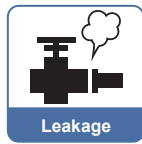
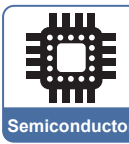
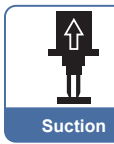


Features

- Simultaneous monitoring of flow and pressure
- Approximate linear analog output of flow
- 3-color indicator
- 2 Analog outputs 1 ~ 5 V
- Response time ≤ 5 ms

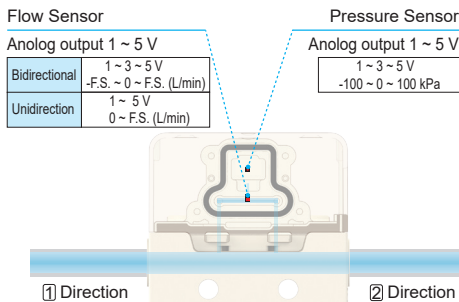
Patented



Features Highlight

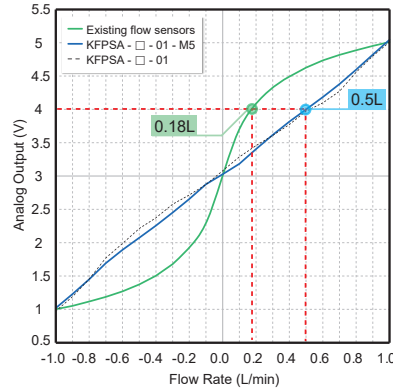
1 2-in-1 Design

- Pressure and flow rate simultaneous monitoring



2 Approximate linear analog output

- Compared to existing flow sensors, it is better at monitoring flow rate for slight changes



