

Foam Extinguishing Systems

Foam extinguishing systems are special protection systems designed to limit fire damage in an ignitable liquid use occupancy, or as an alternate to providing an emergency drainage system. A foam extinguishing system's basic components consist of (1) foam concentrate (2) foam concentrate storage tank (3) proportioner and (4) discharge device(s) which are compatible with each other and identified as part of the manufacturer's FM Approval listing. The discharge device may be of either aspirating or non-aspirating type as identified in the listing. Ensure the foam extinguishing system will perform as intended by:

- Consulting FM Global Property Loss Prevention Data Sheets 4-3, 4-7 and 4-12, on foam extinguishing systems and the occupancy-specific property loss prevention data sheets listed in Appendix C.4 of FM Global Property Loss Prevention Data Sheet 4-0, Special Protection Systems, prior to design, installation and use of these systems.
- Insureds of FM Global contacting their local FM Global office to discuss proposed use and installation of foam extinguishing systems for protection of any enclosure or equipment.
- Verifying the required design criteria, as it may vary for each application type and depending upon maximum design parameters, may vary among foam extinguishing system manufacturers.
- Designing these special protection systems to provide protection for a specific duration within the limitations described in the manufacturer's design and installation manual identified in the Approval Guide listing.
- Consulting the FM Global occupancy-specific property loss prevention data sheet for discharge duration recommendations.
- Using compatible FM Approved controls and detection, as necessary. (See **AUTOMATIC RELEASES FOR EXTINGUISHING SYSTEMS AND OTHER FIRE PROTECTION EQUIPMENT under ELECTRICAL SIGNALING**).
- Using automatic sprinkler protection in conjunction with the foam extinguishing system when recommended by the occupancy-specific FM Global Property Loss Prevention Data Sheet.
- Applying this equipment by FM Global insureds to the limitations specified above and FM Global's acceptance of plans prior to installation.

Low Expansion Foam Systems

Low expansion foam agents are an aggregate of gas-filled bubbles, made by mixing air into a water solution containing a foam concentrate. Foam agents are of lower density than flammable and combustible liquids, which allows the foam to float over a burning liquid surface and form a continuous blanket that seals volatile combustible vapors from access to air. Low expansion foam agents have expansion ratios up to 20:1.

Products identified with the **GREEN** symbol have attributes that are considered to be "sustainable" by certain outside organizations. FM Approvals verifies the presence of these attributes. Specific attributes for specific products are listed in the individual listings. To facilitate a search for these products in the Approval Guide, first search by the product type you desire and then refine your search to products with the **GREEN** symbol.

FoamDos

MTK Fire Protection FoamDos Foam Concentrate Proportioners

For use with FM Approved concentrates and their FM Approved discharge devices.

Use of an FM Approved proportioning system with concentrates and discharge devices that are not FM Approved is outside the scope of the proportioning system's Approval.

Positive displacement, water motor-powered, self contained, preassembled proportioning systems. Available for horizontal mounting. Provide preassembled flushing and test piping.

Suitable for use with foam concentrates with viscosities ranging from 1 to 500 centipoise for Newtonian fluids and up to 2500 centipoise for non-Newtonian fluids at 70°F (21°C).

For use in temperatures ranging from 40° to 120°F (5° to 50°C).
Requires atmospheric concentrate storage tank.
Nominal proportioning ratio of 3 percent only.

Systems shall be configured, installed, operated and maintained per MTK Fire Protection Manual as follows:

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Product	Company	Listing Country	Type of Equipment	For Use With				Approved Flow Range		Approved Maximum Operating Pressure		Water Line Connection	Concentrate Line Connection	Finish
				Concentrate Name	Concentrate Percent in Water	Configurations	Approved Fuel Hazards	(gal/min)	(L/min)	(psi)	(bar)			
MFP500-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	26 - 132	100 - 500	232	16	2" ANSI 150# RF Flange or 2" NPT Thread	1" NPT	Aluminum, Stainless Steel, or Al-Bronze
MFP1000-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	53 - 264	200 - 1000	232	16	2 1/2" ANSI 150# Flange or 2 1/2" NPT Thread	1" NPT	Aluminum, Stainless Steel, or Al-Bronze

MFP1600-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	66 - 423	250 - 1600	232	16	4" ANSI 150# RF Flange or 4" NPT Thread	2" NPT	Aluminum, Stainless Steel, or Al-Bronze
MFP2500-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	79 - 660	300 - 2500	232	16	4" ANSI 150# RF Flange	2" NPT	Aluminum, Stainless Steel, or Al-Bronze

Product	Company	Listing Country	Type of Equipment	For Use With				Approved Flow Range		Approved Maximum Operating Pressure		Water Line Connection	Concentrate Line Connection	Finish
				Concentrate Name	Concentrate Percent in Water	Configurations	Approved Fuel Hazards	(gal/min)	(L/min)	(psi)	(bar)			
MFP4000-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	132 - 1057	500 - 4000	232	16	6" ANSI 150# RF Flange	2" NPT	Aluminum, Stainless Steel, or Al-Bronze
MFP6000-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with	Hydrocarbons	158 - 1585	600 - 6000	232	16	8" ANSI 150# RF Flange	2" NPT	Aluminum, Stainless Steel, or Al-Bronze

MFP8000-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	the specific concentrate only. For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	211 - 2114	800 - 8000	232	16	10" ANSI 150# RF Flange	3" NPT	Aluminum, Stainless Steel, or Al-Bronze
MFP10000-3	MTK Fire Protection	Republic of Korea	Water Motor-Powered Positive Displacement Pump Proportioner	Any FM Approved Foam Concentrate within 1-2500 Cp Viscosity only	3%	For use with proportioners specifically tested with this concentrate, pre-mixed solution or Water Motor-Powered Positive Displacement Pumps within acceptable viscosity range only. For use with discharge devices evaluated with the specific concentrate only.	Hydrocarbons	800 - 2642	800 - 10000	232	16	12" ANSI 150# RF Flange	3" NPT	Aluminum, Stainless Steel, or Al-Bronze

Company Name:	MTK Fire Protection
Company Address:	13 Bonggol-gil Opo-eup, Gwangju-si, 464894, Korea, Republic of
Company Website:	http://www.mtk119.com
New/Updated Product Listing:	No
Green Product:	No
Listing Country:	South Korea
Certification Type:	FM Approved