

521CC INDUSTRIAL PUMPS

NEW

The new standard



Tough chemicals – Tough treatment – the 521 can take it

For aggressive fluids and extreme industrial conditions

For industry – and for extremes

Where the duty is chemically or physically tough, industry needs a pump that can take the punishment – and keep taking it.

The Watson-Marlow Bredel 520RC is the peristaltic pumphead for the task. It is highly resistant to chemical attack and robust enough for the harshest environment. It delivers cost-effective, precise pumping and a long service life. It's also versatile: there are two pumpheads and five industrial drive options.

As a bonus, it's highly competitive to buy and far less costly to own and operate than other positive displacement pumps – low whole life cost.

The 521CC drives range with the 520RC pumphead are the pumps of first choice – the pumps for extreme industrial conditions.

- High-spec engineering plastics and stainless steel defeat acid, alkaline and solvent attack. Corrosion forecast: nil
- Robust enough for the most arduous environment. Clear-view, shatter-proof guard with tool-unlocking latch
- Durable track and rotor: no paint, no surface treatments, no limits.
- Easy to use; easy to manage; easy tube-loading
- Wide flow range: from 0.25ml/minute to 4.6 litres/minute pressure up to 2 bar (peak). Choice of pumpheads, and tubing from 0.5mm bore to 9.6mm bore

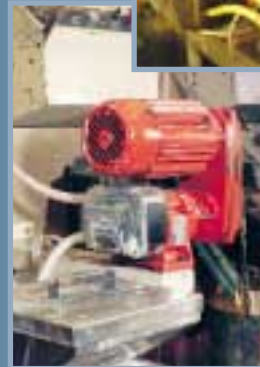
Chemical

Total fluid containment with no seals. High accuracy and reliability



Mining

Accurate metering of reagents and flocculants, even in the toughest environment

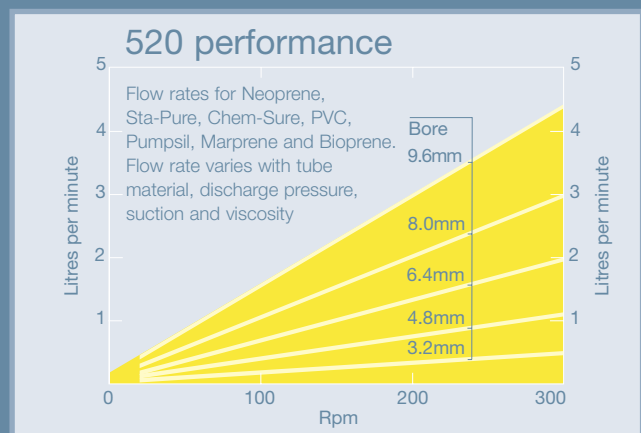


Printing

Low shear, no foaming, no cross-contamination, fast change-over time

Water treatment

Accurate dosing of ferric chloride and sodium hypochlorite with outstanding reliability



