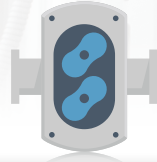


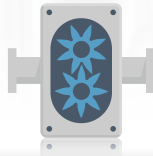
QuickSelect HYGIENIC PUMP Comparison



AODD Pump



Lobe Pump



Gear Pump



Centrifugal Pump



Screw Pump



Progressive Cavity Pump

	AODD Pump	Lobe Pump	Gear Pump	Centrifugal Pump	Screw Pump	Progressive Cavity Pump
Product Integrity	Reliable pumps for transferring liquids and viscous fluids safely, efficiently and precisely	Gentle action, imparts little shear to maintain product integrity, minimize product degradation; efficient handling of larger particles	Well suited to high-lubricity products without particulates such as fats, oils, and glycerin	High speed and high shear can alter product integrity, best for low viscosity liquids free from suspended particles	High tolerance for entrained gasses. Versatility with different flow rates, pressures, liquid types, and viscosities	Operates gently, does not impart shear for product consistency, higher discharge pressures can pump highly viscous materials over long distances
Maintenance	Can run dry for extended periods; fewer parts also mean fewer repairs and costs	Ease of maintenance with front loading seal designs, Unibloc® Pump QuickStrip technology and splined shafts	Ease of maintenance with gear pumps with front loading seal designs, Unibloc® Pump QuickStrip technology and splined shafts	Dry running undesirable; can lead to overheating and pump failure	High parts count, requires experienced technical knowledge to maintain	Complex mechanical seals, requires periodic maintenance
Facility Requirements	Accurate flow control aids cost effectiveness, requires adequate air source, noise issues	Compact design for tight spaces. Various port sizes options and configurations available	Compact design for tight spaces. Various port sizes options and configurations available	Sensitive to operating environment and can cause pump cavitation issues; cavitation caused by poor suction, overspeed, high discharge pressure	Highest initial capital outlay among positive displacement pump types	Occupies a larger footprint than other pump types, taking up processing line real estate
CIP	Clean in place designs readily available facilitating ease of maintenance	Clean in place designs readily available facilitating ease of maintenance	Clean in place designs readily available facilitating ease of maintenance	Sometimes used as CIP pump in process applications, low pressure high flow requirements of CIP system	Clean in place designs readily available facilitating ease of maintenance	Limited CIP designs based upon pump construction
COP	Flotronic® "One-Nut" design technology allows easy COP, reducing downtime and enhancing ease of maintenance	Unibloc® Pump QuickStrip technology facilitates COP, specific design elements making COP quick and easy	Unibloc® Pump QuickStrip technology facilitates COP, specific design elements making COP quick and easy	Moderate downtime required for COP depending upon design	Lengthy downtime required for COP due to complex design and number of parts and seals	Lengthy downtime required for COP, difficult to disassemble, requires floor space
Performance	Durable, equipped to handle abrasive materials over wide range of viscosities	High flow rates while not affecting shear sensitive liquids, ability to move larger particles without damage	Large flow range for clean liquids over broad range of viscosities	Higher rpm can cause impeller wear and less durability; centrifugal is least expensive pump technology option	Low pulsation, versatile over range of flow rates, pressures, liquid types, and viscosities	Slower RPM lends longer lifespan, good for high viscosity fluids