



Linear diffuser  
**SAL 35 / 50**



# Maintenance and installation guide



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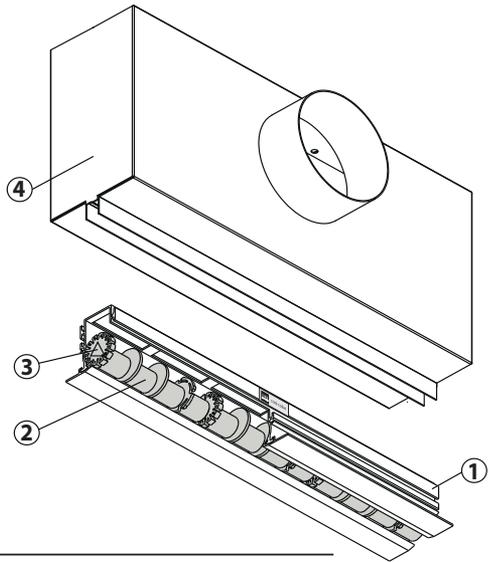
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## COMPOSITION

The SAL linear slot diffuser is comprised of a profile of extruded aluminum (1) with an additional profile, narrow or wide, eccentric rollers (3) sliding into the profile and revolving a full 360°, and a plenum (4).

- ① Extruded aluminum profile
- ② Eccentric rollers
- ③ Display and adjustment dial
- ④ Plenum

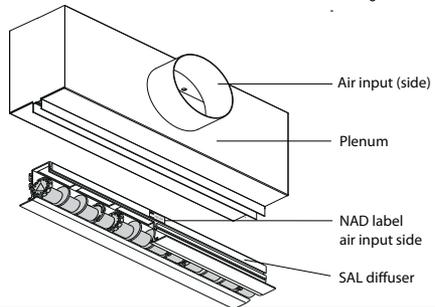


## DIFFUSER ORIENTATION

### Ceiling installation with input on side

The adjustable side of the cylinder must be at the left of the air input.

When assembling, the NAD label should be placed on the same side as the air input.



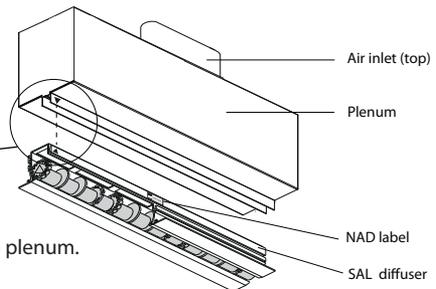
### Ceiling installation with input on top

The adjustable side of the cylinder must be at the left of the air input.

To install the diffuser in the plenum, align the two arrows.

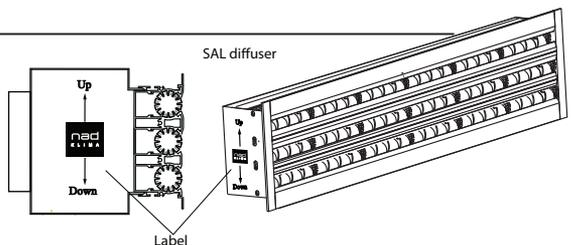
In the case where the diffuser's adjustment is asymmetrical, refer to the positioning label on the plenum.

To ensure a good operation during assembly, follow the numbering of diffusers with the plenum.



### Wall installation

During assembly, follow the direction indicated on the label to the left of the plenum.

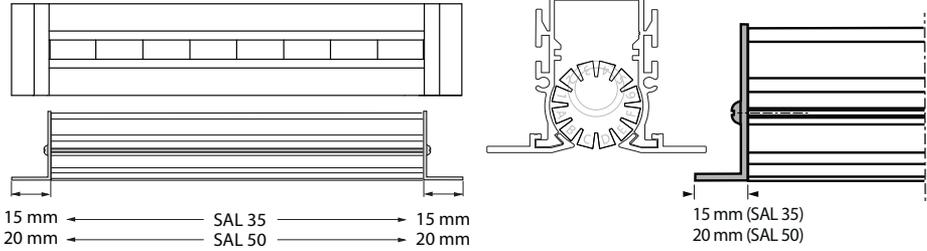


## END CAPS AND PROFILES

### PL with large profile

for installation in suspended ceiling (T-bar), gypsum ceiling or in free suspension

