

**WATSON  
MARLOW  
Pumps**



530 630 730

**Industrial**  
process pump  
robust · accurate · intuitive

Now available with  
Industrial Ethernet  
connectivity

# Robust · accurate · intuitive

- Flexible and scalable fluid handling with low cost of ownership
- Superior flow stability up to 14.5 USGPM from three product ranges
- Equivalent accuracy and the same methods of control from 530, 630 and 730 pumps



## Why Watson-Marlow makes the right pump for you

Watson-Marlow Fluid Technology Solutions is unique in being able to work with you at every process step to ensure your fluid transfer requirements are achieved. Whether performing flavoring addition or chemical metering, we have a solution which can cut pump downtime and reduce chemical costs.

In continuous daily use in food processing, manufacturing and environmental industries, peristaltic pumps play an increasingly important role for handling aggressive and shear sensitive fluids without contamination. The pumped fluid is totally contained within the tube, providing complete isolation of the fluid.

### Confident controllability

Watson-Marlow pumps integrate seamlessly into your process control system. Pumps are self-contained and easily configurable, so there is no need for separate variable frequency drives or complex control devices.



530 flows between 0.0006 to 55.48 USGPH

630 flows between 0.0002 to 4.76 USGPM

730 flows between 0.0005 to 14.5 USGPM

Maintaining process integrity with visual status indication and an intuitive user interface

Simplify your system design with Watson-Marlow peristaltic technology

Ultimate process security with a 3-level PIN lock

875,000:1 flow control range, compared with 100:1 from a typical diaphragm metering pump



Industrial integration—manual, remote, analogue and digital communication, RS232, RS485, PROFIBUS, PROFINET and EtherNet/IP™

Protect your process by connecting remote pressure and flow sensors

Reduce process downtime— one-minute maintenance

Safe operation with complete isolation of food ingredients or hazardous chemicals

Optimize metering of abrasive and viscous fluids, gases and suspended solids



IP66 NEMA 4X module for watertight/dustproof protection in industrial environments



## Food and beverage

Food manufacturers demand many things from their process equipment, but the highest priority is maintaining product integrity throughout production.

The 530, 630 and 730 pumps safely dose, meter and transfer colors, flavors and additives, providing linear flow rates from microlitres through to 14.5 USGPM. Fluids are pumped from source to delivery using FDA 21CFR177.XXXX compliant tubing materials, with EC 1935/2004 also available on some materials.

## Environmental

Flexible and scalable fluid handling with accurate flow rates ranging from 0.0006 USGPH to 14.5 USGPM over the three pump series.

Widely used in water and wastewater treatment for metering sodium hypochlorite and other common disinfection chemicals, 530, 630, and 730 pumps are self-contained and easily integrated into your process control system.

A typical diaphragm metering pump has a flow control range of 100:1, in comparison to 875,000:1 from a Watson-Marlow process pump, with intuitive menu structures to provide visual status indication and streamlined setup.



## Industrial

When higher pressure flow rates are a necessity, the process pumps range includes LoadSure tube element pumpheads to provide accurate and repeatable pumping up to 100 psi.

LoadSure pumps enable one minute maintenance, cutting downtime and reducing costs.

Four drive options offer configurable digital communication for ultimate process control.

# Select your pump control features

530Du	530DuN	530U	530UN	530S	530SN	530Bp/BpN	530En/EnN	530Pn/PnN
630Du	630DuN	630U	630UN	630S	630SN	630Bp/BpN	630En/EnN	630Pn/PnN
730Du	730DuN	730U	730UN	730S	730SN	730BpN	730EnN	730PnN

## Feature

### Manual control

Intuitive keypad and color display. Choice of flow rate or speed display

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Full calibration with choice of flow units

### Remote control

Configurable Start/Stop, leak detector and pressure switch input via contact closure or 5 V TTL or 24 V industrial logic

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Direction change and auto/manual toggle input (via contact closure or 5 V TTL or 24 V industrial logic)

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Remote operation of MemoDose (foot/hand-switch or logic input)

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Four configurable digital status outputs through 24 V, 30 W relays

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Software configurable IP31 outputs

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Remote pressure/flow sensors

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### Analogue speed control

Fully configurable inputs; 0–10 V or 4–20 mA. analogue outputs; 0–10 V, 4–20 mA

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Keypad/analogue input scaling (replacement of diaphragm pumps)

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Tacho frequency output; 0–991 Hz

