



VML
VML 60

Safety solenoid valves for gas
Slow opening and fast closing type
DN10 ... DN80

VML

VML 60

Safety solenoid valves for gas
Slow opening and fast closing type

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Description

The VML type valve is a slow 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

VML valves are made of aluminum alloy die-cast, with a wide range for inlet/outlet connections from DN10 (3/8") up to DN80 (3").

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 brass 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 max. flow rate and start flow rate adjustment.

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

A proof of closure switch or a visual indicator can be installed (see PCS-VI datasheet for details); in this case the valve has to be equipped with 1/8" connection on the bottom. Models from 2"½-DN65 and above have this features, smaller models can have it on request.

Provided with 1/4" pressure gauge on two sides in the inlet chamber, to connect manometers, pressure switches, leakage tester or other gas equipment. Models from 2"½-DN65 and above are provided with pressure test points also in the outlet chamber (on request on 1"¼-1"½-2" models).

The coils are provided with terminal box or with ISO 4400 plug (optional).

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 VML 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.

In the inlet chamber there is 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 slowly because of the hydraulic brake, against the strength of the spring and gas pressure. The rapid stroke may be adjusted using the regulating screw on the top (see the installation and service instructions), to adjust the initial gas flow. Main flow and opening time can be adjusted also.

If the power supply is shut off, the valve rapidly closes, interrupting the gas flow.

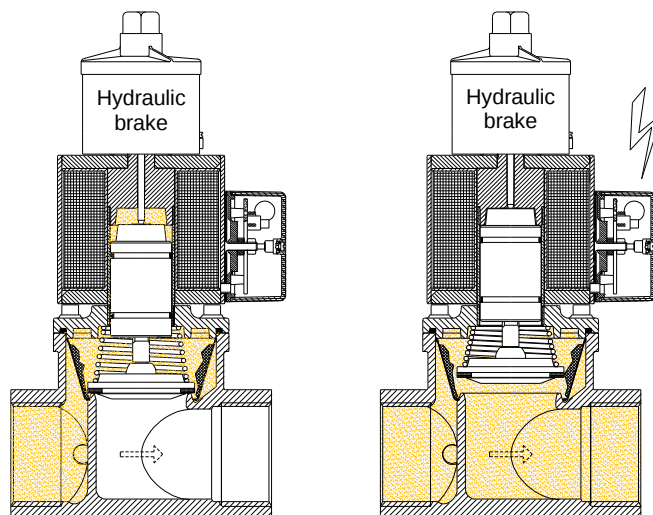


Fig.1

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.

