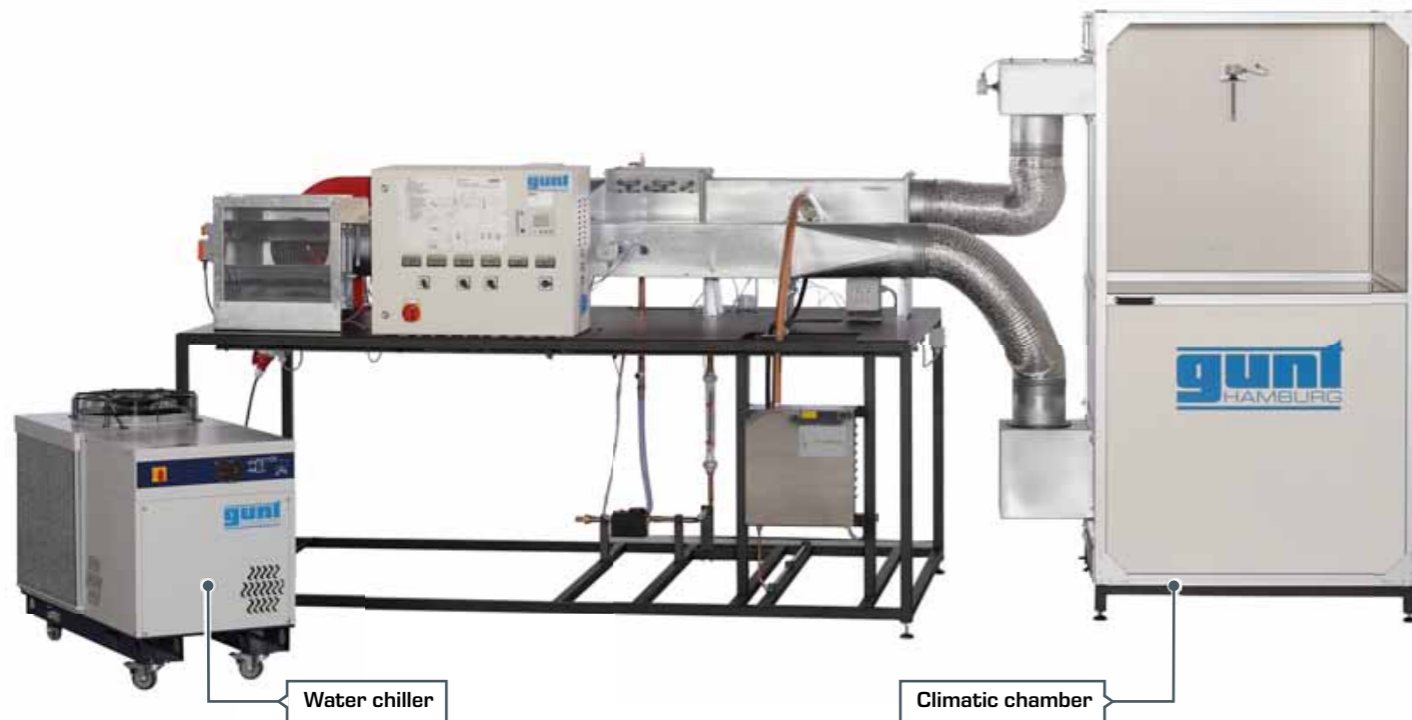


ET 611 Air conditioning system with chamber for comfort investigations



Water chiller

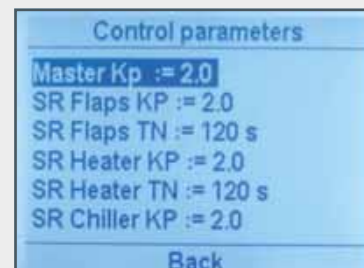
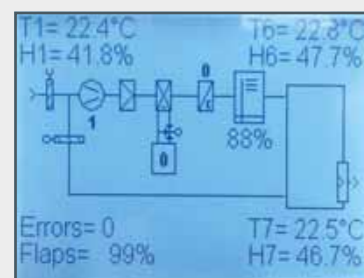
Climatic chamber

More than a quantitative investigation of the room climate:
experience comfort with your own body

The air conditioning of the air takes place in a closed chamber large enough for test persons to be inside. This allows for the effect of the room climate on the personal perception to be investigated. ET 611 is a real system including typical com-

ponents of larger air conditioning systems: water chiller, PLC controller, filter cartridge. The system operates in outer air and recirculating operation.

Climate controller with PLC

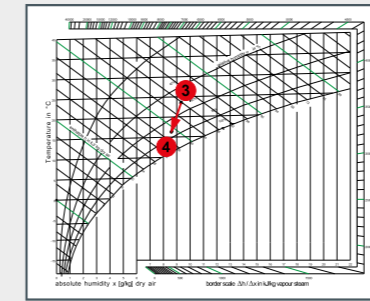


The operation of the air conditioning system is via a PLC. Handling the different PLC functions is learned step by step:

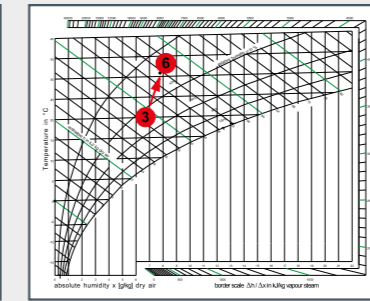
- display of alarms
- display of measured values
- input of reference variables
- input of control parameters
- input of limit values

...and much more.

