

## Ceiling diffusers and grilles



- Swirl diffusers
- Square
- Steel
- White, RAL 9010

### Square swirl diffusers with fixed curved blades type

Swirl ceiling diffusers with high induction rate, consisting of a square plate with multiple fixed curved blades arranged in a circular pattern and to be equipped with galvanized steel plenum box. 4 swirl sizes available

#### Application

- For air supply and exhaust in ventilation and air conditioning systems

#### Material

- White powdercoated Steel RAL9010

#### Composition

- Frontplate made of powdercoated steel
- Central screw mounting

#### Mounting

- Fixing by central screw in the crossbar of the plenum box.

#### Text for tender

- The air supply ceiling diffusers are square with a circular arranged swirl with fixed curved blades. They are made of a steel powdercoated frontplate in white finish RAL 9010. The diffusers are standard delivered with galvanized steel plenum box equipped with perforated plate and damper in the side entry spigot. The diffuser is centrally screw mounted.

## Order example

- 600 + RER-B 600 + CRC 250

Explanation

600 = Diffuser size/Swirl size

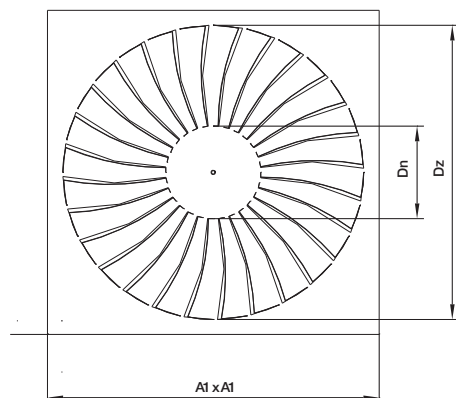
Accessories

**RER-B** = Plenum box type

**600** = Size plenum box

**CRC** = Plenumbox connection valve

**250** = Plenumbox connection diameter 250



## Dimensions

VWR-FCSA	Dn [mm]	Dz [mm]	A1x A1 [mm]	Aeff [m²]
300/254	84	254	295x295	0.01
600/254	84	254	595x595	0.01
400/350	92	350	395x395	0.03
600/350	92	350	595x595	0.03
500/450	150	450	495x495	0.04
600/450	150	450	595x595	0.04
600/540	170	540	595x595	0.06
625/540	170	540	620x620	0.06

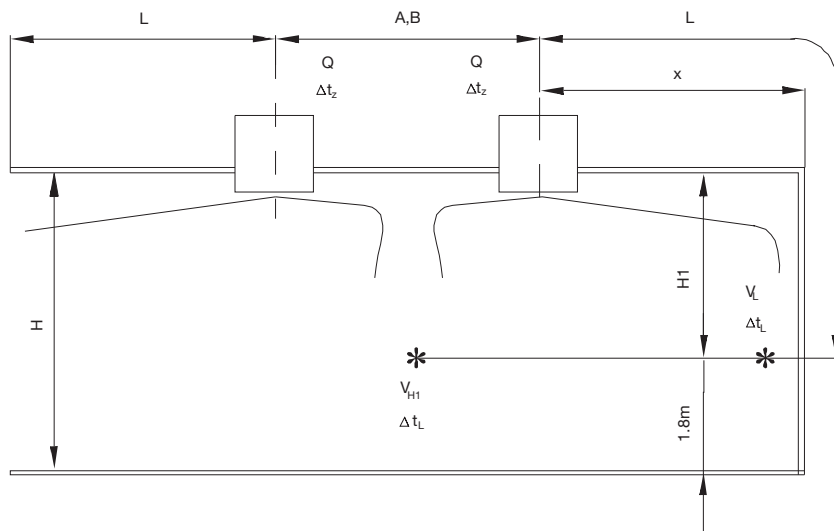
## Quick selection

Qv	Type	300	400	500	600/625
	Aeff	0.0145	0.0301	0.0386	0.0580
150	Lth	1.50			
	Ps	14.30			
	veff	2.87			
	Lw	26.60			
	Lth	2.70	1.50		
200	Ps	26	7.10		
	veff	3.83	1.85		
	Lw	34.30	19.30		
	Lth	4	3.10	2.40	
300	Ps	55.80	17.20	10.80	
	veff	5.75	2.77	2.16	
	Lw	46.80	28.90	24.60	
	Lth		3.80	3.50	3.40
400	Ps		29.50	20.70	10.50
	veff		3.69	2.88	1.92
	Lw		36.50	32.60	26
	Lth			3.90	3.80
500	Ps			32.10	18
	veff			3.60	2.39
	Lw			39.70	32.60
	Lth				4
600	Ps				26.41
	veff				2.87
	Lw				37.70

