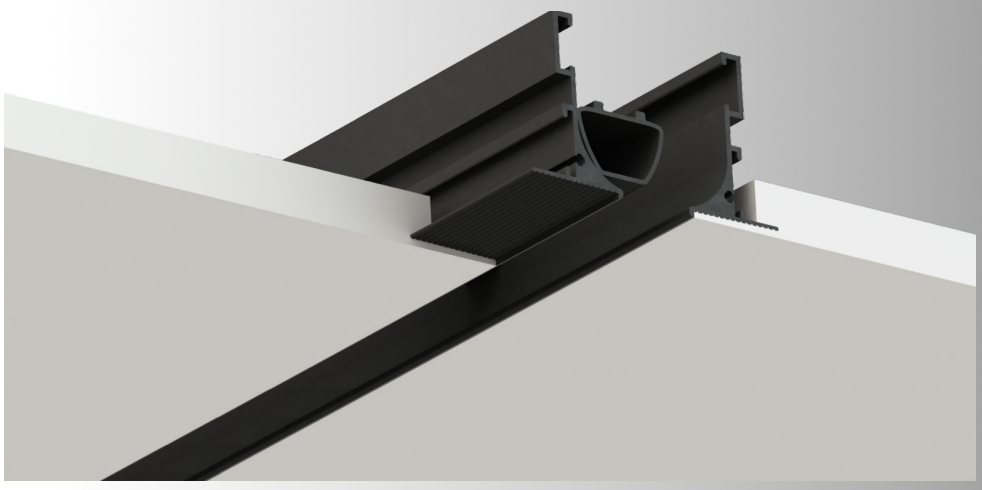


DSCL

Slot diffuser for plasterboard ceilings

SCHAKO KG
Steigstraße 25-27
D-78600 Kolbingen

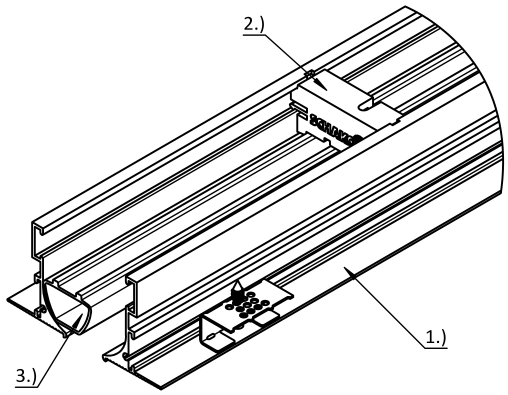
+49 (0) 7463-980-0
info@schako.de
schako.com

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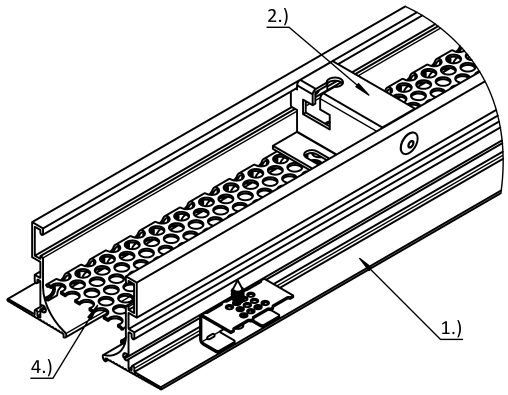
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OVERVIEW OF PRODUCT VERSIONS

DSCL-1-Z-… (supply air)

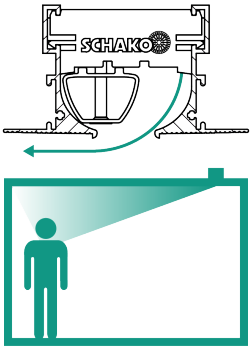
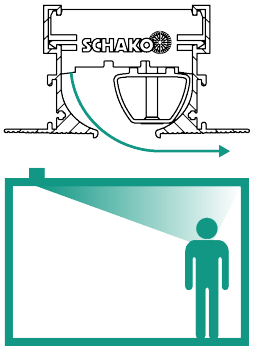
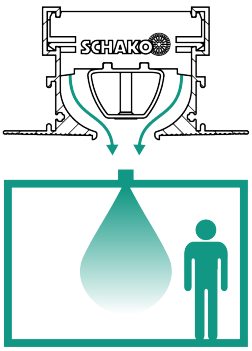


DSCL-1-A-… (return air)



1 = Frame profile
2 = Connecting bridge
3 = Blade
4 = Perforated plate

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	
	

FUNCTION AND USE

The slot diffuser type DSCL is suitable for use in rooms with a height between 2.6 m and 4.0 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 slot diffuser DSCL can be used in the cooling mode up to ΔT ≤ 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

DSCL-1-...	single-slot, with 20.5 mm slot width
DSCL-...-Z	supply air (with blades)
DSCL-...-A	return air (without blade, with perforated plate)
DSCL-...-PL	frame profile PLASTER
DSCL-...-V	blades vertical throw
DSCL-...-L	blades with horizontal one-way throw to the left (standard)
DSCL-...-R	Blades with one-way horizontal throw to the right
DSCL-...-0	without blades, with perforated plate (for return air)
DSCL-...-N	single design (length max. 1500 mm)
DSCL-...-B	Band design (available lengths according to SCHAKO standard for band design)

Mounting

- without box mounting (-OM, standard)

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]	-L / -R	-V	-L / -R	-V
150	42	13	15	25	22
200	56	22	26	32	29
250	69	35	41	38	35
300	83	50	59	43	39

-V = blades vertical throw
-L = Lamellen horizontal einseitig links ausblasend
-R = Blades with one-way horizontal throw to the right

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]		
150	42	15	19
200	56	26	26
250	69	41	31
300	83	59	36

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-72)

- 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 in mm, freely selectable (-xxx) (always with three digits) (minimum height of plenum box with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 230 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-72

Corner angle (-EW-72)

Model (number of slots) single-slot (-1), with slot width 20.5 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.

