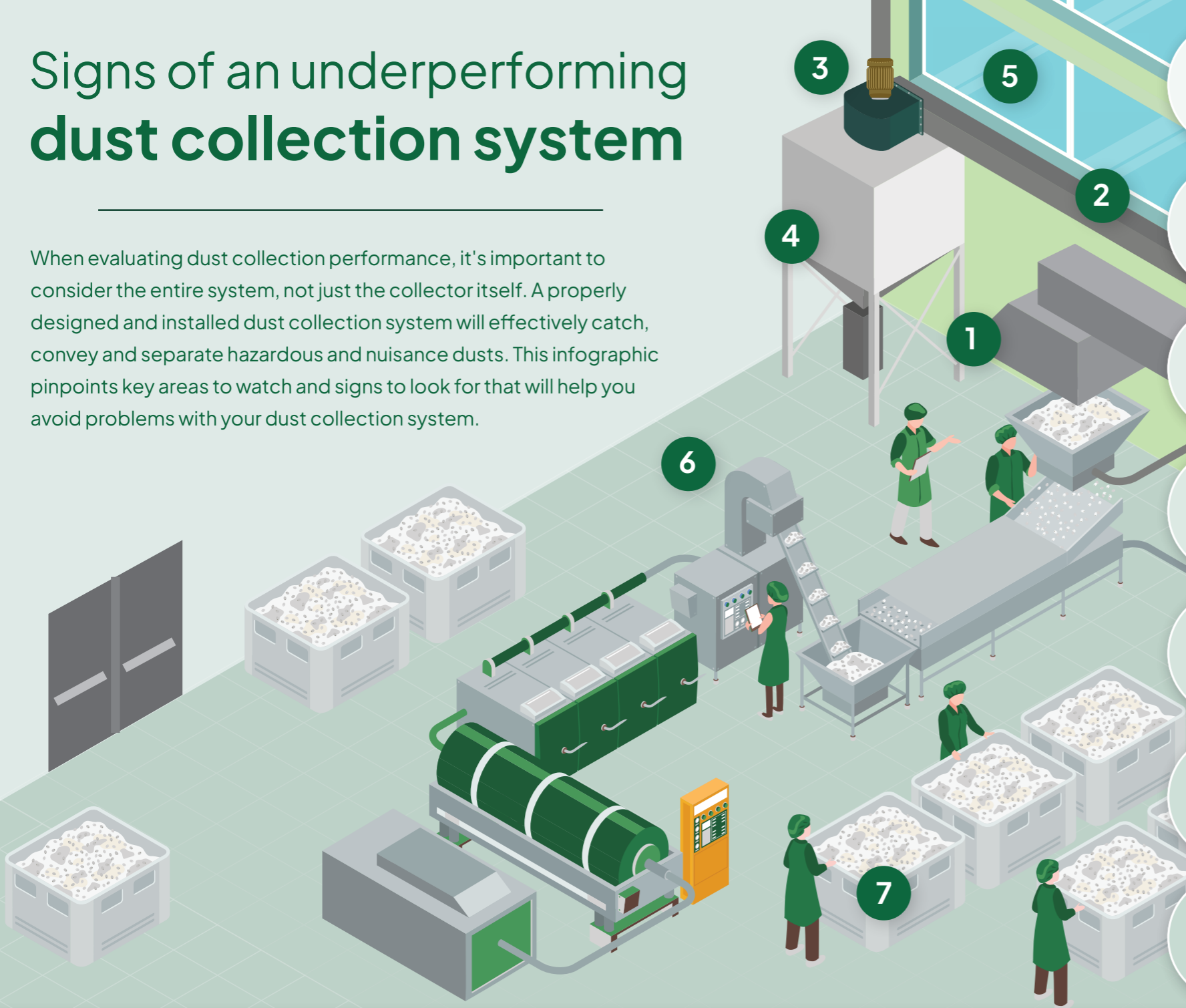


Signs of an underperforming dust collection system

When evaluating dust collection performance, it's important to consider the entire system, not just the collector itself. A properly designed and installed dust collection system will effectively catch, convey and separate hazardous and nuisance dusts. This infographic pinpoints key areas to watch and signs to look for that will help you avoid problems with your dust collection system.



1 Hoods Hooding must be sized correctly to achieve the correct capture velocity. If velocities are too low, dust particles won't be collected effectively at their source. Velocities that are too high can affect the operation at the collection hood or inadvertently extract good product from the process.

2 Dustwork Heavier dust generally requires higher convey velocities to keep it suspended while it is moving through the duct to the dust collector. When convey velocities are too low, the dust particles can fall in the ducts or plug them, causing the facility to be non-compliant for combustible dusts or other issues that come from plugging the duct. However, convey velocities set too high cause the system to use more energy (horsepower) than needed to convey the dust.

3 Fans Fans need to be sized properly to achieve the system's required airflow and static pressure/energy. Oversized fans draw too much air into the collector, which raises the air-to-cloth ratio, shortens filter life and increases energy costs. Undersized fans cause convey velocities that are too low in the ducts, causing dust to fall out and build up in the ductwork. Airflow that is less than designed will not allow the hoods to collect the dust as required from the process.

4 Filters Premature failure and frequent change-outs are signs that the air-to-cloth ratio is incorrect, the wrong filter media is being applied, or the collector is too small for the job.

5 Compressed air system Very low air pressure indicates the pulse-cleaning system can't clean the filters properly. High air moisture content and/or oil present in the dust can plug filters or cause problems with the solenoid and diaphragm valves.

6 Air Quality Air quality tests can show that your facility is no longer meeting OSHA exposure limits for the dusts you produce. Your dust collector must be able to achieve the filter efficiency level required to meet OSHA permissible exposure limits (PEL) requirements.

7 Employee health problems Even if your facility is in compliance with PELs set for your dust, workers might still experience dust-related health symptoms. This indicates that your dust collector needs to achieve even lower exposure limits to ensure air quality safety.