

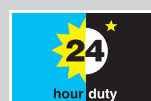
# 205S/CA and 205U/CA manual/ auto control multi-channel cassette pump

# 200<sup>series</sup>

Watson-Marlow Pumps

## FEATURES AND BENEFITS

- Flow rates from 0.6 microlitres to 22 ml/min
- Analogue speed control, 0V or TTL remote control, tacho speed output and keypad manual control.
- Membrane keypad with controls for power, speed, direction, priming and standby
- Flow adjustment via 19 tube sizes and drive speed from 0.5rpm to 90rpm
- Precision cassettes with lockable 30 turn occlusion scale for fine tuning of flows
- 4, 8, 12 and 16 channel pumpheads, can be extended up to 32 channels
- Eight driven rollers on planetary gear drive for ultra low pulsation



*Watson-Marlow...Innovation in Full Flow*

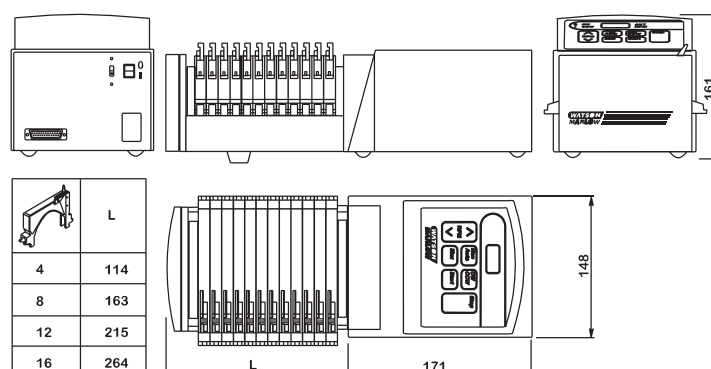
## TECHNICAL DATA

Pump drives	205S/CA	205U/CA
<b>Manual control</b>		
Simple calibration to display flow in ml/min	•	•
Choice of flowrate or speed display	•	•
<b>Remote control</b>		
Run/stop, direction change, run/stop output		•
<b>Analogue control</b>		
Programmable analogue signal up to 30V or 32mA		•
Tacho frequency speed output: 0-5V		•
<b>Security</b>		
Keypad lock to protect set-up	•	•

## PERFORMANCE

Flow rate ranges (ml/min)										
Tube code	Orange/Black	Orange/Red	Orange/Blue	Orange/Green	Orange/Yellow	Orange/White	Black/Black	Orange/Orange	White/White	Red/Red
Bore mm	0.13	0.19	0.25	0.38	0.5	0.63	0.76	0.88	1.02	1.14
0.5rpm	0.0006	0.0009	0.0013	0.0036	0.0056	0.0083	0.011	0.016	0.021	0.026
90rpm	0.099	0.15	0.23	0.65	1.01	1.49	2.02	2.92	3.76	4.68
Tube code	Grey/Grey	Yellow/Yellow	Yellow/Blue	Blue/Blue	Green/Green	Purple/Purple	Purple/Black	Purple/Orange	Purple/White	
Bore mm	1.29	1.42	1.52	1.65	1.85	2.05	2.29	2.54	2.79	
0.5rpm	0.033	0.04	0.043	0.051	0.063	0.076	0.092	0.11	0.12	
90rpm	5.94	7.2	7.69	9.12	11.3	13.8	16.5	19.3	22	

## DIMENSIONS



All measurements in mm.

## TECHNICAL SPECIFICATION

## MATERIALS OF CONSTRUCTION

Weight	205S/CA4 6.4kg 205S/CA8 7.5kg 205S/CA12 8.7kg 205S/CA16 9.9kg 205CA4 2.4kg 205S 4.0kg 205CA8 3.5kg 205CA12 4.7kg 205CA16 5.9kg 205CAX12 4.7kg 205CAX16 5.9kg	205U/CA4 6.5kg 205U/CA8 7.6kg 205U/CA12 8.8kg 205U/CA16 10.0kg 205U 4.1kg 205CA4 2.4kg 205CA8 3.5kg 205CA12 4.7kg 205CA16 5.9kg 205CAX12 4.7kg 205CAX16 5.9kg
Operational temperature range	5C to 40C	
Supply	1ph, 100-120V, 200-240V 50/60Hz, 60VA	
Control ratio	180:1	
Standards	CE, BS EN 50082-1, BS EN 61010-1, BS EN (IP31)	

Component	Material
Drive external	Aluminium case upper, painted steel base, polyester keypad
Cassette	Verton* body, Kematal track and leg (standard) Verton body/PVDF track and leg (optional) Stainless steel pins
Pumphead body	Aluminium chassis, brass sun gear, Acetal planetary gear
Rotor	Stainless steel rollers, aluminium end plates
Guard	Verton gear guards and end cover

