Ceiling diffusers

TID

Vertical connection

Horizontal connection

Vertical connection with perforated standard metal ceiling tile

Horizontal connection with perforated standard metal ceiling tile or factory-made perforated plate diffuser face

Non-visible air terminal device for combination with finely perforated standard metal ceiling tiles

For a seamless ceiling appearance without visual interruptions

- Non-visible due to the black coated functional unit located on the reverse of the diffuser face or ceiling tile
- Flexible combination options with various standard perforated metal ceiling tiles or a factory-made perforated sheet metal front
- Maximum comfort due to swirling air distribution, swift reduction of supply air velocities and temperature differences
- Easy installation, with either plenum box or direct air connection

General information

Application

- Ceiling swirl diffusers for supply air and extract air for use in ventilation and air conditioning systems
- For installation in comfort and industrial zones
- Can be combined with standard metal ceiling tiles but without acoustic fleece or factory-made perforated sheet metal front (LBK or LBS)
- Mounted functional unit non-visible:
- Particularly suited as a design element for building owners and architects with high standards
- Horizontal swirling supply air discharge for mixed flow ventilation
- The efficient swirl creates high induction levels, thereby rapidly reducing the temperature difference and airflow velocity (supply air variant)
- For constant and variable volume flows
- For supply air to room air temperature differences of –12 to +10 K
- For room heights up to 4 m (lower edge of suspended ceiling)
- For ceiling systems of all types, especially for standard perforated metal ceiling tiles (free cross-section ≥ 15 %)

Special characteristics

- Visually inconspicuous or non-visible functional unit
- Functional unit consists of discharge nozzle, swirl element and spigot
- For a visually uniform ceiling appearance: Installation behind standard perforated metal ceiling panel provided by the customer (free cross-section ≥ 15 %)
  - Maximum ceiling tile thickness: ≤ 1 mm
  - Preferred ceiling tile thickness: ≤ 0.7 mm
- Optionally with factory-fitted perforated sheet metal front to cover the functional unit
- Functional unit always dip-coated black

Nominal sizes

- 300, 400, 600, 625
- DN: 125, 160, 200, 250, 315

Variants

Connection

- Vertical connection:
  - Direct installation of the spigot to the on-site duct network with suspension lugs
  - With suspension lugs on the spigot (only serves to support the dead weight of the air diffuser)
- Horizontal connection:
  - Combination with a suitable plenum box from the AK-Uni series (supply package)
- Variants with perforated sheet metal front (LBK and LBS) are available with plenum box (-H) or spigot (-V)

Perforated sheet metal front (perforated sheet metal types see link)

- Without perforated sheet metal front
  - For installation behind standard perforated metal ceiling tiles provided by the customer
  - Free area ≥ 15 %
  - Required thickness ≤ 1 mm, preferably ≤ 0.7 mm
- LBK (perforated sheet metal front stapled)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
  - Free area approx. 51 %
  - Attachment to discharge nozzle with brackets
  - Particularly suited for inserting into T-bar ceilings
  - Fixed connection of the diffuser face to the plenum box or spigot
- LBS (perforated sheet metal front screwed)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
  - Free area approx. 51 %
  - Attachment using lugs in the edge area of the discharge nozzle
  - For direct installation below the suspended ceiling
  - Fastening the air diffuser to the crossbar in the plenum box (-H) or spigot (-V) using a central fixing screw
  - Detachable and removable air diffuser

Parts and characteristics

- Square discharge nozzle
- Swirling element with radially arranged fixed air control blades
- Spigot with nominal width for direct or vertical connection or for combining with the AK-Uni
- Plenum box with horizontal spigot and cross bar
- Variant LBS is screwed into the plenum box (-H) or spigot (-V) with the central fixing screw in the crossbar
- Variant LBK must be screwed to the plenum box or spigot on site
- Equalising element in the plenum box for ensuring a uniform airflow through the diffuser face (supply air)

Attachments

Perforated sheet metal front

- Without perforated sheet metal front
  - For installation behind standard perforated metal ceiling tiles provided by the customer
  - Free area ≥ 15 %
  - Required thickness ≤ 1 mm, preferably ≤ 0.7 mm
- LBK (perforated sheet metal front stapled)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
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  - Free area approx. 51 %
  - Attachment using lugs in the edge area of the discharge nozzle
  - For direct installation below the suspended ceiling
  - Fastening the air diffuser to the crossbar in the plenum box (-H) or spigot (-V) using a central fixing screw
  - Detachable and removable air diffuser

