



Configuration Data

Model **A94** **1** - **358SI**

Control & Output Mode

Manual Control

Speed (stroking frequency) and stroke length manually adjustable.

- A14 ----- 0.58 GPH (2.2 l/h) --- 250 psi (17.3 Bar)
- A15 ----- 1.00 GPH (3.8 l/h) --- 110 psi (7.6 Bar)
- A16 ----- 2.00 GPH (7.6 l/h) --- 50 psi (3.5 Bar)
- A17 ----- 0.42 GPH (1.6 l/h) --- 140 psi (9.7 Bar)
- A18 ----- 0.75 GPH (2.8 l/h) --- 80 psi (5.5 Bar)

Instrument Responsive / Manual Control

Manual adjustment features of Series A1 plus switch conversion to external control for automatic systems.

- A74 ----- 0.58 GPH (2.2 l/h) -- 250 psi (17.3 Bar)
- A75 ----- 1.00 GPH (3.8 l/h) -- 110 psi (7.6 Bar)
- A76 ----- 2.00 GPH (7.6 l/h) -- 50 psi (3.5 Bar)
- A77 ----- 0.42 GPH (1.6 l/h) -- 140 psi (9.7 Bar)
- A78 ----- 0.75 GPH (2.8 l/h) --- 80 psi (5.5 Bar)

Instrument Responsive / Microprocessor

External 4-20mA or pulse ÷ or x direct. Manual stroke control.

- A94 ----- 0.58 GPH (2.2 l/h) --- 250 psi (17.3 Bar)
- A95 ----- 1.00 GPH (3.8 l/h) --- 110 psi (7.6 Bar)
- A96 ----- 2.00 GPH (7.6 l/h) --- 50 psi (3.5 Bar)
- A97 ----- 0.42 GPH (1.6 l/h) --- 140 psi (9.7 Bar)

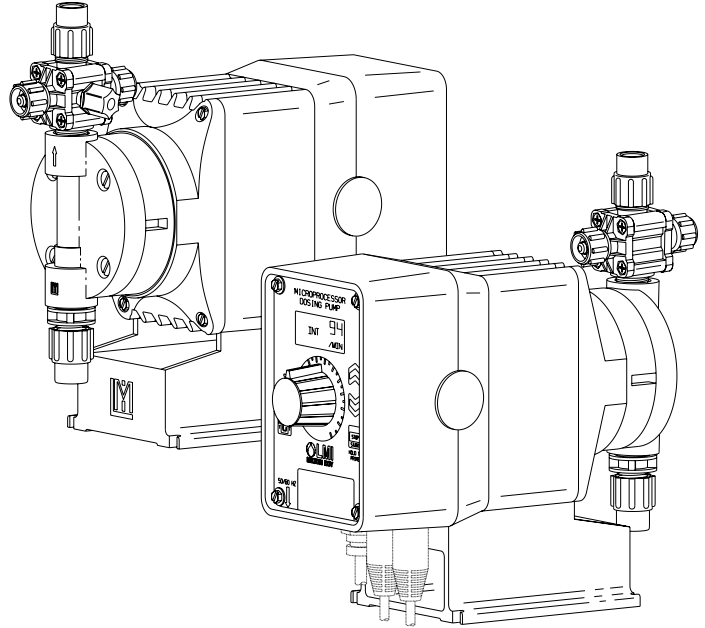
Voltage Code

- 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 ----- 220-240 VAC, Swiss Plug

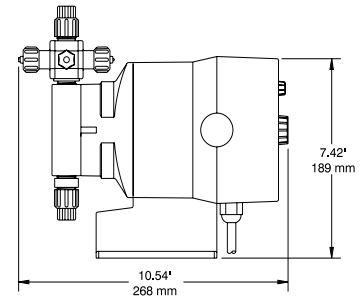
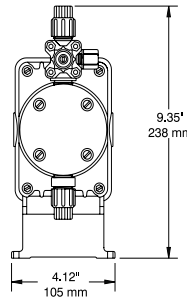
Liquid End

See next page for complete liquid end specifications and selection.

Electronic Metering Pumps

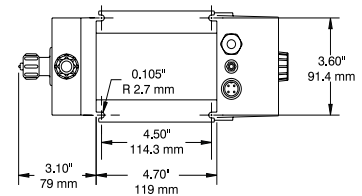


Dimensions



* Dimensions shown are maximums for largest available Liquid End.

Dimensions will vary depending on Liquid End selected.



Specifications

| Series | Strokes Per Minute (Adjustable) | | Stroke Length (Adjustable) Recommended Minimum | Average Input Power @ Max Speed | Shipping Weight |
|--|---------------------------------|-----|--|---------------------------------|------------------|
| | Min | Max | | | |
| A14, A74, A94* A15, A75, A95* A16, A76, A96* | 1 | 100 | 20% | 22 watts | 10 lbs (4.55 kg) |
| A17, A77, A97* A18, A78 | 1 | 100 | 30% | | |

*Series 9 pumps may be programmed for strokes per hour for lower outputs.



