

EDGE Building Intelligence

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There is an inefficient relationship between the major HVAC components that causes energy losses of up to 30%. When the thermostat reaches a set-point, the system completes its cycle but does not capture all the energy from the coil due to inadequate blower fan run-time. There are distinct opportunities to improve their overall operation and efficiency.

IntelliHVAC and IntelliPTAC^{DC} apply an intelligent variable timing mechanism to the blower fan. This creates a direct correlation between the blower fan run-time to the length of compressor run-time. This correlation allows for full recovery of latent energy from the coil thereby reducing energy consumption through the elimination of waste.

IntelliHVAC is a dual microprocessor that retrofits to most <20-25-ton HVAC systems. The technology contains both a variable post-purge fan control and compressor cycle functions that work together to create a significantly better system efficiency.

IntelliHVAC operates in both heating and cooling modes and delivers energy savings ranging 15-30% depending on season. In addition to energy savings, compressor cycles are also reduced which translates into both maintenance savings and longer equipment life.



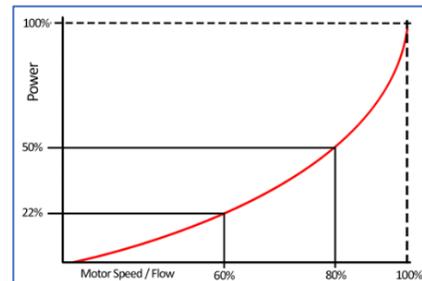
intelliACC

INTELLIGENT SOLUTIONS FOR HEATING AND AIR



FOR ALL HVAC SYSTEMS, AHUs, VAV BOXES with SINGLE PHASE AC MOTORS <5hp. IntelliACC (Adaptive Climate Control) for commercial HVAC fans is the perfect complement to the IntelliHVAC. By varying the fan speed during the run cycle, additional energy savings of 10-35% can be realized. The IntelliACC varies the speed of single-phase fan motors to match air circulation requirements. To achieve this, the device uses sensors and photonic processing techniques to manage/regulate the voltage supplied to the motor. Savings are achieved from fan speed reduction and control.

CUBE LAW {Short Physics Lesson} --- IntelliACC relies on optimal use of Cube Law. The relationship between a fans speed and its energy need is known as Cube Law: a small increase in speed requires a lot more power, but also means that a modest speed reduction can give significant energy savings. A pump or fan running at half speed consumes only



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one eighth of the power compared to one running at full speed. A 20% reduction in motor speed results in approximately 50% power reduction. Variable Speed Drives in addition to huge energy savings also deliver accurate motor speed control and less mechanical wear, reducing maintenance and extending life expectancy of the system.

- IntelliACC (Adaptive Climate Control) for commercial HVAC fans. By varying the fan speed during the run cycle, >15% energy savings can be realized immediately.
- IntelliACC varies the speed of single-phase fan motors to match air circulation requirements.
- We don't replace fan motors; we make them smart and self-managing.
- IntelliACC is a less costly alternative to replacing fan motors with VFDs, at a fraction of the cost and with most of the same benefit.
- IntelliACC - one device with numerous configurations for a variety of different fan types and applications



Applications with Motor Driven Equipment and Savings Results:

- **Fan Coils** - steam, hot water, chilled, both.
 - 20% to > 50% Savings Electricity and Fuel Source.
- **Hot Air Furnaces** – oil, gas, electric.
 - 17% to >35% savings Fuel & Electricity.
- **Pumps** - well, pool, sump, others.
 - 15% to > 30% Electricity Savings.
- **Compressors** – rotary, reciprocating, scroll.
 - 12% to 50% Electricity Savings.
- **Electric** - stoves, fans, lights, coils.
 - 12% to > 60% Electricity Savings.
- **A/C's** - central, window, split, PTACs.
 - 14% to >44% System Electric Savings, fans, compressor, heater.

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CASE STUDIES AVAILABLE UPON REQUEST

American School For The Deaf



Guapo's



Habitat for Humanity



Marcos Pizza



Aspen Square



GUHSD



Hilton



Marriott



Best Western Plus



Harry's



Jim'n Nick's



McDonalds SC



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