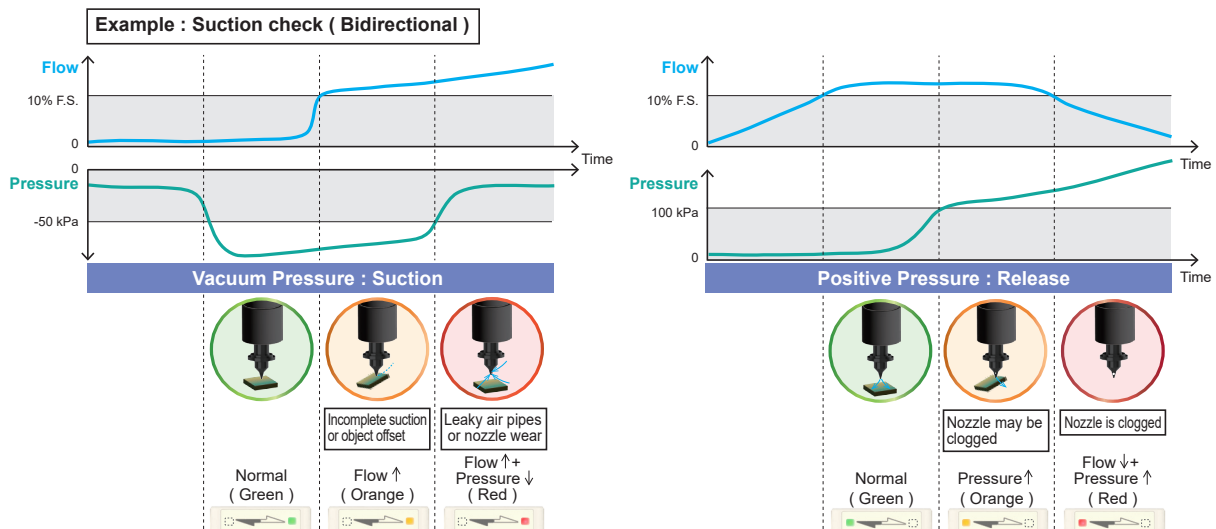
3 Equipped with pressure sensor

- Manage nozzle between pressure range -100 ~ 100 kPa



4 The design of 3-color indicator (signal) helps better monitor changes in flow and pressure

- Detect anomalies in time to reduce loss



Specifications

Model		003	005	010	050	100	R003	R005	R010	R050	R100	
Flow	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					
Pressure	Rated Pressure Range	-100 ~ 100 kPa										
Withstand Pressure		300 kPa										
Fluid		Non-corrosive / Non-flammable gas : Dry air, N ₂										
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		≤ 30 mA										
Flow	Repeatability	≤ ± 2 % F.S.										
	Linearity	Non-linearity ※1										
	Temp. Characteristic ※2	≤ ± 0.6 % F.S./°C					≤ ± 0.3 % F.S./°C					
	Pressure Characteristic ※3	± 10 % F.S.					± 5 % F.S.					
Pressure	Repeatability	≤ ± 1 % F.S.										
	Linearity	± 0.5 % F.S.										
	Temp. Characteristic ※2	± 2 % F.S.										
Response Time	Flow	≤ 5 ms (90 % Response time)										
	Pressure	≤ 1 ms										
Indicator		Green LED, Orange LED, Red LED										
Analog Output	Flow	Voltage Output Range : 1 ~ 5 V ± 5 % F.S. (± 0.2 V) (Non-linearity) Output Impedance : 1 KΩ										
	Pressure	Voltage Output Range : 1 ~ 5 V ± 1 % F.S. (± 0.04 V) (Linearity) Output Impedance : 1 KΩ										
Environment	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 ⚠		Ø2.9 PUR - 28 AWG (0.078 mm ²) - 4 cores (Use cooper wire, 28 AWG (0.078 mm ²), lead wire plastic part 80 °C)										
Weight	Product	Approx. 8.6 g (w/o Port) ; Approx. 12.2 g (M5 Port)										
	Lead Wire (3M)	34.5 g										

NOTE

※1 : Approximate linearity analog output (± 10 % F.S.), except 0 ~ 10 L and 10 ~ 10 L

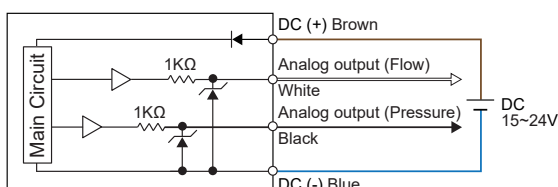
※2 : Benchmark : 25 °C (Temperature range : 0 ~ 50 °C)

※3 : Benchmark : 150 kPa (Pressure range : -90 ~ 200 kPa)

Nozzle Size Reference

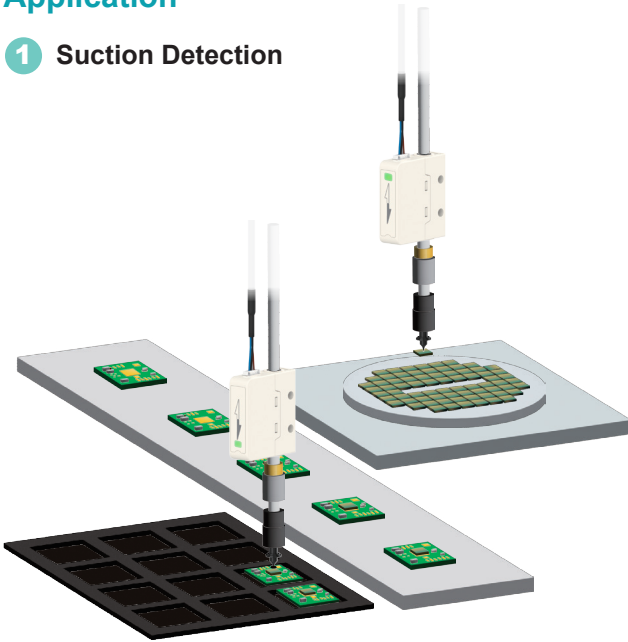
Flow Rate Range (L/min)	Nozzle Size (mm)	Application
-0.3 ~ 0.3	≤ Ø0.1	Quartz oscillator, solder ball, Micro LEDs
-0.5 ~ 0.5	Ø0.2	Chip resistor, chip capacitor, optical parts, Mini LEDs
-1.0 ~ 1.0	Ø0.3	
-5.0 ~ 5.0	Inverted pyramid die collets	Silicone wafer (bare die chip bonder), general parts
-10 ~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

