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SAUDI MADE
صناعة سعودية

SFFECO
Est.1983

SFFECO
SINCE
1983

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

Empowering a Safer Future for the Kingdom

SFFECO
KITCHEN HOOD

Fire Extinguishing System

Technical Datasheets

Quality Approvals for Various Products and Services

VER: 00-04/26

Assessed to ISO 9001:2015
Cert. No : 1516

bsi.

THOMAS BELL-WRIGHT

LISTED

CLASSIFIED

FM APPROVED

SASO QUALITY MARK

NFPA MEMBER

The Global Standard in Fire Safety

Since 1983, SFFECO has been the trusted name and a recognized global leader in manufacturing top-tier fire-fighting equipment. We don't just offer products; we provide total fire safety solutions like fire doors, fire cabinets, fire pumps, fire extinguishing systems, etc. Our commitment to excellence is certified by multiple international standards, including ISO 9001 (Quality), ISO 14001 (Environmental), and ISO 45001 (Health & Safety). With state-of-the-art facilities in Riyadh and Dubai, we ensure every product meets rigorous international quality standards.

One-Stop-Shop for Fire Protection

SFFECO is your single source for everything in fire protection and fire-fighting. Represented in over 100 countries through a vast network of dealers, our innovative approach and comprehensive, end-to-end product range deliver the full spectrum of solutions you need. We're dedicated to keeping you safe and updated, constantly integrating the latest fire-fighting technology into our knowledge and services. Choose SFFECO and get certified quality, global reach, and pioneering innovation—all in one place.

Quality Services

SFFECO is deeply committed to ensuring superior performance and accuracy in every product it delivers. This dedication is maintained through continuous, close collaboration with a wide array of stakeholders, including key certification bodies, government regulatory agencies, industry partners, and leading technology associations. This concerted effort focuses on the development and delivery of truly innovative and high-quality fire-fighting solutions. The commitment to excellence is rigorously upheld through extensive product testing and evaluation, alongside a strict, ongoing process for continued product quality compliance, guaranteeing that SFFECO's equipment operates with assured reliability when it matters most.

SFFECO is dedicated to providing fire safety products of the highest quality and performance. We achieve this by working closely with certification bodies, government regulatory agencies, industry partners, and technology associations. This collaboration ensures our innovative products are backed by extensive product testing and evaluation, and maintained through continuous quality compliance.

As global leaders since 1983, SFFECO believes in manufacturing quality products and offering exceptional service standards worldwide. Our primary goal is to reward our customers by keeping their investments safe and secure. Our manufacturing plant has steadily grown and is now equipped with modern hi-tech equipment and staffed by highly skilled professionals. With optimal ISO-certified operations, we consistently roll out products that match global standards to serve the needs of the growing fire safety market.

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Empowering a Safer Future for the Kingdom

Kitchen Hood System
Components

Extinguishing Agent: Wet Chemical

Description

Wet chemical extinguishing agent is a specially formulated liquid fire suppression medium designed for Class K (cooking oil and fat) fires. It is primarily used in commercial kitchen hood fire extinguishing systems to suppress fires involving deep fat fryers, grills, and cooking appliances.

The agent works by rapid flame knockdown, cooling, and forming a protective foam layer over burning oil surfaces, preventing re-ignition.

Composition

- Water-based solution
- Potassium salts (typically potassium acetate, potassium carbonate, or potassium citrate)
- Stabilizers and corrosion inhibitors.

Fire Suppression Mechanism

The wet chemical agent extinguishes fire through a three-fold action:

- Cooling Effect: Absorbs heat and reduces the temperature below ignition point.
- Saponification: Reacts with hot cooking oils/fats to form a soap-like foam layer, sealing the surface.
- Oxygen Exclusion: The foam blanket prevents oxygen from reaching the fuel, avoiding re-ignition.

