

AUTOMATIC SOLENOID VALVE FOR GAS 6 BAR

NORMALLY CLOSED – EV-6 & EV6-IVP ND 15 TO 100

FEATURES

The EV6 solenoid valves are intended for the shutdown of non-corrosive combustible gas networks up to 6 bar. They are closed when unenergized (normally closed) and with quick automatic opening when energized.

Can be mounted in any position except upside down.

AVAILABLE MODELS

BSPP connections from 1/2" to 2"

PN 16 flanges from ND50 to ND100

Supply voltages DC: 12VDC* - 24VDC

Supply voltages AC: 12V/50Hz* - 24V/50 Hz - 110V 50/60 Hz - 230V 50/60 Hz

*Except ND > 25

OPTIONAL FEATURES

IVP position indicator from 1"1/4 au 2" (LED connector)

CPI position switch

BSPP 1/4" pressure connection

Biogaz execution

Flow adjustment

Quick opening adjustment

Opening speed adjustment

NPT threadings and #150 flanges



LIMITS OF USE

	ND 15 to 100
Maximum operating pressure PS	6 bar
Ambient temperature TS	-20°C / +60°C
Fluid temperature TS	-20°C / +60°C



WET PARTS

ND	15 - 50	65 - 100
Body	Aluminium EN AB 46100	Aluminium EN AB 46100 / EN AB 43500
Cover & bottom	Aluminium EN AB 46100	
Shutter	Aluminium 11S	
Sealings	NBR (NBR & FKM in biogaz execution)	

DIRECTIVES AND MANUFACTURING STANDARDS

Subject	Standard	Subject	Standard
Gas regulation UE ND < 32	2016/426	PED directive	2014/68/UE
Gas standard	EN 161 class A group 2	EMC directive	2014/30/UE
Threaded connections	EN 10226	LVD directive	2014/35/UE
Flanged connections	EN 1092-1	ROHS II directive	2011/65/UE

OPERATING

Opening and closing time	< 1 sec
Max number of operations ND 15 to 25	~1000/h
Max number of operations ND 32 to 50	~450/h
Max number of operations ND 65 to 100	~90/h

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SOLENOID AND OPTIONAL CPI SWITCH PROTECTION

Protection rating	IP 65
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Power connection for ND15 to ND25 is through a dedicated DIN T30 connector with a built-in current rectifier for the alternative voltages and with an M20 cable gland.

Power connection for ND 32 to ND 100 is with a terminal board inside a box with an M20 cable gland.

ELECTRICAL SPECIFICATIONS

Ø	Voltage	Solenoid code	Connector code	Absorbed power at peak	Absorbed power at full speed
1/2" - 3/4" - 1" ND 15 - ND 20 - ND 25	12V DC	BO-0510	CN-2100	23 VA	6 VA
	12V 50Hz	BO-0510	CN-2110	20 VA	6 VA
	24V DC	BO-0520	CN-2100	27 VA	7 VA
	24V 50Hz	BO-0520	CN-2110	24 VA	7 VA
	110V 50/60 Hz	BO-0530	CN-2120	29 VA	9 VA
	230V 50/60 Hz	BO-0540	CN-2130	30 VA	9 VA
1 1/4" - 1 1/2" - 2" ND 32 - 40 - 50	24V DC	BO-1010	CN-2005	110 VA	36 VA
	24V 50Hz	BO-1015	CN-2010	97 VA	41 VA
	110V 50/60 Hz	BO-1020	CN-2020	132 VA	60 VA
	230V 50/60 Hz	BO-1030	CN-2030	82 VA	32 VA
ND 65 - 80	24V DC	BO-1110	CN-2005	185 VA	50 VA
	24V 50Hz	BO-1115	CN-2010	185 VA	50 VA
	110V 50/60 Hz	BO-1120	CN-2020	260 VA	70 VA
	230V 50/60 Hz	BO-1130	CN-2030	290 VA	75 VA
ND 100	24V DC	BO-1210	CN-2005	130 VA	40 VA
	24V 50Hz	BO-1215	CN-2010	120 VA	35 VA
	110V 50/60 Hz	BO-1220	CN-2020	270 VA	70 VA
	230V 50/60 Hz	BO-1230	CN-2030	270 VA	70 VA

OPTIONAL CPI SWITCH SPECIFICATIONS

Ambien temperature TS	-20 / +60°C
Switchable voltage	1000V DC or AC peak
Switchable current	Max 1A (DC or AC peak)
Switchable power	Max 40W
Resistance	200 mΩ

The CPI limit switch is of the SPST NO magnetic proximity sensor type (open at rest), opening on open valve position, closing on closed valve position. Connection by DIN connector.

