

## LOOK Hidden linear diffusers

The **LOOK** hidden linear diffusers are designed to combine aesthetics with technical performance in HVAC systems.

- Wall or false ceiling mounting hiding the frame with filler and leaving visible only the slot.
- Suitable for air supply and return.
- Adjustable blade to modify the air direction without changing the air flow.
- Optimum performance in CAV or VAV systems.
- Designed for installations between 2.6 and 4 m high, with a temperature differential of up to 12 C°

### Product advantages:

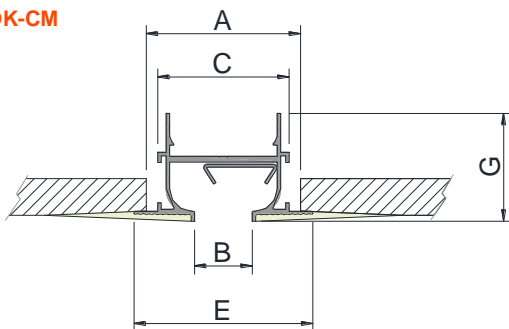
- Maximum architectural integration.
- Allows the formation of continuous diffuser lines, with active and inactive zones, without breaking the aesthetic uniformity.
- Singular facilities.



- Shops
- Hotels and Offices
- Residential

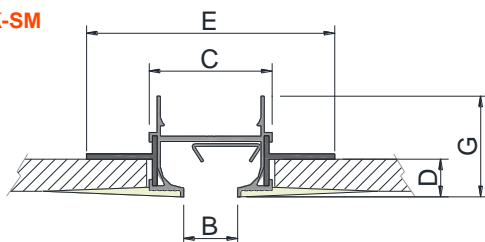


**LOOK-CM**

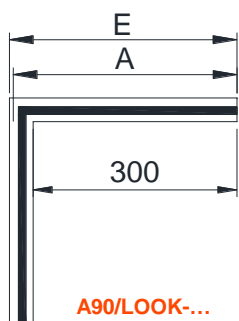
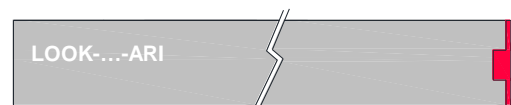
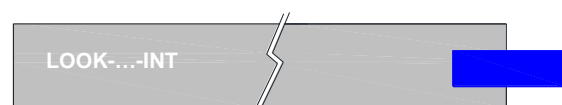
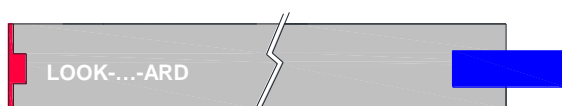
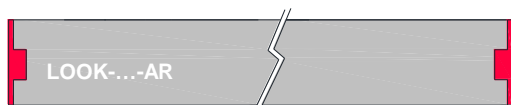


LOOK	A	B	C	G	E
20	55	20	47	38,2	63,5
30	84	30	76	45,2	97,3
40	94	40	86	45,2	107,3

**LOOK-SM**



LOOK	B	C	D	G	E
20	20	47	14	38,2	94,3
30	30	76	14	45,2	123,5
40	40	86	14	45,2	133,5



LOOK-CM	E	A
20	364	359
30	397	391
40	407	401

LOOK-SM	E	A
20	347	347
30	376	376
40	386	386

**A90/LOOK-...**

**CLASSIFICATION**

**LOOK-CM** Diffuser with large frame. Designed to be installed in premises where the false ceiling is already built.

**LOOK-SM** Diffuser with short frame. Designed to be installed in premises where the false ceiling is going to be built after mounting the diffusers.

**...AR** Diffuser suitable for lengths  $\leq 2$  m.

**...-ARI / ARD** Diffuser with an end border on the left or right side, required to form lines  $> 2$  m.

**...INT** Diffuser without end borders, requires to form lines  $> 4$  m.

**MATERIAL**

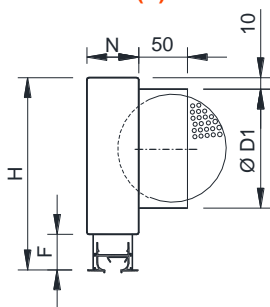
Diffuser constructed from aluminium and vane from galvanised steel.

**ACCESSORIES**

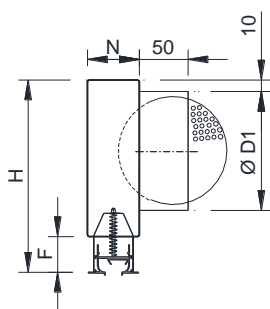
**A90/LOOK-20...40** Inactive diffuser forming a 90° angle.



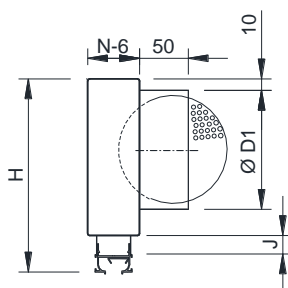
**LOOK-CM (D) + PLOK-CM...-R**



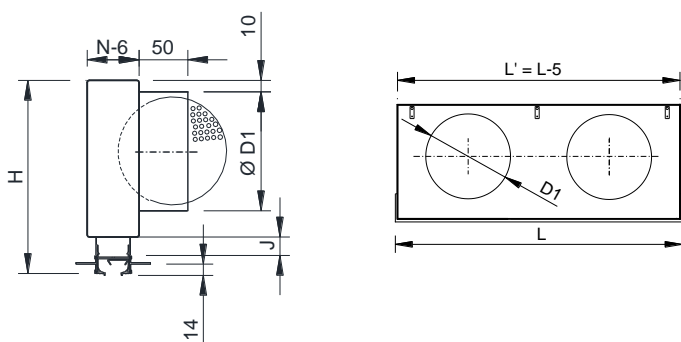
**LOOK-CM (PM) + PLOK-CM...-R**



**LOOK-SM (D) + PLOK-SM...-R**



**LOOK-SM (L) + PLOK-SM...-R**



**ACCESSORIES- PLENUM BOXES**

**PLOK-CM** Plenum box with lateral connection for LOOK-CM. It includes supports to hang from the ceiling. Made in galvanised steel.

**PLOK-SM** Plenum box with lateral connection for LOOK-SM. It includes supports to hang from the ceiling. Made in galvanised steel. Plenum box always riveted to the diffuser.

**...-R** Plenum box with an air flow damper in the spigot.

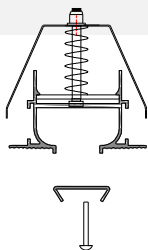
**.../AIS/** Plenum box with thermal insulation inside. Foam density 25 kg / m<sup>3</sup> ISO 845. Thermal conductivity 10° C\_0,040 W / m°K EN 12667. Classified reaction to fire B-s1, d0 EN 13501-1.

Look	L ≤ 0,5		L ≤ 1		L ≤ 1,2		L ≤ 1,5		L ≤ 2		N	F	J
	H	D1	H	D1	H	D1	H	D1	H	D1			
20	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	69	36	14,3
30	256	1/158	256	1/158	256	1/158	256	1/158	256	2/158	98	42	20,3
40	256	1/158	296	1/198	296	1/198	296	2/198	296	2/198	108	42	20,3



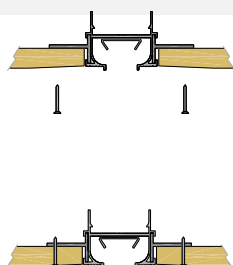
### LOOK-CM (PM)

1 Remove the blade



### LOOK-SM (L)

1 Adjust the blade and screw L



### FIXING SYSTEMS

(D) Support brackets to hang the diffuser from the ceiling or the diffuser riveted to the plenum box.

(PM) Set of crossbars for mounting the LOOK-CM in the false ceiling or for mounting into the plenum box PLOK-CM.