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Configuration Data & Materials of Construction

| Drive Assembly | Liquid End No. | Size Code | Materials of Construction | | | | Accessory | Tubing & Connections | |
|--|----------------|--------------|---------------------------|-------------|-------------|------------------|------------------------------|------------------------------|---------|
| | | | Head & Fittings | Balls | Liquifram™ | Check Valve | | Discharge | Suction |
| A97 - A94 - A77 - A74 - A17 - A14 - | 458SI† | 0.5 | PVC / PVC | Ceramic | Fluorofilm™ | PVDF / Polyprel® | 4FV | PE .250" O.D. | |
| | 450FI | 0.5 | Acrylic / PVC | PTFE | Fluorofilm™ | PVDF / Polyprel® | 4FV | PE .250" O.D. | |
| | 450SI† | 0.5 | PVC / PVC | Ceramic | 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. | |
| | 155HV | 0.5 | Polypropylene | 316 S.S. | Fluorofilm™ | PTFE | | PE .5" O.D. Vinyl .938" O.D. | |
| | 155S** | 0.5 | Polypropylene | Ceramic | Fluorofilm™ | PTFE | 4FV | PE .250" O.D. | |
| 156HV | 0.5 | Acrylic / PP | 316 S.S. | Fluorofilm™ | Hypalon® | | PE .5" O.D. Vinyl .938" O.D. | | |
| 257 | 0.5 | 316 S.S. | 316 S.S. | Fluorofilm™ | 316 S.S. | | Pipe 1/4" NPT M | | |

| | | | | | | | | |
|---|--------|----------|---------------|-------------|-------------|------------------|-----------------|------------------------------|
| A95 - A78 - A75 - A18 - A15 - | 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. |
| | 490FI | 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. |
| | 392SI† | 0.9 | PVDF / PVDF | Ceramic | Fluorofilm™ | PVDF / Polyprel® | 4FV | PE .375" O.D. |
| | 393SI† | 0.9 | PVDF / PVDF | Ceramic | Fluorofilm™ | PVDF / PTFE | 4FV | PE .375" O.D. |
| | 85HV | 0.9 | Polypropylene | 316 S.S. | Fluorofilm™ | PTFE | | PE .5" O.D. Vinyl .938" O.D. |
| | 86HV | 0.9 | Acrylic / PP | 316 S.S. | Fluorofilm™ | Hypalon® | | PE .5" O.D. Vinyl .938" O.D. |
| | 89 | 0.9 | UHMWPE | Ceramic | Hypalon® | Hypalon® | | PE .5" O.D. Vinyl .5" O.D. |
| | 95S** | 0.9 | Polypropylene | Ceramic | Fluorofilm™ | PTFE | 4FV | PE .375" O.D. |
| 297 | 0.9 | 316 S.S. | 316 S.S. | Fluorofilm™ | 316 S.S. | | Pipe 1/4" NPT M | |

| | | | | | | | | |
|-------------------------|--------|-----|---------------|----------|-------------|------------------|-----|------------------------------|
| A96 - A76 - A16 - | 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. |
| | 362SI† | 1.8 | PVDF / PVDF | Ceramic | Fluorofilm™ | PVDF / Polyprel® | 4FV | PE .375" O.D. |
| | 363SI† | 1.8 | PVDF / PVDF | Ceramic | Fluorofilm™ | PVDF / PTFE | 4FV | PE .375" O.D. |
| | 65S** | 1.8 | Polypropylene | Ceramic | Fluorofilm™ | PTFE | 4FV | PE .375" O.D. |
| | 75HV | 1.8 | Polypropylene | 316 S.S. | Fluorofilm™ | PTFE | | PE .5" O.D. Vinyl .938" O.D. |
| | 76HV | 1.8 | Acrylic / PP | 316 S.S. | Fluorofilm™ | Hypalon® | | PE .5" O.D. Vinyl .938" O.D. |
| | 79 | 1.8 | UHMWPE | Ceramic | Hypalon® | Hypalon® | | PE .5" O.D. Vinyl .5" O.D. |
| | 277 | 1.8 | 316 S.S. | 316 S.S. | Fluorofilm™ | 316 S.S. | | Pipe 1/4" NPT M |

■ See front page for voltage code specifications.

** These Liquid Ends are available without a 4-FV.

† To specify 1/4" NPT male, change 'I' to 'P'. To specify black, UV resistant tubing, change 'I' to 'U'. To specify Bleed 4FV, change 'S' to 'B'. 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.

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Output Information

| 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 | |
| A94*, A74*, A14 | 0.001 | 0.58 | 0.004 | 2.2 | 0.07 | 37 | 0.07 | 0.37 | 250 psi (17.3 Bar) |
| A95*, A75*, A15 | 0.002 | 1.00 | 0.008 | 3.8 | 0.13 | 63 | 0.13 | 0.63 | 110 psi (7.6 Bar) |
| A96*, A76*, A16 | 0.004 | 2.00 | 0.015 | 7.6 | 0.25 | 126 | 0.25 | 1.26 | 50 psi (3.5 Bar) |
| A97*, A77*, A17 | 0.001 | 0.42 | 0.005 | 1.6 | 0.08 | 26 | 0.08 | 0.26 | 140 psi (9.7 Bar) |
| A78*, A18 | 0.002 | 0.75 | 0.009 | 2.8 | 0.14 | 47 | 0.14 | 0.47 | 80 psi (5.5 Bar) |

* Minimum output is based on one stroke per minute. Minimum output can be reduced further in external mode. Series A9 pumps may be programmed for strokes per hour for lower outputs.