2 WIRE DECODER SYSTEM	Technology that permits control of large irrigation systems, over relatively long distances, by inserting waterproof decoder modules in a low voltage, direct burial two-wire path
2 WIRE WATER WELL MOTOR	Motor which has own relay and start capacitor built into the motor, which is suspended off the bottom of the pump in the well. The pump must be pulled out of the well to repair.
ABSOLUTE PRESSURE	Atmospheric pressure added to gauge pressure.
ACCELERATION	Rate at which velocity increases.
ADAPTER	Connects the dry (power) end to the wet end of a pump.
AIR LOCK	An air bubble caught in a pump or pipework that prevents the flow of water.
ALIGNMENT	Centerline of the pump is aligned to the drive shaft of a pump motor.
AMBIENT COMPENSATED	Environmental condition around an operating system where two elements (i.e. control and motor) are at different or changing temperatures.
AMBIENT HEAT	The heat that is present in and around the ground or water surface, primarily through the storage of solar energy
AMBIENT PRESSURE	The pressure of the surrounding air, gas or liquid in contact with an object at a specific location
AMPERAGE	Also known as current or Coulombs, it is the amount of electrical energy flowing through an appliance at any time, measured in amperes (amps).
AMPERES (AMPS)	Measurement of electrical energy flowing through an appliance.
AMPHIBIOUS	Equipment that can work on land and submerged in water.
APPLICATION	Conditions of use, in operation, that a pump must achieve to fulfill a specific outcome.
ASME	American Society of Mechanical Engineers.
ATMOSPHERIC PRESSURE	The pressure exerted by the weight of the atmosphere surrounding the earth – measured as pounds per square inch.
AWWA	American Water Works Association.
ANSI PROCESS PUMP	Horizontal, end suction, single stage pump with dimensionally standard sizes. Used in transfer and process applications for many type of industrial and manufacturing applications.
API PROCESS PUMP	Pump built to API 610 standard for use in industrial applications.
AUGER PUMP	Pump that raises water by means of helical impellers in the pump casing. Used in irrigation and dewatering applications.
AXIAL FLOW PUMP	Pump, also known as elbow or propeller pumps, that moves the fluid along the axis of the pump. They are used in high flow and low head applications.
BACK FLOW	Occurs when water flows in reverse of intended flow within the piping.
BACK PLATE	Pump component, also known as a bracket or mount ring, that attaches the motor and pump housing.
BACK TO BACK DOUBLE SEAL	Rotating seals are facing opposite directions.
BACKFLOW PREVENTION DEVICE	Used to prevent the flow of water from the system back to the pump/water source.
BALL BEARING	Friction reduction bearing device that uses both a rotating and stationary part separated by a ring of solid metal balls.
BALL VALVE	An adjustable valve that utilizes a spherical disk in order to control flow.
BAR	Metric term for an atmosphere of pressure.
BASE PLATE	Piece of material that the pump and motor is connected to.

BASKET STRAINER	A basket-shaped device that water flows through and into a pump – used to separate particulate and debris out of the fluid.
BEARING	Supports the rotating shaft and allows it to turn with minimal friction.
BEARING - SEALED	Designed bearing that requires little or no additional lubrication. See owner's manual.
BEARING LUBRICATION	Grease used to reduce friction, which allows for smooth continuous, operation of equipment, with only mild wear, and without excessive stress or seizure at the bearings.
BEST EFFICIENCY POINT	The point where the power coming out of the pump is closest to the power coming into the pump.
BOOSTER PUMP	A pump used to boost the existing pressure of a system.
BOOSTER STATION	A pumping system used to increase the pressure in a system.
BUMP	Momentarily supplying power to a pump to determine impeller rotation.
BUTTERFLY VALVE	Employing a metal disk, this valve can restrict flow or completely stop flow.
CAM COUPLING (FITTING)	Connection fitting which allows a quick hook-up and removal of hose at a pump or other connection point
CANNED MOTOR PUMPS	A sealless centrifugal pump, with an impeller that is attached to the motor rotor. Used in chemical or high temperature pump applications..
CAPACITOR	Storage device for electrical energy.
CAPACITOR START MOTOR	Motor in which a capacitor is in series with the start winding.
CAPACITY (FLOW RATE)	The amount of water a pump will put out or a tank will hold.
CARBIDE	A compound that is formed when carbon combines with an element creating a very hard metal often used as a mechanical seal face.
CARBONIZING	An effect that results in residue affecting the movement of mechanical seals.
CASE-HOUSING	The pump reservoir in which a fluid enters in the intake and then exits through the discharge.
CAVITATE	Occurs when a pump body's outgoing flow is not matched by the incoming flow. The imbalance creates molecules that release stored energy by imploding.
CAVITATION DAMAGE	The pitting or erosion of the impeller caused by the collapsing of any cavitation molecules.
CENTRIFUGAL FORCE	Fluid is forced from the center of the impeller outwards.
CENTRIFUGAL PUMP	A type of kinetic pump that employs centrifugal force to move water.
CENTRIFUGAL SWITCH	Within a motor, an electric switch that operates using centrifugal force created from a rotating shaft which disconnects the start windings after reaching operating speed.
CERAMIC	A hard, chemically inert seal face material.
CHECK VALVE	These valves only allow for a one way flow of liquid, entering at one end and exiting at the other.
CHEMICAL FEEDER	A device used to introduce chemicals into something else.
CIRCUIT BREAKER	An automatic device for stopping the flow of current in an electric circuit as a safety measure.
CIRCULATOR PUMP	Pump that is used in HVAC systems in buildings circulating all temperatures of water.
CISTERN	Waterproof receptacle for holding liquids.
CLEAR WATER	Rainwater runoff collected in a sump or collection basin.
CLOSED IMPELLER	These impellers are designed to have enclosed veins which increases the velocity of the liquid moving through the pump resulting in higher head.

