



Improving your PERFORMANCE

520Di IP31 high accuracy dispenser fitted with 313 or 314 pumpheads

Technical Information

- Single and multi-channel dispensing using three roller 313 or 314 flip-top pumpheads
- Dial-up flow rates from microlitres/min to 1.8 litre/min
- +/-2% flow accuracy per channel
- Calibration by weight or by volume
- "Suck-back" facility eliminates drips at dose end
- RS232 control via serial communications
- Simple security protection code protects set functions. Comprehensive security protection can be incorporated to protect dispensing parameters and calibration values
- Up to 50 dispensing programs including dose parameters and calibration, can be stored in the memory with full file name
- Rapid and simple tube loading 313 three roller pumphead or 314 four roller pumphead can be fitted and can be extended to provide up to six individual channels of flow. Note 314 pumpheads can only be run up to 300rpm



520Di/D3 recommended dose sizes (ml)

Maximum speed	Tube bore	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm	6.4mm	8.0mm
350rpm	Minimum dose	0.1ml	0.2ml	0.5ml	2.0ml	5.0ml	7.5ml	10ml
	Maximum dose	1.0ml	2.5ml	10ml	30ml	70ml	150ml	200ml

520Di/D4 recommended dose sizes (ml)

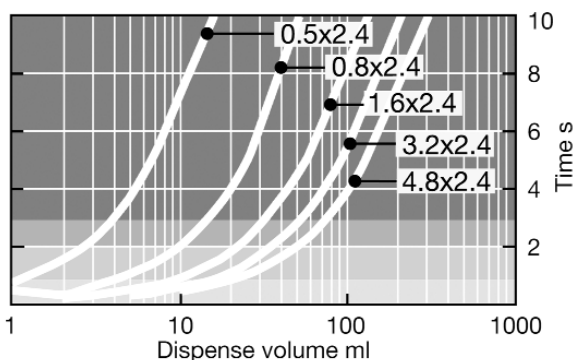
Maximum speed	Tube bore	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm	6.4mm	8.0mm
300rpm	Minimum dose	0.1ml	0.2ml	0.5ml	2ml	4ml	6ml	8.0ml
	Maximum dose	1.0ml	2.5ml	7.5ml	25ml	55ml	100ml	150ml

313 pumphead flow rates

Tube bore	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm	6.4mm	8.0mm
Speed range 0.1 to 350rpm	0.00-11	0.01-25	0.03-95	0.10-350	0.22-770	0.36-1300	0.50-1800

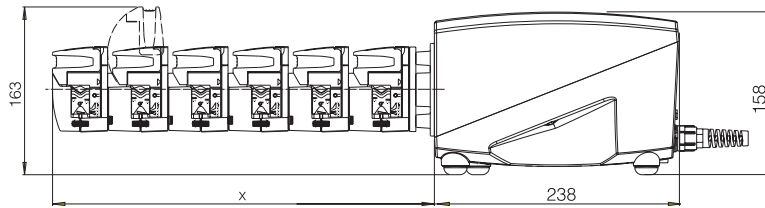
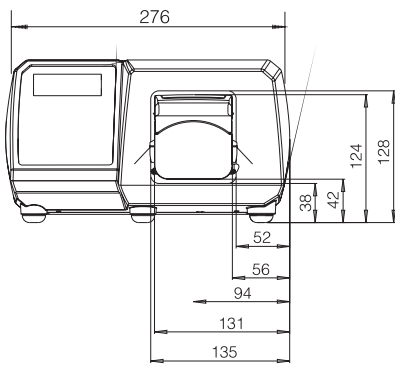
314 pumphead flow rates

Tube bore	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm	6.4mm	8.0mm
Speed range 0.1 to 300rpm	0.00-9.0	0.01-18	0.03-75	0.09-260	0.19-570	0.30-900	0.40-1200



Dispense volume against time for the 520Di pump with a selection of tubes. Dispensing accuracy is indicated by the background shade

- within $\pm 5.0\%$
- within $\pm 2\%$
- within $\pm 1.0\%$
- within $\pm 0.5\%$



All dimensions in mm

No. Pumpheads	Dimension 'x'
1	78.5
2	137
3	195.5
4	254
5	312.5
6	371

520Di IP31 high accuracy dispenser fitted with 313 or 314 pumpheads

520Di drive and 313/314 pumphead ordering information		
Pump	Specification	Product code
520Di 350rpm IP31 drive	100-120V/220-240V 50/60Hz 1ph 100VA	056.7171.000*
313D/A	Three roller pumphead	033.3401.000
313X	Three roller extension pumphead	033.3431.000
314D/A	Four roller pumphead	033.4401.000
314X	Four roller extension pumphead	033.4431.000

*Replace 0 with A, E or U for American, European or UK mains lead

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

Tube ordering codes				
Bore/wall (mm)	Bioprene	Marprene	Platinum Silicone	PVC
1.6 / 1.6	903.0016.016	902.0016.016	913.A016.016	950.0016.016
3.2 / 1.6	903.0032.016	902.0032.016	913.A032.016	950.0032.016
4.8 / 1.6	903.0048.016	902.0048.016	913.A048.016	950.0048.016
6.4 / 1.6	903.0064.016	902.0064.016	913.A064.016	950.0064.016
8.0 / 1.6	903.0080.016	902.0080.016	913.A080.016	950.0080.016
1.6 / 2.4	903.0016.024	902.0016.024	913.A016.024	
3.2 / 2.4	903.0032.024	902.0032.024	913.A032.024	
4.8 / 2.4	903.0048.024	902.0048.024	913.A048.024	
6.4 / 2.4	903.0064.024	902.0064.024	913.A064.024	
Bore/wall (mm)	Neoprene	STA-PURE®	Chem-Sure®	Fluorel®
1.6 / 1.6	920.0016.016	960.0016.016	965.0016.016	970.0016.016
3.2 / 1.6	920.0032.016	960.0032.016	965.0032.016	970.0032.016
4.8 / 1.6	920.0048.016	960.0048.016	965.0048.016	970.0048.016
6.4 / 1.6	920.0064.016	960.0064.016	965.0064.016	970.0064.016
8.0 / 1.6	920.0080.016	960.0080.016	965.0080.016	970.0080.016
1.6 / 2.4		960.0016.024	965.0016.024	
3.2 / 2.4		960.0032.024	965.0032.024	
4.8 / 2.4		960.0048.024	965.0048.024	
6.4 / 2.4		960.0064.024	965.0064.024	

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Specification

Weight	10.7kg
Operational Temperature range	5°C to 40°C
Noise	<70dBb(A) at 1m
Control Ratio	2200:1
Standards	CE, cETL _{US}
Supply	110V/230V 1ph, 50/60Hz

Materials of Construction

Drive casework	Pressure die-cast aluminium LM24
Casework coating	Alocrom pre-treatment, exterior grade polyester powder coat
Keypad	Polyester
Switch plate	Glass filled ABS plastic
Rear blanking plate	Stainless Steel 304
Gearbox nose	Aluminium LM24M
Drive shaft	Electroless nickel plated carbon steel
Body rear	Glass filled polypropylene
Body front, body front extension	IXEF
Mounting plate, track and lever	IXEF
Rotor, tube clamp, locking tab	Glass filled nylon
Rollers	MoS2 filled Nylon 6 (Nylatron)
Spindles	Electroless nickel plated hardened steel
Fixings	Stainless steel
Sealed bearings	Carbon steel



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All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads.

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