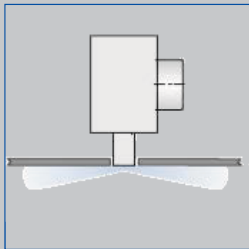
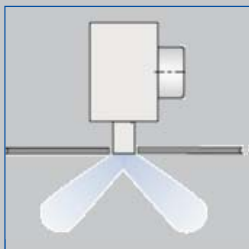




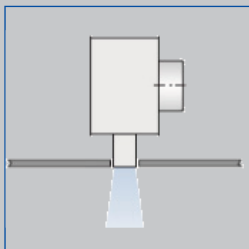
New design possibilities with white, grey and black air control blades



Horizontal airflow



Slanted airflow



Vertical airflow

Slot diffusers for ceiling installation Type PURELINE35



The clean solution for significantly lower ceiling contamination

Perfectly integrable slot diffuser with sleek appearance – for discreet installation in the suspended ceiling

- Very high comfort due to lower sound power levels and improved temperature and speed reduction
- Improved energy efficiency due to lower pressure losses
- Simple and fast installation – tool-free fastening of the front rail
- New areas of application – including as air curtains for food counters
- High flexibility thanks to numerous standard variants

Type		Page
PURELINE35	General information	PL35 – 2
	Function	PL35 – 4
	Technical data	PL35 – 7
	Quick sizing	PL35 – 8
	Specification text	PL35 – 12
	Order code	PL35 – 13
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	Dimensions and weight	PL35 – 18
	Installation examples	PL35 – 24
	Installation details	PL35 – 25
	Commissioning	PL35 – 28
	Basic information and nomenclature	PL35 – 29

Application

Application

- Type PURELINE35 slot diffusers are used as supply air or extract air devices in comfort zones
- Suitable as mixed ventilation system for many applications due to the variety of variants and high flexibility
- Discreet integration in suspended ceilings
- For rooms up to approx. 4 m in height (bottom edge of finished ceiling)
- For suspended ceilings, even with low gaps, due to the low height of the plenum box
- One-way or alternate air distribution can be adapted to the structural conditions on site
- High induction causes rapid reduction of temperature difference and airflow velocity (with supply air)
- For constant and variable volume flow rates
- For supply air to room air temperature differences of –10 to +10 K

Special features

- Uniform air pattern reduces dirt deposits due to induced compartment air on the ceiling
- Horizontal, slanted or vertical supply air distribution through manually adjustable air control blades
- Comfortable room climate due to high induction and rapid reduction of temperature differences and airflow velocities
- High-quality appearance due to surface-treated extruded aluminium sections with anodised or powder coating according to RAL Classic colour scale
- Face plate optimised for maximum volume flow at low sound power levels
- Continuous linear arrangement possible for continuous visual appearance

Nominal sizes

- L_N: 600, 750, 900, 1050, 1200, 1350, 1500, 1650, 1800, 1950 mm
- Front rail can also be ordered in mm steps, also in intermediate lengths

Description

Variants

- PL35-*: 1 to 4 slots
- PL35-*DF: Only front rail with B00 section and spring clip
- PL35-*DS: Only front rail with B00 section and screw fixing
- PL35-*PB: Only plenum box (for combination with DS)
- PL35-*PF: Combination of front rail and plenum box with fixed connection
- PL35-*SF: Combination of front rail and plenum box with releasable screw fixing
- PL35-*CS: Corner section

Position of plenum box on the front diffuser

- Central position of the plenum box
- Plenum box left (LE)
- Plenum box right (RI)

Plenum box variant

- Symmetrical plenum box with horizontal connection (HS)
- Symmetrical plenum box with vertical connection (VS)
- Asymmetrical plenum box with horizontal connection (HA)

Construction

Diffuser face finish

- With anodised finish, E6-C-0, natural colour
- P1: Powder-coated RAL 9010, pure white, gloss level 50 %
- P1: Powder-coated RAL 9006, white aluminium, gloss level 30 %
- P1: Powder-coated in additional RAL CLASSIC colours, gloss level 70 %

Attachments

- D: Damper unit for volume flow rate balancing
- LS: Lip seal
- L: Internal lining
- EP: Two end plates
- EA: Two end angles

The end plates or end angles of individual devices are already mounted at the factory. Either end plates or end angles can be used as the end piece.

Accessories

- EP: Two end plates
- EA: Two end angles

For devices that are mounted in a continuous linear arrangement, the end plates or end angles must be ordered separately and installed on site. 2 Alignment plates for connecting the slot diffusers to each other are supplied loose with each slot diffuser without a factory-fitted end piece.

Construction features

- Spigot matching round ducting according to EN 1506 or EN 13180
- 4 suspension points on the plenum box for fixing to be performed by others
- Manually adjustable air control blades with detent for defined adjustment of the air distribution
- Factory-set air distribution, manually adjustable on site
- Spigot with bead for lip seal (only for accessories with lip seal)
- Front rail available in mm steps between 600 and 1950 mm
- If the front rail is longer than the plenum box, the protruding areas of the front rail are covered at the rear.
- Plenum boxes only available in nominal lengths
- Extract air variant with air control blades optionally possible without air control blades (E0)
- The optionally available neck extension in the standard dimensions 30, 55, 80, 105 and 129 mm can be used to compensate for structural conditions

Materials and surfaces

- Face plate made of extruded aluminium section
- Air control blades made of ABS plastic, to UL94, V-0, flame-retardant
- Plenum box made of galvanised sheet steel
- End plates and end angles made of aluminium
- Lip seal made of Evoprene
- Lining of mineral wool and closed cell vinyl foam
- Face plate with anodised finish, E6-C-0, natural colour
- P1: Powder-coated colour according to RAL Classic
- Air control blades similar to RAL 9005, black
- G: Air control blades similar to RAL 9006, grey
- W: Air control blades similar to RAL 9010, white

Mineral wool

- Mineral wool faced with glass fibre fabric on the surfaces in contact with the air, erosion-resistant up to 20 m/s
- According to EN 13501, material classification A1, non-flammable
- RAL quality mark RAL-GZ 388
- Hygienically safe due to high biosolubility, according to TRGS 905 and EU Directive 97/69/EC
- Inert to the growth of fungus and bacteria

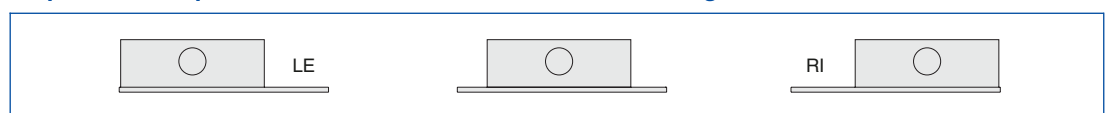
Standards and guidelines

- Sound power level of the air-regenerated noise measured according to EN ISO 5135
- Compliant with VDI 6022

Maintenance

- Maintenance-free as construction and materials are not subject to wear
- Inspection and cleaning according to VDI 6022

PL plenum box, positioned on the left, in the centre, on the right



Functional description

Slot diffusers allow the supply air of ventilation and air conditioning systems to flow horizontally, obliquely or vertically into the room.

