

Krantz Components

Radial slot outlet with

- square blade array RL-Q2....
- circular blade array RL-R2....

Air distribution systems

Radial slot outlet

with square and circular blade array

Preliminary remark

The radial slot outlet RL-Q2 / RL-R2 by Krantz Components creates a turbulent mixed-flow ventilation. It is used to supply and return air in commercial applications and is optimised in terms of acoustics and air flow. As the most important air distribution elements, the blades have been completely redesigned. Using most advanced development and production methods such as CFD analyses and rapid prototyping, the geometry has been improved until even the highest demands on indoor air flow and acoustics were met. In addition, this has been confirmed in numerous laboratory measurements.

The air outlet can be installed either flush with the ceiling or freely suspended and is available in four different sizes. For special purposes such as edge and corner areas in rooms, the otherwise radially symmetrical air discharge behaviour can be individually adjusted by using special cover plates.

Construction design

The main components of the radial slot outlet are the air outlet element **1** with square face and the blades **1a** for radial air discharge. The air outlet element is available both with a square or a circular blade array (Fig. 2).

Air is supplied via the connection spigot **3** which is optionally available with or without lip seal **7** and with or without volume flow damper **4**. The volume flow damper can be adjusted from within the room. The air is routed on through the connection box **2** and the air outlet element **1** with blade **1a**.

The air outlet element can easily be removed downward after dismounting the central fastening **5**. The entire air outlet unit is suspended at fastening points **6** at the connection box.

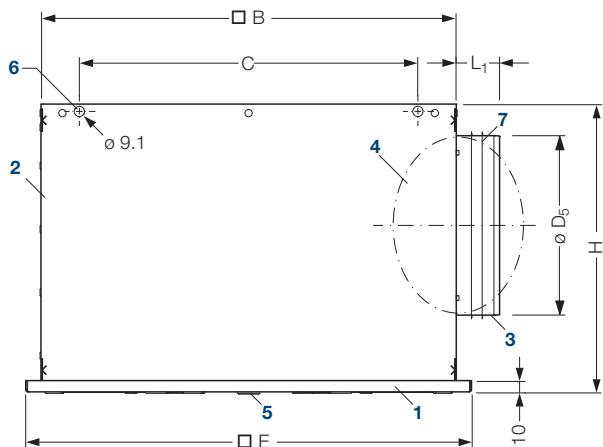


Fig. 1 Dimensions

Table 1: Technical data and dimensions

Size	300	400	500	600	625
Air volume flow rate ¹⁾ l/s					
– square blade array	\dot{V}_{\max}	75	119	183	278
	$\dot{V}_{\min}^{2)}$	17	22	46	67
	$\dot{V}_{\min}^{3)}$	28	42	53	100
– circular blade array	\dot{V}_{\max}	69	119	194	250
	$\dot{V}_{\min}^{2)}$	13	21	36	54
	$\dot{V}_{\min}^{3)}$	25	36	61	83
Air volume flow rate ¹⁾ m ³ /h					
– square blade array	\dot{V}_{\max}	270	430	660	1 000
	$\dot{V}_{\min}^{2)}$	60	80	165	240
	$\dot{V}_{\min}^{3)}$	100	150	190	360
– circular blade array	\dot{V}_{\max}	250	430	700	900
	$\dot{V}_{\min}^{2)}$	45	75	130	195
	$\dot{V}_{\min}^{3)}$	90	130	220	300
Discharge height	m	2.5 – 4.5		2.7 – 4.5	
Dimensions					
B	mm	268	368	468	568
C	mm	200	300	380	420
D ₅	mm	159	159	199	249
E	mm	295	395	495	595 620
H	mm	255	255	295	345
L ₁	mm	40	40		60
Weight G					
– Air outlet	kg	0.7	1.2	1.9	2.7
– Connection box	kg	2.3	3.7	5.8	8.5
Max. temperature difference supply air – indoor air					
					-12 K in cooling mode (flush with ceiling)
					-10 K in cooling mode (freely suspended)
					+10 K in heating mode (≤ 3 m)
					+ 5 K in heating mode (> 3 m)

1) all blades open; closing of individual blades reduces \dot{V}_{\max} and \dot{V}_{\min}

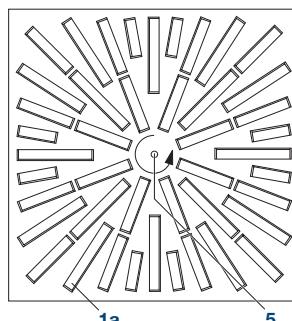
2) \dot{V}_{\min} flush with ceiling

3) \dot{V}_{\min} freely suspended

Key

- | | | | |
|-----------|--------------------|----------|--------------------|
| 1 | Air outlet element | 4 | Volume flow damper |
| 1a | Blades | 5 | Central fastening |
| 2 | Connection box | 6 | Fastening points |
| 3 | Connection spigot | 7 | Lip seal |

Square blade array



Circular blade array

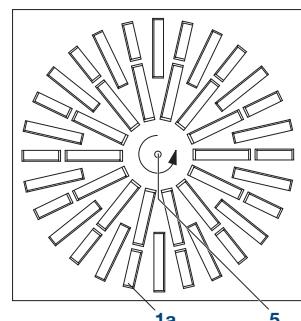


Fig. 2 Face for square and circular blade array

Radial slot outlet

Mode of operation

Mode of operation

The radial slot outlet produces a turbulent mixing flow with high-induction radial air jets. The air discharge direction is horizontal.

The especially adjusted blade geometry enables both **flush** and **freely suspended** placement with the same front plate. The air jets are discharged horizontally at high velocity. The radial array of the blades causes the air to exit far beyond the plate under the influence of the centrifugal force even in the case of **freely suspended** placement. In the case of placement **flush with the ceiling**, the air jet clings to the ceiling due to the Coanda effect. The pronounced spread of the air jets guarantees high induction with the room air and hence good reduction of momentum and temperature.

