Kfire

YOUR SAFETY IS FIRST

Hankook Fire Fighting Equipments Co.,Ltd.

Since 1961

With 60 years of experience and knowledge, *Kfire* assures you to provide the best quality

Kfire is with you to Keep your **Safety and Happiness**

60th anniversary

With 60 years of knowledge and experience *Kfire* manufactures the best equipment with trust

Human Oriented company

We will be your first safety protection company so that anyone can enjoy a safe and convenient life

Company **History**

|		
1961. 11	Founded Hankook Fire Fighting Material Trading Company
1970. 01	Factory relocated at Daegu
1976. 05	Obtained firefighting equipment company license No.1 in Gyeongbuk South Korea
1987. 08	Changed company name to Hankook Fire Fighting Equipmets
1979. 11	Current first factory relocated at Jungridong,Daegu
1986. 01	Establishment of a Seoul Sales Office at Guncheongu–Sihung, Seoul
1989. 01	Local universities begin cooperation in fire safety and theology
1990. 01	Converted the private company to a corporation, Hankook Fire Fighting Equipments Co., Ltd
1991. 03	Expand production line by establishing a second factory at Gyeongsan
1995. 01	Establishment of a Daegu Sales Office at Dongu Sinchendong, Daegu
1996. 07	Acquisition and production of automaticfire extinguisher types
1996. 08	Acquisition and production of gas supply manufacturing permits
2000. 10	Obtained ISO 9002 Certificate
2002. 11	Be designated as a Promising Small & Medium Company by Daegu Bank
2004. 03	Developed gas leakage alarm & shut–off device
2004. 05	Developed home network linked automatic fire extinguisher
2005. 10	Certification of venture companies.
2005. 11	Certification of Innobiz Enterprise.
2006. 09	Establishment of Corporate Affiliated Research Institute
2008. 06	Received a citation from the Minister of Public Administration and Security
2009. 01	Completion of 3rd factory in Dalseong 2nd Industrial Complex Daegu
2010. 11	Commendation from the Minister of Public Administration and Security
2012. 12	Certification of Innobiz Enterprise.
2014. 05	Certification of venture companies.
2019. 01	Development of convergence technologies such as artificial intelligence, image firedetection technology, etc
2019. 11	Intellectual property management certification.
2021. 08	Received the Fire Industry Grand Prize.
2021. 11	Daegu National Industrial Complex Plant 4 completed

1

Smart Fire
Extinguishing Systems

- **Kiss** Smart Hood Fire Extinguishing System
- Smart Lighting Fire Extinguishing System
- **KAION** Portable Water Tank for E.V Fire
- **KAION** Fire Suppression Robot
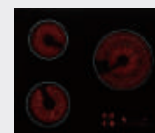- Cabinet-Type Sprinkler System
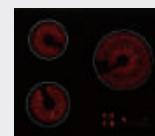
1. The user turns on the gas and electric stove for cooking.

2. LED lights up automatically.
The stove hood operates automatically in two stages.

3. The user turns off the gas and electric stove after cooking.

4. LED the light turns off automatically.
Ventilate residual heat and smell before automatically stopping.

Residential Kitchen Automatic Fire Extinguishing System
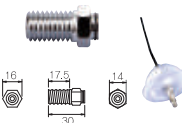
Fire Extinguisher HKF–320	Receiver HKC–850/860T	Gas Detector HKD–500/400HKS– 815/815T/820/820T	Gas & Electric Shut–off Device	Nozzle &Temperature Sensor HKT–300/HKN–200HKR–850	Controller

Smart Hood Fire Extinguishing System **Kiss**

IOT products that automatically link to hood & gas, electric stove & automatic fire extinguisher (they can be linked even if the hood and gas and electric stove companies are different)

When cooking gas and electric stove the hood automatically operates and stops automatically after cooking to automatically operate the hood movement that is easy to miss, blocking cooking fumes, the main cause of women's lung cancer. And the range hood, which is linked to the automatic fire extinguisher, automatically stops positive suction in case of fire to prevent secondary fire inside the hood and the sink.

※ **Kiss** In conjunction with the "Kitchen Automatic Fire Extinguisher", the hood is completely automatically controlled even in the cooktop of the gas and stove.
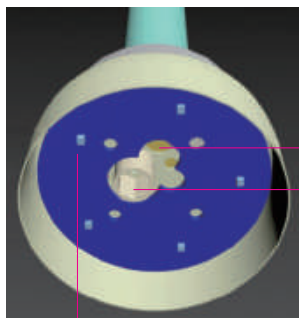
Smart Lighting Fire Extinguisher

🟥 Kitchen Automatic Fire Extinguisher Interlocking Type

LED, temperature sensor and fire extinguisher nozzle are installed inside the light.

Automatic fire extinguishers can be installed using smart lighting in spaces without stove hoods such as Island kitchens and auxiliary kitchens.

### Characteristics of Smart Lighting Fire Extinguishing Device

Temperature sensor

Fire extinguisher nozzle

LED board

¤ **When the induction is on/off, the lighting is automatically on/off**

– Check the current in the fire–fighting electric circuit breaker and automatically link it with the lighting

1. LED, temperature sensor and fire extinguisher nozzle are installed inside the light.
2. Smart lighting automatically turns on when induction is on and turns off when induction is off

Product Composition of Smart Lighting Fire Extinguishing Device

Nozzle

A discharge bar

217mm

Temperature sensor

Kfire

+
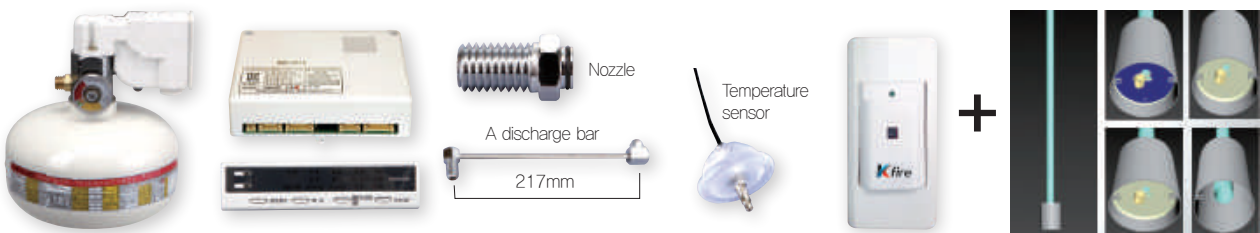
Automatic fire extinguishing system for residential kitchen

Smart lighting

A Case Study on the Installation of Smart Lighting Fire Extinguishing Device

Hood No
Upper drawer No
Island type No

Kitchen automatic fire extinguisher interlocking type

Smart lighting fire extinguisher

Life style for a Smart Future – **Kiss** is with you.

Portable Water Tank for Electric Vehicle Fire

■ Wall

● Air Charging

Size	2,000mm(W) x 5,000mm(L) x 1,000mm(H)
Weights	25kg
Maximum charging pressure	10kPa
Pressure to use	2kPa
Over pressure outlet	3kPa
Charging time	Within 5 minutes (depends on the charging force)
Feature	Attach handles for each part

Handle

Gas outlet

Gas inlet

Overpressure outlet
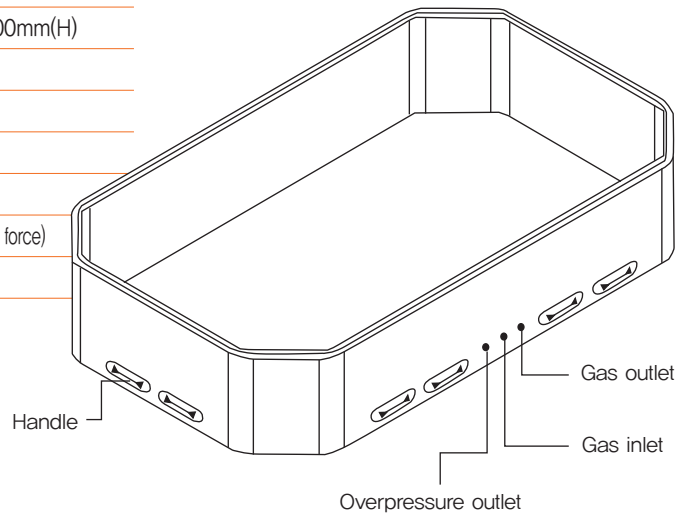
■ Floor

Size	6,000mm(W) x 9,000mm(L)
Weights	23.5kg
Material	Silica Fabric – Premium Glass fiber fabric – Standard PVC fabric – For training

9m

Rope connection ring

6m

Center line
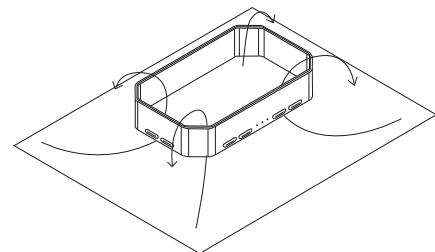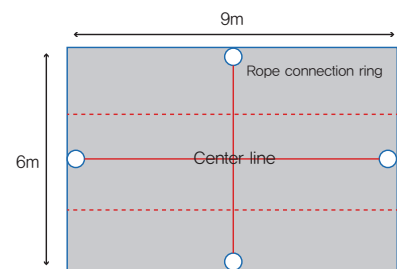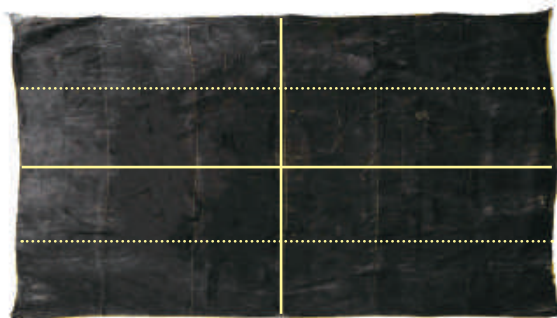
■ Product Features

Water supply level	700mm ~ 1,000mm(Depends on the road condition)
The number of people installed	2 ~ 4
Installation time	3 ~ 5Min (Depends on the skill level)
Recommended number of uses	5

* Easy to move, store and install

■ Installation Order

1. Install the floor

2. Installing the wall

3. Water supply

Example of Installing an Underground Parking Lot

Fire Suppression Robot

KAION
Fire suppression robot

■ Specification

Components	Controller, nozzle, camera, IR sensor
Fire detection	UV, IR, CAMERA
Water tank capacity	1,600L (10 minutes), 3,200L (20 minutes)
Water discharging time	10 ~ 20 minutes
Pump capacity	3HP, Three phases 220/380
Nozzles I.D.	14.6mm
Pipe size (Suction and discharging)	32A
Appearance figures (horizontal x vertical x height)	Nozzle height : 3m
	1) Water tank for 10 minutes : 920×920×2,000
	2) Water tank for 20 minutes : 1,300×1,300×2,000 (2-stage separation type)

Top view

230mm

170mm

229mm

■ Fire recognition

- Real−time fire monitoring
- UV, IR and Camera (Application of three types of fire detection systems) → Ensuring accuracy
- Fire detection recognition rate of 90%↑

■ Fire suppression

- Tracking and suppression of ignition points
- Feedback on fire extinguishing
- D/B set up and learning AI
- Remote and manual operation

Controller 🖥 👁 📶 📶   [*Kfire* is special – **Durability, convenience, quality, design**]

■ Application

Ships · ports	Aircraft	Airport
Tunnel	Hotel lobby	Industrial site

Cabinet−Type Sprinkler Model : HK−SH−CABINET

▲ FRONT − Installation of control unit   ▲ SIDE − Installation of control unit

Features and Advantages

· Acquisition of electromagnetic compatibility certification: Few malfunctions occur due to electromagnetic waves

· Configuration of the control unit square pipe frame: Large work space with open front and side surfaces

· Multi−detachable with high space utilization: Installation of the front of the control unit and installation of the side of the control unit

· Product design prioritized for users: Prevent sagging of battery stand/ Easy to move on−site handle/high load caster

◗ Cabinet−Type Sprinkler Facility Specification

Type	Pump pressurization method, pipe length used (5 to 80M), for 10 minutes
Components	Inverters, batteries, motor pumps, etc.
Head Sensing Temperature Range (℃)	72−105℃ early reaction type (residential use, K=50)
Water Tank Capacity	About 1,150 L
Water Discharging Time	10 minutes (residential SP head K=50×2 pieces)
Pump Capacity, Discharge, Power	125L/min, 48m, 1.38kw
Piping Material, Name and Length	SPP, CPVC, STS, 32A, (5~80)M
Emergency Power	DC 24V, 80AH Battery
Exterior Figure (W x D x H)	1) Water tank: 920×680×1,850 (material STS 304)
	2) Control unit: 680×250×1,815
	3) Assembly: Front 920×930×1,932 (including cast), Side 1,170×680×1,932 (including cast)

