



MANUAL – INSTALLATION

Round Cone Diffusers

RCD/ARCD/RCDA

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PRICE[®]

ROUND CONE DIFFUSERS

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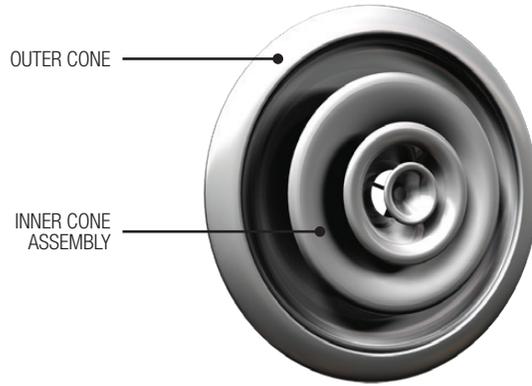
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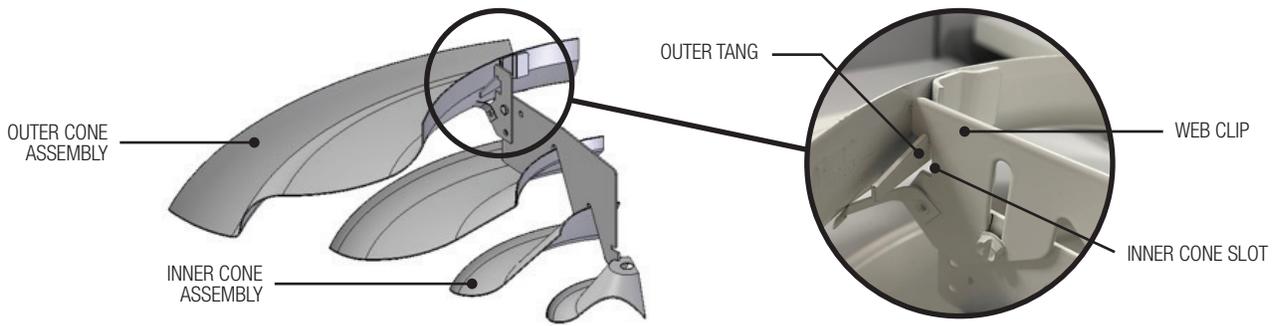
INSTALLATION INSTRUCTIONS - GENERAL

Overview

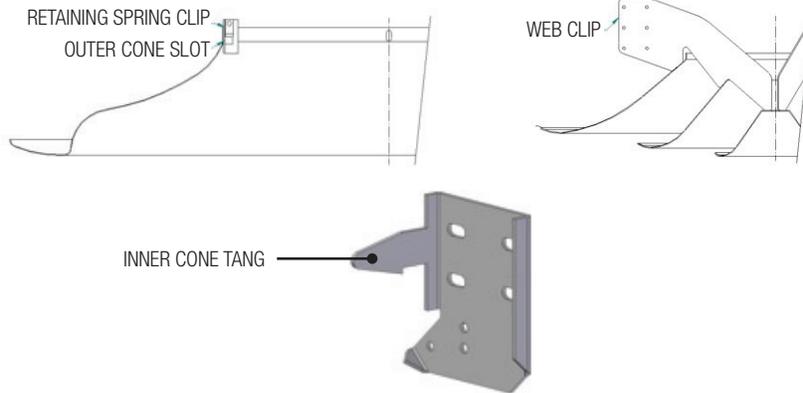
Round cone diffusers provide adjustable horizontal and vertical air patterns. These diffusers have an outer cone, an inner cone assembly and a web clip, and they are available in either Steel (RCD/RCDA) or aluminum (ARCD).



The round cone diffuser sizes up to 12" have an outer and inner core assembly with web clip, inner cone slot and outer cone tang.



For sizes over 12", the round cone diffuser have an outer and inner core assembly web clip, outer cone slot and inner cone tang.



The diffusers will have one (1) sticker located on the outside of the outer cone. For ease of troubleshooting assistance, replacement parts and general factory assistance, it is recommended that the order number and model line string be available for reference. This information can be found on the Factory Label.



ROUND CONE DIFFUSERS

INTRODUCTION

Before You Start

Inspect all cartons and boxes for flaws and shipping damage.

If anything is discovered to be damaged, contact the shipping company and file a freight claim.

Getting Started

STEP 1: Remove the diffuser from the shipping carton and inspect for any damage.

