

630 Drive with 620L Pumphead



600 series cased pump

Features and benefits

- Color display and intuitive menu structures provide visual status indication and minimal key presses
- Flow rates from 0.001 L/min (0.0002 USGPM) to 18 L/min (4.76 USGPM) depending on model and pumphead/tubing options
- 620R, 620RE, 620RE4, 620L and 620LG pumpheads available
- 2,650:1 speed control range from 0.1 rpm to 265 rpm in 0.1 rpm increments
- Keypad incorporates 3-level security PIN lock
- IP31 (NEMA 2) and IP66 (NEMA 4X) cased pumps available
- Dual voltage, 115 V/230 V 50/60 Hz
- Remote Analogue/Digital, RS232, RS485, PROFIBUS®, PROFINET®, SCADA and EtherNet/IP™ control options



630 Drive with 620L Pumphead performance

620L twin-channel low-pulse pumpheads for LoadSure elements – Tube bore and flow rates – L/min (USGPH)							
Tube material	Speed	Y element tubing			Continuous tubing (flow per channel - max of 2 channels)		
		8.0mm	12.0mm	16.0mm	8.0mm	12.0mm	16.0mm
Pumpsil®	0.1-265rpm	0.002-4.4 (0.03-69.7)	0.003-8.5 (0.05-135)	0.005-11.5 (0.08-182)	0.001-2.2 (0.02-34.9)	0.002-4.3 (0.03-68.2)	0.003-5.8 (0.05-91.9)
Marprene®, Bioprene®	0.1-265rpm	0.002-4.5 (0.03-71.3)	0.003-8.0 (0.05-127)	0.005-11.3 (0.08-179)	0.001-2.3 (0.02-36.5)	0.002-4.0 (0.03-63.4)	0.003-5.7 (0.05-90.3)
GORE® STA-PURE® Pump Tubing Series PFL, GORE® STA-PURE® Pump Tubing Series PCS (620LG pumphead only)	0.1-265rpm	0.002-5.2 (0.03-82.4)	0.003-9.0 (0.05-143)	0.005-12.4 (0.08-197)	0.001-2.6 (0.02-41.2)	0.002-4.5 (0.03-71.3)	0.003-6.7 (0.05-106)

Technical specifications

	630 Drive with 620L Pumphead
Pumphead number of channels	2
FlowRateRange	0.002 L/min to 13.3 L/min
FlowRateRange	0.03 USGPH to 211 USGPH
FlowRateRange	0.0002 USGPM to 4.76 USGPM
Drive speed control ratio	2650:1
Drive speed	0.1 - 265 rpm
Operating temperature	41 °F to 104 °F (5 °C to 40 °C)
Weight	53.6 - 55.6 lbs (24.3 - 25.2 kg)
Drive weight	16.5, 17.4 kg
Drive weight	36.4, 38.5 lbs
NEMA module weight	0.9 kg
NEMA module weight	2 lbs
Control types	EtherNet/IP™, PROFIBUS®, PROFINET®, Remote Analogue/Digital, RS232, RS485, SCADA
Drive control options	Bp, BpN, Du, DuN, En, EnN, Pn, PnN
Standards	CE, cETLus, C-Tick, IRAM, NSF/ANSI 61 (for Marprene tubing and loadsure elements)
Drive ingress protection	IP31, IP66, NEMA 2, NEMA 4X
Drive humidity	(Non-condensing) 80% up to 31°C (88°F), decreasing linearly to 50% at 40C (104F)
Drive noise	<70dB(A) at 1m
Max. altitude	6562 ft (2000 m)
Drive power supply	100 to 120 V/200 to 240 V 1ph 50/60 Hz 250 VA, 100 V to 120 V/200 V to 240 V 1ph 50/60 Hz 250 VA
Compatible tubing bore size	8, 12, 16 mm

