



Small Proportional Solenoid Valve Model 3000 Series Instruction Manual

Thank you for your selection of “Small Proportional Solenoid Valve Model 3000 Series.”
Prior to use, please read this manual thoroughly to ensure your new valve will work to
its full capacity.



CAUTION

This product is designed for controlling gas flow and its maximum working pressure is 0.98MPa(G).

The use of the product at a pressure exceeding the upper limit may cause personal injury. Be sure to observe the specifications.

Firstly

This time I have you purchase 3000 MODEL SERIES, and thank you.

- The contents of the manual are subject to change without notice.
- The manual has been created meticulously. Should, however, you notice any deficiencies, errors or omissions, you are kindly requested to notify us.
- The warranty period of this product is one (1) year after shipment.
- Failures attributable to KOFLOC which may occur during the warranty period will be remedied free of charge.
- KOFLOC shall not be held responsible whatsoever for breakdown or trouble of equipment which results from negligence of the precautions described in this manual or using the product by methods other than the described procedures.

1.Features

The small proportional solenoid valve Model 3000 Series maintains the flow control characteristic of hysteresis 15% max. (full scale current) and is suitable for automatic control of gas flow of various analyzers such as gas chromatography devices. This valve also has high resolution to make it useful for precision pressure control.

Note, however, the precautions presented in Section 3 must be kept in mind when using the valve.

2. Installation and Piping

The following three standard connections are available:

- ① $\phi 3.0$ hole: (Provide two M3 screws of adequate length and two O-rings having an ID $\phi 4$ and wire dia $\phi 1$.)
- ② $\phi 3$ hose nipple: (Provide a hose of ID $\phi 3$.)
- ③ Rc 1/8: (Dedicated block included.)

3. Precautions

- When you store the product, install it in your line, remove it from the line or adjust and test run it after installing it in the line, ensure that no dust or dirt will stick to its IN and OUT ports.
- Never allow dust/dust, water or oil to enter the connecting ports. Note that Models 3010 ,3020 and 3030 have a filter (20 μm) built in the IN and OUT connecting ports, but Models 3040 and 3050 do not have such a filter.
- This product has a temperature coefficient of the coil copper wire resistance value. When the voltage is controlled, use the valve in an environment where the ambient temperature will not change largely. Where the ambient temperature is likely to change largely, current control is recommended. Coil copper wire resistance value $R_t = R_0^{\circ C} (1 + 0.004 \times t^{\circ C})$
- Problems such as corrosion may develop depending on types of gases. When your processing gas is other than inert gas, please contact us before using the valve.
- Generally, proportional solenoid valves do not guarantee reproducibility. The reason is that the valve open angle varies according to coil temperature characteristic, ambient temperature, pressure and hysteresis unique to the product. If the valve is to be used alone, be sure to monitor the condition with a flow sensor or pressure sensor. Also when you need to constantly control the flow rate or pressure or when you require reproducibility, it is necessary to separately install a feedback PID control circuit to the flow sensor or pressure sensor so that you can control the flow rate or pressure.
- Model 3000 Series does not guarantee the zero stop. Where the zero stop is required, use a stop valve additionally.
- The working range may be different depending on types of gases. Please contact us.
- If a load exists in the outlet side pressure, it needs to be specified when you place an order. Please contact us.
- Please do not loose the coil cap which might lead to the valve adjustment trouble and to the external leakage.
- In addition to the above, please be sure to observe the standard specifications. If you have any questions or require additional information, please contact our Sales Dept.

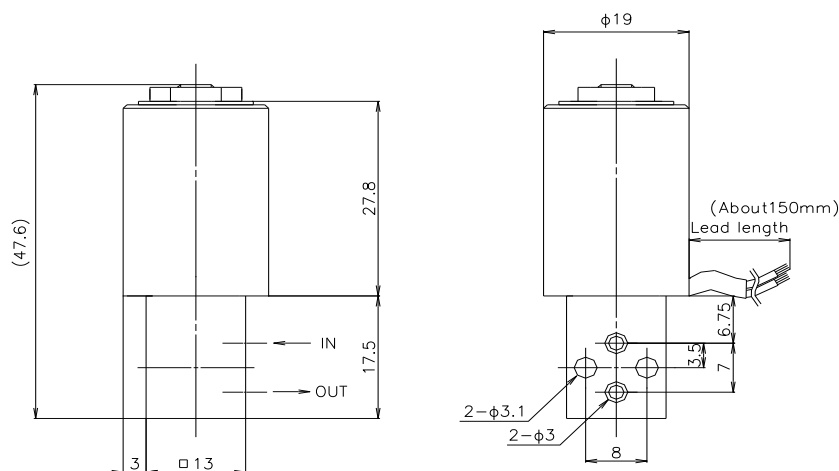
【Specifications】

MODEL		MODEL 3000 SERIES				
		3010	3020	3030	3040	3050
Orifice diameter (φmm)		0.08	0.28	0.50	0.75	1.30
Pressure	Proof pressure	0.98MPa(G)				
	Operating differential pressure	~0.98MPa		~0.6MPa		~0.4MPa
Control	Power supply	24 VDC, 12VDC, 6VDC ±10% (PWM control possible)				
	Power consumption	Max.2W(24VDC) Max.1W(12VDC,6VDC)				
	Hysteresis	15% or less /full scale current				
Filter		20μm(IN,OUT)			No filter provided	
Working temperature		0°C~50°C				
Retention temperature		-5°C~70°C				
Internal leak		Applicable gas 0.1mL/min or less			0.2mL/min or less	
Material in contact with gas	BS	C3604, SUS430F, SUS304, SUS316, FKM				
	SUS	SUS430F, SUS304, SUS316, FKM				
Size (mm)		Total length about 48 mm (□13×17.5+φ19×31)				
Connecting end		φ3.0 (standard)				
Weight		About 60 g (About 140g with Rc 1/8)				

PWM: Pulse Width Modulation

Rohs compliance

【Dimensions of the body】 (in mm)



【Product Warranty Policy】

Thank you for your continued support of KOFLOC products.

Unless specified otherwise in quotations, contracts or specifications when you place orders for KOFLOC products, the following warranty policy will apply.

Warranty Policy:

① Warranty period

The warranty period is one (1) year from shipment, provided that the product is used within the KOFLOC specification.

② Scope of warranty

If the KOFLOC product fails during the warranty period due to a cause attributable to KOFLOC, KOFLOC shall, at its option and expense, provide a replacement product or repair the failed product at the KOFLOC factory.

This warranty, however, shall not cover damages due to a cause not attributable to KOFLOC; opportunity loss, lost profit, secondary disaster, accident compensation suffered by the customer and damage to other equipment and any other damages due to a failure of the KOFLOC product.

③ Non-warranty

The warranty shall not apply to the following failures and damages even if they occur during the warranty period:

- a) Failure due to misuse or improper repair or modification. (Failures resulting from use under conditions different from the manufacturing specifications are included.)
- b) Damage and failure due to dropping of the product after purchase.
- c) Failure due to fire, earthquake, flood, lightning or other natural disaster; or riot, war or the like.
- d) Failure due to intrusion of foreign matter from piping.
- e) Failure caused by a specific problem due to combination with other incorporated equipment.
- f) Other failures and damages which are considered not attributable to KOFLOC.

Please be aware that the warranty shall not cover opportunity loss suffered by you or your customer or damage to other equipment or any other damages due to a failure of the KOFLOC product.

KOFLOC Corp. URL: <http://www.kofloc.co.jp>