

## Application

The RD521 ceiling radiation damper employs butterfly style blades for point-of-origin control of radiant heat in HVAC systems. The RD521 is installed horizontally in the ceiling membrane of combustible floor-ceiling or roof-ceiling assemblies with fire resistance ratings up to and including 1 hour.

## Standard Construction

- Frame:** 22 gauge (0.85) galvanized steel with integral outlet box.
- Blades:** 22 gauge (0.85) galvanized steel – butterfly. Insulated with ceramic refractory material for dampers larger than 114 in.<sup>2</sup> (735 cm<sup>2</sup>).
- Transition:** Round, with 2" (51) deep collar, located on W side of outlet box.
- Plaster Ground:** 5/8" (16) deep x 5/8" (16) wide.
- Closure Device:** Fusible link.
- Fire Closure Temperature:** 165°F (75°C).
- Minimum Size:** 4" x 4" (102 x 102)
- Maximum Size:** Square: 18" x 18" (457 x 457)  
Rectangular: 24" (610) W or 24" (610) H  
with a maximum area of 324 in.<sup>2</sup> (2090 cm<sup>2</sup>).

## Options

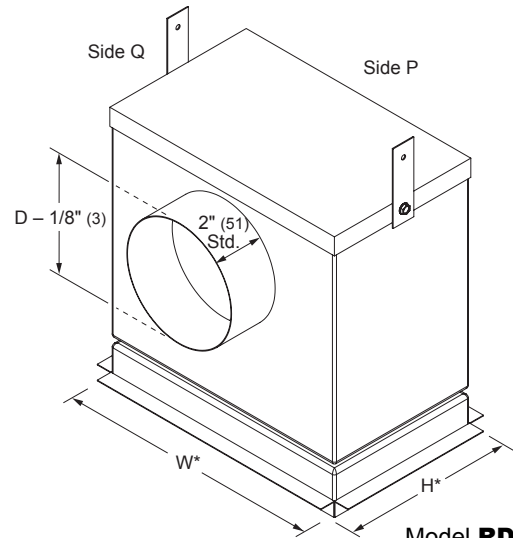
- Alternate Transition:  None (field adaptation required).
  - Round  Oval  Square/Rectangular
  - Side:  H  P  Q
  - Collar depth:  4" (102)
- Alternate Plaster Ground:
  - 1 1/4" (32) deep x 1 1/4" (32) wide
  - 2" (51) deep x 5/8" (16) wide  4" (102) deep x 5/8" (16) wide
- Alternate 212°F (100°C) fire closure temperature.
- VC — Volume control device factory mounted.
- WHI installation angle set:
  - 2 angles 1" x 1/2" x 28" long (25 x 13 x 711) x 20 ga. (1.0)
  - 2 angles 1" x 1/2" x 3" long (25 x 13 x 76) x 20 ga. (1.0)

## Ratings

**UL 555C Fire Resistance Rating:** 1 hour (horizontal, for use in UL assemblies L-521, L-546, L-558, L-562, P-522, P-533 and P-538).

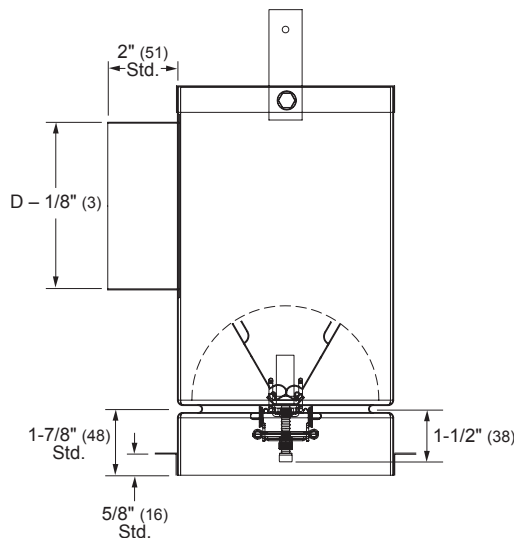
## Listings

- UL 555C listing:** R14980
- CSFM listing:** 3226-1404:100
- Warnock Hersey listing #:** WHI-495-PSH-0177, -0178
- Meets NFPA Standards:** 90A and 101
- Meets Building Code Standards:** IBC, NBC, NFPA, SBC and UBC

