases, accessories, SUB-D connector



Standard executions

Version	Code	Item
SUB-D connector with 5 mt cable, 25 poles	036023	SD25-5
SUB-D connector with 7 mt cables, 25 poles	036025	SD25-7
SUB-D connector with 10 mt cables, 25 poles	036026	SD25-10



Cables with multi-pole connector 25 poles, to transfer electric signals.

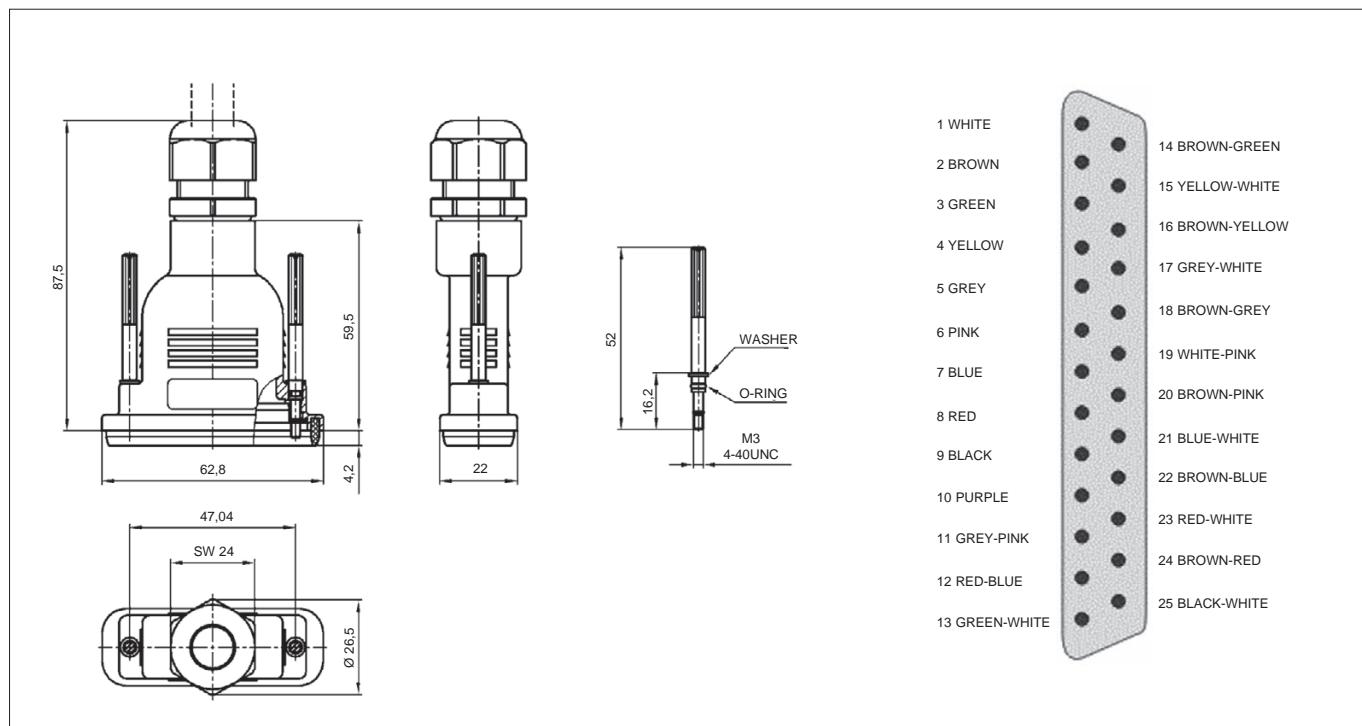
The cable, equipped with protection against electro-magnetic interferences, can handle up to max. 12 solenoid valves, either they are spring-return, solenoid/solenoid or 3 positions.

Connector is protected by a special cap resistant to water conforming to the Standard SUB-D.

Cable is conforming to normative VDE 0812 for what concern the constructive, electrical and mechanical features.

Colour of wires are conforming to Standard DIN 47100 – Earth Shielding

2



Technical data

External sheath PVC-FR GREY color (RAL7001) (CEI 20-22 II).

Connector materials	Cap: Contacts: Screw:	PBT + glass Golden brass Stainless steel
Specifics of cable	25 x 0,25 mm ²	Test voltage 1500V, working tensions 250V Conductors electrical resistance 52,2 Ω/Km, min. insulation resistance 20 MΩ/Km
Normatives	CEI EN 60228 Cl.5 - CEI 20-22 II - CEI 20-37/0 - DIN 47100 - CEI EN 60332-1-2	
Working temperature	- 20 °C ÷ + 80 °C	
Protection	IP 65	

Solenoid valves series A2

Coding and code

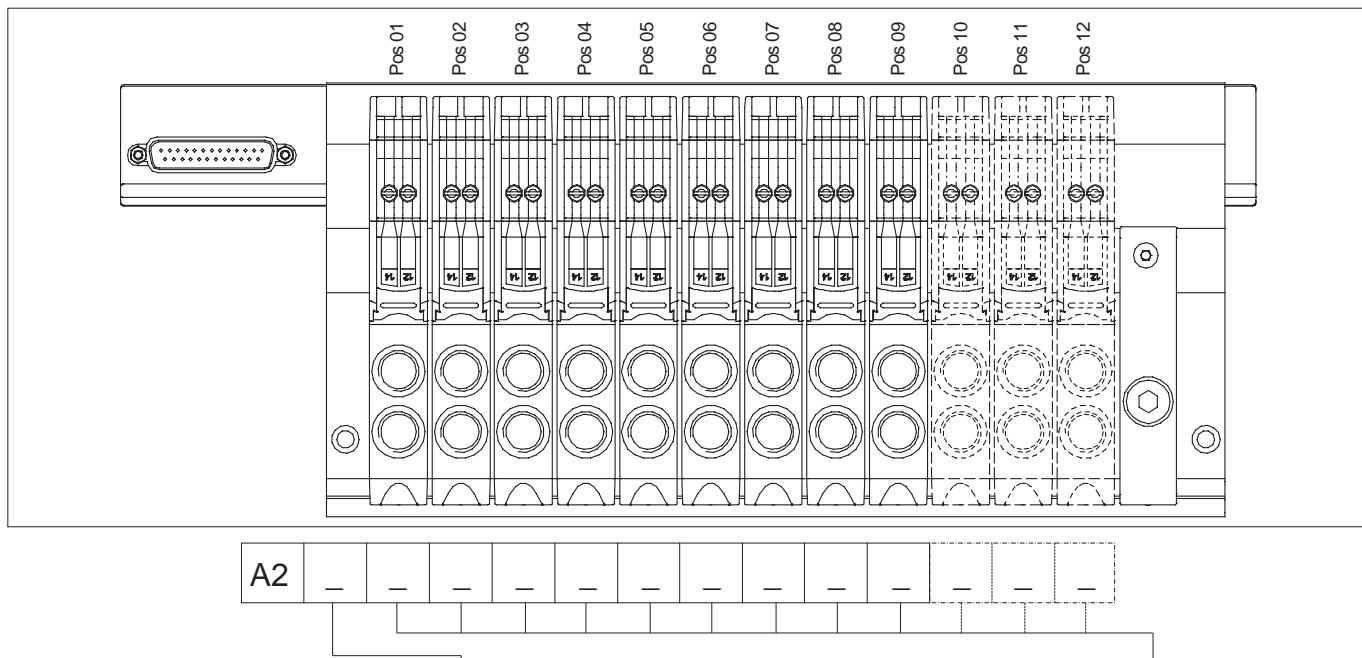


The encoding of the islands is by using a code which identifies the sequence of components mounted on the base:
after having determined which types and how many valves are needed, considering also eventual position to let unused, is possible to determine the number of positions of the base, internal or external feeding to the pilots and the tension.

The valves and diaphragms, identified with letters will complete the island encoding: the order of the letters will reflect the effective position of each component on the base.

The sequence of the positions start from the side of the SUB-D connector and end on the side of the external piloting module.

The position of the external piloting module is set, on the opposite side of the SUB-D, so is not necessary to indicate in the code that position.



Configuration of the base

N° of base positions	Internal feeding of the pilots Tension 24 VDC	External feeding of the pilots Tension 24 VDC	Internal feeding of the pilots Tension 12 VDC	External feeding of the pilots Tension 12 VDC
04	01	11	21	31
05	02	12	22	32
06	03	13	23	33
07	04	14	24	34
08	05	15	25	35
09	06	16	26	36
10	07	17	27	37
11	08	18	28	38
12	09	19	29	39

Encoding of components on the base

Cod	Version	Item
B	3/2 NC	A230
D	3/2 NO	A231
E	3/2 solenoid/solenoid	A232
Q	2-3/2 NC-NO	A233
R	2-3/2 NC-NC	A234
S	2-3/2 NO-NO	A235
G	5/2 solenoid/spring	A250
H	5/2 solenoid/solenoid	A251
I	5/3 CC	A270
L	5/3 OC	A271
M	5/3 PC	A272
N	Blanking module	A2PC
O	Feddings diaphragm	A2T
P	Exhausts diaphragm	A2S

How to order:

Base 10 positions, internal feeding of the pilots, tension 24VDC, composed by:
2 - 5/2 solenoid/spring, 1 - 3/2 NO, 1 - Feddings diaphragm, 1 - Couple of exhausts diaphragm, 2 - 5/2 solenoid/solenoid, 2 - 5/2 solenoid/spring, 1 - 5/3 PC, 2 - Blanking module.

A2 07 GGDOPHHGGMNN

Solenoid valves series A2

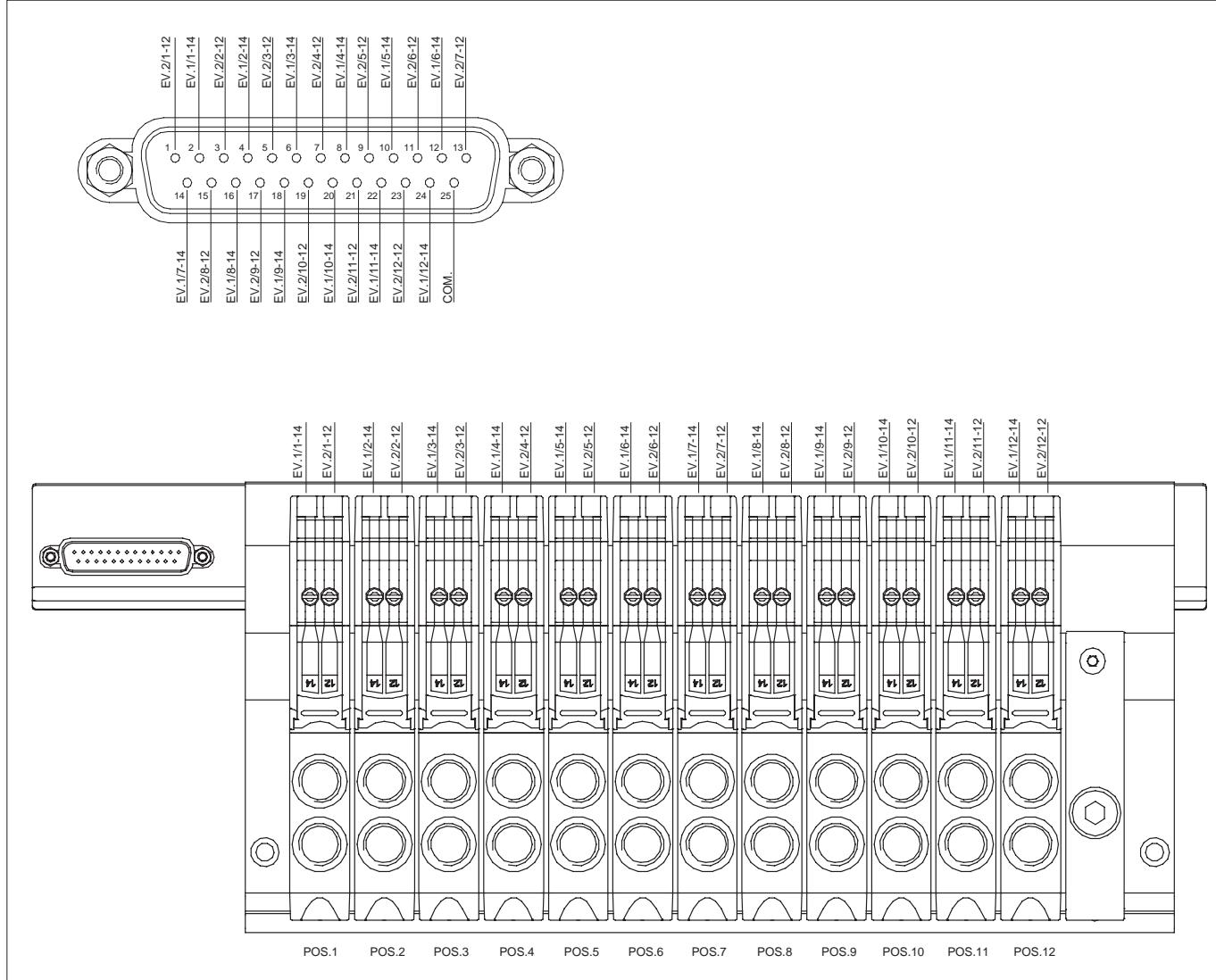
Electric scheme of multiple connector 25 poles



The transferring of the signals from the PLC to the valves is through a multi-pole connector capable of manage 24 signals. Such signals are distributed to the valves following the scheme hereunder.

Peculiarities of these valves are:

- Simplicity of the electrical connection with each valve configuration;
- Type of valve will not limit the maximum number of valves applicable;
- Every type of valve can replace another maintaining the same electrical connection.

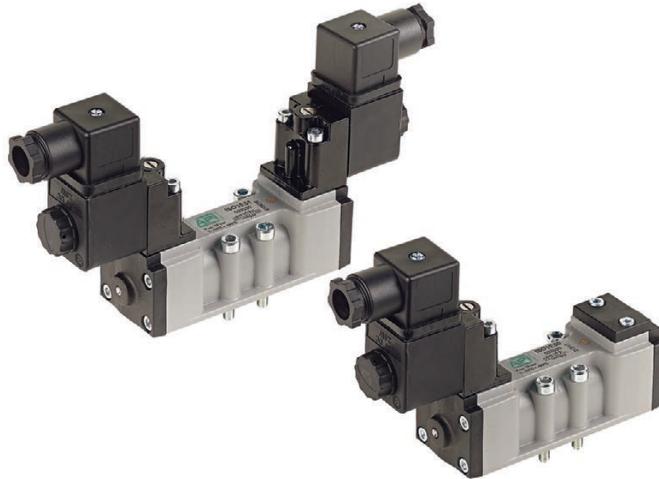


Notes

Standard executions

Version	Symbol	Code	Item
5/2 solenoid/spring		032020	ISO1E50
5/2 solenoid/solenoid		032030	ISO1E51
5/2 solenoid/solenoid differential		032037	ISO1E52
5/3 with closed centres		032031	ISO1E70
5/3 with open centres		032032	ISO1E71
5/3 with pressurised centres		032043	ISO1E72
5/2 solenoid/spring external air pilot		032021	ISO1K50
5/2 solenoid/solenoid external air pilot		032044	ISO1K51
5/2 solenoid/solenoid differential external air pilot		032048	ISO1K52
5/3 with closed centres external air pilot		032049	ISO1K70
5/3 with open centres external air pilot		032053	ISO1K71
5/3 with pressurised centres external air pilot		032054	ISO1K72

NOTE: FOR VALVES WITH PILOT IN LINE SEE PAGE 2.111.1



Series of spool valves, conforming to ISO 5599/1 standards for the mounting only on sub-base, with CNOMO pilot.

Coils and connectors have to be ordered separately.

For the coils type ASA12.../ASA2... see page 2.200.1

For the connectors type A122... /A182... see page 2.210.20

For the sub-bases type SBA1... see page 2.120.1

2

Code key

Series	Size	Actuation	Function
ISO	1 2	E = electrical K = electrical with external air pilot	50 = 5/2 solenoid/spring 51 = 5/2 solenoid/solenoid 52 = 5/2 solenoid/solenoid differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC



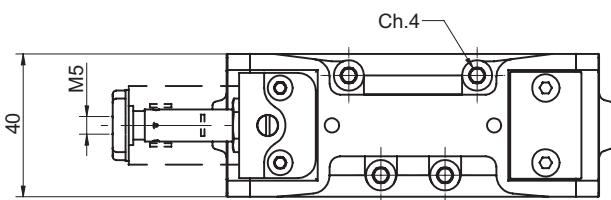
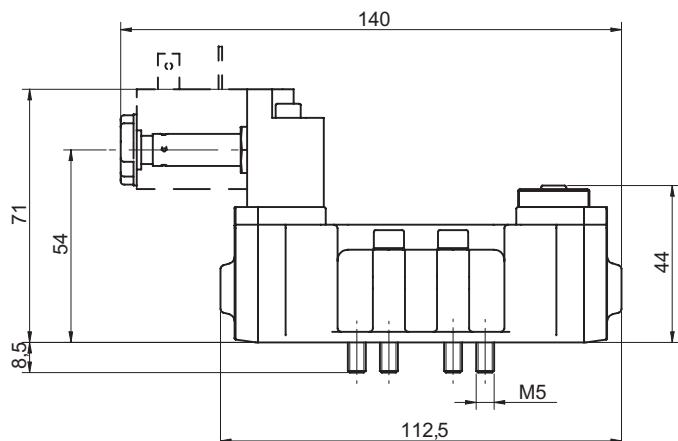
II 2Gc IIB T5
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

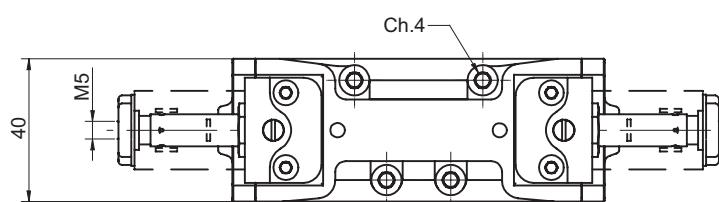
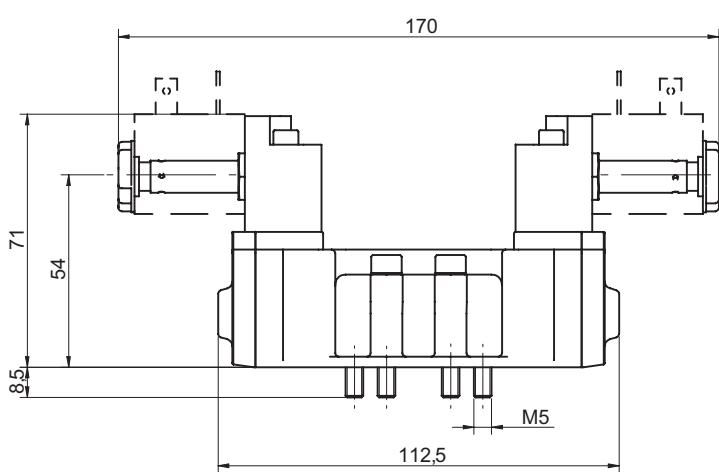
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	0 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C		
Orifice	8,5 mm		
Flow	1100 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	Spring return: 2 bar	Bistable: 1 bar	3 positions: 2,5 bar
Mounting	In any position		
Electropilot	Conforming to CNOMO		
Manual override	Bistable on solenoid pilot - Spring return on valve body		
Materials	Body:	Die-cast painted aluminium	
	Covers:	PBT	
	Spool:	Hard aluminium anodized	
	Distancers:	Aluminium	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

Valves ISO 5599/1
ISO 1, 5/2 - 5/3, electrically operated, with CNOMO pilot



Version	Symbol	Code	Item
5/2 solenoid/ spring		032020	ISO1E50
5/2 solenoid/ spring, external air pilot		032021	ISO1K50



Version	Symbol	Code	Item
5/2 solenoid/solenoid		032030	ISO1E51
5/2 solenoid/solenoid differential		032037	ISO1E52
5/3 with closed centres		032031	ISO1E70
5/3 with open centres		032032	ISO1E71
5/3 with pressurised centres		032043	ISO1E72
5/2 solenoid/solenoid external air pilot		032044	ISO1K51
5/2 solenoid/ solenoid external air pilot differential		032048	ISO1K52
5/3 with closed centres external air pilot		032049	ISO1K70
5/3 with open centres external air pilot		032053	ISO1K71
5/3 with pressurised centres external air pilot		032054	ISO1K72

Valves ISO 5599/1

ISO 1, 5/2 - 5/3, electrically operated, with IN LINE pilot



Standard executions

Version	Symbol	Code	Item
5/2 solenoid/spring		032060	ISO1EL50
5/2 solenoid/solenoid		032070	ISO1EL51
5/2 solenoid/solenoid differential		032061	ISO1EL52
5/3 with closed centres		032071	ISO1EL70
5/3 with open centres		032072	ISO1EL71
5/3 with pressurised centres		032066	ISO1EL72
5/2 solenoid/spring external air pilot		032063	ISO1KL50
5/2 solenoid/solenoid external air pilot		032064	ISO1KL51
5/2 solenoid/solenoid differential external air pilot		032065	ISO1KL52
5/3 with closed centres external air pilot		032067	ISO1KL70
5/3 with open centres external air pilot		032068	ISO1KL71
5/3 with pressurised centres external air pilot		032069	ISO1KL72

NOTE: FOR VALVES WITH CNOMO PILOT SEE PAGE 2.110.1



Series of spool valves, conforming to ISO 5599/1 standards for the mounting only on sub-base, with IN LINE pilot.

Coils and connectors have to be ordered separately.

For the coils type ASA12.../ASA2... see page 2.200.1

For the connectors type A122... /A182... see page 2.210.20

For the sub-bases type SBA1... see page 2.120.1

Code key

Series	Size	Actuation	Function
ISO	1	EL = electrical	50 = 5/2 solenoid/spring
	2	KL = electrical with external air pilot	51 = 5/2 solenoid/solenoid
			52 = 5/2 solenoid/solenoid differential
			70 = 5/3 CC
			71 = 5/3 OC
			72 = 5/3 PC

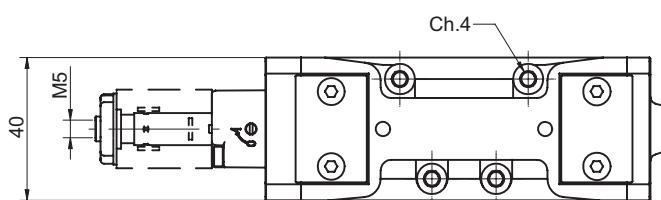
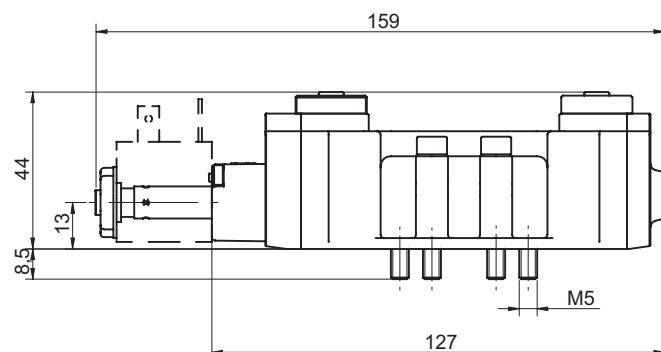
II 2Gc IIB T5
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

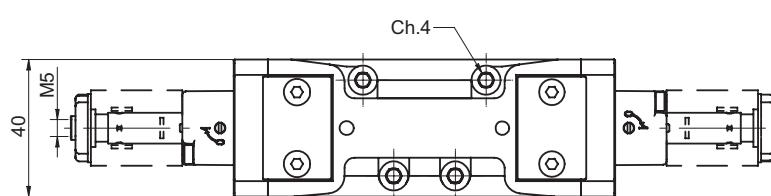
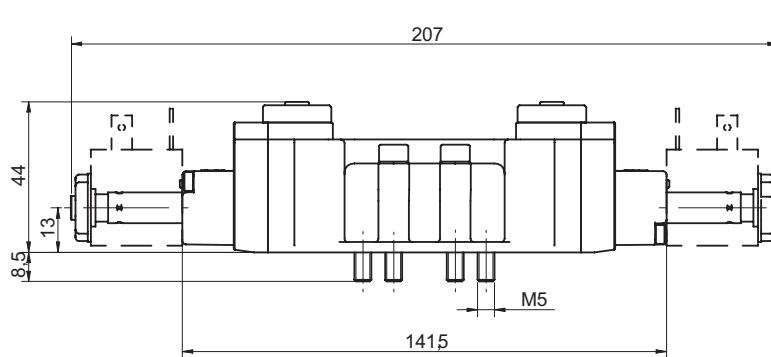
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	0 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C		
Orifice	8,5 mm		
Flow	1100 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	Spring return: 2 bar	Bistable: 1 bar	3 positions: 2,5 bar
Mounting	In any position		
Electropilot	IN LINE		
Manual override	Bistable on solenoid pilot - Spring return on valve body		
Materials	Body: Die-cast painted aluminium Covers: PBT Spool: Hard aluminium anodized Distancers: Aluminium Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR)		

Valves ISO 5599/1
ISO 1, 5/2 - 5/3, electrically operated, with IN LINE pilot



Version	Symbol	Code	Item
5/2 solenoid/ spring		032060	ISO1EL50
5/2 solenoid/ spring, external air pilot		032063	ISO1KL50



Version	Symbol	Code	Item
5/2 solenoid/solenoid		032070	ISO1EL51
5/2 solenoid/solenoid differential		032061	ISO1EL52
5/3 with closed centres		032071	ISO1EL70
5/3 with open centres		032072	ISO1EL71
5/3 with pressurised centres		032066	ISO1EL72
5/2 solenoid/solenoid external air pilot		032064	ISO1KL51
5/2 solenoid/ solenoid external air pilot differential		032065	ISO1KL52
5/3 with closed centres external air pilot		032067	ISO1KL70
5/3 with open centres external air pilot		032068	ISO1KL71
5/3 with pressur- ised centres external air pilot		032069	ISO1KL72

Standard executions

Version	Symbol	Code	Item
5/2 pilot/spring		032000	ISO1P50
5/2 pilot/pilot		032001	ISO1P51
5/2 pilot/pilot differential		032002	ISO1P52
5/3 with closed centres		032003	ISO1P70
5/3 with open centres		032004	ISO1P71
5/3 with pressurised centres		032019	ISO1P72



Series of spool valves, conforming to ISO 5599/1 standards for the mounting only on sub-base.
For the sub-bases type SBA1...

see page 2.120.1

Code key

Series	Size	Actuation	Function
ISO	1 2	P = pneumatic	50 = 5/2 pilot/spring 51 = 5/2 pilot/pilot 52 = 5/2 pilot/pilot differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC



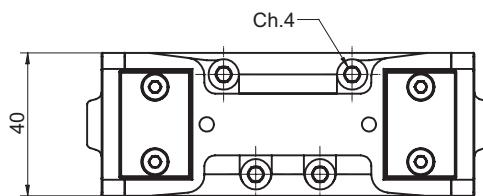
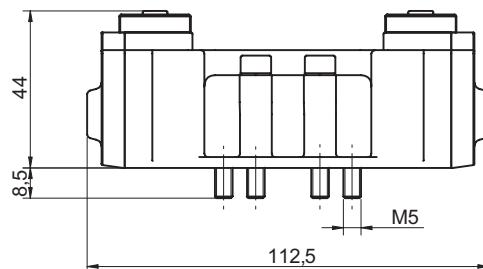
On request, they can be supplied according to 2014/34/EU - ATEX

2

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	0 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C		
Orifice	8,5 mm		
Flow	1100 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	Spring return: 2 bar	Bistable: 1 bar	3 positions: 2,5 bar
Mounting	In any position		
Manual override	Spring return on valve body		
Materials	Body: Die-cast painted aluminium Covers: PBT Spool: Hard aluminium anodized Distancers: Aluminium Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR)		

Valves ISO 5599/1
ISO1, 5/2 - 5/3, pneumatically operated



Version	Symbol	Code	Item
5/2 pilot/spring		032000	ISO1P50
5/2 pilot/pilot		032001	ISO1P51
5/2 pilot/pilot differential		032002	ISO1P52
5/3 with closed centres		032003	ISO1P70
5/3 with open centres		032004	ISO1P71
5/3 with pressurised centres		032019	ISO1P72

Standard executions

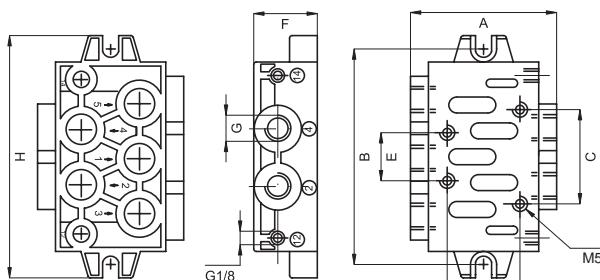
Version	Symbol	Code	Item
Single sub-base		032190	SBA1S
Manifold sub-base		032120	SBA1M
Blank manifold end plate		032140	SBA1C
Ported manifold end plate		032141	SBA1A
Manifold blanking plate		032170	SBA1T
Interface for sub-base from size ISO1 to ISO2		032160	SBA1A2

The blank manifold end plate can be used to separate 2 supplies with different pressures on the same manifold.



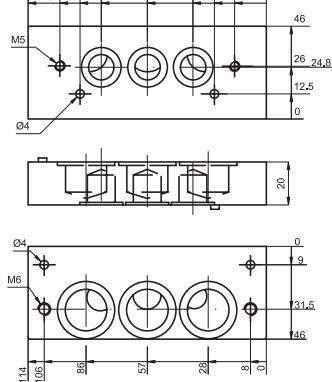
On request, they can be supplied according to 2014/34/EU - ATEX

Type: **SBA1S**



A	B	C	D	E	F	G	H
56	82,5	36	28	18	24	1/4"	92,5

Type: **SBA1A2**



Series of single and manifold sub-bases for valves ISO5599/1 size 1.

Materials:	Body: Die-cast aluminium Seals: Nitrile rubber (NBR) Screws: Zinc plated steel
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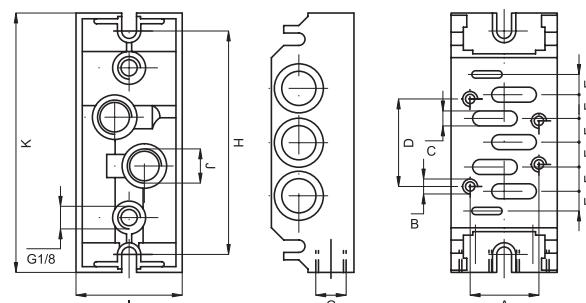
The kit SBA1M includes: 2 screws and 3 seals

The kit SBA1C/A includes: 2 screws and 3 seals

The kit SBA1T includes: 4 screws and 1 seal

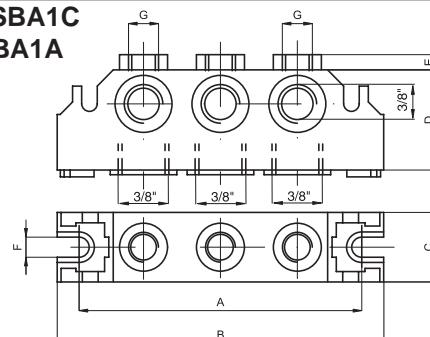
The kit SBA1A2 includes: 4 screws and 6 seals

Type: **SBA1M**



A	B	C	D	E	F	G	H	I	J	K
28	M5	4,5	36	8,5	9	1/4"	92	43	1/4"	106

Type: **SBA1C
SBA1A**



A	B	C	D	E	F	G
92	106	22	36	8	5,5	1/4"

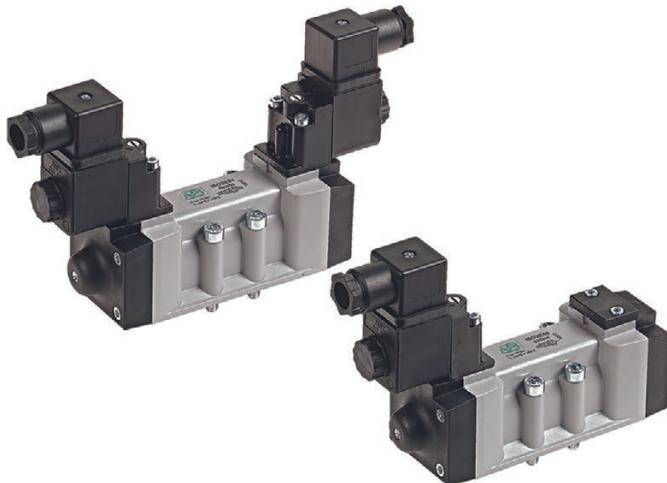
Valves ISO 5599/1

ISO2, 5/2 - 5/3, electrically operated, with CNOMO pilot



Standard executions

Version	Symbol	Code	Item
5/2 solenoid/spring		032040	ISO2E50
5/2 solenoid/solenoid		032050	ISO2E51
5/2 solenoid/solenoid differential		032042	ISO2E52
5/3 with closed centres		032051	ISO2E70
5/3 with open centres		032052	ISO2E71
5/3 with pressurised centres		032055	ISO2E72
5/2 solenoid/spring external air pilot		032039	ISO2K50
5/2 solenoid/solenoid external air pilot		032056	ISO2K51
5/2 solenoid/solenoid differential external air pilot		032057	ISO2K52
5/3 with closed centres external air pilot		032058	ISO2K70
5/3 with open centres external air pilot		032059	ISO2K71
5/3 with pressurised centres external air pilot		032062	ISO2K72



Series of spool valves, conforming to ISO 5599/1 standards for the mounting only on sub-base, with CNOMO pilot.

Coils and connectors have to be ordered separately.

