



Duct diffuser  
**DRA**



# Maintenance and installation guide



**KEEP THIS GUIDE**

# nadklima.com

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## CONFIGURATION

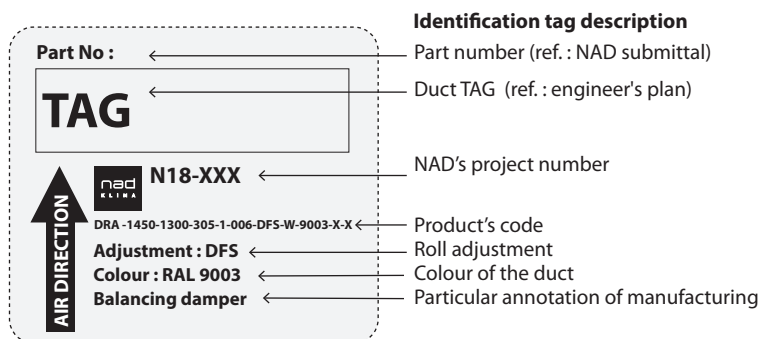
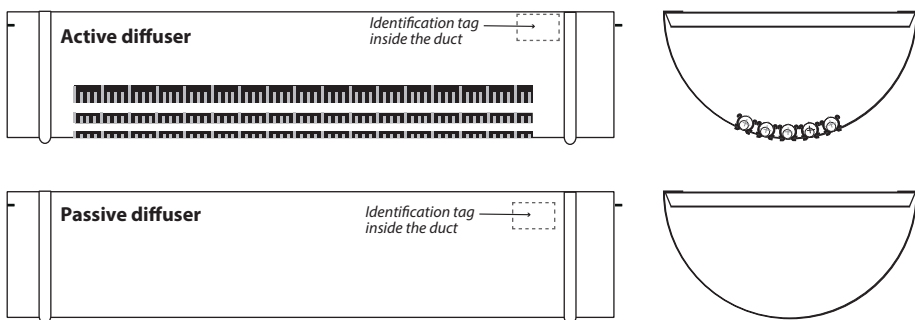
The DRA is a semi-circular diffuser with a smooth finish on which slots are mounted in the direction of the length. The number of slots is determined by the quantity of air flow required and the diameter of the duct.

The DRA diffuser is made of galvanized steel covered with powder coated paint. The standard manufacture size is 1450 mm (57 in.) long. Alternatively, it is available in different lengths to meet your needs.

The slots contain 100 mm long ABS eccentric rollers (black, cream or white).

Thanks to the eccentric rollers, the semi-circular DRA diffuser is able to offer multi-directional air flow. The eccentric rollers are provided with alphanumeric guides which allow adjustment of the airflow pattern across a 180° range. The DRA diffuser is constructed in diameters from 305 mm up to 1118 mm.

Passive ducts without slots are available in the same dimensions as the active DRAs in order to ensure the uniformity of the duct network.



# INSTALLATION OF DUCT DIFFUSER

## Installation directly on to the ceiling

As indicated in illustration A, calculate the exact distance (width of duct minus 4 inches) between the holes provided for suspension situated on top of the diffuser. (Flat side)

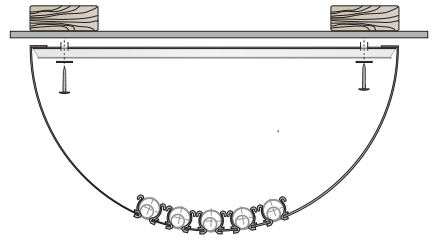
Make sure the ceiling is strong enough to support the weight of the diffuser.  
To evaluate the weight of the diffuser, consult page 11 of the DRA catalogue.

Once the diffuser is in place, secure it to the ceiling.