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### Digital communication

RS485 network control

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RS232 network control

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PROFIBUS DP V0

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PROFINET

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EtherNet/IP

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### Security

3-level security PIN lock

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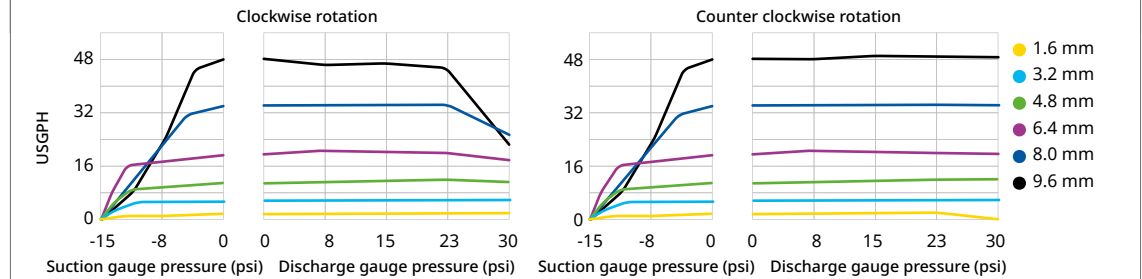
# 530 Technical data



- » Flow rates from 0.0006 to 55.48 USGPH and pressures up to 100 psi
- » Color display and intuitive menu structure
- » IP31 or IP66 cased pumps, manual, remote, analogue or RS485 digital communication, PROFIBUS, PROFINET and EtherNet/IP™
- » Four drive options and three pumpheads for single and multi-channel flows
- » Precise 2200:1 speed control range

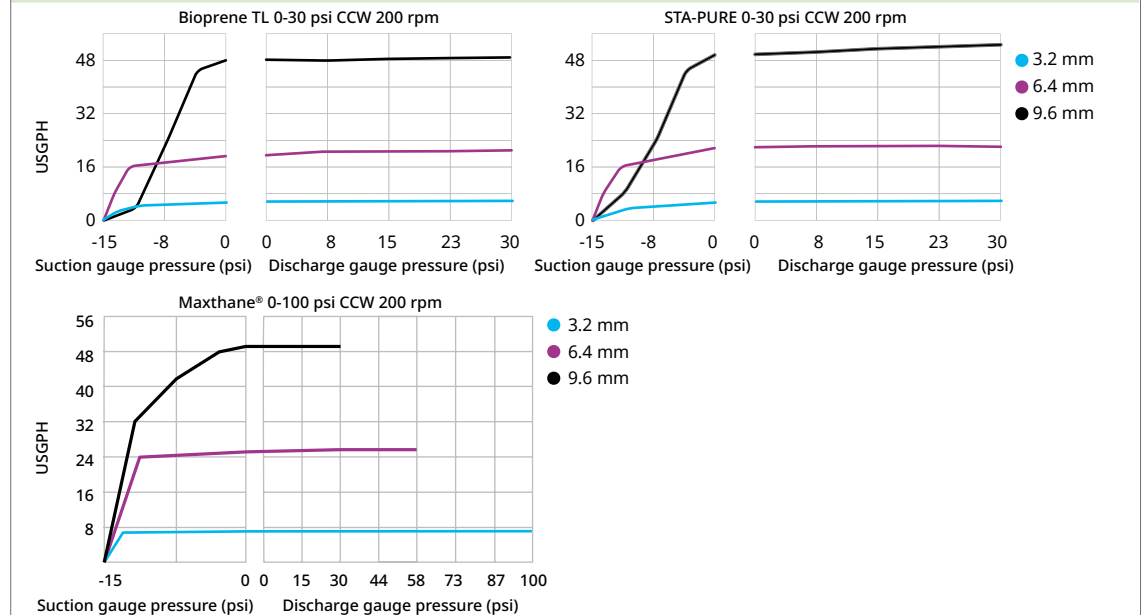
## Tube bore and flow rates (USGPH)

Tube material	Speed	0.5 mm	1.6 mm	3.2 mm	4.8 mm	6.4 mm	8.0 mm
Marprene®, Neoprene	0.1–220 rpm	0.0001–0.15	0.0007–1.5	0.003–6	0.006–13	0.70–1500	1.1–2400

