



Your specialist for
self-reclosing & reusable

EXPLOSION DOORS

DRYING AND STORAGE
IN THE FOOD INDUSTRY



Autonomous protection
system with trace heating,
certified and type tested,
certified under
ATEX 2014/34/EU

THORWESTEN VENT

A TRADITION-CONSCIOUS FAMILY COMPANY
WITH SPECIAL EXPERTISE
AND THE LATEST PRODUCTION TECHNIQUES

Thorwesten Vent has been internationally renowned as a manufacturer of self-reclosing explosion doors for more than 40 years. Experiences and competences gained in the field of pressure relief of coal dust explosions in coal grinding plants were transferred to the food sector with the successful development of a new generation of explosion vents. Coordinated fibre composite production as well as state-of-the-art processing machines guarantee top quality.

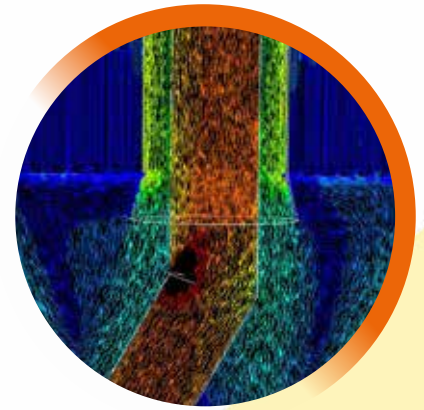


CONSTRUCTIVE EXPLOSION PROTECTION

ENGINEERING & SERVICE

Our many years of expertise in the design of constructional explosion protection concepts and the resulting consideration of the intended use in compliance with valid standards, allows us to provide our customers with optimal advice and support for retrofits.

The retrofitting segment, in particular, presents specific challenges that can often only be overcome with a lot of experience and know-how.



COMPREHENSIVE SERVICE

- Maintenance of facilities requiring monitoring in accordance with the Industrial Safety Ordinance (BetrSichV)
- Commissioning of new facilities and retrofits
- On-site training / instruction
- Installation supervision
- Inspection of existing facilities
- Maintenance contracts
- Spare parts service

