VISION رؤيـــة 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

SFFECO®

RIYADH
KINGDOM OF SAUDI ARABIA
EXPO 2030

SFFECO since 1983

Automatic / Modular

Fire Extinguishers

SF-KSA/Modular-TDS/04-24/REV00

SFFECO low pressure modular series extinguishers are self-contained standalone system, ideally economical, simple and flexible to suit pre-prevailing conditions. The Design concept of operation features the sprinkler technology incorporating a gas tight quartzoid bulb sprinkler head fitted with an optional electric actuator, 24 VDC, means of actuating the system can be from a remote controlled release fire extinguishing control panel or thermally fusing the glass bulb which comes in various fixed temperature ranges.

SFFECO modular cylinders furnished with ceiling mounting brackets are of carbon steel material, factory argon/CO_2 weld, sand blasted, white or red finished, oven baked and coated with electrostatic powder.

SFFECO modular automatic installations are primarily well-suited using the appropriate agent for the protection of electrical equipment rooms, server rooms, gas stations, paint spray booths, flammable liquid storage areas, and engine compartment in particular for boats and small rooms that are particularly exposed to danger of fire. Cylinders are hydrostatically tested at 30 bar.

Capacity: 6 Kg to 45 Kg

Capacity: 1 Kg to 2 Kg

GENERAL DESCRIPTION

Automatic or Modular Hanging type fire extinguisher is an independent fire extinguishing system. It is easily wall or ceiling mounted in the protected area to directly put out the fire.
This system is self-contained standalone system, ideally economical, simple and flexible to suit pre-prevailing conditions. The Design concept of operation features the sprinkler technology incorporating a gas tight quartzoid bulb sprinkler head fitted with an optional electric actuator, 24 VDC, means of actuating the system can be from a remote controlled release fire extinguishing control panel or thermally fusing the glass bulb which comes in various fixed temperature ranges.

FEATURES

- **Extensive consideration of minute protection:** There are areas, such as server rooms or electrical rooms or similar, which are very small and require less fire extinguishing agent; then this system is ideal.
- **Small space requirement:** Since the protected area is very small, there may not be much space to place other equipment. Then the ceiling-mounted system is designed with the small but efficient function of fire suppression and total coverage for the whole room.
- **Convenient installation and transportation:** Due to its relatively light weight and small design, it can be fixed to the ceiling or wall by one person.
- Significantly more effective, reliable, and cost effective
- Environmentally friendly clean agent system
- Ease of installation: No preswsure vessels, piping, or expensive installation manpower
- Very low maintenance
- Suitable for enclosed facilities and local applications

APPLICATIONS

- Cellular sites and relay towers
- Telecommunication facilities
- Computer server rooms
- High value mobile equipment
- Data Processing facilities
- PABX rooms
- Process Control Rooms
- Flammable liquid storage areas
- Turbine and generator enclosures
- Marine engine rooms and machinery spaces
- Power Plants
- Small Boats
- General Industrial hazards

AUTOMATIC DRY POWDER PD Matic Models

SFFECO Automatic Dry Powder Extinguishing modular type PD-Matic is a newly developed design, where in the Dry Powder is automatically ejected through the sprinkler head, after release of the thermo safety device on reaching a temperature of 68°C.

For total flooding volume application, use .0385 lbs./cu. ft. (0.616kg/cu. m.) to determine dry chemical required and .00125 lbs./sec./cu.ft. (0.0205 kg/sec./cu. m.) to determine minimum flow rate.

Class of Fire

Solid matters forming glowing residues. e.g. wood, rubber (car tires), paper, textiles.

Liquid combustible matter e.g. petrol, oils, grease, ether, alcohol.

Burning gases emerging under pressure. e.g. propane, butane, methane, acetylene, town gas.

Fires on electrical plants.

Model	PD1 MATIC	PD2 MATIC	PD4.5 MATIC	PD6 MATIC	PD10 MATIC	PD12 MATIC	PD15 MATIC	PD20 MATIC	PD25 MATIC	PD30 MATIC
Capacity	1 Kg	2 Kg	4.5 Kg	6 Kg	10 Kg	12 Kg	15 Kg	20 Kg	25 Kg	30 Kg
Total Weight (Kg)	-	-	10.56	12.06	19	22.92	26	34	41	47
Total Height (mm)	-	-	400	400	460	485	525	470	470	595
Cylinder Height (mm)	-	-	162	162	280	305	325	320	320	410
Cylinder Diameter (mm)	-	-	280	280	280	280	280	280	360	360
Duration of Discharge (Sec)	-	-	10-12	14-16	16-18	18-22	22-26	26-31	30-35	35-40
Extinguishing Agent	Dry Chemical									
Propelling Agent	N_2/Dry Air									
Working Pressure	12-15 Bar									
Testing Pressure	30 Bar									
Coating	Electrostatic Polyester Powder									
Storage Temperature	-20°C to +60°C									

AUTOMATIC FOAM FX Matic Models

CAUTION:

NOT FOR USE ON LIVE

ELECTRICAL EQUIPMENT

SFFECO Automatic Foam Extinguishing modular type model FX-Matic is the latest developed design where in the AFFF foam is automatically ejected through the sprinkler head after release of the thermo safety device on reaching a temperature of 68°C. (Alternative 79°C or 93°C).

The modular type of extinguishers are based on sprinkler technology. It does not require any external source of power to operate.

Class of Fire

Solid matters forming glowing residues. e.g. wood, rubber (car tires), paper, textiles.

Liquid combustible matter e.g. petrol, oils, grease, ether, alcohol.

Model	FX1 MATIC	FX2 MATIC	FX4.5 MATIC	FX6 MATIC	FX10 MATIC	FX12 MATIC	FX15 MATIC	FX20 MATIC	FX25 MATIC	FX30 MATIC
Capacity	1 Ltr	2 Ltr	4.5 Ltr	6 Ltr	10 Ltr	12 Ltr	15 Ltr	20 Ltr	25 Ltr	30 L
Total Weight (Kg)	-	-	10.56	12.06	19	22.92	26	34	41	47
Total Height (mm)	-	-	400	400	460	485	555	525	470	575
Cylinder Height (mm)	-	-	162	162	280	305	370	340	320	390
Cylinder Diameter (mm)	-	-	280	280	280	280	280	360	360	360
Duration of Discharge (Sec)	-	-	20-28	25-30	50-60	60-90	90-120	120-150	150-180	180-210
Extinguishing Agent	AFFF									
Propelling Agent	N_2									
Working Pressure (Bar)	12-15									
Testing Pressure (Bar)	30									
Coating	Electrostatic Polyester Powder									
Storage Temperature (°C)	5°C to 60°C									

AUTOMATIC CLEAN AGENT SFM Models

SFFECO Automatic Clean Agent Extinguishing modular type is a special design, where in the clean agent is automatically ejected through the sprinkler head, after release of the thermo safety device on reaching a temperature of 68°C.

