

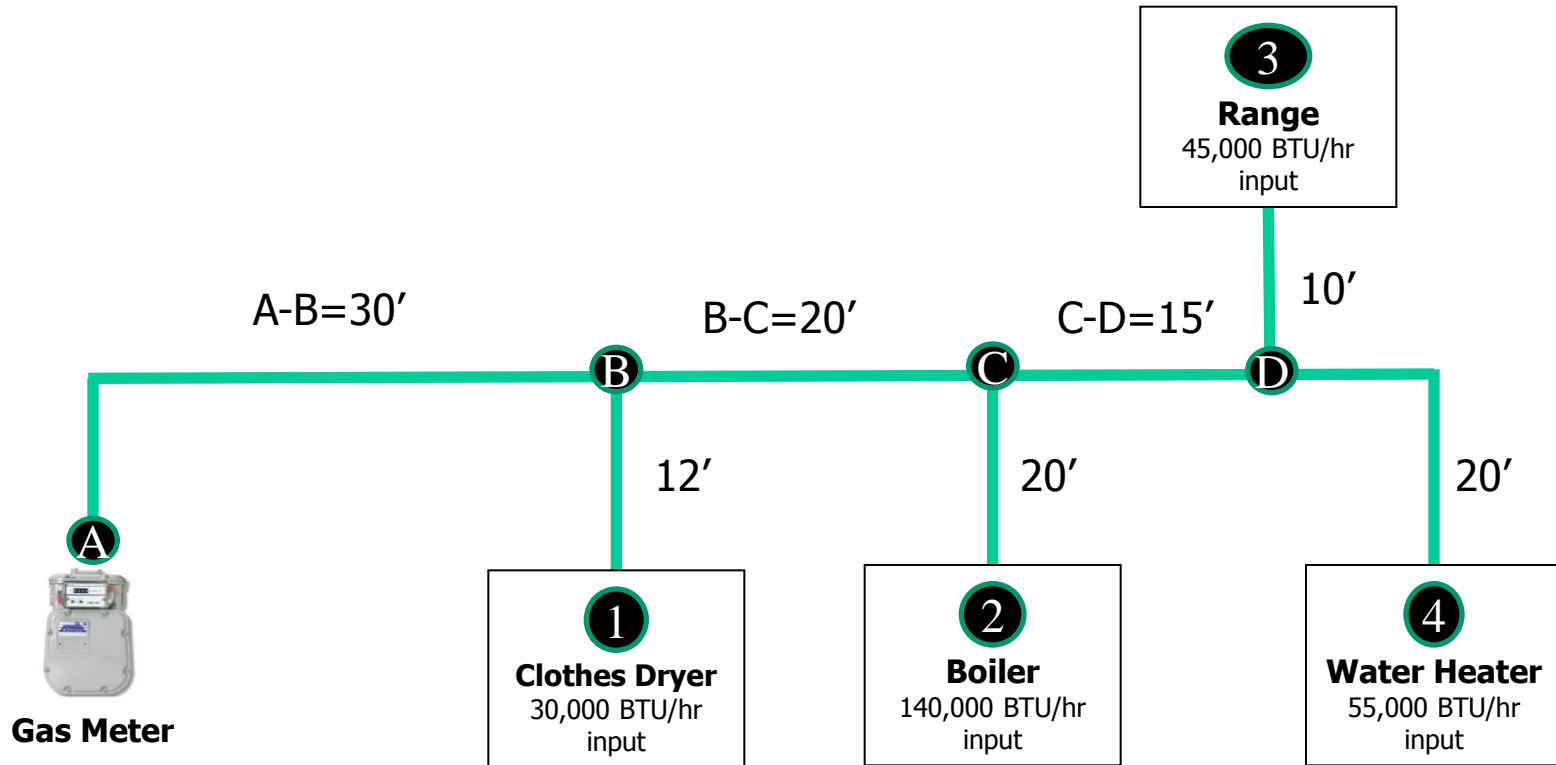
**THIS QUICK TUTORIAL
WILL GUIDE YOU
THROUGH THE STEPS
ON GAS PIPE SIZING
USING NFPA 54 THE
LONGEST RUN METHOD**

