

GENERAL DESCRIPTION

The Masterflex® L/S® Miniflex® 3-roller pump heads feature a wide occlusion angle that prevents fluid backflow up to the rated pressure of the tubing. Self-lubricating thermoplastic polyester rollers are low friction and long wearing for smooth operation and long life.



MARKETS & APPLICATIONS

A compact overall size envelope makes these heads ideal for OEM applications and integration into fluid systems and machinery. The versatile areas of application include, for example general-purpose laboratories, research and development, and pilot-scale applications including fluid transfer, filtration, and bioreactor feed.

FEATURES & BENEFITS

- Miniflex® pump head accepts continuous L/S® peristaltic pump tubing for clean flow paths
- The over-center cam design and spring loaded tubing retention allows quick tubing changes
- Tool free tubing change
- Dual-channel model delivers synchronous flow from two separate channels; single-channel model delivers highest flow rate
- Compact size allows easy integration into small space applications.
- Customizable OEM options available

TUBING SIZE CHART

Pump tubing size	Tube ID (in.)	Barb Size (in.)	Flow Rate – mL/rev	Max pressure†	Max vacuum†	Suction lift
L/S 13	0.8 mm (1/32")	1.6 mm (1/16")	0.04	2.7 bar (40 psi)	660 mm Hg (26" Hg)	8.8 m H ₂ O (29 ft H ₂ O)
L/S 14	1.6 mm (1/16")	1.6 mm (1/16")	0.14			
L/S 16	3.1 mm (1/8")	3.1 mm (1/8")	0.5			
L/S 25*	4.8 mm (3/16")	4.8 mm (3/16")	1.1	2.4 bar (20 psi)		

*Single-Channel Only

†Actual performance varies depending on tubing formulation

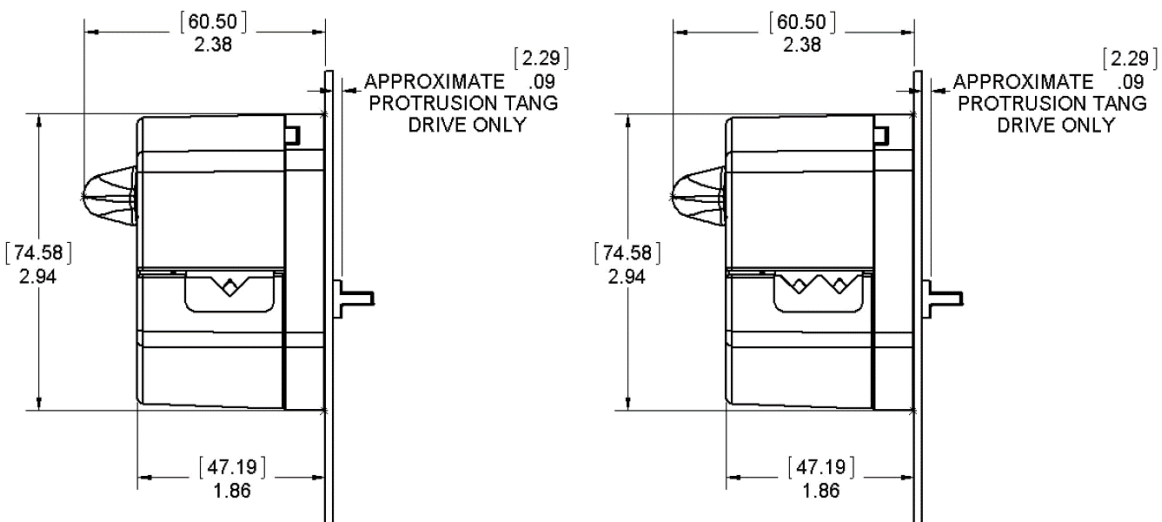
ORDERING INFORMATION

SKU	Installation Type	Description
Single-Channel		
MFLX77220-00	Tang	L/S® Miniflex® OEM Single-Channel Head
MFLX77220-20	Spline	L/S® Miniflex® Single-Channel Head
MFLX77220-40	Spline	L/S® Miniflex® Single-Channel Head (4 roller)
Dual-Channel		

