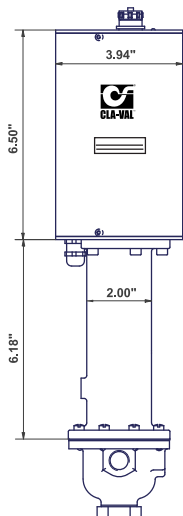
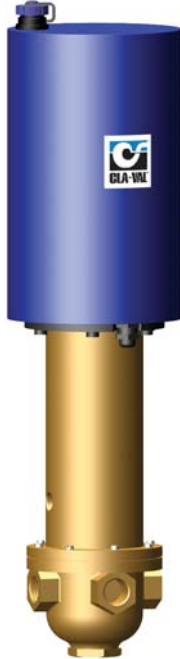




— MODEL — **CDHS-33**

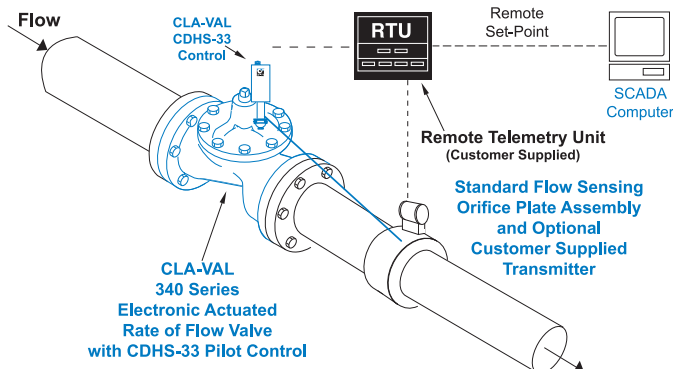
## Electronic Actuated Rate of Flow Pilot Control



- **Simplified Remote Valve Set-Point Control**
- **12-24VDC Input Power**
- **Isolated Input**
- **Reverse Polarity Protection**
- **Reliable Hydraulic Operation**
- **IP-68 Submersible**

The Cla-Val Model CDHS-33 Electronic Actuated Differential Pressure Pilot Control provides remote set-point adjustment and accurate differential pressure control for rate of flow control on Cla-Val 340 Series Control Valves. Remote set-point command signals can be from any SCADA-type control system using analog 4-20 mA signal or by contact closure for cc/ccw rotation. A precision orifice plate installed with valve creates differential pressure used for rate of flow control by the CDHS-33. Operating on 12 to 24 VDC and consuming very little power, it is an ideal control system for remote valve sites that may even be solar powered. Existing manually-set Cla-Val 40 Series Rate-of-Flow control valves can be retrofitted with CDHS-33 to add remote set-point control. Verification of differential pressure and corresponding flow rate may be sent to SCADA system from customer supplied differential pressure sensor attached to orifice plate.

The CDHS-33 consists of a hydraulic pilot and integral controller that accepts a 4-20 mA remote set-point and positions the pilot to maintain a maximum pressure differential at orifice plate and corresponding flow rate within preset limits. Pressure differential settings are linear between these settings. Special USB connector cable and free downloadable software can be used to change built-in electronic range limits for differential pressure and corresponding flow rate. Continuous internal monitoring of actuator position results in smooth transitions between pilot set-points with no backlash or dithering. When power or control input fail, the CDHS-33 pilot remains in automatic hydraulic control assuring system stability under all conditions.



### Typical Applications

The CDHS-33 is installed on Cla-Val 340 Series valves to maintain flow rate and allow the flow rate to be changed from a remote location. It is also an effective solution for lowering costs associated with "confined space" requirements by eliminating the need for entry in valve structure for set-point adjustment. Additional pilot controls, hydraulic and/or electronic, are also available to perform multiple functions to fit exact system requirements.



