

# FIRE KIMM



# AUTOMATIC FIRE EXTINGUISHING SYSTEM FIREKIM

## 5

### TECHNOLOGY

- Smart Capsule
- Eco-Friendly Agent
- Innovative Design

## 10

### PRODUCT

- Stick
- Sensor +
- Red Block

## 17

### APPLICATION

- House & Market
- Industrial facility
- Population density facility

## 21

### COMPANY

- Overview
- History
- Certificate
- Global Network

# Unique



## **The world's leading unique automatic fire extinguishing system**

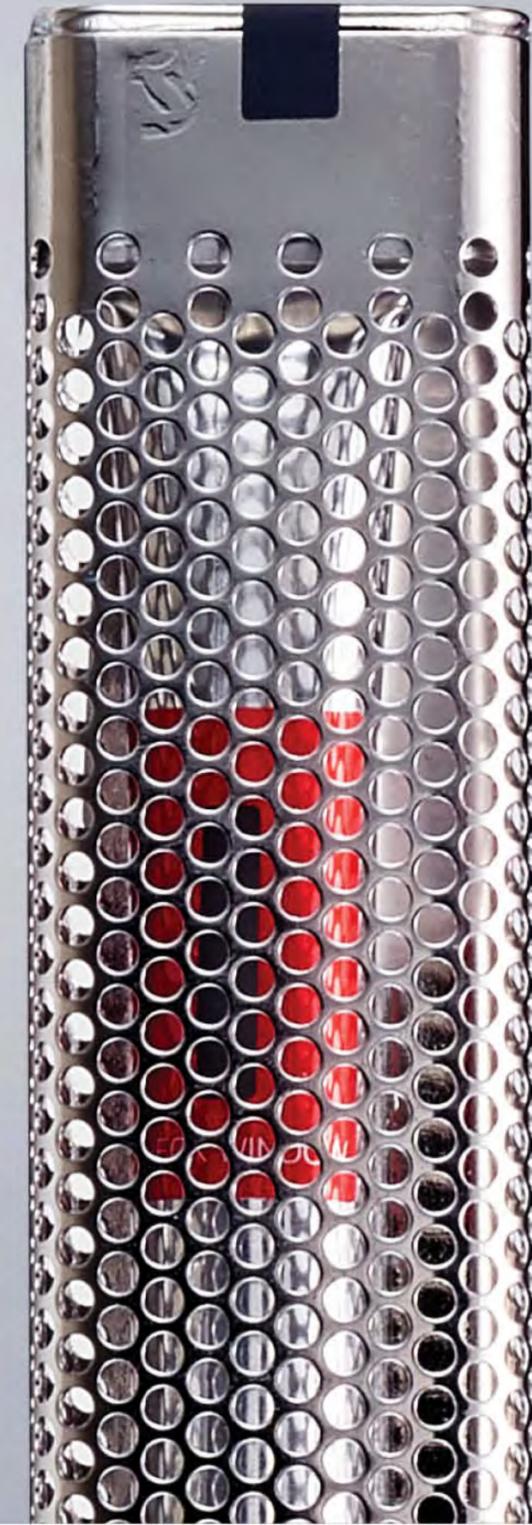
This is an innovative fire prevention system that comes in various sizes, including forms to fit in the palm of your hand, and is suitable for many different purposes, installed in fire protection blind spots to snuff out major fires in advance. This is a smart automatic fire extinguisher that operates without requiring a separate power source, as the fire-extinguishing capsule inside the product automatically detects temperature changes.



# Easy

**Simply attach it in any fire protection blind spot.**

It can be easily and conveniently installed by anyone, and can be custom-made in different sizes and volumes of protection. It can be applied anywhere including small areas like switchboards that are difficult to detect during a fire, places that you cannot easily reach, and other locations with high risk of fire due to complex electrical wiring.



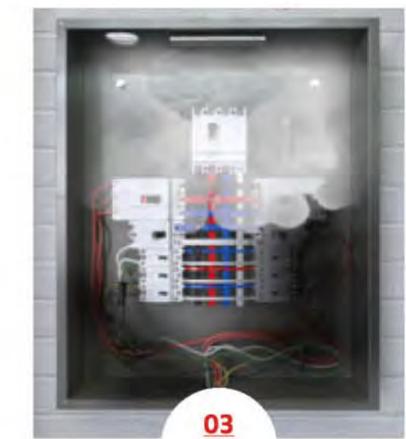
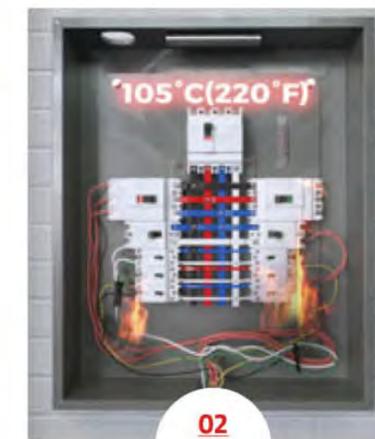
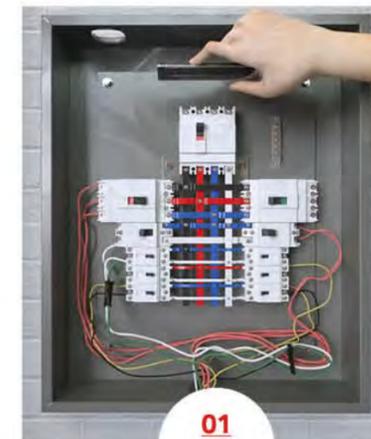
# SMART CAPSULE

·Patent : 10-1857775

·Design : 30-0907732

The internal temperature sensing feature, not requiring a power supply device, enables the capsule inside the stick to react to the temperature when it reaches 100-110°C before discharging the chemical.

The stick fire extinguisher is a smart automatic product with a stick fire-extinguishing capsule that automatically detects the temperature in a space where the interior temperature rises to 100-110°C, then instantly discharges over 90% of its fire-extinguishing chemical, spreading it throughout the area of protection and capturing the heat in the air to extinguish the fire.



INTERNAL SENSING  
TECHNOLOGY OF THE CAPSULE

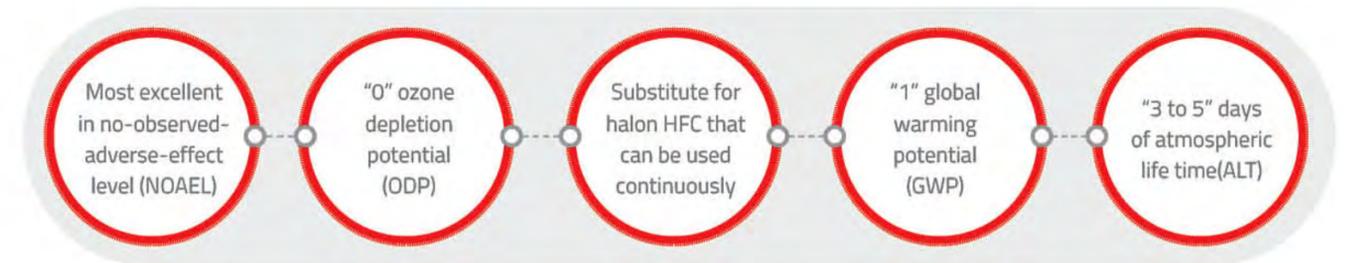
ECO-FRIENDLY FIRE-  
EXTINGUISHING CHEMICAL

INNOVATIVE DESIGN



# NOVEC 1230 AGENT

The best eco-friendly fire-extinguishing chemical in the world, enabling continuous use without falling under the global greenhouse gas reduction policy



