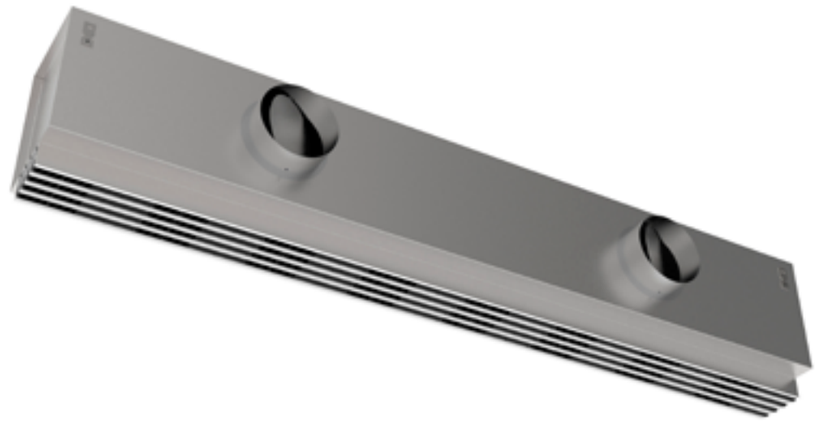
2/S10
v 3.3 (en)

SLOT DIFFUSER

SR

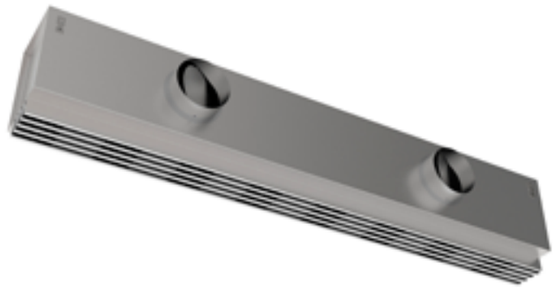


klimaoprema

TABLE OF CONTENTS

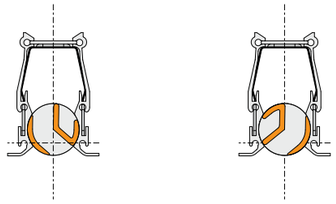
Definition of symbols:

V_p [m³/h]	- Airflow rate
V' [m³/hm]	- Airflow rate per meter length
V_2 [m³/hm²]	- Airflow rate per room area
A_{ef} [m²]	- Effective outlet area
v_L [m/s]	- Core velocity
v_h [m/s]	- Air velocity between two diffusers
L [m]	- Diffuser length
B_{min} [m]	- Distance between two diffusers
h [m]	- Installation height
L_{WA} [dB(A)]	- Sound power level
Δp [Pa]	- Pressure drop

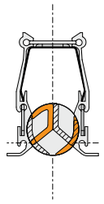


SR

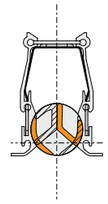
- Ceiling diffuser for room heights from 2,7 to 5m.
- Made out of anodized aluminium profiles
- 1-row, 2-row, 3-row and 4-row version
- Length from 300 to 2000 mm (step 100 mm).
- Individually adjustable discharge elements SR30 and SR50.



