

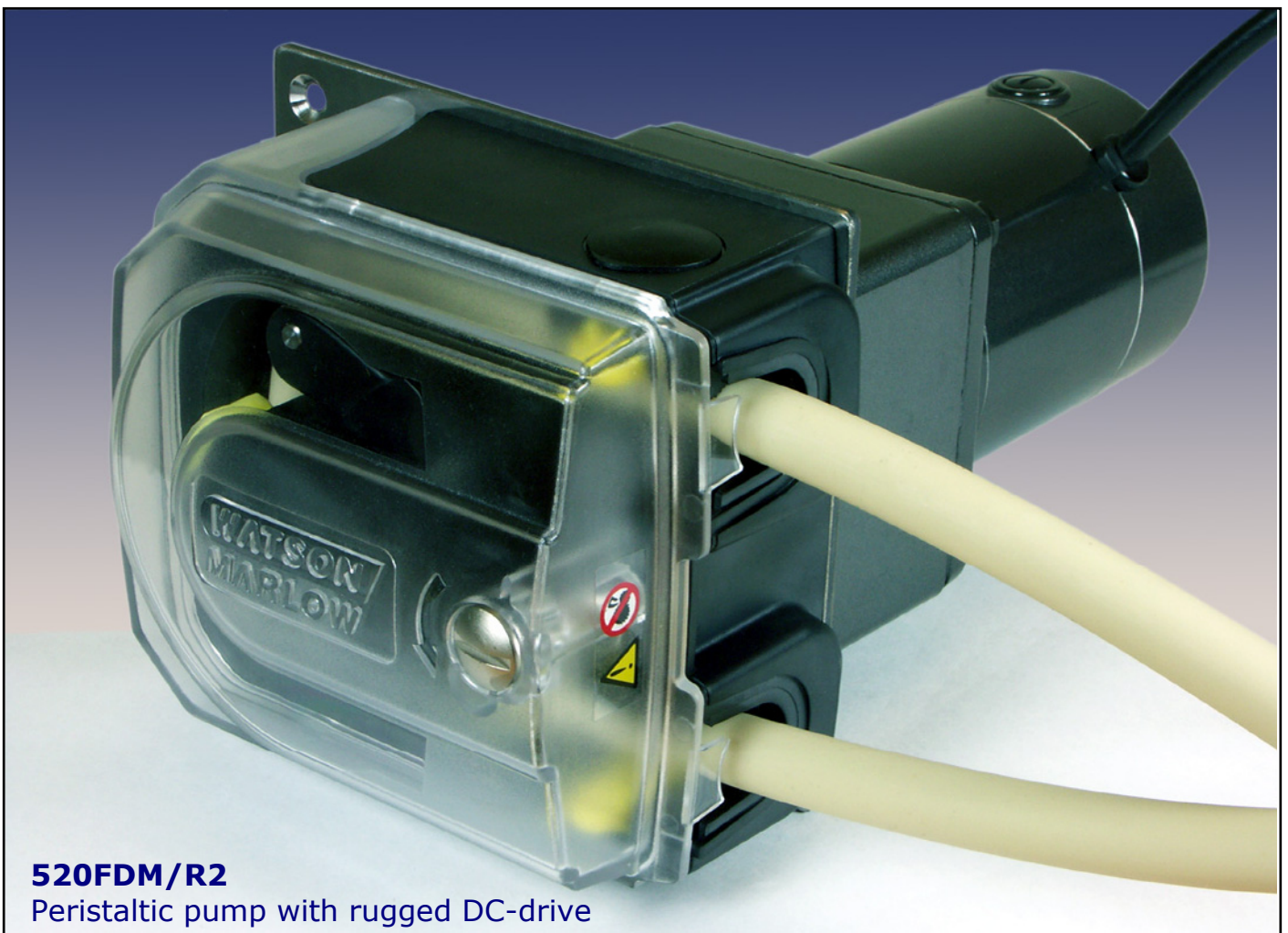
# OEM

**WATSON  
MARLOW  
ALITEA**

## **520 FAM, 520 FDM and 520 VBM Heavy duty AC and DC OEM-pumps**

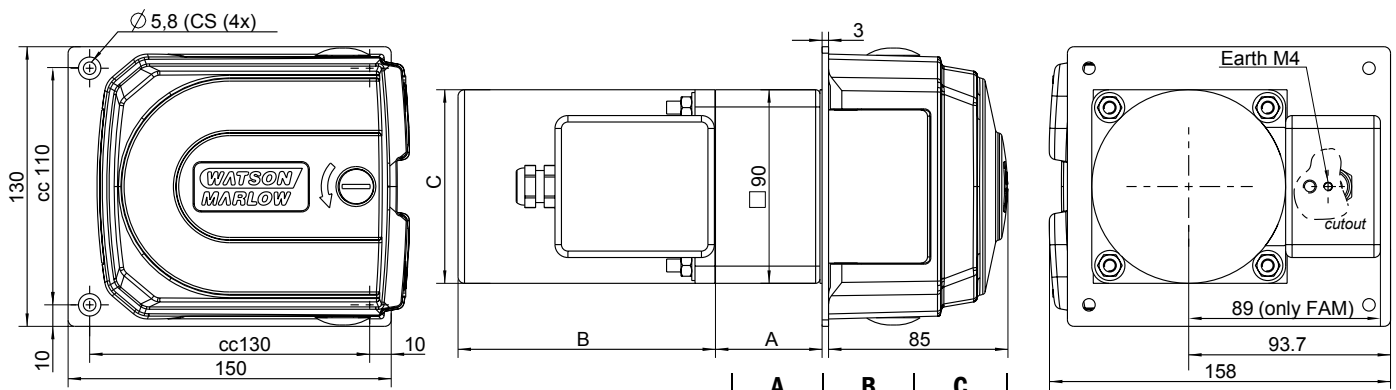
### Technical information and features

- Rugged peristaltic pumps for industrial applications
- IP 54 (520 FAM and 520 VBM)
- Complete range of drives; AC, DC and Brushless DC
- Heavy duty spur gearbox with ball bearings
- Outstanding performance high flow pumphead
- Spring-loaded stainless steel rollers with ball bearings provide gentle pumping and long tube life
- Stainless steel face plate
- Flow rates up to 300 litres/hour



**520FDM/R2**

Peristaltic pump with rugged DC-drive



	A	B	C
FAM 37 and 42 rpm	68	100	Ø90
FAM 75, 85, 145, 290 rpm	50	100	Ø90
FDM 45 rpm	68	110	Ø80
FDM 90, 175, 230 rpm	50	110	Ø80
VBM 100 rpm	63	60	Ø70
VBM 190, 360 rpm	45	60	Ø70

All dimensions in millimetres

## Motor descriptions

### FAM AC-drive

- 1 Phase, 4 pole induction motor.
- 220-230 VAC
- Power: 40W
- Nominal speed: 1450 pm@50Hz, 1750 rpm@60Hz
- Reversible
- With terminal box for easy and secure installation
- Capacitor included (inside term. box)
- Working temperature: -10 to +40 °C
- Protection class: IP54
- 110-115 VAC
- Power: 20W
- Nominal speed: 1400 pm@50Hz, 1700 rpm@60Hz

### FDM DC-drive

- Carbon brush DC motor.
- 12 or 24 VDC
- Power: 30 W
- Motor speed (nominal): 1750 rpm
- Reversible
- Speed can be adjusted by altering the input voltage
- Replaceable brushes (normal life 2500 to 4000 h)
- Cable length 300 mm
- Working temperature: -10 to +45 °C
- Protection class: IP41

### VBM Brushless DC-drive

- Brushless variable speed motor
- 24 VDC
- Power: 35 W
- Built in controller for speed regulation via external 0-4 V signal (10-100%)
- Motor max speed: 4000 rpm
- Reversible
- No brushes yields an extremely long life with no maintenance required
- Frequency (36 ppr) tacho output
- Working temperature: -10 to +45 °C
- Protection class: IP54

### Special note for the FAM drive:

- The drives are delivered with a capacitor optimised for most applications. By altering the capacitor value one can achieve:
1. Increased starting torque in high torque applications
  2. Reduced heat in long life continuous running applications

## 520 Pumphead: Outstanding performance, minimal downtime and low whole-life cost

Spring-loaded roller arms and large, low-friction 316 stainless steel rollers provide gentle, high-flow pumping for shear-sensitive fluids. On top of that, low running speed from the high swept volume extends tube life – offering secure and predictable long-term operation. For 2.4 mm wall tubing.