**Famous  
Fire  
Protection**



FIREKIM

'Stick' System using 3M™ Novec™ 1230 Fire Protection Fluid

INTERNAL SENSING  
TECHNOLOGY OF THE CAPSULE

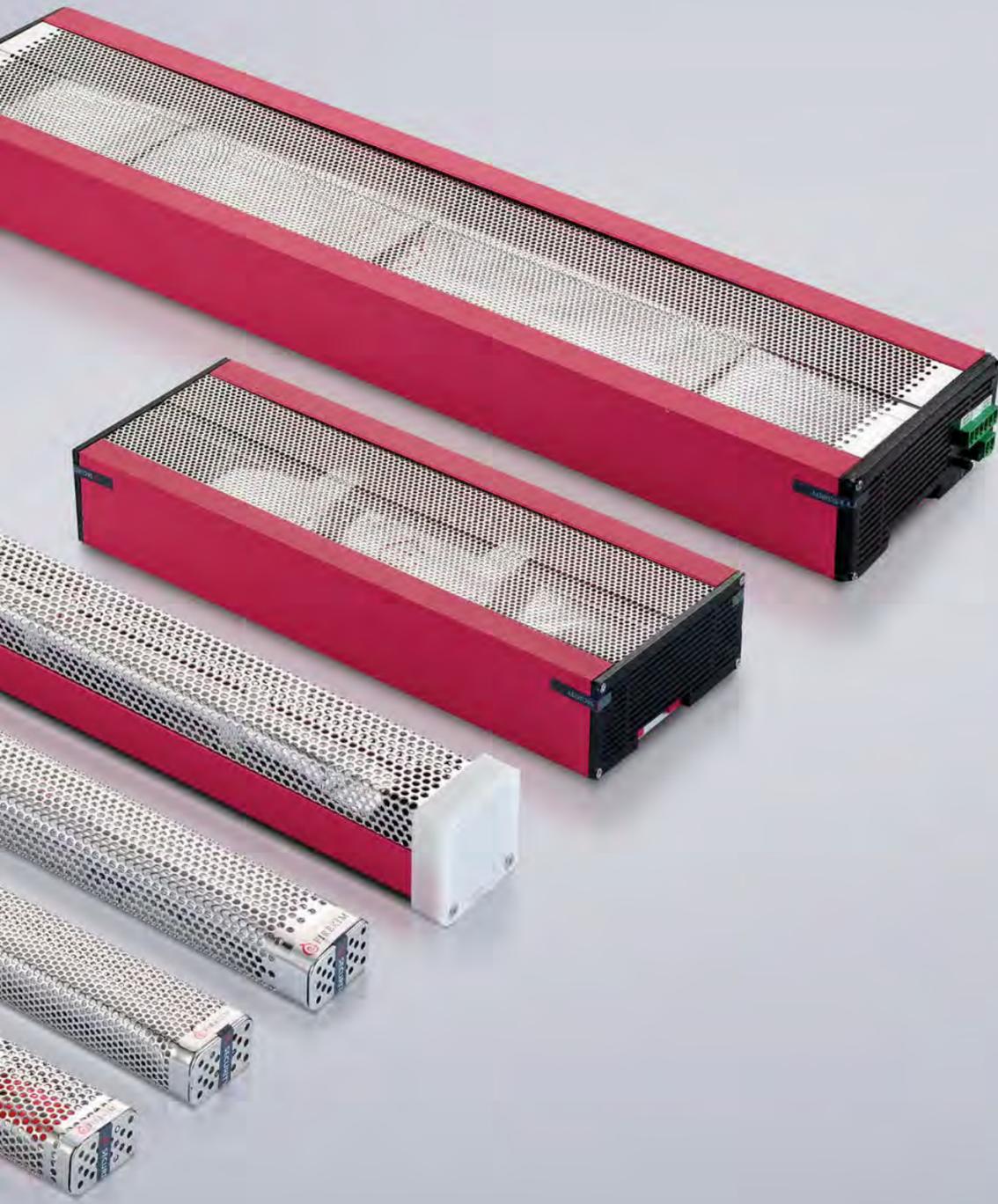
ECO-FRIENDLY FIRE-  
EXTINGUISHING CHEMICAL

INNOVATIVE DESIGN

# INNOVATIVE DESIGN

The innovative design that won the [Design Award] at the iF Design Award 2019, with an exterior made of stainless steel in consideration for functionality and durability

There is no design without purpose in an automatic fire extinguishing system that will evolve the paradigm of fire prevention by innovativeness, which helped it to win the [Design Award] at the iF Design Award 2019. It features numerous discharge holes for the fire-extinguishing chemical to be sprayed and propagated quickly to put out a fire, and is designed with a light, compact size that makes it fit perfectly in the palm of your hand for simple installation and convenient management.



INTERNAL SENSING  
TECHNOLOGY OF THE CAPSULE

ECO-FRIENDLY FIRE-  
EXTINGUISHING CHEMICAL

INNOVATIVE DESIGN

# EXTINGUISHING SYSTEM PRODUCT

[STICK](#) [Go >>](#)[SENSOR +](#) [Go >>](#)[Red Block](#) [Go >>](#)

