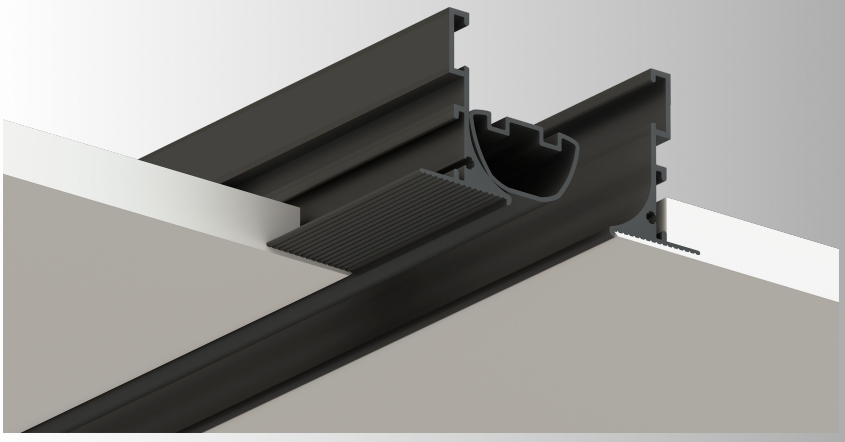


DSCXL

Slot diffuser for plasterboard ceilings

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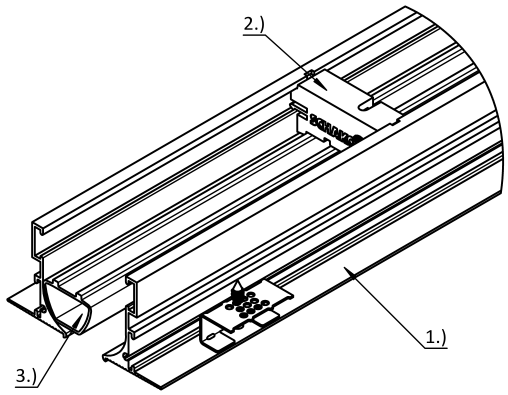
Plenum box order code 23

Order code corner angle 24

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OVERVIEW OF PRODUCT VERSIONS

DSCXL-1-Z-… (supply air)

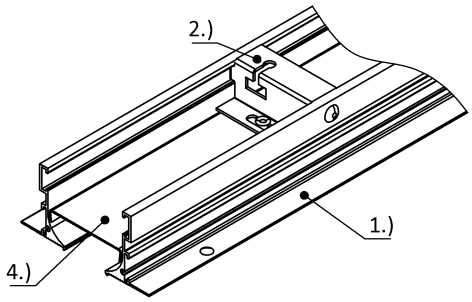


1.) Frame profile

2.) Connecting bridge

3.) Blade

DSCXL-1-A-… (return air)



1.) Frame profile

2.) Connecting bridge

4.) Perforated plate (simplified illustration)

Function and use

The slot diffuser type DSCXL is suitable for use in rooms with a height between 2.6 m and 4 m for direct installation in plasterboard ceilings or ceiling cavities (pressure ceilings). The special shape of the frame profile allows good installation in the plasterboard ceiling.

Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid. The blades adjustable from below allow a variety of throw adjustment options. In cooling mode, a one- or two-way air throw pattern can be set. This achieves high induction while the velocity and temperature difference of the supply air jet are effectively reduced.

The large free cross-section allows a greater volumetric flow compared with other slot diffusers. Thanks to its stable air jet and high induction, the DSCXL slot diffuser can be used in cooling mode up to $\Delta T \leq 12$ K.

The resistance generated by the blades ensures that the supply air is distributed equally across the whole length of the slot diffuser.

Models

DSCXL-1-…	single-slot, with 30 mm slot width
DSCXL-…-Z	supply air (with blades)
DSCXL-…-A	return air (without blade, with perforated plate)
DSCXL-…-PL	frame profile PLASTER
DSCXL-...-V	blades vertical throw
DSCXL-…-L	blades with horizontal one-way throw to the left (standard)
DSCXL-…-R	Blades with one-way horizontal throw to the right
DSCXL-…-0	without blades, with perforated plate (for return air)
DSCXL-…-N	single design (length max. 1500 mm)
DSCXL-…-B	Band design (available lengths according to SCHAKO standard for band design)

Mounting

- without mounting of box (-OM)

Quick selection

with plenum box, supply air model (with blade)

Values for length L = 1000 mm

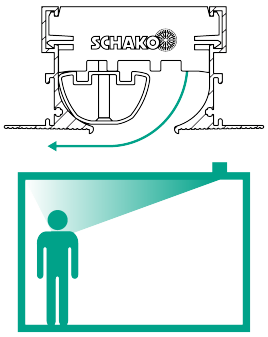
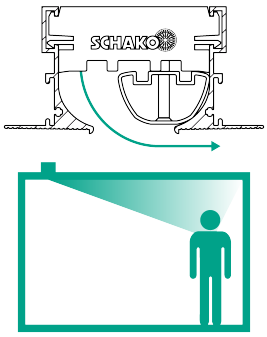
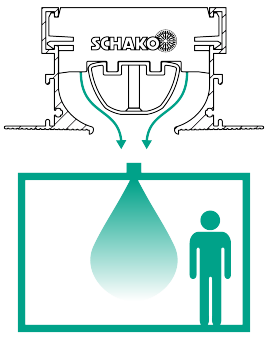
V_{ZU}		Δp_t (Pa)	L_{WA} (dB(A))
(m³/h)	[l/s]		
200	56	17	27
250	69	27	33
300	83	39	36
350	97	53	39
400	111	69	42
450	125	88	46

with plenum box, return air model (without blade)

Values for length L = 1000 mm

V_{AB}		Δp_t (Pa)	L_{WA} (dB(A))
(m³/h)	[l/s]		
200	56	12	<20
250	69	18	25
300	83	27	30
350	97	37	35
400	111	48	38
450	125	60	42

Blade position for air jet

Blade position (-L) with horizontal one-way throw to the left (standard)	**Blade position (-R)** one-way horizontal throw to the right
	
Blade position (-V) vertical throw	
	

Construction subject to change. No return possible.

Processing

Frame surface

- frame profile PLASTER (-PL) made of:
  - natural aluminium (-ALRO) (standard)
  - aluminium painted to:
    - RAL colour 9010 (white) (-9010)
    - RAL colour 9011 (graphite black) (-9011)
    - a different RAL colour, freely selectable (-xxxx) (always with four digits)

Blade colour

- aluminium painted to:
  - colour similar to RAL 9010 (white) (-L9010)
  - colour similar to RAL 9011 (graphite black, standard) (-L9011)
  - a freely selectable RAL colour (-Lxxxx) (always with five digits)
- for return air without blade (-00000), with perforated plate made of sheet steel painted to RAL 9011 (graphite black), as cover screen

Blade holder

- Plastic painted to RAL 9011 (graphite black)

Fishplate

- made of aluminium
- for band design only
- Supplied loose (2x for each connection)

End piece (-EP/-EB)

- with surrounding edge for plastering, mounted ex-works on both sides (-EP) (standard)
  - made of galvanised sheet steel, painted to the RAL colour of the frame profile
- straight, mounted ex works on both sides (-EB)
  - made of galvanised sheet steel, painted to the RAL colour of the frame profile

In the band design, the end piece is mounted to the left side of the section (left TS) and to the right side of the difference in length (DL) as a standard.

Mounting bracket

- made of perforated sheet steel
- Supplied loose
- for plasterboard ceiling:
  - ceiling depth T = 12.5 mm (-125) (standard)
  - ceiling depth T = 9.5 mm (-095)
  - ceiling depth (T) can be freely selected (-xxx, always with three digits)
- mounting aid for screw connection

Accessories

Plenum box (-ASK-27)

- Model (number of slots):
  - single-slot (-1)
- Single / band design:
  - single design (-N, length of box KL min. 300 mm to max. 1500 mm)
  - Band design (-B, available lengths according to SCHAKO standard for band design)
- Length:
  - length L = 1000 mm (-01000) (length of box KL=1000 mm)
  - length L = 1500 mm (-01500) (length of box KL=1500 mm)
  - length (L/BL) in mm, freely selectable (-xxxxx, always with five digits) (length of box KL = L / total length of box GKL = BL)
- Mounting of box:
  - without diffuser mounting (-OM)
- Material:
  - Galvanised sheet steel (-SV)
- Damper:
  - Without damper (-DK0) (standard)
  - with damper and cable-operated adjustment (-DK2), made of galvanised sheet steel, in the connection spigot, adjustable, for simple air volume regulation
- Rubber lip seal:
  - without rubber lip seal (-GD0) (standard)
  - With rubber lip seal (-GD1) on the connection spigot
- Insulation:
  - without insulation (-I0) (standard)
  - with external insulation (-Ia), thermal insulation at the outside of the plenum box
- Height of box:
  - Standard height of box (-KHS)
  - Height of box (KHS) in mm, freely selectable (-xxx) (always with three digits) (minimum height of plenum box [KHS] with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 250 mm)
- Spigot position:
  - Spigot from above (-S0)
  - Lateral spigot (-S1) (standard)
  - Spigot front side (-S4) (not possible for band design)
- Spigot diameter:
  - Standard spigot diameter (-SDS)
  - spigot diameter (øD) in mm, freely selectable (-xxx, always with three digits)
- mounting without riveting nut (-E0)
- with air diffuser plate, made of galvanised sheet steel

