

BATEC

SICHERHEITSANLAGEN



AUTOMATIC FIRE PROTECTION SYSTEMS

FOR CONSTRUCTION MACHINERY

Tipplers • Diggers • Cranes

Wheel loaders • Dumpers

Tracked excavators

Stackers • Tunnel excavators • Electro containers

Product description

In terms of its execution and assembly, our extinguishing system meets the general applicable technical regulations. The extinguishing system meets the specifications of the Employer's Liability Insurance Association for the Building Industry (Tunnel).

The fundamental structure of our extinguishing systems complies with the license from the Landesoberbergamt (supervisory and administrative authority) of North Rhine Westphalia for "Fixed on-board fire-extinguishing equipment with a high rate and automatic triggering".

You receive a CE manufacturer's declaration in compliance with the Machinery Directive and operating instructions in German.

Model system



Component description

Thermostat (Thermal detector)



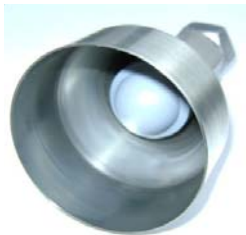
Thermostats are pneumatic thermal maximum detectors and they respond at a temperature of 98° respectively 128° Celsius. They are filled with CO₂ gas, which is released at the response temperature and gives the pneumatic control impulse to trigger the extinguishing system.

Striker button release



Striker button releases are installed on the object, with which the operator can trigger the extinguishing system by hand. For this purpose the safety chain must first be pulled and then the striker button pressed in. Thereby the internal pressure cartridge (12 g) is pierced; the gas escapes through the pipeline and opens the valve for the extinguishing agent.

Extinguishing agent nozzle



Extinguishing nozzles are installed in the areas that are protected. They are protected against contamination by means of a ball with return spring. The extinguishing agent flows out of them at high pressure. The extinguishing agent swirls the nozzles and comes out as a fine cloud of powder. The nozzle is equipped with a cup to direct the extinguishing jet.

Acoustic/optical warning device



The warning device possesses a red xenon flashlight and a selectable signal tone. It is activated if a detector has triggered it (in the event of fire).

Extinguishing agent, extinguisher and valve



High performance extinguishing powder is used. It is for A, B and C fire types. The extinguishing agent can be classified as physiologically harmless if applied as intended.

The extinguishing agent is stored in a high-pressure steel tank (test pressure 250 bars).

The dimensioning of the quantity of extinguishing agent is designed for normal operation and for the closed flooding area.

The valve is opened pneumatically and it releases the extinguishing agent. The valve can be blocked by inserting a locking cotter pin. It is equipped with a manometer to monitor depletion.

How the extinguishing system functions

Semi-automatic extinguishing system

Automatic fire detectors (thermostats) are installed in the engine compartment.

If the specified triggering temperature is exceeded the burst disc on the thermostat opens and releases pressure. This actuates a horn with a flashlight, which is located in the driver's cabin, alerting the operator. The power for the horn with the flashlight is provided by the on-board power supply system.

The operator can now initiate extinguishing manually by means of the striker button release. When the striker button is actuated, a propellant gas cartridge is opened. Its gas opens the valve on the cylinder containing the extinguishing agent via the control line. The extinguishing agent (ABC powder) flows via the extinguishing agent line into the extinguishing nozzles, exiting them at high pressure. The fire is extinguished.

The extinguishing effect of ABC powder is based on the formation of barrier layers, which isolate the focus of the fire and shut out the oxygen.

