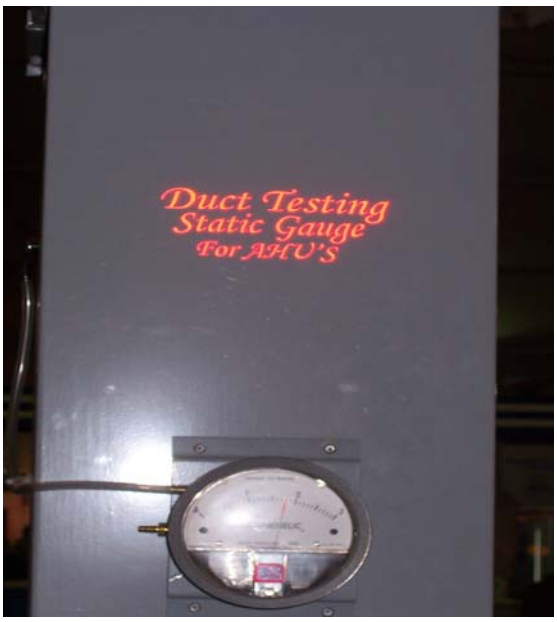
System

In an AHU system, there are three types of air filters, namely pre-filter, medium, terminal filter or TFM, each with a different lifecycle. The pre-filter and medium filter are used to pre-filter the mixed air and protect the final TFM.

The supply or circulation fan should be sized for the filter's final pressure loss to compensate for the system/filter's lifetime. The pressure difference between filter's initials and finals can go up to 1/3 of the system's total loss. During the lifetime of the system, the supply fan runs mostly under design point. The changing supply air volume to clean rooms could cause room pressurization malfunction. The re-sanitization of process facility and clean room are costly and time consuming. The AHU system design should consider system balancing, adjustment, and flow control. There are a few ways to implement system adjustment, like changing fan blade pitch or replacing the belt and pulley. A VFD and a static pressure sensor on supply duct can provide bitter air flow control, reduce system routing balancing, and save energy cost average more than 10% annually.



Energy Saving

Frequency Inverters cost pay back period is only 14 to 15 months in term of energy saving but if we consider following factors it 'll actually drop 10 to 12 months.

-Motor Life Increased
-Motor Bearings life increased
-Motor Safety Increased (Electronically Protected)
-No Contactor Spark
-Less Maintenance Required
-Jerk Free Operation
- SAVE CONTACTORS Cost
-SAVE THERMAL OVERLOAD COST
-Energy Saving

Additional Benefits

-Increase AHU life
-INCREASED WEAR & TEAR PARTS LIFE
like belts etc