

400F/R1 precision one channel and 400F/L2 two channel pumps



400F/R1

These models are our highest precision, instrument quality peristaltic pumps for medium flow rates. Both models have a spring-loaded track, which gives superior tube life and flow accuracy. The tubing occlusion can be adjusted to produce higher pressures. The tracks are machined to precision tolerances, and the rollers are stainless steel with ball bearings. The pump is available with three standard gearmotors. The pump accepts continuous tubing with a 1.6 mm wall thickness, in 7 bore sizes, allowing the user to precisely match the pump to the required flow. The R1 is a single tube pumphead and the L2 has two individual flow channels each with a separate roller. The L2 can be also be used with a tube element that combines flows of the two tubes to create a single, low pulsation flow. These 2 channel models will use a maximum bore size of 4.8 mm. These models offer our widest range of options, allowing you to customize a pump for your application. See page 21 for additional options.

Flow capacity

	1.6mm (1/16") WT Continuous Tubing						
	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm	4.8mm	6.4mm
Bore mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm	4.8mm	6.4mm
Bore "	1/32"	1/16"	3/32"	3/16"	5/32"	3/16"	—"
Flow rate ml/revolution	0.06	0.2	0.50	0.86	1.3	1.8	3.0
Max continuous flow ml/min 200 rpm	11	44	98	170	262	367	606
Max intermittent flow ml/min 400 rpm	22	88	196	340	524	734	1212

Materials of construction

Tube holder	Black acetal (POM)
Rotor, track, mounting plate	Anodized aluminum
Ball bearings	Carbon steel
Rollers, screws, springs, shafts	Acid resistant stainless steel

Specifications

Maximum continuous speed	200 rpm
Maximum intermittent speed	400 rpm
Weight of complete pump	1.0 – 1.5kg

Performance against pressure

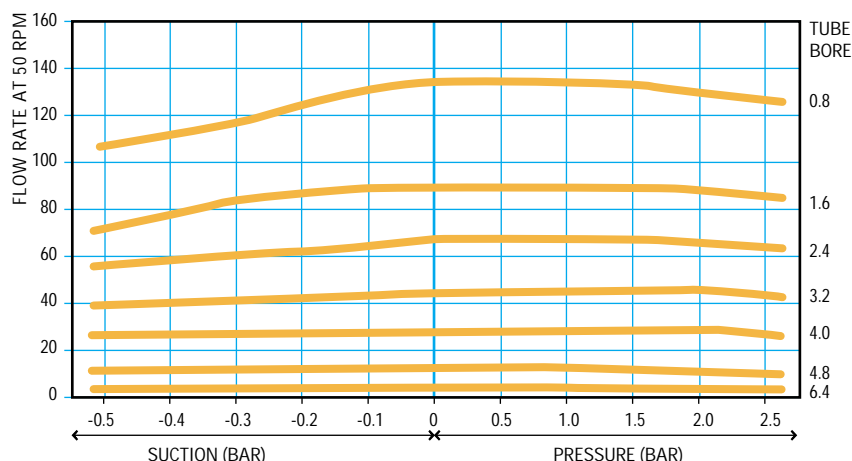
The spring-loaded tension arm makes it possible to adjust the pump to operate at higher back pressures/suction heights without overloading the tubing. In the diagram shown below the arm is set for optimal performance at backpressures up to approx. 2.3 Bar. The pump is capable of operating against pressures up to 3 Bar.

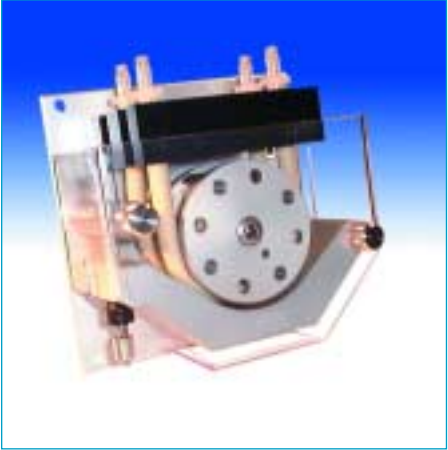
Conversion Factors:

Suction pressure in Bar x 747.7 = mm Hg

Suction pressure in Bar x 33.5 = Ft H₂O

Back pressure in Bar x 14.5 = psi





400F/L2

Ordering information

5W DC	12rpm	25rpm	60rpm
400FDC/R1 12V One Channel	<i>040.C81R.01S</i>	<i>040.CC1R.01S</i>	<i>040.CM1R.01S</i>
400FDC/R1 24V One Channel	<i>040.E81R.01S</i>	<i>040.EC1R.01S</i>	<i>040.EM1R.01S</i>
400FDC/L2 12V Two Channel	<i>040.C81L.E2S</i>	<i>040.CC1L.E2S</i>	<i>040.CM1L.E2S</i>
400FDC/L2 24V Two Channel	<i>040.E81L.E2S</i>	<i>040.EC1L.E2S</i>	<i>040.EM1L.E2S</i>
30W DC	100rpm	200rpm	
400FDC/R1 12V One Channel	<i>040.MP1R.01S</i>	<i>040.MS1R.01S</i>	
400FDC/R1 24V One Channel	<i>040.LP1R.01S</i>	<i>040.LS1R.01S</i>	
400FDC/L2 12V Two Channel	<i>040.MP1L.E2S</i>	<i>040.MS1L.E2S</i>	
400FDC/L2 24V Two Channel	<i>040.LP1L.E2S</i>	<i>040.LS1L.E2S</i>	
Brushless DC 35 Watt	30rpm	100rpm	350rpm
400VDL/R1 24V One Channel	<i>040.NE1R.01S</i>	<i>040.NP1R.01S</i>	<i>040.NP1R.01S</i>
400VDL/L2 12V Two Channel	<i>040.NE1L.E2S</i>	<i>040.NP1L.E2S</i>	<i>040.NP1L.E2S</i>

See motor descriptions on page 46.

Flow rates

	Single Channel 1.6mm (1/16") WT Tubing							
Bore mm	0.5mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm	4.8mm	6.4mm
Bore "	1/50"	1/32"	1/16"	3/32"	3/16"	5/32"	3/16"	—"
5W DC 12rpm	<i>0.24</i>	<i>0.72</i>	<i>2.40</i>	<i>6.00</i>	<i>10.3</i>	<i>15.6</i>	<i>21.6</i>	<i>36.0</i>
5W DC 25rpm	<i>0.50</i>	<i>1.50</i>	<i>5.00</i>	<i>12.5</i>	<i>21.5</i>	<i>32.5</i>	<i>45.0</i>	<i>75.0</i>
5W DC 60rpm	<i>1.20</i>	<i>3.60</i>	<i>12.0</i>	<i>30.0</i>	<i>51.6</i>	<i>78.0</i>	<i>108</i>	<i>180</i>
30W DC 100rpm	<i>2.00</i>	<i>6.00</i>	<i>20.0</i>	<i>50.0</i>	<i>86.0</i>	<i>130</i>	<i>180</i>	<i>300</i>
30W DC 200rpm	<i>4.00</i>	<i>12.0</i>	<i>40.0</i>	<i>100.0</i>	<i>172.0</i>	<i>260</i>	<i>360</i>	<i>600</i>
Brushless DC 30rpm	<i>0.60</i>	<i>1.80</i>	<i>6.00</i>	<i>15.0</i>	<i>25.8</i>	<i>39.0</i>	<i>54.0</i>	<i>90.0</i>
Brushless DC 100rpm	<i>2.00</i>	<i>6.00</i>	<i>20.0</i>	<i>50.0</i>	<i>86.0</i>	<i>130</i>	<i>180</i>	<i>300</i>
Brushless DC 350rpm	<i>7.00</i>	<i>21.00</i>	<i>70.0</i>	<i>175</i>	<i>301</i>	<i>455</i>	<i>630</i>	<i>1050</i>

For tube selections, see Table A on page 48.