(L) Support brackets to hang the diffuser LOOK-SM from the ceiling or the diffuser riveted to the plenum LOOK-SM+PLOK-SM.

### FINISHES

**R9005M** Painted black RAL 9005 (20-30% gloss)

**R9016S** Painted white RAL 9016 (60-70% gloss)

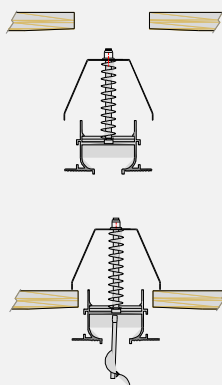
**R9010S** Painted white RAL 9010 (60-70% gloss)

**RAL...** Painted other RAL.

### SPECIFICATION TEXT

Supply and mounting of hidden linear slot diffuser with directional vane, series **LOOK-CM-AR +PLOKCM-R R9005M 20x1000 (D)** constructed from aluminium and steel, paint in black RAL 9005 (20-30% gloss). With lateral circular connection plenum box and air flow damper in the spigot. Manufacturer **MADEL**.

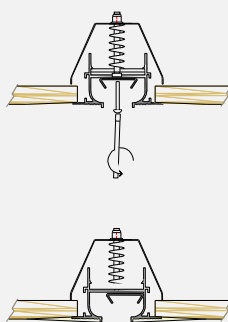
2 Adjust the crossbar



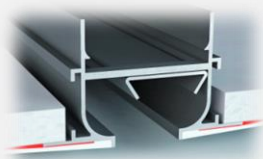
2 Plaster the bonding surface



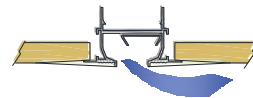
3 Put the blade back



4 Protect with anti-cracks tape and cover the frame with filler

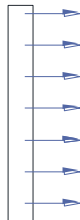


# LOOK

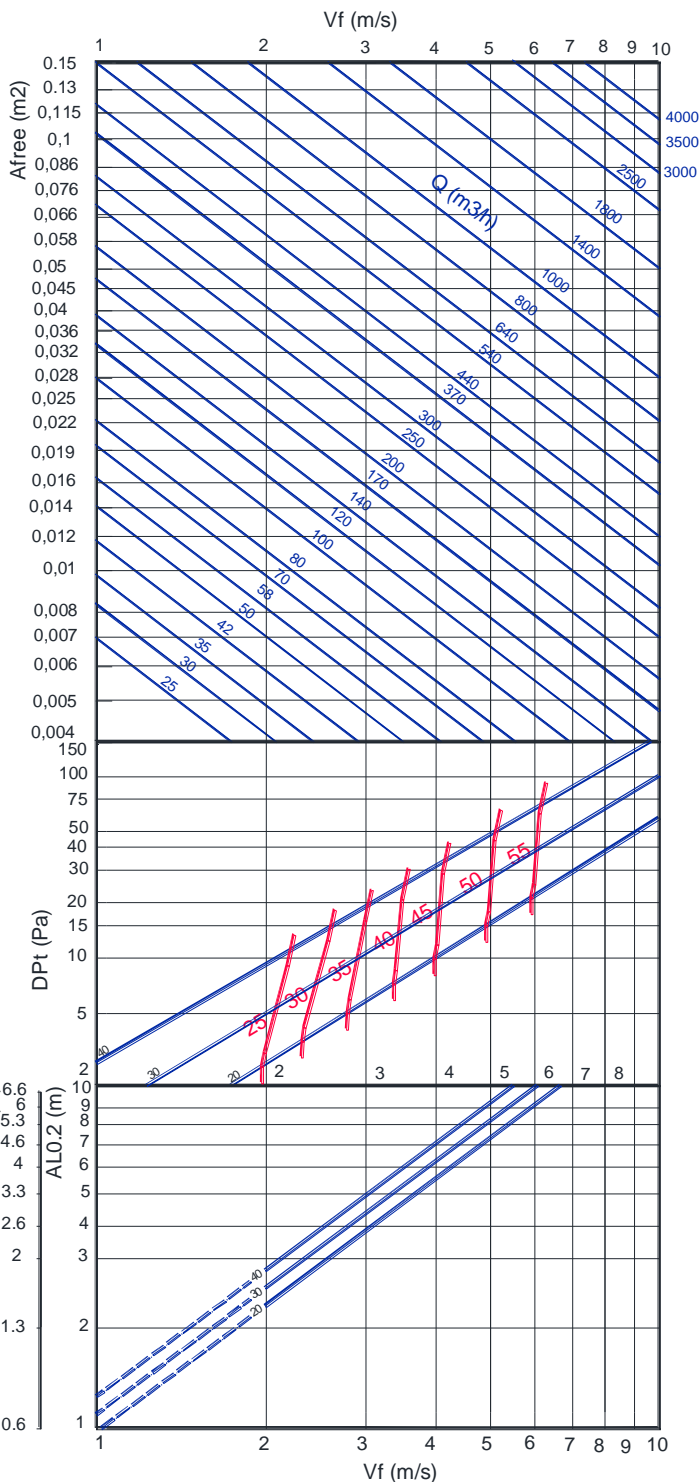


## RECOMMENDED VELOCITY.

LOOK	Vmin (m/s)	Vmax (m/s)
20	2.5	4.5
30	2.5	4.5
40	2.5	4.5



## FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL, THROW WITH CEILING EFFECT: 1 DIRECTION.



## FREE FACE AREA (m2).

	0.5 m	1 m	1.2 m	1.5 m	1.8 m	2 m
20	0.0067	0.0135	0.0162	0.0202	0.0243	0.0270
30	0.0099	0.0199	0.0239	0.0299	0.0358	0.0398
40	0.0112	0.0223	0.0268	0.0334	0.0401	0.0446

## CORRECTION FACTOR FOR Dpt AND Lwa1.

		0.5 m < x < 0.7 m			0.8 m < x < 1.2 m			1.3 m < x < 1.7 m			1.8 m < x < 2 m		
		100%	50%	25%	100%	50%	25%	100%	50%	25%	100%	50%	25%
20	Dpt	0.88	2.88	3	1	1.4	2.2	1.3	2.7	3.5	1.5	2.9	3.7
	Lwa1	-	-3	-5	-	4	7	-	3	5	-	3	7
30	Dpt	0.93	2.68	3.12	1	1.45	2.25	1	2.1	2.9	1.35	2.8	3.6
	Lwa1	-	-3.3	-4	-	2.3	3.8	2.2	3.1	4.1	0	2	4.1
40	Dpt	0.98	2.48	3.25	1	1.5	2.3	1	1.5	2.3	1.2	2.7	3.5
	Lwa1	-	-3.6	-3.1	-	0.6	0.6	2.3	3.2	3.1	0	1	1.2

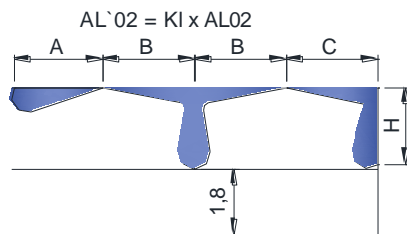
$$Dpt1 = Kp \times Dpt$$

$$Lwa1 = Lwa + Kf$$

## CORRECTION FACTOR FOR

### THROW KL

LOOK	0.5 m	1 m	1.2 m	1.5 m	1.8 m	2 m
20	0.8	1	1.13	1.27	1.35	1.43
30	0.76	1	1.09	1.18	1.23	1.29
40	0.73	1	1.05	1.09	1.12	1.15



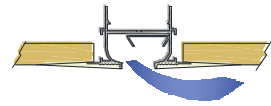
$$AL_{0.2} = A$$

$$AL_{0.2} = B+H$$

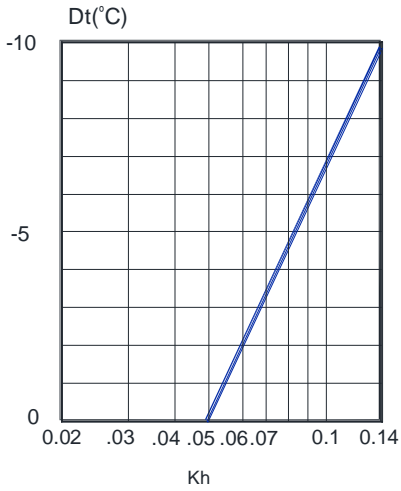
$$AL_{0.2} = C+H$$



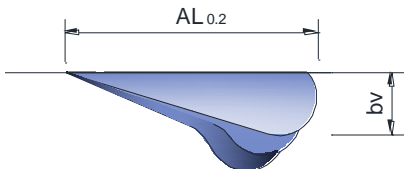
**LOOK**



CORRECTION FACTOR FOR VERTICAL DIFFUSION (bv) FOR DT (-).