Accessories

- Lip seal and damper blade for variants with plenum box

Construction features

- Variant LBK
  - Adjust the damper element before installation
  - Access no longer possible after installation
- Spigot suitable for circular air ducts according to DIN EN 1506 or DIN EN 13180
- Spigot on plenum box with groove for lip seal (if accessory lip seal has been ordered)

Standards and guidelines

- Sound power level of the air-regenerated noise measured according to DIN EN ISO 5135
- Meets the hygiene requirements of VDI 6022
- Perforation specified according to DIN 24041

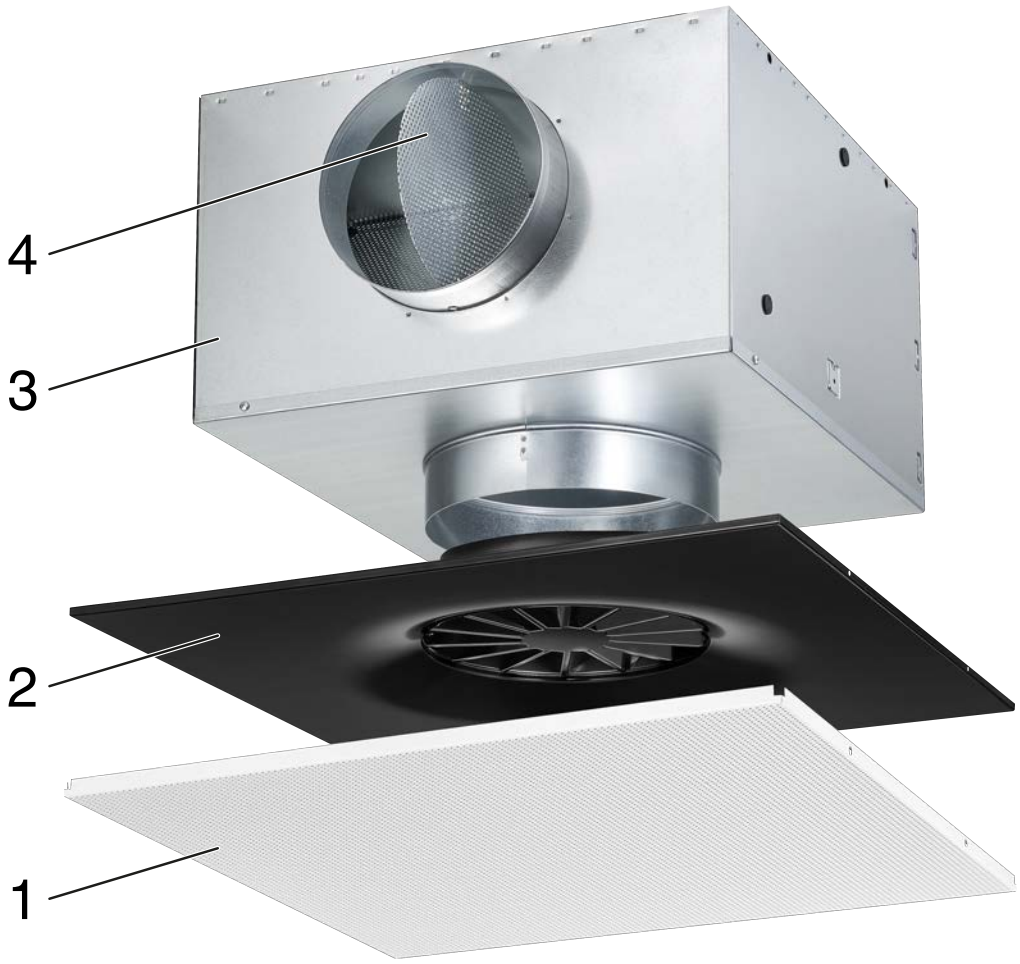
Maintenance

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

Function

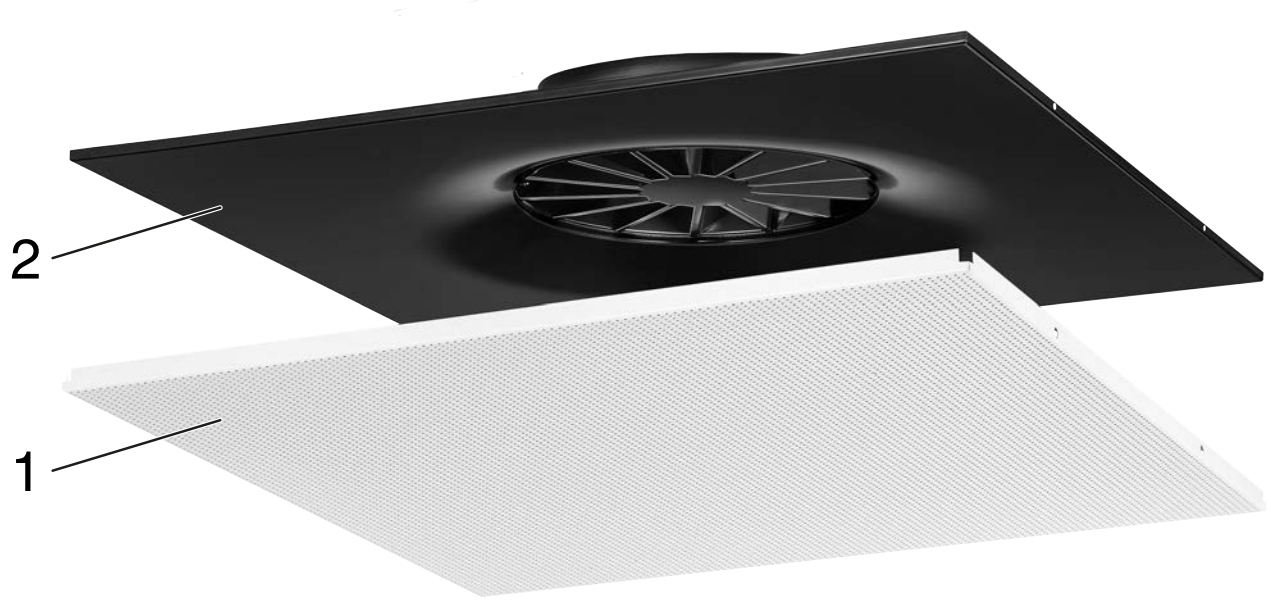
Ceiling swirl diffusers allow the supply air from ventilation systems to flow into the room in a swirl pattern. The resulting airflow induces high levels of indoor air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and room air. Ceiling swirl diffusers enable large volume flow rates. The result is a mixed flow ventilation in comfort zones, with good overall indoor ventilation, creating only low turbulence in the occupied zone. TROX INVISIBLE DIFFUSER (TID) are characterised by their unobtrusive or inconspicuous installation. The swirl unit required for the swirling air discharge is not visible from the room. The special shape of the discharge nozzle allows the swirl effect to be used even behind standard perforated metal ceiling tiles or factory-made perforated metal sheet fronts. Type TID ceiling swirl diffusers have