

CE 0051



EVP/NC

CE  II 3G - II 3D

MADAS-01



DESCRIPTION

Gas interception automatic normally closed solenoid valves that open when the coil is powered and close when there is no tension.

These solenoid valves can be controlled by pressure switch, thermostat, etc.

They can be equipped with a flow regulator and adjustable slow opening kit.

EC certified according to EN 161

In conformity with the 2009/142/EC Directive (Gas Directive)

In conformity with the 94/9/EC Directive (ATEX Directive)

In conformity with the 2004/108/EC Directive (Electromagnetic Compatibility)

In conformity with the 2006/95/EC Directive (Low Voltage)



TECHNICAL DATA

- Use:
not aggressive gases of the 3 families
(dry gases)
- Threaded connections Rp:
(DN 15 ÷ DN 50) according to EN 10226
- Flanged connections PN 16:
(DN 25 ÷ DN 200) according to ISO 7005
- On request ANSI 150 flanged connections
- Power supply voltage
(see table)

- Power supply voltage tolerance:
-15% ... +10%
- Power absorption:
see coils and connector table
- Max. working pressure:
(DN 15 ÷ DN 50) 200 or 360 mbar
(DN 65 ÷ DN 150) 360 mbar
- Environment temperature:
-15 ÷ +60 °C
- Max superficial temperature:
85 °C
- Protection degree:
IP65
- Class:
DN 15 ÷ DN 150: A
DN 200: B
- Group:
2
- Closing time:
<1 s
- Opening time:
<1 s

Coils: polyammiac resin encapsulated with glass fibre, connection type DIN 43650; the insulation class is F (155°) and the enamelled copper wire class is H (180°).

Coils (EVP DN 32 ÷ DN 150): the insulation class and the enamelled copper wire class is H (180°).

MATERIALS

- Die-cast aluminium (UNI EN 1706)
- OT-58 brass (UNI EN 12164)
- 11S aluminium (UNI 9002-5)
- galvanized and 430 F stainless steel (UNI EN 10088)
- NBR rubber (UNI 7702)
- nylon 30% glass fibre
(UNI EN ISO 11667)
- viledon

Foto Photo Fotos	Attacchi Connections Fixations Conexiones	Voltaggio Voltage Voltage Voltaje	Attacchi Filettati - Threaded Connections Fixations filetees - Conexiones roscadas		Attacchi Flangiati - Flanged Connections Fixations Brides - Conexiones de Brida	
			P.max 360 mbar		P.max 360 mbar	
			Codice - Code Code - Código		Codice - Code Code - Código	
	EVP/NC DN 32	12 Vdc	EVP05	001	EVP32	001
		24 Vdc	EVP05	005	EVP32	005
		24 V/50 Hz	EVP05	003	EVP32	003
		110 V/50 Hz	EVP05	002	EVP32	002
		230 V/50-60 Hz	EVP05	008	EVP32	008
	EVP/NC DN 40	12 Vdc	EVP06	001	EVP40	001
		24 Vdc	EVP06	005	EVP40	005
		24 V/50 Hz	EVP06	003	EVP40	003
		110 V/50 Hz	EVP06	002	EVP40	002
		230 V/50-60 Hz	EVP06	008	EVP40	008
	EVP/NC DN 50	12 Vdc	EVP07	001	EVP50	001
		24 Vdc	EVP07	005	EVP50	005
		24 V/50 Hz	EVP07	003	EVP50	003
		110 V/50 Hz	EVP07	002	EVP50	002
		230 V/50-60 Hz	EVP07	008	EVP50	008
	EVP/NC DN 65	24 Vdc	-	-	EVP08	005
		24 V/50 Hz	-	-	EVP08	003
		110 V/50 Hz	-	-	EVP08	002
		230 V/50-60 Hz	-	-	EVP08	008
	EVP/NC DN 80	24 Vdc	-	-	EVP09	005
		24 V/50 Hz	-	-	EVP09	003
		110 V/50 Hz	-	-	EVP09	002
		230 V/50-60 Hz	-	-	EVP09	008
	EVP/NC DN 100	24 Vdc	-	-	EVP10	005
		24 V/50 Hz	-	-	EVP10	003
		110 V/50 Hz	-	-	EVP10	002
		230 V/50-60 Hz	-	-	EVP10	008
	EVP/NC DN 125	24 Vdc	-	-	EVP11	005
		24 V/50 Hz	-	-	EVP11	003
		110 V/50 Hz	-	-	EVP11	002
		230 V/50-60 Hz	-	-	EVP11	008
	EVP/NC DN 150	24 Vdc	-	-	EVP12	005
		24 V/50 Hz	-	-	EVP12	003
		110 V/50 Hz	-	-	EVP12	002
		230 V/50-60 Hz	-	-	EVP12	008
	EVP/NC DN 200	24 Vdc	-	-	EVP13	005
		24 V/50 Hz	-	-	EVP13	003
		110 V/50 Hz	-	-	EVP13	002
		230 V/50-60 Hz	-	-	EVP13	008
con regolatore di portata = EVPF... with flow regulator = EVPF... avec régulateur de portée = EVPF... con regulador de caudal = EVPF...						