Dummy piece (-BS0/-BS1)

- without dummy piece (-BS0) (standard)
- with dummy piece (-BS1):
  - made of sheet steel painted to RAL colour 9011 (graphite black)
  - possible from length L ≥ 300 mm
  - only possible without plenum box ASK-27

Corner angle (-EW-27)

Model (number of slots) single-slot (-1), with slot width 30 mm

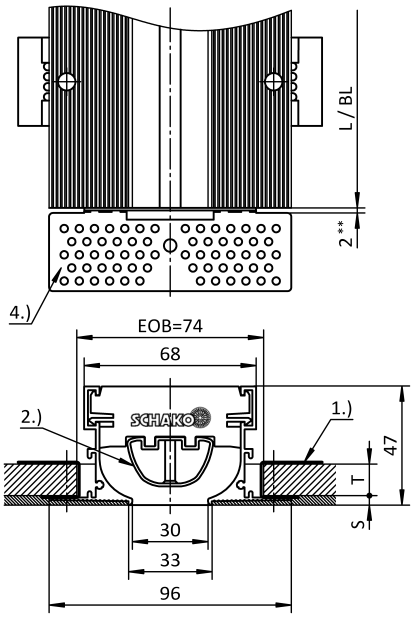
Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid.

- Frame profile PLASTER (-PL)
- Frame surface:
  - natural aluminium (-ALRO) (standard)
  - aluminium painted to:
    - RAL colour 9010 (white) (-9010)
    - RAL colour 9011 (graphite black) (-9011)
    - a different RAL colour, freely selectable (-xxxx) (always with four digits)
- Dummy plate colour, made of painted sheet steel:
  - colour similar to RAL 9010 (white) (-B9010)
  - colour similar to RAL 9011 (graphite black) (-B9011) (standard)
  - any RAL colour, freely selectable (-Bxxxx) (always with five digits)
- Angle between sides:
  - angle α = 90° (-090) (standard)
  - angle (α) as required (-xxx), values between α = 90° (-090, standard) and 170° (-170) are possible (always with three digits)
- Left side length (a):
  - standard length L = 250 (-000)
  - Length (L) in mm can be freely selected (-xxx) (minimum length = standard length) (always with three digits)
- Right side length (b):
  - standard length L = 250 (-000)
  - Length (L) in mm can be freely selected (-xxx) (minimum length = standard length) (always with three digits)
- with 4 fishplates (-VL, included in delivery) made of aluminium (same colour as frame), supplied loose
- Ceiling installation by means of screw mounting with mounting bracket
- Ceiling depth of plaster board:
  - ceiling depth T = 9.5 mm (-095)
  - ceiling depth T = 12.5 mm (-125) (standard)
  - ceiling depth (T) can be freely selected (-xxx) (always with three digits)

DIMENSIONS

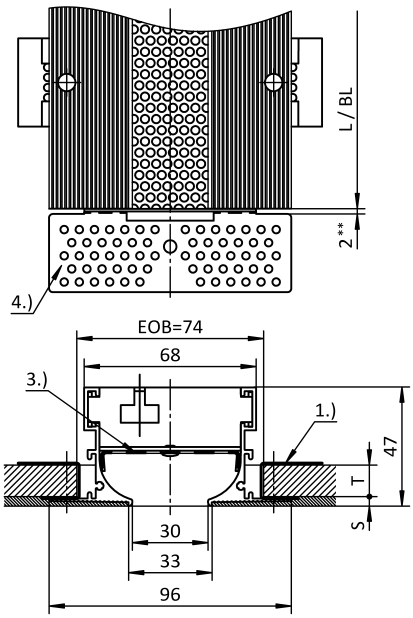
Supply air (-Z)

DSCXL-1-Z (single-slot)



Return air (-A)

DSCXL-1-A (single-slot)



Filling

For screw connection: **S = 4 mm**

Plasterboard ceiling

T = 9.5 mm / 12.5 mm (standard) / can be freely selected (see Page 16)

Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid (see Page 16). The number of brackets depends on the length (L).

1.) Mounting bracket included in delivery

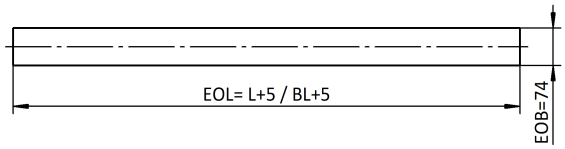
2.) Blade

3.) Perforated plate

4.) End piece -EP

** Gap width between frame and end piece -EP

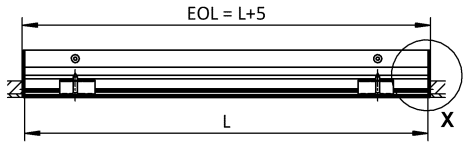
Installation opening



Available lengths for the slot diffuser

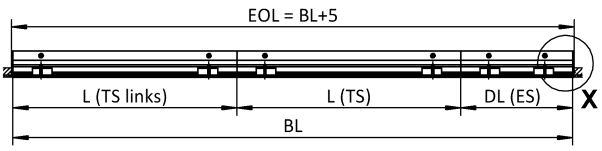
Single design (-N)

- Length L = **1000** mm (-N-01000) (length of box KL = 1000 mm)
- Length L = **1500** mm (-N-01500) (length of box KL = 1500 mm)
- length (L) in mm, freely selectable (-N-xxxxx) (always with five digits)
  (Length of box KL = L, can be fitted with a plenum box in case of single design lengths L = ≥300 mm to ≤1500 mm)



Band design (-B)

- Length (L) in mm, freely selectable, as band (-B-xxxxx) (always with five digits) (total length of box GKL = BL)



Available lengths according to SCHAKO standard:

When the slot diffuser type DSCXL is designed as a band, the total length BL is assembled from lengths (sections) of **1000 mm or 1500 mm**. The difference pieces are supplied in lengths from **≥300 mm to <1500 mm**.

A different band division is possible after consultation and when required by the customer.

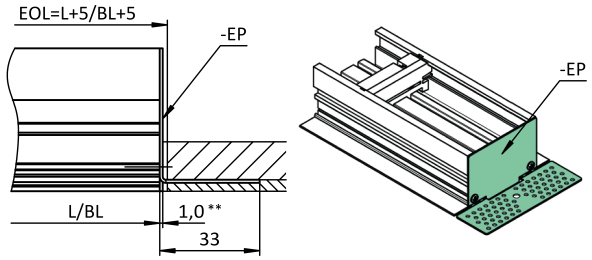
ES = End piece
TS = Section
TS left= Left section
L = Length
DL = Difference distance
BL = Length of band
KL = Length of box
GKL = Total length of box
EOB = Installation opening in the width section
EOL = Installation opening in the length section (EOL = L+5 / BL+5)

End piece (-EP / -EB)

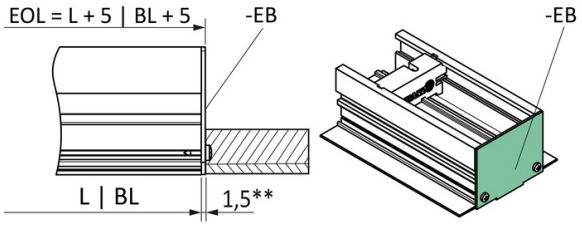
- with end piece with surrounding edge for plastering, mounted ex works on both sides (-EP) (standard)
- with straight end piece, mounted ex works on both sides (-EB)

Detail X

End piece -EP (standard)



End piece -EB



End pieces are mounted ex works on the slot diffuser, as plastering edge for elegant filling.

In the single design, the end pieces are fixed to the left and right front side of the slot diffuser.

In the band design, the end piece is mounted to the left side of the section (left TS) and to the right side of the difference in length (DL) as a standard.

Plasterboard ceiling

For screw connection, mounting brackets (mounting aid) are supplied loose (see Page 16).

The number of brackets depends on the length (L).

