

MANUAL RESET NORMALLY CLOSED SOLENOID GAS VALVE

M14/RM & M16/RM - IVP - ND 15 TO 300

FEATURES

the M14/RM et M16/RM manual reset solenoid valves are intended for are intended for the security shutdown of non-corrosive combustible gas network, they are closed unenergized (normally closed) and manually opened when energized. These solenoids valves are built-in equipped with filter from ND 65 to 300.

AVAILABLE MODELS

BSP threaded from 1/2" to 2"

PN16 flanged from ND 50 to ND 300

Pressure rating: 500 mbar & 6 bar (M16/RM only)

Supply voltage DC: 12 VDC - 24VDC

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

OPTIONAL FEATURES

1/4"G pressure connections

CPI position switch (ND > 25)

NPT threading

#150 flange connections

BIOGAZ execution

IVP visual position indicator (ND32 to ND50)



LIMITS OF USE

Maximum operating pressure: PS	500 mbar	6 bar
Ambient temperature: TS	-20°C / +60°C	
Fluid temperature: TS	-20°C / +60°C	



WET PARTS

ND	15 - 50 6 bar	15 - 50 500 mbar	65 - 100	125 - 150	200	250 - 300
Body	CW614N brass*	Aluminium EN AB 46100		Aluminium EN AC 3100	Aluminium EN AB 42100 T6	Aluminium EN AB 2000
Cover and bottom	NA	Aluminium EN AB 46100		Varnished steel S355 J2+N		
Shutter	Aluminium 11S					
Sealings	NBR (NBR & FKM in biogas execution)					
Reset pusher ND 15 to 50 - 500 MBAR: CW614N brass (430F steel in version biogas execution)						
*No biogas execution available ND15 to 50 - 6 bar						

DIRECTIVES AND MANUFACTURING STANDARDS

Subject	Standard	Subject	Standard
Gas regulation UE	2016/426	PED directive (6 bar models)	2014/68/UE
Gas standard	EN 161, A class group 2	EMC directive	2014/30/UE
Threaded connections	EN 10226	LVD directive	2014/35/UE
Flanged connections	ISO 7005 / EN 1092-1	RoHS II directive	2011/65/UE

OPERATING

Closing time	< 1 sec
Opening	Manual reset

BUILT-IN INLET FILTER

ND 15 to 25 - 500 mbar	Mesh 1mm
ND 32 to 50	Mesh 1 mm
ND 65 to 100	50 µm filter*
ND 125 to 150	10 µm filter*

* Available spare part

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		Rev.	02
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FUNCTIONING

The M14/RM and M16/RM solenoid valves are normally closed de-energized safety device. When energized, the solenoid valve remains closed until manually reset.

To open the solenoid valve, the operator must first ensure that all safety conditions are met (absence of gas in the atmosphere), then:

- Close the downstream valve (after the solenoid valve)
- Feed the coil
- Unscrew the protective cap of the manual reset device
- Hold for a few seconds to obtain pressure balance
- Screw the protective cap back
- Open the downstream valve

SOLENOID AND OPTIONAL CPI SWITCH PROTECTION

	Coil	CPI switch (ND > 25)
Protection rating	IP 65	IP 67

Solenoid valve connection by dedicated DIN connector including a bridge rectifier for alternating voltages

CPI switch connection by connector

CARACTÉRISTIQUES ÉLECTRIQUES

Ø	Voltage	Solenoid Code	Connector Code	Absorbed power
1/2" - 3/4" - 1" 1 1/4" - 1 1/2" - 2" - ND 50	12V DC	BO-0030	CN-0010	8 VA
	12V 50Hz	BO-0030	CN-0050	8 VA
	24V DC	BO-0040	CN-0010	8 VA
	24V 50Hz	BO-0030	CN-0050	8 VA
	110V 50/60 Hz	BO-0075	CN-0045	8 VA
	230V 50/60 Hz	BO-0050	CN-0045	9 VA
ND 65 - ND 80 - ND 100 ND 125 - ND 150 - ND 200 ND 250 - ND 300	12V DC	BO-0275	CN-0010	18 VA
	12V 50Hz	BO-0275	CN-0050	18 VA
	24V DC	BO-0285	CN-0010	20 VA
	24V 50Hz	BO-0285	CN-0050	20 VA
	110V 50/60 Hz	BO-0315	CN-0045	24 VA
	230V 50/60 Hz	BO-0325	CN-0045	18 VA