fixed air control blades. Air distribution is horizontal, with an omni-directional flow. The supply air to room air temperature difference may range from –12 to +10 K. A damper element in the plenum box simplifies volume flow rate balancing for commissioning. To give rooms an aesthetic, uniform look, Type TID diffusers may also be used for extract air.

TID schematic illustration, with horizontal air connection



1 Perforated standard metal ceiling tile / perforated sheet metal front
2 Functional unit including discharge nozzle, swirling element and spigot
3 Plenum box
4 Damper blade for volume flow rate balancing

TID schematic illustration, with vertical air connection



1 Standard perforated metal ceiling tile
2 Functional unit including discharge nozzle, swirling element and spigot

Technical data

Nominal sizes	160, 250, 300, 400, 600, 625 mm
Nominal diameter	125, 160, 200, 250, 315 mm
Supply air to room air temperature difference	-12 – +10 K

Quick sizing

The quick sizing table gives a good overview of the possible volume flow rates and the corresponding sound power levels and differential pressure levels for the combinations with the different perforated sheet metal fronts. The minimum volume flow rates apply to a supply air to room air temperature difference of -6 K. The maximum volume flow rates apply to a sound power level of approx. 50 dB (A) with damper blade position 0°. Exact values for all parameters can be determined with our Easy Product Finder design program. The quick sizing tables for various sample perforations are listed below:

TID (RG 2516 or RG 2.5–5.5), sound power level and total differential pressure

DN	q_v [l/s]	q_v [m³/h]	Damper blade position					
			0° Δp_t [Pa]	0° L_{WA} [dB(A)]	45° Δp_t [Pa]	45° L_{WA} [dB(A)]	90° Δp_t [Pa]	90° L_{WA} [dB(A)]
125	21	76	41	38	49	40	72	39
	25	90	56	43	68	44	100	43
	29	103	75	47	90	48	133	47
	32	117	95	50	116	51	170	50
160	23	83	17	27	21	29	33	28
	33	118	34	37	41	38	66	38
	42	152	58	44	69	46	111	46
	52	187	87	50	103	51	167	52
200	37	132	19	28	19	28	30	29
	51	182	36	37	37	38	57	38
	65	233	59	44	60	45	94	46
	79	284	87	50	90	50	139	51
250	58	207	20	28	24	29	32	31
	77	276	35	37	42	39	57	40
	96	344	54	44	65	46	89	47
	115	413	78	50	93	52	128	53
315	90	325	25	33	28	34	37	34
	112	402	38	39	43	40	57	41
	133	480	54	45	62	46	81	46
	155	557	73	50	83	51	110	50

TID (RD 2820 or RD 2.8–5.5), sound power level and total differential pressure

DN	q_v [l/s]	q_v [m³/h]	Damper blade position					
		qv [m³/h]	0° Δp_t [Pa]	0° L_{WA} [dB(A)]	45° Δp_t [Pa]	45° L_{WA} [dB(A)]	90° Δp_t [Pa]	90° L_{WA} [dB(A)]
125	17	63	24	32	30	33	46	33
	23	83	43	39	53	41	80	40
	29	103	66	45	81	47	123	46
	34	123	93	50	116	51	175	51
160	27	97	21	30	25	32	43	32
	36	130	38	38	45	40	77	40
	45	163	59	45	71	46	122	47
	55	196	86	50	103	51	176	52
200	39	139	19	28	20	29	31	30
	53	191	36	37	37	38	59	39

DN	q_v [l/s]	q_v [m³/h]	Damper blade position					
		qv [m³/h]	0° Δp_t [Pa]	0° L_{WA} [dB(A)]	45° Δp_t [Pa]	45° L_{WA} [dB(A)]	90° Δp_t [Pa]	90° L_{WA} [dB(A)]
	68	243	58	44	60	45	96	46
	82	296	86	50	89	51	142	51
250	54	194	16	25	19	27	27	28
	76	272	30	36	38	37	52	39
	97	349	50	44	62	45	86	47
	119	427	75	50	93	52	128	53
315	87	312	20	30	23	31	31	32
	111	401	33	38	39	39	52	39
	136	491	50	45	58	46	78	46
	161	580	70	50	81	51	109	51

TID (RV 5046 or RV 5–7), sound power level and total differential pressure

DN	q_v [l/s]	q_v [m³/h]	Damper blade position					
		qv [m³/h]	0° Δp_t [Pa]	0° L_{WA} [dB(A)]	45° Δp_t [Pa]	45° L_{WA} [dB(A)]	90° Δp_t [Pa]	90° L_{WA} [dB(A)]
125	14	49	12	25	15	27	25	27
	21	76	29	36	38	38	61	37
	29	104	54	44	70	45	112	45
	36	131	87	50	112	51	180	51
160	23	83	12	25	16	27	29	27
	34	123	27	36	34	38	63	38
	45	163	47	44	60	45	110	46
	56	203	74	50	93	51	170	52
200	37	132	13	27	14	27	24	28
	54	195	29	37	31	38	54	38
	72	259	51	44	54	45	94	46
	90	322	79	50	83	51	146	51
250	52	187	11	24	13	24	21	26
	77	277	25	35	30	36	47	38
	102	367	43	44	52	44	82	46
	127	457	67	50	81	51	127	53
315	69	249	10	23	12	25	17	25
	103	372	22	35	27	36	38	36
	138	495	39	43	48	45	68	45
	172	618	61	50	75	51	106	51

