

## Clean Agent Fire Extinguishing Systems

These systems contain electrically nonconducting, volatile, or gaseous fire extinguishing agents that don't leave a residue upon evaporation (per NFPA 2001 paragraph 1-3.1). They are effective for total flooding protection against hazards involving liquid flammable materials, electrical equipment, and ordinary solid combustibles in occupancy arrangements which produce only surface burning. In general, these agents are not effective or appropriate for hazards which produce deep-seated burning or for those which involve chemicals containing their own oxygen (such as cellulose nitrate), metal hydrides, or reactive metals (such as sodium, magnesium or uranium).

Clean Agent systems are similar in many respects to Halon 1301 and carbon dioxide systems. Discharge of the agent by total flooding or local application may create atmospheric hazards to personnel. Toxic thermal decomposition products can be minimized by fast fire detection coupled with rapid agent discharge. Personnel should not remain in the area following system discharge. Table A-1-5.1.1 of NFPA 2001 provides information on toxicological and physiological effects covered in this equipment classification. The No Observed Adverse Effect Level (NOAEL) is the highest concentration at which no adverse physiological or toxicological effect has been observed. The Lowest Observed Adverse Effect Level (LOAEL) is the lowest concentration at which an adverse physiological or toxicological effect has been observed.

Systems can only be FM Approved under this classification if they use agents having a component Approval. The system Approvals specifically reference the relevant agent Approval. Individual agent listings appear under the category Clean Extinguishing Agents.

Compatible FM Approvals controls must be used. (See AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT under ELECTRICAL SIGNALING.)

Application of this equipment should be subject to the limitations specified and subject to FM Global's acceptance of plans prior to installation. Required design concentrations vary from agent to agent and depending upon maximum design parameters, the concentration may vary among system manufacturers. The design concentrations listed by the system manufacturers are generally accepted in electrical/electronic hazards, i.e. computer, telecommunication areas, provided that Class A ordinary combustibles are kept to a minimum, thereby minimizing the potential for a deep seated Class A fire.

System charging and recharging shall be done only by the manufacturer or a FM Approved representative.

The Clean Agent systems FM Approved under this classification have been addressed by NFPA 2001, Standard on Clean Agent Extinguishing Systems, 1994 Edition and must be listed in the United States Environmental Protection Agency (EPA) Significant New Alternatives Policy (SNAP) as an acceptable substitute to Halon 1301.

Jurisdictions **outside** the United States may **not** recognize NFPA and EPA sanction of certain clean agents. Local and national governmental regulations should be consulted **prior** to agent selection.

\*Alternative to Halon 1211 and Halon 1301.

## FM-200 Clean Agent Modular Balanced Fire Suppression System

FM-200® Clean Agent Modular Balanced Fire Suppression System. Pre-engineered systems using FM-200® agent pressurized to 360 psi (2480 kPa) at 70°F (20°C). Automatic and/or manual (local and remote) operation. Agent storage containers are suitable for use at storage temperatures of 32° to 130°F (0° to 54°C). 180° and 360° discharge nozzles available. Systems must be installed according to Design, Installation, Operation and Maintenance Manual P/N 315-093512-1.

Cylinder/Valve Assembly

Part No.	Agent Weight, lb (kg)	
	Min	Max
FM-10, FM-10H	6 (3)	10 (5)
FM-20, FM-20H	11 (5)	20 (9)
FM-40, FM-40H	21 (10)	40 (18)
FM-70, FM-70H	41 (19)	70 (32)
FM-125	71 (32)	125 (57)
FM-200, FM-200L	126 (57)	200 (91)
FM-350, FM-350L	201 (91)	350 (159)

FM-500, FM-500L

351  
(159)500  
(227)

<i>Part No.</i>	<i>Part Name</i>
<i>Control Heads</i>	
ECHS-24 EXP	Electric, 24 V dc, 0.2 A
ECH-24	Electric, 24 V dc, 2.0 A
ECH-115	Electric, 115 V ac
ECCH-24	Electric/Cable, 24 V dc, 2.0 A
ECCH-24 EXP	Electric/Cable, 24 V dc, 1.65 A, XP
ECCH-115	Electric/Cable, 115 V ac
ECCH-115 EXP	Electric/Cable, 115 V ac, XP
CAH	Cable Operated
LAH	Lever Operated
PAH	Pressure Operated
<i>Actuation Accessories</i>	
PBS	Cable Manual Pull Station
NPC	Nitrogen Actuator
NPC-MB	Mounting Bracket, N <sub>2</sub> Actuator
AC-30	Flex Actuation Hose, 30 in.
AC-22	Flex Actuation Hose, 22 in.
MCAK	Master Cylinder Adapter Kit
<i>Cylinder Mounting Accessories</i>	
WB-10	Wall Mount Bracket, 10 lb (5 kg)

WB-20	Wall Mount Bracket, 20 lb (9 kg)
WB-40	Wall Mount Bracket, 40 lb (18 kg)
WB-70	Wall Mount Bracket, 70 lb (32 kg)
CS-10/20	Cylinder Strap, 10/20 lb (5/9 kg)
CS-40/70	Cylinder Strap, 40/70 lb (18/32 kg)
CS-125/200	Cradle, 125/200 lb (51/91 kg)
FC-125/200	Front Clamp, 125/200 lb (51/91 kg)
CS-125/200	Cylinder Strap, 125/200 lb (51/91 kg)
C-350	Cradle, 350 lb (159 kg)
FC-350	Front Clamp, 350 lb (159 kg)
CS-350	Cylinder Strap, 350 lb (159 kg)
C-500	Cradle, 500 lb (227 kg)
FC-500	Front Clamp, 500 lb (227 kg)
CS-500	Cylinder Strap, 500 lb (227 kg)
<i>Discharge Accessories</i>	
DH-1 1/2	Flex Discharge Hose, 1 1/2 in. (38 mm)
DH-2	Flex Discharge Hose, 2 in. (51 mm)

DH-2 1/2	Flex Discharge Hose, 2 1/2 in. (64 mm)
VOA-1 1/2	Valve Outlet Adapter, 1 1/2 in. (38 mm)
VOA-2	Valve Outlet Adapter, 2 in. (51 mm)
VOA-2 1/2	Valve Outlet Adapter, 2 1/2 in. (64 mm)
PS	Pressure Operated Switch
PS-EXP	Pressure Operated Switch, XP
PT	Pressure Operated Trip
<i>Other Accessories</i>	
CP-1/2	Corner Pulley
CP-3/8	Corner Pulley, Watertight
CSS	Supervisory Pressure Switch
CP-CABLE	1/16 in. Cable

Note: Nozzle P/N are listed in the Design Manual (P/N 315-093512-1).

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<b>Company Website:</b>	<a href="http://www.siemens.de">http://www.siemens.de</a>
<b>New/Updated Product Listing:</b>	No
<b>Listing Country:</b>	United States of America
<b>Agent Type:</b>	FM-200
<b>Certification Type:</b>	FM Approved