OPTIONAL CPI SWITCH SPECIFICATIONS (ONLY ND > 25)

Ambient temperature TS	-20 / +60°C
Switchable voltage	230V CA
Switchable current	2A

The CPI limit switch is of the SPDT changeover mechanical contact type, change of state on closing. It is supplied with a 3 meters connection cable, sealed on the contact side.

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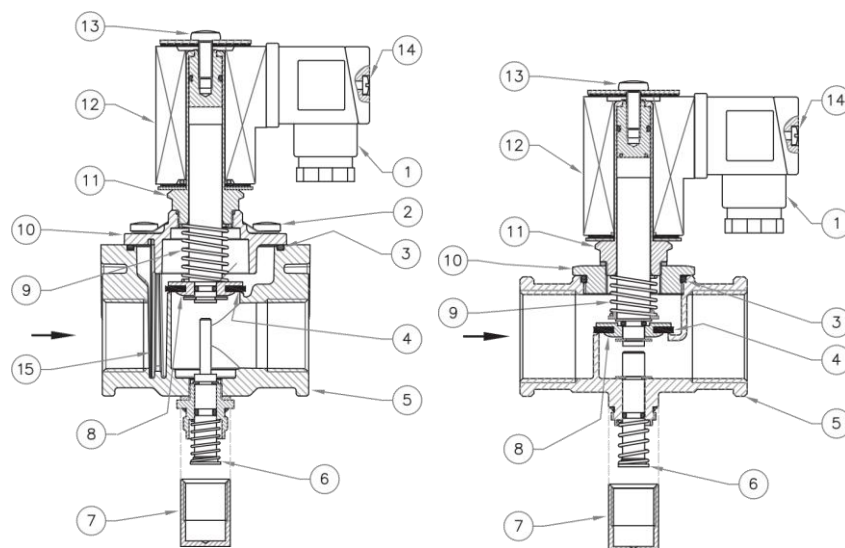
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CONSTRUCTION - 1/2" - 3/4" - 1"

N°	Item
1	Supply connector
2	Valve cover screw
3	Valve cover Oring
4	Shutter sealing
5	Body
6	Manual reset pusher
7	Manual reset cap
8	Shutter
9	Shutting spring
10	Valve cover
11	Solenoid stand
12	Solenoid
13	Solenoid screw
14	Connector screw
15	Filter

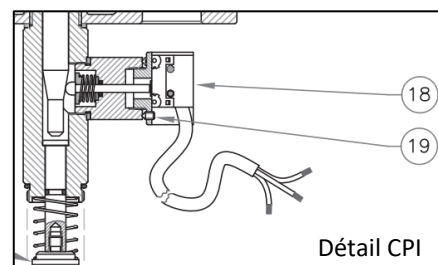
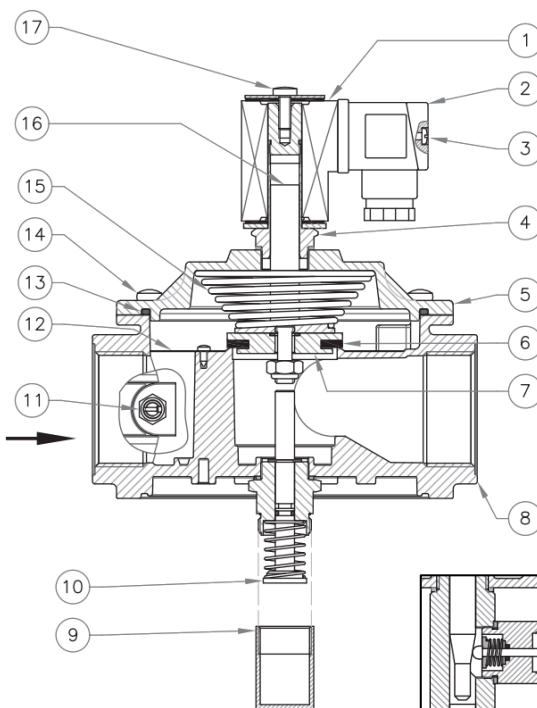


