



Top entry circular spigot



Aerosol feed



Low-leakage shut-off damper, manually adjustable

Particulate filter air terminal devices

KBE



For critical air cleanliness and critical hygiene requirements, suitable for ceiling installation

Ceiling mounted particulate filters as a final filter stage with Mini Pleat filter panels for the separation of suspended particles. Used in medicine, biology, the pharmaceuticals industry, and sensitive technical areas.

- Easy, time-saving and secure filter change, can be completed by one person due to special press-in frame
- Quick and easy diffuser fixing with central screw and spring
- Robust, welded construction
- With or without optional sealing integrity test facility
- Compact construction, suitable for low ceilings, integration with all clean room ceiling systems from various manufacturers
- Various diffusers to ideally meet individual requirements
- Horizontal or vertical connection
- Choice of low-leakage shut-off damper or volume flow limiter for horizontal connection
- Equipment for differential pressure measurement and particle sampling for measurements
- Filter element can be easily accessed from the clean air side even after installation thanks to a removable cross bar
- For air cleanliness classes 5 to 8 according to ISO 14644-1
- Meets the hygiene requirements of VDI 6022
- Leakage class: EN 1886 L1, EN 15727 class D



Tested to VDI 6022

General information

Function

Specification text

Variants

With side entry circular spigot

With top entry circular spigot

With side entry rectangular spigot

Constructions

Type of ceiling

Air terminal devices

Suspension/measurement points

Dimensions

General information

Application

- Particulate filter air terminal device for ceiling installation as a final filter stage and for air distribution
- Fitting of filter elements for the separation of suspended particles such as aerosols, toxic dusts, viruses or bacteria from the supply or extract air.

Special characteristics

- Compact construction
- Easy to use
- High operational reliability
- 400, 500, 600 mm

Variants

- SC: Side entry circular spigot
- SCH: Side entry circular spigot, manually adjustable shut-off damper
- SCA: Side entry circular spigot, aerosol feed
- TC: Top entry circular spigot
- TCA: Top entry circular spigot, aerosol feed

Constructions

- G: Gel seal (frame depths 91 – 105 mm)
- FT: Flat seal (frame depth 78 mm)
- FTL: Flat seal (frame depth 150 mm)

Casing material

- SPC: Steel, powder-coated RAL 9010, pure white
- STA: Stainless steel (only for SC, TC)

Air terminal devices

- ADT: Ceiling diffuser
 - LF: Ceiling diffuser
 - TDF: Ceiling swirl diffuser
- VDWF: Ceiling swirl diffuser

Options

- ED: External diffuser
- ID: Internal diffuser
- D: Spigot diameter
- T: Top suspension and measurement points
- S: Side suspension and measurement points
- FC: With supports to carry a false ceiling, measurement points at the top

Useful additions

- Mini Pleat filter panels (KOB)
- Suitable filter elements to be ordered separately

Construction features

- Clamping mechanism with 4 fixing points for filter elements
- Sealing integrity test facility as an option
- Removable cross bar
- Measurement points for monitoring the differential operating pressure

Material and surfaces

- Casing made of either sheet steel, powder-coated RAL 9010, pure white, or of stainless steel for variants SC, TC
- Diffuser face made of sheet steel, powder-coated RAL 9010, pure white: TDF, VDWF, LF; diffuser face made of aluminium: ADT; diffuser face made of stainless steel: VDWF and LF.



