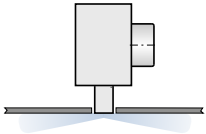
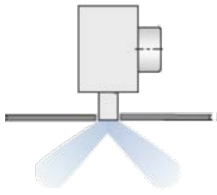




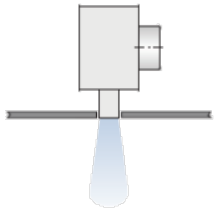
New design possibilities with white, grey and black air control blades



Horizontal air discharge



Angled airflow



Vertical airflow

# Slot diffusers

## PURELINE35



### The clean solution for significantly less ceiling contamination

Unobtrusive slot diffuser, blends in perfectly with suspended ceiling systems

- Very high comfort due to lower sound power levels and improved temperature and velocity reduction
- More energy efficient due to lower pressure losses
- Easy and quick installation – no tools required to fix the diffuser face
- New areas of application – such as air curtains to protect fresh food counters
- High flexibility thanks to numerous variants

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 and weight	23
Quick sizing	8	Product details	32
Specification text	16	Nomenclature	37

## General information

### Application

- Slot diffusers are used as supply air or extract air diffusers in comfort zones
- Suitable as mixed ventilation system for many applications due to the variety of variants and high flexibility
- Unobtrusive integration into suspended ceilings
- For room heights up to 4 m (lower edge of suspended ceiling)
- Suitable for large volume flow rates. Wide range of applications due to optional 1- to 4-slot front rail
- One-way or alternating air discharge can be adjusted on site to meet local requirements
- 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 temperature differences of -10 to +10 K

### Special characteristics

- 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 (according to RAL CLASSIC colour scale)
- The diffuser face has been optimised for maximum volume flow rate at low sound power levels
- Suitable for continuous linear arrangement

### Nominal sizes

- $L_n$ : 600, 750, 900, 1050, 1200, 1350, 1500, 1650, 1800, 1950 mm
- Diffuser face can be ordered in mm increments, also in intermediate lengths

### Variants

PL35-... :

- -\*: 1 to 4 slot front rail
- -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
- -PB: Plenum box only (for combination with DS)
- -DS: only front rail with B00 profile and screw fixing
- -DF: only front rail with B00 profile and spring clip
- -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
- Factory-set air distribution, manually adjustable on site
- Spigot with groove for lip seal (only for lip seal version)
- If the diffuser face is longer than the plenum box, the protruding areas of the diffuser face are covered at the reverse side.
- Plenum boxes only available in nominal lengths
- Exhaust air variant optionally available 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
- 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 there is no wear and tear due to design and materials used
- Inspection and cleaning according to VDI 6022

## Function

### Functional description

Slot diffusers direct the air from 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 room 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 PureLine35 slot diffusers are factory fitted with manually adjustable air control elements.

The air pattern can be adjusted to meet different local requirements.

Air discharge is one-way or alternating horizontal.

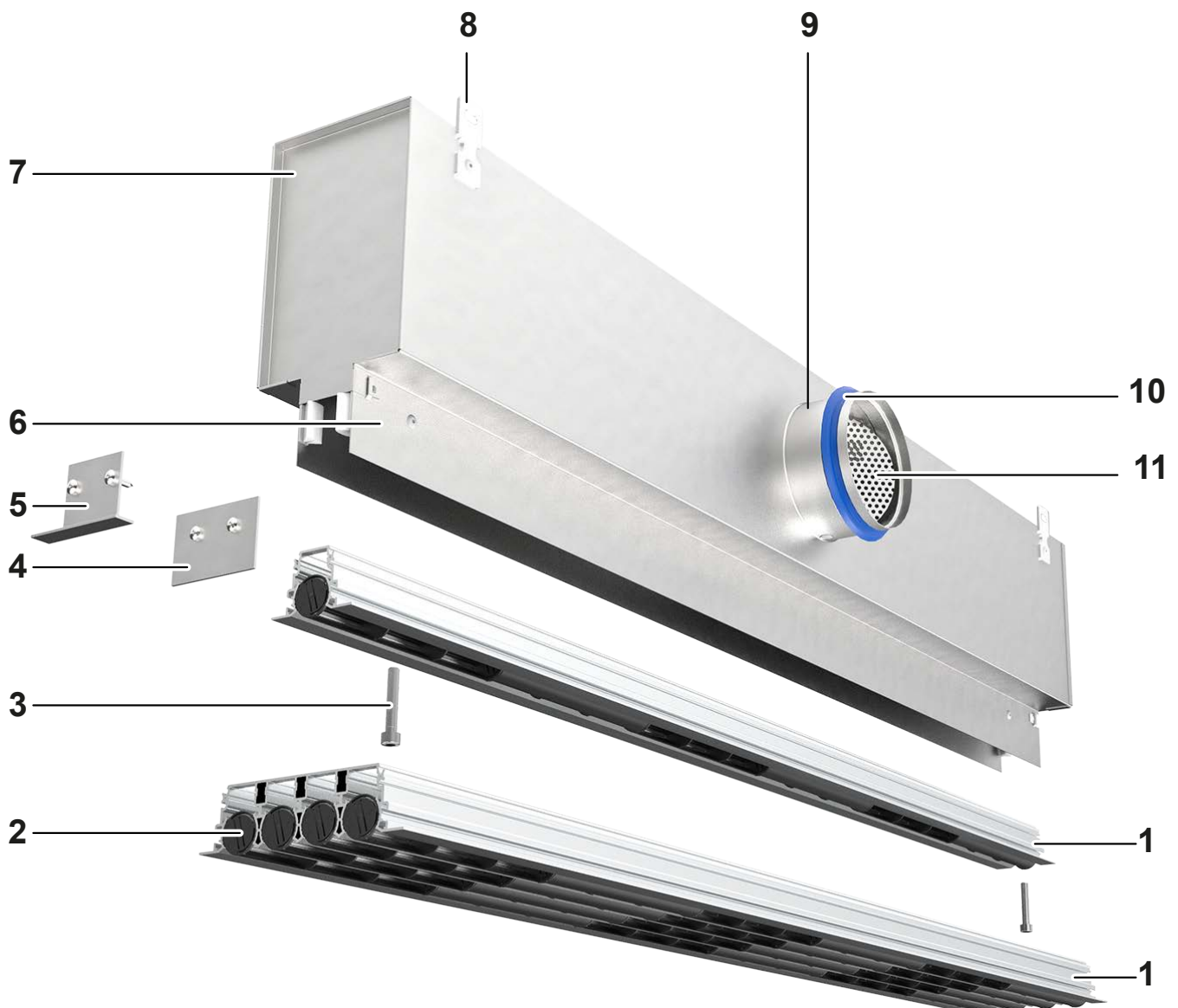
Other patterns: heating mode with vertical air discharge; angled air discharge.

