

**WATSON
MARLOW
Pumps**



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 55 L/min from three product ranges
- Equivalent accuracy and the same methods of control from 530, 630 and 730 pumps



530 flows between 0.004 ml/min to 3.5 L/min
 630 flows between 0.001 to 19 L/min
 730 flows between 0.12 to 3300 L/hr

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



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



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

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

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 flavouring 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.





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 colours, flavours and additives, providing linear flow rates from microlitres through to 55 L/min. 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 0.001 ml/min to 55 L/min 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 7 bar.

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

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

Feature

Manual control

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

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

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

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

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

Software configurable IP31 outputs

Remote pressure/flow sensors

Analogue speed control

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; 0-991 Hz

Digital communication

RS485 network control

RS232 network control

PROFIBUS DP V0

PROFINET

EtherNet/IP

Security

3-level security PIN lock

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

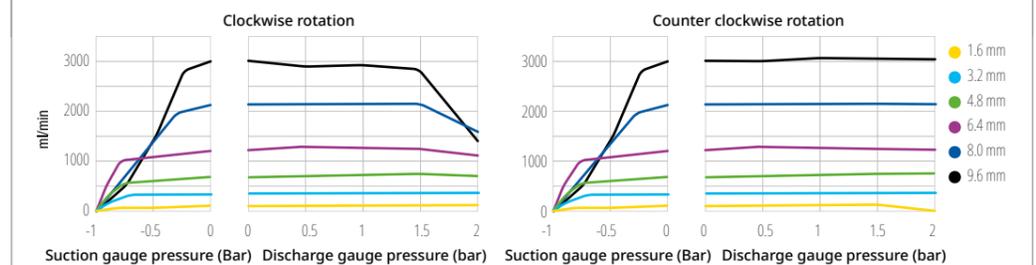
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- » Flow rates from 0.004 ml/min to 3.5 L/min and pressures up to 7 bar
- » Colour display and intuitive menu structure
- » IP31 or IP66 cased pumps, manual, remote, analogue or RS485 digital communication, PROFIBUS, PROFINET and EtherNet/IP™
- » Four drive options and three pumpheads for single and multi-channel flows
- » Precise 2200:1 speed control range

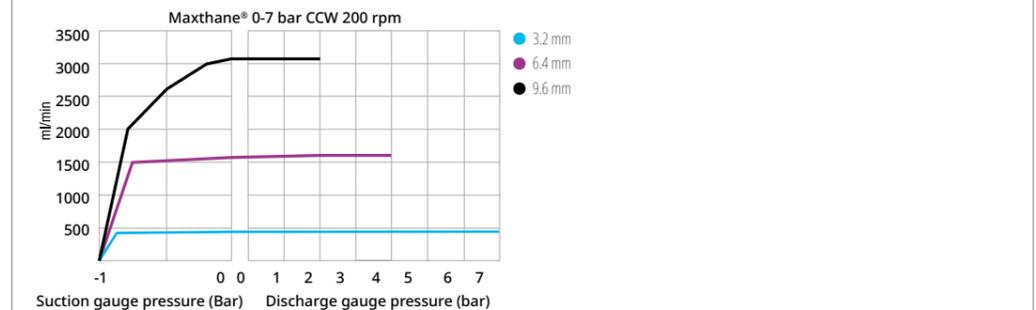
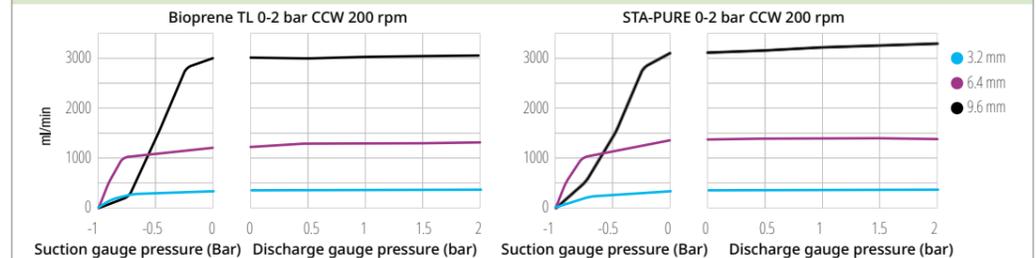
Tube bore and flow rates (ml/min)