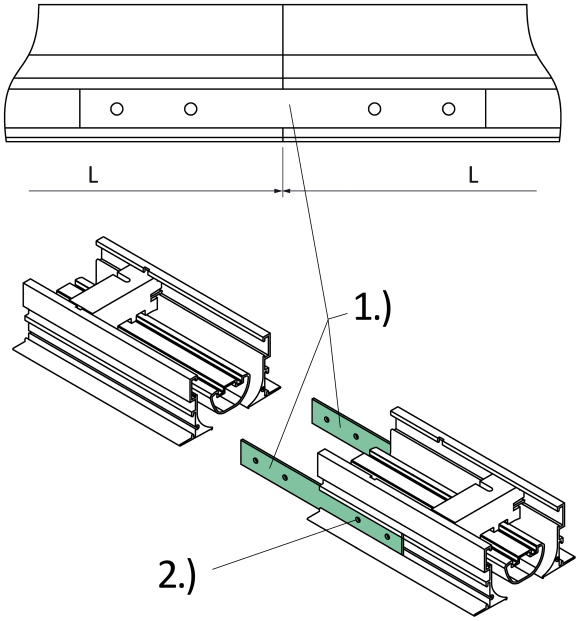
** Material thickness end piece
TS left= Left section
L = Length
DL = Difference distance
BL = Length of band
EOL = Installation opening in the length section (EOL = L+5 / BL+5)

Slot diffuser connection in band design

Slot diffuser - slot diffuser / slot diffuser - corner angle

With fishplates:

Supplied loose (2x for each connection)



1.) Fishplates

2.) Riveted on site

DIMENSIONS OF ACCESSORIES

Plenum box (-ASK-27)

Spigot position

Spigot position in the plenum box, single design:

S0 = 2 spigots from above

S1 = 2 lateral spigot (standard)

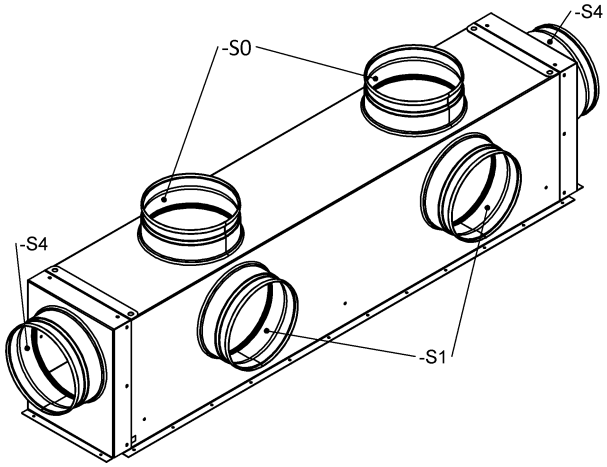
S4 = 2 spigots front side (one left + one right) (in the centre of the box width KB)

Spigot position in the plenum box, band design:

S0 = **for standard length**: 2 spigots from above
for difference in length: 1 or 2 spigots from above

S1 = **for standard length**: 2 lateral spigots
for difference in length: 1 or 2 lateral spigots

S4 = not possible



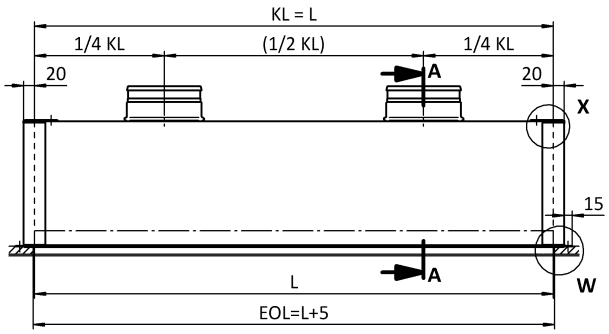
For dimensions of the plenum box, see Page 11 + Page 10.

Plenum box (-ASK-27-1-N-...) in single design

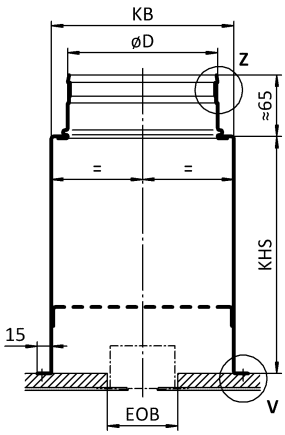
Box mounted without diffuser mounting (-OM)

with spigot from above (-S0):

DSCXL-1-...-ASK-27-1-N-...-S0

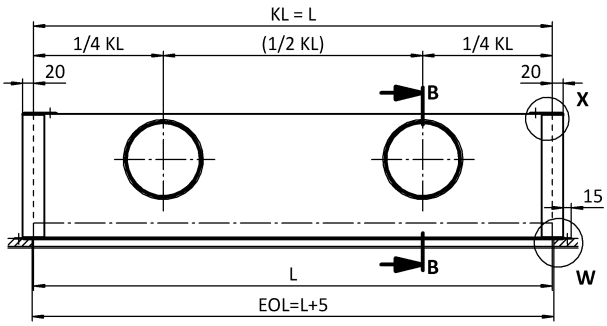


Section A-A

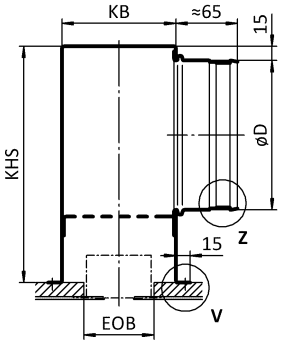


With lateral spigot (-S1, standard):

DSCXL-1-...-ASK-27-1-N-...-S1

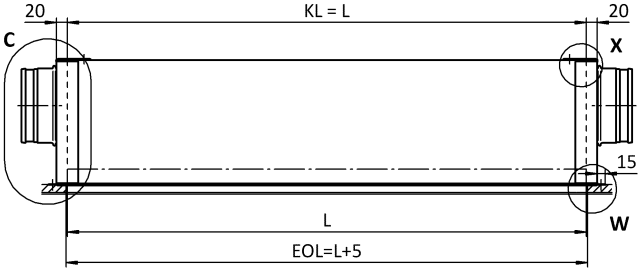


Section B-B

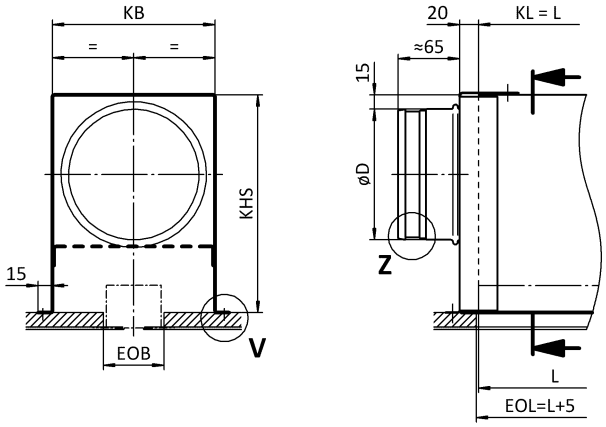


With spigot front side (-S4):

DSCXL-1-...-ASK-27-1-N-...-S4



Detail C



Available sizes for plenum box (-ASK-27-1-N)

L	EOL	KL	EOB	KHS	KB		øD	(kg)
					-S1	-S0/-S4		
1000	1005	1000	74	250	120	192	ø158	4,9
1500	1505	1500	74	250	120	192	ø158	7,7

All dimensions in mm.

Number of connection spigots and spigot diameter øD

øD		
L ≥ 400 to L ≤ 500	L > 500 to L ≤ 1000	L > 1000 to L ≤ 1500
1 x ø158	2 x ø158	3 x ø158

The plenum box ASK-27 is manufactured as standard in the box lengths KL = 1000 mm or 1500 mm.

Intermediate lengths and other spigot diameters on request.

Minimum height of box [KHS] with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 250 mm.

For rubber lip seal, detail Z, see Page 13.
For fastening detail, detail V and W, see Page 12.
For plenum box suspension, detail X, see Page 12.
For installation opening, see Page 7.

