

KFP01 SERİSİ / KFP01 SERIES

Dijital Akış ve Basınç Sensörü / Digital Flow and Pressure Sensor



KFP01 SERİSİ / KFP01 SERIES

Specifications

Model				005	010	050	100	500	101	201
Fluid				Dry air, N ₂ , Non-corrosive / Non-flammable gas						
Sensor Element	Flow	Measured Flow Rate Range		0 ~ 500 mL/min	0 ~ 1000 mL/min	0 ~ 5 L/min	0 ~ 10 L/min	0 ~ 50 L/min	0 ~ 100 L/min	0 ~ 200 L/min
		Flow Direction		Unidirection						
	Pressure	Rated Pressure Range		-90 ~ 800 kPa						
Display				4 digital * 4 digital, 7 segment LCD display (Red / Green / Orange)						
	Instant Flow Rate	Display Range		0 ~ 500 mL/min	0 ~ 1000 mL/min	0 ~ 5.00 L/min	0 ~ 10.00 L/min	0 ~ 50.0 L/min	0 ~ 100.0 L/min	0 ~ 200 L/min
		Minimum Setting Scale	LPM CFM*1	1 mL/min	1 mL/min	0.01 L/min	0.01 L/min	0.1 L/min	0.1 L/min	1 L/min
	Accumulated Flow	Display Range		99999999 mL	99999999 mL	999999.99 L	999999.99 L	9999999.9 L	9999999.9 L	99999999 L
		Minimum Setting Scale *1		1 mL	1 mL	0.01 L	0.01 L	0.1 L	0.1 L	1 L
	Pressure Display			0.01 ft ³	0.01 ft ³	0.1 ft ³	0.1 ft ³	1 ft ³	1 ft ³	1 ft ³
		Display Range		-100 ~ 1000 kPa						
			kPa	1						
		Minimum Setting Scale	kgf/cm ²	0.01						
			bar	0.01						
Accuracy	Flow	Guaranteed Range		2 ~ 100 % F.S.						
		Indicator Accuracy		± 3 % F.S. ± 1 digit *2						
		Analog Output Accuracy		± 5 % F.S. *2						
		Repeatability		± 1 % F.S. ± 1 digit *3						
		Linearity		± 3 % F.S. *3						
	Pressure	Temp. Characteristic		± 2 % F.S. (15 ~ 35 °C) ; ± 5 % F.S. (0 ~ 15 °C, 35 ~ 50 °C) (compare with *3)						
		Pressure Characteristic		± 5 % F.S. ± 1 digit *4						
		Guaranteed Range		0 ~ 100 % F.S.						
		Indicator Accuracy		± 2 % F.S. ± 1 digit *5						
		Analog Output Accuracy		± 2.5 % F.S. *5						
Switch Output		Repeatability		± 0.2 % F.S. ± 1 digit *5						
		Linearity		± 1 % F.S. *5						
		Temp. Characteristic		± 2 % F.S. (compare with *5)						
				2 NPN : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 28 V DC Voltage Drop : ≤ 1.5 V						
				2 PNP : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Voltage Drop : ≤ 1.5 V						
	Response Time	Flow	800 ms (50 ms, 80 ms, 120 ms, 200 ms, 400 ms, 1500 ms selectable)							
		Pressure	2.5 ms (25 ms, 100 ms, 250 ms, 500 ms, 1000 ms, 1500 ms selectable)							
	Output Mode	Flow	Hysteresis Mode, Window Comparator Mode, Accumulated Output, Accumulated Pulse Output							
		Pressure	One Point Set Mode, Hysteresis Mode, Window Comparator Mode							
	Hysteresis		Adjustable							
Output Short Circuit Protection		Yes								
Analog Output	Accumulated Pulse Output *1		5 mL/Pulse	10 mL/Pulse	0.05 L/Pulse	0.1 L/Pulse	0.5 L/Pulse	1 L/Pulse	2 L/Pulse	
			0.02 ft ³ /Pulse	0.04 ft ³ /Pulse	0.2 ft ³ /Pulse	0.4 ft ³ /Pulse	2 ft ³ /Pulse	4 ft ³ /Pulse	7 ft ³ /Pulse	
	Voltage Output		Voltage Output Range : 1 ~ 5 V *6 Output Impedance : 1 KΩ							
	Current Output		Current Output Range : 4 ~ 20 mA *6 Load Impedance : ≤ 300 Ω							
Response Time		Pressure : ≤ 50 ms ; Flow : ≤ 100 ms								
External Input			Non-voltage input, < 0.4 V, ≥ 30 ms							
Communication Interface			RS-485 *7							
Power		Power Supply Voltage	12 ~ 24 V DC ± 10 %, Ripple (P-P) ≤ 10 %							
		Current Consumption	≤ 50 mA							
Environment	Withstand Pressure		1000 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)							
	Insulation Resistance		≥ 50 MΩ (500 V DC, between case and lead wire)							
	Withstand Voltage		1000 V AC in 1-min (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							
EMC		IEC 61000-6-2, IEC 61000-6-4								
Lead Wire			Ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 6 cores							
Port Size	Ø6 mm Quick-Fitting		●	●	●	●	●			
	Ø8 mm Quick-Fitting							●	●	
Weight (with 2 Meter Lead Wire)			Approx. 107 g (Ø6 port) ; Approx. 110.5 g (Ø8 port)							

