



# Z -Tech

## *Demand Control Sensors*



UL710 and  
ULC-S646  
standards  
approved.

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AT YOUR SERVICE  
SINCE  
**1986**



# ENERGY SAVING Z-Tech Demand Control Sensors



The CSA-approved Z-Tech Demand Control Sensors as a whole enables control of a commercial hood's ventilation system in terms of both exhaust and deploying an NFPA96-compliant control sequence if the fire protection system is triggered. Z-Tech Demand Control Sensors are designed to be connected to sensors installed in commercial hoods in order to predict cooking activity and adjust the exhaust and air supply rates according to the cooking zone.

## Advantages

The advantage of controlling the exhaust and air supply in advance based on actual cooking activity is that it allows substantial energy cost savings. These savings are directly related to heating of the supply air during cold weather, air-conditioning during hot weather and energy consumption by the motors.

Optimizing the exhaust flow improves occupants' comfort and reduces the noise level. Another benefit is that the system allows modulation of air flow via heat detection. Z-Tech radars enhance the performance of the variable

flow system when there is movement under the hood, and speed changes are anticipated by means of motion detection. This represents a major competitive advantage by giving the frequency modulation converter precious seconds to reach a higher exhaust output desired at the moment smoke emanates from the cooking units.

Our years of experience in commercial kitchen taught us that it is best to anticipate the arrival of smoke instead of measure its density with optical scanners inside the hood. What's more, the system has several detection and modulation options and is 100% customizable, fast and economical.

## How It Works

The exhaust and supply fan motors must be linked to frequency converters. The Z-Tech Demand Control Sensors measures cooking activity by means of its patented D-tech motion sensor and a temperature probe located in the hood's upper wall.

Activity is measured based on several parameters, such as temperature and motion detection in the cooking zone, as well as a pre-determined schedule. Each temperature and Z-Tech sensor is fully programmable in terms of sensitivity range, acceleration speed and operating hours at low and high speed.

### Temperature Sensors

Each PT1000 thermistor-type temperature sensor is installed on the ceiling of the hood using a certified sealing ring. The higher the temperature, the greater the exhaust demand will be.



### Z-tech Sensor

The performance requirements are directly related to the presence of people operating various cooking appliances. This type of proactive detection allows more effective control of equipment which rapidly generates large amounts of smoke, such as fryers, pots and combination ovens.

When staff approach a cooking appliance, their presence is detected much faster than by other systems on the market. These valuable extra seconds give the evacuation system more time to accelerate, so that it may fully capture rapidly emitted cooking vapours. The Z-Tech sensor's coverage range may be adjusted using its integrated potentiometer.



## Hub and SuperHub

Based on the project type, a Hub- or SuperHub-type unit will be used. The Hub is a junction box enabling one of a hood's various sensors to be linked to a centralized circuit board. The Hub can communicate with either the Z-Tech controller or a SuperHub.

The SuperHub is a remote unit with a communication link to the Z-Tech Controller. The SuperHub enables control of hoods' lighting and modulating exhaust flaps as well as integration of signals from another Hub.

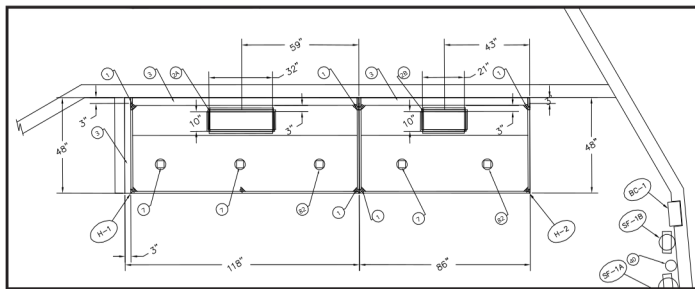


## Connectivity

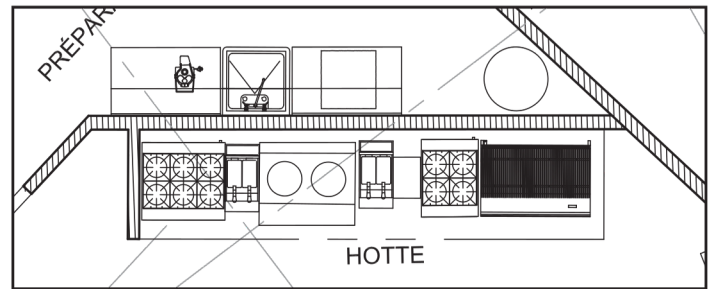
The Z-Tech sensors, temperature sensors and modulating shutter on the same section of the hood are connected via an RJ45 wire to a Hub/SuperHub-type centralized unit. Shielded RJ45 wires are used between Hubs and SuperHubs. The Z-Tech controller can communicate with the frequency converters via dry contact and 0-10V analog signals. The Z-Tech controller can also be integrated by means of communication with an ABB ACH550 frequency converter and the Schneider Electric Altivar series.

