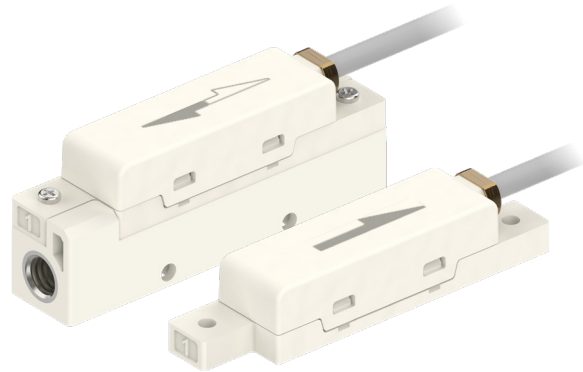
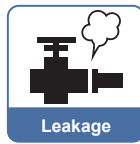
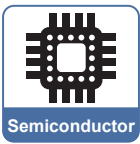
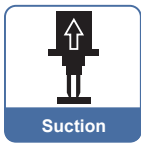


Features

- Response time ≤ 5 ms
- Slim size
- Light weight

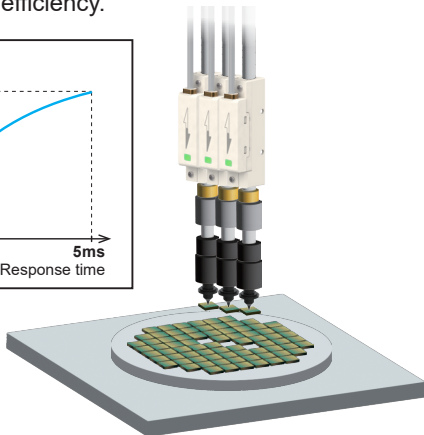
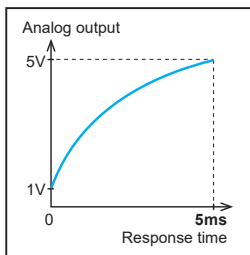
Patented



Features Highlight

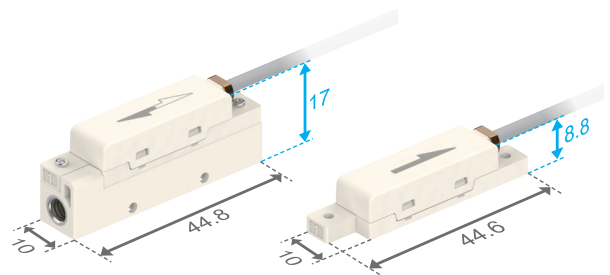
1 Response time ≤ 5 ms

- Quickly pick and place workpieces to improve production efficiency.