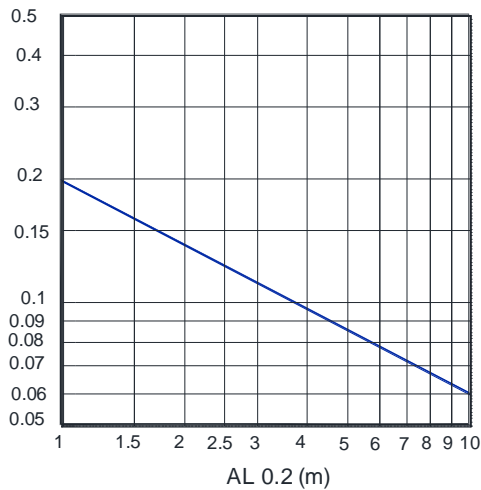


Kh = Correction factor for the vertical diffusion.

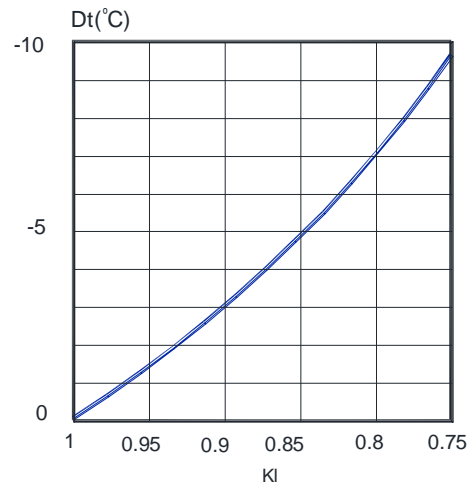


TEMPERATURE RATIO.

$$\frac{Dt_i}{Dt_z} = \frac{t_{\text{room}} - t_x}{t_{\text{room}} - t_{\text{supply}}}$$



CORRECTION FACTOR FOR THROW (L0.2) DT (-).



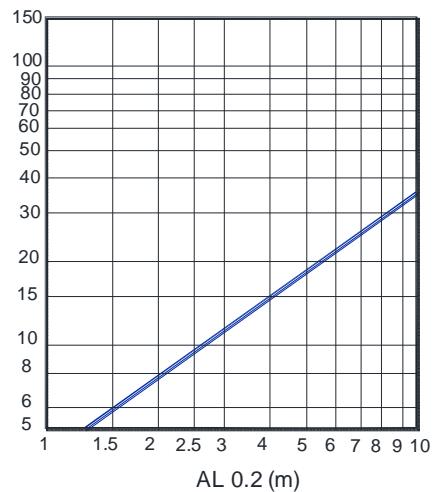
KI = Correction factor for the throw.

$$bv = Kh \times AL_{0.2}$$

$$AL'_{0.2} (Dt < 0) = KI \times AL_{0.2}$$

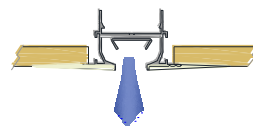
INDUCTION RATIO.

$$i = \frac{Q_r}{Q_0} = \frac{Q_{\text{total in x}}}{Q_{\text{supply}}}$$





# LOOK



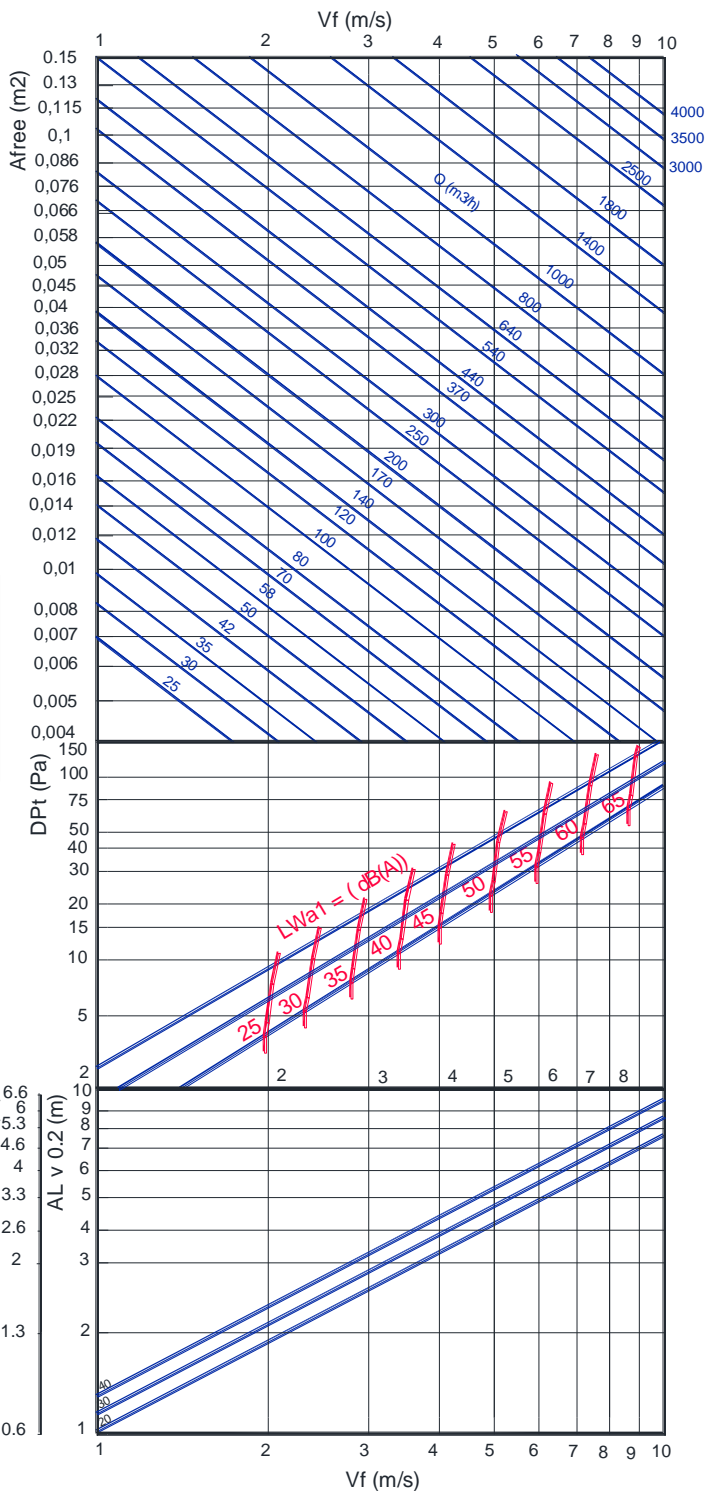
## RECOMMENDED VELOCITY.