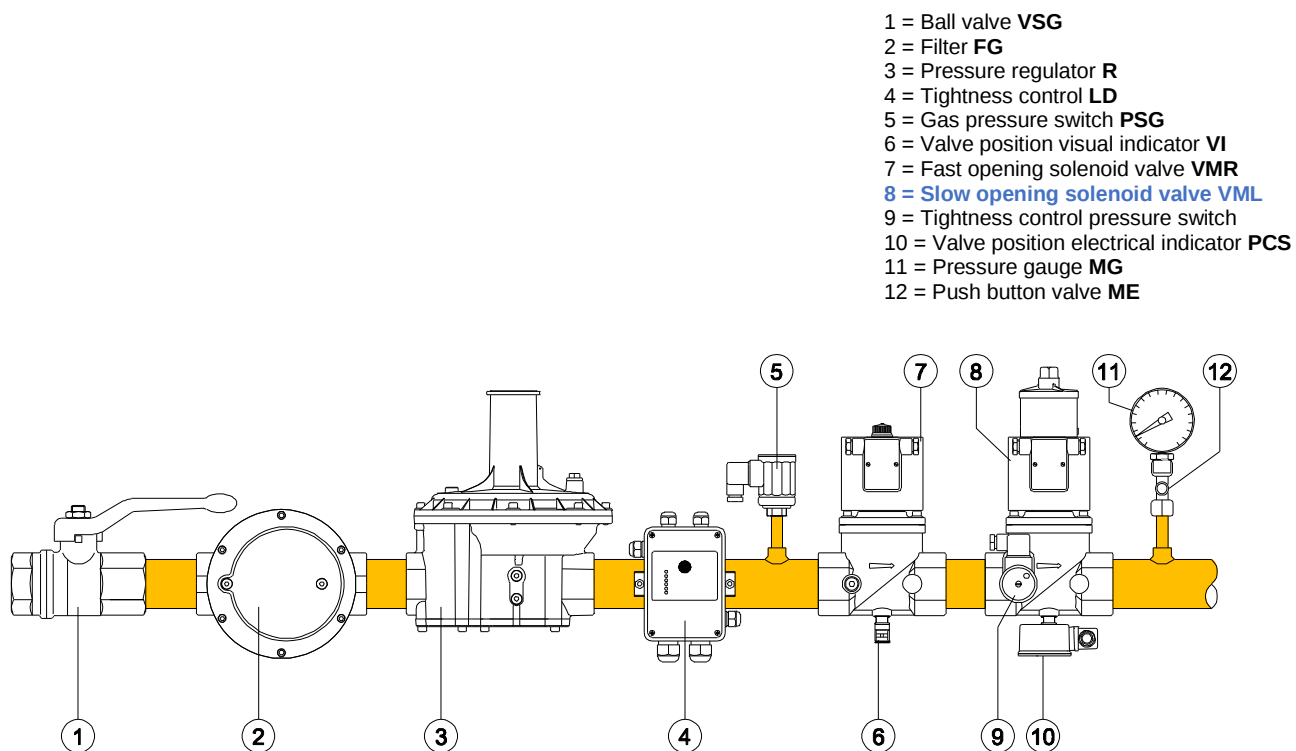


Fig.2

Technical specifications

Tab. 1

Connections	Internal threaded EN 10226-1 from Rp3/8 to Rp2½ or ANSI-ASME B1.20 from 3/8"NPT to 2"½NPT Flanged ISO 7005 PN16 from DN40 to DN80 or ANSI- ASA- ASME B16.5 class 150 from 2" to 3"		
Voltage ratings	230 VAC 50/60 Hz 120 VAC 50/60 Hz 110 VAC 50/60 Hz 24 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 360 mbar 500 mbar 6 bar *	(3 psig) (5 psig) (7 psig) (90 psig)	
Max test pressure	1 bar 9 bar *	(15 psig) (130 psig)	
Closing time	< 1 second		
Opening time	Adjustable		
Gas strainer	600 µm (0,02 in), metal mesh (except 6bar versions)		
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	Aluminum 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 [W]		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
3/8"-1/2"	O	20	20	20	20	-	-	-	-	-	-	20	20	20	-	-	20	20	20	-	-
	H	20	5	20	20	-	-	-	-	-	-	20	5	20	-	-	20	5	20	-	-
3/4"-1"	O	35	45	35	30	-	-	-	-	-	-	35	45	35	-	-	35	45	35	-	-
	H	35	11	35	30	-	-	-	-	-	-	35	11	35	-	-	35	11	35	-	-
1"¼-1"½-2"	O	180	180	180	65	-	-	-	-	-	-	180	180	180	-	-	180	180	180	-	-
	H	45	45	45	65	-	-	-	-	-	-	45	45	45	-	-	45	45	45	-	-
2"½-3"	O	180	180	180	-	-	240	240	240	-	-	-	-	-	-	-	240	240	240	-	-
	H	45	45	45	-	-	60	60	60	-	-	-	-	-	-	-	60	60	60	-	-