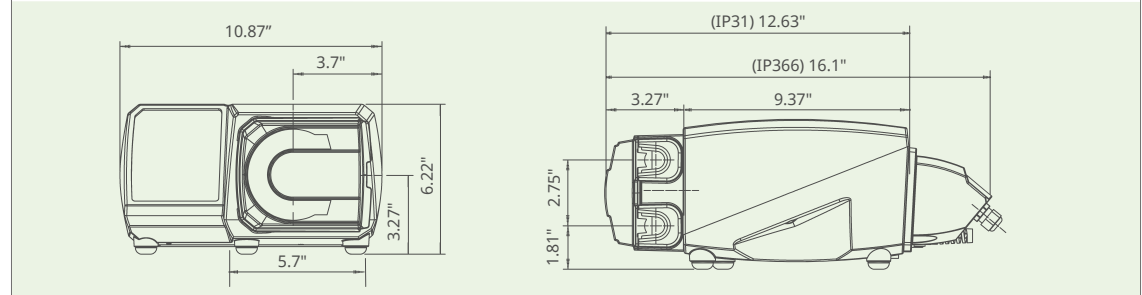


## LoadSure® element tubing flow rates (USGPH)

Tube material	Speed	3.2 mm	6.4 mm	9.6 mm
Marprene®, Neoprene	0.1–220 rpm	0.003–6	0.01–23	0.02–53
Maxthane®	0.1–220 rpm	0.004–8	0.01–25	0.02–46



## Product dimensions



# 520 Pumpheads



## 520R/520R2

Continuous tubing pumpheads for pressures up to 30 psi and flows to 55.48 USGPH



## 520REL/520REM/520REH

LoadSure tube element pumpheads for pressures up to 30, 60 or 100 psi operation



## 313D/314D

Flip top pumpheads for up to six individual channels of flow

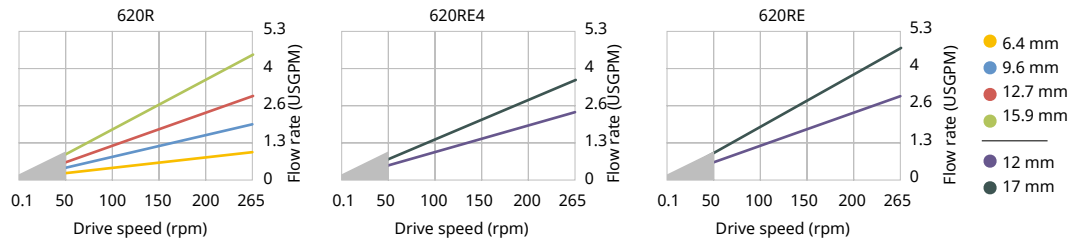
# 630 Technical data



- » Flow rates from 0.0002 to 4.76 USGPM and pressures up to 60 psi
- » Color display and intuitive menu structure
- » IP31 or IP66 cased pumps, manual, remote, analogue or RS485 digital communication, PROFIBUS, PROFINET and EtherNet/IP™
- » Four drive options and two pumpheads for single channel flows
- » Precise 2650:1 speed control range

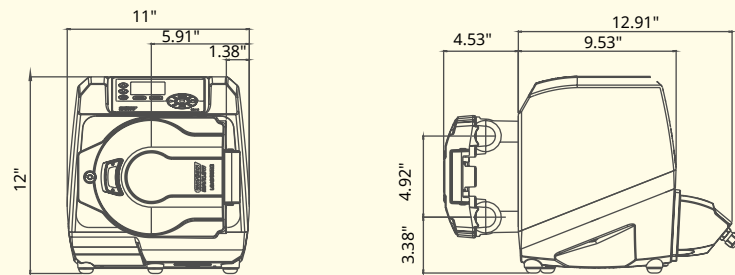
## 620 pumpheads: flow ranges, 0.1-265 rpm. USGPM

Tube Bore (mm #)	6.4, 17	8.0	9.6, 193	12.0	12.7, 88	15.9, 189	16.0	17.0
<b>620R</b> (continuous tubing)	Marpren® TL 0.0003-0.8	-	0.0007-1.8	-	0.001-3	0.002-3.2	-	-
<b>620RE</b> (LoadSure elements, two rollers)	Marpren® TL -	-	-	0.001-3	-	-	-	0.002-4.2
	Marpren® TM -	-	-	0.001-3	-	-	-	0.003-5
<b>620RE4</b> (LoadSure elements, four rollers)	Marpren® TL -	-	-	0.0007-2.2	-	-	-	0.002-3.2
	Marpren® TM -	-	-	0.0007-2.2	-	-	-	0.001-3