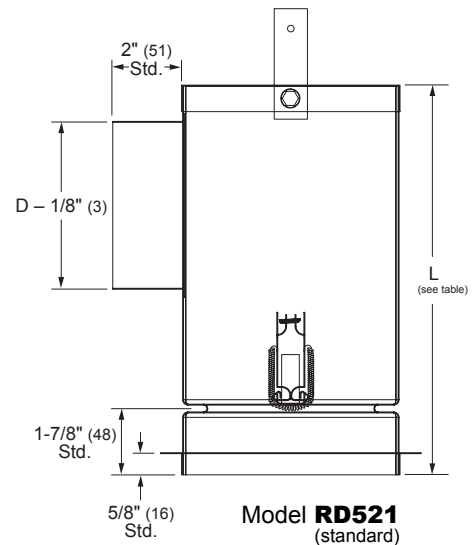


**Model RD521**  
(standard)

\*Damper dimensions furnished approximately net O.D.



**RD521 with optional VC**



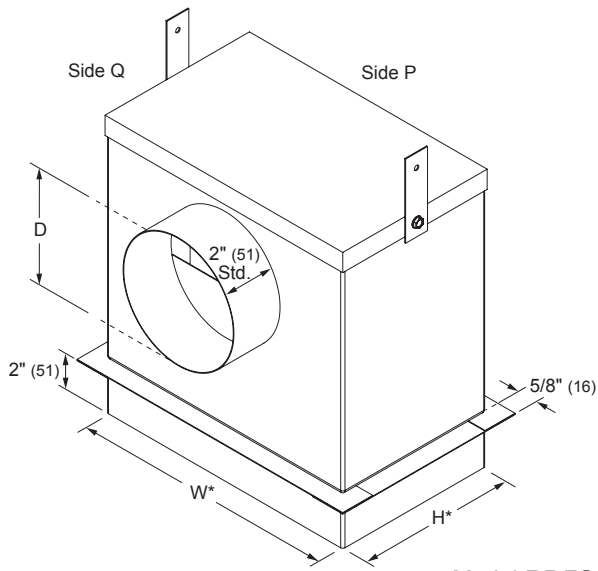
**Model RD521**  
(standard)

Outlet Box Height Table		
Duct Diameter	Damper Height	Outlet Box Height 'L'
D ≤ 8" (203)	H ≤ 16" (406)	11" (279)
8 (203) < D ≤ 11" (279)	16" (406) < H ≤ 22" (559)	14" (356)
11" (279) < D ≤ 12" (305)	H > 22" (559)	15" (381)
D > 12" (305)	-	D + 3 (76)

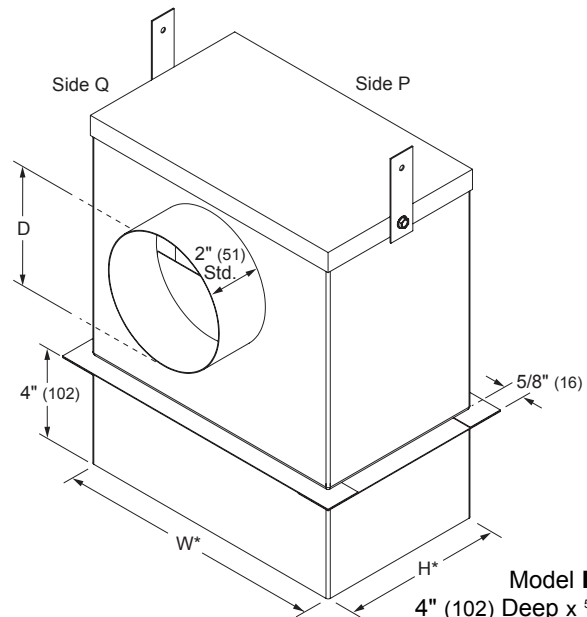
Information is subject to change without notice or obligation.