O – opening power consumption

H – holding power consumption

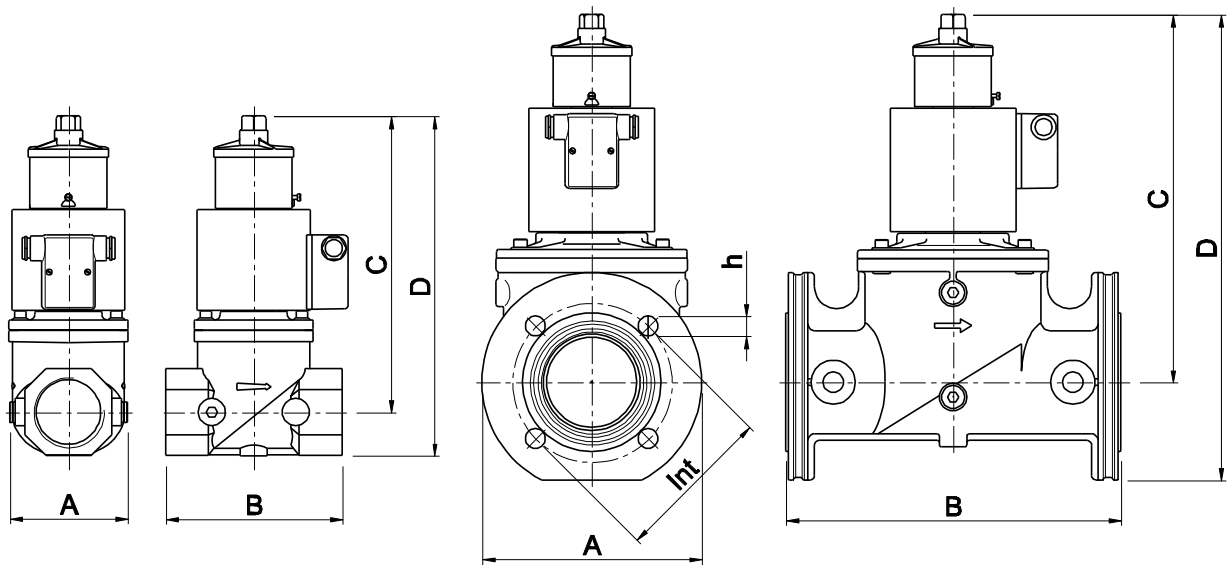


Fig. 3

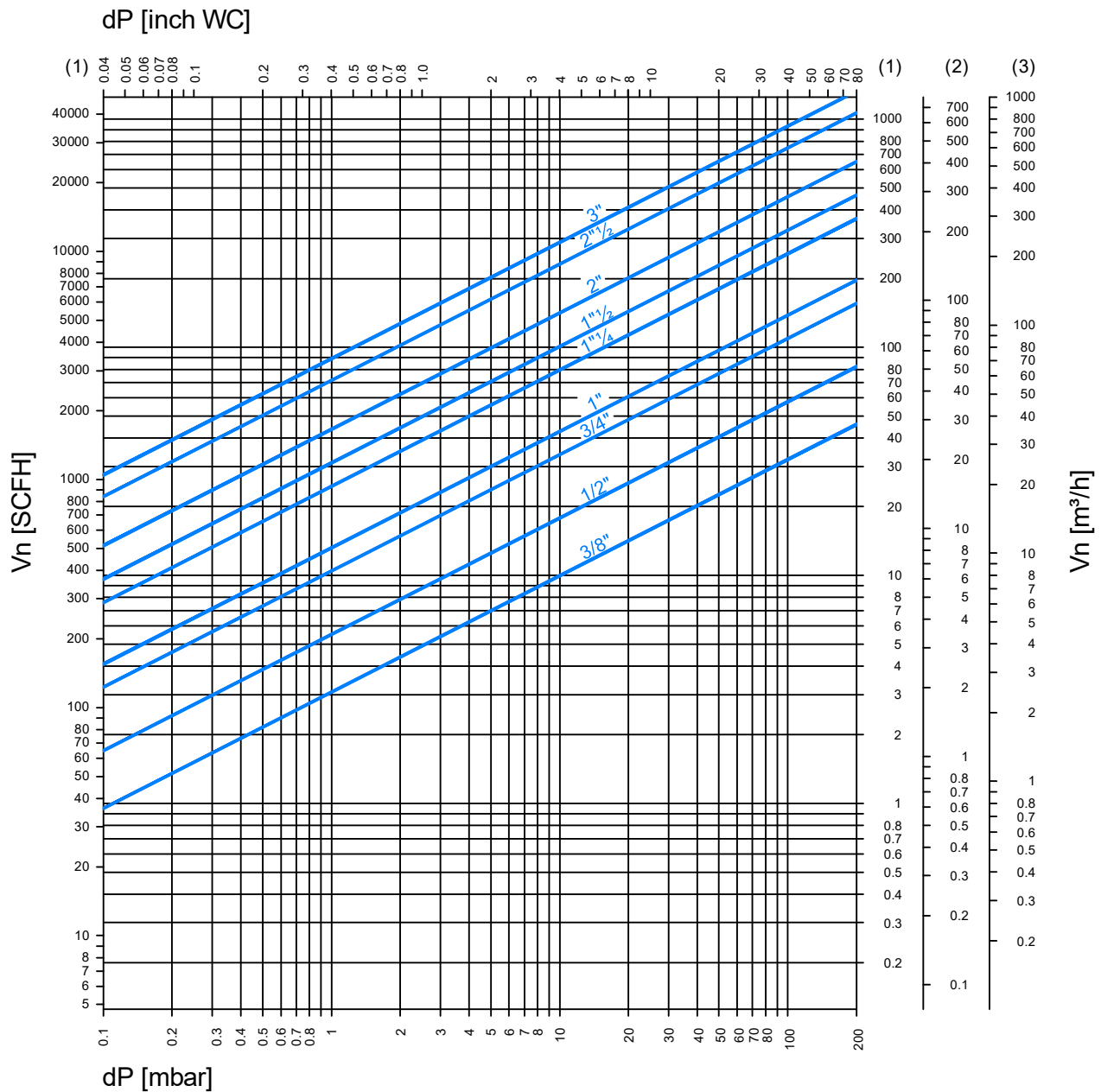
Tab. 3

Material and connections		Overall dimensions [mm] [in]					Weight [Kg] [lbs]
AlSi		A	B	C	D	Int	h
Rp3/8		88	77	180	196	-	-
	3/8"NPT	3,15	3,03	7,09	7,72	-	-
Rp1/2		88	77	180	196	-	-
	1/2"NPT	3,15	3,03	7,09	7,72	-	-
Rp3/4		88	96	200	222	-	-
	3/4"NPT	3,46	3,78	7,87	8,74	-	-
Rp1		88	96	200	222	-	-
	1"NPT	3,46	3,78	7,87	8,74	-	-
Rp1¼		120	153	261	294	-	-
	1¼"NPT	4,72	6,02	10,28	11,57	-	-
Rp1½		120	153	261	294	-	-
	1½"NPT	4,72	6,02	10,28	11,57	-	-
Rp2		106	156	265	304	-	-
	2"NPT	4,17	6,14	10,43	11,97	-	-
Rp2½		180	218	324	370	-	-
	2½"NPT	7,09	8,58	12,76	14,57	-	-
DN40		165	196	265	341	110	4x18
	-	-	-	-	-	-	-
DN50		165	196	265	341	125	4x18
	2"ANSI ¹	6,50	7,72	10,43	13,70	4,75	4x¾
DN65		200	305	336	425	145	4x18
	2½"ANSI	7,87	12,01	13,23	16,73	5,50	4x¾
DN80		200	305	336	425	160	8x18
	3"ANSI	7,87	12,01	13,23	16,73	6,00	4x¾

(1) Flanged connection with optional kit

Gas flow chart

(Pressure drop)



Formula of conversion from air to other gases

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

$$k = \sqrt{\frac{\rho_{\text{AIR}}}{\rho_{\text{GAS}}}}$$

Tab. 4

Gas type	Density ρ [Kg/m³]
(1) Natural gas	0,80
(2) LPG	2,00
(3) Air	1,225

15°C, 1013 mbar, dry

When the flow read on the diagram is referred to operating pressure instead of standard conditions, the pressure drop Δp read on the diagram must be multiplied for the factor: $(1 + \text{relative pressure in bar})$

Example:

In the 2" solenoid valve with an air flow of 80 m³/h at standard conditions there is a pressure drop $\Delta p = 5$ mbar.

If we consider that 80 m³/h is the flow at 200 mbar of inlet pressure, then the pressure drop to be consider is:

$$\Delta p = 5 \times (1 + 0,2) = 6 \text{ mbar}$$

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:

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

where

V_n = flow rate at standard conditions [m³/h]
 K_v = flow factor [m³/h]
 ρ = density [Kg/m³]
 p_1 = absolute inlet pressure [bar]
 p_2 = absolute outlet pressure [bar]
 Δp = 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	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	DN65	DN80
m ³ /h	2,9	4,8	9,5	12	22	29	40	65	65	80



Valve must be selected considering the following:

- Pressure drops $\Delta p \leq 0,1 p_1$ are recommended and $\Delta p > p_1/2$ are always undesirable
- Flow velocities $w \leq 15$ m/s are recommended and $w > 50$ m/s are always undesirable.

