

**Combination Control  
Solenoid valve with  
pressure reducing or  
ratio control**

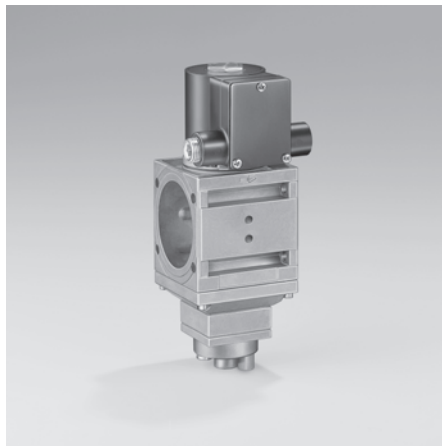
**GV..ML**

**MODULINE®**



**Combination Control  
Solenoid valve with pressure  
reducing or ratio control  
GV..ML**

- /// High regulating precision
- /// Broad outlet pressure range with only one regulator spring
- /// Suitable for intermittent operation
- /// Robust design, long service life
- /// Versatility through MODULINE design
- /// Kromschroder is a company certified to ISO 9001



**Approvals by  
FM**

**Application**

The MODULINE range includes a number of coordinated modules for use in industry and commerce either on their own or as compact lines.

We combine, test and deliver compact gas trains for use in industry and commerce in accordance with your specifications.

- Many possible combinations for various operating modes
- Completely assembled and tested before delivery
- Compact, space-saving design
- Can also be supplied as stand-alone devices

**Technical Description**

Valve with spring-loaded valve disk, normally closed.

**GVS:** Pressure reducing regulator with universal range of application and high regulating precision.

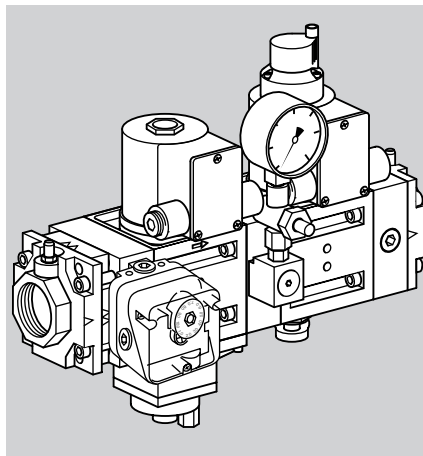
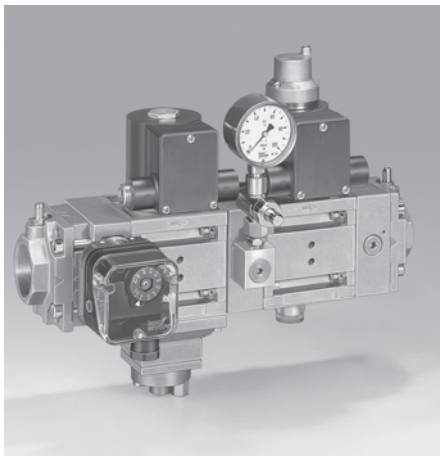
**GVI:** Gas/air ratio control for maintaining a constant gas/air ratio.

Valve housing: Die cast aluminium

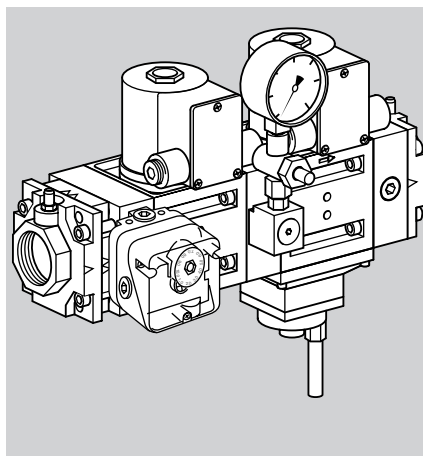
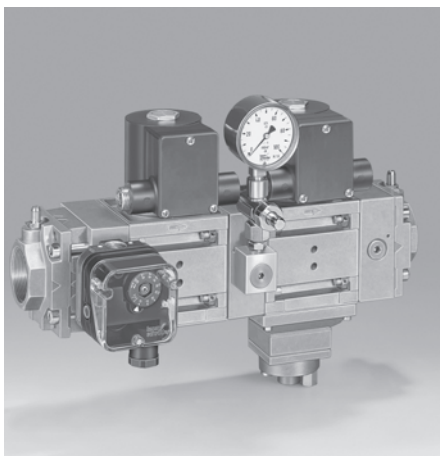
O-rings: Buna N (NBR)

Valve disk seal: Buna N (NBR).

