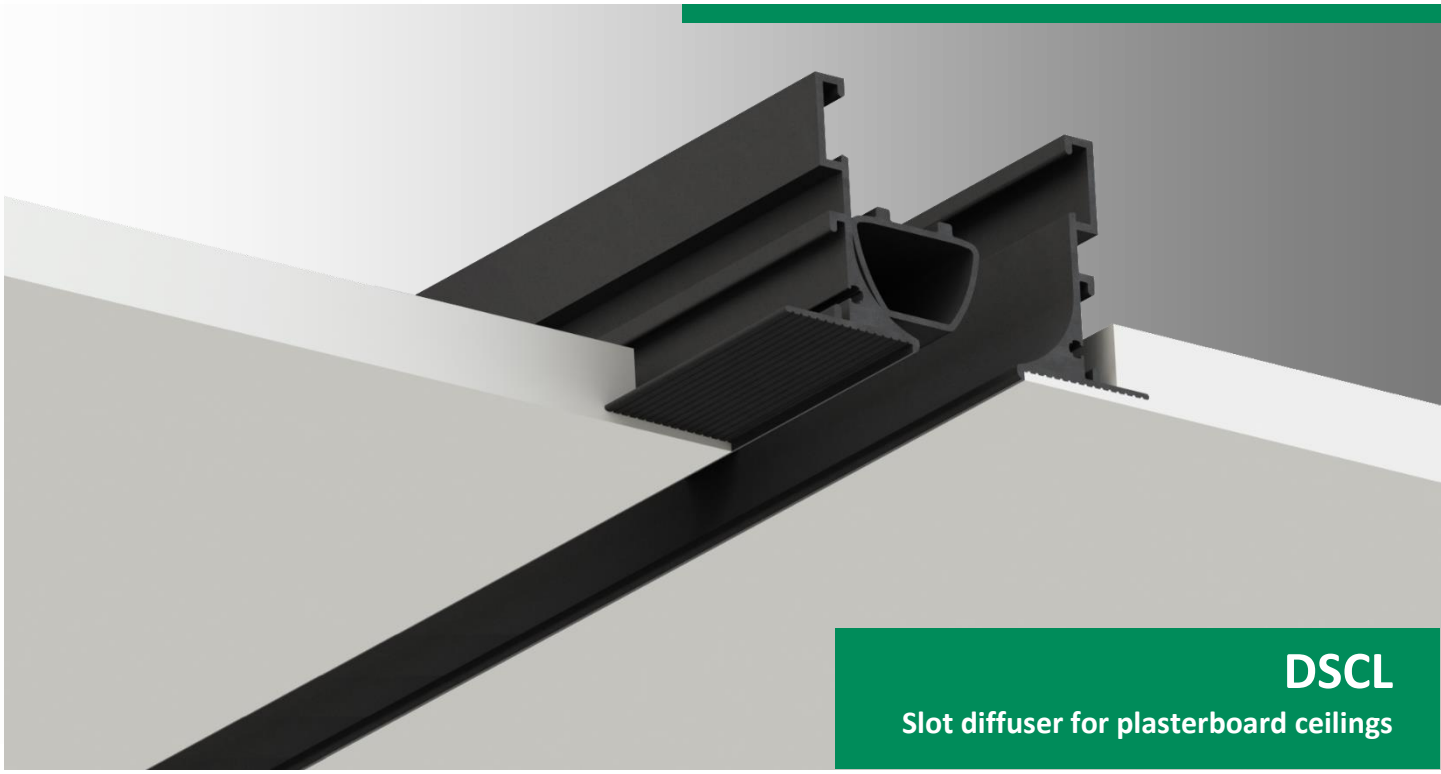
Technical documentation



DSCL

Slot diffuser for plasterboard ceilings

Contents

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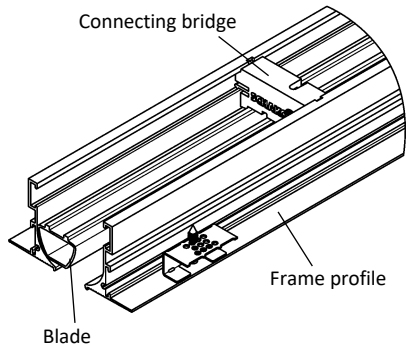
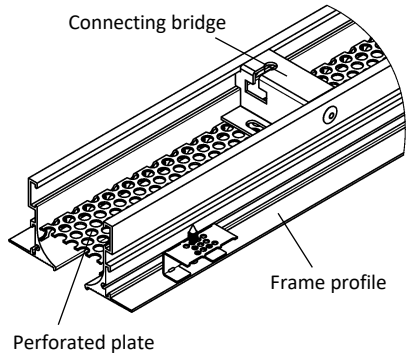
OVERVIEW OF PRODUCT VERSIONS

DSCL-1-Z-… (supply air)



DSCL-1-A-… (return air)



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 air deflection blades are adjustable from below and 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 $\Delta T \leq 12$ K.

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

MODELS

DSCL-1-…	1-slot, with slot width 20.5 mm.
DSCL-…-Z	supply air (with blades).
DSCL-…-A	return air (without blade, with perforated plate).
DSCL-…-PL	frame profile PLASTER.
DSCL-...-V	blades with vertical throw.
DSCL-…-L	blades with horizontal one-way throw to the left (standard).
DSCL-…-R	blades with horizontal one-way 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} (m³/h)	V_{ZU} [l/s]	Δp_t (Pa) -L / -R	Δp_t (Pa) -V	L_{WA} (dB(A)) -L / -R	L_{WA} (dB(A)) -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

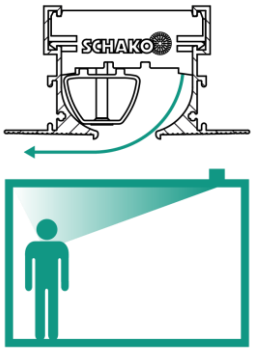
-V = blades with vertical throw
-L = blades with horizontal one-way throw to the left
-R = blades with horizontal one-way throw to the right

with plenum box, return air model (without blade)
Values for length L = 1000 mm

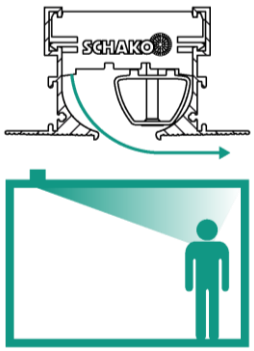
V_{ZU} (m³/h)	V_{ZU} [l/s]	Δp_t (Pa)	L_{WA} (dB(A))
150	42	15	19
200	56	26	26
250	69	41	31
300	83	59	36

BLADE POSITION FOR AIR JET

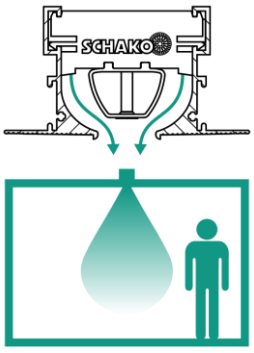
Blade position (-L)
one-way horizontal left throw (standard)



Blade position (-R)
one-way horizontal right throw



Blade position (-V)
vertical throw



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 freely selectable RAL colour (-xxxx) (always with 4 digits).

