

500 DriveSure ADC/En/Pn



500 series panel mount pumps

Key Features

- DriveSure panel mount pump for 520R / R2 / REL / REM pumpheads
- 0.1 rpm to 220 rpm speed range at 0.1 rpm increments
- Watson-Marlow closed-loop control technology delivers consistent, cool and quiet performance
- EtherNet/IP™ and PROFINET® versions for digital network integration, control and monitoring
- ADC version with 4–20 mA, 0–10 V, 2–2000 Hz and fixed speed control options
- Sealed mounting plate for easy installation and IP66 capability
- Integrated cover-open sensor and prime-switch input
- Downloadable PC software (WM Connect) to evaluate, optimise and diagnose via USB connection



500 DriveSure ADC/En/Pn performance

520R Pumphead for continuous tubing (1.6 mm wall thickness) up to 2 bar (29 PSI)														
Tube material	Flow Rate (mL/min) by tube bore from 0.1 rpm (Min) to 220 rpm (Max)													
	0.5 mm		0.8 mm		1.6 mm		3.2 mm		4.8 mm		6.4 mm		8.0 mm	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Pumpsil®	0.004	9.5	0.011	24										
STA-PURE® PCS					0.04	97	0.18	390	0.40	870	0.70	1500	1.10	2400
STA-PURE® PFL														
Marpren®	0.004	9.0	0.011	24										
Biopren®	0.004	9.0	0.011	24	0.04	92	0.17	370	0.38	830	0.67	1500	1.10	2300
PureWeld XL®	0.004	9.0												

520R2 Pumphead for continuous tubing (2.4 mm wall thickness) up to 2 Bar (29 PSI)																
Tube material	Flow Rate (mL/min) by tube bore from 0.1 rpm (Min) to 220 rpm (Max)															
	0.5 mm		0.8 mm		1.6 mm		3.2 mm		4.8 mm		6.4 mm		8.0 mm		9.6 mm	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Pumpsil®	0.004	9.5	0.011	24												
STA-PURE® PCS					0.04	97	0.18	390	0.40	870	0.7	1500	1.10	2400	1.60	3500
STA-PURE® PFL																
Marpren®																
Biopren®					0.04	92	0.17	370	0.38	830	0.67	1500	1.10	2300	1.50	3300
PureWeld XL®																

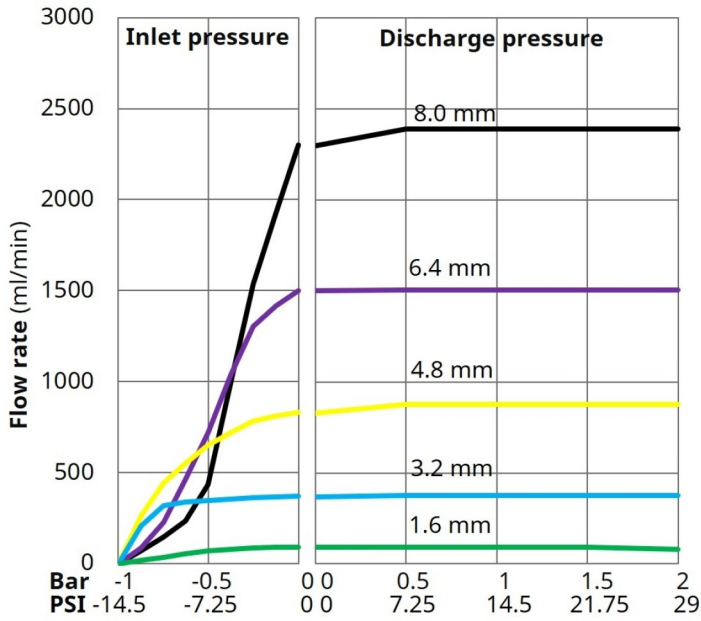
520REL Pumphead for LoadSure TL elements up to 2 Bar (29 PSI)						
LoadSure element	Flow Rate (mL/min) by tube bore from 0.1 rpm (Min) to 220 rpm (Max)					
	3.2 mm		6.4 mm		9.6 mm	
	Min	Max	Min	Max	Min	Max
Pumpsil®						
STA-PURE® PCS	0.18	390	0.70	1500	1.60	3500
STA-PURE® PFL						
Marpren®						
Biopren®	0.17	370	0.67	1500	1.50	3300

520REM Pumphead for LoadSure TM elements up to 4 Bar (58 PSI)				
LoadSure element	Flow Rate (mL/min) by tube bore from 0.1 rpm (Min) to 220 rpm (Max)			
	3.2 mm		6.4 mm	
	Min	Max	Min	Max
STA-PURE® PCS	0.18	390	0.70	1500
STA-PURE® PFL				
Marpren®				
Biopren®	0.17	370	0.67	1500

Performance data is based on a 48 V DC power supply, pumping water, with 0 bar inlet and discharge pressure. Actual performance is dependent on power supply voltage (DriveSure range 12 V to 48 V DC). For further information contact your local Watson-Marlow representative.