TID (RV 6051 or RV 6–8), sound power level and total differential pressure

DN	q_v [l/s]	q_v [m³/h]	Damper blade position					
		qv [m³/h]	0° Δp_t [Pa]	0° L_{WA} [dB(A)]	45° Δp_t [Pa]	45° L_{WA} [dB(A)]	90° Δp_t [Pa]	90° L_{WA} [dB(A)]
125	14	49	10	23	14	25	23	24
	22	79	27	36	37	37	61	37
	31	110	52	44	71	46	118	45
	39	141	86	50	116	52	194	51
160	23	83	10	23	14	24	26	26
	36	129	25	35	33	37	64	37
	49	175	46	44	61	45	117	45
	61	221	74	50	97	52	187	51
200	37	132	11	23	12	24	22	25
	57	205	26	35	28	36	54	37

DN	q_v [l/s]	q_v [m³/h]	Damper blade position					
		qv [m³/h]	0° Δp_t [Pa]	0° L_{WA} [dB(A)]	45° Δp_t [Pa]	45° L_{WA} [dB(A)]	90° Δp_t [Pa]	90° L_{WA} [dB(A)]
	77	278	48	44	52	45	99	46
	98	351	77	50	82	51	158	52
250	52	187	9	22	12	23	19	24
	80	290	22	34	30	36	46	37
	109	393	40	43	54	45	85	46
	138	496	64	50	87	52	136	53
315	69	249	8	21	10	23	15	23
	109	392	19	34	25	36	37	36
	148	534	36	43	46	45	69	45
	188	676	57	50	73	52	111	52

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

Ceiling swirl diffusers for invisible or inconspicuous installation behind standard metal ceiling tiles or factory-made perforated sheet metal fronts. The ceiling swirl diffuser is suitable for comfort and industrial zones and is installed as a supply or extract air diffuser in the suspended ceiling. The swirling element with fixed air control blades enable a horizontal swirling supply air discharge creating high induction levels so that the airflow velocities and temperature differences are quickly reduced. The special shape of the discharge nozzle allows the swirl diffuser to be used behind standard perforated metal ceiling tiles. To ensure a visually uniform ceiling appearance, the standard metal ceiling tiles must not be thicker than 1.0 mm. Preferred thickness: ≤ 0.7 mm. The ceiling swirl diffuser can be combined with ceilings of all types using a factory-fitted perforated sheet metal front. The ready-to-install functional unit consists of the specially moulded discharge nozzle, the swirl element with fixed air control blades and spigot and is always coated black. The functional unit can be connected directly to the on-site air duct system or combined with a plenum box from the AK-Uni series. In case of a vertical connection, suspension lugs are provided for on-site fixing to the spigot. The plenum box has drilled holes for on-site fixing. All spigots are suitable for ducts according to EN 1506 or EN 13180. The sound power level of the air-regenerated noise is measured according to EN ISO 5135.

Special features

- Visually inconspicuous or non-visible functional unit
- Functional unit consists of discharge nozzle, swirl element and spigot
- For a visually uniform ceiling appearance: Installation behind standard perforated metal ceiling panel provided by the customer (free cross-section ≥ 15 %)
  - Maximum ceiling tile thickness: ≤ 1 mm
  - Preferred ceiling tile thickness: ≤ 0.7 mm
- Optionally with factory-fitted perforated sheet metal front to cover the functional unit
- Functional unit always dip-coated black

Materials and surfaces

- Discharge nozzle, swirling element, spigot and optional factory-made perforated sheet metal front and/or plenum box made from galvanised sheet steel
- Perforated sheet metal front, powder-coated, RAL 9010, pure white
- P1: Perforated sheet metal front powder-coated, specify RAL CLASSIC colour

Technical data

- Nominal sizes: 300, 400, 600, 625 mm
- Ø: 125, 160, 200, 250, 315 mm
- Supply air to room air temperature difference: -12 to +10 K

Sizing data

q_v [m³/h]
Δp_t [Pa]

air-regenerated noise

L_{WA} [dB(A)]

Order code

TID – Z – H – M – L / 600 × 160 / LBS / P1 - RAL 9016
1 2 3 4 5 6 7 8 9

1 Type
TID Swirl diffuser

2 System
Z Supply air
A Extract air

3 Connection
V vertical
H horizontal

4 Damper screen for flow rate balancing
No entry: without damper screen
M With damper blade (connection H only)

5 Lip seal
No entry: without lip seal
L With lip seal (connection H only)

6 Nominal size [mm]
300, 400, 600, 625

7 Nominal width [mm]
125, 160, 200, 250, 315

8 Perforated plate diffuser face
No entry: none (perforated metal ceiling tile as standard)
LBK perforated plate diffuser face with clamp fixing (only for nominal sizes 600 and 625)
LBS perforated plate diffuser face with screw fixing (only for nominal sizes 600 and 625)

