STATE-OF-THE-ART MOBILE FIRE FIGHTING TECHNOLOGY FOR THE 21ST CENTURY.

FAST. EFFECTIVE. SAFE.

one seven®

FLEXIBLE THINKING FOR MOBILE MARKETS

One Seven started developing mobile systems in the mid 1990s, many years before Compressed Air Foam Systems (CAFS) were officially recognized by the NFPA, giving One Seven a clear advantage in research, know-how and system competence. Since 2010 Compressed Air Foam is an integral part of the NFPA 11 Standard, where it forms a separate category alongside the conventional low, medium and high expansion foams.

Known for its superior performance, fire fighting efficiency and universal applicability, One Seven has been delivering their mobile technology to multiple fire departments across all continets.

ONE SEVEN ADVANTAGES:

- Pre-engineered microscopic foam quality with high performance
- Always the same foam quality at a push of a button
- Fast fire suppression by quadruple One Seven effect
- Efficient operation with low water consumption
- Added safety for fire crews by quicker knock-down and reduced physical stress
- Environmentally friendly by drastic reduction of contaminated run-off and toxic smoke

Staying ahead of the industry, One Seven is continuously engaged in researching and further developing the CAF technology, manufacturing state-of-the-art mobile systems, on which it holds several international patents and record-breaking achievements.

With its unrivalled expertise and a flawless track record, One Seven provides custom-engineered, high-performance mobile solutions for following areas of use:

- Municipal fire departments
- Industrial fire departments
- Wild land fire departments
- Airport fire departments

One Seven mobile systems are available in two versions, built-in (in a fire appliance) or portable, with a large variety of models to fit any purpose and application. Our mobile systems are not limited to the foam-creating hardware, but rather complete solutions complemented by original One Seven accessories and supplies, such as optimized foam concentrates, nozzles, hoses and a qualified training program.

ONE SEVEN FOAM FIGHTS VARIOUS KINDS OF FIRES SUCH AS:

- Structural fires
- Hydrocarbon fires
- Polar solvent fires
- Plastic material fires
- Metal fires
- Electrical fires of up to 100 kV

ONE SEVEN® ACADEMY

One Seven can be used by every trained fire fighter with comparable efficiency as water applying standard tactics and procedures. However experience has shown that optimal results can be reached when certain modifications in tactics and nozzle handling are applied. To standardize the training with the One Seven System the One Seven Academy was established. It offers various levels of instructor classes and train-the-trainer programs.
Details can be found under:
WWW.ONESEVENACADEMY.COM

ONE SEVEN – THE FOAM GENERATION TECHNOLOGY

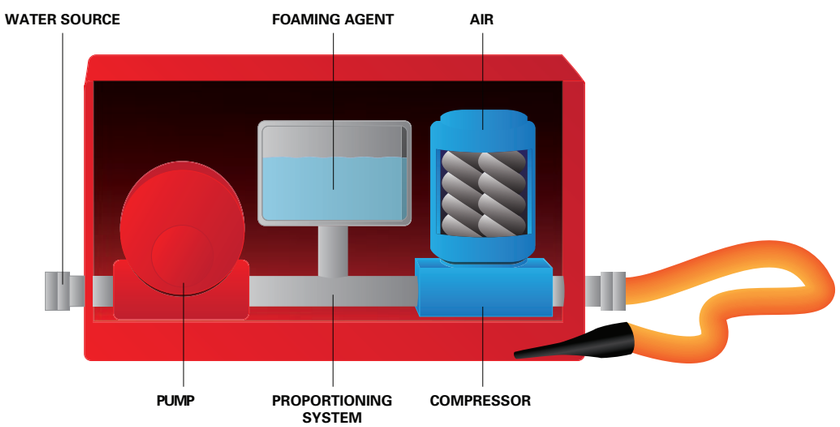
One Seven foam is a highly advanced extinguishing agent. Using the purpose-built One Seven foam generator each drop of water is transformed into 7 foam bubbles by adding the unique One Seven foam concentrate along with compressed air. The superior efficiency of One Seven foam results from the properties of these bubbles. The foam adheres to all surfaces at the fire scene, resulting in a multitude of effects.

