

# Flow Control Valve GS Series



## GS Series

### In-line Type Flow Control Valve With One Touch Fitting

Compatible Tubing: 3.2, 4, 6, 8, 10, 12 mm

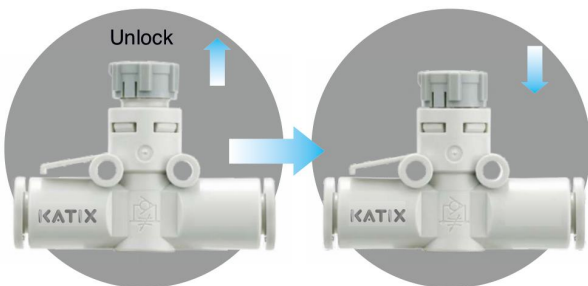
**Reduces flow setting time!**

Easy to use

**Push-lock type**

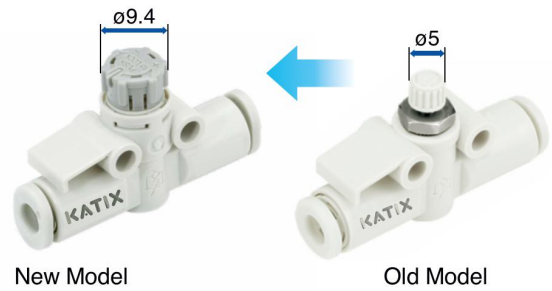
**Knob O.D.: Almost doubled!**

Easy to lock



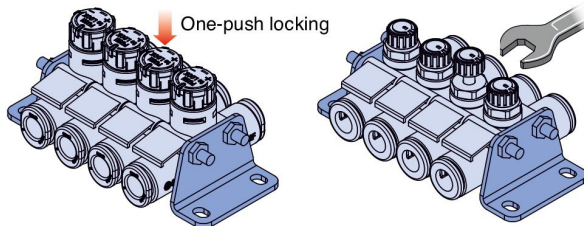
Push-lock type

Old Model Type



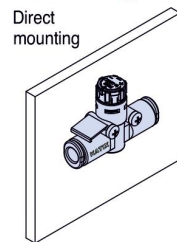
New Model

Old Model



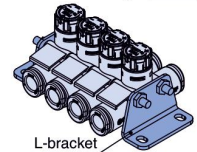
Much easier to lock than the current type which requires a wrench

#### Mounting Variations



Direct mounting

L-bracket mounting [Page 4](#)

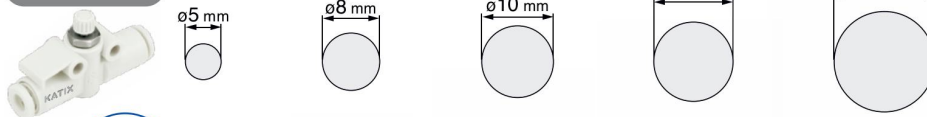


L-bracket



#### Larger Knob

Old Model



Actual size

New Model



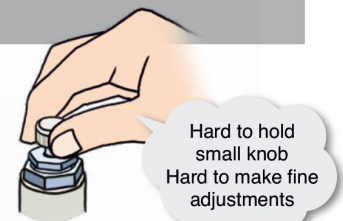
GS1

GS2

GS21

GS3

GS4



Hard to hold small knob  
Hard to make fine adjustments



Easy to turn large knob  
Easy to make fine adjustments

## How to Order

### In-Line Flow Control Push Lock Type

GS **2** - **06**

Body size

1	M5 standard
2	1/8 standard
21	1/4 standard
3	3/8 standard
4	1/2 standard

Compatible tubing O.D.<sup>1</sup>

Metric size

23	ø3.2
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

<sup>1</sup> For selecting Compatible tubing O.D., refer to the "Model" shown above.

## Specifications

Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Applicable tubing material	Nylon, Soft nylon, Polyurethane <sup>1</sup> , FEP, PFA

<sup>1</sup> Use caution at the max. operating pressure when using soft nylon or polyurethane tubing.