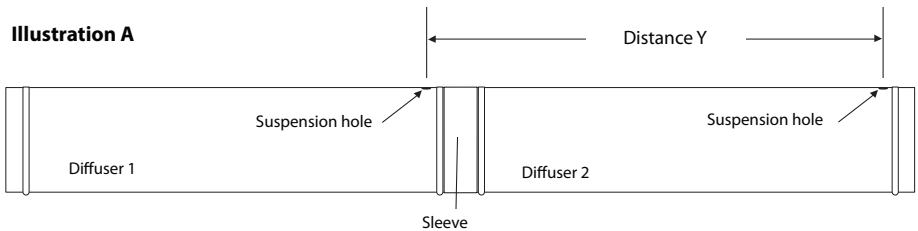
With screws adapted to the type of ceiling.  
(Screws and washers are not included)

At the output end of the duct an exterior projection will serve as a support to the interior fold of the next duct. In order to link the two ducts together, an adapted sleeve covers the joint and is secured to both ducts with screws to the underside of the diffuser.

**Warning: The last duct has two interior folds to accept the end cap. It is therefore important to follow the indications on the ducts specifying the direction of installation.**



**Illustration A**



# JOINING TWO DIFFUSERS

## A) Install the second diffuser

- In the exterior projection lay down a bead of sealant in order to hermetically seal the junction of the two diffusers. (See illustration A)

- Slide the second duct delicately onto the exterior projection of the first duct already installed.

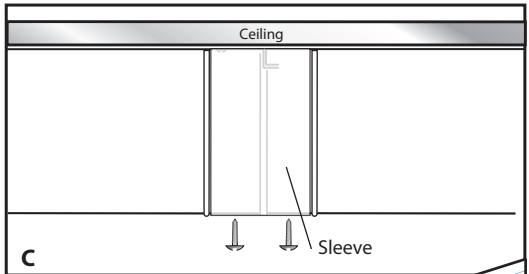
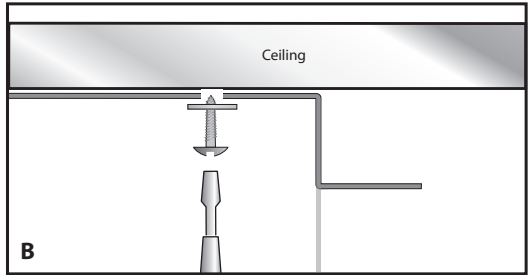
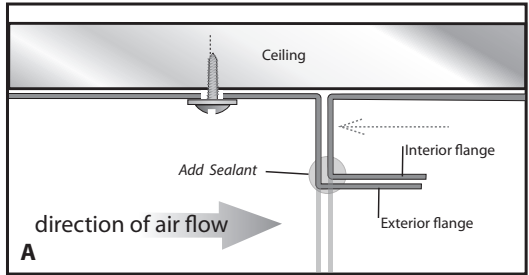
- Secure the new duct to the ceiling with the screws adapted to the type of ceiling.

*Screws and washers not included*  
(See illustration B)

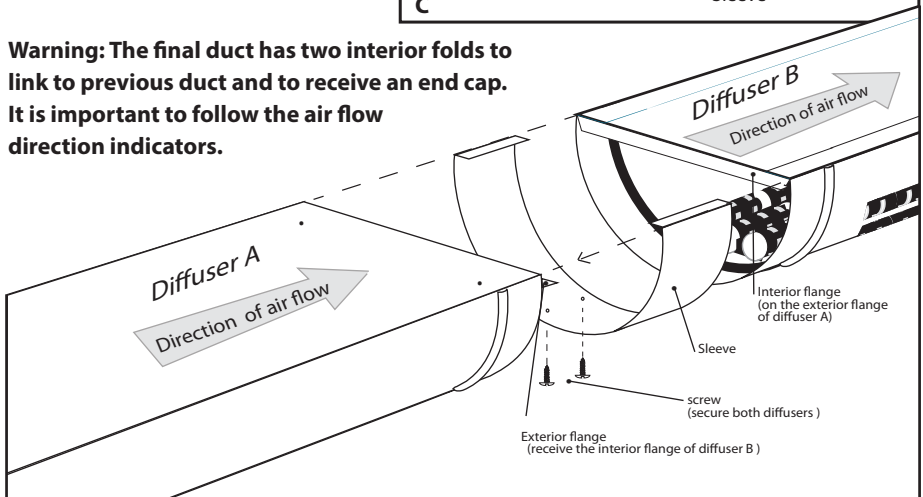
Install the sleeve making sure to cover the joints of both diffusers.

