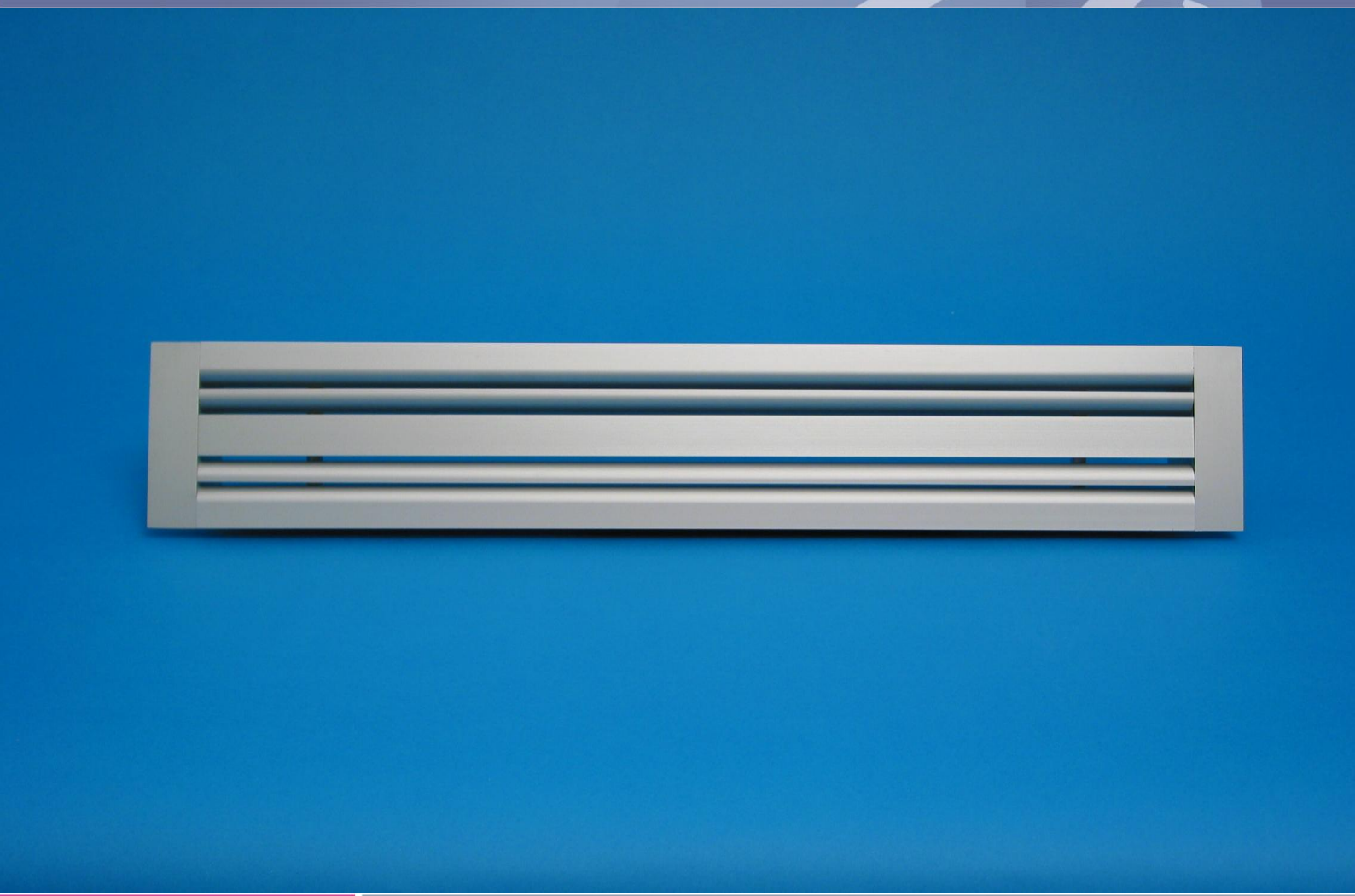
Euroclima DIFUSIÓN, SA



E-STAR

Ceiling slot diffuser.

Euroclima Difusión S.A
Manlleu, Barcelona
Spain

Tel. (+34) 93 307 55 00
Fax (+34) 93 307 19 00

www.euroclima.es
info@euroclima.es

E-STAR

Fixed blade linear diffuser with a special profile, for use indistinctly in constant and variable air volume, made with extruded anodized aluminium profiles. Maximum length in one module, 2 metres, although any length can be obtained by joining sections.

