

Orifice Flow Speed Controller

PISCO®

>>> <https://www.pisco.co.jp/en/>

Push-in fitting type fixed-orifice flow control valve

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Control-Air Prep.

Model Designation (Example)



(1) Orifice Flow Speed Controller (2) Type

Code	C	L
Type	Straight	Elbow

(3) Tube dia. (øD)

Code	mm size (mm)			inch size (inch)	
	4	6	8	5/32	1/4
Tube O.D.	ø4	ø6	ø8	ø5/32	ø1/4

(4) Thread size (R)

Code	Taper pipe thread	UNF Thread	NPT Thread	
	01	02	U10U	N1U N2U
Thread size	R1/8	R1/4	10-32UNF	NPT1/8 NPT1/4

*Only R1/8 is available for tube dia. ø4mm.

(5) Control direction

Code	A	B
Control direction	Meter-out control 	Meter-in control
	Identification Marking on metallic body : A	Identification Marking on metallic body : B

(6) Orifice bore (○: Available)

Code (Orifice bore (mm))	0.1*	0.2*	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
U10	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
01(N1)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
02(N2)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

*Orifice bore 0.1 and 0.2mm are selectable only for tube dia. ø4mm and 5/32".

Characteristics

No variable mechanism of control flow rate.

For the first purchase, please contact us. Orifice samples are available and suitable orifice bore is selectable. Please note that it is not possible to change the flow rate after purchasing.

Various line-up

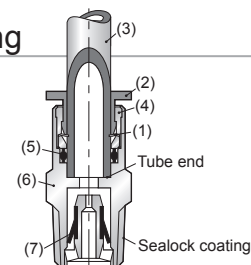
Orifice bore 0.1 and 0.2mm are prepared only for tube dia. ø4mm and 5/32".

Specifications

Fluid medium	Air
Operating pressure range	0.1 to 0.9 MPa
Check valve opening pressure	0.05 MPa
Operating temp. range	0 to 60°C (No freezing)

Sectional drawing

Straight type: JKC ø4, ø6mm



No.	Parts	Material
(1)	Lock claws	Stainless steel
(2)	Release-ring	POM
(3)	Tube	Polyurethane, Nylon, etc
(4)	Guide ring	Nickel-plated brass
(5)	Elastic sleeve	NBR
(6)	Metallic body	Nickel-plated brass
(7)	Diaphragm	HNBR

RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code JKCøD-R[5][6]	Model code JKCøD-R[5]U[6]	Type	Model code JKLøD-R[5][6]	Model code JKLøD-R[5]U[6]
Straight JKC øD  R	JKC4-01[5]0.1	JKC5/32-U10[5]U[6]	Elbow JKL øD  R	JKL4-01[5]0.1	JKL5/32-U10[5]U[6]
	JKC4-01[5]0.2	JKC5/32-N1[5]U0.1		JKL4-01[5]0.2	JKL5/32-N1[5]U0.1
	JKC4-01[5][6]	JKC5/32-N1[5]U0.2		JKL4-01[5][6]	JKL5/32-N1[5]U0.2
	JKC6-01[5][6]	JKC5/32-N1[5]U[6]		JKL6-01[5][6]	JKL5/32-N1[5]U[6]
	JKC6-02[5][6]	JKC1/4-N1[5]U[6]		JKL6-02[5][6]	JKL1/4-N1[5]U[6]
	JKC8-01[5][6]	JKC1/4-N2[5]U[6]		JKL8-01[5][6]	JKL1/4-N2[5]U[6]
	JKC8-02[5][6]			JKL8-02[5][6]	



Notes

*For [5] in model code, please select a control direction code, for [6], at the end of model code, please select a orifice bore code.



CAD data is available at PISCO website.



Packaging specifications
1 pc. /bag

■ Orifice bore selection guide

- Select the orifice bore by the following method when controlling cylinder speed with Orifice Flow Speed Controller.
For the first purchase, please contact PISCO sales office near you.

Orifice samples are available to select the suitable orifice bore for your application. Please note that the flow rate cannot be changed after purchase.

- (1) Use the following calculation formula, and find the necessary air flow rate in order to control the cylinder at the desired speed.

(Calculation formula for air flow rate)

$$Q = 4.7 \times 10^{-5} \times \frac{D^2 \times L}{t} \times \frac{P + 0.1013}{0.1013}$$

Q = Air flow rate (ℓ/min (ANR))

D = Cylinder I.D. (mm)

L = Cylinder stroke (mm)

t = One-way stroke time (sec)

P = Operating pressure (MPa)

- (2) With reference to the graph of control flow (flow characteristics) on the next page, select the orifice bore with characteristics closest to the intersection of air flow rate and operating pressure. Then from the sample with that orifice bore and a few more samples close to that orifice bore, select the best one by actual measurements.

(Ex. 1) Right figure [Fig. 1]

D (I.D.) = 25 mm

L (stroke) = 60 mm

t (time) = 0.1 sec

P (pressure) = 0.5 MPa (A)

Find the necessary air flow rate with the calculation formula (1)

Q = 100 ℓ/min (ANR) (B)

Find the fixed orifice bore with Fig. 1

Fixed orifice bore = ø1.45 mm (C)

Selection range: ø1.6 mm to ø1.4 mm

*The calculation formula (1) does not take into account the load on the cylinder or the air consumption in the piping.

The calculation formula (1) is graphically presented in Fig. 2.

This figure helps you find the air flow rate easily.

Calculate the cylinder speed in advance.

(Calculation formula for cylinder speed)

$$V = \frac{L}{t}$$

V = Cylinder speed (mm/sec)

L = Cylinder stroke (mm)

t = One-way stroke time (sec)

(Ex. 2) Next page [Fig. 2]

Example of graph usage

Cylinder I.D. = 25 mm (a)

Cylinder stroke = 60 mm

One-way stroke time = 0.1 sec (cylinder speed 600 mm/sec) (c)

Operating pressure = 0.5 MPa (b)

Air flow rate = 100 ℓ/min (ANR) (d)

The orifice bore of Orifice Flow Speed Controller can be selected by finding the air flow rate.

