



**Instructions for Category I
Single or Common Vent - Applies
only to Indoor Fan Assisted Unit
Heater Model UDAP-CV**

Vent Installation Form RZ-NA I-V-CV

APPLIES TO: Model UDAP with Option AV6

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DANGER: Check the Model No. on the rating plate. These instructions apply only to Model UDAP with a suffix -CV, which is a Model UDAP heater with common vent Option AV6. If the Model No. does not have a suffix -CV, do NOT use these instructions. Failure to comply will result in severe personal injury or death and/or property damage.

General

This manual applies only to venting instructions and must be used with the installation manual. Both manuals are shipped with the heater. If either manual is missing, contact your distributor before beginning installation. The instructions in this manual apply **only** to indoor fan assisted Model UDAP-CV. Models UDAP-CV 30, 45, 60, 75, and 100 are certified as Category I heaters for residential or industrial/commercial installation.



Verify that the label on the heater matches this label.

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Venting Requirements

Venting must be in accordance with these instructions, the National Fuel Gas Code Z223.1 or CAN/CGA B149.1 and B149.2, Installation Code for Gas Burning Appliances and Equipment, and all local codes. Local requirements supersede national requirements.

Model UDAP-CV heaters **require** a vertical vent. Common vertical venting is permitted when installed according to the instructions in SECTION 2. Venting instructions are divided into two sections. Select and follow the instructions in the section that applies to the application.

SECTION 1 covers venting a Model UDAP-CV heater with a dedicated vent system as a **single** Category I appliance Go to Page 2

SECTION 2 covers venting a Model UDAP-CV heater in a **common vent with other Category I appliance(s)**, such as a water heater Go to Page 4

WARNING: Use only the venting instruction section that applies to the installation. Do not combine any requirements. Use these venting instructions only with Model UDAP heaters with -CV in the Model No. Failure to comply could result in severe personal injury or death and/or property damage.

SECTION 1 - Requirements and Instructions when Venting as a Single Category I Appliance

Comply with these requirements to vent a Model UDAP-CV as a Category I appliance into a dedicated vertical vent.

1. Type of Pipe

Vertical Vent - Use Type B double-wall pipe for all installations.

Horizontal Vent Connector - Sizes 30 and 45 require Type B double-wall pipe for all installations.

Depending on the installation (Refer to TABLE 1A and 1B), Sizes 60, 75, and 100 may use either Type B double-wall pipe or 26 gauge or heavier galvanized single-wall vent pipe.

2. Vent Diameter and Length

Vent diameter for Sizes 30, 45, 60, and 75 is 4" (102mm). Vent diameter for Size 100 is 5" (127mm). Vent length requirements vary depending on size of heater and the type of pipe used in the vent connector. See FIGURES and TABLES below.

TABLE 1A - Vent Lengths for Venting Model UDAP-CV as a SINGLE Category I appliance with a Type B Double-Wall Vent Pipe Connector and Type B Double-Wall Vertical Vent as illustrated in FIGURE 1A

Model UDAP-CV Size	Vent Diameter		H = Vertical Height of Double-Wall Vent		L = MAXIMUM Horizontal DOUBLE-Wall Vent Connector Length	
	inches	mm	ft	M	ft	M
30	4	102	6	1.8	4	1.2
45, 60, 75	4	102	6	1.8	6	1.8
	4	102	8	2.4	8	1.5
30	4	102	10	3.0	2	0.6
45	4	102	10	3.0	5	1.5
60, 75	4	102	10	3.0	10	3.0
30, 45	4	102	15	4.6	5	1.5
60, 75	4	102	15	4.6	15	4.6
30, 45	4	102	20	6.1	5	1.5
60, 75	4	102	20	6.1	20	6.1
100	5	127	6	1.8	6	1.8
	5	127	8	2.4	8	2.4
	5	127	10	3.0	10	3.0
	5	127	15	4.6	15	4.6
	5	127	20	6.1	20	6.1
	5	127	30	9.1	30	9.1

FIGURE 1A - Venting a Model UDAP-CV heater as a SINGLE Category I Appliance with Type B Double-Wall Vent Pipe Connector and Type B Double-Wall Vertical Vent

