

Good climate,
better performance!

CHAPTER 3.1

CEILING DIFFUSERS

Chapter 3.1 - Ceiling diffusers

Mixing systemen
Selection method ceiling diffusers
Fitting instructions

Perforated



PTVD/PTDD

Supply
Surface-mounted, removable



PRVD/PRDD

Return
Surface-mounted, removable



PTVM/PTTM

Supply
T-bar mounted



PRVM/PRTM

Return
T-bar mounted



PTVS/PTTS

Supply
T-bar mounted



PRVS/PRTS

Return
T-bar mounted



PTVI/PRVI

Supply/return
Formwork, removable



PRIMON

Return
T-bar mounted, sightproof



PSVT/PTVT/PRVT

Supply/return
T-bar version



CTVM

Supply
T-bar, clean diffuser



CRVM

Return
T-bar, clean diffuser

4
10
13



PDVM
Supply
T-bar, downflow

53

14



RTLD
Supply
Surface-mounted, suspended

56

18

21



RTBD
Supply
Surface-mounted

59

25



RRBD
Return
Surface-mounted

62

29



RTBM/RTBT
Supply
T-bar mounted

65

33



RRBM/RRBT
Return
T-bar mounted

68

37



RTBS
Supply
T-bar mounted, removable diffuser part

71

41



RRBS
Return
T-bar mounted, removable diffuser part

74

43



RTBC
Supply
Surface-mounted, round

77

47



RRBC
Return
Surface-mounted, round

80

50

3

Swirl, flat, adjustable**RTGD/RTGT**

Supply

Surface-mounted, T-bar mounted

RRGD/RRGT

Return

Surface-mounted, T-bar mounted

83**TTHA/TTPA**

Supply

Surface-mounted, T-bar mounted, high induction

**114****RTDO**

Supply

Surface-mounted, suspended, perforated

**117****HREC**

Return

Surface-mounted, T-bar mounted, lattice

119**Swirl, conical, fixed****RTFO**

Supply

Surface-mounted, suspended, round

90**RTFM**

Supply

T-bar mounted

93**Flat-sided plenum box****Flat-sided plenum box****122****Swirl, conical, adjustable****RTWK**

Supply

Surface-mounted, T-bar mounted, suspended, round

96**Valves****RTSV**

Supply

Adjustable

124**RRSV**

Return

Adjustable

126**Linear diffusers****STAD/STBD**

Supply

Surface-mounted

100**Various connection materials****SROD**

Return

Surface-mounted

105**Guso connector****128****Flex: Sonodec 25/250****129****Flex: Sonodec 25 (insulated)****131****Flex: Aludec 112****133****Flex: Aludec 245****135****Flex: Stretchdec****137****Flex: Combidec****139****Flex: Isodec****141****Flex: Greydec 100****143****Fitting equipment****144****STAR/STBR**

Supply

T-bar mounted

110

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

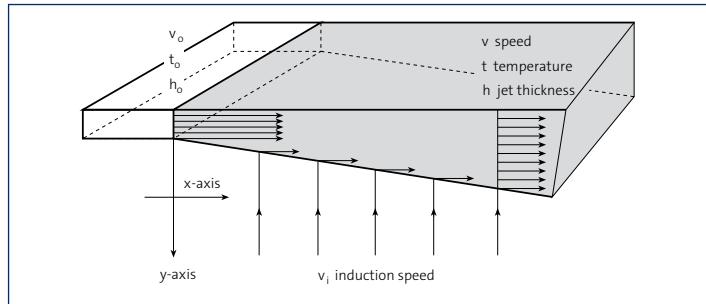


Fig. 2.1 plane flow

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 (**v_i**) 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:

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

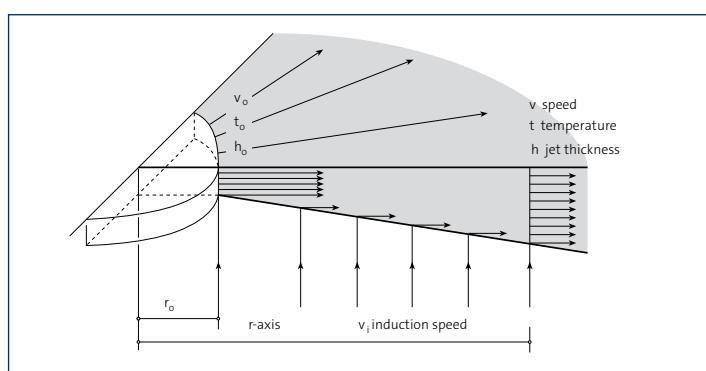


Fig. 2.2 radiale stroming

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.

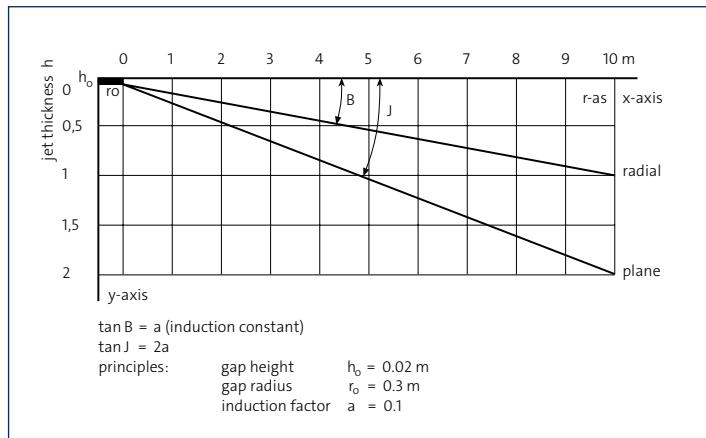


Fig. 2.3 Jet thickness

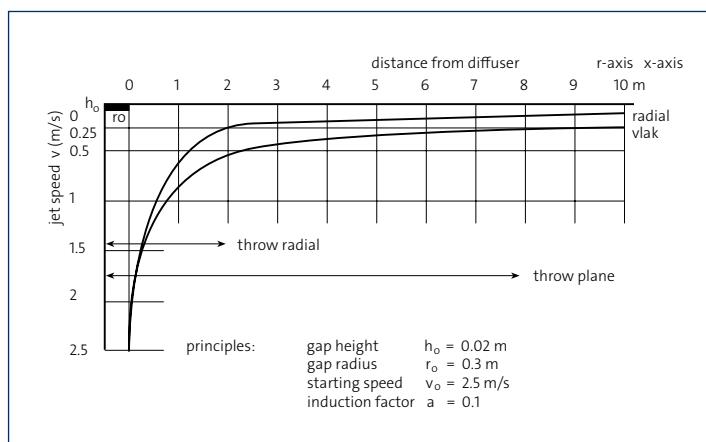


Fig. 2.4 Jet velocity

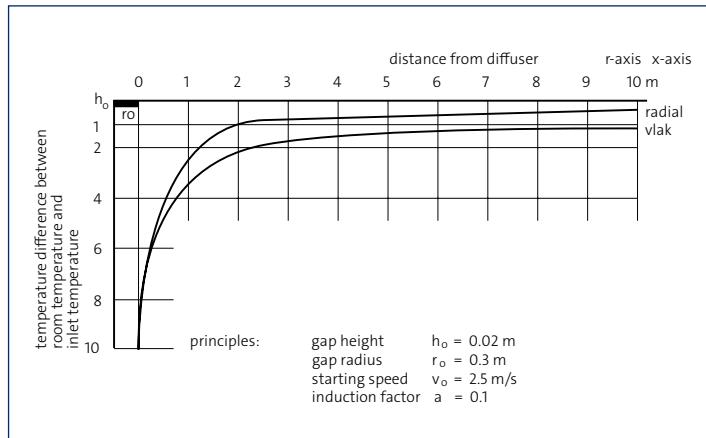


Fig. 2.5 Jet temperature

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 $v \propto r$ 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.

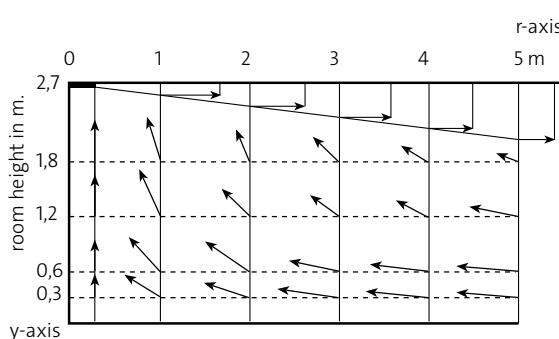


Fig. 3.3 Velocity increase return vortex radial pattern

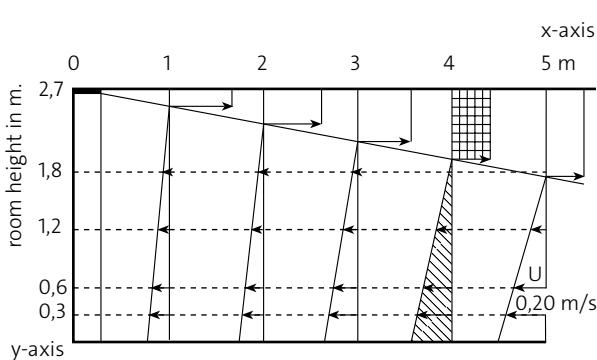


Fig. 3.4 Velocity increase return vortex in the x-direction plane pattern

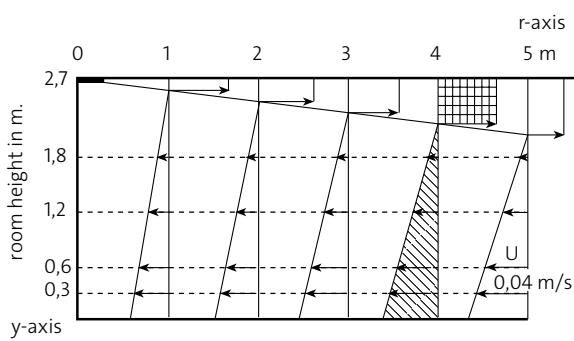


Fig. 3.1 Velocity increase return vortex in the x-direction radial pattern

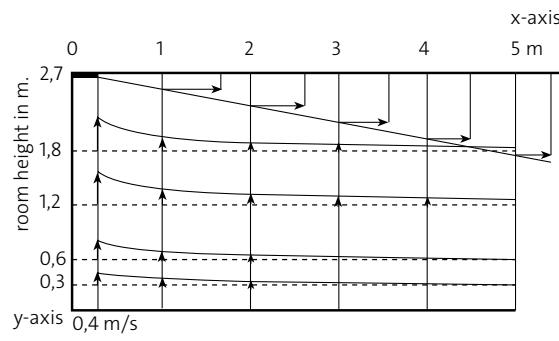


Fig. 3.5 Velocity increase return vortex in the y-direction plane pattern

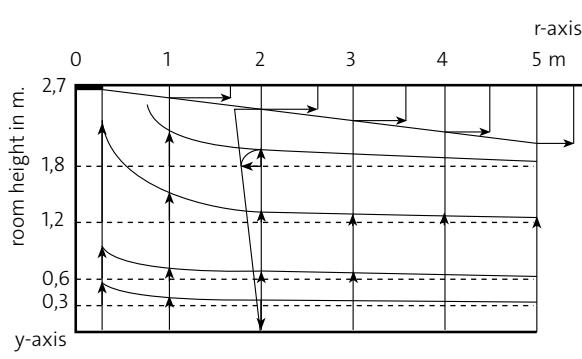


Fig. 3.2 Velocity increase return vortex in the y-direction radial pattern

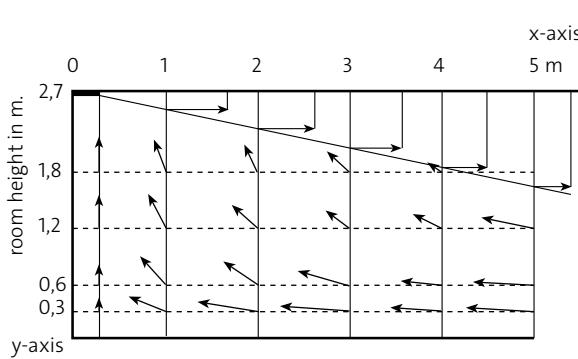


Fig. 3.6 Velocity increase return vortex plane pattern

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.

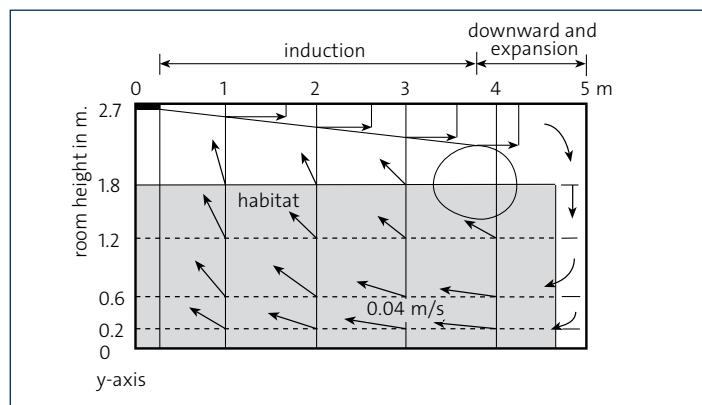


Fig. 4.1 Flow picture radial pattern

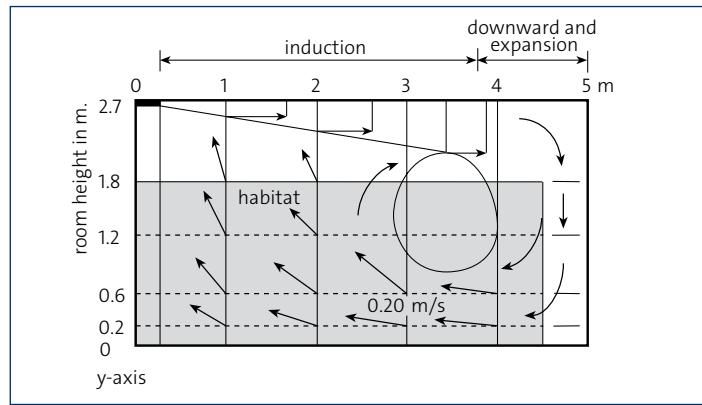


Fig. 4.2 Flow picture plane pattern

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.

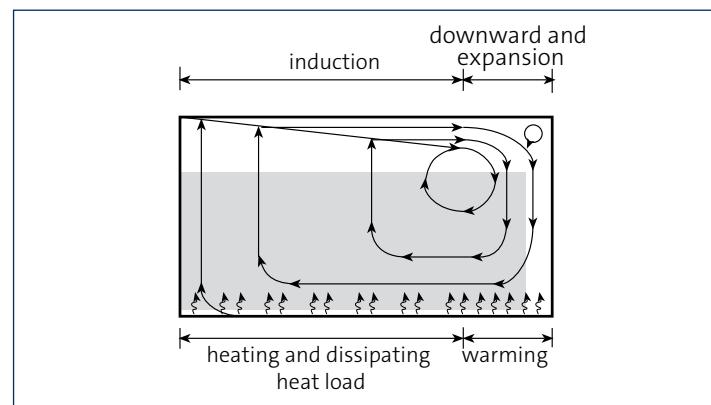


Fig. 5.1 Even heat load

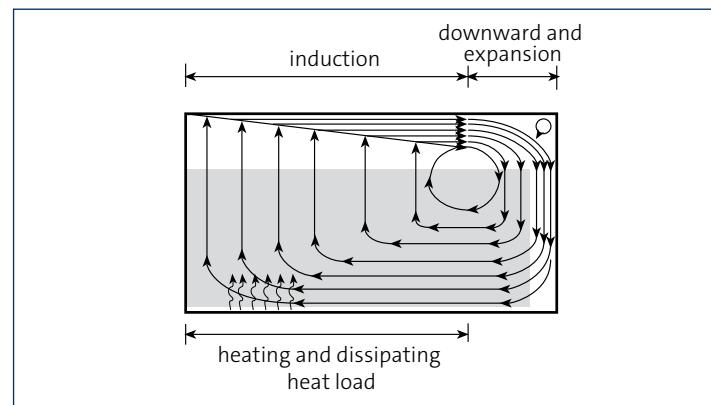


Fig. 5.2 Concentrated heat load

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 vortex and 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).

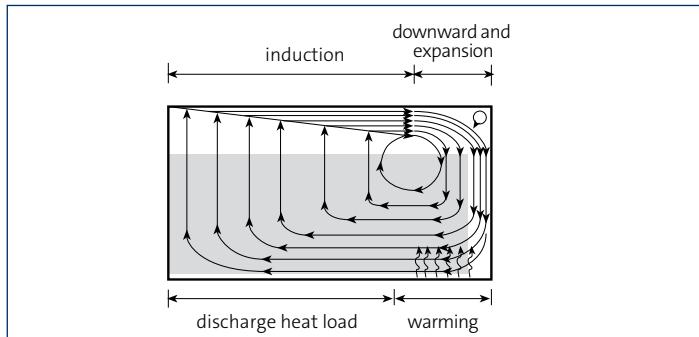


Fig. 5.3 Heat load in the downward area (weak source)

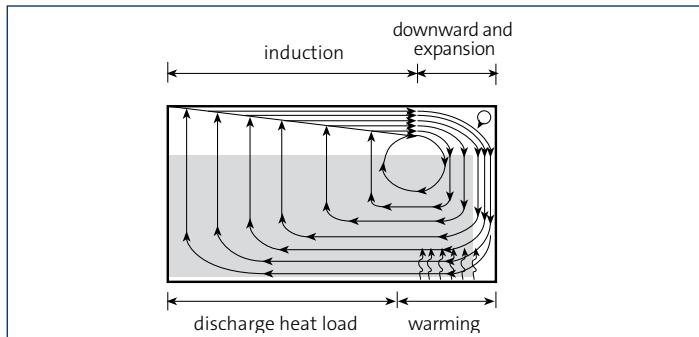


Fig. 5.4 Heat load in the downward area (strong source)

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).

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

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.

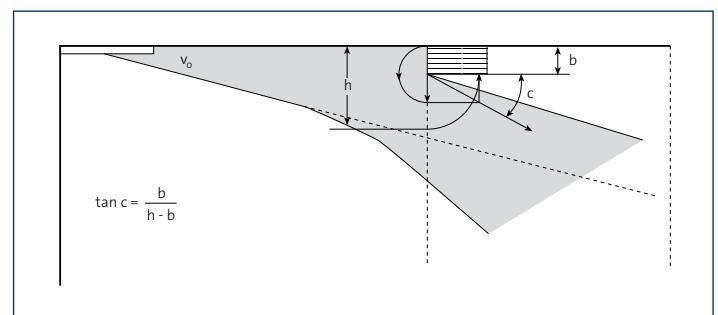


Fig. 6.1 Beam in air flow

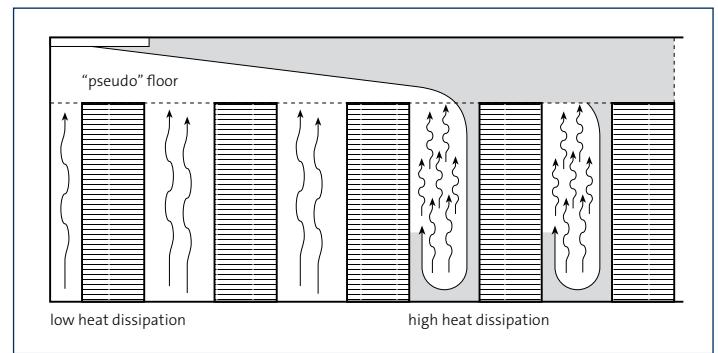


Fig. 6.2 Obstacles perpendicular to the return vortex

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: $h_o * v_{o2} = h * v^2$

Mass: $d(h * v) = v_i dx$

Induction: $v_i = a * v$

Radial pattern:

Momentum: $h_o * r_o * v_{o2} = h * r * v^2$

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

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
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 L_p 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

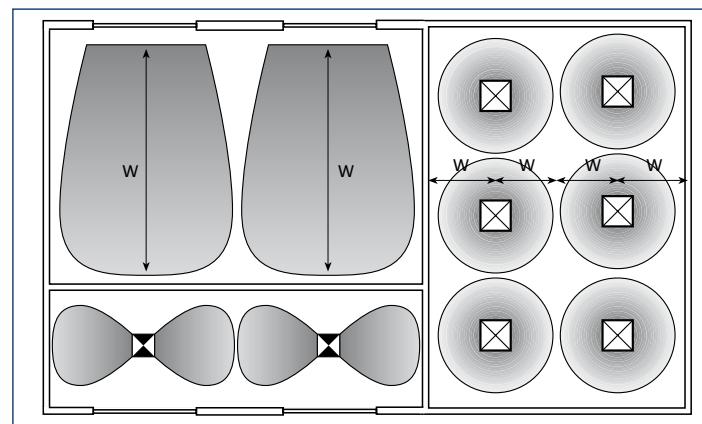
- The tables have an upper limit based on pressure loss and sound values. The lower limit is determined by the minimum required exit speed when discharging cooled air.
- It is permitted to interpolate the interim values.
- The supply-air temperature may be no more than 10 K below or 15 K above the average 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 W_{max} 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) • $W_{max} = 7.5 \times (H - 2)$

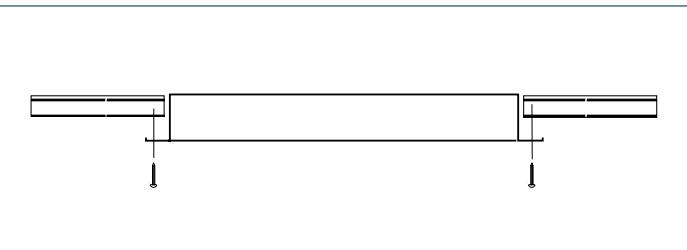
FITTING INSTRUCTIONS

Fitting method

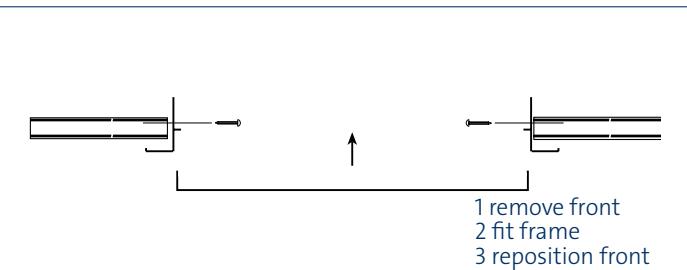
model	A	B	C	D	E
HRE	X	-	X	X	-
LRVD	X	-	X	-	-
LRVM	-	-	-	X	-
LTVD	X	-	X	-	-
LTVM	-	-	-	X	-
PDVM	-	-	X	X	-
PRVD	X	X	X	-	-
PRVM	-	-	-	X	-
PTVD	X	X	X	-	-
PTVM	-	-	-	X	-
PTVS	-	-	-	X	-
RRBC	X	-	X	-	-
RRBD	X	-	X	-	-
RRBM	-	-	X	X	-
RRGC	-	-	X	-	-
RRGD	-	-	X	-	-
RRSV	-	-	X	X	-
RRVO	-	X	-	-	X
RTBC	X	-	X	-	-
RTBD	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).

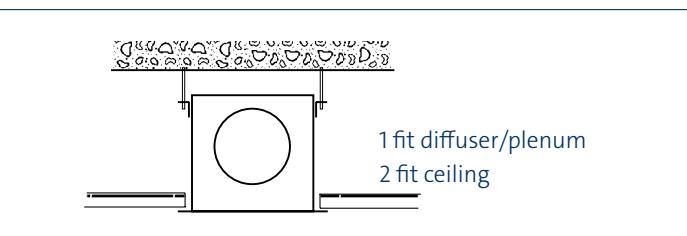
A Fitting from the front



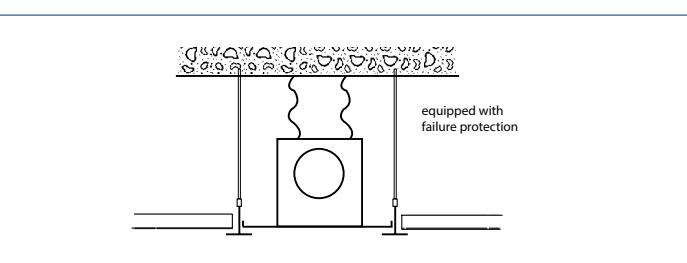
B Blind fitting from the front



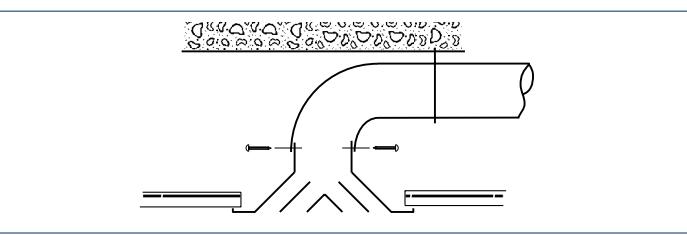
C Fitting via the plenum box



D T-bar mounted in modular ceiling



E Directly in a duct





PTVD/PTDD

Perforated diffuser

Supply

Surface-mounted, removable

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
-------------	------------

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.

Available types

PT - D O -

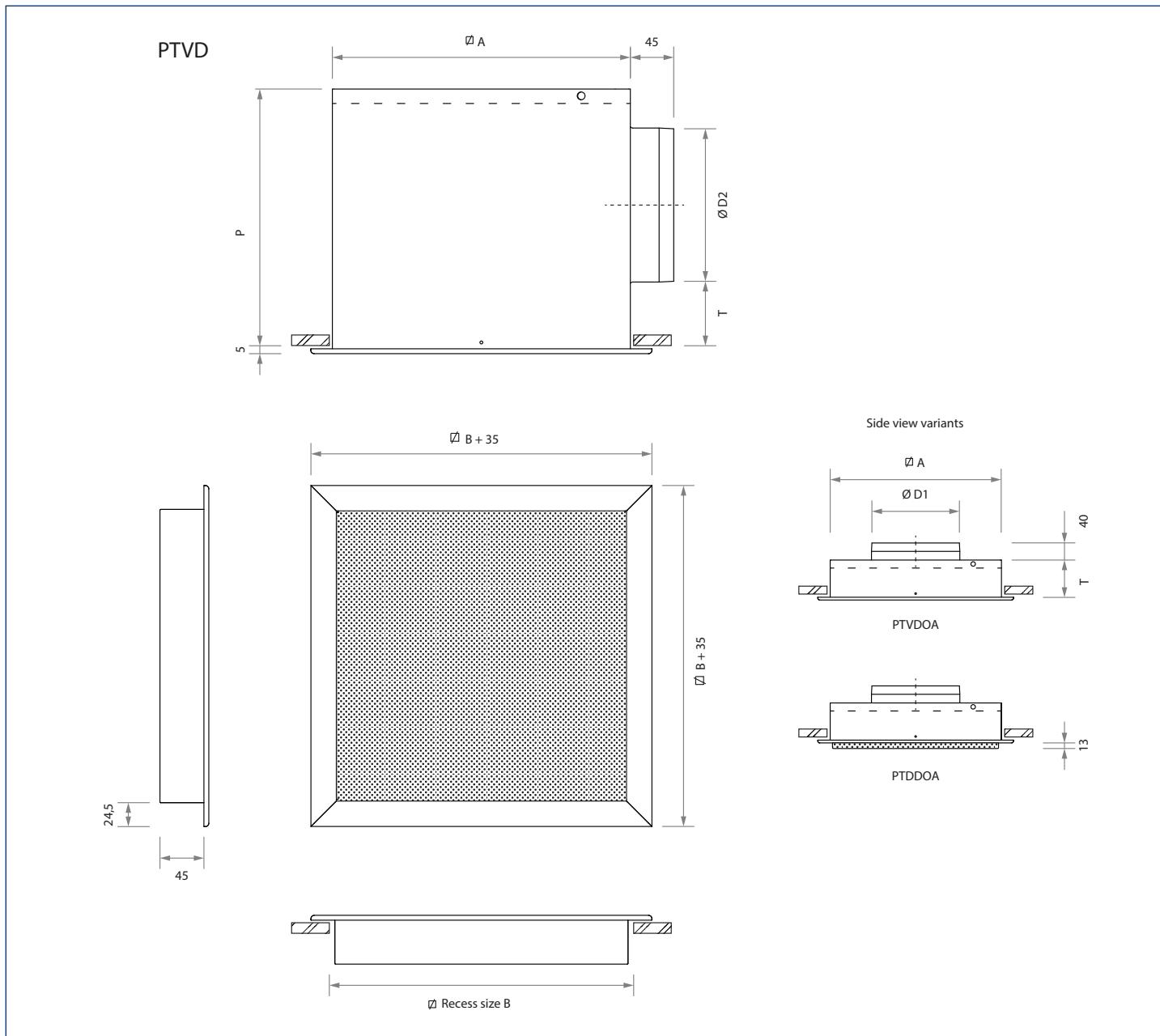
P perforated ceiling diffuser
T supply

- **Face plate (removable)**
 - V** flat
 - D** dropped 13 mm

- D** surface-mounted
- O** no accessories

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

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 dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our [website](#).

