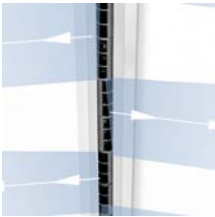
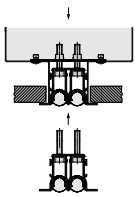




Spigot with optional damper blade and optional lip seal



Alternating horizontal air discharge



Detachable diffuser face fixing



PL18-2/.../B00/P1-RAL 9010, installation in continuous ceilings

# Slot diffusers

## PURELINE18



### Particularly slim diffuser face, available in many variants and with various air pattern options for many installation situations

Slot diffusers with 18 mm diffuser face (nominal width) and adjustable air control elements

- Volume flow rate range 5 – 84 l/s or 17 – 302 m<sup>3</sup>/h
- Individually adjustable air control elements for horizontal, angled or vertical air discharge
- One-way or alternating air discharge allows for meeting local and project-specific requirements
- Uniform air pattern reduces contamination of the ceiling due to induced room air
- Air control elements have grooves that allow for precise positioning

#### Optional equipment and accessories

- Attractive appearance due to extruded aluminium sections with anodised finish or powder coating
- Diffuser face can be placed symmetrically or asymmetrically
- Plenum box with lining
- End plates, end angles, corner sections
- Different looks due to choice of black, grey or white air control elements

General information	2	Order code	17
Function	4	Variants	21
Technical data	8	Dimensions	23
Quick sizing	8	Product details	29
Specification text	16	Nomenclature	34

## General information

### Application

- Slot diffusers are used as supply air or extract air devices in comfort zones
- Particularly unobtrusive diffusers due to their sleek design
- Installation into suspended ceilings
- For room heights up to 4 m (lower edge of suspended ceiling)
- For suspended ceilings; suitable for restricted ceiling voids due to the low overall height of the plenum box
- Suitable for continuous linear arrangement
- Adjustable air control elements allow for horizontal, angled or vertical air discharge
- Mixed flow system with one-way or alternating air discharge, can be adapted to the building structure
- High induction results in a rapid reduction of the temperature difference and airflow velocity (supply air variant)
- For variable and constant volume flows
- For supply air to room air temperature differences from -10 to +10 K

### Special features

- Uniform air pattern reduces contamination of the ceiling due to induced room air
- Horizontal, angled or vertical air discharge by means of manually adjustable air control elements
- Comfortable indoor climate due to high induction and rapid reduction of temperature differences and airflow velocities
- Attractive appearance thanks to anodised extruded aluminium sections (E6-C-0, natural colour) or powder coating (RAL CLASSIC colour)
- Diffuser face has been optimised for maximum volume flow rate at low sound power levels
- Suitable for continuous linear arrangement

### Nominal sizes

- FL<sub>N</sub>: 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000 mm
- Intermediate sizes of the diffuser face are also available (in increments of 1 mm)

### Variants

PL18-... :

- \*: 1 to 2 slots
- DF: only front rail with B00 profile and spring clip
- DS: only front rail with B00 profile and screw fixing
- PB: Plenum box only (for combination with DS)
- PF: Combination of diffuser face and plenum box with fixed connection
- SF: Combination of diffuser face and plenum box with detachable screw fixing
- CD: Overflow rail which can be integrated into a slotted belt. The front rail has openings at the back through which air can flow. The fixing of the overflow rail must be done on site. The supplied connectors are used only for positioning and aligning the overflow rail
- BD: Blind rail that can be integrated into a slotted band. The diffuser face is closed on the reverse side so that there is no air flow through the blind rail. The blind rail must be fixed on site. The supplied connectors are used only for positioning and aligning the overflow rail
- CS: Corner section

Position of the plenum box on the diffuser face, if the plenum box is shorter than the diffuser face

- Central position of plenum box
- Plenum box on the left (LE)
- Plenum box on the 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, GU50
- P1: Powder-coated RAL 9006, white aluminium, GU30
- P1: Powder-coated in any other RAL CLASSIC colour, GU70

### Attachments

- D: Damper blade for volume flow rate balancing
- LS: Lip seal
- L: inner lining
- EP: 2 end plates
- EA: 2 end angles

Single diffusers are factory fitted with end plates or end angles. Either end plates or end angles can be used for the front end for continuous linear arrangements.

### Accessories

- EP: 2 end plates
- EA: 2 end angles

For slot diffusers as continuous linear arrangement, the end plates or end angles must be ordered separately and installed on site. 2 alignment plates for connecting the front rails to each other are supplied separately with each slot diffuser without a factory-fitted end piece.

**Construction features**

- Spigot suitable for circular ducts to EN 1506 or EN 13180
- 4 suspension lugs on plenum box for mounting by the customer
- Manually adjustable air control elements with detent for defined adjustment of the air distribution
- Spigot with groove for lip seal (only for lip seal version)
- Diffuser face available in mm increments between 600 and 1950 mm
- Plenum boxes only available in nominal lengths
- Extract air variant without air control elements (E)
- If the diffuser face is longer than the plenum box, the rear side of the protruding diffuser face ends are covered.
- Factory set for a particular air pattern, manually adjustable on site (by others)
- Diffuser face fixing material for variants -SF and -DS supplied separately

**Materials and surfaces**

- Diffuser face made from extruded aluminium section
- Air control elements made of ABS plastic, UL 94, 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 made of mineral wool and closed-cell vinyl foam
- Diffuser face with anodised finish, E6-C-0, natural colour
- P1: powder-coated colour according to RAL CLASSIC
- Air control elements similar to RAL 9005, black
- G: Air control elements 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, abrasion-resistant up to 20 m/s
- To EN 13501, fire rating class A1, non-combustible
- RAL quality mark RAL-GZ 388
- Non-hazardous to health thanks to being highly biosoluble in accordance with the Ordinance on Hazardous Substances and Note Q of the European Directive (EC) No. 1272/2008
- Inert to fungal and bacterial growth

**Standards and guidelines**

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

**Maintenance**

- Low maintenance as construction and materials are not subject to wear and tear
- Inspection and cleaning to VDI 6022

## Function

Slot diffusers direct the supply air from ventilation and air conditioning systems into the room, either horizontally, at an angle or vertically.

The resulting airflow induces high levels of room air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and indoor air.

The result is a mixed flow ventilation in comfort zones, with good overall room ventilation, creating only very little turbulence in the occupied zone.

Type PURELINE18 slot diffusers are factory fitted with manually adjustable air control elements.

The airflow direction can be adjusted to meet various local requirements.

Air discharge is one-way or alternating.

