

## High Performance Liquid Transfer



SPEC SHEET | LIQUID HANDLING

MINIPULS® 3 PERISTALTIC PUMP

The compact MINIPULS® 3 is a high-performance, low-pulse, peristaltic pump with interchangeable pump heads for delivering a diverse variety of liquids.

### Low-Pulse Liquid Transfer

Utilizing positive displacement pump technology, liquid flows nearly pulse-free as a result of ten stainless steel rollers (standard model). MINIPULS 3 produces smooth flows with excellent accuracy and precision, even at high flow rates.

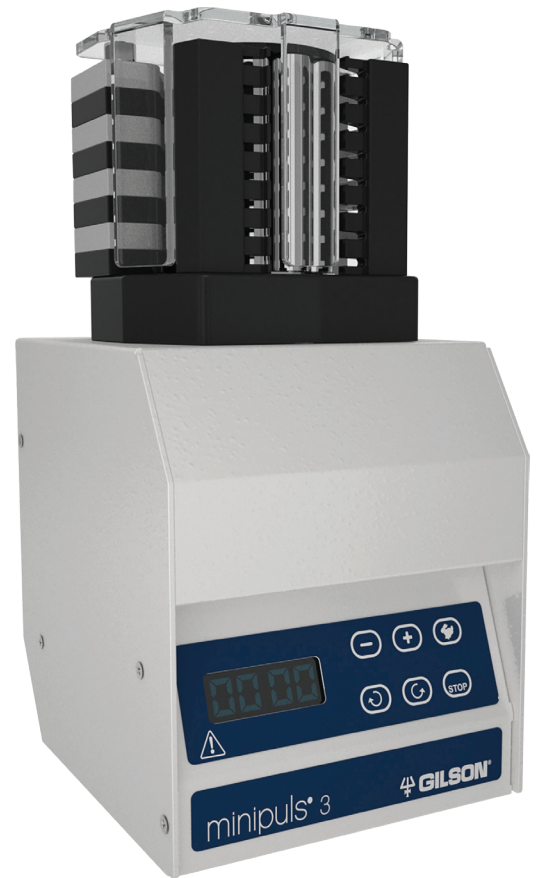
### Flexible Flow Rates & Tubing to Meet Your Needs

With a choice of six quickly interchangeable pump heads, you'll have a wide range of flow rates to use for your applications. A wide range of accepted tubing types and sizes give you much greater flexibility in terms of the flow rate range that is available with each pump head.

- Four standard models (1, 2, 4, or 8 channels): 0.3 µL/min to 30 mL/min (maximum pressure: 0.5 MPa)
- Two high flow models (2 or 4 channels): 1 mL/min to 220 mL/min (maximum pressure: 0.3 MPa)

### Easy to Operate

MINIPULS 3 is simple to operate, and easy to install and maintain. With a keypad control and easy-to-read LCD screen, the start/stop, flow direction, increase/decrease flow rate, and prime functions are readily accessible. Remote start/stop is also possible.



MINIPULS® 3 PERISTALTIC PUMP AND PUMP HEADS			
Description	Part Number	Maximum Flow Rate	Number of Channels
Pump Module MINIPULS 3	<b>F155001</b>	-	-
R1 Pump Head	<b>F117604</b>	up to 30 mL/min	1
R2 Pump Head	<b>F117800</b>	up to 30 mL/min	2
R4 Pump Head	<b>F117606</b>	up to 30 mL/min	4
R8 Pump Head	<b>F117608</b>	up to 30 mL/min	8
R2/HF Pump Head (High Flow)	<b>F117830</b>	up to 220 mL/min	2
R4/HF Pump Head (High Flow)	<b>F117831</b>	up to 220 mL/min	4

