

Knox County Code Administration & Inspection

Gas Pipe Sizing – 2018 International Fuel Gas Code

REV. 022019



SECTION 402.4.1 Longest Length Method

The pipe size of each section of gas piping shall be determined using the longest length of piping from the point of delivery to the most remote outlet and the load of the section.

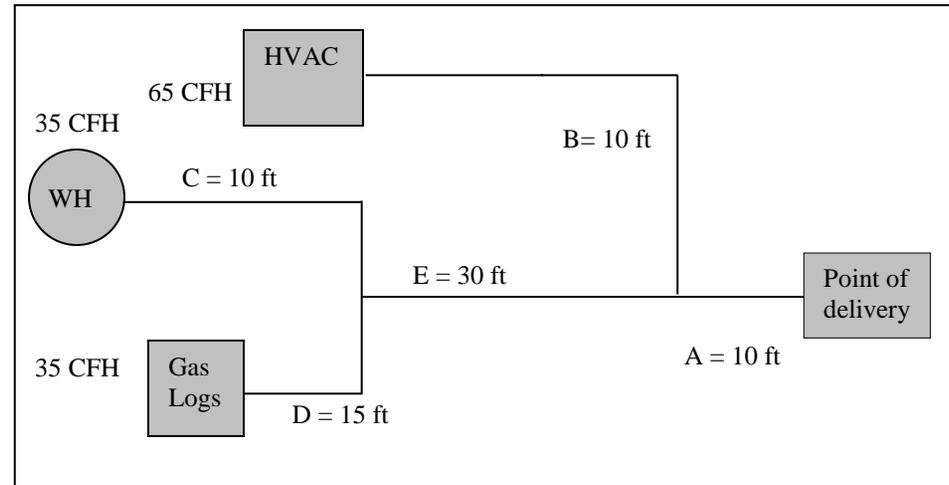
1. Measure the length of piping from the point of delivery to the most remote outlet in the building. This is the only distance used.
2. In the first column of the table, select that length or the next longer length if the table does not give the exact length.
3. Using this horizontal line, locate all gas demand figures for this particular system of piping (CFH's/ BTU's).
4. Starting at the most remote outlet, determine the gas demand for that outlet. Then locate this demand in the table or the next larger demand.
5. Above this demand figure in the top horizontal line in the table will be found the nominal pipe size required.
6. For each succeeding section of pipe, determine the total gas demand for each section and then proceed in the manner outlined above to determine the proper size of each.

IMPORTANT

Knox County Mechanical/ Gas inspectors will be sizing all gas piping using the longest length method. In the event where corrugated stainless steel tubing (CSST) and schedule 40 pipe are used within the same system or branch, the sizing table for the CSST will be used. In the event where there is hybrid pressure, the pipe size for each section of higher pressure gas piping shall be determined using the longest length of piping from the point of delivery to the most remote line pressure regulator. The pipe size from the regulator to each outlet shall be determined using the length of piping from the regulator to the most remote outlet served by the regulator.

CSST sizing tables specify tube size in EHD (Equivalent Hydraulic Diameter), which is a measure of the relative hydraulic efficiency between different tubing sizes. The greater the value of EHD, the greater the gas capacity of the tubing.

Example



CSST SYSTEM (less than 2 PSI) – TABLE 402.4(15)

1. The longest run is 55 feet to the gas logs. Go to 60' line.
2. Section D has a load of 35 CFH requiring 19 EHD CSST.
3. Section C also has a load of 35 CFH and requires 19 EHD.
4. Section E is supplying both the WH and Gas Logs, using the CSST table; 19 EHD will only supply 38 CFH. Section E has a load of 70 CFH and requires 23 EHD CSST.
5. Section B has a load of 65 CFH and requires 23 EHD CSST.
6. Section A is carrying the entire load of 135 CFH. Using the table, 23 EHD CSST will only supply 68 CFH. Section A requires 31 EHD.

SCHEDULE 40 PIPE SYSTEM (less than 2 PSI)

1. Using the schedule 40 pipe table 402.4(2) with .5 inch water column and a .6 specific gravity.
2. Using the table section D is 1/2".
3. Using the table section C is 1/2".
4. Using the table section E is 3/4".
5. Using the table section B is 1/2".
6. Using the table section A is 3/4".