VMR
VMR OTN
VMR 60

Safety solenoid valves for gas
Fast opening and fast closing type
DN8 … DN150

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Safety solenoid valves for gas
Fast opening and fast closing type

Contents

Description

The VMR type valve is a fast opening single-stage solenoid valve, normally closed (open when energized). This type of device is suitable for air or gas blocking and releasing controls, required in gas power burners, atmospheric gas boilers, industrial kilns and others gas consuming appliances.

Features

The valves are made of aluminum alloy die-cast (or hot-pressed brass for OTN versions), with a wide range for inlet/outlet connections from DN 8 (1/4”) up to DN 150 (6”).

Sealings are made of NBR-based rubber certified for use with gas (EN 549).

Suitable for use with air and non-aggressive gases included in the 1, 2 and 3 families (EN 437). Special versions suitable for aggressive gases, free of non-ferrous metals and with FPM seals.

Pipe connections meet Group 2 and backpressure sealing is compliant with Class A, according to EN161 requirements.

The whole range can be provided in Ex-proof execution, for use in Zones 2 and 22, according to 2014/34/EU Directive (ATEX).

The valve is open only when energized: if, for any reason, power supply goes down, the valve closes immediately (intrinsic safe).

Suitable for heavy-duty cycle operation and qualified for continuous service (100% ED).

Equipped with flow rate adjustment (except brass models).

An incorporated fine mesh filter protects the valve seat and disc as well as downstream components and prevents dirty contamination (except brass models and 6 bar).

Provided with G1/8 connection to fit a proof of closure switch or a visual indicator.

Provided with 1/4" pressure gauge on two sides in the inlet chamber (except brass models), to connect manometers, pressure switches, leakage detectors or other gas equipments. Flanged models are provided with gauges also in the outlet chamber.

The coils are provided with terminal box or with ISO 4400 plug. Both systems are provided with suitable cable gland to avoid water and dirty contamination.

All components are designed to withstand any mechanical, chemical and thermal condition occurring during typical service. Effective impregnation and surface treatments have been used to improve mechanical sturdiness, sealing and resistance to corrosion of the components.

Valves are 100% tested by computerized testing machineries and are fully warranted.

Functioning and application

The VMR type valve is a safety shutting device using auxiliary power supply.
When it is de-energized, the spring pushes on the seal disc, keeping the gas passage closed. Now, the inlet chamber is under the gas line pressure which forces on the disc, increasing the closing function and improving the seal.
When the coil is powered the valve opens rapidly, against the strength of the spring and gas pressure. The flow may be adjusted using the regulating screw on the top (see the installation and service instructions).
If the power supply is shut off, the valve rapidly closes, interrupting the gas flow.

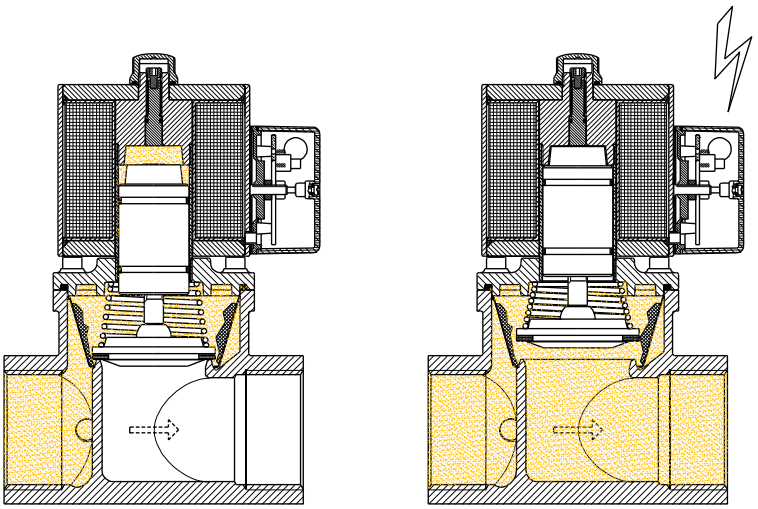

Fig.1

This kind of valve is normally installed as safety and regulating device in gas trains, for industrial applications and gas firing systems.

Figure 2 shows an example of installation with other *Elektrogas* devices.

1 = Ball valve **VSG**
2 = Filter **FG**
3 = Pressure regulator **R**
4 = Tightness control **LD**
5 = Gas pressure switch **PSG**
6 = Valve position visual indicator **VI**
7 = Fast opening solenoid valve VMR
8 = Slow opening solenoid valve **VML**
9 = Tightness control pressure switch
10 = Valve position electrical indicator **PCS**
11 = Burner pressure gauge **MG**
12 = Push button valve **ME**