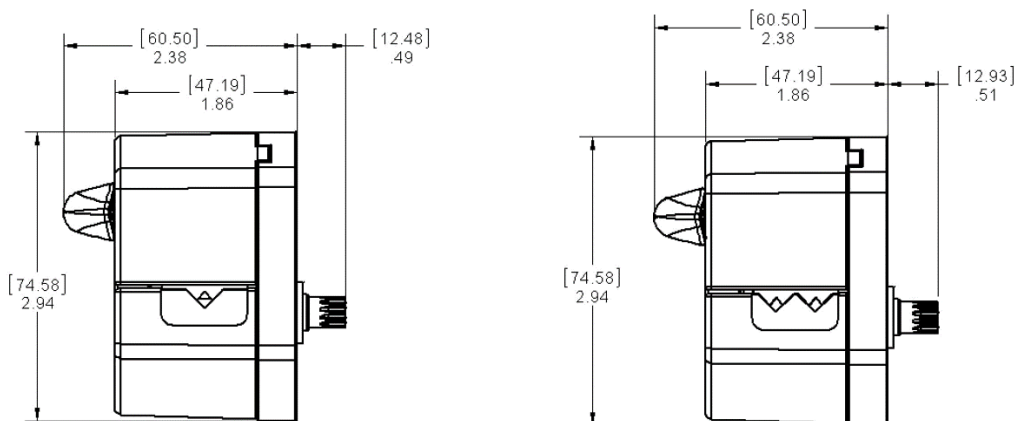
MFLX77220-10	Tang	L/S® Miniflex® OEM Single-Channel Head
MFLX77220-30	Spline	L/S® Miniflex® Dual-Channel Head

DIMENSIONS/DRAWING

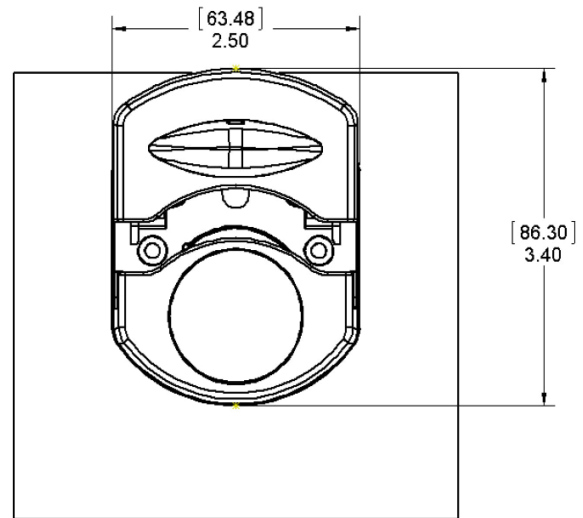
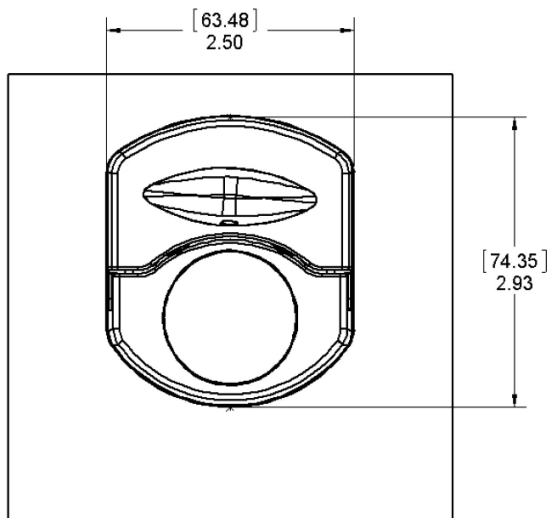
Side View- Tang Version



Side View- Spline Version



Closed and Open



SPECIFICATIONS

Catalog number		MFLX77220-00	MFLX77220-20	MFLX77220-10	MFLX77220-30
Performance specifications					
Number of Channels		1		2	
Number of Rollers		3			
Installation Type		Tang	Spline	Tang	Spline
Optimum rpm range		0.1 to 300			
Occlusion		Fixed			
Tubing retention		automatic			
Open-Head sensor		?			
Tubing sizes		L/S® 13;14;16;25		L/S® 13;14;16	
Volume per revolution	L/S® 13	0.04ml			
	L/S® 14	0.14ml			
	L/S® 16	0.54ml			
	L/S® 25	1.105ml		NA	
Physical specifications					
Housing material		Polyarylamide (PARA)			
Rotor material		Stainless Steel and Aluminum			
Roller material		Thermoplastic Polyester			
Operating temperature		0 to 40°C (32 to 104°F)			
Dimensions -Operating (L x W x H)		63.5 mm x 74.625 mm x 60.452 mm (2.50" x 2.93" x 2.38")			
Dimensions -Open (L x W x H)		63.5 mm x 86.512 mm x 60.452 mm (2.50" x 3.40" x 2.38")			
Shipping weight		0.23kg (0.5lbs)			

NOMINAL FLOWRATES

Tubing Size	L/S 13	L/S 14	L/S 16	L/S 25*
mL/rev (per channel)	0.04	0.14	0.5	1.1*
ml/min @ 300 rpm	12	42	150	330*

