DESIGN DUIDELINE 230022
GRILLS, REGISTERS, DIFFUSERS AND AIR BALANCING ACCESSORIES

Design Requirements

Specify a 24 inches x 24 inches ceiling module whenever possible.

Size diffusers, registers and grills for a maximum space noise criteria of 30 in class and meeting rooms, and 40 elsewhere.

In VAV systems consider sizing to 80 percent design flow to prevent dumping at low flow.

Installation Requirements

All sub-main connections to main duct shall contain opposed blade balancing dampers. Branch connections serving individual outlets may not require dampers. However, volume control devices in or directly above diffusers should not be the primary means for system balancing.

Duct extractors and air flow equalizers should be specified as necessary to assure adequate flow and uniform air distribution.

Specify 2-way throw for corner installations and corridors. Specify 3-way throw at walls.

In rooms where heavier than air gases may be present locate one return air sidewall grill near floor level.

Locate supply diffusers and return/exhaust grills sufficiently distant to prevent short cycling. Distance between devices to be approximately 1 1/2 times the T-50 isovel throw. When this separation cannot be maintained, specify throw-reducing devices or specify a 3-way diffuser.