



E-STAR-TR

Linear slot diffuser



General product overview

Linear architectural slot diffuser made of extruded aluminium profiles. Each slot has 2 mobile blades. Adjusting the blades, air jet can be different patterns (horizontal and vertical).

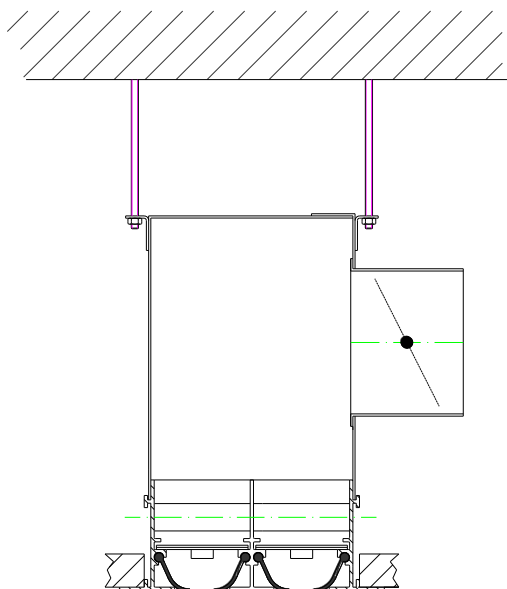
Installation methods: To the modular false ceiling by laying edges over false ceiling profiles. To the air Plenum. With concealed mounting brackets.

Finish: anodized aluminium or white. Standard blades are black colored. Other finishes are possible indicating RAL color number.

Applications: E-STAR-TR is used for both return and supply air from ceiling. Their mobile blades allow horizontal jet pattern in both senses, and also vertical. Despite it has a vertical jet pattern, it is not recommended to use as air curtain (linear grilles are preferred in that case).

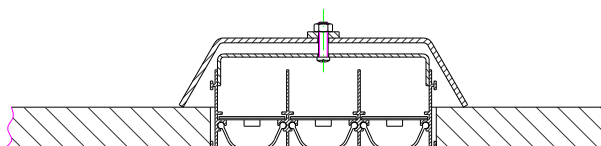


Installation methods E-STAR-TR

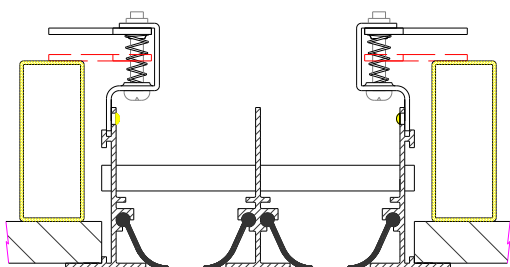


Plenum: E-STAR-TR is fixed to the plenum when it is supplied. Plenum is fixed to the ceiling by using hanger wires.

Concealed mounting bracket: Access to the mounting bracket screw is done through the slot of the diffuser.



	Until 1250mm	Between 1250 and 2000mm
Units	2	3



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.

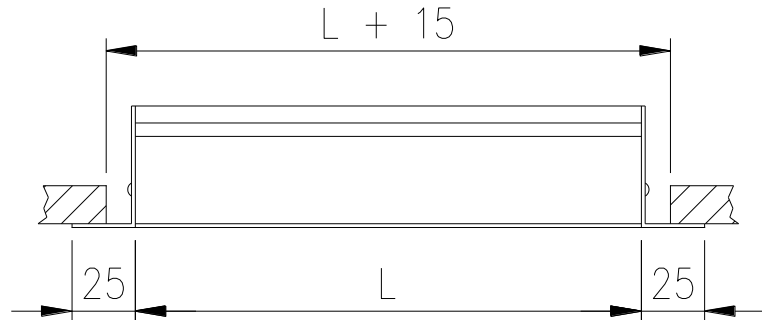
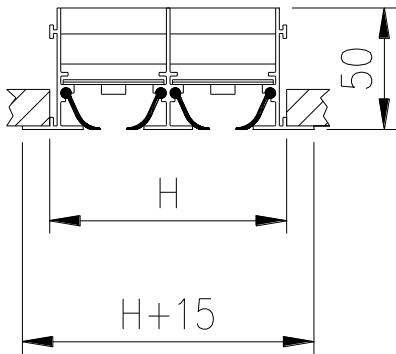
	Until 1250mm	Between 1250 and 2000mm
Nº bolts	4	6