Key Features

- Highly effective on Class K / F fires
- Rapid flame knockdown
- Prevents re-flash due to stable foam blanket
- Non-flammable and non-explosive
- Compatible with stainless steel kitchen equipment
- Low toxicity and safe for use in occupied areas
- Easy clean-up after discharge

Performance

- Fast suppression of high-temperature cooking oil fires
- Forms thick, stable foam blanket
- Prevents re-ignition even under high heat conditions
- Effective in confined kitchen hood environments
- Biodegradable components
- Minimal environmental impact when used as intended

Application

- Commercial kitchens (hotels, restaurants, hospitals)
- Deep fat fryers
- Cooking ranges and grills
- Kitchen exhaust hoods and ducts

Physical and Chemical Properties

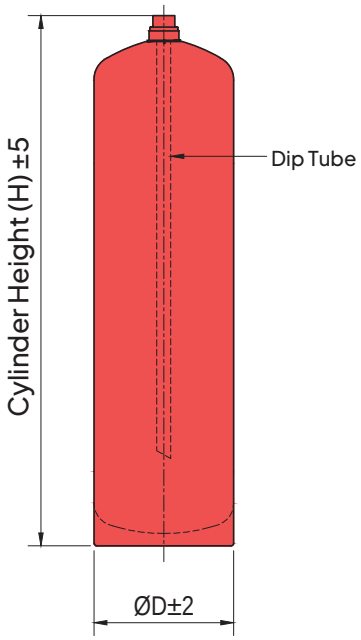
Appearance	Clear to light yellow liquid
Odor	Mild
pH	8 – 9.5
Specific Gravity	~1.05 – 1.15
Freezing Point	Approx. -5°C to -10°C
Boiling Point	~100°C
Solubility	Completely soluble in water

Safety and Handling

- Non-toxic under normal use conditions
- Avoid direct contact with eyes and prolonged skin exposure
- Use appropriate PPE during handling

Kitchen Hood System
Components

Extinguishing Agent Cylinder



Description

The cylinder in a Kitchen hood system serves as a storage container for the extinguishing agent, designed to safely hold the medium under pressure until activation.

Manufactured from high-quality steel, it ensures durability, leak-proof performance, and long service life.

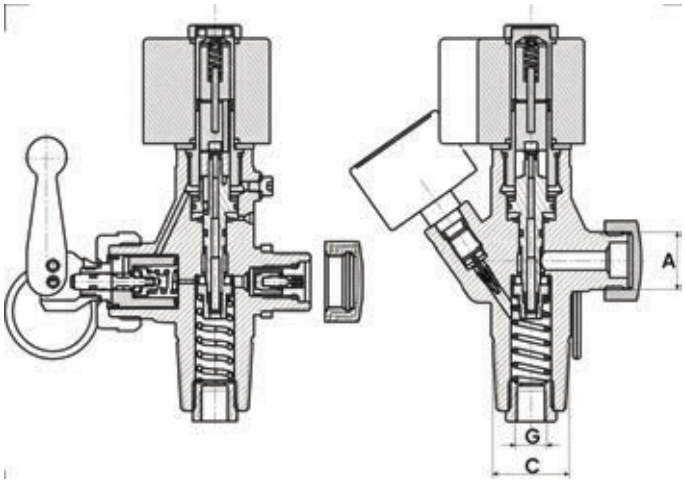
Colour: Red / White

Cylinder Size	Cylinder Height (without valve)	Cylinder Height (with valve)	Cylinder Dia
15 Ltr	84 cm	98 cm	19 cm ø
25 Ltr	78 cm	92.5 cm	28 cm ø

other sizes are available on request as optional

Kitchen Hood System
Components

Solenoid valves for fixed installations



Description

The solenoid valve is an electrically operated control device used in kitchen hood fire extinguishing systems to automatically release the wet chemical extinguishing agent upon system activation. When triggered by the control panel or detection system, the solenoid energizes and opens the valve, allowing the pressurized agent to flow through the piping network to the discharge nozzles.