Natural Gas Pipe Sizing

Longest Length Method

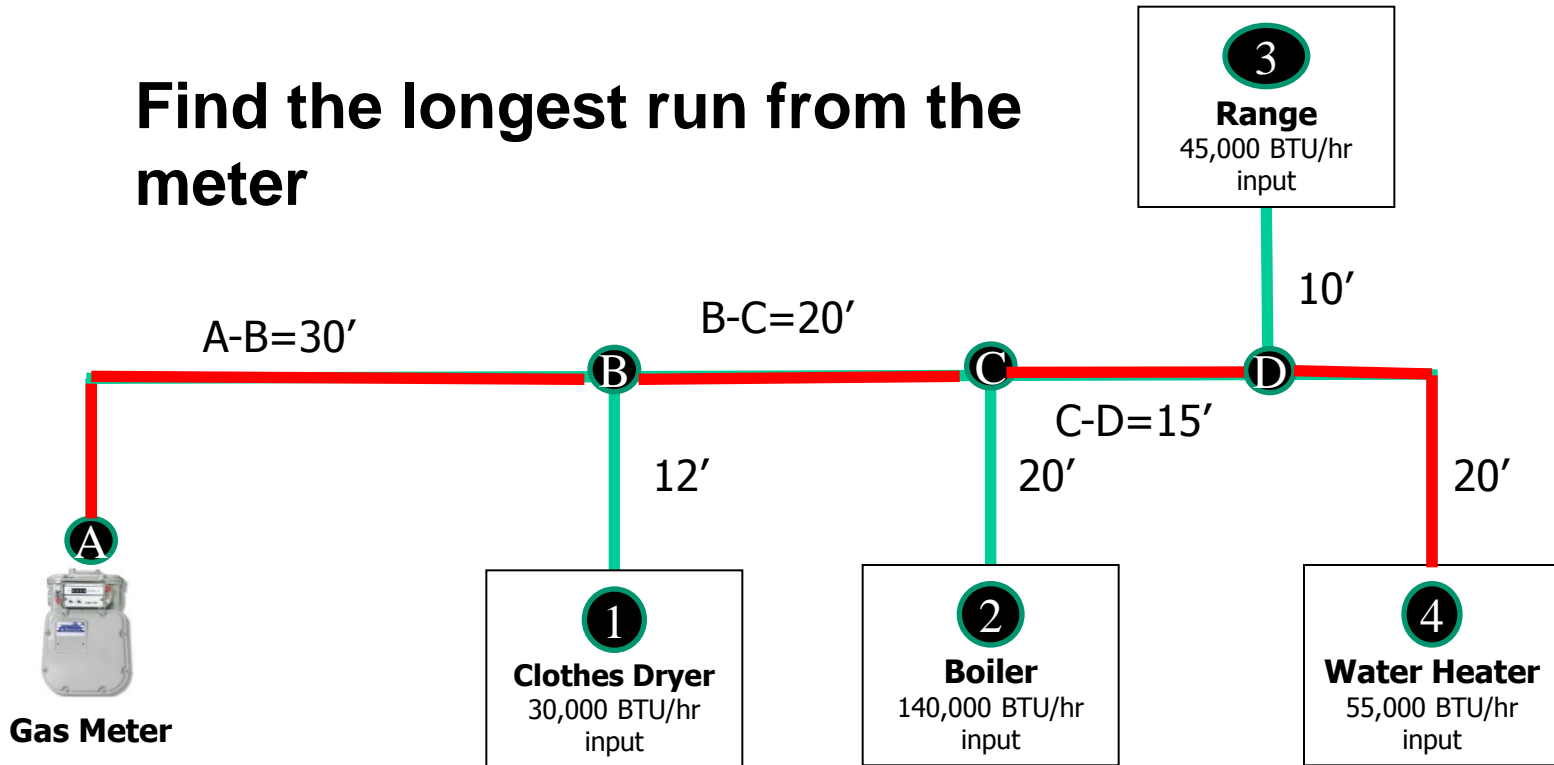
The Longest Length Method:

- Add all segments of the piping to each appliance to determine the longest run. In this example the run to the water heater is the longest at 85'. On table 4 page 11 the 90' row is the next highest value that will cover the length of this run. We will use this row to size each segment of the system.
- Add BTU input for all appliances in the system to determine maximum load.
- Section A/B = 270,000 BTU/hr input. Use table 4 - 90' row. The 320 value will cover the **210,000** load on this segment following this column to the top, 1.25 will be the correct pipe size.
- Section B/C carries 240,000 BTU/hr after we subtract the Clothes Dryer. In table 4 – 90' row the 320 is still needed to cover this load and following this column to the top 1.25 will be the pipe size.
- Section C/D carries 100,000 BTU/hr after subtracting the Boiler. In table 4 – 90' row 160 is needed to cover this load and following the column to the top 1" will be the pipe size.
- Each branch will be sized to the Table 4 90' row. Branch 1, 30,000 BTU/hr will need .5". Branch 2, 80,000 BTU/hr will need .75". Branch 3, 45,000 will need .75" pipe. Branch 4 will need .75" pipe.



NOTICE The methods used above and additional information can be found in NFPA 54, National Fuel Gas Code.

Find the longest run from the meter



After adding the piping sections we learn that the **Water Heater** is a total of **85'** from the meter, longer than the **75'** run to the **Range**.

