



## **Specifications for the Hydro Model CV-230 Control-Valve** **Specification CV-230**

Hydro Control-Valve Model CV-230 (for 4 to 6,000 PPD Chlorine, Sulfur Dioxide, Ammonia or other) Gas Feed

### **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 automatic control valve shall be Hydro Instruments Model CV-230 Control-Valve.

### **1.03 AUTOMATIC CONTROL VALVE**

#### **1.03.1 General**

1. The automatic control valve shall be provided to control \_\_\_\_ PPD of \_\_\_\_ gas feed under vacuum.
2. The automatic control valve shall be comprised of a controller and variable area orifice rate valve. These devices shall be incorporated into one compact unit.
3. The microprocessor based automatic control valve shall adjust the gas feed rate based on one electronic input signal.
4. The automatic control valve shall allow for the following standard, field selectable control modes: manual or automatic (proportional) control.
5. Motion of the valve shall be achieved by means of a linear stepper motor.
6. Motion control shall be achieved without the use of a feedback potentiometer.
7. To ensure accurate feed rates throughout the range of operation, the software shall incorporate a 10-point valve linearization calibration.

### 1.03.2 Construction

1. The automatic valve shall be housed in a NEMA4X rated enclosure.
2. Materials of construction shall be of the finest available for the appropriate chemical.
3. For accurate feed rate control, the length of the variable area orifice portion of the rate valve stem shall be no less than 1.5 inches.

### 1.03.3 User Interface

1. The automatic control valve shall include a 2-line, 20-character, alphanumeric, LCD display.
2. User controls shall be through a front panel 4-button keypad.
3. Menus and variables shall be displayed in plain English words using easy to read, alphanumeric characters for clear understanding.
4. Control parameters shall be password protected and adjustable through the keypad while displayed on the screen.

### 1.03.4 Inputs and Outputs

1. The automatic control valve shall include one analog input channel.
2. The analog input signal shall be 4-20mA.
3. The input channel shall be used only for proportional (flow) input signal.
4. A common relay output shall be provided for remote indication of alarm conditions.
5. Two 4-20 mA output signals, representative of valve position, shall be provided.