

**Hidden Linear Diffuser
SD223**

**DESCRIPTION:**

It is designed to be used in ceiling applications where traditional slot diffusers border profiles are not desired to appear.

After installation, the frame part remains in the ceiling and a black thin slit image is obtained.

SD-223: Supply slot diffuser with damper and deflector blades

SD-224: Return slot diffuser without damper and deflector blades

MATERIAL:

Extruded aluminum frame and deflector

FUNCTION:

The slot diffuser, type SD-223/224 is used for the supply and return of cooled and heated air in facilities such as offices, shops, meeting rooms,

It is designed for installation in the ceiling or sidewall is available from 1 to 4 slots. Each slot is individually adjustable and equipped with 2 deflector vanes of a special design to minimize the internal turbulances. Also one can obtain an ideal air supply pattern adjustable over 180°. All lengths are available so that the diffuser fits ideally in every ceiling system.

FINISHING:

- Standard colours are RAL 9010 and RAL 9016 . Other colours are available

INSTALLATION:

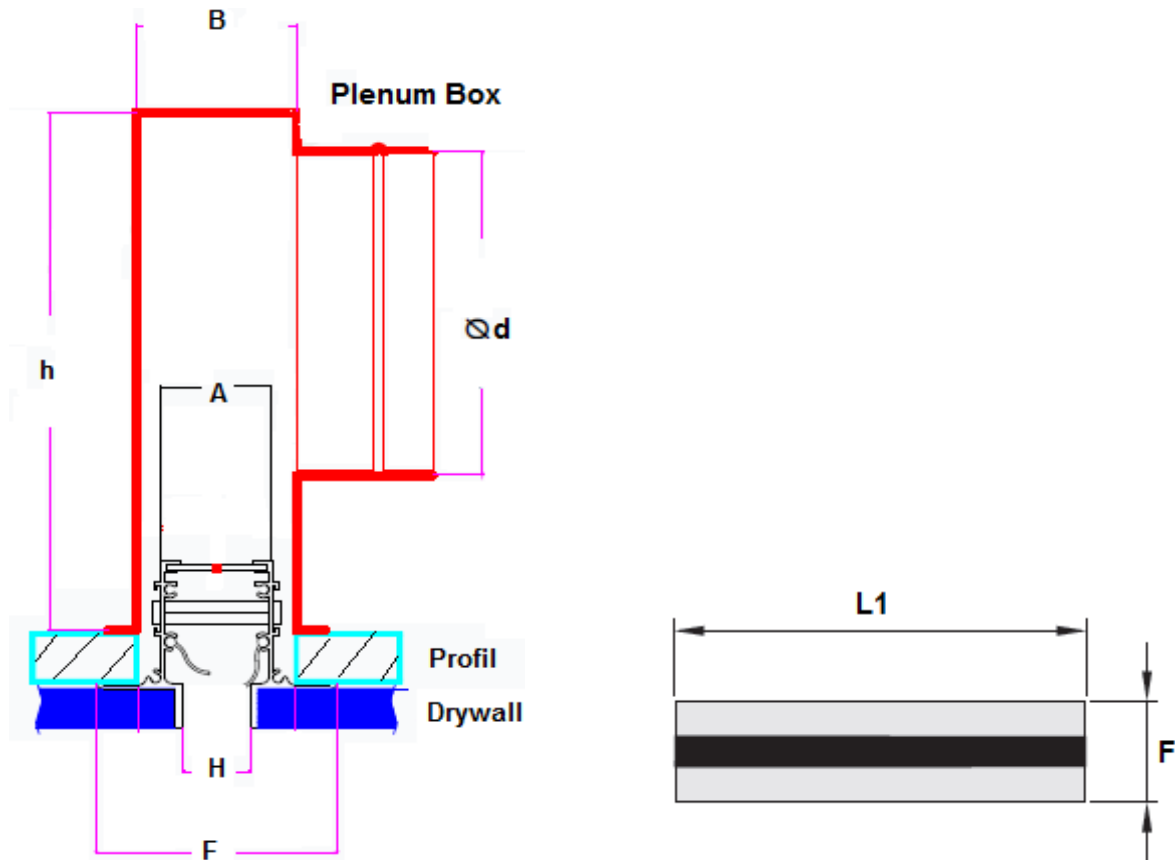
- Screwed from the frame

ACCESSORIES:

- Plenum box
- Corner pieces



STANDARD SIZES (mm):



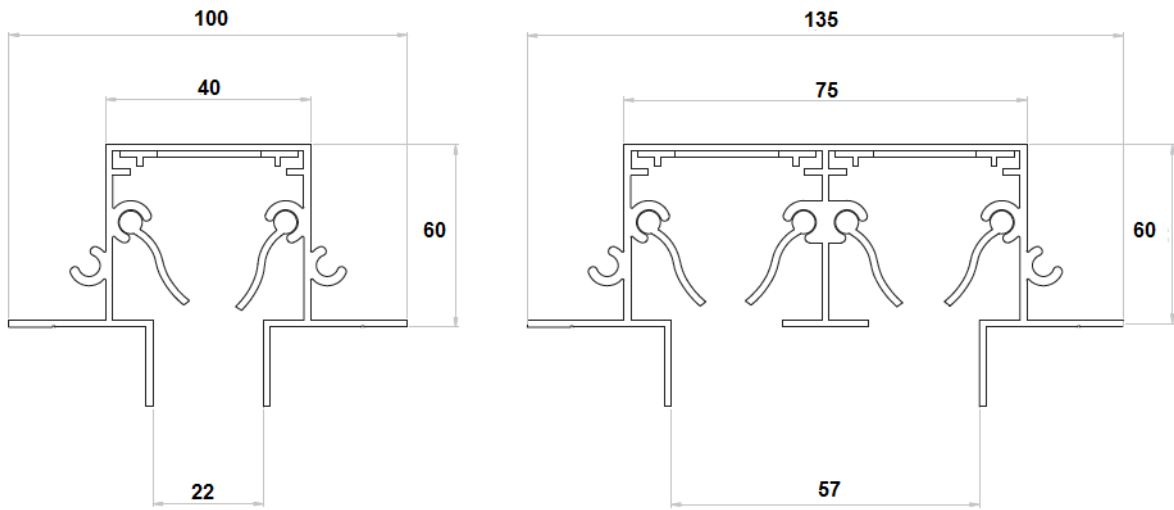
Number of Slots	1S	2S	3S	4S
H (mm)	22mm	57mm	93mm	126mm
A (mm)	40mm	75mm	111mm	144mm
F (mm)	100mm	135mm	172mm	205mm
Box Neck Size B (mm) Between Two Profiles	60mm	95mm	131mm	164mm

Box heights and sleeve diameters according to plenum box length

L1 (mm)	400 - 1000mm	1100 - 2000mm	
Sleeve Number	Single	Double	
	Ød (Sleeve Diameter)		h (plenum Box Height)
1 Slot	Ø123mm	Ø123mm	250mm
2 Slot	Ø148mm	Ø148mm	250mm
3 Slot	Ø198mm	Ø198mm	300mm
4 Slot	Ø198mm	Ø198mm	300mm

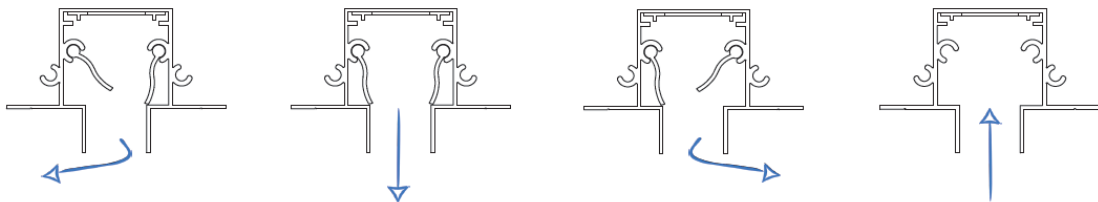


1-2 Slot Diffuser Standard Dimensions:

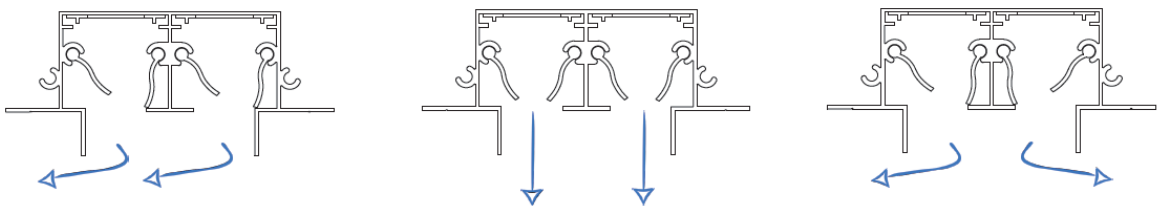


Air flow directions according to wing positions

One slot



Two slot



Four Slot




SUPPLY SLOT DIFFUSERS SELECTION TABLE:

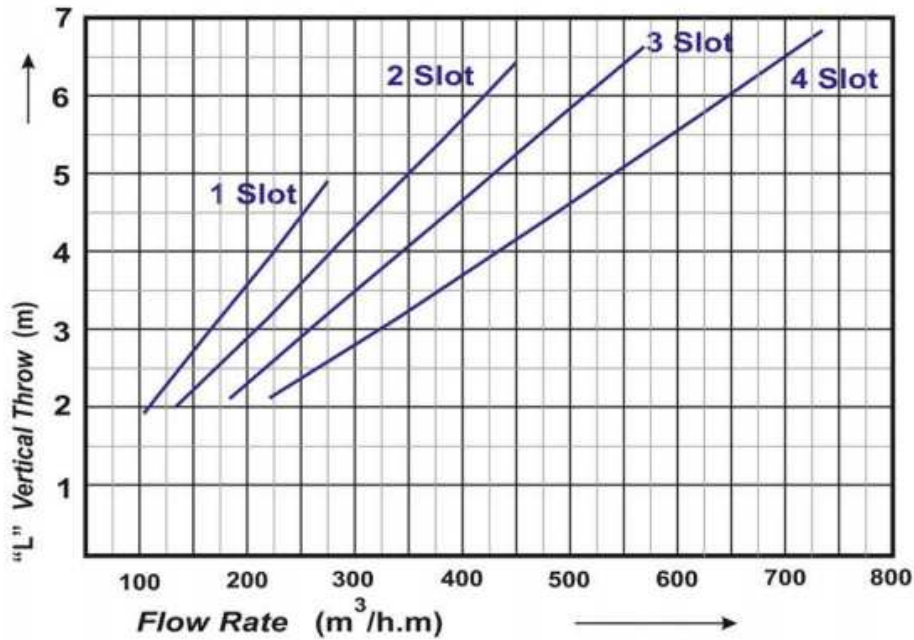
Qv(m³/h)	MODEL	1 SLOT	2 SLOT	3 SLOT	4 SLOT
	A (m2)	0,007	0,014	0,021	0,028
80	Lt (m)	3,7			
	NR	<20			
	Pt (Pa)	9,2			
	Vk (m/s)	3,2			
100	Lt (m)	4,6			
	NR	24			
	Pt (Pa)	14,0			
	Vk (m/s)	4,0			
125	Lt (m)	5,7	4,0		
	NR	30	<20		
	Pt (Pa)	22,0	6,0		
	Vk (m/s)	5,0	2,5		
150	Lt (m)	7,0	4,9		
	NR	35	20		
	Pt (Pa)	32,0	8,0		
	Vk (m/s)	6,0	3,0		
200	Lt (m)		6,6	5,4	
	NR		27	<20	
	Pt (Pa)		14,0	6,4	
	Vk (m/s)		4,0	2,6	
250	Lt (m)		8,2	6,6	5,8
	NR		33	24	<20
	Pt (Pa)		22,0	9,8	6,0
	Vk (m/s)		5,0	3,3	2,5
300	Lt (m)		9,8	8,0	7,0
	NR		38	29	23
	Pt (Pa)		32,0	14,0	8,0
	Vk (m/s)		6,0	4,0	3,0
400	Lt (m)			10,6	9,2
	NR			36	30
	Pt (Pa)			25,0	14,0
	Vk (m/s)			5,3	4,0
500	Lt (m)				11,4
	NR				36
	Pt (Pa)				22,0
	Vk (m/s)				5,0
600	Lt (m)				14,0
	NR				41
	Pt (Pa)				32,0
	Vk (m/s)				6,0

