

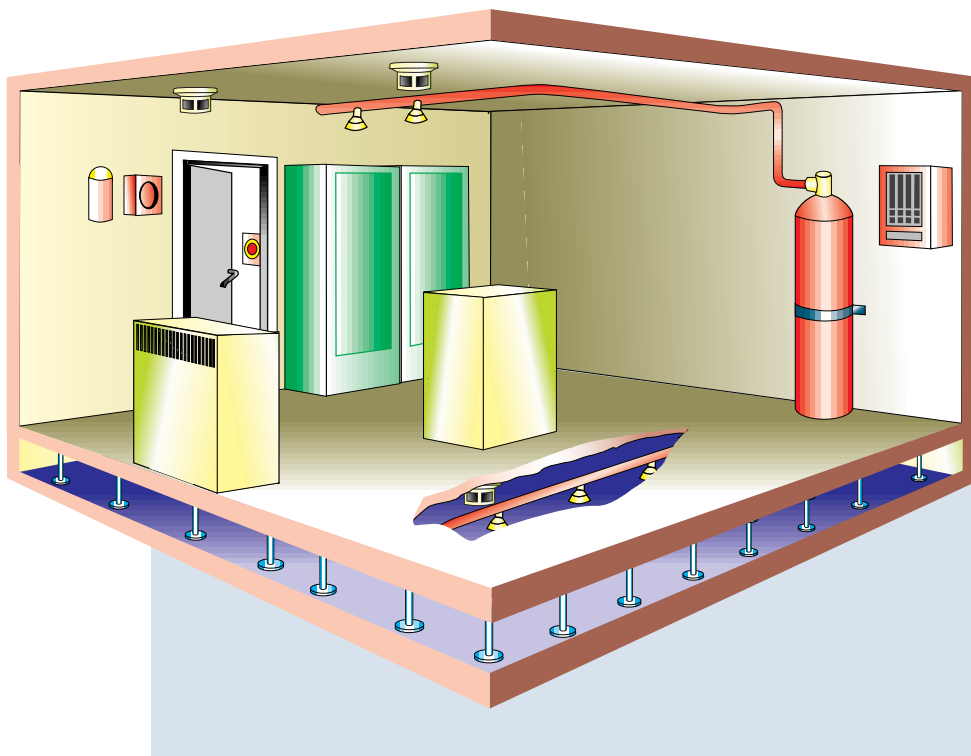
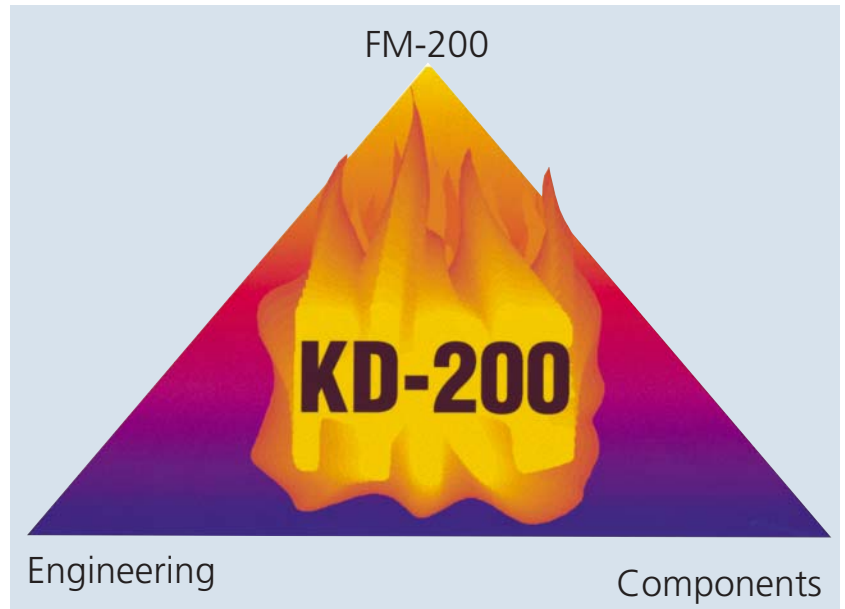


