



LMI
MILTON ROY

Introducing...

ROYTRONIC™

SERIES A



Setting the New
HIGH STANDARD
for
Electronic
Metering Pumps

3 Year Warranty



ROYTRONIC™ SERIES A

New robust design with the advanced features and high end performance you expect from LMI

Control Features

- Choose from one of 5 control options:
 - Manual stroke length control / fixed speed
 - Manual stroke length and speed control
 - Manual stroke length / pulse input speed control
 - Manual stroke length / auto pulse input or manual speed control
 - Manual stroke length / auto 4-20mA or manual speed control
- Locking Cover
- NEMA 4X / IP65 Enclosure
- Stroke indicator light
- On/Off push button
- New industrial grade IP-68 external signal/equipment interface
- Inputs for low level switch available on certain models



New AutoPrime™ Liquid End

- Automatically and continuously purges entrapped air from process fluid
- Eliminates air binding when used with liquids such as sodium hypochlorite

New Heights in Standard Features

- New 4 Function Valve with swivel mount that allows flexible orientation
- FastPrime standard liquid end enables easy start-up
- Both single and double ball checks available for improved pumping efficiency
- Tubing connection system sets a new standard for secure and leak-proof tubing connections



Tubing Connection System - Exploded View

Liquifram Size 1 1/4" O.D. Tubing		AX1		0.003 to 0.26 GPH (0.01 to 1.0 l/h), 120 SPM					
		AX4		0.005 to 0.5 GPH (0.02 to 1.9 l/h), 240 SPM					
Drive Assembly	Liquid End Type	Liquid End Code	Check Type	Material of Construction					Accs. Valve
				Head/Fittings	Balls	Seat	O-ring	Max PSI/BAR	
A81_ A71_ A31_ A11_ A01_ A84_ A74_ A34_ A14_ A04_	AutoPrime™	910HI	Double Ball	Acrylic/PVC	Ceramic	Polyprel	Polyprel	150/10.3	APH + 4FV
		918HI		PVC/PVC	Ceramic	Polyprel	Polyprel	150/10.3	APH + 4FV
	FastPrime™	Double Ball	910SI	Acrylic/PVC	Ceramic	Polyprel	Polyprel	250/17.2	FPH + 4FV
			915SI	PP/PP	Ceramic	PTFE	PTFE	250/17.2	FPH + 4FV
		Double Ball	919SI	Acrylic/PVDF	PTFE	Polyprel	Polyprel	250/17.2	FPH + 4FV
			812SI	PVDF/PVDF	Ceramic	Polyprel	Polyprel	250/17.2	FPH + 4FV
			813SI	PVDF/PVDF	Ceramic	PTFE	PTFE	250/17.2	FPH + 4FV
			918SI	PVC/PVDF	Ceramic	Polyprel	Polyprel	250/17.2	FPH + 4FV
			818SI	PVC/PVDF	Ceramic	Polyprel	Polyprel	250/17.2	FPH + 4FV
			718SI	PVC/PVDF	Ceramic	Polyprel	Polyprel	250/17.2	FPH + 4FV
		917NP	Double Ball	316 SS/316 SS	316 SS	316 SS	PTFE	250/17.2	FPH 1/4" NPT M

Liquifram Size 2 3/8" O.D. Tubing		AX5		0.01 to 1.0 GPH (0.04 to 3.8 l/h), 240 SPM					
		AutoPrime™		0.005 to 0.75 GPH (0.02 to 2.8 l/h), 240 SPM					
Drive Assembly	Liquid End Type	Liquid End Code	Check Type	Material of Construction					Accs. Valve
				Head/Fittings	Balls	Seat	O-ring	Max PSI/BAR	
A85_ A75_ A35_ A15_ A05_	AutoPrime™	920HI	Double Ball	Acrylic/PVC	Ceramic	Polyprel	Polyprel	110/7.6	APH + 4FV
		928HI		PVC/PVC	Ceramic	Polyprel	Polyprel	110/7.6	APH + 4FV
	FastPrime™	Double Ball	920SI	Acrylic/PVC	Ceramic	Polyprel	Polyprel	110/7.6	FPH + 4FV
			925SI	PP/PP	Ceramic	PTFE	PTFE	110/7.6	FPH + 4FV
		Double Ball	929SI	Acrylic/PVDF	PTFE	Polyprel	Polyprel	110/7.6	FPH + 4FV
			822SI	PVDF/PVDF	Ceramic	Polyprel	Polyprel	110/7.6	FPH + 4FV
			823SI	PVDF/PVDF	Ceramic	PTFE	PTFE	110/7.6	FPH + 4FV
			828SI	PVC/PVC	Ceramic	Polyprel	Polyprel	110/7.6	FPH + 4FV
			728SI	PVC/PVC	Ceramic	Polyprel	Polyprel	110/7.6	FPH + 4FV
			927NP	Double Ball	316SS/316SS	316SS	316SS	PTFE	110/7.6