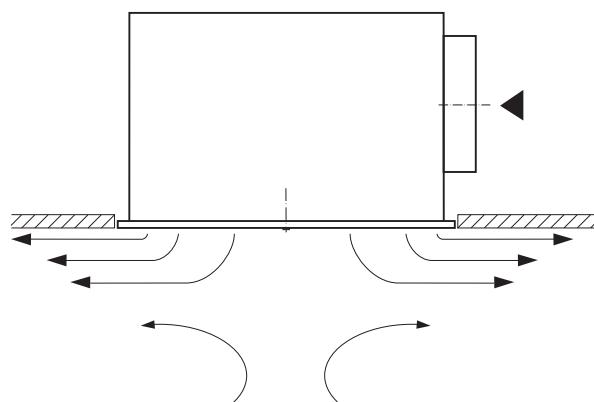


Fig. 3 Jet pattern in case of air outlet arrangement flush with the ceiling

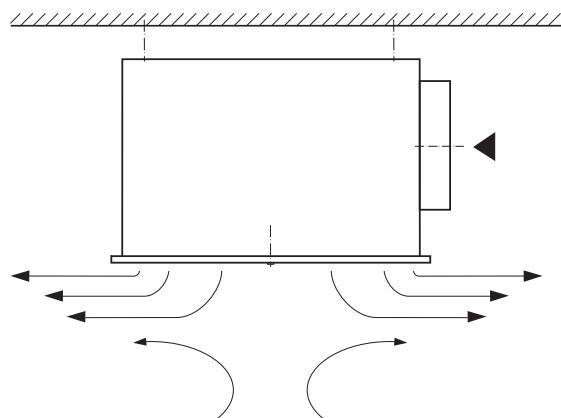


Fig. 4 Jet pattern in case of freely suspended air outlet arrangement

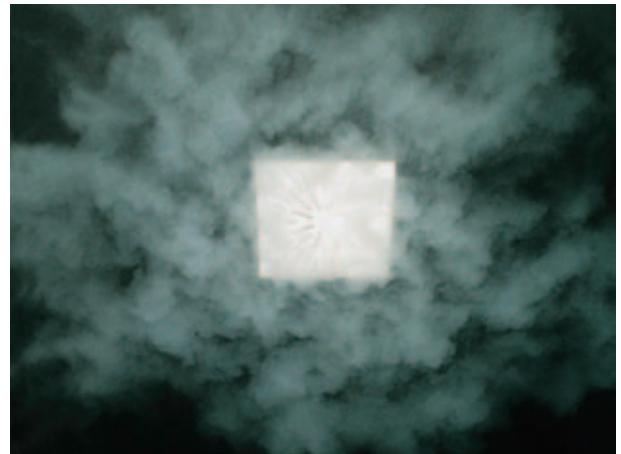


Fig. 5 Radial air jet pattern, made visible by smoke tracer



Fig. 6: Radial slot outlet installed flush with the ceiling

Note:

If the air outlets are freely suspended, it is recommended to limit the temperature difference between supply air and indoor air (or return air) to -10 K . Thus the outlets generate stable horizontal air jets even at low volume flow rates.

The radial slot outlet as return air inlet is available with or without blades.

Radial slot outlet

with square blade array

Discharge directions and volume flow rates

- square blade array

With the radial slot outlet, discharge can be four-sided, three-sided or double-sided. With four-sided discharge all blades are open. If three-sided or double-sided symmetrical discharge or double-sided asymmetrical discharge is required, various blade segments must be closed. The volume flow rate is reduced. Fig. 7 shows the respective open and closed blade segments for different discharge directions. The table shows the corresponding factors for volume flow rate reduction.

The relevant equation is: $\dot{V}_{\text{Red}} = \dot{V}_A \cdot F$

Table 2: Air volume flow rate factor F for square blade array

Size	600 / 625	500	400	300
4 sides	1.00	1.00	1.00	1.00
3 sides	0.80	0.80	0.72	0.81
2 sides symm.	0.59	0.60	0.50	0.62
2 sides asymm.	0.57	0.57	0.50	0.62

