



Plenum box with side entry connection



Spigot with optional damper blade



Plenum box with top entry connection

# Slot diffusers for ceiling installation

TSD



## Flat face slot diffuser, available in numerous variants for many different installation situations

Slot diffusers with 15 mm or 20 mm diffuser face (nominal width) and adjustable air control blades

- Nominal length 300 – 1800 mm, 1, 2, 3 or 4 slots
- Volume flow rate range 3 – 360 l/s or 12 – 1297 m<sup>3</sup>/h
- Adjustable air control blades for horizontal or vertical air discharge
- Uniform air pattern increases comfort and reduces noise level
- Air control blades have positive stop to allow for precise positioning on site

Optional equipment and accessories

- Attractive appearance due to extruded aluminium sections with RAL CLASSIC polyester powder-coat finish
- Variable height plenum box with optional internal lining and spigot mounted damper for volume flow rate balancing
- End plates, end angles, mitred corner sections
- Different looks due to choice of black or white air control blades

General information	2	Order code	15
Function	4	Variants	19
Technical data	5	Order Code - Extras	21
Quick sizing	5	Dimensions	22
Specification text	14	Product details	31

## General information

### Application

- Type TSD slot diffusers are used as supply air or extract air devices in comfort zones
- Unobtrusive diffuser due to its sleek flat face design
- Installation into suspended ceilings or plasterboard margin
- 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 or vertical air discharge
- Mixed flow system with adjustable 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 increases comfort and reduces noise level
- Horizontal, or vertical air discharge by means of manually adjustable air control blades
- Comfortable indoor climate due to high induction and rapid reduction of temperature differences and airflow velocities
- High-quality look thanks to extruded aluminium sections with RAL CLASSIC polyester powder coating
- Diffuser face has been optimised for maximum volume flow rate at low sound power levels and low pressure
- Suitable for continuous linear arrangement

### Nominal sizes

- Single diffuser

$L_N$  : 300mm up to 1800mm

- Linear diffuser

$L_N$  : > 1801mm & ≤ 3600mm linear diffusers supplied as two equal length end sections

$L_N$  : > 3600mm linear diffusers supplied as n x 1800mm middle section(s) and two equal length end sections.

For a continuous linear arrangement the diffuser should be ordered with total run nominal length. Diffuser will be supplied in sections (2 x equal length end sections or n x 1800mm middle sections and 2 x equal length end sections depending on nominal length) with alignment pins for joining on site by others. End plates or end angles have to be specified and will be factory fitted to diffuser end sections.

Intermediate sizes in 1mm increments available on request.

### Variants

- TSD15-\*: 1, 2, 3 or 4 slots (15mm slot)
- TSD20-\*: 1, 2, 3 or 4 slots (20mm slot)
- TSD\*\*-0: Continuous air control blade for one-way horizontal or vertical airflow
- TSD20- -: Air control blades in sections for alternating horizontal airflow
- TSD\*\*-\*-0-B: Black air control blades
- TSD\*\*-\*-0-W: White air control blades
- TSD\*\*-\*-FL: Extended flange for surface mounting
- TSD\*\*-\*-NF: No-flange for flush mounting
- TSD\*\*-\*-PL: Extended border to suit plank ceiling systems (300 mm wide). TSD20-3 or 4 slot only
- TSD\*\*-\*-P: Plaster-in border
- TSD-CS: Mitred corner section

### Attachments

- A'x': End angles (\*-FL border only)
- P'x': End plates (\*-NF, -P borders only)
- L'x': Offset angles (\*-NF border only)
- PL'x': End angles (\*-PL border only)

'x': Quantity 1 or 2. Diffusers are factory fitted with end plates or angles.

### Construction

Diffuser face finish

- P3: Powder-coated RAL 9010, pure white, gloss level 20%
- P2: Powder-coated RAL 9006, white aluminium, gloss level 30%
- P4: Powder-coated RAL 9005, black gloss level 20%
- P6: Powder-coated in any other RAL CLASSIC colour, gloss level 30%

### Accessories

- SB: Support brackets for installation of diffusers without plenum box
- GP: Goal-post brackets for installation of diffusers without plenum box
- S11: Concealed fixing for installation of diffusers with plenum box
- TSD-AKV: Variable height plenum box
- TSD-RA: Return air baffle

### Construction features

- High quality aluminium extrusions with flat face profiles
- Manually adjustable air control elements with positive stop that makes it easier to adjust the airflow direction
- Diffuser face sizes from 300 to 1800 mm, in increments of 1 mm
- Plenum box nominal lengths 300 to 1800 mm, in increments of 100mm

**Materials and surfaces**

- TSD diffuser face and continuous air control blades made from extruded aluminium profiles
- TSD 300mm blade sections made from ABS
- End plates made of galvanised sheet steel
- End angles made of aluminium
- TSD-AKV: Plenum box made of galvanised sheet steel, natural finish galv
- TSD-RA: Return air baffle made of galvanised sheet steel, powder-coat RAL 9005, black
- Optional internal lining is 12 mm acoustic foam, Class 0 rated
- Diffuser face with polyester powder-coat finish, RAL 9010, pure white, gloss level 20%

- P6: Powder-coated, RAL CLASSIC colour, gloss level 30%
- B: Air control elements similar to RAL 9005, black
- W: Air control elements similar to RAL 9010, white

**Standards and guidelines**

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

**Maintenance**

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

## Function

Slot diffusers direct the air from air conditioning systems into the room, either horizontally 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 TSD slot diffusers are factory fitted with manually adjustable air control blades. The diffuser can be supplied with continuous air control blades for one-way horizontal airflow or vertical airflow or blades made up of 300mm sections for alternating horizontal

airflow to provide additional control to meet different local requirements. Air discharge is one-way (1 slot) or two-way (2 or more slots). Other patterns: heating mode with vertical 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, Type TSD diffusers may also be used for extract air. Type TSD-AKV plenum boxes and return air baffles are available to suit the local requirements of the installation with optional 12mm internal lining.



- 1 TSD diffuser face; 1, 2, 3 or 4 slots
- 2 Air control blade
- 3 End plate/angle (optional)
- 4 Concealed plenum fixing S11 (optional)
- 5 AKV TSD plenum box

- 6 Plenum box support hole (11 × 7)
- 7 Plenum box support bracket (11 × 7)
- 8 Spigot
- 9 Spigot damper (optional)

Technical data

TSD15

Nominal lengths	300 – 1800 mm, in increments of 1 mm
Number of slots	1, 2, 3 or 4
Minimum volume flow rate, at $\Delta t_z = -10$ K	3 l/s or 12 m <sup>3</sup> /h
Maximum volume flow rate, with $L_{WA} \approx 50$ dB(A)	293 l/s or 1055 m <sup>3</sup> /h
Supply air to room air temperature difference	-10 to +10 K

TSD20

Nominal lengths	300 – 1800 mm, in increments of 1 mm
Number of slots	1, 2, 3 or 4
Minimum volume flow rate, with $\Delta t_z = -10$ K	4 l/s or 15 m <sup>3</sup> /h
Maximum volume flow rate, with $L_{WA} \approx 50$ dB(A)	360 l/s or 1297 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 programme.

TSD15-1, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø123    Ø138		Damper blade position											
					0°				45°				90°			
					D = 123		D = 138		D = 123		D = 138		D = 123		D = 138	
					$\Delta P_t$ Pa	$L_{WA}$ dB(A)	$\Delta P_t$ Pa	$L_{WA}$ dB(A)	$\Delta P_t$ Pa	$L_{WA}$ dB(A)	$\Delta P_t$ Pa	$L_{WA}$ dB(A)	$\Delta P_t$ Pa	$L_{WA}$ dB(A)	$\Delta P_t$ Pa	$L_{WA}$ dB(A)
300	3	12	1	1	2	<15	2	<15	2	<15	2	<15	2	<15	2	<15
300	11	38	1	1	20	27	20	26	22	27	21	26	25	27	23	27
300	18	64	1	1	58	41	57	40	62	41	60	40	72	41	66	41
300	25	91	1	1	115	50	114	49	123	50	119	49	142	51	131	50
400	4	16	1	1	2	<15	2	<15	2	<15	2	<15	3	<15	2	<15
400	13	48	1	1	18	27	18	27	20	28	19	27	26	28	23	27
400	22	80	1	1	50	41	50	40	57	41	54	41	71	42	63	41
400	31	112	1	1	99	50	98	49	111	50	105	49	140	51	124	50
600	7	24	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
600	18	65	1	1	16	28	15	27	20	29	18	28	30	30	24	28
600	30	107	1	1	42	41	41	40	54	42	48	41	81	43	65	42
600	41	149	1	1	82	50	80	49	104	51	93	50	156	52	126	50
800	9	31	1	1	2	<15	2	<15	3	<15	3	<15	5	<15	4	<15
800	23	82	1	1	15	29	14	28	21	29	18	28	37	31	28	29
800	37	132	1	1	38	41	37	41	55	42	47	41	96	44	73	42
800	51	182	1	1	73	50	70	49	106	51	90	50	184	52	140	51
1000	11	39	1	1	2	<15	2	<15	4	<15	3	<15	7	<15	5	<15
1000	27	97	1	1	14	29	13	28	23	30	19	29	46	32	33	30
1000	43	155	1	1	36	42	34	41	60	43	49	42	116	44	84	43
1000	59	213	1	1	68	50	64	49	113	51	92	50	219	53	159	51
1200	13	47	2	1	2	<15	2	<15	3	<15	4	<15	4	<15	7	<15
1200	33	120	2	1	13	29	15	30	17	29	24	32	25	30	45	33
1200	54	193	2	1	34	41	38	43	43	42	61	44	65	43	117	46
1200	74	266	2	1	65	50	73	52	83	51	117	53	124	52	222	55
1500	16	59	2	2	2	<15	2	<15	3	<15	3	<15	5	<15	4	<15
1500	40	143	2	2	13	29	12	29	18	30	15	29	30	31	23	30



1500	63	227	2	2	32	42	30	41	44	42	38	41	75	44	58	42
1500	86	311	2	2	60	50	57	49	83	51	72	50	140	52	108	51
1600	17	63	2	2	2	<15	2	<15	3	<15	3	<15	5	<15	4	<15
1600	42	150	2	2	12	29	12	29	18	30	15	29	31	32	24	30
1600	66	238	2	2	31	42	30	41	45	43	38	41	78	44	59	43
1600	90	326	2	2	58	50	56	49	84	51	72	50	147	52	111	51
1800	20	71	2	2	2	<15	2	<15	3	<15	3	<15	6	<15	5	<15
1800	46	165	2	2	12	30	12	29	19	31	16	30	35	32	26	31
1800	72	259	2	2	30	42	28	41	47	43	39	42	86	44	64	43
1800	98	354	2	2	56	50	53	49	87	51	72	50	160	53	119	51