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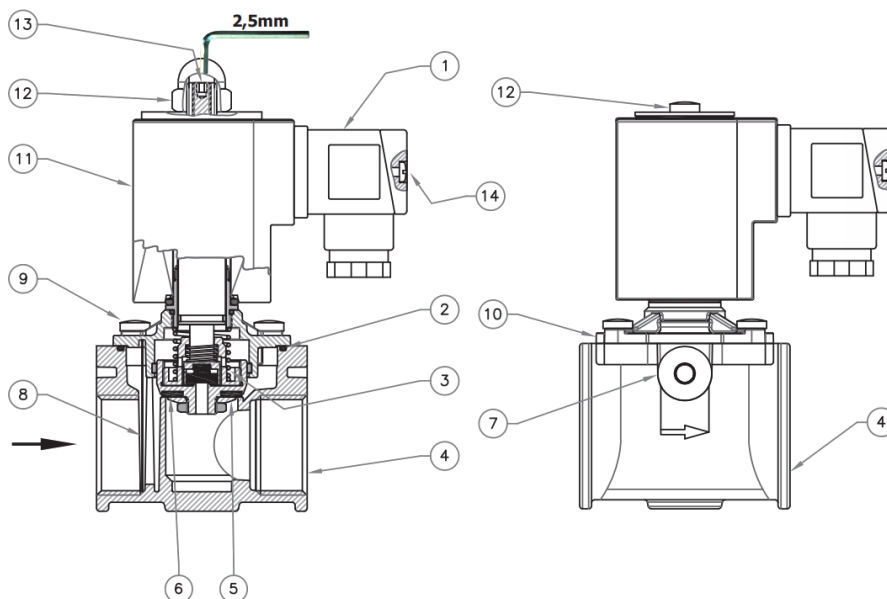
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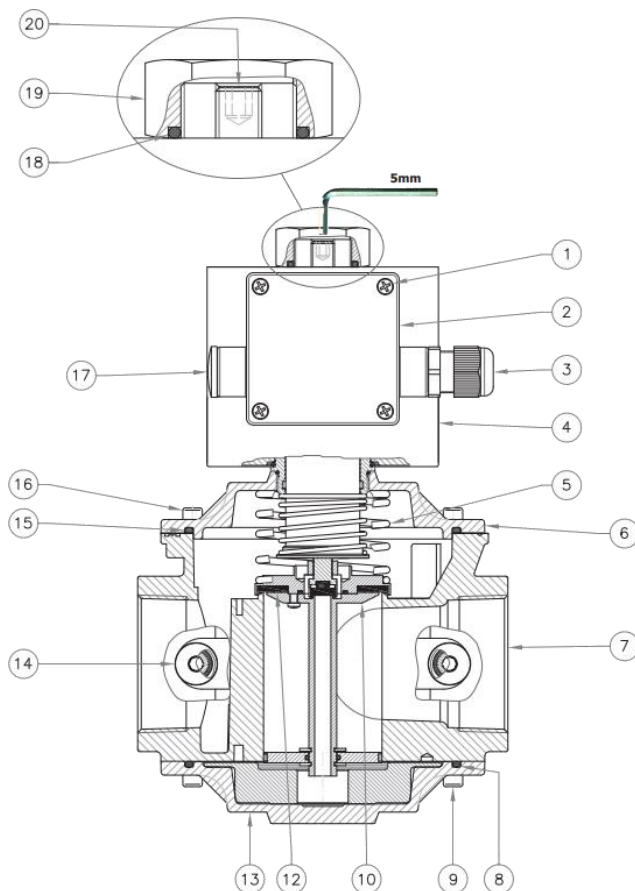
1/2" – 3/4" – 1" CONSTRUCTION

N°	Item
1	Power connector
2	Oring
3	Closing spring
4	Body
5	Shutter
6	Shutter sealing
7	BSP 1/4" pressure connection
8	Filter
9	Cover fastening screws
10	Cover
11	Solenoid
12	Coil fastening
13	Optional flow adjustment
14	Connector screw



CONSTRUCTION 1"1/4 - 1"1/2 – 2"

N°	Désignation
1	Terminals box screws
2	Terminals box cover
3	Cable gland
4	Solenoid
5	Shutting spring
6	Valve cover
7	Valve body
10	Shutter
12	Shutter saealing
14	BSP 1/4" pressure connection
15	Cover sealing
16	Cover screws
17	Terminal box cap
18	Solenoid sealing Oring
19	Solenoid screw
20	Optional flow adjustment