*Single-Channel Only

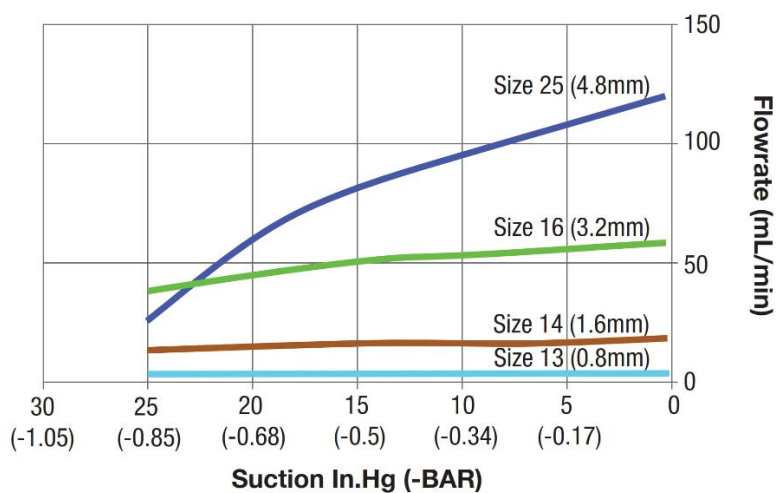
CUSTOM-OPTIONS

Contact factory for the following options:

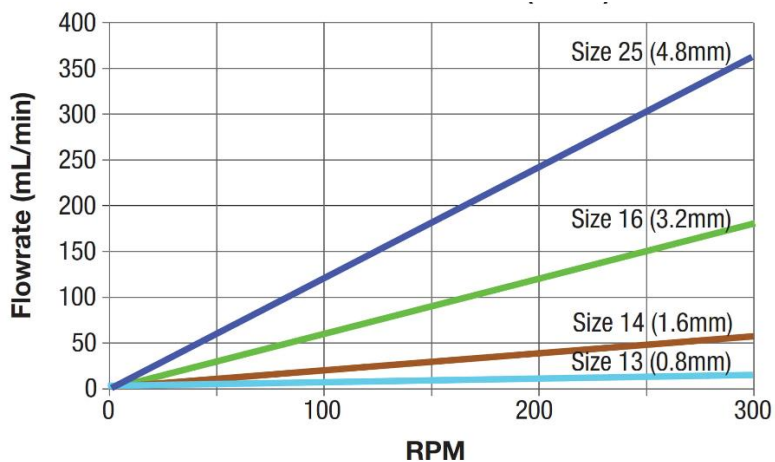
- Open head sensor prevents operation when the pump head is open
- Leak detection stops operation in the case of a tube leak
- Custom colors - allows you to match the pump to your own instrument design
- A wide selection of drive and control options are available
- Stainless Steel Roller options
- 4-Roller and 6-Roller Rotor options for smaller volume applications
- Ask us about other custom configurations to meet your specific need

