

GX20 Fire Suppression System using HFC-227ea Clean Agent

Effective: June 2026
KPGX20-90-001 Rev AA

Kidde Fire Protection GX20 Fire Suppression System using HFC-227ea based clean agent are safe, competitive, and cost-effective fire suppression solutions for protecting assets in commercial, light, and heavy industrial applications. The HFC-227ea agent itself is colorless, with low odor and no particulate or oily residue allowing for minimal business disruption after a discharge. From an environmental standpoint, HFC-227ea has zero ozone depletion potential. The associated GX20 delivery platform has global approvals and a selection of sizes and capacity profiles, making an HFC-227ea based clean agent system your fire suppression solution of choice.

Environmentally safe with a Zero Ozone Depletion Potential (ODP)

Wide range of applications - broad opportunity

- Data Centers
- Hospitals & Medical Facilities
- Libraries and Archives
- Museums & Cultural Heritage Buildings
- Petroleum, Oil & Gas Facilities
- Pharmaceutical Manufacturing
- Telecommunication Facilities
- Others

Choice of hardware profile - suits various application types

Appropriate for multiple fire types, broad application scope:

ISO 14520-5 / EN 15004-2 Listed Concentration Values

- Surface Class A (MDC 7.9)
- Class B (MDC: 9.0)
- Higher Hazard Class A (MDC: 8.5*)

*The minimum design concentration for Class A Higher Hazard Class fuels is the higher of the surface Class A or 95% of the Class B minimum design concentration.

NFPA, UL/FM Listed Concentration Values:

- Class A (Ordinary Combustible Materials) (MDC 6.7)
- Class B (Flammable Liquids) (n-Heptane MDC: 7.0)
- Class C (Electrical Hazards Energized) (For <480V MDC: 7.0)
 - For <480V for FM Approved Systems (MDC: 7.0)
 - For >480V for FM Approved Systems (MDC: 12.0)
 - For for non-FM Approved Systems (MDC: 7.0)

Cylinder filled to 25 bar (360 psi) with capacities to suit floor space and agent need:

- 5, 8, 16, 28, 51, 81, 142, 180, 243, and 368 L
(10, 20, 40, 70, 125, 200, 350, 450, 600, and 900 lb)

Nozzles types add design & installation flexibility

- 180° (Pendant or upright style)
- 360° (Pendant or upright style)



Wide operating temperature

- Range of 32° to 130°F (0° to 54°C) allows from hot to cold application environments

Specify and ship worldwide with confidence globally certified by:

- Transportation
 - TPED/TPEP
- Performance
 - UL Listed
 - FM Approved
 - CPR



Component Description

Cylinder and Valve Assemblies

The HFC-227ea clean agent in the GX20 system is stored in welded steel cylinders compliant with EN 13322-1 for the 5 to 142L cylinders and with EN 14208 for the 180 to 368L cylinder. All the agent cylinders are certified to TPED/TPER. System activation and gas discharge is controlled via a pressure controlling valve. The cylinder or valve is equipped with a safety burst disc in compliance with UN ADR (TPED/TPER) requirements. Cylinder sizes are available to suit floor space and agent quantity needs.

- 5, 8, 16, 28, 51, 81, 142, 180, 243, and 368 L capacity (10, 20, 40, 70, 125, 200, 350, 450, 600, and 900 lb)

Cylinder shells are painted red for easy identification and include agency markings where applicable.

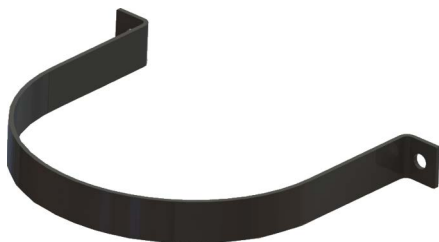
When shipped, cylinder-valve assemblies include an anti-recoil cap and a Safety Transport cap as a safety feature designed to prevent uncontrolled, accidental discharge.



Note: All cylinders in a system must be of equal size and pressure.

Cylinder Mounting Straps

Use the Cylinder Mounting straps to mount the cylinders in a vertical position. Cylinder straps are available for all size cylinders.



