



APPROVED

*See last page for
approvals*



- // For tight shutoff of fuel gases and air on industrial and commercial applications
- // VG – damper for speed control
- // VG..OCS – no damper for speed control
- // VGP – no damper for speed control
- // Designed for continuous on-off cycling
- // Life expectancy of 2 million cycles
- // DC system prevents overheating of solenoid coil, and high inrush current
- // Proof of closure, position indication, and flow adjustment available
- // Low maintenance
- // CE certified models available

Application

VG and VGP solenoid valves are normally closed solenoid-operated valves for on/off control of natural gas, LP, clean biogas and air flow. They are widely used as gas safety shut-off valves for industrial and commercial combustion systems.

Specifications

Operating Limits

Ambient temperature range:	-4° F to 140° F (-20° C to 60° C) UL up to 104° F (40° C)
Maximum inlet pressure:	VG – 2 psig (130 mbar) or 5 psig (360 mbar) VG..OCS – 2 psig (130 mbar) or 5 psig (360 mbar) VGP – 2.2 psig (150 mbar) or 3 psig (200 mbar).
Maximum static line pressure :	30 psig (2.1 bar) (with valve closed)
Opening time:	VG..N fast opening – less than 0.5 seconds VG..L slow opening – 0.5 to approximately 10 seconds VGP fast opening – less than 0.5 seconds
Closing time:	Less than 1 second
Operating life:	2 million cycles

Selection	VG	VGP
Fast opening	VG..N	Standard
Slow opening	VG..L	Not available
Adjustable high flow rate	Option D	Not available
Visual indicator	Option VI	Not available
Valve closed position indicator	Option CPS	Not available
Valve stem overtravel (proof-of-closure)	Option OCS	Not available

Electrical Data

Supply voltage:	120 Vac; +10/-15%; 50/60 Hz
Duty cycle:	Continuous
Type of enclosure:	NEMA 3 (IP 54)
Solenoid coil insulation:	Class F
Solenoid coil power factor:	cos φ = 1

Power Consumption at 120 Vac, VA or watts

Valve Size, VG..	15	20	25	40/32	40	50	65	80	100
Pressure Rating 2 psig (130 mbar)	31	31	31	36	64	74	80	110	160
Pressure Rating 5 psig (360 mbar)	31	36	36	NA	74	80	110	160	NA
Valve Size, VGP	10	15	20	25					
Pressure Rating 2.2 psig (150 mbar)			35	35					
Pressure Rating 3 psig (200 mbar)	26	26							

A full wave rectifier located in the terminal box converts incoming AC current to DC. Power consumption is the same on start-up and during continuous operation.

Materials of Construction

VG solenoid valves have pressure die-cast aluminum bodies and solenoid housings with nitrile rubber o-ring seals and valve disc facings. VG 15 through VG 40/32 sizes have ¼" NPT pressure taps on both sides of the valve outlet, built-in brass mesh strainers and polyacetate flow limiting orifices. VG 40 through VG 100 sizes have ¼" NPT pressure taps on both sides of the valve inlet and outlet, built-in stainless steel strainers and galvanized steel flow limiting orifices.

Electrical terminal boxes have two (2) ½" NPT connections and two (2) grounding screws. Terminals will accept a maximum wire gauge of #14.

VGP solenoid valves have pressure die-cast aluminum bodies with nitrile/viton rubber o-ring seals and valve disc facings. VGP solenoid valves come with DIN plug connector.

Features VG

Opening Speed (Options N or L).

VG solenoid valves are available with option of either fast opening or slow opening speeds:



Fast opening – Option N



Slow opening, adjustable – Option L

Maximum Flow Adjustment (Option D)

VG solenoid valves equipped with the maximum flow adjustment (Option D) can be set from 10% to 100% of the rated capacity by adjusting the socket head setscrew on the bottom of the valve body.



Visual Position Indicator (Option VI)

This device allows the observer to determine visually whether the valve is open or closed.



Closed Position Indicator Switch (Option CPS)

VG solenoid valves are available with a closed position indicator switch. A factory adjusted and tested SPDT switch enclosed in a housing mounted on the bottom of the valve body indicates a closed position. Switching capacity of the switch is 5 Amps maximum at 120 Vac. The enclosure has one 1/2" NPT conduit connection and two terminals for a maximum wire gauge of #14.