Installation Structure

▲ Control panel
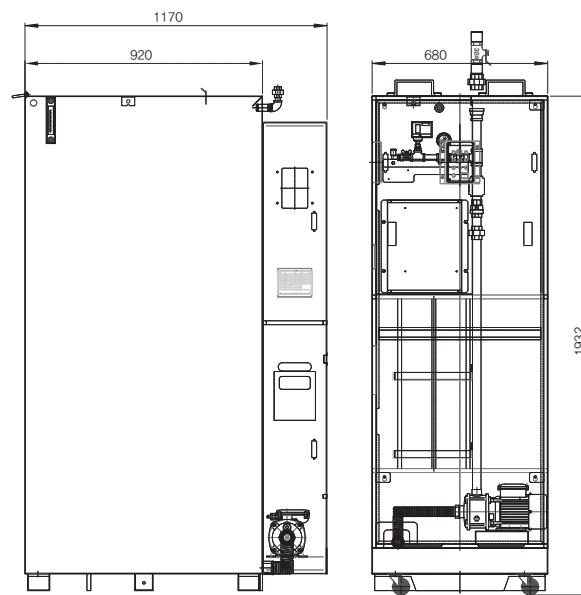
▲ Control Side Installation

▲ Inside Strucure

1170
920
680
1932

Installation Precautions

1. Install in accordance with approved conditions
2. Piping equivalent length (L) = 80m
3. Test piping head: Residential sprinkler head (K = 50×2 EA)
4. Water tank: Check every six months after installation. Replace the fire extinguishing water if it is insufficient or if the fire extinguishing water is contaminated.
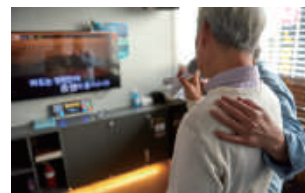5. Grounding: There is a risk of electric shock or malfunction, so make sure to ground

Installation Apply To

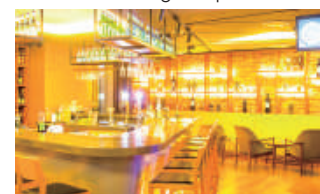| Internet cafe | Single room | Karaoke | Nursing home |
| Room type bar | billiard room | Screen golf | Massage shop |
| Restaurant | Sauna room | Postpartum care center | Bar |

- All floors of a neighborhood living facility with a total floor area of 1,000㎡ or more
- A camp in an educational research facility with a total floor area of 100㎡ or more.
- Elderly facilities or mental health facilities
  − A place with a total floor area of less than 300㎡ and bars installed. − A place with a total floor area of 300~600㎡
- 150㎡ of multi−use business on the basement floor.

Kfire

www.koreafire.com

2

Dry Powder
Fire Extinguisher

- Compressive Dry Powder Fire Extinguisher
- Anti–Panic Fire Extinguisher
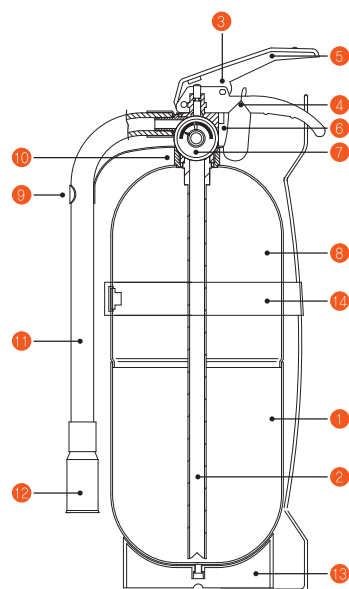- Automatic Diffusion Fire Extinguisher

Compressive Dry Powder Fire Extinguisher

Structural of Compressive Dry Powder Fire Extinguisher

| 0.7kg | 1.5kg | 2.5kg | 3.3kg | 4.5kg | 6.5kg |

Specifications of Compressive Dry Powder Fire Extinguisher

Model	Capability Unit	Main Ingredient	Charging gas	Working pressure	Total Weight	Powder Weight	Discharging Time	Discharging Distance	Height	Outer Diameter
Compressive – 0.7kg	A:1 B:1 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	1.5kg	0.7kg	10초	2~3m	309mm	83mm
Compressive – 1.5kg	A:2 B:3 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	2.8kg	1.5kg	10초	4~5m	350mm	125mm
Compressive – 2.5kg	A:2 B:4 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	4.0kg	2.5kg	12초	4~5m	395mm	135mm
Compressive – 3.3kg	A:3 B:5 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	5.2kg	3.3kg	12초	4~5m	450mm	145mm
Compressive – 4.5kg	A:4 B:6 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	7.1kg	4.5kg	14초	5~6m	478mm	150mm
Compressive – 6.5kg	A:5 B:10 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	9.9kg	6.5kg	18초	5~6m	555mm	175mm
Compressive – 20kg	A:10 B:20 C:Applicable	Ammonium dihydrophosphate	N$_2$	0.9MPa	36kg	20kg	33초	6m	910mm	284mm

❶ Cylinder	❷ Powder discharging pipe
❸ Safety pin	❹ Sealing string
❺ Handle	❻ Plug (Head)
❼ Pressure indicator	❽ Extinguishing powder and nitrogen gas
❾ Hose hanger	❿ Neck
⓫ Hose	⓬ Nozzle
⓭ Cylinder support	⓮ Bracket for Vehicle

소 화 기
K fire

* Cylinder holder

Compressive Dry Powder Fire Extinguisher

수소 10-4-4

Structure of 20.0kg Manual Fire Extinguisher
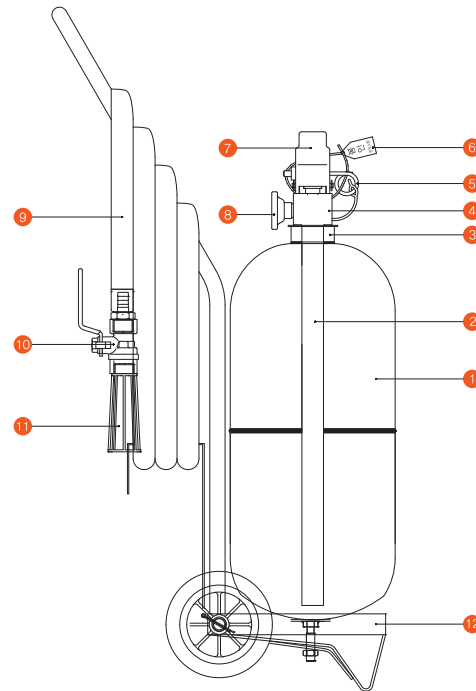
❶ Cylinder	❺ Safety pin	❾ Hose
❷ Powder discharging pipe	❻ Sealing string	❿ 15A Ball valve
❸ Neck	❼ Handle	⓫ Nozzle
❹ Head	❽ Pressure indicator	⓬ Carrier(cart)

Features

- Particular inspection is not required since it is possible to check the inner pressure just by watching the pressure indicator.
- Since Nitrogen(Ni) is used, the ability to extinguish is excellent because the pressure changes upon temperature changes are not so big.
- A compressed fire extinguisher is always a safe fire extinguisher because pressure is applied to the entire powder
- The compressive type prevents moisture from entering from the outside, so there is no risk of solidification of the powder
- Press and release the lever to control the release of the chemical in the fire extinguisher to extinguish the fire
- It has high extinguishing ability since it has a strong discharging ability and this ability can reach such a long distance.
- Since the hose hanger is fixed, it is ensured that the hose and the hose hanger do not get removed. (Patent)
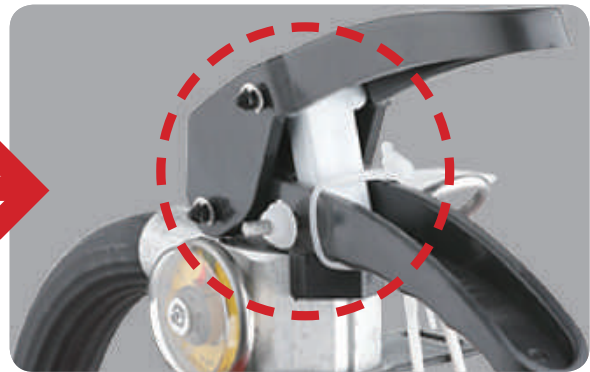
Anti−Panic Fire Extinguisher

■ Fire Extinguisher for Preventing Panic 3.3 kg (for home and office)

> It is the only **PANIC−FREE SAFETY PIN** in Korea to prevent panic.
> ## RUN&Shot Panic Free

The safety pin is removed even when the handle is gripped, allowing fire extinguisher injection without panic.

Fire extinguisher safety pin

Kfire panic prevention fire extinguisher pin

A Normal Fire
B Oil Fire
C Electric Fire

Model	Compressive − 3.3kg
Type Approval	수소15−15−5
Fire Rating	A:3 B:5 C:Applied
Main Ingredient	Ammonium dihydrophosphate
Charging Gas	N2
Working pressure	0.9MPa
Total Weight	5.2kg
Powder Weight	3.3kg
Discharging Time	12Seconds
Discharging Distance	4∼5m
Height	450m
Outer Diameter	145mm

■ Configuration

Automatic Diffusion Fire Extinguisher

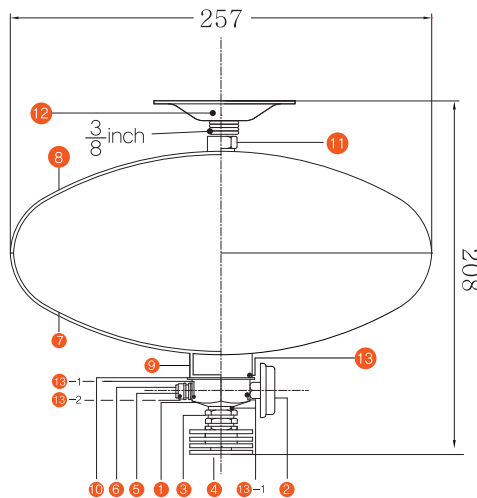🟥 Components and Specifications of Automatic Diffusion Fire Extinguishing Equipment

KFI Korea Fire Institute Certified Good

▮ HK-FD30

Type Approval	확산 13-1-1	72℃
Chemical Weight	3kg	10sec
Charging Pressure	7~9.8kg/㎠	4.58kg
Operating temperaturerange	−20~40℃	
Protection space	1㎡	
Main ingredient	Ammonium dihydrophosphate	
Charring gas	N₂	
Extinguishing performance	General fire and electrical equipment	

▮ Usage

◆ Laundry and drying room
◆ Boiler rooms in apartments and homes
◆ Rooms and engine rooms at the inn
◆ Factory's workroom, substation room, engine room, product warehouse
◆ Rooms and engine rooms of fishing boats and ships
◆ Various oil handling stations and storage

▮ Structural Diagram

❶ Valve	❷ Gauge
❸ Nozzle	❹ Heatproof Plate
❺ Gas inlet	❻ Gas Inlet plug
❼ Top Plate of Container	❽ Bottom plate of Container
❾ Neck	❿ Neck O-ring washer
⓫ Container Fastening Nut	⓬ Ceiling Installation Bracket
⓭ O-ring	⓭-1 O-ring
⓭-2 O-ring	

Features

■ In case of fire, it automatically starts working to extinguish the fire by detecting the heat of 72°C
■ No any specific construction to equip is required and it is very easy to install.
■ By the pressure indication gauge, working (pressure within the instrument) status can be confirmed by the watching.
■ The powder charged are not harmful for human and animals. It can be simply cleaned and removed.
■ Since A, B, C powder are mixed and charged with N2(Nitrogen), it does not get solidified.

Installation Method and Precautions

■ Attach the ceiling mount vertically and firmly to the ceiling, and then rotate the body clockwise to insert it
■ Check if the needle of the pressure gauge is in the normal position before attaching it
■ Check if the needle of the pressure gauge is in the normal position at least once a month
■ If the needle of the pressure gauge is in a defective position and there is a problem when installing it, contact the handling store or headquarters for inspection

3

Wet Chemical
Fire Extinguisher

- Class "*K*" Fire Extinguisher
- Spray & Throwable Fire Extinguisher
- Kitchen Stick Fire Extinguisher

Class "**K**" Fire Extinguisher

For cooking oil fire

■ Class "**K**" Fire Extinguishers 4 Liter

500mm

Model	Kfire K−4.0
Type Approval	수소 17−33−2
Capacity	4.0L Wet Chemical
Fire Rating	Class A,B,K
Total Weight	6.9Kg
Discharging Range	3∼5m
Discharging Time	60sec
Operating Pressure	0.97MPa
Operating temperature	−20℃∼40℃

■ Class "**K**" Fire Extinguishers 3 Liter

430mm

Model	Kfire K−3.0
Type Approval	수소 17−46−1
Capacity	3.0L Wet Chemical
Fire Rating	Class A,B,K
Total Weight	5.7Kg
Discharging Range	3∼5m
Discharging Time	52sec
Operating Pressure	0.97MPa
Operating temperature	−20℃∼40℃

KISEN

Class "**K**" Fire?

It means an edible emulsifier containing combustible cooking ingredients (vegetable or animal oil or fat).

In the case of a K−class fire, the temperature difference between the flash point and the ignition point is small (about 60 degrees), and the boiling point is higher than the ignition point (about 360 degrees, boiling point about 400 degrees), and even if the flame is removed by suffocation, it recurs immediately. Therefore, in order to extinguish the fire, the surface is instantly suffocated to block flames and quickly cool down the combustion source (food oil)

Spray Type Fire Extinguisher K–Spary

🟥 Kfire has the technologies to make "EASY, COMFY and HANDY" Fire Extinguisher for immediate response to fire accidents.