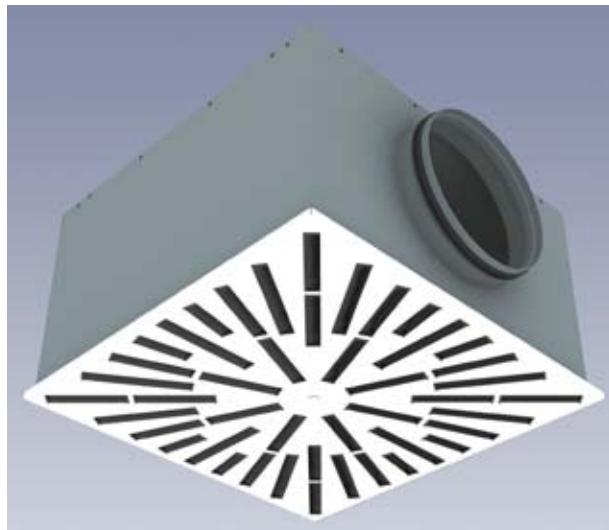


Fig. 8 Radial slot outlet with square blade array, size 600

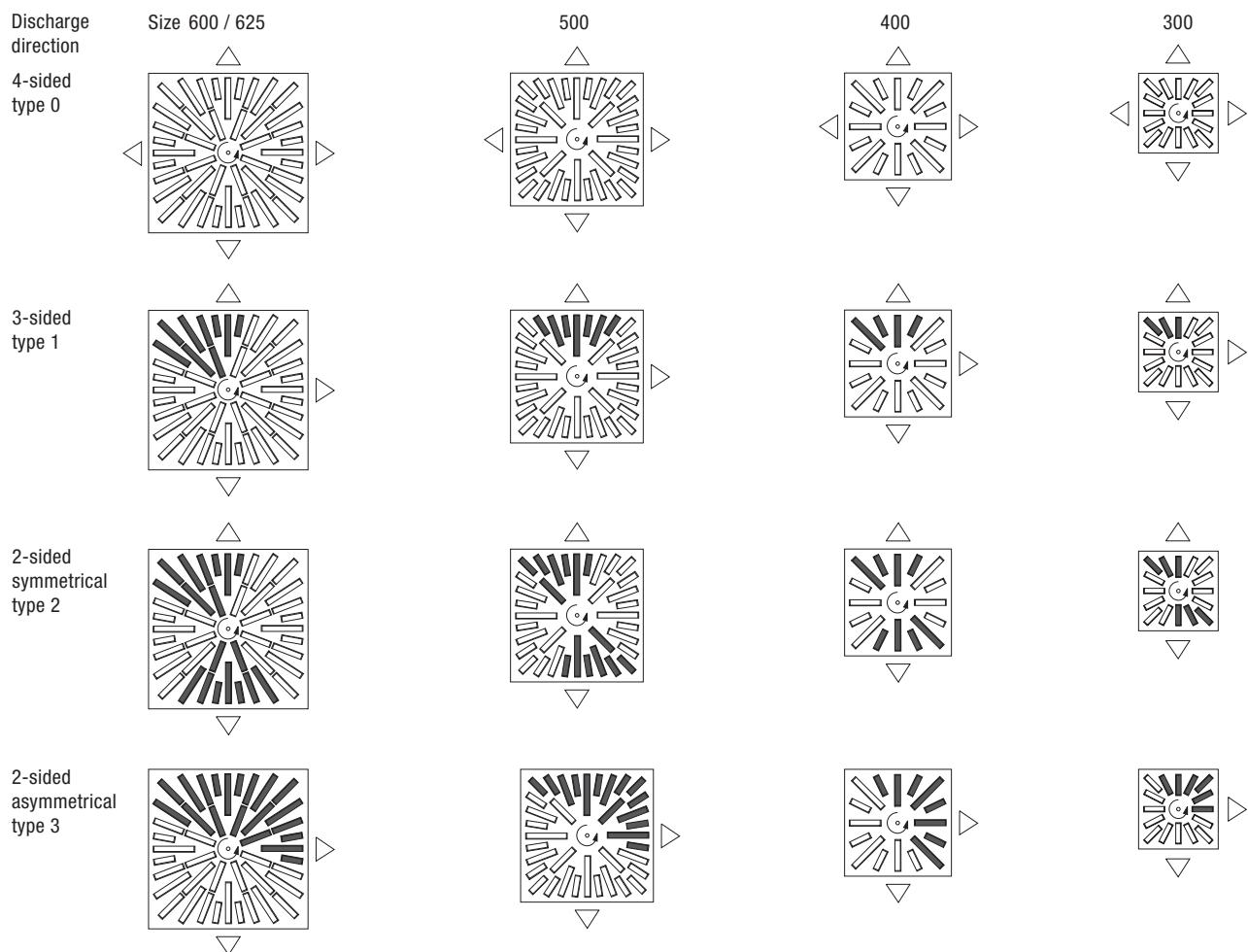


Fig. 7 Discharge directions effected by closing individual air discharge openings, square blade array

Radial slot outlet

with circular blade array

Discharge directions and volume flow rates

- circular blade array

The same specifications apply for the circular blade array as for the square array. Fig. 9 shows the open or closable blade segments for the various discharge directions. The relevant volume flow rate factors can be read off the table.

The relevant equation is: $\dot{V}_{\text{Red}} = \dot{V}_A \cdot F$

Table 3: Air volume flow rate factor F for circular blade array

Size	600 / 625	500	400	300
4 sides	1.00	1.00	1.00	1.00
3 sides	0.83	0.80	0.75	0.75
2 sides symm.	0.66	0.61	0.50	0.50
2 sides asymm.	0.60	0.58	0.55	0.58

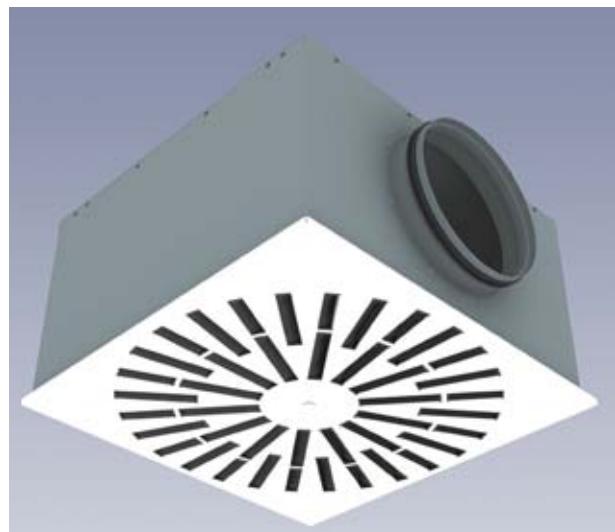


Fig. 10 Radial slot outlet with circular blade array, size 600

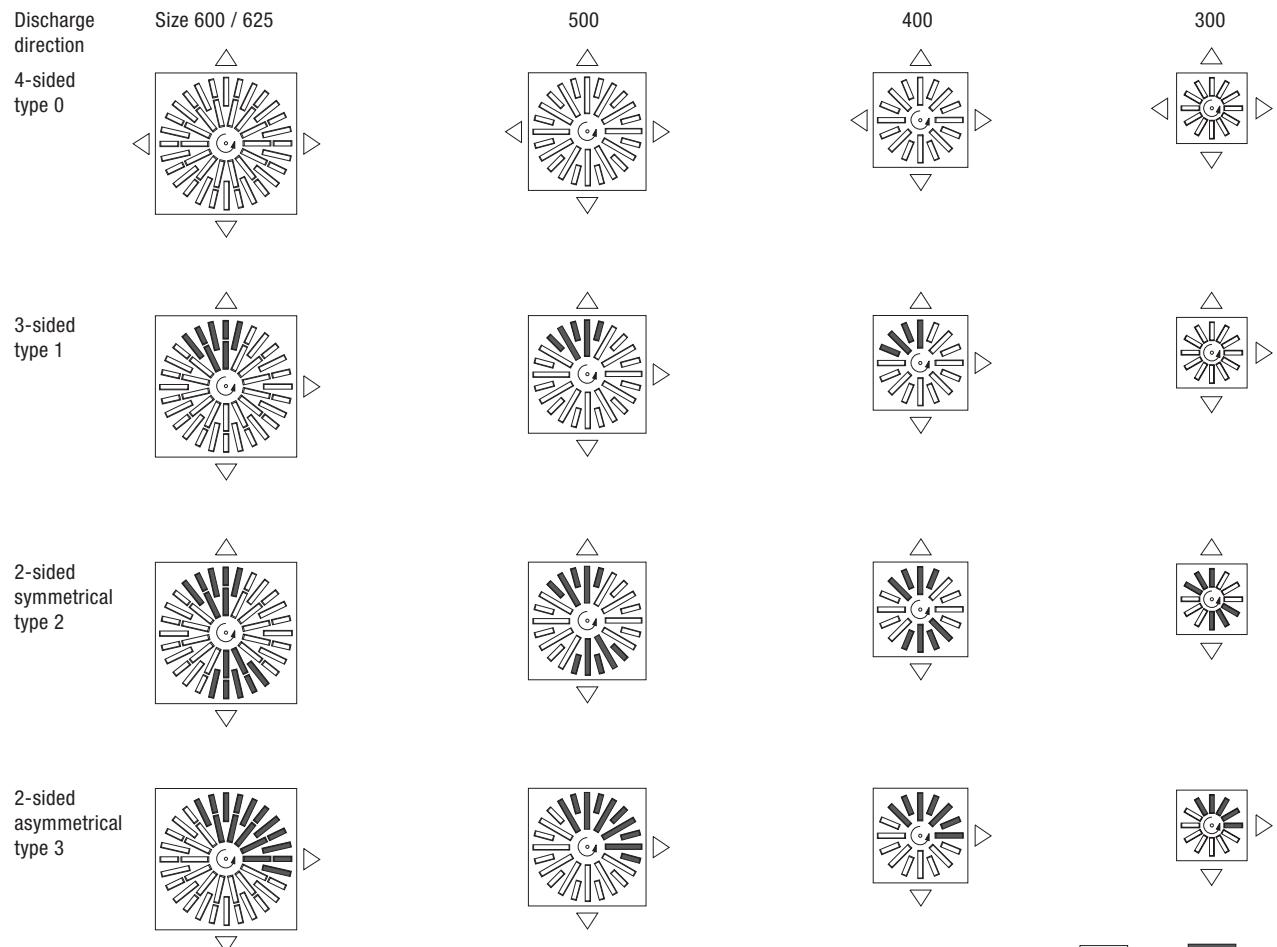


Fig. 9 Discharge directions effected by closing individual air discharge openings, circular blade array