PERFORMANCE CURVES- 3 ROLLER

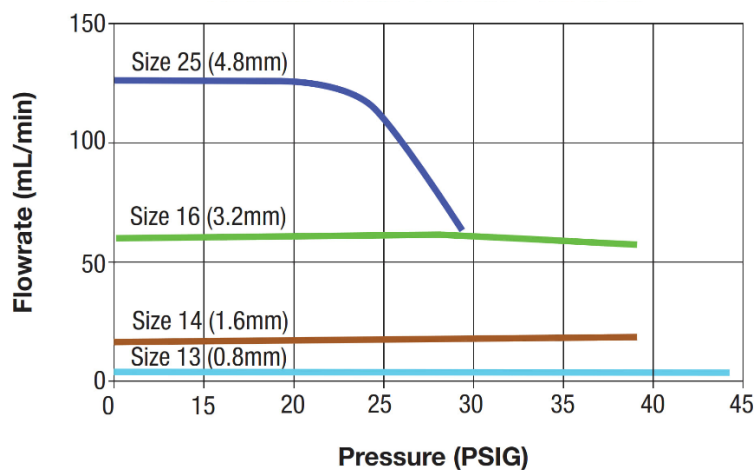
Flow versus Suction @ 100 RPM



Flowrate versus RPM

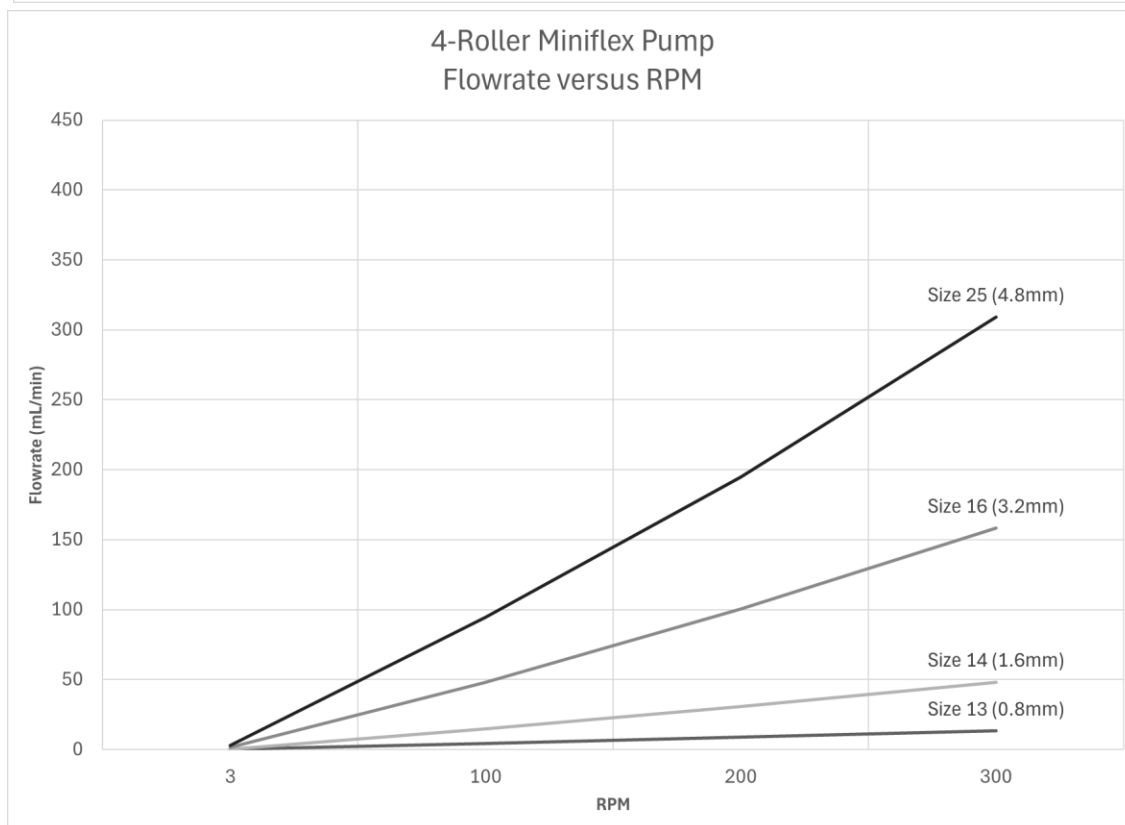
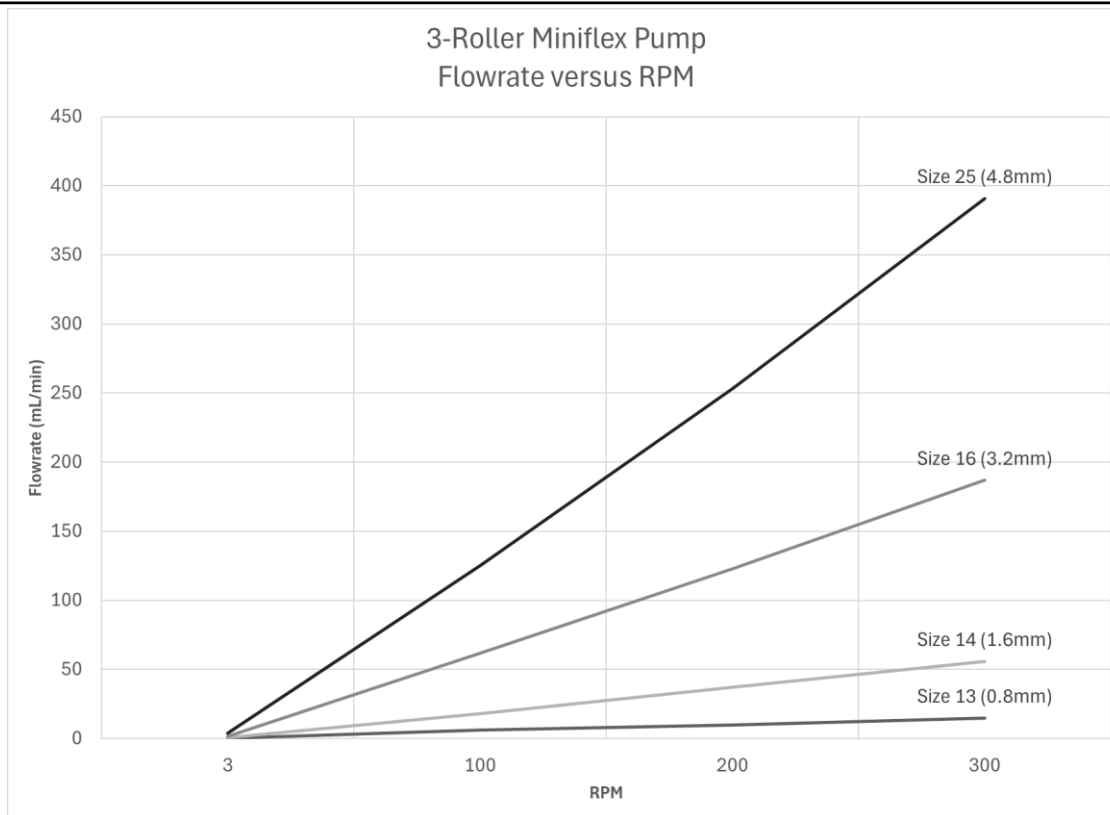


