

L/S® REDUCED-PULSATION CARTRIDGE PUMP HEADS

FEATURES/BENEFITS

- ▶ Synchronous multichannel pumping
- ▶ Deliver flow rates from 0.00005 to 350 mL/min per channel (flow rates depend on drive rpm and tubing size)
- ▶ Use up to 6 large cartridges or up to 12 small cartridges
- ▶ Use just one cartridge or fill the pump head
- ▶ Adapts easily to OEM applications

SELECTION CRITERIA

1. Pump head compatibility.
 2. Flow rate and tubing size.
- See specifications for more information.

Order tubing and drives separately.

COMPATIBILITY WITH DRIVES

- ▶ Mount on most Masterflex L/S drives

PUMP HOUSING SPECIFICATIONS

Molded Polysulfone Housing
300-Series Stainless Steel (SS) Rotors and Bearings

Rulon® Rollers

- ▶ Adjustable foot on long heads for support
- See specifications for maximum drive rpm.

CARTRIDGE SPECIFICATIONS

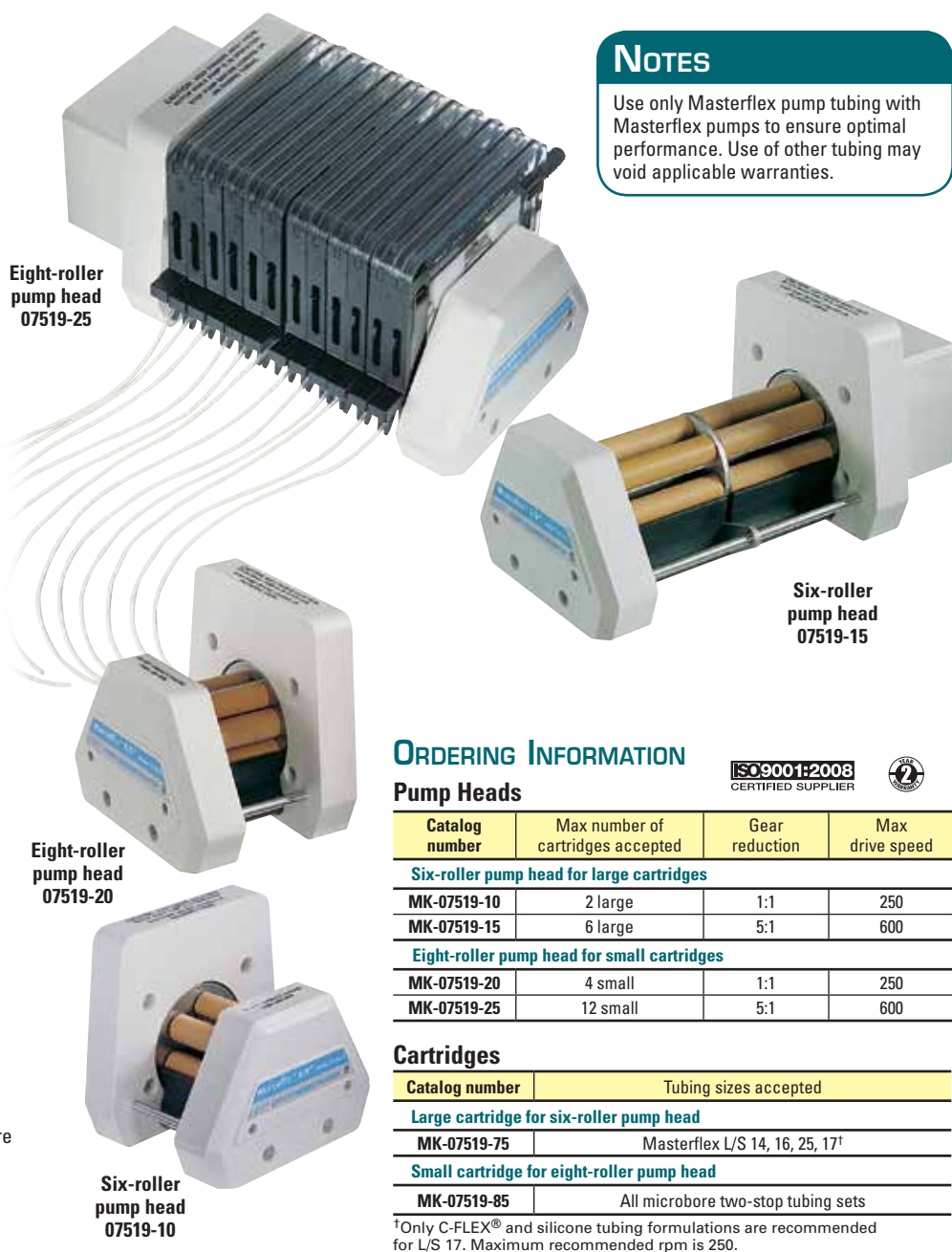
Polycarbonate and Glass-Filled Nylon

- ▶ No tools required/mechanically stable
- ▶ Anodized aluminum occlusion knob

Offset Tangential Occlusion

- ▶ Better flow performance
- ▶ Fine tune flow rate $\pm 5\%$
- ▶ Flow characteristics virtually the same in each direction of rotation (see note on facing page regarding reduced-pulsation setup)
- ▶ Increase occlusion for priming/greater pressure
- ▶ Decrease occlusion to extend tubing life
- ▶ Index scale on cartridge
- ▶ Use microbore and Masterflex L/S Precision pump tubing sizes

NOTES
 Use only Masterflex pump tubing with Masterflex pumps to ensure optimal performance. Use of other tubing may void applicable warranties.



