



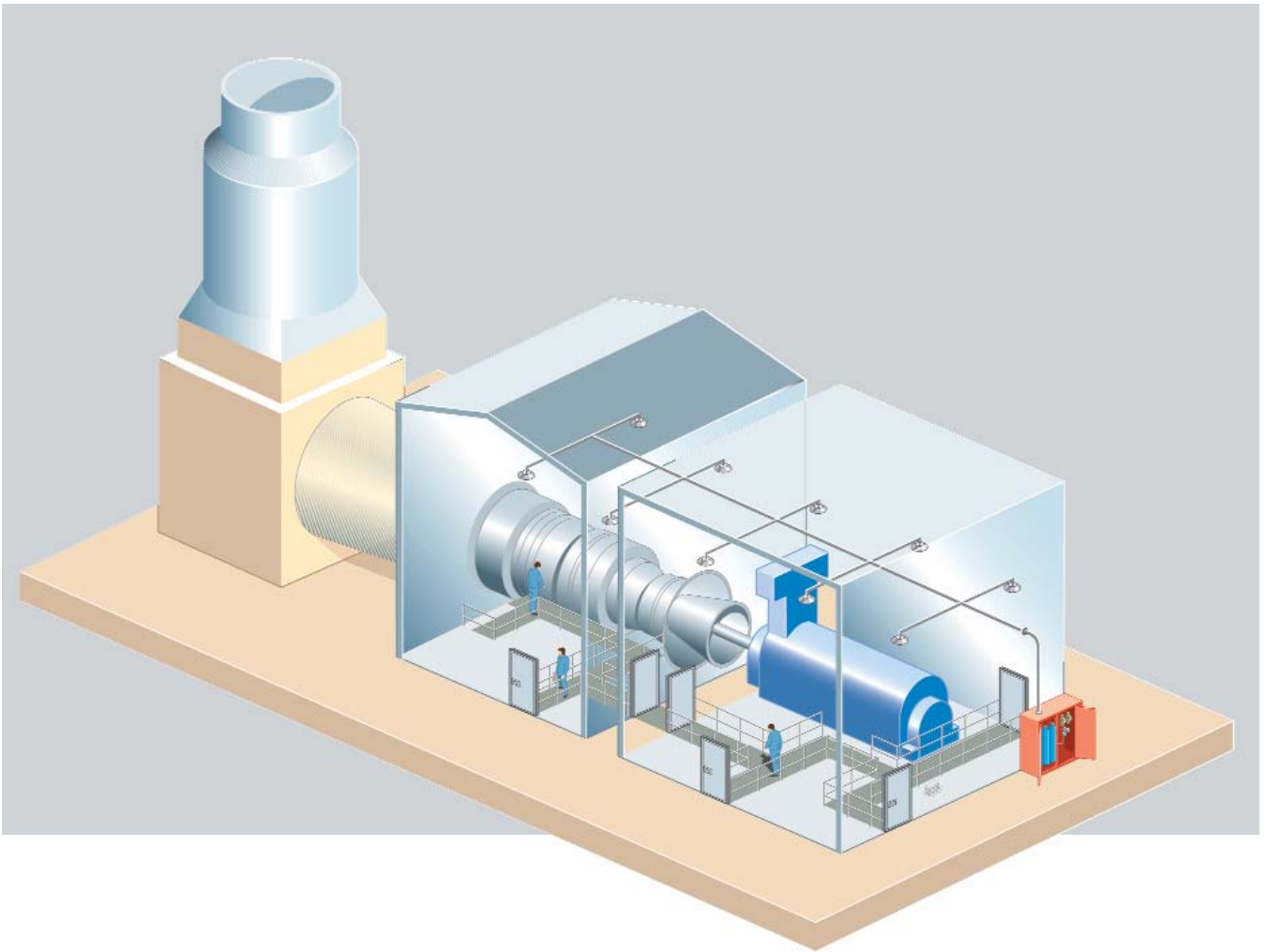
## **SFC Key Interlocks & Process Management Systems**



## **Mechanical Control Systems for Process, Pipeline & Plant Maintenance Operations**



# CO<sub>2</sub> Fire Deluge Systems



## ■ Fire Deluge Systems

International concern over the environmental effect of widespread use of CFC gases has led to the phasing out of HALON (Halon 1301) as a fire extinguishing medium and its substitution with Carbon Dioxide (CO<sub>2</sub>) or other inert gases.

CO<sub>2</sub> is a very effective extinguishing agent and works by reducing oxygen levels to a point where combustion cannot be sustained. It is a naturally occurring substance and has no corrupting or polluting effect when released into the atmosphere - unlike HALON which is a CFC compound.

Automatic CO<sub>2</sub> fire extinguishing systems when activated are designed to deluge an area within seconds. Typical installations include turbine/generator enclosures, plenum chambers, computer rooms, archives or any other enclosed area designated as being not-normally-occupied. Such areas are occupied only on an occasional basis usually for the purposes of inspection, maintenance or repair.

## ■ Mechanical Principles



CO<sub>2</sub> is potentially fatal - anyone who may become trapped in an enclosed space flooded with CO<sub>2</sub> would very quickly suffocate.

.....'what's colourless, odourless, is all around us and can kill a person in less than 2 minutes' ? .....

## ■ Safe Practice

Safe practice requires an arrangement which prevents casual or unauthorised access into a (CO<sub>2</sub>) protected space and also enables emergency exit at all times from the protected area. The safety arrangements should also ensure that all doors and access hatches remain locked during periods of normal operations and that access to the protected area is controlled and authorised only by the appointed authority.

SFC interlock systems can be applied for maximum effect to permit access only under the strictest conditions. Access for inspection or maintenance purposes is only possible by the issue of an initiating 'permit key' by the appointed authority. This key may be used to activate visual or audible alarms which denote 'work in progress' and / or the release of secondary

key(s) which enable isolation of the CO<sub>2</sub> supply. Based on a key exchange principle, further keys are released which enable unlocking of the access door(s) and permit the entry of the worker(s) to undertake the task at hand.

**This safety solution from SFC fulfills the safety requirements of NFPA12 \* and BS 5306. #**

\* National Fire Protection Association (USA) - Carbon Dioxide Extinguishing Systems - 1993 Edition

# British Standard - Part 41986 - Specification for Carbon Dioxide Systems



For the period in which work is being carried out inside the enclosed space, the CO<sub>2</sub> Supply is isolated and the worker(s) cannot be locked in. However, to ensure total worker safety each interlocked access door within the system is fitted with a failsafe emergency override escape mechanism which permits a worker to strike a panic button or crash rail that mechanically overrides the door latch mechanism.



## **SFC Key Interlocks & Process Management Systems**



6 Waterside Business Park  
Eastways Industrial Estate  
Witham Essex CM8 3YQ  
United Kingdom

Tel: +44 (0)1376 517901  
Fax: +44 (0)1376 518720

[sales@smithflowcontrol.com](mailto:sales@smithflowcontrol.com)  
[www.smithflowcontrol.com](http://www.smithflowcontrol.com)