STEP 2: Determine the type of ceiling the diffuser will be installed into, and use the tables below to find the installation instructions based on the type of installation wanted.

Exposed Ceiling

Type of Installation	Page Number
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Hanging Wires/Straps	5

Hard Ceiling

Type of Installation	Page Number
Hard Ducting	6
Hanging Wires/Straps	8
Blocking with Flex Duct	9

ROUND CONE DIFFUSERS

PRODUCT OVERVIEW

Inner Cone Installation and Removal

Removal

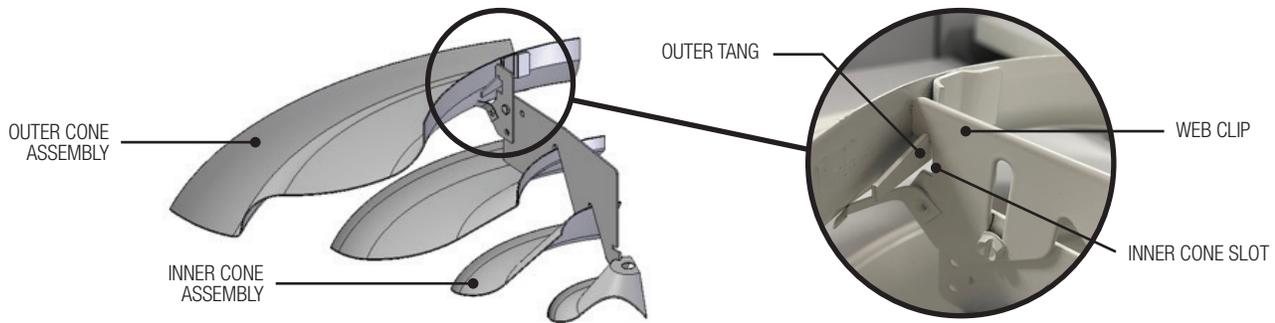
STEP 1: Looking at the face of the diffuser, remove the inner cones from the outer cone by pushing the inner cones upwards approximately 1/4" and rotate the inner cone assembly counter clockwise 10 degrees.

Installation

Up to 12"

STEP 1: Place the inner cone assembly inside the outer cone assembly aligning the web clip's slot with the outer cone tangs.

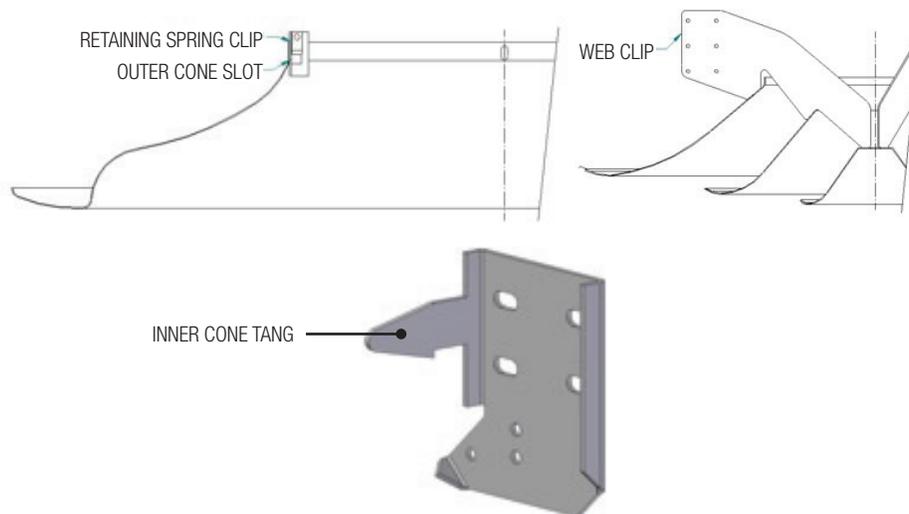
STEP 2: From the face of the diffuser, push the inner core by 1/4" and rotate the inner core assembly clockwise so the outer cone's tangs slides into the slot of the web clips. The weight of the inner cone assembly should be supported by the tangs of the outer cone.



Over 12"

STEP 1: Place the inner cone assembly inside the outer cone assembly aligning the inner cone tangs with the outer cone slots.

