

# Technical Data for CODA KCO-Series Mass Flow Controllers

## 40 to 100,000 grams 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	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
Repeatability	$\pm 0.1\%$ of full scale
Steady State Control Range	5%–100% of full scale
Density Accuracy <sup>1</sup>	$\pm 5 \text{ kg/m}^3$
Measurable Density Range	100–2,000 $\text{kg/m}^3$
Viscosity Range	0–200 cP
Zero Stability	$\pm 0.2\%$ of full scale (included in mass flow accuracy)
Temperature Sensitivity	Mass flow zero shift: $\pm 0.02\%$ of full scale per $^{\circ}\text{C}$ from tare temperature <sup>2</sup> Mass flow span shift: $\pm 0.01\%$ of reading per $^{\circ}\text{C}$ from $25^{\circ}\text{C}$
Valve Function	Normally Closed
Typical Control Response Time	<1,000 ms (T98)
Typical Indication Response Time	40 g/h–10,000 g/h: <100 ms (T98) 30,000 g/h–100,000 g/h: <200 ms (T98)

<sup>1</sup> Density reading and density accuracy are independent of the mass flow reading and mass flow accuracy.

<sup>2</sup> Mass flow zero shift for 40 g/h is  $\pm 0.025\%$  of full scale per  $^{\circ}\text{C}$  from tare temperature.

MECHANICAL	
Operating Temperature Range	Ambient: $0\text{--}60^{\circ}\text{C}$ Fluid: $-35\text{--}70^{\circ}\text{C}$ Consult Alicat for additional options
Ingress Protection	IP40 or IP67
Wetted Materials	316L stainless steel, FKM & FFKM standard; EPDM or PCTFE optional Consult Alicat for additional wetted materials options

COMMUNICATIONS	
Analog I/O Options	0–5 Vdc, 0–10 Vdc, 4–20 mA
Digital I/O Options	Serial and Modbus RTU over RS-232 or RS-485 (default) EtherCAT, EtherNet/IP
Electrical Connection Options	USB-C and DB-15 (default) M12 (IP rated models) RJ45 (Ethernet equipped models)
Power Requirements	Powered through DB-15 or M12: 4 W, 9–30 Vdc
Digital Update Rate	50 Hz at 19200 baud
Analog Update Rate	50 Hz

RANGE-SPECIFIC TECHNICAL DATA					
Full scale flow (g/h)	Process connections	Recommended inlet filter	Nominal pressure drop ( $\text{H}_2\text{O}$ )	Proof Pressure (PSIA) <sup>3</sup>	Mounting Options
40	1/4" VCR®-compatible male	2 $\mu\text{m}$	$\geq 6 \text{ PSID}$	200	2× M5-0.8 × 10 mm
100–1000	1/4" VCR®-compatible male	2 $\mu\text{m}$	$\geq 15 \text{ PSID}$	1500	2× M5-0.8 × 10 mm
3000–10,000	1/4" VCR®-compatible male	40 $\mu\text{m}$	$\geq 15 \text{ PSID}$	1500	2× M5-0.8 × 10 mm
30,000–100,000	1/4" VCR®-compatible male	120 $\mu\text{m}$	$\geq 15 \text{ PSID}$	1500	2× M5-0.8 × 10 mm

<sup>3</sup> 4000 PSIA proof option available for ranges  $\geq 100 \text{ g/h}$ .