Selection details

P-VD

air volume		model	discharge pattern														
			4-sided			3-sided			2-sided opposite			2-sided angle			1-sided		
m³/s	m³/h	model	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
		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	19	1.3	9	19
		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
		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
		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
		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	
		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	
		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
		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
		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
		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

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.

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

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
-------------	------------

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.

Available types

PR - DO -

P perforated ceiling diffuser

R return

- **Face plate (removable)**

V flat

D 13 mm

D surface-mounted

O no accessories

- **Version**

A round top connection

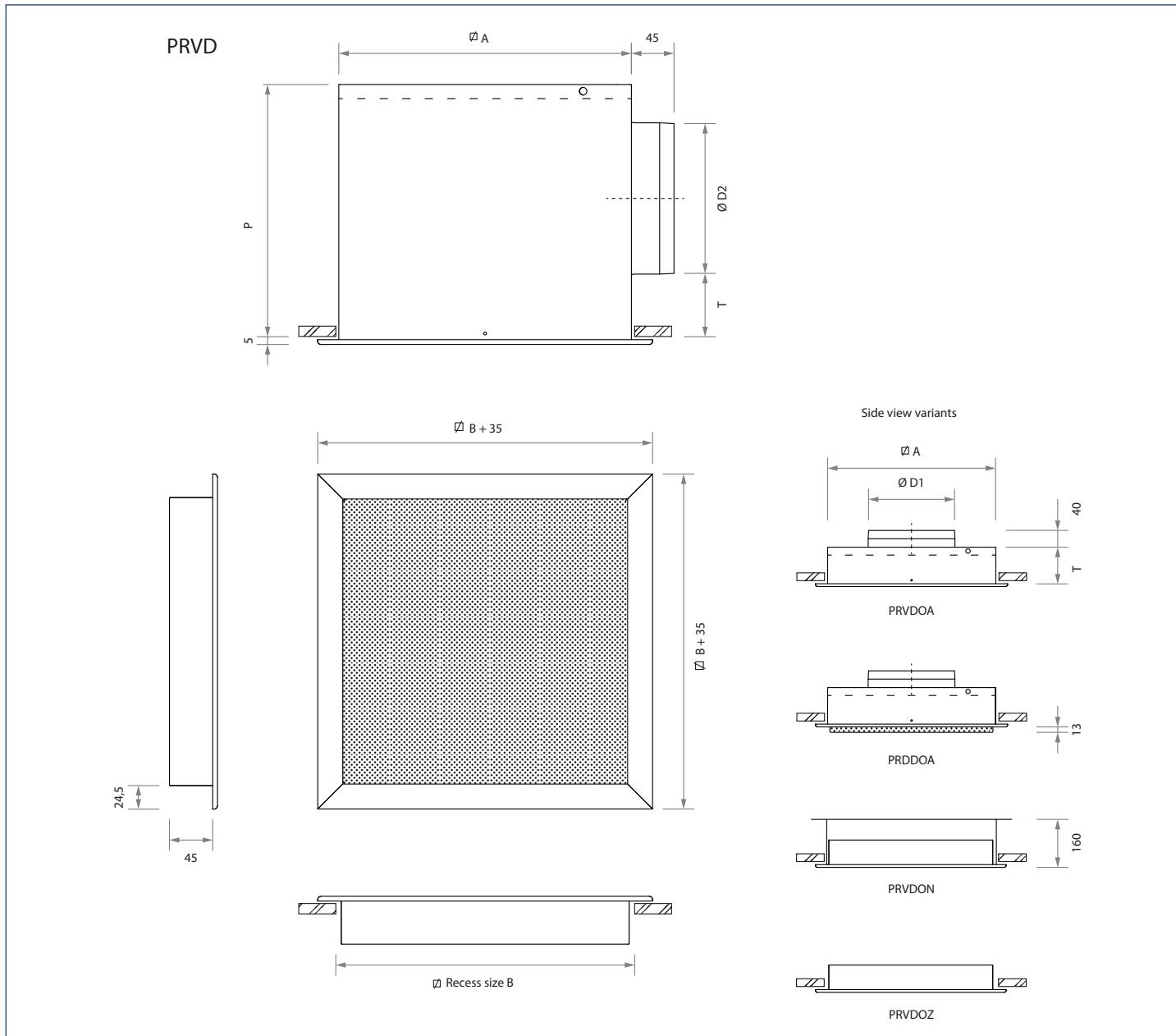
N without plenum, with separate sightproof cover

R assembled, internally insulated plenum box

U assembled, uninsulated plenum box

Z square top connection

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

Note

- The dimensions are in mm.
- Information regarding flat-sided plenum boxes is available on our [website](#).

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

Selection details

PRVDOR, PRVDOA and PRVDOU

air volume		round connection		
m³/s	m³/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

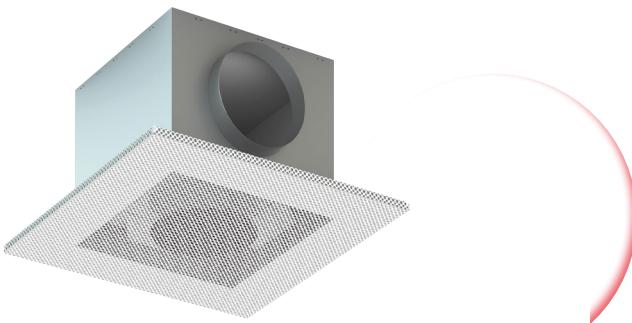
air volume		square connection		
m³/s	m³/h	model	Δp _s Pa	L _{pA} dB(A)
0.080	288	250	9	10
		300	3	-
		250	13	15
		300	5	-
		400	2	-
		250	21	21
0.100	360	300	8	11
		400	3	-
		250	30	25
		300	11	15
		400	4	-
		500	2	-
0.125	450	250	54	32
		300	20	22
		400	8	13
		500	3	-
		550	2	-
		300	45	32
0.150	540	400	18	23
		500	7	14
		550	3	-
		300	79	39
		400	32	30
		500	13	21
0.200	720	550	6	14
		400	49	35
		500	20	26
		550	10	19
		400	71	39
		500	29	31
0.300	1080	550	14	23
		500	51	37
		550	24	30
		550	38	36
		550	38	36
		550	38	36
0.400	1440	500	71	39
		550	29	31
		550	14	23
		500	51	37
		550	24	30
		550	38	36
0.500	1800	550	71	39
		500	29	31
		550	14	23
		500	51	37
		550	24	30
		550	38	36
0.600	2160	550	71	39
		500	29	31
		550	14	23
		500	51	37
		550	24	30
		550	38	36
0.800	2880	550	71	39
		500	29	31
		550	14	23
		500	51	37
		550	24	30
		550	38	36
1.000	3600	550	71	39
		550	29	31

Attenuation values plenum box

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

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

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.

Available types

PT - M - O -

P perforated ceiling diffuser
T supply

- Face plate

V flat
T 8 mm dropped
(fully perforated, only in combination with ceiling version I)

M modular ceiling, panel size 600 mm

- Ceiling version (see table on page 14)

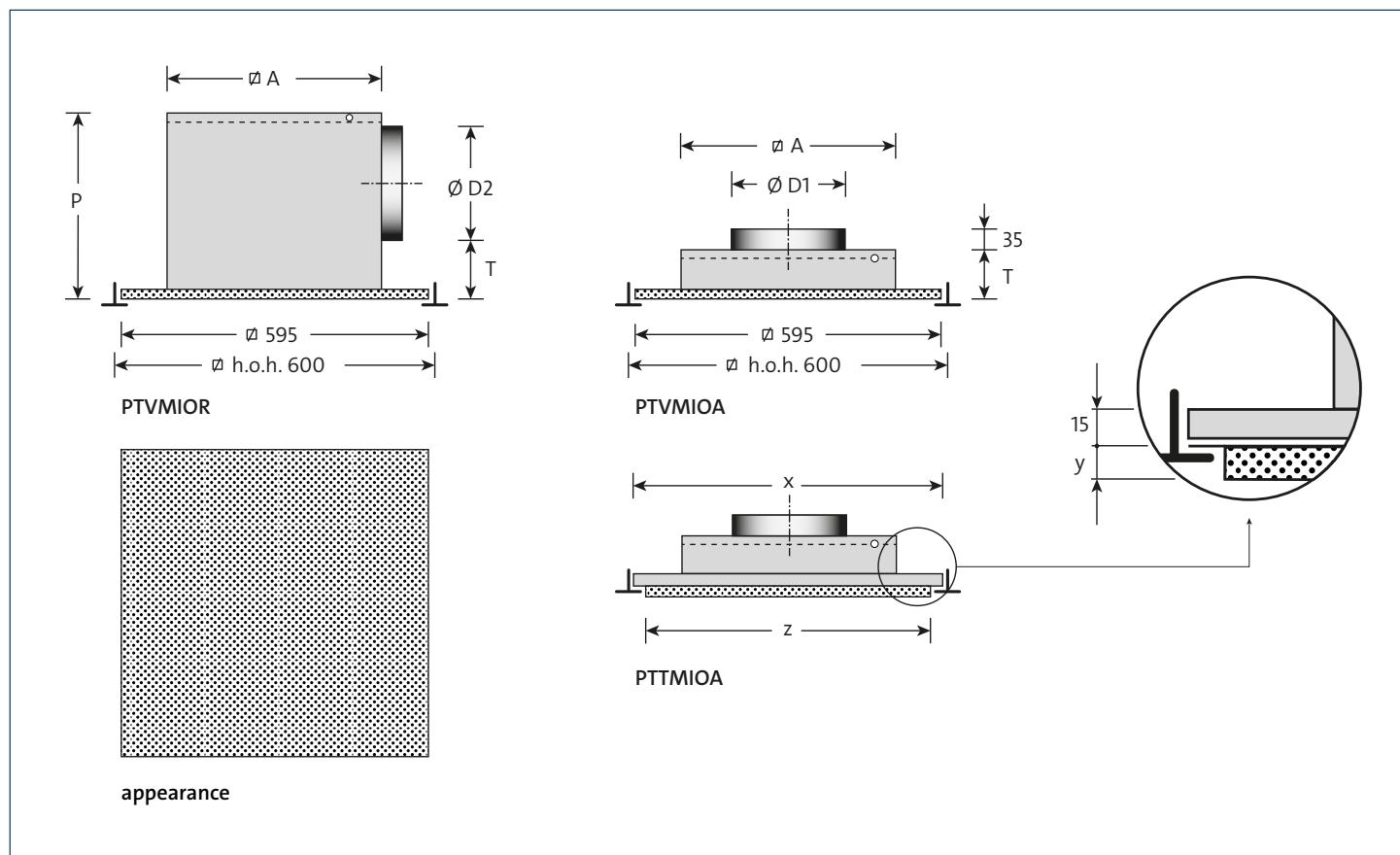
I T-bar mounted
A concealed panel (concealed ceiling version)
B concealed panel (concealed ceiling version)
C concealed panel (concealed ceiling version)

O no accessories

- Version

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

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 dimensions are in mm.
- For the PTTM version with a flat-sided front, the dimensions x, y and z must be given in the order.
- $x - z \geq 12$ mm.
- $y \geq 6$ mm.
- Information regarding flat-sided plenum boxes is available on our [website](#).

Selection details

PT-M

air volume		model	discharge pattern														
			4-sided			3-sided			2-sided opposite			2-sided angle			1-sided		
m³/s	m³/h	model	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	19	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
		250	1.4	6	29	1.5	10	31	1.9	20	34	1.9	25	34			
0.050	180	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
		250	1.7	8	34	1.8	13	36	2.2	28	39	2.2	35	41			
0.060	216	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	
		300	1.8	11	32	1.9	14	34	2.4	26	37	2.4	33	39			
0.080	288	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	
		300	2.3	17	38	2.4	21	40									
0.100	360	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
		400	2.4	13	36	2.6	18	35									
0.125	450	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
		400	2.9	19	40												
0.150	540	500	2.5	8	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
		500	3.3	25	40	3.6	30	43									
0.200	720	550	2.9	14	34	3.2	18	37	3.0	27	40	3.0	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

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

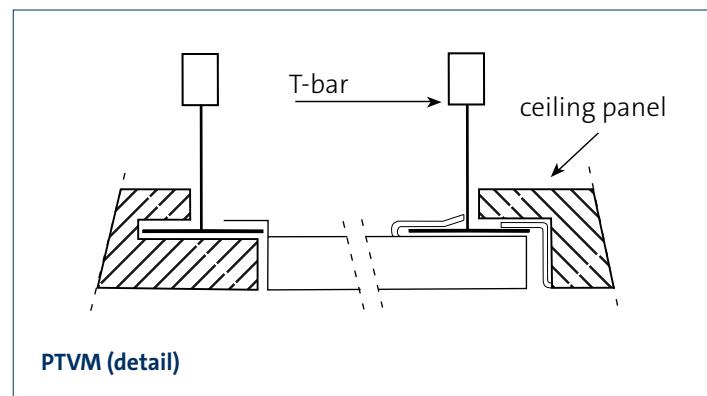
- The throw applies to flush-mounting in a flat, closed ceiling.
- The assumed room attenuation is 10 dB.
- It is permitted to interpolate the interim values.

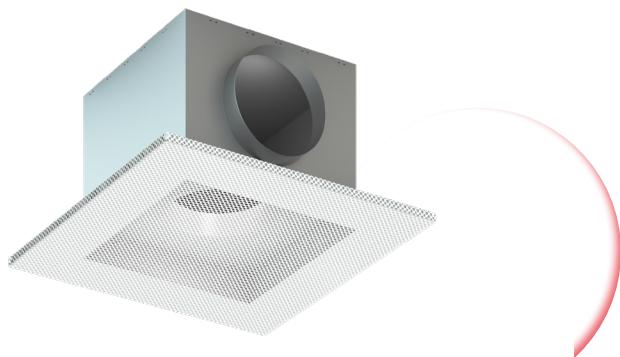
Discharge pattern

-  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
	Hygiene 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

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. 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

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.

Available types

P R - M - O -

P perforated ceiling diffuser
R return

- **Face plate**

- V** flat
- T** 8 mm dropped
(fully perforated, only in combination with ceiling version I)

M modular ceiling, panel size 600 mm

- **Ceiling version** (see table on [page 18](#))

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

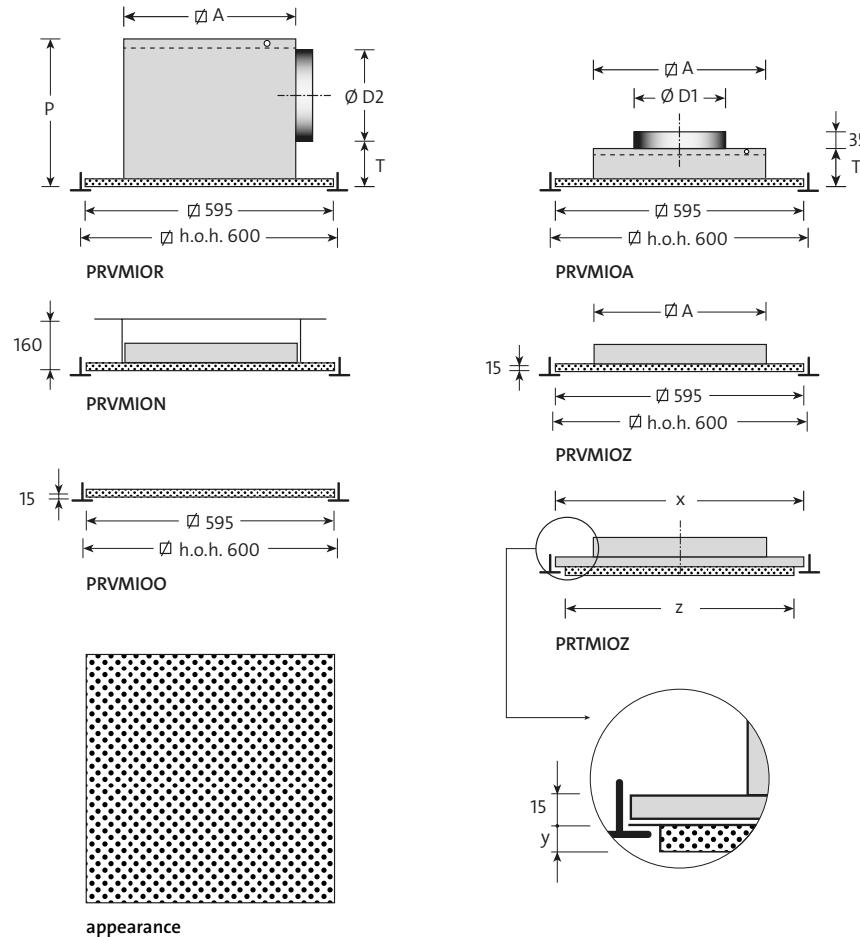
O no accessories

- **Version**

- A** round top connection
- N** without plenum, with separate sightproof cover*
(PRV---N to model 550)
(PRT---N to model 500)
- 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.

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 dimensions are in mm.
- For the PRTM version with a flat-sided front, the dimensions x,y and z must be given in the order.
 $x - z \geq 12$ mm (model 550: $z = 583$ mm).
 $y \geq 6$ mm.
- Information regarding flat-sided plenum boxes is available on our [website](#).

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	-
		250	16	12
0.050	180	300	6	-
		400	2	-
		250	24	17
0.060	216	300	9	-
		400	3	-
		500	3	-
		300	15	13
0.080	288	400	6	-
		500	5	-
		550	3	-
		300	24	19
0.100	360	400	9	-
		500	8	-
		550	4	-
		400	14	15
0.125	450	500	12	15
		550	6	-
		400	21	20
0.150	540	500	18	20
		550	9	10
		500	31	27
0.200	720	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	-
0.125	450	400	2	-
		250	21	21
0.150	540	300	8	11
		400	3	-
0.200	720	250	30	25
		300	11	15
		400	4	-
		500	2	-
0.300	1080	250	54	32
		300	20	22
		400	8	13
		500	3	-
0.400	1440	550	2	-
		300	45	32
		400	18	23
		500	7	14
0.500	1800	550	3	-
		300	79	39
		400	32	30
		500	13	21
0.600	2160	550	6	14
		400	49	35
		500	20	26
		550	10	19
0.800	2880	400	71	39
		500	29	31
		550	14	23
		500	51	37
1.000	3600	550	24	30
		550	38	36

PR-MIOO only panel □ 595

air volume		model	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

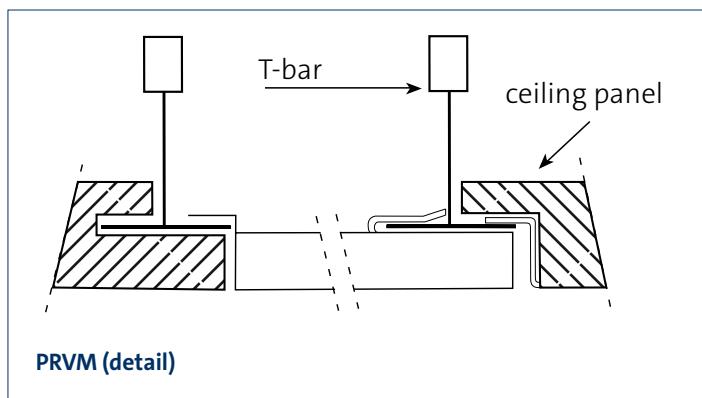
model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

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
	Hygiene 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



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 13 mm dropped (only in combination with ceiling version I)

S modular ceiling panel size 600 mm, removable

- **Ceiling version** (see table on page 22)
 - 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



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. 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

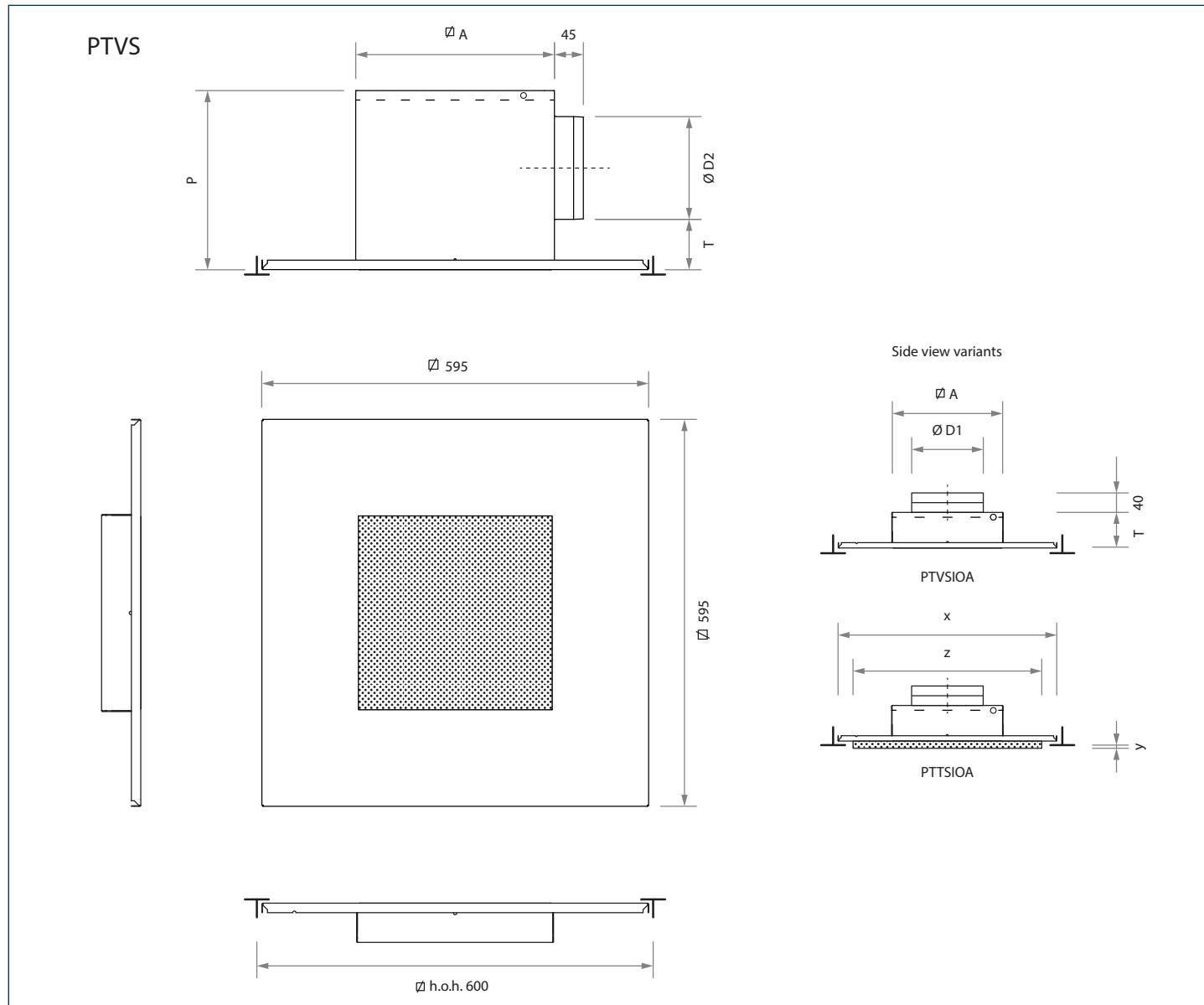
Optional

panel size:	up to 750 mm
plenum box:	flat-sided

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.

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	2.8	4.0
300	2.9	4.9
400	3.1	6.0
500	3.4	7.3
550	4.0	9.3

Note

- The dimensions are in mm.
- For the PTTS version with a flat-sided front, the dimensions x, y and z must be given in the order.
- $x - z \geq 12$ mm (model 550: z = 583 mm).
- $y \geq 6$ mm.
- 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		
m³/s	m³/h	model	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	19	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
		250	1.4	6	29	1.5	10	31	1.9	20	34	1.9	25	34			
0.050	180	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
		250	1.7	8	34	1.8	13	36	2.2	28	39	2.2	35	41			
0.060	216	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	
		300	1.8	11	32	1.9	14	34	2.4	26	37	2.4	33	39			
0.080	288	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	
		300	2.3	17	38	2.4	21	40									
0.100	360	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
		400	2.4	13	36	2.6	18	35									
0.125	450	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
		400	2.9	19	40												
0.150	540	500	2.5	8	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
		500	3.3	25	40	3.6	30	43									
0.200	720	550	2.9	14	34	3.2	18	37	3.0	27	40	3.0	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

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.

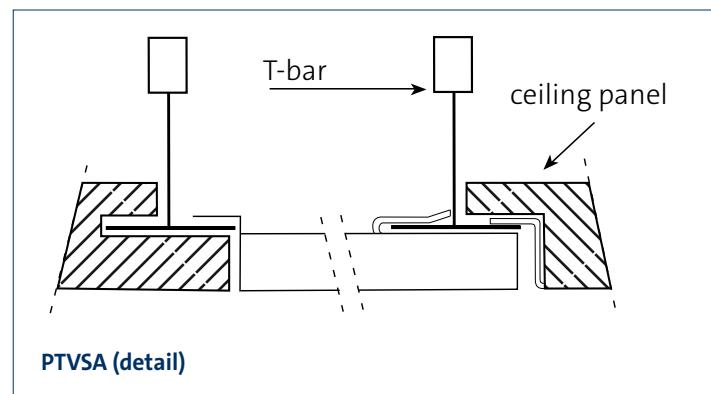
model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

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
	Hygiene 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





PRVS/PRTS

Perforated diffuser

Return

T-bar mounted in modular ceiling

Removable

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. 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

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.