# PRODUCT



## STICK

### Small-scale switchboards / switchboards

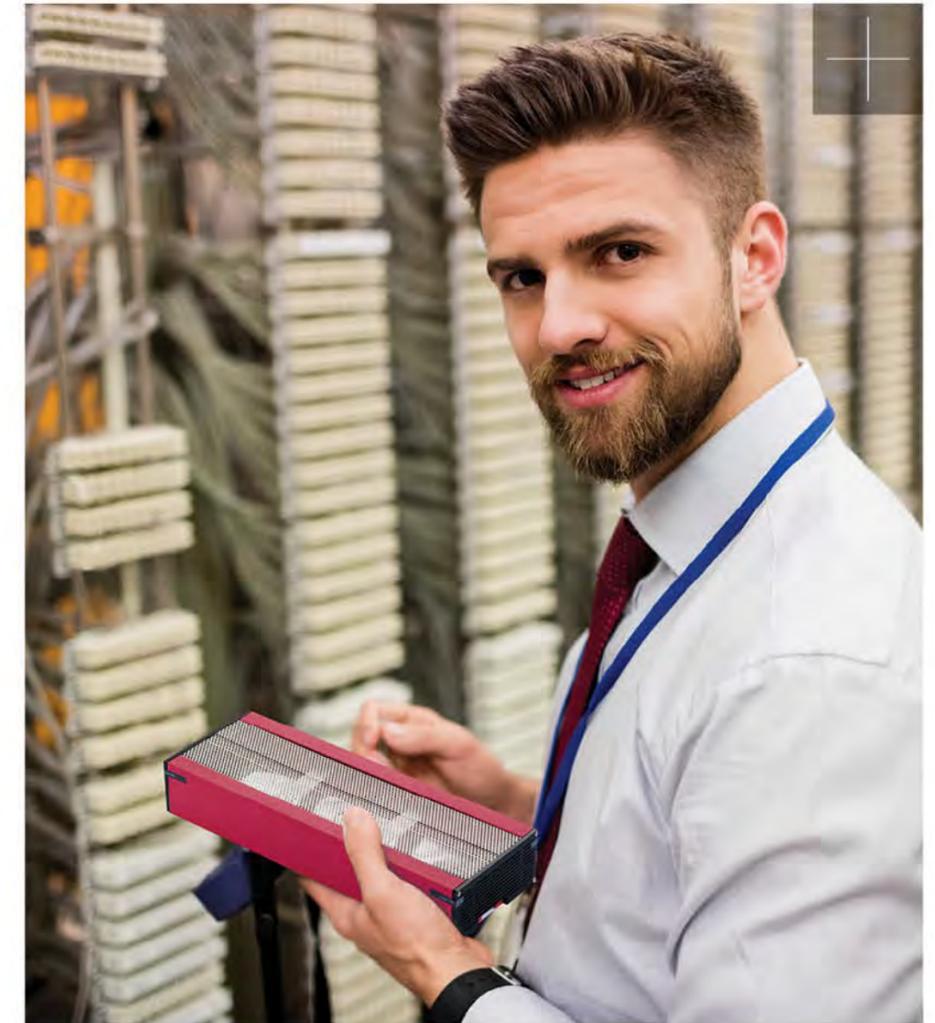
For application in crowded facilities, nursing hospitals, traditional markets, drones, electronic products, and batteries for electric cars



## SENSOR +

### industrial production facilities

For application with high-pressure and high-temperature equipment in semiconductor manufacturing processes, chambers, chillers, other industrial machines, telecommunication devices, and various electrical panels



## RED BLOCK

### Mid- to large-sized switchboards / panel boards

Large drones, ESS, xEV, ships, automotive charging terminals, electric batteries, power plants, UPS, switches, transformers, etc.

# What's STICK



· Patent : 10-1857775  
· Design : 30-0907732



- Overview
- Features

## New standard of fire extinguishing system in the world!

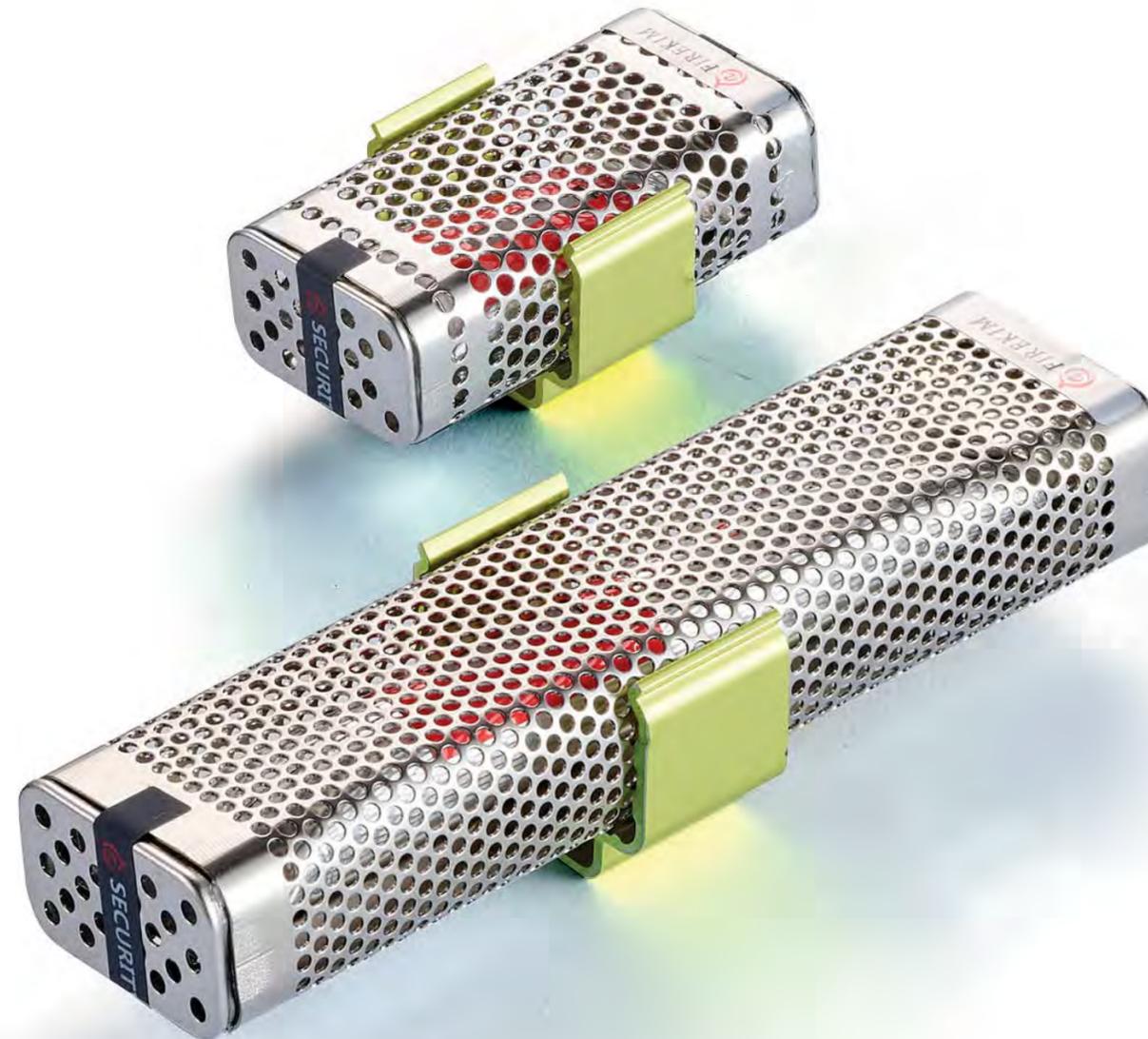
The stick fire extinguisher is a smart automatic product whose stick fire-extinguishing capsule automatically detects the temperature in a space where the interior temperature rises to 100-110°C, then instantly discharges over 90% of its fire-extinguishing chemical, spreading it throughout the area of protection and while extinguishing by cooling and smothering, pushing out the air in the space and capturing the heat.



Model	Product dimensions (W X H X L)	Volume of protection according to NFPA standard	Maximum installation height	Product weight	Expiration	Types of fire for application
FSC130	25 x 15 x 130	0.018m <sup>3</sup>	0.7m	43.5g	7 Years	A B C
FSC200	25 x 15 x 200	0.031 m <sup>3</sup>	1.2m	68.7g		
FSC250	25 x 15 x 250	0.041 m <sup>3</sup>	1.2m	84.5g		
FSC300	25 x 15 x 300	0.050m <sup>3</sup>	1.2m	100.0g		

# Special features of STICK

The automatic stick fire extinguisher uses Novec 1230, the best eco-friendly fire-extinguishing chemical in the world, which can be used continuously without falling under the global greenhouse gas reduction policy.



