



Description

The IEP Technologies range of passive isolation devices type IsoDisc™ are cost effective and reliable explosion isolation solutions which mitigate explosion propagation risks to upstream equipment or flame and pressure transmission to the environment. These passive isolation solutions are effective, self-actuating devices providing inlet explosion isolation to protected vessels handling combustible dusts such as air aspiration inlets of mills or clean air pipe ducting connected to equipment where explosive dust is handled.

The IsoDisc is a passive explosion isolation option according to EN15089. The default position of the valve is closed. During normal process operation the IsoDisc valve plate is held open by the process airflow. In the event of an explosion on the downstream side of the process, the IsoDisc closes and isolates the upstream side of the process, mitigating the propagation of flame and pressure to the upstream equipment or to the environment.

The IsoDisc, which can be mounted directly within process piping, consists of a valve seat, valve guard, valve plate and springs. Additionally, an optional adapter is available.

The IsoDisc isolation device is 3rd party certified as a protective system according to EU directive 2014/34/EU (ATEX Directive) and is approved for isolation of dust explosions. The IsoDisc with housing is equipped with a pipe adapter and can be directly installed in the piping. The IsoDisc with housing features a durable carbon steel or stainless-steel valve housing and valve internals. The valve plate is made of high-quality steel alloy. The valve is designed to withstand high maximum reduced explosion pressures (Pred) listed in the specification section below.

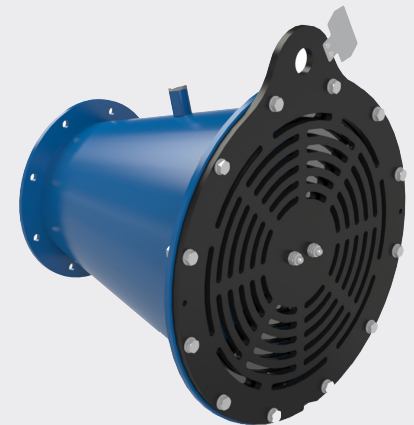
Features

- Flexible mounting distances
- Certified according to EN15089
- Low Pressure drop
- Unidirectional assembly orientation
- Tested and approved to allow up to 2 elbows between IsoDisc and downstream vessel
- Available with and without housing (pipe adapter)
- Virtually maintenance free due to frictionless guided valve plate
- Resets automatically (no unlocking required after activation)
- High operating temperature working range

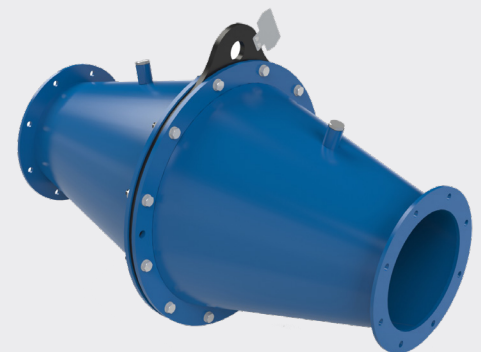
IsoDisc™



IsoDisc™



IsoDisc™ with downstream adapter



IsoDisc™ with down and upstream adapter

Application

When applying explosion protection methods such as venting, flameless venting or suppression, it is also necessary to reduce the risk of flame and explosion pressure transmission to interconnected vessels or the environment. The IEP Technologies IsoDisc offers a cost effective, self-actuating and efficient solution to mitigate the risk of explosion propagation. Typical applications for the IEP Technologies IsoDisc include explosion isolation of air aspiration inlets of mills and silos or clean air pipe ducting connected to equipment where explosive dust is handled.

Specifications

| Nominal Diameter mm (in) | DN50 (2) | DN100 (4) | DN150 (6) | DN200 (8) | DN300 (12) | DN400 (16) |
|--|---|--------------|---------------|--------------|---------------|---------------|
| Minimum vessel volume m ³ (ft ³) | 0.34 (12) | 0.52 (18.4) | | 1 (35.3) | | |
| Pred max. bar (psi) | 2.1 (29) | 3.1 (45) | | 2.4 (35) | | |
| Minimum Mounting Distance with 0 or 2 90° Elbows m (ft) | 0.10 (0.33) | 0.20 (0.66) | | 0.16 (0.52) | | |
| Maximum Mount- ing Distance with 0 or 2 90° Elbows m (ft) | 15 (49.2) | | | | | |
| Kst max. bar m/sec | 224 | | | | | |
| MESG mm | 1.36 | | | | | |
| Maximum Operat- ing Temperature °C (°F) | Base version: 130°C (266) and Full Stainless steel version: 250°C (662) | | | | | |
| Weight without pipe adapter kg (lb) | 0.9 (2.0) | 3.8 (8.4) | 7.8 (17.2) | 13 (28.7) | 32 (70.5) | 76 (167.6) |
| Material: | Base version: Coated Carbon steel / Full Stainless steel version: Stainless steel) | | | | | |

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