## TSD15-2, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø138    Ø158		Damper blade position											
					0°				45°				90°			
					D = 138		D = 158		D = 138		D = 158		D = 138		D = 158	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	7	24	1	1	2	<15	2	<15	2	<15	2	<15	3	<15	3	<15
300	19	67	1	1	16	28	16	27	19	28	17	27	25	29	21	28
300	31	110	1	1	43	41	43	40	51	42	47	41	69	42	57	41
300	43	153	1	1	84	50	82	49	99	50	91	49	134	51	111	50
400	9	31	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
400	23	84	1	1	15	28	14	28	19	29	17	28	29	30	23	29
400	38	136	1	1	39	41	37	40	50	42	44	41	77	43	60	42
400	52	188	1	1	74	50	71	49	96	51	84	50	148	52	115	50
600	13	47	1	1	2	<15	2	<15	4	<15	3	<15	7	<15	5	<15
600	32	115	1	1	14	29	13	28	22	30	17	29	41	32	29	30
600	51	182	1	1	34	42	32	41	55	43	44	41	104	44	72	43
600	69	250	1	1	64	50	60	49	103	51	82	50	195	53	136	51
800	17	63	2	1	2	<15	2	<15	3	<15	4	<15	4	<15	7	<15
800	43	154	2	1	12	29	14	31	16	30	22	32	25	31	43	33
800	68	245	2	1	31	42	35	43	41	42	56	44	63	43	108	46
800	93	336	2	1	59	50	66	52	76	51	106	53	118	52	204	54
1000	22	78	2	1	2	<15	3	<15	3	<15	5	<15	5	<15	10	<15
1000	51	183	2	1	12	30	14	31	17	31	26	33	29	32	55	34
1000	80	288	2	1	29	42	34	43	42	43	64	45	73	44	136	47
1000	109	393	2	1	54	50	64	52	78	51	119	53	135	52	252	55
1200	26	94	2	2	2	<15	2	<15	4	<15	3	<15	7	<15	5	<15
1200	59	211	2	2	12	30	11	29	18	31	15	30	35	33	24	31
1200	91	329	2	2	28	42	26	41	45	43	36	42	85	45	59	43
1200	124	446	2	2	51	50	48	49	82	51	65	50	156	53	108	51
1500	33	118	2	2	3	<15	2	<15	5	<15	3	<15	10	<15	6	<15
1500	70	252	2	2	11	31	10	30	21	32	16	31	45	34	30	32
1500	107	386	2	2	27	42	24	41	50	44	37	42	105	45	70	43
1500	144	520	2	2	49	50	44	49	91	52	68	50	191	53	126	52
1600	35	125	2	2	3	<15	2	<15	5	<15	4	<15	11	<15	7	<15
1600	74	265	2	2	12	31	10	30	22	32	16	31	48	34	32	32
1600	112	404	2	2	27	42	24	41	52	44	38	42	113	46	74	44
1600	151	543	2	2	49	50	43	49	94	52	69	50	203	54	133	52
1800	39	141	2	2	3	<15	2	<15	6	<15	4	<15	13	15	9	<15



1800	81	290	2	2	12	31	10	30	25	33	18	31	56	35	36	33
1800	122	439	2	2	27	42	23	41	57	44	40	42	128	46	82	44
1800	163	587	2	2	48	50	42	49	101	52	73	50	230	54	147	52



## TSD15-3, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø158    Ø198		Damper blade position											
					0°				45°				90°			
					D = 158		D = 198		D = 158		D = 198		D = 158		D = 198	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	10	35	1	1	2	<15	2	<15	2	<15	2	<15	4	<15	3	<15
300	26	94	1	1	14	28	14	27	17	29	15	27	25	30	18	28
300	42	153	1	1	38	41	36	40	46	42	40	40	66	43	48	41
300	59	212	1	1	72	50	70	49	89	51	76	49	127	51	92	49
400	13	47	1	1	2	<15	2	<15	3	<15	2	<15	5	<15	3	<15
400	33	118	1	1	13	29	12	28	18	30	14	28	30	31	19	29
400	52	189	1	1	34	42	32	40	47	42	37	40	78	44	49	41
400	72	259	1	1	64	50	60	48	88	51	70	49	147	52	93	50
600	20	71	1	1	2	<15	2	<15	4	<15	3	<15	9	<15	5	<15
600	45	162	1	1	13	30	11	28	22	31	15	29	45	33	24	30
600	70	253	1	1	31	42	27	40	54	43	36	41	109	45	58	42
600	95	344	1	1	57	50	50	48	99	51	67	49	201	53	108	50
800	26	94	2	1	2	<15	2	<15	3	<15	4	<15	5	<15	7	<15
800	60	217	2	1	11	30	12	31	15	31	19	32	26	32	35	33
800	95	340	2	1	28	42	30	43	38	43	46	44	63	44	87	45
800	129	463	2	1	51	50	55	51	71	51	86	52	117	52	161	54
1000	33	118	2	1	2	<15	2	<15	3	<15	4	<15	6	<15	9	<15
1000	72	259	2	1	11	30	12	31	17	31	22	33	31	33	45	34
1000	111	400	2	1	26	42	29	43	40	43	52	44	75	44	108	46
1000	150	541	2	1	48	50	52	51	74	51	95	52	137	53	198	54
1200	39	141	2	1	2	<15	3	<15	4	<15	6	<15	9	<15	13	<15
1200	83	299	2	1	11	31	12	32	19	32	25	33	38	34	57	35
1200	127	456	2	1	25	42	29	43	44	43	59	45	89	45	132	47
1200	171	614	2	1	46	50	52	51	79	51	106	53	161	53	239	55
1500	49	176	2	2	3	<15	2	<15	5	<15	3	<15	12	16	6	<15
1500	99	356	2	2	11	31	9	30	22	33	14	30	50	35	25	32
1500	149	535	2	2	25	42	20	40	50	44	31	41	112	46	56	43
1500	198	714	2	2	44	50	36	48	90	52	55	49	200	54	99	51
1600	52	188	-	2	-	-	2	<15	-	-	4	<15	-	-	7	<15
1600	109	392	-	2	-	-	10	31	-	-	15	32	-	-	29	33
1600	166	596	-	2	-	-	23	42	-	-	36	43	-	-	67	45
1600	222	800	-	2	-	-	41	50	-	-	64	51	-	-	120	53
1800	59	212	-	2	-	-	2	<15	-	-	4	<15	-	-	8	<15
1800	120	430	-	2	-	-	10	31	-	-	16	32	-	-	33	34
1800	180	649	-	2	-	-	22	42	-	-	38	43	-	-	74	45
1800	241	868	-	2	-	-	40	50	-	-	67	51	-	-	133	53





## TSD15-4, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø198    Ø248		Damper blade position											
					0°				45°				90°			
					D = 198		D = 248		D = 198		D = 248		D = 198		D = 248	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	13	47	1	1	2	<15	2	<15	2	<15	2	<15	3	<15	2	<15
300	34	123	1	1	14	29	13	27	16	29	14	27	21	30	16	28
300	55	199	1	1	35	41	34	40	41	42	37	40	55	43	42	41
300	76	275	1	1	67	50	66	49	78	50	70	49	105	51	81	49
400	17	63	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
400	43	154	1	1	12	29	12	28	16	30	13	28	24	31	17	29
400	68	246	1	1	31	42	30	40	40	42	33	40	61	43	42	41
400	94	337	1	1	59	50	56	49	76	51	63	49	116	52	79	49
600	26	94	1	1	2	<15	2	<15	4	<15	3	<15	7	<15	4	<15
600	59	212	1	1	11	30	10	29	18	31	13	29	34	33	19	30
600	92	330	1	1	28	42	25	40	44	43	31	41	82	44	47	42
600	124	448	1	1	51	50	46	48	80	51	58	49	151	53	87	50
800	35	125	1	1	3	<15	2	<15	5	<15	3	<15	10	<15	5	<15
800	74	265	1	1	11	31	10	29	22	32	14	30	46	34	24	31
800	113	405	1	1	27	42	23	40	51	44	32	41	108	45	56	42
800	152	545	1	1	48	50	41	48	91	52	58	49	196	53	101	50
1000	44	157	2	1	2	<15	2	<15	3	<15	4	<15	5	<15	7	<15
1000	94	339	2	1	10	31	11	31	14	31	18	33	24	33	34	34
1000	145	522	2	1	24	42	26	43	34	43	42	44	58	44	81	46
1000	196	705	2	1	43	50	47	51	61	51	76	52	105	52	147	54
1200	52	188	2	1	2	<15	2	<15	4	<15	5	<15	7	<15	10	15
1200	109	392	2	1	10	31	11	32	15	32	20	33	29	33	42	35
1200	166	596	2	1	23	42	25	43	36	43	46	45	67	45	97	46
1200	222	800	2	1	41	50	45	51	64	51	83	52	120	53	174	54
1500	65	235	2	2	2	<15	2	<15	4	<15	3	<15	9	16	5	<15
1500	130	468	2	2	10	32	8	30	18	33	12	31	37	35	19	32
1500	195	700	2	2	22	42	19	41	40	44	26	41	83	45	44	43
1500	259	933	2	2	39	50	33	48	70	51	46	49	147	53	77	50
1600	70	251	2	2	3	<15	2	<15	5	15	3	<15	10	17	5	<15
1600	137	492	2	2	10	32	8	30	19	33	12	31	40	35	20	32
1600	204	733	2	2	22	42	18	41	41	44	26	42	89	46	46	43
1600	271	974	2	2	39	50	33	48	73	52	47	49	156	53	80	50
1800	78	282	2	2	3	<15	2	<15	6	16	3	<15	13	18	6	15
1800	150	540	2	2	10	32	8	30	21	34	12	31	46	36	23	33
1800	221	797	2	2	22	43	18	41	45	44	27	42	101	46	50	43
1800	293	1055	2	2	38	50	31	48	79	52	48	49	176	54	87	51