Blade colour

-- Aluminium painted to:
  - Colour similar to RAL 9010 (white) (-L9010).
  - Colour similar to RAL 9011 (graphite black, standard) (-L9011).
  - RAL colour can be freely selected (-Lxxxx) (always with 5 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 3 digits).
-- Mounting aid for screw connection.

ACCESSORIES

Plenum box (-ASK-72)

-- Model (number of slots):
  - 1-slot (-1).
-- Single / band design:
  - Single design (-N, length of box KL 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 5 digits) (length of box KL = L / total length of box GKL = BL).
-- Mounting of box:
  - Without diffuser mounting (-OM) (standard).
-- Material:
  - Galvanised sheet steel (-SV) (standard).
-- 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) made of special rubber, at the connection spigot.
-- Insulation:
  - without insulation (-I0) (standard).
  - with external insulation (-Ia), thermal insulation at the outside of the plenum box.
-- Height of plenum box:
  - Standard height of plenum box (-KHS).
  - Height of plenum box in mm, freely selectable (-xxx) (always with 3 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 3 digits).
-- Suspension without riveting nut (-E0) (standard).
-- 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 ≥ 200 mm.
  - only possible without plenum box ASK-72.

Corner angle (-EW-72)

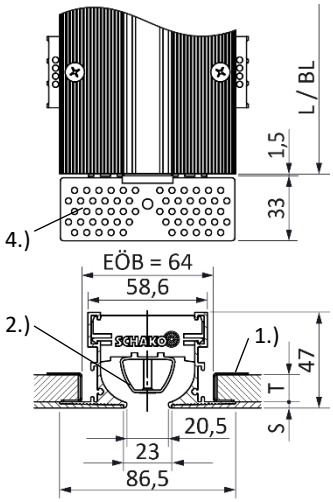
Model (number of slots) 1-slot (-1), with slot width 20.5 mm. Frame profiles are fitted with bores to allow them to be connected to the plasterboard ceiling using screws. Mounting brackets are supplied loose as a mounting aid.

-- 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 freely selectable RAL colour (-xxxx, always with 4 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).
  - a freely selectable RAL colour (-Bxxxx) (always with 5 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 3 digits).
-- Left-side length (a):
  - Standard length L = 250 (-000).
  - Length (L) in mm, freely selectable (-xxx) (minimum length = standard length) (always with 3 digits).
-- Right-side length (b):
  - Standard length L = 250 (-000).
  - Length (L) in mm, freely selectable (-xxx) (minimum length = standard length) (always with 3 digits).
-- including 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 3 digits).

DIMENSIONS

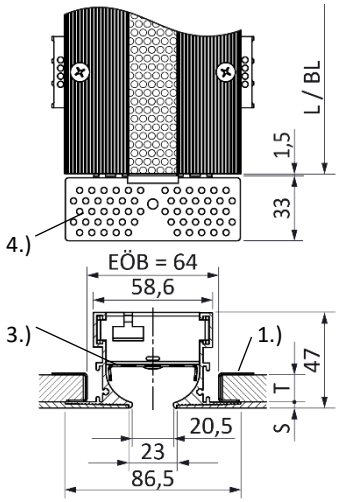
Supply air (-Z)

DSCL-1-Z (1-slot)



Return air (-A)

DSCL-1-A (1-slot)



Filling

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

Plasterboard ceiling

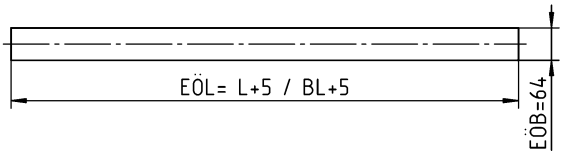
T = 9.5 mm / 12.5 mm (standard) / can be freely selected.

(See page 11)

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

1.) Mounting bracket included in delivery
2.) Air deflection blade
3.) Perforated plate
4.) End piece -EP
* Gap width between frame and end piece

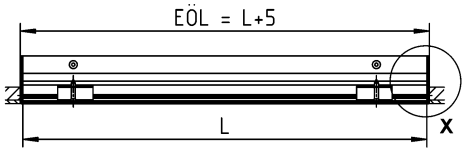
Installation opening



Available lengths for the slot diffuser

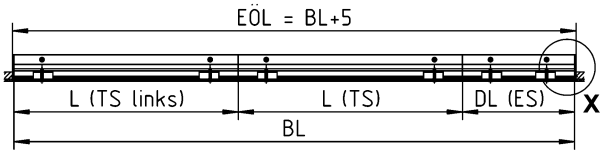
Single design (-N)

- Length L = **1000** mm (-N-01000).
- Length L = **1500** mm (-N-01500).
- Length (L) in mm, freely selectable (-N-xxxxx) (always with 5 digits).
  (Can be fitted with a plenum box in case of single design lengths L = ≥400 mm to ≤1500 mm).



Band design (-B)

- Length (L) in mm, freely selectable, as band (-B-xxxxx) (always with 5 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 are supplied in lengths from **≥400 mm to <1500 mm** .

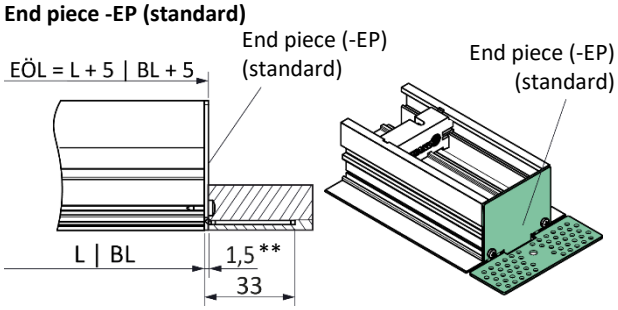
A different band division is possible after consultation and when required by the customer.

ES	=	end piece
TS	=	section
Left TS	=	left section
L	=	length
DL	=	difference in length
BL	=	band length
KL	=	length of box
GKL	=	total length of box
EÖB	=	installation opening width
EÖL	=	installation opening length (EÖL = L+5 / BL+5)

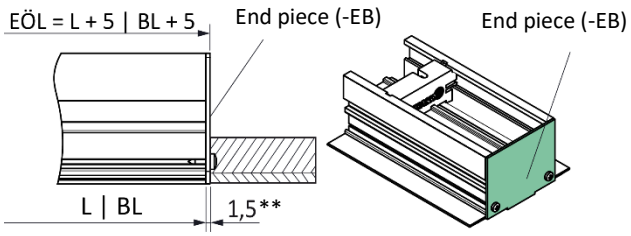
End piece (-EP/-EB)

- 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.