Class of Fire

Solid matters forming glowing residues. e.g. wood, rubber (car tires), paper, textiles.

Liquid combustible matter e.g. petrol, oils, grease, ether, alcohol.

Burning gases emerging under pressure. e.g. propane, butane, methane, acetylene, town gas.

Fires on electrical plants.

Model		SFM1	SFM2	SFM6	SFM10	SFM15	SFM20	SFM25	SFM30
Agent Weight	(Kg)	1	2	6	10	15	20	25	30
Minimum Fill Range	(Kg)	0.4	0.8	2.5	4	6	8	10	13
Maximum Fill Range	(Kg)	1	2	6	10	15	20	25	31
Pressure	(Bar)	15	15	15	15	15	15	15	15
Enclosure Volume (M^3) Protected By HFC227ea With 7% Conc. @ 21°C *	(Min.)	-	-	4.56	7.30	10.95	14.60	18.25	23.73
	(Max.)	-	-	10.95	18.25	27.38	36.51	45.64	56.59
Enclosure Volume (M^3) Protected By FK-5-1-12 With 4.5% Conc. @ 21°C *	(Min.)	-	-	3.83	6.13	9.19	12.25	15.31	19.91
	(Max.)	-	-	9.19	15.31	22.97	30.63	38.28	47.47
Cylinder Dimension **	H (mm)	-	-	340	460	500	565	490	550
	D (mm)	-	-	Ø 280	Ø 280	Ø 280	Ø 280	Ø 370	Ø 370
Temp. Rating	Standard is 68°C (57°C / 79°C / 93°C / 141°C can be supply upon request)								

* Considering standard gas concentration for Class C hazard as per NFPA 2001-2018 edition, table A.5.4.2.2(b).

** Tolerance of enclosure height (H) is 10mm and diameter (D) is 5mm.

Extinguishing Agent
HFC227ea
CF_3-CHF-CF_3

Heptafluoropropane fire suppression agent is the first environmentally acceptable replacement for Halon 1301. It has zero ozone depleting potential, a low global warming potential, and a short atmospheric lifetime. It is particularly useful where an environmentally acceptable agent is essential, where clean-up of other media presents a problem, where weight versus suppression potential is a factor, where an electrically non-conductive medium is needed, and where people compatibility is an overriding factor. Clean Agent can be used to protect a wide range of applications from sensitive electrical equipment to industrial applications using flammable liquids. Consult the current NFPA Standard 2001 for specific applications. Clean Agent fire suppression agent is used with SFFECO's total flooding systems.

Clean Agent can be used on many types of fires. It is effective for many surface fires, such as flammable liquids, and most solid combustible materials.

Clean Agent is manufactured to these specifications:

Molecular Formula	CF_3-CHF-CF_3
Form or Odor	Colorless, Odorless Liquefied Compressed Gas
Molecular Weight	170.03
Boiling Point	-16.4°C / 2.48°F
Melting Point	-131°C / -203.8F
Critical Temperature	101.7°C / 215.1°F
Critical Pressure	422.3 PSIA
Vapor Pressure @ 21°C/70°F	58.8 PSIA

Concentration % by Volume

Class A	6.7%
Class B*	8.7%
Class C	7%

* Please see NFPA 2001 Annex B for detailed information

Extinguishing Agent

FK-5-1-12

$CF_3CF_2C(O)CF(CF_3)_2$

SFFECO FK-5-1-12 agent is a Fluorinated Ketone (FK-5-1-12) Dodecafluoro-2-methylpentan-3-one compound of carbon, fluorine and oxygen ($CF_3CF_2C(O)CF(CF_3)_2$). SFFECO FK-5-1-12 is a clear, colorless, almost odorless, electrically non-conductive liquid with a density approximately 11 times that of air.

SFFECO FK-5-1-12 is acceptable by NFPA and can be used as an alternative to HFC 227ea. It is an electrically non-conductive; so it is best suited in places where electronic components are located such as control room. The short atmospheric lifetime of SFFECO FK-5-1-12 results in a direct global warming potential which is negligible.

SFFECO FK-5-1-12 is an effective fire extinguishing agent that can be used for the fire protection of Class A (Solid), Class B (Liquid and Gas), and Class C (Electrically Energized) hazards.

SFFECO FK-5-1-12 is used as a fire protection fluid and can effectively be applied in streaming, localized flooding, total flooding, inerting and explosion suppression applications in the following areas: Data Processing Centers, Military Systems, Recreation, Oil & Gas, Telecommunications, Cultural Facilities, Commercial and Military Aviation, Transportation, Commercial Marine, Medical Facilities, Manufacturing Facilities, Storage Areas.

Molecular Formula	CF_3CF_2C (O) CF (CF_3)2
Form or Odor	Clear, Colourless, Low Odour Liquid
Molecular Weight	316.04
Boiling Point	49°C / 120.6°F
Melting Point	-108.0°C / -162.4°F
Critical Temperature	168.66°C / 335.6°F
Critical Pressure	1865 kPa / 270.44 psi
Vapor Pressure @ 21°C/70°F	4.722 PSIA

Concentration % by Volume

Class A	4.5%
Class B*	5.9%
Class C	4.5%

* Please see NFPA 2001 Annex B for detailed information

OPERATION

Upon detection of a fire, SFFECO modular or automatic fire extinguisher can be activated automatically from a suitable releasing device. This product is very cost effective to install and maintain. As they do not require the pressure vessels, piping or expensive installation costs associated with other extinguishing system. Space and weight requirements are minimal.

