

520 IP66 WASHDOWN PUMPS

NEW

The hot new process technology



IP66 protection

The hot new technology ...

- 59% more flow
- 0.4µl/minute to 3.5 litre/minute
- 2200:1 speed control ratio
- Rugged die cast case
- IP66 NEMA 4X ingress protection
- Maintenance-free drive
- Industrial control options

Peristaltic pumps – tube pumps and hose pumps – are the hot new technology: the world's fastest growing pump type¹. Watson-Marlow are the world leaders in peristaltic pumps making their simplicity, reliability and ease of use accessible to more and more industries.

The new 520 IP66 NEMA 4X pumps meter, dose and transfer process fluids, whether corrosive or delicate, even in the harshest environment. They are robust, chemically resistant, mechanically durable. IP66 NEMA 4X protection makes them hosedown and washdown.

Configurable analogue, remote or RS485 control. Low maintenance; minimal downtime; versatile: that adds up to outstanding economy of ownership. Our three-year guarantee proves we mean it.

¹ Frost & Sullivan studies, North American Positive Displacement Pumps Market for Process Industries: A169-12, 2004, and European Positive Pumps Markets: 3863-12, 2000¹



Chemical

Physically robust and chemically resistant, IP66 NEMA 4X protected, the 520 series industrial pumps are the ideal choice for chemical metering in harsh, humid and corrosive environments.





- **59% increased flow**
- **Watertight to IP66 NEMA 4X**



- **0.1% speed accuracy**
- **2200:1 control ratio**

- **Power** to work 24/7, with 2.2Nm torque available at all times. Class-leading 2200:1 speed turndown. Set speed accuracy of 0.1% and calibration by volume or weight for accurate metering.
- **Control** options: manual, analogue, remote, RS485. Logical to programme, easy to manage. Analogue speed input – scalable for diaphragm pump replacement.
- **Flexibility:** accurate metering of fluids as demanding as sodium hypochlorite (without gas locking), ferric chloride or nitric acid; as delicate as polymers and flavours all with one pump. Comprehensive pumphead and tube options, to match your precise needs.
- **Rugged** enough for every workplace; watertight to IP66 NEMA 4X. Die cast case with polyester coating for accident and corrosion resistance. Main pumphead construction material withstands corrosive chemicals even at high temperatures.
- **Economy:** Brushless DC motor, long pump life, long tube life: minimal downtime, whatever the process. Process security through software protection and alarm outputs – low whole-life cost.

Key industries...

- | | |
|-------------------------------|-------------------|
| Chemical | Pulp and paper |
| Water/waste water treatment | Printing |
| Mining and mineral processing | Food and beverage |



Why peristaltics?

Compared with other positive displacement pumps, peristaltic pumps win on every count. They handle difficult fluids and suspended solids with ease, and provide precision dosing and metering, without gas locking or crystallisation problems. Cleaning and maintenance are quick and easy. They self-prime, can run dry and have no valves or seals to leak, corrode or clog, and the duty fluid is totally contained within the tube. That's why Watson-Marlow Bredel pumps outperform piston, progressive cavity, lobe, gear and diaphragm pumps.

The pumphead that delivers ...

Outstanding performance, minimal downtime and low whole-life cost

That's what the 520R pumphead brings to these pumps. Plus heavy-duty construction for extreme industrial environments.

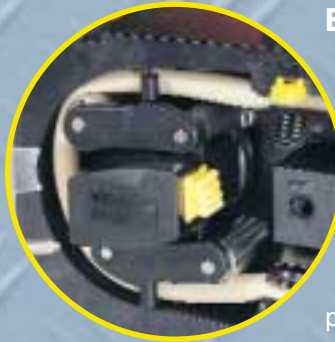
Tube life

Long tube life means economical, trouble-free running. The 520R has low friction sprung rollers and a large diameter track for slow running and long tube life. And that means economical, trouble free pumping: critical for remote chemical metering – water/waste water....



Easy set-up and maintenance

The large rotor hub has a clutch to allow easy tube loading perfect for quick product change over of colours, inks, pigments, flavours....



Changing the tube is the only routine maintenance. Minimum downtime means maximum throughput – and maximum value.