Cylinder Supervisory Pressure Switch

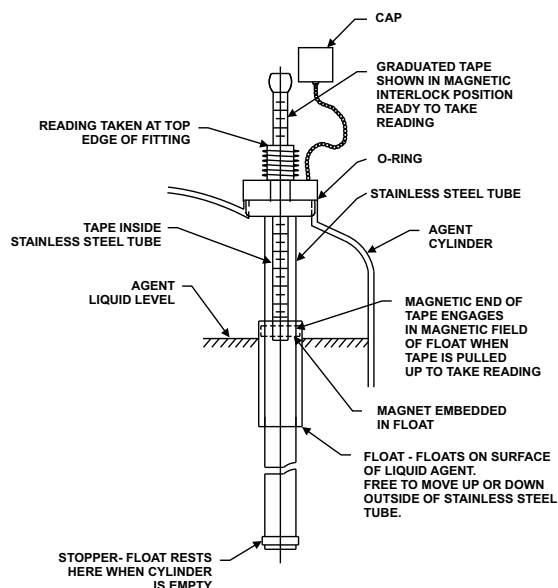
Cylinder supervisory pressure switches are intended to detect a fall in pressure in a clean agent cylinder. The cylinder supervisory pressure switch can be wired for either normally open or normally closed operation, depending on installation requirements.



Agent Supervisory Pressure Switch

Liquid Level Indicator

The Liquid Level Indicator (LLI) consists of a hollow stainless steel tube inserted into a special fitting in the top of the GX20 51, 81, 142, 180, 243, and 368 L (125, 200, 350, 450, 600, or 900 lb) agent cylinder. The LLI is provided with a graduated flexible tape that senses the position of a toroidal magnet encased within an internal float riding on the liquid surface. The graduations on the tape indicate the liquid level within the cylinder.



Control Heads

Control heads provide various means of actuation for the agent or driver/pilot cylinder. A variety of control heads are available including:

- Electric
- Electric/Cable
- Pressure
- Lever
- Cable



Electric Control Head



Lever or Pressure Operated Control Head

Agent Discharge Nozzles

The GX20 system hardware includes nozzles with 360° and 180° discharge patterns which can be mounted in either upright or pendant style. The number and size of the orifice on each nozzle is custom calculated using the Flow Calculation Software Suite version 4.0 and higher.



Manifold EI-Check Valves

Manifold EI-Checks valves are installed at the discharge manifold in a multiple cylinder arrangement to allow removal of an agent cylinder from the manifold while still retaining a closed system. EI-Check valves are available in 1-1/2, 2, and 3 in. sizes.

Note: EI-Checks are to be installed at system manifold in vertical direction.



Discharge Hoses and Valve Outlet Adapters

Use the Flexible Discharge hose to connect the agent cylinder to the discharge piping.

While the 1-1/2 and 2 in. hoses are rubber covered with wire braided reinforcements, the 3 in. discharge hose has a stainless steel braid and roll-groove fittings.



As an alternative to the Flexible Discharge hose, Valve Outlet adapters are available in 1-1/2, 2, and 3 in. sizes.



1 1/2 and 2 in. Valve Outlet Adapters



3 in. Discharge Outlet Adapter

Accessories

Pressure Switch

The pressure operated switch uses the pressure of the discharging agent for activation and must be connected to the distribution piping. The agent actuates a pressure operated stem which toggles the electrical switch. Each switch can also be operated manually by pulling up on the stem. These switches are used to annunciate alarms, shut down ventilation, and turn on electrical automatic dampers or other electrical equipment. Each pressure switch must be manually reset, by pushing down on the stem to return the switch to the set position. The minimum operating pressure required is 3.5 bar (50 psi). The toggle on the pressure switch can be set to either N.O. to close or N.C. to open contact transfer upon operation.



Pressure Operated Trip

The pressure operated trip, is connected to the distribution piping and utilizes agent pressure for actuation. The agent pressure displaces a spring-loaded piston to disengage a holding ring from the stem connected to the piston.



Safety Outlets

Safety Outlets are designed to protect against over-pressurization in closed sections of discharge pipework, i.e., manifolds. The hardware offer includes a Safety Outlet rated for agent pressures and one rated for Nitrogen pilot line pressures.



Main & Reserve Systems

GX20 platform configurations support a 'reserve' bank of cylinders, equal in quantity and size to the main bank. A reserve system can minimize downtime and prevent service interruption in case of a discharge.

The system with main and reserve cylinders are connected to the Control Panel through a Main/Reserve Transfer Switch.

Main & Reserve Transfer Switch:

The main & reserve transfer switch, is installed on systems having main and reserve cylinders. Placing the switch in either the "main" or "reserve" position provides uninterrupted fire protection capability during system maintenance or in the event of a system discharge.



Control Panel

For systems covering a single zone, an AEGIS™ 2.0 control unit is typically ideal where allowed by the local authority having jurisdiction. Otherwise, use a Control Panel that meets the compatibility requirements for use with the GX20 system.

Note: The use of a Control Unit that has not been determined to be compatible with GX20 and applicable certifying agencies may invalidate applicable warranties and could affect the certification status of the system. Refer to the Terms and Conditions of Sale Document.

