



IMPULSE FIRE-FIGHTING PROCESSES FOR EFFECTIVE FIREFIGHTING

 Mobile units

 installations for vehicle

 portable units

IMPULSE TECHNOLOGY

FOR FAST AND EFFECTIVE FIREFIGHTING

The IFEX® Impulse firefighting process has radically changed the world of firefighting in only a few years. The function principle is quickly explained: the extinguishing agent is fired at very high speed directly into the source of the fire in a split second. For the high discharge velocity, 25 bar air pressure is provided in the pressure chamber. The extinguishing agent - normally quite simply water.

fighting technology: The systems operate regardless of a steady water supply and during the quick first attack need move only a small quantity of water to the source of fire - from this comes the high mobility when in use. Impulse firefighting systems are able to use most extinguishing agents - all kinds of powder additions and additives, salt water, even special extinguishing agents for the fight against metal fires, such as dry sand or cement. But primarily they work only with water and air - the most economical extinguishing agents in the world.

The IFEX® system has turned out to be excellent for tyre fires. Especially for rubber fires, customary firefighting methods are absolutely ineffective. Through the IFEX® Impulse firefighting process, the kinetic energy penetrates into the depth of the source of the fire and takes the energy from the fire.



The secret of the impulse firefighting procedure can be summarised in four words:

EFFICIENT USE OF WATER

From this highly efficient contact with water, there arises one of the biggest benefits of the impulse fire-



Fast Attack Unit (FAU) 2x12 litres Intruder (50 metres reach)

THE IMPULSE FIREFIGHTING GUN

AND ITS SUPPLY UNITS

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

The high discharge speed of more than 400 km/h and the large cooling surface allow an effective firefighting application from a safe distance. With the addition of foam additives, liquid fires can be fought; just with water, even fires in electric devices with high voltage can be extinguished. In this case, the minimum distance to be kept amounts to only 1 metre.

As a man-supported system for self-sufficient use by fire brigades, the IFEX® Impulse firefighting gun is used in combination with a backpack or trolley: They form the perfect team for the quick first attack and a successful firefighting application.



company own presentation vehicle

QUICK FIGHTING OF THE SOURCE OF THE FIRE

IFEX® 1 LITRE IMPULSE FIREFIGHTING GUN 3001

The IFEX® Impulse firefighting gun is the core of the Impulse firefighting technology. The fire-extinguisher of rust-proof 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 release mechanism. If the valve is opened, the compressed air pushes the extinguishing agent at high speed from the water chamber in milliseconds. The extinguishing agent is accelerated to more than 400 km/h and penetrates with high energy directly into the source of the fire because of the fire thermionics.

The IFEX® 1 litre Impulse firefighting gun 3001 can also be used with foam agent.



TECHNICAL DETAILS

water and extinguishing agent capacity	1 litre
total length / diameter	800 mm / 70 mm
empty weight	6.8 kg
material of the cylinder	stainless steel SS 304
quick fastener valve / piston	aluminium F 52 / PTFE
gun handle and trigger	die-cast aluminium
muzzle membrane	special rubber
drain valve	steel SS 304 / aluminium
water and air connections	quick-release couplings
min./max. per Impulse discharge	0.25 / 1.0 litres
max. shot length	16 metres
width of the beam / distance	3.0 metres / 5 metres
air pressure in operation / in the test	25 bar / 64.4 bar
safety valve	38 bar
valve opening and closing speeds	120 m/sec = 432 km/h
average. Droplet size	2 to 200 microns

DECREASED RECOIL

IFEX®-IP3

The IFEX® IP3 is the logical advancement of the IFEX® 3001 Impulse firefighting gun. In contrast to the 3001, the IP3 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.

The IFEX® IP3 can also be used with foam agent.