Tube material	Speed	0.5 mm	1.6 mm	3.2 mm	4.8 mm	6.4 mm	8.0 mm
Marpren®e, Neoprene	0.1-220 rpm	0.004-9.5	0.04-97	0.18-390	0.40-870	0.70-1500	1.1-2400

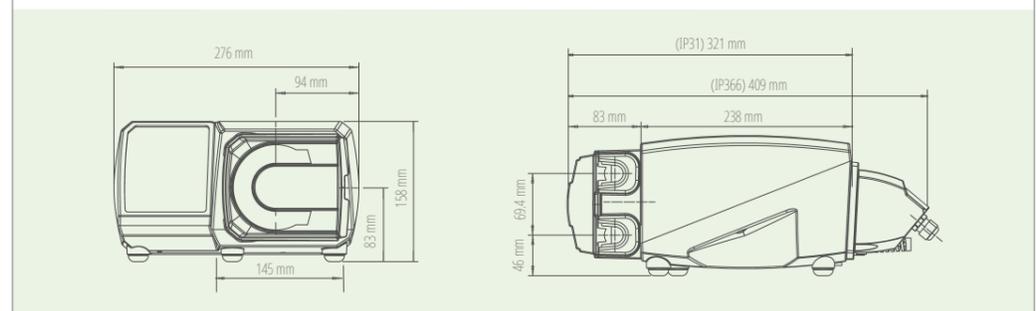


LoadSure® element tubing flow rates (ml/min)

Tube material	Speed	3.2 mm	6.4 mm	9.6 mm
Marpren®e, Neoprene	0.1-220 rpm	0.18-390	0.70-1500	1.6-3500
Maxthane®	0.1-220 rpm	0.24-520	0.75-1600	1.3-2900



Product dimensions



520R/520R2

Continuous tubing pumpheads for pressures up to 2 bar and flows to 3.5 L/min



520REL/520REM/520REH

LoadSure tube element pumpheads for pressures up to 2, 4 or 7 bar operation



313D/314D

Flip top pumpheads for up to six individual channels of flow



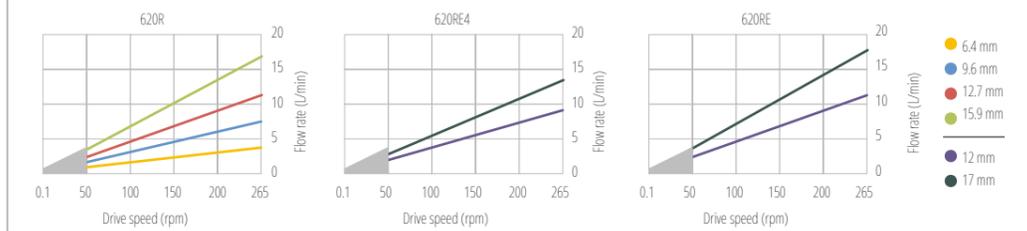
630 Technical data



- » Flow rates from 0.001 to 19 L/min and pressures up to 4 bar
- » Colour 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

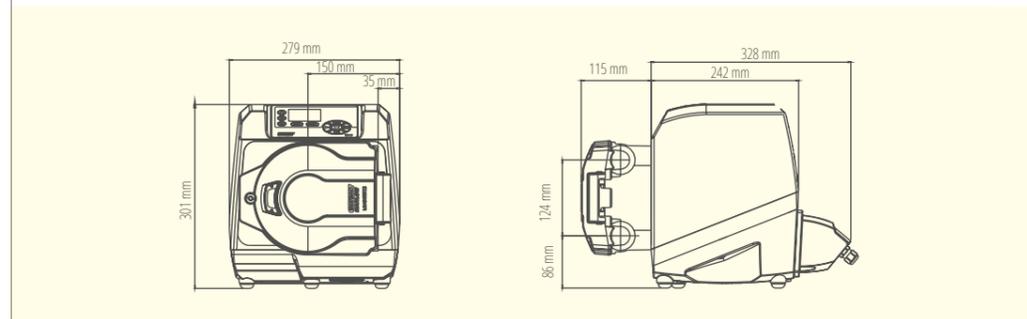
620 pumpheads: flow ranges, 0.1–265 rpm. L/min