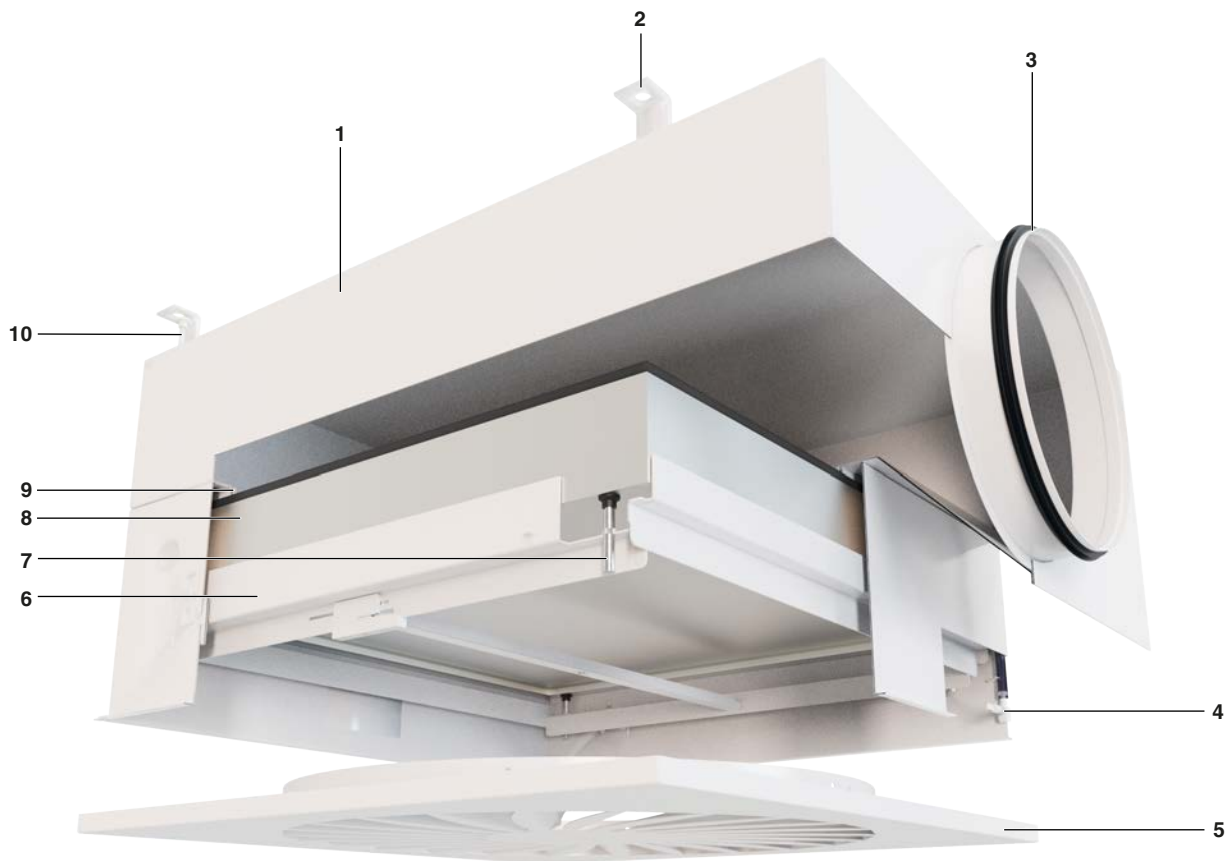
Maintenance

- Filter changes and maintenance on constructions with shut-off damper can be carried out without interruption to the system operation.
- Diffusers with central fixing can be easily removed for filter changes and cleaning.

Installation and commissioning

- Fitting of filter elements with a flat seal, continuous foam seal or gel seal
- The filter element is pressed into place with four easy-to-handle clamping screws
- Diffuser fixing with central screw and spring (fixing by others)

Function



- 1 Casing
- 2 Fixing bracket
- 3 Spigot with lip seal
- 4 Internal measuring tube
- 5 Air terminal device
- 6 Clamping mechanism for the filter element
- 7 Clamping screws
- 8 Filter element
- 9 Filter fitting
- 10 Pressure measurement point

