GAS EXTINGUISHING SYSTEM

INERT GAS

Argotec®
with carbon dioxide

Safe for certain.

MINIMAX

APPLICATION

VERSATILE

Reliable extinguishing
Fighting fires quickly and effectively is the strong point of Argotec® extinguishing systems with carbon dioxide. The extinguishing effect of carbon dioxide is due to the fast displacement of oxygen from the source of the fire – the fire is smothered suddenly.
The high heat binding capacity of the carbon dioxide causes the withdrawal of energy from the source of the fire, which enhances the extinguishing effect.

Possible only with carbon dioxide
Argotec® extinguishing systems with carbon dioxide are especially well-suited for high risk areas, where in case of a fire it is necessary

- to keep the protected objects available and functioning,
- to minimize operational interruptions after a fire,
- to prevent reactions between the burnt material and the extinguishant,
- to prevent damage from the extinguishant itself and
- to ensure effective extinguishing for objects in areas with difficult access (3-D extinguishing effect).

Argotec® extinguishing systems with carbon dioxide, due to their special extinguishant properties, feature advantages over other inert gas extinguishing systems: Even free-standing objects in a room can be protected. The liquefied carbon dioxide forms a thick aerosol cloud in the flooding zone. Special local application nozzles put the extinguishant precisely at the object to be protected.

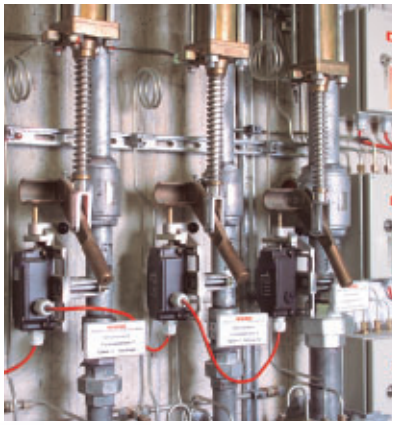
Due to its outstanding properties, the Argotec® extinguishing system with carbon dioxide is the ideal fire protection solution for many areas of application.

Typical areas of application for the Argotec® extinguishing system with carbon dioxide are:

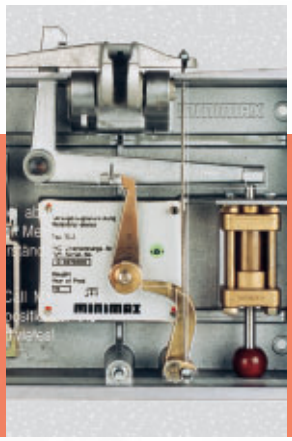
- switching and control systems
- turbines
- transformers and substations
- warehouses for hazardous materials
- machine tools and special metal processing systems
- paint and varnish manufacturing and processing areas
- painting and powder-coating booths (ESTA)
- hydraulic systems
- false floors and cable shafts
- silos and dust filters
- printing machines
- engine test benches and ship engine compartments
- computer and telecommunication systems and facilities
- medical facilities
- control rooms
- data archives
- art objects

Optimized and individually customized
The required quantity of extinguishant depends on the volume and surface of the protection zone, the quality (e.g. gas impermeability) and the type of assets to be protected. The size of the pipe network and the location of the extinguishing nozzles are based on the risk area, while the extinguishing nozzles themselves are evenly distributed throughout the entire flooding zone. For the protection of special facilities, the nozzles are installed directly within the object, such as in electric switching cabinets, false floors for cables or machine tools.

If several flooding zones are connected to a common extinguishant supply, the gas is released for each zone via selector valves.



With more or less pressure
The carbon dioxide is supplied in high-pressure cylinders or low-pressure vessels. The optimum supply method depends on the quantity of extinguishant required and the particular circumstances.