TECHNICAL DETAILS	
Water and extinguishing agent capacity	0.8 litres
air cylinder capacity	0.3 litres
total length	657 mm
empty weight	approx. 5.4 kg
maximum shot length	15 metres
working pressure	25 bar

CLASS B FIRES

IFEX® CAFS FIREFIGHTING GUN

The IFEX® 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. The firefighting gun must merely be connected with quick-release couplings to the compressed air and extinguishing agent supply and is operational immediately.

The spray beam can be set by simply turning the front handle according to the fire scenario, infinitely variable, ranging from a fine, wide spray beam up to the full spray length of 10 m.

TECHNICAL DETAILS	
throughput amount (L/min at a pressure)	13L/min at 4 bar
total length	470 mm
empty weight	approx. 4.8 kg
maximum shot length	10 metres
working pressure	25 bar



The intended purpose of this device is to lay foam carpets as a priority.

MOBILE SUPPLY UNIT

IFEX® 13 LITRE BACKPACK 3001/12

The IFEX® Backpack is the most mobile variation of the supply units for the IFEX® Impulse firefighting gun. The complete unit consists of extinguishing agent container and pressurised vessel, as well as a regulator which regulates the compressed air supply of the firefighting gun and of its water supply. Water and each additive can be directly filled into the extinguishing agent container.

The concentration of the additive can be reduced from 0.5 to 1%: a fraction of the conventionally recommended 3 to 6%. In the support rack there is a fixture for an additional 2 litre breathing air cylinder.

→ APPLICATION POSSIBILITIES

- vehicle fires
- room fires
- fires in the emerging phase
- electric fires,
- cable fire
- liquid fires*
(through the use of foam agents)

* with liquid fires, foam agents basically need to be used.

→ FIELDS

- leisure parks and holiday parks
- zoos
- social care facilities
- hospitals
- hotels and catering trade
- maritime
- automotive
- logistics
- petrochemistry
- furniture and paper industries
- wholesale and retail trade
- camping sites
- mines
- large catering kitchens
- trade fairs
- disposal industry
- fire brigades

TECHNICAL DETAILS	
water and extinguishing agent capacity	13 litres
compressed air cylinder capacity	2 litres
width x depth x height total	360 x 260 x 625 mm
empty weight/total weight	10.3 kg/23.3 kg
material of the extinguishing agent container	stainless steel, 1.4301-SS304
material support rack	flame-retardant synthetic
filling nozzles	brass
water and air connections	quick-release coupling
safety valve	6.2 bar
water inlet filters (optional)	mesh size 0.6 mm
air pressure in operation/in the test	6 bar/7.8 bar
rec. additive admixture	from 0.5 to 1%



IFEX® BACKPACK (for the German market)



IFEX® BACKPACK (international)

AT LEAST 35 IMPULSE SHOTS

IFEX® TROLLEYS 3035/ 3050

The IFEX® Trolleys with their capacity of 35 or 50 litres also allow more demanding applications to the user: the water supply for at least 35 Impulse shots equips it with the necessary firefighting power to hold even larger fires under control.

In each case the Trolleys consist of a water/extinguishing agent container, 6 litre compressed air cylinder with regulator, as well as fixtures for the Impulse firefighting guns and the 15 m coaxial hose. Standard breathing apparatus can be used when using a Trolley.

TECHNICAL DETAILS	
water/extinguishing agent capacity	35 litres/50 litres
compressed air cylinder capacity	6 litres
width x depth x height total	525 x 520 x 1,070 mm
empty weight/ total weight	41 kg/76 kg (35l), 48 kg/98 kg (50l)
hose length	15 m
material of the extinguishing agent containe	stainless steel 1.4571-SS316
wheel suspension	steel
filler nozzles	brass
safety valve	6.2 bar
water admittance filters (optional)	mesh size 0.6 mm
air pressure in operation/in the test	6 bar/10.4 bar
rec. additive admixture	0.5 to 1%

APPLICATION POSSIBILITIES

- vehicle fires
- room fires
- fires in the emerging phase
- electric fires
- cable fires
- liquid fires*

* with liquid fires, foam agents basically need to be used.

