

Technical Data for **PC-Series** Pressure Controllers

0.07–3000 PSI full scale in absolute, gauge, or differential pressure applications

Standard specifications. Consult Alicat for available options.

SENSOR AND CONTROL PERFORMANCE	
Accuracy at calibration conditions (2 inH ₂ O) ¹	±0.30% of full scale
Accuracy at calibration conditions (≥1 PSI)	±0.25% of full scale
High Accuracy Option (≥1 PSI)	±0.125% of full scale
Repeatability ²	±0.08% of full scale
Steady State Control Range	PC and PCP: 0.01–100% of full scale PCR: 0.5–100% of full scale
Typical Control Response Time ³	≥50 ms (adjustable)
Valve Function	Normally Closed
Temperature Sensitivity ⁴	Zero shift: 0.02% full scale per °C from tare temperature Span shift: 0.02% full scale per °C from calibration temperature
Operating Temperature Range	–10–60°C (expanded range available)
Burst Pressure	2 inH ₂ O–100 PSI: 3× full scale 500 PSI–3000 PSI: 1.5× full scale
Sensor Response Time	<1 ms
Typical Indication Response Time	<10 ms
Typical Warm-Up Time	<1 s

1 Please consult an application engineer when full scale is ranged to below 2 inH₂O.

2 Repeatability is included in the accuracy statements

3 Volumes, feed pressures, exhaust pressures, and line sizing will determine the limits of response times.

MECHANICAL	
Gas Compatibility ⁵	Compatible with non-corrosive gases
Common Mode Pressure (Differential Pressure Units Only)	200 PSIG
Mounting Attitude Sensitivity	PC and PCP: None PCR: Mount with valve cylinders vertical and upright
Mounting Tap Screw Size	8-32 UNC 0.175 in [4.45 mm]
Ingress Protection	IP40 (consult Alicat for weatherproofing options)
Humidity Range	0–95%, non-condensing
Wetted Materials	All controllers: FKM standard, heat-cured silicone rubber, polyamide, heat-cured epoxy, alumina, gold, brass, silicon, glass. 2 inH ₂ O: substitute glass-reinforced polyphenylene sulfide in place of polyamide PC and PCP: 302 / 303 / 430FR stainless steel, brass PCR: 302 / 303 / 416 stainless steel

5 For aggressive gases, please see our PCS-Series pressure controllers. Verify compatibility with wetted materials.
For use with water and other liquids, please contact Alicat.

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STANDARD AVAILABLE RANGES											
Pressure Range Unit ⁶	2 inH ₂ O	1 PSI	5 PSI	15 PSI	30 PSI	100 PSI	500 PSI	1000 PSI	1500 PSI	2000 PSI	3000 PSI
PSIA				✓	✓	✓	✓	✓	✓	✓	✓
PSIG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PSID	✓	✓	✓	✓	✓	✓	✓				

6 High flow Rolamite valve not available for pressures >500 PSI. Other ranges are available. Please contact Alicat for more information.

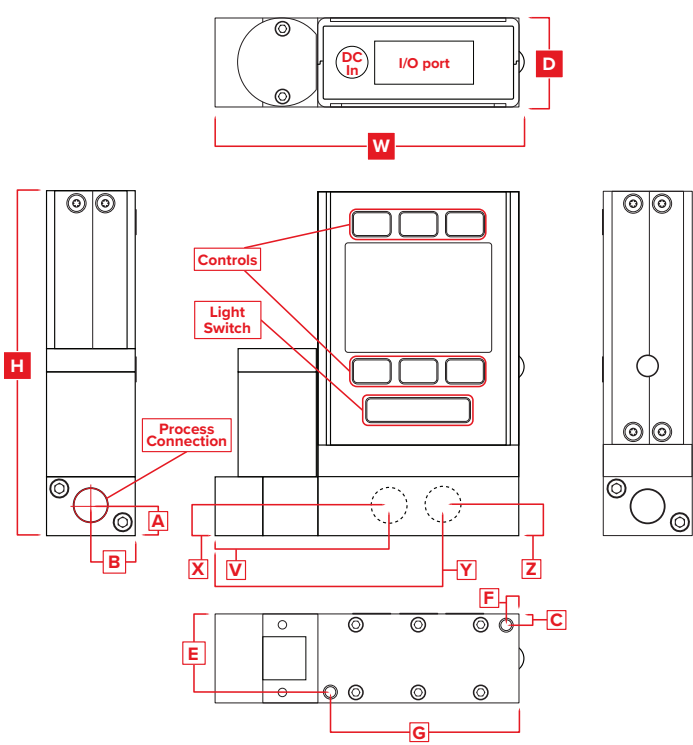
COMMUNICATIONS	
Monochrome LCD or Color TFT Display with integrated touchpad	Simultaneously displays setpoint and pressure
Analog I/O Options	4–20 mA, 0–5 Vdc, 1–5 Vdc, 0–10 Vdc
Digital I/O Options	RS-232 Serial by default RS-485 Serial, Modbus RTU (over RS-232 or RS-485), Modbus TCP/IP, DeviceNet, EtherCAT, EtherNet/IP, Profibus
Electrical Connection Options	6-pin locking, 8-pin mini-DIN, 8-pin M12, DB-9, DB-15 (Contact Alicat for custom pinouts)
Power Requirements ⁷	PC and PCP: 12–30 Vdc, 250 mA PCR (Rolamite valve): 24–30 Vdc, 750 mA Add 40 mA if equipped with 4–20 mA output
Digital Data Update Rate ⁷	40 Hz at 19200 Baud
Analog Data Update Rate	1 kHz
Display Update Rate	10 Hz
Analog Signal Accuracy	±0.1% of full scale additional uncertainty