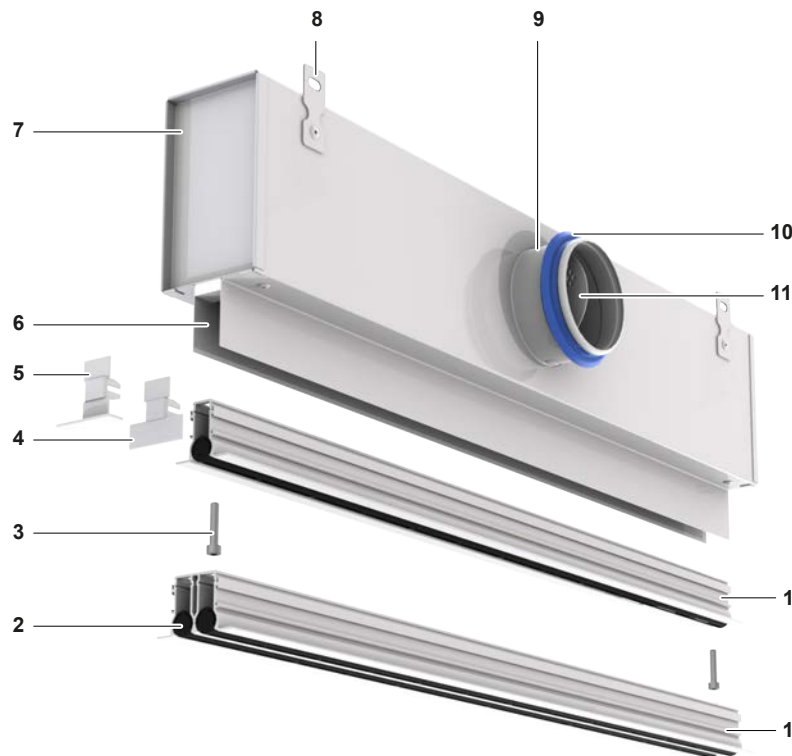
Heating operation with vertical flow is also possible, as is angled air discharge.

The supply air to room air temperature difference may range from  $-10$  to  $+10$  K.

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

To give rooms an aesthetic, uniform look, Type PURELINE18 diffusers may also be used for extract air.

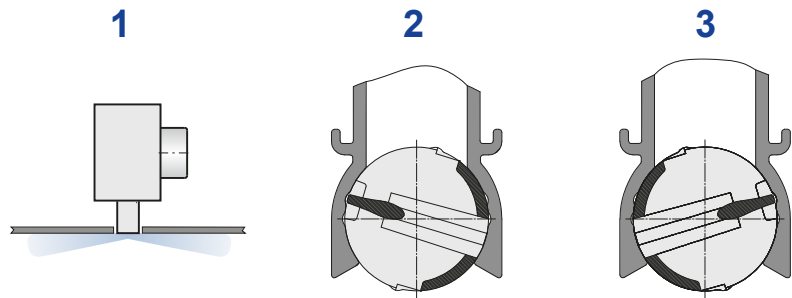
### Schematic illustration of PL18-\*-SF



- 1 Diffuser face, 1 slot or 2 slots
- 2 Adjustable air control element
- 3 Screw fixing
- 6 Neck
- 7 Plenum box
- 8 Suspension lug
- 9 Spigot

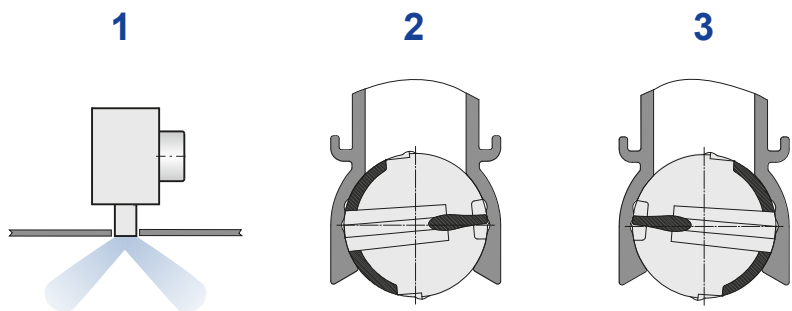
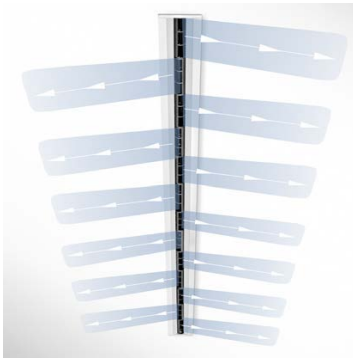
- Optional
- 4 End plate
- 5 End angle
- 10 Lip seal
- 11 Damper blade for volume flow rate balancing

**Supply air**  
**Alternating horizontal air discharge**



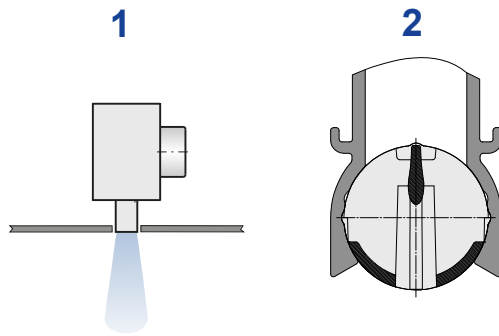
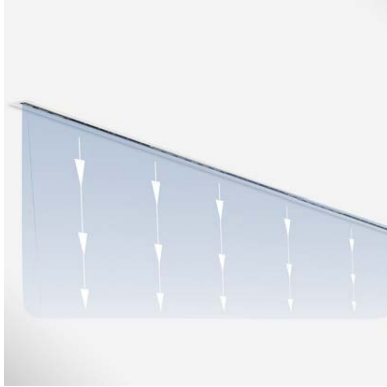
- 1 Setting of the air control elements
- 2 Air discharge: horizontal left
- 3 Air discharge: horizontal right

**Alternating angled air discharge**



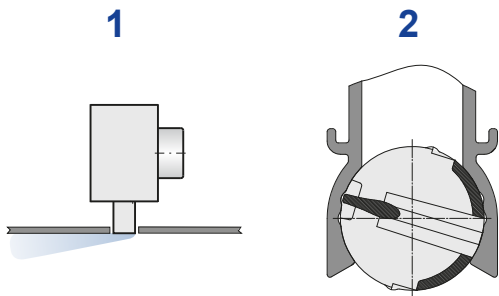
- 1 Setting of the air control elements
- 2 Air discharge: angled right
- 3 Air discharge: angled left

Vertical air discharge



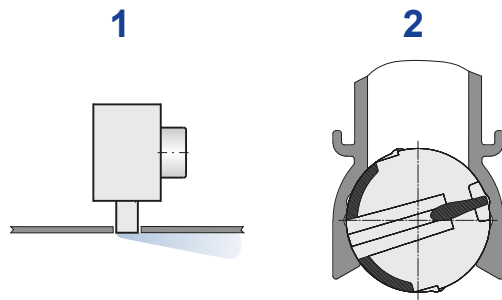
1 Setting of the air control elements  
2 Air discharge: vertical

One-way horizontal air discharge to the left



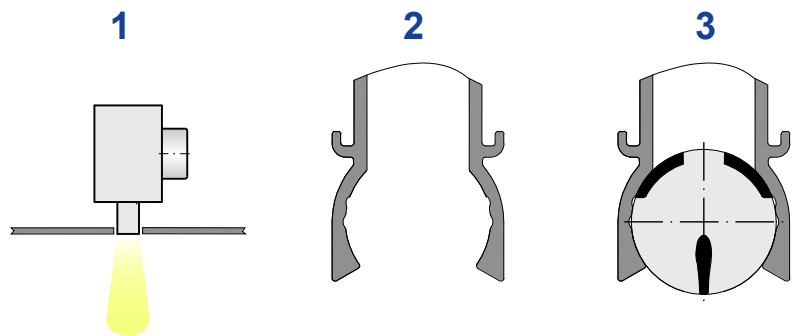
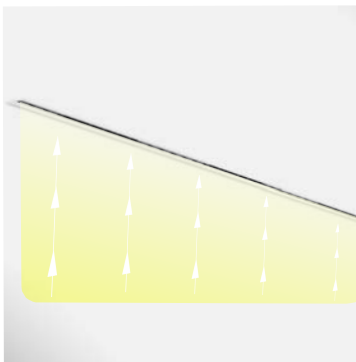
1 Setting of the air control elements  
2 Air discharge: one-way horizontal left

