Paint Booths & Conveyor Systems Application

For manufacturers of products that require a paint finish, they typically operate on an industrial conveyor system or within a paint booth. Due to the many points of failure on a conveyor system and a high volume of chemicals flowing through an exhaust system, manufacturers typically enforce a rigorous preventative maintenance program for their paint line to avoid contaminating products and bearing failures resulting in unplanned downtime.

This typically includes daily maintenance inspections to ensure exhaust systems and conveyors are in working condition and showing no signs of wear and tear. It is a costly and resource heavy endeavor, but it will save more time and money in the long run than unplanned downtime.

THE INDUSTRIAL PAINT BOOTHS & CONVEYOR SYSTEMS PROBLEM

For both paint conveyor systems and paint booths, exhaust systems require the most attention and regular maintenance. Many chemicals and heavy paints churn through the filtration system, requiring frequent close monitoring of intake and exhaust filters. Over time, the booth or conveyor system can become contaminated with debris being dispersed through the filtration system. Knowing precisely when to change your filter is imperative to the quality of goods being painted.

A paint conveyor system consists of many critical points of failure that require constant supervision. When a bearing fails, the entire line will shut down until repairs take place. Replacement parts not on hand will need to be ordered to get the entire line back up in running.

Maintenance teams need to know **precisely where** and **when a failure will occur** to plan their repair in the most **cost-effective way possible.**

THE INDUSTRIAL PAINT BOOTHS & CONVEYOR SYSTEMS SOLUTION

Vibration and temperature node sensors can be deployed onto exhaust system fans to detect when fluctuations are out of nominal ranges, indicating that more debris is flowing through the system than is acceptable. The sensors continually monitor and utilize cloud-based data to deliver real-time updates on the health of an exhaust system. When monitored exhaust system fans begin to show signs of degradation, email/SMS alerts will be issued to maintenance personnel instructing them to inspect their filtration system.

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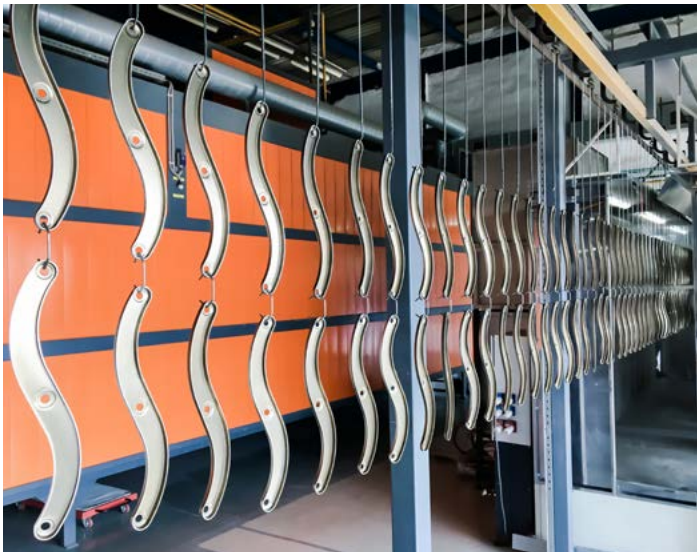

Paint conveyor systems can also be monitored at critical failure points to ensure that bearings are in a healthy working condition. The moment they begin to show signs of wear and tear, maintenance teams will be alerted to the precise location where the point of failure is impending. This saves a tremendous amount of time and alleviates all the guesswork involved in locating a problem without predictive insights. Early detection is crucial to planning the repair and ensuring replacement parts are ready for installation. These are the key benefits of incorporating a predictive maintenance plan on paint booths and paint conveyor systems:

- Provide maintenance teams with actionable insights within their exhaust systems to monitor the status of their filtration and prevent unwanted contaminants from reaching their products.

- Narrow the point of an impending failure to its precise location on paint line conveyors to eliminate guesswork, plan their approach to repair, and prioritize resources.
- Avoid longer periods of unplanned downtime due to unpreparedness, lack of resources and replacement parts by receiving early detection alerts from monitoring sensors.
- Predictive maintenance methods augment preventative maintenance practices by continuously monitoring critical assets, freeing up more time and resources for maintenance teams.

ABOUT THE GRACESENSE™ PREDICTIVE MAINTENANCE SYSTEM

The GraceSense™ Predictive Maintenance System is an IIoT asset condition monitoring system that utilizes wireless sensor technology integrated alongside wired sensors. Advanced data analytics provide asset managers with deep insights to machine health to effectively prioritize resources and maximize the value of their maintenance spend.

GraceSense™ technology improves overall plant reliability, safety, and maintenance metrics by remotely monitoring asset health and sending timely notifications to plant floor personnel through SMS or email alerts with pre-configured, step-by-step remediation instructions when anomalous behavior is detected.

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