STEP 2: From the face of the diffuser, push the inner cone by 1/4" and rotate the inner core assembly clockwise so that the inner cone tangs slide into the slots of the outer cone. The weight of the inner cone assembly should now be supported by the slots of the outer cone assembly; the retaining spring clips on the outer cone assembly will apply pressure to the tangs locking the inner cone in place.

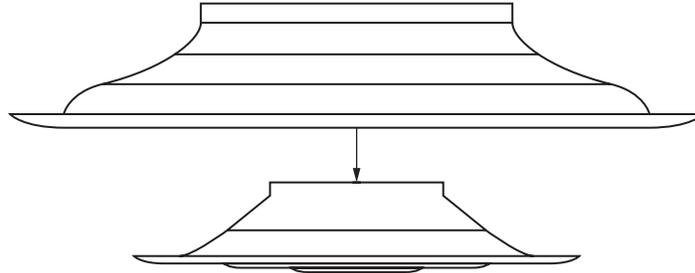


ROUND CONE DIFFUSERS

INSTALLATION INSTRUCTIONS - EXPOSED CEILING

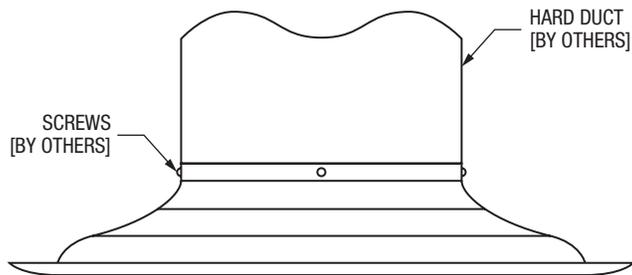
Exposed Ceiling: Hard Ducting

STEP 1: Remove the diffuser's inner cone assembly (see Page 3).

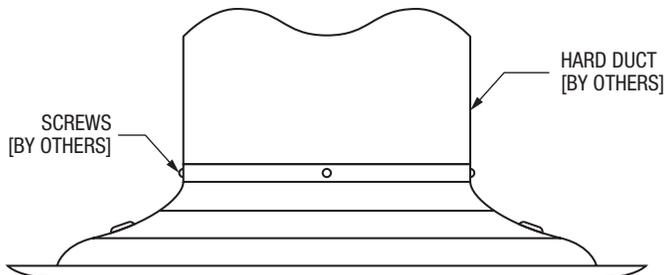


STEP 2: Align and fasten the outer cone's inlet to the round hard duct. Inlet collar or sheet metal band (by others) can be used to fasten the inlet to the hard duct.

NOTE: Consult with structural engineer if additional structural support is required for the hard duct especially for larger sizes.



STEP 3: Once the diffuser is securely fastened, reattach inner core assembly to the outer cone (see Page 3).



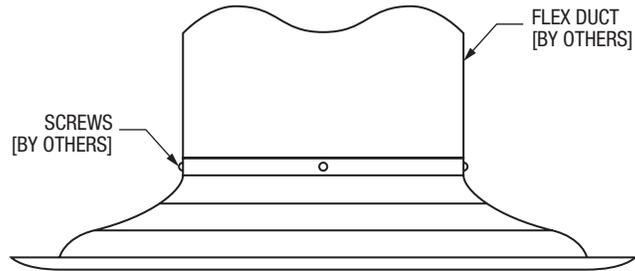
ROUND CONE DIFFUSERS

INSTALLATION INSTRUCTIONS - EXPOSED CEILING

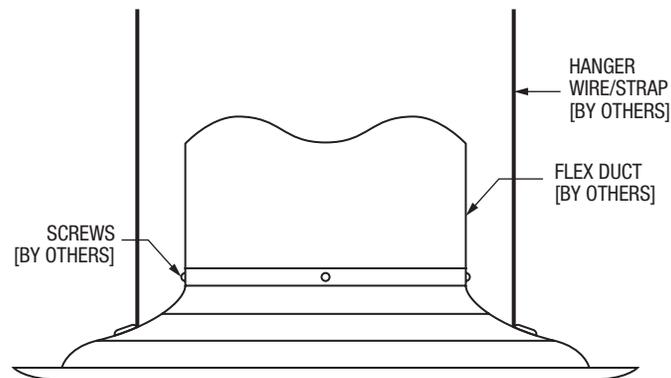
Exposed Ceiling: Hanger Wire/Strap Mounting

STEP 1: Attach hanger straps/wires to the structure and ensure that the ducting is in place for the diffuser.