Secure the sleeve with screws provided. (See illustration C)

## B) Proceed in the same manner for all subsequent ducts



**Warning: The final duct has two interior folds to link to previous duct and to receive an end cap. It is important to follow the air flow direction indicators.**



# SUSPENSION OF THE DRA DIFFUSER

## to the ceiling with rail

### A) Installation of rails

As indicated in illustration A, calculate the exact distance between the predrilled holes situated on top of the diffuser.

To calculate distance X, subtract 100 mm (4 in.) from the width of the diffuser.

Transfer measurement X to the ceiling and secure rails to the ceiling.  
(center / center). (See 1)

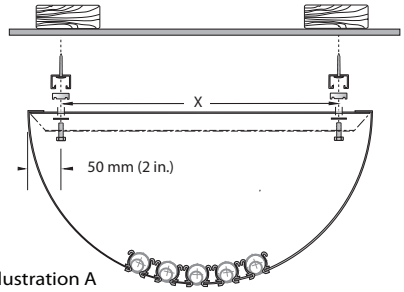


Illustration A

### B) Install nylon guide assembly

Place bolts with washers inside diffuser in both corners behind exterior projection

Screw bolts with pre-inserted washer through the duct and to the nylon guide. (See 2)

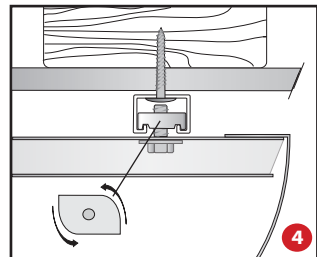
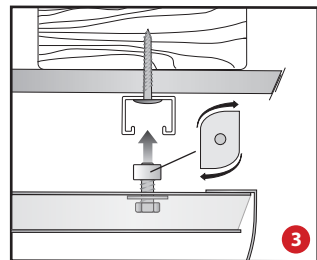
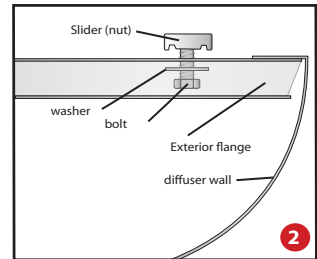
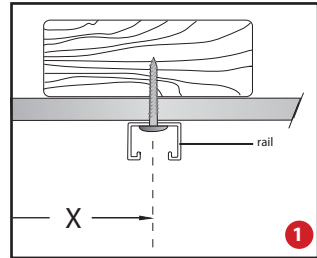
DO NOT TIGHTEN COMPLETELY AT THIS TIME

### C) Suspension of diffuser

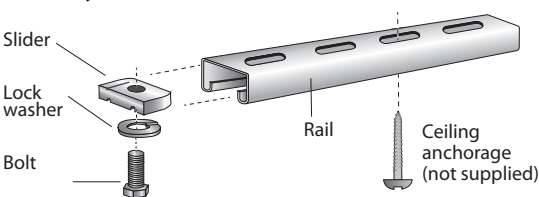
Once both guides are installed pivot guide lengthwise to enable it to fit freely inside the rail.