End cap in "L" shape



**PLR:** with end cap in "L" shape on right side

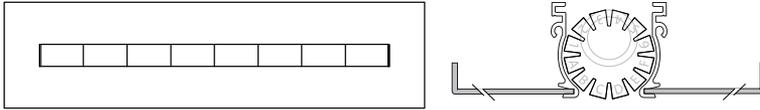
**PLL:** with end cap in "L" shape on left side

**PL2:** with end cap in "L" shape on 2 sides

**PSP:** without end cap in "L" shape on 2 sides

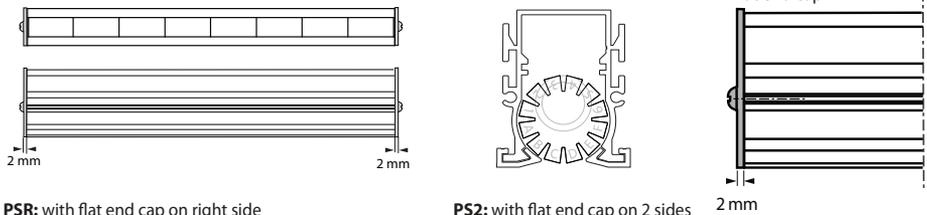
### APA on steel plate

for installation in a special ceiling (custom made)



### PS with narrow profile

for installation in a gypsum ceiling and architectural



**PSR:** with flat end cap on right side

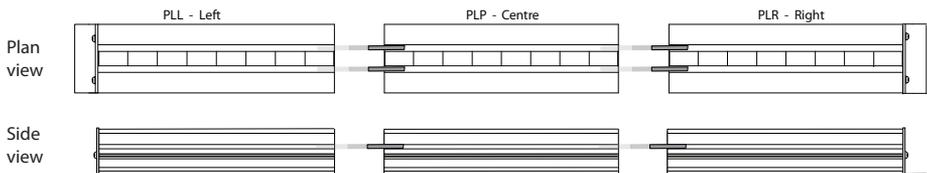
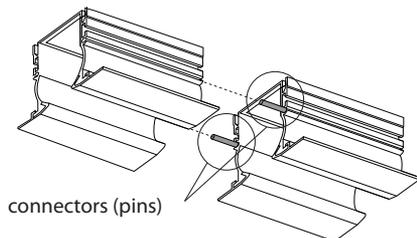
**PSL:** with flat end cap on left side

**PS2:** with flat end cap on 2 sides

**PSP:** without end cap on 2 sides

### Diffuser unit connection for installation

in series in a gypsum ceiling or in free suspension



## INSTALLATION IN A GYPSUM CEILING - Large profile

### Installing the plenum

Secure anchor wires to the ceiling.  
Measure suspension height and plenum dimensions.

- The suspension wires must be aligned with the holes intended for this purpose, on the top of the plenum.
- As drawing "A" indicates, install the plenum in the opening by adjusting its height so that the plenum is 3 mm (1/8") to 6 mm (1/4"), recessed in the gypsum ceiling.

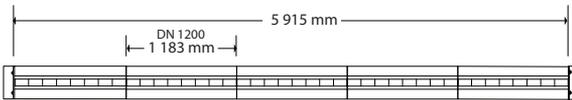
### Opening in the gypsum

Determine the exact size of the opening

For hole **width**, identify the number of slots on your diffuser and refer to the chart giving the exact width of the opening.

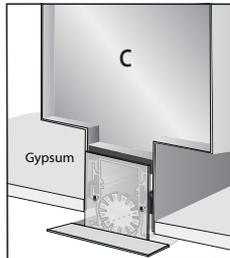
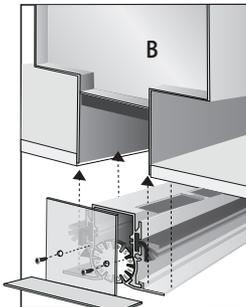
For hole **length**, identify the nominal dimension (DN) of your diffuser by referring to the chart and add 8 mm (5/16 in) to this dimension.