COMPOSITE	A material made up of more than one substance.
CONTINUOUS DUTY DESIGN	A design specification that allows motors to run for long periods of time through heat disbursement.
CONTROL BOX	A device that contains electrical components and is used to control irrigation equipment.
CONCRETE PUMP	A concrete pump is designed to pump concrete and other mixed aggregate solutions.
CORROSION RESISTANT	Corrodes at a rate of .002 inches per year.
CRYOGENIC PUMP	Used in applications where the liquid is at a very low temperature.
CURRENT	The movement of an electrical charged matter, carried by electrons along a path (conductor, wire). Current is measured in terms of amperes (amps).
CYCLING	This happens when a pump repeatedly turns on and off, which can damage the pump.
D.I.N. STANDARD	The German standard for industrial products.
DEAD HEAD	The point on a pump performance curve where the unit is pumping zero GPM.
DEEP WELL JET PUMP	A pump that uses a two-pipe system and an ejector to increase suction lift.
DEEP WELL SUBMERSIBLE PUMP	Pumps that use stacked impellers to raise water to the surface. They can be submersed 1000' feet or more.
DENSITY	A measure of the weight of fluid.
DEWATERING	Removing water areas that you don't want water in.
DIAPHRAGM PUMP	Reciprocating positive displacement pump used where the fluid has high solids or high viscosity.
DIFFUSER	Component of a pump that directs the discharge flow of water coming off an impeller.
DISCHARGE	The pump outlet where water exits the pump.
DISCHARGE HEAD	The total head, including static head and friction head, on the discharge side of the pump.
DISTANCE	The straight line separation between an object and a reference point.
DOUBLE SUCTION PUMP	The rotor is suspended between bearings with the fluid entering on either side of the impeller. Used at higher capacities.
DRAWDOWN	The difference between the static water level and the pumping water level in a well.
DRAWDOWN LEVEL	The water level in a well, measured while the pump is running at full capacity.
DRUM PUMP	This slim pump is used to move small quantities of liquids out of drums and carboys.
DRY END	The motor end of the pump that never sees fluid.
DRY RUNNING	Running the pump without fluid at the seal face.
DUAL SEAL	Two seals running in various configurations.
DUCTILITY	The ability of a metal to be easily bent or stretched, rather than break.
DYNAMIC (SYSTEM) HEAD	The working load on a pump while it is running.
DYNAMIC ELASTOMER	The rubber part that has to move or flex to compensate for seal face wear or shaft movement.
E.P.A.	Environmental Protection Agency.
E.P.R. **(ETHYLENE PROPYLENE RUBBER)**	The most common elastomer used in the sealing of water based higher pH materials, but cannot be used in petroleum products.

EFFECTIVE DIAMETER	The calculated diameter where the pressure penetrates between the metal plates. This number is used to determine the hydraulic balance diameter of the seal face.
EFFICIENCY	Power out of the equipment divided by the power in.
EFFLUENT	Sewage or wastewater which has undergone some pretreatment.
EFFLUENT PUMP	A pump used in sanitary sump drainage and grey water applications. Usually pump smaller solids than a sewage pump.
ELASTIC RANGE	The stressed part retains its memory and returns to its original shape.
ELASTOMER	A rubber like material that, when compressed and then released will return 90% of its original shape in less than five seconds.
ELECTRICAL DISCONNECT SWITCH (MOTOR NAMEPLATE REFERENCE)	A manually operated external switch that is used to make sure that an electrical circuit can safely be completely de-energized.
ELECTRICAL GROUND	Circuits connected to the ground to protect the user.
ELECTRICAL PHASE	Motors are designed to run on either single or three phase power. Check the motor nameplate to determine. Consult power company for availability of power.
ELECTRICAL RELAY	An electrical switch that accepts a signal voltage from a source, allowing electricity to flow to a pump or other device.
ELEVATION	The vertical distance that a fluid must travel from the pump to the highest point in the discharge system.
END SUCTION PUMP	Flow enters the end of the casing and is pushed out of the top, used to transfer or circulate liquid. This is not a self priming pump and requires a foot valve.
ENDURANCE LIMIT	Beyond this point the metal will fatigue without increasing the stress.
ENERGY DRIVEN PUMP	A type of pump which uses an electric or hydraulic motor as its driver or motive force.
EPDM (ETHYLENE PROPYLENE DIENE MONOMER)	Elastomer characterized by a wide range of applications.
EXTENDED DUTY DESIGN	Designed for long-term intermittent use. (Not continuous duty use)
EYE OF THE IMPELLER	The center of the impeller, where the fluid enters.
FACE LUBRICATION	The fluid or vapor that sometimes exists between lapped mechanical seal faces.
FACE PRESSURE	The sum of all the loads on the seal face divided by the area of the seal face.
FACE TO FACE SEALS	Two seals running against a common seal face.
FILTER	A device used to remove solid particles from a fluid, removing smaller particles than a strainer.
FIRE PUMP	Centrifugal pump, employing high pressure, used for fire fighting.
FLANGE	A device used to couple to a pipe on the suction or discharge of a pump.
FLEXIBLE IMPELLER PUMP	Type of rotary displacement pump that has a rotating rubber impeller with vanes that bend then straighten as the impeller rotates to conform to the internal cam in the pump casing. Used in marine services.
FLOAT CONTROL	(see Float Switch)
FLOAT SWITCH	A hanging switch device used to detect the level of liquid within a tank.
FLOW CONTROL VALVE	A device that regulates the flow or pressure of a liquid.
FLOW SLEEVE	A sleeve attached to a submersible pump to force liquid to pass around it and enter the pump's suction intake from below to water cool the motor.