Standard Specification

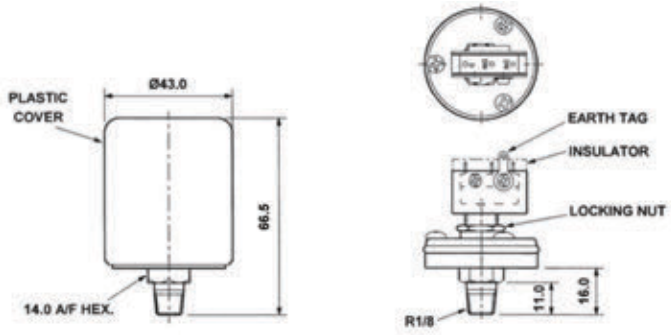
Working pressure p max.	250 bar
Temperature range	- 20°C + 60°C
Seat orifice size	7 mm
Discharge rate	Kv = 0,69, Cv = 80
Operating	Total discharge
Valve body material	Brass
Inlet connection	C = 25E EN 629-1
Outlet connection	A = W 21,8 x 1/14" DIN 477
Dip tube connection	G = M 10 x 0,75
Operating voltage	24 V DC
Power consumption	10 Watts

Options

- Operating: intermittent
- Special inlet
- Special outlet
- Gauge
- Gauge with integrated pressure switch
- Pressure switch
- Connection with check valve
- Operating voltage 12 V DC or 230 V DC
- Explosion / flame proof solenoid

Kitchen Hood System
Components

Pressure Switch



Maximum Pressure

To ensure long service life select the pressure range as follows:

Dynamic pressure applications Pmax = 75% of Range

Static pressure applications Pmax = 100 % of Range

Maximum pressure that can be applied is 125 % of pressure range.

Vacuum Use

These switches will not be damaged by the application of vacuum; but a requirement for the switch on vacuum should be specified when ordering as a minor modification is required. On a pressure switch set to operate on vacuum the micro-switch will be in the operated condition at atmospheric pressure so the wiring should be reversed i.e. NO becomes NC.

Electrical Ratings

5 amp at 250V 50Hz

For other voltages and currents please consult our technical department.

Electrical Connection

Wires can be soldered onto the micro-switch's terminals. Crimp / solder push-on tags are available if required.

Type 14 pressure switches can be supplied with flying leads if required.

Description

Type 14 pressure switches are used for monitoring system pressure in all non-corrosive gasses and non-corrosive liquids except those with high viscosity.

- Miniature Pressure Switches
- Diaphragm Operated
- For Water, Air Oil etc.
- Factory Set or Field Adjustable
- Rated 5A at 250V 50Hz
- CE marked for all Directives that apply

Type Number	Pressure Range	Hysteresis Typical
14	-1 to -0.15 bar	0.07 bar
14	0.15 to 1 bar	0.08 bar
14	0.4 to 4 bar	0.3 bar
14	1 to 11 bar	0.9 bar
14	2 to 25 bar	1.25 bar

Setting Accuracy	±6%
Temperature Limits	-10 to +60°C
(Process fluid must not solidify)	
Pressure Connection	Brass
Body	Polyethelene
Diaphragm	Beryllium Copper
Seal	Nitrile rubber

Corrosive Applications

The connection can be either stainless steel or UPVC (max. 16 bar).

The diaphragm can be protected from corrosion by fitting a thin disc of PTFE (switches fitted with a protection disc should not be subject to vacuum) Seals can be PTFE, Viton or EPDM.

Options available

Suffix G – Has gold contacts in the micro-switch.

