

TABLE 3. SECOND STORY WARM-AIR DUCTS—SINGLE WALL STACKS AND FITTINGS

UNIT No.	LEADER PIPE DIAMETER, IN.	STACK SIZE, IN.	REGISTER SIZE, IN.			
			Floor	Baseboard		Sidewall
				Size	Extension	
11	8	10 x 3 1/4	8 x 10	10 x 8	2 1/4	10 x 8
12	9	12 x 3 1/4	8 x 12	12 x 8	2 1/4	12 x 8
13	9	13 x 3 1/4	8 x 14	12 x 8	2 1/4	12 x 8
14	10	14 x 3 1/4	8 x 14	12 x 8	2 1/4	12 x 8
15	12	12 x 5 1/4	-----	12 x 10	3 1/4	-----
16	12	14 x 5 1/4	-----	13 x 11	3 1/4	-----

^bRecommended stack sizes. Tables may also be applied to 3 in. and 3 1/2 in. stack depths.

TABLE 4. SECOND STORY WARM-AIR DUCTS—DOUBLE WALL STACKS AND FITTINGS

UNIT No.	LEADER PIPE DIAMETER, IN.	STACK SIZE, IN.		REGISTER SIZE, IN.			
		Internal	External	Floor	Baseboard		Sidewall
					Size	Extension	
21	8	2 1/2 ^c x 10	3 1/8 ^c x 10 3/8	8 x 10	10 x 8	2 1/4	10 x 8
22	8	3 x 10	3 5/8 x 10 5/8	8 x 10	10 x 8	2 1/4	10 x 8
23	9	2 1/2 ^c x 12	3 1/8 ^c x 12 5/8	8 x 12	12 x 8	2 1/4	12 x 8
24	9	3 x 12	3 5/8 x 12 5/8	8 x 12	12 x 8	2 1/4	12 x 8

^cCommercial sizes vary 1/8 in. from values shown.

TABLE 5. RETURN AIR DUCTS

UNIT No.	DUCT DIA. IN.	AREA AT SHOE CONNECTION, Sq. IN.	METAL GRILLE SIZES			WHEN JOIST LINING IS USED ^d		WHEN DUCT IS USED	
			Choose One			No. of Joists Lined	Minimum ^e Depth, In.	Choose One	
			A	B	C				
31	10			8 x 14	10 x 12	1	7	14 x 6	12 x 8
32	12		6 x 30	8 x 24	12 x 14	1	9	22 x 6	16 x 8
33	14	170	8 x 30	10 x 24	14 x 16	1	12	28 x 6	22 x 8
34	16	220	10 x 30	12 x 24		2	8	28 x 8	22 x 10
35	18	280	12 x 30	14 x 24		2	10	36 x 8	28 x 10
36	20	340	14 x 30	18 x 24		2	12.5	36 x 10	30 x 12
37	22	420	18 x 30			2	15.0	42 x 10	36 x 12
						3	10.0	42 x 10	36 x 12
38	24	500	20 x 30			2	18.0	42 x 12	36 x 14
						3	12.0	42 x 12	36 x 14

^dBased on 14 in. space between joists.

^eUse full depth of joist except when joist depth is less than minimum depth required, when pan must be used.

TABLE 6. WARM AIR CARRYING CAPACITY, BTU DELIVERED, FIRST STORY REGISTERS^{a,b,c}
Length of Leader Pipe—in Feet

UNIT No.	4 Ft	6 Ft	8 Ft	10 Ft	12 Ft	14 Ft	16 Ft	18 Ft	20 Ft	22 Ft	24 Ft
1	6,020	5,850	5,680	5,510	5,340	5,170	5,000	4,830	4,660	4,490	4,320
2	7,620	7,400	7,180	6,970	6,760	6,540	6,320	6,110	5,890	5,680	5,460
3	9,400	9,140	8,870	8,600	8,340	8,070	7,800	7,530	7,270	7,010	6,740
4	13,350	12,970	12,590	12,210	11,830	11,450	11,070	10,690	10,320	9,950	9,580
5	17,520	17,020	16,530	16,040	15,550	15,050	14,550	14,080	13,560	13,060	12,560
1	5,850	5,660	5,490	5,330	5,160	5,000	4,840	4,670	4,510	4,340	4,180
2	7,360	7,150	6,940	6,730	6,520	6,320	6,110	5,910	5,700	5,500	5,290
3	9,090	8,840	8,580	8,320	8,060	7,800	7,550	7,290	7,040	6,780	6,520
4	12,910	12,540	12,170	11,800	11,430	11,060	10,690	10,320	9,950	9,580	9,210
5	16,940	16,450	15,990	15,500	15,040	14,550	14,080	13,600	13,120	12,650	12,150
1	5,620	5,460	5,310	5,150	4,990	4,830	4,670	4,510	4,350	4,190	4,030
2	7,120	6,910	6,710	6,510	6,310	6,110	5,900	5,700	5,500	5,300	5,100
3	8,780	8,530	8,280	8,030	7,780	7,530	7,290	7,040	6,800	6,550	6,300
4	12,450	12,100	11,750	11,400	11,050	10,700	10,350	10,000	9,650	9,300	8,950
5	16,360	15,900	15,440	14,970	14,510	14,050	13,600	13,130	12,660	12,200	11,750
1	5,420	5,260	5,110	4,960	4,800	4,650	4,500	4,350	4,190	4,040	3,890
2	6,860	6,660	6,460	6,270	6,080	5,890	5,690	5,500	5,300	5,110	4,910
3	8,460	8,200	7,980	7,760	7,500	7,260	7,020	6,780	6,550	6,310	6,070
4	12,010	11,670	11,330	10,990	10,650	10,310	9,970	9,630	9,290	8,950	8,610
5	15,770	15,320	14,880	14,420	13,980	13,540	13,100	12,650	12,200	11,750	11,310
1	5,240	5,080	4,940	4,790	4,640	4,500	4,350	4,200	4,050	3,910	3,760
2	6,630	6,440	6,250	6,060	5,880	5,690	5,500	5,320	5,130	4,940	4,750
3	8,180	7,950	7,720	7,490	7,260	7,030	6,800	6,560	6,330	6,100	5,860
4	11,610	11,290	10,950	10,620	10,300	9,970	9,640	9,320	8,990	8,660	8,320
5	15,250	14,800	14,380	13,960	13,520	13,090	12,650	12,230	11,800	11,370	10,940

^aTable 6 applies to baseboard and floor locations of warm air registers.

^bConsider each 45 deg elbow as equal to one-half of a 90 deg elbow.

^cConsider each 90 deg offset between boot and stackhead equal to one 90 deg round elbow.