ORDERING INFORMATION



Pump Heads

Catalog number	Max number of cartridges accepted	Gear reduction	Max drive speed
Six-roller pump head for large cartridges			
MK-07519-10	2 large	1:1	250
MK-07519-15	6 large	5:1	600
Eight-roller pump head for small cartridges			
MK-07519-20	4 small	1:1	250
MK-07519-25	12 small	5:1	600

Cartridges

Catalog number	Tubing sizes accepted
Large cartridge for six-roller pump head	
MK-07519-75	Masterflex L/S 14, 16, 25, 17 [†]
Small cartridge for eight-roller pump head	
MK-07519-85	All microbore two-stop tubing sets

[†]Only C-FLEX® and silicone tubing formulations are recommended for L/S 17. Maximum recommended rpm is 250.

SPECIFICATIONS & FLOW RATE INFORMATION (ML/MIN PER CHANNEL)

Pump head model	No. of rollers	Maximum no. of cartridges accepted [‡]	Gear ratio	Drive rpm	Pump tubing sizes					
					0.19 mm ID	0.25 mm ID	0.89 mm ID	1.42 mm ID	2.06 mm ID	2.79 mm ID
Using microbore two-stop tubing sets										
MK-07519-20	8	4 small	1:1	6 to 250	0.017 to 0.70	0.31 to 1.3	0.31 to 13	0.70 to 29	1.3 to 54	2.0 to 85
				0.1 to 100	0.003 to 0.28	0.0005 to 0.52	0.005 to 5.2	0.012 to 12	0.022 to 22	0.034 to 34
MK-07519-25	8	12 small	5:1	6 to 600	0.0030 to 0.30	0.060 to 0.60	0.062 to 6.2	0.14 to 14	0.26 to 26	0.41 to 41
				0.1 to 100	0.00005 to 0.050	0.0001 to 0.10	0.001 to 1.0	0.002 to 2.3	0.004 to 4.3	0.007 to 6.8
Using Masterflex Precision pump tubing					—	L/S 14	L/S 16	L/S 25	L/S 17 ^{**}	—
MK-07519-10	6	2 large	1:1	6 to 250	—	0.94 to 39	3.1 to 130	5.8 to 240	8.4 to 350	—
				0.1 to 100	—	0.016 to 16	0.052 to 52	0.096 to 96	0.14 to 140	—
MK-07519-15	6	6 large	5:1	6 to 600	—	0.20 to 20	0.65 to 65	1.2 to 120	1.7 to 170	—
				0.1 to 100	—	0.003 to 3.3	0.011 to 11	0.020 to 20	0.028 to 28	—

[‡]Check pump head torque requirement with drive torque to determine actual number of cartridges.
^{††}Tygon® Food and Viton® (L/S sizes) are not recommended for these reduced-pulsation cartridge pump heads. ^{**}Only C-FLEX® or silicone tubing is recommended for size L/S 17.

SPECIFICATIONS for L/S Reduced-Pulsation Cartridge Pump Heads

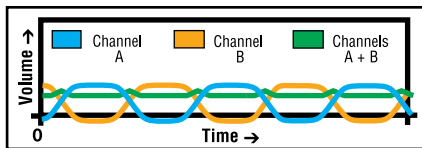
Catalog number	MK-07519-10	MK-07519-15	MK-07519-20	MK-07519-25
Performance Specifications				
Flow capacity per channel	0.00005 to 350 mL/min (0 to 5.5 GPH) [†]			
Max drive rpm	250 [†]	600 [†]	250 [†]	600 [†]
Number of rollers	6		8	
Physical Specifications				
Housing material	Polysulfone ends			
Rotor/roller material	Stainless steel/Rulon®			
Operating temperature	0 to 40°C (32 to 104°F)			
Shipping weight	2.1 kg (4.5 lb)			

[†]Depending on drive, pump head, and tubing size selected.

REDUCED-PULSATION SETUP

Mount cartridges in opposite directions to use offset occlusion for reduced pulsation.

Connect two discharge tubes together with a Y-connector. This will balance the offset occlusion of each cartridge. The reduced pulsation is measured at the outlet (shown below).



MULTICHANNEL CAPABILITIES

- Mount one pump head with up to 12 cartridges on a single drive with synchronized or offset occlusion for reduced pulsation
- No tools required to insert, remove, or adjust the cartridges
- Change tubing without disturbing other cartridges—eliminates lost time on other channels
- Best performance with 100 rpm, 1/10 hp motors. Can be used with other drives with a reduced number of cartridges



Mounting hardware and tool supplied with pump head

HOW TO LOAD YOUR PUMP HEAD



1. Select tubing, load cartridge, and set tubing retainers.



2. Easily snap cartridge into place on pump head.



3. Adjust occlusion using index scale on cartridge.