Do not hesitate to request an evaluation of the equipment costs vs. return on investment from our team of specialized professionals.

## Case Study



HOOD LAYOUT



COOKING EQUIPMENT LAYOUT

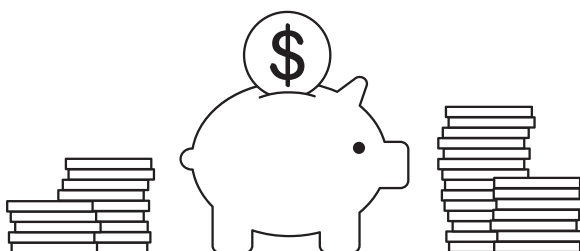
## Calculating Electricity Savings

### Summary of Total Annual Savings

	Z-Tech + comp 70% avg. flow	Z-Tech 80% avg. flow
Electricity	\$994.27	\$701.57
Heating	\$2,898.45	\$1,932.30
<b>Total</b>	<b>\$3,893</b>	<b>\$2,634</b>

### Normal Annual Operating Costs

	Temp. Only 90% avg. flow	Only Single volume 100% flow
Electricity	\$361.51	\$1,760.16
Heating	\$966.15	\$9,664.51
<b>Total</b>	<b>\$1,328</b>	<b>\$11,422</b>



**Estimated annual savings: \$3,893**

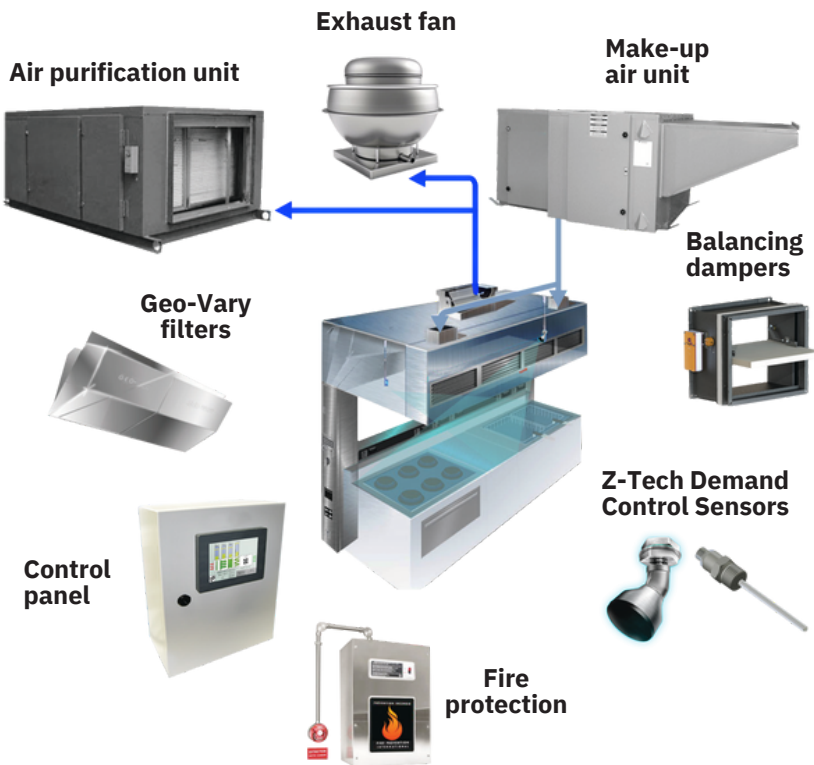
**WARNING:** Remember that the following parameters are variable:

- Number of operating hours
- Energy cost (electricity and gas prices)
- Real current year temperature versus accumulated temperature average from the past 5 years

## Contact Us for Recommended Specifications

**We support our customers in selecting the right commercial kitchen ventilation system. We offer high-quality customer service, including prompt follow-up, rapid turnaround and availability.**

Our expertise and experience with kitchen ventilation projects allow us to provide you with the ideal solution suited to your specific situation and actual needs.



Our automated quote system facilitates the following:

- air flow calculations
- shop drawings
- electrical diagrams
- electromechanical coordination
- premium support

We adapt our expertise to suit your requirements!

- Z-Vent products are built according to the highest standards of quality and engineering.
- We manufacture our hoods according to UL and ULC standards.

**Since 1986, Z-Vent has specialized in central ventilation systems for projects with multiple kitchens such as food courts, hospitals, penitentiaries, airports and all other complex kitchen projects**



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