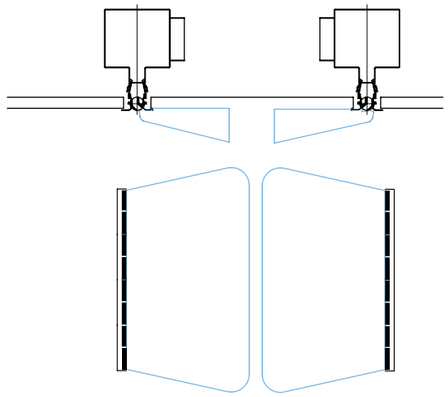
Horizontal one-sided discharge



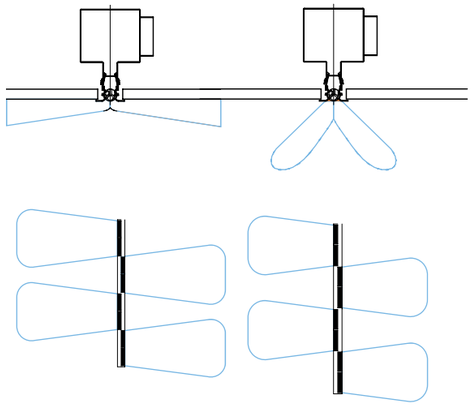
Horizontal two-sided discharge



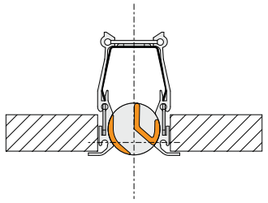
Two-sided discharge at an angle

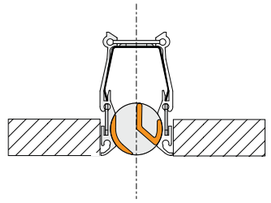


Slot diffuser



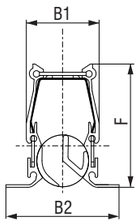
Narrow slot diffuser

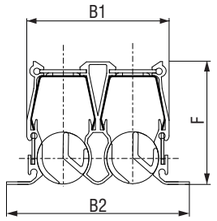




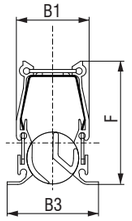
Dimensions

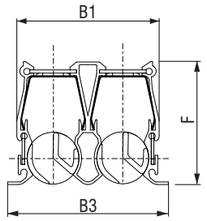
Slot diffuser





Narrow slot diffuser

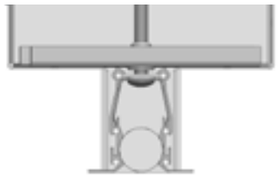




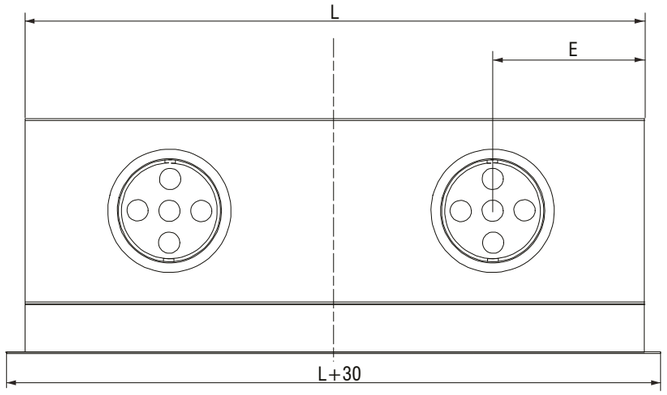
Type	No. of rows	A_{ef} [m²/m]	L [mm]	V [m³/h m]	h [m]	B1 [mm]	B2 [mm]	B3 [mm]	A [mm]	B [mm]	C [mm]	øD [mm]	No. of connections	E [mm]	F [mm]	G [mm]
SR 30	1	0,00752	do 1000	40 -130	2,7 -4,0	28	47,5	35	221	120	174	98	1	L / 2	47,5	47
			1100-1500									98	2	300		
			1600-2000									123	2	400		
	2	0,01504	do 1000	70 -240	2,7 -4,5	55	74,5	62	236	150	189	138	1	L / 2		47
			1100-1500									123	2	300		
			1600-2000									138	2	400		
	3	0,02256	do 1000	120 -320	3,0 -5,0	82	101,5	89	261	179	215	158	1	L / 2		47
			1100-1500									138	2	300		
			1600-2000									158	2	400		
	4	0,03008	do 1000	160 -400	3,5 -5,0	109	128,5	119	301	210	255	198	1	L / 2		47
			1100-1500									158	2	300		
			1600-2000									198	2	400		