M14/RM
500 mbar – Aluminium body

M16/RM
6 bar – Brass body

CONSTRUCTION - 1"1/4 – 1"1/2 – 2"

N°	Item
1	Solenoid
2	Supply connector
3	Connector screw
4	Solenoid stand
5	Valve cover
6	Shutter sealing
7	Shutter
8	Body
9	Manual reset cap
10	Manual reset pusher
11	Pressure tap (option)
12	Filter
13	Valve cover Oring
14	Valve cover screw
15	Shutting spring
16	Moving core
17	Solenoid screw



Détail CPI

18	CPI microswitch
19	Microswitch screws

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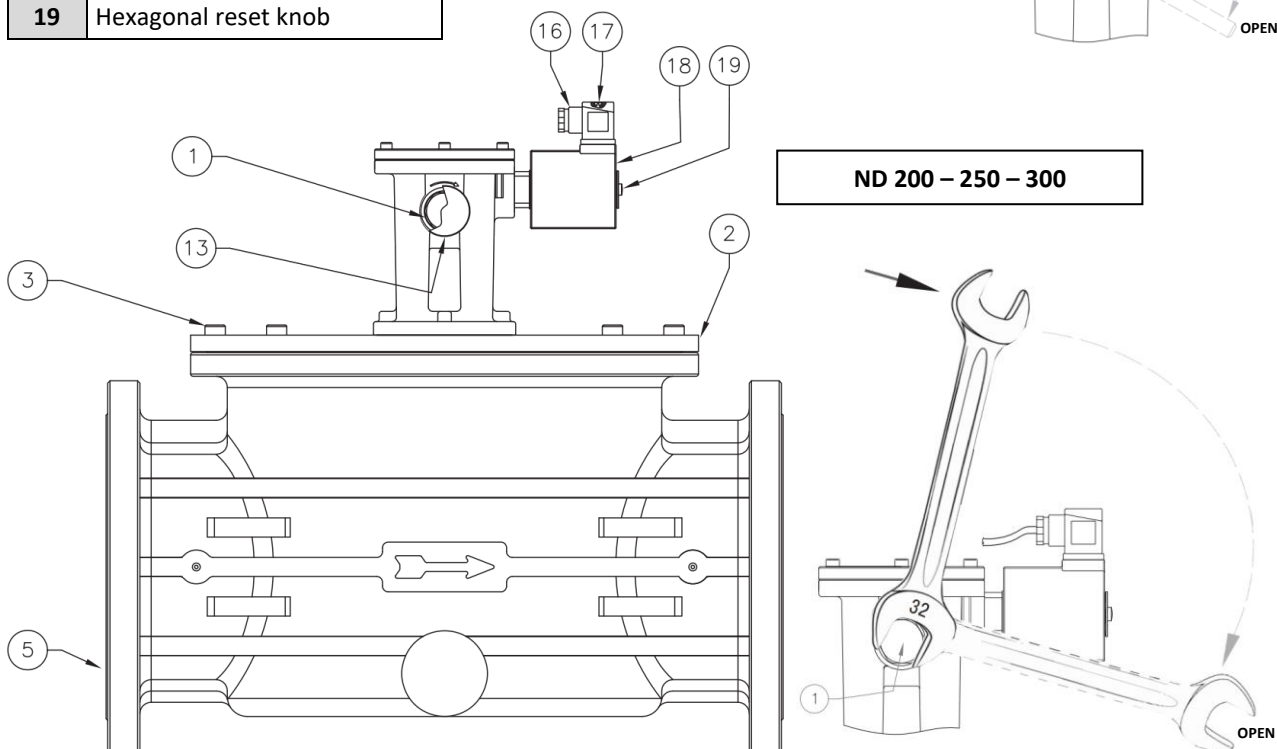
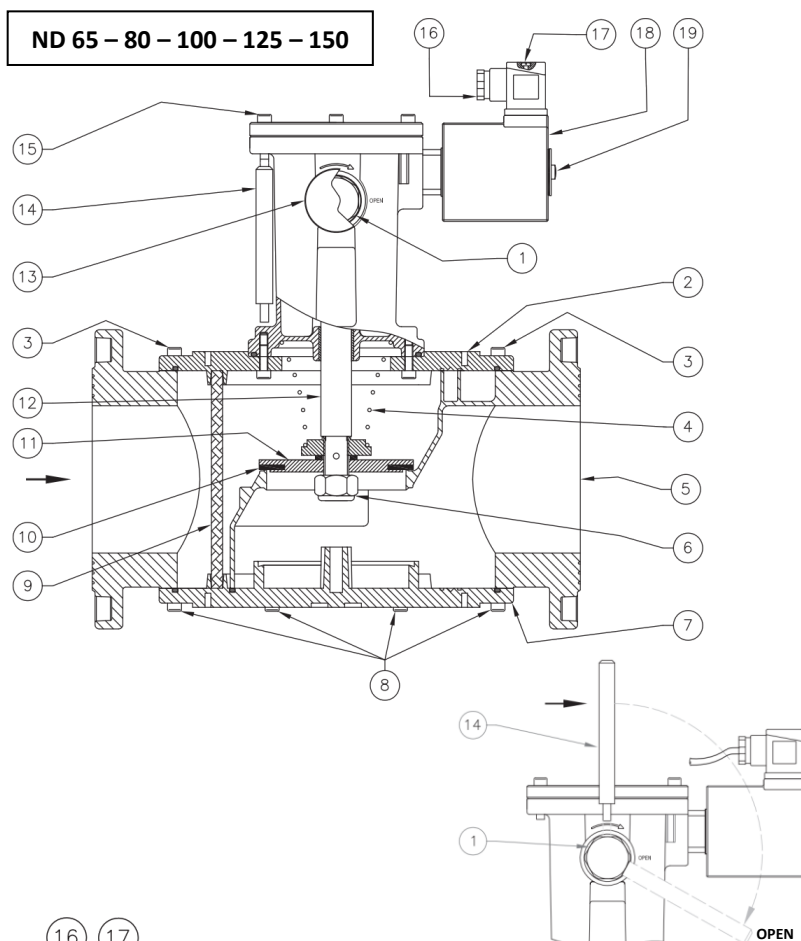
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M14/RM & M16/RM - IVP - ND 15 TO 300