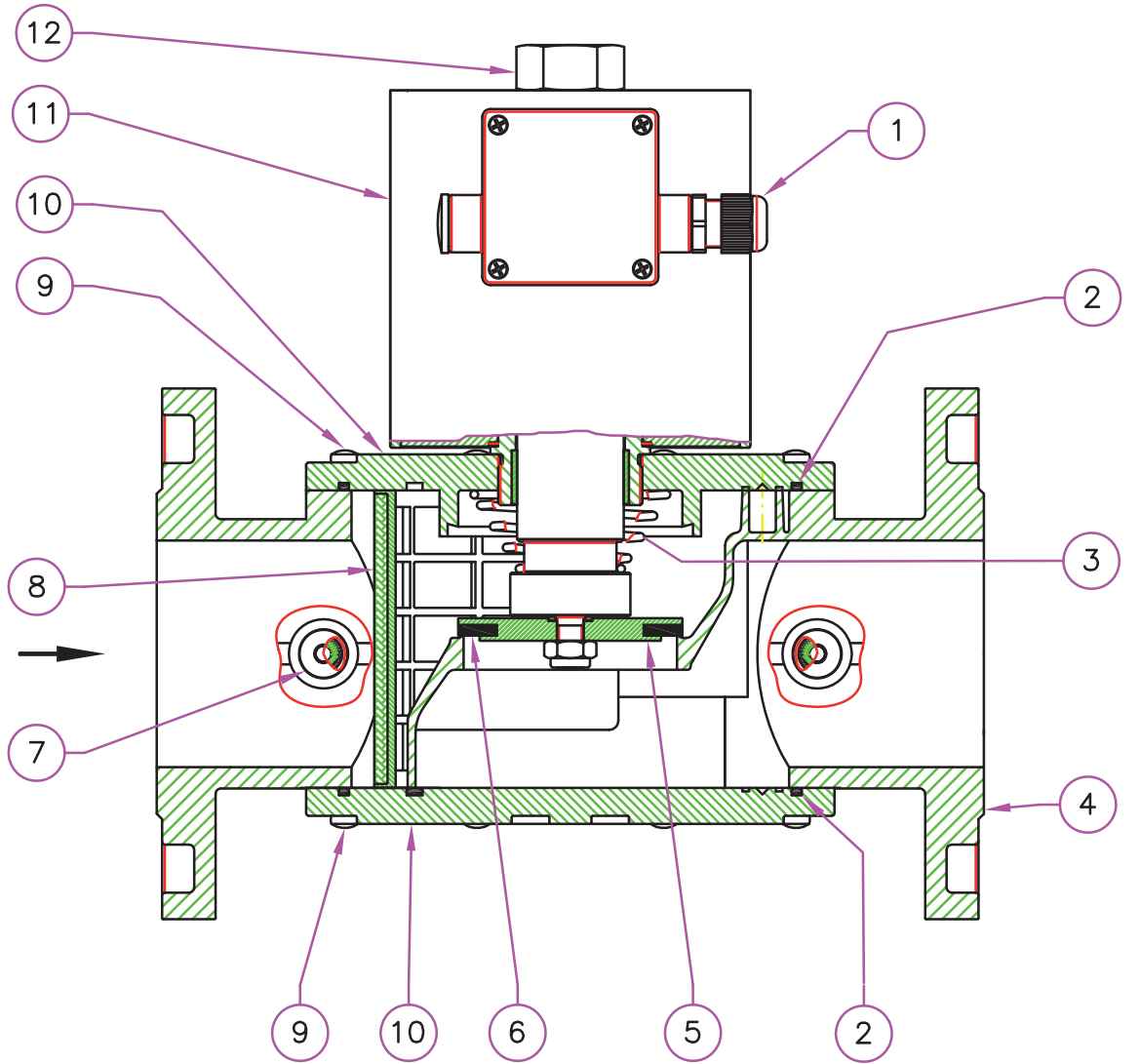
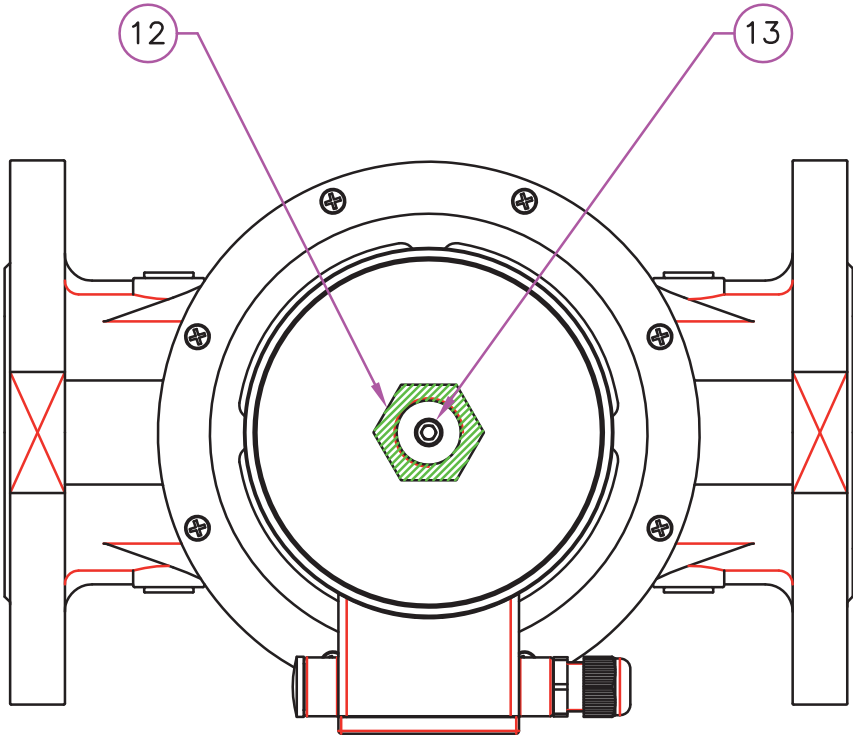
fig. 5 and 6



