

# MERCEDES SPRINT

Fire and Rescue Vehicle equipped with  
CCS-COBRA Cutting Extinguisher



**The COBRA Cutting and extinguishing system has been developed in 1997 by CCS in close co-operation with the Swedish Rescue Services Agency.**

The COBRA-system is a unique and patented water cutting and fire fighting system. COBRA cuts metal, concrete, wood, glass and any other construction material. It is also a "cold cutting" method permitting cutting without "hot sparks". Cutting thus can be performed in flammable and explosive areas. The high water pressure - 300 bar - together with the special nozzle creates a "fog" of fine droplets, which makes COBRA an efficient tool for fire fighting.

The unique COBRA system permits the transport of water and abrasive for long distances - 300 m (1.000 ft) or more without loss of cutting force or fire fighting capability. This is of great advantage for all kinds of rescue work and fire fighting in high rise buildings and in distant areas difficult to reach with water and cutting tools.

## MERCEDES Sprint

The Mercedes Sprint 316 CD 4x4 is powered by strong turbo diesel (159 hp) is equipped as a "rapid intervention vehicle" for any type of fires and traffic accidents. The concept is developed by the Swedish Rescue Services Agency in close co-operation with two very progressive and safety oriented municipalities i.e. **Öckerö** on the west coast of Sweden and **Sörmlandskusten** on the east coast.

The rescue vehicle has a water tank of 350 liters, the COBRA cutting and extinguishing system, first-aid and life saving

**The COBRA-system is now in operation in Europe, USA and Japan.**

equipment to take care of victims in any type of accident, navigation and communication equipment etc..

The high-pressure waterpump is powered by the hydraulic system. The working pressure of the water cutting system is 300 bar (5.000 psi) at a water flow of 50 liter (10 gallons) per minute. The water/abrasive hose is a 1/2" standard hydraulic hose.

## The Unique COBRA-system Cutting Performance

The patented nozzle is accelerating the water/abrasive mixture, by jetting technique. Through this patented technique the power of the water pump is efficiently transformed to create the cutting force. The mixture water - abrasive is given an enormous energy - sufficient to cut any type of construction material as i.e. steel and concrete.

## Fire Fighting Performance

High pressurized water transforms in front of the nozzle into micro droplets, which results in a "fog" and thus effectively suppresses a fire, i.e.:

- the large reaction surface of fog absorbs heat - the fog evaporates very fast due to its huge surface - water expands 1.640 times
- the evaporated "fog" displaces oxygen and effectively extinguish the flames.

### Advantages of COBRA system:

- **limits water damage** - efficient fire fighting with small amount of water
- **reduces the amount of contaminated water** - friendly to environment
- safe and secure for remote control - no firemen on hot roofs
- **fast and safe access to the fire in closed areas** - safe to fight "back draught fire"
- **ideal for rapid intervention**
- secure "cold cutting method" - for cutting and making hole in "explosive areas"



- **ideal for high-rise buildings and where need for long length of hoses**
- **low loss of pressure and no loss of efficiency** in distances up to 300 m - or more

The COBRA-system can easily be built into many types of rescue vehicles.

The COBRA-system has been extensively tested since 1997 by the official governmental organisation Swedish Rescue Services Agency. Tests also include endurance and freezing tests during Scandinavian winters north of the Polar Circle.



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