SELECTION CRITERIAS

H= 3 ± 0,5 mt (Ceiling height)
Vt: 0.25 m/s



Vertical or “w/o ceiling effect” horizontal throw (m)



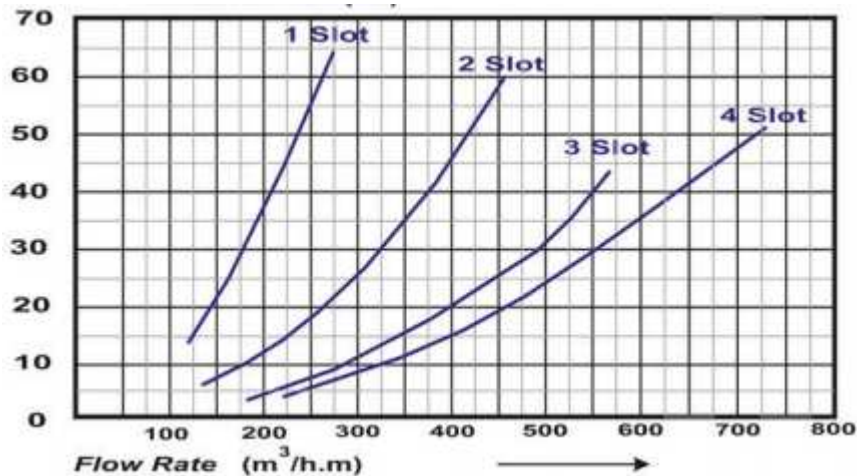
Vertical Throw Correction Factors:

The graph is valid for isothermal vertical throws with 100% open damper.

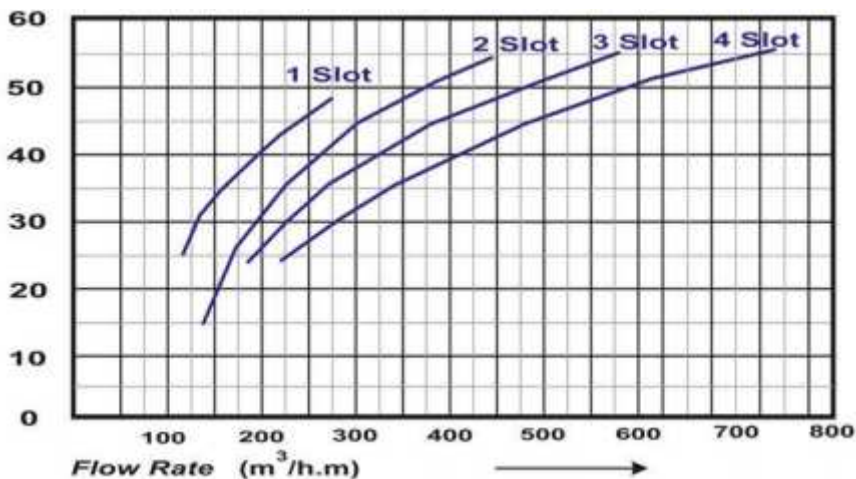
Slot	Temp. difference between supply and room (°C)						
	-15	-10	-5	0	+5	+10	+15
1	1.55	1.30	1.15	1.00	0.70	0.50	0.35
2	2.00	1.60	1.25	1.00	0.75	0.55	0.40
3	2.45	1.85	1.35	1.00	0.80	0.65	0.50
4	2.70	1.95	1.40	1.00	0.85	0.75	0.65



Pressure Loss (Pa)



Sound Power Level db(A)



The graphs above are valid for 1000mm length and plenum box. For other lengths, please make the corrections given in the tables below.

