CAFS

Compressed air foam systems

Powerful, simple, and safe extinguishing systems for universal fire fighting.
Powerful CAFS firefighting equipment.


Production of CAF foam

CAFS stands for Compressed Air Foam System and is a system for the production of high-quality CAF (Compressed Air Foam), which is used to fight solid and liquid fires.

In the production of CAF, the same three components are required (water, foam compound and air) as in the generation of conventional fire fighting foam. The crucial difference lies in the foam expansion of the water-foam compound mixture, which in the CAFS system does not take place passively through the injector principle on the nozzle, but rather actively in a mixing chamber in the system by means of compressed air.

Due to this active foam expansion, the resulting CAF foam has a more homogeneous foam structure as well as a much higher energy content in comparison with conventional fire fighting foam.

Mode of action of CAFS foam

During active foam expansion, a single water drop is distributed across multiple foam bubbles, which results in a larger surface area for heat absorption. Furthermore, the CAF foam sticks to the flammable material thanks to its homogeneous structure and thus enables continuous heat absorption. As a result, a large part of the water bound in the CAF is able to evaporate, thus providing maximum cooling at the seat of the fire.

The oxygen is displaced from the flammable material through evaporation of the water. Additionally, a natural separating layer is created between the flammable material and the oxygen as a result of the CAF foam. Thus the oxygen supply to the seat of the fire is interrupted in the best possible way.

Due to the high kinetic energy of the CAF foam and the reduction of surface tension through the added foam compound, water can penetrate deeper into the flammable material and thus soak in better.

- Suffocation by displacement of oxygen
- Cooling by evaporation of fire fighting water
- Suffocation by separating the reaction partners
- Reduction through penetration of the flammable material
Properties of CAFS foam

Excellent throw range as well as superb throw height due to the increased energy value of the CAF foam.

Excellent adhesion of the CAF foam to smooth and vertical surfaces as well as first-class foam stability due to the fine and homogeneous foam structure.

Advantages of CAFS firefighting equipment

- Suitable for direct fire fighting of solid and liquid fire as well as preventative protection of objects at risk of fire through the application of CAF foam
- Fast extinguishing result as well as excellent burn-back safety through extensive and highly efficient effect of the CAF foam
- Minimum fire damage through immediate suppression of the flames as well as low water damage through complete evaporation of the water bound in the CAF foam
- Simple extinguishing procedure that saves extinguishing agent due to the CAF sticking to the flammable object and evaporating on the still hot surface
- Excellent discharge distance and height due to the hoses filled with CAF foam
- Large safety distance between operator and flammable object as well as fire fighting of fire in inaccessible places due to the excellent throw range and throw height of the CAF foam
- Highest mobility for the nozzle operator due to the hoses being filled with CAF foam, making them especially light
- Better extinguishing agent capacity for same volume of water due to active foam expansion
CAFS MOBILE

For retrofitting.

If an existing fire fighting vehicle with a built-in pump and foam proportioning system is to be supplemented with the powerful CAFS firefighting equipment, then CAFS MOBILE is the best system for your fire fighting vehicle.

Advantages of CAFS MOBILE

- Easy to retrofit due to functionality being independent of external energy sources (engine or power unit) and technical systems (built-in pump, foam proportioning system, or compressor) and due to low space requirement
- Quick and easy to put into operation by coupling the hoses, turning open the compressed air bottle valve, and opening the shut-off elements
- Manual adjustment of the proportioning ratio between wet and dry CAF foam
- User-friendly commissioning by filling the compressed air bottles via the external filling connector

1 Water-foam compound mixture from the fire fighting vehicle
2 Compressed air supply via compressed air bottles
3 Active foam expansion via compressed air in the CAFS mixing chamber
4 CAF foam from the CAFS MOBILE
The perfect addition for your fire fighting.
The COMPACT CAFS 200-1200 as well as the CONTI CAFS 400-2400 are comprehensively certified compressed air foam systems for integration in fire-fighting vehicles. Due to the individual configurability and compact design it can be optimally adapted to the fire-fighting strategies and vehicle sided requirements. In addition, they impress with an intuitive one-button operation, an on and off switchable compressor, an adjustable pump pressure and full-fledged CAFS outlets.