(See 3)

The diffuser will be supported while you tighten the bolts. (See 4)



### Necessary hardware



# JOINING TWO DRA DIFFUSERS

## on rails

### Install the second diffuser

- In the exterior projection lay down a bead of sealant in order to hermetically seal the junction of the two diffusers.  
(See illustration A)

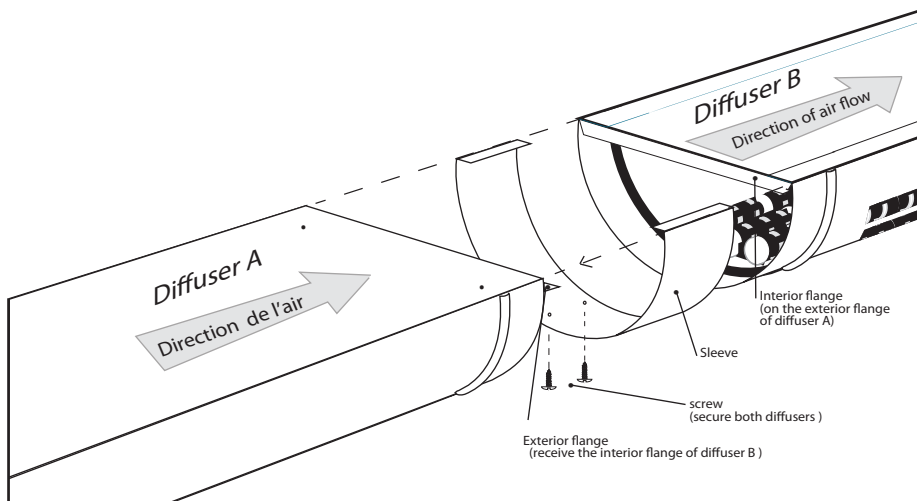
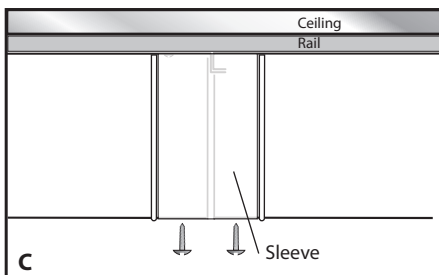
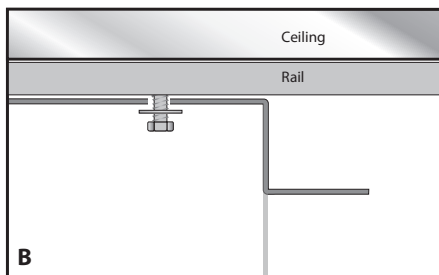
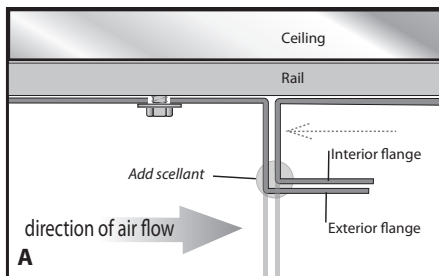
- Slide the second duct delicately onto the exterior projection of the first duct already installed.

- Secure the new duct to the ceiling  
With the screws adapted to the type of ceiling. Screws and washers not included  
(See illustration B)

-Install the sleeve making sure to cover the joints of both diffusers.  
Secure the sleeve with screws provided.  
(See illustration C)

**Proceed in the same way for the remaining ducts.**

**Warning: The final duct has two interior folds to link to previous duct and to receive an end cap. It is important to follow the air flow direction indicators.**



# SUSPENSION OF DRA DUCT DIFFUSER

## Threaded rod (not supplied)

Please note that in the case the duct is suspended on threaded rods all the hardware is supplied by the installation contractor, only the rod covers can be supplied by the manufacturer.

### A) Installation of threaded rods

- Calculate the desired distance between the ceiling or anchor point and the top of the diffuser and add 1 inch (25 mm).
- Not the distance between the two anchor holes on top of the diffuser.  
(See "X" on illustration B).

Finally, calculate the distance between hole once the diffusers are installed. (see on illustration A).

