

# Technical Data for Alicat **LC & LCR** Liquid Flow Controllers

## 0 – 0.5 ccm Full Scale through 0 – 10 lpm Full Scale



Tel: 888-290-6060

[www.alicat.com/liquid](http://www.alicat.com/liquid)

Alicat LC and LCR-Series water flow controllers display liquid flow, liquid temperature and pressure.

### Standard Specifications (Contact Alicat for available options.)

Performance	LC Controllers	LCR Controllers
Available Ranges	0.5 ccm to 500 ccm	1 lpm to 5 lpm
Accuracy at calibration conditions after tare	± 2% Full Scale	
Repeatability	± 2% Full Scale	
Zero Shift and Span Shift	0.02% Full Scale / °Celsius / Atm	
Operating Range / Turndown Ratio	2% to 100% Full Scale / 50:1 Turndown	
Maximum Flow Rate	102.4% FS Controllable	
Typical Response Time	100 ms (Adjustable)	
Warm-up Time	< 1 Second	

Operating Conditions	LC Controllers	LCR Controllers
Operating Temperature	Non-Freezing -10° to +60 °Celsius	
Maximum Internal Pressure	100 psig	
Proof Pressure	200 psig	
Mounting Attitude Sensitivity	None	Mount with valve cylinder vertical & upright
Valve Type	Normally Closed	
Ingress Protection	IP40	
Wetted Materials	<b>LC, LCR:</b> 430FR Stainless Steel, 302 & 303 Stainless Steel, 316L Stainless Steel, Viton®, FFKM. <b>LCR Controllers Add</b> 416 Stainless Steel, Delrin®. If your application demands a different material, please contact Alicat.	

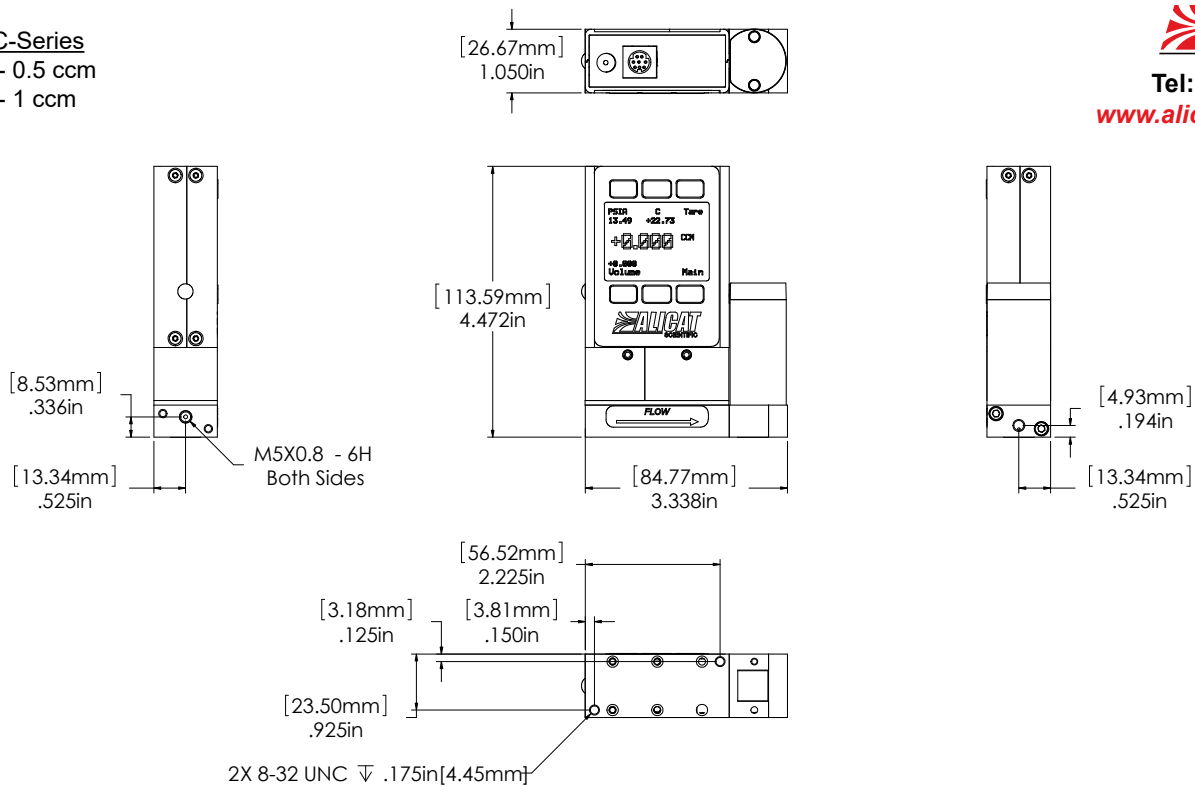
Communication / Power	LC Controllers	LCR Controllers
Monochrome LCD or Color TFT Display with integrated touchpad	Simultaneously displays Flow, Temperature and Pressure	
Digital Input / Output Signal <sup>1</sup> Options	RS-232 Serial / RS-485 Serial / Modbus / PROFIBUS <sup>3</sup>	
Analog Input / Output Signal <sup>2</sup> Options	0-5 Vdc / 1-5 Vdc / 0-10 Vdc / 4-20 mA	
Optional Secondary Analog Input / Output Signal <sup>2</sup>	0-5 Vdc / 1-5 Vdc / 0-10 Vdc / 4-20 mA	
Electrical Connection Options	8 Pin Mini-DIN / 9-pin D-sub (DB9) / 15-pin D-sub (DB15) / 6 pin locking	
Supply Voltage	12-30 Vdc (15-30 Vdc for 4-20 mA outputs)	24-30 Vdc
Supply Current	0.250 Amp	0.750 Amp ( <b>LCRH:</b> 2.0 Amp)
1. The <b>Digital Output Signal</b> communicates Flow and Temperature (optional Pressure sensor available) 2. The <b>Analog Output Signal</b> and <b>Optional Secondary Analog Output Signal</b> communicate your choice of Flow or Temperature 3. If selecting <b>PROFIBUS</b> , no analog signal is available. PROFIBUS units do not have the display. See PROFIBUS specifications for PROFIBUS supply voltages and currents. ( <a href="http://www.alicat.com/profibus">www.alicat.com/profibus</a> )		