Connection flange with NPT thread.

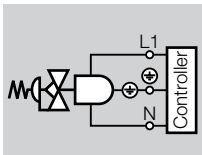


- FL..E Inlet connection flange
- FB Filter module
- PB Intermediate element with pressure switch DG
- GVS Solenoid valve with pressure reducing regulator
- PB Intermediate element with attachment bracket
- KFM Pressure gauge with manual cock DH
- VS..L Solenoid valve, slow opening with visual indicator VI
- PB Intermediate element
- FL..A Outlet connection flange



- FL..E Inlet connection flange
- FB Filter module
- PB Intermediate element with pressure switch DG
- VS..N Solenoid valve, quick opening with visual indicator VI
- PB Intermediate element with attachment bracket
- KFM Pressure gauge with manual cock DH
- GVI Solenoid valve with gas/air ratio control
- PB Intermediate element
- FL..A Outlet connection flange

Type of gas: natural gas, LPG and air.  
 Max. operating pressure:  
 GV..02: 2 psig (140 mbar).  
 Flow rate: Refer to flow diagram or specification table.  
 Closing time: <1 s.  
 Voltage for power supply:  
 120 V AC +10/-15 %, 50/60 Hz.



Solenoids are operated with d.c. coils, with a full wave rectifier circuit located in valve terminal box.

There are two grounding screws in the terminal box.

Power factor of solenoid coil:  $\cos \phi = 1$ , the electrical rating as per specification table is the same during start-up or continuous operation.

Duty cycle: continuous.

Conduit connection: 1/2" NPT

Terminal: Maximum 14 gauge wire size.

Typ of enclosure: NEMA 3.

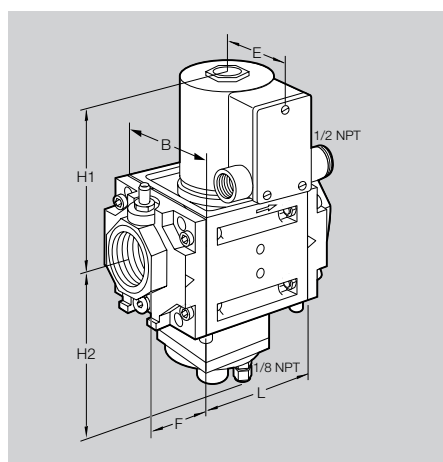
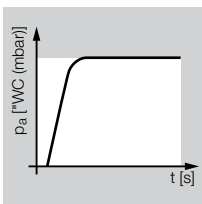
Ambient temperature: -4 to 140 °F (-20 to 60 °C).

### Solenoid valve with pressure reducing regulator GVS..ML

For shut-off and regulating the system pressure in gas lines.

#### Function

The set outlet pressure is maintained constant after valve opens. After closing, the solenoid valve reliably shuts off the gas supply. In the event of diaphragm rupture full inlet gas pressure will be recognized downstream and the high pressure switch will close the gas valve, eliminating any leakage



downstream.

#### Technical data

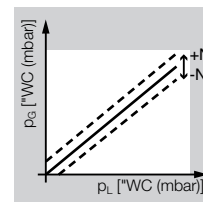
Outlet pressure  $p_a$ : 1 to 40 "WC (2 to 100 mbar),  
 factory setting: approx. 4 "WC (10 mbar).  
 Connection for vent pipe: 1/8" NPT.