Dimensions E-STAR-TR

The nominal dimensions determined by L and slots numbers

Size of the hole
(L + 15) x H

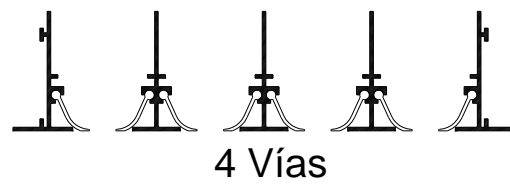
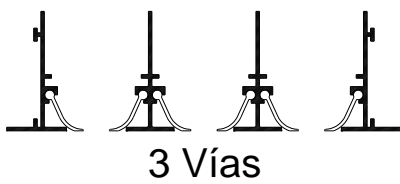
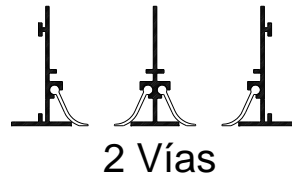
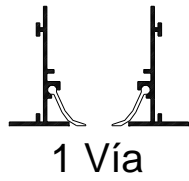


L	N Slots				WITH SLIDE DAMPER N Slots			
	1	2	3	4	1	2	3	4
Agujero H	60	105	150	195	60	105	150	195
500	*	*	*	*	*	*	*	*
600	*	*	*	*	*	*	*	*
700	*	*	*	*	*	*	*	*
800	*	*	*	*	*	*	*	*
900	*	*	*	*	*	*	*	*
1000	*	*	*	*	*	*	*	*
1100	*	*	*	*	*	*	*	*
1200	*	*	*	*	*	*	*	*
1400	*	*	*	*	*	*	*	*
1500	*	*	*	*	*	*	*	*
1600	*	*	*	*	*	*	*	*
1800	*	*	*	*	*	*	*	*
2000	*	*	*	*	*	*	*	*

Note: Table indicates standard dimensions.



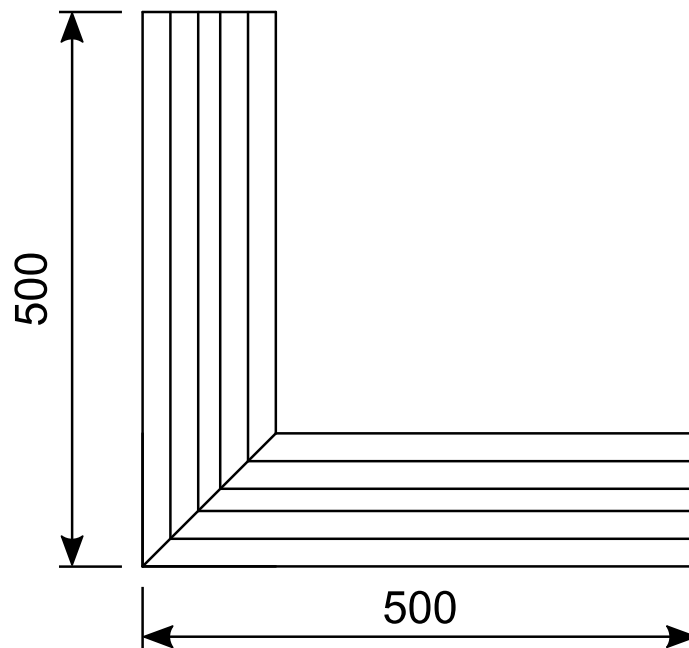
E-STAR-TR configurations



E-STAR-TR diffusers can be made in ways, as illustrated on the picture.

