SHTG 227™

HFC-227ea · Clean Agent Fire Suppression System

PRODUCT DATA SHEET
SHTG-DS-227-EN-v2 | Sep 2025
UL / FM / SNAP

UL LISTED | FM APPROVED | SNAP LISTED | NFPA 2001 | ISO 14520 | EN 15004

Safety Hi-Tech Global LLC offers total flooding fire suppression systems using SHTG 227™ (HFC-227ea), a proven clean extinguishing agent widely recognized as FM-200™. Available at **25, 42 and 50 Bar** operating pressure, these systems suppress Class A, B and C fires in under 10 seconds — no residue, no equipment damage, full compliance with NFPA 2001, ISO 14520 and EN 15004.



SHTG 227™ — HFC-227ea clean agent cylinders installed in a live data center facility

// 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 HFC-227ea, super-pressurized with dry N■
- Activation: electrical, manual or pneumatic
- Agent release: < 10 seconds via piping network
- Suppression: 80% heat absorption + 20% chemical action
- Zero residue — immediate return to service

Activating Standards

- NFPA 2001 (USA)
- ISO 14520-1 (International)
- EN 15004-1 (Europe)

Certifications

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

Environmental Profile

- ODP = 0
- GWP = 2,900 (100-yr ITH)
- Non-flammable / non-conductive
- No residue — zero cleanup cost

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

X-Line

L	VALVE	H (mm/in)	Ø (mm/in)	MIN kg	MAX kg	TARE kg
26.8	40 (1½")	608 / 23.4"	350 / 13.8"	13.3	25.6	20.3
40.2	40 (1½")	755 / 29.7"	350 / 13.8"	19.9	38.4	31.6
63.0	40 (2")	1005 / 39.6"	350 / 13.8"	31.2	60.6	52.9
89.0	40 (2")	1290 / 50.8"	350 / 13.8"	44.1	85.9	66.3
115.4	50 (2")	1610 / 63.4"	350 / 13.8"	57.2	111.0	83.6
175.0	50 (2")	1512 / 59.6"	450 / 17.7"	86.7	168.3	122.2

Y-Line

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	16.7	17.3
28.3	25 (1")	954 / 37.6"	228.6 / 9"	14.2	28.3	24.9
52	50 (2")	721 / 28.7"	406 / 16"	26.1	52.0	52.4
106	50 (2")	1159 / 45.6"	406 / 16"	53.1	106.0	78.6
147	50 (2")	1494 / 58.8"	406 / 16"	73.6	147.0	100.1
180	50 (2")	1774 / 69.8"	406 / 16"	90.1	180.0	116.3
369	75 (3")	1734 / 68.3"	610 / 24"	184.6	369.0	241.3

→ For 42 Bar and 50 Bar seamless cylinder specifications, contact our engineering team.



Twin-cylinder assembly with distribution manifold and discharge pressure switch

// EXTINGUISHING AGENT — HFC-227EA (CAS 431-89-0)

Chemical formula	CF■CHFCF■ — 1,1,1,2,3,3,3-Heptafluoropropane
Boiling point	-16.4 °C / 2.5 °F
Vapor pressure @ 25°C	457.7 kPa / 66.4 psi
Vapor density (air=1)	6.04
Liquid density	1.46 g/cm³
ODP	0 (zero ozone depletion potential)
GWP (100-yr)	2,900
NOAEL	9.0 % v/v — safe for normally occupied spaces
Flammability	Not flammable

UN transport	UN 3296 — Hazard Class 2.2 (non-flammable gas)

// TYPICAL APPLICATIONS



Live data center protected by SHTG 227™ — server racks with piping manifold visible

Data Centers / IT	Non-conductive discharge — no risk of short circuits; servers remain energized.
Telecommunications	Continuous protection for switching rooms, cable ducts, and NOCs.
Control Rooms	Safe for occupied spaces up to NOAEL — compliant with most design standards.
Museums & Archives	Zero residue — no secondary damage to irreplaceable collections or media.
Healthcare & Pharma	Approved for medical environments and GMP clean room requirements.
Industrial & Marine	Effective on Class B (flammable liquids) in demanding 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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