...and there's more

- Match pump to process with eight tubing sizes, in eight materials and two wall thicknesses.
- Unrivalled chemical resistance with PPS (polyphenylene sulfide) and stainless steel.
- Tough, clear, snap-shut safeguard.



Accurate metering of sodium hypochlorite, ferric chloride, polymers and other chemicals is vital for water and waste water treatment. Watson-Marlow Bredel pumps avoid salt settlement, gassing, abrasive wear and clogging.

Waste/water treatment

... for every process

520 IP66 NEMA 4X washdown pumps are available in three models: the 520SN/R2 with manual control; the 520UN/R2 which adds analogue and remote control; and the 520DuN/R2 which adds calibrated flow and RS485 control.

Feature	520DuN/R2	520UN/R2	520SN/R2
Manual control Speed adjustment; run and stop; forward/reverse; "max" key for rapid priming and purging. Keypad lock prevents tampering and accidental change. Auto-restart for mains failure recovery	•	•	•
Remote auto control Digitally controlled with contact closure, 5V TTL or 24V industrial standard logic inputs for: run/stop, direction, auto/manual toggle, liquid detection and MemoDose trigger	•	•	
Analogue control Software calibrated remote speed control (4-20mA) Second analogue or keypad speed scaling	•	•	
Pump status outputs 0-10V or 0-1258Hz analogue pump speed feedback. Four 24V change over relay pump status outputs. 4-20mA pump speed feedback	•	•	
MemoDose Accurate, easy, single-shot dosing	•	•	•
Calibration Simple calibration to display the flowrate as well as the rotation speed		•	•
Password protection Guard against any set-up changes	•	•	
RS485 network control Full industrial standard connectivity for process control through PC, PLC or other plant controller	•		
Comprehensive calibration For precise metering and dispensing choice of flow units	•		

The 520N watertight module gives IP66 NEMA 4X high pressure hose protection. The connector terminals inside are large for easy wiring and clearly marked with every function.



The options



520SN/R2: Just plug in and switch on: ultimate economy of ownership, with manual control, simple, accurate dosing and calibration.



520UN/R2: Keypad or remote control: the process workhorse with status outputs, configurable in software, and password protection.



520DuN/R2: Full industrial connectivity: the ultimate process pump, with RS485, speed scaling and comprehensive calibration.

Our finest, toughest, most versatile pumps ever.

Order information

Pump complete	Specification	Power supply	Product number
520SN/R2 220 rpm	IP66 2.4mm wt tube	115/230V 1ph 50/60 Hz	050.713N.2L0
520SN/R 220 rpm	IP66 1.6mm wt tube	115/230V 1ph 50/60 Hz	050.713N.100
520UN/R2 220 rpm	IP66 2.4mm wt tube	115/230V 1ph 50/60 Hz	050.714N.2L0
520UN/R 220 rpm	IP66 1.6mm wt tube	115/230V 1ph 50/60 Hz	050.714N.100
520DuN/R2 220 rpm	IP66 2.4mm wt tube	115/230V 1ph 50/60 Hz	050.715N.2L0
520DuN/R 220 rpm	IP66 1.6mm wt tube	115/230V 1ph 50/60 Hz	050.715N.100

Drive only	Specification	Power supply	Product number
520SN 220 rpm	IP66	115/230V 1ph 50/60 Hz	056.713N.000
520UN 220 rpm	IP66	115/230V 1ph 50/60 Hz	056.714N.000
520DuN 220 rpm	IP66	115/230V 1ph 50/60 Hz	056.715N.000

Pumphead options	Specification	Product number
505L	Low pulse twin channel pumphead	053.4001.000
505LX	Low pulse twin channel extension pumphead	053.4011.000
505LG	Low pulse twin channel pumphead for STA-PURE tubing	053.4010.00G
313D/A	Three roller pumphead with adapter plate for 500 series cased drives, for 1.6mm wall thickness tubing	033.3401.000
313D2/A	Three roller pumphead with adapter plate for 500 series cased drives, for 2.4mm wall thickness tubing	033.3501.000
314D/A	Four roller pumphead with adapter plate for 500 series cased drives, for 1.6mm wall thickness tubing	033.4401.000
314D2/A	Four roller pumphead with adapter plate for 500 series cased drives, for 2.4mm wall thickness tubing	033.4501.000
313X	Three roller extension pumphead for 1.6mm wall thickness tubing	033.3431.000
314X	Four roller extension pumphead for 1.6mm wall thickness tubing	033.4431.000
313X2	Three roller extension pumphead for 2.4mm wall thickness tubing	033.3531.000
314X2	Four roller extension pumphead for 2.4mm wall thickness tubing	033.4531.000