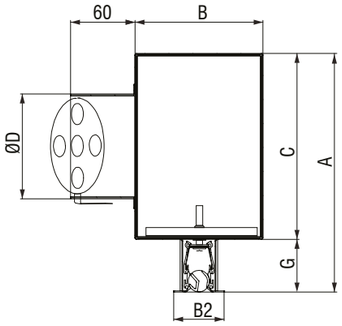
Type	No. of rows	A_{ef} [m²/m]	L [mm]	V [m³/h m]	h [m]	B1 [mm]	B2 [mm]	B3 [mm]	A [mm]	B [mm]	C [mm]	ø D [mm]	No. of connections	E [mm]	F [mm]	G [mm]
SR 50	1	0,01504	do 1000	75 -210	2,7 -4,0	43,5	71	51	252	130	195	123	1	L / 2	57,5	57
			1100-1500									123	2	300		
			1600-2000									138	2	400		
	2	0,03008	do 1000	130 -390	2,7 -4,5	93,5	121	101	272	180	215	158	1	L / 2		57
			1100-1500									138	2	300		
			1600-2000									158	2	400		
	3	0,04512	do 1000	195 -520	3,0 -5,0	143,5	171	151	312	230	255	198	1	L / 2		57
			1100-1500									158	2	300		
			1600-2000									198	2	400		
	4	0,06016	do 1000	260 -650	3,5 -5,0	193,5	221	201	337	280	280	223	1	L / 2		57
			1100-1500									198	2	300		
			1600-2000									223	2	400		

Fixing onto plenum box



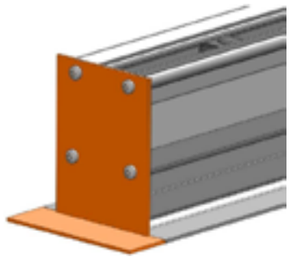
- fixing with cross-member



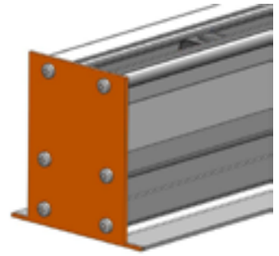


Connecting slot diffusers in series with connecting plate

End profile L1 (L2)



End plate I1 (I2)

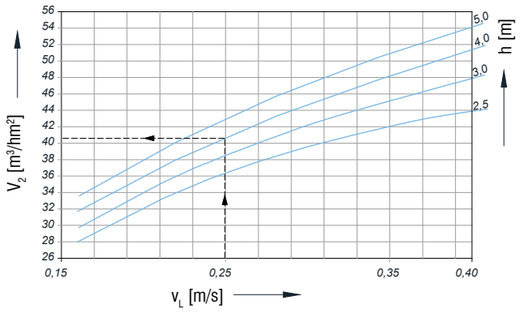


SELECTION DIAGRAM - SR30

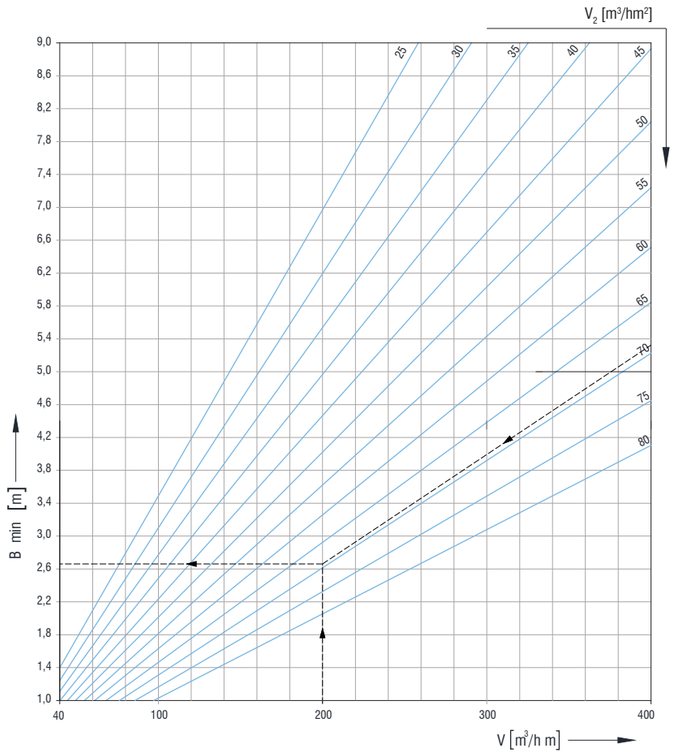
Maximum flow correction factor per 1 m² of room area, in regards to maximum temperature diference Δt