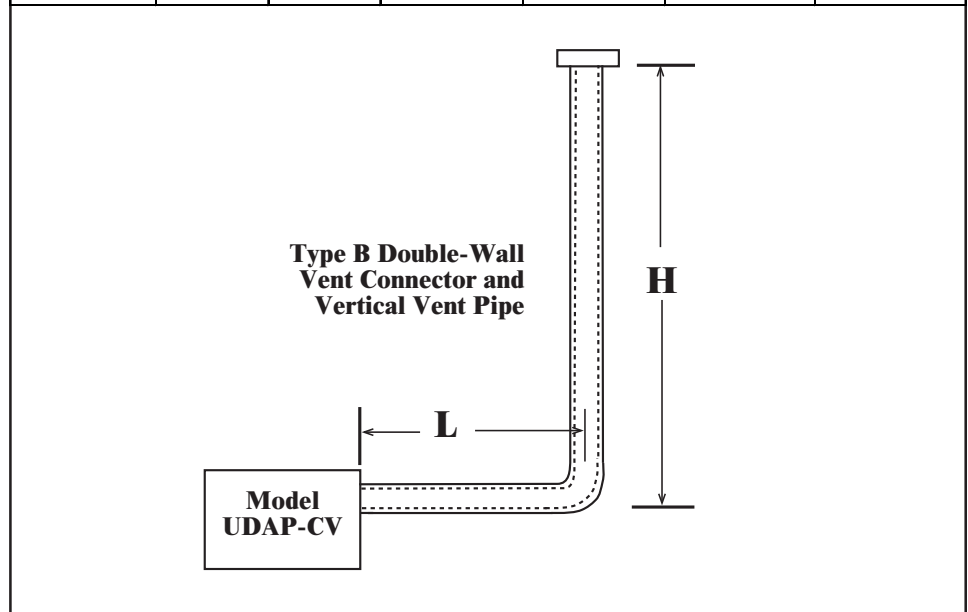
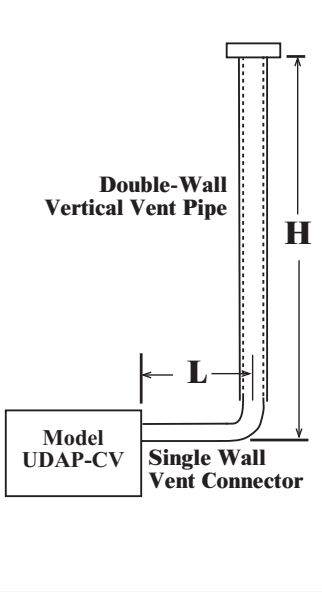


TABLE 1B - Vent Lengths for Venting Model UDAP-CV as a SINGLE Category I appliance with a Single-Wall Vent Pipe Connector and Type B Double-Wall Vertical Vent illustrated in FIGURE 1B

FIGURE 1B - Venting a Model UDAP-CV heater as a SINGLE Category I Appliance with a Single-Wall Vent Pipe Connector and Type B Double-Wall Vertical Vent



Model UDAP-CV Size	Vent Diameter		H = Vertical Height of Double-Wall Vent		L = MAXIMUM Horizontal SINGLE-Wall Vent Connector Length	
	inches	mm	ft	M	ft	M
60	4	102	6	1.8	2	0.6
75	4	102	6	1.8	4	1.2
60, 75	4	102	8	2.4	2	0.6
	4	102	10	3.0	2	0.6
	4	102	15	4.6	2	0.6
	4	102	20	6.1	2	0.6
100	5	127	6	1.8	2	0.6
	5	127	8	2.4	2	0.6
	5	127	10	3.0	2	0.6
	5	127	15	4.6	2	0.6
	5	127	20	6.1	2	0.6
	5	127	30	9.1	2	0.6

3. Vent System Joints/Sealing - Category I Single Appliance

Vent system joints depend on the type of pipe being used:

- If using single wall, 26-gauge or heavier galvanized pipe, secure slip-fit connections using sheetmetal screws or rivets. Seal all joints and seams of single-wall vent pipe inside the building with aluminum tape or silicone sealant.
- If using double-wall (Type B) vent pipe, follow the pipe manufacturer's instructions for joining pipe sections.

For joining double-wall pipe to outlet and single-wall pipe, follow the instructions below:

Instructions for attaching Type B double-wall vent pipe to the heater outlet or a single-wall vent connector.