[**"EASY, COMFY and HANDY"** Fire Extinguisher
Immediate reponse to "FIRE" is very important]

Efficiency
Safety
Power

Model	K Spray
Type Approval	간소19–13
Preservation Period	2year (0~40℃)
Discharge Range	1m~5m
Dischage Time	25 sec
Uses	Immediate response to oil and fabric material fire accident.
Material Specification	Wet Chemical 427ml, Total weight 612g

▼ Components

- It is very effective in cooking oil fire.
- Initial response to home fire.
- Hot or Cold, effective in every season
- Regular inspection is not required.
- It can be used semi–permanent
- There will be no sight interruption because it is liquid chemical based not dry powder.

Throwable Fire Extinguisher K–Shot

🟥 Throw at the fire for immediate response. You can prevent fire by quick response of throwing.

[**"EASY, COMFY and HANDY"** Fire Extinguisher
Throw for quick response to fire accidents]

Efficiency
Safety
Power

Model	K–Shot
Type Approval	간소19–8–1
Preservation Period	2year (−20℃ ~ 45℃)
Remarks	Wet Chemical based. Does not creat residure.
Purpose	Immediate response to fire(Home, camping and portable).
Specification	Wet chemical 680ml, Total weight 890g (without bracket)

▼ Components

- Easy, comfy and handy to carry.
- Recommended to place these items at fire–prone products are produced for immediate fire response.
- Constant inspection is not required. No residue after used for fire fight.

▶ Specification: 1 Piece in 1 set, 2 in 1 set, 4 in 1 set (Brackets included)

Kitchen Stick Fire Extinguisher

For cooking oil fire

Please put the product box in the fire container as it is

Make sure to put it as it is

Model	K-fire stick
Main Ingredient	Ammonium Carbonate
Weight	100㎖

Precautions

- It is for the initial fire suppression in response to a fire of less than 2 liters of cooking oil.
- It cannot be used except for cooking oil fire.
- Do not throw oil as it may splatter.
- Be sure to close the gas valve in the event of a fire.
- Please ventilate thoroughly after extinguishing the fire.
- Install out of reach of children.
- If you take it, vomit it immediately, and if there is any abnormality, consult a doctor.
- If the container is damaged and comes into contact with digestive medicine, wash it well with water and consult a doctor if there is any problem.

4

Automatic Fire
Extinguishing System

- Residential Automatic Kitchen Fire
  Extinguishing System
- Commercial Automatic Kitchen Fire
  Extinguishing System
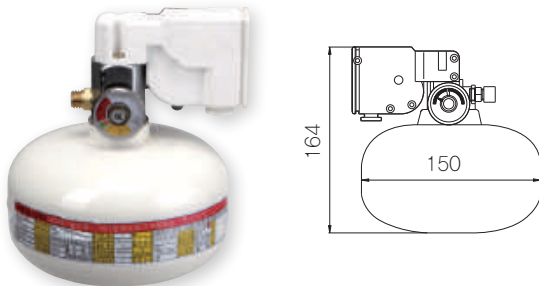- CNC Automatic Fire Extinguishing System

Residential Automatic Kitchen Fire Extinguishing System (HYBRID)

HK–8500/8600
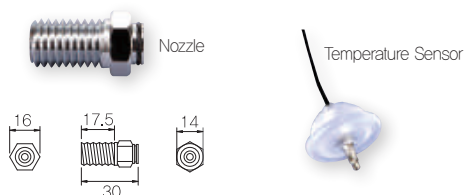
● Components and Specifications

▌Fire Extinguisher HKF–320

164
150

Dimension (㎜)	150 (W) × 164 (H)
Capacity (ℓ)	0.8
Weight (g)	1900
Main Ingredient	Potassium Carbonate (K_2CO_3)

▌Controller HKR–850/860T

HKR–850   HKR–860T (Timer)

Rated voltage	DC 12V
Dimension (㎜)	HKR–850/860T : 115.6(W)×28.1(H)×16.6(D)
Weight (g)	39

▌Nozzle &Temperature Sensing Part HKT–300/HKN–200

Nozzle
Temperature Sensor

16   17.5   14
30

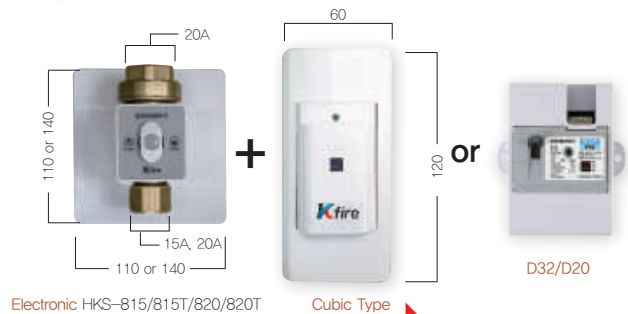| Primary Sensing Part	Nominal Working Temperature : 95°C
Secondary Sensing Part	Nominal Working Temperature :135°C
Spray Nozzle	Discharging Time : 12 seconds / Discharging Angle : 80 Standard Type Protection Space : 695mrm x 695nnm Effective Installation Height : 500–700mm Wide Type Protection Space :500mrm x 700nnm Effective Installation Height : 680–780mm

▌Control Box HKC–850/860T

153   45
120
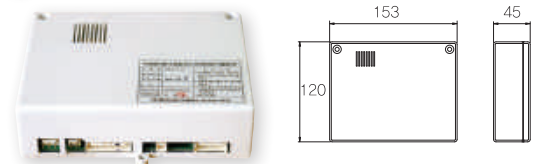
Dimension (㎜)	153(W) × 120(H) × 45(D)
Weight (g)	700

▌Gas Detection HKD–500/400

80   61
46.2   21.1 32

When combined bracket
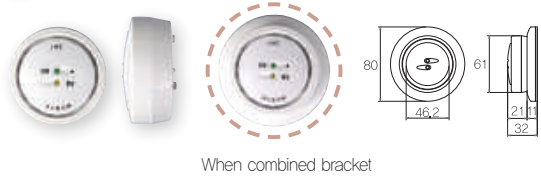
Rated Voltage	DC 5V, 12V
Applicable Gases	LNG
Dimension (㎜)	61 ø ×32(D)
Weight (g)	60

▌Gas & Electric Shut–off Device

20A
60
110 or 140
15A, 20A
110 or 140
120

+   **or**

D32/D20

Electronic HKS–815/815T/820/820T   Cubic Type

*DC type (operates with battery power in case of power failure!)
*No noise products

▌HKS 810/810T
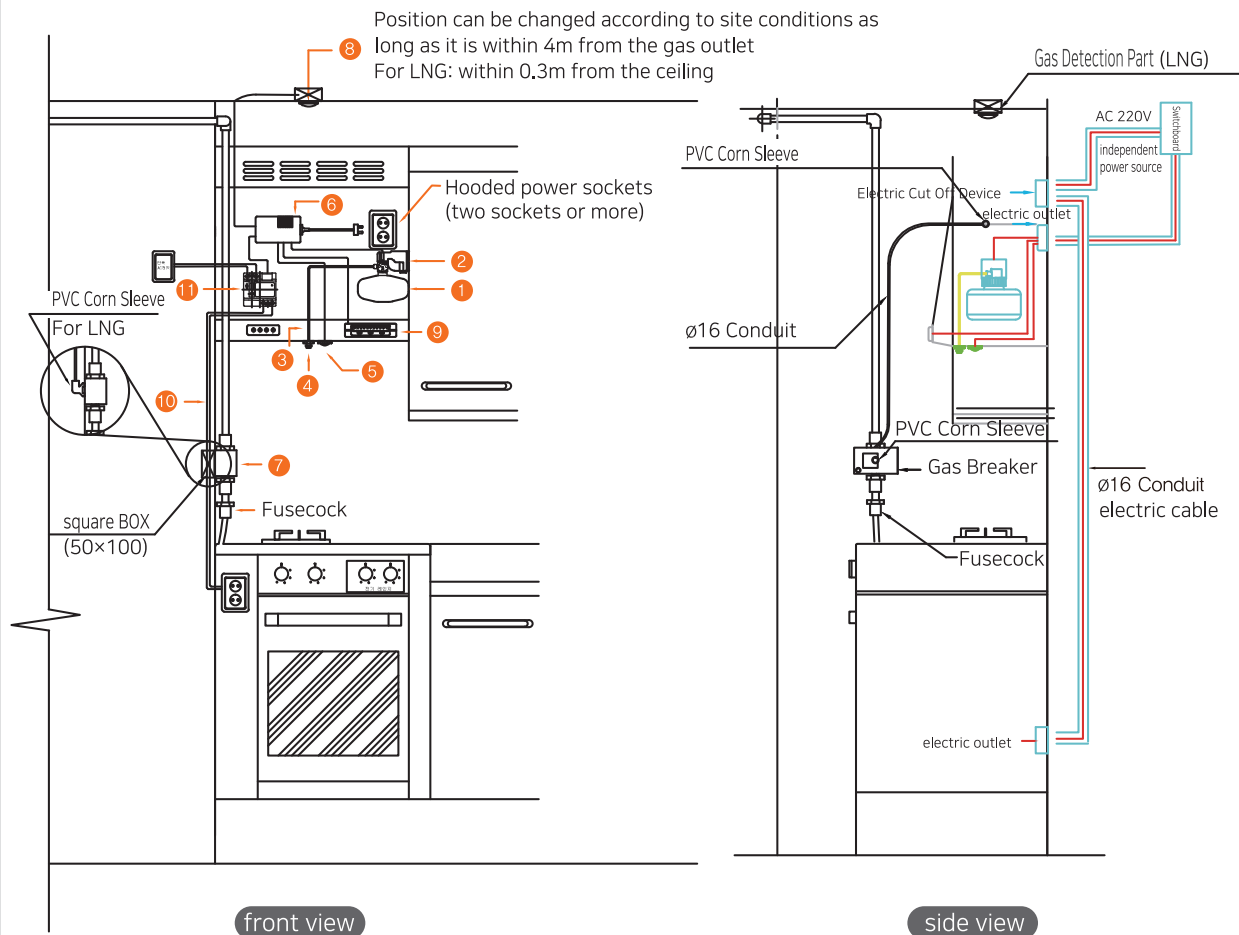
Concealed gas circuit breaker

Details of Residential Automatic Kitchen Fire Extinguishing System (HYBRID)

Diagram(Hybrid upper attachment type)

Position can be changed according to site conditions as long as it is within 4m from the gas outlet
For LNG: within 0.3m from the ceiling

Gas Detection Part (LNG)

Hooded power sockets
(two sockets or more)

PVC Corn Sleeve

PVC Corn Sleeve
For LNG

Electric Cut Off Device
electric outlet

AC 220V

independent power source

Switchboard

ø16 Conduit

ø16 Conduit
electric cable

PVC Corn Sleeve

Gas Breaker

square BOX
(50×100)

Fusecock

Fusecock

electric outlet

front view

side view

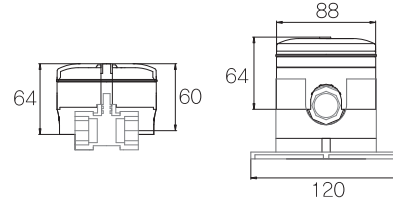| NO	name
1	Fire Extinguisher (With Fixed Bracket)
2	Operating Device
3	Discharge Conduit
4	Outlet
5	Detector
6	Reception Part (Built-in Battery)
7	Gas Cut Off Device
8	Probe
9	Control Part (have alarm feature)
10	breaker type : Conduit and 220V Wire
11	Electric Cut Off Device

● Position the outlet near the center of the gas stove so that it can effectively fight fires in the relevant protection area
● The fire extinguisher filling agent is a dry chemical powder or a reinforced fire extinguishing agent with a protection area of $0.4m^2$ or more.
● Conduit
  - Area with retaining wall filling: CD pipe
  - Area with masonry filling: HI-VE pipe or CD pipe + support
  - Area with finishing materials such as plaster boards: HI-VE pipes or CD
● For masonry areas, apply a square box
● Drilling of holes to install outlets or detectors is to be conducted by the stove hood manufacturer.

