

Innovative Solutions for Firefighting

The IFEX Presentation

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Quantum Fire Solutions LLC dba IFEX

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INTRODUCING THE IFEX IMPULSE FIRE EXTINGUISHING SYSTEM – A REVOLUTIONARY APPROACH TO MODERN FIREFIGHTING!

Quantum Fire Solutions LLC (QFS) is the exclusive distributor of a well-known German product, Impulse Fire Extinguisher (IFEX), in the United States. This modern and ecologically sound firefighting solution has been successfully implemented throughout the world over the past two decades, earning a reputation for reliability and efficiency. We are excited to introduce this unique technology to the American market.



OUR MISSION AND VISION

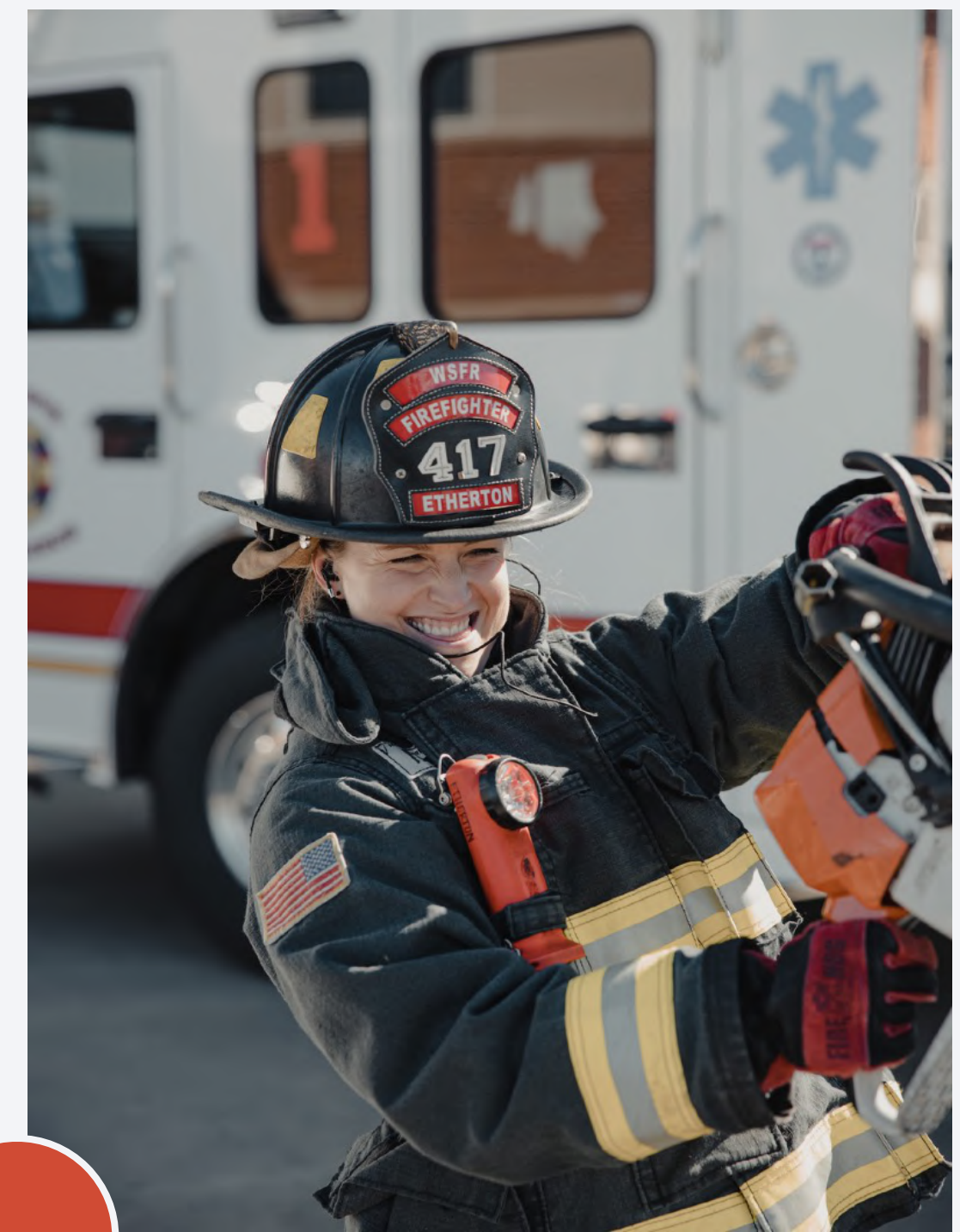
Our Mission is to help save lives, protect the environment and property.