1 Slot

E (mm)	Pressure Loss (Pa)	Sound P. Level dB(A)
500	-1	-4
1000	0	0
1200	+1	+2
1400	+1	+3
1600	+2	+5
1800	+3	+6
2000	+4	+6

2 Slot

E (mm)	Pressure Loss (Pa)	Sound P. Level dB(A)
500	-3	-6
1000	0	0
1200	+1	+2
1400	+3	+3
1600	+5	+5
1800	+6	+6
2000	+6	+6

3 Slot

E (mm)	Pressure Loss (Pa)	Sound P. Level dB(A)
500	-2	-5
1000	0	0
1200	+1	+2
1400	+2	+4
1600	+4	+5
1800	+5	+6
2000	+5	+6

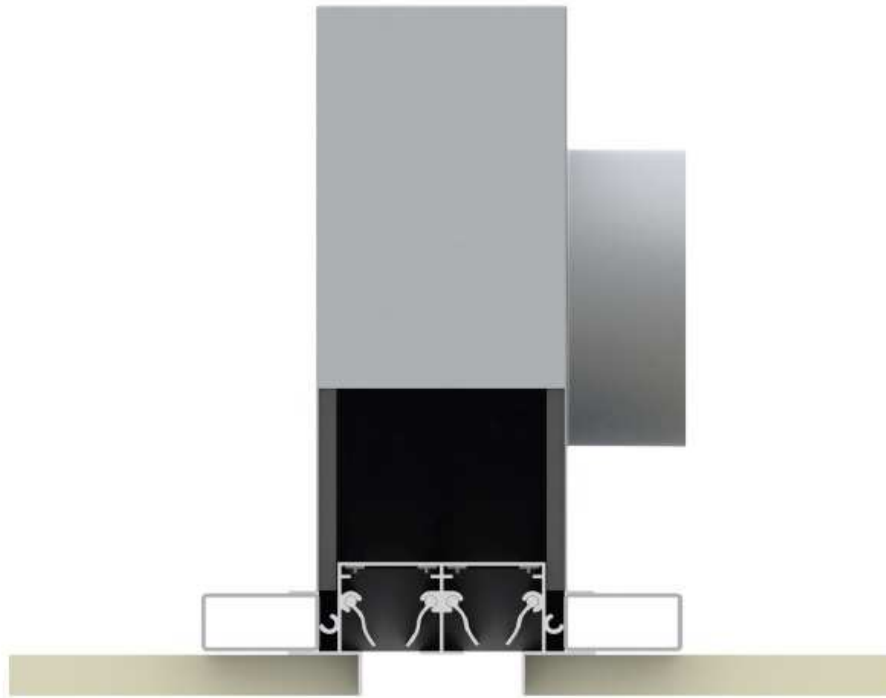
4 Slot

E (mm)	Pressure Loss (Pa)	Sound P. Level dB(A)
500	-2	-4
1000	0	0
1200	+1	+2
1400	+2	+3
1600	+3	+4
1800	+4	+5
2000	+5	+5

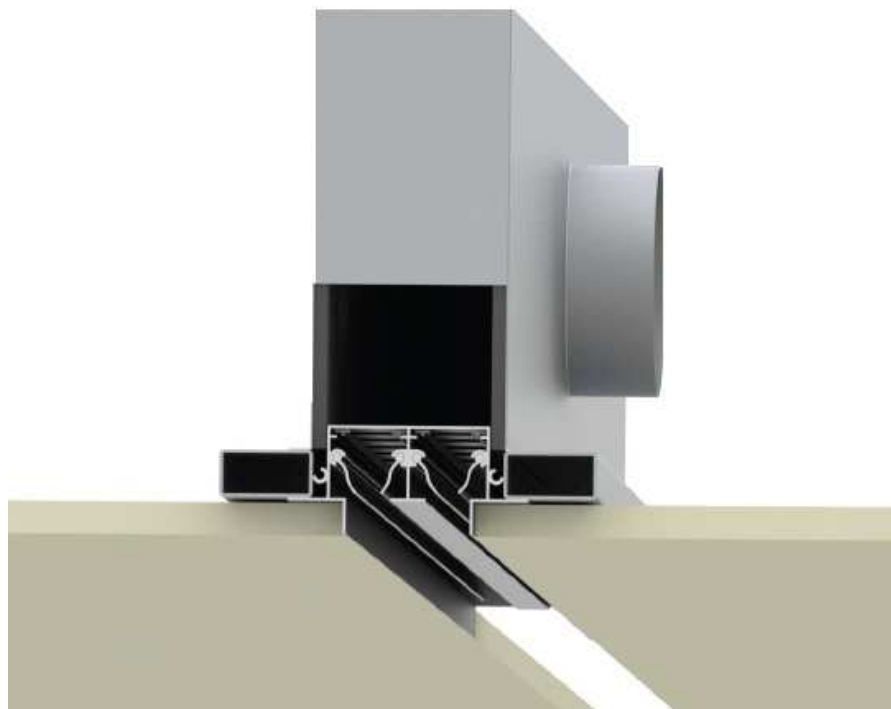


INSTALLATION TYPES :

Plenum box and diffuser are installed separately. The slot diffuser is installed in such a way that it is fixed to the bridged connection brackets or from the bottom to the box profiles. Plenum box is placed on the box profiles.



Drywall

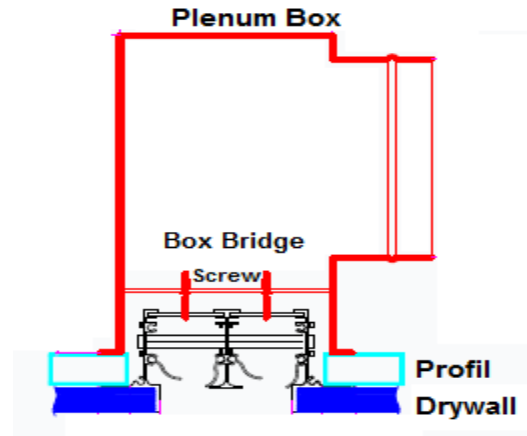
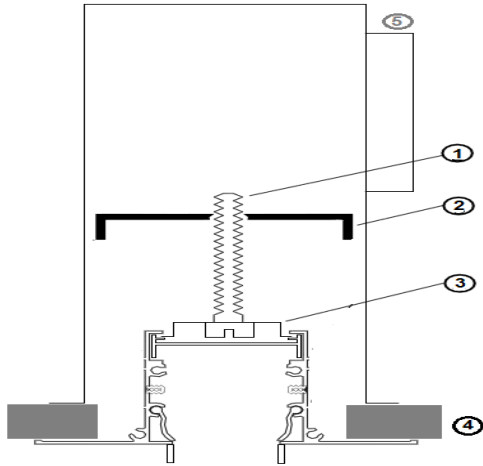


Drywall



Installation with Bridge :