Proof-of-Closure (Option OCS)

VG solenoid valves are available with a FM-approved proof-of-closure switch. A factory adjusted and tested SPDT switch enclosed in a housing mounted on the bottom of the valve body indicates a closed position. Two LEDs (red = valve not closed, green = valve closed) indicate the valve position. Switching capacity of the switch is 5 Amps maximum at 120 Vac. The enclosure has one 1/2" NPT conduit connection and two terminals for a maximum wire gauge of #14.

Note: VI, CPS, and OCS options cannot be used with Maximum Flow Adjustment (Option D).

Sizing

Maximum Flow Capacity, SCFH (m³/h) at 20" WC (50 mbar) pressure drop through valve

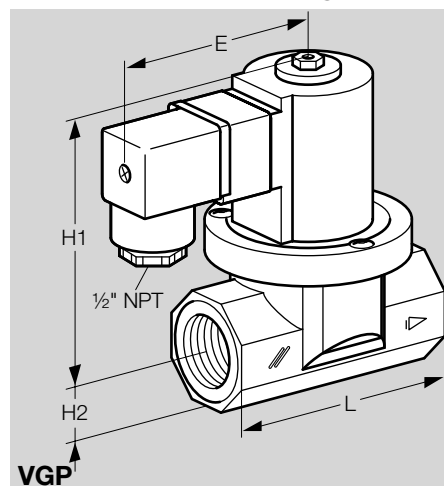
Type	Natural Gas		Air		Propane		Propane/Air		Butane		Coke Oven	
	SCFH	m ³ /h	SCFH	m ³ /h	SCFH	m ³ /h	SCFH	m ³ /h	SCFH	m ³ /h	SCFH	m ³ /h
VG 15	1,100	31	850	24	680	19	750	21	600	17	1,260	36
VG 20	2,200	62	1,700	48	1,370	39	1,500	42	1,200	34	2,530	72
VG 25	2,900	82	2,250	64	1,800	51	1,990	56	1,590	45	3,300	94
VG 40/32	5,000	140	3,880	110	3,100	90	3,400	96	2,700	77	5,700	160
VG 40	6,800	190	5,300	150	4,200	120	4,600	130	3,700	105	7,800	220
VG 50	11,000	310	8,500	240	6,800	190	7,500	210	6,000	170	12,600	360
VG 65	17,700	500	13,700	390	10,900	310	12,000	340	9,500	270	20,500	580
VG 80	23,700	680	18,400	520	14,700	420	16,100	460	13,000	370	27,200	770
VG 100	35,700	1,010	27,700	780	22,200	630	24,300	690	19,500	550	41,000	1,170
VGP 10	930	26	715	20	572	16	644	18	501	14	1,073	30
VGP 15	1,200	34	930	26	750	21	820	23	660	19	1,400	39
VGP 20	2,200	62	1,700	48	1,350	39	1,500	42	1,200	34	2,500	72
VGP 25	2,500	71	1,950	55	1,550	44	1,700	48	1,350	39	2,900	81

The above chart is accurate at sea level altitude, 1 psig (69 mbar), line pressure and 60° F (16° C). Mass flows will decrease at higher temperatures, line pressures and altitudes.

To estimate flows at other pressure drops across the valve, multiply figures in the table by the following factors.

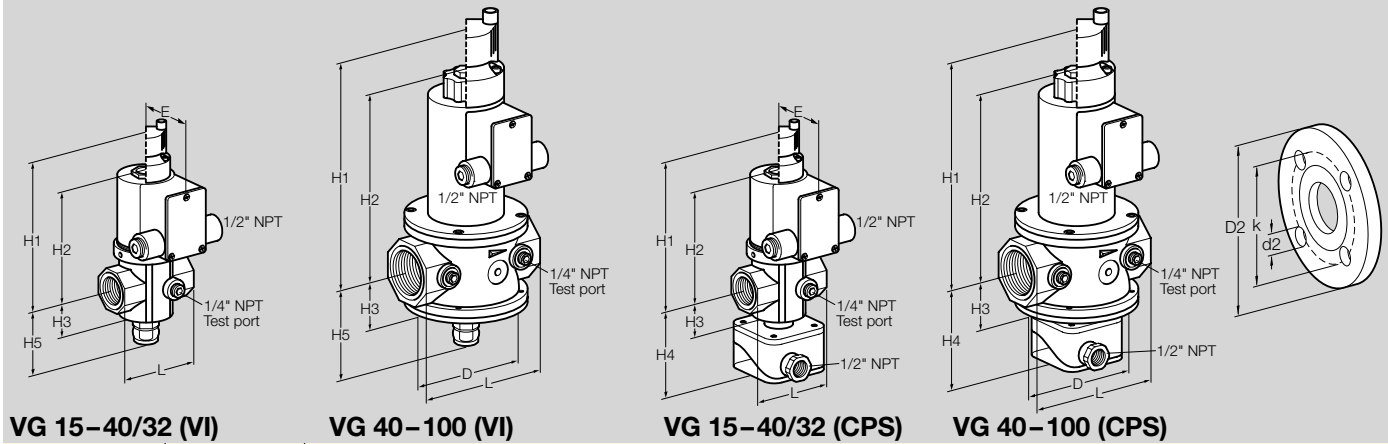
Pressure Drop, "WC	1	2	5	10	15
Flow Multiplication Factor	0.22	0.32	0.50	0.71	0.87

