a second-stage reduction. If a two-stage reduction is made, it is well to install a pressure gage immediately before the reducing valve of the second-stage reduction also. In sizes 3 in. and above, it is advisable to tap the bodies of the reducing valve on inlet side for purposes of draining condensate accumulation through steam traps.

Control Valves

Gate valves are recommended in all cases where service demands that the valve be either entirely open or entirely closed, but they should never

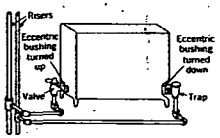


FIG. 6. TYPICAL CONNECTIONS FOR TWO-PIPE SYSTEM

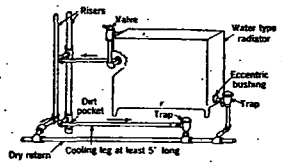


FIG. 7. TOP AND BOTTOM OPPOSITE END RADIATOR CONNECTIONS

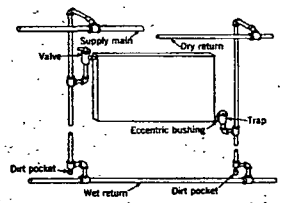


FIG. 8. CONNECTIONS TO RADIATOR HUNG ON WALL

be used for throttling. Angle globe valves and straight globe valves should be used for throttling, as done on by-passes around pressure reducing valves or on by-passes around traps.

Connection to Heating Units

Riser, radiator and convector connections must not only be properly pitched at the time they are installed but must be arranged so that the pitch will be maintained under the strains of expansion and contraction. These connections may be made by swing joints which permit the expansion or contraction to occur under heating and cooling without bending of pipes. To take care of expansion in long risers, either expansion joints of commercial construction or pipe swing joints are used. Anchoring of pipes between expansion joints is desirable.

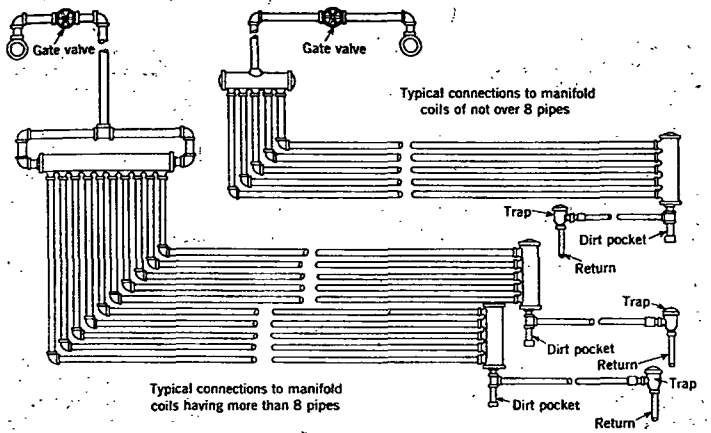


FIG. 9. TYPICAL PIPE COIL CONNECTIONS

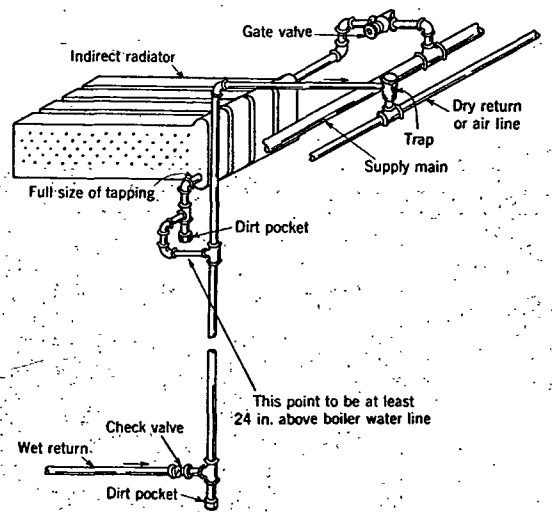


FIG. 10. TYPICAL PIPING CONNECTIONS TO CONCEALED HEATING UNITS WITH WET RETURNS

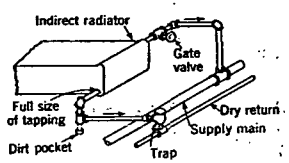


FIG. 11. PIPING CONNECTIONS TO INDIRECT RADIATORS