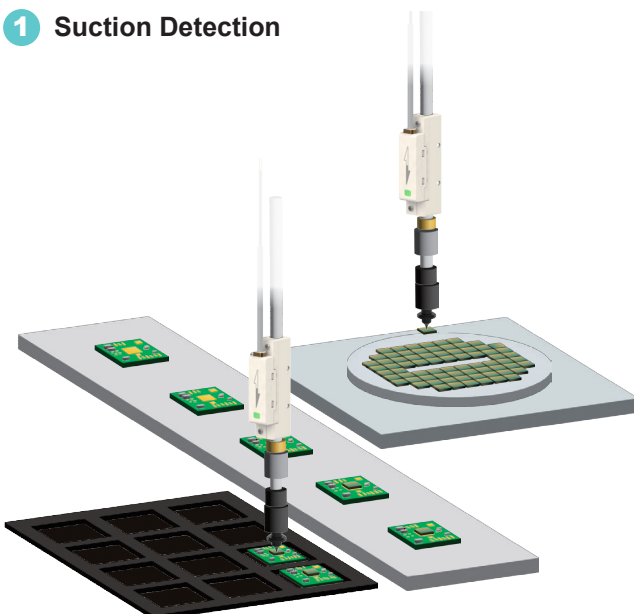
2 Slim size

- Easy to fit into limited spaces

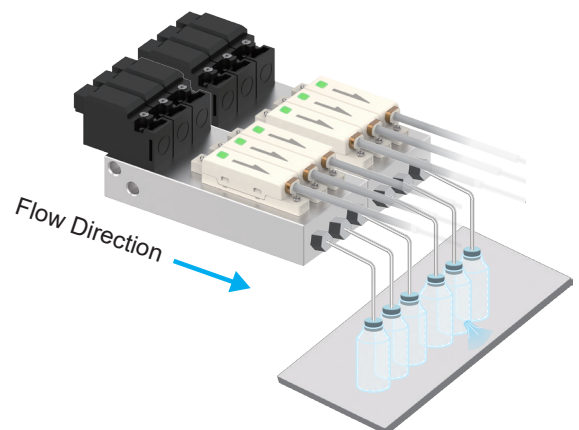


Application

1 Suction Detection



2 Leakage Detection



Specifications

Model	003	005	010	050	100	R003	R005	R010	R050	R100	
Measured Flow Rate Range	0 ~ 0.3 L/min	0 ~ 0.5 L/min	0 ~ 1 L/min	0 ~ 5 L/min	0 ~ 10 L/min	-0.3 ~ 0.3 L/min	-0.5 ~ 0.5 L/min	-1 ~ 1 L/min	-5 ~ 5 L/min	-10 ~ 10 L/min	
Flow Direction	Unidirection					Bidirectional					
Withstand Pressure	300 kPa										
Fluid	Dry air, N ₂ , Non-corrosive / Non-flammable gas										
Power Supply Voltage ⚠	15 ~ 24 V DC ± 10 %, Ripple (P-P) ≤ 10 % (Supplied by certified Double Insulated LE or L.P.S. or Class 2 power source)										
Current Consumption	≤ 20 mA										
Accuracy	Repeatability	≤ ± 2 % F.S.									
	Linearity	Non-linearity									
	Temp. Characteristic ※1	≤ ± 0.6 % F.S./°C					≤ ± 0.3 % F.S./°C				
	Pressure Characteristic ※2	± 10 % F.S.					± 5 % F.S.				
Response Time	≤ 5 ms (90 % Response time)										
Indicator	Green LED										
Analog Output	Voltage Output Range : 1 ~ 5 V ± 5 % F.S. (± 0.2 V) (Non-linearity) Output Impedance : 1 KΩ										
Environment	Working Pressure Range	-100 ~ 200 kPa									
	Enclosure	IP40									
	Working Fluid Temp.	0 ~ 50 °C (No condensation or freezing)									
	Ambient Temp. Range	Operation : 0 ~ 50 °C ; Storage : -10 ~ 60 °C (No condensation or freezing)									
	Ambient Humidity Range	Operation / Storage : 35 ~ 85 % R.H. (No condensation)									
	Withstand Voltage	1000 V AC in 1-min (between case and lead wire)									
	Insulation Resistance	≥ 50 MΩ (500 V DC, between case and lead wire)									
	Vibration	Total amplitude 1.5 mm or 10 G, 10 Hz ~ 55 Hz ~ 10 Hz scan for 1 minute, 2 hours each direction of X, Y and Z									
Shock	100 m/s ² (10 G), 3 times each in direction of X, Y and Z										
Lead Wire ⚠	Ø2.6 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 3 cores										
Weight	Product	Approx. 4 g (w/o Port) ; Approx. 9.6 g (M5 Port)									
	Lead Wire (3M)	31.8 g									

NOTE

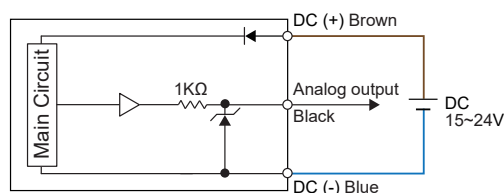
※1 : Benchmark : 25 °C (Temperature range : 0 ~ 50 °C)

※2 : Benchmark : 150 kPa (Pressure range : -100 ~ 200 kPa)

Nozzle Size Reference

Flow Rate Range (L/min)	Nozzle Size (mm)	Application
-0.3 ~ 0.3	≤ Ø0.1	Quartz oscillator, solder ball, Micro LEDs
-0.5 ~ 0.5	Ø0.2	Chip resistor, chip capacitor, optical parts, Mini LEDs
-1.0 ~ 1.0	Ø0.3	
-5.0 ~ 5.0	Inverted pyramid die collets	Silicone wafer (bare die chip bonder), general parts
-10 ~ 10	Inverted pyramid die collets	

Output Circuit Wiring Diagrams



Ordering Information

K F S A - 0 0 3 - 0 1 - M 5

Flow Rate Range

003 : 0 ~ 0.3 L/min	R003 : -0.3 ~ 0.3 L/min
005 : 0 ~ 0.5 L/min	R005 : -0.5 ~ 0.5 L/min
010 : 0 ~ 1 L/min	R010 : -1 ~ 1 L/min
050 : 0 ~ 5 L/min	R050 : -5 ~ 5 L/min
100 : 0 ~ 10 L/min	R100 : -10 ~ 10 L/min

