

AUTOMATIC NORMALLY CLOSED QUICK OPENING SOLENOID VALVE - EW - EVP ND 15 TO 150

FEATURES

The EW and EVP solenoid valves are intended for the shutdown of non-corrosive combustible gas, 360 and 500 mbar maximum depending on diameter, they are closed when unenergized (normally closed) and quick opening when energized.

This solenoid valve is equipped with a built-in filter from ND32 to ND150.

AVAILABLE MODELS

BSPP connections from 1/2" to 2"

PN16 flanged from ND50 to ND150

DC Supply voltages: 12VDC* - 24VDC

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

*Except ND > 25

OPTIONAL FEATURES

IVP visual position indicator from 1"1/4 to 2"

1/4" pressure connections

CPI position microswitch

Flow adjustment

NPT threaded and #150 flanged connections

LIMITS OF USE

	ND 15 to 25	ND 32 to 150
Pressure rating: PS	500 mbar	360 mbar
Ambient temperature: TS	-20°C / +60°C	-20°C / +60°C
Fluid temperature: TS	-20°C / +60°C	-20°C / +60°C



WET PARTS

ND	15 - 50	65 - 100	125 - 150
Body	Aluminium EN AB 46100	Aluminium EN AB 46100 Aluminium EN AB 43500	Aluminium EN AC 43100 Aluminium EN AC 42100
Cover & bottom	Aluminium EN AB 46100		S355 J2+N varnished steel
Shutter	Aluminium 11S		
Sealings	NBR (NBR & FKM in biogas execution)		

DIRECTIVES AND MANUFACTURING STANDARDS

Subject	Norm	Subject	Norm
Gas regulation UE	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 directive	2011/65/UE

OPERATING

Opening and closing time	< 1 sec
Max number of operations ND 15 à 25	~1800/h
Max number of operations ND 32 à 50	~450/h
Max number of operations ND 65 à 100	~195/h
Max number of operations ND 125 & 150	~90/h

BUILT-IN INLET FILTER

ND 15 to 50	1mm mesh
ND 65 to 100	Filter 50 µm*
ND 125 & 150	Filter 10 µm*

* Available as spare part

Information given as an indication only, and subject to possible modifications

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SOLENOID AND OPTIONAL CPI SWITCH PROTECTION

Protection rating	IP 65
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Power connection for ND15 to ND50 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 65 to ND 150 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 CC	BO-0400	CN-0010	16 VA	16 VA
	24V CC	BO-0410	CN-0010	17 VA	17 VA
	24V 50Hz	BO-0410	CN-0050	14 VA	14 VA
	110V 50/60 Hz	BO-0420	CN-0045	17 VA	17 VA
	230V 50/60 Hz	BO-0430	CN-0045	9 VA	9 VA
1 1/4" - 1 1/2" - 2" ND 32 - 40 - 50	24V CC	BO-0355	CN-2100	68 VA	18 VA
	24V 50Hz	BO-0355	CN-2010	68 VA	18 VA
	110V 50/60 Hz	BO-0365	CN-2120	77 VA	23 VA
	230V 50/60 Hz	BO-0375	CN-2130	89 VA	25 VA
ND 65 - 80	24V CC	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 CC	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
ND 125 - 150	24V CC	BO-2210	CN-2001	130 VA	40 VA
	24V 50Hz	BO-2215	CN-2011	120 VA	35 VA
	110V 50/60 Hz	BO-2220	CN-2021	270 VA	70 VA
	230V 50/60 Hz	BO-2230	CN-2031	270 VA	70 VA

OPTIONAL CPI SWITCH SPECIFICATIONS

Ambien temperature TS	-20 / +60°C
Switchable voltage	1000V DC or AC peak
Switchable current	1A (DC or AC peak)
Switchable power	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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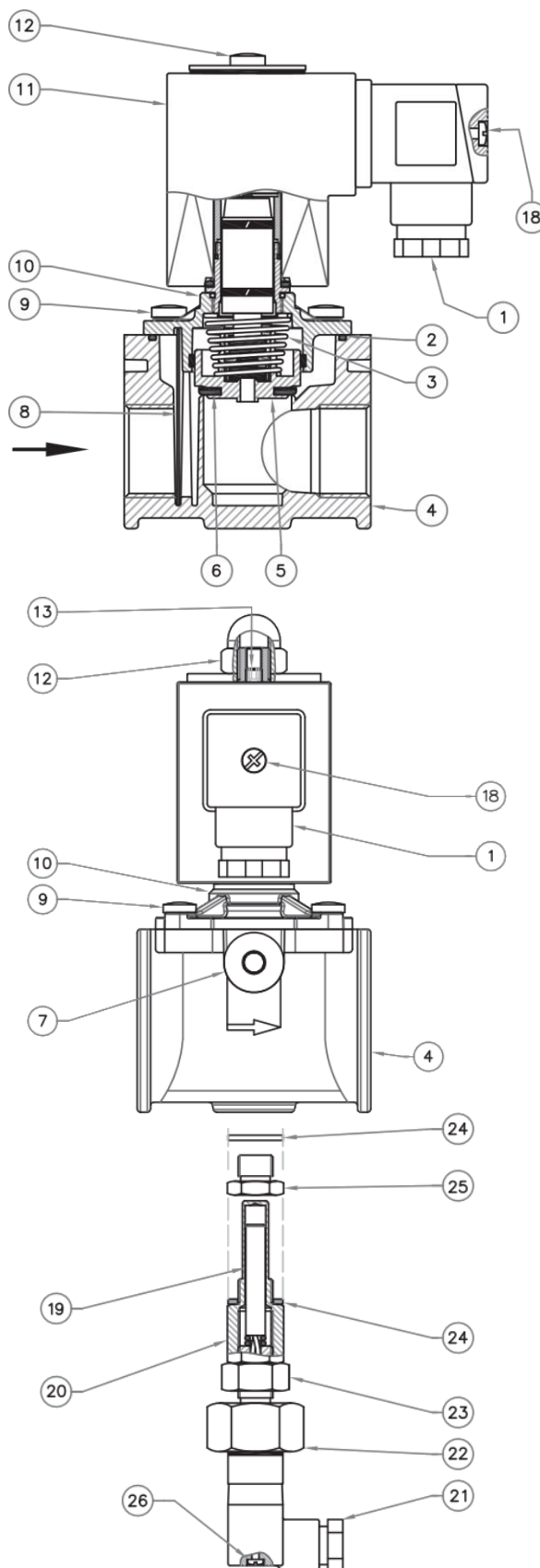
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1/2" – 3/4" – 1" CONSTRUCTION (EW)

N°	Item
1	Power connector
2	O-ring
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
18	Connector screw



Optional CPI kit	
N°	Item
19	Microswitch
20	CPI kit
21	CPI connector
22	CPI setting ring
23	CPI setting blocking nut
24	Aluminium washer
25	Cap (on versions set-up for CPI)
26	Connector screw

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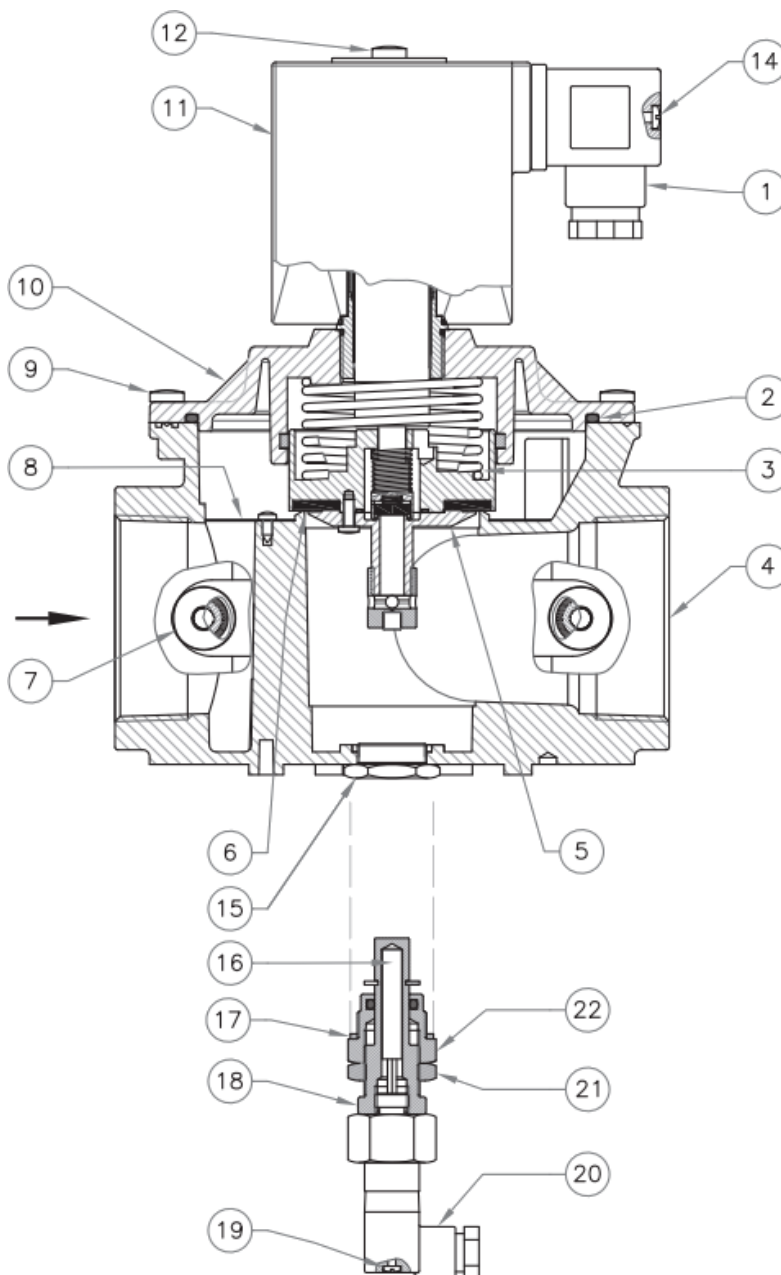
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1"1/4 - 1"1/2 - 2" - ND 50 CONSTRUCTION (EVP)

N°	Item
1	Power connector
2	O-ring
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
18	Power connector



Kit CPI (option)	
N°	Désignation
15	Cap (on versions set-up for CPI)
16	Microswitch
17	Aluminium washer
18	CPI setting ring
19	CPI connector screw
20	CPI connector
21	CPI mounting nut
22	CPI kit

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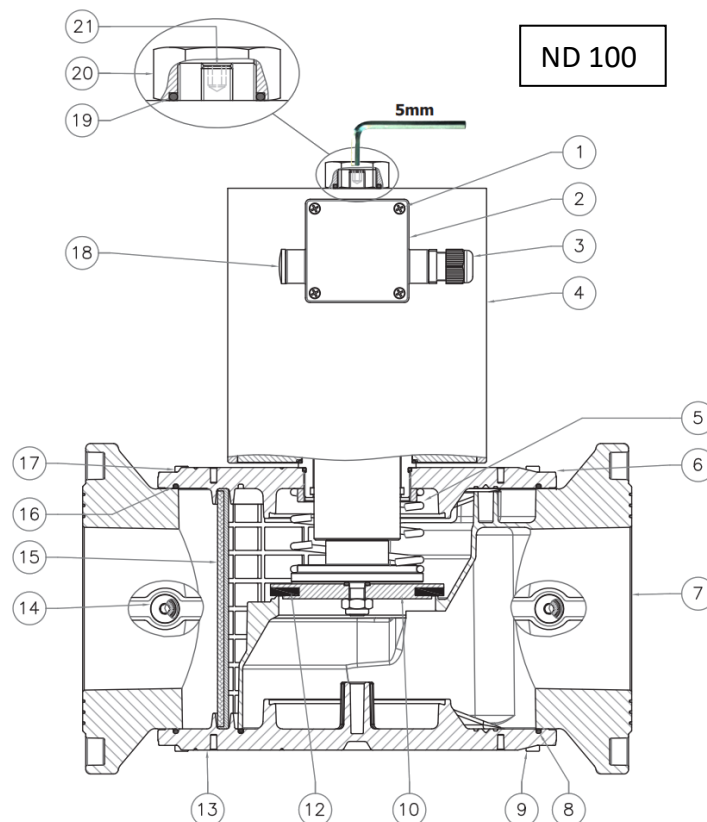
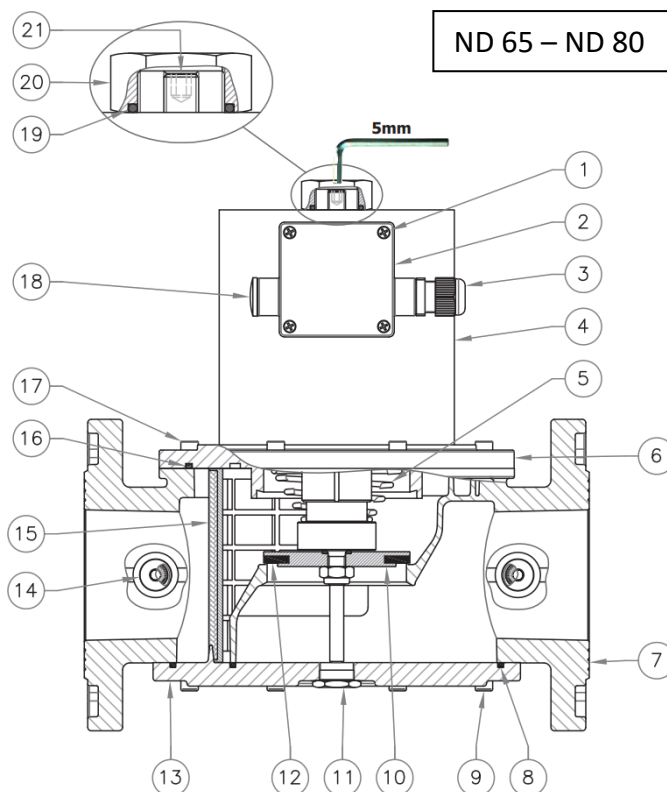
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ND 65 - ND 80 - ND 100 CONSTRUCTION (EVP)

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



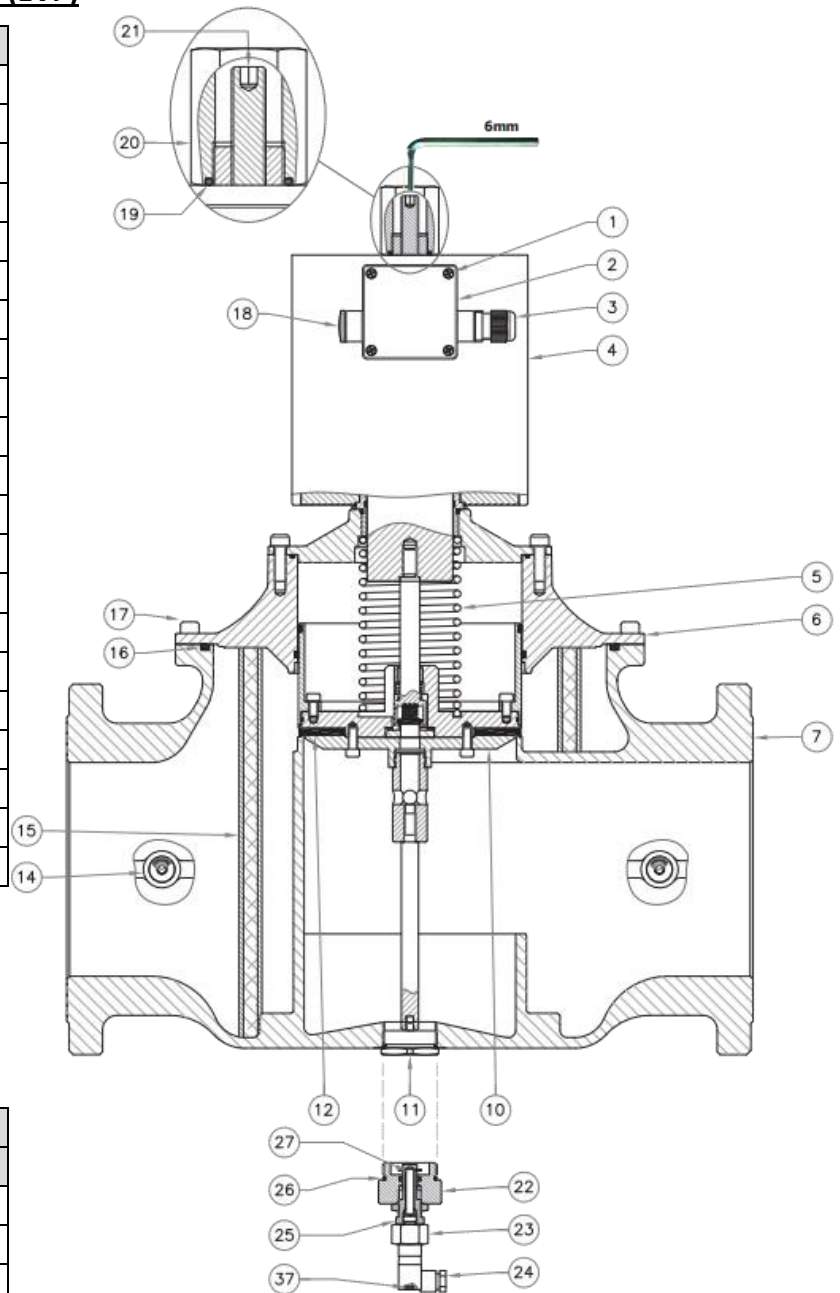
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ND 125 – ND 150 CONSTRUCTION (EVP)

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



Optional CPI kit	
N°	Item
11	Cap (on versions set-up for CPI)
22	CPI kit ring nut
23	CPI fastening nut
24	CPI connector
25	CPI adjustment ring
26	Aluminium washer / Oring
27	Microswitch
37	CPI connector screw

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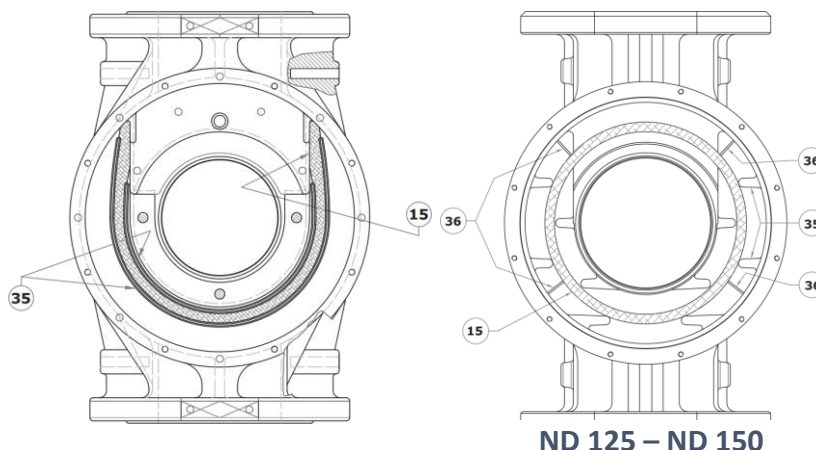
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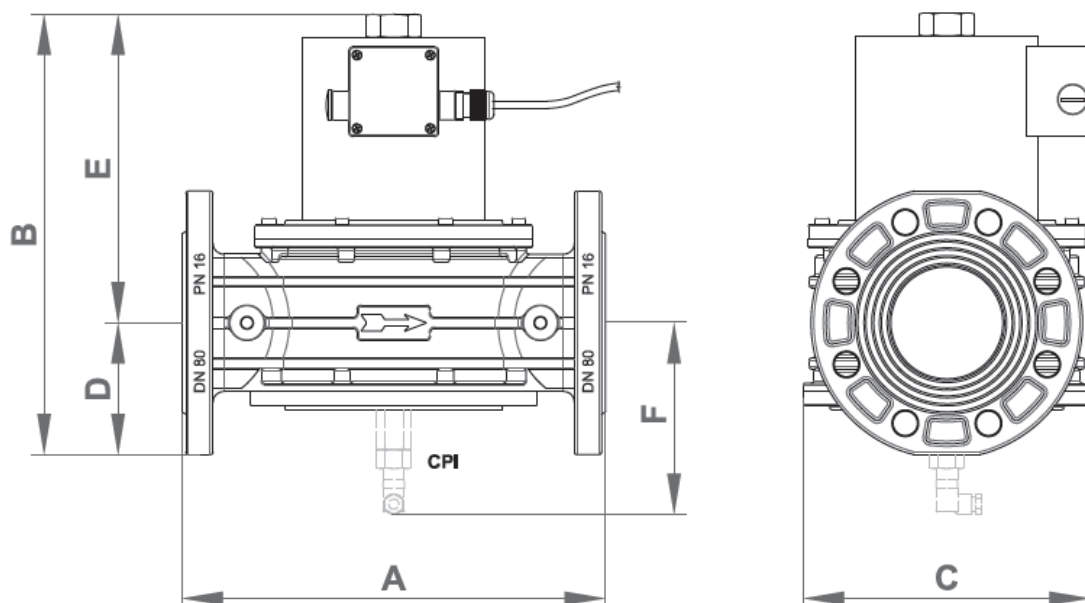
ND 65 – ND 80 – ND 100 – ND 125 – ND 150 FILTER

N°	Item
15	Filtering element
35	Filter guides
36	Filter element fins

SPARE FILTER ELEMENT	
ND	Code
65 – 80	980918M
100	980919M
125 – 150	980932M



DIMENSIONS (mm)



Overall dimensions in mm								
BSP	Flange PN16	Nb holes	A	B (=D+E)	C	D	E	F
1/2"	-	-	75	137	75	22	115	100
3/4"	-	-	75	152	75	22	130	100
1"	-	-	75	232	75	22	210	100
1"1/4	-	-	160	211	140	46	165	122
1"1/2	-	-	160	211	140	46	165	122
2"	-	-	160	211	140	46	165	122
	50	4	230	262	175	67	195	128
	65	4	290	317	211	89	228	141
	80	8	310	325	211	97	228	141
	100	8	350	388	254	105	283	167
	125	8	480	575	328	127	448	204
	150	8	480	579	328	131	448	204

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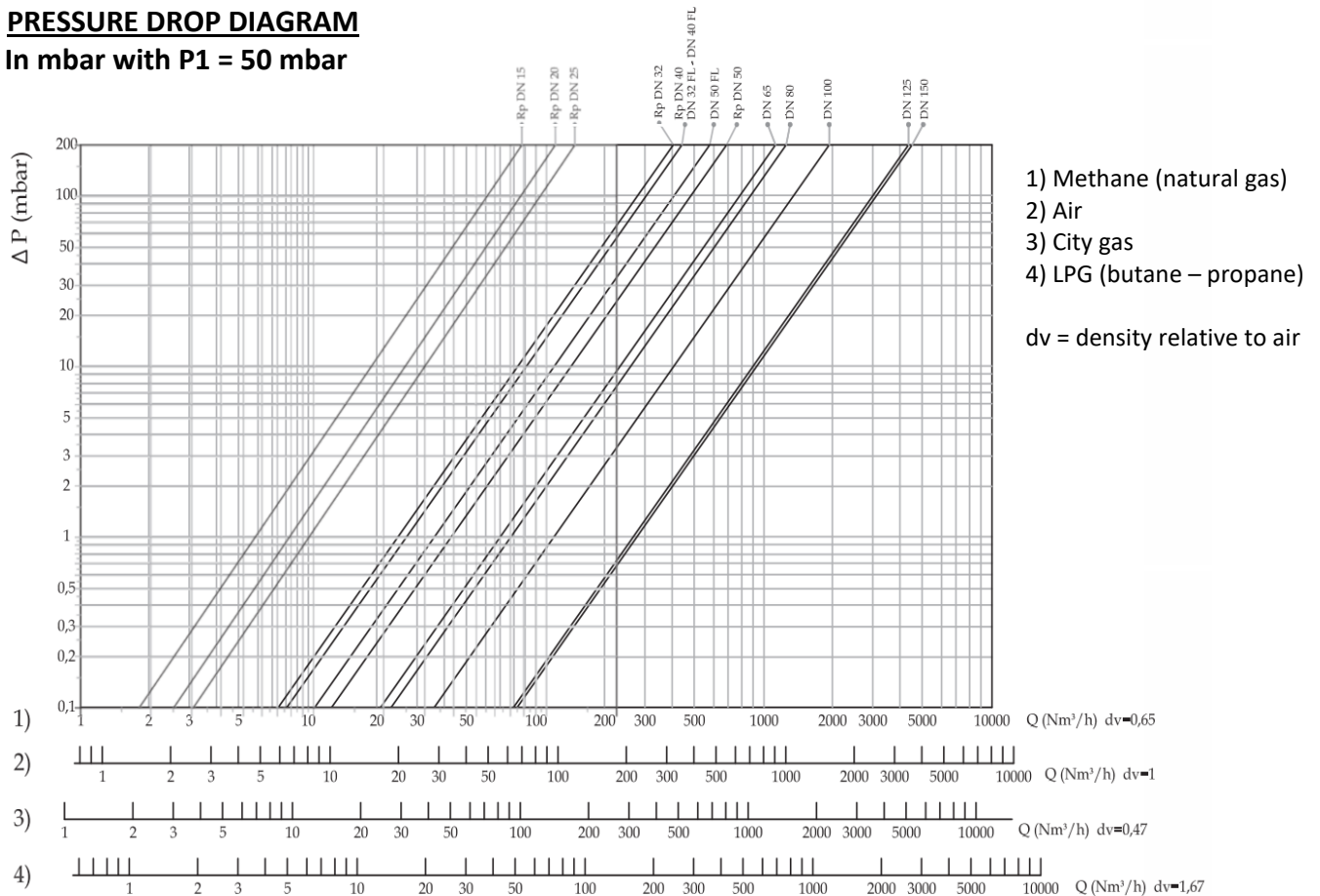
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PRESSURE DROP DIAGRAM

In mbar with P1 = 50 mbar



SIL CLASSIFICATION

SIL LEVEL	
Parameter	Value
Hardware Failure Tolerance - HFT	0
Common Cause Failure - CCF in points	65
Safe Failure Fraction – SFF in %	95%
Expected lifetime cycles – B_{10D}	4834552
Expected lifetime - T_{10D} (years)	85.8
Probability of dangerous failures - PFH_D [1/h]	1.33×10^{-7}
Performance Level - PL	d
Security Integrity Level - SIL	2
Mean Time To Dangerous Failure - $MTTF_D$ (years)	7538337
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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