

323 Drive With 313D Pump Head 300 Series Cased Pump

Features and Benefits

- Manual, analog, remote, and RS-232 control options
- Up to 133:1 enhanced digital manual speed control
- Keypad lock prevents tampering or accidental changes
- MemoDose facility for accurate single-shot dosing
- Single-channel flip-top design provides fast and easy tubing changes
- Three-roller rotor for high-flow performance
- Digital TTL inputs for run/stop and direction
- Instantly reversible



WARNING

This product is not approved or intended for, and should not be used for, medical, clinical, surgical, or other patient-oriented applications.

323 Drive With 313D Pump Head Performance

313D three-roller flip-top pump head for continuous tubing — tube bore and flow rates (mL/min)						
	Speed rpm	1.6 mm	3.2 mm	4.8 mm	6.4 mm	8.0 mm
323E/D	15 to 400	4.1 to 110	15 to 400	33 to 880	54 to 1400	75 to 2000
323S/D	3 to 400	0.81 to 110	3 to 400	6.6 to 880	11 to 1400	15 to 2000
323U/D	3 to 400	0.81 to 110	3 to 400	6.6 to 880	11 to 1400	15 to 2000
323Du/D	3 to 400	0.81 to 110	3 to 400	6.6 to 880	11 to 1400	15 to 2000
323Dz/D	2 to 400	0.54 to 110	2 to 400	4.4 to 880	7.2 to 1400	10 to 2000

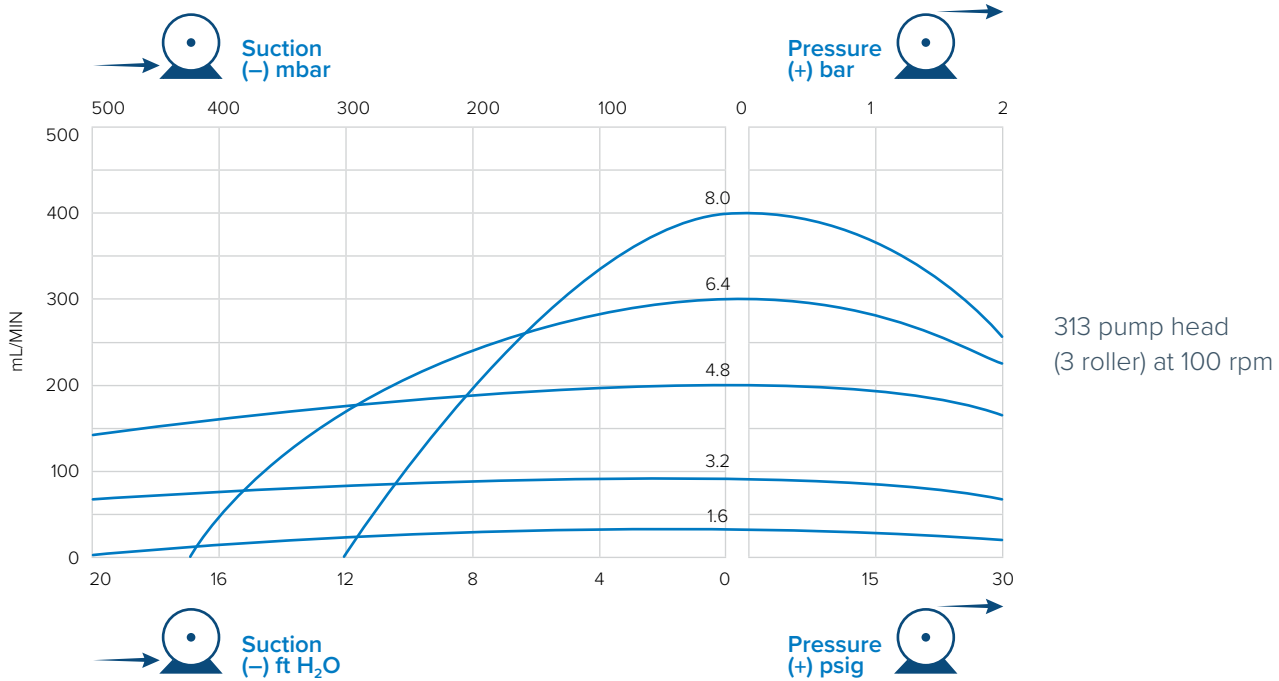
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*Inquiries from Germany and France are now handled in our St. Neots office by native-speaking experts.