FIELDS

- leisure parks and holiday parks
- zoos
- social care facilities
- hospitals, hotels
- catering trade
- maritime
- automotive
- logistics
- petrochemistry
- furniture and paper industries
- wholesale and retail trade
- camping sites
- mines
- large catering kitchens
- trade fairs
- disposal industry
- fire brigades



IMPULSE FIRE-EXTINGUISHERS

AS COMPLETE UPGRADE UNITS

Nowadays decision makers in fire protection face the job of producing an efficient service even with decreasing resources. Diminished budgets cause the attention of the persons responsible to be equally directed on cost-saving as on firefighting. So the IFEX® Upgrade units are considered to be effective tools in the arsenal of the fire brigade internationally.

without having to maintain highly specialised fire engines.



These vehicles equipped with the IFEX® firefighting system are used by the Hamburg fire brigade in the Elbe tunnel.

No restriction on the vehicle choice

Whichever vehicle you may use in your normal work routines, whether passenger car, estate car, pickup truck, flatbed or panel van, whether motorcycle, tractor, train or even helicopter - with the IFEX® Upgrade units you make your working vehicle or emergency vehicle within minutes into a self-sufficient, highly effective Impulse fire engine. So you can already effectively fight fires in the emerging phase,



Hummer as an emergency vehicle for tunnel fires (2x12 litres Dual-Intruder)

SUPPLY UNIT

IFEX® FAST ATTACK UNIT 3072

The IFEX® Fast attack unit with its special coaxial hose of 30 to 100 m length is used for the supply of the IFEX® Impulse firefighting gun in connection with all kinds of vehicles.

For vehicles without their own water supply, like for example estate cars or delivery vans, IFEX® offers as a complete solution a carriage with hose drum and 55 metre hose, 72 litre water tank and compressed air cylinder.

→ APPLICATION POSSIBILITIES

- vehicle fires
- fires in the emerging phase
- emerging forest fires and extensive fires
- electric fires
- cable fires
- Liquid fires*

* with liquid fires, foam agents basically need to be used.

→ FIELDS

- leisure parks and holiday parks
- social care facilities
- hospitals
- hotels
- catering trade
- maritime
- automotive
- logistics
- petrochemistry
- furniture and paper industries
- wholesale and retail trade
- camping sites
- mines
- open air events
- trade fairs
- disposal industry
- fire brigades

TECHNICAL DETAILS	
hose length	30 / 55 / 80 / 100 metres
drum: length x width X heights	570 x 630 (870) x 546 mm
drum diamete	570 mm
carriages: length x width x height	1,150 x 660 x 830 mm
total weight drum	62 / 77 / 93 / 109 kg
empty weight sledge	150 kg
carriages: water tank capacity	72 litres
compressed air cylinder carriages	2 x 6 litre, 300 bar
pressure water/air	6 bar / 25 bar
water/air connection	¾" / 8 mm
materials	aluminium F 52, stainless steel
containers connections	quick-release couplings



1,000 LITRES EXTINGUISHING AGENT

IFEX® DUAL-INTRUDER - EXTINGUISHER CONTAINER

With the Dual-Intruder carriage, the combined power of the two coupled 25-litre water cannons is added to any flatbed truck in a very short time.

The water tank with 1,000 litres capacity delivers the extinguishing agent for the impulse shots; the compressed air supply occurs via compressed air cylinders or compressors. Additionally, another two hose drums are mounted on the carriage with Impulse firefighting guns; thus, your everyday working device becomes a versatile emergency vehicle for a quick first attack.