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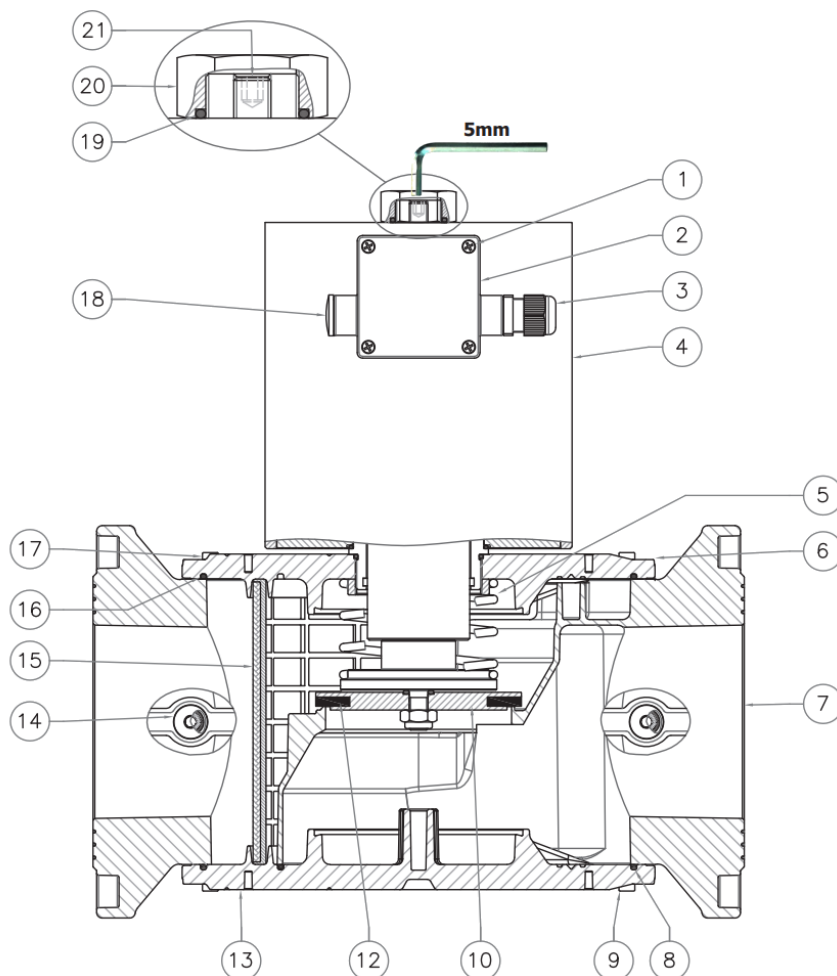
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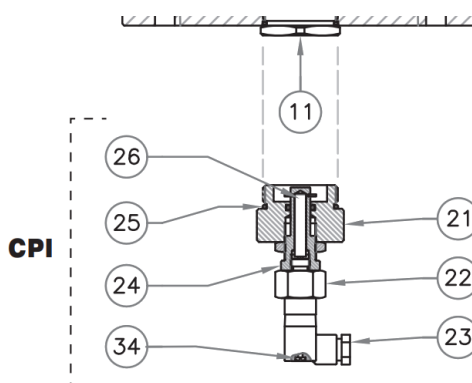
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ND 65 - ND 80 - ND 100 CONSTRUCTION

N°	Item
1	Terminals box screws
2	Terminals box cover
3	Cable gland
4	Solenoid
5	Shutting spring
6	Valve cover
7	Valve body
8	Bottom Oring seal
9	Bottom fastening screws
10	Shutter
11	Cap (on versions set-up for CPI)
12	Shutter sealing
13	Bottom
14	BSP ¼" pressure connection
15	Filter
16	Cover Oring seal
17	Cover fastening screws
18	Terminals box cap
19	Coil sealing
20	Coil fastening ring
21	Optional flow adjustment



Kit CPI (option)	
N°	Désignation
11	Cap (on versions set-up for CPI)
21	CPI kit ring nut
22	CPI fastening nut
23	CPI connector
24	CPI adjustment ring
25	Aluminium washer / O-ring
26	Microswitch
34	CPI connector screw