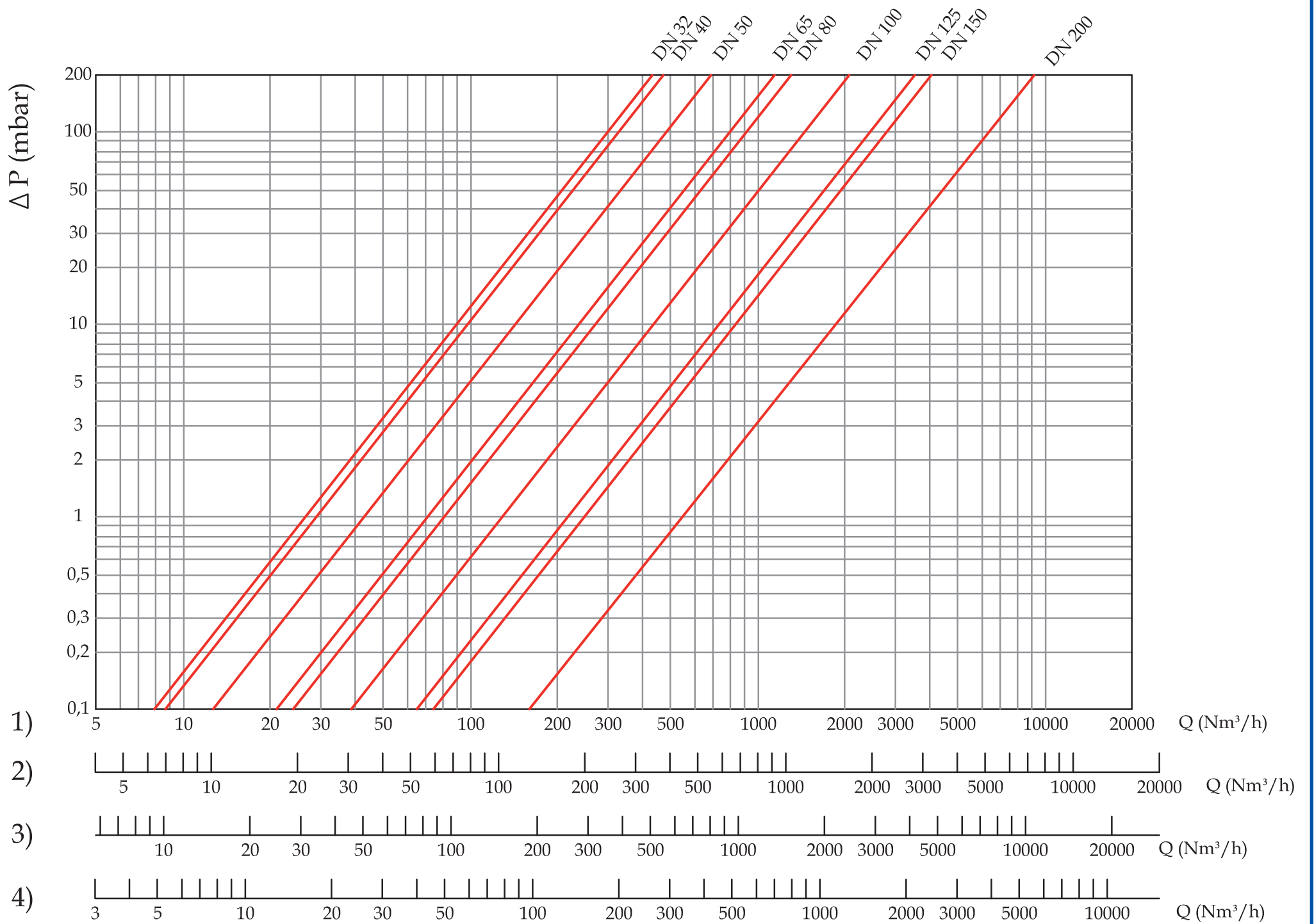
1. Electrical connector
2. Seal O-Ring
3. Closing spring
4. Body valve
5. Obturator
6. Seal washer
7. G 1/4" cap
8. Filter
9. Fixing screws
10. Cover or bottom
11. Electrical coil
12. Coil fixing nut or screw
13. Flow calibration screw (EVPF version)
14. Bottom (only on DN 65-80-100)

