

# 630 Drive with 620R pumphead

**WATSON  
MARLOW  
Pumps**

600 series cased pump

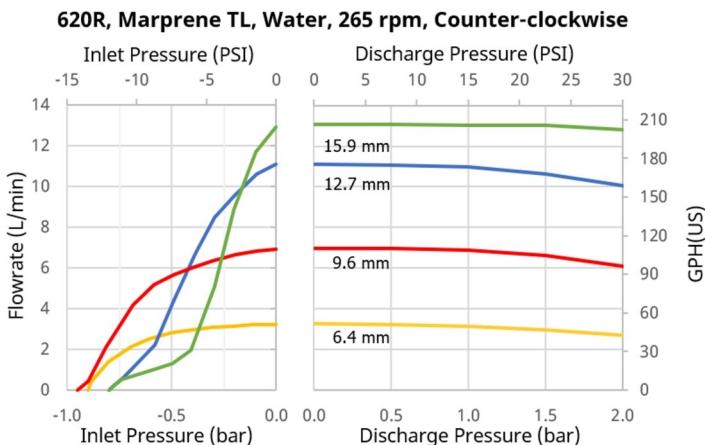
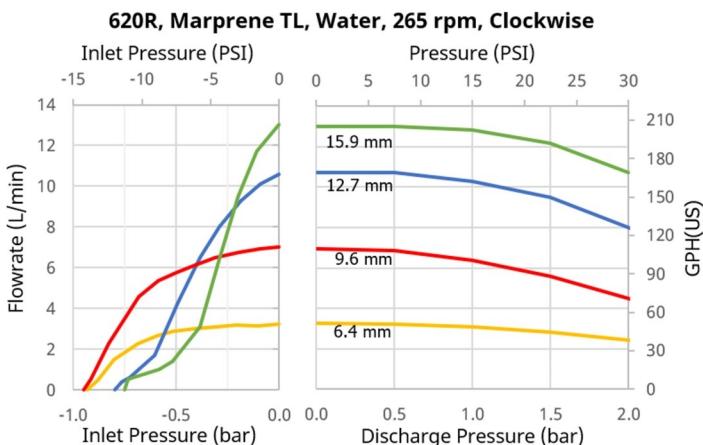
## Features and benefits

- Colour 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 620R pumphead performance

620R twin-roller pumpheads for continuous 3.2 mm wall thickness tubing - Tube bore and flow rates - L/min (GPH(US))					
Tube material	Speed	6.4 mm	9.6 mm	12.7 mm	15.9 mm
Marprene® TL, Bioprene® TL	0.1 to 265 rpm	0.001 to 3.2 (0.02 to 50.7)	0.003 to 6.9 (0.05 to 109)	0.004 to 11.1 (0.06 to 176)	0.005 to 13.0 (0.08 to 206)
Pumpsil®	0.1 to 265 rpm	0.001 to 3.2 (0.02 to 50.7)	0.003 to 6.9 (0.05 to 109)	0.004 to 11.0 (0.06 to 174)	0.01 to 15.0 (0.16 to 238)
GORE® STA-PURE® Pump Tubing - Series PFL	0.1 to 265 rpm	0.001 to 3.2 (0.02 to 50.7)	0.003 to 6.6 (0.05 to 105)	0.004 to 11.0 (0.06 to 174)	0.006 to 16.0 (0.1 to 254)
PureWeld XL®	0.1 to 265 rpm	NA	0.01 to 6.7 (0.16 to 106)	0.02 to 11.0 (0.32 to 174)	0.03 to 18.0 (0.47 to 285)



## Technical specifications

630 Drive with 620R pumphead	
Pumphead number of rollers	2
Pumphead number of channels	1
Flow rate	0.001 L/min to 18 L/min
Flow rate	0.02 USGPH to 285 USGPH
Flow rate	0.0002 USGPM to 4.76 USGPM
Drive speed control ratio	2650:1
Drive speed	0.1 - 265 rpm
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Weight	19.6 - 20.5 kg (43.2 - 45.2 lbs)
Drive weight	16.5, 17.4 kg (36.4, 38.5 lbs)
NEMA module weight	0.9 kg (2 lbs)
Control types	EtherNet/IP™, Profibus®, Profinet®, Remote Analogue/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)
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 40 °C (104 °F)
Drive noise	<70dB(A) at 1m
Max. altitude	2000 m (6562 ft)
Drive power supply	100 V to 120 V/200 V to 240 V 1ph 50/60 Hz 250 VA
Compatible tubing bore size	6.4, 9.6, 12.7, 15.9 mm