Radial slot outlet

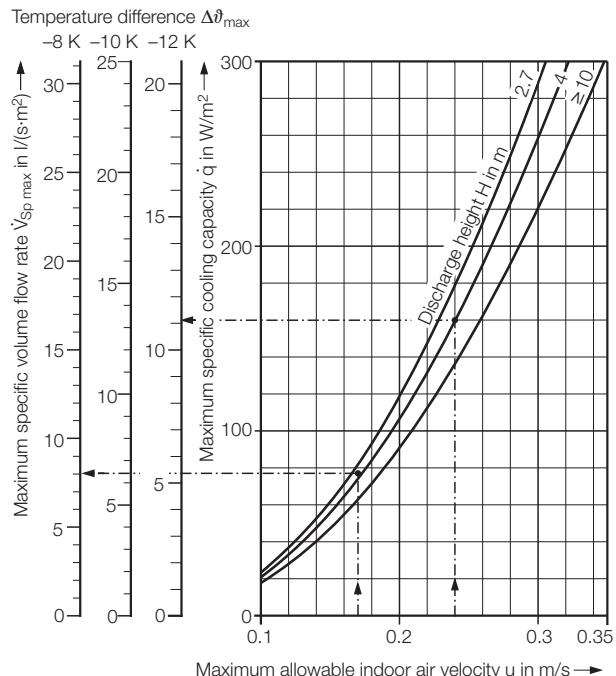
Comfort criteria

Comfort criteria 1)

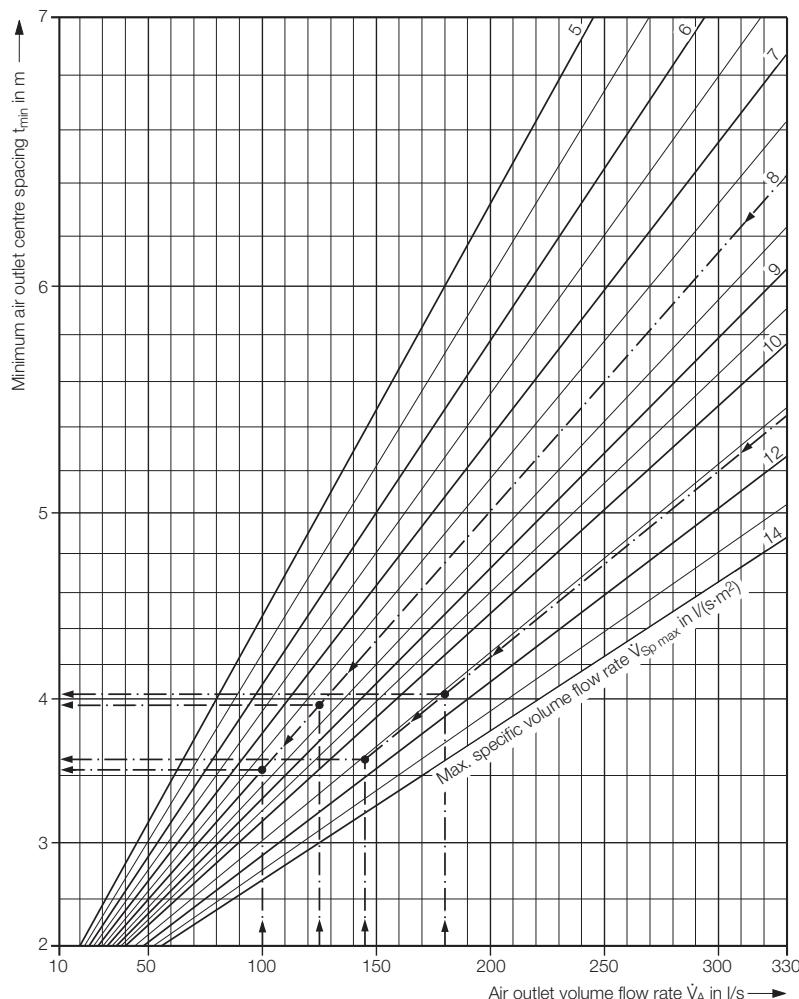
The outlet layout must comply with the maximum allowable indoor air velocities u in the occupied zone in the cooling mode. The indoor air velocity depends on the cooling load that is to be removed from the room. The maximum specific cooling capacity q depends on the discharge height and the maximum allowable indoor air velocity u (Graph 1).

Graph 1 enables to determine for the cooling mode the maximum specific volume flow rate $\dot{V}_{Sp\ max}$ in relation to the maximum specific cooling capacity and the maximum temperature difference $\Delta\vartheta_{max}$. The volume flow rate supplied to the room $\dot{V}_{Sp\ act}$ may not exceed this value.

Graph 2 enables to determine the minimum centre spacing between two outlets on the basis of the maximum specific volume flow rate.



¹⁾ See our brochure ref. TB 69 'Layout specifications for thermal comfort'



Graph 2: Minimum air outlet centre spacing

Graph 1: Maximal specific volume flow rate

Key for layout:

- $\dot{V}_{A\ max}$ = max. volume flow rate per air outlet in cooling mode in l/s [m^3/h]
- $\dot{V}_{A\ min}$ = min. volume flow rate per air outlet in cooling mode in l/s [m^3/h]
- \dot{V}_A = volume flow rate per air outlet in l/s [m^3/h]
- $\dot{V}_{Sp\ max}$ = max. specific volume flow rate per m^2 in $l/(s·m^2)$ [$m^3/(h·m^2)$]
- $\dot{V}_{Sp\ act}$ = actual specific volume flow rate per m^2 floor area in $l/(s·m^2)$ [$m^3/(h·m^2)$]
- u = max. allowable indoor air velocity in m/s
- q = max. specific cooling capacity in W/m^2
- $\Delta\vartheta_{max}$ = max. temperature difference supply air to return air in K
- t_{min} = minimum air outlet centre spacing in m
- H = discharge height in m
- L_{WA} = sound power level in dB(A)
- Δp_t = total pressure drop in Pa

