Chapter 3.1
Ceiling diffusers

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Mixing systems technology

Air-movement mixing systems in confined rooms
The selection method used by Solid Air is a simple and quick way to arrive at an accurate and responsible choice of diffuser. However, air distribution as such is a complex matter. The following consideration provides some insight into the influence of ceilings, walls, obstacles and heat sources on the air pattern.

1. Introduction
The purpose of air-distribution systems is to supply the pre-treated air volume required for climate control, without causing nuisance, to a room that is confined by a ceiling, walls and a floor, whilst striving for the most complete possible air refreshment of the room.

On these pages we use a simple calculation model to describe the influence of the ceiling, floor and walls, and we also deal with the impact of heat sources and obstacles.

The most common air distributors for mixing systems work on the principle of: Plane flow, radial flow or a combination of the two, and therefore axial flow is not taken into consideration.

Wall, baffle and louvre ceiling diffusers work on the basis of the plane-flow principle. Perforated, round ceiling diffusers and swirl patterns in a panel work on the basis of the radial-flow principle.

Displacement ventilation works on the basis of a completely different principle. See chapter 3.3 floor and displacement diffusers.

2. Flows limited by a ceiling
a. Plane flow
If air is blown out through an infinitely long baffle, you create a plane flow (fig. 2.1). The air is supplied in the direction of the x-axis.

At a distance x is:
v_x = velocity
t_x = temperature
h_x = jet thickness

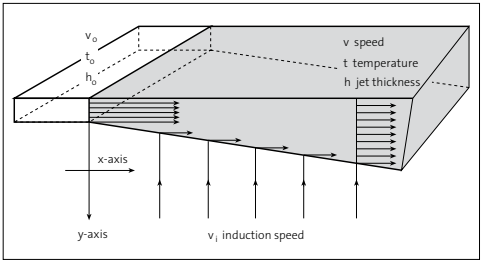


Fig. 2.1 plane flow

b. Radial flow
If the air is blown through a circular baffle, you create a radial flow (fig. 2.2). The air is supplied in the direction of the r-axis.

At a distance r is:
v_r = velocity
t_r = temperature
h_r = jet thickness

The following applies to both flows:
v_o = air-supply velocity
t_o = temperature difference between supply and room air
h_o = baffle height
v_i = induction speed

Observations demonstrate that the air that flows in through the baffle brings the surrounding air into motion and includes it in the jet. This phenomenon is called induction. The velocity of the inflowing air (vi) is directly proportional to the jet velocity **v**:

$$v_i = a * v$$
(where a is a constant)

If we assume that the jet velocity in the y-direction does not change, that there is no build-up of static pressure in the room, and that the momentum in the jet is maintained, the following applies:

$$v_o^2 * h_o = v^2 * h$$

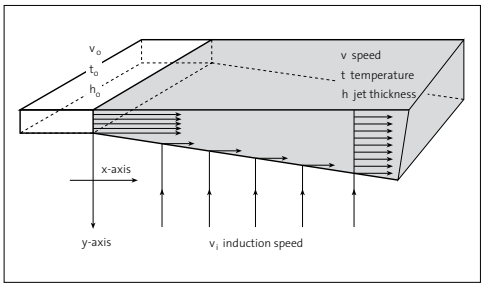


Fig. 2.2 Radial Flow

By using the law of conservation of mass and momentum, it is possible to calculate the jet thickness, velocity and temperature with the applied assumptions (fig. 2.3).

The course of the jet thickness is linear to the distance and increases twice as fast for plane flows as for radial flows.

As the jet induces more, the jet thickness increases faster too. The starting velocity has very little influence on the eventual jet thickness. The calculated course matches observations in practice. The course of the speed for a radial and a plane flow is given in fig. 2.4.

It is clear that the velocity reduces to a lower level with a radial pattern than with a plane pattern. The distance over which the velocity in the jet has a value of 0.25 m/s is called the "throw". At that distance, you can place a wall without producing uncomfortable air movements. If there is no wall,the jet remains intact until the speed becomes 0.10 to 0.15 m/s and it is not longer possible to detect the difference between jet air and room air. The term throw is not an absolute. It is a practical tool to select an air-outflow device. The course of the jet temperature equals the course of the velocity (fig. 2.5).

Takeaways

- Radial flows reduce velocity and speed quicker than plane flows.
- For plane flows, the jet thickness increases twice as quickly as for radial flows.

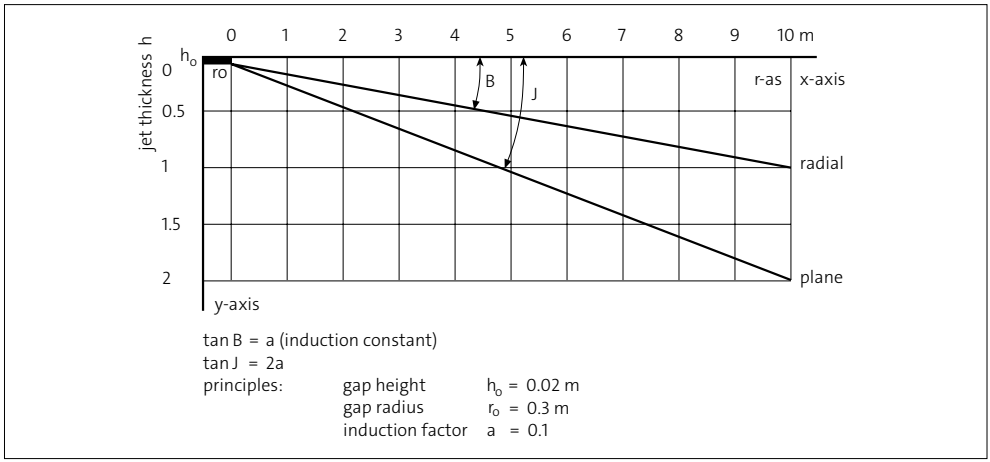


Fig. 2.3 Jet thickness

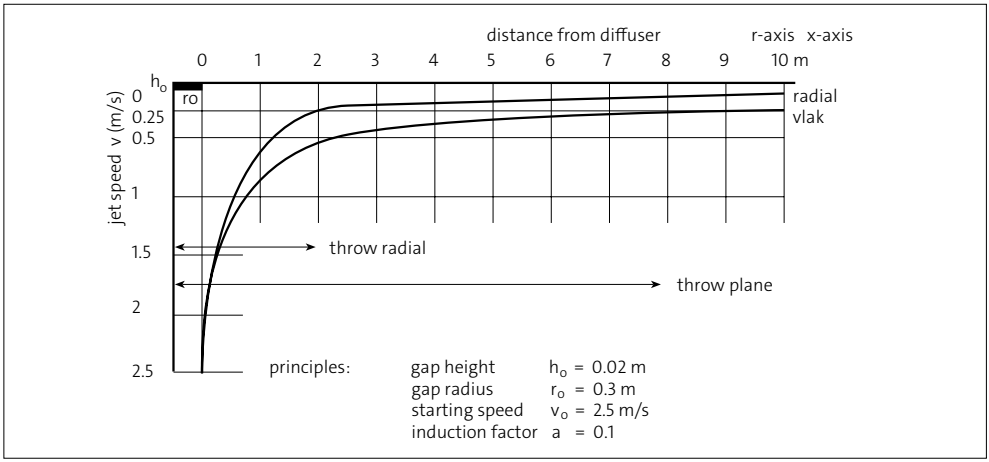


Fig. 2.4 Jet velocity

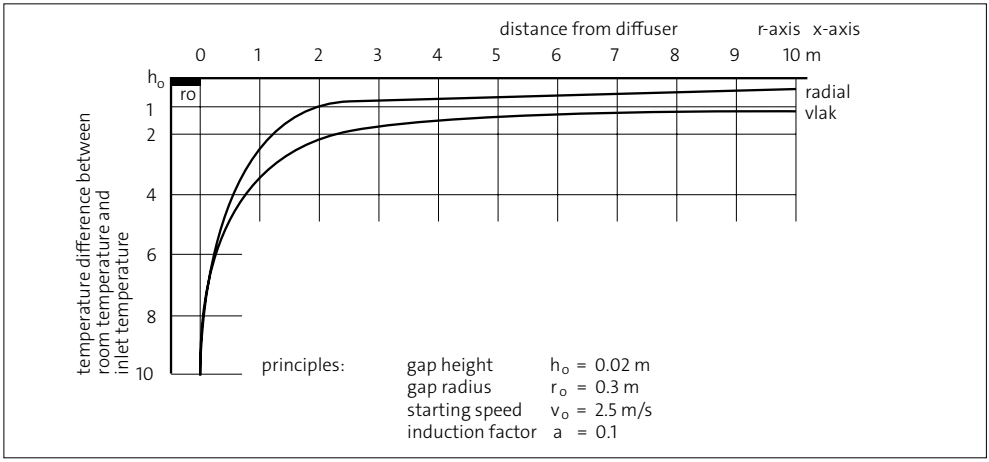


Fig. 2.5 Jet temperature

3. Influence of the floor

If a floor is built under the existing ceiling, the flow from the infinity of induction air to the jet is impeded. However, according to the assumption, the jet will continue to supply air. At this point, an air movement is produced over the floor that goes against the jet direction, which is known as the return vortex. Assuming that the velocity at the jet edge is nil in the x-direction, the velocity will be highest at floor level.

From this assumption, it is possible to calculate the velocity distribution in the return vortex in the x-direction. The sum of the shaded surfaces in fig. 3.1 and 3.4 should be equal to the blocked surface. This velocity course is theoretical.

To give an impression of the actual course, this has been marked with a thin line at r = 5. To describe the complete vortex, the velocity in the y-direction must be calculated too. This is a x v on the jet edge, and will be nil on the floor. Now, it is possible to calculate the y-component (fig. 3.2 and 3.5). A complete picture of the room flow with a radial pattern is given in fig. 3.3. For the plane flow pattern, see fig. 3.6.

Takeaways

For a plane pattern, the velocities in the return vortex are higher and distributed more unevenly.

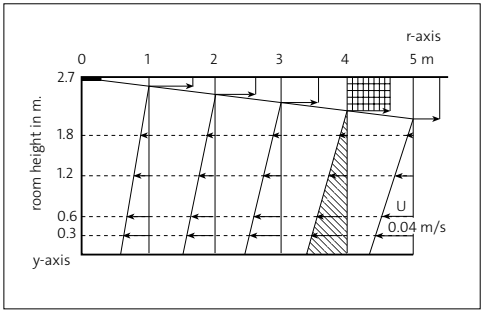


Fig. 3.1 Velocity increase return vortex in the x-direction radial pattern.

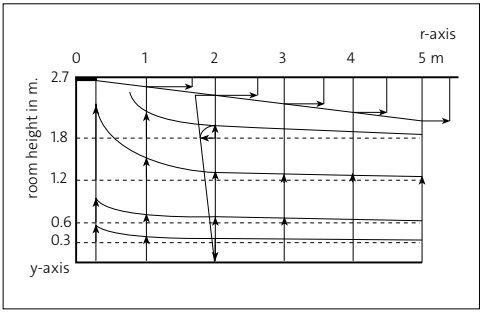


Fig. 3.2 Velocity increase return vortex in the y-direction radial pattern.

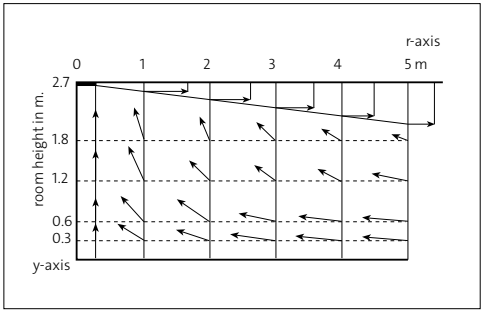


Fig. 3.3 Velocity increase return vortex radial pattern.

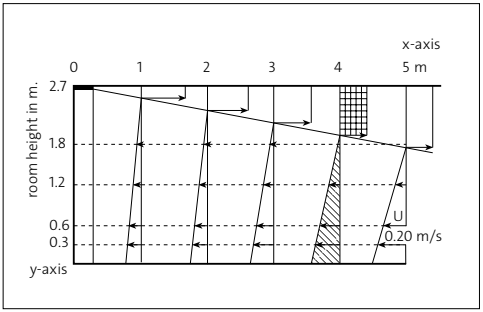


Fig. 3.4 Velocity increase return vortex in the x-direction plane pattern.

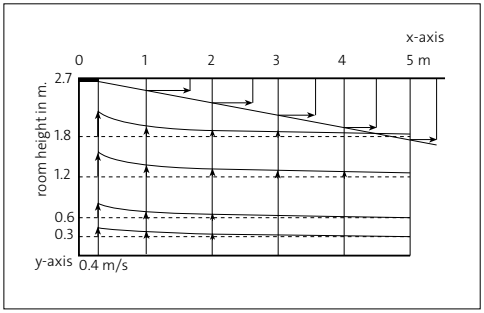


Fig. 3.5 Velocity increase return vortex in the y-direction plane pattern.

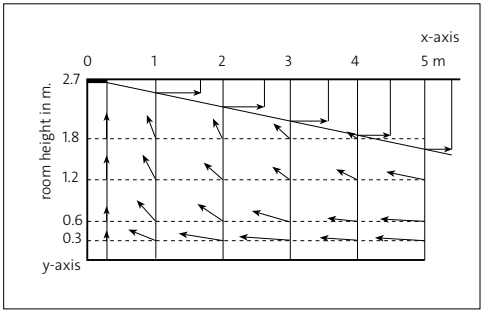


Fig. 3.6 Velocity increase return vortex plane pattern.

4. The influence of walls

The back wall prevents the air jet from going straight on and bends it downwards, whereby the jet expands to the return vortex. This happens with the smallest possible curvature radius, and it creates an eye where the air is motionless. The supply of air from the return vortex is interrupted, and the jet itself becomes a return vortex. In the downward area there is no longer any induction. Therefore, the throw along the back wall may not be made equal to the throw along the ceiling! It is possible to distinguish two separate areas: induction area, downward and expansion area.

The flow patterns for a plane and radial pattern have been given in fig. 4.1 and 4.2. The radial pattern produces an extremely even vortex with a small downward area.

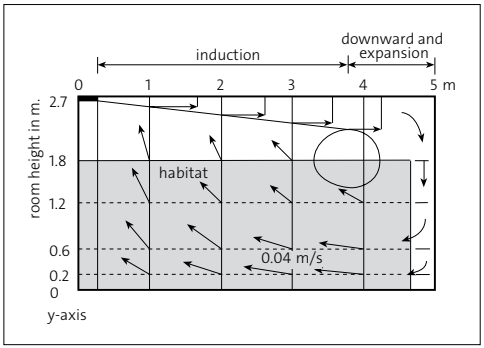


Fig. 4.1 Flow picture radial pattern.

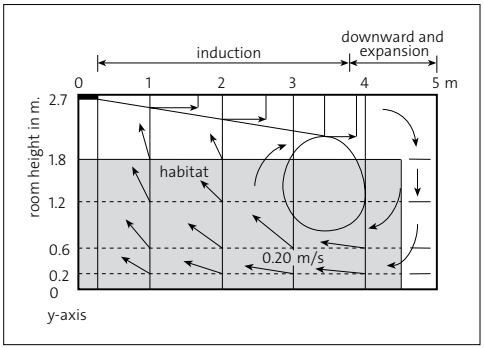


Fig. 4.2 Flow picture plane pattern.

5. The influence of heat sources

With heat development in a room, air with a lower temperature than the room temperature is blown into the room to control the temperature. If the heat load is divided evenly over the floor surface area, this is taken up in the downward and expansion area which means the temperature of the supplied air rises. This heated air rises to the induction area, where the rest of the heat load is taken up by the moving air. The air heated by the heat load is taken up in the cold jet. If the heat production is concentrated in the discharge area (fig. 5.2) the convection flow that is produced will be taken up by the jet without any difficulties, but the temperature gradient of the room will go up.

However, if the heat development is concentrated in the downward area, you have a completely different situation. At that point the convection flow of the heat source is directed against the forced air flow.

With relatively low heat loads, the source is unable to build up its own vortex. In that case, the flow picture does not change (fig. 5.3). If there is a strong source, such as aradiator, there is a problem. The warm convection vortexand the cold return vortex will exist alongside each other. There will be a cold zone, often with high air velocities, alongside a warm area (fig. 5.4).

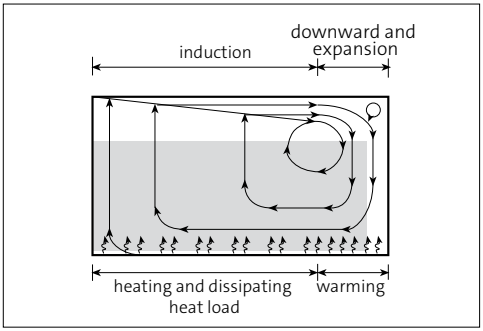


Fig. 5.1 Even heat load.

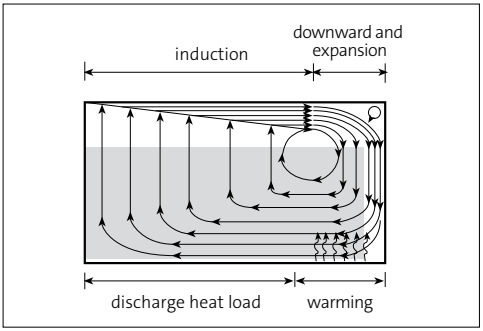


Fig. 5.3 Heat load in the downward area (weak source).

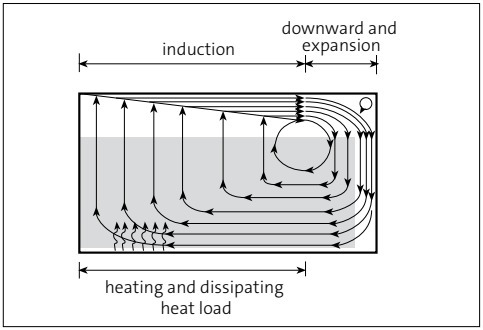


Fig. 5.2 Concentrated heat load.

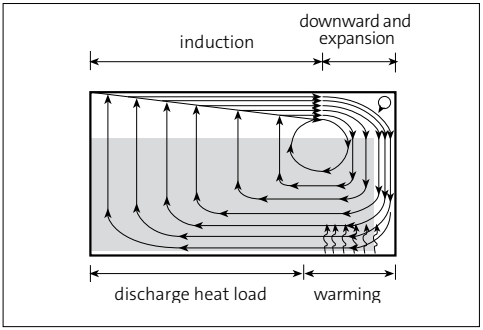


Fig. 5.4 Heat load in the downward area (strong source).

6. Obstacles

The rooms considered up to now were completely empty. In reality used rooms have all types of obstacles that impact the flow pattern. The effect and the level of impact are very difficult to predict. For two situations, data is known from measurements and observations in practice:

- Beam on the ceiling.
- Large closed obstacles on the floor.

Beams bend the air flow. The part of the jet that flows against the beam (or the surface-mounted strip-light fitting) is bent down. Part of the jet will flow under the beam. As the velocity is constant in the entire jet, the resulting momentum direction can be composed from the geometry (fig. 6.1).

Deflection angle: $\tan c = \frac{b}{h - b}$

The influence of an obstacle has to be related to the jet thickness at the location of the obstacle. If large solid obstacles are in the room perpendicular to the floor, the creation of the return vortex often becomes completely impossible (fig. 6.2).

The top of the obstacles will operate as a type of "pseudo floor". Between the obstacles, there is low heat discharge, except when the jet is peeled off as it were and there is too much heat discharge.

These types of problems can occur in bedrooms (closed curtains), laboratories, storage areas, et cetera. By blowing parallel to the obstacles, the flow picture could be better but it is important to be cautious.

As air distributors with a radial outflow are less sensitive to disruption by heat sources or obstacles, they are often preferred over plane patterns for comfort reasons.

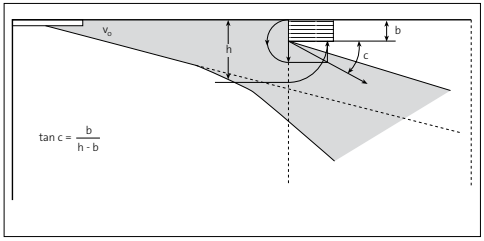


Fig. 6.1 Beam in air flow.

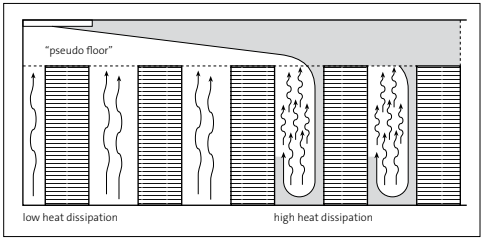


Fig. 6.2 Obstacles perpendicular to the return vortex.

Appendix I

Assumptions:

1. The momentum of the jet is retained.
2. The jet does not build up static pressure in the room.
3. The induction velocity is directly proportionate to the jet velocity.
4. The jet velocity is an average constant.
5. The velocity in the return vortex is nil on the floor and is linear from the floor to the jet edge.

Appendix II

Overview of formulas:

Plane pattern:

Momentum: $h_o * v_o^2 = h * v^2$

Mass: $d(h * v) = v_i\, d_x$

Induction: $v_i = a * v$

Radial pattern:

Momentum: $h_o * r_o * v_o^2 = h * r * v^2$

Mass: $d(h * r * v) = v_i * r * d_x$

Induction: $v_i = a * v$

Appendix III

Definitions:

Symbol	Quantity	Unit
a	Induction constant	-
x, y	Coordinates	m
r	Radius	m
r_o	Baffle radius	m
h_o	Baffle height	m
v_o	Air velocity in the baffle	m/s
v	Air velocity	m/s
v_i	Induction velocity	m/s
t	Air supply temperature	°C (K)
t	Jet temperature	°C (K)

Selection method ceiling diffusers

1. Select a diffuser type
Selecting a diffuser is not just an aesthetic choice. The properties of the various diffusers determine their suitability for a particular purpose. Base your choice on the number of air changes with a room height of 2.7 m. For transfer diffusers or overflow diffusers, the pressure loss and the noise level determine the choice. In connection with noticing the pressure difference over doors, we recommend selecting transfer diffusers on a pressure loss of approximately 10 Pa.

Usual noise levels selection chart

		type	number of air changes															
			2	3	4	5	6	8	10	15	20	25	30	40	50	60	80	100
ceiling	with ceiling influence	perforated																
		louvre																
		slot																
		baffle plate																
		downflow																
		swirl																
	without ceiling influence	swirl																
		round perforated																

2. Determine the location of the diffusers on the plan
Ensure a symmetrical distribution where possible.
Do not blow towards the external wall, but preferably from the external wall towards the internal area.
Do not blow towards strong heat sources, such as radiators, but with the natural convection flows.

3. Take account of obstacles
The ceiling is preferably flat and closed. Remember that beams, surface-mounted light fittings etc are not in the throw range of the diffusers.

4. Determine the permitted level

The data in the table can be used as guide values.

type of room		db(A)									
		15	20	25	30	35	40	45	50	55	60
bank											
library											
cinema											
lecture theatre											
concert hall											
factory hall											
sports hall											
halls and corridors											
hotel room											
office	board										
	private										
	several pers										
	room										
laboratory											
operating theatre											
post office											
radio studio											
restaurant											
class room											
sports centre											
theatre											
hospital room											

5. Determine the air volume per diffuser

Divide the supply-air volume per hour in the room by the number of diffusers.

6. Measure the maximum permissible throw on the drawing

The maximum permissible throw refers to the distance from the centre of the diffuser to a wall or an opposing air flow. Only the horizontally measured distance may be considered permissible throw up to a room height of approximately 3.5 m. The exceptions are noted in the product details.

7. Select the diffuser from the table that complies with all the requirements

- The throw produced by the tables may not exceed the maximum permissible throw; a lower value is permissible.
- The sound pressure Lp is given in dB(A) with an assumed room attenuation of 10. The difference with the actual room attenuation must be corrected.
- Select a diffuser approx. 5 dB below the permissible value.
- When you select a diffuser, take account of the sound addition as a result of there being several diffusers in the room.

8. The tables assume the following details

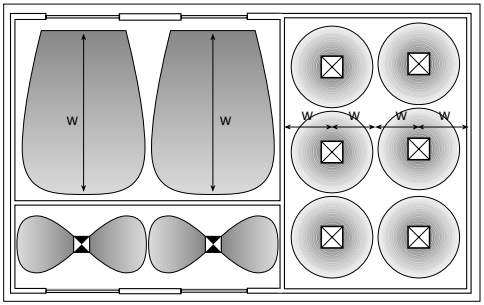
- The tables have an upper limit based on pressure loss and sound values. The lower limit is determined by the minimum required exit speed when discharging cooled air.
- It is permitted to interpolate the interim values.
- The supply-air temperature may be no more than 10 K below or 15 K above the average room temperature.
- However, we do not recommend diffusers in all-air or air-heating systems as such.
- All throw data are given with a ceiling effect.

9. Check the selected throw

The throw may not exceed the maximum permissible Wmax with the given ceiling height H because of the increasing radius thickness.

10. Important for All-Air technology

All Solid Air diffusers are also suitable for supplying heated air with an overtemperature up to approximately 15 K. The use of diffusers in an All-Air or air-heating systems is risky in principle and requires more provisions. Please consult our technical experts.



Correction table for several diffusers in 1 room with similar sound level:

number of diffusers in 1 room	1	2	3	4	5	6	7	8
addition in dB	0	+ 3	+ 4.8	+ 6	+ 7	+ 7.8	+ 8.5	+ 9

Note

The addition applies for a noise observation for all the diffusers at an equal distance. In practice, this is generally not the case and the distance to the observer always varies. That justifies a reasonable maximum addition of 5 dB.

radial patterns
(perforated and flat swirl diffusers) • $W_{max} = 10 \times (H - 2)$
linear patterns
(line diffusers and louvre diffusers) • $W_{max} = 7.5 \times (H - 2)$

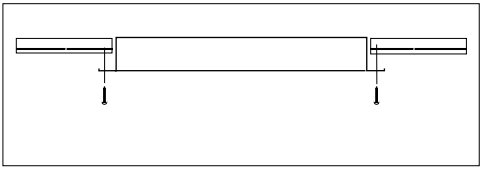
Fitting instructions

Fitting method

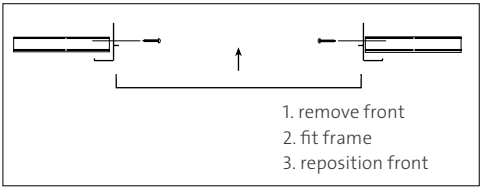
model	A	B	C	D	E
HRE	X	-	X	X	-
LRVD	X	-	X	-	-
LRVM	-	-	-	X	-
LTVD	X	-	X	-	-
LTVM	-	-	-	X	-
PDVM	-	-	X	X	-
PRVD	X	X	X	-	-
PRVM	-	-	-	X	-
PTVD	X	X	X	-	-
PTVM	-	-	-	X	-
PTVS	-	-	-	X	-
RRBC	X	-	X	-	-
RRBD	X	-	X	-	-
RRBM	-	-	X	X	-
RRGC	-	-	X	-	-
RRGD	-	-	X	-	-
RRSV	-	-	X	x	-
RRVO	-	X	-	-	X
RTBC	X	-	X	-	-
RTBD	X	-	X	-	-
RTBM	-	-	X	X	-
RTDO	-	-	X	-	X
RTFO	X	-	X	-	-
RTFM	-	-	X	X	-
RTGC	-	-	X	-	-
RTGD		-	X	-	-
RTLD	X	-	X	-	X
RTWK	X	-	X	X	X
SROD	X	-	X	X1*	-
STAD	X	-	X	X1*	-
STBL	-	-	-	X	-
STBR	-	-	-	X1*	-
TTHA	X	X	X	X1*	-

*X1 not standard (additional cost).