Output Circuit Wiring Diagrams

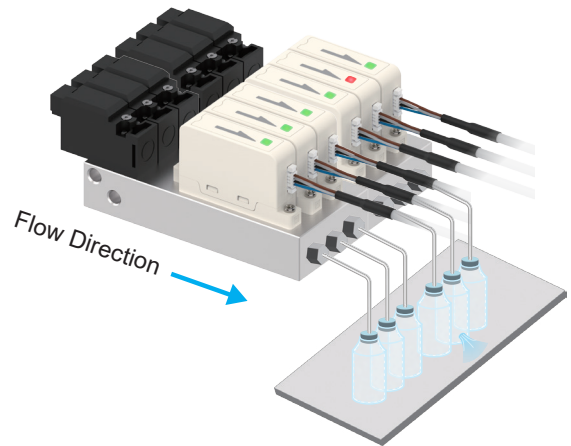


Application

1 Suction Detection

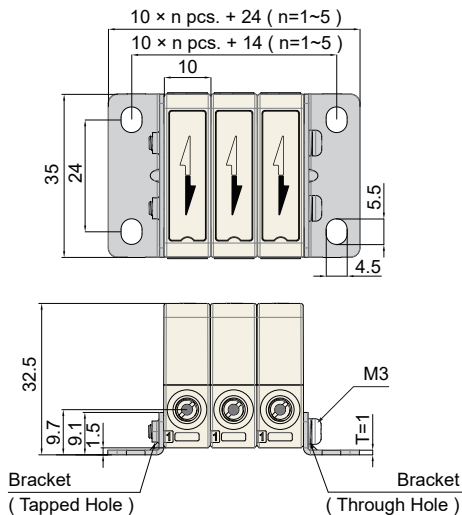
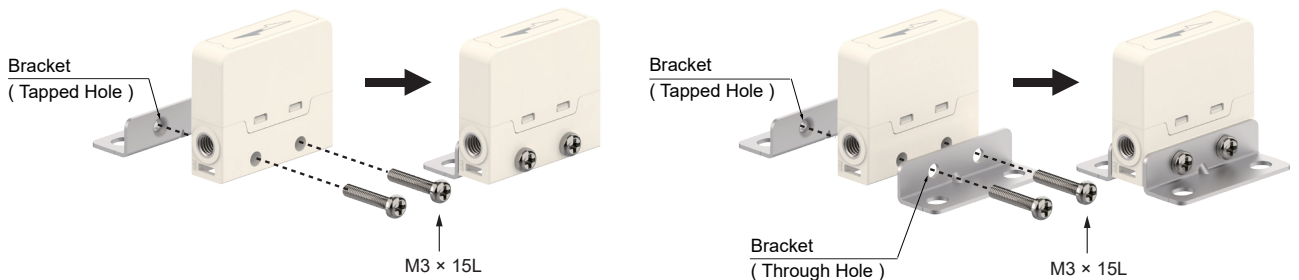


2 Leakage Detection

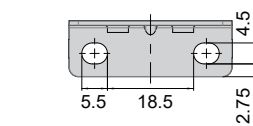


Optional Parts Dimensions

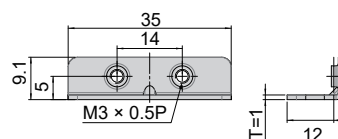
1 Mounting Bracket



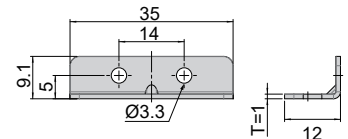
BT-29 Series



• Tapped Hole



• Through Hole



Unit : mm



Ordering Information

K F P 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 : 2 Analog outputs (1 ~ 5 V)

