



NCAGE A5009  
CONFORM TO THE QUALITY  
SYSTEM STANDARD AQAP 2110  
and ISO 9001:2008

# CRISTANINI FIRE FIGHTING SYSTEMS



FD 907  
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## FIRE STOP 200/30

High technology system for first attack of fire with high pressure nebulized water (Water mist)



# FIELDS OF APPLICATION



- SHOPPING MALLS AND SHOPS
- CINEMAS AND THEATRES
- WAREHOUSES AND PRODUCTION DEP.
- HOMES AND HOTELS
- HOSPITALS
- PLACES OF WORSHIP
- GARAGES
- AIRPORTS
- SHIPS AND OFFSHORE PLATFORMS



- CONCERTS AND EVENTS WITH PUBLIC PERFORMANCES
- NEIGHBOURHOOD MARKETS
- MAJOR RELIGIOUS EVENTS
- CAR AND MOTORCYCLING RACES
- CAMPSITES
- PORTS
- FOREST
- ETC.



# CHARACTERISTICS OF USE

## RAPID, LIGHT AND EASY TO USE

The FIRE STOP 200/30 is the most suitable response for first attack fire fighting in any environment, as its extinguishing capacity is much higher than all the classic extinguishing systems.

The reduced overall size allows transport with small vehicles, making it absolutely versatile to use in all environments that are hard to reach with normal emergency vehicles.

Thanks to its capacity of use, the FIRE STOP 200/30 can be used by anyone and in particular by workers appointed for fire prevention and fire fighting now present in all companies. It is so practical that it can be used by only one operator.

The successful system of the FIRE STOP 200/30 is thanks to the "Water Mist" technology. At high pressure, the water is pulverized forming millions of micro-particles, the effect of which is to smother the fire and cool down the combustible.

## EXTINGUISHING CAPACITY

The FIRE STOP 200/30 has a very high capacity of extinguishing fire, well above all the traditional extinguishing systems.

It can be used in:

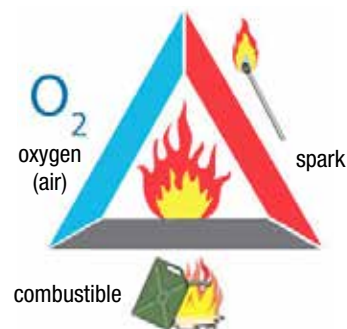
- Fires of solid and liquid flammable material of categories A, B and C.
- Activities with particular requirements, complementary to a hydrant system.
- Environments at a specific risk with the presence of hazardous substances.
- Activities subject to visits and inspections of fire prevention and companies at the Risk of Significant Accidents.

# THE WATER MIST TECHNOLOGY

Normally the fire is schematized by a triangle with the sides representing the 3 elements necessary for combustion.

**The 3 elements are:**

- **THE COMBUSTIBLE**
- **THE COMBURENT (oxygen)**
- **THE SPARK AND THE HEAT THAT FOLLOWS ON THE REACTION**



The principle underlying all classic extinguishing systems is the elimination of at least one factor that contributes to combustion. For example, water cools down the combustible then removes the spark; powders and foam separate the combustible from the oxygen in the air by smothering the reaction. The water produced by the FIRE STOP 200/30 with the Water Mist system does not act only by cooling down the combustible but also by smothering, as the millions of micro-particles saturate the environment, replacing the air and therefore the oxygen in the environment. **The FIRE STOP 200/30 thus acts both by cooling and by smothering the fire.**

In addition, the cooling capacity of the micro-pulverized water with Water Mist technology is increased hundreds of times, as:

- One drop of the volume of 1 litre of water, at the pressure of 1 bar, has a contact surface with the fire of 0.048 m<sup>2</sup>;
- 1 litre of misted water, at a pressure of 200 bar, generates 160 million micro-particles, which generate a contact surface with the fire of 20 m<sup>2</sup>, i.e. 416 times more than that generated with 1 bar.

One of the most important aspects of Water Mist technology is the reduction to a minimum of the water used to extinguish a fire. With the traditional extinguishing systems (hydrants, hoses etc.), a large amount of water has to be used, which often flows towards the lower floors, creating great damage and contamination of large surface areas and volumes.

**The FIRE STOP 200/30 with Water Mist technology limits to a minimum the water necessary for extinguishing a fire.**

<p>1 LITRE OF WATER</p> 		
<p>AT THE PRESSURE OF:</p>	<p>1 BAR</p>	<p>200 BAR</p>
<p>HAS A CONTACT SURFACE WITH THE HOT GASES OF:</p>	<p>0,048 m<sup>2</sup></p> 	<p>20 m<sup>2</sup></p> 

# USING FOAM

## AND OTHER EXTINGUISHING OR RETARDANT AGENTS

The FIRE STOP 200/30 can also use foam or other extinguishing or retardant agents which increase its extinguishing capacity even more.

The quantity of extinguishing product can be adjusted on both systems of aspiration, at high and low pressure. An aspiration device is placed on the water line at the entrance of the high pressure pump and a second aspiration device is situated on the high pressure line, after the pump.



