

# 114 VDL variable speed pumps

# 114 series

Watson-Marlow Pumps Group

## FEATURES

- Unique easy load pump head for flows up to 510ml/min
- Brushless Direct-Drive technology for life up to 20,000h
- No maintenance – Minimum total life cost
- Simple to use – Analogue speed control, 0-4V
- CW/CCW direction control
- Brake feature – Stops in microseconds
- Encoder feedback, 36 pulses per motor revolution



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

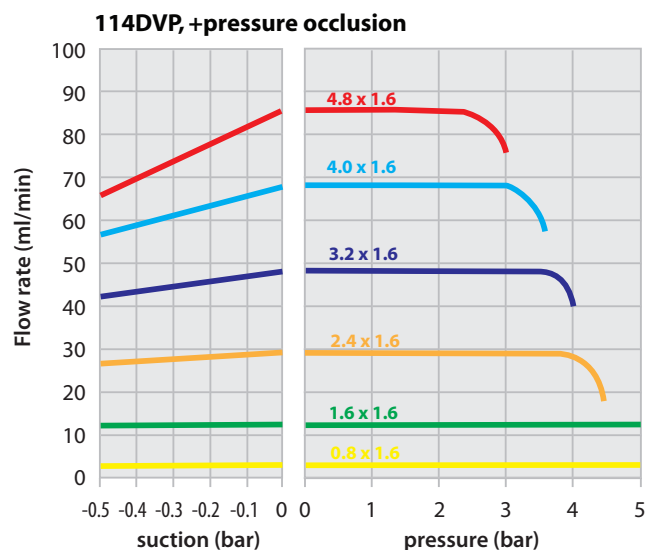
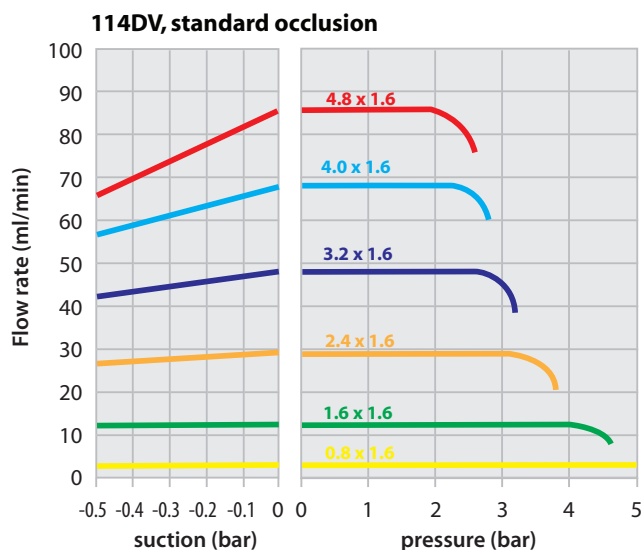
## PERFORMANCE

**Flow rates (ml/min)** Tubing 1.6mm wall

Tube bore (mm)	Speed (rpm)			
	(ml/rev)	100	400	600 (intermittent)
0.5	0.02	2.2	9.1	13.5
0.8	0.04	4.3	17	26
1.6	0.14	14	56	84
2.4	0.29	29	115	175
3.2	0.47	47.5	190	285
4.0	0.67	67	270	405
4.8	0.85	85	340	510

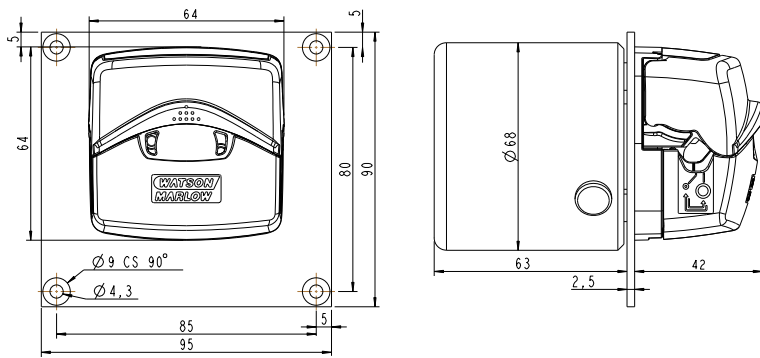
Custom options
<b>Drive</b>
0-10V analogue control
4-20mA analogue control
Fixed speed (no control voltage needed)
Potentiometer control
<b>Pumphead</b>
No visible rotation - covered holes
Logic off switch and rotation sensor
Custom colours
Logo less front
Models for thin wall tubing
Custom occlusion settings

