



FD-ECH9
Sensor head 3/8"



*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

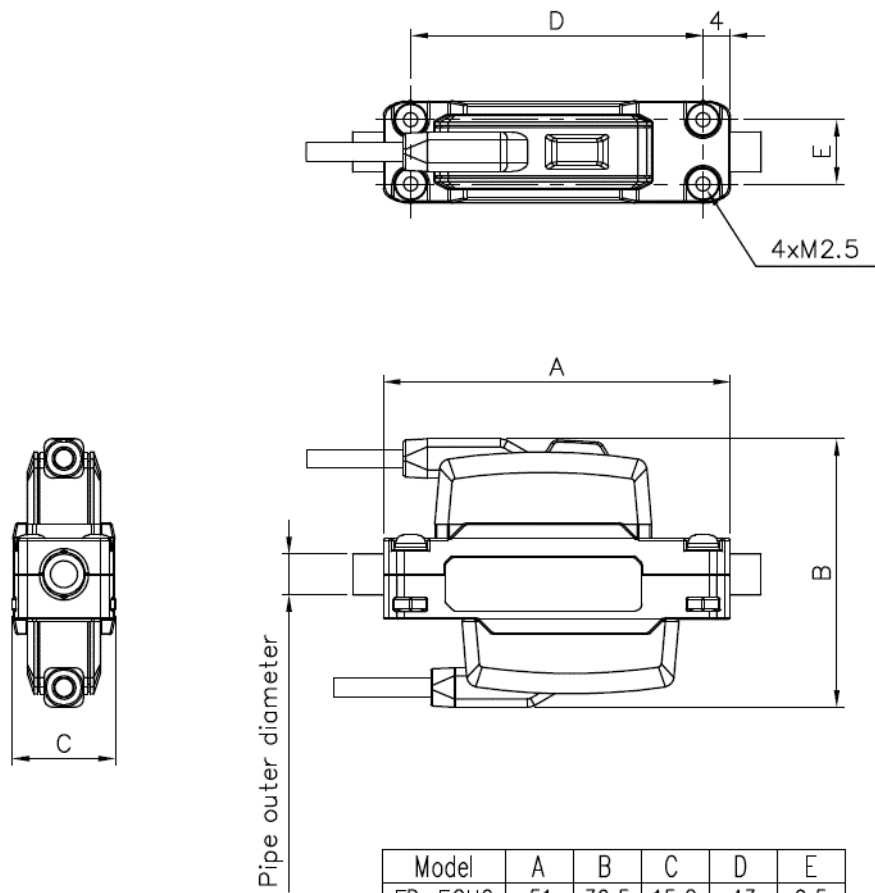
Model			FD-ECH9
Pipe size	Outer diameter of pipe		3/8" (approx. 9.53 mm 0.38")
	Installable range		9.53 0.38" ± 0.15 mm 0.01"
	Pipe materials		Polyurethane, nylon, PFA,*1 other*2
Supported gases			Air, nitrogen, argon, and other gases*3
Supported gas temperature			−10°C to +60°C 14 to 140°F
Operating pressure range			0 to 0.75 MPa (upper limit depends on pipe specifications)
Flow rate detection principle			Ultrasonic transmission time difference method
Rated flow rate	(volume flow rate)		100 L/min 3.53 CFM * Initial display
	(20°C 68°F , atmospheric pressure conversion)	Gas at 20°C 68°F , 0.2 MPa	300 L/min 10.59 CFM
		Gas at 20°C 68°F , 0.4 MPa	500 L/min 17.7 CFM
		Gas at 20°C 68°F , 0.6 MPa	700 L/min 24.7 CFM
Repeatability			Response time 250 ms: ±2.5% of F.S.*4*5
Display resolution	Instantaneous flow		0.1/1 L/min
	Accumulated flow		0.1/1/10/100/1000 L
Display method			Output indicator
Environmental resistance	Enclosure rating		IP65 (IEC60529)
	Ambient temperature		−10°C to +60°C 14 to 140°F (no freezing)
	Relative humidity		35%RH to 85%RH (no condensation)
	Vibration resistance		10 to 500 Hz, power spectral concentration: 0.816 G ² /Hz, XYZ axes
	Shock resistance		100 m/s ² , 16 ms pulse, XYZ axes, 1000 times for each axis
Material	Sensor unit		PBT/PAR/iron
	Sensor surface		Special rubber
Weight			Approx. 114 g 4.02 oz

*1 Use PFA tubes in an environment with a temperature of 40°C 104°F or less.
*2 Resin tubes that transmit ultrasonic waves.
*3 Gases that transmit ultrasonic waves. Measurement may be unstable due to the pressure inside of the pipe and the type of gas.
*4 Accuracy improves with longer response times. As a rule, this is by a proportion of √(250 ms/response time)x.
*5 This value is guaranteed by KEYENCE inspection facilities. Errors will be introduced by factors such as the condition and type of pipes as well as the temperature and type of gas.

Dimensions

* Download CAD file or product manual for larger image/text and more detail.

FD-ECH6/ECH7/ECH8/ECH9/ECH10/ECH12/ECH13



Model	A	B	C	D	E
FD-ECH6	51	39.5	15.2	43	9.5
FD-ECH7	51.2	40	15	43.2	9.5
FD-ECH8	52.2	41.5	17	44.2	11.5
FD-ECH9	58.2	48.2	19.7	50.2	14.2
FD-ECH10	58.6	48.6	19.7	50.6	14.2
FD-ECH12	58.4	50.6	21.7	50.4	16.2
FD-ECH13	58.6	51.3	21.7	50.6	16.2