The flow takes place with high induction of indoor air and consequently with a rapid reduction of air-flow velocity and temperature difference between supply air and indoor air.

The result is mixed flow air distribution for comfort zones with good room purging and low turbulence levels in the occupied zone.

Type PURELINE35 slot diffusers are factory fitted with manually adjustable air control elements.

Different airflow directions allow adaptation to different local conditions at any time.

Horizontal air distribution takes place with a one-way or alternating flow

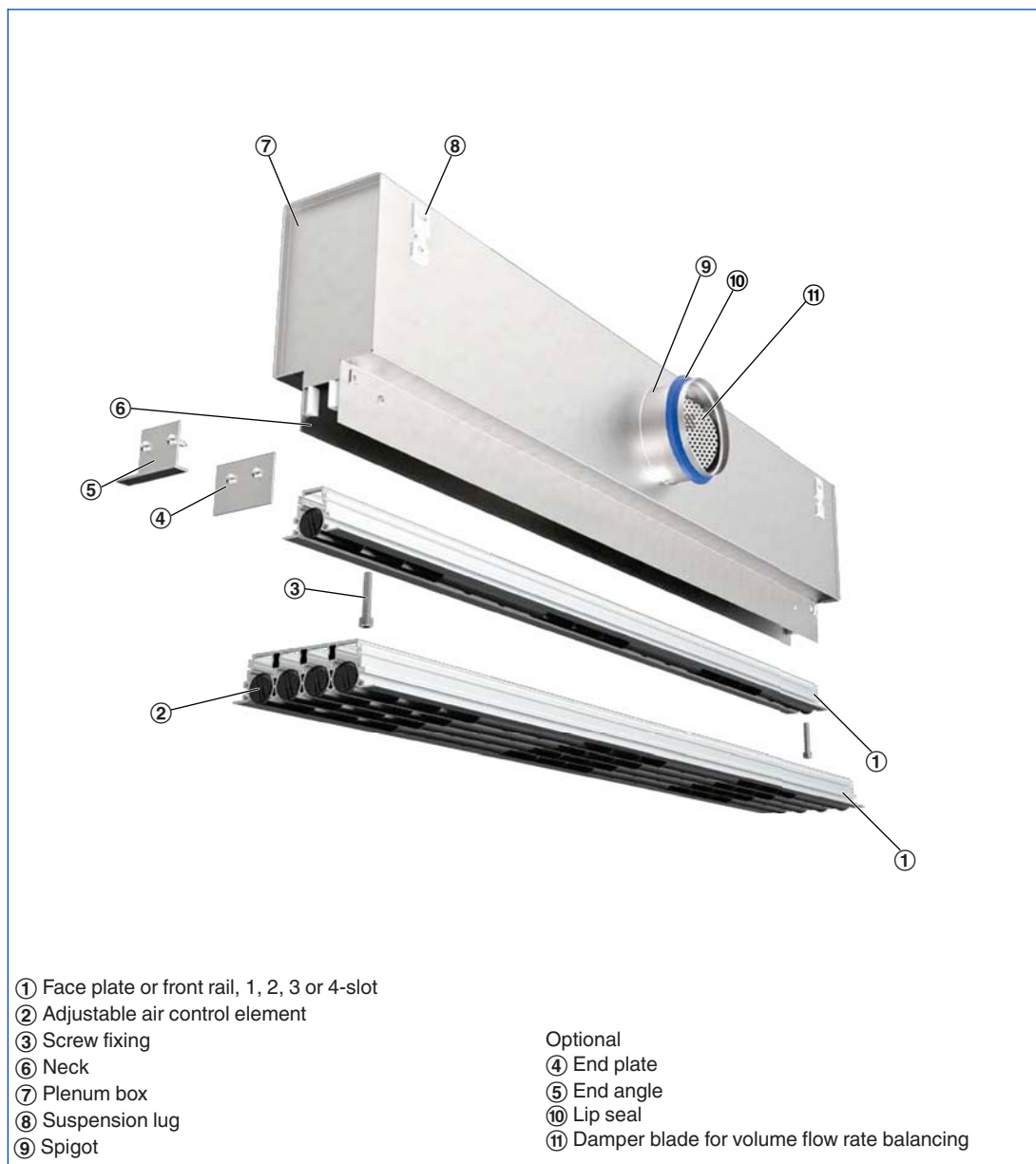
Heating operation with vertical flow is possible, as is a slanted supply air distribution.

The supply air to room air temperature difference can be -10 to +10 K.

A damper unit (optional) enables volume flow rate balancing for commissioning.

To give rooms an aesthetic, uniform look, PURELINE35 diffusers may also be used for extract air.

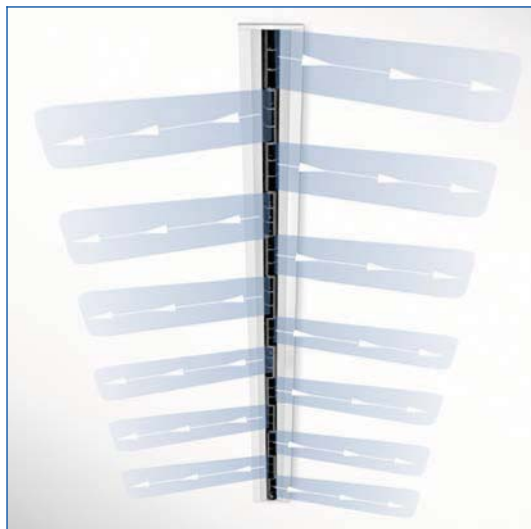
Schematic illustration of PL35-*-SF



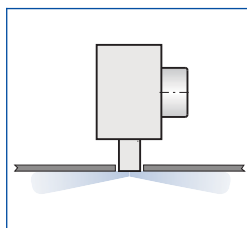
Air patterns

The diagrams are schematic and serve for a better understanding of the setting of the air control blades.

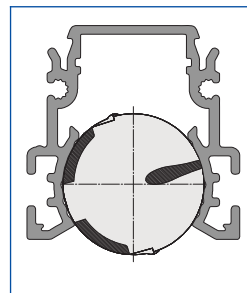
Alternating horizontal air discharge



Horizontal, alternating air discharge

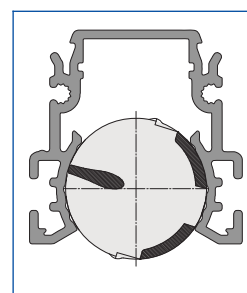


Setting of the air control blades



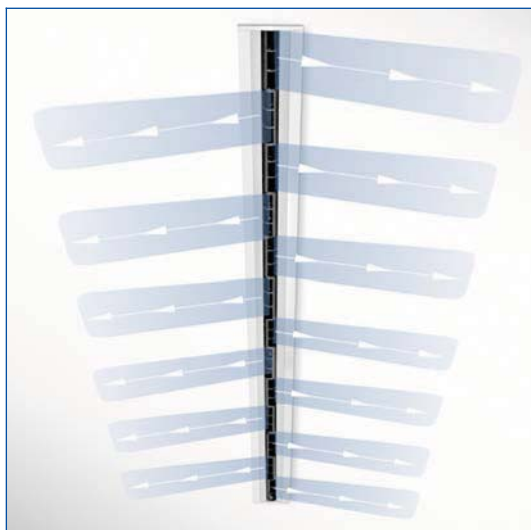
Air outlet horizontal right

Setting of the air control blades

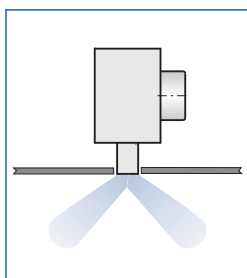


Air outlet horizontal left

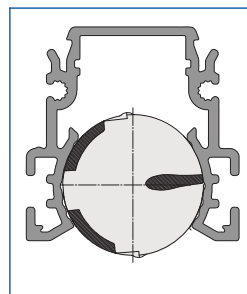
Alternating angled air discharge



Slanted, alternating air discharge (AS)

