VL80 VALVE CONTROLLER

Benefits

AES Water, Inc. (AES) valve controllers give fluid management companies more flexibility, allowing them to perform their jobs more effectively in the field or from the central office. When coupled with the AES T6 Seismic Instrument, emergency preparedness is taken to the next level. With an AES valve controller system providing reliable and repeatable valve control, especially after an earthquake or terrorist attack, everyone is more secure.

Product Benefits

- Seamless integration with any butterfly or gate valve
- Personnel training is done in a matter of minutes
- Replacement parts available in less than 24 hours
- Consistent, high quality valve control
- Specifically for fluid management companies
- Safe, 24 vdc operation eliminates electrical danger
- Maintenance agreements available

Emergency Benefits

Pursuant to HR 3448 the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002", installing a complete AES valve controller and seismic instrument is synonymous to having a worker on site 24/7 in the event of a terrorist attack or damaging earthquake. After an attack or damaging earthquake, emergency procedures can immediately be implemented. Water quality and quantity will be maintained and cleanup will be held to an absolute minimum, thus saving valuable time, money, water and public trust.

Site Benefits

The VL80 valve controller allows field crews the ability to exercise a valve without using their physical strength. With the push of a button a valve can be run from full open to close and back open again in a matter of minutes or the valve exercising can be done automatically through the controller. AES provides the most feature-rich and cost effective valve controllers allowing fluid management companies' the ability to operate on their terms and within their standards, not that of a specific manufacturer's. Our objective when opening our doors in 1994 was to assist fluid managers in providing better site control while improving emergency preparedness system wide.

Productivity Benefits

AES controllers are useful in all valve control situations however the main usage has been at reservoirs with or without commercial power. The 24vdc operation provides needed power to control the valve when on site or from a remote location. This ability to have site control from a remote location is especially useful when sites are in outlaying areas with limited accessibility or during inclement weather. Management may require fewer site visits and thus allow valuable personnel time to be spent on more pressing day to day concerns.

AES Water, Inc. P.O. Box 2231 Mission Viejo, CA 92690
Contact: 949-230-6653/ dwalton@aeswater.org

VL80 VALVE CONTROLLER

Water Conservation

- Water conservation begins at the reservoir
- Preparing for an earthquake should not be a back burner issue
- Natural disasters are inevitable
- Fires have recently scorched very dry Southern California
- Preserving potable water after a damaging earthquake provides piece of mind to all

As recent fires in Southern California have shown, when nature erupts, those who haven't adequately prepared pay the heaviest price. Several times over the last decade fire engines have connected to fire hydrants that were dry, able only to watch as structures burned.

There are many reasons why a water utility may have one or more zones that no longer have water pressure, but one main reason could be that the delivery pipeline has ruptured due to severe ground motion.

15 major earthquakes have occurred on the San Andreas fault over the last 1600 years. The longest the San Andreas Fault has gone without a major earthquake was 165 yrs – the last major earthquake was in 1856 – we are overdue.

Over the last 22 years, AES has become an industry standard in automating valve control. Although most of our customers have installed competing products before installing an AES system**, once an AES system is installed every utility has standardized on it.**

AES provides 24vdc valve controllers and seismic instruments to mitigate property loss and human suffering after a damaging earthquake. Don't let the immediate trump the important, please contact AES Water today to help evaluate your water system's emergency preparedness.

Standard VL80 Dual Valve Controller and T6 Seismic Instrument

VL80 Motor Box on a 36" BFV

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VL80 VALVE CONTROLLER

Water Quality

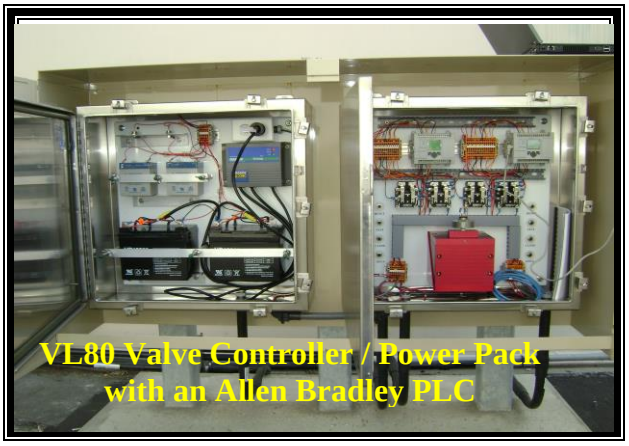
- Water quality is improved by valve control
- Valve controllers are cost effective with today's technologies
- Valve positions are constantly available to the central office
- Valve controllers allow for immediate mitigation if necessary

With ever increasing standards coming from the Department of Health Services and other governmental agencies, the tighter a water utility can control its inventory the greater their ability to comply.