## TSD20-1, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø123    Ø158		Damper blade position											
					0°				45°				90°			
					D = 123		D = 158		D = 123		D = 158		D = 123		D = 158	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	4	15	1	1	2	<15	2	<15	2	<15	2	<15	3	<15	2	<15
300	12	42	1	1	16	28	16	26	18	28	17	26	23	28	18	26
300	19	69	1	1	44	41	43	39	49	41	45	39	62	42	49	40
300	27	96	1	1	84	50	82	48	95	50	86	48	119	51	95	48
400	6	21	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
400	15	53	1	1	15	28	14	26	18	29	16	27	26	29	18	27
400	24	86	1	1	39	41	38	39	47	42	41	40	67	42	48	40
400	33	119	1	1	74	50	72	48	90	50	77	48	128	51	91	49
600	9	31	1	1	2	<15	2	<15	3	<15	3	<15	6	<15	4	<15
600	21	74	1	1	14	29	13	27	20	30	15	27	34	31	20	28
600	32	117	1	1	34	41	32	40	50	42	37	40	86	43	50	40
600	44	160	1	1	64	50	59	48	93	51	70	48	161	52	94	49
800	11	41	1	1	3	<15	2	<15	5	<15	3	<15	9	<15	5	<15
800	26	93	1	1	14	30	12	28	23	31	15	28	46	32	24	29
800	40	145	1	1	33	42	28	40	56	43	37	40	112	44	57	41
800	55	196	1	1	60	50	52	48	103	51	68	48	206	52	106	49
1000	14	52	1	1	3	<15	2	<15	6	<15	4	<15	13	<15	6	<15
1000	31	111	1	1	14	30	11	28	28	31	16	29	60	33	28	30
1000	47	170	1	1	33	42	26	40	65	43	38	40	142	45	67	41
1000	64	230	1	1	59	50	48	48	118	51	70	49	258	53	121	50
1200	17	62	2	1	2	<15	3	<15	3	<15	4	<15	6	<15	8	<15
1200	38	138	2	1	12	30	13	31	17	30	21	31	30	31	39	33
1200	60	215	2	1	29	42	31	42	42	42	50	43	73	43	95	45
1200	81	291	2	1	54	50	57	51	77	51	92	52	134	52	174	53
1500	21	77	2	1	3	<15	3	<15	4	<15	5	<15	8	<15	11	<15
1500	46	165	2	1	12	30	13	31	20	31	24	32	38	32	51	34
1500	70	254	2	1	28	42	30	43	46	43	57	44	89	44	120	45
1500	95	342	2	1	51	50	55	51	83	51	103	52	161	52	217	53
1600	23	82	2	2	3	<15	2	<15	5	<15	3	<15	9	<15	5	<15
1600	48	174	2	2	12	30	10	28	20	31	13	29	41	33	21	30
1600	74	266	2	2	28	42	24	40	47	43	31	40	94	44	49	41
1600	99	358	2	2	50	50	43	48	86	51	57	48	171	52	88	49
1800	26	93	2	2	3	<15	2	<15	5	<15	3	<15	11	<15	5	<15
1800	53	191	2	2	12	31	10	29	22	32	14	29	47	33	23	30
1800	81	290	2	2	28	42	23	40	51	43	32	41	107	45	52	42
1800	108	389	2	2	50	50	42	48	92	51	57	49	192	53	94	49



## TSD20-2, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø158    Ø198		Damper blade position											
					0°				45°				90°			
					D = 158		D = 198		D = 158		D = 198		D = 158		D = 198	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	9	31	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
300	22	78	1	1	14	28	14	27	16	29	15	27	22	29	17	27
300	35	124	1	1	36	41	35	40	42	42	37	40	57	42	43	40
300	48	171	1	1	68	50	66	48	80	50	71	49	108	51	82	49
400	11	41	1	1	2	<15	2	<15	3	<15	2	<15	5	<15	3	<15
400	27	98	1	1	13	29	12	27	17	30	14	28	26	30	18	28
400	43	155	1	1	32	41	31	40	42	42	35	40	65	43	44	41
400	59	211	1	1	60	50	57	48	79	50	65	49	122	51	82	49
600	17	62	1	1	3	<15	2	<15	4	<15	3	<15	8	<15	4	<15
600	38	136	1	1	12	30	11	28	20	31	14	29	38	32	21	29
600	58	209	1	1	29	42	26	40	47	43	33	40	90	44	51	41
600	79	283	1	1	54	50	48	48	87	51	61	49	165	52	93	49
800	23	82	2	1	2	<15	2	<15	3	<15	4	<15	5	<15	6	<15
800	51	183	2	1	11	30	12	31	15	30	18	31	23	31	31	33
800	79	284	2	1	27	42	29	43	36	42	42	43	55	43	74	44
800	107	385	2	1	50	50	53	51	65	50	78	52	102	51	136	53
1000	29	103	2	1	2	<15	3	<15	4	<15	4	<15	6	<15	9	<15
1000	61	220	2	1	11	30	12	31	16	31	20	32	28	32	39	34
1000	93	336	2	1	26	42	28	43	37	43	47	44	65	44	91	45
1000	126	453	2	1	47	50	51	51	68	51	85	52	118	52	166	53
1200	34	124	2	1	3	<15	3	<15	4	<15	5	<15	8	<15	11	<15
1200	71	254	2	1	11	31	12	32	17	32	23	33	33	33	48	34
1200	107	385	2	1	25	42	28	43	40	43	52	44	76	44	111	46
1200	143	516	2	1	45	50	50	51	72	51	94	52	137	52	199	54
1500	43	155	2	2	3	<15	2	<15	5	<15	3	<15	11	15	6	<15
1500	85	305	2	2	11	31	9	29	20	33	13	30	43	34	22	31
1500	126	455	2	2	24	42	21	40	46	43	29	41	96	45	50	42
1500	168	605	2	2	43	50	37	48	81	51	52	49	170	53	88	50
1600	46	165	2	2	3	<15	2	<15	6	<15	4	<15	12	16	6	<15
1600	89	321	2	2	11	32	9	30	22	33	13	30	47	34	24	31
1600	132	477	2	2	25	42	20	40	48	44	30	41	103	45	52	42
1600	176	633	2	2	43	50	36	48	84	51	52	49	182	53	92	50
1800	52	185	-	2	-	-	3	<15	-	-	4	<15	-	-	7	<15
1800	103	370	-	2	-	-	10	31	-	-	16	32	-	-	29	33
1800	154	554	-	2	-	-	23	42	-	-	35	43	-	-	66	44
1800	205	738	-	2	-	-	40	50	-	-	63	51	-	-	117	52

**TSD20-3, supply air, one-way horizontal air discharge, sound power level and total differential pressure**

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø198    Ø248		Damper blade position											
					0°				45°				90°			
					D = 198		D = 248		D = 198		D = 248		D = 198		D = 248	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	13	46	1	1	2	<15	2	<15	3	<15	2	<15	3	<15	3	<15
300	31	112	1	1	13	29	13	27	15	29	13	27	20	30	15	28
300	50	179	1	1	33	41	32	40	38	42	34	40	51	42	39	40
300	68	245	1	1	61	50	60	48	71	50	64	49	95	51	73	49
400	17	62	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
400	39	142	1	1	12	29	11	28	15	30	13	28	23	31	16	28
400	62	222	1	1	29	42	28	40	38	42	31	40	57	43	39	41
400	84	302	1	1	55	50	52	48	70	50	58	49	106	51	73	49
600	26	93	1	1	3	<15	2	<15	4	<15	3	<15	7	<15	4	<15
600	55	197	1	1	11	30	10	29	18	31	13	29	33	32	19	30
600	84	301	1	1	27	42	24	40	42	43	30	41	77	44	45	41
600	112	405	1	1	48	50	43	48	75	51	54	49	140	52	81	49
800	34	124	1	1	3	<15	2	<15	5	<15	3	<15	11	<15	6	<15
800	69	248	1	1	12	31	10	29	22	32	14	30	46	34	24	31
800	103	372	1	1	26	42	22	40	49	43	31	41	104	45	53	42
800	138	497	1	1	46	50	39	48	87	51	55	49	185	53	95	50
1000	43	155	2	1	2	<15	3	<15	3	<15	4	<15	6	<15	8	<15
1000	89	319	2	1	10	31	11	32	14	31	18	33	24	32	34	34
1000	134	483	2	1	23	42	25	43	33	43	41	44	56	44	79	45
1000	180	647	2	1	42	50	45	51	59	51	74	52	101	52	141	53
1200	52	185	2	1	3	<15	3	<15	4	<15	5	<15	7	<15	11	16
1200	103	370	2	1	10	31	11	32	16	32	20	33	29	33	42	35
1200	154	554	2	1	23	42	25	43	35	43	46	44	66	44	95	46
1200	205	738	2	1	40	50	44	51	63	51	81	52	117	52	169	54
1500	64	232	2	2	3	<15	2	<15	5	15	3	<15	10	17	5	<15
1500	123	443	2	2	10	32	9	30	18	33	12	31	38	34	20	32
1500	182	654	2	2	22	42	19	41	40	43	26	41	82	45	43	42
1500	240	865	2	2	39	50	33	48	70	51	46	49	144	52	76	50
1600	69	247	2	2	3	<15	2	<15	5	16	3	<15	11	17	6	<15
1600	130	467	2	2	10	32	9	30	19	33	12	31	41	35	21	32
1600	191	686	2	2	22	42	19	41	42	44	26	41	88	45	45	42
1600	252	906	2	2	38	50	32	48	72	51	46	49	154	53	79	50
1800	77	278	2	2	3	16	2	<15	6	17	4	<15	14	19	7	16
1800	143	513	2	2	10	32	8	30	21	34	13	31	47	35	24	32
1800	208	749	2	2	22	43	18	41	45	44	27	41	101	45	50	43
1800	273	984	2	2	38	50	31	48	78	51	47	49	174	53	86	50



## TSD20-4, supply air, one-way horizontal air discharge, sound power level and total differential pressure

Nominal lengths	q <sub>v</sub> l/s	q <sub>v</sub> m <sup>3</sup> /hr	Spigot Qty. Ø248    Ø313		Damper blade position											
					0°				45°				90°			
					D = 248		D = 313		D = 248		D = 313		D = 248		D = 313	
					ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)	ΔPt Pa	LWA dB(A)
300	17	62	1	-	2	<15	-	-	2	<15	-	-	3	<15	-	-
300	41	148	1	-	12	29	-	-	14	29	-	-	17	30	-	-
300	65	234	1	-	31	41	-	-	35	42	-	-	44	42	-	-
300	89	321	1	-	59	50	-	-	65	50	-	-	82	51	-	-
400	23	82	1	1	2	<15	2	<15	3	<15	2	<15	4	<15	3	<15
400	52	187	1	1	11	30	11	28	14	30	12	28	19	31	14	28
400	81	292	1	1	28	42	27	40	34	42	29	40	47	43	35	40
400	110	396	1	1	52	50	50	48	62	50	54	48	87	51	64	49
600	34	124	1	1	2	<15	2	<15	3	<15	3	<15	6	<15	4	<15
600	72	260	1	1	11	30	10	29	15	31	12	29	26	32	16	30
600	110	396	1	1	25	42	23	40	35	43	27	41	60	44	37	41
600	148	532	1	1	45	50	41	48	64	51	49	49	109	52	67	49
800	46	165	1	1	3	<15	2	<15	4	<15	3	<15	9	<15	5	<15
800	91	328	1	1	10	31	9	29	18	32	12	30	35	33	19	31
800	136	491	1	1	23	42	21	40	40	43	27	41	79	44	42	42
800	182	654	1	1	42	50	36	48	71	51	48	49	139	52	75	49
1000	57	206	1	1	3	<15	2	<15	6	16	4	<15	13	17	6	<15
1000	109	393	1	1	11	32	9	30	21	33	13	31	46	35	23	32
1000	161	579	1	1	23	42	19	40	46	44	28	41	100	45	49	42
1000	213	766	1	1	41	50	34	48	80	51	49	49	175	53	86	50
1200	69	247	2	1	2	<15	3	<15	3	<15	4	<15	6	<15	8	16
1200	136	488	2	1	9	31	10	32	13	32	16	33	23	33	32	34
1200	203	729	2	1	21	42	22	43	30	43	37	44	51	44	70	45
1200	270	970	2	1	37	50	40	51	53	51	65	52	91	52	124	53
1500	86	309	2	1	3	<15	3	15	4	15	5	17	8	17	11	18
1500	163	586	2	1	9	32	10	33	15	33	19	34	29	34	41	36
1500	240	862	2	1	20	42	22	43	33	43	42	45	63	45	89	46
1500	316	1139	2	1	35	50	39	51	57	51	73	52	109	52	156	54
1600	92	330	2	2	3	15	2	<15	4	16	3	<15	9	17	5	<15
1600	172	617	2	2	9	32	8	30	16	33	11	31	31	34	17	32
1600	251	905	2	2	20	42	17	41	34	43	23	41	67	45	36	42
1600	331	1193	2	2	35	50	30	48	59	51	40	49	116	52	62	49
1800	103	371	2	2	3	16	2	<15	5	17	3	<15	11	19	5	16
1800	189	679	2	2	9	32	8	30	17	34	11	31	36	35	18	32
1800	274	988	2	2	20	43	17	41	36	44	23	41	76	45	39	42
1800	360	1297	2	2	34	50	29	48	62	51	40	49	130	53	67	50

