

AF Series

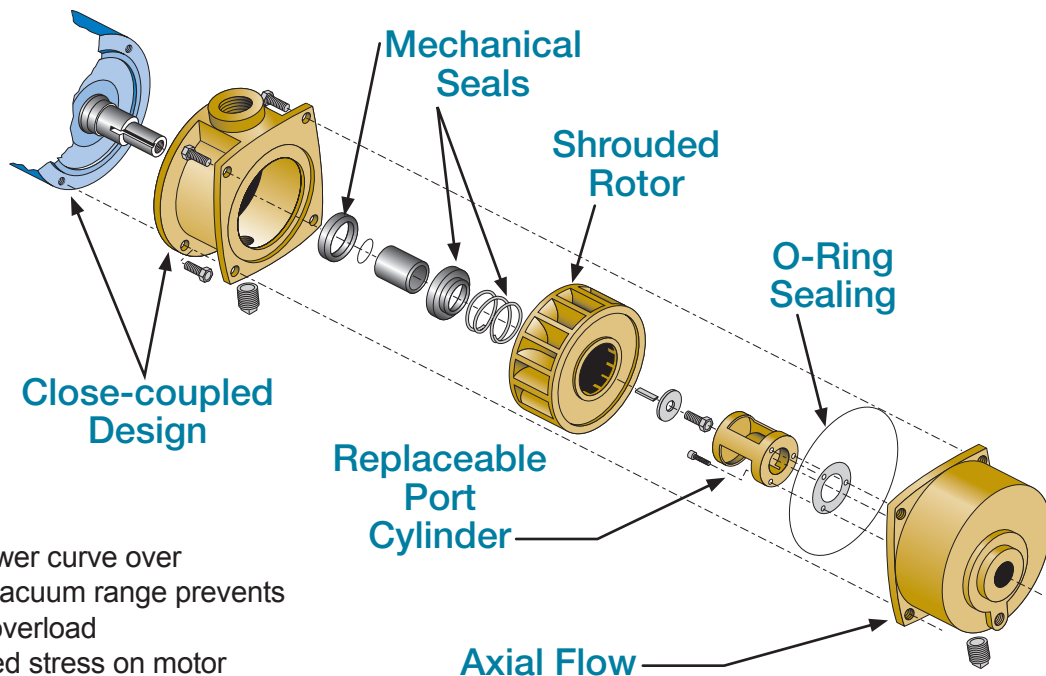
AF Liquid Ring Vacuum Pumps and Systems



AF series vacuum pumps consist of a shrouded motor rotating freely within an eccentric casing. Centrifugal force acting on liquid within the pump causes the liquid to form a ring inside the casing. A fixed port cylinder concentric with the rotor directs the gas into the suction ports. Gas is trapped between the blades by the liquid pistons formed by centrifugal force as the liquid recedes from the port cylinder. It is trapped at the point of maximum eccentricity and is then compressed by the liquid ring as it is forced radially inward toward the central port cylinder. After each revolution the compressed gas and accompanying liquid are discharged.

During the pumping cycle the gas is in intimate contact with the sealing liquid and compression is nearly isothermal. When handling saturated vapor-gas mixtures the liquid ring acts as a condenser, greatly increasing the effective capacity of the pump.

AF Series Motor mounted single stage liquid ring vacuum pumps



- Flat power curve over entire vacuum range prevents motor overload
- Reduced stress on motor shaft and bearings
- Increased water handling capability prevents heat build-up, extends life of mechanical seals
- Compact, close - coupled design eliminates need for interstate manifold or motor alignment

Cavitation: AF pumps are not as susceptible to cavitation compared to flat plate design because the flow path through the pump is an axial flow. This flow allows the velocity through the pump to be unchanged and carries the air out effortlessly.