Automatic extinguishing system

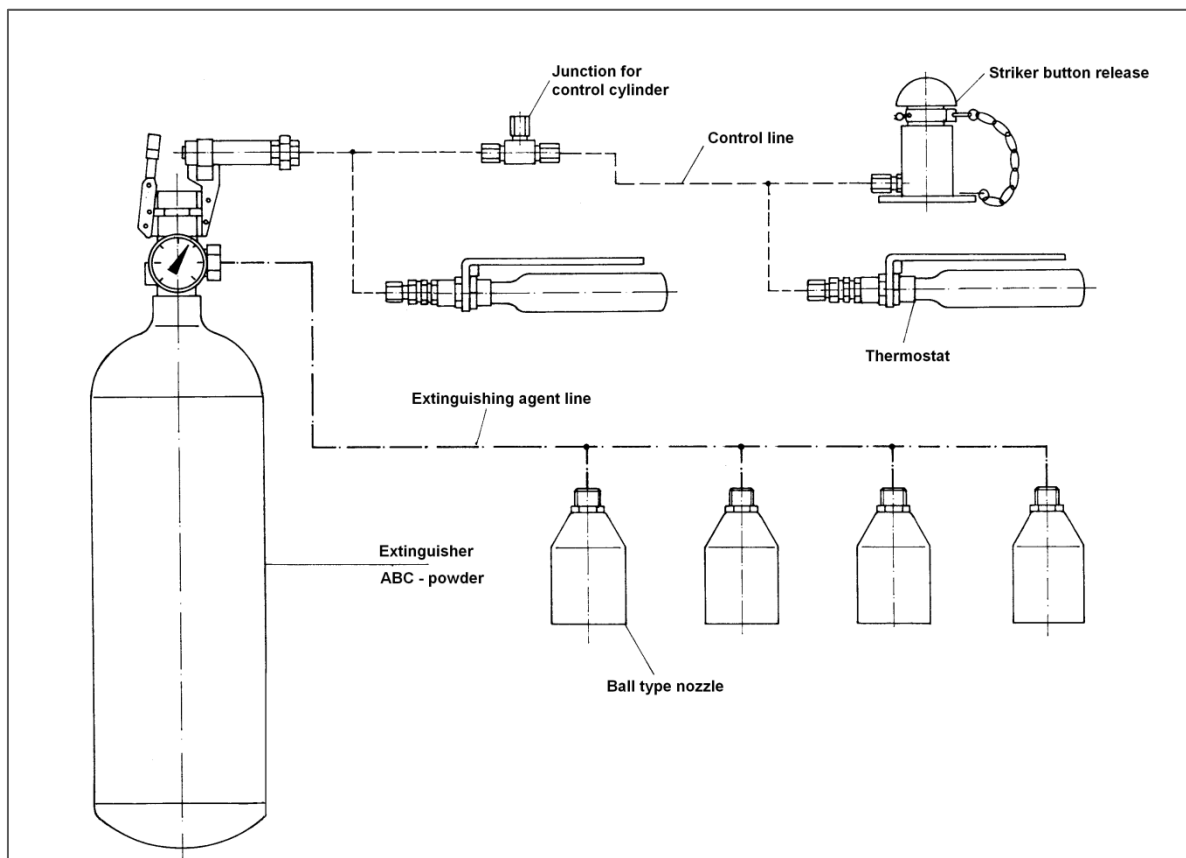
The extinguishing system functions as described above, but extinguishing is initiated automatically when the fire is detected without the operator having to intervene.

Manual extinguishing system

In this case there is no automatic fire detection and alarm. The operator has to detect a fire and then initiate the extinguishing process by hand.

We work out the functional principle which is most suitable together with our customer to meet the respective requirements.

Basic layout:



Assembly of a semi-automatic extinguishing system shown on the example of an excavator



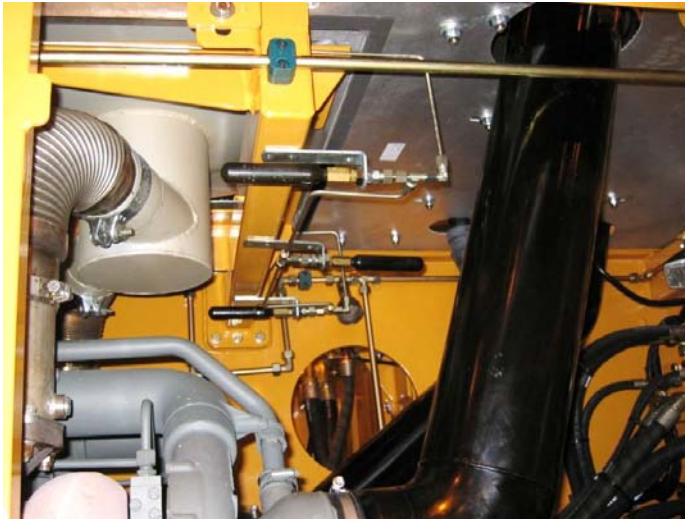
Striker button release in the driver's cabin.



Acoustic / optical warning device in the driver's cabin.



10 kg powder extinguisher fixed on a galvanised massive holder outside the excavator.



Thermal detectors clearly visible at the ceiling of the engine room. In the back (above the round opening) you see an extinguishing nozzle.



Another two thermal detectors, a part of an extinguishing agent line and two extinguishing nozzles in the engine room.

The following are among our satisfied customers:

- Bauer Spezialtiefbau GmbH
- Nagel Baumaschinen
- Liebherr
- Liebherr Mietpartner GmbH
- Normrent GmbH
- Terex GmbH
- Zeppelin Baumaschinen GmbH



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