Gas Circuit Breaker

■ Mechanical Gas Circuit Breaker

KGS Korea Gas Stabilization Corporation Qualified Product
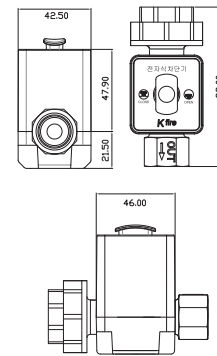
▌ Circular gas circuit breaker HKS–800/800T

Nut tightening
Direction
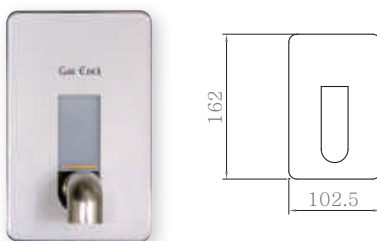
88
64 | 60
64
120

■ Gas Circuit Breaker

▌ HKS–815/815T

20A
110 or 140
15A
110 or 140

▌ HKS–820/820T

20A
110 or 140
20A
110 or 140

42.50
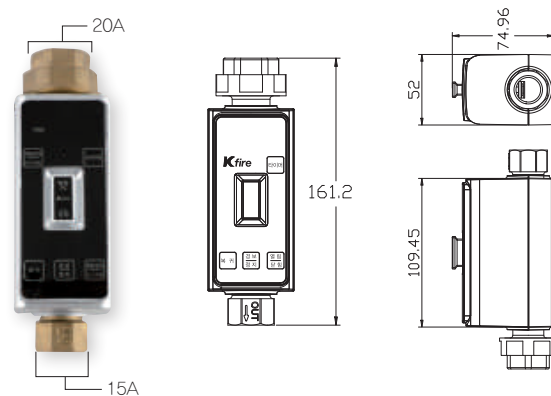47.90
21.50
93.00
46.00

■ Embedded Gas Circuit Breaker

▌ HKS–810/810T

162
102.5

■ Integrated Gas Circuit Breaker

KGS Korea Gas Stabilization Corporation Qualified Product

▌ Touch type KFS–300

20A
161.2
15A
74.96
52
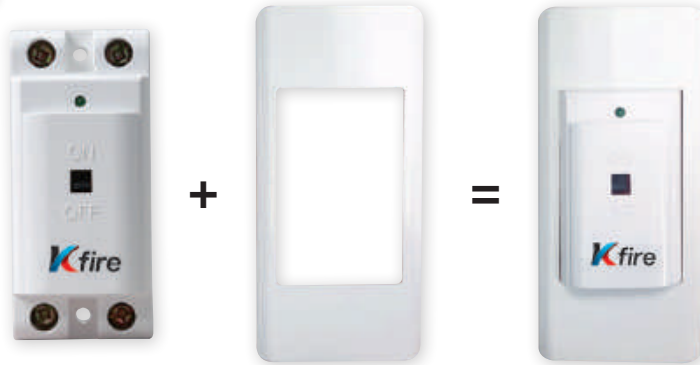109.45

■ Gas Circuit Breaker Installation

Electric Circuit Breaker

Electric Circuit Breaker (Small current type)
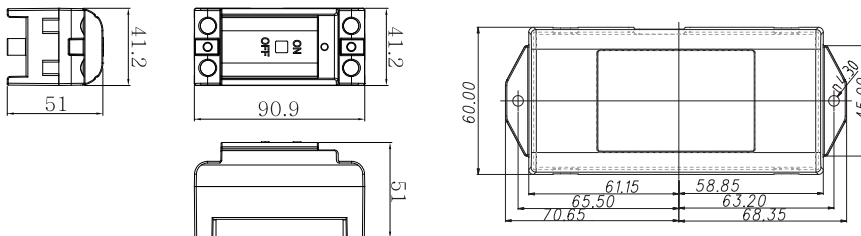
Cubic Type

Breaker + Breaker Cover = Circuit Breaker and Cover Combined

HA 02024-19001A

Rated Voltage	AC220V / 60Hz
Rated Current	16A
Operative pressure	DC 12V

*DC type (operates with spare battery in case of power failure!)
*No noise products

## Electric Circuit Breaker (Large current type)

Wiring Circuit Beaker

Name	Wiring circuit breaker (for housing)		
Type Approval	HH05017-21079A	HH05017-21079A	
Model	KB-35Fc D20	KB-35Fc D32	KB-40Pc D40
Rated Voltage	AC 220V	AC 220V	AC 220V
Rated Current	20A	32A	40A
Phase	2 Phase	2 Phase	2 Phase
Weight	160g	160g	160g
Display	Green LED switch on	Green LED switch on	Green LED switch on
Installation	Bracket or sole wall fixation	Bracket or sole wall fixation	Bracket or sole wall fixation
PCB	2Layer/FR4	2Layer/FR4	2Layer/FR4
Size	67(W)X50(H)X70(D)	67(W)X50(H)X70(D)	67(W)X50(H)X70(D)
Breacket Size	98(W)X50(H)X112(D)	98(W)X50(H)X112(D)	98(W)X50(H)X112(D)
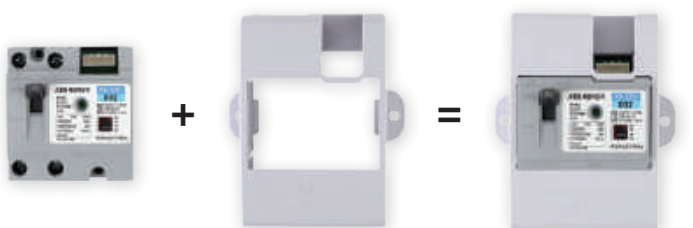
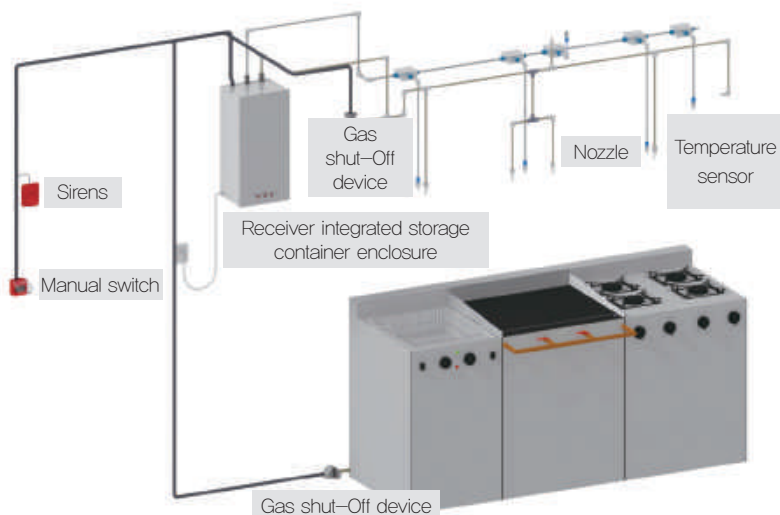Breaker + Breaker Cover = Breaker and Cover Combined
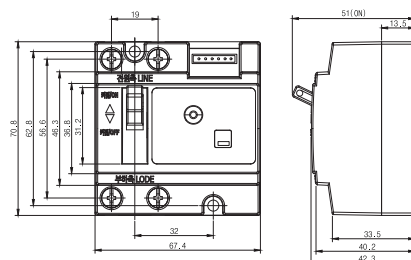
Commercial Automatic Kitchen Fire Extinguishing System

KISEN-100 Features

KISEN

· This product is a commercial kitchen automatic fire extinguisher to prepare for fires that may occur during commercial cooking activities and provides information on the design and installation of the kitchen size and the composition of kitchen utensils through pre-test.

· It detects a fire with a temperature sensor, and if a temperature above the set temperature is detected, a fire alarm and fire extinguishing agent are sprayed all at once into the protection area of the fire point to extinguish the fire and prevent the spread of the fire.

· As an additional function, the alarm function has been enhanced using an external siren, and the contact signal can be used to connect with other devices.

Sirens

Manual switch

Gas shut-Off device

Receiver integrated storage container enclosure

Nozzle

Temperature sensor

Gas shut-Off device

KISEN-100 Operating Principles

1. Fire breakout
2. Detect fire setting temperature
3. Control unit fire signal transmission
4. Gas (Electric) Breaker Operation-Motorhead Operation of Fire Extinguisher
5. Spraying fire suppressing agent→ Fire extinguishing begins
6. All-round suppression by spray nozzle by location inside/outside cooking facility

KISEN-100 Installation Examples

KISEN
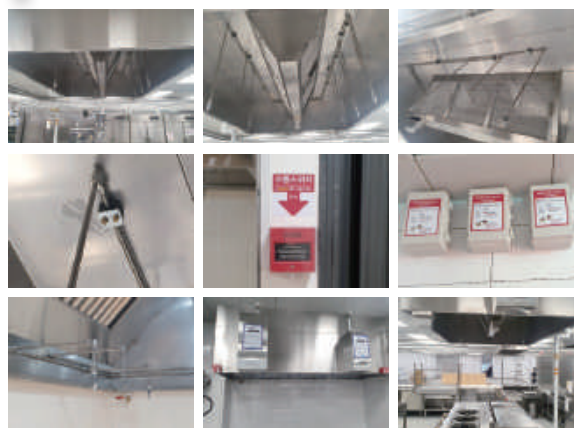
▶ Modern restaurants use a lot of flammable substances such as high-temperature fire and cooking oil, so most of them are expanded to large fires, and since many people enter and exit, there is a high possibility of human casualties in the event of a fire.

▶ The perception of fire safety should also be changed because of the secondary intangible damage, such as damage caused by the suspension period and the fall of reputation of the business, in the eventually.

▶ In the case of the United States and Europe, restaurants have long applied commercial automatic kitchen fire extinguishing systems, and they are seeing practical effects.

▶ Therefore, there is a need for detection and suppression in the early stages of a fire, and the Kisen-100 can minimize tangible and intangible property losses by providing optimal fire-fighting facilities to customers' facilities

Commercial Automatic Kitchen Fire Extinguishing System

KISEN - 100 Specification

Kisen

Fire Extinguishing Control Unit KC-100
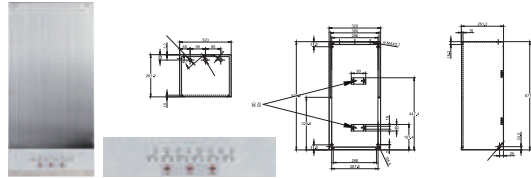
Model	KC-100
Material	Steel or SUS
Setting Temperature	0℃~999℃
Setting Area(based on 1 control unit)	Maximum 3 zones
Installation Quantity (based on one control unit)	Fire extinguishing container : 1 for each zone
	Nozzles : Maximum of 5 for each zone
	Temperature sensors : Up to 6 for each zone
Size	320×671.2×261.2
Temperature Range	−20℃~40℃

Temperature Sensor KT100

Wire

11
38
4.8

Bracket not combined

| Model	KT100
Detection method	Temperature sensor type (Thermistor Type)
Primary Detection	90°C (Settable)
Secondary Detection	130℃ (Settable)
Temperature Range	0~300℃

Gas Shut-Off Device KS100

88
64

| Model	KS100	Drive Control Method	Motor drive, limit S/W method
Blocking method	Gear operation	Range of Use	−20℃~40℃
Shut-off speed	Within 8 seconds	Working Voltage	DC12V / DC24V
Blocking	65kgf.cm	Standard	20A / 40A
Durability	Over 6,000 times		

Manual Switch KMSW100

91
54.5
94
87
103
87
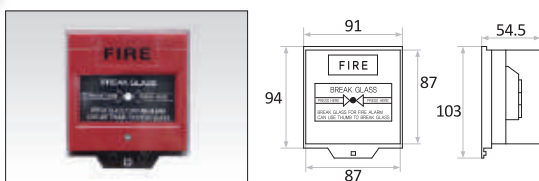
FIRE
BREAK GLASS

Model	KMSW100
Driving method	Contact point method
Range of Use	−10℃~50℃
Material	ABS flame retardant

Fire Extinguisher KF-110

590
200

Model	KF-110
Material	KSD 3698, Thickness 1.2 T
Size	Ø200×590mm
Contents	About 13.5 ℓ
Pressurization	Nitrogen Compression System
Charging Pressure	9.8kg/cm²
Maneuvering Method	Motor drive opening system
Ingredients	Potassium carbonate (K2CO3)
Discharging Time	60 sec
Range of Uses	−20℃~40℃

Gas Detector KD100

61
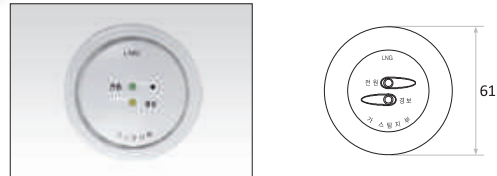
| Model	Gas Detector KD100
DetectionMethod	Catalytic combustion method
Detectable Gas	LNG, LPG
Detect Concertation	LPG 600~4500ppm, LNG 600~12,500ppm
Gas Detection	Diffusion method
Operating range	−20℃~40℃

Nozzle KNZ100SET

51

001   002

Model	KNZ100SET	
No.	001 Duct, stove, frying machine, frying machine	002 PLENUM
Discharging Time	60sec	60sec
Discharging Amount	2229g	3115g
Installation Apply	Duct	stove
Material	Copper alloy/chromium plating	

Siren KISEN-KES100

95   35
FIRE
121   121
66   41
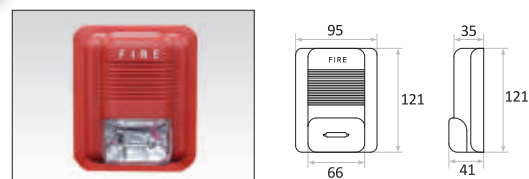
| Model	Siren KISEN−KES100	Model	Siren KISEN−KES100
Size(mm)	134mm×115mm×48mm	Flash time interval	About 1.5 sec
Working Voltage	DC 24V	Flash life	About 30,000 hours
Audio Alarm	90~100dB	Installation fixed hole spacing	65mm
Flash alarm	1.2WS	*Sirens are optional	