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

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

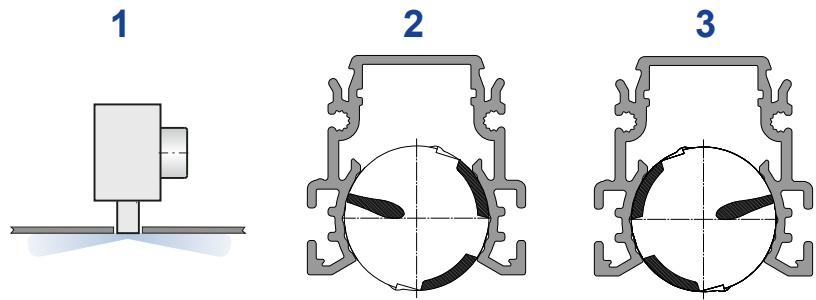
To give rooms an aesthetic, uniform look, PureLine35 diffusers may also be used for extract air.

### Schematic illustration of PL35-\*-SF



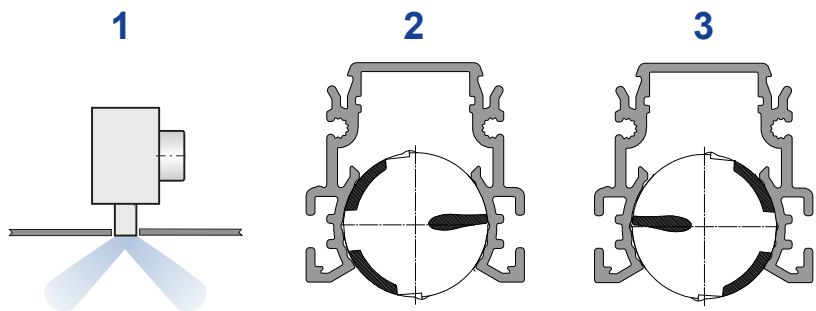
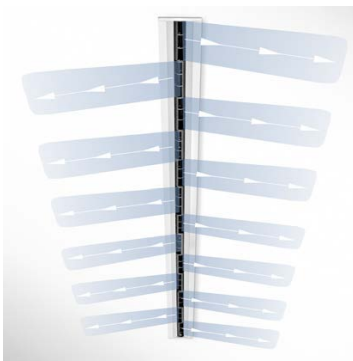
- |   |  |
|---|--|
| 1 Diffuser face with 1, 2, 3 or 4 slots | Optional                                       |
| 2 Adjustable air control element        | 4 End plate                                    |
| 3 Screw fixing                          | 5 End angle                                    |
| 6 Neck                                  | 10 Lip seal                                    |
| 7 Plenum box                            | 11 Damper blade for volume flow rate balancing |
| 8 Suspension lug                        |  |
| 9 Spigot                                |  |

### Supply air Alternating horizontal air discharge



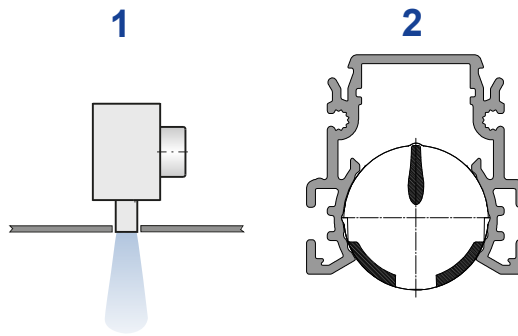
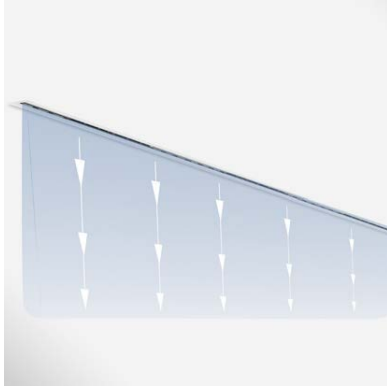
- 1 Setting of the air control elements
- 2 Air discharge: horizontal left
- 3 Air discharge: horizontal right

### Alternating angled air discharge



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

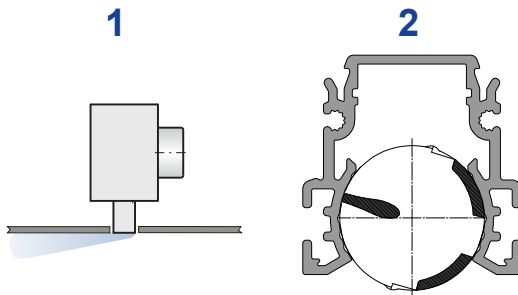
**Vertical air discharge**



1 Setting of the air control elements

2 Air discharge: vertical

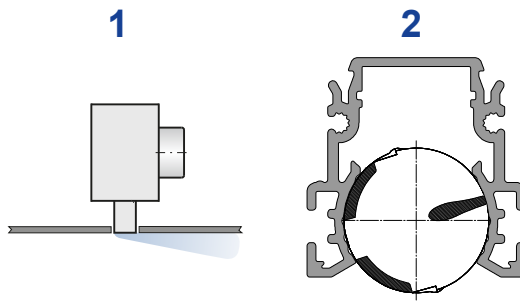
**One-way horizontal air discharge to the left**



1 Setting of the air control elements

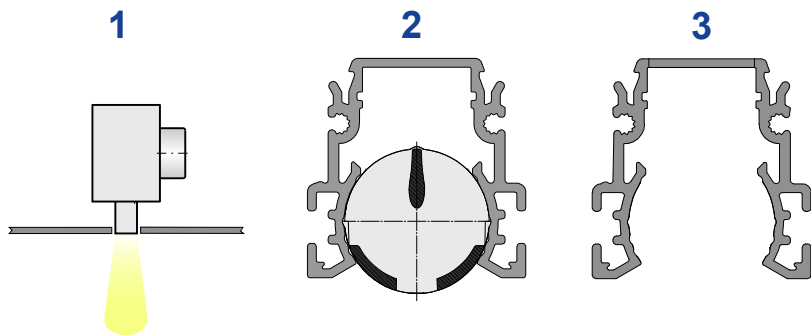
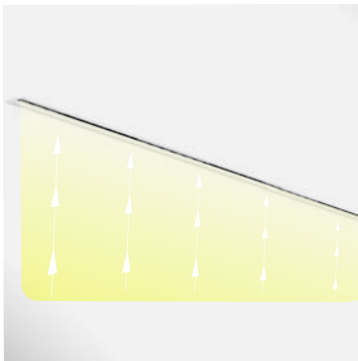
2 Air discharge: one-way horizontal left

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
- Extract air E: with air control elements
- Extract air E0: without air control elements

### Technical data

Nominal lengths	600 – 1950 mm, in increments of 150 mm
No. of slots	1, 2, 3 or 4
Neck extension	30, 55, 80, 105, 129 mm
Minimum volume flow rate, with $\Delta t_z = -10$ K	7 l/s or 24 m <sup>3</sup> /h
Maximum volume flow rate, with LWA $\approx 50$ dB(A)	225 l/s or 808 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 1200 mm includes one spigot; from length 1350 mm, two spigots are required.