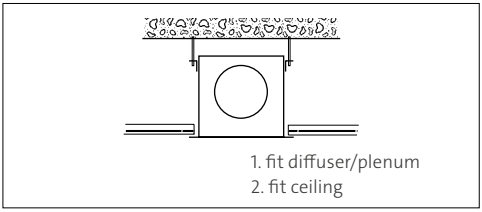
A. Fitting from the front



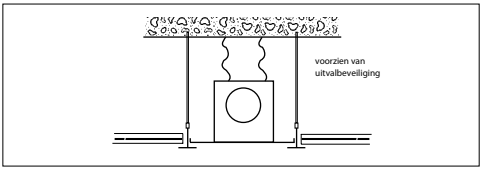
B. Blind fitting from the front



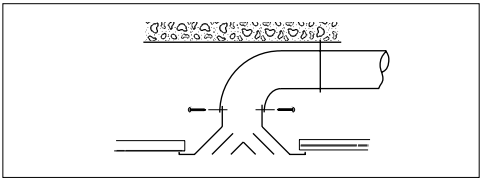
C. Fitting via the plenum box



D. T-bar mounted in modular ceiling



E. Directly in a duct



PTVD/PTDD

Perforated diffuser
Supply
Surface-mounted, removable

Available types
P T - D O -

P perforated ceiling diffuser
T supply

\- **Face plate (removable)**
V flat
D dropped 8 mm

D surface-mounted
O no accessories

\- **Version**
A round top connection
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PTVD perforated diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled, with a stabilising plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. With the four built-in pattern blades, there is a free choice of discharge direction, even after fitting. With the high induction effect, a large number of air changes is feasible. The pure radial pattern ensures minimal smudging of the ceiling. With the extremely shallow inflowpattern, the PTVD diffuser is also suitable for lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Perforated diffuser

Frame:	extruded aluminium
Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Plenum box:	flat-sided

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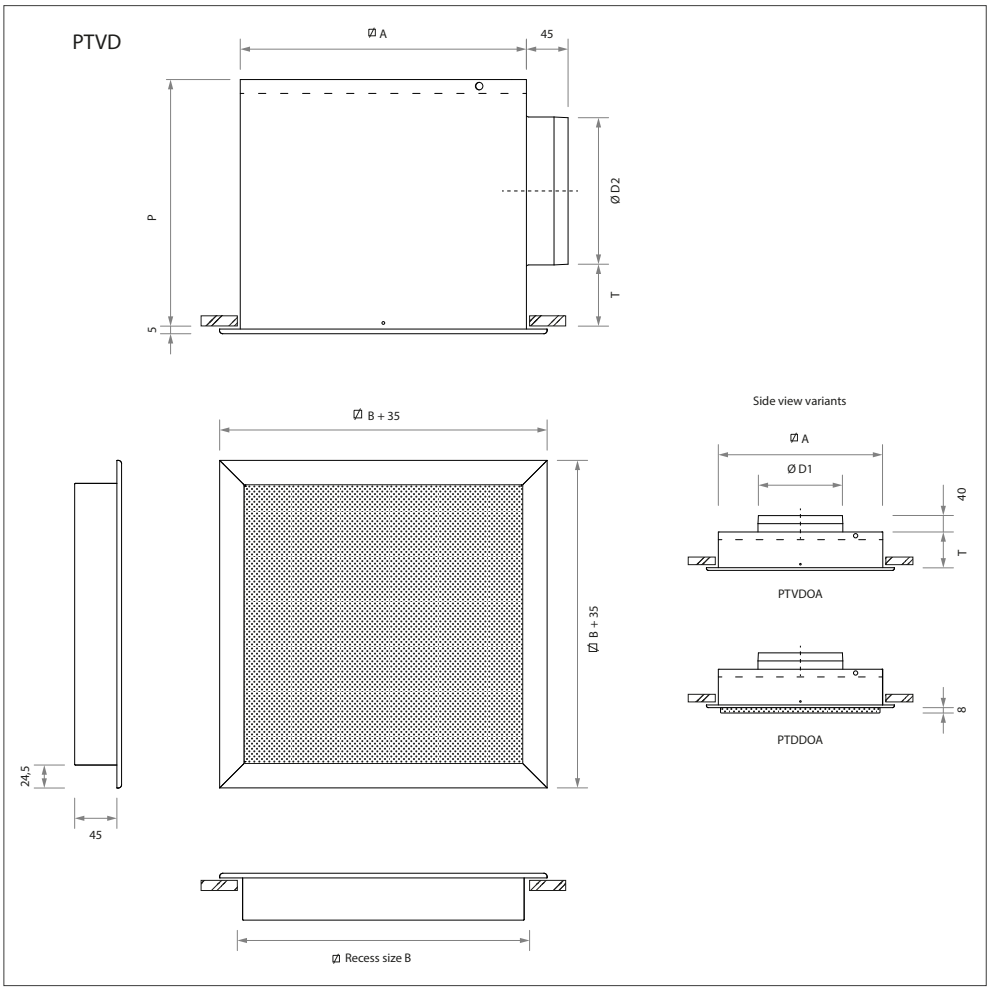
Dimensions



Available dimensions and sizes

model	B	A	D1	D2	T	P
250	249	242	123	123	70	235
300	313	307	158	158	70	270
400	388	382	198	198	75	315
500	483	477	248	198	85	325
550	556	551	313	248	105	395

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	1.4	2.6
300	1.9	3.8
400	2.5	5.4
500	3.6	7.4
550	4.6	9.9

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.

3

Selection details

PT-D

air volume		model	discharge pattern														
			4-sided			3-sided			2-sided opposite			2-sided agle			1-sided		
m^3/s	m^3/h		throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**250**	**0.4**	1	-	**0.4**	1	-	**0.6**	2	3	**0.6**	3	5	**0.9**	7	13
0.020	**72**	**250**	**0.6**	1	5	**0.6**	2	7	**0.7**	4	10	**0.7**	4	12	**1.2**	12	21
0.025	**90**	**250**	**0.7**	2	11	**0.7**	3	13	**0.9**	5	16	**0.9**	7	18	**1.5**	19	27
		300	**0.6**	1	-	**0.6**	1	4	**0.8**	3	7	**0.8**	3	9	**1.3**	9	19
0.030	**108**	**250**	**0.8**	3	16	**0.9**	4	18	**1.1**	8	21	**1.1**	10	23	**2.0**	28	31
		300	**0.7**	1	2	**0.7**	2	8	**0.9**	4	12	**0.9**	5	14	**1.5**	13	23
0.040	**144**	**250**	**1.1**	4	23	**1.2**	6	25	**1.5**	13	28	**1.5**	17	29	**2.5**	49	39
		300	**0.9**	3	14	**1.0**	3	16	**1.2**	6	19	**1.2**	8	21	**2.0**	23	31
		400	**0.8**	1	6	**0.8**	2	8	**1.0**	3	12	**1.0**	4	12	**1.7**	11	22
0.050	**180**	**250**	**1.4**	6	29	**1.5**	10	31	**1.9**	20	34	**1.9**	25	34			
		300	**1.2**	4	20	**1.2**	5	22	**1.5**	10	25	**1.5**	13	27	**2.5**	34	36
		400	**1.0**	2	12	**1.0**	3	14	**1.3**	5	17	**1.3**	6	18	**2.1**	17	28
0.060	**216**	**250**	**1.7**	8	34	**1.8**	13	36	**2.2**	28	39	**2.2**	35	41			
		300	**1.5**	6	24	**1.5**	8	26	**1.8**	14	30	**1.8**	19	32	**3.0**	51	41
		400	**1.1**	3	17	**1.3**	4	19	**1.5**	7	21	**1.5**	8	23	**2.5**	24	32
		500													**2.1**	13	25
0.080	**288**	**300**	**1.8**	11	32	**1.9**	14	34	**2.4**	26	37	**2.4**	33	39			
		400	**1.5**	6	24	**1.7**	7	25	**2.0**	13	29	**2.0**	15	30	**3.4**	43	40
		500	**1.3**	4	17	**1.4**	5	19	**1.8**	8	22	**1.8**	10	24	**2.8**	23	32
		550													**2.4**	13	27
0.100	**360**	**300**	**2.3**	17	38	**2.4**	21	40									
		400	**1.9**	9	30	**2.1**	11	32	**2.6**	20	32	**2.6**	23	36			
		500	**1.6**	4	22	**1.8**	8	25	**2.2**	12	28	**2.2**	15	30	**3.5**	35	38
		550	**1.4**	4	16	**1.6**	4	19	**1.9**	7	21	**1.9**	8	23	**3.1**	21	32
0.125	**450**	**400**	**2.4**	13	36	**2.6**	18	35									
		500	**2.0**	10	28	**2.3**	12	30	**2.8**	19	34	**2.8**	23	36			
		550	**1.8**	6	22	**2.0**	7	24	**2.4**	10	27	**2.4**	13	29	**3.8**	32	38
0.150	**540**	**400**	**2.9**	19	40												
		500	**2.5**	13	33	**2.7**	17	35	**3.4**	28	38	**3.4**	34	41			
		550	**2.2**	8	27	**2.4**	10	29	**2.9**	15	32	**2.9**	19	34	**4.6**	47	43
0.200	**720**	**500**	**3.3**	25	40	**3.6**	30	43									
		550	**2.9**	14	34	**3.2**	18	37	**3.9**	27	40	**3.9**	33	41			
0.250	**900**	**550**	**3.6**	22	40	**4.0**	27	42	**4.9**	42	45	**4.9**	50	46			
0.300	**1080**	**550**	**4.3**	32	45												

Attenuation plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2025_03_v2

Discharge pattern


4-sided


3-sided


2-sided angle


2-sided opposite


1-sided

pattern blade “closed”

pattern blade “open”

PRVD/PRDD

Perforated diffuser
Return
Surface-mounted, removable

Available types
P R - D O -

P perforated ceiling diffuser
R return

\- **Face plate (removable)**
V flat
D 8 mm

D surface-mounted
O no accessories

\- **Version**
A round top connection
N without plenum, with separate sightproof cover
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box
Z square top connection

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PRVD perforated diffuser is suitable for air extraction and has the same appearance as the supply diffuser PTVD. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled.
As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Perforated diffuser

Frame:	extruded aluminium
Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

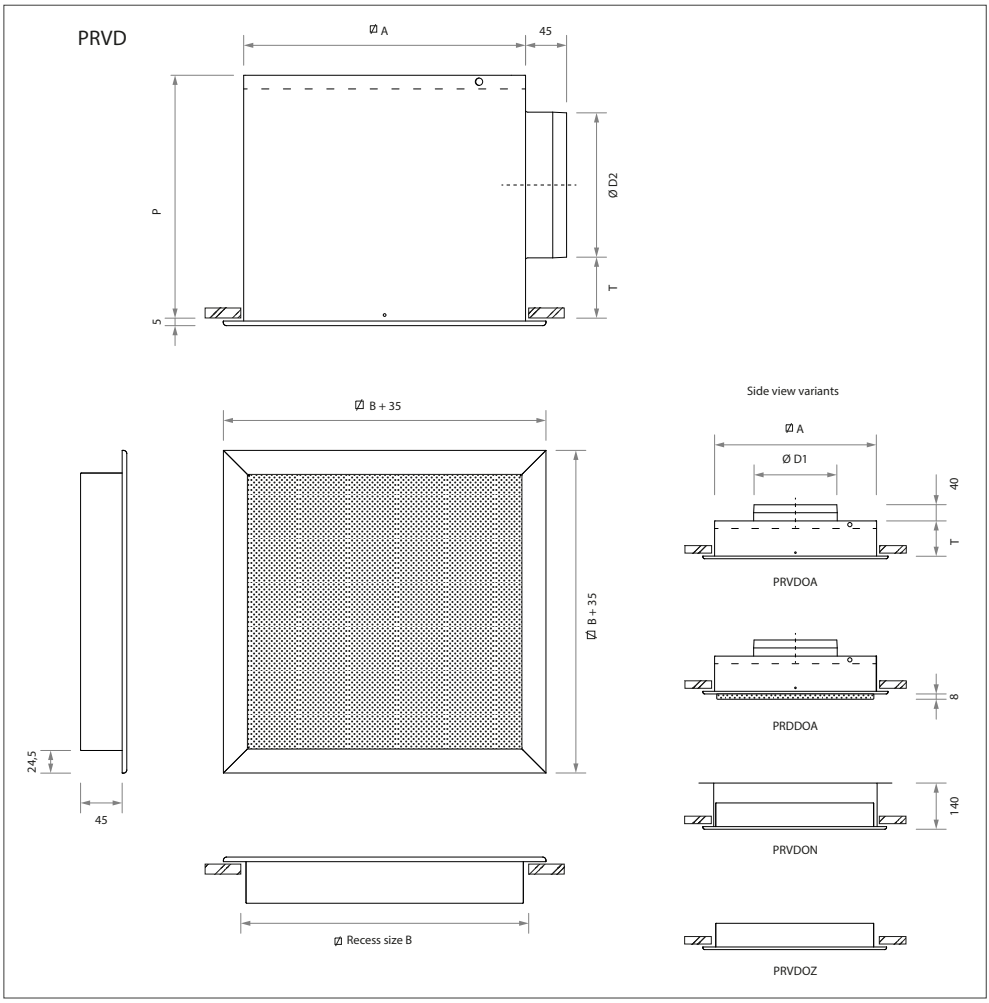
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Plenum box:	flat-sided

Dimensions



Available dimensions and sizes

model	B	A	D1	D2	T	P
250	249	242	123	123	70	235
300	313	307	158	158	70	270
400	388	382	198	198	75	315
500	483	477	248	198	85	325
550	556	551	313	248	105	395

Weight

model	type		
	without plenum OA	with plenum OR/OU	without plenum OZ
	kg	kg	kg
250	0,9	2,1	0,6
300	1,2	3,0	0,8
400	1,6	4,3	1,1
500	2,2	5,8	1,5
550	2,9	7,8	1,8

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.

Selection details

PRVDOR, PRVDOA and PRVDOU

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	250	1	-
0.020	**72**	250	3	-
0.025	**90**	250	4	-
		300	1	-
0.030	**108**	250	6	-
		300	2	-
0.040	**144**	250	11	-
		300	4	-
		400	1	-
0.050	**180**	250	16	12
		300	6	-
		400	2	-
0.060	**216**	250	24	17
		300	9	-
		400	3	-
		500	3	-
0.080	**288**	300	15	13
		400	6	-
		500	5	-
		550	3	-
0.100	**360**	300	24	19
		400	9	-
		500	8	-
		550	4	-
0.125	**450**	400	14	15
		500	12	15
		550	6	-
0.150	**540**	400	21	20
		500	18	20
		550	9	10
0.200	**720**	500	31	27
		550	16	17
0.250	**900**	550	25	23
0.300	**1080**	550	35	28

PRVDOZ and PRVDON

air volume		square connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.080	**288**	250	9	10
		300	3	-
0.100	**360**	250	13	15
		300	5	-
		400	2	-
0.125	**450**	250	21	21
		300	8	11
		400	3	-
0.150	**540**	250	30	25
		300	11	15
		400	4	-
		500	2	-
0.200	**720**	250	54	32
		300	20	22
		400	8	13
		500	3	-
		550	2	-
0.300	**1080**	300	45	32
		400	18	23
		500	7	14
		550	3	-
0.400	**1440**	300	79	39
		400	32	30
		500	13	21
		550	6	14
0.500	**1800**	400	49	35
		500	20	26
		550	10	19
0.600	**2160**	400	71	39
		500	29	31
		550	14	23
0.800	**2880**	500	51	37
		550	24	30
1.000	**3600**	550	38	36

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

PTVM/PTTM

Perforated diffuser
Supply
T-bar mounted in modular ceiling

Available types
P T - M - O -

P perforated ceiling diffuser
T supply

- **Face plate**
V flat
T t-bar mounted T24, 8 mm dropped (fully perforated, only in combination with T-profile)

M modular ceiling, panel size 600 mm

- **Ceiling version**
I T-bar mounted
A concealed panel (concealed ceiling version)
B concealed panel (concealed ceiling version)
C concealed panel (concealed ceiling version)

O no accessories

- **Version**
A round top connection
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PTVM perforated diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled, with a stabilising plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. The PTTM perforated diffuser has a 8 mm dropped face plate. With the four built-in pattern blades, there is a free choice of discharge pattern. The high induction effect facilitates a large number of air changes. The pure radial pattern ensures minimal smudging of the ceiling.With the extremely shallow discharge pattern, the PTVM diffuser is also suitable for lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

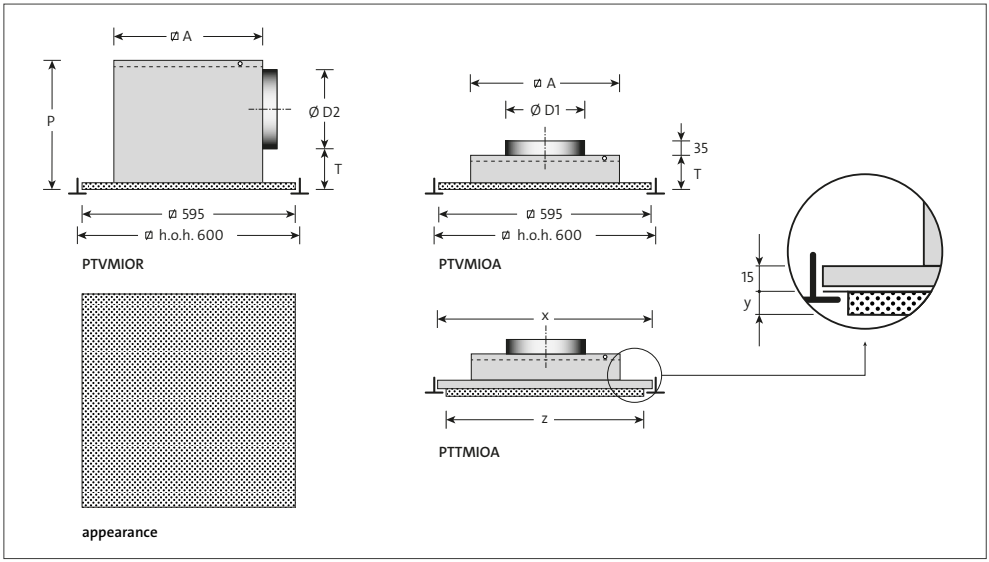
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Panel size:	up to 750 mm
Plenum box:	flat-sided

2025_03_v3

Dimensions



Available dimensions and sizes

model	A	D1	D2	T	P
250	242	123	123	70	235
300	307	158	158	70	270
400	382	198	198	75	315
500	477	248	198	85	325
550	551	313	248	105	395

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	3.6	4.8
300	3.6	5.6
400	3.7	6.6
500	3.8	7.7
550	4.0	9.3

Note

- The listed dimensions are in mm.
- Dimensions t-bar mounted dropped:
  T-bar mounted 24 mm (standard): X = 595, Y = 8,
  Z = 574 T-bar mounted 15 mm: X = 595, Y = 8, Z = 583
- Information regarding flat-sided plenum boxes is available on our website.

3

Selection details

PT-M

air volume		model	discharge pattern														
			4-sided			3-sided			2-sided opposite			2-sided angle			1-sided		
m^3/s	m^3/h		throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**250**	**0.4**	1	-	**0.4**	1	-	**0.6**	2	3	**0.6**	3	5	**0.9**	7	13
0.020	**72**	**250**	**0.6**	1	5	**0.6**	2	7	**0.7**	4	10	**0.7**	4	12	**1.2**	12	21
0.025	**90**	**250**	**0.7**	2	11	**0.7**	3	13	**0.9**	5	16	**0.9**	7	18	**1.5**	19	27
		300	**0.6**	1	-	**0.6**	1	4	**0.8**	3	7	**0.8**	3	9	**1.3**	9	19
0,030	**108**	**250**	**0.8**	3	16	**0.9**	4	18	**1.1**	8	21	**1.1**	10	23	**2.0**	28	31
		300	**0.7**	1	2	**0.7**	2	8	**0.9**	4	12	**0.9**	5	14	**1.5**	13	23
0.040	**144**	**250**	**1.1**	4	23	**1.2**	6	25	**1.5**	13	28	**1.5**	17	29	**2.5**	49	39
		300	**0.9**	3	14	**1.0**	3	16	**1.2**	6	19	**1.2**	8	21	**2.0**	23	31
		400	**0.8**	1	6	**0.8**	2	8	**1.0**	3	12	**1.0**	4	12	**1.7**	11	22
0.050	**180**	**250**	**1.4**	6	29	**1.5**	10	31	**1.9**	20	34	**1.9**	25	34			
		300	**1.2**	4	20	**1.2**	5	22	**1.5**	10	25	**1.5**	13	27	**2.5**	34	36
		400	**1.0**	2	12	**1.0**	3	14	**1.3**	5	17	**1.3**	6	18	**2.1**	17	28
0.060	**216**	**250**	**1.7**	8	34	**1.8**	13	36	**2.2**	28	39	**2.2**	35	41			
		300	**1.5**	6	24	**1.5**	8	26	**1.8**	14	30	**1.8**	19	32	**3.0**	51	41
		400	**1.1**	3	17	**1.3**	4	19	**1.5**	7	21	**1.5**	8	23	**2.5**	24	32
		500													**2.1**	13	25
0.080	**288**	**300**	**1.8**	11	32	**1.9**	14	34	**2.4**	26	37	**2.4**	33	39			
		400	**1.5**	6	24	**1.7**	7	25	**2.0**	13	29	**2.0**	15	30	**3.4**	43	40
		500	**1.3**	4	17	**1.4**	5	19	**1.8**	8	22	**1.8**	10	24	**2.8**	23	32
		550													**2.4**	13	27
0.100	**360**	**300**	**2.3**	17	38	**2.4**	21	40									
		400	**1.9**	9	30	**2.1**	11	32	**2.6**	20	32	**2.6**	23	36			
		500	**1.6**	4	22	**1.8**	8	25	**2.2**	12	28	**2.2**	15	30	**3.5**	35	38
		550	**1.4**	4	16	**1.6**	4	19	**1.9**	7	21	**1.9**	8	23	**3.1**	21	32
0.125	**450**	**400**	**2.4**	13	36	**2.6**	18	35									
		500	**2.0**	10	28	**2.3**	12	30	**2.8**	19	34	**2.8**	23	36			
		550	**1.8**	6	22	**2.0**	7	24	**2.4**	10	27	**2.4**	13	29	**3.8**	32	38
0.150	**540**	**400**	**2.9**	19	40												
		500	**2.5**	13	33	**2.7**	17	35	**3.4**	28	38	**3.4**	34	41			
		550	**2.2**	8	27	**2.4**	10	29	**2.9**	15	32	**2.9**	19	34	**4.6**	47	43
0.200	**720**	**500**	**3.3**	25	40	**3.6**	30	43									
		550	**2.9**	14	34	**3.2**	18	37	**3.9**	27	40	**3.9**	33	41			
0.250	**900**	**550**	**3.6**	22	40	**4.0**	27	42	**4.9**	42	45	**4.9**	50	46			
0.300	**1080**	**550**	**4.3**	32	45												

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2025_03_v3

Discharge pattern


4-sided


3-sided


2-sided angle


2-sided opposite

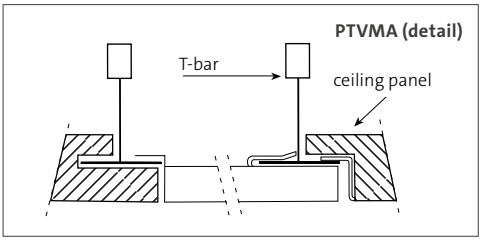

1-sided

pattern blade “closed”

pattern blade “open”

Concealed ceiling version

manufacturer	product/type	version
Ecophon	FocusTM Ds	B
	Hygiëne LabotecTM Ds C1	B
	SombraTM Ds	B
	Combison UnoTM Ds	B
OWA	Cosmos	A
	Sinfonia	A
Rockfon	Sonar system D	A
	Krios System D	A
	Sonar system X	C
	Krios system X	C



PRVM/PRTM

Perforated diffuser
Return
T-bar mounted in modular ceiling

Available types
P R - M - O -

P perforated ceiling diffuser
R return

\- **Face plate**
V flat
T t-bar mounted T24, 8 mm dropped (fully perforated, only in combination with T-profile)

M modular ceiling, panel size 600 mm

\- **Ceiling version**
I T-bar mounted
A concealed panel (concealed ceiling version)
B concealed panel (concealed ceiling version)
C concealed panel (concealed ceiling version)

O no accessories

\- **Version**
A round top connection
N without plenum, with separate sightproof cover*
O panel only
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box
Z square top connection

*Sightproof cover; see also PRIMON on our website.

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PRVM perforated diffuser is suitable for air extraction and has the same appearance as the supply diffuser PTVM. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. The perforated diffuser, type PRTM, is equipped with an 8 mm lowered face plate.
As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

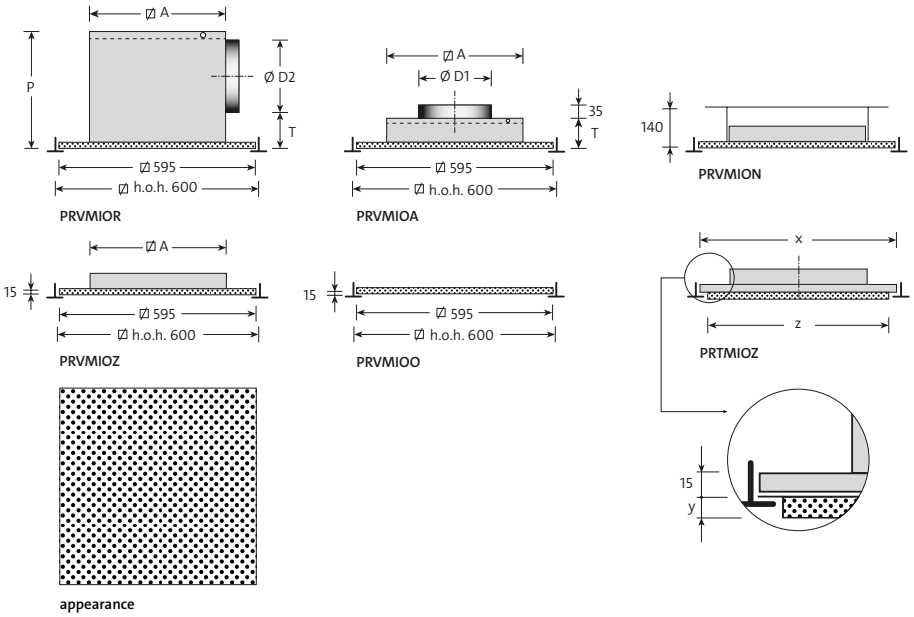
Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Panel size:	up to 750 mm
Plenum box:	flat-sided
Face plate:	other than inlay T24, lowered by 8 mm on request

2025_12_v3

Dimensions



Available dimensions and sizes

model	A	D1	D2	T	P
250	242	123	123	70	235
300	307	158	158	70	270
400	382	198	198	75	315
500	477	248	198	85	325
550	551	313	248	105	395

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	3.2	4.4
300	3.1	4.8
400	2.9	5.5
500	2.6	6.1
550	2.5	7.2

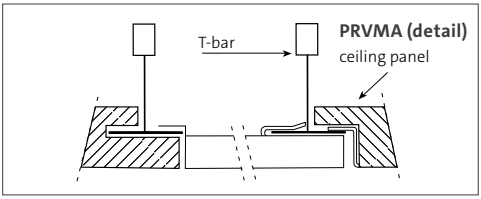
• PRVMIOO perforated panel only: 1.2 kg.

Note

- The listed dimensions are in mm.
- Dimensions t-bar mounted dropped:
  T-bar mounted 24 mm (standard): X = 595, Y = 8, Z = 574
  T-bar mounted 15 mm: X = 595, Y = 8, Z = 583
- Information regarding flat-sided plenum boxes is available on our website.

Concealed ceiling version

manufacturer	product/type	version
Ecophon	FocusTM Ds	B
	Hygiëne LabotecTM Ds C1	B
	SombraTM Ds	B
	Combison UnoTM Ds	B
OWA	Cosmos	A
	Sinfonia	A
Rockfon	Sonar system D	A
	Krios System D	A
	Sonar system X	C
	Krios system X	C



Selection details

PRVM-OR, PRVM-OA and PRVM-OU

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	250	1	-
0.020	**72**	250	3	-
0.025	**90**	250	4	-
		300	1	-
0.030	**108**	250	6	-
		300	2	-
0.040	**144**	250	11	-
		300	4	-
		400	1	-
0.050	**180**	250	16	12
		300	6	-
		400	2	-
0.060	**216**	250	24	17
		300	9	-
		400	3	-
		500	3	-
0.080	**288**	300	15	13
		400	6	-
		500	5	-
		550	3	-
0,100	**360**	300	24	19
		400	9	-
		500	8	-
		550	4	-
0.125	**450**	400	14	15
		500	12	15
		550	6	-
0.150	**540**	400	21	20
		500	18	20
		550	9	10
0.200	**720**	500	31	27
		550	16	17
0.250	**900**	550	25	23
0.300	**1080**	550	35	28

PRVM-OZ and PRVM-ON

air volume		square connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.080	**288**	250	9	10
		300	3	-
0.100	**360**	250	13	15
		300	5	-
		400	2	-
0.125	**450**	250	21	21
		300	8	11
		400	3	-
0.150	**540**	250	30	25
		300	11	15
		400	4	-
		500	2	-
0.200	**720**	250	54	32
		300	20	22
		400	8	13
		500	3	-
		550	2	-
0.300	**1080**	300	45	32
		400	18	23
		500	7	14
		550	3	-
0.400	**1440**	300	79	39
		400	32	30
		500	13	21
		550	6	14
0.500	**1800**	400	49	35
		500	20	26
		550	10	19
0.600	**2160**	400	71	39
		500	29	31
		550	14	23
0.800	**2880**	500	51	37
		550	24	30
1.000	**3600**	550	38	36

PR-MIOO only panel ⍁ 595

air volume		PRVM-OZ en PRVM-ON	Δp_s Pa	L_{pA} dB(A)
m^3/s	m^3/h			
0.200	**720**	550	2	-
0.300	**1080**	550	3	-
0.400	**1440**	550	6	14
0.500	**1800**	550	10	19
0.600	**2160**	550	14	23
0.800	**2880**	550	24	30
1.000	**3600**	550	38	36

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

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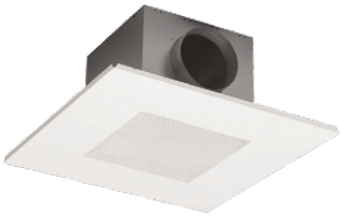

PTVS/PTTS

Perforated diffuser
Supply
T-bar mounted in modular ceiling, removable

Available types
P T - S - O -

P perforated ceiling diffuser
T supply

- **Face plate (passe-partout)**
V flat
T t-bar mounted T24, 8 mm dropped (only in combination with T-profile)

S modular ceiling panel size 600 mm, removable

- **Ceiling version**
I T-bar mounted
A concealed panel (concealed ceiling version)
B concealed panel (concealed ceiling version)
C concealed panel (concealed ceiling version)

O no accessories

- **Version**
A round top connection
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PTVS perforated diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser has a removal face plate on the sight side, it can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled, with a stabilising plate. The perforated diffuser, type PTTS, is equipped with an 8 mm lowered face plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. With the four built-in pattern blades, there is a free choice of discharge pattern. It is easy to adjust the discharge pattern, even after fitting. The high induction effect facilitates a large number of air changes. The pure radial pattern ensures minimal smudging of the ceiling. With the extremely shallow discharge pattern, the PTVS diffuser is also suitable for lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Panel size:	up to 750 mm
Plenum box:	flat-sided
Face plate:	other than inlay T24, lowered by 8 mm on request

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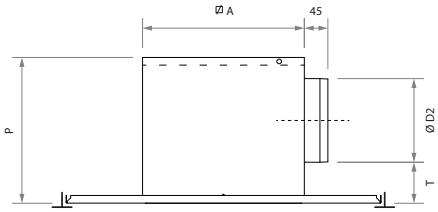
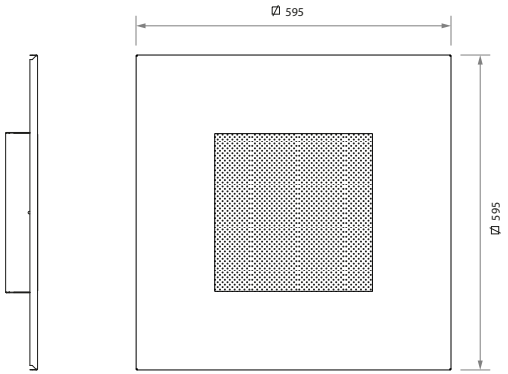
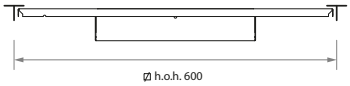
Maatvoering

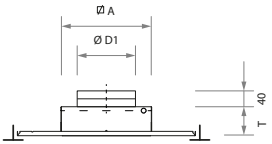
PTVS

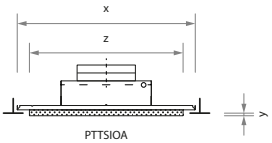






Side view variants





Available dimensions and sizes

model	A	D1	D2	T	P
250	242	123	123	70	235
300	307	158	158	70	270
400	382	198	198	75	315
500	477	248	198	85	325
550	551	313	248	105	395

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	2.8	4.0
300	2.9	4.9
400	3.1	6.0
500	3.4	7.3
550	4.0	9.3

Note

- The listed dimensions are in mm.
- Dimensions t-bar mounted dropped:
  T-bar mounted 24 mm (standard): X = 595, Y = 8, Z = 574
  T-bar mounted 15 mm: X = 595, Y = 8, Z = 583
- Information regarding flat-sided plenum boxes is available on our website.