For the coils type ASA12.../ASA2... see page 2.200.1

For the connectors type A122... /A182... see page 2.210.20

For the sub-bases type SBA2... see page 2.137.1

Code key

Series	Size	Actuation	Function
ISO	1	E = electrical	50 = 5/2 solenoid/spring
	2	K = electrical with external air pilot	51 = 5/2 solenoid/solenoid 52 = 5/2 solenoid/solenoid differential
			70 = 5/3 CC
			71 = 5/3 OC
			72 = 5/3 PC



II 2Gc IIB T5
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

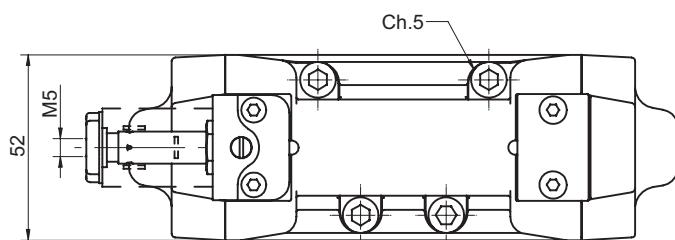
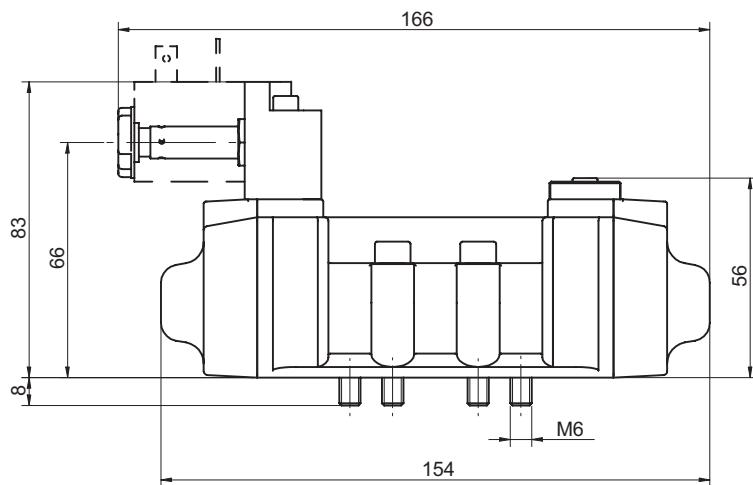
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	0 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C		
Orifice	15 mm		
Flow	2900 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	Spring return: 2 bar	Bistable: 1 bar	3 positions: 2,5 bar
Mounting	In any position		
Electropilot	Conforming to CNOMO		
Manual override	Bistable on solenoid pilot - Spring return on valve body		
Materials	Body:	Die-cast painted aluminium	
	Covers:	PBT	
	Spool:	Hard aluminium anodized	
	Distancers:	Aluminium	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

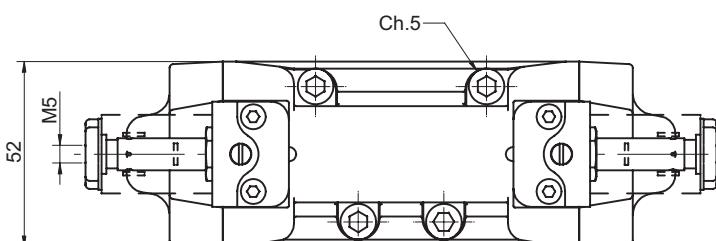
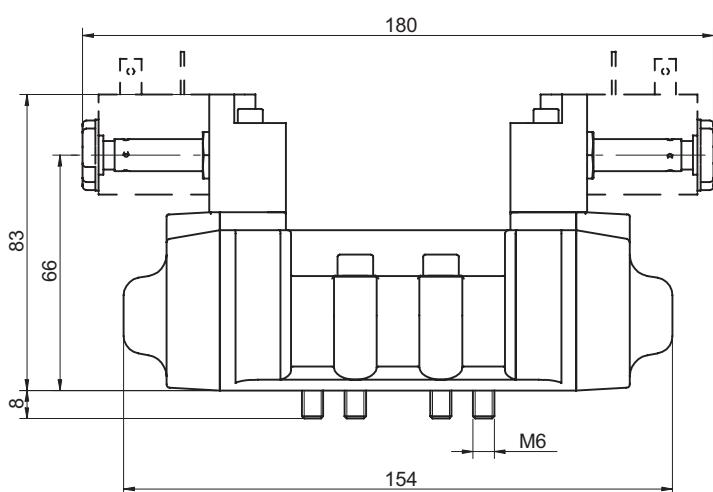
Valves ISO 5599/1
ISO2, 5/2 - 5/3, electrically operated, with CNOMO pilot



2



Version	Symbol	Code	Item
5/2 solenoid/ spring		032040	ISO2E50
5/2 solenoid/ spring, external air pilot		032039	ISO2K50



Version	Symbol	Code	Item
5/2 solenoid/ solenoid		032050	ISO2E51
5/2 solenoid/ solenoid differential		032042	ISO2E52
5/3 with closed centres		032051	ISO2E70
5/3 with open centres		032052	ISO2E71
5/3 with pressurised centres		032055	ISO2E72
5/2 solenoid/ solenoid external air pilot		032056	ISO2K51
5/2 solenoid/ solenoid external air pilot differential		032057	ISO2K52
5/3 with closed centres, external air pilot		032058	ISO2K70
5/3 with open centres, external air pilot		032059	ISO2K71
5/3 with pressurised centres external air pilot		032062	ISO2K72

Valves ISO 5599/1

ISO2, 5/2 - 5/3, pneumatically operated



Standard executions

Version	Symbol	Code	Item
5/2 pilot/spring		032005	ISO2P50
5/2 pilot/pilot		032011	ISO2P51
5/2 pilot/pilot differential		032012	ISO2P52
5/3 with closed centres		032013	ISO2P70
5/3 with open centres		032014	ISO2P71
5/3 with pressurised centres		032038	ISO2P72



Series of spool valves, conforming to ISO 5599/1 standards for the mounting only on sub-base.
For the sub-bases type SBA2... see page 2.137.1

Code key

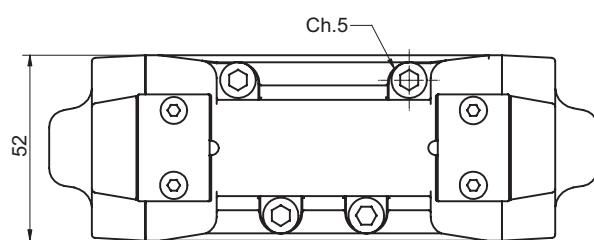
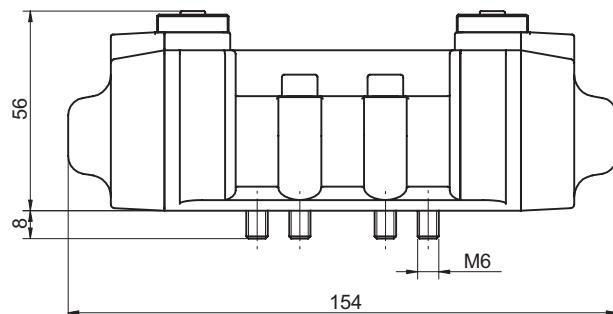
Series	Size	Actuation	Function
ISO	1 2	P = pneumatic	50 = 5/2 pilot/spring 51 = 5/2 pilot/pilot 52 = 5/2 pilot/pilot differential 70 = 5/3 CC 71 = 5/3 OC 72 = 5/3 PC



On request, they can be supplied according to 2014/34/EU - ATEX

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	0 ÷ 10 bar		
Temperature range	-10°C ÷ +60°C		
Orifice	15 mm		
Flow	2900 NL/min at 6 bar with ΔP 1 bar		
Minimum piloting pressure	Spring return: 2 bar	Bistable: 1 bar	3 positions: 2,5 bar
Mounting	In any position		
Manual override	Spring return on valve body		
Materials	Body: Die-cast painted aluminium Covers: PBT Spool: Hard aluminium anodized Distancers: Aluminium Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR)		



Version	Symbol	Code	Item
5/2 pilot/spring		032005	ISO2P50
5/2 pilot/pilot		032011	ISO2P51
5/2 pilot/pilot differential		032012	ISO2P52
5/3 with closed centres		032013	ISO2P70
5/3 with open centres		032014	ISO2P71
5/3 with pressurised centres		032038	ISO2P72

Standard executions

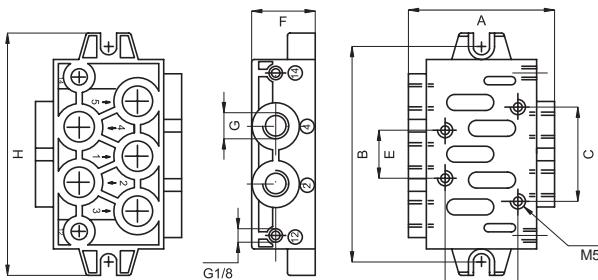
Version	Symbol	Code	Item
Single sub-base		032200	SBA2S
Manifold sub-base		032130	SBA2M
Blank manifold end plate		032150	SBA2C
Ported manifold end plate		032151	SBA2A
Manifold blanking plate		032180	SBA2T
Interface for sub-base from size ISO1 to ISO2		032160	SBA1A2

The blank manifold end plate can be used to separate 2 supplies with different pressures on the same manifold.



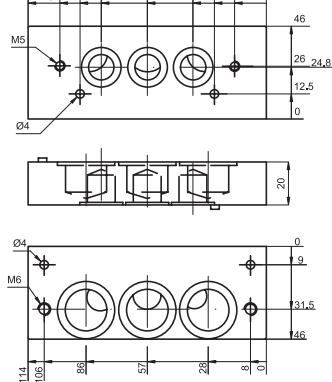
On request, they can be supplied according to 2014/34/EU - ATEX

Type: **SBA2S**



A	B	C	D	E	F	G	H
65	100,5	48	38	24	30	3/8"	112,5

Type: **SBA1A2**



Series of single and manifold sub-bases for valves ISO5599/1 size 2.

Materials:	Body: Die-cast aluminium Seals: Nitrile rubber (NBR) Screws: Zinc plated steel
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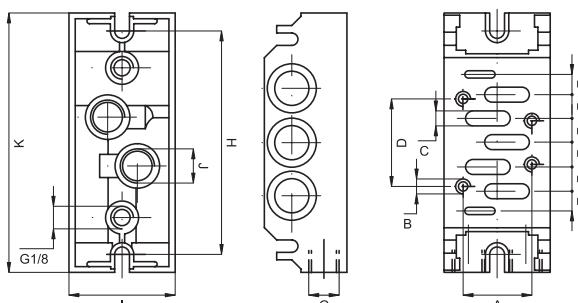
The kit SBA2M includes: 2 screws and 3 seals

The kit SBA2C/A includes: 2 screws and 3 seals

The kit SBA2T includes: 4 screws and 1 seal

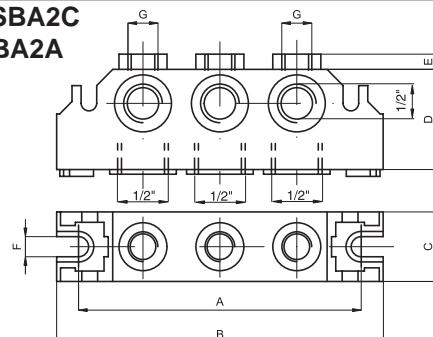
The kit SBA1A2 includes: 4 screws and 6 seals

Type: **SBA2M**



A	B	C	D	E	F	G	H	I	J	K
38	M6	7	48	10	12	3/8"	102	56	3/8"	120

Type: **SBA2C
SBA2A**



A	B	C	D	E	F	G
102	120	29	43	7	6,5	1/4"

Indirectly operated solenoid valves for water and steam 2/2, normally closed from 1/4" to 2"



Standard executions

Version	Symbol	Type
With NBR seals (-10°C ÷ + 90°C)		AEN22
With FKM seals (-10°C ÷ +130°C)		AEV22
With EPDM seals (+140°C)		AEP22



Options	Suffix
Chemical nickel-plated	N
Normally open	NA
Bistable manual override	M

Connections	
1/4" = 014	1" = 100
3/8" = 038	1 1/4" = 114
1/2" = 012	1 1/2" = 112
3/4" = 034	2" = 200

Series of indirectly operated valves for fluids and compressed air, servoassisted with diaphragm.
Coils and connectors have to be ordered separately.

For the coils type ASA33/ASA32 see from page 2.200.20.
For the connectors type A122/A182 see page 2.210.20/2.210.30.

How to order: AEN22100N

Type	Port	Options
AEN22	100	N

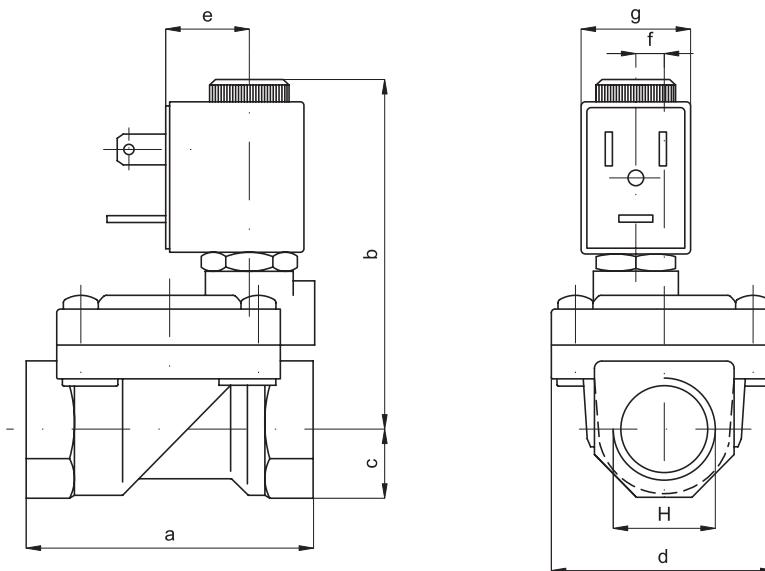
To identify order codes see the table below.

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.						
Pressure range	25 bar						
Fluid maximum viscosity	25 cSt (mm²/s)						
Orifice	See the table below						
Flow	See the table below						
Mounting	Better with the coil high						
Materials	Body: Brass Seals: NBR - FKM - EPDM Internal parts: Stainless steel						

Connections	Orifice mm	Flow m³/h	Differential pressure bar			Power		Coil type	Order codes			
			Min	AC	DC	Inrush	Rating		NBR (AEN type)	FKM (AEV type)	EPDM (AEP type)	
1/4"	10	1,5	0,15	15	15	12	8	6,5	ASA33	035501	035511	035521
3/8"	12	2	0,15	15	15	12	8	6,5	ASA33	035502	035512	035522
1/2"	12	2,2	0,15	15	15	12	8	6,5	ASA33	035503	035513	035523
3/4"	18	5,2	0,15	13	13	12	8	6,5	ASA33	035504	035514	035524
1"	24	10,2	0,15	10	10	12	8	6,5	ASA33	035505	035515	035525
1 1/4"	38	18	0,15	10	10	20	15	10	ASA32	035506	035516	035526
1 1/2"	38	21	0,15	10	10	20	15	10	ASA32	035507	035517	035527
2"	50	36	0,15	10	10	20	15	10	ASA32	035508	035518	035528

Indirectly operated solenoid valves for water and steam
2/2, normally closed from 1/4" to 2"



H	a	b	c	d	e	f	g	Weight kg.
1/4"	47	64	11	32	16	-	22	0,25
3/8"	60	73	14	45	16	6	22	0,45
1/2"	60	73	14	45	16	6	22	0,40
3/4"	75	75	18	55	20	8,5	22	0,66
1"	96	85	20	72	32	-	22	1,20
1" 1/4	144	95	28	102	45	-	30	3,20
1" 1/2	144	95	28	102	45	-	30	2,90
2"	152	119	35	119	48	-	30	4,50

Integrated circuits

Flip-flop 1/4" and continuous cycling 1/8", 5/2 electric and pneumatic



Standard executions

Version	Symbol	Code	Item
Electric Flip-flop		033170	AEF1520
Pneumatic Flip-flop		033160	APF1520



CE **II 2Gc IIB T5**
II 2Dc T100°C

On request, they can be supplied according to 2014/34/EU - ATEX

2

Series of Flip-flop electrically or pneumatically operated.

Flip-flop: Circuit composed by a 1/4" power valve 5/2 two stable position. With the same signal applied twice at different times the cylinder carries out a complete cycle.

Coils and connectors have to be ordered separately.

For the coils type ASA12.. see page 2.200.1.
For the connectors type A12209.. see page 2.210.20.

Standard executions

Version	Symbol	Code	Item
Electric continuous cycling		033172	AEC1520
Pneumatic continuous cycling		033171	APC1520



Series of integrated circuits, electrically or pneumatically operated.

Continuous cycling: Circuit composed by a 1/8" power valve 5/2 single stable position. Keeping the signal the cylinder carries out continuous cycling till the signal is not interrupted.

Coils and connectors have to be ordered separately.

For the coils type ASA12.. see page 2.200.1.
For the connectors type A12209.. see page 2.210.20.

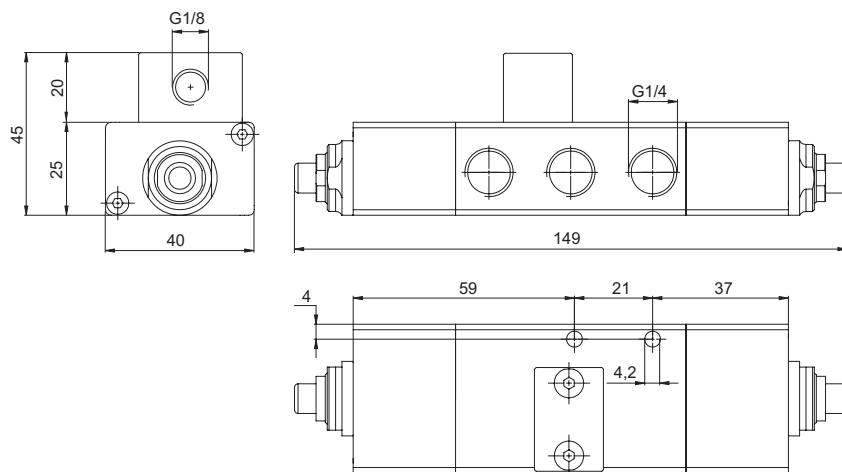
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	2,5 ÷ 10 bar (AEF/APF)	2,5 ÷ 8 bar (AEC/APC)
Temperature range	-10°C ÷ +60°C	
Orifice	6 mm (AEF/APF)	8 mm (AEC/APC)
Flow	800 NL/min (AEF/APF)	1200 NL/min (AEC/APC)
Manual override	Two stable position, flat	
Response time	Energising: 20 ms	De-energising: 38 ms
Mounting	In any position	
Materials	Body: Anodised aluminium Base: Anodised aluminium Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR)	

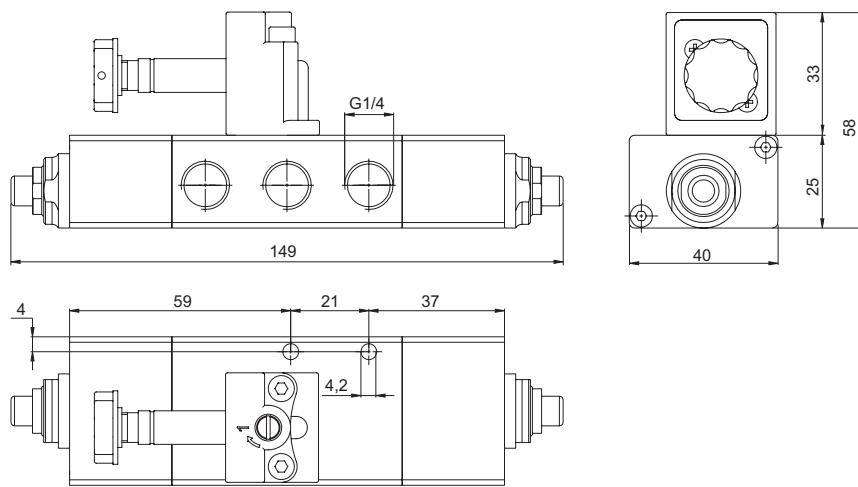
Integrated circuits
Flip-flop 1/4" and continuous cycling 1/8", 5/2 electric and pneumatic



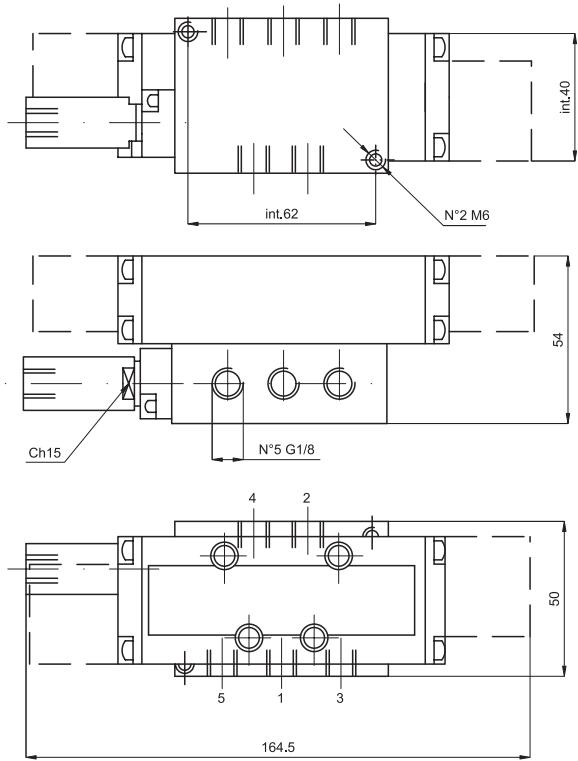
Type: APF1520



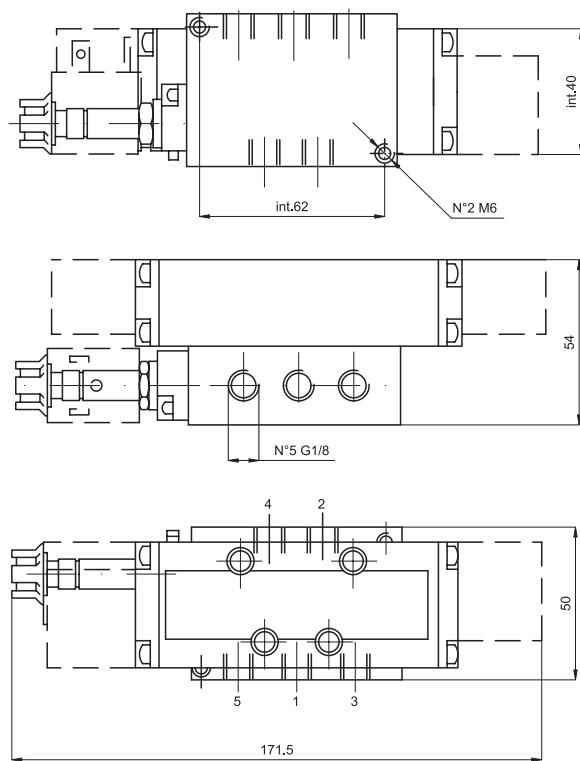
Type: AEF1520



Type: APC1520



Type: AEC1520

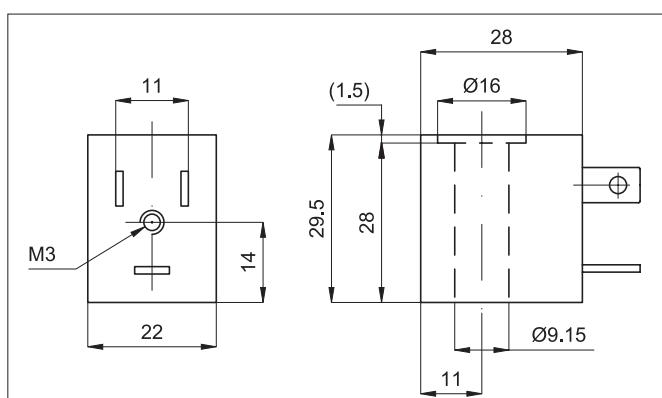


Type ASA12

Series of coils with low electrical consumption conforming to EN 60204 and VDE 0580 standards, class F.
They can be mounted on the following valves: APA..., AE14..., AEF..., AEC...
For the connectors type A122.. see page 2.210.20.

Voltage	Code	Item
12V DC	032100	ASA1201200
12V AC	032101	ASA1201250
24V DC	032102	ASA1202400
24V AC	032103	ASA1202450
48V AC	032104	ASA1204850
110V AC	032105	ASA1211050
230V AC	032106	ASA1222050

For ATEX coils see
page 2.200.50



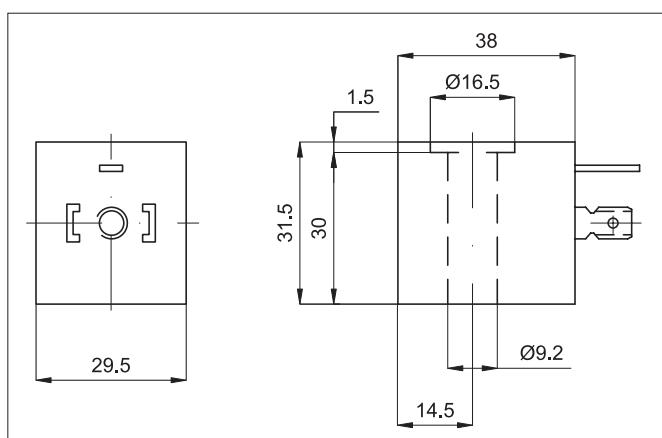
Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	± 10%
Frequency tolerance	-	± 5%
Electrical consumption	3 W	4.2 VA
Voltage	12 and 24 V	12, 24, 48, 110, 230 V 50/60HZ
Duty cycle		100% ED
Class protection	IP 65 (with connector already mounted)	
Temperature range		-20 °C ÷ + 50 °C
Response time		10 ms

Type ASA2

Series of low consumption coils according EN 60204.1 and VDE 0580 standards, class F.
They can be used on the following valves: AE22..., AEA1..., AEA2...
For connectors type A182... see page 2.210.30.

Voltage	Code	Item
12V DC	032109	ASA201200
12V AC	032110	ASA201250
24V DC	032111	ASA202400
24V AC	032112	ASA202450
48V AC	032113	ASA204850
110V AC	032114	ASA211050
230V AC	032115	ASA222050

For ATEX coils see
page 2.200.50



Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	- 10% ÷ +15%
Frequency tolerance	-	± 5%
Electrical consumption	2.5 W	5 VA
Voltage	12 and 24 V	12, 24, 48, 110, 230 V 50/60HZ
Duty cycle		100% ED
Class protection	IP 65 (with connector already mounted)	
Temperature range		-20 °C ÷ + 50 °C
Response time		10 ms

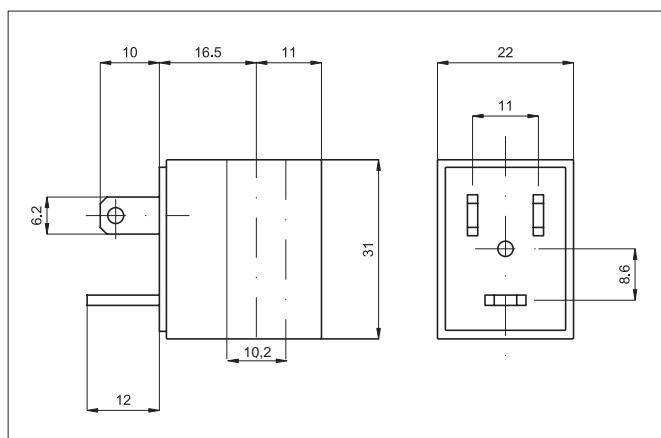
Type ASA33

Series of coils conforming to DIN 43650 standards, insulation class F.

They can be mounted on the following valves: AE..22, from 1/4" to 1".

For the connectors type A122... see page 2.210.20.

Voltage	Code	Item
12V DC	034311	ASA3301200
12V AC	034312	ASA3301250
24V DC	034313	ASA3302400
24V AC	034314	ASA3302450
48V AC	034315	ASA3304850
110V AC	034316	ASA3311050
230V AC	034317	ASA3323050



Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	- 10% ÷ +15%
Frequency tolerance	-	± 5%
Electrical consumption	6,5 W	8 VA
Voltage	12 and 24 V	12, 24, 48, 110, 230 V 50/60HZ
Duty cycle	100% ED	
Class protection	IP 65 (with connector already mounted)	
Temperature range	-10 °C ÷ + 55 °C	
Response time	10 ms	

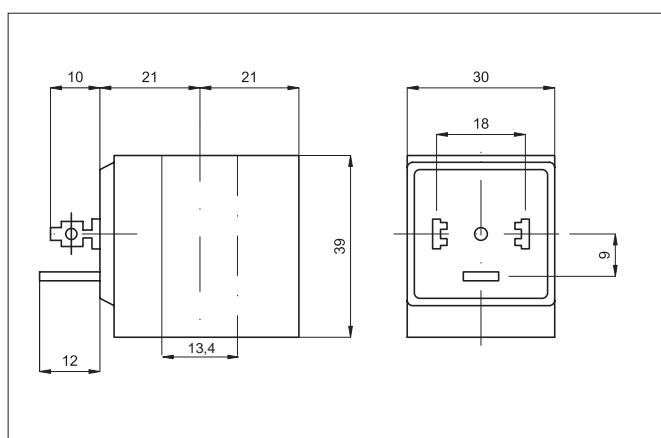
Type ASA32

Series of coils conforming to DIN 43650/A standards, insulation class F.

They can be mounted on the following valves: AE..22, 1 1/4", 1 1/2", 2".

For the connectors type A182... see page 2.210.30.

Voltage	Code	Item
12V DC	034321	ASA3201200
12V AC	034322	ASA3201250
24V DC	034323	ASA3202400
24V AC	034324	ASA3202450
48V AC	034325	ASA3204850
110V AC	034326	ASA3211050
230V AC	034327	ASA3223050



Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	- 10% ÷ +15%
Frequency tolerance	-	± 5%
Electrical consumption	10 W	15 VA
Voltage	12 and 24 V	12, 24, 48, 110, 230 V 50/60HZ
Duty cycle	100% ED	
Class protection	IP 65 (with connector already mounted)	
Temperature range	-10 °C ÷ + 55 °C	
Response time	10 ms	

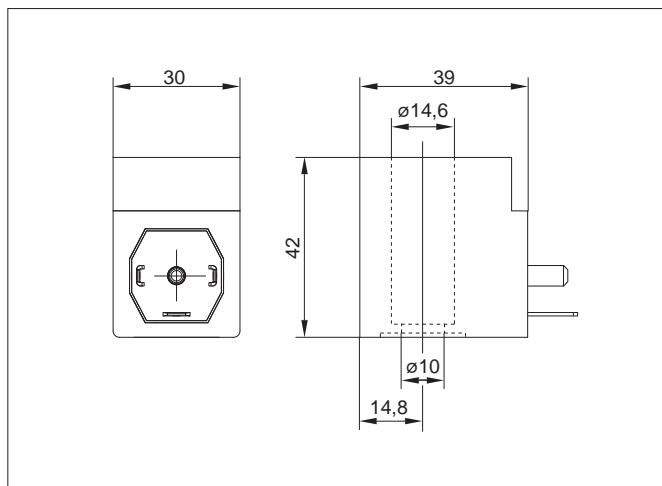
Type ASA34

Series of coils conforming to EN 175301-803-A, form A, insulation class F.

They can be mounted on the following valves: AX1, actuation: EG - KG.

For the connectors type A182... see page 2.210.30.

Voltage	Code	Item
24V DC	034341	ASA3402400
24V AC	034340	ASA3402450
110V AC	034342	ASA3411050
240V AC	034343	ASA3424050



Technical data

Voltage	24V DC	24V AC	110V AC	240V AC
Voltage tolerance	$\pm 10\%$			
Frequency	-	50Hz	50Hz	50Hz
Electrical consumption	15,0W	19,3VA	17,6VA	17,6VA
Duty cycle	100% ED			
Class protection	IP 65 (according to EN60529)			
Temperature range	-20 °C ÷ + 50 °C*			
Insulation class	F (according to DIN VDE 60524)			
Protective class	I			

*When using 24V AC the maximum ambient temperature must not exceed +40°C

Type ASA12 / ATEX II3

Series of coils conforming to 2014/34/EU Directive for application in potential explosive atmospheres Group II, category 3, Gas and Dust. Isolation class F.

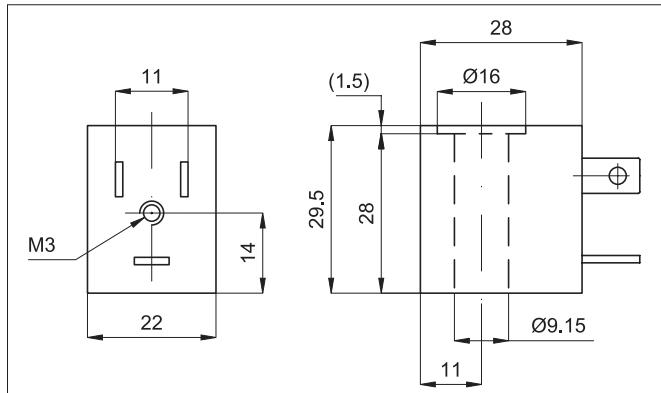
With ATEX certification, for valves series A1.

For the connector type A122... ATEX see page 2.210.50

Voltage	Code	Item
12V DC	032100X	ASA1201200/ATEXII3
24V DC	032102X	ASA1202400/ATEXII3
24V AC	032103X	ASA1202450/ATEXII3
110V AC	032105X	ASA1211050/ATEXII3
220V AC	032106X	ASA1222050/ATEXII3

II 3G Ex nA IIB T5 Gc X
II 3D Ex tc IIIC T95°C Dc X

Supplied according to 2014/34/EU - ATEX



Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	± 10%
Frequency	-	50/60 Hz
Electrical consumption	3 W	5 VA
Voltage	12 and 24 V	24, 110, 220 V
Duty cycle		100% ED
Class protection	IP 65 (with connector already mounted)	
Temperature range		-15 °C ÷ + 50 °C

Type ASA2 / ATEX II2

Series of coils size 30 mm conforming to 2014/34/EU Directive for application in potential explosive atmospheres Group II, category 2, Gas and Dust. Isolation class F.

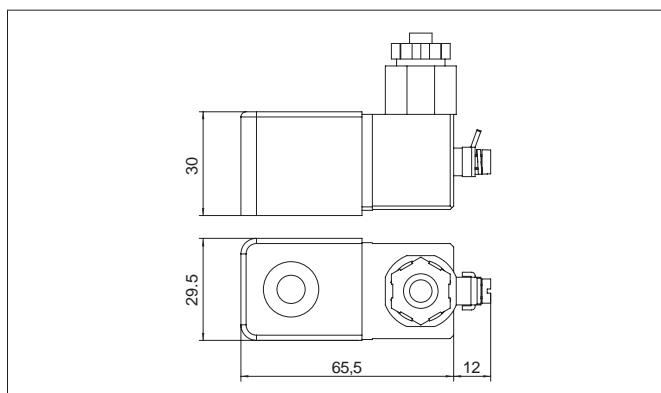
Supplied with 3 mt length cable, these coils won't need a connector mounted.

With ATEX certification, for valves series A1 / ISO

Voltage	Code	Item
24V DC	032192	ASA202400/ATEXII2
24V AC	032193	ASA202450/ATEXII2
48V AC	032196	ASA204850/ATEXII2
110V DC	032197	ASA211000/ATEXII2
110V AC	032194	ASA211050/ATEXII2
230V AC	032195	ASA222050/ATEXII2

II 2G Ex mb IIB T5 Gb
II 2D Ex tb IIIC T95°C IP66 Db

Supplied according to 2014/34/EU - ATEX



Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	± 10%
Frequency	-	50/60 Hz
Electrical consumption	3 W	3.2 VA
Voltage	24 and 110 V	12, 24, 48, 110, 230 V
Duty cycle		100% ED
Class protection		IP 66
Temperature range		-50 °C ÷ + 50 °C

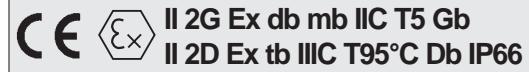
Type ASA4 / ATEX II2

Series of coils size 36 mm conforming to 2014/34/EU Directive for application in potential explosive atmospheres Group II, category 2, Gas and Dust. Isolation class F.

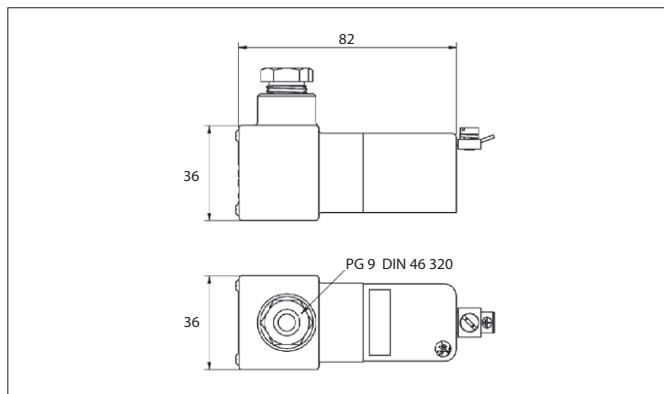
These coils won't need a connector mounted.
With ATEX certification, for valves series A1 / ISO

Voltage	Code	Item
24V DC	032199	ASA402400/ATEXII2

For further voltages please contact the sales department.