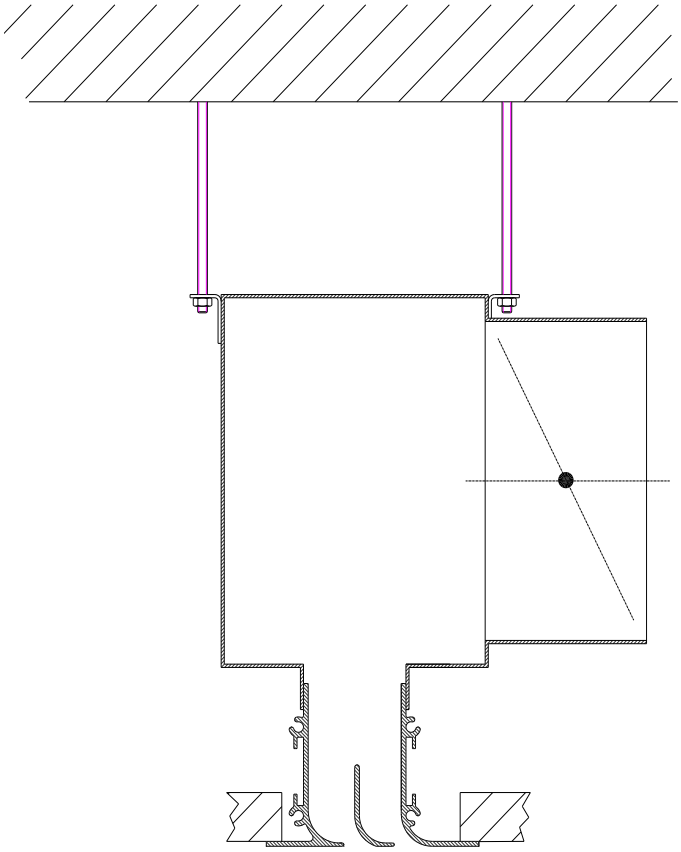
Fixing:

- ✓ To the ceiling with brackets and screw, thread bars.
- ✓ To the plenum with rivets.
- ✓ To a false modular ceiling, by support on the special end pieces on the ceiling profiles
- ✓ To a plasterboard ceiling by bolts and E-TACO.

Finish: Anodized aluminium or White lacquered (Ask for other finishes)

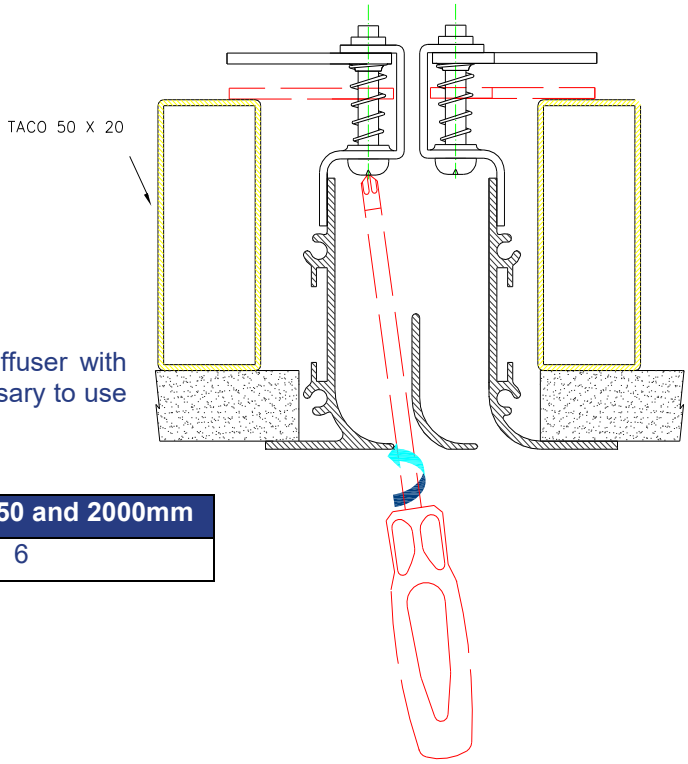
Applications: Usually used for great lengths of cold air expulsion, this diffuser it's normally installed in places where the aesthetic aspects are important, such as shops, restaurants…

E-STAR fixings



Plenum box: The E-STAR diffuser plenum is always supplied fixed by rivets to the diffuser. The complete diffuser and plenum are secured by screw thread bars or similar elements that attach to the plenum's fins that it has for that purpose.

Curved diffusers can not be supplied with plenum box.



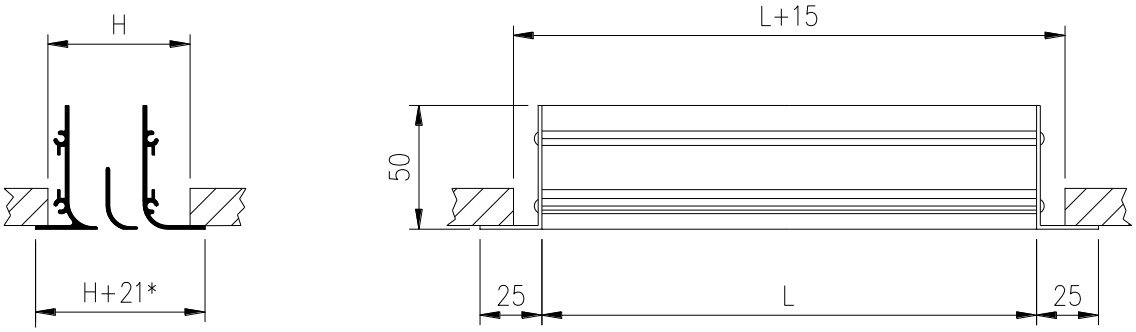
Bolts: It is possible to supply the E-STAR diffuser with bolts to hold it as the picture shows. It is necessary to use E-TACO2 for fixing it this way.

