



## GENERAL DESCRIPTION

The Hydro Instruments Series CV-100 automatic changeover system is designed to allow continuous supply of chlorine gas (or sulfur dioxide, ammonia, etc.) when using a duty/standby gas container system layout. The system consists of a dedicated controller Model CV-100 designed for this application, two pressure switches, and two electronically actuated ball valves. In normal operation, the Model CV-100 controller will keep one of the ball valves open (duty) and the other closed (standby). Upon receiving a low pressure alarm relay signal indicating that the duty gas supply source is nearly depleted the controller will close the duty ball valve and open the standby ball valve. After such a changeover event, the operator will be required to silence the changeover alarm, change the empty containers, and then silence the container empty alarm. The Model CV-100 controller also can be used to manually change which ball valve is in operation and to shut down both valves simultaneously. The Model CV-100 controller records the time that each ball valve has been in the duty condition and displays the time of day, day of the week and date of the year on the screen. LEDs on the controller also indicate operation and container empty status for both sides.

# Series CV-100 Automatic Changeover System

## Model CV-100 Electronic Changeover System General Specifications:

### CONTROLLER SPECIFICATIONS

|                     |   |
|---------------------|---|
| Power Supply:       | 230 V / 50-60 Hz  |
| Rating:             | IP65, NEMA4X  |
| Size:               | 295mm x 238mm x 146mm   |
| LCD Display:        | 2 line, 20 character  |
| Push Buttons:       | Four (4)  |
| Inputs:             | Remote Alarm Silence Switch Input Channel<br>Scale Inputs (2 x 4–20 mA) |
| Display Parameters: | Running Operation Time, Time of Day, Date, Scale Weight                 |

### ELECTRONIC BALL VALVES

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| Size:                                 | Dependent on the application      |
| Suggested Valve Body Material:        | Carbon Steel, Monel, or Hastelloy |
| Suggested Valve Ball & Stem Material: | Monel or Hastelloy                |
| Suggested Valve Seal Material:        | Teflon (PTFE)                     |
| Power Limitation:                     | 10W                               |
| Power On Time:                        | 10 seconds                        |

### PRESSURE SWITCHES

|                      |   |
|----------------------|---|
| Chemical Protection: | Tantalum Diaphragm for Chlorine (Consult Hydro Instruments for other chemical applications) |
| Relay Type:          | Normally Open   |
| Switch Output:       | SPDT Relay Switch   |
| Electrical Rating:   | 15 A 125/250/480 VAC resistive  |

### ORDERING INFORMATION

When ordering the Series CV-100 Automatic Changeover systems, each part of the system must be ordered separately. To order a complete system, order the following:

- 1. Model CV-100 Changeover System Controller**
- 2. Two (2) Electronically Actuated Ball Valves:** Note that there are several options to consider when ordering these valves such as the power supply type, material of construction, chemical type being used, and whether the valves are to be installed in the gas pressure manifold before the vacuum regulators or in the vacuum piping after the vacuum regulators.
- 3. Two (2) Diaphragm Protected Pressure Switches:** When ordering these pressure switches they must be selected with diaphragm protection for the appropriate chemical service and adjustable pressure alarm level in the desired range for the application.



INSTRUMENTS

