



Connected Solutions

# Donaldson iCue™ Connected Filtration Service FAQ

for Industrial Facility Managers

## 1. What is the iCue connected filtration service?

The iCue connected filtration service monitors dust collectors, using industrial IoT technology. The solution tracks dust collector status and alerts you when normal thresholds are breached; stores and exports historical data to help identify machine problems and optimize performance; and automates data capture for compliance reporting.

## 2. How does it work?

The iCue service is comprised of four key components that work together to deliver a comprehensive set of benefits:

- **Sensor-integrated gateway:** Captures sensor data from the collector and sends it to Donaldson's secure cloud, where our predictive analytics turn the data into actionable insights.
- **Online dashboard:** Shows equipment status in near real-time, as well as historical trend data for each connected collector.
- **Alarms and notifications:** Alerts you when immediate maintenance actions may be required, based on deviations from pre-set parameters.
- **Weekly status report:** Provides condition summaries of all connected dust collectors across your operation.

## 3. How will it make my job easier?

Continuous monitoring with the iCue service assists users in the following ways:

- Helps you identify and trouble-shoot issues before they escalate into disruptive downtime.
- Promotes timely maintenance, such as changing filters, which can improve equipment performance and help control costs.
- Saves time by reducing visual inspections and manual instrument readings.
- Automates collection and reporting of compliance data. Minimizes the effort to manually record data and the chance of losing data.

## 4. Does it control my dust collector?

No, the iCue service is "read-only" and does not control any functions on your collector. It operates independently of your local control network (SCADA or DCS) and local WiFi network, so it does not compromise the security of control systems or internal data.

## 5. What functions in a dust collector does the iCue service monitor?

Issues in dust collectors are generally related to several key functions. The iCue service monitors these functions. Here are the standard sensors that are part of every installation:

- **Airflow:** Tracks changes in relative airflow, air velocity and air volume through the collector and alerts you if airflow deviates too high or too low from the collector's designed flow.
- **Differential pressure (DP):** Enables you to track the life of filters and optimize filter change intervals. Sudden increases or decreases in differential pressure can also alert you to conditions such as filter tears or failure of the cleaning system.
- **Compressed air:** Tells you whether compressed air is at the right level for self-cleaning. You are alerted if pressure is too low to clean properly, too high, which can cause filter damage, or inadvertently left off when the collector is started back up.
- **Pulse valve health:** Using a proprietary algorithm, the iCue service can detect if a pulse valve failed to fire and sends you an alert that a valve may need to be replaced.
- **Hours of service:** The iCue service tracks hours of service of the collector and enables users to track how many hours the collector has run since the last filter change or maintenance.
- **Fan energy and power:** For customers using a Variable Frequency Drive (VFD), iCue service can track instantaneous power used and daily energy consumed by the collector.

## 6. Are there any optional sensors for the iCue service?

Yes, the following additional sensors are available if your operation would benefit from them:

- **Particulate trend:** Tracks emission levels in the exhaust and will alert you if they are starting to rise due to filter leaks or excessive pulse cleaning.
- **Point level:** The sensor is mounted on a rotating paddle in the hopper and triggers an alert when the paddle can no longer rotate, indicating an obstruction.
- **Internal temperature and humidity:** Detects if conditions are too cold, too hot or humid in the collector.
- **Secondary differential pressure:** Indicates if your secondary filters (i.e. HEPA) need replacing.
- **Zero Speed Sensor:** Typically used with collectors that have a rotary air lock. The sensor will detect when the rotary valve has stopped turning while the dust collector is running. Enabling users to act before the collector fills with particulate.
- **Bin Level:** Tracks the level of particulate in a collection drum and sends an alert when it is nearly full and needs to be changed; preventing bin overflows.

For more information on the sensors and issues they address, see our **iCue Service Sensor Overview**.

## 7. Can I use my own sensors?

Yes, in most cases, if you already have a sensor or need a sensor that is not available through Donaldson, it can be added to your account as long as it is a 4-20mA or a digital sensor with a dry contact output. There is a setup fee to integrate new sensors.

## 8. How does this information compare with what I can see on my standard controller?

Non-connected dust collectors typically show only differential pressure (DP) and compressed air pressure at a point in time, with no automatic alerts or historical

data. The iCue service monitors those two indicators plus other meaningful factors (See question 6.) You also receive alerts, remote access to the data, trends, and weekly reports that provide a more complete picture of the machine's health. With the iCue service dashboard, you can see the status of multiple dust collectors across your entire operation.

## 9. Can I adjust alarm thresholds for my specific operation?

Absolutely. You establish baselines and alarm thresholds that are specific to your process. Deviations from those ranges will trigger an alert. For example, if your dust collector manufacturer recommends compressed air pressure in the range of 90 to 100 psi, you can set alerts at 89 and 101 psi. When that range is breached, you will receive an alert.

## 10. Is the iCue service device difficult to install and use?

No. The components are designed for easy installation. The sensor-integrated gateway mounts to the collector with a magnet, and sensors are adhered to key points inside. Because it's web-based, there's no software to install. You just need to login to the system, configure the dashboard settings and alarm thresholds, and designate team members to receive reports and alerts.

## 11. What is the cost of the iCue service?

The iCue service is available by subscription on an annual per-collector basis. The total per-collector cost is typically far less per year than one incident of downtime on the collector.

For more detail on system requirements and compatibility, see the **Technical FAQ for the Donaldson iCue Connected Filtration Service**.

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