

Foam Bladder Tank



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Welcome to Arka Sanat Pishro

Our dreams is build a new generation of high quality design and development with professional skills and efficiency technology in firefighting and fire alarm systems.

Arka Sanat is specialized in designing, manufacturing and installation Firefighting and Fire Alarm systems. When it comes to fire safety and extinguishing solutions, reliability is essential. Therefore, Arka Sanat exclusively cooperates with internationally acknowledged partners.

Arka Sanat with his brand that name is "Trust" and RK has multiple experiences of consulting and performing in national industries of Oil and Gas, Petrochemical, Refinery, Mining, Municipality, Airport, Fire department, Administrative and Commercial centers.

However Arka Sanat offers a lot more than products and services. By all means, we are involved during the complete project and the final commissioning to finish every project successfully.



Why Choose Us?

Our strong sense of identification with client projects means that we are constantly striving to provide solutions, even for issues they aren't yet aware of. To this end, we adopt a progressive approach to technology and marketing techniques.



This sense of identification also means we value and promote seamless interaction with clients' own teams, and ensure the best value is obtained from their event budget.

We love what we do, some might say a bit too much & we bring enthusiasm and commitment to every project we work on.





Our Best Services

Today, The Arka Sanat provides Fire Safety Systems with integrated solutions for any fire protection challenge.

The Arka Sanat profession focuses on Designing and Construction a wide variety of safety equipment to human health and safety in the workplace. Rely on Arka Sanat to deliver:



Design & Engineering:

Arka Sanat engineering services leverage the cross-functional group of experts at RK to deliver creative, accurate solutions to complicated challenges in a shorter period of time.

Procurement:

Making the details come together is critical to a projects success. Our team works with suppliers to negotiate competitive pricing, delivery expectations, logistics, and administrative details. They also work closely with project management to assure all items are at the site when needed in good condition.



Construction:

Arka Sanat provides predictable and reliable service for firefighting and Fire Alarm Systems. we offer accountability for results. Safety was the driving force behind the decision to start our company, and it remains a crucial factor on every construction project.



About **Our Product**

We are a professional & solid company team who works with passion & skills to provide the best design for business needed.

Arka Sanat Company will provide all parts of Foam System Package with the highest quality, as follows:

- > Vertical Bladder Tank
- ≽ Horizontal Bladder Tank
- ≽ Twin Foam Bladder Tank
- 🃡 Foam Prpotionering
- Bladder or Membraine
- Foam Concentrate

These are manufactured in corrosion resistant material, bronze and brass and are suitable for both onshore and offshore applications.

We can imagine that you still have some question about you own specific sicuation after reading this leaflet. Our callegues will be pleased to help you by making a good chance for your kind of risk, Please contact us:

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It is better to fail in originality than to succeed in imitation

RK Arka Sanat



Bladder Tanks are a component of a balanced pressure proportioning system that includes a pressure-rated tank with an internal elastomeric bladder for foam concentrate storage. Upon system actuation, incoming water applies pressure to the concentrate in the bladder, which supplies pressurized concentrate to the proportioning device. The device meters the foam concentrate into the fire water line, creating foam solution. The solution is then piped to the discharge devices protecting the hazard area.

The bladder tank together with ratio controllers, form a balanced pressure proportioning system used to mix water and firefighting foam concentrate together to produce an effective extinguishing medium.

The bladder tank technology is a dependable and precise mixing method that is widespread in the fixed fire protection market.

This method gives a stable water/foam ratio by adjusting automatically to the variable flow rate and pressure conditions that occur during system operation. This feature makes bladder tanks particularly

suitable to fit multiple hazard systems, sprinkler systems and any other systems operating under variable, non-predictable flow and pressure conditions.

The bladder tank is a carbon steel pressure vessel containing an elastomeric bladder between the water and foam concentrate.

The bladder permits water pressure to be transferred to the foam concentrate without the two fluids mixing together.







Vertical Foam Bladder Tank

The Arka Sanat Vertical Bladder Tank is designed and constructed in accordance with the latest revisions to ASME Code Section VIII, Division 1 for unfired pressure vessels with a maximum allowable working pressure 12.1 barg. and tested to the pressure specified by the applicable codes and standards. Tanks designed to ASME code are tested to at least 15.9 barg.