9 Exposed surface
LBK and LBS only
No entry: powder-coated RAL 9010 (pure white)
P1 powder-coated, specify RAL CLASSIC colour

Gloss level
RAL 9010 GU 50
RAL 9006 GU 30
All other RAL colours GU 70

Order example: TID–Z–V/600×160

System	Supply air
Connection	vertical
Nominal size	600
Nominal width	160

Order example: TID–Z–H–M–L/600×250/LBS/P1-RAL9016

System	Supply air
Connection	horizontal
Damper blade for volume flow rate balancing	with
Lip seal	with
Nominal size	600
Nominal width	250
Perforated sheet metal	with screwed perforated sheet metal diffuser face
Exposed surface	RAL 9016, traffic white, gloss level 70 %

Note: Please note that not all nominal widths are available for all nominal sizes. If the LBK variant with damper blade is selected, the damper blade must be adjusted before installation. It is not possible to access the damper blade after installation.

Variants

TID

TID with standard perforated metal ceiling tile/perforated sheet metal face

Nominal sizes

- 300, 400, 600, 625
- NW: 125, 160, 200, 250, 315

Variants

Connection

- Horizontal: In the case of a horizontal connection, the TID air diffuser is combined with a suitable Type AK-Uni plenum box

Perforated sheet metal front

- Without perforated sheet metal front
  - For installation behind standard perforated metal ceiling tiles provided by the customer
  - Free area ≥ 15 %
  - Required thickness ≤ 1 mm, preferably ≤ 0.7 mm
- LBK (perforated sheet metal front stapled)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
  - Free area approx. 51 %
  - Attachment to discharge nozzle with brackets
  - Particularly suited for inserting into T-bar ceilings
  - Fixed connection of the diffuser face to the plenum box or spigot
- LBS (perforated sheet metal front screwed)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
  - Free area approx. 51 %
  - Attachment using lugs in the edge area of the discharge nozzle
  - For direct installation below the suspended ceiling
  - Fastening the air diffuser to the crossbar in the plenum box (-H) or spigot (-V) using a central fixing screw
  - Detachable and removable air diffuser

Parts and characteristics

- Square discharge nozzle
- Swirling element with radially arranged fixed air control blades
- Spigot with nominal width for direct or vertical connection or for combining with the AK-Uni
- Plenum box with horizontal spigot and cross bar
- Variant LBS is screwed into the plenum box (-H) or spigot (-V) with the central fixing screw in the crossbar
- Variant LBK must be screwed to the plenum box or spigot on site
- Equalising element in the plenum box for ensuring a uniform airflow through the diffuser face (supply air)

Construction features

- Variant LBK
- Adjust the damper element before installation
  - Access no longer possible after installation
  - Spigot suitable for circular air ducts according to DIN EN 1506 or DIN EN 13180
- Spigot on plenum box with groove for lip seal (if accessory lip seal has been ordered)

TID

TID with perforated standard metal ceiling tile

Nominal sizes

- 300, 400, 600, 625
- NW: 125, 160, 200, 250, 315

Variants

Connection

- Vertical: In the case of a vertical connection, a spigot is attached to the discharge nozzle; it can be mounted directly to the on-site duct network. Suspension lugs are attached to the spigot to retain the dead load of the air diffuser

Perforated sheet metal front

- Without perforated sheet metal front
  - For installation behind standard perforated metal ceiling tiles provided by the customer
  - Free area ≥ 15 %
  - Required thickness ≤ 1 mm, preferably ≤ 0.7 mm
- LBK (perforated sheet metal front stapled)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
  - Free area approx. 51 %
  - Attachment to discharge nozzle with brackets
  - Particularly suited for inserting into T-bar ceilings
  - Fixed connection of the diffuser face to the plenum box or spigot
- LBS (perforated sheet metal front screwed)
  - Included in supply package: Perforated sheet metal front RV 6.0 - 8.0
  - Free area approx. 51 %
  - Attachment using lugs in the edge area of the discharge nozzle
  - For direct installation below the suspended ceiling
  - Fastening the air diffuser to the crossbar in the plenum box (-H) or spigot (-V) using a central fixing screw
  - Detachable and removable air diffuser

