

# EXXFIRE



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CONTACT INFORMATION

EXXFIRE B.V.  
Keyerswey 30  
2201 CW Noordwijk  
The Netherlands

Tel: +31 (0)85 4017 970  
Email: [info@exxfire.com](mailto:info@exxfire.com)  
Website: [www.exxfire.com](http://www.exxfire.com)  
CC: 53952464  
VAT: NL.8510.87.425.B01



NON-PRESSURIZED

GAS STORAGE



securing hardware



## SECURING HARDWARE

EXXFIRE is a Dutch company with worldwide ambitions that has succeeded in bringing new space technology to the fire suppression market. The company started in 2011 as a European Space Agency (ESA) incubation start-up and since then has successfully raised 3 rounds of capital to build its organization and start production.

The organization consists of commercial, chemical, electrical and mechanical capabilities needed to become a key player in the fire suppression industry. More than 20 years' experience of marketing and sales, research and development, production and assembly has made this organization into one of the most innovative companies in the industry.

## SPACE TECHNOLOGY

Patented EXXFIRE Cool Gas Generator technology contains unique features. The generator is derived from a small solid rocket. The non-pressurized, solid propellant is stored as a chemical block inside the precision engineered, IP67 housing. An initiator starts the decomposition of the propellant releasing Nitrogen gas at ambient temperature.

The gas leaves the generator through a specially designed anti-thrust nozzle and is released into the enclosed area. This robust and rigorously tested space technology is now available for fire suppression applications.

Development partner:

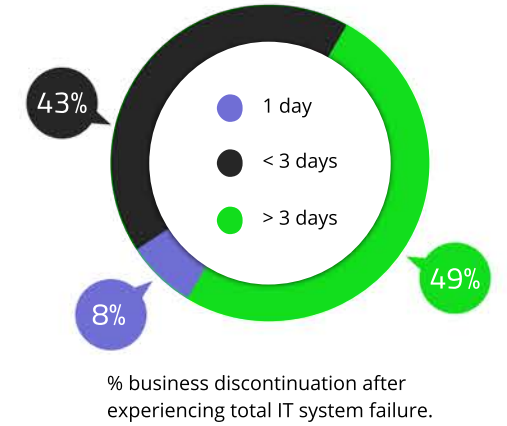


## FIRE PROTECTION FOR BUSINESS CONTINUITY

Research has shown that more than 50% of companies faced severe losses or even bankruptcy after critical IT hardware failure. (source: HDI-Gerling).

Unfortunately, fire can be one of the main causes for downtime of critical hardware and loss of data. Critical operating resources such as IT racks, electrical switching and power distribution cabinets need protection against the threat of fire.

EXXFIRE products protect these systems against fire through early smoke detection and suppression, preventing large damage, limiting downtime and safe guarding continuity of your business at the lowest possible Total Cost of Ownership (TCO).



TELECOMMUNICATIONS



INDUSTRIAL MANUFACTURING



REMOTE SITES



EDGE COMPUTING



CONTAINERISED APPLICATIONS

## REAL BENEFITS

GAS OUTPUT AT AMBIENT TEMPERATURE

LOW PRESSURE GAS RELEASE

NON-PRESSURIZED NITROGEN STORAGE

MAINTENANCE FREE

LOW NOISE LEVEL GAS RELEASE

NO RESIDUE CLEAN UP

NO GLOBAL WARMING POTENTIAL

LONG SHELF LIFE



## FIRE SUPPRESSION SYSTEM FOR OBJECT PROTECTION

Object protection is considered additional safety which can be installed without any legal requirement or certification. EXXFIRE object protection systems are designed in such a way that they can protect multiple types of enclosures such as server racks and e-cabinets but also power distribution units, switching cabinets or any other cabinet with high value or mission critical equipment.

It can either be installed inside the protected area or outside, with the required mounting kit.





