

RECOMMENDED USAGE —SUITABLE FOR ELECTRIC FIRE

Automatic Fire suppression for Electrical panels is vital due to the high risk of potential fire. Not only it is critical function of the electrical cabinet compromised in a fire scenario which could spread to surrounding equipment causing devastating fire. If the Electrical room is already equipped with fire suppression system, our ETD can reduce replacement cost of suppression system when fire occurs. If the room is not equipped with fire suppression system, ETD is the best solution to protect your valuable assets.



Electrical panel

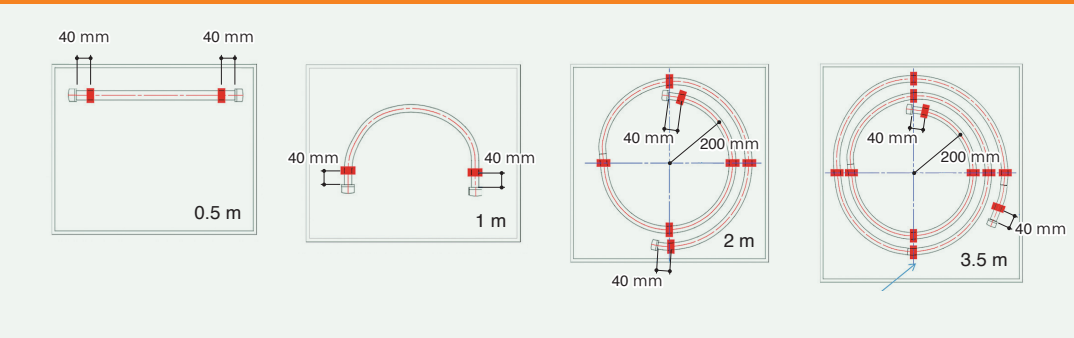
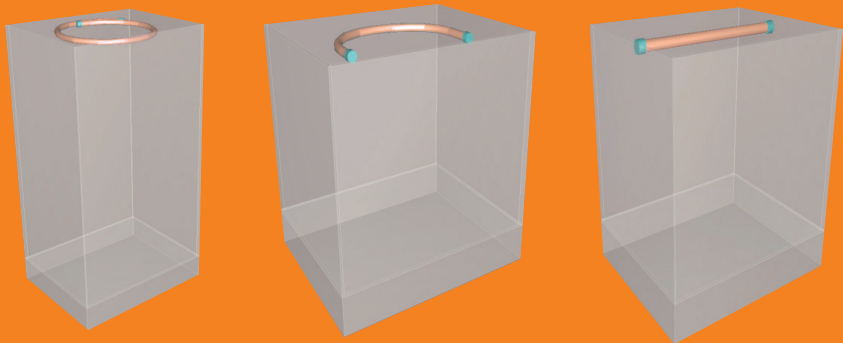


Test chamber

Environmental test chambers are systems that allow users to manipulate the environmental conditions of an enclosed space to run controlled tests on a subject. Researchers, engineers, scientists, and manufacturers utilize these conditions to push innovation and ensure whatever products they produce are safe for use. The most common concern involved during the environmental testing is the release of flammable gases causing a fire. Incase this situation occurs, ETD can help suppress the fire almost immediately and stop the spread of fire.

TYPICAL INSTALLATION LAYOUT OF ERASE TUBE DEVICE

■ Installation example



Note: Every section of ETD tubing must maintain a min. 50 mm distance from each wall of the enclosure. The distance between coils is 40 mm.



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Erase Tube Device
YouTube





ERASE TUBE

Erase Tube Device

The easy and optimal solution for protecting people, irreplaceable assets and minimizing downtime.



AUTOMATIC EXTINGUISHER UNIT

MADE IN JAPAN

UL LISTED

THE WORLD'S FIRST UL 2166P BASED CERTIFICATION

ERASE TUBE

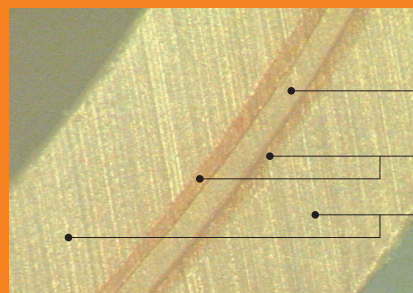
Erase Tube Device

PRODUCT OVERVIEW

- It is a pre-engineered total flooding extinguisher unit designed to protect enclosures less than 1m³. When the temperature in the protected enclosure rises to the critical threshold the polymeric tube discharges the fire fighting agent into the enclosure through a raptured nozzle hole and suppress the fire automatically.
- Erase Tube Device is a stand alone device, flexible and easy to install even in a difficult place to access.
- No cylinder and power source required to activate the device. It is reliable even in case of a power outage.
- It is specially suitable for the electrical panel fire that first responder cannot access quickly.
- The tube detects fire before temperature rises to 120°C. The tube activates at 107°C to 115°C at ambient temperature.
- It uses a PE-type resin for detecting fire and releasing fire extinguishing agent quickly. A resin layer specializing in barrier properties is provided to block the permeation and reduction in weight of fire extinguishing agent.
- The device uses a FK-5-1-12 - Its human and eco friendly fire extinguishing agent and it also does not influence equipment due to its superior electrical insulation properties.



