

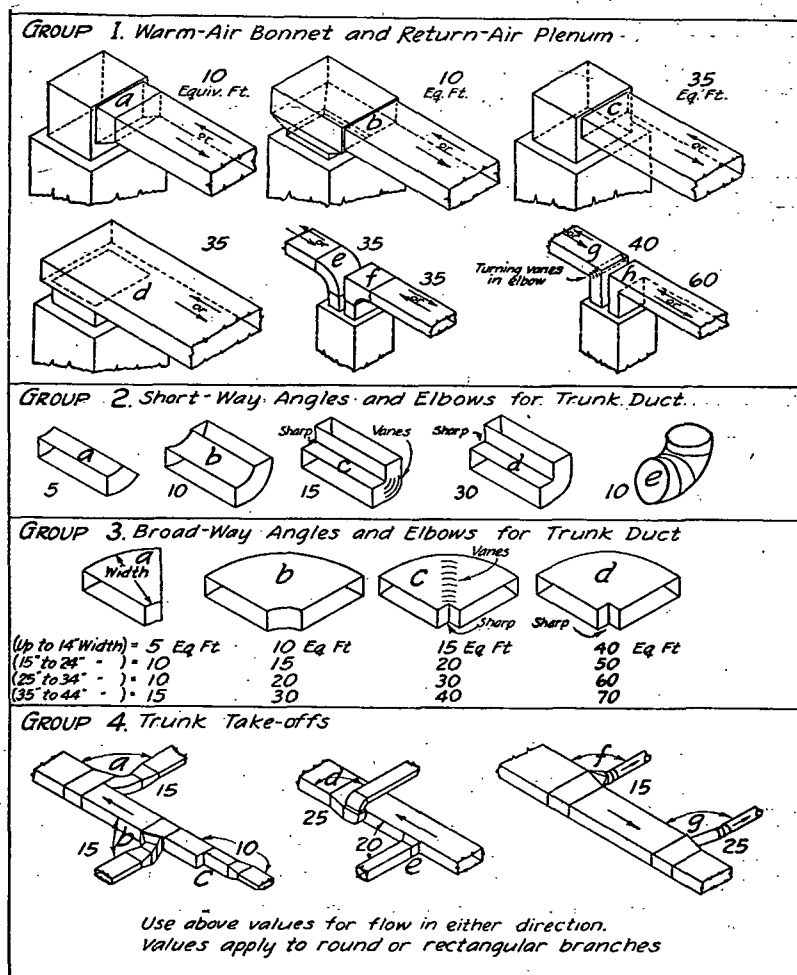


FIG. 3. EQUIVALENT LENGTH OF FITTINGS

This simplified method is applicable to structures having heat losses not in excess of approximately 150,000 Btu per hour. The capacities shown in Tables 3 and 4 are based upon the most reliable data pertaining to friction losses and temperature drops in ducts. They are also based upon a 100 deg temperature rise of the air, and a static pressure available for overcoming friction losses in the external duct system alone of 0.20 in. water gage. The use of this method assumes that the fan in the fan-furnace assembly will be capable not only of overcoming the resistance of the external duct system alone, but also the resistances imposed by the blower inlet, the filter, and the furnace casing. The combination numbers shown in the right hand column of Tables 3 and 4 correspond to those given in Tables 1 and 2. Tables 3 and 4 are also applicable for the selection of the return air branches. A depth of 8 in. has been adopted as

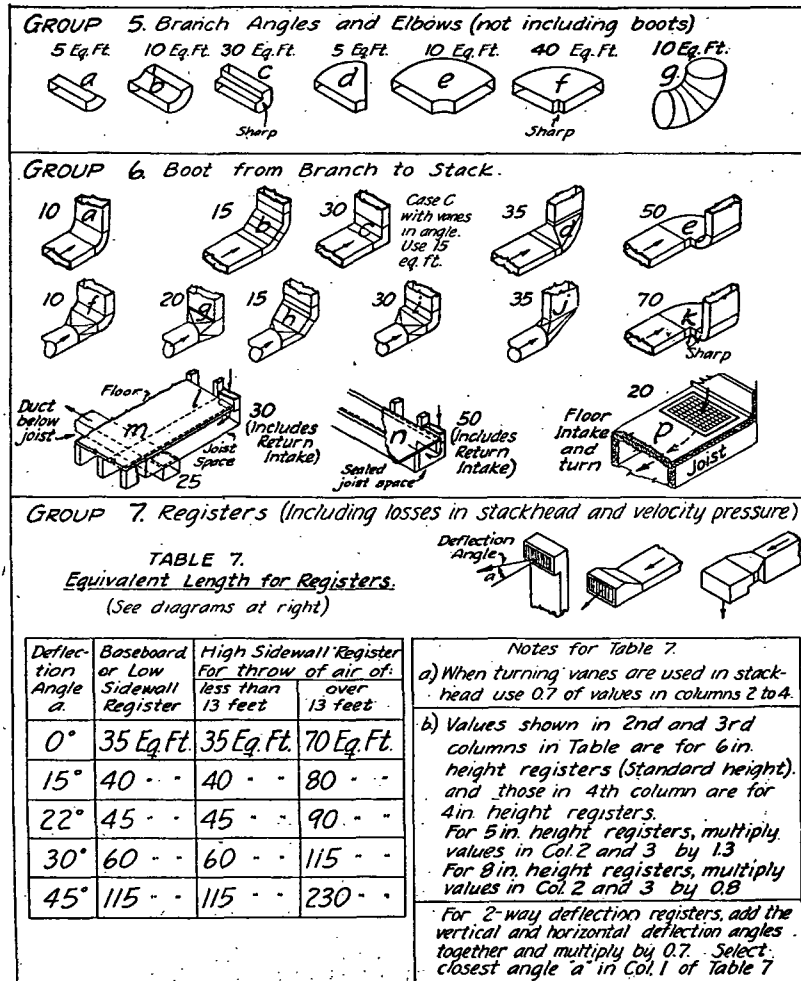


FIG. 3. EQUIVALENT LENGTH OF FITTINGS (Continued)

the standard for the trunk ducts. The width of a trunk duct serving two branches is determined by adding to the width of the remote branch the value shown in column 9 of Table 1, or column 8 of Table 2.

AUTOMATIC CONTROLS

Air stratification, high bonnet temperatures, excessive flue gas temperatures, and heat overrun or lag in a properly designed system can be largely eliminated through proper care in the planning and installation of the control system²; desirable controls usually employed are:

1. A thermostat located in a living room where maximum fluctuation in temperature can be expected, in order to secure frequent operation of fans, drafts, and burners. The thermostat location should not be on an outside wall, in a bedroom, bath room or