

400F/B1 series one channel peristaltic pumps



400F/B1

The 400F/B1 is our standard instrument-quality peristaltic pump for low flow rates. The 400F/B1 has a spring-loaded track, which gives superior tube life and flow-accuracy. The tubing occlusion can be adjusted to produce higher pressures. The pump is available with four standard gearmotors. Each one is extremely small in size and has low power requirements. The pump accepts continuous tubing with a 1.6 mm wall. The tubing is available in 6 bore sizes, allowing the user to precisely match the pump to the required flow. See page 21 for additional options.

Flow capacity

	1.6mm (1/16") WT Continuous Tubing					
	0.5mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm
Bore mm	0.5mm	0.8mm	1.6mm	2.4mm	3.2mm	4.0mm
Bore "	1/50"	1/32"	1/16"	3/32"	3/16"	5/32"
Flow rate ml/revolution	<i>0.01</i>	<i>0.03</i>	<i>0.11</i>	<i>0.24</i>	<i>0.41</i>	<i>0.59</i>
Max continuous flow ml/min 200 rpm	<i>2.2</i>	<i>6.0</i>	<i>23</i>	<i>49</i>	<i>81</i>	<i>117</i>
Max intermittent flow ml/min 400 rpm	<i>4.4</i>	<i>12</i>	<i>46</i>	<i>98</i>	<i>162</i>	<i>234</i>

Materials of construction

Rotor, rollers, track, tube holder	<i>Black Acetal (POM)</i>
Mounting plate	<i>Black anodized aluminum</i>
Screws, springs, shafts	<i>Acid resistant stainless steel</i>

Specifications

Maximum continuous speed	<i>200 rpm</i>
Maximum intermittent speed	<i>400 rpm</i>
Weight of complete pump	<i>240-420 g</i>
Tube type	<i>Continuous</i>

Performance against pressure

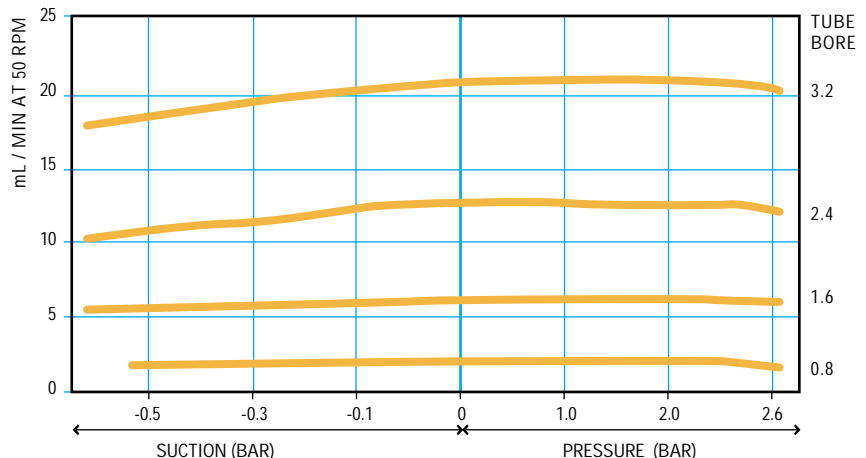
The spring-loaded tension arm makes it possible to adjust the pump to operate at higher back pressures/suction heights without overloading the tubing. In the diagram shown below the arm is set for optimal performance at backpressures up to approx. 2.5 Bar. The pump is capable of operating against pressures 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



Ordering information

Standard DC	12rpm	40rpm	100rpm	200rpm
400FDC/B1 12V	<i>040.D81B.01C</i>	<i>040.DH1B.01C</i>	<i>040.DP1B.01C</i>	<i>040.DS1B.01C</i>
400FDC/B1 24V	<i>040.E81B.01C</i>	<i>040.EH1B.01C</i>	<i>040.EP1B.01C</i>	<i>040.ES1B.01C</i>
Economy DC	25rpm	75rpm	200rpm	350rpm
400FD/B1 12V	<i>040.AC1B.01C</i>	<i>040.AN1B.01C</i>	<i>040.AS1B.01C</i>	<i>040.AU1B.01C</i>
400FD/B1 24V	<i>040.BC1B.01C</i>	<i>040.BN1B.01C</i>	<i>040.BS1B.01C</i>	<i>040.BU1B.01C</i>
Brushless DC	15rpm	50rpm	130rpm	250rpm
400FDL/B1 24V	<i>040.F91B.01C</i>	<i>040.FK1B.01C</i>	<i>040.FQ1B.01C</i>	<i>040.FT1B.01C</i>
Synchronous AC 115V	5rpm	12rpm	25rpm	
400FS/B1 115VAC 60hz	<i>040.H41B.01C</i>	<i>040.H81B.01C</i>	<i>040.HC1B.01C</i>	
Synchronous AC 220V	4rpm	10rpm	20rpm	
400FS/B1 230 V 500hz	<i>040.J31B.01C</i>	<i>040.J71B.01C</i>	<i>040.JA1B.01C</i>	

See motor descriptions on page 46.

