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To help you choose the best pump for your application, we've included this general information section. Refer to the "Guide to Liquid Pumps" below and "Liquid Pump Selection Flowchart" on the facing page to find out what each pump type can offer you. "Liquid Pump Terminology", "Installation Information", "Viscosity Handling Characteristics", and "Conversion Tables and Equations" follow on pages 1428-1430 to help answer your other pump system questions.

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Tech questions
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Guide to Liquid Pumps

Use the guide below to help you select the best type of pump for your application. This information is intended as a general guideline and will not hold true for all pumps within a classification; check individual pump specifications on the given pages for complete details.

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Pump type	Page(s)	Max flow ranges		Max pressure	Self-priming	Pulseless flow	Fluid viscosity	Particulate matter	Run dry	Advantages
		GPM	L/min							
Air-operated diaphragm	1452, 1488-1493	0.80 to 238	3 to 900	Up to 125 psi	Excellent	Fair	Medium	Yes	Yes	Use for highly viscous or particulate-laden fluids and where electricity is not available
Bellows	1467, 1493	0.008 to 26.4	0.03 to 100	Up to 73 psi	Good	Poor	Medium	Yes	Yes	Can pump liquids or gases
Centrifugal	1431-1444	2.3 to 380	8.7 to 1438	Up to 363 psi	Poor	Excellent	Light	No	No	Fluid transfer at high flow rates and low pressures
Chemical feed system	1479	0.004 to 0.033	0.155 to 0.13	Up to 150 psi	Good	Poor	Good	No	Yes	Ideal for high-accuracy applications. Come complete and pre-assembled.
Diaphragm	1471-1479, 1496	0.004 to 3.0	0.015 to 11.4	Up to 300 psi	Good	Poor	Medium	No	Yes	High-accuracy; for applications such as pH/ORP control
Double-diaphragm	1452, 1488-1493, 1497	0.80 to 238	3 to 900	Up to 125 psi	Excellent	Fair	Medium	Yes	Yes	Use for viscous or particulate-laden fluids
Drum	1445-1453, 1494	3.5 to 63.0	13.2 to 238	Up to 100 psi	Poor	Excellent	Medium	No	No	Economical. No electrical parts
Flexible impeller	1495-1496	3.8 to 37.5	14.4 to 145	Up to 30 psi	Excellent	Excellent	Light	No	No	Low-cost utility pump
Flexible liner	1499	1.0 to 10.0	3.8 to 37.8	Up to 50 psi	Excellent	Excellent	Medium	Yes	Yes	Gentle pumping action uses no seals—pulseless, can run dry
Gear	1454-1465	0.087 to 60.0	0.33 to 227	Up to 1500 psi	Poor	Excellent	Medium	No	No	Pulseless flow at high pressures
Hand	1445-1447, 1452	3 to 32*	11.4 to 121*	—	Good	Fair	Light	No	No	Economical. No electrical parts
Hose	1420-1425	0.66 to 108	2.5 to 409	Up to 220 psi	Excellent	Poor	Medium	Yes	Yes	Noncontaminating, use for high flow and high pressure applications
Ismatec™ peristaltic	1394-1413	0.007 to 3.4	0.026 to 13	Varies on tubing	Excellent	Fair	Heavy	Yes	Yes	Noncontaminating, high accuracy; available in a wide variety of tubing materials
Manostat® peristaltic	1414-1419	0.012 to 1.3	0.045 to 5.0	Up to 25 psi	Excellent	Fair	Heavy	Yes	Yes	Noncontaminating, available in a wide variety of pump materials
Masterflex® peristaltic	1290-1393, 1466	0.010 to 12.0	0.037 to 45	Up to 125 psi	Excellent	Fair	Heavy	Yes	Yes	Noncontaminating, available in a wide variety of pump materials
Piston	1481-1486	0.0004 to 0.34	0.0015 to 1.3	Up to 6000 psi	Good	Poor	Medium	No	No	Highest pressure and accuracy, ideal for HPLC applications
Polymer preparation systems	1480	10 to 50	38.8 to 194	Up to 60 psi	Good	Poor	Good	No	Yes	Activate either wet or dry polymer with pre-assembled system
Progressing cavity	1500-1501	0.083 to 13	0.31 to 49	Up to 360 psi	Fair	Excellent	Very heavy	Yes	No	Pulseless flow for highly viscous or particulate-laden fluids
Roller	1499	3.8 to 7.5	14.4 to 28.4	Up to 50 psi	Yes	Fair	Medium	Yes	No	Ideal for high-temperature applications where some particulates are present
Rotary vane	1498	0.7 to 4.3	0.47 to 16.3	Up to 240 psi	Fair	Very good	Light	No	No	High-pressure capabilities, low shear
Submersible	1431, 1443-1444	3.0 to 180	11.4 to 681.3	Up to 125 psi	Poor	Excellent	Light	No	No	Use for emptying tanks or sumps
Syringe	1468-1470	0.0003 to 0.13	0.001 to 0.5	Up to 750 psi	N/A	Excellent	Light	No	Yes	Low flow rates at high pressures

*Strokes per gallon