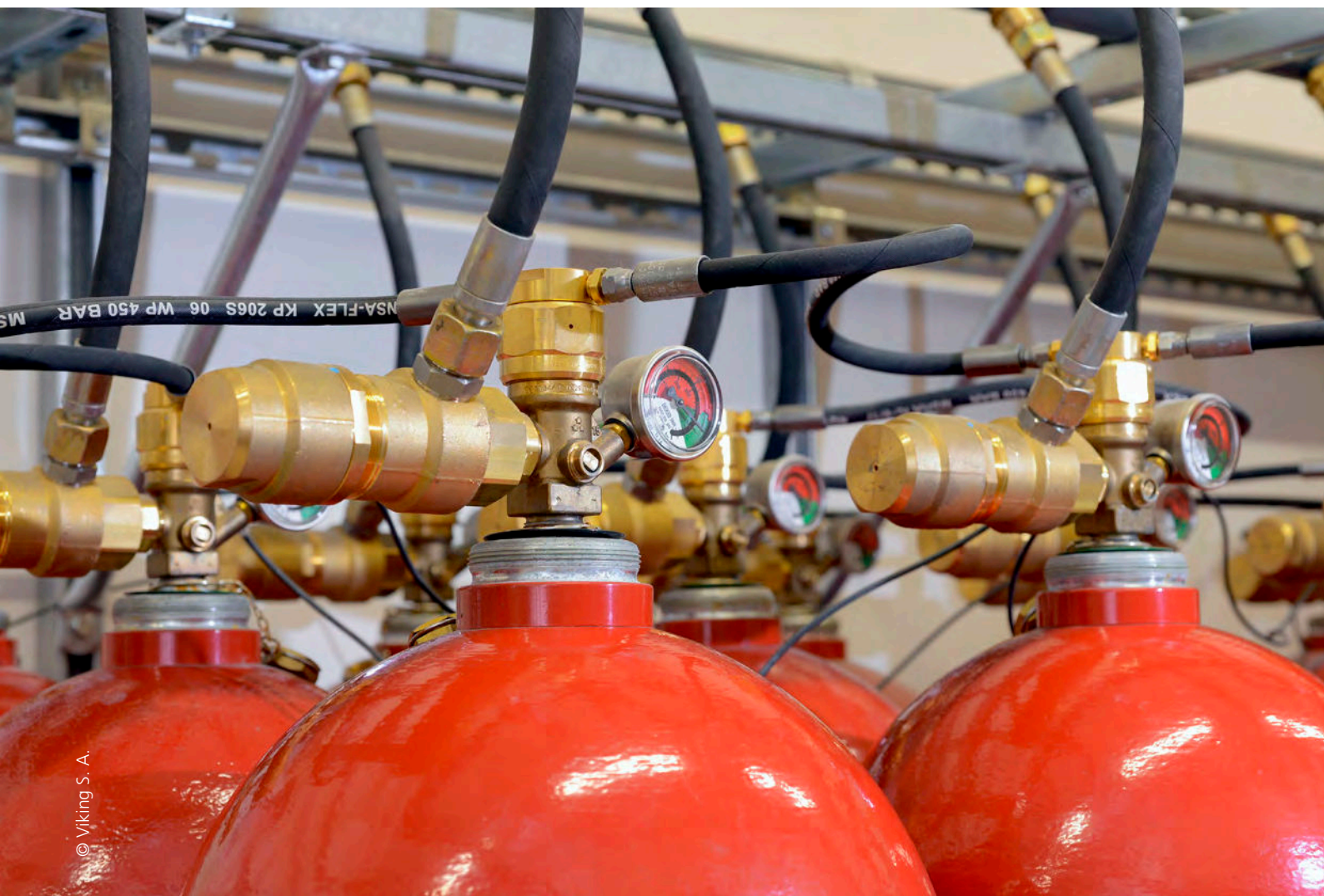


# Industrial machinery fire protection

## Argon extinguishing

Clean. Safe. Better.

Also suitable for metal fires.



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### **Gas-extinguishing: clean and resource-efficient**

In industrial plants, gas extinguishing systems provide reliable protection against fires and are often used where cleanliness and short downtimes are particularly important. Gas is suitable for the targeted extinguishing of fires in enclosed machines, filter systems and extraction pipes.