323 Drive With 313D Pump Head Performance



Materials of Construction

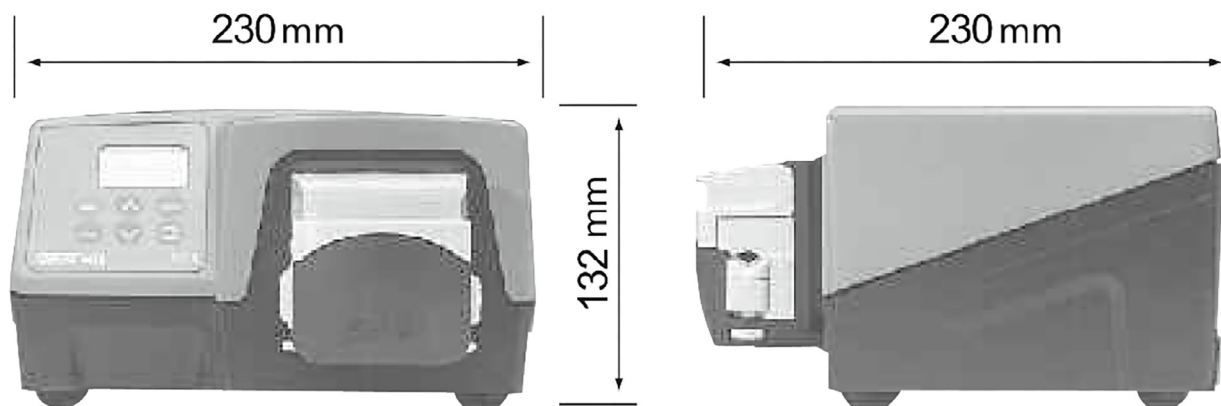
Component	Material
Bearings	Carbon steel, sintered bronze
Drive casework	ABS (acrylonitrile butadiene styrene), powder-coated aluminum LM24
Mounting plate assembly	Glass-filled nylon, IXEF® (polyarylamide)
Pump head body assembly	Glass-filled polypropylene, IXEF® (polyarylamide), stainless steel
Pump head roller assembly	MoS2-filled nylon 6 (Nylatron®)
Pump head rotor assembly	Electroless nickel-plated hardened steel, glass-filled nylon
Pump head track	IXEF® (polyarylamide)
Spindles	Electroless nickel-plated hardened steel
Tube clamp assembly	Glass-filled nylon

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

Technical Specifications

Specifications	323 drive with 313D pump head
Pump head number of rollers	3
Pump head number of channels	1
Max. flow rate	2000 mL/min
Min. flow rate	0.06 mL/min
Speed control ratio	133:1, 200:1, 27:1
Max. operating speed	400 rpm
Min. operating speed	2 rpm
Operating temperature range	5 to 40 °C (40 to 104 °F)
Weight	4.7 kg (10.4 lbs)
Drive control options	E, S, U, Du, Dz
Drive standards	CE, cETLus
Drive ingress rating	IP31
Drive humidity	80% up to 31 °C (88 °F) decreasing linearly to 50% at 40 °C (104 °F)
Drive noise	<70dB(A) at 1 m
Max. altitude	2000 m (6562 ft)
Drive power supply	1ph, 100 to 120 V, 220 to 240 V 50/60 Hz, 100
Compatible tubing bore size	1.6, 3.2, 4.8, 6.4, 8 mm
Compatible tubing wall thickness	1.6 mm