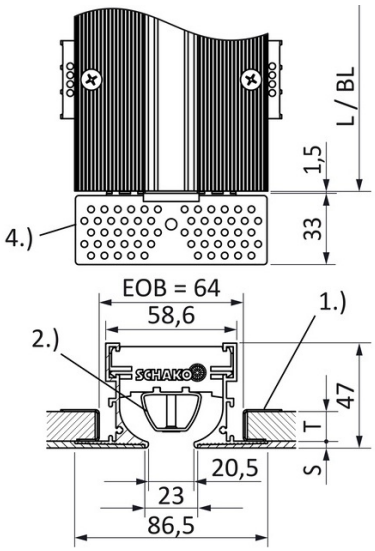
- Frame profile PLASTER (-PL)
- Frame surface:
  - natural aluminium (-ALRO) (standard)
  - aluminium painted to:
    - RAL colour 9010 (white) (-9010)
    - RAL colour 9011 (graphite black) (-9011)
    - a different RAL colour, freely selectable (-xxxx, always with four digits)
- Dummy plate colour,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

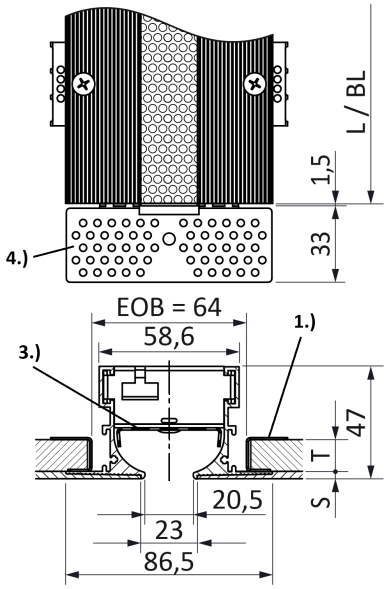
Supply air (-Z)

DSCL-1-Z (single-slot)



Return air (-A)

DSCL-1-A (single-slot)



Filling

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

Plasterboard ceiling

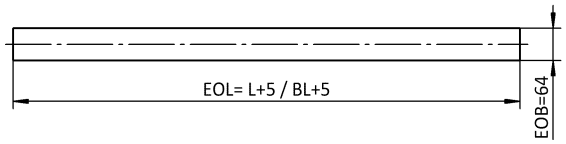
T = 9.5 mm / 12.5 mm (standard) / can be freely selected. (see Page 15)

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 15). 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

Construction subject to change. No return possible.

Installation opening

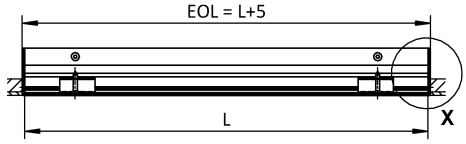


Available lengths for the slot diffuser

Single design (-N)

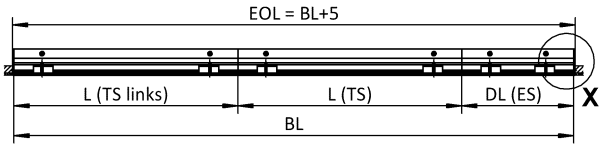
- length L = **1000** mm (-N-01000)
- length L = **1500** mm (-N-01500)
- length (L) in mm, freely selectable (-N-xxxxx) (always with five digits)

(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 (-B-xxxxx) (always with five digits)



Available lengths according to SCHAKO standard:

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

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

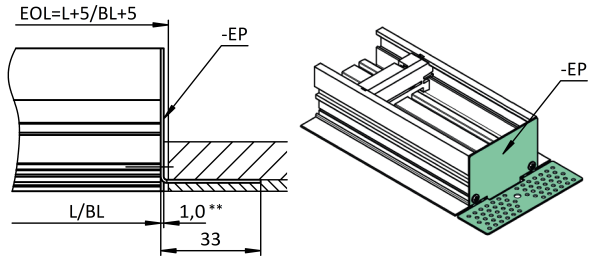
ES	=	End piece
TS	=	Section
TS left	=	Left section
L	=	Length
DL	=	Difference distance
BL	=	Length of band
KL	=	Length of box
GKL	=	Total length of box
EOB	=	Installation opening in the width section
EOL	=	Installation opening in the length section (EOL = L+5 / BL+5)

End piece (-EP/-EB)

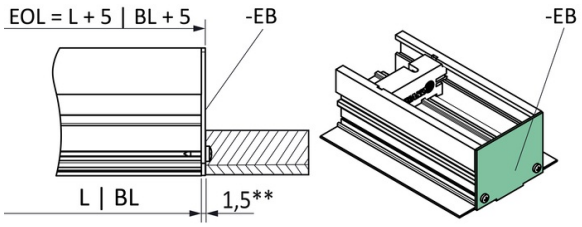
- - with end piece with surrounding edge for plastering, mounted ex works on both sides (-EP) (standard)
- - with straight end piece, mounted ex works on both sides (-EB)

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 15).

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

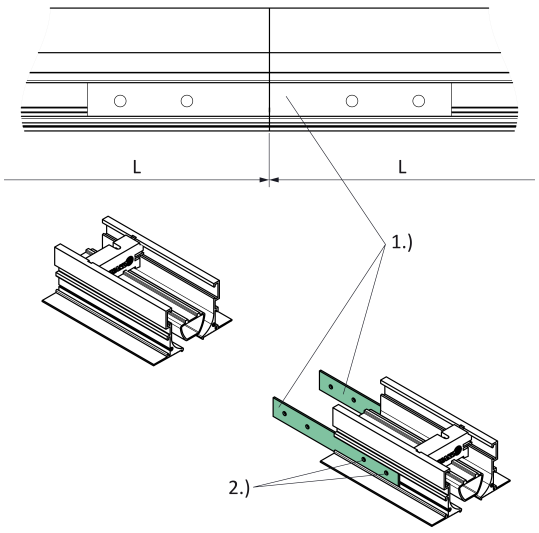
** Material thickness end piece
TS left=Left section
L =Length
DL =Difference distance
BL =Length of band
EOL =Installation opening in the length section (EOL = L+5 / BL+5)

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-72)

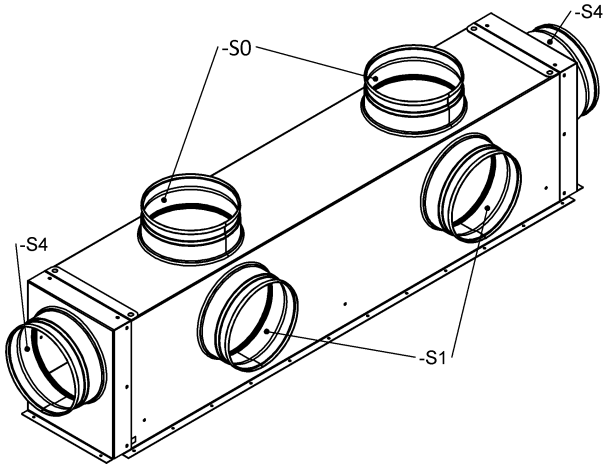
Spigot position

Spigot position in the plenum box, single design:

S0 = Spigot from above
S1 = 2 lateral spigots
S4 = 2 spigots front side (one left + one right)

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

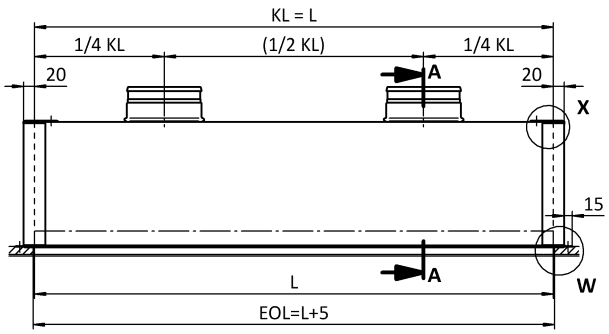


Dimensions of the plenum box: see following pages.

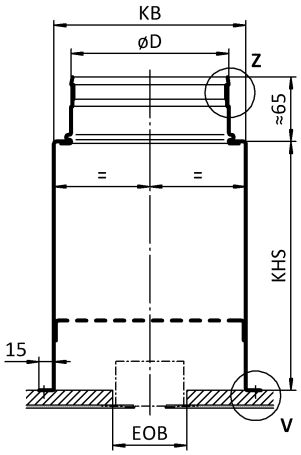
Plenum box (-ASK-72-1-N-...) in single design
Box mounted without diffuser mounting (-OM)

with spigot from above (-S0):

DSCL-1-...-ASK-72-1-N-...-S0

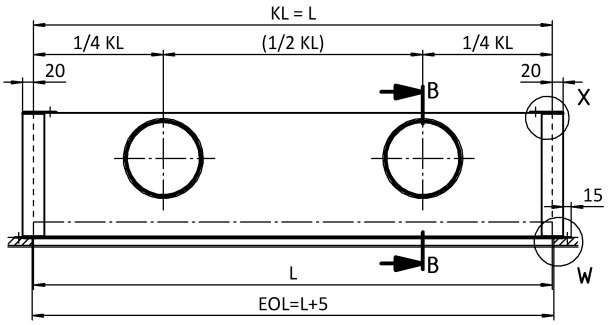


Section A-A

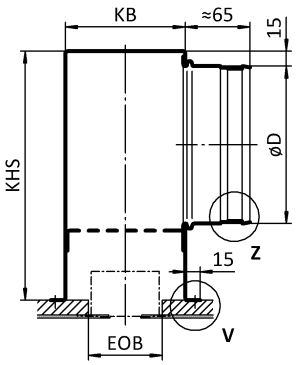


With lateral spigot (-S1, standard):

DSCL-1-...-ASK-72-1-N-...-S1

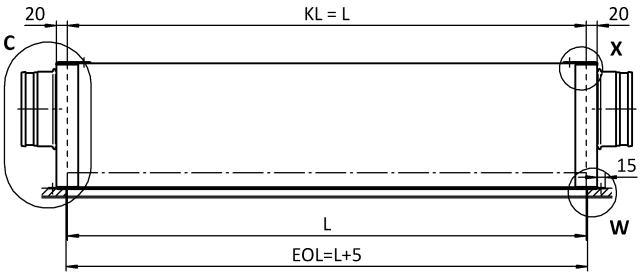


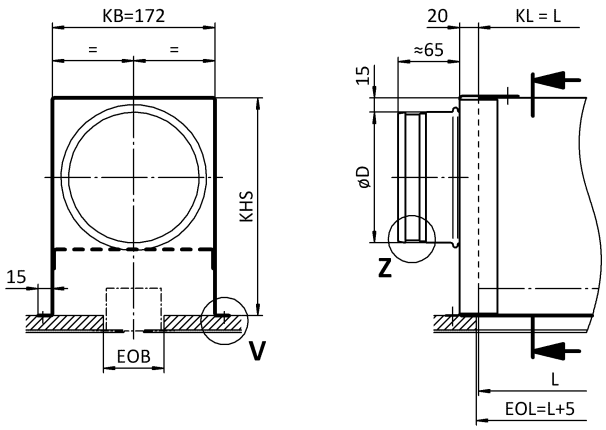
Section B-B



With spigot front side (-S4):

DSCL-1-...-ASK-72-1-N-...-S4





Available sizes for plenum box (-ASK-72-1-N)

L	EOL	KL	EOB	KHS	KB		øD	(kg)
					-S1	-S0/-S4		
1000	1005	1000	64	230	110	172	ø138	4,1
1500	1505	1500	64	230	110	172	ø138	6,7
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 ø138	2 x ø138	3 x ø138

The plenum box ASK-72 is manufactured as standard in the box lengths KBoL = 1000 mm or 1500 mm.

Intermediate lengths and other spigot diameters on request.

Minimum height of box with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 230 mm.

For rubber lip seal, detail Z, see Page 12.
For fastening detail, detail V and W, see Page 11.
For plenum box suspension, detail X, see Page 10.
For installation opening, see Page 7.