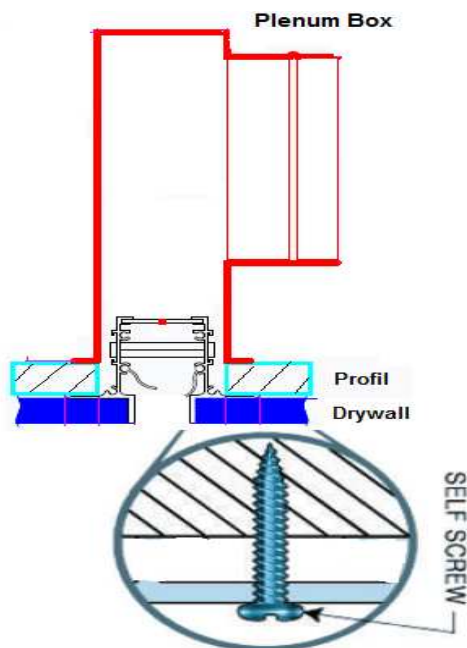
It's standard: Slot diffuser and plenum box install separately. Slot installs to inside of the plenum box by bridges which mounted to shorter edge of the plenum box, on the other hand box installs to ceiling tith supports.



- 1 - Slot Diffuser Bridge bolt
- 2 - Plenum Box Bridge piece
- 3 - Slot Diffusers Bridge Piece
- 4 - Profile
- 5 - Plenum Box

Screw Type Installation:

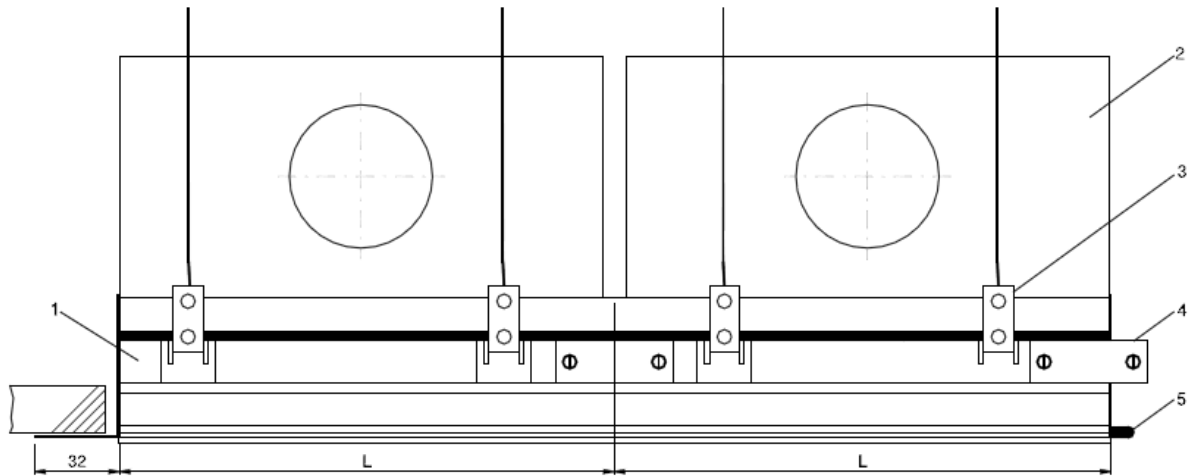
Mounted with countersunk screw to the outer profile.



