

Foam Fire Extinguishing Systems



Foam extinguishing systems are extinguishing systems whose content is foam liquids and waiting for intervention under a certain pressure.

Foam extinguishing systems that show a very effective function in fires caused by flammable liquids and types of fires caused by fuels, sprinkler can be multiplexed using foam extinguishing systems.

Therefore, foam extinguishing systems are prepared as special automatic systems to protect larger areas from fire.

Foam extinguishing systems are frequently used in helicopter and airplane hangars with high investment value in order to protect against fires that may be caused by all materials and fuels that may ignite.

Foam extinguishing systems, which have a widespread use worldwide, quickly interact with flames.

In addition, the extinguishing capability of these systems is also very high.

Foam extinguishing systems also fulfill the function of protecting the health of the people who intervene in the fire by ensuring that the gases released by the material ignited during the fire are also retained.

Foam extinguishing systems also fulfill a complete extinguishing task, as they have the ability to

hold not only on materials with a horizontal surface, but also on materials that ignite vertically. Therefore, foam extinguishing systems are considered as one of the most capable extinguishing systems and are frequently preferred.

What are the Features of Foam Extinguishing Systems?

The main features of foam extinguishing systems with an effective extinguishing effect are as follows:

- Foam extinguishing systems prevent oxygen and fuel vapor from coming into contact.
- Foam extinguishing systems, which prevent evaporation on the fuel surface, also separate the flame and the fuel surface from each other.
- Foam extinguishing systems help to cool the metal surfaces on or around the fuel surface.

Foam extinguishing systems, which have highly effective tasks, are used to extinguish various fires such as crude oil fires, gasoline fires, gel fuel fires, fuel oil fires, naphtha fires, fires occurring in alcohols, fires occurring in ketones, fires occurring in ethers and fires occurring in esters.

What are the Types of Foam Extinguishing Systems According to Foam Chemical Properties?

Foam extinguishing systems foam is divided into two types according to its chemical properties. One of these types is protein-based systems, while the other is synthetic-based systems.

Protein-based foam extinguishing systems include protein-based (P) foam fluids, fluor protein (FP) foam fluids, film-forming (FFFP) foam fluids and alcohol-resistant film-forming (AR-FFFP) protein-based foam fluids.

On the other hand, synthetic-based foam extinguishing systems include fluent film-forming (AFFF) foam fluids and alcohol-resistant fluent film-forming (AR-AFFF) fluids.

Where are Foam Extinguishing Systems Used?

Foam extinguishing systems are highly effective on the so-called hydrocarbon fires and polar solvents.

Foam extinguishing systems have a wide range of applications.

These systems are generally used in aircraft and helicopter hangars, warehouses, fuel loading or unloading stations, paint factories, chemical production or storage facilities, flammable and flammable liquids storage areas, flammable and flammable liquids filling areas, shipyards, piers, oil refineries, marinas and similar areas.

Foam extinguishing systems affect the flammable surface in a short time and prevent possible large fires due to their instant intervention and rapid control.

Foam extinguishing systems are widely used especially in oil refineries, aircraft and helicopter hangars, shipyards, docks, fuel filling and storage facilities.

In addition, foam extinguishing systems are a system that allows the foam, which has a lower density with the combination of pressurized water and foam and can adhere to both horizontal and vertical surfaces, to cover the flammable area.

At the same time, thanks to these systems, explosive gases are prevented from escaping.

Working Principle of Foam Extinguishing Systems

Foam extinguishing systems The working principle is an issue that should be taken into consideration from the project design phase to the fire intervention and post-fire cleaning phase.

Foam fire extinguishing agents stored in pressurized cylinders during the production phase should be kept ready in the appropriate principle so that they can work pressurized at the time of intervention with post-project assembly.

Periodic maintenance and repairs of these systems should be carried out regularly.

Foam extinguishing systems should work in integration with detection systems.

In addition, these systems also depend on the health of the systems that recognize the fire and the systems that transmit it to the operating center.

For this reason, both regular maintenance and repairs of foam extinguishing systems should be carried out periodically.

Foam extinguishing systems, as a working principle, have qualities that start the system when it is understood that the fire has started, provide intervention for every point and support the fire extinguishing personnel team in every aspect.

Foam extinguishing systems, which require a completely specialized engineering work, are subjected to a professional process.