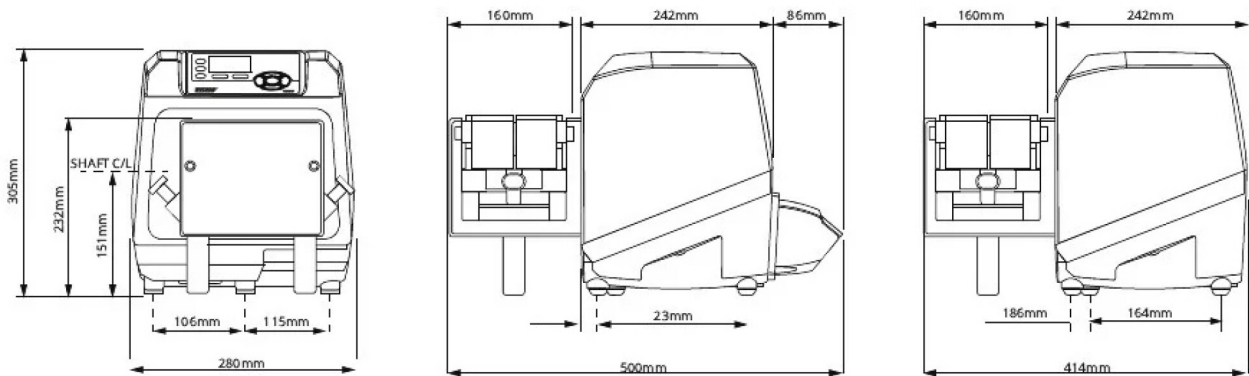
Materials of construction

630 Drive with 620L Pumphead	
Bearings	Carbon steel
Driveshaft	Stainless steel 440C
Drive casework	Pressure die-cast aluminum LM24, Pressure die-cast aluminum LM6
Drive casework coating	Exterior grade polyester powder coat
Guide roller assembly	Stainless steel 316
Drive keypad/HMI	Polyester
Pumphead front back plates	Aluminum alloy HS30
Drive rear blanking plate	Stainless steel 316
Pumphead body assembly	Alocrom pre-treatment, Aluminum alloy NS4 anodized, Exterior grade polyester powder coat, Polyester epoxy powder
Pumphead guard	Alocrom pre-treatment, Exterior grade polyester powder coat
Pumphead roller assembly	Stainless steel 316
Pumphead rotor assembly	Aluminum alloy HE30
Pumphead track	Aluminum alloy NS4 anodized
Spindles	Stainless steel 303S31
Switch-plate	ABS PA-765
Tube clamp assembly	Aluminum alloy HE30

Information listed covers the complete range.

For detailed specifications of individual models/components refer to user manual or contact WMFTS representative.

630 Drive with 620L Pumphead dimensions



Control options

Key to pump drive models

630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
Standard	Standard IP66 / NEMA 4X	Universal	Universal IP66 / NEMA 4X	Digital Universal	Digital Universal IP66 / NEMA 4X	Bus Pump / Profibus	Bus Pump / Profibus IP66 / NEMA 4X	Universal SCADA / IP66 / NEMA 4X	Digital Universal SCADA / IP66 / NEMA 4X	EtherNet/IP	EtherNet/IP / IP66 / NEMA 4X	PROFINET®	PROFINET® / IP66 / NEMA 4X

Manual control

Pump drive	630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
Intuitive keypad and colour display	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Choice of flowrate or speed display	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Full calibration with choice of flow units	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MemoDose function	✓	✓	✓	✓	✓	✓			✓	✓				
Auto restart facility	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Guard switch detection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leak detection			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dispensing (Network Control)											✓	✓	✓	✓

Remote control

Pump drives	630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
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			✓	✓	✓	✓								
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											✓	✓	✓	✓