## 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 TSD, with 15 or 20mm nominal slot width, individually manually adjustable air control blades and 1, 2, 3 or 4 slot configuration. Factory fitted with manually adjustable air control blades. The diffuser can be supplied with continuous air control blades for one-way horizontal airflow or vertical airflow or blades made up of 300mm sections for alternating horizontal airflow to provide additional control to meet different local requirements. 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 a choice of black or white air control blades. TSD-AKV plenum boxes have 1 or 2 spigots with side entry or top entry connection. The plenum boxes are fitted with 4 suspension lugs with optional 12mm internal lining. Side entry spigots can be fitted with optional spigot mounted damper for volume flow rate balancing. 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 increases comfort and reduces noise level
- Horizontal, or vertical air discharge by means of manually adjustable air control blades
- Comfortable indoor climate due to high induction and rapid reduction of temperature differences and airflow velocities
- High-quality look thanks to extruded aluminium sections with RAL CLASSIC polyester powder coating
- Diffuser face has been optimised for maximum volume flow rate at low sound power levels and low pressure
- Suitable for continuous linear arrangement

### Construction

Diffuser face finish

- P3: Powder-coated RAL 9010, pure white, gloss level 20%
- P2: Powder-coated RAL 9006, white aluminium, gloss level 30%

- P4: Powder-coated RAL 9005, black gloss level 20%
- P6: Powder-coated in any other RAL CLASSIC colour, gloss level 30%

### Materials and surfaces

- TSD diffuser face and continuous air control blades made from extruded aluminium profiles
- TSD 300mm blade sections made from ABS
- End plates made of galvanised sheet steel
- End angles made of aluminium
- TSD-AKV: Plenum box made of galvanised sheet steel, natural finish galv
- TSD-RA: Return air baffle made of galvanised sheet steel, powder-coat RAL 9005, black
- Optional internal lining is 12 mm acoustic foam, Class 0 rated
- Diffuser face with polyester powder-coat finish, RAL 9010, pure white, gloss level 20%
- P6: Powder-coated, RAL CLASSIC colour, gloss level 30%B:
- Air control elements similar to RAL 9005, black
- W: Air control elements similar to RAL 9010, white

### Technical data

- Nominal length: 300 – 1800 mm, in increments of 1mm
- Number of slots: 1, 2, 3 or 4
- Minimum volume flow rate, with  $\Delta t_z = -10$  K: 3 l/s or 12 m<sup>3</sup>/h
- Maximum volume flow rate, with  $L_{WA} \cong 50$  dB(A): 360 l/s or 1296 m<sup>3</sup>/h
- Supply air to room air temperature difference: -10 to +10 K

### Sizing data

- $q_v$  \_\_\_\_\_ [l/s, m<sup>3</sup>/h]
- $\Delta p_t$  \_\_\_\_\_ [Pa]

Air-regenerated noise

- $L_{WA}$  \_\_\_\_\_ [dB(A)]

Order code

TSD - 20 - 3 - 0 - B - FL - A2 / 1800 / S11 / P6 - 9016:30%  
 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

**1 Type**

**TSD** TSD slot diffuser

**2 Slot width**

**15** 15mm slot diffuser

**20** 20mm slot diffuser

**3 Number of slots**

**1** 1 slot

**2** 2 slots

**3** 3 slots

**4** 4 slots

**4 Airflow type**

**No entry:** alternating horizontal\*

**0** Blades in one position

\* TSD20 only

**5 Diffuser style**

**B** Black blades

**W** White blades

**6 Border style**

**FL** Flanged

**NF** No flange

**P** Plaster-in

**PL** Plank (TSD20-3 / 4 only)

**7 End cap**

**0** Without

**Ax** Angle (border style FL only)

**Px** Plate (border style NF, P only)

**Lx** Offset angle (border style NF only)

**PL2** Plank (border style PL only)

'x': quantity required 1 or 2

**8 Nominal diffuser length (mm)**

**Single diffuser**

**Min:** 300mm / **Max:** 1800mm

**Linear diffuser**

**Min:** 1801 mm / **Max:** 3600mm

Linear diffuser: 2 x equal length end sections

**Min:** 3601 mm / **Max:** n/a

Linear diffuser: 'n' x 1800mm middle sections + 2 x equal length end sections

**9 Fixings**

**0** No fixings (border style P only)

**SB** With support bracket for diffuser installation without plenum box (border style FL, NF, PL only)

**GP** With goal-post bracket for diffuser installation without plenum box (border style FL, NF only)

**S11** Concealed fixing for use with TSD-AKV & RA plenum boxes (border style FL, NF, PL only). Includes 1x GP (border style FL, NF) or 2x SB (border style PL)

**10 Finish**

**P2** Powder-coat RAL 9006, Gloss level 30%

**P3** Powder-coat RAL 9010, Gloss level 20%

**P4** Powder-coat RAL 9005, Gloss level 20%

**P6** Powder-coat RAL CLASSIC, Gloss level 30%

**Order example: TSD20-2-0-B-FL-A2 / 1200 / S11 / P6 - 9003:30%**

<b>TSD slot type</b>	TSD20 (20mm nominal slot width)
<b>Number of slots</b>	2
<b>Airflow type</b>	One-way air discharge (Continuous blade)
<b>Diffuser style</b>	Black blades
<b>Border style</b>	Flanged border
<b>End cap</b>	Angle ends (2 off)
<b>Nominal diffuser length</b>	1200mm
<b>Fixings</b>	Concealed fixings and goal-post fixings
<b>Finish</b>	RAL 9003:30%

**Order example: TSD15-3-0-W-P-P2 / 4200 / 0/ P3 - 9010:20%**

<b>TSD slot type</b>	TSD15 (15mm nominal slot width)
<b>Number of slots</b>	3
<b>Airflow type</b>	One-way air discharge (Continuous blade)
<b>Diffuser style</b>	White blades
<b>Border style</b>	Plaster-in border
<b>End cap</b>	Plate (2 off)
<b>Nominal diffuser length</b>	1x 1800mm middle and 2x 1200mm end sections
<b>Fixings</b>	No fixings
<b>Finish</b>	RAL 9010:20%

**TSD mitred corner section**

**TSD-CS - 20 - 2 - 0 - B - FL / 90 / GP / P6 - 9016:30%**  
 |            |            |            |            |            |            |            |            |  
**1            2            3            4            5            6            7            8            9**

**1 Type**
**TSDCS** TSD mitred corner section

**2 Slot width**
**15** 15mm slot diffuser

**20** 20mm slot diffuser

**3 Number of slots**
**1** 1 slot

**2** 2 slots

**3** 3 slots

**4** 4 slots

**4 Airflow type**
**0** Blades in one direction

**5 Diffuser style**
**B** Black blades

**W** White blades

**6 Border style**
**FL** Flanged

**NF** No flange

**P** Plaster-in

**Order example: TSD-CS-20-2-0-B-FL/78/GP/P6-9003:30%**

<b>TSD slot type</b>	TSD20 (20mm nominal slot width)
<b>Number of slots</b>	2
<b>Airflow type</b>	One-way air discharge (Continuous blade)
<b>Diffuser style</b>	Black blades
<b>Border style</b>	Flanged border
<b>Nominal diffuser length</b>	78°
<b>Fixings</b>	Goal-post fixings
<b>Finish</b>	RAL 9003:30%

**7 Angle**
**90°** Standard

**135°** Standard

**68...179** Angle between 68°...179° in 1° increments. Inside leg length = 200mm

**8 Fixings**
**0** No fixings (border style P only)

**SB** With support bracket for diffuser installation without plenum box (border style FL, NF only)

**GP** With goal-post bracket for diffuser installation without plenum box (border style FL, NF only)

**9 Finish**
**P2** Powder-coat RAL 9006, Gloss level 30%

**P3** Powder-coat RAL 9010, Gloss level 20%

**P4** Powder-coat RAL 9005, Gloss level 20%

**P6** Powder-coat RAL CLASSIC, Gloss level 30%



**TSD-AKV, plenum box**

TSD-AKV - 20 - 3 - 0 - ZH - D12 - M / 1800 × 248 × 1 × 0  
 | | | | | | | | | | |  
 1 2 3 4 5 6 7 8 9 10 11

**1 Type**

**TSD-AKV** Plenum (variable)

**2 Slot width**

**15** 15mm slot diffuser  
**20** 20mm slot diffuser

**3 Number of slots**

**1** 1 slot  
**2** 2 slots  
**3** 3 slots  
**4** 4 slots

**4 Plenum type**

**0** Standard

**5 Construction**

**ZH** Horizontal (supply)  
**AH** Horizontal (extract)  
**ZV** Vertical (supply)  
**AV** Vertical (extract)

**6 Internal lining**

**0** Unlined  
**D12** 12mm lining

**7 Damper**

**0** Without  
**M** Perforated spigot damper with lever (ZH, AH only)  
**MC** Cord operated spigot damper (ZH/AH only)

**8 Plenum length (mm)**

**Min:** 300mm / **Max:** 1800mm

**9 Spigot size**

for additional information see section "Order Code - Extras"

**10 Spigot quantity**

for additional information see section "Order Code - Extras"

**11 Extension height [mm]**

**0** No extension  
**Min:** 0mm  
**Max:** 350mm

**12 Assembled height [mm]**

**Assembled height =** ØD + 122mm + extension height

**Order example: TSD-AKV-20-2-0-ZH-D12-M/1200x198x1x30x350**

Type	Plenum box (variable)
Slot width	20
Number of slots	2
Plenum type	Standard
Construction	Horizontal (supply)
Internal lining	12mm foam lining
Spigot damper	Perforated spigot damper
Nomial length	1200mm
Spigot size	Ø198mm
Spigot quantity	1
Plenum extension height	30mm
Assembled height	350mm