#### PL35-1, 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	7	27	3	<15	4	<15	7	<15
600	17	60	14	28	21	28	32	29
600	26	93	33	40	49	40	76	41
600	35	126	61	48	90	48	139	49
750	9	33	4	<15	6	<15	9	<15
750	19	70	14	28	23	29	38	30
750	29	106	31	39	52	40	87	41
750	39	142	56	47	92	48	156	49
900	11	40	4	<15	7	<15	12	<15
900	22	79	14	29	25	29	45	30
900	33	118	31	39	56	40	100	41
900	44	157	55	47	99	48	177	49
1050	13	47	5	<15	8	<15	15	<15
1050	24	88	15	29	29	30	53	31
1050	36	129	31	39	61	40	113	41
1050	47	170	54	47	106	48	197	49
1200	15	53	5	<15	10	<15	19	15
1200	27	96	16	29	32	31	62	32
1200	39	140	32	40	67	41	129	42
1200	51	183	55	47	115	48	221	49
1350	17	60	6	<15	12	16	24	17
1350	29	105	17	30	37	31	71	32
1350	42	150	34	40	74	41	145	42
1350	54	195	57	47	125	48	245	49
1500	18	67	7	16	15	17	28	18
1500	31	113	18	30	41	32	81	33
1500	44	160	36	40	81	41	161	42
1500	57	206	59	47	135	48	268	49
1650	20	73	4	<15	6	<15	10	<15
1650	38	136	12	30	20	30	35	31





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)]
1650	55	198	25	40	42	41	73	42
1650	73	261	42	47	73	48	126	49
1800	22	80	4	<15	7	<15	12	15
1800	40	144	12	30	21	31	38	32
1800	58	209	24	40	44	41	78	42
1800	76	273	42	47	75	48	134	49
1950	24	86	4	<15	8	16	13	16
1950	42	153	12	30	23	31	41	32
1950	61	219	25	40	46	41	84	42
1950	79	285	41	47	78	48	142	49

**PL35-1, 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	7	27	3	<15	3	<15	4	<15
600	17	60	12	25	15	26	19	26
600	26	93	29	37	35	38	46	38
600	35	126	52	46	64	46	84	46
750	9	33	3	<15	4	<15	5	<15
750	19	70	11	26	15	26	21	27
750	29	106	25	37	33	37	48	38
750	39	142	45	45	60	45	86	46
900	11	40	3	<15	4	<15	6	<15
900	22	79	11	26	15	27	23	27
900	33	118	24	37	34	38	51	38
900	44	157	41	45	59	45	90	46
1050	13	47	3	<15	5	<15	8	<15
1050	24	88	11	26	16	27	26	28
1050	36	129	22	37	34	38	55	38
1050	47	170	39	44	59	45	96	46
1200	15	53	4	<15	6	<15	9	<15
1200	27	96	11	27	17	28	29	28
1200	39	140	22	37	36	38	61	38
1200	51	183	37	44	61	45	104	46
1350	17	60	4	<15	6	<15	11	<15
1350	29	105	11	27	19	28	33	29
1350	42	150	22	37	38	38	66	39
1350	54	195	36	44	64	45	112	46
1500	18	67	4	<15	7	<15	13	<15
1500	31	113	11	28	20	28	37	29
1500	44	160	22	37	40	38	72	39
1500	57	206	36	44	66	45	120	46
1650	20	73	3	<15	4	<15	6	<15
1650	38	136	9	27	13	28	18	28
1650	55	198	19	37	26	38	39	39
1650	73	261	33	45	45	45	67	46
1800	22	80	3	<15	4	<15	6	<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)]
1800	40	144	9	27	13	28	19	29
1800	58	209	19	37	26	38	40	39
1800	76	273	31	45	45	45	68	46
1950	24	86	3	<15	5	<15	7	<15
1950	42	153	9	28	13	28	21	29
1950	61	219	18	37	27	38	42	39
1950	79	285	30	45	45	45	71	46

**PL35-2, 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	15	53	4	<15	6	<15	11	<15
600	28	102	13	28	21	29	39	30
600	42	150	28	39	44	40	85	41
600	55	199	49	47	77	48	148	49
750	18	67	4	<15	7	<15	15	<15
750	33	118	12	29	22	30	47	31
750	47	170	25	39	45	40	97	41
750	61	221	42	47	77	48	165	49
900	22	80	5	<15	9	16	21	18
900	37	134	12	30	25	31	57	32
900	52	188	23	39	49	40	112	42
900	67	242	39	46	80	48	186	49
1050	26	93	5	17	11	18	27	20
1050	41	149	12	30	28	32	68	33
1050	57	204	23	39	52	41	127	42
1050	72	260	36	46	84	47	206	49
1200	30	106	6	19	14	20	34	22
1200	45	163	12	31	31	32	79	34
1200	61	220	22	39	57	41	144	43
1200	77	277	35	46	90	47	228	49
1350	33	120	6	20	16	22	42	24
1350	49	177	13	31	35	33	92	35
1350	65	235	22	39	61	41	160	43
1350	81	292	34	45	95	47	248	49
1500	37	133	7	22	19	24	51	25
1500	53	191	14	32	39	34	105	36
1500	69	249	23	39	67	41	178	43
1500	85	307	34	45	101	47	271	49
1650	41	146	4	17	8	19	18	20
1650	65	233	11	31	20	32	45	33
1650	89	320	19	40	38	41	84	42
1650	113	407	31	46	60	48	135	49
1800	44	160	5	19	9	20	21	21
1800	69	248	11	31	21	32	49	34
1800	93	337	19	40	39	41	90	42



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)]
1800	118	425	30	46	62	48	143	49
1950	48	173	5	20	10	21	24	22
1950	73	262	11	31	23	33	54	34
1950	98	352	18	40	40	41	96	43
1950	123	441	29	46	63	47	151	49

**PL35-2, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 138**

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	15	53	4	<15	5	<15	8	<15
600	28	102	12	27	17	27	29	28
600	42	150	27	38	37	38	62	39
600	55	199	46	45	64	46	109	47
750	18	67	4	<15	6	<15	11	<15
750	33	118	11	27	18	28	33	29
750	47	170	23	37	36	38	68	39
750	61	221	39	45	60	46	116	47
900	22	80	4	<15	7	<15	14	15
900	37	134	11	28	19	29	39	30
900	52	188	21	37	37	38	77	40
900	67	242	34	45	61	46	127	47
1050	26	93	4	15	8	16	18	18
1050	41	149	11	28	21	30	46	31
1050	57	204	20	37	38	39	86	40
1050	72	260	31	44	62	45	138	47
1200	30	106	5	17	10	18	23	20
1200	45	163	11	29	23	30	53	32
1200	61	220	19	37	41	39	96	40
1200	77	277	30	44	64	45	151	47
1350	33	120	5	18	12	20	28	21
1350	49	177	11	29	25	31	60	33
1350	65	235	18	37	43	39	106	41
1350	81	292	28	44	66	45	163	47
1500	37	133	6	20	14	21	34	23
1500	53	191	11	30	27	32	69	33
1500	69	249	18	38	46	39	116	41
1500	85	307	27	43	70	45	177	47
1650	41	146	4	16	6	17	13	18
1650	65	233	10	29	16	30	31	31
1650	89	320	18	38	29	39	58	40
1650	113	407	28	45	47	46	94	47
1800	44	160	4	17	7	18	14	19
1800	69	248	9	29	16	30	34	32
1800	93	337	17	38	30	39	62	40
1800	118	425	27	45	47	46	98	47
1950	48	173	4	18	8	19	16	20