Pressure and flow performance



Flows obtained pumping water at 100rpm CCW-rotation  
High pressure applications with large bore tubing might need higher speeds than 100rpm

## DIMENSIONS



## SPECIFICATIONS

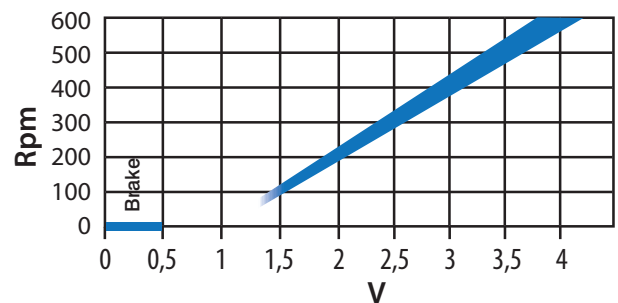
Pump type	Single channel peristaltic pump
Recommended use	Continuous or intermittent applications
Motor speed	100-600 rpm (do not use rpm>600rpm)
Operation	CW and CCW
Approximate motor life	Up to 20,000 hours
Supply voltage	24VDC
Power consumption	Up to 15W
Speed control	Built-in, controlled via external 0-4V signal
Brake	Use external 0-4V signal, signal <0,5V
Gearbox	None - Direct drive
Brushes	None - Brushless drive
Operating temperature	-10 to +45°C
Weight	0,8kg

114DV standard pumphead	Optimised for tube life
114DVP +pressure pumphead	Optimised for pressure performance

## MATERIALS OF CONSTRUCTION

Component	Material
Housing	IXEF PEI, Grilamid PA12
Rotor	IXEF PEI
Rollers	PTFE filled PBT
Bearings	Stainless steel ball bearings
Shafts	Stainless steel
Springs	Stainless steel
Adapter plate	IXEF PEI
Mounting plate	Anodized Aluminium

## SPEED REGULATION rpm at variable control voltage



## ORDER INFORMATION

Product codes				
Description	Supply	Nominal speed (rpm)	with 114DV	with 114DVP
114VDL peristaltic pump	24 VDC	100 - 600	010.5NW0.00A	010.5NW0.P0A

Tube ordering codes for 114DV and 114DVP pumpheads					
Bore/wall	Pumpsil	Marpene	Bioprene	STA-PURE PFL	PVC*
0.5/1.6mm	913.A005.016	902.0005.016	903.0005.016		
0.8/1.6mm	913.A008.016	902.0008.016	903.0008.016		
1.6/1.6mm	913.A016.016	902.0016.016	903.0016.016	965.0016.016	950.0016.016
2.4/1.6mm	913.A024.016	902.0024.016	903.0024.016		
3.2/1.6mm	913.A032.016	902.0032.016	903.0032.016	965.0032.016	950.0032.016
4.0/1.6mm			903.0040.016		950.0040.016
4.8/1.6mm	913.A048.016	902.0048.016	903.0048.016	965.0048.016	950.0048.016
Bore/wall	Neoprene*	STA-PURE PCS	Fluorel*		
0.5/1.6mm					
0.8/1.6mm	920.A008.016				
1.6/1.6mm	920.A016.016	960.A016.016	970.A016.016		
2.4/1.6mm					
3.2/1.6mm	920.A032.016	960.A032.016	970.A032.016		
4.0/1.6mm					
4.8/1.6mm	920.A048.016	960.A048.016	970.A048.016		

\*recommended for 114DVP +pressure pumphead only

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. Watson-Marlow, 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. LoadSure is a trademark of Watson-Marlow Limited. © STA-PURE PFL and © STA-PURE PCS are registered trademarks of W.L Gore & Associates Inc. Please state the product code when ordering pumps and tubing.

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