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

Particulate filter air terminal device type KBE for ceiling installation as final filter stage and for air distribution. Fitting of filter elements for the separation of suspended particles such as aerosols, toxic dusts, viruses and bacteria from the supply or extract air. Casing with side entry or top entry circular spigot or with side entry rectangular spigot. As standard, ceiling mounted particulate filters with circular spigots are fitted with a lip seal. Choice of different constructions: low-leakage ('air-tight') shut-off damper, either manually adjustable or with electric actuator; volume flow limiter; damper blade for volume flow rate balancing; recessed side entry spigot; or aerosol feed. Casing without test groove for filters with flat seal, continuous foam seal or gel seal; casing with test groove as an option for filters with flat seal. Filter depths from 78 to 150 mm. Sheet steel casing with RAL 9010 powder coating; stainless steel as an option. Casing and diffuser are suitable for installation into commercially available plasterboard and mineral fibre ceilings as well as in walk-on ceiling systems. Installation into clip-in tile ceilings is also possible (optional). External diffuser as standard, internal diffuser as an option for flush installation. Fixing on the cross bar with central screw and spring; can be removed so that the filter (downstream side) can be checked. The filter elements are pressed into place by an installation subframe with four clamping screws. As standard, the casings are fitted with an internal measuring tube and pressure measurement points for monitoring the differential operating pressure. As standard, the pressure measurement points are at the top, optionally at the side; in case of false ceiling installation the measurement points are at the

top. For the fitting of Mini Pleat filter panels with flat seal, continuous foam seal or gel seal. Leakage test for each casing. Leakage class L1 to EN 1886; leakage class D to EN 15727.

Special features

- Compact construction
- Easy to use
- High operational reliability
- Suitable for filter elements with various seals and of various heights
- Easy diffuser fixing with screw and spring
- Fits various ceiling systems

Materials and surfaces

- Casing made of either sheet steel, powder-coated RAL 9010, pure white, or of stainless steel for variants SC, TC and SR
- Diffusers made of sheet steel, powder-coated RAL 9010 (pure white): TDF, VDWF, LF. Diffusers made of anodised aluminium: ADT. Diffusers made of stainless steel: VDWF and LF

Constructions

- SPC: Steel, powder-coated RAL 9010, pure white
- STA: Stainless steel (only for SC, TC, SR)



Order example: KBE-SC-CF-SPC-ID-VDWF/600×24-248-20/T

Type	KBE
Variant	Side entry circular spigot
Filter fitting and construction	Filter with flat seal (frame depths 78 – 90 mm)
Casing material	Steel, powder-coated, RAL 9010 (pure white)
Type of ceiling	Standard
Position of air terminal device	Internal diffuser
Air terminal device	VDWF
Nominal size [mm]	600 × 24 blades
Spigot size [mm]	Ø 248
Flange width [mm]	20
Suspension/measurement points	Suspension and measurement points at the top



Variants

Variants, overview

- SC: Side entry circular spigot
- SCH: Side entry circular spigot, manually adjustable shut-off damper
- SCA: Side entry circular spigot, aerosol feed
- TC: Top entry circular spigot
- TCA: Top entry circular spigot, aerosol feed

With side entry circular spigot

Variant KBE-SC



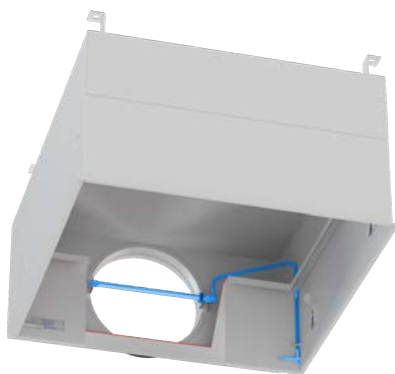
Variant KBE-SCH

- Shut-off damper, manually adjustable



Variant KBE-SCA

- With aerosol feed



With top entry circular spigot

Variant KBE-TC



Variant KBE-TCA

- With aerosol feed



Constructions

Ceiling mounted particulate filter, without sealing integrity test groove

- For filters with flat seal FNU

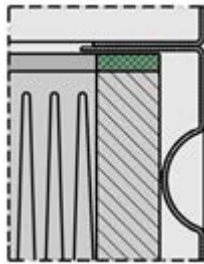
Construction KBE-CF

Frame depths 78 – 90 mm
KOB-ALZ (78 mm)

