CASE STUDY APPLICATION

COMMERCIAL DINING HVAC

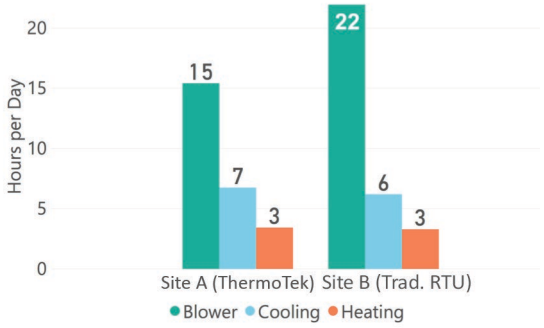
PRODUCT SPOTLIGHT

ONE CHAIN, TWO LOCATIONS – THERMOTEK'S HVAC UNIT VS. TRADITIONAL RTU

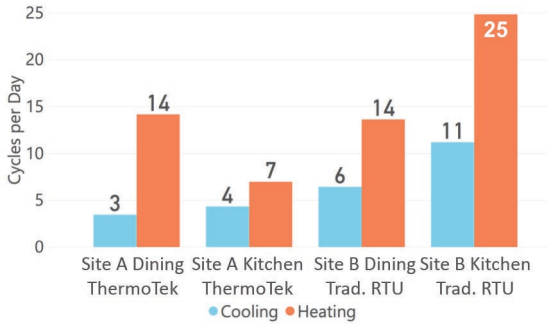
ThermoTek serves and monitors a restaurant chain with two locations in Kansas City. One of the locations, **Site A**, utilizes **ThermoTek's HVAC Unit** to handle the HVAC demands and the other location, **Site B**, utilizes traditional (non-modulating) On/Off rooftop units (**Trad. RTU**). The restaurants have nearly identical building design parameters and operation patterns. ThermoTek analyzed the space condition and equipment usage data at each site and compared a full year of performance.

Data trends over the full year suggest ThermoTek's HVAC Unit as the superior solution:

- **More precise space temperatures show improved comfort**
- **Lower overall utility costs**
  - Despite fully conditioning the kitchen's make-up air (MUA)
- **Proper runtime from superior controls and overnight setbacks**
  - 32% reduction by eliminating excess overnight HVAC usage
- **Less equipment cycling from full modulation extends unit lifetime**
  - 59% fewer cooling equipment cycles
  - 46% fewer heating equipment cycles
- **Reduced need to mix return air to condition outside air**
  - Met the same conditioning demands with 57% less total air movement and significantly cut blower energy demands
  - Less total air allows for downsized, reduced-cost ductwork



Average Equipment Use per Day



Average Equipment Cycles per Day

CONCLUSION

As demonstrated by the data gathered throughout a full year, ThermoTek's HVAC Unit offers a vastly superior solution for handling outside air precisely, cost-effectively, and in a manner that protects component lifetimes when compared to a traditional RTU.

Space Temperature Ranges When Occupied

Location	Customer Volume	Electricity	Natural Gas
Site A (ThermoTek)	156,575	$24,884	$5,257
Site B (Trad. RTU)	148,175	$25,675	$6,242
Comparison	6% Busier	3% Savings	16% Savings

Utility Comparison:
Site A (ThermoTek's HVAC Unit) vs. Site B (Trad. RTU)