E-STAR-TR especial pieces

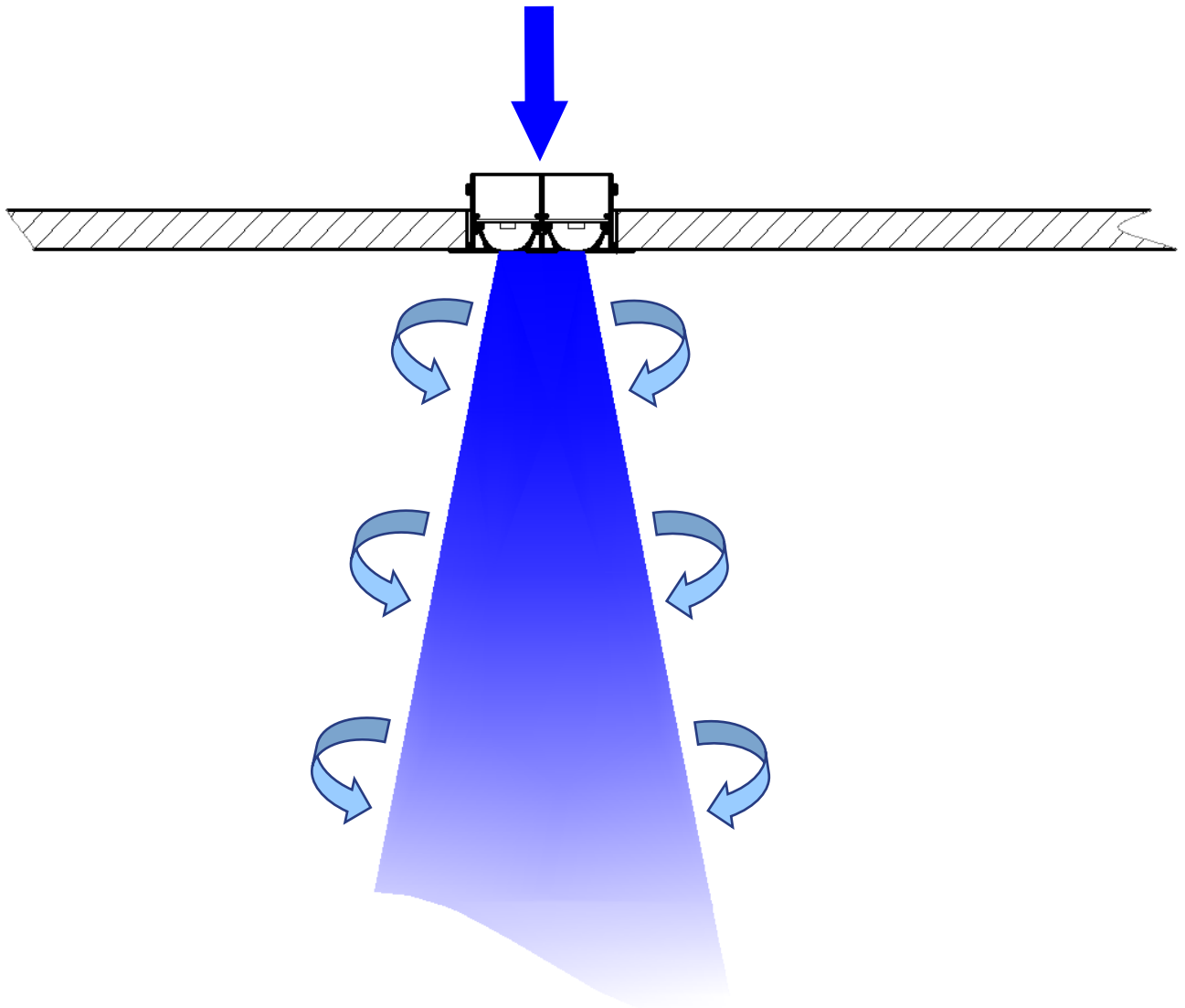
It is also possible to manufacture pieces as shown in the picture on the right at 90°. The measurement of these pieces will always be 500 mm. and they will never be supplied with plenum box.





JET PATTERNS E-STAR-TR

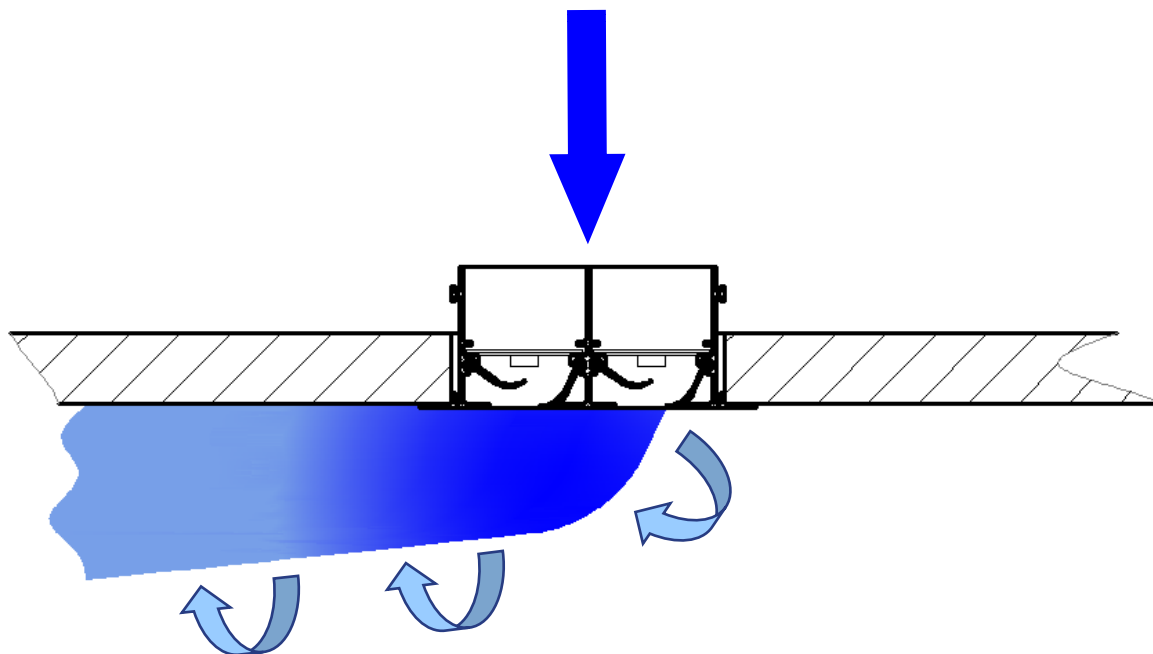
Vertical



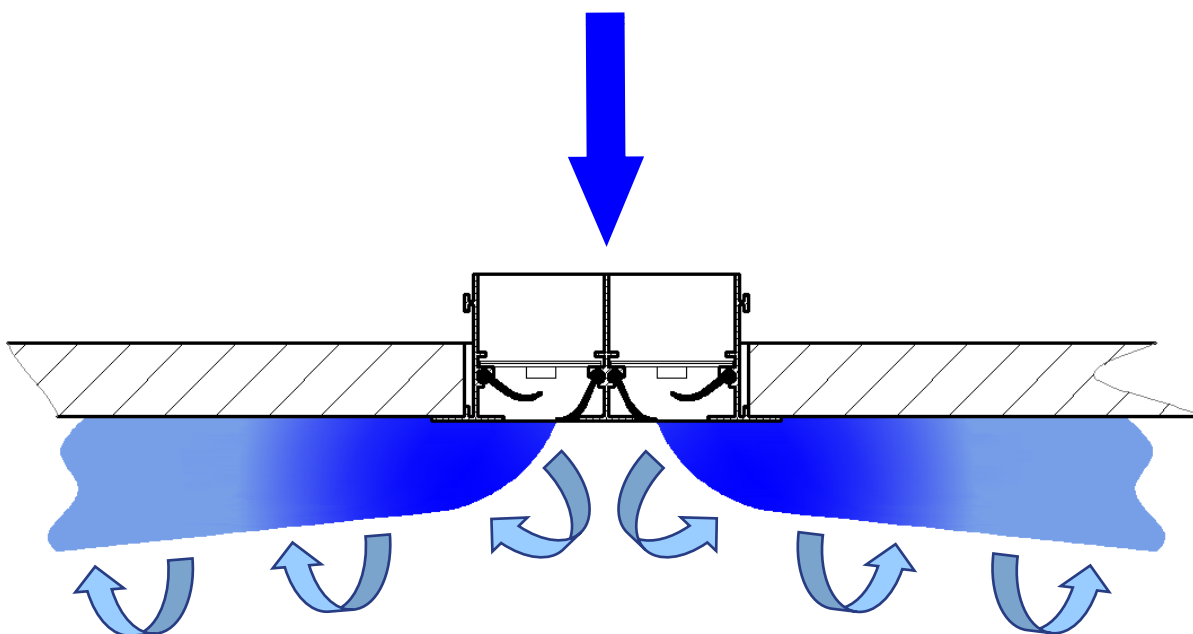


Jet patterns E-STAR-TR

One sense