Analogue speed control

Pump drives	630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
Fully configurable inputs; 0-10 V or 4-20 mA			✓	✓	✓	✓			✓	✓				
Analogue outputs; 0-10 V, 4-20 mA			✓	✓	✓	✓			✓	✓				
Keypad/analogue input scaling (replacement of diaphragm pumps)					✓	✓				✓				
Tacho frequency output; 0-1478 Hz			✓	✓	✓	✓								
2x sensor inputs 4-20 mA or 0-1000Hz [†]											✓	✓	✓	✓

Security

Pump drives	630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
3-level Security PIN lock	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Network communication

Pump drives	630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
RS485 network control						✓				✓				
RS232 network control					✓									

Digital pump commands (Profibus / EtherNet/IP)

Pump drives	630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
PROFIBUS® DP V0							✓	✓						
PROFINET® (CC-B & Netload Class III)													✓	✓
EtherNet/IP™											✓	✓		
Communication speeds from 9.6 kbits/s up to 12000 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 Totaliser											✓	✓	✓	✓
Sensor scaling											✓	✓	✓	✓
Dispensing (Network Control)**											✓	✓	✓	✓

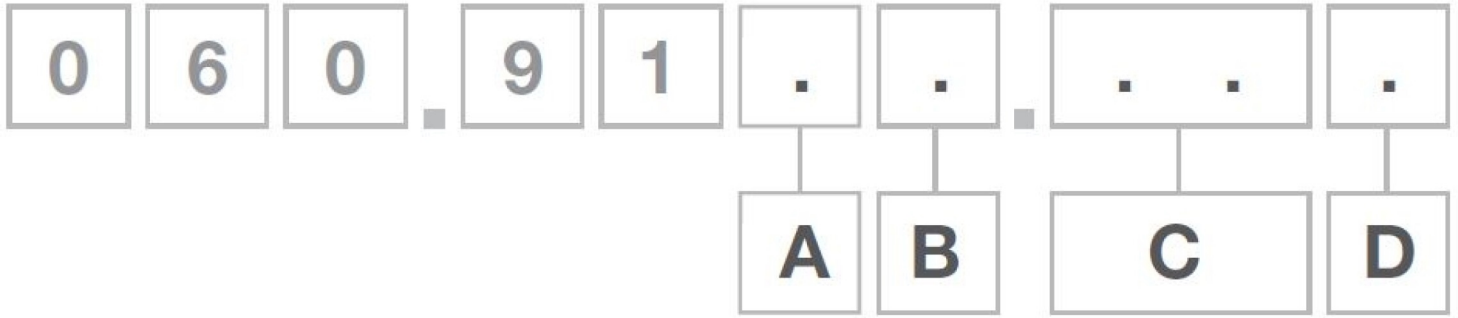
*Range of 3rd party pressure/flow sensors supported—see compatible sensor list

**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 WMFTS to discuss

Product codes



A	B	C	D
Model	Ingress Protection	Pumphead	Plug options
3: S 4: U 5: Du 6: Bp 8: En 9: Pn	1: IP31/ NEMA 2 N: IP66/ NEMA 4X S: SCADA IP66/ NEMA 4X ^{1,2}	02: 620R ³ E2: 620RE ³ E4:620RE4 ³ 5L: 620L 5G: 620LG	U: UK mains plug E: EU mains plug A: American mains plug K: Australia mains plug R: Argentina mains plug C: Swiss mains plug D: India/ South Africa mains plug B: Brazilian mains plug

Notes:

1. U and Du models only
2. Only available with American mains plug
3. Not available for US or DuS models

Disclaimer: 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 Watson-Marlow Limited accepts no liability for any errors it contains and reserves the right to alter specifications without notice. It is the users responsibility to ensure product suitability for use within their application. Watson-Marlow, LoadSure, Pumpsil, PureWeld XL, Bioprene, Marprene are registered trademarks of Watson-Marlow Limited. Tri-Clamp is a registered trademark of Alfa Laval Corporate AB. GORE and STA-PURE are registered trademarks of W.L. Gore and Associates. Please state the product code when ordering pumps and tubing.



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