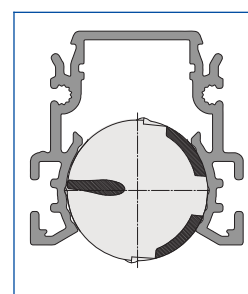


Setting of the air control blades



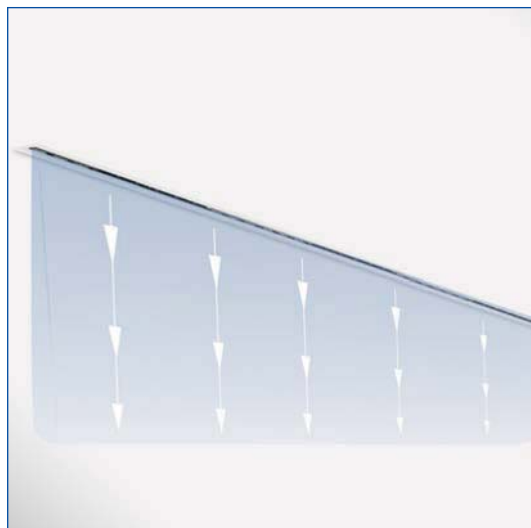
Air outlet slanted right

Setting of the air control blades

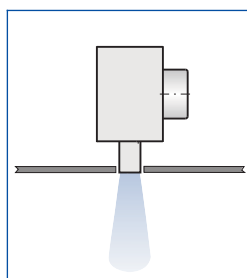


Air discharge: angled left

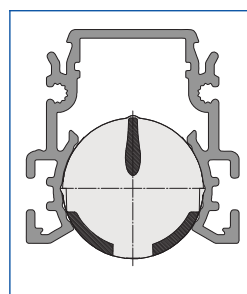
Vertical air discharge



Vertical flow (V)



Setting of the air control blades

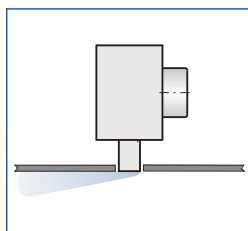


Air discharge: vertical

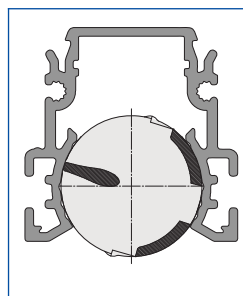
One-way horizontal air discharge to the left



Horizontal, one-way flow left (HL)



Setting of the air control blades

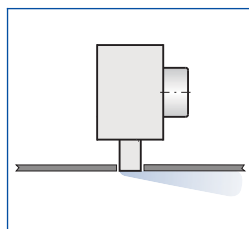


Air outlet horizontal left

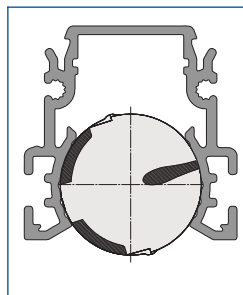
One-way horizontal air discharge to the right



Horizontal, one-way flow right (HR)



Setting of the air control blades



Air outlet horizontal right

Nominal length	600 – 1950 mm, in increments of 150 mm
Number of slots	1, 2, 3 or 4
Neck extension	0, 30, 55, 80, 105, 129
Minimum volume flow rate at $\Delta t_z = -10\text{ K}$	7 l/s or 24 m ³ /h
Maximum volume flow rate, at $L_{WA} \cong 50\text{ dB(A)}$	225 l/s or 808 m ³ /h
Supply air to room air temperature difference	-10 to +10 K

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Slot diffusers of Type PURELINE35 with individually, manually adjustable air control blades and 1, 2, 3 or 4 slots.

Air distribution optionally horizontal alternating, alternating angled, vertical, one-way horizontal left or one-way horizontal right possible.

The slot diffusers can be used for supply or extract air and are intended for installation in the suspended ceiling. Ready-to-install component consisting of the face plate with optional black, grey or white air control blades.

Variants with plenum boxes have 1 or 2 spigots which are arranged horizontally or vertically for symmetrical plenum boxes and horizontally for asymmetrical plenum boxes.

The plenum boxes all have 4 suspension lugs for suspension.

The connection between the face plate and plenum box is made as a fixed or detachable connection.

The spigots are suitable for circular ducts according to EN 1506 or EN 13180. Sound power level of the air-regenerated noise measured according to EN ISO 5135.

Special features

- Uniform air pattern reduces dirt deposits due to induced compartment air on the ceiling
- Horizontal, slanted or vertical supply air distribution through manually adjustable air control blades
- Comfortable room climate due to high induction and rapid reduction of temperature differences and airflow velocities
- High-quality appearance due to surface-treated extruded aluminium sections with anodised or powder coating according to RAL Classic colour scale
- Face plate optimised for maximum volume flow at low sound power levels
- Continuous linear arrangement possible for continuous visual appearance

Materials and surfaces

- Face plate made of extruded aluminium section
- Air control blades made of ABS plastic, to UL94, V-0, flame-retardant
- Plenum box made of galvanised sheet steel
- End plates and end angles made of aluminium
- Lip seal made of rubber
- Lining of mineral wool and closed cell vinyl foam
- Face plate with anodised finish, E6-C-0, natural colour
- P1: Powder-coated colour according to RAL Classic
- Air control blades similar to RAL 9005, black
- G: Air control blades similar to RAL 9006, grey
- W: Air control blades similar to RAL 9010, white

Mineral wool

- Mineral wool faced with glass fibre fabric on the surfaces in contact with the air, erosion-resistant up to 20 m/s
- According to EN 13501, material classification A1, non-flammable
- RAL quality mark RAL-GZ 388
- Hygienically safe due to high biosolubility, according to TRGS 905 and EU Directive 97/69/EC
- Inert to the growth of fungus and bacteria

Construction

Diffuser face finish

- With anodised finish, E6-C-0, natural colour
- P1: Powder-coated RAL 9010, pure white, gloss level 50 %
- P1: Powder-coated RAL 9006, white aluminium, gloss level 30 %
- P1: Powder-coated in additional RAL CLASSIC colours, gloss level 70 %

