

CCS-COBRA



Technical specification for the Cobra system:

General:

Cold Cut System AB (CCS) is a Swedish company specializing in the design and manufacture of fire-fighting equipment to improve safety and working conditions for firemen. CCS products are based on cold cutting using water jets.

The COBRA makes it possible to attack a fire from outside a fire room preventing back drafts by cooling down fire gases. COBRA is an efficient tool for piercing and cutting in all types of building material wood, steel concrete etc.

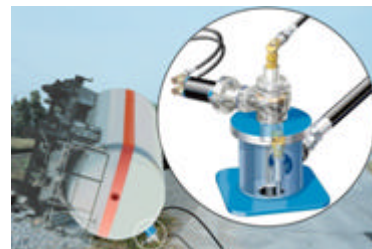
COBRA's water jetting technique for cutting is also a highly effective fire suppression system. At the same time as the beam pierce thru the micro droplets, which are produced by the high water pressure of 300 bars transforms into steam. This process consumes a lot of energy taken from the heat of the fire. The environment around the fire is cool down, as well as oxygen is consumed and dampening the fire.

When water transforms into steam it expands with more than 1640 times' greater volume. The fog-fighting system has a well-known cooling and extinguishing capability.

It is a very efficient tool to extinguish smouldering fires inside walls, roofs and floors and other hard to reach places.

COBRA has a very efficient extinguishing capability with the use of a limited amount of water, whereby the secondary damages from water and destroyed constructions can be minimised.

The Cold Tap is an optional attachment to the system. It makes it possible to make holes in containers with explosive or flammable materials containing gases, oil products etc. for the safe removal of the content.



The Cutting Frame or Silo Cutter is another optional attachment for making larger holes to gain entry, make escape hatches or to empty silos etc. The frame works as a guiding rail for the cold cutting head and can be customized for specific purposes.

Approvals:

The CCS COBRA system is developed and tested in cooperation with the Swedish Rescue Services Agency and Lunds University of Technology. The system has been tested by Statens Provningsanstalt, SP (the Swedish Government test and research institute).

The system complies with Swedish workers safety regulations for water jet equipment and is CE marked.



CCS-COBRA



Hydraulics:

The CCS-Cobra uses a hydraulic driven high-pressure water pump (HPW). Hydraulic pressure and Hydraulic oil flow required to drive water pump is min 180 bar @115 l/min. Total power 35 kW. On-off valve for abrasive valve included. Valve kit for load sensing systems or constant pressure systems is available as an option.

HPW:

Inlet water 50 l/min. Size of inlet line 1". Self-suction possible but the pump runs smoother with pressurized water inlet. Foam may be used. The system can use seawater in an emergency situation.

Electrics:

Can be delivered for 12 or 24 VDC. The radio operates on the 450 or 900 MHz band (depending on country) and is delivered complete with antenna, 2 batteries and charger.

Hose:

Internal diameter is ½". Double steel braided.
Standard length is 80 meters. Cutting is possible up to 300 meters hose length.

Hose reel:

Solid heavy duty plastic centre.
High pressure swivel.
Standard capacity 100m.
Electric rewind.

Abrasive:

Proprietary sharp edged metallic cutting sand.
Non-toxic.
Non-hazardous.
CE-marked.



Cutting capability

Concrete	150mm,	50 mm / min
Steel	50mm,	40 mm / min
Laminated glass	100mm,	75 mm / min
Plastic	100mm,	90 mm / min

When cutting thicker materials these values can be used to estimate approximate cutting time. Softer materials such as wood, paper, fibreboard etc. can be cut with water only.

Water Jet:

Water droplets of 150 microns diameter at a speed of 220 m/s.
Water Jet breaks up after 4-5 meters.
Safety distance is 10 meters.

CCS-COBRA



Weight:

20 litre Abrasive vessel 83 Kg, Abrasive load 40 Kg, Water in Abrasive vessel 8 Kg (sufficient for ten minutes of cutting)

10 litre Abrasive vessel 66 Kg, Abrasive 20 Kg, Water in Abrasive vessel 4 Kg (sufficient for five minutes of cutting)

Water pump 30 Kg

Valve kit 3 Kg

Hose reel 30 Kg

Hose 0.52 Kg/m

Handheld lance 5.6 Kg

Radio control and electrical equipment 3 Kg

Total Weight 10Liter vessel: Approx 200 kg

Total Weight 20Liter vessel: Approx 240kg

Additional Hydraulic system if required:

Hydraulic pump 27 kg

Power take off 26 kg

Hydraulic tank 36 L 18 kg

Oil cooler 10 kg

Oil 40 kg

Hoses 15 kg

Total weight hydraulic system: Approx 140 kg

Dimensions:

20-liter abrasive vessel WxDxH 350 x 270 x 1000 mm

10-liter abrasive vessel WxDxH 350 x 270 x 690 mm

Hose reel for max 100 m hose WxDxH 900 x 450 x 514 mm

CCS-Cobra

Aug, 2005

Further information is available at: www.ccs-cobra.com