### Range Specific Specifications

Full Scale Flow	Pressure Drop <sup>1</sup> at FS Flow (PSID)	Mechanical Dimensions <sup>2</sup>	Process Connections <sup>3</sup>
<b>LC Controllers</b>			
0.5 ccm to 1 ccm		4.4"H x 3.4"W x 1.1"D	<b>M5 (10-32) Female Thread<sup>4</sup></b>
2 ccm		4.6"H x 3.6"W x 1.1"D	1/8" NPT Female
5 ccm to 50 ccm	5.0		
100 ccm	5.0		
200 ccm to 500 ccm	7.5		
<b>LCR Controllers</b>			
1 lpm	4.0	5.7"H x 7.7"W x 2.3"D	1/4"NPT Female
2 lpm	4.0		
5 lpm	10.0		
LCRH 10 lpm		6.5"H x 9.4"W x 4.5"D	1/2"NPT Female

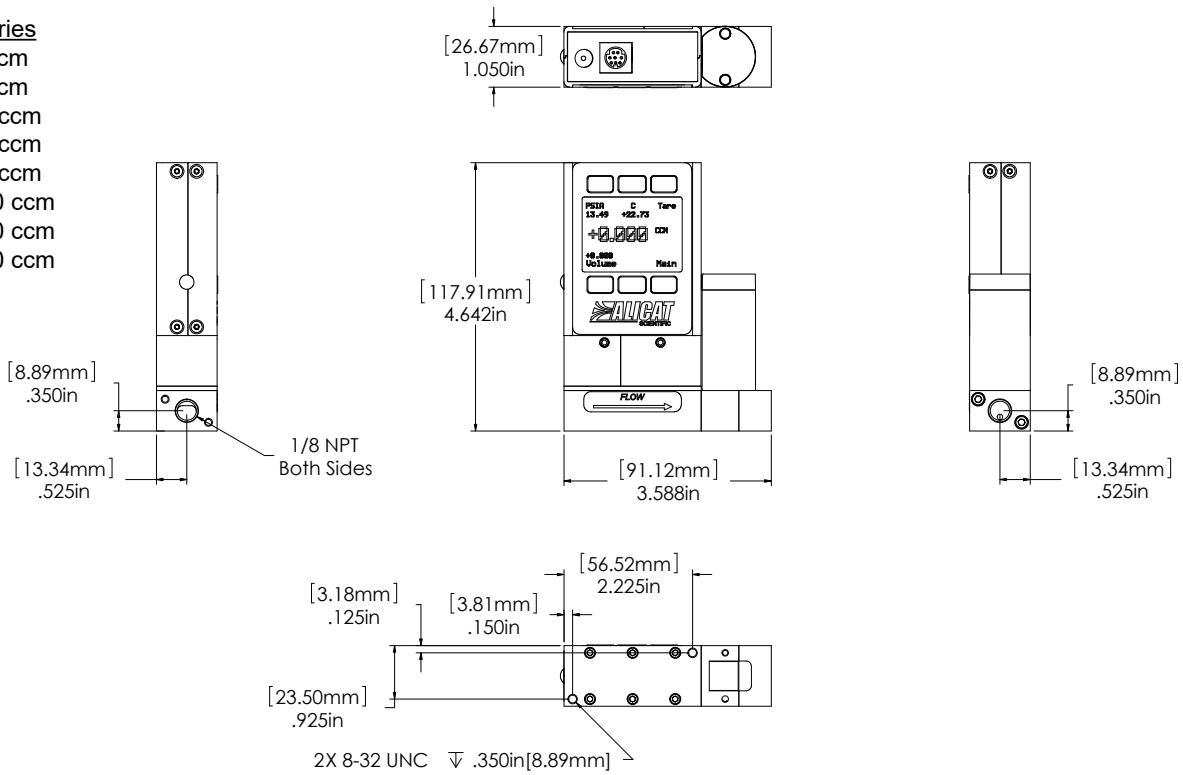
1. Lower Pressure Drops Available, please contact Alicat.
2. See drawings for metric equivalents.
3. Compatible with Swagelok® tube, Parker®, face seal, push connect and compression adapter fittings. VCR and SAE connections upon request.
4. Shipped with M-5 (10-32) Male Buna-N O-ring face seal to 1/8" Female NPT fittings.