→ APPLICATION POSSIBILITIES

- forest fires
- liquid fires*
- conflagrations

* With liquid fires, foam agents basically need to be used

→ FIELDS

- forestry
- petrochemistry
- logistics
- maritime
- automotive
- trade fairs
- open air events
- mines
- disposal industry
- camping sites
- fire brigades

TECHNICAL DETAILS	
water cannon water capacity	2 x 25 litres
min. quantity of water per shot	10 litres
recharging air and water	5 seconds
water cannon material	aluminium
water tank	2,000 to 2,500 litres
water tank material	fibreglass/ polyester
water tank filling	during use
water pump operation	pneumatic
water pump capacity	800 litres/min at 7 bar
compressed air tank	1,500 litres/ 35 bar
required auxiliary drive power	approx. 20 KW/ 27.2 PS
triggering of the water cannons	manual from operating lever
max. shot length	60 metres
optimum firefighting distance	10 to 45 metres



self-sufficient firefighting system (2x25 litres Dual-Intruder)

FOREST FIRES AND EXTENSIVE FIRES

IFEX® FIREFIGHTING UNIT

Ideal for use in forest fires and extensive fires: the IFEX® system turns a normal vehicle into a cross-country fire engine - a camera between the pipes is used for the target control. The control and shot triggering occurs via a control console in the driver's cab.

➔ APPLICATION POSSIBILITIES

- forest fires
- extensive fires

➔ FIELDS

- forestry
- agriculture

TECHNICAL DETAILS	
water cannon water capacity	2 x 25 litre
min. quantity of water shot	10 litres
recharging air and water	5 seconds
water cannon material	aluminium
water tank	2,000 to 2,500 litres
water tank material	fibreglass/ polyester
water tank filling	during use
water pump operation	pneumatic
water pump capacity	800 litres/min at 7 bar
compressed air tank	1,500 litres/ 35 bar
required auxiliary drive power	approx. 20 KW/ 27.2 PS
triggering of the water cannons	manual from operating lever
max. shot length	60 metres
optimum firefighting distance	10 to 45 metres