CONSTRUCTION - ND65 TO ND300 WITHOUT CPI

N°	Item
1	Hexagonal reset knob
2	Valve cover
3	Valve cover fastening screws
4	Closing spring
5	Body
6	Shutter nut
7	Bottom (only ND 100)
8	Bottom screws (only ND 100)
9	Filter
10	Sealing washer
11	Shutter
12	Main shaft
13	Manual knob cover
14	Manual reset lever
15	Valve cover fastening screws
16	Power supply cable
17	Coil
18	Coil fastening screw
19	Hexagonal reset knob



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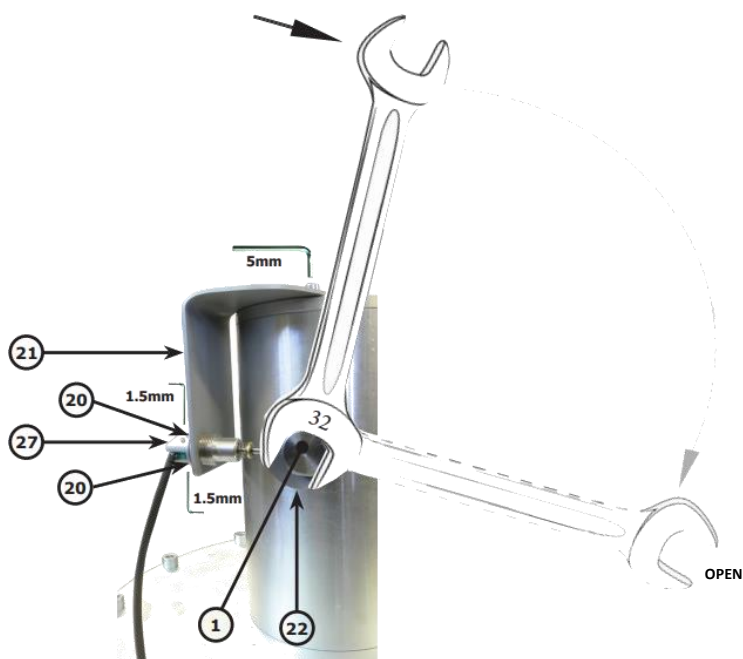
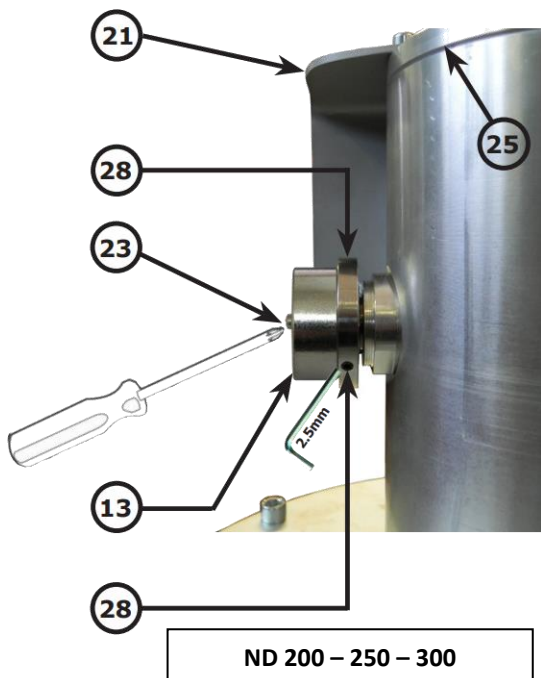
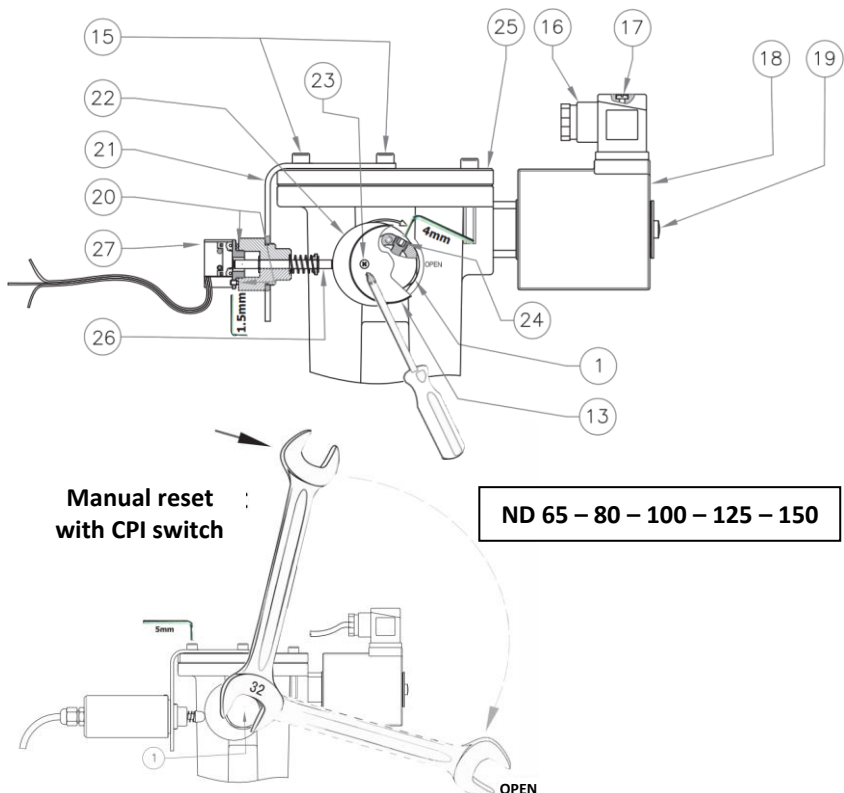
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CONSTRUCTION - ND65 to ND300 WITH CPI