STEP 2: Align and fasten the outer cone's inlet to the flex duct. Inlet collar or sheet metal band (by others) can be used to fasten the inlet to the duct.



STEP 3: Lift the diffuser to the appropriate height and screw hanger straps to the diffuser's neck or outer cone. Ensure the screws will not be visible once the inner core is reattached.



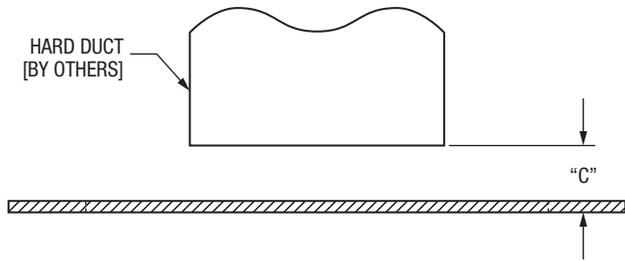
ROUND CONE DIFFUSERS

INSTALLATION INSTRUCTIONS - HARD CEILING

Hard Ceiling: Hard Ducting

STEP 1: Install the hard duct from the drywall using the listed “C” dimension from the chart below.

Sample line string: RCD//14/////////B12

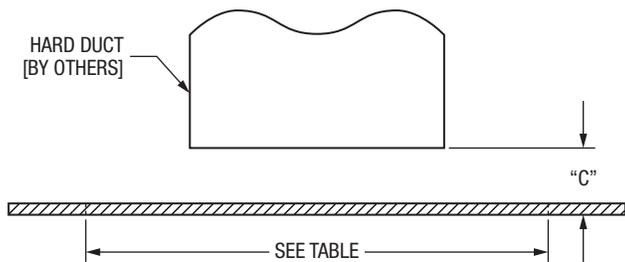


Exposed Ceiling

Nom. Duct	“C”
6" (152)	1 5/8"(41)
8" (203)	2 1/8"(54)
10" (254)	2 5/8"(67)
12" (305)	3 1/4"(83)
14" (356)	3 3/4"(95)
16" (406)	4 1/4"(108)
18" (457)	4 7/8"(124)
20" (508)	5 5/8"(143)
24" (610)	6 1/2"(165)
30" (762)	8"(203)
36" (914)	8"(203)

STEP 2: Cut a circular opening in the drywall where the diffuser will be installed. The size of this opening is shown per table below.

NOTE: Consult with structural engineer if additional structural support is required for the hard duct especially for larger sizes or refer to flex duct installation instructions, see page 9.



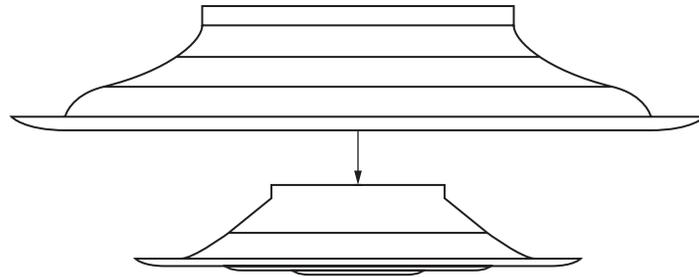
Exposed Ceiling

Nom. Duct	Opening Size
6" (152)	12" (305)
8" (203)	16" (406)
10" (254)	20" (508)
12" (305)	24" (610)
14" (356)	28" (711)
16" (406)	32" (813)
18" (457)	36" (914)
20" (508)	40" (1016)
24" (610)	48" (1219)
30" (762)	60" (1524)
36" (914)	60" (1524)

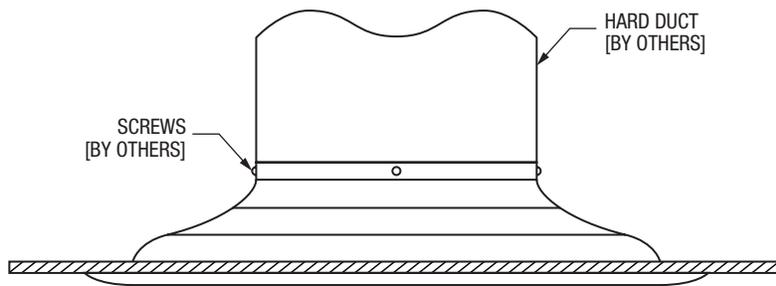
ROUND CONE DIFFUSERS

INSTALLATION INSTRUCTIONS - HARD CEILING

STEP 3: Remove the diffuser's inner cone assembly (see Page 3).



