Experts in fire protection

DryerProtect
Fire protection for industrial dryers

Risks

Industrial dryers remove moisture from materials in the wood and recycling industries, such as wood chips or recycling residue. The food industry also makes use of industrial belt dryers. The material to be dried is situated on air-permeable conveyor belts or plates, through which heated fresh air is drawn in order to achieve consistent drying. This operating method gives rise to various hazards that can initiate a fire within the dryer as well as in upstream and downstream process steps.

- Deposited material in the drying room can ignite
- Defective bearings in the conveyor belt can result in local hot spots, which can then set the surrounding material alight
- The heavily oxygen-enriched atmosphere facilitates the outbreak and spread of fire

The dryer's closed design significantly hinders fire detection, meaning that people and material as well as systems and machinery in the immediate environment can be endangered by a fire.

Advantages at a glance

- Use of proven Minifog water mist technology with efficient water use and low operating pressures
- Requires up to 70% less extinguishing water than conventional deluge systems
- Proven fully optical detection in combination with self-monitoring for reliable spark and flame detection
- Optional spark extinguishing at interfaces to the dryer
- VdS-certified system with system approval

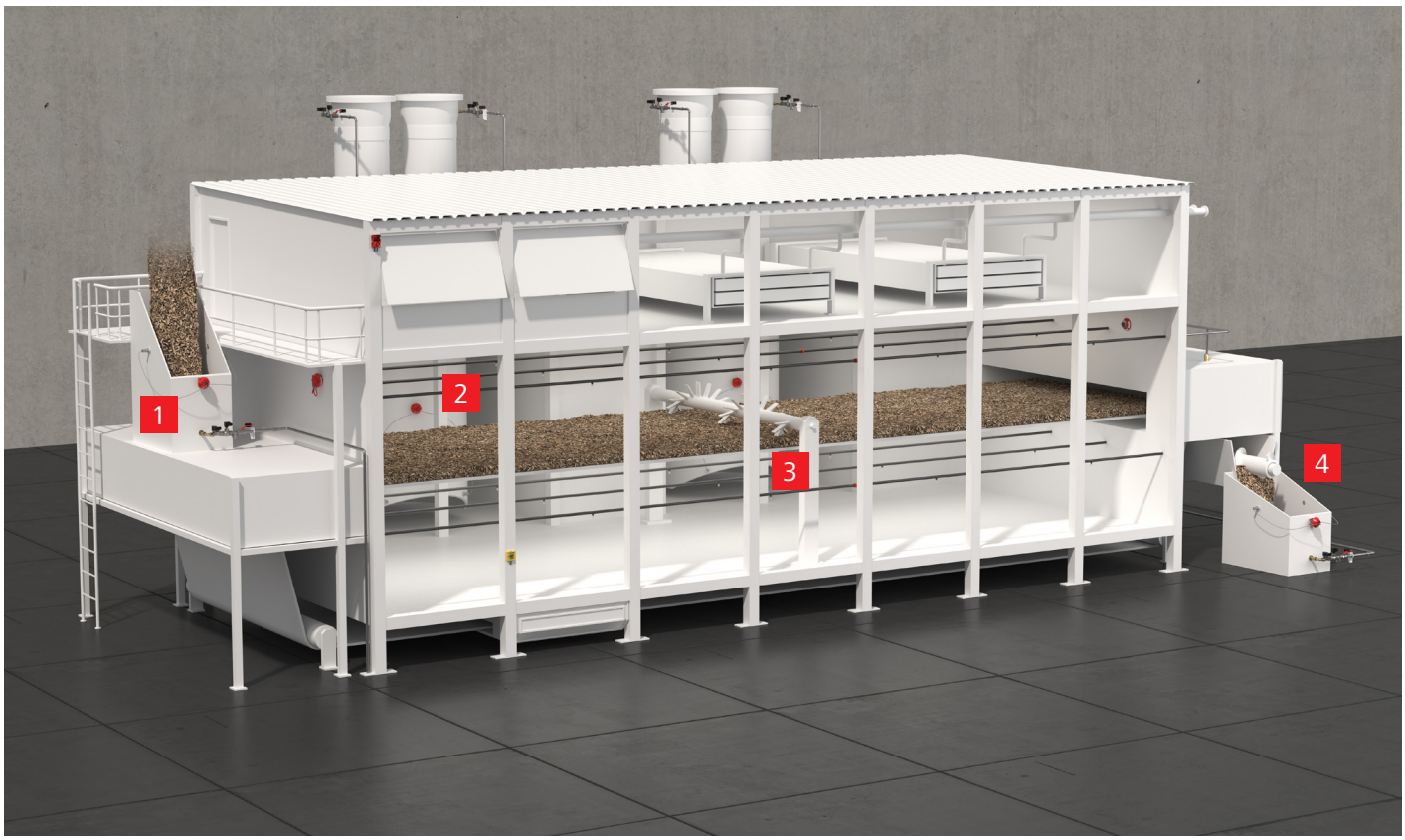
Typical application areas:

Industrial dryers covered by the protection scheme:

- Belt dryers
- Slat conveyor dryer
- Feed-and-turn dryers
- Veneer dryers

wood@minimax.de | www.minimax.com

Operating principle of DryerProtect using the example of a belt dryer



1 Material with a high moisture content falls onto the feed module. Here, detection is carried out by UniVario YMX5000 spark detectors. Potential sparks are detected and extinguished within fractions of a second. In this way, the dryer is already optimally protected during product discharge.

2 The product now begins to be conveyed horizontally, thus starting the drying process. UniVario FMX5000 IR flame detectors monitor the drying area above the conveyor belt. Below the conveyor belt, spark detectors monitor the lower drying area for flames and the smallest sparks. The fire suppression system is activated upon detection or if the manual call point is actuated.

3 Extinguishing in the drying area is carried out by means of the Minifog impulse nozzles. Their special alignment ensures that all areas in the dryer are covered with water. In the case of fire, automatically opening spray deluge nozzles flood the entire product discharge area up to the screw feeder.

4 Spark detection and extinguishing now takes place again in the drop shaft, in which the now dried material is transported from the screw feeder. If necessary, after-detection can be implemented here in order to detect any re-ignitions in the direction of the dryer.

Minimax makes the difference

- VdS-certified system with system approval, meaning that rebates can be obtained under insurance terms
- Minifog water mist technology requires 70% less water than conventional deluge systems and has a low operating pressure of 4 bar at the nozzle
- Function and visibility monitoring of all flame detectors
- Everything from a single source: full integration into the system protection
- Flexible integration of the system, whether in a new construction or an existing building

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