LOOK	Vmin (m/s)	Vmax (m/s)
20	2.5	4.5
30	2.5	4.5
40	2.5	4.5

## FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL: VERTICAL SUPPLY.

## FREE FACE AREA (m2).

LOOK	0.5 m	1 m	1.2 m	1.5 m	1.8 m	2 m
20	0.0067	0.0135	0.0162	0.0202	0.0243	0.0270
30	0.0099	0.0199	0.0239	0.0299	0.0358	0.0398
40	0.0112	0.0223	0.0268	0.0334	0.0401	0.0446



## CORRECTION FACTOR FOR Dpt AND Lwa1.

		0.5 m <x< 0.7 m			0.8 m <x< 1.2 m			1.3 m <x< 1.7 m			1.8 m <x< 2 m		
		100%	50%	25%	100%	50%	25%	100%	50%	25%	100%	50%	25%
20	Dpt	0.88	2.88	3	1	1.4	2.2	1.3	2.7	3.5	1.5	2.9	3.7
	Lwa1	-	-3	-5	-	4	7	-	3	5	-	3	7
30	Dpt	0.93	2.68	3.12	1	1.5	2.3	1	2.1	2.9	1.3	2.8	3.6
	Lwa1	-	-3.2	-4	-	2.3	3.8	-	3.2	4.1	-	2	4
40	Dpt	0.98	2.48	3.25	1	1.5	2.3	1	1.5	2.3	1.2	2.7	3.5
	Lwa1	-	-3.4	-2.9	-	0.6	0.6	-	3.3	3.2	-	0.9	1.1

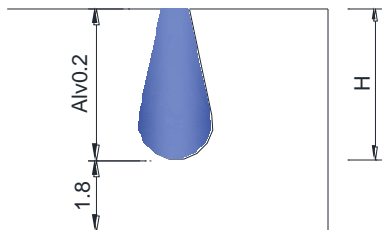
$$Dpt1 = Kp \times Dpt$$

$$Lwa1 = Lwa + Kf$$

## CORRECTION FACTOR FOR THROW KL

LOOK	0.5 m	1 m	1.2 m	1.5 m	1.8 m	2 m
20	0.7	1	1.02	1.04	1.07	1.1
30	0.72	1	1.03	1.07	1.08	1.1
40	0.73	1	1.04	1.09	1.1	1.15

$$AL'02 = Kl \times AL02$$





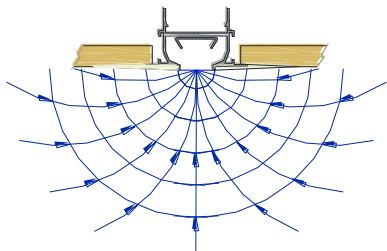
# LOOK

CORRECTION FACTOR FOR VERTICAL THROW (Alv0,2) DT(+).

LOOK	DT (+5)	DT (+10)
20	0.75	0.64
30	0.76	0.65
40	0.76	0.65

$DT = T_{supply} - T_{room}$ .

$Alv_{0,2} (DT +) = Kv \times AI_{02}$



RECOMMENDED VELOCITY.

LOOK	Vmin (m/s)	Vmax (m/s)
20	2.5	3.5
30	2.5	3.5
40	2.5	3.5

FREE FACE AREA (m2).

	0.5 m	1 m	1.2 m	1.5 m	1.8 m	2 m
20	0.0067	0.0135	0.0162	0.0202	0.0243	0.0270
30	0.0099	0.0199	0.0239	0.0299	0.0358	0.0398
40	0.0112	0.0223	0.0268	0.0334	0.0401	0.0446

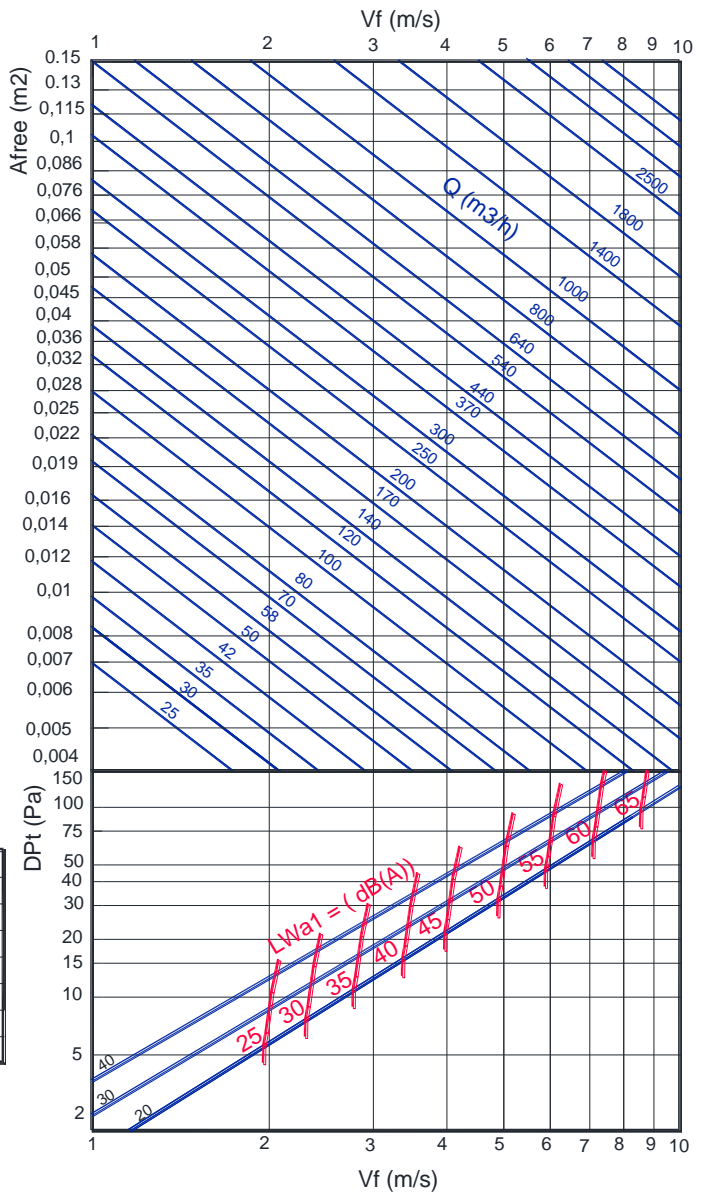
CORRECTION FACTOR FOR DPt AND Lwa1.

		0.5 m < x < 0.7 m			0.8 m < x < 1.2 m			1.3 m < x < 1.7 m			1.8 m < x < 2 m		
		100%	50%	25%	100%	50%	25%	100%	50%	25%	100%	50%	25%
20	Dpt	0.88	2.88	3	1	1.4	2.2	1.3	2.7	3.5	1.5	2.9	3.7
	Lwa1	-	3	5	-	4	7	-	3	5	-	3	7
30	Dpt	0.86	2.61	3.08	1	1.5	2.3	1.4	2.8	3.6	1.58	3.03	3.83
	Lwa1	-	3	5	-	4	7	-	4	7	-	3	8
40	Dpt	0.85	2.35	3.15	1	1.5	2.3	1.4	2.9	3.7	1.66	3.16	3.96
	Lwa1	-	3	5	-	4	7	-	4	7	-	3	8

$DPt1 = Kp \times DPt$

$Lwa1 = Lwa + Kf$

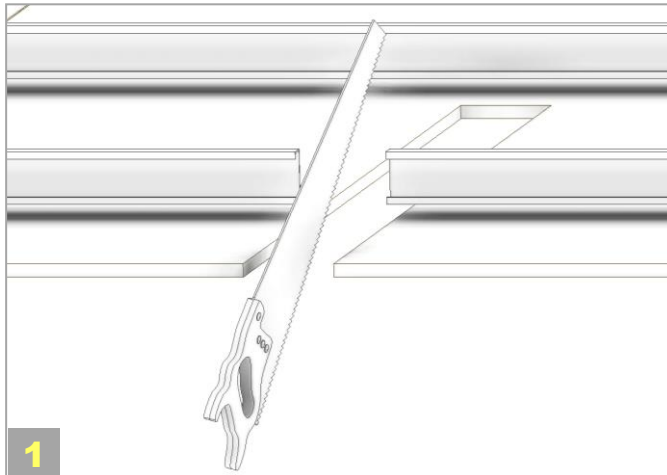
FREE VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.