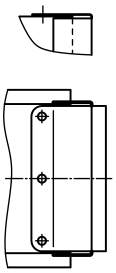
L = Length
KL = Length of box
EOL = Installation opening in the length section
EOB = Installation opening in the width section

Plenum box suspension

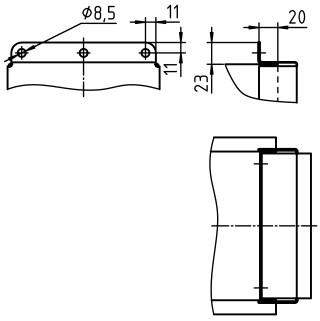
Single design / band design

Detail X (box front side) (see Page 9+Page 11)

As-delivered condition
With fitted fixing lug



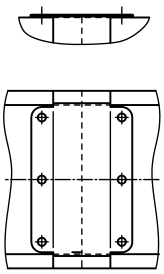
On site
With bent mounting bracket



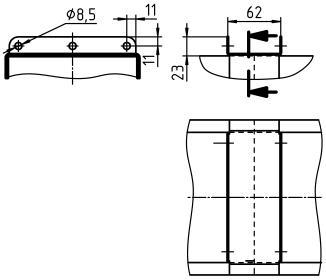
Band design

Detail Y (connecting bracket) (see Page 11)

As-delivered condition
With fitted fixing lug



On site
With bent mounting bracket

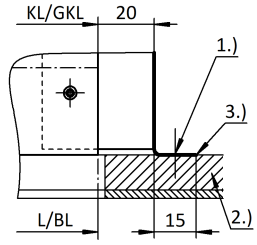


Fastening details

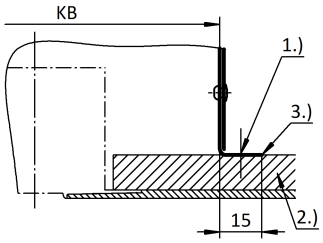
For suspension, the plenum box is provided with fixing holes. A permanent connection to the plasterboard ceiling via Ø 3.2 bores is also possible. In this case, the plenum box must be additionally decoupled from the plasterboard ceiling using vibration dampening material.

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.

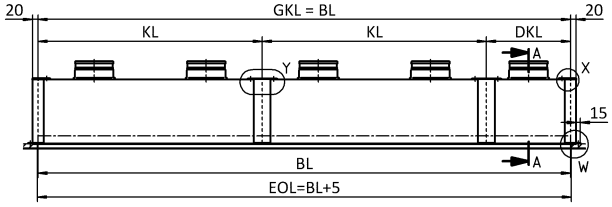
Plenum box (-ASK-72-1-B-…) in band design

Box mounted without diffuser mounting (-OM)

with spigot from above (-S0):

DSCL-…-ASK-72-…-B-…-S0

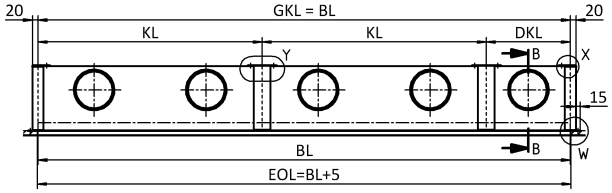
Difference box length, one-piece (DKL = ≥ 300 to ≤ 1500)



With lateral spigot (-S1) (standard):

DSCL-…-ASK-72-…-B-…-S1

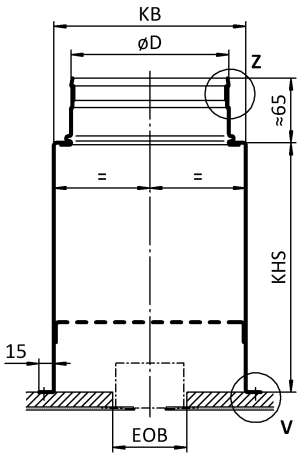
Difference box length, one-piece (DKL = ≥ 300 to ≤ 1500)



Section A-A

With spigot from above (-S0)

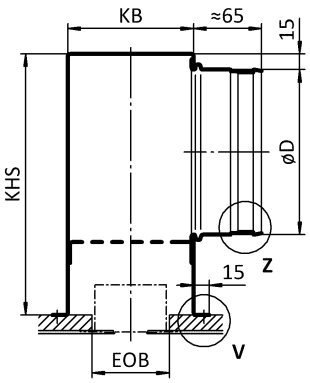
DSCL-…-ASK-72-…-B-…-S0



Section B-B

With lateral spigot (-S1)

DSCL-…-ASK-72-…-B-…-S1



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

Available sizes for plenum box (-ASK-72-1-B-…)

KL	KB		KHS	øD	EOB
	-S1	-S0			
1000	110	172	230	ø138	64
1500					
All dimensions in mm					

Number of spigots in difference box:

DKL ≥ 300 mm to < 520 mm = with 1 spigot
DKL ≥ 520 mm to ≤ 1500 mm = with 2 spigot

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.

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

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

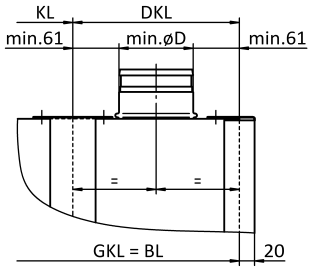
Box section and box front side fastening as well as a connecting angle must be provided on site.

Intermediate lengths and other spigot diameters on request.

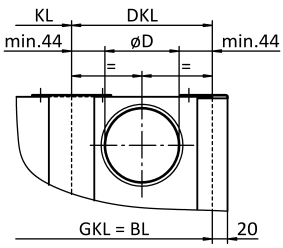
Minimum height of box with spigot position S1 = spigot diameter øD + 82 mm / with spigot position S0 = 230 mm.

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 12.
For fastening detail, detail V and W, see Page 11.
For plenum box suspension, detail X, see Page 10.
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

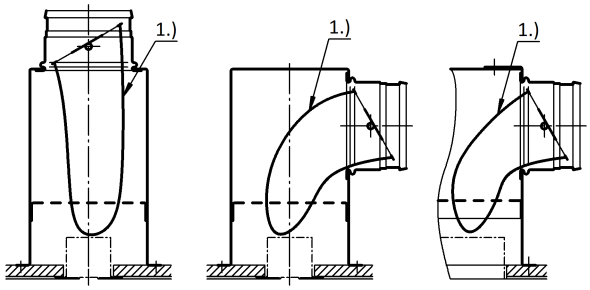
Damper (-DK0/-DK2), for ASK-72

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

-DK2 (with cable-operated adjustment):

Number of connection

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

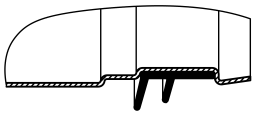


1.) Cable-operated adjustment (SVZ)

Rubber lip seal (-GD0/-GD1), for ASK-72

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

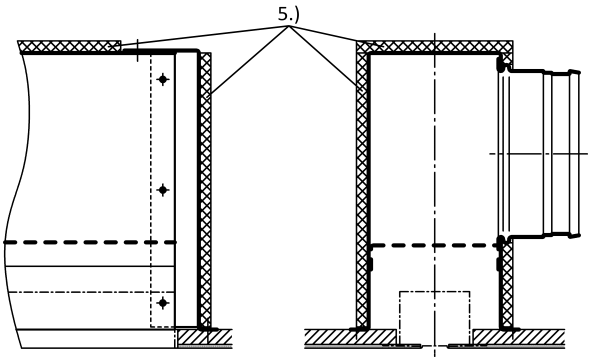
Detail Z



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

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

External (-Ia)