Selection details

PT-S

air volume		model	discharge pattern														
			4-sided			3-sided			2-sided opposite			2-sided angle			1-sided		
m^3/s	m^3/h		throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**250**	**0.4**	1	-	**0.4**	1	-	**0.6**	2	3	**0.6**	3	5	**0.9**	7	13
0.020	**72**	**250**	**0.6**	1	5	**0.6**	2	7	**0.7**	4	10	**0.7**	4	12	**1.2**	12	21
0.025	**90**	**250**	**0.7**	2	11	**0.7**	3	13	**0.9**	5	16	**0.9**	7	18	**1.5**	19	27
		300	**0.6**	1	-	**0.6**	1	4	**0.8**	3	7	**0.8**	3	9	**1.3**	9	19
0.030	**108**	**250**	**0.8**	3	16	**0.9**	4	18	**1.1**	8	21	**1.1**	10	23	**2.0**	28	31
		300	**0.7**	1	2	**0.7**	2	8	**0.9**	4	12	**0.9**	5	14	**1.5**	13	23
0.040	**144**	**250**	**1.1**	4	23	**1.2**	6	25	**1.5**	13	28	**1.5**	17	29	**2.5**	49	39
		300	**0.9**	3	14	**1.0**	3	16	**1.2**	6	19	**1.2**	8	21	**2.0**	23	31
		400	**0.8**	1	6	**0.8**	2	8	**1.0**	3	12	**1.0**	4	12	**1.7**	11	22
0.050	**180**	**250**	**1.4**	6	29	**1.5**	10	31	**1.9**	20	34	**1.9**	25	34			
		300	**1.2**	4	20	**1.2**	5	22	**1.5**	10	25	**1.5**	13	27	**2.5**	34	36
		400	**1.0**	2	12	**1.0**	3	14	**1.3**	5	17	**1.3**	6	18	**2.1**	17	28
0.060	**216**	**250**	**1.7**	8	34	**1.8**	13	36	**2.2**	28	39	**2.2**	35	41			
		300	**1.5**	6	24	**1.5**	8	26	**1.8**	14	30	**1.8**	19	32	**3.0**	51	41
		400	**1.1**	3	17	**1.3**	4	19	**1.5**	7	21	**1.5**	8	23	**2.5**	24	32
		500													**2.1**	13	25
0.080	**288**	**300**	**1.8**	11	32	**1.9**	14	34	**2.4**	26	37	**2.4**	33	39			
		400	**1.5**	6	24	**1.7**	7	25	**2.0**	13	29	**2.0**	15	30	**3.4**	43	40
		500	**1.3**	4	17	**1.4**	5	19	**1.8**	8	22	**1.8**	10	24	**2.8**	23	32
		550													**2.4**	13	27
0.100	**360**	**300**	**2.3**	17	38	**2.4**	21	40									
		400	**1.9**	9	30	**2.1**	11	32	**2.6**	20	32	**2.6**	23	36			
		500	**1.6**	4	22	**1.8**	8	25	**2.2**	12	28	**2.2**	15	30	**3.5**	35	38
		550	**1.4**	4	16	**1.6**	4	19	**1.9**	7	21	**1.9**	8	23	**3.1**	21	32
0.125	**450**	**400**	**2.4**	13	36	**2.6**	18	35									
		500	**2.0**	10	28	**2.3**	12	30	**2.8**	19	34	**2.8**	23	36			
		550	**1.8**	6	22	**2.0**	7	24	**2.4**	10	27	**2.4**	13	29	**3.8**	32	38
0.150	**540**	**400**	**2.9**	19	40												
		500	**2.5**	13	33	**2.7**	17	35	**3.4**	28	38	**3.4**	34	41			
		550	**2.2**	8	27	**2.4**	10	29	**2.9**	15	32	**2.9**	19	34	**4.6**	47	43
0.200	**720**	**500**	**3.3**	25	40	**3.6**	30	43									
		550	**2.9**	14	34	**3.2**	18	37	**3.9**	27	40	**3.9**	33	41			
0.250	**900**	**550**	**3.6**	22	40	**4.0**	27	42	**4.9**	42	45	**4.9**	50	46			
0.300	**1080**	**550**	**4.3**	32	45												

Attenuation values plenum box (without end reflection)

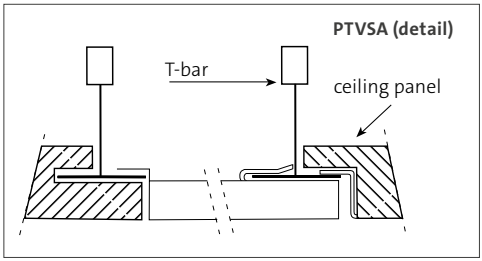
model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

Concealed ceiling version

manufacturer	product/type	version
Ecophon	FocusTM Ds	B
	Hygiëne LabotecTM Ds C1	B
	SombraTM Ds	B
	Combison UnoTM Ds	B
OWA	Cosmos	A
	Sinfonia	A
Rockfon	Sonar system D	A
	Krios System D	A
	Sonar system X	C
	Krios system X	C



Uitblaaspatroon


4-sided


3-sided


2-sided angle


2-sided opposite


1-sided


pattern blade “closed”


pattern blade “open”

PRVS/PRTS

Perforated diffuser
Return
T-bar mounted in modular ceiling
Removable

Available types
P R - S - - -

P perforated ceiling diffuser
R return

\- **Face plate (passe-partout)**
V flat
T t-bar mounted T24, 8 mm dropped (only in combination with T-profile)

S modular ceiling panel size 600 mm, removable

\- **Ceiling version (see table on page 26)**
I T-bar mounted
A concealed panel (concealed ceiling version)
B concealed panel (concealed ceiling version)
C concealed panel (concealed ceiling version)

\- **Accessories**
O none
F fitted with a filter

\- **Version**
A round top connection
N without plenum, with separate sightproof cover
U assembled, uninsulated plenum box
R assembled, internally insulated plenum box
Z square top connection

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PRVS perforated diffuser is suitable for air extraction and has the same appearance as the supply diffuser PTVS. The diffuser has a removal face plate on the sight side, it can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. The perforated diffuser, type PRTS, is equipped with an 8 mm lowered face plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Panel size:	up to 750 mm
Plenum box:	flat-sided
Face plate:	other than inlay T24, lowered by 8 mm on request

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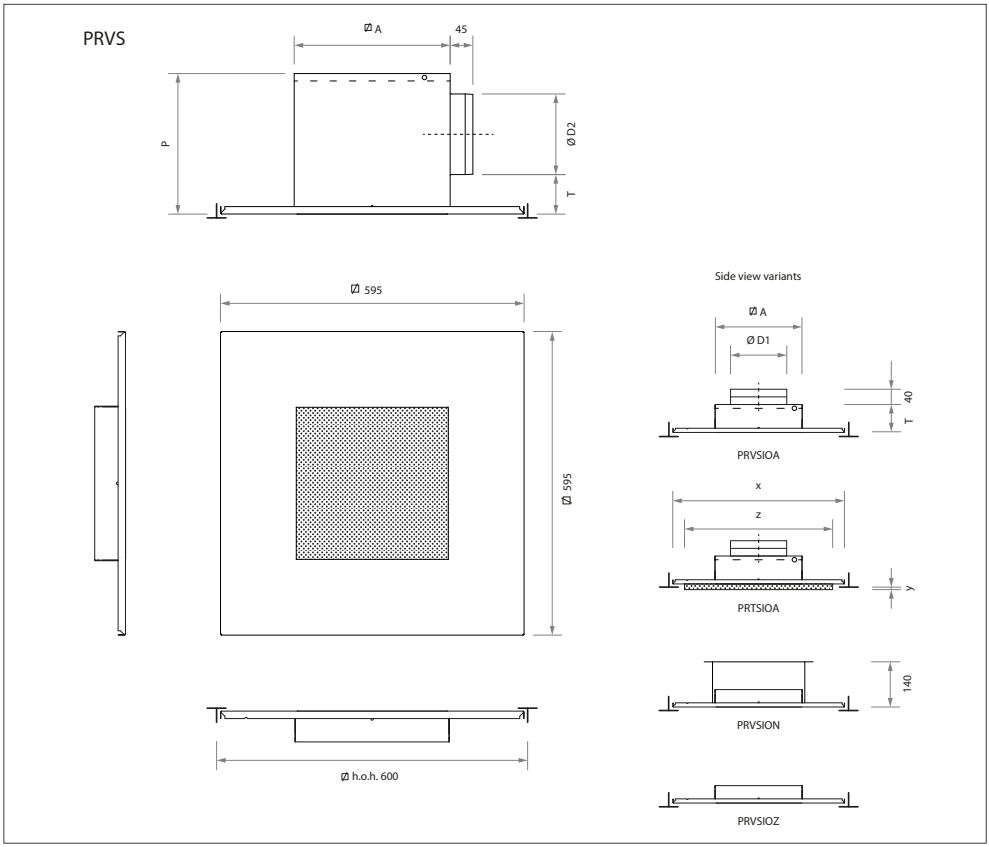
Dimensions



Available dimensions and sizes

model	A	D1	D2	T	P
250	242	123	123	70	235
300	307	158	158	70	270
400	382	198	198	75	315
500	477	248	198	85	325
550	551	313	248	105	395

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	2.4	3.2
300	2.4	4.1
400	2.3	4.9
500	2.2	5.7
550	2.5	7.2

Note

- The listed dimensions are in mm.
- Dimensions t-bar mounted dropped:
  T-bar mounted 24 mm (standard): X = 595, Y = 8, Z = 574
  T-bar mounted 15 mm: X = 595, Y = 8, Z = 583
- Information regarding flat-sided plenum boxes is available on our website.

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3

Selection details

PRVS-OA, PRVS-OR and PRVS-OU

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	250	1	-
0.020	**72**	250	3	-
0.025	**90**	250	4	-
		300	1	-
0.030	**108**	250	6	-
		300	2	-
0.040	**144**	250	11	-
		300	4	-
		400	1	-
0.050	**180**	250	16	12
		300	6	-
		400	2	-
0.060	**216**	250	24	17
		300	9	-
		400	3	-
		500	3	-
0.080	**288**	300	15	13
		400	6	-
		500	5	-
		550	3	-
0.100	**360**	300	24	19
		400	9	-
		500	8	-
		550	4	-
0.125	**450**	400	14	15
		500	12	15
		550	6	-
0.150	**540**	400	21	20
		500	18	20
		550	9	10
0.200	**720**	500	31	27
		550	16	17
0.250	**900**	550	25	23
0.300	**1080**	550	35	28

PRVS-OZ and PRVS-ON

air volume		square connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.080	**288**	250	9	10
		300	3	-
0.100	**360**	250	13	15
		300	5	-
		400	2	-
0.125	**450**	250	21	21
		300	8	11
		400	3	-
0.150	**540**	250	30	25
		300	11	15
		400	4	-
		500	2	-
0.200	**720**	250	54	32
		300	20	22
		400	8	13
		500	3	-
		550	2	-
0.300	**1080**	300	45	32
		400	18	23
		500	7	14
		550	3	-
0.400	**1440**	300	79	39
		400	32	30
		500	13	21
		550	6	14
0.500	**1800**	400	49	35
		500	20	26
		550	10	19
0.600	**2160**	400	71	39
		500	29	31
		550	14	23
0.800	**2880**	500	51	37
		550	24	30
1.000	**3600**	550	38	36

Attenuation values plenum box (without end reflection)

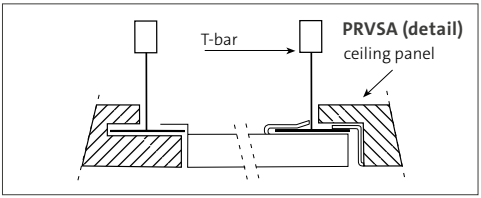
model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

Concealed ceiling version

manufacturer	product/type	version
Ecophon	FocusTM Ds	B
	Hygiëne LabotecTM Ds C1	B
	SombraTM Ds	B
	Combison UnoTM Ds	B
OWA	Cosmos	A
	Sinfonia	A
Rockfon	Sonar system D	A
	Krios System D	A
	Sonar system X	C
	Krios system X	C



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PTVI/PRVI

Perforated diffuser
Supply/Return
Formwork version
Removable

Available types
P - V I O -

P perforated ceiling diffuser

- **Supply/return**
T supply
R return

V flat, removable
I formwork
O no accessories

- **Version**
Round side connection
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

Square side connection
T internally insulated plenum box
S uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PTVI formwork perforated diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The PRVI type is suitable for return air. The separately supplied insulated or uninsulated plenum box can be fitted in poured concrete. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. After removing the formwork, it is easy to fit the diffuser in the plenum. With the four pattern blades, there is a free choice of discharge direction, even after fitting. The high induction effect facilitates a large number of air changes. The pure radial pattern ensures minimal smudging of the ceiling. With the extremely shallow inflow pattern, the PTVI diffuser is also suitable for slightly lower rooms.

Version
Perforated diffuser

Frame:	extruded aluminium
Front plate:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

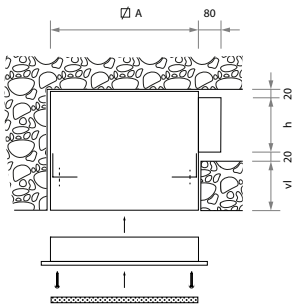
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

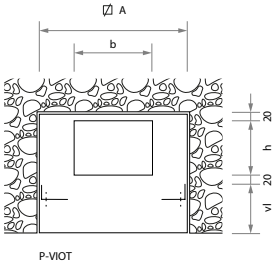
2025_03_V1

Dimensions

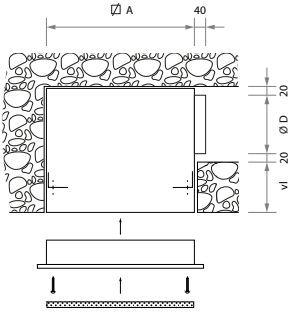
P-VI



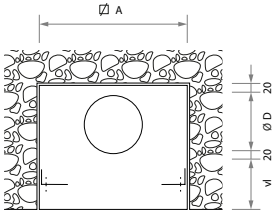
P-VIOT



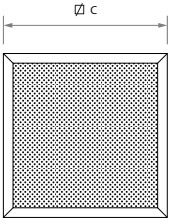
P-VIOT



P-VIOR



P-VIOR



appearance

Available dimensions and sizes

Square connection version P-VIOT/P-VIOS.

model	C	A	b*	h*
250	283	252	172	72
255	283	252	172	82
300	348	320	222	82

*Sizes B and H are internal sizes.

Round connection version P-VIOU/P-VIOR.

model	C	A	D
250	283	252	123
300	348	320	158

Note

- The listed dimensions are in mm.
- Concrete floor "vl" must be at least 60 mm.
- The internal unit with the diffuser is fitted after the ceiling has been finished.

Selection details
PTVI

air volume		model	discharge pattern														
			4-sided			3-sided			2-sided opposite			2-sided angle			1-sided		
m^3/s	m^3/h		throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.015	54	250 en 255	0.4	1	-	0.4	1	-	0.6	2	6	0.6	3	8	0.9	7	16
0.020	72	250 en 255	0.6	1	8	0.6	2	10	0.7	4	13	0.7	4	15	1.2	12	24
0.025	90	250 en 255	0.7	2	14	0.7	3	16	0.9	5	19	0.9	7	21	1.5	19	30
		300	0.6	1	-	0.6	1	7	0.8	3	10	0.8	3	12	1.3	9	22
0.030	108	250 en 255	0.8	3	19	0.9	4	21	1.1	8	24	1.1	10	26	2.0	28	34
		300	0.7	1	5	0.7	2	11	0.9	4	15	0.9	5	17	1.5	13	26
0.040	144	250 en 255	1.1	4	26	1.2	6	28	1.5	13	31	1.5	17	32	2.5	49	42
		300	0.9	3	17	1.0	3	19	1.2	6	22	1.2	8	24	2.0	23	34
0.050	180	250 en 255	1.4	6	32	1.5	10	34	1.9	20	37	1.9	25	37			
		300	1.2	4	23	1.2	5	25	1.5	10	28	1.5	13	30	2.5	34	39
0.060	216	250 en 255	1.7	8	37	1.8	13	39	2.2	28	42	2.2	35	44			
		300	1.5	6	27	1.5	8	29	1.5	14	33	1.5	19	35	3.0	51	44
0.080	288	300	1.8	11	35	1.9	14	37	2.4	26	40	2.4	33	42			
0.100	360	300	2.3	17	41	2.4	21	43									

Selection details
PRVI

lucht-hoeveelheid		model	Δp_s Pa	L_{pA} dB(A)
m^3/s	m^3/h			
0.015	54	250 en 255	1	-
0.020	72	250 en 255	3	-
0.025	90	250 en 255	4	-
		300	1	-
0.030	108	250 en 255	6	-
		300	2	-
0.040	144	250 en 255	11	-
		300	4	-
0.050	180	250 en 255	16	15
		300	6	-
0.060	216	250 en 255	24	20
		300	9	-
0.080	288	300	15	16
0.100	360	300	24	22

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250 en 255	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB

General
- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

Outflow pattern


4-sided


3-sided

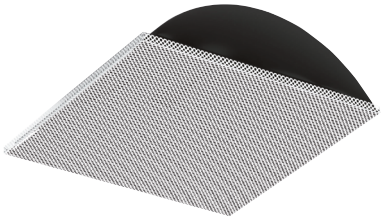

2-sided angle


2-sided opposite


1-sided


pattern blade “closed”


pattern blade “open”



PRIMON

Perforated diffuser
Return, transfer
T-bar mounted in modular ceiling
Sightproof, restricts the entry of light

Available types

PRIMON

- **P** perforated ceiling diffuser
- **R** return, transfer
- **I** flat face plate
- **M** modular ceiling, panel size 600 mm
- **O** no accessories
- **N** sightproof and restricts the entry of light

SA-Select

Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use

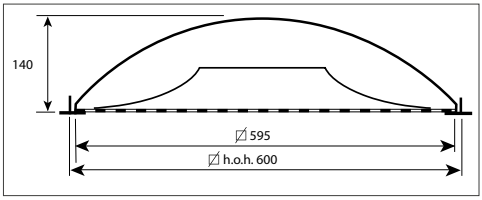
The PRIMON perforated diffuser is sightproof, restricts the entry of light, and is suitable for the transfer of air to the ceiling plenum. The perforation is the same as for the PTVM and PRVM diffusers. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm.

Version

Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Front face colour:	white RAL 9010, optional RAL colour of your choice
Internal unit colour:	black RAL 9005
Weight:	3.6 kg

Dimensions

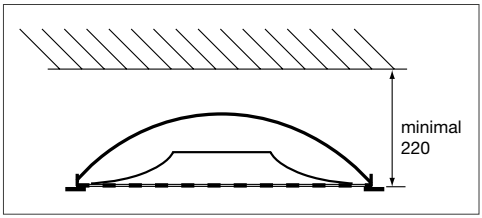


Selection details

PRIMON

air volume		model	Δp_s Pa	L_{pA} dB(A)
m^3/s	m^3/h			
0.080	**288**	**550**	2	-
0.100	**360**	**550**	3	-
0.125	**450**	**550**	5	-
0.150	**540**	**550**	7	10
0.200	**720**	**550**	12	17

Fitting instructions



Note

- The dimensions are in mm.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

PSVT/PTVT/PRVT

Perforated diffuser
Supply/Return
T-bar mounted in modular ceiling
Panel size of 300 mm

Available types
P - V T O R

P perforated ceiling diffuser

- **Discharge pattern**
- **S** supply, one-sided discharge pattern (fixed)
- **T** supply, adjustable discharge pattern (with pattern blades)
- **R** return

V flat face plate
T surface-mounted on ceiling tile, T-bar mounted in modular ceiling
O not applicable
R assembled, internally insulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PSVT and PTVT perforated diffusers are suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. These diffusers can be T-bar mounted in a modular ceiling with a panel size of 300 mm and have an insulated plenum box, which is supplied ready assembled. The supply diffusers have a stabilising plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

The PSVT type has a fixed one-sided discharge pattern. The PTVT type has adjustable pattern blades that facilitate a free choice of the discharge direction. With the extremely shallow discharge pattern, these diffusers are also suitable for lower rooms. The radial pattern ensures minimal smudging of the ceiling.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Plenum box:	flat-sided

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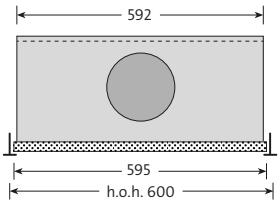
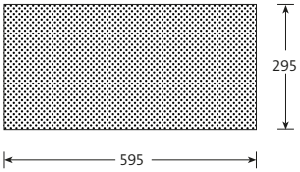
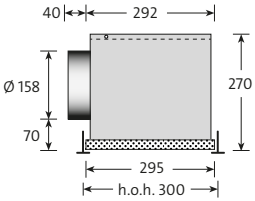
Dimensions



PSVTOR / PTVTOR 160

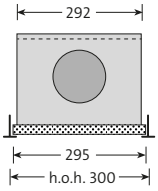


appearance

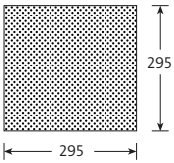


PSVTOR model 160

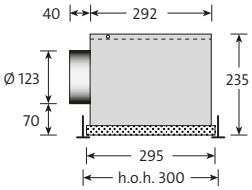
PTVTOR model 160



PTVTOR 125



appearance



PTVTOR model 125

Available dimensions and sizes

model	panel size	
	600 x 300	300 x 300
PSVTOR 160	■	
PTVTOR 125		■
PTVTOR 160	■	
PRVTOR 125		■
PRVTOR 160	■	

Note

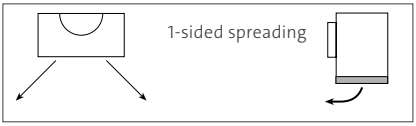
- The listed dimensions are in mm.
- The discharge of the PSVT type is in the direction of the connection side.
- Flat-sided plenum boxes are available on request.

2024_08_v3

Selection details

PSVTOR 160 panel size 600 x 300

model	type		
	without plenum OA	with plenum OR/OU	without plenum OZ
	kg	kg	
250	0.9	2.1	0.6
300	1.2	3.0	0.8
400	1.6	4.3	1.1
500	2.2	5.8	1.5
550	2.9	7.8	1.8



Return

When used as a return diffuser, see page 34:
PRVT 125 see selection details PRVDOR 250.
PRVT 160 see selection details PRVDOR 300.

Attenuation values plenum box

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
125	3	1	6	7	7	9	dB
160	4	0	5	8	7	8	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

PTVTOR 160 panel size 600 x 300

air volume		4-sided			3-sided 2K + 1L			3-sided 2K + 2L			3-sided 2K + 1L		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.030	**108**	**0.6**	3	-	**0.7**	4	10	**0.6**	3	-	**0.9**	4	10
0.040	**144**	**0.7**	6	16	**1.0**	7	19	**0.8**	6	17	**1.2**	7	19
0.050	**180**	**0.9**	9	23	**1.2**	11	26	**1.0**	10	24	**1.4**	12	26
0.060	**216**	**1.1**	13	28	**1.4**	16	31	**1.2**	14	29	**1.7**	17	31
0.080	**288**	**1.5**	23	37	**1.9**	29	40	**1.7**	25	38	**2.3**	29	40
0.100	**360**	**1.8**	36	44	**2.4**	45	47	**2.1**	39	45	**2.9**	46	47

air volume		2-sided 2L			2-sided 2K			1-sided 1L			1-sided 1K		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.020	**72**	**0.5**	3	-	**0.6**	2	-	**0.8**	2	-	**1.1**	7	24
0.025	**90**	**0.7**	5	-	**0.7**	3	-	**1.0**	3	-	**1.4**	11	30
0.030	**108**	**0.8**	7	15	**0.8**	5	13	**1.2**	5	13	**1.7**	16	35
0.040	**144**	**1.0**	11	24	**1.1**	9	22	**1.6**	9	22	**2.2**	28	42
0.050	**180**	**1.4**	19	31	**1.4**	13	29	**2.0**	13	29	**2.8**	44	48
0.060	**216**	**1.7**	30	36	**1.7**	19	34	**2.3**	20	34			
0.080	**288**	**2.1**	47	46	**2.2**	34	43	**3.1**	36	43			

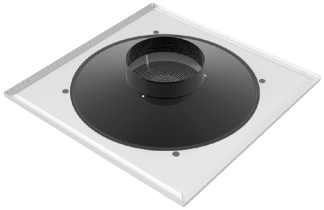
PTVTOR 125 panel size 300 x 300

air volume		4-sided			3-sided			2-sided opposite			2-sided angle			1-sided		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0,015	**54**	**0.4**	1	-	**0.4**	1	-	**0.6**	2	3	**0.6**	3	5	**0.9**	7	13
0,020	**72**	**0.6**	1	5	**0.6**	2	7	**0.7**	4	10	**0.7**	4	12	**1.2**	12	21
0,025	**90**	**0.7**	2	11	**0.7**	3	13	**0.9**	5	16	**0.9**	7	18	**1.5**	19	27
0,030	**108**	**0.8**	3	16	**0.9**	4	18	**1.1**	8	21	**1.1**	10	23	**2**	28	31
0,040	**144**	**1.1**	4	23	**1.2**	6	25	**1.5**	13	28	**1.5**	17	29	**2.5**	49	39
0,050	**180**	**1.4**	6	29	**1.5**	10	31	**1.9**	20	34	**1.9**	25	34		-	-
0,060	**216**	**1.7**	8	34	**1.9**	13	36	**2.2**	28	39	**2.2**	35	41		-	-

2024_08_v3

Outflow pattern

PTVTOR 125		PTVTOR 160	
	4-sided		4-sided
	3-sided		3-sided 2 short + 1 long
	2-sided angle		3-sided 1 short + 2 long
	2-sided opposite		2-sided 1 short + 1 long
	1-sided		2-sided 2 short
	pattern blade “closed”		2-sided 2 long
	pattern blade “open”		1-sided 1 short
			1-sided 1 long



CTVM

Clean diffuser
Perforated diffuser
Supply
T-bar mounted in modular ceiling

Available types
C T V M I O -

- **C** perforated diffuser
- **T** supply
- **V** flat perforated
- **M** modular ceiling, panel size 600 mm
- **I** T-bar mounted
- **O** no accessories

- **Version**
- **A** round top connection
- **B** smooth bend (supplied separately)
- **R** internally insulated plenum box (supplied separately)
- **R** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The CTVM perforated diffuser is suitable for supplying cooled or heated air with a small temperature difference in respect of the room temperature. The diffuser is used for constant-volume systems. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with a smooth bend or an insulated or uninsulated plenum box. The high induction effect outside the diffuser and the pure radial discharge pattern produced by the patented stabiliser ensure minimum smudging of the diffuser and the ceiling. With the pure radial discharge pattern, the diffuser is also suitable for lower rooms.

