

S-TYPE THERMAL AEROSOL · LITHIUM-ION BATTERY PROTECTION

FlareRack

HEAT AEROSOL FIRE EXTINGUISHING
DEVICE



MODELS 0.02G – 0.15G

STANDARD XF 499.1-2010

COMPANY DISTREO SRL

CE

ISO 9001

CNAS

FlareRack is a thermal aerosol fire extinguishing device specifically designed for lithium-ion batteries. Using an **S-type hot aerosol** agent, it delivers ultra-high extinguishing efficiency in a compact, pressure-free, maintenance-free unit — with no pipework to install.

When thermal runaway occurs in a battery pack and the temperature reaches **175 °C ± 15 °C**, the suppression system activates instantly, completing agent discharge within 2–3 seconds for immediate fire extinguishment. Seven sizes cover protected volumes from 0.2 to 1.5 m³.



PERFORMANCE

Capable to extinguish even fires that ignite in lithium-ion batteries.



FAST RESPONSE

Agent discharge within 2–3 s once activated.



DUAL ACTIVATION

Electric start or thermal (hot) start at 175 °C.



MAINTENANCE-FREE

Compact, pressure-free, no pipeline — fit and forget.

01 MODEL RANGE

0.02G 20 g 0.2 m³ ≈ 7.1 ft³ ≈118 g ≈100×70×14 mm	0.04G 40 g 0.4 m³ ≈ 14.1 ft³ 167 g 124×77×14 mm	0.06G 60 g 0.6 m³ ≈ 21.2 ft³ 288 g 135×104×14 mm	0.08G 80 g 0.8 m³ ≈ 28.3 ft³ 377 g 158×100×17 mm	0.1G 100 g 1.0 m³ ≈ 35.3 ft³ ≈397 g 158×100×17 mm	0.12G 120 g 1.2 m³ ≈ 42.4 ft³ 416 g 158×100×17 mm	0.15G 150 g 1.5 m³ ≈ 53.0 ft³ 445.5 g 158×100×17 mm
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Select the model according to the total **net protected volume** at an extinguishing density of **100 g/m³**. Protected volume refers to enclosed spaces — for irregular, ventilated or high-risk enclosures, sizing and placement should be confirmed by trained personnel before installation. Net weight and dimensions for 0.02G and 0.1G (marked ≈) are preliminary, pending final measurement.

02 SCOPE OF APPLICATION



Battery packs

PACK-level and cluster-level lithium-ion battery protection.



Energy storage

Cabin-level ESS, battery cabinets and energy-storage stations.



Charging

Charging cabinets, charging piles and distribution boxes.



Power systems

Power cabinets and enclosed equipment in confined spaces.



INSTALLATION NOTE

Keep clear of air inlets, vents, doors and windows; do not aim the nozzle at the human body; keep temperature-sensitive wiring away from high-temperature pipes.

THERMAL PROFILE

OPERATING RANGE · ACTIVATION · CASING — °C

OPERATING RANGE -45 / +90 °C

ACTIVATION 175° ±15°

-45°

+10°

+90°

~200°

03 TECHNICAL SPECIFICATIONS

Model	FlareRack 0.02G / 0.04G / 0.06G / 0.08G / 0.1G / 0.12G / 0.15G
Compliance standard	XF 499.1-2010
Protected volume	0.2 / 0.4 / 0.6 / 0.8 / 1.0 / 1.2 / 1.5 m³, by model
Net weight per unit	≈118 / 167 / 288 / 377 / ≈397 / 416 / 445.5 g (± 5 g)
Dimensions	≈100×70×14 ... 158×100×17 mm, by model
Extinguishing density	100 g/m³
Startup method	Electric start or hot (thermal) start
Hot start temperature	175 °C ± 15 °C
Electric initiator	≥ 400 mA · 24 V DC (≥ 400 mA starting current)
Spray time	≤ 5 s
Spray lag time	≤ 2 s
Operating temperature	-45 °C ... +90 °C
Relative humidity	≤ 95 % RH
Casing surface temp.	≤ 200 °C (nozzle ≤ 200 °C at 350 mm)
Oxidant	Strontium nitrate $\text{Sr}(\text{NO}_3)_2$ 50% ±5%; KNO_3 10% ±2%
Feedback signal	Passive switch signal
Service life	10 years

ACTIVATION & SIGNALING



THERMAL (HOT) START

Auto-activates when the protected zone reaches 175 °C ± 15 °C.



ELECTRIC START

Triggered by a fire-alarm controller — 24 V DC initiator, ≥ 400 mA.



FEEDBACK

Provides a **passive switch signal** back to the control system on activation.

MECHANISM OF ACTION

TRIGGER

Receives a start signal from the fire-alarm controller or temperature-sensitive wire.

GENERATION

The hot aerosol agent activates and the extinguishing aerosol is rapidly generated.

SUPPRESSION

Aerosol sprays from the nozzle, submerging the protected area to extinguish the fire.

04 INSTALLATION GUIDELINES

1

Surface

Mount on a clean, dry surface — 3M adhesive base or M4 screws / high-temp zip ties through the 4 mm hole.

2

Clearance

Keep 0.3 m clear in front; no equipment or obstacles. Never aim the nozzle at the body.

3

Sensor wire

Route the temperature-sensitive wire around the hazard perimeter — never on high-temperature pipes.

4

Placement

Not affected by height. Avoid air inlets, exhausts, doors, windows and damp areas.

5

Test first

Inspect and test each unit before installation; check for paint peeling, dents or deformation.

// Installation must be performed by professionally trained staff. Ensure no short circuit during install, maintenance or overhaul.

05 SAFETY & SERVICE



EVACUATE

Wear a gas mask when entering a space after the aerosol device has activated.



HOT SURFACE

After discharge the casing stays hot (≤200 °C). Let it cool or wear heat-resistant gloves.



NO TAMPERING

Non-professionals must not disassemble the device. Keep out of reach of children.



STORAGE

Store ventilated and dry, away from heat sources and direct sunlight. Protect from rain.