Overview

**Features**



### Activation temperature

100°C ~ 110°C  
212°F ~ 230°F



### Capsule reaction speed

90% discharge in 1 second



### KFI certification completed

Certified by Korea Fire Institute (KFI)  
For small spaces, the first of its  
kinds in the gas industry  
Fire extinguishing system  
(small opening 17-1)



### Uses Novec 1230

Extinguishes by smothering,  
with outstanding electrical  
insulation by shutting off cooling  
oxygen as it vaporizes and  
absorbs heat



### Easy to use

Easy to use regardless of  
gender or age



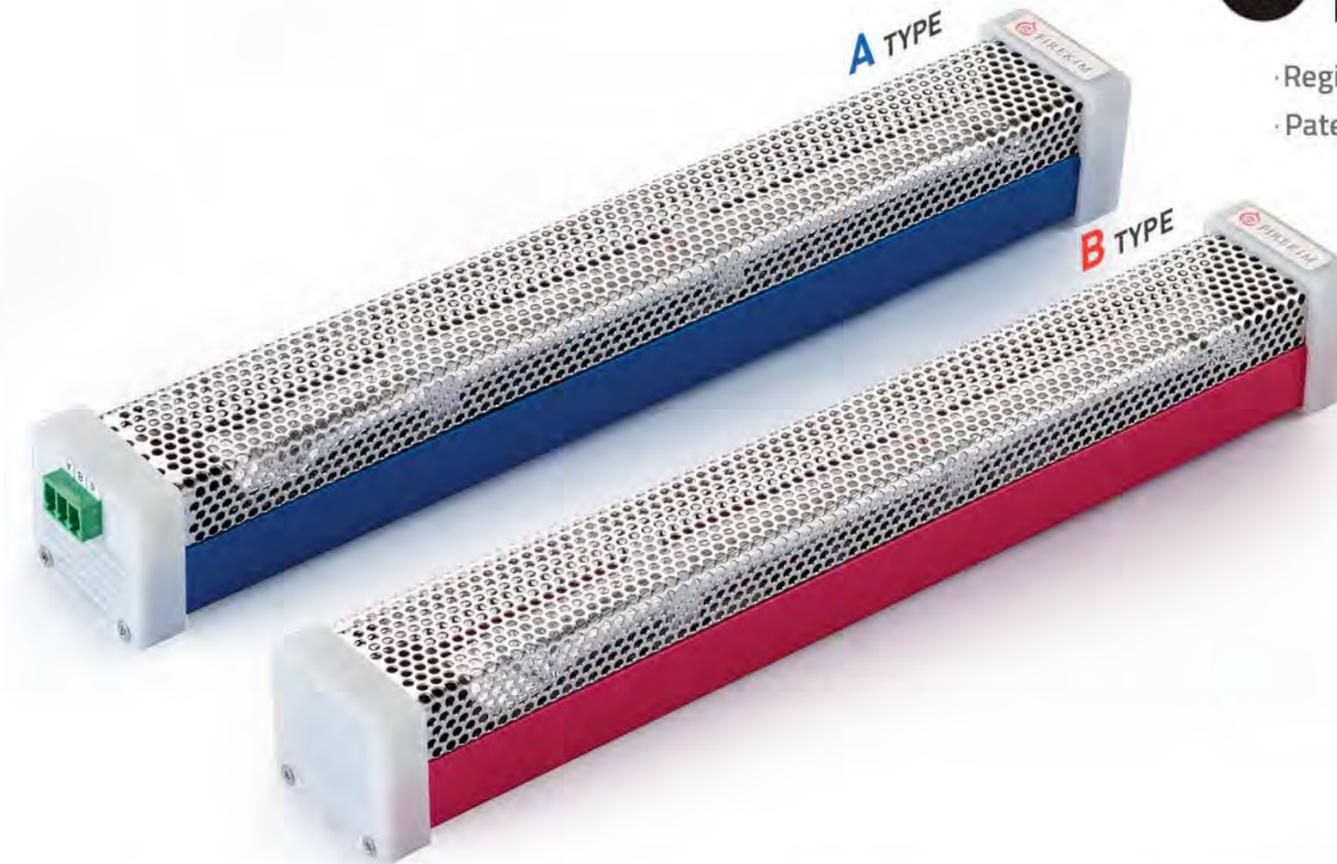
### Lightweight

43.5g of STICK130

# What's STICK SENSOR +



· Registering trademark  
· Patent Pending



- Overview
- Features

## New standard of fire extinguishing system in the world!

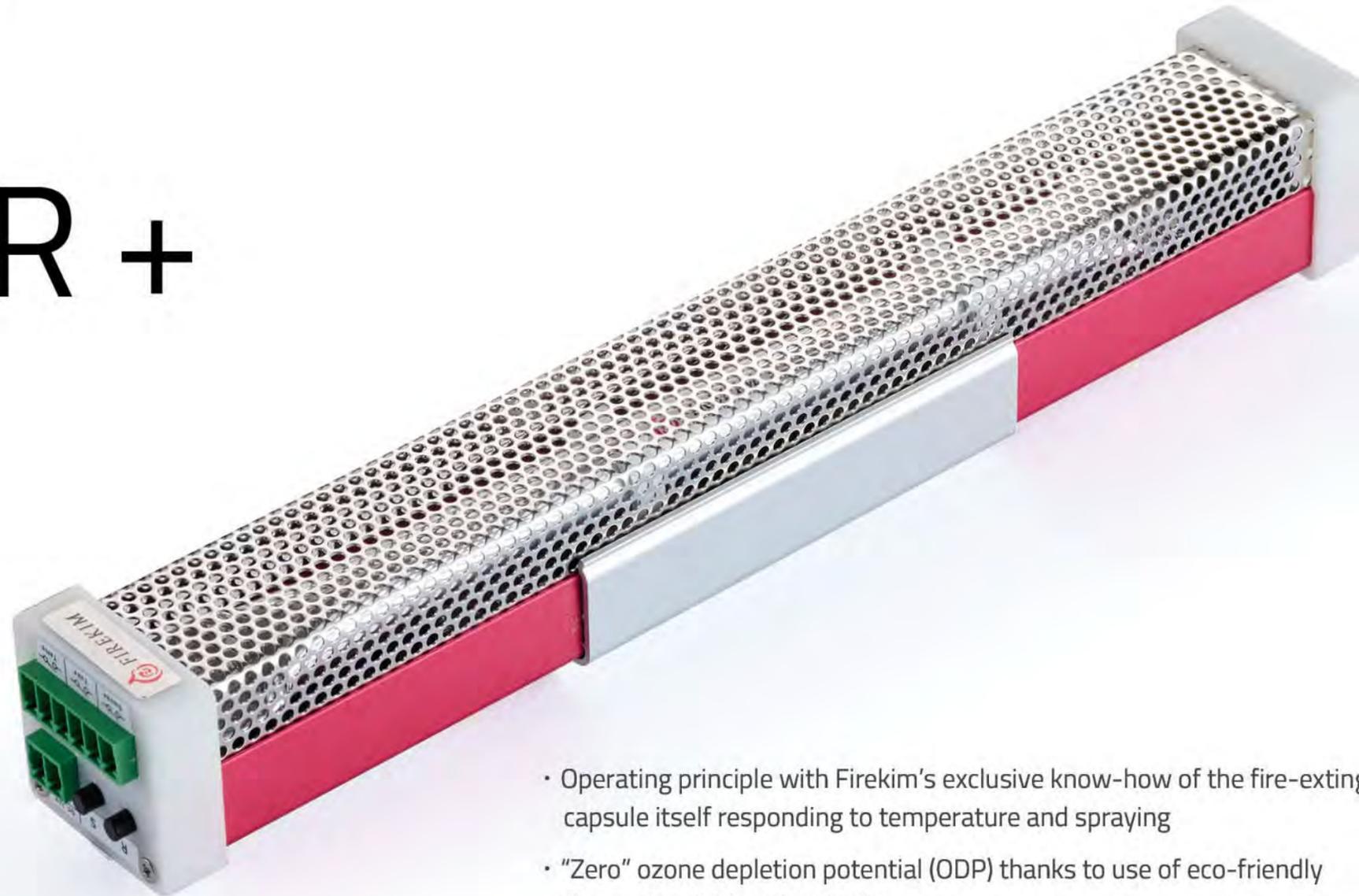
STICK SENSOR+ gives buzzers, signals at points of contact, and activation of fire-extinguishing capsules for users through the feature that monitors abnormal signals such as changes in smoke concentration, temperatures higher than a certain level, and humidity of the fire-extinguishing chemical in the installed environment.