L = Length
KL = Length of box
EOL = Installation opening in the length section (EOL = L+5)
EOB = Installation opening in the width section

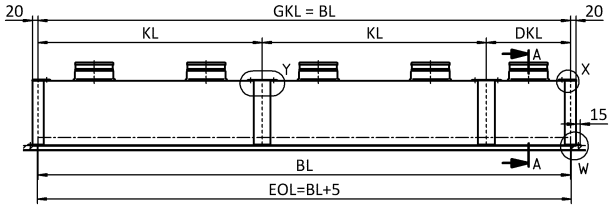
Plenum box (-ASK-27-1-B-…) in band design

Box mounted without diffuser mounting (-OM)

with spigot from above (-S0):

DSCXL-…-ASK-27-…-B-…-S0

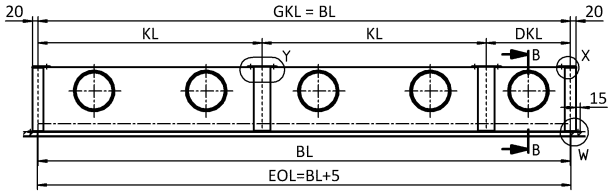
Difference box length (DKL = ≥300 to ≤1500)



With lateral spigot (-S1) (standard):

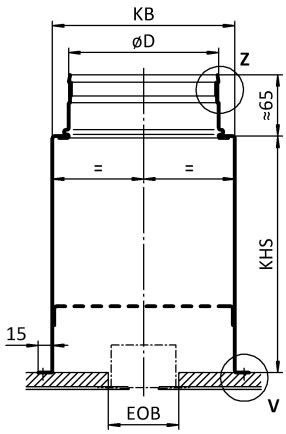
DSCXL-…-ASK-27-…-B-…-S1

Difference box length (DKL = ≥300 to ≤1500)



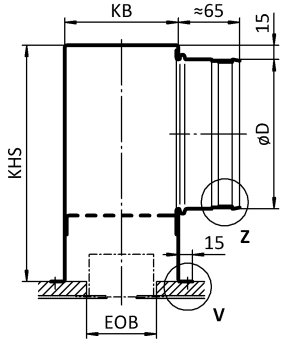
Section A-A

With spigot from above (-S0)
DSCXL-…-ASK-27-…-B-…-S0



Section B-B

With lateral spigot (-S1)
DSCXL-…-ASK-27-…-B-…-S1



Spigot front side position (-S4) **not** possible for band design.

Available sizes for plenum box (-ASK-27-1-B-…)

KL	KB		KHS	øD	EOB
	-S1	-S0			
1000	120	192	250	ø158	74
1500					

All dimensions in mm.

Number of spigots in difference box:

DKL ≥ 300 mm to < 560 mm = with 1 spigot
DKL ≥ 560 mm to ≤ 1500 mm = with 2 spigots

Available lengths according to SCHAKO standard:

For the plenum box in band design (BL= >1500 mm), the total length of the box GKL is divided into standard lengths KL=1000 mm or KL=1500 mm and one difference box.

The difference box is available with a length (DLK) of ≥ 300 mm to ≤1500 mm.

A difference box with a length (DKL) of <300 mm is not possible.

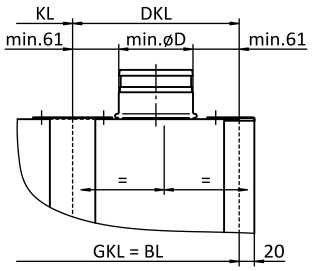
Box section and box front side fastening as well as a connecting angle must be provided on site.

Intermediate lengths and other spigot diameters on request.

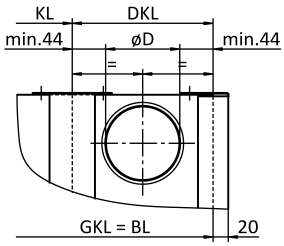
Minimum height of box KHS with spigot position S1 = spigot diameter øD + 82 mm / with spigot position S0 = 250 mm.

Minimum distance spigot in the plenum box

with spigot from above (-S0):



With lateral spigot (-S1):



As standard, the plenum box difference piece (DKL) has the same dimensions KHS / KB / øD as the plenum box standard piece (KL).

For rubber lip seal, detail Z, see Page 13.
For fastening detail, detail V, see Page 12.
For plenum box suspension, detail X and Y, see Page 12.
For installation opening, see Page 7.

KL = Length of box
DKL = Difference in length of box
GKL = Total length of box
BL = Length of band
EOL = Installation opening in the length section
EOB = Installation opening in the width section

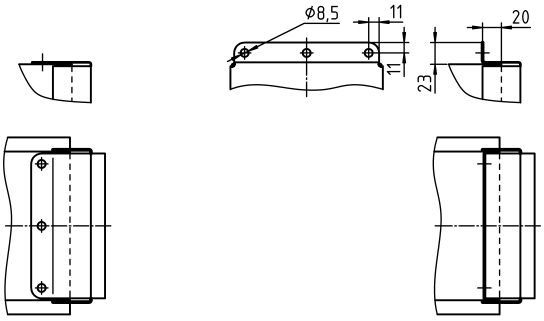
Plenum box suspension

Single design / band design

Detail X (box front side)

As-delivered condition
With fitted fixing lug

On site
With bent mounting bracket

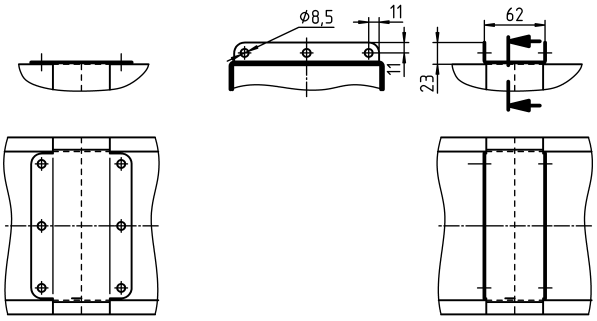


band design

Detail Y (connecting bracket)

As-delivered condition
With fitted fixing lug

On site
With bent mounting bracket

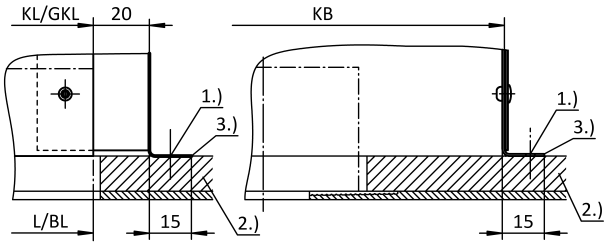


Fastening details

For suspension, the plenum box is provided with fixing holes. A permanent connection to the plasterboard ceiling via Ø 3.2 bores is also possible. In this case, the plenum box must be additionally decoupled from the plasterboard ceiling using vibration dampening material.

A suitable filling compound must be provided on site.

Detail W **Detail V**



1.) Fastening on site ø3.2

2.) Plasterboard ceiling

3.) Decoupling (leak proofing on site)

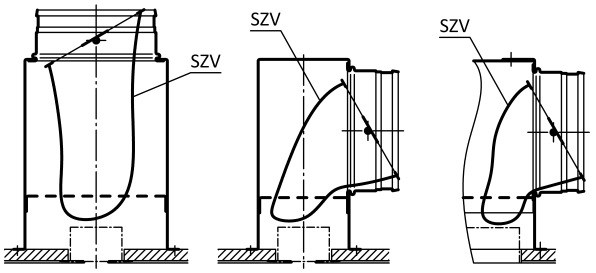
If a plenum box is used, make sure that it has no direct contact to the diffuser. The volumetric flow adjustment must be carried out on site.

Damper (-DK0/-DK2), for ASK-27

- Without damper (-DK0) (standard)
- with damper and cable-operated adjustment (-DK2)

DK2 (with cable-operated adjustment):

Spigot from above (-S0)	Spigot on the side (-S1)	Spigot front side (-S4)

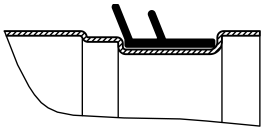


SZV = cable-operated adjustment

Rubber lip seal (-GD0/-GD1), for ASK-27

- without rubber lip seal (-GD0) (standard)
- With rubber lip seal (-GD1) on the connection spigot

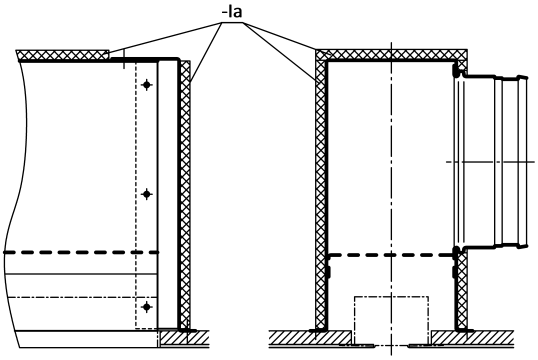
Detail Z



Insulation (-I0/-Ia), for ASK-27

- without insulation (-I0) (standard)
- with external insulation (-Ia)

External (-Ia)

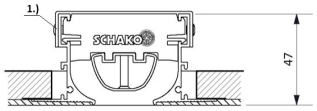


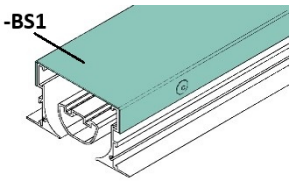
Dummy piece (-BS0/-BS1)

- without dummy piece (-BS0) (standard)
- with dummy piece (-BS1):
  - made of sheet steel painted to RAL colour 9011 (graphite black)
  - possible from length L ≥ 300 mm
  - only possible without plenum box ASK-27

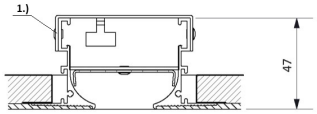
with dummy piece (-BS1)

for supply air: DSCXL-1-Z





for return air: DSCXL-1-A



1.) Dummy piece

Available lengths

see available lengths of slot diffuser, see Page 7.