fig. 6

EVP/NC DN 65÷150
P.max 360 mbar



Capacity diagram EVP/NC P.max 360 mbar



- 1) metano
- 2) aria
- 3) gas di città
- 4) gpl

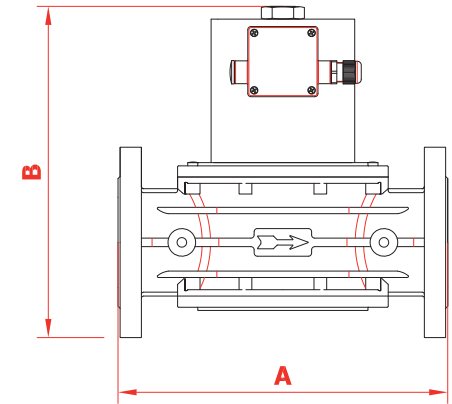
- 1) methane
- 2) air
- 3) town gas
- 4) lpg

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Overall dimensions in mm

	Flanged connections F	P. max (mbar)	A	B			
				EVP... EVPC...			
-	-		70	137		05	185
-	-	200 / 360	70	137	150	205	185
-	-	360 mbar	90	157	172	225	205
-	EVPC DN 25	200 / 360	142	170	195	250	230
-	EVP DN 25	360 mbar	162	190	205	262	242
-	-	200 mbar	160	185	200	262	240
-	-	360 mbar	160	210	210	275	253
-	-	200 mbar	160	210	225	290	267
-	-	360 mbar	160	210	225	290	267
	EVPC DN 32 - DN 40 - DN 50	200 / 360	230	237	252	295	269
EVP DN 50	-	360 mbar	160	235	235	300	278
	EVP DN 32 - DN 40 - DN 50	360 mbar	230	261	261	326	304
-	EVP DN 65	360 mbar	290	321	321	480	432
-	EVP DN 80	360 mbar	310	328	328	486	439
-	EVP DN 100	360 mbar	350	389	389	547	500
-	EVP DN 125	360 mbar	480	570	570	728	681
-	EVP DN 150	360 mbar	480	570	570	728	681
	EVP DN 200	360 mbar	600	680	680	-	-



INSTALLATION

The solenoid valve is in conformity with the Directive 94/9/CE (said Directive ATEX 100 a) as device of group II, category 3G and as device of group II, category 3D; for this reason it is suitable to be installed in the zones 2 and 22 as classified in the attachment I to the Directive 99/92/EC. The solenoid valve is not suitable to be used in zones 1 and 21 and, all the more so, in zones 0 and 20 as classified in the already said Directive 99/92/EC.

To determine the qualification and the extension of the dangerous zones, see the norm EN 60079-10.

The device, if installed and serviced respecting all the conditions and the technical instructions of this document, is not source of specific dangers: in particular, during the normal working, is not forecast, by the solenoid valve, the emission in the atmosphere of inflammable substance in way to cause an explosive atmosphere.



It is always important to read carefully the instruction sheet of each product.

WARNING: all installation/wiring/maintenance work must be carried out by skilled staff.

- The gas supply must be shut off before installation.
- Check that the line pressure **DOES NOT EXCEED** the maximum pressure stated on the product label.






