

# 323 Drive with 501RL pumphead

300 series cased pump

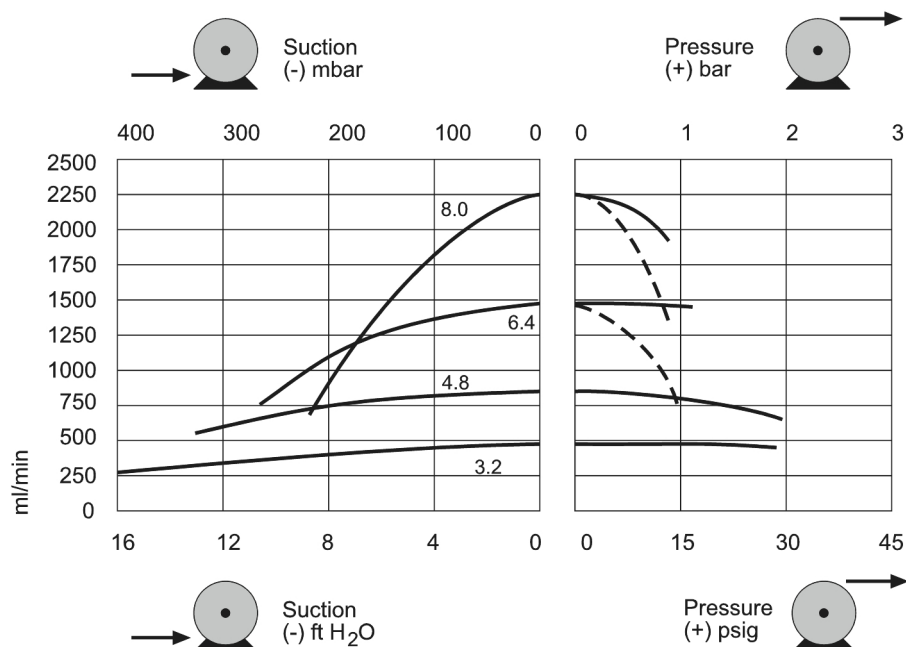
## Features and benefits

- Manual or remote 4 mA to 20 mA or 0 V to 10 V analogue auto-control or RS232 control commands
- Up to 133:1 enhanced digital manual speed control
- Keypad lock prevents tampering or accidental changes
- MemoDose facility for accurate single-shot dosing
- Digital TTL inputs for run/stop and direction
- Instantly reversible
- Two-year warranty



## 323 Drive with 501RL pumphead performance

| 501RL spring-loaded single-channel pumpheads for continuous 1.6 mm wall thickness tubing — Tube bore and flow rates (ml/min) |           |           |           |            |           |          |            |           |
|------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|------------|-----------|----------|------------|-----------|
|                                                                                                                              | Speed rpm | 0.5 mm    | 0.8 mm    | 1.6 mm     | 3.2 mm    | 4.8 mm   | 6.4 mm     | 8.0 mm    |
| 323S/RL                                                                                                                      | 1.5-220   | 0.06-9.2  | 0.18-27   | 0.84-94    | 2.8-410   | 6.1-890  | 9.5-1400   | 15-2200   |
| 323U/RL                                                                                                                      | 1.5-220   | 0.06-9.2  | 0.18-27   | 0.84-94    | 2.8-410   | 6.1-890  | 9.5-1400   | 15-2200   |
| 323Du/RL                                                                                                                     | 1.5-220   | 0.06-9.2  | 0.18-27   | 0.84-94    | 2.8-410   | 6.1-890  | 9.5-1400   | 15-2200   |
| 323Dz/RL                                                                                                                     | 1.0 - 300 | 0.04 - 13 | 1.12 - 37 | 0.43 - 130 | 1.9 - 560 | 4 - 1200 | 6.4 - 1900 | 10 - 3000 |