Ordering Information

Tab.6

				VML	1	-5	N	.B	J	
Valve type										
Size										
0	3/8"	6	2"							
1	1/2"	7	2"½							
2	3/4"	8	3"							
3	1"									
35	1"¼									
4	1"½									
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 (1"½-2" only)									
N	US market version (FM approved - NPT thread / ANSI flange)									
T	Threaded connection (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									
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)									
HF	Hydrogen									
Y	NPT thread / ANSI flange									
I	Electrical connection with ISO 4400 plug									
M	Bottom connection for disc position indicator (for valve till 2")									
T	Transparent cover to see led on electronic board									
T1	Transparent cover and ISO 4400 plug									
O	IP65 protection with 1.5 m cable									
O1	IP65 protection with ISO 4400 plug									
G	4 pressure points (for valves 1"¼ to 2")									
X	Ex execution for zone 2 and 22 (see optional paragraph for details)									
Z	Anodization of housing and external aluminum parts									
Z1	Epoxy body coating and anodization of inner aluminum part									

Models available:

Tab.7

	200 mbar (3 psig)				360 mbar (5 psig)				500 mbar (7 psig)				6 bar (90 psig)			
	230V	120V	110V	24V	230V	120V	110V	24V	230V	120V	110V	24V	230V	120V	110V	24V
3/8"	●	●	●	●					●	●	●		●	●	●	
1/2"	●	●	●	●					●	●	●		●	●	●	
3/4"	●	●	●	●					●	●	●		●	●	●	
1"	●	●	●	●					●	●	●		●	●	●	
1" ¹ / ₄	●	●	●	●					●	●	●		●	●	●	
1" ¹ / ₂	●	●	●	●					●	●	●		●	●	●	
2"	●	●	●	●					●	●	●		●	●	●	
2" ¹ / ₂	●	●	●		●	●	●						●	●	●	
3"	●	●	●		●	●	●						●	●	●	

● Available

Special versions and options

- **L:** valves with terminal box and size 3/8"-1" can be supplied with special electronic board which provides full power for the opening stage, then it switches to low power consumption for the holding stage (standard from 1"¼ to 3").
- **P:** valves from 3/8" (3/4" for 6bar models) to 3" are available with proof-of-closure switch (POC), complying with NFPA 86 requirements. A factory adjusted SPDT switch inside an enclosure mounted on the bottom of the valve, provides an electrical signal indicating valve position. A two-colored led gives also a visual indication of the valve position (Red = valve open, Green = valve closed).
- **J:** valves can be supplied in special version for aggressive gases such as biogas. They are free of brass and NBR. In this case customer shall check compatibility between valve materials and gas contents.
- **K:** models with working pressure till 500mbar can be supplied in special version for aggressive and dirty gases such as COG. They are free of brass and NBR and have additional protection of internal mechanism. As these gases usually have high content of hydrogen, tightness test is performed with helium. In this case customer shall check compatibility between valve materials and gas contents.
- **HF:** valves can be manufactured with additional treatment and tightness test with helium, so that they are suitable to be used with hydrogen.
- **Y:** valves can be provided with NPT threads or ANSI flanges instead of Rp thread or PN 16 flanges;
- **I:** valves can be provided with electrical connection made by a standard plug ISO 4400.
- **M:** valves from 3/4" to 2" can be equipped with G1/8 connection on the bottom to fit a closed position indicator switch (PCS) or visual indicator (VI) (standard from DN65 to DN80).
- **T:** valves can be provided with transparent cover and LED which lights up when electrical power is supplied.
- **T1:** valves can be provided with transparent cover to see LED light when coil is powered and connection with standard plug ISO 4400.
- **O:** enclosure class can be increased up to IP65. The valves will be provided with a sealed terminal box and cable set.
- **O1:** enclosure class of connection with standard plug ISO 4400 can be increased up to IP65 with additional sealing;
- **G:** models 1"¼, 1"½ and 2" can have additional G1/4 pressure test points in the outlet chamber (standard from DN65 to DN80).
- **X:** valves can be provided with EX execution 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 or Ex ec IIB+H2 T4 Gc X (HF version) Ex tc IIIB T135°C Dc X or Ex tc IIIC T135°C Dc X (IP65 version)
ambient temperature	-15 / +40 °C
- **Z:** aluminum valves can be supplied with anodized housing and external components, to withstand aggressive environments.
- **Z1:** aluminum valves can be supplied with epoxy body coating and anodized inner components, to withstand aggressive gases.

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 from bottom to top is advisable.
- ✓ 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 equipment. 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)
2014/68/EU (Pressure Equipment Directive)
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)

CE-Reg.-No. 0063AQ1350
CE-Reg.-No. PED/0497/3138/16

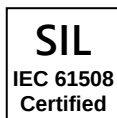


The product complies with the Technical Regulations TP TC 004/2011-016/2011-020/2011-032/2013 of Russia, Belarus and Kazakhstan.