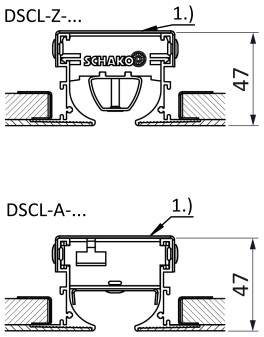


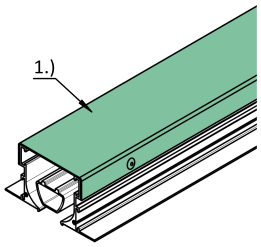
5.) External insulation (-Ia)

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-72

with dummy piece (-BS1)





1.) Dummy piece

Available lengths

see Page 7.

Corner angle 90° (-EW-72-...-090-...)

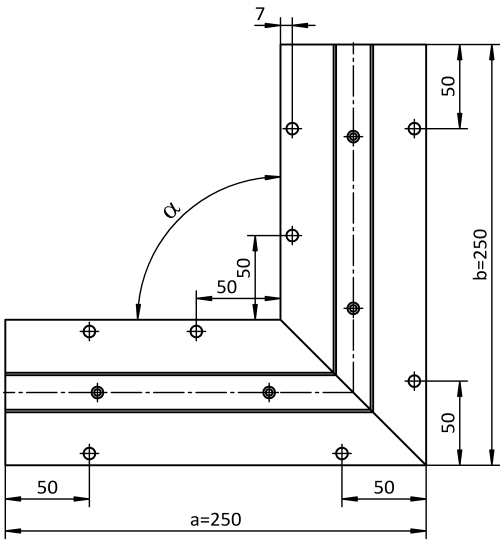
Corner angles can only be produced as dummy pieces, i.e., without a plenum box.

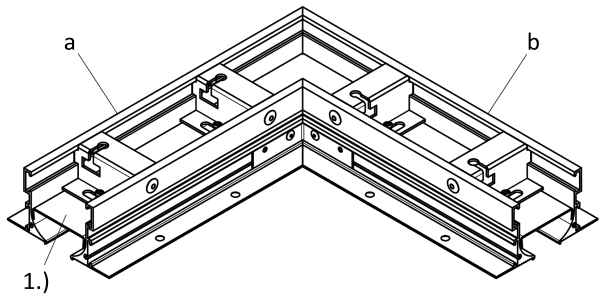
Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid (see Page 15).

The connection between the diffuser and corner angle is performed by means of fishplates (see Page 8). 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.

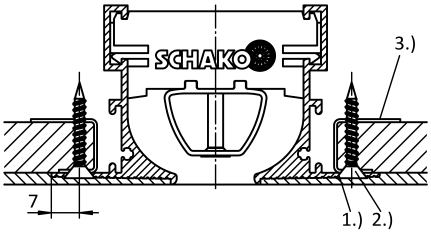




a = Left side length
b = Right side length
1.) = Dummy plate

FASTENING METHODS

screw connection (on site)



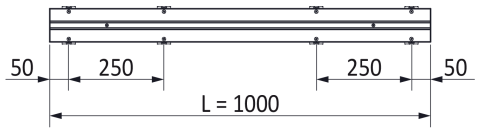
1.) Indentation ISO 15065-4

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

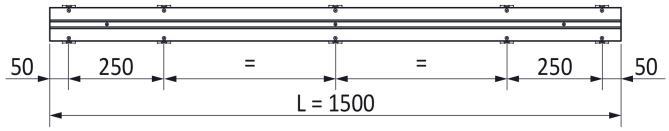
3.) Mounting bracket

Number of indentations, single design

L = 1000 / with 8 indentations



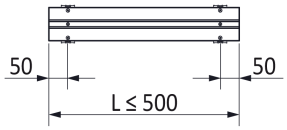
L = 1500 / with 10 indentations



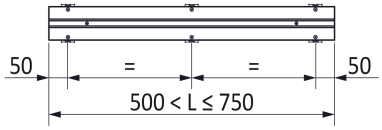
Number of indentations, band design

For compensation pieces and sections

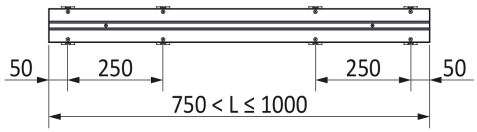
L ≤ 500 / with 4 indentations



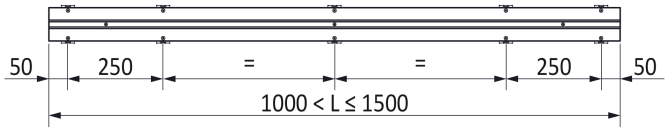
L= >500 to ≤750 / with 6 indentations



L= >750 to ≤1000 / with 8 indentations



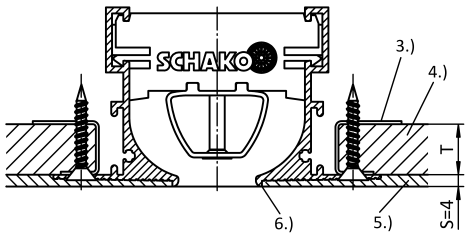
L= >1000 to ≤1500 / with 10 indentations



ASSEMBLY DETAIL

With mounting bracket:

for screw connection (on site)



3.) Mounting bracket

4.) Plasterboard ceiling

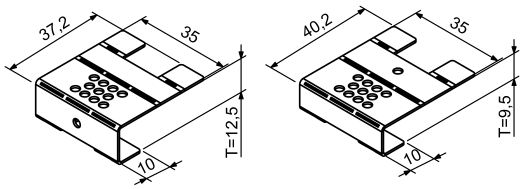
5.) Multiple filling on site (depending on quality level)

6.) Special plastering edge for elegant filling

Number of mounting brackets (mounting help)