Foam Extinguishing System Design

Foam extinguishing system designs are made completely in the light of scientific data and hydraulic calculations in accordance with the provisions of the relevant law.

In the design of foam extinguishing systems, the rate at which the chemical contents produced according to demand should be used is determined with a completely professional approach.

It is very important that the chemicals that work during a fire are ready in the fire extinguishing system.

Unlike chemicals in fire extinguishers used in manual interventions, extinguishers of very different densities are used in automatic systems.

Foam extinguishing system Another important consideration in design is the size of the area and the substances to be protected or extinguished.

How Do Foam Fire Extinguishing Systems Work?

Foam fire extinguishing systems work by cutting the contact of air and fuel vapor, separating the fuel surface and the flame, preventing evaporation on the surface or cooling the metal around the fuel surface.

What Are The Types Of Fires Where Foam Is Effective?

Among the types of fires where foam is effective in foam fire extinguishing systems are hydrocarbon fires and polar solvent fires.

What Types of Foam Are There According to the Content of the Foam?

Foam fire extinguishing systems are divided into two types as protein-based and synthetic-based depending on the foam content.

How to Design a Foam Fire Extinguishing System?

Foam fire extinguishing system designs are made together with hydraulic calculations in the light of scientific data and in accordance with the provisions of the relevant law.

What Equipment is Required for Foam Extinguishing Systems?

Foam extinguishing systems require equipment such as various nozzles, foam chamber-foam chamber, foam maker, foam tank and foam monitor.

Foam Sprinkler Systems

In areas where flammable and explosive liquids are present, foam extinguishing systems should be preferred rather than water extinguishing systems.

The reason for this is that water extinguishing systems are insufficient for extinguishing in these areas and do not meet the needs.

Foam fire extinguishing is very effective in extinguishing class B fires.

In other words, foam extinguishing systems are frequently used in extinguishing fires caused by flammable liquids.

Foam fire extinguishing systems are divided into different classes.

One of them, the foam sprinkler system, is among the automatic systems and helps to extinguish the fire as soon as possible.

Features such as their specific usage areas and the ability to intervene in the fire from many points at the same time are among the advantages of foam extinguishing systems.

What are the Fires Suitable for Extinguishing with Foam?

Foam extinguishing systems are used in many types of fires where extinguishing with water is inadequate and dysfunctional.

These systems are integrated into hazardous areas and the danger is reduced.

Fires that are suitable to be extinguished using foam are fires caused by flammable and combustible liquids, usually called Class B fires.

Foam fire extinguishing is preferred especially in fires with no embers and only flames.

Since there are no embers and only flames, these fires are suffocated and neutralized with the help of foam.

Therefore, foam extinguishing can help to get the best efficiency in suitable areas.

Foam extinguishing system is not preferred especially in electrical fires due to the presence of water.

What are the Features of Foam Fire Extinguishing Systems?

Foam fire extinguisher and sprinkler system, thanks to its features, extinguishes the fire quickly by suffocating it.

The general features of the systems are as follows:

1. Unlike water, the density of the foam used is lower than that of the burning liquid. It therefore provides buoyancy, thus creating a tight and hole-free layer.
2. The layer formed by the foam fire extinguishing system prevents oxygen from reaching the flammable and combustible liquid to suffocate the fire.

3. Foam sprinklers can also prevent gas leakage as they suffocate and suppress the fire in this way.
4. The water content in the foam is very high.
This allows the surface of the fuel and the metals that come into contact to cool down quickly. Thus, the fire becomes more controllable thanks to foam fire extinguishing.

In addition to these features, foam fire extinguishing systems, which possess many other characteristics, can be used in all other risky areas, especially in flammable liquid storage facilities. The design of foam fire extinguishing systems should also be carried out by competent personnel in accordance with the specifications.

Foam Sprinkler System Usage Areas

Foam sprinklers are one of the preferred systems in many hazardous areas.

General usage areas of foam sprinkler systems can be listed as follows:

- Aircraft hangars
- Tank sites
- Helicopter hangars
- Pharmaceutical factories
- Paint factories
- Food factories
- Fuel stations
- Tanks with chemical substances
- Flammable and combustible liquid storages

Foam sprinklers are suitable for use in many other areas where flammable and combustible liquids are present and where Class B fires occur.

Foam sprinkler systems have different features depending on the type of system and the type of foam used.