Suffix P - Has four-pin plug & socket fitted

Suffix Q – is overload protected to 85 bar (not ranges below 4 bar)

Kitchen Hood System
Components

Detection and Release Devices

Features

- Repeatable - self-restoring, nothing to replace, testable
- Rugged - withstands shock and vibration
- Versatile - various temperature settings available
- Durable - long lasting stainless steel shell
- Economical - wide spacings reduce installation costs
- Factory set
- Internal contact area hermetically sealed in stainless steel shell
- ROHS Compliant

Applications

- Protection of schools, factories, offices, libraries, etc.
- Power generation
- Gas station islands
- Paint spray booths
- Range hoods
- Engine compartments

Description

DETECT-A-FIRE® detectors are the "heart" of many fire protection systems. These highly reliable devices have been a standard for over 65 years. Thousands of these detectors are in use controlling the release of extinguishants such as clean agents, CO2, water, or dry chemicals. In some systems the device is used as an ALARM device, to sense overheat or fire and alert personnel.

DETECT-A-FIRE detectors have met with wide acceptance because they are designed with RATE COMPENSATION. This provides a unique advantage over both fixed temperature and rate-of-rise types of detectors because only the DETECT-A-FIRE detector accurately senses the surrounding air temperature regardless of the fire growth rate. At precisely the pre-determined danger point, the system is activated.

Fixed temperature detectors must be completely heated to alarm temperature and therefore a disastrous lag in time may occur with a fast rate fire. Rate-of-rise devices, on the other hand, are triggered by the rate of increase in ambient temperature and are subject to false alarms caused by harmless, transient thermal gradients such as the rush of warm air from process ovens.

The secret of the unit's sensitivity is in the design (Figure 1). The outer shell is made of a rapidly expanding alloy which closely follows changes in surrounding air temperature. The inner struts are made of a slower expanding alloy. Designed to resist thermal energy absorption and sealed inside the shell, the struts follow temperature changes more slowly.

A slow rate fire (Figure 2) will heat the shell and struts together. At the "set point", the unit will trigger, actuating the alarm or releasing the extinguishant.

A transient rush of warm air up to 40°F/min. may expand the shell, but not enough to trigger the unit. By ignoring transient warm air excursions, the DETECT-A-FIRE detector virtually eliminates false alarms prevalent with rate-of-rise devices.

If a fast rate fire (Figure 3) starts, the shell will expand rapidly. The struts will close, actuating the alarm and/or releasing the agent. The faster the fire rate of growth, the sooner the DETECT-A-FIRE detector will react.

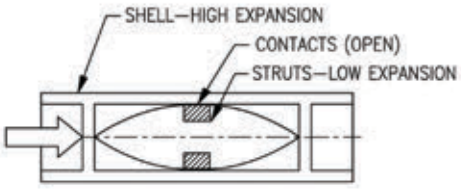


Figure 1. READY

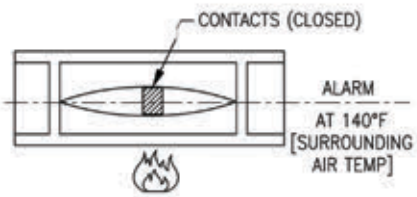


Figure 2. SLOW FIRE

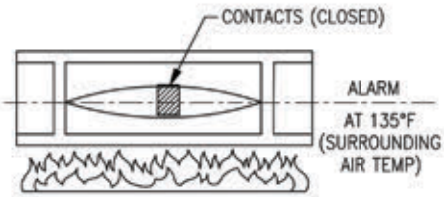
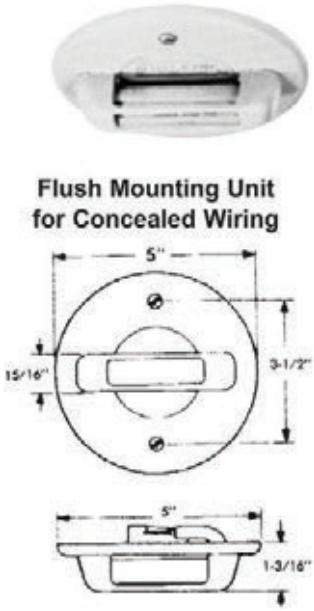