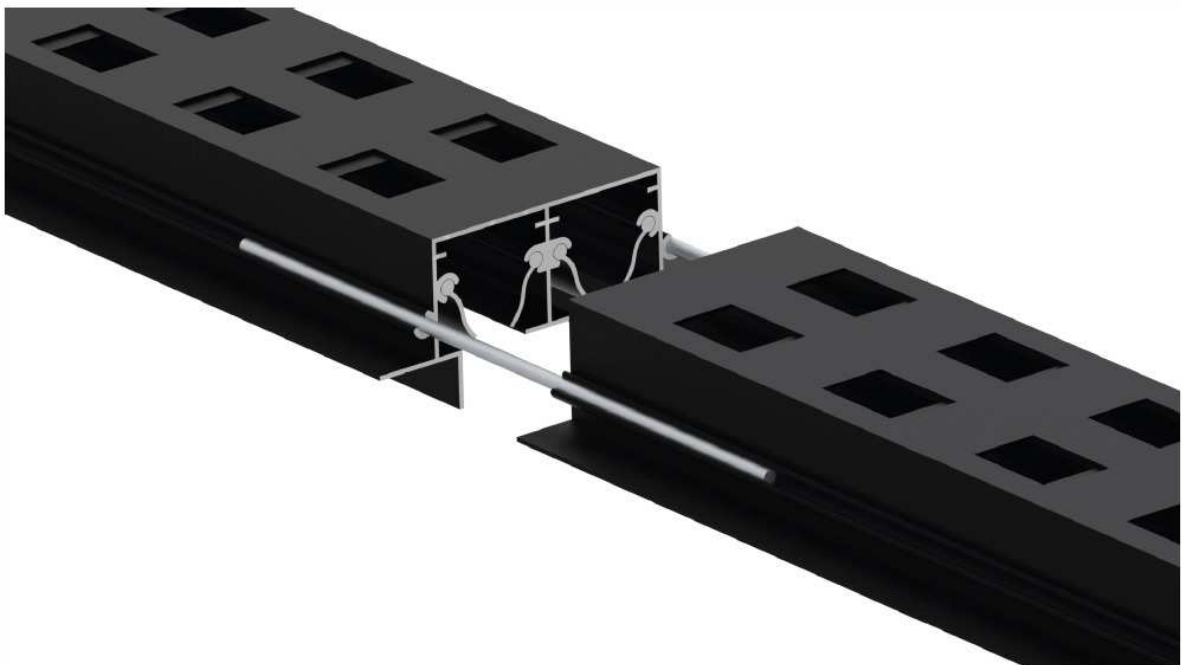


Continuous installation of slot diffuser

For long-distance diffuser lengths, the diffusers can be connected to each other to obtain a single view. The pins passing through the half-moon profiles on the sides of the diffuser frame allow for mounting to the other diffuser so that they are obtained in full straight linear direction.

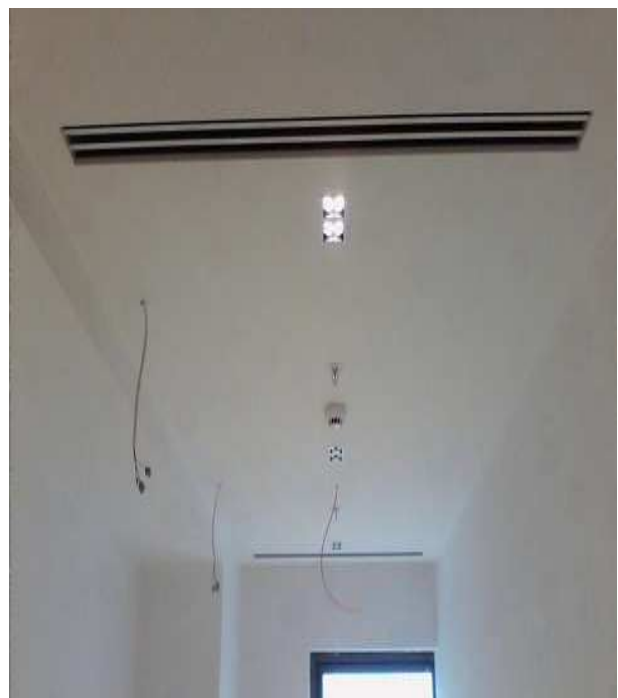


- 1 - Slot Diffusers
- 2 - Plenum Box
- 3 - Hanger
- 4 - Combination Piece
- 5 - Combination Pin





Application Example





ORDER CODES

SD223	00	06	PFD	RAL9010	SM	L 1000	S1
SD223: Supply slot diffuser with damper and deflector blades SD224: Return slot diffuser without damper and blade SD225: Curved Supply / Return SD226: 4-way Slot Diffuser						L: Length	NUMBER OF DIFFUSER SLOTS (Between 1to 4)
00: No Plenum Box PL: With Plenum Box						00: No Mounting BM: Bridge Mounting SM: Screw Mounting	
00: PL Non-insulated 06: PL insulated (6mm) 09: PL insulated (9mm)						00: No coating EX: Eloxal Coating RAL-----: Oven Drying Coating	
000: PL-Without Damper PFD: PL-Perforated Damper							