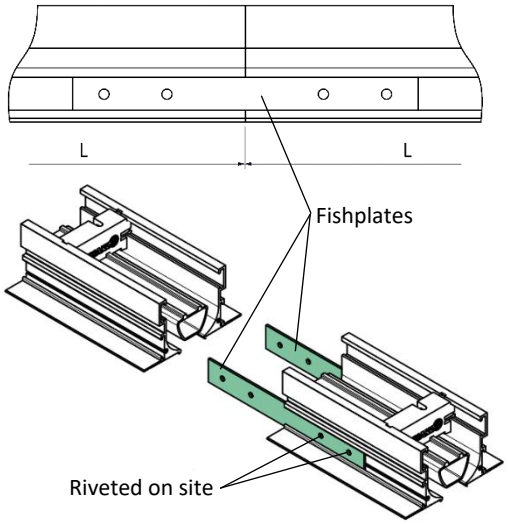
Plasterboard ceiling
For screw connection, mounting brackets (mounting aid) are supplied loose (see page 11).
The number of brackets depends on the length (L).

** Material thickness end piece
Left TS = left section
L = length
DL = difference in length
BL = band length
EÖL = installation opening length (EÖL = 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)



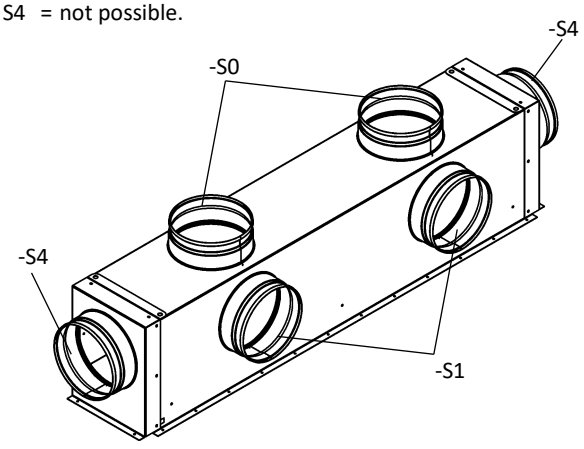
DIMENSIONS OF ACCESSORIES

Plenum box (-ASK-72)

Spigot position

Spigot position in the plenum box, single design:
S0 = 2 spigots from above, in the sheet housing case.
S1 = 2 lateral spigots, in the sheet housing case.
S4 = 2 spigots front side at the front side of the housing (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, in the sheet housing case
for difference in length: 1 or 2 spigots from above, in the sheet housing case.
S1 = **for standard length**: 2 lateral spigots, in the sheet housing case
for difference in length: 1 or 2 lateral spigots, in the sheet housing case.
S4 = not possible.



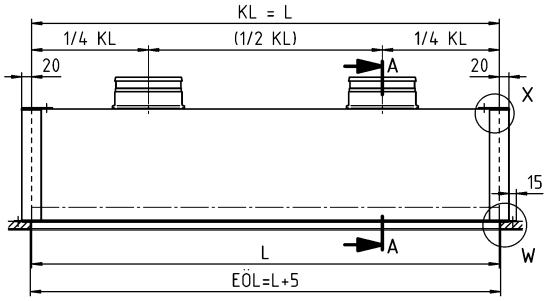
For dimensions of the plenum box, see page 7+8.

Plenum box (-ASK-72)

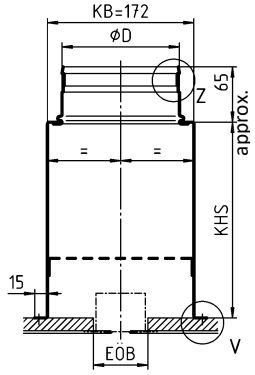
Plenum box (-ASK-72-1-N-...) in single design

Mounting of box without diffuser mounting (-OM)

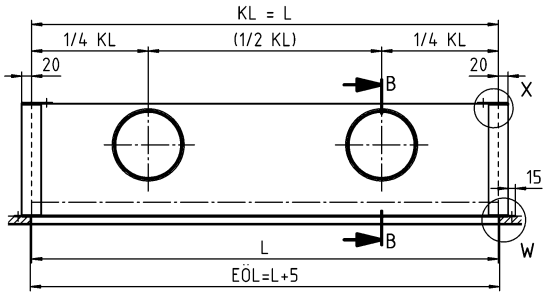
with spigot from above (-S0):
DSCL-1-...-ASK-72-1-N-...-S0



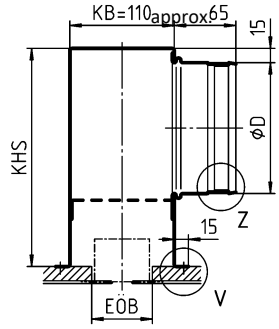
Section A-A



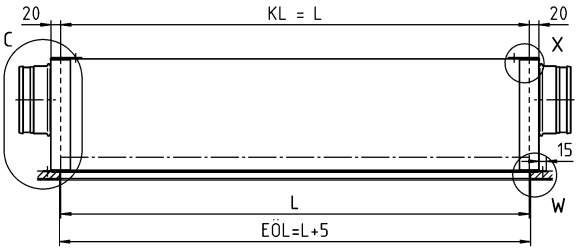
with lateral spigot (-S1, standard):
DSCL-1-...-ASK-72-1-N-...-S1

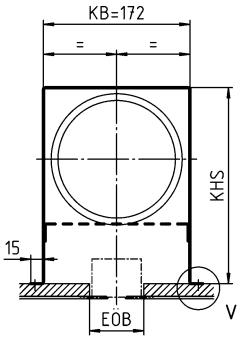


Section B-B

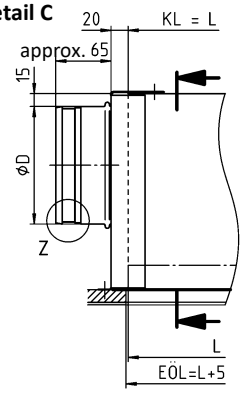


with spigot front side (-S4):
DSCL-1-...-ASK-72-1-N-...-S4





Detail C



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

L	EÖL	KL	EÖB	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 9.
For fastening detail, detail V and W, see page 9.
For plenum box suspension, detail X, see page 9.
For installation opening, see page 5.

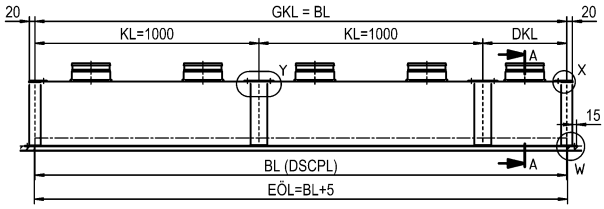
L = length
KL = length of box
EÖL = installation opening in the length section.
EÖB = installation opening in the width section.

