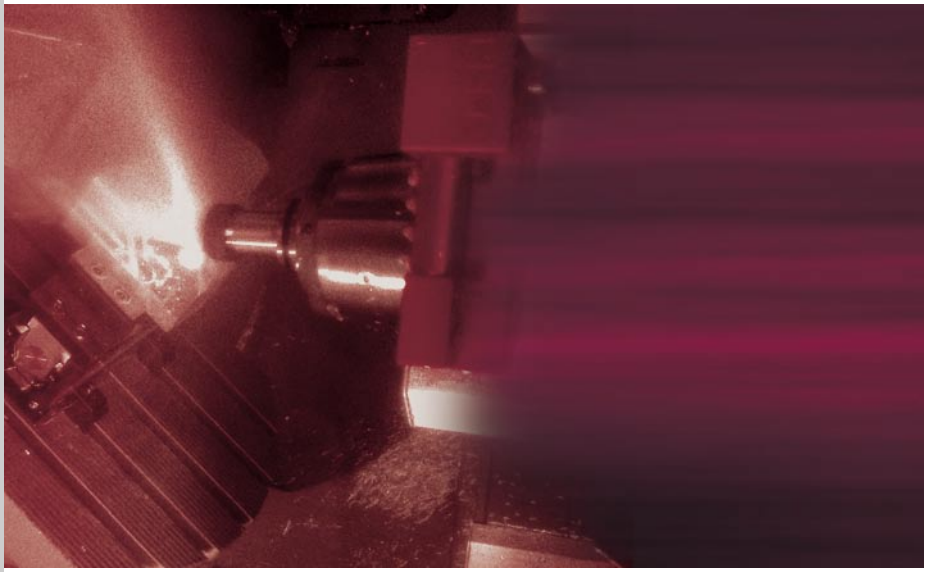
kraft & bauer
BRANDSCHUTZSYSTEME



Microprocessor-controlled property protection CO_2 extinguishing systems

Kraft & Bauer – the system supplier

Kraft & Bauer is taking a leading position as the manufacturer and supplier of property protection extinguishing systems. Through our experience gained over many decades we have established ourselves internationally as a major system supplier in the development and manufacturing of fire protection systems. We are both a plant fitter (finisher) of leading machine manufacturers and are partners to well-known worldwide industrial enterprises – starting from offering extensive advice through to providing on-time installations, and then supplying a reliable back-up service. The property protection extinguishing systems by **Kraft & Bauer** correspond to the applicable standards, such as e.g. Small Extinguishing Systems Regulation DIN 14497, Professional Association BGR 134 and EN (European Standard) 13478 "Safety at Machines".

Optimal fire fighting with Kraft & Bauer

Our microprocessor-controlled extinguishing systems have wide-ranging applications and fulfil most individual customer demands by their versatility. Basically, wherever work is performed with combustible liquids or oil cooling, where machines are operated in high fire risk situations and where, in case of defects (e.g. tool fracture) ignitions can occur, our systems ensure safety in the fire fighting. **Kraft & Bauer** will provide you with project-related advice and provides comprehensive safety packages with system guarantees for all risks of fire.

Ideal operational areas

EDM machines, grinding machines, machining centres, automatic lathes, test benches, laser systems, exhaust and filtering systems, control cabinets, data processing equipment and fire endangered objects of any kind. Also optimally designed for deployment with argon and other inert gases (e.g. for the processing of magnesium).

Advantages of Kraft & Bauer property protection extinguishing systems

- Microprocessor-controlled state-of-the-art extinguishing systems control FB 703/704.
- Fire detection within the first few seconds by parallel switched, high-sensitive optical and thermal detectors Therefore, optimal limitation of damage.
- Acoustic and visible alarm.
- Clearly decreases down-time periods, minor repair times.
- Optimal swirling of the extinguishing gas by special extinguishing nozzles.
- Integrated emergency power supply.
- No structural modifications are necessary.
- Modular extension possibilities for complete fire protection, e.g. fire protection shutters, pressure balancing shutters with collective exhaust, etc.
- Also deployable with argon.
- Recommended by insurance companies.
- Acceptance by VDS (Property Insurance Company) experts is not required.
- Specially trained personnel for installation and maintenance.
- Fair price performance ratio of new installations and maintenance work.

Small extinguishing systems – modular system

The important first few seconds ... by Kraft & Bauer

When a fire occurs, it may take only seconds to become either one that will cause extensive disruption and interruption of work, or one that will remain as a minor incident.

