

# 520Di/REL NEMA 2 and 520DiN/REL NEMA 4 0-30 psi pumps fitted with LoadSure® element pumphead

# 500 series

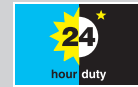
Watson-Marlow Pumps Group

## FEATURES

- Dispensing accuracy to  $\pm 0.5\%$
- Single channel dispensing pump which uses element tubing
- Flow rates up to 4800ml/min at 30psi (2bar) peak pressure with 520 LoadSure® elements
- Full calibration by weight or by volume with choice of units
- "Suck-back" facility eliminates drips at dose end, plus ramps ensure soft start and end of dose
- Up to 50 dispensing programs including dose parameters and calibration can be stored in the memory with full file name
- 520REL pumphead features large swept volume with sprung rollers for high accuracy, gentle pumping of shear-sensitive fluids
- Robust pumphead construction with PPS (polyphenylene sulphide) track and rotor and stainless steel rollers and bearings



0 – 2 bar  
0 – 30 psi



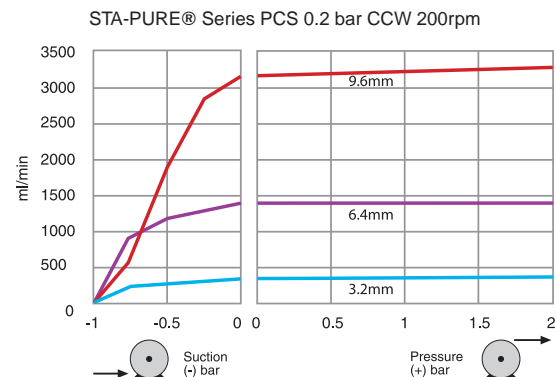
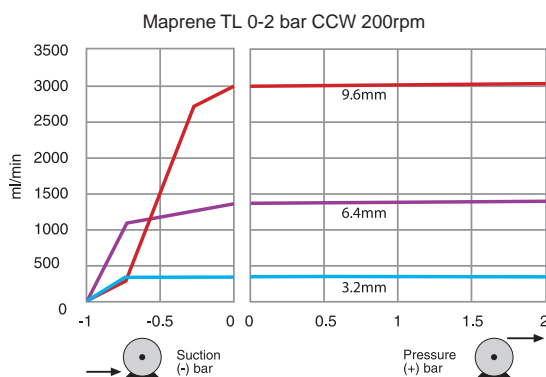
*Watson-Marlow... Innovation in Full Flow*

## FUNCTIONALITY

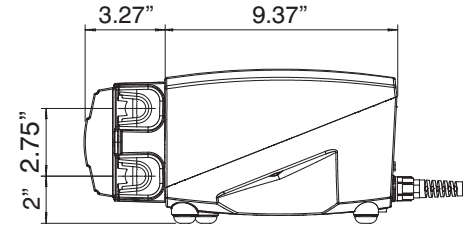
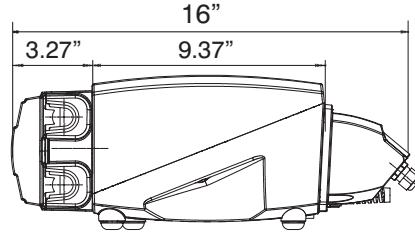
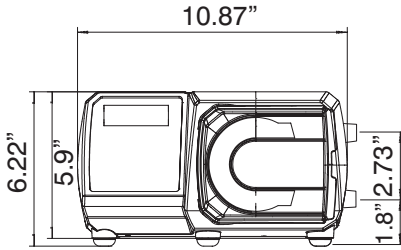
| Pump drives   | 520Di  | 520DiN |
|---|--------|--------|
| Enclosure - ingress protection rating   | NEMA 2 | NEMA 4 |
| Manual control  |        |        |
| Digital speed control with full calibration to display flow   | •      | •      |
| Choice of flowrate or speed display   | •      | •      |
| Numerical keypad for entry of speed   | •      | •      |
| Remote control  |        |        |
| Run/Stop, direction change, auto/manual toggle, leak detector input (via contact closure or 5V TTL or 24V industrial logic) | •      | •      |
| Remote operation of Dosestart with instantaneous switch   | •      | •      |
| Four programmable digital status outputs through 24V, 30W relays  |        | •      |
| Digital communication   |        |        |
| Digital network serial control  | RS232  | RS485  |
| Security  |        |        |
| Security code to protect set-up, programs and dose parameters   | •      | •      |
| NEMA 2 outputs  | •      |        |