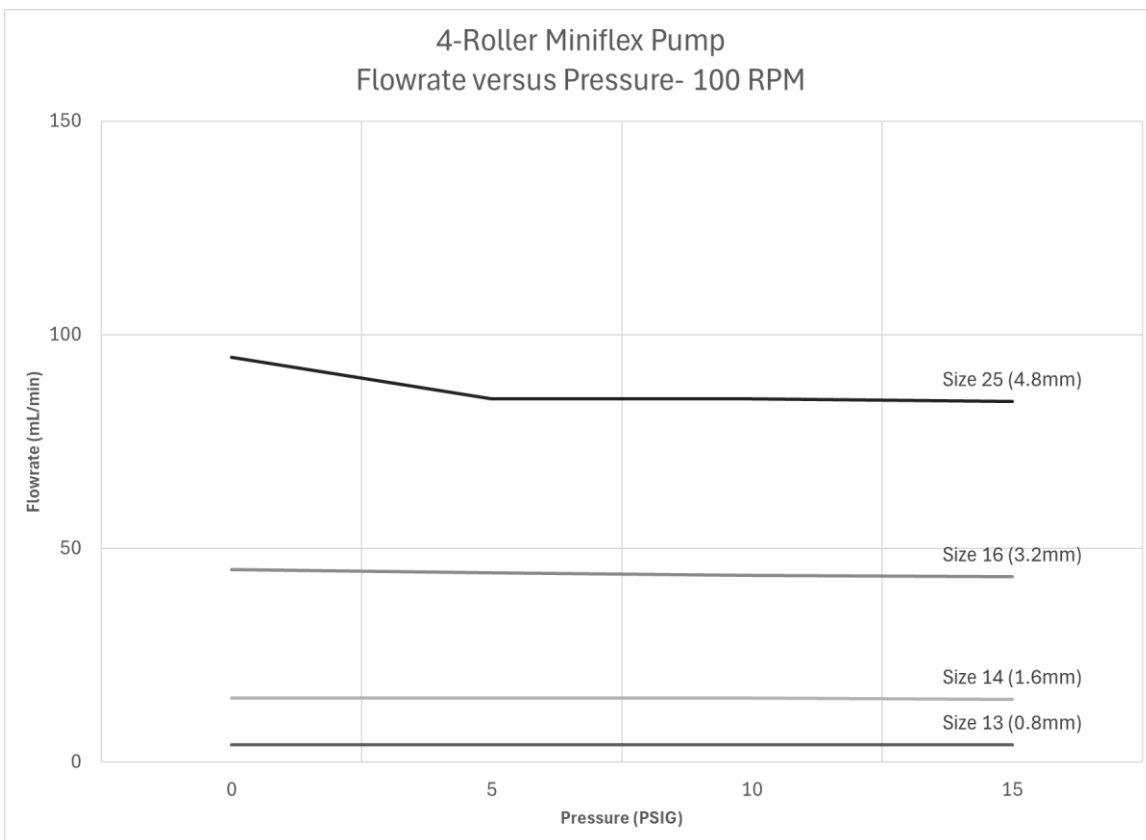
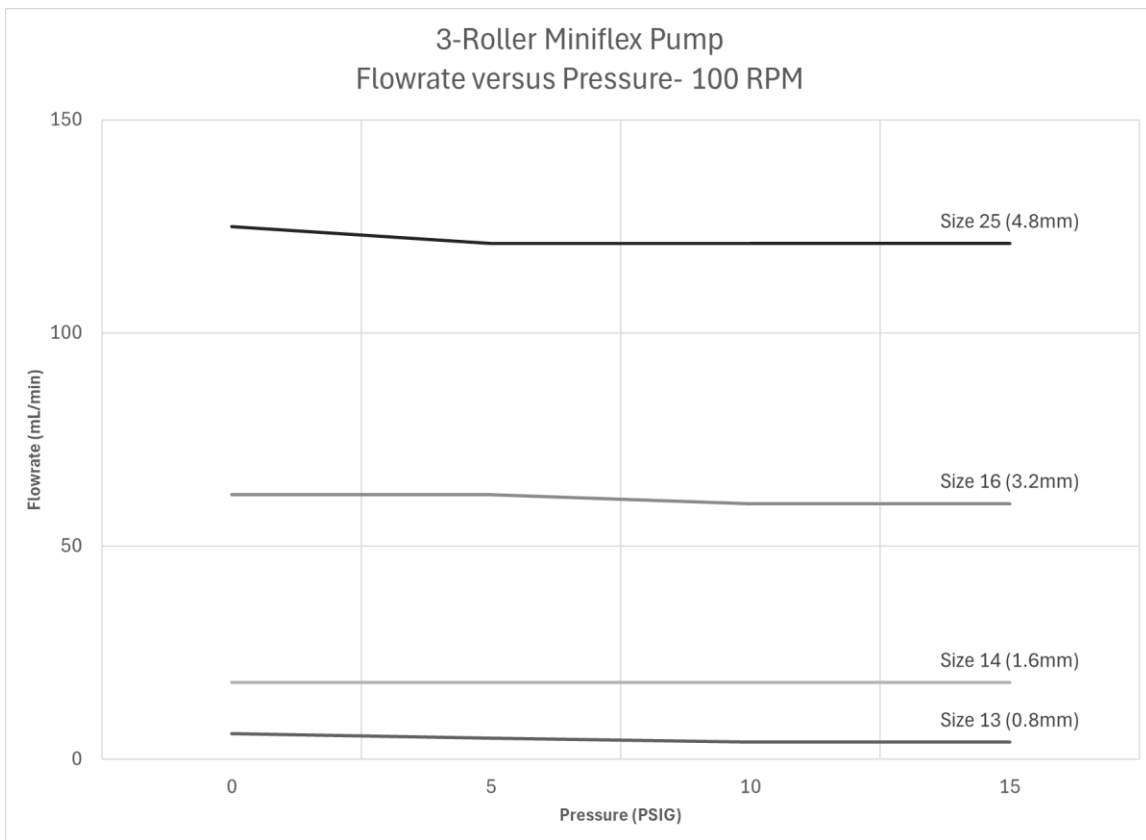
Flowrate versus Pressure @ 100 RPM