- They must be installed with the arrow (on the body of the device) facing towards the user appliance. Except DN 200 they will function equally effectively if installed vertical. They must not be installed upside down (with the coil underneath).
- During installation take care not to allow debris or scraps of metal to enter the device.
- If the device is threaded check that the pipeline thread is not too long; overlong threads may damage the body of the device when screwed into place. Do not use the coil for leverage when screwing into position; use the appropriate tool.
- If the device is flanged check that the inlet and outlet counterflanges are perfectly parallel to avoid unnecessary mechanical stresses on the body of the device. Also calculate the space needed to fit the seal. If the gap left after the seal is fitted is too wide, do not try to close it by over-tightening the device's bolts.
- Always check that the system is gas-tight after installation.
- Except DN 200 in the version with flow regulator (EVPF... - EVPCF...) unscrew the nut (12) and set the wanted value of the gas flow by the regulation screw (13). Then rescrew the nut (12) in the original position.

CALIBRATIONS (DN 15 ÷ DN 150)

- To regulate the opening speed of the obturator operate on the screw (16). This screw has not limit, the opening speed increases gradually screwing clockwise the screw (16).
- To regulate the rapide stroke operate on the screw (15). Screwing counterclockwise till the limit, the opening of the valve will be slow at first, screwing it clockwise you get a first phase of speed opening and a second slow one.
- To regulate the flow operate on the screw (14). Screwing it clockwise in order to decrease the flow, counterclockwise in order to increase it.

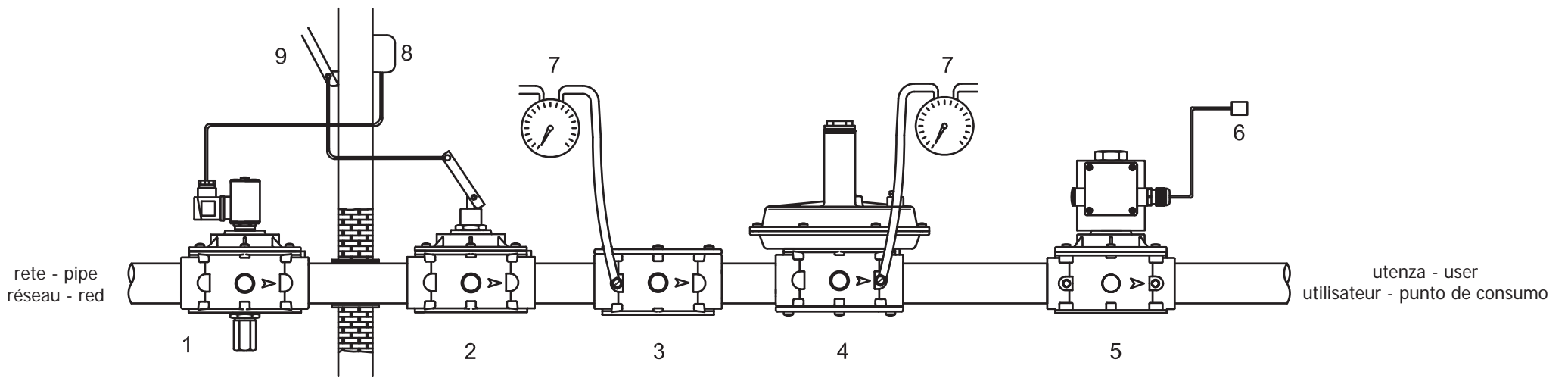
ELECTRICAL CONNECTIONS

- Before making electrical connections, check that the mains voltage is the same as the power supply voltage stated on the product label.
 - Disconnect the power supply before wiring.
 - Wire the connector with cable type:
 - EVP... DN 15 ÷ DN 25
 - EVPC... DN 25 ÷ DN 50
 - EVP... DN 200H05RN-F 3X0,75mm², Ø outside from 6,2 to 8,1 mm
 - Wire the connector with cable type:
 - EVP... DN 32 ÷ DN 150H05RN-F 3X1 mm², Ø outside from 8,3 to 9,5 mm
- taking care to ensure that the device has IP65 protection.
- Connect the power supply to terminals 1 and 2 and the ground wire to terminal . **IMPORTANT:** with tension 12 Vdc and 24 Vdc with energy saving connector CN-21... observe the polarity.

The coil is also suitable for permanent power supply. In case of continuous duty, it is absolutely normal for the coil to heat up. The coil should not be touched with bare hands after it has been continuously powered for more than 20 minutes. Before maintenance work, wait for the coil to cool or use suitable protective equipment.