The 521CC pumps can take it

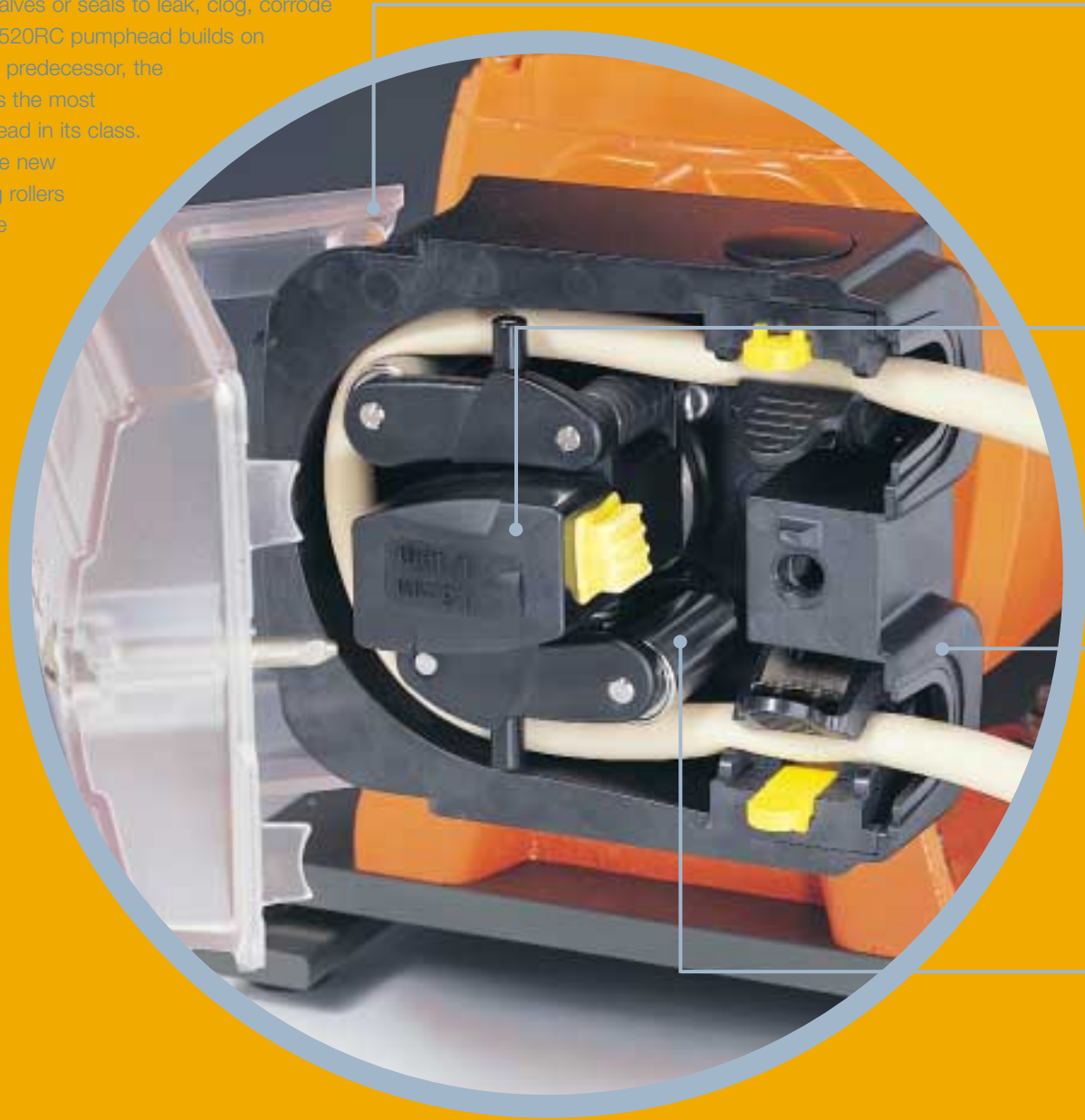
Varmeca:
your premier
drive option



Varmeca: designed for industry

... giving precision and operating benefits

Compared with other positive displacement pumps, peristaltic pumps win on all counts. They handle aggressive and shear-sensitive fluids and suspended solids with ease, and provide precision dosing and metering. Cleaning and maintenance are quick and easy. They self-prime, can run dry, and have no valves or seals to leak, clog, corrode or to replace. The 520RC pumphead builds on the strengths of its predecessor, the 501RL for 25 years the most successful pumphead in its class. Like the 501RL, the new 520RC has sprung rollers for accurate, gentle pumping and long tube life.



Varmeca gives industrial users complete control

The Varmeca drive brings 10:1 speed control, constant torque output and total reliability to the 521's industrial environment – at a very attractive price. With no external wiring and resin-shrouded electronics, humidity and vibration are no threat.

Inverter and motor are sealed to IP55. Internal Viton gearbox seals protect bearings from corrosive chemicals.

Control could not be simpler, with local forward / stop / reverse switching and a large speed control knob calibrated in percentage of maximum speed. Indicator warning lights guard against mechanical and thermal overload.

The drive offers 230V and 400V three-phase power options, plus 110V and 230V single-phase. Fully configurable analogue and digital remote control options include Profibus, InterBus and Device Net.

... based on knowledge of industry's needs

The benefits include...

Tool-unlocking,
impact-resistant
guard

Easy-grip hub and
clutched rotor
for quick, effortless
tube loading

Robust for extreme
industrial conditions

Long-lasting
performance from
large, stainless steel
rollers and bearings



Tube life

Long tube life means economical, trouble-free running. The 520RC includes low-friction rollers; a fixed track gap to ensure optimum tube compression; and spring-loaded roller arms to minimise roller impact.

Easy setup and maintenance

The large rotor hub has a clutch to allow easy loading and avoid tube twist. There's one adjustment: setting the tube clamps to grip large or small tubing. Changing the tube is the only routine maintenance. Minimum downtime means maximum throughput – and maximum value.



Versatility

520RC pumpheads offer rotors for 1.6mm thin wall tubing; and with firmer springs for 2.4mm thick wall tubing up to 9.6mm bore. We offer tubing in eight materials for almost any chemical requirement.