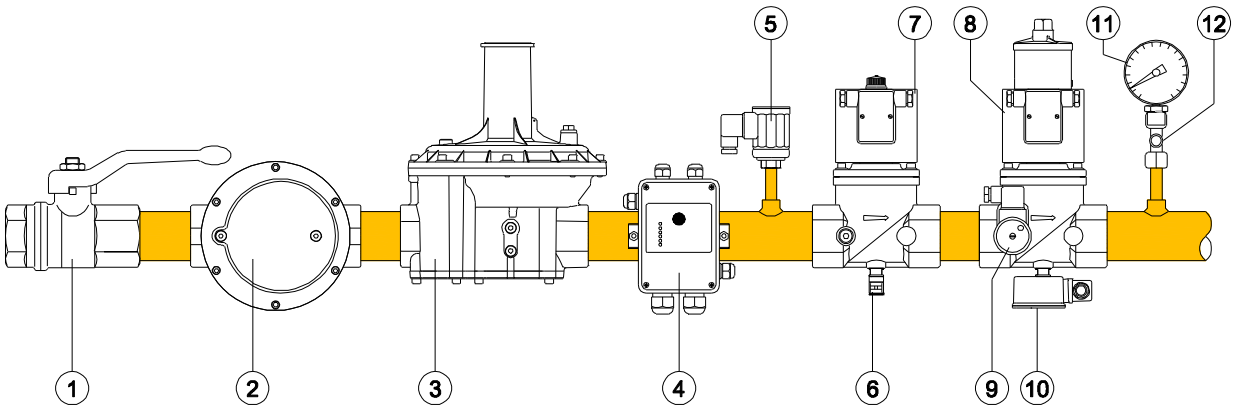

Fig.2

Technical specifications

Tab. 1

Connections	Internal threaded ISO 7-1 from Rp1/4 to Rp2½ or ANSI-ASME B1.20 from 1/4"NPT to 2"½NPT Flanged ISO 7005 PN16 from DN40 to DN150 or ANSI-ASA-ASME B16.5 class 150 from 2" to 6"
Voltage ratings	230 VAC 50/60 Hz 120 VAC 50/60 Hz 110 VAC 50/60 Hz 24 VAC/DC 12 VAC/DC
Voltage tolerance	-15% to +10%
Ambient temperature **Media temperature**	-15°C to +60°C (+5°F to +140°F)
Max. operating pressure	200 mbar (3 psig) 360 mbar (5 psig) 500 mbar (7 psig) 6 bar * (90 psig)
Body test pressure	1 bar (15 psig) 9 bar * (130 psig)
Closing time	< 1 second
Opening time	< 1 second
Gas strainer	600 µm (0.02 in) (except brass models and 6 bar)
Enclosure	IP54 (NEMA 3) optional IP65 with cable (NEMA 4)
Cable gland	M20x1,5 for terminal box PG 9 for ISO plug
Wires cross-section	2,5 mm^2 max. (AWG 12) for terminal board 1,5 mm^2 max. (AWG 14) for ISO plug
Electrical safety	Class I (EN 60335-1)
Coil winding insulation	Class H (200°C, 392°F)
Coil thermal resistance	Class F (155°C, 311°F)
Materials in contact with gas	Aluminium alloy, Brass, Stainless steel, Plated steel Anaerobic adhesive, Nitrile rubber (NBR), Fluoroelastomer (FPM), Polytetrafluoroethylene (PTFE)

* Operating pressure lower than 200mbar (3psig) not advisable

Tab. 2

Power Consumption		**200 mbar (3 psig)**					**360 mbar (5 psig)**					**500 mbar (7 psig)**					**6 bar (90 psig)**				
[W]		230V	120V	110V	24V	12V	230V	120V	110V	24V	12V	230V	120V	110V	24V	12V	230V	120V	110V	24V	12V
1/4" OTN	O	12	15	12	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	H	12	15	12	12	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/8"-1/2" OTN	O	16	20	16	16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	H	16	20	16	16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/8"-1/2"	O	25	20	25	20	20	-	-	-	-	-	20	20	20	-	-	20	20	20	20	-
	H	25	5	25	20	20	-	-	-	-	-	20	5	20	-	-	20	5	20	20	-
3/4"-1"	O	25	35	30	30	30	-	-	-	-	-	35	45	35	-	-	35	45	35	30	-
	H	25	9	30	30	30	-	-	-	-	-	35	11	35	-	-	35	11	35	30	-
1"¼-1"½-2"	O	120	80	80	65	65	-	-	-	-	-	180	180	180	-	-	180	180	180	65	-
	H	30	20	20	65	65	-	-	-	-	-	45	45	45	-	-	45	45	45	65	-
2"½-3"	O	180	180	180	160	-	240	240	240	-	-	-	-	-	-	-	240	240	240	-	-
	H	45	45	45	15	-	60	60	60	-	-	-	-	-	-	-	60	60	60	-	-
4"	O	280	280	280	210	-	320	320	320	-	-	-	-	-	-	-	320	320	320	-	-
	H	70	70	70	20	-	80	80	80	-	-	-	-	-	-	-	80	80	80	-	-
5"- 6"	O	320	360	320	-	-	360	360	360	-	-	-	-	-	-	-	-	-	-	-	-
	H	80	90	80	-	-	90	90	90	-	-	-	-	-	-	-	-	-	-	-	-

