

HVAC Control System

The HVAC control system is for a GMP pharmaceutical laboratory facility. The HVAC system consists of primary air temperature and humidity control. The primary Air Handling Unit (AHU) consists of a pre-heat, cooling and humidity injection systems. Each of the eight laboratory zones has secondary re-heat systems.

As per client requirements, the control system consists of thirteen individual Single Loop Controllers (SLCs) providing control of the AHU systems and the re-heat systems. Room temperature and humidity sensed at several locations are used by the SLCs for precise temperature control. The system controls the main AHU supply fan, six exhaust fans and related dampers.

The system also includes a monitoring system, which interfaces with a central SCADA system for providing information such as room differential pressures, temperature and humidity alarms, damper and fan status, and SLC status information.

The SLCs and related equipment are housed in a control enclosure located in the mechanical room. The start up and shut down sequences are fully automated, providing the facility with a controlled sequence of events which minimizes over or under pressure conditions in the facility.

MAAK provided the control system, instrumentation and control components. MAAK technicians installed and commissioned all the equipment as part of a turnkey project. Documentation provided by MAAK includes Functional Requirement Specifications, Detailed Design Specifications, Operating & Maintenance manuals, drawings and software documentation.

