

Aircuity Advisor™ Services



FEATURES

- Monitor building performance to ensure you achieve your energy entitlement
- Analysis tools to identify time and location of events
- Dashboards to visualize ventilation and IEQ data
- Smart Notifications to alert of ventilation or IEQ anomalies
- Summary reports provide at-a-glance comparison of one period to another
- Analytics are served as secure Web pages from a hosted service
- Data maintained on secure off-site servers

Aircuity Advisor™ Services

Aircuity Advisor Services is a suite of software-based tools used to alert, inform and analyze data collected by Aircuity's OptiNet® system. Advisor Services enables users of the OptiNet system to achieve their energy entitlement and identify and address ventilation as well as Indoor Environmental Quality (IEQ) issues. Advisor provides ventilation and IEQ information to identify and diagnose issues as part of a continuous commissioning program. The Aircuity OptiNet system provides an unparalleled multipoint sampling scheme for IEQ parameters while Advisor transforms this raw data into clear and timely information through a collection of sophisticated Web pages and intelligent email alert notifications.

Includes

Dashboards

- Graphical representation of desired parameter and system performance
- Library of both ventilation and IEQ "dashblock" analytics which may be arranged based on user preference
- Powerful analytics present concise, actionable information graphically

Smart Notifications™

- Email IEQ or ventilation event notifications based on configurable conditions
- Knowledge based alerts that consider severity, duration, frequency and abnormalities
- Highly differentiated from high/low alarms

Summary Reports

- Weekly and monthly summary performance reports of ventilation and IEQ performance
- Color-coded to highlight areas requiring attention
- Analysis of data and probable causes

Graphing/Exporting

- Sophisticated graphing tools for each parameter
- Export data for any parameter and time frame
- Historical data is always available on-line

The Power of Advisor: Information Visualization

Using Rich Internet Application technology, Advisor dashboards provide a graphical representation of building ventilation and IEQ performance. Data is collected by the OptiNet system and uploaded to the Aircuity Knowledge Center™ at regular intervals where it is stored for archival purposes and for use by the Advisor analytics. The Advisor tools continuously analyze hundreds, even thousands of data points for use in the dashboard graphics, Summary Performance Reports and Smart Notifications. The graphing tool allows users to create graphs of data over time by parameter and by test area.

The Advisor Dashboard

Dashboards enable users to visualize building ventilation and IEQ performance as part of an on-going commissioning process or as a key component of managing energy usage. The dashboard console is viewed as a secure Web page and consists of a collection of preconfigured dashblocks which may be organized based on an individual user's preference. Users can quickly change scope and granularity to broaden or narrow their focus in order to analyze trends or anomalies to ensure they are achieving the desired energy entitlement and operational performance. Libraries of dashblocks support a variety of application modules.



Smart Notifications

The “Smart” quality of Smart Notifications are the algorithms that consider the severity, frequency, and duration of an event as well as the profile of a space before triggering a notification. Based on historical monitoring, spaces can be modeled so that Smart Notifications will ignore recurring events that are the result of routine cleaning or maintenance activities in test areas. This results in dramatically reduced number and frequency of “notifications” to just those that are meaningful events.

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THIS IS AN AUTOMATED E-MAIL MESSAGE. PLEASE DO NOT REPLY TO THIS E-MAIL
Account : Company
Client : Name
Building : Name
Installed System : Name
Frequency: This notification activates as needed on a daily basis.
One or more locations appear to be abnormally under-ventilated:
  • Based on what is typical for this facility during occupied hours.
  • Based on a user recommended value of 900ppm CO2 rise above ambient conditions.
  • This also includes locations which have had a recent history of not being under-ventilated
  • This also includes locations which have had a recent history of being under-ventilated
  • The current notification has been configured to a Medium sensitivity level. More Details
  • The most under-ventilated location cited in this notification is Room: 4557
Location: Room : 4580
Parameter: Daily 90th Percentile CO2
History: This location is typically properly-ventilated, having a median daily CO2 value of 690 ppm, based on 1 week of data.
Offending value: 1,335 ppm
Median CO2 Value Based on 1 week of data: 690 ppm
Rank: Based on 1 week of median data, this location is not included on the list of locations that are chronically under-ventilated. More Details
Recommended value: 900 ppm (based on how this trigger was configured)
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Summary Reports