Characteristics

Undertemperature:	up to 8 K
Overtemperature:	up to 2 K
Free flow:	16 %

Version

Perforated diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner

Smooth bend

Material:	sendzimir galvanised steel

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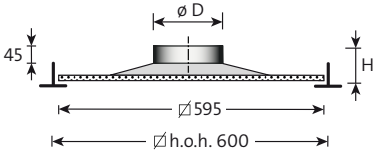
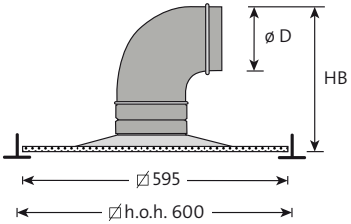
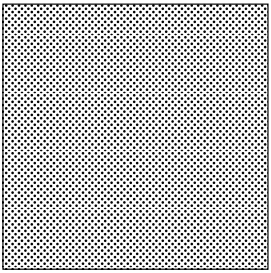
Dimensions



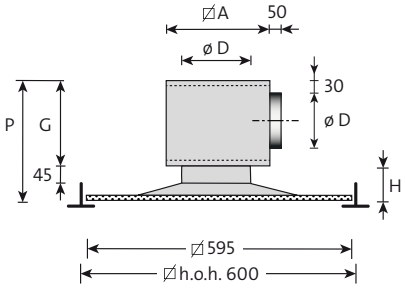
CTVMIOA



CTVMIOB



appearance



CTVMIOR

Available dimensions and sizes

model	A	D	G	P	H	HB
200	184	98	146	210	74	280
250	184	123	171	236	75	320
350	219	158	206	279	83	382
450	259	198	246	327	91	450

Note

- The listed dimensions are in mm.

Selection details

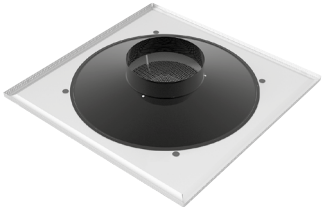
CTVM

air volume		model	throw m	Δp_s Pa	L_{pA} dB(A)
m^3/s	m^3/h				
0.015	**54**	**200**	**1.2**	8	10
0.020	**72**	**200**	**1.5**	12	16
0.025	**90**	**200**	**1.8**	17	21
		250	**1.0**	6	13
0.030	**108**	**250**	**1.2**	8	18
0.040	**144**	**250**	**1.4**	13	24
		350	**1.0**	6	10
0.050	**180**	**350**	**1.2**	9	15
0.060	**216**	**350**	**1.5**	12	20
0.070	**252**	**350**	**1.8**	17	24
		450	**1.3**	8	9
0.080	**288**	**450**	**1.6**	10	14

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2024_08_v3



CRVM

Clean diffuser
Perforated diffuser
Return
T-bar mounted in modular ceiling

Available types
C R V M I O -

- **C** perforated diffuser
- **R** return
- **V** flat perforated
- **M** modular ceiling, panel size 600 mm
- **I** T-bar mounted
- **O** no accessories

- **Version**
- **A** round top connection
- **B** smooth bend (supplied separately)
- **N** sightproof and restricts the entry of light
- **O** panel only
- **R** internally insulated plenum box (supplied separately)
- **U** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The CRVM perforated diffuser is suitable for air extraction and has the same appearance as the supply diffuser CTVM. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with a smooth bend or an insulated or uninsulated plenum box.

The CRVMION perforated diffuser is sightproof, restricts the entry of light, and is suitable for transferring air to the ceiling plenum. The perforation is the same as for the CTVM and CRVM clean perforated diffusers.

Characteristics
Free flow: 16 %

Version
Perforated diffuser
Front face: steel
Post-treatment: epoxy
Colour: white RAL 9010, optional RAL colour of your choice

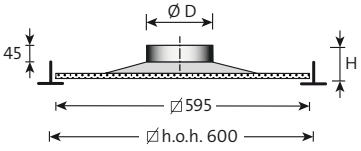
Plenum box
Material: sendzimir galvanised steel
Internal insulation: 1/2'' duct liner

Smooth bend
Material: sendzimir galvanised steel

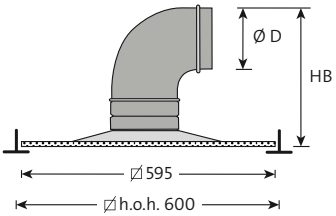
Sight-proof
Internal unit colour: black RAL 9005

2024_08_v3

Dimensions



CRVMIOA



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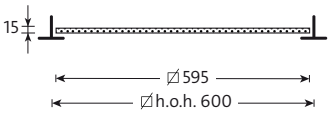

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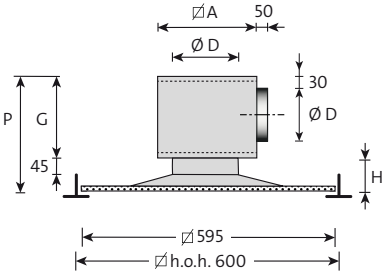
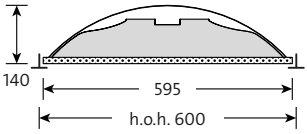


CRVMIOR



CRVMION

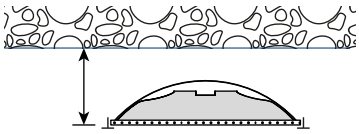
Available dimensions and sizes

model	A	D	G	P	H	HB
200	184	98	146	210	74	280
250	184	123	171	236	75	320
350	219	158	206	279	83	382
450	259	198	246	327	91	450

Note

• The listed dimensions are in mm.

Fitting instructions



General

• The assumed room attenuation is 10 dB.
• It is permitted to interpolate the interim values.

Selection details

CRVMIO(A,B,R,U)

air volume		round construction		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**200**	4	-
0.020	**72**	**200**	6	-
0.025	**90**	**200**	8	-
		250	2	-
0.030	**108**	**250**	3	-
0.040	**144**	**250**	5	-
		350	2	-
0.050	**180**	**350**	3	-
0.060	**216**	**350**	6	-
0.070	**252**	**350**	7	-
		450	3	-
0.080	**288**	**450**	4	-

CRVMIOO

air volume		round construction		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.080	**288**	**550**	3	17
0.100	**360**	**550**	4	19
0.125	**450**	**550**	6	21
0.150	**540**	**550**	9	23
0.200	**720**	**550**	15	24

CRVMION

air volume		round construction		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.080	**288**	**550**	3	17
0.100	**360**	**550**	4	19
0.125	**450**	**550**	6	21
0.150	**540**	**550**	9	23
0.200	**720**	**550**	15	24

PDVM

Perforated diffuser
Supply
T-bar mounted in modular ceiling
Downflow

Available types
P D V M O -

- **P** perforated ceiling diffuser
- **D** downflow
- **V** flat face plate
- **M** modular ceiling, panel size 600 mm
- **O** no accessories

- **Version**
  - **A** round top connection
  - **R** internally insulated plenum box
  - **U** uninsulated plenum box
  - **Z** square top connection

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The PDVM downflow ceiling diffuser is suitable for supplying cooled air with a small temperature difference. The diffuser can be T-bar mounted in a modular ceiling. The diffuser is designed for supplying rooms with an extremely high number of air changes, such as laboratories or computer rooms. As the end velocity in the occupied zone depends on the temperature difference, the use and layout of the room must be taken into account when the supply panels are installed. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Characteristics

Max. number of air changes:	up to 100 x
Undertemperature:	up to 6 K
Overtemperature	0 K

Version
Ceiling diffuser

Material:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Top section

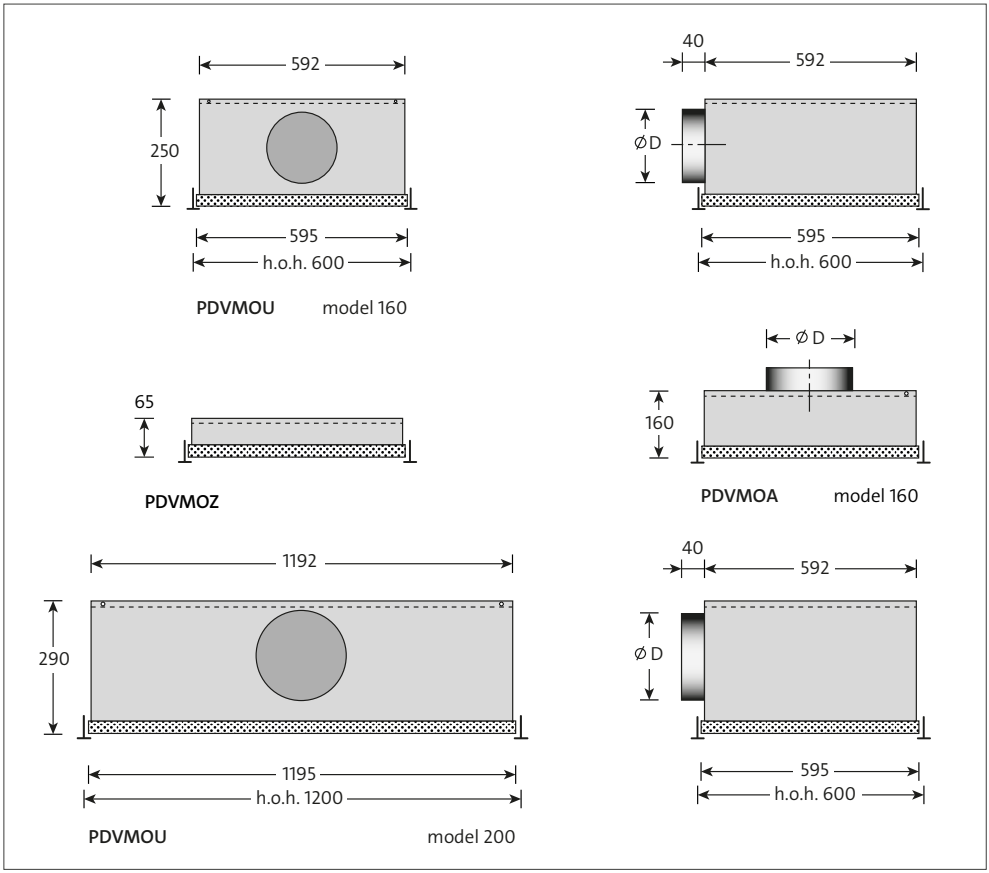
Material:	sendzimir galvanised steel
Post-treatment:	none

Plenum box

Material:	sendzimir galvanised steel
Post-treatment:	none

2024_08_v3

Dimensions



Available dimensions and sizes

model	moduul	D
160	600 x 600	158
200	600 x 1200	198

Note

- The listed dimensions are in mm.

Selection details

PDVM

air volume		distance	panel size					
			600 x 600			1200 x 600		
m^3/s	m^3/h		v m/s	Δp_s Pa	L_{pA} dB(A)	v m/s	Δp_s Pa	L_{pA} dB(A)
0.025	90	**0.3**	0.16	3	-			
		0.6	0.16	3	-			
		0.9	0.16	3	-			
		1.2	0.16	3	-			
		1.5	0.16	3	-			
		1.8	0.16	3	-			
0.030	108	**0.3**	0.19	5	-			
		0.6	0.19	5	-			
		0.9	0.19	5	-			
		1.2	0.19	5	-			
		1.5	0.19	5	-			
		1.8	0.19	5	-			
0.040	144	**0.3**	0.26	8	14			
		0.6	0.26	8	14			
		0.9	0.26	8	14			
		1.2	0.26	8	14			
		1.5	0.26	8	14			
		1.8	0.26	8	14			
0.050	180	**0.3**	0.32	13	20	0.16	3	-
		0.6	0.32	13	20	0.16	3	-
		0.9	0.32	13	20	0.16	3	-
		1.2	0.32	13	20	0.16	3	-
		1.5	0.32	13	20	0.16	3	-
		1.8	0.32	13	20	0.16	3	-
0.060	216	**0.3**	0.38	18	25	0.19	5	10
		0.6	0.38	18	25	0.19	5	10
		0.9	0.38	18	25	0.19	5	10
		1.2	0.38	18	25	0.19	5	10
		1.5	0.38	18	25	0.19	5	10
		1.8	0.38	18	25	0.19	5	10
0.080	288	**0.3**	0.51	32	32	0.26	8	17
		0.6	0.51	32	32	0.26	8	17
		0.9	0.51	32	32	0.26	8	17
		1.2	0.51	32	32	0.26	8	17
		1.5	0.51	32	32	0.26	8	17
		1.8	0.51	32	32	0.26	8	17
0.100	360	**0.3**				0.32	13	23
		0.6				0.32	13	23
		0.9				0.32	13	23
		1.2				0.32	13	23
		1.5				0.32	13	23
		1.8				0.32	13	23
0.125	450	**0.3**				0.40	20	29
		0.6				0.40	20	29
		0.9				0.40	20	29
		1.2				0.40	20	29
		1.5				0.40	20	29
		1.8				0.40	20	29

General

- The velocities in the table apply in an isothermal situation and for individual panels.
- The values must be used as a guideline. The end velocity of the descending air column highly depends on the effective temperature difference between the supply air and the room air.
- Vertical air patterns can be used for a high number of air changes.
- It is preferable to project the extraction points over the heat source or sources.
- The panels may not be fitted directly above people who stay in one place.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RTLD

Louvre diffusers
Supply
Surface-mounted/Suspended
Adjustable internal unit

Available types
R T L D -

R round
T supply
L flat adjustable louvres
D surface-mounted

- **Accessories**
  O none
  C fitting bracket for blind fitting (only for round top connection)

- **Version**
  A round top connection
  R internally insulated plenum box (supplied separately)
  U uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The round RTLD diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser can be fitted in the ceiling or suspended. The discs of the internal unit can be adjusted without requiring tools. A matching insulated or uninsulated plenum box with a side connection can be supplied separately. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Characteristics

Max. number of air changes:	up to 10 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Round diffuser

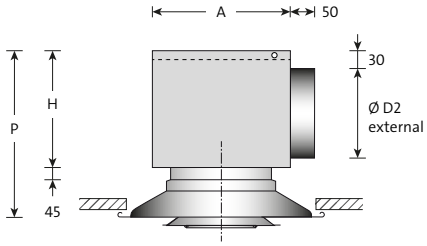
Louvres:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

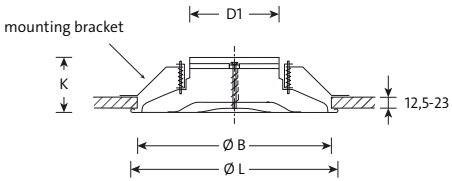
Material:	sendzimir galvanised steel
Post-treatment:	none
Internal insulation:	1/2” duct liner

2024_08_v3

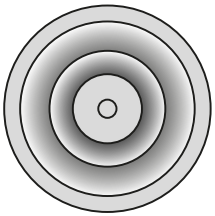
Dimensions



RTLDOR



RTLDCA



appearance

Availeble dimensions and sizes

model	A	B	D1	D2	H	L	P	K
160	220	303	157	158	206	331	324	101
200	260	385	197	198	245	425	378	115
250	310	464	247	248	296	492	427	114
315	375	564	313	313	361	591	514	137
400	460	630	398	398	446	662	593	131
500	560	793	497	498	546	832	749	163

Note

- The listed dimensions are in mm.
- Size B is the recess dimension.

General

- The throw applies to flush-mounting in a flat, closed ceiling; in the absence of a flat, closed ceiling a throw reduction of 40 % is to be applied.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.
- If the diffuser is used as a return diffuser, the following applies:
  $\Delta P_s \times 1.2$
  $L_{pA} + 3$

Selection details

RTLD

air volume		model	throw	Δp_s	L_{pA}
m^3/s	m^3/h		m	Pa	dB(A)
0.030	**108**	**160**	**1.3**	3	-
0.040	**144**	**160**	**1.3**	6	-
0.050	**180**	**160**	**1.8**	13	-
		200	**1.5**	4	-
0.060	**216**	**160**	**2.2**	14	23
		200	**1.7**	5	-
0.080	**288**	**160**	**2.9**	25	32
		200	**2.4**	10	20
		250	**2.0**	4	-
0.100	**360**	**160**	**3.8**	40	40
		200	**2.9**	15	25
		250	**2.5**	6	-
0.125	**450**	**200**	**3.8**	25	33
		250	**3.0**	9	20
		315	**2.6**	4	-
0.150	**540**	**200**	**5.0**	40	39
		250	**3.8**	15	26
		315	**3.2**	6	-
0.200	**720**	**250**	**4.8**	25	33
		315	**4.0**	10	20
		400	**3.3**	4	-
0.250	**900**	**250**	**6.0**	40	40
		315	**5.0**	15	25
		400	**4.0**	6	-
0.300	**1080**	**315**	**6.0**	24	32
		400	**5.2**	9	20
		500	**4.0**	3	-
0.400	**1440**	**315**	**6.6**	40	42
		400	**6.4**	15	28
		500	**5.6**	7	-
0.500	**1800**	**400**	**7.2**	35	40
		500	**5.8**	12	24
0.600	**2160**	**500**	**8.0**	16	30
0.700	**2520**	**500**	**9.0**	20	37

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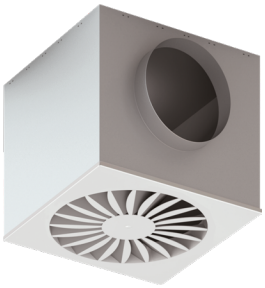


RTBD

Swirl diffuser
Supply
Surface-mounted

Available types
R T B D O -

- **R** swirl ceiling diffuser
- **T** supply
- **B** petal shaped
- **D** surface-mounted
- **O** no accessories

- **Version**
- **A** round top connection
- **R** assembled, internally insulated plenum box
- **U** assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTBD swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used for constant and variable-volume systems. The discharge openings are not adjustable. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. With the high induction swirl effect, a large number of air changes is feasible. With the extremely shallow inflow pattern, the RTBD diffuser is also suitable for slightly lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

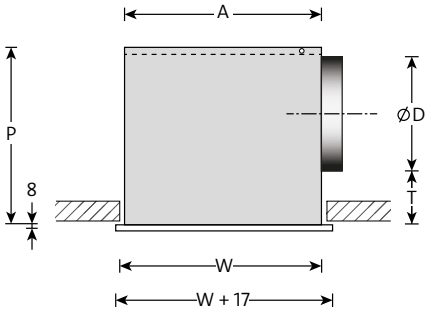
Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

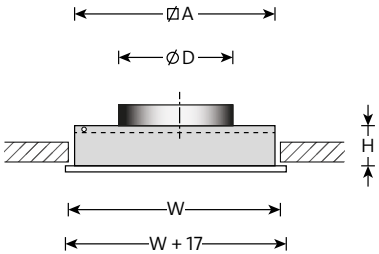
Plenum box:	flat-sided

2025_03_V1

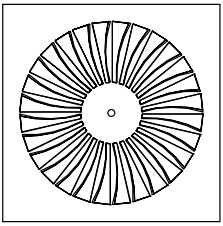
Maatvoering



RTBDOR



RTBDOA



appearance

Available dimensions and sizes

model	W	A	D	T	P	H
250	278	273	123	55	215	110
350	378	373	158	65	260	125
450	478	473	198	75	310	140
550	578	573	248	75	360	160

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	2.4	3.0
350	4.0	5.2
450	6.0	7.9
550	8.5	11.2

Note

- The listed dimensions are in mm.
- The face plates of the models 250, 350 and 450 have external dimensions of 295 mm, 395 mm and 495 mm respectively.
- That makes these modules also suitable for modular ceilings with a panel size of 300 mm, 400 mm and 500 mm, respectively. Model 550 is suitable for a panel size of 600.
- Diffusers are suitable for a modular ceiling with a panel size of 600 mm, see type RTBM on our website.
- Information regarding flat-sided plenum boxes is available on our website.

2025_03_v1

Selection details

RTBD

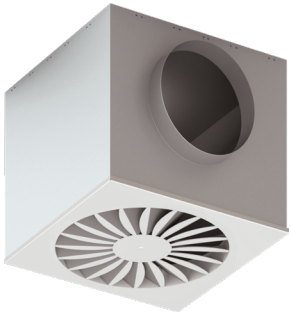
air volume		model											
		250			350			450			550		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.020	**72**	**0.7**	3	-									
0.025	**90**	**0.9**	5	-									
0.030	**108**	**1.1**	7	16	**0.9**	3	-						
0.040	**144**	**1.5**	13	24	**1.2**	5	-						
0.050	**180**	**1.9**	20	30	**1.4**	7	16	**1.1**	2	-			
0.060	**216**	**2.2**	28	34	**1.7**	11	21	**1.3**	3	-			
0.070	**252**	**2.6**	38	38	**2.0**	15	25	**1.5**	4	13	**1.3**	2	-
0.080	**288**	**3.0**	50	42	**2.3**	19	29	**1.7**	6	16	**1.5**	3	-
0.100	**360**				**2.9**	30	34	**2.2**	9	22	**1.9**	5	14
0.125	**450**				**3.6**	46	40	**2.7**	14	28	**2.3**	7	20
0.150	**540**							**3.2**	20	32	**2.8**	11	25
0.200	**720**							**4.3**	36	40	**3.7**	19	32
0.250	**900**										**4.6**	30	38

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB
550	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.



RRBD

Swirl diffuser
Return
Surface-mounted

Available types
R R B D O -

- **R** swirl ceiling diffuser
- **R** return
- **B** petal shaped
- **D** surface-mounted
- **O** no accessories

- **Version**
- **A** round top connection
- **R** assembled, internally insulated plenum box
- **U** assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRBD swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTBD. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

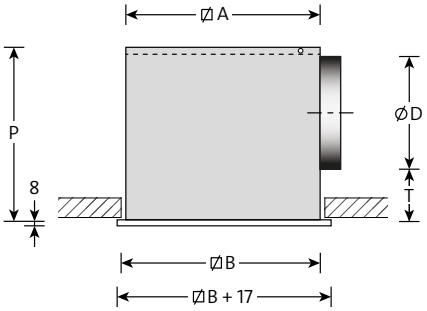
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

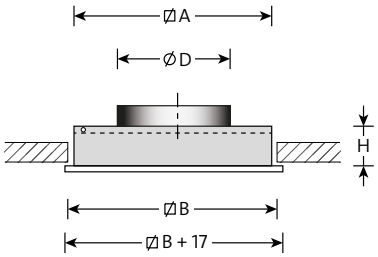
Optional

Plenum box:	flat-sided

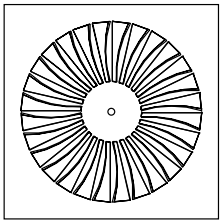
Maatvoering



RRBDOR



RRBDOA



appearance

Availeble dimensions and sizes

model	B	A	D	T	P	H
250	278	273	123	55	215	110
350	378	373	158	65	260	125
450	478	473	198	75	310	140
550	578	573	248	75	360	160

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	2.0	2.7
350	3.3	4.5
450	5.0	6.8
550	6.9	9.6

Note

- The listed dimensions are in mm.
- The face plates of the models 250, 350 and 450 have external dimensions of 295 mm, 395 mm and 495 mm respectively.
- That makes these modules also suitable for modular ceilings with a panel size of 300 mm, 400 mm and 500 mm, respectively. Model 550 is suitable for a panel size of 600.
- Diffusers are suitable for a modular ceiling with a panel size of 600 mm, see type RRBM on our website.
- Information regarding flat-sided plenum boxes is available on our website.

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Selection details

RRBD

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.025	**90**	**250**	5	8
0.030	**108**	**250**	7	12
0.040	**144**	**250**	13	20
		350	5	-
0.050	**180**	**250**	20	26
		350	7	13
0.060	**216**	**250**	29	30
		350	10	17
		450	3	-
0.070	**252**	**250**	40	34
		350	14	21
		450	4	9
0.080	**288**	**350**	19	25
		450	6	12
		550	3	-
0.100	**360**	**350**	29	31
		450	9	18
		550	5	10
0.125	**450**	**350**	45	36
		450	14	24
		550	8	16
0.150	**540**	**450**	21	29
		550	11	21
0.200	**720**	**450**	37	36
		550	20	28
0.250	**900**	**450**	57	42
		550	31	34
0.300	**1080**	**550**	44	39

Attenuation values plenum box (without end reflection)

model	Attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB
550	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RTBM/RTBT

Swirl diffuser
Supply
T-bar mounted in modular ceiling

Available types
R T B - O -

R swirl ceiling diffuser
T supply
B petal shaped

- **Panel**
M modular ceiling panel size 600 mm
T t-bar mounted T24, 8 mm dropped (model 550 only in combination with T-profile)

O no accessories

- **Version**
A round top connection
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTBM swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used for constant and variable-volume systems. The discharge openings are not adjustable. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. The perforated diffuser, type RTBT, is equipped with an 8 mm lowered face plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. With the unique high induction swirl effect, a large number of air changes is feasible. With the extremely shallow inflow pattern, the RTBM diffuser is also suitable for slightly lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version

Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

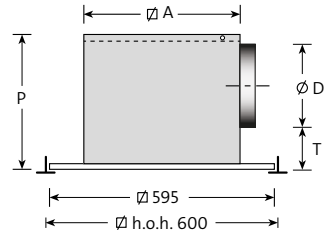
Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

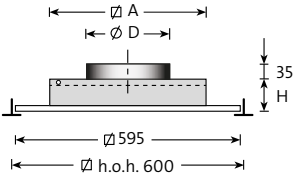
Panel size:	up to 750 mm
Plenum box:	flat-sided
Face plate:	other than inlay T24, lowered by 8 mm on request

2025_06_v2

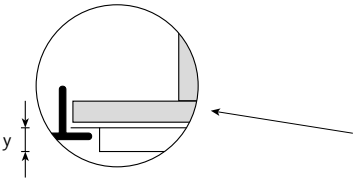
Dimensions



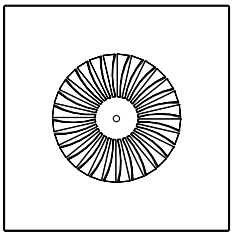
RTBMOR



RTBMOA



RTBTOA



appearance

Available dimensions and sizes

model	A	D	T	P	H
250	273	123	60	220	115
350	373	158	70	265	130
450	473	198	80	315	145
550	573	248	80	365	165

Weight

model	type	
	zonder plenum OA	met plenum OR/OU
	kg	kg
250	4.2	4.9
350	5.4	6.6
450	6.9	8.8
550	8.7	11.4

Note

- The listed dimensions are in mm.
- Dimensions t-bar mounted dropped:
  T-bar mounted 24 mm (standard): X = 595, Y = 8, Z = 574
  T-bar mounted 15 mm: X = 595, Y = 8, Z = 583
- For diffusers that are T-bar mounted in a modular ceiling with a smaller panel size, and for surface-mounting, see type RTBD on our website.
- Information regarding flat-sided plenum boxes is available on our website.

2025_06_v2

Selection details

RTBM/RTBT

air volume		model											
		250			350			450			550		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.020	**72**	**0.7**	3	-									
0.025	**90**	**0.9**	5	-									
0.030	**108**	**1.1**	7	16	**0.9**	3	-						
0.040	**144**	**1.5**	13	24	**1.2**	5	-						
0.050	**180**	**1.9**	20	30	**1.4**	7	16	**1.1**	2	-			
0.060	**216**	**2.2**	28	34	**1.7**	11	21	**1.3**	3	-			
0.070	**252**	**2.6**	38	38	**2.0**	15	25	**1.5**	4	13	**1.3**	2	-
0.080	**288**	**3.0**	50	42	**2.3**	19	29	**1.7**	6	16	**1.5**	3	-
0.100	**360**				**2.9**	30	34	**2.2**	9	22	**1.9**	5	14
0.125	**450**				**3.6**	46	40	**2.7**	14	28	**2.3**	7	20
0.150	**540**							**3.2**	20	32	**2.8**	11	25
0.200	**720**							**4.3**	36	40	**3.7**	19	32
0.250	**900**										**4.6**	30	38

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB
550	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RRBM/RRBT

Swirl diffuser
Return
T-bar mounted in modular ceiling

Available types
R R B - O -

R swirl ceiling diffuser
R return
B petal shaped

Panel
- **M** modular ceiling panel size 600 mm
T flat-sided (see dimensions X, Y and Z)

O no accessories

- **Version**
A round top connection
O panel only
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRBM swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTBM. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. The perforated diffuser, type RTBT, is equipped with an 8 mm lowered face plate. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

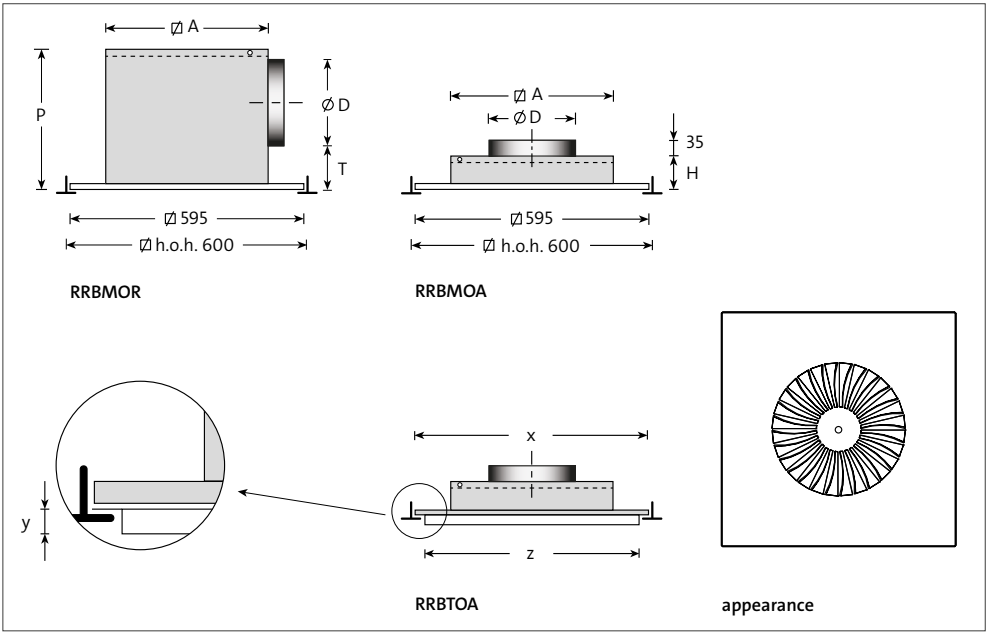
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Panel size:	up to 750 mm
Plenum box:	flat-sided

2025_03_V1

Dimensions



Available dimensions and sizes

model	A	D	T	P	H
250	273	123	60	220	115
350	373	158	70	265	130
450	473	198	80	315	145
550	573	248	80	365	165

Weight

model	type		
	without plenum OA	with plenum OR/OU	without plenum OO
	kg	kg	kg
250	3.9	4.5	2.5
350	4.7	5.9	2.6
450	5.8	7.7	2.7
550	7.1	9.8	2.7

Note

- The listed dimensions are in mm.
- Dimensions t-bar mounted dropped:
  T-bar mounted 24 mm (standard): X = 595, Y = 8, Z = 574
  T-bar mounted 15 mm: X = 595, Y = 8, Z = 583
- For diffusers that are T-bar mounted in a modular ceiling with a smaller panel size, and for surface-mounting, see type RRBD on our website.
- Information regarding flat-sided plenum boxes is available on our website.