Our Vision is to become a standard-setter in a fire fighting industry nationwide.

The IFEX Firefighting Systems are state-of-the-art, high-performance firefighting tools designed to tackle various types of fires with unmatched speed, precision, and efficiency. Combining the latest in firefighting technology with a user-friendly design, the IFEX Systems are the ideal choice for both professional and volunteer firefighters.

OUR VALUES

- Safety: Ensuring the safety of customers, firefighters, and emergency responders is the top priority for our company. By providing reliable, high-quality products that are designed to meet or exceed industry standards, the company demonstrates its commitment to protecting lives and property.
- Innovation: We strive to develop and incorporate cutting-edge technology and innovative solutions into our product line. This enables us to stay ahead of emerging fire hazards and provide customers with the most effective fire suppression tools.
- Environmental Responsibility: By adopting eco-friendly technologies and materials, reducing waste, and promoting sustainable firefighting solutions, the company minimizes its environmental footprint and contributes to a greener future.
- Education and Training: By offering expert guidance on product usage, maintenance, and safety, the company ensures that our products are utilized effectively and responsibly.
- Happiness: we believe that everybody has a right to be happy



FIREFIGHTING GUNS TYPES

The IFEX® Impulse firefighting gun was developed as a versatile tool for fire brigades and rescue teams worldwide. With small quantities of water, these highly effective firefighting devices are able to extinguish even large fires.

The secret of the impulse firefighting procedure can be summarized in four words: EFFICIENT USE OF WATER

- Rapid Initial Attack (compact, lightweight, mobile)
- Quick Fire Knockdown (shoots water with high velocity)
- Minimal Secondary Damages (less water damage)
- Extremely Cost-effective (needs only water and air)
- Minimal Training Costs (simple to handle)
- Minimal Maintenance (durable construction)

IFEX Eagle



IFEX Hawk



IFEX Falcon



IFEX Dual Raptor



FIREFIGHTING GUNS

IFEX Eagle IMPULSE FIREFIGHTING GUN



TECHNICAL DETAILS	
Water and extinguishing agent capacity	1 liter/ 0.26 gallon
Air cylinder capacity	0.3 liters/ 0.07 gallons
Total length	800 mm/ 31.5 inch
Empty weight	approx. 6.8 kg/ 15 lbs.
Max shot length	52.5 ft

The IFEX Eagle Impulse firefighting gun is the core of the Impulse firefighting technology. The fire extinguisher of rustproof steel is made up of the rear pressure chamber, a quick fastener valve, a front chamber for water or extinguishing agent, and a gun clutch with a release mechanism. The IFEX Eagle is a resilient and formidable impulse firefighting gun engineered to withstand the toughest conditions and environments.

IFEX Hawk IMPULSE FIREFIGHTING GUN



TECHNICAL DETAILS	
Water and extinguishing agent capacity	0.8 liter/ 0.21 gallon
Air cylinder capacity	0.3 liters/ 0.07 gallons
Total length	657 mm/ 25.8 inch
Empty weight	approx. 5.4 kg/ 11.9 lbs.
Max shot length	49.2 ft

The IFEX Hawk is the logical advancement of the IFEX Eagle Impulse firefighting gun. In contrast to the Eagle, the Hawk is designed as a coaxial system. Here, the compressed air chamber surrounds the water chamber, by which the recoil is decreased and weight savings are possible.