## Model

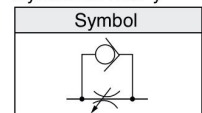
Model	Compatible tubing O.D.					
	Metric size					
	3.2	4	6	8	10	12
GS1	●	●	●			
GS2		●	●			
GS21			●	●		
GS3			●	●	●	●
GS4					●	●

## Flow Rate and Sonic Conductance

Model		GS1			GS2		GS21		GS3				GS4	
Tubing O.D.	Metric size	ø3.2	ø4	ø6	ø4	ø6	ø6	ø8	ø6	ø8	ø10	ø12	ø10	ø12
C values: Sonic conductance dm <sup>3</sup> /(s·bar)	Free flow	0.3	0.4	0.6	0.4	0.6	1.0	1.2	1.1	1.6	2.2	2.6	2.4	3.5
	Controlled flow	0.3			0.4	0.6	1.0	1.2	1.3	1.9	2.7	3.3	2.8	4.1
b values: Critical pressure ratio	Free flow	0.3	0.2		0.3	0.1	0.2		0.2				0.3	0.2
	Controlled flow	0.2	0.3	0.4	0.2		0.2	0.3	0.1		0.2		0.1	0.2

C and b values are for controlled flow with the needle fully open and free flow with the needle fully closed.

Flow Direction  
Symbol on Body

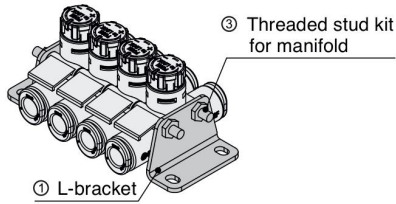


# GS Series In-Line Flow Control Valve

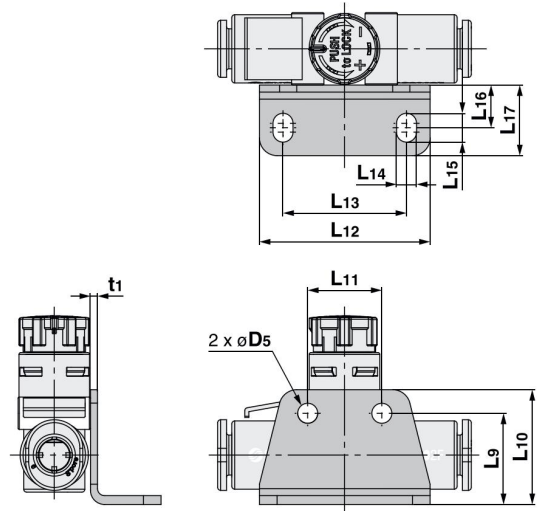
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## (1)L-Bracket

Part no.	Applicable model
GS1L	GS1-□
GS2L	GS2-□
GS21L	GS21-□
GS3L	GS3-□
GS4L	GS4-□



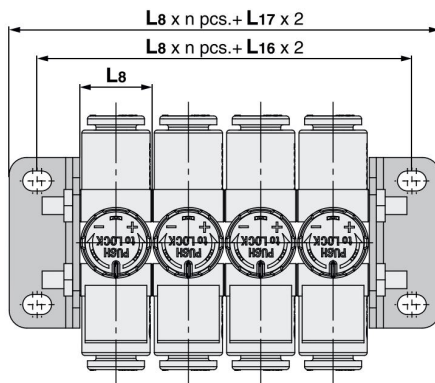
## L-Bracket Bracket on a single side



## Dimensions

Part no.	Applicable model	D5	L9	L10	L11	L12	L13	L14	L15	L16	L17	t1
GS1L	GS1-□	3.4	14.8	18.3	11	27.5	19.5	3.4	4.9	7.3	12	1
GS2L	GS2-□		15.6	19.6	12.6	29	21					
GS21L	GS21-□	4.5	19.6	24.6	17	38	28	4.5	6.5	9.5	15.5	1.4
GS3L	GS3-□		24.8	29.8	22	43	33					
GS4L	GS4-□		25.7	30.7	28	49	39					

## Brackets on both sides



\* Refer to page 5 for L8.