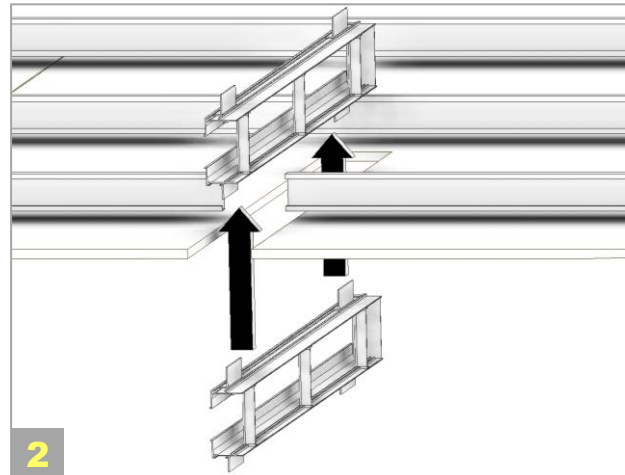
## LOOK-SM .... (L)



1

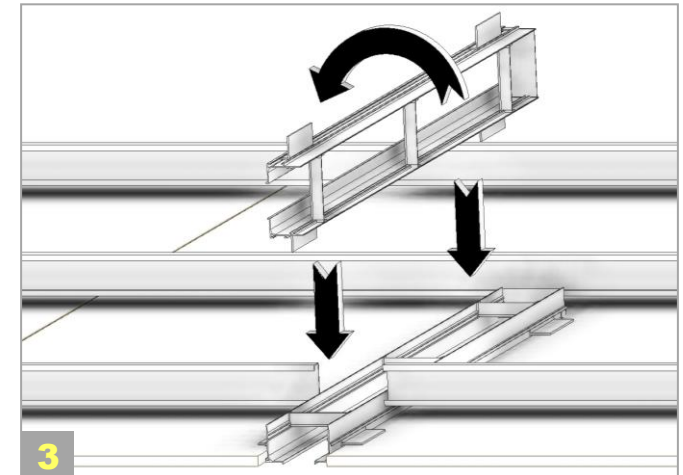
Cut false ceiling \* (plasterboard plus structure) with the nominal sizes  $(C + 3) \times (L + 3)$  mm.

(\* ) Reinforce the structure if necessary.



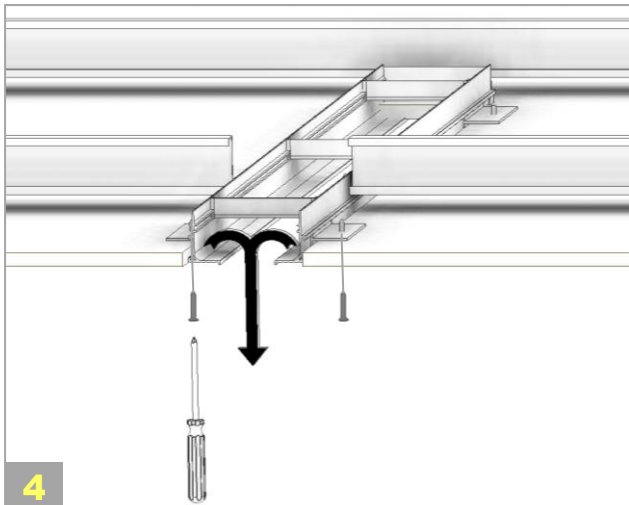
2

Introduce the diffuser, in vertical position, through the hole made.



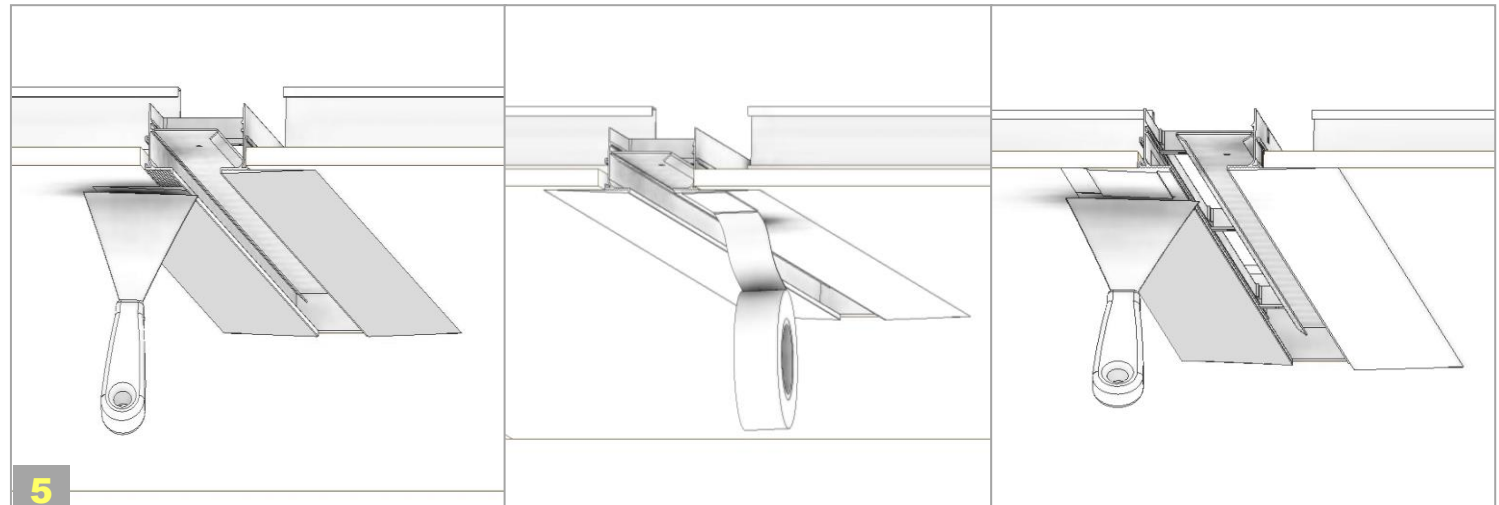
3

Exceed the structure of the false ceiling and rotate the diffuser. Support the diffuser on the ceiling.



