
Hot gas sol fire extinguishing device

Model: QRR0.005G/S

Said

Ming

Book

Shenzhen Fuji Technology Co., LTD

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I. Product overview

The new hot gas sol fire extinguishing device is a kind of breakthrough product in the field of fire fighting with ultra-high fire extinguishing efficiency and reliability. The product has the characteristics of small size, no pressure storage, no need to lay pipe network and maintenance, fire extinguishing efficiency, rapid, non-toxic and harmless, safe and reliable, green and environmental protection, especially suitable for communication room, battery cabin, engine room, battery box and other relatively closed places.

Second, product function

The suppression effect of S-type hot air sol on fire is mainly reflected in the following aspects:

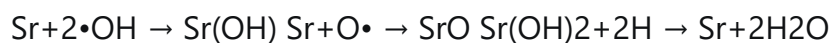
The fire extinguishing mechanism of general fire extinguishing agent mainly includes isolation method, asphyxiation method, cooling method and chemical suppression method, and different fire extinguishing agent has different fire extinguishing mechanism. The fire extinguishing mechanism of hot gas sol is mainly reflected in two aspects: on the one hand, the cooling effect of endothermic decomposition, and on the other hand, the chemical inhibition effect of gas phase and solid phase, which plays a synergistic role between each other. In addition, the gas phase components of aerosol fire extinguishing agent products also play a certain role in spreading.

(1) The cooling and fire extinguishing effect of endothermic decomposition

The cooling effect of hot-gas aerosol extinguishing agent mainly depends on the endothermic decomposition of tetrametal oxides and carbonate. The amount of heat released by any fire in a short period of time is limited, if in a short period of time the solid particles in the aerosol can absorb part of the heat released by the fire source, then the temperature of the flame will be reduced, the radiation to the burning surface and the heat used to break the combustible molecules that have been vaporized into free radicals will be reduced, and the combustion reaction will be suppressed to a certain extent.

(2) Gas phase chemical inhibition

Under the action of heat, the vaporized metal ions such as Sr, K, Mg or the cations that have lost electrons exist in the form of steam and have multiple chain reactions with the active groups $H\bullet$, $\bullet OH$ and $O\bullet$ in combustion. The following takes Sr as an example:

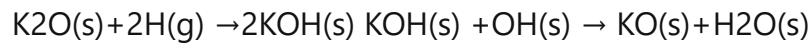


So repeated, the active groups in the combustion are consumed in large quantities, the concentration is constantly reduced, and the combustion is inhibited.

(3) Solid phase chemical inhibition

The solid particles in the hot-gas aerosol extinguishing agent can adsorb the chain reaction intermediates $\bullet OH$, H and $O\bullet$, and catalyze their re-formation into

stable molecules, so that the branching chain reaction terminal of the combustion process is reflected in K for example:



In the above-mentioned fire fighting effects, several fire fighting mechanisms interact with each other and play a synergistic role, but the transmission effect of gas and the endothermic cooling effect of metal oxide or carbonate only play a helping effect, and the main fire fighting effect still depends on the chemical inhibition effect of gas and solid phase.

Third, the scope of product application

3.1. Scope of application

The hot air sol system is A full flooding system, which is suitable for extinguishing class A, B, C and E fires in relatively enclosed Spaces

a, extinguish A class fire: such as wood, paper and other solid substances at the beginning of the fire, suitable for wood products warehouse,

Fire in relatively closed places such as archives, museums, libraries and reference rooms;

b. Extinguish Class B fires: applicable to the storage of diesel (except No. -35 diesel), heavy oil, transformer oil, animal oil, vegetable oil and other C class combustible liquids and other relatively closed place fires;

c. Extinguish Class C fires: suitable for storing all kinds of gases, such as gas, natural gas, methane, ethane, propane and other relatively closed place fires;

E. Extinguishing e class fire: suitable for transformer (distribution) room, wind power electrical box, generator room, cable

Fire in interlayer, cable well, cable trench, computer room, communication room, battery compartment, engine room, power change cabinet and other relatively closed places.

3.2. Scope of non-application

The hot gas sol automatic fire extinguishing device cannot be used to fight the fire caused by the following substances:

a, no air can still be rapidly oxidized chemical substances, such as nitrate fiber, gunpowder, etc.

b, active metals, such as potassium, sodium, magnesium, titanium, zirconium, uranium, plutonium, etc.

c, compounds that can decompose themselves, such as some peroxides, hydrazine, etc.

d, metal hydrides, such as potassium hydride, sodium hydride, etc.

e, substances that can spontaneously ignite, such as phosphorus.

f, strong oxidants, such as nitrogen oxide, fluorine, etc.

