



## Configuration Data

Model **P14** **1** - **358SI**

## ROYTRONIC<sup>®</sup> Series P Electronic Metering Pumps

### Manual Control

Speed (stroking frequency) fixed and stroke length manually adjustable.

P02 --- 0.20 GPH (0.79 l/h) --- 150 psi (10.3 Bar)  
 P03 --- 0.42 GPH (1.6 l/h) --- 110 psi (7.6 Bar)  
 P04 --- 0.58 GPH (2.2 l/h) --- 250 psi (17.3 Bar)  
 P05 --- 1.00 GPH (3.8 l/h) --- 110 psi (7.6 Bar)  
 P06 --- 2.00 GPH (7.6 l/h) --- 50 psi (3.5 Bar)

### Dual Manual Control

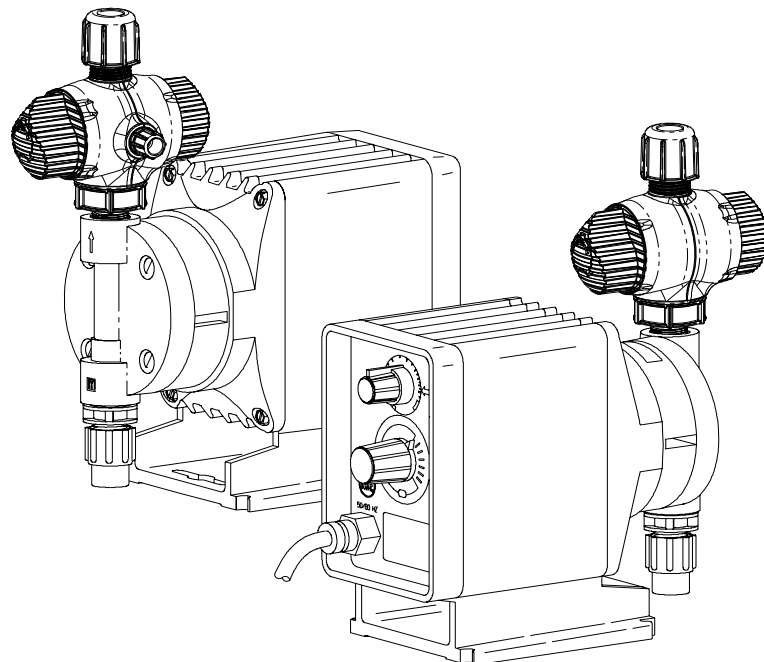
Speed (stroking frequency) and stroke length manually adjustable.

P12 --- 0.20 GPH (0.79 l/h) --- 150 psi (10.3 Bar)  
 P13 --- 0.42 GPH (1.6 l/h) --- 110 psi (7.6 Bar)  
 P14 --- 0.58 GPH (2.2 l/h) --- 250 psi (17.3 Bar)  
 P15 --- 1.00 GPH (3.8 l/h) --- 110 psi (7.6 Bar)  
 P16 --- 2.00 GPH (7.6 l/h) --- 50 psi (3.5 Bar)

### Instrument Responsive / Manual

Manual adjustment features of Series P1 plus switch conversion to external control for automatic systems.

P74 --- 0.58 GPH (2.2 l/h) --- 250 psi (17.3 Bar)  
 P75 --- 1.00 GPH (3.8 l/h) --- 110 psi (7.6 Bar)  
 P76 --- 2.00 GPH (7.6 l/h) --- 50 psi (3.5 Bar)



### Voltage Code

1 ----- 120 VAC US Plug  
 2 ----- 240 VAC US Plug  
 3 ----- 220-240 VAC DIN Plug  
 5 ----- 240-250 VAC, UK Plug  
 6 ----- 240-250 VAC, Aust./NZ Plug  
 7 ----- 220 VAC, Swiss Plug

### Liquid End

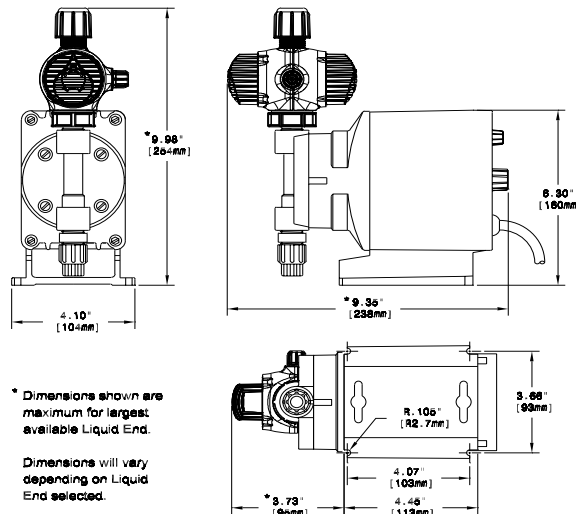
See next page for complete liquid end specifications and selection.



## Specifications

Series	Strokes Per Minute (Adjustable)		Stroke Length (Adjustable) Recommended Minimum	Average Input Power @ Max Speed	Shipping Weight
	Min	Max			
P02, P03	fixed - 60		30%	22 watts	7.6 lbs (3.5 kg)
P04, P05	fixed - 100		20%		
P06	.6	60	30%		
P12, P13	fixed - 60		30%		
P14, P74	fixed - 100		20%		
P15, P75 P16, P76	1	100	20%		

## Dimensions



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# Standard Liquid Ends Configuration Data & Materials of Construction