Technical data

- Nominal lengths: 600 – 1950 mm in steps of 150 mm
- Number of slots: 1, 2, 3 or 4
- Minimum volume flow rate at $\Delta t_z = -10$ K: 7 l/s or 24 m³/h
- Maximum volume flow rate, at $L_{WA} \approx 50$ dB(A): 225 l/s or 808 m³/h
- Supply air to room air temperature difference: -10 to +10 K

Sizing data

- V _____
[m³/h]
- Δp_t _____
[Pa]

Air-regenerated noise

- L_{WA} _____
[dB(A)]

Asymmetrically positioned plenum box



Plenum box with two top entry spigots



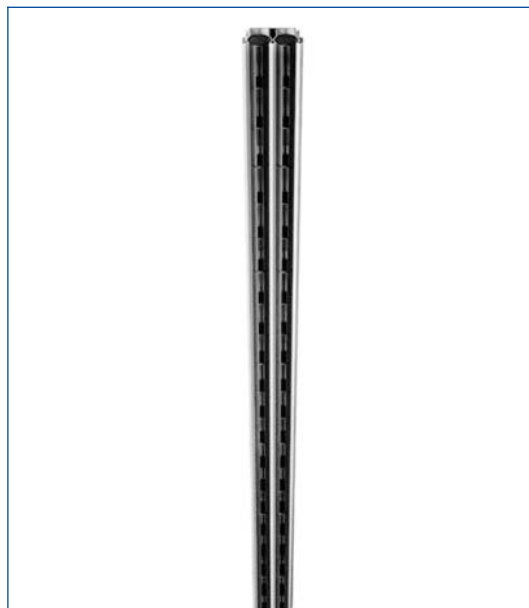
Plenum box shorter than front rail, positioned on left with 2 horizontal spigots



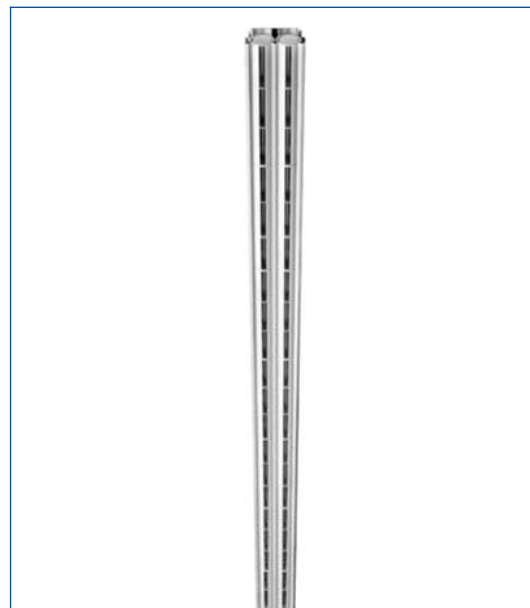
Plenum box shorter than front rail, positioned in centre with one horizontal spigot



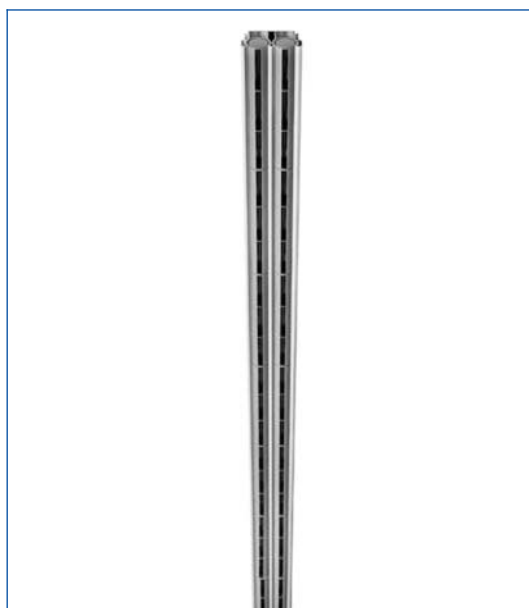
Diffuser face with black air control elements



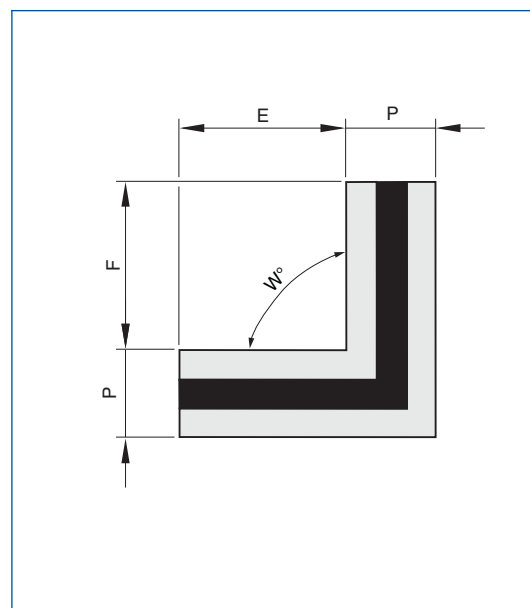
Diffuser face with white air control elements



Diffuser face with grey air control elements

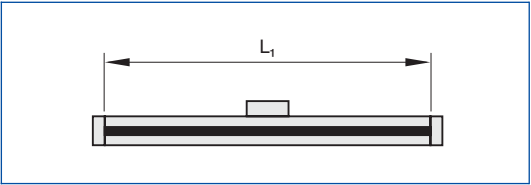


Corner section

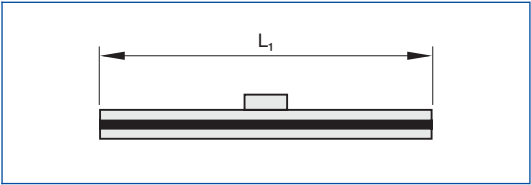


Diffuser face

End angles on both ends



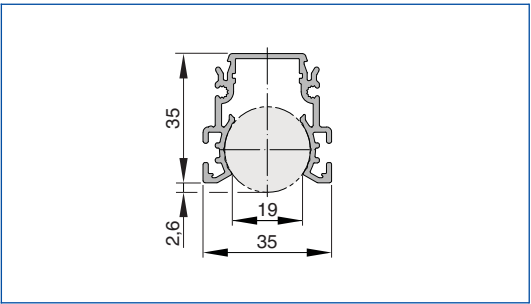
Without end piece



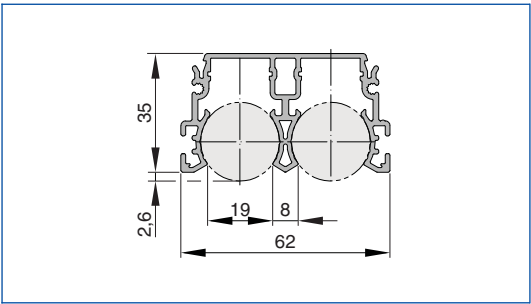
Nominal length	L ₁	
	mm	
600		600
750		750
900		900
1050		1050
1200		1200
1350		1350
1500		1500
1650		1650
1800		1800
1950		1950

