E$S CANADA INC.
ENERGY SAVING SOLUTIONS

ANALOGY OF HOW THE PRINCIPLE OF THE THERMODYNAMICS IN THE AIRCO SAVER WORKS ON AIR CONDITIONERS

Your bathroom sink has a faucet and a drain.
The faucet represents the compressor, the sink represents the evaporator, and the drain represents the discharge line from the evaporator.
The purpose of the faucet (compressor) is to fill the sink (evaporator) while the drain discharges water (refrigerant) from the sink.
The faucet can deliver more water than the drain can discharge. The water level rises until the sink is totally full (thermodynamic saturation).
When this happens, the faucet can be turned off while the drain continues to release water at the same continuous rate.'
When the water level in the sink nears the bottom, the faucet is turned back on.

Basic principles of the Airco Saver Operation

1. **The Airco Saver is powered by the 24 volt power supply from the control board.**
2. **The Airco Saver intercepts the signal wire from the thermostat to the compressor.**
3. **The temperature sensor of the Airco Saver is installed in the coldest spot of the supply air.**

The Airco Saver DOES NOT interfere with the performance of the thermostat. When set point is reached, the thermostat still shuts down the entire system. Once the Airco Saver monitors 3 cycles, it determines how cold the supply air is capable of reaching. This indicates the evaporator is full and as cold as it will get (thermaldynamic saturation).
The Airco Saver shuts off the compressor and allows the fan to continue to pull the cold air into the supply plenum. When the temperature in the plenum begins to rise by 1.6 degrees F. the Airco Saver releases the compressor to continue charging the system. If this release occurs in less than 3 minutes, the Airco Saver allows the compressor to run an additional one-minute for up to ten additional minutes. This ensures that short cycling DOES NOT occur while cooling parameters are maintained. If set point is reached at anytime during this process, the whole system shuts down as it normally does. When the thermostat releases the system, the entire process starts over.

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