Supplied according to 2014/34/EU - ATEX



Technical data	Direct current	Alternating current
Voltage tolerance	± 10%	± 10%
Frequency	-	50/60 Hz
Electrical consumption	3 W	3,2 VA
Voltage	-	24 V
Duty cycle	100% ED	
Class protection	IP 66	
Temperature range	-50 °C ÷ + 50 °C	

Notes

Standard executions

Version	Code	Item
Standard, black	032117	A19207N
Standard, black, cabled	033511	A19207NK
With LED+VDR, transparent 24 V, AC-DC	032201	A19207T1
With LED+VDR, transparent 115 V, AC-DC	032202	A19207T2
With LED+VDR, transparent 230 V, AC-DC	032203	A19207T3
With LED+VDR, black cabled 24 V, AC-DC	033512	A19207N1K
With LED+VDR, black cabled 115 V, AC-DC	033513	A19207N2K
With LED+VDR, black cabled 230 V, AC-DC	033514	A19207N3K

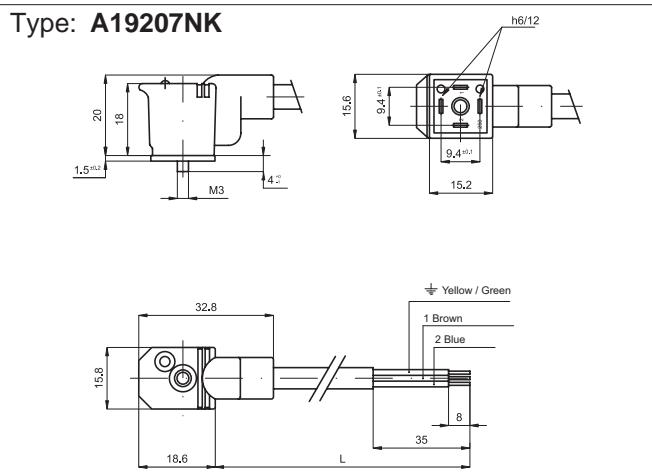
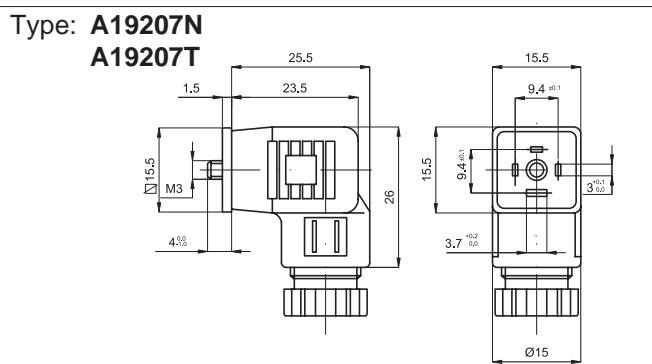


Series of connectors for valves type AE05.

In the standard version they are provided with fixing screw and NBR profiled seal.

In the provided versions the colour of the LED is yellow.

2



Data of the standard cable

Lenght	2 mt.
Material	Self-extinguishing polypropylene
Colour	Grey
Wires colour	Conforming to ENEL 0722 standards
External diameter	5,5 mm.
Insulation	300 V
Temperature range	-5°C ÷ +70°C
Standard	CEI 2022 II OR
Wire section	3x0,5 mm ²

Technical data	Standard	Transparent with circuit	Moulding
Contact distance	9,4 mm	9,4 mm	9,4 mm
Nominal voltage	AC max 250 V; DC max 300 V	250 V	250 V
Nominal current	6 A	6 A	-
Maximum current on contacts	10 A	10 A	-
Maximum current	-	-	3 A
Contact resistance	≤ 4 m Ohm	≤ 4 m Ohm	≤ 4 m Ohm
Maximum conductor section	0,75 mm ²	0,75 mm ²	-
Gland size option	Pg 07	Pg 07	-
Protection class	IP 65 EN 60529	IP 65 EN 60529	IP 65 EN 60529
Insulation class	VDE 0110 - 1/89	VDE 0110 - 1/89	VDE 0110 - 1/89
Temperature range	-40°C ÷ +90°C	-40°C ÷ +90°C	-40°C ÷ +90°C
Earth contact (number)	1	1	2, connected (pos. 6/12)
Poles	2	2	2

Standard executions

Version	Code	Item
Standard, black	032118	A12209N
Standard, black, cabled	033521	A12209NK
With LED+VDR, transparent 24 V, AC-DC	032204	A12209T1
With LED+VDR, transparent 115 V, AC-DC	032205	A12209T2
With LED+VDR, transparent 230 V, AC-DC	032206	A12209T3
With LED+VDR, black, 2 mt cabled, 24 V, AC-DC	033522	A12209N1K
With LED+VDR, black, 2 mt cabled, 115 V, AC-DC	033523	A12209N2K
With LED+VDR, black, 2 mt cabled, 230 V, AC-DC	033524	A12209N3K

For ATEX connectors
see page 2.210.50

Data of the standard cable

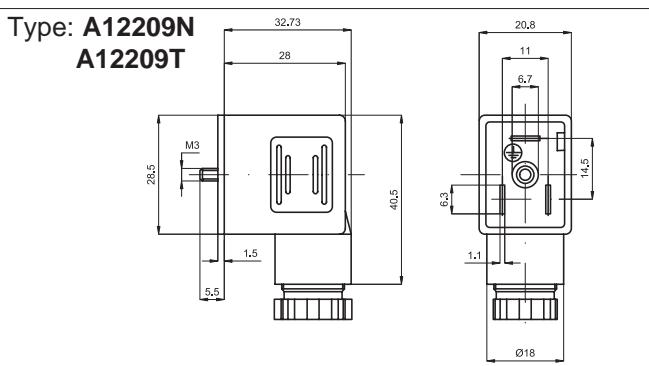
Lenght	2 mt.
Material	Self-extinguishing polypropylene
Colour	Grey
Wires colour	Conforming to ENEL 0722 standards
External diameter	7,3 mm.
Insulation	300 V
Temperature range	- 5 °C ÷ + 70 °C
Standard	CEI 2022 II OR
Wire section	3x1 mm ²



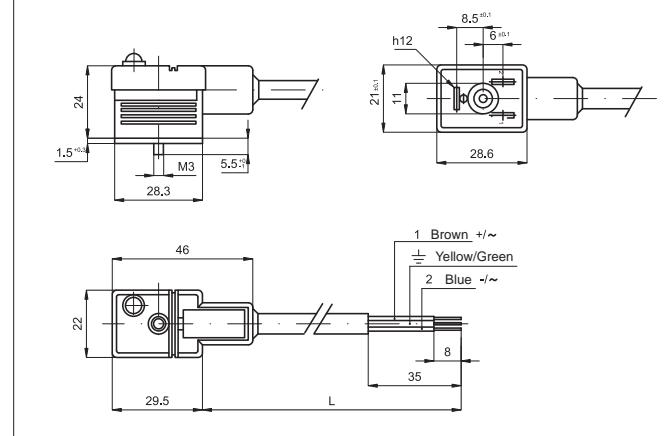
Series of connectors conforming to DIN 43650 standards for coils type ASA12 and ASA33.

In the standard version they are provided with fixing screw and NBR profiled seal.

Yellow LED as standard.



Type: A12209NK



Technical data	Standard	Transparent with circuit	Moulding
Contact distance	11 mm	11 mm	11 mm
Nominal voltage	AC max 250 V; DC max 300 V	250 V	250 V
Nominal current	10 A	10 A	-
Maximum current on contacts	16 A	16 A	-
Maximum current	-	-	5 A
Contact resistance	≤ 4 m Ohm	≤ 4 m Ohm	≤ 4 m Ohm
Maximum conductor section	1,5 mm ²	1,5 mm ²	-
Gland size option	Pg 09	Pg 09	-
Protection class	IP 65 EN 60529	IP 65 EN 60529	IP 65 EN 60529
Insulation class	VDE 0110 - 1/89	VDE 0110 - 1/89	VDE 0110 - 1/89
Temperature range	- 40°C ÷ + 90 °C	- 40°C ÷ + 90 °C	- 40°C ÷ + 90 °C
Earth contact (number)	1	1	2, connected (pos. 6/12)
Poles	2	2	2

Standard executions

Version	Code	Item
Standard, black	032119	A18209N
Standard, black, cabled	033531	A18209NK
With LED+VDR, transparent 24 V, AC-DC	032207	A18209T1
With LED+VDR, transparent 115 V, AC-DC	032208	A18209T2
With LED+VDR, transparent 230 V, AC-DC	032209	A18209T3
With LED+VDR, black 2 mt. cabled, 24 V, AC-DC	033532	A18209N1K
With LED+VDR, black 2 mt. cabled, 115 V, AC-DC	033533	A18209N2K
With LED+VDR, black 2 mt. cabled, 230 V, AC-DC	033534	A18209N3K

For ATEX connectors
see page 2.210.50

Data of the standard cable

Lenght	2 mt.
Material	Self-extinguishing polypropylene
Colour	Grey
Wires colour	Conforming to ENEL 0722 standards
External diameter	7,3 mm.
Insulation	300 V
Temperature range	- 5 °C ÷ + 70 °C
Standard	CEI 2022 II OR
Wire section	3x1 mm ²

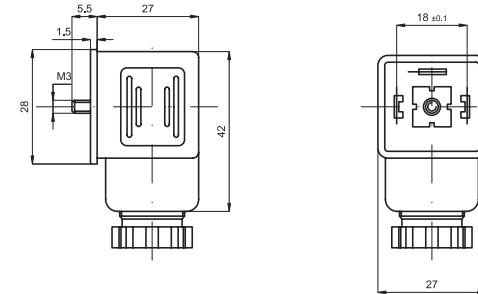


Series of connectors conforming to DIN 43650 - A/ISO 4400 standards for coils type ASA2 and ASA32.

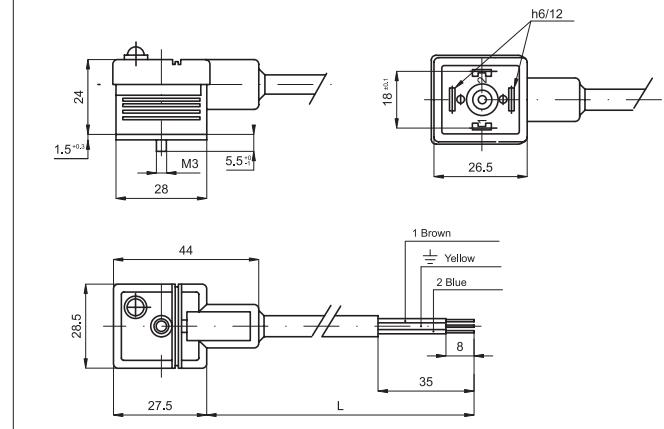
In the standard version they are provided with fixing screw and NBR profiled seal.

In the provided versions the colour of the LED is yellow.

Type: **A18209N**
A18209T



Type: **A18209NK**



Technical data	Standard	Transparent with circuit	Moulding
Contact distance	18 mm	18 mm	18 mm
Nominal voltage	AC max 250 V; DC max 300 V	250 V	250 V
Nominal current	10 A	10 A	-
Maximum current on contacts	16 A	16 A	-
Maximum current	-	-	3 A
Contact resistance	≤ 4 m Ohm	≤ 4 m Ohm	≤ 4 m Ohm
Maximum conductor section	1,5 mm ²	1,5 mm ²	-
Gland size option	Pg 09	Pg 07	-
Protection class	IP 65 EN 60529	IP 65 EN 60529	IP 65 EN 60529
Insulation class	VDE 0110 - 1/89	VDE 0110 - 1/89	VDE 0110 - 1/89
Temperature range	- 40°C ÷ + 90 °C	- 40°C ÷ + 90 °C	- 40°C ÷ + 90 °C
Earth contact (number)	1	1	2 connected (pos. 6/12)
Poles	2	2	2

Type A12209N/ATEX

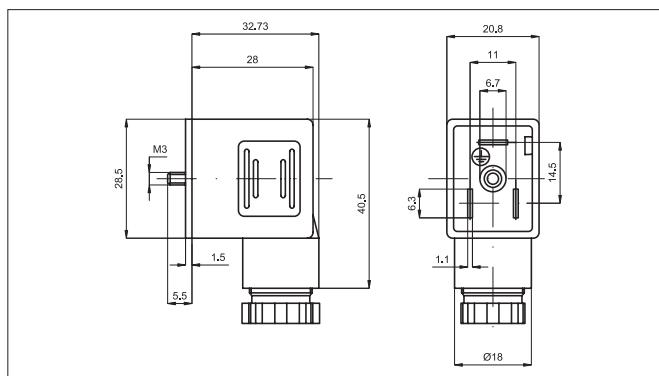
Connector ATEX version full fit the requirements of the ATEX directive 2014/34/EU, class II, Category 2G – 2D.

The ATEX connectors feature a special central fixing screw, which can only be opened with a special tool and pictograms on the connectors for not unmating the connector under voltage and the ATEX logo.

Outer dimension according to EN 175301-803 (formed DIN 43 650).

Standard executions

Version	Code	Item
Standard, ATEX	032118X	A12209N/ATEX



CE **II 2G IIC T6 Gb**
II 2D Ex tb IIIC T85°C IP65/IP67

Supplied according to 2014/34/EU - ATEX



Technical data

Contact distance	11 mm
Rated voltage	230 V
Rated impuls voltage	4000V
Rated current (40°C)	10 A
Contact resistance	≤ 15 mΩ
Insulation resistance	≥ 100 MΩ
Class protection	IP 65 / IP67
Temperature range	-25 °C ÷ + 90 °C

Type A18209N/ATEX

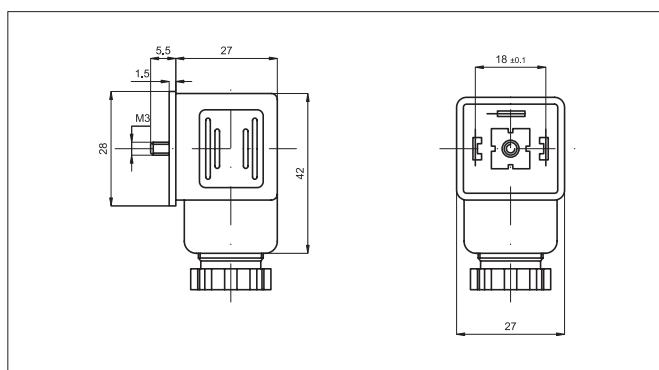
Connector ATEX version full fit the requirements of the ATEX directive 2014/34/EU, class II, Category 3GD.

The ATEX connectors feature a special central fixing screw, which can only be opened with a special tool and pictograms on the connectors for not unmating the connector under voltage and the ATEX logo.

Outer dimension according to EN 175301-803 (formed DIN 43 650).

Standard executions

Version	Code	Item
Standard, ATEX	032119X	A18209N/ATEX



CE **II 3GD**

Supplied according to 2014/34/EU - ATEX



Tecnical data

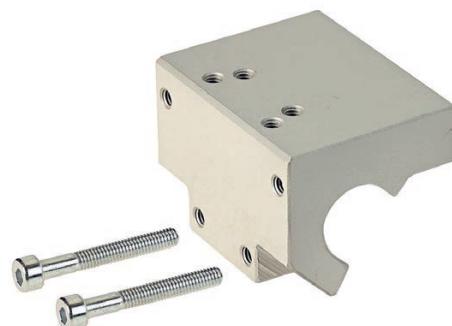
Contact distance	18 mm
Rated voltage	230 V
Rated impuls voltage	4000V
Rated current (40°C)	10 A
Contact resistance	≤ 15 mΩ
Insulation resistance	≥ 100 MΩ
Class protection	IP 65
Temperature range	-25 °C ÷ + 90 °C

Plate for valves series A1 For cylinders ISO 15552



Standard executions

Version	Code	Item
For cylinders AMA 32-40	071458	PSV/A1/AMA-32-40
For cylinders AMA 50-63	071459	PSV/A1/AMA-50-63
For cylinders AMA 80-100-125	071460	PSV/A1/AMA-80-100-125
For cylinders AMT 160-200	070822	PSV/A1/AMT-160-200



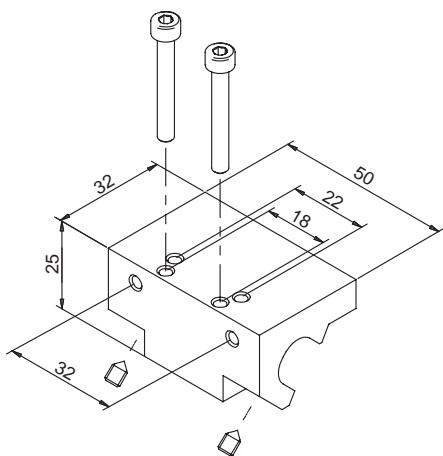
Series of plates for the direct assembly of the valves A1 to the tube (or tie-rods) of the cylinder AMA / AMT / CM. These plates have multiple mounting holes for at least two sizes of A1 valves (depending on cylinders bore).

Material: Aluminium 11S – Anodized neutral

2

PSV/A1/AMA-32-40

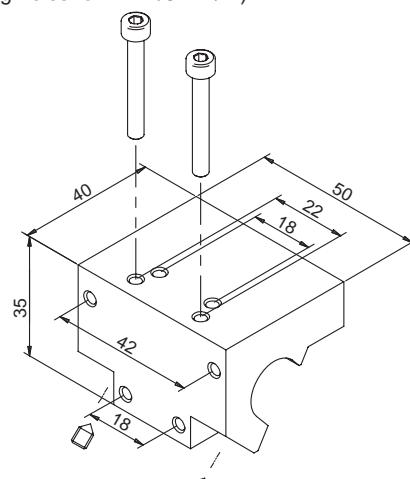
(With mounting holes for A1 1/8" - 1/4")



The Kit include 2 screws and 2 grains

PSV/A1/AMA-50-63

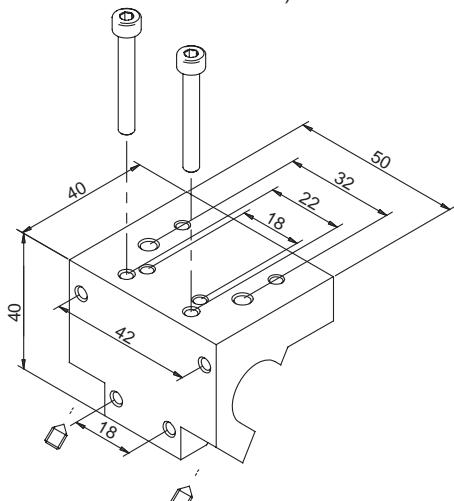
(With mounting holes for A1 1/8" - 1/4")



The Kit include 2 screws and 2 grains

PSV/A1/AMA-80-100-125

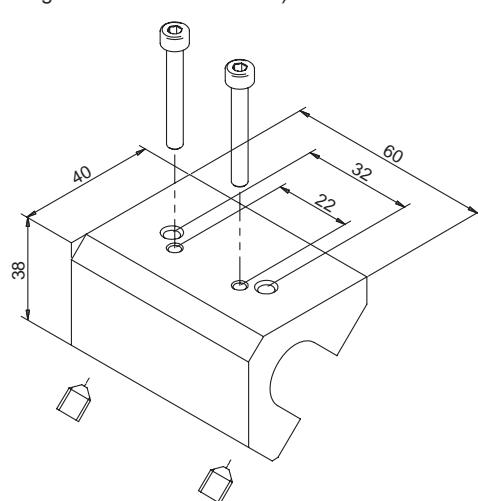
(With mounting holes for A1 1/8" - 1/4" - 1/2")



The Kit include 2 screws and 2 grains

PSV/A1/AMT-160-200

(With mounting holes for A1 1/4" - 1/2")



The Kit include 2 screws and 2 grains

Notes

Valves series A1 1/8", 3/2, manually operated



Standard executions

Version	Symbol	Code	Item
3/2 NC, side lever, 1 position		034071	A1MA130LL
3/2 side lever, 2 positions		034070	A1MA132LL
3/2 top lever, 2 positions		034082	A1MA132LT
3/2 NC, push-pull, 1 position		034083	A1MA130TT
3/2 push-pull, 2 positions		034084	A1MA132TT



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

2

Code key

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Series	Actuation	Size	Function	Configuration	Options
A1	MA = Manual	1=1/8"	30 = 3/2 NC spring return 32 = 3/2 two stable positions	LL = side lever LT = top lever TT = push-pull	BT = low temp. seals

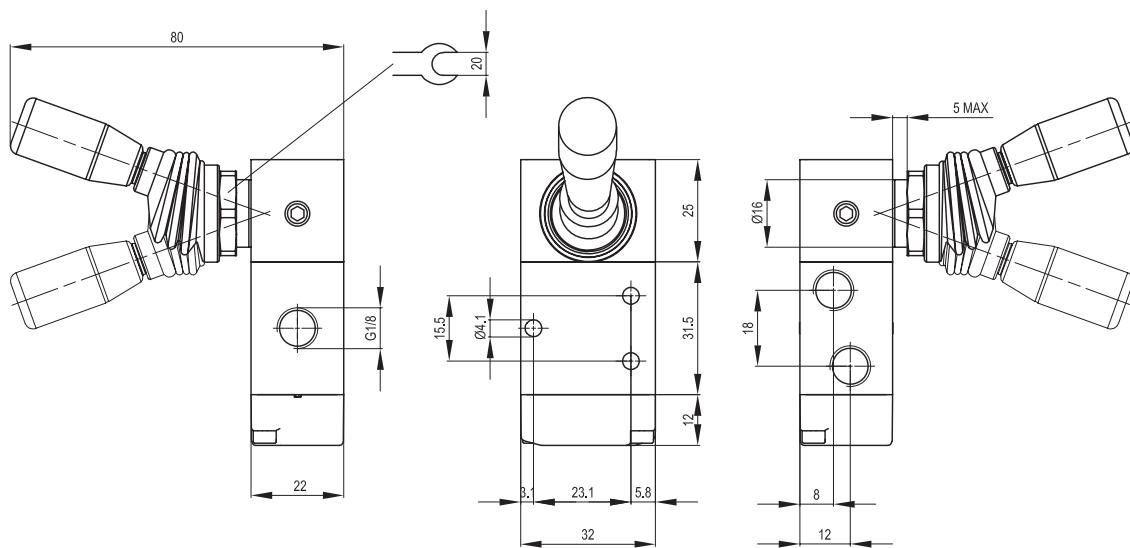


On request, they can be supplied according to 2014/34/EU - ATEX

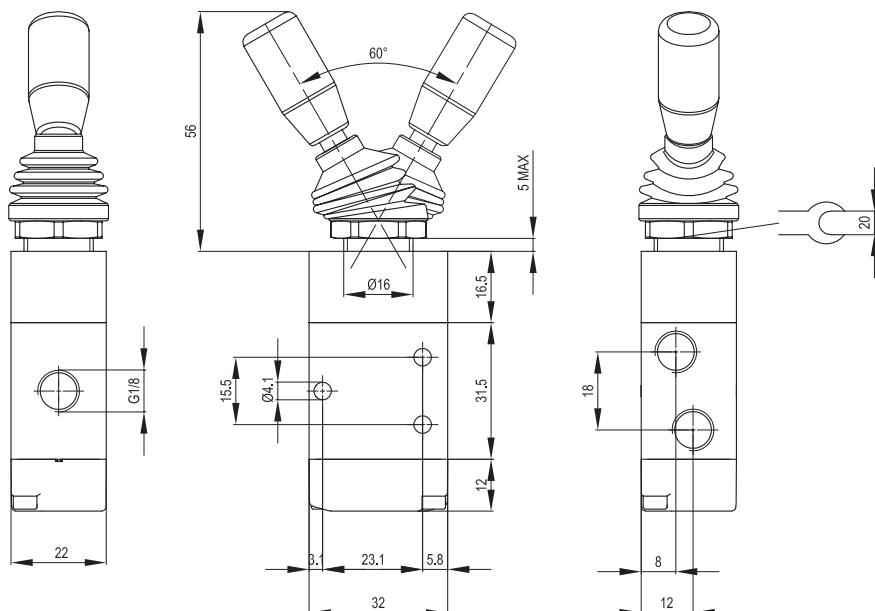
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	0 ÷ 10 bar	
Temperature range	-10°C ÷ +80°C (standard)	-25°C ÷ +60°C (BT)
Orifice	6,5 mm	
Flow	650 NL/min at 6 bar with ΔP 1 bar	
Mounting	In any position	
Materials	Body:	Anodised aluminium
	Cover:	Anodised aluminium
	Bottom plates:	Hostaform C 13031
	Spool:	Hard aluminium anodized
	Distancers:	Ixef 1022
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)
	Lever:	Steel / Plastic

Valves series A1
1/8", 3/2, manually operated



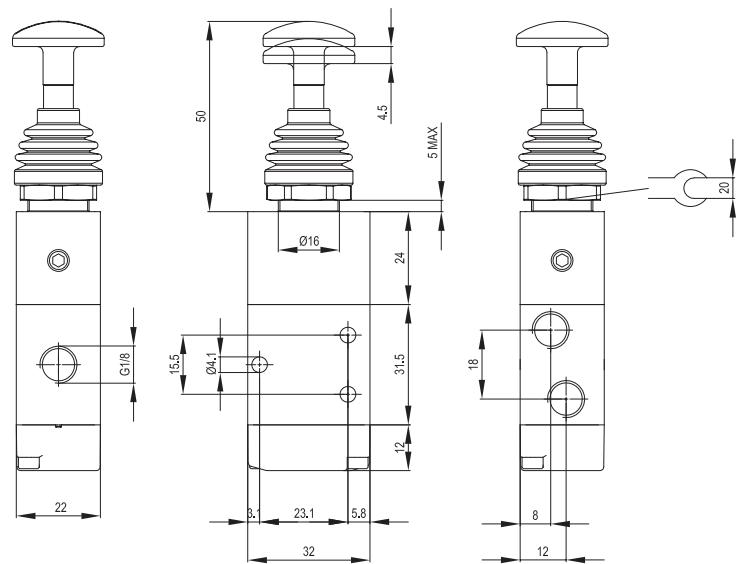
Version	Symbol	Code	Item
3/2 NC, side lever, 1 position		034071	A1MA130LL
3/2 side lever, 2 positions		034070	A1MA132LL



Version	Symbol	Code	Item
3/2 top lever, 2 positions		034082	A1MA132LT

Valves series A1

1/8", 3/2, manually operated



Version	Symbol	Code	Item
3/2 NC, push-pull, 1 position		034083	A1MA130TT
3/2 push-pull, 2 positions		034084	A1MA132TT

Notes

Valves series A1

1/8", 3/2, manually operated, spring return with air assist



Standard executions

Version	Symbol	Code	Item
3/2 NC red head, push button, 1 position		034085	A1MA130FR
3/2 NC green head, push button, 1 position		034086	A1MA130FV
3/2 NC black head, push button, 1 position		034087	A1MA130FN
3/2 red head, push button, 2 positions		034182	A1MA132FR
3/2 NC red recessed button, 1 position		034088	A1MA130BR
3/2 NC green recessed button, 1 position		034089	A1MA130BV
3/2 NC black recessed button, 1 position		034090	A1MA130BN
3/2 NC red head, push button 90°, 1 position		036045	A1MA130FR90
3/2 NC green head, push button 90°, 1 position		036046	A1MA130FV90
3/2 NC black head, push button 90°, 1 position		036047	A1MA130FN90
3/2 red head, push button 90°, 2 positions		036048	A1MA132FR90
3/2 NC red recessed button 90°, 1 position		036049	A1MA130BR90
3/2 NC green recessed button 90°, 1 position		036050	A1MA130BV90
3/2 NC black recessed button 90°, 1 position		036051	A1MA130BN90
3/2 black selector 90° 2 positions		036052	A1MA132SB90

Options	Suffix
Low temperature seals	(-25 ÷ +60°C)



On request, they can be supplied according to 2014/34/EU - ATEX

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	0 ÷ 10 bar	
Temperature range	-10°C ÷ +80°C (standard)	-25°C ÷ +60°C (BT)
Orifice	6,5 mm	
Flow	650 NL/min at 6 bar with ΔP 1 bar	
Mounting	In any position	
Materials	Body: Anodised aluminium Cover: Anodised aluminium Bottom plates: Hostaform C 13031 Spool: Hard aluminium anodized Distancers: Ixef 1022 Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR) Lever: Steel / Plastic	



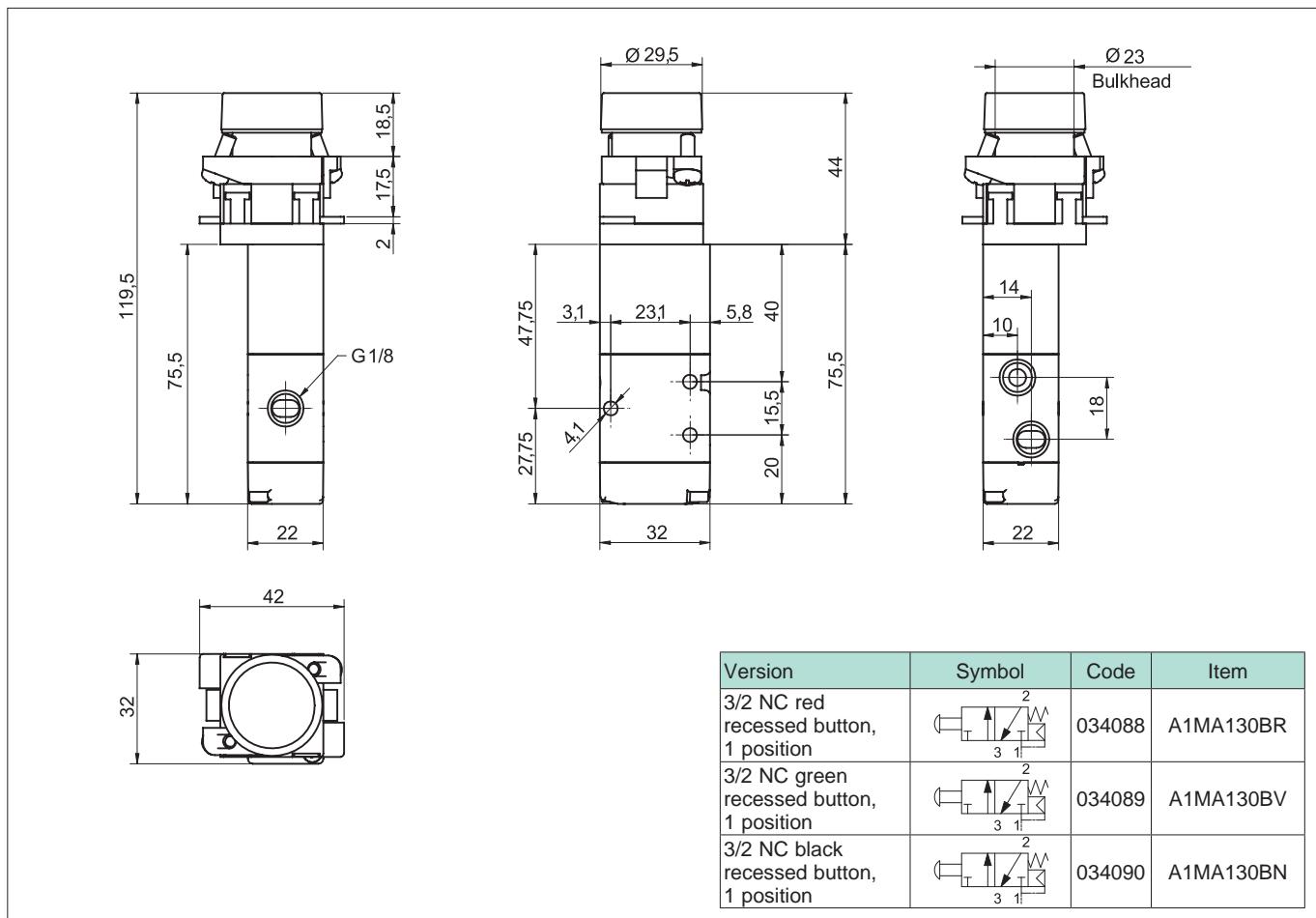
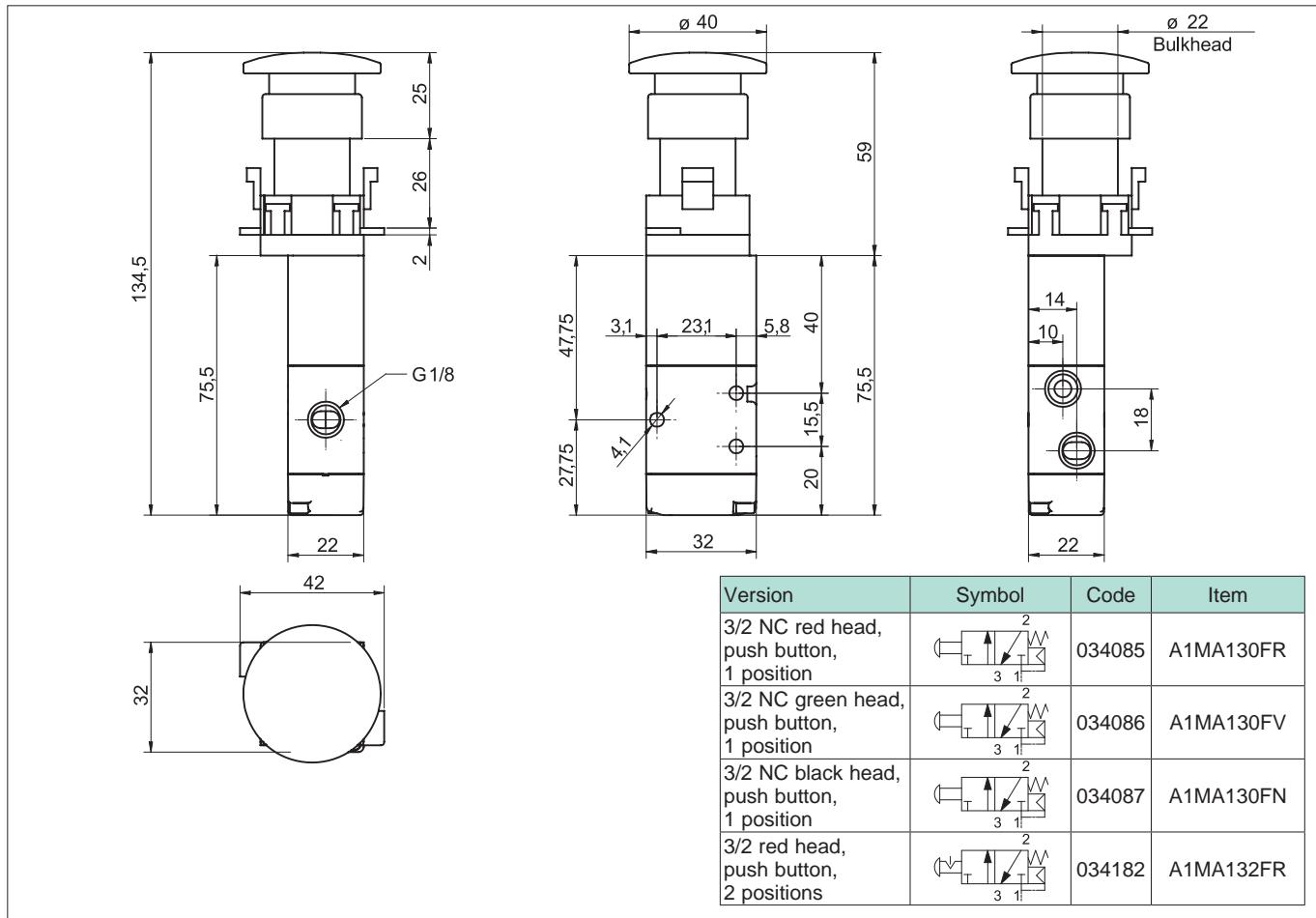
Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Code key

Series	Actuation	Size	Function	Configuration	Options
A1	MA = Manual	1 = 1/8"	30 = 3/2 NC spring return 32 = 3/2 two stable positions	FR = red head push button FV = green head push button FN = black head push button BR = red recessed button BV = green recessed button BN = black recessed button FR90 = red head push button 90° FV90 = green head push button 90° FN90 = black head push button 90° BR90 = red recessed button 90° BV90 = green recessed button 90° BN90 = black recessed button 90° SB90 = black selector 90°	BT = low temp. seals

