

VALVES AND SOLENOID VALVES

SERIES 9

5/2 and 5/3-way CC CO
 Sizes 1 - 2 - 3
 According to the standard ISO 5599/1



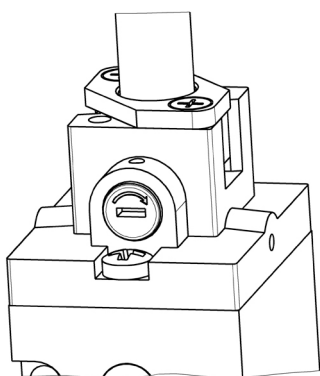
Series 9 electropneumatically or pneumatically operated valves have been designed with sizes 1, 2 and 3, as recommended by the ISO Standards. The ease of pneumatic and electrical wiring makes these valves extremely flexible.

General Data

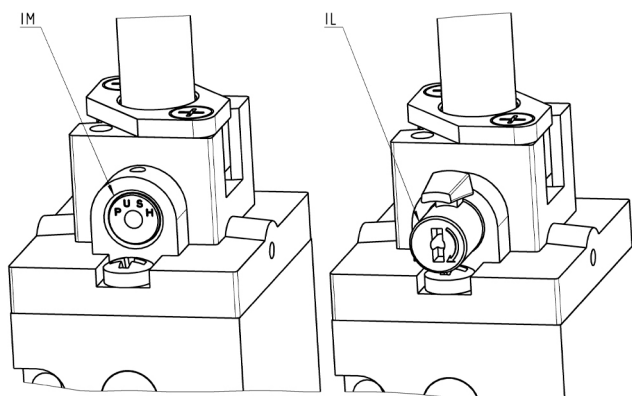
Working pressure	Max. press. 10 bar (for minimum pressures see descriptions)
Nominal pressure	6 bar
Nominal flow	ISO 1 = 900 NL/min ISO 2 = 1610 NL/min ISO 3 = 4350 NL/min
Working temperature	0 ÷ 60°C (with dry air at -20°C)
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil and to never interrupt the lubrication.
Electropneumatic interface	According CNOMO Standards

VALVES AND SOLENOID VALVES
SERIES 9 - CODING EXAMPLES
Coding Example

9	5	1	-	000	-	P16	-	23	-	U7	7
9	SERIES										
5	NUMBER OF WAYS - POSITIONS 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO										
1	SIZE 1 = Size 1 2 = Size 2 3 = Size 3										
000	BODY DESIGN 000 = Valve body										
P16	ACTUATION 33 = Pneumatic, pneumatic return 34 = Pneumatic, differential pneumatic return 35 = Pneumatic, mechanical spring return P11 = Double solenoid (horizontal solenoids) P15 = Single solenoid, spring return (horizontal solenoids) P16 = Solenoid, pneumatic spring return (horizontal solenoids)										
23	SOLENOID INTERFACE AND MANUAL COMMAND 23 = A531-BC2 standard bistable manual override 23IL = A531-BC2 lever type bistable manual override 23IM = A531-BC2 monostable manual override										
U7	SOLENOID MATERIAL / SOLENOID DIMENSIONS A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = PA 6 V0 / 30 x 30 U7 = PET / 22 x 22										
7	SOLENOID VOLTAGE										

Types of manual override


Example of solenoid valve with a bistable standard manual override.



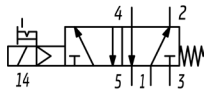
Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL).

5/2-way solenoid valves, monostable - ISO 1, ISO 2, ISO 3

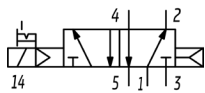
Available with electropneumatic actuation and spring return, they are suitable for mounting on a sub-base.