Liquifram Size 3 3/8" O.D. Tubing		AX6		0.02 to 2.0 GPH (0.08 to 7.6 l/h), 240 SPM					
		AutoPrime™		0.017 to 1.7 GPH (0.06 to 6.4 l/h), 240 SPM					
Drive Assembly	Liquid End Type	Liquid End Code	Check Type	Material of Construction					Accs. Valve
				Head/Fittings	Balls	Seat	O-ring	Max PSI/BAR	
A86_ A76_ A36_ A16_ A06_	AutoPrime™	930HI	Double Ball	Acrylic/PVC	Ceramic	Polyprel	Polyprel	50/3.4	APH + 4FV
		938HI		PVC/PVC	Ceramic	Polyprel	Polyprel	50/3.4	APH + 4FV
	FastPrime™	Double Ball	930SI	Acrylic/PVC	Ceramic	Polyprel	Polyprel	50/3.4	FPH + 4FV
			935SI	PP/PP	Ceramic	PTFE	PTFE	50/3.4	FPH + 4FV
		Double Ball	939SI	Acrylic/PVDF	PTFE	Polyprel	Polyprel	50/3.4	FPH + 4FV
			832SI	PVDF/PVDF	Ceramic	Polyprel	Polyprel	50/3.4	FPH + 4FV
			833SI	PVDF/PVDF	Ceramic	PTFE	PTFE	50/3.4	FPH + 4FV
			838SI	PVC/PVC	Ceramic	Polyprel	Polyprel	50/3.4	FPH + 4FV
			738SI	PVC/PVC	Ceramic	Polyprel	Polyprel	50/3.4	FPH + 4FV
			937NP	Double Ball	316SS/316SS	316SS	316SS	PTFE	50/3.4

- To specify changes in head, accessory valve, and/or connections, please refer to the model code configuration chart.
- APH indicates that the pump is equipped with an LMI AutoPrime™ Head. This head allows for the constant removal of vapors and gases present in applications like sodium hypochlorite and hydrogen peroxide.
- FPH indicates that the pump is equipped with an LMI FastPrime™ Head. This head has an integral manual priming valve to facilitate quick pump start-up.
- 4FV indicates that the pump is equipped with an LMI Four Function Valve. This diaphragm type, anti-syphon/pressure relief valve is installed on the pump head.
- Polyprel® is an elastomeric PTFE copolymer.
- Polyprel® is a registered trademark of Milton Roy Company. Liquifram™, AutoPrime™ and FastPrime™ are trademarks of Milton Roy Company.