کد محصول بلدر تانک های عمودی آتشنشانی – تولیدی شرکت آرکا صنعت پیشرو					
توضيحات	وزن کلی (Kg)	مقدار ذخيره سازي فوم آتشنشان	کد محصول بالدی تانک	رديف	
بلدر تانک عمودی	۱۸۶	سارى توم الستانى ۲۰۰ ليتر	RK-BLD-VRT-200	١	
بلدر تائک عمودی	۳۸۵	۶۰۰ ليتر	RK-BLD-VRT-600	۲	
بلدر تانک عمودی	479	۱۰۰۰ لیتر	RK-BLD-VRT-1000	٣	
بلدر تانک عمودی	251	۱۵۰۰ لیتر	RK-BLD-VRT-1500	۴	
بلدر تانک عمودی	۸۲۶	۱۷۵۰ لیتر	RK-BLD-VRT-1750	۵	
بلدر تانک عمودی	٩٠٨	۲۰۰۰ لیتر	RK-BLD-VRT-2000	۶	
بلدر تانک عمودی	1771	۳۰۰۰ لیتر	RK-BLD-VRT-3000	٧	
بلدر تانک عمودی	144.	۳۵۰۰ لیتر	RK-BLD-VRT-3500	٨	
بلدر تانک عمودی	۱۲۰۵	۴۰۰۰ لیتر	RK-BLD-VRT-4000	٩	
بلدر تانک عمودی	1987	۵۰۰۰ لیتر	RK-BLD-VRT-5000	۱۰	
بلدر تانک عمودی	1091	۲۵۰۰ لیتر	RK-BLD-VRT-7500	-11	
بلدر تانک عمودی	5.41	۹۰۰۰ لیتر	RK-BLD-VRT-9000	١٢	







Construction Features:

- Vertical tanks on legs on saddles are provided with ground fixing holes
- > Design pressure: 12 bar or 18 bar and tested according to the applied design code
- Shell and heads in ASME SA-516 Gr.70
- Lockable corrosion resistant brass tank trim/service ball valves
- Inspection flange available on left or right side of horizontal tanks (left as standard)
- > Machine welded circumferential seams for maximum quality and durability
- Welded lifting lugs to facilitate safe handling operations
- > Earth lug for electrical safety
- Safety thermal valve for water side of bladder to prevent slow overpressure and relieve thermal fluctuations
- Equipped with rubber caps to ensure water/foam integrity under constant pressure
- Sight Tube level indicator
- External epoxy zinc rich primer with aliphatic polyurethane finish





Bladder Tank Specification

- > Configuration: Vertical, Horizontal
- Capacity:
 25 to 4000 US Gallons Vertical
 50 to 5250 US Gallons Horizontal
- > Design Code: ASME Bolier and Pressure Vessel
- Standby Pressure Rating: 12.1 bar to 18 bar
- Inspection Flange: Left (Standard)
 Right (required for Horizontal Tanks only)
- > Level Indicator: Sight Tube
- Ratio Controller Size(s): 2", 2.5", 3", 4", 6", 8"
- > Direction of flow: both and Right to left
- > Water Line Piping: Carbon Steel
- > Foam Line Piping: Carbon Steel, Stainless Steel
- > Foam Concentrate Type: AFFF 3%, AR-AFFF 3%, FP 3%
- Concentrate Control Valve: Hydraulic Ball Valve













Horizontal **Bladder Tank**

The Arka Sanat bladder tank is a Steel/Carbon Steel pressure vessel, which stores a foam concentrate within an elastomeric bladder. The concentrate is discharged from the tank by incoming water applying pressure to the bladder. This applied energy is transferred to the concentrate, supplying pressurized concentrate to the proportioner.