## THE SYSTEM

- NO/NC relay
- Thermal wire fire detection
- Mains powered
- Back-up battery
- LED indicators

## TECHNICAL SPECIFICATIONS

<b>DIMENSIONS</b>  750 - MM = 303x443x165 1500 - MM = 418x443x165 2250 - MM = 580x443x165	<b>WEIGHT</b>  750 - KG = 10 1500 - KG = 18 2250 - KG = 25	<b>EXTINGUISHING AGENT</b>  N2 = NITROGEN  TEMP = AMBIENT	<b>TEMPERATURE RANGE</b>  °C = -25 to 54  °F = -13 to 129
<b>GAS MASS (VOLUME)</b>  750 - KG = 0.9 / 1.98 lbs 1500 - KG = 1.8 / 3.96 lbs 2250 - KG = 2.7 / 5.95 lbs	<b>PROTECTED VOLUME</b>  750 - M <sup>3</sup> = 1.5 (Class A) 1500 - M <sup>3</sup> = 3.0 (Class A) 2250 - M <sup>3</sup> = 4.5 (Class A)	<b>OUTPUT PRESSURE</b>  BAR = 5-10	<b>LIFETIME GENERATOR</b>  YEARS = 10
<b>ADR/UN</b>  CLASS UN-USED = 9 UN 3268  CLASS USED = 9 UN 3363 (Exempt)	<b>PROTECTION RATING</b>  ENCLOSURE CLASS = IP30  GENERATOR CLASS = IP67	<b>VOLTAGE (MAINS)</b>  V = 110/230AC	<b>BATTERY LIFETIME BACK-UP POWER</b>  LIFETIME = 4 YRS  HRS = 4
<b>THERMAL WIRE FIRE DETECTION</b>  68 °C 154 °F	<b>GAS OUTPUT NOISE LEVEL</b>  < 99 dB with silencer (opt.) 127 dB without silencer	<b>DESIGN CONCENTRATION</b>  % = 40.3 Class A  % = 45.2 Higher Hazard Class A	

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**CC:** 53952464  
**VAT:** NL.8510.87.425.B01

# AUTOMATIC CABINET FIRE SUPPRESSION SYSTEM

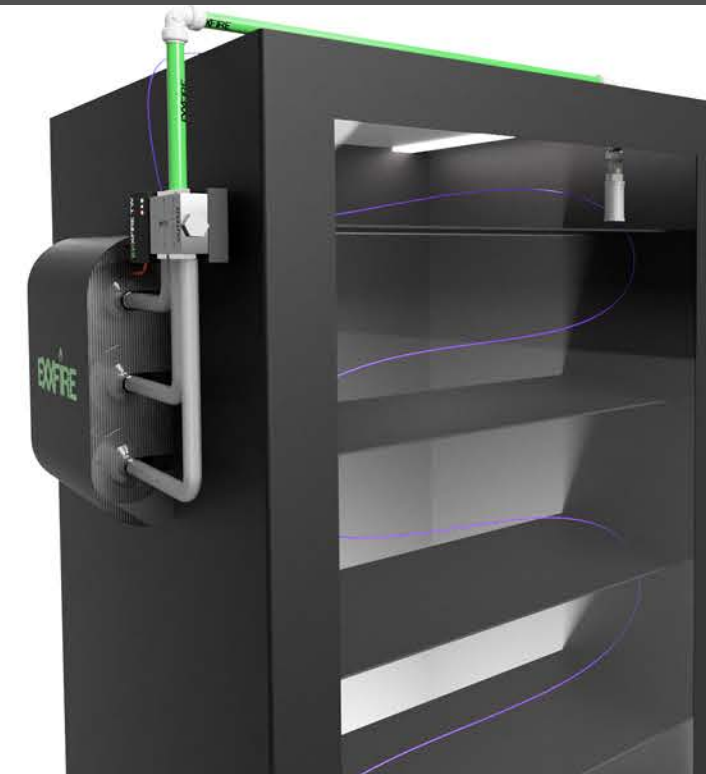
THERMAL WIRE DETECTION / NON-PRESSURIZED NITROGEN



NITROGEN FIRE SUPPRESSION

MAINTENANCE FREE

EASY TO INSTALL



## DESCRIPTION

The EXXFIRE Thermal Wire systems can protect up to 4.5m<sup>3</sup>/159 ft<sup>3</sup> of Class A type of fire in accordance with NFPA 2001 and UL2127 standards at 24°C/75°F. It contains 1,2 or 3 Cool Gas Generators producing up to 2250 Litres or Nitrogen at ambient temperature. The systems are manufactured to CE applicable standards.