Data Sheet

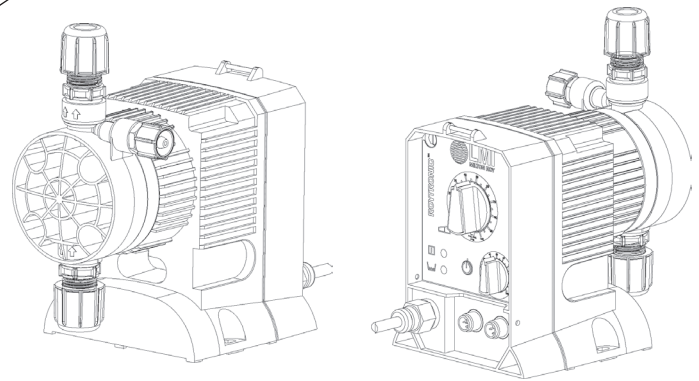
ROYTRONIC® Series A

Electronic Metering Pumps

Model Code Configuration

Drive	Control Code 1 – Dual Manual Control: Speed (stroking frequency) and stroke length manually adjustable 7 – Pulse Input / Dual Manual Control: External control capability through pulse input and low level float switch plus manual control adjustments of control code 1 8 – Analog Input / Dual Manual Control: External control capability through 4-20mA input and low level float switch plus manual control adjustments of control code 1										
	Output Codes with FastPrime™ Liquid End <table border="1"> <thead> <tr> <th>Max Capacity</th> <th>Max Pressure</th> </tr> </thead> <tbody> <tr> <td>1 – 0.25 GPH (1.0 l/h)</td> <td>250 psi (17.2 Bar)</td> </tr> <tr> <td>4 – 0.5 GPH (1.9 l/h)</td> <td>250 psi (17.2 Bar)</td> </tr> <tr> <td>5 – 1.0 GPH (3.8 l/h)</td> <td>110 psi (7.6 Bar)</td> </tr> <tr> <td>6 – 2.0 GPH (7.6 l/h)</td> <td>50 psi (3.4 Bar)</td> </tr> </tbody> </table>	Max Capacity	Max Pressure	1 – 0.25 GPH (1.0 l/h)	250 psi (17.2 Bar)	4 – 0.5 GPH (1.9 l/h)	250 psi (17.2 Bar)	5 – 1.0 GPH (3.8 l/h)	110 psi (7.6 Bar)	6 – 2.0 GPH (7.6 l/h)	50 psi (3.4 Bar)
	Max Capacity	Max Pressure									
	1 – 0.25 GPH (1.0 l/h)	250 psi (17.2 Bar)									
4 – 0.5 GPH (1.9 l/h)	250 psi (17.2 Bar)										
5 – 1.0 GPH (3.8 l/h)	110 psi (7.6 Bar)										
6 – 2.0 GPH (7.6 l/h)	50 psi (3.4 Bar)										
Voltage Code 1 – 110-120V US Plug 2 – 220-240V US Plug 3 – 220-240V DIN Plug 5 – 220-240V UK Plug 6 – 220-240V Aust/NZ Plug 7 – 220-240V Swiss Plug 8 – 110-120V No Plug											
Liquid End Code See accompanying pages for options											
Liquid End	Liquifram™ Size Code 1 – 0.2 in ² 2 – 0.4 in ² 3 – 0.8 in ²										
	Material Code See accompanying pages for options										
	Head/Valve Code S – FastPrime™ Head + 4FV N – FastPrime™ Head H – AutoPrime™ Head + 4FV A – AutoPrime™ Head										
	Connection Code I – Inch Tube connections with tubing M – Metric Tube connection without tubing U – Inch Tube connection with Black UV resistant suction/discharge tubing P – NPT only (316 ss Heads)										

Model A **7 5 1 - 8 2 8 S I**



Certified to NSF/ANSI 61 & 372

Specifications

Series	Strokes Per Minute (Adjustable)		Stroke Length (Adjustable) Recommended Minimum	Average Input Power @ Max Speed and Pressure	Max. Shipping Weight
	Min	Max			
A81, A71, A11	1	120	20%	42 watts	10 lbs (4.75 kg)
A84, A74, A14	1	240	20%		
A85, A75, A15 A86, A76, A16					



FOR SALES AND SUPPORT CALL
TOLL FREE 877-742-2878

Return to BurtProcess.com

201 Ivyland Road
Ivyland, PA 18974 USA
TEL: (215) 293-0401
FAX: (215) 293-0445
<http://www.lmipumps.com>

Replaces same of Rev.B 2/2011
2022.C 11/2014

Standard FastPrime™ Liquid End Configuration Data & Materials of Construction

Drive Assembly	Liquid End	Size Code	Materials of Construction				Accs. Valve	Tubing & Connections
			Head/Fittings	Balls	Liquifram™	Seat/O-Ring		
A81 ■	910SI†	1	Acrylic/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.
A71 ■	915SI†	1	PP/PP	Ceramic	Fluorofilm™	PTFE	4FV	PE 1/4" O.D.
A11 ■	918SI†	1	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.
A84 ■	919SI†	1	Acrylic/PVDF	PTFE	Fluorofilm™	Polyprel®	4FV	PE 1/4" O.D.
A74 ■	917NP	1	316ss/316ss	316ss	Fluorofilm™	316ss/PTFE	—	1/4" NPT
A14 ■	812SI†	1	PVDF/PVDF	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.
	813SI†	1	PVDF/PVDF	Ceramic	Fluorofilm™	PTFE	4FV	PE 1/4" O.D.
	818SI†	1	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.
	718SI†	1	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.

