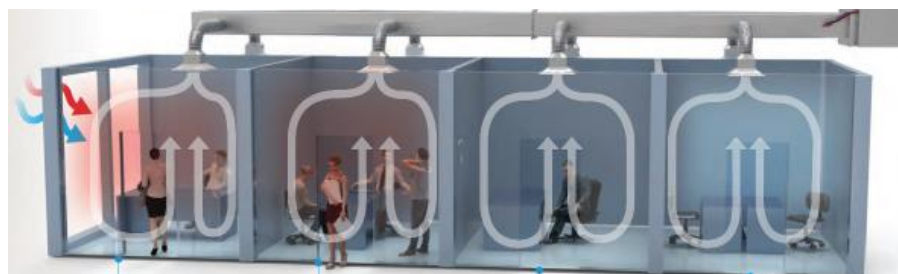


HVAC – INTELLIGENT DIFFUSER – ENERGY SAVING

Interacting with people occupancy, their cooling requirement, external ambient climatic conditions leads to performance improvement & energy saving

- Individual room diffuser temperature set value and actual valve.
- Temperature approach – Range values
- Diffuser minimum air volume shall be 30 percent of the peak supply volume (as per Ventilation ASHRAE 62 standard)
- Based on the ambient wet-dry bulb temperature – the system will predict the minimum required cooling and interact with AHU & Chiller system and fine tune the requirement.
- Based on the occupancy the system closes the diffuser or maintain 30% air volume or increase the temperature to 4% above the normal set value.



Inconsistent Temperature

An office space with external windows becomes too hot or too cold since the centralized thermostat cannot detect fluctuating temperatures.

Too Hot

A thermostat placed away from an area or office cannot detect an increased load such as additional staff occupying the space.

The only Comfortable Office

Typically one thermostat will be allocated for a number of offices. The immediate space with the thermostat is typically the only area that maintains a truly comfortable temperature.

Wasted Heating and Cooling

Traditional VAV box systems can waste energy by over heating or over cooling unoccupied spaces.



Optimum Comfort

Features individual temperature sensing to meet varying conditions and individual zone control.

Controlled Ventilation

Each diffuser automatically matches the air supply to the load requirements of an area such as additional staff occupying an office.

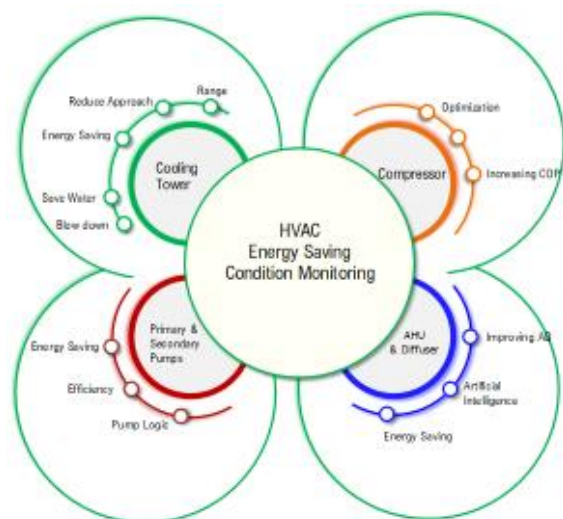
Occupancy Sensing

Diffusers with on-board occupancy sensing will automatically back off when a space is unoccupied.

On-board Temperature Sensing

Temperature sensors built into the diffuser can be used in place of wall thermostats to monitor individual zones

DATA VISUALIZATION



Benefit Value

Real Time Monitoring and Control

Individual or synchronised multiple diffuser set value - Condition Based Monitoring

Effectiveness of Diffuser

Early fault prediction

Automatic Report and emailing

Thresholds based alerts

Trend, event, history – analysis

Diffuser Efficiency/Effectiveness

Energy Saving

Maintaining condenser process liquid temperature requirements

People counting also possible in larger room, based on the number of occupant – the air volume is adjusted

External ventilation is adjusted according to the Co2 feedback value – this will eliminate over or under ventilation of fresh air is eliminated – saves energy.

Ventilation also adjusted according to the individual user or group of users.

When the door is not closed in a room or hall – the system alerts the user after time delay – the situation is same – the AC is switched OFF and alerts the centre server.

Reduce down time through effective monitoring and recommendation for early maintenance.

To improve HVAC efficiency by reducing power consumption through real-time monitoring and control

Automatic condition predicting will leads to reduced skill level, improving intelligence and reducing down time

Predicting failure and forecasting - eliminates costly repair charges

Database recording and retrieval leads to complete transparency

Broadcasting or individually set the room temperature values to the diffuser according to the ambient temperature – humidity values.

Nominal voltage can be supplied to the motor, even when the drive's supply voltage is below the motor's nominal voltage level

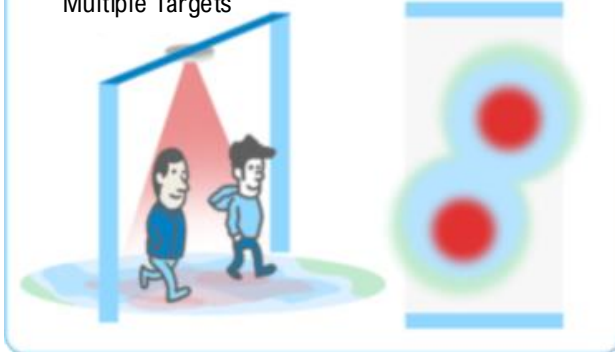
A voltage drop caused by an output filter, motor cable or input supply cables is compensated

Based on the number of person occupied in the room – the air flow and temperature shall be monitored and controlled – saves energy.

Conference hall booking is synchronized with Diffuser switch ON and set temperature value is activated.

Thermal Counters
Multiple Targets

Top View



Reduce your carbon footprint and make a positive impact in your community.