## FEATURES

- Pressureless gas storage
- Plug and Play
- Easy to install
- No maintenance
- In-External mounting kit
- Air transportable



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## THE SYSTEM

- › 3 dry contacts with NO/NC relays
- › Aspirating smoke detection
- › 3 Optical sensors
- › Dip switch setting
- › Mains powered
- › Back-up battery
- › LED indicators
- › Buzzer

## TECHNICAL SPECIFICATIONS

### DIMENSIONS

MM = 303x443x165  
INCH = 11,9x17,1x6,5

### WEIGHT

KG = 17  
LBS = 38

### EXTINGUISHING AGENT

N2 = NITROGEN  
TEMP = AMBIENT

### TEMPERATURE RANGE

°C = -25 to 54  
°F = -13 to 129

### GAS MASS (VOLUME)

KG = 0.9 / 1.98 lbs  
L = 750 / 198 gal

### PROTECTED VOLUME

M<sup>3</sup> = 1.2 (High haz. Class A)  
= 1.5 (Class A)  
Ft<sup>3</sup> = 42 (High haz. Class A)  
= 53 (Class A)

### OUTPUT PRESSURE

BAR = 5-10

### LIFETIME GENERATOR

YEARS = 10

### ADR/UN

CLASS UN-USED = 9  
UN 3268  
CLASS USED = 9  
UN 3363 (Exempt)

### PROTECTION RATING

ENCLOSURE CLASS = IP30  
GENERATOR CLASS = IP67

### VOLTAGE (MAINS)

V = 110/230AC

### BATTERY LIFETIME BACK-UP POWER

LIFETIME = 4 YRS  
HRS = 4

### %OBS./M DETECT.

	Pre	Alarm	Fire
Low	1.68	3.12	3.52
Normal	1.36	2.32	2.72
High	1.12	1.52	1.92
Clean	0.72	0.96	1.20

### GAS OUTPUT NOISE LEVEL

< 99 dB

### GAS STORAGE PRESSURE

0 BAR

### DESIGN CONCENTRATION

% = 40.3 Class A  
% = 45.2 Higher Hazard Class A



# 750

## INTEGRATED FIRE SUPPRESSION SYSTEM



### SUPPRESSION

### MOUNTING KIT TOP AND RACK

### ASPIRATION DETECTION

## DESCRIPTION

The EXXFIRE 750 can protect up to 1.5m<sup>3</sup>/53 ft<sup>3</sup> of Class A type of fire in accordance with NFPA 2001 and UL2127 standards at 24°C/75°F. It contains one Cool Gas Generator producing 750 Litres or 0.9Kg/1.9Lbs of Nitrogen. The system is manufactured to CE applicable standards.

## FEATURES

- › Pressureless gas storage
- › Plug and Play
- › Easy to install
- › Low maintenance
- › External mounting kit
- › 19" mounting kit
- › Air transportable\*

\*ADR Class 9/UN 3268



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## THE SYSTEM

- › 3 dry contacts with NO/NC relays
- › Aspirating smoke detection
- › 3 Optical sensors
- › Dip switch setting
- › Mains powered
- › Back-up battery
- › LED indicators
- › Buzzer