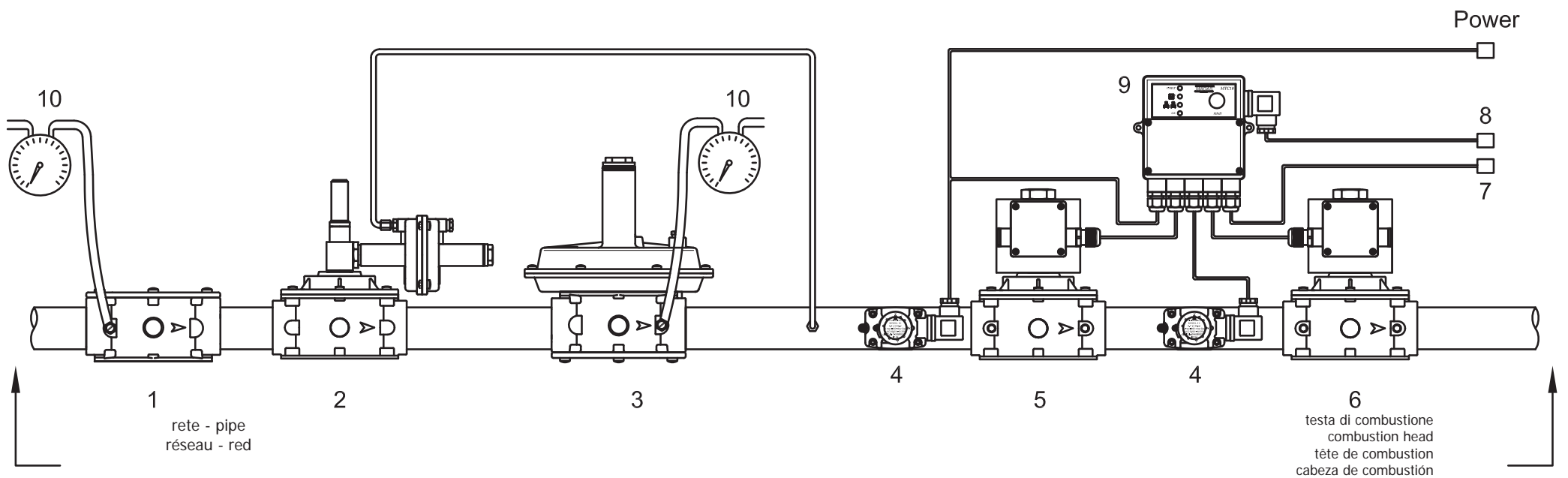
EXAMPLE OF INSTALLATION 1

1. M16/RM N.C. manual reset solenoid valve
2. SM series jerk handle ON/OFF valve
3. Gas filter type FM
4. Gas pressure regulator type RG/2MC
5. **Automatic solenoid valve type EVP/NC or EVPC/NC**
6. Solenoid valve control device
7. Manometer
8. Gas detector
9. Lever for remote SM ON/OFF valve control



EXAMPLE OF INSTALLATION 2

1. Gas filter type FM
2. Over pressure slam shut off valve type MVB1/MAX
3. Gas pressure regulator type RG/2MC
4. Pressure switch of minimum pressure type MP
5. **Automatic solenoid valve type EVP or EVPC**
6. **Automatic solenoid valve type EVP or EVPC**
7. External reset
8. Burner control
9. Valve proving system type MTC10
10. Manometer





SERVICING

In all cases, before performing any internal checks make sure that:

1. the power supply to the device is disconnected
2. there is no pressurised gas inside the device

• **DN 15 ÷ DN 25:** (see fig. 1 and 2) unscrew the coil fixing screws (12) (or the slow opening kit (17)) and remove the coil (11). Unscrew the cover fixing screws (9) and disassemble it from body valve (4). Check the obturator (5), clean or if is necessary substitute the rubber made seal component. Clean the filter (8) blowing it without taking it off the body valve (4). Then assemble doing backward the same operation of dismantling.

• **DN 32 ÷ DN 150:** (see fig. 3, 4, 5, 6) unscrew the nut (12) (or the slow opening kit (17)) and remove the coil (11). Unscrew the fixing screws (9) and, with care, take the cover (10) off the body (4) of the valve, then control the obturator (5) and if it is necessary change the rubber made seal component (6). Then clean or blow the filter (8) or change it if necessary; then assemble doing backward the same operation.



The above-said operations must be carried out only by qualified technicians.

VIEW: BODY OF THE VALVE WITHOUT COVER

TO INSERT THE NET DN 32 ÷ DN 50:

Position it as in the figure taking care to respect the guides in the internal circumference of the body valve and fix it by the three special screws (M3x10).