The choices

521F/RC



Compact, energy-efficient IEC motors with three fixed speed options

521I/RC



As the 521F/RC, plus Siemens stand-alone inverter with digital / analogue input option

521DV/RC



Flameproof mechanical belt variator for 5:1 speed reduction, with three speed options

521DF/RC



Flameproof fixed speed pump

521P/RC



Variable speed, pneumatic drive with optional baseplate mounting

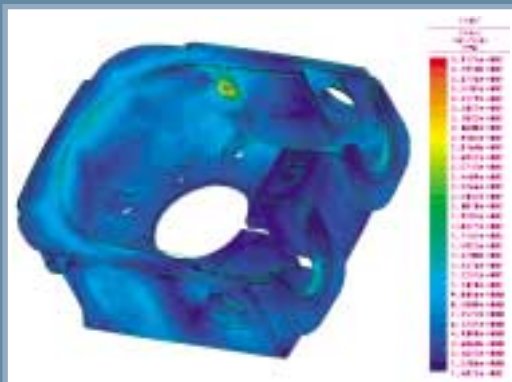
* /R2C

2.4mm wall thickness pumpheads are available with all drives for enhanced performance against suction, pressure and viscosity

... based on in-depth research and development

Construction materials: ▶

The 520RC track, rotor body, and rotor arms are injection moulded from glass and mineral filled linear PPS high performance engineering plastic. PPS (polyphenylene sulfide) offers a unique combination of dimensional stability, impact-resistance and chemical resistance. PPS is flame-resistant and virtually unaffected by corrosive chemicals, even at high temperatures. It out-performs aluminium alloy. Stress analysis on the 520RC track design is seen here. The coloured areas show the greatest load – and where the greatest strength is built in by Watson-Marlow Bredel design engineers.



The rotor: ▼

The 520RC rotor is a complex engineering design. Its objective is to compress tubing sufficiently to hold prime, but no more: if roller load and tube compression exceed what is required, the result will be premature tube failure. The 520RC's solution lies in the design of the rotor's spring-loaded arms and low-friction rollers.

We offer a two-year replacement guarantee on the rotor when fitted to our close-coupled drives.



GUARANTEED



The rollers: ▲

The tube rollers are 316 stainless steel, with low-friction stainless steel bearings and double PTFE seals, which guarantee correct occlusion for the life of the pump and minimise high-speed impact wear.

The finish: ▲

All components that come into contact with the tubing have a special mirror finish to minimise friction and boost tube life.

Resistance is high...

There is no known solvent that will attack the 520RC's main construction material, linear polyphenylene sulfide (PPS), below 200°C (392°F).

Its resistance to hydrocarbons, acids, alkalis, alcohols and glycols is outstanding. Industrial chemicals that PPS handles include toluene, nitric acid, phosphoric acid, acetone, fuel oils and mineral spirits. For details on chemical resistance please contact Watson-Marlow Bredel.

With PPS so well suited to hostile chemical environments, process development engineers can depend upon the 520RC.



The 520RC is proof against chemical assault

United Kingdom
 Telephone +44 (0) 1326 370370
 Fax: +44 (0) 1326 376009
 Email support@watson-marlow.co.uk

Belgium
 Telephone +32 (0) 2 481 60 57
 Fax: +32 (0) 2 481 60 58
 Email info@watson-marlow.be

Brazil
 Telephone +55 11 7925 9153
 Fax: +55 11 7925 9143

China
 Telephone +86 21 6485 4898
 Fax: +86 21 6485 4899
 Email support4china@watson-marlow.co.uk

France
 Telephone +33 (0) 2 37 38 92 03
 Fax: +33 (0) 2 37 38 92 04
 Email info@watson-marlow.fr

Germany
 Telephone +49 (0) 2183 42040
 Fax: +49 (0) 2183 82592
 Email info@watson-marlow.de

Italy
 Telephone +39 030 6871184
 Fax: +39 030 6871352
 Email info@watson-marlow.it

Korea
 Telephone +82 (0) 2 525 5755
 Fax: +82 (0) 2 525 5764
 Email support4k@watson-marlow.co.uk

Malaysia
 Telephone +60 (3) 5635 3323
 Fax: +60 (3) 5635 7717
 Email sales@my.SpiraxSarco.com

Netherlands
 Telephone +31 (0) 10 462 1688
 Fax: +31 (0) 10 462 3486
 Email info@watson-marlow.nl

South Africa
 Telephone +27 11 794 1921
 Fax: +27 11 794 1250
 Email info@wmbpumps.co.za

Sweden
 Telephone +46 8 556 556 00
 Fax: +46 8 556 556 19
 Email info@watson-marlow.nu