CNC Automatic Fire Extinguishing System

■ Product Overview

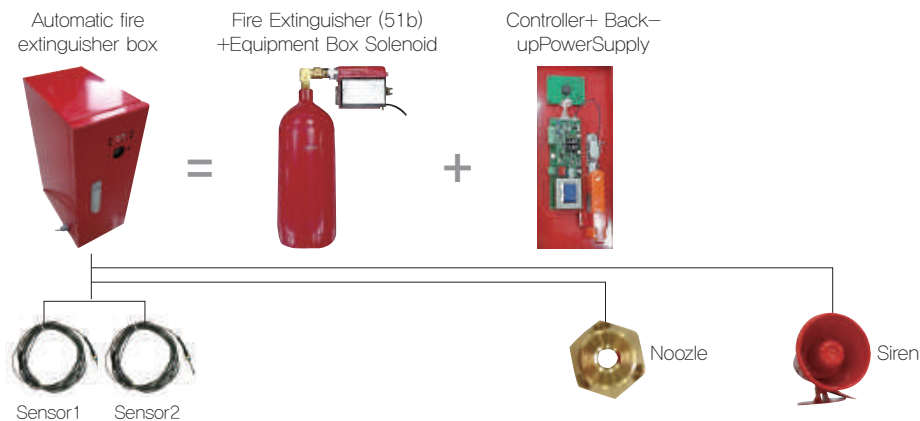### ■ Automatic Fire Extinguishing Equipment (Temperature Sensor Type for Automatic Lathe)

Install temperature sensors at the places of potential fire outbreak. If a sensor detects the temperature going up beyond the set temperature, it transmits a fire signal to automatic fire extinguishing equipment, and the automatic fire If the temperature is detected above the set temperature by installing a temperature sensor in the area where a fire is expected, the automatic fire extinguisher sends a fire signal to the CNC controller on the automatic shelf.
The CNC controller on the automatic shelf operates, interrupts, and shuts down the interlocking device, and sprays fire extinguishing agents from the spray nozzle to quickly extinguish the fire at an early stage.
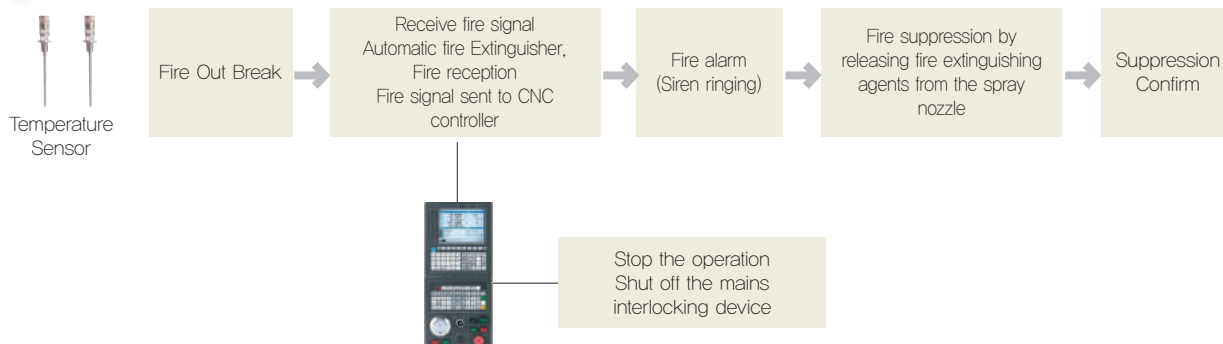
Spray Nozzle

Temperature Sensor

Siren

Automatic fire extinguisher

CNC Automatic Lathe

Interlocking device

CNC Controller
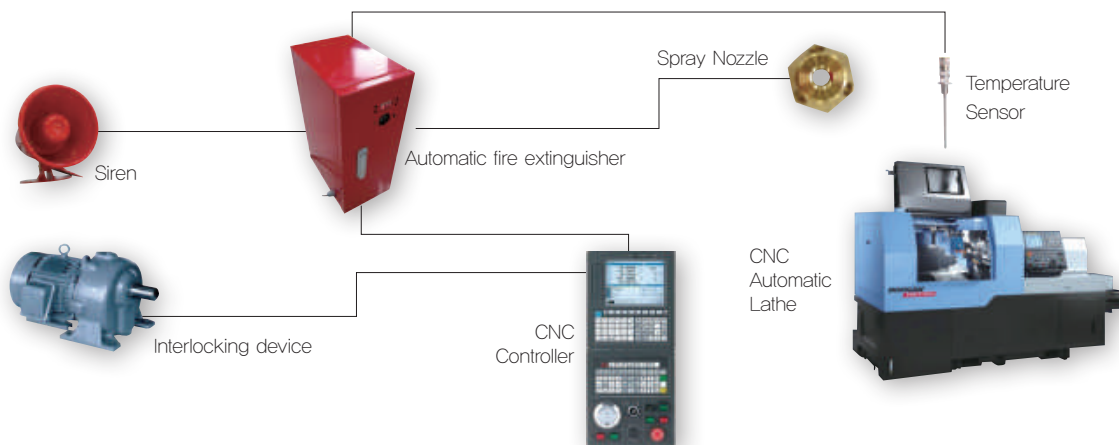
■ Configuration and Operation of Automatic Fire Extinguishing System

■ Automatic fire extinguisher configuration

Automatic fire extinguisher box

Fire Extinguisher (51b) +Equipment Box Solenoid

Controller+ Back–upPowerSupply

=

+

Sensor1   Sensor2

Noozle

Siren

■ Operational Sequence of Automatic Fire Extinguishing Equipment

Temperature Sensor

Fire Out Break → Receive fire signal Automatic fire Extinguisher, Fire reception Fire signal sent to CNC controller → Fire alarm (Siren ringing) → Fire suppression by releasing fire extinguishing agents from the spray nozzle → Suppression Confirm

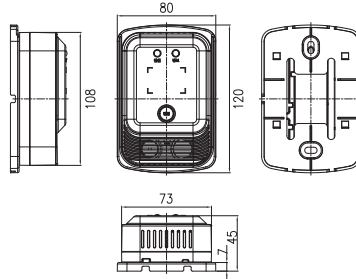Stop the operation Shut off the mains interlocking device

5

Detectors

- Gas Leakage Alarm & Shut Off Device

- Ventilation Sensor

- Single Alarm Type Sensor

- Gas Leakage Inspection Device

- CO Gas Leakage Alarm

- Gas Timer

Gas Leakage Alarm 가21-30

🔴 Gas Leakage Alarm KF-A220V

Type	Stand-alone gas alarm
Model	KF-A220V
Power	AC 220V
Electricity consumption	2.0W
Alarm output	WHEN ALARMED-DC 12V / contact signal : NO, NC, COM
Operating temperature	-20~40℃
Detection method	Diffusivity and contact combustion
Applicable gas	LPG, LNG
Alarm concentration	LPG 0.05~0.45% LNG 0.05~1.25%
External dimension	80(W)×120(H)×45(D) bracket included
Weight	300g

Gas Leakage Alarm and Shut-Off Device

🔴 Gas Leakage Alarm and Shut-Off Device HK-800

🟡 Gas Leakage Alarm Device HKA-800

When bracket is jointed

Type	Stand-alone		Detection Method	Diffuse & Contact Combustion
Model	HKA-800		Applicable Gas	LPG, LNG
Power Supply	DC 5V/12V		Alarming Density	LPG 0.05~0.45% LNG 0.05~1.25%
Power Consumption	1.7W(Normal Time) / 1.8W(During Alarming)			
Alarm Output	WHEN ALARMED-DC 12V / Contact Point Signal : NO, NC, COM		DimensionWithout bracket	61Ø×21(D) 80Ø×32(D) With bracket
Operating Temperature	-20~40℃			

🟡 Control HKL-800

Power Supply	220V
Shut-off Part Output	DC 12V
Button Function	Open, Closed, Return/Stop
Method	Limit switch method
Dimension	79(W)×128(H)×45(D)
Alarm Input	DC 12V
Operating Temperature	-10~40℃
Used Shut-off Device	HKS-220
Weight	311g
Communication Function	PLC / RS-485(option)

🟡 Shut-off Device HKA-800

Type	Gear operated type
Attachment Type	Ball valve direct connecting
Connection Wiring	CVV or VCT or UTP 2P or TIV 0.5×3c. Control Wire

🔴 Gas Leakage Alarm Device

Gas Leakage Alarm

3C
UTP 4P

UTP 4P
3C

Gas Shut-off Device

Control

Signal Communication
RS-485 / PLC

Communication

2C (UTP 4P)

An entrance gas shut off

Ventilation Sensor

🔴 Detachable ventilation sensor HKVOC–100

Automatically detects and ventilates odors or gases generated during cooking.

🟨 Detector HKV–100

🟨 Control unit HKP–100

Type	Detachable Ventilation Sensor
Model	HLVOC–100
Power	AC 220V/60Hz
Sensing gas	Alcohol, carbon monoxide, carbon dioxide, cigarette smoke, ammonia, various smells, etc
Power consumption	1W
Usage temperature	−10~50℃
Interlocking	Range Hood or Ventilation Fan
LED display	Blue LED–Power, Red LED–Relay operation
Installation	Kitchen in the house
Initial Stabilization Time	3Minutes
Operating concentration	Approximately 20 ppm based on LNG

Smoke Alarm (Stand Alone Type)

🔴 Create the best product with accumulated technology and experience

> No need to replace battery for 10 years after purchase. It lasts for 10 years.

[Detect FIRE with a VOICE alarm]
Compare and check before purchase.

Fire detection alarm speaker
– "Beep" sound alarms in 85 db when fire occur

LED MODE
– Nomarl Mode：RED light flickers
– Fire Detected Mode： Constant RED lights
– Pause Mode：GREEN light flickers

Motion Inspection / Stop Switch
– "Orange Light" will show up for 5 minute and after 5 minute it will outomatically start detection mode.
– When the stop button is pressed in the fire alarm state, the indicator lamp immediately locks and stops operating.
– Orange light will show up for 5minutes and after it will start detecting.

| Model	Stand Alone Alarm Device / HK–SD–100
Certification No.	감18–10
Type	DC3V, Normal, Restorable, Stand Alone
Power Source	Lithium Battery DC 3V, 1600mA, CR–123A
Energy Consumption	Stand–by 2.7 MAh, Alarm 210 MAh
Operating Temperature	−10~50℃
Sound Output	Smoke Alarm 85 db / Battery Replacement 75 db
Installation Area	Bed Room, Living Room, Kotchen, Hall Ways and ETC

Gas Leakage Check Device(Bubble Valve)

■ Gas Leakage Check Device(Bubble Valve)

KGS Korea Gas Stabilization Corporation Qualified Product

- Construction standards (KGS FU511) access door and install gas leak check device obligations from May 25, 2011
- Gas leak check facility cock Fuse manufacture, inspection standards : KGS S
- Gas leak check valve piping for facilities manufacturing, technology, testing standards : KGS S

Multi-function gas meter replacement (no replacement required every five years)

15A

20A

Gas meter

ble valve 15A

Gas boiler
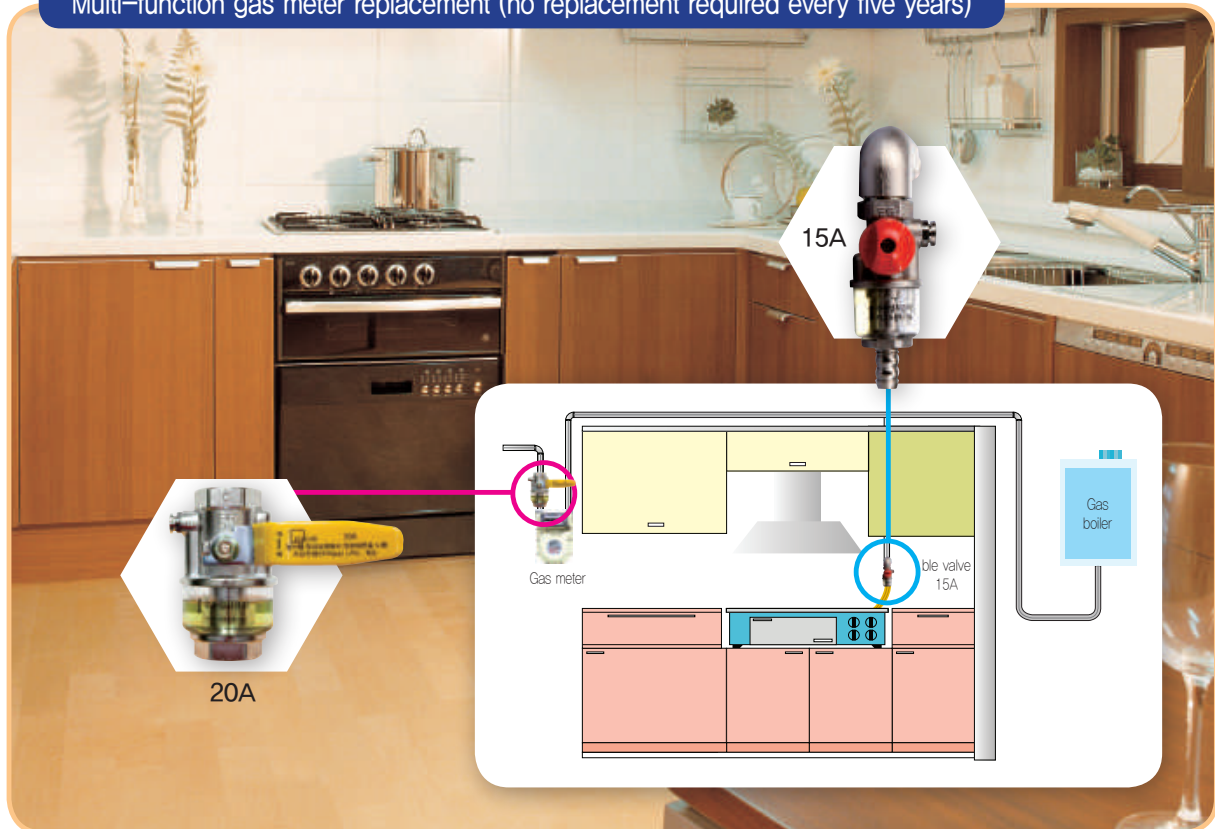
Bubble Valve is a necessary which helps safe gas use.
You can see the bubble and check whether there is any gas leaks if you press the checking when there is gas leaking from the pipes, old valves, and own flaws.

