



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

Empowering  
a **Safer Future** for  
the Kingdom



Clean Agent  
Modular  
Extinguishers

Quality Approvals for Various Products and Services



## Modular Cylinder – In General

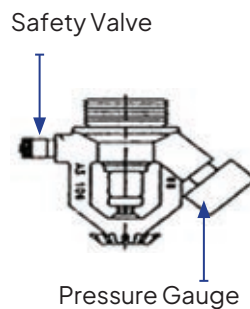
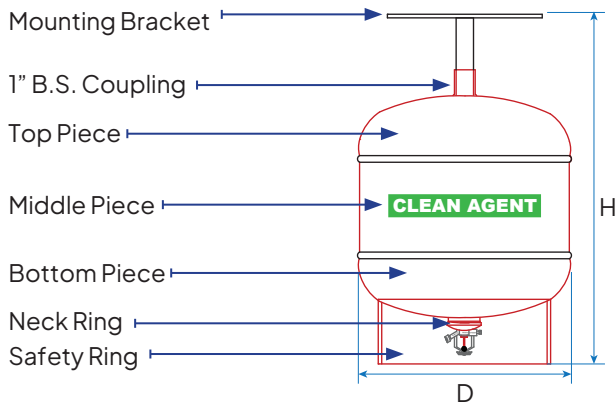
SFFECO modular series extinguishers are self-contained standalone system, ideally economical, simple and flexible to suit pre-prevailing local conditions. The Design concept of operation features the sprinkler technology incorporating a gas tight quartzoid bulb sprinkler head fitted with an optional pyrotechnic 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<sub>2</sub> weld, sand blasted, white finished, oven baked and coated with electrostatic powder.

SFFECO modular automatic installations are primarily well-suited 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.



### Cylinder Details:



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

### Technical Details:

Model		SFM6	SFM10	SFM15	SFM20	SFM25	SFM30	SFM35	SFM40	SFM45
Agent Weight	(Kg)	6	10	15	20	25	30	35	40	45
Minimum Fill Range	(Kg)	2.5	4	6	8	10	13	15	18	20
Maximum Fill Range	(Kg)	6	10	15	20	25	31	36	42	47
Pressure	(Bar)	15	15	15	15	15	15	15	15	15
Enclosure Volume (M <sup>3</sup> ) Protected By HFC227ea With 7% Conc. @ 21°C *	(Min.)	4.56	7.30	10.95	14.60	18.25	23.73	27.38	32.86	36.51
	(Max.)	10.95	18.25	27.38	36.51	45.64	56.59	65.72	76.67	85.80
Enclosure Volume (M <sup>3</sup> ) 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	22.97	27.57	30.63
	(Max.)	9.19	15.31	22.97	30.63	38.28	47.47	55.13	64.32	71.98
Cylinder Dimension **	H (mm)	340	460	500	565	490	550	570	450	470
	D (mm)	Ø 280	Ø 280	Ø 280	Ø 280	Ø 370	Ø 370	Ø 370	Ø 505	Ø 505
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.

# 1 Extinguishing Agent

## HFC227ea

CF<sub>3</sub>-CHF-CF<sub>3</sub>

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 <sub>3</sub> -CHF-CF <sub>3</sub>
Form or Odor	Colorless, Odorless Liquefied Compressed Gas
Molecular Weight	170.03
Boiling Point	-16.4°C / 2.48°F
Melting Point	-131°C / -203.8°F
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

# 2 Extinguishing Agent

## FK-5-1-12

CF<sub>3</sub>CF<sub>2</sub>C(O)CF(CF<sub>3</sub>)<sub>2</sub>

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<sub>3</sub>CF<sub>2</sub>C(O)CF(CF<sub>3</sub>)<sub>2</sub>). 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 <sub>3</sub> CF <sub>2</sub> C(O)CF(CF <sub>3</sub> ) <sub>2</sub>
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



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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