

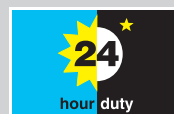
# 120F/DV, 120S/DV, 120U/DV cased pumps fitted with 114DV pumphead

# 100 series

Watson-Marlow Pumps Group

## COMMON FEATURES AND BENEFITS

- Flow rates 0.002 to 190ml/min at 2 bar (30psi)
- Compact footprint requiring minimal benchtop space
- Superior speed control up to 20,000:1,  $\pm 1\%$  set speed accuracy
- New 114DV single-channel pumphead with four rollers
- IP31 ingress protection for wipedown environments
- Maintenance-free brushless DC motor



*Watson-Marlow...Innovation in Full Flow*

## TECHNICAL DATA

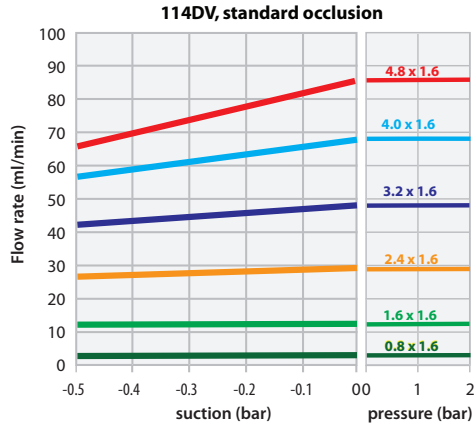
Functionality	120F	120S	120U
<b>Manual control</b>			
Fixed speed (CW direction)	•		
1 to 200rpm (200:1)		•	
0.1 to 200rpm (2000:1)			•
Numerical speed display		•	•
Reversible direction		•	•
Max (Prime)		•	•
Auto start		•	•
<b>Remote control</b>			
Run/stop, direction change, auto/man toggle, alarm			•
<b>Analogue control</b>			
0.01 to 200rpm (20,000:1)			•
Analogue speed input; 4-20mA, 0-10V			•
Tacho speed output; 0-5V			•
<b>Security</b>			
Keypad lock to protect set-up		•	•

## PERFORMANCE

Tube bore and flow rates 120F/DV (ml/min)							
Speed rpm	0.5mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm	4.8mm
10rpm	0.2	0.4	1.4	2.9	4.7	6.7	8.5
17rpm	0.3	0.7	2.4	4.9	8.0	11	14
31rpm	0.6	1.2	4.3	9.0	15	21	26
52rpm	1.0	2.1	7.3	15	24	35	44
220rpm	4.4	8.8	31	64	100	150	190

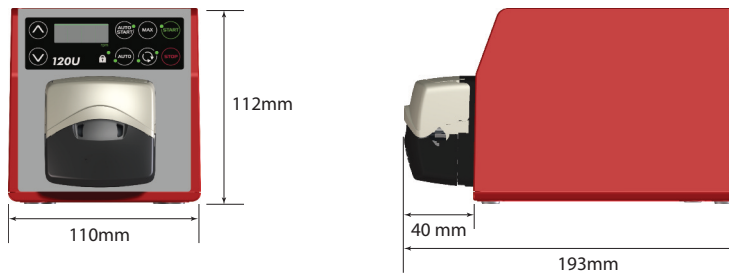
Tube bore and flow rates 120S/DV and 120U/DV(ml/min)							
Speed rpm	0.5mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm	4.8mm
1 - 200rpm	0.02 - 4.0	0.04 - 8.0	0.14 - 28	0.29 - 58	0.47 - 94	0.67 - 130	0.85 - 170
0.1 - 200rpm	0.002 - 4.0	0.004 - 8.0	0.014 - 28	0.029 - 58	0.047 - 94	0.07 - 130	0.085 - 170

## Pressure and flow performance



Flows obtained pumping water at 100rpm CCW-rotation  
Typically 25% less pressure capacity 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: 200:1 120U: Manual 2000:1, Auto 20,000:1
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 housing	IXEF PEI, Grilamid PA12
Rotor	IXEF PEI
Rollers	PTFE filled PBT
Bearings	Stainless steel
Shaft	Stainless steel
Springs	Stainless steel

## ORDER INFORMATION

### Pump and pumphead product codes

Description	Partcode	Description	Partcode
120F/DV fixed speed 10rpm pump	010.6111.DA0	120S/DV manual speed pump	010.6131.DA0
120F/DV fixed speed 17rpm pump	010.6112.DA0	120U/DV manual and auto pump	010.6141.DA0
120F/DV fixed speed 31rpm pump	010.6113.DA0	114DV pumphead	013.6000.00A
120F/DV fixed speed 52rpm pump	010.6114.DA0		
120F/DV fixed speed 220rpm pump	010.6115.DA0		

### Tubing 1.6mm wall thickness for 114DV

	0.5mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm	4.8mm
Bioprene	903.0005.016	903.0008.016	903.0016.016	903.0024.016	903.0032.016	903.0040.016	903.0048.016
Pumpsil (Silicone)	913.A005.016	913.A008.016	913.A016.016	913.A024.016	913.A032.016		913.A048.016
STA-PURE PCS			960.0016.016		960.0032.016		960.0048.016
Marprene	902.0005.016	902.0008.016	902.0016.016	902.0024.016	902.0032.016	902.0040.016	902.0048.016
STA-PURE PFL			965.0016.016		965.0032.016		965.0048.016

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.

**WATSON  
MARLOW**

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