Automatic Foam Sprinkler System

Each automatic foam sprinkler system, which is divided into three as wet pipe, dry pipe and pre-action system, each has a different working principle.

In the wet pipe system, there is continuous water in the installation.

At the moment of fire, water is passed with the help of a proportioner and the foam line is

opened.

Foamy water is obtained with water mixed with foam in a certain ratio.

In dry pipe system, dry alarm valve is preferred at the installation entrance.

Unlike the wet pipe system, the dry alarm valve is kept under pressure with the help of water.

In the pre-action system, there is no mixture of foam and water in the pipes.

Mechanical verification or electricity is required for the water to drain.

It is another type of dry pipe system.

Flood Foam Sprinkler System

The dominant foam sprinkler system sprays the foam into the fire in a very short time.

The dominant foam sprinkler, which is activated by the fire detection system, responds to the fire in a very short time.

These systems ensure that the water is discharged from the sprinkler heads to the entire protected area as a result of the activation of the valve controlling the flow of water.

Aircraft hangars are the most common area of use for these systems.

Protein Based Foam Sprinkler System

RP is also known as foaming liquid.

Protein base suitable for use with dry chemical foam concentrates diluted with 3-6% water to form solutions.

Synthetic Based Foam Sprinkler System

Direct application of synthetic based foams on fire is limited to portable nozzle application.

The most common areas of use are storage areas for flammable and combustible liquids.

Film Forming Foam Sprinkler System

Film-forming foams, also known as FFFP, are diluted with 3-6% water.

FFP, which contains a type of protein that prevents bacterial degradation and stabilizes inhibitors, is used in combination with the dry chemical.

Alcohol Resistant Foam Sprinkler System

AR foam concentrate is used in the range of 3-6% depending on the area to be protected and the type of concentration.

With Tekniku' foam fire extinguishing systems, you can benefit from maximum fire protection and get support from experienced and competent personnel.

Where is a foam fire extinguisher used?

Foam extinguishing systems are generally used in hangars and facilities, especially in flammable and explosive liquid storages.

How does foam put out a fire?

Foam forms a non-perforated layer on the burning surface and suffocates the flame by cutting the fire's contact with oxygen.

It also cools the burning surface and prevents re-ignition by preventing gas leakage.

Foam Fire Cabinet

Fire extinguishing systems are tailor-made for different areas of use and needs around the world.

Although conventional water extinguishing systems stand out as an effective solution in fire intervention, more effective fire extinguishing systems should be preferred when it comes to dangerous substances such as flammable and flammable liquids. **Foam fire extinguishing systems**. It allows a safer and more effective intervention in fires where water-based systems are not sufficient or in fires caused by substances that react when in contact with water.

Tekniku Foam Fire Extinguishing Systems

Tekniku foam fire extinguishing systems meet the criteria and standards required especially in industrial areas.

Hydraulic calculations of foam extinguishing systems imported from Italy, Germany and USA are performed in accordance with TS EN 12845, NFPA11, NFPA16 and NFPA30 standards.

In addition, VdS and FM approved and UL listed software are used for hydraulic calculations.

In this way, extinguishing systems that meet worldwide standards and provide effective protection in areas of use are produced.

Tekniku' wide range of products also includes foam fire cabinets in accordance with NFPA 409 – Standard On Aircraft Hangars, which are specially rated for aircraft and helicopter hangars.

Foam Fire Cabinet Technical Specifications and Usage Areas

Fires caused by the combustion of liquid substances such as thinner, gasoline and alcohol are called Class B fires.

In these fires **water extinguishing systems** is not used.

For the fire to be extinguished, its contact with oxygen must be cut off.

Foam extinguishing systems are used to achieve this.

Foam fire cabinets provide the most effective response to Class B fires caused by flammable liquids.

These products also prevent a possible re-ignition process after the fire is extinguished.

Technical specifications of foam fire cabinets may vary depending on sectors and areas of use.

These technical specifications consist of criteria such as cabinet dimensions, foam tank capacity and hose length.

Tekniku foam fire cabinet products are manufactured to best meet the needs in line with these criteria.

Tekniku also performs routine checks after the service.

Thus, an extra security routine is created against any situation.

In order to avoid any problems during the extinguishing process, it is extremely important that the cabinets and the equipment inside are made of durable and high quality materials.

