

# Technical Data for CODA KC-Series Mass Flow Controllers

## 40 GRAMS per hour full scale to 300 KILOGRAMS per hour full scale

Standard specifications. Consult Alicat for available options.



+1 (888) 290-6060  
alicat.com/coda

SENSOR AND CONTROL PERFORMANCE	
Mass flow accuracy <sup>1</sup>	Liquid: $\pm 0.6\%$ of reading or $\pm 0.2\%$ of full scale, whichever is greater Gas: $\pm 1\%$ of reading or $\pm 0.2\%$ of full scale, whichever is greater Liquid with high-accuracy option: $\pm 0.2\%$ of reading or $\pm 0.05\%$ of full scale, whichever is greater Gas with high-accuracy option: $\pm 0.5\%$ of reading or $\pm 0.05\%$ of full scale, whichever is greater
Flow repeatability ( $2\sigma$ )	$\pm 0.1\%$ of full scale High-accuracy option: $\pm 0.05\%$ of reading or $\pm 0.025\%$ of full scale, whichever is greater
Steady state control range	5–100% of full scale High-accuracy option: 2–100% of full scale
Temperature sensitivity	Mass flow zero shift: $\pm 0.02\%$ of full scale per °C from tare temperature <sup>2</sup> Mass flow span shift: $\pm 0.01\%$ of reading per °C from 25°C High-accuracy option mass flow zero shift: $\pm 0.01\%$ of full scale per °C from tare temperature <sup>2</sup> High-accuracy option mass flow span shift: $\pm 0.005\%$ of reading per °C from 25°C
Operating temperature range	-35–70°C
Ambient temperature range	0–60°C
Valve function	Normally closed
Typical control response time	40–10,000 g/h: <140 ms (T63) 30,000–300,000 g/h: <200 ms (T63)
Typical indication response time	40–10,000 g/h: <40 ms (T63) 30,000–300,000 g/h: <60 ms (T63)
Typical warm-up time	15 minutes
Density accuracy <sup>3</sup>	$\pm 5$ kg/m <sup>2</sup>
Density range	100–2,000 kg/m <sup>3</sup> measurable
Viscosity range	0–200 cP
Zero stability	$\pm 0.2\%$ of full scale (included in mass flow accuracy) High-accuracy option: $\pm 0.05\%$ of full scale (included in mass flow accuracy)

**1** Stated accuracy is after tare, under equilibrium conditions, includes repeatability and linearity.

**2** Mass flow zero shift for 40 g/h is  $\pm 0.025\%$  of full scale per °C from tare temperature.

**3** Density reading and density accuracy are independent of the mass flow reading and mass flow accuracy.

MECHANICAL	
Wetted materials	316L stainless steel, FKM, and FFKM standard; nickel alloy, EPDM, and PCTFE optional Consult Alicat for additional wetted materials options
Ingress protection	IP40 or IP67
Mounting orientation sensitivity	None
Mounting holes	2× M5-0.8 threaded, $\nabla$ 0.39" [10 mm]

POWER AND COMMUNICATION	
Digital input and output options	ASCII and Modbus RTU, over RS-232 or RS-485, EtherCAT, Ethernet/IP, PROFINET
Digital update rate	50 Hz at 19200 baud
Analog input and output options	0–5 Vdc, 0–10 Vdc, 4–20 mA
Analog update rate	50 Hz
Electrical connection options	USB-C and DB-15, M12, RJ45 (industrial protocol models)
Power requirements	Powered through DB-15, M12, or power jack (industrial protocol models) 40–10,000 g/h: 6 W, 9–30 Vdc 30,000–300,000 g/h: 10 W, 9–30 Vdc