# KD-200 Active Extinguishing Technique

25 bar / 42 bar

# Extinguishing system KD-200

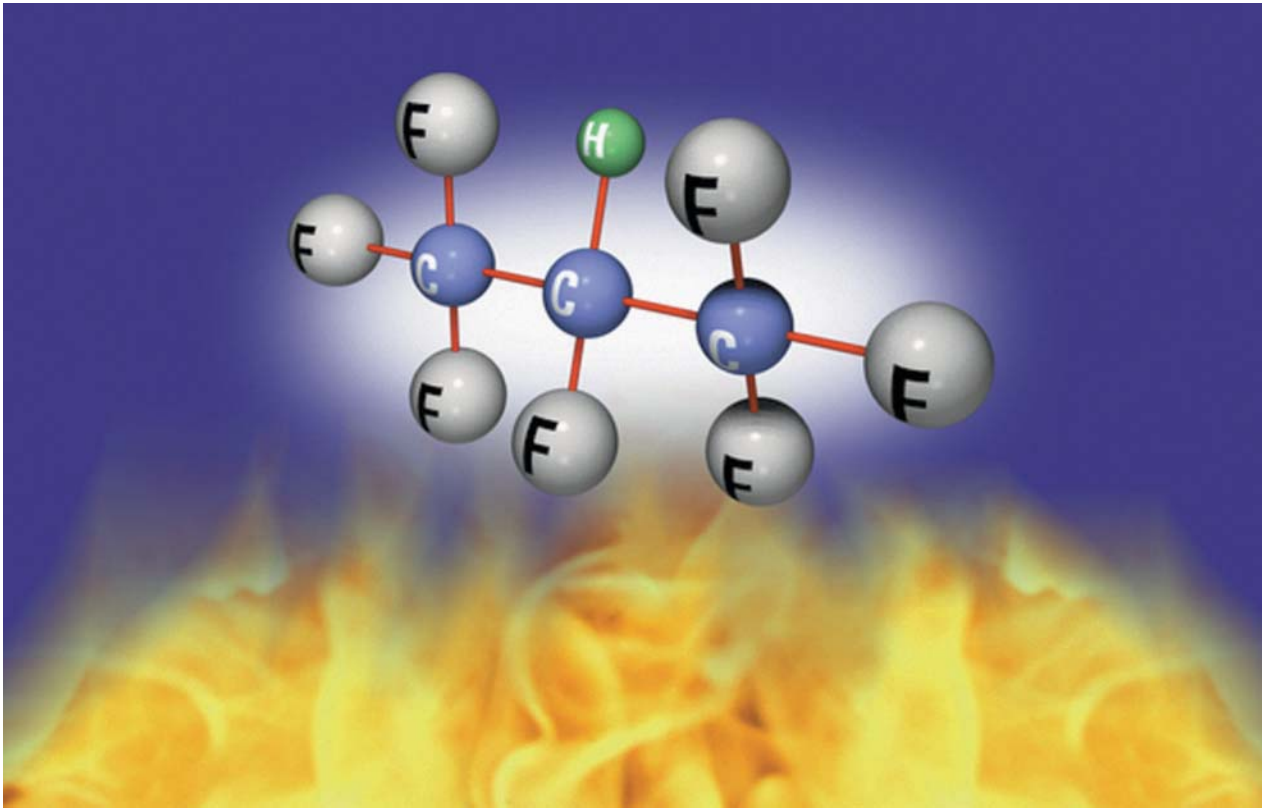
The fire protection system KD-200 with the extinguishing medium FM-200 is the result of intensive research. The system combines a high extinguishing effectiveness with the absence of residues, safety to people and a small storage volume. Fire extinguishing systems incorporating FM-200 are approved world wide and are now available in Germany as 25 bar or 42 bar KD-200 systems.



## Function

When fire is identified by automatic detectors or on the release by a manual push button, the fire detection panel activates the alarm devices. After the elapse of a pre-warning time the cylinder of the extinguishing medium is opened and the extinguishing medium FM-200 is discharged through extinguishing nozzles into the room.

# Extinguishing medium FM-200



## FM-200

FM-200 is an extinguishing gas with the chemical formula  $\text{CF}_3\text{-CHF-CF}_3$ .

## Safety

FM-200 has undergone a substantial toxicological test programme. To cover every aspect of the safety for people of FM-200 numerous test series have been completed which have confirmed its safety.

## Extinguishing effect

The extinguishing mechanism of FM-200 is based on heat absorption in the flame and is therefore primarily physical rather than chemical. The extinguishing capability of FM-200 has been tested by national and international institutes and it is widely approved as extinguishing medium. Scenarios involving class A and B fires as well as plastics fires have been tested to ensure the correct design of the KD-200 system under even the most severe conditions.

## Environmental effects

FM-200 has an ODP factor of 0, which means that it does not deplete stratospheric ozone. The remarkably short atmospheric lifetime of FM-200 is the result of its relative quick natural decomposition. Unlike other chlorinated or brominated hydrocarbons it does not fall under the Montreal Protocol, and so there is no limitation on its use. FM-200 is therefore a long-term alternative to less environment friendly agents.

# System technique

Fixed KD-200 suppression systems are available as 25 bar or 42 bar depending on the requirements.

## Cylinders

FM-200 cylinders are available with capacities ranging from 4.5 kg to 272 kg. It is therefore possible to offer the number and size of extinguishing medium bottles at an economic price for every application. The extinguishing medium containers are charged with nitrogen up to the necessary operating pressure of 25 bar or 42 bar. The container pressure is monitored for loss to ensure that in case of a pressure loss a fault signal is transferred automatically to the fire detection panel.