■ Features

▶ You can check the gas leakage occasionally without using soap bubbles.
▶ Easy to find changing time for the fuse cock and valve.
▶ The installing method is the same as the existing fuse cock or valve, so it is easy to install and change.
▶ Can be used ar houses, industries, cars, ships, and gas containers.

■ Things to note when you check the gas leaksge

▶ Stop all the use in the house.
▶ Press the checking lever softly while closing the mid-way valve.
▶ When the gas leaks : The bubble forms within one second, so you can check with your eyes easily.
▶ Normally : There will be no response.

■ How to use

Check gas leak by pressing the button. If the button is pressed check the bubbles, Please contact the management office.

Gas leak check with one touch

EG

CO Gas Leakage Alarm

Korea Fire Institute
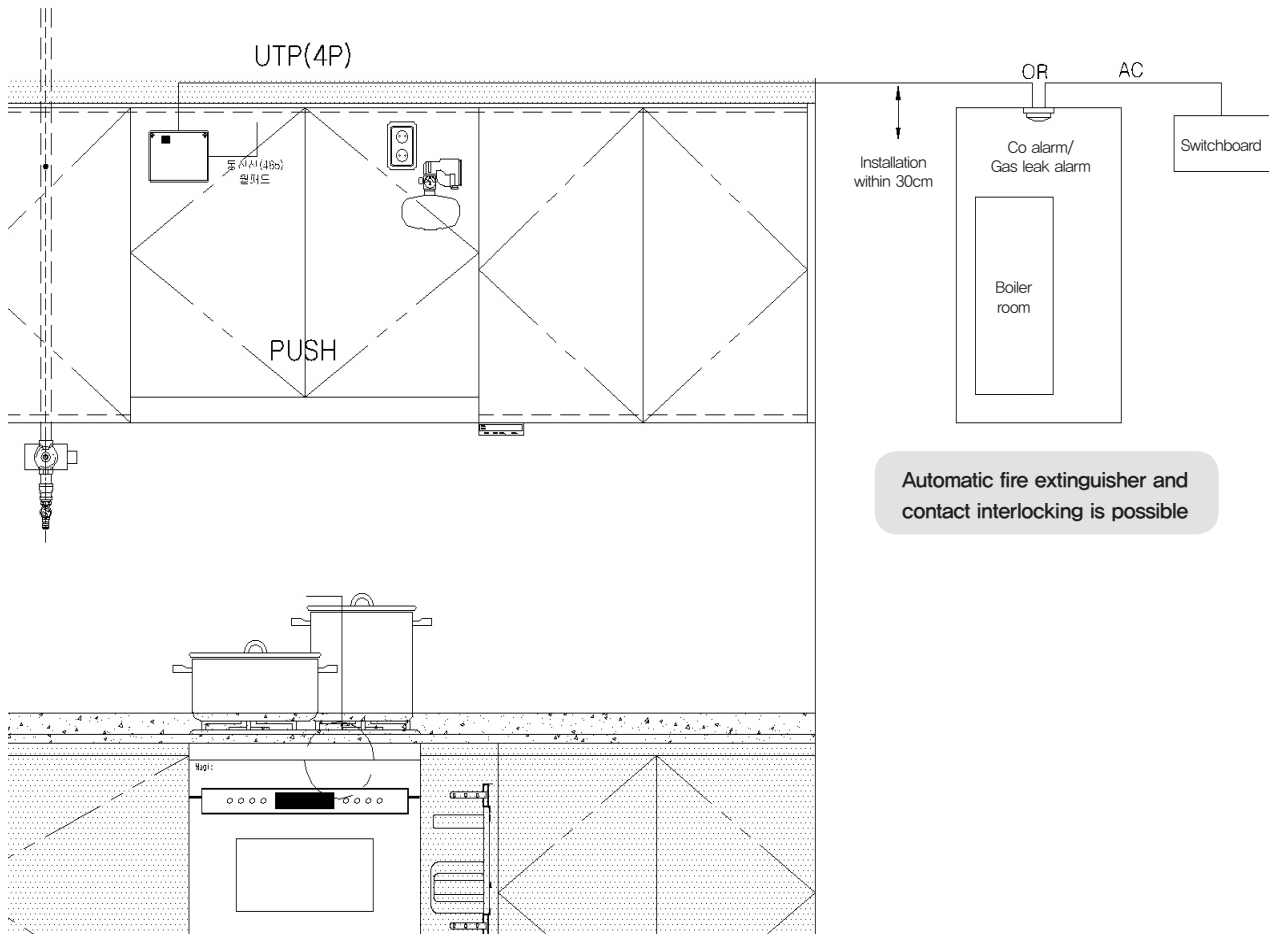Certified Good

CO Gas Leakage Alarm (Composite Type)

Inspection method: It is normal if the orange light turns on after 5 seconds of alarm sound when the check button is pressed.

Type number	
Power Supply	AC 220V
Weight	190g
Usage temperature	−20℃∼40℃ / RH 95% or less
Display	Power LED: Green LED On GAS detection: Yellow light/ CO detection: Yellow Flashing (0.5 seconds) GAS&CO detection: Yellow Flashing (0.25 seconds)
Sound Output	Alarm on: Buzzer noise
Signal Output	Contact output : open collector
Fixed method	Fixing the Bracket on wall Easy installation (Magnet insertion of bracket: Can attach boiler body)
Gas	Mono Oxide(CO), LPG/LNG
Gas Sensing System	Electrochemical / Catalytic combustion
Initial stabilization	30seconds
PCB	2Layer/FR4
Dimension	72(W)×108(H)×45(D) with bracket

CO Gas Leakage Alarm (AC Type)

Inspection method: It is normal if the orange light turns on after 5 seconds of alarm sound when the check button is pressed.

Type number	가21−64
Power Supply	AC 220V
Weight	185g
Usage temperature	−20℃∼40℃ / RH 95% or less
Display	Power LED: Green CO Detection: Yellow
Sound Output	Alarm on: Buzzer noise
Signal Output	Contact output : open collector
Fixed method	Fixing the Bracket on wall Easy installation (Magnet insertion of bracket: Can attach boiler body)
Gas	Mono Oxide(CO)
Gas Sensing System	Electrochemical
Initial stabilization	20seconds
PCB	2Layer/FR4
Dimension	72(W)×108(H)×45(D) with bracket

# CO Gas Leakage Alarm (composite type / AC type) Detailed Information

🔴 **CO Gas Leakage Alarm Construction Plan**

UTP(4P)

OR   AC

PUSH

Installation within 30cm

Co alarm/
Gas leak alarm

Switchboard

Boiler room

Automatic fire extinguisher and contact interlocking is possible

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Product Interlocking Method

Powerless Contact System

The powerless method outputs a signal when connecting a line to either side.
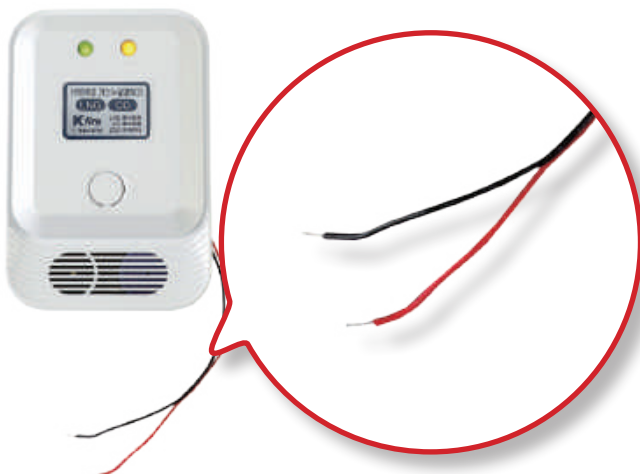
● It works with the automatic fire extinguisher with the powerless contact output.

● In the powerless contact method, two lines (black, red) are usually open, and when an alarm occurs, the contact point is short-circuited to output a signal.

CO Gas Leakage Alarm

● **CO Gas Leakage Alarm** HK–CO100

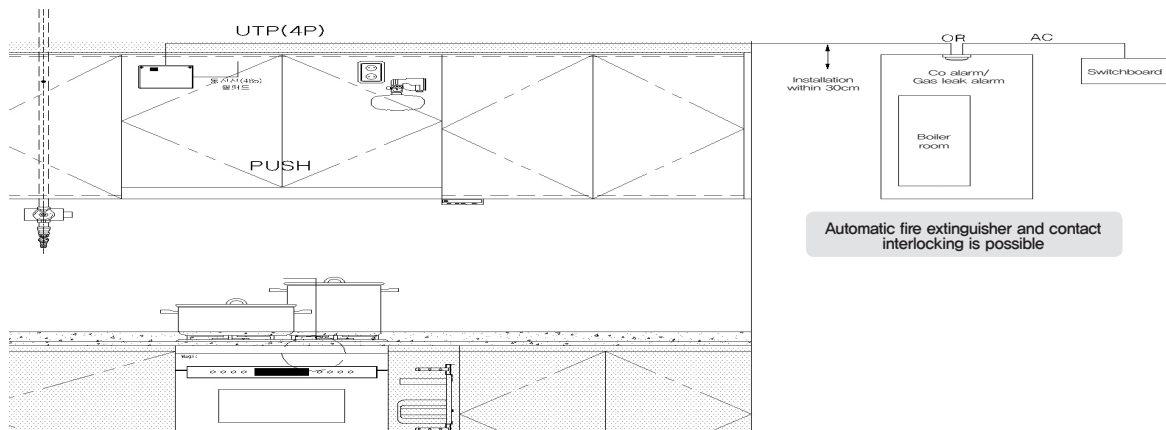Korea Fire Institute
Certified Good

CO Alarm Battery Type

– AA Lithium Battery 1.5V 2EA included
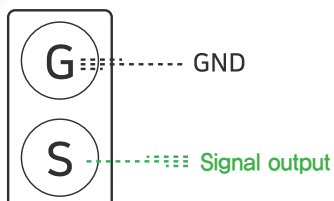
Main   Bracket

- Bracket fixing mount type (magnet type / ring fixed type)
- Self–operation test possible (test button applied)
- 5 years of battery life / 10 years of sensor life
- Battery replacement and alarm voice function
- Using a high–performance electrochemical sensor

Model	CO Alarm / HK–CO100
Type Approval	가–20–31
Power	AA size 1.5V lithium battery 2PCS (3.0V)
Weight	145g(with battery)
Used Environment	−20℃∼50℃ / RH 95% less
Display	Power LED: Flashing green LED Alarm LED: CO gas detection (250 ppm or more) illuminated
Sound Output	Alarm: Voice guidance and alarm sound Battery Low Power: Battery replacement voice notification
Output Signal	Point of contact
Installation	Mount the Bracket on Wall Easy installation (Magnet insertion of bracket : boiler body can be attached)
GAS	Mono Oxide (CO)
Gas Sensing System	Electro chemical formula
Initial stabilization	30seconds
PCB	2 Layer FR4
Size	90mm(W) X 90mm(H) X 25mm(D)

UTP(4P)

PUSH

Installation within 30cm

Co alarm/ Gas leak alarm

Boiler room

OR   AC   Switchboard

Automatic fire extinguisher and contact interlocking is possible

Product Interlocking Method

GND Contact System

G --- GND

S --- Signal output

– A contact terminal is located on the right side to output a contact signal when an alarm occurs.

– Contacts can use the GND method.

– In the GND contact method, the GND signal is output to the signal terminal at the time of the alarm, and normally, it is opened.