One-way horizontal air discharge to the right



- 1 Setting of the air control elements
- 2 Air discharge: one-way horizontal right

Extract air



- 1 Setting of the air control elements
- 2 Extract air E: without air control elements
- 3 Extract air E1: with air control elements

## Technical data

Nominal lengths	600 – 2000 mm, in increments of 100 mm
No. of slots	1 or 2
Minimum volume flow rate, with $\Delta t_z = -10$ K	5 l/s or 17 m <sup>3</sup> /h
Maximum volume flow rate, with LWA $\approx 50$ dB(A)	84 l/s or 302 m <sup>3</sup> /h
Supply air to room air temperature difference	-10 to +10 K

## Quick sizing

Quick sizing tables provide a good overview of the volume flow rates and corresponding sound power levels and differential pressures.

Exact values for all parameters can be determined with our Easy Product Finder design program. Sizing up to nominal length 1500 mm includes one spigot; from length 1600 mm, two spigots are required.

### PL18-1, supply air, alternating horizontal air discharge, sound power level and total differential pressure D = 78

L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
600	5	17	4	<15	5	<15	8	<15
600	10	38	15	29	21	29	35	29
600	16	58	34	41	49	40	81	41
600	22	78	62	49	88	49	148	49
700	6	20	4	<15	6	<15	10	<15
700	12	42	14	30	22	29	39	29
700	18	63	32	41	49	40	89	41
700	24	85	57	49	88	48	159	49
800	6	23	4	<15	6	<15	12	<15
800	13	46	14	30	23	29	44	30
800	19	69	31	41	51	40	98	41
800	26	92	54	49	91	48	173	49
900	7	26	4	<15	7	<15	14	<15
900	14	50	14	31	25	30	50	30
900	21	75	30	41	54	41	109	41
900	28	99	52	49	95	48	190	49
1000	8	29	4	<15	8	<15	16	<15
1000	15	54	14	31	27	30	56	30
1000	22	80	29	41	57	41	119	41
1000	29	105	51	49	99	48	206	49
1100	9	32	5	<15	9	<15	19	<15
1100	16	58	14	31	29	30	62	31
1100	24	85	29	42	60	41	130	41
1100	31	111	50	49	104	48	224	49
1200	10	35	5	16	10	<15	22	15
1200	17	62	14	32	31	31	69	31
1200	25	90	29	42	64	41	143	41
1200	33	117	50	49	109	48	243	49





L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
1300	11	38	5	17	11	16	25	16
1300	18	66	15	32	34	31	77	32
1300	34	123	50	49	116	48	263	49
1400	11	41	6	17	13	16	29	17
1400	19	70	15	32	36	31	84	32
1400	27	99	30	42	73	41	168	41
1400	36	128	50	49	121	48	281	49
1500	12	44	6	18	14	17	33	18
1500	20	74	16	33	40	32	93	32
1500	29	104	31	42	78	41	183	42
1500	37	134	51	49	129	48	304	49
1600	13	47	4	<15	6	<15	12	<15
1600	24	86	12	31	20	30	38	31
1600	35	125	25	41	42	41	80	41
1600	46	164	43	49	72	48	138	49
1700	14	49	4	<15	7	<15	13	<15
1700	25	90	12	31	21	31	40	31
1700	36	130	25	42	43	41	84	41
1700	47	170	42	49	74	48	144	49
1800	15	52	4	16	7	<15	14	15
1800	26	94	12	32	22	31	43	31
1800	37	135	25	42	44	41	89	41
1800	49	176	41	49	75	48	151	49
1900	15	55	4	16	8	15	15	16
1900	27	98	12	32	22	31	46	31
1900	39	140	24	42	46	41	93	41
1900	51	182	41	49	77	48	158	49
2000	16	58	4	17	8	16	16	16
2000	28	101	12	32	23	31	48	32
2000	40	144	24	42	47	41	97	41
2000	52	187	40	49	78	48	164	49



**PL18-1, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 98**

L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
600	5	17	3	<15	4	<15	5	<15
600	10	38	14	26	16	26	22	26
600	16	58	31	38	37	38	50	38
600	22	78	57	46	67	46	91	46
700	6	20	3	<15	4	<15	6	<15
700	12	42	13	27	16	26	23	26
700	18	63	28	38	35	38	51	38
700	24	85	51	46	63	46	91	46
800	6	23	3	<15	4	<15	7	<15
800	13	46	12	27	16	27	24	27
800	19	69	27	38	35	38	54	38
800	26	92	47	46	61	46	94	46
900	7	26	4	<15	5	<15	7	<15
900	14	50	12	28	16	27	26	27
900	21	75	25	38	35	38	57	38
900	28	99	44	46	61	46	99	46
1000	8	29	4	<15	5	<15	8	<15
1000	15	54	11	28	17	27	28	28
1000	22	80	24	38	35	38	60	38
1000	29	105	41	46	60	45	104	46
1100	9	32	4	<15	6	<15	10	<15
1100	16	58	11	28	17	28	30	28
1100	24	85	23	38	36	38	64	38
1100	31	111	39	46	61	45	109	46
1200	10	35	4	<15	6	<15	11	<15
1200	17	62	11	29	18	28	33	28
1200	25	90	23	39	37	38	68	38
1200	33	117	38	46	62	45	115	46
1300	11	38	4	<15	6	<15	12	<15
1300	18	66	11	29	19	28	36	29
1300	26	95	22	39	38	38	73	38
1300	34	123	37	46	64	45	123	46
1400	11	41	4	<15	7	<15	13	<15
1400	19	70	11	29	20	28	39	29
1400	27	99	22	39	39	38	77	38
1400	36	128	36	46	65	45	129	46
1500	12	44	4	15	8	<15	15	<15
1500	20	74	11	30	21	29	42	29
1500	29	104	22	39	41	38	83	39
1500	37	134	36	46	67	45	137	46
1600	13	47	3	<15	4	<15	7	<15
1600	24	86	11	28	14	28	21	28
1600	35	125	22	39	29	38	44	38
1600	46	164	37	46	49	46	75	46
1700	14	49	3	<15	5	<15	7	<15



L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
1700	25	90	10	28	14	28	22	28
1700	36	130	21	39	28	38	45	38
1700	47	170	36	46	48	46	77	46
1800	15	52	4	<15	5	<15	7	<15
1800	26	94	10	29	14	28	23	28
1800	37	135	21	39	29	38	46	38
1800	49	176	35	46	48	46	79	46
1900	15	55	4	<15	5	<15	8	<15
1900	27	98	10	29	14	28	24	29
1900	39	140	20	39	29	38	48	38
1900	51	182	34	46	48	46	81	46
2000	16	58	4	<15	5	<15	8	<15
2000	28	101	10	29	14	28	24	29
2000	40	144	20	39	29	38	49	38
2000	52	187	33	46	48	45	82	46