Output Specifications

01 : 1 Analog outputs (1 ~ 5 V)

Port Size

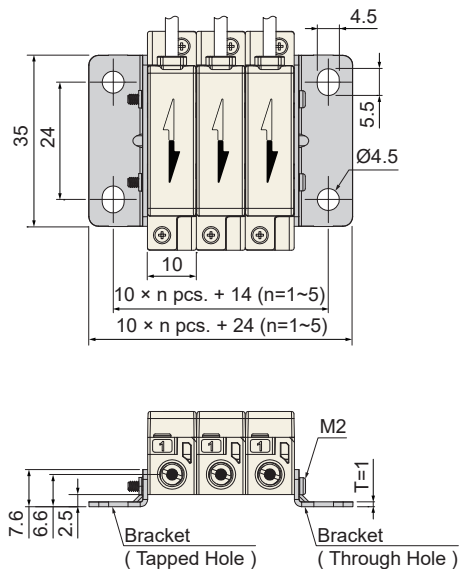
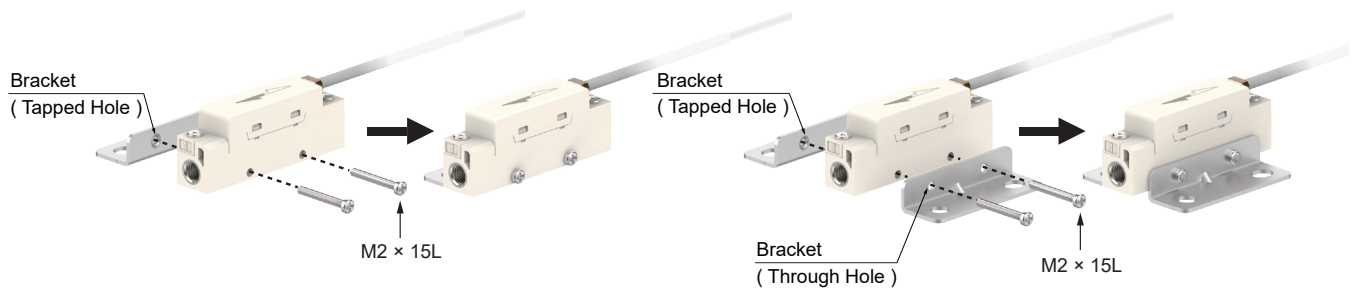
Blank : None
M5 : M5 female thread

Optional Parts

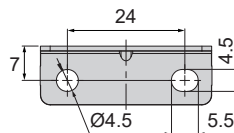
- BT-29-1 : Fit with 1 sensor (Brackets + M3 × 0.5P × 15L screws)
- BT-29-2 : Fit with 2 sensors (Brackets + M3 × 0.5P × 25L screws)
- BT-29-3 : Fit with 3 sensors (Brackets + M3 × 0.5P × 35L screws)
- BT-29-4 : Fit with 4 sensors (Brackets + M3 × 0.5P × 45L screws)
- BT-29-5 : Fit with 5 sensors (Brackets + M3 × 0.5P × 55L screws)