Drive Assembly	Liquid End	Size Code	Materials of Construction				Accs. Valve	Tubing & Connections
			Head/Fittings	Balls	Liquifram™	Seat/O-Ring		
A85 ■	920SI†	2	Acrylic/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.
A75 ■	925SI†	2	PP/PP	Ceramic	Fluorofilm™	PTFE	4FV	PE 3/8" O.D.
A15 ■	928SI†	2	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.
	929SI†	2	Acrylic/PVDF	PTFE	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.
	927NP	2	316ss/316ss	316ss	Fluorofilm™	316ss/PTFE	—	1/4" NPT
	822SI†	2	PVDF/PVDF	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.
	823SI†	2	PVDF/PVDF	Ceramic	Fluorofilm™	PTFE	4FV	PE 3/8" O.D.
	828SI†	2	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.
	728SI†	2	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.

Drive Assembly	Liquid End	Size Code	Materials of Construction				Accs. Valve	Tubing & Connections
			Head/Fittings	Balls	Liquifram™	Seat/O-Ring		
A86 ■	930SI†	3	Acrylic/PVC	Ceramic	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.
A76 ■	935SI†	3	PP/PP	Ceramic	Fluorofilm™	PTFE	4FV	PE 3/8" O.D.
A16 ■	938SI†	3	PVC/PVC	Ceramic	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.
	939SI†	3	Acrylic/PVDF	PTFE	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.
	937NP	3	316ss/316ss	316ss	Fluorofilm™	316ss/PTFE	—	1/4" NPT
	832SI†	3	PVDF/PVDF	Ceramic	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.
	833SI†	3	PVDF/PVDF	Ceramic	Fluorofilm™	PTFE	4FV	PE 3/8" O.D.
	838SI†	3	PVC/PVC	Ceramic	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.
	738SI†	3	PVC/PVC	Ceramic	Fluorofilm™	Polyprel®	4FV	PE 3/8" O.D.

Output Information with FastPrime™ Liquid End

Series	Gallons per Hour		Liters per Hour		mL/cc per Minute		mL/cc per Stroke		Maximum Injection Pressure
	Min	Max	Min	Max	Min	Max	Min	Max	
AX1*	0.003	0.25	0.01	1.0	0.157	15.7	0.013	0.13	250 psi (17.2 Bar)
AX4*	0.005	0.5	0.02	1.9	0.315	31.5	0.013	0.13	250 psi (17.2 Bar)
AX5*	0.01	1.0	0.04	3.8	0.630	63.0	0.026	0.26	110 psi (7.6 Bar)
AX6*	0.02	2.0	0.08	7.6	1.260	126.0	0.053	0.53	50 psi (3.4 Bar)

*Minimum output is based on one stroke per minute. Minimum output can be reduced further in external mode.
(Where X = Control Code 0,1,3,7,8).

AutoPrime™ Liquid End Configuration Data & Materials of Construction

Drive Assembly	Liquid End	Size Code	Materials of Construction				Accs. Valve	Tubing & Connections
			Head/Fittings	Balls	Liquifram™	Seat/O-Ring		
A81 ■ A71 ■ A11 ■ A84 ■ A74 ■ A14 ■	910HI†	1	Acrylic/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.
	918HI†	1	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 1/4" O.D.

Drive Assembly	Liquid End	Size Code	Materials of Construction				Accs. Valve	Tubing & Connections
			Head/Fittings	Balls	Liquifram™	Seat/O-Ring		
A85 ■ A75 ■ A15 ■	920HI†	2	Acrylic/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.
	928HI†	2	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.

Drive Assembly	Liquid End	Size Code	Materials of Construction				Accs. Valve	Tubing & Connections
			Head/Fittings	Balls	Liquifram™	Seat/O-Ring		
A86 ■ A76 ■ A16 ■	930HI†	3	Acrylic/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.
	938HI†	3	PVC/PVC	Ceramic	Fluorofilm™	PTFE/Polyprel®	4FV	PE 3/8" O.D.