IFEX Falcon CAFS FIREFIGHTING GUN



TECHNICAL DETAILS	
Water and extinguishing agent capacity	0.8 liter/ 0.21 gallon
Air cylinder capacity	0.3 liters/ 0.07 gallons
Total length	657 mm/ 25.8 inch
Empty weight	approx. 5.4 kg/ 11.9 lbs.
Max shot length	32.8 ft

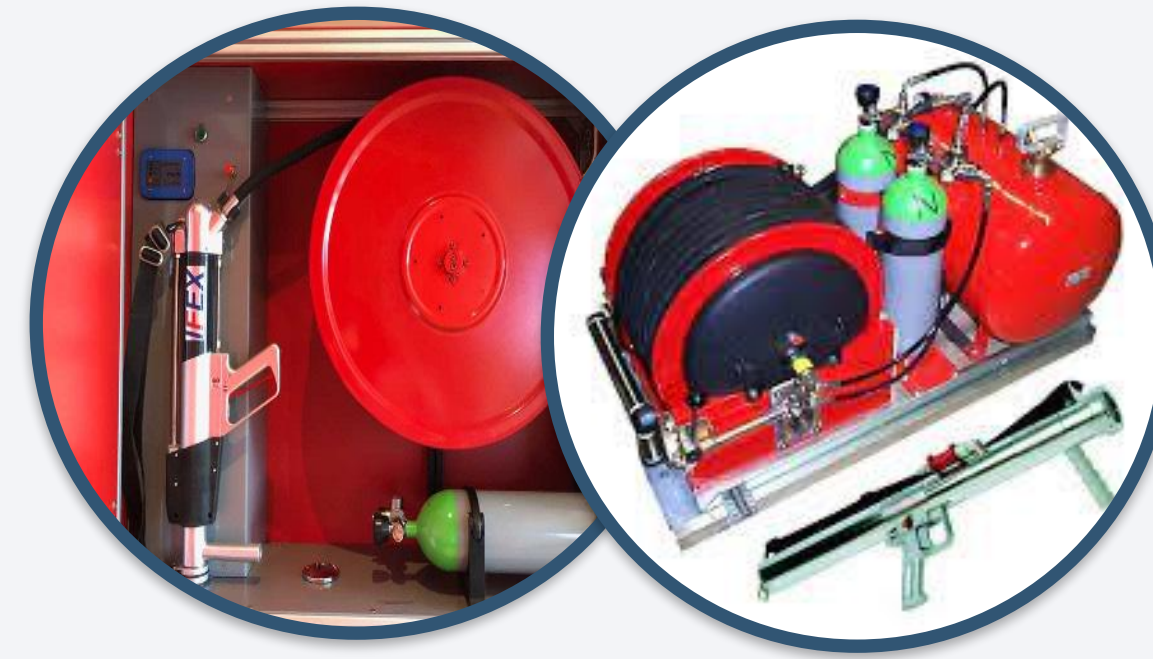
The IFEX Falcon CAFS (Compressed Air Foam System) is an excellent tool to extinguish fires of Classes A and B with a foam agent premix. Efficient, easy to use, reliable, and adaptable.

PRODUCT CONFIGURATIONS

One of the main advantages of IFEX technology is varied usability of the products depending on the needs:



Mobile



Stationary



Custom Guns

PRODUCT CONFIGURATIONS

MOBILE UNITS



BACKPACK

The most mobile variation of the supply units. The unit consists:

- 3.4 gal extinguishing agent container
- 2L pressurized air cylinder
- regulator

Contains at least 12 shots



TROLLEY

Allows control over larger fires. The unit consists:

- 7.9 to 13.2 gal extinguishing agent container
- 6L pressurized air cylinder
- regulator
- 45 ft coaxial hose

Contains at least 35 shots

APPLICATION POSSIBILITIES

- Vehicle fires
- Room fires
- Fires in the emerging phases
- Electric fires
- Cable fires
- Liquid fires through the use of foam agents