Flow Calculation Software Version 4.0

Using the parameters listed below the Flow Software calculates pressure drops, pipe sizes, orifice sizes and vent area requirements:

- Agent selection
- Platform (GX20) selection
- Cylinder Size
- Nozzle Selection 180°/360°
- Single Zone

Parts List



Our extinguishing systems are designed in compliance with NFPA 2001 (latest edition), UL 2166, and FM 5600. To maintain the UL Listing, FM Approval, etc., certain system components must be purchased from KF. Certain more 'common' components can be purchased from third party sources so long as they meet the specifications listed in the corresponding KF suppression system DIOM manual and any associated addenda. For example, system piping from the manifold to the discharge nozzles must be purchased from a 3rd part supplier and must conform to all specifications mentioned in the DIOM Manual and the Fire Suppression Systems Association (FSSA) Piping Design Handbook. The discharge nozzles must be supplied by KF as must the check valve and discharge hoses connecting the agent cylinder to the manifold. The table below indicates many but not all component that must be sourced from KF. Failure to heed this warning may result in incorrect agent distribution leading to injury, death, or property damage, in addition to invalidating compliance approvals.

Nomenclature	Part Number
Cylinder/Valve Assemblies	
4.7 L (10 lb) STD	E7763-101-01-EU
8 L (20 lb) STD	E7763-102-01-EU
16 L (40 lb) STD	E7763-103-01-EU
28 L (70 lb) STD	E7763-104-01-EU
51 L (125 lb) STD	E7763-105-01-EU
51 L (125 lb) W/LLI	E7769-121
81 L (200 lb) STD	E7763-106-05-EU
81 L (200 lb) W/LLI	E7763-107-02-EU
142 L (350 lb) STD	E7763-108-01-EU
142 L (350 lb) W/LLI	E7763-109-01-EU
180 L (450 lb) W/LLI	E7763-115-01-EU
180 L (450 lb) STD	E7763-114-01-EU
243 L (600 lb) STD	E7763-110-05-EU
243 L (600 lb) W/LLI	E7763-111-05-EU
368 L (900 lb) STD	E7763-112-01-EU
368 L (900 lb) W/LLI	E7763-113-01-EU
(STD=Standard Cylinder Assembly, W/LLI=Cylinder with liquid level indicator)	
Spare Valves	
Kidde Fire Protection GX20 1-1/2 in (40 mm) Cylinder Valve	90-140000-002
Kidde Fire Protection GX20 2 in (51 mm) Cylinder Valve	90-150000-002
Kidde Fire Protection GX20 3 in (76 mm) Cylinder Valve	90-170000-100
Agent Cylinder Supervisory Pressure Switches	
Supervisory Pressure Switch	06-118262-001
Supervisory Pressure Switch (ATEX)	06-118537-001
Flexible Discharge Hoses	
4.7 to 51 L (10-125 lb) Cylinders	WK-283898-000
81 to 142 L (200-350 lb) Cylinders	WK-283899-000
243 to 368 L (600-900 lb) Cylinders	06-118225-001
3 in. Grooved/Grooved Discharge Hose	06-118445-001
Valve Outlet Adapters	
4.7 to 51 L (10-125 lb) Cylinders	WK-283904-000
81 to 142 L (200-350 lb) Cylinders	WK-283905-000
5 to 51 L (10 to 125 lb.) EU Market, 1½ in. BSP TR to BS21	283904-100
81 to 142 L (200 to 350 lb) EU Market, 2 in. BSP TR to BS21	283905-100
3" BSP TO 3" VICT SHED80 M/M Adapter	B6782-177
3" BSP TO 3" NPT SHED80 M/M Adapter	B6782-182
Cylinder Mounting Equipment	
5 and 8 L (10 lb and 20 lb) Cylinder Mounting Straps	WK-283945-000
16 and 28 L (40 lb and 70 lb) Cylinder Mounting Straps	WK-283934-000
51 and 81 L (125 and 200 lb) Cylinder Mounting Straps	06-235317-001
142 and 180 L (350 and 450 lb) Cylinder Mounting Straps	WK-281866-000
243 L (600 lb) Cylinder Mounting Straps	WK-294651-000
368 L (900 lb) Cylinder Mounting Straps	06-236125-001
5 L (10 lb) Cylinder Wall Brackets	82-486485-000
8 L (20 lb) Cylinder Wall Brackets	82-486486-000
16 L (40 lb) Cylinder Wall Brackets	82-486487-000
28 L (70 lb) Cylinder Wall Brackets	82-486488-000