Available types

P R - S ---

P perforated ceiling diffuser
R return

- **Face plate (passe-partout)**
V flat
T 13 mm dropped (only in combination with ceiling version I)

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)

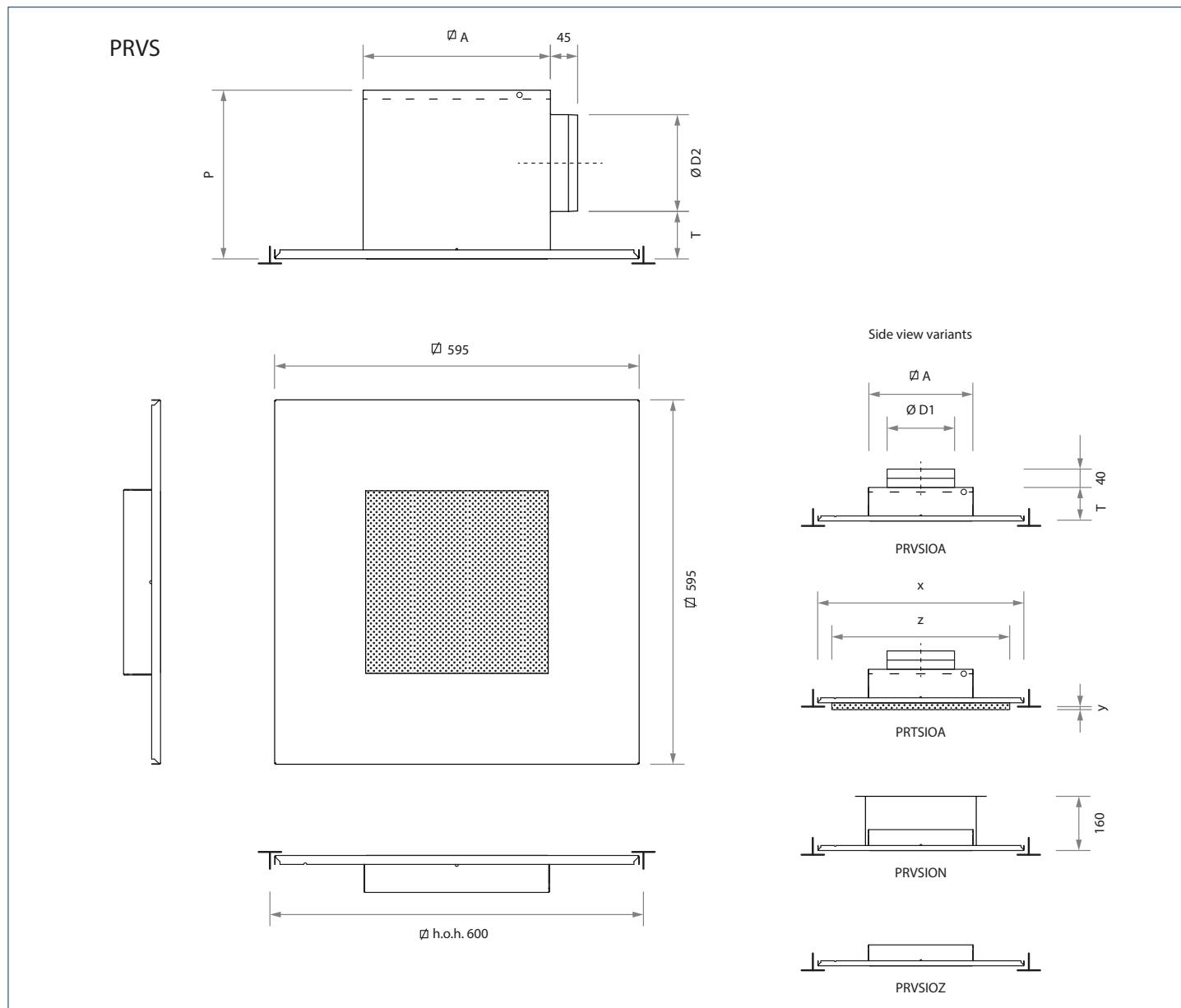
- **Accessories**

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

- **Version**

- A** round top connection
- N** without plenum, with separate sightproof cover
(PRV---N to model 550)
(PRT---N to model 500)
- U** assembled, uninsulated plenum box
- R** assembled, internally insulated plenum box
- Z** square top connection

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 dimensions are in mm.
- For the PRTS version with a flat-sided front, the dimensions x , y and z must be given in the order.
- $x - z \geq 12$ mm (model 550: $z = 583$ mm).
- $y \geq 6$ mm.
- Information regarding flat-sided plenum boxes is available on our website.

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	-
0.050	180	400	1	-
		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	-	
0.125	450	400	2	-	
		250	21	21	
0.150	540	300	8	11	
		400	3	-	
0.200	720	250	30	25	
		300	11	15	
		400	4	-	
		500	2	-	
0.300	1080	250	54	32	
		300	20	22	
		400	8	13	
		500	3	-	
		550	2	-	
0.400	1440	300	45	32	
		400	18	23	
		500	7	14	
		550	3	-	
0.500	1800	300	79	39	
		400	32	30	
		500	13	21	
		550	6	14	
0.600	2160	400	49	35	
		500	20	26	
		550	10	19	
		400	71	39	
0.800	2880	500	29	31	
		550	14	23	
		500	51	37	
1.000		550	24	30	
3600		550	38	36	

Attenuation values plenum box

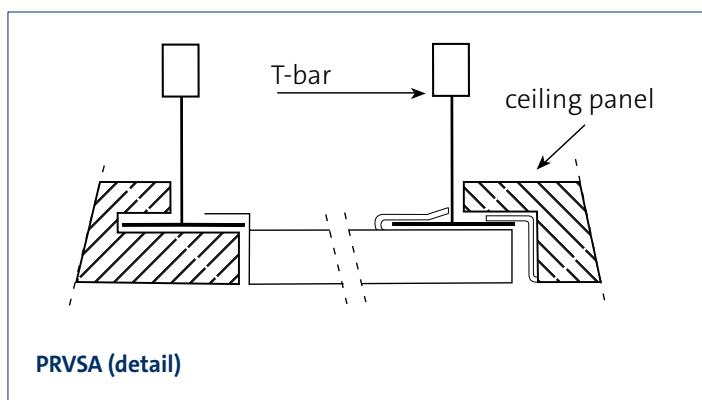
model	attenuation values						
	125	250	500	1k	2k	4k	Hz
250	5	0	3	10	5	11	dB
300	3	1	6	7	7	9	dB
400	2	2	9	7	7	9	dB
500	2	4	9	7	7	10	dB
550	0	6	7	7	6	9	dB

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
	Hygiene 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





PTVI/PRVI

Perforated diffuser

Supply/Return

Formwork version

Removable

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

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.

Available types

P-VIO-

P perforated ceiling diffuser

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

- V** flat, removable
- I** formwork
- O** no accessories

- **Version**

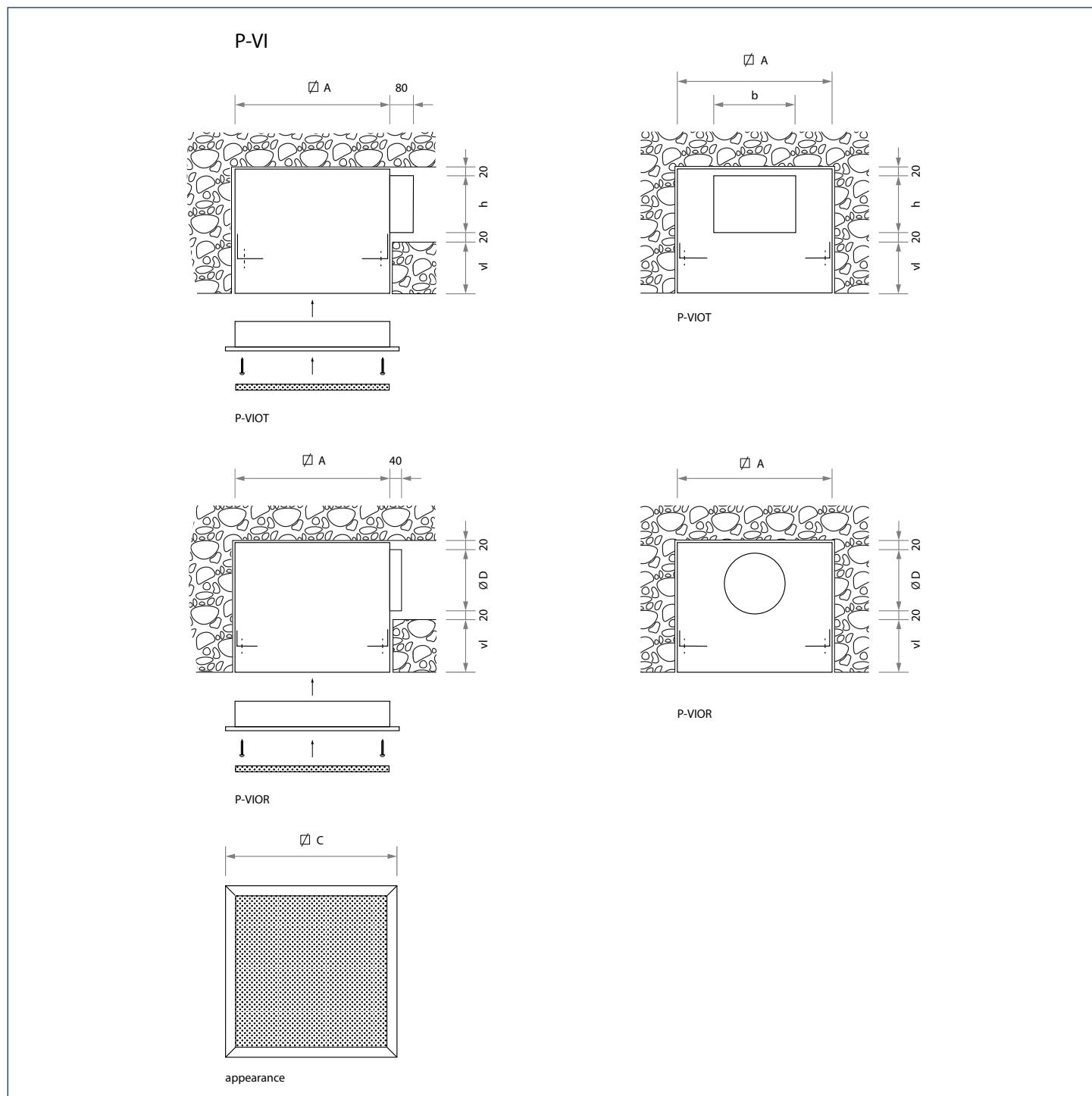
Round side connection

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

Square side connection

- T** internally insulated plenum box
- S** uninsulated plenum box

Dimensions



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 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		
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)
0.015	54	250 and 255	0.4	1	-	0.4	1	-	0.6	2	6	0.6	3	8	0.9	7	16
0.020	72	250 and 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 and 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 and 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 and 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 and 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 and 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	1.8	14	33	1.8	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

air volume		model	Δp _s Pa	L _{pA} dB(A)
m³/s	m³/h			
0.015	54	250 and 255	1	-
0.020	72	250 and 255	3	-
0.025	90	250 and 255	4	-
	300		1	-
0.030	108	250 and 255	6	-
	300		2	-
0.040	144	250 and 255	11	-
	300		4	-
0.050	180	250 and 255	16	15
	300		6	-
0.060	216	250 and 255	24	20
	300		9	-
0.080	288	300	15	16
0.100	360	300	24	22

Attenuation values plenum box

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

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



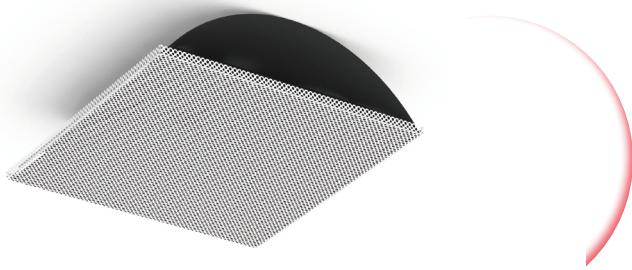
1-sided



pattern blade "closed"



pattern blade "open"



PRIMON

Perforated diffuser

Return, transfer

T-bar mounted in modular ceiling

Sightproof, restricts the entry of light

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

SA-Select

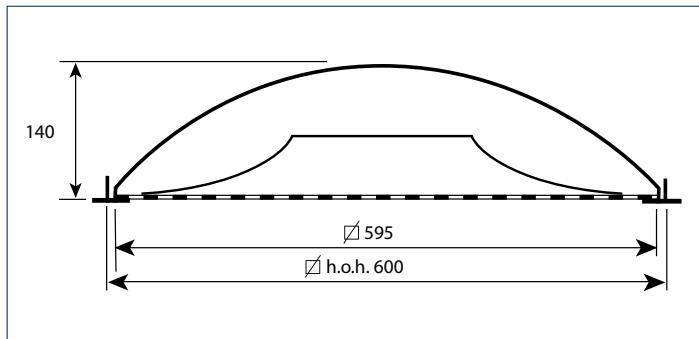
Check [SA-select](#) to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Available types

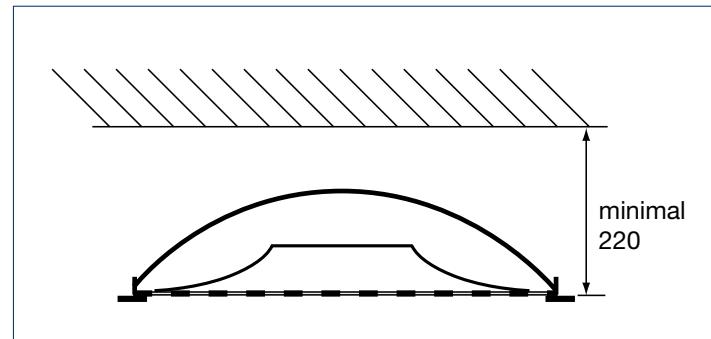
PRIMON

- 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

Dimensions



Fitting instructions



Selection details

PRIMON

air volume m ³ /s	model	Δp _s Pa	L _{pA} dB(A)
m ³ /h			
0.080	288	550	2
0.100	360	550	3
0.125	450	550	5
0.150	540	550	7
0.200	720	550	10
			17

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

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
-------------	------------

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.

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

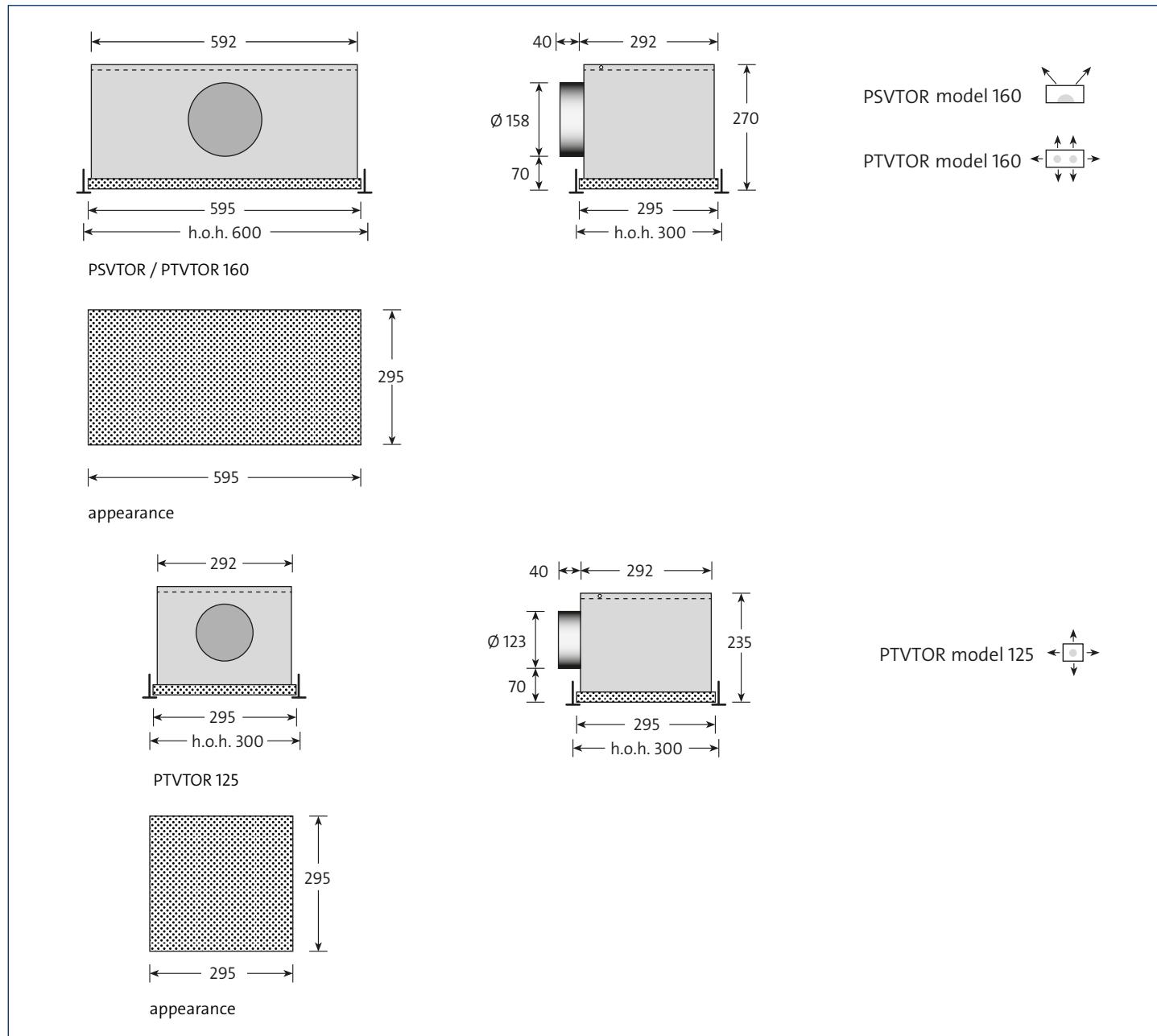
V flat face plate

T surface-mounted on ceiling tile, T-bar mounted in modular ceiling

O not applicable

R assembled, internally insulated plenum box

Dimensions



Available dimensions and sizes

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

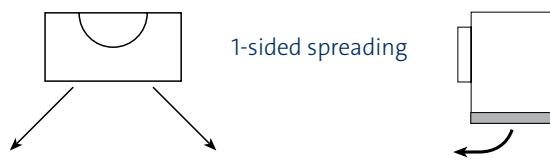
Note

- The 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.

Selection details

PSVTOR 160 panel size 600 x 300

air volume		1-sided (spreading)		
m³/s	m³/h	throw m	Δp _s Pa	L _{pA} dB(A)
0.025	90	0.8	2	6
0.030	108	1.0	2	11
0.040	144	1.3	4	19
0.050	180	1.6	7	24
0.060	216	2.0	10	29



PTVTOR 160 panel size 600 x 300

air volume		4-sided			3-sided 2K+1L			3-sided 1K+2L			2-sided 1K+1L		
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)
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		
m³/s	m³/h	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		
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)
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			

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.

Outflow pattern

PTVTOR 125

4-sided



3-sided



2-sided angle



2-sided opposite



1-sided

— pattern blade "closed"

— pattern blade "open"

PTVTOR 160

4-sided

3-sided
2 short + 1 long3-sided
1 short + 2 long2-sided
1 short + 1 long2-sided
2 short2-sided
2 long1-sided
1 short1-sided
1 long



CTVM

Perforated diffuser

Supply

T-bar mounted in modular ceiling

Clean diffuser

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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Optional

Version for concealed modular ceiling available on request.

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.

Available types

CTVM 10 -

C perforated diffuser

T supply

V flat perforated

M modular ceiling, panel size 600 mm

I T-bar mounted

O no accessories

- Version

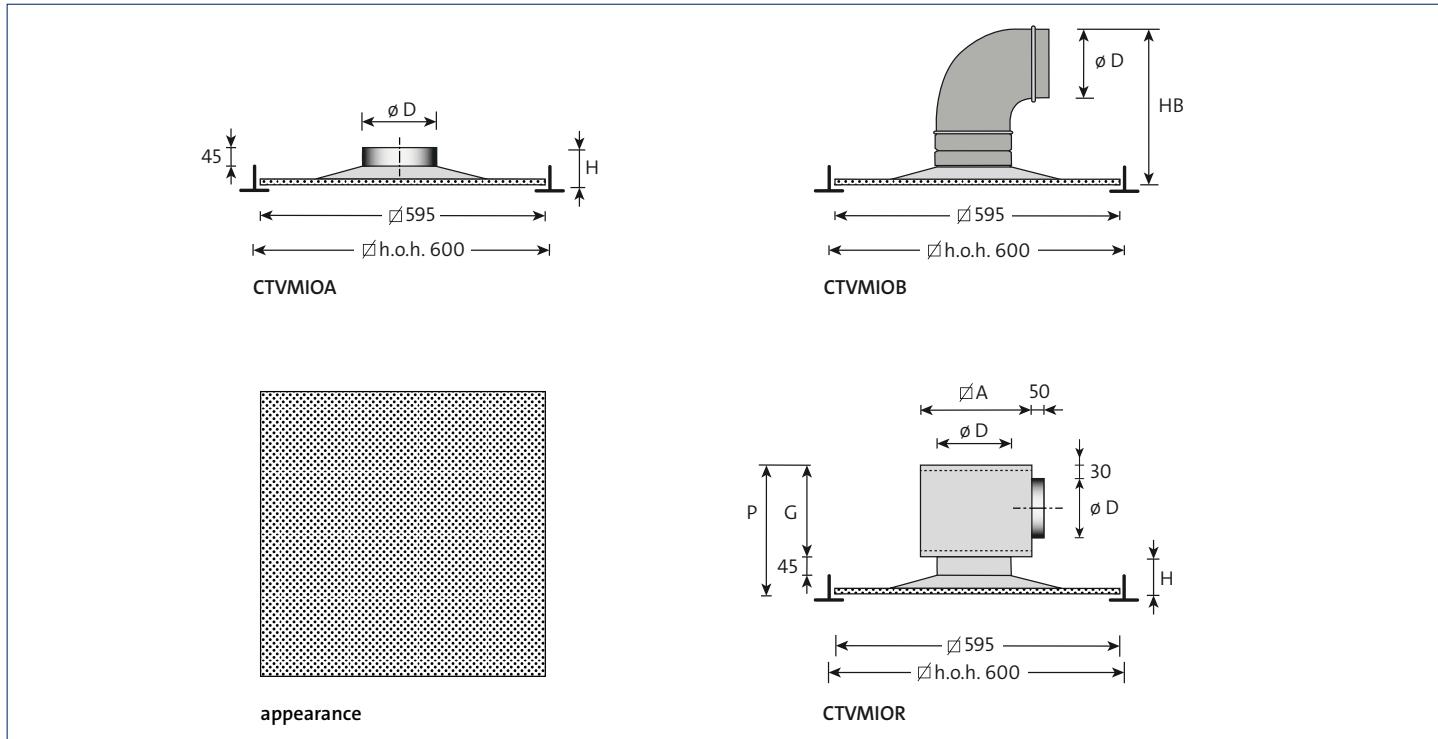
A round top connection

B smooth bend (supplied separately)

R internally insulated plenum box (supplied separately)

R uninsulated plenum box (supplied separately)

Dimensions



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 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
		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.



CRVM

Perforated diffuser

Return

T-bar mounted in modular ceiling

Clean diffuser

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

Optional

Version for concealed modular ceiling available on request.

SA-Select

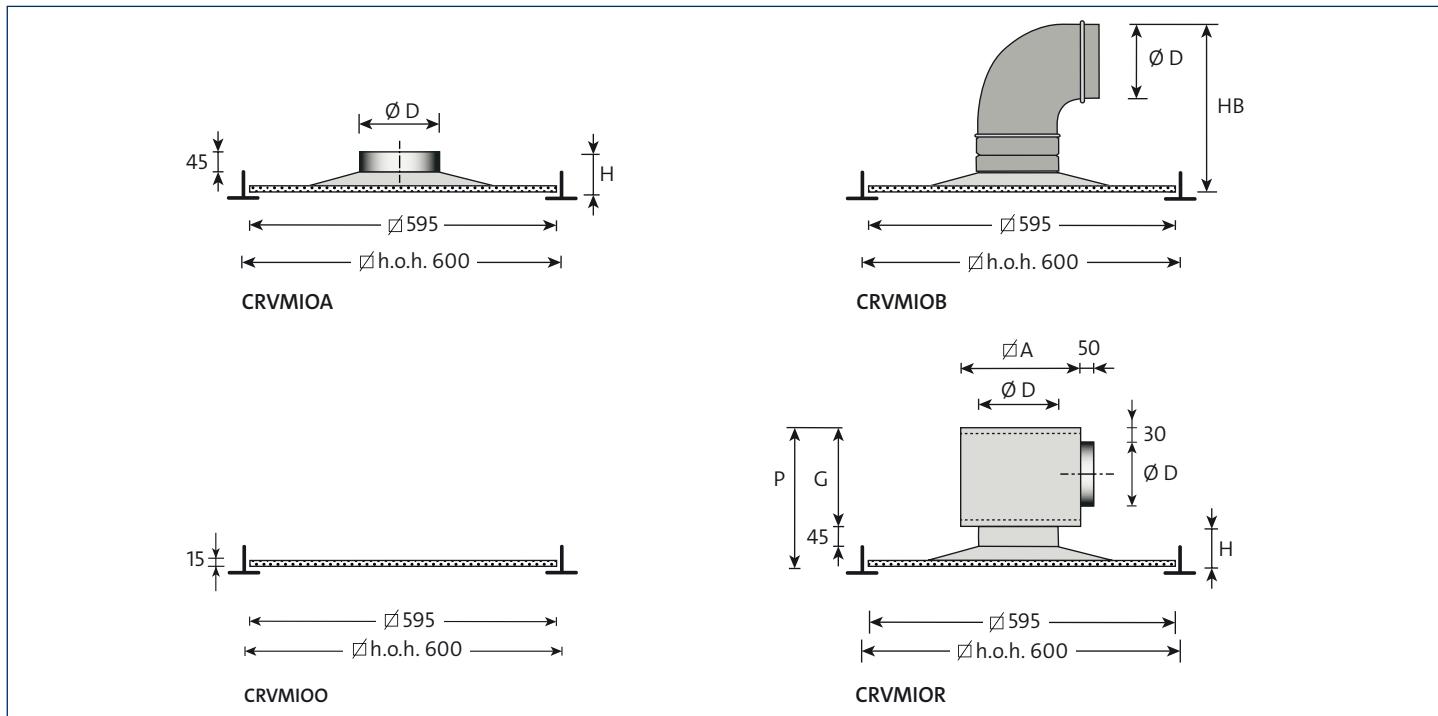
Check SA-select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

Available types

CRVMION -

- 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)

Dimensions



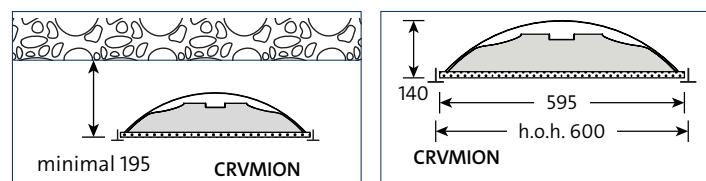
Available dimensions and sizes

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 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 connection		
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	-
		250	5	-
0.030	108	250	3	-
0.040	144	350	2	-
		350	7	-
0.050	180	350	3	-
0.060	216	350	6	-
0.070	252	350	9	-
		450	15	-
0.080	288	450	4	-

CRVMIOO

air volume		round connection		
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 connection		
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

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
Overttemperature	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

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.