Natural Gas Pipe Sizing

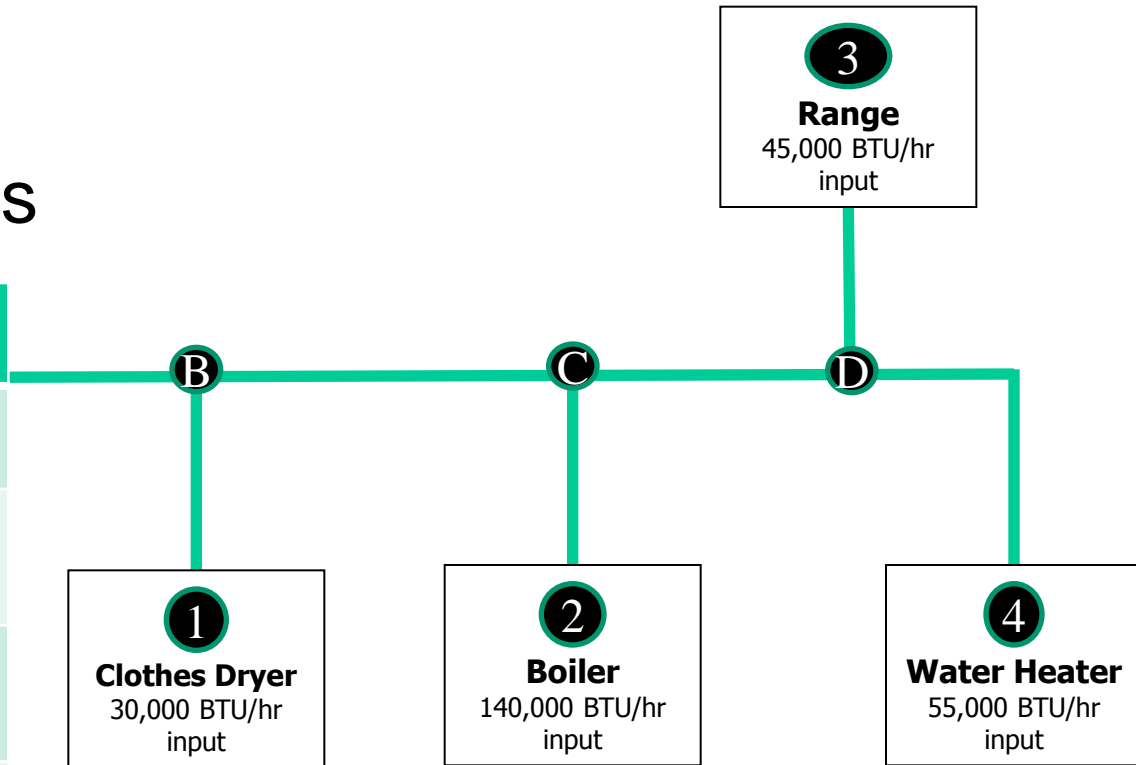
Longest Length Method

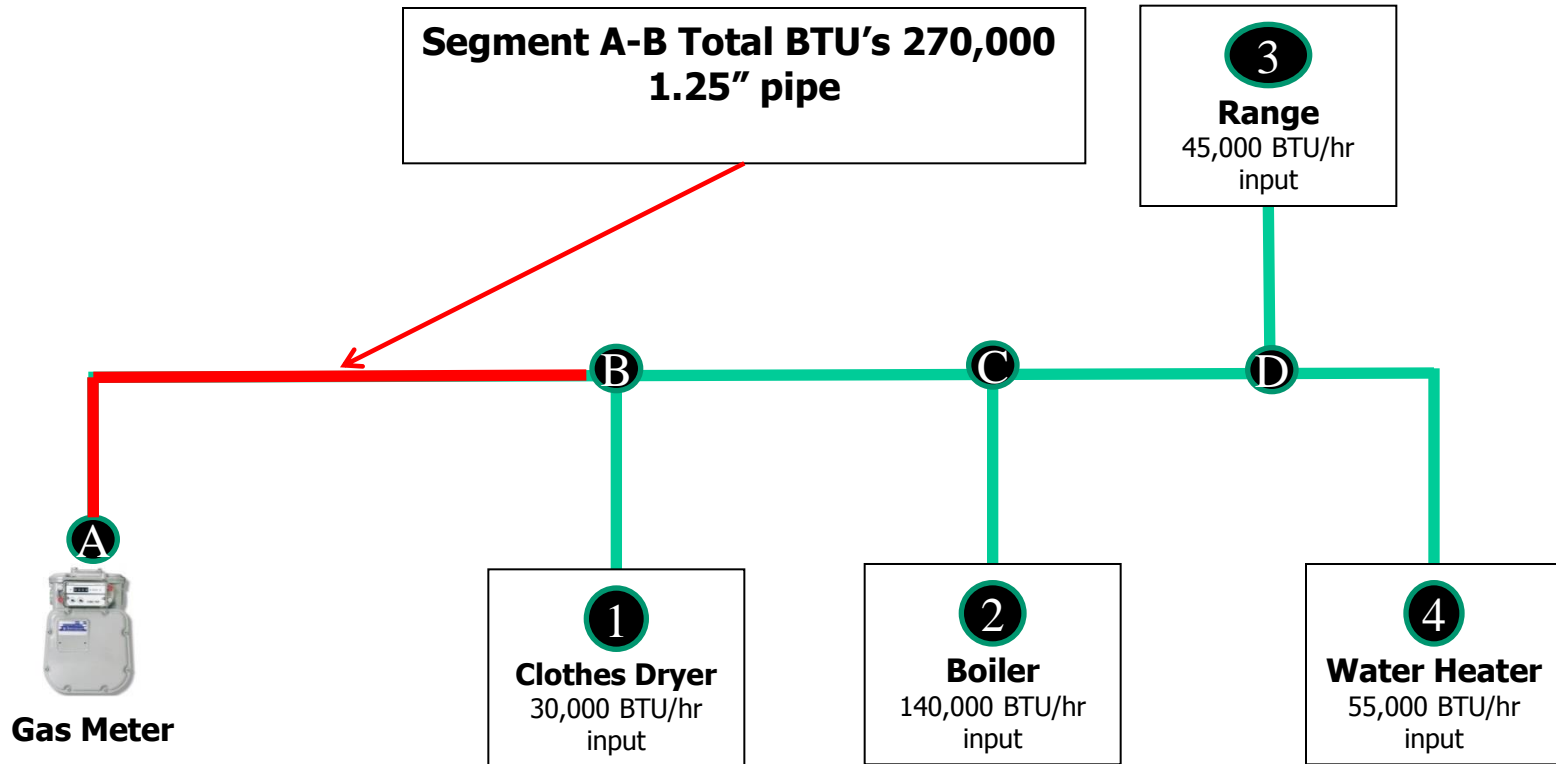
Select row according to longest run

Pipe Length (ft.)	0.5" IPS	.75" IPS	1.0" IPS	1.25" IPS	1.50" IPS
10	132	278	520	1050	1600
20	92	190	350	730	1100
30	73	152	285	590	890
40	63	130	245	500	760
50	56	115	215	440	670
60	50	105	195	400	610
70	46	96	180	370	560
80	43	90	170	350	530
90	40	84	160	320	490
100	38	79	150	305	460
110	34	72	130	275	410
120	31	64	120	250	380
150	28	59	110	225	350