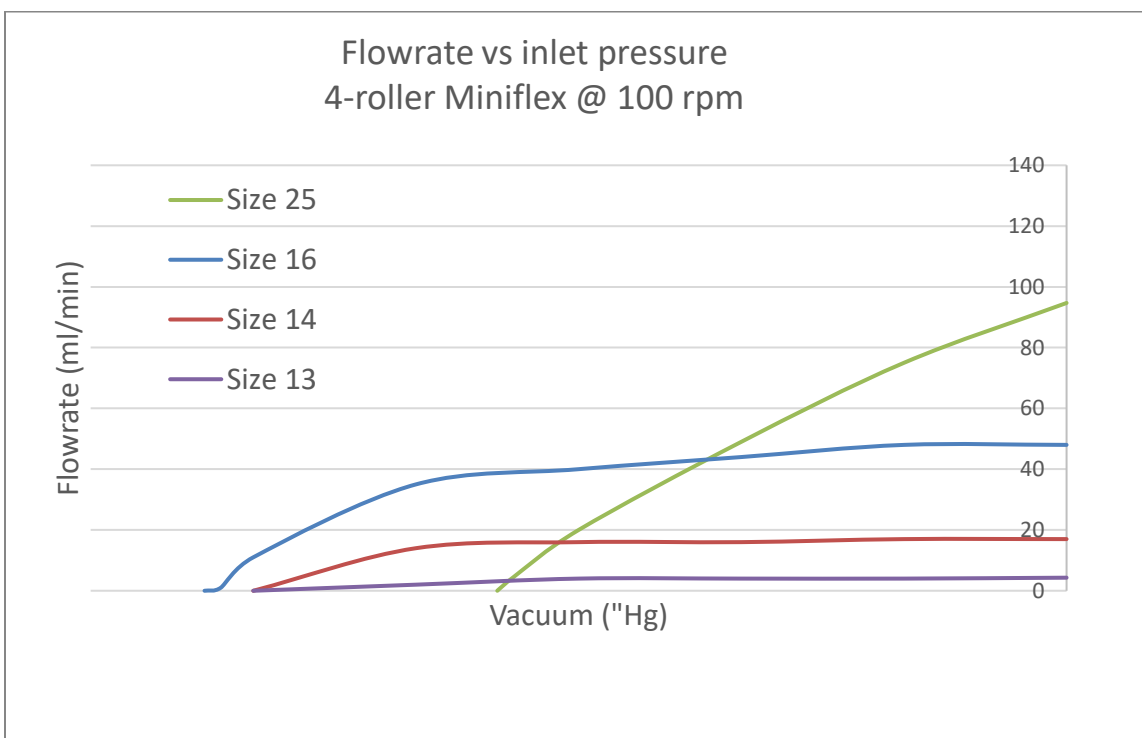
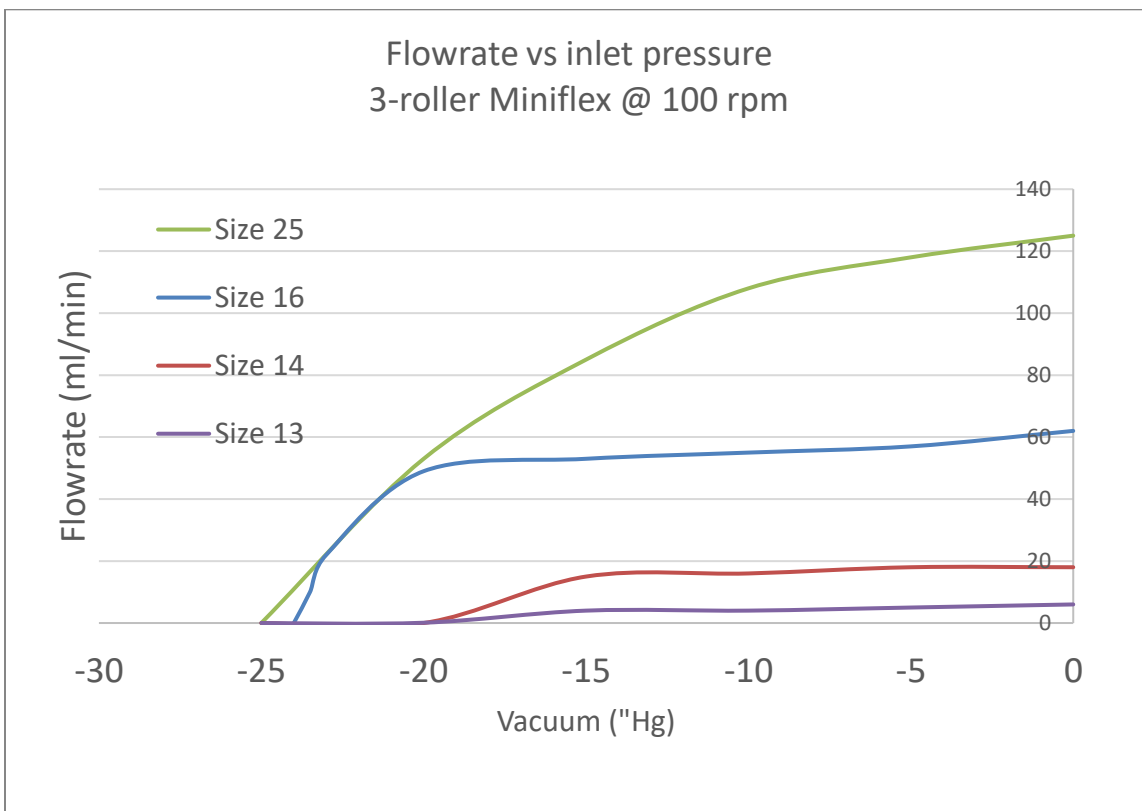