4

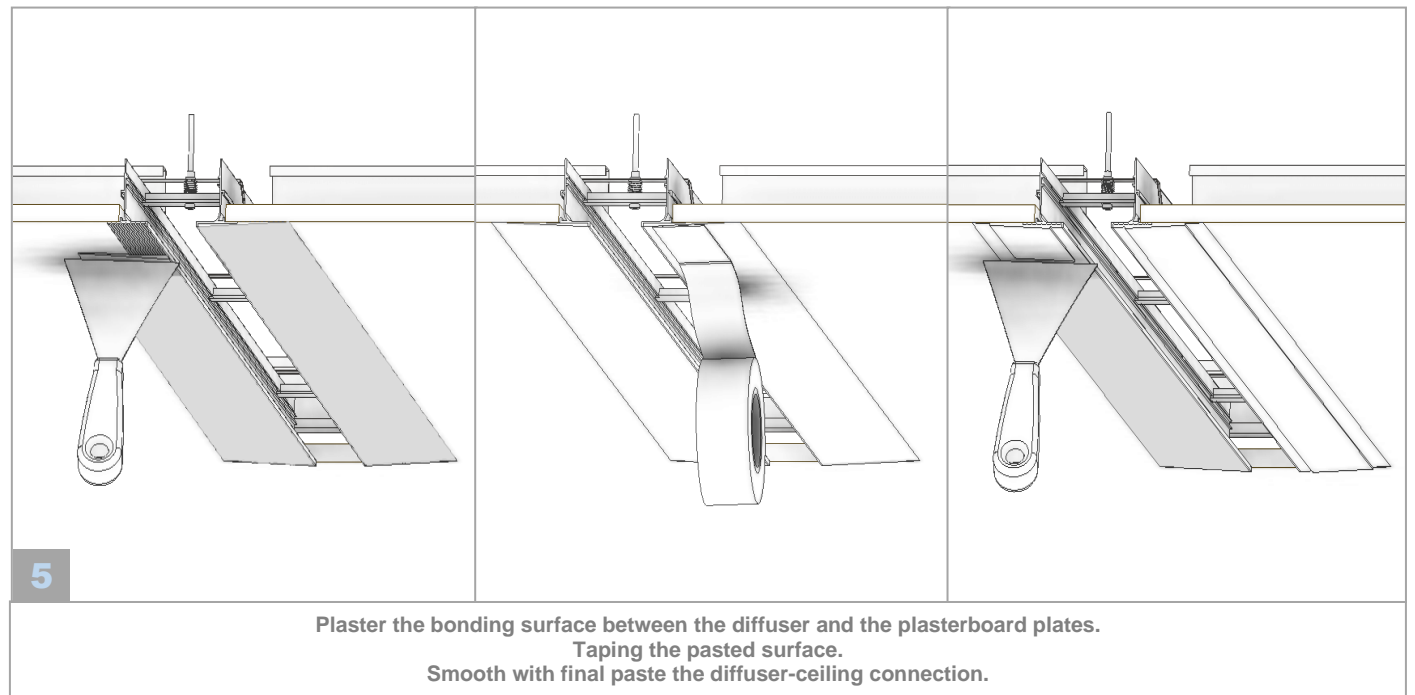
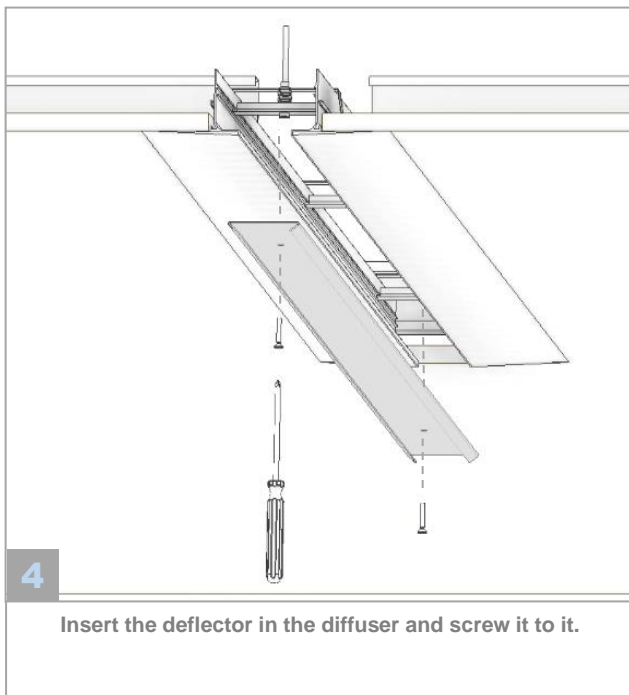
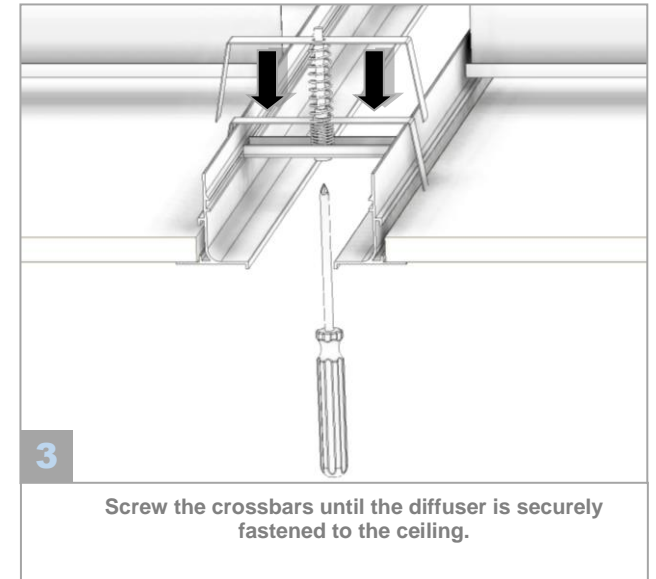
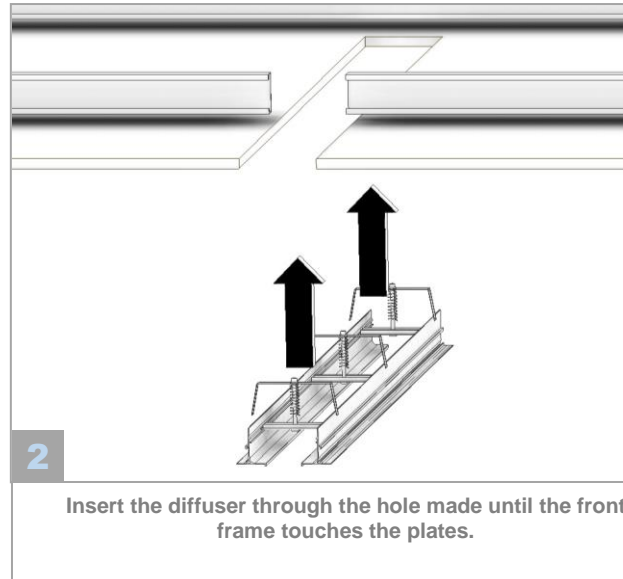
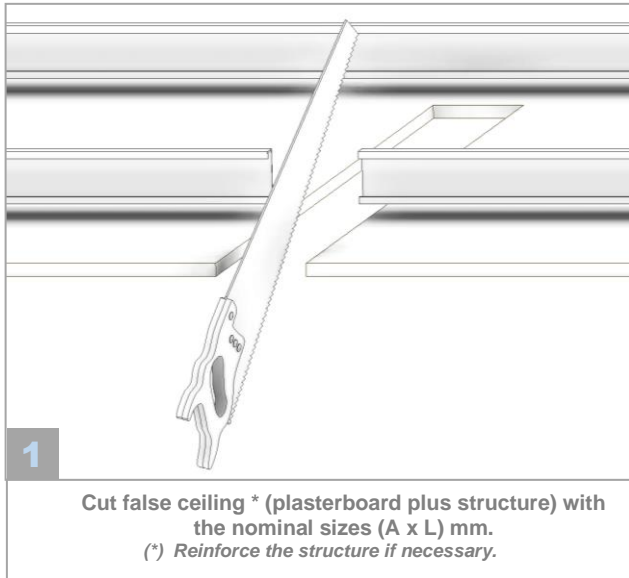
Pull the diffuser down while screwing the diffuser through the support pieces.  
Screw the diffuser to each of the support pieces.