Foam fire cabinets are manufactured from materials that are resistant to harsh and extreme conditions and comply with standards.

The areas where foam fire cabinets are used can be listed as follows:

- Flammable and explosive liquid tanks
- Aircraft hangars
- Helicopter hangars
- Solid waste facilities
- Tank sites
- Tanks with chemical substances
- Fuel stations
- Pharmaceutical, paint and food factories

What are the Dimensions of Foam Fire Cabinets?

Foam fire cabinet dimensions vary according to different criteria, especially the area of use.

Foam tanks located at the bottom of foam fire cabinets cause this type of fire cabinets to be larger in size as standard.

Dimensions of 1000mm x 750mm x 240mm are widely preferred in the production of foam fire cabinets.

Dimensions also play a decisive role in the price of foam fire cabinets.

Field Type Foam Fire Cabinet Models

Foam fire cabinets are diversified in terms of usage features and areas.

One of them, field-type foam fire cabinets, offers ideal usage features for outdoor and field needs.

With its portable structure, it can be used safely in almost every area.

Field type foam fire cabinets are among the most preferred extinguishing systems by companies in different sectors.

These cabinets are preferred in the outdoor areas of many institutions and organizations from hotels to airports, factories to sites, hospitals to schools.

Field-type foam fire cabinet models can be used safely and effectively in construction sites and similar areas where dangerous fire risks may occur and water extinguishing systems may be

insufficient.

These types of fire cabinets are also extremely practical to install and use.

It is fire resistant, has a special outer coating and has a non-folding hose to prevent possible problems in the extinguishing process.

Due to all these features, the field type foam fire cabinet becomes one of the extremely important elements that should be included in all buildings.

Surface Mounted Fire Cabinet with Foam Mixer

Another one of the foam fire extinguishing cabinets is the surface-mounted fire cabinet with foam mixer.

Surface-mounted fire cabinets with foam mixer are generally used in the interior of buildings. These cabinets are used in the interiors of areas with hydrocarbon fire risk such as parking lots, aircraft hangars, factory interiors, airports, gas stations, various workshops where flammable liquids are used.

Surface-mounted foam fire cabinet models, which are used by mounting on the wall, offer a fast and effective performance against fires thanks to their foam mixer systems.

Special features in the cabinets **foam concentrate** cooling and extinguishing processes in the fastest way.

In this way, these cabinets are in the first place among the preferred fire systems worldwide today.

You can provide professional and effective protection against fire hazards by choosing the Tekniku foam fire extinguishing system that best suits your expectations, needs and area of use. You can benefit from the support Tekniku offers at many stages, from the sales process to after-service technical support, and you can contact us immediately for detailed information.

Foam Concentrate for Fire Fighting



One of the most frequently used and effective agents in fire extinguishing activities is foam concentrate.

Foam concentrate types, which offer suitable solutions for different types of fires, are prepared with chemical materials in the laboratory environment and used in foam fire extinguishing systems.

Although there are many types of foam concentrates, synthetic foam and AFFF foam are among the most preferred ones.

Foam concentrates have been used for many years to extinguish fires caused by certain types of substances and causes.

Since each foam concentrate has a different range of action, it is important to determine the purpose for which the product will be used.

What are the Features of Foam Fire Extinguisher?

The first use of firefighting foams dates back to the 1900s.

The use of mechanical foams was realized approximately 30 years later.

Fire-fighting foam consists of three components: foam, water and air.

Foam solution is obtained by mixing proportioned water and foam concentrate.

The solution passes through foam-forming devices and turns into foam that cuts the fire's contact with the air.

Quality foam fire extinguishers must have certain properties. These features help to get the highest efficiency in fire extinguishing. Fire extinguishing foam properties can be listed as follows in general:

- Fire extinguishing foam should be able to retain water.
- It should be able to show a high level of resistance to high temperatures.
- It must be resistant to fuel.
- It should be able to form a stable cover that does not disintegrate during application.
- It should not pass toxic and flammable vapors and should be able to form a foam blanket with these properties.
- The density of the foam should be fluid enough to cover the surface of the fuel.

How Does Foam Extinguish Fire?

Fire foam has a certain working principle.

Although it may vary according to the types of foam used, the basic working principles are almost the same.