Dimensions and Weights



Type	Connection		Dimensions								P _{e max.}		P	Weight	
	NPT	DN	IN	L mm	IN	H1 mm	IN	H2 mm	IN	E mm	psig	mbar	VA/W	LBS	kg
VGP 10	3/8	10	2.79	71	3.50	89	0.63	16	2.36	60	3	200	26	1.1	0.50
VGP 15	1/2	15	2.79	71	3.50	89	0.63	16	2.36	60	3	200	26	1.1	0.50
VGP 20	3/4	20	3.58	91	4.13	105	0.91	23	3.35	85	2.2	150	35	1.8	0.80
VGP 25	1	25	3.58	91	4.13	105	0.91	23	3.35	85	2.2	150	35	1.8	0.80

VG, VG..OCS, VGP



VG 15-40/32 (VI)

VG 40-100 (VI)

VG 15-40/32 (CPS)

VG 40-100 (CPS)

Type	Connection		Dimensions																
	NPT ANSI	DN	L		E		Ø D		H1		H2		H3		H4		H5		
			IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	
VG 15TN02	1/2	15	2.81	71	2.53	64			6.34	161	4.41	112	0.94	24	3.90	99	2.36	60	
VG 15TN03	1/2	15	2.81	71	2.53	64			6.34	161	4.41	112	0.94	24	3.90	99	2.36	60	
VG 20TN02	3/4	20	3.59	91	2.72	69			6.84	174	4.97	126	1.31	33	3.90	99	2.72	69	
VG 20TN03	3/4	20	3.59	91	2.72	69			6.84	175	4.97	126	1.31	33	3.90	99	2.72	69	
VG 25TN02	1	25	3.59	91	2.72	69			6.84	175	4.97	126	1.31	33	3.90	99	2.72	69	
VG 25TN03	1	25	3.59	91	2.72	69			6.84	175	4.97	126	1.31	33	3.90	99	2.72	69	
VG 40/32TN02	1 1/2	40	5.06	128	2.94	74			7.63	194	5.72	145	1.56	39	4.13	105	2.95	75	
VG 40TN01	1 1/2	40	5.90	150			5.06	129	11	280	8.35	212	2	51	4.72	120	3.31	84	
VG 40TN03	1 1/2	40	5.90	150			5.06	129	11	280	8.35	212	2	51	4.72	120	3.31	84	
VG 50TN01	2	50	7.09	180			6.16	157	11.47	291	8.78	223	2.44	62	5.16	131	3.74	95	
VG 50TA01	2	50	9.05	230			6.16	157	11.47	291	8.78	223	2.44	62	5.16	131	3.74	95	
VG 50TN03	2	50	7.09	180			6.16	157	11.47	291	8.78	223	2.44	62	5.16	131	3.74	95	
VG 50TA03	2	50	9.05	230			6.16	157	11.47	291	8.78	223	2.44	62	5.16	131	3.74	95	
VG 65TN01	2 1/2	65	8.59	218			7.22	184	11.94	303	9.25	235	2.91	74	5.63	143	4.21	107	
VG 65TA01	2 1/2	65	11.41	290			7.22	184	11.94	303	9.25	235	2.91	74	5.63	143	4.21	107	
VG 65TN03	2 1/2	65	8.59	218			7.22	184	15.47	393	12.80	325	2.91	74	5.63	143	4.21	107	
VG 65TA03	2 1/2	65	11.41	290			7.22	184	15.47	393	12.80	325	2.91	74	5.63	143	4.21	107	
VG 80TA01	3	80	12.19	310			8.22	210	15.94	404	13.23	336	4.06	103	6.77	172	5.35	136	
VG 80TA03	3	80	12.19	310			8.22	210	15.91	404	13.23	336	4.06	103	6.77	172	5.35	136	
VG 100TA01	4	100	13.78	350			8.28	210	-	-	14.17	360	4.38	110	7.05	179	5.63	143	

