

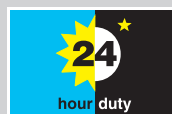
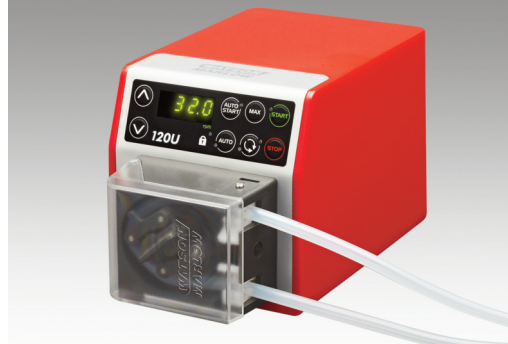
120F/R, 120S/R 120U/R cased pumps fitted with 102R pumphead

100 series

Watson-Marlow Pumps Group

COMMON FEATURES AND BENEFITS

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



Watson-Marlow...Innovation in Full Flow

TECHNICAL DATA

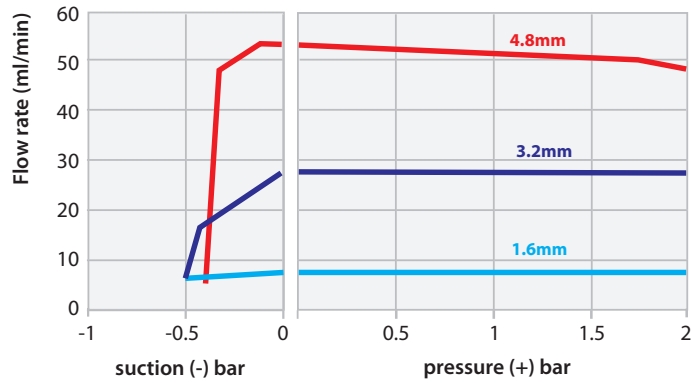
Functionality	120F	120S	120U
Manual control			
Fixed speed (CW direction)	•		
1 to 32rpm (32:1)		•	
0.1 to 32rpm (320:1)			•
Numerical speed display		•	•
Reversible direction		•	•
Max (prime)		•	•
Auto start		•	•
Remote control			
Run/stop, direction change, auto/man toggle, alarm			•
Analogue control			
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

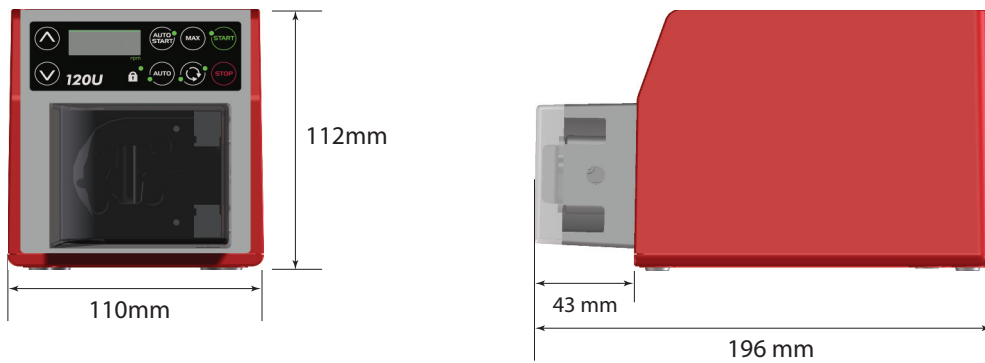
Tube bore and flow rates 120S and 120U (ml/min)						
	Speed rpm	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm
Pumpsil (Silicone)	1 – 32rpm	0.03-0.9	0.05-1.6	0.21-6.7	0.85-27	1.6-54
	0.1 – 32rpm	0.003-0.9	0.005-1.6	0.021-6.7	0.085-27	0.16-54

Pumpsil 102R pumphead CCW 32rpm



Flows obtained pumping water at 32rpm CCW rotation
Pumps achieve 0.5bar pressure in the CW direction

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	5C to 40C (40F to 104F)
Pump weight	1.55kg (3lbs 4oz)
Control ratio	120F: fixed speed, 120S: 32:1 120U: Manual 320:1, Auto 3200:1
Torque rating	0.4Nm continuous duty
Noise	< 60dB(A) at 1m
Standard	CE, cETLus
Power supply	24VDC from mains transformer supplied (mains supply range 90~264VAC 47~63Hz)

MATERIALS OF CONSTRUCTION

Component	Material
Keypad	Polyester
Drive casework	ABS plastic
Drive shaft	Stainless Steel
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	013.7101.000

Tubeing 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 is a trademark 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. Please state the product code when ordering pumps and tubing.

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