Valves series A1

1/8", 3/2, manually operated, spring return with air assist

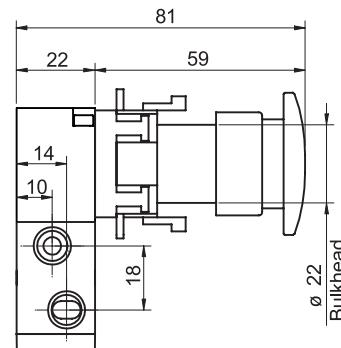
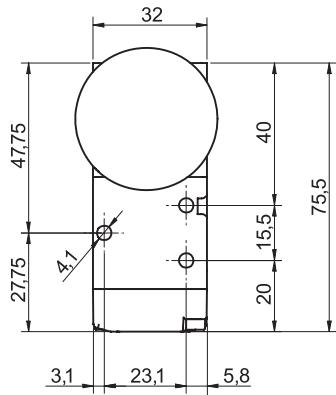
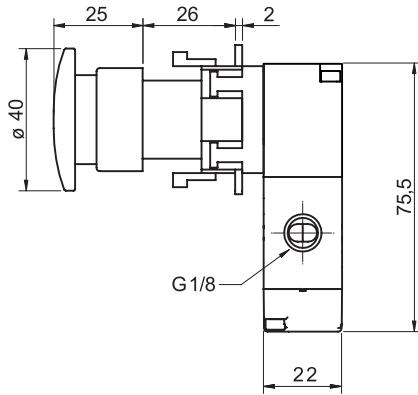


Valves series A1

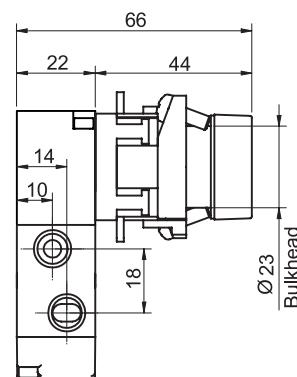
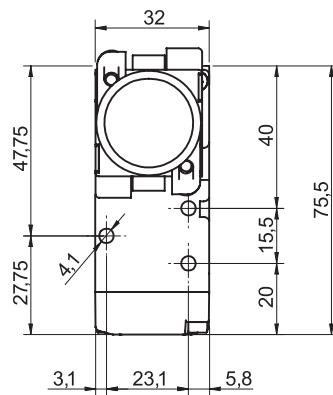
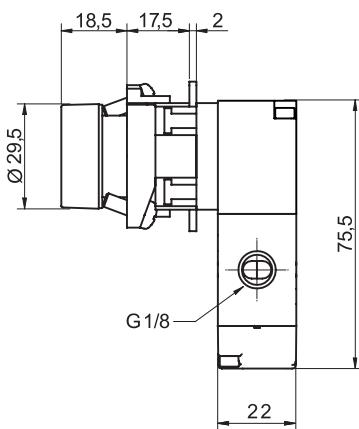
1/8", 3/2, manually operated, spring return with air assist



2



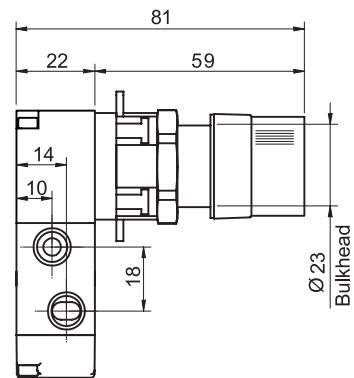
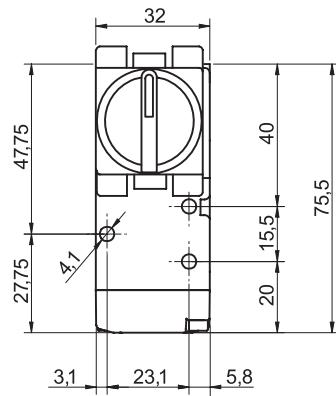
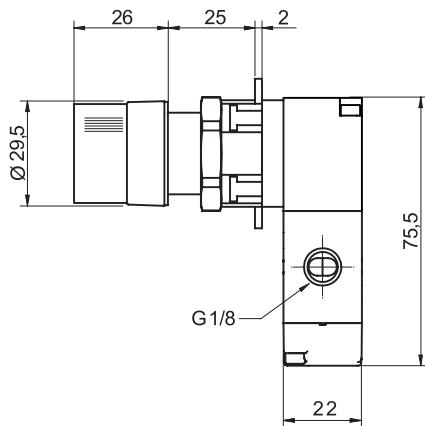
Version	Symbol	Code	Item
3/2 NC red head, push button 90°, 1 position		036045	A1MA130FR90
3/2 NC green head, push button 90°, 1 position		036046	A1MA130FV90
3/2 NC black head, push button 90°, 1 position		036047	A1MA130FN90
3/2 red head, push button 90°, 2 positions		036048	A1MA132FR90



Version	Symbol	Code	Item
3/2 NC red recessed button 90°, 1 position		036049	A1MA130BR90
3/2 NC green recessed button 90°, 1 position		036050	A1MA130BV90
3/2 NC black recessed button 90°, 1 position		036051	A1MA130BN90

Valves series A1

1/8", 3/2, manually operated, spring return with air assist



Version	Symbol	Code	Item
3/2 black selector 90° 2 positions		036052	A1MA132SB90

Valves series A1 1/8", 5/2 - 5/3, manually operated



Standard executions

Version	Symbol	Code	Item
5/2 side lever, 1 position		034064	A1MA150LL
5/2 side lever, 2 positions		034063	A1MA151LL
5/3 side lever, 1 position		034062	A1MA170LL
5/3 side lever open centres, 1 position		034066	A1MA171LL
5/3 side lever pressurised centres 1 position		034065	A1MA172LL
5/3 side lever closed centres, 3 positions		034068	A1MA173LL
5/3 side lever, open centres, 3 positions		034067	A1MA174LL
5/3 side lever, pressurised centres 3 positions		034069	A1MA175LL
5/2 top lever, 2 positions		034091	A1MA151LT
5/2 push-pull, 1 position		034092	A1MA150TT
5/2 push-pull, 2 positions		034093	A1MA151TT

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

2

Code key

Series	Actuation	Size	Function	Configuration	Options
A1	MA=Manual	1 = 1/8"	50 = 5/2 spring return 51 = 5/2 two stable positions 70 = 5/3 CC spring return 71 = 5/3 OC spring return 72 = 5/3 PC spring return 73 = 5/3 CC 3 positions 74 = 5/3 OC 3 positions 75 = 5/3 PC 3 positions	LL = side lever LT* = top lever TT** = push-pull	BT = low temp. seals

* only for 5/2 spring return (50)

** only for 5/2 spring return (50) and for 5/2 two stable position (51)

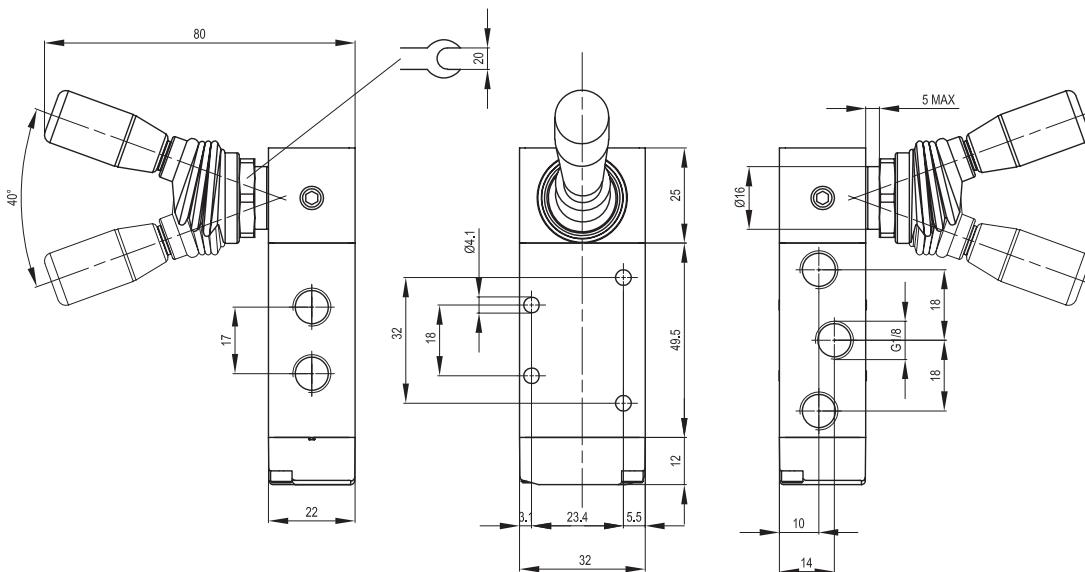


On request, they can be supplied according to 2014/34/EU - ATEX

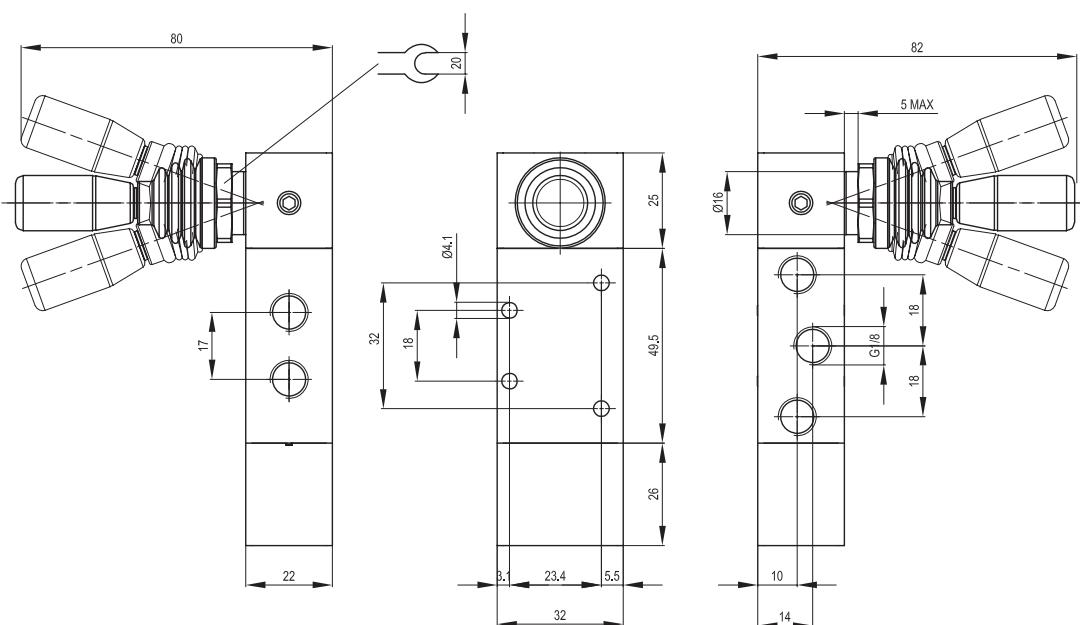
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	0 ÷ 10 bar	
Temperature range	-10°C ÷ +80°C (standard)	-25°C ÷ +60°C (BT)
Orifice	6,5 mm	
Flow	650 NL/min at 6 bar with ΔP 1 bar	
Mounting	In any position	
Materials	Body: Anodised aluminium Cover: Anodised aluminium Bottom plates: Hostaform C 13031 Spool: Hard aluminium anodized Distancers: Ixef 1022 Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR) Lever: Steel / Plastic	

Valves series A1
1/8", 5/2 - 5/3, manually operated

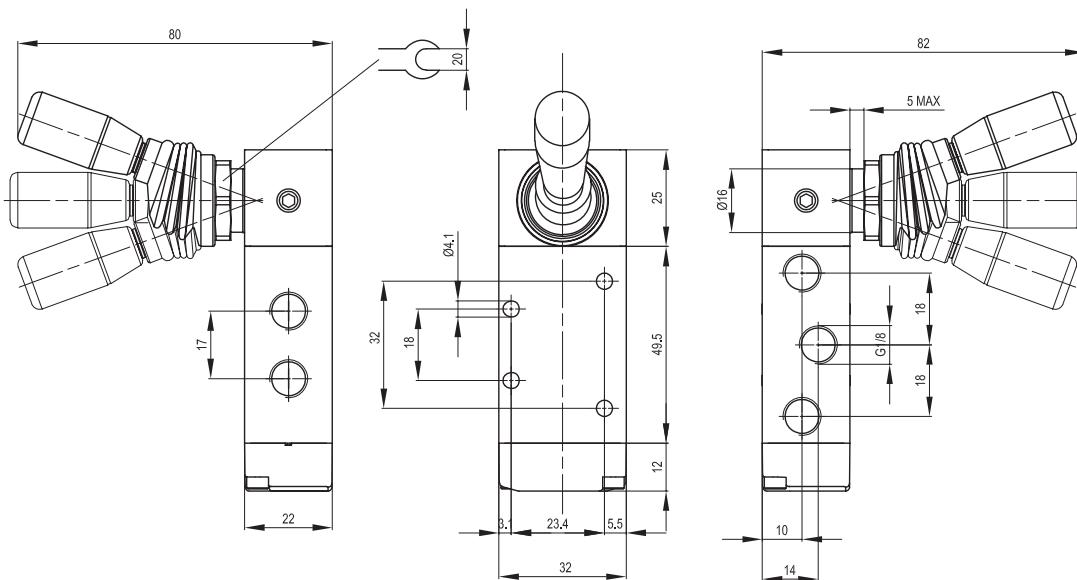


Version	Symbol	Code	Item
5/2 side lever, 1 position		034064	A1MA150LL
5/2 side lever, 2 positions		034063	A1MA151LL

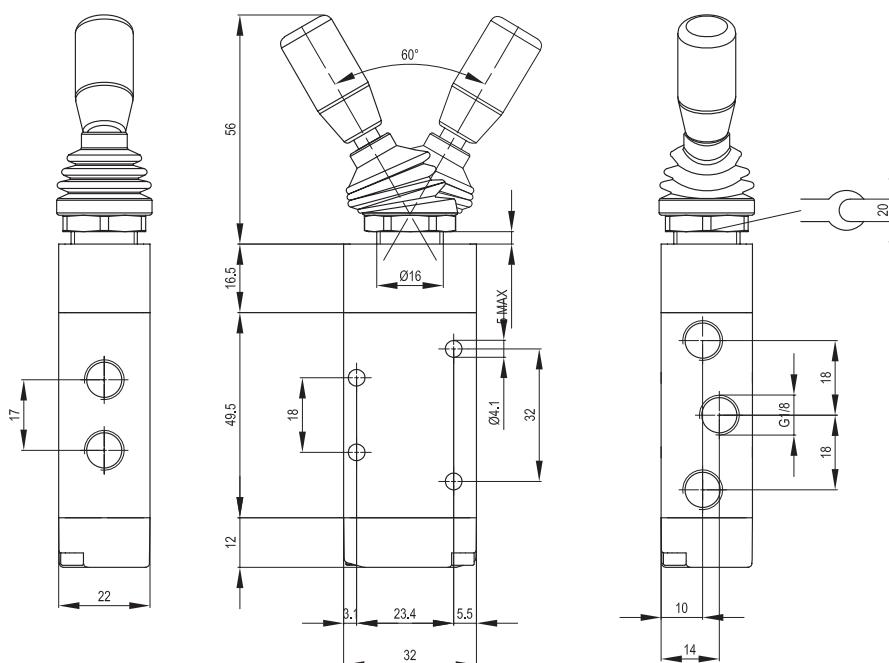


Version	Symbol	Code	Item
5/3 side lever, 1 position		034062	A1MA170LL
5/3 side lever open centres, 1 position		034066	A1MA171LL
5/3 side lever pressurised centres 1 position		034065	A1MA172LL

Valves series A1
1/8", 5/2 - 5/3, manually operated

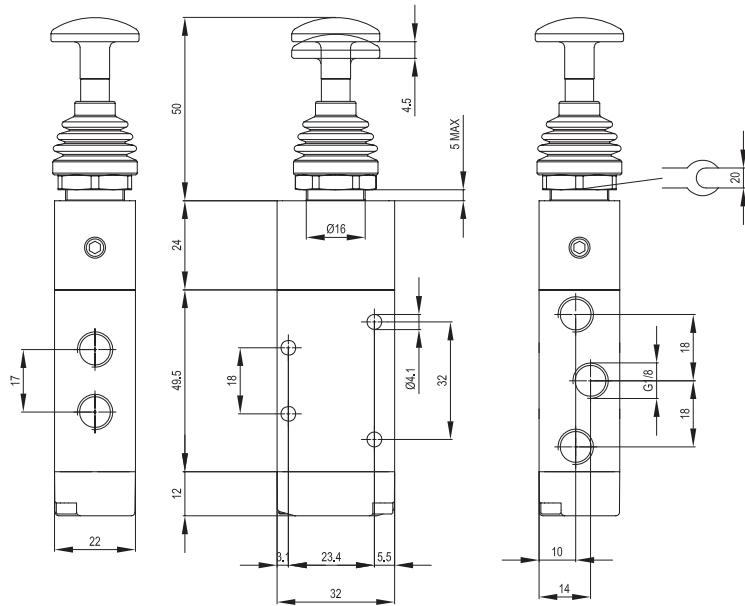


Version	Symbol	Code	Item
5/3 side lever closed centres, 3 positions		034068	A1MA173LL
5/3 side lever, open centres, 3 positions		034067	A1MA174LL
5/3 side lever, pressurised centres 3 positions		034069	A1MA175LL



Version	Symbol	Code	Item
5/2 top lever, 2 positions		034091	A1MA151LT

Valves series A1
1/8", 5/2 - 5/3, manually operated



Version	Symbol	Code	Item
5/2 push-pull, 1 position		034092	A1MA150TT
5/2 push-pull, 2 positions		034093	A1MA151TT

Valves series A1

1/8", 5/2, manually operated, spring return with air assist



Standard executions

Version	Symbol	Code	Item
5/2 red head, push button, 1 position		034094	A1MA150FR
5/2 red head push button, 2 positions		034183	A1MA151FR
5/2 green head push button, 1 position		034095	A1MA150FV
5/2 black head push button, 1 position		034096	A1MA150FN
5/2 red recessed button, 1 position		034097	A1MA150BR
5/2 green recessed button, 1 position		034098	A1MA150BV
5/2 black recessed button, 1 position		034099	A1MA150BN
5/2 red head push button 90°, 1 position		036053	A1MA150FR90
5/2 green head push button 90°, 1 position		036054	A1MA150FV90
5/2 black head push button 90°, 1 position		036055	A1MA150FN90
5/2 red head push button 90°, 2 positions		036057	A1MA151FR90
5/2 red recessed button 90°, 1 position		036058	A1MA150BR90
5/2 green recessed button 90°, 1 position		036059	A1MA150BV90
5/2 black recessed button 90°, 1 position		036060	A1MA150BN90
5/2 black selector 90°, 2 positions		036061	A1MA151SB90

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT



On request, they can be supplied according to 2014/34/EU - ATEX

Technical data	
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 10 bar
Temperature range	-10°C ÷ +80°C (standard) -25°C ÷ +60°C (BT)
Orifice	6,5 mm
Flow	650 NL/min at 6 bar with ΔP 1 bar
Mounting	In any position
Materials	Body: Anodised aluminium Cover: Anodised aluminium Bottom plates: Hostaform C 13031 Spool: Hard aluminium anodized Distancers: Ixef 1022 Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR) Lever: Steel / Plastic



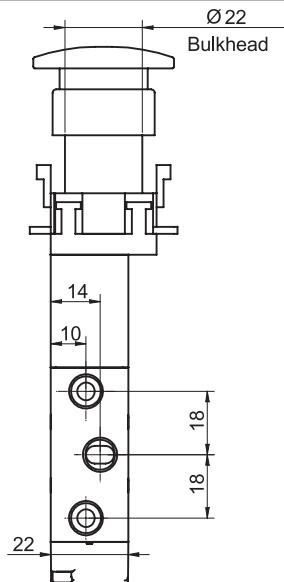
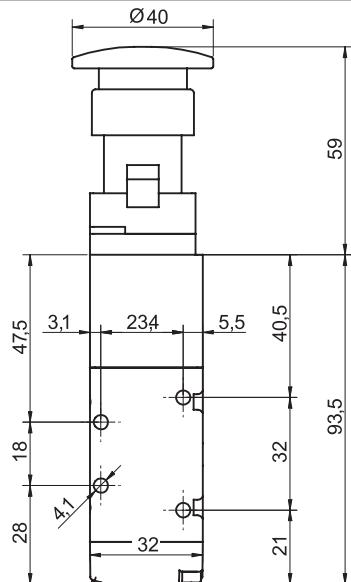
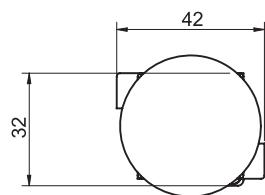
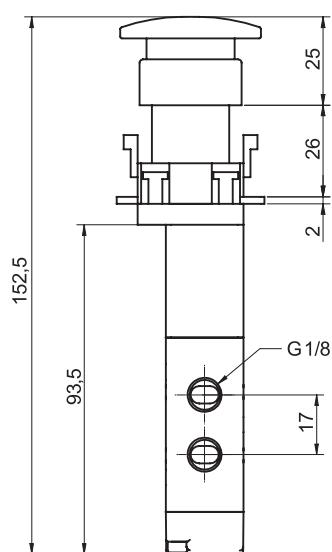
Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Code key

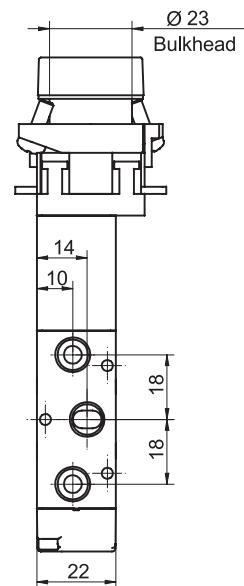
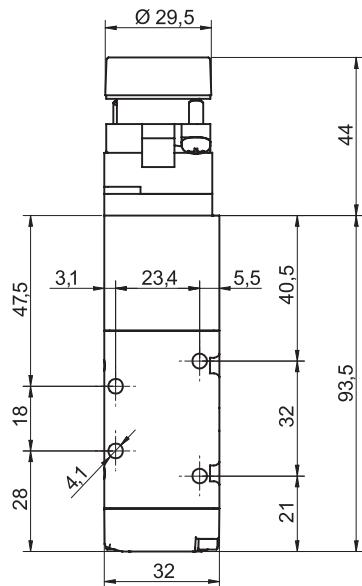
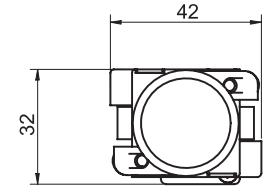
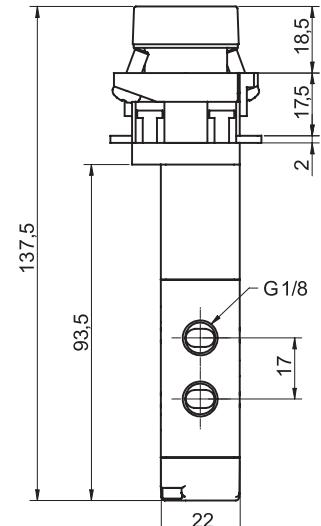
Series	Actuation	Size	Function	Configuration	Options
A1	MA = Manual	1=1/8"	50 = 5/2 spring return 51 = 5/2 two stable positions	FR = red head push button FV = green head push button FN = black head push button BR = red recessed button BV = green recessed button BN = black recessed button FR90 = red head push button 90° FV90 = green head push button 90° FN90 = black head push button 90° BR90 = red recessed button 90° BV90 = green recessed button 90° BN90 = black recessed button 90° SB90 = black selector 90°	BT = low temp. seals

Valves series A1

1/8", 5/2, manually operated, spring return with air assist



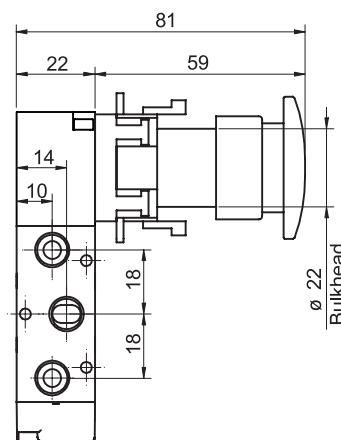
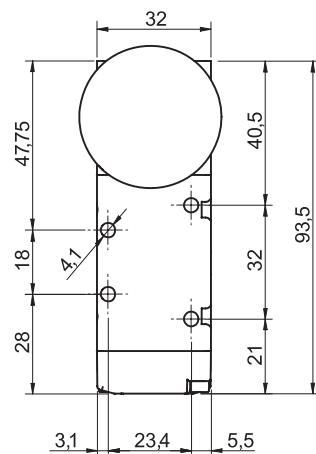
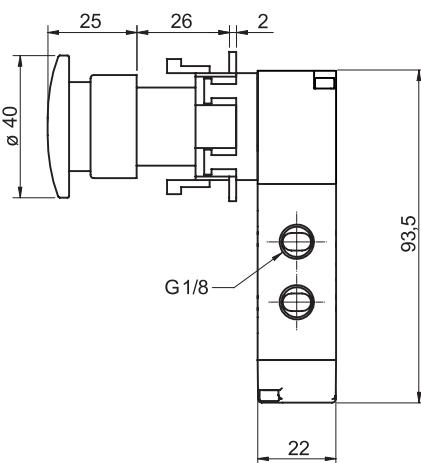
Version	Symbol	Code	Item
5/2 red head, push button, 1 position		034094	A1MA150FR
5/2 red head push button, 2 positions		034183	A1MA151FR
5/2 green head push button, 1 position		034095	A1MA150FV
5/2 black head push button, 1 position		034096	A1MA150FN



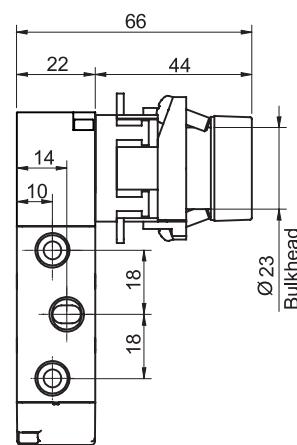
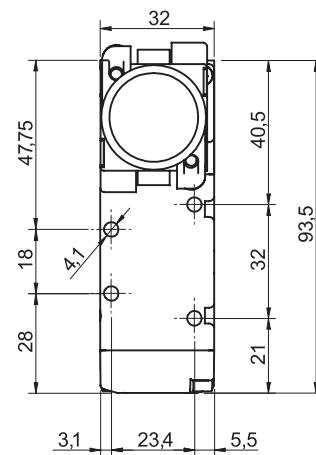
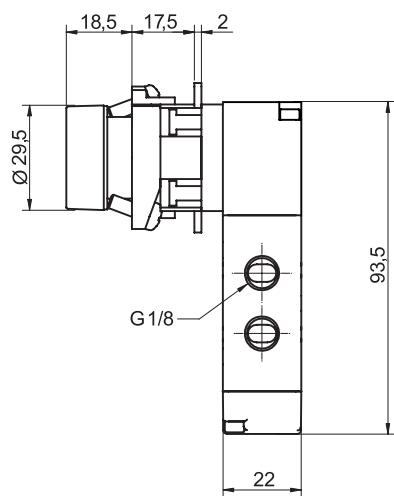
Version	Symbol	Code	Item
5/2 red recessed button, 1 position		034097	A1MA150BR
5/2 green recessed button, 1 position		034098	A1MA150BV
5/2 black recessed button, 1 position		034099	A1MA150BN

Valves series A1

1/8", 5/2, manually operated, spring return with air assist

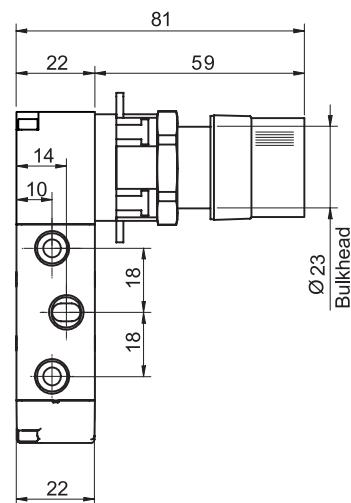
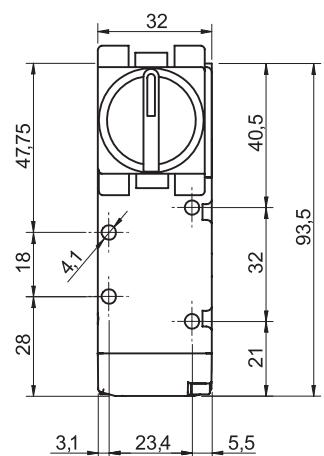
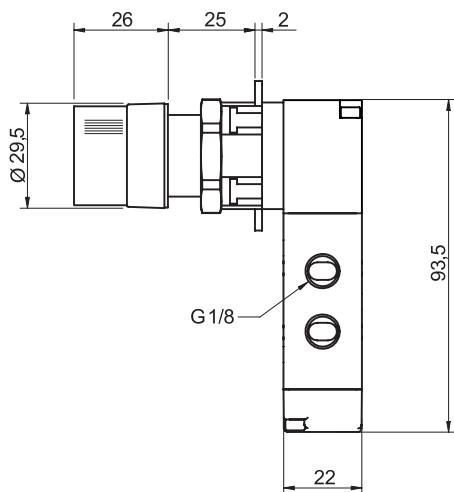


Version	Symbol	Code	Item
5/2 red head push button 90°, 1 position		036053	A1MA150FR90
5/2 green head push button 90°, 1 position		036054	A1MA150FV90
5/2 black head push button 90°, 1 position		036055	A1MA150FN90
5/2 red head push button 90°, 2 positions		036057	A1MA151FR90



Version	Symbol	Code	Item
5/2 red recessed button 90°, 2 positions		036058	A1MA150BR90
5/2 green recessed button 90°, 2 positions		036059	A1MA150BV90
5/2 black recessed button 90°, 2 positions		036060	A1MA150BN90

Valves series A1
1/8", 5/2, manually operated, spring return with air assist



Version	Symbol	Code	Item
5/2 black selector 90°, 2 positions	 4 2 5 3	036061	A1MA151SB90

Valves series A1

1/8", 5/3, manually operated, open centres



Standard executions

Version	Symbol	Code	Item
5/3, top lever open centres spring return		034662	A1MA171LT
5/3, top lever open centres 3 positions		034663	A1MA174LT



Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

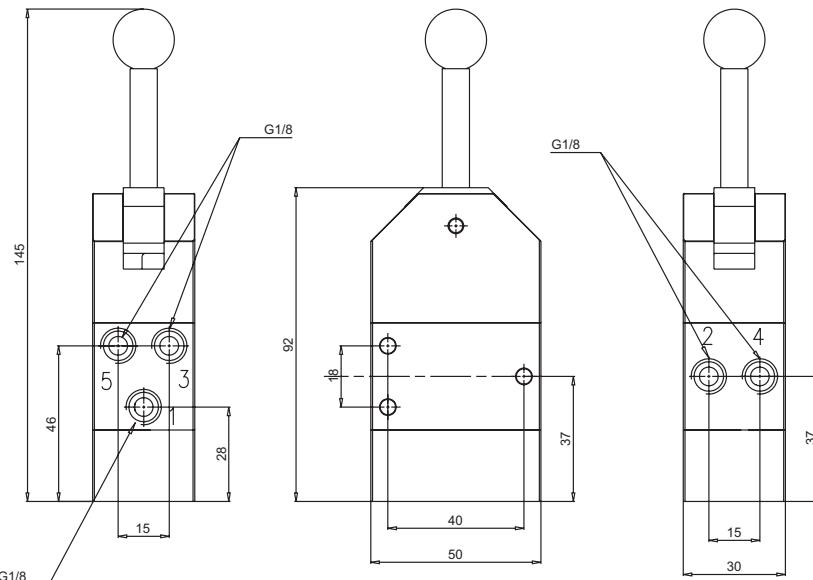


On request, they can be supplied according to 2014/34/EU - ATEX

Series of spool valves, with static seals, high flow.