Hardware and Sealant Required: 3/4" long sheetmetal screws; and a tube of silicone sealant

- 1) Look for the "flow" arrow on the vent pipe; attach according to the arrow. Slide the pipe so that the heater outlet is inside the double-wall pipe.
- 2) Drill a hole through the pipe into the outlet collar. (Hole should be slightly smaller than the sheetmetal screw being used.) Using a 3/4" long sheet metal screw, attach the pipe. Do not overtighten. Repeat, drilling and inserting two additional screws evenly spaced (120° apart) around the pipe.
- 3) Use silicone sealant to seal any gaps. If there is an annular opening, run a large bead of sealant in the opening. The bead of sealant must be large enough to seal the opening, but it is not necessary to fill the full volume of the annular area.

4. Vent System Support

Support lateral runs every six feet (1.8M) using a non-combustible material, such as strap steel or chain. Do not rely on the heater for support of either horizontal or vertical vent pipe.

5. Vent Terminal

The vent terminal should be a minimum of six feet (1.8M) from adjoining buildings. The vent terminal should be six inches (152mm) higher than the anticipated snow depth but no less than two feet (610mm) above the roof. Where the vent extends through the roof, a clearance thimble is required when the flue pipe extends through combustible materials; follow the requirements of the double-wall pipe manufacturer.

Terminate with a vent cap that meets the requirements of the vent pipe manufacturer.

6. Clearance to Combustibles

Maintain 6" (152mm) clearance between the vent pipe and combustibles.

SECTION 2 - Requirements and Instructions for Category I Common Venting

7. Category I Common Vent General Definition and Requirements

- Refer to Figures 2A and 2B

8. Vent Connector - Category I Common Vent

- Type of Pipe
- Vent Connector Length
- Vent Connector Rise

TABLE 2 - Maximum Length of the Vent Connector of the Other Category I Appliance(s)

DANGER: A Model UDAP-CV heater is designed for a Category I common venting application. Common venting is when two or more Category I appliances are vented into a single vertical vent. The installer must comply with the venting requirements listed in this section and local codes. Verify that any appliances being commonly vented with this heater are designed for Category I common venting. Failure to comply will result in severe personal injury or death and/or property damage.

Category I common venting is venting two or more appliances approved for Category I venting into a single common vertical vent. In these instructions one of the appliances is a Model UDAP-CV heater. An example of another Category I appliance would be a water heater.

Category I common vents **must be vertical**. The common vertical portion may be either Type B double-wall vent pipe or a masonry chimney lined with Type-B double-wall vent pipe. The common venting tables in this manual are for chimneys and vents not exposed to the outdoors below the roof line (a Type B vent liner passing through an unused masonry chimney is not considered to be exposed to the outdoors).

NOTE: The Common Vent Tables in this section are used by permission (1001-99-5) of the copyright holder, American Gas Association, all rights reserved. For larger vent sizes or information not provided here, consult the National Fuel Gas Code (latest edition).

Each individual length of vent pipe from the heater or other appliance to the common vertical vent is called the vent connector.

Type of Pipe - The vent connector for the Model UDAP-CV heater must be Type B double-wall vent pipe.

Determine the type of pipe, either single wall or double wall, for other Category I appliances by consulting TABLES 3A and 4A.

Vent Connector Length - Maximum vent connector length for Sizes 30, 45, 60, and 75 is 6 ft (1.8M). Maximum vent connector length for Size 100 is 7-1/2 ft (2.3M).

To determine the length of the vent connector for the other Category I appliance(s), select the table (3A or 4A) that matches the installation. The maximum vent connector horizontal length in feet is 18 times the diameter in inches of the vent connector pipe. See Table 2.

Maximum Length of the Vent Connector of the Other Category I Appliance(s)									
Connector Diameter	inches	3	4	5	6	7	8	9	10
	mm	76	102	127	152	178	203	229	254
MAXIMUM Horizontal Length	ft	4-1/2	6	7-1/2	9	10-1/2	12	13-1/2	15
	M	1.4	1.8	2.3	2.7	3.2	3.7	4.1	4.6

Vent Connector Rise - The vent connector rise is the vertical distance measurement from the heater or appliance outlet to the centerline where the vent gas streams come together (See FIGURES 2A and 2B). Maximum connector rise is 3 ft (.9M).

For Model UDAP-CV heater, use the 4" or 5" Diameter/Fan Assist column in TABLE 3A to determine permissible vent connector rise and vertical vent height combinations. (NOTE: The table for 4" double-wall vent connector does not show 30,000 BTU input for the shorter vent heights. For the Model UDAP-CV Size 30, use the "smallest" BTU listed, allowing for a maximum 1-ft connector rise.)