O – opening power consumption H – holding power consumption

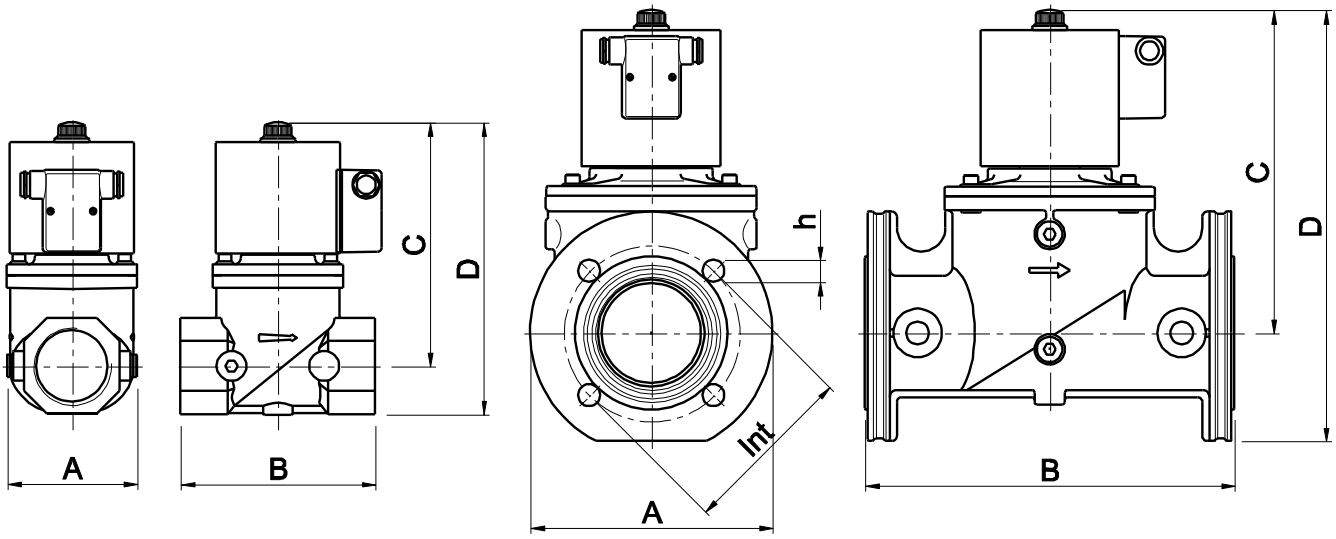

Fig.3

Tab. 3

Material and connections		Overall dimensions [mm] [in]						Weight [Kg] [lbs]
CuZn	AlSi	A	B	C	D	int	h	
Rp1/4		**30**	**46**	**66,5**	**75**			**0,27**
1/4"NPT		1,18	1,81	2,62	2,95			0,6
Rp3/8		**30**	**58**	**95**	**110**			**0,4**
3/8"NPT		1,18	2,28	3,74	4,33			0,9
Rp1/2		**30**	**58**	**95**	**110**			**0,4**
1/2"NPT		1,18	2,28	3,74	4,33			0,9
	Rp3/8	**88**	**77**	**126**	**142**			**1,4**
	3/8"NPT	3,46	3,03	4,96	5,59			3,1
	Rp1/2	**88**	**77**	**126**	**142**			**1,4**
	1/2"NPT	3,46	3,03	4,96	5,59			3,1
	Rp3/4	**88**	**96**	**145**	**168**			**2,5**
	3/4"NPT	3,46	3,78	5,71	6,61			5,5
	Rp1	**88**	**96**	**145**	**168**			**2,5**
	1"NPT	3,46	3,78	5,71	6,61			5,5
	Rp1¼	**120**	**153**	**191**	**224**			**5,7**
	1"¼NPT	4,72	6,02	7,52	8,82			12,6
	Rp1½	**120**	**153**	**191**	**224**			**5,7**
	1"½NPT	4,72	6,02	7,52	8,82			12,6
	Rp2	**106**	**156**	**195**	**234**			**6**
	2"NPT	4,17	6,14	7,68	9,21			13,2
	Rp2½	**180**	**218**	**254**	**300**			**11,6**
	2"½NPT	7,09	8,58	10,00	11,81			25,6
	DN40	**165**	**196**	**195**	**271**	**110**	**4x18**	**7,4**
	-	-	-	-	-	-	-	-
	DN50	**165**	**196**	**195**	**271**	**125**	**4x18**	**7,4**
	2"ANSI [1]	6,50	7,72	7,68	10,94	4,75	4x¾	16,3
	DN65	**200**	**305**	**266**	**355**	**145**	**4x18**	**14**
	2"½ANSI	7,87	12,01	10,47	13,98	5,50	4x¾	30,9
	DN80	**200**	**305**	**266**	**355**	**160**	**8x18**	**14**
	3"ANSI	7,87	12,01	10,47	13,98	6,00	4x¾	30,9
	DN100	**250**	**350**	**352**	**452**	**180**	**8x18**	**33**
	4"ANSI	9,84	13,78	13,86	17,80	7,50	8x¾	72,8
	DN125	**310**	**460**	**430**	**600**	**210**	**8x18**	**58**
	5"ANSI	12,20	18,11	16,93	23,62	8,50	8x⅞	127,9
	DN150	**310**	**460**	**430**	**600**	**240**	**8x23**	**60**
	6"ANSI	12,20	18,11	16,93	23,62	9,50	8x⅞	132,3

([1]) Flanged connection as optional kit

Gas flow chart

(Pressure drop)