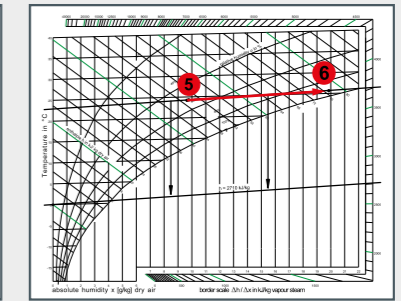
Instructional material and software: the aid for fast learning success



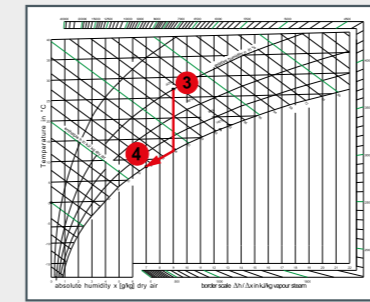
Cooling



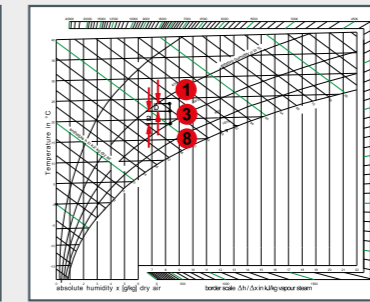
Heating



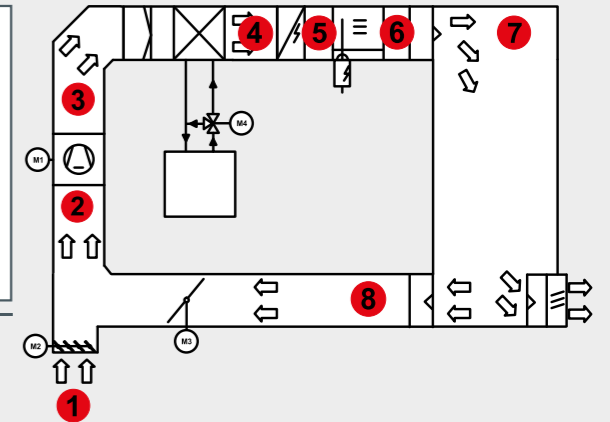
Humidifying



Dehumidifying

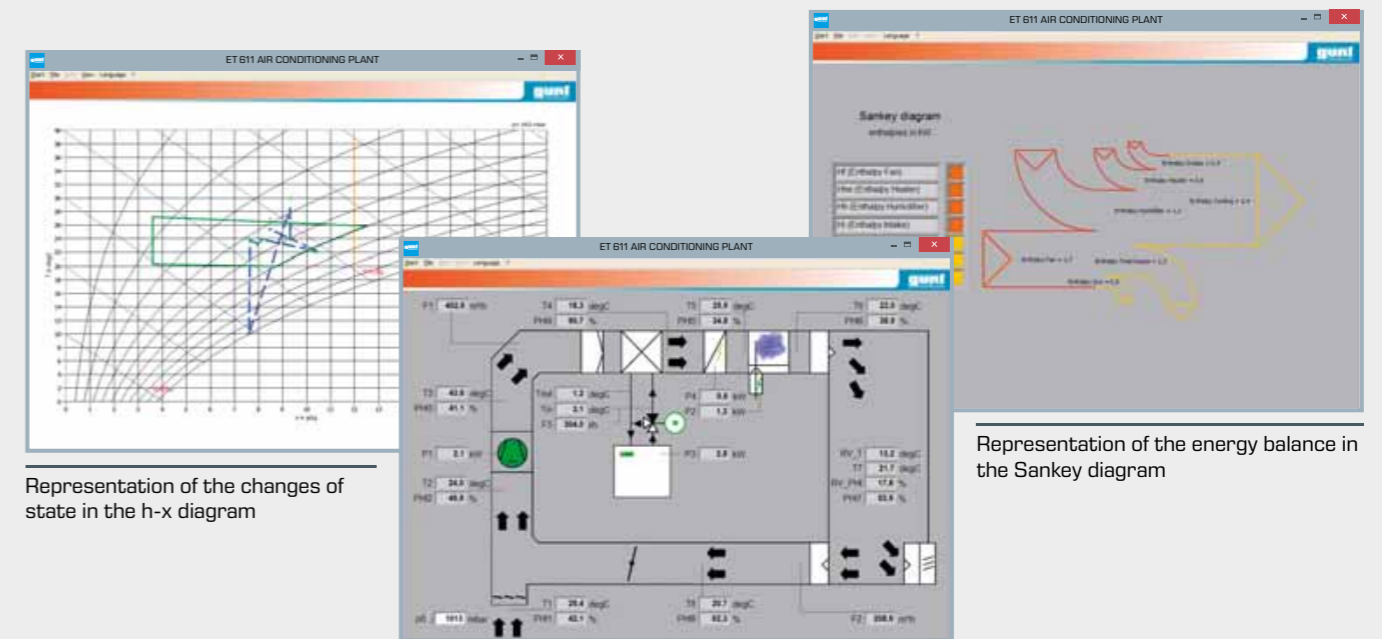


Mixing



The instructional material clearly demonstrates at which locations of the air conditioning system the different changes of the state of the air take place. The manual measurement only indicates the stationary states. In addition to time curves the software enables the dynamic display of the measured

values in the h-x diagram to better monitor transient processes. The task of the trainee is to read the measured values at the relevant locations of the air conditioning system, enter these data correctly into the h-x diagram and analyse them.



Representation of the changes of state in the h-x diagram

Representation of the energy balance in the Sankey diagram

Process schematic with online representation of the data