There are several products on the market that help to mix the old and new water together to meet DHS specifications. While that is helpful if not mandatory in single tank zones, in multiple tank zones valve control and pumping times have accomplished the task of mixing old and new water.

While hydraulic control valves (with isolation valves) have and will continue to provide flow control, for the utilities that have a mechanical valve on the reservoir the VL80 may be the perfect valve controller. AES Water provides 24vdc valve controllers to be used on a daily basis by the water operator on duty, as well as to allow for preprogrammed automation of one or more reservoir valves. Most reservoirs with gate or butterfly valves are left open at all times, the VL80 allows emergency procedures to immediately be invoked, and yet have the valve close anywhere from 0% - 100%. Pressure is maintained while flow is reduced until the situation can be evaluated and the valve reopened.

Starting in 1994, AES has become an industry standard in automating valve control. Although most of our customers have installed competing products before installing an AES system**, once an AES system is installed every utility has standardized on it.**



VL80 Valve Controller / Power Pack with an Allen Bradley PLC

Standard VL80 Motor Box

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VL80 VALVE CONTROLLER

VL80 SERIES SPECIFICATIONS

- Valve Controller VL80 shall not be mounted on the valve or any part thereof.
- Angular dynamic misalignment between the VL80 and the valve shall accept 0-22 degree offset.
- Vertical dynamic separation between VL80 and the valve shall be not less than 6”.
- Vaults may not be required for above or below ground valves.
- All components except the T6 seismic instrument shall be off the shelf and available from two or more suppliers.
- The driveline shall provide normal operation from 12 inches to 30 feet in length.
- The output of the gear motor shall be 30 RPM.
- The VL80 PLC shall be programmed to exercise the valve as required.
- The number of turns for the exercise cycle shall be from 1 to 999.
- Start, stop and reverse relays shall be rated at not less than 30 A and 1 1/2 hp.
- The VL80 shall be protected with a vandal guard.
- The PLC shall accept inputs from altitude, flow rate, pressure, etc., transducers when specified.
- The PLC program shall be PC programmed and downloaded to the PLC.
- All standards, nuts, bolts, etc. shall be stainless steel.
- The VL80 shall be enclosed in a NEMA 4 or JIC watertight enclosure.
- The VL80 shall be removable to allow manual operation of the valve in less than one minute.

POWER SOURCE:

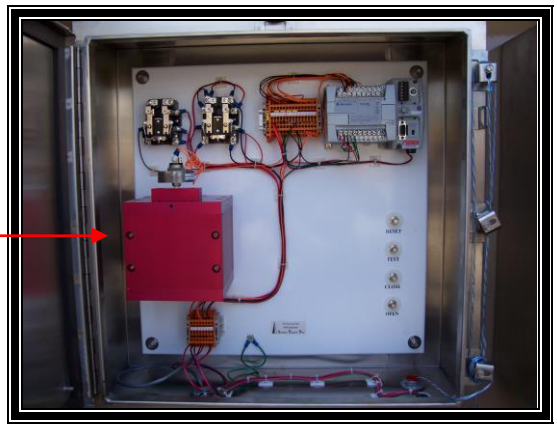
- Primary power source shall be 24V @ 33 amp/hr. batteries.
- Secondary power source shall be 110 VAC.
- Battery charger shall be automatic and cyclically controlled.

T6 SEISMIC INSTRUMENT

Benefits

- Provides valve shut down at remote liquid tanks when seismic activity occurs either from earthquake or man made activity when combined with the VL80 controller system.
- Is adjustable to customer requirements
- Minimum training required
- Easily installed
- Durable and can be mounted at any angle

T6 Seismic Instrument



Operation

The T6 is an instrument utilizing a three axis platform designed to measure the amount of force (G force) a particular structure is exposed to. By utilizing axis X Y and Z, the device can monitor remote activities as they pertain to the structures on site. If an activity reaches the threshold needed it will activate the VL80 and perform the shut down, thereby saving the contained liquid.

The total energy a structure absorbs is broken down into two categories:

1. Acceleration energy transferred to the structure as a result of acceleration
2. Kinetic energy transferred to the structure as it is abruptly stopped and then is reversed in direction.