## TECHNICAL SPECIFICATIONS

### DIMENSIONS

MM = 418x443x165  
INCH = 16.5x17.1x6.5

### WEIGHT

KG = 26  
LBS = 57

### EXTINGUISHING AGENT

N2 = NITROGEN  
TEMP = AMBIENT

### TEMPERATURE RANGE

°C = -25 to 54  
°F = -13 to 129

### GAS MASS (VOLUME)

KG = 1.8 / 3.96 lbs  
L = 1500 / 396 gal

### PROTECTED VOLUME

M<sup>3</sup> = 2.4 (High haz. Class A)  
= 3.0 (Class A)  
Ft<sup>3</sup> = 84 (High haz. Class A)  
= 106 (Class A)

### OUTPUT PRESSURE

BAR = 5-10

### LIFETIME GENERATOR

YEARS = 10

### ADR/UN

CLASS UN-USED = 9  
UN 3268  
CLASS USED = 9  
UN 3363 (Exempt)

### PROTECTION RATING

ENCLOSURE CLASS = IP30  
GENERATOR CLASS = IP67

### VOLTAGE (MAINS)

V = 110/230AC

### BATTERY LIFETIME BACK-UP POWER

LIFETIME = 4 YRS  
HRS = 4

### %OBS./M DETECT.

	Pre	Alarm	Fire
Low	1.68	3.12	3.52
Normal	1.36	2.32	2.72
High	1.12	1.52	1.92
Clean	0.72	0.96	1.20

### GAS OUTPUT NOISE LEVEL

< 99 dB

### GAS STORAGE PRESSURE

0 BAR

### DESIGN CONCENTRATION

% = 40.3 Class A  
% = 45.2 Higher Hazard Class A

# 1500

## INTEGRATED FIRE SUPPRESSION SYSTEM



### SUPPRESSION

### MOUNTING KIT TOP AND RACK

### ASPIRATION DETECTION

## DESCRIPTION

The EXXFIRE 1500 can protect up to 3.0m<sup>3</sup>/106 ft<sup>3</sup> of Class A type of fire in accordance with NFPA 2001 and UL2127 standards at 24°C/75°F. It contains two Cool Gas Generators producing 1500 Litres or 1.9Kg/3.8Lbs of Nitrogen. The system is manufactured to CE applicable standards.

## FEATURES

- › Pressureless gas storage
- › Plug and Play
- › Easy to install
- › Low maintenance
- › External mounting kit
- › 19" mounting kit
- › Air transportable\*

\*ADR Class 9/UN 3268

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## THE SYSTEM

- > 3 dry contacts with NO/NC relays
- > Aspirating smoke detection
- > 3 Optical sensors
- > Dip switch setting
- > Mains powered
- > Back-up battery
- > LED indicators
- > Buzzer

## TECHNICAL SPECIFICATIONS

### DIMENSIONS

MM = 580x443x165  
INCH = 22.9x17.1x6.5

### WEIGHT

KG = 38  
LBS = 84

### EXTINGUISHING AGENT

N2 = NITROGEN  
TEMP = AMBIENT

### TEMPERATURE RANGE

°C = -25 to 54  
°F = -13 to 129

### GAS MASS (VOLUME)

KG = 2.7 / 5.95 lbs  
L = 2250 / 594 gal

### PROTECTED VOLUME

M<sup>3</sup> = 3.6 (High haz. Class A)  
= 4.5 (Class A)  
Ft<sup>3</sup> = 126 (High haz. Class A)  
= 159 (Class A)

### OUTPUT PRESSURE

BAR = 5-10

### LIFETIME GENERATOR

YEARS = 10

### ADR/UN

CLASS UN-USED = 9  
UN 3268  
CLASS USED = 9  
UN 3363 (Exempt)

### PROTECTION RATING

ENCLOSURE CLASS = IP30  
GENERATOR CLASS = IP67

### VOLTAGE (MAINS)

V = 110/230AC

### BATTERY LIFETIME BACK-UP POWER

LIFETIME = 4 YRS  
HRS = 4

### %OBS./M DETECT.

	Pre	Alarm	Fire
Low	1.68	3.12	3.52
Normal	1.36	2.32	2.72
High	1.12	1.52	1.92
Clean	0.72	0.96	1.20