**LC-Series**  
0 - 0.5 ccm  
0 - 1 ccm



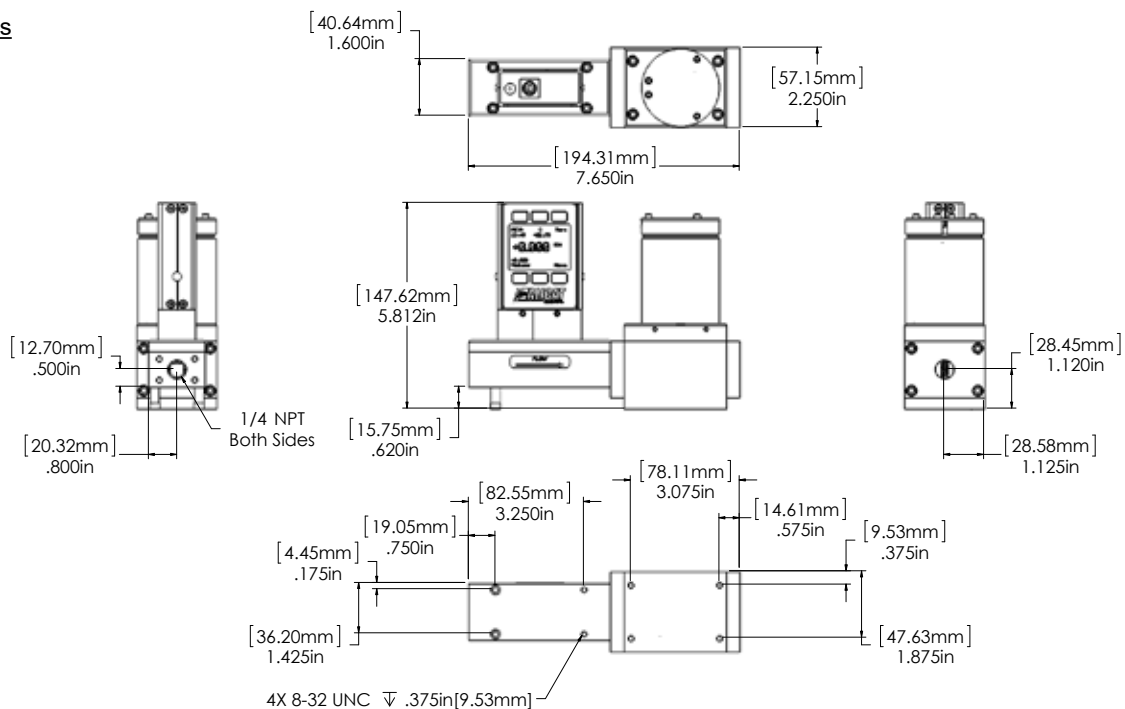
0.5 ccm to 1 ccm approximate shipping weight: 1.1 lb.