**Note:** When you have multiple diffusers installed in series, add the length of each diffuser (ex. 5 diffusers DN 1200 with a length of 1183 mm = 5915 mm), then to this total add 8 mm (5/16 in). The total length of the opening is 5923 mm (233 in).

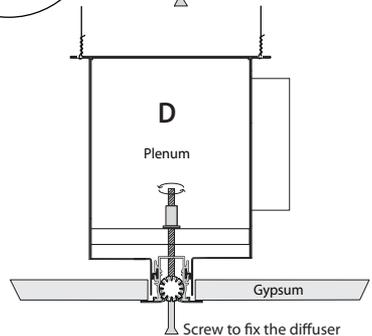
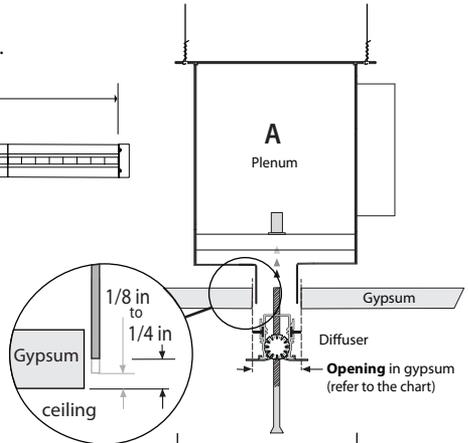


### Installing the diffuser

- Align the diffuser according to the instructions on page 2 of this document.
- Using gentle pressure, insert the diffuser in the plenum (B and C).
- Secure it with the screws provided for this purpose (D).
- In order to align the diffuser properly, the manufacturer recommends initial tightening of the screws to be done by hand.



OPENING IN THE CEILING				
Number of slots	Width		Length - see Note	
	SAL 35 (mm)	SAL 50 (mm)	SAL 35	
			DN (mm)	DN (mm)
1	40	53	300	298
2	73	97	300	398
			600	600
3	105	142	600	497
			750	750
4	138	186	900	573
			900	900
5	170		1050	696
			1050	1050
6	203		1200	795
			1200	1173
7	235		1350	895
			1350	1350
8	268		1500	994
			1500	1500
9	300		1650	1093
			1650	1650
10	333		1800	1183
			1800	1800
			1950	1292
			1950	1950
			2000	1392
			2000	1491
			2000	1590
			2000	1690
			2000	1789
			2000	1889
			2000	1988



# INSTALLATION IN A GYPSUM CEILING - Narrow profile

## Installing the plenum

Secure anchor wires to the ceiling.  
Measure suspension height and plenum dimensions.

- The suspension wires must be aligned with the holes intended for this purpose, on the top of the plenum.
- As drawing "A" indicates, install the plenum in the opening by adjusting its height so that the plenum is 3 mm (1/8 in) to 6 mm (1/4 in), recessed in the gypsum ceiling.

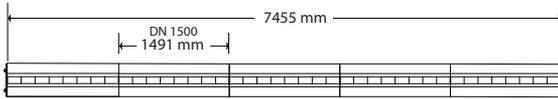
## Opening in the gypsum

Determine the exact size of the opening.

For hole **width**, identify the number of slots on your diffuser and refer to the chart giving the exact width of the opening.

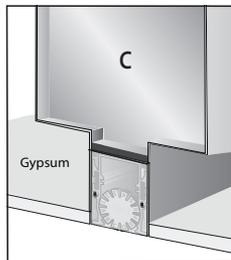
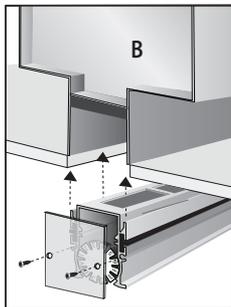
For hole **length**, identify the nominal dimension (DN) of your diffuser by referring to the chart and add 2 mm (1/16 in) to this dimension.