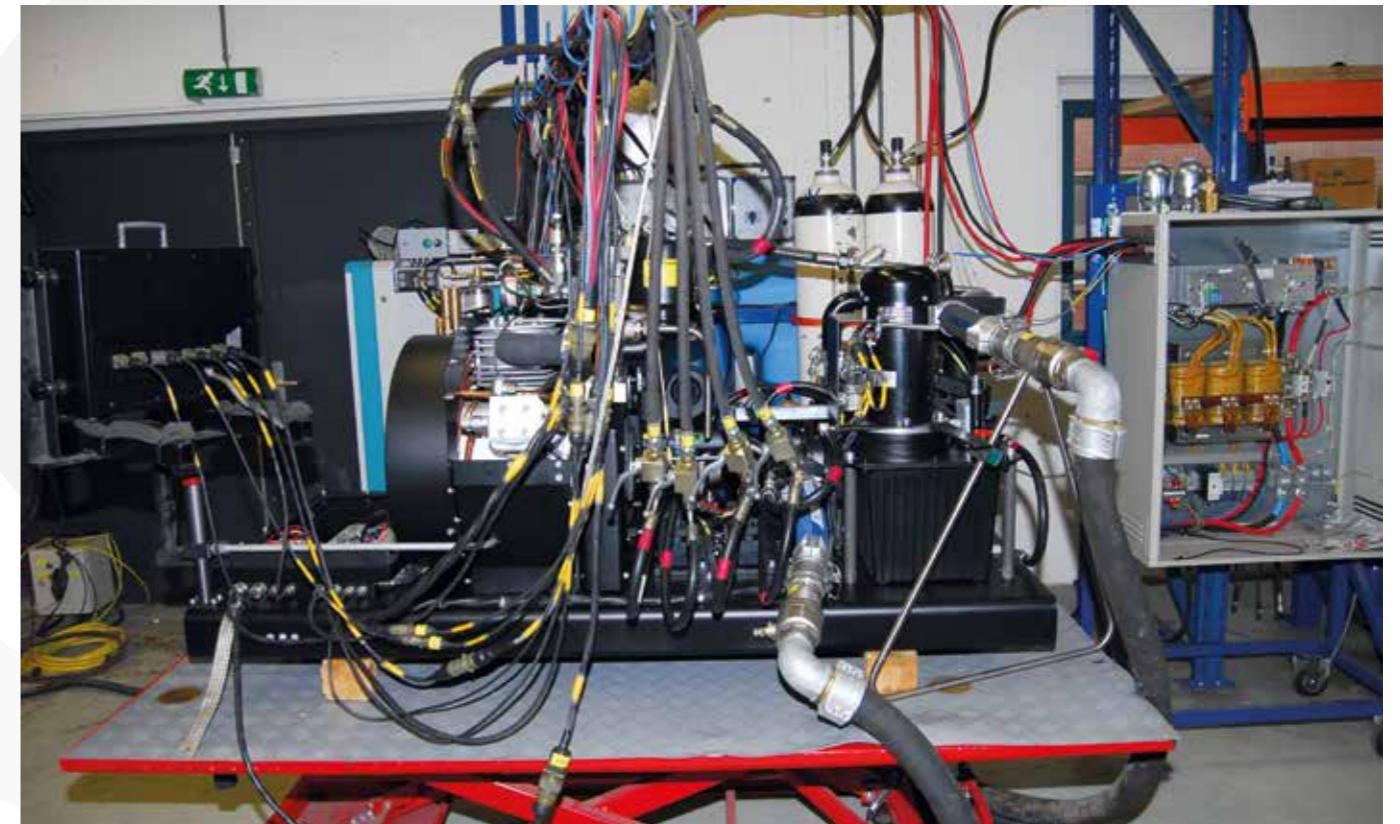
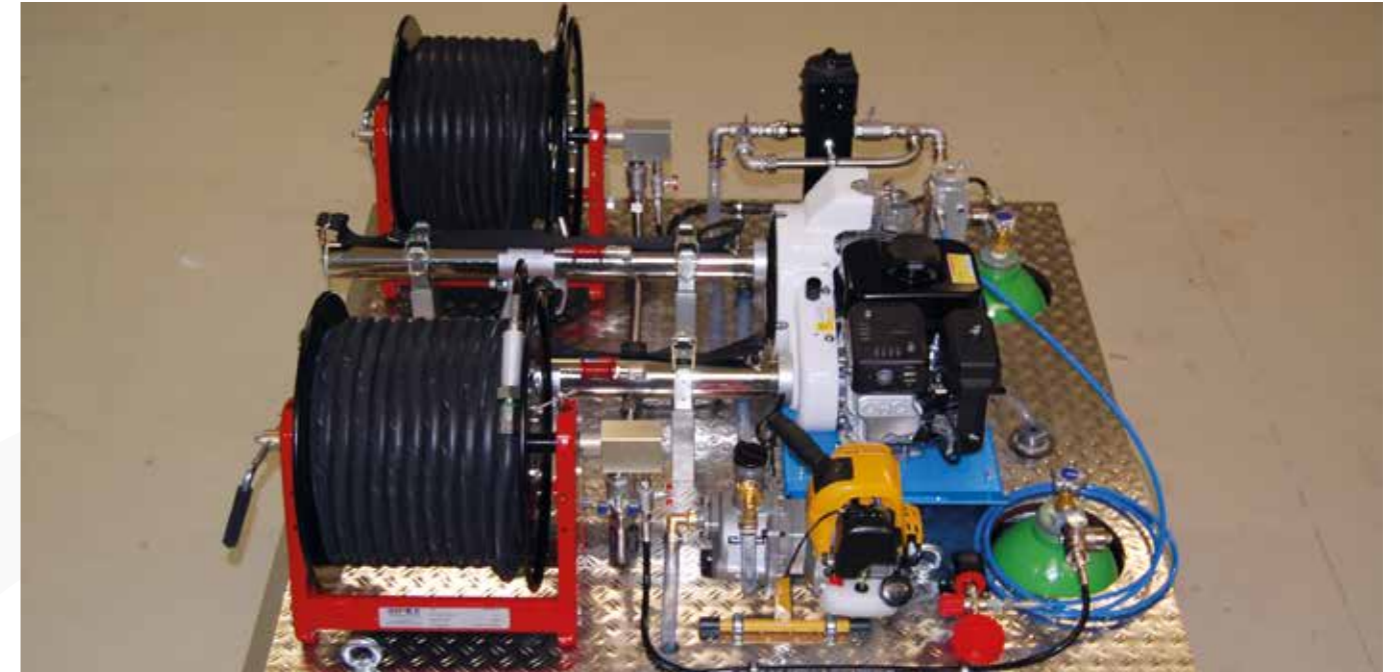