Corner angle 90° (-EW-27-…-090-…)

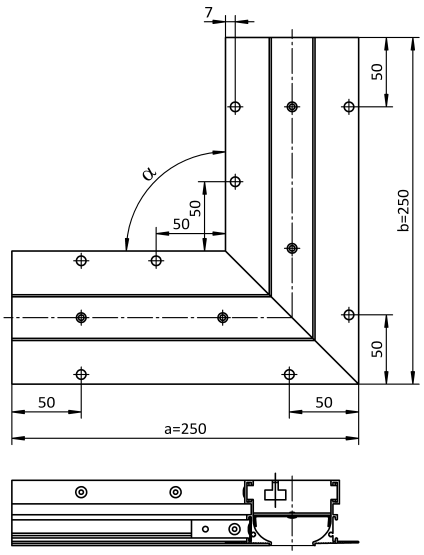
Corner angles can only be produced as dummy pieces, i.e., without a plenum box.

Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid (see Page 16).

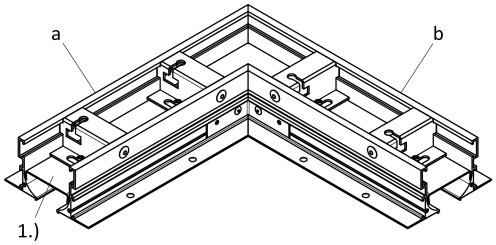
The connection between the diffuser and corner angle is performed by means of fishplates (see Page 9). 4 fishplates are included in delivery (2 for each connection). They are supplied loose.

Standard left-side length (a) L = 250 (-000)/right-side length (b) L = 250 (-000). Other side lengths (a/b) are available upon request (minimum length = standard length).

Values between α = 90° (-090, standard) and 170° (-170) are possible.



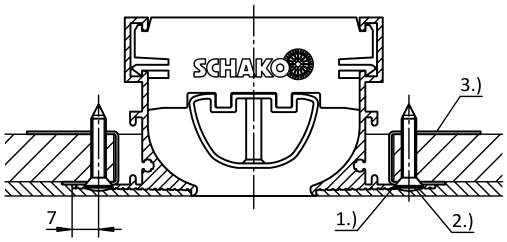
a = Left side length
b = Right side length



1.) = Dummy plate
a = Left side length
b = Right side length

FASTENING METHODS

screw connection (on site)



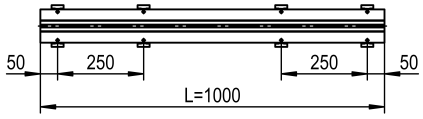
1.) Indentation ISO 15065-4

2.) Dry wall screw 3.5 x 35, use according to DIN EN 14566 on site

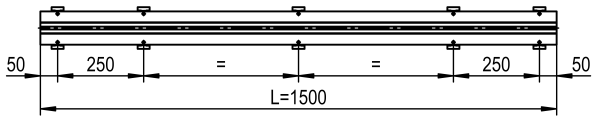
3.) Mounting bracket

Number of indentations, single design

L = 1000 / with 8 indentations



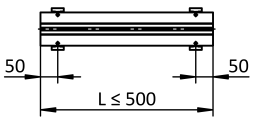
L = 1500 / with 10 indentations



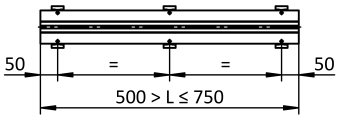
Number of indentations, band design

For compensation pieces and sections

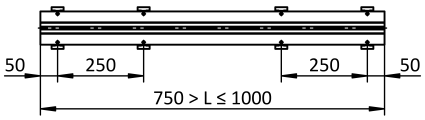
L ≤ 500 / with 4 indentations



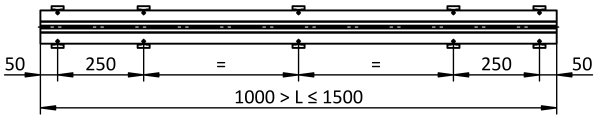
L= >500 to ≤750 / with 6 indentations



L= >750 to ≤1000 / with 8 indentations



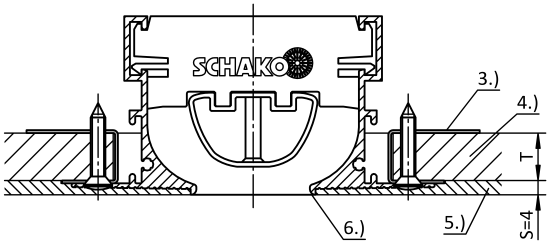
L= >1000 to ≤1500 / with 10 indentations



ASSEMBLY DETAIL

With mounting bracket:

for screw connection (on site)



3.) Mounting bracket

4.) Plasterboard ceiling

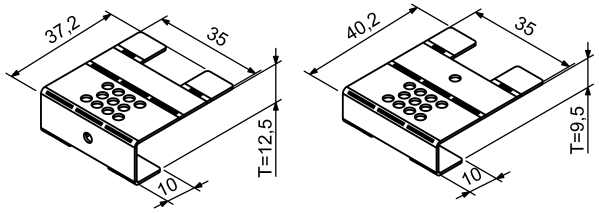
5.) Multiple filling on site (depending on quality level)

6.) Special plastering edge for elegant filling

Number of mounting brackets (mounting help)

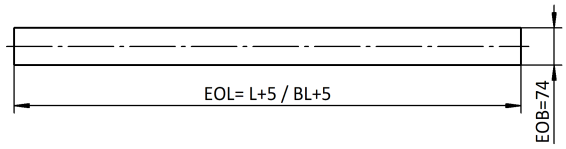
4 mounting brackets:	L / DL = ≤ 500 mm
6 mounting brackets:	L / DL = > 500 to ≤ 750
8 mounting brackets:	L / DL = > 750 to ≤ 1000
10 mounting brackets:	L / DL = > 1000 to ≤ 1500

Mounting bracket:



The mounting bracket is supplied loose and unbent. It will then be canted on site in order to fit the required ceiling depth. The single bore serves here as a marking for the ceiling depth T=12.5.

Plasterboard ceiling



Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid. The number of brackets depends on the length (L).

Filling

For screw connection: **S = 4 mm**

L = Length (for single / band design)
DL = difference in length (for band design)
EOB = Installation opening in the width section
EOL = Installation opening in the length section

INSTALLATION INSTRUCTIONS

The installation of the DSCP / DSCPL / DSCL / DSCXL slot diffusers is identical (see installation instructions “DSCP / DSCPL / DSCL / DSCXL installation in plasterboard ceilings“).

Film see YouTube:
https://youtu.be/jcFsmPI0D18

Note: Before applying the filler, a quartz primer should be applied to the bare aluminium profile to ensure better adhesion. For painted profiles, special primers should be used which are particularly suitable for low-porosity surfaces.

Mounting instructions

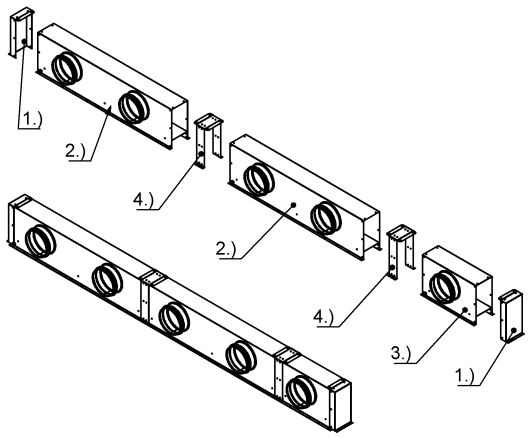
Blade position

The air deflection can be adjusted from below in order to obtain the desired air flow behaviour.

Please follow the steps described below to adjust the air flow behaviour:

1. Loosen the adjustment screws slightly until the blade can be moved. It's not necessary to loosen the screws completely.
2. Bring the blade in the required position and tighten the adjustment screws again.