Depending on whether you are using single-wall or double-wall pipe, use either TABLE 3A or 4A to determine the vent connector rise for the other Category I appliance(s).

9. Vertical Common Vent - Category I Common Vent

- Type of Pipe
- Common Vent Height

The vertical portion of the common vent must be Type B double-wall vent or a Type B lined masonry chimney. Two or more vent connectors from Category I appliances may connect into the vertical portion of the common vent.

The height of the common vent is the vertical distance measurement from the highest drafthood outlet or flue collar to the vent cap or chimney outlet of the common vent (See FIGURES 2A and 2B).

Add the BTUH's of the appliances and use Common Vent Capacity TABLE 3B or 4B to determine permissible common vent size and height combination. If both vent connectors are double-wall pipe, use TABLE 3B. If the connector vent on any "other appliance" in the system is single-wall vent pipe, use TABLE 4B.

Key to FIGURES 2A and 2B below AND TABLES 3A, 3B, 4A, 4B on pages 6 and 7

H = Common Vent Height

Definition - The common vent height is the vertical distance measurement from the highest drafthood outlet or flue collar to the vent cap or chimney outlet of the common vent.

R = Vent Connector Rise (3ft/.9M maximum)

Definition - The vent connector rise is the vertical distance measurement from each heater or appliance outlet to the centerline where the vent gas streams come together.

R1 = Vent Connector Rise (above) of the "other" Category I Appliance in FIGURES 2A and 2B

IMPORTANT: Be certain that the appliance being vented with the Model UDAP-CV heater is one that is permissible for common Category I venting.

R2 = Vent Connector Rise (above) of Model UDAP-CV in FIGURE 2A (NOTE: In FIGURE 2B, there is no R2 because the vent connector rise is zero.)

Figure 2A - Typical Common Vent Application of a unit heater and a water heater using a Type B Double-Wall Common Vent

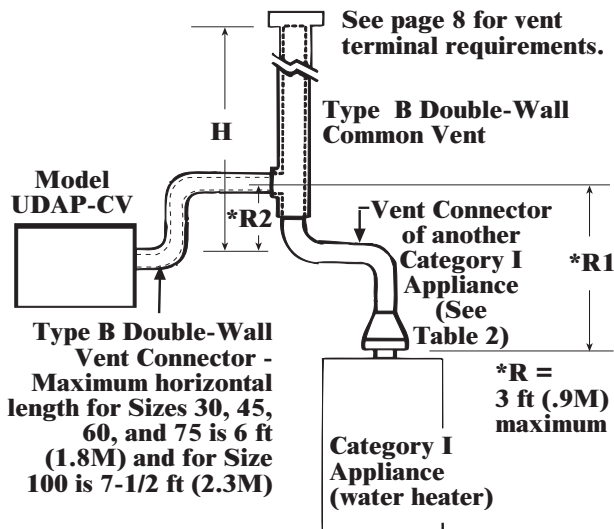
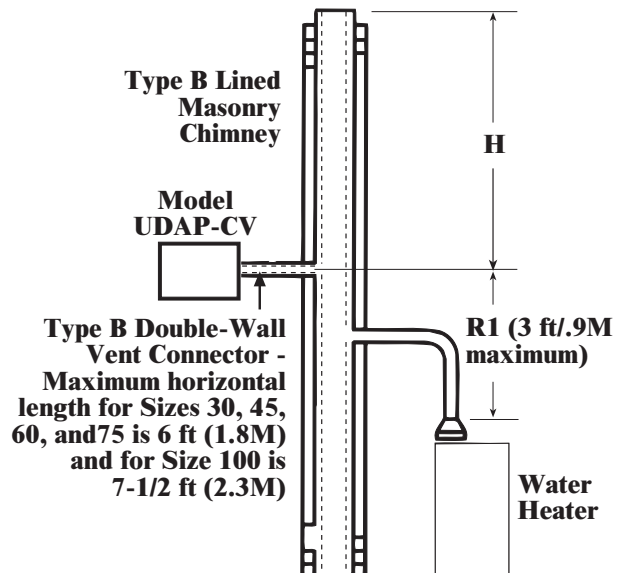


Figure 2B - Typical Common Vent Application of a unit heater and a water heater venting into a double-wall Type B lined Masonry Chimney



SECTION 2 - Requirements and Instructions for Category I Common Venting (cont'd)

9. Vertical Common Vent - Category I Common Vent (cont'd)

NOTE: Refer to Key and Figures 2A and 2B on page 5 and Example on page 8.