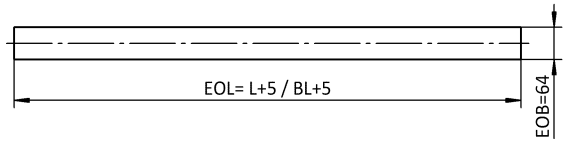
4 mounting brackets:	L / DL = ≤500
6 mounting brackets:	L / DL = >500 to ≤750
8 mounting brackets:	L / DL = >750 to ≤1000
10 mounting brackets:	L / DL = >1000 to ≤1500

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 slot diffusers DSCP / DSCPL / DSCL / DSCXL 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

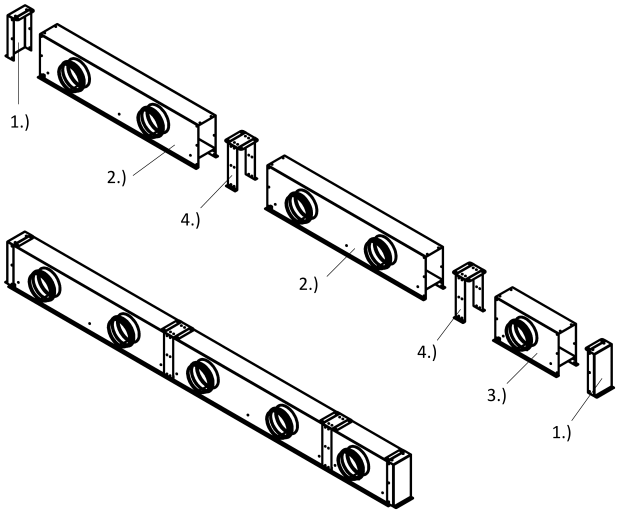
Blade position

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

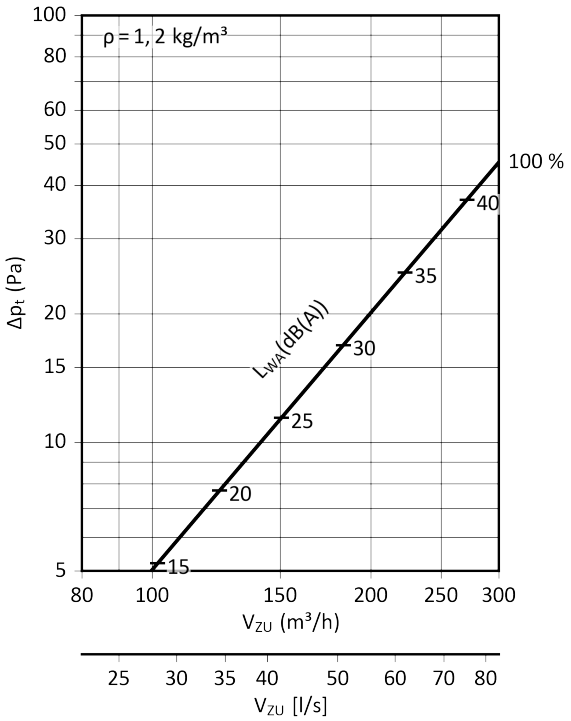
4.) Connecting angle

TECHNICAL DATA

Pressure loss and noise level

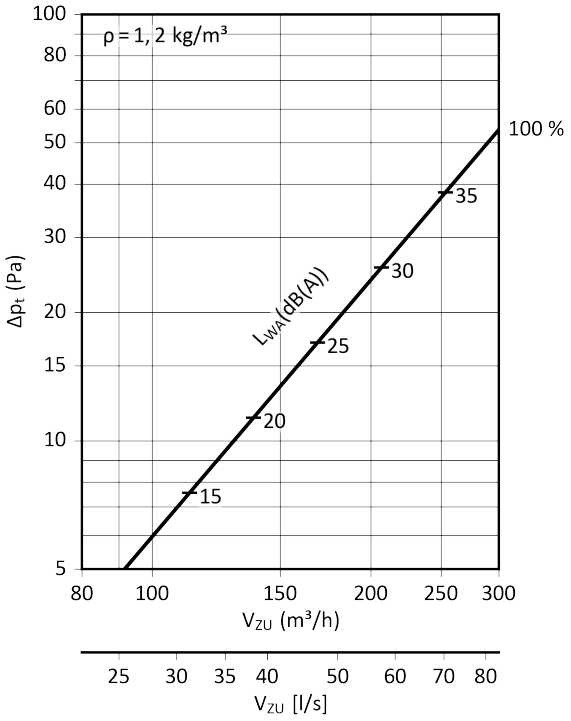
DSCL-1-Z-...-L/R-...-01000-...

(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right, without plenum box)



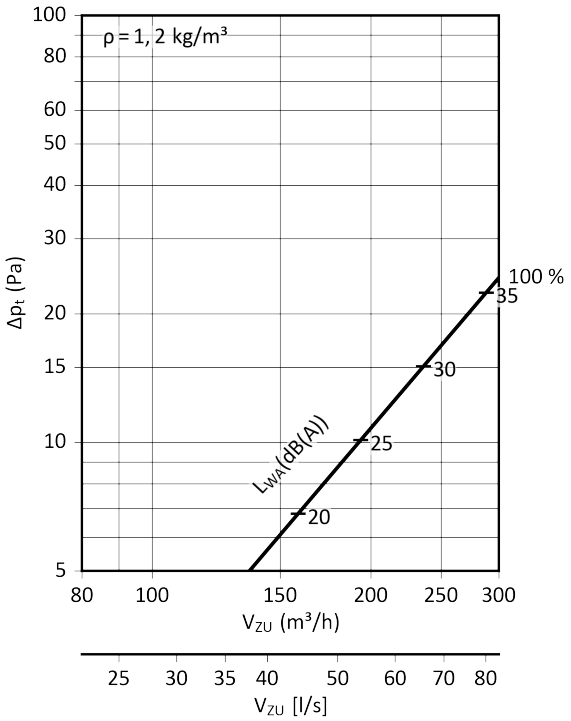
DSCL-1-Z-...-V-...-01000-...