IFEX®-firefighting system on IVECO cross-country vehicle

IFEX® TESTING LABORATORY

In the Testing Laboratory each firefighting unit is tested for function and leakage tightness. Here, specially trained staff ensure the observance of all applicable

Standards – so the observance of the high quality standards is always guaranteed.



Arrangement of an IFEX® firefighting unit in the Testing Laboratory

SMALL AND AGILE – FOR A QUICK FIRST ATTACK

A successful first attack must always be especially quick; the firefighting system must get on with it before the fire can develop its dynamic. For fire prevention in narrow city centres and in big building structures, application systems are asked for that are small, mobile and quick; they should bring the firefighter and his equipment past all obstacles to the source of the fire. Quick

and agile IFEX® solutions as the emergency vehicles of the firefighter - with 1-litre Impulse gun, water tank and pressure cylinder, they are already on the road, such as motorcycles, scooters, all-wheel vehicles or electric vehicles, and they protect Italian highways as reliably as Indonesian shopping malls, European airports and Japanese city centres.

APPLICATION IN CITY CENTRES

IFEX® MOTORCYCLES

The IFEX® fire prevention motorcycles were developed as a special solution for the heavy traffic of city centres. Today they are in use in a variety of situations: everywhere where agility and mobility of the fire engine are the prerequisites for being able to fight a fire still in the emerging phase. The IFEX® system with the 1 litre Impulse firefighting gun is mounted on the motorcycle with a specially developed bracket. During the journey, the entire bracket is folded down in order to improve the road holding of the motorcycle.

TECHNICAL DETAILS	
water / extinguishing agent tank	50 litres
compressed air cylinder	6 litres, 300 bar
water/ air pressure	6 / 25 bar
pressure regulator	300/25/6 bar
min./max. per Impulse shot	0.25/1.0 litres
speed at the mouth	120 m/sec
max. shot length	16 metres
width of the beam	3 metres
droplet size	2 to 200 microns



IFEX®-Rapid Intervention

➔ APPLICATION POSSIBILITIES

- vehicle fires
- city centres
- historical
- old towns
- airports
- port facilities
- forest fires

➔ FIELDS

- open air events
- trade fairs
- maritime
- forestry
- automotive
- fire brigades

IMPASSABLE AREAS IFEX® CROSS-COUNTRY VEHICLES

The IFEX® All terrain vehicle is the quick cross-country solution for impassable areas and bad roads. The ATV, as it is used e.g. by the fire brigade in Cairo, is based on the four-wheeled Honda FourTrax Foreman Quad and carries the Impulse gun, a 50-litre water tank, the compressed air cylinder and a hose drum with 55 m of coaxial hose. The IFEX® ATV makes the firefighter completely independent of road conditions and brings him quickly and reliably to the location of the fire.

TECHNICAL DETAILS	
type	Honda Foretrax, Foreman
engine	395 ccm air-cooled, single cylinder 4-stroke
water/ extinguishing agent	tank 50 litres
compressed air cylinder	6 litres, 300 bar
water / air pressure	6/ 25 bar
pressure regulator	300/ 25 / 6 bar
min./ max. per Impulse shot	0.25/ 1.0 litres
speed at the mouth	120 m/sec
max. shot length	16 metres
width of the beam	3 metres
droplet size	2 to 200 microns
hose drum	55m coaxial