## CDHS-33 Purchase Specifications

The Electronic Actuated Rate of Flow Control Pilot shall have an integral hydraulic pilot and electronic controller contained in a IP-68 rated submersible enclosure to provide interface between remote telemetry and valve set-point control. It will compare a remote analog command signal with an internal position sensor signal and adjust the hydraulic pilot control spring mechanism to a new set-point position. Remote analog signal input shall be isolated and reverse polarity protected. 4-20 mA actuator position feedback output shall be supplied standard. A second command control input shall be from dry-contact switch closure for clockwise or counter clockwise actuator rotation. If power fails, the control pilot valve shall continue to control main valve to last set-point command. If the Remote Set-Point signal is lost the actuator is programmable to go to either the 4mA, Last, or 20mA command set-point. No mechanical adjustments shall be necessary to the actuator. The low and high position range adjustment shall be accomplished only with valve manufacturer's components and instructions to be supplied in a separate kit. The assembly shall be supplied with 30 feet of cable.

The Electronic Actuated Rate of Flow Pilot Control shall be Cla-Val Model CDHS-33 as manufactured by Cla-Val, Newport Beach, CA.

## Pilot Control Subassembly Specifications

### Adjustment Range

70 to 480 inches H2O Differential

### End Connection

3/8" NPT

### Temperature Range

Water: to 180°F

### Materials

Pilot Control: Bronze ASTM B62  
Trim: Stainless Steel Type 303  
Rubber: Buna-N® Synthetic Rubber

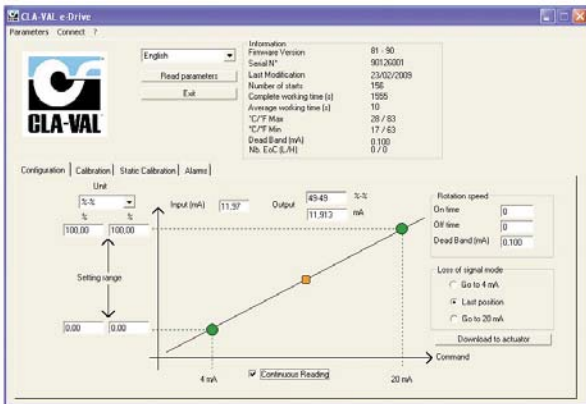
Available with optional Stainless Steel or Monel materials at additional cost. Consult factory for details

Note: Available with Remote Sensing for orifice upstream, specify CDHS-33A

Note: Total Shipping Weight: 8 Lbs.

### Options:

- Re-ranging software - free download from [www.cla-val.com](http://www.cla-val.com). Ranging software makes it easy to set low (4mA) and high (20mA) set-point limits.



- USB connection cable required when changing range parameters or restoring range parameters after servicing pilot control subassembly.

## CDHS-33 Electronic Actuator Specifications

### Supply Power Input:

12V to 24V DC  
No Load draw: 50 mA  
Max. Load draw: 250 mA

### Remote Command Inputs:

- 4-20mA, analog signal (isolated and reverse-polarity protected)
- Dry contact closure (CW/CCW)

### Position Feedback Signal:

4-20 mA

### Alarm Output:

Dry-contact closure (High/Low)

### Speed of Rotation:

Adjustable On/Off time, max 6 rpm

### Diagnostic:

LED Indicator

### Loss of Power:

Actuator will remain in last commanded position.

### Loss of Signal Position:

Programmable - 4 mA, Last, or 20 mA

### Electrical Connections:

Single, 30 feet of permanently attached cable with color-coded power supply and signal wires

### Mechanical Specifications:

Environmental

Protection Class: IP-68 (Temporary submersible)

Ambient Temperature: 15° to 150° F (-10° to 65° C)

### Materials

Electronics Enclosure: Anodized Aluminum

Mechanical Housing: Bronze

Coupling Assembly: Stainless Steel

Gear Train: Stainless Steel, permanently lubricated

## When Ordering, Please Specify

- Catalog No. CDHS-33 (Orifice Downstream)  
CDHS-33A (Orifice Upstream)
- Materials Pilot Control



E-CDHS-33 (R-7/2012)

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