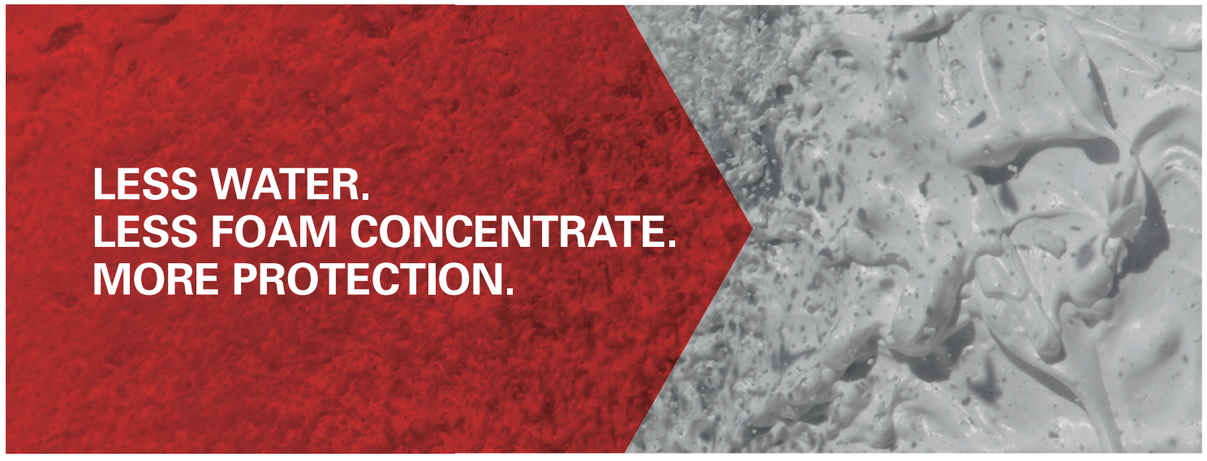
One Seven has been developing their unique, highly effective and patented foam technology for more than 20 years.

The result is a reliable state-of-the-art system, which consists of a series of propriety components: centrifugal pump, foam proportioner, compressor, the One Seven foam generator with mixing chamber and the mixing pressure control valve. These parts are fine-tuned to function in perfect harmony with the One Seven foam concentrate guaranteeing an ideal extinguishing performance.

Controlled by an innovative measuring and regulation technology, the need for manual adjustments by the operator belongs to the past. Since 1996 One Seven features a simple one-touch-operation to control the unit safely and easily, even under stressful conditions.

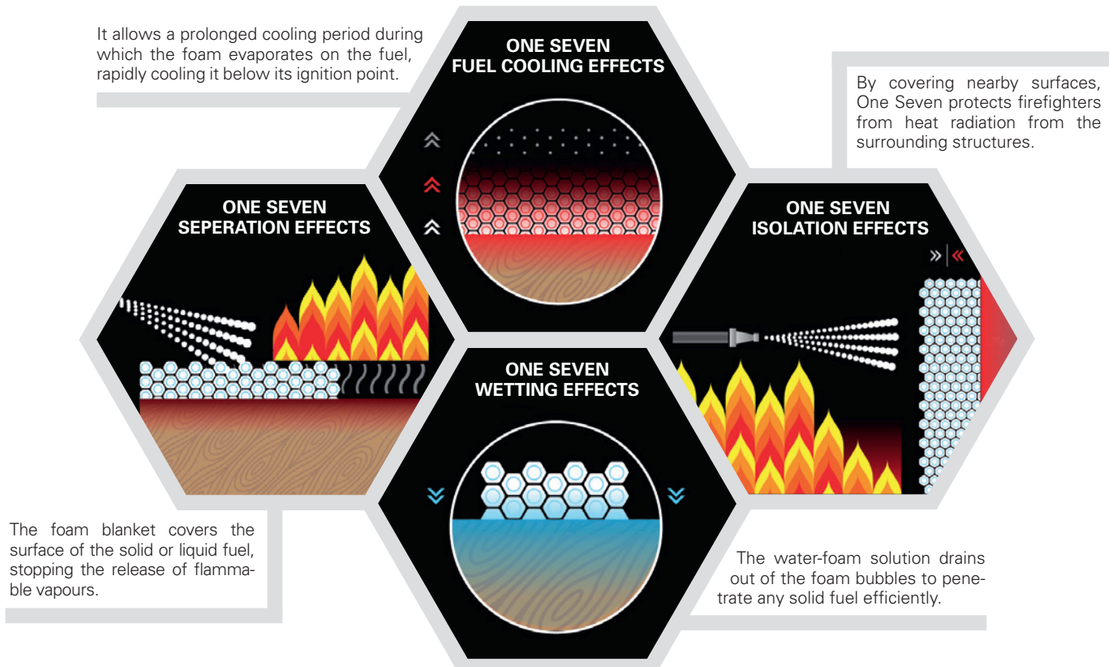
BASIC PRINCIPLE CAFS





ONE SEVEN FOAM EFFECTIVENESS

The unique properties of One Seven foam produce a staggering 90% utilization of the water, compared to a mere 5–10% with conventional fire fighting methods. The foam's effectiveness results in a fast fire reduction and drastically lowered property damage, because less water usage prevents excessive water damage and facilitates cleanup. Of course, this also means highly increased safety for fire fighting crews, which is one of the most important aspects on any fire scene. One Seven foam can achieve extremely large throwing distances, penetrating deeply into fire scene to reach the fuel source resulting in the following effects.



