

Práctica 1- HVAC systems-

Try 2 places: Valencia (mild weather), Burgos (Cold weather)
Try: high and low internal gains.

WORK WITH: [HVACTemplate:Zone:IdealLoadsAirSystem](#)

Goals:

- Understand this very basic system through its outputs and the documentation.
- Get used to where the output information about the sizing is placed.
- Make changes and understand its consequences.

(X) [SizingPeriod:DesignDay](#)

Define the WINTER (INVIERNO-SITE) y SUMMER (VERANO-SITE) days usando la [GUIA](#)

(X) Add to [Output:Variable](#) all the variables that allow you to understand what is going on according to the logic for designing/operating this system.

ON/OFF extra power

(X) Create a schedule for the *heating / cooling availability* to simulate that the system is not always on. Compare the power at the system start with the sizing computed with the SizingPeriods.

(X) Change design supply conditions if needed or wanted. Check what is the effects.

Power needed, and relative humidity attained (comfort):

(X) Dehumidification try these possibilities:

- * Constant Sensible Heat ratio.
- * Humidostat
- * None
- * ConstantSupplyHumidityRatio

(X) Humidification:

- * None
- * ConstantSupplyHumidityRatio

Energy Saving systems:

(X) Economizer:

- * None
- * DifferentialDryBulb
- * DifferentialEnthalpy

(X) Heat Recovery:

- * Sensible
- * Enthalpy

RATED CONDITIONS

COOLING

Rated conditions are air entering the cooling coil at the maximum supply air flow rate at 26.7°C drybulb/19.4°C wetbulb with air entering the outdoor condenser coil at 35°C drybulb. Capacity should be the “gross”, i.e., the effect of supply air fan heat is not accounted for.

HEATING

Rated conditions are air entering the heat pump heating coil at the heating supply air flow rate at 21.11°C drybulb/15.55°C wetbulb with air entering the outdoor coil at 8.33°C drybulb/6.11°C wetbulb. Capacity should be the “gross”, i.e., the effect of supply air fan heat is not accounted for