Gas Timer G.BL●CK
Automatic Complete Blocking
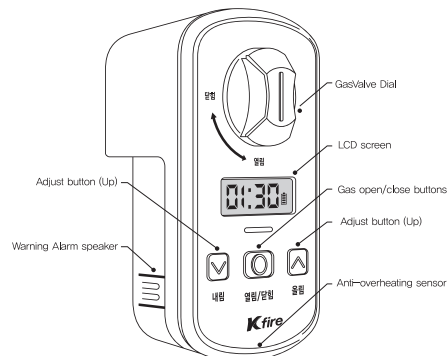
■ Gas Timer Components and Specification

▮ GB-100S

Name	지-블락(g-block)
Model	GB-100S
Type	Voice
Blocking method	Drive motor
Cut-off time	With in 5seconds
Power	AA Battery 4PCS
Size	70 X 130 X 69 (W X H X D)
Fire detection temperature	60℃
Quality Assurance Period	3years

▮ Precautions

1. Do not leave the site when operating the gas timer.
2. Use it according to its intended use and do not use it for any other purpose.
3. When replacing batteries, replace the 4 batteries as a set.
4. Some gas valves may not be installed, so do not install them excessively.
5. Replacement of the gas valve should be requested to the city gas area management office.

▮ Name and functions

GasValve Dial
LCD screen
Adjust button (Up)
Gas open/close buttons
Adjust button (Up)
Warning Alarm speaker
Anti-overheating sensor

1. **Gas open/close buttons** – Operate the opening and closing of the gas valve.
2. **Timer adjustment button (down)** – to reduce the set time.
3. **Timer adjustment button (up)** – to increase the set time.
4. **Liquid crystal display**– Displays the set time and the LED flashes during the open/close operation.
5. **Warning sound speaker** – Provides status of the valve during open and close operation.
6. **Anti-overheating sensor** – detects ambient temperature and shuts off the valve.

▮ Installation

1. Place the gas valve in the closed state.
2. Place the gas timer in a closed state.
3. Place the bracket ()) behind the gas valve.
4. Place the gas timer on the gas valve and connect it with the bracket using the bolts provided.
5. Put the battery in and use the open/close buttons to check if the gas timer is working properly.
6. If it does not operate normally

● **GB-100S Installation method**

① Bracket
④ Main Product
⑤ Bolt
⑥ Bold Cap
② Battery Case
③ Battery
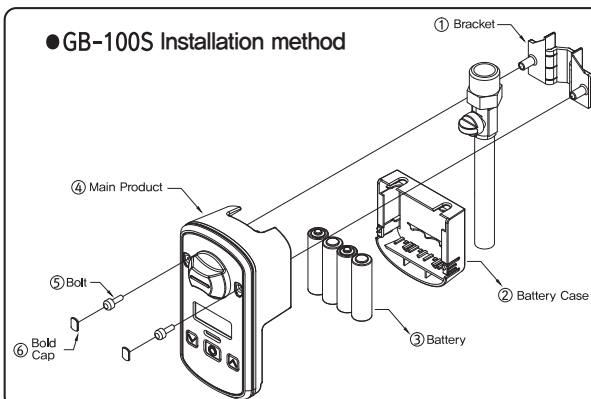
Installation

1. Power is off when the valve is closed.
2. When the open button is pressed once, the set time of use will be displayed in 20 minutes with the beep and the valve will be open.
3. You can increase the set time by 5 minutes by pressing the button.
4. Press the down button to reduce the set time by one minute.
5. Pressing the open/close button once after using the gas will cause the valve to be closed with a beep.
6. The temperature sense function is built in the product, so when the temperature around the product reaches 60 degrees, the valve is automatically closed to cut off the gas supply.
7. After the set time has elapsed, the valve is automatically closed with a beep and the gas timer is in standby.

6

Evacuation & Fire

- Descending Life Line & Support

- Fire Hose

- Fire Hose Nozzle & Angle Valve

- Escape Ladder

Descending Life Line

In case of a fire or an emergency situation, the device makes a user descend automatically by him /her weight, hung to the support.

Descending Life Line

Specifications

Type No.	완 21-1
Tensile Strength of Belt and Rope	900~1,000kg
Maximum Service Load	150kg
Maximum Number of Users	1Person
Descending Speed	16cm/s ~150cm/s

Type

Model	Floor Level	Length(m)	Weight(kg)
HKDD-2	2F	6	5.80
HKDD-3	3F	9	6.02
HKDD-4	4F	12	6.24
HKDD-5	5F	15	6.46
HKDD-6	6F	18	6.68
HKDD-7	7F	21	6.90
HKDD-8	8F	24	7.12
HKDD-9	9F	27	7.34
HKDD-10	10F	30	7.56
HKDD-11	11F	33	7.78
HKDD-12	12F	36	8.00
HKDD-13	13F	39	8.22
HKDD-14	14F	42	8.44
HKDD-15	15F	45	8.66

Slow Descending Device Case – For Stepping

Load test detail

Load tested and confirmed by Korea Conformity Laboratories

190   288.5   346.5

Kfire

[**Step on for Emergency escape**]

This product can be used for stepping on in case of emergency

SUPPORT

In case of a fire or an emergency situation, the device makes a user descend automatically by him /her weight, hung to the support.
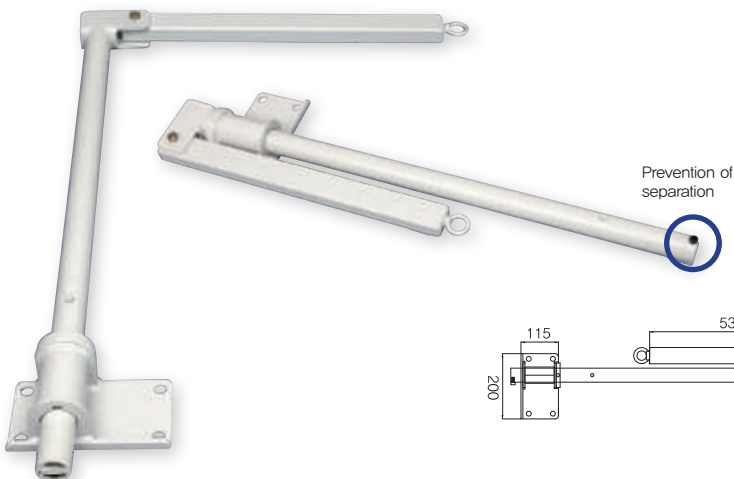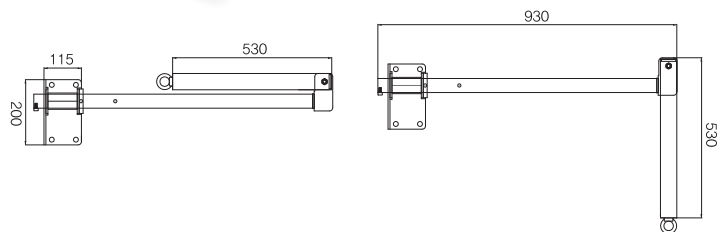
Inside Wall Attachment Type 2-Stage Support
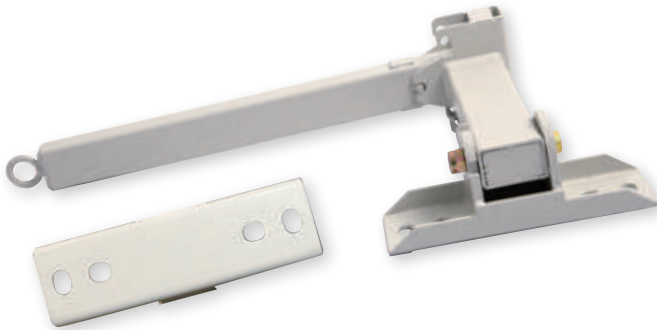
Type	Inner wall-mounted two-stage support
Type Approval	지지19-1
Quality ofthe material	KSD 3503(SPHC)
Weight	5.5kg
Maximumnumber of users	1person
Maximum used load	150kg
Angle of rotation	150degree
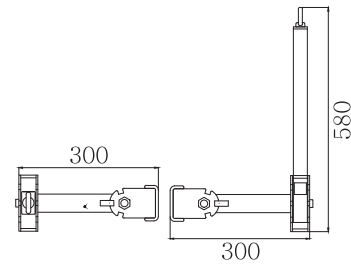
580
300
300

Lower Wall Attachment Type Support

Prevention of separation

Type	Lower wall attachment type support
Type Approval	지지15-16
Quality ofthe material	KSD 3503(SS400)
Weight	10.5kg
Maximumnumber of users	1person
Maximum used load	150kg
Angle of rotation	360degree

115 530 930 530 200

Lower Wall Attachment Type Support-Standard Type

KFI Korea Fire Institute Certified Good

537
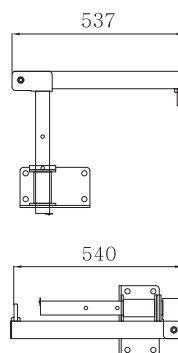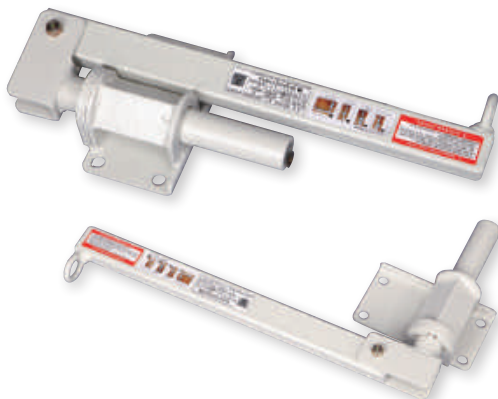
Type	Lower wall attachment type support
Type Approval	지지14-4
Quality ofthe material	KSD 3503(SS400)
Weight	5.87kg
Maximumnumber of users	1person
Maximum used load	150kg
Angle of rotation	360degree

540

■ Outside Wall Attachment Type Support
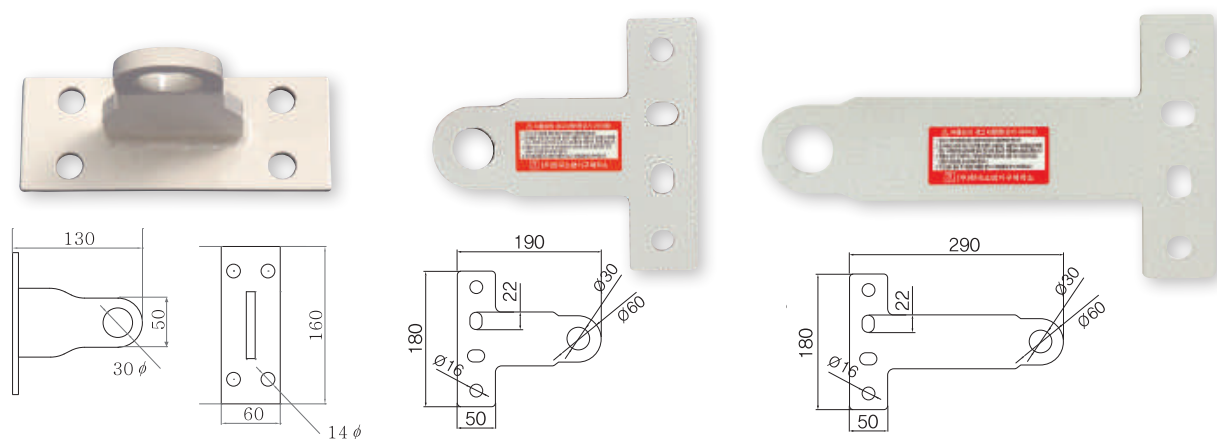
Type	Outsider Wall Attachment Support
Type Approval	지지15-13
Quality ofthe material	KSD3698 (SUS304)
Weight	0.86Kg
Maximumnumber of users	1person
Maximum used load	150Kg

Type	Outsider Wall Attachment Support
Type Approval	지지17-1
Quality ofthe material	KSD3698 (SUS304)
Weight	0.89Kg
Maximumnumber of users	1person
Maximum used load	150Kg

Type	Outsider Wall Attachment Support
Type Approval	지지17-2
Quality ofthe material	KSD3698 (SUS304)
Weight	1.29Kg
Maximumnumber of users	1person
Maximum used load	150Kg
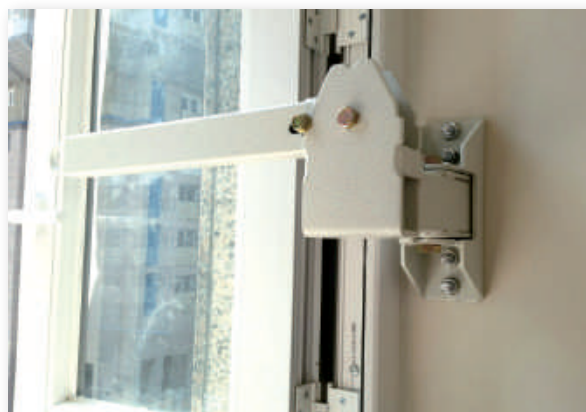
Fire Hose

🟥 Fire Hose

Outdoor 65A	Indoor 40A

Type	Urethane embedded hose	
Contents	40mm(Indoor)	65mm(outdoor)
Type approval	호19-10 / 호19-10-1	호19-10 / 호19-15-1
Breaking pressure	3.4MPa	3.6MPa
Weight(g/m)	140	180
Thickness	0.4mm	0.4mm
Rate of elongation	0.5%	0.75%
Tensile Strength before Inner Lining ages	52MPa	54MPa
Elongation rate before Inner Lining ages	430	435

Features of K hose

- Internal and burst pressure is high ● Recovery of elasticity is quick
- It has good abrasion resistance, anti–aging resistance and is easy to use.
- The elasticity of the lengthside is less and the changes of warp is less.
- Acid resistance,corrosion resistance and tension are high
- Heat resistance, cold resistance, light weight, and small volume

Domestic Production Facility Photographs
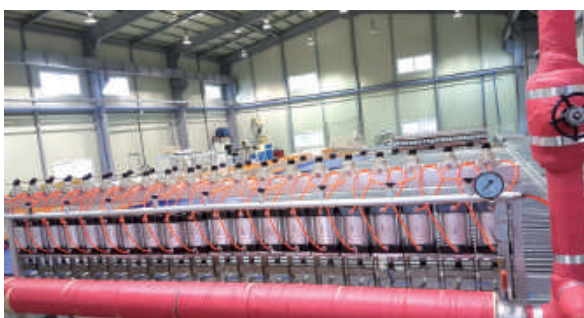
Fire Hose Nozzle

K–Hose Fire Hose Nozzle–65

K–Hose Fire Hose Nozzle–40

| Type classification	Radial discharge and use of hydrant fire
Maximum operating pressure	14kg/㎠
Ending pressure	20kg/㎠
Main material	Aluminum

Product use

It is an outlet for discharge water by connecting to fire hoses of indoor and outdoor fire hydrants. It is made of aluminum, which is light in weight, and has excellent fire extinguishing effect and cooling effect as an equipment that can be freely selected as direct and radial.