Model	Product Dimensions (W X H X L)	Amount of fire-extinguishing chemical	Volume of protection according to NFPA standard	Max. installation height / weight	Product voltage / Power consumption	Persisting period / Product warranty	Control output
FSS185 A	28 x 27 x 232	23.2g	0.027 m <sup>3</sup>	0.8m / 128.6g	DC 24V / 0.3W	7Years / 7Years	<ul style="list-style-type: none"> <li>• Identical feature</li> <li>Fire-extinguishing capsule status display</li> <li>Set smoke concentration / Temperature display</li> <li>• A Type added feature</li> <li>Temperature change value display</li> </ul>
FSS185 B	28 x 27 x 229						

Automatically activates by detecting the set temperature and occurrence of smoke  
Alarm sent to central control in case a specific temperature is reached or the system is activated

## Special features of STICK SENSOR +

Overview **Features** 

- Operating principle with Firekim's exclusive know-how of the fire-extinguishing capsule itself responding to temperature and spraying
- "Zero" ozone depletion potential (ODP) thanks to use of eco-friendly fire-extinguishing chemical
- Temperature sensor activated when set temperature is reached (customer selects from among 50, 60, 70 or 80°C)
- Smoke sensor activated when set smoke concentration is reached (customer selects from 1st to 4th stage)
- Simple reset using a switch
- Verify whether the fire-extinguishing capsule works

# Special features of RED BLOCK

- Product that can be applied to mid- to large-sized spaces
- Extinguishes fire in the installed volume as it activates within 3 seconds
- Discharges over 90% of the fire-extinguishing chemical within 30 seconds
- Automatic fire-extinguishing chemical discharge system by reacting to heat
- Possible to design activation time tailored to customer requirements



· Registering trademark  
· Patent Pending



Overview   
Features



# What's RED BLOCK

It is a product that can be applied to mid- to large-sized spaces such as electrical panels, switches, transformers, ESS rooms, ships, large drones, UPS, and power plants.

- The N-Type is a product designed based on the existing "stick" product to suit any mid- to large-sized protection volumes.
- The S-Type is a product designed to give buzzers, signals at points of contact, and activation of fire-extinguishing capsules to users through the feature to monitor abnormal signals such as changes in smoke concentration, temperature higher than a certain level, etc.



S Type

Normal Type

- Overview**
- Features

## RED BLOCK

Model	Product Dimensions (W x H x L)	Volume of protection according to NFPA standard	Max.installation height	Product voltage / power consumption	Persisting period / Product warranty	Types of fire for application	
Fire-extinguishing tools for small spaces	FRB250N	103 x 43 x 256	0.15m <sup>3</sup>	1.0m	-	7 Years / 7 Years	A B C
	FRB250S	103 x 43 x 259	0.15m <sup>3</sup>	1.0m	DC 24V / 0.3W		
	FRB300N	103 x 43 x 306	0.23m <sup>3</sup>	1.0m	-		
	FRB300S	103 x 43 x 309	0.23m <sup>3</sup>	1.0m	DC 24V / 0.3W		

\*S Type : Alerts central control when the set temperature or smoke concentration are reached

# What's RED BLOCK

It is a product that can be applied to mid- to large-sized spaces such as electrical panels, switches, transformers, ESS rooms, ships, large drones, UPS, and power plants.

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S Type

Normal Type

 Overview 
**Features** 

## RED BLOCK

Model	Product Dimensions (W x H x L)	Volume of protection according to NFPA standard	Max.installation height	Product voltage / power consumption	Persisting period / Product warranty	Types of fire for application
Automated gas fire-extinguishing devices	FRB350N	103 x 43 x 356	1.0m	-	7 Years / 7 Years	A
	FRB350S	103 x 43 x 359	1.0m	DC 24V / 0.3W		B
		1grade (Type Approval)				C

\*S Type : Alerts central control when the set temperature or smoke concentration are reached

# PRODUCT APPLICATION

[Market](#) [Go >>](#)

[Hospital](#) [Go >>](#)

[Concert hall](#) [Go >>](#)

# APPLICATION

# Application

## Traditional Market

Firekim products are installed in commercial facilities including grocery stores and traditional markets, and we strive to protect the safety of lives and valuable properties.

▶ Examples of installation in traditional markets in 2016 (Cheongju Sachang Market, Jecheon Central Market)



▶ Lotte Food, Pasteur, LG Hausys (switchboards, chambers), Samsung Semiconductors (chillers)



# Application

## Public hospitals and Nursing facilities

Firekim products can be installed in national and public hospitals and nursing facilities, and establish a safe environment to protect customers' precious lives.