## Symbols and specifications

- Aeff = Free area in m²
- veff = Effective velocity in m/s
- Values at ceiling height of 2.7m
- Temperature difference Dt = -10K
- Lth 0.20 = Throw length at end velocity of 0,20m/s
- Ps = Static pressure loss in Pa
- Lw(A) = Acoustic power in dB(A)
- Qv = Air Volume in m³/h

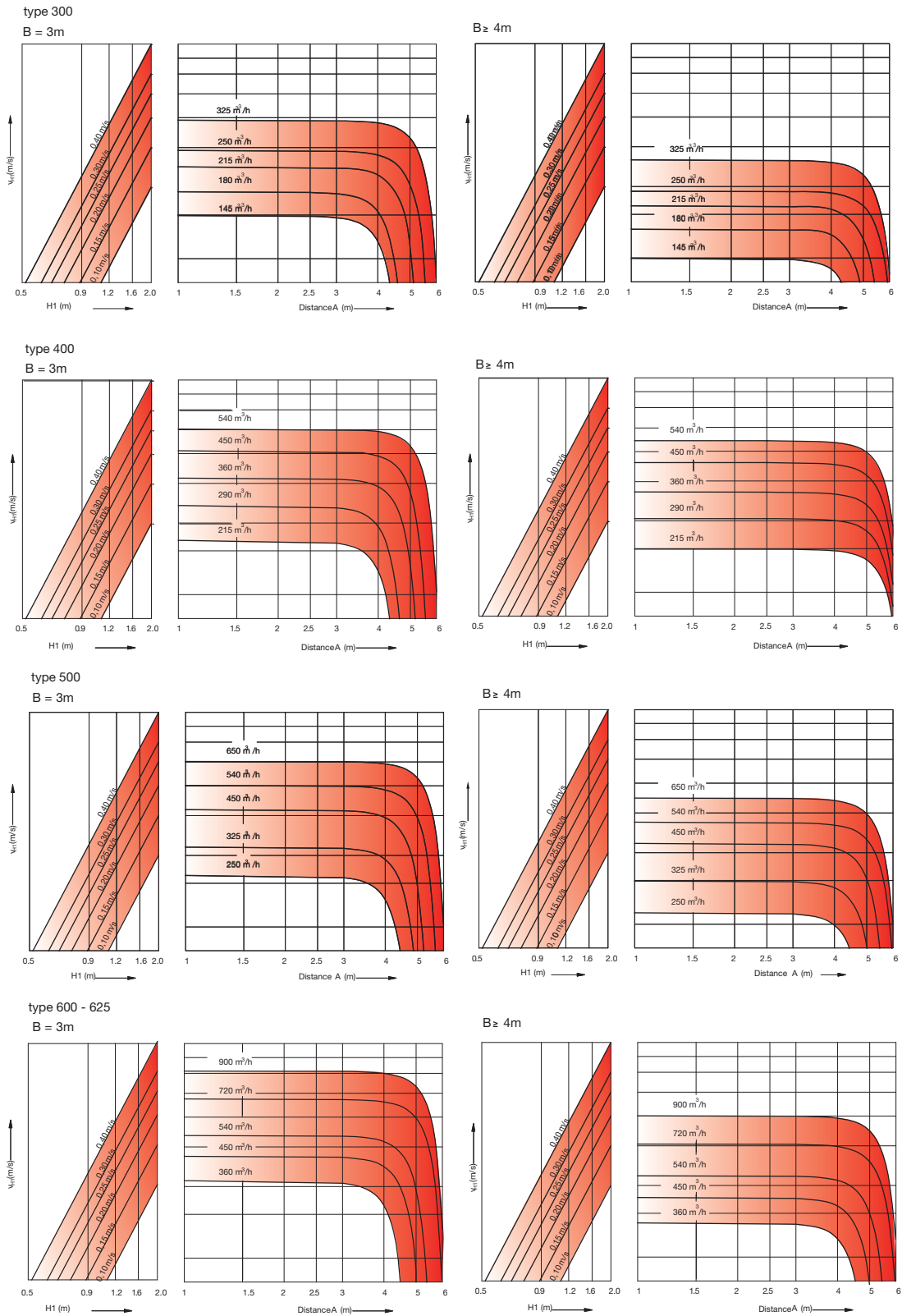
## Placement instruction



## Symbols and specifications

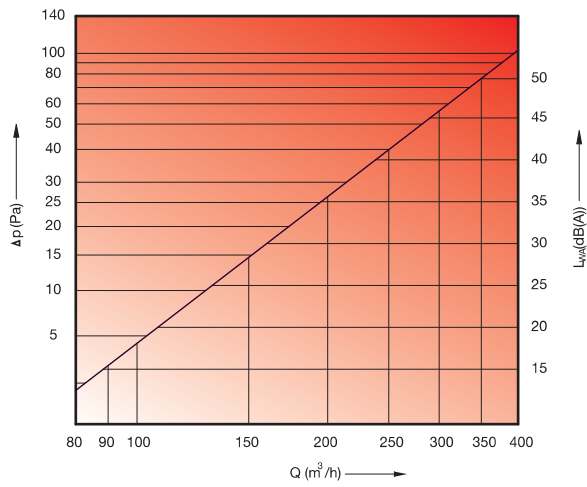
- $Q$  = Air flow in  $\text{m}^3/\text{h}$
- $x$  = Horizontal distance to the wall in m
- $H$  = Room height in m
- $H1$  = Distance from ceiling to occupied zone in m