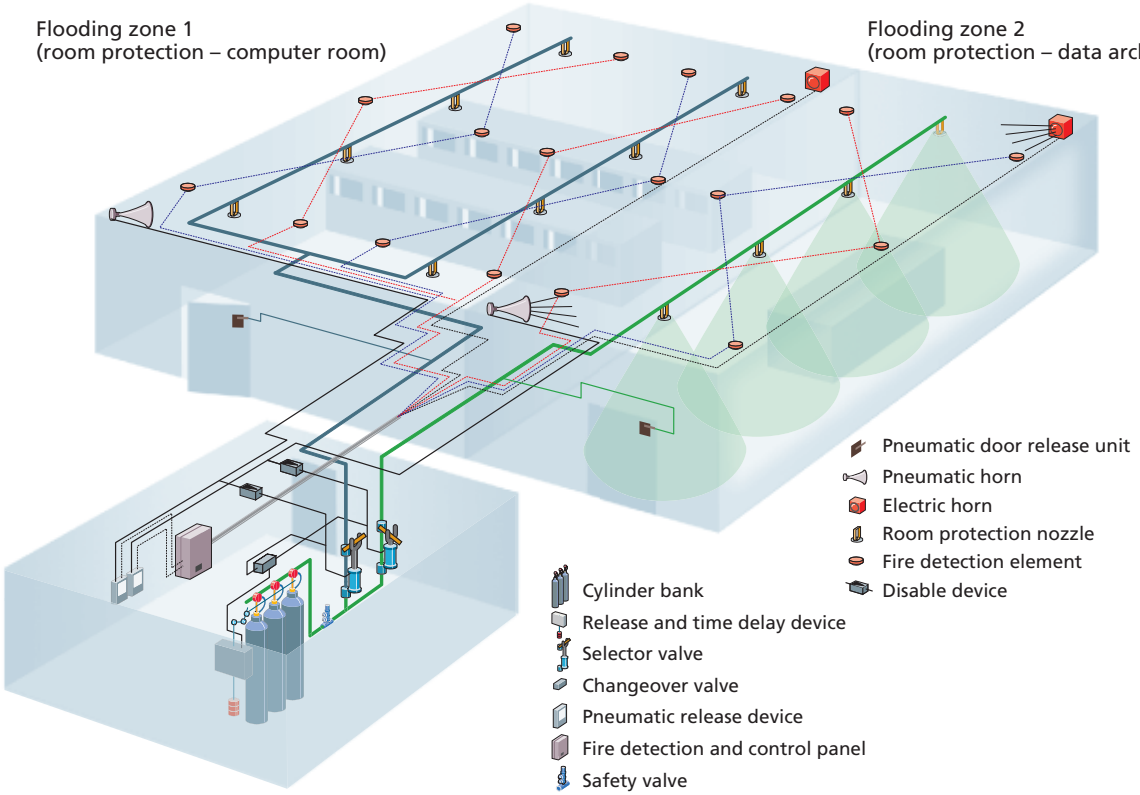


ALWAYS STAND-BY

Supply of extinguishant in high-pressure steel cylinders
The high-pressure steel cylinders are consolidated into one cylinder bank at the installation location in special frames with independent suspension.

Arranged in one or more rows, surprisingly large supplies of extinguishant can be stored in a very small space. The special frames can easily be adapted for extended protection zones or quick replacement of individual cylinders.

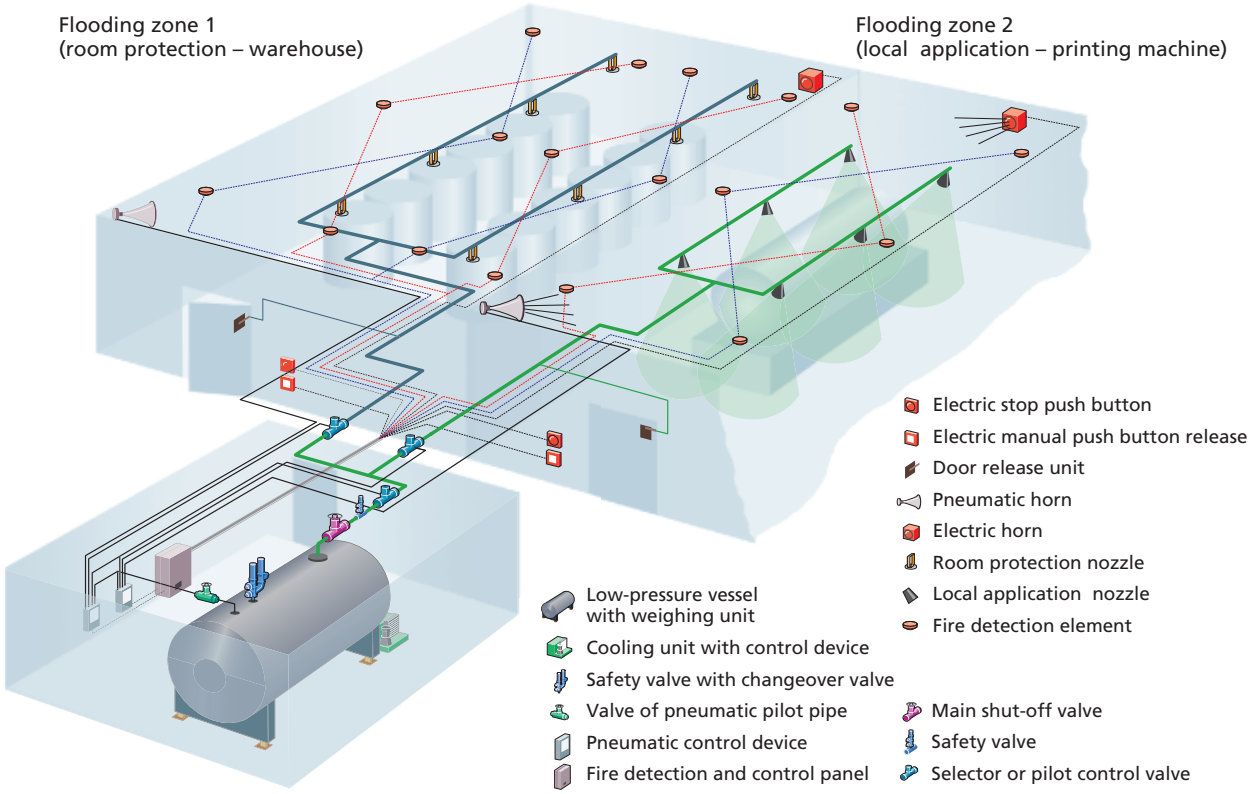
Each cylinder suspension is also a weighing unit, which automatically indicates minimum leakage of extinguishant.



