

Climate Control Check

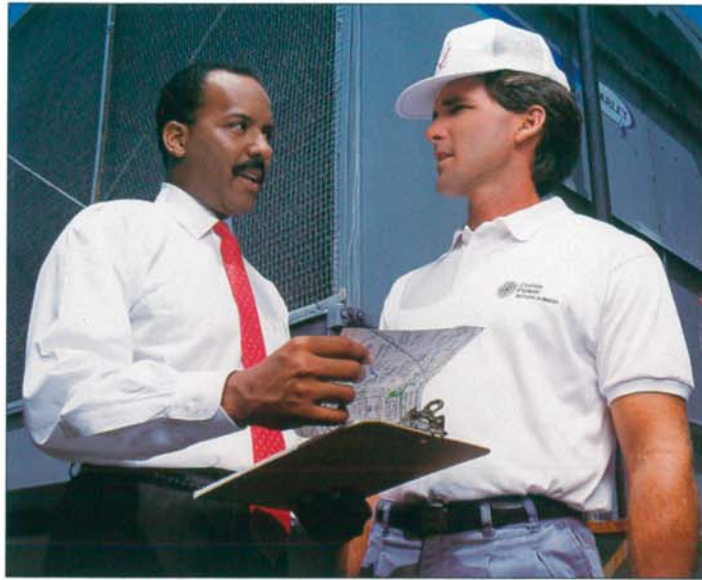
Introducing  
an efficient way  
to cut your air  
conditioning costs.

*You've got the power!*



Florida  
Power  
CORPORATION

Earn credit by  
reducing your  
kilowatt usage  
with the  
Climate Control  
Check from  
Florida Power.



Your Florida Power representative will conduct a complete evaluation of your present system.

Air conditioning your business probably represents a substantial portion of your overhead. Now Florida Power can help reduce your energy costs with a new energy efficiency program called the Climate Control Check. If your air-conditioning unit uses electric strip reheat, the Climate Control Check can change the way you air condition your facility while lowering your company's electric bill.

### A Cool Idea From Florida Power.

The Climate Control Check is just one of many new energy efficiency programs from Florida Power designed to save your business money while helping to conserve our precious energy resources. To understand how the program works, you must first understand that your air-conditioning system removes heat from your facility by lowering the temperature of the air. In some cases, the air temperature is lowered to such an extent that it must be reheated

using electric strips before it is permitted to flow back into the building at the desired temperature.

The Climate Control Check system accomplishes this reheating process with the installation of heat pipes, a series of vacuum-sealed tubes filled with a heat transfer liquid. This technology reduces electricity's role in the reheat process by circulating overcooled air through the heat pipes where it is reheated to the

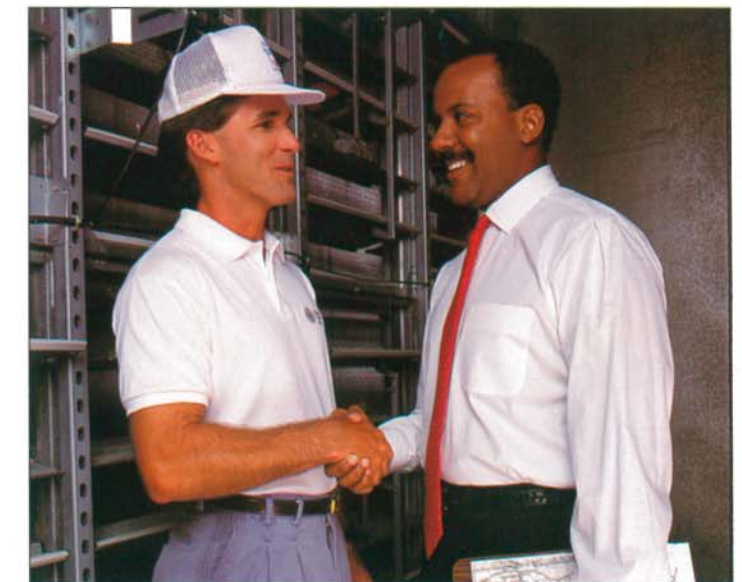


Reheating coils associated with traditional commercial air conditioning consume costly additional energy.

desired temperature. By reducing the need for electric reheat, Climate Control Check program participants are able to reduce their energy consumption. And that means a lower monthly electric bill. As an added benefit, you may also find that the system reduces the humidity throughout your facility.

### Now that you've warmed up to the idea ...

Call Florida Power today and soon you'll be enjoying a one-time energy credit as well as a reduction in your monthly energy bill for having a more energy-efficient air-conditioning system. For more information on the Climate Control Check and complete program details, contact Florida Power today.

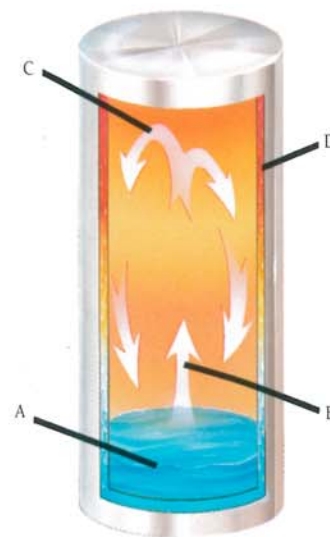


By eliminating the electric reheat process, the Climate Control Check saves your business money.