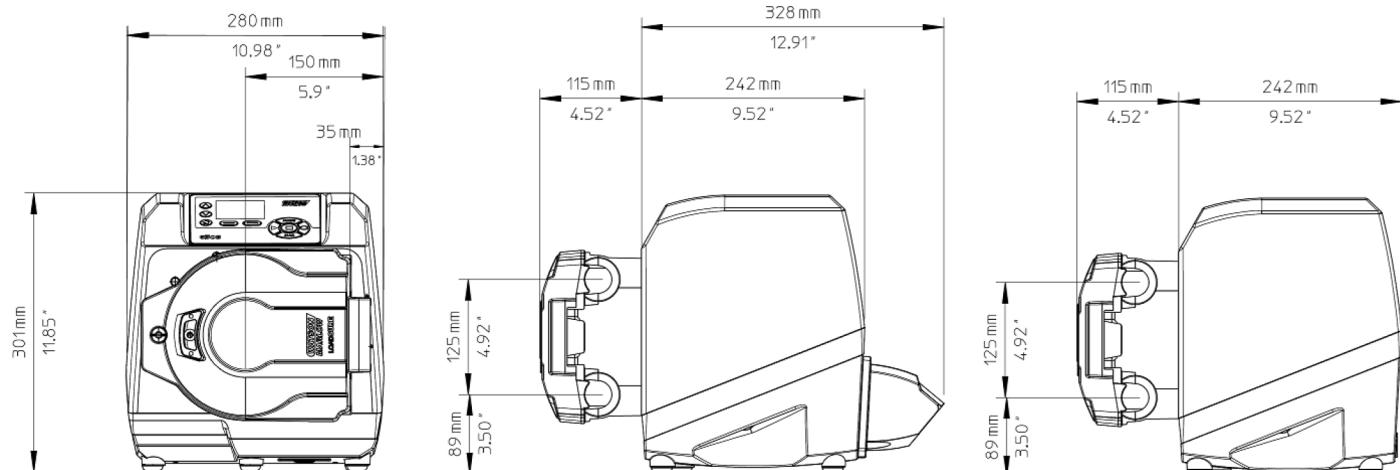
## Materials of construction

630 Drive with 620R pumphead	
Bearings	Carbon steel
Driveshaft	Stainless steel 440C
Drive casework	Pressure die-cast aluminium LM24, Pressure die-cast aluminium LM6
Drive casework coating	Exterior grade polyester powder coat
Guide roller assembly	MoS2 filled Nylon 6 (Nylatron), Stainless steel 303
Drive keypad/HMI	Polyester
Drive rear blanking plate	Stainless steel 316
Pumphead body assembly	Exterior grade polyester powder coat, Powder coated aluminium LM24, Pressure die-cast aluminium LM24
Pumphead guard	Exterior grade polyester powder coat, Pressure die-cast aluminium LM24
Pumphead roller assembly	Fortron 1140L4 (PPS), MoS2 filled Nylon 6 (Nylatron), Stainless steel 303
Pumphead rotor assembly	Dupont Hytrel G5544, Fortron 1140L4 (PPS)
Pumphead track	Powder coated aluminium LM24
Switch-plate	ABS PA-765
Tube clamp assembly	Polypropylene

Information listed covers the complete range.

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

## 630 Drive with 620R pumphead dimensions



## Control options

### Key to pump drive models

630S	630SN	630U	630UN	630Du	630DuN	630Bp	630BpN	630US	630DuS	630En	630EnN	630Pn	630PnN
Standard 4X	Standard IP66 / NEMA 4X	Universal 4X	Universal IP66 / NEMA	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 IP66 / NEMA 4X	EtherNet/IP	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 5V TTL or 24V 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 kbit/s up to 12000 kbit/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)**											✓	✓	✓	✓

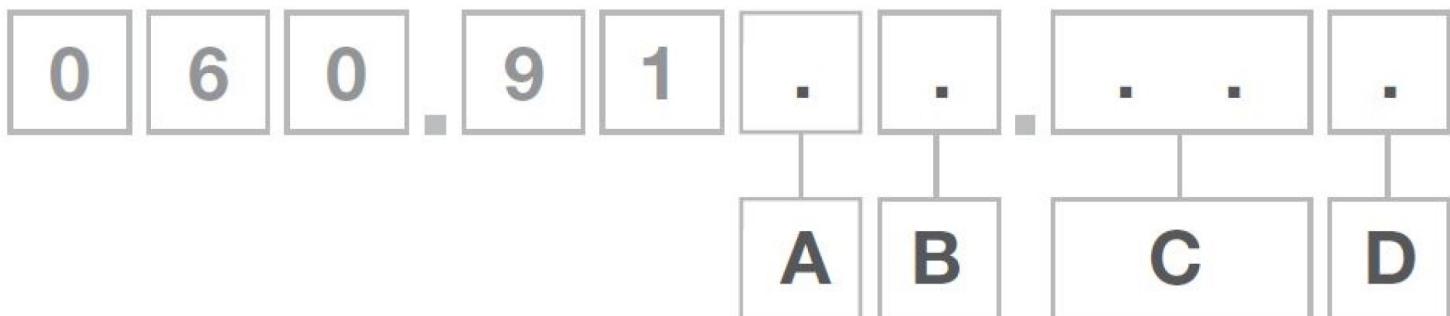
\*Range of 3rd party pressure/flow sensors supported—see compatible sensor list

\*\*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 <sup>1,2</sup>	02: 620R <sup>3</sup> E2: 620RE <sup>3</sup> E4: 620RE4 <sup>3</sup> 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 user's 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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