Type	Flange ANSI				Bore			Max. operating pressure		V air [SCFH] with Δp = 1 "WC	P 120 Vac VA/W	Weight	
	IN	D2 mm	IN	k mm	IN	mm	holes	psig	mbar			LBS	kg
VG 15TN02								2	130	187	31/31	3.1 (3.5)	1.4 (1.6)
VG 15TN03								5	360	187	31/31	3.1 (3.5)	1.4 (1.6)
VG 20TN02								2	130	374	31/31	4.5 (4.9)	2.0 (2.2)
VG 20TN03								5	360	374	36/36	5.3 (5.8)	2.4 (2.6)
VG 25TN02								2	130	495	31/31	4.4 (4.8)	2.0 (2.2)
VG 25TN03								5	360	495	36/36	5.2 (5.7)	2.4 (2.6)
VG 40/32TN02								2	130	853	36/36	6.5 (6.9)	2.9 (3.1)
VG 40TN01								2	130	1166	64/64	13.0 (14.1)	5.9 (6.4)
VG 40TN03								5	360	1166	74/74	15.9 (17.0)	7.2 (7.7)
VG 50TN01								2	130	1870	74/74	17.0 (18.1)	7.7 (8.2)
VG 50TA01	6	152	3.63	92.1	0.75	19	4	2	130	1870	74/74	21.3 (22.4)	9.7 (10.2)
VG 50TN03								5	360	1870	80/80	27.3 (28.4)	12.4 (12.9)
VG 50TA03	6	152	3.63	92.1	0.75	19	4	2	130	1870	80/80	31.7 (32.8)	14.4 (14.9)
VG 65TN01								2	130	3014	80/80	30.6 (31.7)	13.9 (14.4)
VG 65TA01	7	178	4.13	104.8	0.75	19	4	2	130	3014	80/80	35.0 (36.1)	15.9 (16.4)
VG 65TN03								5	360	3014	110/110	43.2 (44.3)	19.6 (20.1)
VG 65TA03	7	178	4.13	104.8	0.75	19	4	5	360	3014	110/110	47.5 (48.6)	21.6 (22.1)
VG 80TA01	7.5	191	6	152.4	0.75	19	4	2	130	4048	110/110	55.1 (56.2)	25.0 (25.5)
VG 80TA03	7.5	191	6	152.4	0.75	19	4	5	360	4048	160/160	79.4 (80.5)	36.0 (36.5)
VG 100TA01	9	229	7.5	190.5	0.75	19	8	2	130	6094	160/-	90.4 (-)	41.0 (-)

(-) = VG..L damping unit

Order Information

Solenoid Valves for Gas VG

VG	solenoid valve for gas
1/2" to 4" (DN 15 to 100)	nominal diameter
T	T-product
N	NPT-internal thread
A	ANSI flange
01, 02	2 psig (130 mbar)
03	5 psig (360 mbar)
N	without damping unit (fast opening)
L	with damping unit (slow opening)
Q	120 Vac, 50/60 Hz
9	metal terminal connection box
2	screw plug at the outlet
3	screw plug at the inlet and outlet
D	maximum flow adjustment
OCS	proof-of-closure switch
VI	visual position indicator
CPS	closed position switch

OCS versions available in 3/4" to 4" (20 mm to 100 mm) nominal diameter

Note: VI, CPS, and OCS options cannot be used with Option D: Maximum Flow Adjustment

Solenoid Valves for Gas VGP

VGP	solenoid valve for gas
3/8" to 1" (DN 10 to 25)	nominal diameter
T	T-product
N	NPT-internal thread
01	2.2 psig (150 mbar)
02	3 psig (200 mbar)
Q	120 Vac, 50/60 Hz
6	rectifier adapter and plug

Approvals

Model	Option	Approvals
VG..N	Fast opening	UL, CSA, FM
VG..L	Slow opening	UL, CSA, FM
VG..D	Flow adjustment	UL, CSA, FM
VG..VI	Visual indicator	UL, CSA, FM
VG..CPS	Close Position Indication	USURC, FM
VG..OCS	Valve stem overtravel	USULC, FM
VGP	Fast opening	USULC, FM

Warning:

Situations dangerous to personnel and property can result from the misapplication and incorrect operation of combustion equipment. Kromschroder advises compliance with the National Fire Protection Association standards that apply for related equipment and Insurance Underwriters recommendation, and care of operation.

We reserve the right to make technical changes designed to improve our products without prior notice. For current product information, visit our website at www.kromschroder.com.