Size 500 (see layout examples on page 7)

- \dot{V}_A selected = 125 l/s
- $\dot{V}_{Sp\ max}$ = 8 $l/(s·m^2)$
- t_{min} ≈ 4 m

Size 600 (see layout examples on page 7)

- \dot{V}_A selected = 180 l/s
- $\dot{V}_{Sp\ max}$ = 11.1 $l/(s·m^2)$
- t_{min} ≈ 4 m

Size 500 (see layout examples on page 9)

- \dot{V}_A selected = 100 l/s
- $\dot{V}_{Sp\ max}$ = 8 $l/(s·m^2)$
- t_{min} ≈ 3.5 m

Size 600 (see layout examples on page 9)

- \dot{V}_A selected = 145 l/s
- $\dot{V}_{Sp\ max}$ = 11.1 $l/(s·m^2)$
- t_{min} ≈ 3.6 m

Radial slot outlet

with square blade array, layout as supply air outlet

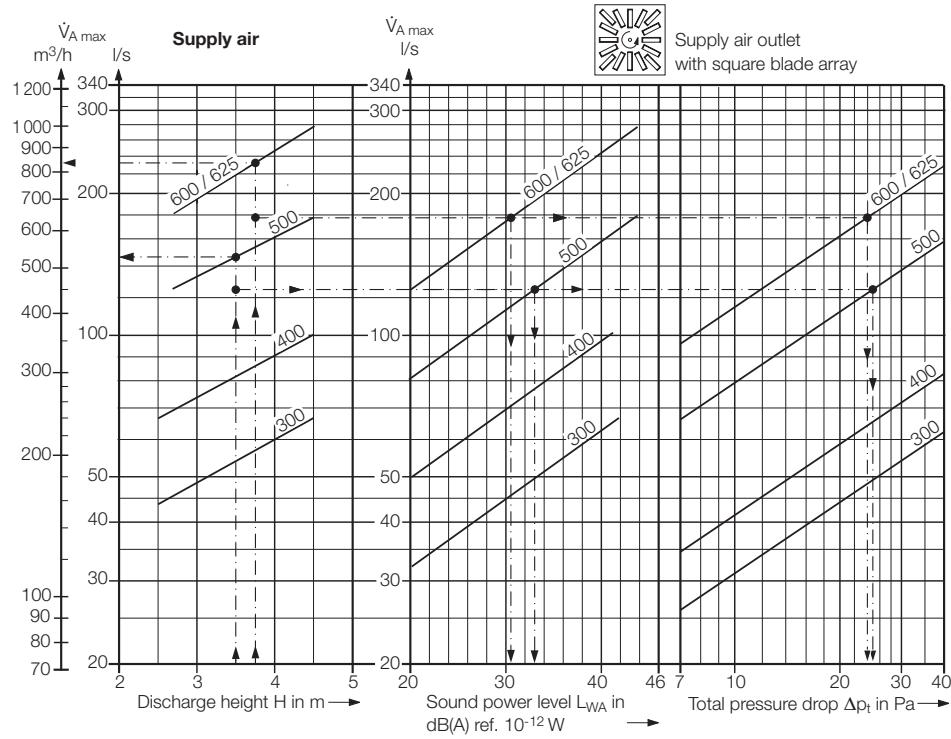


Table 5: Sound power level and pressure drop

Air outlet volume flow rate \dot{V}_A l/s m^3/h	Pressure drop Δp_t Pa	Sound power level L_{WA} in dB									
		L_{WA} dB(A)	63	125	250	500	1 K	2 K	4 K	8 K	
Size 300											
28	100	8	17	31	29	22	14	< 10	< 10	< 10	< 10
42	150	17	28	33	35	31	26	19	< 10	< 10	< 10
56	200	30	35	36	41	38	34	29	19	< 10	< 10
69	250	47	42	40	45	44	41	37	29	< 10	< 10
Size 400											
56	200	17	23	17	27	28	20	11	< 10	< 10	< 10
69	250	27	29	22	32	34	26	21	< 10	< 10	< 10
83	300	39	35	26	36	40	31	28	17	< 10	< 10
97	350	53	39	29	39	44	36	35	24	< 10	< 10
Size 500											
83	300	11	20	47	25	24	16	< 10	< 10	< 10	< 10
111	400	19	29	45	33	33	25	21	10	< 10	< 10
139	500	30	36	45	39	40	33	30	20	< 10	< 10
167	600	44	42	46	44	45	39	38	28	< 10	< 10
Size 600 / 625											
153	550	18	25	27	29	28	23	20	11	< 10	< 10
194	700	28	33	35	37	36	31	28	19	< 10	< 10
236	850	42	40	42	44	42	37	34	35	< 10	< 10
278	1 000	58	45	47	49	48	43	39	30	< 10	< 10

Table 6: Layout examples

Square blade array		500	600
Size			
Application		Open-plan office	Department store
1 Supply air volume flow rate \dot{V}	l/s	5 000	11 000
2 Discharge height H	m	3.5	3.7
3 Floor area A	m^2	720	2 400
4 Max. allowable sound power level L_{WA}	dB(A)	40	40
5 Temperature difference supply air – return air K		-8	-12
6 Discharge direction	All 4-side	6 units 3-side	Rest 4-side
7 Comfort criteria (see page 6)			
– max. allowable indoor air velocity u m/s		0.17	0.24
– max. specific volume flow rate $\dot{V}_{Sp\ max}$ $l/(s \cdot m^2)$		8.0	11.1
– act. specific volume flow rate $\dot{V}_{Sp\ act}$ [from 1 : 3] $l/(s \cdot m^2)$		6.9	4.6
From nomogram			
8 \dot{V}_A max	l/s	136	210 168 ¹⁾ (210 · 0.8)
9 \dot{V}_A selected	l/s	125	144 ¹⁾ (180 · 0.8)
10 Z	units	40	6 [from 1 : 9] (specified)
11 L_{WA}	dB(A)	≈ 33	31
12 Δp_t	Pa	25	≈ 24
13 t_{min} [Graph on p.6 at bottom]	m	≈ 3.9	≈ 4