FLOW SWITCH	A device designed to monitor fluid flow in a pipe.
FLUID	A substance that can either be a liquid or a gas.
FOOT VALVE	Use to prevent debris from entering the pump or pipe and to prevent backflow. Assists with suction lift and reduces start-up stress on pump.
FORCE	An applied effort that tends to attempt to move something.
FRANCIS VANE IMPELLER	Most popular impeller shape with a specific speed between 1500 and 4000.
FRICTION	The resistance to motion of two objects or surfaces that touch.
FRICTION LOSS	The loss of pressure or head due to resistance to flow in the pipe and fittings.
FRICTION LOSS CALCULATIONS	Based on the type of pipe used, the size of the pipe, the average flow rate, and the length of the pipe.
FRICTION LOSS CHARTS	Table showing resistance to water movement within various types of piping material.
FULL LOAD AMPS	The amount of current a motor will draw at its rated horsepower.
FULL PORT BALL VALVE	A valve that allows for full pipe size flow, no friction loss, when in the open position.
FUSE	A safety device utilizing a thin strip of metal that will melt and break an electric current if the current exceeds a safe level.
GALLONS PER DAY (GPD)	Flow rate measurement.
GALLONS PER HOUR (GPH)	Flow rate measurement.
GALLONS PER MINUTE (GPM)	Flow rate measurement.
GASKET	A plastic or rubber ring or flat plastic or paper device used in machinery as a seal against air, oil, or high pressure.
GATE VALVE	This valve opens and closes by lifting or dropping a gate or wedge.
GAUGE	A measurement instrument, some uses include measuring PSI.
GEAR PUMP	Rotary displacement pump in which liquid is passed between two meshing gears and the sur rounding casing. Used for clean oils and other viscous liquids.
GLOBE VALVE	A valve used to regulate flow in a pipeline, utilizing a movable disk.
GOVERNOR	A device that maintains a constant engine speed; a spring loaded device which is mounted under the canopy on the motor shaft designed to regulate rotational speed or momentum.
GRAY WATER	Non-toilet household wastewater that is sometimes recycled especially for use in gardening or for flushing toilets.
GREASE SEAL (LIP SEAL)	A spring loaded elastomer seal commonly used to seal bearing.
GRINDER PUMP	A sewage pump designed to chop or cut solids into smaller pieces.
GROUND WATER	The water that systems pump and treat from aquifers.
H-O-A (HAND-OFF-AUTO)	A toggle switch which allows you to choose how you want the pump to run. Auto allows flow switches to turn the pump on or off, while hand allows for manual on/off.
HARD FACE	A seal face either rotating or stationary, must be a wider seal face.
HEAD IN FEET	A term used to define water pressure in vertical feet.
HERTZ (HZ)	One cycle of AC electric flow.

"HIGH VOLTAGE" (MOTOR NAMEPLATE REFERENCE)	The highest voltage a motor can use to run. Running a motor on high voltage may increase the amperage draw and heat of the motor, while decreasing the life of the motor.
HORSE POWER	One horsepower is defined as the ability to move 33,000 pounds one foot in a minute. It is a measure of the work performed.
HORIZONTAL SPLIT PUMP	Centrifugal pumps that has a single double suction impeller supported between two bearings. Used in higher flow applications.
HOSE CONNECTOR	The fitting used to connect the hose to the wall or pump fitting.
HYDRAULIC SHOCK	A damaging condition that occurs when a column of liquid changes direction quickly and increases in velocity. Also known as water hammer.
HYDRAULIC RAM PUMP	Cyclic water pump power by hydropower, using the water hammer effect to develop pressure that allows a portion of the input water that powers the pump to be lifted to a point that is higher than where the water originally was. Used for pumping water to an elevation higher than the water source. Requires no outside source of power.
I.S.O	International standards organization. Sets and certifies manufacturing quality standards.
IMPELLER	Attaches to the end of the shaft to impart energy the fluid being pumped. Available in open, semi-open and closed designs.
IMPELLER EYE	The center of the impeller or where fluid enters the impeller.
IMPELLER VANE	Located between the eye and the discharge side of the impeller. Directs the flow of the liquid to the outside diameter of the impeller.
IMPLODE	Occurs when a material collapses in on itself, releasing stored energy in the molecules, causing damage to a pump. (Cavitation)
INLET	The entry point where water passes into a pump.
JAMMED IMPELLER	Occurs when some type of debris is pulled into the suction port that stops motor rotation.
JET PUMP	A centrifugal pump with a venturi attached, either at the pump (shallow well) or in the well (deep well).
JOULE	A metric unit for the measurement of heat. Defined as the energy required to move one Newton over one meter.
KILOWATT	One thousand watts. The normal unit for work in the metric system.
LIFT	The height that water must be pushed through a system.
LIP SEAL (GREASE SEAL)	A spring loaded elastomer seal commonly used to seal bearing.
LIQUID LEVEL CONTROL	General term given to any device that monitors the height change of liquid that can send a start/stop or warning signal to a separate electrical device.
LIQUID LEVEL PROBES	An electrical device that detects the level of liquid within a tank.
LOBE PUMP	Employs two shaft drive lobes which mesh with each other, but do not touch due to the use of timing gears. Used for food, beverage, pharmaceutical and biotech applications.
LOW FLOW	A condition that can cause excessive heat inside the pump volute.
"LOW VOLTAGE" (MOTOR REFERENCE)	Lowest voltage on which a motor will turn.
LUBRICANT	Any fluid that will maintain a film thickness of one micron or more at its operating temperature and load.
MAGNETIC DRIVE PUMP	A sealless centrifugal pump transmitting torque from the motor to the impeller using a rotating outer magnet which transmits the magnetic flux through a can to an inner magnet that is attached to the impeller. Used for pumping chemicals, hydrocarbons or other liquids difficult to seal.

