COBRA FIRE

CAFs Units

Compressed Air Foam Systems (CAFS) EXPLAINED

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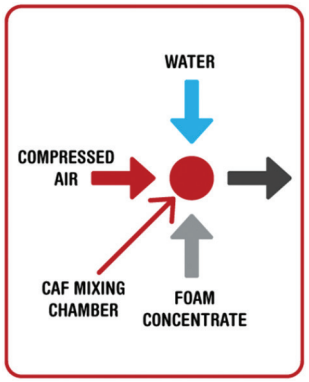
CAF Systems Explained



All CAFS work off the principle of combining a foam solution with compressed air. A mixing chamber is required to achieve the necessary bubble structure which plays a pivotal role in the effectiveness of managing fires. Foam may be introduced either at or before the mixing chamber.

The foam type, foam proportion (% of foam in water), expansion ratio (ratio of foam solution to air) may be adjusted to suit particular applications and are specified by the foam manufacturer.

Foam Types

There is a large range of foam types available, some of higher quality than others, suited to combat particular classes, firefighting equipment, and systems.

The foam concentration and expansion are specified by the manufacturer depending on the type of firefighting application and CAFS unit capabilities.

CAFS over plain water

Fire Fighting Foam

The introduction of foam into the water stream reduces the water tension, thereby increasing the solution's wettability. This in effect increases the fire fighting capability compared to plain water, as the solution penetrates further thereby separating fuel and oxygen. The foam also prepares the solution for expansion.

Foam Expansion

Expanding the foam concentrate increases the overall volume of the fluid stream resulting in up to **10 times** the coverage area compared to the equivalent plain water. Besides separating the oxygen and fuel, the expanded foam solution insulates surfaces from heat for longer periods. What's more, the foam's ability to cling to sloped and vertical surfaces is an added advantage over water-only equipment.

Dry vs Wet Foam

The resultant stream of expanded foam can be classified to varying degrees as dry or wet. The CAFS equipment and foam determine the degree of foam "dryness" and should be suited to the particular firefighting application.

What are the benefits of CAFS?

Greater initial fire attack capability
CAFS ability to reduce the knockdown time allows firefighters a better chance of gaining control of fires. This also results in an overall reduction of resources and time.

Reduced water usage
By expanding the foam, smaller water volumes are required. This means CAFS is perfectly suited for mobile applications where water volume is limited by maximum vehicle payloads and space limitations. Mobile CAFS units are also nimbler allowing firefighters to be better positioned to fight fires.

CAFS reduces the safety risk for firefighters
Quicker fire knockdowns means firefighters are less exposed to fires and less prone to fatigue.

Reduced steam and smoke
CAFS generate minimal smoke and stream, increasing the interior visibility, and further reducing the risk to firefighters.

Reduction in personnel
The increased effectiveness and reduction in final stream density means that hoses are easier to handle and fewer personnel are needed to effectively engage fires.

CAFS reduces property damage
Water damage can account for as much as 90% of insurance claim costs after a fire. Since less water is used, CAFS is often a favourable option.

Reduced air and water pollution
A lower environmental impact is an additional added benefit of the system, especially as clean water becomes such a valuable resource.