### ▶ Municipal Surak Nursing Home

MUNICIPAL SURAK NURSING HOME 1F



MUNICIPAL SURAK NURSING HOME LAUNDRY ROOM



### ▶ Jungnang Senior Hospital

JUNGNANG SENIOR HOSPITAL 1F OFFICE



JUNGNANG SENIOR HOSPITAL 1F KITCHEN

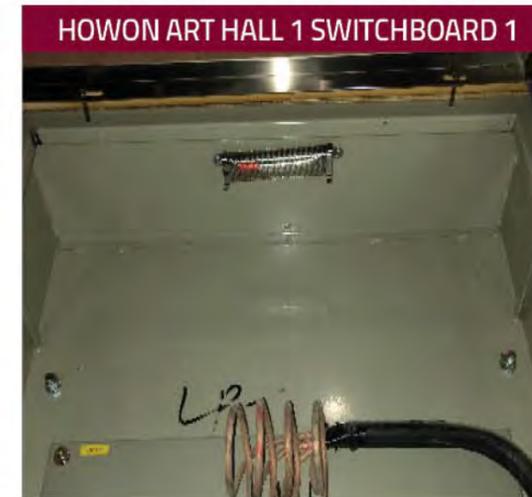


# Application

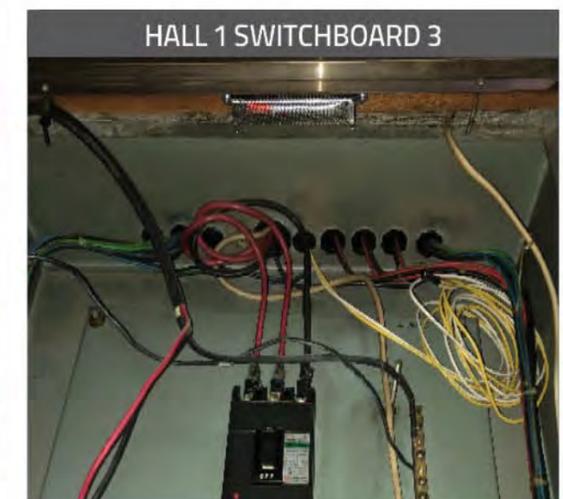
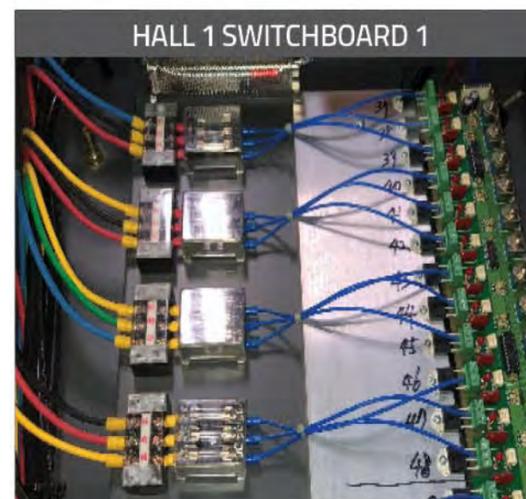
## Performing halls and Universities

Firekim products protect the precious lives of customers in crowded facilities including performing halls and universities where safety is critical.

### ▶ Human Theater, Howon Art Hall



### ▶ Hansung Art



# WE MAKE PRODUCTS THAT SAVE **LIVES.**

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[Overview](#) [Go >>](#)

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[History](#) [Go >>](#)

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[Certificate](#) [Go >>](#)

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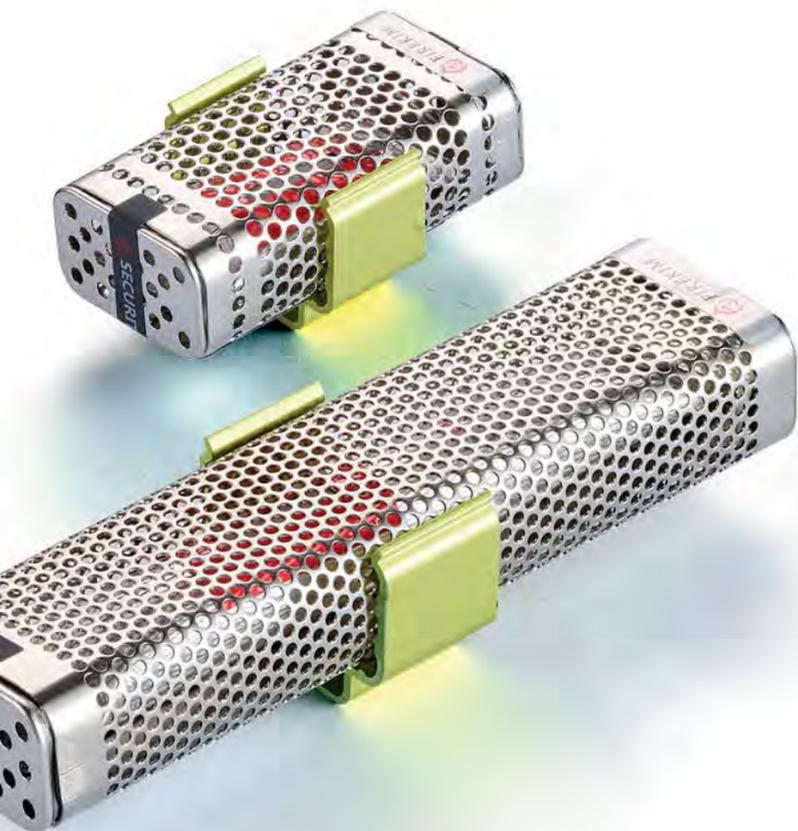
[Global Network](#) [Go >>](#)

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# COMPANY

# Overview

Firekim's creative and progressive technology makes 'Products that save lives.'



## Company Profile

Company	FIREKIM Co., Ltd.
CEO	Kim Byung-yul
Founded on	December 9, 2014
Headquarters address	48, Jungsimsangeop 2-ro Ochang-eup, Cheongwon-gu, Cheongju, Chungcheongbuk-do 28119 (Information Technology T-Factory Office #208, Chungbuk Regional SMEs and Startups Office)
Plant address	33, Sinpyeongjungsin-gil Ochang-eup, Cheongwon-gu, Cheongju, Chungcheongbuk-do 28132
Chicago Office	Korea Business Development Center, Chicago 475 North Martingale Rd., Suite 700, Schaumburg, IL 60173 Woodfield Corporate Center, www.425-475.com
Contact	Tel: 043-215-5435 Fax: 043-216-5435 Email: info@firekim.co.kr
Homepage	www.firekim.co.kr