Code key

Series	Actuation	Size	Function	Configuration	Options
A1	MA = Manual	1=1/8"	71=5/3 CA spring return 74=5/3 CA 3 positions	LT = top lever	BT = low temp. seals



Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 10 bar
Temperature range	-10°C ÷ +80°C (standard) -25°C ÷ +60°C (BT)
Orifice	6,5 mm
Flow	650 NL/min at 6 bar with ΔP 1 bar
Mounting	In any position
Materials	<p>Body: Aluminium anodized Cover: Aluminium anodized End cap: Aluminium anodized Spool: Chemical nickel plated aluminium Distancers: Ixef 1022 Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR) Lever: Steel</p>

Notes

Valves series A1 1/4", 3/2, manually operated



Standard executions

Version	Symbol	Code	Item
3/2 NC side lever, 1 position		034077	A1MA230LL
3/2 side lever, 2 positions		034076	A1MA232LL
3/2 top lever, 2 positions		034100	A1MA232LT
3/2 NC push-pull, 1 position		034103	A1MA230TT
3/2 push-pull, 2 positions		034104	A1MA232TT



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

2

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT

Code key

Series	Actuation	Size	Function	Configuration	Options
A1	MA = Manual	2=1/4"	30=3/2 NC spring return 32=3/2 two stable positions	LL = side lever LT* = top lever TT = push-pull	BT = low temp. seals

* only for 3/2 two stable positions (32)

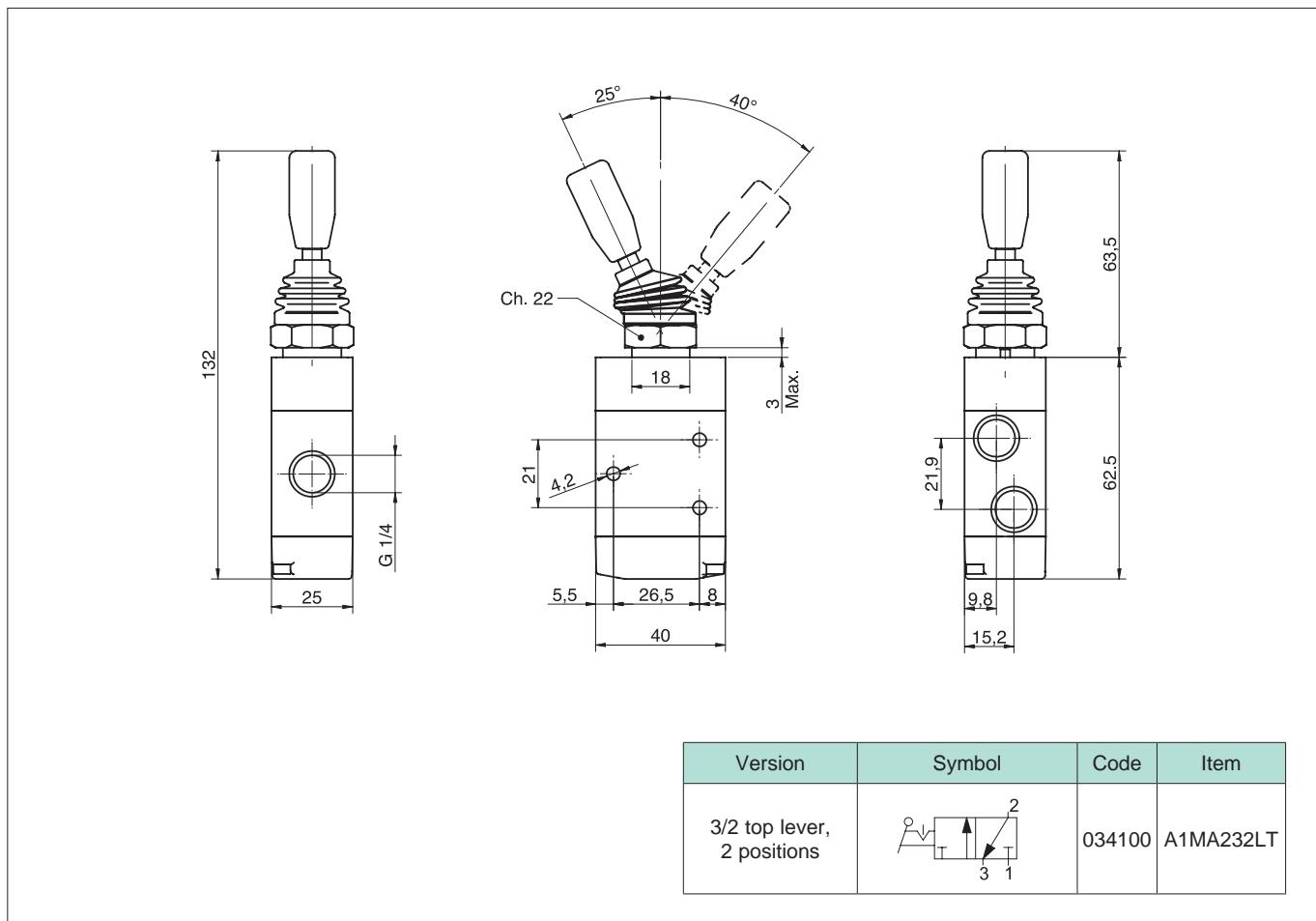
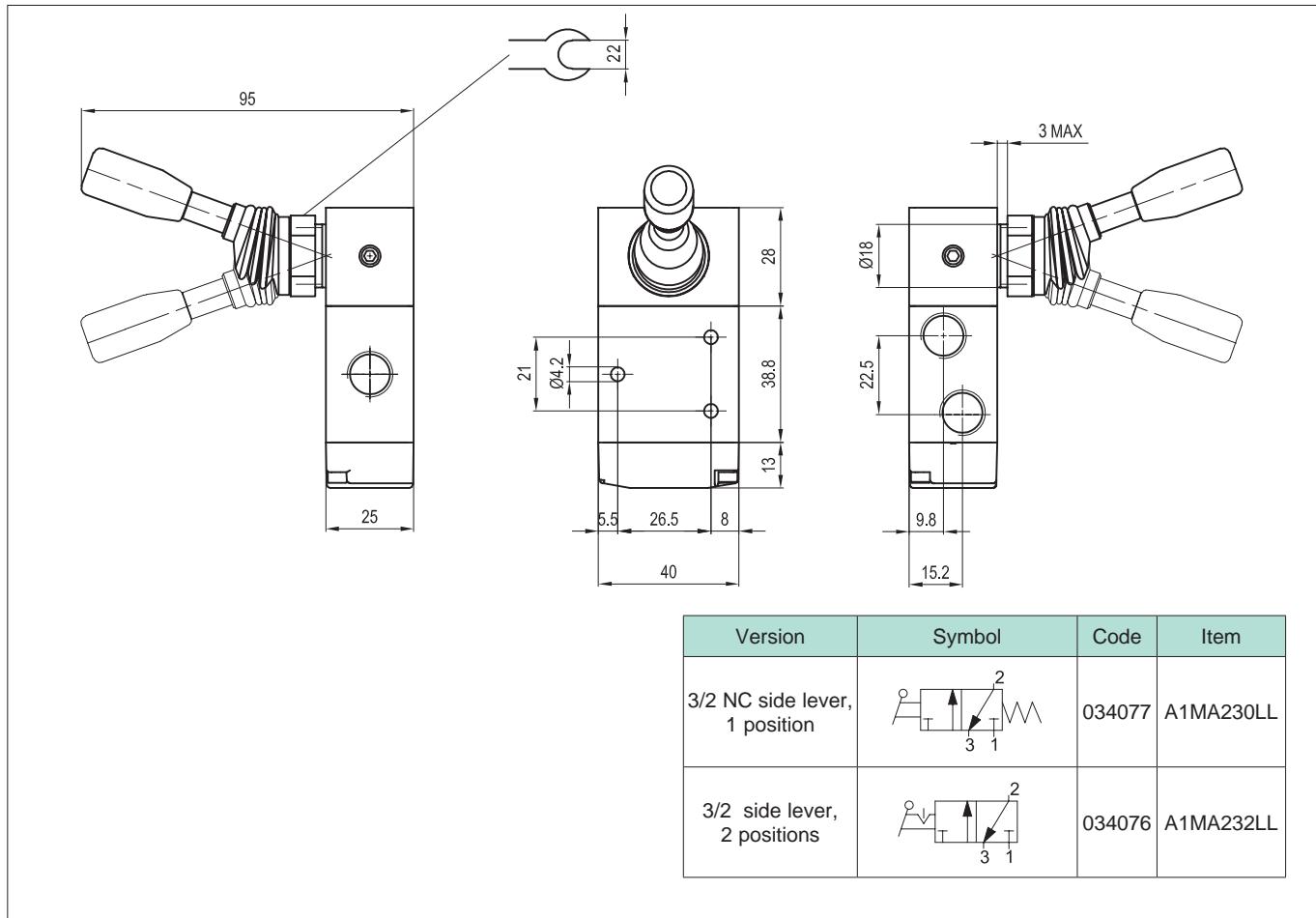


On request, they can be supplied according to 2014/34/EU - ATEX

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.	
Pressure range	0 ÷ 10 bar	
Temperature range	-10°C ÷ +80°C (standard)	-25°C ÷ +60°C (BT)
Orifice	8 mm	
Flow	1100 NL/min at 6 bar with ΔP 1 bar	
Mounting	In any position	
Materials	Body: Aluminium anodized Cover: Aluminium anodized Bottom plates: Hostaform C 13031 Spool: Chemical nickel plated aluminium Distancers: Ixef 1022 Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR) Lever: Steel	

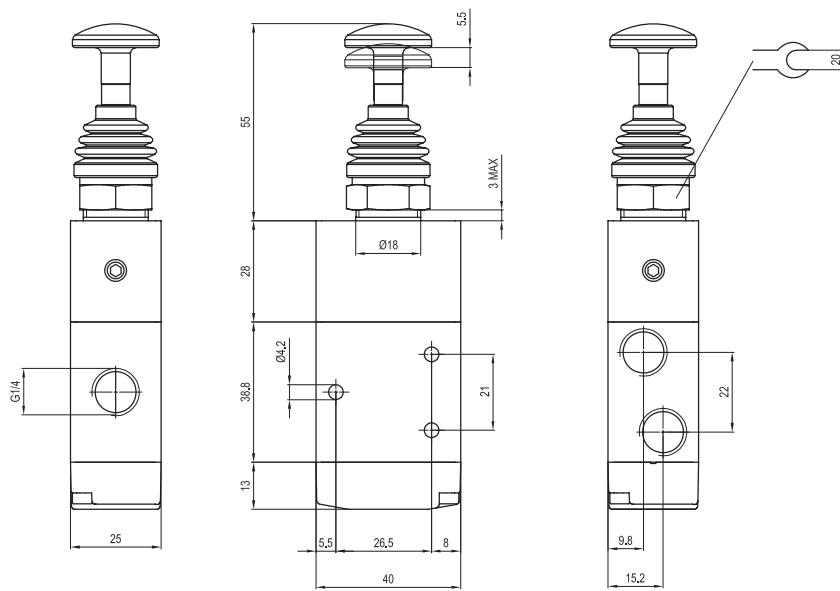
Valves series A1
1/4", 3/2, manually operated



Valves series A1
1/4", 3/2, manually operated



2



Version	Symbol	Code	Item
3/2 NC push-pull, 1 position		034103	A1MA230TT
3/2 push-pull, 2 positions		034104	A1MA232TT

Valves series A1

1/4", 5/2 - 5/3, manually operated



Standard executions

Version	Symbol	Code	Item
5/2 side lever 1 position		034078	A1MA250LL
5/2 side lever 2 positions		034079	A1MA251LL
5/3 side lever closed centres, 1 position		034072	A1MA270LL
5/3 side lever open centres, 1 position		034081	A1MA271LL
5/3 side lever pressurised centres, 1 position		034080	A1MA272LL
5/3 side lever closed centres, 3 positions		034075	A1MA273LL
5/3 side lever open centres, 3 positions		034073	A1MA274LL
5/3 side lever pressurised centres, 3 positions		034074	A1MA275LL
5/2 top lever 2 positions		034105	A1MA251LT
5/2 push-pull 1 position		034106	A1MA250TT
5/2 push-pull 2 positions		034107	A1MA251TT

Options	Suffix
Low temperature seals (-25 ÷ +60°C)	BT



On request, they can be supplied according to 2014/34/EU - ATEX



Series of spool valves, with static seals, high flow, for panel or sub-base mounting.

Code key

Series	Actuation	Size	Function	Configuration	Options
A1	MA = Manual	2 = 1/4"	50 = 5/2 spring return 51 = 5/2 two stable positions 70 = 5/3 CC spring return 71 = 5/3 OC spring return 72 = 5/3 PC spring return 73 = 5/3 CC 3 positions 74 = 5/3 OC 3 positions 75 = 5/3 PC 3 positions	LL = side lever LT* = top lever TT** = push-pull	BT = low temp. seals

* only for 5/2 spring return (50)

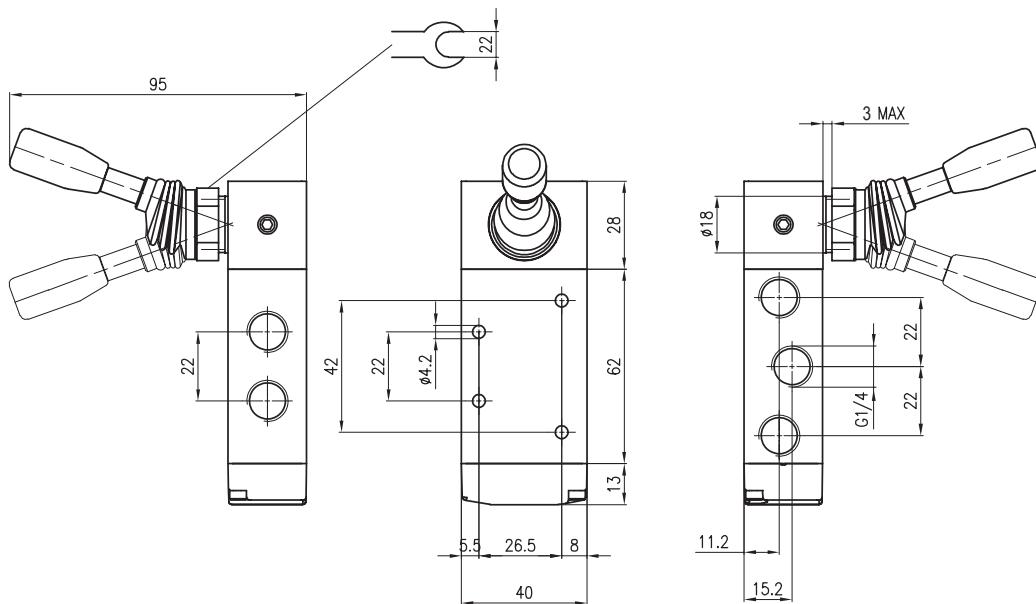
** only for 5/2 spring return (50) and for 5/2 two stable position (51)

Technical data	
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 10 bar
Temperature range	-10°C ÷ +80°C (standard) -25°C ÷ +60°C (BT)
Orifice	8 mm
Flow	1100 NL/min at 6 bar with ΔP 1 bar
Mounting	In any position
Materials	<p>Body: Anodised aluminium Cover: Anodised aluminium Bottom plates: Hostaform C 13031 Spool: Hard aluminium anodized Distancers: Ixef 1022 Seals: Hydrogenated Nitrile Butadiene Rubber (HNBR) Lever: Steel</p>

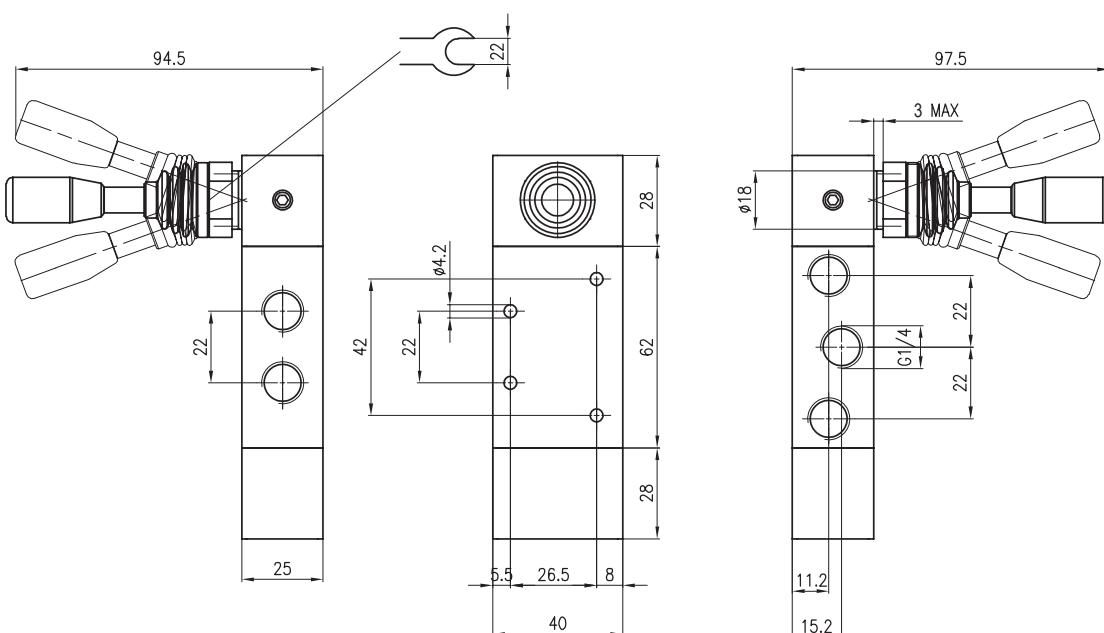
Valves series A1
1/4", 5/2 - 5/3, manually operated



2

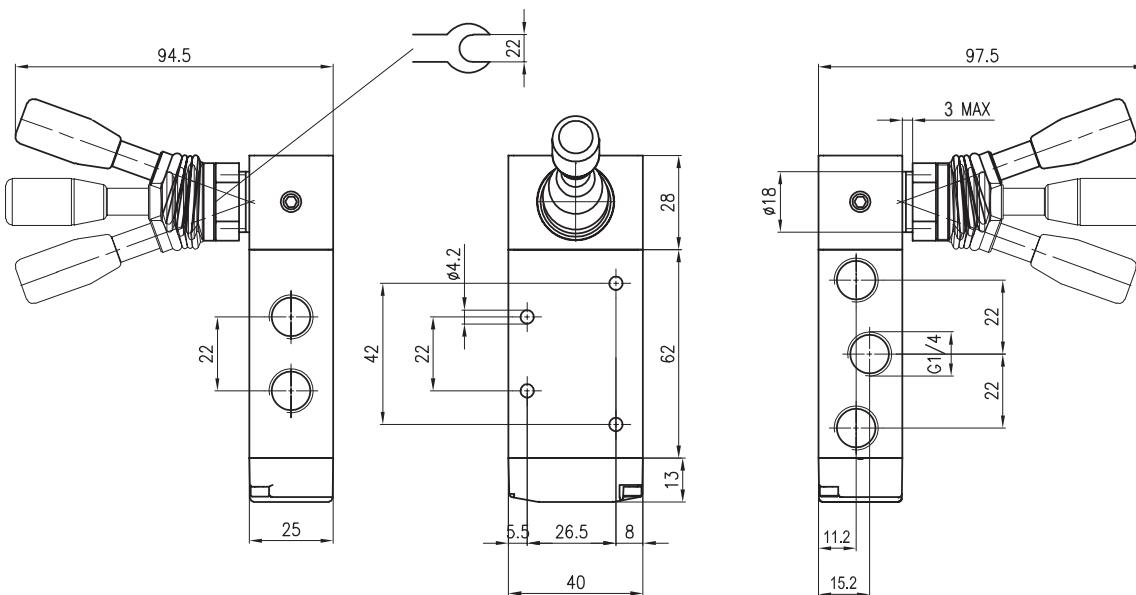


Version	Symbol	Code	Item
5/2 side lever, 1 position		034078	A1MA250LL
5/2 side lever, 2 positions		034079	A1MA251LL

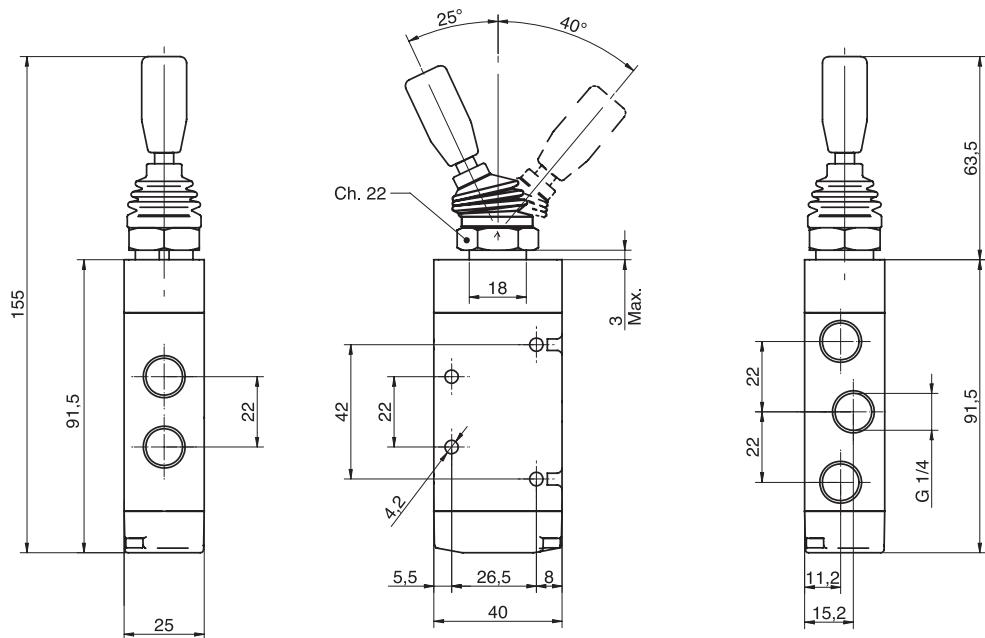


Version	Symbol	Code	Item
5/3 side lever, closed centres, 1 position		034072	A1MA270LL
5/3 side lever, open centres, 1 position		034081	A1MA271LL
5/3 side lever, pressurised centres, 1 position		034080	A1MA272LL

Valves series A1
1/4", 5/2 - 5/3, manually operated

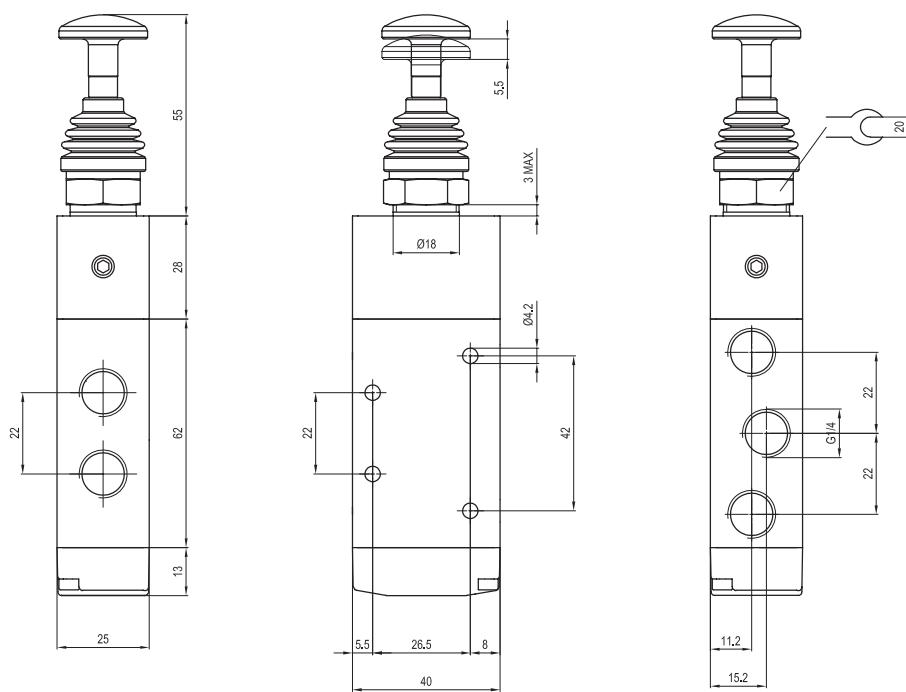


Version	Symbol	Code	Item
5/3 side lever, closed centres, 3 positions		034075	A1MA273LL
5/3 side lever, open centres, 3 positions		034073	A1MA274LL
5/3 side lever, pressurised centres, 3 positions		034074	A1MA275LL



Version	Symbol	Code	Item
5/2 top lever, 2 positions		034105	A1MA251LT

Valves series A1



Version	Symbol	Code	Item
5/2 push-pull, 1 position		034106	A1MA250TT
5/2 push-pull, 2 positions		034107	A1MA251TT

Notes

Foot operated valves 1/4"

1/4", 3/2 and 5/2 foot single and two stable position



Standard executions

Version	Symbol	Code	Item
3/2, normally closed, 1 position with safety device		033127	AVP230
3/2 normally closed, 2 positions with safety device		033128	AVP232
5/2, 1 position with safety device		033129	AVP250
5/2, 2 positions with safety device		033133	AVP251

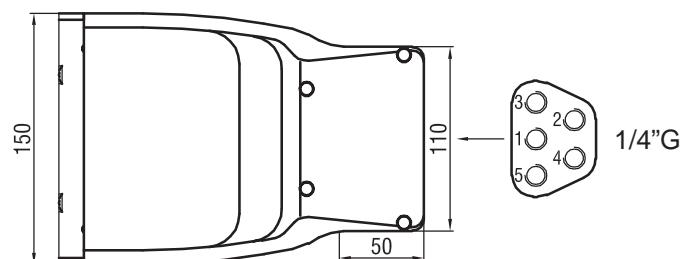
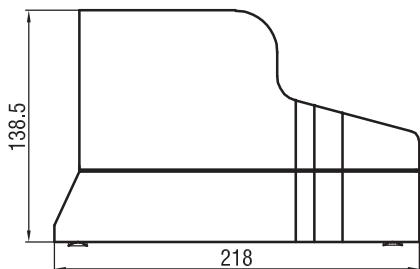


Series of pedals with 3/2 or 5/2 valve, single and two stable position.

In the standard version they are provided with 1/4" spool valve and yellow shock-resistant protection in acetal resin and safety device to avoid possible improper actuations.

2

Type: AVP2...



Technical data

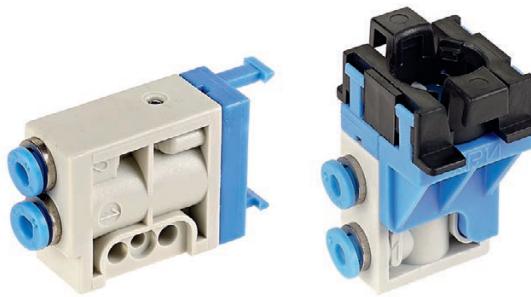
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	2,5 ÷ 10 bar
Temperature range	0 °C ÷ + 50 °C
Orifice	6,5 mm
Flow	1000 NL/min
Operating force	50 N
Materials	<p>Housing: Shock-resistant acetal resin</p> <p>Valve body: Profiled anodised aluminium</p> <p>Valve internal parts: Nickel plated brass/Nickel plated aluminium/Stainless steel</p> <p>Seals: NBR</p> <p>Protection cover: Shock-resistant acetal resin</p>

Microvalves Ø 4 and manual operating devices

Microvalves Ø 4, 3/2 normally open and normally closed



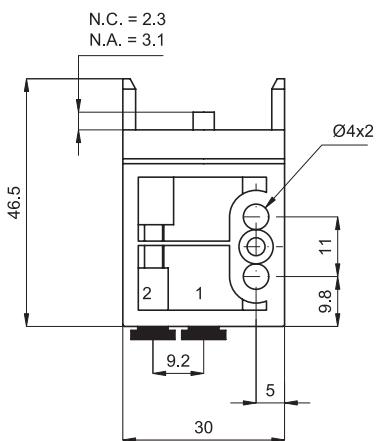
Standard executions			
Version	Symbol	Code	Item
Normally open		030251	AM04132A
Normally closed		030252	AM04132C
Normally open with side connections		030253	AM04132AL
Normally closed with side connections		030254	AM04132CL



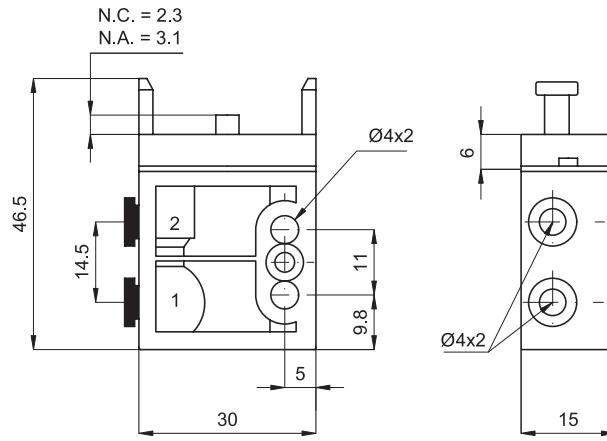
Series of poppet microvalves arranged for operating manually. Connections with integral 4 mm push-in fittings. According to the application you can choose between the version with bottom connections or with side ones.

For the choice of the operating device see page 2.265.1.

Type: **AM04132A**
AM04132C



Type: **AM04132AL**
AM04132CL



Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 8 bar
Temperature range	-20 °C ÷ + 80 °C
Operating force	5 N
Flow	80 NL/min.
Connections	With integral 4 mm push-in fittings
Fixing	Through 2 holes (Ø 4 mm) on the body Through 1 hole (Ø 22 mm) on panel (with operating device mounted)
Mounting	In any position
Materials	Body: Acetal resin Seals: Nitrile rubber (NBR)

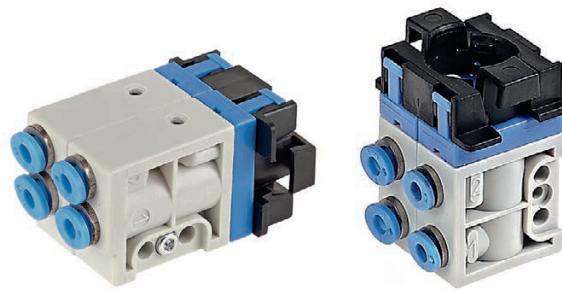
Microvalves Ø 4 and manual operating devices

Microvalves Ø 4, 5/2 one position



Standard executions

Version	Symbol	Code	Item
5/2, 1 position		030261	AM041520
5/2, 1 position with side connections		030262	AM041520L

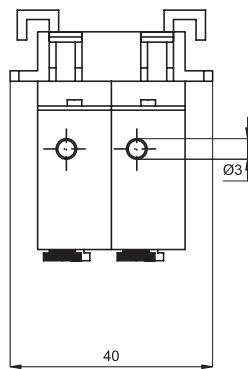
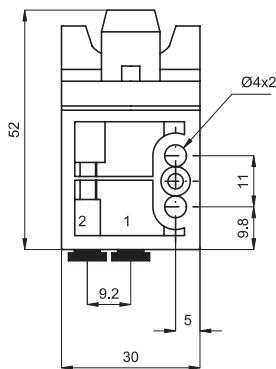


Series of poppet microvalves arranged for operating manually.
Connections with integral 4 mm push-in fittings.
According to the application you can choose between the version with bottom connections or with side ones.

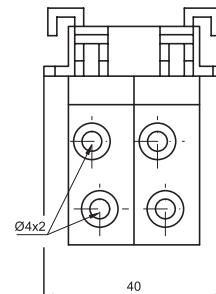
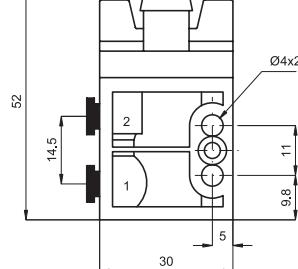
For the choice of the operating device see page 2.265.1.

2

Type: AM041520



Type: AM041520L



Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 8 bar
Temperature range	-20 °C ÷ + 80 °C
Operating force	10 N
Flow	80 NL/min.
Connections	With integral 4 mm push-in fittings
Fixing	Through 2 holes (Ø 4 mm) on the body Through 1 hole (Ø 22 mm) on panel (with operating device mounted)
Mounting	In any position
Materials	Body: Acetal resin Seals: Nitrile rubber (NBR)

Microvalves Ø 4 and manual operating devices

Manual operating devices



Standard executions			
Version	Symbol	Code	Item
Red recessed button, 1 position		030271	AP11R
Black recessed button, 1 position		030272	AP11N
Green recessed button, 1 position		030273	AP11V
Red head push button, 1 position		030274	AP21R
Red head push button, 2 positions		030275	AP22R
Black selector, 2 positions		030276	AP32N
Black selector, 3 positions		030277	AP33N
Selector with key, 2 positions		030278	AP42C
Black lever, 3 positions		030279	AP53N

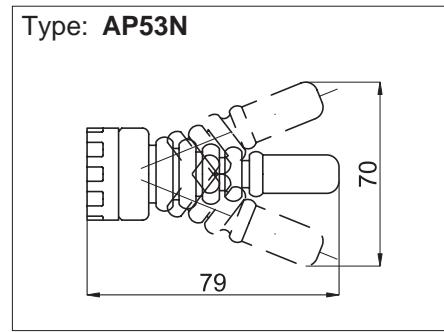
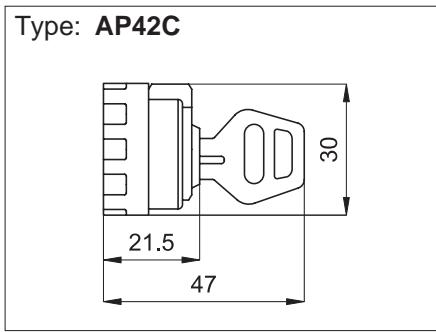
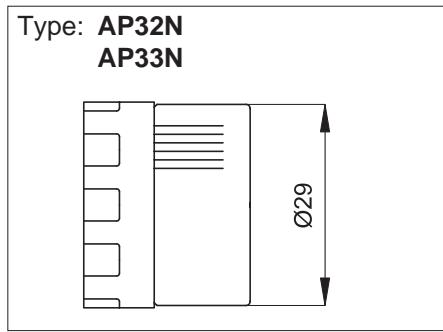
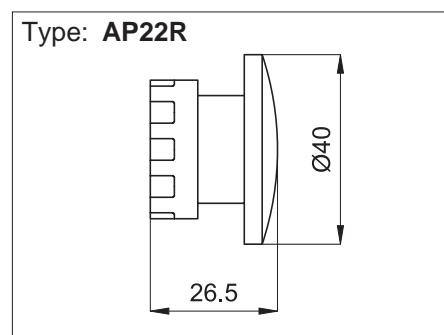
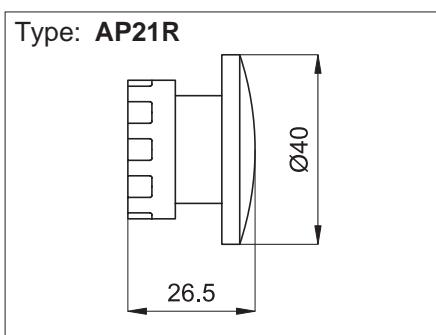
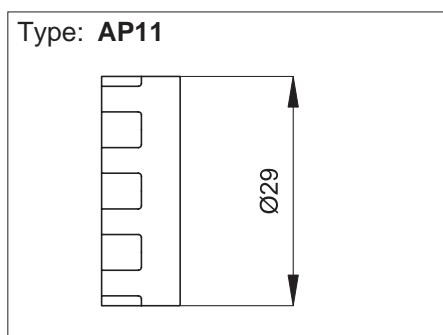


Series of operating devices available in different solutions (selector, recessed button, head push button etc.). Quick mounting on bayonet.

They are arranged for mounting on panel (through 22 mm hole). For the valves type AM04...

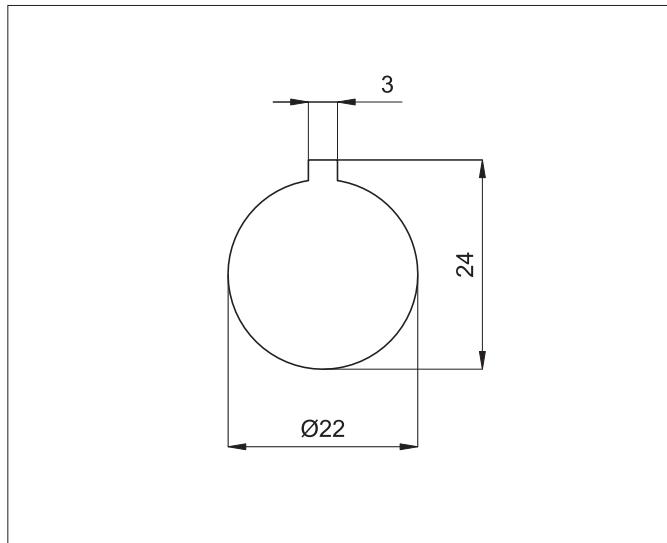
The head push button 2 positions type AP22R can only be used with the valves normally open.

Material:	Acetal resin
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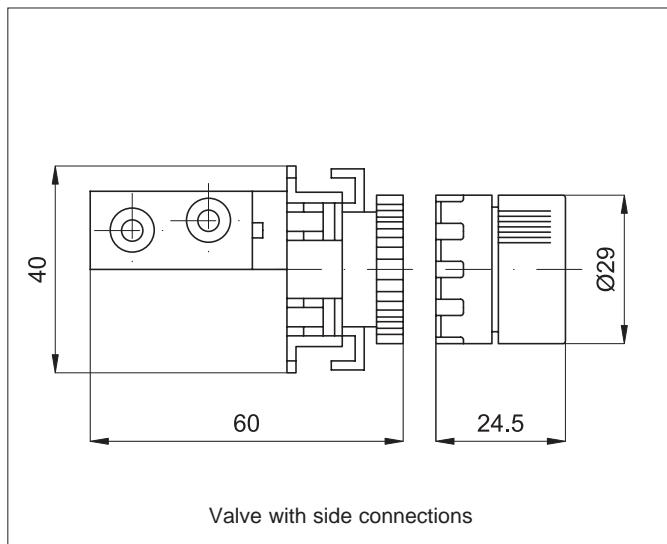
Microvalves Ø 4 and manual operating devices

Manual operating devices

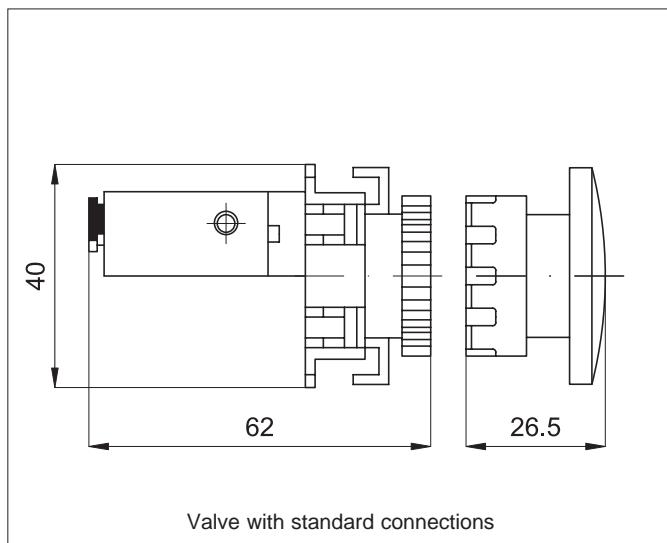


Dimensions of the hole for panel mounting.
The panel must not be thicker than 6 mm.