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)]
1950	73	262	9	30	17	31	37	32
1950	98	352	16	38	30	39	65	40
1950	123	441	25	44	47	45	102	47

**PL35-3, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 138**

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	22	80	5	<15	8	<15	15	16
600	39	140	15	28	24	30	44	32
600	55	199	29	38	48	40	89	42
600	72	259	49	46	81	47	151	49
750	28	100	6	16	10	18	21	20
750	44	160	14	29	26	31	53	33
750	61	221	26	38	49	40	100	42
750	78	281	42	45	79	47	161	49
900	33	120	6	19	13	21	28	23
900	50	180	14	30	29	32	63	35
900	66	239	24	38	51	40	111	43
900	83	299	38	44	80	47	173	49
1050	39	140	7	21	16	24	37	26
1050	55	198	14	31	33	33	74	36
1050	71	257	23	38	55	41	123	43
1050	88	316	35	44	82	47	186	49
1200	44	160	8	23	20	26	47	28
1200	60	216	15	32	37	35	85	37
1200	76	273	23	38	58	41	136	44
1200	92	330	34	44	85	46	198	49
1350	50	180	9	25	25	28	58	31
1350	65	234	16	33	41	36	99	38
1350	80	289	23	39	63	42	150	44
1350	96	344	33	43	89	46	212	49
1500	55	200	11	27	29	30	71	33
1500	70	252	16	33	46	37	112	39
1500	84	304	24	39	67	42	163	45
1500	99	356	32	43	92	46	224	49
1650	61	220	6	22	12	24	24	26
1650	86	309	12	32	23	34	48	36
1650	111	399	19	39	38	41	79	43
1650	136	489	28	45	56	47	118	49
1800	67	240	6	23	13	26	28	28
1800	91	328	12	32	24	35	52	37
1800	116	417	18	39	39	41	84	44
1800	140	505	27	44	57	47	123	49
1950	72	259	7	25	15	27	32	29
1950	96	346	12	33	26	35	57	38
1950	120	432	18	39	40	41	89	44



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)]
1950	144	519	26	44	58	47	128	49

**PL35-3, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 158**

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	22	80	5	<15	6	<15	10	<15
600	39	140	13	26	19	27	31	29
600	55	199	27	36	38	37	62	39
600	72	259	45	44	63	45	104	46
750	28	100	5	<15	8	15	14	17
750	44	160	12	27	19	28	35	30
750	61	221	23	36	36	37	66	39
750	78	281	37	43	58	44	106	46
900	33	120	5	16	9	18	18	20
900	50	180	12	28	21	30	40	32
900	66	239	20	36	36	38	71	40
900	83	299	31	42	56	44	110	46
1050	39	140	6	19	11	21	23	23
1050	55	198	12	29	22	31	46	33
1050	71	257	19	36	37	38	77	40
1050	88	316	28	42	56	44	116	46
1200	44	160	7	21	14	23	29	25
1200	60	216	12	29	24	32	53	34
1200	76	273	18	36	39	38	84	41
1200	92	330	26	41	56	44	122	46
1350	50	180	7	23	16	25	36	28
1350	65	234	12	30	27	33	60	35
1350	80	289	18	36	41	39	91	41
1350	96	344	25	41	57	43	129	46
1500	55	200	8	24	19	27	43	29
1500	70	252	12	31	30	34	68	36
1500	84	304	18	36	43	39	99	41
1500	99	356	24	41	59	43	135	46
1650	61	220	5	20	9	22	16	23
1650	86	309	10	30	17	31	31	33
1650	111	399	16	37	27	38	51	40
1650	136	489	24	42	41	44	77	46
1800	67	240	5	21	9	23	18	25
1800	91	328	10	30	17	32	33	34
1800	116	417	16	37	27	39	54	41
1800	140	505	23	42	40	44	79	46
1950	72	259	6	22	10	24	20	26
1950	96	346	10	31	18	32	36	35
1950	120	432	15	37	28	39	56	41
1950	144	519	21	42	40	44	81	46



**PL35-4, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 158**

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	30	106	4	16	8	17	14	18
600	48	173	11	30	20	31	37	32
600	67	240	20	40	37	41	70	42
600	85	307	33	47	60	48	114	49
750	37	133	5	19	10	20	20	22
750	56	203	11	31	23	33	46	34
750	76	272	20	40	41	41	83	42
750	95	342	31	47	65	48	131	49
900	44	160	6	22	13	23	28	24
900	64	231	12	32	28	34	58	35
900	84	303	21	40	47	42	99	43
900	104	374	31	46	72	48	151	49
1050	52	186	7	24	17	25	37	27
1050	72	258	13	33	33	35	70	36
1050	92	330	22	40	53	42	115	43
1050	112	402	32	46	78	48	170	49
1200	59	213	8	26	22	27	47	29
1200	79	285	15	34	38	36	84	37
1200	99	356	23	41	59	42	131	44
1200	119	428	33	46	85	48	189	49
1350	67	240	10	27	26	29	59	31
1350	86	310	16	35	44	37	99	38
1350	106	381	24	41	66	43	148	44
1350	126	452	34	46	93	48	208	49
1500	74	266	12	29	32	31	72	32
1500	93	336	18	36	50	38	114	39
1500	113	405	26	41	73	43	166	44
1500	132	475	36	46	101	48	228	49
1650	81	293	6	23	12	24	24	26
1650	115	413	11	33	23	34	47	36
1650	148	534	18	41	38	42	79	43
1650	182	655	26	46	57	48	118	49
1800	89	319	6	24	13	26	28	27
1800	122	441	11	34	25	35	53	36
1800	156	562	18	41	41	42	85	43
1800	190	683	26	46	60	48	126	49
1950	96	346	7	25	15	27	32	28
1950	130	467	12	34	27	36	58	37
1950	163	588	18	41	43	42	92	44
1950	197	709	26	46	62	48	134	49



**PL35-4, supply air, alternating horizontal air discharge, sound power level and total differential pressure**  
**D = 198**