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

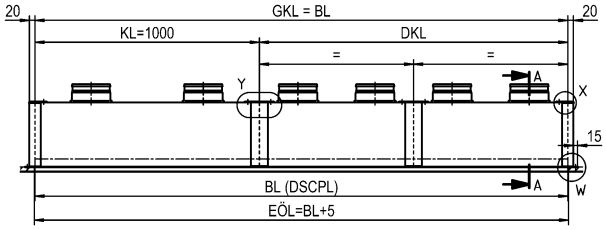
Mounting of box without diffuser mounting (-OM)

with spigot from above (-S0):
DSCL-…-ASK-72-…-B-…-S0

Difference box length, 1-part (DKL = ≥400 to ≤1000)

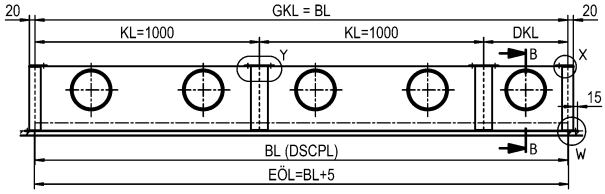


Difference box length, 2-part (DKL = >1000 to <1400)

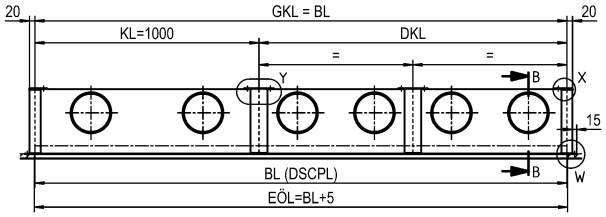


with lateral spigot (-S1) (standard):
DSCL-…-ASK-72-…-B-…-S1

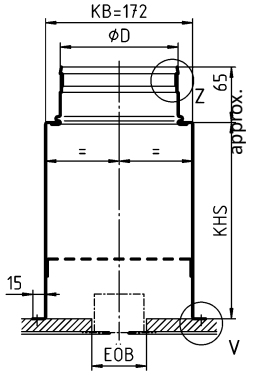
Difference box length, 1-part (DKL = ≥400 to ≤1000)



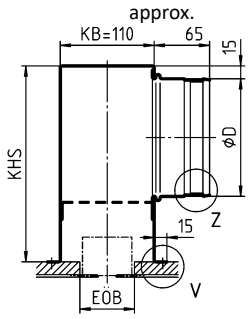
Difference box length, 1-part (DKL = ≥400 to ≤1000)



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	EÖB
	-S1	-S0			
1000	110	172	230	ø138	64

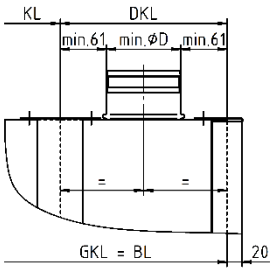
All dimensions in mm.

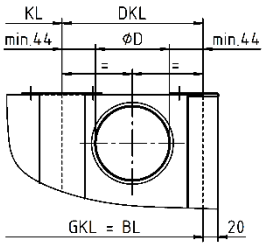
Number of spigots in difference box:
DKL ≥400 mm to <520 mm = with 1 spigot
DKL ≥520 mm to ≤1000 mm = with 2 spigots

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 and one or two difference boxes.
The difference box is available in one piece from a length (DKL) of ≥400 mm to ≤1000 mm and in two pieces from a length (DKL) of >1000 mm to <1400 mm.
A difference box with a length (DKL) of <400 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 between spigots 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 9.
For fastening detail, detail V, see page 9.
For plenum box suspension, detail X and Y, see page 9.
For installation opening, see page 5.

KL = length of box
DKL = difference in length of box
GKL = total length of box
BL = band length
EÖL = installation opening in the length section.
EÖB = installation opening in the width section.
n = number of standard boxes KL=1000

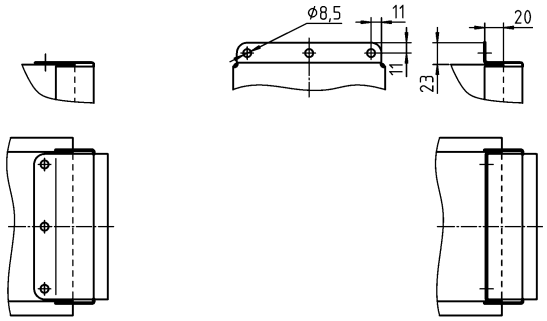
Plenum box suspension

Single design / band design

Detail X (box front side) (see page 7+8)

As-delivered condition with fitted mounting bracket

On site with bent fixing lug

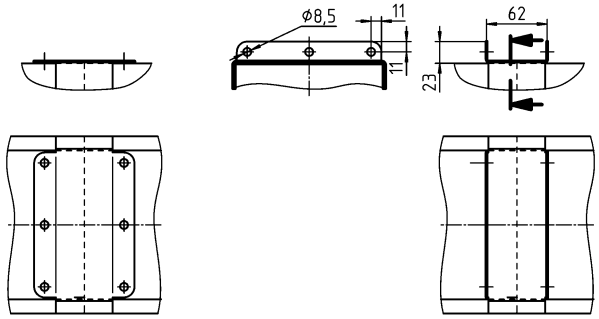


band design

Detail Y (connecting bracket) (see page 8)

As-delivered condition with fitted mounting bracket

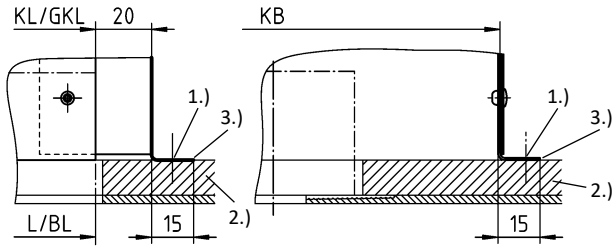
On site with bent fixing lug



Fastening details

For mounting, 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 on site
3.) Decoupling (leak proofing on site)

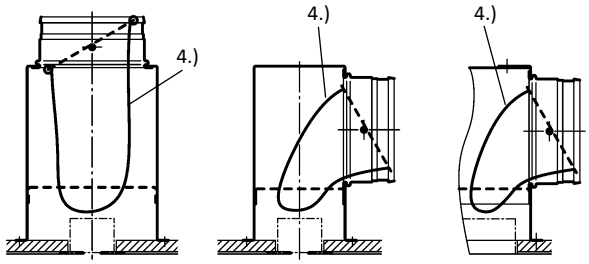
If a plenum box is used, make sure that it has no direct contact to the diffuser. The volumetric flow adjustment must be carried out on site.

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

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

-DK2 (with cable-operated adjustment):

Number of connection from above (-S0)	Number of connection on the side (-S1)	Number of connection front side (-S4)

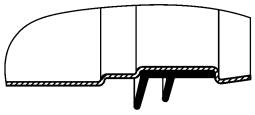


4.) With cable-operated adjustment (SZV)

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

-- without rubber lip seal (-GD0) (standard).
-- with rubber lip seal (-GD1), made of special rubber.