Construction KBE-CFL (only for SC, SCA, TC, TCA)

Frame depth: 150 mm
KOB-ALY (150 mm)

Flat seal FNU

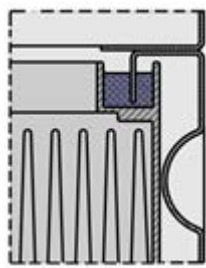


Ceiling mounted particulate filter, without sealing integrity test groove

- For filters with gel seal PU

Construction KBE-G

Frame depths 91 – 105 mm
KOB-ALU (91 mm)

Gel seal PU**Ceiling mounted particulate filter, with sealing integrity test groove**

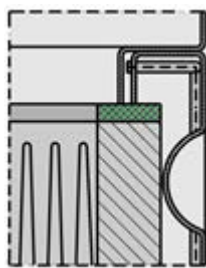
- For filters with flat seal FNU

Construction KBE-FT

Frame depth: 78 mm
KOB-ALZ (78 mm)

Construction KBE-FTL (only for SC, SCA, TC, TCA)

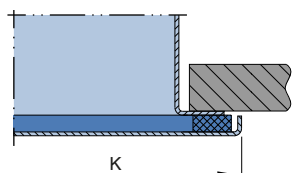
Frame depth: 150 mm
KOB-ALY (150 mm)