Parts and characteristics

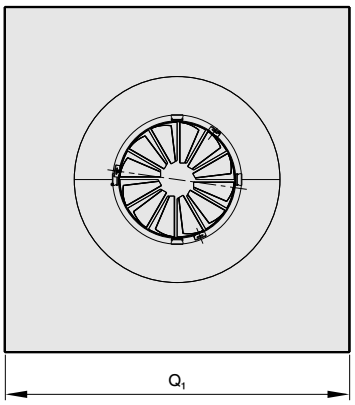
- Square discharge nozzle
- Swirling element with radially arranged fixed air control blades

Construction features

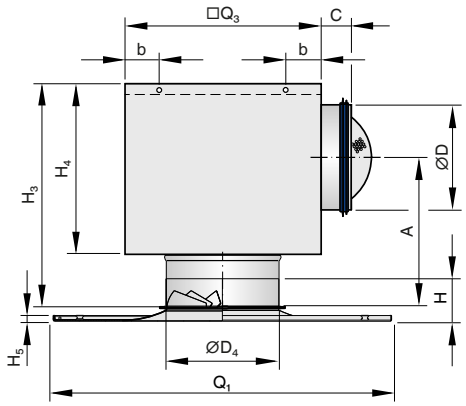
- Spigot suitable for circular air ducts according to DIN EN 1506 or DIN EN 13180

Dimensions

Horizontal connection



Horizontal connection



Dimension Q_1

NS	Q_1		
		LBK	LBS
300	290	-	-
400	390	-	-
600	590	593	598
625	615	618	623

Dimensions horizontal connection

DN= $ØD_4$	ØD			LBK	LBK	LBS		H_4	H_3	Q_3	C	A	b	AK
		H	H_5	H	H_5	H	H_5							
125	98	66	8	66	10	67	8	195	255	216	50	170	50	AK028
160	123	69	8	69	10	70	8	220	280	266	48	182	50	AK029
200	158	75	8	75	10	76	8	250	310	290	50	194	50	AK030
250	198	76	8	77	10	77	8	295	355	476	50	219	90	AK031
315	248	78	8	79	10	79	8	345	395	567	48	244	90	AK032

Air diffuser [kg]

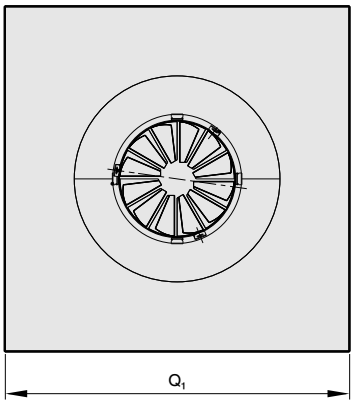
DN		LBK	LBS
125	3.2	4.7	5.8
160	3.2	4.7	5.8
200	3.3	4.8	6.3
250	3.5	4.9	6.6
315	3.8	5.3	7.2

Plenum box [kg]

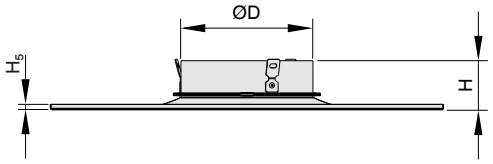
DN	AK	Weight
125	AK028	2.5
160	AK029	3
200	AK030	3.5
250	AK031	7.5
315	AK032	10

Note: Total weight for variants with plenum box: air diffuser + plenum box

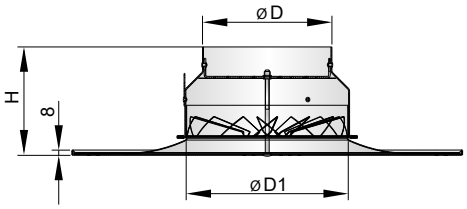
Vertical connection



Vertical connection



Vertical connection with LBS



Dimension Q_1

NS	Q_1		
		LBK	LBS
300	290	-	-
400	390	-	-
600	590	593	598
625	615	618	623

TID with vertical connection

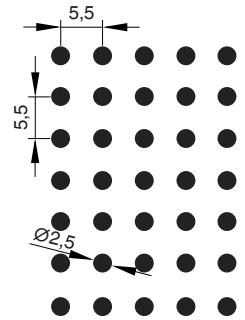
DN				LBK	LBK	LBK	LBS			
DN	ØD	H	H_5	ØD	H	H_5	ØD	ØD1	H	H_5
125	123	66	8	123	66	10	98	123	66	10
160	158	69	8	158	69	10	123	158	69	10
200	198	75	8	198	75	10	158	198	75	10
250	248	76	8	248	76	10	198	248	76	10
315	313	78	8	313	78	10	248	313	78	10

