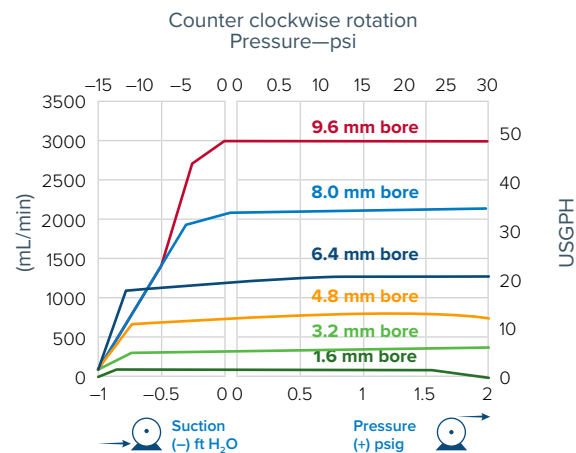
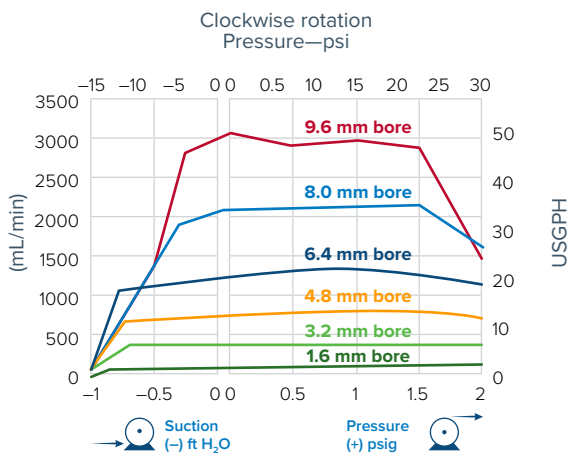


530 Drive With 520R2 Pump Head System 500 Series Cased Pump

Features and Benefits

- Color display and intuitive menu structures provide visual status indication and minimal key presses
- Flow rates from 0.004 mL/min to 3.5 L/min
- Single-channel, two-roller 520R2 pump head available as standard, others available on request
- 2,200:1 speed control range from 0.1 rpm to 220 rpm in 0.1 rpm increments
- Keypad incorporates three-level security PIN lock
- IP31 (NEMA 2) cased options for protection
- Remote Analog/Digital, RS232, RS485, PROFIBUS®, PROFINET®, SCADA and EtherNet/IP™ control options



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India +1.800.266.1244

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

Performance

520R2 twin sprung roller pump heads for continuous 2.4 mm wall thickness tubing – tube bore and flow rates – mL/min (USGPH)

Tube material	Speed rpm	0.5 mm	1.6 mm	3.2 mm	4.8 mm	6.4 mm	8.0 mm	9.6 mm
Pumpsil®, GORE® STA-PURE® PCS, GORE® STA-PURE® PFL	0.1 to 220 rpm	N/A	0.04 to 97 (0 to 1.54)	0.18 to 390 (0 to 6.18)	0.40 to 870 (0.01 to 23.8)	0.70 to 1500 (0.01 to 23.8)	1.10 to 2400 (0.02 to 38)	1.60 to 3500 (0.03 to 55.5)
Marprene®/ Bioprene®, PureWeld XL®	0.1 to 220 rpm	N/A	0.04 to 92 (0 to 1.46)	0.17 to 370 (0 to 5.86)	0.38 to 830 (0 to 13.2)	0.67 to 1500 (0.01 to 23.8)	1.10 to 2300 (0.02 to 36.5)	1.50 to 3300 (0.02 to 52.3)