**LC-Series**  
0 - 2 ccm  
0 - 5 ccm  
0 - 10 ccm  
0 - 20 ccm  
0 - 50 ccm  
0 - 100 ccm  
0 - 200 ccm  
0 - 500 ccm



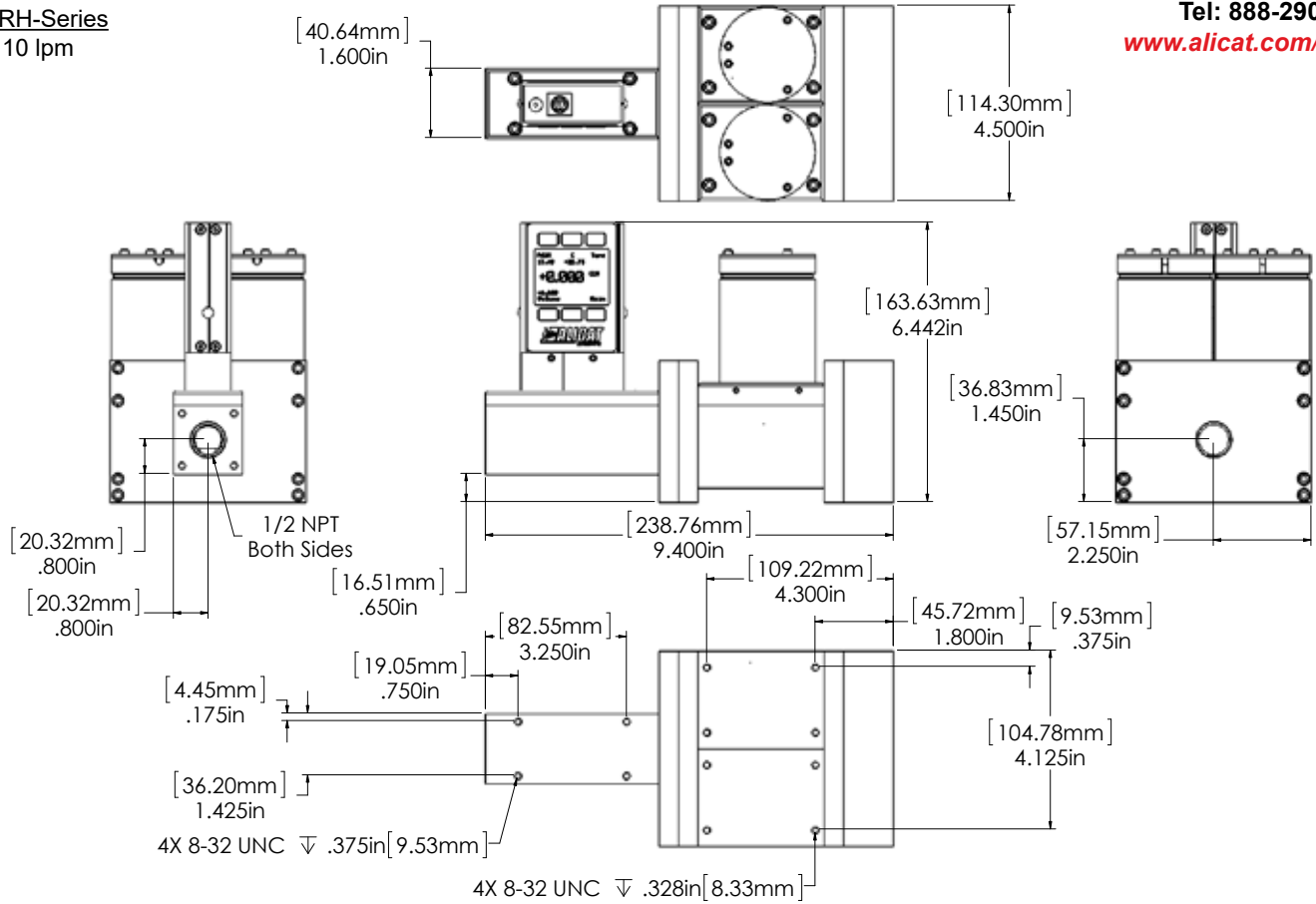
5 ccm to 500 ccm approximate shipping weight: 1.1 lb.

**LCR-Series**  
0 - 1 lpm  
0 - 2 lpm  
0 - 5 lpm



1 lpm to 5 lpm approximate weight: 9.0 lb.

LCRH-Series  
0 - 10 lpm



10 lpm approximate weight: 26.0 lb.