Flow rates

Bore mm	Single Channel 1.6mm (1/16") WT Tubing					
	0.5mm 1/50"	0.8mm 1/32"	1.6mm 1/16"	2.4mm 3/32"	3.2mm 3/16"	4.0mm 5/32"
<i>Standard DC 12rpm</i>	<i>0.120</i>	<i>0.360</i>	<i>1.32</i>	<i>2.88</i>	<i>4.92</i>	<i>7.08</i>
<i>Standard DC 40rpm</i>	<i>0.400</i>	<i>1.20</i>	<i>4.40</i>	<i>9.60</i>	<i>16.4</i>	<i>23.6</i>
<i>Standard DC 100rpm</i>	<i>1.00</i>	<i>3.00</i>	<i>11.0</i>	<i>24.0</i>	<i>41.0</i>	<i>59.0</i>
<i>Standard DC 200rpm</i>	<i>2.00</i>	<i>6.00</i>	<i>22.0</i>	<i>48.0</i>	<i>82.0</i>	<i>118</i>
<i>Economy DC 25rpm</i>	<i>0.250</i>	<i>0.750</i>	<i>2.75</i>	<i>6.00</i>	<i>10.25</i>	<i>14.8</i>
<i>Economy DC 75rpm</i>	<i>0.750</i>	<i>2.25</i>	<i>8.25</i>	<i>18.0</i>	<i>30.8</i>	<i>44.3</i>
<i>Economy DC 200rpm</i>	<i>2.00</i>	<i>6.00</i>	<i>22.0</i>	<i>48.0</i>	<i>82.0</i>	<i>118</i>
<i>Economy DC 350rpm</i>	<i>3.50</i>	<i>10.5</i>	<i>38.5</i>	<i>84.0</i>	<i>144</i>	<i>207</i>
<i>Brushless DC 15rpm</i>	<i>0.150</i>	<i>0.450</i>	<i>1.65</i>	<i>3.60</i>	<i>6.15</i>	<i>8.85</i>
<i>Brushless DC 50rpm</i>	<i>0.500</i>	<i>1.50</i>	<i>5.50</i>	<i>12.0</i>	<i>20.5</i>	<i>29.5</i>
<i>Brushless DC 130rpm</i>	<i>1.30</i>	<i>3.90</i>	<i>14.3</i>	<i>31.2</i>	<i>53.3</i>	<i>76.7</i>
<i>Brushless DC 250rpm</i>	<i>2.50</i>	<i>7.50</i>	<i>27.5</i>	<i>60.0</i>	<i>103</i>	<i>148</i>
<i>Synchronous AC 60hz 5rpm</i>	<i>0.050</i>	<i>0.150</i>	<i>0.55</i>	<i>1.20</i>	<i>2.1</i>	<i>3.0</i>
<i>Synchronous AC 60hz 12rpm</i>	<i>0.120</i>	<i>0.360</i>	<i>1.32</i>	<i>2.88</i>	<i>4.92</i>	<i>7.08</i>
<i>Synchronous AC 60hz 25rpm</i>	<i>0.250</i>	<i>0.750</i>	<i>2.75</i>	<i>6.00</i>	<i>10.25</i>	<i>14.8</i>
<i>Synchronous AC 50hz 4rpm</i>	<i>0.040</i>	<i>0.120</i>	<i>0.44</i>	<i>0.96</i>	<i>1.6</i>	<i>2.4</i>
<i>Synchronous AC 50hz 10rpm</i>	<i>0.100</i>	<i>0.300</i>	<i>1.10</i>	<i>2.40</i>	<i>4.10</i>	<i>5.90</i>
<i>Synchronous AC 50hz 20rpm</i>	<i>0.200</i>	<i>0.600</i>	<i>2.20</i>	<i>4.80</i>	<i>8.20</i>	<i>11.8</i>

See motor descriptions on page 46.

For tube selections, see Table A on page 48.