Secure the 3/8" threaded rods (not supplied) to the ceiling while respecting the distance X and the distance between the ceiling and the top of the diffuser plus 1 inch.

### B) Installation of rod covers. (if required)

Slide the rod cover (precut to length equal to distance between ceiling and top of diffuser) over the threaded rod.

### C) Installation of diffuser

As illustrated in C insert threaded rod in the anchor hole on the top of the diffuser

- Insert washer.
- Insert first adjustment nut.
- Insert second locking nut

**Proceed in the same manner for remaining ducts.**

**Warning: The final duct has two interior folds to link to previous duct and to receive an end cap. It is important to follow the air flow direction indicators.**

Illustration A

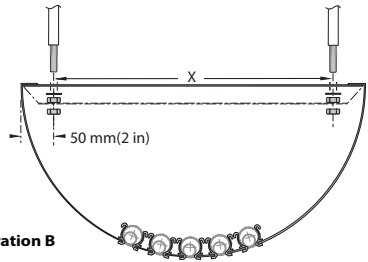
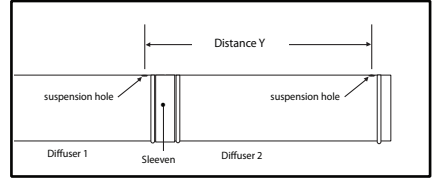


Illustration B

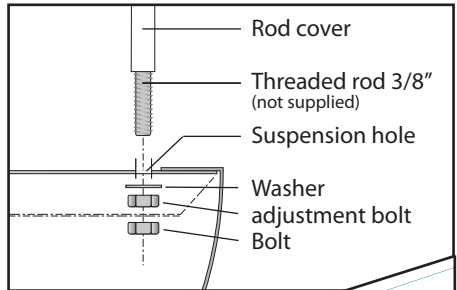
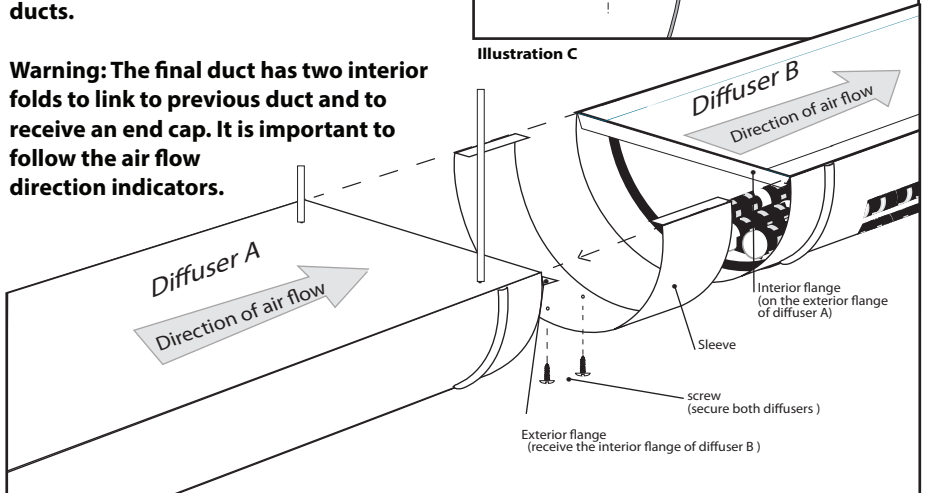


Illustration C



# SUSPENSION OF DRA DIFFUSER

## Metallic cables

### A) Installation of suspension cables

Calculate the desired distance between the ceiling or anchor point and the top of the diffuser and add 1 inch (25 mm). Note the distance between the two anchor holes on top of the diffuser. (See illustration B)

Finally, calculate the distance between hole once the diffusers are installed. (see illustration A).

Secure metallic cables to the ceiling while respecting the distance X and the distance between the ceiling and the top of the diffuser plus 1 inch.