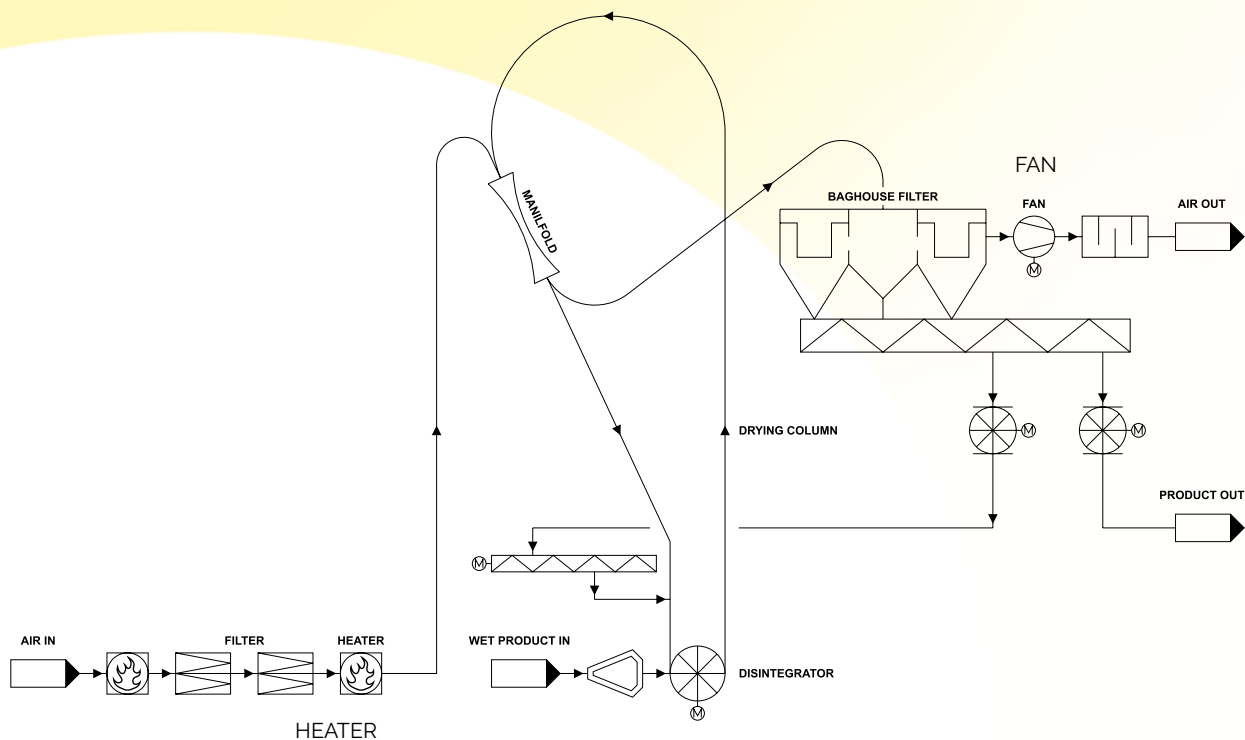



DRYING & STORAGE

Drying processes in the food industry often involve explosive dust atmospheres. The taking into account of of constructional explosion protection measures is therefore absolutely essential.

Changing process-related pressure loads as well as material caking due to condensate often lead to technical problems, which were solved with the development of our explosion vents and significantly contribute to increasing process reliability:

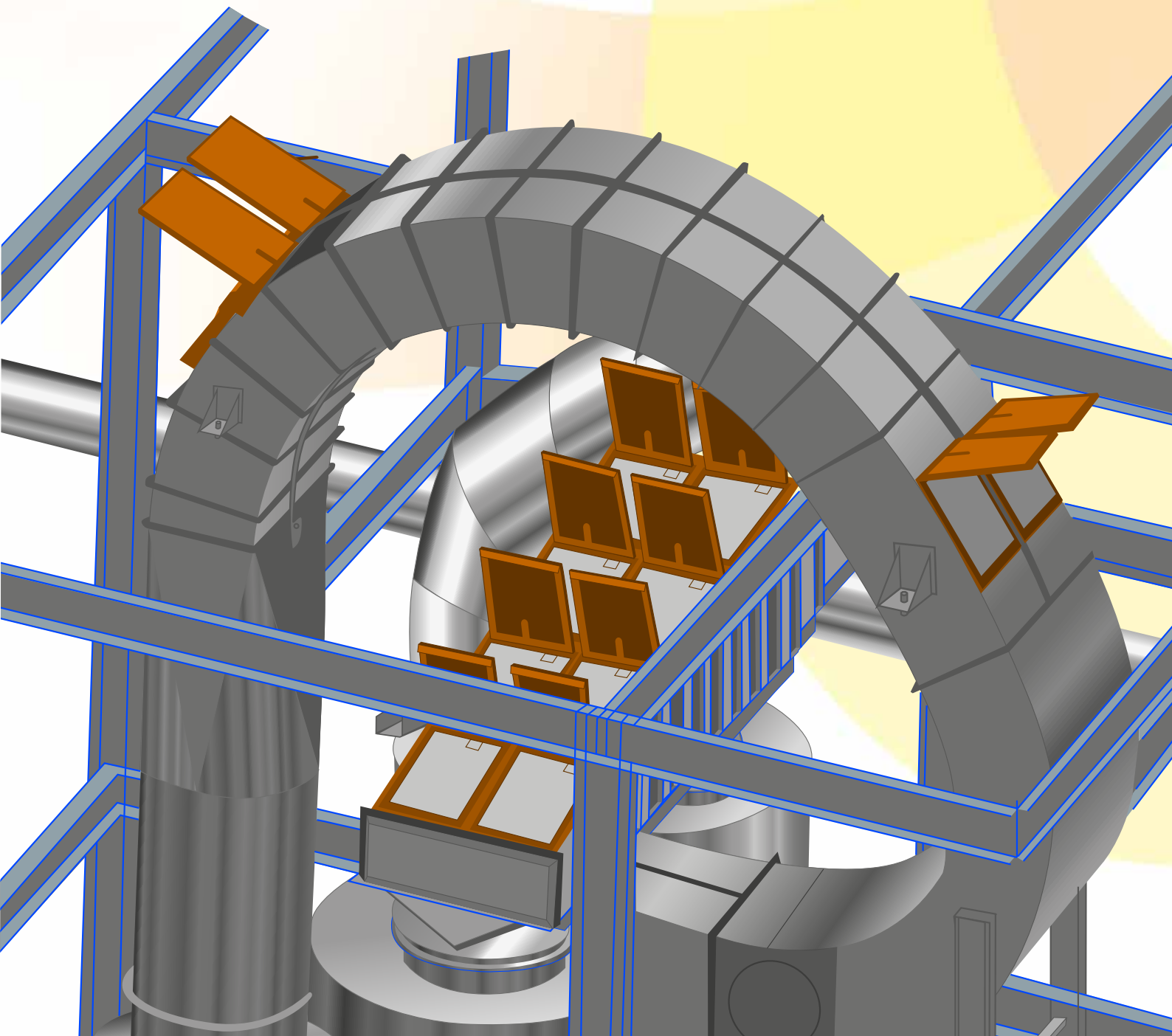
- Self-reclosing
- Reusable
- High venting efficiency
- Heat-insulating lid
- Trace heating for keeping the facility free from snow and ice





