

## ENGINEER'S SPECIFICATION

## EPG Series L975PT PumpMaster™ Controller 3Ø CONTROL PANEL

Furnish one EPG Companies Inc., UL listed 508A/698A, Series L975PT controller to operate two or more (optional) pump motors and auxiliary equipment in manual or automatic mode. The control panel enclosure shall be NEMA type \_\_\_\_\_.

The enclosure shall be equipped with a window in the outer door, an inner door, a stainless steel drip shield, and a tamper resistant latch. The NEMA 4 (standard) enclosure is finished with polyester urethane paint. The NEMA 4X (optional) enclosure can be either stainless steel or non-metallic.

The control system will operate from a \_\_\_\_\_ Volt, 60 Hertz, three phase power supply. Pump control components will be sized to operate pump motors of specified horsepower.

The control panel shall include the following as standard features:

- \* Main Disconnect Switch: The main disconnect switch shall be \_\_\_\_\_ Amp rated and will prevent opening of control panel while power is on, and includes \_\_\_\_\_ Volt, \_\_\_\_\_ Amp dual element fuses.
- \* "Hand-Off-Auto" Selector Switches: Allow manual or automatic operation. The selector switches shall be heavy duty, oil tight, NEMA 4 rated switches mounted on the inner door. The hand position shall be momentary with a spring return.
- \* Motor Starters: The motor starters shall be sized to the pump motor horsepower, and shall be equipped with built in single phasing protection and ambient compensated, quick trip adjustable thermal overloads.
- \* Control Transformer: Transformer with fused primary and secondary shall isolate control circuit from power circuit and provide easier and safer field wiring of accessories. It shall lower incoming voltage to 120 Volts.
- \* Run Lights: Indicate energization of motor circuit. They shall be heavy duty, oil tight, NEMA 4 rated and shall have LED lamps with 100,000 hour life. The lights shall be mounted on the inner door and will be green in color.
- \* Motor Overload Lights: Indicate motor not running due to overload condition. They shall be heavy duty, oil tight, NEMA 4 rated and shall have LED lamps with 100,000 hour life. The lights shall be mounted on the inner door and will be red in color.
- \* LevelMaster™ Level Controls: The LevelMaster level control meters shall be mounted on the inner door. One level meter shall be provided for each pump. The meters shall have digital readouts and the capability to monitor and maintain pumping operations as well as output high level alarms. They shall also provide high-high level alarm fail safe features that shut off the pump motors. Level control shall be accurate to within 0.1 inch.
- \* Level Simulators: The level simulators shall be mounted on the inner door. One level simulator shall be provided for each pump. The level simulators are built-in test circuits designed to simulate 4-20 mA loads to assist in level setup and troubleshooting.
- \* Intrinsically Safe Barriers: The level sensor circuits shall be by protected by intrinsically safe barriers.
- \* Heater with Adjustable Thermostat: A heater with adjustable thermostat shall promote even distribution of heat and elimination of hot spots and condensation. Heater element shall be mounted in space between the sub-panel and the back of the enclosure and provide a minimum of 200 inches square of heating area.
- \* Lightning Arrestor: Shall be grounded, metal-to-metal, to water strata.
- \* Terminal Strip: Labeled and numbered terminal strip provides easy connection of external components.

- \* Corrosion Inhibitor Emitter: Inclusion of an industrial corrosion inhibitor emitter shall protect internal components of control panel from corrosion for up to one year and shall be replaceable.
- \* Options are available to meet specific needs.

## SYSTEM LOGIC AND FUNCTION

The controller is designed to operate two or more (optional) pump motors upon independent changes in liquid levels as sensed by individual pressure transmitters. Each pump will start at the pump start level set point and will continue to run until the liquid level decreases to the pump stop level set point as sensed by the pressure transmitter. If the liquid level rises to the high level alarm set point, a high level will be annunciated. If the liquid level rises to the high-high level fail-safe set point, the pump motor will shut off. The pressure transmitter level sensors shall have ranges of 0 to \_\_\_\_ feet with 4-20 mA output signals.