Unlike water, gas spreads three-dimensionally inside the object to be protected, extinguishing fires even in concealed areas. Furthermore, gas does not contaminate either the product or the machine. The effort required after water extinguishing to clean and dry machines or replace filter material is eliminated, as is the expensive disposal of contaminated extinguishing water.

### **Production can be restarted more quickly after gas extinguishing than after water extinguishing.**

### **Can also be used on metal fires**

As a noble gas, argon is chemically stable and can therefore be used to extinguish metal fires or oil-containing metallic dusts. This makes it ideal for machining centres because it offers maximum extinguishing effectiveness without posing a hazard to operating personnel.

Carbon dioxide and nitrogen are not suitable for this purpose because they can break down at these high temperatures and are no longer effective for extinguishing fires. When CO<sub>2</sub> breaks down, the fire is actually reignited when the oxygen bound in it is released.

### **More safety – less effort**

In practice, time is often a decisive factor: if operational interruptions are to be kept to a minimum, argon is a good choice. It is non-toxic to humans, and there is no risk of asphyxiation at the design extinguishing concentration. Compared to toxic carbon dioxide, no special personal protective measures are necessary when using argon.

The significantly simpler safety requirements and, above all, the faster recommissioning after extinguishing with argon usually compensate for the higher purchase price.

### **Differences that matter**

However, not all extinguishing gases are equally safe – especially when people are working in the protected area. We therefore primarily use argon as an extinguishing gas to ensure the greatest possible safety for people.

There are also major differences in the areas of application. When comparing the commonly used extinguishing gases carbon dioxide and nitrogen with argon, the advantages of argon become clear.

It is not only ideal for machines in the food and feed industry, where residue-free extinguishing often plays an important role for operators. Argon is also ideal for pipe fires that are difficult to extinguish directly – whether in the wood industry, for welding fume extraction, in foundries or for extracting fumes from machines used to process light metals.

### **Carbon dioxide – an underestimated hazard.**

Even at concentrations well below those required for an extinguishing effect, carbon dioxide is life-threatening to humans.

At a volume fraction of four to five percent in the air, it has a narcotic effect, and at around eight percent, it is lethal. In the event of damage, it is also quite possible that the machine will leak and the carbon dioxide will escape. This means it can enter the area where operating personnel are located or traffic routes.

Due to the risk to human life, the requirements for plant operators (in accordance with VdS 3518 of October 2024) when using carbon dioxide are correspondingly high. These include technical measures for personal protection, but also the gas clearance measurement of the room or plant prior to recommissioning after an extinguishing process with carbon dioxide.

# Reliable fire protection for machinery, conveyor systems and filter units

	Ar	CO <sub>2</sub>	N <sub>2</sub>
Suitability for high temperatures/metal fires	✓	✗	✗
Residue-free extinguishing	✓	✓	✓
No risk to personnel	✓	✗	✓
No effort required for human safety	✓	✗	✓