STEP 4: Align and fasten the outer cone's inlet to the round hard duct. Inlet collar or sheet metal band (by others) can be used to fasten the inlet to the hard duct.



STEP 5: Reattach the inner cone assembly (see Page 3).

ROUND CONE DIFFUSERS

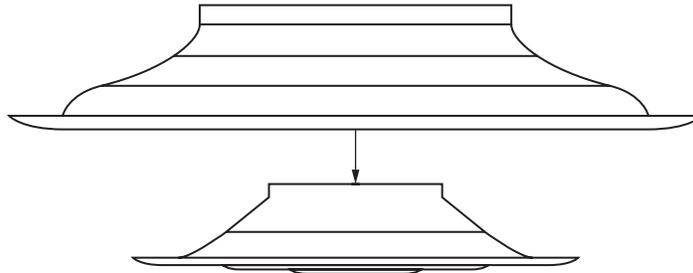
INSTALLATION INSTRUCTIONS - HARD CEILING

Hard Ceiling: Hanger Wire or Strap

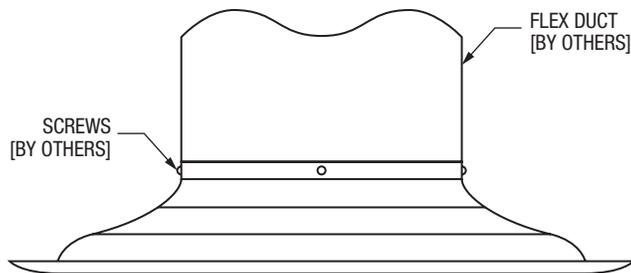
NOTE: Ensure drywall has not been installed yet.

STEP 1: Attach hanger straps/wires to the structure and ensure that the ducting is in place for the diffuser.

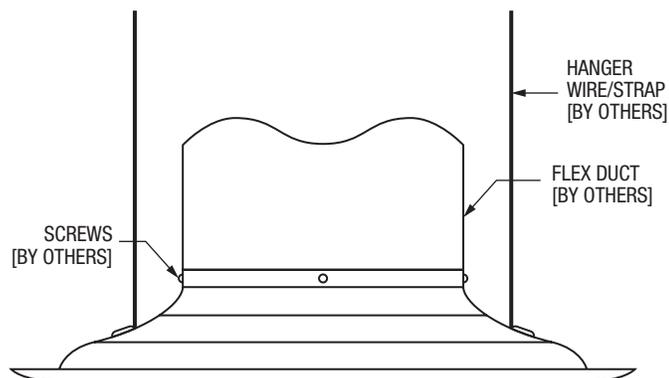
STEP 2: Remove the diffuser's inner cone assembly (see Page 3).



STEP 3: Align and fasten the outer cone's inlet to the flex duct. Inlet collar or sheet metal band (by others) can be used to fasten the inlet to the duct.



STEP 4: Lift the diffuser to the appropriate height and screw hanger straps to the diffuser's neck or outer cone. Ensure the screws will not be visible once the inner core is reattached.



ROUND CONE DIFFUSERS

INSTALLATION INSTRUCTIONS - HARD CEILING

Hard Ceiling: Blocking with Flex Duct

NOTE: Ensure blocking has been installed prior to installation of drywall.

STEP 1: Cut the flex duct so it can be access just below the ceiling plane

STEP 2: Install blocking and cross braces. Cross braces should be installed the same distance apart as the duct size (ordered size) and at a height of dimension “C” in the “Reference for Installation of Cross Braces” chart.

STEP 3: Install drywall.

STEP 4: Cut a circular opening in the drywall. The opening should be 2x the size of the nominal duct, as shown in the “Reference for Cutting Drywall” table below.