- Overview**
- History
- Certificate
- Global Network



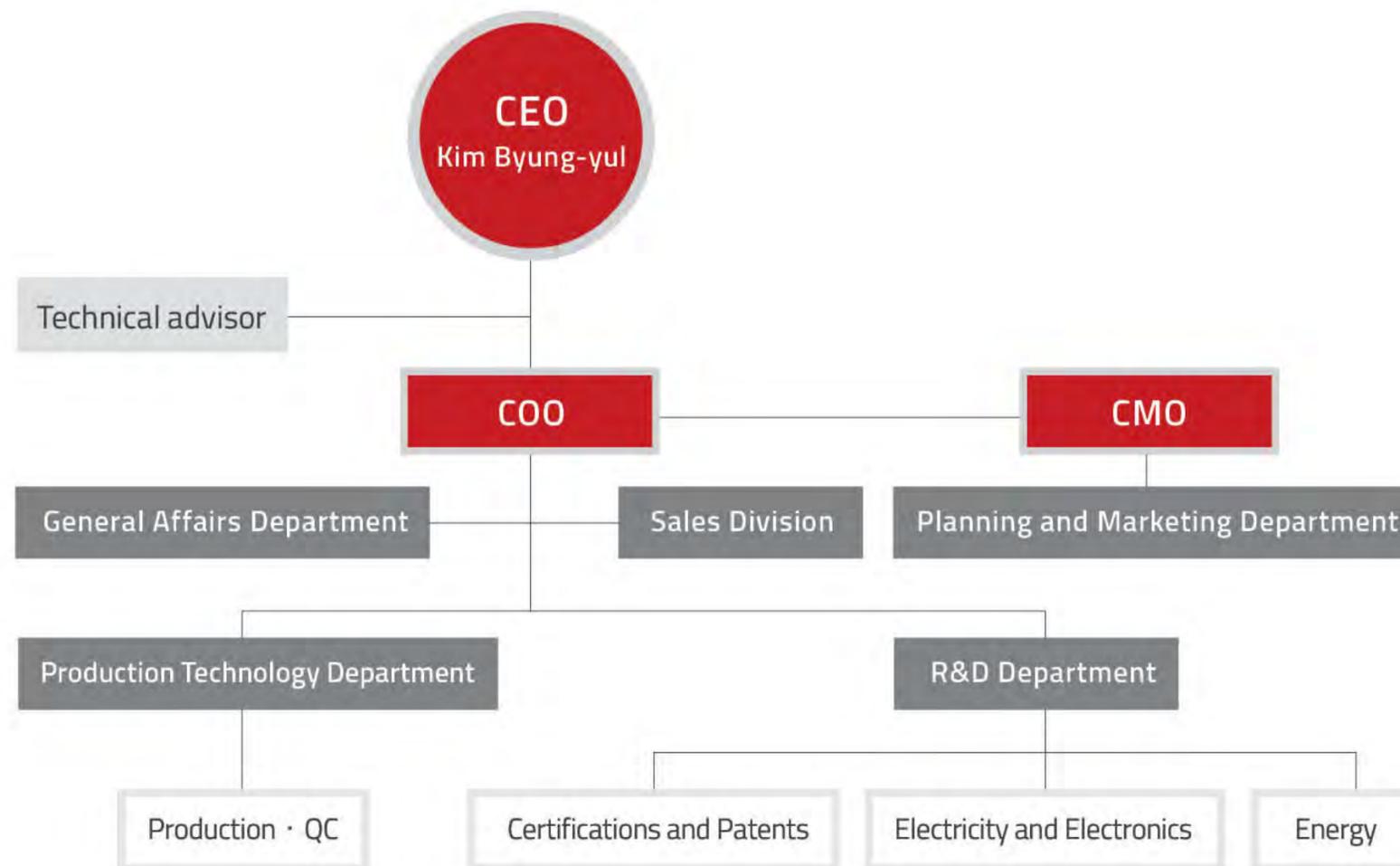
# Organization

“We will create value unique to Firekim by solving the worries of fires.”



Firekim Co., Ltd. is an R&D company that develops multi-function, high-performance firefighting safety and response systems through convergence of IoT technology and firefighting safety products, and also owns the source technology to enable integration of relevant products.

With innovative and independent source technology, Firekim Co., Ltd. is growing and developing into a new-form, next-generation firefighting safety platform company tailored to the age of the 4th industrial revolution. We will continue to strive to solve “your worries about fire.”



- Overview**
- History
- Certificate
- Global Network

# History

Since its founding in 2014, Firekim Co., Ltd. has been proposing new possibilities in the firefighting safety industry and achieving innovative growth.

2014 12 Founded FIREKIM

2015 03 Entered 5th class of Korea SMEs and Startups Agency

2016 03 Acquired venture company certification and signed CDA contract with 3M Korea

07 Completed development of "STICK" fire extinguisher

12 Corporate conversion into Firekim Co., Ltd

2017 01 Seed-stage investment attracted from Korea Venture Consulting Inc.

07 "Stick" recognized as the nation's first-ever gas-type fire-extinguishing device for small spaces by KFI

09 Attracted investment from Small and medium Business Corporation

12 Received "Minister of the Interior and Safety Award" in Outstanding Product category at 16th K-Safety Awards

2018 06 "'Stick" certified as gas-type fire-extinguishing device for small spaces by KFI

10 Signed private contracts with Seoul Metropolitan Government and KTL

11 Registered as a product supplier for POSCO / signed NDA with Samsung SDI

2019 01 Certified for EPC performance (designated as item for test purchase)

Received Innovative Design Award at iF Design Award

02 Sold products to LG Chem / registered on ServeOne

Exported products to India, Saudi Arabia, and South Africa

03 Supplied products registered on ELAND service MRO

04 Acquired CE mark of SENSOR+

Registered and supplied parts for Samsung semiconductors

06 Participated in 2019 NFPA Conference and Expo

07 Signed sales contract with iMarketKorea (MRO registration)

Supplied to Korea Gas Corporation (Incheon Terminal)

09 Signed agreement for export incubators with KOTRA /

Opened Chicago Office Installed product in Sangdang-gu Office, Cheongju

10 Installed product in Heungdeok-gu Office, Cheongju (10.11)

2019 DUPEX / 2019 InterBattery

Selected as cooperating startup for water business platform by Korea Water Resources Corporation (K-Water)

SENSOR+ Selected as Good Design

12 Signed NDA with Kokam Co., Ltd. (R&D)

Overview



**History**



Certificate



Global Network

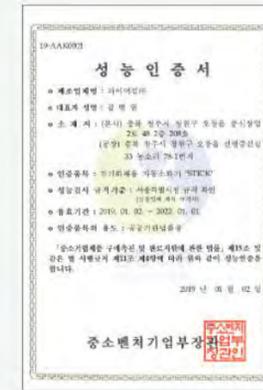


# Certificate

The efforts of Firekim in striving to develop firefighting safety products are protected by quality certifications, performance approvals, and patent registration.

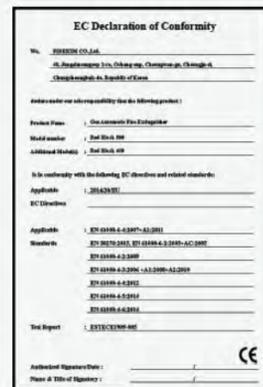
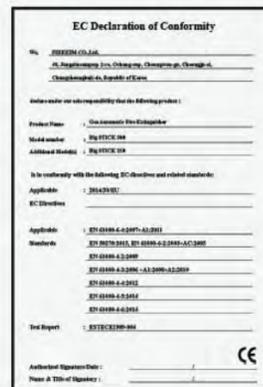
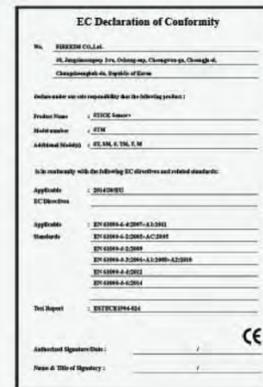