A summary performance and IEQ report is delivered via e-mail both weekly and monthly to provide a snapshot of system performance. Data is color-coded to highlight areas of conformance and areas of interest and includes both average and extreme values. This report not only provides information about how the system is performing, it also guides users in prioritizing improvement opportunities.

Floors AHU's	Ventilation Summary		Lab Particle Levels (KPCF)		Lab MDS TVOC (ppm)		Lab PID TVOC (ppm)		Temperature (°F)			Relative Humidity (%)		
	Average Measured AHU Flow (CFM)	Comparison to This Time Last Period	Average Values	Extreme Values	Average Values	Extreme Values	Average Values	Extreme Values	Average Values	90th Percentile Values	10th Percentile Values	Average Values	90th Percentile Values	10th Percentile Values
AHU_1	8828.44	up by 0.49%	55	482	0.0	0.0	0.1	0.7	73	77.1	70.8	79	37	23
AHU_2	22699.26	down by 3.02%	444	4474	0.0	0.0	0.1	2.2	73	78.5	66.5	41	72	19
AHU_3	15970.69	down by 7.90%	471	1849	0.0	0.0	0.2	0.2	74	78.7	69.7	48	68	20
AHU_4	7828.86	down by 0.22%	20	652	0.0	0.0	0.6	2.2	72	83.8	65.7	27	40	20
Good			<500	<500	<2	<2	<0.5	<0.5	68-74	68-74	68-74	20-60	20-60	20-60
Fair			500-1660	500-1660	2-3	2-3	0.5-1	0.5-1	66-68 74-76	66-68 74-76	66-68 74-76	15-20 60-65	15-20 60-65	15-20 60-65

The data gathered by the OptiNet® system and summarized above is based only on occupied hours.
 Values outside the guidelines are highlighted in orange.
 Items that are highlighted in yellow are less critical and, therefore, there is generally less urgency to providing attention to these items.
 Items highlighted in green are within guidelines, and no action is required.

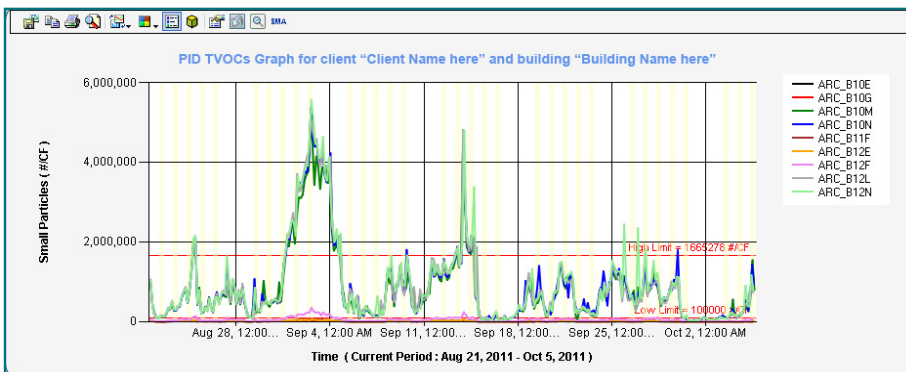
Graphing/Exporting

Advisor includes a set of powerful graphing tools that allow users to analyze IEQ and HVAC ventilation system performance and identify and analyze issues.