**PL18-2, supply air, alternating horizontal air discharge, sound power level and total differential pressure  
D = 98**

L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
600	10	35	4	<15	6	<15	11	<15
600	19	67	13	30	21	28	37	29
600	27	98	28	41	46	39	81	40
600	36	130	49	49	79	47	141	48
700	11	41	4	<15	7	<15	13	<15
700	21	74	13	31	23	29	43	30
700	30	108	27	41	48	39	90	40
800	39	141	46	49	82	47	155	48
800	13	47	5	16	9	<15	16	<15
800	23	81	13	32	25	29	49	31
800	32	116	26	42	51	39	100	40
900	42	151	44	49	85	47	169	48
900	15	52	5	18	10	15	20	16
900	25	89	14	32	28	30	56	31
900	35	125	26	42	54	39	111	41
1000	45	161	44	49	90	46	185	48
1000	16	58	6	19	12	16	24	18
1000	27	95	14	33	30	30	64	32
1000	37	133	27	42	58	39	123	41
1200	47	170	43	49	95	46	201	48
1100	18	64	6	20	13	18	28	19
1100	28	102	14	34	33	31	71	32
1100	39	140	27	42	62	39	134	41
1300	19	70	7	22	15	19	33	20
1200	30	109	15	34	36	31	79	33
1200	41	147	27	43	66	40	146	41
1200	52	186	43	49	105	46	232	48
1300	21	76	7	23	17	20	38	21
1300	32	115	16	35	40	31	88	33
1300	43	155	28	43	71	40	158	41
1300	54	194	44	49	112	46	249	48
1400	23	81	8	24	20	21	44	22
1400	34	121	17	35	43	32	97	33
1400	45	161	29	43	75	40	170	41
1400	56	201	45	49	117	46	265	48
1500	24	87	8	25	22	22	50	23
1500	35	128	17	35	47	32	106	34
1500	47	168	30	43	80	40	183	42
1500	58	208	46	49	123	46	281	48
1600	26	93	5	19	9	17	16	18
1600	42	152	12	33	22	31	43	32
1600	59	211	22	42	42	40	83	41
1600	75	270	36	49	68	47	135	48
1700	27	99	5	20	9	18	18	19
1700	44	159	12	33	23	31	46	32



L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
1700	61	218	22	42	43	40	87	41
1700	77	278	35	49	70	46	140	48
1800	29	105	5	21	10	18	20	20
1800	46	165	12	34	24	31	49	32
1800	63	226	22	42	45	40	92	41
1800	80	287	35	49	72	46	147	48
1900	31	111	5	22	11	19	22	20
1900	48	172	12	34	25	31	52	33
1900	65	234	22	43	46	40	96	41
1900	82	295	35	49	74	46	153	48
2000	32	116	6	22	12	20	24	21
2000	50	178	12	34	26	32	56	33
2000	67	240	22	43	48	40	100	41
2000	84	302	34	49	75	46	159	48



**PL18-2, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 123**

L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
600	10	35	4	<15	4	<15	6	<15
600	19	67	11	27	15	26	21	26
600	27	98	24	38	31	36	46	37
600	36	130	42	45	54	44	79	45
700	11	41	4	<15	5	<15	7	<15
700	21	74	11	27	15	26	23	27
700	30	108	22	38	31	36	48	37
800	39	141	38	45	52	44	82	44
800	13	47	4	<15	5	<15	9	<15
800	23	81	11	28	15	26	25	27
800	32	116	21	38	31	36	51	37
900	42	151	35	45	51	43	85	44
900	15	52	4	<15	6	<15	10	<15
900	25	89	10	28	16	27	28	27
900	35	125	20	38	31	36	54	37
1000	45	161	33	45	52	43	90	44
1000	16	58	4	15	7	<15	12	<15
1000	27	95	10	29	17	27	30	28
1000	37	133	19	38	32	36	58	37
1200	47	170	31	45	52	43	95	44
1100	18	64	4	16	7	<15	13	15
1100	28	102	10	29	18	27	33	28
1100	39	140	19	38	33	36	62	37
1300	19	70	5	18	8	15	15	16
1200	30	109	10	30	19	28	36	29
1200	41	147	18	38	34	36	66	37
1200	52	186	29	45	54	43	105	44
1300	21	76	5	19	9	16	17	17
1300	32	115	10	30	20	28	39	29
1300	43	155	18	39	36	36	71	37
1300	54	194	29	45	56	43	111	44
1400	23	81	5	20	10	17	20	18
1400	34	121	11	31	21	28	43	30
1400	45	161	18	39	37	36	75	37
1400	56	201	28	45	57	42	117	44
1500	24	87	5	21	11	18	22	19
1500	35	128	11	31	22	29	46	30
1500	47	168	18	39	39	36	80	38
1500	58	208	28	45	59	42	123	44
1600	26	93	4	15	5	<15	9	<15
1600	42	152	9	29	13	28	22	28
1600	59	211	17	38	25	37	42	37
1600	75	270	28	45	41	44	68	44
1700	27	99	4	16	6	<15	9	15
1700	44	159	9	29	14	28	23	28



L <sub>N</sub>	q <sub>v</sub> [l/s]	q <sub>v</sub> [m <sup>3</sup> /h]	Damper blade position					
			0°		45°		90°	
			Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]	Δp <sub>t</sub> [Pa]	LWA [dB(A)]
1700	61	218	17	38	25	37	43	37
1700	77	278	27	45	41	43	69	44
1800	29	105	4	17	6	15	10	16
1800	46	165	9	30	14	28	24	29
1800	63	226	17	38	26	37	45	37
1800	80	287	26	45	41	43	72	44
1900	31	111	4	18	6	16	11	17
1900	48	172	9	30	14	28	25	29
1900	65	234	16	39	26	37	46	38
1900	82	295	26	45	41	43	73	44
2000	32	116	4	18	7	16	12	17
2000	50	178	9	30	15	28	26	29
2000	67	240	16	39	26	37	48	38
2000	84	302	25	45	41	43	75	44

## Specification text

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

### Specification text

Slot diffusers of Type PURELINE18, with individually manually adjustable air control elements and 1 or 2 slots.

Air distribution can be alternating horizontal, alternating angled, vertical, one-way horizontal to the left or one-way horizontal to the right.

The slot diffusers are intended to be installed in suspended ceilings and are suitable for supply air and extract air. Ready-to-install component which consists of a diffuser face with black, grey or white air control elements.

Variants with plenum box have 1 or 2 spigots. Symmetrically positioned plenum boxes may have side entry or top entry spigots. Asymmetrically positioned plenum boxes have only side entry spigots.

The plenum boxes are fitted with 4 suspension lugs.

The diffuser face fixing can be detachable or non-detachable. Spigots are suitable for circular ducts according to EN 1506 or EN 13180. The sound power level of air-regenerated noise is measured according to EN ISO 5135.