➔ APPLICATION POSSIBILITIES

- forest fires
- fires in the emerging phase
- vehicle fires
- liquid fires*

* with liquid fires, foam agents basically need to be used

➔ FIELDS

- holiday and leisure parks
- trade fairs
- open air events
- fire brigades
- harbour facilities
- logistics
- camping sites
- mines



IFEX®-All Terrain Vehicle

EFFECTIVE FIREFIGHTING SYSTEM

IFEX® ELECTROMOBILES

Airports, shopping centres and other large buildings with public traffic make special demands for an effective fire-fighting system: it must be highly mobile, small and little, and the drive must correspond to the fire prevention directives. Here, there are the IFEX® Electromobiles, the tailor-made solution: the 2.5 KW electric motor brings the complete first attack equipment - 50-litre water tank, compressed air cylinder, hose drum and Impulse gun - at up to 30 km/h to the location of the fire.

TECHNICAL DETAILS	
batteries	6 x 6 Volt
length x width x height	2,667 x 1,124 x 1,160 mm
weight with batteries	525 kg
maximum speed	30 km/h
compressed air cylinder	6 litres / 300 bar
pressure regulator	300 / 25/ 6 bar
water / air pressure	6 bar / 25 bar
pressure of the Impulse firefighting gun	25 bar
optimum firefighting distance	1 to 10 metres
hose drum	55 m coaxial

➔ APPLICATION POSSIBILITIES

- airports
- museums
- factory premises
- zoos
- shopping centres
- fire brigades



SMART SOLUTIONS FOR TUNNEL FIRE PROTECTION

Catastrophic tunnel fires during recent years have shown that road tunnels and railway tunnels must still be intensely worked on for effective fire protection. With its tunnel firefighting systems, IFEX® has now developed an effective concept which will make an essential contribution to tunnel safety.

The determining IFEX® product advantage - efficient use of water - has been implemented here in a combination of innovative firefighting systems: sensor-controlled on rails suspended on the tunnel ceiling, permanently installed in the tunnel walls or mounted on fast initial attack vehicles. These systems need to carry only a small quantity of water to the source of the fire to achieve maximum effect there with some targeted Impulse shots: they can either already extinguish the fire in the emerging phase, or at least cool down the temperature in the tunnel so much through the

enormous cooling surface of the impulse shot that people can escape and emergency responders are able to penetrate to the source of the fire.

Request the Sintef Test report about the official IFEX® tunnel tests in the Norwegian Akra fjord tunnel.



IFEX® 2x12 litres Dual-Intruder in use

IFEX® FIRE ENGINES

INDIVIDUAL EXTRACT FROM OUR PRODUCT RANGE



INACCESSIBLE AREAS

THE FIRECOPTER - IMPULSE FIREFIGHTING FROM THE AIR

Forest fires and bushfires often originate in inaccessible areas where the transport of firefighting equipment and water is a difficult operation. While conventional firefighting technology uses aeroplanes and helicopters with gigantic water tanks to drop the extinguishing agent in large quantities over the fire area, the IFEX® Impulse technology needs only small quantities of water - aboard a quick and agile helicopter - to extinguish the fire, to control it or to prevent it spreading to other areas.

Fires in high-rises in densely populated city centres are a similar problem for firefighters worldwide. The limited height of fire escape ladders and extinguishing cranes makes the firefighting application difficult and in many cases impossible. Also here, the use of IFEX® FireCopters represents the optimum - and in many cases the only - solution for an effective firefighting attack.

Easy mechanical operation: adjustable tilt angle of the Dual-Intruder water cannon directly by the pilot.



IFEX® Helicopter in the firefighting application (2x18 litres Dual-Intruder)




If you did not find your application, please contact us. We will show you the **IFEX®** firefighting equipment that is optimally matched to your needs.



IFEX® Technologies GmbH
Hansestraße 18, 27419 Sittensen (Germany)

 +49 4282 9306 0

 +49 4282 9306 26

 service@IFEX3000.com

 www.IFEX3000.com

ISO certified company