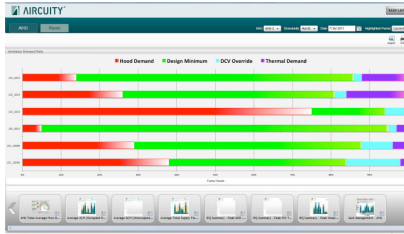
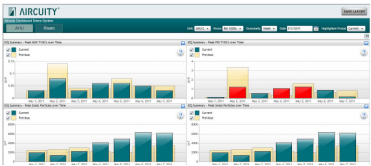
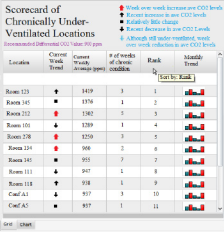
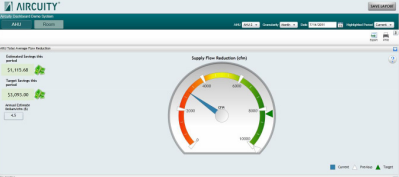
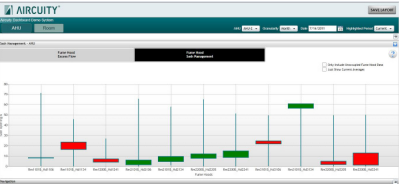
The graphing tools allow users to display data by selecting:

- One or more parameter to determine associations and cause and effect
- One or more test areas to compare the relationships or extent of a change or event
- A configurable date range to display the data trends over time

Users may configure the chart type, and properties on the fly, zoom in or out, print, copy or save the charts for future reference, and export the data for use in another graphing or analytic program.