Technical specifications

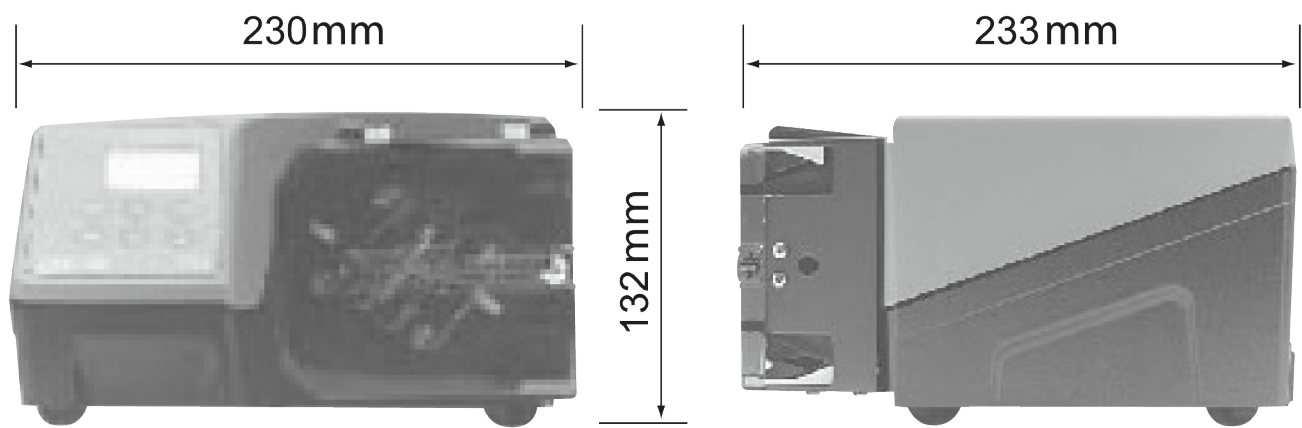
|                                  | 323 Drive with 501RL pumphead                                                                          |
|----------------------------------|--------------------------------------------------------------------------------------------------------|
| Pumphead number of channels      | 1                                                                                                      |
| FlowRateRange                    | 0.04 ml/min to 3000 ml/min                                                                             |
| Speed control ratio              | 147:1, 300:1                                                                                           |
|                                  | 1 rpm to 300                                                                                           |
| Operating temperature            | 40 °F to 104 °F (5 °C to 40 °C)                                                                        |
| Weight                           | 12.3 lbs (5.6 kg)                                                                                      |
| Drive control options            | Du, Dz, S, U                                                                                           |
| Standards                        | CE, cETLus                                                                                             |
| Drive ingress protection         | IP31                                                                                                   |
| Drive humidity                   | 80% up to 31°C, 88°F, decreasing linearly to 50% at 40°C, 104°F                                        |
| Drive noise                      | <70dB(A) at 1m                                                                                         |
| Max. altitude                    | 6562 ft (2000 m)                                                                                       |
| Drive power supply               | 1ph, 100 to 120 V, 220 to 240 V 50/60 Hz, 100 VA, 1ph, 100 V to 120 V, 220 V to 240 V 50/60 Hz, 100 VA |
| Compatible tubing bore size      | 0.5, 0.8, 1.6, 3.2, 4.8, 6.4, 8 mm                                                                     |
| Compatible tubing wall thickness | 1.6 mm                                                                                                 |

Materials of construction

|                          | 323 Drive with 501RL pumphead                                      |
|--------------------------|--------------------------------------------------------------------|
| Drive casework           | Acrylonitrile butadiene styrene (ABS), Powder coated aluminum LM24 |
| Guide roller assembly    | Delrin                                                             |
| Pumphead body assembly   | Polycarbonate (PC)                                                 |
| Pumphead guard           | Polycarbonate (PC)                                                 |
| Pumphead roller assembly | Delrin, MoS2 filled Nylon 6 (Nylatron)                             |
| Pumphead rotor assembly  | Mazak, chromium plated                                             |
| Spindles                 | Stainless steel                                                    |
| Springs                  | Stainless steel                                                    |
| Tube clamp assembly      | Acetal copolymer (Kematal)                                         |

Information listed covers the complete range.  
For detailed specifications of individual models/components refer to user manual or contact WMFTS representative.