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	30	106	4	<15	5	<15	8	<15
600	48	173	9	26	12	27	19	28
600	67	240	16	36	23	36	36	37
600	85	307	26	43	37	43	59	44
750	37	133	4	<15	6	16	10	17
750	56	203	8	27	13	28	23	29
750	76	272	15	36	23	36	41	37
750	95	342	23	42	37	43	64	44
900	44	160	4	17	7	18	13	19
900	64	231	8	28	15	29	27	30
900	84	303	14	36	25	37	46	38
900	104	374	21	42	38	43	70	44
1050	52	186	5	19	9	20	17	22
1050	72	258	9	29	16	30	32	31
1050	92	330	14	36	27	37	52	38
1050	112	402	20	42	39	43	76	44
1200	59	213	5	21	11	22	21	24
1200	79	285	9	30	18	31	37	32
1200	99	356	14	36	29	37	58	39
1200	119	428	20	41	41	43	83	44
1350	67	240	6	23	13	24	26	25
1350	86	310	9	30	21	32	43	33
1350	106	381	14	36	31	38	64	39
1350	126	452	20	41	43	43	90	44
1500	74	266	6	24	15	26	31	27
1500	93	336	10	31	23	32	49	34
1500	113	405	14	36	34	38	71	39
1500	132	475	20	41	46	42	98	44
1650	81	293	4	19	7	20	12	21
1650	115	413	8	29	13	30	22	31
1650	148	534	12	36	21	37	37	38
1650	182	655	19	42	31	43	56	44
1800	89	319	4	20	7	21	13	22
1800	122	441	8	29	13	30	25	31
1800	156	562	12	36	21	37	40	38
1800	190	683	18	42	31	43	58	44
1950	96	346	5	21	8	22	15	23
1950	130	467	8	30	14	31	27	32
1950	163	588	12	36	22	37	42	38
1950	197	709	17	42	32	43	61	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 PURELINE35 with individually, manually adjustable air control blades and 1, 2, 3 or 4 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
- Biosoluble and hence hygienically safe according to the German TRGS 905 (Technical Rules for Hazardous Substances) and EU directive 97/69/EC
- 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 – 1950 mm, in increments of 150 mm
- Diffuser face: up to 4 slots
- Minimum volume flow rate, with  $\Delta t_z = -10$  K: 7 l/s or 24 m<sup>3</sup>/h
- Maximum volume flow rate, at LWA  $\approx$  50 dB(A): 225 l/s or 808 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

PL35-1-S-SF-HS / 1200 × 1050 × 123 × 30 / 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**

**PL35** Slot diffuser PURELINE35

**2 No. of slots**

1, 2, 3, 4

**3 System**

**S** Supply air  
**E** Extract air (air control elements as standard)  
**E0** Extract air (without 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 × neck extension

Diffuser face length

**600 – 1950**

Plenum box length

**600 – 1950** (in increments of 150 mm)

Spigot diameter ØD

**98** (with 1 slot)  
**123** (with 1 or 2 slots)  
**138** (with 2 or 3 slots)  
**158** (with 3 or 4 slots)  
**198** (with 4 slots)

Neck extension

No entry: without neck extension  
**30, 55, 80, 105, 129**

**7 No. of spigots**

**1** (up to plenum box length 1200 mm)  
**2** (from plenum box length 900 mm)

**Order example: PL35-1-S-PF-HS/1200×1200×98/1**

Type	PURELINE35
Number of slots	1
System	Supply air
Variant	Diffuser face fixed to the plenum box, non-detachable
Plenum box variant	Standard plenum box with horizontal connection

**8 Damper screen for flow rate balancing**

No entry: without damper screen  
**D** with damper screen

**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  
**RI** right

**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 GU 50  
 RAL 9006 GU 30  
 All other RAL colours GU 70

**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)



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

**Order example: PL35-2-S-SF-HS/1200x1050x123/2-D-LS-L-LE/AS/B00/EA/P1-RAL 9010/W**

Type	PURELINE35
Number of slots	2
System	Supply air
Variant	Diffuser face fixed to the plenum box, detachable
Plenum box variant	Standard plenum box
Nominal size	Diffuser face 1200 mm, plenum box 1050 mm, spigot diameter 123 mm
No. of spigots	2
Damper blade for volume flow rate balancing	With
Lip seal	With
Lining	With
Position of plenum box	Left side
Air pattern	Alternating angled
Extended border	With
End pieces	With end angle
Surface	Powder-coated RAL 9010, pure white, gloss level approx. 50%
Colour of air control elements	White

**PL35-1-S-CS / 100 × 100 × 90 / B00 / P1 - RAL 9016 / W**  
 |   |   |   |   |   |   |   |  
**1   2   3   4   5   6   7   8**

### 1 Type

**PL35** Slot diffuser PURELINE35

### 2 No. of slots

**1, 2, 3, 4**

### 3 System

- S** Supply air
- E** Extract air (air control elements as standard)
- E0** Extract air (without air control elements)

### 4 Variant

**CS** Corner section

### 5 Dimensions

Leg length E × Leg length F × angle

Leg length E [mm]

**100 – 300** (in increments of 1 mm)

Leg length F [mm]

**100 – 300** (in increments of 1 mm)

### Order example: PL35-1-S-CS/100×100×90

Type	PURELINE35
No. of slots	1
Variant	Corner section
System	Supply air
Dimensions	Leg length E: 100 mm; leg length F: 100 mm; 90° angle
Extended border – diffuser face	Without extended border
Surface	Anodised, E6-C-0, natural colour
Colour of air control elements	Similar to RAL 9005 (black)

### Order example: PL35-2-E-CS/150×250×45/B00/P1-RAL 9016/W

Type	PURELINE35
No. of slots	2
Variant	Corner section
System	Extract air (with air control elements)
Dimensions	Leg length E: 150 mm; leg length F: 250 mm; 45° angle
Extended border – diffuser face	With extended border
Surface	Powder-coated RAL 9016, pure white
Colour of air control elements	Similar to RAL 9010 (pure white)

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 GU 50

RAL 9006 GU 30

All other RAL colours GU 70

### 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)



**PL35 – EA / 2 – B00 / P1 - RAL 9016**

| | | | |  
**1 2 3 4 5**

**1 Type**

**PL35** Slot diffuser PURELINE35

**2 Variant**

**EP** 1 pair of end plates

**EA** 1 pair of end angles

**3 No. of slots**

**1, 2, 3, 4**

**4 Extended border – diffuser face**

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 GU 50

RAL 9006 GU 30

All other RAL colours GU 70

## Variants

Asymmetrical plenum box



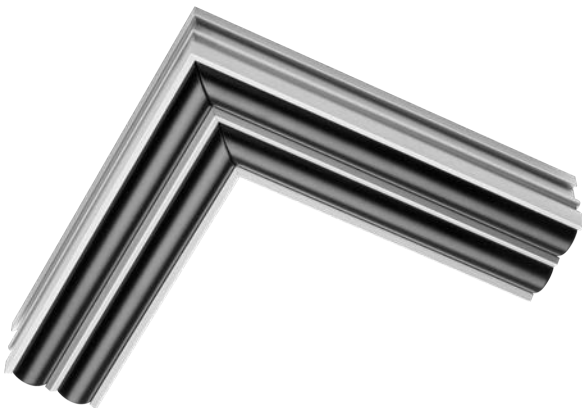
Plenum box with two vertical spigots



Plenum box shorter than diffuser face, positioned on left with 2 horizontal spigots