NOTES: Flows shown are per channel. Dual Channel Pump Head accepts sizes L/S® 13, 14 & 16 only. Size L/S® 25 tubing, single channel only. Performance values based on Tygon® A-60-F tubing, pumping water. Actual results may differ between tubing formulations and condition.

PERFORMANCE CURVES – 3 and 4 Roller comparison





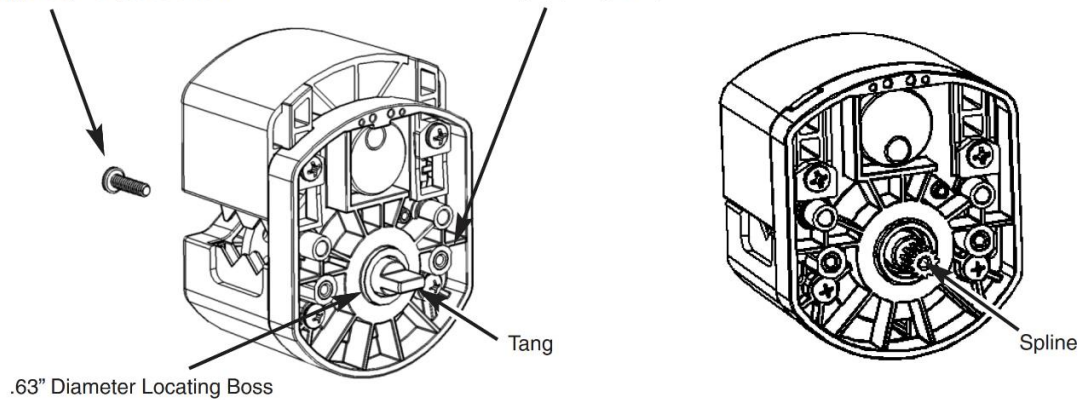


NOTE: Flow data performed with water using Masterflex® PharMed® BPT pump tubing

PUMP HEAD INSTALLATION AND REMOVAL

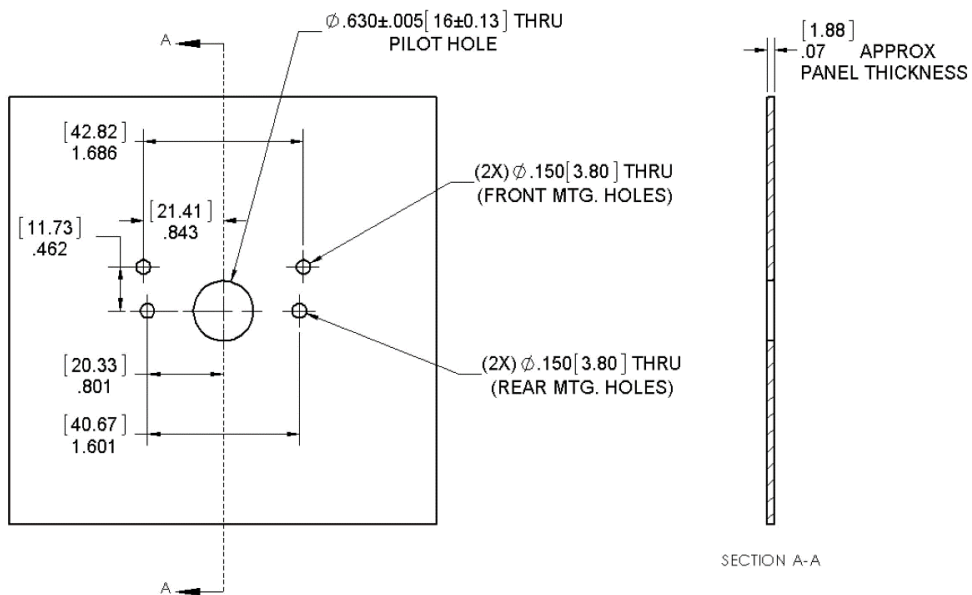
Pump Head mounting from the front. Install Pump Head with (2) #6-32 x 1/2" lg., pan head screws (supplied). Torque to 8 lb/in.

Optional rear mounting through panel. Install Pump Head with (2) #6-32 x 1/2" lg., pan head screws (supplied). Torque to 8 lb/in.



CAUTION: Do not overtighten screws.

Typical Panel Mount Hole Layout



COMPACT BENCHTOP PUMPS EQUIPPED WITH MINIFLEX® PUMPHEADS

L/S® Analog Compact Drives

SKU	Flow range per channel mL/min	No. of channels	Speed range rpm	Pump Head included
MFLX77240-20	1.4 to 220	1	35 to 200	MFLX77220-20
MFLX77240-30	1.4 to 100	2	35 to 200	MFLX77220-30



L/S® Digital Miniflex® Pump Systems

SKU	Flow range per channel mL/min	No. of channels	Speed range rpm	Pump Head included
MFLX07525-20	0.004 to 315	1	0.1 to 300	MFLX77220-20
MFLX07525-40	0.004 to 162	2	0.1 to 300	MFLX77220-30



Ismatec® Reglo Digital Miniflex Pumps

SKU	Flow range per channel mL/min	No. of channels	Speed range rpm	Pump Head included
MFLX78018-40	0.008 to 367	1	0.2 to 350	MFLX77220-20
MFLX78018-42	0.008 to 189	2	0.2 to 350	MFLX77220-30



L/S® Miniflex OEM Panel Mount Pumps Systems

SKU	Flow range per channel mL/min	No. of channels	Speed range rpm	Control
MFLX77222-10	0.008 to 367	1	3 to 300	4 to 20 mA
MFLX77222-12	0.008 to 367	1	3 to 300	0-10 V



COMPLETE SYSTEM COMPONENTS

Tubing and fittings are sold separately. Use only Masterflex® L/S® pump tubing. Over 20+ formulations are available with most popular options listed below.

L/S® tubing size	Inner Diameter	Silicone (Platinum cured)	Puri-Flex™ (TPE)	PharMed® BPT
L/S® 13	0.8 mm (0.03")	MFLX96410-13	MFLX96419-13	MFLX06508-13
L/S® 14	1.6 mm (0.06")	MFLX96410-14	MFLX96419-14	MFLX06508-14
L/S® 16	3.2 mm (0.12")	MFLX96410-16	MFLX96419-16	MFLX06508-16
L/S® 25*	4.8 mm (0.19")	MFLX96410-25	MFLX96419-25	MFLX06508-25

*Single-Channel only

Need something different?

Masterflex offers fully customized fluid handling solutions from microflow up to 42 liters per minute. Contact us to at custom@masterflex.com to personalize your pump.