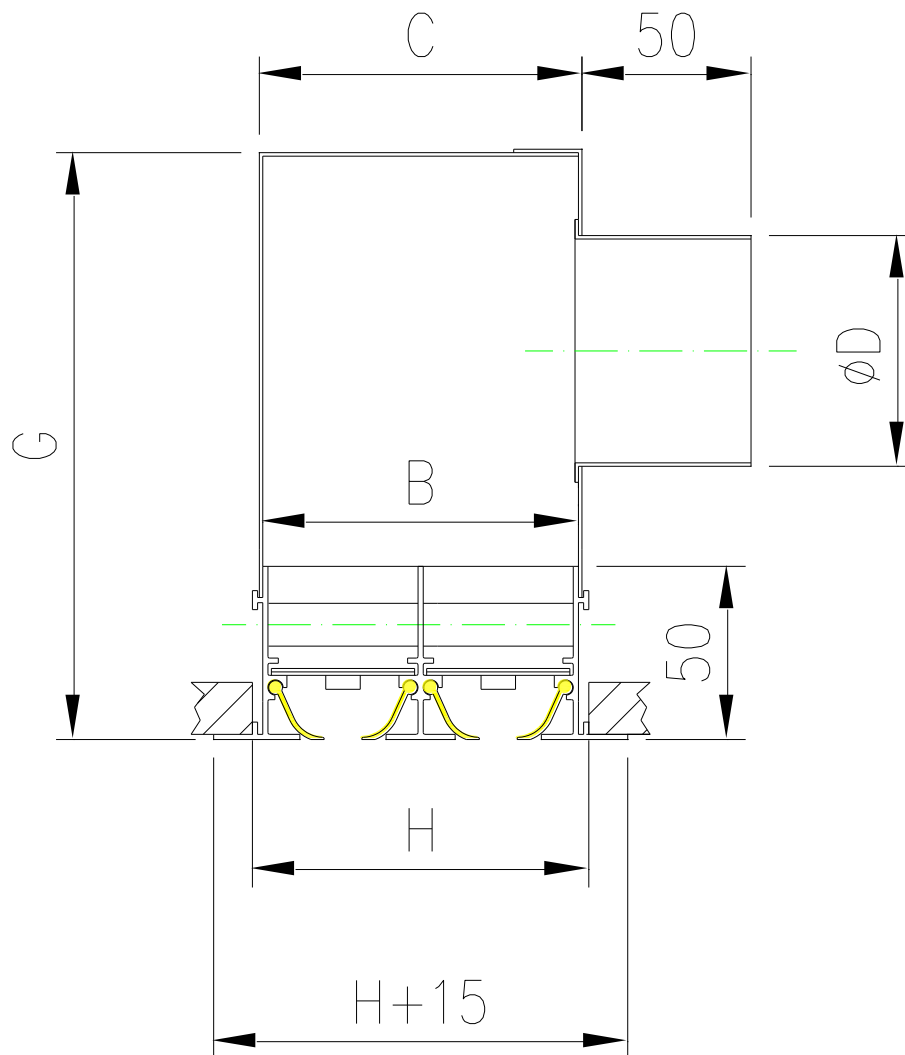


Two senses





Accessories

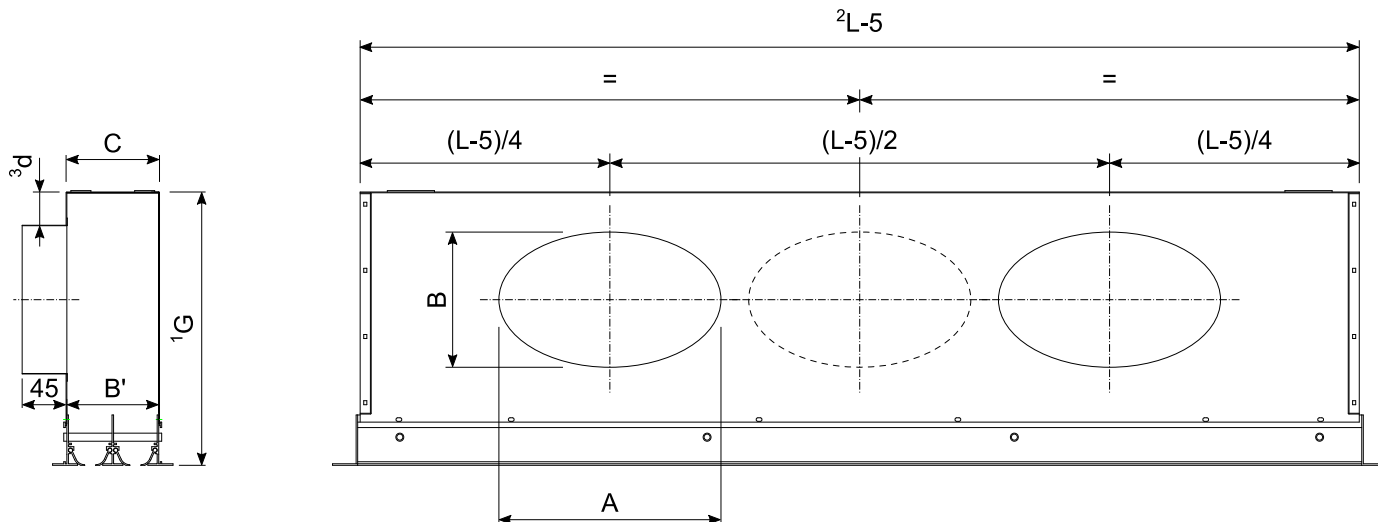


E-P: Plenum can be insulated (E-PA) or non-insulated (E-P).



