FIREXPRESS

CONCEPT

Firexpress is a 'first strike fire fighting concept' designed to give an immediate first strike capability on a wide range of types of fires, from deep-seated class A fires to difficult class B fires even in polar solvent fuels and class E fires in electrical installations.

By using the special aerodynamic effect of a moving water drop, the unique patented dual nozzle is able to produce micro drops at a pressure of only 15-23 bars and still achieve an amazing range of up to 15 metres. Equally the dual nozzle is able to produce high expansion foam in a straight stream at the same range.

Firexpress' patented dual nozzle is able to produce extremely small micro drops (7-100 micron) giving the water a very large surface. Fighting a fire with these micro drops will utilize the heat absorbing and steam generating capability of water to its maximum, hereby reducing the required amount of water dramatically. Additionally, the micro drops are so small that they will be hanging in the air for a relatively long time and will be drawn into the combustion process by the turbulent airflow feeding the fire with oxygen.

The low operation pressure also assures that: virtually no entrained air is forced into the fire, that there is limited risk of spreading burning debris and that practically no recoil is experienced. The Firexpress system therefore differs radically from high pressure systems.

UNIQUENESS

Firexpress systems offer a number of unique advantages that no other systems can match. Most importantly, Firexpress eliminates all the drawbacks of high pressure systems.

- Maximum benefit of water. Because the size of the micro-drops is only 7-100 µm (microns), virtually all the water sprayed into a fire is used to reduce the heat of the fire, as illustrated in pictures below.
- Fast temperature knock down. Because of the instantaneous evaporation of the micro-drops, the temperature of the fire will drop immediately, even at low temperatures.
- Minimum use of water. Because of the high degree of water use, considerably less water is needed with the Firexpress systems than with other systems for extinguishing a fire.
- Minimum water damage. Because virtually all the water is vaporized, there is minimal damage caused by excess use of water.
- Reduced air intake. Because the evaporation process generates high pressure steam, air is prevented from getting into the fire.
- Minimum entrained air. Because of the low velocity of the micro-drops, virtually no entrained air is drawn into the spray, which prevents oxygen from air dragged along with the water drops from fuelling the fire.
- Low pressure. Because of the effective design of the dual nozzle, the system operates at a low pressure - only 13 to 23 bars.
- Long range. Because of the design of the nozzle, Firexpress systems can spray up to 15 metres.
- Low recoil. Because of the low working pressure virtually no recoil is experienced by the user, making it easy for the fire fighter to handle, even for an inexperienced person. A one-hand operation is possible.
- Breaking windows. Because of the sturdiness of the lance, it can be used to break windows and penetrate some construction materials.
- Safe to use on human skin. Because of the low pressure, the system can be used directly on humans to put out fires on clothing and to cool down burns.
- Personal protection. Because of the design of the angled lance, the fire fighter is able to avoid direct exposure to openings into room fires.