

Safety Shut-Off Solenoid Valve, Manually Operated, Electrically Trip, Type SGR

INTRODUCTION

SGR Valves are unique in construction and forms most essential part of Safety System In the Gas installation. These valves are mounted prior to Burner, to give maximum importance to the safety, due to failure of electrical supply.

These safety Solenoid are closed when de-energized, opened manually, continuous to remain open, when electrical supply is present. If power is interrupted, Safety Shut off valve closes. "After closure, valve does not open, even when power supply is restored".

Valves suitable for Gas application are in aluminum bodies, available in BSP Screwed version; also in Flanged version, as per DIN or ANSI standard. The valve is robust & reliable in design, practically maintenance free. IF NEEDED, valve can be fitted with Limit Switch assembly to register either opening or closing of the valve.

SGR valves can be applied on Air, Non-corrosive Gas, Combustible gas, etc. System switch can be installed to make SGR Valves trip, in event of insufficient Gas volume, or insufficient Pressure or failure of power supply.



DESCRIPTION

Manually operated, Electrically Trip type valves, Type SGR, are suitable for closing within 1-second time. Valve does not open, even though the power supply is restored.

Size: - from $\frac{1}{2}$ " (15 MM) to 4" (100 MM) are available in Screwed / Flanged design. The larger sizes are supplied with lever mechanism, for opening of the valve. The maximum working pressure is 500 mbar. For large size valves, it is essential to introduce small $\frac{1}{2}$ " size valve in parallel with the main valve and to be operated before attempting opening of main valve. This relieves pressure on the main valve body, making it easy to operate.



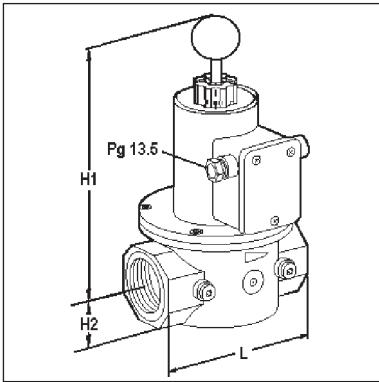
INSTALLATION & INSTRUCTION FOR ASSEMBLY

Use proper size wire connect through plastic DIN connector, provided on the solenoid valve box, using flexible cables, to relieve strain on connection box with firm internal and external earthing. It is very essential to use high quality Filter, before this valve. The most essential part of the installation is, valve should be installed in horizontal pipeline, keeping solenoid vertical and upright. The electrical connections are through junction box, as valve uses AC MAINS, Rectifier DC system in the coil. The coils are supplied with spike suppressor and DC rectifier. All DC valves are supplied only with spike suppressor.

TECHNICAL SPECIFICATION

- Valve Body : AISI Alloy Sand cast/ Pressure die cast/ Gravity die cast
- Seats : Supplied in Buna Nitrile or on special request "Viton".
- Internal Magnetic Material : 430F
- Type of gas : All gases non-corrosive to aluminum material including Natural gas, LPG, Methane, Bio gas, Air or any other inert gas.
- Operating Pressure : Please refer to Table (2)
- Flow rate : Please refer to graph.
- Opening time : less than 1 second
- Closing time : $<= 1$ second
- Switching frequency : Arbitrary.
- Ambient temp. : $(-20)^{\circ}$ C to $+ 60^{\circ}$ C.
- Coil Protection : IP 54 according to IS-2147.
- Power factor : 1
- Coil Insulation : Class "F"
- Standard Voltage : 110/ 220/ 240 V + 10% / -15%, 50 Hz
24V DC + 10% / -15%.
In case of DC coils, a surge suppressor must be used.

- Power Consumption : Power consumption varies in accordance with the table & size of the valve however remains steady during pick up and holding.
- Duty cycles : 100%
- Anti- surge Protection : Fuse must be installed by client maximum 6.3 amps.
- Cable gland Entry : For size 15- 40 (Screwed) - Pg 11;
For size 40- 100 (Flanged) - Pg 13.5
- Optional Accessory : Factory installed only - Limit switch, Valve Position indicator "S", Without Damping Unit "N".
Flow adjuster "D"-Gas flow can be adjusted from minimum to 100% as per the requirement. "D" type is not available when Limit switch is provided. Flow adjustment is not done at factory and adjuster is kept "FULL OPEN".