PRODUCT CONFIGURATIONS

STATIONARY UNITS

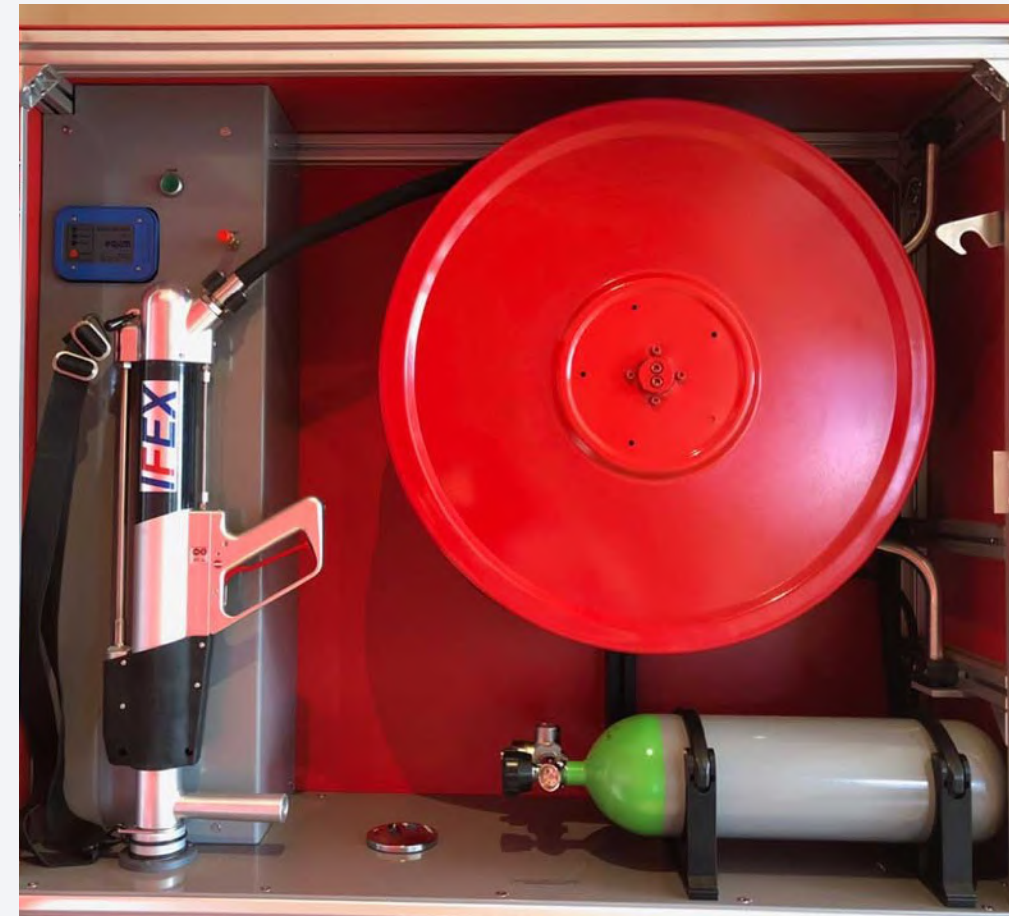


SKID

The skid can be mounted onto any vehicle within seconds. The unit consists:

- 19 gals extinguishing agent container
- 2x6L pressurized air cylinder
- regulator
- 180 ft coaxial hose

Contains at least 72 shots



CABINET

Compact Fire Fighting Cabinet (CFFC). Can be connected to an external water supply line. The unit consists:

- Cabinet H5.9xW4.2xD1.3 ft
- 6L pressurized air cylinder
- regulator
- 98.4 ft coaxial hose

Contains at least 120 shots if not connected to the water supply line. Special sizes are available on request.

APPLICATION POSSIBILITIES

- Vehicles without an autonomous water supply
- Hotels, schools, offices
- Apartment buildings
- Private homes
- Airports

PRODUCT CONFIGURATIONS

CUSTOM GUNS AND WATER MIST/FOG NOZZLE SPRINKLER SYSTEMS

IFEX offers custom solutions tailored to specific firefighting needs. We can design and manufacture firefighting guns with various specifications, such as different flow rates, reach distances, and nozzle types, to address different fire scenarios and requirements.



Impulse water mist fire protection systems are advanced fire suppression systems that use high-pressure water mist to extinguish fires. These systems are designed to produce fine water droplets with a specific droplet size distribution, creating a mist that effectively suppresses fires.

APPLICATION POSSIBILITIES

- Server rooms
- Frying, baking, and processing equipment
- Electronic equipment protection
- Protection of historical buildings or highly flammable structures
- Protection of off-shore drilling platforms, wellheads, tanker vessels, and other marine environments
- Fire protection of ship decks, cargo, and tanker vessels
- Water wall protection for flare booms and escape routes
- Protection for firefighters and emergency responders

IMPULSE TECHNOLOGY FOR FAST AND EFFECTIVE FIREFIGHTING

WATER EFFICIENCY

The whole secret of impulse technology can be summed up in two words: water efficiency. The smaller the size of the water droplets, the greater their absorption capacity; the higher the droplet velocity, the greater the amount of water that reaches the base of the fire.

This highly efficient use of water creates one of the greatest advantages of impulse technology: the system works independently of a constant water supply. Only a small amount of water has to be moved to the site of the fire for an effective initial attack. This makes for high mobility of use.

Impulse extinguishing systems are capable of using most fire extinguishing agents - all kinds of dry chemicals, wetting agents, bio solvents and foaming additives, salt water – even special agents, such as dry sand or cement for fighting metal fires. However, in reality, you mainly fight the fire with plain water and air - the cheapest and most readily available extinguishing agents that exist.



TECHNOLOGY BEHIND



IMPULSE GENERATOR



HIGH-PRESSURE PUMP



NOZZLE AND DISPERSION SYSTEM



FINE WATER DROPLETS

IMPULSE GENERATOR

An impulse generator is a specialized device that generates a high-pressure pulse or shockwave in the firefighting system. This impulse is created by rapidly compressing a volume of water or fire retardant within a confined space and then releasing it through a nozzle or outlet.

HIGH-PRESSURE PUMP

A high-pressure pump is used to supply water or fire retardant to the impulse generator. The pump pressurizes the liquid to a high level, typically several hundred to several thousand pounds per square inch (psi), to generate the necessary impulse for firefighting.

NOZZLE AND DISPERSION SYSTEM

Nozzles play a critical role in impulse fire fighting. They are designed to control and shape the high-pressure jet of water or fire retardant into a fine mist or a concentrated stream. The dispersion system ensures the even distribution of the mist or stream for optimal coverage and fire suppression.

FINE WATER DROPLETS

Impulse firefighting technology often involves the generation of fine water droplets. These droplets have a larger surface area relative to their volume, which enhances their ability to absorb heat and cool the fire. The fine droplets can also penetrate deep into the fire and displace oxygen, interrupting the combustion process. Air resistance acting on the water stream breaks the water droplets down and reduces the normal mean droplet size from about 700 microns to an average of 100 microns. So the cooling surface of one liter of water is increased from the normal 62.4 sq ft to 645.8 sq ft, thus reducing the temperature in confined rooms from a deadly **1832°F** to **104°F** within seconds.

FOAM ADDITION (Optional)

In some cases, foam can be added to the water to enhance fire suppression capabilities. The foam helps to smother the fire, create a barrier between the fuel and the oxygen, and increase the cooling effect. The combination of high-pressure generation, specialized nozzles, and the use of fine water droplets or foam allows impulse firefighting systems to quickly and effectively extinguish fires by removing heat, disrupting the combustion process, and limiting the supply of oxygen to the fire.

RESULTS

8 Tires 1.6 Gal of Water 13 Seconds



100 sq ft Pool 21 Gal of Diesel 6 Gal of Gasoline 4.2 Gal of Water 0.1 Gal of AFFF 22 Seconds



1 Car 3 Gal of Water 48 Seconds





ALWAYS WINS

Thank you for your attention!

IFEX
15705 NW 13 AVE
Miami Gardens, FL 33169

305-318-2770
305-746-8514
QuantumIFEX@gmail.com