323 DRIVE WITH 313D PUMP HEAD DIMENSIONS



Control Options

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

Ordering Information

Drives, pump heads, and accessories			
Product type	Model	Description	Item number
Drive system	323S Drive with 313DW Pump Head	Variable-Speed Pump System, Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; US Plug	50130-10
Drive system	323S Drive with 313DW Pump Head	Variable-Speed Pump System, Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; UK Plug	50131-70
Drive system	323S Drive with 313DW Pump Head	Variable-Speed Pump System, Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; EU Plug	50131-60
Drive system	323U Drive with 313DW Pump Head	Variable-Speed Pump System, Analog/Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; US Plug	50142-01
Drive system	323Du Drive with 313DW Pump Head	Variable-Speed Pump System, RS-232/Analog/Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; US Plug	50130-11
Drive system	323Du Drive with 313DW Pump Head	Variable-Speed Pump System, RS-232/Analog/Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; UK Plug	50131-71
Drive system	323Du Drive with 313DW Pump Head	Variable-Speed Pump System, RS-232/Analog/Manual Control, 3 to 400 rpm, Single-Channel, 3-Roller Pump Head; EU Plug	50131-61
Drive system	323Dz Drive with 313DW Pump Head	Variable-Speed Dispensing Pump System, Remote/Manual Control, 2 to 400 rpm, Single-Channel, 3-Roller Pump Head; US Plug	50142-02
Drive only	323E Drive	Variable-Speed Pump Drive, Manual Control, 15 to 400 rpm; US Plug	50142-15
Drive only	323S Drive	Variable-Speed Pump Drive, Manual Control, 3 to 400 rpm; US Plug	50130-20
Drive only	323S Drive	Variable-Speed Pump Drive, Manual Control, 3 to 400 rpm; UK Plug	50131-90

Ordering Information (continued)

Drives, pump heads, and accessories			
Product type	Model	Description	Item number
Drive only	323S Drive	Variable-Speed Pump Drive, Manual Control, 3 to 400 rpm; EU Plug	50131-80
Drive only	323U Drive	Variable-Speed Pump Drive, Analog/Manual Control, 3 to 400 rpm; US Plug	50142-16
Drive only	323Du Drive	Variable-Speed Pump Drive, RS-232/Analog/Manual Control, 3 to 400 rpm; US Plug	50130-21
Drive only	323Du Drive	Variable-Speed Pump Drive, RS-232/Analog/Manual Control, 3 to 400 rpm; UK Plug	50131-82
Drive only	323Du Drive	Variable-Speed Pump Drive, RS-232/Analog/Manual Control, 3 to 400 rpm; EU Plug	50131-81
Drive only	323Dz Drive	Variable-Speed Dispensing Pump Drive, Remote/Manual Control, 2 to 400 rpm; US Plug	50142-17
Pump head	313DW Pump Head	Rapid Load Pump Head for 1.6 mm Wall Tubing, 3-Roller	50130-13
Pump head	313DW2 Pump Head	Rapid Load Pump Head for 2.4 mm Wall Tubing, 3-Roller	50142-06
Extension pump head	313X Pump Head	Extension Rapid Load Pump Head for 1.6 mm Wall Tubing, 3-Roller	50130-12
Extension pump head	313X2 Pump Head	Extension Rapid Load Pump Head for 2.4 mm Wall Tubing, 3-Roller	50142-07
Accessory	520AF	Footswitch for 323Du Pump with 25-Pin D-Connector	50135-06
Accessory	520AH	Handswitch for 323Du Pump with 25-Pin D-Connector	50135-07
Tubing 1.6 mm wall thickness			
Bore	Number	Bioprene	Pumpsil
0.5/1.6	112	50130-27	50130-22
0.8/1.6	13	50130-28	50130-23
1.6/1.6	14	50130-29	50130-24
2.4/1.6	19	50130-30	50133-59
3.2/1.6	16	50130-31	50130-25
4.8/1.6	25	50130-32	50130-26
6.4/1.6	17	50130-33	50133-57
8.0/1.6	18	50130-34	50133-58



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 Cole-Parmer accepts no liability for any errors it contains and reserves the right to alter specifications without notice. It is the user's responsibility to ensure product suitability for use within their application. Watson-Marlow Pumpsil, and Bioprene are registered trademarks of Watson-Marlow Limited. Please state the item number when ordering pumps and tubing.