### GAS OUTPUT NOISE LEVEL

< 99 dB

### GAS STORAGE PRESSURE

0 BAR

### DESIGN CONCENTRATION

% = 40.3 Class A  
% = 45.2 Higher Hazard Class A



# 2250

## INTEGRATED FIRE SUPPRESSION SYSTEM



### SUPPRESSION

### MOUNTING KIT

### ASPIRATION DETECTION



## DESCRIPTION

The EXXFIRE 2250 can protect up to 4.5m<sup>3</sup>/159 ft<sup>3</sup> of Class A type of fire in accordance with NFPA 2001 and UL2127 standards at 24°C/75°F. It contains three Cool Gas Generators producing 2250 Litres or 2.7Kg/5.9Lbs of Nitrogen. The system is manufactured to CE applicable standards.

## FEATURES

- > Pressureless gas storage
- > Plug and Play
- > Easy to install
- > Low maintenance
- > External mounting kit
- > Air transportable\*

\*ADR Class 9/UN 3268

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# EXXFIRE



NON-PRESSURIZED

GAS STORAGE



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## EFFECTIVENESS OF YOUR INTEGRATED FIRE SUPPRESSION SYSTEM

### FIRE TRIANGLE

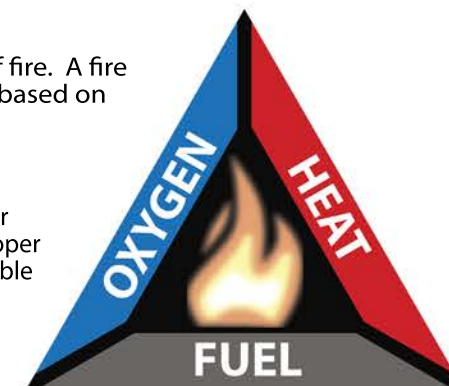
To start a fire three elements must be combined in the right proportions, the fire triangle. If any of the three elements are removed, the fire is extinguished.

The first element is lowering the temperature, remove the heat. A benefit of the Exxfire systems is the early aspirating smoke detection. Temperature remains low, after extinguishing the chance of re-ignition will be kept to a minimum.

The second element in the fire triangle is fuel. A fire needs a fuel source in order to burn. The fuel source can be anything that is flammable such as wood, paper, fabric, plastics, dust or chemicals. Once the fuel element of the fire triangle is removed, the fire will go out. In case of the Exxfire system application for example, turn off the electricity/power supply in a rack/cabinet after a fire incident has been detected.

The final element of the fire triangle is Oxygen, which is also an essential component of fire. A fire needs Oxygen to start and to continue. The principle of Exxfire suppression systems is based on Oxygen replacement with Nitrogen. By replacing the Oxygen for Nitrogen it will suppress/extinguish the fire without any damage to the hardware.

To ensure the effectiveness of your Exxfire suppression system, the 'integrity' of the closed rack or cabinet to hold the gas is a critical factor. A properly sealed rack or cabinet is vital to ensure a proper extinguishing of the fire and to hold the suppression agent Nitrogen inside not allowing a possible re-ignition of the fire.



EXXFIRE

EFFECTIVENES

HOLDING TIME

### EFFECTIVENESS OF YOUR EXXFIRE SUPPRESSION SYSTEM

Our advice in combination with our Exxfire's aspiration system.

- › Close all openings as much as possible
- › Cable openings can be closed with rubber foam
- › Door and panel connections can be sealed with rubber seal strips
- › Shut of ventilation at start extinguishing using one of the relay outputs
- › Shut down power supply / mains of the rack using one of the relay outputs.
- › Make sure the doors are closed at all time when the system is operational



### FEATURES

If the above items cannot be met, this could affect the holding time of the Nitrogen within the rack. To be sure over-specify the amount of Nitrogen with at least 25% to compensate for the leakage in the rack/cabinet. However, with the knowledge of how a fire develops, the chance of re-ignition in combination with an Exxfire system is small.

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