Tube Bore (mm) *		6.4, 17	8.0	9.6, 193	12.0	12.7, 88	15.9, 189	16.0	17.0
620R (continuous tubing)	Marprené® TL	0.001–3.4	-	0.003–6.6	-	0.004–11	0.005–12	-	-
620RE (LoadSure elements, two rollers)	Marprené® TL	-	-	-	0.004–11	-	-	-	0.006–16
	Marprené® TM	-	-	-	0.004–11	-	-	-	0.01–19
620RE4 (LoadSure elements, four rollers)	Marprené® TL	-	-	-	0.003–8.3	-	-	-	0.005–12
	Marprené® TM	-	-	-	0.003–8.3	-	-	-	0.004–11



Limited to 2 bar 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

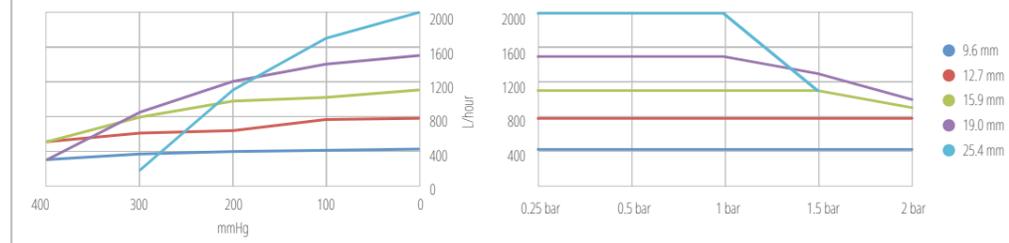
730 Technical data



- » Flow rates from 0.12 to 3300 L/hr
- » Colour 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

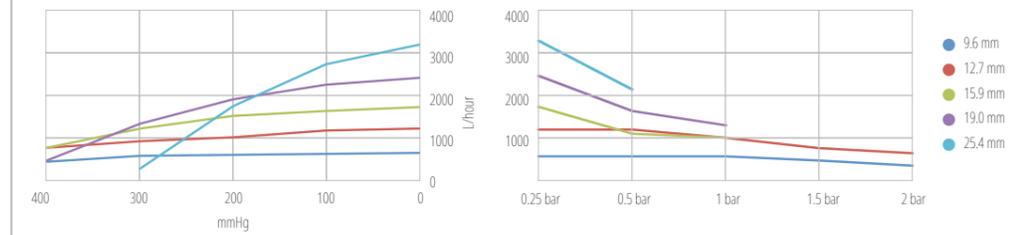
Single pumphead (720R, 720RE)	0.25 bar		0.5 bar		1 bar		1.5 bar		2 bar	
	Max speed (rpm)*	Max flow								
9.6 mm	360	420 L/hr								
12.7 mm	360	780 L/hr								
15.9 mm	360	1100 L/hr	300	900 L/hr						
19.0 mm	360	1500 L/hr	360	1500 L/hr	360	1500 L/hr	300	1300 L/hr	250	1000 L/hr
25.4 mm	360	2000 L/hr	360	2000 L/hr	360	2000 L/hr	200	1100 L/hr	-	-