Optional Parts Dimensions

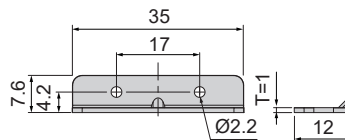
1 Mounting Bracket



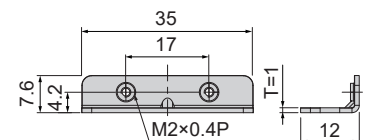
BT-30 Series



• Tapped Hole



• Through Hole

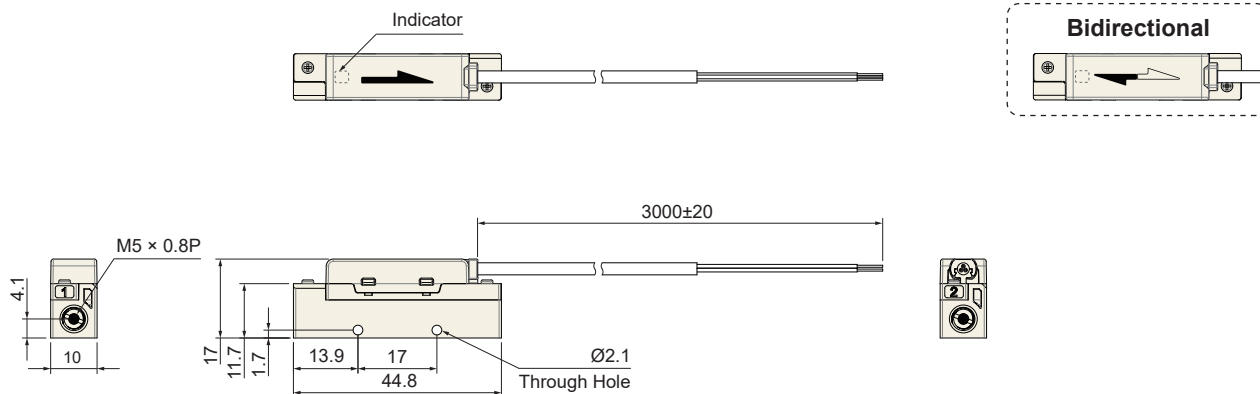


Unit : mm

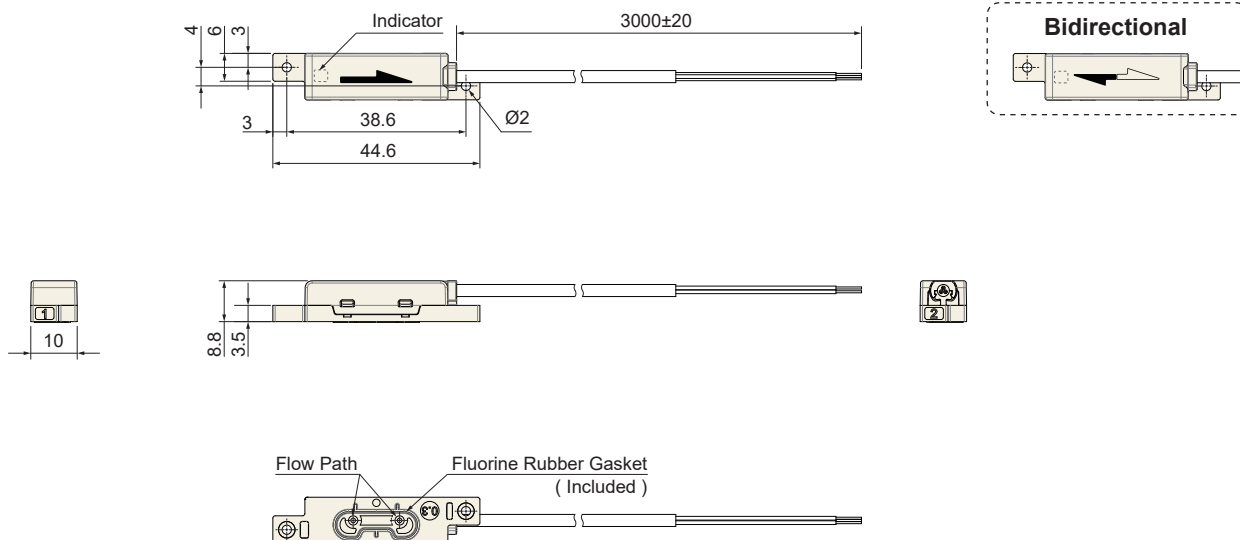


Dimensions

■ KFSA - □ - 01 - M5

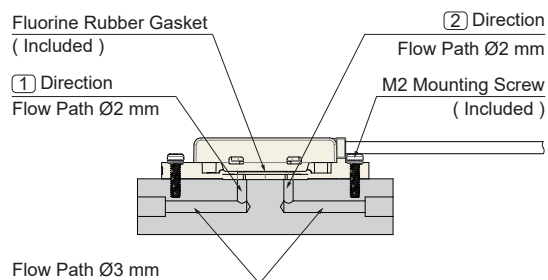
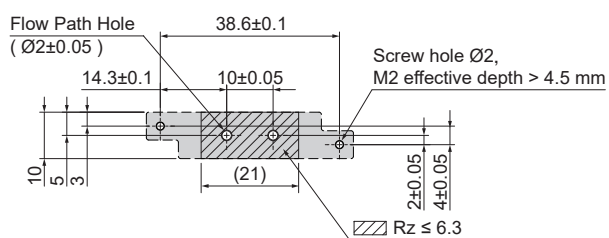


■ KFSA - □ - 01



Installation Dimension

• Top View



Unit : mm