2025_03_v1

Selection details

RRBM/RRBT

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.025	**90**	**250**	5	8
0.030	**108**	**250**	7	12
0.040	**144**	**250**	13	20
		350	5	-
0.050	**180**	**250**	20	26
		350	7	13
0.060	**216**	**250**	29	30
		350	10	17
		450	3	-
0.070	**252**	**250**	40	34
		350	14	21
		450	4	9
0.080	**288**	**350**	19	25
		450	6	12
		550	3	-
0.100	**360**	**350**	29	31
		450	9	18
		550	5	10
0.125	**450**	**350**	45	36
		450	14	24
		550	8	16
0.150	**540**	**450**	21	29
		550	11	21
0.200	**720**	**450**	37	36
		550	20	28
0.250	**900**	**450**	57	42
		550	31	34
0.300	**1080**	**550**	44	39

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB
550	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RTBS

Swirl diffuser
Supply
T-bar mounted in modular ceiling
Removable diffuser part

Available types
R T B S O -

- **R** swirl ceiling diffuser
- **T** supply
- **B** petal shaped
- **S** modular ceiling panel size 600 mm, with removable diffuser part
- **O** no accessories

- **Version**
  - **A** round top connection
  - **R** assembled, internally insulated plenum box
  - **U** assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTBS swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used for constant and variable-volume systems. The discharge openings are not adjustable. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. With the unique high induction swirl effect, a large number of air changes is feasible. With the extremely shallow inflow pattern, the RTBS diffuser is also suitable for slightly lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

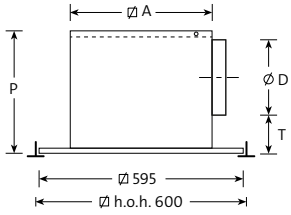
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

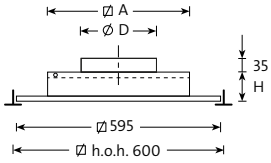
Plenum box:	flat-sided

2025_03_V1

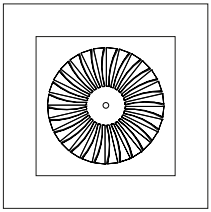
Dimensions



RTBSOR



RTBSOA



appearance with removable diffuser part

Available dimensions and sizes

model	A	D	T	P	H
250	303	123	60	220	115
350	403	158	70	265	130
450	503	198	80	315	145

Note

- The listed dimensions are in mm.
- For diffusers that are T-bar mounted in a modular ceiling with a smaller panel size, and for surface-mounting, see type RTBD on our website.
- Information regarding flat-sided plenum boxes is available on our website.

Weight

model	type	
	without plenum OA	with plenum OR/OU
	kg	kg
250	4.2	4.9
350	5.4	6.6
450	6.9	8.8

Selection details

RTBS

air volume		model								
		250			350			450		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.020	**72**	**0.7**	3	-						
0.025	**90**	**0.9**	5	-						
0.030	**108**	**1.1**	7	16	**0.9**	3	-			
0.040	**144**	**1.5**	13	24	**1.2**	5	-			
0.050	**180**	**1.9**	20	30	**1.4**	7	16	**1.1**	2	-
0.060	**216**	**2.2**	28	34	**1.7**	11	21	**1.3**	3	-
0.070	**252**	**2.6**	38	38	**2.0**	15	25	**1.5**	4	13
0.080	**288**	**3.0**	50	42	**2.3**	19	29	**1.7**	6	16
0.100	**360**				**2.9**	30	34	**2.2**	9	22
0.125	**450**				**3.6**	46	40	**2.7**	14	28
0.150	**540**							**3.2**	20	32
0.200	**720**							**4.3**	36	40

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB

Algemeen

- De worp geldt bij inbouw in een vlak, gesloten, plafond.
- De aangenomen ruimtedemping is 10 dB.
- Interpoleren van tussenliggende waarden is toegestaan.

2025_03_V1

RRBS

Swirl diffuser
Return
T-bar mounted in modular ceiling
Removable diffuser part

Available types
R R B S O -

- **R** swirl ceiling diffuser
- **R** return
- **B** petal shaped
- **S** modular ceiling panel size 600 mm, with removable diffuser part
- **O** no accessories

- **Version**
- **A** round top connection
- **O** panel only
- **R** assembled, internally insulated plenum box
- **U** assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRBS swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTBS. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

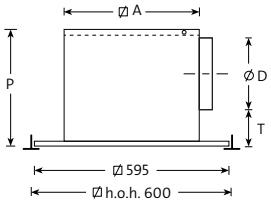
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

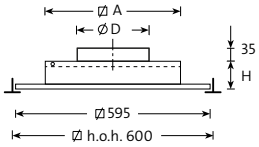
Optional

Plenum box:	flat-sided

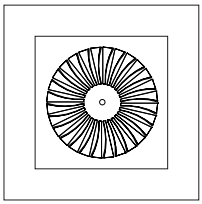
Dimensions



RRBSOR



RRBSOA



appearance with removable diffuser part

Available dimensions and sizes

model	A	D	T	P	H
250	303	123	60	220	115
350	403	158	70	265	130
450	503	198	80	315	145

Weight

model	type		
	without plenum OA	with plenum OR/OU	without plenum OO
	kg	kg	kg
250	3.9	4.5	2.5
350	4.7	5.9	2.6
450	5.8	7.7	2.7

Note

- The listed dimensions are in mm.
- For diffusers that are T-bar mounted in a modular ceiling with a smaller panel size, and for surface-mounting, see type RRBD on our website.
- Information regarding flat-sided plenum boxes is available on our website.

Selection details

RRBS

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.025	**90**	**250**	5	8
0.030	**108**	**250**	7	12
0.040	**144**	**250**	13	20
		350	5	-
0.050	**180**	**250**	20	26
		350	7	13
0.060	**216**	**250**	29	30
		350	10	17
		450	3	-
0.070	**252**	**250**	40	34
		350	14	21
		450	4	9
0.080	**288**	**350**	19	25
		450	6	12
0.100	**360**	**350**	29	31
		450	9	18
0.125	**450**	**350**	45	36
		450	14	24
0.150	**540**	**450**	21	29
0.200	**720**	**450**	37	36
0.250	**900**	**450**	57	42

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2025_03_v1

RTBC

Swirl diffuser
Supply
Surface-mounted, round

Available types
R T B C O -

- **R** swirl ceiling diffuser
- **T** supply
- **B** petal shaped
- **C** surface-mounted, round
- **O** no accessories

- **Version**
  - **A** round top connection
  - **R** assembled, internally insulated plenum box
  - **U** assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTBC swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used with constant and variable-volume systems. The discharge openings are not adjustable. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled.
As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. With the unique high induction swirl effect, a large number of air changes is feasible. With the extremely shallow inflow pattern, the RTBC diffuser is also suitable for slightly lower rooms.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

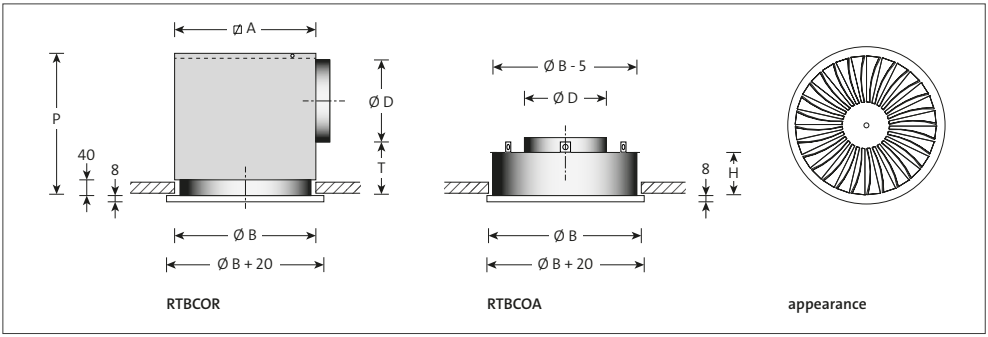
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Plenum box:	flat-sided

2025_03_V1

Dimensions



Availeble dimensions and sizes (without end reflection)

model	B	A	D	T	P	H
250	280	293	123	65	215	110
350	380	393	158	70	255	125
450	480	493	198	70	295	140
550	580	593	248	70	345	160

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.

Selection details

RTBC

air volume		model											
		250			350			450			550		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.020	**72**	**0.7**	3	-									
0.025	**90**	**0.9**	5	-									
0.030	**108**	**1.1**	7	16	**0.9**	3	-						
0.040	**144**	**1.5**	13	24	**1.2**	5	-						
0.050	**180**	**1.9**	20	30	**1.4**	7	16	**1.1**	2	-			
0.060	**216**	**2.2**	28	34	**1.7**	11	21	**1.3**	3	-			
0.070	**252**	**2.6**	38	38	**2.0**	15	25	**1.5**	4	13	**1.3**	2	-
0.080	**288**	**3.0**	50	42	**2.3**	19	29	**1.7**	6	16	**1.5**	3	-
0.100	**360**				**2.9**	30	34	**2.2**	9	22	**1.9**	5	14
0.125	**450**				**3.6**	46	40	**2.7**	14	28	**2.3**	7	20
0.150	**540**							**3.2**	20	32	**2.8**	11	25
0.200	**720**							**4.3**	36	40	**3.7**	19	32
0.250	**900**										**4.6**	30	38

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB
550	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2025_03_V1

RRBC

Swirl diffuser
Return
Surface-mounted, round

Available types
R R B C O -

- **R** swirl ceiling diffuser
- **R** return
- **B** petal shaped
- **C** surface-mounted, round
- **O** no accessories

- **Version**
- **A** round top connection
- **O** panel only
- **R** assembled, internally insulated plenum box
- **U** assembled, uninsulated plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRBC swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTBC. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum.

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

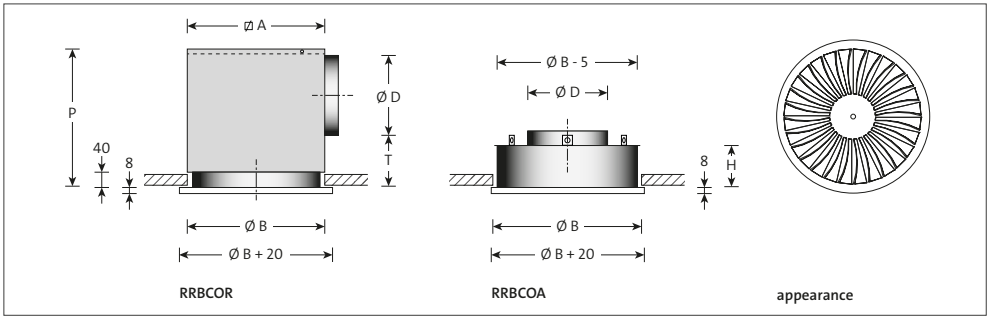
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Plenum box:	flat-sided

Dimensions



RRBCOR RRBCOA appearance

Available dimensions and sizes

model	B	A	D	T	P	H
250	280	293	123	65	215	110
350	380	393	158	70	255	125
450	480	493	198	70	295	140
550	580	593	248	70	345	160

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.

Selection details

RRBC

air volume		round connection		
m^3/s	m^3/h	model	Δp_s Pa	L_{pA} dB(A)
0.025	**90**	**250**	5	8
0.030	**108**	**250**	7	12
0.040	**144**	**250**	13	20
		350	5	-
0.050	**180**	**250**	20	26
		350	7	13
0.060	**216**	**250**	29	30
		350	10	17
		450	3	-
0.070	**252**	**250**	40	34
		350	14	21
		450	4	9
0.080	**288**	**350**	19	25
		450	6	12
		550	3	-
0.100	**360**	**350**	29	31
		450	9	18
		550	5	10
0.125	**450**	**350**	45	36
		450	14	24
		550	8	16
0.150	**540**	**450**	21	29
		550	11	21
0.200	**720**	**450**	37	36
		550	20	28
0.250	**900**	**450**	57	42
		550	31	34
0.300	**1080**	**550**	44	39

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
350	2	2	7	7	7	9	dB
450	2	3	9	7	7	9	dB
550	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2025_03_V1

RTGD

Swirl diffuser
Supply
T-bar mounted
Adjustable discharge direction

Available types
R T G D O -

- **R** swirl diffuser
- **T** supply, with pattern blades
- **G** adjustable discharge direction
- **D** T-bar mounted
- **O** no accessories

- Version
- **A** round top connection
- **R** internally insulated plenum box (supplied separately)
- **U** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTGD swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used with constant and variable-volume systems. Adjustable discharge direction The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied separately. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. Model 600 is also suitable for T-bar mounting in a centre-to-centre 600 mm modular ceiling. With the unique high induction swirl effect, a large number of air changes is feasible.
With the extremely shallow inflow pattern, the RTGD diffuser is also suitable for slightly lower rooms.

Characteristics

Max. number of air changes:	up to 12 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Pattern blades:	synthetic
Colour:	black

Plenum box

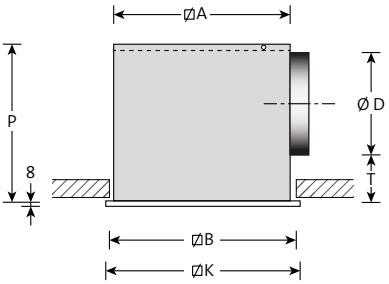
Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional
Pattern blades

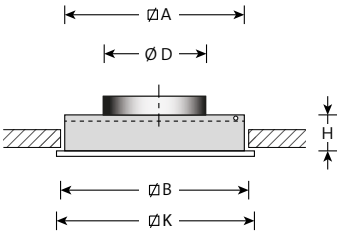
Colour:	white
Plenum box:	flat-sided

2024_08_v3

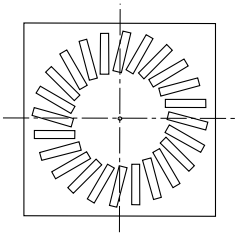
Dimensions



RTGDOR



RTGDOA



appearance

Available dimensions and sizes

model	B	K	D	A	P	T	H
300/8	285	295	158	280	260	65	190
400/16	378	395	198	373	300	65	190
500/24	478	495	198	473	310	75	190
600/24	578	595	248	573	360	75	190
600/48	585	595	248	580	370	85	290

Note

- The listed dimensions are in mm.

Selection details

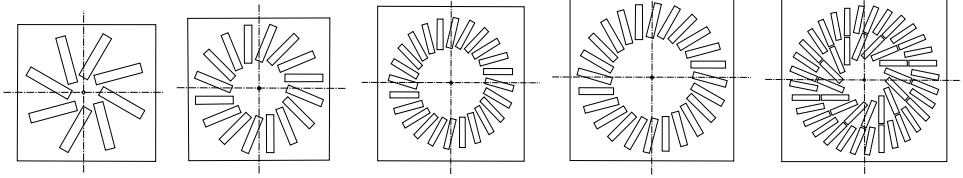
RTGD

air volume		model															
		300/8			400/16			500/24			600/24			600/48			
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	
0.015	**54**	**0.7**	3	-													
0.020	**72**	**0.9**	6	-													
0.025	**90**	**1.1**	9	10													
0.030	**108**	**1.3**	12	15	**1.1**	3	-										
0.040	**144**	**1.6**	22	22	**1.3**	6	-	**1.1**	3	-							
0.050	**180**	**1.9**	34	28	**1.4**	9	13	**1.3**	4	-							
0.060	**216**	**2.1**	50	33	**1.6**	14	17	**1.4**	6	12	**1.3**	2	-				
0.070	**252**	**2.4**	68	37	**1.7**	18	21	**1.6**	8	16	**1.4**	3	-				
0.080	**288**	**2.6**	88	40	**1.8**	24	25	**1.7**	11	19	**1.5**	4	7				
0.100	**360**				**2.0**	38	31	**2.0**	17	25	**1.7**	7	13	**1.8**	5	-	
0.125	**450**				**2.3**	59	37	**2.3**	26	31	**1.9**	11	19	**1.9**	7	13	
0.150	**540**							**2.6**	38	35	**2.1**	15	23	**2.0**	10	18	
0.200	**720**										**2.5**	27	31	**2.2**	18	26	
0.250	**900**										**2.8**	42	37	**2.4**	28	31	
0.300	**1080**													**2.5**	41	36	

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

View of swirl pattern



RRGD

Swirl diffuser
Return
T-bar mounted

Available types
R R G D O -

- **R** swirl diffuser
- **R** return, without pattern blades
- **G** no discharge direction
- **D** surface-mounted/T-bar mounted
- **O** no accessories

- **Version**
- **A** round top connection
- **O** panel only
- **R** internally insulated plenum box (supplied separately)
- **U** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRGD swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTGD. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied separately. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. Model 600 is also suitable for T-bar mounting in a centre-to-centre 600 mm modular ceiling.

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

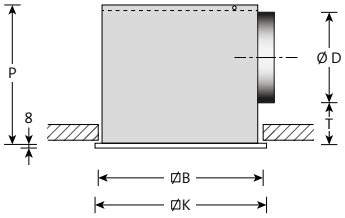
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional:

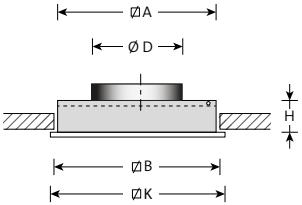
Pattern blades:	synthetic, colour black or white
Plenum box:	flat-sided

2024_08_v3

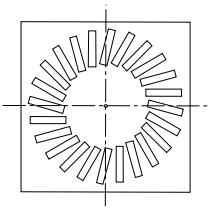
Dimensions



RRGDOR



RRGDOA



appearance

Available dimensions and sizes

model	B	K	D	A	P	T	H
300/8	285	295	158	280	260	65	190
400/16	378	395	198	373	300	65	190
500/24	478	495	198	473	310	75	190
600/24	578	595	248	573	360	75	190
600/48	585	595	248	580	370	85	290

Note

- The listed dimensions are in mm.

Selection details

RRGDO(R,U) (round side connection) details without pattern blades

air volume		model									
		300/8		400/16		500/24		600/24		600/48	
m^3/s	m^3/h	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.050	**180**	16	9								
0.060	**216**	24	15								
0.070	**252**	32	19								
0.080	**288**	42	23	14	9						
0.100	**360**	66	30	21	16	13	9				
0.125	**450**	103	37	33	23	20	15				
0.150	**540**			48	28	29	21	13	10		
0.200	**720**			85	37	52	30	23	19	18	15
0.250	**900**					82	37	36	26	29	21
0.300	**1080**					118	42	51	31	41	27
0.350	**1260**							70	36	56	32
0.400	**1440**							91	40	73	36
0.450	**1620**									93	39

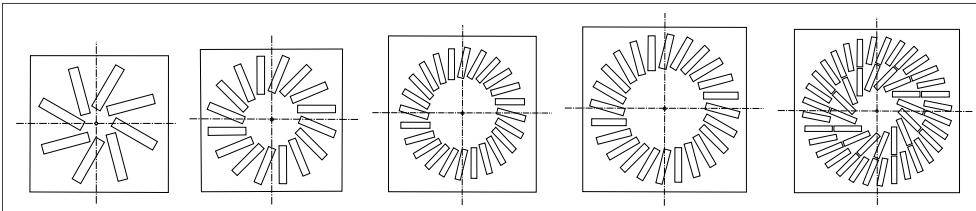
RRGDOA (Round top connection) details without pattern blades

air volume		model									
		300/8		400/16		500/24		600/24		600/48	
m^3/s	m^3/h	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.030	**108**	4	-								
0.040	**144**	7	-								
0.050	**180**	12	7								
0.060	**216**	17	13								
0.070	**252**	23	18								
0.080	**288**	30	22	11	9						
0.100	**360**	47	28	17	16	12	8				
0.125	**450**	73	35	26	22	19	14	8	6		
0.150	**540**			38	28	27	20	12	12	10	6
0.200	**720**			67	37	48	29	21	20	18	15
0.250	**900**					75	36	34	27	28	22
0.300	**1080**					108	41	48	33	40	27
0.350	**1260**							66	37	55	32
0.400	**1440**							86	41	72	36
0.450	**1620**									91	40

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

View of swirl pattern



RTGM

Swirl diffuser
Supply
T-bar mounted in modular ceiling
Adjustable discharge direction

Available types
R T G M O -

- **R** swirl diffuser
- **T** supply, with pattern blades
- **G** adjustable discharge direction
- **M** modular ceiling panel size 600 mm
- **O** no accessories

- **Version**
- **A** round top connection
- **R** internally insulated plenum box (supplied separately)
- **U** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTGM swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used with constant and variable-volume systems. Adjustable discharge direction The diffuser can be T-bar mounted in the modular ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied separately. The plenum box has 8 mm standard mounting holes in the raised edge of the plenum. With the unique high induction swirl effect, a large number of air changes is feasible. With the extremely shallow inflow pattern, the RTGM diffuser is also suitable for slightly lower rooms.

Characteristics

Max. number of air changes:	up to 12 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Pattern blades:	synthetic
Colour:	black

Plenum box

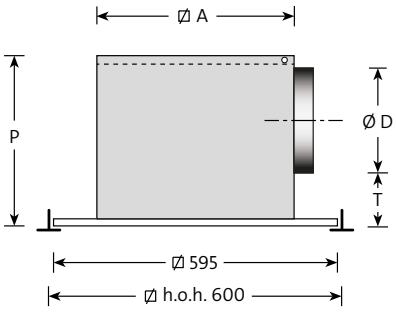
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional
Pattern blades

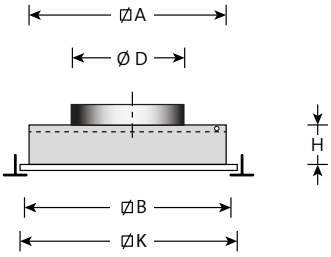
Colour:	white
Plenum box:	lowered

2024_08_v6

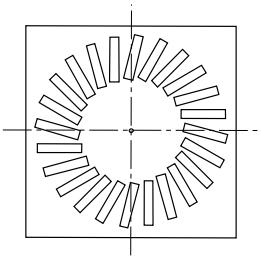
Dimensions



RTGMOR



RTGMOA



appearance

Available dimensions and sizes

model	A	D	P	T	H
300/8	280	158	260	65	190
400/16	373	198	300	65	190
500/24	473	198	310	75	190
600/24	573	248	360	75	190
600/48	580	248	370	85	290

Note

• The listed dimensions are in mm.

Selection details

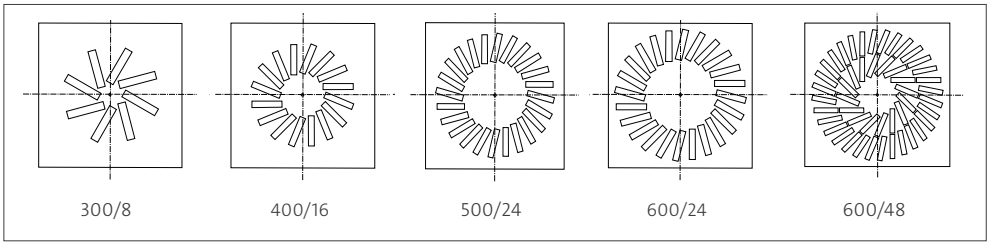
RTGM

air volume		model														
		300/8			400/16			500/24			600/24			600/48		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	worp m	Δp_s Pa	L_{pA} dB(A)	worp m	Δp_s Pa	L_{pA} dB(A)	worp m	Δp_s Pa	L_{pA} dB(A)	worp m	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**0.7**	3	-												
0.020	**72**	**0.9**	6	-												
0.025	**90**	**1.1**	9	10												
0.030	**108**	**1.3**	12	15	**1.1**	3	-									
0.040	**144**	**1.6**	22	22	**1.3**	6	-	**1.1**	3	-						
0.050	**180**	**1.9**	34	28	**1.4**	9	13	**1.3**	4	-						
0.060	**216**	**2.1**	50	33	**1.6**	14	17	**1.4**	6	12	**1.3**	2	-			
0.070	**252**	**2.4**	68	37	**1.7**	18	21	**1.6**	8	16	**1.4**	3	-			
0.080	**288**	**2.6**	88	40	**1.8**	24	25	**1.7**	11	19	**1.5**	4	7			
0.100	**360**				**2.0**	38	31	**2.0**	17	25	**1.7**	7	13	**1.8**	5	-
0.125	**450**				**2.3**	59	37	**2.3**	26	31	**1.9**	11	19	**1.9**	7	13
0.150	**540**							**2.6**	38	35	**2.1**	15	23	**2.0**	10	18
0.200	**720**										**2.5**	27	31	**2.2**	18	26
0.250	**900**										**2.8**	42	37	**2.4**	28	31
0.300	**1080**													**2.5**	41	36

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

View of swirl pattern



RRGM

Swirl diffuser
Return
T-bar mounted in modular ceiling

Available types
R R G M O -

R swirl diffuser
R return, without pattern blades
G no discharge direction
M modular ceiling panel size 600 mm
O no accessories

- **Version**
A round top connection
O panel only
R internally insulated plenum box (supplied separately)
U uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRGM swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTGM. The diffuser can be T-bar mounted in the modular ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied separately. The plenum box has 8 mm standard mounting holes in the raised edge of the plenum.

Version
Swirl diffuser

Front face:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

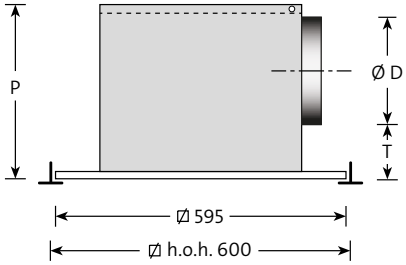
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional:

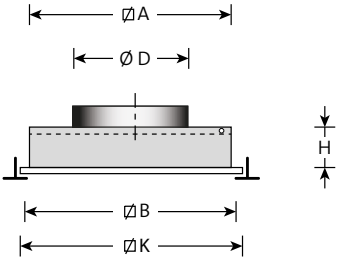
Pattern blades:	synthetic, colour black or white
Plenum box:	lowered

2024_08_v6

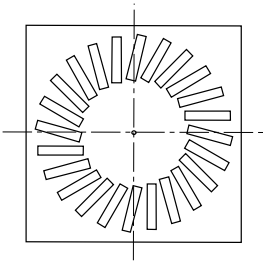
Dimensions



RRGMOR



RRGMOA



appearance

Available dimensions and sizes

model	A	D	P	T	H
300/8	280	158	260	65	190
400/16	373	198	300	65	190
500/24	473	198	310	75	190
600/24	573	248	360	75	190
600/48	580	248	370	85	290

Note

• The listed dimensions are in mm.