### Solenoid valve with gas/air ratio control GVI..ML

For safeguarding proportionally controlled burners with impulse line between gas and air. The GVI can also be used as a zero-pressure regulator on gas/air mixers/venturies.

#### Function

When the solenoid valve opens, the regulator maintains the gas outlet pressure constant dependent on the air impulse pressure. For minimum flow, the gas-air mixture is varied by adjusting the regulator spring. High fire is set by means of restrictors on the burner.



#### Technical data

Air control pressure  $p_L$ : 0.2 to 48 "WC (0.5 to 120 mbar).

Outlet pressure  $p_G$ : 0.2 to 48 "WC (0.5 to 120 mbar)

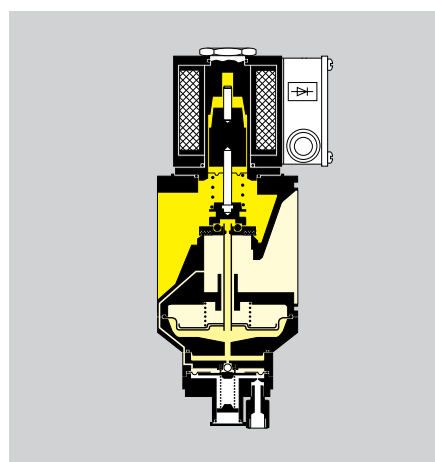
as zero-pressure regulator:  
 down to -4 "WC (-10 mbar).

Range of adjustment at minimum flow:  
 -2 to +2 "WC (-5 to +5 mbar).

Gas/air ratio: 1:1.

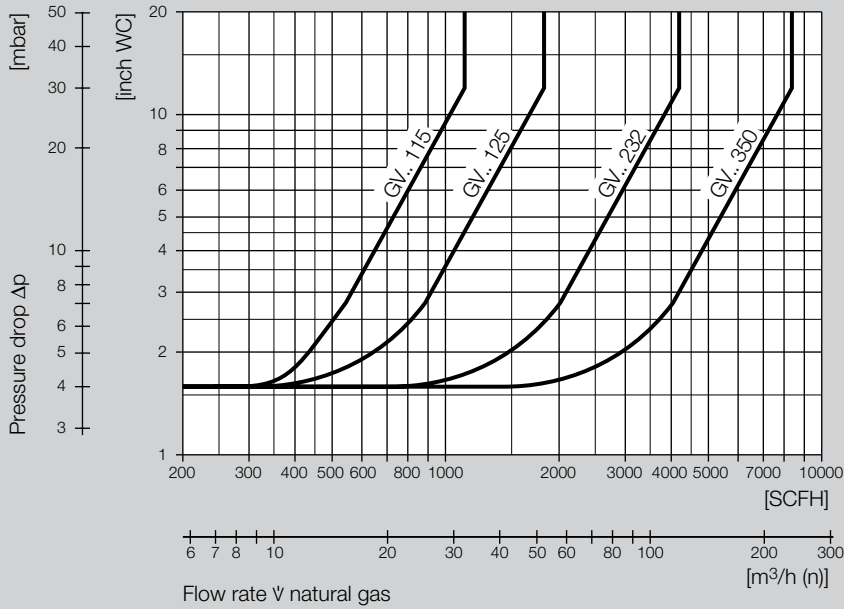
The inlet gas pressure must always be higher than the air impulse pressure (4 "WC + pressure drop).

Connection of the impulse line: 1/8" NPT.