Flat seal FNU

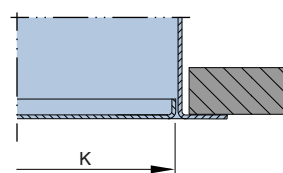
Type of ceiling

Plasterboard ceiling or MDF ceiling

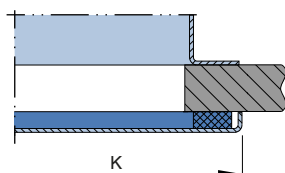
ED, external diffuser



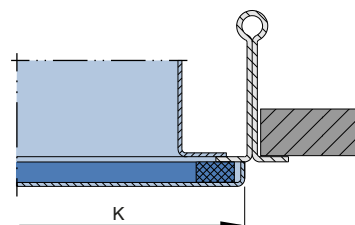
ID, internal diffuser



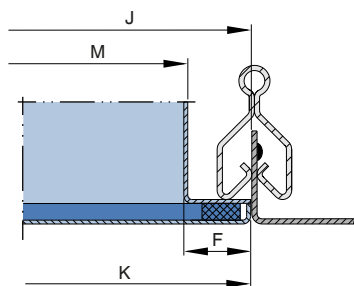
Walk-on ceiling



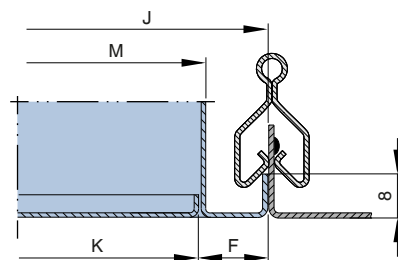
T-bar ceiling



ED, external diffuser

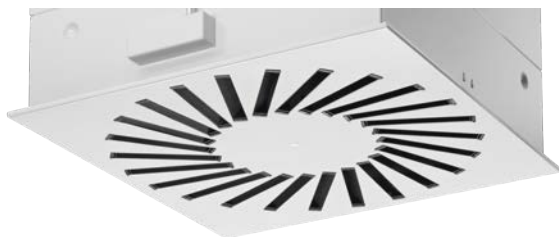


ID, internal diffuser

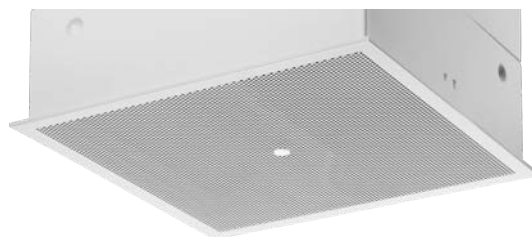


Air terminal devices

Air terminal device VDWF



Air terminal device LF



Air terminal device TDF

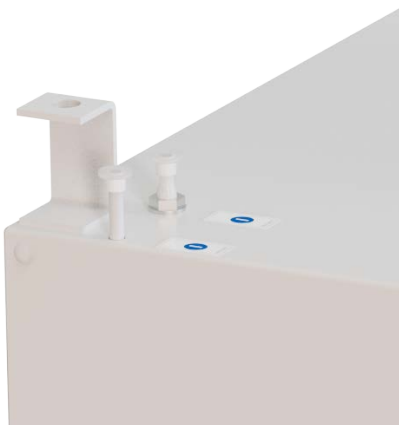


Air terminal device ADT



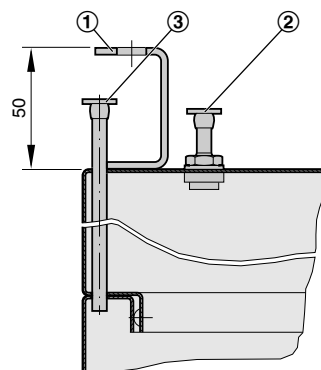
Suspension/measurement points

At the top



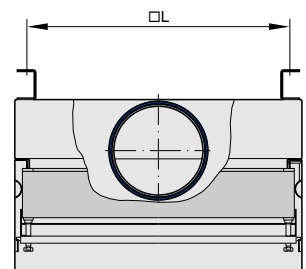
Option T

- Suspension lugs at the top
- Pressure measurement points at the top

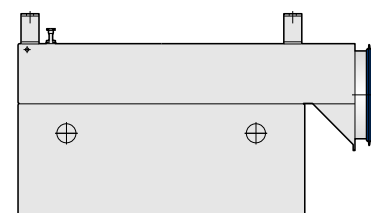


1. Suspension lugs
2. Measurement point (Ø 6) on upstream side (plus)
3. Measurement point (Ø 6) on downstream side (minus)

Distance between screw holes



Distance between screw holes



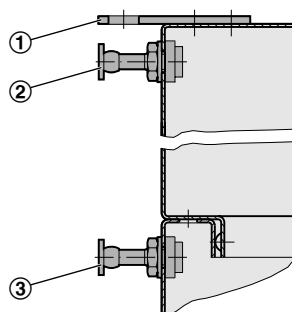
Nominal width	Distance between screw holes
NW	L
400	330
500	420
600	520

At the side



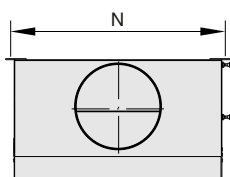
Option S

- Suspension lugs at the side
- Pressure measurement points at the side

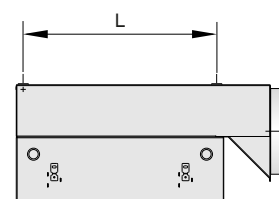


1. Suspension lugs
2. Measurement point (Ø 6) on upstream side (plus)
3. Measurement point (Ø 6) on downstream side (minus)

Distance between screw holes



Distance between screw holes



Nominal width	Distance between screw holes	
	L	N
400	330	400.5
500	420	490.5
600	520	590.5