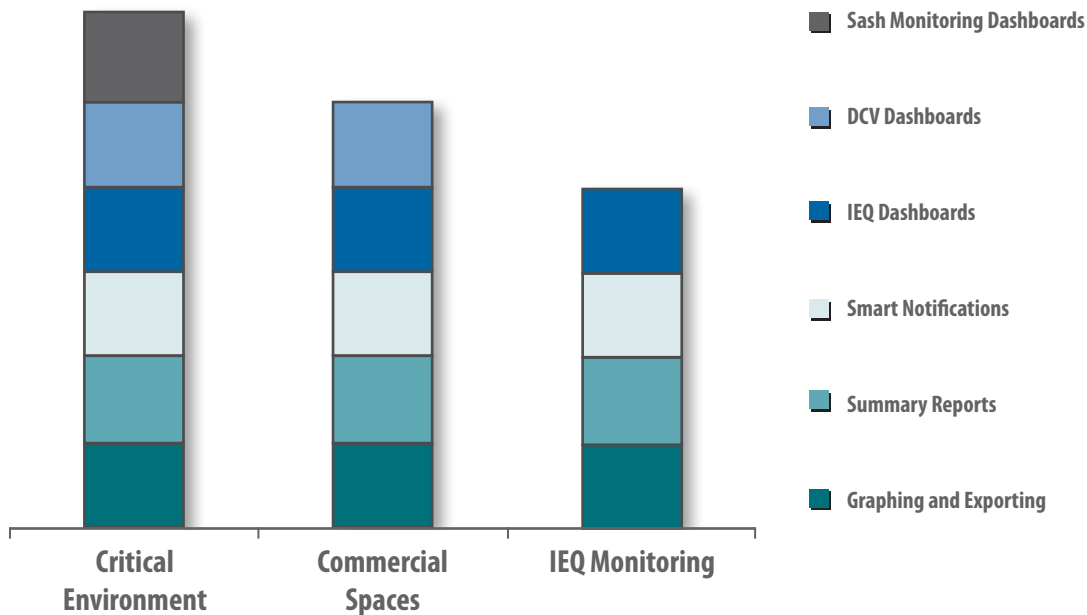


Advisor Analytics and Dashboards

Critical Environment DCV Applications	Commercial DCV Applications	
Average Air Change Rate for Occupied hours	Average Air Change Rate for Occupied hours	Occupied vs. Unoccupied Air Change Rates
Average Air Change Rate for Unoccupied hours	Average Air Change Rate for Unoccupied hours	
Average Total Supply Flow	Average Total Supply Flow	
Total Average Supply Flow Reduction	Total Average Supply Flow Reduction	
Ventilation Demand Percentage	Minimum Ventilation Rate (cfm/person – CO2)	
	Maximum Ventilation Rate (cfm/person – CO2)	
		Ventilation Demand Analysis
Critical Environment IEQ Applications	Commercial IEQ Applications	
Peak TVOC Value – absolute	Peak TVOC Value – absolute	IEQ Summary Mashup
Peak TVOC Value – relative to supply air	Peak TVOC Value – relative to supply air	
Average TVOC Value – absolute	Average TVOC Value – absolute	
Average TVOC Value – relative to supply air	Average TVOC Value – relative to supply air	
Peak CO2 Value – absolute	Peak CO Value – absolute	
Peak CO2 Value – relative to supply air	Peak CO Value – relative to supply air	
Average CO2 Value – absolute	Average CO Value – absolute	
Average CO2 Value – relative to supply air	Average CO Value – relative to supply air	
Peak Particle Count – absolute	Peak CO2 Value – absolute	
Peak Particle Count – relative to supply air	Peak CO2 Value – relative to supply air	
Average Particle Count – absolute	Average CO2 Value – absolute	Ventilation Scorecard
Average Particle Count – relative to supply air	Average CO2 Value – relative to supply air	
Average Filtration Ratios	Peak Particle Count – absolute	
	Peak Particle Count – relative to supply air	
	Average Particle Count – absolute	
	Average Particle Count – relative to supply air	
	Average Filtration Ratios	Supply Flow Reduction
		
		Sash Monitoring
Fume Hood Sash Monitoring		
Min/Max/Average Sash Opening Percentage		Sash Monitoring
Excess Fume Hood Flow		
Average Fume Hood Flow		

Aircuity Advisor Information Services Plans

Aircuity Advisor is a subscription service. Due to varying facility performance requirements Advisor Information Services are categorized into offerings for critical environments (labs), commercial spaces and IEQ monitoring only. This dictates the layout and content of the information dashboard that will be provided for your facility.

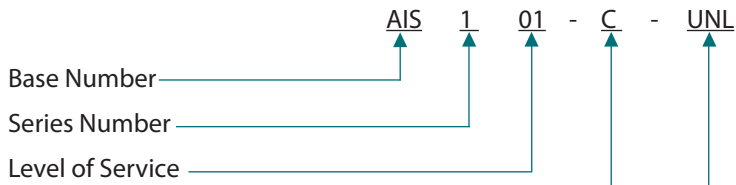


Aircuity Advisor Prerequisite

Subscription to an Advisor Information Service plan must be accompanied by:

- An installed Aircuity OptiNet system
- A live Internet connection
- Access to the following points either through hardwired I/O or BACnet® interface with either the Building Management System and/or Laboratory Control System
 - Total supply, total exhaust and fume hood air flow feedback
 - Representation of fume hood sash opening
 - Fume hood occupancy state (if available)
 - Room occupancy state
- The ability to override the room-level ventilation system for DCV control

Ordering Guide



01 – Advisor for Critical Environments

Sash Monitoring, DCV Control & IEQ Monitoring, Reports, Smart Notifications & Graphing

02 – Advisor for Commercial Spaces

DCV Control & IEQ Monitoring, Reports, Smart Notifications & Graphing

03 – Advisor for IEQ Monitoring

IEQ Monitoring, Reports, Smart Notifications & Graphing

Size of Installed System ———— ↑

- A – A single Sensor Suite
- B – A maximum of two Sensor Suites
- C – Between 3 and 5 Sensor Suites
- D – Between 6 and 10 Sensor Suites
- E – Between 11 and 15 Sensor Suites
- F – Between 16 and 20 Sensor Suites
- X – Greater than 21 Sensor Suites

Usage Factor Option ———— ↑

- BAS – Simultaneous connections of up to 5 users
- ADL – Simultaneous connections for up to 15 users
- UNL – Unlimited number of connected users