Available types

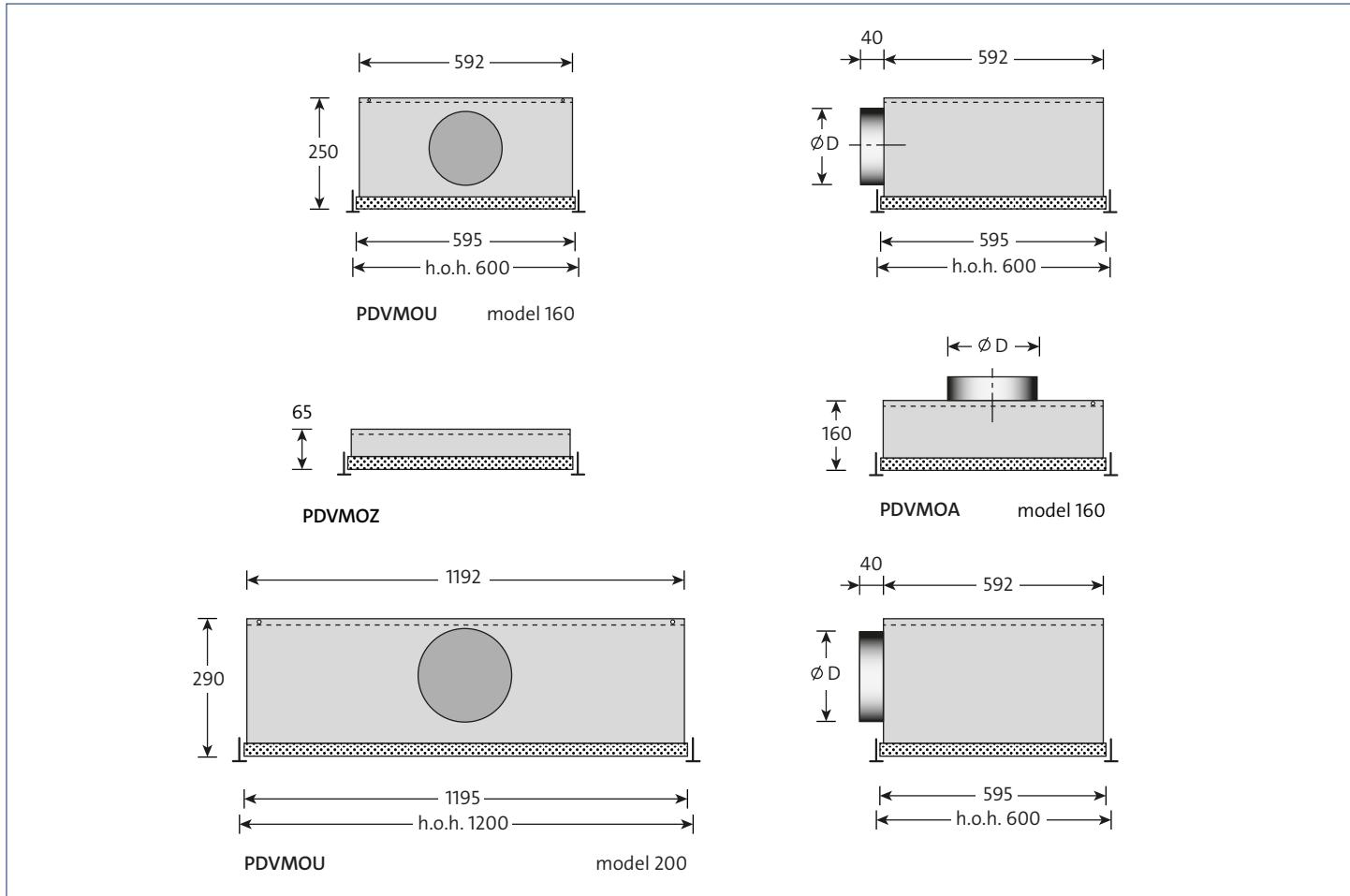
P D V M O -

- 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

Dimensions



Available dimensions and sizes

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

Note

- The dimensions are in mm.

Selection details

PDVM

air volume		distance	panel size					
m³/s	m³/h		600 x 600			1200 x 600		
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

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
Overttemperature:	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

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.

Available types

RTLD -

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

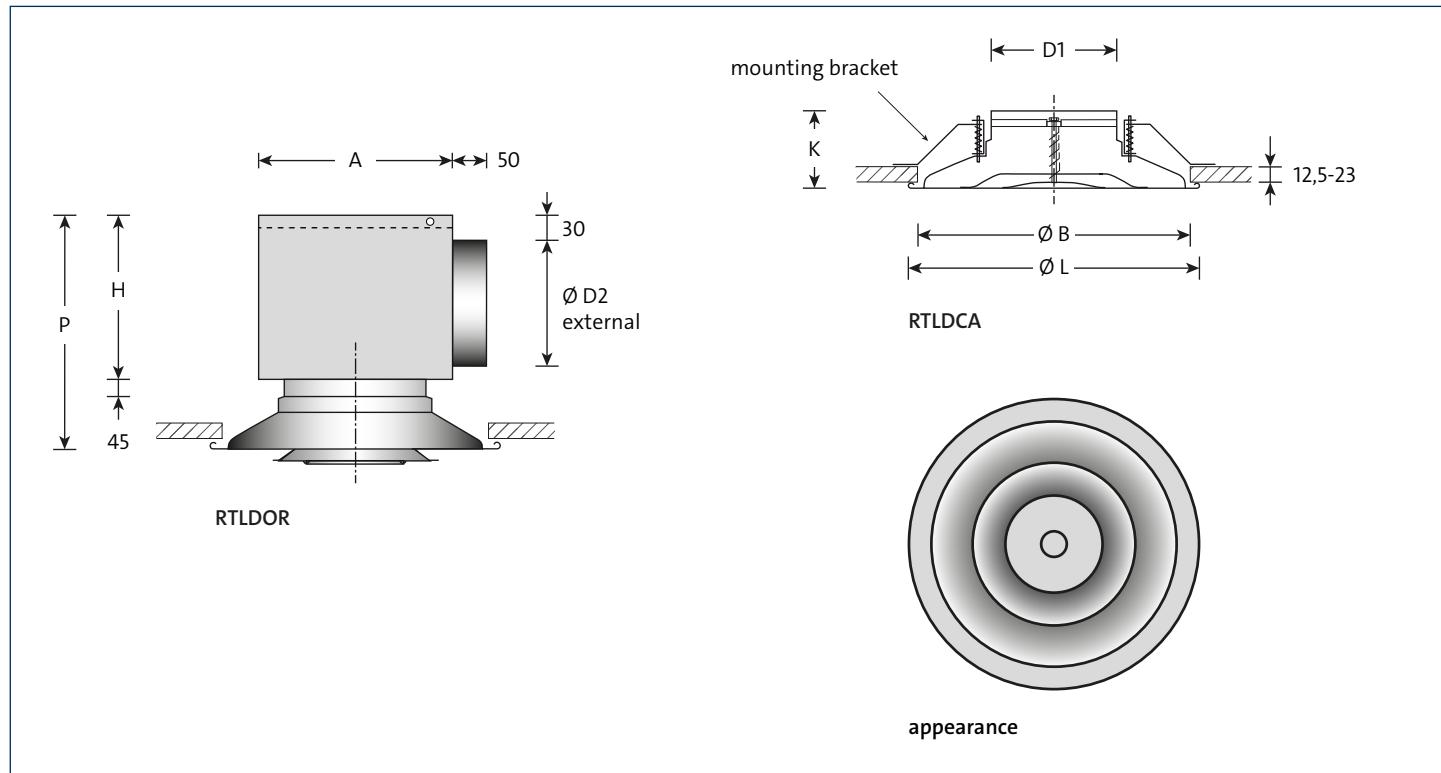
- Accessories

- 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)

Dimensions



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

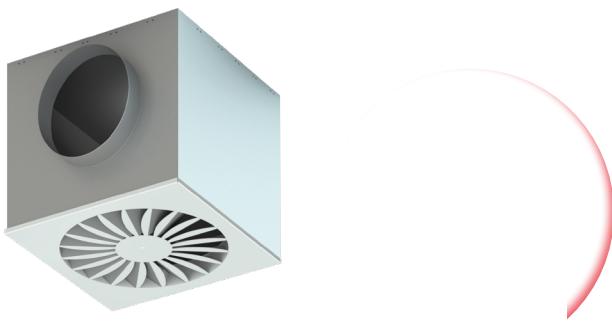
Selection details

RTLD

air volume		model	throw m	Δp_s Pa	L_pA dB(A)
m ³ /s	m ³ /h				
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

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:
 $\Delta P_s + 1$
 $L_pA + 3$



RTBD

Swirl diffuser

Supply

Surface-mounted

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
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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.

Available types

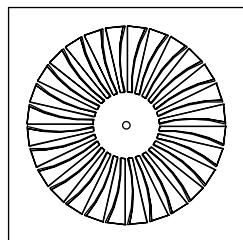
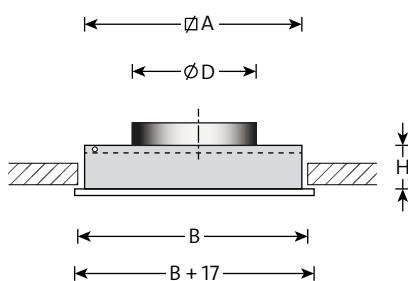
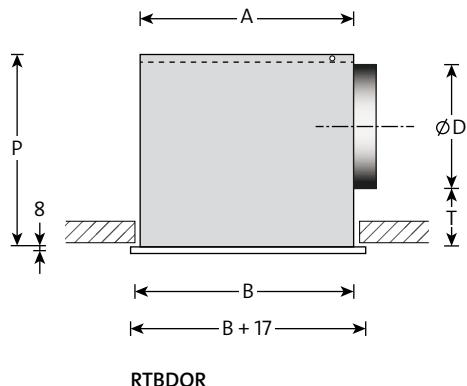
RTBD O -

- 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

Dimensions



appearance

Available 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	2.4	3.0
350	4.0	5.2
450	6.0	7.9
550	8.5	11.2

Note

- The 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.

Selection details

RTBD

air volume		model											
		250			350			450			550		
m³/s	m³/h	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

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

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
-------------	------------

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.

Available types

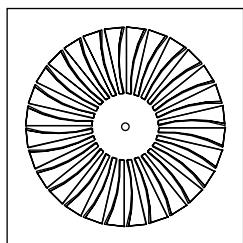
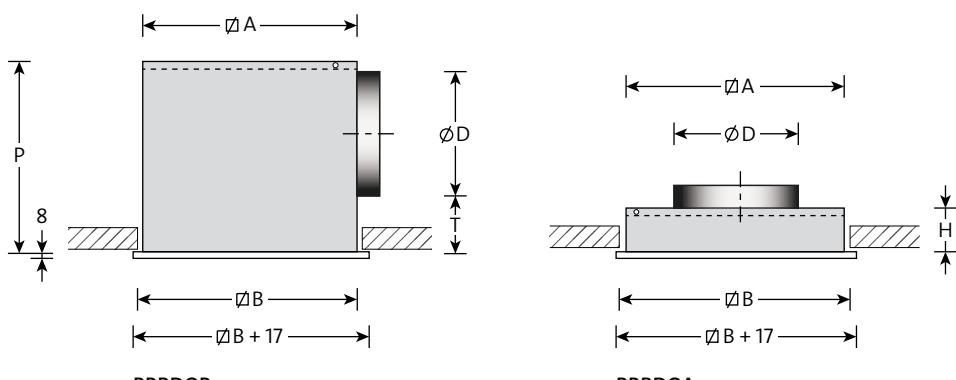
R R B D O -

- 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

Dimensions



appearance

Available 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 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.

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

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

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. 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
Overttemperature:	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

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.

Available types

RTB - O -

- R** swirl ceiling diffuser
- T** supply
- B** petal shaped

- Panel

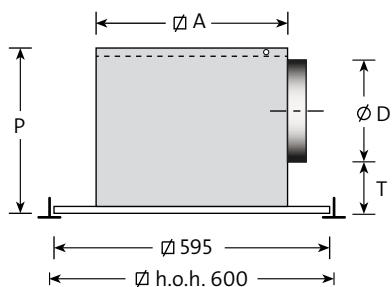
- M** modular ceiling panel size 600 mm
- T** flat-sided (see dimensions X, Y and Z)

O no accessories

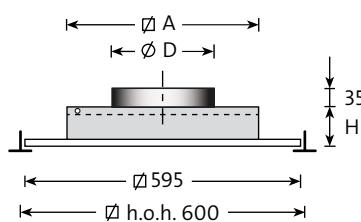
- Version

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

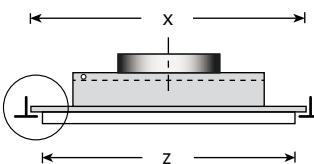
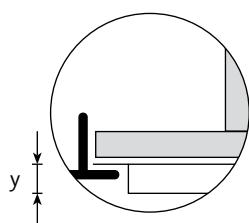
Dimensions



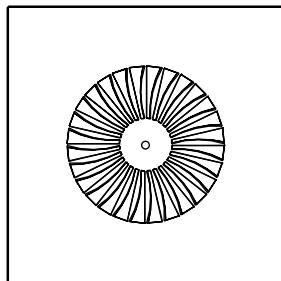
RTBMOR



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	
	without plenum OA	with 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 dimensions are in mm.
- For the RTBT version with a flat-sided front, the dimensions x, y and z must be given in the order.
- $x - z \geq 12$ mm (model 550: $z = 583$ mm).
- $y \geq 6$ 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](#).

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)									
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

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

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. 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

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.

Available types

RRB - O -

- R** swirl ceiling diffuser
- R** return
- B** petal shaped

Panel

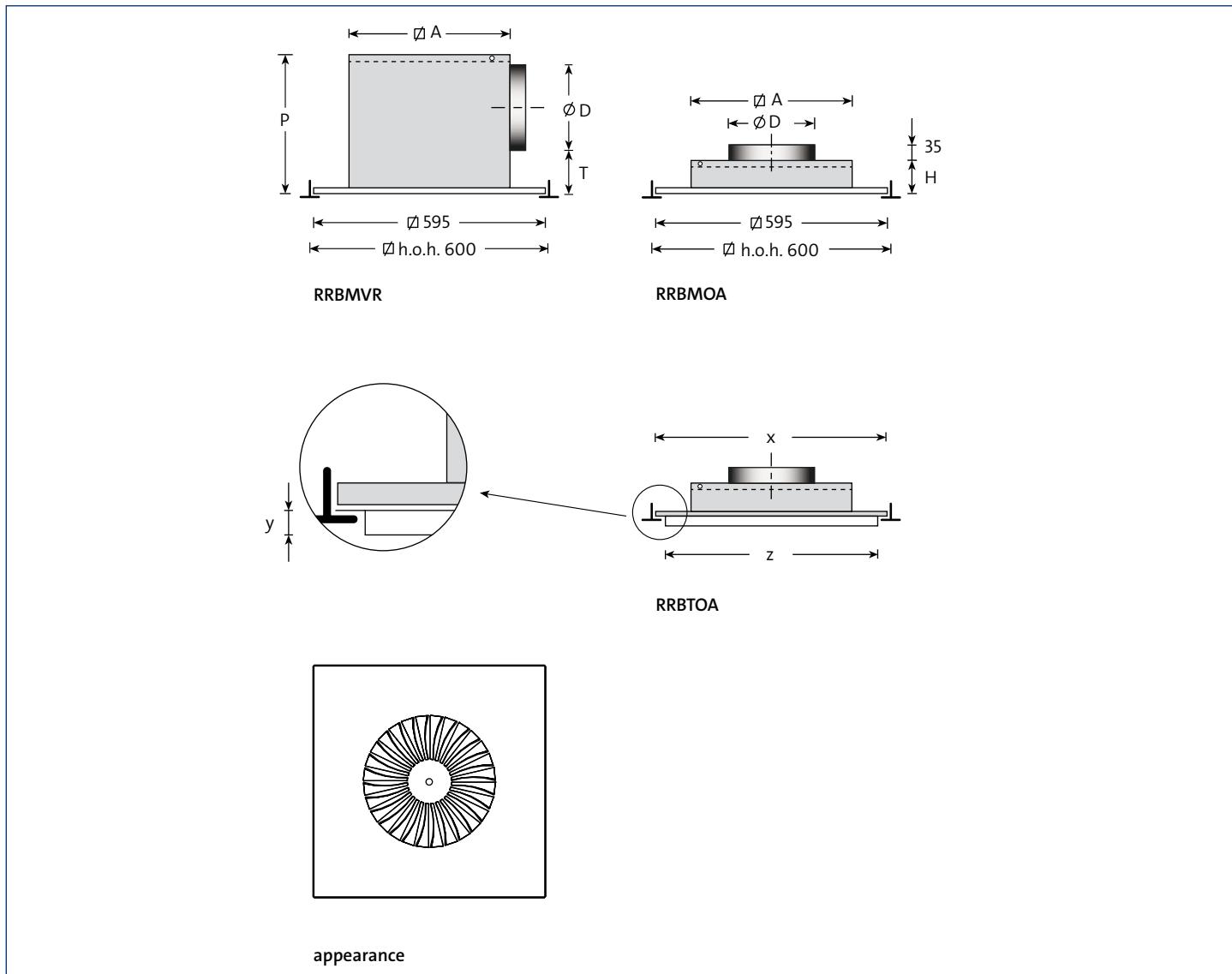
- **M**modular ceiling panel size 600 mm
- T** flat-sided (see dimensions X, Y and Z)

- O** no accessories

- **Version**

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

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 dimensions are in mm.
- For the RRBT version with a flat-sided front, the dimensions x, y and z must be given in the order.
- $x - z \geq 12$ mm (model 550: $z = 583$ mm).
- $y \geq 6$ 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

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

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

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
-------------	------------

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.

Available types

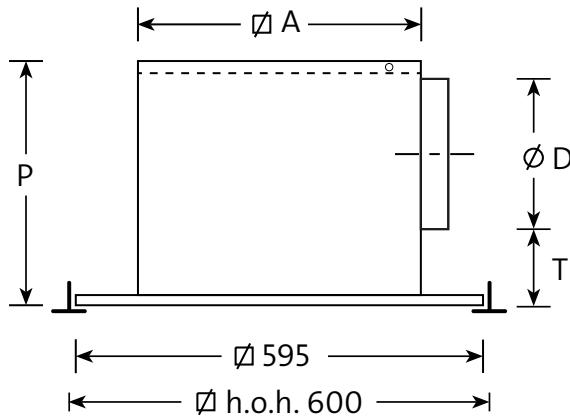
RTBS O -

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

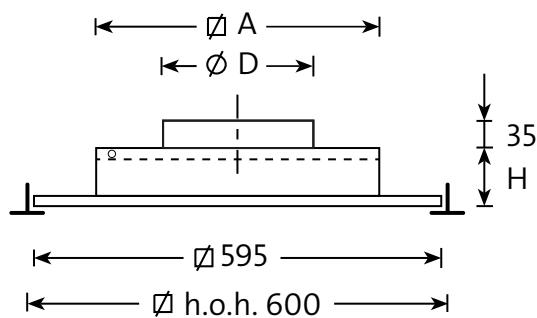
- Version

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

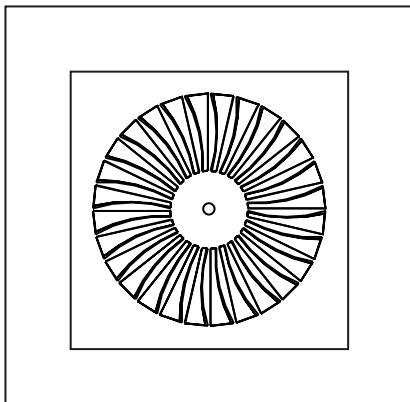
Maatvoering



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

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

Note

- The 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.

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

model	dempingswaarden						
	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 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.



RRBS

Swirl diffuser

Return

T-bar mounted in modular ceiling

Removable diffuser part

Toepassing

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
-------------	------------

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.

Leverbare typen

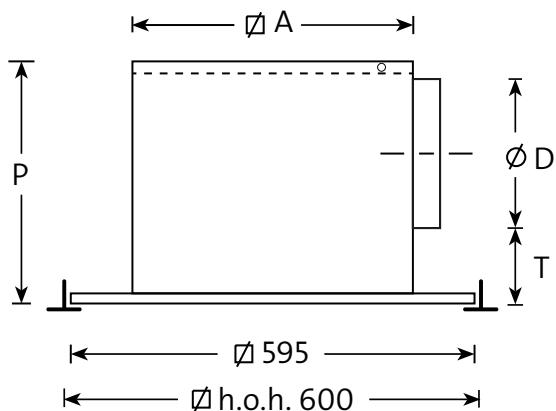
RRBSO -

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

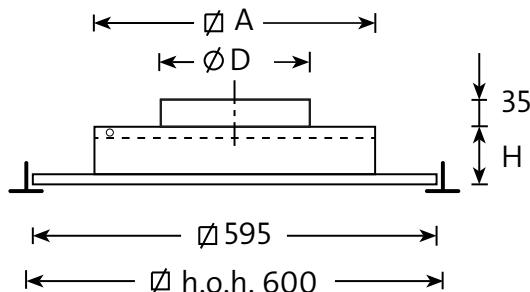
- Version

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

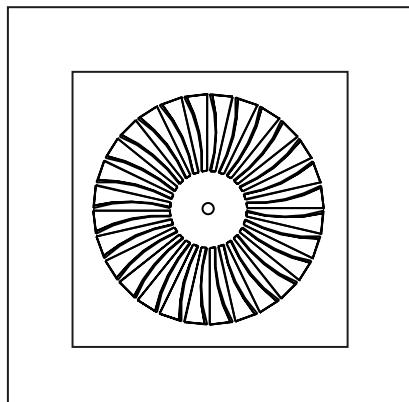
Maatvoering



RRBSOR



RRBOSA



appearance with removable diffuser part

Leverbare afmetingen en maatvoering

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

Gewichten

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

Opmerking

- The 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

luchthoeveelheid		ronde aansluiting		
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

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.



RTBC

Swirl diffuser

Supply

Surface-mounted, round

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
-------------	------------

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.

Available types

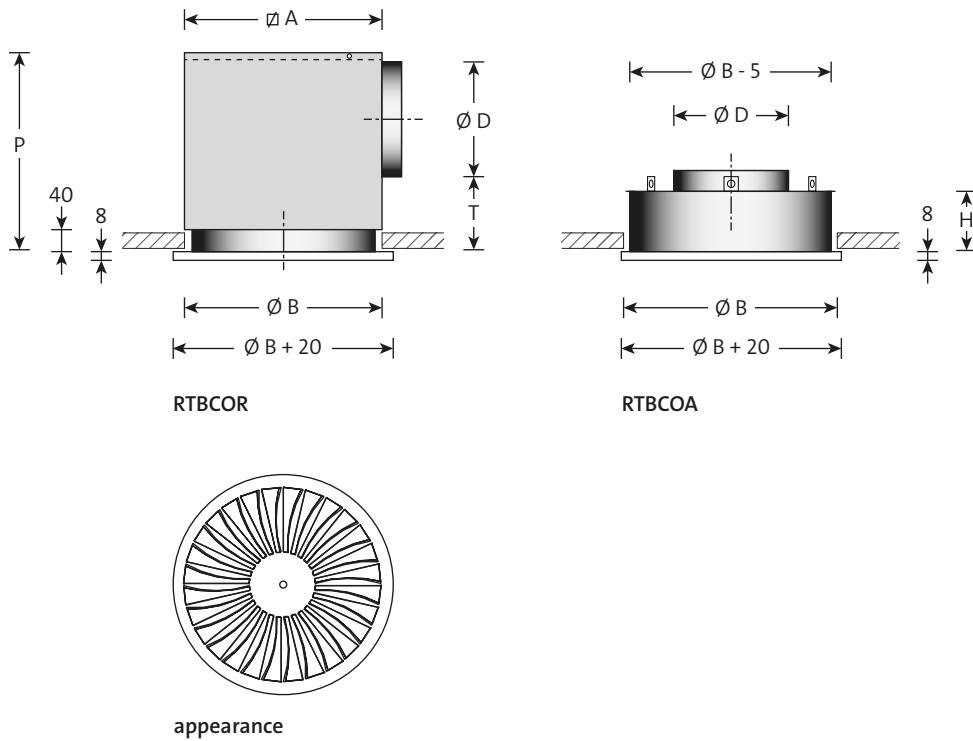
RTBC O -

- R** swirl ceiling diffuser
- T** supply
- 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

Dimensions



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 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		
m³/s	m³/h	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

model	attenuation values						
	125	250	500	1k	2k	4k	
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.



RRBC

Swirl diffuser

Return

Surface-mounted, round

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
-------------	------------

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.

Available types

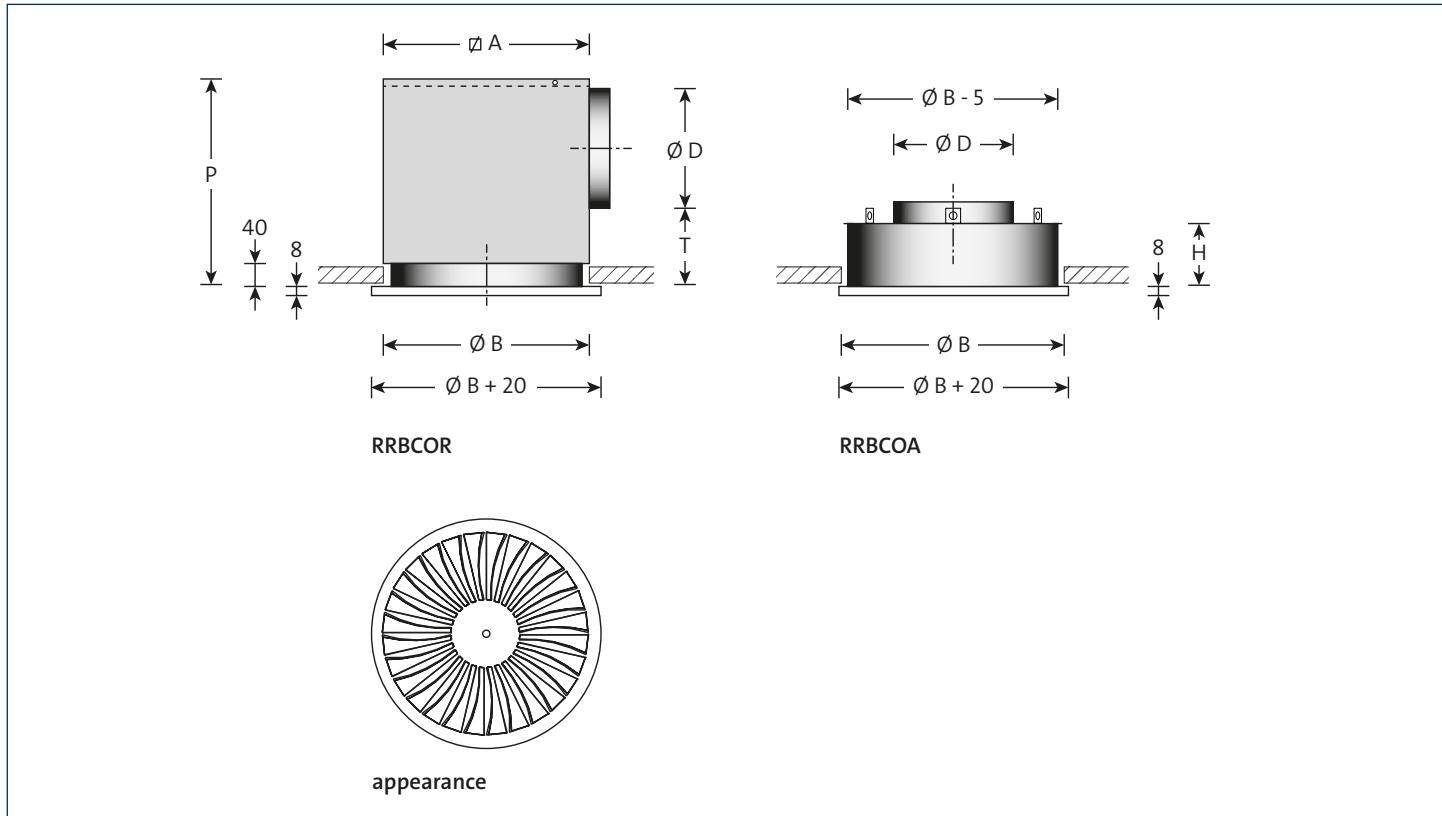
RRBC O -

- 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

Dimensions



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 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

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.