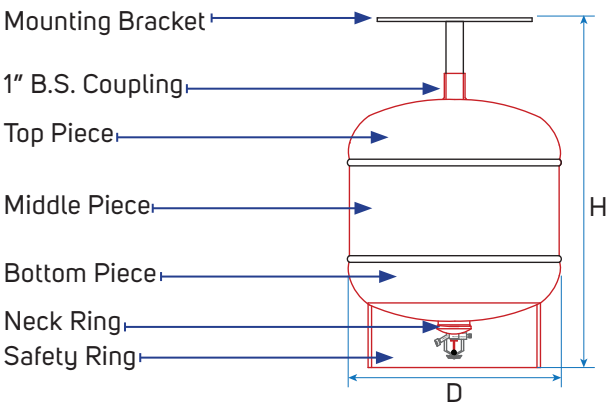
THERMAL OPERATED

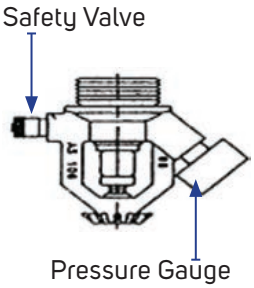
SFFECO modular or automatic fire extinguishers are automatic units which are thermally activated. They self-activate when they reach a pre-selected temperature which is determined by the thermal head temperature chosen. They can also be configured to activate manually with a cable pull system.

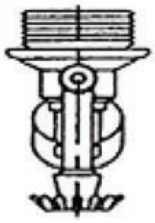
When temperature of the protected area rises to rated level, the glass bulb ruptures, and container valve will be opened to spray fire extinguishing agent.

57°C | 68°C | 79°C | 93°C | 141°C | 182°C

CYLINDER DETAILS:







Discharge Nozzle Details:
Material : Brass Chrome Plated
Type : Glass Bulb

ELECTRICALLY OPERATED Fire Extinguisher

This system is self-contained standalone system, ideally economical, simple and flexible to suit pre-prevailing conditions. The Design concept of operation features the sprinkler technology incorporating a gas tight quartzoid bulb sprinkler head fitted with an optional electric pin actuator, 24 VDC, means of actuating the system can be from a remote controlled release fire extinguishing control panel or thermally fusing the glass bulb which comes in various fixed temperature ranges.

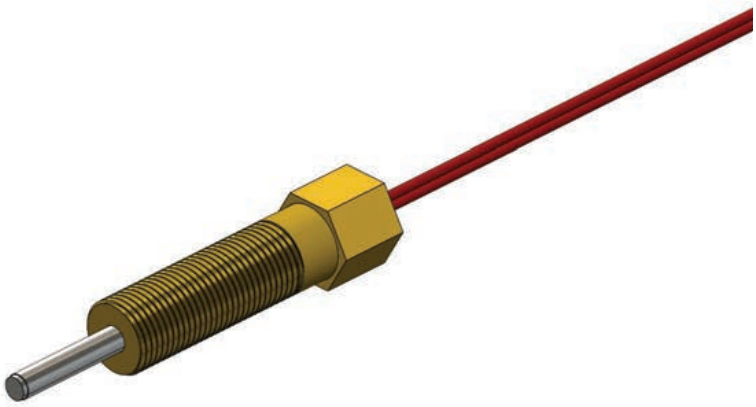
SFFECO Electrical pin actuator type extinguishing system need to be part of a fire system including detection and controls. The electrical pin actuation type system works with a smoke or heat detector, fire alarm control panel and glass bulb ruptures with the support of a pin actuator.

This product is applicable for all our current applications with the exception of the explosive dust concentrate areas.

Protect hazardous area with automatic fixed fire suppression systems in the following industries.

- Onshore oil and gas
- Military
- Power generation
- Flammable liquid and hazardous material storage
- Battery Storage
- Laboratories
- Painting
- Transportation

ELECTRICAL OPERATED PIN ACTUATOR



The Electrical operated pin type actuators are well known in the Fire Suppression, Security & Safety, Aerospace and Automotive markets.

Each device uses the rapid expansion of hot gas evolved from a combustion of a small charge to drive a piston with very high thrust. They operate within milliseconds of receiving an appropriate electrical impulse, a rate which is almost impossible to achieve with a mechanical source of energy. Primarily used to provide a linear protracting motion but can be adapted to pull, cut, shear or release when installed in a suitable mechanism.

All effects are contained within the body of the device and there is no external gas of flame resulting from ignition of the charge. As such these devices are excluded from UN Hazard Class 1 Explosives and can be transported, in their approved pack, by normal parcel post and require no special provision for storage

- Suitable for automatic or remote controlled applications
- Robust design for harsh mechanical & climatic environments
- Compatibility with hazardous atmospheres
- Very high energy density
- Compact size & low mass
- Low maintenance
- Good longevity
- High Reliability

Specification

Available cable finishes:	C1, C2, C3
Minimum work output (Joules):	4.9
Typical Peak Thrust (Newtons):	2300
Minimum Stoke Length (mm):	13.5
Shelf Life (ambient):	10
Operating Temperature (oC):	-40 to +70
Nominal Input Energy (Millijoules):	6
Resistance Range (Ohms):	0.9-1.6
Max No Fire Current (Amperes):	30 sec Pulse: 0.15 0.050 sec Pulse: 0.3
Min Single Fire Current (Amperes):	DC: 0.6 10ms Pulse: 0.9
Recommended Single Fire Current (Amperes):	1
Recommended Series Firing Current (Amperes):	3

RELEASING CONTROL PANEL Model: LF1810

Features

- Three initiation circuits as standard
- Any single zone or any combinations of zones can be configured to release
- Configurable first stage NAC delays
- Configurable detection delays
- Zero time delay upon manual release option
- Compatible with I.S. barriers
- Non-latching zone input option to receive signals from other systems such as aspirating equipment
- Configurable releasing delays up to 60 sec in 5 sec steps
- Configurable releasing duration up to 5 min. in 5 sec steps
- Countdown timer shows time remaining until release
- Supports up to seven, four wire status indicators
- Built in Extract Fan control

Description

Designed and manufactured to the highest standards in a quality controlled environment and with UL and FM approvals, the LIFECO HAWK releasing panel offers outstanding value and performance for all small to medium fixed firefighting installations.

With three initiation circuits as standard, release can be configured to activate from any combination of detection zone inputs to allow (among other combinations) any two from three type activations such as would be required for detection in ceiling void, room and floor void applications.

The extensive configuration options of the LIFECO HAWK allow the functionality of the system to be extensively modified. It contains a large LED display to enable easy configuration and control it also displays the time remaining until release for added user safety. The count-down timer is duplicated on up to seven remote status units to provide local indication of the system status. With all of the electronics mounted on a single, easily removable, steel plate LIFECO HAWK panels are both robust and easy to install.