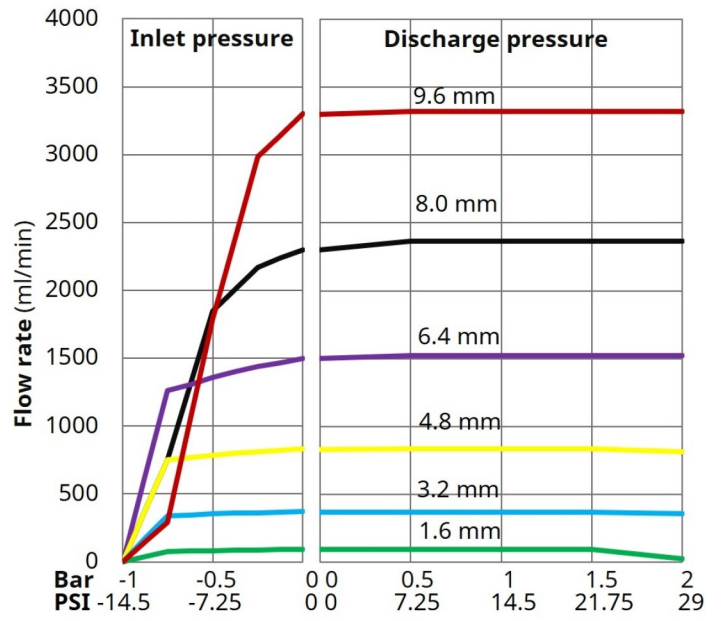
520R Pumphead

Marprene, water, 220 rpm, counter-clockwise



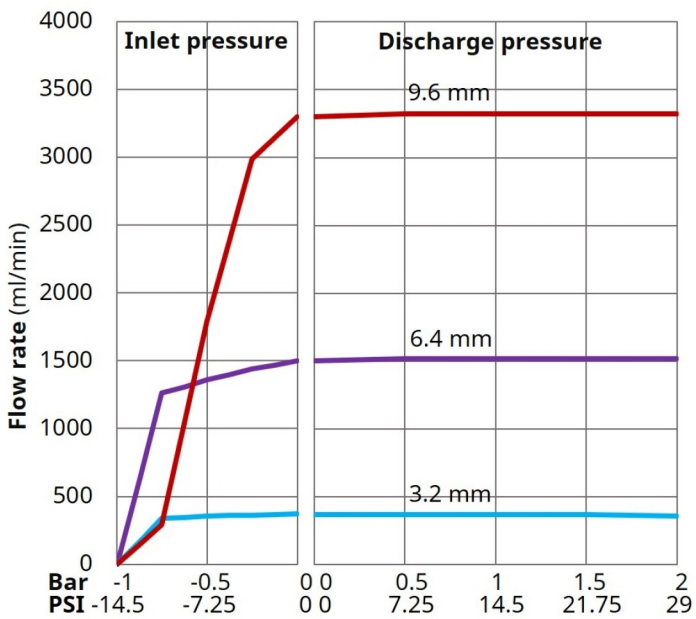
520R2 Pumphead

Marprene, water, 220 rpm, counter-clockwise



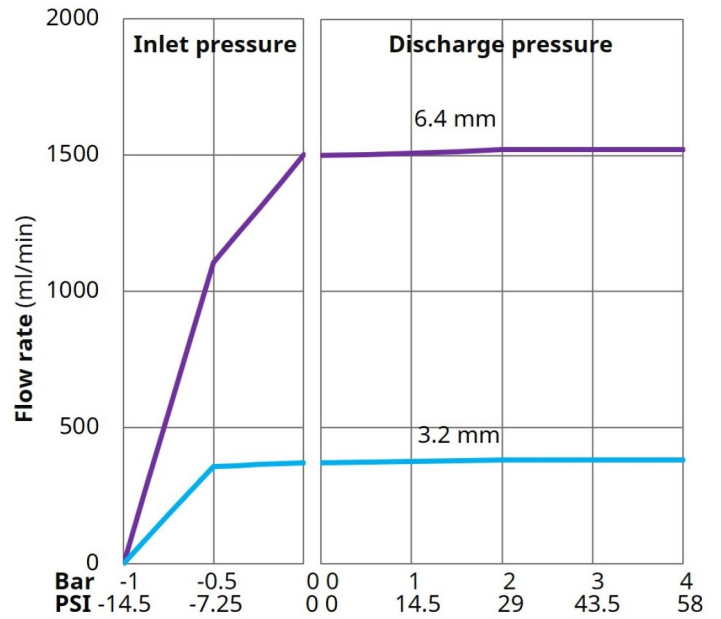
520REL Pumphead

Marprene, water, 220 rpm, counter-clockwise



520REM Pumphead

Marprene, water, 220 rpm, counter-clockwise



Technical specifications

	500 DriveSure ADC/En/Pn
Motor types	Brushless DC motor
Pumphead options	520R, 520R2, 520REL, 520REM
Min. flow rate	0.004 ml/min
Max. flow rate	3500 ml/min
Min. operating speed	0.1 rpm
Max. operating speed	220 rpm
Speed Resolution	0.1 rpm
Supply voltage	12 V to 48 V DC
Operating temperature range	5 °C to 40 °C
Operating temperature range	41 °F to 104 °F
Rated Power	75 W
Control options	0–10 V, 2–2000 Hz, 4–20 mA, EtherNet/IP™, Fixed speed, Prime speed, PROFINET®
Alarms	Cover-open, Hardware fault, Over current, Over temperature, Software fault, Speed, Stall, Under/over voltage