*Less than 1 minute to extinguish a car on fire.*

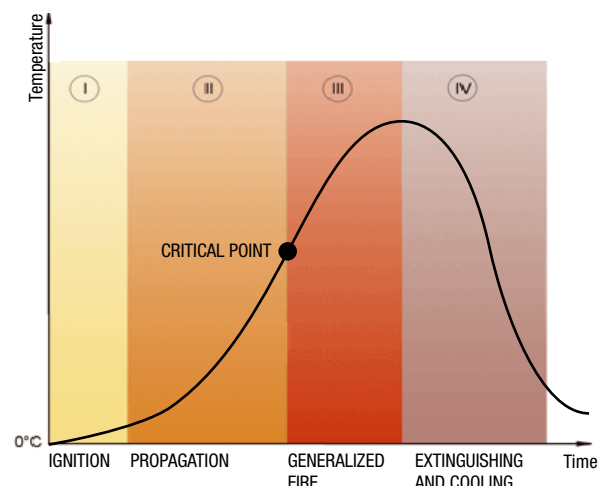
# THE REAL FIRE

## THE ACTION OF THE FIRE STOP 200/30 IN THE FIRST PHASES

The temperature of a real fire in a confined place increases in time, during which 4 very specific phases can be identified.

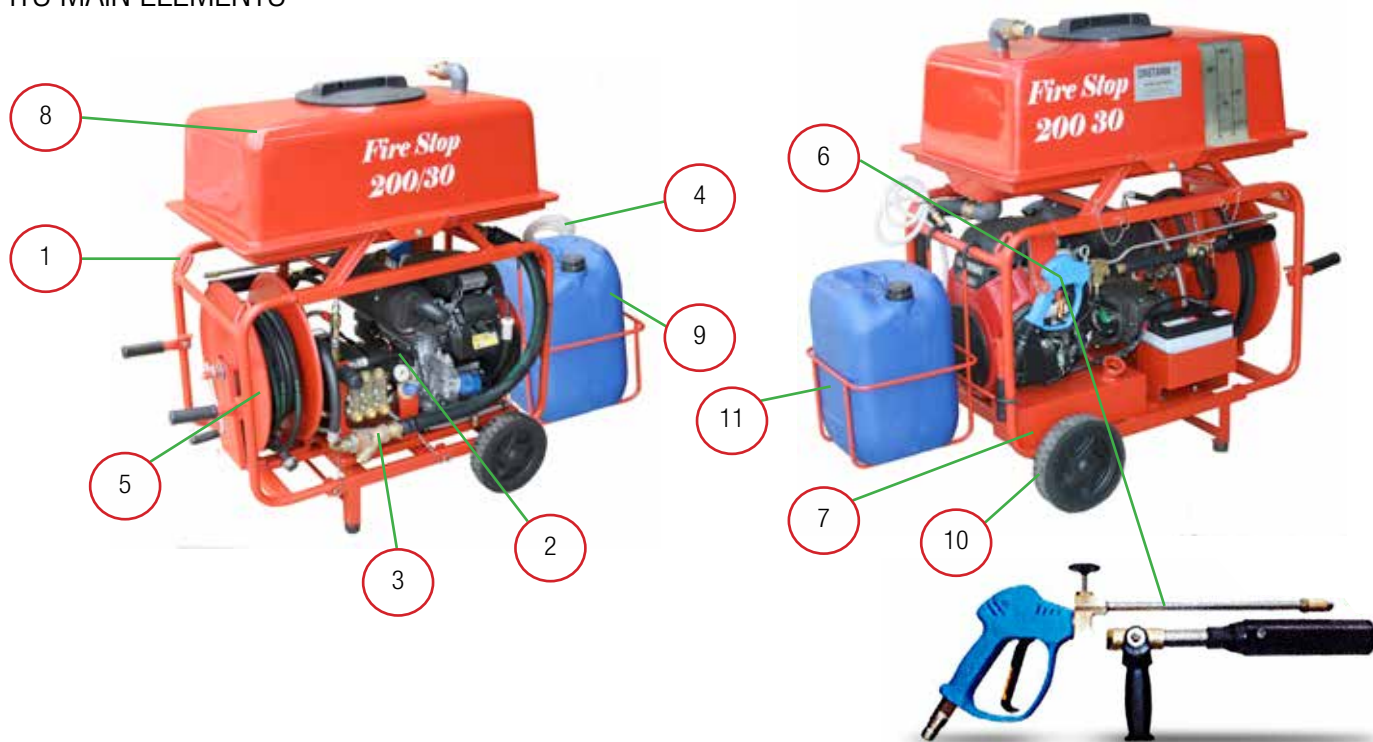
- 1) IGNITION PHASE
- 2) PROPAGATION PHASE
- 3) GENERALIZED FIRE PHASE
- 4) EXTINGUISHING AND COOLING PHASE

There may be a variable time from between 5 to 30 minutes, for the most distant places, from the emergency call to the arrival on site of the fire-fighters. This first phase, from the onset of a fire to the arrival of the fire fighting teams, may be the most important to save a person's life or a whole business. The action of the company's team in the first phases may prevent the fire from spreading and causing major damage to people or the destruction of important facilities.