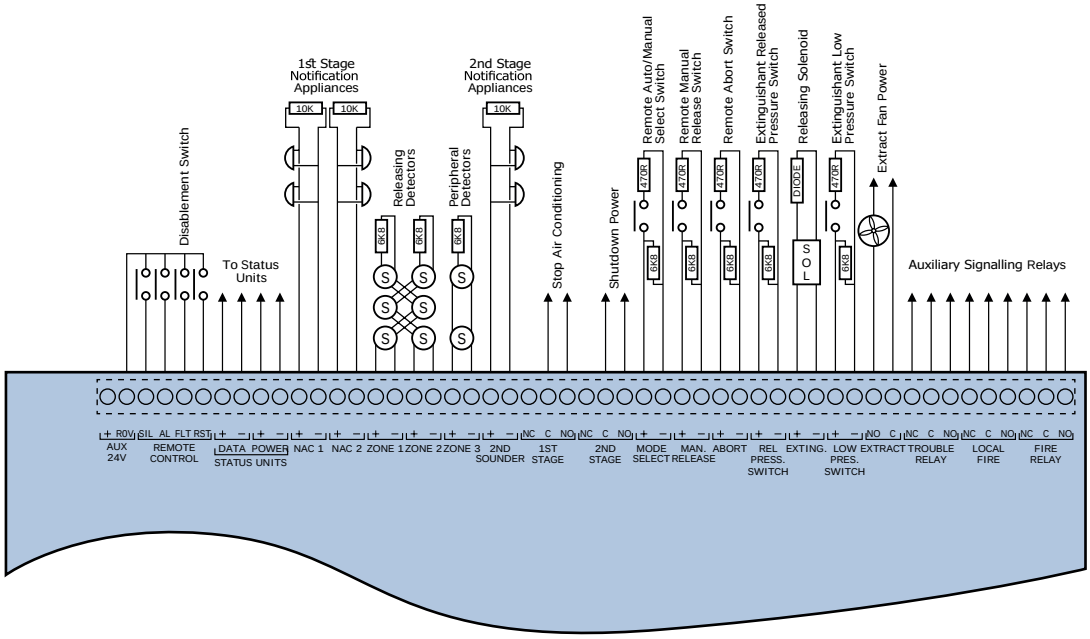
Technical Specification

Mains supply: 115V AC or 230V AC (50/60 Hz)	**Terminal capacity:** 12 AWG
Mains supply fuse: 1.6A 250V	**Detection circuit end of line:** 6K8 5% ½ Watt resistor
Finish: Epoxy powder coated	**Supervised input end of line:** 6K8 5% ½ Watt resistor
Color: Red	**Sounder circuit end of line:** 10K 5% ¼ Watt resistor
Power supply rating: 3 Amps total including battery charge 28V +/- 2V	**Extinguishant output EOL:** 1N4004 Diode
Maximum ripple voltage: 200 millivolts	**No. of detection circuits:** 3
Battery type: Two 12 Volt 7Ah sealed lead acid in series	**No. of sounder circuits:** 2 x 1st Stage, 1 x 2nd Stage
Battery charge voltage: 27.6VDC nominal (temperature compensated)	**Extinguishant release output:** Rated at 1 Amp
Battery charge current: 0.7A maximum	**Extinguishant release delay:** Adjustable 0 to 60 seconds (in 5 second steps)
Battery fuse: 20mm, 3.0 A glass Slow-blow	**Zone quiescent current:** 2mA maximum
Maximum current draw from batteries: 3 Amps	**Extinguishant release duration:** Adjustable 60 to 300 seconds (in 5 second steps)
Quiescent current of panel in mains fall: 0.095A	**Normal Zone Impedance (EOL):** 6.8K
Aux 24V output: Fused at 500mA with electronic fuse	**Detector Alarm Impedance:** 470 Ohm
NAC outputs: 24V Fused at 500mA with electronic fuse	**Pull Station Alarm Impedance:** 270 Ohm
Trouble relay contact rating: 30VDC 1A Amp maximum	**Short circuit threshold:** Short circuit Impedance 99 Ohms
Fire relay contact rating: 30VDC 1A Amp maximum	**Supervised Inputs Normal Impedance (EOL):** 6.8K
Local Fire relay contact rating: 30VDC 1A Amp maximum	**Supervised Inputs Alarm Impedance:** 470 Ohm
First stage contact rating: 30VDC 1A Amp maximum	**Supervised inputs Short circuit threshold:** 99 Ohms
Second stage contact rating: 30VDC 1A Amp maximum	**Status unit/Ancillary board connection:** Two wire RS485 connection
Extract contact rating: 30VDC 1A Amp	**Status unit power output:** Rated at 500mA with electronic fuse

Ordering Information

Part No.	Description	Dimension (mm)
LF1810-12	Surface mounting panel - Red 115V	368 x 310 x 90
LF1810-13	Surface mounting panel - Red 230V	368 x 310 x 90

Connection Diagram



LIFECO Hawk Compatible Devices

Model	Description	Max
	Panel Accessories	
LF1821-11/-14	Status Indicator	7
LF1822-10	Ancillary PCB	7
LF1832-10	Manual Disablement Switch	1
	Detectors	
LE-SLR-24H	Photoelectric Smoke Detector w/ Heat	20 per zone
SLR-835-BH	Direct Wire	20 per zone
LE-SLV-24V/-24N	Photoelectric Smoke Detector	20 per zone
LE-SOC-24V/24VN	Photoelectric Smoke Detector	20 per zone
LE-DCD-135	135° Fixed Temperature Rate of Rise Heat Detector	20 per zone
LE-DCD-190	190° Fixed Temperature Rate of Rise Heat Detector	20 per zone
	Bases	
NS6-220	6” Base, 93mA draw, 24V	20
NS4-220	4” Base, 93mA draw, 24V	20
	Pull Station/Abort Switch	
LE-HPS-DAH	Conventional Manual Pull Station for Fire Suppression Release	Unlimited
LF1823-10	Abort Switch	Unlimited

PHOTO ELECTRIC SMOKE DETECTOR Model: LE-SOC-24V

Features

- Computer-designed non-directional smoke chamber
- 360° view of detector status LED
- Low profile, 2" high (with base)
- 2 or 4 wire base compatibility, relay bases available
- Highly stable operation, RF/Transient protection
- Low standby current, 59µA at 24VDC
- One built-in power/sensitivity supervision/alarm LED
- Automatic Sensitivity window verification function meets outlined requirements in NFPA 72, Chapter 2 & 7, Inspection, Testing and Maintenance.
- Magnetic Test Feature

Operation

The LE-SOC-24V photoelectric smoke detector utilizes one bicolored LED for indication of status. In a normal standby condition the LED flash Green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LED will flash Red every 3 seconds. When the detector senses smoke and goes into alarm the status LED will latch on Red.

The detector utilizes an infrared LED light source and silicon photodiode receiving element in the smoke chamber. In a normal standby condition, the receiving element receives no light from the pulsing LED light source. In the event of a fire, smoke enters the detector smoke chamber and light is reflected from the smoke particles to the receiving element. The light received is converted into an electronic signal.

Fire Judgement signals are processed and compared to a reference level, and when five consecutive signals exceeding the reference level are received within a specified period of time, the time delay circuit triggers the SCR switch to activate the alarm signal. The status LED light continuously during the alarm period.

Applications

The LE-SOC-24V is a reliable, high quality Photoelectric Smoke Detector. It can be used in all open areas where Photoelectric Smoke Detectors are required, including in-duct applications. The computer-designed smoke chamber makes the LE-SOC-24V well suited for detecting smoldering fires as well as fastflaming fires.

LE-NS-4 Series, LE-NS-6 Series, LE-HSC-4R or LE-HSC-220R Style bases may be used with the LE-SOC-24V.

Specifications

Light Source	GaAlAs Infrared Emitting Diode
Nominal Rated Voltage	12 or 24 VDC
Working Voltage	8 - 35.0 VDC
Maximum Voltage	42 VDC
Supervisory Current	59µA @ 24 VDC
Surge Current	160µA max. @ 24VDC
Alarm Current	150mA max. @24 VDC
Air Velocity Range	0-4000 fpm
Maximum Humidity	95% RH Non-Condensing
Ambient Temperature	32°F to 120°F (0°C to 49°C)
Color & Case Material	Bone PC/ABS Blend
Sensitivity Test Feature	Automatic Sensitivity window verification test
Sensitivity Test Feature	1.36%/FT ~ 3.12%/FT
Mounting	Refer to LE-NS Conventional Detector Base Data Sheet

Engineering Specification

The contractor shall furnish and install where indicated on the plans, LIFECO Model LE-SOC-24V photoelectric smoke detectors. The combination detector head and twist-lock base shall be UL listed compatible with a UL listed fire alarm panel. The base shall permit direct interchange with LIFECO LE-SOC-24V photoelectric smoke detector. The base shall be appropriate twistlock base LE-NS-4 Series, LE-NS-6 Series, LE-HSC-4R, or LE-HSC-220R. In the event of partial or complete retrofit, the LE-SOC-24V maybe used in conjunction with, or as a replacement for, LIFECO detectors (LE-SLR-24V, LE-SLR-24VN, LE-SLK-24 and the LE-SLR-24H) on most LE-HSB and LE-HSC base applications.

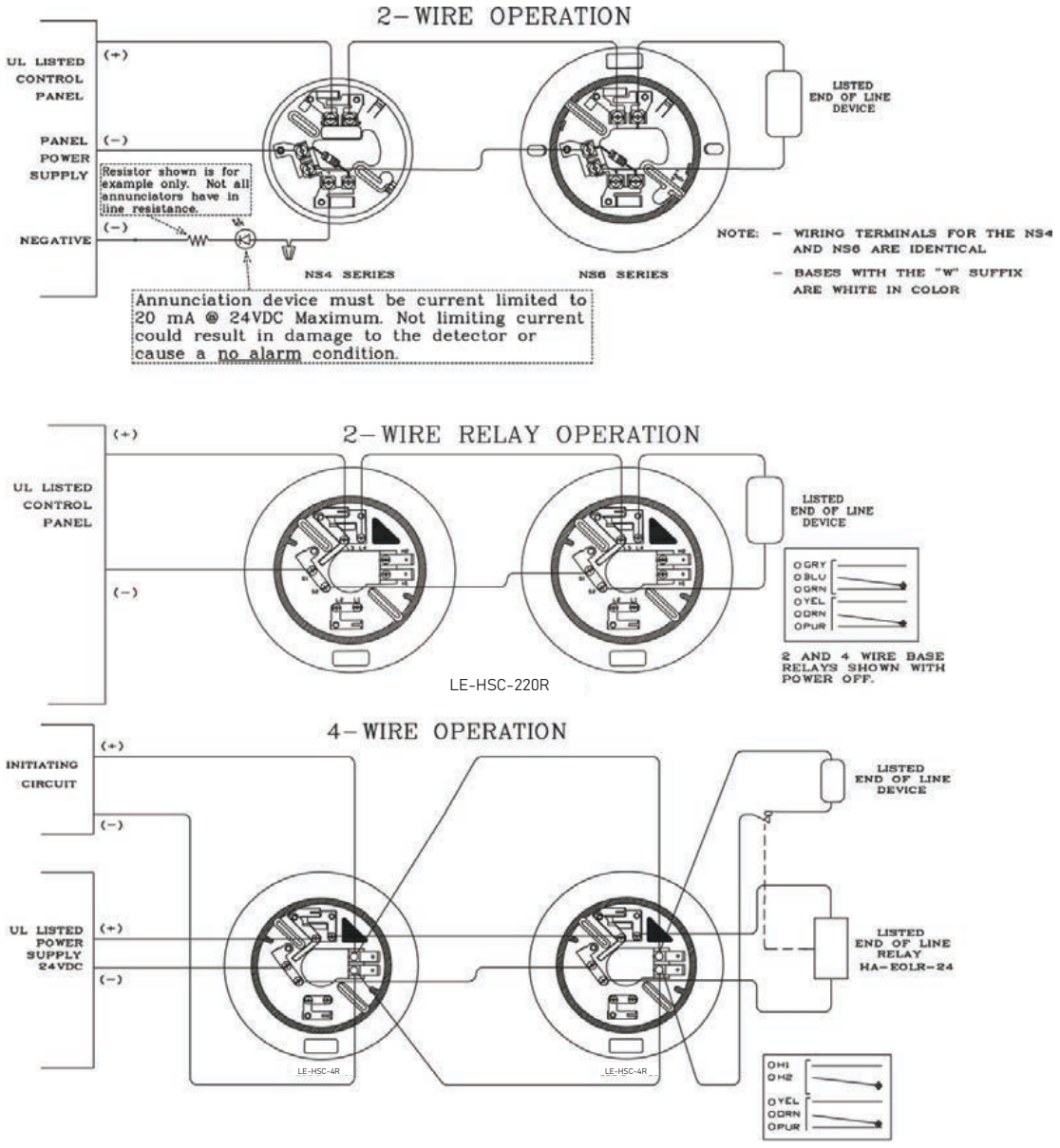
The smoke detector shall have one flashing status LED for visual supervision. When the detector is in standby condition the LED will flash Green. When the detector is outside the UL listed sensitivity window the LED will flash Red. When the detector is actuated, the flashing LED will latch on Red. The detector may be reset by actuating the control panel reset switch. The sensitivity of the detector shall be capable of being measured. The sensitivity of the detector shall be monitored automatically and continuously to verify that it is operating within the listed sensitivity range.

To facilitate installation, the detector shall be non-polarized. Voltage and RF transient suppression techniques shall be employed to minimize false alarm potential. Auxiliary SPDT relays shall be installed where indicated.

Sensor Spacing

Smoke sensor spacing shall be in compliance with NFPA 72. For smooth ceilings and in the absence of specific perfor- mance-based design criteria, the distance between smoke sensors shall not exceed a nominal spacing of 30 ft. (9.1m) or all points on the ceiling shall have a sensor within a distance equal to or less than 0.7 times the nominal 30 ft. (9.1m) spacing. Sensors shall be located within a distance of one-half the nominal spacing, measured at right angles from all walls or partitions extending upward to within the top 15 percent of the ceiling height. For additional instructions see NFPA 72.

Wiring Diagram



Sensitivity Test Feature

The LE-SOC-24V Photoelectric Smoke Detector has a built-in automatic sensitivity test feature.

1. In normal condition, the status LED flashes green.
2. When the sensitivity drifts outside of its sensitivity limits, the status LED flashes red.
3. In the alarm state, the status LED is red continuously.
4. When the sensitivity drifts outside of its sensitivity limits and the status LED flashes red, the device needs to be cleaned or returned to the factory for cleaning or calibration.

MANUAL PULL STATION Model: LE-HPS-DAH

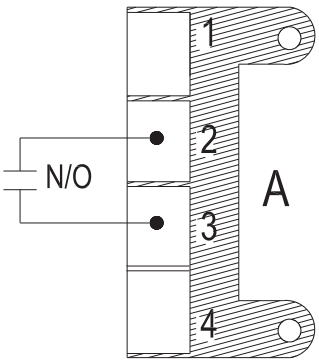
Features

- Metal Construction
- Enclosed switch with glass rod (included)
- 10 Amps @ 120 VAC
- Dual Action with Hex Lock

Description

LIFECO LE-HPS-DAH is constructed of a solid die cast housing and comes in glossy red. The back switch plate is plated steel. The electrical switch is rated for 10 Amps @ 120 VDC normally open contact rating. All models are connected via terminal block connections.

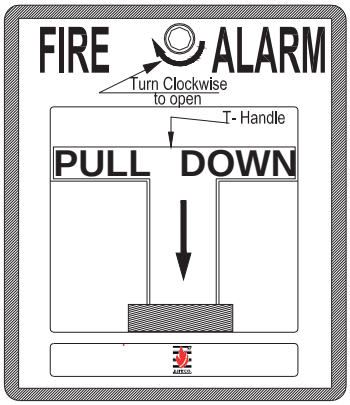
Wiring Details



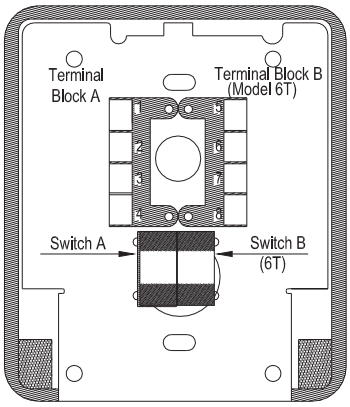
Technical Specifications

Contact	SPST Form "A"
Terminal Block	A
Contact Rating	10A @ 120 VAC
Operating Temperature	-30°F (-35°C) ~ 150°F (66°C)

View



Front View



Rear View

MANUAL DISABLEMENT SWITCH Model: LF 1832-10

FM APPROVED UL

Description

LF1832-10 is a disconnect switch used to disable a releasing circuit for system testing or maintenance.

LF1832-10 is compatible with the Hawk releasing control panel.

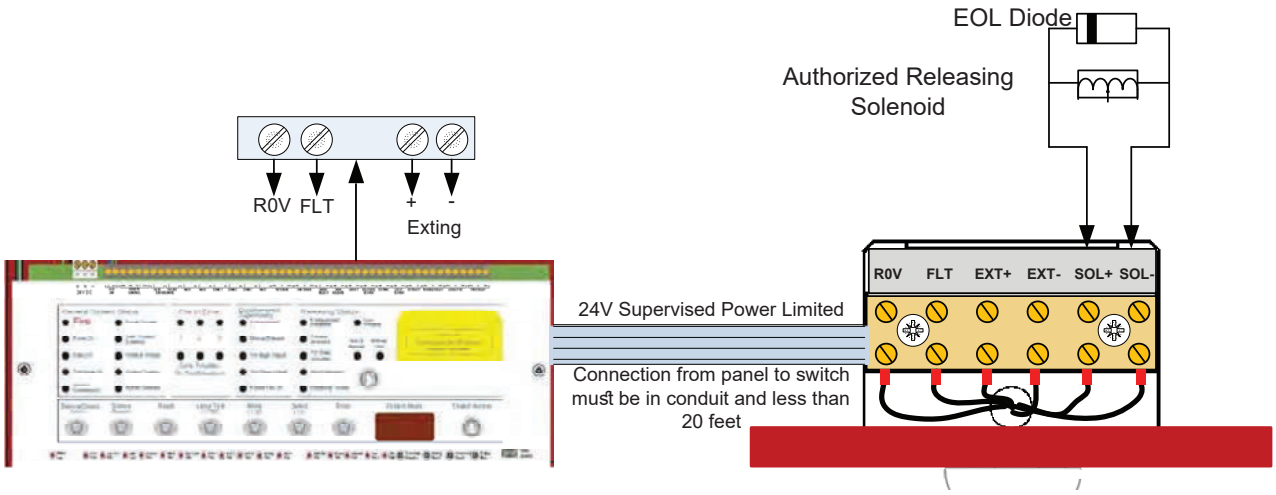
Technical Specifications

Size	3.81" (W) x 3.81" (H) x 2.32" (D)
Colour	Red
Switch Rating	1A@3 OVDC

Features

- Key removable in either position
- Both sides of solenoid circuit are mechanically disabled during activation
- Disablement illuminated at panel when active

Wiring Diagram



ABORT SWITCH Model: LF 1823-10

FM APPROVED

Technical Specification

Size	3.81" (W) x 3.81" (H) x 2.32" (D)
Color	Red
Switch rating	1A at 30V DC
Trigger resist	470R 1W
End of line resistor	6K8 1/2 W

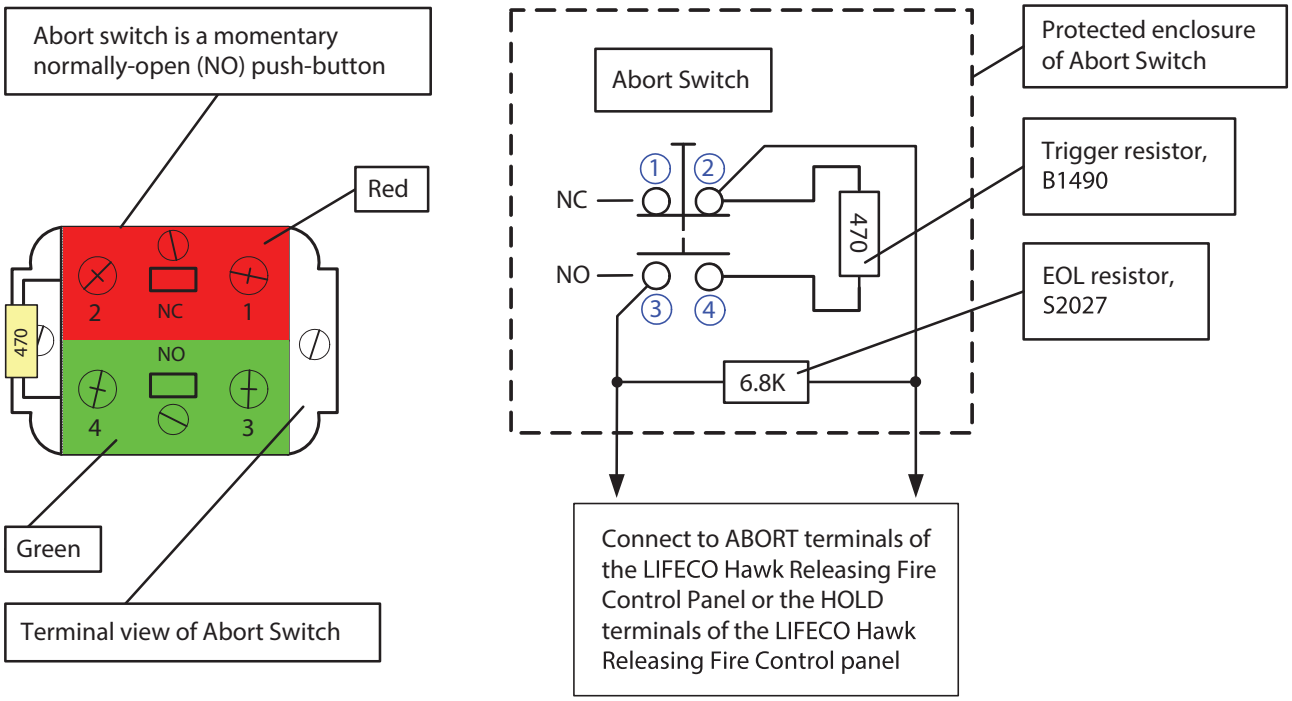
Features

- Capable of aborting releasing operation
- Includes a backbox for surface mount

Description

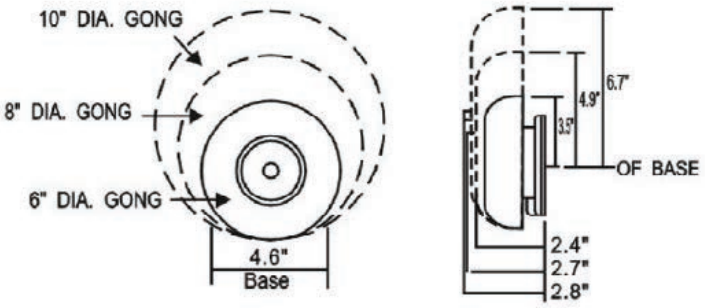
The LIFECO Abort switch connects to the Abort terminals of the LIFECO Hawk releasing panel. Any number of Abort switches may be connected to the circuit. The last switch must have the end of line device from the Abort circuit terminals of the LIFECO Hawk releasing panel fitted across its connections to provide open and short circuit supervision. The unit is supplied mounted to a rugged steel enclosure but may also be flush mounted to a single gang electrical box.

Wiring Diagram



FIRE ALARM BELL

Dimension Details



Features

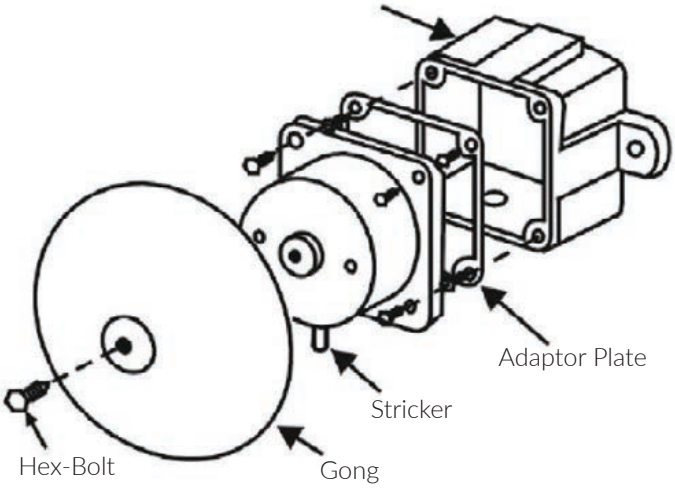
- Microprocessor based design
- High dBA Sounds Output
- Low power consumption
- Available in 6", 8" 10" Housing
- Quickly and Easily installed

Installation Instruction

- Remove bell gong by loosening hex bolt.
- Wire bell in circuit.(Notice Polarity)
- Mount bell mechanism on 4" square standard outlet box with the striker facing down.
- Replace the gong and tighten hex bolt.
- The bell must be mounted a minimum of 8ft above the floor, or as close to the ceiling as possible.
- Polarized bell provides Red(-) and Black(-) lead wires. When you install the bell, must observe the polarity.

Exploded View

Waterproof back box for outdoor use (optional)



Technical Specifications

	LFB16	LFB18	LFB110
Gong size	6"	8"	10"
Voltage	24VDC	24VDC	24VDC
Current	20mA	20mA	20mA
Sound level	95dB@10ft	83dB@10ft	85dB@10ft

*Backbox for outdoor use only.

WARNING SIGNS

CAUTION!

**THIS AREA IS PROTECTED BY
SFFECO
FIRE EXTINGUISHING SYSTEM**

WHEN ALARM SOUNDS OR
UPON EXTINGUISHER DISCHARGE
EVACUATE HAZARD AREA IMMEDIATELY.

DO NOT RE-ENTER AFTER DISCHARGE UNTIL THOROUGHLY VENTILATED.

CAUTION!

**THIS AREA IS PROTECTED BY
SFFECO
FIRE EXTINGUISHING SYSTEM**

IN THE EVENT OF A FIRE AND SYSTEM DISCHARGE CAUTION MUST BE TAKEN TO AVOID EXPOSURE TO PRODUCTS OF COMBUSTION.

DO NOT ENTER WITHOUT AN APPROVED SELF-CONTAINED BREATHING APPARATUS OR UNTIL AREA IS THOROUGHLY VENTILATED

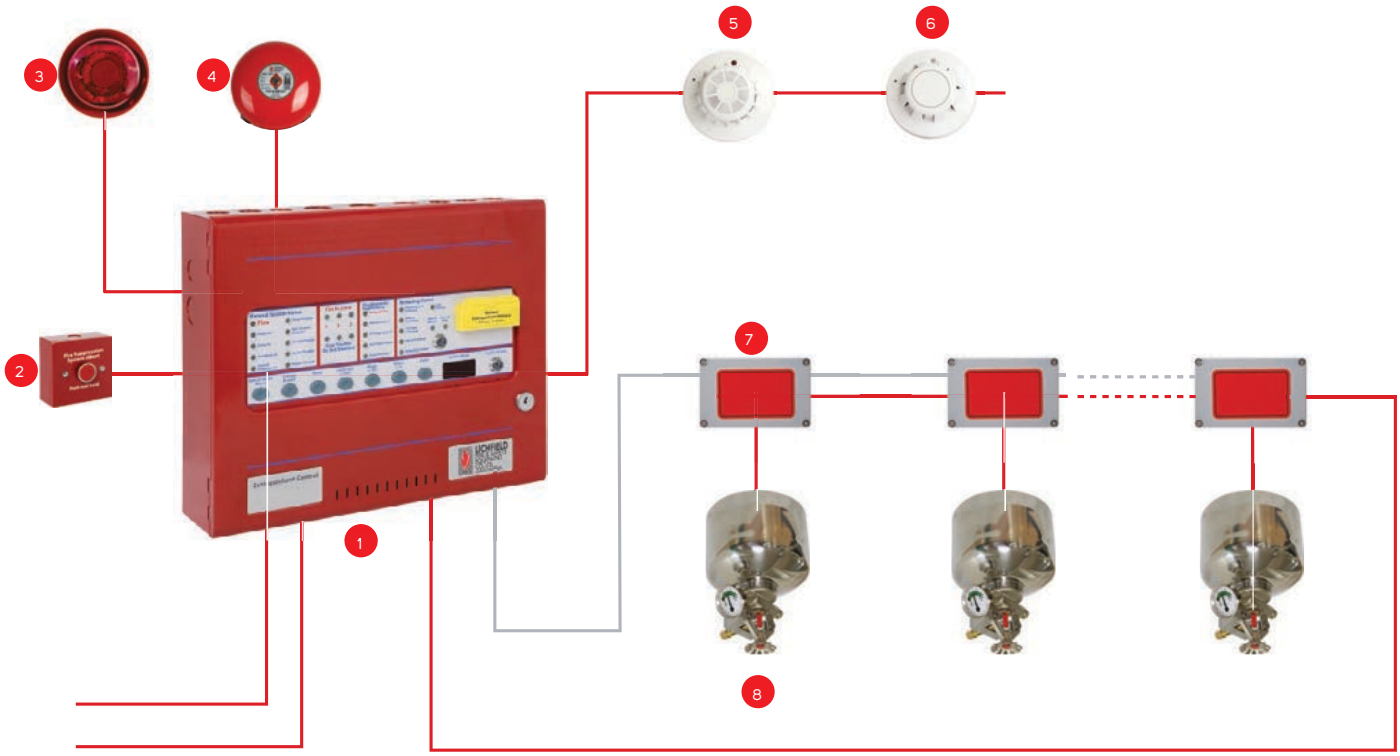
CAUTION!

**THIS AREA IS PROTECTED BY
SFFECO
FIRE EXTINGUISHING SYSTEM**

ENSURE AREA IS EVACUATED
BEFORE RELEASE OF
SYSTEM

ABORT SWITCH

FIRE EXTINGUISHING SYSTEM ABORT
PUSH AND HOLD



1. Fire Control Panel
2. Abort Switch
3. Sounder / Beacon
4. Bell
5. Heat Detector
6. Smoke Detector
7. Substation
8. Modular Extinguisher

Notes:

Notes:

SFFECO HAS A LONG STANDING ESTABLISHED REPUTATION FOR PIONEERING INNOVATION EVER SINCE ITS FOUNDATION IN 1983.

SFFECO HAS ITS STATE-OF-THE-ART MANUFACTURING PLANTS IN RIYADH AND DUBAI PRODUCING END-TO-END RANGE OF PRODUCTS FOR THE FIRE FIGHTING INDUSTRY MATCHING INTERNATIONAL STANDARDS IN QUALITY.

VISION رؤيـــة 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

SFFECO®

40 Years Of
INNOVATIVE
FIRE SAFETY SOLUTIONS

RIYADH
KINGDOM OF SAUDI ARABIA
EXPO 2030

شركة المصنع السعودي لأجهزة الإطفاء
SAUDI FACTORY FOR FIRE EQUIPMENT Co.

FACTORY & HEAD OFFICE - RIYADH
2nd Industrial Area, Al-Kharj Road, Riyadh, KSA, P.O. Box: 58469, Riyadh 11515
Tel : +966 11 2650070, Fax: +966 11 2652190, E-mail: riyadh@sffeco.com.sa

SFFECO GLOBAL - DUBAI
P.O. Box: 261318, JAFZA South, Dubai U.A.E.
Tel: +971 4 880 9890, Fax: +971 4 880 9822, E-mail: sales@sffecoglobal.com

JEDDAH BRANCH
P.O. Box: 16769, Jeddah – 21474, KSA
Tel : +966 12 670 6009,
Fax: +966 12 676 0307
E-mail: jeddah@sffeco.com.sa

DAMMAM BRANCH
P.O. Box: 7162, Dammam – 31462, KSA
Tel : +966 13 8351961,
Fax: +966 13 8351968
E-mail: dammam@sffeco.com.sa

MADINAH BRANCH
Tel : 0148660959, 0148283256,
Fax: 0148660969
E-mail: madinah@sffeco.com.sa