

ELECTRIC BRANCH CIRCUIT/GAS PIPE SIZING

GAS SPA HEATERS				
BTU (1000)	CFH (BTU/BT per cubic foot- specified by your utility provider)			
	1000	1050	1100	1150
GAS BBQ 50	50	48	45	43
150	150	143	136	130
200	200	190	182	174
250	250	238	227	217
300	300	286	273	261
350	350	333	318	304
400	400	381	364	348

EXCERPT FROM GAS PIPE SIZING TABLE 1216.2 (1)					
Length in feet	Pipe Size, inches- Actual ID				
	½" - 0.622	¾" - 0.824	1" - 1.049	1 ¼" - 1.380	1 ½" - 1.610
	Cubic Feet Per Hour (CFH)				
10	172	360	678	1,390	2,090
20	118	247	466	957	1,430
30	95	199	374	768	1,150
40	81	170	320	657	985
50	72	151	284	583	873
60	65	137	257	528	791
70	60	126	237	486	728
80	56	117	220	452	677
90	52	110	207	424	635
100	50	104	195	400	600
125	44	92	173	355	532
150	40	83	157	322	482
175	37	77	144	296	443

ELECTRIC BRANCH CIRCUIT						
KVA (Watts)	120 Volts			220 Volts		
	Amps (kVA/V)	Min. Breaker Size	Min. Wire 1 / Conduit Size 2	Amps (kVA/V)	Min. Breaker Size	Min. Wire 1 / Conduit Size 2
5	42	50	2#6+1#10grd/ ¾"	23	30	3#10+1#10grd/ ½"
5.5	46	50	2#6+1#10grd/ ¾"	25	30	3#10+1#10grd/ ½"
6	50	50	2#6+1#10grd/ ¾"	27	30	3#10+1#10grd/ ½"
6.5	54	60	2#6+1#10grd/ ¾"	30	30	3#10+1#10grd/ ½"
7	58	60	2#4+1#10grd/1"	32	40	3#8+1#10grd/ ¾"
7.5	63	70	2#4+1#8grd/1"	34	40	3#8+1#10grd/ ¾"
8	67	70	2#4+1#8grd/1"	36	40	3#8+1#10grd/ ¾"
8.5	71	80	2#3+1#8grd/1"	39	40	3#8+1#10grd/ ¾"
9	75	80	2#3+1#8grd/1"	41	50	3#6+1#10grd/ ¾"
9.5	79	80	2#3+1#8grd/1"	43	50	3#6+1#10grd/ ¾"
10	83	90	2#3+1#8grd/1"	45	50	3#6+1#10grd/ ¾"
10.5	88	90	2#2+1#8grd/1 ¼"	48	50	3#6+1#10grd/ ¾"
11	92	100	2#2+1#8grd/1 ¼"	50	50	3#6+1#10grd/ ¾"
11.5	96	100	2#1+1#8grd/1 ¼"	52	60	3#6+1#10grd/ ¾"
12	100	100	2#1+1#8grd/1 ¼"	55	60	3#6+1#10grd/ ¾"

Gas & Electric Handout

MINIMUM BURIAL DEPTHS					NOTES	
	Electrical Conduit \varnothing^3				Gas Piping ⁴	
	Rigid Metal Conduit	Rigid Non-Metallic Conduit	Residential $\leq 120V$ & 20A w/GFCI	$\leq 30 V$ (Irrigation & Lighting)	Metal	PVC/PE
Unless specified	6"	18"	12"	6"	12"	18"
2" concrete in trench	6"	12"	6"	6"		
Under 6" ext. slab	4"	4"	4"	4"		

NOTES

- Based on the California Electrical Code (CEC) Table 310.15 (B) (16) for equipment terminals rated 60°C for terminals rated at 75°C on equipment rated at 100 Amps or greater, see Table 310.15 (B)(16) for alternate acceptable wire sizes.
- Based on the CEC, Annex C, Table C9, using a minimum THWN type wire insulation + PVC conduit.
- Based on the CEC 300.5.
- Based on the California Plumbing Code (CPC) Section 1210.1.1
- CPC Section 1210.1.6 requires no gas piping shall be installed in or on the ground under any building or structure and all exposed gas piping shall be kept at least 6 inches above grade or structure.
- CPC Section 1210.1.7.1 connections between metallic and plastic pipe be made only with ASTM D2513 Category I transition fittings.
- CPC Section 1210.1.7.2 requires an insulated 14 gauge copper trace wire with plastic gas pipe with one end terminating above grade.
- Listed gas appliances shall be installed per the manufacturer's installation instructions.