Port Size

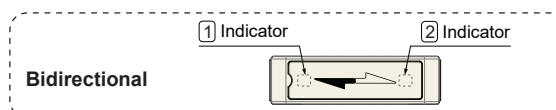
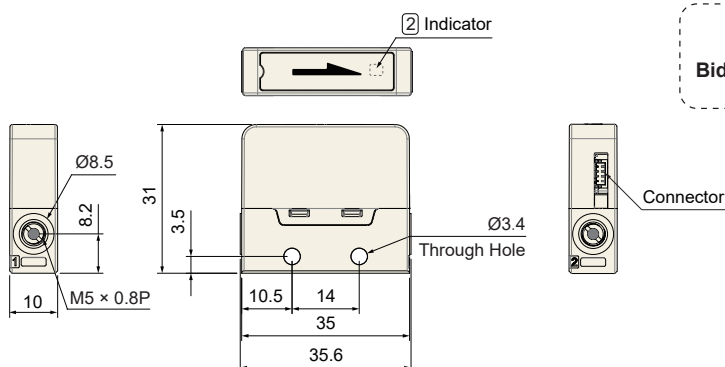
Blank : None
M5 : M5 female thread

Optional Parts

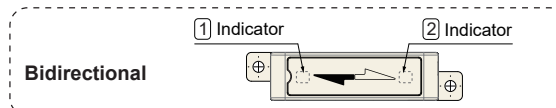
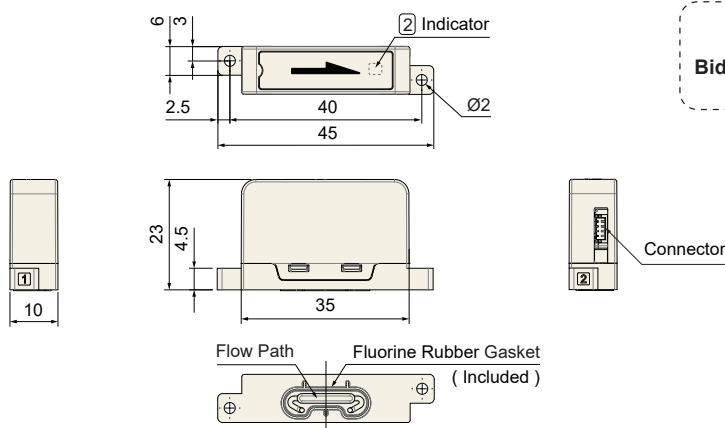
BT-29-1 : Fit with 1 sensor (Brackets + M3 × 0.5P × 15L screws)
 BT-29-2 : Fit with 2 sensors (Brackets + M3 × 0.5P × 25L screws)
 BT-29-3 : Fit with 3 sensors (Brackets + M3 × 0.5P × 35L screws)
 BT-29-4 : Fit with 4 sensors (Brackets + M3 × 0.5P × 45L screws)
 BT-29-5 : Fit with 5 sensors (Brackets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

Dimensions

KFPSPA - □ - 01 - M5

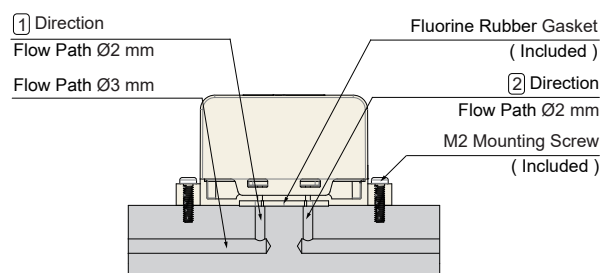
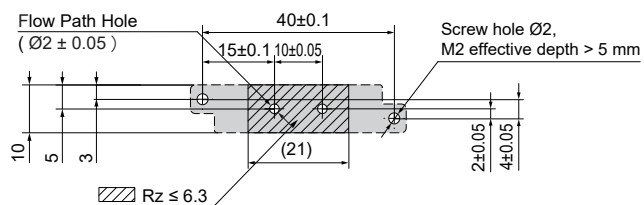


KFPSPA - □ - 01



Installation Dimension

• Top View



Unit : mm