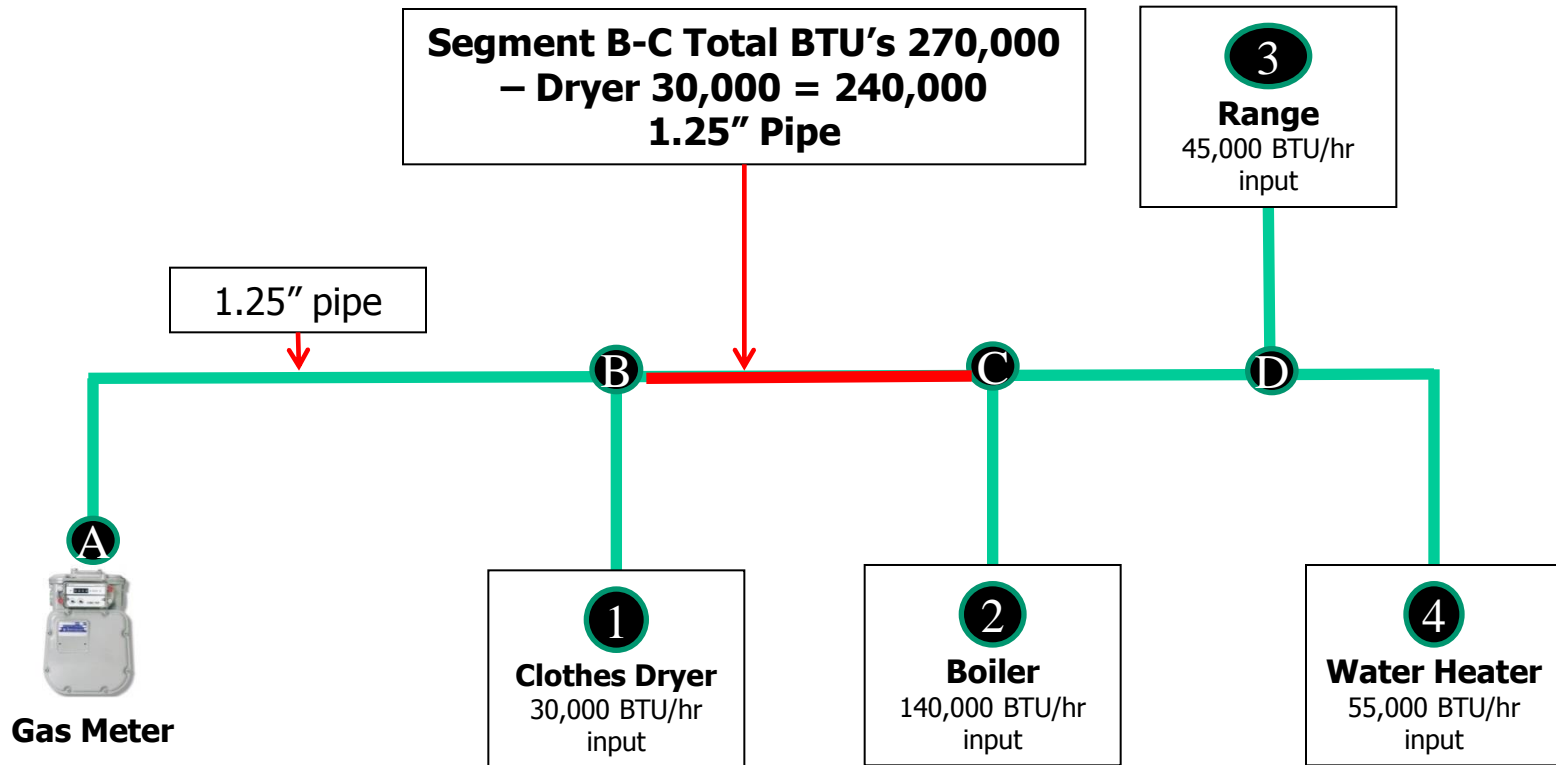
Total up all loads

Load	BTUH
1-Dryer	30,000
2-Boiler	140,000
3-Range	45,000
4-Water Heater	55,000
Total	270,000