5

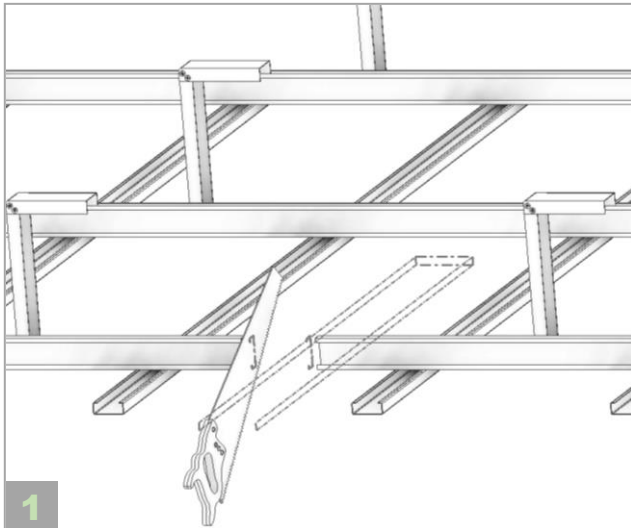
Plaster the bonding surface between the diffuser and the plasterboard plates.  
Taping the pasted surface.  
Smooth with final paste the diffuser-ceiling connection.

## LOOK-CM ...(PM)





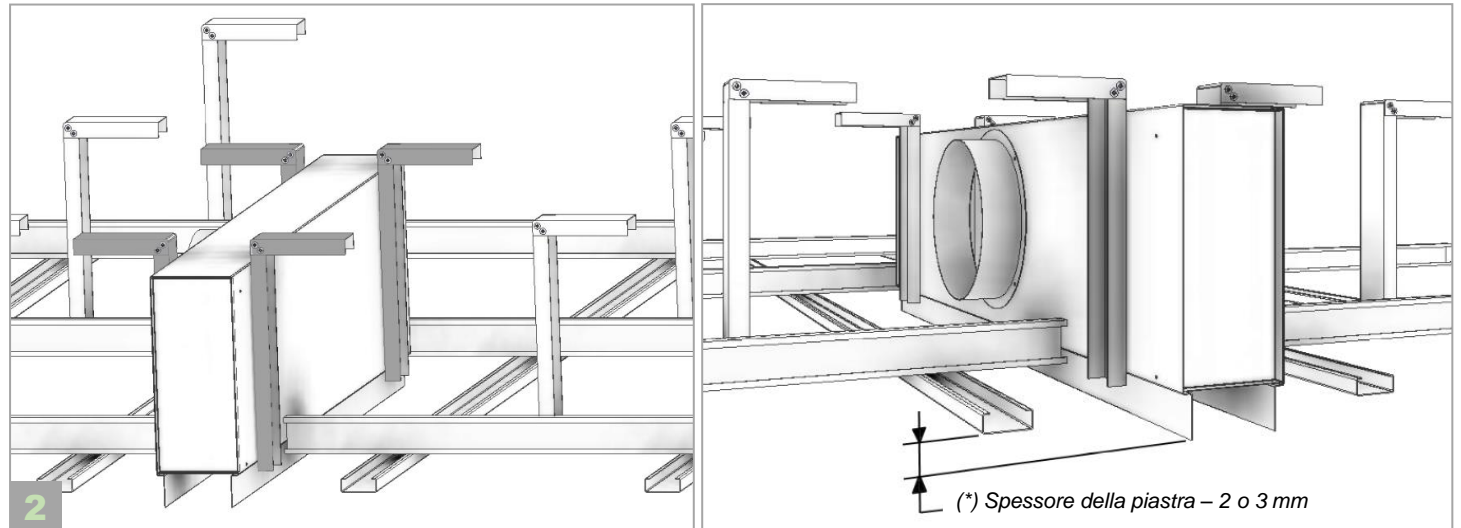
## LOOK-CM ...(PM) + PLOK-CM...-R



1

Cut the ceiling structure or leave the space to enter the plenum box with the nominal sizes (A x L) mm.

(\*) Reinforce the structure if necessary.

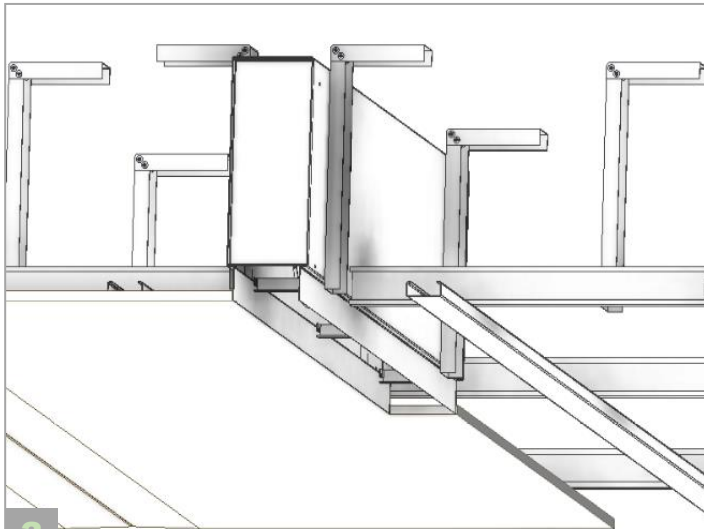


2

Fix the plenum box to the slab, using legs, rod, or any other type of fixing element that we use to hold the structure of the false ceiling.

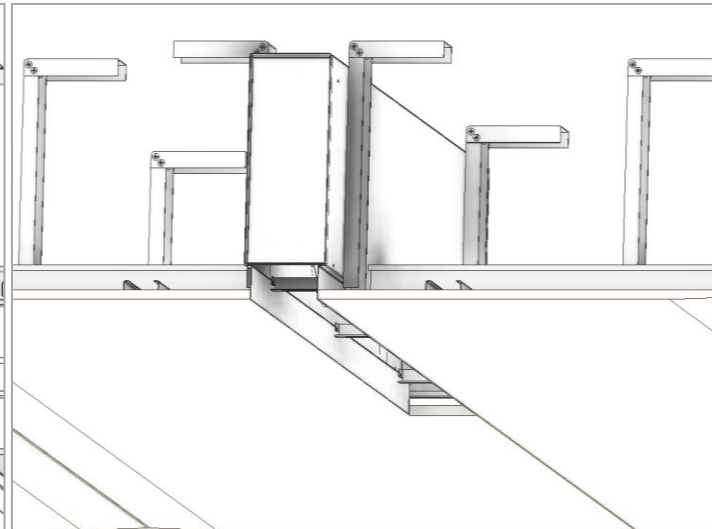
(\*) The plenum box should be between 2 and 3mm behind the face of the plate.

(\*) Spessore della piastra – 2 o 3 mm



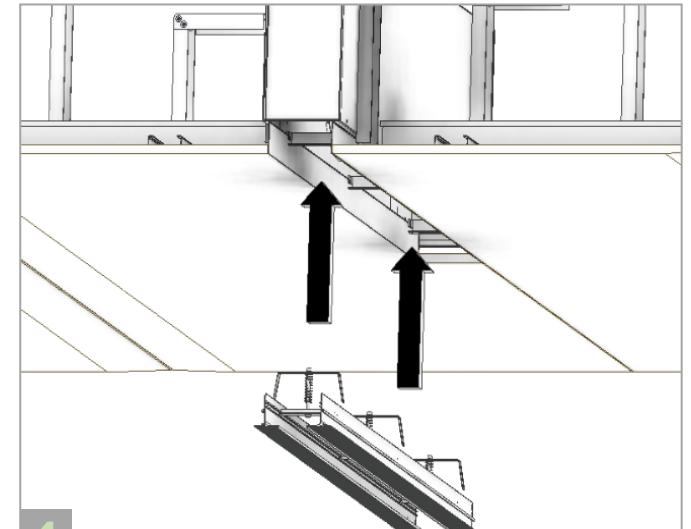
3

Place the plates of the false ceiling following the rectangular mouth of the plenum box.