@arka.sanat









کد محصول بلدر تانک های افقی آتشنشانی – تولیدی شرکت آرکا صنعت پیشرو					
توضيحات	وزن کلی (Kg)	مقدار ذخیرہ سازی فوم آتشنشانی	کد محصول بلدر تانک	رديف	
بلدر تانک افقی	۳۷۵	۶۰۰ لیتر	RK-BLD-HRZ-600	١	
بلدر تانک افقی	۵۷۰	۱۰۰۰ لیتر	RK-BLD- HRZ-1000	٢	
بلدر تانک افقی	۶۲۰	۱۵۰۰ لیتر	RK-BLD- HRZ-1500	٣	
بلدر تانک افقی	1.0.	۲۰۰۰ لیتر	RK-BLD- HRZ-2000	۴	
بلدر تانک افقی	١٣١٣	۳۰۰۰ لیتر	RK-BLD- HRZ-3000	۵	
بلدر تانک افقی	1411	۴۰۰۰ لیتر	RK-BLD- HRZ-4000	۶	
بلدر تانک افقی	۱۹۷۳	۵۰۰۰ لیتر	RK-BLD- HRZ-5000	٧	
بلدر تانک افقی	TYDY	۷۵۰۰ لیتر	RK-BLD- HRZ-7500	٨	
بلدر تانک افقی	۳۰۹۱	۹۰۰۰ لیتر	RK-BLD- HRZ-9000	٩	
بلدر تانک افقی	3080	۱۱۰۰۰ لیتر	RK-BLD- HRZ-11000	١.	
بلدر تانک افقی	48.1	۱۵۰۰۰ لیتر	RK-BLD- HRZ-15000	11	
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Twin Bladder Tank

A foam bladder tank is basically a large container of foam liquid concentrate containing a membrane made of synthetic material resistant to corrosive foam agents and equipped with a foam proportioner. Depending on where the foam concentrate is contained.

A foam bladder tank may have variable dimensions and consequently different capacities of containment of foam concentrate.



کد محصول بلدر تانک های دوتایی عمودی آتشنشانی – تولیدی شرکت آرکا صنعت پیشرو

توضيحات	وزن کلی (Kg)	مقدار ذخیرہ سازی فوم آتشنشانی	کد محصول بلدر تانک	رديف
بلدر تانک دوتایی (Main & Reserve)	440.	۱۲۰۰۰ لیتر	RK-BLD-TWN-12000	١
بلدر تانک دوتایی (Main & Reserve)	010.	۱۵۰۰۰ لیتر	RK-BLD-TWN-15000	٢
بلدر تانک دوتایی (Main & Reserve)	500	۱۶۰۰۰ لیتر	RK-BLD-TWN-16000	٣
بلدر تانک دوتایی (Main & Reserve)	8.0.	۱۸۰۰۰ لیتر	RK-BLD-TWN-18000	۴







An Overview for Foam Fire Protection

There are many ways to put out a fire. Depending on the situation, a fire protection system can be designed to work with various fire suppression agents. Plain water is commonly used because it is easily available and effective in many cases. However, water is not always the best choice. Other options include inert gases, dry or wet chemical agents, and different types of fire suppressing foam. In this catalogue, we will discuss foam applications.

Appropriate design and maintenance of a foam-based fire protection system requires an understanding of how and why foam is used. Therefore let's first take a look at foam applications in fire protection.

When to use a foam-based fire protection systemfoam:

Foam is typically the fire suppression agent of choice in situations where combustible or flammable liquid is stored in tanks or bulk storage facilities. It is especially effective when the flammable liquid has a surface where the foam can be applied. Unlike water, which is heavier than most flammable liquids and will sink ineffectively to the bottom, fire suppressing foam is lighter and will rise to the top. There, it creates a blanket on the surface, reducing vapor formation, preventing oxygen from reaching the combustible liquid and effectively smothering the potential fire.

High expansion foam can also be used to extinguish a fire in a contained space. When used in a railway tunnel, aircraft hangar or other defined space, foam is effective at quickly filling an area and smothering the flames.

Finally, foam also has a cooling effect like water as the foam solution consists mostly of water (~ 97%).

When NOT to use foam for fire protection!