Tubing

2.4mm wall thickness tubing for 520R2

Tube#	Tube bore	Bioprene	Marprene	Pumpsil*	Sta-Pure	Chem-Sure
105	0.5mm 1/50"			913.A005.024		
108	0.8mm 1/32"			913.A008.024		
119	1.6mm 1/16"	903.0016.024	902.0016.024	913.A016.024	960.0016.024	965.0016.024
120	3.2mm 1/8"	903.0032.024	902.0032.024	913.A032.024	960.0032.024	965.0032.024
15	4.8mm 3/16"	903.0048.024	902.0048.024	913.A048.024	960.0048.024	965.0048.024
24	6.4mm 1/4"	903.0064.024	902.0064.024	913.A064.024	960.0064.024	965.0064.024
121	8.0mm 5/16"	903.0080.024	902.0080.024	913.A080.024	960.0080.024	965.0080.024
122	9.6mm 3/8"	903.0096.024	902.0096.024	913.A096.024	960.0096.024	965.0096.024

1.6mm wall thickness tubing for 520R

Tube#	Tube bore	Bioprene	Marprene	Pumpsil*	Sta-Pure	Chem-Sure
112	0.5mm 1/50"	903.0005.016	902.0005.016	913.A005.016		
13	0.8mm 1/32"	903.0008.016	902.0008.016	913.A008.016		
14	1.6mm 1/16"	903.0016.016	902.0016.016	913.A016.016	960.0016.016	965.0016.016
16	3.2mm 1/8"	903.0032.016	902.0032.016	913.A032.016	960.0032.016	965.0032.016
25	4.8mm 3/16"	903.0048.016	902.0048.016	913.A048.016	960.0048.016	965.0048.016
17	6.4mm 1/4"	903.0064.016	902.0064.016	913.A064.016	960.0064.016	965.0064.016
18	8.0mm 5/16"	903.0080.016	902.0080.016	913.A080.016	960.0080.016	965.0080.016

Tube#	Tube bore	Neoprene	PVC	Fluorel
112	0.5mm 1/50"			970.0005.016
13	0.8mm 1/32"	920.0008.016		970.0008.016
14	1.6mm 1/16"	920.0016.016	950.0016.016	970.0016.016
16	3.2mm 1/8"	920.0032.016	950.0032.016	970.0032.016
25	4.8mm 3/16"	920.0048.016	950.0048.016	970.0048.016
17	6.4mm 1/4"	920.0064.016	950.0064.016	970.0064.016
18	8.0mm 5/16"	920.0080.016	950.0080.016	970.0080.016

* Pumpsil is our own brand of Platinum-cured silicone tubing with LaserTraceability.

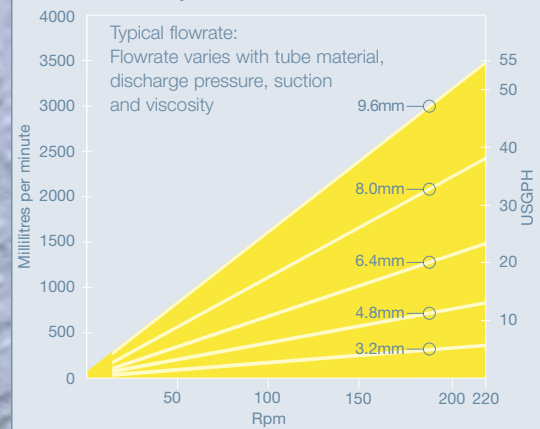
Pumpheads for different tube wall thicknesses are available.

Please contact your Watson-Marlow Bredel Pumps agent/distributor to discuss your requirements



IP66

520 performance





WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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