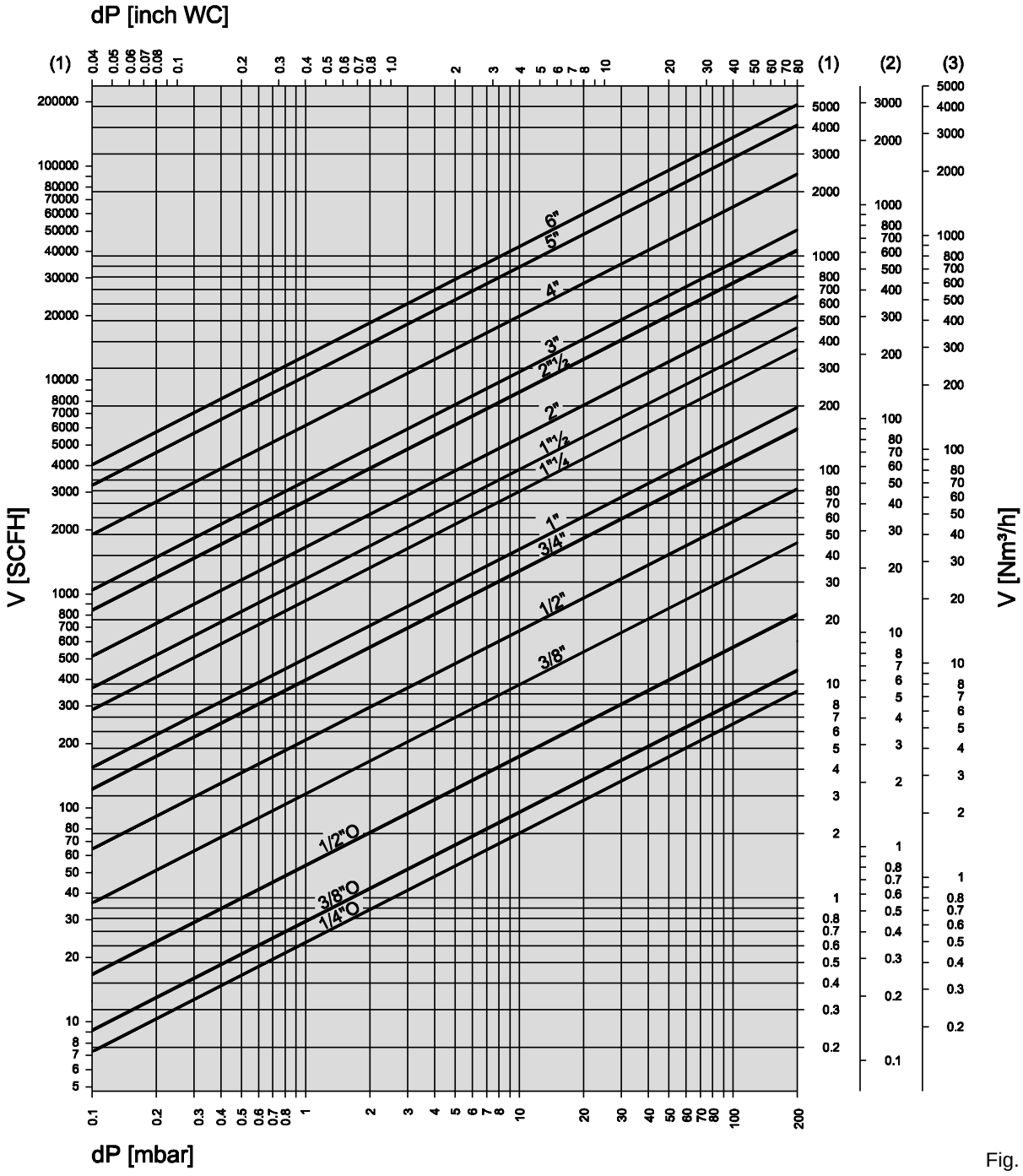

Fig. 4

Formula of conversion from air to other gases

$$V_{GAS} = k \cdot V_{AIR}$$

Tab. 4

Gas type	Density ρ [Kg/m³]	$k = \sqrt{\frac{125}{\rho_{GAS}}}$
(1) Natural gas	0,80	1,25
(2) LPG	2,08	0,77
(3) Air	1,25	1,00

15°C, 1013 mbar, dry

When the flow read on the diagram is referred to operating pressure instead of standard conditions, the pressure drop ∆p read on the diagram must be multiplied for the factor:
(1+ relative pressure in bar)

Example:

In the 2" solenoid valve with an air flow of 80 Nm^3/h there is a pressure drop ∆p = 5 mbar.
If we consider that 80 m^3/h is the flow at 200 mbar of inlet pressure, then the pressure drop to be consider is:

∆p = 5x(1+0,2) = 6 mbar

Normally, pressure drop and flow rate for the valves are read from the gas flow diagram.
However, the valves can also be chosen in accordance with the characteristic "Kvs value" which is shown in table 5.
The selection of the valve requires the calculation of the Kv under the operating conditions.

Considering only subcritical pressure drops:

$$\Delta p < \frac{p_1}{2}$$

Kv can be calculated with the formula:

$$Kv = \frac{V}{514}\sqrt{\frac{\rho(t+273)}{\Delta p \cdot p_2}}$$

where

V = flow rate [Nm^3/h]
Kv = flow factor [m^3/h]
ρ = density [Kg/m^3]
p_1 = absolute inlet pressure [bar]
p_2 = absolute outlet pressure [bar]
∆p = differential pressure p_1-p_2 [bar]
t = media temperature [°C]

To the Kv value calculated from operating conditions we add an allowance of 20%, to obtain the minimum Kvs value which the valve should have:

Kvs > 1,2 Kv

Tab. 5

Kvs	**1/4"O**	**3/8"O**	**1/2"O**	**3/8"**	**1/2"**	**3/4"**	**1"**	**1"¼**	**1"½**	**2"**	**2"½**	**DN65**	**DN80**	**DN100**	**DN125**	**DN150**
m^3/h	0,55	0,7	1,3	2,9	4,8	9,5	12	22	29	40	65	65	80	148	250	315

Valve must be selected considering the following:

- Pressure drops ∆p ≤ 0,1p_1 are recommended and ∆p > p_1/2 are always unadvisable
- Flow velocities w ≤ 15 m/s are recommended and w > 50 m/s are always unadvisable.