	Until 1250 mm	Between 1250 and 2000mm
Nº Bolts	4	6

E-STAR dimensions

The nominal dimensions determined by L and slots numbers

SIZE OF THE FOLE
(L+30) x H

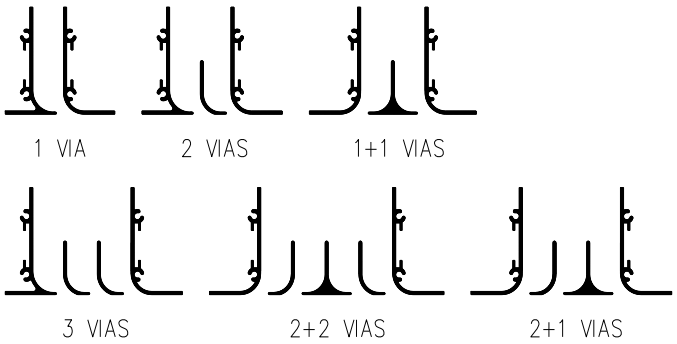


(*) Para difusores de 2 direcciones, H+32

	Slot number			
L	**1**	**2**	**3**	**4**
Hole (H)	30	45	60	74
500	*	*	*	*
600	*	*	*	*
700	*	*	*	*
800	*	*	*	*
900	*	*	*	*
1000	*	*	*	*
1100	*	*	*	*
1200	*	*	*	*
1400	*	*	*	*
1500	*	*	*	*
1600	*	*	*	*
1800	*	*	*	*
2000	*	*	*	*

Note: Dimensions given in the table above are standard.

E-STAR configurations

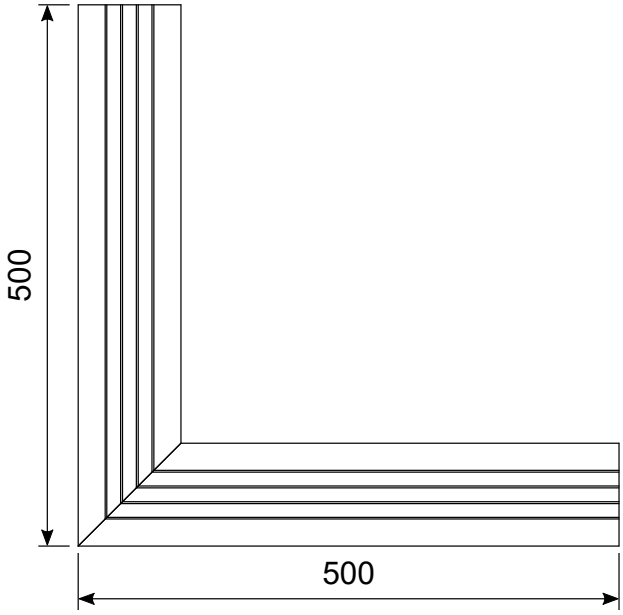


E-STAR diffusers can be made in five different ways, as illustrated on the

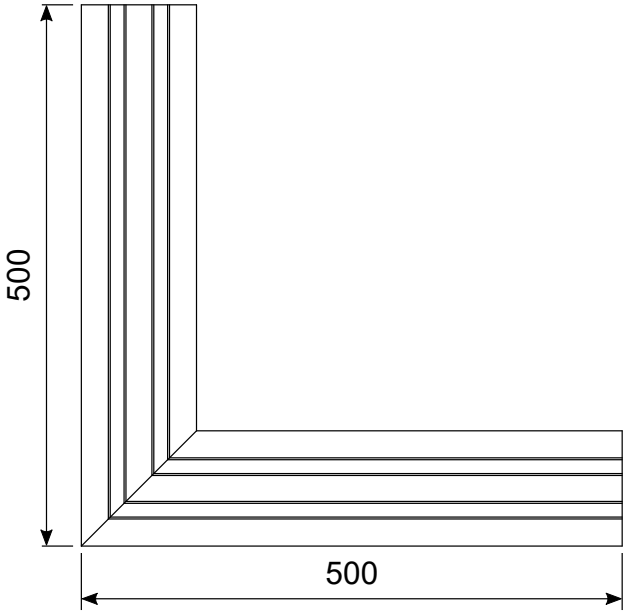
E-STAR especial pieces

It is also possible to manufacture pieces as shown in the picture on the right at 90º. The measurement of these pieces will always be 500 mm. and they will never be supplied with plenum box.