¹⁾ See Table 2 on page 4

²⁾ Number = $\frac{11000 - (144 \cdot 6)}{180} \approx 57$

Radial slot outlet

with square blade array, layout as return air inlet¹⁾

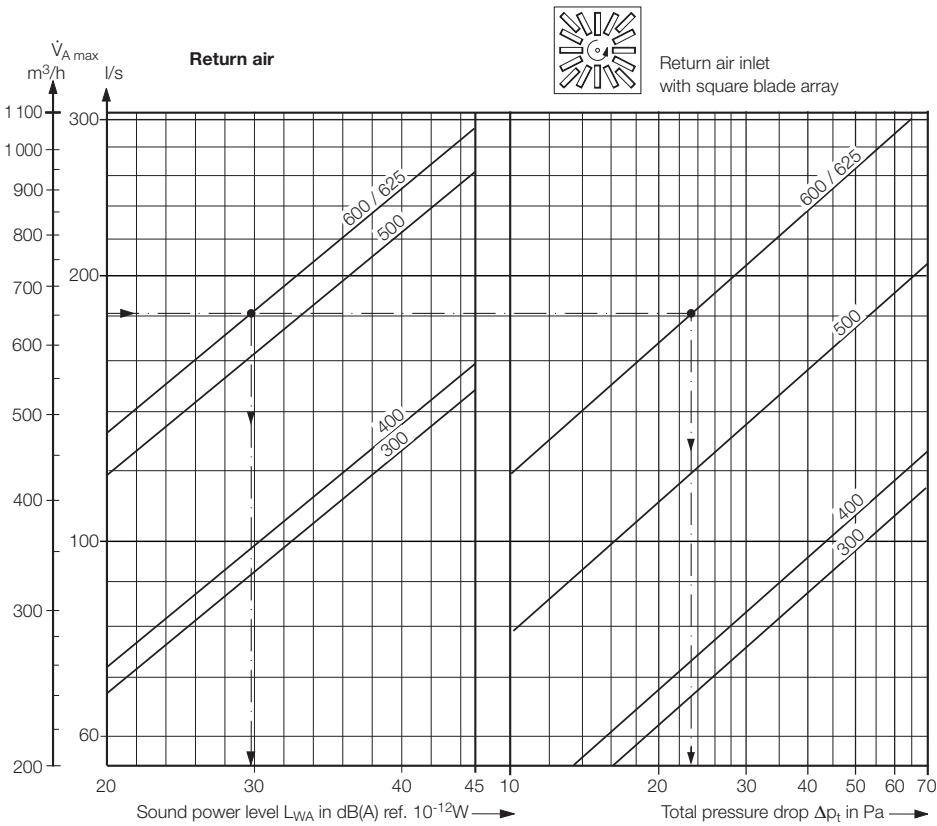


Table 8: Sound power level and pressure drop

Air outlet volume flow rate \dot{V}_A	Pressure drop Δp_t	Sound power level L_W in dB									
		63	125	250	500	1 K	2 K	4 K	8 K		
Size 300											
69	250	25	23	28	29	29	19	13	< 10	< 10	< 10
83	300	36	28	33	33	33	24	19	< 10	< 10	< 10
111	400	65	36	40	41	40	32	29	20	< 10	< 10
125	450	83	39	43	44	44	36	33	25	< 10	< 10
Size 400											
83	300	30	26	31	33	31	23	17	< 10	< 10	< 10
97	350	41	30	36	38	36	28	22	< 10	< 10	< 10
111	400	54	34	40	42	40	32	26	< 10	< 10	< 10
125	450	58	38	43	45	43	36	29	< 10	< 10	< 10
Size 500											
111	400	20	19	28	25	22	16	14	< 10	< 10	< 10
139	500	32	26	35	32	28	23	20	15	< 10	< 10
167	600	45	31	40	37	34	28	26	20	< 10	< 10
194	700	63	36	45	42	38	33	30	25	< 10	< 10
236	850	93	42	51	47	44	38	36	32	< 10	< 10
Size 600 / 625											
139	500	14	22	21	24	24	25	< 10	< 10	< 10	< 10
167	600	20	28	24	27	27	28	18	< 10	< 10	< 10
208	750	31	35	27	31	32	33	30	< 10	< 10	< 10
250	900	45	40	30	35	36	38	40	< 10	< 10	< 10



The charts and tables apply to the design without blades.

As return air inlet **with blades**, the sound power levels and pressure drops are slightly higher compared to the return air inlet without blades, namely by:

Table 7: Higher sound power levels and pressure drops if used as return air inlet with blades

Size	ΔL_{WA} dB(A)	Δp_t %
300	23	54
400	12	52
500	11.5	35
600 / 625	5.5	31

Table 9: Layout example

Square blade array	
Size	600
Blades	With
1 Return air volume flow rate \dot{V} l/s	3 600
From nomogram	
2 \dot{V}_A selected m³/h	650
3 Z units	20
4 L_{WA} dB(A)	≈ 41.5
5 Δp_t Pa	≈ 31
Note:	
At identical size and identical volume flow rate, the sound power level and the pressure drop in return air mode are considerably lower without blades than with blades (see Table 7). Due to this, the number of air outlets can be substantially reduced under the same requirements on the sound pressure level in the room by not using the blades.	

¹⁾ Supplied without blades (standard)