(L = 1000 mm, supply air, with blades with vertical throw, without plenum box)



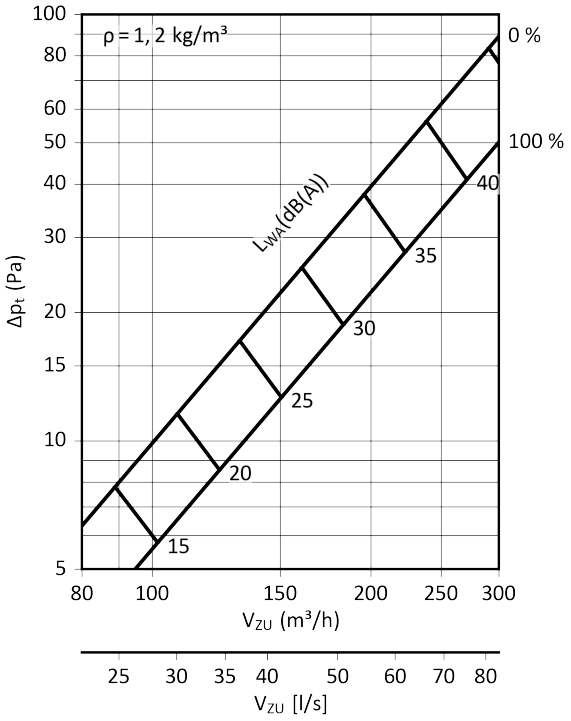
DSCL-1-A-...-0-...-01000-...

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



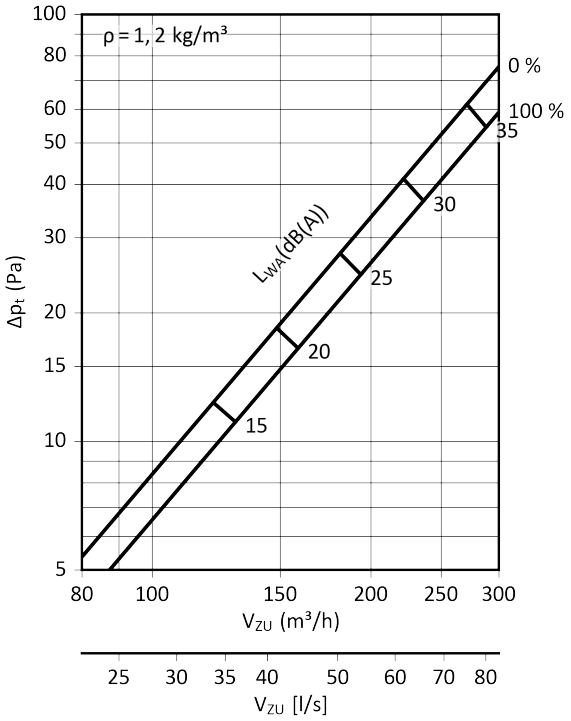
DSCL-1-Z-...-L/R-...-01000-...

(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right, with plenum box, with damper)



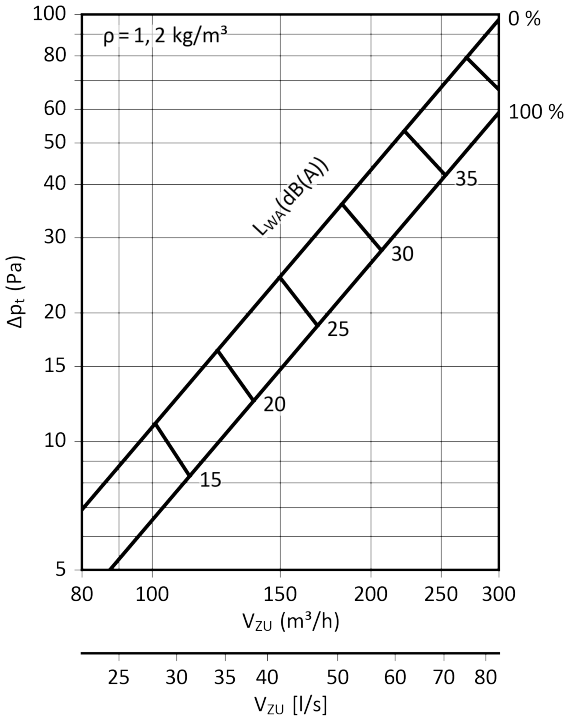
DSCL-1-A-...-0-...-01000-...

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



DSCL-1-Z-...-V-...-01000-...

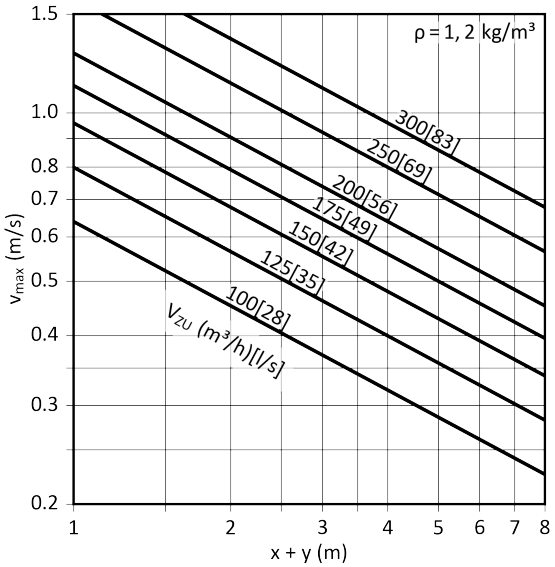
(L = 1000 mm, supply air, with blades with vertical throw, with plenum box, with damper)



Maximum final jet velocity

DSCL-1-Z-...-L/R-...-01000-... (with coanda effect, isothermal)

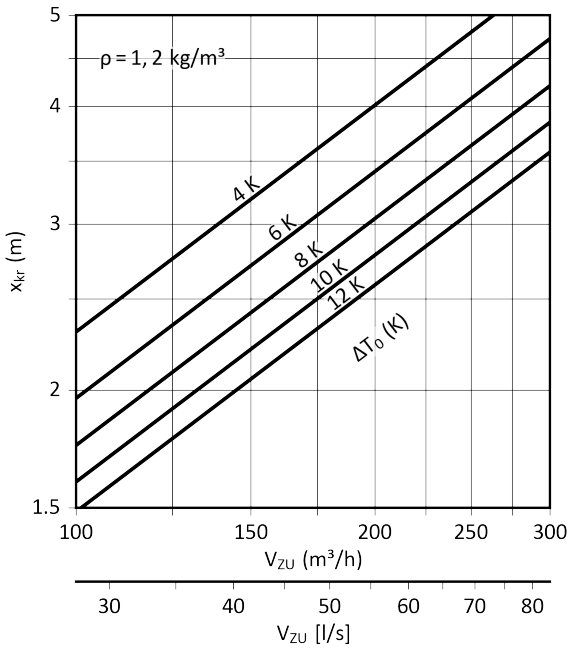
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right)