Section

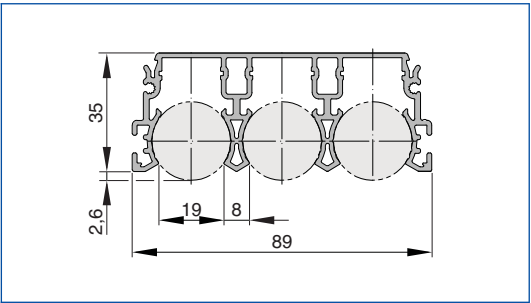
Section PL35-1 (without extended border)



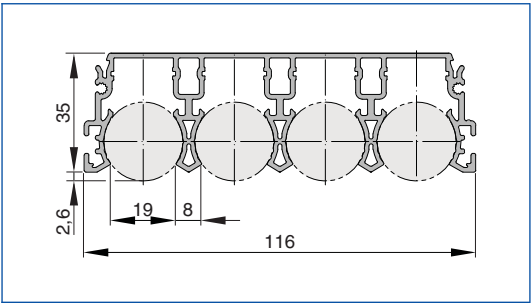
Section PL35-2 (without extended border)



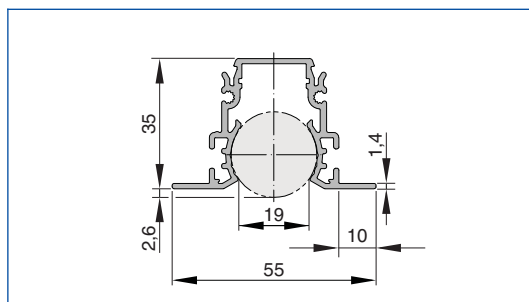
Section PL35-3 (without extended border)



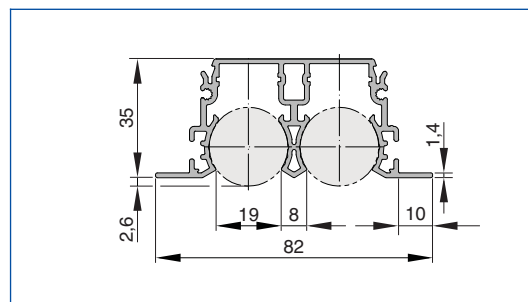
Section PL35-4 (without extended border)



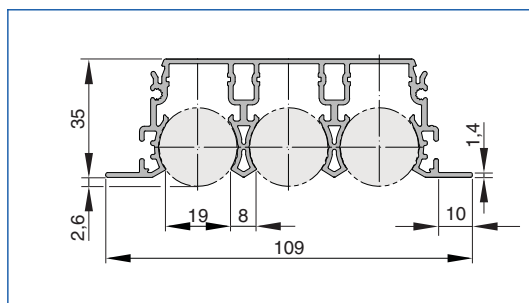
Section PL35-1/B00 (with extended border)



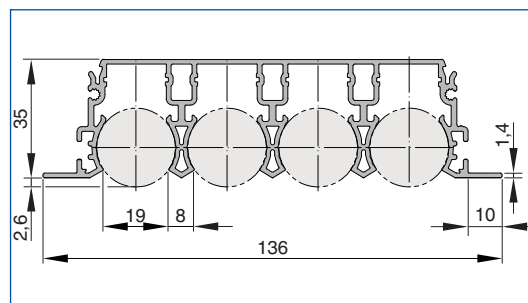
Section PL35-2/B00 (with extended border)



Section PL35-3/B00 (with extended border)

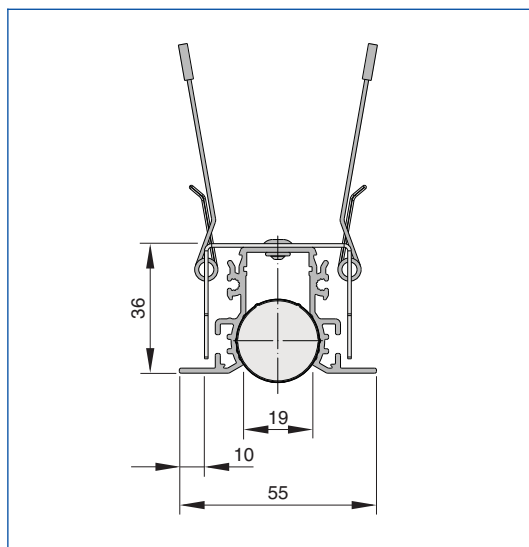


Section PL35-4/B00 (with extended border)

