

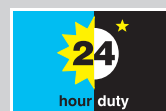
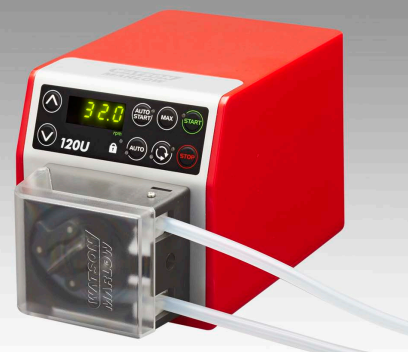
120F/R, 120S/R 120U/R cased pumps fitted with 102R pumphead

100 series

Watson-Marlow Pumps Group

COMMON FEATURES AND BENEFITS

- Flow rates 0.003 to 54ml/min at 30 psi (2 bar)
- Compact footprint requiring minimal benchtop space
- Superior speed control 3200:1 with $\pm 1\%$ set speed accuracy
- 102R single-channel pumphead with two rollers
- IP31/NEMA 2 ingress protection for wipedown environments
- Maintenance-free brushless DC motor



Watson-Marlow... Innovation in Full Flow

TECHNICAL DATA

| Functionality | 120F | 120S | 120U |
|--|------|------|------|
| Manual control | | | |
| Fixed speed only | • | | |
| 1 to 32rpm (32:1) | | • | |
| 0.1 to 32rpm (320:1) | | | • |
| Numerical speed display | | • | • |
| Reversible direction | | • | • |
| Max (Prime) | | • | • |
| Auto start | | • | • |
| Remote control | | | |
| Run/stop, direction change, auto/man toggle, alarm | | | • |
| Analogue control | | | |
| 0.01 to 32rpm (3200:1) | | | • |
| Analogue speed input: 4-20mA, 0-10V | | | • |
| Tacho speed output: 0-5V | | | • |
| Security | | | |
| Keypad lock to protect set-up | | • | • |

PERFORMANCE

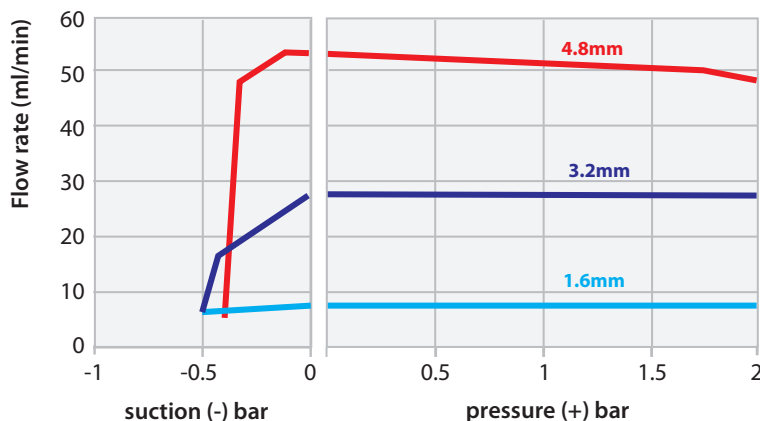
| Tube bore and flow rates 120F/R (ml/min) | | | | | | |
|--|-----------|-------|-------|-------|-------|-------|
| | Speed rpm | 0.5mm | 0.8mm | 1.6mm | 3.2mm | 4.8mm |
| Pumpsil(silicone) | 10rpm | 0.3 | 0.5 | 2.1 | 8.5 | 17 |
| | 17rpm | 0.5 | 0.9 | 3.6 | 14 | 29 |
| | 31rpm | 0.9 | 1.6 | 6.5 | 26 | 52 |

| Tube bore and flow rates 102S and 120U (ml/min) | | | | | | |
|---|-----------|-----------|-----------|-----------|----------|---------|
| | Speed rpm | 0.5mm | 0.8mm | 1.6mm | 3.2mm | 4.8mm |
| Pumpsil | 1- 32rpm | 0.03-0.9 | 0.05-1.6 | 0.21-6.7 | 0.85-27 | 1.6-54 |
| | 0.1 32rpm | 0.003-0.9 | 0.005-1.6 | 0.021-6.7 | 0.085-27 | 0.16-54 |

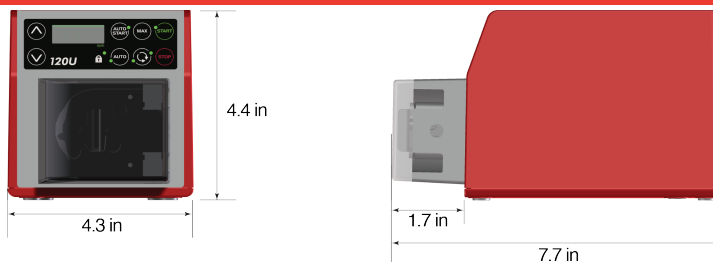
Pumpsil 102R pumphead CCW 32rpm

The 120F/R is a transfer only pump

To achieve pressure above transfer, the 120S/R and 120U/R pumps must be run counter clockwise



TECHNICAL DRAWINGS



TECHNICAL SPECIFICATION

| 120F, 120S, 120U | |
|------------------|--|
| Ingress rating | IP31 / NEMA 2 |
| Enclosure | Wipedown |
| Suitability | Dry light-industrial environments |
| Humidity | Non-condensing 80% up to 31C, 88F, decreasing linearly to 50% at 40C, 104F |
| Temperature | 40°F to 104°F (5°C to 40°C) |
| Pump weight | 3lbs 4oz (1.55kg) |
| Control ratio | 120F: Fixed speed, 120S: 100:1, 120U: Manual 1000:1, Auto 10,000:1 |
| Torque rating | 0.4Nm continuous duty |
| Noise | < 60dB(A) at 1m |
| Standard | CE, cETLus |
| Power supply | Automatic voltage sensing |

MATERIALS OF CONSTRUCTION

| Component | Material |
|---------------------|--------------------------------|
| Keypad | Polyester |
| Drive casework | ABS plastic |
| Drive shaft | Steel EN8M |
| Pumphead track | Acetal copolymer, Kematal |
| Pumphead guard | Polycarbonate |
| Rotor | IXEF (Polyarylamide) |
| Rollers | MOS2 filled Nylon 6 (nylatron) |
| Spindles guide pins | Stainless steel |

ORDER INFORMATION

| Pump and pumphead product codes | | | |
|---------------------------------|--------------|-----------------------------------|--------------|
| Description | Partcode | Description | Partcode |
| 120F/R fixed speed 10rpm pump | 010.6111.R00 | 120S/R manual speed pump 32rpm | 010.6131.R00 |
| 120F/R fixed speed 17rpm pump | 010.6112.R00 | 120U/R manual and auto pump 32rpm | 010.6141.R00 |
| 120F/R fixed speed 31rpm pump | 010.6113.R00 | 102R pumphead 8mm shaft | 013.4101.000 |

| Tubing 1.6mm wall thickness for 102R | | | | | |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|
| | 0.5mm | 0.8mm | 1.6mm | 3.2mm | 4.8mm |
| Pumpsil | 913.A005.016 | 913.A008.016 | 913.A016.016 | 913.A032.016 | 913.A048.016 |

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. Watson-Marlow, Pumpsil, Bioprene and Marprene are trademarks of Watson-Marlow Limited. Disclaimer: The information contained in this document is believed to be correct but Watson-Marlow Limited accepts no liability for any errors it contains, and reserves the right to alter specifications without notice. © STA-PURE PCS and © STA-PURE PFL are registered trademarks of W.L Gore & Associates Inc. Please state the product code when ordering pumps and tubing.



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