MECHANICAL GROOVE FITTING	Components of a pipe joining system where a bolted coupling and gasket use grooves to join different parts together.
MECHANICAL SEAL	A positive sealing device used to seal all fluids.
METERING PUMP	Type of reciprocating positive displacement diaphragm pump that has a very low flow rate. Used to meter low doses with high accuracy, for chemical treatment applications.
MINIMUM FLOW	A condition where low fluid flow can cause excessive head inside the pump volute.
MIXED FLOW PUMP	Functions as a compromise between radial and axial flow pumps, the fluid experiences both radial acceleration and life and exits the impeller somewhere between 0-90 degrees from the axial acceleration.
MOTOR BEARINGS	Supports both ends of the motor shaft allowing it to rotate smoothly with a minimum of friction and wear.
MULTISTAGE PUMP	A pump that utilizes multiple impellers, sometimes to boost pressure or increase the depth of a deep well pump.
NET POSITIVE SUCTION HEAD (NPSH)	NPSH compares the difference between the actual pressure of a liquid in a pipeline (available) and the point of cavitation in a pump (required).
N.P.S.H.A	Net Positive Suction Head Available is the amount of head available to overcome the NPSHR.
N.P.S.H.R	Net Positive Suction Head Required is the amount of head required by the pump to keep the liquid being pump in a liquid state.
NBR (NITRILE RUBBER)	Synthetic Rubber that is resistant to oil, fuel and other chemicals.
NEC	National Electrical Code is a standard for the safe installation of electrical wiring and equipment in the United States.
NEMA	National Electrical Manufacturers Association is the association of electrical equipment and medical imaging manufacturers in the United States.
NEMA 1	General-purpose electrical enclosure. Protects against dust, light and indirect splashing; primarily prevents contact with live parts. Used indoors and under normal atmospheric conditions.
NEMA 3R	Electrical enclosure intended for outdoor use. Mainly used in the irrigation industry to protect electrical components from falling rain and ice formation.
NEMA 4	Watertight (weatherproof) electrical enclosure used outdoors. Used for industrial applications; employing gaskets to protect against wind-driven or directed water, dust, or particle entry.
NOZZLE	A device attached to the end of a pipe or hose to direct the stream of liquid in a certain manner.
O-RING GROOVE	The space into which an O-ring is inserted.
O.E.M	Original equipment manufacturer.
OHMS METER	Device used to check the resistance of the flow of electricity.
OIL LIFE	Lubricating oil has a useful life of about thirty years at thirty degrees centigrade if it is not contaminated.
OPEN IMPELLER	Impellers designed with open blades or veins. This impeller works vest when unrestricted.
OSHA	Occupation and Safety Health Administration is a federal agency of the United States that regulates workplace safety and health.
OZONE	An extremely oxidizing agent and bacteriocide, which consists of three oxygen atoms.

