

# 114FD economy drive pumps

# 114<sup>series</sup>

Watson-Marlow Pumps Group

## FEATURES

- Small size, compact and robust design
- Trouble-free continuous tube loading in seconds
- Reliable performance without any operator adjustments
- Automatic tube stretch for high accuracy and repetitive flow
- Safe and closed with visible rotor movement
- Spring-loaded operation for good pressure control
- Four roller pumphead, low pulsation
- Pumphead accepts seven bore sizes of tubing for flows up to 300ml/min
- Robust iron-core, carbon brush motor design
- Low EMI thanks to integrated EMI suppression filter



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## PERFORMANCE

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

Tube bore (mm)	Speed (rpm)			
	(ml/rev)	60	190	350 <sup>#</sup>
0.5	0.02	1.4	4.3	8.0
0.8	0.04	2.6	8.2	15
1.6	0.14	8.4	26.5	49
2.4	0.29	17.5	55	100
3.2	0.47	28.5	90.5	165
4.0	0.67	40.5	128	235
4.8	0.85	51	160	300

<sup>#</sup> Low pressure applications only. Pumpsil up to 4.8mm bore.  
Other tubing up to 3.2 bore.

### Custom options

#### Drives

Encoder, 3 pulses per motor revolution  
Alternative speeds available

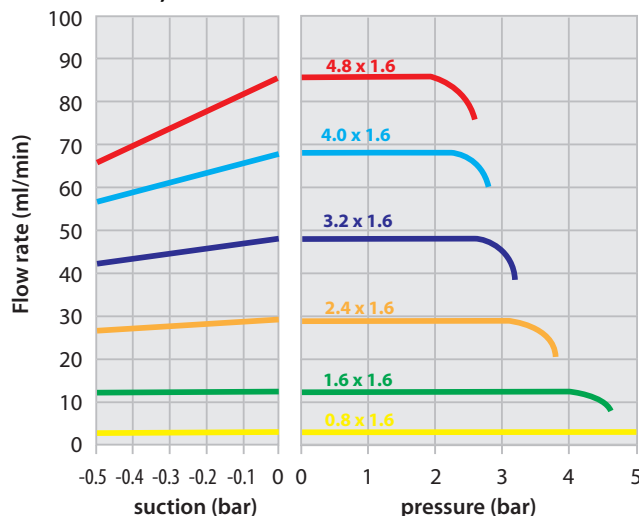
#### Pumphead

No visible rotation - covered holes  
Logic off switch and rotation sensor  
Custom colors  
Logo less front  
Models for thin wall tubing  
Custom occlusion settings

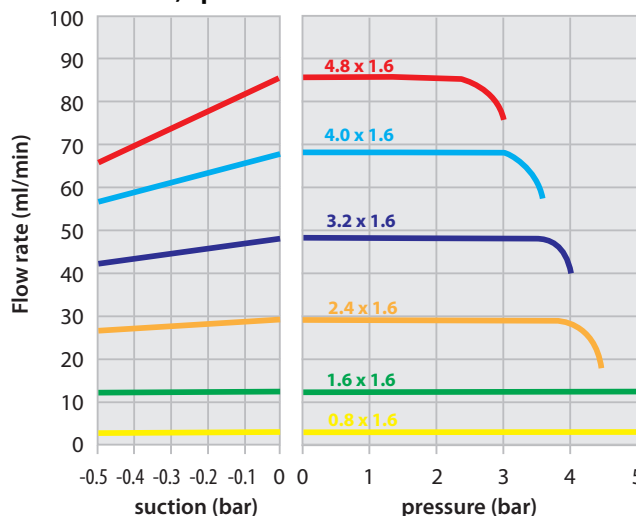
If you do not find exactly what you are looking for in this datasheet, we will make you a custom solution.

### Pressure and flow performance

**114DV, standard occlusion**

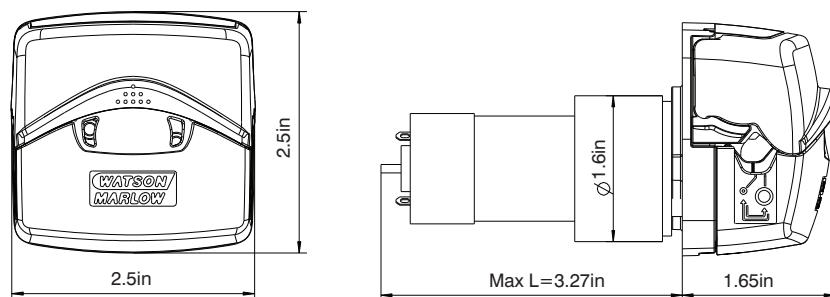


**114DVP, +pressure occlusion**



Flows obtained pumping water at 100rpm CCW-rotation

## DIMENSIONS



## SPECIFICATIONS

Pump type	Single channel peristaltic pumphead
Tubing	1.6mm wall, continuous tubing
Recommended use	Intermittent use or light applications
Operation	CW and CCW
Approximate motor life	Up to 3000 hours
Supply voltage	12VDC, 24VDC
Power consumption	5 watts
Brushes	Carbon
Other	EMI noise reduction filter
Gearbox	Spur; 100:1, 30:1, 15:1
Operating temperature	14 to 113°F Please consider the tubing temperature range. Refer to <a href="http://www.wmpg.com">www.wmpg.com</a>
Weight	10.5oz/.66lb
114DV standard pumphead	Optimized for tube life
114DVP +pressure pumphead	Optimized 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

## ORDER INFORMATION

Product codes				
Description	Supply	Nominal speed (rpm)	with 114DV	with 114DVP
114FD drive	12 VDC	60	010.5AM0.00A	010.5AM0.P0A
	24 VDC	60	010.5BM0.00A	010.5BM0.P0A
	12 VDC	190	010.5AS0.00A	010.5AS0.P0A
	24 VDC	190	010.5BS0.00A	010.5BS0.P0A
	12 VDC	350	010.5AU0.00A#	010.5AU0.P0A#
	24 VDC	350	010.5BU0.00A#	010.5BU0.P0A#

# Low pressure applications only. Pumpsil up to 4.8mm bore. Other tubing up to 3.2 bore.

Tube ordering codes for 114DV and 114DVP pumpheads					
Bore/wall	Pumpsil	Marprene	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	920.0008.016				
1.6/1.6mm	920.0016.016	960.0016.016	970.0016.016		
2.4/1.6mm					
3.2/1.6mm	920.0032.016	960.0032.016	970.0032.016		
4.0/1.6mm					
4.8/1.6mm	920.0048.016	960.0048.016	970.0048.016		

\*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.  
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 Please state the product code when ordering pumps and tubing.



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