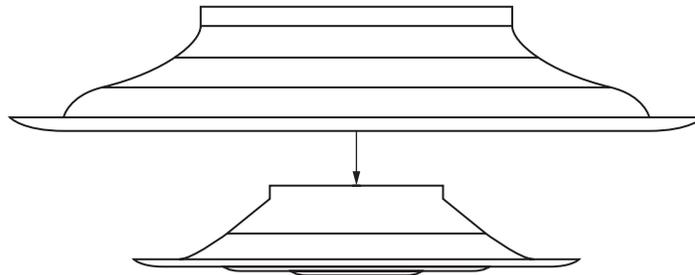
Reference for Installation of Cross Braces

Nom. Duct	“C”
6" (152)	1 5/8"(41)
8" (203)	2 1/8"(54)
10" (254)	2 5/8"(67)
12" (305)	3 1/4"(83)
14" (356)	3 3/4"(95)
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20" (508)	5 5/8"(143)
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30" (762)	8"(203)
36" (914)	8"(203)

Reference for Cutting Drywall

Nom. Duct	Opening Size
6" (152)	12" (305)
8" (203)	16" (406)
10" (254)	20" (508)
12" (305)	24" (610)
14" (356)	28" (711)
16" (406)	32" (813)
18" (457)	36" (914)
20" (508)	40" (1016)
24" (610)	48" (1219)
30" (762)	60" (1524)
36" (914)	60" (1524)

STEP 5: Remove the diffuser’s inner cone assembly (see Page 3).

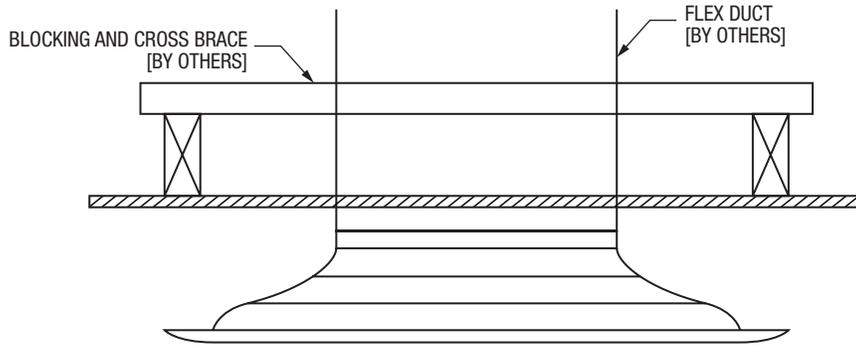


ROUND CONE DIFFUSERS

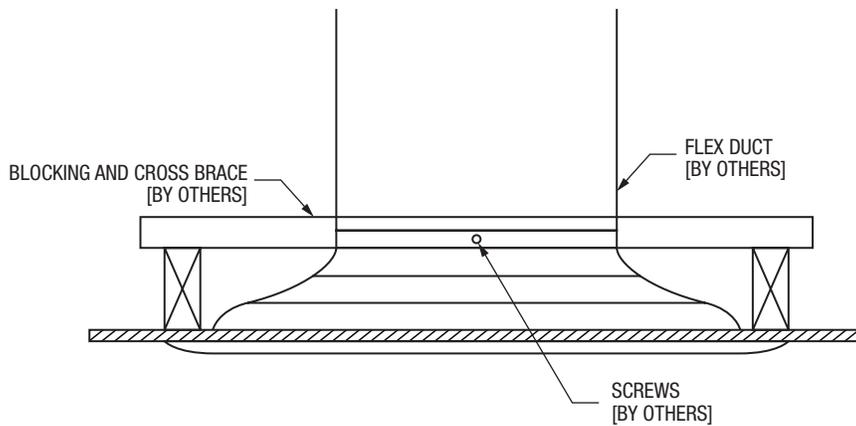
INSTALLATION INSTRUCTIONS - HARD CEILING

STEP 6: Using a tie strap or screws (by others) secure the flex duct onto the diffuser neck.

STEP 7: Push the diffuser and flex duct assembly into the ceiling opening so the outer cone of the diffuser meets the drywall



STEP 8: Align and fasten the outer cone's inlet to the duct. Inlet collar or sheet metal band (by others) can be used to fasten the inlet to the duct.



STEP 9: Reattach diffuser inner core (see page 3).

