

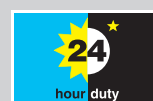
120S/DM2, 120S/DM3, 120U/DM2 and 120U/DM3 pumps with 400DM2 and 400DM3 pumphead

100 series

Watson-Marlow Pumps

FEATURES AND BENEFITS

- Flow rates 0.001 to 108 ml/min at 2bar (30psi)
- Compact footprint requiring minimal benchtop space
- Superior speed control up to 10,000:1, $\pm 1\%$ 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

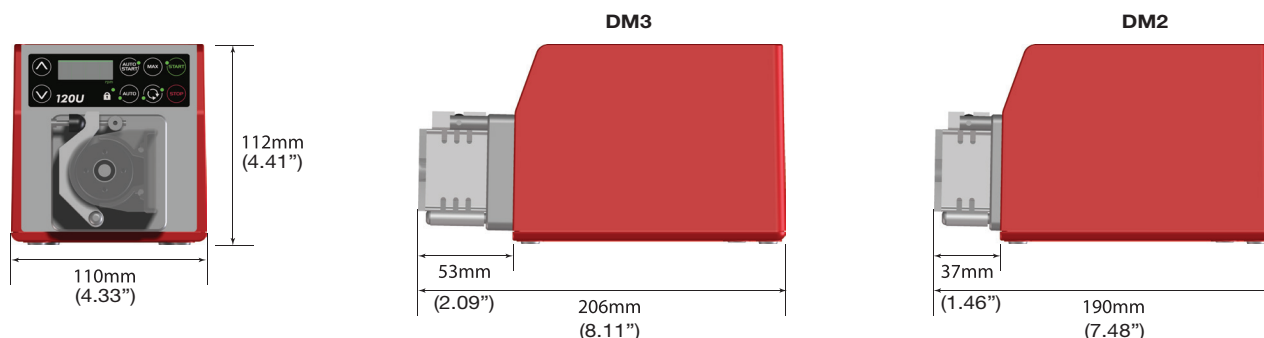
TECHNICAL DATA

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	

DIMENSIONS



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	5C to 40C (40F to 104F)
Pump weight	1.70kg (3lbs 11oz)
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 47~63Hz)

MATERIALS OF CONSTRUCTION

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

ORDER INFORMATION

Pump and pumphead product codes			
Description	Partcode	Description	Partcode
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	400DM2 pumphead	043.001D.D2C
120U/DM2 manual and auto speed pump	010.6141.M20	400DM3 pumphead	043.001D.D3C

Tubing				
colour code	Bore (mm)	Pharmed® BPT	Tygon® E3603	Tygon® LFL
orange/black	0.13		981.A013.072	
orange/red	0.19		981.A019.072	
orange/blue	0.25	979.A025.072	981.A025.072	988.A025.072
orange/green	0.38	979.A038.072	981.A038.072	988.A038.072
green/yellow	0.44		981.A044.072	
orange/yellow	0.51	979.A051.072	981.A051.072	988.A051.072
white/yellow	0.57		981.A057.072	
orange/white	0.64	979.A064.072	981.A064.072	988.A064.072
black/black	0.76	979.A076.072	981.A076.072	988.A076.072
orange/orange	0.89	979.A089.072	981.A089.072	988.A089.072
white/black	0.95		981.A095.072	
white/white	1.02	979.A102.072	981.A102.072	988.A102.072
white/red	1.09		981.A109.072	
red/red	1.14	979.A114.072	981.A114.072	988.A114.072
red/grey	1.22		981.A122.072	
grey/grey	1.30		981.A130.072	988.A130.072
yellow/yellow	1.42	979.A142.072	981.A142.072	988.A142.072
yellow/blue	1.52	979.A152.072	981.A152.072	988.A152.072
blue/blue	1.65	979.A165.072	981.A165.072	988.A165.072
blue/green	1.75		981.A175.072	
green/green	1.85	979.A185.072	981.A185.072	988.A185.072
purple/purple	2.06	979.A206.072	981.A206.072	988.A206.072
purple/black	2.29	979.A229.072	981.A229.072	988.A229.072
purple/orange	2.54	979.A254.072	981.A254.072	988.A254.072
purple/white	2.79	979.A279.072	981.A279.072	988.A279.072

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. 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. It is the users responsibility to ensure product suitability for use within their application. Watson-Marlow, Qdos, ReNu, LoadSure, Bioprene, Pumpsil and Marprene are trademarks of Watson-Marlow Limited. STA-PURE PFL® and STA-PURE PCS® are registered trademarks of W.L Gore & Associates Inc. Pharmed®, Tygon® and Tygon LFL® are registered trademarks of Saint-Gobain. Please state the product code when ordering pumps and tubing.

**WATSON
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Pumps**

wmpg.co.uk
info@wmpg.co.uk
+44 (0) 1326 370370