Ordering Information

Tab.6

VMR	1	-5	N	.B	J

Valve type
VMR

Size

01OTN	1/4" brass body
0OTN	3/8" brass body
1OTN	1/2" brass body

0	3/8"	**6**	2"
1	1/2"	**7**	2"½
2	3/4"	**8**	3"
3	1"	**9**	4"
35	1"¼	**93**	5"
4	1"½	**95**	6"

Max. Operating pressure

-2	200 mbar (3 psig)
-3	360 mbar (5 psig)
-5	500 mbar (7 psig)
-60	6 bar (90 psig)

Variants

none	Rp internal thread / ISO flange
F	flanged connection (only for 1"½-2")
N	US market version (FM approved - NPT thread / ANSI flange)
T	Threaded (2"½ only)

Supply voltage

none	230V 50/60Hz (120V 50/60Hz with "N" variant)
B	110V 50/60Hz (120V AC on request)
C	24V AC/DC
D	12V AC/DC

Special versions (some may be present concurrently)

L	Low power (when not standard)
P	Proof of closure (POC) for US market only
J	Biogas
K	Coke oven gas (COG)
Y	NPT thread / ANSI flange

Tab.7

		200 mbar (3 psig)					360 mbar (5 psig)					500 mbar (7 psig)					6 bar (90 psig)				
		230V	120V	110V	24V	12V	230V	120V	110V	24V	12V	230V	120V	110V	24V	12V	230V	120V	110V	24V	12V
Threaded	1/4"O	●[1,2]		●[1,2]	●[1,2]	●[1,2]															
	3/8"O	●[1,2]		●[1,2]	●[1,2]	●[1,2]															
	1/2"O	●[1,2]		●[1,2]	●[1,2]	●[1,2]															
	3/8"	●[1]		●[1]	●	●						●	●	●			●	●	●	●	
	1/2"	●[1]		●[1]	●	●						●	●	●			●	●	●	●	
	3/4"	●	●	●	●	●						●	●	●			●	●	●	●	
	1"	●	●	●	●	●						●	●	●			●	●	●	●	
	1"¼	●	●	●	●	●						●	●	●			●	●	●	●	
	1"½	●	●	●	●	●						●	●	●			●	●	●	●	
	2"	●	●	●	●	●						●	●	●			●	●	●	●	
	2"½	●	●	●	●[2]		●	●	●								●	●	●		
Flanged	DN 40	●[3]	●[3]	●[3]	●[3]	●[3]						●[3]	●[3]	●[3]			●[3]	●[3]	●[3]		
	DN 50	●[3]	●[3]	●[3]	●[3]	●[3]						●[3]	●[3]	●[3]			●[3]	●[3]	●[3]		
	DN 65	●	●	●	●[2]		●	●	●								●	●	●		
	DN 80	●	●	●	●[2]		●	●	●								●	●	●		
	DN 100	●[2]	●[2]	●[2]	●[2,4]		●[2]	●[2]	●[2]								●[2]	●[2]	●[2]		
	DN 125	●[2]	●[2]	●[2]			●[2]	●[2]	●[2]												
	DN 150	●[2]	●[2]	●[2]			●[2]	●[2]	●[2]												

● Available

([1]) Provided with encapsulated coil and ISO 4400 plug
([2]) Without flow adjustment
([3]) Flanged connections with optional kit
([4]) Class B

Special versions

- The models with aluminum body can be supplied in special versions for aggressive gases such as biogas (version J from 3/8" to 6") and COG (version K from 3/8" to 4"), they are free of brass and NBR. In this case customer shall check compatibility between valve materials and gas contents.
- The valves are available with a proof-of-closure switch (POC), complying with NFPA 86 requirements (version P from 3/8" to 4"). A factory adjusted SPDT switch inside an enclosure mounted on the bottom of the valve, provides an electrical signal indicating the valve position. A two-colored led gives also a visual indication of the valve position (Red = valve open, Green = valve closed).
- All the valves with terminal box can be supplied with a special electronic board which provides full power for the opening stage, then it switches to low power consumption for the holding stage (standard from DN32 to DN150).

Optionals

- Additional G1/4 gauges in the outlet chamber: on request for the sizes 1"¼, 1"½ and 2" (standard from DN65 to DN150).
- G1/8 connection on the bottom to fit a closed position indicator switch (PCS) or visual indicator (VI): on request from 3/8" to 2" (standard from DN65 to DN150).
- Enclosure class can be increased up to IP65. The valves will be provided with a sealed terminal box and cable set.
- All the valves can be provided with a special cable gland and Ex-proof marking for use in Zones 2 and 22, according to 2014/34/EU Directive (ATEX):

category	II 3 G,D
protection mode	Ex ec IIA T4 Gc X Ex tc IIIB T135°C Dc X or Ex tc IIIC T135°C Dc X (IP65)
ambient temperature	-15 / +40 °C

- All the valves can be provided with transparent cover and LED which lights up when electrical power is supplied.
- All the valves can be provided with electrical connection made by a standard plug ISO 4400 (optional with LED indicator).
- All the valves can be provided with anodizing housing or epoxy coating to withstand the aggressive environments.
- The threaded model 2" NPT can be provided with flanged connections using an optional kit.