**Note:** When you have multiple diffusers installed in series, add the length of each diffuser (ex. 5 diffusers DN 1500 with a length of 1491 mm = 7455 mm), then add 2 mm (1/16 in). The total length of the opening is 7457 mm.

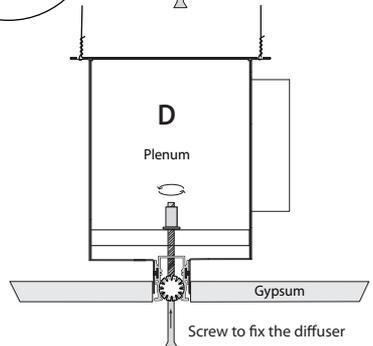
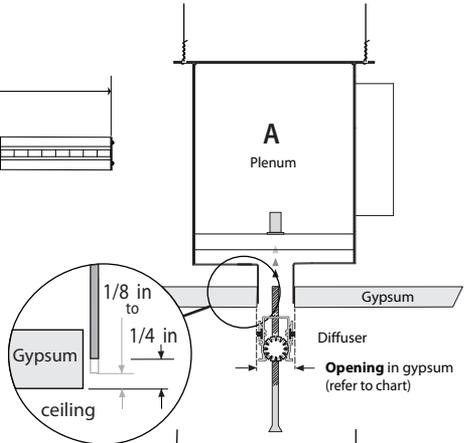


## Installing the diffuser

- Align the diffuser according to the instructions on page 2 of this document.
- Using gentle pressure, insert the diffuser in the plenum (B and C).
- Secure it with the screws provided for this purpose (D).
- In order to align the diffuser properly, the manufacturer recommends initial tightening of the screws to be done by hand.



OPENING IN THE CEILING						
Width			Length - see Note			
Number of slots	SAL 35	SAL 50	SAL 35		SAL 50	
	(mm)	(mm)	DN	(mm)	DN	(mm)
1	38	51	300	298	300	300
2	71	95	400	398	600	563
			500	497	750	750
3	103	140	600	573	900	900
			700	696	1050	1050
4	136	184	800	795	1200	1173
			900	895	1350	1350
5	168	233	1000	994	1500	1500
			1100	1093	1650	1650
6	201	266	1200	1183	1800	1800
			1300	1292	1950	1950
7	233	298	1400	1392		
			1500	1491		
8	266	331	1600	1590		
			1700	1690		
9	298	331	1800	1789		
			1900	1889		
10	331	331	2000	1988		



## INSTALLATION IN SUSPENSION

### Installation of "T" supports

Determine the exact location of T supports (according to north american standards).

Use the table below to determine the distance between them.

Number of slots		1	2	3	4	5	6	7	8	9	10
Width between "T" supports (c/c) (mm)	SAL 35	64	97	129	162	194	227	259	292	323	356
	SAL 50	79	123	168	213						

### Diffuser installation

The diffuser is mounted on the plenum at the factory.

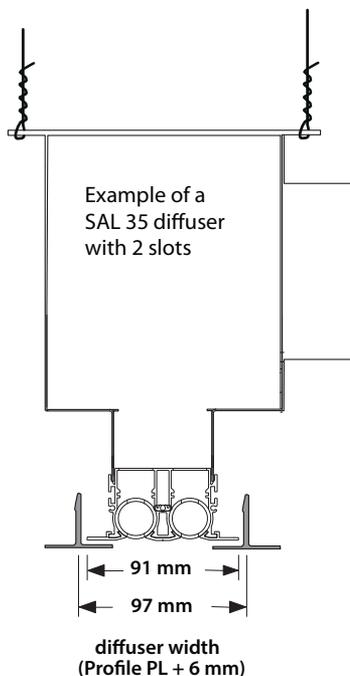
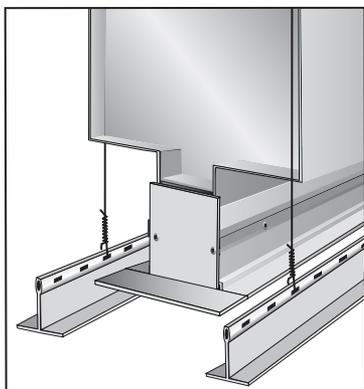
Place the diffuser and the plenum in the spot beforehand prepared, between "T-Bars".