The all-rounder of compressed air foam.
Advantages of the COMPACT CAFS 200-1200 and CONTI CAFS 400-2400:

- Individual configurability by selection of any built-in pump, foam proportioning system and CAFS classification
- Compact design by integrating the belt-driven compressor and the CAFS mixing chambers (only with COMPACT CAFS 200-1200) into the pump unit and the around the pump foam proportioning system mounted on the normal pressure pump
- Comprehensive certification for the use of fire in the field of electrical systems and approval according to the European standard and the international standard for compressed air foam systems EN 16327 and ISO 7076-6
- Activation of the completely deactivated CAFS system with a single button press
- Compressor only runs in CAFS mode and shuts off automatically in the case of impending overheating without interrupting the water flow
- Adjustable pump pressure between 5 bar and 10 bar depending on the required hose length and throw range
- Full-featured CAFS pressure outlets also allow operation with water or water-foam mixture

1 Water via built-in pump
2 Foam compound via foam proportioning system
3 Compressed air supply via compressor or compressed air bottles (only by CONTI CAFS 400-2400)
4 Active foam expansion by means of compressed air in the CAFS mixing chamber
5 CAF foam via discharge outlet
6 CAF-foam via turret (only by CONTI CAFS 400-2400)
SKY CAFS

For high-rise fires.

If you need to discharge extinguishing agent several hundred meters in the air for a high-rise fire while still maintaining full fire fighting performance, then the SKY CAFS specially designed for discharge at height with the powerful CAFS firefighting equipment is the optimum extinguishing system for your fire fighting vehicle.

Advantages of SKY CAFS

- Unique discharge height of up to 400 meters
- Use of any built-in pump as well as the powerful DIGIMATIC direct injection foam proportioning system
- Individual selection from a large range of the most varied of systems for compressed air generation
- User-friendly operation via LCS (Logic Control System) as well as quick and easy starting of CAFS operation by actuating three buttons

1. Water via built-in pump
2. Foam compound via foam proportioning system
3. Compressed air supply via compressor
4. Active foam expansion by means of compressed air in the CAFS mixing chamber
5. CAF foam via discharge outlet
Can be used in 99% of all existing high-rise buildings worldwide.
Production of up to 64,000 liters of CAF foam per minute.
FLASH CAFS 30-400

For turret operations.

If very large amounts of foam have to be discharged within the shortest period of time via a turret and a large area must be covered in the process, then the FLASH CAFS 30-400 with the powerful CAFS fire fighting equipment specially designed for turret use and the most varied of turrets by Rosenbauer is the optimum system for your fire fighting vehicle.

Advantages of the FLASH CAFS 30-400

- Use of any built-in pump as well as foam premixing or direct injection foam proportioning system
- Up to approx. 20 % larger throw ranges and heights than with conventional compressed air foam processes
- Excellent throw range even with monitor adjustment angle of up to approx. 10°
- Higher accuracy and better visual conditions than with conventional compressed air foam processes
- User-friendly commissioning by filling the compressed air bottles via the external filling connector

1. Water via built-in pump
2. Foam compound via foam proportioning system
3. Compressed air supply via compressed air bottles
4. Active foam expansion by means of compressed air in the CAFS mixing chamber
5. CAF foam via turret
## Technical data

### CAFS MOBILE

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<td>approx. 800 l/min</td>
<td>approx. 1,600 l/min</td>
<td>approx. 2,400 l/min</td>
<td>approx. 3,200 l/min</td>
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### CONTI CAFS

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### FLASH CAFS

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<td>approx. 20,000 l/min</td>
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* For a standard compressed air foam system according to EN 16327 and ISO 7076-6 the direct injection foam proportioning system DIGIMATIC 42 is required.