The basic working principle of fire extinguishing foam and the stages of extinguishing the fire are as follows:

- Fire foam forms a liquid foam layer without holes.
At this stage, the foam has a different structure to water.
The density of the foam is lower than the density of the burning liquid.
Thus, it floats and forms a blanket-like layer that cuts off contact with the air.
- The resulting blanket of foam prevents air, i.e. oxygen, which increases the intensity of the fire, from reaching the burning liquid.
In other words, the foam suffocates the fire.
- Suppressing the fire with a layer also helps to prevent gas leakage.
On the contrary, when the gases come into contact with the atmosphere, re-oxygenation can occur and the fire can re-ignite.
- With the high-water content in the fire extinguishing foam, the temperature level of the fuel surface and the surrounding metals decreases rapidly.
In this way, the fire comes to a level that can be taken under control more easily.
- Some types of foam contain a film-forming material.
This material prevents ignition hazards by breaking the ignition chain.

With this working principle, fire extinguishing foams ensure that fires are taken under control.

What are the Types of Foam Used in Fire Extinguishing?

Firefighting foam types are divided into three according to their expansion rates.

Low expansion foams 20, medium expansion foams 200, high expansion foams can expand up to 800 times.

In addition to the expansion capacity, foam types have different options according to their performance and components.

In general, firefighting foam concentrates can be divided into seven basic classes.

Foam types used in fire extinguishing can be listed as follows:

- **Protein Foam Concentrate:** Protein foam concentrate is preferred against hydrocarbon fires.
It stands out with its heat resistance, delayed re-ignition and high stability.
- **Fluor protein Foam Concentrate:** When surface active agents are added to protein foam concentrate, fluor protein foam concentrate is produced.
The difference from protein foam concentrate is its faster flow and downforce.
- **FFFP Foam Concentrate:** FFFP makes an effective film on the surfaces of highly flammable and combustible hydrocarbons.
- **AFFF Foam Concentrate:** AFFF foam concentrate is one of the most widely used foam types.
It can be used against class A fires.
- **Synthetic Foam Concentrates:** Synthetic foam concentrates with good fluidity and high suppressive ability are one of the most frequently used foam types.
They provide high protection for large areas.
In addition to these varieties, foam concentrates are also available in standard type and AR type.

Tekniku foam concentrates varieties prepared according to international standards, allow you to have fire extinguishing systems designed to suit the needs of your space, and professional periodic maintenance ensures maximum safety and performance.

What is AFFF Foam?

One of the most commonly used types of firefighting foam concentrate is AFFF type foam concentrate.

This foam concentrate is produced by combining fluorochemical surfactant, aqueous film

forming foams and synthetic foam builders.

Suitable for use with fresh water and sea water, AFFF type foam spreads very quickly on the surfaces of hydrocarbon fuels and accelerates fire extinguishing.

Forming a cover that does not pass flammable vapors and cooling are among its advantageous features.

What is Synthetic Foam?

Synthetic foam concentrate is produced by combining stabilizers and synthetic based foaming agents.

Synthetic foam, which can be used with medium and high expansion, is known for its good fluidity and suppression capability.

It is not preferred very often in fuel fires due to reasons such as short drainage time and long time to cover the fuel surface.

Synthetic foam provides maximum protection in large areas.

How is Synthetic Fire Extinguishing Foam Made?

Synthetic firefighting foam is produced by a combination of stabilizers and synthetic-based foam builders.

What Are the Types of Fire Extinguishing Foam?

Fire-fighting foam types include protein foam, fluor protein foam, FFFP, AFFF, synthetic foam concentrate, AR-type foam and each of them addresses different areas of use thanks to their different properties.

Foam Monitors in Fire Fighting



Foam monitors are one of the equipment that allows reaching the risky area in the fastest and shortest time in firefighting.

Foam monitors aim to deliver a sufficient amount of extinguisher to the fire area from a safe distance.

At this stage, the size of the foam monitor allows different proportions and amounts of foam to be directed.

Foam monitors, which maximize safety, are also one of the best ways to respond to emergencies.

How to Use Foam Monitors?

Foam monitors can be controlled by an operator, vehicle or engine, as well as automatically.

Foam monitors, which can be separated from each other according to the material they are made of, play an important role in extinguishing fires with their high flow rates and pressures.

This equipment are among the most needed extinguishers, especially in areas where flammable and combustible liquids are stored. Foam extinguishing foam monitors used in places that require foam monitors bring the possibility of manual or automatic intervention to the fire.