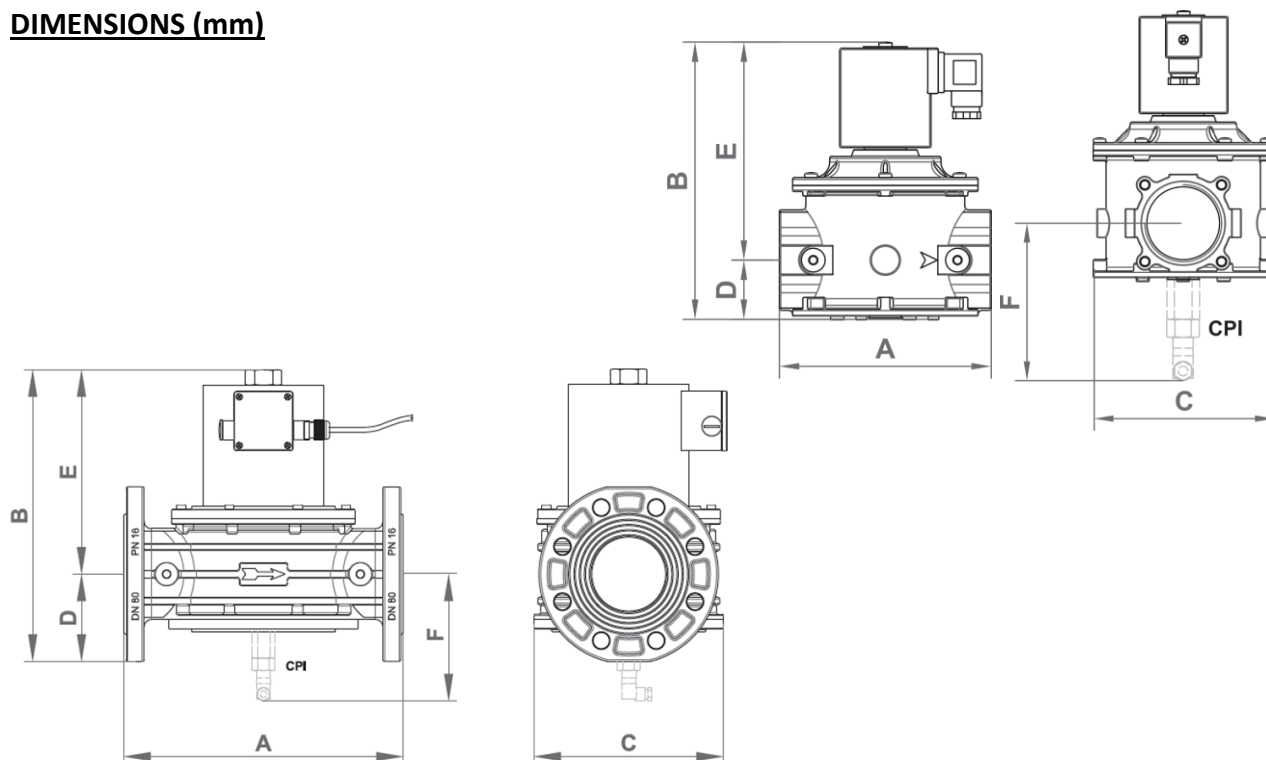


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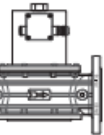
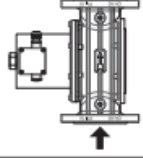
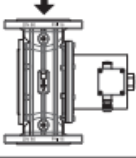
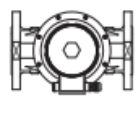
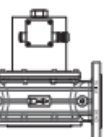
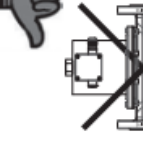
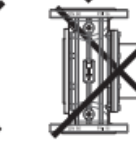
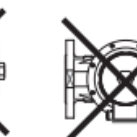
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DIMENSIONS (mm)



Overall dimensions in mm								
BSP	PN16 flanges	Nb holes	A	B (=D+E)	C	D	E	F
1/2"	-	-	75	137	75	22	115	110
3/4"	-	-	75	137	75	22	115	110
1"	-	-	75	137	75	22	115	110
1"1/4	-	-	160	260	140	70	190	148
1"1/2	-	-	160	260	140	70	190	148
2"	-	-	160	260	140	70	190	148
	50	4	230	271	165	76	195	155
	65	4	290	317	211	89	228	141
	80	8	310	325	211	97	228	141
	100	8	350	388	260	105	283	167