323 Drive with 501RL pumphead dimensions



## Control options

| Functionality                                            | 323E | 323S | 323U | 323Du |
|----------------------------------------------------------|------|------|------|-------|
| <b>Manual control</b>                                    |      |      |      |       |
| Keypad speed control                                     | ✓    | ✓    | ✓    | ✓     |
| 15-400rpm 27:1 speed control                             | ✓    |      |      |       |
| 3-400rpm 133:1 speed control                             |      | ✓    | ✓    | ✓     |
| 1.5-220rpm 147:1 speed control                           |      | ✓    | ✓    | ✓     |
| MemoDose for accurate single shot dosing                 |      | ✓    | ✓    | ✓     |
| <b>Remote control</b>                                    |      |      |      |       |
| Run/Stop, direction change via contact closure or 5V TTL |      |      | ✓    | ✓     |
| Remote operation of MemoDose (hand/foot switch)          |      |      | ✓    | ✓     |
| <b>Analogue speed control</b>                            |      |      |      |       |
| Inputs; 0-10V or 4-20mA                                  |      |      | ✓    | ✓     |
| <b>RS232 digital communication</b>                       |      |      |      |       |
| Digital serial control                                   |      |      |      | ✓     |
| <b>Security</b>                                          |      |      |      |       |
| Keypad lock to protect set-up                            |      | ✓    | ✓    | ✓     |

## Product codes

| Pumps, drives and pumpheads product codes |                                             |               |
|-------------------------------------------|---------------------------------------------|---------------|
| Description                               | Partcode                                    |               |
| 323Dz/RL                                  | drive + 501RL pumphead for 1.6 mm wall tube | 030.3183.RL0* |
| 323S/RL                                   | drive + 501RL pumphead for 1.6 mm wall tube | 030.3132.RL0* |
| 323Du/RL                                  | drive + 501RL pumphead for 1.6 mm wall tube | 030.3152.RL0* |
| 323U/RL                                   | drive + 501RL pumphead for 1.6 mm wall tube | 030.3142.RL0* |
| 323S                                      | drive only                                  | 036.3132.000* |
| 323U                                      | drive only                                  | 036.3152.000* |
| 501RL                                     | pumphead for 1.6mm wall tube                | 053.0001.L00  |

\* Replace last 0 with A, E or U for American, European or UK mains supply (American 110 V 1 ph 60 Hz)

If required for use with STA-PURE tubing, please contact Watson-Marlow Bredel technical support for drive and pumphead selection

| Tubing product codes |                     |                     |              |
|----------------------|---------------------|---------------------|--------------|
| Bore/wall (mm)       | Bioprene            | Marprene            | Pumpsil™     |
| 0.5 / 1.6            | 933.0005.016        | 902.0005.016        | 913.A005.016 |
| 0.8 / 1.6            | 933.0008.016        | 902.0008.016        | 913.A008.016 |
| 1.6 / 1.6            | 933.0016.016        | 902.0016.016        | 913.A016.016 |
| 3.2 / 1.6            | 933.0032.016        | 902.0032.016        | 913.A032.016 |
| 4.8 / 1.6            | 933.0048.016        | 902.0048.016        | 913.A048.016 |
| 6.4 / 1.6            | 933.0064.016        | 902.0064.016        | 913.A064.016 |
| 8.0 / 1.6            | 933.0080.016        | 902.0080.016        | 913.A080.016 |
| Bore/wall (mm)       | STA-PURE®Series PCS | STA-PURE®Series PFL |              |
| 0.8 / 1.6            |                     |                     |              |
| 1.6 / 1.6            | 961.0016.016        | 966.0016.016        |              |
| 3.2 / 1.6            | 961.0032.016        | 966.0032.016        |              |
| 4.8 / 1.6            | 961.0048.016        | 966.0048.016        |              |
| 6.4 / 1.6            | 961.0064.016        | 966.0064.016        |              |
| 8.0 / 1.6            | 961.0080.016        | 966.0080.016        |              |

Disclaimer: All flow rates shown were obtained pumping water at 20 °C (68 °F) with zero suction and delivery heads. 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, LoadSure, Pumpsil, PureWeld XL, Bioprene, Marprene are registered trademarks of Watson-Marlow Limited. Tri-Clamp is a registered trademark of Alfa Laval Corporate AB. GORE and STA-PURE are registered trademarks of W.L. Gore and Associates. Please state the product code when ordering pumps and tubing.



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