Foam monitor types, which help to maximize life safety, have many areas of use.

Ambient conditions must be taken into consideration in the supply of foam monitor types that enable the detection of horizontal and vertical directions of large-capacity agent flows.

After the system installations, launch distances, flow rates and similar technical conditions are determined at the most ideal levels, the correct applications and integrations are made for the area to be used.

In this way, a high level of security can be ensured in all areas where the foam monitor will be used.

What are the Uses of Foam Monitors?

The right amount at the right distance from the fire intervention with foam. The foam monitor aims to reach the fire-affected area within the minimum time frame and extinguish the fire.

These monitors are often used in risky factories and warehouses.

The use of foam monitors is quite common for both the health of employees and property safety.

Foam monitors, which have a wide range of uses from industrial plants to chemical factories, attract attention with their high performance in fire extinguishing.

The most common areas where foam monitors are generally used are as follows:

- Pharmaceutical factories
- Paint factories
- Food factories
- Flammable liquid tanks
- Solid waste facilities
- Generator rooms
- Boiler rooms
- Tank sites
- Engine test chambers
- Engine rooms on ships
- Fuel stations
- Tanks with chemical substances
- Cargo areas
- Industrial plants

- Chemical factories
- Storage areas with shelves
- Cable and installation areas
- Areas of energy production
- Helicopter hangars
- Aircraft hangars
- Solid material storages
- Solid material mills
- Solvent storage areas
- Hydrocarbon storage areas
- Refineries
- Storage areas for flammable gases such as LNG and LPG
- Tankers
- Barges
- Docks and harbors
- Fire Brigades
- Extinguishing ships and boats
- Waste disposal facilities
- Wood industry
- Stockpiles of wood and wood chips

What Are the Types of Foam Monitors?

Foam monitors have a wide range of applications in industry and production facilities, including these areas.

Therefore, this wide usage area has also led to an increase in product diversity.

There are many types of foam monitors according to their purpose and usage.

These products are primarily divided into two as portable monitors and fixed monitors.

Portable monitors have types such as manual control and self-oscillating.

Fixed monitors, on the other hand, stand out with types such as manually controlled, self-oscillating, hydraulically controlled and electrically controlled.

It is necessary to measure the capacity and firing distance in the selection of the types of foam monitors that enable intervention to the risky and affected area as soon as possible from a safe distance.

According to the types of products, the firing ranges are between 30 meters and 120 meters. Determining the area of use is extremely important in the selection of the flow rates of foam monitors, which also have flow rates of 1000 to 50 thousand per minute.

Although figures such as throw range and flow rate vary according to manufacturers, there may be some standardized values for the areas where the products will be used.

What to Consider When Choosing a Foam Monitor?

Since foam monitors are generally used in industrial sites, foam monitors operating in the 1000 to 12 thousand flow range are more frequently preferred in these areas.

Products with these flow rates are ideal options for industrial sites and help to ensure the safety of life and property.

Foam monitors with larger capacities, values and distances are used in extreme situations.

Depending on the intended use of the foam monitors and the hazard group of the site to be used, the nozzle type should be determined.

The nozzles used in these products can have features such as direct jet and fog jet.

Of these options, fog jet is used more frequently because it increases the firing range to a better level.

Especially those that can calibrate the flow rate of fog jet nozzles bring flexibility and can provide more effective use.

Monitors also have configurations such as those that use water and foam at the same time or those that use only water. At this stage, it is very important to determine the method of use and the place of use. In addition to the type and place of use, the type of control to be added to the monitors is also determined by the experts according to the conditions of the area. The products can be set up to be controlled manually or by remote control. Foam monitors that are versatile and have this type of control are used more often in high-risk areas, depending on the requirements.

Tekniku offers a wide range of foam monitors with rotation features such as 360 degree horizontal or 90 degree vertical, EX – PROOF or various other features depending on the project needs.

Along with the monitors, Tekniku also offers platforms and other equipment that enable the monitors to be used.

After measurements are made by Tekniku engineering department consisting of expert engineers, the most suitable foam monitor is determined for the area to be used.

The systems are also fully maintained for a longer life.

You can also take an effective measure against the risk of fire with foam monitors designed by Tekniku, all the support offered by experts you can make full use of it.