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.: **TUV IT 22 SIL 0118**



The product (*) is suitable for applications comply 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.

Visit Elektrogas website for updates and further details.

Elektrogas is a brand name of:

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31030 Arcade (TV) – ITALY

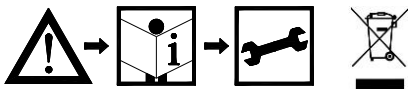
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GB	SOLENOID SAFETY VALVES FOR AIR AND GAS SLOW OPENING AND FAST CLOSING TYPE
I	VALVOLE ELETTROMAGNETICHE DI SICUREZZA PER ARIA E GAS APERTURA LENTA E CHIUSURA RAPIDA
D	ELEKTROMAGNETISCHES SICHERHEITSVENTIL FÜR LUFT UND GAS LANGSAM ÖFFNEND UND SCHNELL SCHLIESSEND
F	ELECTROVANNE AUTOMATIQUE DE SECURITE POUR L'AIR ET LE GAZ OUVERTURE LENTE ET FERMETURE RAPIDE
E	ELECTROVALVULA AUTOMATICA DE SEGURIDAD PARA AIRE Y GAS ABERTURA LENTA Y CIERRE RAPIDO
RU	ПРЕДОХРАНИТЕЛЬНЫЕ КЛАПАНЫ ДЛЯ ВОЗДУХА И ГАЗА С ЭЛЕКТРОМАГНИТНЫМ УПРАВЛЕНИЕМ МЕДЛЕННО ОТКРЫВАЮЩИЕСЯ И БЫСТРО ЗАКРЫВАЮЩИЕСЯ
CN	气体安全电磁阀 - 慢开快闭型

Rev. 0422

VML



EU Declaration of Conformity

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

VML

Description / Type
Descrizione / Tipo
Beschreibung / Typ
Description / Type
Descripción / Tipo

Automatic shut-off valves for gas
Valvole automatiche di sezionamento per gas
Elektromagnetisches Sicherheitsventil für Gas
Electrovanne automatique de sécurité pour le gaz
Electroválvula automática de seguridad para gas

Manufacturer / Address
Costruttore / Indirizzo
Hersteller / Adresse
Fabricant / Adresse
Fabricante / Dirección

ELETTROMECCANICA DELTA S.p.A.
Via Trieste, 132
31030 Arcade (TV)
ITALY

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 / Normas:

EN 161:2013, EN 13611:2021, EN 60529:2013, EN 60730-1:2015, EN 60335-1:2017,
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 examen 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/0497/3136/16 – CSI S.p.A. – 02.02.2016

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

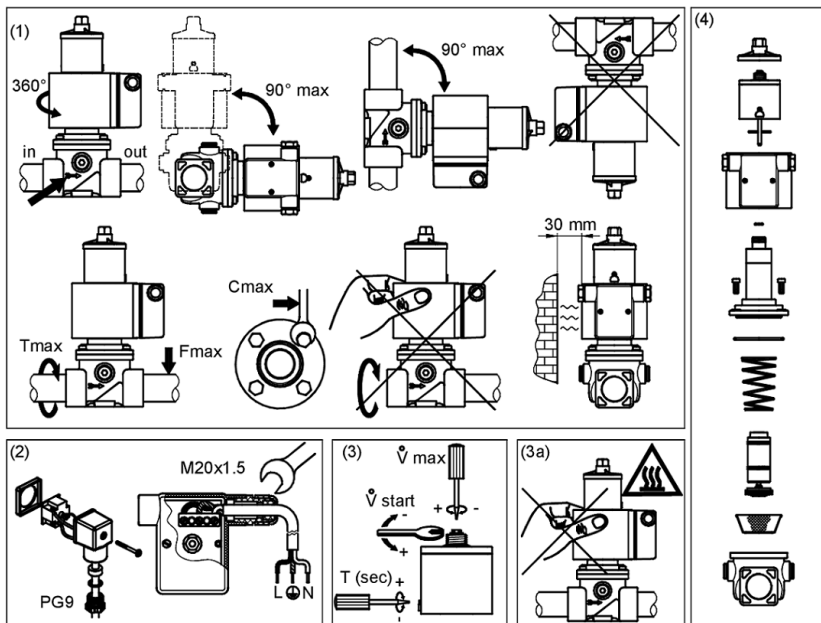
Certified Quality System
Sistema Qualità Certificato
Zertifiziertes Qualitätssystem
Système de Qualité Certifié
Sistema de Calidad Certificado