### B) Installation of the diffuser

As indicated in illustration C, insert bolt in anchor hole located on top of the diffuser. Insert washer. Insert bolt.

### C) Adjusting height of diffuser

As indicated in illustration C, insert cable through pin and throttle and adjust height of diffuser.

Cut excess cable

### D) Install the sleeve covering the joint between the two diffusers.

Secure sleeve with screws provided (See drawing on page 5, C)

**Warning: The final duct has two interior folds to link to previous duct and to receive an end cap. It is important to follow the air flow direction indicators.**

Illustration A

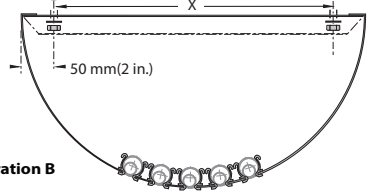
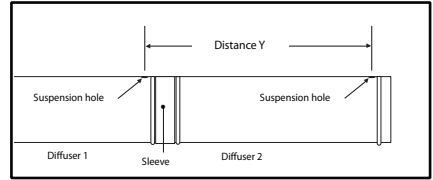


Illustration B

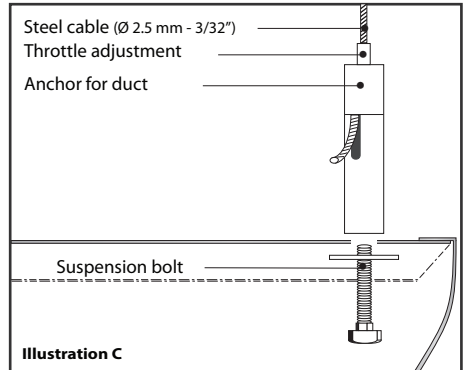
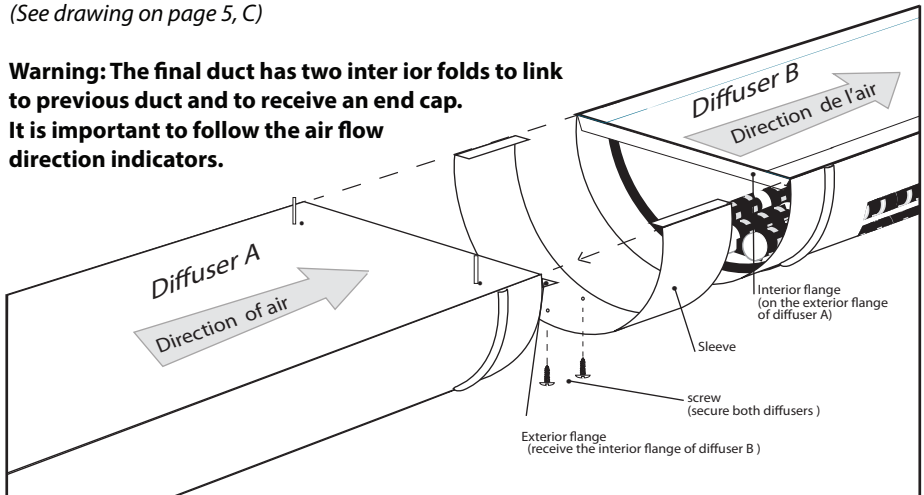


Illustration C





# AJUSTEMENT DU JET D'AIR POUR LE DRA

## Setting of the air jet direction

Thanks to the shape of the eccentric rollers and adjustment dial with alphanumeric characters, the air jet's direction at the diffuser's outlet can vary up to 180°. For each direction, there are two (2) rollers positions ("reduced" or "not reduced"), as illustrated in figure E.

