

# HOERBIGER explosion relief valves: Reliable protection against the effects of dust explosions



# HOERBIGER explosion relief valves: Safety for personnel and process equipment

Throughout the range of process equipment – filters, silos, mills, conveyors, in short wherever combustible powders are produced or conveyed, explosions can occur. In these applications, HOERBIGER explosion relief valves offer superior protection without the complications associated with other protection systems.

## Challenges in the process industry

- Active systems utilising high speed electronics can cause false alarms, which result in system activation and plant shut-down. This is due to pressure fluctuations in the process.
- Highly complex explosion protection equipment often includes high maintenance and repair costs. Regular inspection, testing and component replacement may be required.
- Traditional explosion venting with bursting panels is not suitable for internal applications without vent ducts. These cause inefficiency and additional expense.
- Other flameless explosion venting devices provide protection by adding a flame quenching device to a traditional burst disc or panel. This integration of two devices often results in complications in application and installation.

## HOERBIGER explosion relief valves – how they work

In the event of a dust ignition the HOERBIGER explosion relief valve opens quickly. This reduces explosion over-pressure inside the equipment to a safe level without any flame transmission to the surrounding area. After the explosion pressure subsides, the valve reseals, thus preventing the inrush of air, which reduces the risk of subsequent explosions and fire.

**The HOERBIGER explosion relief valve is the only approved, multi-event and flameless explosion relief device of its type in the world. It is a simple mechanical device, which addresses the safety issues posed by dust ignitions in the process industry.**

## HOERBIGER explosion relief valves offer superior protection and economy

- The valve recloses immediately after an explosion and does not require repair or refurbishment. As a result, the process does not have to be stopped immediately.
- HOERBIGER explosion relief valves can be installed to discharge into confined compartments. They operate reliably in any position. This provides significant savings, when the valves are applied to new plant designs or retro-fitted to existing equipment.
- Suitable for multiple explosion events, HOERBIGER explosion relief valves are virtually maintenance free and offer reliable explosion protection for the life of the equipment.
- The optimal design and the compact size make installation simple and cost effective.





# HOERBIGER explosion relief valves: Safe, reliable, fast and efficient

As a safety product, opening pressure, tightness and function of every relief valve are tested before delivery.

## Safe

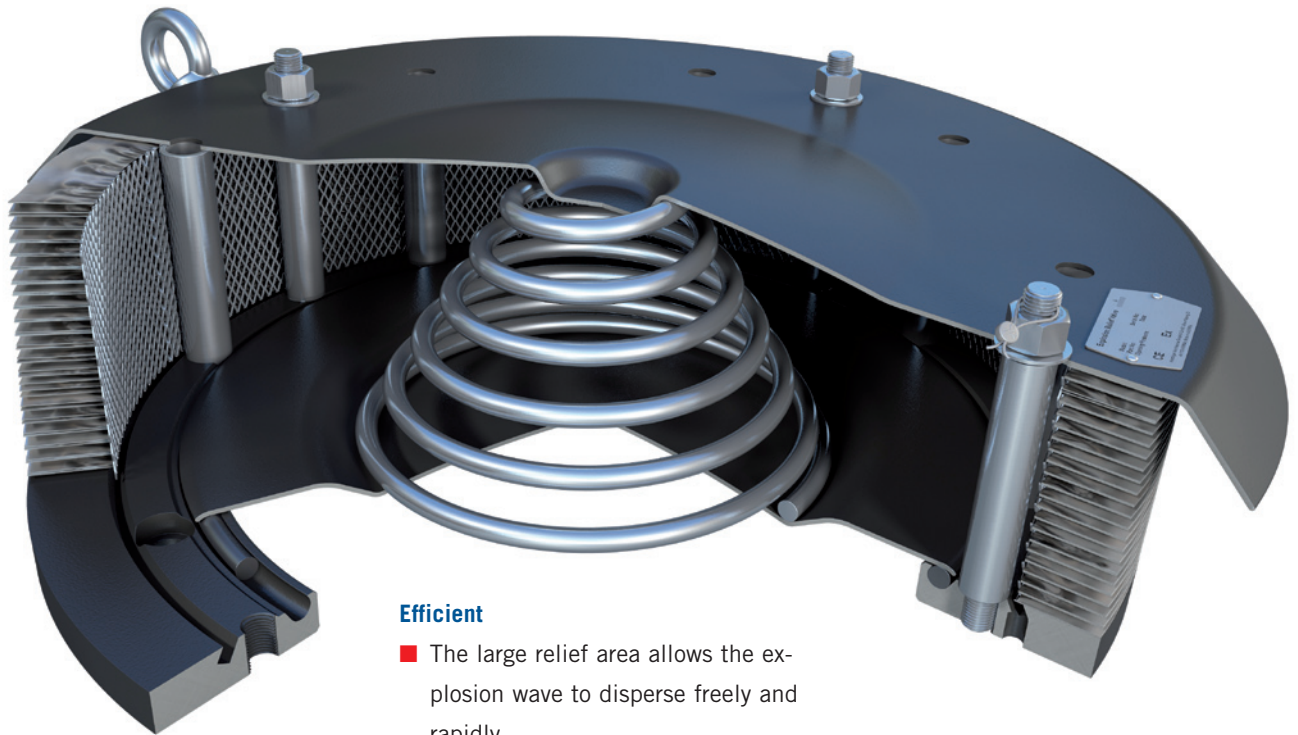
- The integrated flame arrester prevents the escape of flames.
- Resealing of the explosion vent aperture after an ignition prevents oxygen from entering the vessel.