**NOTE:** Dimensions in parentheses ( ) are millimeters.

# Dimensional Details for Alternate Plaster Ground Options

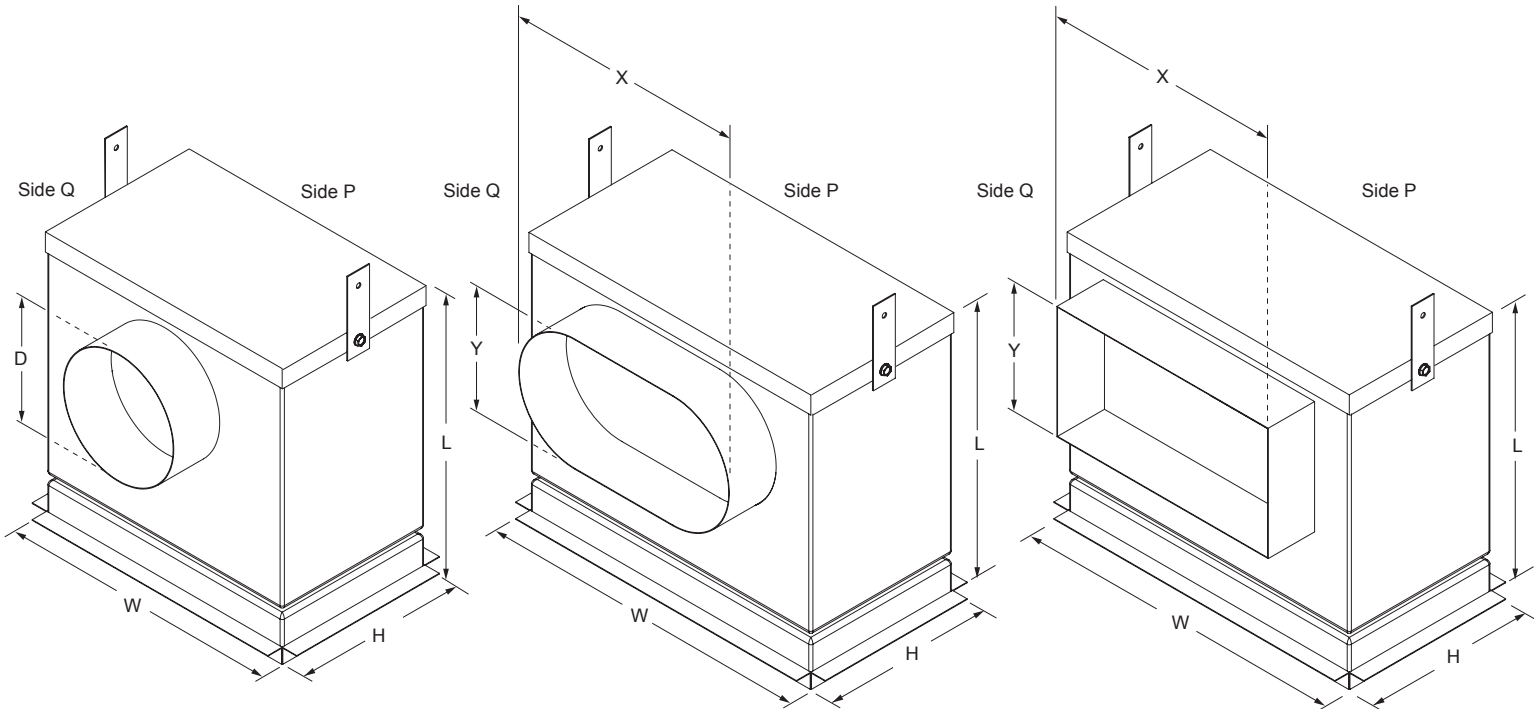


Model **RD521** with  
2" (26) Deep x 5/8" (16) Wide  
Plaster Ground  
\*Damper dimensions furnished  
approximately net O.D.



Model **RD521** with  
4" (102) Deep x 5/8" (16) Wide  
Plaster Ground  
\*Damper dimensions furnished  
approximately net O.D.

# Damper Size Limitations for Round, Oval and Square/Rectangular Duct Transitions



Ceiling Radiation Dampers **RD521** (2/2) December 2009

**Sleeve table for transitions**

Outlet Box Height Table		
Duct Diameter	Damper Height	Outlet Box Height 'L'
D or Y ≤ 8" (203)	H ≤ 16" (406)	11" (279)
8 (203) < D or Y ≤ 11" (279)	16" (406) < H ≤ 22" (559)	14" (356)
11" (279) < D or Y ≤ 12" (305)	H > 22" (559)	15" (381)
D or Y > 12" (305)	-	D + 3 (76)

Information is subject to change without notice or obligation.

**NOTE:** Dimensions in parentheses ( ) are millimeters.