Extinguishing medium containers

## Valves

New valves have been developed to ensure that they are suitable for the particular discharge flow characteristics of FM-200.

## Discharge nozzles

Specially developed nozzles are used in KD-200 systems to ensure the correct discharge behaviour in accordance with the system values obtained with the calculation programme.



Valves



Discharge nozzles



KD-200 system for an EDP room



Protected EDP room



KD-200 extinguishing system for an operator's room

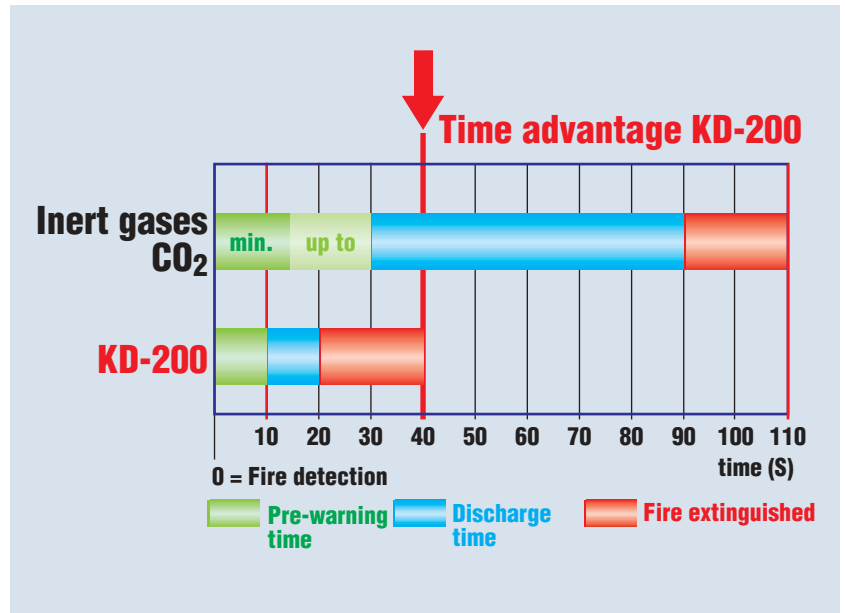


KD-200 extinguishing medium containers

# Advantages of KD-200

## Advantages

- Discharge time < 10 sec.
- Effective high-value asset protection
- No danger of icing of the pipe network
- Suitable for use in occupied spaces
- Low quantity of extinguishing medium
- Minimal space requirement
- Ideally suited for the protection of sensitive and high-value equipment
- Easy mopping up of existing systems
- Best suited for EDP and Telecom systems
- VdS approval E1599001



## Comparison of space requirement





Flooding of the tower of the Düsseldorf airport

## Application examples

- EDP rooms
- Telecommunication equipment
- Archives
- Control centres
- Switch gear rooms
- Libraries
- Museums
- Art galleries
- Medical facilities

## Approvals

The extinguishing medium FM-200 has been approved for the KIDDE-DEUGRA Brandschutzsysteme GmbH by the Saxon Ministry for internal affairs (Sächsische Staatsministerium des Innern) and for the corresponding decrees of the remaining federal states under the approval code number SP 28/97 for fires of plastics and class A and B according to DIN EN2.

KD-200 systems are approved by the following institutions:

- VdS Schadenverhütung, Germany
- IBS, Austria
- FM (Factory Mutual), USA
- UL (Underwriters Laboratories), USA
- LPC (The Loss Prevention Council), Great Britain
- CNPP (Centre National de Prévention et de Protection, France)



KIDDE-DEUGRA Brandschutzsysteme GmbH  
P. O. box 10 12 60 • 40832 Ratingen  
Halskestraße 30 • 40880 Ratingen  
Telephone +49(0) 2102 405-0  
Telecopy +49(0) 2102 405-109  
Service dept. +49(0) 2102 405-0

Email: [info@kidde-deugra.com](mailto:info@kidde-deugra.com)  
Internet: [www.kidde-deugra.de](http://www.kidde-deugra.de)

KIDDE-DEUGRA Brandschutzsysteme GmbH  
Sales office North  
Hauptstraße 2 • 22145 Stapelfeld  
Telephone +49(0) 40 675 818 66  
Telecopy +49(0) 40 675 818 67

KIDDE-DEUGRA Brandschutzsysteme GmbH  
Sales office South  
Steinerne Furt 78 • 86167 Augsburg  
Telephone +49(0) 821 74 82 95-0  
Telecopy +49(0) 821 74 82 95-10

KD200® KD-200 is a registered  
trademark of the company KIDDE-  
DEUGRA Brandschutzsysteme GmbH

Status: January 2004