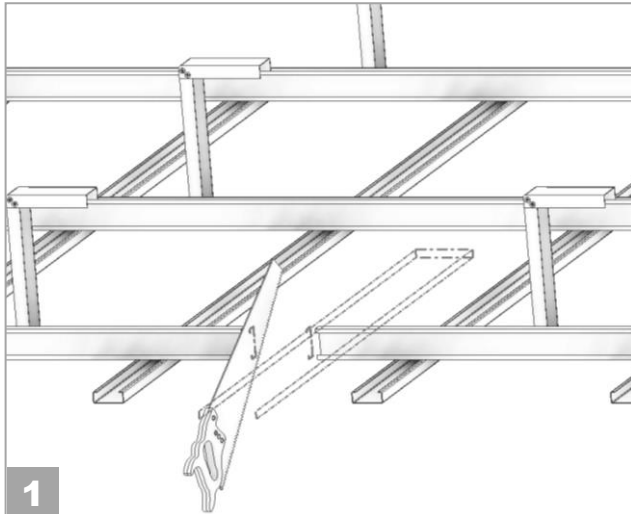
4

Assemble the diffuser to the plenum following the same steps as the assembly instructions "LOOK-CM (PM)"





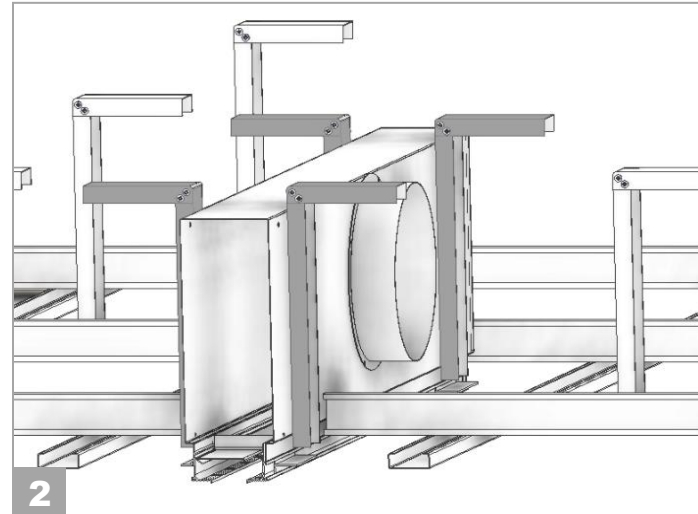
## LOOK-SM ...(L) + PLOK-SM...-R



1

Cut the ceiling structure or leave the space to enter the plenum box with the nominal sizes (A x L) mm.

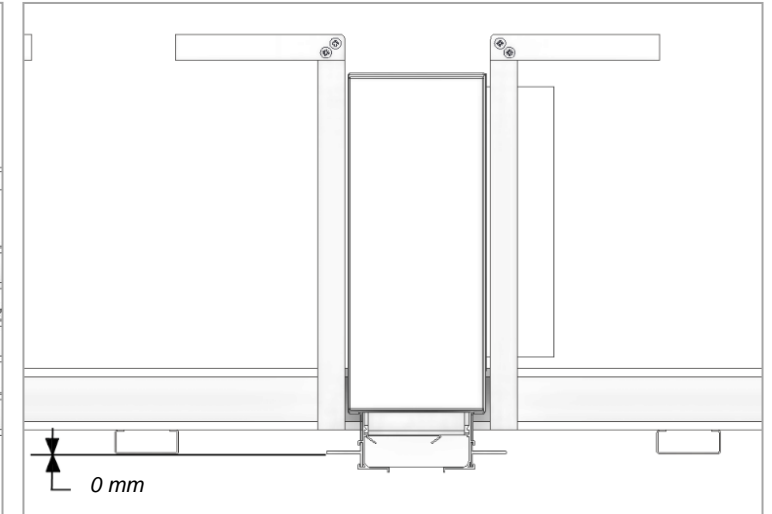
(\*) Reinforce the structure if necessary.



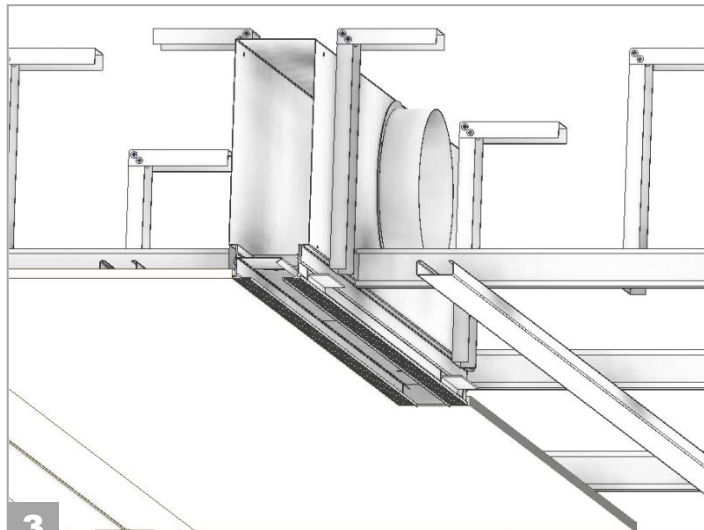
2

Fix the plenum box to the slab, using legs, rod or any other type of fixing element that we use to hold the structure of the false ceiling.

(\*) The diffuser support parts must be flush with the top of the plate.

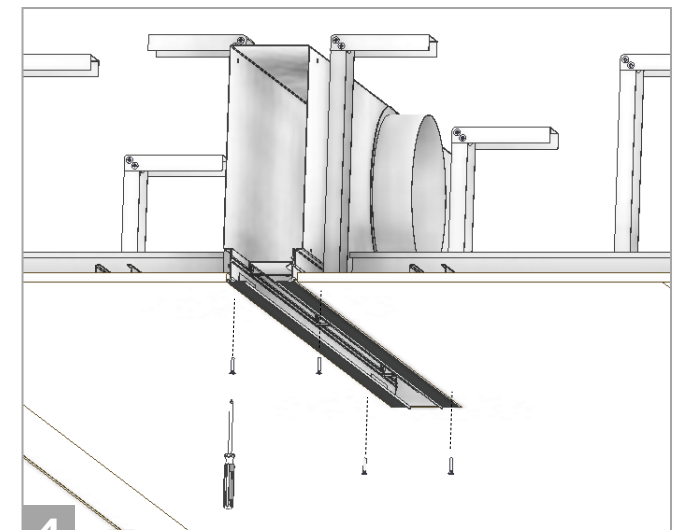
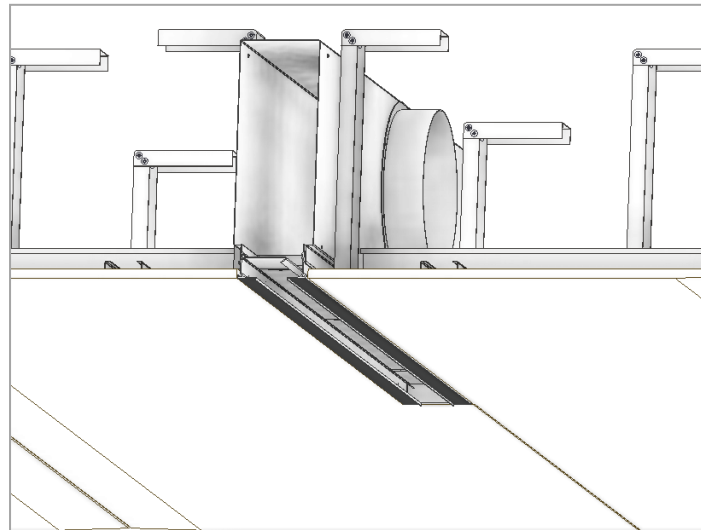


0 mm



3

Place the plates of the false ceiling following the rectangular mouth of the plenum box.



4

Fix the diffuser to the false ceiling following the same steps as the assembly instructions "LOOK-SM ...(L)", points 4 and 5.