7 Consult the individual operating bulletins for specific industrial protocol power requirements and data transmission specifications.

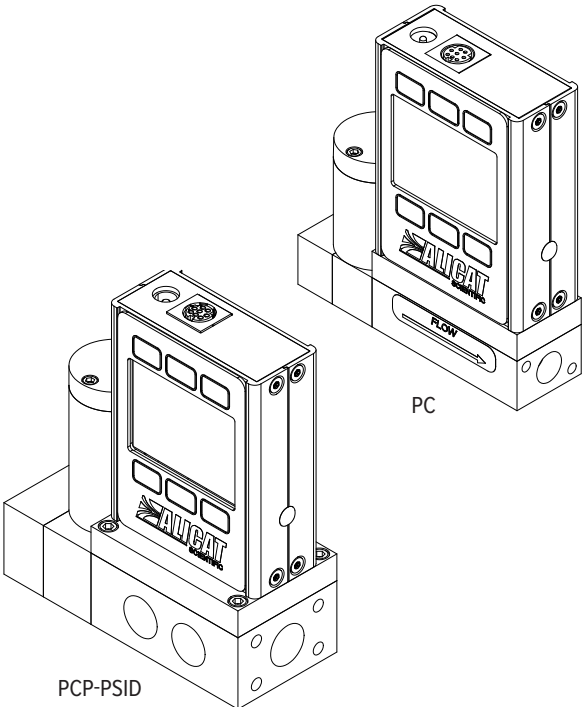
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DIMENSIONS								
Series	Weight	Height	Width	Depth	C	E	F	G
PC	≈ 1.2 lb	4.067 in	3.588 in	1.050 in	0.125 in	0.925 in	0.150 in	2.225 in
	≈ 0.5 kg	103.30 mm	91.14 mm	26.67 mm	3.18 mm	23.50 mm	3.81 mm	56.52 mm
PCP	≈ 2.2 lb	4.367 in	3.783 in	1.600 in	0.175 in	1.425 in	0.563 in	1.813 in
	≈ 1.0 kg	110.92 mm	96.09 mm	40.64 mm	4.45 mm	36.20 mm	14.30 mm	46.05 mm



