UNDERSTANDING THE TECHNOLOGY

What factors affect the cost and energy savings of demand control kitchen ventilation?
1) Size of the kitchen ventilation system
2) Hours of operation at reduced airflow
3) Climate of your food service facility
4) Available utility rebates
5) Cost of electricity
6) Indirect factors such as improved kitchen comfort and decreased noise

What about dampers? How do you control them?
We have tested and have the ability to control dampers. But we do not practice it or recommend doing it because the minimum energy savings to be gained does not outweigh the risk and life safety of the facility. The first priority for a Type 1 grease duct is to extract grease-laden air from the kitchen hood and maintain the safety of the occupants in the building. Any obstructions in the air flow prevent the duct from performing its core life safety mission. And Melink does not advocate the usage of modulating dampers as a control strategy.

Is there a demand control ventilation savings calculator? How are those savings calculated?
We offer an Energy Saving Report, which provides a comprehensive overview of energy savings with ecosense installed.

How will DCKV impact my bottom line?
DCKV will reduce your operating costs. Factors that help determine the total impact include operational hours, cost of energy, heating and cooling loads, and the efficiency of your HVAC equipment.

Do I need to have direct-drive fans installed to be compatible with the controls?
No, while direct-drive fans are becoming more popular, they are not a requirement for ecosense.

Does the ecosense control the make-up air unit as well?
Yes, ecosense controls both the exhaust and make-up air unit or supply fan in concert with the exhaust to maintain space pressure. Typically, the system will take direct control of the supply fan. However, there are various options available depending on your building's application. There are numerous analog and digital I/Os available to interface with the sites BAS/BMS system.

Can the ecosense be integrated with a building management system?
Sure thing. It probably wouldn't be too "intelligent" if it couldn't. There are several methods available to talk with your building management system about, including BACnet /IP, digital inputs, digital outputs, scalable 0-10vDC or 0-20mA percent speed references. Our applications engineers are here to help; please contact ecocanopy for specific questions.

What if I don't have three-phase power on site?
We can take a 115v or 230v single-phase input through our VFDs and convert it to 208v three-phase. These are special drives, and so we are limited to 1-1/2 hp on the 115v input.

Will the system work with single-phase motors?
Two options exist for using single phase motors. We evaluate your application and will supply the necessary motors for your site conditions and equipment.

1) Utilize direct signals with single-phase electronically commutated motors to command the speed.
2) Utilize a variable frequency drive (VFD) that is capable of inputting single-phase power and converting to a three-phase power output. For these VFDs to work, the fan motor will typically need to be replaced with a motor capable of receiving three-phase power.

How many hoods will the system control?
One standard ecosense system is capable of controlling up to 39 hoods and 64 fans. However, each application is unique and will likely require a tailored solution to meet your operational needs.

CONSTRUCTION CONSIDERATIONS

What information is needed to generate a proposal?
By providing us with some basic information, our gurus can provide you an estimated cost range along with an energy savings analysis for your particular operation. We would need the following information:

1. Number of hoods
2. Hood configuration (i.e., wall, island, etc.)
3. Number and size of exhaust collars on each hood
4. Fan information (hp, voltage and approximate distance from hoods)

How will ecosense affect my kitchen operations?
ecosense will reduce your overall kitchen operational costs. It will also make the environment quieter through reducing the constant hum of the exhaust fans. Beyond that, the kitchen staff shouldn't experience any other impact.

Do you manufacture the hoods?
No, we're a controls company. Our focus is on the electrical controls, to make your kitchen hood part of an intelligent and demand-responsive ventilation system. Think of ecosense as an energy savings appliance. While everything else in your kitchen is adding to the electrical load, this system is actively saving you money in your kitchen operations.

How long does a retrofit installation in an existing building take?
It depends on the complexity of the project (how many hoods, configuration, etc.). To offer a benchmark, we can install all the sensors for three hoods in one day. Most retrofit installations take place overnight to prevent interrupting the daily kitchen operations.

Can the controls be installed into existing kitchens?
Absolutely. We are comfortable with existing kitchen applications and are accustomed to overcoming challenges that come with them. We've worked with a huge variety of hood types and system configurations. Our installations cover nearly every market and location – from the top of a mountain to the water line on maritime vessels. No kidding.

POST-INSTALLATION MAINTENANCE

How do I ensure my ecosense's connections are correctly installed?
There are several connections that go to an ecosense system. It is important to verify that all the cables are shielded and tight with no corrosion.

I need troubleshooting help. What do I do?
Contact ecocanopy at (03) 8791 8900.

What are the standard maintenance items for ecosense?
The optic sensors should be cleaned periodically. In applications with high amounts of grease, they will need more frequent cleaning. To clean, wipe the lens of the optic circuit board with a soft, moist cloth to remove grease. Temperature sensors rarely need to be cleaned and can be maintenance-free in some applications. To clean, wipe the temperature probe with a moist cloth to remove grease.

What happens after ecosense is installed?
After ecosense is installed, we will train your staff on its operation and ongoing maintenance. In reality, there will be virtually no impact to your operations considering the intelligence of the system.

If you're interested in validating your energy savings, we have three tiers of services for monitoring:

1) Remote Connectivity – We can program your ecosense system to "phone home" to our online ecosense portal, where you will be given a login to view and download performance reports on an as-needed basis. The system can be connected wirelessly or by a hard-wired Ethernet cord. You will also be notified of any system alerts by an automated email.
2) Premium Monitoring Service – Let us monitor and report on your energy savings for you. We can be the proactive watchdog of your systems' performance.
3) Preventative Maintenance Agreements – We'll perform a health check, retrain kitchen staff and perform ongoing maintenance on the system to keep your energy savings at peak performance.

How do you keep the optic sensors clean? What keeps the optic sensors within the hood from getting dirty?

Each optic sensor has a dedicated Air Purge Unit that supplies positive air pressure from the optic enclosure to help reduce any grease or dirt accumulation on the optic lens. The system also performs a daily calibration to adjust the optic sensitivity based on the level of cleanliness. If the optic lens gets too dirty, the system will visually alert the user to clean the optic lens.