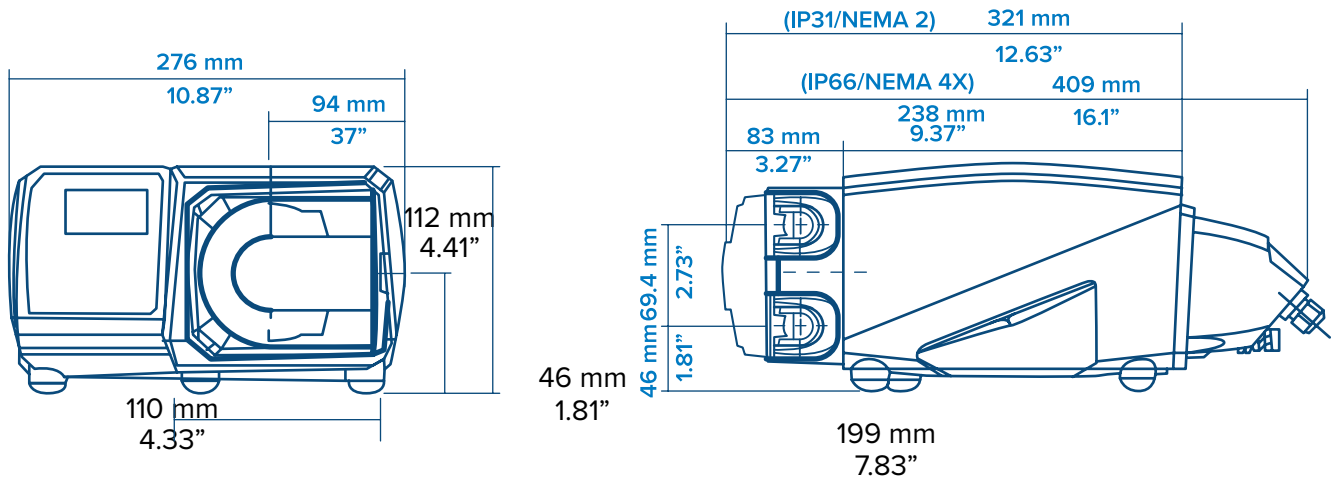
Technical Specifications

Specification	530 drive with 520R2 pump head
Pump head number of rollers	2
Pump head number of channels	1
Flow rate range	0.04 to 3500 mL/min
Flow rate range	0.0006 to 56 USGPH
Drive speed control ratio	2200:1
Drive speed	0.1 to 220 rpm
Operating temperature range	5 to 40 °C (40 to 104 °F)
Weight	10.6 to 11.5 kg (23.4 to 25.4 lbs)
NEMA module weight	0.9 kg (2 lbs)
Control types	EtherNet/IP™, PROFIBUS®, PROFINET®, Remote Analog/Digital, RS232, RS485, SCADA
Drive control options	Bp, BpN, Du, DuN, DuS, En, EnN, Pn, PnN, S, SN, U, UN, US
Standards	CE, cETLus, C-Tick, IRAM, NSF/ANSI 61 (for Marprene® tubing and LoadSure elements), RoHS
Drive ingress protection	IP31 (NEMA 2), IP66 (NEMA 4X)
Drive humidity	(Non-condensing) 80% up to 31 °C (88 °F) decreasing linearly to 50% at 40 °C (104 °F)
Drive noise	<70dBA at 1 m
Max. altitude	2000 m (6562 ft)
Drive power supply	115/230 V 1ph 50/60 Hz 135 VA
Compatible tubing bore size	1.6, 3.2, 4.8, 6.4, 8, 9.6 mm

Materials of Construction

Component	Material
Bearings	Stainless steel
Drive shaft	Electroless nickel-plated carbon steel
Drain port assembly	Hytrel, PP (polypropylene)
Drive casework	Pressure die-cast aluminum LM24
Drive casework coating	Alocrom pre-treatment, exterior grade polyester powder coat
Guide roller assembly	MoS2-filled nylon 6 (Nylatron®)
Drive keypad/HMI	Polyester
Drive rear blanking plate	Stainless steel 304
Pump head body assembly	Acetal, aluminum, aluminum alloy, brass, polycarbonate (PC), polyphenylene sulphide (PPS)
Pump head guard	Polycarbonate (PC)
Pump head roller assembly	MoS2-filled nylon 6 (Nylatron®), polyphenylene sulphide (PPS), stainless steel 316
Pump head rotor assembly	Polyphenylene sulphide (PPS), stainless steel 316
Pump head track	Polyphenylene sulphide (PPS)
Pump head seals	Neoprene, PTFE
Switch plate	Glass-filled ABS plastic