NOTE :

*1 : CFM (ft³/min*10⁻²) and ft³*10⁻²

*2 : CONDITION : Inlet Pressure : 300 kPa , Outlet Pressure : 1 atmospheric pressure, 25 °C

*3 : CONDITION : Outlet Pressure : 1 atmospheric pressure, 25 °C

*4 : -90 ~ 800 kPa, Outlet Pressure : 1 atmospheric pressure, 25 °C

*5 : Outlet flow rate = 0 L/min, 25 °C

*6 : PWM output, corresponding to pressure sensor 0 ~ 1000 kPa

*7 : This function only available for Output Specification -02 and -04.

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Features

- Flow and pressure dual sensor.
- 3-color LED display.
- Flow and pressure 4 digit, 7 segment dual LCD display.
- 7 segment 8 digit LCD display.
- Accumulated flow rate display at a glance.
- Real-time monitoring.
- RS-485 Modbus RTU.

Ordering Information

K F P 0 1 - 0 0 5 - 0 1 0 - R 6

Flow Rate Range

005 : 500 mL/min
010 : 1000 mL/min
050 : 5 L/min
100 : 10 L/min
500 : 50 L/min
101 : 100 L/min
201 : 200 L/min

Output Specifications

010 : 2 NPN output + Analog output 1 ~ 5 V
011 : 2 NPN output + Analog output 4 ~ 20 mA
02 : 2 NPN output + RS485
030 : 2 PNP output + Analog output 1 ~ 5 V
031 : 2 PNP output + Analog output 4 ~ 20 mA
04 : 2 PNP output + RS485

Port Size

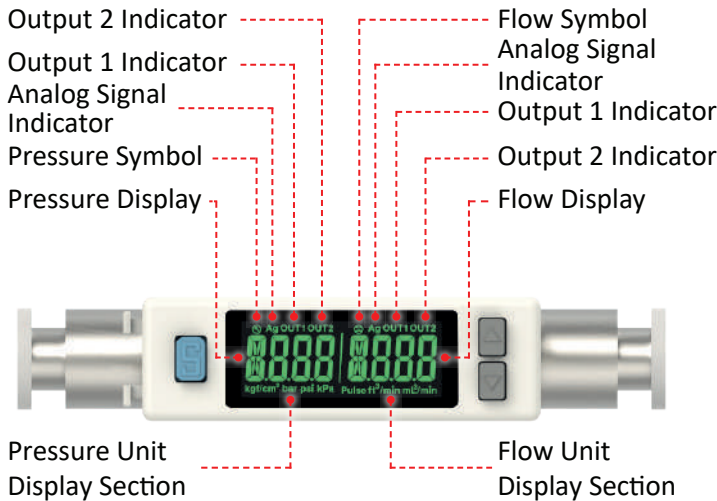
R6 : ø6 mm, for Flow Rate Range 005, 010, 050, 100, 500.
R8 : ø8 mm, for Flow Rate Range 101, 201.

