

## General Information

A permit is required when installing new gas piping or when altering an existing gas line. Plans may not be required; however, gas-sizing calculations are required to verify that the gas piping is sized per the minimum code requirements. Refer to the sample below for sizing calculations. These should be made available at the time of inspection.

## Installation Requirements

Gas piping systems shall be designed and installed to meet the minimum standards set forth in Chapter 12 of the 2022 California Plumbing Code.

### Materials Allowed

- Wrought iron or steel (galvanized or black)
- PE pipe may be used in exterior buried piping systems
- CSST may be used within buildings (certification is required for the installation of this product)

### Underground Piping

Metallic gas piping shall have 12 inches of earth cover and protected from corrosion by approved coatings. PE gas piping shall have 18 inches of earth cover with a number 18 copper tracer wire terminating above grade at each end.

***Gas piping is not allowed underground below any building or structure unless specifically approved by the Building Department.***

## Final Gas Piping Inspection

Upon approval of *Rough Piping Inspection* and after piping is concealed a gas pressure test must be performed. The test pressure shall be no less than 1-1/2 times the maximum working pressure, but not less than **10 pounds per square inch**. The test must hold for at least **15 minutes** with no perceptible drop in pressure. For welded piping and higher gas pressures, the test pressure shall not be less than 60 lbs and the test must hold at least **30 minutes**. **Pipe size 2 inches and larger shall be tested with a recording device for a period of 24 hours.**

# Gas Piping Sizing

## SAMPLE SIZING CHART

1. Furthest outlet:  $23+12+25+5+30 = 95'$

>> Use 100' column Table 12-7

2. Sizing pipe for demand per 100' column:

(D) 35 CFH =  $\frac{1}{2}"$

(1)  $35 + 50 = 85$  CFH =  $\frac{3}{4}"$

(2)  $85 + 25 = 110$  CFH =  $1"$

(3)  $110 + 65 = 175$  CFH =  $1"$

(4)  $175 + 50 + 130 = 355$  CFH =  $1\frac{1}{4}"$

Meter: Use  $1\frac{1}{2}"$  or  $2"$

3. Sizing branches by length of run:

Dryer (furthest – see above)

BBQ (50 cfh; 100') =  $\frac{1}{2}"$

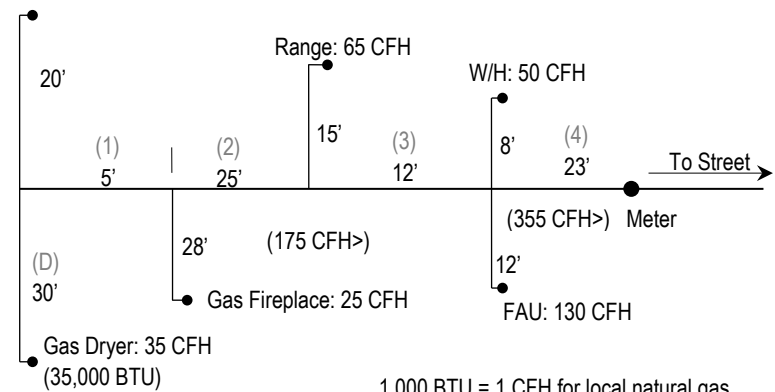
Fplc (25 cfh; 100') =  $\frac{1}{2}"$

Range (65 cfh; 100') =  $\frac{3}{4}"$

W/H (50 cfh; 100') =  $\frac{1}{2}"$

FAU (130 cfh; 100' 40") =  $1"$

Gas BBQ: 50 CFH



1,000 BTU = 1 CFH for local natural gas

**Table A**  
**Minimum Demand of Typical Gas Appliances in BTU's**

Appliance	Demand in BTU/hour
Gas Barbeque (Residential)	50,000
Domestic Clothes Dryer	35,000
Domestic Gas Range	65,000
Domestic Gas Oven	25,000
Fireplace Gas Log (Residential)	25,000
Gas Refrigerator	3,000
30 Gallon Tank Gas Water Heater	30,000
40 to 50 Gallon Tank Gas Water Heater	50,000

**Table B**  
**Size of Gas Piping (Low Pressure) CFH**

Based 2022 California Plumbing Code (CPC)

Pipe Size (inches)	Maximum Length of Pipe Section (feet)													
	10	20	30	40	50	60	70	80	90	100	125	150	175	200
$\frac{1}{2}$	172	118	95	81	72	65	60	56	52	50	44	40	37	34
$\frac{3}{4}$	360	247	199	170	151	137	126	117	110	104	92	83	77	71
<b>1</b>	678	466	374	320	284	257	237	220	207	195	173	157	144	134
<b>1 ¼</b>	1,390	957	768	657	583	528	486	452	424	400	355	322	296	275
<b>1 ½</b>	2,090	1,430	1,150	985	873	791	728	677	635	600	532	482	443	412

1. Maximum delivery capacity of cubic feet of gas per hour (CFH) of IPS pipe carrying natural gas of 0.60 specific gravity, based on a pressure drop 0.5 inch water column.

10,000 BTU = 10 CFH

2.  $\frac{1}{2}"$  and  $\frac{3}{4}"$  pipe is most common residential size (**bold**), with  $1"$  to  $1\frac{1}{4}"$  at the meter. May install larger meter to allow for future pool heater.