Critical throw

DSCL-1-Z-...-L/R-...-01000-... (with coanda effect, in cooling mode)

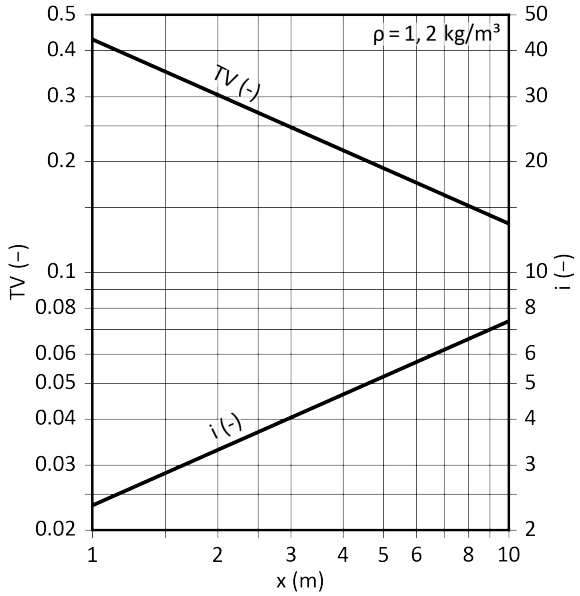
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right)



Temperature and induction ratios

DSCL-1-Z-...-L/R-...-01000-... (with coanda effect, in cooling mode)

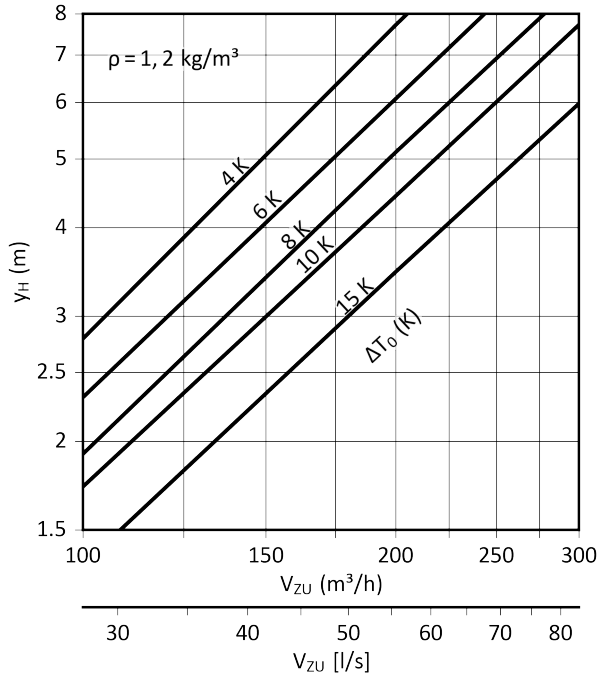
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right)



Maximum penetration

DSCL-1-Z-...-V-...-01000-... (in heating mode)

(L = 1000 mm, supply air, with blades with vertical throw)



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
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 volumetric flow at point x
x	(m)	=	Horizontal jet path
y	(m)	=	Vertical throw
x+y	(m)	=	Horizontal + vertical throw
x_{kr}	(m)	=	Critical throw
y_H	(m)	=	Maximum penetration depth in heating mode
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_R	(°C)	=	Room temperature
t_{ZU}	(°C)	=	Supply air temperature
ρ	(kg/m³)	=	Density

SLOT DIFFUSER ORDER CODE

01	02	03	04	05	06	07
Type	Model	Air throw	Frame profile	Frame surface	Blade colour	Blade position for air jet
Example						
DSCL	-1	-Z	-PL	-ALRO	-L9011	-L

08	09	10	11	12	13
Single / band design	Length	Mounting	Ceiling depth	End piece	Dummy piece
-N	-01000	-OM	-125	-EP	-BS0

Sample

DSCL-1-Z-PL-ALRO-L9011-L-N-01000-OM-125-EP-BS0

DSCL slot diffuser for plasterboard ceilings | single-slot with 20.5 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

DSCL = slot diffuser for plasterboard ceilings DSCL

02 - Model

1 = single-slot, with 20.5 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)

ORDER CODE

01	02	03	04	05	06	07
Type	Diffuser	Model	Single / band design	Length	Mounting of box	Material
Example						
ASK	-72	-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-72-1-N-01000-OM-SV-DK2-GD1-I0-KHS-S1-SDS-E0

Plenum box for slot diffuser | For DSCL | 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 - Air diffuser

72 = for DSCL

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

01500 = Length L = 1500 mm

xxxxx = Length (L/BL) in mm, freely selectable (always with five digits) (single design lengths L = ≥300 mm to ≤1500 mm)

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

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 in mm, freely selectable (always with three digits) (minimum height of plenum box with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 230 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

01	02	03	04	05
Type	Air diffuser	Model	Frame profile	Frame surface
Example				
EW	-72	-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-72-1-PL-ALRO-B9011-090-000-000-125

Corner bracket for slot diffuser | For DSCL | single-slot, with 20.5 mm slot width | Frame profile PLASTER | Natural aluminium | Sheet steel painted similar to RAL 9011 (graphite black) | 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 - Air diffuser

72 = for DSCL

03 - Model

1 = single-slot, with 20.5 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 - Right-side length (b)

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)
090 = 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 20.5 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 **DSCL-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 **DSCL-1-A-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)

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 L = 1500 mm (**-N-01500**)
- Length (L) in mm, freely selectable **(-N-xxxxx**, always with five digits) (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, in band design (**-B-xxxxx**) (available lengths according to SCHAKO standard) with connecting pins, supplied loose (2 for each connection)

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 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.

Accessories:

- Plenum box (-ASK-72) 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

Construction subject to change. No return possible.

- Height of box:
  - Standard height of box (-KHS)
  - Height of box in mm, freely selectable (-xxx) (always with three digits) (minimum height of plenum box with spigot position S1+S4 = spigot diameter øD + 82 mm / with spigot position S0 = 230 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-72
- Corner angle (-EW-72), single-slot model (-1), with 20.5 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 (-xxx, 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)