Stated performance applies to all tube materials

730 cased pumps' performance

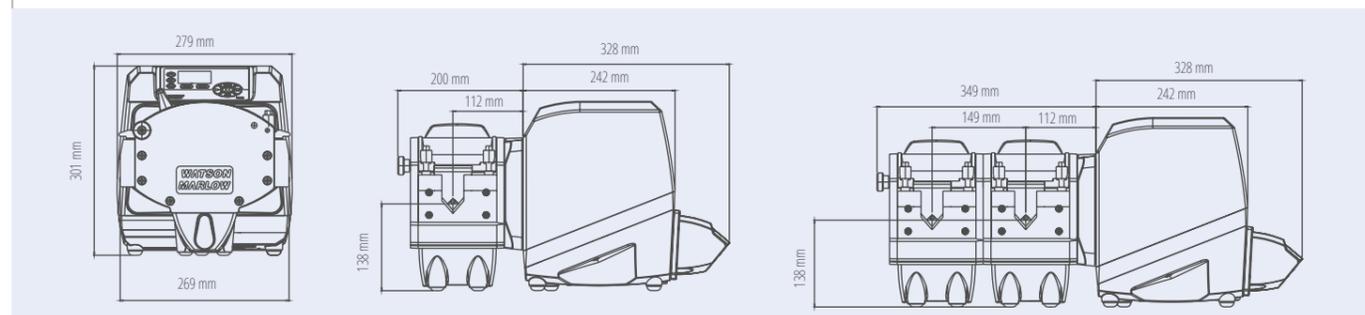
Twin pumphead (720R/RX, 720RE/REX)	0.25 bar		0.5 bar		1 bar		1.5 bar		2 bar	
	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow	Max speed (rpm)*	Max flow
9.6 mm	300*	700 L/hr	300*	700 L/hr	300*	700 L/hr	250	590 L/hr	200	470 L/hr
12.7 mm	300*	1300 L/hr	300*	1300 L/hr	250	1100 L/hr	200	870 L/hr	175	760 L/hr
15.9 mm	300*	1800 L/hr	200	1200 L/hr	175	1100 L/hr	-	-	-	-
19.0 mm	300*	2500 L/hr	200	1700 L/hr	160	1390 L/hr	-	-	-	-
25.4 mm	300*	3300 L/hr	200	2200 L/hr	-	-	-	-	-	-



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



620 LoadSure pumphead



720 LoadSure pumphead



- LoadSure® elements with quick release connectors, in Marprene TL and Neoprene for pressures up to 2 bar in 3.2 mm, 6.4 mm and 9.6 mm bore, Marprene TM for pressures up to 4 bar in 3.2 mm and 6.4 mm bore and Marprene TH up to 7 bar in 3.2 mm bore.
- 7 bar pressures with the 520REH. Flow rates up to 450 ml/min
- 4 bar pressures with the 520REM. Flow rates up to 1500 ml/min
- 2 bar pressures with the 520REL. Flow rates up to 3500 ml/min
- 7 bar pressures with the 520RET using Maxthane® Loadsure. Flow rates up to 3300 ml/min

- LoadSure® elements with Cam and Groove connectors available in Marprene TM for 4 bar operation and Neoprene for 2 bar 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 13 L/min, pressures up to 4 bar

- 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 3,300 L/hr flow at up to 2 bar pressure
- 720REX extension pumpheads offer identical performance, but at a maximum pressure of 1 bar

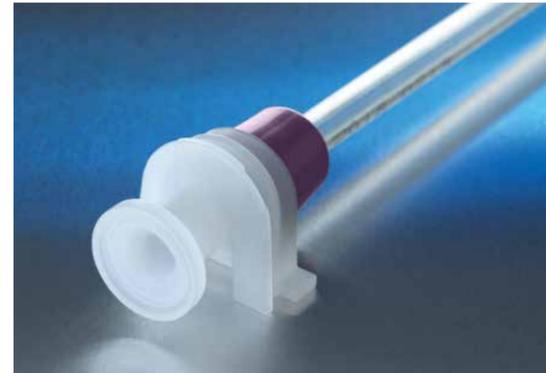
LoadSure elements provide fast and simple tube loading every time



Pump and tubing have equal importance

It is important to recognise 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