Output Information with AutoPrime™ Liquid End

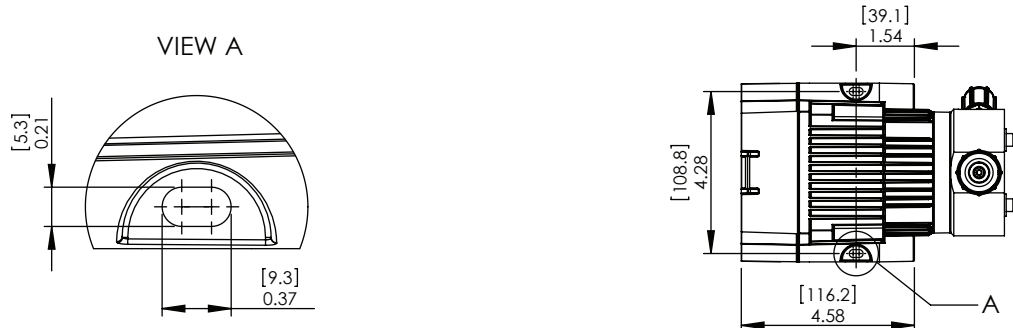
Series	Gallons per Hour		Liters per Hour		mL/cc per Minute		mL/cc per Stroke		Maximum Injection Pressure
	Min	Max	Min	Max	Min	Max	Min	Max	
AX1*	0.001	0.13	0.005	0.5	0.082	8.2	0.0007	0.068	150 psi (10.3 Bar)
AX4*	0.003	0.25	0.01	0.9	0.157	15.7	0.0013	0.13	150 psi (10.3 Bar)
AX5*	0.006	0.65	0.02	2.5	0.41	41.0	0.0017	0.17	110 psi (7.6 Bar)
AX6*	0.017	1.7	0.06	6.4	1.07	107.2	0.0045	0.45	50 psi (3.4 Bar)

*Minimum output is based on one stroke per minute. Minimum output can be reduced further in external mode. (Where X = Control Code 0,1,3,7,8).

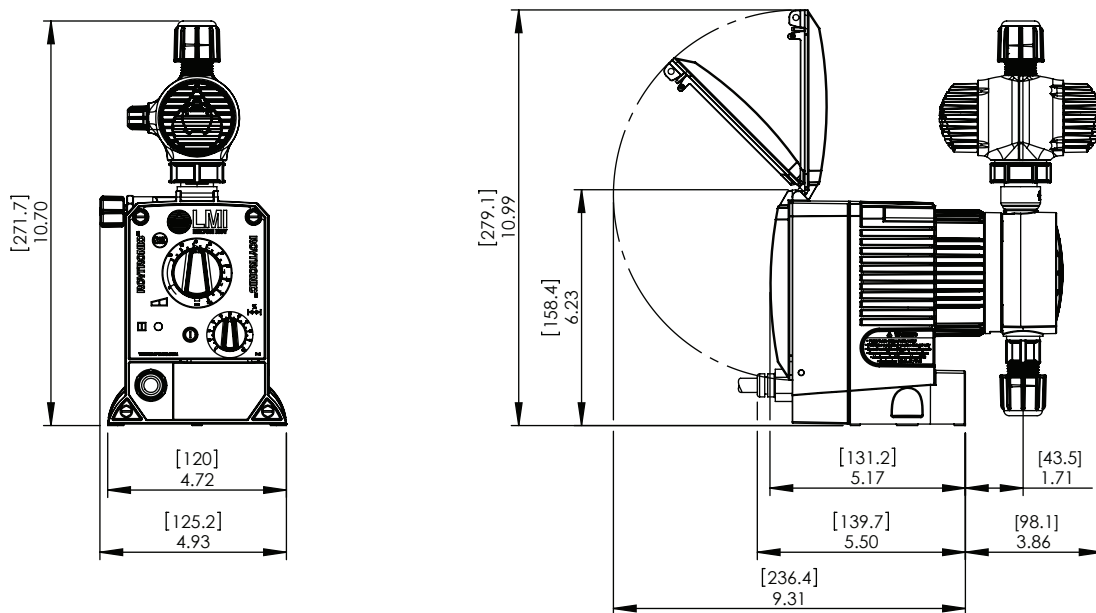
AUTOPRIME™ liquid ends have 3 check valves: suction on the bottom; discharge on the front; autopriming bleed on the top. By design, a repeatable portion of the process fluid continuously bleeds through the top check valve to be returned to the chemical supply. The result is the assurance that any gas in the head is automatically relieved thus eliminating air-binding. Depending on application, output may be reduced up to 50%. Variables include supplier piping, stroke length and speed setting. Maximum pressure is 150 psi (10.3 Bar) for AX1, AX4, 110 psi (7.6 Bar) for AX5, 50 psi (3.4 Bar) for AX6 models. (Where X = control codes 0,1,3,7,8).