3.3. Not applicable places

a, commercial, catering services, entertainment and other crowded places;

b. Places for storing flammable and explosive materials.

4. Technical parameters

4.1, S-type hot sol production implementation standard XF499.1 "Aerosol fire extinguishing system Part 1: Hot sol fire extinguishing device"

4.2. Validity period: 10 years

4.3, starting mode: hot start (optional electric start, or hot start and electric start)

4.4, starting temperature: $160^{\circ}\text{C} \rightarrow 180^{\circ}\text{C}$;

4.5, use of ambient temperature: $-50^{\circ}\text{C} \rightarrow +90^{\circ}\text{C}$

4.6. Protection space: $\leq 0.05 \text{ m}^3$

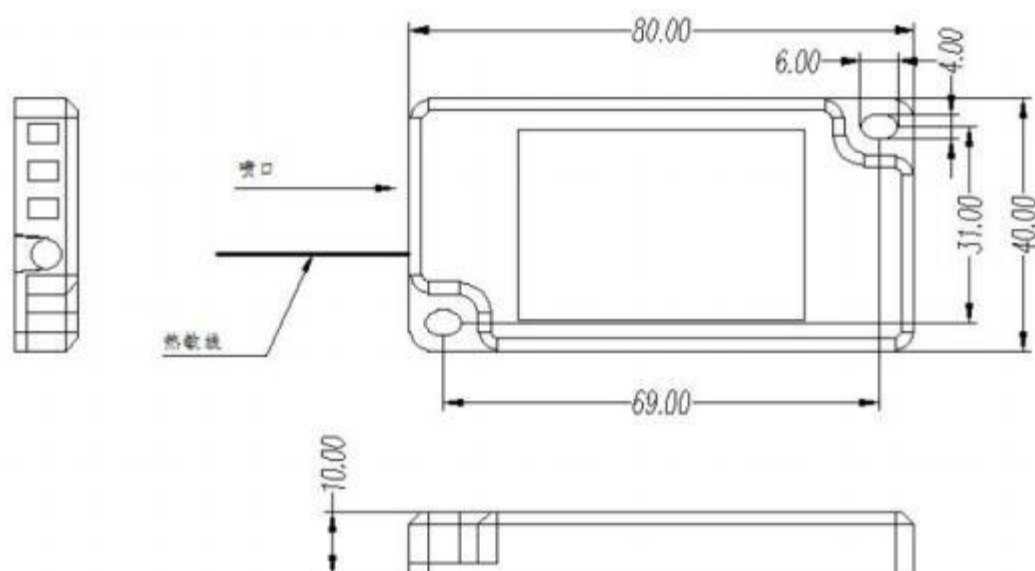
4.7, hot gas aerosol dose: $5\text{g} \pm 1\%$

4.8, release lag time: $\leq 5\text{s}$

4.9, nozzle temperature: 5mm away from the nozzle $\leq 200^{\circ}\text{C}$

4.10, device quality: about $30\text{g} \pm 10\text{g}$

Five, structural installation



Instructions:

1. Unit: mm
- 2, all metal shell, strong corrosion resistance, red surface coating;
- 3, the device adopts one end jet mode;
- 4, thermal wire exposed 200mm;
5. Both sides are installed and fixed, and the screws are adapted to M3.

5. Precautions for use and operation

5.1. It is strictly prohibited to stack equipment, debris and other obstacles within 0.1m in front of the nozzle of the fire extinguishing device to ensure the fire extinguishing period of the fire extinguishing device.

5.2 After the device is started, please contact the company to replace it.

5.3, the electric initiator is valid for 10 years, after the expiration of the validity period, the user will contact the supplier to replace it.

6. Seven, safety tips

6.1, non-professional personnel do not disassemble.

6.2. After spraying, do not touch the shell before cooling to prevent burns.

7. After-sales service

Our company will implement three guarantees service and corresponding technical support in accordance with the relevant provisions of the state for fire products.

8. Contact information

8.1, Manufacturing unit: Shenzhen Fuji Technology Co., LTD

8.2. Add: 1011, Building 4, Baoxin Science and Technology Park, Guangming District, Shenzhen, Guangdong, China

8.3. Hotline: 0755-27162079

9.Relevant technical standards

9.1, XF 499.1-2010 "Aerosol fire extinguishing system Part 1: Hot gas sol fire extinguishing device"

9.2 GB 50370-2005 "Gas Fire Extinguishing System Design Code"

9.3, GB 7528-2017 "Motor Vehicle Operation Safety Technical Conditions"

9.4, GB 50263-2007 "Gas fire extinguishing System construction and acceptance Code"

10. Attached pictures