4 Vias

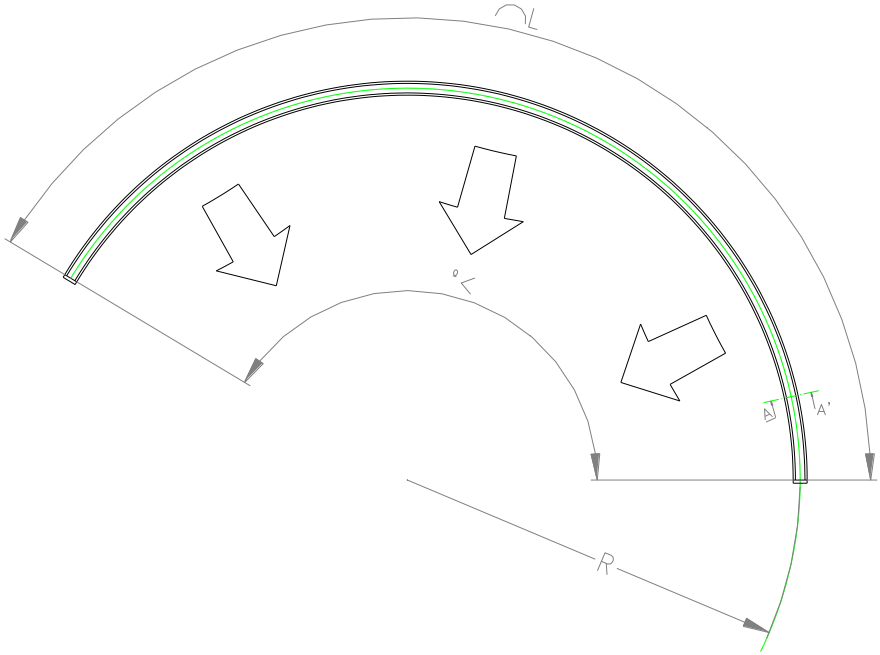


2+2 Vias

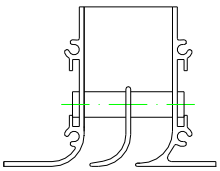


Round E-STAR diffusers

E-STAR diffusers can be manufactured with different radius of curvature. This allows, for example, to make a diffuser that follows the curvature of rounded room walls. Besides the number of slots and length (L), it is necessary to specify the radius of curvature (R), which at minimum should be 1500 mm. and it has to be fixed by bolts (see page 3).

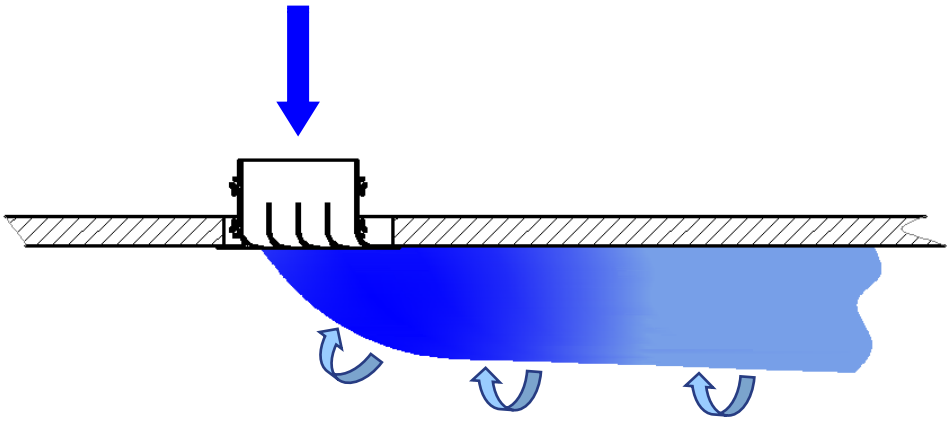


A – A'

