

Liquid Pump Terminology:

Flooded Suction: Liquid source is higher than pump, and liquid flows to pump by gravity. Preferable for centrifugal pump installations.

Flow: The measure of the liquid volume capacity of a pump. Given in Gallons Per Hour (GPH) or Gallons Per Minute (GPM) as well as Liters Per Minutes (LPM), and milliliters per minute (ml/m).

Head: Another measure of pressure, expressed in feet. Indicates the height of a column of water being lifted by the pump, neglecting friction losses in piping.

Lift: (Suction Lift) - Liquid source is lower than the pump. Pumping action creates a partial vacuum and atmospheric pressure forces liquid up to pump. Theoretical limit of suction lift is 34 feet, practical limit is 25 feet or less, depending on pump type and elevation above sea level.

Pressure: The force exerted on the walls of a container (tank, pipe, etc.) by the liquid. Measured in pounds per square inch (PSI)

Prime: A charge of liquid required to begin pumping action of centrifugal pumps when liquid source is lower than pump. May be held in pump by a foot valve on the intake line or a valve or chamber within the pump.

Seal: A device mounted in the pump housing and/or on the pump shaft, to prevent leakage of liquid from the pump. There are two types:

Mechanical: Has a rotating part and stationary part with highly polished touching surfaces. Has excellent sealing capability and life, but can be damaged by dirt or grit in the liquid.

Lip: A flexible ring (usually rubber or similar material) with the inner edge held closely against the rotating shaft by a spring.

Seal-less: (Magnetic drive). No seal is used, power is transmitted from motor to pump impeller by magnetic force, through a wall that completely separates motor from impeller.

Specific Gravity: The ratio of the weight of a given volume of liquid to the same volume of pure water. Unless stated otherwise, power requirements of all pumps listed herein are based on pumping water. Pumping heavier liquids (Specific Gravity greater than 1.0) will require more drive horsepower.

Static Discharge Head: Vertical Distance (in Feet) from pump to point of discharge.

Sump: A well or pit in which liquids collect below floor level, sometimes refers to an oil reservoir.

Total Head: The sum of discharge head, suction lift and friction losses.

Viscosity: The thickness of a liquid, or its ability to flow. Temperature must be stated when specifying viscosity, Since most liquids flow more easily as they get warmer. The more viscous the liquid, the slower the pump speed required.

Gland: A groove made to hold the o-ring seal so that desired compression for proper sealing is maintained.

Strainers: A device installed in the inlet of a pump to prevent foreign particles from damaging the internal parts.

VALVES:

Check Valve: Allows liquid to flow in one direction only. Generally used in discharge line to prevent reverse flow.

Foot Valve: A type of check valve with a built-in strainer. Used at point of liquid intake to retain liquid in the system, preventing loss of prime when liquid source is lower than pump.

Relief Valve: Usually used at the discharge of a positive displacement pump. An adjustable, spring-loaded valve opens, or "relieves" when a pre-set pressure is reached. Used to prevent excessive pressure and pump or motor damage if discharge line is closed off.

Unloader Valve: Similar to relief valve, but not adjustable.