Option FC

Supports for false ceiling shelf, Pressure measurement points, **at the top**

NW	A	B
400	270	465
500	360	555
600	460	655

Tolerances

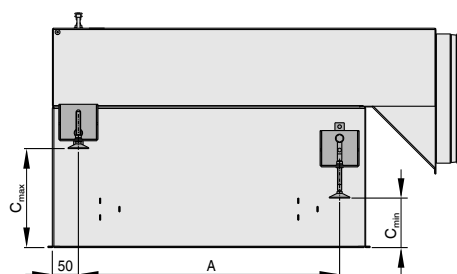
Type of seal	C _{max}	C _{min}
G	136	51
FT	118	33
CF	118	33
CFL	190	105
FTL	190	105



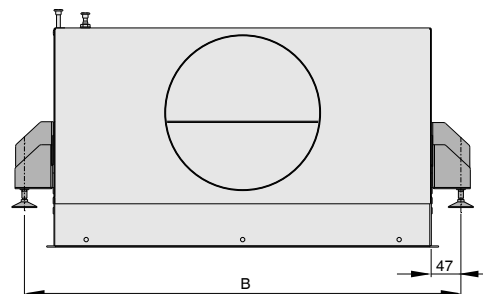
Supports for false ceiling installation



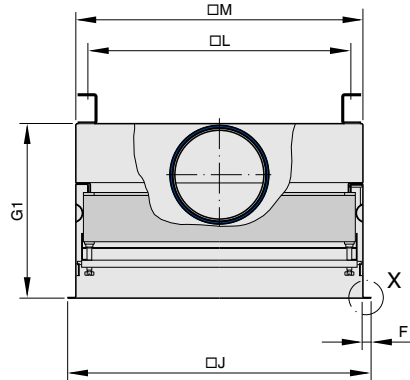
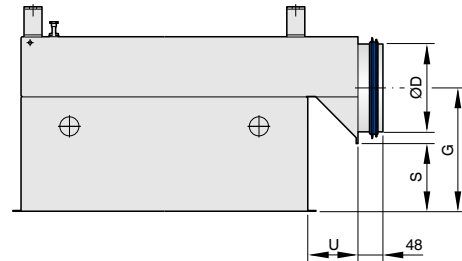
Supports for false ceiling installation, dimensions