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



Diffuser face with black air control blades



Diffuser face with white air control blades

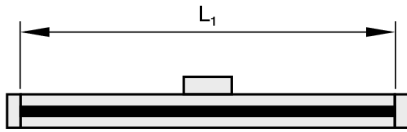


Diffuser face with grey air control blades

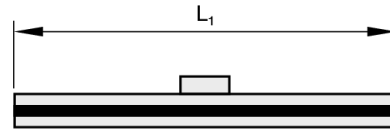


## Dimensions and weight

Front rail end angles on both ends

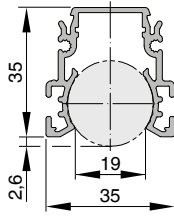


Front rail without end piece

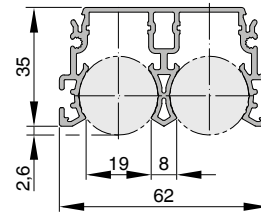


$L_N$	$L_1$
600	600
750	750
900	900
1050	1050
1200	1200
1350	1350
1500	1500
1650	1650
1800	1800
1950	1950

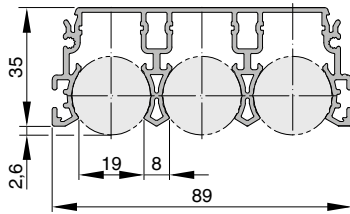
PL35-1



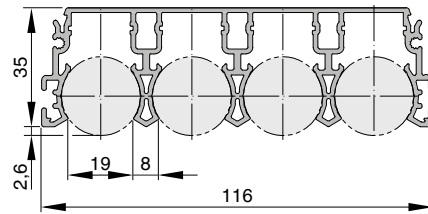
PL35-2



PL35-3

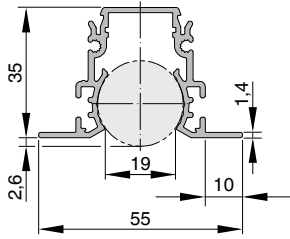


PL35-4

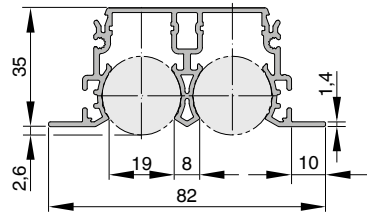




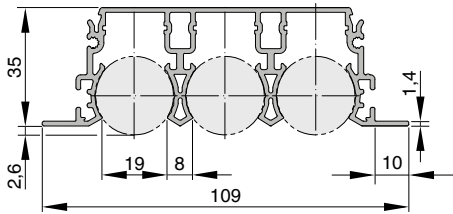
PL35-1/B00



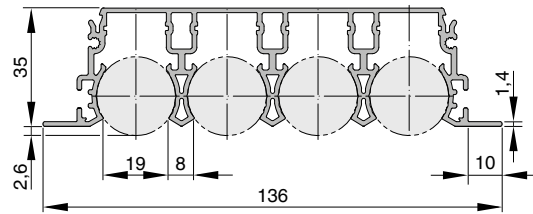
PL35-2/B00



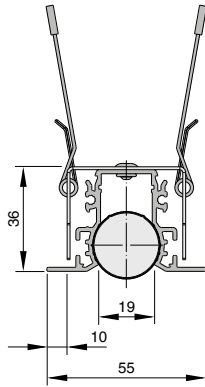
PL35-3/B00



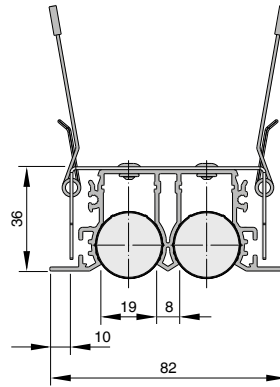
PL35-4/B00



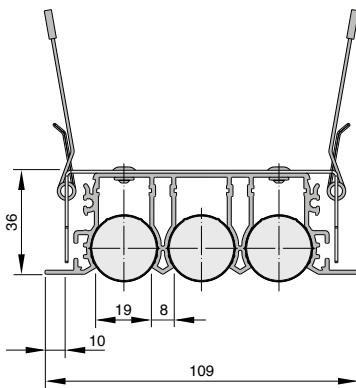
PL35-1-\***-DF**-\***-B00** (diffuser face with spring clip)



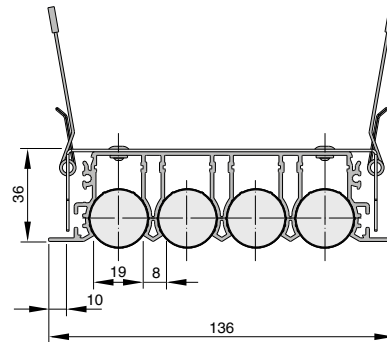
PL35-2-\***-DF**-\***-B00** (diffuser face with spring clip)



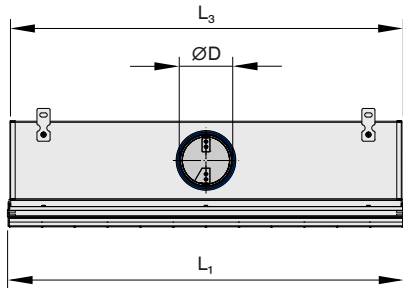
PL35-3-\***-DF**-\***-B00** (diffuser face with spring clip)



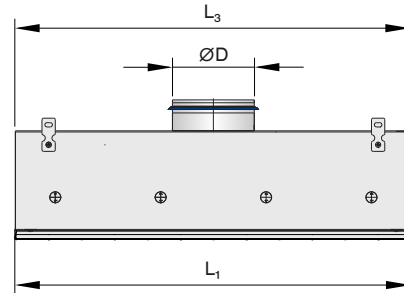
PL35-4-\***-DF**-\***-B00** (diffuser face with spring clip)



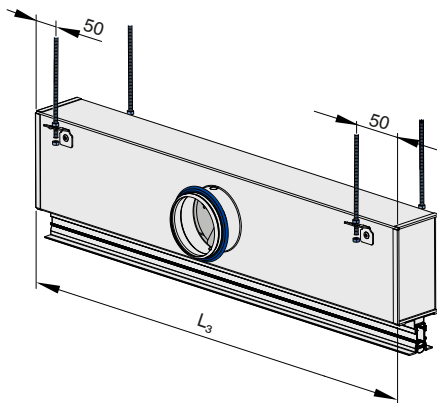
Plenum box with horizontal spigot (HS/HA)



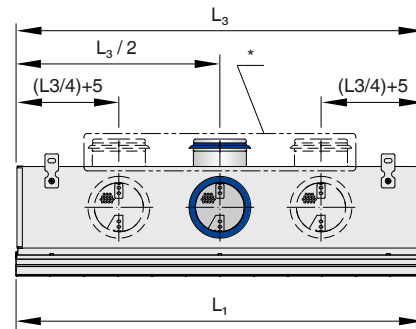
Plenum box with vertical spigot (VS)