Plenum E-STAR-TR

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

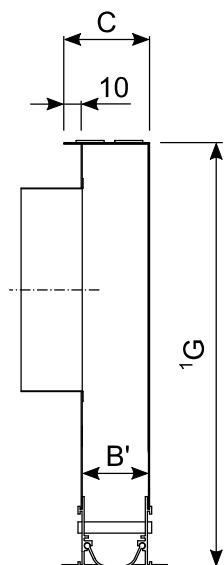


Standard dimensión:

Slots	B	C	1G	${}^4\phi D_{\text{cond.}}$
1	48	60	270	150
2	93	95	270	150
3	138	140	300	200
4	183	185	300	200

Nº of ducts	Until 1250 mm	Between 1250 and 2000 mm
	1	2

Case 1 slot:



Possible others $\phi D_{\text{cond.}}$:

$\phi D_{\text{cond.}}$	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 nominal dimension of the diffuser

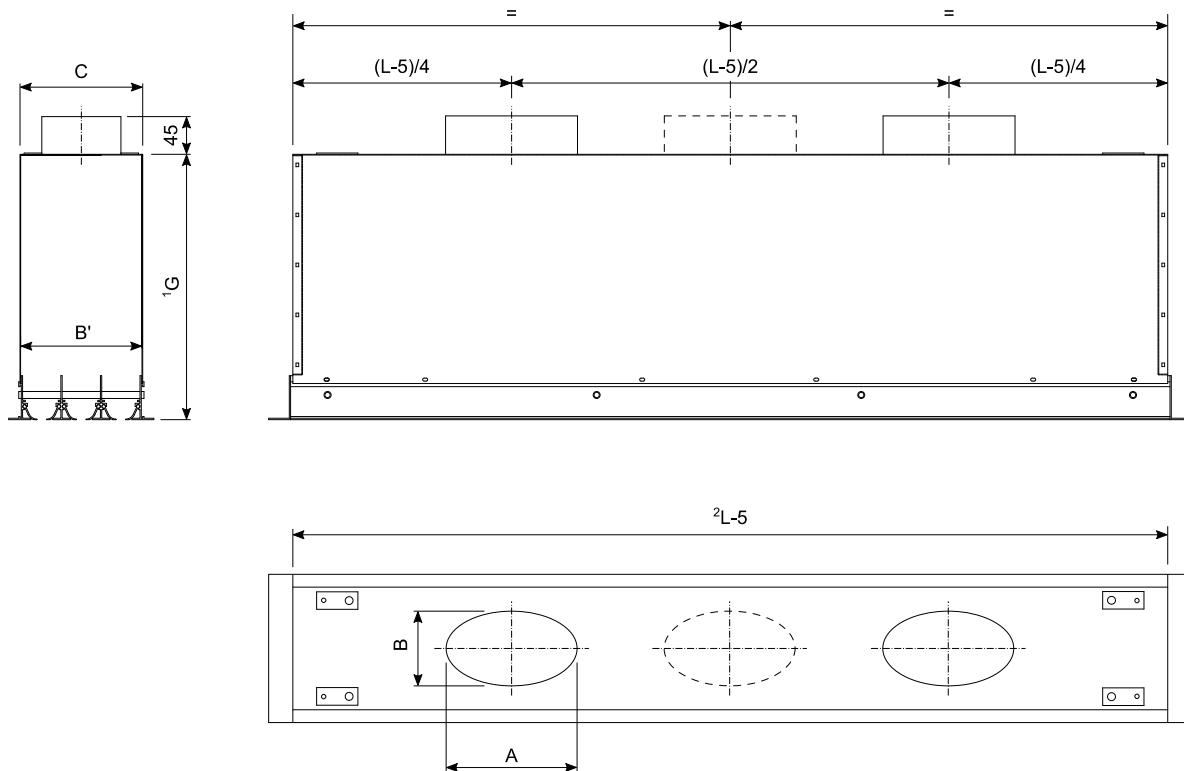
³ d minimum dimension 30mm

⁴ ϕD_{duct} standard dimension. Possible other dimensions on request



Plenum E-STAR-TR

PE-25.543: 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.