## CERTIFICATION RESULTS



- Overview
- History
- Certificate**
- Global Network

## KC, CE CERTIFICATION



# Certificate

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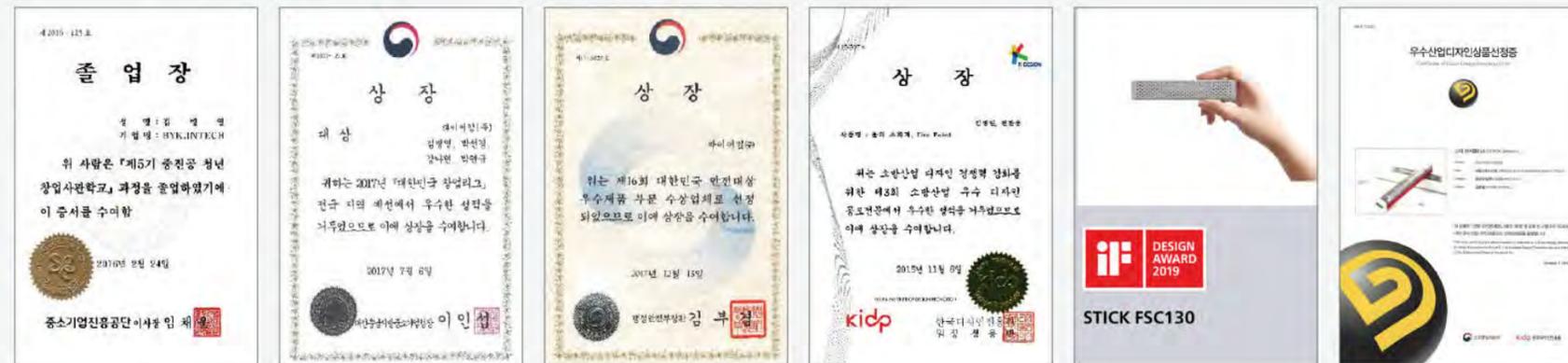


## PATENT RESULTS (DOMESTIC/OVERSEAS)



- Overview
- History
- Certificate**
- Global Network

## AWARDS RECEIVED



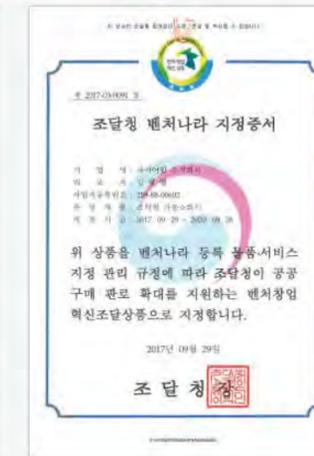
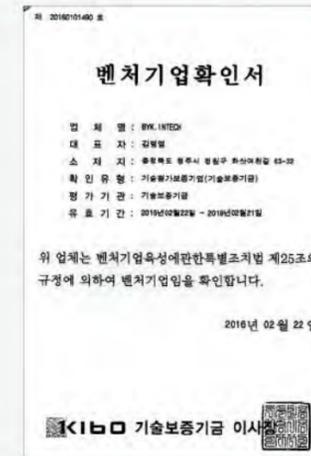
# Certificate

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## KFI CERTIFICATE



## CERTIFICATES RELATED TO BIDDING WITH PUBLIC AGENCIES



- Overview
- History
- Certificate**
- Global Network

FIREKIM

# Global Network



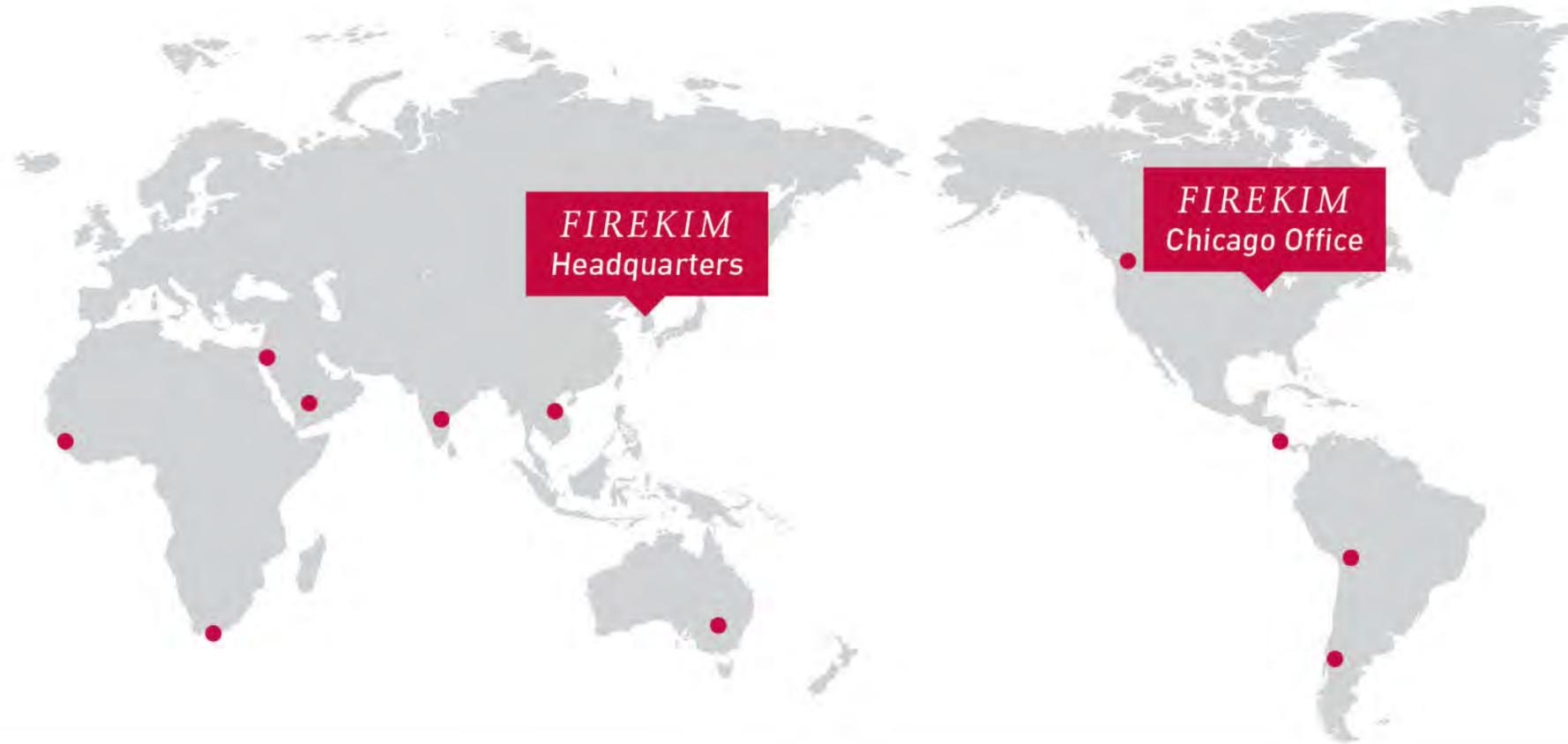
- Overview
- History
- Certificate
- Global Network**

## FIREKIM CLIENT

\* 2019. 12



# Global Network



- Overview
- History
- Certificate
- Global Network**

Exported to 7 countries including U.S.

						
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**Headquarter** 48, Jungsimsangeop 2-ro Ochang-eup, Cheongwon-gu, Cheongju, Chungcheongbuk-do 28119  
(Information Technology T-Factory Office #208, Chungbuk Regional SMEs and Startups Office)

**Plant** 33, Sinpyeongjungsin-gil Ochang-eup, Cheongwon-gu, Cheongju, Chungcheongbuk-do 28132

**Tel.** +82-43-215-5435 **Fax.** +82-43-216-5435 **Web.** [www.firekim.co.kr](http://www.firekim.co.kr)

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