

Brothers-in-arms: using guns to fight fires

Recently Bettina McDowell of the International Water Mist Association (IWMA) wrote about lances and nails, as well as fire engines and trolleys that make use of water mist to fight fires. Today's topic: water mist guns – and that's only half the story.



It goes without saying that there are many different fire scenarios and many different ways to deal with them. It should, of course, always be the intention to extinguish a fire as quickly and as early as possible. In order to do that it may be necessary to incorporate different methods of firefighting.

So, what if a system could provide the firefighter with a choice? What if the firefighter could decide whether to use pure water mist, a water jet, something in between, or maybe even add foam? This is what is currently happening as manufacturers as well as firefighters are opening up to the idea of integrated systems and flexible tools.

The Fogguns from Cologne-based company Fogtec are an example of this. The Foggun 3 comes with three different spray patterns and is, according to the manufacturer, sufficient

for most fire scenarios. Firefighters do not need to change hand position when selecting the pattern and they can adjust flow and pressure.

With the Foggun 5, firefighters can choose from five jet settings ranging from pure water mist to a full jet. The option in between is to use a water jet as a carrier for water mist.

Additionally, for both Foggun types, a foam pipe can be fitted that generates effective low expansion foam, moving the system into the region of a Compressed Air Foam System. The foam is sticky, which means that surfaces within the area of the fire can be covered and also cooled, reducing the possibility of fires leapfrogging from one place to the next.

Rüdiger Kopp, Fogtec's manager for fixed systems, says: 'With the volume flow up, the range of the jet is obviously bigger. With the volume flow down, the water damage can be

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lessened. This would also be the setting of choice in the final phase of a fire.'

The two Fogguns form the core of a self-sufficient system. The systems deliver the power and, if required, water and foam.

Normally the Foggun 3 comes with a water mist unit called KFT 40/120. The Foggun 5 is generally latched onto the KFT 25/120. Both are high pressure pump units working with 120 bar, which equals 1740 psi. The KFT 40/120 reaches a maximum flow rate of 40 litres per minute. In the case of the KFT 25/120, the limit is 25 litres per minute. The pressure within the nozzle lies at around 100 bar, which equals 1450 psi. Both KFT units come with their own combustion engines, normally a petrol engine, but this could also be a diesel engine if required.

'High pressure is necessary for the atomisation of the water – to actually produce water mist – which has a high cooling effect,' explains Kopp. 'In addition, the small droplets turn into steam, which has a localised inerting effect.'

The KFT 40/120, which can spray larger amounts of water, is often used by fire brigades for a larger spectrum of applications. They may want to spread the water mist over a larger area and therefore need additional volume flow.

However, the units are also in use in high-risk sectors within the industry, for example, in areas where workers carry out welding. In this case, wheels can be added to the KFT 25/120 unit, which could then be kept nearby in case of need. In contrast, the KFT 40/120 is more likely to be embedded into a small-size fire engine. Thus, both systems can be used for rapid intervention – the KFT 25/120 because it can be tucked into a corner near the hazard area, and the KFT 40/120 because it is installed in a smaller vehicle that can often reach the scene of a fire faster than a full-size fire engine.

According to Kopp, the company's systems have been installed in many hard-to-access or remote areas, which make conventional firefighting equipment difficult to use. 'We have delivered many of these systems in old cities with small alleys and in remote mountain villages in the Swiss Alps, as well as in China and India where many streets are too narrow for a regular fire engine to pass through. In Japan the systems are mounted onto scooters for the same reason. There, they are called mist dragons.'

In the UK, the Greater Manchester Fire & Rescue Service have fitted some of their fire engines with this technology to allow a flexible firefighting approach to any situations they might encounter.



The KFT 25/120 operates as a stand-alone unit with attached mounted water tank and the rapid intervention Foggun, while an optional foam injection provides an addition to existing fire safety systems.



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