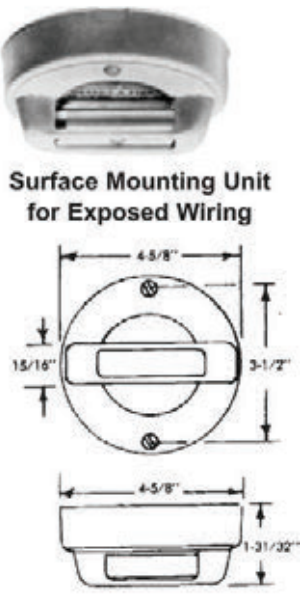
Figure 3. FAST FIRE

Kitchen Hood System
Components

Detection and Release Devices



12-X27020-000
12-X27021-000



12-X27020-001
12-X27021-001

Horizontal Detector Specifications

Horizontal DETECT-A-FIRE detectors are designed for locations where appearance is a factor. The attractive, functional design lends physical protection of the unit while making it suitable for commercial, industrial, mercantile public buildings, institutions and marine applications in non-hazardous locations (those classified as "ordinary" under the National Electric Code). Flush mounted units are designed to fit standard 4-inch octagonal electric boxes and surface mounting units are designed to mount directly on ceilings or on 4-inch electrical junction boxes. Canadian Electrical Codes requires mounting only to an electrical junction box.

Horizontal Models Only

Table 1

Model No. (See Table 2 for "X")	Contact Operation on Temperature Rise	Approx. Weight per Unit	Electrical Rating (Resistive Only)
12-X27020-000 12-X27020-001	Opens 325°F (Max)	10 oz	5.0 Amps 125 VAC 0.5 Amps 125 VDC
12-X27021-000 12-X27021-001	Closes 325°F (Max)	10 oz	5.0 Amps 125 VAC 0.5 amps 125 VDC 2.0 Amps 24 VDC 1.0 Amps 48 VDC

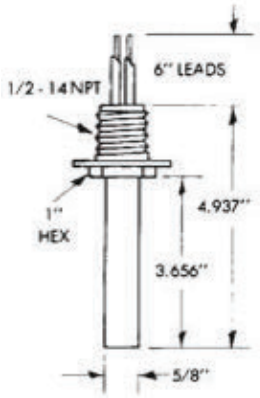
Model 12-X27020-00X is a normally closed device and does not meet the requirements of NFPA-72 for use as an initiating device.

Table 2

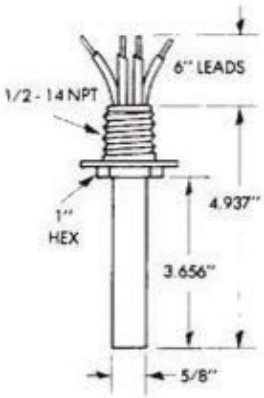
X	Setting °F	Tolerance °F	Spacings (in feet)			RTI	Color Coding
			UL	ULc	FM		
A	140	-0.875	50	50	20	Quick	Black
A	160	-0.875	25	25	20	Quick	Black
A	190	-0.875	50	50	25	Fast	White
A	210	-0.875	25	50	25	Fast	White
A	225	-0.875	25	50	25	Fast	White
B	275	10	25	50	25	Fast	Blue
B	325	10	50	50	25	Fast	Red

Kitchen Hood System
Components

Detection and Release Devices



12-X27120-000
12-X27120-022



12-X27121-000
12-X27121-020

Vertical Detector Specifications

Vertical detectors are designed for use in both "ordinary" or "hazardous" locations. For "ordinary" use, they may be mounted to any approved junction box with 7/8" diameter opening by using 1/2–14 NPT mounting nuts. The device may be wired in or out of conduit, depending on local preferences and codes. To facilitate supervision of system wiring, four lead wires are provided on normally open vertical units (that close on temperature rise). Per UL requirements, when mounted in a suitable fitting, instruments are Underwriters Laboratory and Underwriters Laboratory of Canada listed and Factory Mutual approved for hazardous locations.

