TK/TKU[d]

Commissioning Box for Supply Air Ceiling Diffusers



Description

The **TK/TKU** version **d**, is our standard commissioning box, designed for airflow regulation with supply air diffusers. The box developed for ceiling installation and features a low construction height which is ideal for flush mounting in suspended (false) ceilings.

The low build height of the **TK** is possible by the internal socket design of the diffuser connection, minimising the total height of the diffuser and box, when assembled. TK is available with 1 or 2-step dimension change between the air duct and the diffuser box connection. For zero/0-step requirements, the **TKU** version with a male connection spigot is available.

Compatible supply air diffusers:
DCR, DRT, DRTI, NAP-T, NHL-T/M, NPL-T/M, NPR-T/M, PET, PETI, PLI, PRC, PRCI, PU, RA, RAI, S2D, SCP-T, STD, TSK, TSKE and TNC.

The TK/TKU boxes feature environmentally friendly acoustic insulation, a supply air distribution plate and a removable damper module for airflow measurement and commissioning. The insulation provides effective sound attenuation, ensuring quiet operation and improved comfort in a variety of environments. The damper module is equipped with a measurement flange and hoses for accurate airflow measurement. The damper blade features adjustment cords, allowing easy commissioning and secure adjustment to the required airflow.

Commissioning is carried out using the supplied K-factors, enabling accurate airflow adjustment and ensuring efficient system operation. The removable damper module provides easy access for cleaning the air ducts. When installed as specified, the adjustment cords also simplify cleaning during routine maintenance and help ensure that the damper can be returned to its commissioned setting afterwards. Combining precise airflow control, efficient use of space and effective sound attenuation, the TK/TKU is ideal for comfort applications requiring high capacity and high ventilation efficiency.

Main features

- Low-profile design for minimal installation height
- High performance and quiet operation
- Uniform airflow distribution for enhanced indoor comfort
- Removable damper for easy commissioning and maintenance

Standard sizes

TK		TKU
1-step	2-step	0-step
125-100	160-100	125-125
160-125	200-125	160-160
200-160	250-160	200-200
250-200	315-200	250-250
315-250	400-250	315-315
400-315	—	—

Airflow range

50 - 2.520 m^3/h (14 - 700 l/s)

Materials

Casing, distribution plate and flanged spigot manufactured from galvanised sheet steel, fitted with an EPDM rubber gasket. Washable, surface-coated insulation made from 100% recycled, non-allergenic, hydrophobic PET material. Damper module manufactured from galvanised steel, with polyester adjustment cords. Measurement device comprising a galvanised steel and aluminium tube with a silicone hose

Installation

Note: In order to achieve the required accuracy, a straight section/stretch of duct must be maintained before the product, following obstacles in the airflow direction:

- Duct bend/*Elbow:* The box can be installed directly after a bend.
- T-piece/*Tee:* The box must be installed efter a straight stretch, equal or higher to 4 times the duct diameter (≥4 x Ø)
- The box spigot is connected directly to a circular supply air duct.
- Connection to a flexible duct is possible but not recommended.
- The diffuser is connected directly to the box socket.

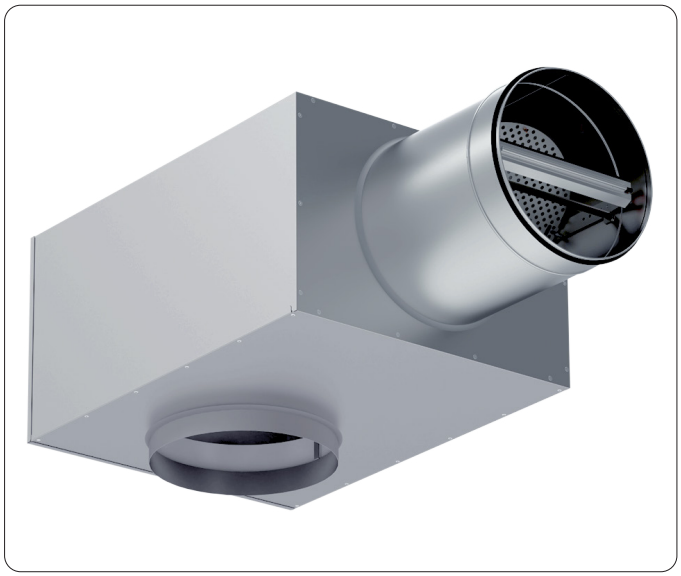


Image 01 *TKU – 0-step variant*

The connection between diffuser and box can extended with circular duct:

- For installations in suspended/false ceilings, the MN accessory can be used to extend the connection by 40 mm.
- If the extension exceeds 500 mm, extending the measurement hoses and damper cords is necessary.