### Special features

- Uniform air pattern reduces contamination of the ceiling due to induced room air
- Horizontal, angled or vertical air discharge by means of manually adjustable air control elements
- Comfortable indoor climate due to high induction and rapid reduction of temperature differences and airflow velocities
- Attractive appearance due to extruded aluminium sections with anodised finish or powder coating (RAL CLASSIC colour)
- The diffuser face has been optimised for maximum volume flow rate at low sound power levels
- Suitable for continuous linear arrangement

### Materials and surfaces

- Diffuser face made from extruded aluminium sections
- Air control elements made of ABS plastic, UL 94, 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 is mineral wool with vinyl closed cell foam
- Diffuser face with anodised finish, E6-C-0, natural colour
- P1: Powder-coated, RAL CLASSIC colour
- Air control elements similar to RAL 9005, black
- G: Air control elements similar to RAL 9006, grey
- W: Air control elements similar to RAL 9010, white

### Mineral wool

- Mineral wool faced with glass fibre fabric on the surfaces in contact with the air, abrasion-resistant up to 20 m/s
- To EN 13501, fire rating class A1, non-combustible
- RAL quality mark RAL-GZ 388
- Non-hazardous to health thanks to being highly biosoluble in accordance with the Ordinance on Hazardous Substances and Note Q of the European Directive (EC) No. 1272/2008
- Inert to fungal and bacterial growth

### Construction

#### Diffuser face finish

- With anodised finish, E6-C-0, natural colour
- P1: Powder-coated RAL 9010, pure white, GU50
- P1: Powder-coated RAL 9006, white aluminium, GU30
- P1: Powder-coated in any other RAL CLASSIC colour, GU70

### Technical data

- Nominal lengths: 600 – 2000 mm in increments of 100 mm
- Number of slots: 1 or 2
- Minimum volume flow rate, with  $\Delta t_z = -10$  K: 5 l/s or 17 m<sup>3</sup>/h
- Maximum volume flow rate, with LWA  $\cong$  50 dB(A): 84 l/s or 302 m<sup>3</sup>/h
- Supply air to room air temperature difference: -10 to +10 K

### Sizing data

- $q_v$  [m<sup>3</sup>/h]
- $\Delta p_t$  [Pa]
- $L_{WA}$  [dB(A)]



## Order code

**PL18 - 1 - S - SF - HS / 1200 × 1000 × 98 / 2 - D - LS - L - RI / AS / B00 / EA / P1 - RAL 9016 / W**  
 |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  
 1            2            3            4            5            6            7            8            9            10           11           12           13           14           15           16

**1 Type**

**PL18** Slot diffuser PURELINE18

**2 No. of slots**

1, 2

**3 System**

**S** Supply air

**E** Extract air (without air control elements as standard)

**E1** Extract air (with air control elements)

**4 Variant**

**DF** Diffuser face with spring clip (only together with B00)

**DS** Diffuser face with fixing screws (only together with B00)

**CD** Air transfer section

**BD** Non-active diffuser

**PB** Plenum box only

**PF** Diffuser face fixed to the plenum box, non-detachable

**SF** Diffuser face fixed to the plenum box, detachable (only together with B00)

**5 Plenum box variant**

**HS** Symmetrical, with horizontal spigot

**VS** Symmetrical, with vertical spigot

**HA** Asymmetrical, with horizontal spigot

**6 Nominal size [mm]**

Diffuser face length × plenum box length × spigot diameter

Diffuser face length

**600 – 2000**

Plenum box length

**600 – 2000** (in increments of 100 mm)

Spigot diameter

**78** (with 1 slot)

**98** (with 1 or 2 slots)

**123** (with 2 slots)

**7 No. of spigots**

**1** (up to plenum box length 1200 mm)

**2** (from plenum box length 900 mm)

**8 Damper blade for volume flow rate balancing**

No entry: without damper blade

**D** With damper blade

**9 Lip seal**

No entry: without lip seal

**LS** With lip seal

**10 Lining**

No entry: without lining

**L** With lining

**11 Position of plenum box**

No entry: centre

**LE** Left side

**RI** Right side

**12 Air pattern**

No entry: alternating horizontal

**AS** Alternating angled

**HL** Horizontal left

**HR** Horizontal right

**V** Vertical

**13 Extended border – diffuser face**

No entry: without extended border

**B00** With extended border

**14 End pieces**

No entry: without end pieces

**EP** End plate

**EA** End angle

To be ordered separately for continuous linear runs

**15 Surface**

No entry: anodised, E6-C-0 (no colour)

**P1** Powder-coated, specify RAL CLASSIC colour

Gloss level

RAL 9010 GU50

RAL 9006 GU30

All other RAL colours GU70

**16 Colour of air control elements**

No entry: similar to RAL 9005 (jet black)

**W** Similar to RAL 9010 (pure white)

**G** Similar to RAL 9006 (white aluminium)

**Order example: PL18-1-S-PF-HS/1200×1200×98/1**

Type	PURELINE18
Number of slots	1
System	Supply air
Variant	Diffuser face fixed to the plenum box, non-detachable
Plenum box variant	Symmetrical plenum box with side entry spigot
Nominal size	Diffuser face 1200 mm, plenum box 1200 mm, spigot diameter 98 mm
No. of spigots	1
Damper blade for volume flow rate balancing	Without
Lip seal	Without
Lining	Without
Position of plenum box	Centre
Air pattern	Alternating horizontal
Extended border	Without
End pieces	Without
Surface	Anodised, E6-C-0, natural colour
Colour of air control elements	Black

PL18 - 1 - - CS / 100 × 100 × 90 / B00 / P1 - RAL 9016 / W  
| | | | | | | |  
1 2 3 4 5 6 7 8

**1 Type**

**PL18** Slot diffuser PURELINE18

**2 No. of slots**

1, 2

**3 System**

**S** Supply air

**E** Extract air (without air control elements as standard)

**E1** Extract air (with air control elements)

**4 Variant**

**CS** Corner section

**5 Dimensions**

Leg length E [mm]

**100 – 300** (in increments of 1 mm)

Leg length F [mm]

**100 – 300** (in increments of 1 mm)

Angle [°]

**45 – 175** (in increments of 1 degree)

**6 Extended border – diffuser face**

No entry: without extended border

**B00** With extended border

**7 Surface**

No entry: anodised, E6-C-0 (no colour)

**P1** Powder-coated, specify RAL CLASSIC colour

Gloss level

RAL 9010 GU50

RAL 9006 GU30

All other RAL colours GU70

**8 Colour of air control elements**

No entry: similar to RAL 9005 (jet black)

**W** Similar to RAL 9010 (pure white)

**G** Similar to RAL 9006 (white aluminium)



PL18 – EA / 2 – B00 / P1 - RAL 9016  
|        |        |        |        |  
1        2        3        4        5

**1 Type**

**PL18** Slot diffuser PURELINE18

**2 Variant**

**EP** 1 pair of end plates

**EA** 1 pair of end angles

**3 No. of slots**

1, 2

**4 Extended border**

No entry: without extended border

**B00** With extended border

**5 Surface**

No entry: anodised, E6-C-0 (no colour)

