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VALVE ELECTRIC CONTROL FUNCTION TESTER

Valve Electric Control Function Tester — ToronFT™ VEC

ToronFT™ VEC Valve Electric Control Function Tester is a precision electronic testing instrument designed to perform functional evaluation of the electric control components of fire suppression and building safety valves. By measuring blade position output signals, rated operating current and voltage, and resistance to supply voltage fluctuations, the ToronFT™ VEC enables manufacturers, testing laboratories, and quality assurance programs to verify that valve electric control sub-systems respond correctly and maintain stable performance across a range of electrical operating conditions.

With a current detection range of 10 mA to 1000 mA (accuracy: 0.5 level) and a voltage detection range of 0.1V to 30V (accuracy: 0.5 level), the ToronFT™ VEC valve electric control function tester provides the measurement precision and range coverage required for comprehensive electric control qualification of valves used in fire suppression, HVAC, and process control applications.

APPLICATIONS

Valve Electric Control Function Tester — ToronFT™ VEC Applications

- Fire suppression valve manufacturers: electric control function qualification for solenoid valves, deluge valves, and pre-action valves
- Building automation and HVAC valve manufacturers: electric actuator and control board functional performance testing
- Third-party certification and listing laboratories: electric control function testing per international fire protection standards
- Quality assurance departments: production-line and incoming inspection testing of valve electric control assemblies
- Field service and commissioning: verification of valve electric control response and signal output during system commissioning

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ToronFT™ VEC
Valve Electric Control Function Tester

FEATURES

Valve Electric Control Function Tester — ToronFT™ VEC Key Features

- Dual measurement capability: simultaneous current and voltage measurement for complete electric control functional evaluation
- Current detection range: 10 mA – 1000 mA with 0.5-level accuracy — covering the full operating current range of fire valve electric actuators
- Voltage detection range: 0.1V – 30V with 0.5-level accuracy — suitable for both low-voltage signal and rated actuator voltage testing
- Blade position output signal testing — verifying correct position feedback signal generation across full valve travel
- Rated current and voltage testing — confirming actuator electrical performance at nominal supply conditions
- Voltage fluctuation resistance testing — validating stable operation across the supply voltage variation range
- Compact bench-top design for efficient integration into production test stations and laboratory benches
- Intuitive interface for straightforward test parameter setup and result documentation

THEORY & METHOD

Theory and Method

The valve electric control function test evaluates three key performance parameters of the valve's electric control sub-system. Blade position output signal testing verifies that the valve's position feedback circuitry correctly reports the open, closed, or intermediate position of the valve blade to the control system within the specified signal range and accuracy. Rated current and voltage testing confirms that the electric actuator draws the specified operating current at the rated supply voltage, verifying that the actuator is functioning within design parameters.

Resistance to voltage fluctuation testing evaluates the valve's ability to operate reliably when the supply voltage varies within the range encountered in real installations — ensuring that the electric control sub-system does not fail or produce erroneous outputs during normal supply voltage variations. The ToronFT™ VEC's dual measurement channels (current and voltage) with 0.5-level accuracy provide the measurement confidence needed for traceable qualification test documentation.

TECHNICAL SPECIFICATIONS

Valve Electric Control Function Tester — ToronFT™ VEC Technical Specifications

Parameter	Specification
Model	ToronFT™ VEC
Current Detection Range	10 mA – 1000 mA
Current Detection Accuracy	0.5 level
Voltage Detection Range	0.1V – 30V
Voltage Detection Accuracy	0.5 level
Test Functions	Blade position output signal, rated current/voltage, voltage fluctuation resistance

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