

# EXPLOSION VENT PANELS

## General data sheet

### Application

In a closed enclosure, the pressure build-up caused by a dust or gas explosion can be limited if an explosion vent fitted with a vent panel is positioned correctly and opens at the right time. In order to limit the risk to people and the environment from the outgoing flame, the vent must always be located in the open air and in a safe direction.

### Description

The vent panel consists of a partially pre-cut stainless steel plate. The opening pressure ( $P_{stat}$ ) is accurately determined in advance. The opening pressure is generally 100 mbar, but can be adjusted upon request. Vent panels are available as standard in rectangular, round and trapezoidal designs, and in a wide range of dimensions.

### Key features of StuvEx vent panels

- ◆ Suitable for dust and gas explosions.
- ◆ 100% efficiency for all single-layer models.
- ◆ Depending on the type, can be used with negative pressure and/or with pulsating pressures (such as occur during filter cleaning).
- ◆ Integrated gasket and mating flange for quick and easy installation.
- ◆ Design prevents fly-away parts when the vent panel is opened.

The vent panel is an "ATEX safety system" for the relief of explosion pressure. To ensure its effectiveness, the vent area and positioning must be calculated and validated according to the applicable standards (EN 14491 or EN 14994).

### Operation

The explosion opening works very simply: once the required opening pressure ( $P_{stat}$ ) is reached, the vent panel opens through the pre-cut sides. The part that is not pre-cut acts as a hinge to prevent parts flying away. The vent panel is for single use only. After the panel has been opened it must be replaced with a new vent panel with the same specifications.



Compatible with organic dust up to  $K_{st}$  of 600 bar.m/s



Vent panel BRD



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### Versions

The vent panels are available in various designs to meet the characteristics of the process.

**BRP:** This is the basic version suitable for most installations. The vent panels are a flat rectangular design and are suitable for low overpressure and underpressure (not for pulsating pressures).

**BRD:** Rectangular vent panels with a domed design. The permissible working pressure is higher and it is better able to withstand process vacuum.

**BRDM:** Rectangular multilayer domed vent panels. Better pressure resistance than type BRD.

**BCP:** Circular vent panels with a flat design, suitable for low overpressure and underpressure (not for pulsating pressures).

**BCD:** Circular vent panels with a domed design. The permissible working pressure is higher and better able to withstand process vacuum.

### Options / Accessories

**Sensors:** The vent panel can be equipped with one or more magnetic, inductive or break detectors. For use in an Atex zone, these sensors must be linked to an intrinsic safety barrier.

- ◆ **Magnetic** opening detector type **MK**.
- ◆ **Inductive** detector type **NJ**.
- ◆ **Breakaway cable sensor** type **RECS**. Consists of a 2-metre breakaway cable, a mounting bracket and a steel cable tie.

**Materials:** Vent panels are available as standard in AISI 304 stainless steel and optionally in AISI 316 stainless steel.

**Sealing:** The vent panels are supplied as standard with an EPDM gasket for use up to +90°C. Other available seals: food-grade silicone seal or high-temperature ceramic seal.

**Thermal insulation:** Via mineral wool, can be offered in various thicknesses. The whole is protected from the elements by a suitable aluminium cassette.

**Process flange:** For all our vent panels, we can supply the mounting flanges in galvanised steel or stainless steel, and optionally with fall arrest grille.



*Vent panel on cyclone filter*



*Vent panels on silo roof*