Nomenclature	Part Number
Control Heads	
Electrical Control Head, 24 VDC, P/N	WK-890181-200
Stackable Electric Control Head, 24 VDC, Stackable, (Ex. Proof)	82-486500-010
Electric and Cable Operated Control Head, 24 VDC, (ATEX)	81-897494-001
Electric and Cable Operated Control Head Kit, Includes, 24 VDC	81-895630-200
Control Head Monitor	85-100000-100
Control Head Monitor Spacer (Used between an electric control head and P/N 82-878750-000)	85-100000-002
Cable Operated Control Head	81-979469-000
Lever Operated Control Head (with Black Lever)	WK-870652-000
Lever/Pressure Operated Control Head (with Black Lever)	82-878751-000
Pressure Operated Control Head	82-878737-000
Pressure Operated Control Head, Stackable	82-878750-000
Actuation Accessories	
Nitrogen Pilot Cylinder Kit	D9226-018
Nitrogen Pilot Cylinder Kit- ATEX (Not CPR Approved)	D9226-019
Mounting Bracket, Nitrogen Pilot Cylinder	03-4577-0000
469 Release Unit	01-7172-1124
469 Release Unit for Explosive Proof Hazards	01-7172-1129
Actuation Hose, 22 in 5 to 81 L (10 lb to 200 lb) Cylinders	WK-264987-000
Actuation Hose, 30 in 142 to 368 L (350 lb to 900 lb) Cylinders	WK-264986-000
Master Cylinder Adapter Kit	82-844895-000
Male Connector, 5/16" Flare x 1/8" NPT	WK-699205-010
Male Elbow, 5/16" Flare x 1/8" NPT	WK-699205-030
Male Branch Tee, 5/16" Flare x 1/8" NPT	WK-699205-050
Discharge Accessories	
Pressure Operated Switch	81-486536-000
Pressure Operated Switch, Ex-Proof	81-981332-000
Pressure Operated Trip	81-874290-000
Adapter - 1/2" NPT (M) x 1/4" BSP (M) 60 Cone Seat	B5464-911
Discharge Indicator, 1/2" NPT (Aluminum)	81-875553-000
Main-to-Reserve Transfer Switch	85-802398-001
Safety Outlet, Agent	82-844346-000
Remote Control Equipment, Cable Operated	
Pull Box, Break Glass	81-871403-000
Corner Pulley, Watertight	81-803808-000
Corner Pulley, 1/2 in EMT	WK-844648-000
1/16 in Cable 100 ft Roll	06-118316-100
1/16 in Cable 500 ft Roll	WK-219649-000
Pull Box Bracket (Z-Bracket)	81-605320-000
Adapter, 1/2 in EMT	WK-843837-000
Dual Pull Equalizer	81-840051-000
Dual Pull Mechanism	81-840058-000
Check Valves	
Manifold EI-Check, 1.5 in (DN 38)	WK-877690-151
Manifold EI-Check, 2 in (DN 50)	WK-877690-201
Manifold EI-Check, 3 in (DN 80)	WK-877690-301

Nomenclature	Part Number
Name Plate	
Main-to-Reserve Transfer Switch	85-802398-001
"Main"	WK-310330-000
"Reserve"	WK-310340-000
Agent Warning Nameplate	85-909300-001
Other Accessories	
Hydrostatic Test Adapter - 1-1/2" Valve	82-878754-000
Hydrostatic Test Adapter - 2" Valve	82-878755-000
Hydrostatic Test Adapter - 3" Valve	06-220259-001
Cylinder Recharge Adapter, 5 to 51 L (10 to 125 lb) Cylinder	82-878757-000
Cylinder Recharge Adapter, 81 to 142 L (200 to 350 lb) Cylinder	82-878758-000
Cylinder Seating Adapter	WK-933537-000
Nameplate, "Main"	WK-310330-000
Nameplate, "Reserve"	WK-310340-000
Nameplate, "Warning"	06-231866-760
Warning Sign, Entrance	85-909300-001
Warning Sign, Exit	85-909300-002

Non-Catalog Items

The following items may be purchased from 3rd party suppliers so long as they meet all requirements spelled out in the corresponding DIOM manual and any associated addenda:

- System Piping (other than parts mentioned above)
- Fittings (other than parts mentioned above)
- Wiring (other than parts mentioned above)
- Conduits (other than parts mentioned above)
- Certain electrical boxes (other than parts mentioned above)

Hazard Protection

The GX20 systems is designed to cover a single hazard only. For multi hazard protection, contact Kidde-Fenwal, LLC

EXPORT INFORMATION (USA)

Jurisdiction: EAR

Classification: EAR99

This document contains technical data subject to the EAR.

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