Supports for false ceiling installation, dimensions



Dimensions

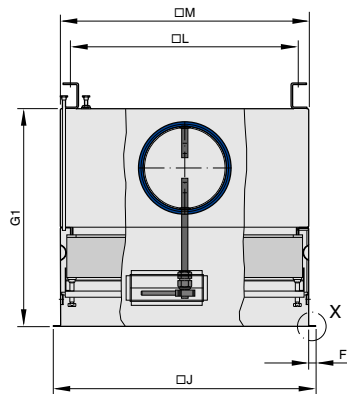
KBE-SC, -SCA

KBE-SC, -SCA, side view

Product-specific data for KBE-SC, -SCA

All weights are net, without packaging

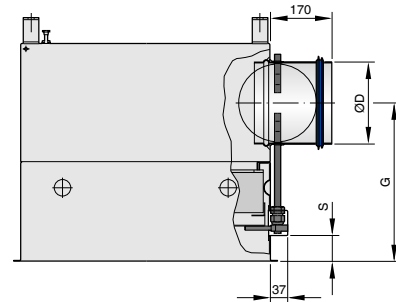
								Ceiling type 0 with ED			other options**					
1	2	3	4	5	6	7	8	9	10	11	9	10	11	12	13	17
NW	ØD	FA	B × H × T	G1*	S*	G*	M	F	J	K	F	J	K	L	U	kg
400	158/198	G	345 × 345 × 105	317	87	207	371	10	388	398	15	398	365	330	135	11
400	158/198	G	345 × 345 × 91	317	87	207	371	10	388	398	15	398	365	330	135	11
400	158/198	CF	345 × 345 × 90	299	69	189	371	10	388	398	15	398	365	330	135	11
400	158/198	CF/FT	345 × 345 × 78	299	69	189	371	10	388	398	15	398	365	330	135	11
400	158/198	CFL/FTL	345 × 345 × 150	371	141	261	371	10	388	398	15	398	365	330	135	12.5
500	158/198	G	435 × 435 × 105	312	82	202	461	15	488	498	20	498	455	420	135	14
500	158/198	G	435 × 435 × 91	312	82	202	461	15	488	498	20	498	455	420	135	14
500	158/198	CF	435 × 435 × 90	294	64	184	461	15	488	498	20	498	455	420	135	14
500	158/198	CF/FT	435 × 435 × 78	294	64	184	461	15	488	498	20	498	455	420	135	14
500	158/198	CFL/FTL	435 × 435 × 150	366	136	256	461	15	488	498	20	498	455	420	135	16
600	198	G	535 × 535 × 105	312	82	202	561	15	588	598	20	598	555	520	135	17
600	198	G	535 × 535 × 91	312	82	202	561	15	588	598	20	598	555	520	135	17
600	198	CF	535 × 535 × 90	294	64	184	561	15	588	598	20	598	555	520	135	17
600	198	CF/FT	535 × 535 × 78	294	64	184	561	15	588	598	20	598	555	520	135	17
600	198	CFL/FTL	535 × 535 × 150	366	136	256	561	15	588	598	20	598	555	520	135	19.5
600	248	G***	535 × 535 × 105	362	82	227	561	15	588	598	20	598	555	520	135	18
600	248	G***	535 × 535 × 91	362	82	227	561	15	588	598	20	598	555	520	135	18
600	248	CF	535 × 535 × 90	344	64	209	561	15	588	598	20	598	555	520	135	18
600	248	CF/FT	535 × 535 × 78	344	64	209	561	15	588	598	20	598	555	520	135	18
600	248	CFL/FTL	535 × 535 × 150	416	136	281	561	15	588	598	20	598	555	520	135	21
600	313	G	535 × 535 × 105	427	82	260	561	15	588	598	20	598	555	520	135	19
600	313	G	535 × 535 × 91	427	82	260	561	15	588	598	20	598	555	520	135	19
600	313	CF	535 × 535 × 90	409	64	242	561	15	588	598	20	598	555	520	135	19
600	313	CF/FT	535 × 535 × 78	409	64	242	561	15	588	598	20	598	555	520	135	19
600	313	CFL/FTL	535 × 535 × 150	481	136	314	561	15	588	598	20	598	555	520	135	22

1 Nominal size, 2 Diameter of spigot, 3 Filter mount, 4 Filter size, 5 Casing height, 6 Distance to casing flange, 7 Connection dimension to spigot centre, 8 Outer dimension of casing, 9 Flange width, 10 Outer dimension of casing flange, 11 Outer dimension of diffuser, 12 Hole spacing of top suspension, 13 Casing projection, 17 ~ Weight

KBE-SCH



KBE-SCH, side view



Product-specific data for KBE-SCH

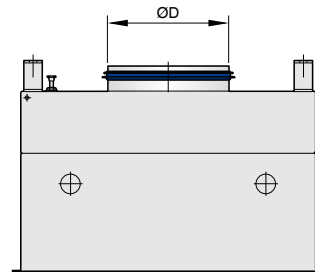
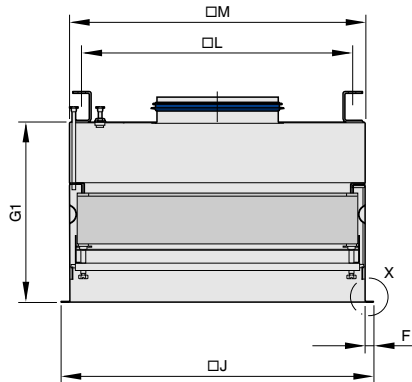
All weights are net, without packaging