	Δt=-12K	Δt=-10K	Δt=-8K	Δt=-6K	Δt=-6K
$\Delta V_p =$	x 1,00	x 1,00	x 1,15	x 1,35	x1,70

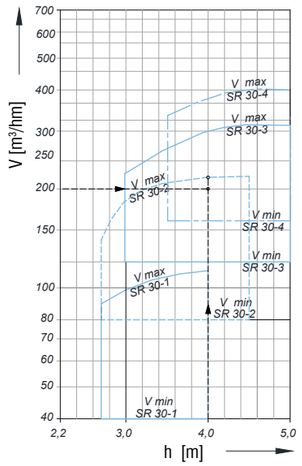
Maximum airflow rate of SR30 per 1m² of room area, for maximum temperature difference Δt=-12K



Minimum distance between two slot diffusers SR30



Airflow rate per 1 meter length



Example:

Given:

SR 30-2

V = 400 m³/h — L= 2 m
v_L = 0,25 m/s — Δt_z = - 4°C
h = 4 m — Supply

Solution:

Diagram 1:
V_2= 40,5 m³/hm²
Correction = 40,5 x 1,70 = 68,85 m³/hm²
Diagram 2:
V_{max} = 210 m³/hm
V= 200 m³/hm
Diagram 3:
B_{min} = 2,7 m
Diagram 4:
L_{WA} = 36 dB(A)
Correction (damper open 50%):
36+2= 38 dB(A)
Diagram 5:
Δp = 33 Pa
Correction (damper open 50%):
33 x 1,4 = 46,2 Pa

Sound power level correction factor L_{WA} [dB(A)] in regard to airflow damper position

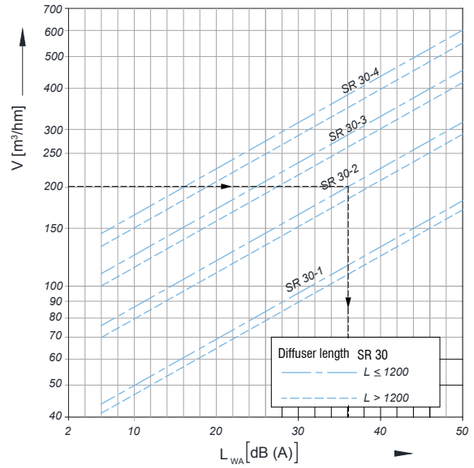
Damper position	100% open	75% open	50% open	25% open	0% open
$\Delta L_{WA} =$	+0	+1	+2	+4	+6

Pressure drop correction factor L_{WA} [dB(A)] in regard to airflow damper position

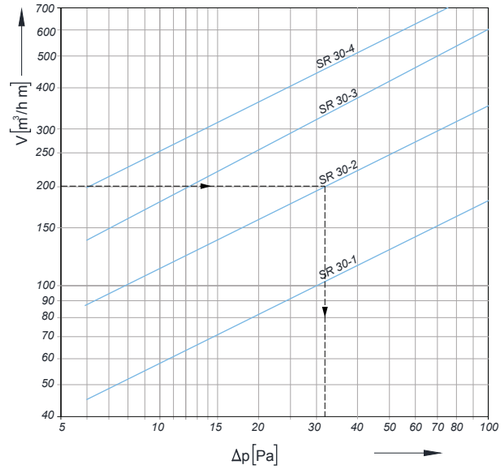
Damper position	100% open	75% open	50% open	25% open	0% open
Δp =	x1,00	x1,2	x1,4	x1,7	x2,2

For insulated plenum boxes sound power level is decreased by additional 2 dB(A)