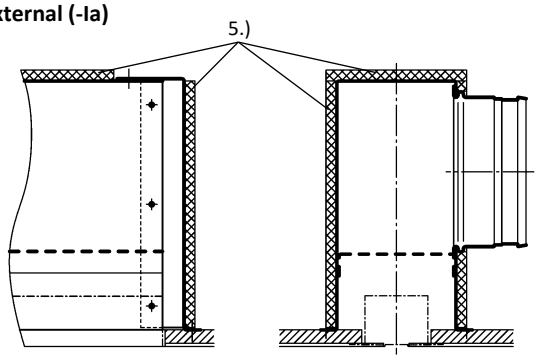
Detail Z



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

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

External (-Ia)



5.) Insulation outside (Ia)

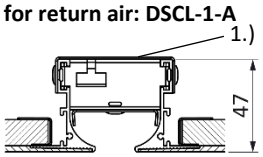
Dummy piece (-BS0/-BS1)

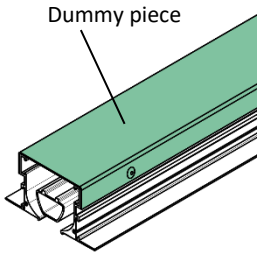
-- without dummy piece (-BS0) (standard).
-- with dummy piece (-BS1):
- made of sheet steel painted to RAL colour 9011 (graphite black).
- possible from length L ≥ 200 mm.
- only possible without plenum box ASK-72.

with dummy piece (-BS1)

for supply air: DSCL-1-Z

for return air: DSCL-1-A





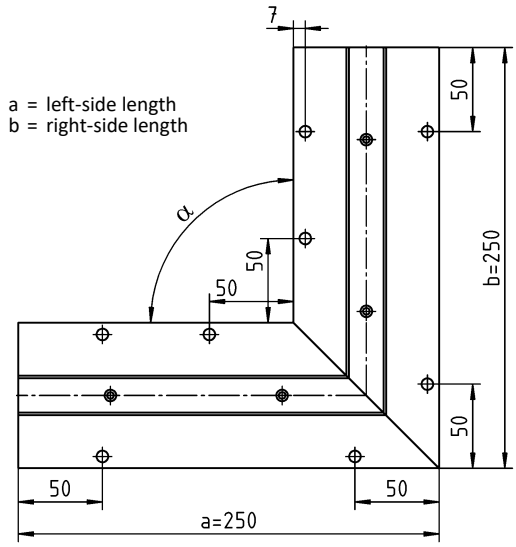
1.) Dummy piece

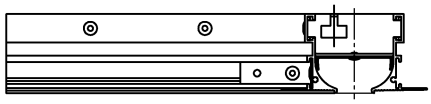
Available lengths

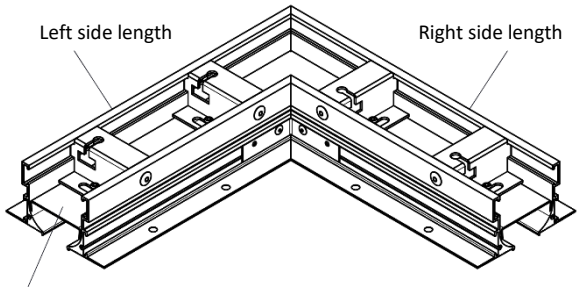
See available lengths for slot diffuser, page 5.

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 11).
The diffuser is connected to the corner angle by means of fishplates (see page 6). 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).
Angle values between α = 90° (-090, standard) and 170° (-170) are possible.

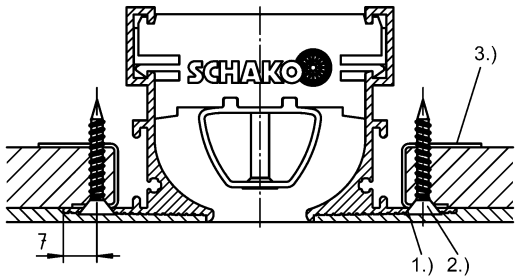






FASTENING METHODS

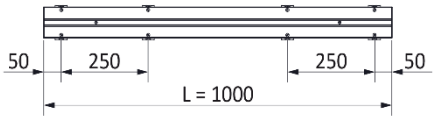
screw connection (on site)



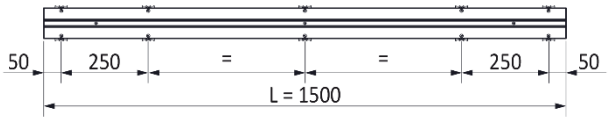
1.) Indentation ISO 15065-4
2.) Dry wall screw 3.5 x 35, use according to DIN EN 14566 on site
3.) Mounting bracket

Number of indentations, single design

L = 1000 / with 8 indentations



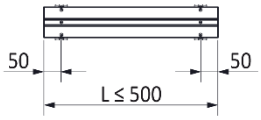
L = 1500 / with 10 indentations



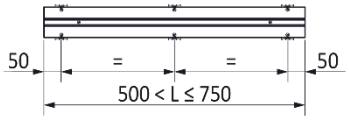
Number of indentations, band design

For compensation pieces and sections

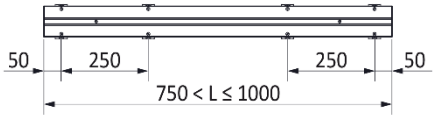
L ≤ 500 / with 4 indentations



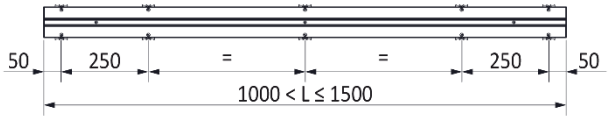
L= >500 to ≤750 / with 6 indentations



L= >750 to ≤1000 / with 8 indentations



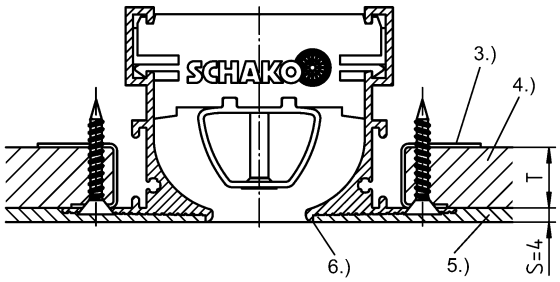
L= >1000 to ≤1500 / with 10 indentations



ASSEMBLY DETAIL

With mounting bracket:

for screw connection (on site)

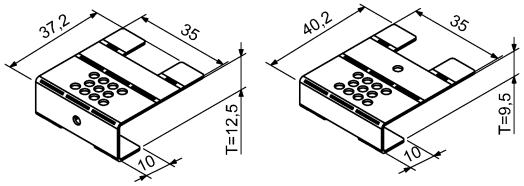


3.) Mounting bracket
4.) Plasterboard ceiling
5.) Multiple filling on site (depending on quality level)
6.) Special plastering edge for elegant filling

Number of mounting brackets (mounting help)

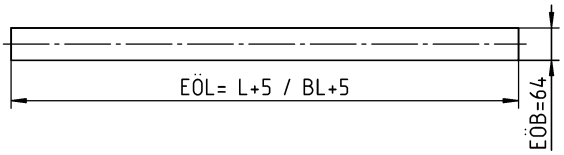
4	mounting brackets:	L / DL = ≤500
6	mounting brackets:	L / DL = >500 to ≤750
8	mounting brackets:	L / DL = >750 to ≤1000
10	mounting brackets:	L / DL = >1000 to ≤1500

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)
EÖB = installation opening width
EÖL = installation opening length

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“)