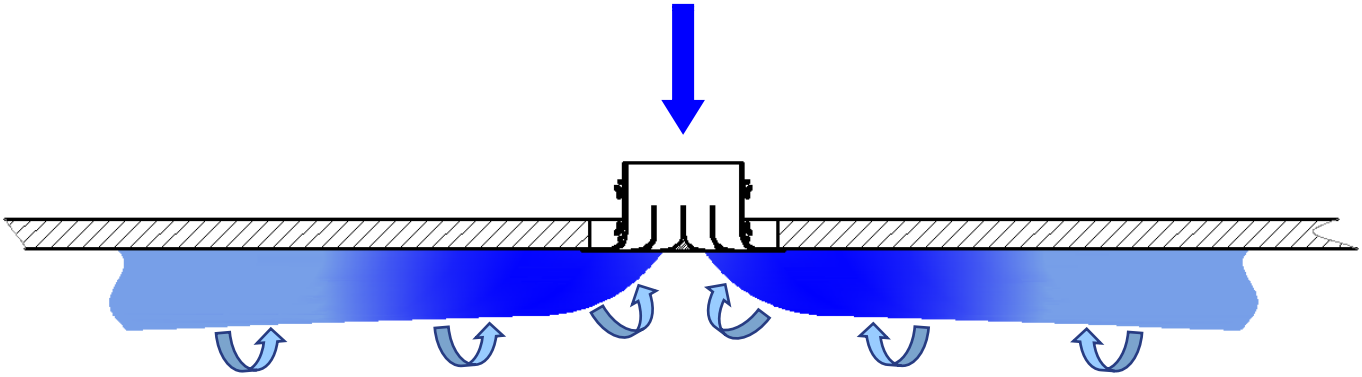


E-STAR air diffusion

One way

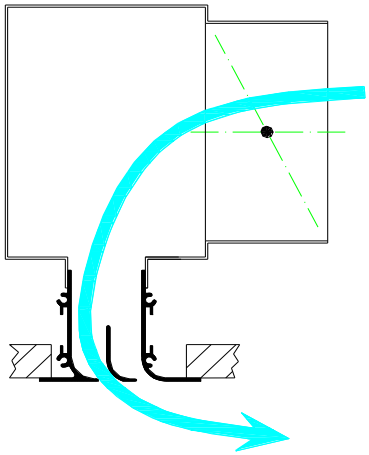


Two ways

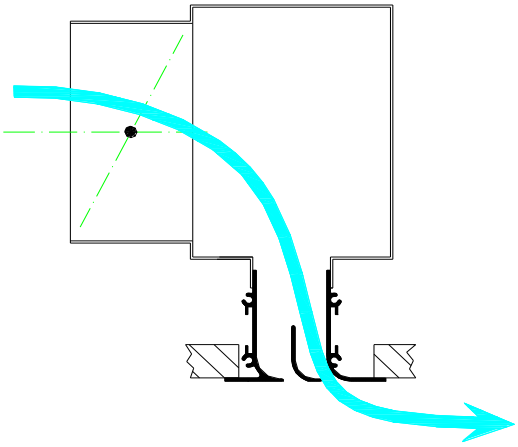


E-STAR accessories

C-TYPE ASSEMBLY



S-TYPE ASSEMBLY

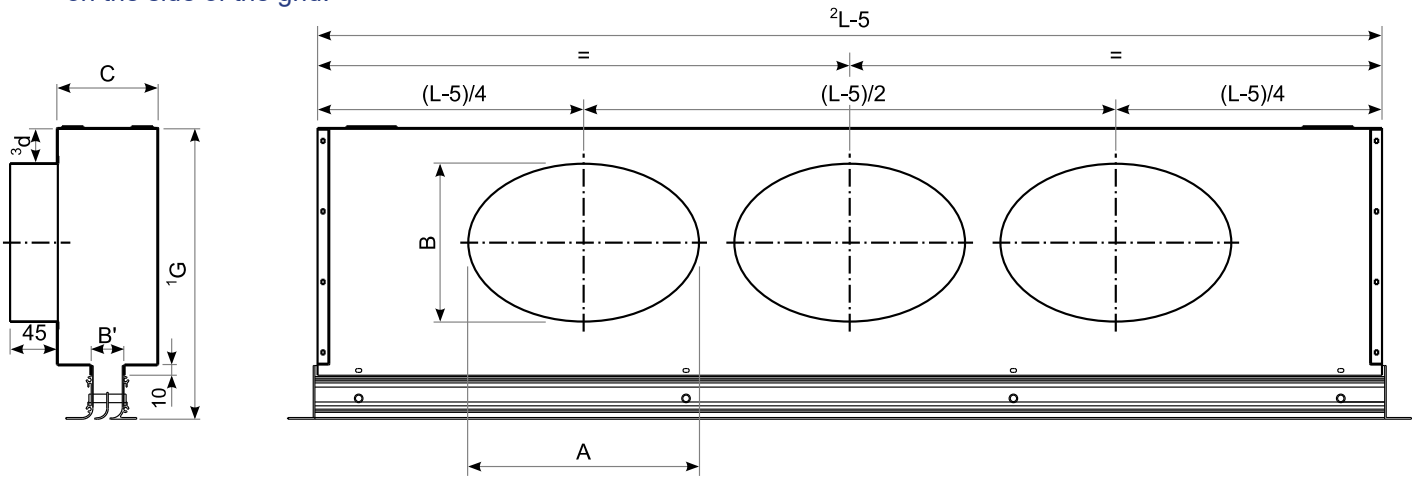


E-P: E-STAR diffuser can be supplied with plenum box in two different types: C or S as you can see in the picture.

The plenum box can have regulation in the neck (E-RC). They can also be supplied with insulation (E-PA).

Plenum E-STAR

02.255: Plenum mounted in galvanized sheet with one or more circular (or oval) collars of the same diameter located on the side of the grid.



Standard dimension:

Vias	B'	C	[1]G	[4]øD$_{duct.}$
1	16	95	270	150
2	30,5	95	270	150
3	45	140	300	200
4	59,5	185	300	200
1+1	30,5	95	270	150
2+1	45	140	300	200
2+2	59,5	185	300	200
3+1	59,5	185	300	200

	Until 1250 mm	Between 1250 and 2000 mm
Nª of ducts	1	2

Possible others øDcond:

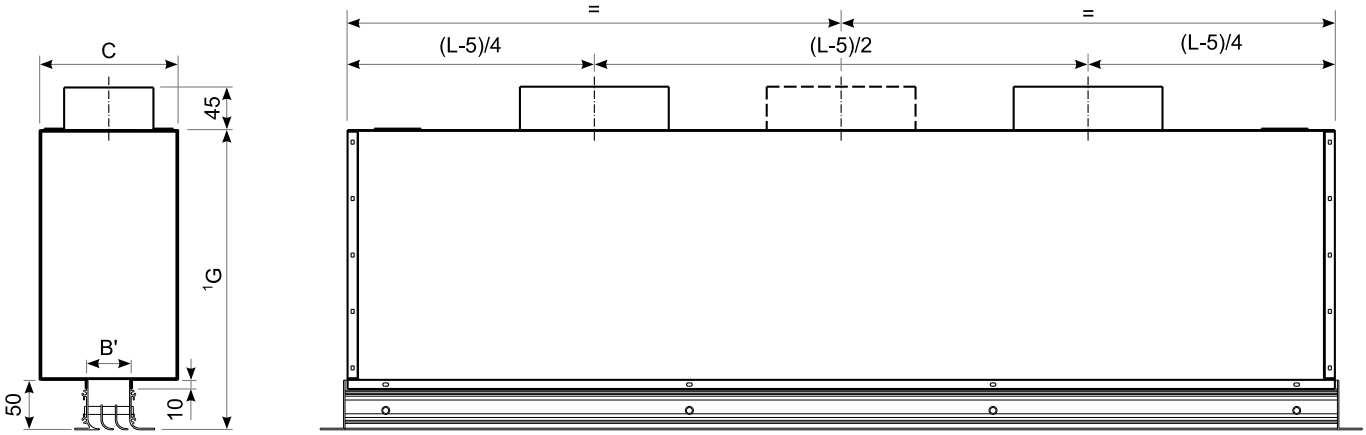
øD$_{duct.}$	A	B	G$_{min}$
100	107	90	200
100	100	100	210
125	150	90	200
125	125	125	235
150	190	90	200
150	162	130	240
150	150	150	260
160	206	90	200
160	178	130	240
160	160	160	270
200	270	90	200
200	242	130	240

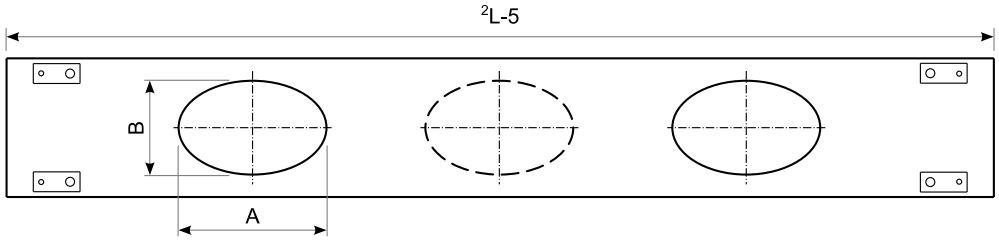
Notes:

[1]G standard dimension. Possible other dimensions on request.
[2]L dimension
[3]Cota d mínima de 30mm. Nominal dimension of the diffuser.
[4]øD$_{duct}$. standard dimension. Possible other dimensions on request.

Plenum E-STAR

PE-25.660: Plenum mounted in galvanized sheet with one or more circular (or oval) collars of the same diameter located on the side opposite the one to which the grid is placed.





Standard dimension:

Vias	B'	[1]G	[4]øD$_{duct.}$
1	16	270	150
2	30,5	270	150
3	45	300	200
4	59,5	300	200
1+1	30,5	270	150
2+1	45	300	200
2+2	59,5	300	200
3+1	59,5	300	200

	Until 1250 mm	Between 1250 and 2000 mm
Nª of ducts	1	2

Possible others øDcond:

øD$_{duct.}$	A	B	C
100	107	90	140
100	100	100	140
125	150	90	140
125	125	125	185
150	190	90	140
150	162	130	185
150	150	150	185
160	206	90	140
160	178	130	185
160	160	160	185
200	270	90	140
200	242	130	185

Notes:

[1]G standard dimension. Possible other dimensions on request.
[2]L nominal dimension of the diffuser.

Section E-STAR

E-STAR can be supplied in any dimension. When length is greater than 2 m the diffuser is supplied in different lengths minor or equal to 2 m. Union pieces are supplied to ensure linear according among lengths. 1000mm, 1500 mm and 2000 mm are considered standard. The following table indicates the different lengths when the diffuser has more than 2 m total length.

Total length	2000	1500	1000	Special length	
1 - 999				1 - 999	
1000			1		
1001 - 1499				1001 - 1499	
1500		1			
1501 - 1999				1501 - 1999	
2000	1				
2001 - 2499			1	1001 - 1499	
2500		1	1		
2501 - 2999		1		1001 - 1499	
3000		2			
3001 - 3499		1		1501 - 1999	
3500	1	1			
3501 - 3999	1			1501 - 1999	
4000	2				
4001 - 4499		2		1001 - 1499	
4500		3			
4501 - 4999		2		1501 - 1999	
5000	1	2			
5001 - 5499	1	1		1501 - 1999	
5500	2	1			
5501	2			1501 - 1999	
6000	3				
6001 - 6499		3		1501 - 1999	
6500	1	3			
6501 - 6999	2	1		1001 - 1499	
7000	2	2			
7001 - 7499	3			1001 - 1499	
7500	3	1			
7501 - 7999	3			1501 - 1999	
8000	4				
8001 - 8499	2	2		1001 - 1499	
8500	2	3			
8501 - 8999	2	2		1501 - 1999	
9000	3	2			
9001 - 9499	4			1001 - 1499	
10000	5				

E-STAR selection table

Table valid for 1000 mm. length diffusers. This table is also valid for round diffusers except range air case (A. [m])

