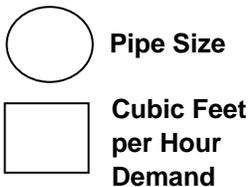
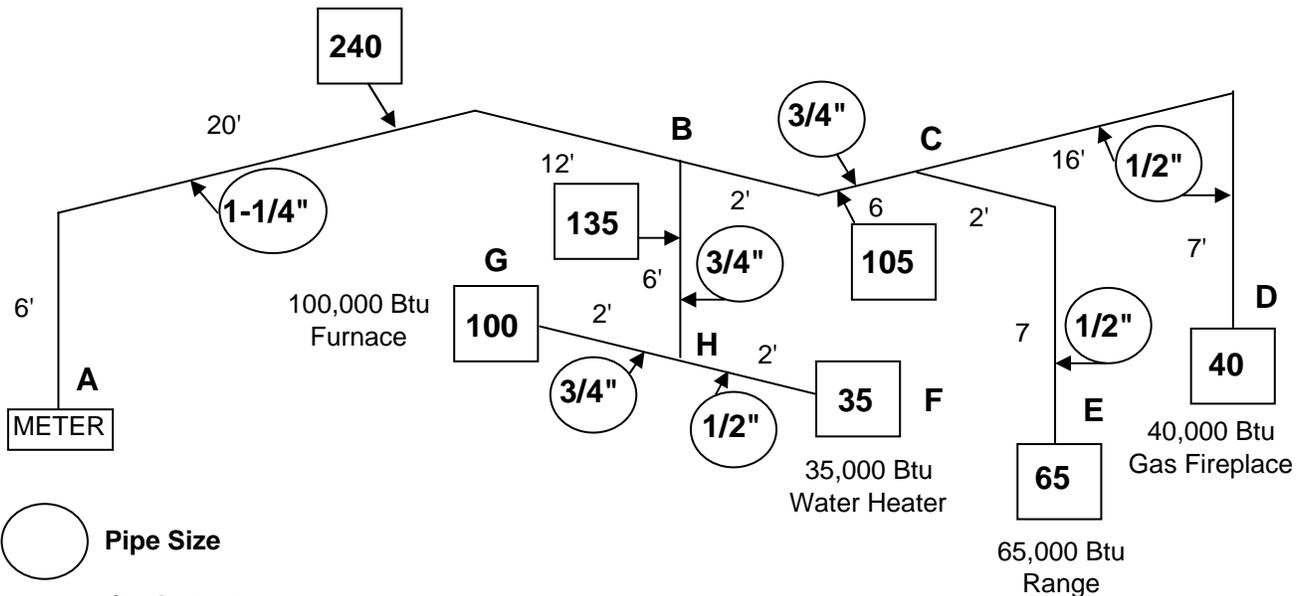


Gas Pipe Sizing

2007 California Plumbing Code, Section 1217



Procedure for determining the size of each section of pipe per CPC 1217.2

1. Measure the length to the most remote outlet. In this case it's the gas fireplace. The length of branch A,B,C & D is 6+20+12+2+6+16+7=69 feet.
2. Select the length in Table 12-8 that is equal to or greater than 69', use 70'.
3. The size of all sections of pipe in the main branch will be determined using the same row in the table.

Notes:

1. Use Table 12-1 for gas input values of typical appliances.
2. Use Table 12-8. Table 12-7 is being eliminated in the next code cycle.
3. Convert Btu to cfh as follows; 1,000 Btu = 1 cfh (per PG&E)

A portion of Table 12-8 for Sch 40 Metallic Pipe is shown below

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

Use this row for all sections on the main branch line →

Branch C-D has 40 cfh, 1/2" pipe required
 Branch B-C has 105 cfh, 3/4" pipe required
 Branch A-B has 240 cfh, 1-1/4" pipe required

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

Branch C-E has 65 cfh, distance= 55', use 60' row, 1/2" pipe required
 Branch B-F has 35 cfh, distance = 46', use 50' row, 1/2" pipe required
 Branch B-G has 100 cfh, distance = 46', 3/4" pipe required
 Branch B-H has 135 cfh, distance =44', 3/4" pipe required

**Table 12-8 (portion)
Schedule 40
Metallic Pipe**

		Gas		Natural			
		Inlet Pressure		Less than 2 psi			
		Pressure Drop		0.5 in. w.c.			
		Specific Gravity		0.60			
		Pipe Size (in.)					
Nominal:	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2
Actual ID:	0.622	0.824	1.049	1.38	1.61	2.067	2.469
Length (ft)	Capacity in Cubic Feet of Gas per Hour						
10	172	360	678	1,390	2,090	4,020	6,400
20	118	247	466	957	1,430	2,760	4,400
30	95	199	374	768	1,150	2,220	3,530
40	81	170	320	657	985	1,900	3,020
50	72	151	284	583	873	1,680	2,680
60	65	137	257	528	791	1,520	2,430
70	60	126	237	486	728	1,400	2,230
80	56	117	220	452	677	1,300	2,080
90	52	110	207	424	635	1,220	1,950
100	50	104	195	400	600	1,160	1,840
125	44	92	173	355	532	1,020	1,630
150	40	83	157	322	482	928	1,480
175	37	77	144	296	443	854	1,360
200	34	71	134	275	412	794	1,270
250	30	63	119	244	366	704	1,120

Table 12-1, Approximate Gas Input for Typical Appliances

Appliance	Input Btu/h.	Appliance	Input Btu/h.
Space Heating Units		Cooking Appliances	
Warm air furnace		Range, freestanding, domestic	65,000
Single family	100,000	Built-in oven or broiler unit, domestic	25,000
Multifamily, per unit	60,000	Built-in top unit, domestic	40,000
Hydronic boiler		Other Appliances	
Single family	100,000	Refrigerator	3,000
Multifamily, per unit	60,000	Clothes dryer, Type 1 domestic	35,000
Space-and Water-Heating		Gas fireplace direct vent	40,000
Hydronic boiler		Gas log	80,000
Single family	120,000	Barbeque	40,000
Multifamily, per unit	75,000	Gaslight	2,500
Water-Heating Appliances			
Water heater, automatic storage 30 to 40 gallon	35,000		
storage 50 gallon	50,000		
Water heater, instantaneous			
Capacity at 2 gal./min.	142,800		
Capacity at 4 gal./min.	285,000		
Capacity at 6 gal./min.	428,400		