Technical Data for PCX-SFF Series Pressure Controllers

500 TorrA through 100 PSIA full scale in absolute pressure applications

Standard specifications. Consult Alicat for available options.

ALICAT SCIENTIFIC
+1 (888) 290-6060
alicat.com/pcx

SENSOR AND CONTROL PERFORMANCE	
Pressure accuracy[1]	**Standard accuracy:** ± 0.25% of full scale **High-accuracy option:** ± 0.125% of full scale
Pressure repeatability (2σ)[2]	± 0.025% of full scale
Steady state control range	0.01 – 100% of full scale (10,000:1 turndown ratio)
Temperature sensitivity	**Zero shift:** 0.02% full scale per ° C (500 torr model), 0.01% full scale per ° C (> 500 torr model) **Span shift:** 0.01% full scale per ° C
Operating temperature range	−20 – 85° C
Valve function	Normally closed
Sensor response time	< 1 ms
Typical control response time	As fast as 30 ms, flow rate and valve size dependent, user-adjustable
Typical indication response time	< 10 ms
Typical warm-up time	< 1 s

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

2 Under equilibrium conditions. Includes repeatability and linearity.

MECHANICAL			
Valve type	K0XPM/B0XPM	K0XKM/B0XKM	K0XEM/B0XEM
Wetted materials	316L and PCTFE	316L and FFKM	316L and EPDM
Fluid compatibility	Compatible with all non-corrosive gases and liquids, and many corrosive gases[3]		
Leak integrity, external	< 1×10^{-10} atm-cc/sec helium		
Leak integrity, through closed valve	< 1×10^{-3} atm-cc/sec helium at zero set point	< 1×10^{-5} atm-cc/sec helium at zero set point	
Sensor burst pressure	Damage possible above 200 PSIA		
Relative humidity range	0 – 95%, non-condensing		
Ingress protection	IP40		
Mounting orientation sensitivity	None		
Footprint compatibility	SEMI F36 compliant		
Mounting holes	2× M4x0.7 threaded ↧ 0.315″ [8.00 mm]		

3 Verify wetted material compatability

POWER AND COMMUNICATIONS	
Digital input and output options	RS-232 Serial and Modbus RTU (default), RS-485 Serial and Modbus RTU, Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, PROFINET, PROFIBUS, IO-Link
Digital data update rate[4]	40 Hz at 19200 Baud
Analog input and output options	4 – 20 mA, 0 – 5 Vdc, 1 – 5 Vdc, 0 – 10 Vdc
Analog data update rate[4]	1 kHz
Analog signal accuracy	± 0.1% of full scale additional uncertainty
Interactive display	Monochrome LCD or color TFT display with integrated touchpad; simultaneously displays setpoint and pressure.
Display update rate	10 Hz
Electrical connection options	**Default:** 9-pin DB-9 male **Optional:** 8-pin mini-DIN, 6-pin locking, 8-pin M12, 9-pin DB-9 female, 15-pin DB-15
Power requirements[4]	24 Vdc, 270 mA Add 40 mA if equipped with 4–20 mA output

4 For specific industrial protocol models' power requirements and data transmission specifications, please consult their individual operating bulletins.