Airflow m³/h	Nº VÍAS	1 + 0	2 + 0	1 + 1	3 + 0	2 + 1	4 + 0	3 + 1	2 + 2
50	Speed.[m/s]	2,5	1,3	1,3					
	Range [m]	1,5	1,3	1,1					
	P [mm.c.W.]	0,4	0,2	0,2					
	Sound L. [dB(A)]	26	20	20					
100	Speed.[m/s]	5,1	2,5	2,5	1,7	1,7			
	Range. [m]	1,7	1,7	1,5	1,3	1,1			
	P [mm.c.W.]	1,6	0,4	0,4	0,2	0,2			
	Sound L. [dB(A)]	31	25	25	21	21			
150	Speed.[m/s]	7,6	3,8	3,8	2,5	2,5			
	Range [m]	2	2	1,6	1,7	1,5			
	P [mm.c.W.]	3,6	0,9	0,9	0,4	0,4			
	Sound L. [dB(A)]	34	28	28	24	24			
200	Speed.[m/s]		5,1	5,1	3,4	3,4	2,5	2,5	2,5
	Range. [m]		2,3	1,7	1,9	1,9	1,9	1,7	1,5
	P [mm.c.W.]		1,6	1,6	0,7	0,7	0,4	0,4	0,4
	Sound L. [dB(A)]		30	30	26	26	23	23	23
250	Speed.[m/s]		6,3	6,3	4,2	4,2	3,2	3,2	3,2
	Range [m]		2,6	1,9	2,1	1,6	2,1	1,9	1,6
	P [mm.c.W.]		2,5	2,5	1,1	1,1	0,6	0,6	0,6
	Sound L. [dB(A)]		32	32	28	28	25	25	25
300	Speed.[m/s]		7,6	7,6	5,1	5,1	3,8	3,8	3,8
	Range. [m]		2,9	2	2,3	1,7	2,3	2	1,6
	P [mm.c.W.]		3,6	3,6	1,6	1,6	0,9	0,9	0,9
	Sound L. [dB(A)]		34	34	29	29	26	26	26
350	Speed.[m/s]				5,9	5,9	4,4	4,4	4,4
	Range [m]				2,5	1,8	2,5	2,1	1,7
	P [mm.c.W.]				2,2	2,2	1,2	1,2	1,2
	Sound L. [dB(A)]				30	30	28	28	28
400	Speed.[m/s]				**6,7**	**6,7**	**5,1**	**5,1**	**5,1**
	Range. [m]				**2,7**	**1,9**	**2,7**	**2,3**	**1,7**
	P [mm.c.W.]				**2,8**	**2,8**	**1,6**	**1,6**	**1,6**
	Sound L. [dB(A)]				**31**	**31**	**28**	**28**	**28**
450	Speed.[m/s]				7,6	7,6	5,7	5,7	5,7
	Range [m]				2,9	2	2,9	2,4	1,8
	P [mm.c.W.]				3,6	3,6	2	2	2
	Sound L. [dB(A)]				32	32	29	29	29
500	Speed.[m/s]						**6,3**	**6,3**	**6,3**
	Range. [m]						**3,2**	**2,6**	**1,9**
	P [mm.c.W.]						**2,5**	**2,5**	**2,5**
	Sound L. [dB(A)]						**30**	**30**	**30**
550	Speed.[m/s]						6,9	6,9	6,9
	Range [m]						3,5	2,8	1,9
	P [mm.c.W.]						3	3	3
	Sound L. [dB(A)]						31	31	31

Speed = Effective velocity **Range** = Air range at speed of (0,25 m/s) **P** = Pressure loss **Sound L. =** Sound level

Effective surface (m²) E-STAR

Length	1 VIA	2 VIAS	3 VIAS	4 VIAS
500	0,0025	0,0050	0,0075	0,0100
600	0,0030	0,0060	0,0090	0,0120
700	0,0035	0,0070	0,0105	0,0140
800	0,0040	0,0080	0,0120	0,0160
900	0,0045	0,0090	0,0135	0,0180
1000	0,0050	0,0100	0,0150	0,0200
1100	0,0055	0,0110	0,0165	0,0220
1200	0,0060	0,0120	0,0180	0,0240
1400	0,0070	0,0140	0,0210	0,0280
1500	0,0075	0,0150	0,0225	0,0300
1600	0,0080	0,0160	0,0240	0,0320
1800	0,0900	0,0180	0,0270	0,0360
2000	0,0100	0,0200	0,0300	0,0400

EXAMPLE OF SELECTION

Data: Supply air Flow rate Q = 500 m³/h

Sound level allowed = 30 dB(A)

Length 3000mm

Airflow for linear meter: 500/3 = 166,66 m³/h

Airflow m³/h	Nº VÍAS	1 + 0	2 + 0	1 + 1	3 + 0	2 + 1	4 + 0	3 + 1	2 + 2
150	Speed.[m/s]	7,6	3,8	3,8	2,5	2,5			
	Range [m]	2	2	1,6	1,7	1,5			
	P [mm.c.W.]	3,6	0,9	0,9	0,4	0,4			
	Sound L. [dB(A)]	34	28	28	24	24			
200	Speed.[m/s]		5,1	5,1	3,4	3,4	2,5	2,5	2,5
	Range. [m]		2,3	1,7	1,9	1,9	1,9	1,7	1,5
	P [mm.c.W.]		1,6	1,6	0,7	0,7	0,4	0,4	0,4
	Sound L. [dB(A)]		30	30	26	26	23	23	23