- Unrivalled chemical resistance with PPS (polyphenylene sulfide) and stainless steel
- Tough, clear, snap-shut safeguard

### 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.



## Flow Rates Marprene tubing 2.4mm (3/32") wall, zero pressure and no suction height

ml/min with tubing dimension:		0.5mm	0.8mm	1.6mm	3.2mm	4.8mm	6.4mm	8.0mm	9.6mm
<b>FAM 50Hz</b>	37 rpm	1,5	3,9	15	62	140	250	390	550
	75 rpm	3,1	7,8	31	130	280	510	780	1120
	145 rpm	5,9	15	61	240	550	990	1520	2170
	290 rpm	12	30	120	490	1090	1980	3030	4350
<b>FAM 60Hz</b>	42 rpm	1,7	4,4	18	70	160	290	440	630
	85 rpm	3,5	8,8	35	140	320	580	890	1270
	170 rpm	7,0	17,5	71	280	640	1160	1780	2550
<b>FDM 12/24VDC</b>	45 rpm	1,8	4,7	19	76	170	310	470	670
	90 rpm	3,7	9,4	38	150	340	610	940	1350
	175 rpm	7,2	18	73	290	660	1190	1830	2620
	230 rpm	9,4	24	96	390	870	1570	2400	3450
<b>VBM 24VDC</b>	100 rpm	4,1	10,5	42	170	380	680	1040	1500
	190 rpm	7,8	20	79	320	720	1295	1980	2850
	360 rpm	15	38	150	600	1360	2450	3760*	5400*

For Pumpsil-, Tygon-, Sta-Pure-, Chem-Sure- and Neoprene-flowrates, add 5% to the above figures.  
For pressure performance see pumphead data sheet.

## Product codes

520 FAM		
Supply voltage	Speed	520FAM/R2
230VAC, 50Hz	37	040.AG22.210
115VAC, 60Hz	42	040.EH22.210
230VAC, 50Hz	75	040.AN22.210
115VAC, 60Hz	85	040.EP22.210
230VAC, 50Hz	145	040.AQ22.210
115VAC, 60Hz	170	040.ER22.210
230VAC, 50Hz	290	040.AU22.210

520 FDM		
Supply voltage	Speed	520FDM/R2
12VDC	45	040.CH22.210
24VDC	45	040.DH22.210
12VDC	90	040.CP22.210
24VDC	90	040.DP22.210
12VDC	175	040.CR22.210
24VDC	175	040.DR22.210
12VDC	230	040.CT22.210
24VDC	230	040.DT22.210

520 VBM		
Supply voltage	Speed	520VBM/R2
24VDC	100	040.NP22.210
24VDC	190	040.NS22.210
24VDC	360*	040.NV22.210

\* 360rpm drive not for high torque applications (max 0.7Nm)  
Max 6.4mm Marprene, no backpressure

Alternative pumpheads available for all pumps:

- **520 R** for 1.6mm wall tubing
- **LoadSure® Element pumpheads**
- **520REL** for up to 2 bar (30psi) pressure
- **520REM** for up to 4 bar (60psi) pressure
- **520REH** for up to 7 bar (100psi) pressure

## Customised Solutions

If you don't find exactly what you are looking for in this data sheet a customised product could be the solution.

The drives can be supplied with alternative gear ratios and other motors such as variable speed AC and fan-cooled AC. The pumphead can be fitted on a customised face plate and more.



**520 Pumphead** Stainless steel rollers with ball bearings for long pump life.

Please contact your Watson-Marlow sales office for price and lead time

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