RTGD/RTGT

Swirl diffuser

Supply

Surface-mounted, T-bar mounted

Adjustable discharge direction

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
Overttemperature:	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

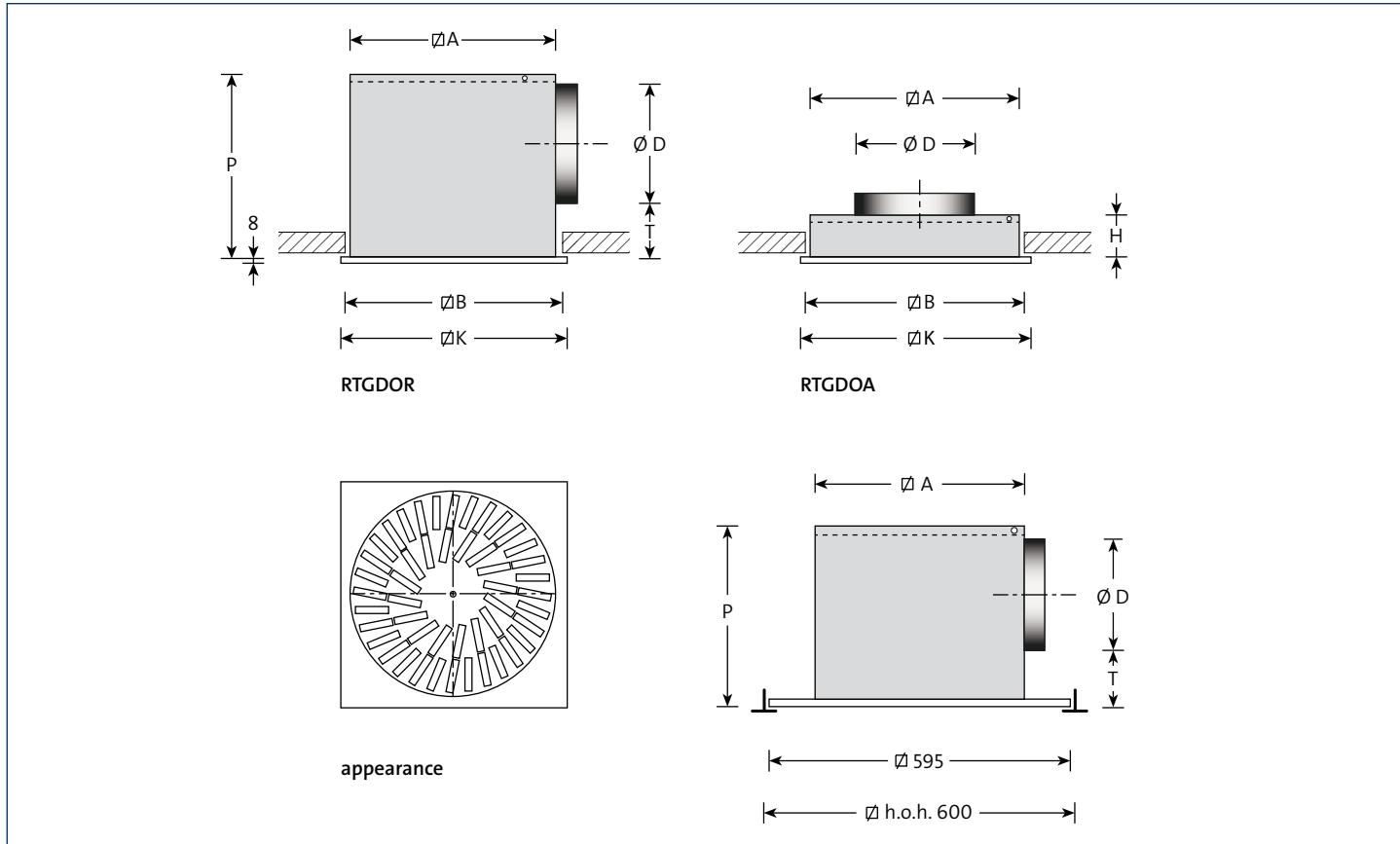
Optional

pattern blades	
colour:	white
plenum box:	flat-sided (see 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.

Dimensions



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
500/16	478	495	198	373	300	65	190
600/16	578	595	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 dimensions are in mm.
- The models 600/16, 600/24 and 600/48 are suitable for T-bar mounting in a modular ceiling with a centre-to-centre size of 600 mm.
- As an adjusted version, the smaller models are also available for modular ceilings.
- Dropped T-bar panels are available, except for model 600/48.

Selection details

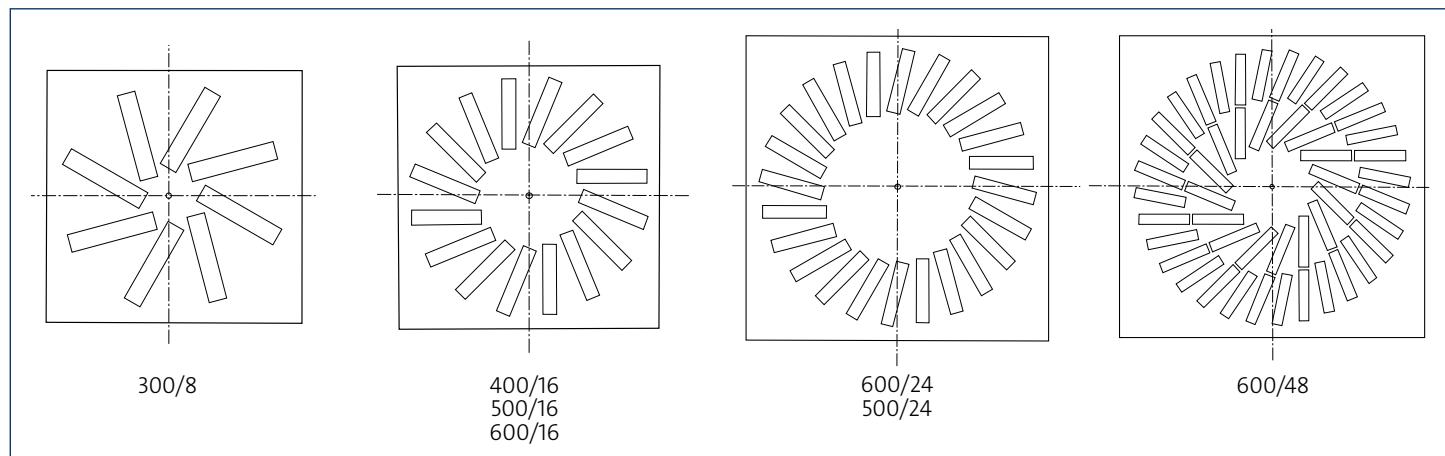
RTGD/RTGT

air volume		model														
		300/8			400/16, 500/16, 600/16			500/24			600/24			600/48		
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)
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/RRGT

Swirl diffuser

Return

Surface-mounted, T-bar mounted

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 (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.

Available types

RRG - O -

- R** swirl diffuser
- R** return, without pattern blades
- G** no discharge direction

- Ceiling version

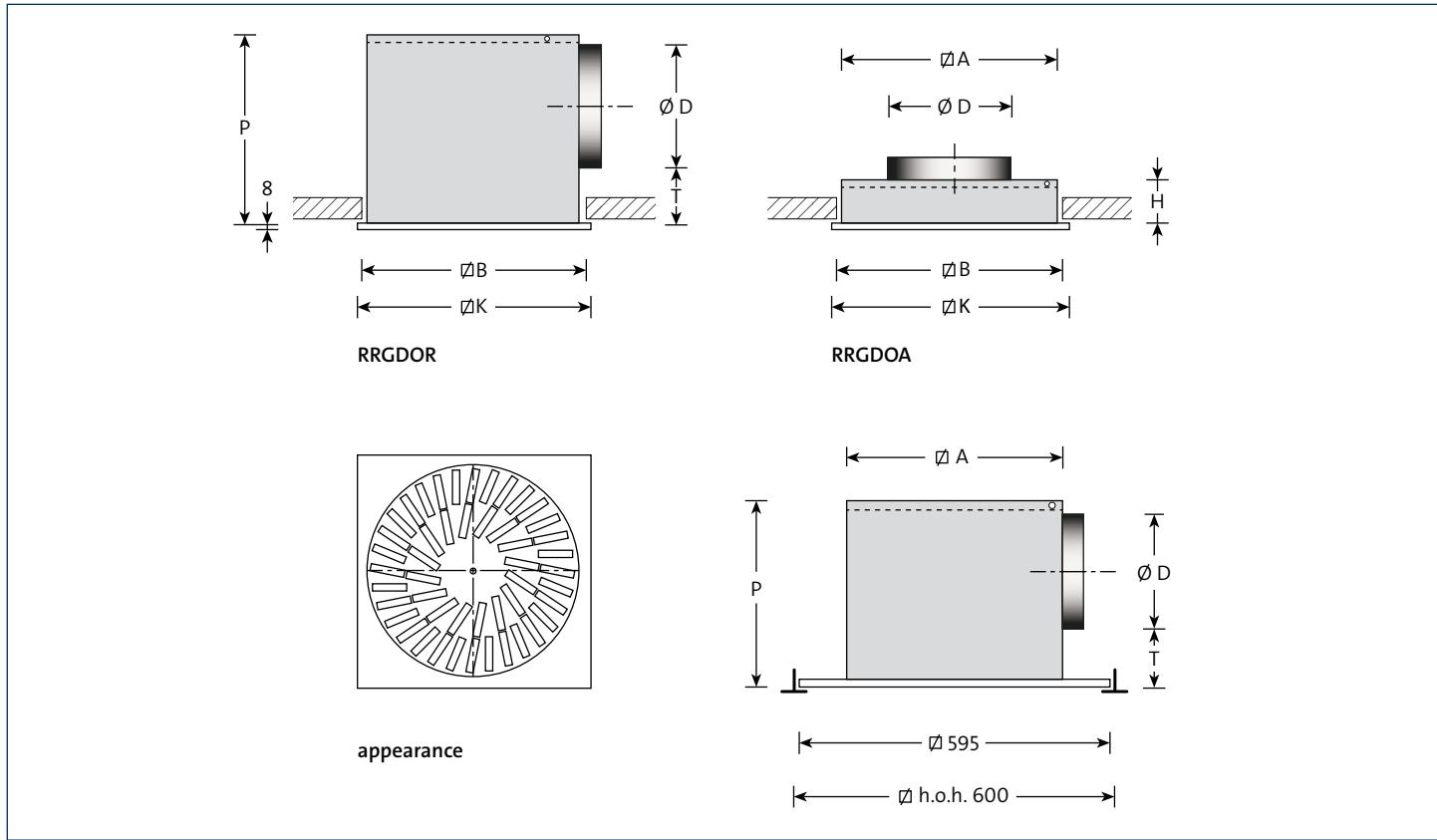
- D** surface-mounted/T-bar mounted
- T** T-bar panel dropped 13 mm

O no accessories

- Version

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

Dimensions



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
500/16	478	495	198	373	300	65	190
600/16	578	595	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 dimensions are in mm.
- The models 600/16, 600/24 and 600/48 are suitable for T-bar mounting in a modular ceiling with a centre-to-centre size of 600 mm.
- As an adjusted version, the smaller models are also available for modular ceilings.
- Dropped T-bar panels are available, except for model 600/48 (type RRGT).

Selection details

RRG--(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	
m³/s	m³/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

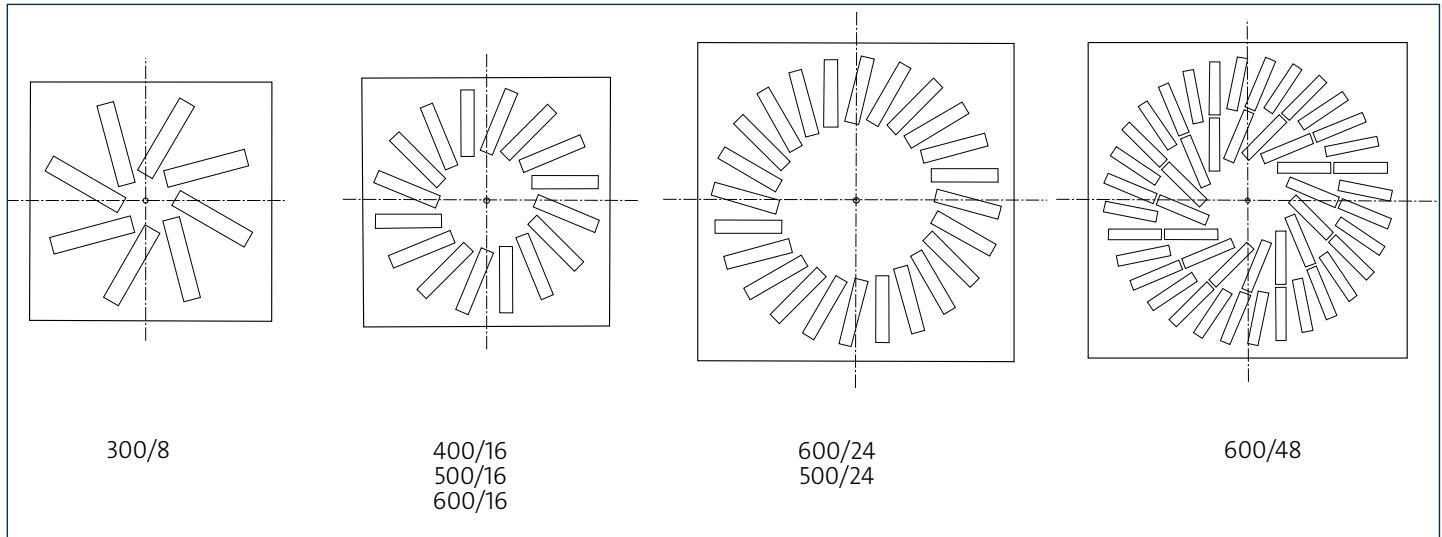
RRG--A (round top connection) details without pattern blades

air volume		model									
		300/8		400/16, 500/16 600/16		500/24		600/24		600/48	
m³/s	m³/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

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
Overttemperature:	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
-------------	------------

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.

Available types

RTFO --

- R** round
- T** supply
- F** fixed blades
- O** surface-mounted

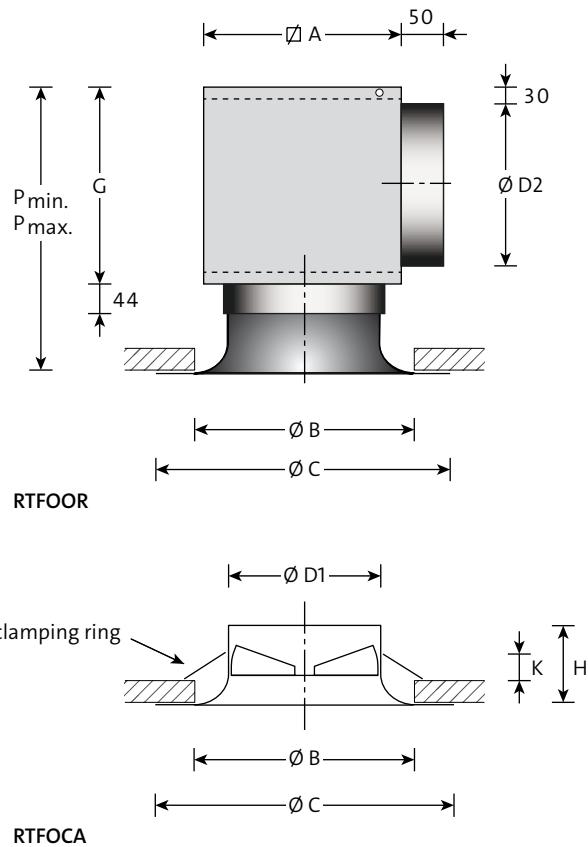
- **Accessories**

- 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)

Dimensions



Available dimensions

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.
- If the diffuser is used as a return diffuser, the following applies:
 $\Delta P_s \times 1.2$
 $L_{pA} + 3$

Selection details

RTFO

air volume		model														
		125			160			200			250			315		
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)
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

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

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.



RTFM

Swirl diffuser, conical

Supply

T-bar mounted in modular ceiling

Fixed blades

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
Overttemperature:	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

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.

Available types

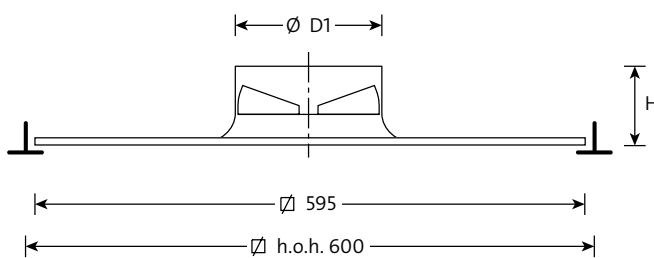
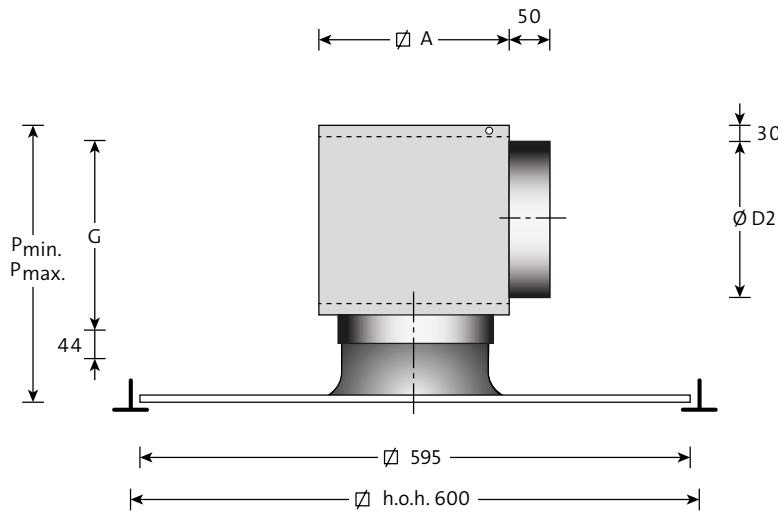
RTFM O -

- 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)

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 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](#).
- If the diffuser is used as a return diffuser, the following applies:
 $\Delta P_s + 1$
 $L_{pA} + 3$

Selection details

RTFM

air volume		model														
		125			160			200			250			315		
m³/s	m³/h	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

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.



RTWK

Swirl diffuser, conical

Supply

Surface-mounted, T-bar mounted, suspended

Manual, servomotor or thermal operation

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), except for RTWK-N

RTWK-N

swirl blades:	Nylon
post-treatment:	wet-paint finish
colour:	white RAL 9010

Plenum box

material:	sendzimir galvanised steel
internal insulation:	1/2" duct liner
post-treatment:	none

Available types

RTWK ----

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

N nylon/ABS (standard manual, suitable for servomotor)
O steel/ABS (manual only)
N 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)

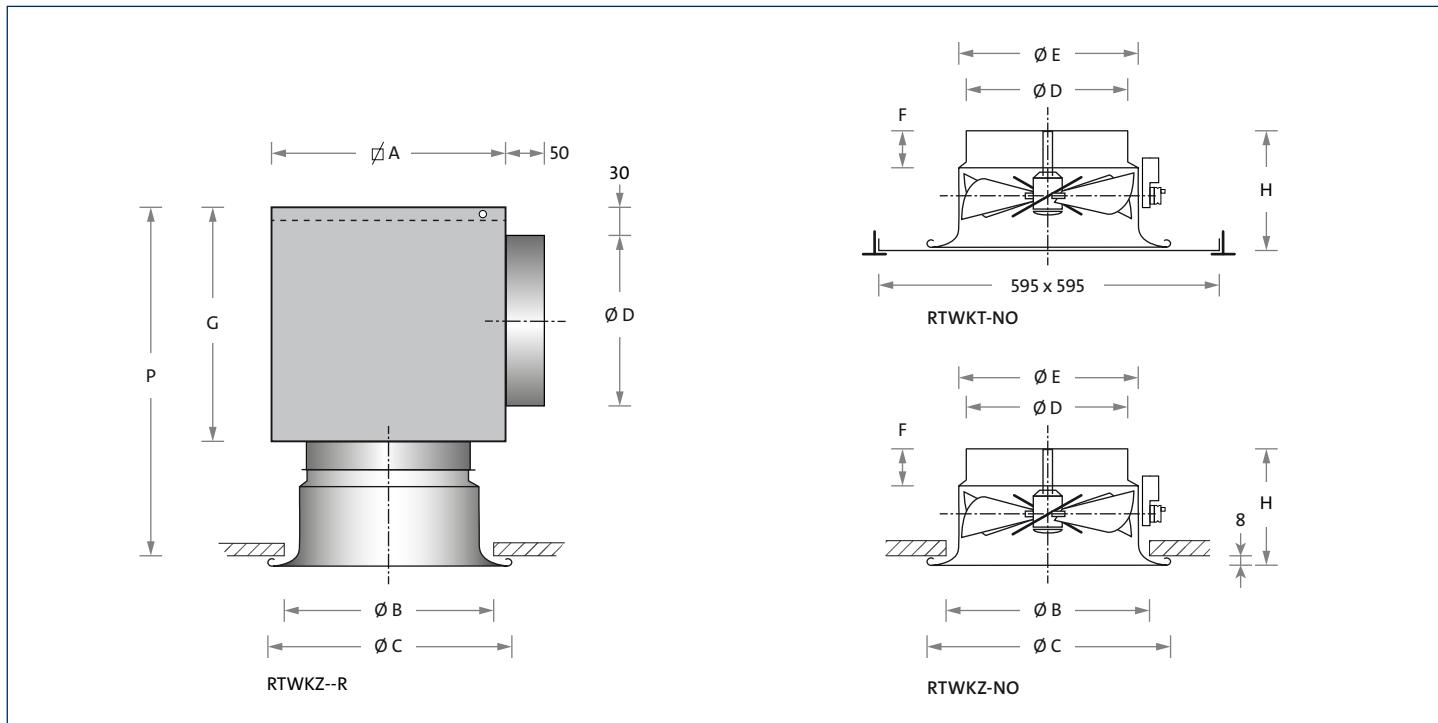
Optional

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

Dimensions



Available 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	*	390	0	990	1020	798	798	*	*

* 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 $1.5 \times D$ straight length in the size of the diffuser connection.

Selection details

RTWK

air volume		model																						
		160			200			250			315			400			500			630				
m³/s	m³/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)		
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.
- V_h = neck velocity.

Fitting height

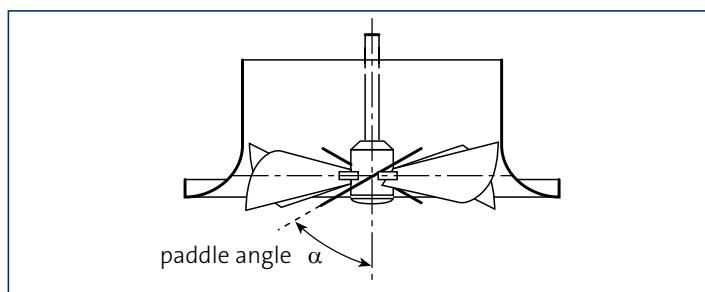
model	fitting height													fitting height m
160														2.2 - 3.0m
200														2.5 - 3.5m
250														3.1 - 4.8m
315														3.5 - 5.8m
400														4.5 - 7.0m
500														5.8 - 14.0m
630														8.0 - 25.0m
800														9.0 - 30.0m

2 3 4 5 6 7 8 9 10 15 20 25 30 35 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



STAD/STBD



Line diffuser

Supply

Surface-mounted

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

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.

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)

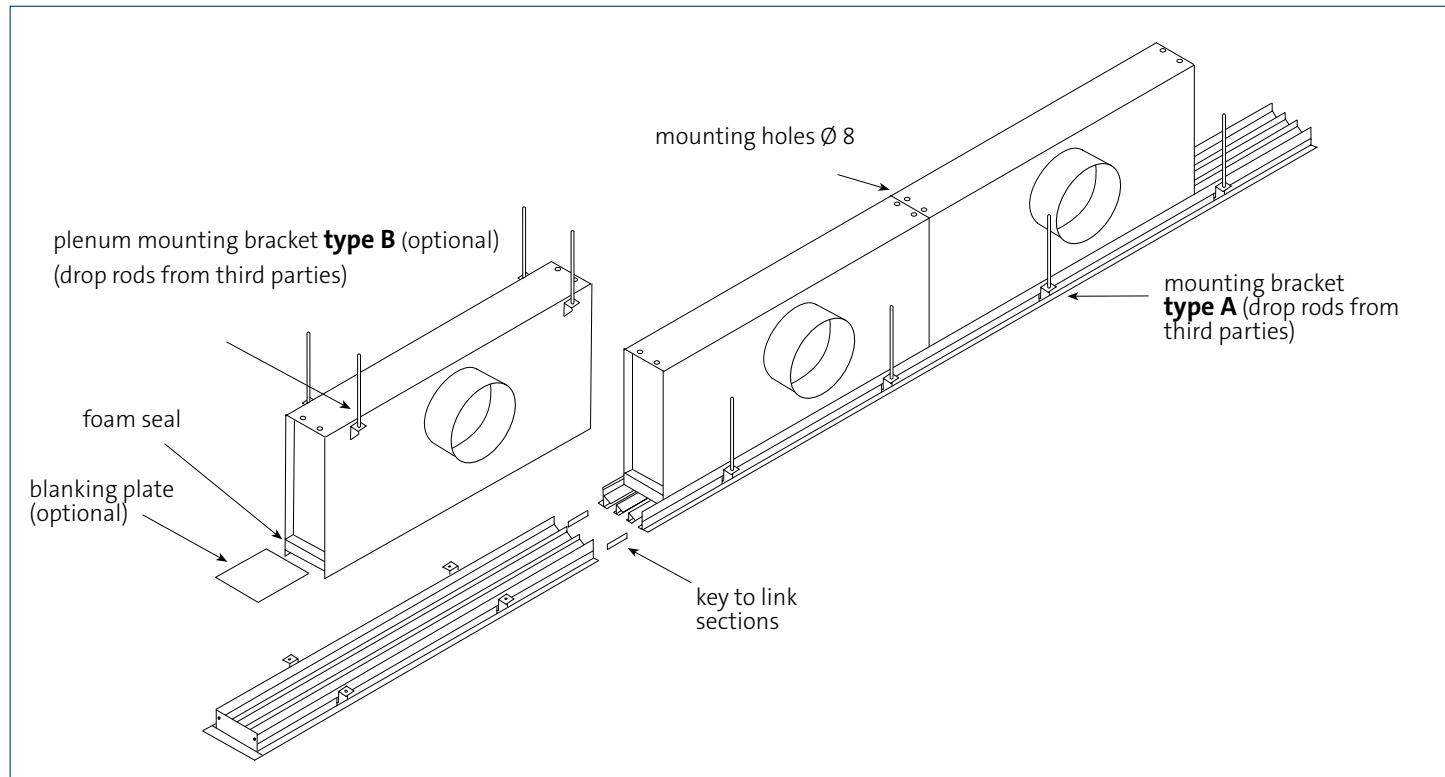
- **Plenum box**

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

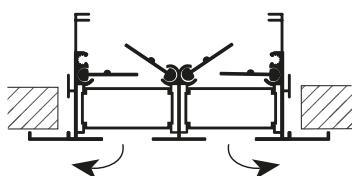
- **Mounting brackets (supplied separately)**

- 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

Fitting a continuous line diffuser with key and plenum box

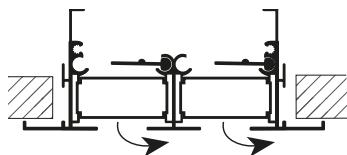


Discharge direction



STAD --- 2 slots

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



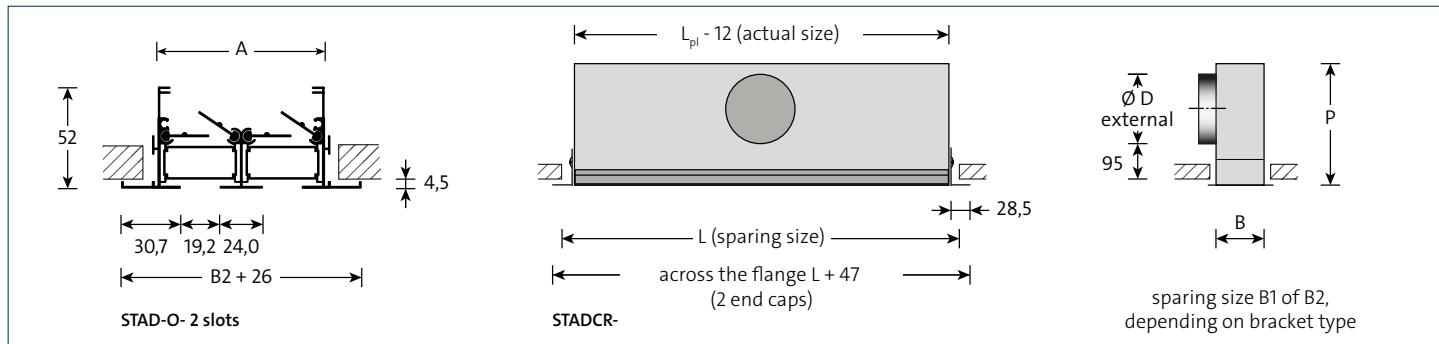
STBD--- 2 slots

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

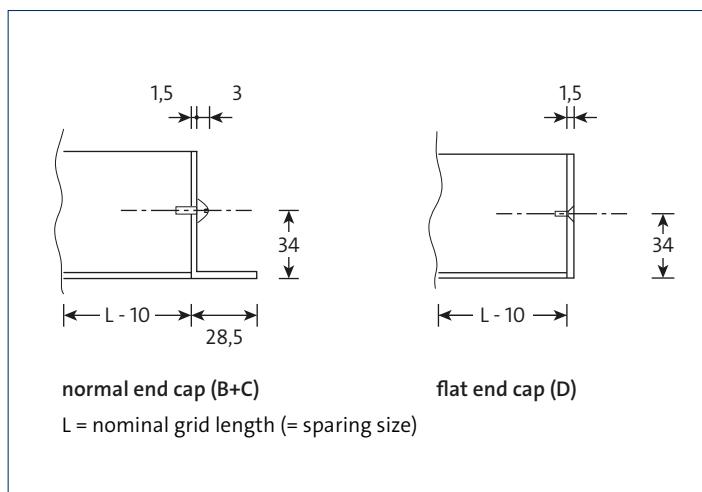
Note

- The 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.

