

## Tutorial – Week 3

This week's primary focus will be on creating a really good duct layout and then systematically determining all the duct sizes and shapes.

- Diffuser location and flowrate determination
- Diffuser Selection from catalog information
- Duct Routing, Layout and Drawing – the focus will be on establishing duct centerlines.

To help give you some experience with these things, this week's tutorial will consist of the following:

- a. At first, we will do a quick review of what a good HVAC drawing looks like (online example). Take note of the symbols used and the annotations that are normally placed on a complete drawing.
- b. You will be tasked with taking a portion of the restaurant and creating a functional supply diffuser layout.
- c. Figure out where a good Roof Top Air Handling Unit might be placed to service the space. See the course 'Introduction' to see a picture of a Roof Top AHU and how the ducts run from it.
- d. Now start the process of creating a logical duct layout. Do the following:
  - i. Start the duct routing by drawing duct centerlines (fan to diffusers)
  - ii. Calculate the flowrate of air in each section of duct
  - iii. Determine the round duct size in each section
  - iv. If is duct is too tall for the ceiling space available, make that duct rectangular.
  - v. Draw in the ducts to scale.
  - vi. Note on the drawing your duct sizes
  - vii. Note on the drawing the diffuser information
  - viii. Add flow control devices (dampers, etc).
  - ix. Note on your drawing any other important data that must be conveyed to the contractors working on the project.

Once done, you will be asked to briefly show your fellow classmates your beautiful work and explain why you laid out the duct the way you did.