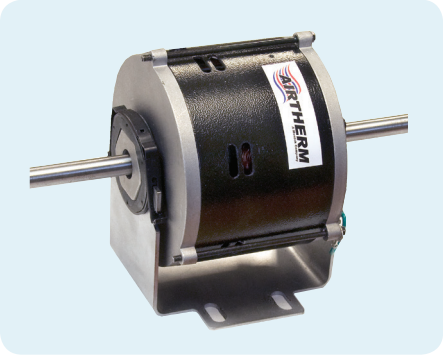
AIRTHERM
A Mestek Company

HIGH EFFICIENCY FAN COILS
Utilizing ECM Fan Technology

ECM Fan Technology

Airtherm introduces a new level of energy efficiency to our Unitaire fan coil units.

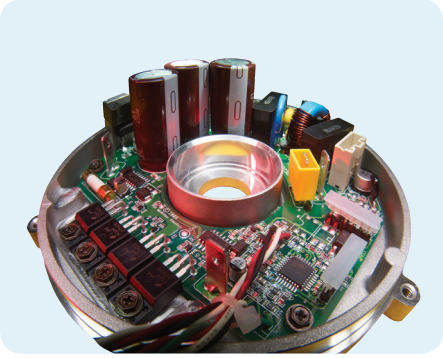


Go Green

Already the industry leader in energy efficient fan coil products, Airtherm has taken a leap forward with new ***energy saving*** motor technology that can offer our customers the highest level of energy efficiency which may also qualify for LEED points and utility rebates. In addition to the energy saving benefits, this technology offers building owners ultra quiet operation, enhanced system control and retrofit capabilities with existing Airtherm fan coil installations.

Upgrade and Save

Electronically Commutated Motors (ECM) are highly efficient at full and part load with efficiencies up to 85% compared to 40% with traditional 3-speed PSC motors. Fan coils are often overlooked by energy conservation professionals because of their fractional horsepower and low power consumption, however Airtherm's solution will allow cost effective energy savings which will satisfy green building initiatives.



Retrofit and Save

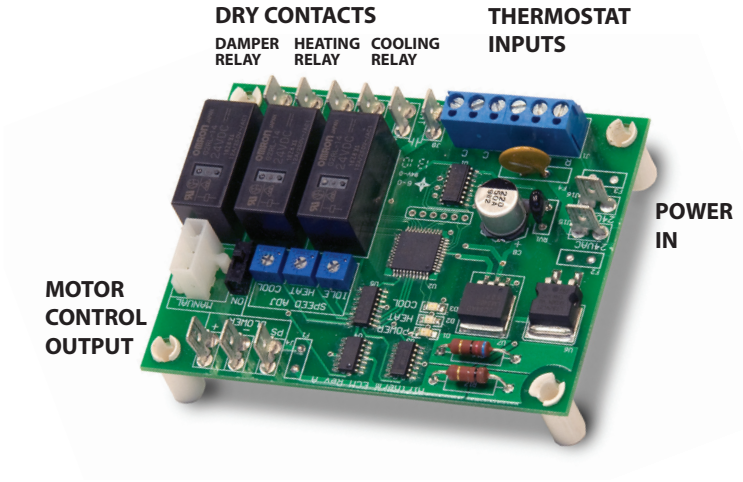
Airtherm has engineered their ECM offering so that it is backward compatible with their Unitaire products installed over the years. Simply replacing the existing fan deck with a new ECM fan deck in the existing piped cabinet is easy and quick.

Airtherm Unitaire fan coils can enjoy the energy savings without re-piping or replacing whole units. This allows them to reap the benefits of improved energy efficiency without the mess of remodeling an entire building.

Benefits of Airtherm Fan Coil Units

- A special bonding process provides the sturdy cabinets with an attractive powder coat finish.
- Our exclusive Condensate Removal System (CRS) eliminates standing water, improving IAQ by reducing odors and decreasing humidity.
- Two 9" deep end pockets and removable panels provide easy access, saving time and money during installation and maintenance.
- Resilient motor mounts and insulated discharge panels dampen air sounds for quiet operation.
- Reversible coils give added flexibility when piping and installing units.

Interface Control Board



Airtherm Control Interface

Airtherm developed a control interface to provide the energy saving benefits of the ECM to adapt to existing controls. A full featured controller provides an interface to a standard thermostat controlling the fan, valves, dampers and ECM motor. Standard thermostats commonly found in standalone fan coil systems can control the fan and valves through its 24 volt controls and relays. The dry contact relays on the board will switch 24 volt or 120 volt valves and dampers on a call for heating or cooling. This means that virtually any building using hydronic fan coils can take advantage of the energy savings.