TO INSERT THE FILTERING ORGAN:

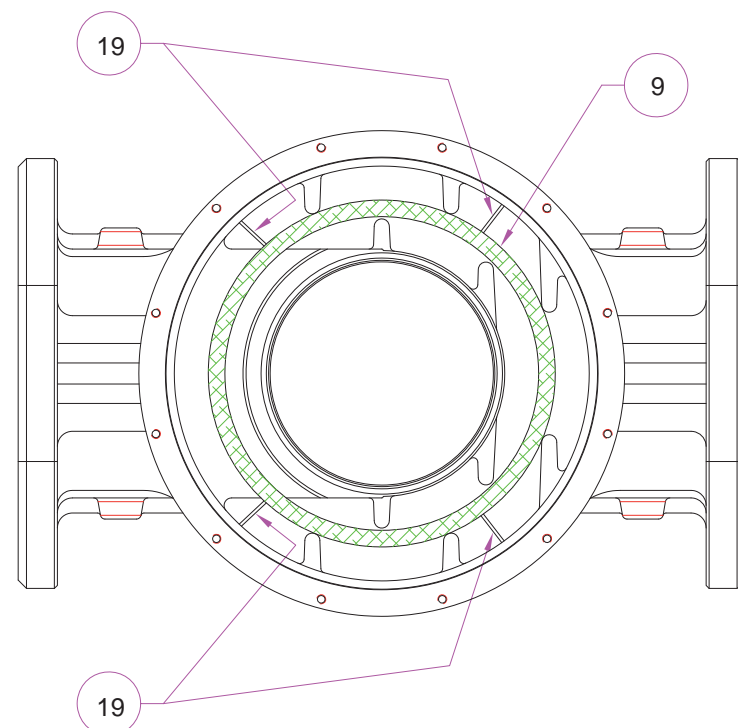
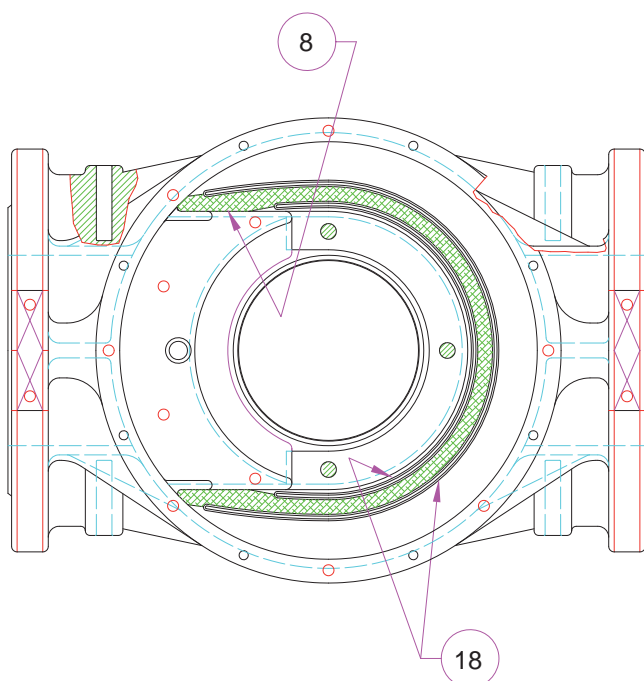
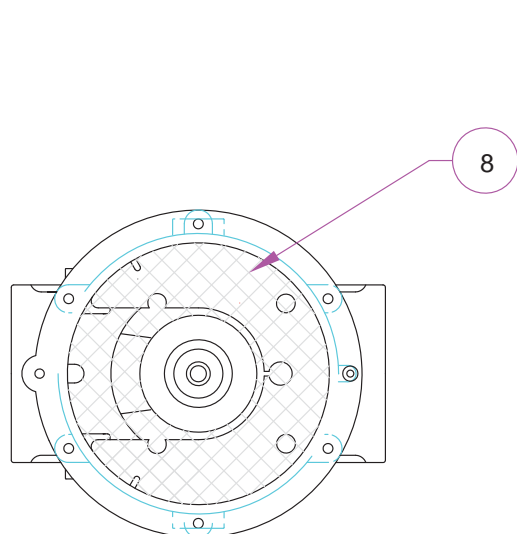
DN 65 ÷ DN 100:



Position it as in the figure taking care to put it inside the guides (18).

DN 125 - DN 150:


Put it as in figure, so that the special fins (19) are leant against the body. So reassemble the cover paying attention that the O-Ring is into the right hole.