Selection details

RRGMO (R,U) (round side connection) details without pattern blades

air volume		model									
		300/8		400/16, 500/16 600/16		500/24		600/24		600/48	
m^3/s	m^3/h	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.050	**180**	16	9								
0.060	**216**	24	15								
0.070	**252**	32	19								
0.080	**288**	42	23	14	9						
0.100	**360**	66	30	21	16	13	9				
0.125	**450**	103	37	33	23	20	15				
0.150	**540**			48	28	29	21	13	10		
0.200	**720**			85	37	52	30	23	19	18	15
0.250	**900**					82	37	36	26	29	21
0.300	**1080**					118	42	51	31	41	27
0.350	**1260**							70	36	56	32
0.400	**1440**							91	40	73	36
0.450	**1620**									93	39

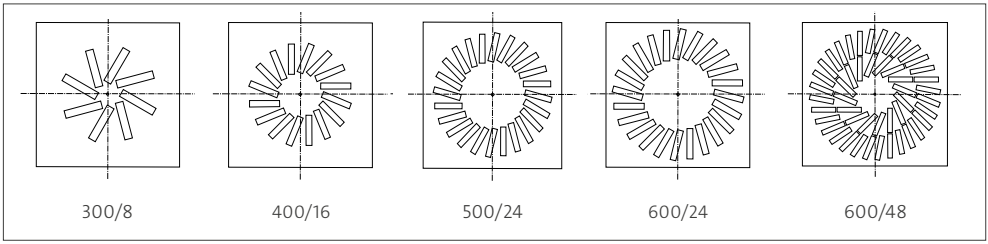
RRGMOA (round top connection) details without pattern blades

air volume		model									
		300/8		400/16		500/24		600/24		600/48	
m^3/s	m^3/h	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.030	**108**	4	-								
0.040	**144**	7	-								
0.050	**180**	12	7								
0.060	**216**	17	13								
0.070	**252**	23	18								
0.080	**288**	30	22	11	9						
0.100	**360**	47	28	17	16	12	8				
0.125	**450**	73	35	26	22	19	14	8	6		
0.150	**540**			38	28	27	20	12	12	10	6
0.200	**720**			67	37	48	29	21	20	18	15
0.250	**900**					75	36	34	27	28	22
0.300	**1080**					108	41	48	33	40	27
0.350	**1260**							66	37	55	32
0.400	**1440**							86	41	72	36
0.450	**1620**									91	40

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

View of swirl pattern



RTFO

Swirl diffuser, conical
Supply
Surface-mounted, suspended
Fixed blades

Available types
R T F O - -

R round
T supply
F fixed blades
O surface-mounted

- **Accessories**
  O none
  C clamp ring (RTFO-A only)

- **Version**
  A round top connection
  R internally insulated plenum box (supplied separately)
  U uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RTFO swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used with constant and variable-volume systems.
The diffuser has ten fixed mounted blades that are not adjustable. The diffuser is easy to fit by means of one central screw in the insulated or uninsulated plenum box, which is supplied separately. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. A clamp ring can be supplied as an accessory that enables you to fit the diffuser quickly and easily, without any tools, into a flat ceiling panel.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Cylindrical cone:	aluminium
Swirl blades:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

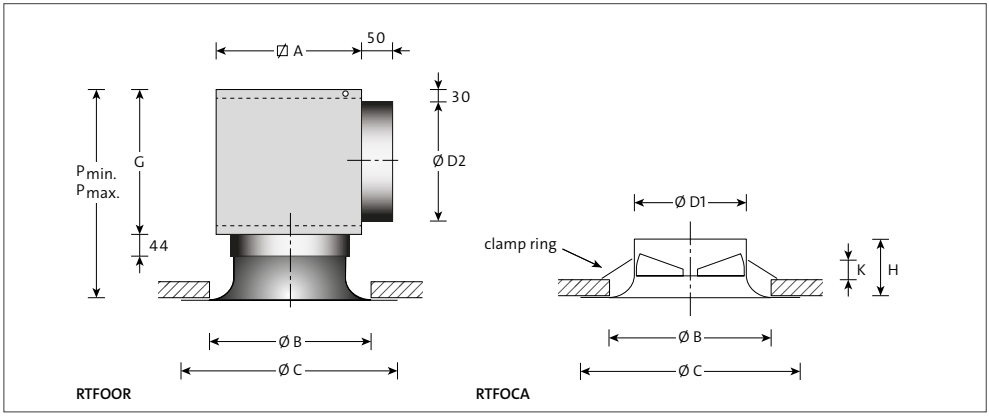
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Plenum box:	flat-sided

Dimensions



Available dimensions and sizes

model	A	B	C	D1	D2	G	H	K	P min.	P max.
125	184	165	205	124	123	171	70	35	260	280
160	219	210	250	159	158	206	95	35	285	305
200	259	260	310	199	198	245	110	45	330	350
250	309	330	380	249	248	296	130	55	390	420
315	374	395	435	314	313	361	165	55	460	490

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.
- For the T-bar mounted version, see RTFM on our website.

Selection details

RTFO

air volume		model															
		125			160			200			250			315		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**0.7**	11	-												
0.020	**72**	**1.0**	19	15	**0.7**	5	-									
0.025	**90**	**1.1**	30	22	**0.9**	8	-									
0.030	**108**	**1.4**	43	27	**1.1**	12	11	**0.8**	3	-						
0.040	**144**	**1.9**	70	36	**1.4**	21	20	**1.1**	6	-						
0.050	**180**	**2.4**	120	43	**1.8**	33	27	**1.4**	9	16	**1.0**	3	-			
0.060	**216**				**2.2**	47	32	**1.7**	13	21	**1.3**	5	-			
0.080	**288**				**2.8**	83	41	**2.2**	24	30	**1.8**	10	17	**1.4**	4	-
0.100	**360**							**2.8**	37	37	**2.1**	15	24	**1.7**	6	11
0.125	**450**							**3.4**	59	44	**2.8**	24	31	**2.1**	9	17
0.150	**540**										**3.3**	34	36	**2.6**	13	23
0.200	**720**										**4.3**	60	45	**3.5**	23	32
0.250	**900**													**4.2**	37	38
0.300	**1080**													**5.1**	53	44

Attenuation values plenum box (without end reflection)

model	attenuationa values						
	125	250	500	1k	2k	4k	Hz
125	5	0	3	10	5	11	dB
160	3	1	6	7	7	9	dB
200	2	2	9	7	7	9	dB
250	2	4	9	7	7	10	dB
315	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling; in the absence of a flat, closed ceiling a throw reduction of 40 % is to be applied.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RRFO

Swirl diffuser, conical
Return
Surface-mounted, suspended
Fixed vane

Available types
R R F O - -

R round
R return
F fixed blades
O surface-mounted

- **Accessories**
  - **O** none
  - **C** clamp ring (RRFO-A only)

- **Version**
  - **A** round top connection
  - **R** internally insulated plenum box (supplied separately)
  - **U** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRFO swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTFO. The diffuser has ten fixed mounted blades that are not adjustable. The diffuser is easy to fit by means of one central screw in the insulated or uninsulated plenum box, which is supplied separately. The plenum box has 8 mm standard mounting holes in the raised edge of the plenum. A clamp ring can be supplied as an accessory that enables you to fit the diffuser quickly and easily, without any tools, into a flat ceiling panel.

Version
Swirl diffuser

Cylindrical cone:	aluminium
Swirl blades:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

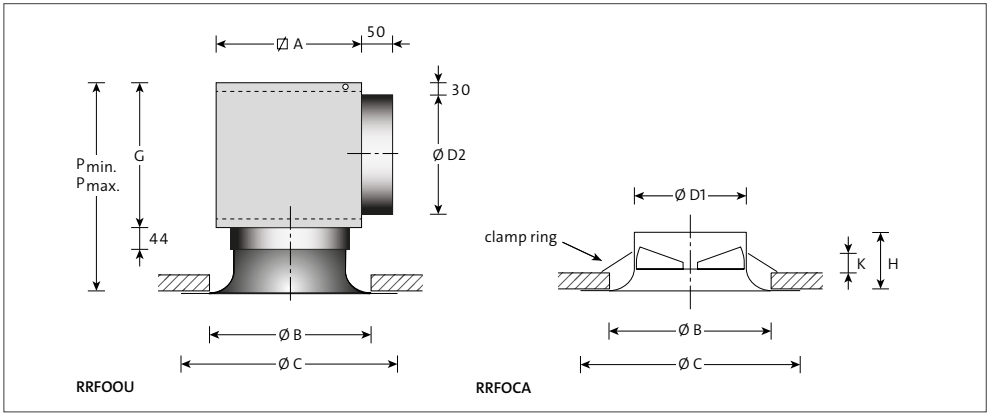
Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Plenum box:	lowered

Dimensions



Available dimensions and sizes

model	A	B	C	D1	D2	G	H	K	P min.	P max.
125	184	165	205	124	123	171	70	35	260	280
160	219	210	250	159	158	206	95	35	285	305
200	259	260	310	199	198	245	110	45	330	350
250	309	330	380	249	248	296	130	55	390	420
315	374	395	435	314	313	361	165	55	460	490

Note

- The listed dimensions are in mm.
- Information regarding lowered plenum boxes is available on our website.
- For the T-bar mounted version, see RRFM on our website.

Selection details

RRFO

air volume		model									
		125		160		200		250		315	
m^3/s	m^3/h	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	13	10								
0.020	**72**	23	18	6	-						
0.025	**90**	36	25	10	-						
0.030	**108**	52	30	14	14	4	-				
0.040	**144**	84	39	25	23	7	13				
0.050	**180**			40	30	11	19	4	-		
0.060	**216**			56	35	16	24	6	10		
0.080	**288**			100	44	29	33	12	20	5	-
0.100	**360**					44	40	18	27	7	14
0.125	**450**					71	47	29	34	11	20
0.150	**540**							41	39	16	26
0.200	**720**							72	48	28	35
0.250	**900**									44	41
0.300	**1080**									64	47

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
125	5	0	3	10	5	11	dB
160	3	1	6	7	7	9	dB
200	2	2	9	7	7	9	dB
250	2	4	9	7	7	10	dB
315	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RTFM

Swirl diffuser, conical
Supply
T-bar mounted in modular ceiling
Fixed blades

Available types

R T F M O -

- **R** swirl ceiling diffuser
- **T** supply
- **F** fixed blades
- **M** modular ceiling, panel size 600 mm
- **O** no accessories

- **Version**
- **A** round top connection
- **R** internally insulated plenum box (supplied separately)
- **U** uninsulated plenum box (supplied separately)

SA-Select

Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use

The RTFM swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature and can be used with constant and variable-volume systems. The diffuser has ten fixed mounted blades that are not adjustable. The diffuser is easy to mount with one central screw in the insulated or uninsulated plenum box, which is supplied separately. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version

Swirl diffuser

Cylindrical cone:	aluminium
Face plate:	steel
Swirl blades:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Panel size:	620 mm
Plenum box:	flat-sided

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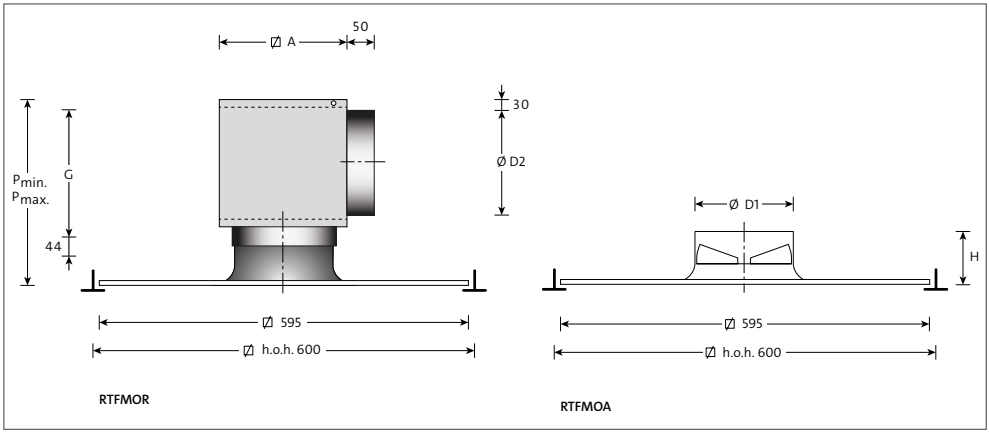
Dimensions



Available dimensions and sizes

model	A	D1	D2	G	H	P min.	P max.
125	184	124	123	171	70	260	280
160	219	159	158	206	95	285	305
200	259	199	198	245	110	330	350
250	309	249	248	296	130	390	420
315	374	314	313	361	165	460	490

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.
- For the surface-mounted version, see RTFO on our website.

Selection details

RTFM

air volume		model															
		125			160			200			250			315			
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	**0.7**	11	-												
0.020	**72**	**1.0**	19	15	**0.7**	5	-									
0.025	**90**	**1.1**	30	22	**0.9**	8	-									
0.030	**108**	**1.4**	43	27	**1.1**	12	11	**0.8**	3	-						
0.040	**144**	**1.9**	70	36	**1.4**	21	20	**1.1**	6	-						
0.050	**180**	**2.4**	120	43	**1.8**	33	27	**1.4**	9	16	**1.0**	3	-			
0.060	**216**				**2.2**	47	32	**1.7**	13	21	**1.3**	5	-			
0.080	**288**				**2.8**	83	41	**2.2**	24	30	**1.8**	10	17	**1.4**	4	-
0.100	**360**							**2.8**	37	37	**2.1**	15	24	**1.7**	6	11
0.125	**450**							**3.4**	59	44	**2.8**	24	31	**2.1**	9	17
0.150	**540**										**3.3**	34	36	**2.6**	13	23
0.200	**720**										**4.3**	60	45	**3.5**	23	32
0.250	**900**													**4.2**	37	38
0.300	**1080**													**5.1**	53	44

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
125	5	0	3	10	5	11	dB
160	3	1	6	7	7	9	dB
200	2	2	9	7	7	9	dB
250	2	4	9	7	7	10	dB
315	0	6	7	7	6	9	dB

General

- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RRFM

Swirl diffuser, conical
Return
T-bar mounted in modular ceiling
Fixed vane

Available types
R R F M O -

- **R** swirl ceiling diffuser
- **R** return
- **F** fixed blades
- **M** modular ceiling, panel size 600 mm
- **O** no accessories

- **Version**
- **A** round top connection
- **R** internally insulated plenum box (supplied separately)
- **U** uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The RRFM swirl diffuser is suitable for air extraction and has the same appearance as the supply diffuser RTFM. The diffuser has ten fixed mounted blades that are not adjustable. The diffuser is easy to fit by means of one central screw in the insulated or uninsulated plenum box, which is supplied separately. The plenum box has 8 mm standard mounting holes in the raised edge of the plenum. The diffuser can be T-bar mounted in a modular ceiling with a panel size of 600 mm.

Version
Swirl diffuser

Cylindrical cone:	aluminium
Face plate:	steel
Swirl blades:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

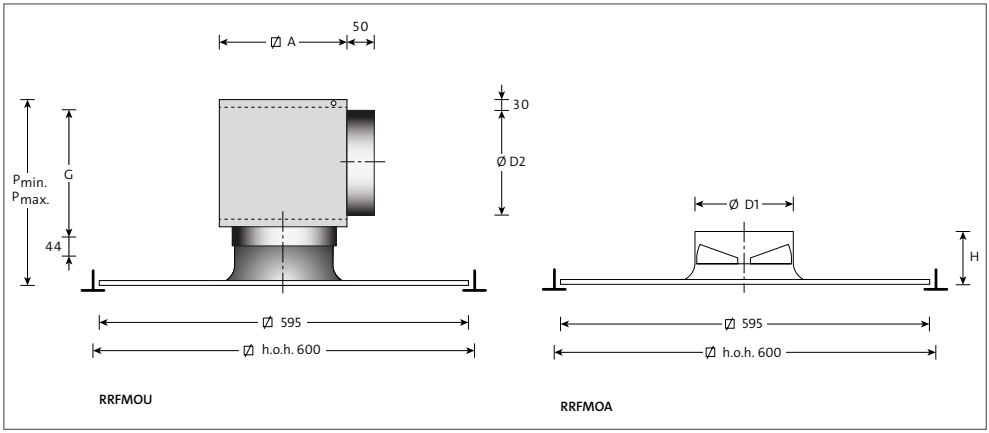
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

Panel size:	620 mm
Plenum box:	lowered

2025_03_V1

Dimensions



Available dimensions and sizes

model	A	D1	D2	G	H	P min.	P max.
125	184	124	123	171	70	260	280
160	219	159	158	206	95	285	305
200	259	199	198	245	110	330	350
250	309	249	248	296	130	390	420
315	374	314	313	361	165	460	490

Note

- The listed dimensions are in mm.
- Information regarding lowered plenum boxes is available on our website.
- For the T-bar mounted version, see RRFO on our website.

Selection details

RRFM

air volume		model									
		125		160		200		250		315	
m^3/s	m^3/h	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.015	**54**	13	10								
0.020	**72**	23	18	6	-						
0.025	**90**	36	25	10	-						
0.030	**108**	52	30	14	14	4	-				
0.040	**144**	84	39	25	23	7	13				
0.050	**180**			40	30	11	19	4	-		
0.060	**216**			56	35	16	24	6	10		
0.080	**288**			100	44	29	33	12	20	5	-
0.100	**360**					44	40	18	27	7	14
0.125	**450**					71	47	29	34	11	20
0.150	**540**							41	39	16	26
0.200	**720**							72	48	28	35
0.250	**900**									44	41
0.300	**1080**									64	47

Attenuation values plenum box (without end reflection)

model	dempingswaarden						
	125	250	500	1k	2k	4k	Hz
125	5	0	3	10	5	11	dB
160	3	1	6	7	7	9	dB
200	2	2	9	7	7	9	dB
250	2	4	9	7	7	10	dB
315	0	6	7	7	6	9	dB

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

2025_03_V1

RTWK

Swirl diffuser, conical
Supply
Surface-mounted, T-bar mounted, suspended
Manual, servomotor or thermal operation

Available types
R T W K - - - -

R round
T supply
W adjustable
K conical

- **Ceiling version**
  - **Z** surface-mounted (model 160-800)
  - **T** modular steel ceiling panel 595 x 595 (model 160-315)
  - **D** modular steel ceiling panel 620 x 620 (model 160-315)
  - **F** modular steel ceiling panel 670 x 670 (model 160-315)

- **Blades/mechanism**
  - **O** steel/ABS (manual only)
  - **P** steel/ABS (standard manual, suitable for servomotor)
  - **S** steel/aluminium (standard manual, suitable for servomotor)

- **Operation (from model 200)**
  - **M** Belimo 0-10 V DC (L/N/S)M24ASR
  - **N** Belimo 2 settings (L/N/S)M24A
  - **O** manual
  - **T** thermal spring (for steel blade + aluminium mechanism only)

- **Version**
  - **O** round top connection
  - **R** internally insulated plenum box (supplied separately)
  - **U** uninsulated plenum box (supplied separately)

Use
The round, conical RTWK swirl diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The housing consists of a cylindrical cone with six swirl blades that can be adjusted manually, with a servomotor or thermally. Any required supply-air direction can be adjusted from horizontal to vertical. The grid can be supplied with a separately supplied plenum box which is standard equipped with 8 mm hanging holes in the raised edge of the plenum. The diffuser is extremely suitable for air-heating systems in rooms with high ceilings. The large penetration depth makes it possible to use a lower air capacity.

Characteristics

Max. number of air changes:	up to 15 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Swirl diffuser

Cylindrical cone:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010

RTWK

Swirl blades:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010 or optional (additional cost)

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

Ball-protection grid:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010

Servomotor

Make:	Belimo
Control:	open/close or 0-10 V DC
Power:	24V AC

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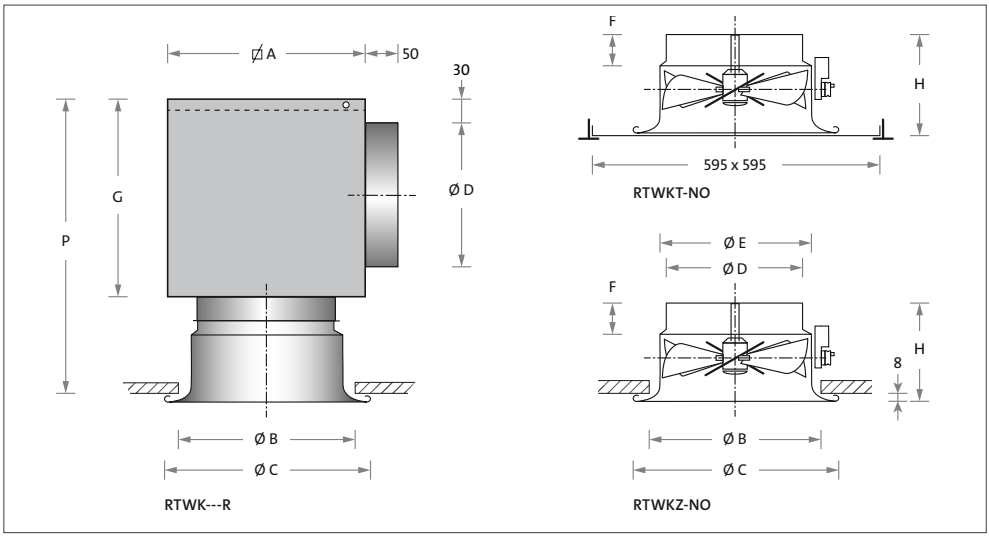
Dimensions



Availeble dimensions and sizes

model	A	H	F	B	C	E	D	G	P
160	220	155	65	270	300	198	158	206	375
200	260	180	60	320	350	248	198	245	439
250	310	205	70	370	400	298	248	296	515
315	375	230	70	470	500	398	313	361	605
400	460	270	105	585	615	465	398	446	730
500	560	320	95	750	780	565	498	546	880
630	700	390	105	905	935	665	628	676	1080
800	*	*	*	*	*	*	*	*	*

*Sizes on request.

Weight

model	type
	without plenum
	kg
160	1.3
200	2.0
250	2.7
315	3.8
400	6.3
500	8.9
630	14.5
800	30.0

Note

- The listed dimensions are in mm.

Fitting

However, the disruption of the flow due to bends and branches must be taken into account. For an optimum flow, we recommend a flow in the diffusers after a bend or a branch with a 1.5 x D straight length in the size of the diffuser connection.

3

Selection details

RTWK

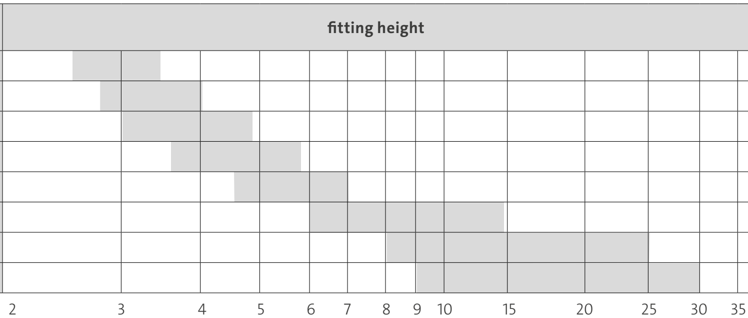
air volume		model																							
		160			200			250			315			400			500			630			800		
m^3/s	m^3/h	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)	V_h m/s	Δp_s Pa	L_{pA} dB(A)
0.030	**108**	**1,5**	2	-																					
0.040	**144**	**2,0**	4	-																					
0.050	**180**	**2,5**	6	23	**1.6**	3	-																		
0.060	**216**	**3,0**	9	28	**2.0**	3	-	**1.3**	1	-															
0.070	**252**				**2.2**	5	-	**1.4**	2	-															
0.080	**288**				**2.7**	6	20	**1.7**	2	-															
0.100	**360**				**3.4**	10	27	**2.1**	4	-	**1.3**	2	-												
0.125	**450**				**4.2**	15	34	**2.7**	6	21	**1.7**	2	-												
0.150	**540**				**5.0**	22	39	**3.2**	9	27	**2.0**	3	-												
0.200	**720**				**6.7**	39	47	**4.2**	15	36	**2.7**	6	21	**1.6**	2	-									
0.250	**900**							**5.3**	24	42	**3.3**	10	28	**2.0**	4	-									
0.300	**1080**							**6.4**	34	48	**4.0**	14	34	**2.4**	5	21	**1.6**	2	-						
0.400	**1440**										**5.3**	24	42	**3.3**	10	30	**2.1**	4	-						
0.500	**1800**										**6.6**	38	49	**4.1**	15	37	**2.6**	6	24	**1.6**	2	-			
0.600	**2160**													**4.9**	22	42	**3.1**	9	29	**2.0**	3	-			
0.800	**2880**													**6.5**	38	51	**4.2**	15	38	**2.6**	6	23			
1.000	**3600**																**5.2**	24	45	**3.3**	10	30			
1.250	**4500**																			**4.0**	15	36	**2.5**	5	22
1.500	**5400**																			**4.9**	22	42	**3.0**	8	27
2.000	**7200**																						**4.0**	14	36

General

- The pressure loss is given without volume unit or plenum box.
- The assumed room attenuation is 10 dB.
- The sound pressure is given for a blade angle of 45 degrees.
- Vh = neck velocity.

Fitting height

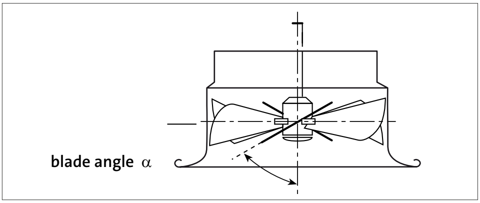
model	fitting height m
160	2.2 - 3.0 m
200	2.5 - 3.5 m
250	3.1 - 4.8 m
315	3.5 - 5.8 m
400	4.5 - 7.0 m
500	5.8 - 14.0 m
630	8.0 - 25.0 m
800	9.0 - 30.0 m



Selection method

- The model size is determined with the tables. It is permitted to interpolate the interim values.
- Check the recommended fitting height (the underside of the diffuser in relation to the floor) in the "Fitting height" table above.
- Please ask our sales department for more information.

Blade angle adjustment



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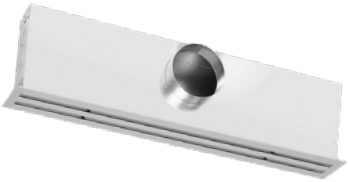


STAD/STBD

Line diffuser
Supply
Surface-mounted

Available types
S T - D - - -

S line diffuser
T supply

- **Discharge patterns**
A two pattern adjustment blades
B one pattern adjustment blade

D surface-mounted

- **End caps**
A no end caps
B one end cap
C two end caps
D two flat end caps (T-bar fitting)

- **Plenum box**
O none
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

- **Mounting brackets (supplied separately)**
A diffuser bracket A
B plenum mounting bracket B
C plenum “click-in” bracket C (mount plenum first)
D diffuser/ceiling bracket D
O none

Plenum box
S O O O - -
S line diffuser
O plenum box only
O not applicable
O not applicable

- **Fitted plenum box**
R internally insulated plenum box
U uninsulated plenum box

- **Mounting bracket preparation**
O none; straight plenum box
C prepared for mounting bracket C; “click-in” plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The STAD/STBD line diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser can be fitted in the ceiling or the wall, and is fitted standard with an insulated or uninsulated plenum box. As standard, the plenum box is equipped with 8 mm hanging holes in the edge of the plenum. The two built-in pattern blades mean the discharge pattern is adjustable. The diffusers can be connected together for long lengths by using the supplied keys. The spacers are under the underside of the profile, guaranteeing a straight slot.

Characteristics

Max. number of air changes:	up to 10 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Line diffuser

Frame:	extruded aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Pattern blades:	extruded aluminium
Post-treatment:	black

Plenum box

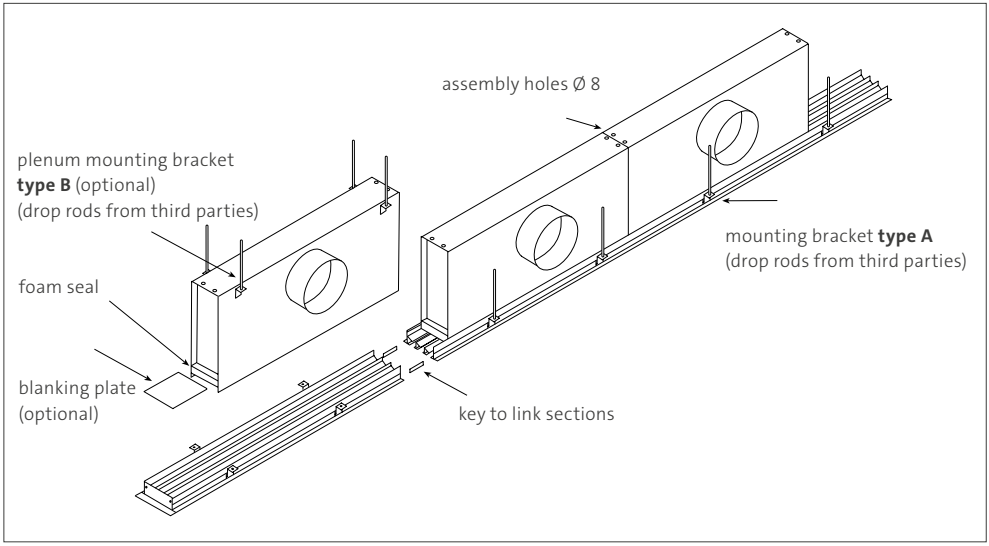
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

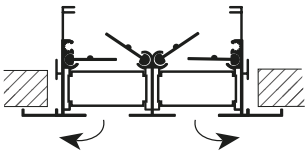
Plenum box:	several connections, oval connection and different heights
Diffuser:	blanking plate

2024_08_v3

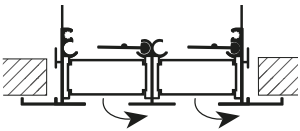
Fitting a continuous line diffuser with key and plenum box



Discharge direction



STAD - 2 slots
Depending on the position of the pattern adjustment sheets, the right or left can be blown out.



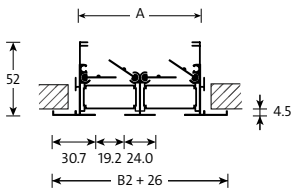
STBD - 2 slots
Depending on the position of the pattern adjustment sheets, it can be blown out to one side.

Note

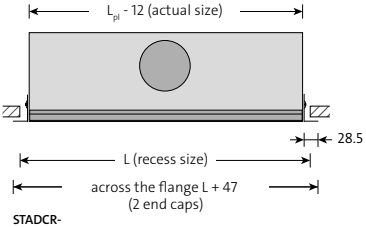
- The listed dimensions are in mm.
- If actual or over frame dimensions are required, please state this clearly because otherwise nominal dimensions will be used.
- One-piece diffuser elements up to approx. 2410 mm.
- For large lengths, Solid Air determines the section lengths if they have not been stated specifically. The standard sections are nominal 1800 mm, with an adapter at the start and end of the diffuser to achieve the total required length.
- Standard plenum box lengths Lpl are: 600, 750, 900, 1200, 1500 and 1800 mm.
- Flat-sided plenum boxes are available on request.
- For diffuser brackets C and D, the maximum thickness of the ceiling panel is 35 mm.

