SHTG 1230™

FK-5-1-12 · Clean Agent Fire Suppression System

PRODUCT DATA SHEET
SHTG-DS-1230-EN-v2 | Sep 2025
UL / FM / SNAP

UL LISTED | **FM APPROVED** | **SNAP LISTED** | **ODP = 0** | **GWP < 1** | **NFPA 2001**

Safety Hi-Tech Global LLC offers SHTG 1230™ total flooding fire suppression systems using FK-5-1-12 — the most environmentally responsible clean agent available, with **zero ozone depletion potential** and a **Global Warming Potential below 1**. Available at **25, 42 and 50 Bar** operating pressure, these systems suppress Class A, B and C fires in under 10 seconds with zero residue and full compliance with NFPA 2001, ISO 14520-5 and EN 15004-2.



SHTG 1230™ — FK-5-1-12 clean agent system protecting a live data center

// OPERATING PRESSURES

PRESSURE	psi @ 70°F	CYLINDER TYPE	APPLICATION
25 BAR	362 psi	DOT 4BW500 welded	Standard / DOT-compliant installations
42 BAR	609 psi	TPED/ISO welded & seamless	Data centers, telecom, extended pipe runs
50 BAR	725 psi	ISO 9809 seamless	Large / complex multi-zone hazard areas

// SYSTEM OVERVIEW

Functional Principle

- Cylinders pre-filled with FK-5-1-12, super-pressurized with dry N■
- Stored as liquid — discharges as clear non-conductive vapor
- Activation: electrical, manual or pneumatic
- Agent release: < 10 seconds via piping network
- Zero residue — immediate return to service

Activating Standards

- NFPA 2001 (USA)
- ISO 14520-5 (FK-5-1-12 specific)
- EN 15004-2 (Europe)

Certifications

- UL Listed — UL 2166
- FM Approved — FM 5600
- SNAP Listed — US EPA

Environmental Leadership

- ODP = 0 (zero ozone depletion)
- GWP < 1 — lowest of all clean agents
- Atmospheric lifetime: 3–5 days
- No residue — zero cleanup cost

// VALVE / CYLINDER ASSEMBLIES — 25 BAR (DOT 4BW500)

Standard Cylinder Range

L	VALVE	H (mm/in)	Ø (mm/in)	MIN kg	MAX kg	TARE kg
16.7	25 (1")	653 / 25.7"	228.6 / 9"	8.4	20.0	17.3
28.3	25 (1")	954 / 37.6"	228.6 / 9"	14.2	33.9	24.9
52	50 (2")	721 / 28.7"	406 / 16"	26.1	62.4	52.4
106	50 (2")	1159 / 45.6"	406 / 16"	53.1	127.2	78.6
147	50 (2")	1494 / 58.8"	406 / 16"	73.6	176.4	100.1
180	50 (2")	1774 / 69.8"	406 / 16"	90.1	216.0	116.3
369	75 (3")	1734 / 68.3"	610 / 24"	184.6	442.8	241.3

→ FK-5-1-12 density: 1.60 g/mL vs 1.46 g/mL for HFC-227ea — results in higher max fill weights per cylinder. → For 42 Bar and 50 Bar seamless cylinder specifications, contact our engineering team.



Twin-cylinder assembly — SHTG 1230™ with distribution manifold and discharge pressure switch

// EXTINGUISHING AGENT — FK-5-1-12 (CAS 756-13-8)

Chemical name	1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone
Synonym	Dodecafluoro-2-methyl-3-pentanone / Perfluoro(2-methyl-3-pentanone)
Physical state	Liquid (stored) → clear colorless vapor (discharged)
Boiling point	49.2 °C / 120.6 °F
Vapor pressure @ 25°C	0.404 bar / 5.87 psi
Vapor density (air=1)	11.6
Liquid density	1.60 g/mL
ODP	0 (zero ozone depletion potential)
GWP (100-yr)	< 1 — most eco-responsible clean agent
NOAEL	10.0 % v/v — safe for normally occupied spaces
Transport	Not regulated (non-pressurized) / UN1044 (pressurized)

// TYPICAL APPLICATIONS



Live data center protected by SHTG 1230™ — FK-5-1-12 total flooding system

Data Centers / IT	Zero-residue, non-conductive — preferred choice for mission-critical IT environments.
Telecommunications	Protects switching rooms and NOCs without interrupting uptime.
Pharmaceutical / Clean Rooms	GMP-compatible, particulate-free discharge — ideal for ISO-classified environments.
Healthcare	Safe for occupied spaces and sensitive medical equipment.
Museums & Cultural Heritage	Lowest environmental impact of any clean agent — aligns with sustainability mandates.
Offshore & Marine	Effective on Class B flammable liquid hazards in demanding marine environments.

// SYSTEM COMPONENTS

CYLINDER ASSEMBLIES	Pre-filled assemblies with UL/FM-listed valves — 16.7L to 369L
ACTUATION SYSTEMS	Electrical, manual and pneumatic — single and cross-zoned
PRESSURE MONITORING	Gauges, low-pressure switches, discharge pressure switches
DISTRIBUTION NETWORK	Manifolds, check valves, flexible hoses, certified fittings
NOZZLES	UL/FM 180° and 360° patterns for uniform agent distribution
CONTROL PANELS	Compatible with INNOVEX and Kentec UL/FM-listed panels

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