

ET 620

Air conditioning and ventilation system

ET 620 is a real air conditioning system with connected air duct. The trainer consists of the main unit, a condensing unit and a steam humidifier. The conditioned air flows through an air duct

and exits into the room through air outlets. Alternatively an external ductwork can also be connected.



Main unit

Condensing unit

Steam humidifier

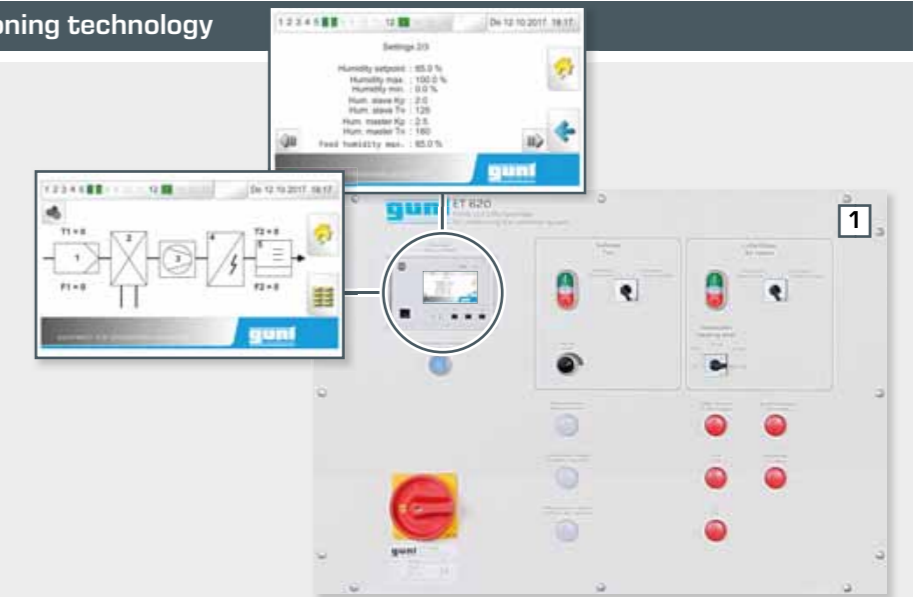
1 switch cabinet with PLC, 2 cooler with connections for the condensing unit, 3 humidification section with connections for steam humidifier, 4+6 outlets for the conditioned room air, 5 fire protection flap, 7 standard connection for external ductwork

Real components from air conditioning technology

Control via 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



Safety in air conditioning technology

A fire protection flap is fitted in the air duct. Fire protection flaps are used to separate the ventilation network from the source of a fire in an emergency. To trigger and close the fire protection flap a spring and a thermal trip element are used. In case of a fire, the solder melts, the two metal plates are released and the spring shuts the fire protection flap.



Fire protection flap



Trip element with intact solder joint



Trip element with melted solder joint

Typical air outlets

In order for people to find the room climate comfortable, a strong draught must be avoided.

The air duct of ET 620 features different types of air outlets. The purpose of air outlets is the distribution of the air in the room with a minimum air velocity. Air distribution, air velocity and pressure loss of the different air outlets can be compared.



Ventilation grill



Ceiling vent (left) and disc valve (right)