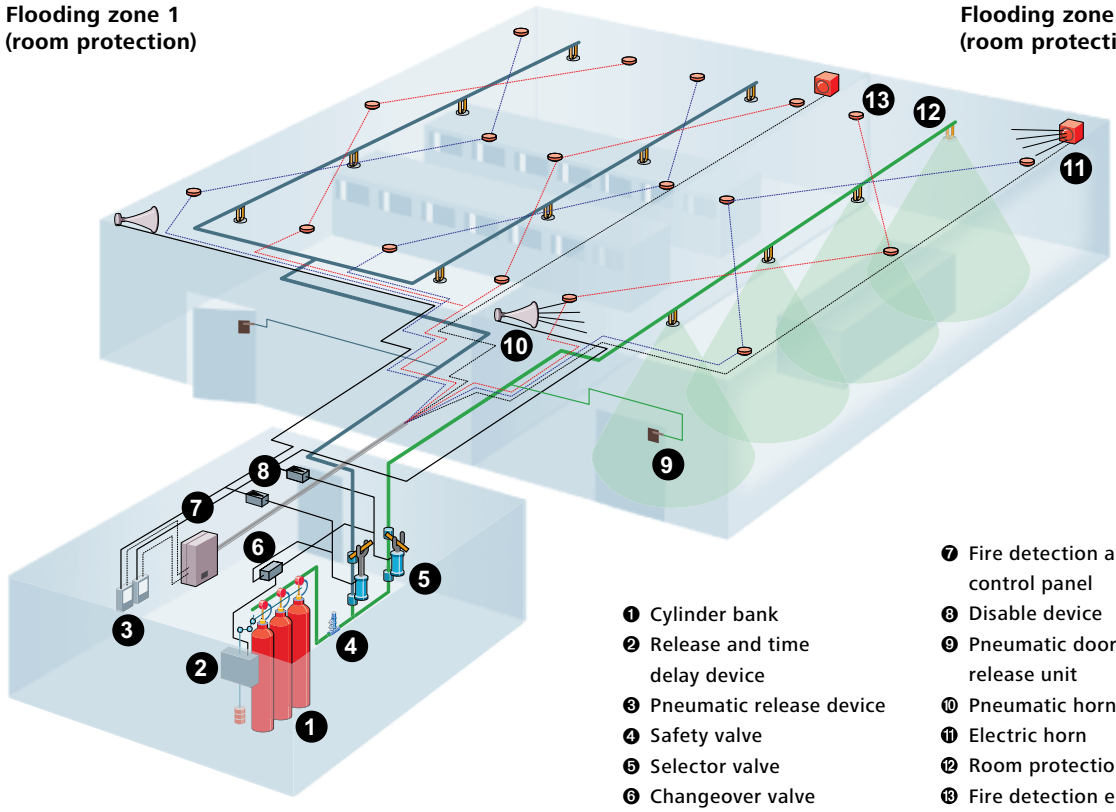
# Extinguishing Technology $CO_2$ HP

## Carbon dioxide ($CO_2$) - extinguishing systems




❶ Cylinder bank
❷ Release and time delay device
❸ Pneumatic release device
❹ Safety valve
❺ Selector valve
❻ Changeover valve
❼ Fire detection and control panel
❽ Disable device
❾ Pneumatic door release unit
❿ Pneumatic horn
⓫ Electric horn
⓬ Room protection nozzle
⓭ Fire detection element

### Carbon dioxide ($CO_2$) used as extinguishing agent

Extinguishing with carbon dioxide is achieved by displacing the oxygen from a fire source quickly - and thus starving the fire. 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.
Carbon dioxide extinguishing systems, due to their special extinguishing agent properties, feature advantages over other inert gas extinguishing systems: Even freestanding 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 extinguishing agent precisely at the object to be protected.

### Supply of extinguishing agent

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 gas 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 minimal leakage of extinguishing agent.
If several flooding zones are connected to a common extinguishing agent supply, the gas is released for each zone via selector valves.

### Functional readiness and operational safety

Neuralgic functions and components of the extinguishing system, such as the gas quantity, shutoff, release and distribution units, are monitored to ensure the constant functional readiness of the extinguishing system.

### Personal safety

The extinguishing process with carbon dioxide reduces the oxygen in the air in the protected zone significantly below the natural level of 21 percent by volume. 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 predetermined warning time, so that there is sufficient time to leave the room. All warning components are provided two-fold and are connected to different power sources.

### Typical areas of application

Rolling mills, turbines, transformers and substations,
warehouses for hazardous materials,
machine tools and special metal processing systems,
paint and varnish manufacturing and processing areas,
painting and powdercoating booths (ESTA),
hydraulic systems, false floors and cable shafts,
silos and dust filters, printing machines,
engine test benches and ship engine compartments,
switching and control systems.



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