530 DRIVE WITH 520R2 PUMP HEAD DIMENSIONS



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

Control Options

Key to pump drive models														
530S	530SN	530U	530UN	530Du	530DuN	530Bp								
Standard	Standard IP66/ NEMA 4X	Universal	Universal IP66/ NEMA 4X	Digital Universal	Digital Universal IP66/NEMA 4X	Bus Pump/ PROFIBUS®								
530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN								
Bus Pump/ PROFIBUS® IP66 NEMA 4X	Universal SCALA/IP66 NEMA 4X	Digital Universal SCALA/IP66 NEMA 4X	EtherNet/IP	EtherNet/IP/ IP66/NEMA 4X	PROFINET®	PROFINET®/ IP66/NEMA 4X								
Manual control														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
Intuitive keypad and color display	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Choice of flow rate or speed display	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Full calibration with choice of flow units	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MemoDose function	✓	✓	✓	✓	✓	✓			✓	✓				
Auto restart facility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leak detection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dispensing (Network Control)											✓	✓	✓	✓
Remote control														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
Configurable start/stop and leak detector, via contact closure or 5V TTL or 24V industrial logic***			✓	✓	✓	✓					✓	✓	✓	✓
Pressure switch input, via contact closure or 5V TTL or 24V industrial logic***			✓		✓									
Configurable start/stop, leak detector and pressure switch input via 110 V industrial logic									✓	✓				
Direction change and auto/manual toggle input via contact closure or 5 V TTL or 24 V industrial logic			✓	✓	✓	✓								

Remote control														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
Direction change and auto/manual toggle input via 110 V industrial logic									✓	✓				
Remote operation of MemoDose (foot/hand-switch or logic input)			✓	✓	✓	✓								
Four configurable digital status outputs through 24 V, 30 W relays				✓		✓								
Four configurable digital status outputs through 110 V relays									✓	✓				
Menu configurable logic outputs			✓		✓									
Remote pressure/flow sensors											✓	✓	✓	✓
Analog speed control														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
Fully configurable inputs; 0–10 V or 4–20 mA			✓	✓	✓	✓			✓	✓				
Analog outputs; 0–10 V, 4–20 mA			✓	✓	✓	✓			✓	✓				
Keypad/analog input scaling (replacement of diaphragm pumps)					✓	✓				✓				
Tacho frequency output; 0–991 Hz			✓	✓	✓	✓								
2x sensor inputs 4–20 mA or 0–1000 Hz*											✓	✓	✓	✓
Security														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
3-level security PIN lock	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Network communication														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
RS485 network control						✓				✓				
RS232 network control					✓									

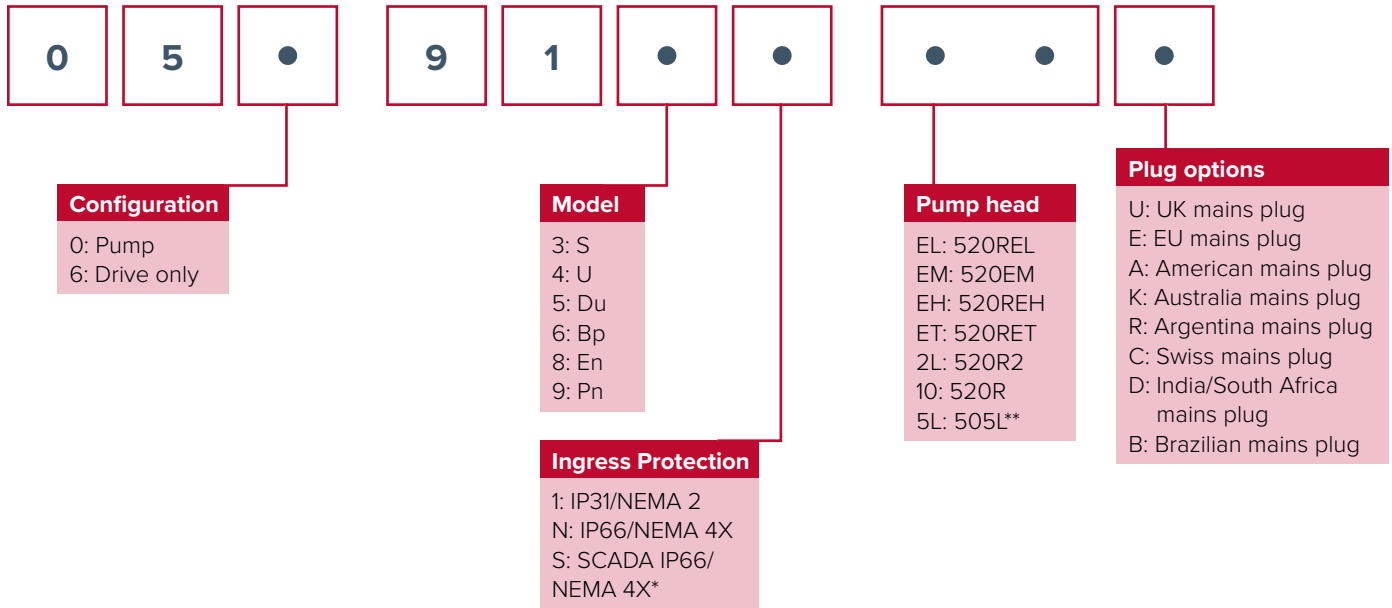
Digital pump commands (PROFIBUS® EtherNet/IP)														
Pump drives	530S	530SN	530U	530UN	530Du	530DuN	530Bp	530BpN	530US	530DuS	530En	530EnN	530Pn	530PnN
PROFIBUS® DP V0							✓	✓						
PROFINET® (CC-B & Netload Class III)													✓	✓
EtherNet/IP™											✓	✓		
Communication speeds from 9.6 kbits/s up to 12,000 kbits/s							✓	✓						
Network speed: 10/100 Mbps – Full Duplex Operation											✓	✓		
Network speed: 100 Mbps – Full Duplex Operation													✓	✓
Auto-detect bus speed							✓	✓						
Speed set point							✓	✓			✓	✓	✓	✓
Speed feedback							✓	✓			✓	✓	✓	✓
Flow calibration function							✓	✓			✓	✓	✓	✓
Hours run							✓	✓			✓	✓	✓	✓
Revolution counter							✓	✓			✓	✓	✓	✓
Leak detection							✓	✓			✓	✓	✓	✓
Low fluid level alarm							✓	✓			✓	✓	✓	✓
Diagnostic feedback							✓	✓			✓	✓	✓	✓
Flow Totalizer											✓	✓	✓	✓
Sensor scaling											✓	✓	✓	✓
Dipensing (Network Control)**											✓	✓	✓	✓