2



Maximum overall dimensions



Valve with standard connections

Mechanically operated valves Ø 4 and 1/8"

Ø 4, 3/2 normally open and normally closed



Standard executions

Version	Symbol	Code	Item
3/2, with plunger, N.O.		032291	AC104132A
3/2, with plunger, N.C.		032292	AC104132C
3/2, with plunger, N.O., with side connections		032293	AC104132AL
3/2, with plunger, N.C., with side connections		032294	AC104132CL
3/2, with bi-directional lever and roller, N.O.		032295	AC204132A
3/2, with bi-directional lever and roller, N.C.		032296	AC204132C
3/2, with bi-directional lever and roller, N.O., with side connections		032297	AC204132AL
3/2, with bi-directional lever and roller, N.C., with side connections		032298	AC204132CL
3/2, with uni-directional lever, N.O.		032299	AC304132A
3/2, with uni-directional lever, N.C.		032303	AC304132C
3/2, with uni-directional lever, N.O., with side connections		032301	AC304132AL
3/2, with uni-directional lever, N.C., with side connections		032302	AC304132CL



Series of poppet microvalves mechanically operated. Connections with integral 4 mm push-in fittings. According to the application you can choose between the version with bottom connections or side ones.

Technical data

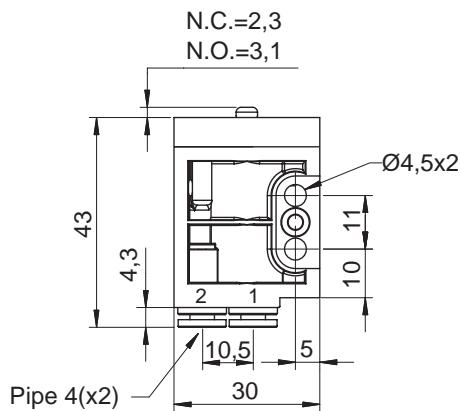
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 8 bar
Temperature range	-10 °C ÷ + 60 °C
Operating force	5 N
Flow	60 NL/min.
Connections	With integral 4 mm push-in fittings
Fixing	Through 4 mm holes on the body
Mounting	In any position
Materials	Body: Acetal resin Seals: Nitrile rubber (NBR)

Mechanically operated valves Ø 4 and 1/8"

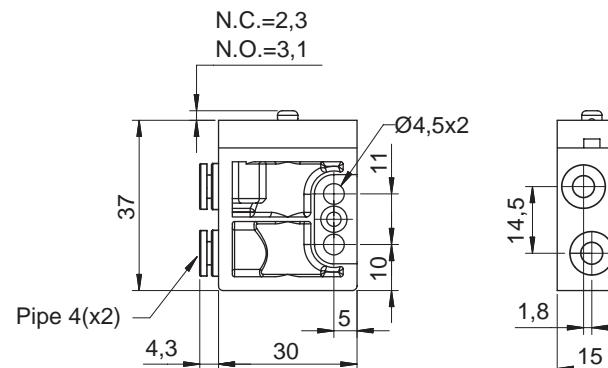
Ø 4, 3/2 normally open and normally closed



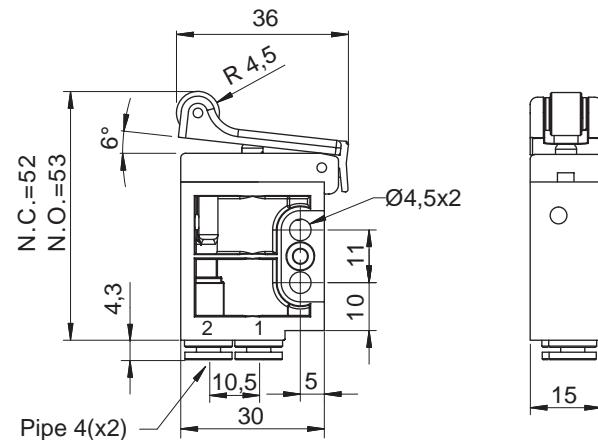
Type: AC104132A
AC104132C



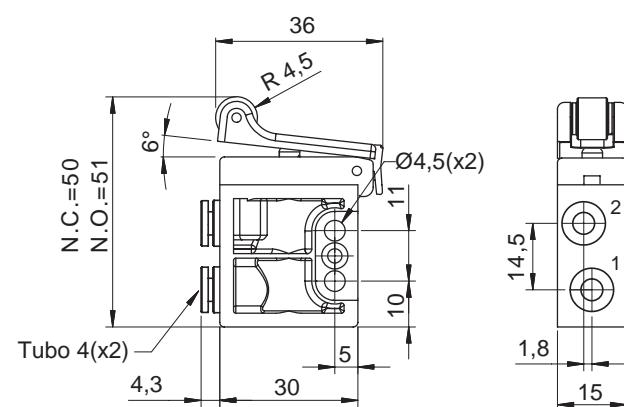
Type: AC104132AL
AC104132CL



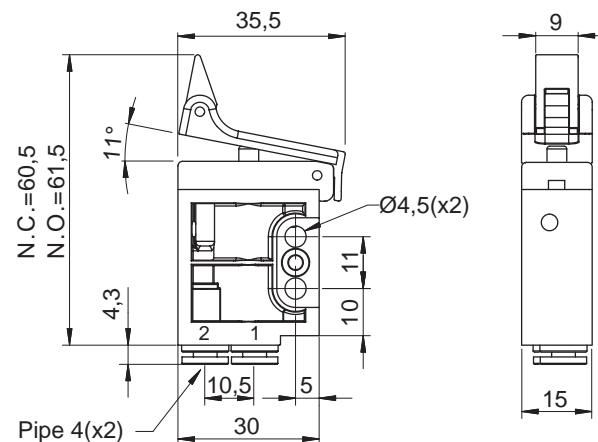
Type: AC204132A
AC204132C



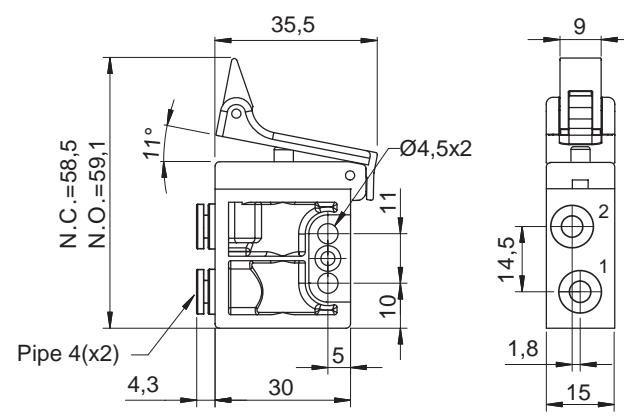
Type: AC204132AL
AC204132CL



Type: AC304132A
AC304132C



Type: AC304132AL
AC304132CL



Mechanically operated valves Ø 4 and 1/8" 1/8", 3/2 normally closed and 5/2 single stable position

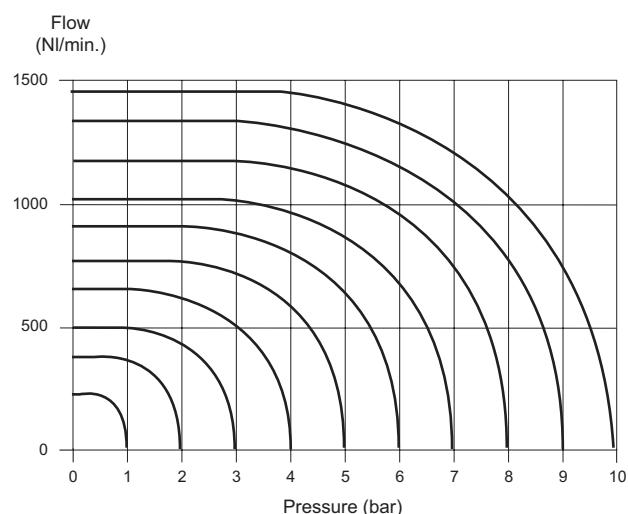


Standard executions

Version	Symbol	Code	Item
3/2, with plunger, N.C.		032600	AC118132C
5/2, with plunger, 1 position		032640	AC1181520
3/2, with bi-directional lever and roller, N.C.		032680	AC218132C
5/2, with bi-directional lever and roller, 1 position		032720	AC2181520
3/2, with uni-directional lever and roller, N.C.		032700	AC318132C
5/2, with uni-directional lever and roller, 1 position		032740	AC3181520



Series of spool valves mechanically operated (plunger, bi-directional and uni-directional lever)



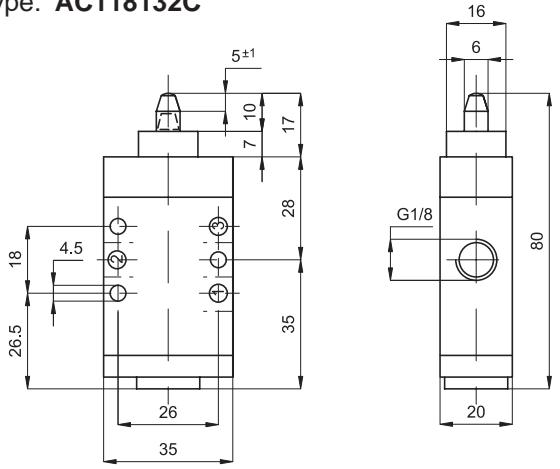
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	0 ÷ 8 bar
Temperature range	-20 °C ÷ + 80 °C
Orifice	6 mm
Flow	900 NL/min
Connections	1/8"
Fixing	Through holes on the body
Mounting	In any position
Materials	Body: Painted die-cast aluminium Heads: Plastic Seals: Nitrile rubber (NBR)

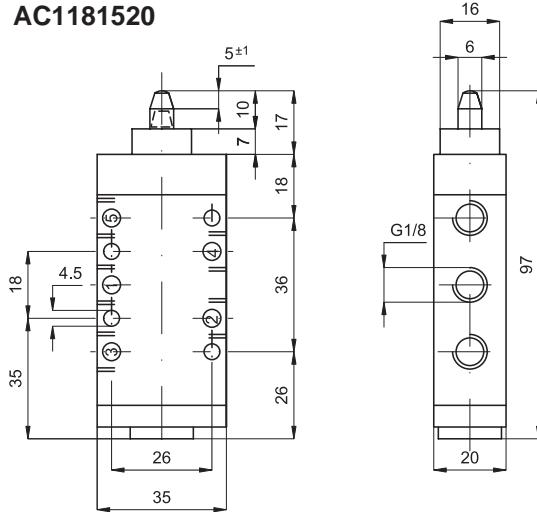
Mechanically operated valves Ø 4 and 1/8" 1/8", 3/2 normally closed and 5/2 single stable position



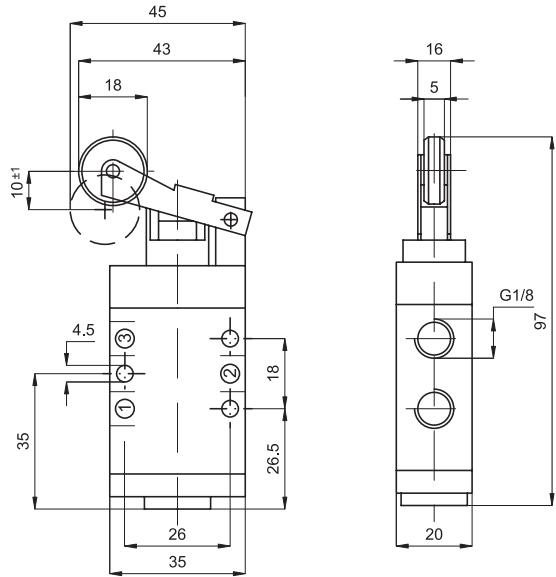
Type: AC118132C



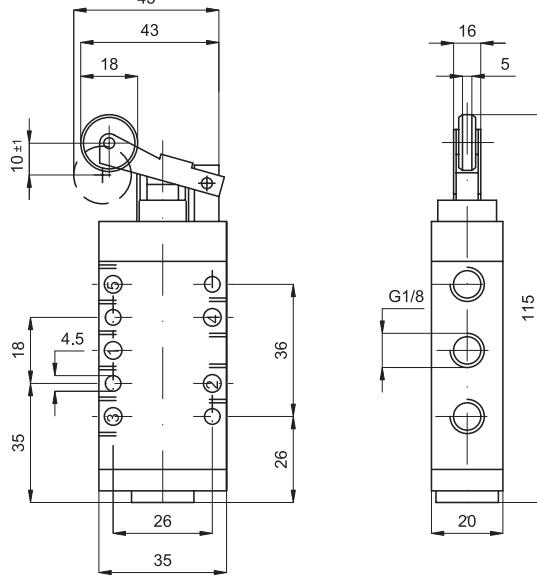
Type: AC1181520



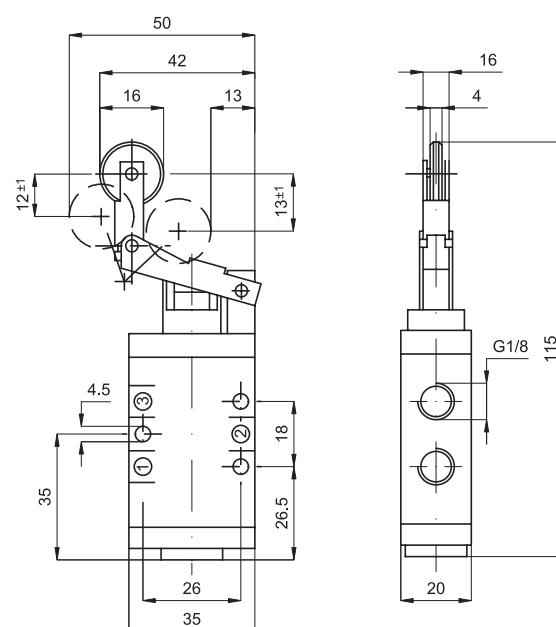
Type: AC218132C



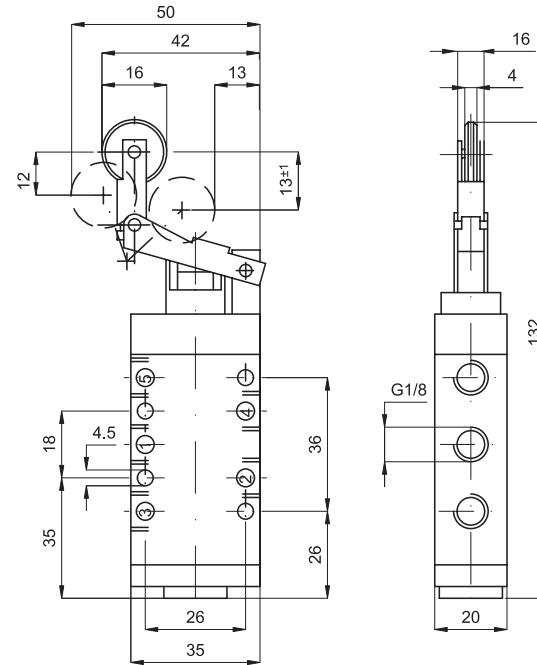
Type: AC2181520



Type: AC318132C



Type: AC3181520



Notes

Valves series A1

1/8", 3/2 - 5/2, Mechanically operated



Standard executions

Version	Symbol	Code	Item
3/2 NC spring return		034201	A1ME130ANT
5/2 spring return		034202	A1ME150ANT



2

Servo-assisted sensitive aerial spool valves, with static seals, high flow.

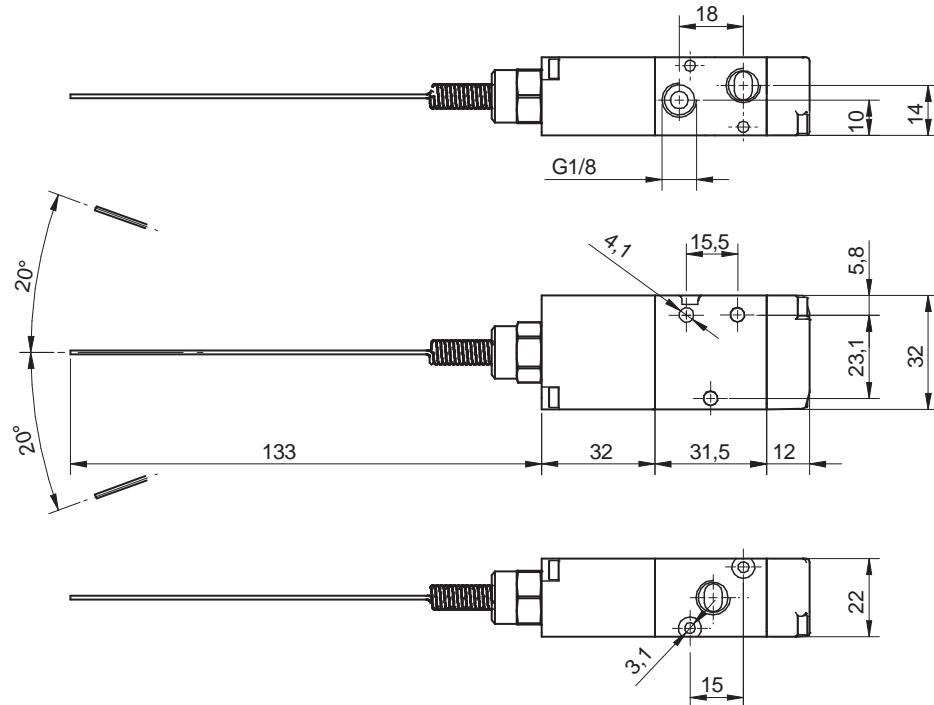
Code key

Series	Actuation	Size	Function	Actuation
A1	ME=Mechanically	1 = 1/8"	30 = 3/2 NC spring return 50 = 5/2 spring return	ANT = sensitive aerial

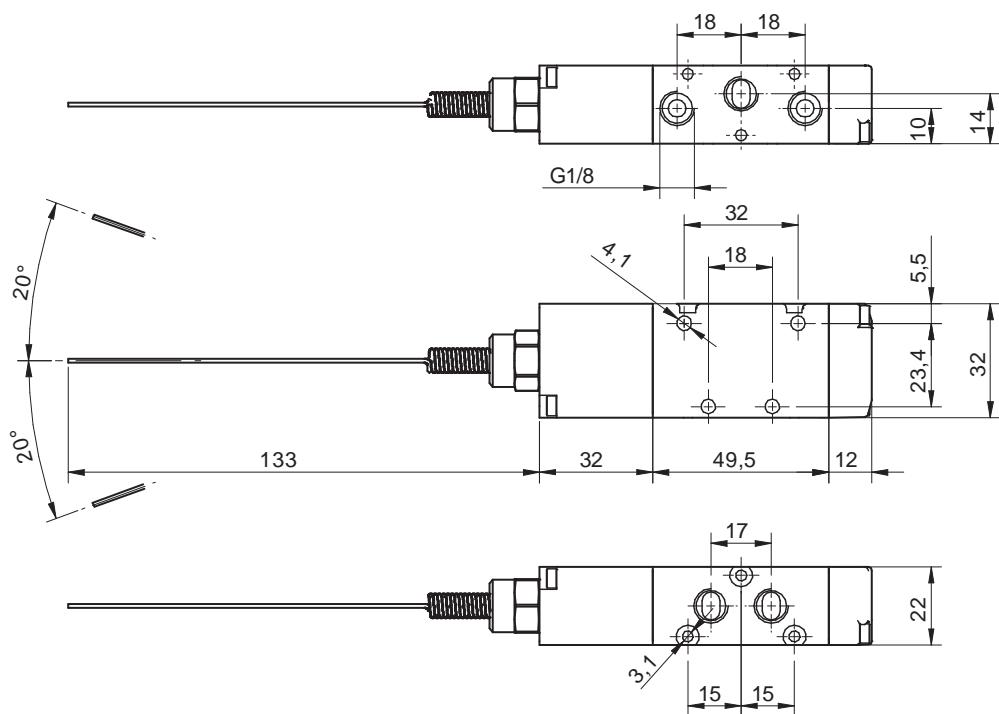
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	1 ÷ 10 bar		
Temperature range	-10 °C ÷ +60°C		
Orifice	6,5 mm		
Flow	650 NL/min a 6 bar at ΔP 1 bar		
Minimum piloting pressure	1 bar		
Mounting	In any position		
Materials	Body:	Anodised aluminium	
	Covers:	Hostaform C 13031	
	Spool:	Hard aluminium anodized	
	Distancers:	Ixef 1022	
	Spring:	Stainless steel AISI 304	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

Valves series A1
1/8", 3/2 - 5/2, Mechanically operated



Version	Symbol	Code	Item
3/2 NC spring return		034201	A1ME130ANT



Version	Symbol	Code	Item
5/2 spring return		034202	A1ME150ANT

Valves series A1

1/8", 5/2, Mechanically operated



Standard executions

Version	Symbol	Code	Item
5/2 lever/spring with bi-directional lever and roller		034156	A1ME150RLB
5/2 lever/spring with adjustable bi-directional lever and roller		034157	A1ME150RLBR



2

Side lever valve mechanically operated spool valve with side lever and high flow static seals.
Panel assembly with screws.

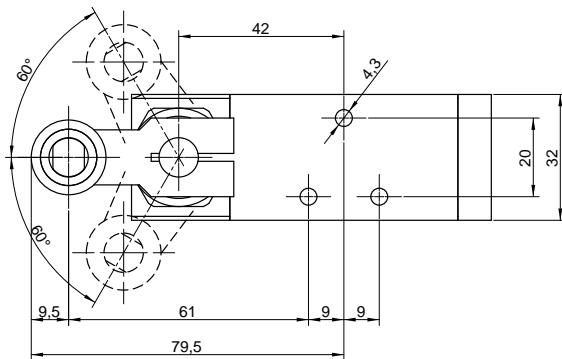
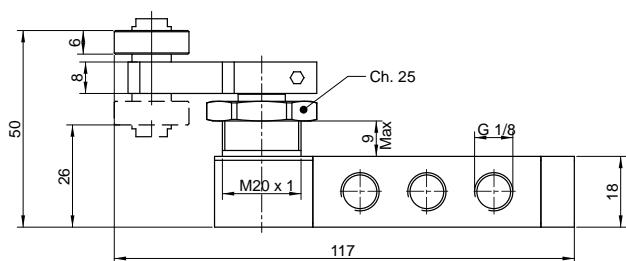
Code key

Series	Actuation	Size	Function	Actuation
A1	ME=Mechanically	1 = 1/8"	50 = 5/2 spring return	RLB = Lever and roller RLBR = Adjustable lever and roller

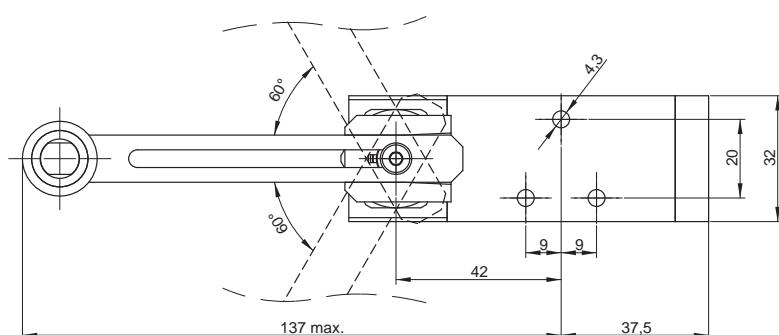
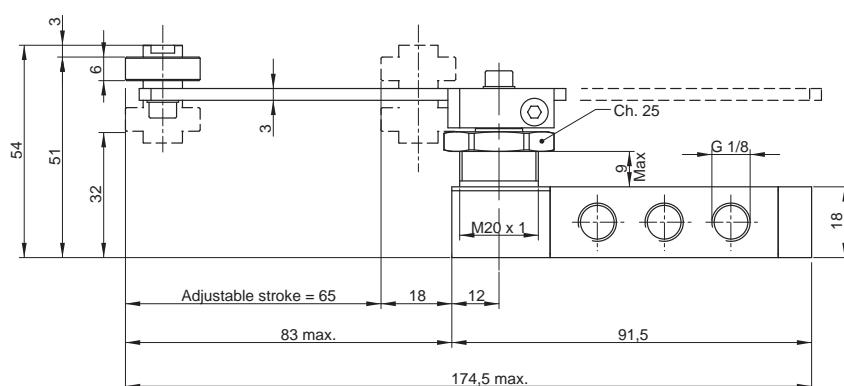
Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.		
Pressure range	1 ÷ 10 bar		
Temperature range	-10 °C ÷ + 60°C		
Orifice	6,5 mm		
Flow	650 NL/min a 6 bar at ΔP 1 bar		
Mounting	In any position		
Materials	Body:	Anodised aluminium	
	Covers:	Anodised aluminium	
	Lever:	Anodised aluminium	
	Spool:	Hard aluminium anodized	
	Distancers:	Ixef 1022	
	Seals:	Hydrogenated Nitrile Butadiene Rubber (HNBR)	

**Valves series A1
1/8", 5/2, Mechanically operated**



Version	Symbol	Code	Item
5/2 lever/spring with bi-directional lever and roller		034156	A1ME150RLB



Version	Symbol	Code	Item
5/2 lever/spring with adjustable bi-directional lever and roller		034157	A1ME150RLBR

Ancillary valves

Slide valves



Standard executions

Version	Symbol	Code	Item
M5 blue		030701	V260005
1/8" blue		030702	V260018
1/4" blue		030703	V260014
3/8" blue		030704	V260038
1/2" blue		030705	V260012
3/4" blue		030713	V260034

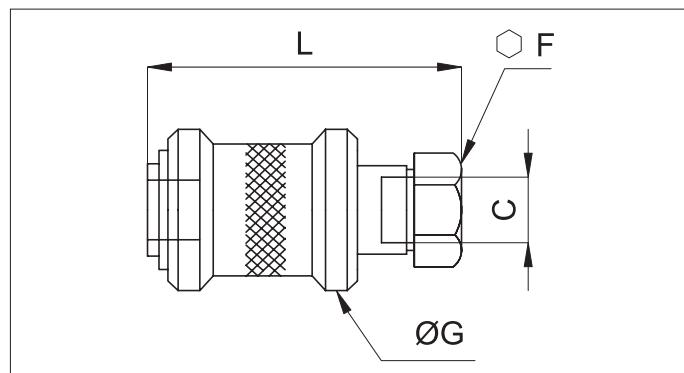


Series of slide valves manually operated.
In line mounting they work to close the supply and at the same time exhaust the downstream circuit air.

How to order: V260018N

Options	Suffix
Black	N
Red	R
Seals FKM max 150 °C	V
Special version on request	/ S

V260018	N
Version	Option



C	F	G	L
M5	10	14	31
1/8"	14	25	48
1/4"	19	30	58
3/8"	22	35	70
1/2"	27	40	75
3/4"	32	50	83

Technical data

Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.					
Pressure range	0 ÷ 16 bar					
Temperature range	-10 °C ÷ + 80°C					
Orifice	M5: 2,5 mm	1/8": 4 mm	1/4": 7 mm	3/8": 10 mm	1/2": 14 mm	3/4": 18 mm
Flow	M5: 100 NL/min	1/8": 680 NL/min	1/4": 1.300 NL/min	3/8": 2.100 NL/min	1/2": 3.800 NL/min	3/4": 5.700 NL/min
Mounting	In line					
Materials	Body:	Nickel plated and ground brass				
	Slide:	Blue anodised aluminium				
	Seals:	Nitrile rubber (NBR)				

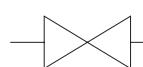
Ancillary valves

Miniature ball valves from brass hexagonal bar



Standard executions

Version	Symbol	Code	Item
1/8" female - female black lever		030501	1MVSFF
1/4" female - female black lever		030502	2MVSFF
3/8" female - female black lever		030503	3MVSFF
1/2" female - female black lever		030504	4MVSFF
3/4" female - female black lever		030505	5MVSFF
1/8" male-female black lever		030601	1MVSFM
1/4" male-female black lever		030602	2MVSFM
3/8" male-female black lever		030603	3MVSFM
1/2" male-female black lever		030604	4MVSFM
3/4" male-female black lever		030605	5MVSFM



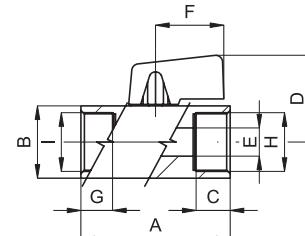
Series of miniature ball valves from brass hexagonal bar and manually operated.

In line mounting they work to close or open the flow in both directions.

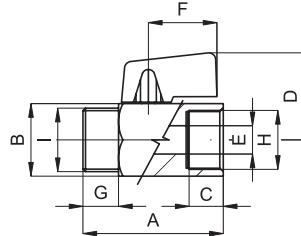
How to order: 1MVSFFR

1MVSFF	R
Version	Option

Type: FF



Type: MF



Options	Suffix
Red lever	R
Special versions on request	/ S

H	G	C	A	B	D	E	F
1/8"	9	9	39	21	27	6	22
1/4"	9	9	39	21	27	8	22
3/8"	10	9	41	21	27	8	22
1/2"	10,5	10,5	45	25	29	10	22
3/4"	13,5	13,5	51	30	31,5	12	22

Technical data

Fluid	Compressed filtered air with or without lubrication.						
Pressure range	0 ÷ 10 bar						
Temperature range	-10 °C ÷ + 90 °C						
Orifice	See the dimension E in the table						
Mounting	In-line						
Materials	Body:	Nickel-plated brass					
	Lever:	Nylon 66, reinforced glass					
	Seals:	PTFE - NBR					

Ancillary valves

Miniature ball valves with cast body



Standard executions

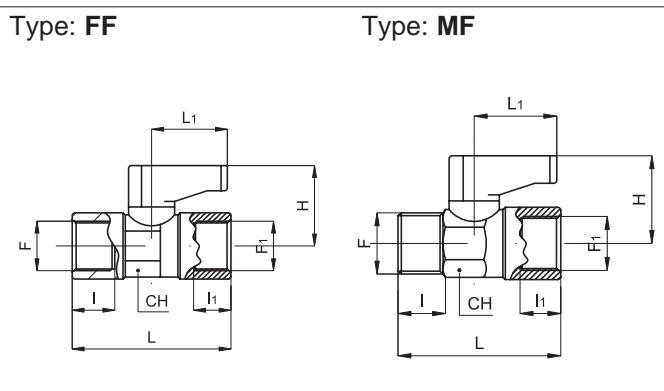
Version	Symbol	Code	Item
1/8" female - female		030641	11MSFF
1/4" female - female		030642	22MSFF
1/8" male - female		030643	11MSMF
1/4" male 1/8" female		030644	21MSMF
1/4" male - female		030645	22MSMF
3/8" male 1/4" female		030646	32MSMF



Series of miniature ball valves with cast body, manually operated and with reduced dimensions.

In line mounting they work to close or open the flow in both directions.

2



F	F ₁	DN	I	I ₁	L	L ₁	H	CH
1/8"	1/8"	5,5	8	8	36,5	19	21	14
1/4"	1/4"	5,5	11	11	43	19	21	14
1/8"	1/8"	5,5	8	8	35,5	19	21	14
1/4"	1/8"	5,5	11	8	38,5	19	21	14
1/4"	1/4"	5,5	11	11	40,5	19	21	14
3/8"	1,4"	5,5	11,5	11	41	19	21	14

Technical data

Fluid	Compressed filtered air with or without lubrication.							
Pressure range	0 ÷ 10 bar							
Temperature range	-10 °C ÷ + 90 °C							
Orifice	See the dimension DN in the table							
Mounting	In-line							
Materials	Body:	Nickel plated brass						
	Lever:	Nylon 66, reinforced glass						
	Seals:	PTFE - NBR						

Ancillary valves

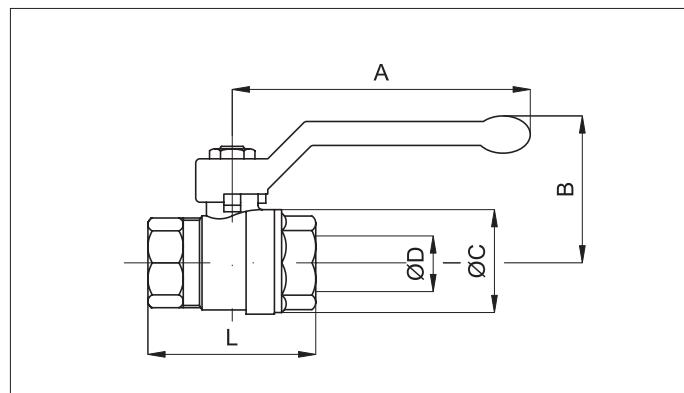
Ball valves "full bore"



Standard executions			
Version	Symbol	Code	Item
1/4"		030661	VSLO014FF
3/8"		030662	VSLO038FF
1/2"		030663	VSLO012FF
3/4"		030664	VSLO034FF
1"		030665	VSLO100FF
1 1/4"		030666	VSLO114FF
1 1/2"		030667	VSLO112FF
2"		030668	VSLO200FF



Series of brass ball valves full bore with long lever and manually operated.
In line mounting they work to close or open the air flow in both directions.



Connections	Ø D	A	B	Ø C	L	Weight gr
1/4"	10	85	42	23	37	100
3/8"	10	85	42	24	42	120
1/2"	15	85	46	30	50	160
3/4"	20	105	53	38	58	285
1"	25	105	57	46	69	450
1 1/4"	32	130	70	58	81	820
1 1/2"	40	130	76	70	93	1280
2"	50	165	92	86	110	2050

Technical data						
Fluid	Compressed air, inert gases, non-aggressive fluids					
Pressure range	1/4" - 3/8"= 40 bar	1/2"-3/4"= 32 bar	1"= 25 bar	1 1/4"-1 1/2"= 20 bar	2"= 16 bar	
Temperature range	-15 °C ÷ + 100°C					
Orifice	See the dimension Ø D in the table					
Flow	1/4" - 3/8"= 3.000 l/min	1/2"= 11.500 l/min	3/4"= 21.000 l/min	1"= 33.000 l/min		
	1 1/4"= 50.000 l/min	1 1/2"= 84.000 l/min	2"= 97.000 l/min.			
Mounting	In-line					
Materials	Body:	Nickel plated brass				
	Lever:	Aluminium covered with poliurethane				
	Seals:	PTFE - NBR				

Standard executions			
Version	Symbol	Code	Item
M5		030806	7VSR
1/8"		030801	1VSR
1/4"		030802	2VSR
3/8"		030803	3VSR
1/2"		030804	4VSR
3/4"		030805	5VSR
3/4" maxi		030807	5VSRM
1" maxi		030808	6VSRM



Series of quick exhaust valves used to increase the speed of a cylinder.

The valve must be mounted directly on the port of the cylinder to achieve the maximum possible speed.

When the supply is in P the diaphragm closes the exhaust R and so the air flows through A into the chamber of the cylinder. When the supply in P fails the diaphragm closes P and this is due to the exhaust air from A to R. The noise of the exhaust can be reduced by a silencer.