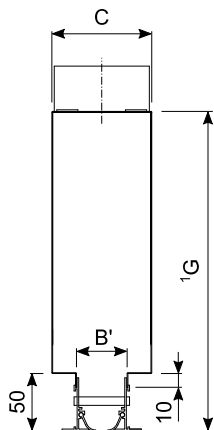


Standard dimensión:

Slots	B	C	¹ G	³ ∅D _{cond.}
1	48	95	270	150
2	93	95	270	150
3	138	140	300	200
4	183	185	300	200

Nº of ducts	Until 1250 mm	Between 1250 and 2000 mm
	1	2

Case 1 slot:



Possible others ∅D_{cond.}:

∅D _{cond.}	A	B
100	107	90
100	100	100
125	150	90
125	125	125
150	190	90
150	162	130
150	150	150
160	206	90
160	178	130
160	160	160
200	270	90
200	242	130

Notes:

¹ G standard dimension. Possible other dimensions on request.

² L nominal dimension of the diffuser

³ ∅D_{duct.} standard dimension. Possible other dimensions on request



Options E-STAR-TR

E-STAR-TR 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, 1500mm 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				↔



Selection table E-STAR-TR

Values are related to a diffuser of length 1000 mm

Air flow rate m ³ /h	Nº of SLOTS SLIDE DAMPER	1		2		3		4	
		No	With	No	With	No	with	No	with
100	Speed.[m/s]	2,8	5,6						
	Throw [m]	1,8	2,8						
	Pressure drop [Pa]	12	27						
	Sound level [dB(A)]	<15	18						
150	Speed [m/s]	4,2	8,3		4,2				
	Throw [m]	2,3	3,8		3				
	Pressure drop [Pa]	18	53		18				
	Sound level [dB(A)]	<15	35		<15				
200	Speed[m/s]	5,6	-		5,6				
	Throw [m]	2,8	-		3,7				
	Pressure drop [Pa]	27	-		27				
	Sound level [dB(A)]	25	-		25				
250	Speed[m/s]	6,9		3,5	6,9		4,6		
	Throw[m]	3,3		2,6	4,4		3,7		
	Pressure drop [Pa]	39		<15	39		21		
	Sound level [dB(A)]	34		1,5	34		21		
300	Speed[m/s]			4,2			5,6		4,2
	Throw [m]			3			4,3		3,8
	Pressure drop [Pa]			18			27		18
	Sound level [dB(A)]			19			29		19
350	Speed[m/s]			4,9		3,2	6,5		4,9
	Al. [m]			3,3		2,9	4,9		4,3
	Pressure drop [Pa]			23		14	35		23
	Sound level [dB(A)]			26		<15	35		26
400	Speed[m/s]			5,6		3,7			5,6
	Al. [m]			3,7		3,1			4,8
	Pressure drop [Pa]			27		16			27
	Sound level [dB(A)]			31		18			31
450	Speed[m/s]			6,2		4,2		3,1	6,2
	Al. [m]			2,3		3,4		3,1	5,3
	Pressure drop [Pa]			33		18		13	33
	Sound level [dB(A)]			37		23		<15	37
500	Speed[m/s]					4,6		3,5	
	Al. [m]					3,7		3,3	
	Pressure drop [Pa]					21		15	
	Sound level [dB(A)]					28		18	
550	Speed[m/s]					5,1		3,8	
	Al. [m]					4		3,6	
	Pressure drop [Pa]					24		17	
	Sound level [dB(A)]					32		22	
600	Speed[m/s]							4,2	
	Al. [m]							3,8	
	Pressure drop [Pa]							18	
	Sound level [dB(A)]							26	
600	Speed[m/s]							4,5	
	Al. [m]							4,1	
	Pressure drop [Pa]							20	
	Sound level [dB(A)]							29	

Speed= Effective speed Throw = Jet air throw (limit speed 0,25 m/s) Pa = Pascal Sound level



Effective area (m²) E-STAR-TR

Length	1 SLOT	2 SLOTS	3 SLOTS	4 SLOTS
500	0,0050	0,0100	0,0150	0,0200
600	0,0060	0,0120	0,0180	0,0240
700	0,0070	0,0140	0,0210	0,0280
800	0,0080	0,0160	0,0240	0,0320
900	0,0090	0,0180	0,0270	0,0360
1000	0,0100	0,0200	0,0300	0,0400
1100	0,0110	0,0220	0,0330	0,0440
1200	0,0120	0,0240	0,0360	0,0480
1400	0,0140	0,0280	0,0420	0,0560
1500	0,0150	0,0300	0,0450	0,0600
1600	0,0160	0,0320	0,0480	0,0640
1800	0,0180	0,0360	0,0540	0,0720
2000	0,0200	0,0400	0,0600	0,0800

Note: slide damper reduces 50% effective area.

