



# Maintain Your Aging Dust Collector with Connected Monitoring

Connected Solutions



High-quality, industrial-grade dust collectors are designed to last and support facility filtration for many years. Over those years, most facilities have experienced maintenance team turnover, so these aging collectors are frequently inherited by new teams who are looking for innovative ways to keep them performing efficiently, effectively, and within budget.

This was the case for a global surface coating company that runs continuous, high-demand processes in multiple facilities. The maintenance team at one of its larger plants was manually monitoring 12 dust collectors. When a new maintenance manager started, he realized too many hours and resources were being spent on manual collector inspections and replacing underperforming filters at this location.

By installing a connected filtration monitoring service that provides automated alerts and data collection, the maintenance team was able to reduce their time spent on collector readings and swiftly identified root performance issues that were causing premature filter replacements.

By keeping a pulse on collector performance and taking early action on necessary repairs, collectors can run for the long haul.

## Importance of Maintaining a Long-Term Asset

While a long-term asset like a dust collector is invaluable, maintaining this type of equipment, especially as it ages, can be a challenge. With limited staff and older equipment, many facilities need smarter processes to help ensure the continued performance of their machines and systems to support production demands.

Manufacturing facilities are always evolving to make product enhancements and to introduce new technologies. A dust collector installed 20 years ago might have been designed for a different application than it supports today. While this presents challenges, the reality is legacy equipment continues to be the backbone of many industrial facilities and maintaining this equipment is of the utmost importance to stay competitive and in business.



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Dust collectors, in particular, require regular monitoring and maintenance checks to stay in good working condition. A condition-based approach to maintenance helps facility teams track collector performance, stay on top of necessary repairs, and maintain aging machines.



The average age of most dust collectors in the field.

— Survey conducted by Donaldson and *Plant Engineering*

## Average Collector Age and Counting

A survey Donaldson conducted with *Plant Engineering* magazine subscribers, found the average age of a dust collector was 11 years. The average respondent reported they were responsible for five dust collection systems, while 15 percent said they were responsible for the operation of 10 or more dust collectors.

Plant maintenance teams have a lot on their plates. The steep cost of replacing large-scale equipment means most teams are expected to preserve and keep legacy equipment in service and supporting production lines, even when new materials, applications, longer run times and other factors are introduced.

So how can you update or add value to your trusty collector over the years of its service?

One strategy is to change the way you monitor your filtration system and how you obtain your performance data. Using a connected dust collector can help save time, money, and many maintenance headaches.

Connected monitoring apps and programs have become commonplace in our lives for tracking steps, sleep, diet, and more. They are useful and transferable for many business applications like dust collection.

## Connected Monitoring to Guide Condition-Based Maintenance

Building on more than a century of experience and the latest IoT technology, Donaldson's iCue™ connected filtration service remotely monitors dust collection equipment and provides operational insights through automated alerts and a dashboard that's accessible from your computer or smart devices.

Since its introduction, the iCue service has helped numerous organizations revolutionize how they monitor, manage, and optimize their dust collectors. Information from the iCue service can help reduce unplanned downtime, support efficient maintenance and operations, and automatically capture critical compliance data for reporting requirements.



In one instance, a livestock feed producer was filtering sticky material that frequently plugged the dust collector hopper. Often, the issue was not detected until the captured particulate filled up the collector and escaped into the facility, requiring an extensive clean-up effort. After installing Donaldson's iCue service, timely alerts about potential hopper-plugging issues have helped reduce what used to be a two-hour maintenance job to a simple 15-minute check.



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## Collector Maintenance Issues Can Be Caught Early

Below are five common collector performance issues that can be detected in a timely manner with Donaldson's iCue filtration monitoring service:

- » **Low Airflow:** You will receive alerts if your collector's airflow drops below the designed flow and isn't maintaining proper capture velocity. Low airflow can lead to a dirty facility or dust settling in your ducting system.
- » **End of Filter Life:** The iCue service tracks differential pressure and will alert users when pressure is rising due to plugged filters. It can also alert you when particulate levels are increasing in the exhaust if filters have reached end of life.
- » **Filter Leaks or Breaks:** The iCue particulate trend sensor can detect when the particulate level is rising from leaks in filters or from the seals separating the dirty and clean air plenums.
- » **Improper Filter Cleaning:** Changes in compressed air levels that are outside the specifications of the collector can impact the cleaning process of filters and reduce their lifespan. The iCue service can detect when a pulse valve fails, which if not repaired quickly, can lead to premature filter plugging.
- » **Bin Overflow:** Early detection of hopper plugs or a bin overflow enables maintenance teams to act and save the collector from filling with particulate. An overflow can reduce airflow, damage filters, and cause unplanned downtime.



These performance issues happen in dust collectors of all types but are more common in older machines due to general wear and tear. For example, an older collector is more likely to have leaks due to extended use and fatigue of the metal.

Also, older collectors that have been reconfigured for several different applications throughout their service can experience performance issues over time. This often leads many organizations to have a mix of collectors to support their various production needs. The iCue service can be installed on both Donaldson and non-Donaldson dust collectors.

Taking steps to maintain your dust collector will go a long way toward saving your operational resources. Connected monitoring is an efficient and affordable first step to keep dust collectors on track. The service can also help lower the amount of time, cost, and stress on your busy maintenance team.

The iCue service is available in the US, Canada, Europe, and Asia Pacific. To learn more about the Donaldson iCue connected filtration service, or to request a demo, contact us at:

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