**P1** Powder-coated, specify RAL CLASSIC colour

Gloss level

RAL 9010 GU50

RAL 9006 GU30

All other RAL colours GU70

## Variants

Asymmetrical plenum box



Plenum box with vertical spigot



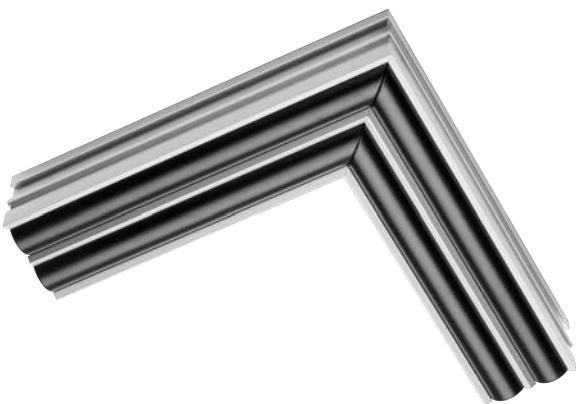
Plenum box shorter than diffuser face, left position, with two side entry spigots



Plenum box shorter than front rail, centrally positioned, with one horizontal connection pipe



Corner section -CS



Diffuser face with black air control elements



Diffuser face with white air control elements

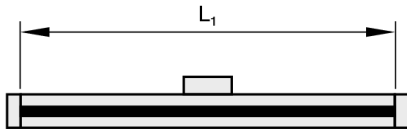


Diffuser face with grey air control elements

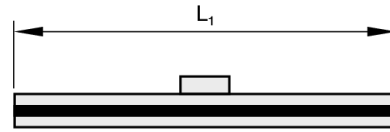


## Dimensions

Front rail end angles on both ends

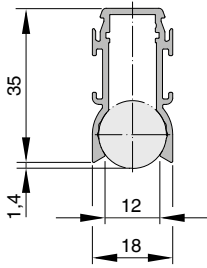


Front rail without end piece

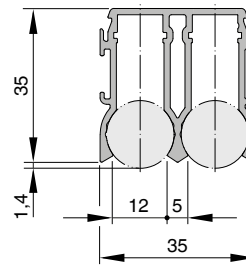


$L_N$	$L_1$
600	600
700	700
800	800
900	900
1000	1000
1100	1100
1200	1200
1300	1300
1400	1400
1500	1500
1600	1600
1700	1700
1800	1800
1900	1900
2000	2000

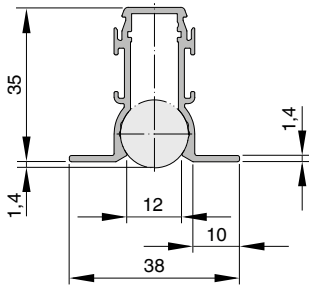
PL18-1



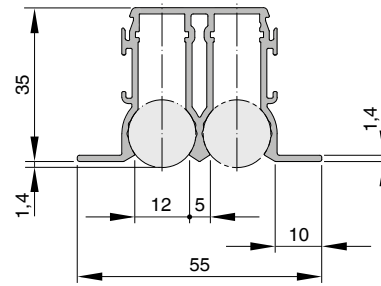
PL18-2



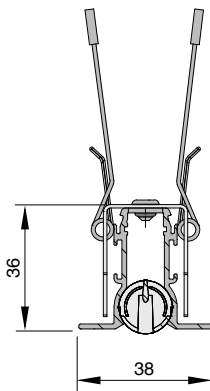
PL18-1/B00



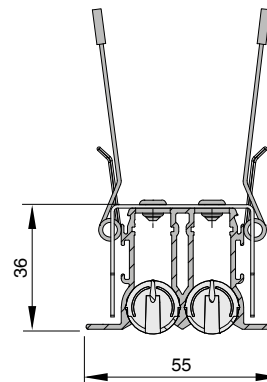
PL18-2/B00



PL18-1\*-DF\*-B00 (diffuser face with spring clip)

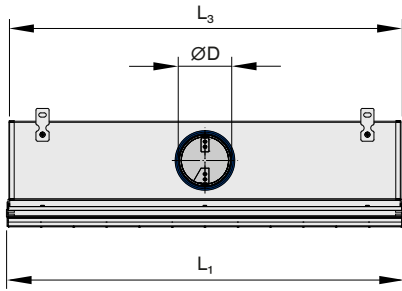


PL18-2\*-DF\*-B00 (diffuser face with spring clip)

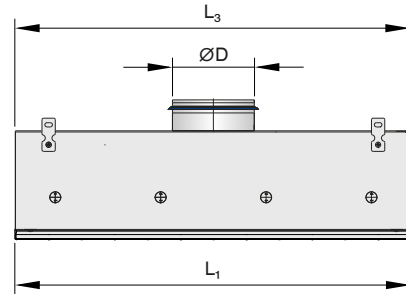




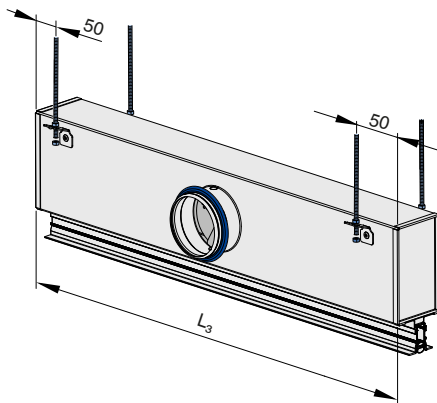
Plenum box with horizontal spigot (HS / HA)



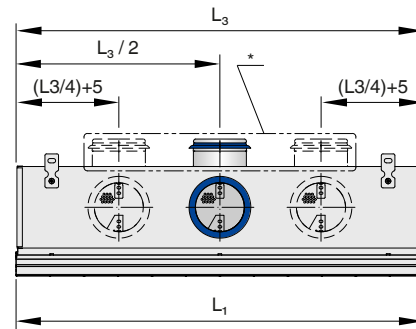
Plenum box with vertical spigot (VS)



Plenum box fixing points



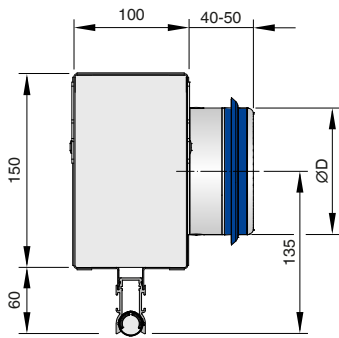
Spigot arrangement



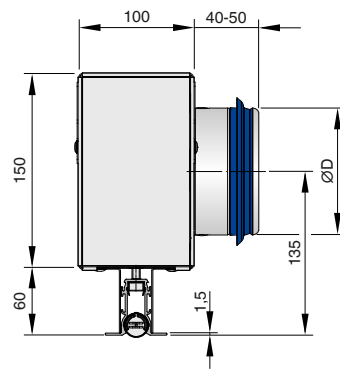
\* Spigot arrangement for plenum box variant VS

$L_N$	$L_1$	$L_3$
600	600	595
700	700	695
800	800	795
900	900	895
1000	1000	995
1100	1100	1095
1200	1200	1195
1300	1300	1295
1400	1400	1395
1500	1500	1495
1600	1600	1595
1700	1700	1695
1800	1800	1795
1900	1900	1895
2000	2000	1995

