



PUMP SELECTION GUIDE

To make an accurate pump selection, follow the steps below:

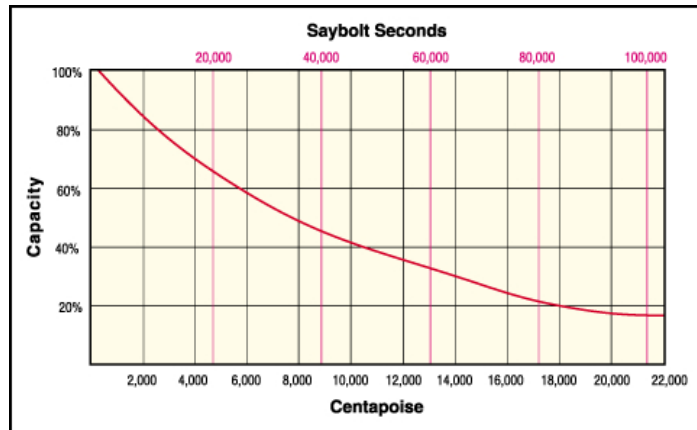
1. If the fluid is at ambient temperature, go to step 2. If the fluid is above or below ambient temperature, review the material temperature limitations below, then proceed to step 2.
 - a. Polypropylene pumps have a temperature range of 32° to 150° F (0°C to 66°C)
 - b. Nylon pumps have a temperature range of 0° to 150° F (-18°C to 66°C)
 - c. PVDF, Aluminum or 316 Stainless Steel: 0° to 200° F (-18°C to 93°C)

2. Select the correct **pump materials** of construction from the Chemical Compatibility Chart. Locate the chemical you are pumping in the far left column of the chart. Select an 'A' rated material for either the 'Plastics' or 'Metals' housing material and then select an elastomer that is 'A' rated. Only 'A' rated material to fluid combinations should be selected.

If the chemical has a trade name which is not listed in the chart, consult with the manufacturer of the chemical for a material recommendation. Do not call All-Flo.

Chemical Compatibility Chart

3. If the fluid is viscous, use the viscosity conversion chart shown below to calculate a percent reduction in flow rate. Multiply the maximum flow rate of the pump by the percentage of the flow rate derived from where the viscosity of the fluid intersects the reduction curve on the graph below (measured in Saybolt Seconds - top of graph or Centipoise - bottom of graph). See point 18 in the FAQ section on high viscosity pumping application. If the fluid is not a viscous fluid, such as water or a solvent, then review pump flow rates below and determine the correct **pump size**. For optimal efficiency, the pump should operate at 50% to 60% of the maximum flow rate. Slowing the speed of the pump is always good and extends cycle life. Slowing the speed of the pump will also prevent abrasive wear.



Maximum Flow Rates for non-viscous fluids based on pump size:

- 1/4" pump maximum flow rate - 4.3 GPM (16,3 l/m)
- 3/8" pump maximum flow rate - 9 GPM (34 l/m)
- 1/2" pump maximum flow rate - 17 GPM (64,6 l/m)
- 1" pump maximum flow rate - 42 GPM (155,8 l/m)
- 1-1/2" pump maximum flow rate - 95 GPM (360 l/m)
- 2" pump maximum flow rate - 150 GPM (569 l/m)
- 3" pump maximum flow rate - 255 GPM (965 l/m)

For optimal efficiency, the pump should operate at 50% to 60% of the maximum flow rate.

Notes on Suction Lift

- Viscosity and specific gravity reduce suction lift - position pump close to fluid source.
- Max-Pass™ valves found in Specialty Performance and Performance Plus increase suction lift

You now know the materials of construction and size of the pump. The next step is to select the pump style based on features and specifications. See your All-Flo brochure.

Specialty Performance 3/8" models

- Max-Pass™ valves standard on all pumps except PT, KT and CT models (check balls)
- Built for low flow applications with fluids containing solids, abrasives, and coagulants
- Process Control Optional - Solenoid or Cycle Counting

Performance Plus 1/2", 1" models

- Bolted Construction
- Increased air efficiency
- Max-Pass™ valves optional
- Increased flow rates
- Increased maximum air pressure ratings
- Process Control - Solenoid or Cycle Counting

- Clamped construction - deep groove, stainless steel clamps
- Low maintenance and reliable performance for many years
- Dual manifolds optional

Application Guidelines: Viscosity and specific gravity will affect suction lift.
 a. Pumps which are built with PTFE elastomers have a suction lift of 10' (3 m).
 b. Pumps built with all other elastomers have a suction lift of 15' (4,5 m).

Position the fluid source as close to the pump as possible to aid in priming the pump.