Radial slot outlet

with circular blade array, layout as supply air outlet

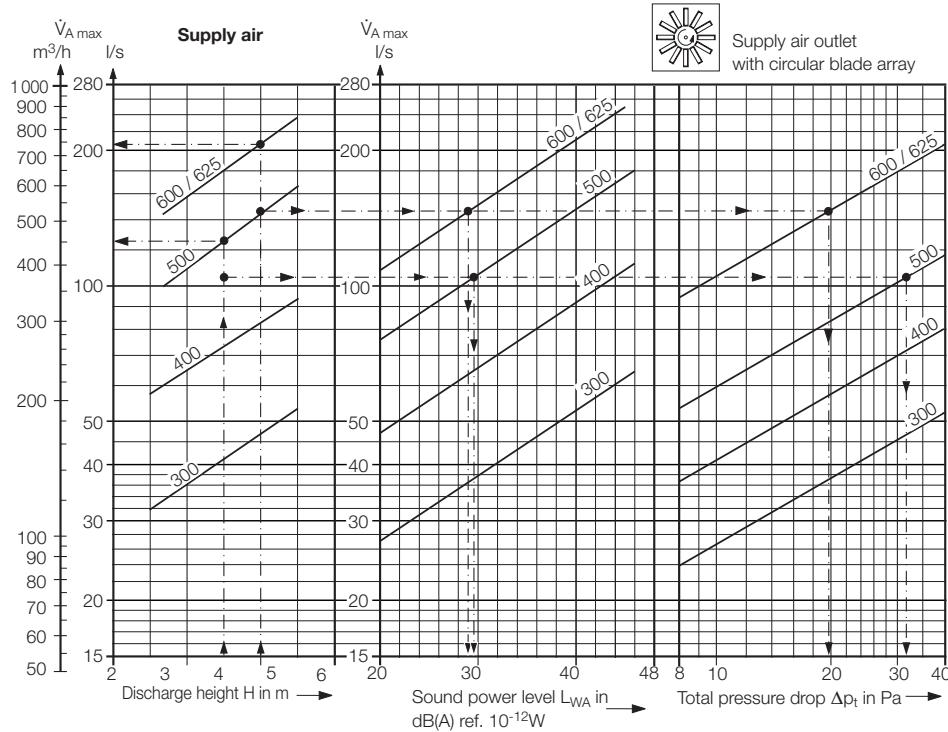


Table 11: Sound power level and pressure drop

Air outlet volume flow rate \dot{V}_A l/s	Pressure drop Δp_t Pa	Sound power level L_W in dB									
		L_{WA} dB(A)	63	125	250	500	1 K	2 K	4 K	8 K	
Size 300											
28	100	11	21	23	27	25	19	10	< 10	< 10	< 10
35	125	17	28	29	33	31	26	18	< 10	< 10	< 10
42	150	25	33	34	37	37	31	25	14	< 10	< 10
49	175	34	38	38	41	41	36	31	21	< 10	< 10
56	200	45	41	41	45	45	40	36	27	13	< 10
Size 400											
42	150	10	16	30	23	22	14	< 10	< 10	< 10	< 10
56	200	19	25	32	31	30	22	15	< 10	< 10	< 10
69	250	30	32	34	38	37	29	23	11	< 10	< 10
83	300	44	37	36	43	42	34	31	20	< 10	< 10
97	350	60	42	38	47	47	39	37	28	< 10	< 10
Size 500											
67	240	13	16	24	24	21	14	< 10	< 10	< 10	< 10
89	320	23	25	30	32	30	22	13	< 10	< 10	< 10
111	400	36	31	34	38	36	29	22	11	< 10	< 10
139	500	57	38	39	44	43	35	32	22	< 10	< 10
167	600	82	44	43	50	49	40	32	< 10	< 10	< 10
Size 600 / 625											
139	500	18	28	34	34	33	27	19	< 10	< 10	< 10
167	600	26	33	39	39	38	32	26	15	< 10	< 10
194	700	36	38	43	44	42	36	31	22	10	< 10
222	800	47	42	46	47	46	39	36	27	17	< 10

Table 12: Layout examples

Circular blade array		500	600
Size			
Application		Open-plan office	Department store
1 Supply air volume flow rate \dot{V}	l/s	5 000	11 000
2 Discharge height H	m	3.5	4
3 Floor area A	m^2	720	2 400
4 Max. allowable sound power level L_{WA}	dB(A)	40	40
5 Temperature difference supply air – return air K		-8	-12
6 Discharge direction	All 4-side	6 units 3-side	Rest 4-side
7 Comfort criteria (see page 6) – max. allowable indoor air velocity u m/s	0.17	0.24	
– max. specific volume flow rate $\dot{V}_{Sp\ max}$ l/(s·m ²)	8.0	11.1	
– act. specific volume flow rate $\dot{V}_{Sp\ act}$ [from 1 : 3] l/(s·m ²)	6.9	4.6	
criterion met if $\dot{V}_{Sp\ act} < \dot{V}_{Sp\ max}$			
From nomogram			
8 \dot{V}_A max	l/s	111	172
		142 ¹⁾	(172·0.83)
9 \dot{V}_A selected	l/s	100	121 ¹⁾
		(145·0.83)	145
10 Z	units	50	6
		[from 1 : 9]	(specified) 71 ²⁾
11 L_{WA}	dB(A)	≈ 30	≈ 29
12 Δp_t	Pa	≈ 32	≈ 20
13 t_{min} [Graph on p.6 at bottom]	m	≈ 3.6	≈ 3.6
			≈ 3.6