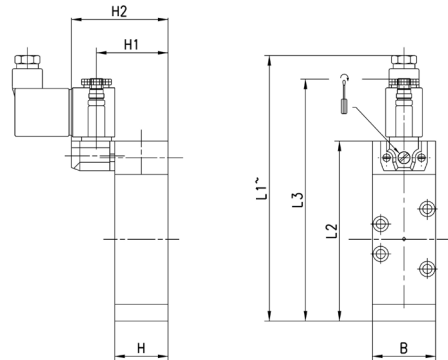
Supplied with:
1x interface seal
4x fixing screws



EV18



EV20



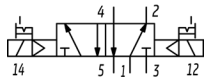
Mod.	Size ISO	B	L1	L2	L3	H	H1	H2	Min. operating pressure	Symbol
951-000-P15-23	1	38	153	108	146	32	43	58	2,5	EV18
952-000-P15-23	2	51	173	128	166	33	44	59	2,5	EV18
953-000-P15-23	3	65	218	173	211	45	56	71	2,5	EV18
951-000-P16-23	1	38	153	108	146	32	43	58	2,5	EV21
952-000-P16-23	2	51	173	128	166	33	44	59	2,5	EV21
953-000-P16-23	3	65	218	173	211	45	56	71	2,5	EV21
953-000-P16-23IL	3	65	218	173	211	45	56	71	2,5	EV21

5/2-way, 5/3-way solenoid valves, bistable - ISO 1, ISO 2, ISO 3

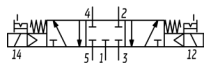
Available with electropneumatic actuation and spring return, they are suitable for mounting on a sub-base.



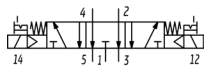
Supplied with:
1x interface seal
4x fixing screws



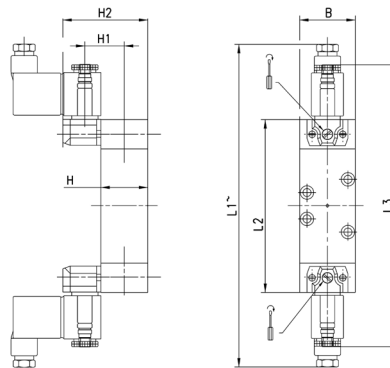
EV23



EV28



EV32

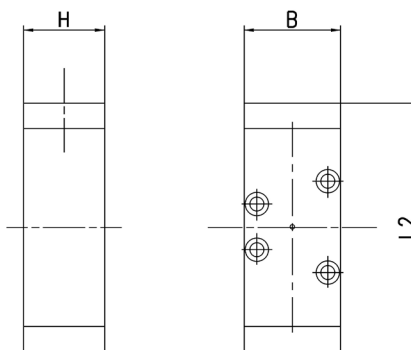
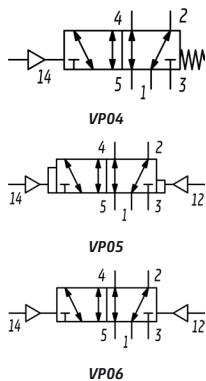


Mod.	Size ISO	B	L1	L2	L3	H	H1	H2	Min. operating pressure	Symbol
951-000-P11-23	1	38	208	118	194	32	43	58	2	EV23
952-000-P11-23	2	51	228	138	214	33	44	59	2	EV23
953-000-P11-23	3	65	273	183	259	45	56	71	2	EV23
961-000-P11-23	1	38	208	118	194	32	43	58	2,5	EV28
962-000-P11-23	2	51	228	138	214	33	44	59	2,5	EV28
963-000-P11-23	3	65	273	183	259	45	56	71	2,5	EV28
971-000-P11-23	1	38	208	118	194	32	43	58	2,5	EV32
972-000-P11-23	2	51	228	138	214	33	44	59	2,5	EV32
973-000-P11-23	3	65	273	183	259	45	56	71	2,5	EV32

VALVES AND SOLENOID VALVES
SERIES 9 - DIMENSIONS
5/2-way valves, monostable, bistable - ISO 1, ISO 2, ISO 3


The Series 9 valves with ISO interface, size 1, 2 and 3, are available with the following types of actuation:

- pneumatic, with spring return
- pneumatic actuation and differential return
- pneumatic actuation and return

 Supplied with:
 1x interface seal
 4x fixing screws


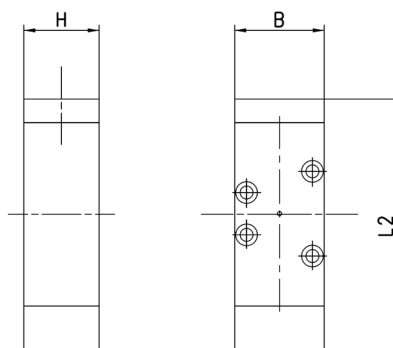
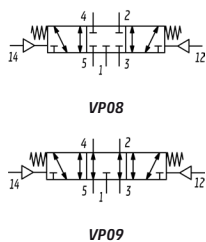
Mod.	Size ISO	B	L2	H	Min pilot pressure [bar]	Working pressure [bar]	Symbol
951-000-35	1	38	98	32	2,5	-0,9 ÷ 10	VP04
952-000-35	2	51	118	33	2,5	-0,9 ÷ 10	VP04
953-000-35	3	65	163	45	2,5	-0,9 ÷ 10	VP04
951-000-34	1	38	98	32	2	-0,9 ÷ 10	VP05
952-000-34	2	51	118	33	2	-0,9 ÷ 10	VP05
953-000-34	3	65	163	45	2	-0,9 ÷ 10	VP05
951-000-33	1	38	98	32	2	-0,9 ÷ 10	VP06
952-000-33	2	51	118	33	2	-0,9 ÷ 10	VP06
953-000-33	3	65	163	45	2	-0,9 ÷ 10	VP06

5/3-way valve, monostable, with stable central position - ISO 1, 2, 3


The Series 9 valves with ISO interface, size 1, 2 and 3, are available with pneumatic actuation and central resetting by a spring.

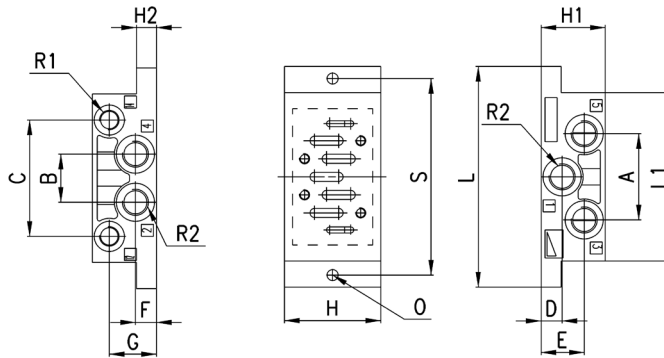
There are two types of function:

- with closed centres
- with open centres

 Supplied with:
 1x interface seal
 4x fixing screws


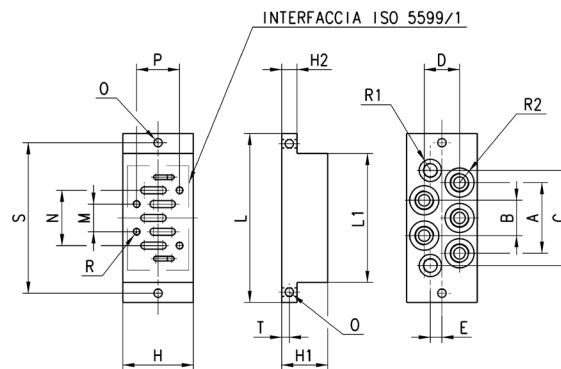
Mod.	Size ISO	B	L2	H	Min pilot pressure [bar]	Working pressure [bar]	Symbol
961-000-33	1	38	108	32	2,5	-0,9 ÷ 10	VP08
962-000-33	2	51	118	33	2,5	-0,9 ÷ 10	VP08
963-000-33	3	65	173	45	2,5	-0,9 ÷ 10	VP08
971-000-33	1	38	108	32	2,5	-0,9 ÷ 10	VP09
972-000-33	2	51	118	33	2,5	-0,9 ÷ 10	VP09
973-000-33	3	65	173	45	2,5	-0,9 ÷ 10	VP09