ROUND CONE DIFFUSERS

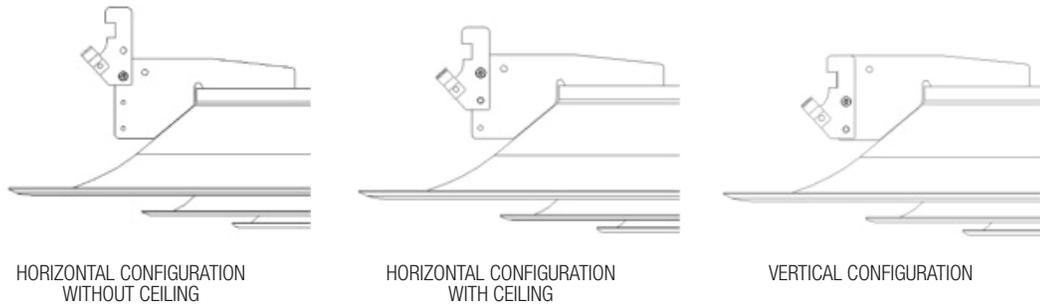
INSTALLATION INSTRUCTIONS - GENERAL

Inner Cone Position Adjustments

3 Position (RCD/ARCD)

The RCD and ARCD have 3 fixed inner cone positions. The higher the position of the inner cone assembly, the more vertical the throw will be.

The position of the inner cone assembly can be adjusted by removing the inner cone assembly and repositioning the web clip. To reposition the web clip, remove the positioning screws and align the hole with the new desired position. Insert the positioning screws in the new position and tighten.

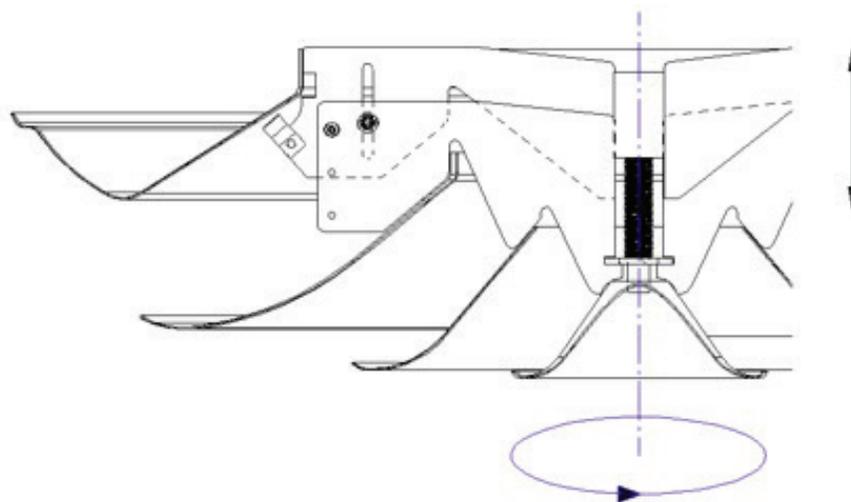


Fully Adjustable (RCDA)

The RCDA is fully adjustable; the center cone can be rotated to adjust the position of the inner cone assembly. The higher the position of the inner cone assembly, the more vertical the throw will be.

To raise the inner cone assembly, rotate the center cone clockwise.

To lower the inner cone assembly; rotate the inner cone counter clockwise.



