

Masterflex® Peristaltic Pumps

Ideal for pumping viscous fluids

To maximize the pumping efficiency of viscous fluid, follow these steps:

1. Slow down the speed of your pump.

Increasing the speed beyond a certain point will not have any effect on flow rate. The maximum efficient speed of the pump decreases as viscosity increases and tubing size decreases.

2. Choose a larger size tubing than required to pump water. The table below will help you choose the best size.

3. Choose a firm tubing such as Norprene®, PharMed® BPT, CHEM-SURE®, STA-PURE®, Chem-Durance™, or Tygon® LFL. Performance will be better because the tubing returns to its original shape quickly after pump head

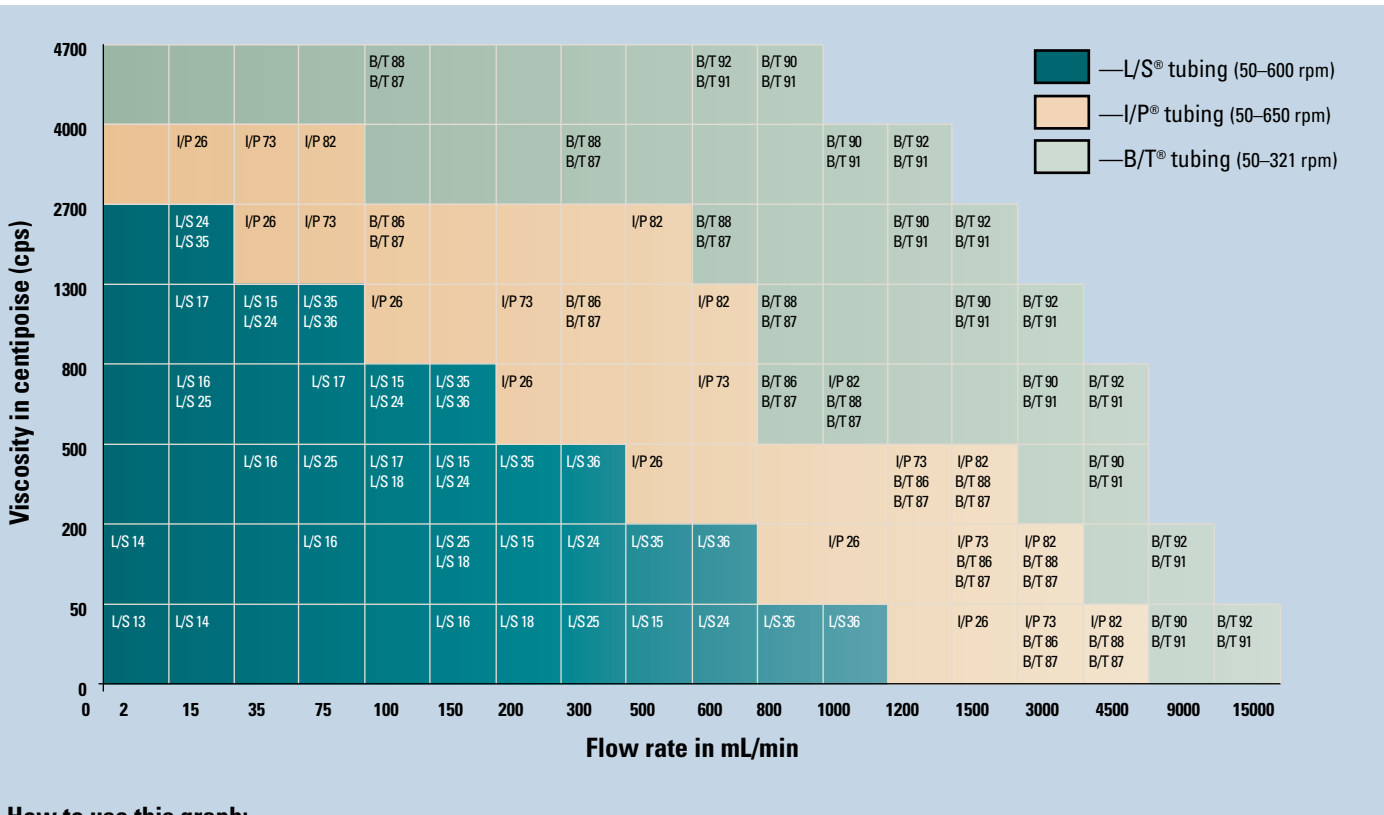
occlusion. For L/S®, I/P® and B/T® sizes, choose high-performance precision tubing—the thicker wall also returns more quickly to its original shape than precision tubing. The quicker return allows liquid to be pulled into the tubing with greater force.

4. Select a tubing with a smooth bore. A smooth bore will decrease frictional forces. BioPharm, BioPharm Plus, Tygon®, Tygon® LFL, silicone, or Tygon® silicone formulations are good choices.

5. Decrease the viscosity of your fluid. Heat your fluid if possible; viscosity usually decreases with temperature.



Tubing Selection Guide for Pumping Viscous Fluids



How to use this graph:

Example: You have an 800 centipoise fluid that you wish to pump at 150 mL/min. Find 150 mL/min on the “flow rate” axis of the graph above and find 800 centipoise on the “viscosity” axis. Follow the two points to where they meet. The graph shows that L/S® 35 and L/S® 36 tubing will obtain the desired flow rate. These tubing sizes will also work for all lower viscosities and lower flow rates.

Considerations: All viscosity test data were obtained using firm tubing materials such as Norprene®, PharMed® BPT, Viton®, and Tygon® because these formulations perform the best in viscosity applications. Tests were performed with fluids at 70°F (21°C) and 0 bar (0 psig) of back pressure. The graph is best used as a general guideline only, and is not a guarantee that you will achieve the results shown.

Pulse Dampener

Virtually eliminates pulsation in your output flow. Features a polyethylene body. Includes five pairs of fittings and PTFE-pipe thread tape.

Accepted tubing: All L/S® sizes and I/P® 26

Fittings included (tubing ID x NPT(M) thread): 1/16" x 1/8", 1/8" x 1/8" PP fittings; 3/16" x 1/8", 1/4" x 1/8" and 3/8" x 1/8" HDPE fittings

Dampener connections: 1/8" NPT(F)

Dead volume: 190 mL

Max. pressure: 4.3 bar (60 psi) at 70°F (21°C)



Catalog number	Description	Price
EK-07596-20	Pulse dampener	