Vertical Designs (Hexagonal Head)

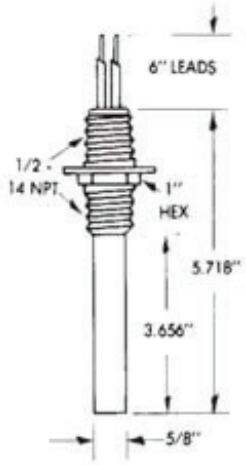
Table 3: Model Number 27120*, 27121

X	Setting °F	Tolerance °F	Spacings (in feet)			RTI	Color Coding
			UL	ULc	FM		
E	140	-0.875	50	50	20	Quick	Black
E	160	-0.875	25	25	20	Quick	Black
E	190	-0.875	50	50	25	Fast	White
E	210	-0.875	25	50	25	Fast	White
E	225	-0.875	25	50	25	Fast	White
F	275	±10	25	50	25	Fast	Blue
F	325	±10	50	50	25	Fast	Red
F	360	±10	25	50	30	V-Fast	Red
G	450	±15	25	50	30	V-Fast	Red
G	500	±15	50	50	30	V-Fast	Green
H	600	±20	N/A	50	30	V-Fast	Orange
H	725	±20	N/A	50	30	V-Fast	Orange

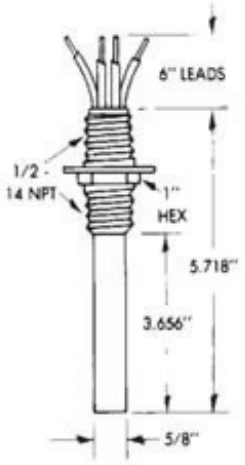
*27120 is a normally closed device and does not meet the require- ments of NFPA-72 for use as an initiating device

Kitchen Hood System
Components

Detection and Release Devices



12-X28020-003



12-X28021-005

Vertical Detector Specifications

Vertical detectors are designed for use in both "ordinary" or "hazardous" locations. For "ordinary" use, they may be mounted to any approved junction box with 7/8" diameter opening by using 1/2–14 NPT mounting nuts. The device may be wired in or out of conduit, depending on local preferences and codes. To facilitate supervision of system wiring, four lead wires are provided on normally open vertical units (that close on temperature rise). Per UL requirements, when mounted in a suitable fitting, instruments are Underwriters Laboratory and Underwriters Laboratory of Canada listed and Factory Mutual approved for hazardous locations.

Vertical Designs (Coupling Head)

Table 4: Model Number 28020*, 28021

X	Setting °F	Tolerance °F	Spacings (in feet)			RTI	Color Coding
			UL	ULc	FM		
E	140	+7/-8	50	50	30	V-Fast	Black
E	160	+7/-8	25	25	30	V-Fast	Black
E	190	+7/-8	50	50	30	V-Fast	White
E	210	+7/-8	25	50	30	V-Fast	White
E	225	+7/-8	25	50	30	V-Fast	White
F	275	±10	25	50	30	V-Fast	Blue
F	325	±10	50	50	30	V-Fast	Red
F	360	±10	25	50	30	V-Fast	Red
G	450	±15	25	50	30	V-Fast	Green
G	500	±15	50	50	30	V-Fast	Orange
H	600	±20	N/A	50	30	V-Fast	Orange
H	725	±20	N/A	50	30	V-Fast	Orange

Note: For clean agents and CO2 suppression systems, ceiling spacing 20 ft. apart unless otherwise specified. * 28020 is a normally closed device and does not meet the requirements of NFPA-72 for use as an initiating device.

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SFFECO
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Since 1983, SFFECO has been a trusted name in fire protection, known for innovation and quality worldwide.

With state-of-the-art facilities in Riyadh and Dubai, we deliver a complete range of firefighting solutions that meet international standards.

Our innovative approach and comprehensive product portfolio make SFFECO the one-stop destination for reliable fire protection products and services.

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