EXAMPLE OF SELECTION

Data: Air flow rate Q = 750 m³/h
 Allowed sound level Sound level = 30 dB(A)
 Length 3000 mm
 With slide damper.

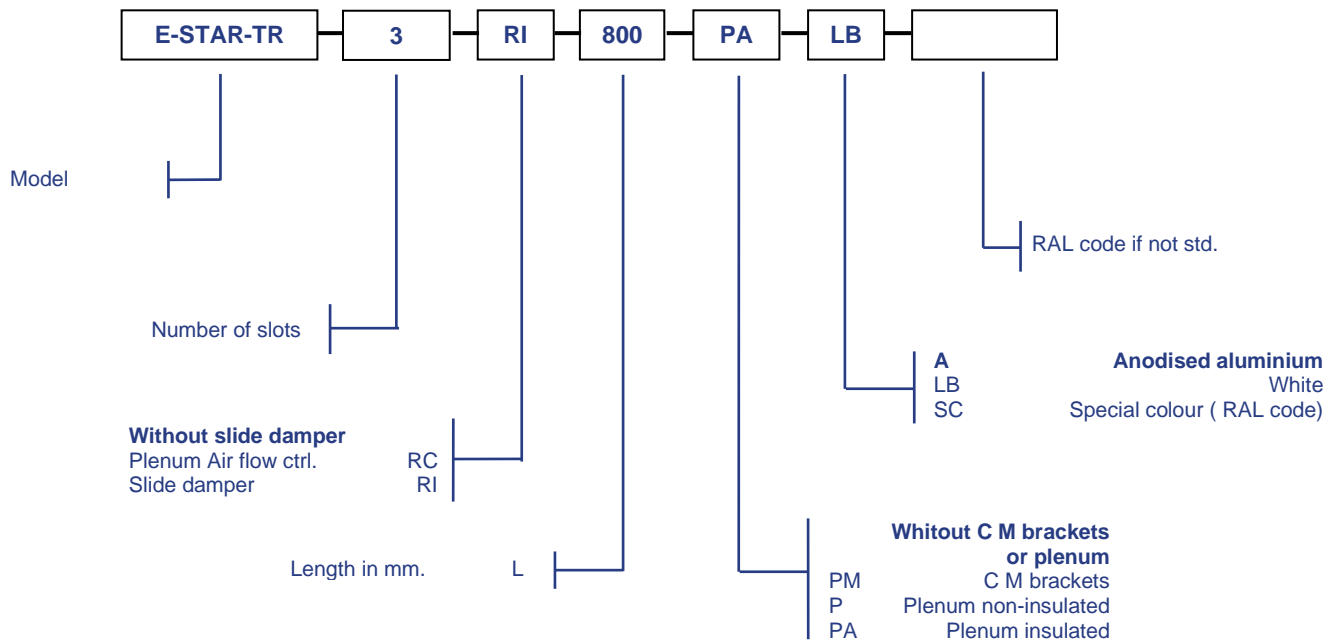
Air flow rate per m: 750/3 = 250 m³/h

Air flow rate m ³ /h	Nº SLOTS Slide damper	1		2		3		4	
		No	Yes	No	Yes	No	Yes	No	Yes
250	speed.[m/s]	6,9		3,5	6,9		4,6		
	Throw [m]	3,3		2,6	4,4		3,7		
	Pressure drop [Pa]	3,9		<15	3,9		2,1		
	Sound level [dB(A)]	34		1,5	34		21		

Results: Length 3000 mm
 No of slots = 3
 Air flow rate Q = 750 m³/h
 Speed Speed = 4,6 m/s
 Throw AI = 3,7 m
 Pressure drop P = 2,1 mm.c.a
 Sound level Sound level = 21 dB(A)



Order reference:



Note: Bold are default options if they are not indicated in the order.

EXAMPLE: E-STAR-TR-3-RI-800-PA-LB: 3 slots E-STAR-TR diffuser, with slide damper, 800 mm length, with insulated plenum and white colored.