



## **Specifications for the Hydro Model HC-220 PID Controller** **Specification HC-220**

### **1.01 GENERAL**

#### **1.01.1 Completeness**

The system shall be complete with all components, equipment, and appurtenances.

#### **1.01.2 Quality Assurance**

All materials and components shall be new and unused of first quality by well-known manufacturers. Inferior materials or components shall not be allowed.

### **1.02 MANUFACTURER**

The manufacturer shall be Hydro Instruments, Telford, PA, USA or approved equal. The controller shall be Hydro Instruments Model HC-220 PID Controller.

### **1.03 CONTROLLER**

#### **1.03.1 General**

1. The Model HC-220 PID Controller shall provide a proportional analog control signal that will be used to drive a chemical feed pump, or control valve, that accepts a proportional analog input signal.
2. The microprocessor based controller shall adjust the output control signal based on one or two electronic input signals.
3. The controller shall allow for manual, proportional, set point and compound loop control.
4. The universal controller shall include an alphanumeric, liquid crystal display. User controls shall be accomplished using a front panel 4-button keypad.
5. The controller shall provide for fine dosage adjustment from 1% - 999% for proportional or compound loop control modes as well as adjustable dead band, (2) lag times, integral and set-point related to set-point or compound loop control modes.

#### **1.03.2 Construction**

1. The controller shall be housed in a NEMA4X rated enclosure.
2. The controller shall be provided with a 6 ft power chord.

### 1.03.3 User Interface

1. The controller shall include a 2-line, 16-character, alphanumeric, liquid crystal display.
2. User controls shall be through a front panel 4-button keypad.
3. Menus and variables shall be displayed in clear English using easy to read, alphanumeric characters for clear understanding.
4. Control mode and all control parameters shall be password protected and adjustable through the use of the keypad while displayed on the screen.

### 1.03.4 Inputs and Outputs

1. The controller shall include two analog input channels.
2. Each analog input signal shall be 4-20 mA.
3. The first analog input channel shall be used for proportional (flow) input signals. The second input channel shall be used for residual or ORP (set point) input channels.
4. Two (2) optically isolated 4-20 mA output signals are provided for control of or monitoring by external devices. The output impedance of each control signal is 500 Ohms.
5. One RS232 output channel shall be provided.
6. One contact relay shall be provided for powering external devices during alarm conditions.