See video on YouTube:
https://youtu.be/jcFsmPI0D18

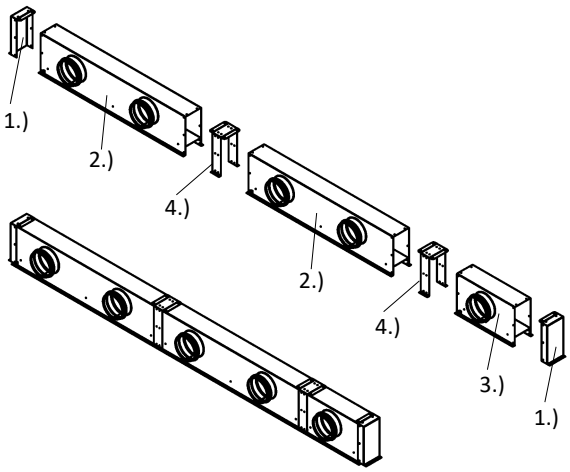
MOUNTING INSTRUCTIONS

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

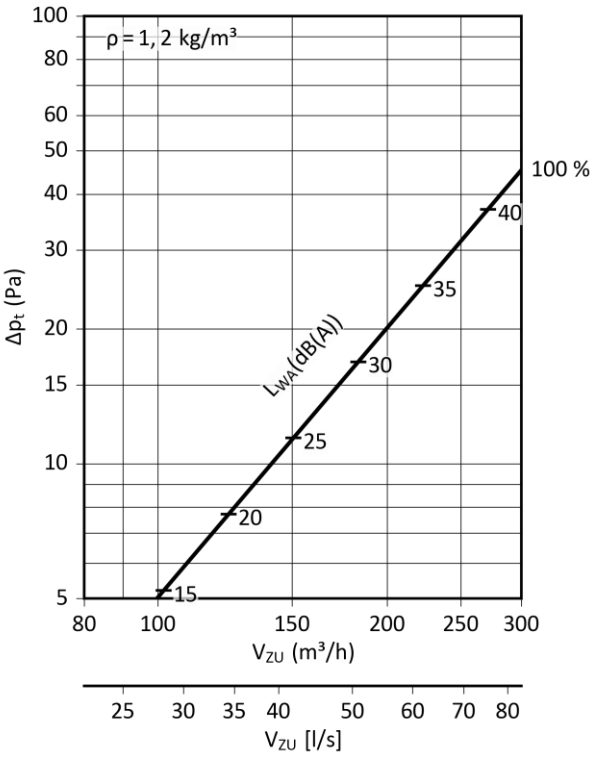


1.) Box front side
2.) Plenum box, band design, standard
3.) Plenum box, band design, difference piece
4.) Connecting angle

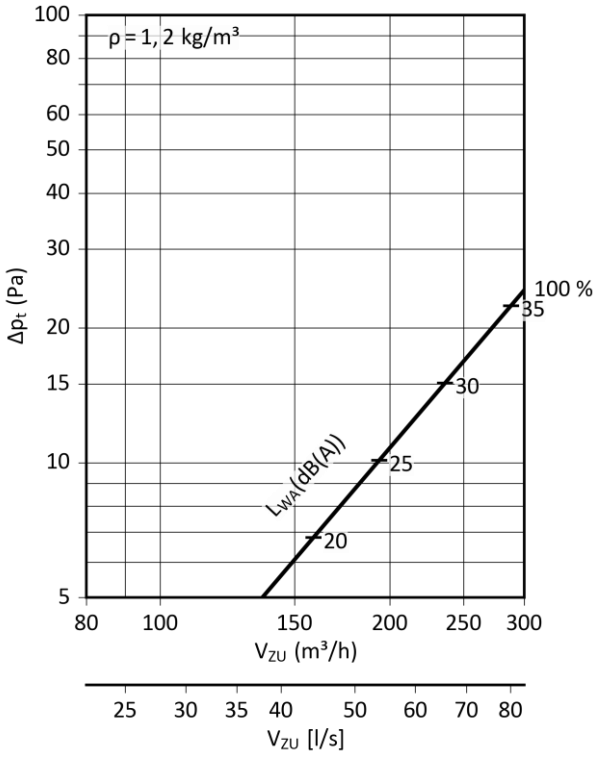
TECHNICAL DATA

Pressure loss and noise level

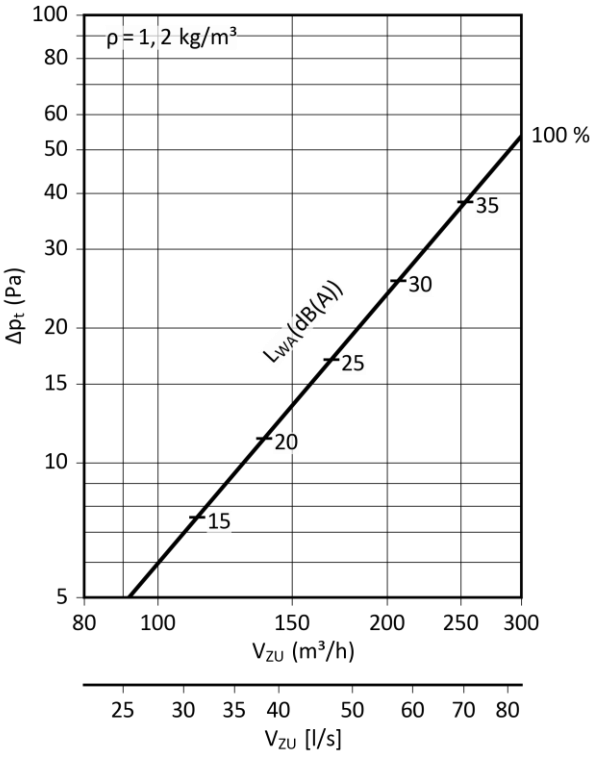
DSCL-1-Z-…-L/R-…-01000-…
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right, without plenum box)



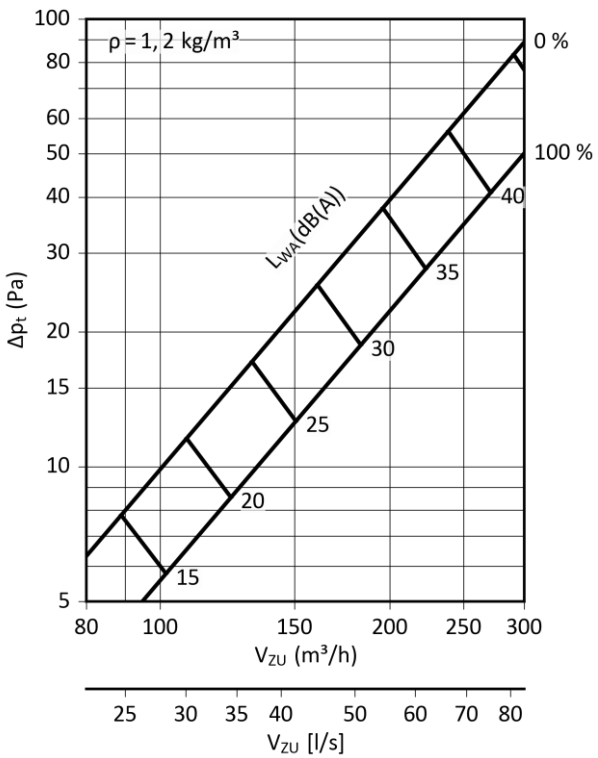
DSCL-1-A-…-0-…-01000-…
(L = 1000 mm, return air, without blades, without plenum box)