TSD-RA - 20 - 3 - D12 / 1000 / P4 - 9005:20%  
| | | | | |  
1 2 3 4 5 6

**1 Type**

TSD-RA Return air baffle

**2 Slot width**

15 15mm slot diffuser

20 20mm slot diffuser

**3 Number of slots**

1 1 slot

2 2 slots

3 3 slots

4 4 slots

**4 Internal Lining**

0 Unlined

D12 12mm lining

**5 Plenum length [mm]**

Min: 300mm / Max: 1800mm

**6 Finish**

P4 RAL 9005 Gloss level:20%

TSD-BP - 20 - 3 - D12 / 1000 / P4 - 9005:20%  
| | | | | |  
1 2 3 4 5 6

**1 Type**

TSD-BP

**2 Slot width**

15 15mm slot diffuser

20 20mm slot diffuser

**3 Number of slots**

1 1 slot

2 2 slots

3 3 slots

4 4 slots

**4 Internal Lining**

0 Unlined

D12 12mm lining

**5 Nominal length [mm]**

1000 (standard)

**6 Finish**

0 unpainted (natural galvanised finish)

P2 RAL 9006 Gloss level:30%

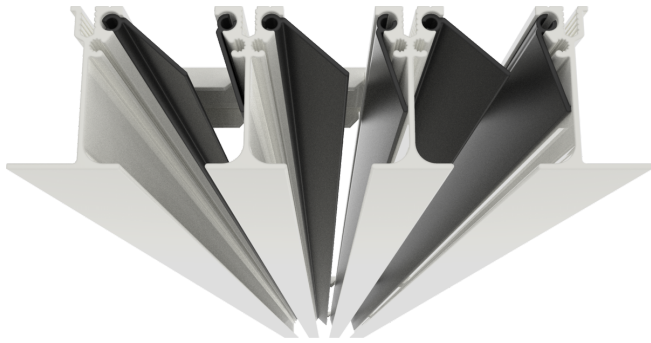
P3 RAL 9010 Gloss level:20% (standard finish)

P4 RAL 9005 Gloss level:20%

P6 Powder-coated RAL CLASSIC colour, Gloss level 30%

## Variants

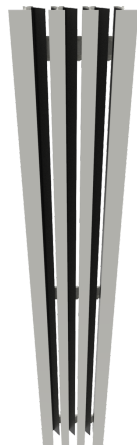
TSD\*\*-3-0-B-FL\*-/P3



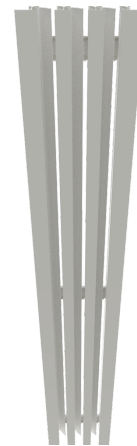
TSD\*\*-3-0-W-FL\*-/P3



Diffuser face with black air control blades



Diffuser face with white air control blades



TSD mitred corner section



ZH/AH side entry plenum box



Plenum box with side entry connection

ZV/AV top entry plenum box



Plenum box with top entry connection

## Order Code - Extras

## 9 Spigot size

Slot quantity	TSD15
1 slot:	ZH/AH: Ø123, Ø138, ZV/AV: Ø98
2 slot:	ZH/AH: Ø138, Ø158, ZV/AV: Ø138
3 slot:	ZH/AH: Ø158, Ø198, ZV/AV: Ø158
4 slot:	ZH/AH: Ø198, Ø248, ZV/AV: Ø198

Slot quantity	TSD20
1 slot:	ZH/AH: Ø123, Ø158, ZV/AV: Ø123
2 slot:	ZH/AH: Ø158, Ø198, ZV/AV: Ø158
3 slot:	ZH/AH: Ø198, Ø248, ZV/AV: Ø198
4 slot:	ZH/AH: Ø248, Ø313, ZA/AV: Ø248

## 10 Spigot quantity

## TSD15

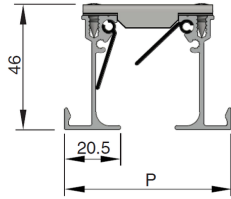
TSD15	ZH/AH	ZV/AV
1 slot:	1xØ123 (300-1100), 2xØ123 (1101-1800)	1x Ø98 (300 - 1000), 2x Ø98 (1001 - 1800)
2 slot:	1xØ138 (300-800), 2xØ138 (801-1800)	1x Ø138 (300 - 800), 2x Ø138 (801 - 1800)
3 slot:	1xØ158 (300-800), 2xØ158 (801-1500)	1x Ø158 (300 - 800), 2x Ø158 (801 - 1500)
4 slot:	1xØ198 (300-900), 2xØ198 (901-1500)	1x Ø198 (300 - 900), 2x Ø198 (901 - 1500)

## TSD20

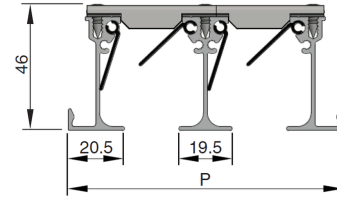
TSD20	ZH/AH	ZV/AV
1 slot:	1xØ123 (300-1000), 2xØ123 (1001-1800)	1x Ø123 (300 - 1000), 2x Ø123 (1001 - 1800)
2 slot:	1xØ158 (300-700), 2xØ158 (701-1600)	1x Ø158 (300 - 700), 2x Ø158 (701 - 1600)
3 slot:	1xØ198 (300-900), 2xØ198 (901-1800)	1x Ø198 (300 - 900), 2x Ø198 (901 - 1800)
4 slot:	1xØ248 (300-1000), 2xØ248 (1001-1800)	1x Ø248 (300 - 1000), 2x Ø248 (1001 - 1800)

Dimensions

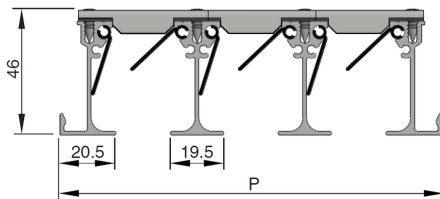
TSD\*\*-1-NF



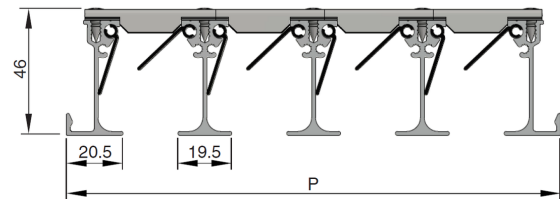
TSD\*\*-2-NF



TSD\*\*-3-NF

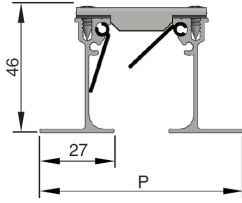


TSD\*\*-4-NF

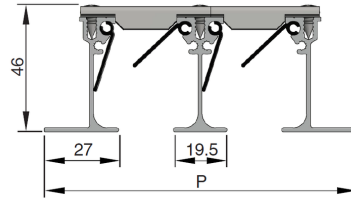


	P [mm]			
	1 slot	2 slots	3 slots	4 slots
TSD15	56	90,5	125	159,5
TSD20	61	100,5	140	179,5

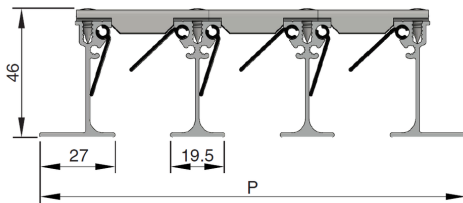
TSD\*\*-1-FL



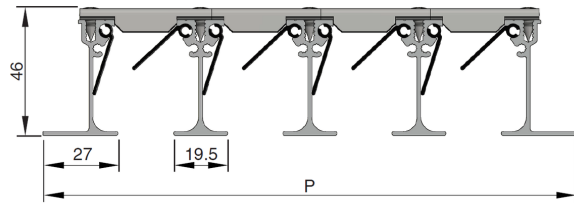
TSD\*\*-2-FL



TSD\*\*-3-FL

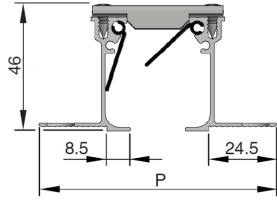


TSD\*\*-4-FL

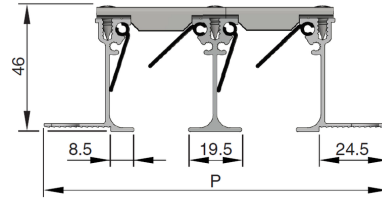


	P [mm]			
	1 slot	2 slots	3 slots	4 slots
TSD15	69	103,5	138	172,5
TSD20	74	113,5	153	192,5

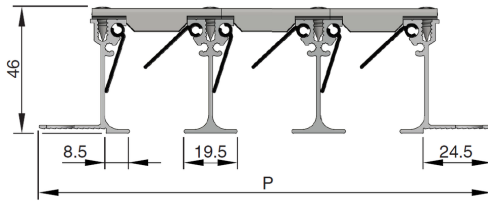
TSD\*\*-1-P



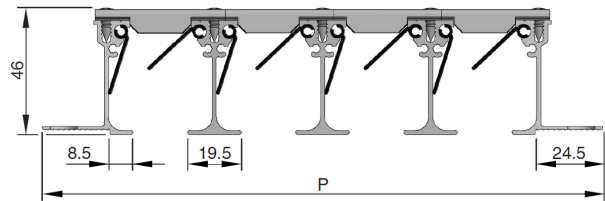
TSD\*\*-2-P



TSD\*\*-3-P



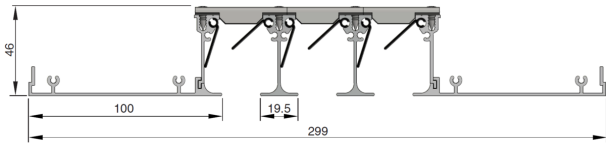
TSD\*\*-4-P



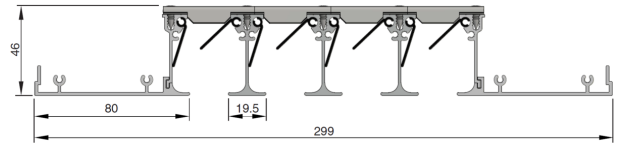
	P [mm]			
	1 slot	2 slots	3 slots	4 slots
TSD15	81	115,5	150	184,5
TSD20	86	125,5	165	204,5



TSD20-3-PL

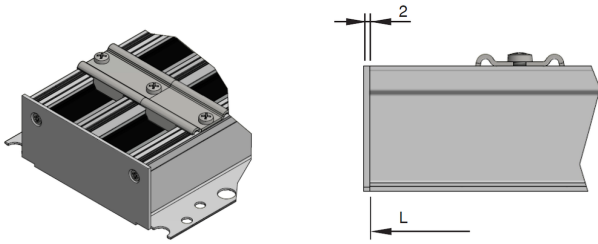


TSD20-4-PL

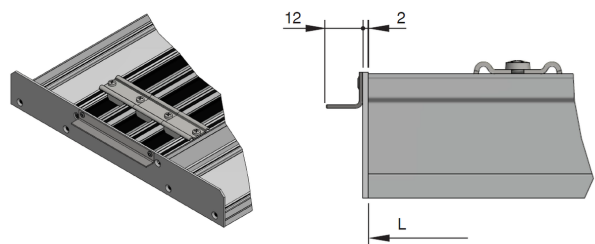


		P [mm]	
		3 slots	4 slots
TSD20		299	299

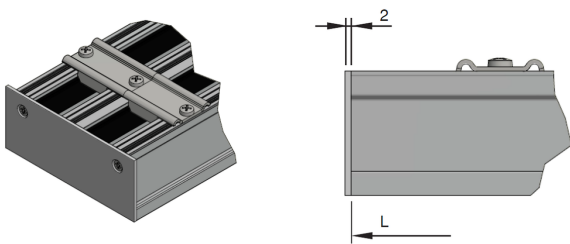
End Plate TSDxx-P-Px



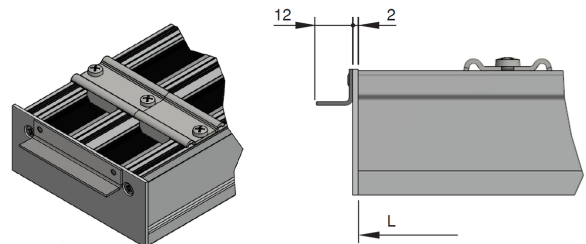
End Plate TSD20-PL-PL2



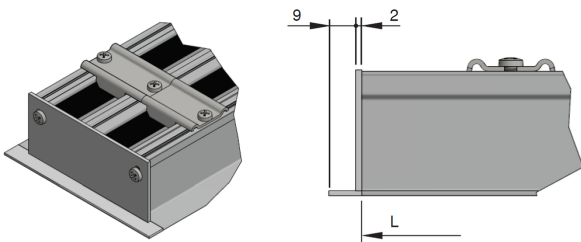
End Plate TSDxx-NF-Px



End Plate TSDxx-NF-Lx

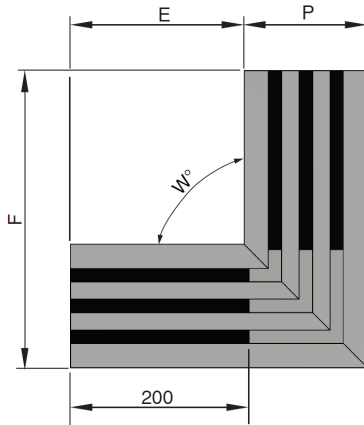


End Angle TSDxx-FL-Ax



Slot Width	Border type	Ceiling Opening Size [mm]					Length
		Width					
		1	2	3	4		
TSD15	FL	57.5	92	126.5	161	L + 8.0	
TSD15	NF	57.5	92	126.5	161	L + 5.5	
TSD15	P	57.5	92	126.5	161	L + 5.5	
TSD20	FL	62.5	102	141.5	181	L + 8.0	
TSD20	NF	62.5	102	141.5	181	L + 5.5	
TSD20	P	62.5	102	141.5	181	L + 5.5	
TSD20	PL	-	-	300	300	L + 5.5	

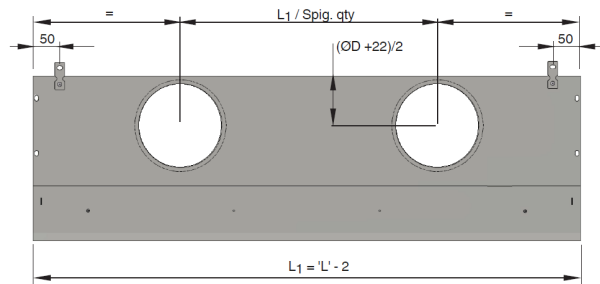
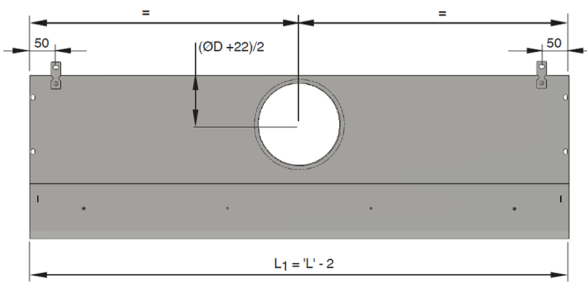
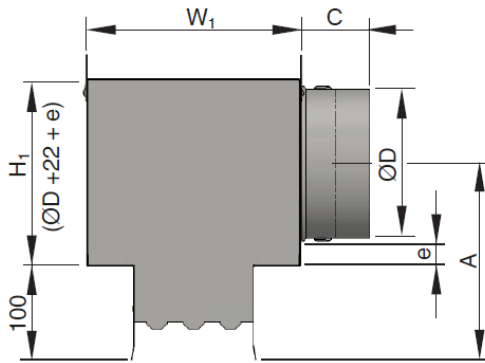
Mitred Corner



For dimension 'P', please refer to diffuser dimension pages.

TSD Type	Angle	Border type					
	W (°)	FL		NF		P	
		E	F	E	F	E	F
		mm	mm	mm	mm	mm	mm
TSD15-1	90	194.25	263.3	200.75	256.8	188.25	269.3
	135	197.62	226.2	200.3	223.5	195.13	228.7
TSD15-2	90	194.25	297.8	200.75	291.3	188.25	303.8
	135	197.62	240.5	200.3	237.8	195.13	243
TSD15-3	90	194.25	332.3	200.75	325.8	188.25	338.3
	135	197.62	254.8	200.3	252.1	195.13	257.3
TSD15-4	90	194.25	366.8	200.75	360.3	188.25	372.8
	135	197.62	269.1	200.3	266.4	195.13	271.6
TSD20-1	90	194.25	268.3	200.75	261.8	188.25	274.3
	135	197.62	228.3	200.3	225.6	195.13	230.8
TSD20-2	90	194.25	307.8	200.75	301.3	188.25	313.8
	135	197.62	244.6	200.3	241.9	195.13	247.1
TSD20-3	90	194.25	347.3	200.75	340.8	188.25	353.3
	135	197.62	261	200.3	258.3	195.13	263.5
TSD20-4	90	194.25	386.8	200.75	380.3	188.25	392.8
	135	197.62	277.4	200.3	274.7	195.13	279.8

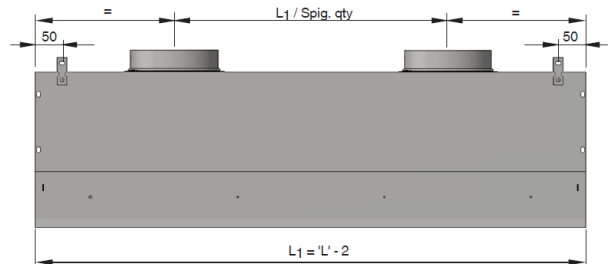
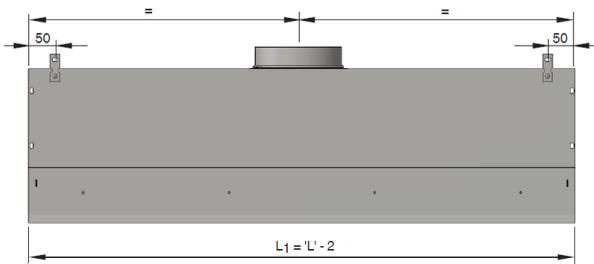
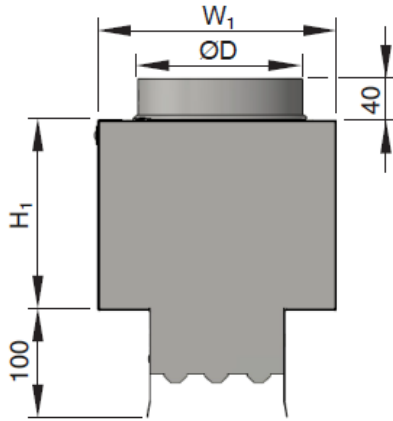
ZH/AH Plenums



TSD Type	$W_1$ mm	$\text{OD}$ mm	A mm	$H_1$ mm	C mm
TSD15-1	145.5	123	174	145	40/75*
	145.5	138	181.5	160	40/75*
TSD15-2	180	138	181.5	160	40/75*
	180	158	191.5	180	40/75*
TSD15-3	214.5	158	191.5	180	40/75*
	214.5	198	211.5	220	40/75*
TSD15-4	249	198	211.5	220	40/75*
	249	248	236.5	270	40/75*
TSD20-1	150.5	123	174	145	40/75*
	150.5	158	191.5	180	40/75*
TSD20-2	190	158	191.5	180	40/75*
	190	198	211.5	220	40/75*
TSD20-3	229.5	198	211.5	220	40/75*
	229.5	248	236.5	270	40/75*
TSD20-4	269	198	211.5	220	40/75*
	269	248	236.5	270	40/75*
	269	313	269	335	40/75*

C\*: Increase spigot length for M, MC damper options

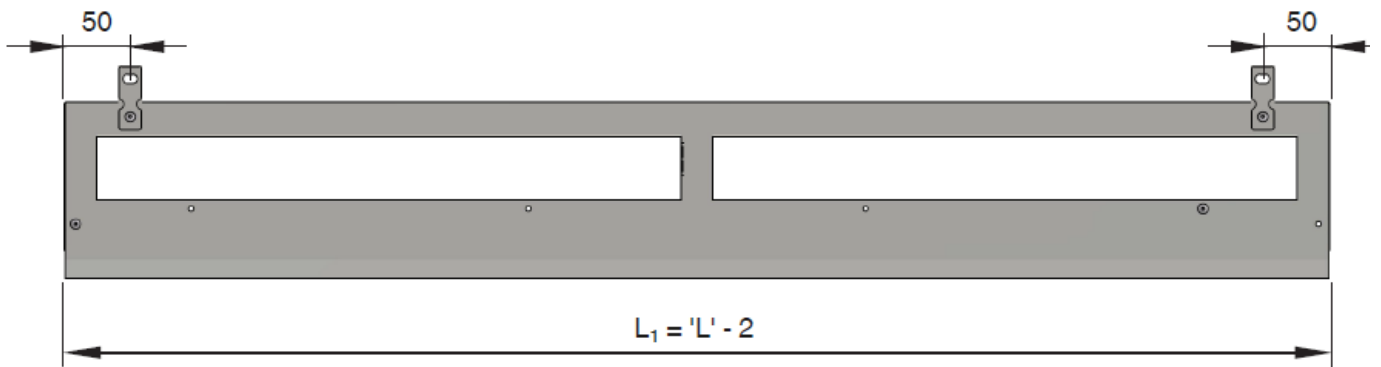
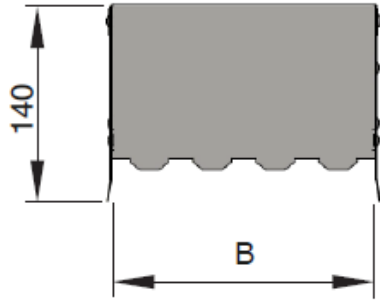
ZV/AV Plenums



Dimension [mm]

TSD Type	$W_1$ mm	$\text{ØD}$ mm	$H_1$ mm
TSD15-1	145.5	98	160
TSD15-2	180	138	180
TSD15-3	214.5	158	220
TSD15-4	249	198	270
TSD20-1	150.5	123	180
TSD20-2	190	158	220
TSD20-3	229.5	198	270
TSD20-4	269	248	335

RA Plenums



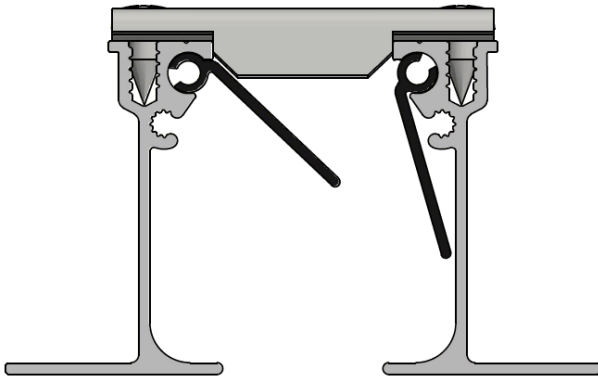
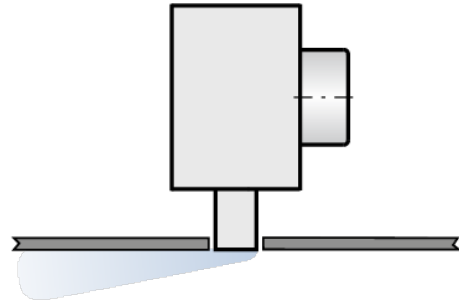
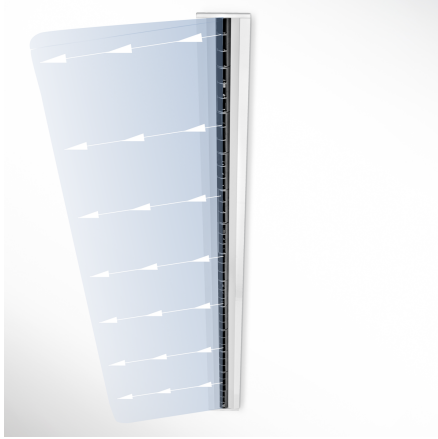
ZV/AV

	B [mm]			
	1 slot	2 slots	3 slots	4 slots
TSD15	43,5	78	112,5	147
TSD20	48,5	88	127,5	167

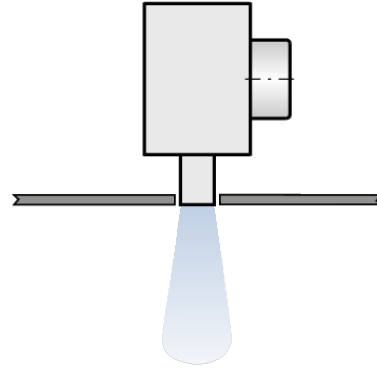
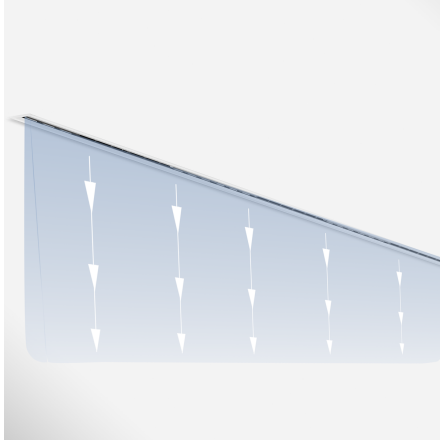
## Product details

### Blade setting

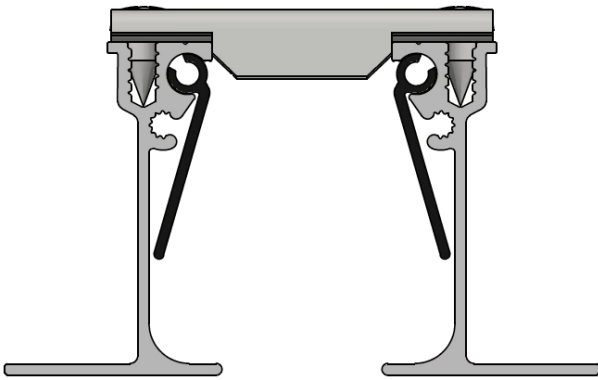
One-way horizontal air discharge to the left



Vertical air discharge

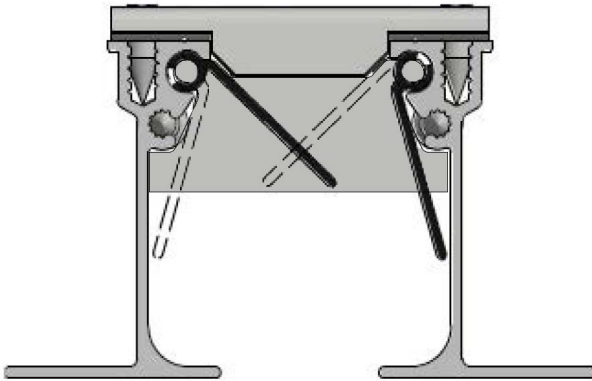
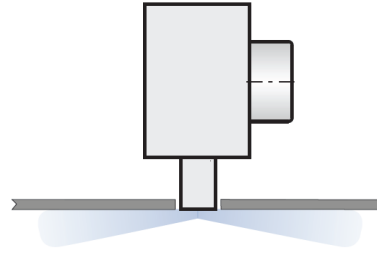
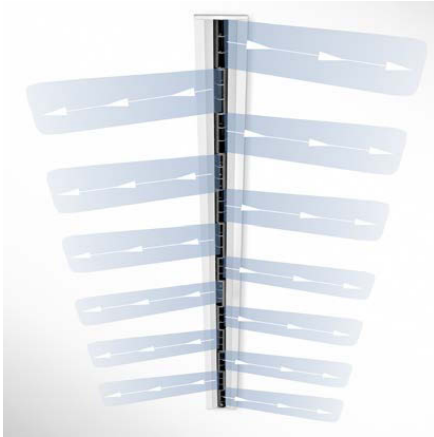


Vertical air discharge (V)





Alternating air discharge



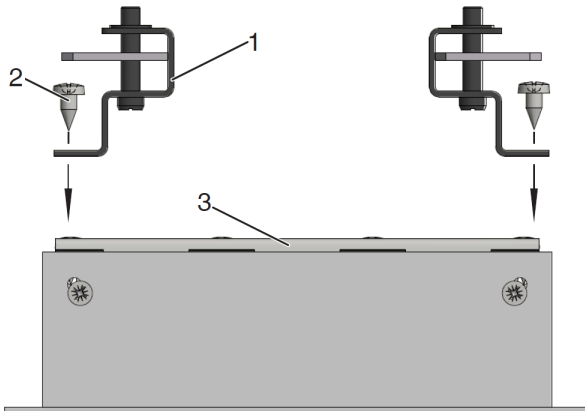
**Installation details [S11]**

When specified, TSD diffusers are supplied with 'S11' fixings to enable diffuser installation to TROX plenum box type TSD-AKV. S11 fixings are supplied loose for installation to the diffuser by the installer to correspond to position of installed plenum box.

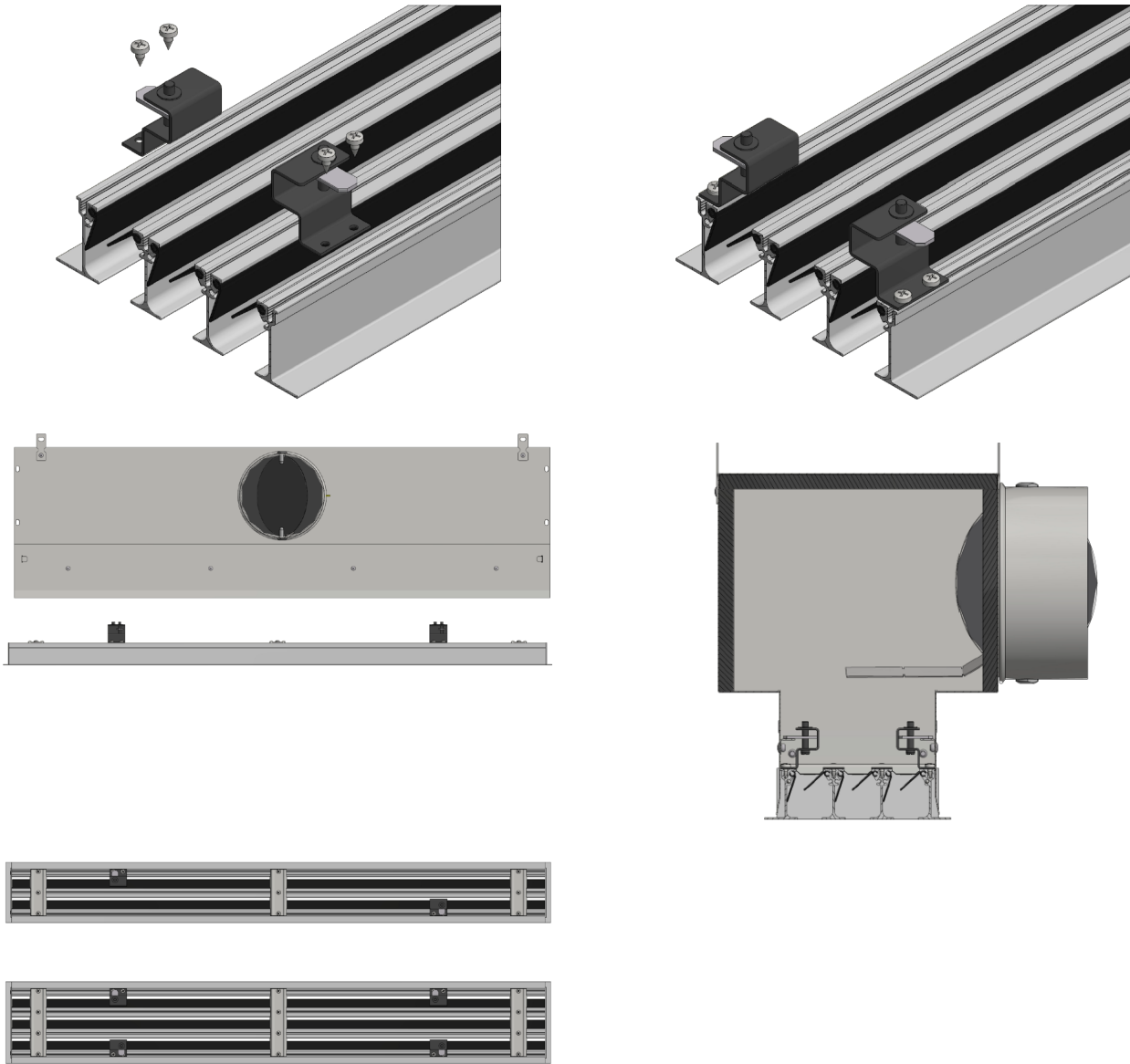
Quantity of S11 fixings supplied with each TSD diffuser is based on slot quantity;

**TSD\*\*-1...2:** 2x S11 fixings per diffuser

**TSD\*\*3...4:** 4x S11 fixings per diffuser



- 1 S11 fixing
- 2 S11 fixing screws (2 per fixing)
- 3 TSD diffuser

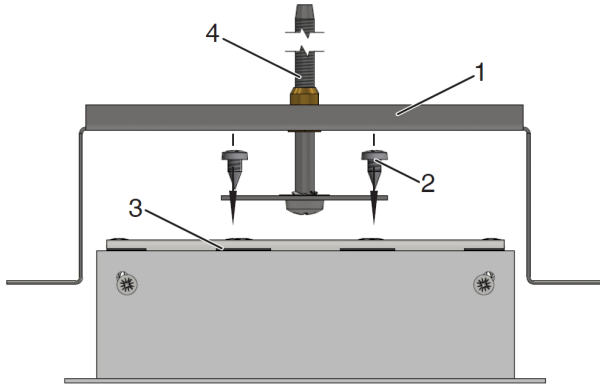


top: TSD\*\*-1...2: 2x S11 fixings per diffuser  
below: TSD\*\*-3...4: 4x S11 fixings per diffuser

**Installation details [GP]**

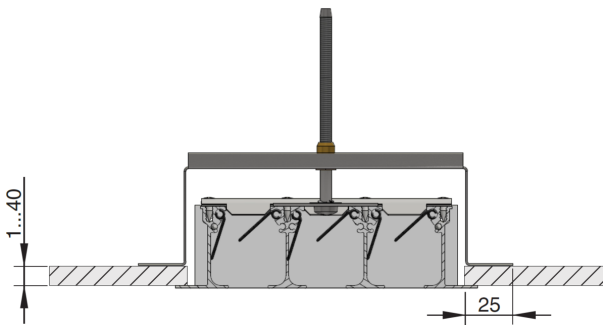
When specified, TSD diffusers are supplied with 'GP' fixings to enable diffuser installation within ceiling systems without TROX plenum box type TSD-AKV. GP fixings are supplied loose for installation to the diffuser by the installer to each TSD diffuser section.