Optional Parts

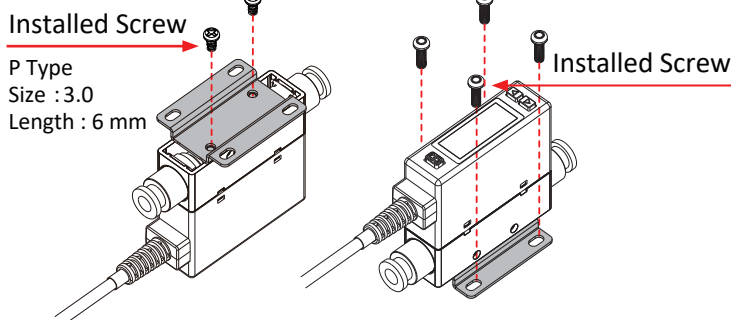
BT-26 : Mounting bracket

Summary Of Each Part Name

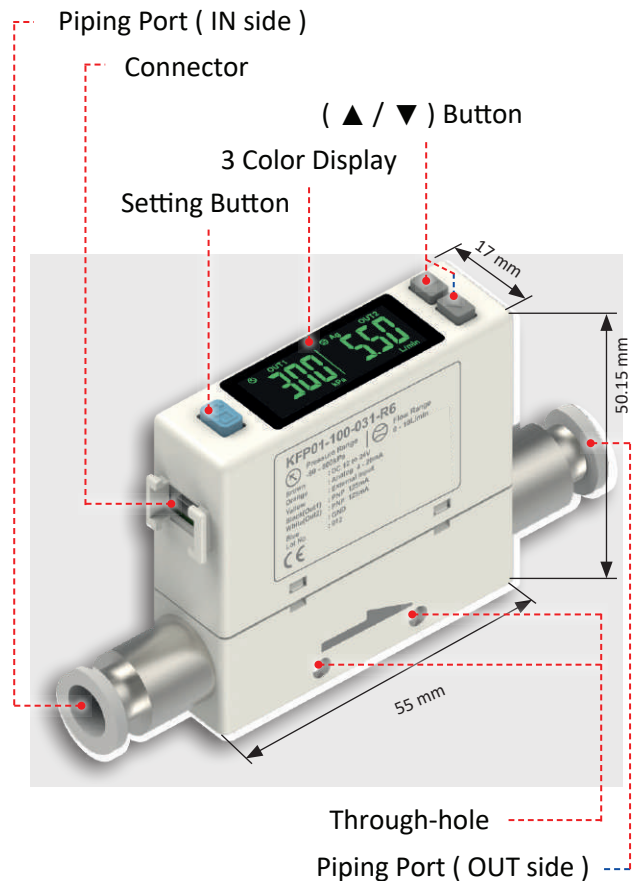
LCD Display



Bracket (BT-26)