United States of America
 Telephone 800 282 8823
 Fax: 978 658 0041
 Email support@wmbpumps.com

www.watson-marlow.com
 Members of the Spirax-Sarco Engineering Group

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HB0173

TIMOTHY GUY DESIGN

Tough chemicals, tough treatment

the 521CC can take it

Order information			
Model	Order code	Speed	Supply
521F/RC	050.8172.100	291rpm	230/400V 50Hz 3 ph 0.18kW IP55 (10:1)*
521F/R2C	050.8172.2L0	291rpm	230/400V 50Hz 3 ph 0.18kW IP55 (10:1)*
521DF/RC	050.8372.100	291rpm	230/400V 50Hz 3 ph 0.18kW IP55
521DF/R2C	050.8372.2L0	291rpm	230/400V 50Hz 3 ph 0.18kW IP55
521DF/RC	050.8672.100	291rpm	230/400V 50Hz 3 ph 0.18kW IP55 (10:1)*
521DF/R2C	050.8672.2L0	291rpm	230/400V 50Hz 3 ph 0.18kW IP55 (10:1)*
521V/RC	050.8572.100	291-29rpm	230V 50Hz 1 ph 0.25kW IP55 10:1
521V/R2C	050.8572.2L0	291-29rpm	230V 50Hz 1 ph 0.25kW IP55 10:1
521VI/RC	050.8872.100	275-27rpm	230V 50Hz 1 ph 0.25kW IP55 10:1
521VI/R2C	050.8872.2L0	275-27rpm	230V 50Hz 1 ph 0.25kW IP55 10:1
521VI/RC	050.8873.100	275-27rpm	110V 50-60Hz 1 ph 0.25kW IP55 10:1
521VI/R2C	050.8873.2L0	275-27rpm	110V 50-60Hz 1 ph 0.25kW IP55 10:1
521DV/RC	050.8972.100	265-53rpm	230/400V 50Hz 3 ph 0.25kW IP55 (Variator enclosure not IP55)
521DV/R2C	050.8972.2L0	265-53rpm	230/400V 50Hz 3 ph 0.25kW IP55 (Variator enclosure not IP55)
521P/RC	050.8252.100	257rpm	Up to equivalent 0.56kW @ 7.0 bar
521P/R2C	050.8252.2L0	257rpm	Up to equivalent 0.56kW @ 7.0 bar
521FX/RC	050.6152.100	206rpm	230/400V 50Hz 3 ph 0.18kW IP55
521FX/R2C	050.6152.2L0	206rpm	230/400V 50Hz 3 ph 0.18kW IP55
521DFX/RC	050.6352.100	206rpm	230/400V 50Hz 3 ph 0.18kW IP55
521DFX/R2C	050.6352.2L0	206rpm	230/400V 50Hz 3 ph 0.18kW IP55
521DFX/RC	050.6652.100	206rpm	230/400V 50Hz 3 ph 0.18kW IP55
521DFX/R2C	050.6652.2L0	206rpm	230/400V 50Hz 3 ph 0.18kW IP55
521IX/RC	050.6552.100	206-21rpm	230V 50Hz 1 ph 0.25kW IP55 10:1
521IX/R2C	050.6552.2L0	206-21rpm	230V 50Hz 1 ph 0.25kW IP55 10:1

*Fixed speed unit suitable for 10:1 reduction with appropriate frequency inverter. Highest speed drives shown only. Lower speeds are available. Please contact your representative.
 /R2C accepts 2.4mm wall tubing for enhanced performance against high suction, discharge pressure and viscosity.

Tubing						
1.6mm wall thickness tubing for /RC						
Tube#	Tube bore	Bioprene	Marprene	Silicone	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
	2.4mm 3/32"		902.0024.016	910.0016.016		
16	3.2mm 1/8"	903.0032.016	902.0032.016	913.A032.016	960.0032.016	965.0032.016
	4.0mm 5/32"		902.0040.016	910.0040.016		
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	Butyl	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	932.0016.016	950.0016.016	970.0016.016	
16	3.2mm 1/8"	920.0032.016	932.0032.016	950.0032.016	970.0032.016	
25	4.8mm 3/16"	920.0048.016	932.0048.016	950.0048.016	970.0048.016	
17	6.4mm 1/4"	920.0064.016	932.0064.016	950.0064.016	970.0064.016	
18	8.0mm 5/16"	920.0080.016	932.0080.016	950.0080.016	970.0080.016	

2.4mm wall thickness tubing for /R2C						
Tube#	Tube bore	Bioprene	Marprene	Silicone	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

Pumpheads for different tube wall thicknesses can be accommodated during factory set-up. Please contact your Watson-Marlow Bredel Pumps agent/distributor to discuss your requirements

call +44 (0) 1326 370 370
 for further information on the 521CC
 close coupled pump range including
 technical data sheets.

or log on to our web site:
www.watson-marlow.com
 to view details on our complete
 peristaltic pump range.

Watson-Marlow Bredel Pumps
 Falmouth Cornwall TR11 4RU
 England

Tel: +44 (0) 1326 370 370

Fax: +44 (0) 1326 376 009

Email: support@watson-marlow.co.uk

Web: www.watson-marlow.com