Model	Size mm	End Connections	Kv m3/ hr (Air)	Max Inlet Pres. Bar	Power Watt	Dimensions				Flange Details					Approximate weight Kgs.
						L mm	D mm	H1 mm	H2 mm	D2 mm	k mm	d2 mm	n mm	No. of Holes	
SGR 15R	15	Rp1/2	4.3	0.5	18	71	---	179	24	---	---	---	---	---	2.10
SGR 20R	20	Rp3/4	9.1	0.5	18	91	---	184	33	---	---	---	---	---	2.55
SGR 25R	25	Rp1	11.4	0.5	18	91	---	184	33	---	---	---	---	---	2.55
SGR 35R	35	Rp 1/2	27.3	0.5	18	150	128.5	198	55	---	---	---	---	---	4.0
SGR 50R	50	Rp2	42.1	0.5	18	180	156.5	208	64	---	---	---	---	---	5.55

BSP SCREWED DIMENSION

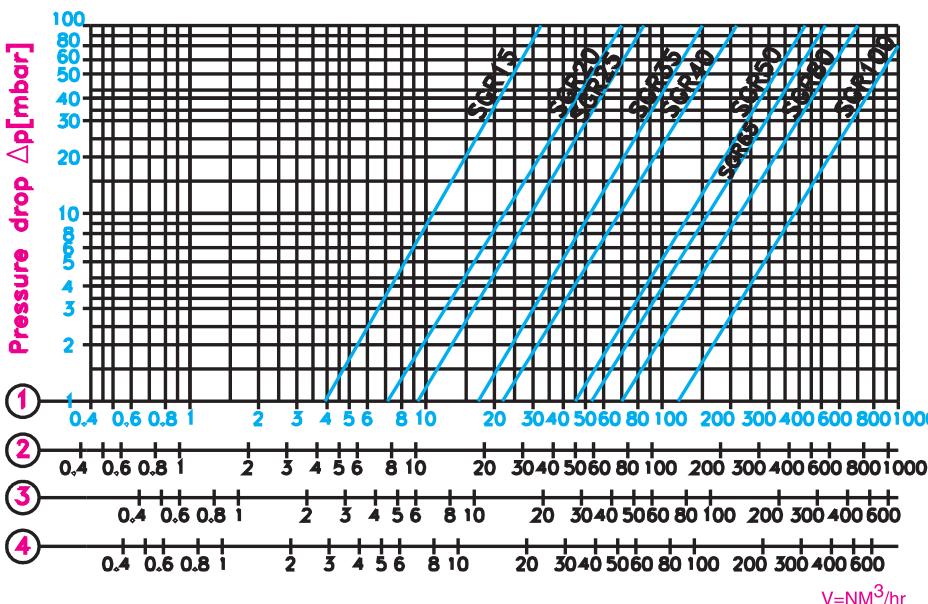
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SGR 50R	50	Rp2	42.1	0.5	18	180	156.5	208	64	---	---	---	---	---	5.55

ANSI TYPE FLANGE DIMENSIONS

SGR40A	40	40mm	27.3	0.5	18	200	128.5	198	63.5	127	98	16	14	4	6.26
SGR50A	50	50mm	42.1	0.5	18	230	156.5	208	76.0	152	121	19	16	4	7.24
SGR65A	65	65mm	64.8	0.5	20	290	183.5	215	89.0	178	140	19	17.5	4	9.31
SGR80A	80	80mm	102.3	0.3	20	310	210.0	225	95.5	191	152	19	19	4	12.12
SGR100A	100	100mm	161.3	0.2	20	350	210.0	250	114.5	229	191	19	24	8	14.50

DIN TYPE FLANGE DIMENSIONS

SGR40F	40	40mm	27.3	0.5	18	200	128.5	198	75.0	150	110	18	18	4	6.26
SGR50F	50	50mm	42.1	0.5	18	230	156.5	208	82.5	165	125	18	20	4	7.24
AGR65F	65	65mm	64.8	0.5	20	290	183.5	215	92.5	185	145	18	20	4	9.31
SGR80F	80	80mm	102.3	0.3	20	310	210.0	225	100.0	200	160	18	22	4	12.12
SGR100F	100	100mm	161.3	0.2	20	350	210.0	250	110.0	220	180	18	24	8	14.50



SPECIFIC GRAVITY :

- ① Natural Gas = 0. 62
- ② Town Gas = 0. 45
- ③ LP Gas = 1. 56
- ④ Air = 1. 00

Note:

Technical specifications and dimensions are subject to change without prior notice.
Dimensions in the table are approximate subject to final confirmation by AVCON.

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