Flame development, rise in temperature

Fire detection

For the immediate detection of a fire, even in the phase of creation, a UV or IR flame detector and adjustable thermal maximum detectors (from 50°C onwards) should be directly installed in the endangered fire area. Any kind of fire outbreak is immediately detected due to the visible and also thermal monitoring.

The corresponding fire detector releases a signal to the extinguishing system control

Extinguishing system control

The **Kraft & Bauer** microprocessor-controlled system has been designed for applications in the protection of property (proofed against water jets IP 55) and contains 3 or 4 signal lines. All functions are automatically monitored – visible and acoustic displays for operation, power supply, alarm and interferences. Additional components include integrated emergency power supply, manual release and extinguishing delay, as well as acoustic and visible alarms. Re-transmission of alarms and display of failure report are possible through potential relay outputs.

The control automatically releases the extinguishing system through a pyrotechnic pressure gas generator or a solenoid valve (option). The release is also possible manually

CO_2 extinguisher container

The extinguisher container, with electrically triggered instantaneous release valve, is certified by the TÜV and contains the necessary quantity of extinguishers (2-20 kg) It is optionally available with a fading signal device. (weighing appliance)

The CO_2 extinguisher flows through the extinguishing nozzles or extinguishing bar; the property to be protected is simultaneously switched off.

Flooding

The extinguisher container is connected with the extinguishing duct by a high-pressure hose. The extinguishing gas escapes through the specially designed extinguishing nozzles with a pot. Optimal swirling ensures a quick extinction. Flooding may also be carried out through a CO_2 extinguishing duct. CO_2 carbon dioxide is non-odorous and colourless and in its deployment a completely neutral gas, which does not damage or contaminate property and does not cause any corrosion. It displaces the atmospheric oxygen that is required for the fire reaction. The single exhaust and filtering system is also extinguished and electrically disconnected at the covered machines. Alternatively, other extinguishers (e.g. argon) may also be selected

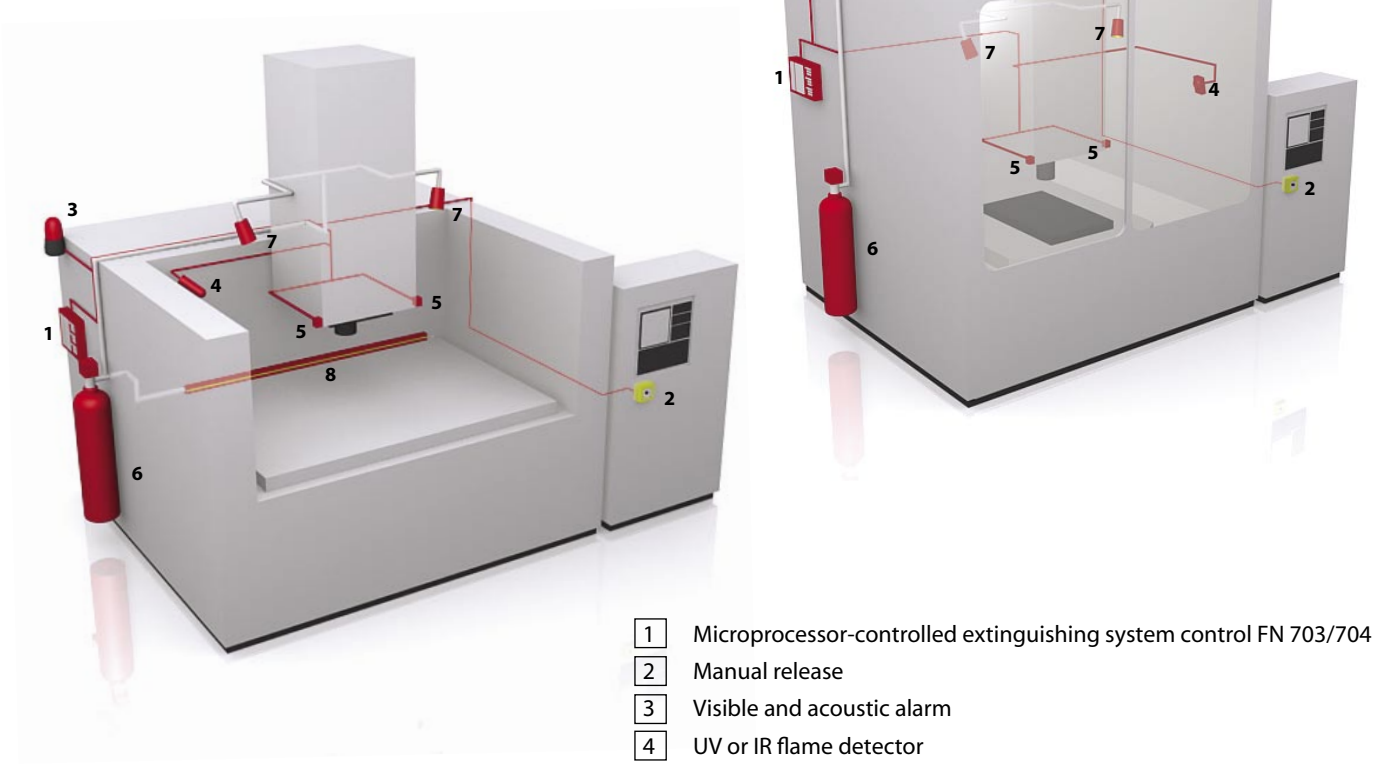
The system may reproduce with no further stoppage periods