ROUND CONE DIFFUSERS

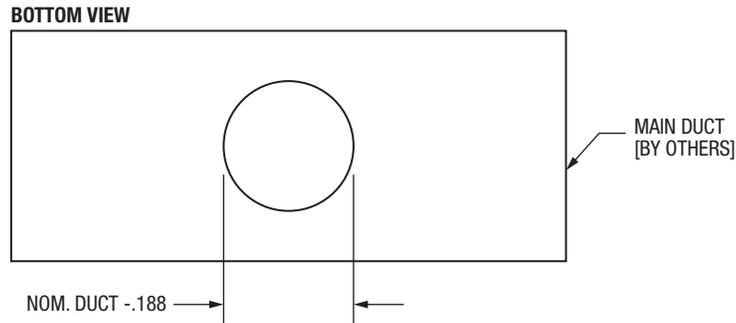
INSTALLATION INSTRUCTIONS - GENERAL

Accessory Installation

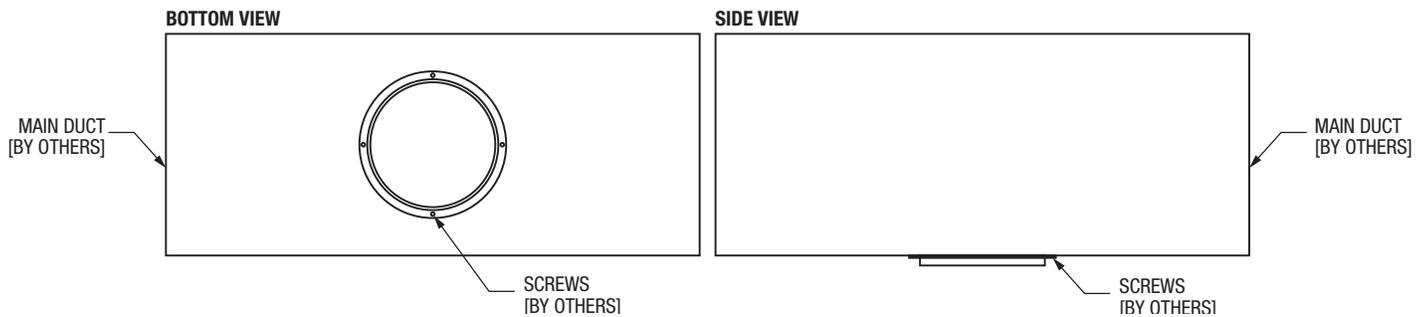
DRF Duct Ring Flange Installation

NOTE: Typically used for hard duct installation.

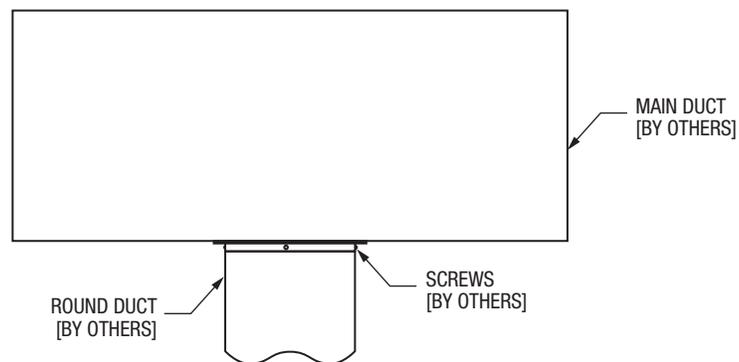
STEP 1: Cut a round hole in main duct.



STEP 2: Align the DRF flange with the round opening in the main duct. Ensure that the hole in the main duct aligns with the inside of the DRF. Screw the DRF into the main duct using self-tapping screws.



STEP 3: Once the DRF is securely fastened, align the hard round duct around the DRF and screw the hard ducting into the DRF using self-tapping screws.



ROUND CONE DIFFUSERS

INSTALLATION INSTRUCTIONS - GENERAL

PR Plaster Ring Installation

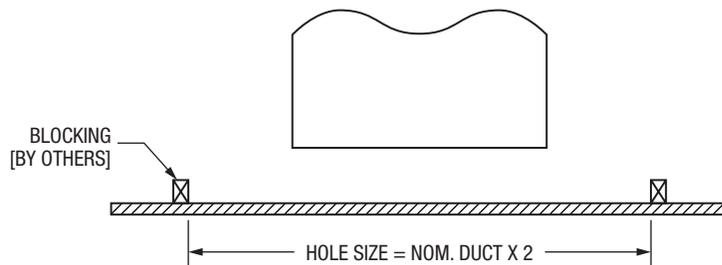
NOTE: Ensure blocking has been installed prior to the installation of the plaster ring.

STEP 1: Install blocking for the PR prior to installation of drywall. The distance between the blocking/framing should be twice the size of the nominal duct size.

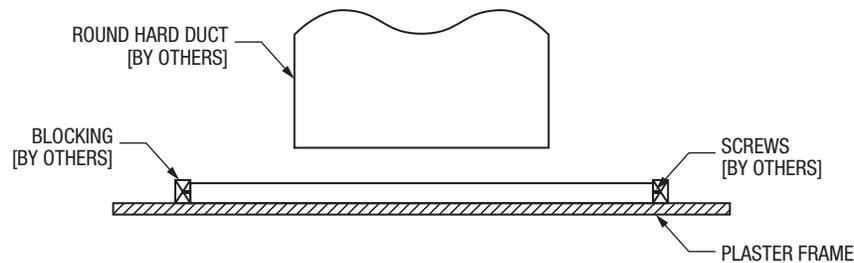
STEP 2: Install drywall.

STEP 3: Cut circular opening in the drywall where the diffuser will be installed. The opening dimension should be twice the size of the nominal duct size, the nominal duct size can be found on the line string.

Sample line string: RCD//14/////////B12



STEP 4: Push the PR in the opening so that the bottom flange of the PR comes in contact with the ceiling. Once in place, screw the PR into blocking using self-tapping screws.



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