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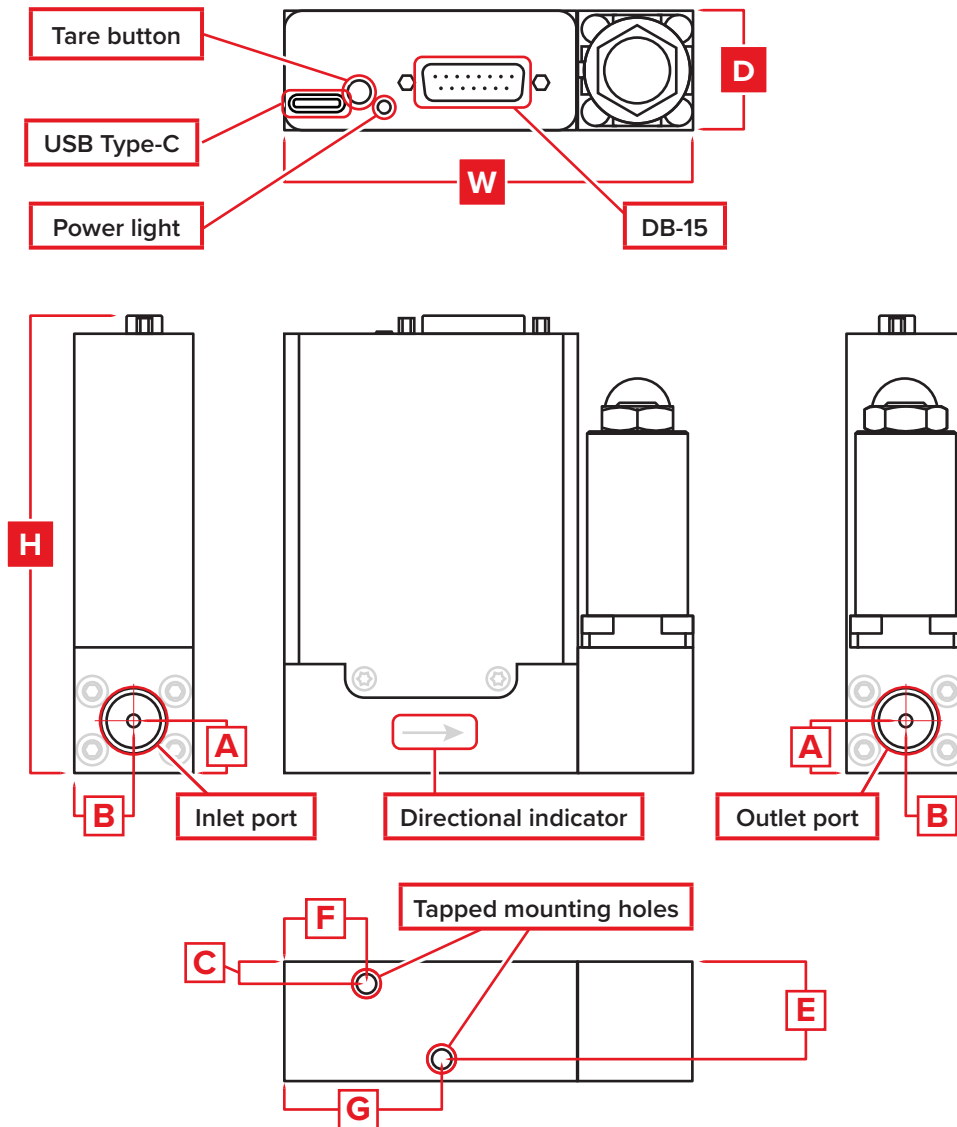
Standard specifications. Consult Alicat for available options.



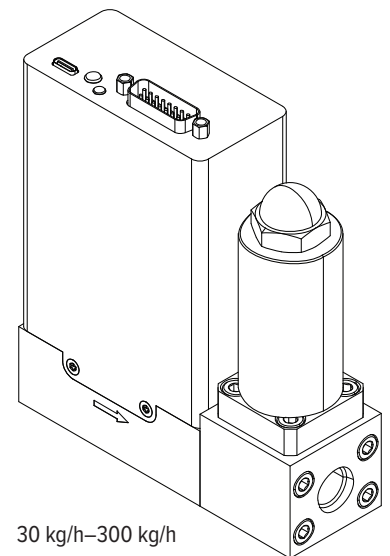
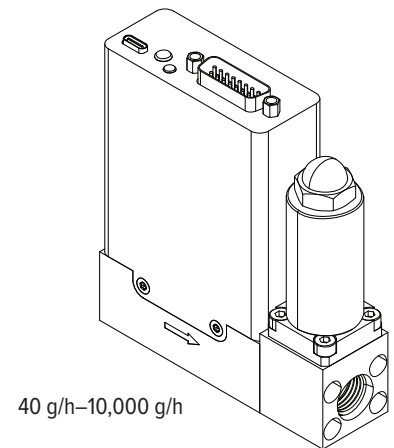
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RANGE-SPECIFIC TECHNICAL DATA			
Full scale flow (g/h)	Recommended inlet filter	Nominal pressure drop (H <sub>2</sub> O)	Proof pressure (PSIA) <sup>3</sup>
40	2 μm	≥6 PSID	1500
100–1000	20 μm	≥15 PSID	1500
3000–10,000	40 μm	≥15 PSID	1500
30,000–100,000	120 μm	≥15 PSID	1500
300,000	120 μm	≥110 PSID	1500

4 4000 PSIA proof option available for ranges ≥100 g/h.



## Representative Examples



DIMENSIONS										WEIGHT
Full scale flow	Width	Depth	Height	A	B	C	E	F	G	
40–10,000 g/h	5.14"	1.12"	4.32"	0.49"	0.56"	0.21"	0.92"	1.02"	1.73"	≈ 2.0 lb
	130.5 mm	28.5 mm	109.7 mm	12.5 mm	14.2 mm	5.3 mm	23.2 mm	26.0 mm	44.0 mm	≈ 0.9 kg
30,000–300,000 g/h	5.95"	1.58"	5.30"	0.63"	0.79"	0.43"	1.14"	1.21"	1.92"	≈ 3.0 lb
	151.0 mm	40.0 mm	134.7 mm	16.0 mm	20.0 mm	11.0 mm	29.0 mm	30.8 mm	48.7 mm	≈ 1.4 kg