2024_08_v3

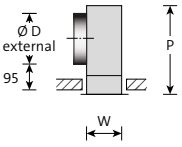
Cross-section and lengthways view



STAD-O- 2 slots

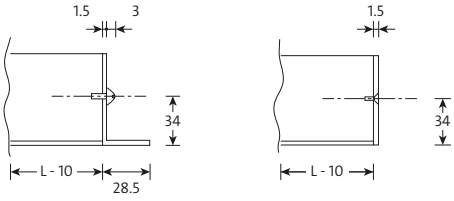


STADCR-



recess size B1 of B2,
depending on bracket type

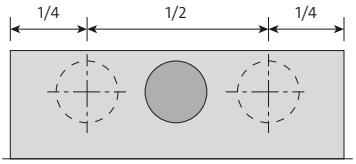
End caps



normal end cap (B+C) **flat end cap (D)**

L = nominal grid length (= recess size)

Connections



Dual connection

Available dimensions, sizes and weights

number of slots	B1	B2	P	D	A	diffuser kg	plenum kg
L = 600							
1	65	52	245	123	46	0.8	2.1
2	108	94	280	158	88	1.2	2.6
3	151	137	280	158	131	1.6	2.7
4	194	180	320	198	174	2.0	3.2
L = 750							
1	65	52	245	123	46	1.0	2.7
2	108	94	280	158	88	1.5	3.2
3	151	137	280	158	131	2.0	3.4
4	194	180	320	198	174	2.5	4.0
L = 900							
1	65	52	245	123	46	1.2	3.2
2	108	94	280	158	88	1.8	3.9
3	151	137	320	198	131	2.4	4.6
4	194	180	320	198	174	3.0	4.8

number of slots	B1	B2	P	D	A	diffuser kg	plenum kg
L = 1200							
1	65	52	280	158	46	1.6	4.8
2	108	94	320	198	88	2.4	5.8
3	151	137	320	198	131	3.2	6.1
4	194	180	370	248	174	4.0	7.2
L = 1500							
1	65	52	280	158	46	2.0	6.0
2	108	94	320	198	88	3.0	7.2
3	151	137	370	248	131	4.0	8.6
4	194	180	370	248	174	5.0	9.0
L = 1800							
1	65	52	320	198	46	2.4	8.1
2	108	94	370	248	88	3.6	9.8
3	151	137	435	313	131	4.8	11.8
4	194	180	435	313	174	6.0	12.3

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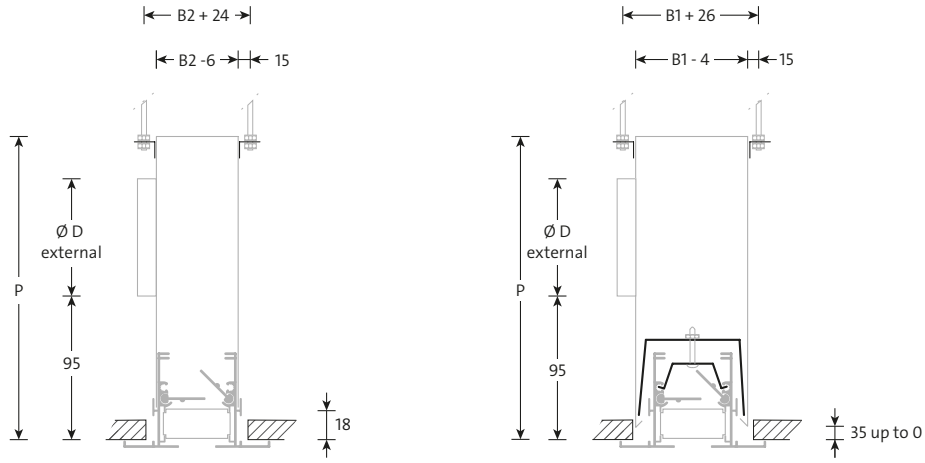
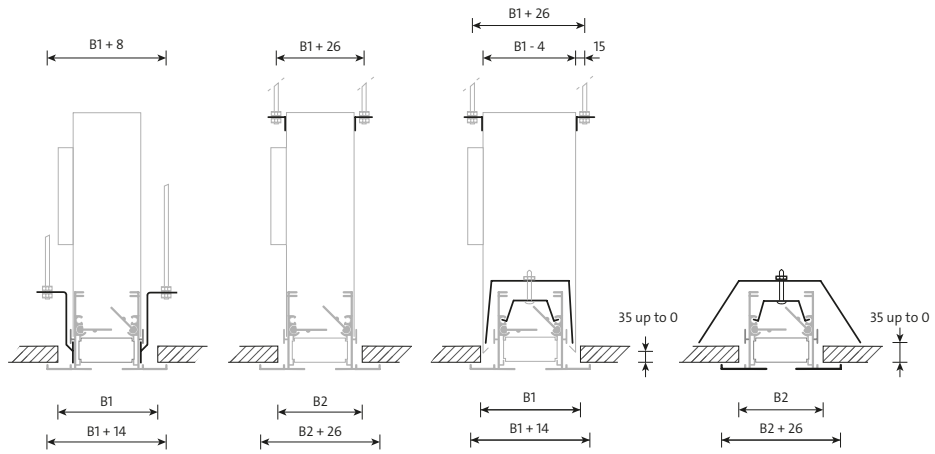
Plenum boxes



straight plenum box
recess size = B2

click-in plenum box
recess size = B1

Mounting brackets



grid bracket A
straight plenumbox

grid bracket B
straight plenum box

grid bracket C
"click-in" plenum box

grid/ceiling bracket D

Note

- Drop rods not supplied.
- Recess size B1 or B2 depends on the fitting method, see the table with available dimensions, sizes and weights.

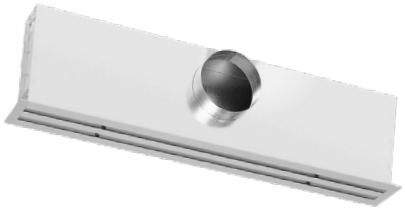
Selection details

STAD

air volume		number of slots	plenum box length																	
			600			750			900			1200			1500			1800		
m³/s	m³/h		throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.010	36	1	2.2	3	11	2.0	1	5												
0.013	45	1	2.4	5	16	2.3	3	11	2.1	2	6									
0.015	54	1	2.7	6	21	2.5	5	15	2.3	3	11									
0.020	72	1	3.1	12	29	2.9	8	23	2.7	6	18	2.5	4	12	2.3	3	8			
		2	2.8	3	14	2.6	1	8												
0.025	90	1	3.8	18	35	3.2	13	29	3.0	10	24	2.8	6	18	2.6	5	13	2.4	1	10
		2	3.2	4	19	3.0	3	14	2.8	2	9									
		3	3.0	1	9															
0.030	108	1	4.6	26	39	3.8	18	34	3.3	14	29	3.0	9	22	2.8	7	18	2.7	1	14
		2	3.5	6	24	3.2	4	18	3.1	3	14									
		3	3.3	2	14	3.1	1	8												
0.040	144	1							4.4	25	36	3.5	15	30	3.3	12	26	3.1	2	22
		2	4.0	10	32	3.7	7	26	3.5	5	21	3.2	3	15	3.0	2	9			
		3	3.8	4	22	3.6	3	16	3.4	2	13									
		4	3.7	2	16	3.4	1	10												
0.050	180	1										4.3	24	36	3.6	18	32	3.4	3	28
		2	5.1	16	38	4.2	11	32	3.9	8	27	3.6	4	21	3.4	3	15	3.2	1	12
		3	4.3	7	27	4.0	4	22	3.8	3	18	3.4	2	11						
		4	4.1	2	22	3.8	2	16	3.6	2	11									
0.060	216	1										5.2	34	41	4.3	26	36	3.8	5	32
		2	6.1	23	42	5.1	15	36	4.3	11	32	3.9	6	26	3.7	4	20	3.5	1	17
		3	4.7	10	32	4.4	6	26	4.1	4	23	3.8	2	16	3.5	2	11			
		4	4.5	5	26	4.2	3	21	4.0	2	16									
0.080	288	1																5.0	8	40
		2							5.8	19	39	4.6	11	33	4.2	8	28	4.0	3	24
		3	6.4	17	40	5.3	11	34	4.7	8	31	4.3	4	24	4.0	3	19	3.8	1	16
		4	5.2	9	34	4.9	6	28	4.6	4	24	4.2	2	18	3.9	1	12			
0.100	360	2										5.8	18	39	4.7	12	33	4.5	4	30
		3				6.7	17	40	5.7	12	37	4.8	7	29	4.5	4	25	4.3	2	21
		4	6.7	14	40	5.4	9	34	5.1	6	29	4.7	3	23	4.4	2	18	4.1	1	14
0.125	450	2										7.2	28	45	6.0	19	39	5.2	6	36
		3							7.2	19	42	5.7	10	35	5.1	7	31	4.8	3	27
		4	8.4	23	46	7.0	14	40	6.0	9	35	5.2	5	29	4.9	3	24	4.6	2	20
0.150	540	2													7.2	27	44	6.2	9	40
		3										6.8	15	40	5.5	10	35	5.2	4	32
		4				8.4	18	45	7.3	14	40	5.7	8	34	5.3	5	28	5.0	3	25
0.200	720	3													7.6	18	43	6.5	7	40
		4										7.7	14	41	6.2	8	36	5.8	5	33
0.250	900	3																8.1	11	45
		4										9.6	22	47	8.0	13	42	6.9	8	38
0.300	1080	4													9.6	19	47	8.2	12	43

General

- The throw applies to flush-mounting in a flat, closed ceiling. If the discharge pattern is directed to one side.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.



SROD

Line diffuser
Return
Surface-mounted

Available types
Diffuser + plenum box
S R O D - - -

S line diffuser
R return
O no pattern blades
D surface-mounted

- **End caps**
  - **A** no end caps
  - **B** one end cap
  - **C** two end caps
  - **D** two flat end caps, (T-bar mounting)

- **Plenum box**
  - **O** none
  - **R** assembled, internally insulated plenum box
  - **U** assembled, uninsulated plenum box

- **Mounting brackets (supplied separately)**
  - **A** diffuser bracket A
  - **B** plenum mounting brackets B
  - **C** plenum “click-in” bracket C (mount plenum first)
  - **D** diffuser/ceiling bracket D
  - **O** none

Plenum box
S O O O - -

S line diffuser
O plenum box only
O not applicable
O not applicable

- **Fitted plenum box**
  - **R** internally insulated plenum box
  - **U** uninsulated plenum box

- **Mounting bracket preparation**
  - **O** none; straight plenum box
  - **C** prepared for mounting bracket C; “click-in” plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The SROD line diffuser is suitable for air extraction and has the same appearance as the supply diffuser STAD. The diffuser can be fitted in the ceiling or the wall, and is fitted standard with an insulated or uninsulated plenum box. As standard, the plenum box is equipped with 8 mm hanging holes in the edge of the plenum. Pattern blades are not supplied. The diffusers can be connected together to form long lengths by using supplied keys. The spacers are on the underside of the profile, guaranteeing a straight line.

Version
Line diffuser

Frame:	extruded aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Pattern blades:	extruded aluminium
Post-treatment:	black

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

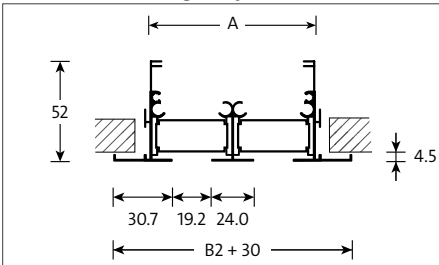
Plenum box:	several connections, oval connection and different heights
Diffuser:	blanking plate

2024_08_v3

Note

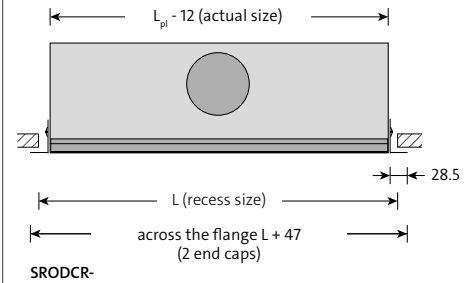
- The listed dimensions are in mm.
- If actual or over frame dimensions are required, please state this clearly because otherwise nominal dimensions will be used.
- One-piece diffuser elements up to approx. 2500 mm.
- For large lengths, Solid Air determines the section lengths if they have not been stated specifically. The standard sections are nominal 1800 mm, with an adapter at the start and end of the diffuser to achieve the total required length.
- Standard plenum box lengths Lpl are: 600, 750, 900, 1200, 1500 and 1800 mm.
- Flat-sided plenum boxes are available on request.
- For diffuser brackets C and D, the maximum thickness of the ceiling panel is 35 mm.

Cross-section and lengthways view



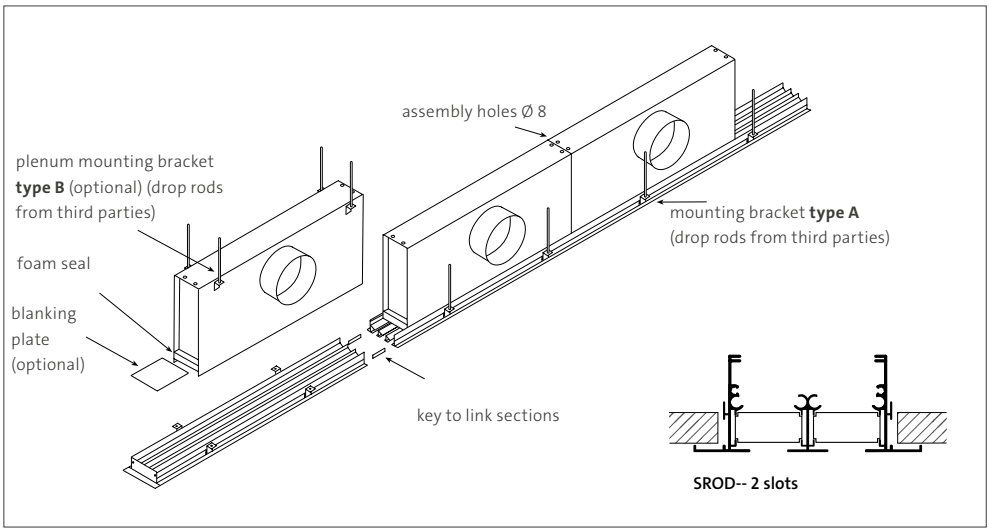
SROD-O- 2 slots

For the explanation of the dimensions, see the table "Available dimensions, sizes and weights".



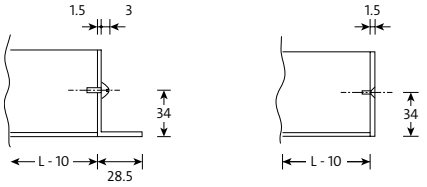
SRODCR-

Fitting a continuous line diffuser with key and plenum box



SROD-- 2 slots

End caps

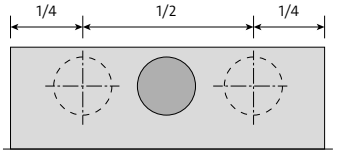


normal end cap (B+C) flat end cap (D)

L = nominal diffuser length (recess size)
L - 10 = cut-size

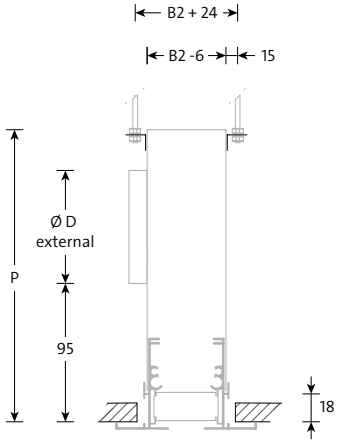
End caps

Connections

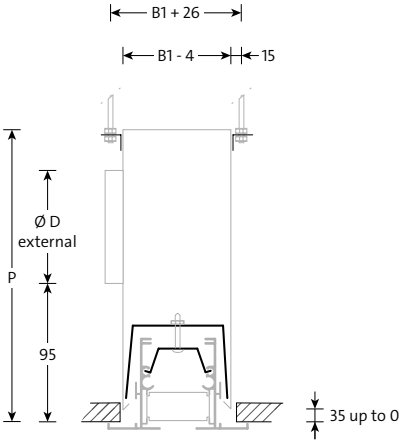


Dual connection

Plenum boxes



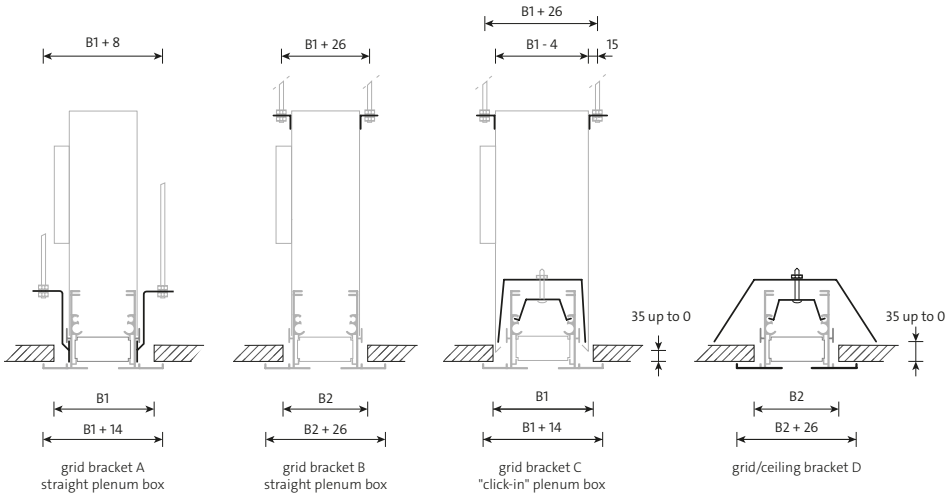
straight plenum box
recess size = B2



click-in plenum box
recess size = B1

Note

• The listed dimensions are in mm.



grid bracket A
straight plenum box

grid bracket B
straight plenum box

grid bracket C
"click-in" plenum box

grid/ceiling bracket D

mounting brackets
(threaded end not included)

Recess size B1 or B2 depends on the mounting method, see table

Available dimensions, sizes and weights

number of slots	B1	B2	P	D	A	diffuser kg	plenum kg
L = 600							
1	65	52	245	123	46	0.8	2.1
2	108	94	280	158	88	1.2	2.6
3	151	137	280	158	131	1.6	2.7
4	194	180	320	198	174	2.0	3.2
L = 750							
1	65	52	245	123	46	1.0	2.7
2	108	94	280	158	88	1.5	3.2
3	151	137	280	158	131	2.0	3.4
4	194	180	320	198	174	2.5	4.0
L = 900							
1	65	52	245	123	46	1.2	3.2
2	108	94	280	158	88	1.8	3.9
3	151	137	320	198	131	2.4	4.6
4	194	180	320	198	174	3.0	4.8

number of slots	B1	B2	P	D	A	diffuser kg	plenum kg
L = 1200							
1	65	52	280	158	46	1.6	4.8
2	108	94	320	198	88	2.4	5.8
3	151	137	320	198	131	3.2	6.1
4	194	180	370	248	174	4.0	7.2
L = 1500							
1	65	52	280	158	46	2.0	6.0
2	108	94	320	198	88	3.0	7.2
3	151	137	370	248	131	4.0	8.6
4	194	180	370	248	174	5.0	9.0
L = 1800							
1	65	52	320	198	46	2.4	8.1
2	108	94	370	248	88	3.6	9.8
3	151	137	435	313	131	4.8	11.8
4	194	180	435	313	174	6.0	12.3

Note

- The listed dimensions are in mm.

3

Selection details

SROD

air volume		number of slots	Plenum box length											
			600		750		900		1200		1500		1800	
m^3/s	m^3/h		Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.010	**36**	**1**	1	-										
0.0125	**45**	**1**	2	-	1	-								
0.015	**54**	**1**	3	-	2	-	1	-						
0.020	**72**	**1**	5	-	3	-	2	-	1	-				
		2	1	-										
0.025	**90**	**1**	8	10	5	-	4	-	2	-	1	-		
		2	2	-	1	-								
0.030	**108**	**1**	12	15	8	10	5	-	3	-	2	-	1	-
		2	3	-	2	-	1	-						
0.040	**144**	**1**	21	22	14	18	9	14	5	-	3	-	2	-
		2	5	-	3	-	2	-	1	-				
		3	2	-	2	-	1	-						
0.050	**180**	**1**	33	28	21	23	15	19	8	13	5	-	4	-
		2	8	13	5	-	4	-	2	-	1	-		
		3	4	-	2	-	2	-						
0.060	**216**	**1**	48	33	31	28	21	24	12	18	8	13	5	-
		2	12	18	8	13	5	-	3	-	2	-	1	-
		3	5	-	3	-	2	-	1	-				
		4	3	-	2	-	1	-						
0.080	**288**	**1**			55	36	38	32	21	25	14	21	9	17
		2	21	25	14	21	9	17	5	10	3	-	2	-
		3	9	17	6	12	4	-	2	-	2	-	1	-
		4	5	10	3	-	2	-	1	-				
0.100	**360**	**2**	33	31	21	26	15	22	8	16	5	11	4	-
		3	15	22	9	18	7	14	4	-	2	-	2	-
		4	8	16	5	11	4	-	2	-	1	-		
0.125	**450**	**2**	52	37	33	32	23	28	13	22	8	17	6	13
		3	23	28	15	23	10	19	6	13	4	-	3	-
		4	13	22	8	17	6	13	3	-	2	-	1	-
0.150	**540**	**2**			48	37	33	33	19	27	12	22	8	18
		3	33	33	21	28	15	24	8	18	5	13	4	-
		4	19	27	12	22	8	18	5	12	3	-	2	-
0.200	**720**	**3**			38	36	26	32	15	25	9	21	7	17
		4	33	34	21	29	15	25	8	19	5	14	4	10
0.250	**900**	**4**			33	35	23	31	13	25	8	20	9	16
0.300	**1080**	**4**			48	40	33	36	19	30	12	25	8	21

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

STAR/STBR

Line diffuser
Supply
T-bar mounted
Small version

Available types
S T - R - - -

S line diffuser
T supply

- **Discharge patterns**
A two pattern adjustment blades
B one pattern adjustment blade

R T-bar mounted

- **End caps**
A no end caps
B one flat end cap
D two flat end caps (T-bar mounting)

- **Plenum box**
R assembled, internally insulated plenum box
U assembled, uninsulated plenum box

- **Mounting brackets (supplied separately)**
B plenum mounting brackets B
O none

Plenum box
S O O O - -

S line diffuser
O plenum box only
O not applicable
O not applicable

- **Fitted plenum box**
R internally insulated plenum box
U uninsulated plenum box

- **Mounting bracket preparation**
O none; straight plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The STAR/STBR line diffusers are suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser can be T-bar mounted into a modular ceiling, and is fitted standard with an insulated or uninsulated plenum box. As standard, the plenum box is equipped with 8 mm hanging holes in the edge of the plenum. The STAR type has an adjustable discharge pattern as it has two built-in pattern blades. The STBR has one pattern blade and the discharge pattern is directed at the spigot of the plenum box.

Characteristics

Max. number of air changes:	up to 10 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Line diffuser

Frame:	extruded aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Pattern blades:	extruded aluminium
Post-treatment:	black

Plenum box

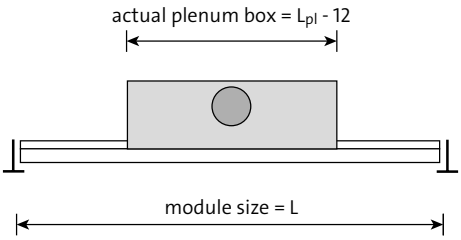
Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

Optional

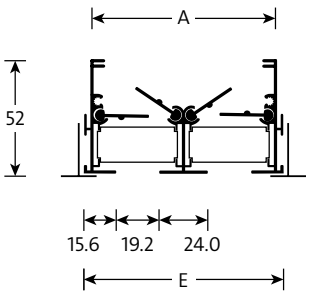
Plenum box:	several connections oval connection different heights

2024_08_v3

Dimensions



STARDR-



STAR-O- 2 slots

Available dimensions, sizes and weights

number of slots	E	P	D	A	diffuser	plenum
					kg	kg
L = 600						
1	51	245	123	46	0.8	2.1
2	94	280	158	89	1.2	2.6
L = 750						
1	51	245	123	46	1.0	2.7
2	94	280	158	89	1.5	3.2
L = 900						
1	51	245	123	46	1.2	3.2
2	94	280	158	89	1.8	3.9
L = 1200						
1	51	280	158	46	1.6	4.8
2	94	320	198	89	2.4	5.8
L = 1500						
1	51	280	158	46	2.0	6.0
2	94	320	198	89	3.0	7.2

Note

- The listed dimensions are in mm.
- One-piece diffuser elements up to approx. 2400 mm.
- The diffuser parts that protrude outside the plenum box can be covered with blanking plates at additional cost.
- For this type of small profile line diffuser, a return version without adjustable pattern blades is also available as type SROR.

Selection details

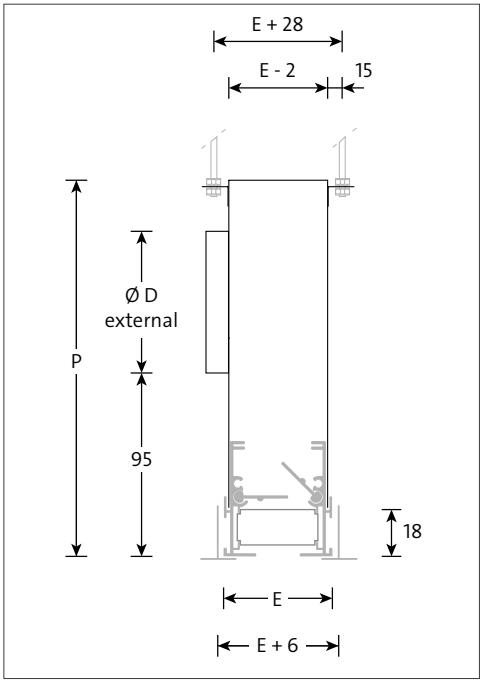
STAR/STBR

air volume		number of slots	plenum box length														
			600			750			900			1200			1500		
m^3/s	m^3/h		throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.0125	**45**	**1**	**2.4**	5	16	**2.3**	3	11	**2.1**	2	6						
0.015	**54**	**1**	**2.7**	6	21	**2.5**	5	15	**2.3**	3	11						
0.020	**72**	**1**	**3.1**	12	29	**2.9**	8	23	**2.7**	6	18	**2.5**	4	12	**2.3**	3	8
		2	**2.8**	3	14												
0.025	**90**	**1**	**3.8**	18	35	**3.2**	13	29	**3.0**	10	24	**2.8**	6	18	**2.6**	5	13
		2	**3.2**	4	19	**3.0**	3	14	**2.8**	2	9						
0.030	**108**	**1**	**4.6**	26	39	**3.8**	18	34	**3.3**	14	29	**3.0**	9	22	**2.8**	7	18
		2	**3.5**	6	24	**3.2**	4	18	**3.1**	3	14						
0.040	**144**	**1**				**5.1**	32	41	**4.4**	25	36	**3.5**	15	30	**3.3**	12	26
		2	**4.0**	10	32	**3.7**	7	26	**3.5**	5	21	**3.2**	3	15	**3.0**	2	9
0.050	**180**	**1**										**4.3**	24	36	**3.6**	18	32
		2	**5.1**	16	38	**4.2**	11	32	**3.9**	8	27	**3.6**	4	21	**3.4**	3	15
0.060	**216**	**1**										**5.2**	34	41	**4.3**	26	36
		2	**6.1**	23	42	**5.1**	15	36	**4.3**	11	32	**3.9**	6	26	**3.7**	4	20
0.080	**288**	**1**													**5.8**	47	44
		2				**6.8**	27	44	**5.8**	19	39	**4.6**	11	33	**4.2**	8	28
0.100	**360**	**2**										**5.8**	18	39	**4.7**	12	33
0.125	**450**	**2**										**7.2**	28	45	**6.0**	19	39
0.150	**540**	**2**													**7.2**	27	44

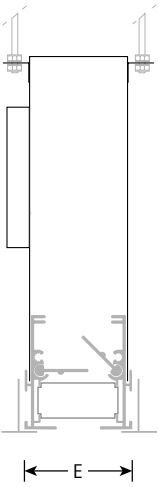
General

- The throw applies to flush-mounting in a flat, closed ceiling, if the discharge pattern is directed to one side.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

Plenum boxes

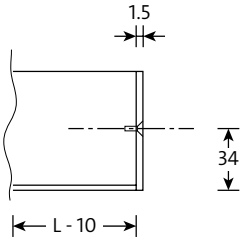


Mounting brackets



(for bracket A en D, see page 123)

End cap



L = recess size
L - 10 = cut-size size

Note

• The listed dimensions are in mm.

SROR

Line diffuser
Return
T-bar mounted
Small version

Available types
S R O R D - -

S line diffuser
R return
O no pattern blades
R T-bar mounted
D two flat end caps (T-bar fitting)

- **Plenum box**
  O none
  R assembled, internally insulated plenum box
  U assembled, uninsulated plenum box

- **Mounting brackets (supplied separately)**
  O none
  B plenum mounting brackets B

Plenum box
S O O O - -

S line diffuser
O plenum box only
O not applicable
O not applicable

- **Fitted plenum box**
  R internally insulated plenum box
  U uninsulated plenum box

- **Mounting bracket preparation**
  O none; straight plenum box

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The SROR line diffuser is suitable for air extraction and has the same appearance as the supply diffuser STAR/STBR. The diffuser can be T-bar mounted into a modular ceiling, and is fitted standard with an insulated or uninsulated plenum box. The plenum box has 8 mm standard mounting holes in the raised edge of the plenum. Pattern blades are not supplied.

