

11.1 VENTING SINGLE APPLIANCE

SIZING OF VENTING SYSTEMS SERVING APPLIANCES EQUIPPED WITH DRAFT HOODS

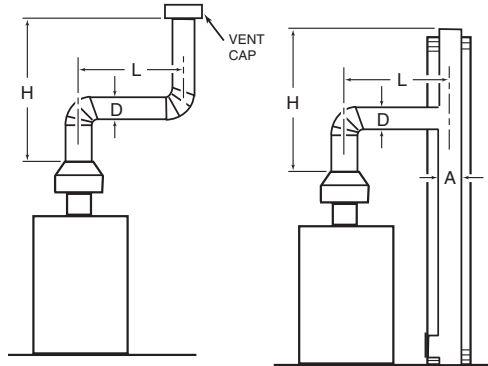


FIGURE 1

Double Wall or Asbestos Cement Type B Vents or Single-Wall Metal Vents Serving a Single Appliance. (See 11.1 and 12.1)

FIGURE 2

Masonry Chimney Serving Single Appliance. (See Table 12.2)

NOTES FOR SINGLE APPLIANCE VENTS  
(See Tables 11.1, 12.1, 12.2)

1. If the vent size determined from the Tables is less than the size of the draft hood, the smaller sized vent may be used as long as the vent height "H" is at least 10 feet.
2. Vents for draft hoods 12 inches in diameter or less should not be reduced more than one size (12 inches to 10 inches is a one-size reduction). For larger gas-burning equipment, reductions of more than two sizes (24 inches to 20 inches is a two-size reduction) are not recommended.
3. Regardless of the vent size shown, do not connect any 4-inch draft hoods to 3-inch vents.
4. "O" Zero lateral "L" applies only to a straight vertical vent attached to a top outlet draft hood.
5. Use sea level input rating when calculating vent size for high altitude installation.
6. Designation "NR" in Tables 11.1, 12.1 & 12.2 indicates not recommended.
7. Number followed by an asterisk (\*) in Tables 12.1 & 12.2 indicate the possibility of continuous condensation, depending on locality. Consult local serving gas supplier and/or local codes.

Table 11.1  
Capacity of Type B Double-Wall Gas Vents when Connected Directly to a Single Draft Hood Equipped Appliance

