

## GENERAL DESCRIPTION

# PermaPrevent<sup>®</sup> System

Sensitive zones were protected against fire mostly by Extinguishing Systems. The activation of these systems starts, after a certain level of damage is sad reality already. It is fact that it is of big advantage to PREVENT a fire instead of detecting it, evacuates the facilities and activates the extinguishing system. An atmosphere, in that an open fire cannot exist, guarantees that protection. **PermaPrevent<sup>®</sup>** generates and maintains an oxygen-reduced atmosphere via controlled injection of Nitrogen, produced locally. No exchange of cylinders required!

**No interference with the work in progress, the protected area remains accessible!**

**PermaPrevent<sup>®</sup>** is proposed as an alternative to water sprinklers or gaseous systems because;

in the case of Gaseous Extinguishing

- **A fire cannot start in an PermaPrevent<sup>®</sup> protected area** - continuous protection of the facility is the best fire prevention solution
- Installation of **PermaPrevent<sup>®</sup>** would be relatively simple and fast in relation to heavy gauge screwed pipes for a gas fire suppression system
- Only a relatively small area is required to house the **PermaPrevent<sup>®</sup>** equipment
- There is no need for pressure relief venting built into the building fabric

in the case of Water Sprinklers

- Installation of **PermaPrevent<sup>®</sup>** would be relatively simple and fast in relation to heavy gauge screwed pipes for a water sprinkler system
- There would be no water damage to any stored items while stopping fire
- Only a relatively small area is required to house the **PermaPrevent<sup>®</sup>** equipment.
- **PermaPrevent<sup>®</sup>** can be used very easy in deep freeze areas.

### Solution

We can continuously inert the area and so prevent a fire starting – on a continual basis. Our system comprises Nitrogen (N<sub>2</sub>) generation and air compression, active oxygen sensing and a control system. The control system provides visual indication and maintains the required oxygen level in the risk area.

The system comprises;

Nitrogen Production System – comprising an air compressor for producing necessary air pressure/volumes and N<sub>2</sub> generator for producing nitrogen rich air as required. The N<sub>2</sub> generation, air compression and control system should be installed in a suitable plant area.

### PermaPrevent<sup>®</sup> Control System

- To monitor the oxygen level inside the area
- For displaying condition and incident reports
- For compressor & N<sub>2</sub> generator control
- For control of warning and indicating equipment

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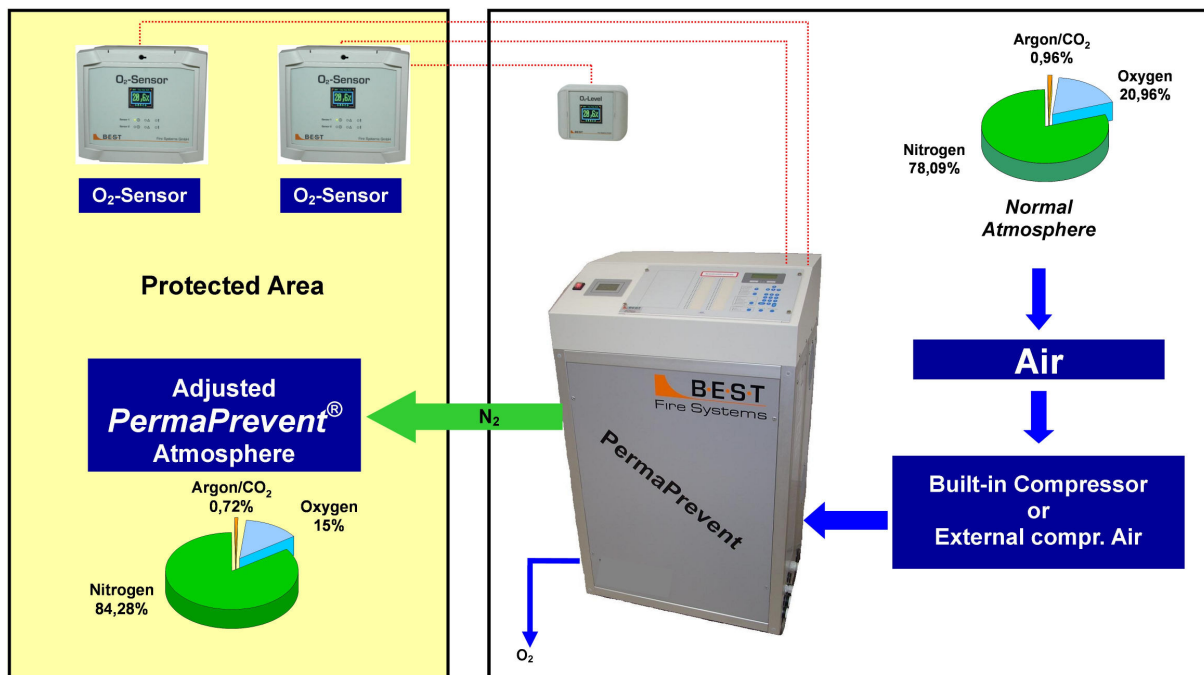
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O2 Sensor active oxygen detection systems to determine the oxygen level in the protected area. These are systems, which provide a consistent and accurate O2 measurement throughout the risk.