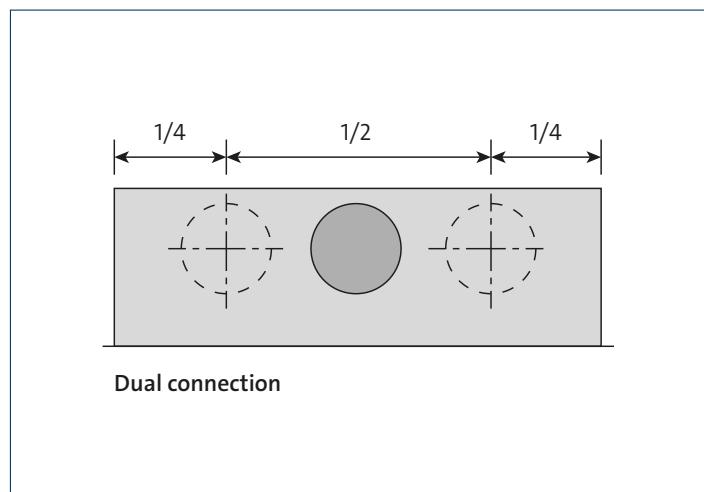
Cross-section and lengthways view



End caps



Connections



Available dimensions, sizes and weights

number of slots	B1	B2	P	D	A	diffuser	plenum
						kg	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

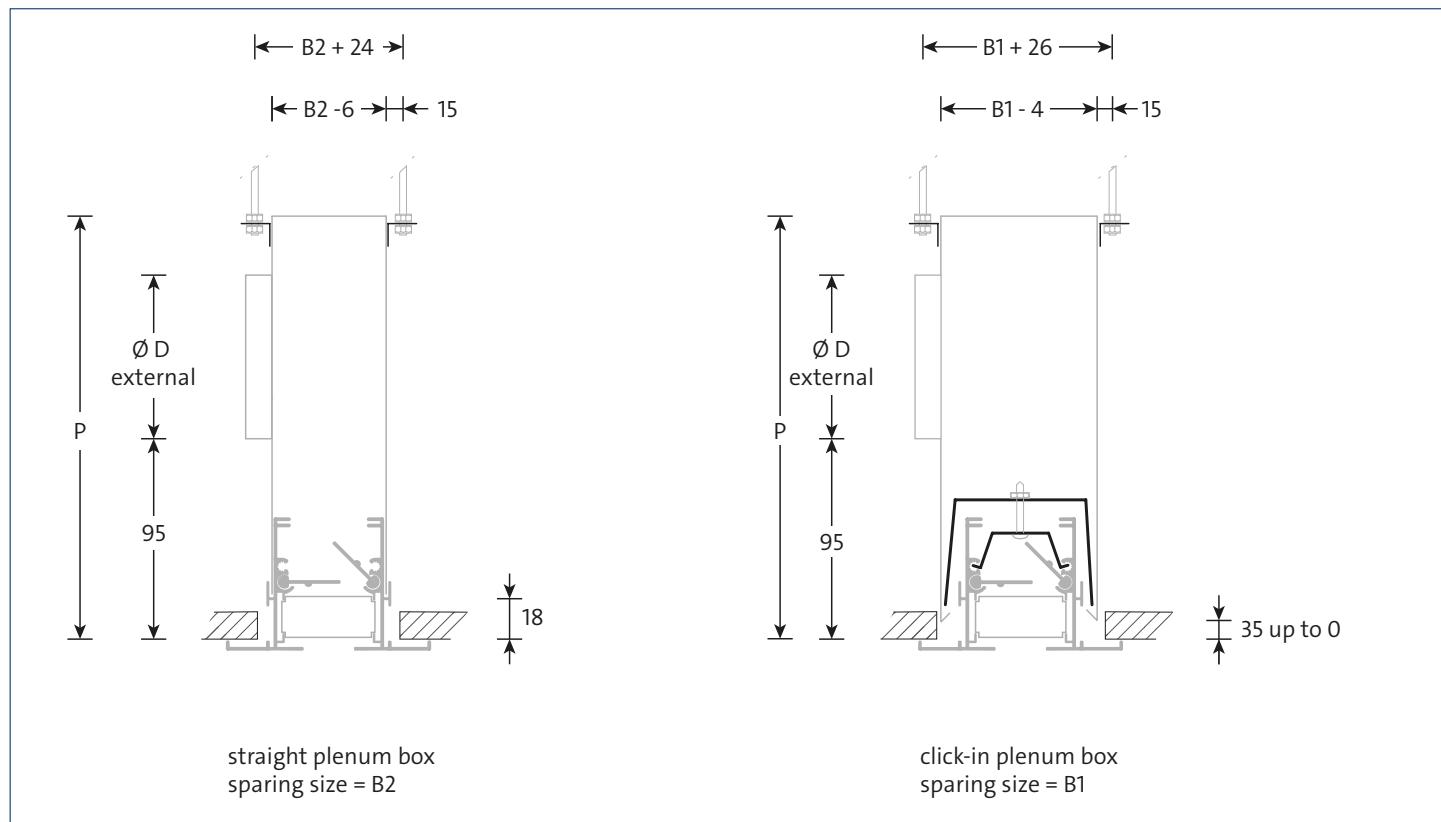
number of slots	B1	B2	P	D	A	diffuser	plenum
						kg	kg

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

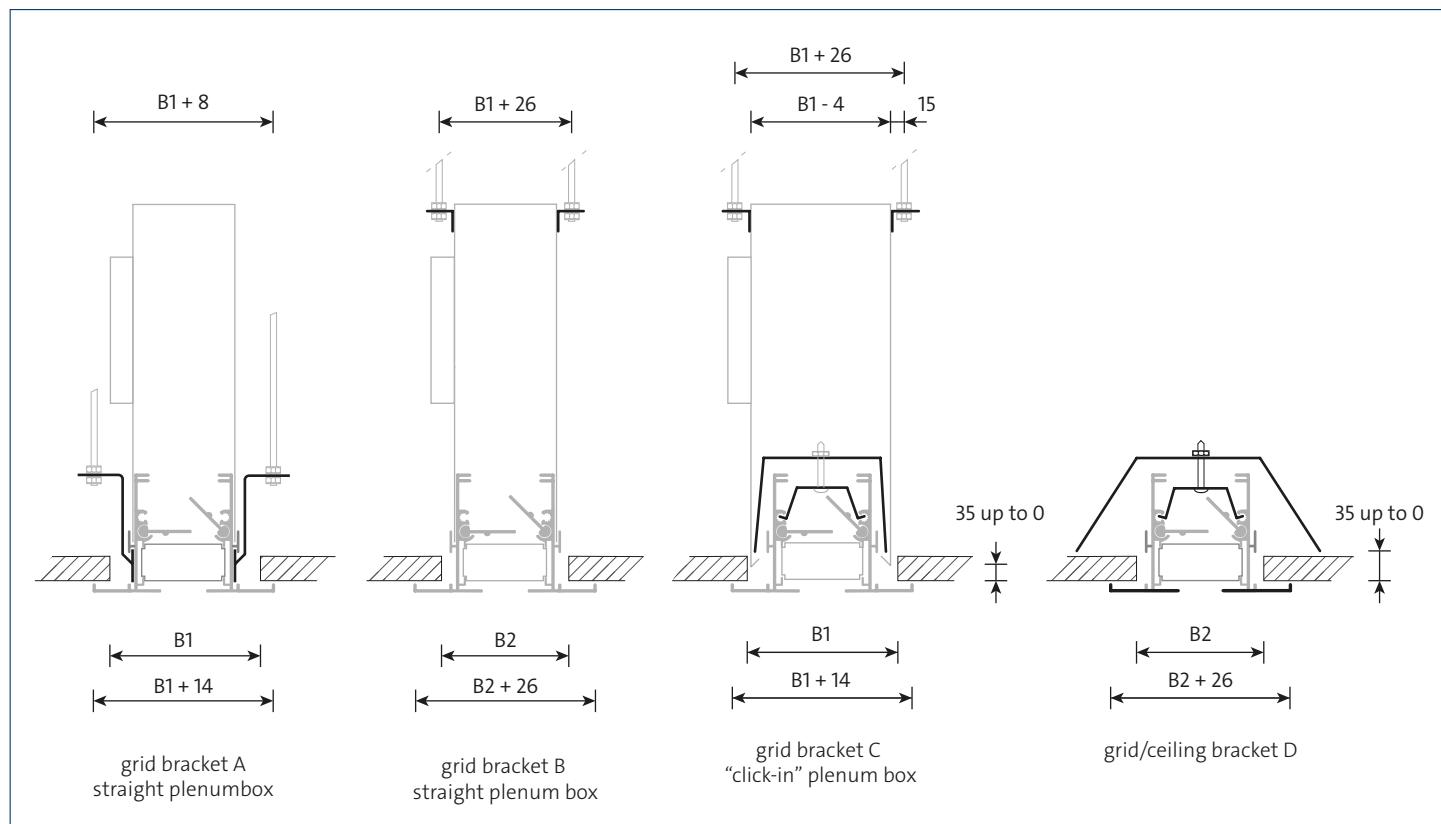
L = 1500							
1	65	52	280	158	46	2.0	6.0
2	108	94	320	198	88	3.0	7.2
3	151	137	370	248	131	4.0	8.6
4	194	180	370	248	174	5.0	9.0

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

Plenum boxes



Mounting brackets



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										9.6	22	47	8.0	13	42	8.1	11	45
		4										9.6	19	47	8.2	12	43	8.2	8	38
0.300	1080	4																		

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

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

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.

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

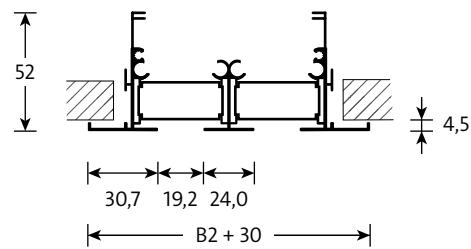
- Mounting bracket preparation

- O** none; straight plenum box
- C** prepared for mounting bracket C; "click-in" plenum box

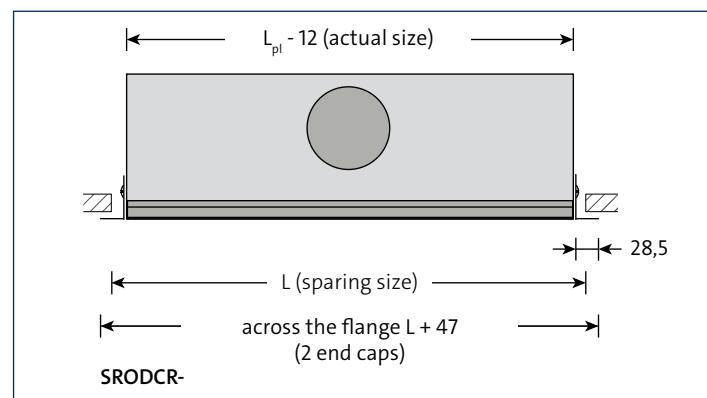
Note

- The 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 L_{pl} 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.

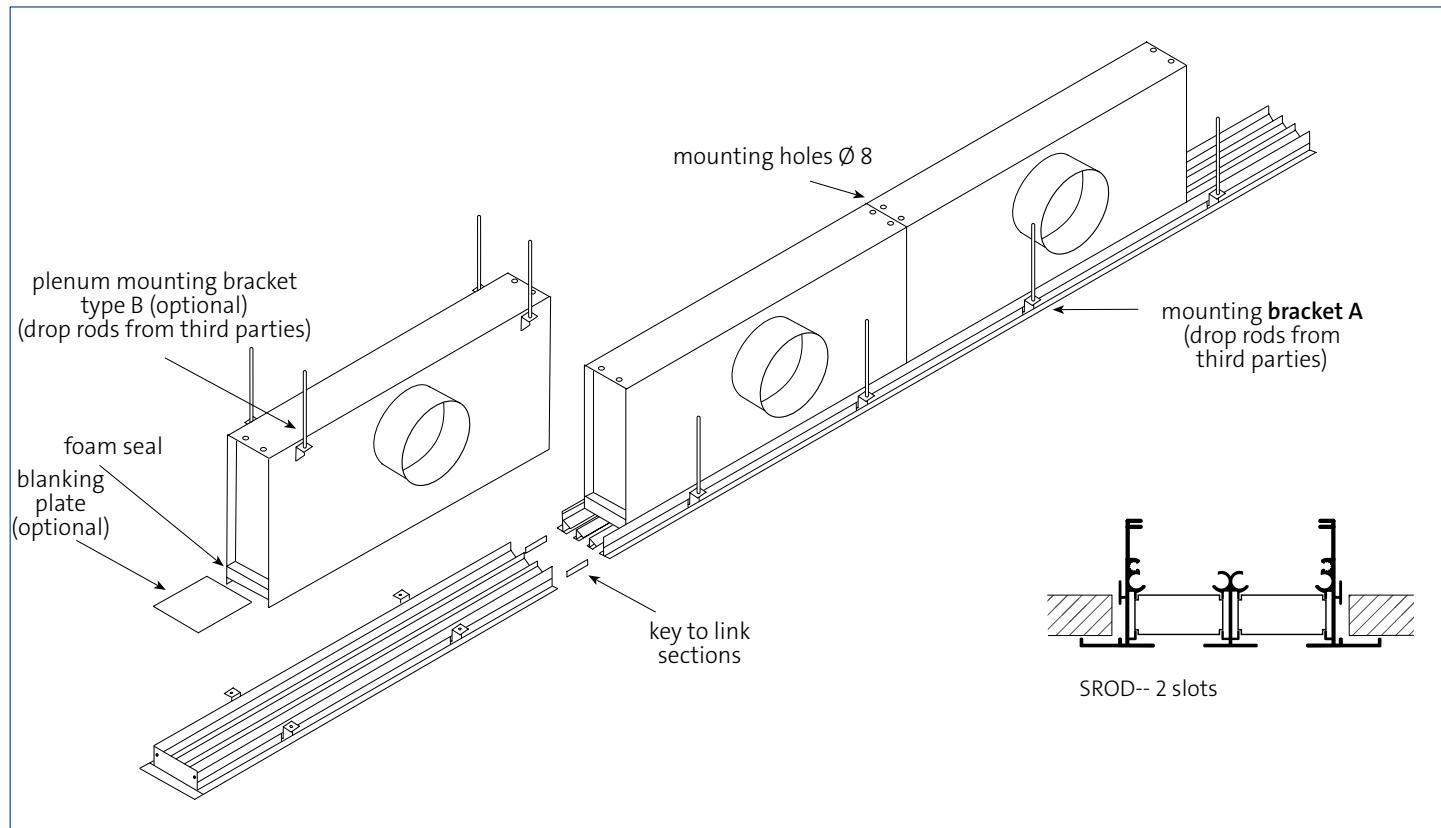
Cross-section and lengthways view



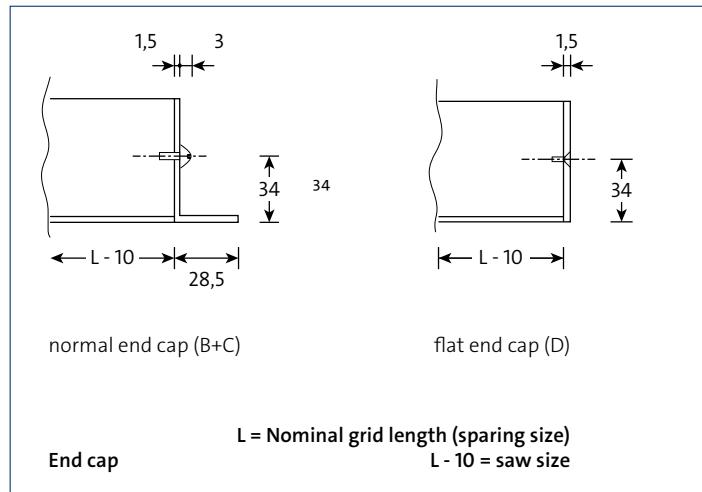
For the explanation of the dimensions' see the table
"Available dimensions".



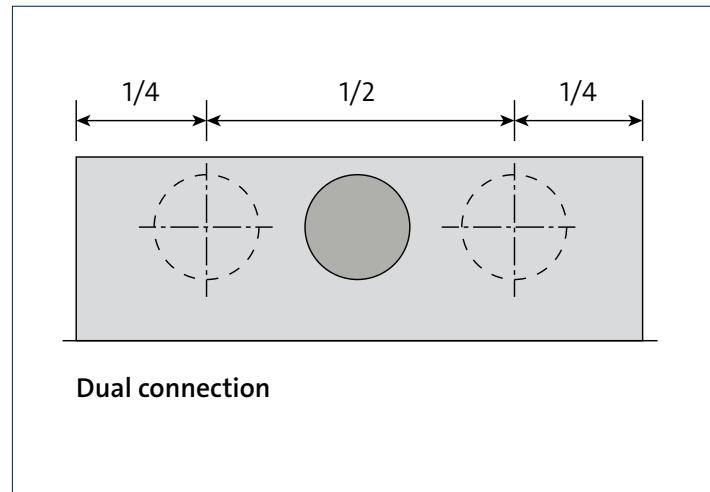
Fitting a continuous line diffuser with key and plenum box



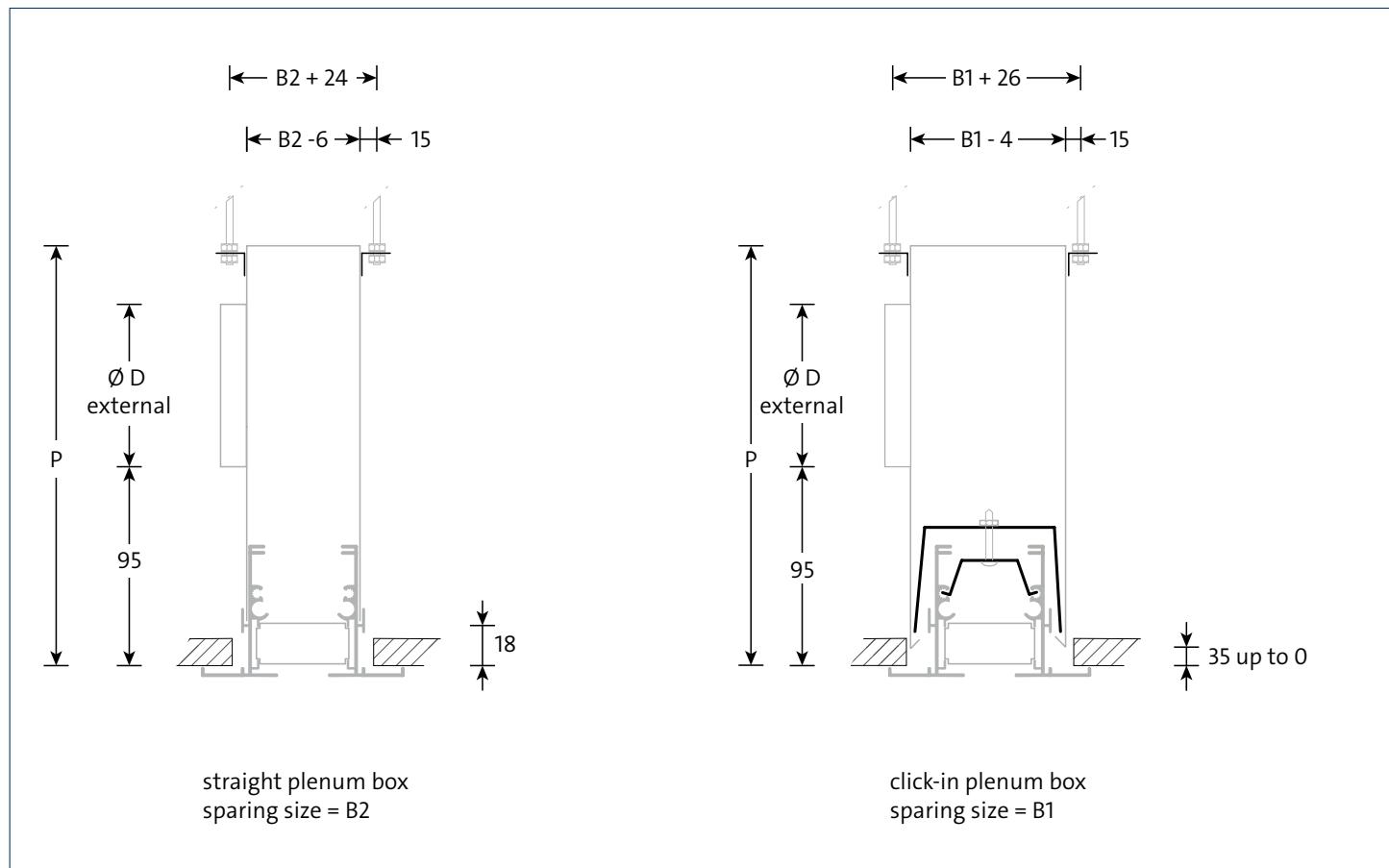
End caps



Connections

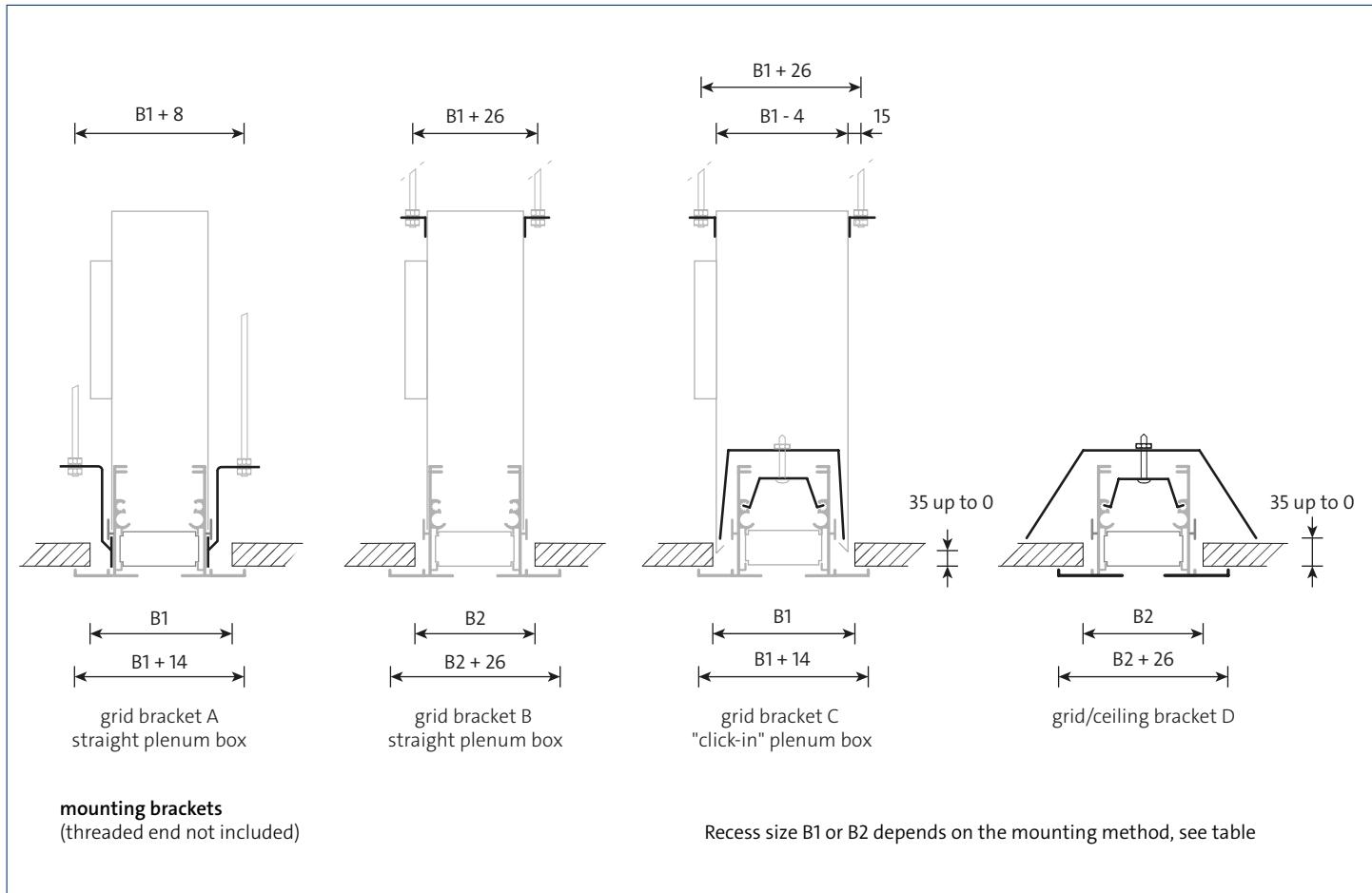


Plenum boxes



Note

- The dimensions are in mm.



Available dimensions, sizes and weights

number of slots	B1	B2	P	D	A	diffuser	plenum
						kg	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	plenum
						kg	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 dimensions are in mm.

Selection details

SROD

air volume		number of slots	plenum-box length											
			600		750		900		1200		1500		1800	
m³/s	m³/h	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	-						
	72	1	5	-	3	-	2	-	1	-				
		2	1	-										
	90	1	8	10	5	-	4	-	2	-	1	-		
		2	2	-	1	-								
	108	1	12	15	8	10	5	-	3	-	2	-	1	-
		2	3	-	2	-	1	-						
	144	1	21	22	14	18	9	14	5	-	3	-	2	-
		2	5	-	3	-	2	-	1	-				
		3	2	-	2	-	1	-						
	180	1	33	28	21	23	15	19	8	13	5	-	4	-
		2	8	13	5	-	4	-	2	-	1	-		
		3	4	-	2	-	2	-						
	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	-						
	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	-				
	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	-		
	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	-
	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	-
	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



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
-------------	---

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.