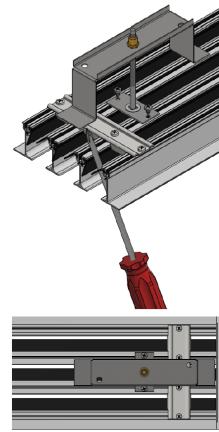
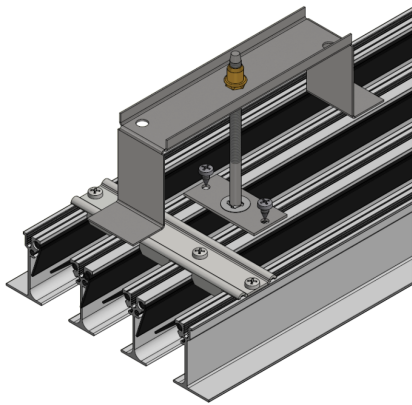
2x GP fixings are supplied with each TSD diffuser section when specified. NB: 1x GP fixing is also supplied with each diffuser section when S11 fixings are specified to cover diffuser nominal lengths > plenum box length (border style FL, NF only).



- 1 GP fixing
- 2 GP fixing screws (2 per fixing)
- 3 TSD diffuser
- 4 GP clamp screw

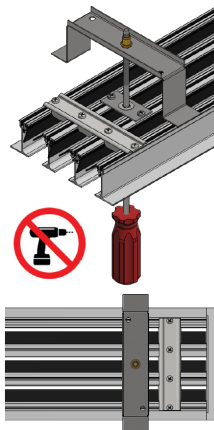
GP fixings are designed to clamp the diffuser against the project ceiling system (ceiling depth between 1... 40mm). A minimum 25mm clearance should be provided to either side of the opening to facilitate installation with GP fixings.





To install Type TSD diffusers with GP fixings, first assemble the GP fixing to the rear of the TSD diffuser. Fixings should be placed at the end of each diffuser section approximately 100mm in.

With each GP fixing running parallel to the diffuser, insert the diffuser into the opening and once inserted, use a suitable tool to turn the GP perpendicular to the diffuser.



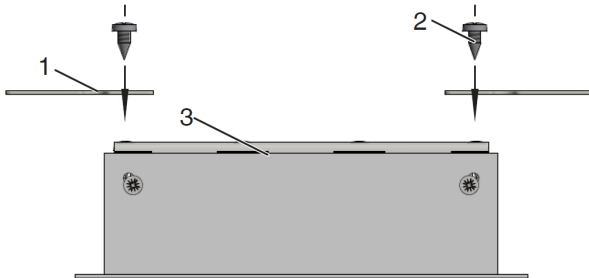
With the GP fixing orientated across the opening, tighten the fixing screw through the diffuser face until the diffuser is fixed into the ceiling system.

NOTE: Fixing should be hand tightened only.

**Installation details [SB]**

When specified, TSD diffusers are supplied with 'SB' fixings to enable diffuser installation within ceiling systems without TROX plenum box type TSD-AKV. SB fixings are supplied loose for installation to the diffuser by the installer to each TSD diffuser section.

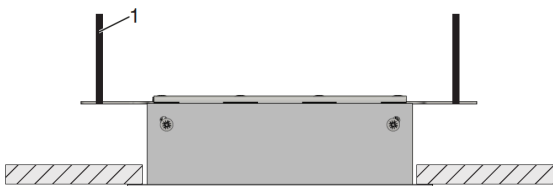
4x SB fixings are supplied with each TSD diffuser section when specified. NB: 2x SB fixings are also supplied with each diffuser section when S11 fixings are specified to cover diffuser nominal lengths > plenum box length (border style PL only).



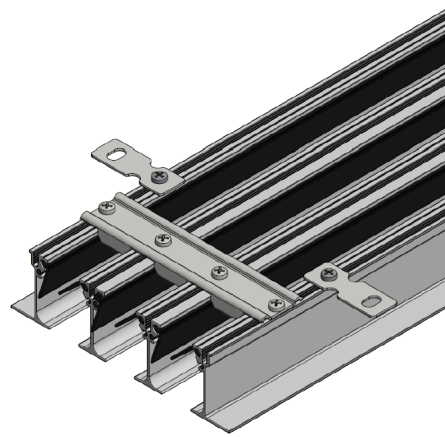
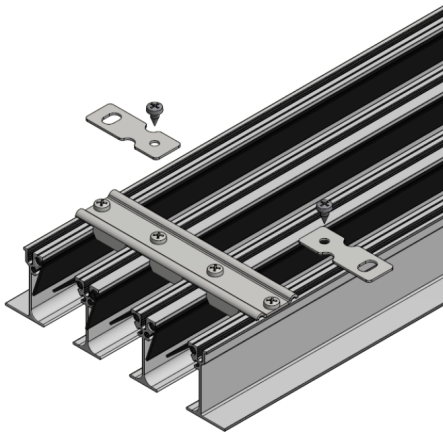
- 1 SB fixing (11 x 7 hole)
- 2 SB fixing screw (1 per fixing)
- 3 TSD diffuser

SB fixings are designed to facilitate support to the building structure via  $\varnothing 6\text{mm}$  threaded rod or wire supports (by others). Fixings are accessed via the rear of the diffuser only so suitable access to the ceiling void shall be required.

SB fixings can be bent to vertical position if required to suit installation method.

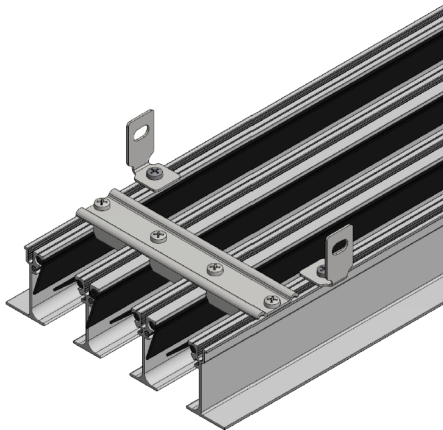


- 1 M6 threaded rod or wire supports (by others)



To install Type TSD diffusers with SB fixings, first assemble the SB fixing to the rear of the TSD diffuser. Fixings should be placed at the end of each diffuser section approximately 100mm in.

With each SB fixing installed, suspend the diffuser using  $\text{Ø}6.0\text{mm}$  threaded rod or wire supports (by others) to secure the diffuser within ceiling system.



If required, the SB fixing can be bent upwards to suit site installation method.

**Installation details Linear Diffusers**

When linear diffusers are requested ( $L_N > 1801\text{mm}$ ) diffuser will be supplied in sections;

$L_N > 1801\text{mm}$  &  $\leq 3600\text{mm}$

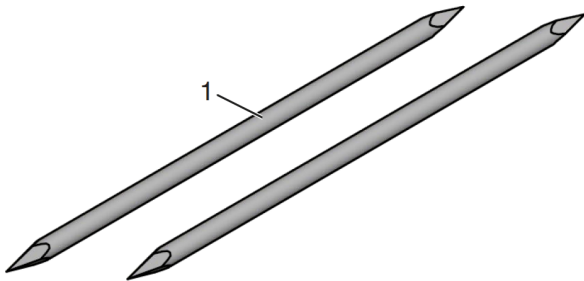
End: 2 × equal length sections

$L_N > 3601\text{mm}$

Middle: n x 1800mm sections

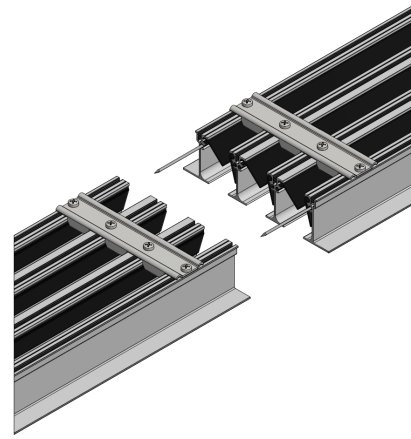
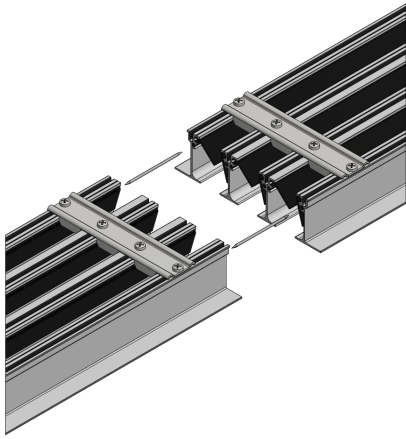
End: 2 × equal length sections

Alignment pins (2 per middle or end section) are supplied loose for installation between linear sections by the installer.



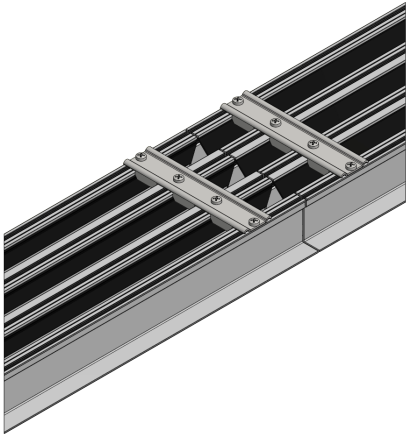
1 TSD alignment pins (2 per linear section)





To install Type TSD linear diffusers, first locate alignment pins within delivery package. Bring together sections to be joined and ensure fitment within installation area before joining.

Insert the alignment pins into the outer border section with 50% of the pin length remaining visible.  
NOTE: Alignment pins cannot be installed after diffuser installation.



Slowly push together the sections ensuring the pins remain across the diffuser joint line,