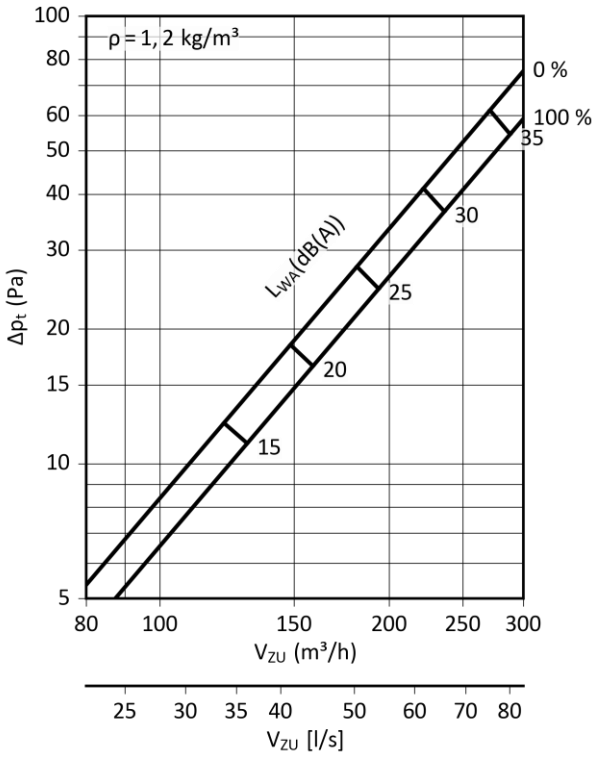
DSCL-1-Z-…-V-…-01000-…
(L = 1000 mm, supply air, with blades with vertical throw, without plenum box)



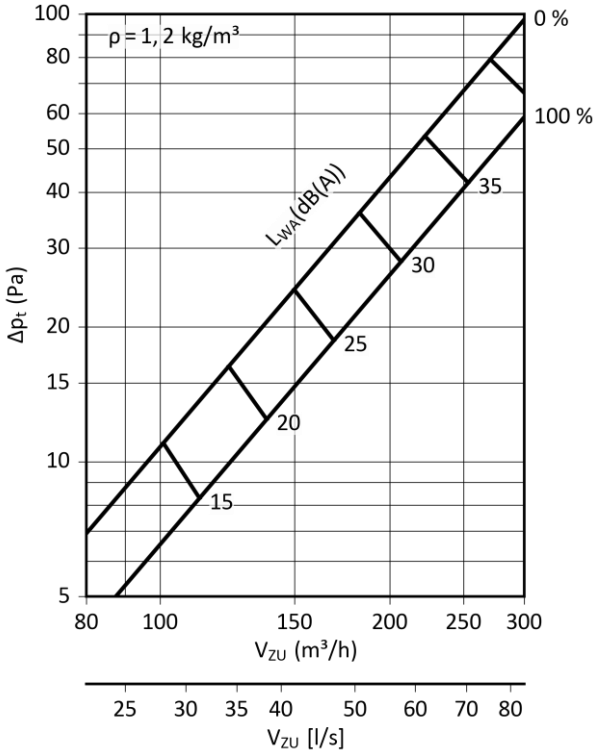
DSCL-1-Z-…-L/R-…-01000-…
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right, with plenum box, with damper)



DSCL-1-A-…-0-…-01000-…
(L = 1000 mm, return air, without blades, with plenum box, with damper)

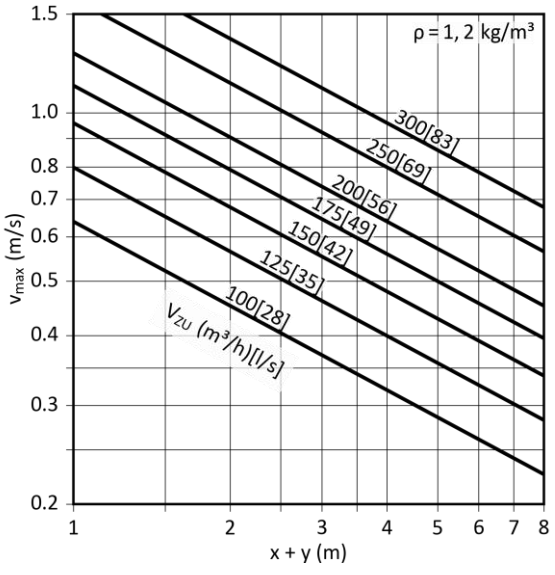


DSCL-1-Z-…-V-…-01000-…
(L = 1000 mm, supply air, with blades with vertical throw, with plenum box, with damper)



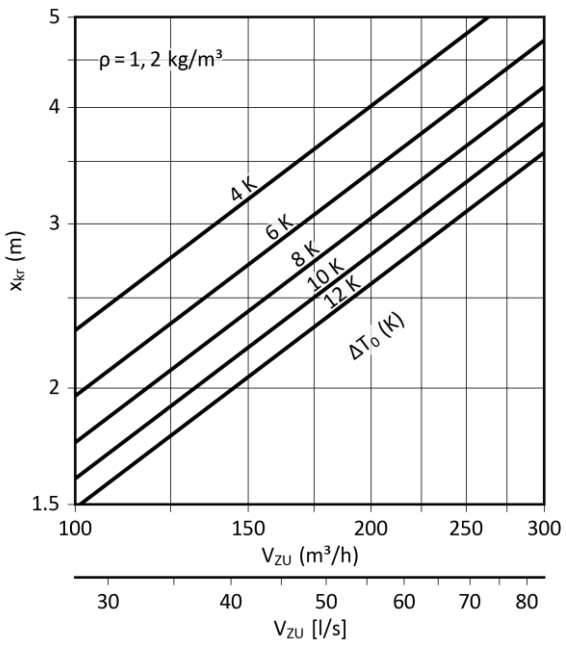
Maximum end velocity of jet

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

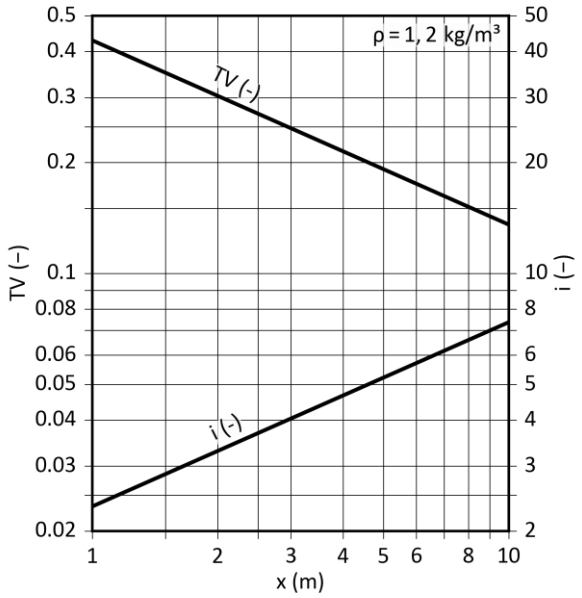
DSCL-1-Z-…-L/R-…-01000-… (with coanda effect, in cooling mode)
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right)