For silencers see from page 4.0

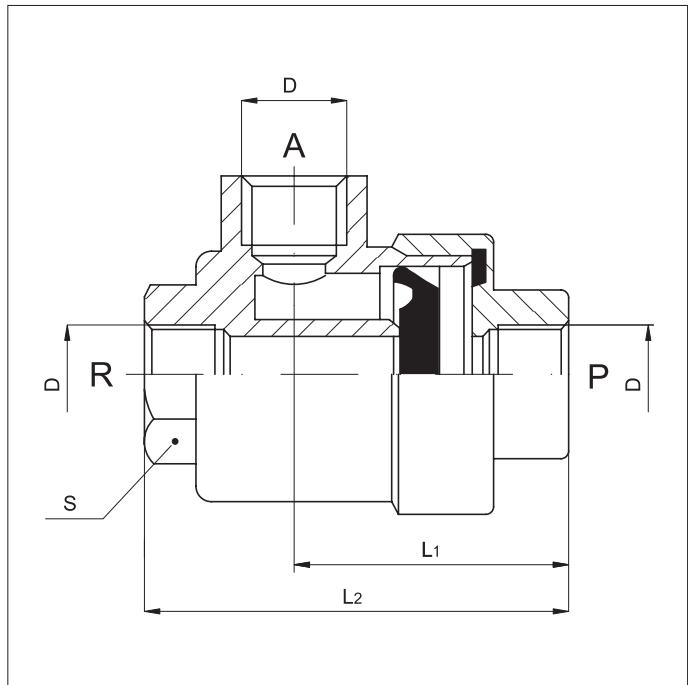
2

How to order: 2VSRV

Options	Suffix
Seals FKM -10 ÷ +150°C	V
Threaded NPT	NPT
Low temperature seals -25 ÷ +70°C	BT

2VSR	V
Version	Option

Technical data							
Fluid	Compressed filtered air with or without lubrication.						
Pressure range	1 ÷ 10 bar						
Temperature range	-20°C ÷ +70°C (standard)		-10°C ÷ +150°C (V)			-25°C ÷ +70°C (BT)	
Orifice (mm)	M5 = 4	1/8" = 6	1/4" = 8,5	3/4" = 8,5	1/2" = 15	3/4" = 18	1" = 24
Flow from P at A (NL/min at 6 bar)	310	1170	3200	3600	5900	3100 (a 3 bar)	-
Flow from A at R (NL/min at 6 bar)	310	1400	3300	3780	7500	6300 (a 3 bar)	-
Mounting	Preferably directly on the port of the cylinder						
Materials	Body:	Nickel-plated brass					
	Diaphragm:	Standard PU (NBR only for M5) Option (V): FKM					
	Washer:	Hytrel 55 D					



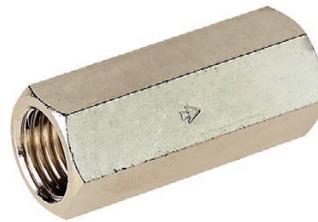
D	L ₁	L ₂	S
1/8"	30	46	14
1/4"	35	53	17
3/8"	37	57	21
1/2"	45	73	26
3/4"	55	90	32
M5	17	25	10
3/4" MAXI	71	110	46
1" MAXI	71	110	46

Seal kit

Valve code	Polyurethane seal code	FKM seal code	Washer code	Polyurethane seals kit code	FKM seals kit code
030806	030906	-	030913	-	-
030801	030901	030909	038018	038061	038062
030802 / 030803	030902	030903	038019	038063	038064
030804	030904	030910	038020	038065	038066
030805	030905	030908	038021	038067	038068
030807 / 030808	030907	030911	038026	038069	038070

Standard executions

Version	Symbol	Code	Item
M5	A  B	030101	7FF
1/8"		030102	1FF
1/4"		030103	2FF
3/8"		030104	3FF
1/2"		030105	4FF
3/4"		030107	5FF



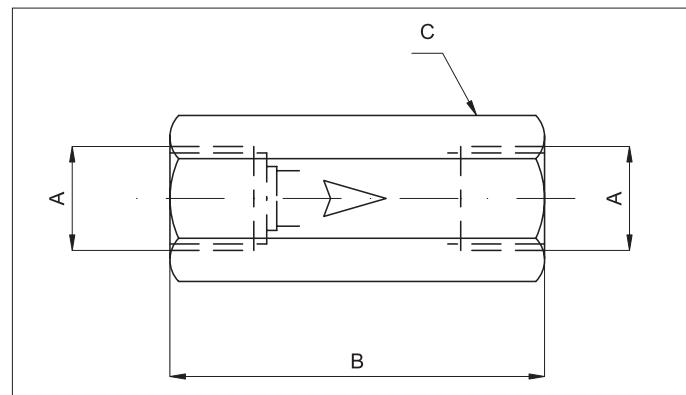
Series of uni-directional valves from brass hexagonal bar, female threaded.

In line mounting they allow the compressed air to flow in one direction only; therefore, they are useful in those applications where no return of the compressed air to the supply is admitted.

How to order: 2FFV

2FF	V
Version	Option

Options	Suffix
Seals FKM max 150 °C	V
Special versions on request	/ S



A	B	C
M5	25	8
1/8"	34	13
1/4"	39	16
3/8"	50	21
1/2"	60	25
3/4"	42	30

Technical data

Fluid	Compressed filtered air with or without lubrication.							
Pressure range	2 ÷ 10 bar							
Temperature range	-10 °C ÷ + 60°C							
Orifice	M5= 2,2 mm	1/8"= 5,2 mm	1/4"= 7 mm	3/8"= 10 mm	1/2"= 12 mm	3/4" = 18	1" = 24	
Flow	M5= 100 Nl/min	1/8"= 500 Nl/min	1/4"= 900 Nl/min	3/8"= 2.600 Nl/min	1/2"= 3.500 Nl/min.	3100 (a 3 bar)	-	
Mounting	In-line							
Materials	Body: Nickel plated brass (3/4" not plated brass) Internal parts: Brass - Spring: Stainless steel Seals: Nitrile rubber (NBR) - 3/8" and 1/2" VITON							

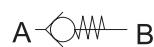
Ancillary valves

Safety valves



Standard executions

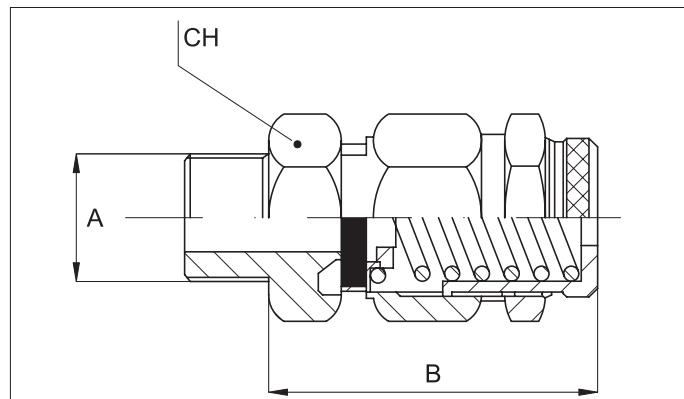
Version	Symbol	Code	Item
1/8"	A B	030951	1VS
1/4"		030952	2VS
3/8"		030953	3VS
1/2"		030954	4VS
3/4"		030955	5VS
1"		030956	6VS



Series of adjustable safety valves, range from 3 to 7 bar.
For mounting on reservoirs or in those applications where the existing pressure must not exceed the fixed value.

Options	Suffix
Fixed calibration with certificate according D.E. 97/23/CE and on request ISPESL *	CC..
Special versions on request **	/ S

- * The overall dimensions of the certified valve are different from the standard ones; they must be asked for.
The certified valve is available with fixed calibration only (after the option suffix specify the required calibration in bar).
- ** Available on quantity only.



A	B	CH
1/8"	34	15
1/4"	34	15
3/8"	53	20
1/2"	53	22
3/4"	70	30
1"	70	30

Technical data				
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.			
Pressure range	3 ÷ 7 bar			
Temperature range	-10 °C ÷ +90°C			
Orifice	1/8" - 1/4" = 6 mm	3/8" = 10 mm	1/2" = 11 mm	3/4" - 1" = 18 mm
Flow	1/8" - 1/4" = 1.600 l/min	3/8" = 3.400 l/min	1/2" = 3.700 l/min	3/4" - 1" = 7.900 l/min
Mounting	In-line			
Materials	Body, seat, adjustment screw, lock nut: Brass Spring: Steel C 98 Seal: Nitrile rubber (NBR)			

Rotary actuators with ball valve

Rotary actuators

Single acting



Standard executions

Version	Symbol	Code	Item
Ø52 mm,12 springs, connection F03/F05 CH=11		810103	AR52SEF03/0511
Ø63 mm,12 springs, connection F05/F07 CH=14		810107	AR63SEF05/0714
Ø75 mm,12 springs, connection F05/F07 CH=14		810109	AR75SEF05/0714
Ø83 mm,12 springs, connection F05/F07 CH=17		810111	AR83SEF05/0717
Ø92 mm,12 springs, connection F05/F07 CH=17		810113	AR92SEF05/0717
Ø105mm,12springs, connection F07/F10 CH=22		810115	AR105SEF07/1022
Ø125mm,12springs, connection F07/F10 CH=22		810117	AR125SEF07/1022
Ø140mm,12springs, connection F10/F12 CH=27		810139	AR140SEF10/1227
Ø160mm,12springs, connection F10/F12 CH=27		810122	AR160SEF10/1227
Ø190mm,12springs, connection F14 CH=36		810147	AR190SEF1436
Ø210mm,12springs, connection F14 CH=36		810140	AR210SEF1436
Ø240 mm,12 springs, connection F16 CH=46		810148	AR240SEF1646
Ø270 mm,12 springs, connection F16 CH=46		810149	AR270SEF1646



Series of rotary actuators single acting with double rack. They can be applied to ball or butterfly valves to automate their operation.

The coupling actuator/valve can be direct thanks to the holes made on the bottom of the actuator itself according to ISO 5211 - DIN 3337 standards or through specific adapters. The upper side of the actuator is made according to VDI/VDE 3845 NAMUR standards and allows to set up accessories such as CAM and position sensors.

The side connections are threaded and arranged for NAMUR valves.

For actuator with valve see from page 2.431.1.

For adapters and brackets see page 2.431.30.

For CAM and position sensors see page 2.431.30

For NAMUR solenoid valves see page 2.88.1.



II 2Gc IIC T6
II 2Dc T85°C

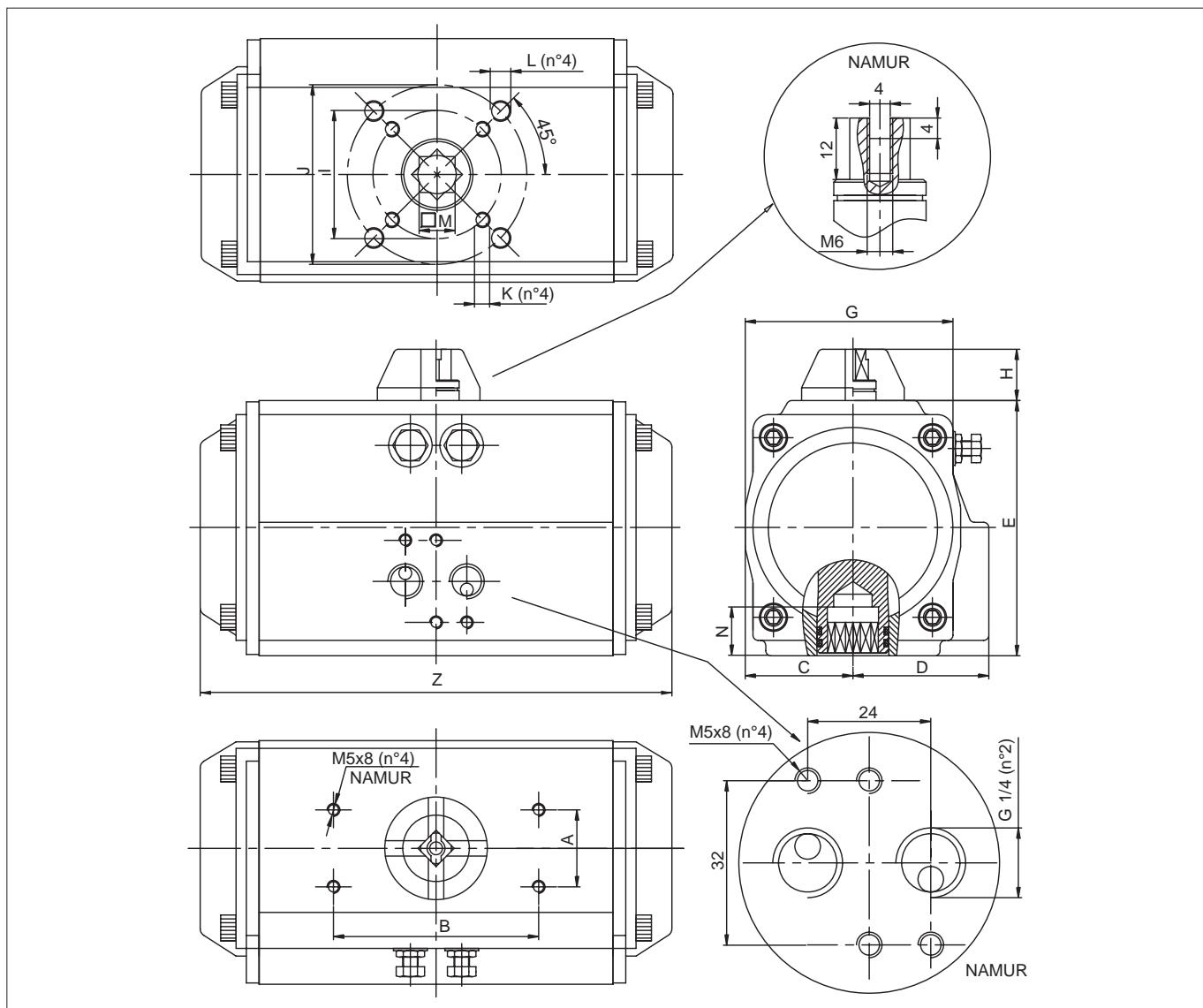
Manufactured according to 2014/34/EU - ATEX

How to order: AR52SEF0305/0511V

Options	Suffix
Seals FKM -15°C ÷ + 150°C	V
Silicone seals -40°C ÷ + 80°C	BT

AR52SEF03/0511	06
Version	Option

Technical data	
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	See forces table at page 2.430.3
Temperature range	-20 °C ÷ + 80°C (standard)
Materials	<p>Body: Hardened and anodised aluminium ASTM6063T6</p> <p>Piston and rack: Aluminium</p> <p>Pinion: Nickel plated steel</p> <p>Heads: Aluminium</p> <p>Screws and springs: Stainless steel</p> <p>Seals: Nitrile rubber (NBR)</p>



Actuator Ø	A	B	C	D	E	G	H	I	J	K	L	M	N	Z	Connection	ISO flange
52	30	80	30	41.5	72	65	20	36	50	M5x8	M6x10	11	14	147	G1/4 NAMUR	F03 / F05
63	30	80	36	47	87.5	72	20	50	70	M6x10	M8x13	14	18	168	G1/4 NAMUR	F05 / F07
75	30	80	42	53	99.5	81	20	50	70	M6x10	M8x13	14	18	184	G1/4 NAMUR	F05 / F07
83	30	80	46	57	108,8	92	20	50	70	M6x10	M8x13	17	21	204	G1/4 NAMUR	F05 / F07
92	30	80	50	61	116,5	98	20	50	70	M6x10	M8x13	17	21	262	G1/4 NAMUR	F05 / F07
105	30	80	57,5	64	133	109,5	20	70	102	M8x13	M10x16	22	26	268	G1/4 NAMUR	F07 / F10
125	30	80	67,5	74,5	155	127,5	20	70	102	M8x13	M10x16	22	26	301	G1/4 NAMUR	F07 / F10
140	30	80	75	77	172	137,5	20	102	125	M10x16	M12x20	27	31	390	G1/4 NAMUR	F10 / F12
160	30	80	87	87	197	158	20	102	125	M10x16	M12x20	27	31	458	G1/4 NAMUR	F10 / F12
190	30	130	103	103	230	189	30	-	140	-	M16x25	36	50	528	G1/4 NAMUR	F14
210	30	130	114	114	255	211	30	-	140	-	M16x25	36	50	532	G1/4 NAMUR	F14
240	30	130	130	130	289	245	30	-	165	-	M20x25	46	60	602	G1/4 NAMUR	F16
270	30	130	147	147	328	273	30	-	165	-	M20x25	46	60	722	G1/4 NAMUR	F16

Rotary actuators with ball valve

Rotary actuators

Single acting



OUTPUT TORQUE OF SPRING RETURN ACTUATORS (Nm)																	
Ø Actuator	Springs	Air pressure (bar)														Springs output	
		2,5		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
52	5	5,7	3,8	7,6	5,7											6,2	4,3
	6	4,9	2,5	6,9	4,5	10,9	8,5									7,4	5,0
	7	4,0	1,3	6,0	3,3	9,8	7,3	14,0	10,4							8,6	5,9
	8			5,2	2,0	9,2	6,0	13,2	9,1	17,2	14,1					9,9	6,7
	9			4,3	0,8	8,3	4,8	12,3	7,9	16,3	12,8	20,3	16,8			11,1	7,6
	10					7,4	3,6	11,5	6,7	15,5	11,6	19,5	15,6			12,4	8,5
	11					6,6	2,3	10,6	5,4	14,6	10,4	18,6	14,3	22,6	18,3	13,6	9,3
	12							9,7	4,2	13,8	9,1	17,8	12,2	21,8	17,1	14,8	10,2
63	5	11,4	7,7	15,0	11,4	22,3	14,9									10,4	6,8
	6	10,1	5,7	13,6	9,3	20,9	16,6	29,3	23,9							12,5	8,2
	7	8,6	3,6	12,5	7,2	19,5	14,5	26,8	21,9							14,6	9,6
	8			10,9	5,1	18,2	12,4	25,5	19,8	32,8	27,0	40,1	34,3			16,7	12,3
	9					16,8	10,4	24,1	17,7	31,4	24,9	38,7	32,2			18,8	12,3
	10					1,4	8,2	22,8	15,6	30,0	22,8	37,3	30,1	44,7	37,4	20,9	13,7
	11							21,5	13,5	28,7	20,7	36,0	28,0	43,3	35,3	22,9	15,0
	12							20,0	11,4	27,3	18,6	34,6	25,9	41,9	33,3	25,0	16,4
75	5	14,5	10,6	19,4	15,5	29,5	25,7									14,5	10,5
	6	12,4	7,6	17,3	12,6	27,4	22,7	37,5	32,8							17,4	12,7
	7	10,4	4,8	15,2	9,7	25,3	19,9	35,4	29,9							20,3	14,8
	8			13,1	6,8	23,1	16,9	33,3	27,0	43,2	37,0	53,3	47,0			23,2	16,9
	9					19,0	14,1	31,2	24,1	41,1	34,1	51,2	44,2			26,1	19,0
	10						11,1	28,8	21,2	39,0	31,2	49,1	41,2	59,1	51,2	29,0	21,1
	11							27,0	18,3	37,0	28,3	47,0	38,4	57,0	48,4	31,9	23,2
	12							24,9	15,4	34,9	25,4	44,9	35,4	54,9	45,4	34,7	25,3
83	5	23,3	16,1	31,1	24,0	46,8	37,7									23,0	15,8
	6	20,1	11,5	28,0	19,3	43,7	35,1	59,4	50,7							27,6	19,0
	7	17,0	6,9	24,8	14,8	40,5	30,5	56,2	46,2							32,2	22,1
	8			21,7	10,1	37,4	25,8	53,1	41,5	68,8	57,2	84,5	72,9			36,8	25,3
	9					34,2	21,3	49,9	37,0	65,6	52,6	81,2	68,3			41,4	28,5
	10					31,0	16,6	46,7	32,3	62,4	48,0	78,1	63,7	93,8	79,3	46,0	31,6
	11							43,6	27,7	59,3	43,4	75,0	59,1	90,6	74,8	50,6	34,8
	12							40,4	23,2	56,1	38,9	71,7	54,5	87,4	70,2	55,2	38,0
92	5	33,1	22,0	44,2	33,2	66,8	55,8									34,4	23,3
	6	28,4	15,2	39,6	26,4	62,2	49,0	84,8	71,6							41,2	28,0
	7	23,8	8,2	34,9	19,4	57,5	42,1	80,2	64,7							48,1	32,7
	8			31,3	12,6	52,9	35,2	75,5	57,9	98,1	80,5	120,7	103,0			55,0	37,3
	9					48,2	28,4	70,9	51,0	93,5	73,6	116,0	96,1			61,9	42,0
	10					43,6	21,5	66,2	44,1	88,8	66,7	111,3	89,2	134,0	111,8	68,7	46,7
	11							61,5	37,2	84,1	59,9	106,6	82,4	129,2	105,0	75,6	81,4
	12							56,8	30,4	79,4	53,0	101,9	75,5	124,5	98,1	82,5	56,0
105	5	51,0	33,4	67,5	49,9	100,6	83,0									49,2	31,6
	6	44,7	23,5	61,1	40,0	94,2	73,2	127,3	106,2							59,1	38,0
	7	38,4	13,7	54,9	30,3	87,9	63,4	121,0	96,4							68,9	44,3
	8			48,5	20,4	81,6	53,5	114,7	86,5	147,7	119,6	180,8	152,7			78,7	50,6
	9					75,3	43,7	108,4	76,8	141,5	109,8	174,5	142,9			88,6	56,9
	10					68,9	33,4	102,0	66,5	135,1	99,6	168,2	132,9	201,2	165,7	98,4	63,3
	11							95,7	57,0	128,7	90,1	161,8	123,1	194,8	156,2	108,3	69,6
	12							89,4	47,5	122,5	80,6	155,5	113,6	188,6	146,7	118,1	75,9
125	5	73	47	98	72	148	122									79	52
	6	63	31	88	56	138	107	188	157							94	63
	7	52	15	77	50	127	90	178	141							110	73
	8			67	25	117	75	167	125	217	176	268	226			125	84
	9					107	59	157	109	207	159	257	210			141	90
	10					96	44	146	94	196	144	247	194	297	245	157	105
	11							136	78	186	128	236	178	286	228	173	115
	12							125	63	176	113	226	163	276	213	188	125

Rotary actuators with ball valve

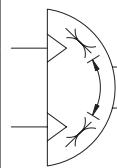
Rotary actuators

Single acting



OUTPUT TORQUE OF SPRING RETURN ACTUATORS (Nm)																	
Ø Actuator	Springs	Air pressure (bar)														Springs output	
		2.5		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
140	5	128	85	171	127	256	213									129	86
	6	111	59	154	102	239	187	325	273							155	103
	7	94	33	137	76	222	162	308	247							181	120
	8			120	50	205	136	291	221	376	307	462	392			206	137
	9					187	110	273	196	358	281	444	367			232	155
	10					170	84	256	169	341	255	427	340	512	426	258	172
	11							238	143	324	229	409	314	495	400	284	189
	12							221	118	307	203	392	289	478	374	310	206
160	5	193	124	259	191	392	324									208	140
	6	165	83	232	149	365	282	498	415							250	168
	7	137	41	203	107	336	240	469	373							292	196
	8			176	66	309	199	442	273	575	465	708	598			333	223
	9					280	157	413	290	546	423	679	556			375	251
	10					253	115	386	248	519	381	652	514	785	647	417	279
	11							358	207	491	340	624	473	757	606	458	307
	12							330	165	463	298	596	431	729	564	500	355
190	5	332	222	438	329	651	542									309	200
	6	292	161	398	267	611	480	824	693							371	240
	7	252	99	358	205	571	418	784	631							433	280
	8			318	143	531	356	744	569	957	782	1169	995			495	320
	9					491	295	704	507	917	720	1130	933			557	360
	10					451	233	664	446	877	658	1090	871	1302	1084	618	400
	11							624	384	837	597	1050	809	1263	1022	680	440
	12							584	322	797	535	1010	748	1223	960	742	480
210	5	390	285	523	418	789	684									380	275
	6	335	209	468	342	734	608	1000	874							456	330
	7	280	133	413	266	679	532	945	798							532	385
	8			358	190	624	456	890	722	1156	988	1422	1254			608	440
	9					569	380	835	646	1101	912	1367	1178			684	495
	10					514	304	780	570	1046	836	1312	1102	1578	1368	760	550
	11							725	494	991	760	1257	1026	1523	1292	836	605
	12							670	418	936	684	1202	950	1468	1216	912	660
240	5	552	409	744	600	1129	985									554	410
	6	470	297	662	489	1047	874	1432	1259							665	492
	7	388	187	580	379	964	764	1349	1149							775	575
	8			498	268	883	653	1267	1037	1652	1422	2037	1807			886	656
	9					800	542	1185	926	1569	1311	1954	1696			998	739
	10					718	431	1103	816	1488	1201	1872	1586	2257	1970	1108	821
	11							1021	705	1406	1090	1791	1474	2176	1859	1219	903
	12							939	594	1323	979	1708	1363	2093	1748	1330	985
270	5	903	675	1195	968	1779	1552									787	560
	6	790	519	1083	811	1667	1396	2252	1981							943	672
	7	679	361	972	654	1556	1238	2141	798							1101	783
	8			860	497	1444	1081	2029	1823	2614	2252	3199	2836			1258	895
	9					1332	923	1917	1666	2502	2094	3087	2678			1416	1007
	10					1220	767	1805	1509	2390	1937	2974	2521	3560	3107	1572	1119
	11							1693	1352	2278	1179	2862	2364	3448	2949	1730	1231
	12							1582	1037	2167	1623	2751	2207	3336	2792	1887	1342

Standard executions			
Version	Symbol	Code	Item
Ø 32 mm connection F03 CH=9		810101	AR32DEF0309
Ø 40 mm connection F03/F05 CH=11		810128	AR40DEF03/0511
Ø 52 mm connection F03/F05 CH=11		810102	AR52DEF03/0511
Ø 63 mm connection F05/F07 CH=14		810106	AR63DEF05/0714
Ø 75 mm connection F05/F07 CH=14		810108	AR75DEF05/0714
Ø 83 mm connection F05/F07 CH=17		810110	AR83DEF05/0717
Ø 92 mm connection F05/F07 CH=17		810112	AR92DEF05/0717
Ø 105 mm connection F07/F10 CH=22		810114	AR105DEF07/1022
Ø 125 mm connection F07/F10 CH=22		810116	AR125DEF07/1022
Ø 140 mm connection F010/F12 CH=27		810130	AR140DEF10/1227
Ø 160 mm connection F010/F12 CH=27		810119	AR160DEF10/1227
Ø 190 mm connection F014 CH=36		810143	AR190DEF1436
Ø 210 mm connection F014 CH=36		810144	AR210DEF1436
Ø 240 mm connection F016 CH=46		810145	AR240DEF1646
Ø 270 mm connection F016 CH=46		810146	AR270DEF1646



Series of rotary actuators double acting with double rack. They can be applied to ball or butterfly valves to automate their operation.

The coupling actuator/valve can be direct thanks to the holes made on the bottom of the actuator itself according to ISO 5211 - DIN 3337 standards or through specific adapters. The upper side of the actuator is made according to VDI/VDE 3845 NAMUR standards and allows to set up accessories such as CAM and position sensors.

The side connections are threaded and arranged for NAMUR valves.

- | | |
|------------------------------|------------------------|
| For actuator with valve | see from page 2.431.1. |
| For adapters and brackets | see page 2.431.30. |
| For CAM and position sensors | see page 2.431.30 |
| For NAMUR solenoid valves | see page 2.88.1. |

II 2Gc IIC T6
II 2Dc T85°C

Manufactured according to 2014/34/EU - ATEX

Options	Suffix
Seals FKM -15°C ÷ + 150°C	V
Silicone seals -40°C ÷ + 80°C	BT

How to order: AR52DEF03/0511V

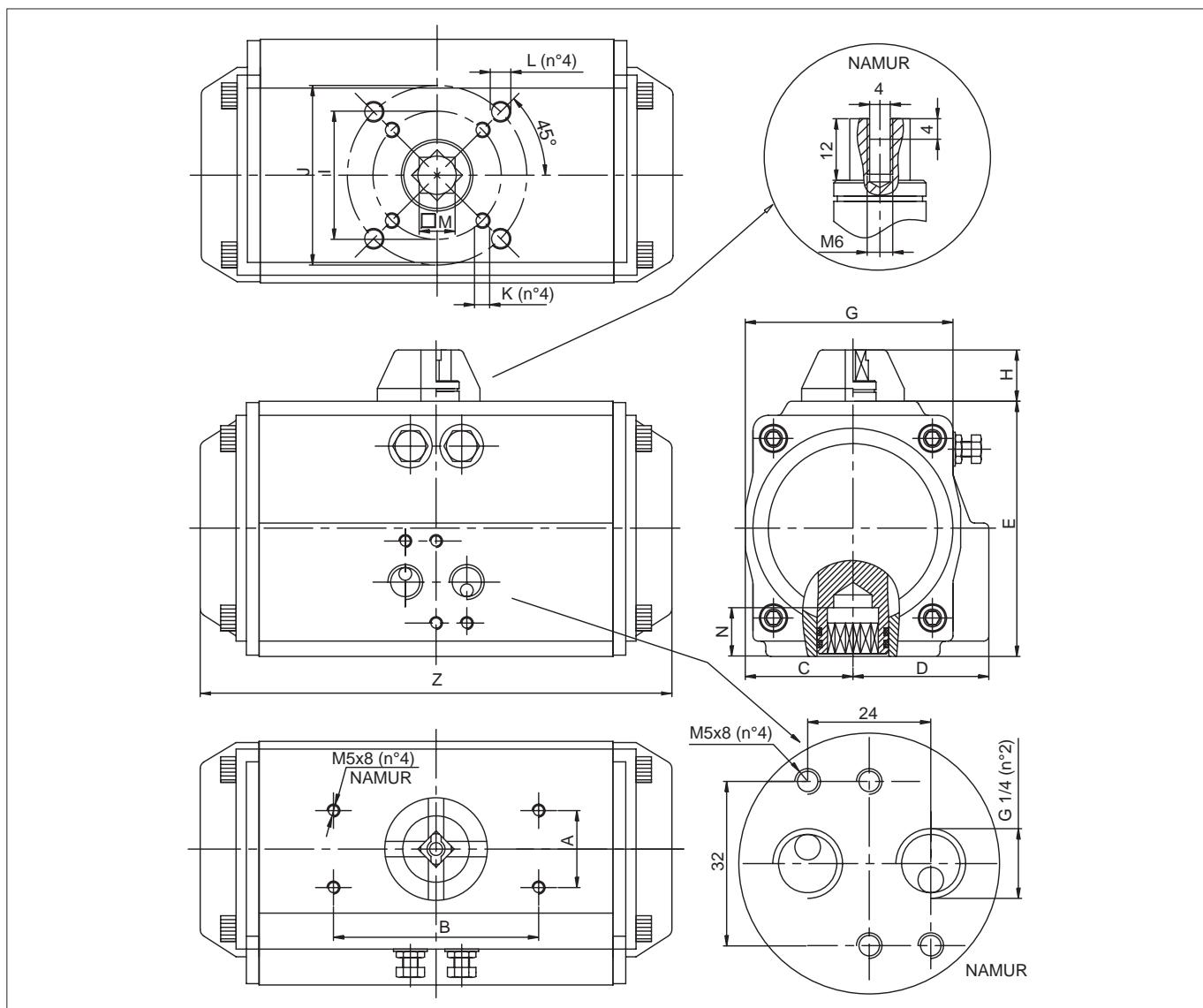
AR52DEF03/0511	V
Version	Option

Technical data	
Fluid	Compressed filtered air with or without lubrication. Lubrication, if started, must be continued.
Pressure range	See forces table at page 2.430.11
Temperature range	-20 °C ÷ + 80°C (standard)
Materials	<p>Body: Hardened and anodised aluminium ASTM6063T6</p> <p>Piston and rack: Aluminium</p> <p>Pinion: Nickel plated steel</p> <p>Heads: Aluminium</p> <p>Screws and springs: Stainless steel</p> <p>Seals: Nitrile rubber (NBR)</p>

Rotary actuators with ball valve

Rotary actuators

Double acting



Ø actuator	A	B	C	D	E	G	H	I	J	K	L	M	N	Z	Connection	ISO flange
32	30	80	22,5	22,5	45	45	20	36	-	M5x8	-	9	-	118	G1/8	F03
40	30	80	28,5	36,5	60	65	20	36	50	M5x8	M6x10	11	14	147	G1/4 NAMUR	F03 / F05
52	30	80	30	41,5	72	65	20	36	50	M5x8	M6x10	11	14	147	G1/4 NAMUR	F03 / F05
63	30	80	36	47	87,5	72	20	50	70	M6x10	M8x13	14	18	168	G1/4 NAMUR	F05 / F07
75	30	80	42	53	99,5	81	20	50	70	M6x10	M8x13	14	18	184	G1/4 NAMUR	F05 / F07
83	30	80	46	57	108,8	92	20	50	70	M6x10	M8x13	17	21	204	G1/4 NAMUR	F05 / F07
92	30	80	50	61	116,5	98	20	50	70	M6x10	M8x13	17	21	262	G1/4 NAMUR	F05 / F07
105	30	80	57,5	64	133	109,5	20	70	102	M8x13	M10x16	22	26	268	G1/4 NAMUR	F07 / F10
125	30	80	67,5	74,5	155	127,5	20	70	102	M8x13	M10x16	22	26	301	G1/4 NAMUR	F07 / F10
140	30	80	75	77	172	137,5	20	102	125	M10x16	M12x20	27	31	390	G1/4 NAMUR	F10 / F12
160	30	80	87	87	197	158	20	102	125	M10x16	M12x20	27	31	458	G1/4 NAMUR	F10 / F12
190	30	130	103	103	230	189	30	-	140	-	M16x25	36	50	528	G1/4 NAMUR	F14
210	30	130	114	114	255	211	30	-	140	-	M16x25	36	50	532	G1/4 NAMUR	F14
240	30	130	130	130	289	245	30	-	165	-	M20x25	46	60	602	G1/4 NAMUR	F16
270	30	130	147	147	328	273	30	-	165	-	M20x25	46	60	722	G1/4 NAMUR	F16

OUTPUT TORQUE OF DOUBLE ACTING ACTUATORS (Nm)										
Ø actuator	Air pressure (bar)									
	2	2,5	3	4	4,5	5	5,5	6	7	8
32	3,1	3,8	4,6	6,1	6,9	7,6	8,4	9,2	10,7	12,2
40	4,8	6,0	7,2	9,5	10,7	11,9	13,1	14,3	16,7	19,1
52	8,0	10,0	12,0	16,0	18,0	20,0	21,9	23,9	27,9	31,9
63	14,6	18,2	21,9	29,2	32,8	36,5	40,1	43,8	51,1	58,4
75	20,1	25,1	30,1	40,1	45,1	50,2	55,2	60,2	70,2	80,3
83	31,4	39,2	47,0	62,7	70,5	78,4	86,2	94,1	109,7	125,4
92	45,1	56,4	67,7	90,3	101,6	112,9	124,1	135,4	158,0	180,6
105	66,1	82,7	99,2	132,2	148,8	165,3	181,8	198,4	231,4	264,5
125	100,3	125,4	150,5	200,6	225,7	250,8	275,9	301,0	351,1	401,3
140	171,0	213,8	256,5	342,0	384,8	427,5	470,3	513,0	598,5	684,0
160	266,0	332,5	399,0	532,0	598,5	609,0	731,5	798,0	931,0	1064,0
190	425,6	532,0	638,4	851,2	957,6	1064,0	1170,4	1276,8	1489,6	1702,4
210	532,0	665,0	798,0	1064,0	1197,0	1330,0	1463,0	1596,0	1862,0	2128,0
240	796,5	961,9	1154,3	1539,0	1731,4	1923,8	2116,1	2308,5	2693,3	3078,0
270	1169,6	1462,1	1754,5	2339,3	2631,7	2924,1	3216,5	3508,9	4093,7	4678,6

Rotary actuators with ball valve

Brass ball valves with actuator single acting



Standard executions			
Version	Symbol	Code	Item
1/2"		811011	VSO2012SE
3/4"		811012	VSO2034SE
1"		811013	VSO2100SE
1 1/4"		811014	VSO2114SE
1 1/2"		811015	VSO2112SE
2"		811016	VSO2200SE



Series of brass ball valves "full bore" with rotary actuator single acting.

For actuator features see page 2.430.1.

For NAMUR solenoid valve see page 2.88.1.