Single sub-base side outlets (VDMA 24345)



Mod.	Size	A	B	C	D	E	F	G	H	H1	H2	L	L1	O	R1	R2	S
901-F1A	1	43	24	58	10,5	21,5	10,5	23,5	48	32	10	110	84	5,5	G1/8	G1/4	98
902-F2A	2	56	30	74	14	26	14	30	57	40	13	124	95	6,5	G1/8	G3/8	112
903-F3A	3	68	32	90	17	17	17	22	71	32	18	149	119	6,5	G1/8	G1/2	136

Single sub-base with rear outlets (VDMA 24345)

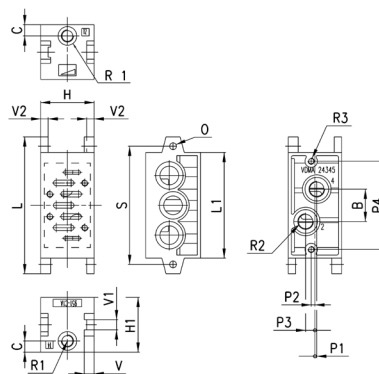


Mod.	Size	A	B	C	D	E	H	H1	H2	L	L1	M	N	O	P	R	R1	R2	S	T
901-G1A	1	46	23	61	23	7,5	46	30	10	110	84	18	36	5,5	28	M5	G1/8	G1/4	98	5
902-G2A	2	56	28	72	28	8	56	35	13	124	95	24	48	6,5	38	M6	G1/8	G3/8	112	6,5
903-G3A	3	68	34	90	34	10	71	32	18	149	119	32	64	6,5	48	M8	G1/8	G1/2	136	9

Manifold sub-base with com. exhausts and inlet (VDMA 24345)



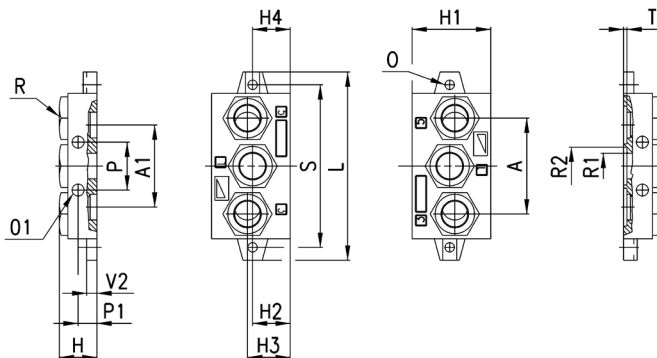
Supplied with:
2x fixing screws
3x O-ring



Mod.	Size	B	C	H	H1	L	L1	O	P1	P2	P3	P4	R1	R2	R3	S	V	V1	V2
901-C1A	1	26	8,5	43	44	110	85	5,5	1,5	3	7,5	71	G1/8	G1/4	M5	95	8	8	6
902-C2A	2	30	9	56	45	135	100	6,5	5	3	6	86	G1/8	G3/8	M6	115	11	11	8
903-C3A	3	38	10	71	54	190	140	9	6	3	8	130	G1/8	G1/2	M8	168	13	13	8

VALVES AND SOLENOID VALVES
SERIES 9 - ACCESSORIES
End block for manifold sub-base (VDMA 24345)


Supplied with:
 2x end blocks (1 pair)
 2x fixing screws
 3x OR

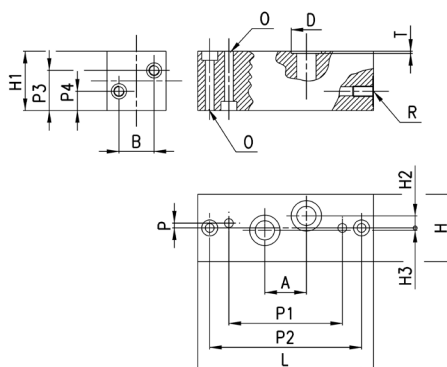


Mod.	Size	A	A1	H	H1	H2	H3	H4	L	O	O1	P	P1	R	\varnothing_{R1}	\varnothing_{R2}	S	T	V2
901-H1	1	56	48	22	46	22	25	22	110	5,5	7	28	11	G3/8	15	22,1	95	2	6
902-H2	2	68	63	26	47	23	25	24	135	6,5	9	35	13	G1/2	18,5	28,7	115	2	8
903-H3	3	104	94	30	56	22	25	25	190	9	12	52	15	G1	28	38	168	2,7	8

VALVES AND SOLENOID VALVES

6
Interface with front outlets (VDMA 24345)

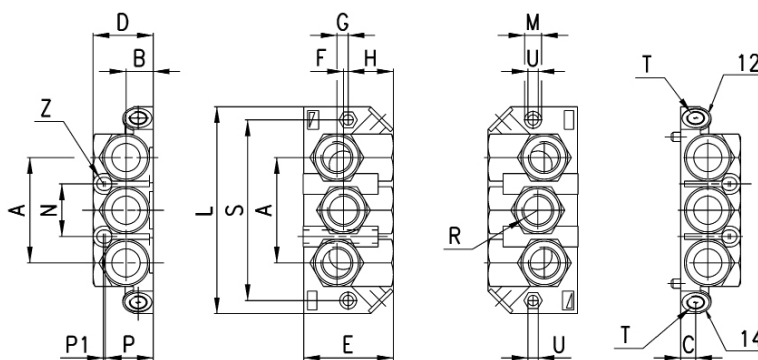

Supplied with:
 2x fixing screws
 2x OR



Mod.	Size	A	B	D	H	H1	H2	H3	L	O	P	P1	P2	P3	P4	R	T
901-N1	1	26	22	19	42	37	7,5	1,5	110	5,5	3	71	95	25	12	G1/4	1,4
902-N2	2	30	29	23	55	40	6	5	135	6,5	3	86	115	26	14	G3/8	1,4
903-N3	3	38	36	27	70	45	8	6	190	9	3	130	168	29	17	G1/2	1,4

End blocks for manifold bases with front outlets


Supplied with:
 2x end blocks (1 pair)
 2x fixing screws
 3x OR

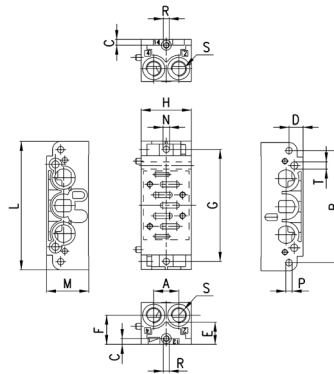


Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	P1	R	S	T	U	Z
901-HN1	1	56	14,5	8	32	48	2,5	6	24	110	9	28	25,5	1	3/8"	96	G1/8	5,5	3,5

Manifold bases with comm. inlet and exhaust ports and front outlet

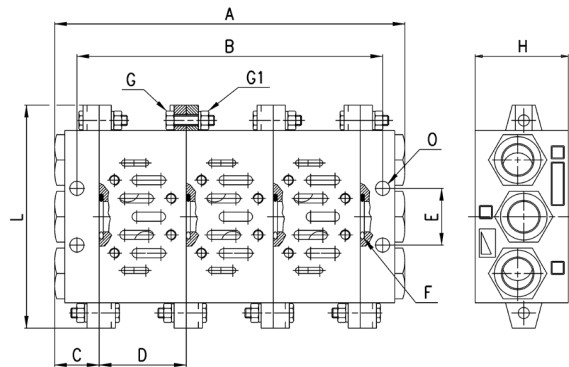


Supplied with:
2x fixing screws
3x OR



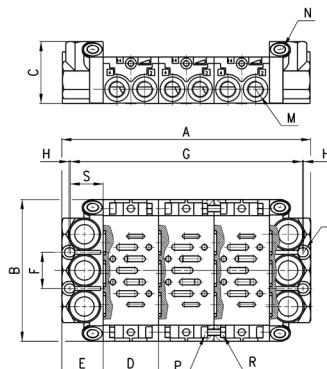
Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
901-N1A	1	21,5	96	5	12	19	25	96	43	110	36	5,5	5,5	M5	G1/4	6,2

Assembly of manifold sub-base (VDMA 24345)



Size	A	B	C	D	E	FOR	UNI 5739 G	UNI 57588 G1	H	L	O
1	N°D+2C	N°D+C	22	43	28	3068	M5X20	M5	46	110	7
2	N°D+2C	N°D+C	26	56	35	3093	M6X25	M6	47	135	9
3	N°D+2C	N°D+C	30	71	52	4125	M8X25	M8	56	190	12

Assembly for front outlet manifold sub-bases

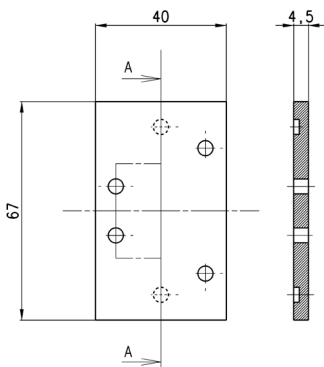


Size	A	B	C	D	E	F	G	H	L	M	N	UNI 5931 P.	UNI 5588 R	S
1	N°D+2E	110	48	43	32	28	N°D+25	1	3,5	G1/4	G1/8	M5X14	M5	25,5

Cover plate for unused positions



Supplied with:
 1x seal
 4x screws



Mod.	
	901-TP

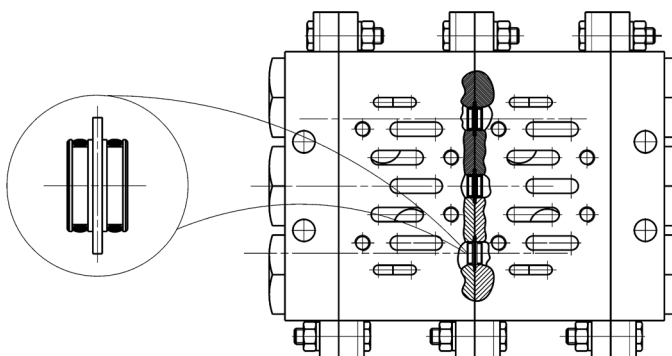
VALVES AND SOLENOID VALVES

Separation Tap

6



Separation tap lines 1 - 3 - 5 to be used with manifold type 901-C1A and 902-C2A

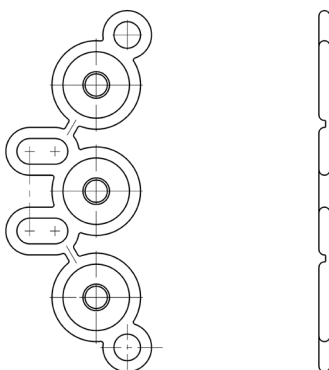


Mod.	
	901-C1A/TP
	902-C2A/TP

Separation joint



Separation joint to be used with manifold type 901N

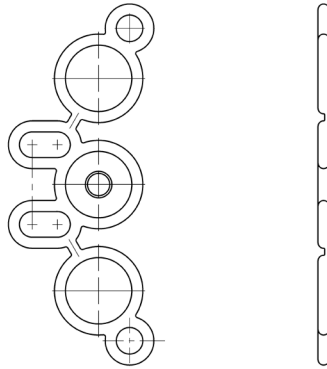


Mod.	
	901-N1A/T

Separation joint



Separation joint to be used with manifold type 901N P plugged

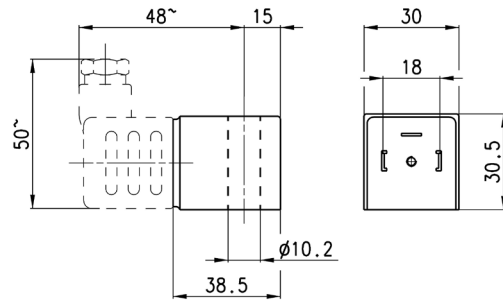


Mod.
901-N1A/TP

Solenoids Mod. A8...



Electrical connection: bipolar plus earth
 Norm: DIN EN 175 301-803-A

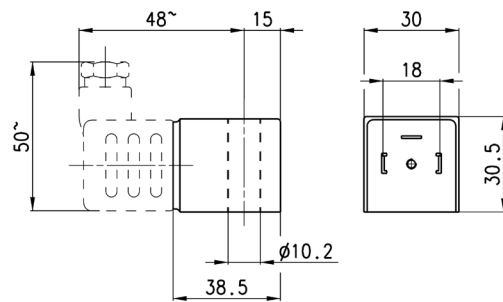


Mod.	Solenoid voltage	Power absorption
A8B	24V - 50/60Hz	5VA
A8D	110V - 50/60Hz	5VA
A8E	220V - 50/60Hz	5VA
A83	24V DC	4W

Solenoids Mod. G8...



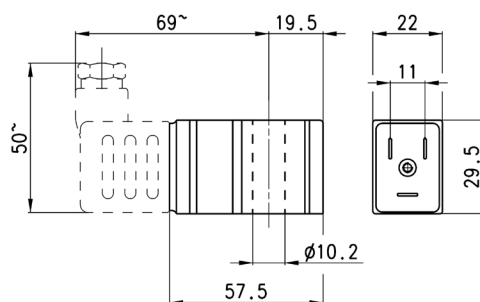
Electrical connection: bipolar plus earth
 Norm: DIN EN 175 301-803-A



	Solenoid voltage	Power absorption
G83	24V DC	4W

VALVES AND SOLENOID VALVES
SERIES 9 - DIMENSIONS
Solenoids Mod. G93 (with latching)


Electrical connection: bipolar plus earth
 Norm: DIN EN 175 301-803-B
 Voltage tolerance: $\pm 10\%$
 Pulsed operation (see description)



Mod.	Voltage	Minimum impulse latch/release	Consumption latch/release
G92	12 V DC	18 ms - 10 ms	200 mA - 160 mA
G93	24 V DC	18 ms - 10 ms	100 mA - 80 mA

Solenoid Mod. H8... for potentially explosive ambients

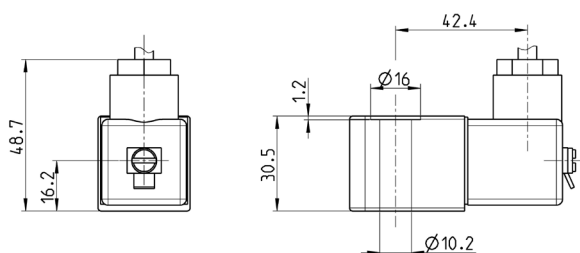
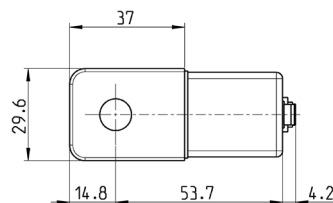

Certification in compliance with EN 60079-0 EN 60079-18

ATEX:
 II 2G Ex mb IIC T4 Gb
 II 2D Ex mb IIIC T135°C Db
 I M2 Ex mb I Mb
 INERIS 06ATEX0002X

IECEX:
 Ex mb IIC T4 Gb
 Ex mb IIIC T135°C Db
 Ex mb I Mb
 IECEX INE 15.0053X

For Series NA use plate mod. NA54- PC.