PARALLEL OPERATION	The pumps are discharging to a common header pipe.
PERMEABLE	Allowing some material to pass through.
PERISTALTIC PUMPS	Also known as a hose pump that has a roller or shoe that squeezes a tube or hose as it rotates. Used in applications where solids or corrosive liquids exist.
pH	A measurement of water acidity or alkalinity using a scale of 0-14. 7 is neutral, below 7 is acidic, above 7 is alkalinity.
PIPE STRAIN	The strain on the pump volute caused by the piping. It will cause excessive mechanical seal movement and can cause contact between rotating and stationary pump and seal components.
PISTON PUMPS	Pumps that employ double acting reciprocating pistons. Used in oil production and high pressure applications.
PITTING	Surface voids caused by corrosion, erosion or cavitation.
PLUNGER PUMPS	Pumps that are built with 3 or 5 single acting reciprocating plungers. Used in oil or high pressure applications.
POLYMERS	A chemical compound with many repeating structural units.
POSITIVE DISPLACEMENT PUMP	This pump does not have impellers, but instead relies on rotating or reciprocating parts that directly push liquid in an enclosed volume, until enough pressure is built up to move the liquid nto the discharge system. Used in low flow, high pressure, high viscosity or fragile solid applications.
POTABLE WATER	Any water, such as an approved domestic water supply, which is bacteriologically safe and otherwise suitable for drinking.
PRESSURE	The effect produced by the application of force over the surface of an enclosed area.
PRESSURE DROP	The decrease of hydrostatic force due to the effects of friction or restrictions on a flowing liquid.
PRESSURE GRADIENT	The pressure drop between the seal faces.
PRESSURE HEAD	(see Static Head)
PRESSURE SENSOR	A device that measures the pressure of a gas or liquid.
PRESSURE SWITCH	Electrical/pneumatic device used to turn the pump on and off.
PRIME	Filling the pump case to remove any trapped air in the system.
PROGRESSIVE CAVITY PUMP	A type of positive displacement pump that transfers fluid by means of the progress, through the pump, of a sequence of small fixed shape, discrete cavities as the rotor is turned. Applications include: oil, slurry, and sewage pumping.
PROPELLER	A type of fan or impeller that converts energy into thrust.
PSI	Pounds per square inch.
PUMP	Converts mechanical energy into hydraulic energy.
PUMP CURVE	A diagram supplied by the pump manufacture to describe the relationship between the head and the capacity of a particular pump using various size impellers.
PUMP EFFICIENCY	The ratio or water power to the shaft power.
PUMP HAT	Small cover for protecting the pump motor from the elements while providing shade for cooling.
PVC	Polyvinyl Chloride. Plastic material widely used in irrigation for pipe and fittings because it is light, inexpensive, easy to assemble and can have a long life.
RATE OF FLOW (GPM)	The measurement of the volume of flow per unit of time expressed in gallons per minute.

REDUCED EXTERNAL VOLTAGE - REV	A wiring configuration ensuring any voltage leaving an electrical panel to a float, probe or other device is rated at a safe level of 30v.
REDUCED INCOMING AMPS - RIA	A component configuration that will work with low amperage incoming signals. Will work with all start/stop signal controls - including 2-wire systems.
REGENERATIVE TURBINE PUMP	Type of pump in which the fluid takes multiple trips through the vanes of the impeller increasing flow and pressure. Used in boiler feed applications.
RELIEF VALVE	A type of valved used to relieve the pressure in a system.
RESISTANCE	Impedes the flow of electrons, and is measured in Ohms
ROTATION CLOCKWISE (CW)	A left to right shaft rotation while facing the shaft end of a motor, or suction tap of a pump.
ROTATION COUNTERCLOCKWISE (CCW)	A right to left shaft rotation while facing the shaft end of a motor, or suction tap of a pump. Most pumps run this direction.
ROLLER PUMP	Employs rollers that revolve inside the pump housing to force a liquid through the outlet to the nozzle. Used for agricultural applications and industrial spraying.
SAND PUMP	A type of plunger pump that removes chopped-up drill core from a drill hole.
SCREW PUMPS	Built with two intermeshing screws, driven by timing gears these pumps are used in fuel transfer, and other applications requiring high flow rates of viscous liquids.
S.F.A	Service Factor Amps. A factor indicating the degree to which an electric motor can be operated over the specified horsepower without danger of overloading or failure.
SEAL FACES	The lapped faces that that provide the primary sealing in a mechanical seal.
SEAL LIFE	Seals should run leak free until the sacrificial face (usually carbon/ graphite) is worn away.
SELF ALIGN	A method of keeping both mechanical seal faces square to the rotating shaft.
SELF PRIMING	A pump with the ability to exhaust air/gas from a pump case.
SELF PRIMING PUMP	A centrifugal pump having the capability of dispersing a certain amount of air from its pump body, assuming the pump has been primed initially, when operating under a suction lift; to free itself of entrained gas without losing prime; and to continue normal pumping operation without attention.
SEPTIC TANK	A container used to collect wastewater from a house. Generally they have two compartments and are watertight. The larger compartment is for the raw sewage and the second compartment for effluent water. The second compartment can also be used as a pump chamber.
SEWAGE	Raw wastewater from residential, commercial or industrial sites. Sewage from residential sites is generally defined as 2" or less solids and commercial sites are 3" or 4" solids.
SEWAGE PUMP	A pump designed to pump black water (effluent).
SHALLOW WELL	A type of jet pump OR a well having less than 25' of lift.
SHALLOW WELL SUBMERSIBLE PUMP	A type of submersible pump will work up to a depth of around 100 feet.
SHALLOW-WELL JET PUMP	A type of pump that will work to a maximum depth of about 25 feet. The jet is either attached or pre-cast into the pump body.
SHUT OFF HEAD	The total head created by a pump that is running against a closed discharge.
SILICA CARBIDE	Synthetically produced crystalline compound that is incredibly hard - used in pump seals.
SKIMMER	A machine that separates debris from the top of the water.

