

Tool Selection for Efficiency AHU (Air Handling Unit) in Industrial Plant's Air-Conditioning System

The selection of the right components and tools is the most important part in the production of AHU (Air Handling Unit) used for air-conditioning systems in industrial plants. To calculate the design support and tool selection, most designers will rely on the computer program which must have the flexibility to accommodate adjustments and changes to data input from the designers.

Normally, designers will use the Coil Selection Program to calculate the parameters to assist them in designing and selecting the appropriate cooling coil. However, in some cases, the format and geometries parameter within the program is constant. As a result, it is not possible to derive the full benefits of using the Coil Selection Program as it cannot accommodate variations to the geometries parameter such as space value between pipes, pipe thickness, fin coil thickness, etc. Many design companies have overlooked this shortcoming resulting in having a cooling coil where the parameters are not compatible with the calculation if it had taken into account of the actual geometries parameter.

When considering the production of AHU for industrial plants, errors or incorrect tool selection can cause the AHU to perform below its optimum levels. For example, the selection of Fan: Blower. Generally, the fans used in industrial air conditioning systems have various types and each type has a different format to use as the structure. The expertise and experience of the designer is critical in the selection process as the fan not only affects the rate and wind velocity but also its structure and type of material which will affect the durability. The latter is an important consideration for long term operations, environment and a precondition for 24 hours operations such as clean room applications. In the design for component operation to support the installation of the main components in AHU such as the design of the structure property of the drain-pan, it is necessary to consider its durability to handle the duration of water draining through the pan. For maintenance purposes, the type of materials used and materials used as components must also be taken into consideration for example, drainpipes must be able to withstand erosion from the rust stain, etc.



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