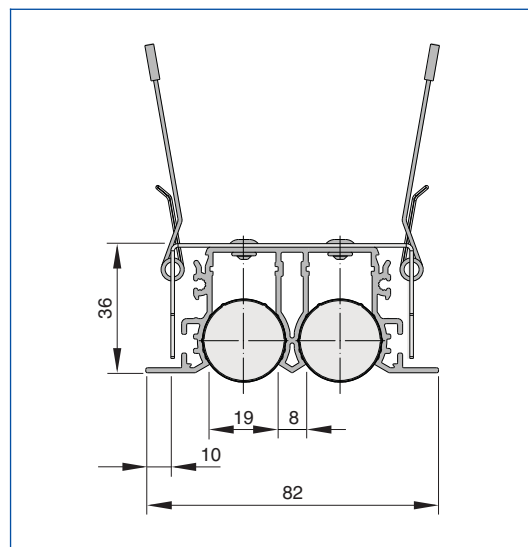


Front rail with spring clip

PL35-1-DF/.../B00

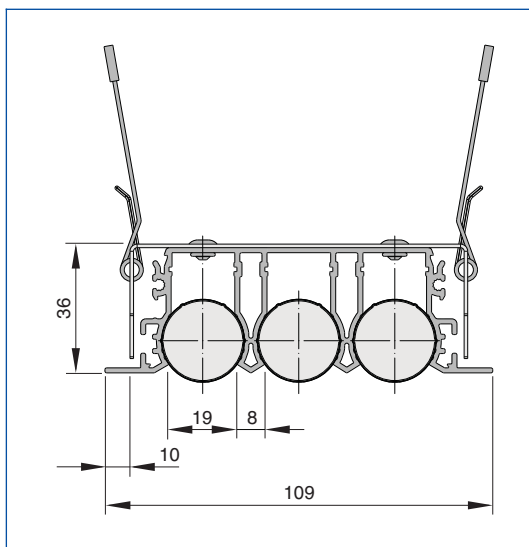


PL35-2-DF/.../B00

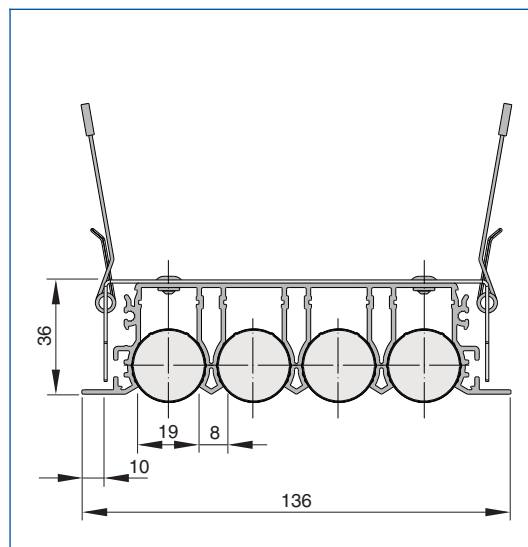


Front rail with spring clip

PL35-3-DF/.../B00



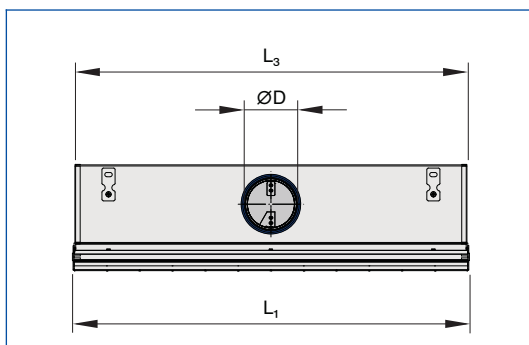
PL35-4-DF/.../B00



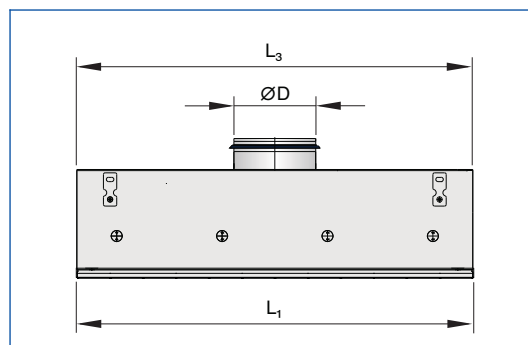
Variant	With extended border	
	P	
	mm	
PL35-1		55
PL35-2		82
PL35-3		109
PL35-4		136

Combinations of front rail with plenum box

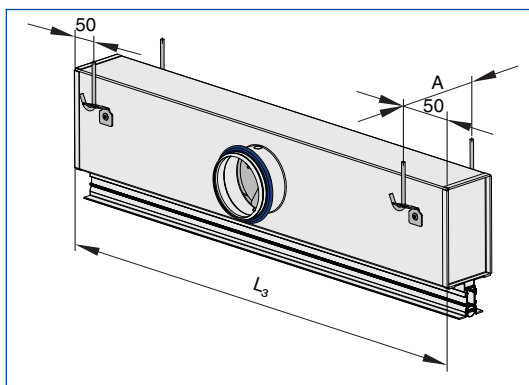
Plenum box with horizontal connection (HS / HA)



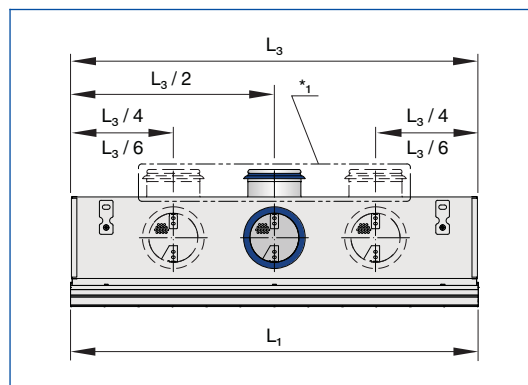
Plenum box with vertical connection (VS)



Plenum box fixing points

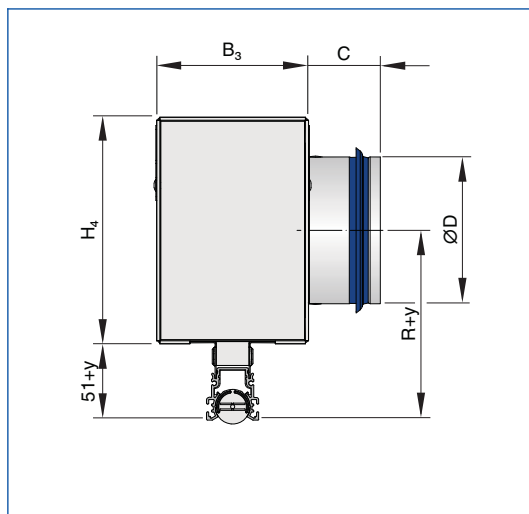


Spigot arrangement



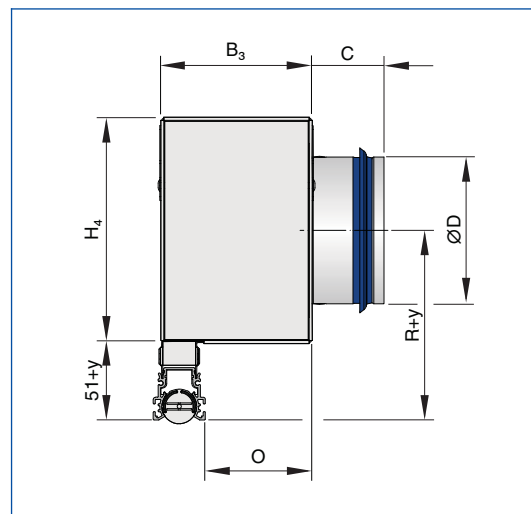
* only with construction VS

PL35-PF-*-HS (symmetrical plenum box with horizontal connection)



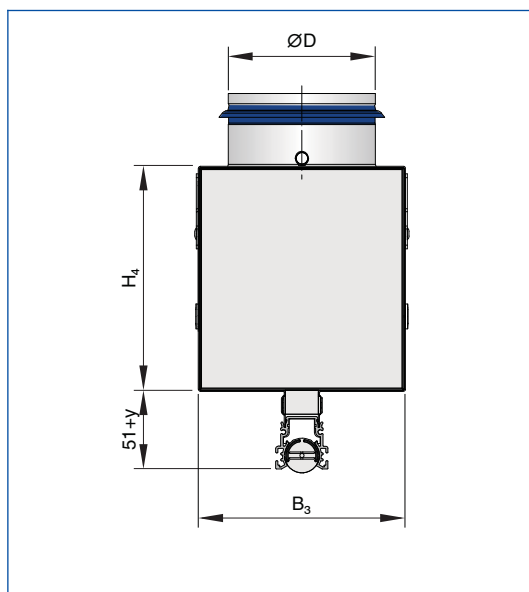
Drawing shows PL35-1-PF-HS

PL35-PF-*-HA (asymmetrical plenum box with horizontal connection)



Drawing shows PL35-1-PF-HA

PL35-PF-*-VS (symmetrical plenum box with vertical connection)



Drawing shows PL35-1-PF-VS

Dimensions [mm]

No. of spigots	Nominal length	L ₁	L ₃
1	600	600	595
	750	750	745
1 or 2	900	900	895
	1050	1050	1045
	1200	1200	1195
2	1350	1350	1345
	1500	1500	1495
	1650	1650	1645
	1800	1800	1795
	1950	1950	1945

Variant	B3		H4		R	A		O	
	HS/HA	VS	HS/HA	VS		HS/HA	VS	PF-HA	SF-HA
PL35-1	100	138	150	150	126 + Y	140	178	72	64
PL35-2	138	160	180		141 + Y	178	200	83	75
PL35-3	176	176	198		150 + Y	216	216	94	86
PL35-4	214	214	230		166 + Y	254	254	106	97