- $L$  = Throw distance in m ( $L=H1+x$ )
- $V_L$  = Air velocity at throw distance  $L$
- $\Delta t_z$  = Temperature difference between supply and room air in K
- $\Delta t_L$  = Temperature difference between the core and room air in K
- $Dp_t$  = Pressure drop in Pa
- $L_{WA}$  = Sound power level in dB(A)
- $V_{H1}$  = Air velocity at  $H1$  distance in m/s
- $A, B$  = Distance between diffusers by length and by width in m

## Air velocity at throw distances

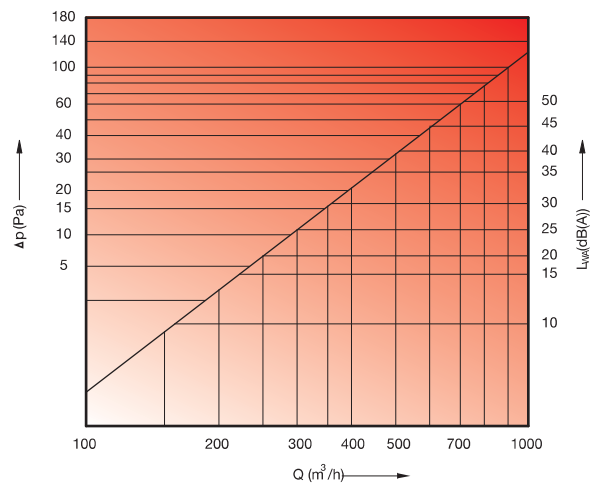


## Pressure drop and soundpower

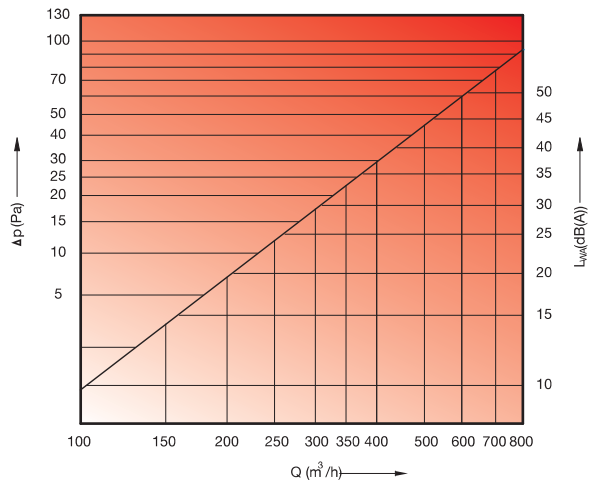
Type 300



Type 500



Type 400



Type 600