\* The figure above shows the manifold with speed controllers connected using two L-brackets and a threaded stud kit for manifold.

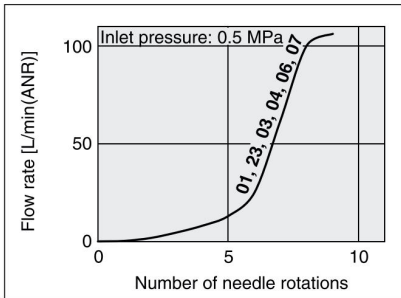
# GS Series In-Line Flow Control Valve

# KATIX

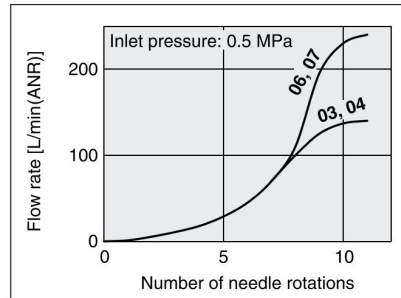
## Needle Valve: Flow Rate Characteristics

\* The flow rate characteristics are representative values.

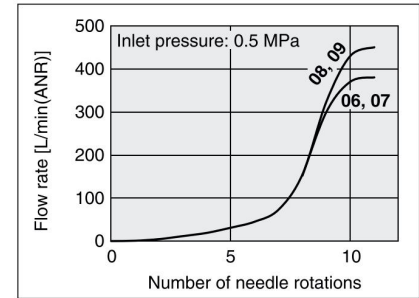
GS1



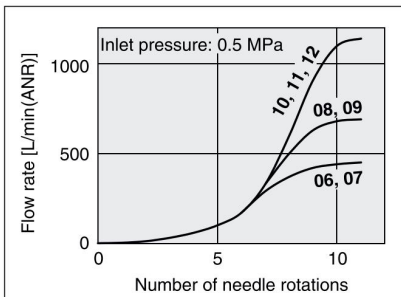
GS2



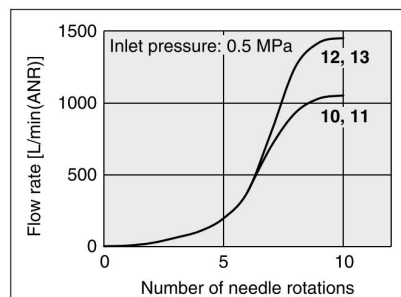
GS21



GS3

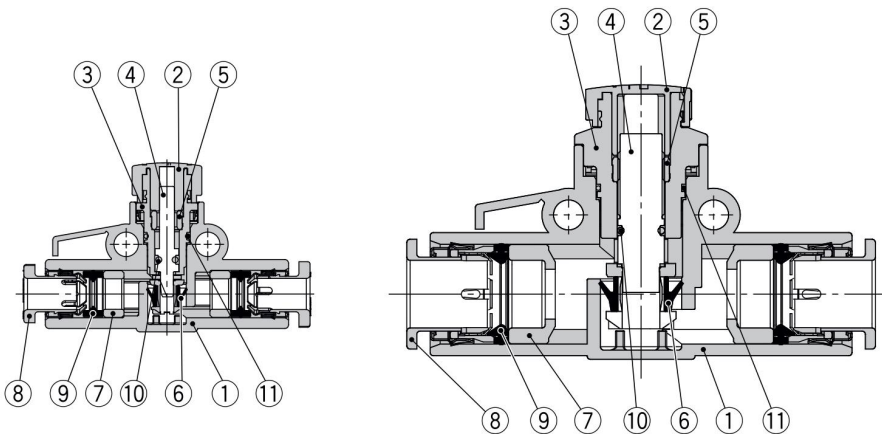


GS4

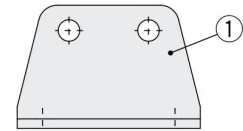


\* The numbers above the flow rate characteristic curves in the charts show the applicable tubing outside diameter as defined by the product number.