Height H (ft)	Lateral L (ft)	Vent Diameter - D													
		3"	4"	5"	6"	7"	8"	10"	12"	14"	16"	18"	20"	22"	24"
		Appliance Input Rating in Thousands of Btu per Hour													
6	0	46	86	141	205	285	370	570	850	1170	1530	1960	2430	2950	3520
	2	36	67	105	157	217	285	455	650	890	1170	1480	1850	2220	2670
	4	34	64	103	153	211	279	445	640	880	1160	1475	1835	2215	2660
	6	32	61	100	149	205	273	435	630	870	1150	1470	1820	2210	2650
8	0	50	94	155	235	320	415	660	970	1320	1740	2220	2750	3360	4010
	2	48	75	120	180	247	322	515	745	1020	1340	1700	2110	2560	3050
	5	38	71	115	173	237	313	503	733	1010	1330	1685	2090	2545	3040
	8	35	66	109	165	227	303	490	720	1000	1320	1670	2070	2530	3030
10	0	53	100	166	255	345	450	720	1060	1450	1925	2450	3050	3710	4450
	2	42	81	129	195	273	355	560	850	1130	1480	1890	2340	2840	3390
	5	40	77	124	188	263	346	547	829	1105	1461	1871	2318	2818	3371
	10	36	70	115	175	245	330	525	795	1080	1430	1840	2280	2780	3340
15	0	58	112	187	285	390	525	840	1240	1720	2270	2900	3620	4410	5300
	2	48	93	150	225	216	414	675	985	1350	1770	2260	2800	3410	4080
	5	45	87	142	217	300	403	660	967	1327	1748	2235	2777	3385	4057
	10	41	82	135	208	288	386	635	936	1289	1712	2193	2739	3343	4019
	15	37	76	128	198	275	373	610	905	1250	1675	2150	2700	3300	3980
20	0	61	119	202	307	430	575	930	1350	1900	2520	3250	4060	4980	6000
	2	51	100	166	249	346	470	755	1100	1520	2000	2570	3200	3910	4700
	5	48	96	160	241	337	460	738	1079	1498	1978	2544	3174	3880	4662
	10	44	89	150	228	321	443	710	1045	1460	1940	2500	3130	3830	4600
	20	35	78	134	206	295	410	688	990	1390	1880	2430	3050	3760	4550
30	0	64	128	220	336	475	650	1060	1550	2170	2920	3770	4750	5850	7060
	2	56	112	185	280	394	535	865	1310	1800	2380	3050	3810	4650	5600
	5	54	108	176	273	385	524	851	1289	1775	2350	3020	3783	4622	5552
	10	50	102	171	261	371	507	829	1254	1733	2300	2970	3739	4574	5471
	15	NR	96	163	249	357	490	807	1220	1692	2250	2920	3695	4527	5391
	20	NR	90	154	237	343	473	784	1185	1650	2200	2870	3650	4480	5310
50	0	67	134	232	363	518	708	1195	1825	2550	3440	4460	5635	6940	8430
	2	61	122	206	314	445	615	1010	1513	2125	2840	3670	4630	5695	6860
	5	NR	119	200	308	438	605	996	1495	2102	2813	3639	4597	5654	6818
	10	NR	114	190	298	426	589	972	1466	2064	2767	3585	4542	5585	6749
	20	NR	NR	169	278	401	556	924	1408	1987	2675	3481	4479	5506	6670
	30	NR	NR	NR	259	376	522	876	1349	1910	2631	3431	4421	5444	6603
100	0	NR	NR	NR	400	560	770	1310	2050	2950	4050	5300	6700	8600	10300
	2	NR	NR	NR	375	510	700	1170	1820	2550	3500	4600	5800	7200	8800
	5	NR	NR	NR	369	504	692	1159	1803	2531	3475	4566	5769	7162	8756
	10	NR	NR	NR	361	493	679	1142	1775	2500	3434	4509	5717	7100	8683
	20	NR	NR	NR	344	471	653	1107	1719	2438	3351	4394	5613	6975	8537
	30	NR	NR	NR	NR	449	627	1071	1663	2375	3267	4279	5509	6850	8391

See Figure 1 and Notes for Single Appliance Vents.

# TECHNICAL DATA VENTING

## 12.1

### Capacity of Single-Wall Metal Pipe or Type B Asbestos Cement Vents Serving a Single Draft Hood Equipped Appliance

Height H (ft)	Lateral L (ft)	Vent Diameter - D							
		3"	4"	5"	6"	7"	8"	10"	12"
Maximum Appliance Input Rating in Thousands of Btu per Hour									
6'	0	39	70	116	170	232	312	500	750
	2'	31	55	94	141	194	260	415	620
	5'	28	51	88	128	177	242	390	600
8'	0	42	76	126	185	252	340	542	815
	2'	32	61	102	154	210	284	451	680
	5'	29	56	95	141	194	264	430	648
10'	0	45	84	138	202	279	372	606	912
	2'	35	67	111	168	233	311	505	760
	5'	32	61	104	153	215	289	480	724
15'	0	49	91	151	223	312	420	684	1040
	2'	39	72	122	186	260	350	570	865
	5'	35	67	110	170	240	325	540	825
20'	0	53	101	163	252	342	470	770	1190
	2'	42	80	136	210	286	392	641	990
	5'	38	74	123	192	264	364	610	945
30'	0	56	108	183	276	384	529	878	1370
	2'	44	84	148	230	320	441	730	1140
	5'	NR	78	137	210	296	410	694	1080
50'	0	NR	NR	NR	NR	NR	NR	NR	NR
	2'	NR	NR	NR	NR	NR	NR	NR	NR
	5'	NR	NR	NR	NR	NR	NR	NR	NR

