

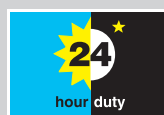
120S/DM2, 120S/DM3, 120U/DM2 and 120U/DM3 pumps with 400M2 and 400M3 pumphead

100 series

Watson-Marlow Pumps Group

COMMON FEATURES AND BENEFITS

- Flow rates 0.001 to 108ml/min at 30 psi (2 bar)
- Compact footprint requiring minimal benchtop space
- Superior speed control 10,000:1 with $\pm 1\%$ set speed accuracy
- 400DM2 is a two-channel pumphead and 400DM3 a three-channel pumphead both for double segment manifold tubing
- IP31/NEMA 2 ingress protection for wipedown environments
- Maintenance-free brushless DC motor



Watson-Marlow...Innovation in Full Flow

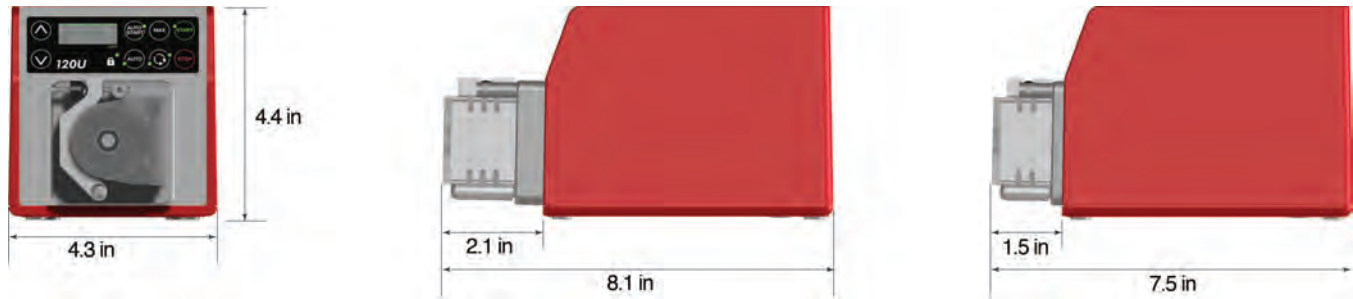
TECHNICAL DATA

Functionality	120S	120U
Manual control		
1 to 100rpm (100:1)	•	
0.1 to 100rpm (1000:1)		•
Numerical speed display	•	•
Direction change	•	•
Max (prime)	•	•
Auto start	•	•
Remote control and feedback		
Run/stop, direction change, auto/man toggle, alarm		•
Analogue control		
0.01 to 100rpm (10,000:1)		•
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 400DM2 & 400DM3 (ml/min)						
	Speed rpm	0.13mm	0.19mm	0.25mm	0.38mm	0.50mm
120S	1 – 100rpm	0.001-0.1	0.002-0.2	0.004-0.4	0.008-0.8	0.014-1.4
120U	0.1 – 100rpm	0.0001-0.1	0.0002-0.2	0.0004-0.4	0.0008-0.8	0.001-1.4
	Speed rpm	0.63mm	0.76mm	0.88mm	1.02mm	1.14mm
120S	1 – 100rpm	0.022-2.2	0.031-3.1	0.043-4.3	0.055-5.5	0.070-7.0
120U	0.1 – 100rpm	0.002-2.2	0.003-3.1	0.004-4.3	0.006-5.5	0.007-7.0
	Speed rpm	1.29mm	1.42mm	1.52mm	1.65mm	1.85mm
120S	1 – 100rpm	0.089-8.9	0.110-11	0.120-12	0.140-14	0.180-18
120U	0.1 – 100rpm	0.009-8.9	0.011-11	0.012-12	0.014-14	0.018-18
	Speed rpm	2.05mm	2.38mm	2.54mm	2.79mm	
120S	1 – 100rpm	0.210-21	0.260-26	0.310-31	0.360-36	
120U	0.1 – 100rpm	0.021-21	0.026-26	0.031-31	0.036-36	

TECHNICAL DRAWINGS



TECHNICAL SPECIFICATION

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	40F to 104F (5C to 40C)
Pump weight	3lbs 11oz (1.70kg)
Control ratio	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	24VDC from mains transformer supplied (mains supply range 90~264VAC~64Hz)

MATERIALS OF CONSTRUCTION

Component	Material
Keypad	Polyester
Drive casework	ABS plastic
Drive shaft	Stainless steel
Pumphead track	Aluminum (anodized)
Pumphead guard	Polycarbonate
Rotor	Aluminum (anodized)
Rollers	Acetal
Spindles guide pins	Stainless steel

ORDER INFORMATION

Pump and pumphead product codes			
Description	Part code	Description	Part code
120S/DM2 manual speed pump	010.6131.M20	120U/DM3 manual and auto speed pump	010.6141.M30
120S/DM3 manual speed pump	010.6131.M30	400M2 pumphead	043.001D.D2C
120S/DM2 manual and auto speed pump	010.6141.M20	400M3 pumphead	043.001D.D3C

Tubing						
Color code	Wall mm	Bore mm	Autoclavable Marprene®	Marprene®	PVC	Pumpsil (Silicone)
Orange/black	0.8	0.13			981.0013.000	
Orange/red	0.8	0.19			981.0019.000	
Orange/blue	0.8	0.25	979.0025.00+	979.0025.000	981.0025.000	
Orange/green	0.8	0.38	979.0038.00+	979.0038.000	981.0038.000	
Orange/yellow	0.8	0.50	979.0050.00+	979.0050.000	981.0050.000	
Orange/white	0.8	0.63	979.0063.00+	979.0063.000	981.0063.000	983.0063.000
Black/black	0.8	0.76	979.0076.00+	979.0076.000	981.0076.000	983.0076.000
Orange/orange	0.8	0.88	979.0088.00+	979.0088.000	981.0088.000	983.0088.000
White/white	0.8	1.02	979.0102.00+	979.0102.000	981.0102.000	983.0102.000
Red/red	0.8	1.14	979.0114.00+	979.0114.000	981.0114.000	983.0114.000
Grey/grey	0.8	1.29	979.0129.00+	979.0129.000	981.0129.000	983.0129.000
Yellow/yellow	0.8	1.42	979.0142.00+	979.0142.000	981.0142.000	983.0142.000
Yellow/blue	0.8	1.52	979.0152.00+	979.0152.000	981.0152.000	983.0152.000
Blue/blue	0.8	1.65	979.0165.00+	979.0165.000	981.0165.000	983.0165.000
Green/green	0.8	1.85	979.0185.00+	979.0185.000	981.0185.000	983.0185.000
Purple/purple	0.8	2.05	979.0205.00+	979.0205.000	981.0205.000	983.0205.000
Purple/black	0.8	2.29	979.0229.00+	979.0229.000	981.0229.000	983.0229.000
Purple/orange	0.8	2.54	979.0254.00+	979.0254.000	981.0254.000	983.0254.000
Purple/white	0.8	2.79	979.0279.00+	979.0279.000	981.0279.000	983.0279.000

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. Watson-Marlow, Pumpsil 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.



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