Design of Ductwork Systems

Agenda

09:15 Arrival – Registration / coffee / tea

09:30 Session 1

- Introduction
- Duct Sizing Methods: Relationship between volume, size, air velocity and resistance
- Static, velocity and total pressures and pressure diagram
- Constant friction, constant velocity and static regain methods
- Velocity Limits: Limiting velocity for noise in different applications
- Duct Distribution Systems: Tree system (mains, sub mains and branches)
- Octopus (modular plant)
- Ring main

11:15 Coffee / tea break (15 mins)

11:30 Session 2

- Plant Connections: Inlet and outlet connections to centrifugal and axial fans
- Silencers
- Connections to terminals
- Flexible connections
- mixed flow fans
- filters, heater/cooler coils, louvres

13:00 Lunch (60 mins)

14:00 Session 3

- Room Air Distribution: Limits for different terminals
- Effect of supply temperature
- Perforated ceilings
- Displacement ventilation
- Ductwork Types: Circular and rectangular
15:00  Coffee / tea break (15 mins)

15:15  Session 4

- Damper Types & Characteristics: Opposed blade, parallel blade, iris and other methods of controlling volume
- Noise: Brief introduction to noise including sound power and sound pressure. Noise criteria and noise rating. Control of noise
- Attenuator Types: Square end, round end and aerofoil. Positioning of attenuators
- Commissioning brief introduction to good commissioning practice. Design requirements to facilitate commissioning. Interpretation of commissioning records

16.00 - 16.30  Q & A