SLURRY	Solids in liquid. It is impossible to define when the quantity and size of the particles becomes too much for the mechanical seal.
SMARTBOX	A Munro Manufacturing trademarked control panel that offers exceptional pump protection against loss of prime or heat.
SOFT START	Device used to temporarily reduce the load and torque in the powertrain and electrical current surge of the motor during startup.
SOLENOID VALVE	An automatic valve operating under low voltage (24V AC) which may be remotely located in the landscape and controlled via a signal cable from the central controller (timer).
SOLUBLE	When one liquid dissolves or mixes with another liquid.
SPECIFIC GRAVITY	Ratio of the weight of a volume of a substance to an equal volume of water.
STAINLESS STEEL	Alloy steels containing a high percentage of chromium.
START SIGNAL	An electrical signal sent to begin a water cycle. Signal can initiate from a switch, controller, manual operation or other means.
STARTBOX	A Munro Manufacturing trademarked control panel that provides pilot duty operation between start signal and pump.
STATIC HEAD	The maximum height that a liquid is being pump.
STRAIN	A measure of the amount of deformation produced in a substance when it is stressed.
STRAINER	Any device used to sift debris from inlet of pipework.
STRESS	A measure of the intensity of the load applied to a material.
STRESS RELIEVE	To take residual stress out of an object. This is very important with lapped seal faces; especially those that have been inserted into a metal holder.
SUBMERSIBLE PUMP	A multi-stage centrifugal pump with a waterproof electric motor mounted below the pump end.
SUCTION HEAD	The head on the suction side of the pump. You subtract it from the discharge head to determine the head being produced by the pump. It is a sum of the static, pressure and friction heads.
SUCTION LEAK	An escape of liquid from, or insertion of air into, the piping system going into a pump.
SUCTION LIFT	The condition where the water supply is below the pump.
SUCTION SIDE (OF A PUMP)	The side of the pump where the inlet is located.
SUMP	A low space that collect liquids such as water or chemicals.
SYSTEM CAPACITY	The ability of an irrigation system to deliver water to an acreage.
SYSTEM CURVE	A description of what the pump is required to perform. The pump will pump where the system curve intersects the pump curve.
SYSTEM HEAD	The head caused by friction in the piping. valves and fittings.
T.D.H	Total Discharge Head. A combination of the suction head and the head being produced by the pump.
TANK	A steel, plastic, or fibrewound vessel designed to store pressure or water.
TEMPERATURE SWITCH	A device used to monitor the temperature within a pump. If the temperature is too high the pump will turn off, protecting the pump.
THERMAL CONDUCTIVITY	A measure of the material's ability to conduct heat.

THERMAL OVERLOAD	Over-working equipment causing it to generate heat to the point of damaging itself.
THERMAL OVERLOAD PROTECTION	Relay used to shut down an overloaded motor before the motor becomes hot enough to cause damage. A bimetallic heat detection device.
THERMAL PROTECTION	A bimetallic heat detection device that will shut an overworked motor down before the generated heat causes damage to itself.
THERMOPLASTIC	A plastic material that can be softened or melted repeatedly without change of properties.
TIME DELAY	A adjustable timer capable of delaying an action after start signal is received.
TORQUE	A turning or twisting effort that results from a force being applied to a rigid object at a radial distance from the center of rotation.
TORQUE ARRESTOR	A device use to prevent the turning and twisting of pipes.
TOTAL DYNAMIC HEAD (TDH)	Total height that a fluid is to be pump, taking into account all losses, which include friction loss, pounds per square inch and elevation change.
TRANSDUCER	Attached to the pump and used to send a vibration signal to a meter where it can be read.
TURBIDITY	A measurement of the amount of suspended solids (colloids) in a solution.
TRASH PUMP	Self-priming centrifugal designed to handle rocks and other solids, used in dewatering applications.
UTILITY PUMP	An inexpensive pump similar to a sump pump except that it is not automatic.
VANE IMPELLER (SEMI-OPEN)	This has only one shroud. The other side of the impeller is in close contact with the pump volute case. The vanes of the impeller are spaced far enough apart to pass solids.
VANE PASSING SYNDROME	A type of cavitation caused by the impeller/ cutwater clearance being too small.
VANE PUMPS	These pumps employ a rotor with vanes located in slots, rotating inside an eccentrically shaped casing. Used in transferring oils and other viscous liquids.
VAPORIZE	The fluid passes from a liquid to a gaseous state. If this happens at the seal faces the seal faces will be blown open.
VARIABLE FREQUENCY DRIVE	Circuitry that runs a motor from 0 to 60 Hz. Adjusting the power to save energy.
VARIABLE SPEED MOTOR	Used to control flow in a system by varying the frequency of the motor. Recommended for circulating systems and any other system where the main head is friction losses in the piping system.
VELOCITY	The measurement of the motion of liquids, expressed in feet per second.
VELOCITY HEAD	Part of the total head calculation.
VENT	To remove air or gas from the system. It is important to vent the stuffing box in vertical pumps to prevent the seal faces from running dry.
VERTICAL SUMP PUMP	These pumps are built with a vertical shaft supported in a center column. Used in sump applications.
VERTICAL TURBINE PUMP	Vertical shaft pump that is designed to fit in a bore-hole well. Used for irrigation and booster applications.
VISCOSITY	Resistance to deformation by shear force. Example honey has a higher viscosity than water.
VITON	An E.I. Dupont Dow manufactured elastomer widely used in the sealing industry. The generic name is fluorocarbon. Many of these compounds are attacked by water and steam.
VOC	Volatile Organic Chemical. It is a category of water contaminants.