Air diffuser [kg]

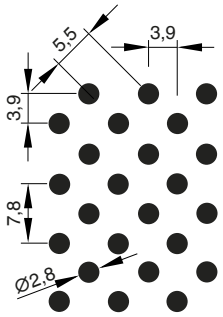
DN		LBK	LBS
125	3.2	4.7	5.8
160	3.2	4.7	5.8
200	3.3	4.8	6.3
250	3.5	4.9	6.6
315	3.8	5.3	7.2

Perforated sheet metal types

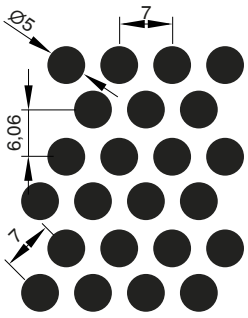
TID perforated plate RG 2.5–5.5



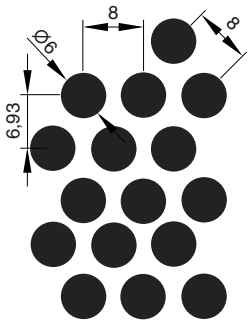
TID perforated plate RD 2.8–5.5



TID perforated plate RV 5–7



TID perforated plate RV 6–8



Product details

- Preferably for rooms with a clear height up to 4.0 m
- For inset behind standard perforated metal ceiling tiles or with factory-made perforated metal sheet diffuser face
- LBK for inserting in T-bar ceilings
- LBS for installation directly below the suspended ceiling
- Standard perforated metal ceiling tiles are not included in the TID supply package and must always be provided on site

Note: In the case of the LBK variant, the optional flow adjustment damper can only be adjusted before installation. It is not possible to adjust the damper from the outside after installation.

These are only schematic diagrams to illustrate installation details.

Installation in suspended ceiling systems

Volume flow rate balancing

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

- Ceiling diffusers with universal plenum box and damper blade (variant -M): The diffuser face can be removed to access the damper blade; the damper blade can then be set to any position between 0 and 90°
- Ceiling diffusers with universal plenum box, damper blade and pressure tap (variant -MN): The diffuser face need not be removed as the damper blade can be set with two cords (white and green).

Volume flow rate measurement

Ceiling diffusers with universal plenum box, damper blade and pressure tap (variant -MN) allow for volume flow rate balancing even with the diffuser face in place.

- Connect the measuring tube to the digital manometer
- Read the differential pressure
- Read the volume flow rate off the characteristic or calculate it
- If necessary, adjust the damper blade position with the cords

A characteristic is included with each AK-Uni plenum box.

Nomenclature

ØD [mm]
Outer diameter of the spigot

ØD$_1$ [mm]
Outer diameter of a circular diffuser face

ØD$_2$ [mm]
Diameter of a circular diffuser face style

ØD$_3$ [mm]
Diameter of a circular plenum box

□Q$_1$ [mm]
Outer diameter of a square diffuser face

□Q$_2$ [mm]
Dimensions of a square diffuser face style

□Q$_3$ [mm]
Dimensions of a square plenum box

H$_1$ [mm]
Distance (height) from the lower edge of the suspended ceiling to the lower edge of the diffuser face

H$_2$ [mm]
Height of a ceiling diffuser, from the lower edge of the suspended ceiling to the upper edge of the spigot

H$_3$ [mm]
Height of a ceiling diffuser with plenum box, from the lower edge of the suspended ceiling to the upper edge of the plenum box or of the spigot

A [mm]
Position of the spigot, defined by the distance of the spigot centre line to the lower edge of the suspended ceiling

C [mm]
Length of the spigot

m [kg]
Weight

L_{WA} [dB(A)]
A-weighted sound power level of air-regenerated noise

q_v [m³/h]; [l/s]
Volume flow rate

Δt_z [K]
Supply air to room air temperature difference, i.e. supply air temperature minus room temperature

Δp_t [Pa]
Total differential pressure

A_{eff} [m²]
Effective air discharge area

NS [mm]
Nominal size

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

All sound power levels are based on 1 pW.