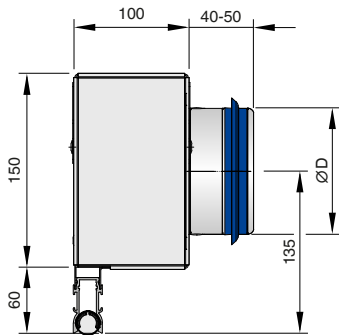
**PL18\*-PF-HS (symmetrical plenum box with horizontal spigot)**



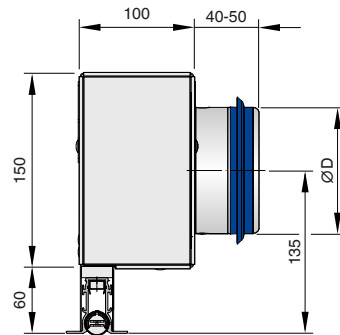
**PL18\*-SF-HS-B00 (symmetrical plenum box with horizontal spigot)**



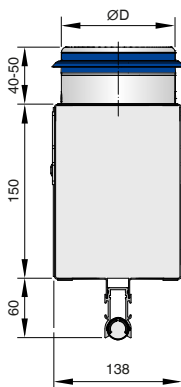
**PL18\*-PF-HA (asymmetrical plenum box with horizontal spigot)**



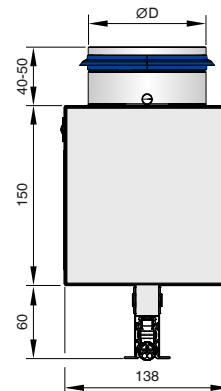
**PL18\*-SF-HA-B00 (asymmetrical plenum box with horizontal spigot)**



**PL18\*-PF-VS (symmetrical plenum box with vertical spigot)**



**PL18\*-SF-VS (symmetrical plenum box with vertical spigot)**



Variant	ØD
PL18-1	78
PL18-1	98
PL18-2	98
PL18-2	123

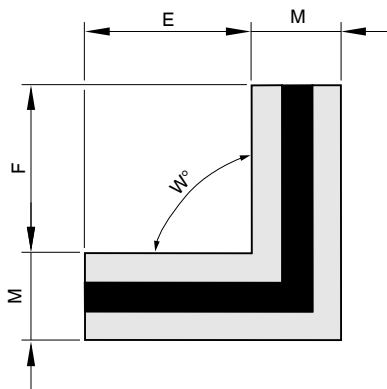
L <sub>N</sub>	No. of spigots
600	1
700	1
800	1
900	1/2
1000	1/2
1100	1/2
1200	1/2
1300	2
1400	2
1500	2
1600	2
1700	2
1800	2
1900	2
2000	2

Weight

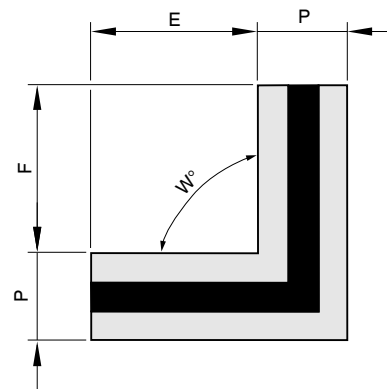
Plenum box variant	Number of slots	kg/m
Diffuser face	1 or 2 slots	0.5 / 0.8
Plenum box HS/HA	1 or 2 slots	5.7 / 5.0
Plenum box VS	1 or 2 slots	6.2 / 5.5

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

Corner section PL18\*-CS



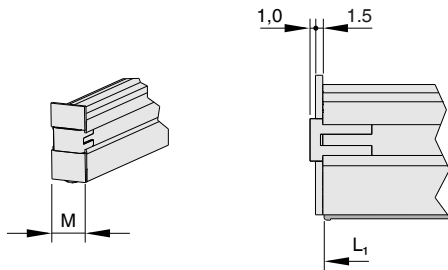
Corner section PL35\*-CS\*/B00



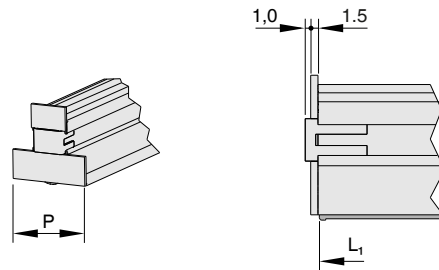
Variant	Without extended border P	With extended border P
PL18-1	18	38
PL18-2	35	55

Dimensions	E	FL	W [°]
Minimum	100	100	45
Maximum	300	300	175

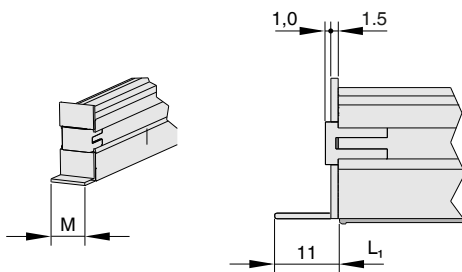
End plate EP for diffuser face without B00



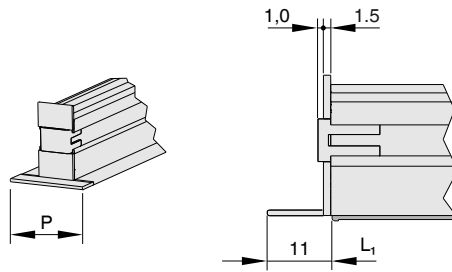
End plate EP for diffuser face with B00



End angle EA for diffuser face without B00



End angle EA for diffuser face with B00



## Product details

### Profiles

#### PL18-1/.../B00, installation in continuous ceilings



With anodised finish, E6-C-0, natural colour

#### PL18-2/.../B00/P1-RAL 9010, installation in continuous ceilings



Powder-coated RAL 9010, pure white

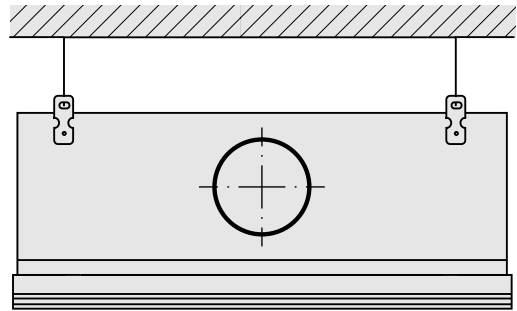
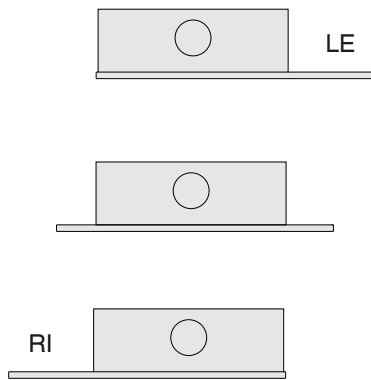
### Installation and commissioning

- For room heights up to 4 m (lower edge of suspended ceiling)
- Flush ceiling installation
- Horizontal or vertical duct connection
- If  $(L_3 + 5) < L_1$ , the plenum box can be positioned to the left, to the right or in the centre.
- For a continuous linear arrangement connect the diffusers with alignment plates
- If necessary, carry out volume flow rate balancing with the damper blade
- Fixing material for fixing the slot diffusers is to be provided by others

These are only schematic diagrams to illustrate installation details.

