



Condition-Based Maintenance

Connected Solutions



3 REASONS TO USE CONNECTED MONITORING FOR YOUR DUST COLLECTORS

The popular saying, “if it ain’t broke, don’t fix it,” seems to be the approach many companies are taking for their maintenance needs today. Of course, the majority do not wait until their equipment breaks down. Rather, many are starting to use remote equipment monitoring and performance data collection to better understand real-time system conditions.

This approach is more commonly referred to as condition-based maintenance (CBM), a strategy that uses indicators to flag decreasing equipment performance issues in real-time for busy plant maintenance teams. CBM has become a standard practice across many industrial environments to manage operational costs and prioritize staff time.

It can also be more effective than preventive maintenance at avoiding unplanned repairs and downtime. The aging workforce along with recent production slowdowns, distribution delays and staffing shortages due to the pandemic have accelerated the push for CBM and remote monitoring services like Donaldson’s iCue™ connected filtration service.

CBM has become a standard practice across many industrial environments to **manage operational costs and reduce staff time.**

This approach is an attractive option for facility teams looking to streamline their workflow and maintenance processes while gaining more valuable data and insights. Remote monitoring can become a natural part of a plant’s CBM process and overall crisis management plan.

Following are three reasons Donaldson’s iCue service can help drive CBM across your operation:



1 Do More With Less.

With CBM and a connected monitoring solution, you can eliminate or reduce the need for frequent in-person inspections of your dust collectors that are often not effective at preventing unplanned downtime and takes valuable time away from your maintenance team. CBM allows you to deploy your teams where and when they are needed and avoid unnecessary oversight and inspections.

For CBM, maintenance teams frequently utilize monitoring services like Donaldson's iCue™ remote filtration monitoring service that provides reliable and accurate assessments through a dashboard and provides timely notifications that flag any maintenance problems that need immediate attention. Amid staffing disruptions – quarantine periods, furloughs, and downsizing – many organizations put a freeze on hiring additional maintenance managers and technicians, so facility machines like dust collectors are well-suited for remote monitoring systems when teams are lean.

These types of solutions will continue to help fill staffing voids for maintenance managers who need to rebuild their teams, reprioritize workloads, and simply do more with less.

CASE STUDY

Maintenance of 23 dust collectors is a huge job, but a large industrial minerals plant in the mid-South cut it down to size using Donaldson's iCue connected filtration service. Based on the successful trial, the plant is projected to **slash preventive maintenance time on the facility's collectors by roughly 900 hours per year**, which will enable valuable staff time to be reprioritized to other projects.





Donaldson iCue™ connected filtration service provides reliable and accurate assessments through a dashboard. You'll receive timely notifications that flag any maintenance problems that need immediate attention.

2 Keep the Lines Running.

Unplanned downtime always hurts a plant's bottom line, so remote system monitoring enables facility management teams both on- and off-site to proactively address time sensitive equipment issues. For example, using iCue Monitoring service as part of your CBM approach can help maintenance staff proactively catch a rise in differential pressure (dP) in a dust collector, which likely means a filter is expired and needs to be changed. It can also read the particulate matter (PM) sensor in the exhaust of a dust collector and automatically send an alert when particulate levels are rising, so the team can ensure a failure doesn't happen and cause a plant shutdown.

Over time, recorded monitoring data is saved in a timeline that shows the historical performance through graphs and charts. These insights are shared in reports and other actionable insights that help track scheduled and unexpected downtime, and any trending issues that may require a longer, more time-intensive repair plan.

CASE STUDY

In a 2019 survey conducted by Plant Engineering magazine and sponsored by Donaldson, 38 percent of plant engineers said a dust collector disruption would shut down their operation at an **average estimated cost of \$3,371 per hour.**

3 Manage, Track, and Stay Compliant.

Some states and local counties have regulations that require facilities to conduct in-person dust collector checks for two reasons: to manually record data like dP on a clipboard to meet air permit requirements and to visually inspect the equipment for issues like particulate levels in the dust collector exhaust.

However, manual in-person checks and visual monitoring are prone to human error, so it's best to supplement them with a remote monitoring system that will send alerts when a function is out of your pre-set parameters. This enables a cross-check of manual findings with the system's reporting analysis.



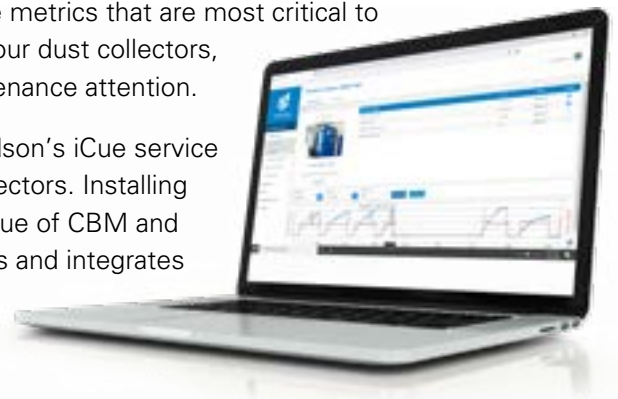
During times when the crew on the floor may be different every day, having the reliable, no-guesswork iCue monitoring system will ensure your standards are being met. The data collected both in person and through the monitoring service will make the completion of required compliance reports easier and more manageable for the maintenance and EHS teams.

CASE STUDY

According to a maintenance manager of a large powder processor near the Appalachians: "Currently our production group has to check our dust collectors once a shift and record the differential pressure (dP), which is stored for the state to review. Now (with iCue connected filtration service) the environmental manager will be able to download the dP data once a month and should be able to **reduce or eliminate these walk-throughs with production staff and receive more quality data** in order to maintain that compliance requirement."

Donaldson's iCue connected filtration service works with nearly all major brands of dust and fume collectors and includes a variety of sensor options so you can track the performance metrics that are most critical to your operation. It is easy to set up, monitors the key parameters of your dust collectors, and sends timely alerts when there is a condition that requires maintenance attention.

If your organization is moving toward CBM or is already there, Donaldson's iCue service has everything required to implement this approach on your dust collectors. Installing the iCue service on your dust collectors can help you illustrate the value of CBM and connected technology to senior leadership as your company upgrades and integrates its different company systems.



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