

Application:

The swirl diffuser type RTBC is suitable for the supply of cooled air with a large temperature differential and can be utilised for constant and variable volume installations. The air pattern is fixed. The diffuser may be used for surface mounting as well as for Tee bar mounting. The diffuser is for mounting within the ceiling and can be fitted with a plenum box which is delivered ready assembled. The special high induction swirl effect enables a significant number of air changes. The very shallow inflow pattern also makes the diffuser suitable for somewhat lower spaces.

Features:

Max. air exchanges: up to 15 x
Under temperature: up to 10 K
Over temperature: up to 15 K

Dimensional data:

model	B	A	D1	T	P	H
250	280	293	123	65	220	110
350	380	393	158	75	265	125
450	480	493	198	75	320	140
550	580	593	248	75	365	160

Remarks:

The dimensions are given in mm.
Connection "D" is actual O.D.
The face size of models 250, 350 and 450 are 295, 395 and 495 mm respectively overall.
As such these models fit in a Tee-bar modular ceiling with a respective size of 300, 400 and 500 mm. For 600 mm grid see RTBM.

RTBC

- ▶ Swirl
- ▶ Supply

Design:

Swirl diffuser
face plate: steel
finish visible parts: epoxy powder
colour: RAL 9010

Plenum box
material: steel
sendzimir
lining: 12 mm
finish: none

Damper
material: steel
sendzimir
finish: none

Available types:

RTBC - -

R swirl diffuser
T supply
B rotating exhaust pattern, petal shaped
C surface mounted, round

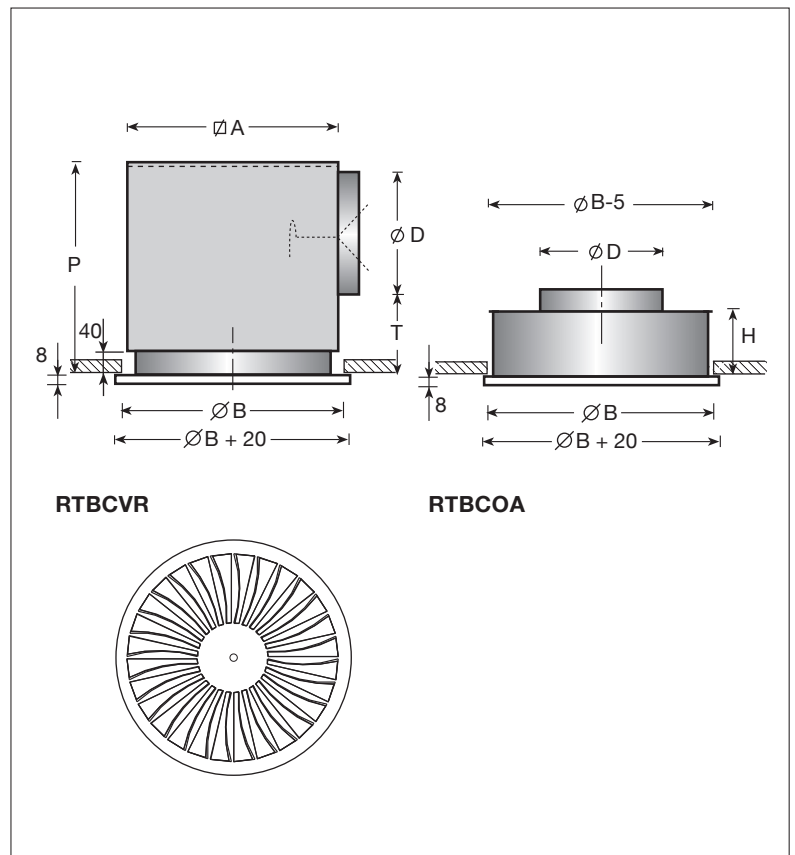
- **accessories**

O none
V damper

- **designed with**

A round top connection
R lined plenum box (assembled)
U un-lined plenum box (assembled)

Dimensions:



Performance data RTBC:

air volume		model											
		250			350			450			550		
m ³ /s	m ³ /h	T	Ps	Lp	T	Ps	Lp	T	Ps	Lp	T	Ps	Lp
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

Throw correction factor

V _{end} m/s	throw factor
0.15	1.67
0.20	1.25
0.25	1.00
0.35	0.71
0.50	0.50

Throw figures are based on 0.25 m/s end velocity. In case other end velocities are required correct according to table.

General:

The throw applies to flush mounted in a horizontal dropped ceiling.

- throw T in metres.
 - static pressure drop Ps in Pa.
- The assumed room absorption is 10 dB.
- sound pressure Lp in dB(A).
- Intermediate values may be interpolated.

Lined Plenums:

model	middle frequency bands					
	125	250	500	1K	2K	4K
250	5	0	3	10	5	11
350	2	2	7	7	7	9
450	2	3	9	7	7	9
550	0	6	7	7	6	9