Angle Valve

🔴 Angle Valve

HK–IF40

HK–IF65
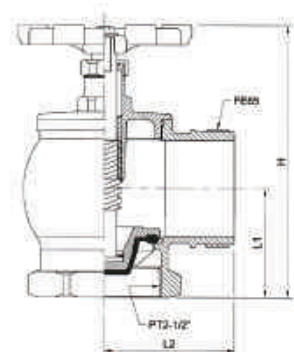
Model	Inlet	Outlet	size			Test pressure	Material	Weight	Approval
			H	L1	L2				
HK–IF40	PT40	FE40	148	53	57	2.0MPa	BRONZE	1.28	KFI Certification
HK–IF65	PT65	FE65	180	72	85	2.0MPa	BRONZE	3.15	

Downward Lowering Ladder for Escape

■ Escape Ladder EG-100

KFI Korea Fire Institute Certified Good

FILK Disaster Prevention Testing Laboratory

Folding Type

Sliding Type

Material

구 분		Specifications and Names	Remarks
Storage case	Material	Stainless Steel (Cold Rolled STS)	1.5t upper, 1.2t main body
Main body (Folding)	STEP Interval	322mm	
	STEP Width	320mm	
	Material	Iron (hot rolled steel)	Galvanized, Chromium
Main body (Sliding)	STEP Interval	350mm	
	STEP Width	335mm	
	Material	Aluminum	

Standard

Purpose	Height	Option	Floor Height
Apartment Outer Dimension : 655(W)×690(L) Inner Dimension : 605(W)×640(L)	210(H) ~ 250(H)	7 stage	2,480~2,890
		8 stage	2,890~3,230
		9 stage	3,230~3,580
General building (Office dormitoriesETC) Outer Dimension : 650(W)×730(L) Inner Dimension : 600(W)×680(L)		10 stage	3,580~3,920
		11 stage	3,920~4,260
		12 stage	4,260~4,610

▶ Type approval and certification products of the Korea Fire Industry Research & Extension Services

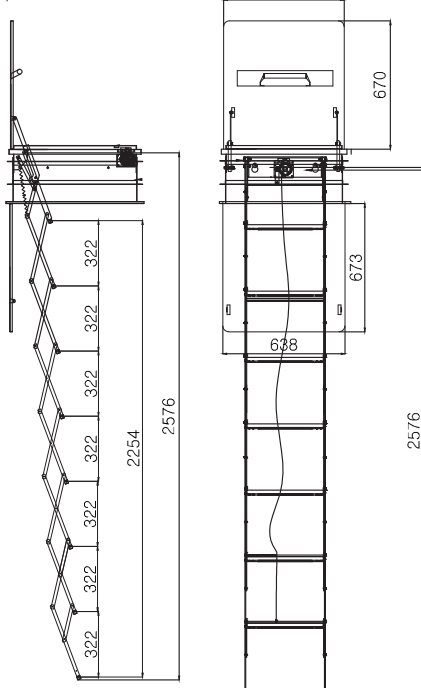▶ Appropriate products for the disaster prevention testing laboratory

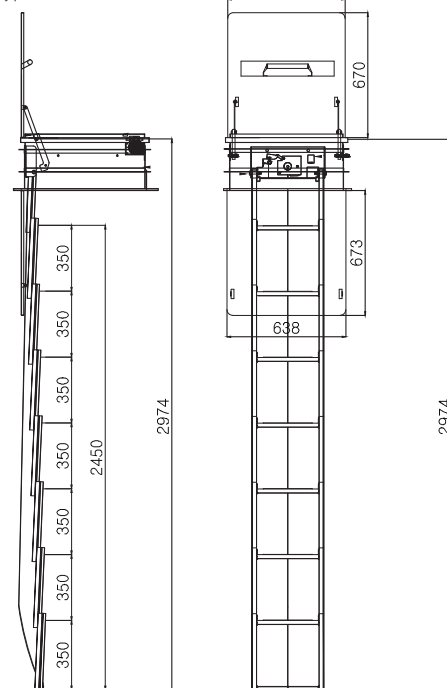### ■ Interworking with home network system

Side	Front	Side	Front

Folding Type

630
670
673
638
2576
322 322 322 322 322 322 322 322
2254
2576

Sliding Type

630
670
673
638
350 350 350 350 350 350 350 350
2450
2974
2974

Product Features

Double Noise Cancellation

A structure in which a sound absorber is attached to the upper and lower lids, absorbs from the primary lower lids, and absorbs residual noise from the secondary upper lids
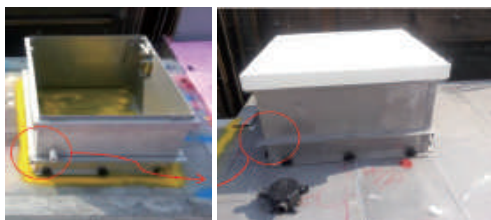

Top lid   Lower lid

PRIVACY (crime prevention, removal of upper and lower lids)

There is no need for a separate tool for emergency escape, and even if the upper lid is opened, the inside of the house below is not visible. (Border plates, etc. may be an obstacle in case of evacuation


Blocking water leakage

Installation of a water cutoff plate to prevent water leakage and completely block water leakage even if the waterproof surface is destroyed
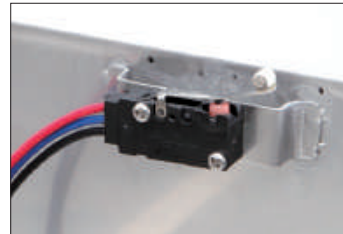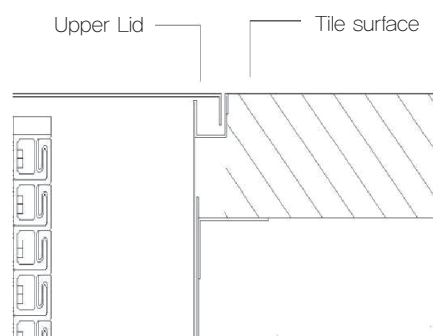

Prevent secondary fire spread

After evacuation, the upper lid can be closed to prevent the spread of secondary fire

Upper finish form

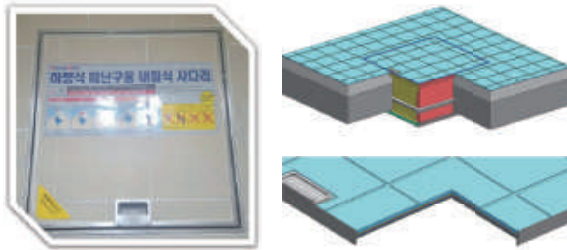### 1) Protruding type (protruding 2~3 cm from the finish surface)

Upper Lid

Tile surface
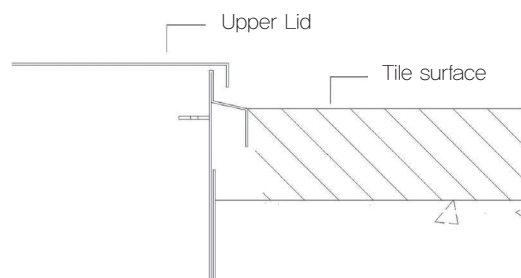
2) Same type of floor (matching level with finish)

Upper Lid   Tile surface

Options

Sub-finish option

| Top cover tile attachment type (optional) | Upper cover clear coating type (optional) |

- The top hatches finish exactly like the floor tiles, so the look is clean
- It is a type that directly constructs tiles on the upper part of the hatch, and there is a concern that the tiles may fall or be damaged in the future.
- Since the upper lid due to tile construction is heavy, it may be difficult for the elderly and children to use

- After printing on the upper cover with the same color and pattern as the floor (tile), clear coating is applied so as not to peel off to maintain.
- After the primary powder painting, the cost becomes expensive because it is printed at 5 degrees, and the coating liquid is sprayed and baked again on it is baked.
- Since it is printed, there is a limit to accurately match the color of the tile.

Other Options

Acrylic Emergency Open Button

It is installed by attaching a lock to prevent invasion of privacy, and in case of an emergency, if you press the upper acrylic with your hand, the acrylic is damaged and the lower opening device button is pressed to open it.

Acrylic Emergency Open Button

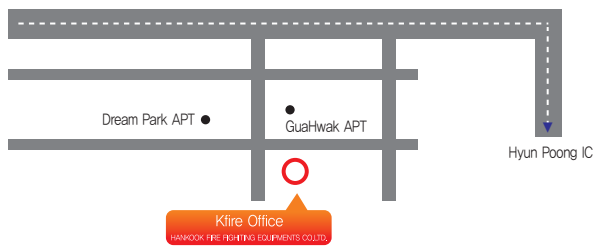## Lower Finishing Process

Lower lid general finish

Lower lid powder coating finish

● Material: SUS 304 ● Thickness: 1.2 t ● Features: Integrated with the ceiling, the finish is clean

- Can be painted in a color similar to the ceiling color (Having powder coating lines in the factory)
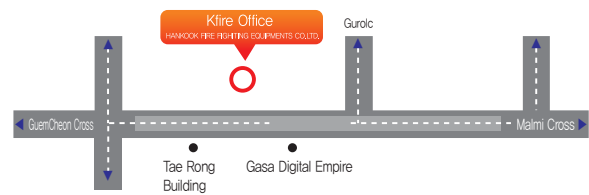
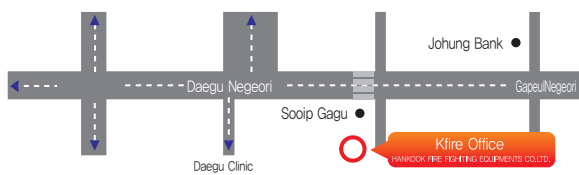| Daegu Main Office | 40, Gukgasandan-daero 50-gil, Guji-myeon, Dalseong-gun, Daegu, Republic of Korea
Tel : +82-53-564-2201~4 Fax : +82-53-564-0708 |

Dream Park APT ●
GuaHwak APT ●
Hyun Poong IC
Kfire Office
HANKOOK FIRE FIGHTING EQUIPMENTS CO.,LTD.

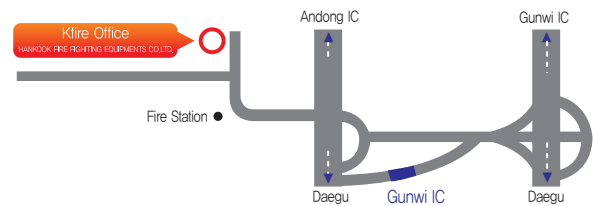| Seoul Office | Room 802 ,1, Gasan digital 1-ro, Geumcheon-gu, Seoul, Republic of Korea
Tel : +82-2-855-4401 Fax : +82-2-805-4353, +82-2-6291-0454 |

Kfire Office
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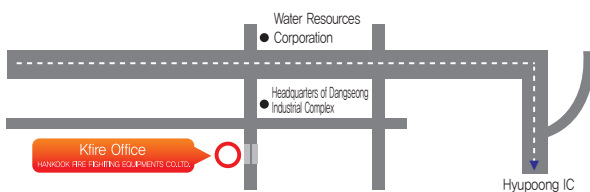Kfire Office
HANKOOK FIRE FIGHTING EQUIPMENTS CO.,LTD.
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Dream Park APT ●
GuaHwak APT ●
Hyun Poong IC
Kfire Office
HANKOOK FIRE FIGHTING EQUIPMENTS CO.,LTD.

Kfire

www.koreafire.com / www.kfiremall.com

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