Outputs	Fault, Tacho
External Inputs	Prime switch
Weight	2.9 - 3 kg
Weight	5.291 - 6.614 lbs
Location	Indoor, Enclosure
Ingress Protection	IP66 capable panel sealing
Humidity	80 % up to 31 °C (88 °F), decreasing linearly to 50 % at 40 °C (104 °F)
Noise	<65 dB(A)
Max. altitude	2000 m
Max. altitude	6561 ft
Standards	BS EN 55011-2016+A2-2021, BS EN IEC 61326-1-2021, CSA C22.2 No. 61010-1-12/AMD1:2018, EN 61010-1:2010/A1:2019, FCC 47CFR (Part 15), IEC 61010-1:2010/AMD1:2016, UL 61010-1:2012/R:2019-07
Certification	CB Certificate, EMC, NRTL certification
Compatible tubing bore size	0.5, 0.8, 1.6, 3.2, 4.8, 6.4, 8, 9.6 mm
Compatible tubing wall thickness	1.6, 2.4 mm

Outputs are for ADC version only. Alarms are for EtherNet/IP™ & PROFINET® versions only.

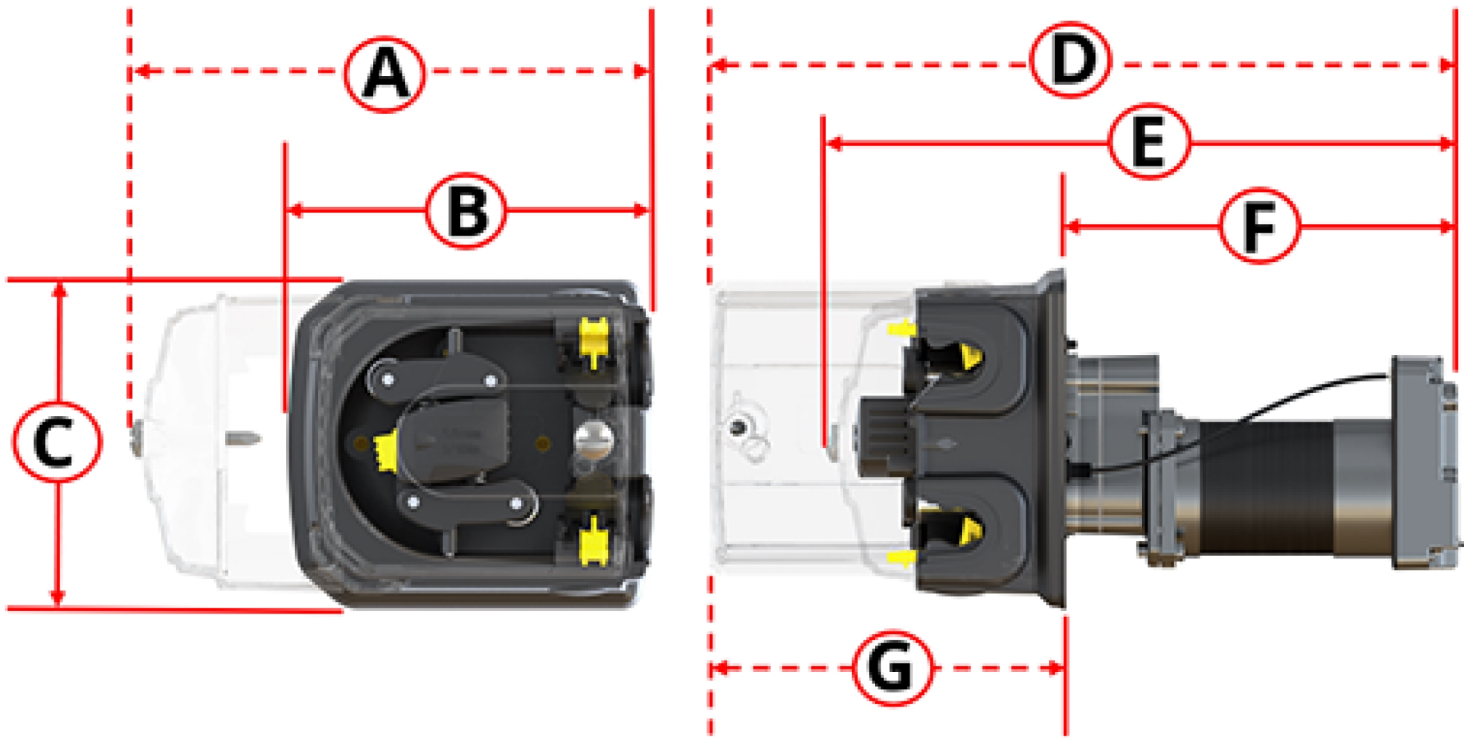
For detailed specifications of individual models refer to product reference manual or contact WMFTS representative.

