Automated Valves

Description

APP Automated Valves are standard manual hand-turned valves modified so that they can be controlled by computer or other electronic means. These automated valves are compact, electrically operated, and have either torque adjustments or position limits. APP Automated Valves can be used in pneumatic or hydraulic systems.

APP automates valves of various types, configurations, and sizes - almost any valve that can be turned by hand can be automated. Valves that can be automated by APP are either on-off (shutoff) or metering (flow control). Standard configurations that are aut mated include two-way, two-way angle, and three-way; typical port sizes range from ¼" to 1".

An APP Automated Valve is driven by a 24 vdc electrical motor controlled by one of a number of APP valve controllers - examples include remote valves, servo valves, and multiple valve controllers. An electrical feedback mechanism monitors the position of a valve.

Control

APP controllers vary in complexity and ability. The Remote Valve Controller is the simplest controller and can accommodate both metering and on/off valves. This controller consists of a small AC powered box, and connects to the valve via cable. To operate the controller, the user simply directs toggle switches on the front of the controller cabinet. The status of the valve and the direction are indicated by colored lights on the outer face of the Remote Calve Controller.

The most advanced APP controller is the Computer Controlled Servo Valve Control-ler. This controller features extremely high accuracy and allows the user to define and execute multiple pressure ramps to obtain a determined pressure/prssure profil. Data such as the position of the valve, direction, ramp parameters, time elapsed in ramp, and reaction time parameter are available as real-time displays on the monitor.

APP

Custom Controllers

Many valve control possibilities exist between the relatively simp-le Remote Valve Controller and the advanced Computer Controller Servo Valve Controller. Our engineers would be happy to discuss with you the most appropriate controller for your application. The Automated Valves can connect to different types of controllers provided by APP or the customer. A controller must provide 24vpc in either polarity to the motor and 5+vpc to the position feedback system and to the reading of the three position feedback values that will be between 0 and 2 volts. APP controllers feature a highly accurate pressure transducer and closed feedback allowing the regulator to maintain a user-determined target pressure.

Features

- Position of valve monitored through an electronic feedback mechanism
- Easy to operate
- Multiple valves controlled with the same controller
- Variety of calce and port sizes available
- Remote Valve Controller features extensive cable allowing the valve controller to be placed in a safe operating environment
- Easy to retrofit existing manually oprated valves
- Minimal maintenance required

Specifications

	Pneumatic	Hydraulic
Pressure Range	0 - 5,000 psi	0-60,000 psi
System Resolution	1/20,000 (65526 optional)	1/20,000 (65536 optional)
System Control Accuracy	+/- 0.02 % FS	+/- 0.02 % FS
Power Requirements	110 VAC, 60 Hz (220 VAC, 50 Hz optional)	110 VAC, 60 Hz (220 VAC, 50Hz optional)
Dimensions	4.5” H x 2.5” W x 5.5” D	4.5” H x 2.5” W x 5.5” D
Weight	4.0 lbs	4.0 lbs
Type of Seal	Various standard seals for valves up to 10,000 psi; standard cone and thread seals for valves over 10,000 psi	Various standard seals for valves up to 10,000 psi; standard cone and thread seals for valves over 10,000 psi
Operating Tempareature	Normal working temperature is 250° F; up to 800° F possible	Normal working temperature is 250° F; up to 800° F possible

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