

- A. Where a pressure regulator is not required, a hydraulic non-slam check valve shall be installed downstream of the pump.
- B. Where single phase power is the provided power, a phase converter shall be included in the pump control panel to facilitate the use of a three(3) phase motor.
- C. Where pump system is connected to a pumped city main, or as required, a combination pressure reducing and non-slam check valve shall be included in the pump system. The valve shall include an opening speed control for slow opening flow control.
- D. A galvanized sheet metal pump enclosure shall be provided complete with ventilation as required WITHOUT the need for fans. Assembled with 316ss nuts and bolts and galvanized or aluminum legs, feet and interior support rails. No welding or hinges permitted.
- E. A type #51 LIMIT switch flow switch with 0-60 seconds adjustable time delay relay shall be installed in the control valve (A or C) to operate as a No-Flow safety shut down.
- F. A special low ampacity Pump Start relay of the plug in module type shall be installed in the control panel to isolate controllers and or to receive an isolated 24vac signal.
- G. A Type A - 5000psi precast concrete base, with #3 rebar, sized to receive equipment. With cad plated anchors installed and pump system factory mounted on the concrete base.
- H. Nema 3R non-fused main disconnect switch, installed exterior of pump panel, and wired to pump panel motor circuit protector.
- I. Low suction pressure cut-off switch and time delay relay.
- J. High suction pressure cut-off switch and time delay relay. *Non-mercury* snap action.
- K. High limit temperature cut-off switch set at 130 degrees F, to de-energize pump, in manual *and* automatic mode, due to no-flow heat build up in pump volute.
- L. Suction Diffuser with strainer, installed to inlet of pump system.
- M. Galvanized vibration dampening union couplings at suction and discharge.
- N. Blow Off Relief Valve (pressure relief) installed in by-pass, discharge to atmosphere.
- O. Where brass, bronze and/or copper inlet and outlet irrigation piping connections are used, bronze dielectric companion flanges shall be provided at pump system suction and discharge headers.
- P. Vane operated (paddle type) flow switch installed in the suction piping with time delay relay.
- Q. Phase Monitor (imbalance/ reversal) and Low Voltage protection cut-off.
- R. LATS - Low Ambient Temperature System
- S. NAS - Noise Attenuation System installed onto interior of pump enclosure.
- T. Double disk spring actuated check valve. Installed downstream of the pump.
- U. *Non-mercury* type snap action pressure switch. To start and stop jockey pump, with time delay on and time delay off.
- V. Custom color / material, finished painted.
- W. Stainless Steel or Marine grade aluminum sheet metal pump enclosure. Same criteria as "D" .
- X. Other or To Be Engineered or as Engineered. Not typical.
- Y. Master Panel, combination pump control and irrigation controller panel.