● Limited to 30 psi below 50 rpm. Flow rate varies with tube material, discharge pressure, suction and viscosity

## Product dimensions



# 620 Pumpheads



**620R**

Twin sprung roller, continuous tubing pumphead



**620RE / 620RE4**

LoadSure tube element pumpheads with two or four rollers, for one minute maintenance

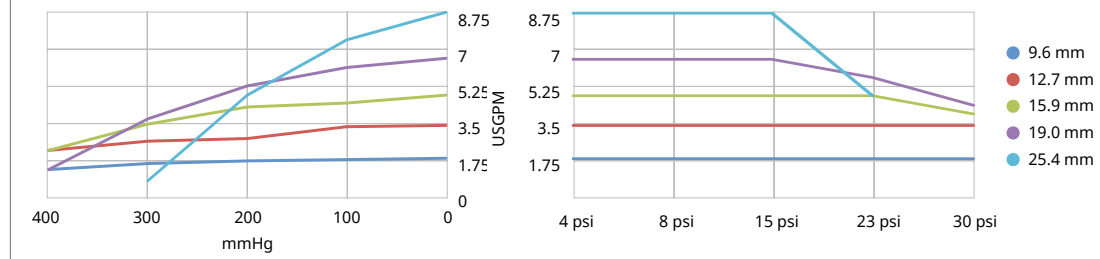
# 730 Technical data



- » Flow rates from 0.0005 to 14.5 USGPM
- » Color display and intuitive menu structure
- » IP66 cased pumps, manual, remote, analogue or RS485 digital communication, PROFIBUS, PROFINET and EtherNet/IP™
- » Four drive options and two pumpheads for single and twin channel flows
- » Precise 3,600:1 speed control range

## 730 cased pumps' performance

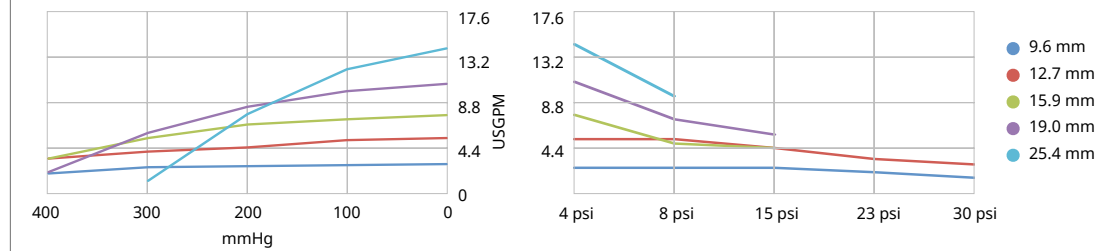
Single pumphead (720R, 720RE)	4 psi		8 psi		15 psi		23 psi		30 psi	
	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow
9.6 mm	360	1.8 USGPM	360	1.8 USGPM	360	1.8 USGPM	360	1.8 USGPM	360	1.8 USGPM
12.7 mm	360	3.5 USGPM	360	3.5 USGPM	360	3.5 USGPM	360	3.5 USGPM	360	3.5 USGPM
15.9 mm	360	4.8 USGPM	360	4.8 USGPM	360	4.8 USGPM	360	4.8 USGPM	300	4 USGPM
19.0 mm	360	6.6 USGPM	360	6.6 USGPM	360	6.6 USGPM	300	5.7 USGPM	250	4.4 USGPM
25.4 mm	360	8.8 USGPM	360	8.8 USGPM	360	8.8 USGPM	200	4.8 USGPM		