Warning devices comprising electronic sirens and flashing beacons. Adhesive warning signs at the entry points to the area.

Pipe network consisting of a combined PVC and galvanized pipe installation for nitrogen supply & oxygen sensing. The pipe work will be arranged from the nitrogen generation plant into the protected area. PVC pipe will be used for both nitrogen distribution and oxygen sensing inside the area.

Dynamic displays outside the room, show the current oxygen level.



## Building Integrity

Following installation the oxygen level in the risk would be lowered to a base 15.0% by volume. Most risks leak air, which increases the oxygen level over a period of time.

**PermaPrevent®** monitors this leakage and maintains the required oxygen level on a continuous basis. We estimate the N50 value (the number of air changes per hour at +/-50pascals) based on a similar application we have recently protected or we can measure the n50 value with our own blower door system..

Before installation we would confirm the area's N50 value with a blower test. Please note however this test might have already been carried out for Part of the Building Regulations and we could use existing data to arrive at the current N50 value.

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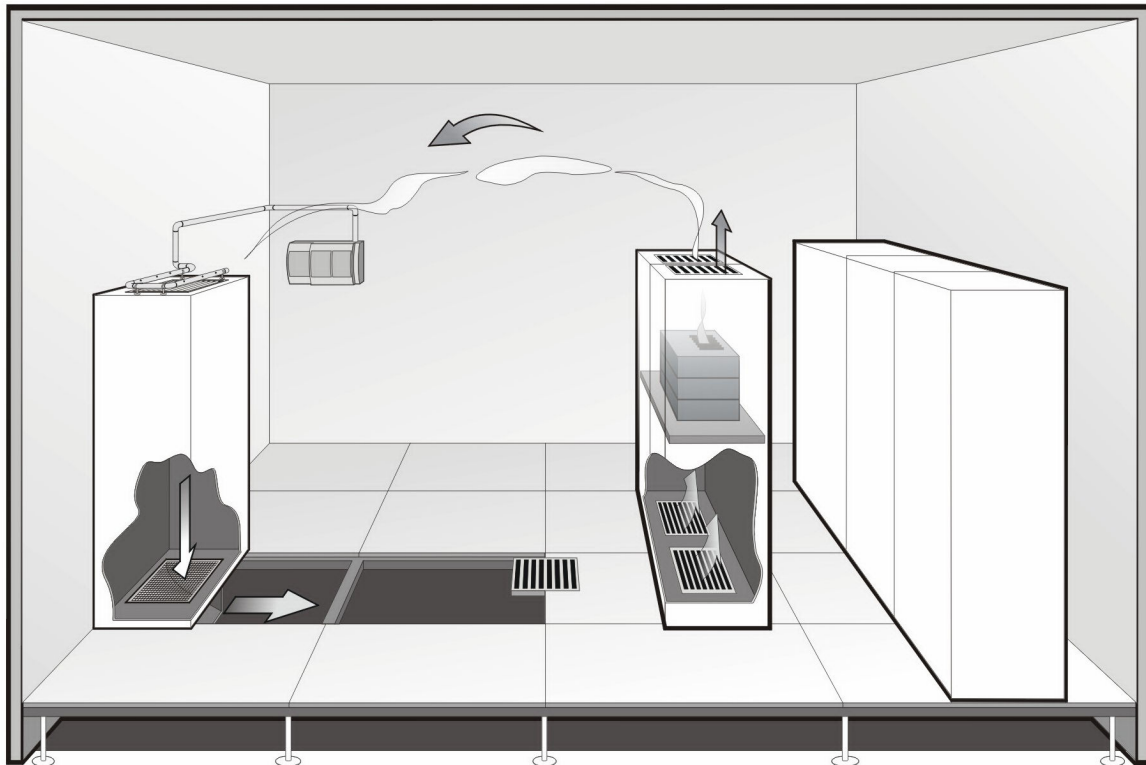
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**Early Warning Fire Detection System**

Because the risk contains elements of electrical/electronic equipment there is still the possibility of over current faults. These could make cables overheat, leading to pyrolysis (superheated aerosol release from the cable sheathing). **PermaPrevent®** will stop pyrolysis from naturally turning into a real fire – however you may want to know about this problem. We can detect pyrolysis with high sensitivity smoke detection designed using our unique air sampling smoke detection systems.



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**Brainy solutions,** based

- on careful evaluation of your requirements
- on our vast knowledge in Fire Prevention, Fire Detection and Fire Protection
- on the latest state of technology

**Erection:** We are specialists for Design, Engineering, Supply, Erection and Commissioning for all kinds of Fire Prevention, Fire Detection and Fire Protection Systems, all in coordination with your engineers, insurance company and authorities having jurisdiction.

**Service:** and Maintenance of systems are a must! We do it for you and take care that the systems are permanently in operation.

**Training:** You are an engineering firm and you like to design Fire Protection systems on your own? We train your engineers to design systems even for very special needs, such as Smoke Aspiration Systems, Fire Prevention Systems (based on permanent reduction of oxygen), Spark- or Gas Extinguishing Systems .

**Get in contact with us: we do have the **BEST** solution for you!**

Is your intention to prevent any fire permanently?

PermaPrevent<sup>®</sup>

the new system for fire prevention

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