SR 30 Sound power level - Supply air
(damper position 100% open)
- Non insulated plenum box



SR 30 Pressure drop - Supply air
(damper position 100% open)



Sound power level correction factor L_{WA} [dB(A)] in regard to airflow damper position

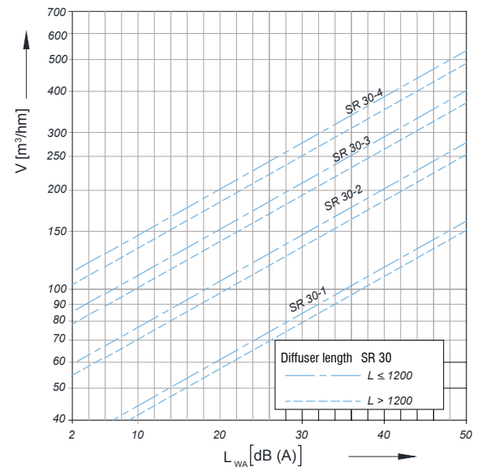
Damper position	100% open	75% open	50% open	25% open	0% open
$\Delta L_{WA} =$	+0	+0	+1	+2	+2

Pressure drop correction factor L_{WA} [dB(A)] in regard to airflow damper position

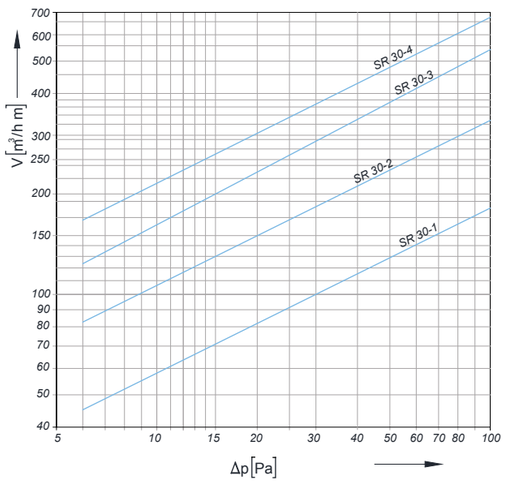
Damper position	100% open	75% open	50% open	25% open	0% open
Δp =	x1,00	x1,6	x2,0	x2,4	x3,0

For insulated plenum boxes sound power level is decreased by additional 2 dB(A)

SR 30 Sound power level - Exhaust air
(damper position 100% open)
- Non insulated plenum box



SR 30 Pressure drop - Exhaust air
(damper position 100% open)