Available types

ST - 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)

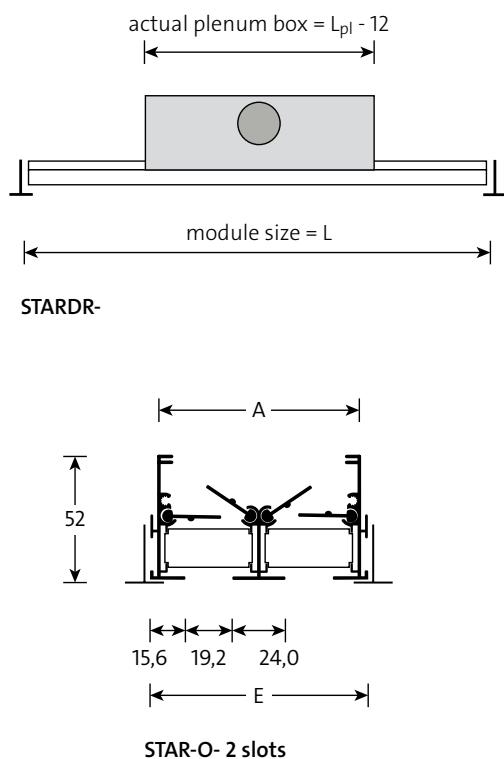
- **Plenum box**

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

- **Mounting brackets (supplied separately)**

- A** diffuser bracket A
- B** plenum mounting brackets B
- D** diffuser/ceiling bracket D
- O** none

Dimensions



Available dimensions, sizes and weights

number of slots	E	P	D	A	diffuser kg	plenum 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 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.
- For this type of small profile line diffuser, a return version without adjustable pattern blades is also available as type SROR. For the selection details, please refer to the tables for the SROD type.

Selection details

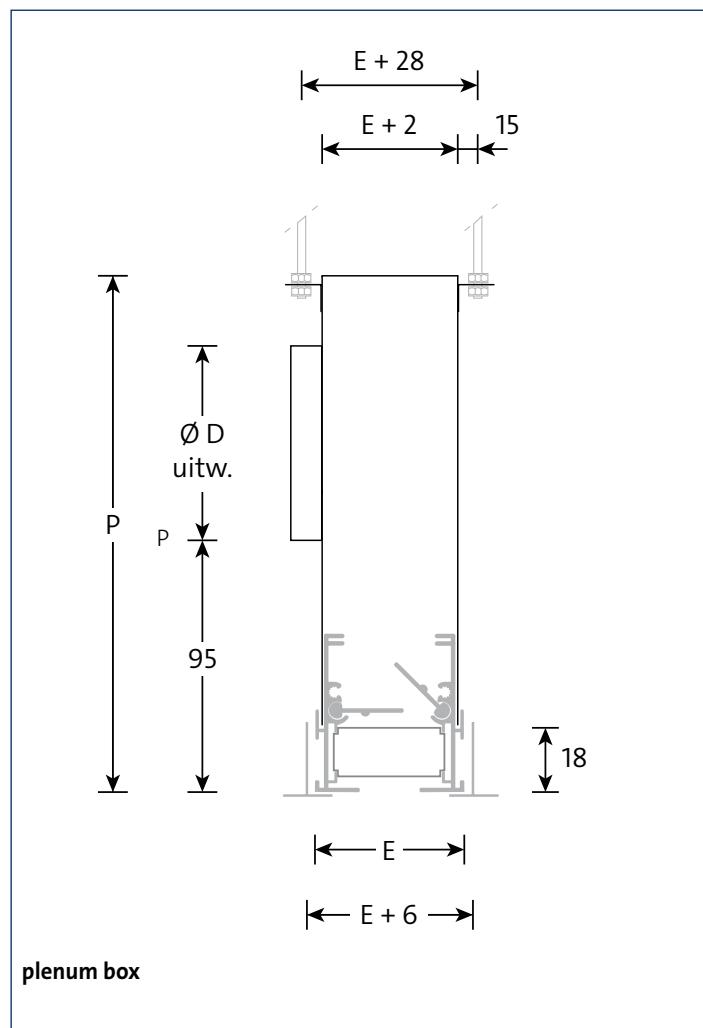
STAR/STBR

air volume		number of slots	plenum-box length														
			600			750			900			1200			1500		
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)	
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						
	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												
	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						
	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						
	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
	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
	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
	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

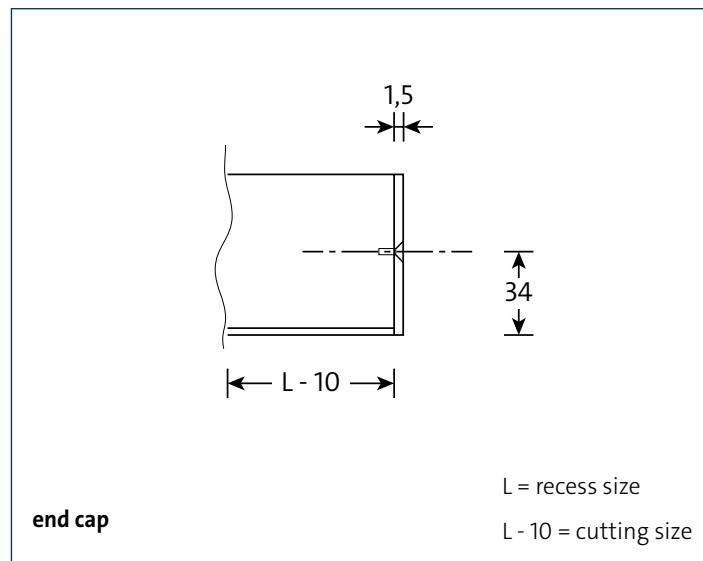
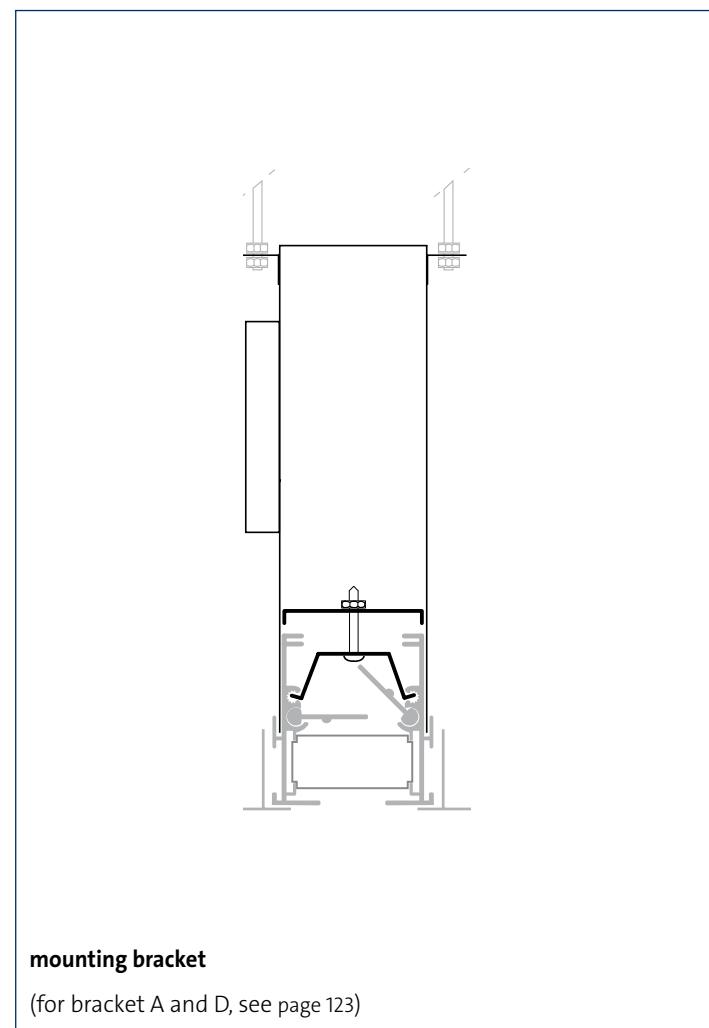
General

- 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



Note

- The dimensions are in mm.

TTHA/TTPA

Baffle-plate diffuser

Supply

**Surface-mounted, T-bar mounted,
high induction**



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

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.

Available types

TT - 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)

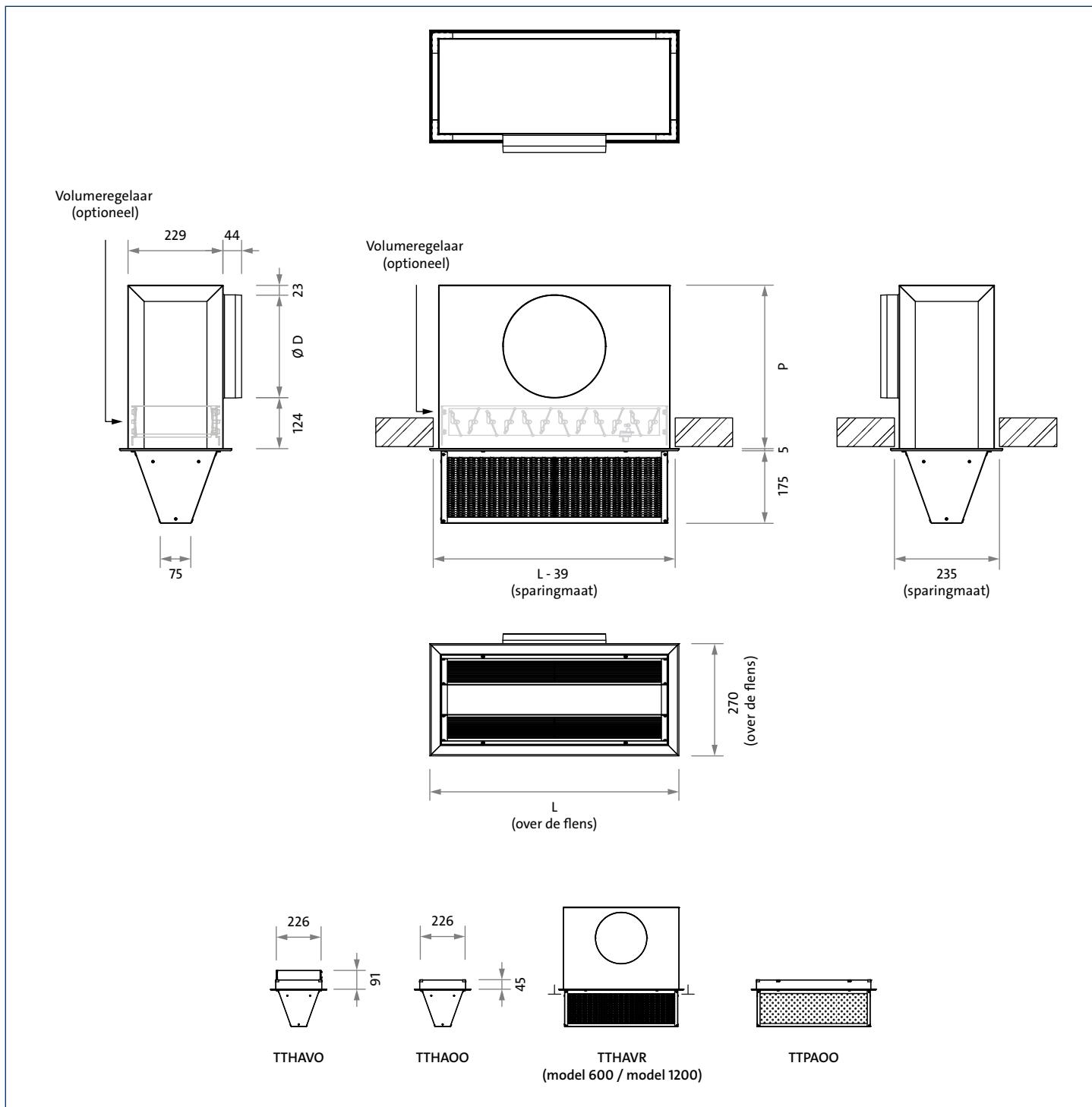
- **Version**

O not applicable

R internally insulated plenum box (supplied separately)

U uninsulated plenum box (supplied separately)

Dimensions



Available 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 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		model											
		600			750			900			1200		
m³/s	m³/h	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

Selection details

TTPA

air volume		model											
		600			750			900			1200		
m³/s	m³/h	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

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
Overttemperature:	up to 15 K

Available types

RTDO--

- 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)

Version

Perforated diffuser

material:	steel
post-treatment:	epoxy
colour:	white RAL 9010, optional RAL colour of your choice
perforated:	black RAL 9005

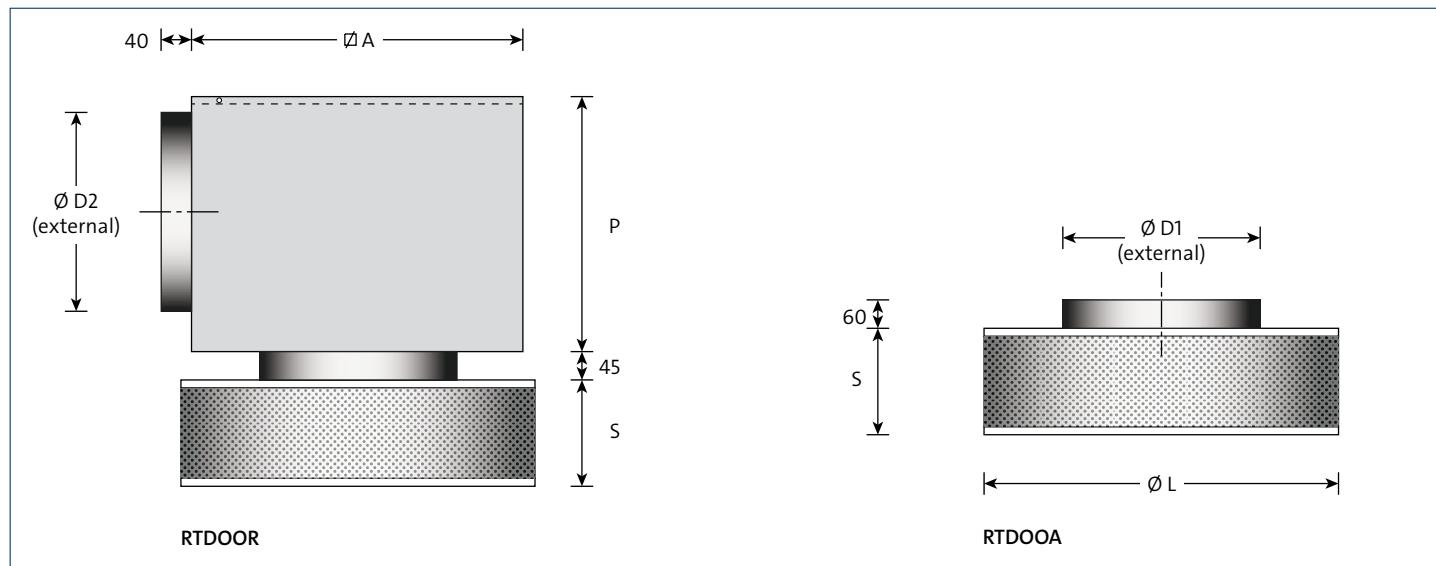
Plenum box

material:	sendzimir galvanised steel
internal insulation:	1/2" duct liner
post-treatment:	none

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.

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 dimensions are in mm.

Selection details

RTDO

air volume		model														
		200			250			315			355			450		
m³/s	m³/h	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

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 and face 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

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.

Available types

HRE---

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

- **Frame**

C surface-mounted frame 35 mm fixed internal unit
A surface-mounted frame 25 mm loose, removable internal unit
O none, lattice only
U none, lattice with U profile

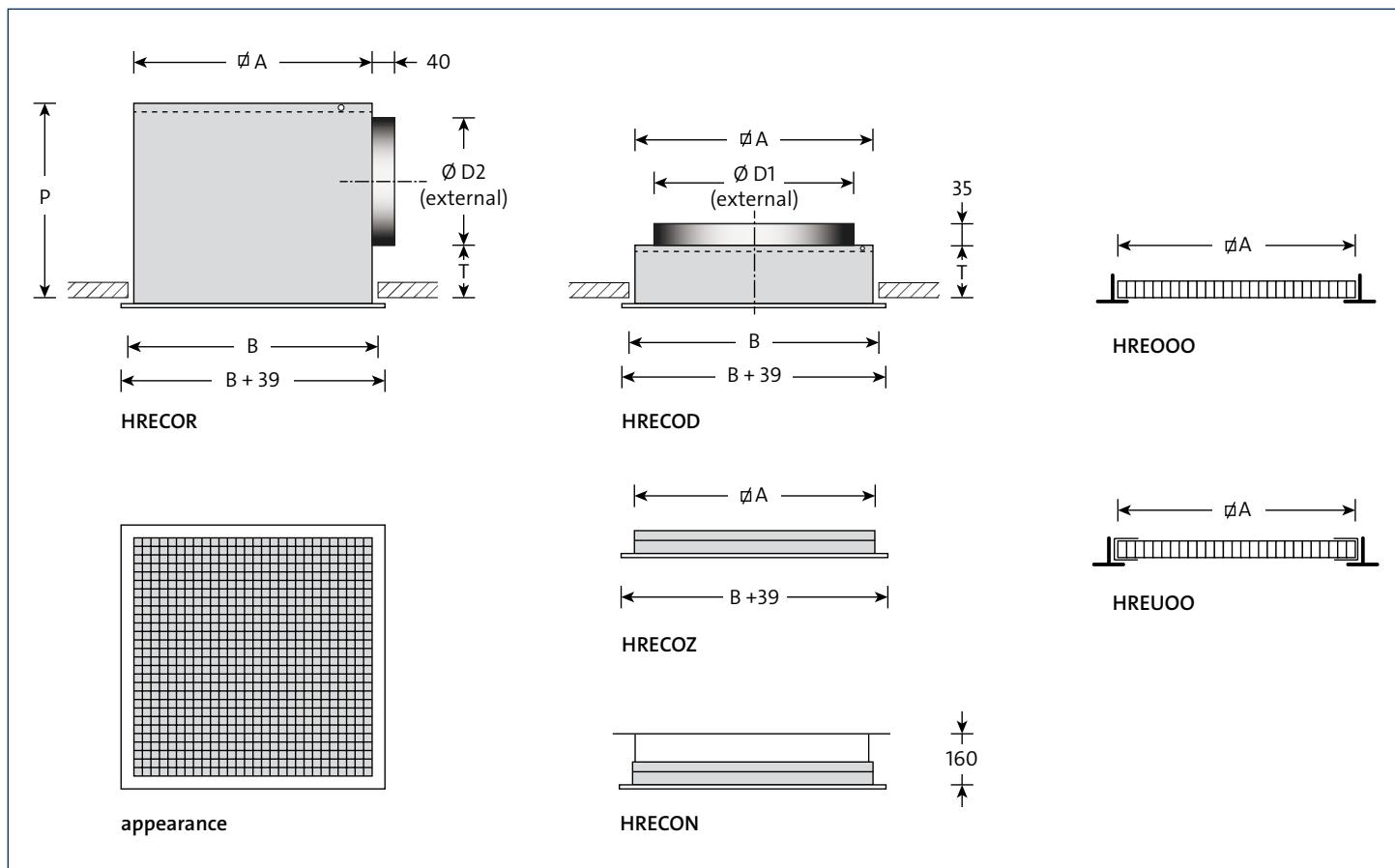
- **Accessories**

O none

- **Version**

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

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 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	
m³/s	m³/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	-			
0.500	1800	300				41	42	
		400		38	36	16	29	
		500		15	23	6	16	
		550		8	15	4	-	
		300						
0.600	2160	400				23	35	
		500						
		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 pressure loss applies to a fully opened volume unit.
- 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

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



FLAT-SIDED PLENUM BOX

Flat-sided plenum box

Use

The flat-sided plenum box is suitable for use in combination with the following ceiling diffusers. The plenum is available as an insulated and an uninsulated version. As standard, the plenum box is equipped with 8 mm hanging holes in the raised edge of the plenum. A sound correction of + 3 dB should also be taken into account.

Version

Plenum box

material: sendzimir galvanised steel

internal insulation: 1/2" duct liner

post-treatment: none

Available types

P plenum flat-sided

- **Use**

- T** supply

- R** return

- **Air connection**

- R** round spigot

- O** oval spigot

- **Accessories**

- O** none

- **Version**

- U** uninsulated

- R** insulated

Plenum height (P size, see also diffuser documentation)

PTVD/PRVD, PTVM/PRVM and PTVS/PRVS

model	standard	flat-sided	flat-sided, oval
250	235	220	160
300	270	255	180
400	315	300	210
500	325	310	220
550	395	365	270

RTGD/RRGD and RTGT/RRGT

model	standard	flat-sided	flat-sided, oval
300/8	260	230	160
400 -600/16	300	270	210
500/24	310	270	210
600/24	360	320	245
600/48	370	350	270

LTVD/LRVD and LTVM/LRVM

model	standard	flat-sided	flat-sided, oval
250	265	240	185
325	340	315	230
400	390	365	280
475	420	370	285
550	455	405	320

RTFO/RTFM

model	standard	flat-sided	flat-sided, oval
125	260	N/A	210
160	285	N/A	220
200	330	N/A	250
250	390	N/A	290
315	460	N/A	335

RTBD/RRBD and RTBM/RRBM

model	standard	flat-sided	flat-sided, oval
250	215/220	195	158
350	260/265	230	185
450	310/315	270	208
550	360/365	320	245

TTHA/TTPA

model	standard	flat-sided	flat-sided, oval
600	395	N/A	265
750	460	N/A	305
900	460	N/A	305
1200	500	N/A	315

RTBC/RRBC

model	standard	flat-sided	flat-sided, oval
250	220	N/A	200
350	265	N/A	230
450	315	N/A	250
550	365	N/A	285

HREC/HREA

model	standard	flat-sided	flat-sided, oval
250	235	220	160
300	270	255	180
400	315	300	210
500	325	310	220
550	395	365	270

Note

- The dimensions are in mm.
- For drawings, please see the individual diffuser documentation.



RTSV

Valve

Supply

Adjustable

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
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Mounting ring

material:	sendzimir galvanised steel
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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.

Available types

RTSV-O

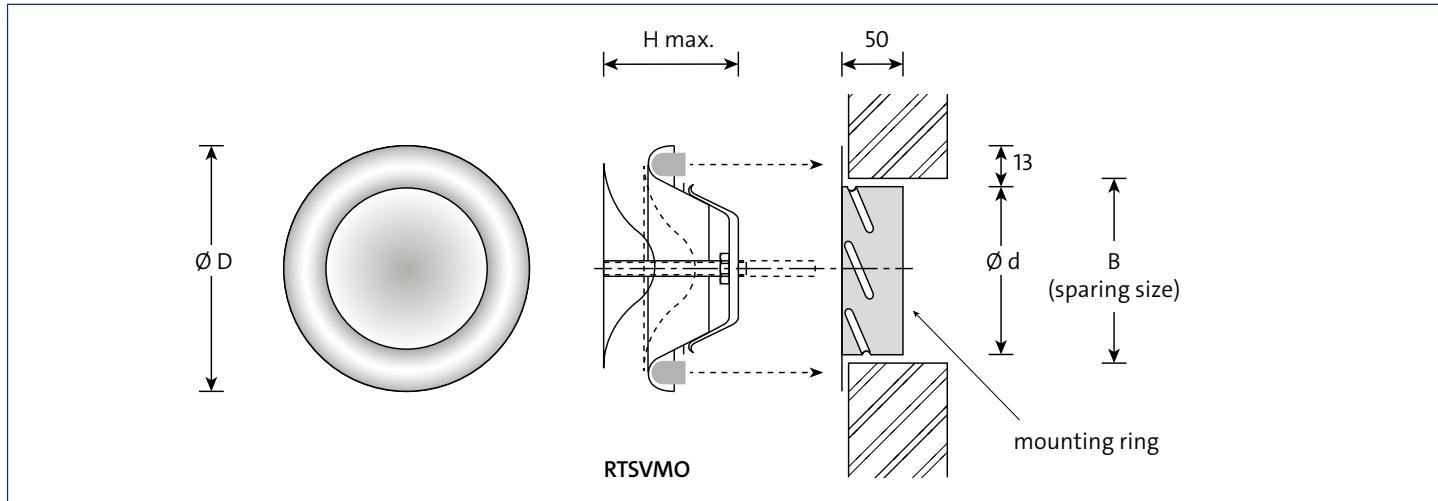
R round
T supply
S steel
V valve

- **Version**

M mounting ring
K spring clips for mounting in spiro duct

O not applicable

Dimensions



Available dimensions, sizes and weights

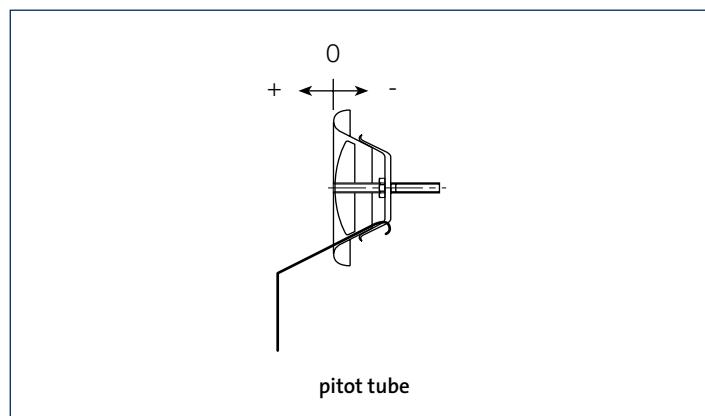
model	d	B	D	Hmax	kg
80	79	86	115	42	0.150
100	99	106	138	40	0.170
125	124	130	164	46	0.230
160	159	166	211	54	0.370
200	199	206	248	63	0.520

Note

- The 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

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
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Mounting ring

material:	sendzimir galvanised steel
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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.