*Range of third-party pressure/flow sensors supported—see compatible sensor list.

**Dispensing (Network/Manual)—Store up to 100 recipes locally or via network control. Features include volume, flow rate, anti-drip, ramp and time delays. Run these as batches using local, network or manual keypad control.

***If you can't see the option you need, contact the engineered products team at WML to discuss.

Product codes



Ordering Information

Tubing 2.4 mm wall thickness tubing for 520R2			
Tube bore	Tube	Pumpsil®	Bioprene®
1.6 mm (1/16")	119	50133-66	50140-36
3.2 mm (1/8")	120	50133-67	50140-37
4.8 mm (3/16")	15	50133-68	50140-38
6.4 mm (1/4")	24	50133-69	50140-39
8.0 mm (5/16")	121	50133-76	50140-40
9.6 mm (3/8")	122	50133-77	50140-41

**U and DU models only. Only available with American mains plug.

**With the exception of Bp, En and Pn models, this option has an engineered product code — consult factory for more information.

Ordering Information (continued)

Pump system			
Product type	Model	Description	Item number
Drive system	530S Drive with 520R2 Pump Head	IP31 Pump System for 2.4 mm Wall Thickness Tubing, US plug	50140-00
Drive system	530S Drive with 520R2 Pump Head	IP31 Pump System for 2.4 mm Wall Thickness Tubing, UK plug	50142-18
Drive system	530S Drive with 520R2 Pump Head	IP31 Pump System for 2.4 mm Wall Thickness Tubing, EU plug	50142-20
Drive system	530Du Drive with 520R2 Pump Head	IP31 Pump System for 2.4 mm Wall Thickness Tubing, RS-232 Control, US Plug	50140-01
Drive system	530Du Drive with 520R2 Pump Head	IP31 Pump System for 2.4 mm Wall Thickness Tubing, RS-232 Control, UK Plug	50142-19
Drive system	530Du Drive with 520R2 Pump Head	IP31 Pump System for 2.4 mm Wall Thickness Tubing, RS-232 Control, EU Plug	50142-21
Pump head	313D/A Pump Head	Rapid Load Pump Head for 1.6 mm Wall Tubing, 3-Roller, for 500-Series Drive	50142-04
Pump head	313D2/A Pump Head	Rapid Load Pump Head for 1.6 mm Wall Tubing, 3-Roller, for 500-Series Drive	50142-08
Pump head	314D/A Pump Head	Rapid Load Pump Head for 1.6 mm Wall Tubing, 4-Roller, for 500-Series Drive	50142-10
Pump head	314D2/A Pump Head	Rapid Load Pump Head for 1.6 mm Wall Tubing, 4-Roller, for 500-Series Drive	50142-14
Accessory	520AF	Footswitch for 520Du Pump with 25-Pin D-Connector	50135-06
Accessory	520AH	Handswitch for 520Du Pump with 25-Pin D-Connector	50135-07



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.