Materials of construction

	500 DriveSure ADC/En/Pn
Pumphead body assembly	Acetal, Aluminium, Aluminium alloy, Brass, Polycarbonate (PC), Polyphenylene sulphide (PPS)
Pumphead rotor assembly	Polyphenylene sulphide (PPS), Stainless steel 316
Pumphead roller assembly	MoS2 filled Nylon 6 (Nylatron), Polyphenylene sulphide (PPS), Stainless steel 316
Motor Gearbox	Aluminium, Nitrile, Stainless steel
Controller Housing	ABS/PC, Aluminium
Mounting plate assembly	Nitrile, Polyacrylamide (PARA)-halogen free, UL94 V-0 rated, Polyarylamide (halogen free, UL94 V-0 rated), Stainless steel, Thermoplastic elastomer (TPE)

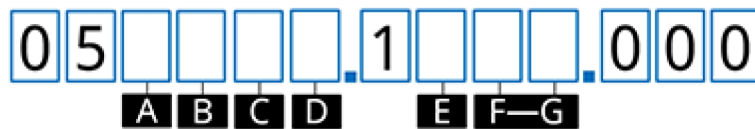
Information listed covers the complete range. For detailed specifications of individual models/components refer to product reference manual or contact WMFTS representative.

500 DriveSure ADC/En/Pn dimensions



A		B		C		D		E		F		G	
mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
212	8.35	150	5.91	132	5.20	318	12.52	260	10.24	161	6.34	157	6.18

Product codes



A	B	C	D	E	F-G
Product	Control	Cable length	Pumphead colour	Pumphead	Pumphead model
0 = Complete pump	4 = ADC	1 = 1 m (3.28 ft) cable	0 = No pumphead	0 = No pumphead	00 = No pumphead
6 = Drive only	8 = En (EtherNet/IP™)	3 = 3 m (9.84 ft) cable	1 = Standard colour	R = 520 Series	10 = 520R
	9 = Pn (PROFINET®)				2L = 520R2
					EL = 520REL
					EM = 520REM

Accessories and Spares

Product	Product code
500 Series DriveSure Sealed Mounting Plate / Sensor	059.IPMP.DVS
DriveSure cable pack - 24 V power supply/USB-C - trials only *	009.24CP.DVS
DriveSure cable pack - 48 V power supply/USB-C - trials only *	009.48CP.DVS
1 m Power Cable DriveSure ADC/En/Pn	009.1PW.DVS
3 m Power Cable DriveSure ADC/En/Pn	009.3PW.DVS
1 m Control Cable DriveSure ADC	009.1CC.DVS
3 m Control Cable DriveSure ADC	009.3CC.DVS
Ethernet Cable, RJ45 to RJ45, CAT 5e SHIELDED, 3m	059.9123.000
PROFINET® Cable, RJ45 to RJ45, CAT 5e SHIELDED, 3m	059.9128.000

*Cable packs do not include mains power lead. If required, order power leads suitable for your region.

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

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