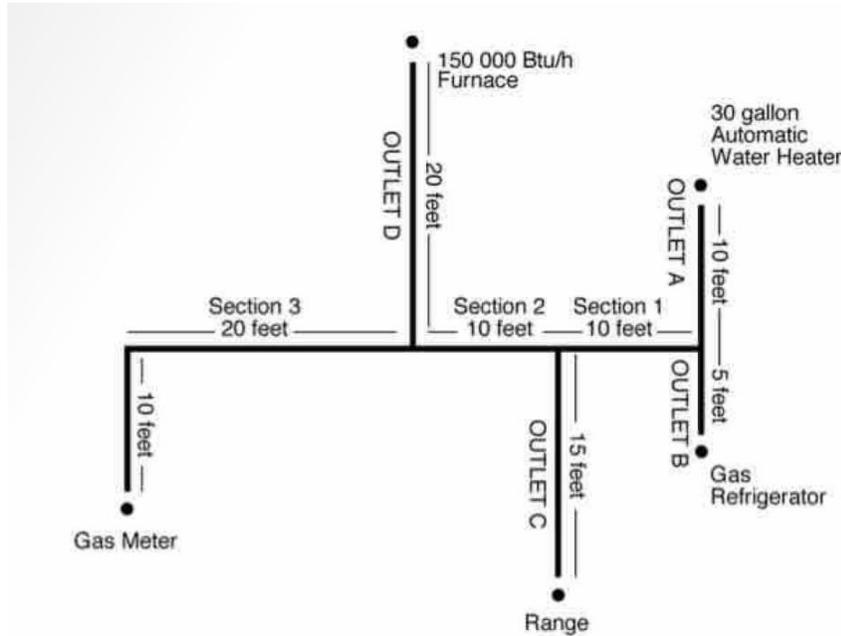




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GAS PIPE CALCULATION Informational Handout



Procedure for determining the size of each section of pipe per CPC- Figure 1315.1.1

1. Measure the length to the most remote outlet. In this case it's the water heater. The length of branch Section 3, 2, 1 and Outlet A is 10+20+10+10+10=60
2. Select length in table 1315.2(1) that is equal to or greater than 60' use 60'.
3. The size of all sections of pipe in the main branch will be determined using the same row table
4. Convert Btu to cfh as follows: 1,100 Btu= 1 cfh

A portion of Table 1315.2(1) for sch 40 metallic pipe is shown below

| Length (ft) | Pipe Size (Inch) | | | | |
|-------------|--------------------------|------------|------------|--------|--------|
| | 1/2" | 3/4" | 1" | 1-1/4" | 1-1/2" |
| | Capacity in cubic Ft/Hr. | | | | |
| 50 | 72 | 151 | 284 | 583 | 873 |
| 60 | 65 | 137 | 257 | 528 | 791 |
| 70 | 60 | 126 | 237 | 486 | 728 |
| 80 | 56 | 117 | 220 | 452 | 677 |

Outlet A has 32 cfh, 1/2" pipe required

Section 1 has 35 cfh, 1/2" pipe required

Section 2 has 94 cfh, 3/4" pipe required

Section 3 has 230 cfh, 1" pipe required

5. Subsequent branches not previously sized are determined similarly based on the distance from the meter

Outlet B has 3 cfh, distance = 55', use 60' row, 1/2" pipe required

Outlet C has 59 cfh, distance = 55', use 60' row, 1/2" pipe required

Outlet D has 136 cfh, distance = 50', use 50' row, 3/4" pipe required

Table 1308.4.1, Approximate Gas Input for Typical Appliances

| Appliance | Input (Btu/h approx.) |
|---|--------------------------|
| Space Heating Units | |
| Warm Air Furnace | |
| Single family | 100,000 |
| Multifamily, per unit | 60,000 |
| Hydroponic boiler | |
| Single family | 100,000 |
| Multifamily, per unit | 60,000 |
| Space and Water Heating Units | |
| Hydroponic Boiler | |
| Single family | 120,000 |
| Multifamily, per unit | 75,000 |
| Water Heating Appliances | |
| Water heater, automatic storage 30-to-40-gallon tank | 35,000 |
| Water heater, automatic storage 50-gallon tank | 50,000 |
| Water heater, automatic instantaneous | |
| Capacity at 2 gallons per minute | 142,800 |
| Capacity at 4 gallons per minute | 285,000 |
| Capacity at 6 gallons per minute | 428,400 |
| Water heater, domestic, circulating, or side-arm | 35,000 |
| Cooking Appliances | |
| Range, freestanding, domestic | 65,000 |
| Built-in oven or broiler unit, domestic | 25,000 |
| Built-in top unit, domestic | 40,000 |
| Other Appliances | |
| Refrigerator | 3,000 |
| Clothes dryer, Type 1 (domestic) | 35,000 |
| Gas fireplace direct vent | 40,000 |
| Gas log | 80,000 |
| Barbecue | 40,000 |
| Gaslight | 2,500 |