# FIRE STOP 200/30 TECHNICAL INFORMATION

## ITS MAIN ELEMENTS



	COMPONENT	DESCRIPTION
1	<b>CHASSIS</b>	Painted steel - Dimensions: 1020x550x610 mm The chassis has 4 handles for lifting and transport.
2	<b>THERMOSTATIC VALVE</b>	This protects the packings of the pump from any overheating of the water in recirculation, caused by prolonged operation of the unit with the nozzle shut.
3	<b>SUPPLY WATER FILTER</b>	This allows filtering the water entering the high pressure pump. It is made of stainless steel.
4	<b>SYSTEMS OF ASPIRATION OF SELF-EXTINGUISHING PRODUCTS</b>	Two devices, one for aspiration by the pump and the other for delivery from the pump, which allow using a wide range of extinguishing/foaming products with different mixing percentages with water.
5	<b>HOSE REEL</b>	Manual, capacity of 40 m of high pressure hose.
6	<b>HIGH PRESSURE FIRE FIGHTING LANCE</b>	With a pistol, it allows dispensing different shapes of water jets, or water mixed with foaming and extinguishing products, and "Water Mist" nebulized water (p.7)
7	<b>FUEL TANK</b>	Made of stainless steel, it has a capacity of about 6 litres, allowing a continuous operating autonomy of the unit of about 2 hours.
8	<b>WATER TANK</b>	Complete with: a) visual control of the level - b) connection for filling with water c) opening to clean tank - d) discharge cap
9	<b>SUPPORT FOR PRODUCT CONTAINER HOLDER</b>	Allows housing the container of the extinguishing products.
10	<b>TRUCK WITH WHEELS</b>	It has two large wheels (diameter 300 mm) which can be quickly removed.
11	<b>CONTAINER FOR CHEMICAL PRODUCTS</b>	For extinguishing or retardant products.

# TECHNICAL FEATURES

<b>ENGINE TYPE</b>	Petrol, two-cylinder
<b>ENGINE POWER</b>	14.7 kW
<b>ELECTRICAL STARTER</b>	12 V
<b>HIGH PRESSURE PUMP</b>	3 ceramic and titanium pistons
<b>FEATURES OF HIGH PRESSURE PUMP</b>	200 bars – 30 l/m
<b>CAPACITY OF WATER AND EXTINGUISHING/FOAMING PRODUCT TANK</b>	120 litres of water – 30 litres of foam
<b>MAXIMUM RANGE OF WATER</b>	16-17 m (direct jet) – 8 m (diffused jet)
<b>RANGE OF WATER + EXTINGUISHING/FOAMING PRODUCT</b>	16-17 m (direct jet)
<b>MAXIMUM FLOW RATE EXTINGUISHING/FOAMING PRODUCT</b>	3 l/m
<b>DIMENSIONS AND WEIGHT WITHOUT TRUCK AND WITHOUT TANKS</b>	900x500x600 mm – 136 Kg
<b>DIMENSIONS AND WEIGHT WITH TRUCK AND TANKS (EMPTY)</b>	1320 x 700 x 1200 mm – 175 Kg
<b>LENGTH OF STANDARD HOSE</b>	40 m

The maintenance of the **FIRE STOP 200/300** system is simple and immediate and can also be done by unskilled personnel. It also uses components which are easy to find internationally.

## FUNCTIONS OF THE LANCE

### WATER MIST TECHNOLOGY



Nebulizing only water, or water + foam with micro-particles of water to saturate the environment and cool down the combustible.



Water + foam with semi-open jet at low pressure



Only water, or water + foam at high pressure



Water + foam to rapidly cover the area concerned



# LIGHTWEIGHT UNIT OF RAPID ATTACK

This is a unit which has a **FIRE STOP 200/30** installed (fixed or semi-fixed) on the vehicle, with a capacity of 25÷30 l/m, with a water tank and hose reel. Its aim is to perform first attack fire-fighting in the fire control operations carried out by fire-fighters/company's fire protection operators.



A lightweight vehicle equipped with the **FIRE STOP 200/30** system. It is a complete system which can be operated by only one person and can extinguish fires or block them until the arrival of larger units.

## THE PECULIARITIES OF THIS SYSTEM

- Versatility and speed of movement.
- Access to difficult areas (narrow streets, heavy traffic, commercial areas such as squares and pavements, natural areas, etc.).
- Low water consumption.
- Capacity to apply foams and retardant products.
- Less damage caused by water.
- Easy to use: requires only one operator.
- Its capacities can be increased with optional accessories, such as larger water tanks, depending on the requirements.
- Modular base: if the vehicle does not work, the system can be moved on to another one in order not to lose its working capacity.



### CRISTANINI

37010 RIVOLI VERONESE - VERONA - ITALY  
Tel. +39-045-6269400 - Fax +39-045-6269411  
cristanini@cristanini.it - www.cristanini.com