## TUBING - MINIPULS® 3 PERISTALTIC PUMP

TUBING FOR R1, R2, R4, AND R8 PUMP HEADS							TUBING FOR R2/HF & R4/HF HIGH FLOW PUMP HEADS					
Material	Internal Diameter (mm)	Reference Tubing (Calibrated Tubing) (Length = Approx, 40 cm / 16 in.)	Color Coded Stops		Extension Tubing 3 m (118 in.)	Connectors	Maximum Flow Rate (mL/min)	Material	Internal Diameter (mm)	Reference Tubing (Calibrated Tubing) (Length = 3 m / 118 in.)	Maximum Flow Rate (mL/min)	
PVC	0.25	F117932	●	●	F117952	F117985	0.4	PVC	2.06	F117965	24	
	0.38	F117933	●	●	F117953	F117986	0.7		2.29	F117966	29	
	0.51	F117934	●	●	F117954	F117986	1.4		2.79	F117968	41	
	0.76	F117936	●	●	F117956	F117987	2.1		3.16	F117969	49	
	1.02	F117938	○	○	F117958	F1179941	4.1		4.0	F117970	75	
	1.30	F117940	○	○	F117960	F1179941	6.2		5.0	F117980	113	
	1.52	F117942	●	●	F117962	F1179941	9.1		6.0	F117981	163	
	1.65	F117943	●	●	F117963	F1179941	10.5		8.0	F117982	213	
	2.06	F117945	●	●	F117965	F1179941	15.7		Iso-Versinic® or Viton®	2.0	F117744	23
	2.29	F117946	●	●	F117966	F1179941	19.7			3.0	F117746	48
2.79	F117948	●	○	F117968	F1179951	23.2	4.0	F117748		86		
3.18	F117949	●	○	F117969	F1179951	29.0	6.0	F117750	181			
Iso-Versinic® or Viton®	0.5	F1817741	●	●	F117740	F117986	1.8	Silicone	2.0	F1825133	25	
	1.0	F1817743	●	●	F117742	F1179941	4.0		3.0	F117975	44	
	2.0	F1817745	●	●	F117744	F1179941	12.6		4.0	F117976	71	
	3.0	F117747	●	●	F117746	F1179951	27.3		5.0	F117977	115	
	4.0	F117749	●	●	F117748	-	33.0		6.0	F117978	150	
Silicone	0.64	F1825111	●	○	F1825131	F117987	1.5	7.0	F117979	220		
	1.02	F1825112	○	○	F1825132	F1179941	4.1	Santoprene™ or PharMed®	2.0	F1825123	25	
	2.06	F1825113	●	●	F1825133	F1179951	14.7		3.2	F1825124	53	
	2.79	F1825114	●	○	F117975	F1179951	22.8		6.4	F1825125	171	
Santoprene™ or PharMed®	0.51	F1825101	●	●	F1825121	F117986	1.4					
	1.02	F1825102	○	○	F1825122	F1179941	4.8					
	2.06	F1825103	●	●	F1825123	F1179941	15.0					

## TECHNICAL SPECIFICATIONS - MINIPULS® 3 PERISTALTIC PUMP

DESCRIPTION	SPECIFICATION
<b>Operating Temperature</b>	4–40°C: No warm-up time is required before operation
<b>Position</b>	Upright only (vertical ±5°)
<b>Head Speed</b>	0.01 to 48 rpm
<b>Motor Speed Stability</b>	0.5% for any variation, torque, or temperature
<b>Continuous Speed Adjustment</b>	From 0 to 48 rpm by 0.01 increments up to 9.99 rpm, above 9.99 rpm by 0.1 increments
<b>Flow Rate Range</b>	Maximum: MP model 30 mL/min (1.8 L/h, 4mm tubing), HF model 220 mL/min (13.2 L/h, 8 mm tubing) Minimum: 0.3 µL/min (0.25 mm tubing)
<b>Maximum Back Pressure</b>	0.5 MPa (72.5 psi) for MP models, 0.3 MPa (43.5 psi) for HF models
<b>Peristaltic Tubing Diameter</b>	0.25 to 4 mm (ID) for MP models, 2 to 8 mm (ID) for HF models
<b>Dimensions without Pump Heads (W x D x H)</b>	15.0 x 17.4 x 18.5 cm (5.9 x 6.9 x 7.3 in.)
<b>Weight</b>	2.5 kg (5.5 lbs)