Characteristics

Max. number of air changes:	up to 10 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Line diffuser

Frame:	extruded aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Pattern blades:	none

Plenum box

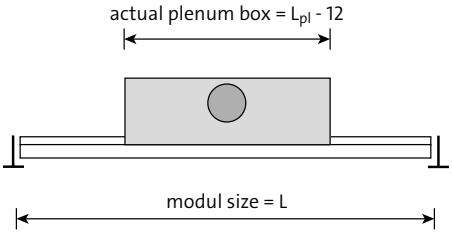
Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Optional

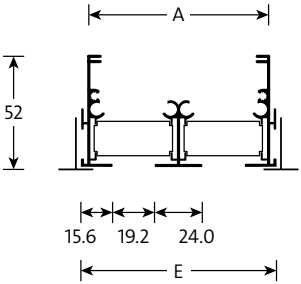
Plenum box:	several connections oval connection different heights

2025_06_v1

Dimensions



SRORDRO



SRORDOO 2 slots

Available dimensions, sizes and weights

number of slots	E	P	D	A	diffuser	plenum
					kg	kg
L = 600						
1	51	245	123	46	0.8	2.1
2	94	280	158	89	1.2	2.6
L = 750						
1	51	245	123	46	1.0	2.7
2	94	280	158	89	1.5	3.2
L = 900						
1	51	245	123	46	1.2	3.2
2	94	280	158	89	1.8	3.9
L = 1200						
1	51	280	158	46	1.6	4.8
2	94	320	198	89	2.4	5.8
L = 1500						
1	51	280	158	46	2.0	6.0
2	94	320	198	89	3.0	7.2

Note

- The listed dimensions are in mm.
- One-piece diffuser elements up to maximum 2400 mm.
- The diffuser parts that protrude outside the plenum box can be covered with blanking plates at additional cost.

Selection details

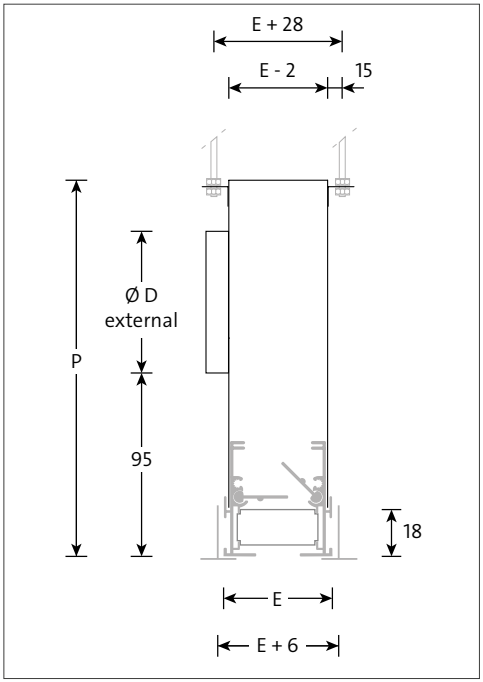
SROR

air volume		number of slots	Plenum box length											
			600		750		900		1200		1500		1800	
m^3/s	m^3/h		Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.010	**36**	**1**	1	-										
0.0125	**45**	**1**	2	-	1	-								
0.015	**54**	**1**	3	-	2	-	1	-						
0.020	**72**	**1**	5	-	3	-	2	-	1	-				
		2	1	-										
0.025	**90**	**1**	8	10	5	-	4	-	2	-	1	-		
		2	2	-	1	-								
0.030	**108**	**1**	12	15	8	10	5	-	3	-	2	-	1	-
		2	3	-	2	-	1	-						
0.040	**144**	**1**	21	22	14	18	9	14	5	-	3	-	2	-
		2	5	-	3	-	2	-	1	-				
0.050	**180**	**1**	33	28	21	23	15	19	8	13	5	-	4	-
		2	8	13	5	-	4	-	2	-	1	-		
0.060	**216**	**1**	48	33	31	28	21	24	12	18	8	13	5	-
		2	12	18	8	13	5	-	3	-	2	-	1	-
0.080	**288**	**1**			55	36	38	32	21	25	14	21	9	17
		2	21	25	14	21	9	17	5	10	3	-	2	-
0.100	**360**	**2**	33	31	21	26	15	22	8	16	5	11	4	-
0.125	**450**	**2**	52	37	33	32	23	28	13	22	8	17	6	13
0.150	**540**	**2**			48	37	33	33	19	27	12	22	8	18

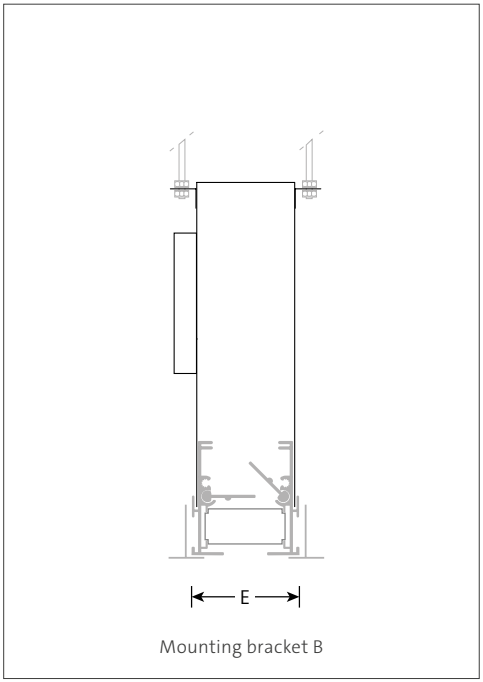
General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

Plenum boxes

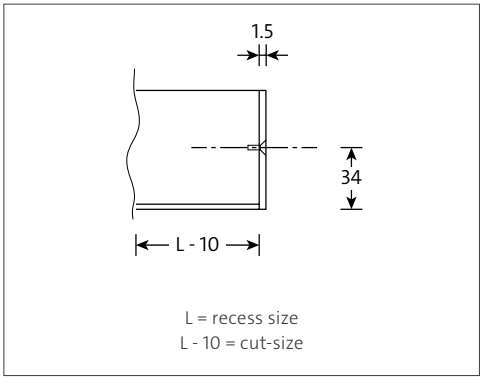


Mounting brackets



Mounting bracket B

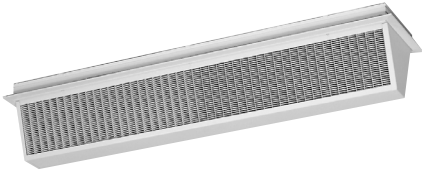
End cap



L = recess size
L - 10 = cut-size

Note

- The listed dimensions are in mm.



TTHA/TTPA

Baffle-plate diffuser
Supply
Surface-mounted, high induction

Available types
T T - A - -

T baffle-plate diffuser
T supply

\- **Function**
H high-induction internal unit
P perforated view high-induction internal unit

A frame 25 mm removable internal unit

\- **Accessories**
O none
V volume unit (on the diffuser)

\- **Version**
O not applicable
R internally insulated plenum box (supplied separately)
U uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The TTHA and TTPA baffle-plate diffusers have an extremely high capacity, and are suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The TTHA type has a spreading high-induction internal unit. The TTPA type has a perforated cover plate, making it easy to clean. The baffle-plate diffuser has been designed specifically for laboratories, computer rooms, kitchens, operating rooms, etc. A corresponding insulated or uninsulated plenum box can be supplied separately.

Characteristics
Max. number of air changes

Type TTHA:	up to 68 x
Type TTPA:	up to 60 x
Undertemperature	up to 10 K
Overtemperature	up to 15 K

Version
Baffle-plate diffuser

Frame:	extruded aluminium
Internal unit:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Volume unit

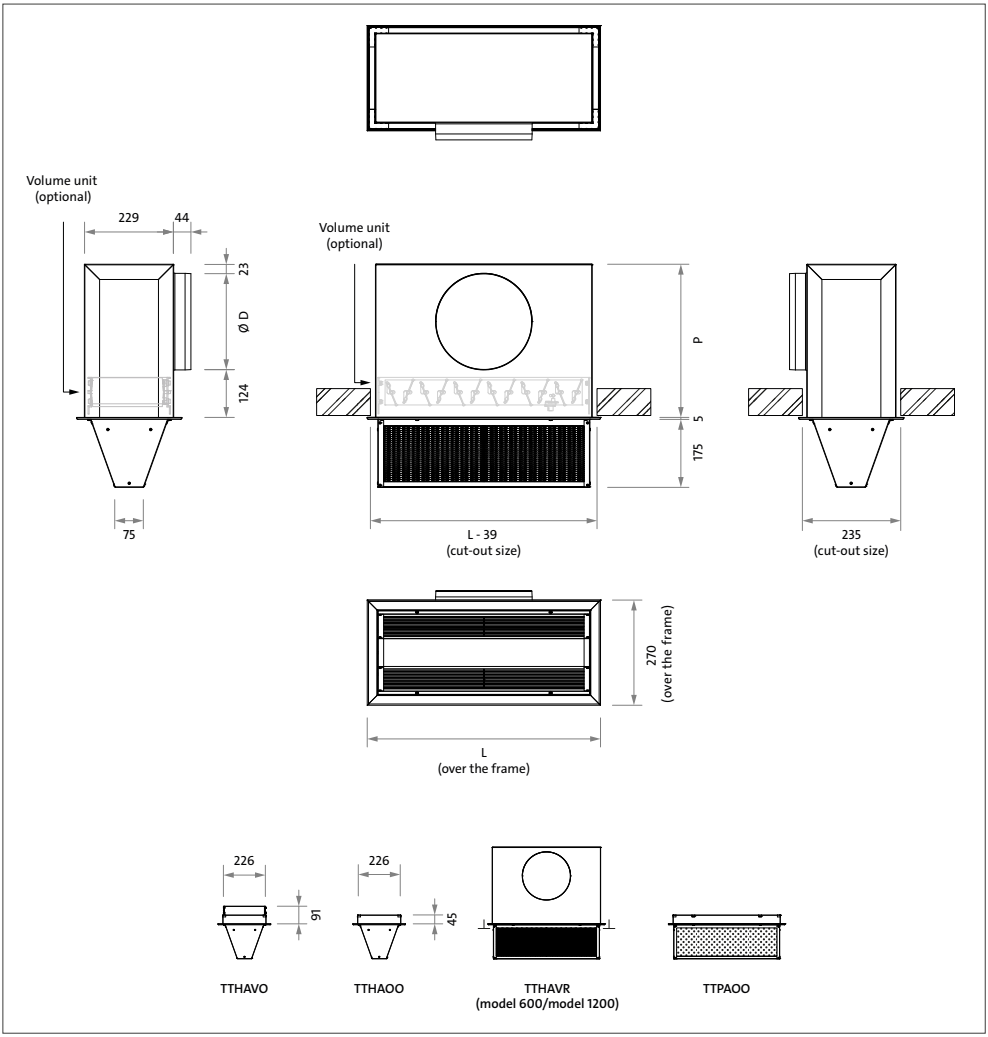
Frame and Blades:	extruded aluminium
Post-treatment:	none

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2" duct liner
Post-treatment:	none

2024_08_v4

Dimensions



Availeble dimensions and sizes

model	L	D	P
600	595	248	395
750	799	313	460
900	949	313	460
1200	1195	353	500

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.
- The models 600 and 1200 mm are 595 and 1195 mm over the frame and are for T-bar mounting in 600 mm centre-to-centre modular ceilings.

Selection details

TTHA

air volume		plenum box length											
		600			750			900			1200		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.125	**450**	**1.4**	2	13									
0.150	**540**	**1.8**	3	18	**1.4**	3	14						
0.200	**720**	**2.4**	5	26	**2.0**	5	21	**1.7**	2	18			
0.250	**900**	**3.1**	7	31	**2.6**	7	27	**2.2**	4	23	**1.6**	2	17
0.300	**1080**				**3.1**	11	32	**2.7**	5	28	**2.0**	3	22
0.400	**1440**				**4.4**	19	40	**3.7**	9	36	**2.8**	5	29
0.500	**1800**							**4.7**	15	42	**3.6**	7	35
0.600	**2160**										**4.4**	10	40

TTPA

air volume		plenum box length											
		600			750			900			1200		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.080	**288**	**1.0**	1	-									
0.100	**360**	**1.2**	2	11	**1.0**	2	-						
0.125	**450**	**1.6**	3	18	**1.3**	3	13	**1.1**	2	9			
0.150	**540**	**2.0**	4	22	**1.6**	4	18	**1.3**	2	14			
0.200	**720**	**2.7**	8	30	**2.2**	7	25	**1.8**	4	21	**1.4**	2	15
0.250	**900**	**3.5**	12	36	**2.8**	11	31	**2.4**	6	27	**1.8**	3	21
0.300	**1080**				**3.5**	16	36	**2.9**	9	32	**2.2**	5	25
0.400	**1440**							**4.0**	16	39	**3.1**	8	33
0.500	**1800**										**4.0**	13	39

General

- The throw is given for a spreading discharge pattern (standard).
- With a straight flow, the throw is the table value x 1.55. Available on request.
- If diffusers are fitted together to lengths that exceed 1200 mm, the throw given in the table has to be multiplied by 1.85.
- The pressure loss applies to a fully opened volume unit.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

RTDO

Perforated ceiling diffuser
Supply
Round
Surface-mounted, suspended

Available types
R T D O - -

R round
T supply
D dropped perforated appearance
O no frame

- **Accessories**
  O none
  H adjustment knob, manually adjustable

- **Version**
  A round top connection
  R internally insulated plenum box (supplied separately)
  U uninsulated plenum box (supplied separately)

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The round RTDO ceiling diffuser is suitable for supplying cooled or heated air with a large temperature difference in respect of the room temperature. The diffuser can be fitted suspended or surface-mounted on the suspended ceiling. The throw of the diffuser can be adjusted by using the manual adjustment knob. With the high induction effect, a large number of air changes is feasible. The grid can be supplied with a separately supplied plenum box which is standard equipped with 8 mm hanging holes in the raised edge of the plenum.

Characteristics

Max. number of air changes:	up to 20 x
Undertemperature:	up to 10 K
Overtemperature:	up to 15 K

Version
Perforated diffuser

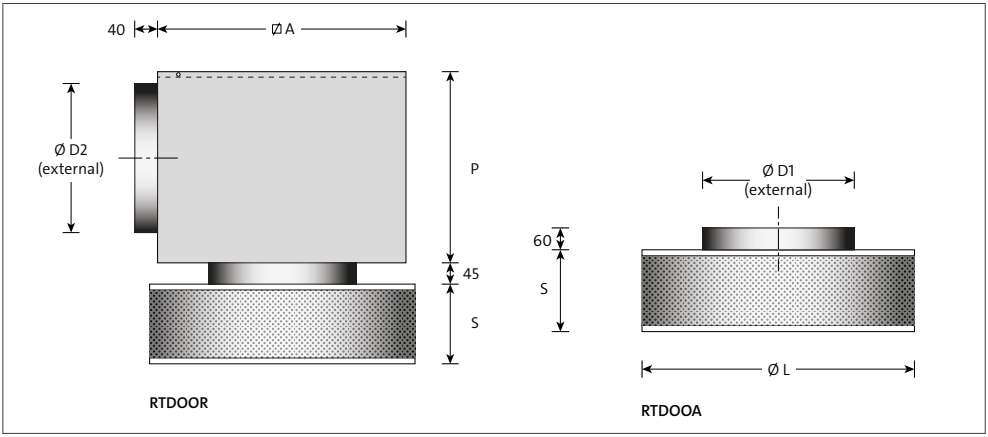
Material:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice
Perforated:	black RAL 9005

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

2024_08_v3

Dimensions



Available dimensions and sizes

model	L	A	D1	D2	S	P
200	377	306	198	198	120	395
250	410	381	248	248	120	445
315	478	451	313	313	120	495
355	511	476	353	313	145	495
450	602	571	448	353	170	550

Note

- The listed dimensions are in mm.

Selection details

RTDO

air volume		plenum box length														
		200			250			315			355			450		
m^3/s	m^3/h	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)	throw m	Δp_s Pa	L_{pA} dB(A)
0.060	**216**	**1.2**	1	-												
0.080	**288**	**1.5**	2	11	**1.5**	2	9	**1.4**	1	6						
0.100	**360**	**1.9**	4	17	**1.8**	3	15	**1.7**	2	12	**1.6**	2	10	**1.5**	1	6
0.125	**450**	**2.4**	6	23	**2.3**	5	20	**2.1**	4	17	**2.0**	3	16	**1.9**	2	12
0.150	**540**	**2.9**	9	28	**2.7**	7	25	**2.6**	5	22	**2.5**	4	20	**2.2**	3	17
0.200	**720**	**3.9**	15	35	**3.7**	12	33	**3.4**	9	30	**3.3**	8	28	**3.0**	5	24
0.250	**900**				**4.6**	19	38	**4.3**	14	35	**4.1**	12	34	**3.7**	8	30
0.300	**1080**							**5.1**	21	40	**4.9**	18	38	**4.5**	12	34
0.400	**1440**													**6.0**	22	42

General

- The throw applies to flush-mounting in a flat, closed ceiling; in the absence of a flat, closed ceiling a throw reduction of 40 % is to be applied.
- The pressure loss applies to a fully available discharge surface.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

HREC

Ceiling diffuser
Lattice diffuser
Return

Available types
H R E - - -

H high-capacity ceiling diffuser
R return
E lattice (15 mm x 15 mm)

- **Frame**
  C surface-mounted frame 35 mm fixed internal unit
  O none, lattice only
  U none, lattice with U profile

- **Accessories**
  O none

- **Version**
  D round top connection
  N without plenum, with separate sightproof cover (HREC only)
  O none
  R assembled, internally insulated plenum box
  U assembled, uninsulated plenum box
  Z square top connection

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
De HREC lattice diffuser is suitable for air extraction. The diffuser can be fitted in the ceiling and can be fitted with an insulated or uninsulated plenum box, which is supplied ready assembled. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. Model 550 is also suitable for T-bar mounting in a centre-to-centre 600 mm modular ceiling. A fitted adapter with a round top connection can also be supplied.

Characteristics
The large free flow (95 %) makes the diffuser suitable for a high capacity with a low noise level.

Version
Lattice diffuser

Frame andface plate:	aluminium
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

Plenum box

Material:	sendzimir galvanised steel
Internal insulation:	1/2” duct liner
Post-treatment:	none

Adapter

Material:	sendzimir galvanised steel
Post-treatment:	none

Volume unit (square version)

Material:	extruded aluminium
Treatment:	none

Optional

Plenum box:	flat-sided

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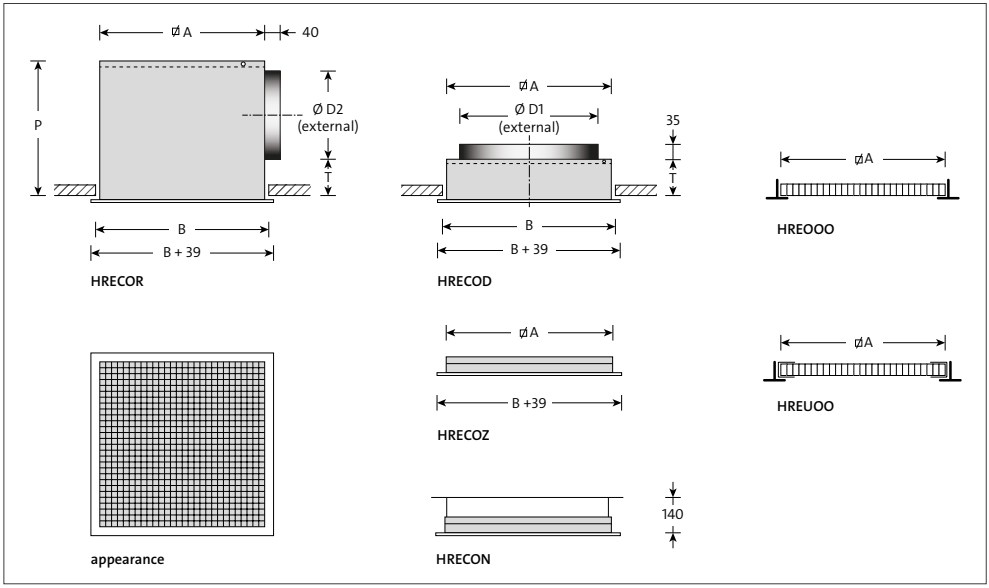
Dimensions



Available dimensions and sizes

model	B	A	D1	D2	T	P
250	248	242	198	123	70	235
300	313	307	248	158	70	270
400	388	382	313	198	75	315
500	483	477	398	198	85	325
550	557	551	498	248	105	395

Note

- The listed dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our website.
- The HREC diffuser model 550 mm is 595 mm over the frame and therefore suitable for T-bar mounting in a modular ceiling with a 600 mm centre-to-centre panel size.

Selection details HREC

air volume		model	HRECOU/ HRECOR side connection round		HRECOD top connection round		HRECOZ top connection square	
m^3/s	m^3/h		Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.030	**108**	**250**	5	-				
0.040	**144**	**250**	9	-				
0.050	**180**	**250**	14	11				
		300	5	-				
0.060	**216**	**250**	20	17	4	-		
		300	7	-				
0.070	**252**	**250**	27	21	5	-		
		300	10	-				
		400	5	-				
		500	4	-				
0.080	**288**	**250**			7	-		
		300	13	12	2	-		
		400	6	-				
		500	5	-				
0.100	**360**	**250**			11	12	5	-
		300	21	19	4	-		
		400	10	-				
		500	8	-				
		550	3	-				
0.125	**450**	**250**			17	19	7	12
		300	32	26	6	-		
		400	15	16	2	-		
		500	13	14				
		550	5	-				
0.150	**540**	**250**			24	25	10	18
		300			9	10	4	-
		400	21	22	3	-		
		500	19	20				
		550	8	-				
0.200	**720**	**250**			43	34	18	27
		300			16	19	7	12
		400	36	30	6	-		
		500	33	28	2	-		
		550	14	17				
0.250	**900**	**250**					29	34
		300			24	26	10	20
		400			10	13	4	-
		500			4	-		
		550	21	23				
0.300	**1080**	**250**					42	40
		300			35	33	15	26
		400			14	19	6	12
		500			5	-	2	-
		550	30	29	3	-		
0.400	**1440**	**250**						
		300					26	35
		400			24	29	10	22
		500			9	15	4	-
		550			5	-		

air volume		model	HRECOU/ HRECOR side connection round		HRECOD top connection round		HRECOZ top connection square	
m^3/s	m^3/h		Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)	Δp_s Pa	L_{pA} dB(A)
0.500	**1800**	**300**					41	42
		400			38	36	16	29
		500			15	23	6	16
		550			8	15	4	-
0.600	**2160**	**300**						
		400					23	35
		500			21	29	9	22
		550			12	21	5	14
0.800	**2880**	**400**					41	44
		500			38	38	16	31
		550			21	30	9	23
1.000	**3600**	**500**					25	38
		550			33	37	14	30
1.250	**4500**	**500**					53	46
		550			52	45	22	38
1.500	**5400**	**550**					32	44

General

- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

For the selection details for HREOOO, HREUOO and HRECON, see the details for HRECOZ.

Attenuation values plenum box (without end reflection)

model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

RTSV

Valve
Supply
Adjustable

Available types
R T S V - O

R round
T supply
S steel
V valve

- **Version**
M mounting ring
K spring clips for mounting in spiro duct

O not applicable

Quick selection

m³/h	model
0-50	100
51-75	125
76-120	160
121-170	200

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The round RTSV supply valve is suitable for supplying ventilation air with a limited temperature difference in respect of the room temperature.

Characteristics
- The RTSVMO type is supplied with an mounting ring.
- The RTSVKO type is supplied with spring clips.

Version
Supply valve

Material:	steel
Post-treatment:	epoxy
Colour:	white RAL 9010, optional RAL colour of your choice

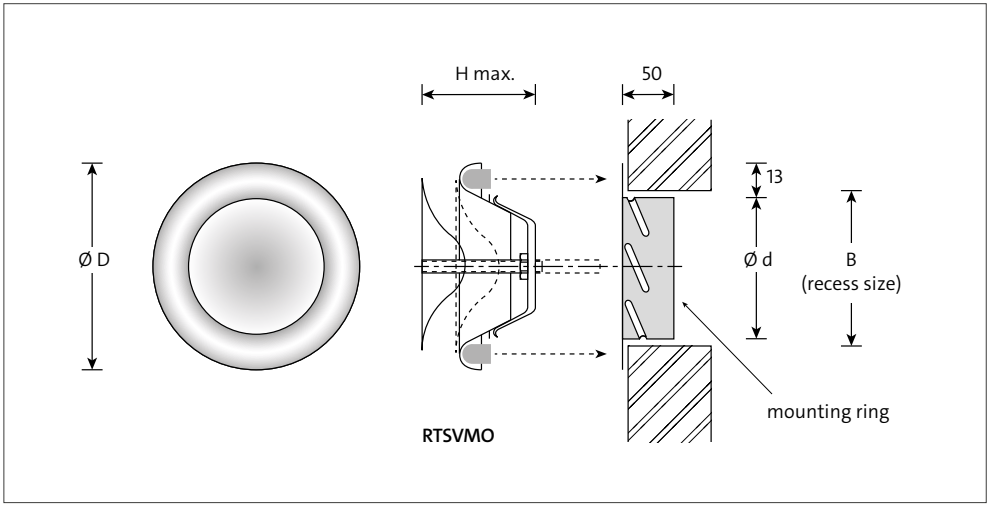
Seal

Connection:	foam rubber

Mounting ring

Material:	sendzimir galvanised steel

Maatvoering



Available dimensions, sizes and weights

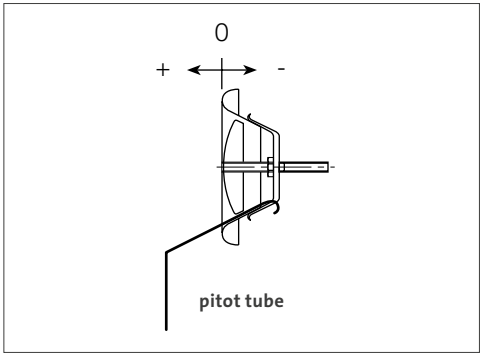
model	d	B	D	H max.	kg
80	79	86	115	42	0.150
100	99	106	138	40	0.170
125	124	130	164	46	0.230
160	159	166	211	54	0.370
200	199	206	248	63	0.520

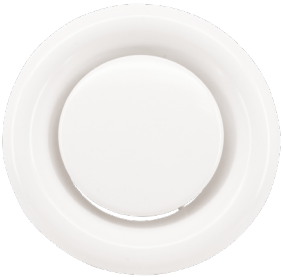
Note

- The listed dimensions are in mm.

General

- The zero position of the valve is the position where the front of the cone is in one continuous line with the front of the outer ring.
- The desired position is achieved by turning the cone.





RRSV

Valve
Return
Adjustable

Available types
R R S V - O

R round
R return
S steel
V valve

- **Version**
M mounting ring
K spring clips for mounting in spiro duct

O not applicable

Quick selection

m³/h	model
0-50	100
51-75	125
76-120	160
121-170	200

SA-Select
Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Use
The round RRSV extraction valve is suitable for extracting air in mechanical ventilation systems. Minor pressure differences can be set properly by these valves, ensuring low noise levels.

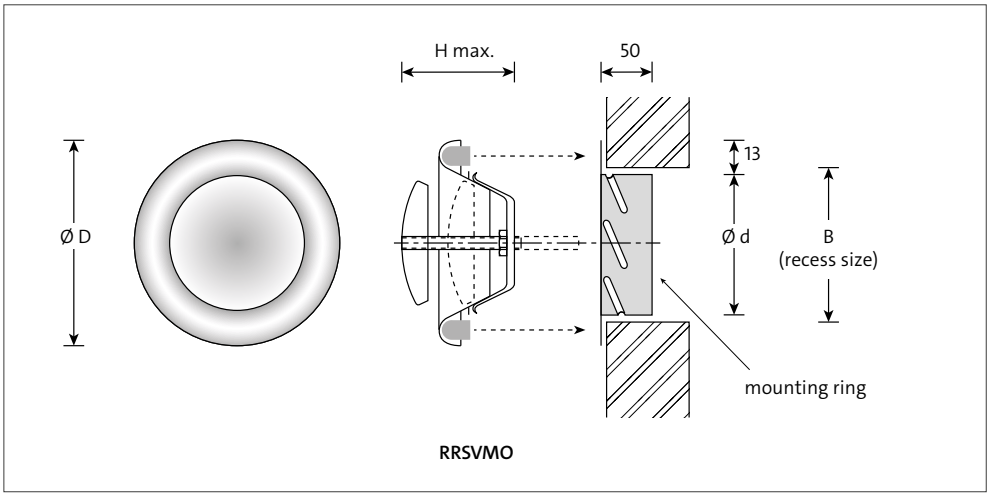
Characteristics
The RRSVMO type is supplied with an mounting ring. The RRSVKO type is supplied with spring clips.

Version
Extraction valve
Material: steel
Post-treatment: epoxy
Colour: white RAL 9010, optional RAL colour of your choice

Seal
Connection: foam rubber

Mounting ring
Material: sendzimir galvanised steel.

Dimensions



RRSVMO

Available dimensions, sizes and weights

model	d	B	D	H max.	kg
80	79	86	115	70	0.15
100	99	106	137	70	0.19
125	124	131	161	85	0.31
160	159	166	212	85	0.47
200	199	206	248	110	0.66

Note

- The listed dimensions are in mm.

General

- The zero position of the valve is the position where the front of the cone is in one continuous line with the front of the outer ring.
- The desired position is achieved by turning the cone.