N°	Item
1	Hexagonal reset knob
13	Manual reset cap
15	Upper cap screws
16	Supply connector
17	Connector screw
18	Solenoid
19	Solenoid screw
20	Microswitch screw
21	Microswitch stand
22	CPI microswitch control cam
23	Protection cap screw
24	Control cam screw
25	Upper cap
26	Microswitch pin
27	CPI Microswitch
28	Control cam screw ND > 150



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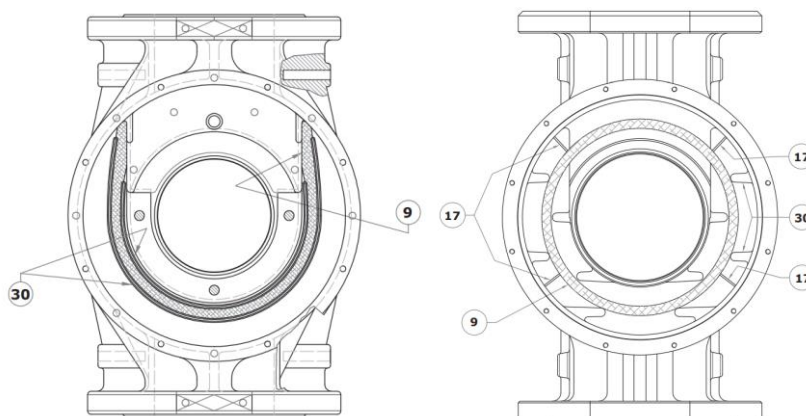
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SOLENOID VALVE FILTER DETAILS - ND 65 – ND 80 – ND 100 – ND 125 – ND 150

N°	Item
9	Filter element
17	Filter element guides
30	Filter element fins

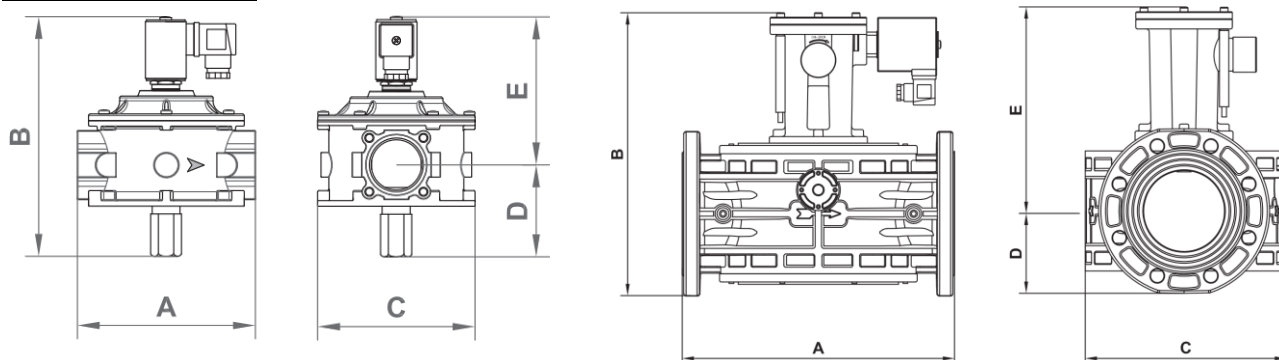
SPARE FILTER ELEMENT	
ND	Code
65 – 80	980918M
100	980919M
125 – 150	980932M



ND 65 - ND 80 - ND 100

ND 125 – ND 150

DIMENSIONS (mm)