Plenum box



1.) Box front side

2.) Plenum box band design standard

3.) Plenum box band design difference piece

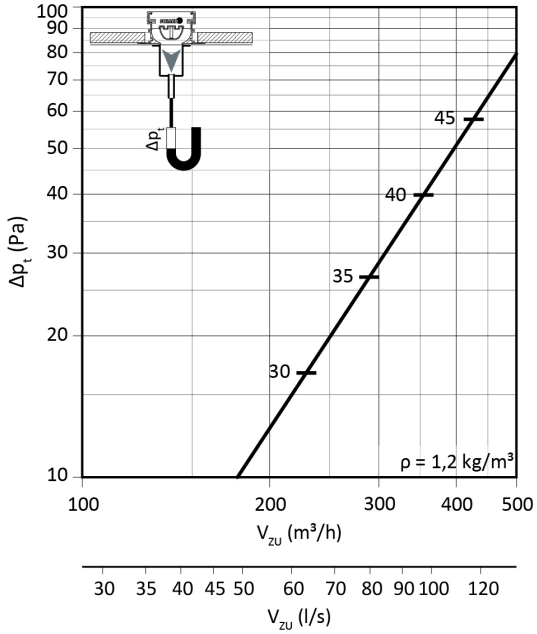
4.) Connecting angle

TECHNICAL DATA

Pressure loss and noise level

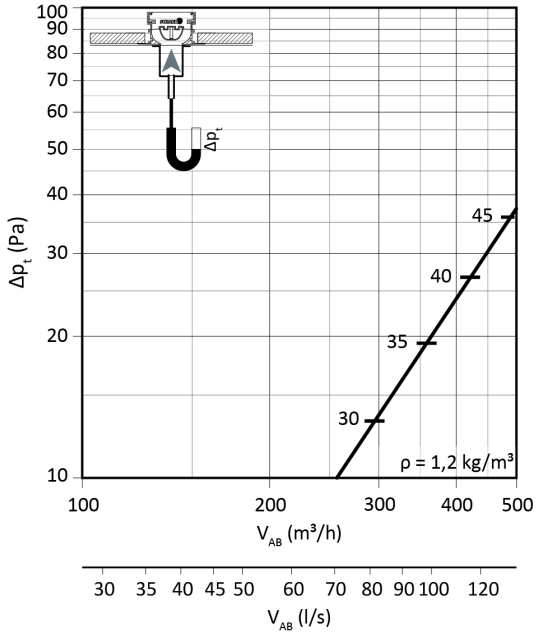
DSCXL-1-Z-...-01000-...

(L = 1000 mm, supply air, without plenum box)



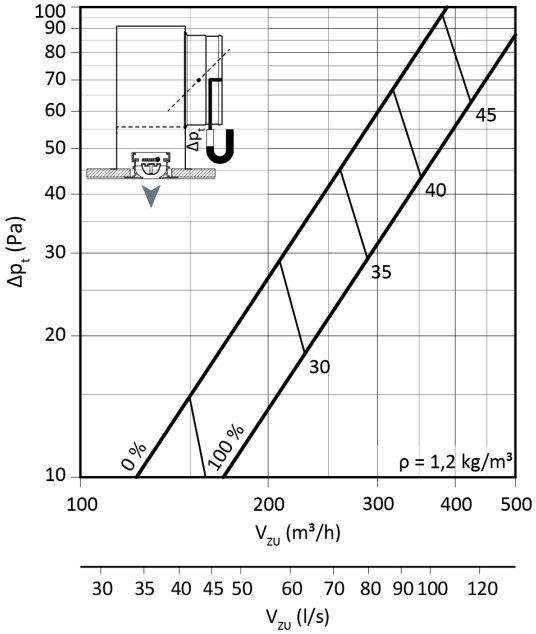
DSCXL-1-A-...-01000-...

(L = 1000 mm, return air, without plenum box)



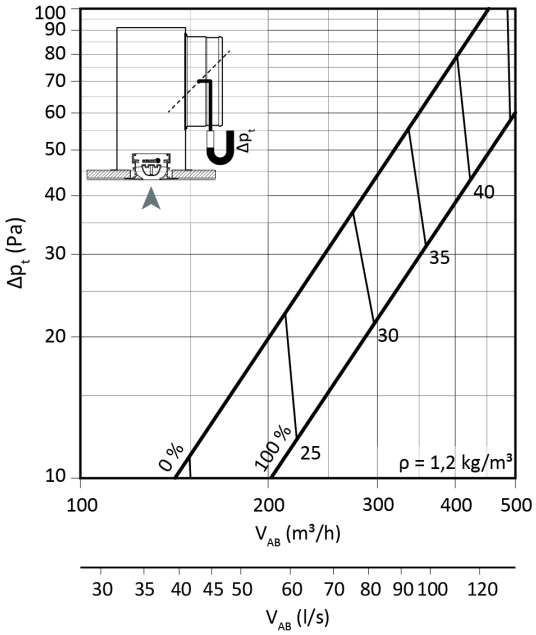
DSCXL-1-Z-...-01000-...-ASK-...-DK2

(L = 1000 mm, supply air, with plenum box, with damper)



DSCXL-1-A-...-01000-...-ASK-...-DK2

(L = 1000 mm, return air, with plenum box, with damper)



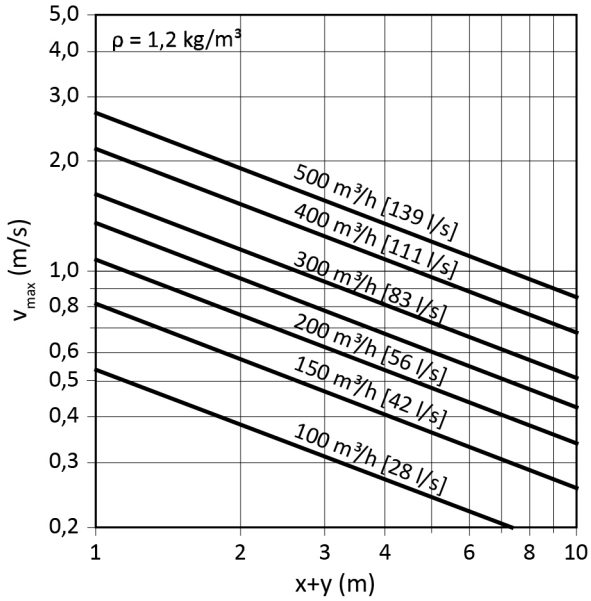
Octave band sound power level

L_{WA} [dB(A)]	f_m (Hz)							
	63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
25	47	32	27	21	<15	<15	<15	<15
30	48	39	35	27	18	<15	<15	<15
35	48	44	40	33	25	<15	<15	<15
40	49	46	45	39	32	20	<15	<15
45	48	49	49	44	39	29	23	<15

Maximum final jet velocity

DSCXL-1-Z-...-01000-...-ASK-... (with coanda effect)

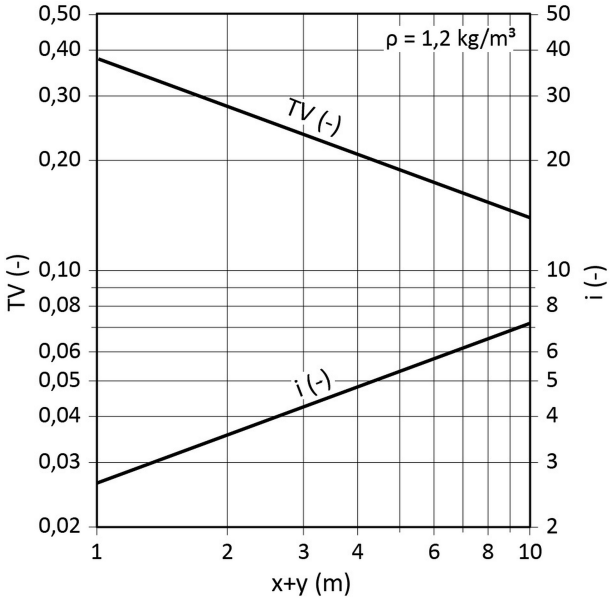
(L = 1000 mm, supply air)



Temperature and induction ratios

DSCXL-1-Z-...-01000-...-ASK-... (with coanda effect)

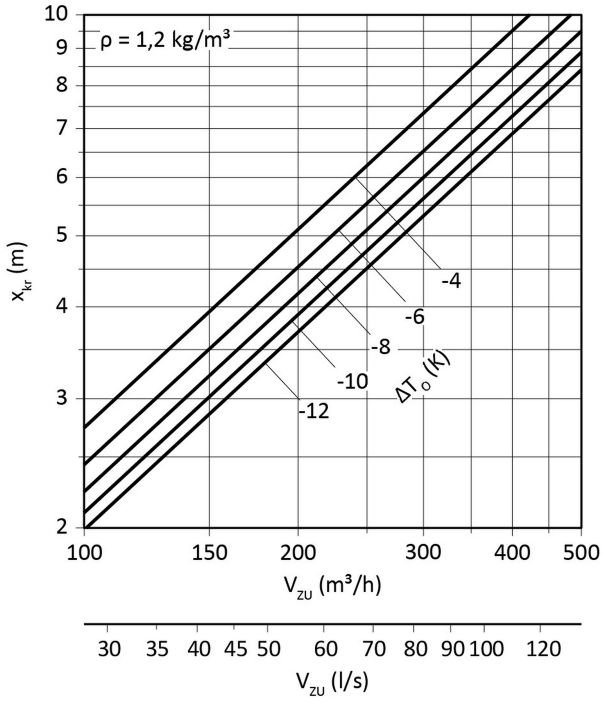
(L = 1000 mm, supply air)