Avoiding the entry of atmospheric oxygen after an explosion as well as the avoidance of condensate are the main priority.

Contamination of the product due to environmental influences, e.g. by mechanical pressure as well as unintentional opening of alternative venting elements can be excluded.



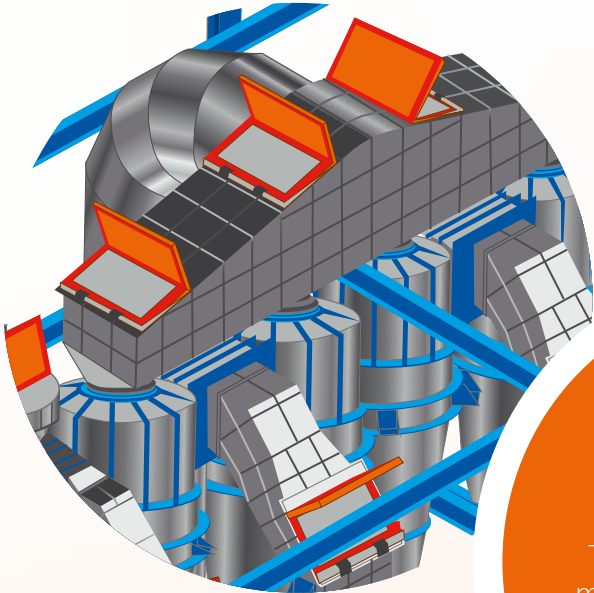
- ① Baffle plate
- ② Lid
- ③ Locking device
- ④ Frame
- ⑤ Proximity Switch



Explosion door
closed

Explosion door
open

DOWNSTREAM PROCESS STEPS



CYCLONE (MULTI-STAGE)

The most effective arrangement of pressure venting area in centrifugal separators is just above the air outlet pipe.

- High venting efficiency
- Surfaces with product contact made of 1.4404
- Seal, silicone with FDA approval
- Variable response pressure settings
- Negative pressure resistance 0,2 bar
- Used in dust classes St1 and St2
- Permissible reduced explosion pressure $p_{red} \ddot{U} 2,35 \text{ bar}$
- Process temperature $\leq 160^\circ\text{C}$
- Interchangeability of existing, more conventional pressure relief possible

BAG FILTERS

In the case of bag filters, special care should be taken to place the venting area below the filter elements. This ensures that filter elements do not block the pressure venting areas.





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