## Construction



### L-Bracket



### Component Parts

No.	Description	Material
1	Bracket	Steel strip

### Component Parts

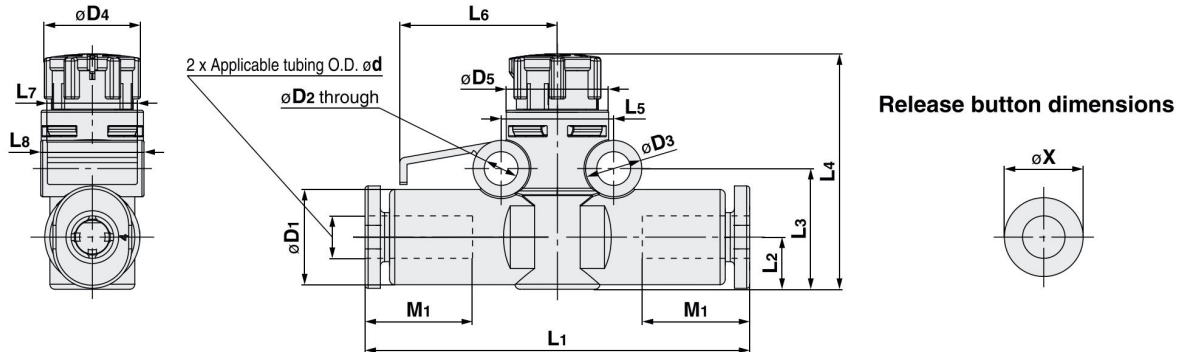
No.	Description	Material	Note
1	Body A	PBT	
2	Knob	POM	
3	Body B	PBT	
4	Needle	PBT	
5	Needle guide	Brass	Electroless nickel plating
6	U-seal	HNBR	
7	Spacer	PBT <sup>*1</sup>	
8	Cassette	—	
9	Seal	NBR	
10	O-ring	NBR	
11	O-ring	NBR	

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# GS Series In-Line Flow Control Valve

# KATIX

## Dimensions



## Metric Size

Model	Applicable tubing O.D. $\phi d$	$\phi D_1$	Release button		$\phi D_2$	$\phi D_3$	$\phi D_4$	$\phi D_5$	$L_1$	$L_2$	$L_3$	$L_4^{*1}$		$L_5$	$L_6$	$L_7$	$L_8$	$M_1$	Weight [g]
			$\phi X(X)$	Y								Max.	Min.						
GS1-32	3.2	8.4	6.7	9.5	3.3	5.5	9.4	10	36.6	5.1	11.8	24.1	23	11	15.4	8.8	10.1	13.5	3.7
GS1-04	4	9.3	7.7	10					37.6										25.1
GS1-06	6	11.6	9.7	12	3.3	5.5	12	12	40.1	6.3	13.4	31.4	30	12.6	17	10.5	12.3	13	5
GS2-04	4	9.3	7.7	10					41.3										25.1
GS2-06	6	11.6	9.7	12	4.3	7.8	13	16	43.1	7.6	17.2	36.2	34.6	17	22.5	12	16.1	17	6.1
GS21-06	6	12.8	11.5	—					54.2										37.1
GS21-08	8	15.2	13.5	—	4.5	8	16.6	20	57.2	8.5	18.1	37.1	35.5	21.8	25	12	20.5	21	11.8
GS3-06	6	13.2	11.5	—					60										42.9
GS3-08	8	15.2	13.5	—	4.3	8	18.8	26	65	11.3	23.7	51.3	49.7	28	33	14	26.2	21	18.1
GS3-10	10	18.5	16.5	—					70.4										44
GS3-12	12	20.9	18.5	—	4.3	8	18.8	26	76	11.3	23.7	51.3	49.7	28	33	14	26.2	21	24.8
GS4-10	10	18.5	16.5	—					76.9										44
GS4-12	12	21.7	18.5	—	81.3	44	42.4	10.9	22	29.1									

\*1 Reference dimensions



Contact us for more details

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