Results: Length = 3000mm

Vías = 2 (2+0)

Airflow Q = 500 m³/h

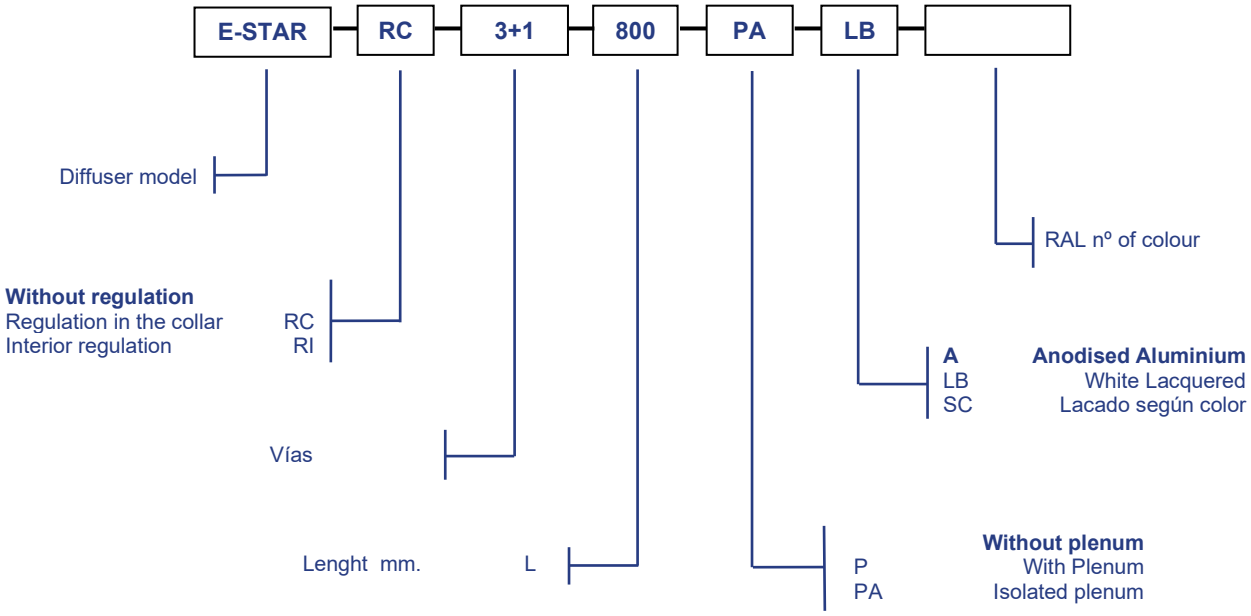
Speed Vel. = 4,2 m/s

Range = 2,1m

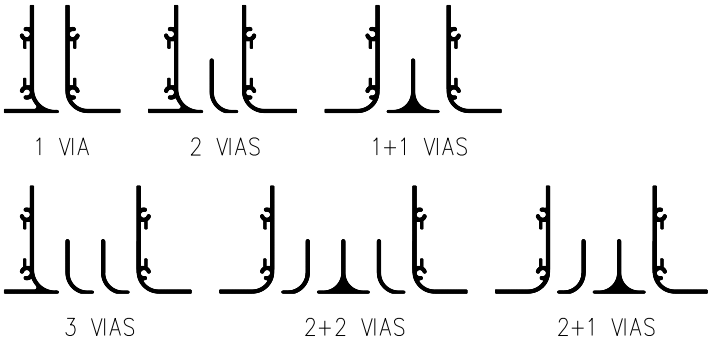
Pressure loss P = 1,1 mm.c.W

Sound level Sound L. = 29 dB(A)

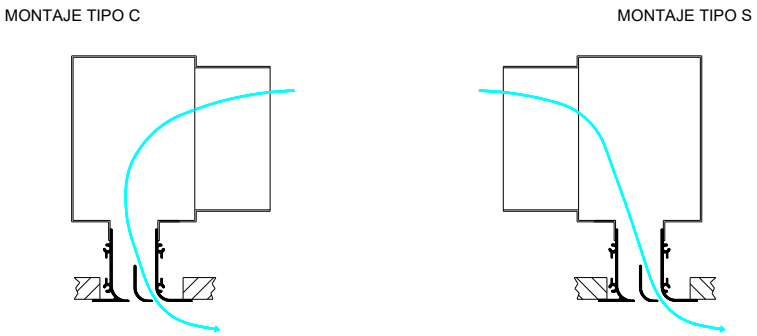
Order reference:



Notes: In addition to indicating the number of vías, indicate how many in each direction according to the following graph.



In the case of the plenum, specify type according to the next graphic:



EXAMPLE: E-STAR-RC-3+1-800-PA-LB: Diffuser STAR with regulation in the collar, de 3+1 vías and 800 mm of lenght with isolated plenum and white lacquered.