Plenum box fixing points

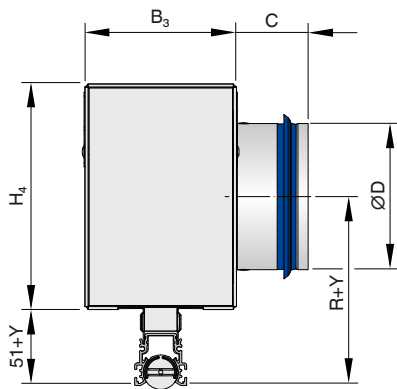
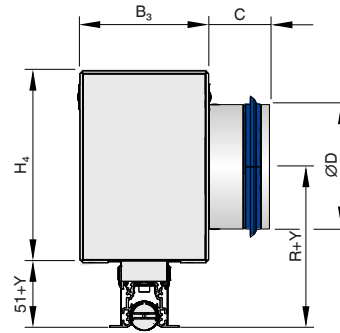
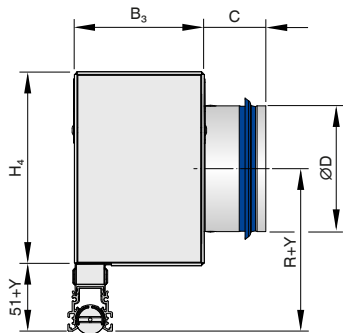
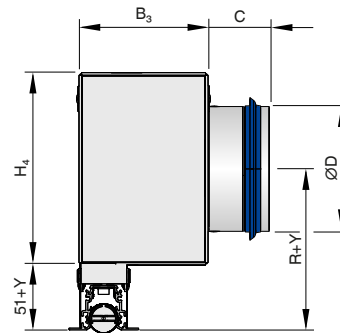
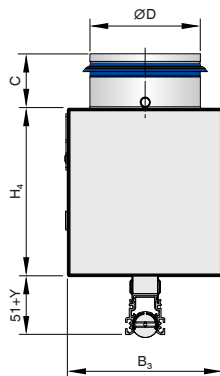
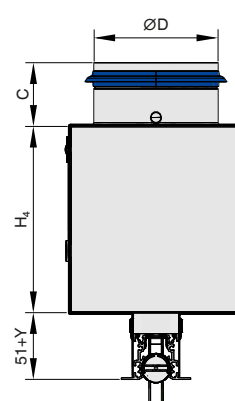


Spigot arrangement



\* Spigot arrangement for plenum box variant VS

$L_N$	No. of spigots	L1	L3
600	1	600	595
750	1	750	745
900	1/2	900	895
1050	1/2	1050	1045
1200	1/2	1200	1195
1350	2	1350	1345
1500	2	1500	1495
1650	2	1650	1645
1800	2	1800	1795
1950	2	1950	1945

**PL35\*-PF-HS (symmetrical plenum box with horizontal spigot)****PL35\*-SF-HS (symmetrical plenum box with horizontal spigot)****PL35\*-PF-HA (asymmetrical plenum box with horizontal spigot)****PL35\*-SF-HA (asymmetrical plenum box with horizontal spigot)****PL35\*-PF-VS (symmetrical plenum box with vertical spigot)****PL35\*-SF-VS (symmetrical plenum box with vertical spigot)**



Variant	B3		H4		R + Y
	HS/HA	VS	HS/HA	VS	
PL35-1	100	138	150	150	126 + Y
PL35-2	138	160	180		141 + Y
PL35-3	176	176	198		150 + Y
PL35-4	214	214	230		166 + Y

Note: Neck extension Y = 30/55/80/105/129

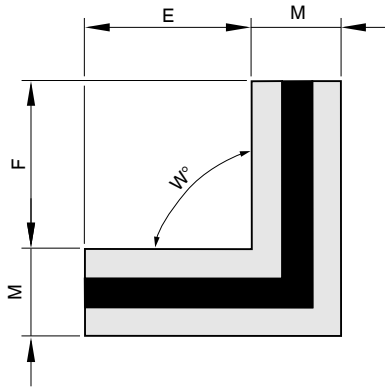
Variant	∅D	C
PL35-1	98/123	50/48
PL35-2	123/138	48/42
PL35-3	138/158	42/50
PL35-4	158/198	50/50

## Weight

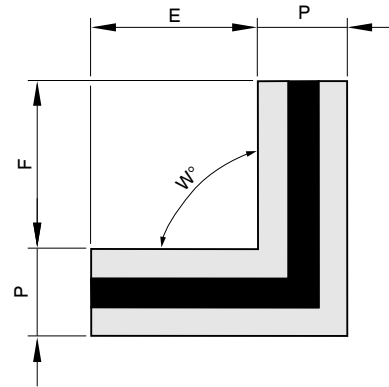
Plenum box variant	Number of slots	kg/m
Diffuser face	1, 2, 3 or 4 slots	0.8 / 1.2 / 1.6 / 2.1
Plenum box HS/HA	1, 2, 3 or 4 slots	3.3 / 3.9 / 4.6 / 5.2
Plenum box HS/HA+L	1, 2, 3 or 4 slots	4.0 / 4.7 / 5.5 / 6.2
Plenum box VS	1, 2, 3 or 4 slots	3.7 / 3.9 / 4.1 / 4.3
Plenum box VS+L	1, 2, 3 or 4 slots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

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

## Corner section PL35\*-CS



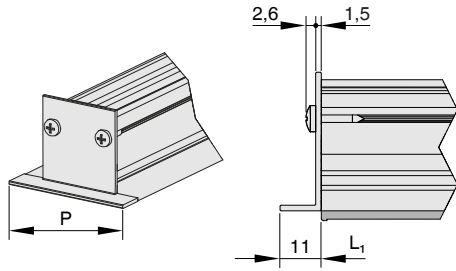
## Corner section PL35\*-CS\*/B00



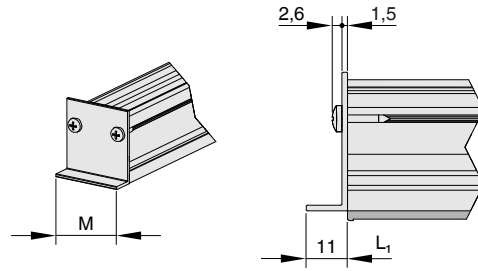
Variant	M (without extended border)	P (with extended border)
PL35-1	35	55
PL35-2	62	82
PL35-3	89	109
PL35-4	116	136

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

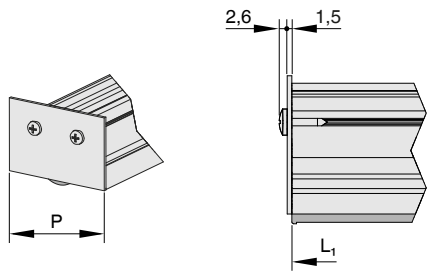
End angle EA for diffuser face with B00



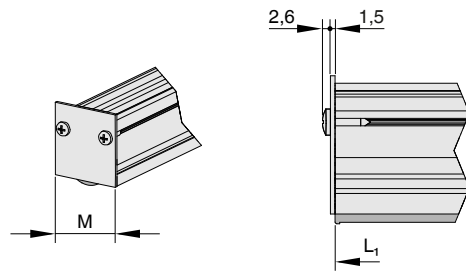
End angle EA for diffuser face without B00



End plate EP for diffuser face with B00



End plate EP for diffuser face without B00



Variant	M (without extended border)	P (with extended border)
PL35-1	35	55
PL35-2	62	82
PL35-3	89	109
PL35-4	116	136

## Product details

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



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

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



Powder-coated RAL 9010, pure white

### Installation and commissioning

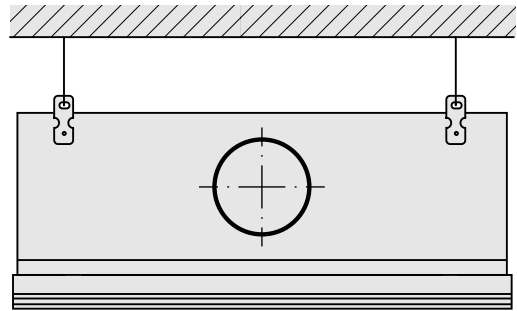
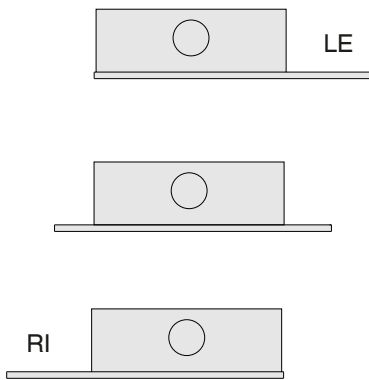
- Preferably for rooms with a clear height up to 4.0 m
- Flush ceiling installation
- Horizontal or vertical duct connection
- If the diffuser face is longer than the plenum box, the rear side of the protruding diffuser face ends are covered
- For a continuous linear arrangement connect the diffusers 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.