Designations

Size designation of the TK/TKU commissioning box refers to the connections in mm, according to:

- **PRODUCT – DIFFUSER DIM – DUCT DIM** (e.g. TK-125-100) indicates a box with a diffuser connection of Ø125 mm and a duct connection of Ø100 mm.

The terms **0-step, 1-step and 2-step** refer to the difference between the connections of the box:

- **0-step** – indicates there is no difference in duct dimension between the diffuser side and the duct side, e.g: 125-125, 160-160, 200-200, 250-250, 315-315.
- **1-step** – indicates a difference of one duct dimension between the diffuser side and the duct side, e.g: 125-100, 160-125, 200-160, 250-200, 315-250, 400-315.
- **2-step** – indicates a difference of two duct dimensions between the diffuser side and the duct side, e.g: 160-100, 200-125, 250-160, 315-200, 400-250.

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Dimensions – TK

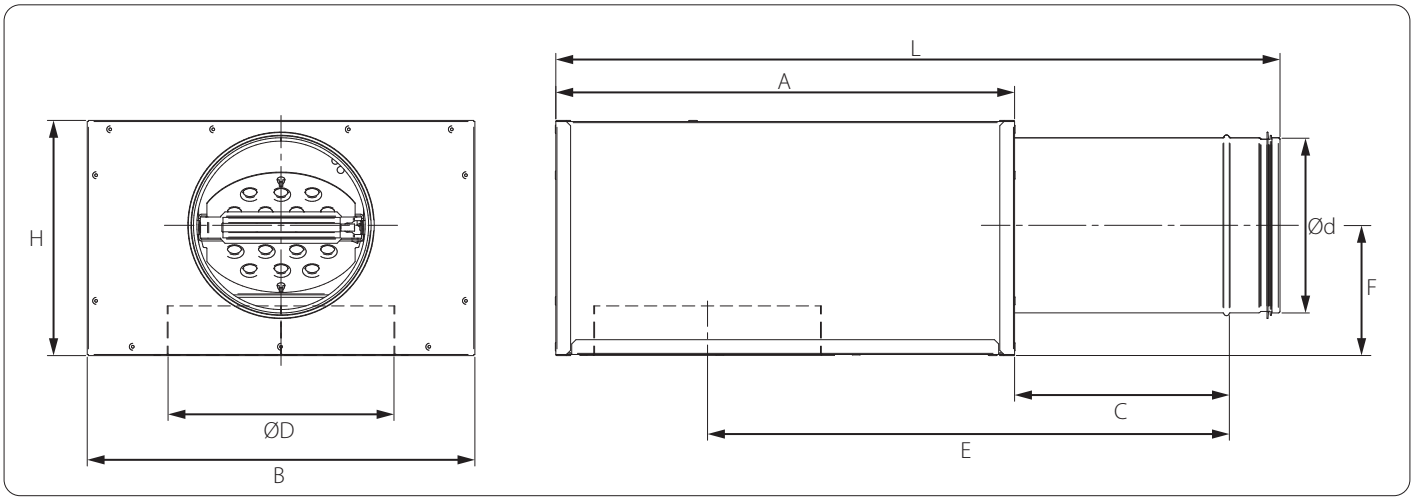


Image 01 *TK dimensions – 1- & 2-step variants*

Table 01 *TK dimensions (mm) – 1-step variant*

Size	ØD*	Ød*	A	B	C	E	F	H	L	Weight (kg)
125-100	125	100	255	238	129	294	80	140	420	1,84
160-125	160	125	325	273	152	370	93	165	513	2,53
200-160	200	160	395	313	173	441	110	200	604	3,47
250-200	250	200	475	368	194	517	130	240	705	4,76
315-250	315	250	590	443	219	624	160	295	865	6,90
400-315	400	315	715	548	279	767	188	355	1050	10,6

**Tolerance according to EN1506*

Table 02 *TK dimensions (mm) – 2-step variant*

Size	ØD*	Ød*	A	B	C	E	F	H	L	Weight (kg)
160-100	160	100	325	273	129	347	80	140	490	2,24
200-125	200	125	395	313	152	420	93	165	583	3,02
250-160	250	160	475	368	173	496	110	200	684	4,18
315-200	315	200	590	443	194	599	130	240	820	5,95
400-250	400	250	715	548	219	707	160	295	990	8,78