fig. 5



Bobine e connettori - Coils and connectors Bobines et connecteurs - Bobinas y conectores					
Attacchi <i>Connections</i>	Voltaggio <i>Voltage</i>	Codice bobina <i>Coil code</i>	Timbratura bobina <i>Coil stamping</i>	Codice connettore <i>Connector code</i>	Tipo connettore <i>Connector type</i>
EVP/NC - EVPF/NC DN 15 - DN 20 (P.max 200 mbar)	12 Vdc	BO-0400	BO-0400 12 VDC 17W	CN-0010	NORMALE <i>NORMAL</i>
	12 V/50 Hz	BO-0400	BO-0400 12 VDC 17W	CN-0050	RADDRIZZATORE - <i>RECTIFIER</i>
	24 Vdc	BO-0410	BO-0410 24 VDC 17W	CN-0010	NORMALE <i>NORMAL</i>
	24 V/50 Hz	BO-0410	BO-0410 24 VDC 17W	CN-0050	RADDRIZZATORE <i>RECTIFIER</i>
	110 V/50-60 Hz	BO-0420	BO-0420 110 V RAC 17W	CN-0045	RADDRIZZATORE <i>RECTIFIER</i>
	230 V/50-60 Hz	BO-0430	BO-0430 230 V RAC 17W	CN-0045	RADDRIZZATORE <i>RECTIFIER</i>
EVP/NC - EVPF/NC DN 15 - DN 20 (P.max 360 mbar) EVPC/NC - EVPCF/NC DN 25 (P.max 200 mbar)	12 Vdc	BO-0510	BO-0510 12 VDC 28W	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	12 V/50 Hz	BO-0510	BO-0510 12 VDC 28W	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	24 Vdc	BO-0520	BO-0520 24 VDC 28W	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	24 V/50 Hz	BO-0520	BO-0520 24 VDC 28W	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-0530	BO-0530 110 V RAC 28W	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-0540	BO-0540 230 V RAC 28W	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
EVPC/NC - EVPCF/NC DN 25 (P.max 360 mbar)	12 Vdc	BO-0407	BO-0407 12V RAC ES	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	12 V/50 Hz	BO-0407	BO-0407 12V RAC ES	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	24 Vdc	BO-0417	BO-0417 24V RAC ES	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	24 V/50 Hz	BO-0417	BO-0417 24V RAC ES	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-0427	BO-0427 110V RAC ES	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-0437	BO-0437 230V RAC ES	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
					
EVP/NC - EVPF/NC DN 25 (P.max 360 mbar)	12 Vdc	BO-0290	BO-0290 12 VDC W44	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	12 V/50 Hz	BO-0290	BO-0290 12 VDC W44	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	24 Vdc	BO-0300	BO-0300 24 VDC W45	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	24 V/50 Hz	BO-0300	BO-0300 24 VDC W45	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-0310	BO-0310 V 98 DC W45	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-0320	BO-0320 V 196 DC W45	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
EVPC/NC - EVPCF/NC DN 32 - DN 40 - DN 50 (P.max 200 / 360 mbar)	24 Vdc	BO-0355	BO-0355 24V RAC ES	CN-2100	NORMALE + Energy Saving <i>NORMAL + Energy Saving</i>
	24 V/50 Hz	BO-0355	BO-0355 24V RAC ES	CN-2110	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-0365	BO-0365 110 V RAC ES	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-0375	BO-0375 230 V RAC ES	CN-2130	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
					
<p>Per le bobine e connettori di ricambio dei modelli Q - R - S - T - contattare il ns ufficio tecnico. <i>For coils and connectors of Q - R - S - T models as spares, please contact our technical department.</i></p>					

Bobine e connettori - Coils and connectors
Bobines et connecteurs - Bobinas y conectores

Attacchi <i>Connections</i>	Voltaggio <i>Voltage</i>	Codice bobina completa di connettore <i>Coil code complete with connector</i>	Timbratura bobina <i>Coil stamping</i>	Codice solo connettore <i>Connector code only</i>	Tipo connettore <i>Connector type</i>
DN 32 - DN 40 - DN 50 (P.max 360 mbar)	12 Vdc	BO-1000	12 Vdc DN 32 - 40 - 50	CN-2000	NORMALE <i>NORMAL</i>
	24 Vdc	BO-1010	24 Vdc DN 32 - 40 - 50	CN-2000	NORMALE <i>NORMAL</i>
	24 V/50 Hz	BO-1015	24 Vac DN 32 - 40 - 50	CN-2010	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-1020	110 Vac DN 32 - 40 - 50	CN-2020	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-1030	230 Vac DN 32 - 40 - 50	CN-2030	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
DN 65 ÷ DN 80 (P.max 360 mbar)	24 Vdc	BO-1110	24 Vdc DN 65 - 80	CN-2000	NORMALE <i>NORMAL</i>
	24 V/50 Hz	BO-1115	24 Vac DN 65 - 80	CN-2010	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-1120	110 Vac DN 65 - 80	CN-2020	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-1130	230 Vac DN 65 - 80	CN-2030	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
DN 100 ÷ DN 150 (P.max 360 mbar)	24 Vdc	BO-1210	24 Vdc DN 100	CN-2000	NORMALE <i>NORMAL</i>
	24 V/50 Hz	BO-1215	24 Vac DN 100	CN-2010	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	110 V/50-60 Hz	BO-1220	110 Vac DN 100	CN-2020	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
	230 V/50-60 Hz	BO-1230	230 Vac DN 100	CN-2030	RADDRIZZATORE + Energy Saving <i>RECTIFIER + Energy Saving</i>
					
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