VOLTAGE	Electrical force or pressure that causes current to flow in a circuit.
VOLTAGE IMBALANCE	Difference between the highest and the lowest voltage exceeding 4%.
VOLUTE CASING	A pump component that encloses the impeller and converts the high velocity energy created by the impeller into pressure energy. It is spiral shaped, similar to a snail's shell.
VORTEX IMPELLER	This impeller creates a revolving mass of water which forms a whirlpool. Minimizing the risk of clogging.
VORTEX PUMP	A type of pump used for excessive solids. The impeller is recessed into the volute. A very low efficiency design, but practical in many applications.
VORTEXING LIQUID	Creating a "whirlpool affect" that can draw air into the suction of the pump.
W.O.G	Designation for parts rated for water, oil and gas.
WATER HAMMER	A damaging condition that occurs when a column of liquid changes direction quickly and increases in velocity. Also known as hydraulic shock.
WATER HORSE POWER	The energy added by the spinning impeller.
WATER-COOLED	Liquid is forced past the motor so that the heat of the motor can be transferred to the liquid increasing usage time and usable life.
WATT	A measurement of electrical power where watts = volts x amps. One watt is the rate of energy expended when a steady current of one amp flows under a pressure of one volt.
WEAR RING	Used with closed impeller pumps to restrict leakage from the high pressure side of the pump to the low pressure side. Should be replaced when the recommended clearance is doubled.
WEEP HOLE - PUMP PANEL	Small opening meant as an outlet for water to escape an electrical box.
WEEP HOLE - PUMP	Small opening meant as an outlet for air to escape a pump case to prevent air lock.
WEIR	A barrier that is designed to alter flow characteristics across rivers and streams.
WELL CAP	A tight-fitting, vermin-proof seal designed to prevent contaminants from flowing down inside of the well casing.
WELL CASING	The tubular lining of a well. Also a steel or plastic pipe installed during construction to prevent collapse of the well hole.
WIRING DIAGRAM	Shows how the pump is wired for voltage.
Y-STRAINER	Inline strainer that removes unwanted solids from liquid, gas, or steam lines.
ZONE	A zone is the area to be watered by a single control valve. Zones are ideally comprised of similar sprinkler types and plants with similar water requirements. This term is usually used with domestic sprinkler systems.

ANSI Process Pump	Horizontal, end suction, single stage pump with dimensionally standard sizes. Used in transfer and process applications for many types of industrial and manufacturing applications.
API Process Pump	Pump built to API 610 standard for use in industrial applications.
Auger Pump	Pump that raises water by means of helical impellers in the pump casing. Used in irrigation and dewatering applications.
Axial Flow Pump	Also known as propeller pump, pump that is very high flow, low head. Used in dewatering, circulating and irrigation applications.
Booster Pump	This pump is used to boost the pressure in a system.
Canned Motor Pumps	A seal-less centrifugal pump, with an impeller that is attached to the motor rotor. Used in chemical or high temperature pump applications. Can be flooded rotor or magnetic drive.
Circulator Pump	Pump that is used in HVAC systems in buildings circulating all temperatures of water.
Concrete Pump	A concrete pump is designed to pump concrete and other mixed aggregate solutions.
Cryogenic Pump	Used in applications where the liquid is at a very low temperature.
Deep Well Jet Pump	Uses a venturi, which becomes a second pump that charges the above ground unit, to increase pressure.
Deep Well Submersible Pump	Pump that can be submersed 1000's of feet.
Diaphragm Pump	Reciprocating positive displacement pump used where the fluid has high solids or high viscosity. Works with two valves like a human heart.
Double Suction Pump (horizontal split case)	The rotor is suspended between bearings with the fluid entering on either side of the impeller.
Drum Pump	This slim pump is used to move small quantities of liquids out of drums and carboys.
Effluent Pump	A pump used in sanitary sump drainage and grey water applications. Usually pumps smaller solids than a sewage pump.
End Suction Pump	Flow enters the end of the casing and is pushed out of the top, used to transfer or circulate liquid. This is not a self-priming pump and requires a foot valve.
Fire Pump	Centrifugal pump, employing high pressure, used for fire fighting.

Flexible Impeller Pump	Type of rotary displacement pump that has a rotating rubber impeller with vanes that bend then straighten as the impeller rotates to conform to the internal cam in the pump casing. Used in marine services.
Gear Pump	Positive displacement pump in which liquid is passed between two meshing gears and the surrounding casing. Used for clean oils and other viscous liquids.
Grinder Pump	A sewage pump designed to chop or cut solids into smaller pieces.
Horizontal Split Pump	Centrifugal pump that has a single, double suction impeller supported between two bearings. Used in higher flow applications.
Hydraulic Ram Pump	Cyclic water pump powered by hydro power, using the water hammer effect to develop pressure that allows a portion of the input water that powers the pump to be lifted to a point that is higher than where the water originally was. Used for pumping water to an elevation higher than the water source. Requires no outside source of power.
Jet Pump	A centrifugal pump with a venturi attached, either at the pump (shallow well) or in the well (deep well).
Lobe Pump	Employs two shaft drive lobes which mesh with each other but do not touch, due to the use of timing gears. Used for food, beverage, pharmaceutical and biotech applications.
Magnetic Drive Pump	A seal-less centrifugal pump transmitting torque from the motor to the impeller using a rotating outer magnet which transmits the magnetic flux through a can to an inner magnet that is attached to the impeller. Used for pumping chemicals, hydrocarbons or other liquids difficult to seal.
Metering pump	Type of reciprocating positive displacement diaphragm pump that has a very low flow rate. Used to meter low doses with high accuracy, for chemical treatment applications.
Mixed Flow Pump	Functions as a compromise between radial and axial flow pumps, the fluid experiences both radial acceleration and life and exits the impeller somewhere between 0-90 degrees from the axial acceleration.
Multistage Pump	A pump that utilizes multiple impellers, sometimes to boost pressure or increase the depth of a deep well pump.
Peristaltic Pumps	Also known as a hose pump that has a roller or shoe that squeezes a tube or hose as it rotates. Used in applications where solids or corrosive liquids exist.
Piston Pumps	Pumps that employ double acting reciprocating pistons. Used in oil production and high pressure applications. Utilizes some type of sliding scale.
Plunger Pumps	Pumps that are built with 3 or 5 single acting reciprocating plungers. Used in oil or high pressure applications. Works on close tolerance.

