

# 114FDC standard drive pumps

# 114 series

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 170ml/min
- High efficiency coreless motor design
- Smooth, cog-free operation



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

## PERFORMANCE

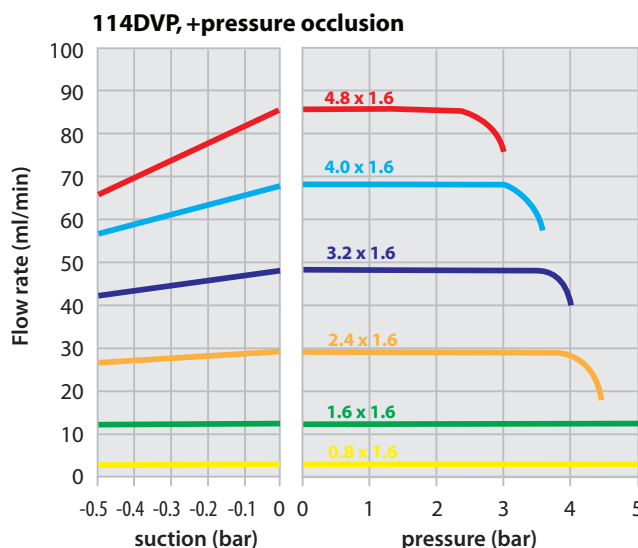
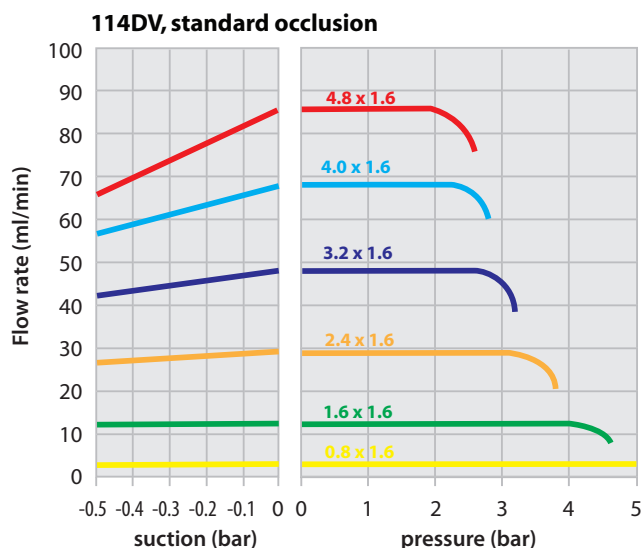
**Flow rates (ml/min)** Tubing 1.6mm wall

| Tube bore (mm) | Speed (rpm) |      |      |     |
|----------------|-------------|------|------|-----|
|                | (ml/rev)    | 30   | 100  | 200 |
| 0.5            | 0.02        | 0.7  | 2.2  | 4.6 |
| 0.8            | 0.04        | 1.3  | 4.3  | 8.6 |
| 1.6            | 0.14        | 4.2  | 14   | 28  |
| 2.4            | 0.29        | 8.7  | 29   | 58  |
| 3.2            | 0.47        | 14   | 47.5 | 95  |
| 4.0            | 0.67        | 20   | 67   | 135 |
| 4.8            | 0.85        | 25.5 | 85   | 170 |

| Custom options                                    |
|---|
| <b>Drives</b>                                     |
| Encoder, 3 pulses per motor revolution (only 12V) |
| Alternative speeds available                      |
| Lower speed gear reductions                       |
| EMI noise reduction filter                        |
| <b>Pumphead</b>                                   |
| No visible rotation - covered holes               |
| Logic off switch and rotation sensor              |
| Custom colors                                     |
| Logo less front                                   |
| Models for thin wall tubing                       |
| Custom occlusion settings                         |

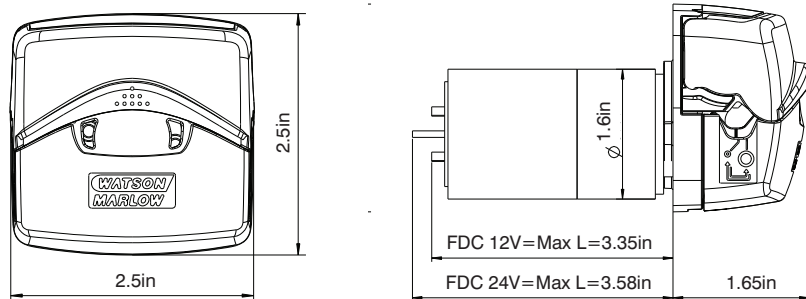
If you do not find exactly what you are looking for in this datasheet, we will make you a custom solution.

### Pressure and flow performance



Flows obtained pumping water at 100rpm CCW-rotation

## DIMENSIONS



## SPECIFICATIONS

|                        |   |
|------------------------|---|
| Pump type              | Single channel peristaltic pumphead   |
| Tubing                 | 1.6mm wall, continuous tubing   |
| Recommended use        | Continuous or intermittent applications   |
| Operation              | CW and CCW  |
| Approximate motor life | Up to 5000 hours  |
| Supply voltage         | 12-15VDC, 24-30VDC  |
| Power consumption      | 5 watts   |
| Brushes                | Silver palladium precious metal   |
| Speed control          | PWM or voltage control  |
| Gearbox                | Spur; 100:1, 30:1, 15:1   |
| Operating temperature  | 14 to 113°F Please consider the tubing temperature range. Refer to www.wmpg.com |
| Weight                 | 14oz/.88lb  |

|                           |                                    |
|---------------------------|------------------------------------|
| 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   |
| 114FDC drive  | 12 VDC | 30                  | 010.5DE0.00A | 010.5DE0.P0A1 |
|               | 24 VDC | 30                  | 010.5EE0.00A | 010.5EE0.P0A  |
|               | 12 VDC | 100                 | 010.5DP0.00A | 010.5DP0.P0A  |
|               | 24 VDC | 100                 | 010.5EP0.00A | 010.5EP0.P0A  |
|               | 12 VDC | 200                 | 010.5DS0.00A | 010.5DS0.P0A  |
|               | 24 VDC | 200                 | 010.5ES0.00A | 010.5ES0.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 | GORE® Style 400* |               |              |
| 0.5/1.6mm  |              |               |                  |               |              |
| 0.8/1.6mm  | 920.0008.016 |               |                  |               |              |
| 1.6/1.6mm  | 920.0016.016 | 960.0016.016  |                  |               |              |
| 2.4/1.6mm  |              |               |                  |               |              |
| 3.2/1.6mm  | 920.0032.016 | 960.0032.016  | 964.0032.016     |               |              |
| 4.0/1.6mm  |              |               |                  |               |              |
| 4.8/1.6mm  | 920.0048.016 | 960.0048.016  |                  |               |              |

\*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, 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. LoadSure is a trademark of Watson-Marlow Limited. STA-PURE® Series PFL, STA-PURE® Series PCS and GORE® Style 400 are registered trademarks of W.L. Gore & Associates Inc. Please state the product code when ordering pumps and tubing.



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