Sequence of Operation

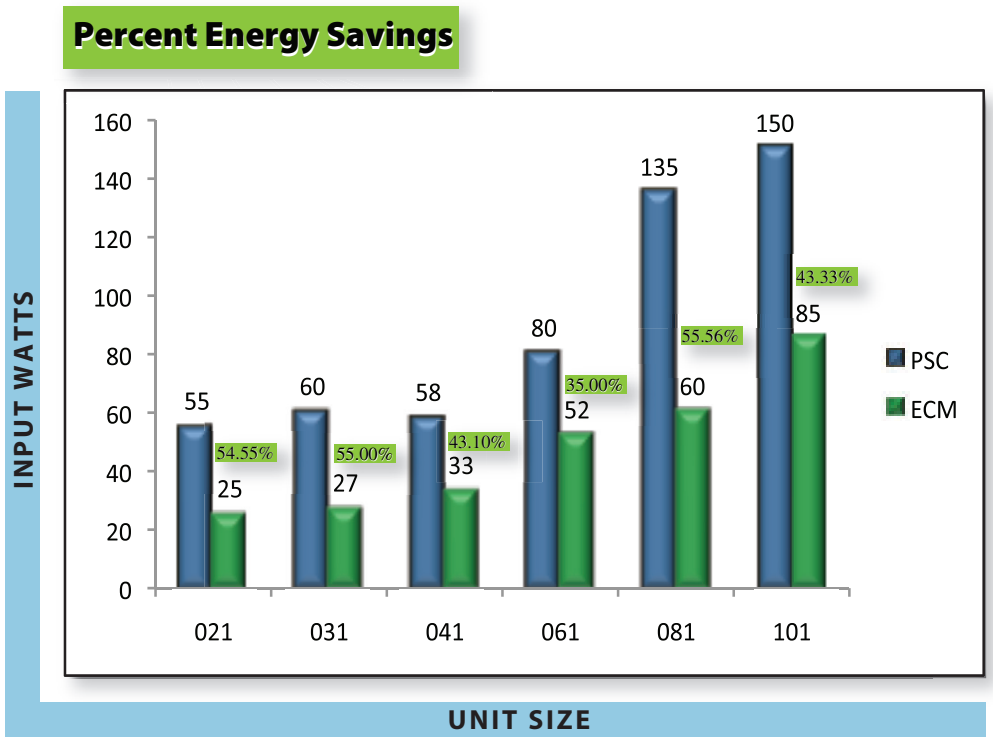
The Airtherm control interface operates through a standard thermostat which provides the enhanced features an ECM Unitaire fan coil offers. The thermostat provides the temperature and setpoint control and inputs to the interface to manage the ECM fan, heating and cooling and optional damper.

During a satisfied condition, the ECM fan will operate at low flow idle speed. Constant airflow through the conditioned space will minimize stratification, provide effective measurement of the unit sensors and reduce temperature swings as may be realized with fan cycling controls. In this mode, the power consumption of the fan is as little as an LED light bulb of under 9 watts.

When the thermostat calls for heating, the heating relay will enable a valve (or other heating medium) and the fan will ramp up to the heating airflow preset speed. The fan will increase from the idle speed to the heating preset over two minutes, providing a gradual ramp up, where most occupants will not notice the change. When the thermostat is satisfied, the valve (or heat) will be disabled and the fan returns to idle flow in two minutes, delivering residual heat from the coil to the space.

On a call for cooling, the cooling relay will be enabled the same as the heating sequence, and will allow a valve (or other cooling means) to operate. The same ECM fan ramp up of 2 minutes will begin and operate at the cooling preset speed until satisfied. When satisfied, the cooling relay will be disabled and the two minute ramp down will return the fan to the idle speed.

In addition to the heating and cooling relays, a damper relay is available to enable a damper to open during heat or cooling cycles.



This graph shows the input watts of Airtherm's standard PSC motor (blue) verses High Efficiency Motor (green)

Websites

Rebates:
Database of State Incentives for Renewables & Efficiency
http://www.dsireusa.org

Retail Electric Rates:
U.S. Energy Information Administration
Http://www.eia.doe.gov/cneaf/electricity/st_profiles/profiles_sum.html

Tax Credits:
Energy Star Tax Credits for Commercial Buildings
http://www.energystar.gov/index.cfm?c=tax_credits.tx_comm_buildings

Financing energy efficiency projects:
Businss.Gov
http://www.business.gov/manage/green-business/energy-efficiency/get-started/financing.html

Airtherm & Mestek:
www.airthermhvac.com
www.mestek.com

AIRTHERM A Mestek Company
260 North Elm Street, Westfield MA 01085
Tel: (413) 568-9571 Fax: (413) 562-8437
www.airthermhvac.com