Available types

RRSV-O

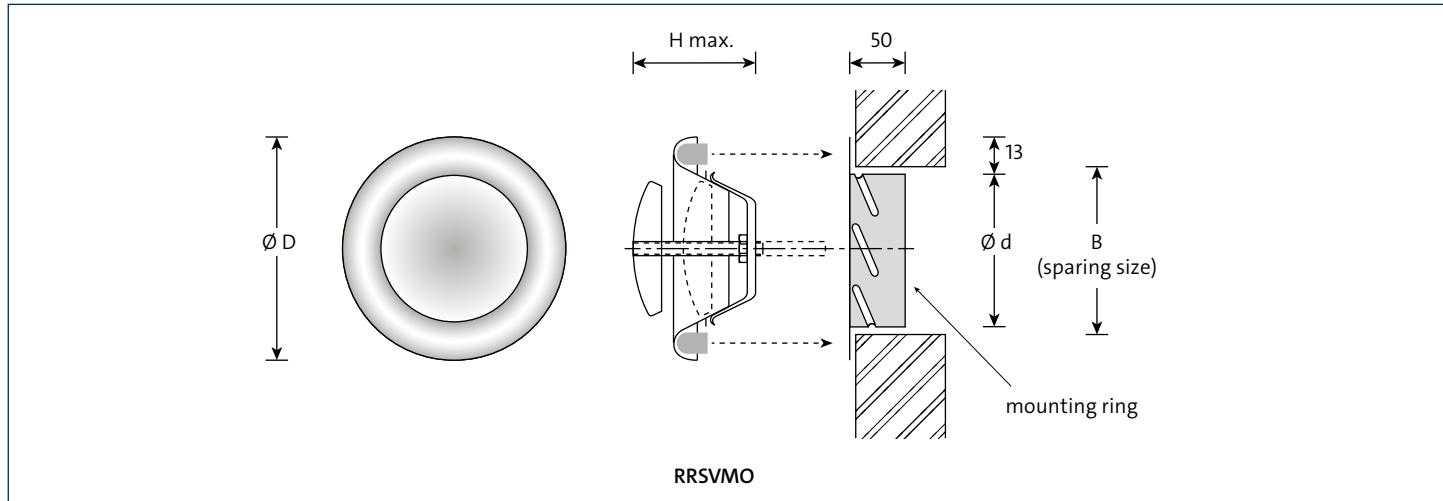
R round
R return
S steel
V valve

- **Version**

M mounting ring
K spring clips for mounting in spiro duct

O not applicable

Dimensions



Available dimensions, sizes and weights

model	d	B	D	Hmax	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

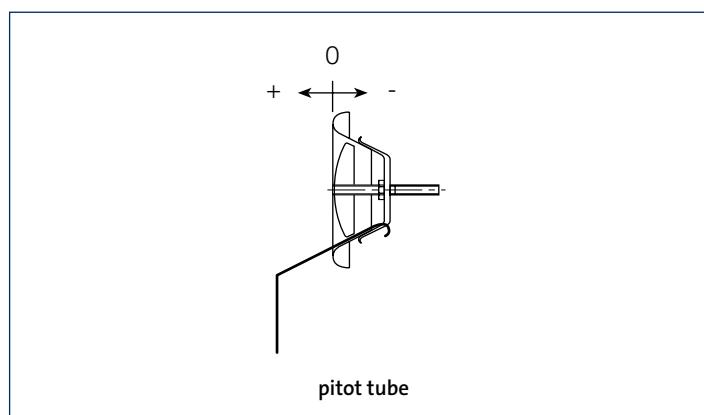
Note

- The 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.





GUSO CONNECTOR

Connecting ring for flexible duct

Use

Is used in duct and ventilation-duct system to connect flexible ducts to the duct system or the other air-technical fittings.

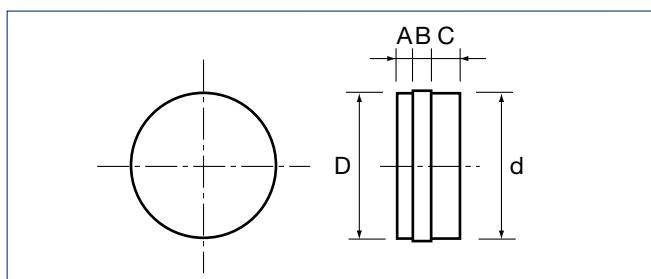
Characteristics

Melting point 147 °C.

Available dimensions and sizes

model	A	B	C	D	d	kg
100	10	15	25	100	100	0.13
125	10	15	25	125	125	0.15
150	10	15	25	150	150	0.18
160	10	15	25	160	160	0.19
200	10	15	25	200	200	0.21
250	10	15	25	250	250	0.23

Dimensions





FLEX: SONODEC 25/250

Flexible duct

Acoustic insulation, 25 mm

LUCA C/ATC 3

Use

Air transport where vibrations have to be attenuated. Is used frequently in spiral ducts and diffusers.

- Air-heating systems.
- Air-conditioning systems.
- Heat-recovery systems.
- Mechanical ventilation systems.
- Overflow ventilation.

Attenuation from low frequencies.

The Sonodec 25 has been approved for use in shipping. We can send a copy of the certificate on request.

Characteristics

- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.
Sonodec 25 100	100
Sonodec 25 125	125
Sonodec 25 133	133
Sonodec 25 150	150
Sonodec 25 160	160
Sonodec 25 180	180
Sonodec 25 200	200
Sonodec 25 224	224
Sonodec 25 250	250
Sonodec 25 300	300
Sonodec 25 315	315
Sonodec 25 355	355
Sonodec 25 400	400
Sonodec 25 450	450
Sonodec 25 500	500

model	D int.
Sonodec 250 80	80
Sonodec 250 100	100
Sonodec 250 125	125
Sonodec 250 150	150
Sonodec 250 160	160
Sonodec 250 180	180
Sonodec 250 200	200
Sonodec 250 224	224
Sonodec 250 250	250
Sonodec 250 300	300
Sonodec 250 315	315
Sonodec 250 355	355
Sonodec 250 400	400
Sonodec 250 450	450
Sonodec 250 500	500
Sonodec 250 630	630

Version

Internal duct consisting of perforated aluminium, with a steel laminate inner spiral. Insulated with 25 mm glass wool with a reinforced aluminium outer jacket.

Packaged in a box.

Sonodec 25:	temperature -30 °C to 140 °C
Sonodec 250:	temperature -30 °C to 250 °C
Length:	10 m

Note

- This flexible duct can be fitted quickly and easily with the Guso connector.
- The dimensions are in mm.

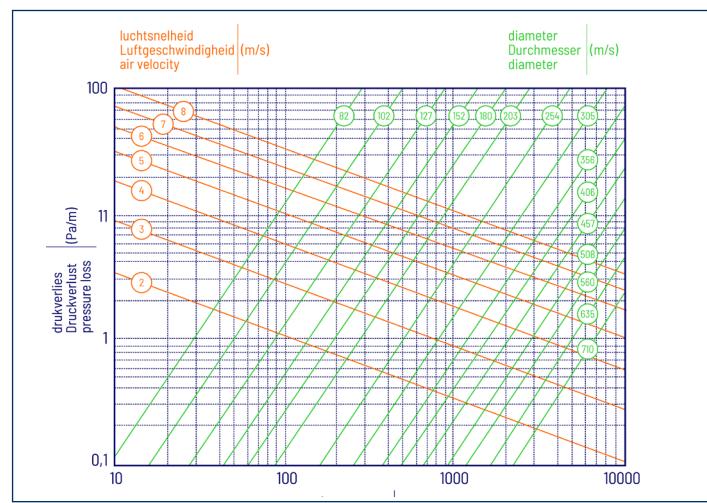
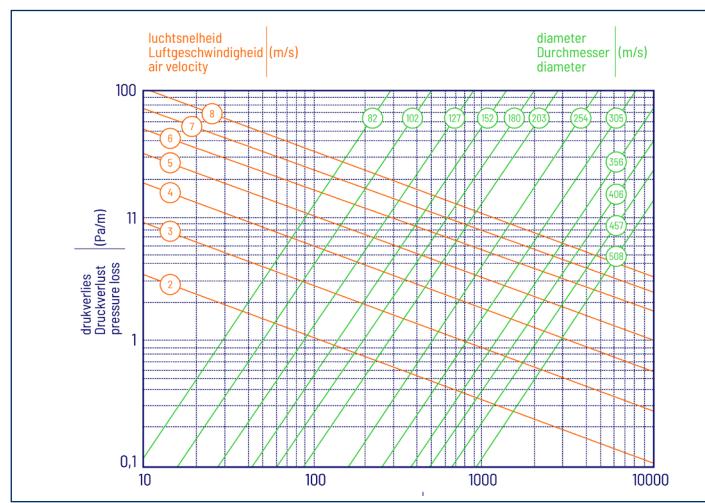
Attenuation values

Sonodec 25

model	L	attenuation values						
		125	250	500	1k	2k	4k	Hz
80	1000	16	26	33	38	28	17	dB
	2000	21	37	48	53	46	29	dB
	3000	29	45	49	54	57	38	dB
100	1000	9	19	32	37	31	21	dB
	2000	19	33	52	53	49	36	dB
	3000	25	39	50	52	54	40	dB
125	1000	12	20	21	25	29	17	dB
	2000	17	31	44	45	46	26	dB
	3000	23	46	44	47	51	34	dB
160	1000	17	22	22	27	19	14	dB
	2000	31	39	34	38	31	20	dB
	3000	29	43	41	46	39	27	dB
200	1000	7	15	17	20	16	13	dB
	2000	20	34	32	35	30	22	dB
	3000	18	40	38	41	39	30	dB
250	1000	16	16	16	16	13	10	dB
	2000	26	31	28	33	25	18	dB
	3000	32	36	32	37	34	27	dB
315	1000	11	12	12	14	11	7	dB
	2000	28	25	22	27	22	15	dB
	3000	27	32	28	34	28	19	dB
450	1000	12	10	8	8	6	8	dB
	2000	20	17	15	16	13	12	dB
	3000	25	22	21	25	19	16	dB
500	1000	8	8	8	9	6	7	dB
	2000	20	17	16	17	11	11	dB
	3000	24	22	20	25	15	14	dB

Sonodec 250

model	L	attenuation values						
		125	250	500	1k	2k	4k	Hz
80	1000	16	25	34	38	30	20	dB
	2000	22	37	48	54	46	30	dB
	3000	30	43	41	43	55	43	dB
100	1000	11	25	31	36	23	15	dB
	2000	17	31	51	50	38	26	dB
	3000	20	44	51	52	51	33	dB
125	1000	11	19	23	27	25	19	dB
	2000	17	31	43	35	22	dB	
	3000	21	40	45	48	47	27	dB
160	1000	15	26	22	27	18	13	dB
	2000	22	38	35	39	29	20	dB
	3000	33	43	39	43	39	27	dB
200	1000	6	13	15	18	11	10	dB
	2000	15	31	32	38	21	18	dB
	3000	16	36	40	42	28	24	dB
250	1000	9	11	12	10	7	11	dB
	2000	21	24	24	22	13	15	dB
	3000	29	33	31	30	19	24	dB
315	1000	8	8	8	7	6	8	dB
	2000	16	15	14	13	9	13	dB
	3000	23	23	21	19	12	17	dB
450	1000	8	8	6	6	5	7	dB
	2000	18	15	14	12	8	10	dB
	3000	24	21	20	18	11	15	dB
500	1000	7	8	7	7	6	7	dB
	2000	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
	3000	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB



Note

- The dimensions are in mm.



FLEX: SONODEC 25 (INSULATED)

Flexible duct

Acoustic insulation, 25 mm

Insulated

LUCA C/ATC 3

Use

Air transport where vibrations have to be attenuated. Is used frequently in spiral ducts and diffusers.

- Air-heating systems.
- Air-conditioning systems.
- Heat-recovery systems.
- Mechanical ventilation systems.
- Overflow ventilation.

Characteristics

- Attenuation from low frequencies.
- Temperature: -25 °C to 90 °C.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.	L
Sonodec 25 100	100	1000
Sonodec 25 125	125	1000
Sonodec 25 150	150	1000
Sonodec 25 160	160	1000
Sonodec 25 180	180	1000
Sonodec 25 200	200	1000
Sonodec 25 250	250	1000
Sonodec 25 315	315	1000
Sonodec 25 355	355	1000
Sonodec 25 400	400	1000
Sonodec 25 100	100	500
Sonodec 25 125	125	500
Sonodec 25 150	150	500
Sonodec 25 160	160	500
Sonodec 25 180	180	500
Sonodec 25 200	200	500

Version

Inner duct consisting of perforated aluminium, with a steel laminated spiral. Insulated with 25 mm glass wool with a reinforced aluminium outer jacket. Insulated to length.

Preferred length 1000 mm.

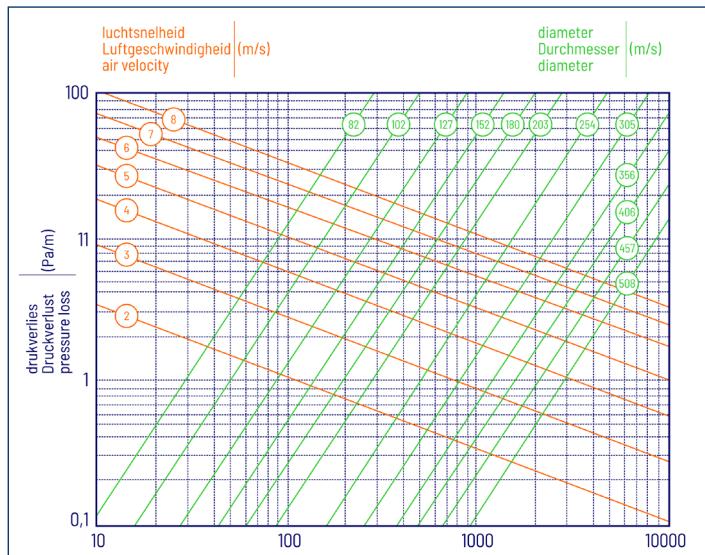
Lengths of 500 mm and 750 mm are also available. Different lengths are available in larger quantities.

Note

- This flexible duct can be fitted quickly and easily with the Guso connector.
- The dimensions are in mm.

Attenuation values

model	L	attenuation values						
		125	250	500	1000	2000	4000	Hz
100	1000	9	19	32	37	31	21	dB
	500	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
125	1000	12	20	21	25	29	17	dB
	500	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
150	1000	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
	500	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
160	1000	17	22	22	27	19	14	dB
	500	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
180	1000	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
	500	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
200	1000	7	15	17	20	16	13	dB
	500	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
250	1000	16	16	16	16	13	10	dB
315	1000	11	12	12	14	11	7	dB
355	1000	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB
400	1000	e.g.	e.g.	e.g.	e.g.	e.g.	e.g.	dB



Note

- The dimensions are in mm.



FLEX: ALUDEC 112

Flexible duct

Aluminium laminate

LUCA C/ATC 3

Use

To transport air when a rigid connection between two points is not possible. For example, in suspended ceilings between the duct and the diffuser plenum or the mounting bush of the extraction valve.

Applications

- Mechanical and natural ventilation systems.
- Heat-recovery systems.
- Balanced ventilation systems.
- Air-heating systems.
- Air-conditioning systems.

Characteristics

- Temperature range -25 °C to 90 °C.
- Bending radius R = D.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.
Aludec 112 80	80
Aludec 112 100	100
Aludec 112 125	125
Aludec 112 133	133
Aludec 112 150	150
Aludec 112 160	160
Aludec 112 180	180
Aludec 112 200	200
Aludec 112 224	224
Aludec 112 250	250
Aludec 112 300	300
Aludec 112 315	315
Aludec 112 355	355
Aludec 112 400	400
Aludec 112 450	450
Aludec 112 500	500
Aludec 112 560	560
Aludec 112 630	630

Version

Aluminium laminate duct, laminate thickness 87 µ. With a steel laminate spiral. The laminate is glued with a heat-resistant adhesive.

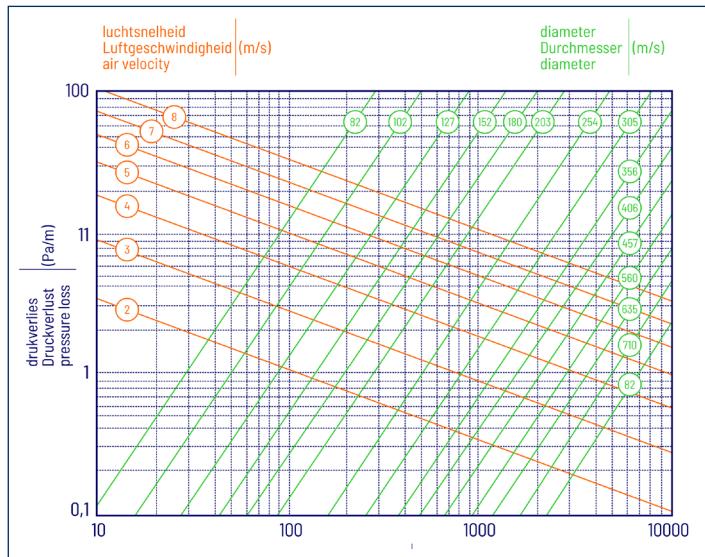
Packaged in a box.

Length 10 m.

Note

- The dimensions are in mm.

Attenuation values





FLEX: ALUDEC 245

Flexible duct

Aluminium laminate

LUCA C/ATC 3

Use

To transport air when a rigid connection between two points is not possible. For example, in suspended ceilings between the duct and the diffuser plenum or the mounting bush of the extraction valve.

Application area

- Mechanical and natural ventilation systems.
- Heat-recovery systems.
- Balanced ventilation systems.
- Air-heating systems.
- Air-conditioning systems.

Characteristics

- Temperature range -25 °C to 90 °C.
- Bending radius R = D.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.
Aludec 245 100	100
Aludec 245 125	125
Aludec 245 133	133
Aludec 245 150	150
Aludec 245 160	160
Aludec 245 180	180
Aludec 245 200	200
Aludec 245 224	224
Aludec 245 250	250
Aludec 245 280	280
Aludec 245 300	300
Aludec 245 315	315
Aludec 245 355	355
Aludec 245 400	400
Aludec 245 450	450
Aludec 245 500	500

Version

Aluminium laminate duct, laminate thickness 45 µ. With a double steel laminate spiral. The laminate is glued with a heat-resistant adhesive.

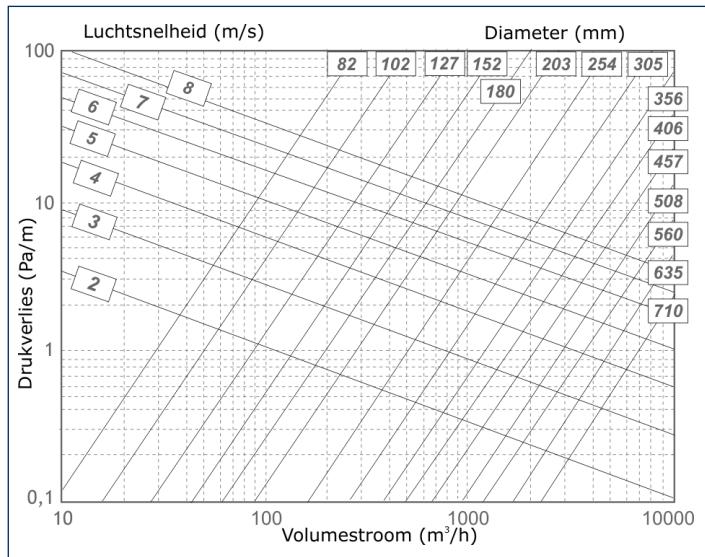
Packaged in a box.

Length 10 m.

Note

- The dimensions are in mm.

Attenuation values





FLEX: STRETCHDEC

Flexible duct

Aluminium

LUCA C/ATC 3

Use

To transport air in situations where the conditions impose heavy-duty requirements, such as mechanical influences or use in high temperatures, and visible applications, such as extractor hood connections.

- Mechanical and natural ventilation systems.
- Heat-recovery systems.
- Balanced ventilation systems.
- Air-heating systems.
- Air-conditioning systems.

Characteristics

- Temperature range -30 °C to 250 °C.
- Bending radius R = 2D.
- Not suitable for air with higher concentrations of acids and alkalis.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions

model	D int.
Stretchdec 80	80
Stretchdec 100	100
Stretchdec 125	125
Stretchdec 133	133
Stretchdec 150	150
Stretchdec 160	160
Stretchdec 180	180
Stretchdec 200	200
Stretchdec 250	250
Stretchdec 315	315

Note

- The dimensions are in mm.

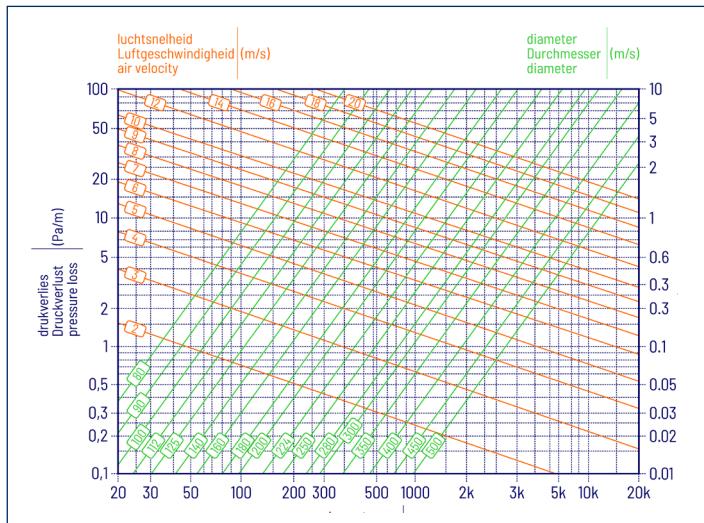
Version

A flexible round duct, consisting of one layer of corrugated aluminium. The special seamed joint produces an extremely high airtightness and flexibility.

Packaged in a box.

Length 3 m.

Attenuation values





FLEX: COMBIDEC

Flexible duct

Aluminium laminate & copolymer

Grey metallic

LUCA C/ATC 3

Use

For air transport in rooms with higher temperatures or air with a higher heat range (up to 140 °C). Also suitable when the duct is subject to heavy mechanical influences.

Application area

- Mechanical and natural ventilation systems.
- Heat-recovery systems.
- Balanced ventilation systems.
- Air-heating systems.
- Steam and condensate extraction.

Characteristics

- Temperature range -30 °C to 140 °C.
- Extremely resistant to wear and tear.
- Max. pressure 3000 Pa - max. velocity 30 m/s.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.	model	D int.
Combidec 100 grey metallic	100	Combidec 100 black	100
Combidec 125 grey metallic	125	Combidec 125 black	125
Combidec 133 grey metallic	133	Combidec 150 black	150
Combidec 150 grey metallic	150	Combidec 160 black	160
Combidec 160 grey metallic	160	Combidec 180 black	180
Combidec 180 grey metallic	180	Combidec 200 black	200
Combidec 200 grey metallic	200	Combidec 250 black	250
Combidec 224 grey metallic	224	Combidec 300 black	300
Combidec 250 grey metallic	250	Combidec 315 black	315
Combidec 300 grey metallic	300	Combidec 355 black	355
Combidec 315 grey metallic	315	Combidec 400 black	400
Combidec 355 grey metallic	355	Combidec 450 black	450
Combidec 400 grey metallic	400	Combidec 500 black	500
Combidec 450 grey metallic	450		
Combidec 500 grey metallic	500		

Version

Extremely strong aluminium laminate duct, with copolymer on the outside. Has a steel laminate spiral.

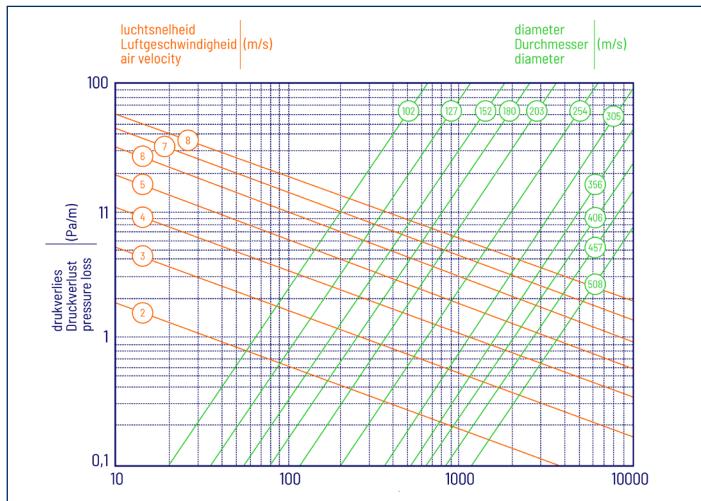
Packaged in a box.

Length 10 m.

Note

- The dimensions are in mm.

Attenuation values



FLEX: ISODEC



Flexible duct

Thermal and acoustic insulation, 25 mm

LUCA C/ATC 3

Use

To transport warm or cooled air, when a rigid connection between points is not possible. For example, in suspended ceilings between the duct and the diffuser plenum or the mounting bush of the extraction valve.

- Mechanical and natural ventilation systems.
- Heat-recovery systems.
- Balanced ventilation systems.
- Air-heating systems.
- Air-conditioning systems.

Characteristics

- Temperature range -30 °C to 140 °C.
- Bending radius R = D.
- R value of glass wool 0.69 m²*K/W.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.
Isodec 25 100	100
Isodec 25 125	125
Isodec 25 133	133
Isodec 25 150	150
Isodec 25 160	160
Isodec 25 180	180
Isodec 25 200	200
Isodec 25 224	224
Isodec 25 250	250
Isodec 25 300	300
Isodec 25 315	315
Isodec 25 355	355
Isodec 25 400	400
Isodec 25 450	450
Isodec 25 500	500

Version

Internal duct of aluminium laminate 45 µ with a steel laminate spiral. The laminate is glued with a heat-resistant adhesive. The duct is wrapped in glass wool with a thickness of 25 mm and has a fibreglass reinforced aluminium laminate outer jacket.

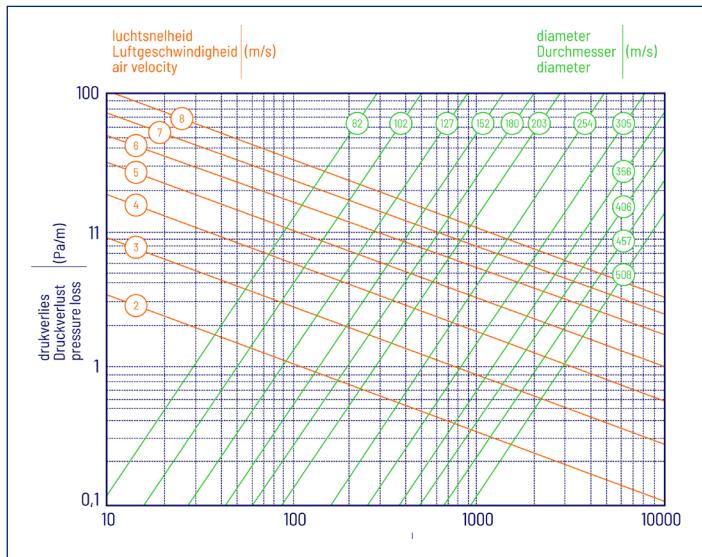
Packaged in a box.

Length 10 m.

Note

- The dimensions are in mm.

Attenuation values





FLEX: GREYDEC 100

Flexible duct

PolyVinyl Chloride

Grey

LUCA C/ATC 3

Version

The duct is made of a polyamide fabric coated with a PVC coating.
Has a steel laminate spiral.

Packaged in a box.

Length 10 m.

Note

- The dimensions are in mm.

Use

To transport air when a rigid connection between two points is not possible. For example, in suspended ceilings between the duct and the diffuser plenum or the mounting bush of the extraction valve.

- Mechanical and natural ventilation systems.
- Heat-recovery systems.
- Balanced ventilation systems.
- Air-heating systems.
- Steam and condensate extraction

Characteristics

- Temperature range -5 °C to 70 °C.
- Flame-extinguishing.
- Can absorb vibration long term.
- Airtightness class C in accordance with EN1751 (LUCA C)/ATC 3.

Available dimensions and sizes

model	D int.
Greydec 100 80	80
Greydec 100 100	100
Greydec 100 125	125
Greydec 100 133	133
Greydec 100 150	150
Greydec 100 160	160
Greydec 100 180	180
Greydec 100 200	200
Greydec 100 224	224
Greydec 100 250	250
Greydec 100 300	300
Greydec 100 315	315
Greydec 100 355	355
Greydec 100 400	400
Greydec 100 450	450
Greydec 100 500	500
Greydec 100 630	630

FITTING EQUIPMENT



Tape



Aluminium tape, 50 mm wide, 50 m roll

Aluminium tape, 75 mm wide, 50 m roll



Hardcast tape P301, 50 mm wide, 15 m roll

Hardcast tape PEZ3009, 50 mm wide, 20 m roll



PVC tape, 50 mm wide, 10 m roll

Sealing tape



PE band (poretight)
18 x 4 mm, 25 m roll



Felt tape, self-adhesive
25 x 8 mm, 7.5 m roll

Clamp band



Nylon clamp band 0 - 140 mm

Nylon clamp band 0 - 210 mm



Tensioner for nylon clamp band

Stainless steel hose clip



60 - 135 mm

60 - 165 mm

60 - 215 mm

60 - 315 mm

60 - 525 mm

60 - 660 mm