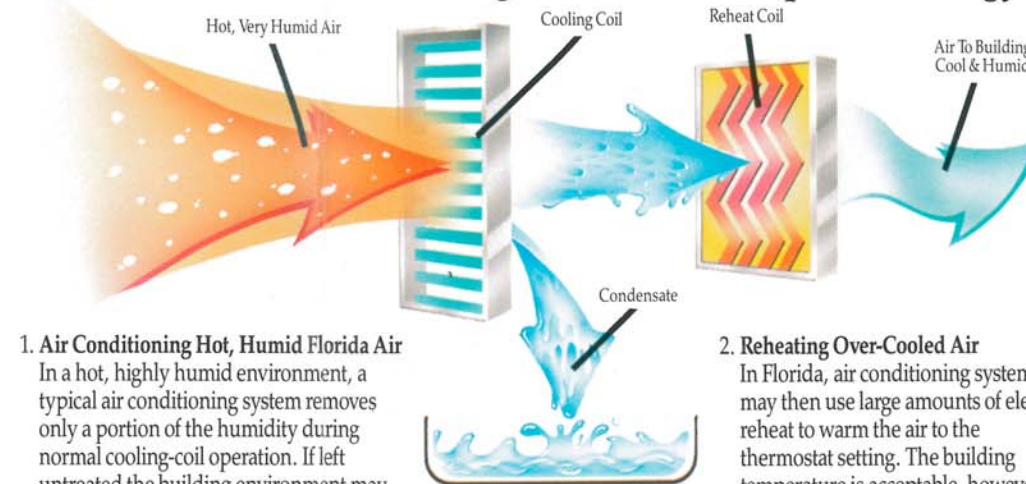
### Heat Pipe Structure Close Up:

A heat pipe is a hollow cylinder filled with an incompressible liquid.

1. Heat is absorbed in the evaporator section (A). The fluid boils, the hot vapor rises (B).
2. As the vapor reaches the condensing area of the cylinder (C), the heat is given off to the environment and the vapor condenses.
3. The liquid returns by gravity or capillary action through the "wick" (D). The cycle then repeats.

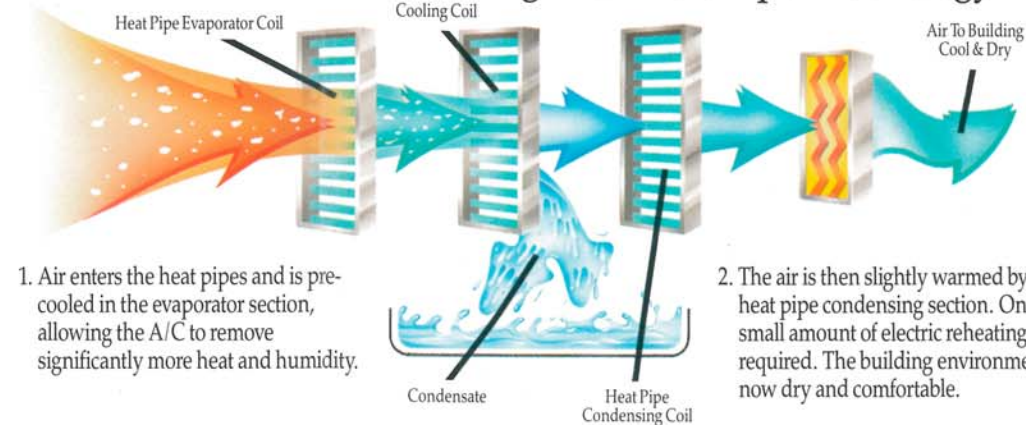


### Problem: Air Conditioning Without Heat Pipe Technology



1. **Air Conditioning Hot, Humid Florida Air**  
In a hot, highly humid environment, a typical air conditioning system removes only a portion of the humidity during normal cooling-coil operation. If left untreated the building environment may feel cool but damp.
2. **Reheating Over-Cooled Air**  
In Florida, air conditioning systems may then use large amounts of electric reheat to warm the air to the thermostat setting. The building temperature is acceptable, however, the dampness often still exists.

### Solution: Air Conditioning With Heat Pipe Technology



1. Air enters the heat pipes and is pre-cooled in the evaporator section, allowing the A/C to remove significantly more heat and humidity.
2. The air is then slightly warmed by the heat pipe condensing section. Only a small amount of electric reheating is required. The building environment is now dry and comfortable.





In order to lower humidity levels that had been causing delicate surgical instruments to rust, the operations staff at the Surgery Center of St. Petersburg implemented the Climate Control Check from Florida Power.

By incorporating the Climate Control Check system into their 25 ton HVAC system, which required ten electric reheat units, the Surgery Center was able to stabilize humidity levels and reduce monthly electrical demand by 19 kW. The cost of the project is expected to be recaptured in an amazing 1.6 years through a combination of energy savings and Florida Power Corporation's one-time credit.

PROJECT: Surgery Center of St. Petersburg  
St. Petersburg, Florida

Due to persistent complaints of clamminess and discomfort from theatre patrons, the Bayfront Center was forced to sub-cool and then reheat air in order to eliminate moisture, a procedure that was resulting in higher than normal energy costs.

Incorporating the Climate Control Check from Florida Power not only helped solve the theatre's humidity problem, but also cut the facility's annual energy demand by approximately 320 kW. The project cost will be recovered through the Climate Control Check credit and energy savings in a speedy 1.1 years. As a testimony to the success of this project, Florida Power was recently presented a much coveted national technology award by *Energy User News Magazine*.



PROJECT: Mahaffey Theatre/Bayfront Center  
St. Petersburg, Florida



Maintaining military specifications of  $40 \pm 5\%$  RH in the class 100,000 Clean Room at Martin Marietta's Ocala operations required an extreme amount of energy.

The Climate Control Check from Florida Power reduced the electric consumption of the Clean Room unit by more than 15%. Furthermore, due to Florida Power Corporation's one-time credit, and the estimated annual energy savings, the return on investment is estimated to be only 18 months.

PROJECT: Martin Marietta Electronics, Information and Missiles Group  
Ocala, Florida