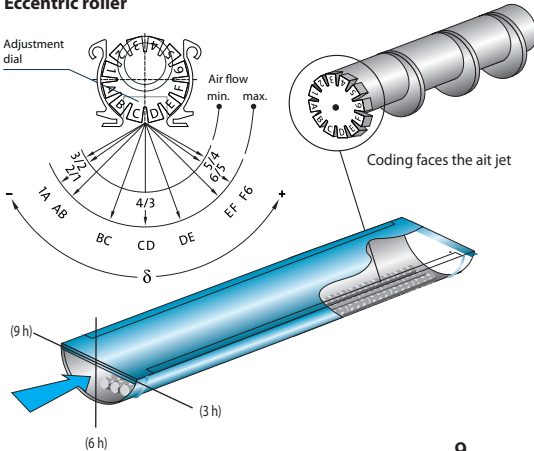
The length of each roller is 100 mm and they are individually adjustable. As a result, the combinations of airflow are almost infinite. In manufacturing, the ducts are individually adjusted for each project. The standard setting for the rollers is set to diffusion mode in positions "21" and "65" alternately. This setting produces strong induction, which can be used to meet heating and cooling needs, thereby creating high mixing levels.

As a result, the divergent mode allows jets to blow in more accurate directions.

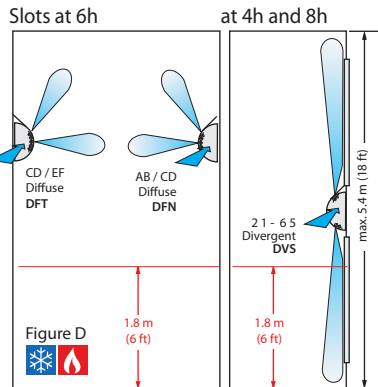
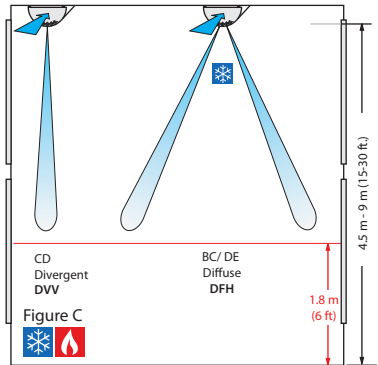
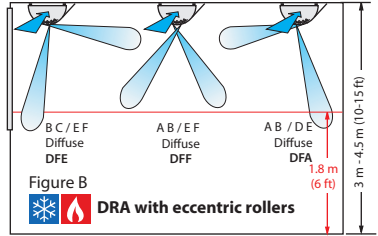
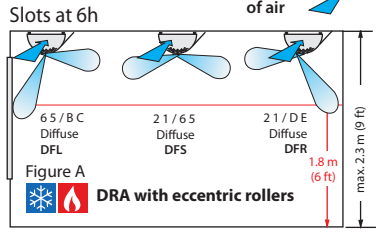
This mode also allows a longer projection of the airflow. In specific zones, which are usually difficult to cover, a specialized setting can be created. Figures C and D show the relationship between the position of the eccentric roller and the direction of exiting airflow. Note that to maximize air projection, multiple jets can be orientated in the same direction to optimize the coverage of a zone, even when heating.