Overall dimensions in mm							
ND	Pressure rating (bar)	Flange holes	A	B (=D+E)	C	D	E
½" - ¾" - 1"	0,5	-	75	163	74	52	111
½" - ¾"	6	-	66	132	37	45	87
1"	6	-	82	142	44	50	92
1¼" - 1½"	0,5 - 6	-	160	212	140	78	134
2"	0,5 - 6	-	160	244	140	92,5	151,5
50 PN16	0,5 – 6	4	230	303	140	146,5	151,5
65 PN16	0,5 - 6	4	290	355	198	90	265
80 PN16	0,5 - 6	8	310	363	198	97	266
100 PN16	0,5 - 6	8	350	363	260	105	258
125 PN16	0,5	8	480	460	328	125	335
125 PN16	6	8	480	465	328	125	340
150 PN16	0,5	8	480	465	328	130	335
150 PN16	6	8	480	470	328	130	340
200 PN16	0,5 - 6	8	600	540	450	165	375
250 PN16	0,5 - 6	12	673	720	510	197	523
300 PN16	0,5 - 6	12	737	765	570	220	545

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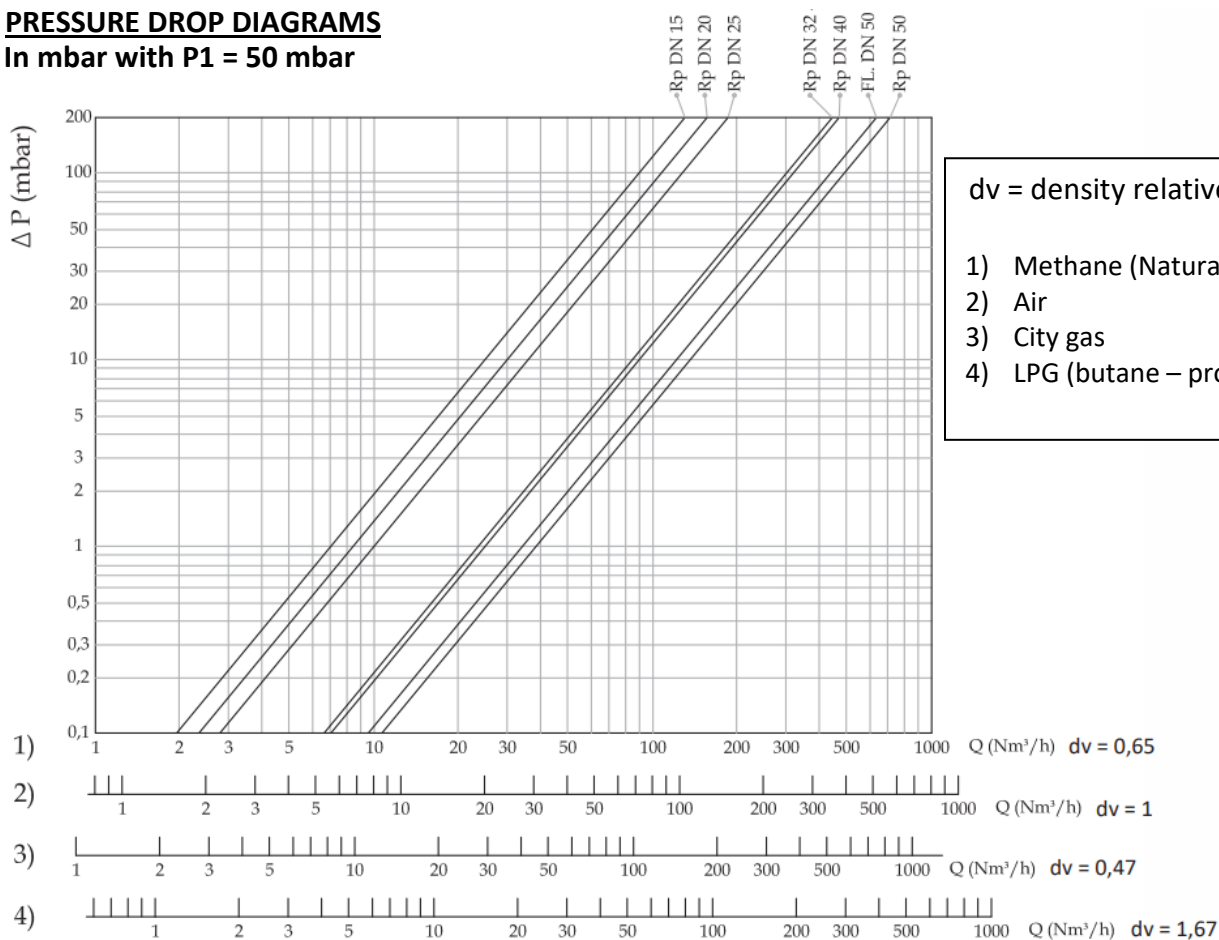
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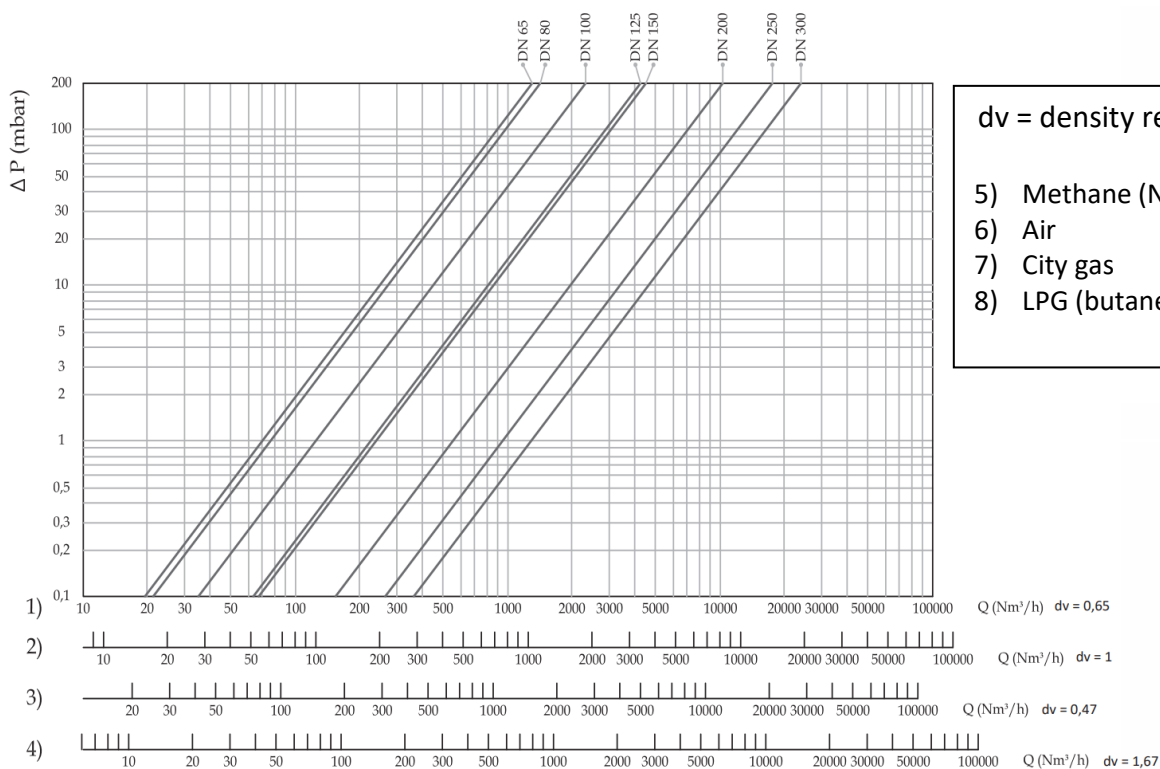
PRESSURE DROP DIAGRAMS

In mbar with P1 = 50 mbar



dv = density relative to air

- 1) Methane (Natural gas)
- 2) Air
- 3) City gas
- 4) LPG (butane – propane)



dv = density relative to air

- 5) Methane (Natural gas)
- 6) Air
- 7) City gas
- 8) LPG (butane – propane)

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