- See front page for voltage code specifications. **4FV** Indicates that the pump is equipped with an LMI Four Function Valve. This diaphragm type, anti-syphon/pressure relief valve is installed on the pump head. It provides anti-syphon protection and aids priming, even under pressure.
- † To specify black, UV resistant tubing, change 'I' to 'U'. To specify head only and no 4FV, change 'S' to 'N' for FastPrime or change 'H' to 'A' for AutoPrime. To specify 1/2" NPT Male, change 'I' to 'P'.
- Fluorofilm™ is a copolymer of PTFE and PFA. Polyprel® is an elastomeric PTFE copolymer.
- Polyprel is a registered trademark of Milton Roy, LLC.
- Fluorofilm and Liquifram are trademarks of Milton Roy, LLC.

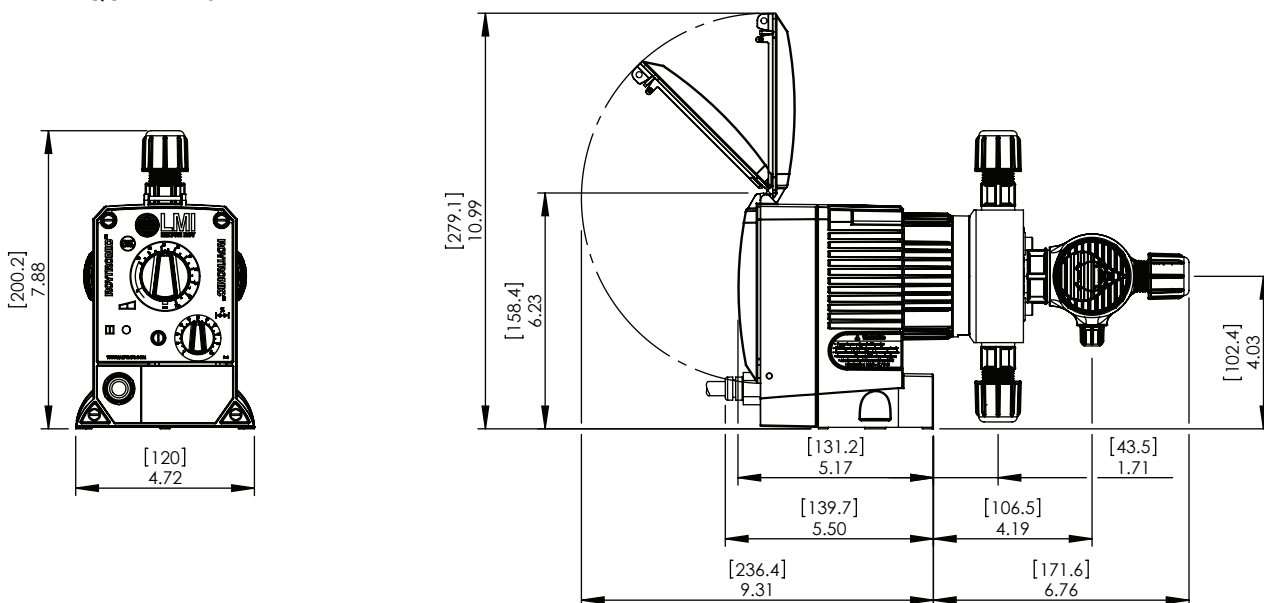
MOUNTING INFORMATION



FASTPRIME LIQUID ENDS



AUTOPRIME LIQUID ENDS



NOTE: ALL DIMENSIONS IN INCHES [MM]. DIMENSIONS SHOWN ARE FOR LARGEST LIQUID END. DIMENSIONS WILL VARY DEPENDING ON LIQUID END SELECTED.