Foam is not recommended in the following scenarios:

- Electrical fire: Where high voltage electricity is involved, the use of foam is highly dangerous. Foam contains water, which is an electrical conductor. Therefore, the risk of electrocution is high. However, it is possible to use foam on an electrical fire if the electricity is first disconnected.
- 3-Dimensional fires: Foam works best when it can form a blanket or barrier between flammable liquid and air. If a fire is spread out in three dimensional space the foam can't smother it effectively.
- Pressurized gases: NPG, LPG, and other fuels which are gaseous at atmospheric temperature and must be pressurized and liquefied to store are typically not appropriate candidates for foambased fire protection. These substances are very volatile and can release a large volume of vapors.
- Burning metals: When water or water-based substances are applied to some burning metals, it can form a chemical reaction that releases a lot of heat. It can actually explode like fireworks and create a very dangerous situation.



Where is the foam fire extinguisher used?

Sparkling fire extinguishing; hydrocarbon fires and the above fire types called Polar Solvents, Foam extinguishing systems, which are widely used in aircraft and helicopter hangars, in warehouses, in stations where fuel is loaded or unloaded, in paint making facilities, in chemical producing or storing facilities, in storage areas of flammable and combustible fluids, in filling areas in flammable and combustible liquids, in shipyards, in oil refineries, it is preferred in similar areas. Due to its ability to handle immediate intervention and control quickly, it acts in a short time on the flammable surface and avoids possible major fires.

Foam has a lower density and can be adhered to both the horizontal and vertical surfaces by the combination of the foam with the pressurized water. Foam extinguishing systems also prevent explosive gases from escaping at the same time.

Areas of use for foam extinguishing systems include for example:

- Aircraft maintenance halls
- Helicopter landing pads
- Offshore platforms and ships
- Pipeline pumping stations
- Logistics halls with a high percentage of plastic
- Mineral oil tanks including the collection containers
- > Transporting stations for mineral oils and much more

- Chemical industry
- Refineries
- Petrochemical Plant
- Power plants
- Waste incineration plants
- Tyre warehouses
- Coal silos



Proportioning Equipment

Foam proportioning equipment is a crucial element of foam firefighting system as it ensures the correct mixing ratio of foam concentrate to water. Arka foam proportioning systems consist of various products including foam bladder tank proportioners, foam inline inductors, foam ratio controllers and inline balance pressure proportioners.

Common to all fixed foam fire fighting systems is the need for a suitable induction/proportioning system to mix a pre-determined amount of foam concentrate with the fire mains water to produce a foam solution. The foam solution is then supplied through the fire system pipework to a finished foam generator or other delivery device.

The selection of the correct proportioning system is of paramount importance to ensure foam is delivered at the required application rate to extinguish the fire.

In most cases a foam induction/proportioning system will consist of one of the following types:

- Inline inductors
- Bladder tank Proportioner
- Foam Dosing Pump









Type of Foam Concentrate

Fire suppression foam is comprised of three parts: foam concentrate, water, and air. When mixed correctly, these parts form a homogeneous foam blanket that extinguishes flames by the combined mechanisms of cooling, separating the flame source from the product surface, suppressing vapors, and smothering. This makes foam suppression systems an effective option for protecting flammable and combustible liquids.

- P foam is a protein foam: Produced from a carefully controlled blend of hydrolised protein, foam boosters, stabilizers & preservatives. This ensures the production of stabilized fluid foam. This type of foam should be used as proportioned solution in fresh or sea water.
- > FP is a flouroprotein foam concentrate containing fluorinated surfactant in a carefully formulate protein foam liquid.
- AFFF is an aqueous film forming concentrate consisting of fluorocarbon & hydrocarbon surfactants with various solvent, preservatives & stabilizers. The foam forms an aqueous film that rapidly cuts of the oxygen supply & thus knocks down the fire.
- > FFFP is a film forming fluoroprotein foam concentrate containing hydrolyzed protein & preservatives, together with a blend of fluorinated surfactants to achieve the maximum synergistic effect.
- Alcohol Resistance (ARC) is a high efficiency multi purpose film forming foam. The main advantage of ARC is the better induction ratio on all class B fires, also polar solvent.



"A satisfied customer is the best business strategy of all"



Every client is unique, every situation is different. Practices turn to Arka Sanat for lots of reasons. But, in most cases, it distills down to a single word: Trust.

- > Trust in our experience.
- > Trust in our solutions.
- > Trust in our results.

Contact Us

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