The T6 is designed to measure motion and performs well as a seismic instrument to measure both forces as a sum.

The objective of an appropriate earth quake-sensing instrument is to measure the amount of force (energy) a particular structure is exposed to. When the force reaches a predetermined level the instrument sets in motion specific emergency procedures. It is imperative that the accuracy and repeatability are maintained regardless of the magnitude or direction of force.

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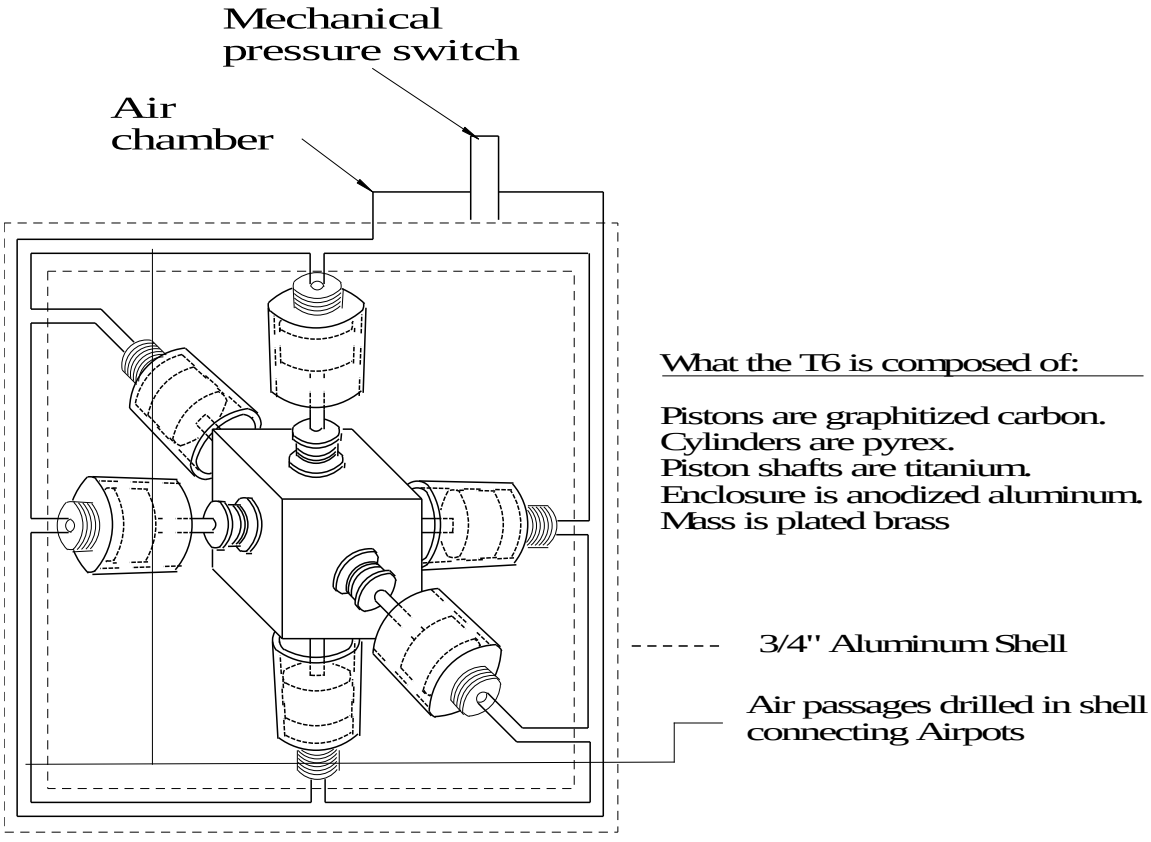
T6 SEISMIC INSTRUMENT

AES Water, Inc.

Features/Specifications

- Dimensions 6” W x 6” D x 9” H
- Weight 12 pounds
- Design Aluminum ¾” 6061 custom cut
- Triggering 0.3 g-force in a time span of 1.0 second or as Specified by the purchaser
- Field verification of operation
- Automatically resets
- Self cleaning internal components
- Life cycle 1,000,000 cycle life duration
- Power 24v DC
- Housing/Containment NEMA 4 or JIC 12 enclosure mounted on platform or tank
- Meets AWWA standards and Seismic Protection for Water System as specified by the Ad Hoc committee for Southern California water districts.

Configuration



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