1) See table on page 5

2) Number = $\frac{11\ 000 - (121 \cdot 6)}{145}$ » 71

Radial slot outlet

with circular blade array, layout as return air inlet¹⁾

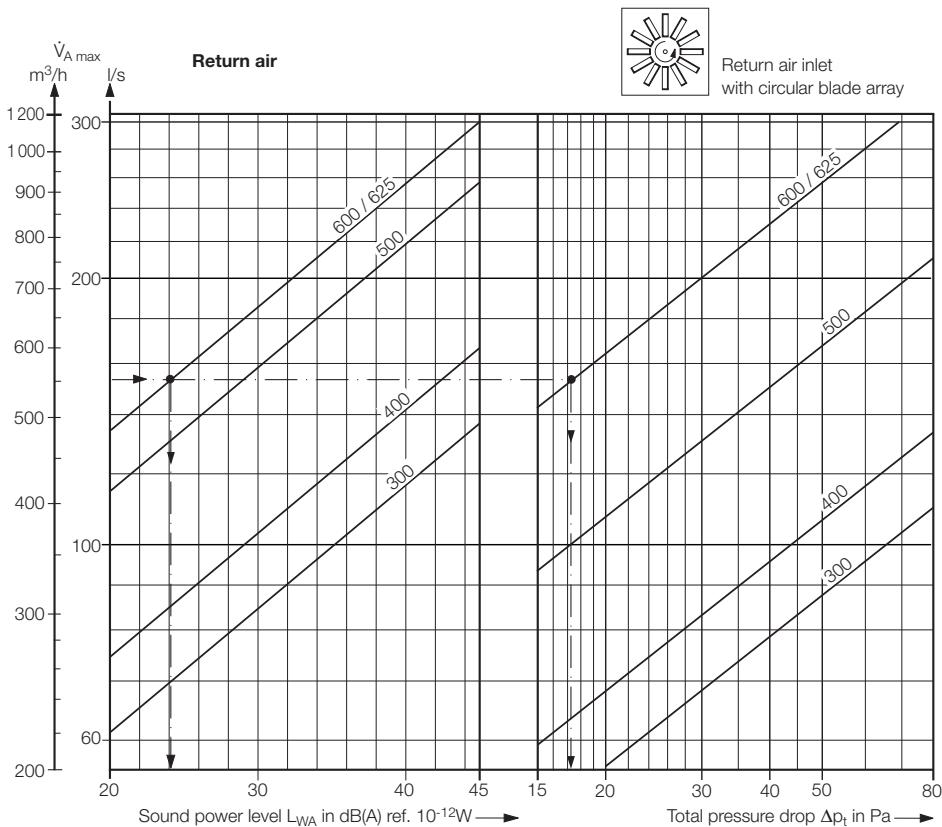


Table 13: Sound power level and pressure drop

Air outlet volume flow rate \dot{V}_A m^3/h	Pressure drop Δp_t Pa	Sound power level L_W in dB									
		Octave band centre frequency in Hz									
		63	125	250	500	1 K	2 K	4 K	8 K		
Size 300											
56	200	20	18	36	24	22	15	11	< 10	< 10	< 10
83	300	46	30	40	34	33	27	24	16	< 10	< 10
111	400	82	38	44	42	41	35	33	28	18	< 10
125	450	104	42	46	45	44	39	37	33	24	< 10
Size 400											
83	300	32	23	24	31	29	22	< 10	< 10	< 10	< 10
97	350	43	28	29	36	33	27	< 10	< 10	< 10	< 10
111	400	56	32	33	40	38	31	< 10	< 10	< 10	< 10
125	450	70	36	36	44	41	34	< 10	< 10	< 10	< 10
Size 500											
129	465	29	22	35	29	30	17	< 10	< 10	< 10	< 10
154	555	42	29	35	34	34	22	< 10	< 10	< 10	< 10
174	625	53	33	36	36	38	26	< 10	< 10	< 10	< 10
250	725	72	38	38	40	43	31	< 10	< 10	< 10	< 10
Size 600 / 625											
139	500	14	21	24	26	25	24	< 10	< 10	< 10	< 10
167	600	21	27	27	30	28	27	18	< 10	< 10	< 10
208	750	33	34	30	35	39	32	29	< 10	< 10	< 10
250	900	48	39	33	38	37	37	38	< 10	< 10	< 10

The charts and tables apply to the design without blades.

As return air inlet **with blades**, the sound power levels and pressure drops are slightly higher compared to the return air inlet without blades, namely by:

Table 14: Higher sound power levels and pressure drops if used as return air inlet with blades

Size	ΔL_{WA} dB(A)	Δp_t %
300	27	63
400	23	44
500	20	40
600 / 625	11	39

Table 15: Layout example

Circular blade array	600	600
Size		
Blades	With	Without
1 Return air volume flow rate \dot{V} l/s	3 055	3 055
From nomogram		
2 \dot{V}_A selected l/s	153	153
3 Z units	20	20
4 L_{WA} dB(A)	≈ 35	≈ 24
5 Δp_t Pa	≈ 24	≈ 17

Note:

At identical size and identical volume flow rate, the sound power level and the pressure drop in return air mode are considerably lower without blades than with blades (see Table 14). Due to this, the number of air outlets can be substantially reduced under the same requirements on the sound pressure level in the room by not using the blades.

¹⁾ Supplied without blades (standard)

Radial slot outlet

with square and circular blade array

Features at a glance

- Turbulent mixing ventilation
- Radial symmetrical or asymmetrical jet dispersion
- Stable supply air jets even at minimal air volume flow rates
- Maximal temperature difference between supply air and indoor air: -12 K in cooling mode, +5 K in heating mode (+10 K up to 3 m room height)
- Low sound power level
- With square face for installation flush with the ceiling or freely suspended
- With square or circular blade array
- With connection box and built-in volume flow damper adjustable from the room
- Air outlet element easily removable from below
- Face sheet metal, powder-coated (similar to RAL 9010, pure white, or RAL); blades made of polycarbonate (body-tinted similar to RAL 9005, black, or RAL 9010, pure white); galvanised steel metal connection box,
- Available in four sizes ¹⁾
- Usable as a return air inlet

Type code

RL - ___ / ___ - ___ - ___ - ___ - ___
Radial slot outlet Blade array Square face Size Supply / return air Blade position Connection type
Damper Surface finish Colour of discharge element

Blade array

Q2 = square blade array
R2 = circular blade array

Square face

300 = 295 x 295
400 = 395 x 395
500 = 495 x 495
600 = 595 x 595
625 = 620 x 620

Size ¹⁾

300 = Size 300
400 = Size 400
500 = Size 500
600 = Size 600

Supply/return air

Z = supply air outlet
A = return air inlet

Blade position

Supply air

0 = 4-way air discharge
1 = 3-way air discharge
2 = 2-way symmetric air discharge (180°)
3 = 2-way asymmetric air discharge (90°)

Return air

N = without blades
H = with blades

Connection type

O = without connection box
(air outlet element with centre fastening only)
KO = connection box without seal at spigot
KD = connection box with seal at spigot

Damper

O = no volume flow damper
R = with volume flow damper, adjustable from room

Surface finish

9010 = face painted to RAL 9010, semi-matt
.... = face painted to RAL ...

Colour of discharge element

S = black similar to RAL 9005
W = white similar to RAL 9010

¹⁾ Size 800 on request

Radial slot outlet

Tender text

Tender text – Supply air outlet

..... units

Radial slot outlet for generating high-induction radial air jets for high-quality indoor air flow with symmetrical or asymmetrical jet spread, for installation flush with the ceiling or freely suspended,

consisting of:

- Air outlet with square face and radial, linear air discharge openings, optionally with square or circular array, discharge direction optionally four sides, three sides, two sides symmetrical or two sides asymmetrical, underside of the blades almost flush with the faceplate, including central fastening screw with cover
- Connection box with integrated air outlet centre fastening, bore-holes for suspension in the top suspension strips, side connection spigot, optionally with lip seal, with optional built-in volume flow damper adjustable from room

Material:

- Air outlet made of galvanised and powder-coated sheet metal, face painted in colour RAL 9010, pure white ¹⁾
- Blades made of polycarbonate PC-GF 10, body-tinted similar to RAL 9005, jet black, or similar to RAL 9010, pure white
- Connection box made of galvanised sheet metal

Make: Krantz Components
Type: RL - ___ / ___ - Z - ___ - ___ - _

¹⁾ Other colours on request

²⁾ On request, the connection box will be painted black inside.

– Return air inlet

..... units

Radial slot outlet as return air inlet,
for installation flush with the ceiling or freely suspended,

consisting of:

- Air outlet with square face and radial, linear air intake openings, optionally with square or circular array, underside of the blades almost flush with the faceplate, optionally available with or without blades; including central fastening screw with cover
- Connection box with integrated air outlet centre fastening, bore-holes for suspension in the top suspension strips, side connection spigot, optionally with lip seal and with built-in volume flow damper adjustable from room

Material:

- Air outlet made of galvanised and powder-coated sheet metal, face painted in colour RAL 9010, pure white ¹⁾
- Blades made of polycarbonate PC-GF 10, body-tinted similar to RAL 9005, jet black, or similar to RAL 9010, pure white
- Connection box made of galvanised sheet metal ²⁾

Make: Krantz Components
Type: RL - ___ / ___ - A - ___ - ___ - _

Subject to technical alterations.



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