Design, installation and servicing

To assure a proper and safe operation, as well as a long service life of the valve, consider the following recommendations during the design of the system where the valve will be installed:

- ✓ Ensure that all the features of your system comply with the specifications of the valve (gas type, operating pressure, flow rate, ambient temperature, electrical voltage, etc.).
- ✓ Valve may be mounted with coil in horizontal or vertical position, not upside down. Coil may be oriented 360 degrees in any direction.
- ✓ In the event of vertical pipe, the flow direction should be from bottom to top.
- ✓ After removing the end caps make sure no foreign body will enter into the valve during handling or installation (e.g. swarf or excessive sealing agent).
- ✓ A gas filter should be always installed upstream the valve.
- ✓ Ensure that installing area is protected from rain and water splashes or drops.
- ✓ Perform leak and functional tests after mounting.
- ✓ The continuous service (100% ED) causes inevitable coil heating, depending on working environment. Never install the valve close to walls or other equipments. To improve the coil cooling, install the valve allowing free air circulation.
- ✓ Perform maintenance according to service instructions at least once a year (most often for aggressive gases).
- ✓ Due to seals aging, to ensure safe operation, we recommend the valve replacement after 10 years from the date of manufacture stamped on the product. The heavy cycle operation may reduce the expected lifetime.
- ✓ This control must be installed in compliance with the rules in force.
- ✓ Make sure all works are performed by qualified technicians only and in compliance with local and national codes.
- ✓ To prevent product damage and dangerous situations, read carefully the instructions supplied with the product before use.

For more details see the Installation and Service Instructions.

Standards and approvals

The product complies with the essential requirements of the following European Directives and their amendments:

2016/426/EU (Gas Appliances Regulation) CE-Reg.-No. **0063AQ1350**
2014/68/EU (Pressure Equipment Directive) CE-Reg.-No. **PED/0497/3136/16**
2014/34/EU (ATEX) when shown upon the product
2014/30/EU (Electromagnetic Compatibility)
2014/35/EU (Low Voltage Directive)
2011/65/EU (RoHS II)

The product complies with the Technical Regulations TP TC 004/2011-016/2011-020/2011-032/2013 of Russia, Belarus and Kazakhstan.

Declaration of Conformity: **№ RU Д-IT.PA01.B.08271/18**

The product is approved for Australia, certificate **GMK 10624** issued by IAPMO R&T Oceana on the basis of norm AS 4629.

The valves meet the requirements of functional safety of electrical systems according to the European standard IEC EN 61508 and are certified for systems up to SIL3.

Certificate No.: **C-IS-722161852**

The product (*) is suitable for applications complying with NFPA 86 (Class 7400).

Factory Mutual Approval Identification: **0003061781**
(*) Notice: special version applies

Quality Management System is certified according to UNI EN ISO 9001.

The information in this document contains general descriptions of technical options available and based on current specifications.

The company reserves the right to make changes in specifications and models as design improvements are introduced, without prior notice.

Elektrogas is a brand name of:

Elettromeccanica Delta S.p.A.
Via Trieste 132
31030 Arcade (TV) – ITALY

tel +39 0422 874068
www.delta-elektrogas.com
info@delta-elektrogas.com

GB SOLENOID SAFETY VALVES FOR AIR AND GAS
FAST OPENING AND FAST CLOSING TYPE

I VALVOLE ELETTROMAGNETICHE DI SICUREZZA PER ARIA E GAS
APERTURA E CHIUSURA RAPIDA

D ELEKTROMAGNETISCHES SICHERHEITSVENTIL FÜR LUFT UND GAS
SCHNELL ÖFFNEND UND SCHNELL SCHLIESSEND

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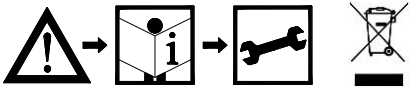
ABERTURA Y CIERRE RAPIDO

RU ПРЕДОХРАНИТЕЛЬНЫЕ КЛАПАНЫ ДЛЯ ВОЗДУХА И ГАЗА С ЭЛЕКТРОМАГНИТНЫМ УПРАВЛЕНИЕМ
БЫСТРО ОТКРЫВАЮЩИЕСЯ И БЫСТРО ЗАКРЫВАЮЩИЕСЯ

CN 气体安全**电磁阀** 快**开快闭型**

Rev. 0422

VMR



ELETTROMECCANICA DELTA S.p.A.
31030 Arcade (TV) ITALY
www.delta-elektrogas.com

EU Declaration of Conformity

Dichiarazione di Conformità / Konformitätserklärung
Déclaration de Conformité / Declaración de Conformidad

VMR

Description / Type	**Automatic shut-off valves for gas**
Descrizione / Tipo	**Valvole automatiche di sezionamento per gas**
Beschreibung / Typ	**Elektromagnetisches Sicherheitsventil für Gas**
Description / Type	**Electrovanne automatique de sécurité pour le gaz**
Descripción / Tipo	**Electroválvula automàtica de seguridad para gas**

Manufacturer / Address	**ELETTROMECCANICA DELTA S.p.A.**
Costruttore / Indirizzo	**Via Trieste, 132**
Hersteller / Adresse	**31030 Arcade (TV)**
Fabricant / Adresse	**ITALY**
Fabricante / Dirección	

Comply with the relevant European Union harmonized legislation:
Sono conformi con la legislazione armonizzata applicabile dell'Unione Europea:
Entsprechen den einschlägigen harmonisierten Rechtsvorschriften der Europäischen Union:
Sont conformes à la législation harmonisée pertinente de l'Union Européenne:
Cumplen con la legislación armonizada pertinente de la Unión Europea:

2016/426/EU (Reg.-Nr. 0063AQ1350)
2014/68/EU (Reg.-Nr. PED/0497/3136/16)
2014/30/EU, 2014/35/EU, 2011/65/EU
2014/34/EU when shown on the product
quando indicato sul prodotto
wenn auf dem Produkt angegeben
lorsqu'on lui a montré sur le produit
cuando se muestra en el producto