## Advantages of the T&B argon extinguishing system

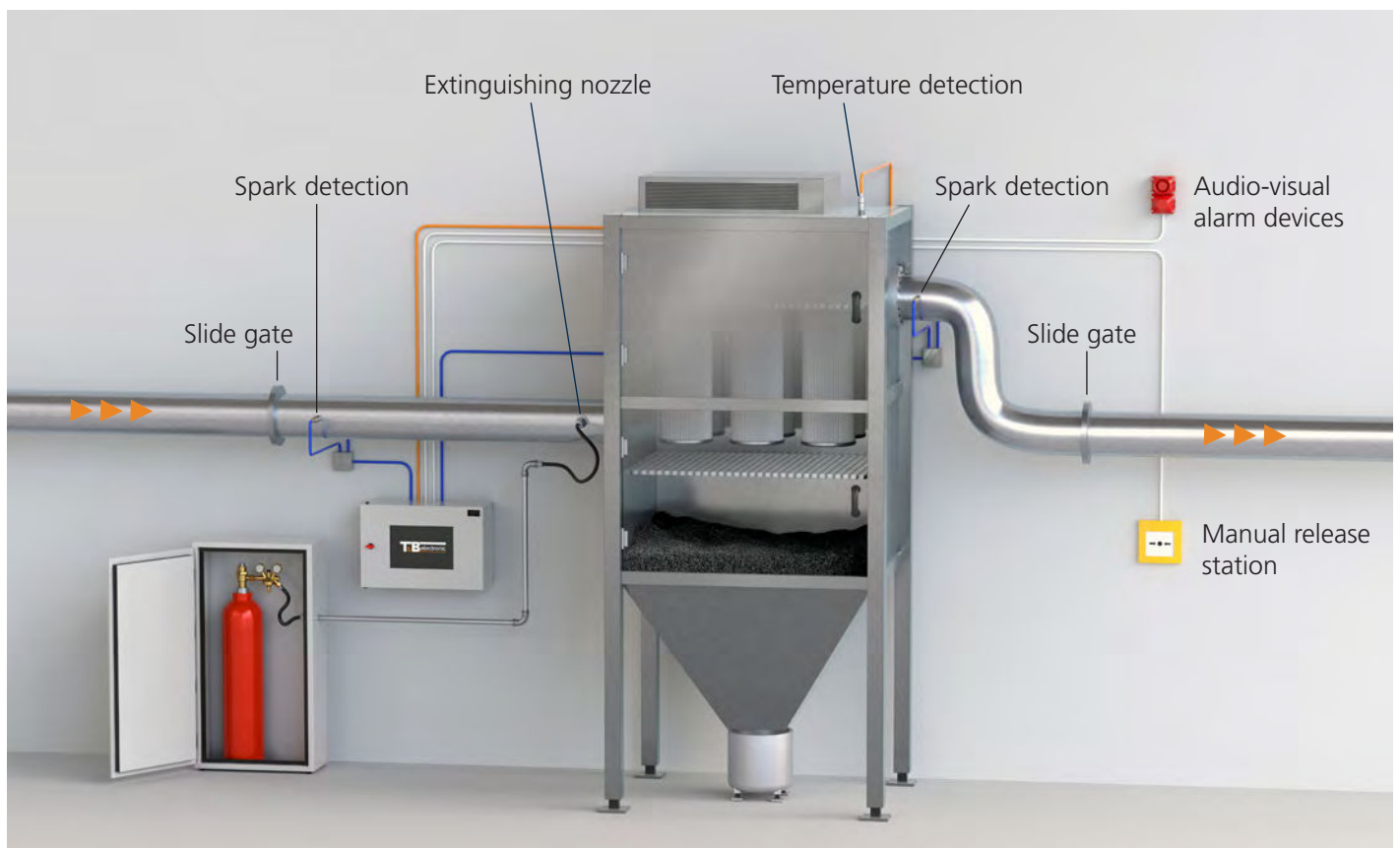
- Fast detection
- Clean extinguishing: no residue in the machine
- Rapid resumption of production after extinguishing
- Suitable for metal fires and pipe fires
- Reliable extinguishing throughout the entire enclosure
- No hazard to persons
- Complies with VdS 3518 requirements

## T&B filter protection with argon

As shown in the example, the filter system is monitored for sparks and embers by spark detectors both in the extraction line and on the clean gas side. An additional thermal detector inside the filter is used to monitor the filter when it is not in operation, after the end of a shift or on days off. In addition, the extinguishing system can be triggered via a manual call point.

If one of the detectors is triggered, the control panel closes both slide gates. The agent supply is activated and argon flows into the filter via extinguishing nozzles. The operating personnel are alerted by an acoustic and visual alarm.

After the extinguishing process, the argon can be vented without residue via the existing ventilation system – the production can restart immediately.



# Our products

Your safety



## VdS-certified deluge system

Deluge systems are used in areas where there is a risk of rapidly spreading fires. The system applies extinguishing water to the protected object quickly and over a large area.



## Certified infrared camera-based early fire detection system (IR)

The infrared camera-based early fire detection system detects fires as they are developing. We combine detection with our VdS-certified deluge system to protect machines, halls or open spaces.



## Fire alarm system in accordance with DIN 14675

Fire alarm systems are permanently installed manual or automatic systems for early fire detection, warning of the persons concerned and rapid transmission of the fire alarm to a service provider.



## VdS-certified spark extinguishing system

Fully automatic system that detects the smallest ignition potentials in transport systems and extinguishes them in the range of milliseconds with a water mist.



## Argon extinguishing system in accordance with VdS 2380/3445

Fully automatic extinguishing system in which the fire is detected and eliminated by oxygen displacement.



## Robust, fully automatic fire monitors

Our fire detection system offers effective prevention based on certified infrared cameras in combination with fully automatic fire monitors.

**As a VdS-approved installer we work closely with you to create a comprehensive protection concept tailored to your requirements.**

**Contact us for personal advice.**

**P** +49 5181 90991-0

**E** sales@tbelectronic.de