Common Vent TABLES 3A and 3B - Capacity of Type B Double-Wall Vents with Type B Double-Wall Connectors Serving Two or More Category I Appliances

NOTE: Category I appliance can be either Category I draft hood-equipped or fan-assisted type but must be approved for common venting.

TABLE 3A - Vent Connector Capacity																									
H - Vent Height (ft)	R - Vent Connector Rise (ft)	Type B Double Wall Vent and Connector																							
		3" Diameter		4" Diameter		5" Diameter		6" Diameter		7" Diameter		8" Diameter		9" Diameter		10" Diameter									
		Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat								
		Input Rating Limits in Thousands of BTUH																							
		Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	
6	1	22	37	26	35	66	46	46	106	72	58	164	104	77	225	142	92	296	185	109	376	237	128	466	289
	2	23	41	31	37	75	55	48	121	86	60	183	124	79	253	168	95	333	220	112	424	282	131	526	345
	3	24	44	35	38	81	62	49	132	96	62	199	139	82	275	189	97	363	248	114	463	317	134	575	386
8	1	22	40	27	35	72	48	49	114	76	64	176	109	84	243	148	100	320	194	118	408	248	138	507	303
	2	23	44	32	36	80	57	51	128	90	66	195	129	86	269	175	103	356	230	121	454	294	141	564	358
	3	24	47	36	37	87	64	53	139	101	67	210	145	88	290	198	105	384	258	123	492	330	143	612	402
10	1	22	43	28	34	78	50	49	123	78	65	189	113	89	257	154	106	341	200	125	436	257	146	542	314
	2	23	47	33	36	86	59	51	136	93	67	206	134	91	282	182	109	374	238	128	479	305	149	596	372
	3	24	50	37	37	92	67	52	146	104	69	220	150	94	303	205	111	402	268	131	515	342	152	642	417
15	1	21	50	30	33	89	53	47	142	83	64	220	120	88	298	163	110	389	214	134	493	273	162	609	333
	2	22	53	35	35	96	63	49	153	99	66	235	142	91	320	193	112	419	253	137	532	323	165	658	394
	3	24	55	40	36	102	71	51	163	111	68	248	160	93	339	218	115	445	286	140	565	365	167	700	444
20	1	21	54	31	33	99	56	46	157	87	62	246	125	86	334	171	107	436	224	131	552	285	158	681	347
	2	22	57	37	34	105	66	48	167	104	64	259	149	89	354	202	110	463	265	134	587	339	161	725	414
	3	23	60	42	35	110	74	50	176	116	66	271	168	91	371	228	113	486	300	137	618	383	164	764	466
30	1	20	62	33	31	113	59	45	181	93	60	288	134	83	391	182	103	512	238	125	649	305	151	802	372
	2	21	64	39	33	118	70	47	190	110	62	299	158	85	408	215	105	535	282	129	679	360	155	840	439
	3	22	66	44	34	123	79	48	198	124	64	309	178	88	423	242	108	555	317	132	706	405	158	874	494
50	1	19	71	36	30	133	64	43	216	101	57	349	145	78	477	197	97	627	257	120	797	330	144	984	403
	2	21	73	43	32	137	76	45	223	119	59	358	172	81	490	234	100	645	306	123	820	392	148	1014	478
	3	22	75	48	33	141	86	46	229	134	61	366	194	83	502	263	103	661	343	126	842	441	151	1043	538
100	1	18	82	37	28	158	66	40	262	104	53	442	150	73	611	204	91	810	266	112	1038	341	135	1285	417
	2	19	83	44	30	161	79	42	267	123	55	447	178	75	619	242	94	822	316	115	1054	405	139	1306	494
	3	20	84	50	31	163	89	44	272	138	57	452	200	78	627	272	97	834	355	118	1069	455	142	1327	555

Table 3B - Common Vent Capacity (Use this table if all appliances have a double-wall Type B connector.)