Drive Assembly	Liquid End No.	Size Code	Head & Fittings	Balls	Materials of Construction		Check Valve	Accessory	Tubing & Connections	
					Liquifram™				Discharge	Suction
P02 P04 P12 P14 P74	458Si†	0.5	PVC / PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	450Si†	0.5	Acrylic/PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	459Si†	0.5	Acrylic/PVDF	PTFE	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	358Si†	0.5	PVC / PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	353Si†	0.5	PVDF / PVDF	Ceramic	Fluorofilm™		PVDF / PTFE	4FV		PE .250" O.D.
	352Si†	0.5	PVDF / PVDF	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	455Si†	0.5	Polypropylene	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	257	0.5	316 S.S.	316 S.S.	Fluorofilm™		316 S.S.			Pipe 1/4" NPT M
P03 P05 P13 P15 P75	498Si†	0.9	PVC / PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	490Si†	0.9	Acrylic/PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	499Si†	0.9	Acrylic/PVC	PTFE	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	398Si†	0.9	PVC / PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	393Si†	0.9	PVDF / PVDF	Ceramic	Fluorofilm™		PVDF / PTFE	4FV		PE .375" O.D.
	392Si†	0.9	PVDF / PVDF	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	495Si†	0.9	Polypropylene	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
	297	0.9	316 S.S.	316 S.S.	Fluorofilm™		316 S.S.			Pipe 1/4" NPT M
P06 P16 P76	468Si†	1.8	PVC / PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	460Si†	1.8	Acrylic/PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	460Fi†	1.8	Acrylic/PVC	PTFE	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	368Si†	1.8	PVC / PVC	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	363Si†	1.8	PVDF / PVDF	Ceramic	Fluorofilm™		PVDF / PTFE	4FV		PE .375" O.D.
	362Si†	1.8	PVDF / PVDF	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .375" O.D.
	465Si†	1.8	Polypropylene	Ceramic	Fluorofilm™		PVDF / Polyprel®	4FV		PE .250" O.D.
		277	1.8	316 S.S.	316 S.S.	Fluorofilm™		316 S.S.		

See front page for voltage code specifications.

† Standard tubing connections. To specify black, UV resistant tubing, change 'I' to 'U'. To specify 3FV, change 'S' to 'T'.

3FV indicates that the pump is equipped with an LMI Three Function Valve (pressure relief, priming aid, line drain).

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 in priming, even under pressure.

Fluorofilm™ is a copolymer of PTFE and PFA. Polyprel® is an elastomeric PTFE copolymer.

Polyprel® is a registered trademark of Milton Roy Company. Fluorofilm™ and Liquifram™ are trademarks of Milton Roy Company. Hypalon® is a registered trademark of E. I. du Pont de Nemours & Co., Inc.

## Output Information - Standard Liquid Ends

Series	Gallons per Hour		Liters per Hour		mL/cc per Minute		Ucc per Stroke		Maximum Injection Pressure	
	Min	Max	Min	Max	Min	Max	Min	Max		
P02	0.063	0.21	0.237	0.79	3.94	13	0.07	0.22	150 psi	(10.3 Bar)
P03	0.125	0.42	0.473	1.6	7.89	26	0.13	0.44	110 psi	(7.6 Bar)
P04	0.117	0.58	0.442	2.2	7.36	37	0.07	0.37	250 psi	(17.3 Bar)
P05	0.200	1.0	0.757	3.8	12.62	63	0.13	0.63	110 psi	(7.6 Bar)
P06	0.400	2.0	1.510	7.6	25.23	126	0.25	1.26	50 psi	(3.5 Bar)
P12	0.001	0.21	0.002	0.79	0.04	13	0.07	0.22	150 psi	(10.3 Bar)
P13	0.001	0.42	0.005	1.6	0.08	27	0.13	0.44	110 psi	(7.6 Bar)
P14, P74	0.001	0.58	0.004	2.2	0.07	37	0.07	0.37	250 psi	(17.3 Bar)
P15, P75	0.002	1.0	0.008	3.8	0.13	63	0.13	0.63	110 psi	(7.6 Bar)
P16, P76	0.004	2.0	0.015	7.6	0.25	126	0.25	1.26	110 psi	(7.6 Bar)

## AUTOPRIME™ Liquid Configuration Data and Materials of Construction

D50HI	0.5	Acrylic / PVC	Ceramic	Fluorofilm™	PVDF / Polyprel®	4FV	PE 0.250" O.D.
D58HI	0.5	PVC / PVC	Ceramic	Fluorofilm™	PVDF / Polyprel®	4FV	PE 0.250" O.D.
D90HI	0.9	Acrylic / PVC	Ceramic	Fluorofilm™	PVDF / Polyprel®	4FV	PE 0.375" O.D.
D98HI	0.9	PVC / PVC	Ceramic	Fluorofilm™	PVDF / Polyprel®	4FV	PE 0.375" O.D.
D60HI	1.8	Acrylic / PVC	Ceramic	Fluorofilm™	PVDF / Polyprel®	4FV	PE 0.375" O.D.
D68HI	1.8	PVC / PVC	Ceramic	Fluorofilm™	PVDF / Polyprel®	4FV	PE 0.375" O.D.

## Output Information - AUTOPRIME™ Liquid Ends (Liquid end models beginning with "D")

AUTOPRIME™ liquid ends have 3 check valves: Suction on the bottom; Discharge on the front; Autoprime 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. The maximum output per the tables above is reduced to account for the continuous bleed.

Series	Maximum Output				Maximum Pressure	
	GPH	Liters/hr	mL/cc per minute	mL/cc per stroke	PSI	Bar
P_2	0.13	0.49	8.2	0.14	150 psi	10.3
P_3	0.33	1.25	20.8	0.35	110 psi	7.6
P_4	0.42	1.6	26.5	0.26	150 psi	10.3
P_5	0.85	3.2	53.6	0.54	110 psi	7.6
P_6	1.85	7.0	116.7	1.17	50 psi	3.5