II 3G II 3D
Ex ec IIA T4 Gc X
Ex tc IIIB T135°C Dc X
Ex tc IIIC T135°C Dc X (IP65)

Standards / Norme / Normen / Normes / Normas:
EN 161:2013, EN 13611:2021, EN 60529:2013, EN 60730-1:2016, EN 60335-1:2013, EN 61000-6-2:2019, EN 61000-6-3:2021, EN 60079-0:2018, EN 60079-7:2018, EN 60079-31:2015

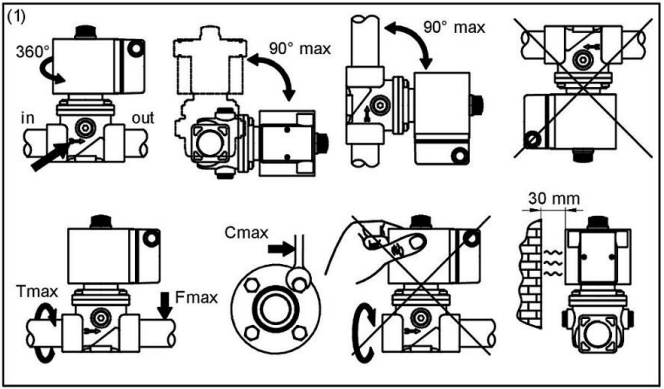
in case of proper installation / in caso di corretta installazione / nur im Falle einer ordnungsgemäßen Installation / en cas d'installation correcte / en caso de una instalación correcta.

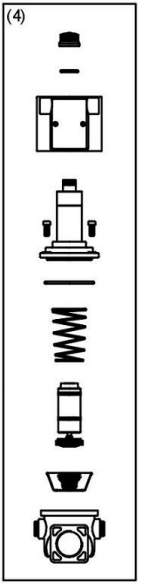
EC-Type examination certificate Certificato di esame CE del tipo EG-Baumusterprüfbescheinigung Certificat d'examen CE de type Certificado de exàmen CE de tipo	**0063AQ1350 - KIWA Nederland B.V. (GASTEC) - 21.04.2018** *for types – per modelli - für Typen - pour modèles - para tipos* PS 6bar **PED/0497/3136 – CSI S.p.A.**
EC Surveillance Sorveglianza CE EG-Überwachung Surveillance CE Vigilancia CE	**2016/426/EU mod. C2 - KIWA Cermet Italia S.p.A. - 0476** **2014/68/EU mod. D - CSI S.p.A. – 0497**
Certified Quality System Sistema Qualità Certificato Zertifiziertes Qualitätssystem Système de Qualité Certifié Sistema de Calidad Certificado	**EN ISO 9001** **KIWA Cermet Italia S.p.A.** **Nr. 11989-A**

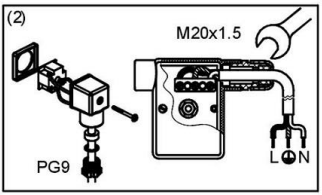
Arcade, 27.04.2022

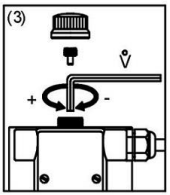
Product Quality Manager

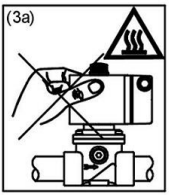
Development & Technical Manager











Model	Connections	Maximum pressure (mbar)	V' Air Δp=1mbar (m^3/h)	Power consump. 230V (W)	Fmax t<10s (Nm)	Tmax (Nm)	Cmax (Nm)	Overall Dimensions (mm)	Weight (Kg)
VMR01OTN	Rp 1/4	See Product Label	0,45	See Product Label	35	20	-	46x75x30	0,3
VMR02OTN	Rp 3/8		0,6		70	35	-	58x110x30	0,4
VMR12OTN	Rp 1/2		1,1		105	50	-	58x110x30	0,4
VMR0	Rp 3/8		2,6		70	35	-	77x142x88	1,4
VMR1	Rp 1/2		4,3		105	50	-	77x142x88	1,4
VMR2	Rp 3/4		8,5		225	85	-	96x168x88	2,5
VMR3 *	Rp 1		10		340	125	-	96x168x88	2,5
VMR35	Rp 11/4		18		475	160	-	153x224x120	5,7
VMR4	Rp 11/2		23		610	200	-	153x224x120	5,7
VMR6	Rp 2		35		1100	250	-	156x234x106	6
VMR7T	Rp 21/2		55		1600	325	-	218x300x180	11,6
VMR4F	DN40		33		610	-	50	196x270x163	7,2
VMR6F	DN50		35		1100	-	50	196x270x163	7,2
VMR7	DN 65		55		1600	-	50	305x355x200	14
VMR8	DN 80		70		2400	-	50	305x355x200	14
VMR9	DN 100		130		5000	-	80	350x452x252	33
VMR93	DN 125		220		6000	-	160	460x600x310	58
VMR95	DN 150		280		7600	-	160	460x600x310	60

OTN = Brass model (*) Flanged kit available

ELECTROVALVULA DE SEGURIDAD RAPIDA VMR

E

CLASE A - GRUPO 2 (EN 161)

La electroválvula del tipo VMR es una válvula de seguridad normalmente cerrada. En condiciones de reposo, el muelle actúa sobre la clapeta de la válvula impidiendo así cerrada el paso del gas. Cuando se alimenta la bobina, la válvula se abre. Cuando la corriente de alimentación se corta, la válvula se cierra rápidamente.