H - Vent Height (ft)	Double-Wall Common Vent														
	4" Diameter		5" Diameter		6" Diameter		7" Diameter		8" Diameter		9" Diameter		10" Diameter		
	Combined Input Rating of the Appliances in Thousands of BTUH														
		Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat
6		92	81	140	116	204	161	309	248	404	314	547	434	672	520
8		101	90	155	129	224	178	339	275	444	348	602	480	740	577
10		110	97	169	141	243	194	367	299	477	377	649	522	800	627
15		125	112	195	164	283	228	427	352	556	444	753	612	924	733
20		136	123	215	183	314	255	475	394	621	499	842	688	1035	826
30		152	138	244	210	361	297	547	459	720	585	979	808	1209	975
50		167	153	279	244	421	353	641	547	854	706	1164	977	1451	1188
100		175	163	311	277	489	421	751	658	1025	873	1408	1215	1784	1502

IMPORTANT: Do NOT use TABLE 4A for Model UDAP-CV heater. It is published here only for determining the vent connector length, vent height, and vent capacity of a Category I appliance that uses a single-wall vent connector.

Common Vent TABLES 4A and 4B - Capacity of Type B Double-Wall Vents with Single-Wall Connectors Serving Two or More Category I Appliances

NOTE: Category I appliance can be either Category I draft hood-equipped or fan-assisted type but must be approved for common venting.

TABLE 4A - Vent Connector Capacity																									
H - Vent Height (ft)	R - Vent Connector Rise (ft)	Single-Wall Vent Connector																							
		3" Diameter		4" Diameter		5" Diameter		6" Diameter		7" Diameter		8" Diameter		9" Diameter		10" Diameter									
		Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat	Fan Assist	Nat						
		Input Rating Limits in Thousands of BTUH																							
		Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max	Min	Max	Max			
6	1	N/A	N/A	26	N/A	N/A	46	N/A	N/A	71	N/A	N/A	102	207	223	140	262	293	183	325	373	234	447	463	280
	2	N/A	N/A	31	N/A	N/A	55	N/A	N/A	85	168	182	123	215	251	167	271	331	219	334	422	281	458	524	344
	3	N/A	N/A	34	N/A	N/A	62	121	131	95	175	198	138	222	273	188	279	361	247	344	462	316	468	574	385
8	1	N/A	N/A	27	N/A	N/A	48	N/A	N/A	75	N/A	N/A	106	226	240	145	285	316	191	352	403	244	481	502	299
	2	N/A	N/A	32	N/A	N/A	57	125	126	89	184	193	127	234	266	173	293	353	228	360	450	292	492	560	355
	3	N/A	N/A	35	N/A	N/A	64	130	138	100	191	208	144	241	287	197	302	381	256	370	489	328	501	609	400
10	1	N/A	N/A	28	N/A	N/A	50	119	121	77	182	186	110	240	253	150	302	335	196	372	429	252	506	534	308
	2	N/A	N/A	33	84	85	59	124	134	91	189	203	132	248	278	183	311	369	235	381	473	302	517	589	368
	3	N/A	N/A	36	89	91	67	129	144	102	197	217	148	257	299	203	320	398	265	391	511	339	528	637	413
15	1	N/A	N/A	29	79	87	52	116	138	81	177	214	116	238	291	158	312	380	208	397	482	266	556	596	324
	2	N/A	N/A	34	83	94	62	121	150	97	185	230	138	246	314	189	321	411	248	407	522	317	568	646	387
	3	N/A	N/A	39	87	100	70	127	160	109	193	243	157	255	333	215	331	438	281	418	557	360	579	690	437
20	1	49	56	30	78	97	54	115	152	84	175	238	120	233	325	165	306	425	217	390	538	276	546	664	336
	2	52	59	36	82	103	64	120	163	101	182	252	144	243	346	197	317	453	259	400	574	331	558	709	403
	3	55	62	40	87	107	72	125	172	113	190	264	164	252	363	223	326	476	294	412	607	375	570	750	457
30	1	47	60	31	77	110	57	112	175	89	169	278	129	226	380	175	296	497	230	378	630	294	528	779	358
	2	51	62	37	81	115	67	117	185	106	177	290	152	236	397	208	307	521	274	389	662	349	541	819	425
	3	54	64	42	85	119	76	122	193	120	185	300	172	244	412	235	316	542	309	400	690	394	555	855	482
50	1	46	69	34	75	128	60	109	207	96	162	336	137	217	460	188	284	604	245	364	768	314	507	951	384
	2	49	71	40	79	132	72	114	215	113	170	345	164	226	473	223	294	623	293	376	793	375	520	983	458
	3	52	72	45	83	136	82	119	221	123	178	353	186	235	486	252	304	640	331	387	816	423	535	1013	518
100	1	45	79	34	71	150	61	104	249	98	153	424	140	205	585	192	269	774	249	345	993	321	476	1236	393
	2	48	80	41	75	153	73	110	255	115	160	428	167	212	593	228	279	788	299	358	1011	383	490	1259	469
	3	51	81	46	79	157	85	114	260	129	168	433	190	222	603	256	289	801	339	368	1027	431	506	1280	527