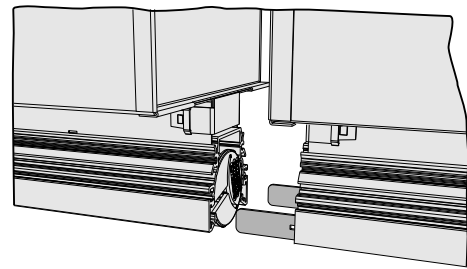
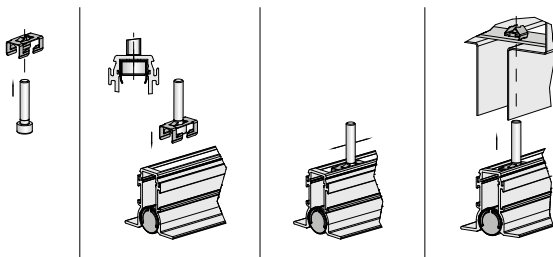
PL plenum box, positioned on the left, in the centre, on the right

Suspension



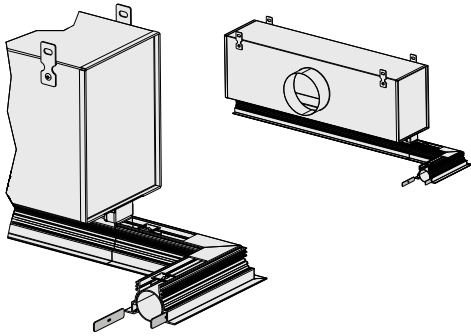
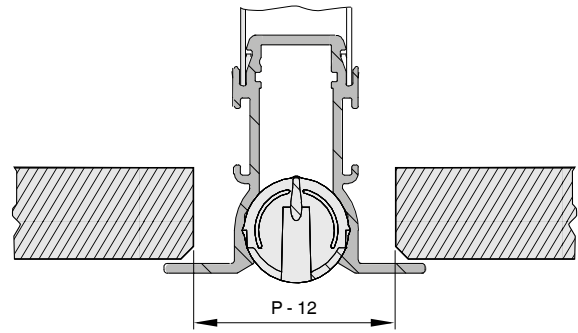
PL18 with detachable connection

Continuous linear arrangement

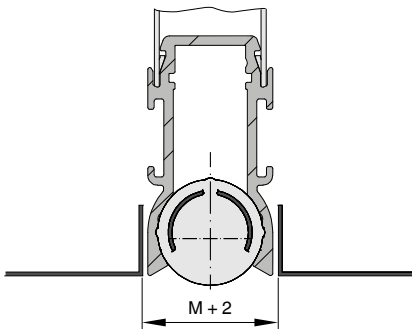


DS and SF variants: Fixing material for fastening the diffuser face to the plenum box is supplied.

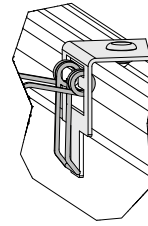
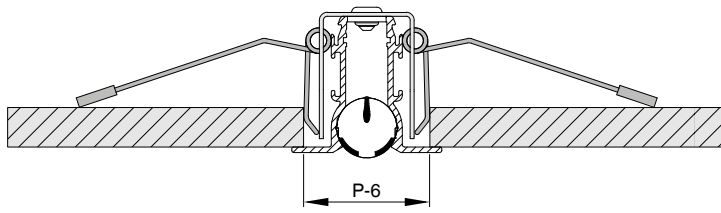
For a continuous linear arrangement the slot diffusers can be connected with the alignment plates supplied separately.

**Connecting corner sections****Continuous ceiling**

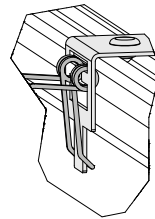
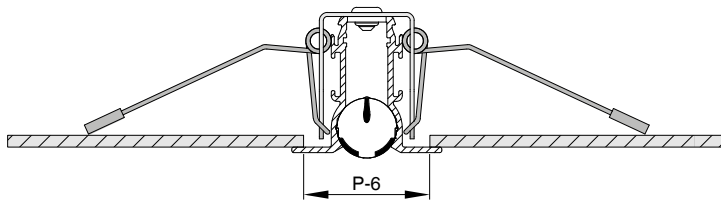
Separately supplied connectors are used to connect corner sections to slot diffusers. If necessary, the corner section has to be fixed additionally (by others).

**Rectangular panels**

PL18-DF spring clip fixing



PL18-DF spring clip fixing



If ceiling thickness is  $\leq 9$  mm

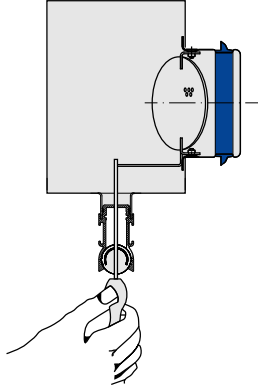


### Volume flow rate balancing

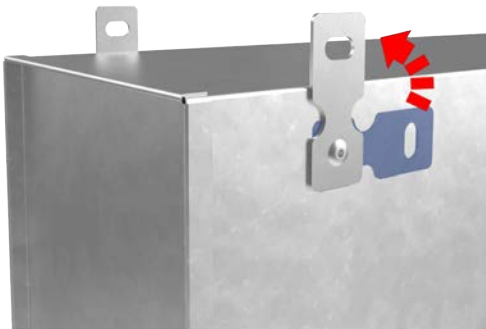
When several diffusers are connected to just one volume flow controller, it may be necessary to balance the volume flow rates.

- Slot diffusers with plenum box and damper blade (variant -D): The damper blade can be adjusted even after the diffuser face has been installed.

### Volume flow rate balancing

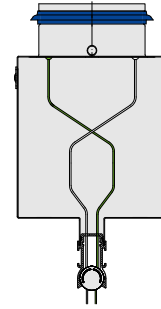


Move the air control element near the spigot in such a way that it is possible to insert a screw driver.



The plenum box is delivered with the suspension lugs turned by 90°

### With a vertical spigot: volume flow rate balancing using cords



White cord for opening the damper blade  
Green cord for closing the damper blade

## Nomenclature

**ØD** [mm]

Outer diameter of the spigot

**m** [kg]

Weight

**L<sub>1</sub>** [mm]

Length diffuser face

**L<sub>3</sub>** [mm]

Length of plenum box

**P** [mm]

Width slot profile with B00

**M** [mm]

Width slot profile without B00

**E** [mm]

Inside leg length 1, corner section

**F** [mm]

Inside leg length 2, corner section

**L<sub>N</sub>** [mm]

Nominal length

**L<sub>WA</sub>** [dB(A)]

A-weighted sound power level of air-regenerated noise

**q<sub>v</sub>** [m<sup>3</sup>/h]; [l/s]

Volume flow rate

**Δt<sub>s</sub>** [K]

Supply air to room air temperature difference, i.e. supply air temperature minus room temperature

**Δp<sub>t</sub>** [Pa]

Total differential pressure

### Lengths

All lengths are given in millimetres [mm] unless stated otherwise.