Representative Examples



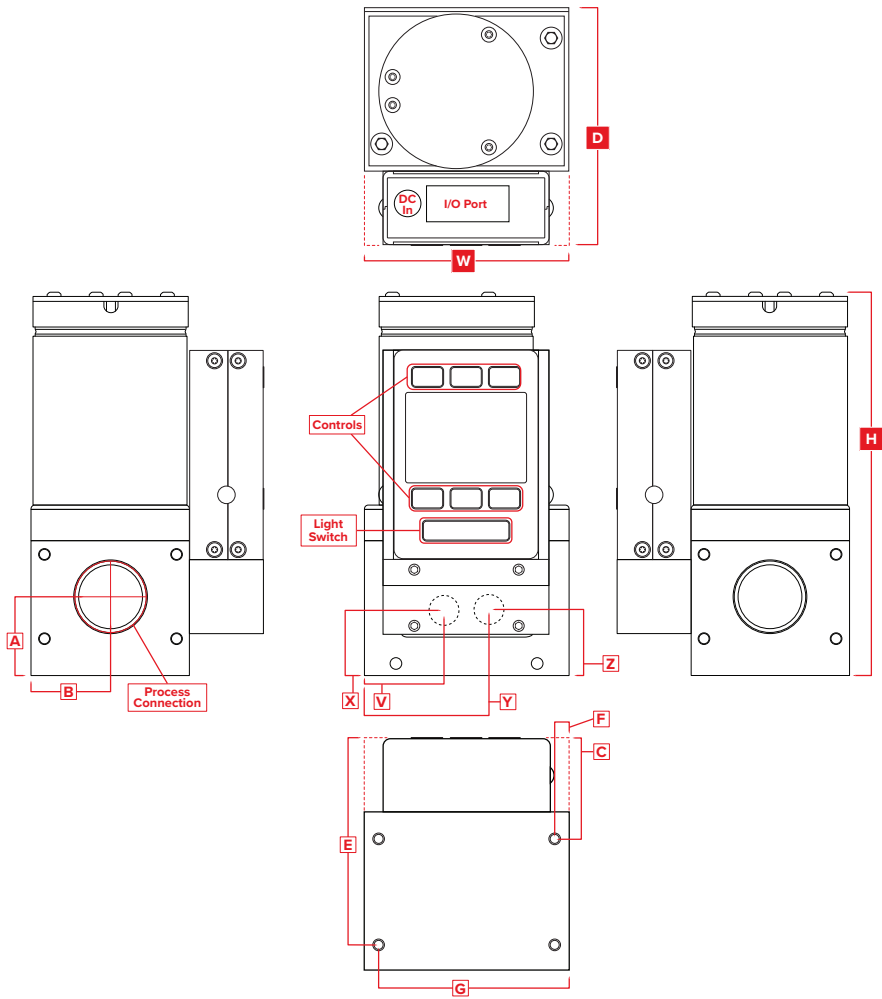
PORT DIMENSIONS										
Device	Inlet and Outlet Port Size	Inlet and Outlet ⁸		Remote and Differential Port Sizes	Remote Sense Port		Differential Port 1		Differential Port 2	
Label	—	A	B	—	V	X	V	X	Y	Z
PC	1/8" NPT	0.350 in	0.525 in	1/8" NPT	—	—	—	—	—	—
PC3					—	—	—	—	—	—
		8.89 mm	13.34 mm		2.080 in	0.350 in	—	—	—	—
52.83 mm					8.89 mm	—	—	—	—	
PC-PSID		—	—		2.080 in	0.350 in	2.721 in	0.350 in		
		—	—		52.83 mm	8.89 mm	69.11 mm	8.89 mm		
PCP	1/4" NPT	0.500 in	0.800 in	1/4" NPT	—	—	—	—	—	—
PCP3					—	—	—	—	—	—
		12.70 mm	20.32 mm		2.208 in	0.500 in	—	—	—	—
56.08 mm					12.70 mm	—	—	—	—	
PCP-PSID		—	—		2.208 in	0.500 in	2.983 in	0.500 in		
		—	—		56.08 mm	12.70 mm	75.77 mm	12.70 mm		

⁸ Consult Alicat for available process connection options, such as: Compression, face seal, push-to-connect, BSPP, SAE, or Swagelok® (including tube, VCO®, and VCR®).

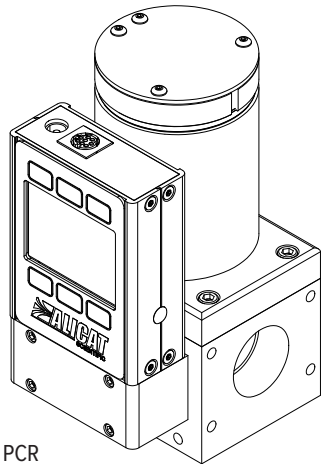
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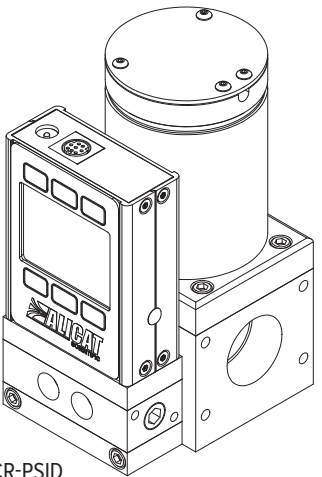
DIMENSIONS								
Series	Weight	Height	Width	Depth	C	E	F	G
PCR	≈ 9.0 lb	5.442 in	2.900 in	3.300 in	1.425 in	2.925 in	0.200 in	2.700 in
	≈ 4.1 kg	138.23 mm	73.66 mm	83.82 mm	36.20 mm	74.30 mm	5.08 mm	68.58 mm



Representative Examples



PCR



PCR-PSID

PORT DIMENSIONS										
Device	Inlet and Outlet Port Size	Inlet and Outlet ⁸		Remote and Differential Port Sizes	Remote Sense Port		Differential Port 1		Differential Port 2	
Label	—	A	B	—	V	X	V	X	Y	Z
PCR	¾" NPT	1.120 in	1.125 in	⅛" NPT	—	—	—	—	—	—
PCR3					—	—	—	—	—	—
		PCR-PSID	28.45 mm		28.58 mm	1.130 in	0.725 in	—	—	—
28.69 mm						18.42 mm	—	—	—	—
—						—	1.130 in	0.725 in	1.771 in	0.725 in
—						—	28.70 mm	18.42 mm	44.98 mm	18.42 mm

⁸ Consult Alicat for available process connection options, such as: Compression, face seal, push-to-connect, BSPP, SAE, or Swagelok® (including tube, VCO®, and VCR®).