Type	Nominal diameter		Connection Flange NPT	Dimensions								$V_{air}$ in SCFH with $\Delta p = 4"$ WC	P 120 VAC VA=W		Weight				
	inch	mm		L	B	H1	H2	E	F	LBS	kg								
GVS 115ML02Q9	1/2	15	3/8, 1/2, 3/4, 1	2.36	60	2.36	60	4.29	109	3.90	99	2.56	65	1	25	530	31	3.3	1.5
GVS 125ML02Q9	1	25	3/8, 1/2, 3/4, 1	2.36	60	2.36	60	4.29	109	3.90	99	2.76	70	1	25	880	31	4.2	1.9
GVS 232ML02Q9	1 1/4	32	1, 1 1/4, 1 1/2	3.76	96	3.76	96	5.28	134	5.47	139	2.95	75	1.34	34	2120	36	7.7	3.5
GVS 350ML02Q9	2	50	1 1/2, 2	5.12	130	5.12	130	9.06	230	6.30	160	3.15	80	1.65	42	3885	64	17	7.6
GVI 115ML02Q9	1/2	15	3/8, 1/2, 3/4, 1	2.36	60	2.36	60	4.29	109	3.90	99	2.56	65	1	25	460	31	3.3	1.5
GVI 125ML02Q9	1	25	3/8, 1/2, 3/4, 1	2.36	60	2.36	60	4.29	109	3.90	99	2.76	70	1	25	845	31	4.2	1.9
GVI 232ML02Q9	1 1/4	32	1, 1 1/4, 1 1/2	3.76	96	3.76	96	5.28	134	5.47	139	2.95	75	1.34	34	1975	36	7.7	3.5
GVI 350ML02Q9	2	50	1 1/2, 2	5.12	130	5.12	130	9.06	230	6.30	160	3.15	80	1.65	42	3530	64	17	7.6

### Flow Rate



**To correct for any conditions**

Flows in the diagram are at 60 °F, sea level (14.7 PSIA), with a supply pressure to the regulator of 1 PSIA+PSIG. To correct for other conditions, use the following formula:

$$\text{Corrected flow} = V \times \sqrt{\frac{0.62 \square}{\text{S.G.}} \times \frac{460 + \square^{\circ}\text{F}}{520} \times \frac{15.7 \square}{\text{PSIA} + \text{PSIG}}}$$

- Where  
 V = Flow from diagram  
 °F = Gas temp. through regulator,  
 S.G. = Specific gravity of gas,  
 PSIA = Barometric pressure,  
 PSIG = Supply pressure to regulator.

- s.g. natural gas = 0.62
- s.g. air = 1.00
- s.g. propane = 1.56
- s.g. butane = 2.00

Use these figures to estimate barometric pressure at various altitudes [PSIA]:

- Sea level 14.7
- 1000' 14.2
- 2000' 13.7
- 3000' 13.2
- 4000' 12.7
- 5000' 12.2
- 6000' 11.8
- 7000' 11.3

**Correction factors**

To correct for specific gravity only, multiply the flow from the diagram by:  
 0.774 with air  
 0.640 with propane  
 0.547 with butane

### Selection

Type	Size	Nominal size	MODULINE system	Max. inlet pressure p <sub>e</sub> : 2 psig (140 mbar)	Mains voltage 120 VAC	Terminal box metal with terminals
GVS	..	15 25 32 50	ML	02	Q	9
GVS	1	● ● - -	●	●	●	●
GVS	2	- - ● -	●	●	●	●
GVS	3	- - - ●	●	●	●	●
GVI	..	15 25 32 50	ML	02	Q	9
GVI	1	● ● - -	●	●	●	●
GVI	2	- - ● -	●	●	●	●
GVI	3	- - - ●	●	●	●	●

Type code ▶

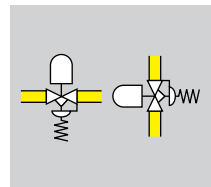
- = available
- = unavailable

**Example how to order**

**GVS 232ML02Q9**

### Installation

Watch flow direction. The valves are designed for flow in one direction only. Coil must be in horizontal or vertical position. Do not locate coil below horizontal position. When installing the valves don't use coil housing as levers. Use suitable wrenches.



Kromschroder uses environment-friendly production methods.

We reserve the right to make technical changes designed to improve our products without prior notice.

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### Accessories

A suitable strainer or filter must be fitted upstream to protect the valve seat. Connection flanges with strainer and further extensive accessories are available for the MODULINE series.

See brochure T12.5.1.3.20.

For other than standard 120 V AC, 50/60 Hz systems consult Kromschroder Inc. for details.