Reversed-Return System (*Hot Water*): A hot water heating system in which the water from several heating units is returned along paths arranged so that all circuits composing the system or composing a major subdivision of the system are practically of equal length.

Roof Ventilator: A device placed on the roof of a building to permit egress of air.

Sensible Heat: See *heat.*

Smoke: Carbon or soot particles less than 0.1 micron in size which result from the incomplete combustion of carbonaceous materials such as coal, oil, tar, and tobacco.

Smokeless Arch: An inverted baffle placed in an up-draft furnace toward the rear to aid in mixing the gases of combustion and thereby to reduce the smoke produced.

Specific Gravity: The ratio of the weight of a body to the weight of an equal volume of water at some standard temperature, usually 39.2 F.

Specific Heat: The quantity of heat, expressed in Btu, required to raise the temperature of 1 lb of a substance 1 deg Fahrenheit.

Specific Volume: The volume, expressed in cu-ft, of one pound of a substance. $v = \frac{1}{\rho} = \frac{V}{W}$.

Split System: A system in which the heating and ventilating are accomplished by means of radiators or convectors supplemented by mechanical circulation of air (heated or unheated) from a central point.

Square Foot of Heating Surface (*equivalent*): Equivalent direct *radiation* (EDR). By definition, that amount of heating surface which will give off 240 Btu per hour. (The *equivalent* square foot of heating surface may have no direct relation to the actual surface area).

Stack Height: The vertical distance of a gravity convector between the bottom of the heating unit and the top of the outlet opening.

Standard Air: As defined by A.S.H.V.E. codes, *standard air* is air weighing 0.07488 lb per cubic foot, which is air at 68 F dry-bulb and 50 per cent relative humidity with a barometric pressure of 29.92 in. of mercury. (Most engineering tables and formulae involving the weight of air are based on air weighing 0.07495 lb per cubic foot, which is dry air at 70 F dry-bulb with a barometric pressure of 29.92 in. of mercury. The error involved in disregarding the difference between the above two weights is very slight and in most instances may be neglected).

Static Head or Pressure: The radial pressure within an enclosure, tending to burst it. (This is also termed frictional or resistance pressure or maintained resistance).

Steam: Steam is water vapor which exists in the vaporous condition because sufficient heat has been added to the water to supply the latent heat of evaporation and change the liquid into vapor. Steam in contact with the water from which it has been generated may be *dry-saturated* steam or *wet-saturated* steam. The latter contains more or less actual water in the form of mist. If steam is heated, and the pressure maintained the same as when it was vaporized, its temperature will increase and it will become *superheated.*

Steam Heating System: A heating system in which heat is transferred from the boiler or other source of steam, to the heating units by means of steam at, above, or below atmospheric pressure.

Steam Trap: A device for allowing the passage of condensate and preventing the passage of steam, or for allowing the passage of air as well as condensate.

Superheated Steam: See *steam.*

Supply Mains (*Steam*): The pipes through which the steam flows from the boiler or source of supply to the run-outs and risers leading to the heating units.

Surface Conductance: The amount of heat (Btu) transmitted by radiation, conduction and convection *from a surface to the air or liquid surrounding it,* or vice versa, in one hour per square foot of the surface for a difference in temperature of 1 deg between the surface and the surrounding air or liquid.

Synthetic Air Chart: A chart for evaluating the air conditions maintained in a room.

Thermostat: An instrument which responds to changes in temperature and which directly or indirectly controls the source of heat supply.

Tube (or Tubular) Radiator: A cast-iron heating unit used as a radiator and having small vertical tubes.

Two-Pipe System (*Steam or water*): A heating system in which one pipe is used for the supply of the heating medium to the heating unit and another for the return of the heating medium to the source of heat supply. (The essential feature of a two-pipe system is that each heating unit receives a direct supply of the heating medium which medium cannot have served a preceding heating unit).

Underfeed Distribution System (*Hot water*): A hot water heating system in which the main flow pipe is below the heating units.

Underfeed Stoker: A stoker which feeds the coal underneath the fuel bed.

Unit Air Conditioner: A self-contained air conditioning plant which provides for humidification or dehumidification, air washing, heating or cooling, and includes spray nozzles, air re-heater, fan, pump, automatic control, all within a common enclosure. (As a rule the outlets are designed to accomplish air distribution without ducts).

Unit Cooler: A combination of a cooling coil and a fan or blower, erected as a unit and having a common enclosure. (As a rule the outlets are designed to accomplish air distribution without ducts).

Unit Heater: Any combination of a heating unit and a fan or blower, having a common enclosure and placed within or adjacent to the space to be heated; generally no ducts are attached to the inlets or outlets. (Unit heaters are designed primarily for industrial use).

Unit Ventilator: A unit heater designed to use all or part outdoor air with or without alternate provision for handling recirculated air. (Unit ventilators are intended primarily for school and office ventilation).

Up-Feed System (*Steam*): A steam heating system in which the supply mains are below the level of the heating units which they serve.