## Reliable

- Simple construction and proven design provide highest reliability.

## Fast response

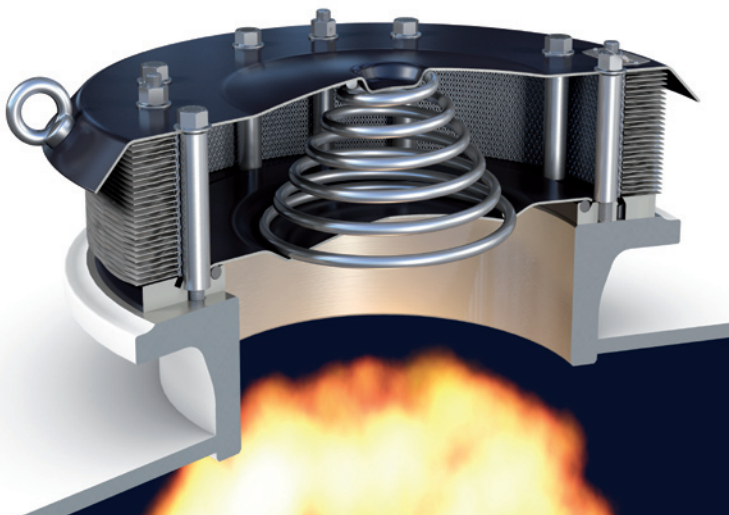
- The low-mass valve plate opens within milliseconds.



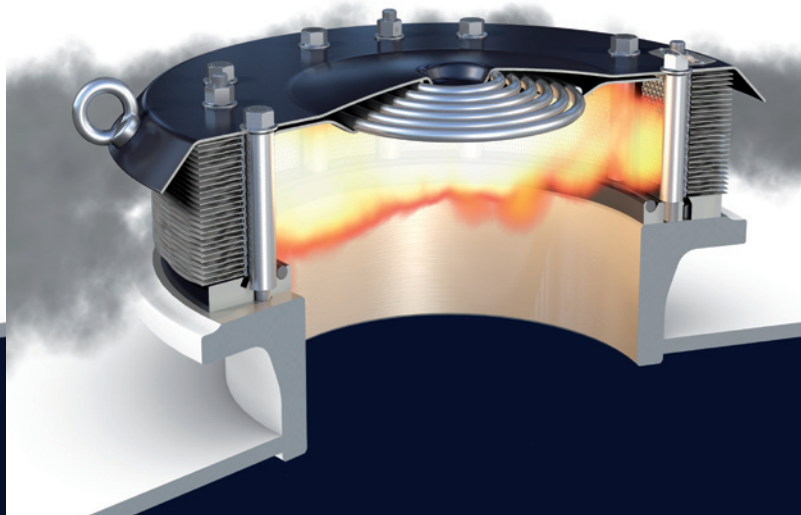
## Efficient

- The large relief area allows the explosion wave to disperse freely and rapidly.

*Valve closed*



*Valve open*



# The functions and benefits of HOERBIGER explosion relief valves at a glance

- ✓ Internal explosion pressure relief without blast flames or explosion vent ducts
  - ✓ Responds and opens at low pressure setting (0.05 bar standard)
  - ✓ HOERBIGER explosion relief valves are ATEX certified
  - ✓ HOERBIGER explosion relief valves are vacuum resistant
  - ✓ HOERBIGER explosion relief valves are manufactured in a range of sizes to suit most applications
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- ✓ Uninterrupted operation after an explosion, reduced danger of fires and subsequent explosions due to immediate resealing
  - ✓ Virtually maintenance free
  - ✓ Flexibility – no need to design a plant with external components or adjacent to external walls

HOERBIGER explosion relief valves are available in several material combinations in order to meet your specific technical requirements. The optional valve motion sensor and alternative o-ring materials provide versatility across a range of applications.

## Application areas (Examples)

- Food industry
- Pharmaceutical industry
- Coal industry
- Petrochemical industry
- Plastics industry

## Protecting equipment (Examples)

- Dust collectors
- Cyclones
- Dryers
- Conveying equipment
- Silos
- Mills and sieving machines

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*because performance counts*

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