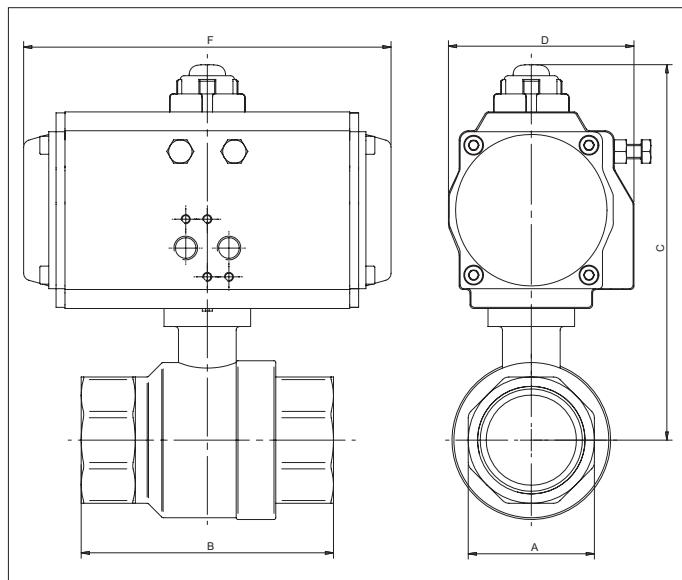
For actuator mounting accessories see page 2.431.30.



II 2Gc IIC T6
II 2Dc T85°C

Manufactured according to 2014/34/EU - ATEX

Size	A	B	Ø actuator	C	D	F
G1/2	26	75	52	130	71,5	147
G3/4	32	80	52	132,5	71,5	147
G1	41	90	52	136	71,5	147
G1 1/4	50	110	63	162,5	83	168
G1 1/2	55	120	63	169	83	168
G2	70	140	83	201,8	103	204



Technical data

Fluid	Compressed air, water, inert gases and non-aggressive fluids					
Pressure range	40 bar					
Temperature range	-20 °C ÷ + 130°C					
Orifice	1/2"= 15 mm	3/4"= 20 mm	1"= 25 mm	1 1/4"= 32 mm	1 1/2"= 40 mm	2"= 50 mm
Flow	1/2"= 11.500 l/min	3/4"= 21.000 l/min	1"= 33.000 l/min	1 1/4"= 50.000 l/min	1 1/2"= 84.000 l/min	2"= 97.000 l/min
Mounting	In-line					
Materials	Body:	Nickel-plated brass				
	Ball:	Chrome plated brass				
	Seals:	PTFE - NBR				

Rotary actuators with ball valve

Brass ball valves with actuator double acting



Standard executions

Version	Symbol	Code	Item
1/2"		811001	VSO2012DE
3/4"		811002	VSO2034DE
1"		811003	VSO2100DE
1 1/4"		811004	VSO2114DE
1 1/2"		811005	VSO2112DE
2"		811006	VSO2200DE



Series of brass ball valves "full bore" with rotary actuator double acting.

For actuator features see page 2.430.10.

For NAMUR solenoid valve see page 2.88.1.

For actuator mounting accessories see page 2.431.30.

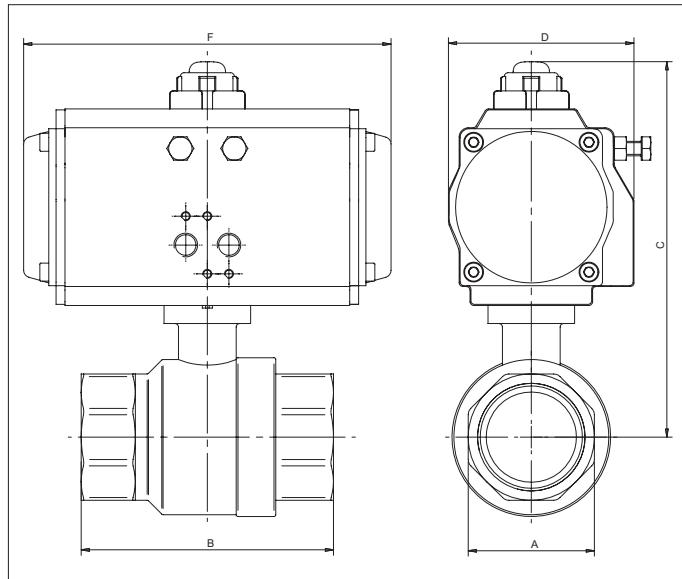
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II 2Gc IIC T6
II 2Dc T85°C

Manufactured according to 2014/34/EU - ATEX

Size	A	B	Ø actuator	C	D	F
G1/2	26	75	32	103	45	118
G3/4	32	80	32	105,5	45	118
G1	41	90	40	124	65	120
G1 1/4	50	110	40	135	65	120
G1 1/2	55	120	52	153,5	71,5	147
G2	70	140	63	180,5	83	168



Technical data

Fluid	Compressed air, water, inert gases and non-aggressive fluids					
Pressure range	40 bar					
Temperature range	-20 °C ÷ + 130°C					
Orifice	1/2"= 15 mm	3/4"= 20 mm	1"= 25 mm	1 1/4"= 32 mm	1 1/2"= 40 mm	2"= 50 mm
Flow	1/2"= 11.500 l/min	3/4"= 21.000 l/min	1"= 33.000 l/min	1 1/4"= 50.000 l/min	1 1/2"= 84.000 l/min	2"= 97.000 l/min
Mounting	In-line					
Materials	Body:	Nickel-plated brass				
	Ball:	Chrome plated brass				
	Seals:	PTFE - NBR				

Rotary actuators with ball valve

Stainless steel ball valves with actuator single acting



Standard executions

Version	Symbol	Code	Item
3/8"		811031	VSI2038SE
1/2"		811032	VSI2012SE
3/4"		811033	VSI2034SE
1"		811034	VSI2100SE
1 1/4"		811035	VSI2114SE
1 1/2"		811036	VSI2112SE
2"		811037	VSI2200SE



Series of stainless steel ball valves "full bore" with rotary actuator single acting.

For actuator features see page 2.430.1.

For NAMUR solenoid valve see page 2.88.1.

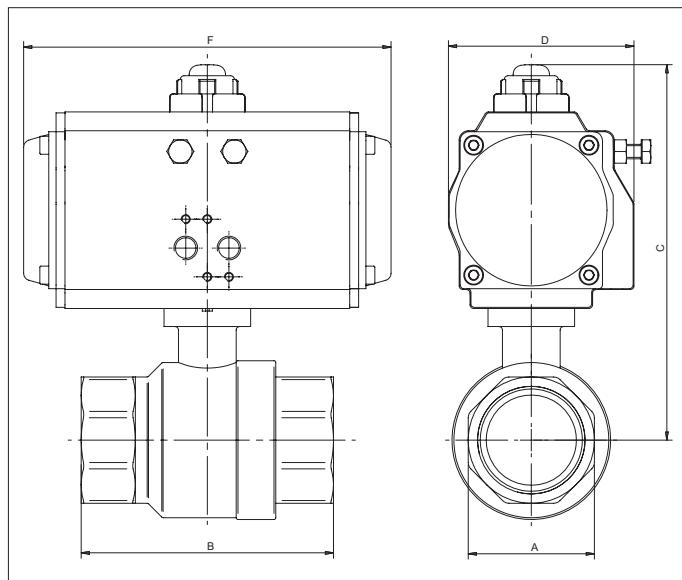
For actuator mounting accessories see page 2.431.30.



II 2Gc IIC T6
II 2Dc T85°C

Manufactured according to 2014/34/EU - ATEX

Size	A	B	Ø actuator	C	D	F
G3/8	27	65	52	132	71,5	147
G1/2	27	75	52	132	71,5	147
G3/4	33	80	52	136	71,5	147
G1	41	90	63	159,5	83	168
G1 1/4	50	110	63	165,5	83	168
G1 1/2	58	120	83	196,8	103	204
G2	70	140	83	205,8	103	204



Technical data of the ball valve

Fluid	Compressed air, water, inert gases, fluids, steam							
Pressure range	63 bar							
Temperature range	-20 °C ÷ + 150°C							
Orifice	3/8"= 10 mm	1/2"= 15 mm	3/4"= 20 mm	1"= 25 mm	1 1/4"= 32 mm	1 1/2"= 40 mm	2"= 50 mm	
Flow	3/8"= 3.000 l/min		1/2"= 11.500 l/min		3/4"= 21.000 l/min	1"= 33.000 l/min		
	1 1/4"= 50.000 l/min		1 1/2"= 84.000 l/min		2"= 97.000 l/min.			
Mounting	In-line							
Materials	Body:	Steel Inox AISI 316						
	Ball:	Steel Inox AISI 316						
	Seals:	PTFE - FKM						

Rotary actuators with ball valve

Stainless steel ball valves with actuator double acting



Standard executions

Version	Symbol	Code	Item
3/8"		811021	VSI2038DE
1/2"		811022	VSI2012DE
3/4"		811023	VSI2034DE
1"		811024	VSI2100DE
1 1/4"		811025	VSI2114DE
1 1/2"		811026	VSI2112DE
2"		811027	VSI2200DE



Series of stainless steel ball valves "full bore" with rotary actuator double acting.

For actuator features

see page 2.430.10.

For NAMUR solenoid valve

see page 2.88.1.

For actuator mounting accessories

see page 2.431.30.

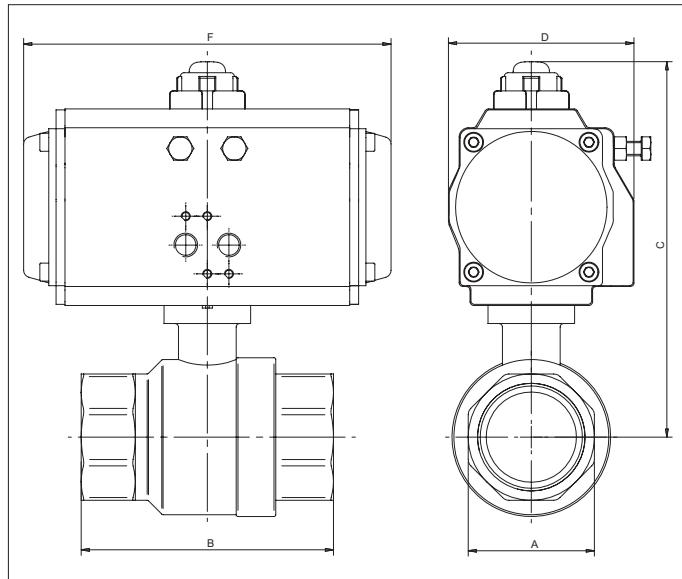
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II 2Gc IIC T6
II 2Dc T85°C

Manufactured according to 2014/34/EU - ATEX

Size	A	B	Ø actuator	C	D	F
G3/8	27	65	32	105	45	118
G1/2	27	75	32	105	45	118
G3/4	33	80	32	109	45	118
G1	41	90	40	132	65	120
G1 1/4	50	110	52	150	71,5	147
G1 1/2	58	120	63	175,5	83	168
G2	70	140	75	196,5	95	184



Technical data of the ball valve

Fluid	Compressed air, water, inert gases, fluids, steam								
Pressure range	63 bar								
Temperature range	-20 °C ÷ + 150°C								
Orifice	3/8"= 10 mm	1/2"= 15 mm	3/4"= 20 mm	1"= 25 mm	1 1/4"= 32 mm	1 1/2"= 40 mm	2"= 50 mm		
Flow	3/8"= 3.000 l/min		1/2"= 11.500 l/min		3/4"= 21.000 l/min	1"= 33.000 l/min			
	1 1/4"= 50.000 l/min		1 1/2"= 84.000 l/min		2"= 97.000 l/min.				
Mounting	In-line								
Materials	Body:	Steel Inox AISI 316							
	Ball:	Steel Inox AISI 316							
	Seals:	PTFE - FKM							

Rotary actuators with ball valve Limit switch box



Standard executions

Version	Limit switch code	Code	Item
SB200	ZM50G10B01	811188	SB200M012
	ZM10G10B01	811189	SB200M022
	NBB2-V3-E2	811190	SB200P112
	IS5076	811191	SB200P122
	NCB2-V3-NO	811192	SB200P132
	ALMS-5-240	811193	SB200Q512
SB500	83261	811194	SB500M032
	83268	811195	SB500M042
	NBBB2-V3-E2	811196	SB500P112
	IS 5076	811197	SB500P122
	NCB2-V3-NO	811198	SB500P132
	ALMS-5-240	811199	SB500Q512
SB700	LS SILVER	811200	SB700M052
	NBBB2-V3-E2	811208	SB700P112
	IS576	811209	SB700P122
	NCB2-V3-NO	811210	SB700P132



SB500 supplied according to 2014/34/EU - ATEX

Aluminum switch boxes painted with epox powder black (SB200 and SB300), supplied complete with universal adjustable brackets for assembly on our full range of actuators (L=30x80/130-H=20/30).

These devices are particularly suitable for monitoring the position of each valve, even at long distances, they can contain mechanical or proximity limit switches.

SB200 and SB500 are supplied with tridimensional position indicator yellow/red and 8 wire points standard (two free for eventual electrovalve attachment in box). SB700 is supplied with tridimensional position indicator green/red and 10 wire-points standard (four free for eventual electrovalve attachment in box). There is plenty of room to facilitate all wiring procedures, on installation.

Screws on the box cover are self-locking and unlosable, cam easy to set without tools, don't need any further adjustment after initial setting.

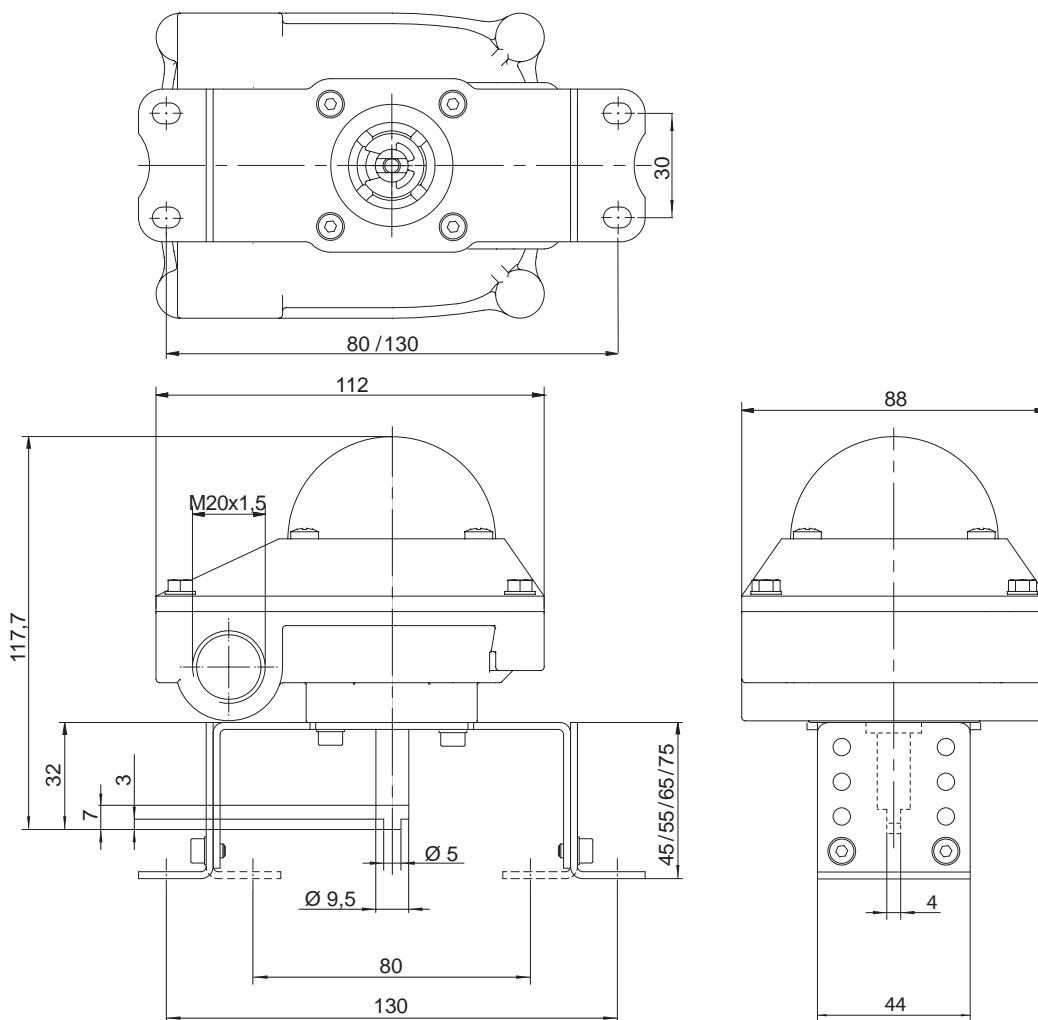
Technical data dei box di finecorsa		
Class protection	SB200: IP67 - SB500: IP66 - SB700: IP65	
Temperature range	SB200: -25°C ÷ +80°C	SB500: -20°C ÷ +50°C (standard), -40°C ÷ +50°C (option)
Connections	SB200 - SB500: M20x1.5 (x2)	SB700: 1/2" G (x2)
Terminal strip	SB200 - SB500: 8 wire points	SB700: 10 wire points
Position indicator	0° ÷ 90°	
Open / Closed	SB200 - SB500: Yellow / Red	SB700: Green / Red

Materials		
	SB200 - SB500	SB700
Cover:	Aluminium alloy	Polycarbonate
Body:	Aluminium alloy	PPO
Shaft:	Stainless steel	PA
Indicator cover:	Polycarbonate	ABS
Indicator:	ABS, polycarbonate	ABS
Terminal strip:	Polycarbonate, brass, stainless steel	-
Cam:	Polycarbonate	Polycarbonate
Spring:	Stainless steel	Stainless steel
Screws:	Stainless steel	Stainless steel
O-ring:	NBR	NBR
Earthing screw:	Stainless steel	-

Rotary actuators with ball valve Limit switch box SB 200



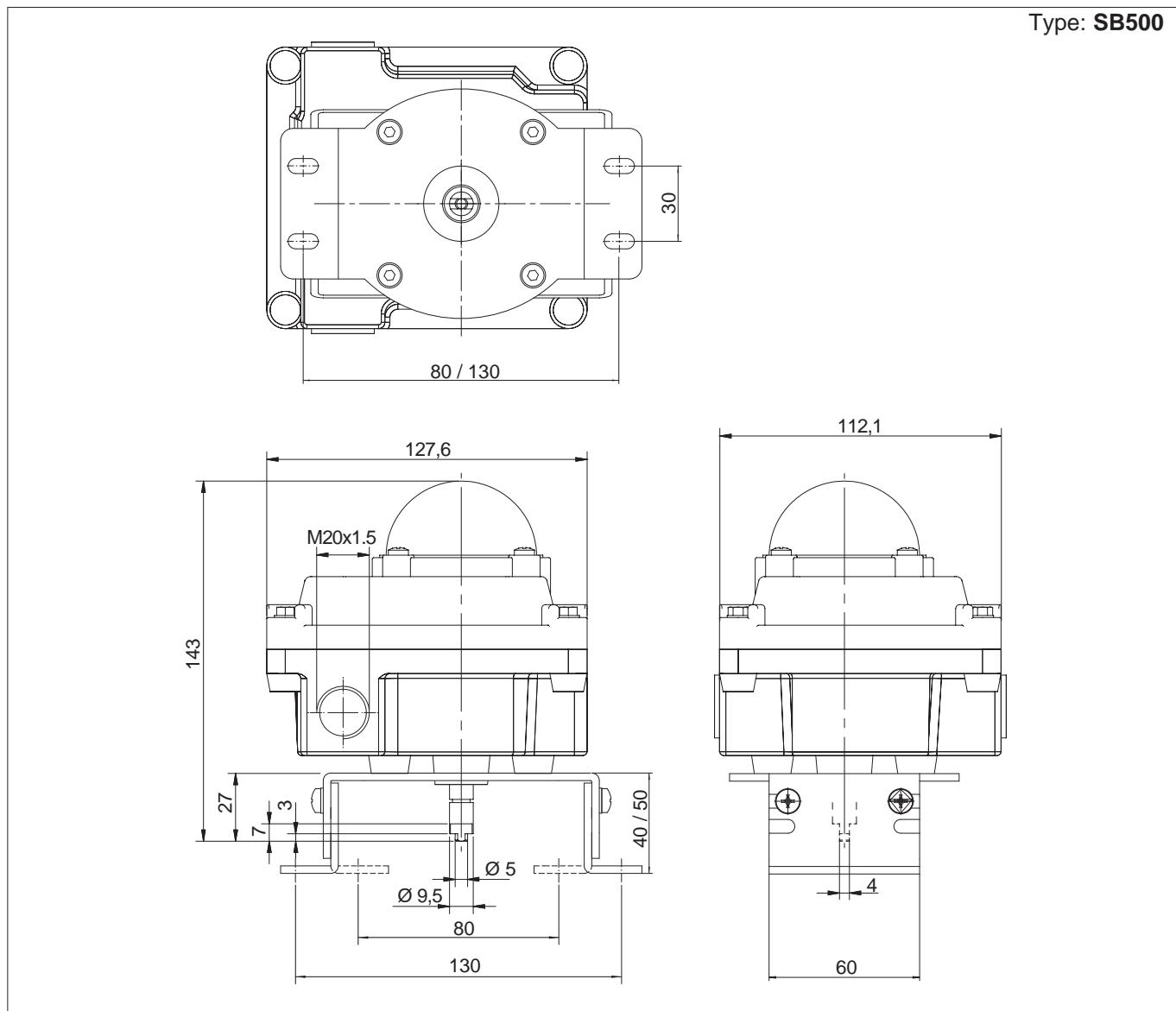
Type: **SB200**



2

	Mechanical		Proximity			Magnetic
Code	811188	811189	811190	811191	811192	811193
Item	SB200M012	SB200M022	SB200P112	SB200P122	SB200P132	SB200Q512
Limit switch manufacturer	Honeywell		Pepprl Fuchs	IFM	Pepperl Fuchs	ALMS
Limit switch code	QM50G10B01	QM50G10B01-G	NBB2-V3-E2	IS5076	NCB2-V3-NO	ALMS-5-240
Ex identification	-		Ex ia IIC T6	-	Ex ia IIC T6	-
Contacts	Silver	Gold	-			
Function	SPDT		PNP	PNP / NPN	NAMUR NC	-
Number of wires	3		3	2	2	3
Voltage	125 ÷ 250 VAC	0 ÷ 125 VAC	10 ÷ 30 VDC	5 ÷ 36 VDC	8 VDC	5 ÷ 240 V AC/DC
Intensity	5 A	0,1 A	0 ÷ 100 mA	0 ÷ 200 mA	-	≤ 300 mA
Switching frequency	-		0 ÷ 1000 Hz	0 ÷ 2000 Hz	0 ÷ 2000 Hz	60 Hz
Nº wiring diagram	1		2	2/3	4	5
Limit switch code	01	02	11	12	13	51
Q.ty of limit switch	2	2	2	2	2	2

Rotary actuators with ball valve Limit switch box SB 500

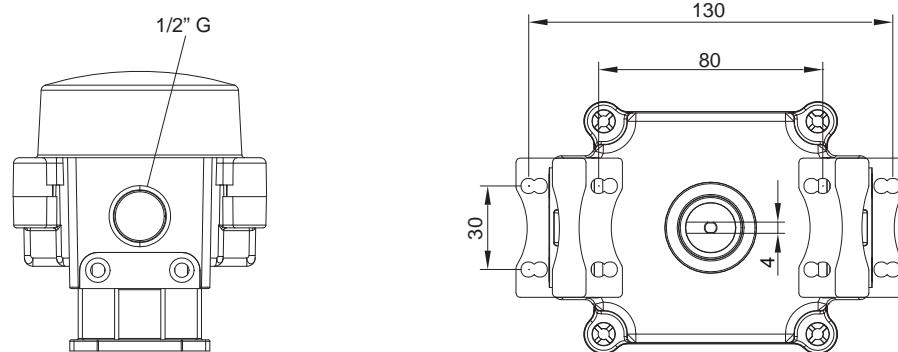
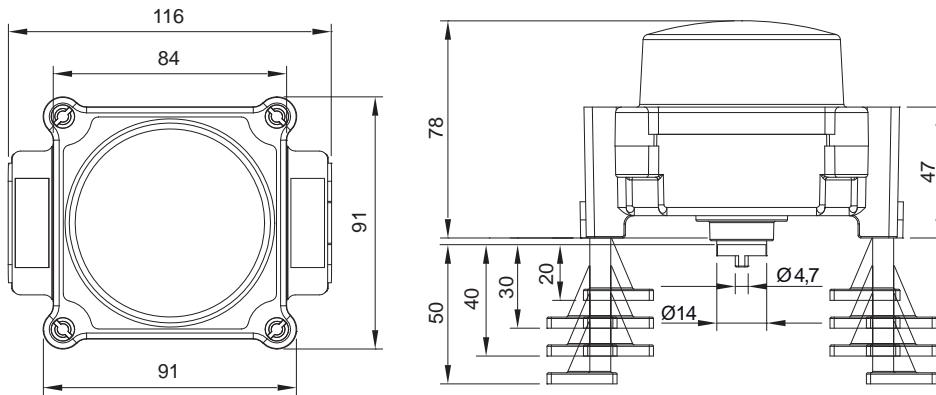


	Mechanical		Proximity			Magnetic
Code	811194	811195	811196	811197	811198	811199
Item	SB500M012	SB500M022	SB500P112	SB500P122	SB500P132	SB500Q512
Limit switch manufacturer	Honeywell		Pepprl Fuchs	IFM	Pepperl Fuchs	ALMS
Limit switch code	V15T16SZ200A05	QM50G10B01-G	NBB2-V3-E2	IS5076	NCB2-V3-NO	ALMS-5-240
Ex identification	-		Ex ia IIC T6	-	Ex ia IICT6	-
Contacts	Silver	Gold	-			
Function	SPDT		PNP	PNP / NPN	NAMUR NC	-
Number of wires	3		3	2	2	3
Voltage	125 ÷ 250 VAC	30 VAC / 125 VAC	10 ÷ 30 VDC	5 ÷ 36 VDC	8 VDC	5 ÷ 240 V AC/DC
Intensity	16 A	0,1 A	0 ÷ 100 mA	0 ÷ 200 mA	-	≤ 300 mA
Switching frequency	-		0 ÷ 1000 Hz	0 ÷ 2000 Hz	0 ÷ 2000 Hz	60 Hz
Nº wiring diagram	1		2	2/3	4	5
Limit switch code	03	04	11	12	13	51
Q.ty of limit switch	2	2	2	2	2	2

Rotary actuators with ball valve Limit switch box SB 700



Type: **SB700**

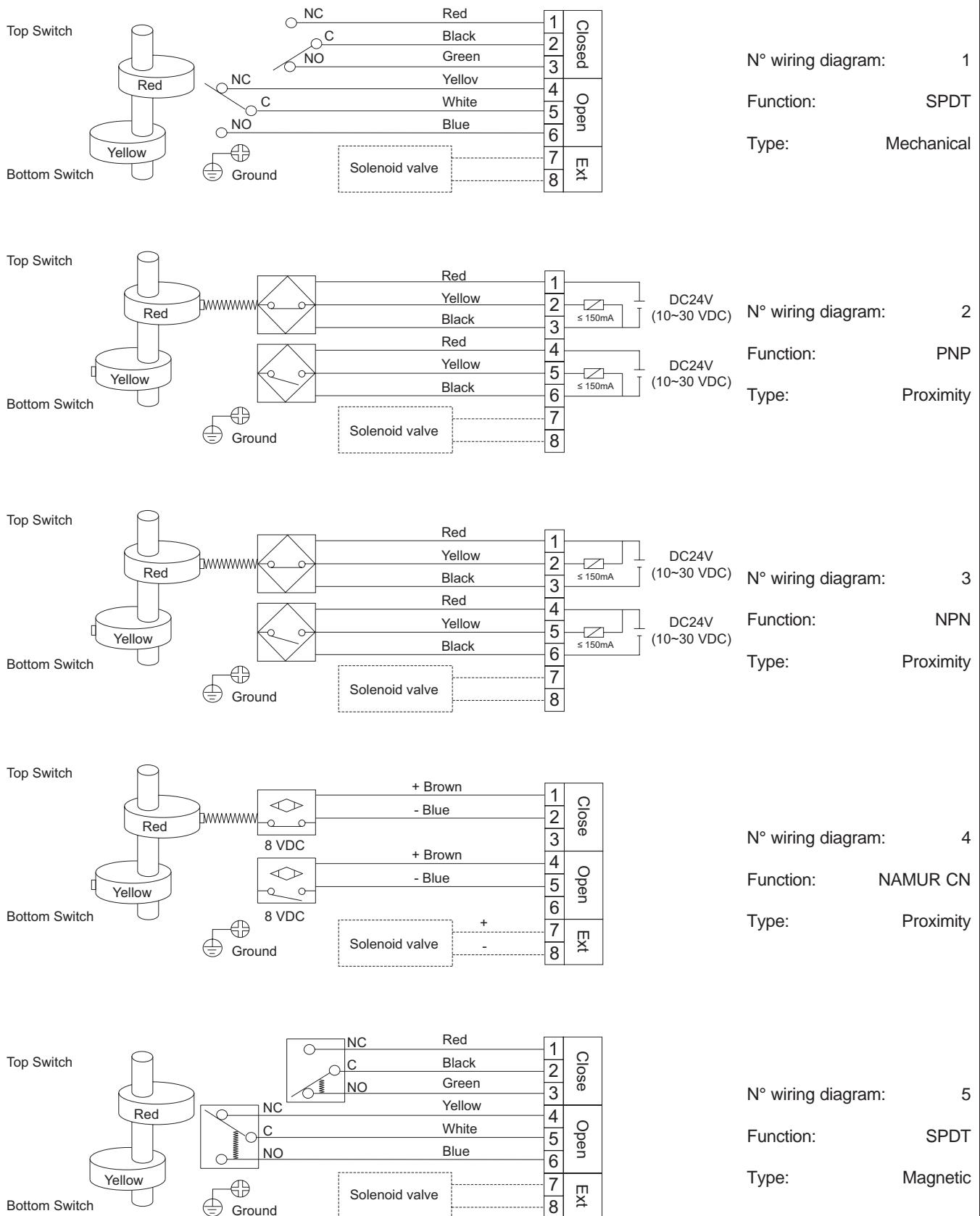


2

	Mechanical	Proximity		
Code	811200	811208	811209	811210
Item	SB700M052	SB700P112	SB700P122	SB700P132
Limit switch manufacturer	E-switch	Pepprl Fuchs	IFM	Pepperl Fuchs
Limit switch code	LS silver	NBB2-V3-E2	IS5076	NCB2-V3-NO
Ex identification	-	Ex ia IIC T6	-	Ex ia IIC T6
Contacts	Silver	-	-	-
Function	SPDT	NPN	PNP / NPN	NAMUR NC
Number of wires	3	3	2	2
Voltage	125 ÷ 250 VAC	10 ÷ 30 VDC	5 ÷ 36 VDC	8 VDC
Intensity	15 A	0 ÷ 100 mA	0 ÷ 200 mA	-
Switching frequency	-	0 ÷ 1000 Hz	0 ÷ 2000 Hz	0 ÷ 2000 Hz
N° wiring diagram	1	2	3	4
Limit switch code	05	11	12	13
Q.ty of limit switch	2	2	2	2

Rotary actuators with ball valve

Limit switch box - Wiring diagram



Rotary actuators with ball valve Handwheel manipulator



Standard executions

Version	Code	Item
Ø 50	811168	GDB050
Ø 70	811169	GDB070
Ø 102	811170	GDB102
Ø 140	811171	GDB140
Ø 165	811173	GDB165
Ø 254	811174	GDB254

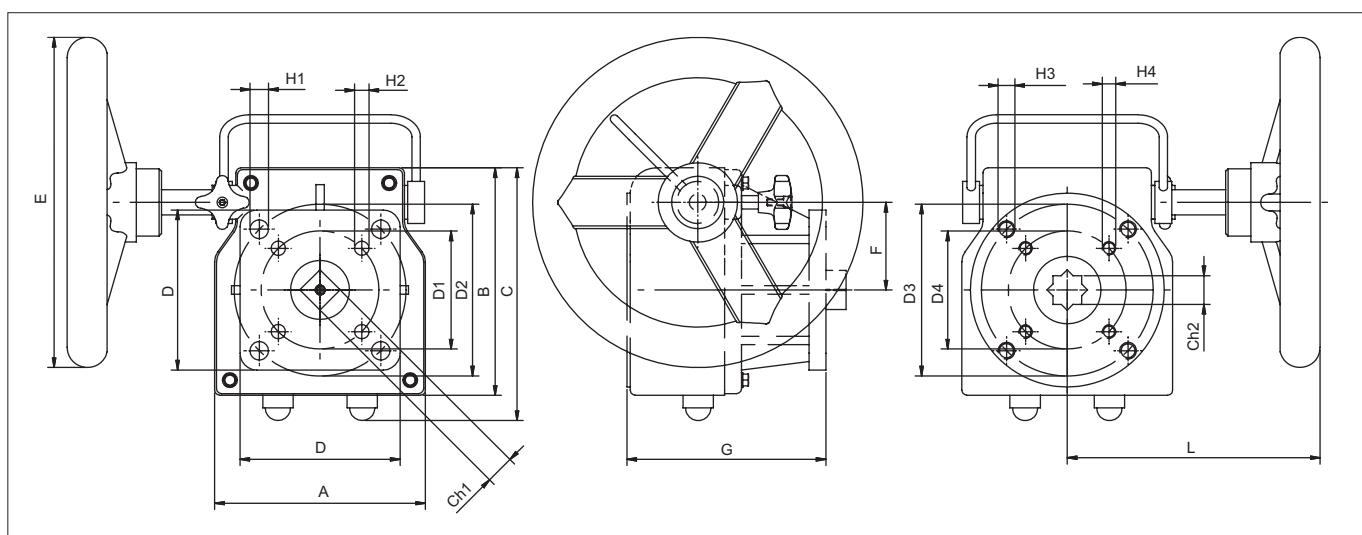


Series of new generation handwheel manipulators, compact and universal, with IP67 protection.

The design of these manipulators allow to chose on positioning between valve and actuator, function of manipulator can be reversed.

Manipulator is placed between valve and actuator: valve pin can be directly mounted to the actuator pinion through the manipulator body, or by an adaptor (in case a bracket should be applied).

During automatic working, handwheel is off; connecting the manual function, the handwheel will move both the ball-valve and the actuator.



Item	A	B	C	E	F	G	L	D1	H1	D2	H2	D3	H3	D4	H4	Ch1	Ch2
GDB050	90	110	125	Ø 200	44	100	143	Ø 50	Ø 8,5	Ø 70	Ø 6,5	Ø 70	M8x12	Ø 50	M6x10	14	17
GDB070	125	135	150	Ø 200	52	118	177	Ø 70	Ø 11	Ø 102	Ø 8,5	Ø 102	M10x15	Ø 70	M8x12	14	17
GDB102	140	160	185	Ø 300	85	124	190	Ø 102	Ø 13	Ø 125	Ø 11	Ø 125	M12x18	Ø 102	M10x15	22	27
GDB140	185	200	230	Ø 400	85	162	325	Ø 102	Ø 17	Ø 140	Ø 11	Ø 140	M16x24	Ø 102	M10x15	27	36
GDB165	230	243	268	Ø 600	104	181	395	-	Ø 21	Ø 165	-	Ø 140	M16x24	-	-	36	36
GDB254	265	283	330	Ø 700	130	205	400	Ø 165	Ø 21	Ø 254	Ø 17	Ø 254	M20x30	Ø 165	M16x24	46	60

Item	Gear ratio	Output torque
GDB050	1 : 40	300 Nm
GDB070	1 : 38	360 Nm
GDB102	1 : 36	810 Nm
GDB140	1 : 50	1.310 Nm
GDB165	1 : 55	2.800 Nm
GDB254	1 : 62	5.500 Nm

Technical data

Materials	Handle:	Carbon steel
	Worm shaft:	C45
	Handwheel:	Grey cast iron
	Positioning screw:	Carbon steel
	Worm gear:	Steel
	Bracket cap:	Grey cast iron
	Body:	Grey cast iron