

# Metal tube flowmeter

## Model : F821

Spec. sheet no. FD08-14

### Description

Metal tube rotameter is basically a variable area flow meter. The differential pressure across the annulus area is constant and the flowrate is measured as a function of the position of annulus area created by float position. The position of the float is sensed by a magnet and indicated on the dial in terms of flowrate.



### Specification

#### Alarm sensor

Reed switch

#### Power

DC 24 V

#### Contact output

High or low setpoint

#### Contact accuracy

±3.0 % of full scale

±1.0 % of full scale (Option)

#### Contact type

1 SPDT, 2 SPDT

#### Output

4 ~ 20 mA.DC

#### Contact rating

AC 220 V 0.5 A

#### Operating temperature

Max. 300 °C

#### Wiring

2 wire

**1. Base model****F821** Metal tube flowmeter**2. Flow direction type****D1** Bottom and top**3. Line size**

JIS	mm	ANSI	inch	DIN	mm
<b>J015</b>	15A	<b>A001</b>	½B	<b>D015</b>	15A
<b>J020</b>	20A	<b>A002</b>	¾B	<b>D020</b>	20A
<b>J025</b>	25A	<b>A003</b>	1B	<b>D025</b>	25A
<b>J040</b>	40A	<b>A004</b>	1½B	<b>D040</b>	40A
<b>J050</b>	50A	<b>A005</b>	2B	<b>D050</b>	50A
<b>J065</b>	65A	<b>A006</b>	2½B	<b>D065</b>	65A
<b>J080</b>	80A	<b>A007</b>	3B	<b>D080</b>	80A
<b>J100</b>	100A	<b>A008</b>	4B	<b>D100</b>	100A
<b>XXXX</b>	Other				

**4. Flange rating and connection type**

**J010** JIS 10K  
**A010** ANSI 150 Lb  
**P010** PN10  
**TPTM** PT male  
**TNTM** NPT male  
**XXXX** Other

**5. Main material (See material table)**

**B** Body material / 304SS  
**C** Body material / 316SS  
**O** Other

**6. Indicator and contact**

**LC** Local indicator  
**L1** Local indicator with 1-SPDT alarm  
**L2** Local indicator with 2-SPDT alarm  
**LS** Local indicator with current output (4~20 mA.DC)  
**LP** Local indicator with current output and pulse output  
**OH** Other

**7. Option**

**10** One point alarm  
**20** Two point alarm  
**NO** None  
**PG** Micro purge type

1	2	3	4	5	6	7	
<b>F821</b>	<b>D1</b>	<b>J015</b>	<b>J010</b>	<b>B</b>	<b>LC</b>	<b>NO</b>	Sample ordering code

## Flow chart

Size		H <sub>2</sub> O flow rate (m <sup>3</sup> /h)	Ranges		Pressure loss (mmH <sub>2</sub> O)	Dimension L (mm)
			Liquid (m <sup>3</sup> /h)	Air (m <sup>3</sup> /h)		
15A	½B	0.1 ~ 1	0.03 ~ 0.3 0.15 ~ 1.5	0.3 ~ 3 2 ~ 20	500	250
20A	¾B	0.15 ~ 1.5	0.03 ~ 0.3 0.2 ~ 2	0.3 ~ 3 3 ~ 30	500	250
25A	1B	0.35 ~ 3.5	0.15 ~ 1.5 0.5 ~ 5	1.5 ~ 15 6 ~ 60	500	250
32A	1¼B	0.6 ~ 6	0.3 ~ 3 0.7 ~ 7	3 ~ 30 10 ~ 100	500	250
40A	1½B	0.1 ~ 10	0.4 ~ 4 1.5 ~ 15	1.5 ~ 45 15 ~ 150	700	250
50A	2B	1.5 ~ 15	1 ~ 10 2 ~ 20	5 ~ 50 20 ~ 200	500	250
65A	2½B	2.5 ~ 25	1.5 ~ 15 3 ~ 30	9 ~ 90 40 ~ 400	600	250
80A	3B	4.0 ~ 40	2 ~ 20 5 ~ 50	15 ~ 150 70 ~ 700	700	250
100A	4B	6.0 ~ 60	5 ~ 50 7 ~ 70	20 ~ 200 100 ~ 1,000	900	375

