

ventilation, to take care of the heating requirements. Owing to the variations in outside temperature and to the effect of the sun and of changing intensity of occupation it is difficult to maintain satisfactory temperature regulation with most split systems unless there is enough direct radiation to heat the room independently of the ventilating apparatus.

Blast System

The all-blast system (Fig. 5) employs the unit ventilating machine alone, its capacity being large enough both for ventilation and for supplying the heat loss. Direct radiation is omitted altogether.

The blast system requires that all heating shall be accomplished by the machine. It becomes necessary then that the fan shall be running when-

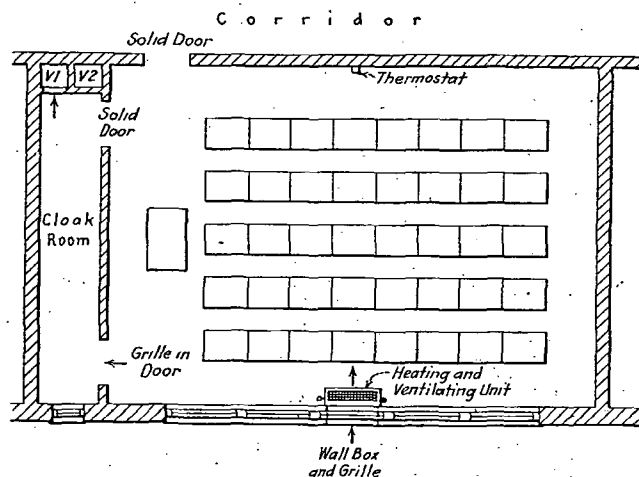


FIG. 5. INDIVIDUAL VENT BLAST SYSTEM

ever the room is to be occupied and this gives reasonable assurance of ventilation and of efficient attention by the custodian. With the all-blast system the distribution of the air within the room probably is not as perfect as with the split system, and more drafts are liable to be encountered, since there must of necessity be wide and rapid variations in the temperature of the air delivered by the machine in order to control the room temperature.

Location of the Ventilating Unit

The best distribution of the air is obtained usually when the machine is placed in the center of the exposed side of the room.

Location of the Air Intake

In nearly all installations the intake for outside air is placed just above the floor line and as symmetrically as possible with reference to the center of each room.

Automatic Heat Control

Automatic heat control is exceedingly desirable with all unit ventilating machines. An intermediate-acting thermostat should be arranged so that on a rising room temperature the thermostat will function to operate the damper very slowly, and to hold it in an intermediate position. If the damper operation fails to control the temperature rise (as in mild weather) the thermostat should then bring about the closing of the steam supply valve to the convector in the machine.

It is important that the thermostats used with unit ventilating

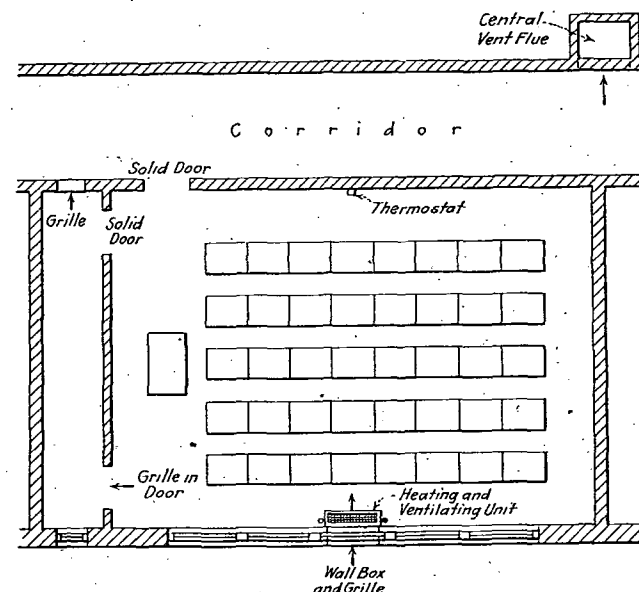


FIG. 6. CORRIDOR VENT BLAST SYSTEM

machines shall be of the super-sensitive type so as to produce graduated control of the temperature.

Pneumatic Damper Control

As part of the automatic system of temperature regulation, it is desirable to include manual pneumatic operation of the outside air inlet dampers so that these dampers on all of the units throughout the building, or on any group of units, may be opened or closed from a central point. If recirculating units are used these dampers also may be operated by remote pneumatic agencies.

It is quite helpful to group the manual control of the units in accordance with the points of the compass. The inlet dampers on the units to the North, South, East and West sides of the building may each be controlled by separate manual switches. Thus when wind conditions are severe on one side of the building the group of units on that side may be started at an earlier hour in the morning.