### Suspension installation

Anchor suspension pins to the ceiling.

Measure suspension height and plenum dimensions.

The suspension wires must be aligned with the predrilled holes, on the top of the plenum.



## APA DIFFUSER INSTALLATION

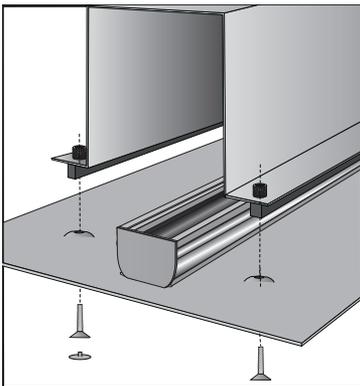
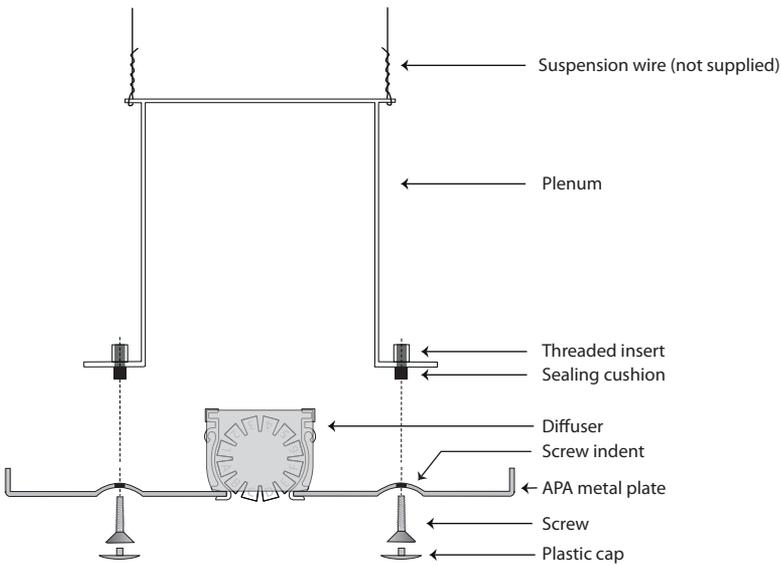
Each APA plate is manufactured and tailored to the dimensions supplied by the customer. The diffuser is created at the factory, as rollers are inserted into the plate.

### Plenum installation

Secure the suspension wires (not supplied) to the ceiling.  
Measure the suspension height and the precise dimensions of the APA diffuser.  
Suspend the plenum by attaching the suspension wires to the predrilled holes on the plenum.

### APA diffuser installation

Position the APA diffuser by inserting it delicately in the plenum.  
Align the screw indents with the threaded inserts located on the edge of the plenum.  
Secure the diffuser to the plenum with the screws provided.  
Cover the screws with plastic caps.



## RETURN INSTALLATION

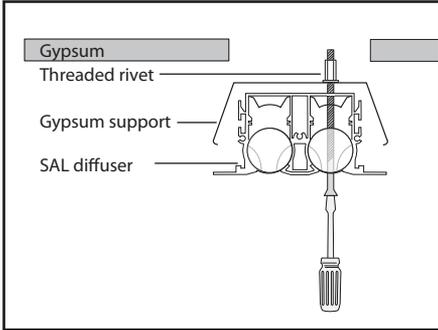
### Installation of a gypsum support (return)

Support for SAL  
with 1, 2, or 3 slots only.

