FIRE EATER

GUIDE

Choose the correct fire extinguishing

FIRE EXTINGUISHING THAT MAKES YOU SLEEP SAFE AT NIGHT

- YOUR GUIDE TO CHOOSING THE CORRECT FIRE EXTINGUISHING TECHNOLOGY FOR YOUR DATA CENTER

When deciding which fire extinguishing technology to choose, there are several factors to consider.
We have compiled an overview over technologies suitable for fire protection in a data center. Our objective is to provide you with an understanding of what you should consider concerning the various fire extinguishing methods.

Some of the issues that are important to clarify are as follows:

- What type of fire (in Mega-watts) can occur in the data center?
- Server racks with IP ratings? Concerning how the extinguishing agent enters server racks.
- HVAC (Heat, Ventilation, Air Conditioning) method - which system has been chosen?
- What type of detection is in place - optical smoke, thermal detection, or high-sensitivity aspiration?
- Pressure relief - where can excess pressure be vented when inert gases are selected?
- The cylinder footprint.
- The need for cleanup after activation.
- Sustainability and futureproof considerations.
- Are there false ceilings and raised floors? - the possibility of routing pipes.
- Are there Lithium batteries in the protected area?
- Are there leaks in the protected area?
- Sound attenuation - the need for it when choosing inert gases and Novec.
- Consideration of the short and long-term effects after an activation.

FACT BOX

While you can obtain insurance to cover operational losses, it's crucial to emphasize that minimizing downtime is essential for business continuity.

Additionally, selecting a firefighting solution that is future-proof is equally important.

FIRE EATER

Take a look at the tables on the following pages for an overview of the different firefighting methods. Start by assessing your specific fire protection requirements. This approach will help you identify the optimal solution.

OVERVIEW OF THE DIFFERENT FIRE EXTINGUISHING TECHNIQUES

Fire extinguishing method	No consequential damage to process equipment and building materials	No injuries after exposure to fire	No consequential damage to the environment	No downtime and loss of revenue due to consequential damages	Suitable for use in a manned room	Possibility of full scale test with persons present	Need for cleaning after activation *	2D or 3D extinguishing	Global warming GWP	PFAS
IG541 (Inergen)	√	√	√	√	√	√ [7]	-	3D	0	-
Water mist	_[1]	√	√	-	√	√	√	3D	0	-
Chemicals - FK 5-1-12	_[4]	-	-	-	-/√	_[5,8]	√[6]	3D	1-3.000	√
IG55 (Argonite)	√	√	√	√	√	√ [8]	-	3D	0	-
IG100 (Nitrogen)	√	√	√	√	√	√ [8]	-	3D	0	-
IG01(Argon)	√	√	√	√	√	√ [8]	-	3D	0	-
Permanent oxygen reduction	√	√	√	√	√	√ [8]	-	3D	0	-
Permanent iltreduktion	√	√	√	√	√	√ [8]	-	3D	0	-

FACT BOX

2D extinguishing can only put out a fire that can be reached by the extingu- is- hing agent from the nozzle.

3D extinguishing also gets behind "obstacles", e.g. inside a cabinet, a rack, a cupboard and the like.

1. Water, foam, and chemicals must be collected and disposed of in accordance with local fire regulations.
2. It is situational.
3. Foam numbers above 500 are 3D.
4. There are many organic and inorganic materials which do not tolerate the thermal decomposition from chemicals.
5. Emission of extinguishing agents with GWP / ODP> 0 must be avoided and systems must be designed with a target of 0 emission (NFPA2001, A 1.6 and Table A.1.6)
6. If there has been a fire, there will be a risk of corrosion and etching damage.
7. According to AT (Danish WEA) it is safe to stay and work with Inergen between 11-14% O2 with 3-4% added CO2 for up to 15 minutes. Once the system is activated, staff can enter the room and start working.
8. There is a risk of adverse health effects and rooms must be evacuated as soon as possible. It must be ensured that an exposure can't exceed 5 min. When the system is activated, do not enter the room (NFPA 2001, 1.5.1.2/3).

FIRE EATER

MATERIALS AND FIRE CLASSES

Your choice of fire extinguishing method must be considered in relation to the materials that you wish to protect against fire.

There are 6 different fire classes. They are classified according to the materials to be extinguished in the event of a fire.

FIRE CLASS A - FLAMMABLE SOLID MATERIALS

Wood, paper, cardboard, textiles, some plastic materials and all combustible materials.

FIRE CLASS B - FLAMMABLE LIQUIDS

Petrol, oil, alcohol, fiberglass, paint and the like.

FIRE CLASS C - FLAMMABLE GASES

Propane, butane, acetylene, natural gas and the like.

FIRE CLASS D - FLAMMABLE METALS

Magnesium, sodium, aluminium powder, iron sulphide, titanium and the like.

FIRE CLASS E - ELECTRICAL FIRES

Fires in electrical equipment (electrical systems, equipment, etc.).*

FIRE CLASS F - FRYING

Cooking oil, fat and frying.

* Under the standards in Europe, electrical and electronic fire risks are covered under Higher Hazard Class A in EN 15004, the standard for gaseous fire extinguishing systems.

FIRE EATER

WOULD YOU LIKE TO FIND OUT MORE ABOUT FIRE EXTINGUISHING AND YOUR OPTIONS?

Fire can have fatal consequences for a data center. It can be extremely costly and resource-intensive, even if there is a fire insurance. At the same time, a fire can often mean shutting down the business for an extended period of time. This costs, both in terms of loss of revenue and reputation.
But it doesn't have to be this way.

Call tel. +45 7022 2769 or write to us at info@fire-eater.com, then together we can find the best fire extinguishing technology for your business.

FIRE EATER

STOP

the fire. Not your data center.

CONTACT US

If you are interested in a discussion and an estimate, what it will cost you to secure vital areas in your organisation, please contact us.

Telephone: +45 7022 2769 e-mail: info@fire-eater.dk
Or read more at fire-eater.com/datacenters

Our fire extinguishing technology is approved by a large number different organisations. You will find all our approvals at https://fire-eater.com/service-and-support/approvals

FIRE EATER

Fire Eater A/S | Vølundsvej 17 | DK-3400 Hillerød | +45 7022 2769 | CVR-no.: 59538713 | fire-eater.com