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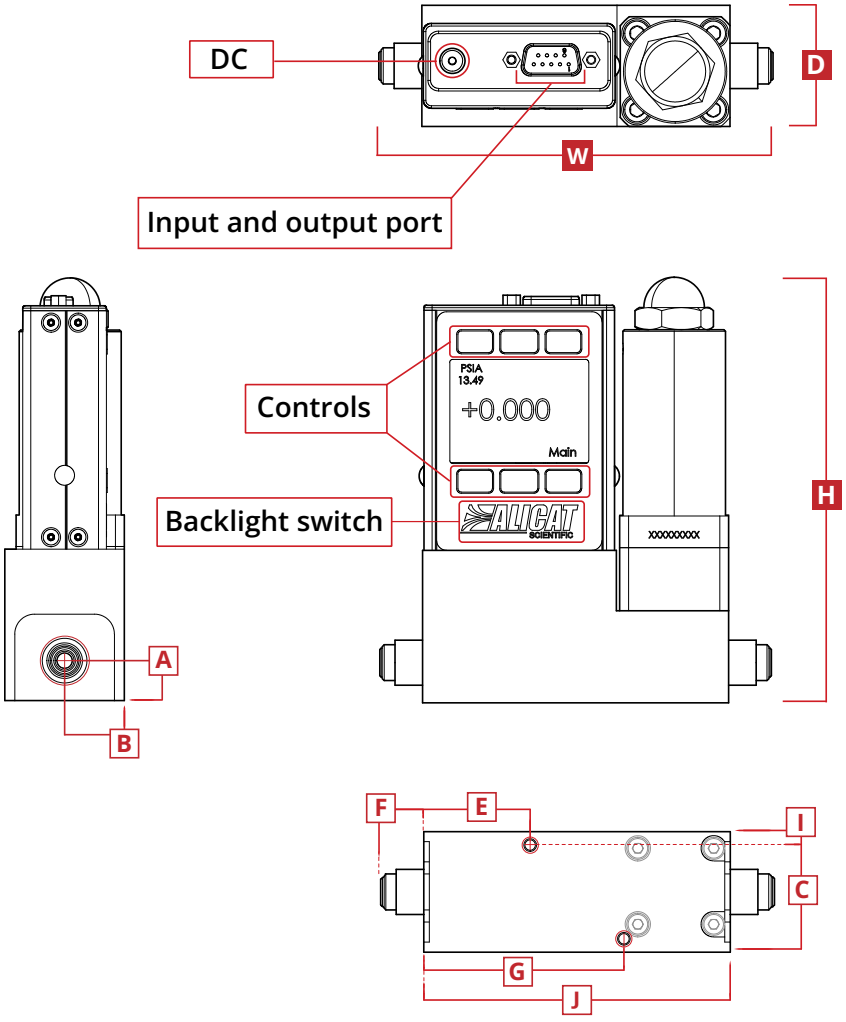
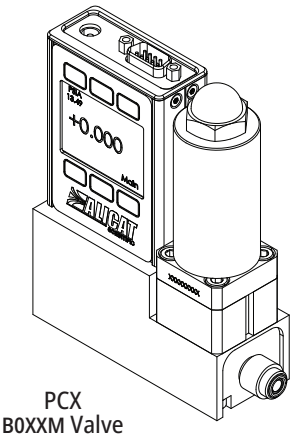
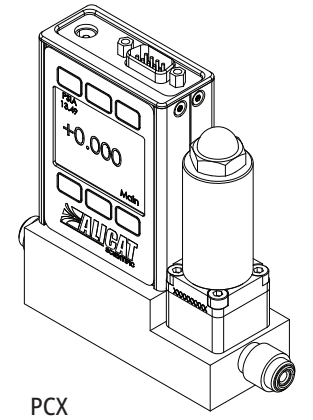


Representative Example



PCX
B0XXM Valve



PCX
K0XXM Valve

DIMENSIONS												WEIGHT
Valve configuration	Width	Depth	Height	A	B	C	E	F	G	I	J	
Low flow valve (K0XXM)	4.88″	1.50″	4.43″	0.50″	0.75″	1.33″	1.18″	0.68″	2.34″	0.17″	3.52″	≈ 2.4 lb
	124.0 mm	38.1 mm	112.5 mm	12.7 mm	19.1 mm	33.8 mm	30.0 mm	17.3 mm	59.4 mm	4.2 mm	89.4 mm	≈ 1.1 kg
High flow valve (B0XXM)	4.88″	1.50″	5.30″	0.50″	0.75″	1.33″	1.33″	0.53″	2.49″	0.17″	3.82″	≈ 4.0 lb
	124.0 mm	38.1 mm	134.7 mm	12.7 mm	19.1 mm	33.8 mm	33.8 mm	13.5 mm	63.2 mm	4.2 mm	97.0 mm	≈ 1.8 kg