To sum up, One Seven is proud to offer complete solutions based around its unique foam extinguishing agent for maximum speed, effectiveness, safety and environmental sustainability.

THE DIFFERENT ONE SEVEN FOAM CONCENTRATES

The One Seven technology generates entirely unique types of "synthetic" foams, which differ significantly from conventional compressed air foam. While meeting the standard rating for the typical fire classes A and B, the exceptional composition and high performance of One Seven foam is made possible through optimal interaction of the One Seven foam generation system and the One Seven foam concentrate's chemical properties. This fine balance ensures that the fire fighting efficiency of the foam blanket is always met at the right proportioning rates.

One Seven class A foam concentrate is optimized for highly increased wetting power by allowing greater penetration into all Class A fuels. It is utilized at the astonishingly low proportioning rate of only 0.3%. The product is fluorine free and fully biologically degradable.

One Seven class B (AFFF) aqueous film-forming fluorinated foam is used at a low proportioning rate of 0.5%. The foam spreads quickly across the surface of hydrocarbon-based liquids to form a strong and cohesive foam blanket to extinguish fire and suppress fuel vapor. It is approved in Europe (performance class I/B acc. EN 1568-3), in the US (FM 5130) and according to ICAO level B.

One Seven class B-AR (AFFF) alcohol-resistant foam follows the same principle at a proportioning rate of 0.6%, maintaining a strong foam layer even on alcohol-based fires. It is approved in Europe (performance class I/B acc. EN 1568-3 and EN 1568-4).

One Seven class B (FF) fluorine-free foam concentrate is the only fluorine free foam on the market which is not based on polymers but reaches a european approval for indirect and direct application (performance class I/B acc. EN 1568-3). Two concentrates are available. One with 0.5% proportioning rate and one with 1.0% proportioning rate.

- **Optimized for the use on CAFs**
- **Superior fire suppression capabilities**
- **Very low proportioning rates**
- **Very low eco-tox risks**
- **Excellent bio-degradebility**
- **Long shelf life of 25 years**

All One Seven foam products are designed with human safety and environmental friendliness in mind, as they should not present harm when in contact with skin and/or eyes. In particular the Class B (FF) concentrates present a new generation of fire fighting foams, containing no fluorinated products, yet without any loss of performance.

- **Increased fire fighters safety due to more effective attack characteristics of One Seven foam and gear**
- **High-rise capability of up to 400 m, use of dry-risers possible if available**
- **Faster response times due to compact size and higher agility of One Seven mobile equipment with superior attack performance**
- **Universally applicable on municipal fires, thanks to One Seven foam versatility**
- **Reduced property destruction, resulting in fewer consequential damages, rental income loss, insurance claims**

ONE SEVEN MUNICIPAL APPLICATION

The One Seven technology offers a wide range of applications against all types of municipal fires, such as structure fires, both exterior and interior, car fires and dumpster fires.

Municipal fires present the highest risk for life and safety due to dense population, as well as the danger of property loss. Property damages caused by the fire and the water used during extinguishing may result in buildings being sealed off by the authorities, which in turn leads to reduced rental income for property owners. Hence, municipalities require a rapidly deployable and effective mobile solution to instantaneously contain any fire, especially where stationary systems do not exist or are insufficient.

The One Seven system offers efficient loss prevention, due rapid knock-down of fires and low water damage.

One Seven systems are easy to operate and offer increased safety for the fire crew, especially during interior attacks.

In addition to a more effective use of the fire truck's water tank, the low water consumption of the One Seven system results in extended attack times and steady knock-down.

Use of One Seven on car fire. Less than 100 L water consumption, no contaminated run-off in municipal sewer system.

One Seven "spray paint" structural cooling allows quicker and safer approach to the fire than conventional and inefficient "gas-cooling".

One Seven exterior attack on fully developed, post flash over building fire.

Exposure protection by One Seven "dry foam".

No or low water damage after use of One Seven on interior fires.

The One Seven "High Rise" features supply hights of up to 400 m from the ground.

ONE SEVEN'S FIRE SUPPRESSION PROPERTIES, LOW APPLICATION RATES AND ITS HIGH EFFICIENCY MAKE IT A FAR SUPERIOR ALTERNATIVE TO CONVENTIONAL SYSTEMS IN INDUSTRIAL USE.

ONE SEVEN INDUSTRIAL APPLICATION

One Seven technology has been successfully deployed in various industrial sectors due to its flexibility and its outstanding fire suppression properties, especially where large areas have to be covered or sensitive equipment is involved. One Seven mobile systems can be employed in the following industries:

- Chemical
- Petrochemical
- Automotive
- Waste Management
- Powerplant

Furthermore, the One Seven system can be used safely on electrical equipment even in short distances, and also supresses metal fires (Aluminum, Magnesium, Zirconium).