Figure E

### Eccentric roller

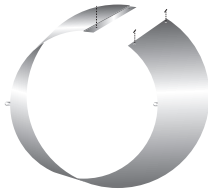


## Examples of adjustments



# Collar

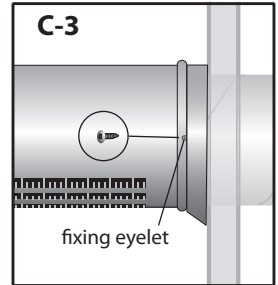
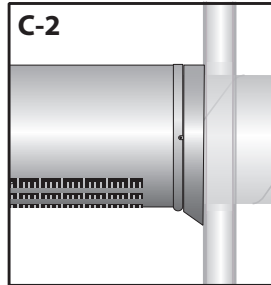
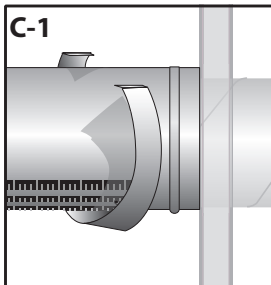
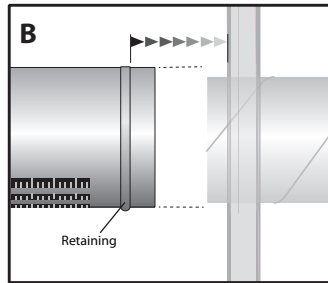
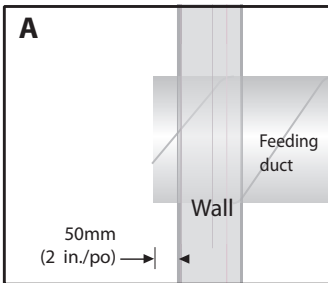
## CONFIGURATION



**A)** Make sure the supply duct extends from the wall 50 mm (2 inches) (*illustration A*)  
This step is very important and the dimensions (50 mm, 2 inches) must be respected. The diameter of the supply duct must be smaller than the NAD diffuser

**B) Installation of the duct** (*illustration B*)  
Slowly slide the NAD diffuser inside the supply duct up to the retaining bead.

**C) Installation of the collar**  
Open the collar completely and wrap it around the duct (*See C-1*).  
Secure the collar with the 2 screws supplied. (*See C-2*).  
Slowly push the collar towards the wall and secure it with 2 screws in the anchor eyelets. (*C-3*).

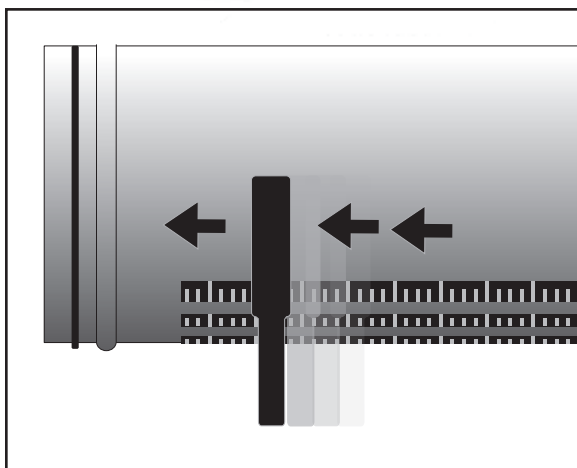


## Maintenance

The NAD Klima DRA diffuser requires no special maintenance other than periodic cleaning.

We recommend cleaning the diffuser with a multi-filament brush or microfiber duster that you will pass softly on the diffuser. The thermo-lacquered finish allows for easy cleaning of the diffuser as dust does not stick to it.

When cleaning, gently move the brush or duster in the same direction as the rollers so as not to change their adjustment\*



## IMPORTANT

### \* RE-ADJUSTMENT OF THE DRA ECCENTRIC ROLLERS

If, during the cleaning of the DRA diffuser a disalignment the airflow occurs, it is important to realign them in the original position to maintain the full effectiveness of your diffuser.

Only a technician specializing in air balancing is qualified to restore the adjustment of the rollers to their initial position.

To do this, he must have access to the initial data and engineering requirements and follow the instructions provided in this manual on page 9.



Qualité  
NAD Klima®

NAD Klima diffusers are the result of a manufacturing process in which our experts successfully meet your requirements and particular challenges.

Our range of equipment comprises the latest technological innovations.

Our passion for work well done and digital precision ensure that the resulting product will guarantee the highest standards.

Manufactured in Sherbrooke, Quebec, (Canada) and distributed all across North America, our products raise the bar in terms of standards of quality, efficiency and energy savings.

NAD Klima is always striving to provide better comfort to consumers.

All products of NAD Klima are the pride of an inventive, innovative and devoted team.

Our goal is not only to supply diffusers, but to create outstanding results.

We are NAD Klima.



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