## PERFORMANCE

| LoadSure® Element tubing flow rates (ml/min)           |               |          |           |          |
|--|---------------|----------|-----------|----------|
| Tube Material  | Speed         | 3.2mm    | 6.4mm     | 9.6mm    |
| Pumpsil, STA-PURE® Series PFL and Series PCS, Neoprene | 0.1 to 300rpm | 0.18-530 | 0.70-2100 | 1.6-4800 |
| Marprene TL, Bioprene TL                               | 0.1 to 300rpm | 0.17-500 | 0.67-2000 | 1.5-4500 |



## DRAWINGS



## SPECIFICATIONS

|                     | 520Di   | 520DiN  |
|---------------------|---|---|
| Ingress rating      | NEMA 4  | NEMA 2  |
| Enclosure           | Wipedown  | Watertight, dustproof                                 |
| Suitability         | Dry industrial environments with noncorrosive atmospheres                 | Corrosion resistant for heavy industrial environments |
| Humidity            | (Non-condensing) 80% to 31C, 88F, decreasing linearly to 50% at 40C, 104F | (Condensing) 10-100% RH                               |
| Temperature         | 5C to 40C (40F to 104F)   | 5C to 40C (40F to 104F)                               |
| Pump weight         | 9.82kg, 21lb 10oz   | 10.7kg, 23lb 9oz                                      |
| Speed control ratio | 2200:1  | 2200:1  |
| Torque rating       | 2.2Nm, continuous duty  | 2.2Nm, continuous duty                                |
| Noise               | < 70dB(A) at 1m   | < 70dB(A) at 1m                                       |
| Standard            | CE, cETLus  | CE, cETLus  |

## MATERIALS OF CONSTRUCTION

| Component                | Material  |
|--------------------------|---|
| Keypad                   | Polyester   |
| Switch-plate             | Glass filled ABS plastic                                    |
| Rear blanking plate      | Stainless steel 304   |
| Drive casework           | Pressure die-cast aluminum LM24                             |
| Case work coating        | Alocrom pre-treatment, exterior grade polyester powder coat |
| Drive shaft              | Electroless nickel plated carbon steel                      |
| Pumphead track           | PPS (polyphenylene sulphide)                                |
| Guard                    | Polycarbonate   |
| Guard seal               | Neoprene  |
| Rotor hub                | Stainless steel 316   |
| Roller arms, rotor cover | PPS (polyphenylene sulphide)                                |
| Rollers – main/guide     | Stainless steel 316   |
| Main roller bearings     | Stainless steel with PTFE seals                             |
| Drain port and nut       | PP (polypropylene)  |
| Drain plug               | Hytrel  |

## ORDER INFORMATION

### Pump and pumphead product codes

| Description                  | Part code    | Description                | Part code    |
|------------------------------|--------------|----------------------------|--------------|
| 520REL element pumphead only | 053.1011.EL0 | 520Di (NEMA 2) drive only  | 056.7171.00A |
| 520Di/REL (NEMA 2) pump      | 050.7171.ELA | 520DiN (NEMA 4) drive only | 056.717N.00A |
| 520DiN/REL (NEMA 4) pump     | 050.717N.ELA | Leak detector 520Di        | 059.8121.000 |
|                              |              | Leak detector 520DiN       | 059.8131.000 |

### Element product codes

|                      | Industrial LoadSure® elements |              |              | Sanitary LoadSure® elements  |              |              |
|----------------------|-------------------------------|--------------|--------------|------------------------------|--------------|--------------|
|                      | Quick-release PVDF connectors |              |              | ¼in Sanitary PVDF connectors |              |              |
|                      | 3.2mm                         | 6.4mm        | 9.6mm        | 3.2mm                        | 6.4mm        | 9.6mm        |
| Pumpsil              | 913.A032.PFQ                  | 913.A064.PFQ | 913.A096.PFQ | 913.A032.PFT                 | 913.A064.PFT | 913.A096.PFT |
| Bioprene TL          |                               |              |              | 903.0032.PFT                 | 903.0064.PFT | 903.0096.PFT |
| STA-PURE® Series PCS |                               |              |              | 960.0032.PFT                 | 960.0064.PFT | 960.0096.PFT |
| STA-PURE® Series PFL | 965.0032.PFQ                  | 965.0064.PFQ | 965.0096.PFQ | 965.0032.PFT                 | 965.0064.PFT | 965.0096.PFT |
| Marprene TL          | 902.0032.PFQ                  | 902.0064.PFQ | 902.0096.PFQ |                              |              |              |
| GORE® Style 400      |                               | 964.0064.PFQ |              |                              |              |              |
| Neoprene             | 920.0032.PFQ                  | 920.0064.PFQ | 913.A096.PFQ |                              |              |              |

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® 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.

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