

400FDC/R1, 400VDL/R1

400 series

Watson-Marlow Pumps

FEATURES AND BENEFITS

- Robust precision instrument quality pump
- Accepts continuous tube in seven standard sizes
- Spring loaded fully adjustable track for adaptability to various pressure conditions and maximising tube life
- Wide range of gear motors available
- Extremely precise in flow control in a flexible design
- Flow rates up to 1000 ml/min



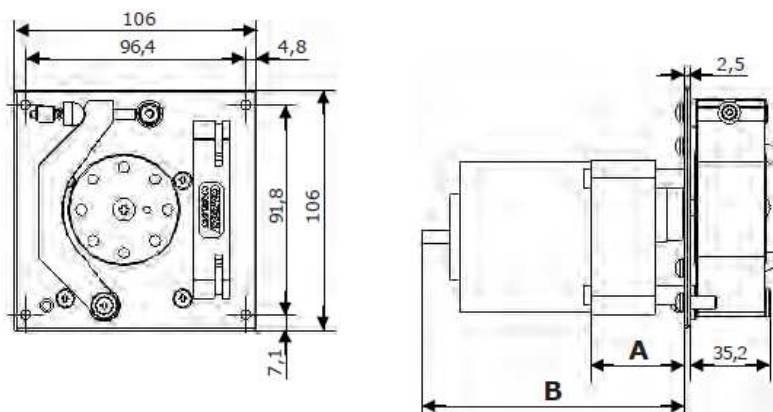
Watson-Marlow... Innovation in Full Flow

PERFORMANCE

Tube Bore (mm)	Speed (rpm)						
	12	25	30	60	100	200	350
0.8	0.66	1.38	1.65	3.3	5.5	11	19
1.6	2.6	5.5	6.6	13	22	44	77
2.4	5.9	12	15	29	49	98	172
3.2	10	21	26	51	85	170	298
4	16	33	39	79	131	262	459
4.8	22	46	55	110	184	367	642
6.4	36	76	90	180	300	600	1060

Custom options
Pumphead
Eight rollers for lower pulsation
Custom occlusion setting
Other materials
Custom mounting panel
Drives
Alternative speeds
12VDC 400FDC
Other drive options
400SCB/534 speed control board
Encoder

DIMENSIONS



Motor type	400FDC 30W	400FDC 5W	400VDL 35W
A	L=41,3mm x Ø68,0mm	L=41,3mm x Ø68,0mm	L=41,3mm x Ø68,0mm
B	L=115,2mm* x Ø68,0mm	L=93,4mm* x Ø68,0mm	L=103,4mm* x Ø68,0mm

*= maximum length behind mounting plate

All dimensions in mm

TECHNICAL SPECIFICATION

	400FDC, 5W	400FDC, 30W	400VDL
Recommended use	Continuous or intermittent	Continuous or intermittent	Continuous or intermittent
Operation	CW and CCW	CW and CCW	CW and CCW
Approximate motor life	Up to 5000 hrs	Up to 10000 hrs	Up to 20000 hrs (the limitation is typically the gearbox)
Supply voltage	24-30VDC	24-30VDC	24 VDC
Power consumption	5W	30W	35W
Brushes	Silver palladium precious metal	Carbon	None - brushless drive
Speed control	PWM or voltage control	PWM or voltage control	Built-in controlled via external 0-4V signal
Gearbox	Spur; 50:1, 125:1, 250:1	Spur; 10:1, 20:1	Spur; 10:1, 37.5:1
Operating temperature	-10 to +45C	-10 to +45C	-10 to +45C
Weight	1.46kg	1.46kg	1.56kg

MATERIALS OF CONSTRUCTION

Component	Material
Rotor	Aluminium
Rollers	Acid resistant stainless steel
Roller bearings	Carbon steel
Track	Aluminium
Tube holder	Acetal (black)
Shafts	Acid resistant stainless steel
Mounting panel	Anodised aluminium
Springs	Acid resistant stainless steel
Screws	Acid resistant stainless steel

ORDER INFORMATION

Product codes			
Motor type	Voltage	Speed rpm	Product code
Standard DC 30W	24-30VDC	200rpm	040.LS1R.01S
Standard DC 30W	24-30VDC	100rpm	040.LP1R.01S
Standard DC 5W	24-30VDC	60rpm	040.EM1R.01S
Standard DC 5W	24-30VDC	25rpm	040.EC1R.01S
Standard DC 5W	24-30VDC	12rpm	040.E81R.01S
Brushless DC 35W	24VDC	350rpm	040.NU1R.01S
Brushless DC 35W	24VDC	100rpm	040.NP1R.01S
Brushless DC 35W	24VDC	30rpm	040.NE1R.01S

Tube ordering codes					
Bore/wall	Pumpsil	Marprene	Bioprene	STA-PURE-PFL	PVC
0.5/1.6mm	913.A005.016	902.0005.016	933.0005.016		
0.8/1.6mm	913.A008.016	902.0008.016	933.0008.016		
1.6/1.6mm	913.A016.016	902.0016.016	933.0016.016	965.0016.016	E3603.016.16
2.4/1.6mm	913.A024.016	902.0024.016	933.0024.016		
3.2/1.6mm	913.A032.016	902.0032.016	933.0032.016	965.0032.016	E3603.032.16
4.0/1.6mm		902.0040.016	933.0040.016		E3603.040.16
4.8/1.6mm	913.A048.016	902.0048.016	933.0048.016	965.0048.016	E3603.048.16
Bore/wall	Neoprene	STA-PURE PCS			
0.5/1.6mm					
0.8/1.6mm	920.0008.016				
1.6/1.6mm	920.0016.016	960.0016.016			
2.4/1.6mm					
3.2/1.6mm	920.0032.016	960.0032.016			
4.0/1.6mm					
4.8/1.6mm	920.0048.016	960.0048.016			

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
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Pumps**