Neck extension Y = 0 / 30 / 55 / 80 / 105 / 129

Variant	ØD	C
PL35-1	98/123	50/48
PL35-2	123/138	48/42
PL35-3	138/158	42/50
PL35-4	158/198	50/50

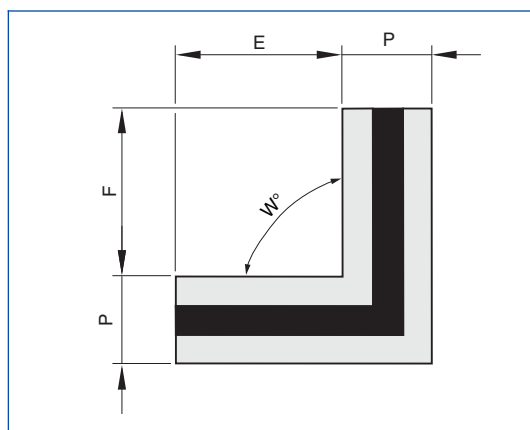
Weights

Variant	Number of slots	kg/m
Diffuser face	1-/2-/3-/4-slot	0.8/1.2/1.6/2.1
Plenum box HS/HA		3.3/3.9/4.6/5.2
Plenum box HS/HA+L		4.0/4.7/5.5/6.2
Plenum box VS		3.7/3.9/4.1/4.3
Plenum box VS+L		4.5/4.7/4.9/5.2

Total weight = weight of diffuser face + weight of plenum box

Corner section

PL35-*-CS

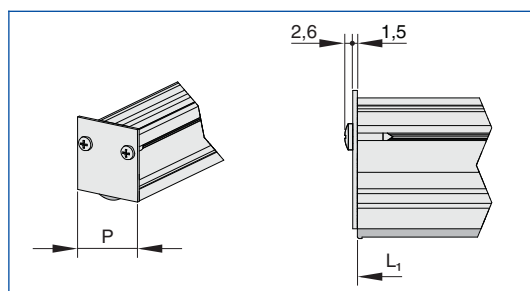


Variant	Without extended border	With extended border
	P	
	mm	
PL35-1	35	55
PL35-2	62	82
PL35-3	89	109
PL35-4	116	136

	E	F	W
Min. entry value	100	100	45°
Max. entry value	300	300	175°

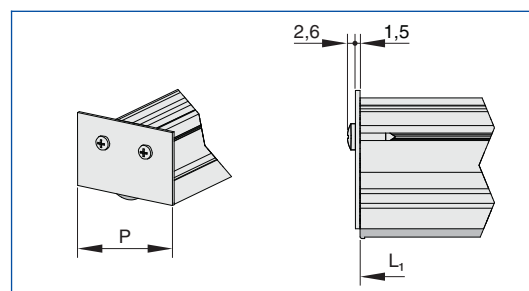
End plate

End plate EP



Profile without extended border

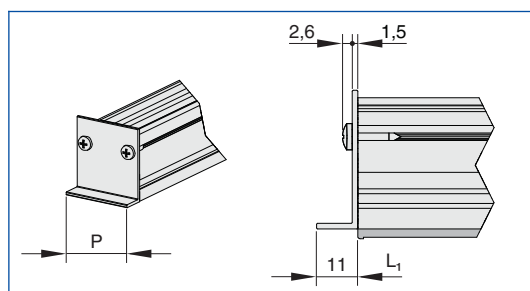
End plate EP



Profile with extended border

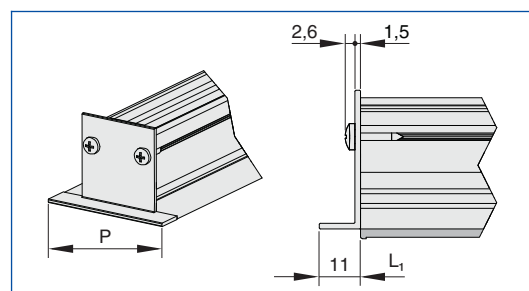
End angle

End angle EA



Profile without extended border

End angle EA



Profile with extended border

Variant	Without extended border	With extended border
	P	
	mm	
PL35-1	35	55
PL35-2	62	82
PL35-3	89	109
PL35-4	116	136

PL35-1/.../B00, installation in continuous ceilings



Anodised, E6-C-0, natural colour

PL35-2/.../B00/P1-RAL 9010, installation in continuous ceiling



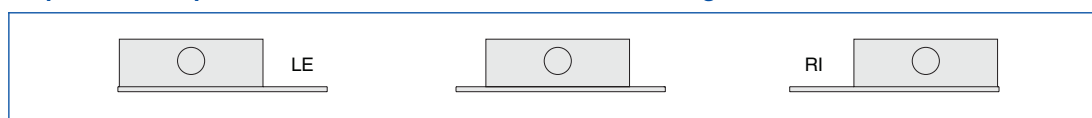
Powder-coated RAL 9010, pure white

Installation and commissioning

- Preferably for clear room heights up to 4.0 m
- Flush ceiling installation
- Duct connection horizontal or vertical
- For face plates with shorter plenum boxes and non-active diffusers, there is a slot cover on the rear
- For continuous linear arrangement, connect face plates to one another with alignment plates
- If necessary, carry out volume flow rate balancing on the damper unit
- Suitable fixing material for fixing the slot diffusers must be provided by others

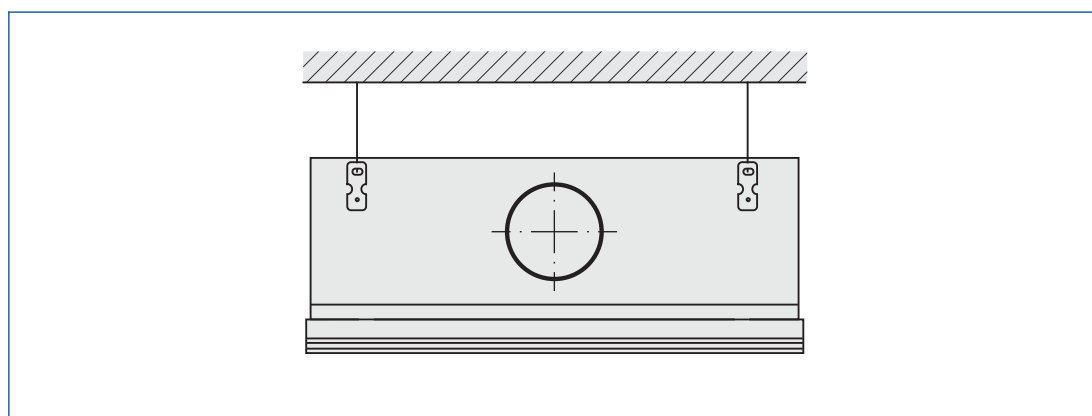
The illustrations are schematic and serve to better understand the installation details

PL plenum box, positioned on the left, in the centre, on the right

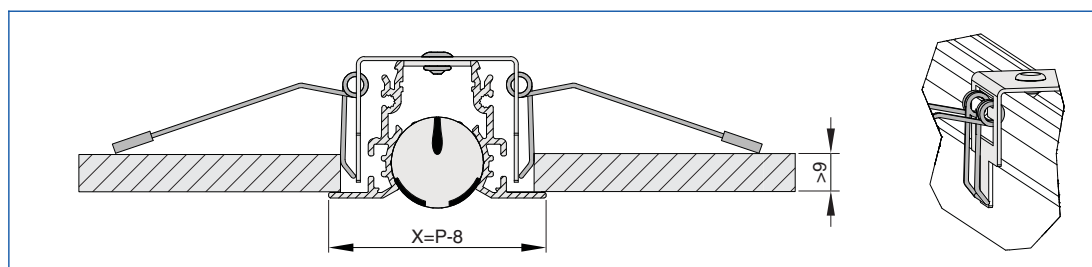


The illustrations are schematic and serve to better understand the installation details.