Temperature and induction ratios

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

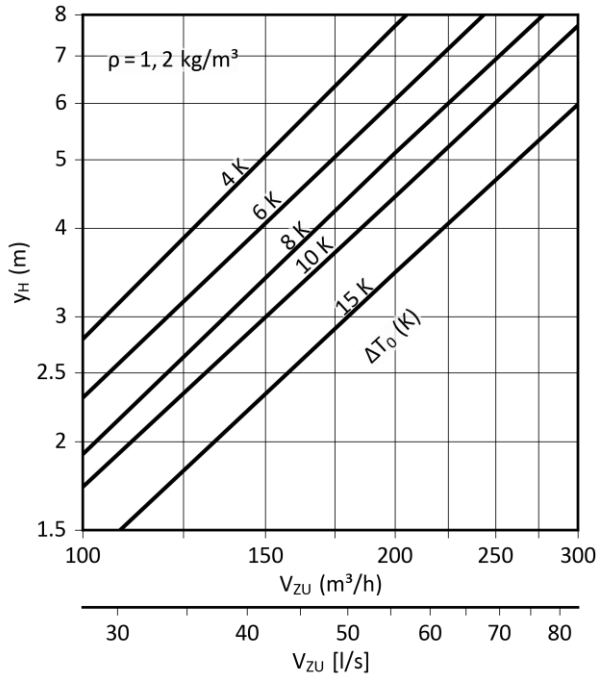
(L = 1000 mm, supply air, with blades with horizontal one-way throw to the left/right)



Maximum penetration

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

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



LEGEND

EÖB	(mm)	= Installation opening width
EÖL	(mm)	= Installation opening width
GH	(mm)	= total height
i	(-)	= induction ratio ($i = V_X / V_{ZU}$)
KB	(mm)	= Width of 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 end velocity of jet
v_{mittel}	(m/s)	= average end velocity of jet ($v_{mittel} = v_{max}$ 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 throw
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 and room temperature ($\Delta T_O = t_{ZU} - t_R$)
ΔT_{OK}	(K)	= temperature difference between supply air 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
Type	Model	Air throw	Frame profile	Frame surface	Blade colour
Example					
DSCL	-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	-EP	-BS0

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

DSCL slot diffuser for plasterboard ceilings | 1-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 = 1-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 = natural aluminium (standard).
9010 = aluminium painted to RAL colour 9010 (white).
9011 = aluminium painted to RAL colour 9011 (graphite black).
xxxx = aluminium painted to a freely selectable RAL colour (always with 4 digits).

06 - Blade colour
00000 = without blades (for return air only).
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 5 digits).

07 - Blade position for air jet
0 = without blades, for return air with perforated plate.
V = blades with vertical throw.
L = blades with horizontal one-way throw to the left (standard).
R = blades with horizontal one-way 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 5 digits) (can be fitted with a plenum box in case of single design lengths L = ≥400 mm to ≤1500 mm.)

10 - Mounting
OM = without box mounting (standard).

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 3 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 ≥ 200 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	-72	-1	-N	-01000	-OM	-SV

08	09	10	11	12	13	14
Damper	Rubber lip seal	Insulation	Height of plenum 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 | 1-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 plenum box | With lateral spigot | Standard spigot diameter | Without riveting nut

ORDER DETAILS

01 - Type
ASK = plenum box for slot diffuser

02 - Diffuser
72 = for DSCL

03 - Model
1 = 1-slot

04 - Single / band design
N = single design (length of box KL 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 5 digits)
(Length of box KL = L / total length of box GKL = BL).

06 - Mounting of box
OM = without diffuser mounting (standard).

07 - Material
SV = galvanised sheet steel (standard).

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 plenum box
KHS = standard height of plenum box.
xxx = Height of plenum box in mm, freely selectable (always with 3 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 3 digits).

14 - Suspension
E0 = without riveting nut (standard).

ORDER CODE CORNER ANGLE

01	02	03	04	05
Type	Diffuser	Model	Frame profile	Frame surface
Example				
EW	-72	-1	-PL	-ALRO

06	07	08	09	10
Dummy plate co-lour	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 angle for slot diffuser | For DSCL | 1-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 - Diffuser
72 = for DSCL

03 - Model
1 = 1-slot, with 20.5 mm slot width.

04 - Frame profile
PL = frame profile PLASTER.

05 - Frame surface
ALRO = natural aluminium (standard).
9010 = aluminium painted to RAL colour 9010 (white).
9011 = aluminium painted to RAL colour 9011 (graphite black).
xxxx = aluminium painted to a freely selectable RAL colour (always with 4 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 5 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 3 digits).

08 - Left-side length (a)
000 = standard length (L = 250mm).
xxx = length (L) in mm, freely selectable (minimum length = standard length) (always with 3 digits).

09 - Right-side length (b)
000 = standard length (L = 250mm).
xxx = length (L) in mm, freely selectable (minimum length = standard length) (always with 3 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 3 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 1-slot (**-1**), with 20.5 mm slot width.
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 air deflection blades made of painted aluminium:
- Colour similar to RAL 9010 (white) (**-L9010**).
- Colour similar to RAL 9011 (graphite black, standard) (**-L9011**).
- RAL colour can be freely selected (**-Lxxxx**, always with 5 digits).

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

Return air model without air deflection blades (**-00000**), with perforated plate made of sheet steel painted to RAL 9011 (graphite black), as 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 freely selectable RAL colour (-xxxx) (always with 4 digits).

Blade position for air jet:
- without blades, for return air with perforated plate (**-0**).
- with 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 5 digits).
  (can be fitted with a plenum box in case of single design lengths L = ≥400 mm to ≤1500 mm).

Band design (**-B**)
- Length in mm, as band (**-B-xxxxx**).
  (Available lengths according to SCHAKO standard) with connecting pins, supplied loose (2 for each connection).

Mounting:
- without box mounting (-OM) (standard).

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 3 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 1-slot models (-1), with mounting brackets, suspension without riveting nut (-E0).
  - Single / band design:
    - Single design (-N, length of box KL 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 5 digits) (length of box KL = L / total length of box GKL = BL).
  - Mounting of box:
    - Without diffuser mounting (-OM) (standard).
  - 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) made of special rubber, at the connection spigot.
  - Insulation:
    - without insulation (-I0) (standard).
    - with external insulation (-Ia), thermal insulation at the outside of the plenum box.
  - Height of plenum box:
    - Standard height of plenum box (-KHS).
    - Height of plenum box in mm, freely selectable (-xxx) (always with 3 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 3 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 ≥ 200 mm.
    - only possible without plenum box ASK-72.

- Corner angle (-EW-72), 1-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 freely selectable RAL colour (-xxxx, always with 4 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).
    - a freely selectable RAL colour (Bxxxx) (always with 5 digits).
  - Angle between sides:
    - angle α = 90° (-090).
    - angle (α) as required (-xxx, always with 3 digits)
      Angle values between α = 90° (-090, standard) and 170° (-170) are possible.
  - Left-side length (a):
    - Standard length L=250 (-000).
    - Length (L) in mm, freely selectable (-xxx, always with 3 digits) (minimum length = standard length).
  - Right-side length (b):
    - Standard length L=250 (-000).
    - Length (L) in mm, freely selectable (-xxx, always with 3 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 3 digits).