Critical throw

DSCXL-1-Z-...-01000-...-ASK-... (with coanda effect)

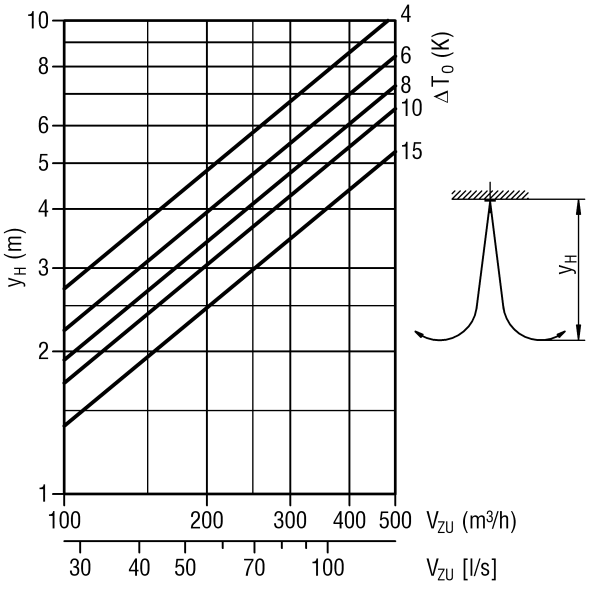
(L = 1000 mm, supply air)



Maximum penetration

DSCXL-1-Z-...-01000-... (in heating mode)

(L = 1000 mm, supply air)



LEGEND

EOB	(mm)	=	Installation opening in the width section
EOL	(mm)	=	Installation opening in the length section
GH	(mm)	=	Total height
i	(-)	=	Induction ratio ($i = V_X / V_{ZU}$)
KB	(mm)	=	Width of plenum box
KF	(-)	=	Correction factor
KH	(mm)	=	Height of box
L	(mm)	=	Length
L_W	(dB)	=	Sound power level (W_{ref} = 1 pW)
L_{WA}	[dB(A)]	=	A-weighted sound power level (W_{ref} = 1 pW)
f_m	(Hz)	=	Octave band centre frequency
v_{max}	(m/s)	=	maximum jet velocity
v_{mittel}	(m/s)	=	Average end velocity of jet ($v_{average}$ = v_{max} x 0.5)
V_{ZU}	(m³/h) [l/s]	=	Supply air volume
V_{AB}	(m³/h) [l/s]	=	Return air volume
V_X	(m³/h) [l/s]	=	Total air jet volume at point x
x	(m)	=	Horizontal jet path
y	(m)	=	Vertical throw
y_H	(m)	=	Maximum penetration depth in heating mode
x+y	(m)	=	Horizontal + vertical throw
x_{kr}	(m)	=	Critical throw
ρ	(kg/m³)	=	Density
Δp_t	(Pa)	=	Total pressure loss
TV	(-)	=	Temperature ratio ($TV = \Delta T_X / \Delta T_O$)
ΔT_O	(K)	=	Temperature difference between supply air temperature and room temperature ($\Delta T_O = t_{ZU} - t_R$)
ΔT_{OK}	(K)	=	Temperature difference between supply air temperature and room temperature in cooling mode
ΔT_X	(K)	=	Temperature difference at point x
t_{ZU}	(°C)	=	Supply air temperature
t_R	(°C)	=	Room temperature

SLOT DIFFUSER ORDER CODE

01	02	03	04	05	06
Type	Model	Air throw	Frame profile	Frame surface	Blade colour
Example					
DSCXL	-1	-Z	-PL	-ALRO	-L9011

07	08	09	10	11	12	13
Blade position for air jet	Single / band design	Length	Mounting	Ceiling depth	End piece	Dummy piece
-L	-N	-01000	-OM	-125	-EB	-BS0

Sample

DSCXL-1-Z-PL-ALRO-L9011-L-N-01000-OM-125-EB-BS0

DSCXL slot diffuser for plasterboard ceilings | single-slot with 30 mm slot width | Supply air with blade | Frame profile PLASTER | Natural aluminium | Blades made of aluminium painted similar to RAL 9011 (graphite black) | Horizontal one-way throw to the left | Single design | Length 1000 mm | Without box mounting | Ceiling depth T = 12.5 mm | With end piece with surrounding edge for plastering, mounted ex works on both sides | Without dummy piece

Order details

01 - Type

DSCXL = DSCXL slot diffuser for plasterboard ceilings

02 - Model

1 = single-slot, with 30 mm slot width

03 - Air throw

Z = supply air (with blades)

A = return air (without blades, with perforated plate)

04 - Frame profile

PL = frame profile PLASTER

05 - Frame surface

ALRO = untreated aluminium (standard)

9010 = Aluminium painted to RAL colour 9010 (white)

9011 = aluminium painted to RAL colour 9011 (graphite black)

xxxx = aluminium painted to a RAL colour, freely selectable (always with four digits)

06 - Blade colour

00000 = without blades (only for return air)

L9010 = blades made of aluminium painted similar to RAL 9010 (white)

L9011 = blades made of aluminium painted similar to RAL 9011 (graphite black) (standard)

Lxxxx = blades made of painted aluminium, RAL colour can be freely selected (always with five digits)

07 - Blade position for air jet

0 = without blades, for return air with perforated plate

V = blades vertical throw

L = blades with horizontal one-way throw to the left (standard)

R = Blades with one-way horizontal throw to the right

08 - Single / band design

N = single design (length max. 1500 mm)

B = Band design (available lengths according to SCHAKO standard for band design), with fishplates, supplied loose (2 for each connection)

09 - Length

01000 = Length L = 1000 mm

01500 = Length L = 1500 mm

xxxxx = Length (L/BL) in mm, freely selectable (always with five digits) (can be fitted with a plenum box in case of single design lengths L = ≥300 mm to ≤1500 mm)

10 - Mounting

OM = without mounting of box

11 - Ceiling depth

125 = ceiling depth T = 12.5 mm (standard)

095 = ceiling depth T = 9.5 mm

xxx = ceiling depth (T) can be freely selected (always with three digits)

12 - End piece

EP = with end piece with surrounding edge for plastering, mounted ex works on both sides (standard)

EB = with straight end piece, mounted ex works on both sides

In the band design, the end piece is mounted to the left side of the section (left TS) and to the right side of the difference in length (DL) as a standard.

13 - Dummy piece

BS0 = without dummy piece (standard)

BS1 = with dummy piece made of sheet steel, painted to RAL colour 9011 (graphite black) (possible from length L ≥ 300 mm, dummy piece only possible without plenum box)

PLENUM BOX ORDER CODE

01	02	03	04	05	06	07
Type	Diffuser	Model	Single / band design	Length	Mounting of box	Material
Example						
ASK	-27	-1	-N	-01000	-OM	-SV

08	09	10	11	12	13	14
Damper	Rubber lip seal	Insulation	Height of box	Spigot position	Spigot diameter	Suspension
-DK2	-GD1	-I0	-KHS	-S1	-SDS	-E0

Sample

ASK-27-1-N-01000-OM-SV-DK2-GD1-I0-KHS-S1-SDS-E0

Plenum box for slot diffuser | For DSCXL | single-slot | Single design | Length L = 1000 mm | Without diffuser mounting | Galvanised sheet steel | With damper and cable-operated adjustment | With rubber lip seal | Without insulation | Standard height of box | With lateral spigot | Standard spigot diameter | Without riveting nut

Order details

01 - Type

ASK = plenum box for slot diffuser

02 - Diffuser

27 = for DSCXL

03 - Model

1 = single-slot

04 - Single / band design

N = single design (length of box KL min. 300 mm to max. 1500 mm)

B = Band design (available lengths according to SCHAKO standard for band design)

05 - Length

01000 = length L = 1000 mm (length of box KL=1000 mm)

01500 = length L = 1500 mm (length of box KL=1500 mm)

xxxxx = length (L/BL) in mm, freely selectable (always with five digits) (length of box KL = L / total length of box GKL = BL)

06 - Mounting of box

OM = without diffuser mounting

07 - Material

SV = Galvanised sheet steel

08 - Damper

DK0 = Without damper (standard)

DK2 = with damper and cable-operated adjustment (SZV)

09 - Rubber lip seal

GD0 = without rubber lip seal (standard)

GD1 = with rubber lip seal

10 - Insulation

I0 = Without insulation (standard)

Ia = With external insulation

11 - Height of box

KHS = Height of plenum box standard

xxx = Height of box (KHS) in mm, freely selectable (always with three digits) (minimum height of plenum box [KHS] with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 250 mm)

12 – Spigot position

S0 = Spigot from above

S1 = lateral spigot (standard)

