

JETEX

FIRE FIGHTING SYSTEM



THE ULTIMATE GAS-DYNAMIC TECHNOLOGY

OUTSTANDING AND UNIQUE
PERFORMANCE
IN FIRE FIGHTING

Meet
the New Generation of
JETEX Aku firefighter –
A Game-Changer for Fire Fighting



Introduction to Gas Dynamic Technology implemented in **JETEX** Fire Fighting Systems

System of Gas dynamic Technology (**SGT**) – is a technology for creating a high-speed two-phase gas droplet stream with micro size water droplets.

*The principle of operation, at the heart of the patented **JETEX** technology, comes down to the ability of our systems to exclusively use air when extinguishing intense fires, which makes them unique and one of a kind. We have discovered that a specially created **air/water** or **air/water/foam** mixture, where air in the extinguishing mixture makes up almost half of its volume, has completely different, outstanding fire extinguishing properties.*

*It is the gas dynamic flow created under certain conditions that is the revolutionary component of our invention, which radically distinguishes **JETEX** systems from any others, allowing us to classify **SGT-enhanced** installations as having no analogues in the field of fire technology.*

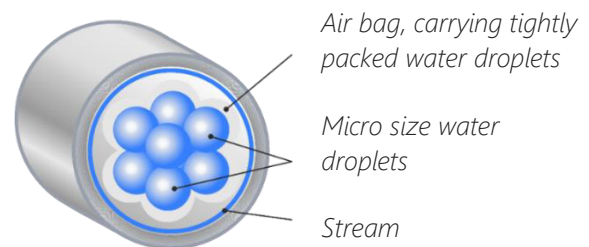
JETEX Aku firefighter:
Designed for both
professional specialists
and personal use



The invention belongs to the field of liquid atomization technology and control of the process of mixing fuel with an oxidizer (air), and is intended to obtain finely dispersed two-phase jet and aerosol in a wide range of droplet size – from 10 to 300 μm .

The essence of the invention is to create a two-phase jet of a mixture of gas (air) and water droplets, with a view to change the volume concentration of the gas in the mixing chamber, thereby achieving a high output speed of the mixture.

Since these are liquid media (phases), mass and volume change per unit time; hence, the flow regime is gas driven if the droplets are spherical in shape and touch in six planes, as shown in the figure – they are tightly packed (**SGT**).



Thus, it can be concluded that the technological flow of **SGT** differs significantly from the traditional one. And if technologies work in different ways, using different mechanisms and, mainly, physical means to extinguish fires, it will be incorrect to compare them.

What needs to be done to effectively extinguish a fire:

- To knock down the flame: requires the greatest possible speed of the extinguishing agent;
- To reduce the temperature in the fire source: through water evaporation;
- To reduce the oxygen content in the fire source: through steam formation.

Achieving the three main parameters listed above affects the success, speed and especially the quality of extinguishing.

Modern fire extinguishing systems use a variety of liquid nozzles, but they have a number of significant drawbacks that do not allow them to compete with **JETEX** systems.

The main reason for the small efficiency of other existing nozzles is the low extinguishing speed when they are used, which varies from 1.8 to 12 m/s, depending on the pump power, while **SGT technology** provides an increase in speed up to **100 m/s**, which leads to completely different, an order of magnitude better indicators for the speed and quality of extinguishing, with a lower consumption of fire extinguishing agent.

Existing technologies work with droplets of about 1 mm in diameter, which is practically the minimum size for them. With a further reduction in the diameter of the droplets, the fire extinguishing mixture will no longer be a water-jet flow, but will turn into an unstable dispersed water mist, which not only loses speed and active direction, but also its range.

*We are pleased to offer a novel technology for creating a fire extinguishing mixture of a different nature. The high-speed two-phase jet of gas and microdroplets of water with a certain concentration of phases created by **JETEX** systems has a long range, a linear trajectory, and ensures the shortest extinguishing time with a small water consumption.*

For the water to evaporate and form steam on the fire as quickly as possible, it is important that the droplets coming out of the nozzle in the form of a water jet have as small a diameter as possible.

SGT technology is unique in that it delivers droplets to the fire at high speed, effectively knocking down the flame and avoiding premature evaporation on the way to the fire source.

JETEX installations, due to their high-quality characteristics and the potential, provided by **SGT** technology, have no analogues in the world and are designed to effectively combat even high-intensity area fires.

The patented **JETEX** module can be used in a number of fire extinguishing systems on various carriers and platforms (automobile, railway, ships) to extinguish fires of any complexity, including fires of increased radiation, fires of high-rise buildings and structures, forest fires, etc.

*We have achieved a several-fold increase in the stream of the mixture formed into and coming out as a jet, while drastically reducing the size of the droplets in it to **10-300 microns**.*

*The evaporation rate of the mixture significantly increases, which makes it possible to produce a large amount of vapor – **up to ~ 1000 times greater** than that produced using other existing techniques.*

*The **SGT** system is proprietary, and no other "similar" technology that can compete with **JETEX** in terms of efficiency or effectiveness exists today. It is not used or offered by any competitors.*

*These are just a few obvious facts that allow us to say that **SGT technology is unparalleled**.*





JETEX Container type

Range of the jet
up to **120 m**

Height of the jet
80 m

Water consumption	Up to 60 lit/s
Extended use of foam mixture	Unlimited <i>(depending on the capabilities of the connected source)</i>
Range of the jet by water	up to 120 m
Range of the jet by foam	up to 120 m
Height of the jet	80+ m
Lifting/dropping angle	+65/-5 degrees
Tube control	Manual and remote up to 50 m
Necessary pressure of water supply	0 – 1.3 MPa
Horizontal rotation of the tube	350 degrees
Operating temperature	From -20 to +65°C
Fitting	20-foot container
Overall weight	12.000 kg

JETEX Aku firefighter

Range of the jet
20+ m

Height of the jet
15+ m

Water consumption	40 – 60 lit/min
Extended use of foam mixture	Unlimited <i>(depending on the capabilities of the connected source)</i>
Range of the jet by water	20+ m
Range of the jet by foam	20+ m
Height of the jet	15+ m
Tube control	Manual
Necessary pressure of water supply	0 – 1.8 MPa
Dimensions (Length / Width / Height)	80 / 50 / 50 cm
Overall weight	75 kg

For more information about JETEX SGT's unique technology and a variety of equipment which can be enhanced using this technology, and which can be used on most carriers and platforms, please visit us at: <https://www.jetex-holding.com>