ERASE TUBE COMPONENTS AND FEATURES



Gas barrier layer

Adhesion layer

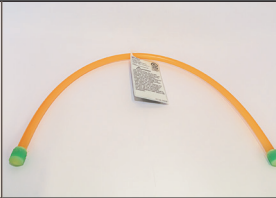
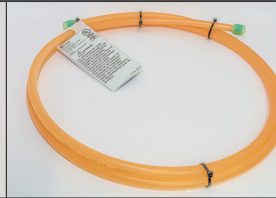
Inner/Outer layer

ERASE TUBE is a 5 layered device that provides strong gas barrier properties and optimal activation temperature.

The tube uses PE-type resin for detecting fire promptly and releasing extinguishing agent smoothly.

The tube detects fire before temperatures rise to 120°C due to abnormal heat generation of Electrical equipment including wires and batteries and releases extinguishing agent quickly.

PROTECTED VOLUME TABLE

Erase Tube Device				
				
Length	0.5 m	1 m	2 m	3.5 m
Part number	ETD-05UL	ETD-10UL	ETD-20UL	ETD-35UL
Weight	Approx. 0.42 kg	Approx. 0.55 kg	Approx. 0.84 kg	Approx. 1.0 kg
FK-5-1-12	0.11 kg	0.21 kg	0.42 kg	0.74 kg
Protected volume/ Height	0.12 m ³ 0.5 m (Max. H.) 0.3 m (Min. H.)	0.23 m ³ 1.0 m (Max. H.) 0.5 m (Min. H.)	0.45 m ³ 1.5 m (Max. H.) 0.6 m (Min. H.)	0.8 m ³ 2.3 m (Max. H.) 0.8 m (Min. H.)
Accessory				
Mounting clip				
Magnetic mounting clip (Option)				

Note:

- ERASE TUBE DEVICE (ETD) is designed as independent operating unit. It is not possible to install multiple units into one enclosure unless each unit has enough agent quantity to extinguish the enclosure alone.
- This automatic extinguisher unit has been tested and all limitations have been pre-established based on UL 2166P. If the specified limitations are not followed, the unit might not supply the required quantity of the extinguishing agent which might result in a fire not being extinguished.

APPLICABLE CLASSES

Class A

Surfaces a fire in ordinary combustible material, such as the surface of the wood, cloth, paper, rubber and many plastics.

Class B

A fire in flammable liquids, combustible liquids, petroleum greases, tars, oils oil-based paints, solvents, lacquers, alcohols and flammable gases.

Class C

A fire that involves energized electrical equipment (When used for the Class C purpose, additional fire detection and signaling system is required) UL Listed Heat Detection wire is recommended.

COMPARISON OF GAS PERMEABILITY

	Nitrogen	Oxygen	Carbon dioxide	Helium
	25°C	25°C	25°C	25°C
ERASE TUBE (Polythylene)	0.017	0.27	0.081	160
Polyamide 6 (Stretched)	12	38	205	2000

CHEMICAL RESISTANCE

■ Gas resistance

Materials	Adaptability
Ammonia	Applicable
Carbon dioxide gas	Applicable
Chlorine (Dry)	Partially applicable
Chlorine (Wet)	Partially applicable
Hydrogen	Applicable
Natural gas	Applicable
Nitrogen	Applicable
Oxygen	Applicable
Ozone	Partially applicable
Water vapor (L) at <150°C	Partially applicable
Water vapor (L) at <150°C or higher	Not applicable
Sulfurous acid gas	Applicable

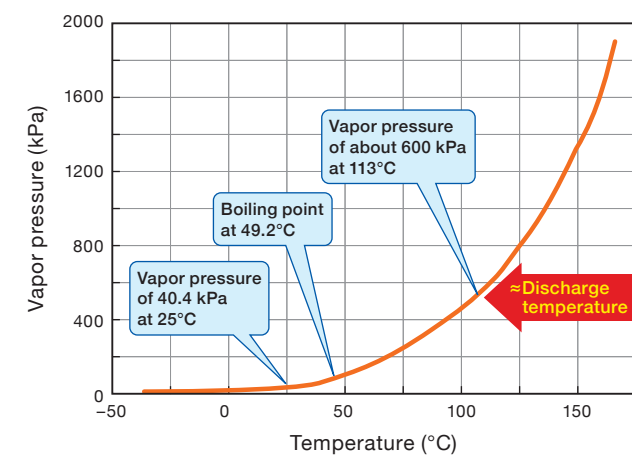
■ Oil resistance

Materials	Adaptability
Liquefied petroleum gas	Applicable
Benzine	Partially applicable
Gasoline	Applicable
Kerosene	Not applicable
Petroleum	Partially applicable
Lubricant	Partially applicable
Grease	Partially applicable
Animal oil	Applicable

FK-5-1-12

The extinguishing agent increased with the vapor pressure in case of abnormal heat generation and released by utilizing the pressure of its own without requiring power source.

FK-5-1-12 fluid is low in acute toxicity and is a highly efficient clean agent extinguishant, so that it puts out fire long before the agent reached concentrations that could harm humans. In fact, because its design concentration is much lower than it's No Observable Adverse Effects Level (NOAEL). FK-5-1-12 fluid offers the largest margin of safety amongst all other chemical clean agents, CO₂ and inert gas mixtures.



■ Electrical insulation properties

A cellphone and a circuit board are submerge into a tank of clean agent. It clearly shows that the Electrical insulation properties of the clean agent has a superior properties, thereby giving no influence to the electronic equipments. Its withstand voltage of 2.3 comparing to 1.0 of N₂ at 1 atm.