**1**

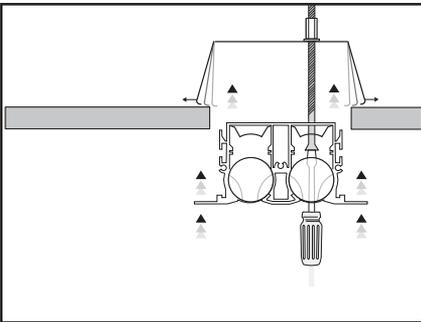
Insert screw in the threaded rivet of gypsum support.

**Do not screw completely.**



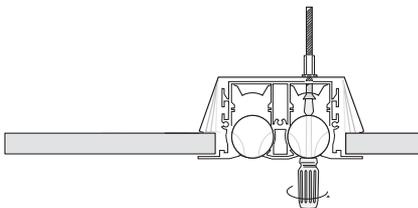
**2**

With a screwdriver, push slowly the SAL and the support in the hole cutted in the gypsum.



**3**

Do not screw too much to avoid damaging the gypsum. Screw to the right fit.



### Gypsum ceiling installation with return plenum SAL with 4 slots and more

#### Installing the return plenum

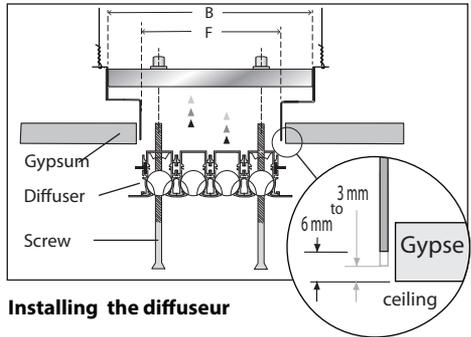
Secure anchor wires to the ceiling.

Measure suspension height and plenum dimensions.

- The suspension wires must be aligned with the holes intended for this purpose, on the top of the plenum.
- As drawing "A" indicates, install the plenum in the opening by adjusting its height so that the plenum is 3 mm (1/8 in) to 6 mm (1/4 in), recessed in the gypsum ceiling.

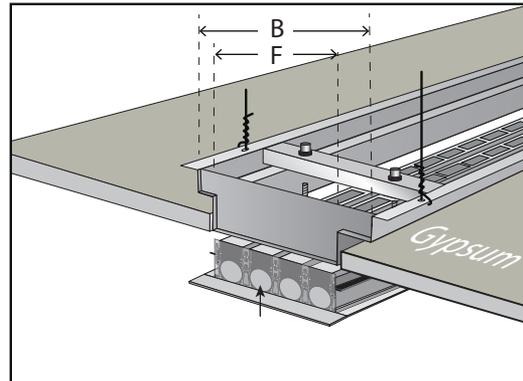
#### Opening in the gypsum

Determine the exact size of the opening. Refer to the table on page 5.

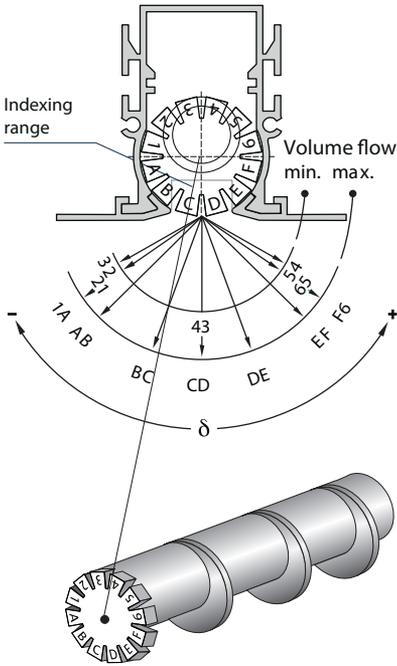


#### Installing the diffuseur

- Using gentle pressure, insert the diffuser in the plenum.
- Secure it with the screws provided for this purpose.
- In order to align the diffuser properly, the manufacturer recommends initial tightening of the screws to be done by hand.