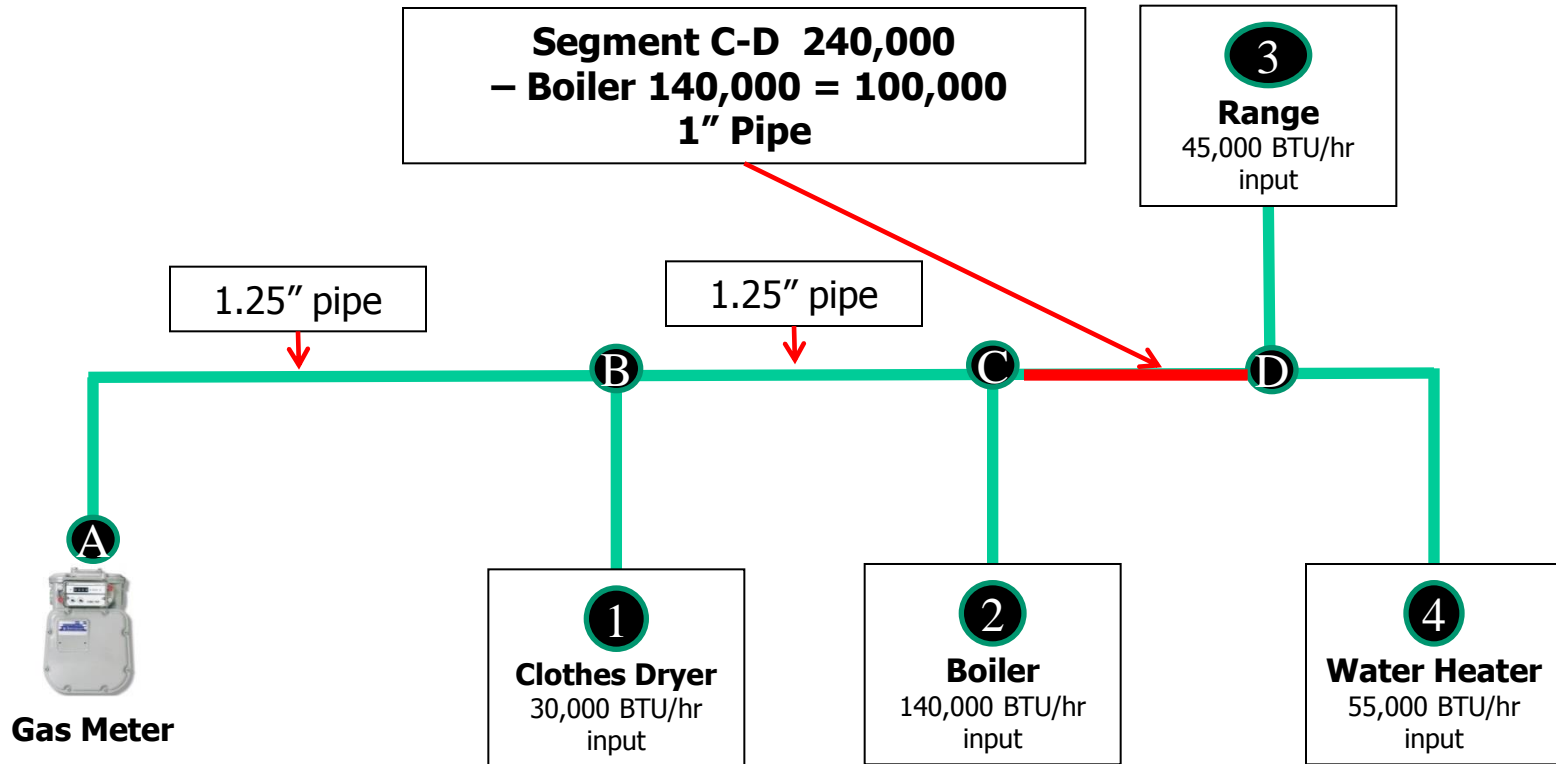




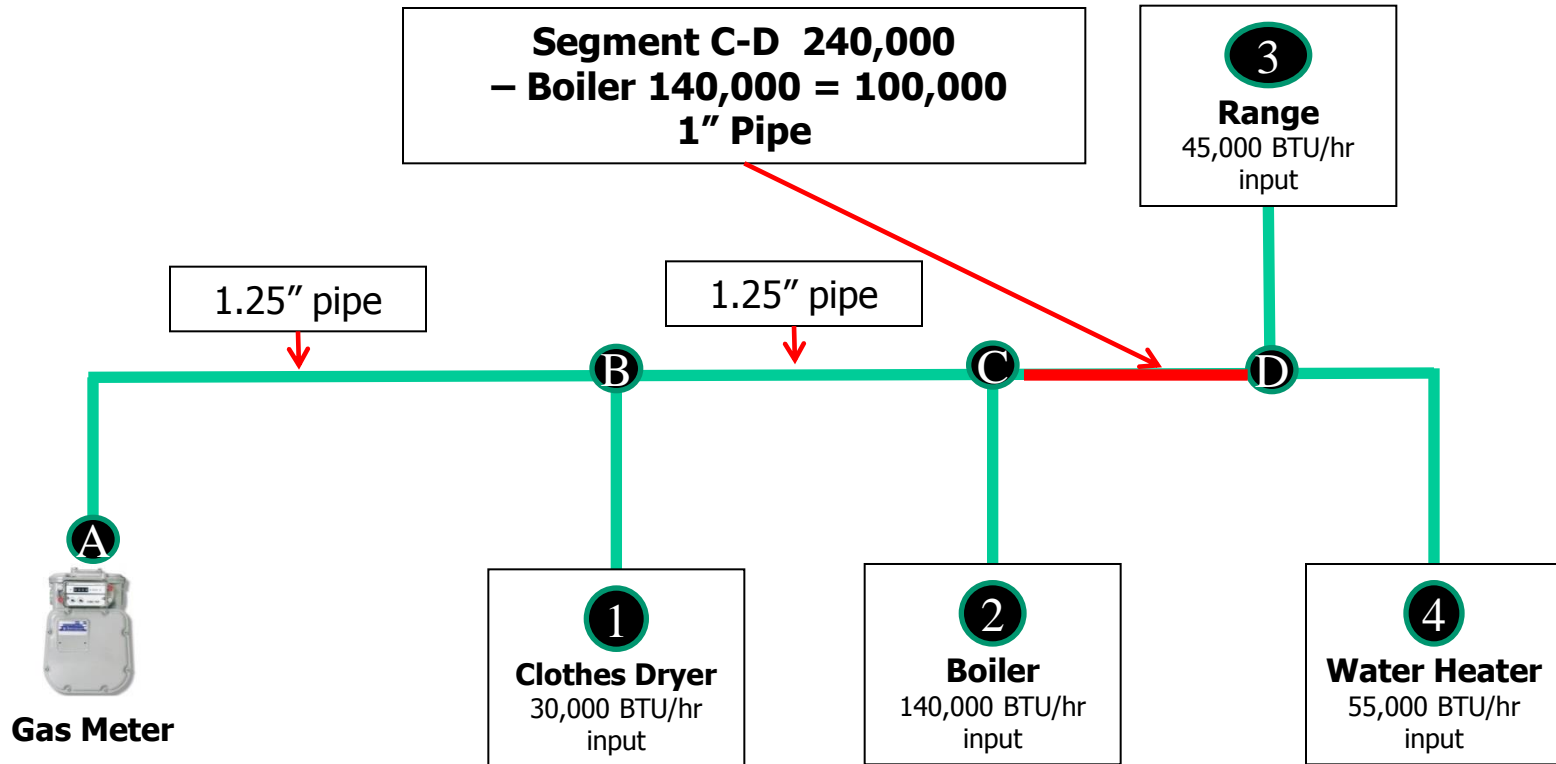
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90	40	84	160	320	490



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