S4 = Spigot front side (not possible for band design)

13 - Spigot diameter

SDS = Spigot diameter standard

xxx = spigot diameter (øD) in mm, freely selectable (always with three digits)

14 - Suspension

E0 = without riveting nut

ORDER CODE CORNER ANGLE

01	02	03	04	05
Type	Diffuser	Model	Frame profile	Frame surface
Example				
EW	-27	-1	-PL	-ALRO

06	07	08	09	10
Dummy plate colour	Angle between sides	Left-side length (a)	Right-side length (b)	Ceiling depth
-B9011	-090	-000	-000	-125

Sample

EW-27-1-PL-ALRO-B9011-090-000-000-125

Corner bracket for slot diffuser | For DSCXL | single-slot, with 30 mm slot width | Frame profile PLASTER | Natural aluminium | Sheet steel painted similar to RAL 9011 (graphite black) | α = 90° angle | Standard length (L=250mm) | Standard length (L=250mm) | Ceiling depth T = 12.5 mm

Order details

01 - Type

EW = corner angle for slot diffuser

02 - Diffuser

27 = for DSCXL

03 - Model

1 = single-slot, with 30 mm slot width

04 - Frame profile

PL = frame profile PLASTER

05 - Frame surface

ALRO = untreated aluminium (standard)
9010 = Aluminium painted to RAL colour 9010 (white)
9011 = aluminium painted to RAL colour 9011 (graphite black)
xxxx = aluminium painted to a RAL colour, freely selectable (always with four digits)

06 - Dummy plate colour

B9010 = sheet steel painted similar to RAL colour 9010 (white)
B9011 = sheet steel painted similar to RAL colour 9011 (graphite black) (standard)
Bxxxx = sheet steel painted to a freely selectable RAL colour (always with five digits)

07 - Angle between sides

090 = Angle α = 90° (standard)
xxx = angle (α) as required (value between 90° [090] and 170° [170] possible) (always with three digits)

08 - Left-side length (a)

000 = standard length (L = 250 mm)
xxx = length (L) in mm can be freely selected (minimum length = standard length) (always with three digits)

09 - Length

000 = standard length (L = 250 mm)
xxx = length (L) in mm can be freely selected (minimum length = standard length) (always with three digits)

10 - Ceiling depth

125 = ceiling depth T = 12.5 mm (standard)
095 = ceiling depth T = 9.5 mm
xxx = ceiling depth (T) can be freely selected (always with three digits)

SPECIFICATION TEXT

Highly inductive slot diffuser, free cross-section, resistance and sound power level constant in all blade positions, suitable for use in rooms with a height between 2.6 m and 4 m for direct installation in plasterboard ceilings or ceiling cavities (pressure ceilings). The special shape of the frame profile allows good installation in the plasterboard ceiling.

Slot diffuser, single-slot (**-1**), slot width 30 mm.

Frame with frame profile PLASTER (**-PL**), made of extruded aluminium profile.

Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid.

Supply air model with painted aluminium blades:

- colour similar to RAL 9010 (white) (**-L9010**)
- colour similar to RAL 9011 (graphite black, standard) (**-L9011**)
- a freely selectable RAL colour (**-Lxxxx**, always with five digits)

Product: SCHAKO type **DSCXL-1-Z-PL-…**

Return air model without blades (**-00000**), with perforated plate made of sheet steel painted to RAL 9011 (graphite black), as a cover screen.

Product: SCHAKO type **DSCXL-1-A-PL-…**

Frame surface made of:

- natural aluminium (-ALRO) (standard)
- aluminium painted to:
  - RAL colour 9010 (white) (-9010)
  - RAL colour 9011 (graphite black) (-9011)
  - a different RAL colour, freely selectable (-xxxx, always with four digits)

Blade position for air jet:

- without blades, for return air with perforated plate (**-0**)
- vertical throw (**-V**)
- with horizontal one-way throw to the left (**-L**) (standard)
- with horizontal one-way throw to the right (**-R**)

Length / Model:

Single design (**-N**)

- Length L = 1000 mm (**-N-01000**)
  (length of box KL = 1000 mm)
- Length L = 1500 mm (**-N-01500**)
  (length of box KL = 1500 mm)
- length (L) in mm, freely selectable (-N-xxxxx, always with five digits)
  (Length of box KL = L, can be fitted with a plenum box in case of single design lengths L = ≥300 mm to ≤1500 mm)

Band design (**-B**)

- Length in mm, as band (**-B-xxxxx**)
  (available lengths according to SCHAKO standard, total length of box GKL = BL + 40 mm) (with connecting pins, supplied loose (2 for each connection))

Construction subject to change. No return possible.

Mounting:

- without mounting of box (-OM)

Ceiling depth of plaster board:

- ceiling depth T = 9.5 mm (**-095**)
- ceiling depth T = 12.5 mm (standard) (**-125**)
- ceiling depth (T) can be freely selected (**-xxx**, always with three digits)

End pieces (-EP/-EB)

- with surrounding edge for plastering, mounted ex-works on both sides (-EP) (standard)
  - made of galvanised sheet steel, painted to the RAL colour of the frame profile
- straight, mounted ex works on both sides (-EB)
  - made of galvanised sheet steel, painted to the RAL colour of the frame profile

In the band design, the end piece is mounted to the left side of the section (left TS) and to the right side of the difference in length (DL) as a standard.

Accessories:

- Plenum box (-ASK-27) with air diffuser plate made of galvanised sheet steel (-SV), for single-slot models (-1), with mounting brackets, suspension without riveting nut (-E0)
  - Single / band design:
    - single design (-N, length of box KL min. 300 mm to max. 1500 mm)
    - Band design (-B, available lengths according to SCHAKO standard for band design)
  - Length:
    - length L = 1000 mm (-01000) (length of box KL=1000 mm)
    - length L = 1500 mm (-01500) (length of box KL=1500 mm)
    - length (L/BL) in mm, freely selectable (-xxxxx, always with five digits) (length of box KL = L / total length of box GKL = BL)
  - Mounting of box:
    - without diffuser mounting (-OM)
  - Damper:
    - Without damper (-DK0) (standard)
    - with damper and cable-operated adjustment (-DK2), made of galvanised sheet steel, in the connection spigot, adjustable, for simple air volume regulation
  - Rubber lip seal:
    - without rubber lip seal (-GD0) (standard)
    - With rubber lip seal (-GD1) on the connection spigot
  - Insulation:
    - without insulation (-I0) (standard)
    - with external insulation (-Ia), thermal insulation at the outside of the plenum box

- Height of box:
  - Standard height of box (-KHS)
  - Height of box (KHS) in mm, freely selectable (-xxx) (always with three digits) (minimum height [KHS] with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 250 mm)
- Spigot position:
  - Spigot from above (-S0)
  - Lateral spigot (-S1, standard)
  - Spigot front side (-S4) (not possible for band design)
- Spigot diameter:
  - Standard spigot diameter (-SDS)
  - spigot diameter (øD) in mm, freely selectable (-xxx, always with three digits)
- Dummy piece (-BS0 / -BS1)
  - without dummy piece (-BS0) (standard)
  - with dummy piece (-BS1):
    - made of sheet steel painted to RAL colour 9011 (graphite black)
    - possible from length L ≥ 300 mm
    - only possible without plenum box ASK-27
- Corner angle (-EW-27), single-slot model (-1), with 30 mm slot width. Frame with frame profile PLASTER (-PL), made of extruded aluminium profile. With 4 fishplates (-VL, included in delivery) made of aluminium (same colour as frame), supplied loose.

  Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid.
  - Frame surface made of:
    - natural aluminium (-ALRO) (standard)
  - aluminium painted to:
    - RAL colour 9010 (white) (-9010)
    - RAL colour 9011 (graphite black) (-9011)
    - a different RAL colour, freely selectable (-xxxx, always with four digits)
  - Dummy plate colour, made of painted sheet steel:
    - colour similar to RAL 9010 (white) (-B9010)
    - colour similar to RAL 9011 (graphite black) (-B9011) (standard)
    - any RAL colour, freely selectable (-Bxxxx) (always with five digits)
  - Angle between sides:
    - Angle α = 90° (-090)
    - angle (α) as required (always with three digits)
      Values between α = 90° (-090, standard) and 170° (-170) are possible
  - Left side length (a):
    - standard length L = 250 (-000)
    - length (L) in mm can be freely selected (-xxx, always with three digits) (minimum length = standard length)
  - Right side length (b):
    - standard length L = 250 (-000)
    - length (L) in mm can be freely selected (-xxx, always with three digits) (minimum length = standard length)
  - Ceiling depth of plaster board:
    - ceiling depth T = 9.5 mm (-095)
    - ceiling depth T = 12.5 mm (-125) (standard)
    - ceiling depth (T) can be freely selected (-xxx, always with three digits)