Supply of extinguishant in low-pressure vessels
If large quantities of extinguishant are needed for the overall safety concept, a low-pressure vessel is recommended – especially on grounds of economy.

The liquefied carbon dioxide is stored in this vessel at a temperate of approx. –20 °C and at an operating pressure of approx. 20 bar. A cooling unit provides for a constant low temperature. The operating costs are minimized by an optimum insulation design.

The supply vessel is mounted on a calibratable electronic weighing unit, which constantly displays the actual weight and therefore any potential loss of extinguishant due to leaks.



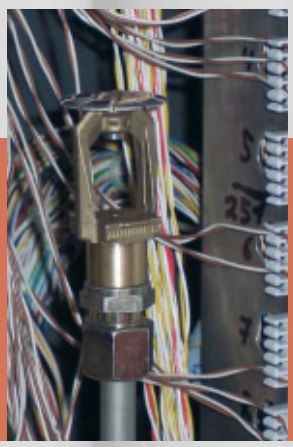
BENEFITS

NATURALLY FREE OF RESIDUE

Numerous advantages

- Suitable both for the protection of rooms and of free-standing objects.
- Carbon dioxide is a natural component of the ambient air and is therefore readily available.
- Extinguishes without residue and without affecting the protected objects.
- Chemical reactions as a result of extinguishing are practically impossible.
- The extinguishant is electrically nonconductive and is therefore suitable also for protecting electric system components.
- The homogeneous distribution of extinguishant and the fast concentration buildup provide for optimum effectiveness.
- After a fire, there is no extinguishant residue and therefore no cleanup expense.
- The extinguishing effect is ensured even at low ambient temperatures.
- Documented reliable extinguishing provides maximum protection of assets.
- The system technology for the components has been tried and tested for decades.
- The modular, multi-zone system can easily be adapted for nearly any renovation or expansion measures.
- Argotec® systems with carbon dioxide allow particularly space-saving extinguishant storage, especially with low-pressure vessels.
- After a fire, the extinguishing system is soon ready for operation again, at a low cost.
- Approvals by certified test authorities and the compliance of the design with national standards ensure acceptance by insurance companies and building authorities.
- If installed, insurance companies grant rebates on fire and fire business interruption insurance.

Minimax is fully certified:
including the components, systems, production and quality management system, in addition to the company itself as the installer of fire protection systems.



CE

CNAL No. L0259

CNBOP

Danger detected
The control and monitoring of the Argotec® extinguishing system with carbon dioxide is achieved by the Minimax fire detection system. Fire detectors monitor the protected zone. If the system detects smoke, an excessive rise in temperature or flames, the fire detection control panel initiates the extinguishing process.

Safe is better
The extinguishing process with carbon dioxide reduces the oxygen in the air in the protected zone significantly below the natural level of 21 Vol.-%. Carbon dioxide in concentrations that can extinguish fires can be harmful to life, and therefore special safety measures are installed. The extinguishing process will not start until after a pre warning time, so that there is sufficient time to leave the room. All warning components are provided twofold and are connected to different power sources.

Minimax inert gas extinguishing systems are designed, produced and installed in compliance with national and international guidelines and standards – a guarantee for quality and your safety.

SYSTEM

ARGOTEC®

The compact solution:
The compact extinguishing system for local application
In compact extinguishing systems, all function-relevant components are combined with various functions in a single unit and accommodated in a protective cabinet, where they are protected from dust, moisture and mechanical damage.
A compact extinguishing system consists of a frame with freely suspended extinguishing gas cylinders, which are connected via pressure-proof hoses with the manifold, including weighing units with electronically monitored leakage indicators and an electromagnetic extinguishant release. A fire detection control panel integrated in the front door is connected with the detectors, which react to heat or smoke, and activates the extinguishing unit in the event of a fire.

The Minimax compact extinguishing system can be placed in the immediate vicinity of the object to be protected and can quickly be connected with the cable and pipe network via standard connections. The high degree of pre-fabrication and the simple and fast installation make the Minimax compact extinguishing system an interesting and cost effective alternative to conventional systems for many objects, such as machine tools, switching cabinets or server cabinets.

Functional readiness and operational safety
Neuralgic functions and components of the extinguishing system, such as the extinguishant quantity, shut-off, release and distribution units, are monitored to ensure the constant functional readiness of the extinguishing system.

The Minimax service department checks the operability of the extinguishing system at regular prescribed intervals and restores the operational readiness of the system after a fire without delay.

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