Suspension

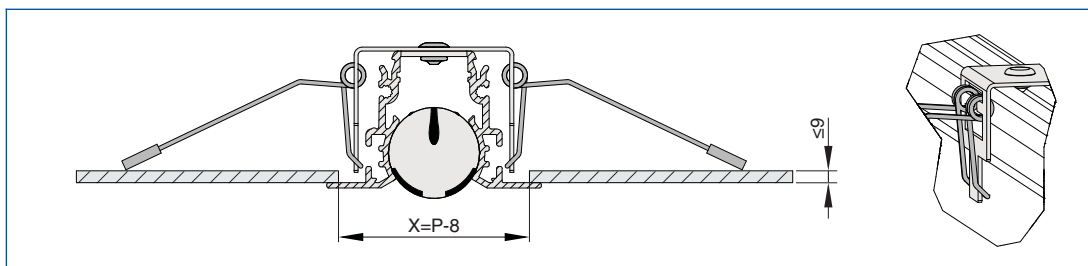


PL35-DF spring clip fixing



If ceiling thickness is > 9 mm

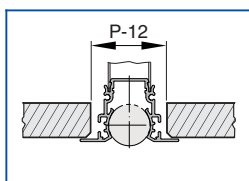
PL35-DF spring clip fixing



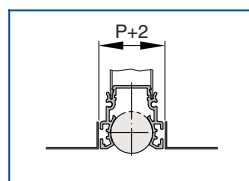
If ceiling thickness is ≤ 9 mm

Ceiling systems

Continuous ceiling (with extended border)

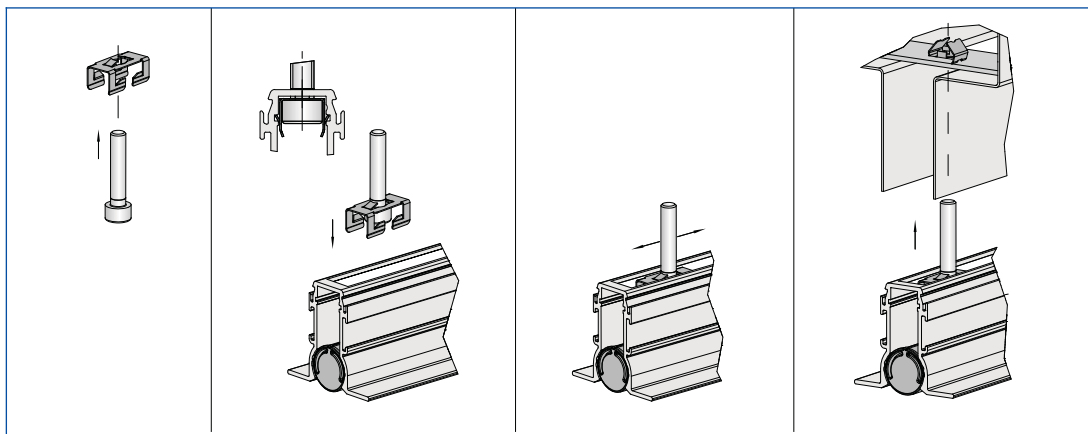


Long field plates (without extended border)



Releasable face plate fixing

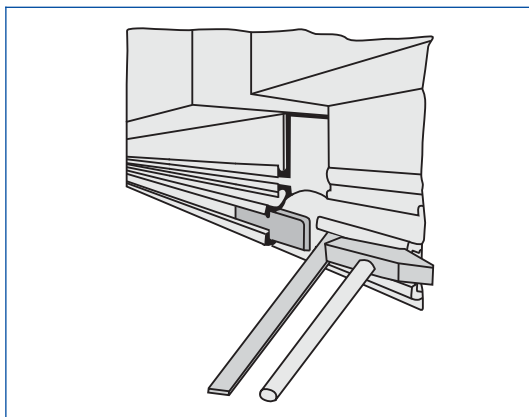
PL35 with detachable diffuser face fixing



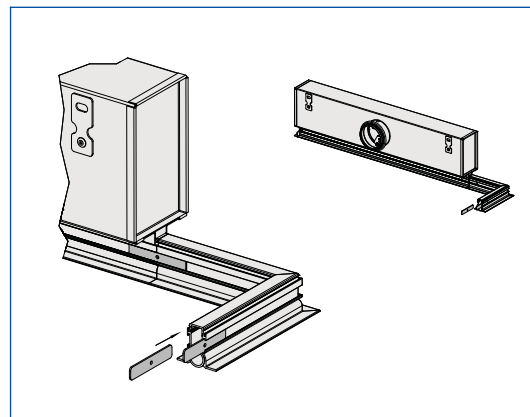
For the DS and SF versions, the fixing material for fixing the slotted rail to the plenum box is supplied in a bag.

Linear run

Continuous linear arrangement



Fitting corner sections



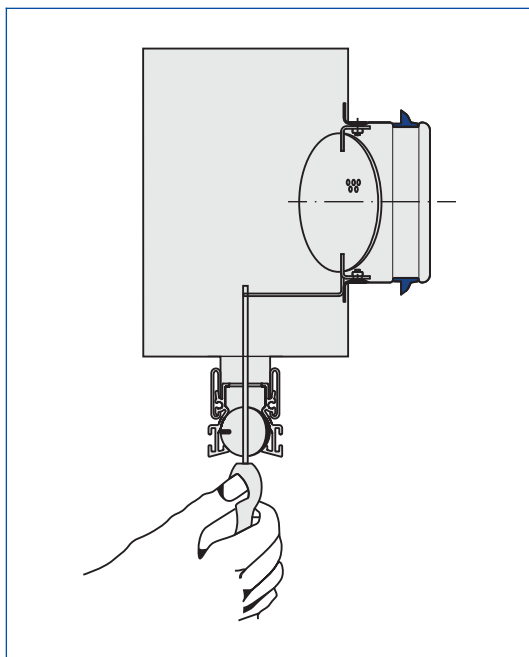
- Each slot diffuser (without end pieces) is supplied with two alignment plates

Volume flow rate balancing

If several slot diffusers are assigned to one volume flow controller, it may be necessary to balance the volume flow rates.

- Slot diffusers with plenum box and damper unit (variant -D): The flow adjustment damper can also be operated when the face plate is mounted.

Volume flow rate balancing



- Adjust the air control blades in the area of the spigot so that there is a passage for a screwdriver