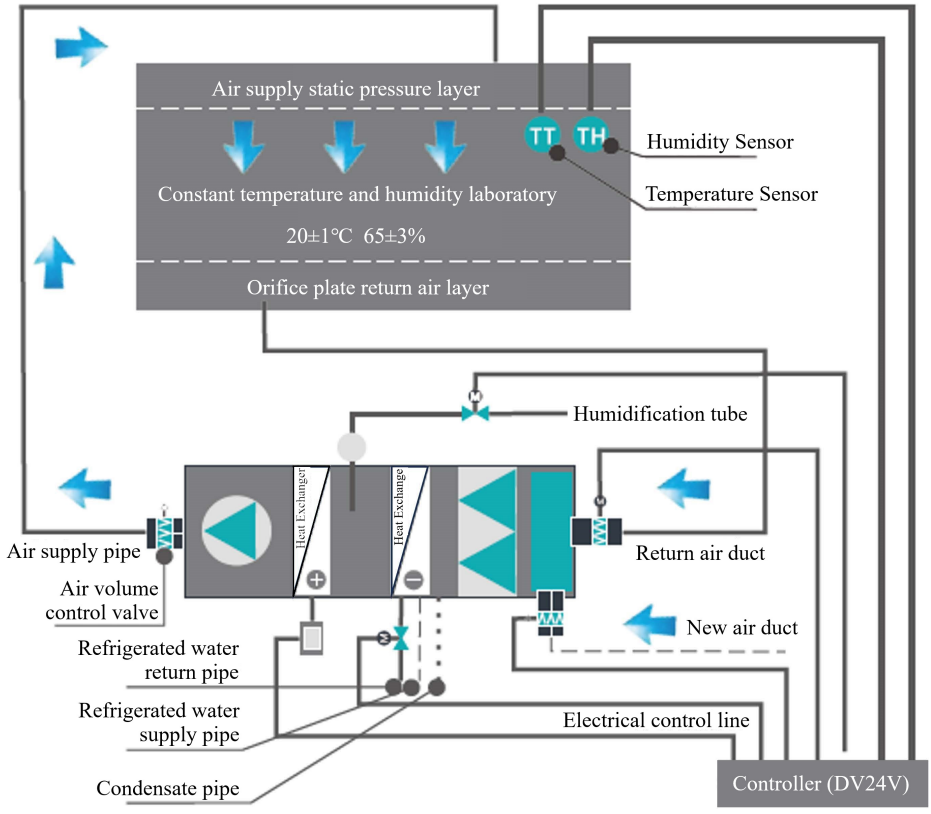
Constant Temperature and Humidity System

The constant temperature and humidity laboratory is a professional laboratory that uses special equipment and technical methods to make the indoor temperature and humidity meet the experimental requirements. It is widely used in cotton spinning, wool spinning, chemical fiber, papermaking, packaging, tobacco and other industries and related testing departments.

Technical requirements for the decoration of temperature and humidity controlled laboratories

1. The decoration of a constant temperature and humidity laboratory requires strict insulation and moisture prevention. The four facades of the laboratory are made of color steel composite boards, and the upper and lower surfaces are made of PE insulation boards for insulation and moisture prevention. In summer, when the temperature difference between indoors and outdoors is large, it can prevent condensation in the rooms on the upper and lower floors.
2. When decorating a constant humidity laboratory, all windows should be closed, cold light sources should be used instead of natural light, and insulation and sealing should also be fully considered when decorating the door.
3. When decorating a constant temperature and humidity laboratory, in addition to the height of the related equipment in the laboratory, the net height of the laboratory should be more than 2.6 meters.
4. Laboratories with particularly high temperature and humidity requirements should set up a buffer room during renovation.
5. The floor should be an anti-static high floor, and the overhead height should be about 30 cm.

