

Table 4.... Btuh Capacities and CFM of 6-Inch Feeder Ducts in Perimeter-Radial Systems in Concrete Slab Floors

Section A. For Side-Wall and Floor Diffusers

Bonnet Pressure 0.15 in. Static

Bonnet Temperature 170 F

No. of Elbows	Capacity	Actual Length of Pipe from Bonnet to Diffuser—Feet															
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	Btuh Cfm										8700 127.7	8060 124.8	7460 122.3	6920 119.7	6430 117.4	5960 115.0	5550 113.0
1	Btuh Cfm									8620 122.8	8000 117.6	7430 115.3	6900 113.0	6400 111.0	5930 109.0	5500 107.3	5100 105.0
2	Btuh Cfm								8600 118.5	7960 116.2	7390 114.0	6860 112.0	6380 110.0	5940 107.8	5530 106.0	5150 104.5	4800 103.0
3	Btuh Cfm							8640 114.0	8020 112.0	7450 110.0	6950 108.2	6460 106.5	6020 104.7	5600 103.0	5200 101.4	4850 99.6	4500 98.0
4	Btuh Cfm					8760 110.2	8160 108.4	7580 106.6	7050 105.0	6540 103.0	6080 101.5	5640 100.2	5250 99.0	4880 97.5	4550 96.0	4250 94.5	
5	Btuh Cfm				8850 106.8	8250 105.0	7670 103.5	7140 102.0	6640 100.5	6170 99.0	5740 97.5	5340 96.0	4960 94.6	4620 93.4	4290 92.0	3990 91.0	
6	Btuh Cfm			9050 104.0	8420 102.5	7840 100.7	7280 99.2	6750 97.8	6300 96.5	5850 95.2	5440 94.0	5060 92.6	4700 91.4	4370 90.0	4060 88.7	3760 87.5	

For Equivalent Length Values used and included in calculating this table are: Diffuser and Boot = 40 ft; Plenum Take-off = 20 ft; Each Elbow = 14 ft. For each additional 14 ft equivalent length of boot and diffuser, count one additional elbow.

All cfm values are based on standard air.

Section B. For Baseboard Diffusers Only

Bonnet Pressure 0.15 in. Static

Bonnet Temperature 170 F

No. of Elbows	Capacity	Actual Length of Pipe from Bonnet to Diffuser—Feet															
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	Btuh Cfm						8570 109.0	8000 107.2	7450 105.5	6910 103.7	6420 102.0	5960 100.4	5560 98.8	5150 97.5	4800 96.1	4450 94.8	4160 93.5
1	Btuh Cfm				8700 105.5	8100 104.0	7550 102.3	7000 100.7	6520 99.2	6060 97.6	5630 96.2	5250 95.0	4860 93.6	4530 92.3	4220 91.1	3930 90.0	
2	Btuh Cfm			8890 102.8	8270 101.3	7700 99.8	7160 98.2	6660 96.7	6200 95.3	5750 94.0	5350 92.7	4980 91.5	4620 90.2	4300 89.0	4000 87.8	3700 86.5	
3	Btuh Cfm		8440 98.4	7870 96.8	7320 95.3	6820 93.9	6350 92.5	5880 91.3	5460 90.0	5070 88.9	4700 88.0	4350 86.9	4020 85.8	3710 84.7	3440 83.5		
4	Btuh Cfm		8690 95.8	8080 94.4	7500 93.0	6980 91.6	6500 90.3	6030 89.0	5580 87.8	5180 86.7	4800 85.7	4450 84.6	4120 83.7	3820 82.6	3520 81.6	3250 80.5	
5	Btuh Cfm	8940 93.4	8320 92.2	7740 91.0	7200 89.8	6680 88.5	6190 87.3	5720 86.2	5280 85.0	4920 83.8	4550 82.8	4220 81.7	3890 80.8	3600 79.9	3350 79.0	3100 78.0	
6	Btuh Cfm	8580 90.0	7960 89.8	7380 88.6	6850 87.5	6350 86.5	5880 85.5	5440 84.2	5040 83.1	4660 82.0	4320 80.9	4000 80.0	3670 79.0	3400 78.0	3150 77.3	2930 76.5	

The Equivalent Length Values used and included in calculating this table are: Diffuser and Boot = 100 ft; Plenum Take-off = 20 ft; Each Elbow = 14 ft. For each additional 14 ft equivalent length of boot and diffuser count one additional elbow.

All cfm values are based on standard air.

Table 5.... Btuh Capacities and Cfm of Individual Ducts in Perimeter Systems Used in Crawl-Space or Basement Construction

Section A. For 5-Inch Individual Round Pipe and for Side-wall, Floor, and Baseboard Diffusers

Bonnet Pressure 0.15 in. Static

Bonnet Temperature 170 F

No. of Elbows		Actual Length of Pipe from Bonnet to Diffuser—Feet															
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	Btuh Cfm																
1	Btuh Cfm																
2	Btuh Cfm																
3	Btuh Cfm																
4	Btuh Cfm																
5	Btuh Cfm																
6	Btuh Cfm																

The Equivalent Length Values used and included in calculating this table are: Diffuser and Boot = 35 ft; Plenum Take-off = 15 ft; Each Elbow = 12 ft. For each additional 12 ft equivalent length of boot and diffuser count one additional elbow.

All cfm values are based on standard air.

Section B. For 6-Inch Individual Round Pipe and for Side-wall and Floor Diffusers

Bonnet Pressure 0.15 in. Static

Bonnet Temperature 170 F

No. of Elbows		Actual Length of Pipe from Bonnet to Diffuser—Feet															
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
0	Btuh Cfm																
1	Btuh Cfm																
2	Btuh Cfm																
3	Btuh Cfm																
4	Btuh Cfm																
5	Btuh Cfm																
6	Btuh Cfm																

The Equivalent Length Values used and included in calculating this table are: Diffuser and Boot = 40 ft; Plenum Take-off = 20 ft; Each Elbow = 14 ft. For each additional 14 ft equivalent length of boot and diffuser count one additional elbow.

All cfm values are based on standard air.

and subject to limitations of: 1,000 to 1,200 sq ft maximum area, not more than approximately 15 ft along perimeter between diffusers, and no radial duct substantially longer than 20 ft, is the following:

1. Calculate the heat loss of each room or area using the method explained in Chapter 25 of the 1961 GUIDE AND DATA

BOOK. For subfloor and edge losses, see Manual J* of the National Warm Air Heating and Air Conditioning Association.

2. Determine the required furnace-bonnet capacity from the heat loss of the building.

3. Locate the diffusers on the plan. Allow at least one diffuser for each exposed wall in each room or area of the building and preferably beneath window areas. For residential installations, limit each diffuser to a maximum of 7,000 Btuh.