Table 4B - Common Vent Capacity (Use this table if "other appliance" has a single-wall vent connector.)

H - Vent Height (ft)	Double-Wall Common Vent													
	4" Diameter		5" Diameter		6" Diameter		7" Diameter		8" Diameter		9" Diameter		10" Diameter	
	Combined Input Rating of the Appliances in Thousands of BTUH													
	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat	Fan + Fan	Fan + Nat
6	N/A	78	N/A	113	200	158	304	244	398	310	541	429	665	515
8	N/A	87	N/A	126	218	173	331	269	436	342	592	473	730	569
10	N/A	94	163	137	237	189	357	292	467	369	638	512	787	617
15	121	108	189	159	275	221	416	343	544	434	738	599	905	718
20	131	118	208	177	305	247	463	383	606	487	824	673	1013	808
30	145	132	236	202	350	286	533	446	703	570	958	790	1183	952
50	159	145	268	233	406	337	622	529	833	686	1139	954	1418	1157

SECTION 2 - Requirements and Instructions for Category I Common Venting (cont'd)

9. Vertical Common Vent - Category I Common Vent (cont'd)

EXAMPLE:	Model UDAP	Water Heater	
BTUH	45,000	35,000	Common Vent Capacity TABLE 4B
Outlet	4" (102mm)	4" (102mm)	Total BTUH - 80,000
Vent Connector Pipe	Double Wall	Single Wall	Fan + Natural
Vent Connector Maximum Length	6 ft (1.8M)	6 ft (1.8M)	Vent Size - 4" (102mm) diameter
Vent Connector Rise	1.5 ft (.5M)	3 ft (.9M)	Vent Height - 8 ft (2.4M) minimum
Vent Connector Capacity TABLE	3A	4A	

10. Vent System Joints/Sealing

- Follow the pipe manufacturer's instructions for joining Type B double-wall vent pipe sections.
For joining double-wall pipe to the heater outlet collar or single-wall pipe, follow the instructions below:

Instructions for attaching Type B double-wall vent pipe to the heater outlet or single-wall pipe run
Hardware and Sealant Required: 3/4" long sheetmetal screws; and a tube of silicone sealant

- 1) Look for the "flow" arrow on the vent pipe; attach according to the arrow. Slide the pipe so that the heater outlet or the single-wall pipe is inside the double-wall pipe.
- 2) Drill a hole through the pipe into the outlet collar or the single-wall pipe. (Hole should be slightly smaller than the sheet metal screw being used.) Using a 3/4" long sheet metal screw, attach the pipe. Do not overtighten. Repeat, drilling and inserting two additional screws evenly spaced (120° apart) around the pipe.
- 3) Use silicone sealant to seal any gaps. If there is an annular opening, run a large bead of sealant in the opening. The bead of sealant must be large enough to seal the opening, but it is not necessary to fill the full volume of the annular area.

- When attaching a vent connector to a Type B lined masonry chimney, use a thimble or slip joint to facilitate removal. Fasten vent connector securely being sure that it does not extend into the chimney.

11. Vent System Support

Support lateral runs using a non-combustible material, such as strap steel or chain. Do not rely on the heater for support of either horizontal or vertical vent pipe.

12. Vent Terminal

The terminal of the vertical vent should be a minimum of six feet (1.8M) from adjoining buildings. The vent terminal should be six inches (152mm) higher than the anticipated snow depth but no less than two feet (610mm) above the roof. Where the vent extends through the roof, a clearance thimble is required when the flue pipe extends through combustible materials; follow the requirements of the double-wall pipe manufacturer.

Terminate with a vent cap that meets the requirements of the double-wall pipe manufacturer.

13. Clearance to Combustibles

Maintain 6" (152mm) clearance between the vent pipe and combustibles.