## 12.2

### Capacity of Masonry Chimney Flue with Single-Wall Vent Connectors Serving a Single Draft Hood Equipped Appliance

Height Lateral H L (ft) (ft)		Single Wall Metal Connector Diameter - D								
		3"	4"	5"	6"	7"	8"	9"	10"	12"
To be used with chimney areas within the size limits at bottom										
Appliance Input Rating in Thousands of Btu per Hour										
6	2'	28	52	86	130	180	247	319	400	580
	5'	25	48	81	116	164	230	297	375	560
8	2'	29	55	93	145	197	265	349	445	650
	5'	26	51	87	133	182	246	327	422	638
	8'	23	47	82	126	174	237	317	408	621
10	2'	31	61	102	161	220	297	387	490	722
	5'	28	56	95	147	203	276	364	465	710
	10'	24	49	86	137	189	261	345	441	665
15	2'	35	67	113	178	249	335	440	560	840
	5'	32	61	106	163	230	312	414	531	825
	10'	27	54	96	151	214	294	392	504	774
	15'	NR	46	87	138	198	278	372	481	738
20	2'	38	73	123	200	273	374	490	625	950
	5'	35	67	115	183	252	348	461	594	930
	10'	NR	59	105	170	235	330	437	562	875
	15'	NR	NR	95	156	217	311	414	539	835
30	2'	41	81	136	215	302	420	556	715	1110
	5'	NR	75	127	196	279	391	524	680	1090
	10'	NR	66	113	182	260	370	496	644	1020
	15'	NR	NR	105	168	240	349	471	615	975
50	2'	NR	NR	88	155	223	327	445	585	932
	5'	NR	NR	NR	NR	182	281	408	544	865
	10'	NR	NR	136	212	301	420	562	728	1140
	15'	NR	NR	124	195	278	395	533	695	1090
Minimum Inter-nal Area of Chimney Square Inches		12	19	28	38	50	63	78	95	132
		49	88	137	198	269	352	445	550	792
Maximum Inter-nal Area of Chimney Square Inches										

See 12.3 for Masonry Chimney Liner Sizes.  
See Figure 2 and Notes for Single Appliance Vents.

## 12.3

### MASONRY CHIMNEY LINER DIMENSIONS WITH CIRCULAR EQUIVALENTS

Nominal Liner Size Inches	Inside Dimensions of Liner in Inches	Inside Diameter or Equivalent Diameter Inches	Equivalent Area Square Inches	Nominal Liner Size Inches	Inside Dimensions of Liner in Inches	Inside Diameter or Equivalent Diameter Inches	Equivalent Area Square Inches
4 x 8	2-1/2 x 6-1/2	4	12.2	16 x 20	13 x 17	16.2	206.1
		5	19.6			18	254.4
		6	28.3			20	260.2
8 x 8	6-3/4 x 6-3/4	7	38.3	20 x 24	16-1/2 x 20-1/2	20	314.1
		7.4	42.7			20.1	314.2
8 x 12	6-1/2 x 10-1/2	8	50.3	24 x 24	20-1/4 x 20-1/4	22	380.1
		9	63.6			22.1	380.1
		10	78.5			24	452.3
12 x 12	9-3/4 x 9-3/4	10.4	83.3	24 x 28	20-1/4 x 24-1/4	24.1	456.2
		11	95			26.4	543.3
12 x 16	9-1/2 x 13-1/2	11.8	107.5	30 x 30	25-1/2 x 25-1/2	27	572.5
		12	113			27.9	607
		14	153.9			30	706.8
		14.5	162.9			30.9	749.9
16 x 16	13-1/4 x 13-1/4	15	176.7	30 x 36	25-1/2 x 31-1/2	33	855.3
						34.4	929.4
						36	1017.9

When liner sizes differ dimensionally from those shown in Table 12.3, equivalent diameters may be determined from published tables for square and rectangular ducts of equivalent carrying capacity or by other engineering methods.