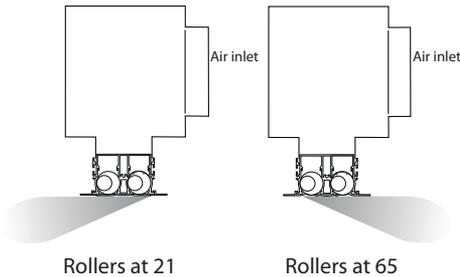
# AIR JET DIRECTION ADJUSTMENT



## Eccentric roller

The adjustment dial on the eccentric roller allows an air jet direction adjustment.

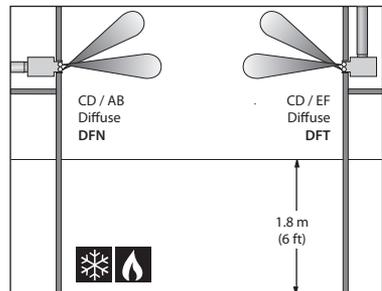
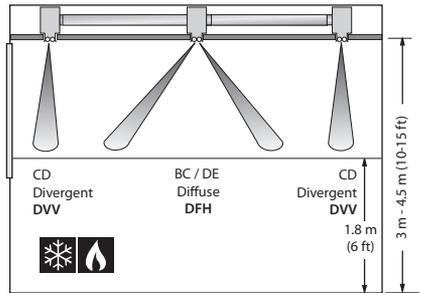
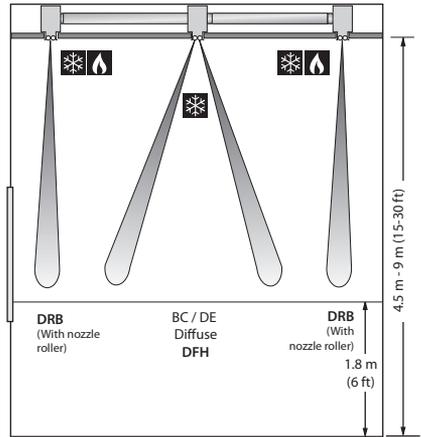
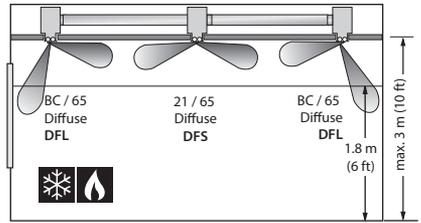
## Air jet on one side



**Caution:** If you change the air jet direction, other than manufacturer's set up, make sure you are in the right roll direction.

## Examples of application

The diagrams below illustrate the different relationships between eccentric roller position and air jet direction at the roller outlet of a roller.

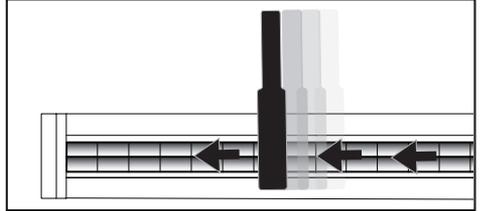


## MAINTENANCE

The NAD Klima SAL 35 and SAL 50 diffusers require no special maintenance other than periodic cleaning.

We recommend cleaning the diffuser with a multi-filament brush or duster microfiber that you will pass softly on the diffuser. It has thermolacquered finish for an easy cleaning, as dust does not stick to it.

When cleaning, gently move the brush or duster in the rollers' direction, so as not to change their adjustment.



## IMPORTANT

### \* RE-ADJUSTMENT OF SAL ECCENTRIC ROLLERS

If, during the cleaning of the SAL 35 or SAL 50 diffusers an airflow disalignment occurs, it is important to realign rollers to their original position, to maintain full effectiveness of your diffuser.

Only a technician specializing in air balancing is qualified to restore roller adjustment to its initial positioning.

To do this, he must have access to the initial data and engineering requirements, then follow the instructions provided in this manual on page 8.

Quality  
NAD Klima®

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.

A leader in air diffusers for LEED projects, NAD Klima is always striving to provide better comfort to consumers.

All NAD Klima products 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.



MADE IN



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