

400FDC/D3, 400FD/D3, 400FDL/D3

400 series Watson-Marlow Pumps

FEATURES AND BENEFITS

- Compact instrument three channel quality pump
- Spring loaded fully adjustable track for adaptability to various pressure conditions and maximising tube life
- Tube elements for easy tube change and optimal tube performance
- Wide range of gear motors available
- Flow rates up to 82 ml/min



Watson-Marlow...Innovation in Full Flow

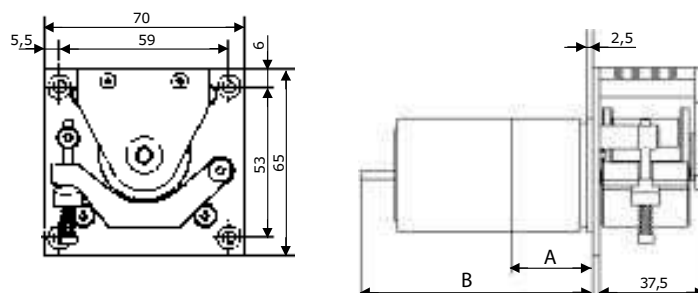
PERFORMANCE

Flow rates (ml/min) Tubing 1.6mm wall

Tube bore (mm)	Speed (rpm)													
	4	5	10	12	15	20	25	40	50	75	100	130	200	250
0.5	0.05	0.07	0.13	0.16	0.2	0.26	0.33	0.52	0.65	1.0	1.3	1.7	2.6	3.3
1.0	0.2	0.25	0.5	0.6	0.75	1.0	1.3	2.0	2.5	3.8	5.0	6.5	10	12
2.0	0.72	0.9	1.8	2.2	2.7	3.6	4.5	7.2	9.0	13	18	23	36	45
3.0	1.3	1.7	3.3	4.0	5.0	6.6	8.3	12.7	16	25	33	43	66	82

Custom Options	
Pumpheads	Drives
Custom occlusion setting	Alternative speeds
Other materials	Several drive options
Custom mounting panel	400SCB/534 speed control board (for 400FDC)
Custom colours	Encoder
Individual tracks	12VDC 400FDC
3 channel version	

DIMENSIONS



Motor Type	400FDC/D3 5W	400FD/D3 5W	400FDL/D3 5W
Dimensions A	L=26.5mm x Ø39.6mm	L=26.5mm x Ø39.6mm	L=26.5mm x Ø39.6mm
Dimensions B	L=87.3mm* x Ø39.6mm	L=81.0mm* x Ø39.6mm	L=77.0mm* x Ø39.6mm

*=maximum length behind mounting plate

TECHNICAL SPECIFICATION

Specifications	400/D3
Pumptype	Three channel peristaltic pump
Tubing	1.0mm wall, for tube elements

Specification	400FDC	400FD	400FDL
Recommended use	Continuous or intermittent	Continuous or intermittent	Continuous or intermittent
Operation	CW and CCW	CW and CCW	CCW
Approximate motor life	Up to 5000 hrs	Up to 3000 hrs	Up to 20000 hrs (the limitation is typically the gearbox)
Supply voltage	24-30VDC	24VDC	24VDC
Power consumption	5W	5W	5W
Brushes	Silver palladium precious metal	Carbon	None - brushless drive
Speed control	PWM or voltage control	Voltage control	Voltage control (down to 50%)
Gearbox	Spur; 15:1, 30:1, 75:1, 250:1	Spur; 30:1, 75:1, 250:1	Spur; 15:1, 30:1, 75:1, 250:1
Operating temperature	-10 to +45 C	-10 to +45 C	-10 to +45 C

MATERIALS OF CONSTRUCTION

Component	Material
Rotor	Acetal (Black)
Rollers	Acetal (Black)
Track	Acetal (Black)
Tube holder	Acetal (Black)
Shafts	Acid resistant stainless steel
Mounting panel	Black anodised aluminium
Springs	Acid resistant stainless steel
Screws	Acid resistant stainless steel

ORDER INFORMATION

Motor type	Voltage	Speed rpm	Product code
Standard DC 5W	24-30VDC	100	040.EP1D.N3C
Standard DC 5W	24-30VDC	40	040.EH1D.N3C
Standard DC 5W	24-30VDC	12	040.E81D.N3C
Economy DC 5W	24VDC	200	040.BS1D.N3C
Economy DC 5W	24VDC	75	040.BN1D.N3C
Economy DC 5W	24VDC	25	040.BC1D.N3C
Brushless DC 5W	24VDC	130	040.FQ1D.N3C
Brushless DC 5W	24VDC	50	040.FK1D.N3C
Brushless DC 5W	24VDC	15	040.F91D.N3C

Standard 430 Elements for 400F/D2 and 400F/D3 pumpheads			
Bore/Wall	Bioprene	Peroxide cured Silicone	Connects to
0,5/1.0mm	049.EF6D.N05	-	Tube bore 3.0
1.0/1.0mm	049.EF6D.N10	049.EH6D.N10	Tube bore 3.0
2.0/1.0mm	049.EF6D.N20	049.EH6D.N20	Tube bore 3.0
3.0/1.0mm	-	049.EH6D.N30	Tube bore 3.0

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