Stated performance applies to all tube materials

## 730 cased pumps' performance

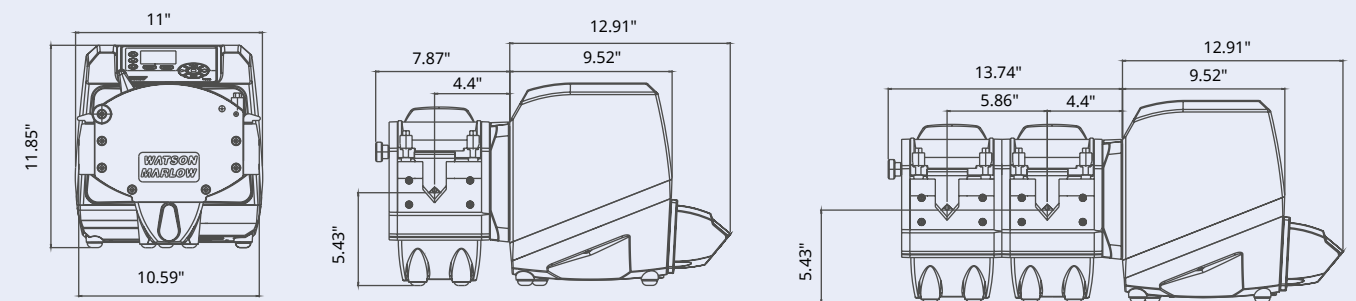
Twin pumphead (720R/RX, 720RE/REX)	4 psi		8 psi		15 psi		23 psi		30 psi	
	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow
9.6 mm	300*	3.1 USGPM	300*	3.1 USGPM	300*	3.1 USGPM	250	2.6 USGPM	200	2.1 USGPM
12.7 mm	300*	5.7 USGPM	300*	5.7 USGPM	250	4.8 USGPM	200	3.8 USGPM	175	3.3 USGPM
15.9 mm	300*	7.9 USGPM	200	5.3 USGPM	175	4.8 USGPM				
19.0 mm	300*	11 USGPM	200	7.5 USGPM	160	6.1 USGPM				
25.4 mm	300*	14.5 USGPM	200	9.7 USGPM						



Stated performance applies to all tube materials

\*The maximum speed is reduced at increased discharge pressures to ensure safe running of the pump

## Product dimensions



# 720 Pumpheads



**720R**

Continuous tubing pumphead, which can be extended to provide two channels of flow



**720RE**

LoadSure tube element pumphead for single or twin channels of flow

## LoadSure® pumpheads guarantee correct tube loading

Watson-Marlow LoadSure technology offers snap-fit one minute maintenance. LoadSure elements offer greater reliability, easy installation and increased productivity.

### 520 LoadSure pumphead



- LoadSure® elements with quick release connectors, in Marprene TL and Neoprene for pressures up to 30 psi in 3.2 mm, 6.4 mm and 9.6 mm bore, Marprene TM for pressures up to 60 psi in 3.2 mm and 6.4 mm bore and Marprene TH up to 100 psi in 3.2 mm bore.
- 100 psi pressures with the 520REH. Flow rates up to 7 USGPH
- 60 psi pressures with the 520REM. Flow rates up to 24 USGPH
- 30 psi pressures with the 520REL. Flow rates up to 55 USGPH
- 100 psi pressures with the 520RET using Maxthane® Loadsure. Flow rates up to 52 USGPH

### 620 LoadSure pumphead



- LoadSure® elements with Cam and Groove connectors available in Marprene TM for 60 psi operation and Neoprene for 30 psi operation
- Two tube element bore sizes of 12 mm and 17 mm
- Highest accuracy and minimal pulsation with the 620RE4's four rollers. Highest flow rates from the 620RE's two rollers
- Flow rates up to 3.5 USGPM, pressures up to 60 psi

### 720 LoadSure pumphead



- LoadSure® elements with Cam and Groove connectors available in Marprene and Neoprene
- Four bore sizes: 12.7 mm, 15.9 mm, 19.0 mm and 25.4 mm
- Flow rates from 720RE pumphead up to 14.5 USGPM flow at up to 30 psi pressure
- 720REX extension pumpheads offer identical performance, but at a maximum pressure of 15 psi

LoadSure elements provide fast and simple tube loading every time



## Pump and tubing have equal importance

It is important to recognize that the pump and tubing combination are selected to match your specific application criteria.

Watson-Marlow is the only company that manufactures both the cased pumps and peristaltic tubing, which is a real advantage for customers that want to be certain that their peristaltic pump will work right first time and every time.



### Maxthane®

The perfect choice for peristaltic dosing and metering applications.

- Compatible with a broad range of chemicals
- LoadSure elements for easy changeover
- International food compliance



### Neoprene

Industrial grade thermoplastic elastomer tubing

- Excellent performance with abrasive slurries
- Good suction and pressure capabilities



### Marprene®

Industrial grade thermoplastic elastomer tubing

- Wide chemical compatibility and long life
- Low gas permeability
- Highly resistant to oxidising agents





## Watson-Marlow Fluid Technology Solutions

Watson-Marlow Fluid Technology Solutions supports its customers locally through an extensive global network of direct sales operations and distributors

[wmfts.com/global](http://wmfts.com/global)