\* Verton is a glass filled polypropylene with excellent chemical resistance

## ORDER INFORMATION

Pump and pumphead product codes	
Description	Partcode
205S/CA4 205S + 4 channel CA pumphead	020.3704.000*
205S/CA8 205S + 8 channel CA pumphead	020.3708.000*
205S/CA12 205S + 12 channel CA pumphead	020.3712.000*
205S/CA16 205S + 16 channel CA pumphead	020.3716.000*
205S 205 manual control drive only	026.3001.000*
205CA4 4 channel CA pumphead	023.1101.000
205CA8 8 channel CA pumphead	023.1201.000
205CA12 12 channel CA pumphead	023.1301.000
205CA16 16 channel CA pumphead	023.1401.000
205CAX12 12 channel extension CA pumphead	053.3442.000
205CAX16 16 channel extension CA pumphead	053.3462.000
205U/CA4 205U + 4 channel CA pumphead	020.5704.000*
205U/CA8 205U + 8 channel CA pumphead	020.5708.000*
205U/CA12 205U + 12 channel CA pumphead	020.5712.000*
205U/CA16 205U + 16 channel CA pumphead	020.5716.000*
205U 205 auto control drive only	026.5001.000*
205CA4 4 channel CA pumphead	023.1101.000
205CA8 8 channel CA pumphead	023.1201.000
205CA12 12 channel CA pumphead	023.1301.000
205CA16 16 channel CA pumphead	023.1401.000
205CAX12 12 channel extension CA pumphead	053.3442.000
205CAX16 16 channel extension CA pumphead	053.3462.000

\* Supplied as 2.4 metre mains lead without plug. To specify American, European, United Kingdom, Australian, Argentinian or Swiss 2.8m mains lead please specify A, E, U, K, R or C respectively. Replace the last zero with the mains lead code. For example - 060.7131.10A is a 620S/R pump with American mains lead.

Tube ordering codes							
Manifold pump tubing for 205CA							
Colour code	Tube	Marprene	Autoclavable Marprene	PVC	Silicone	Solvent-resistant	Acid-resistant
Orange/black	0.13			980.0013.000		984.0013.000	
Orange/red	0.19			980.0019.000		984.0019.000	
Orange/blue	0.25	978.0025.000	978.0025.00+	980.0025.000		984.0025.000	
Orange/green	0.38	978.0038.000	978.0038.00+	980.0038.000		984.0038.000	
Orange/yellow	0.5	978.0050.000	978.0050.00+	980.0050.000		984.0050.000	986.0050.000
Orange/white	0.63	978.0063.000	978.0063.00+	980.0063.000	982.0063.000	984.0063.000	986.0063.000
Black/black	0.76	978.0076.000	978.0076.00+	980.0076.000	982.0076.000	984.0076.000	986.0076.000
Orange/orange	0.88	978.0088.000	978.0088.00+	980.0088.000	982.0088.000	984.0088.000	986.0088.000
White/white	1.02	978.0102.000	978.0102.00+	980.0102.000	982.0102.000	984.0102.000	986.0102.000
Red/red	1.14	978.0114.000	978.0114.00+	980.0114.000	982.0114.000	984.0114.000	986.0114.000
Grey/grey	1.29	978.0129.000	978.0129.00+	980.0129.000	982.0129.000	984.0129.000	986.0129.000
Yellow/yellow	1.42	978.0142.000	978.0142.00+	980.0142.000	982.0142.000	984.0142.000	986.0142.000
Yellow/blue	1.52	978.0152.000	978.0152.00+	980.0152.000	982.0152.000	984.0152.000	986.0152.000
Blue/blue	1.65	978.0165.000	978.0165.00+	980.0165.000	982.0165.000	984.0165.000	986.0165.000
Green/green	1.85	978.0185.000	978.0185.00+	980.0185.000	982.0185.000	984.0185.000	986.0185.000
Purple/purple	2.05	978.0205.000	978.0205.00+	980.0205.000	982.0205.000	984.0205.000	986.0205.000
Purple/black	2.29	978.0229.000	978.0229.00+	980.0229.000	982.0229.000	984.0229.000	986.0229.000
Purple/orange	2.54	978.0254.000	978.0254.00+	980.0254.000	982.0254.000	984.0254.000	986.0254.000
Purple/white	2.79	978.0279.000	978.0279.00+	980.0279.000	982.0279.000	984.0279.000	986.0279.000

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. Watson-Marlow, Bioprene and Marprene are trademarks of Watson-Marlow Limited. Disclaimer: The information contained in this document is believed to be correct but Watson-Marlow Limited accepts no liability for any errors it contains, and reserves the right to alter specifications without notice. LoadSure is a trademark of Watson-Marlow Limited. © STA-PURE PFL and © STA-PURE PCS are registered trademarks of W.L Gore & Associates Inc. Please state the product code when ordering pumps and tubing.

**WATSON  
MARLOW  
Pumps**

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