Temperature and humidity controlled laboratory construction project composition



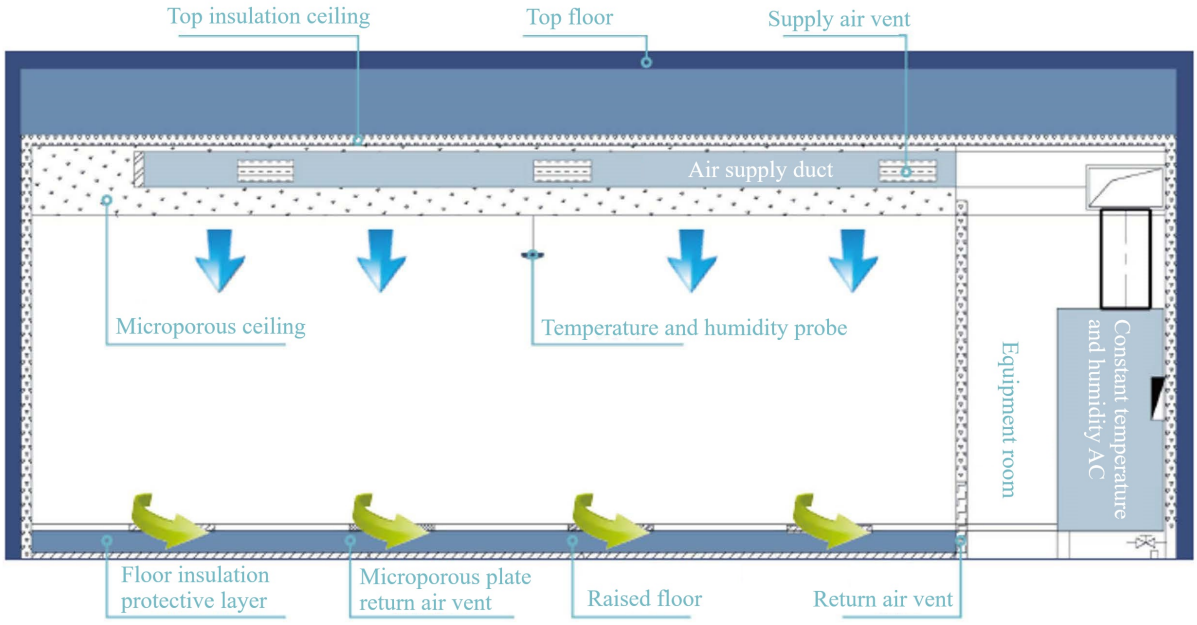
Design requirements for gas circuits in temperature and humidity controlled laboratories

1. When designing the airflow mechanism of the temperature and humidity laboratory, the supply and return air should adopt the micro-perforated ceiling supply and floor supply methods.
2. The supply air duct should be cut and fabricated on-site using aluminum-lead composite phenolic fermentation foam insulation board (fire rating B1 or above) or galvanized steel plate, taking into account the uniformity of the supply air.
3. Sufficient fresh air should be supplied to the room (to meet the physiological needs of staff).
4. The laboratory should ensure positive pressure, and it should be more than 5Pa.
5. If the temperature and humidity laboratory has cleanliness requirements, a high-efficiency filter should be installed. The air supply outlet of the high-efficiency filter should meet the design requirements and should be cleaned before installation. The installation and replacement of the exhaust port of the high-efficiency filter should be carried out in the clean room, and a sealing gasket should be added to the joint between the exhaust port flange and the ceiling panel. When installing and replacing the exhaust vent of the high-efficiency filter of the technical mezzanine, it is necessary to secure a short pipe in conjunction with the civil engineering work before installation, and seal the space between the short pipe and the ceiling plate.
6. The laboratory should have a fresh air system and an exhaust system to ensure smooth air flow.

Technical requirements for water and electricity in temperature and humidity controlled laboratories

1. Water supply, drainage and gas power piping passing through the walls and floors of the cleanroom must be sleeved. The piping section inside the casing must be seamless, and the area between the piping and the casing must be sealed with a non-combustible, non-dust-generating sealant.
2. Exposed or concealed conduit pipes must be made of non-combustible materials.
3. There must be no dust inside the distribution boards and cabinets in the cleanroom, and the doors of the boards and cabinets can be tightly closed.
4. Concealed sockets, concealed socket boxes and wiring boxes for switches must be clean, close to the walls and correctly installed.
5. Wipe the lamps clean before installation. For concealed lamps recessed in a suspended ceiling, the joint between the lampshade frame and the suspended ceiling must be sealed. For direct-mounted ceiling fluorescent lamps, the lamp frame must be close to the suspended ceiling.
6. The wire tube enters the junction box, distribution board or cabinet. It must be tightly sealed after screwing.
7. Temperature and humidity laboratory control systems should be designed and installed in accordance with the manufacturer’s specifications.

Vertical unidirectional flow



Turbulence Type