

Complete Reservoir Management Control Valve *Number 2 Service Reservoir – Tararua*



Tararua District Council had a requirement to upgrade and existing 25-year-old Cla-Val Altitude valve at the Number 2 service reservoir. The reservoir is at a remote location and operates in conjunction with a treatment plant that pumps at high volumes resulting in surges in the pipeline when the reservoir control valve is required to shut off at the 95% capacity level. Use of the Cla-Val Model 133-01/VC22D now allows the client to ramp bottom the control valve – pumps down based on flow as the valve approaches top water level and also ramp the valve – pumps up as the bottom water level is approached. An added bonus being the ability to keep the falling water main charged.

Cla-Val Pacific Service staff rebuilt the existing Cla-Val 210-01 Altitude Control valve which had been in service since the early 1970's into a new 133-01 series valve.

The Cla-Val 133-01 is a completely self-contained valve and control system that accurately measures and controls the flow rate. Data from the valve mounted differential pressure and position transmitters is assimilated into a proprietary algorithm program that is based on valve size and configuration to arrive at a flow measurement.

The valve operates on a flow proportioning modulating level control to maintain the reservoir level.

A reservoir level setpoint is entered into the Cla-Val VC-22D controller and at set point the valve goes to zero flow. A level band set point is entered into the controller also in which the difference from the level set point and the valve will vary the flow rate at pre-determined rates between these two set points to maintain reservoir level. There is also an optional flow control where instead of modulating flow rate based on level, you can set a fixed flow rate either locally at the VC22D or remotely via SCADA into the VC22D.

In the event of a loss of level signals or position signals the valve will automatically lock in position and show this condition as an alarm via SCADA.

Valve Operation:

The 133-01 Metering Valve is a completely self-contained valve and control system that accurately meters, and controls flow rate. Data from the valve mounted differential pressure and position transmitters are assimilated into a proprietary algorithm program that is based on valve size and configuration to arrive at a flow measurement.



The valve operates on a flow proportioning modulating level control to maintain the reservoir level.

A reservoir level set point is entered on the controller. At set point, valve will go to zero flow. A level band set point is entered on the controller in which the difference, from the level set point, is the reservoir low level or the "empty tank level". The valve will vary the flow rate within the level band set point to maintain the reservoir level.

There is an optional flow control wherein, instead of modulating flow rate depending on the reservoir level, you can set a fixed flow set point locally on the VC-22D or remotely, using a 4 to 20mA signal to the VC-22D.

In the event of a lost of level or position signal, the controller is programmed to lock the valve in position. On power failure, the valve is locked in position by default.

Navigation and Specific Features:

Home Screen and Navigation Buttons



This is how the home screen looks. The physical navigation buttons are located under the LCD screen on the VC-22D controller.