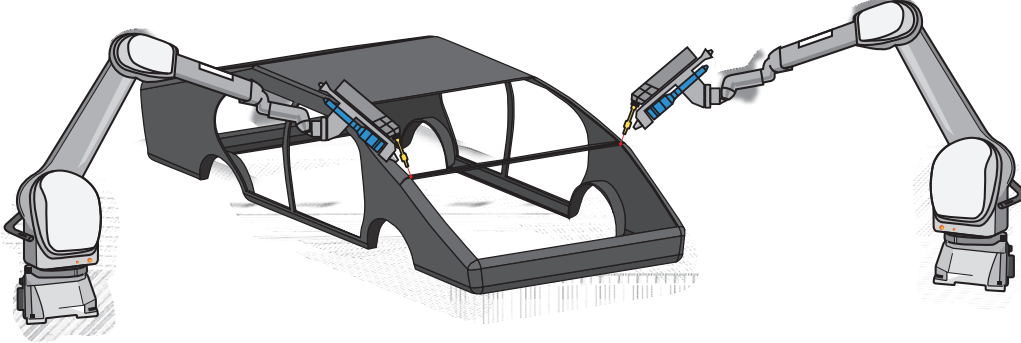


Body



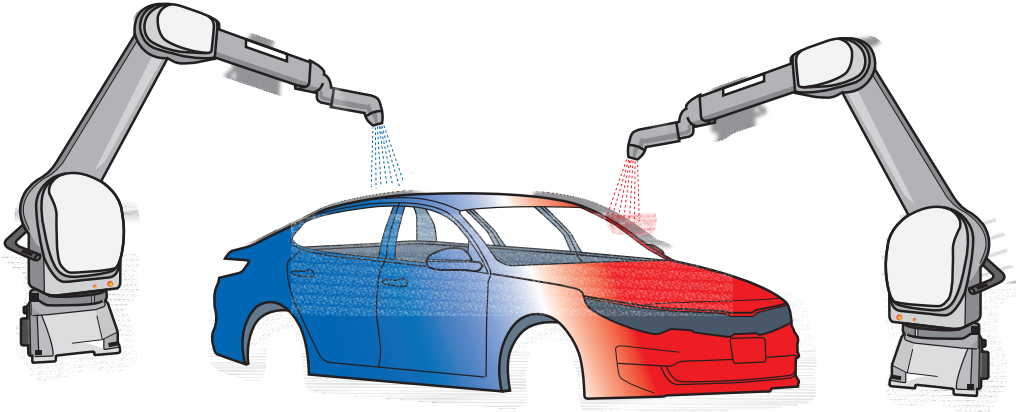
KFP01 SERİSİ / KFP01 SERIES**Applications**

- Quality Control



Laser Welding Robot

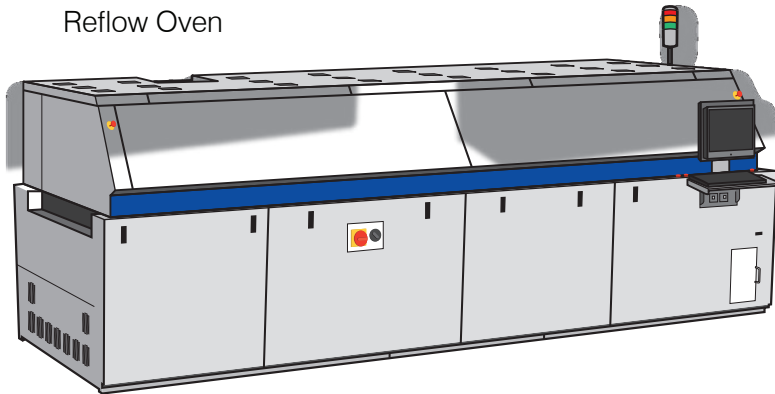
Management of shielding gas, flow rate and pressure.



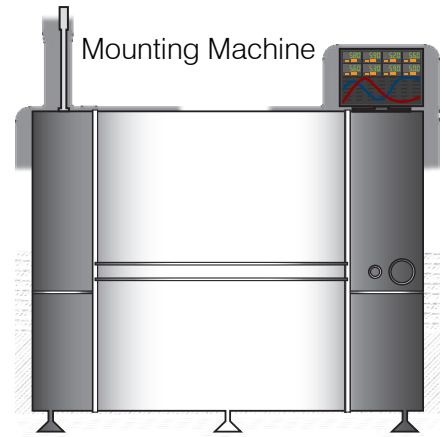
Painting Robot

Paint air flow management of flow rate and pressure.

- Cost Management
- Energy-Saving and Environmental Protection



Reflow Oven



Mounting Machine

Reflow Oven / Mounting Machine

N₂ & Air consumption of the whole equipment management.