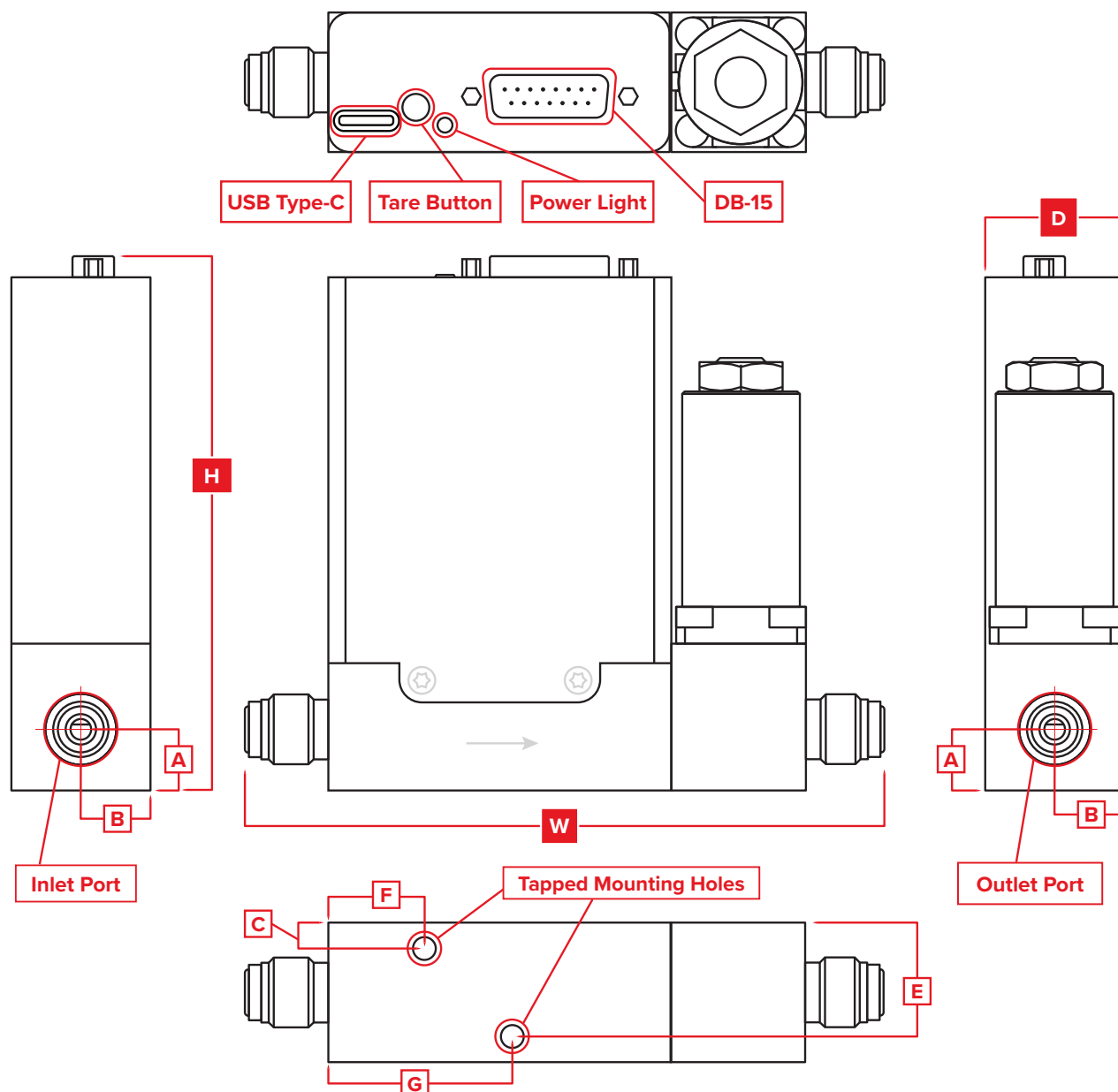
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DIMENSIONS										WEIGHT
Full Scale Flow	Height	Width	Depth	A	B	C	E	F	G	
40–10,000 g/h	4.318 in	5.138 in	1.122 in	0.492 in	0.561 in	0.207 in	0.915 in	1.024 in	1.732 in	≈ 2.0 lb
	109.68 mm	130.51 mm	28.50 mm	12.50 mm	14.25 mm	5.26 mm	23.24 mm	26.01 mm	43.99 mm	≈ 0.9 kg
30,000–100,000 g/h	5.304 in	5.945 in	1.575 in	0.630 in	0.787 in	0.434 in	1.141 in	1.211 in	1.919 in	≈ 3.0 lb
	134.72 mm	151.00 mm	40.01 mm	16.00 mm	19.99 mm	11.02 mm	28.98 mm	30.76 mm	48.73 mm	≈ 1.4 kg