



# IBEC: Innovative Building Energy Controls

Advanced High Efficiency HVAC Systems for Critical Applications

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## HIGHEST EFFICIENCY AVAILABLE:

IBEC Net Positive HVAC systems are the most efficient temperature controlling units in the industry.

## CONTROLLING RELATIVE HUMIDITY:

IBEC Net Positive HVAC systems have the ability to control relative humidity at a setpoint, as you would with temperature. Our controllers can be networked to any computer for real time data and control.

## VFD CONTROLLED COMPRESSORS:

Compressors are soft started using frequency drives, and independently speed controlled for maximum performance.

## HIGH NET PRESENT VALUE AND LOW COST OF OWNERSHIP:

IBEC Net Positive HVAC systems have the highest net present value and lowest cost of ownership of any HVAC system available. Minimal maintenance is required, most systems use no belts while other belted systems utilize synchronous positive lock gear-belts that have 100,000 hour / 10-year + service life.



IBEC Net Positive HVAC provides both brand new roof top and split system HVAC, and retro-fit applications for existing units for ultra-high efficiency temperature controlling systems.

All IBEC Net Positive HVAC systems are soft start, having no spiking kilowatt consumptions of power, removing most all demand charges from the facility. Most utility companies provide rebates for high efficiency systems like IBEC units. Check with your local utility and see what rebates might be available.

Kansas City, MO side KCP&L commercial customers are eligible for a \$550 per kW of power reduction.

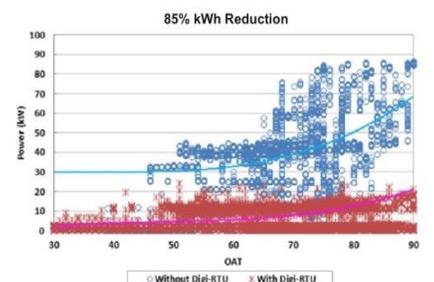
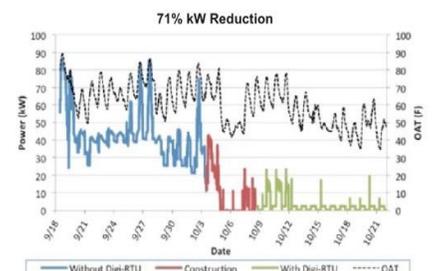
For example, a 20-ton IBEC roof top unit has a 19.4 kW reduction compared to traditional HVAC.

*“Making HVAC Systems an Asset Rather than a Liability”*

- Highly advanced and efficient heating and air-conditioning systems using the HALO Magnetic Blower Drive technology.
- 26-30 SEER / 16-19 EER achieved through intelligent controls, speed-controlled compressors, variable air volume and efficient blower technology.
- Capacity ranges from 3-50 ton Roof Top Units, Split Systems, and CRAC Computer Room Cooling.
- Critical environment applications where HVAC dependability is a must, with as much as 65% - 82% reductions in energy use.

## Case Studies - HVAC Rooftop

DISTRIBUTION CENTER  
ASHRAE CLIMATE ZONE 5





# HALO Magnetic Blower Drive Systems Synchronous Belted Drives Permanent Magnetic Motors & Axial Flux Magnetic Drives

## UNMATCHED INDOOR AIR QUALITY CAPABILITIES:

IBEC HVAC systems provide higher static pressure coupled with better filtration media enhancing IAQ levels.

## HALO MAGNETIC BLOWER DRIVES:

Highest efficiency blowers use a fraction of the energy compared to traditional HVAC systems.

## BES-TECH DIGI-RTU CONTROLS TECHNOLOGY:

Bes-Tech Digi-RTU and SCE controls are the most advanced HVAC controllers available.

## SYNCHRONOUS GEAR BELTING:

100,000 hour or 10-year + runtime service life.

## MAXIMUM EFFICIENCY AND DEPENDABILITY:

Critical HVAC applications for hospitals, day care facilities, restaurants, and more.

## SOFT STARTING ON ALL BLOWERS:

No spiking power demands that equate to high utility demand charges.

## DIRECT REPLACEMENT OF HVAC SYSTEMS OR RETRO-FITTED SOLUTIONS:

IBEC Net Positive HVAC can be provided as a retro-fit solution, or a direct replacement.

## Moving Air with Extreme High Efficiency:



### Belt-less blowers:

HALO Magnetic blower technology provides the highest efficiency blowers for temperature control systems ever developed.

Utilizing high density magnetic rings and stator coils that both attract and oppose magnets built into the airfoil, these blower systems use a fraction of the energy required by traditional HVAC systems. Most HALO magnetic blowers use 65% - 80% less energy than standard blowers in traditional HVAC systems.

HALO Magnetic Blowers are controlled as variable airflow blowers, only using the minimum required airflow needed for heating or cooling, having no waste of energy.

### Belted blower systems:



- Extreme dependability; IBEC Net Positive units are built with removing all planned obsolescence from the manufacturer. Common service requirements and failures are eliminated in IBEC units. IBEC units do not fail like traditional HVAC systems.
- With both the belt-less HALO Magnetic blower drive and the Synchronous gear-belt drive, IBEC HVAC systems are achieving efficiency and dependability levels that no other manufacturer can match.
- All IBEC HVAC systems come with Arc-Suppression Technologies devices, eliminating contact arcing providing better dependability of electrical switch gear. Suppressing electrical arcing extends the life of many components in any electrical system, including motor windings, and sensitive electronics.



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