High Expansion Foam Extinguishing Systems



Foam generator systems, which mix chemicals and water into foam, provide the opportunity to intervene in fires that start in remote or blind spots thanks to their portable models.

Foam extinguishing systems, which offer effective solutions where general extinguishing systems cannot reach, are produced with a hose assembly that helps the foam to be applied to the fire.

Thus, it is possible to intervene quickly in the fire.

What is a Foam Generator?

Protein or synthetic-based, film-forming and alcohol-resistant foam generator systems are tools that extinguish flammable liquid and fuel fires.

Automatic or manual system different models Available.

What is the Intended Use of Foam Generator Systems?

The purpose of foam generators is to help the foam expand with high expansion foam generators, to cover the inside of the area with foam and to prevent the fire from contacting the air and to extinguish it quickly.

What are the Uses of High Expansion Foam Generators?

High expansion foam systems work on the basis of simultaneous discharge of the foam mixture to the entire application area with the signal from the detection system.

The trigger signal can be of different types such as hydraulic, pneumatic, electrical or mixed.

In this type of systems, there is also a manual intervention station.

There is no fusible connection apparatus or glass pipe at the ends of the foam generator applicators.

In generators using outdoor air, there should be gaps to allow fresh air or a special ventilation system should be designed.

These are not required for systems using in-place air.

High expansion foam generator products can have hydraulically driven or electric motorized fans, while some models can also be preferred in designs where the foam and water mixture is expanded with a sieve.

Fan models work with durable mounting feet.

High expansion foam generators are used in indoor/outdoor facilities where flammable, combustible liquids or gases are stored or processed.

These are as follows:

- Solvent or hydrocarbon storage sites
- Ship engine rooms
- Cargo areas
- Aircraft and helicopter hangars
- LNG storage facilities
- Paint production facilities
- Production areas
- Overflow pools
- Jet engine test facilities

Classification of Fire Extinguishing Foams According to Expansion Rate

The foam concentrations used in the generators are selected according to the type of foam, expansion rate, back-burning time and extinguishing time of the foam and made suitable for the area where it will be used.

Foam concentration ratios ranging from 3% to 6% are divided into three according to the expansion rate of the foam:

- **Low expansion foams:** Expansion ratio 1/1-20/1
- **Medium expansion foams:** Expansion ratio 20/1 – 200/1

- **High expansion foams:** Expansion ratio 200/1-800/1

Foam types are used for different fire scenarios.

Low-expansion foams are applied on the surface of liquids, while medium-expansion ones are ideal for toxic vapors or fumes.

High expansion foams are preferred for three-dimensional fires or liquid spewing fires.

What are the Technical Specifications of Foam Generators?

Foam generator systems should have the following technical specifications:

- The design criteria of the extinguishing system should be made according to the principles specified in NFPA 11A standards.
- The foam tank used in the system, proportioner, generator, valves and foam concentrate. It must be CE certified, designed in accordance with European norms and the latest technology.
- The working pressure of the generator must be in the range of minimum 8, maximum 16 bar and 80m³/min flow rate.
- Systems should be galvanized or stainless steel and nozzles should be brass.
- The foam proportioner of the generator should have a capacity of 1600 lt/min,

What Are the Situations Where Foam Generators are Auxiliary Extinguishing Systems?

Foams in foam generators expand rapidly when they come into contact with air.

Foams, which have the ability to spread over a wider area in the fire zone, can be used for fire intervention in very large areas in terms of volume.

When foam generators are used in places where the fire may grow, they cover the entire area where the flare-up is likely to grow with foam, cutting off the contact of the area with the air.

The long-lasting foam mixture also prevents the fire from re-igniting and spreading.

In many fire incidents, it has been observed that the fire reignites when cooling efforts are started.

In areas where foam generators are used, this possibility is completely eliminated.

High expansion foam systems show effective performance in areas such as fire departments, marinas, civil defense production facilities, chemical production warehouses, generator rooms, storage areas, ports and piers.

Generators are also used as auxiliary extinguishing systems in these areas.

These generators, which are produced in accordance with EU standards, are delivered in accordance with the regulation and control procedures are carried out.

You can determine the most suitable product for your business needs among the foam generator systems offered by Tekniku with experts, and you can secure your business against the risk of fire with safe systems designed in EU standards.

You can also contact Tekniku expert team at any time for any kind of **technical support and service** you can ask for help.