Positive Displacement Pump	This pump does not have impellers, but instead relies on rotating or reciprocating parts that directly push liquid in an enclosed volume, until enough pressure is built up to move the liquid into the discharge system. Used in low flow, high pressure, high viscosity or fragile solid applications.
Progressive Cavity Pump	A type of positive displacement pump that transfers fluid by means of the progress, through the pump, of a sequence of small fixed shape, discrete cavities as the rotor is turned. Applications include: oil, slurry, and sewage pumping.
Regenerative Turbine Pump	Type of pump in which the fluid takes multiple trips through the vanes of the impeller increasing flow and pressure. Used in boiler feed applications.
Roller Pump	Employs rollers that revolve utilizing centrifugal force inside the pump housing to force a liquid through the outlet to the nozzle. Used for agricultural applications and industrial spraying.
Sand Pump (Plunger Sand Centrifugal)	A type of plunger pump that removes chopped-up drill core from a drill hole.
Screw Pumps (Gear, Auger) (See Auger)	Built with two inter-meshing screws, driven by timing gears, these pumps are used in fuel transfer, and other applications requiring high flow rates of viscous liquids. See Auger.
Self-Priming Pump	A centrifugal pump having the capability of dispersing a certain amount of air from its pump body, assuming the pump has been primed initially, when operating under a suction lift; to free itself of entrained gas without losing prime and to continue normal pumping operation without attention.
Sewage Pump	A pump designed to pump raw sewage water.
Shallow-Well Jet Pump	A type of pump that will work to a maximum depth of about 25 feet. The water returns through a venturi orifice and is either attached or pre-cast into the pump body to assist with lift. See Jet Pump.
Single-stage Submersible Pump	A submersible pump with only one impeller.
Slurry Pump	A pump that handles abrasive slurry in mining, procession, dredging and slurry applications.
Spur-gear Pump (Internal Gear)	Utilizing a "gear within a gear" system, the inter-meshing gear provides pockets of liquid which rotate and force liquid from the pump. Used in industrial applications to pump fluids such as fuel, glycol and asphalt.
Submersible Pump	Pumps with an enclosed motor that are able to be submersed. Used in sump, dewatering and irrigation applications.
Trash Pump	Self-priming centrifugal designed to handle rocks and other solids, used in dewatering applications.
Utility Pump	A versatile submersible pump similar to a sump pump.

Vane Pumps	These pumps employ a rotor with vanes located in slots, rotating inside an eccentrically shaped casing. Used in transferring oils and other viscous liquids.
Vertical Sump Pump	These pumps are built with a vertical shaft supported in a center column to allow the motor to run above the pumped product. Used in sump applications.
Vertical Turbine Pump	Vertical shaft pump that is designed to fit in a bore-hole well or for short coupled units, rivers or ponds. Used for irrigation and booster applications.
Vortex Pump	A type of pump used for excessive solids. The impeller is recessed into the volute and pumps by creating a vortex within the chamber.

Associations/Organizations

ANSI	American National Standards Institute	www.ansi.org
API	American Petroleum Institute	www.api.org
ARCSA	American Rainwater Catchment Systems Association	www.arcsa.org
ASIC	American Society of Irrigation Consultants	www.asic.org
ASLA	American Society of Landscape Architects	www.asla.org
ASME	American Society of Mechanical Engineers	www.asme.org
AWWA	American Water Works Association	www.awwa.org
CE	Consumer Electronics Association	www.ce.org
CSA	Canadian Standards Association	www.csagroup.org
D.I.N. Standard	Deutsches Institut fur Normung	www.din.de/en
EPA	Environmental Protection Agency	www.epa.gov
EASA	Electrical Apparatus Service Association	www.easa.com
FM	Industrial and Commercial Product Certification	www.fmglobal.com
IA	Irrigation Association	www.irrigation.org
ISO	International Standards Organization	www.iso.org
NAHAD	National Association for Hose and Accessory Distributors	www.nahad.org
NEC	National Electric Code	www.nec.com
NEMA	National Electrical Manufacturers Association	www.nema.org
OSHA	Occupational Safety and Health Administration	www.osha.gov
UL	Underwriter's Laboratories	www.ul.com