EN ISO 9001
KIWA Cermet Italia S.p.A.
Nr. 11989-A

Arcade, 26.04.2022

Product Quality Manager

Development & Technical Manager



DN65 - DN80 → $V_{start} \geq 3 \text{ mm}$

Model	Connections	Maximum pressure (mbar)	V' Air $\Delta p=1\text{mbar}$ (m³/h)	Power consump. 230V (W)	Fmax $t \leq 10\text{s}$ (Nm)	Tmax (Nm)	Cmax (Nm)	Overall Dimensions (mm)	Weight (Kg)
VML0	Rp 3/8	See Product Label	2,6	See Product Label	70	35	-	77x196x88	1,8
VML1	Rp 1/2		4,3		105	50	-	77x196x88	1,8
VML2	Rp 3/4		8,5		225	85	-	96x222x88	2,7
VML3 *	Rp 1		10		340	125	-	96x222x88	2,7
VML35	Rp 1 1/4		18		475	160	-	153x294x120	6
VML4	Rp 1 1/2		23		610	200	-	153x294x120	6
VML6	Rp 2		35		1100	250	-	156x304x106	6,3
VML7T	Rp 2 1/2		55		1600	325	-	218x370x180	12,1
VML4F	DN40		33		610	-	50	196x341x163	7,5
VML6F	DN50		35		1100	-	50	196x341x163	7,5
VML7	DN 65		55		1600	-	50	305x425x200	14,5
VML8	DN 80		70		2400	-	50	305x425x200	14,5

(*) Flanged kit available

ELECTROVALVULA DE SEGURIDAD LENTA VML

E

CLASE A - GRUPO 2 (EN 161)

La electroválvula del tipo VML es una válvula de seguridad normalmente cerrada, con la abertura rápida o lenta, con la sección rápida ajustable para el flujo inicial del gas. 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 rápidamente en la primera sección del flujo, entonces lentamente, con velocidad ajustable. 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 electroválvula 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 ($d < 1\text{mm}$). La válvula se puede montar con la bobina horizontal o vertical. La bobina puede orientarse ella misma en cualquier dirección del los 360°. Instalarla en un lugar protegida de la lluvia, de los chorros o de goteos de agua.

2- CONEXION ELECTRICA (IEC 730-1)

Quite la cubierta de la protección y conecte los cables de transmisión con el tablero terminal del circuito del rectificador. Respete los símbolos impresos. Utilice la glándula de cable correctamente. Si los cables pasan con la abertura originalmente cerrada, utilice la cápsula de goma colocada por debajo del casquillo para cerrar cualquier otra abertura.

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

3- AJUSTE DEL CAUDAL

La capacidad se puede ajustar a partir de 0 metros/h cúbicos al máximo marcado en la placa dando vuelta al tornillo de ajuste interno debajo del casquillo superior, y dando vuelta al tornillo externo, la longitud de la sección rápida del flujo puede ser ajustada. Cerciórese de que los ajustes de la capacidad estén hechos mientras que la horquilla está en la operación. Los ajustes debajo de la capacidad del 40% son inadvisable puesto que pueden causar turbulencia. Es también posible regular el tiempo de la aberturando vuelta al tornillo situado en el lado.

⚠ La bobina puede estar caliente, evite tocarla.

4- LIMPIEZA Y MANTENIMIENTO (Una vez al año)

El polvo y cualquier cuerpo extranjero se pueden quitar fácilmente del filtro o de la zona del paso del gas. Después de apagar el gas por aguas arriba y la corriente eléctrica, la bobina es quitada desatornillando el amortiguador situado en su tapa. El gran cuidado se debe tomar para no forzar la barra de lado, y para comprobar limpieza y el centro de los 2 anillos o que sellan. Desatornille los tornillos que fijan el reborde al cuerpo de válvula. Durante esta operación el cuidado se debe tomar para no causar daño al asiento y al abrazaderas.

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

⚠ Evite de desmontar o de tratar de forzar con el amortiguador.

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 H/H	: rosca gas ISO 7-1 de Rp3/8 a Rp2½
	: embreadas ISO 7005-PN16 de DN40 a DN80
Tensión nominal	: 230VAC, 110VAC, 24V 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	: ajustable (4/ 25 s)
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
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.

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



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.