P.max	Installation positions				
0.5 - 1 bar					
3 - 6 bar					

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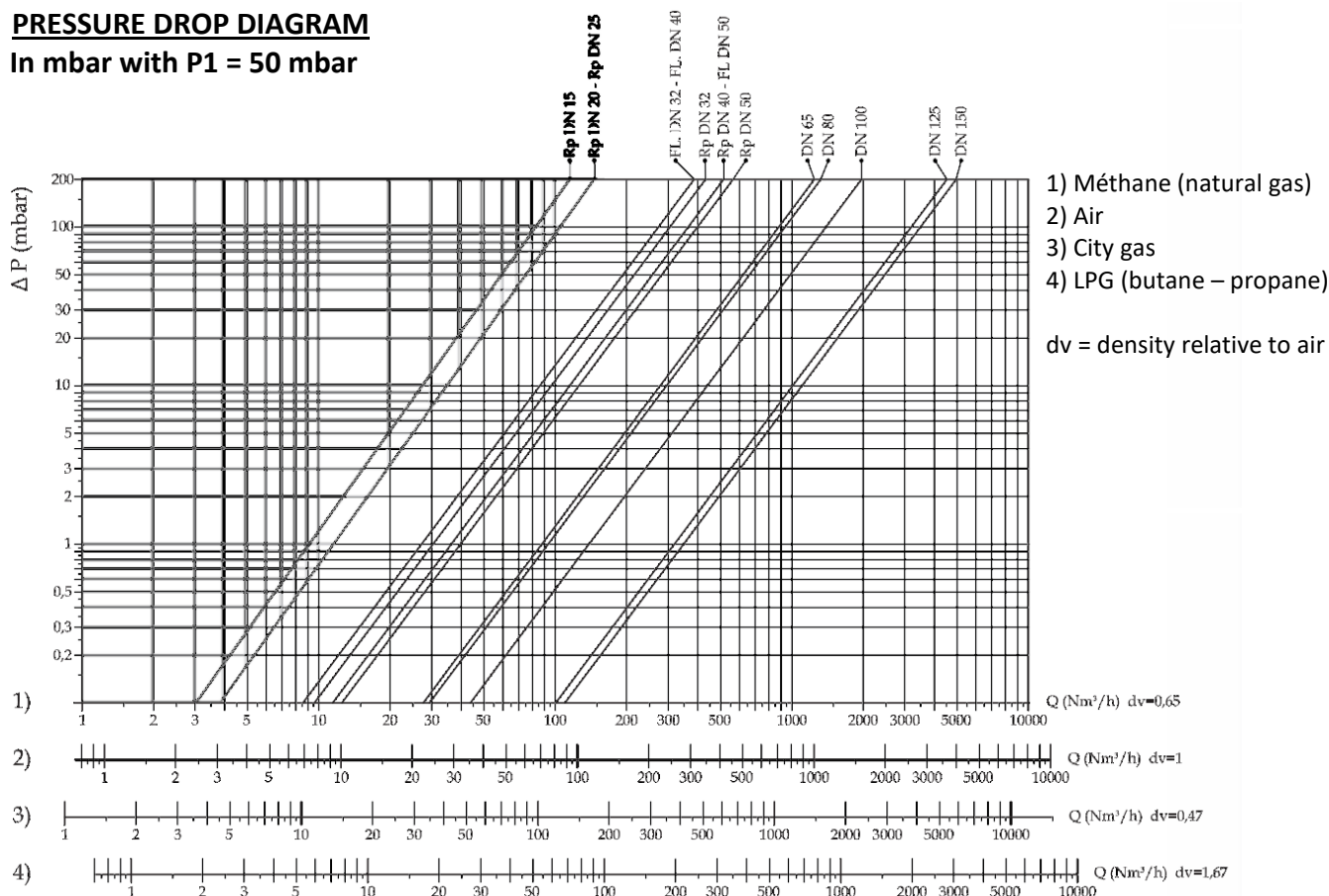
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PRESSURE DROP DIAGRAM

In mbar with P1 = 50 mbar



SIL CLASSIFICATION

SIL LEVEL	
Parameter	Valeur
Hardware Failure Tolerance - HFT	0
Common Cause Failure - CCF in points	75
Safe Failure Fraction – SFF in %	65%
Expected lifetime cycles – B _{10D}	251278
Expected lifetime - T _{10D} (years)	87
Probability of dangerous failures - PFH _D [1/h]	1.33 ^{E-7}
Performance Level - PL	d
Security Integrity Level - SIL	2
Mean Time To Dangerous Failure - MTTF _D (years)	860
DESIGNED LIFETIME	
Designed operating cycles (according to EN 161)	From 100.000 to 200.000 depends on diameter
Time (years)	10

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