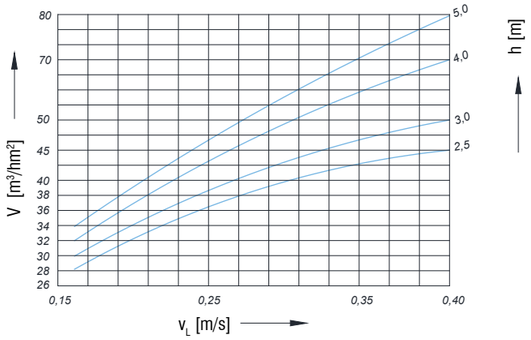


SELECTION DIAGRAM - SR 50

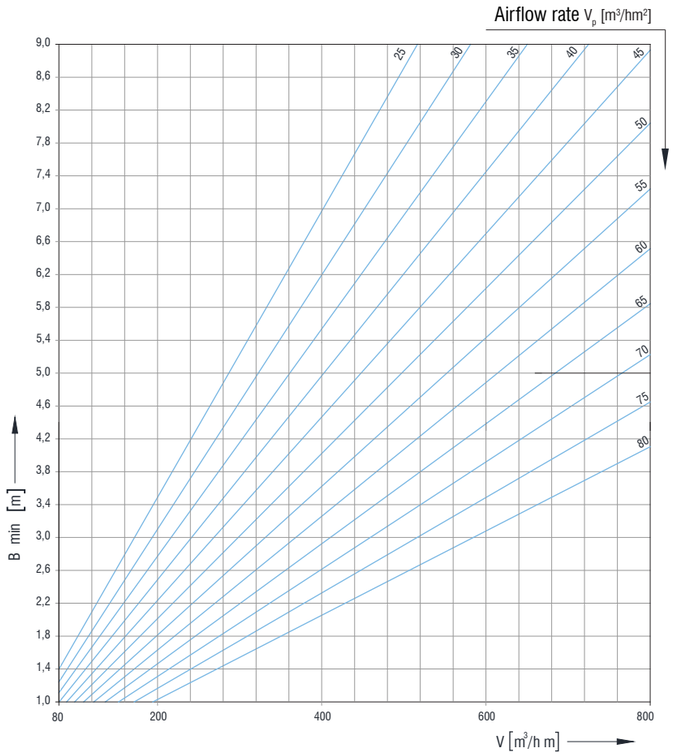
Maximum flow correction factor per 1 m2 of room area, in regards to maximum temperature diference Δt

	Δt=-12K	Δt=-10K	Δt=-8K	Δt=-6K	Δt=-6K
ΔV_p =	x 1,00	x 1,00	x 1,15	x 1,35	x1,70

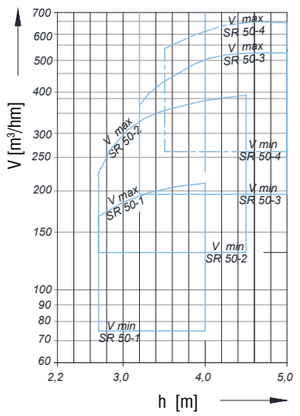
Maximum airflow rate of SR50 per 1m2 of room area, for maximum temperature difference Δt=-12K



Minimum distance between two slot diffusers SR50



Airflow rate per 1 meter length



Sound power level correction factor LWA [dB(A)] in regard to airflow damper position

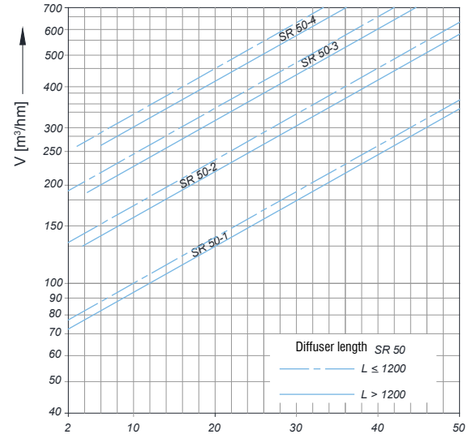
Damper position	100% open	75% open	50% open	25% open	0% open
ΔL_{WA} =	+0	+1	+2	+4	+6

Pressure drop correction factor LWA [dB(A)] in regard to airflow damper position

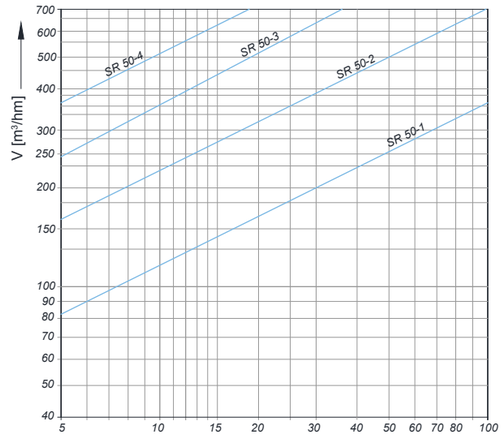
Damper position	100% open	75% open	50% open	25% open	0% open
Δp =	x1,00	x1,2	x1,4	x1,7	x2,2

For insulated plenum boxes sound power level is decreased by additional 2 dB(A)

SR 50 Sound power level - Supply air
(damper position 100% open)
- Non insulated plenum box



SR 50 Pressure drop - Supply air
(damper position 100% open)



Sound power level correction factor LWA [dB(A)] in regard to airflow damper position

