

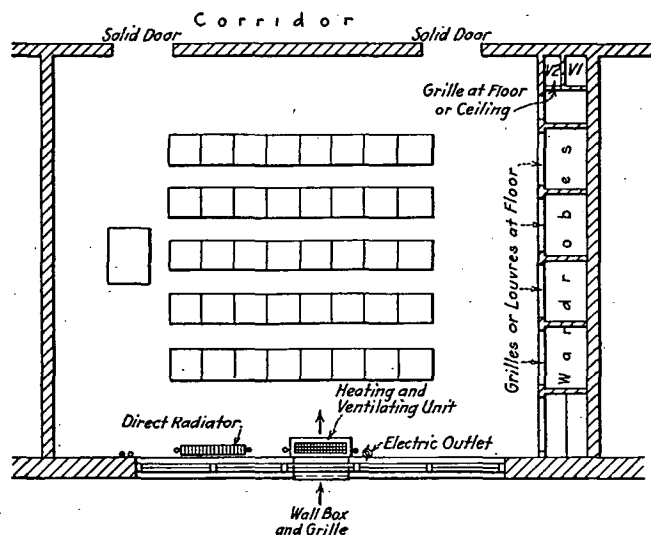


FIG. 1. SPLIT SYSTEM WITH INDIVIDUAL VENT.

are avoided by good temperature control, a positive pressure in the room and the proper discharge velocity. The cost of installation of a combined system is usually less than that of a split system and there is less danger of overheating.

Central fan systems (Chapter 31) as well as unit ventilator systems may be designed for split or combined operation.

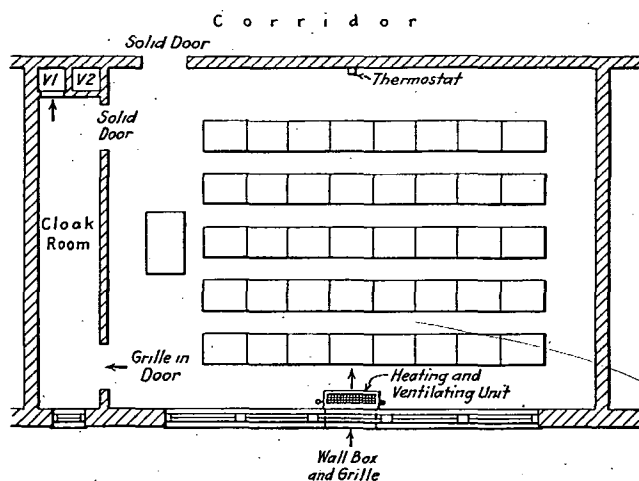


FIG. 2. COMBINED SYSTEM WITH INDIVIDUAL VENT.

LOCATION OF UNITS

The location of the unit ventilator in a room is important. Wherever possible it should be placed centrally on an outside wall. It is difficult to obtain proper air distribution if the unit is erected either on an inside wall or in a corner of the room. Standard units discharge the air stream upward, but for special cases units may be installed to discharge air horizontally. Units may be set away from the wall or partially recessed into the wall to save space without materially affecting the results. The air inlet may enter the cabinet at the back at any point from top to bottom;

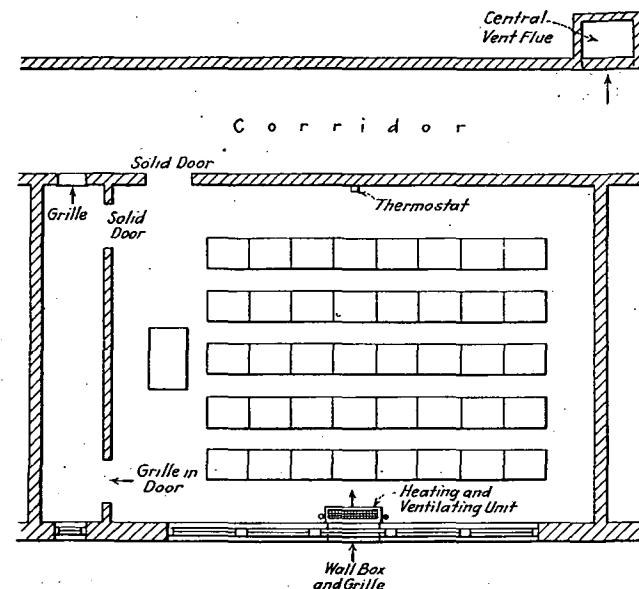


FIG. 3. COMBINED SYSTEM WITH CORRIDOR VENT.

all units, however, should be arranged to operate with free air inlet and free discharge.

VENT OPENINGS

The size and location of the vent outlet is important. In many cases the sizes for public buildings are regulated by law, but the location of the vents generally is left to the discretion of the engineer.

Size of Opening

The best results have been obtained with a velocity through the vent openings nearly equal to that at which the air is introduced into the room, thus maintaining a slight pressure in the room. Calculated velocities at the vent openings of from 600 to 800 fpm produce the best diffusion results from this system.

The cross-sectional area of the vent flue itself may be figured on the