\* When the size is larger than 65A, to be consulted with a maker

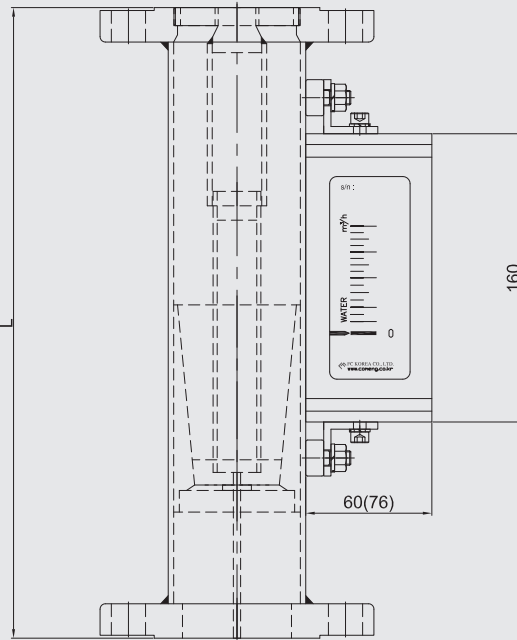
## Flow chart\_Micro purge type

Size	Flow range		Length (mm)
	H <sub>2</sub> O (L/h)	Gas (Nm <sup>3</sup> /h)	
8A	5 ~ 50	0.5 ~ 5	200
10A	10 ~ 100	1 ~ 10	200
15A	20 ~ 200	2 ~ 20	200
20A	40 ~ 400	3 ~ 30	250
25A	60 ~ 600	5 ~ 50	250

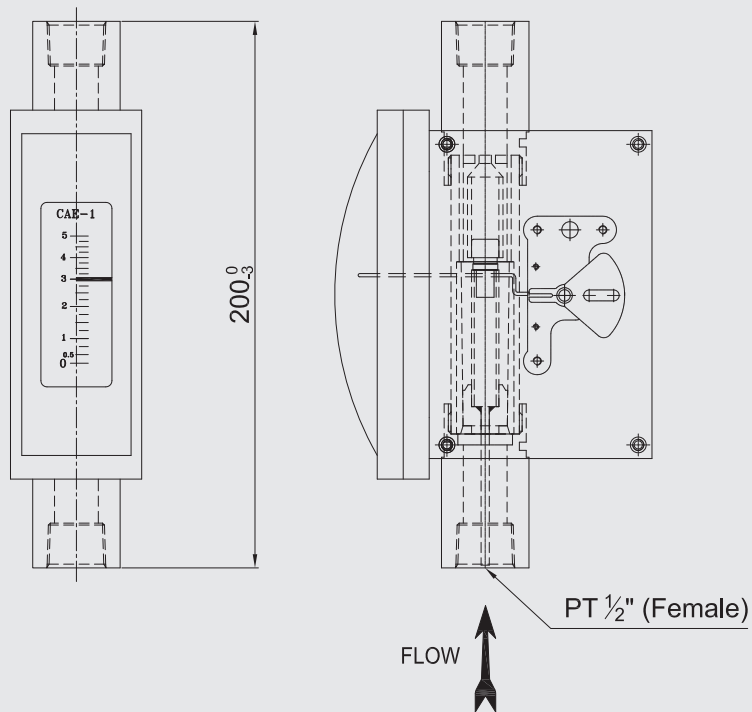
## Material table

Part list	Material code	
	B	C
Body	304SS	316SS
Flange	304SS	316SS
Float	304SS	316SS
Taper tube	304SS	316SS
Magnet rod	304SS + Alnico	316SS + Alnico
Lower stopper	304SS	316SS
Guide	304SS	316SS
Indicator	AL	

# Dimension



FLOW ↑



FLOW ↑