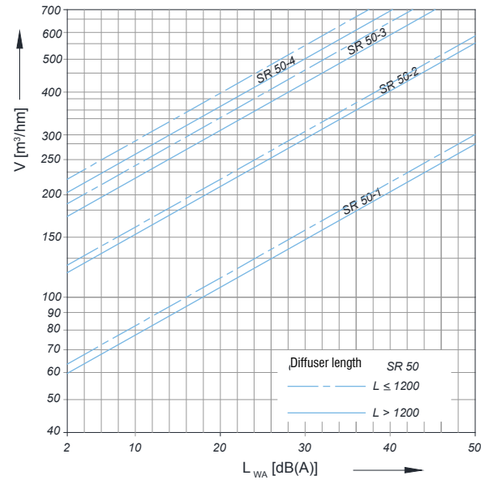
Damper position	100% open	75% open	50% open	25% open	0% open
ΔL_{WA} =	+0	+0	+1	+2	+2

Pressure drop correction factor LWA [dB(A)] in regard to airflow damper position

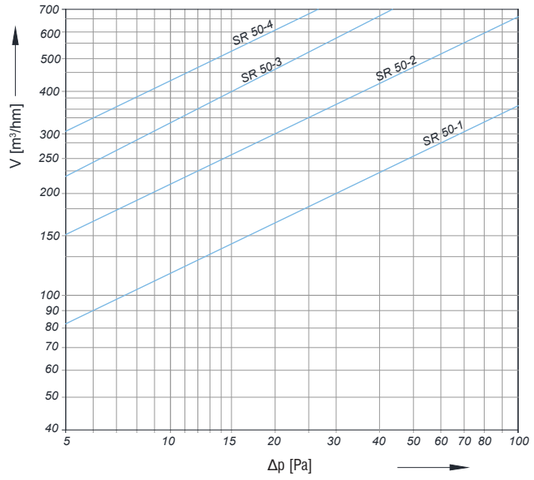
Damper position	100% open	75% open	50% open	25% open	0% open
Δp =	x1,00	x1,2	x2,0	x2,4	x3,0

For insulated plenum boxes sound power level is decreased by additional 2 dB(A)

SR 50 Sound power level - Exhaust air
(damper position 100% open)
- Non insulated plenum box



SR 50 Pressure drop - Exhaust air
(damper position 100% open)

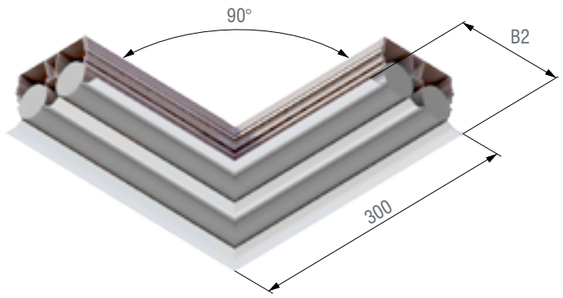


Ordering key:

Type (SR30, SR50)	**SR30**	**- 2**	**- 1,4**	**- KZ**	**- T**	**- N**	**- B**	**- L2**	**- RAL..**
Number of slots (1, 2, 3, 4)									
Diffuser length (1..2m, in increments of 0,1m)									
K - plenum box **Z -** insulation									
T - cross-member fixing **F -** fixing with rivets									
N - slot diffuser **U -** narrow slot diffuser									
C - black discharge elements **B -** white discharge elements **S -** grey discharge elements									
L1 - end profile on one side **L2 -** end profile on both sides **I1 -** end plate on one side **I2 -** end plate on both sides									

Corner section

- Corner section doesn't have air supply function
- Outter dimensions: - L=300 / 300 mm
  - Angle 90°
- Dimensions are referred to maximum outter dimensions (see image)



Corner section ordering key:

Type (SR30, SR50)	**SR30**	**- 2**	**- 90**	**- B**	**- RAL..**
Number of slots (1, 2, 3, 4)					
Corner section angle					
C - black discharge elements **B -** white discharge elements **S -** grey discharge elements					

NOTES: