

## Single Wall Clearances and Clearance Plates

In all buildings more than one story in height and in buildings where the roof/ceiling assembly is required to have a fire resistance rating, the vent must be enclosed in a continuous enclosure. This enclosure will be from the lowest fire-rated ceiling or floor above the appliance, through any concealed spaces, to or through the roof to maintain the integrity of the fire separations required by the applicable building code provisions. If the building is less than 4 stories in height, the enclosure shall have a fire resistance rating of not less than 1 hour. If the building is 4 stories or more in height, the enclosure shall have a fire resistance rating of not less than 2 hours. When installed in an open room where an enclosure is not required, double wall vents may be located at clearance to combustibles in accordance with **Table 10**. **All through floor and wall penetrations will contain an insulated section of double wall -2V vent that allows for a reduced clearance.**

**Table 10 - Building Heating Appliance Vent Clearances (For Commercial Applications Only)**

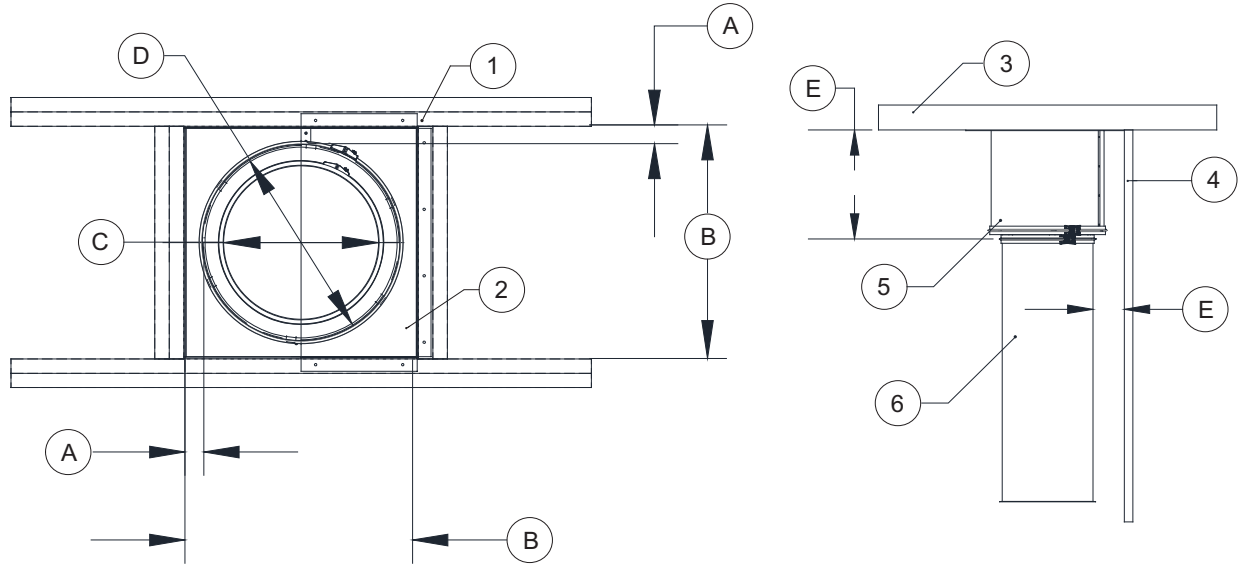
Single Wall -V Vent Diameter (ID)	-V Thimble Assembly Vent Shell Diameter (Thru Penetration)	-V Thimble Assembly Clearance to Combustibles (Shell to Joist)	Clearance To Combustibles (Vent to Ceiling/Wall)	Clearance To Non- Combustibles	Through Wall/Floor Opening
5"	9"	1"	3"	0"	13-1/2"
6"	10"	1"	3"	0"	14-1/2"
7"	11"	1"	3"	0"	15-1/2"
8"	12"	1"	3"	0"	16-1/2"
10"	14"	1"	3"	0"	18-1/2"
12"	16"	2"	4"	0"	20-1/2"
14"	18"	2"	4"	0"	22-1/2"
16"	20"	3"	5"	0"	26-1/2"
18"	22"	3"	5"	0"	28-1/2"
20"	24"	3"	5"	0"	30-1/2"
22"	26"	4"	6"	0"	34-1/2"
24"	28"	4"	6"	0"	36-1/2"
26"	30"	5"	7"	0"	40-1/2"
28"	32"	5"	7"	0"	42-1/2"
30"	34"	6"	8"	0"	46-1/2"
32"	36"	6"	8"	0"	48-1/2"
34"	38"	7"	9"	0"	52-1/2"
36"	40"	7"	9"	0"	54-1/2"

*The information in **Table 10** represents air space, in inches, to surroundings.*

**NOTE: For 5"-10" vent diameters, a 1" clearance is permitted without the use of clearance plates. If clearance plates are used, a 2" clearance to combustibles will be maintained.**

**Note: Table 10 shows two different clearances; vent clearance is from the vent's outer diameter (OD) to the combustible ceiling/wall. The thimble assembly clearance is from the vent's shell OD to the combustible joist. It is important that all clearance to combustibles noted in Table 10 on page 24 and on the UL label are followed.**

**Figure 16 - V Type Vent Clearance**



1. Combustible Surface
2. Clearance Plates - Half plate removed for clarity.
3. Ceiling
4. Wall
5. -2V Double Wall Assembly
6. Single Wall Vent Section

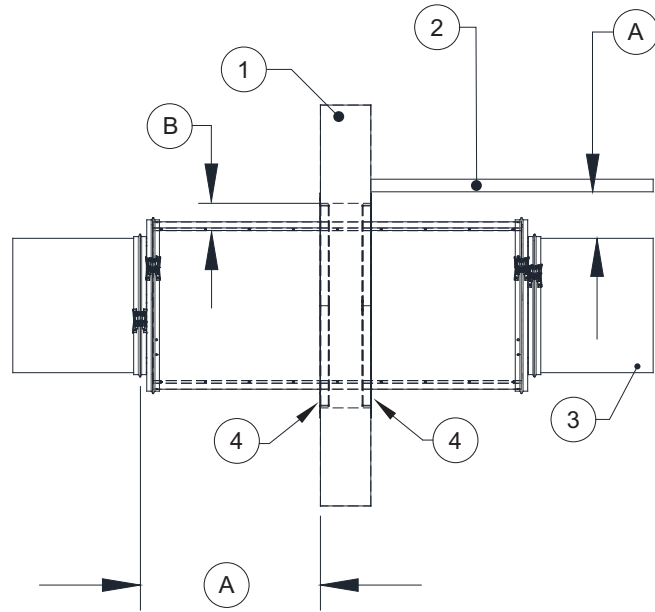
- A. Clearance to Combustibles (Shell to Joist), refer to **Table 10**
- B. Wall/Floor Opening, refer to **Table 10**
- C. Vent Diameter
- D. -2V Shell Outer Diameter (OD)
- E. Clearance to Combustibles (Vent to Ceiling/Wall), refer to **Table 10**

## Single Wall Supports and Clearance Plates

Floor and wall support assemblies are used to support vent sections that penetrate a floor or wall. Each of these support assemblies consists of a main support, refer to **Figure 18**, and a set of clearance plates. Clearance plates can be used as the main support shown in **Figure 17** or used in conjunction with support assemblies. Clearance plates are designed to maintain the clearance to combustibles while keeping the vent centered in the floor or opening. Clearance plates may be removed if a tighter clearance is desired, refer to **Table 10** on page 24 for measurements and more information.

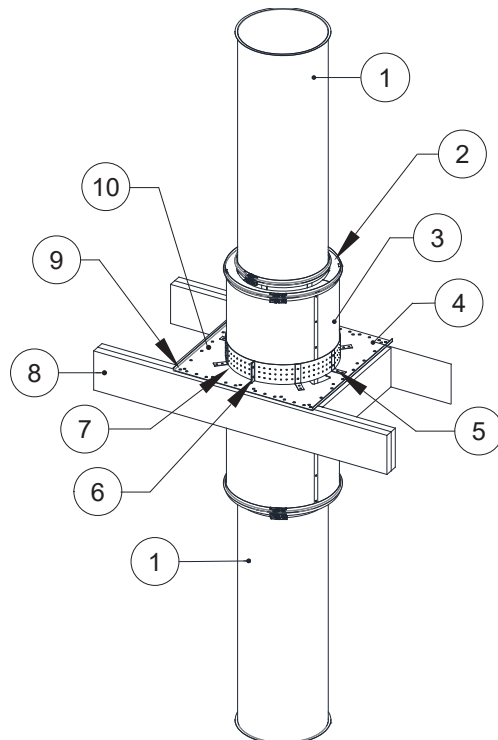
**Figure 17 - Wall Support Assembly**

1. Wall
2. Ceiling
3. Single Wall Section
4. Clearance Plates
- A. Clearance to Combustibles (Ceiling/Wall), refer to **Table 10**
- B. Clearance to Combustibles (Shell to Joist), refer to **Table 10**