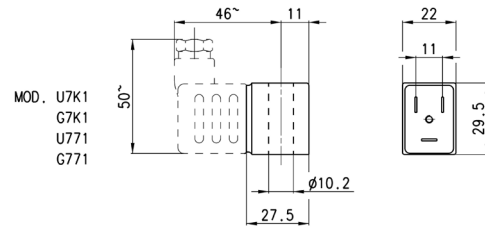
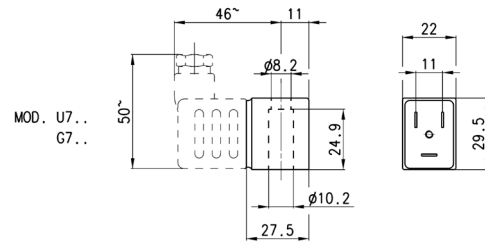
Temperature class/Max surface temperature: T4/135°C.
 Environment temperature: -20°C + 40°C.
 Connection: tripolar cable 3 m (other lengths on request).
 Incapsulating material: self-extinguishing PA.



Mod.	Solenoid voltage	Power absorption
H83I	24 V - DC	5,3 W
H8BI	24 V - 50/60 Hz	5,3 W
H8CI	48 V - 50/60 Hz	5,3 W
H8DI	110 V - 50/60 Hz	5,3 W
H8EI	230 V - 50/60 Hz	5,3 W

Solenoids Mod. U7... / U7*EX and Mod. G7...


Electrical connection: bipolar plus earth
 Norm: DIN EN 175 301-803-B
 Solenoid material: U7* = PET; G7* = PA
 To order the ATEX version of Mod. U7 (not available for Mod. U7F, U7K1 with voltage 125V 50/60Hz) it is necessary to add EX at the end of the code.
 Mod. U7*EX marked:
 II 3G Ex nA IIC T4 Gc X IP65
 II 3D Ex tc IIIC 130°C DcX



Mod.	Sol. volt. (1)	Pow. abs. (1)	Sol. volt. (2)	Pow. abs. (2)	Sol. volt. (3)	Pow. abs. (3)
U7H	12 V DC	3,1 W	24V - 50/60 Hz	3,5 VA		
G7H	12 V DC	3,1 W	24V - 50/60Hz	3,5 VA		
U7K	110V - 50/60Hz	3,8 VA	125V - 50/60Hz	5,5 VA	72 V DC	4,8 W
U7K1	110V - 50/60Hz	5,8 VA	125V - 50/60Hz	8,3 VA	72 V DC	5,6 W
G7K	110V - 50/60Hz	3,8 VA	125V - 50/60Hz	5,5 VA	72 V DC	4,8 W
G7K1	110V - 50/60Hz	5,8 VA	125V - 50/60Hz	8,3 VA	72 V DC	5,6 W
U7J	230V - 50/60Hz	3,5 VA	240V - 50/60Hz	4 VA		
G7J	230V - 50/60Hz	3,5 VA	240V - 50/60Hz	4 VA		
U79	48 V DC	3,1 W				
G79	48 V DC	3,1 W				
U710	110 V DC	3,2 W				
G710	110 V DC	3,2 W				
U77	24 V DC	3,1 W	48V - 50/60Hz	3,8 VA		
U771	24 V DC	3,1 W	48V - 50/60Hz	3,8 VA		
G77	24 V DC	3,1 W	48V - 50/60Hz	3,8 VA		
G771	24 V DC	3,1 W	48V - 50/60Hz	3,8 VA		
U7F	380V - 50/60Hz	7 VA				
U72	12 V DC	5 W				
G72	12 V DC	5 W				
U73	24 V DC	5 W				
G73	24 V DC	5 W				
U75	24 V DC	2,2 W				

Sol. volt. = Solenoid voltage

Pow. abs. = Power absorption

Mod. U7K1, G7K1, U771 and G771 are to be used only with sol. valves series A, NO in line.