Kraft & Bauer microprocessor-controlled property protection extinguishing systems ensure around-the-clock unattended operation.

Systematic fire protection

The **Kraft & Bauer** CO_2 extinguishing system is designed for one single object. The single system for each object is also suitable for adapting into collective or room protecting systems at industrial enterprises with multiple machines or systems:

- Only the machine concerned will be disconnected, but not the complete production.
- Individual displacement of the machine without any difficulties.
- Faster detection of the fire creation and more effective fight against the fire.
- No endangering of persons.
- No additional cabling or laying of tubes.
- Lower maintenance costs.



1 Microprocessor-controlled extinguishing system control FN 703/704
2 Manual release
3 Visible and acoustic alarm
4 UV or IR flame detector
5 Thermal maximum detector
6 Extinguisher container with pyrotechnic or magnetic release; alternatively a weighing appliance
7 Flooding though CO_2 extinguishing nozzles
8 Flooding though CO_2 extinguishing bar (alternatively at uncovered machines)
9 Flooding of the single exhaust and filtering system by CO_2 extinguishing nozzle
10 Pressure balancing shutter

System components and solutions for encased machines and systems, exhaust and filtering installations

Oil mist, which is developed in sealed systems, can possibly ignite due to massive pressure build-up. The destruction of the machine and the endangering of employees are obvious consequences. In addition, the resulting fire may extend itself over the exhaust and filtering installation, and even to connected processing equipment. In such cases, and for multiple machining centres, an preventive system can be pre-programmed to reduce the danger.

As a system supplier **Kraft & Bauer** offers a concept which ensures, by the outstanding collection of an extinguishing system, and fire and explosion protection components, an effective form of protection for personnel, machine and exhaust installations.

Pressure balancing shutter
The pressure balancing shutter installed on the machine allows the enormous build up of pressure towards an explosion to escape. If required, you may integrate a flame-reducing grid that prevents flame escaping towards the machine surroundings.

Fire protection shutter
The fire protection shutter integrated in the tube of the oil mist exhaust shutter closes immediately at the first signs of an explosion or fire, and consequently isolates the machine from the filtering system. A spread of the fire to other machines or into the complete exhaust system is thereby prevented.

1 Microprocessor-controlled extinguishing system control FB 703/704
2 Manual release
3 Visual and acoustic alarm
4 UV or IR flame detector
5 Thermo maximum detector
6 Extinguisher containers with pyrotechnic or magnetic release and alternative weighing appliance
7 Flooding through CO_2 extinguishing nozzle
8 Pressure balancing shutter
9 Fire protection shutter

Kraft & Bauer
Brandschutzsysteme GmbH

Max-Eyth-Strasse 43
D-71088 Holzgerlingen

Phone
+49 (0) 70 31 / 4 10 36 - 0
Fax
+49 (0) 70 31 / 4 10 36 - 11

Kraft & Bauer
Schweiz GmbH

Aeschistrasse 13
CH-3362 Niederönz
Switzerland

Phone
+41 (0) 62 / 9 61 76 61
Fax
+41 (0) 62 / 9 61 76 64

E-Mail
info@kraft-bauer.com
Internet
www.kraft-bauer.com