**Figure 18 - Floor Support Assembly**

1. Single Wall Section
2. End Cap
3. -2V Double Wall Vent
4. Floor Support Assembly
5. 5/16"-18 x 1-1/2" Self Drilling Screws.
6. 1/4"-20 Whiz Nuts and Bolts.
7. Vertical Support Ring
8. Joist
9. Substrate Hardware, refer to **Table 11**
10. Vertical Support Plate

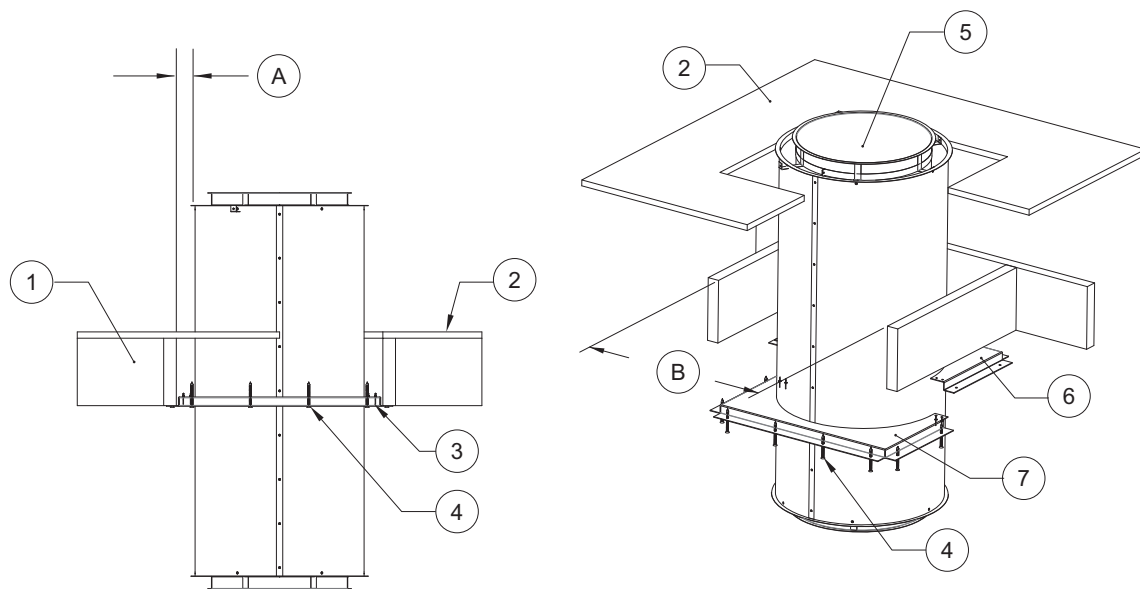


## Single Wall Annular Distance -V Type Clearance

Vent clearance plates are used to maintain clearance to combustibles for -V Type listed vents. These clearance plates are not a hanging substitute for through penetration and fire stop plates. Vent clearance plates are designed to center the vent in the recommend opening and maintain clearance to combustibles as shown in **Figure 16 on page 25**. Vent clearance plates consist of two half plates; the plates are designed so they are inserted into the opening. The plates are installed on the bottom side of the floor or on both sides of a wall. Frame or cut the opening in the floor/wall, refer to **Table 10 on page 24**. Insert the vent into the opening, then insert one half of the clearance plate. Secure the half plate using appropriate hardware for substrate construction, refer to **Table 11**. Insert the second half plate and secure. Once both plates are secure, the vent will be centered in the opening with a clearance to combustibles. **All through floor and wall penetrations will contain an insulated section of double wall -2V vent that allows for a reduced clearance.**

**WARNING: Clearance (air space) to combustibles must be free from any type of insulation.**

**Figure 19 - Vent Clearance Plates (Floor Installation Shown)**



- 1. Joist
- 2. Floor
- 3. Clearance Plates - Shown installed
- 4. Clearance Plate Hardware
- 5. Vent

- 6. Clearance Plate 1
- 7. Clearance Plate 2
- A. Clearance to Combustibles (Shell to Joist), refer to **Table 10**
- B. Floor Opening, refer to **Table 10**

**Table 11 - Substrate Hardware Table**

Decking Material	Hardware	Edge Distance
Wood - Min G.42	3/8" x 2-1/2" Zinc Plated Steel Hex Head Lag Screw with 3/8" Zinc Plated Steel Washer	1-1/2" Minimum
Concrete - 2500 Min PSI	3/8" Diameter - Expansion Anchor Hilti Kwik Bolt TZ with 3/8" Zinc Plated Steel Washer	3" Minimum
Steel - Roof Truss 12 Gauge or 1/8" Thick	1/4"-14 Min. 1/2" Through Drill-Flex Self-Drilling Screws with 1/4" Zinc Plated Steel Washer	3/8" Minimum