								Ceiling type 0 with ED			other options**				
1	2	3	4	5	6	7	8	9	10	11	9	10	11	12	17
NW	ØD	FA	B × H × T	G1*	S*	G*	M	F	J	K	F	J	K	L	kg
400	125	G	345 × 345 × 105	446	42	331	371	10	388	398	15	398	365	330	12
400	125	G	345 × 345 × 91	446	42	331	371	10	388	398	15	398	365	330	12
400	125	CF	345 × 345 × 90	428	42	313	371	10	388	398	15	398	365	330	12
400	125	CF/FT	345 × 345 × 78	428	42	313	371	10	388	398	15	398	365	330	12
500	160	G	435 × 435 × 105	441	37	326	461	15	488	498	20	498	455	420	15
500	160	G	435 × 435 × 91	441	37	326	461	15	488	498	20	498	455	420	15
500	160	CF	435 × 435 × 90	423	37	308	461	15	488	498	20	498	455	420	15
500	160	CF/FT	435 × 435 × 78	423	37	308	461	15	488	498	20	498	455	420	15
600	200	G	535 × 535 × 105	441	37	326	561	15	588	598	20	598	555	520	18.5
600	200	G	535 × 535 × 91	441	37	326	561	15	588	598	20	598	555	520	18.5
600	200	CF	535 × 535 × 90	423	37	308	561	15	588	598	20	598	555	520	18.5
600	200	CF/FT	535 × 535 × 78	423	37	308	561	15	588	598	20	598	555	520	18.5

1 Nominal size, 2 Diameter of spigot, 3 Filter mounting, 4 Filter size, 5 Casing height, 6 Distance to casing flange, 7 Connection dimension to spigot centre, 8 Outer dimension of casing, 9 Flange width, 10 Outer dimension of casing flange, 11 Outer dimension of diffuser, 12 Hole spacing of top suspension, 17 ~ Weight

KBE-TC, -TCA

KBE-TC, -TCA, side view



Product-specific data for KBE-TC, -TCA

All weights are net, without packaging

1	2	3	4	5	8	Ceiling type 0 with ED			other options**			12	17
						9	10	11	9	10	11		
NW	ØD	FA	B × H × T	G1*	M	F	J	K	F	J	K	L	kg
400	158/198	G	345 × 345 × 105	317	371	10	388	398	15	398	365	330	9
400	158/198	G	345 × 345 × 91	317	371	10	388	398	15	398	365	330	9
400	158/198	CF	345 × 345 × 90	299	371	10	388	398	15	398	365	330	9
400	158/198	CF/FT	345 × 345 × 78	299	371	10	388	398	15	398	365	330	9
400	158/198	CFL/FTL	345 × 345 × 150	371	371	10	388	398	15	398	365	330	10.5
500	158/198	G	435 × 435 × 105	312	461	15	488	498	20	498	455	420	11
500	158/198	G	435 × 435 × 91	312	461	15	488	498	20	498	455	420	11
500	158/198	CF	435 × 435 × 90	294	461	15	488	498	20	498	455	420	11
500	158/198	CF/FT	435 × 435 × 78	294	461	15	488	498	20	498	455	420	11
500	158/198	CFL/FTL	435 × 435 × 150	366	461	15	488	498	20	498	455	420	13.5
600	198/248/313	G	535 × 535 × 105	312	561	15	588	598	20	598	555	520	14
600	198/248/313	G	535 × 535 × 91	312	561	15	588	598	20	598	555	520	14
600	198/248/313	CF	535 × 535 × 90	294	561	15	588	598	20	598	555	520	14
600	198/248/313	CF/FT	535 × 535 × 78	294	561	15	588	598	20	598	555	520	14
600	198/248/313	CFL/FTL	535 × 535 × 150	366	561	15	588	598	20	598	555	520	17

1 Nominal size, 2 Diameter of connection spigot, 3 Filter mounting, 4 Filter size, 5 Casing height, 8 Outer dimension of casing, 9 Flange width, 10 Outer dimension of casing flange, 11 Outer dimension of air diffuser, 12 Hole spacing of top suspension, 17 ~ Weight