

Explosion protection

ACTIVE EXPLOSION ISOLATION SYSTEM S

Scope

Explosion protection techniques like venting, suppression or containment are intended to protect closed volumes (vessels or machinery) from the resulting overpressure. At major accidents it has almost never been the first explosion to cause the big damage, but the subsequent secondary explosions. The latter are always the consequence of unsatisfactory isolation.

An explosion involves not only the immediate process item, but can also propagate to the rest of the process. This propagation can be avoided if the affected process item is quickly isolated (compartmentation), thus limiting the consequences of the explosion to the process item in which it occurred (compartmentation).

Benefits of StuvEx active explosion isolation systems

There are several ways to isolate equipment, but one principle rises head and shoulders above all others: this is the use of an ultra-fast slide valve triggered by an electronic system consists of detection & control. Such system offers remarkable advantages:

- the process's product stream (dust, gas or hybrid mixtures) is not hindered, as the conduit's flow is not reduced or obstructed;
- when triggered, the slide valve very quickly and with great force cuts the product flow, thereby ensuring isolation of the process equipment;
- In the case of triggering, the process product is not contaminated.



Intended use

This solution is an atex "protective system" and its efficiency must be proved during extensive testing and certified by an independent recognized EU Notified Body.

StuvEx active explosion isolation systems have been certified in Germany at FSA (certificate number FSA_14_ATEX_1651_X) in accordance to the applicable EN standard s.

Consequently, any application must be based on the instructions contained in the atex certificate, the product specifications and the user manual.

The standard active explosion isolation system is suitable for installation in atex zone 22, optionally also for zones 1 and 21. The internal part is suitable for atex zones O and 20.



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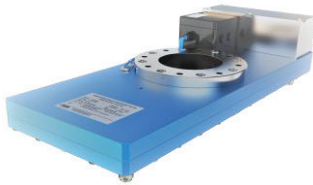
Possible System combinations

An active explosion isolation system includes one or more isolation valves, a control unit and one or more detectors. Depending on specific application, for each one of these components StuvEx propose different alternatives. In the picture below a schematic presentation of the possible combinations.

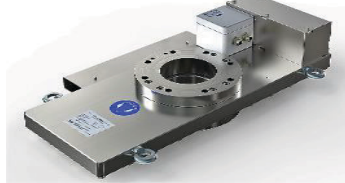
For more details about the limits of application for every single component please require the specific datasheet to StuvEx International.

Isolation slide valves:

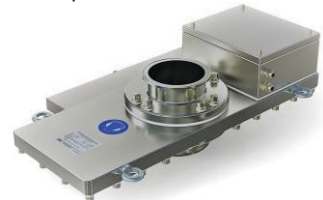
REDEX-Slide (dust)



RSV-D (dust) and RSV -G (gas)



RSV-P (pharma)



Control panels:

FCU-RP-01 (single zone, basic)



FCU-RP-02 (single zone, complete)



Explosion detectors:

PDS03 (static pressure)



PDP02 (multifunctional static/dynamic/optical)



Stuvex International NV reserves the right to implement changes to these products without prior notification.



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