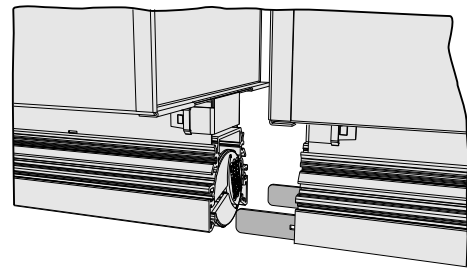
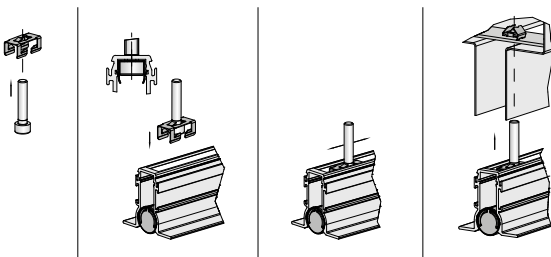
PL plenum box, positioned on the left, in the centre, on the right

Suspension



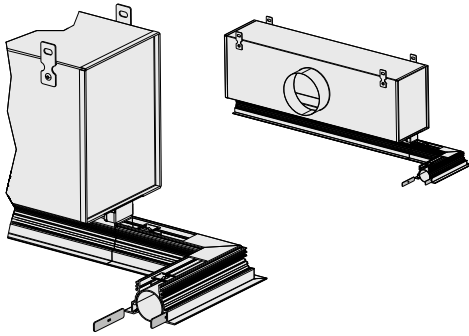
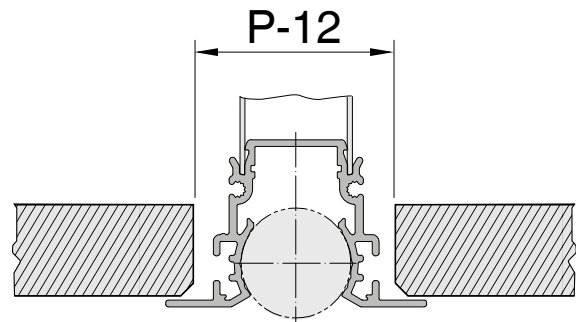
PL35 with detachable connection

Continuous linear arrangement

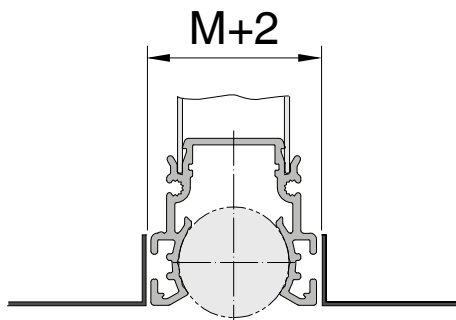


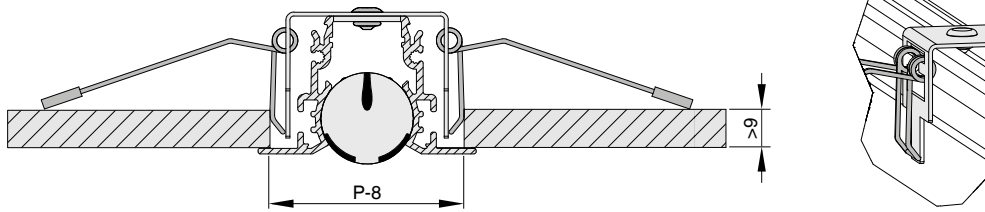
DS and SF variants: Fixing material for fastening the diffuser face to the plenum box is supplied.

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

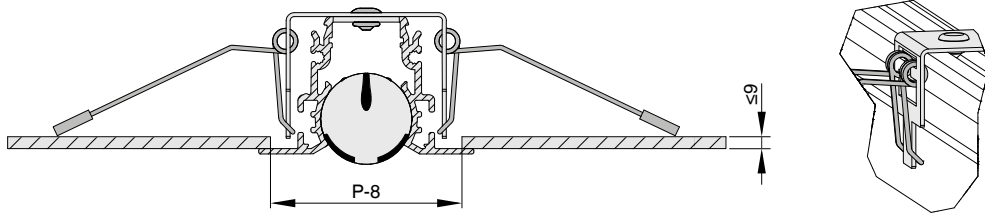
**Connecting corner sections****Continuous ceiling**

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**

**PL35-DF spring clip fixing**

If ceiling thickness is  $> 9$  mm

**PL35-DF spring clip fixing**

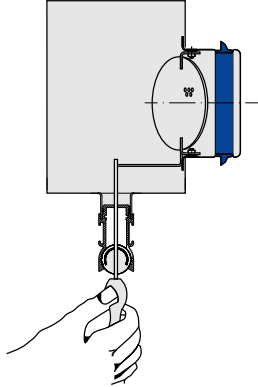
If ceiling thickness is  $\leq 9$  mm

### Volume flow rate balancing

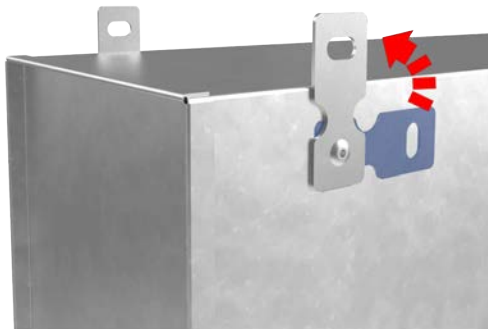
When several diffusers are connected to just one volume flow controller, it may be necessary to balance the volume flow rates.

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

### Volume flow rate balancing

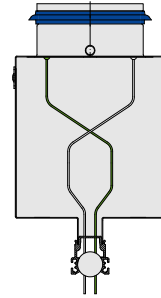


Move the air control element near the spigot in such a way that it is possible to insert a screw driver.



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

**C** [mm]

Length 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

**H<sub>4</sub>** [mm]

Height of plenum box

**Y** [mm]

Neck extension

**R** [mm]

Position of the spigot, defined by the distance of the spigot centre line to the lower edge of the suspended ceiling

**E** [mm]

Inside leg length 1, corner section

**F** [mm]

Inside leg length 2, corner section

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

Nominal length

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

Width of plenum box

**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>z</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.