- Optimized protection of strategic assets
- Maximized usage of limited resources
- Low proportioning rates resulting in low foam concentrate consumption
- Reduced logistic efforts
- Low application rates
- Low equipment maintenance cost

For industrial-size mobile application, a combination of mobile One Seven systems and FM-approved stationary systems are offering optimal protection of industrial sites.

ARFF (AIRCRAFT RESCUE AND FIREFIGHTING)

With a projected annual growth rate of 5% in air traffic for the next decade, the airports will be experiencing increased demands for passenger safety, especially as many of the big transport hubs are becoming more and more congested with flights. Fast response and effective fire suppression is paramount in protecting travelers' lives, hence One Seven mobile systems can be integrated into an airport fire truck or tender, making use of its main advantages:

- ICAO certified performance
- Highly effective on hydrocarbon fires
- Very low application rate: 1.63L /min/m² in accordance with the NFPA 11
- Longer suppression duration with same size of vehicle
- Similar suppression duration with smaller and less expensive vehicle
- Low consumption of foam concentrate: proportioning rate of 0.5%
- Lower storage cost of foam concentrate

ONE SEVEN FORESTRY APPLICATION

Every year severe forestry fires at Wildland-Urban Interface (WUI) communities around the globe, especially near metropolitan centers, claim lives and cause immense suffering and property damage.

As WUI populations expand and climate extremes bring more droughts, these hazards will increase and urgently require new and more efficient technologies. One Seven mobile systems meet all the right criteria and are highly advantageous when battling forest fires:

- **Highly efficient use of water and low foam concentrate consumption result in increased operation time**
- **Compact-sized system can be mounted on smaller and specialized vehicles**
- **Efficient exposure protection from "Amber Storm" ignition during WUI fires by special "Exposure Protection Foam"**
- **Efficient wetting of fuel due to excellent wetting power of One Seven foam**

AVAILABLE ONE SEVEN MOBILE SYSTEMS

One Seven supplies the appropriate system for any range of applications. There are three main types of system available, their size and capacity can be adjusted as per the client's requirements. Flow rates range from small hand line outlets with 300 litres per minute to huge monitors with 13,000 litres per minute.

- Built-in systems for new fire fighting vehicles
- Retrofit systems for existing fire fighting vehicles
- Standalone systems for flexible application and easy portability

One Seven built-in systems are driven by the vehicle engine and based on a modular design for easy integration. They offer highest reliability at very low maintenance needs, ensuring flawless functionality of the One Seven technology at all times. Installation is possible in any type and brand of fire fighting vehicle. All system functions can be controlled via the One Seven control panel, which is either integrated into the vehicle pump control panel or installed at a separate location. The built-in systems are designed and manufactured with the latest technology and to the highest quality standards. By using an innovative CAN bus technology the PLC control unit monitors and operates all electrical devices of the One Seven system and communicates directly with the vehicle chassis and pump. This results in the most easy and safest possible operation offered in the whole CAFS market featuring a true "one-touch-operation" where the system handles all operations fully automatic and prevents operating errors.

Retrofit system feature a gasoline engine to drive the compressor of the One Seven system as the integration of the compressor into existing trucks might cause several major changes of the vehicle and body work.

Standalone systems are self-contained for independent operation without the need for a dedicated fire fighting vehicle. They can be easily stowed away and transported using any type of vehicle or trailer. Standalone systems can feature engine driven solutions or pneumatically driven (stored energy) solutions. They are also available in various designs and sizes. The self-contained, compressed-air-driven compact system OS-300-TZ can even be operated in areas with explosion hazard. It is furthermore suitable for utilization in small RIV, rescue trucks or multipurpose vehicles.

The OS-1000-T "Powerbox" is a mobile, standalone fire suppression system designed to fit the dimensions and weight restrictions of a typical 8/8 fire engine with portable pump in accordance to the German Standard. The OS-800-T and the OS-900-T are standalone systems specially geared towards forest fires and conflagrations.

ONE SEVEN ACCESSORIES

Compressed air foam is not water. It has its own flow-regimes and physical rules, which need to be observed in order to discharge the optimum extinguishing agent. One Seven has perfected the art of "Flow Engineering", requiring a harmonious interplay of liquid water and compressed air in all components connected to the mobile systems. Only this ensures the most efficient use of the technology and consistent foam quality. Therefore a variety of suitable accessories matching the performance of the foam generation systems are available only from One Seven.

Those devices have been designed under consideration of the physical rules of compressed-air-foam. For optimal knock-down capacity in any situation, One Seven provides portable fire fighting equipment, such as nozzles, nozzle flaps, foam pikes, hoses and monitors. One Seven nozzles are designed to have just the right intake pressure, assuring an optimal One Seven foam quality, as well as easy and flawless operation.

one seven®

www.oneseven.com