**Tolerance according to EN1506*

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Dimensions – TKU

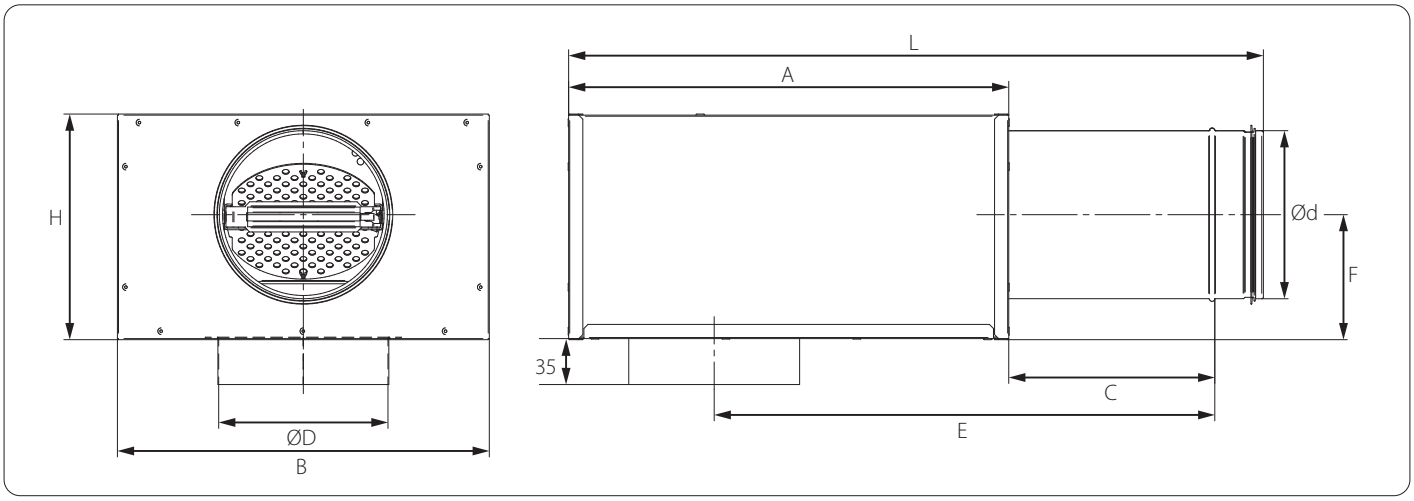


Image 02 *TKU dimensions, 0-step vaiant*

Table 03 *TKU dimensions (mm), 0-step variant*

Size	ØD*	Ød*	A	B	C	E	F	H	L	Weight (kg)
125-125	125	125	325	273	152	370	93	165	513	2,53
160-160	160	160	395	313	173	441	110	200	604	3,47
200-200	200	200	475	368	194	517	130	240	705	4,76
250-250	250	250	590	443	219	624	160	295	865	6,90
315-315	315	315	715	548	279	767	188	355	1050	10,60

**Tolerance according to EN1506*

K-factors

Table 04 *K-factors for commissioning purposes*

Product Size	K-factor l/s	K-factor m³/h
125-100 160-100	6,13	22,1
125-125 160-125 200-125	10,8	38,9
160-160 200-160 250-160	17,3	62,3
200-200 250-200 315-200	27,2	97,9
250-250 315-250 400-250	38,8	140
315-315 400-315	66,2	238

Measurement accuracy: ±5%

Table 05 *K-factor formulas*

From [Unit]	K-factor formula
Product K-factor – K	$K = q \times \sqrt{Pi}$
The airflow – q [l/s alt. m³/h]	$q = K \times \sqrt{P_i}$
Commissioning pressure – P_i [Pa]	$P_i = (q / K)^2$

Ordering code

Table 06 *Ordering code*

TK/TKU	-XXX-XXX
Product	*diffuser dim. – duct dim. (mm)*
TK	**1-step** 125-100 160-125 200-160 250-200 315-250 400-315
TK	**2-step** 160-100 200-125 250-160 315-200 400-250
TKU	**0-step** 125-125 160-160 200-200 250-250 315-315
Example TK-160-125	

Table 05 *K-factor formulas*

From [Unit]	K-factor formula
Product K-factor – K	$K = q \times \sqrt{Pi}$
The airflow – q [l/s alt. m^3/h]	$q = K \times \sqrt{P_i}$
Commissioning pressure – P_i [Pa]	$P_i = (q / K)^2$

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