Este tipo de mecanismo es apto para el cierre de aire y gas y controles de regulación en quemadores atmosféricos o quemadores asistidos por ventilación, en hornos industriales y en todos los equipos que usen electrovalvule para gas (apto para un servicio en continuo - 100% ED).

1- INSTALACION (Solamente técnicos cualificados y de acuerdo con las normas en vigor)

⚠ **Cortar el suministro de gas y quitar la tensión antes de desmontar cualquier parte del sistema.**

Verificar la concordancia entre el sentido del flujo y la flecha en relieve sobre el cuerpo de la válvula. Controlar la adecuada alineación de los tubos de conexión y observar que la distancia entre las paredes permite una libre circulación del aire. Evite de apretar demasiado y utilice las herramientas apropiadas. En toda instalación es recomendable colocar un filtro en el inicio (d< 1mm). La válvula se puede montar con la bobina horizontal o vertical. La bobina puede orientarse ella misma en cualquier dirección del los 360º. Instalarla en un lugar protegida de la lluvia, de los chorros o de goteos de agua.

2- CONEXION ELECTRICA (IEC 730-1)

Quitar la tapa de protección y conectar los cables de alimentación al bornero. Respete los símbolos impresos. Utilice la glándula de cable correctamente. Si los cables pasan por el orificio originalmente cerrado, cierre el orificio abierto con una tapa adecuada.

⚠ **Realice el escape y las pruebas funcionales después de montar.**

3- AJUSTE DEL CAUDAL

El caudal es regulable desde 0 m3/h hasta el valor máximo indicado en la placa (salvo en modelos de latón y 4"-5"-6"). Después de quitar el capuchón de fijación de la bobina, girar el tornillo de ajuste situado bajo el tornillo sin la cabeza de bloqueo. Se aconseja realizar el ajuste del caudal con el quemador en funcionamiento y después de haber hecho el ajuste, apretar el tornillo sin la cabeza de bloqueo. No hay que hacer reglajes por debajo del 40% del caudal, ya que podría provocar turbulencias.

⚠ **La bobina puede estar caliente, evite tocarla.**

4- LIMPIEZA Y MANTENIMIENTO (Una vez al año)

Se puede limpiar fácilmente el filtro o el alojamiento del paso del gas de polvo o de cualquier otra partícula extraña. Después de haber cerrado el gas, aguas arriba y quitada la tensión, desplazar la bobina y desatornillar los tornillos que fijan la contrabrida al cuerpo de la válvula. Durante esta operación tener cuidado en no dañar el alojamiento de la clapeta y las pequeñas bandas que deslizan.

Duración recomendada: 10 años (ver fecha de fabricación en la etiqueta: wwyy).

5- ELIMINACIÓN DE PRODUCTO

El dispositivo contiene componentes electrónicos y, por lo tanto, no puede eliminarse como un residuo doméstico normal. Para el procedimiento de eliminación, consulte las normas locales vigentes para residuos especiales.

6- CARACTERÍSTICAS TÉCNICAS

Conexiones	: rosca gas ISO 7-1 de Rp1/4 a Rp2½
	: embridadas ISO 7005-PN16 de DN40 a DN150
Tensión nominal	: 230VAC, 110VAC, 24V AC/DC, 12V AC/DC
Tolerancia de tensión	: -15% / +10%
Temperatura de trabajo	: -15°C / +60°C
Presión de trabajo max. (Pmax)	: consulte la etiqueta del producto
Presión de prueba	: 1,5·Pmax
Tiempo de apertura	: < 1 segundo
Tiempo de cierre	: < 1 segundo
Raccord cables (EN 50262)	: M20x1,5 para cable Ø8/10 (PG9 para conector estándar cable Ø6/8)
Tomas de presión	: G1/4 en los dos lados (salvo en modelos de latón)
Preparado para fin de carrera	: bajo pedido
Filtro	: 600 µm (salvo en modelos de latón)
Tipo de gas (EN 437)	: Aire y gases no agresivos 1, 2 y 3 (solamente estado gaseoso) (versión especial para gases agresivos o COG - *compatibilidad del contenido del gas y de los materiales de la válvula son de verificar antes de la instalación)

INSTALACIÓN ATEX: Condiciones especiales para un uso seguro (X)

1) Temperatura ambiente -15°C/+40°C; 2) Bajo peligro mecánico; 3) Limpiar con un paño de niebla; 4) No desconecte el enchufe cuando se activa; 5) Asegurar una conexión a tierra externa de la carcasa de la válvula.

Elektrogas se reserva el derecho de hacer cambios técnicos sin previo aviso.

CERTIFICATE

Number	18GR0639/01	**Replaces**	18GR0639/00
Issue date	12-10-2020	**Contract number**	E1350
Due date	12-10-2030	**Module**	B (Type testing)
Report number	120341	**Scope**	(EU) 2016/426 (9 March 2016)
PIN	0063AQ1350		

EU TYPE EXAMINATION CERTIFICATE (GAR)

Kiwa hereby declares that the automatic shut-off valve, type(s):

VML,
VMM,
VMR

Manufacturer

Elettromeccanica Delta S.p.A. with trademark Elektrogas
Arcade (TV), Italy

meet(s) the essential requirements as described in the
Regulation (EU) 2016/426 relating to appliances burning gaseous fuels.

Reference standard: EN 161:2011 + A3:2013

This certificate is only valid in combination with the appendix to this certificate, where specific information and/or conditions are given.

Kiwa Nederland B.V.
Wilmersdorf 50
P.O. Box 137
7300 AC APELDOORN
The Netherlands
www.kiwaenergy.com
GASTEC

Ron Scheepers
Kiwa