



Multi Directional Diffusers VD



VD



VD-S

DESCRIPTION:

Ceiling swirl diffusers in air conditioning systems create a swirl to supply air to rooms. The resulting airflow induces high levels of room air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and room air. Ceiling swirl diffusers allow for large volume flow rates. The result is a mixed flow ventilation in comfort zones, with good overall room ventilation, creating only very little turbulence in the occupied zone.

VD : Fixed-Blades

VD-S : Adjustable-Blades

MATERIAL :

Extruded Aluminum frame and blades

FUNCTION :

Type VD ceiling swirl diffusers have adjustable air control blades. Different air patterns allow for cooling or heating mode, or for the adjustment to varying loads. Horizontal air discharge is omni directional. Vertical air discharge is possible in heating mode. The supply air to room air temperature difference may range from -12 to $+15$ K.

FINISHING :

- Powder coated in RAL9010 colour as standard. Other colours on request

INSTALLATION :

- Bridge (standart)
- Screw
- No Fixing

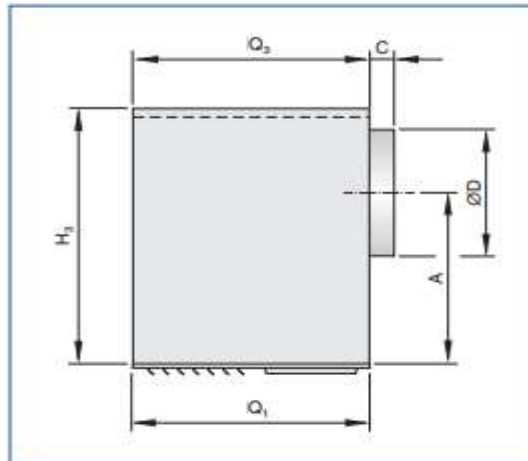
ACCESSORIES:

- Plenum box
- Actuators for adjusting the air discharge direction

STANDARD SIZES (mm):

Variant

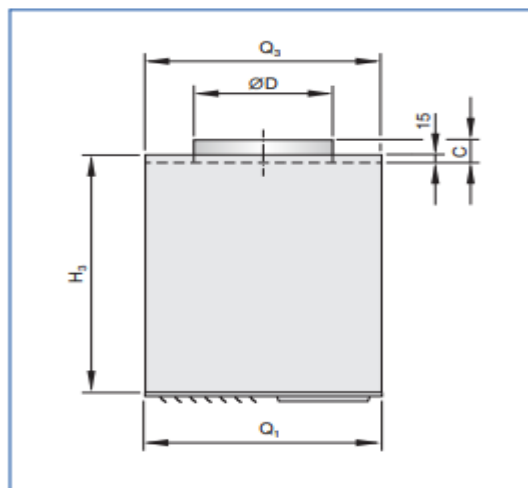
- Ceiling swirl diffuser with square diffuser face with plenum box for horizontal duct connection



Nominal size	Q ₁ mm	Q ₃ mm	H ₃ mm	ØD mm	A mm	C mm	m kg
425	425	425	500	248	335	46	11
600	595	600	550	313	353	48	19
775	763	775	750	448	498	60	34
1050	1043	1050	800	498	523	60	57

Variant

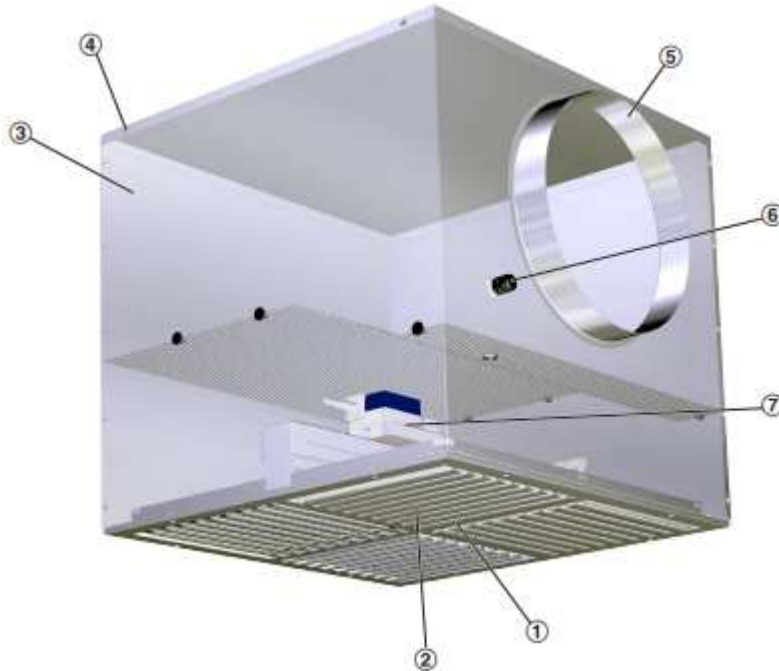
- Ceiling swirl diffuser with square diffuser face with plenum box for vertical duct connection



Nominal size	Q ₁ mm	Q ₃ mm	H ₃ mm	ØD mm	C mm	m kg
425	425	425	500	248	46	11
600	595	600	550	313	48	19
775	763	775	550	448	60	29
1050	1043	1050	600	498	60	51



VD Plenum Box Details:



- ① Diffuser face
- ② Adjustable-Fixed Blades
- ③ Plenum Box
- ④ Suspension hole
- ⑤ Spigot Optional
- ⑥ Cable Gland
- ⑦ Actuator and cross bar

Air patterns

Horizontal directional air discharge



Vertical air discharge





VD SELECTION TABLE

Nominal sizes	425, 600, 775, 1050 mm
Minimum volume flow rate	95 – 675 l/s or 342 – 2430 m ³ /h
Maximum volume flow rate, with $L_{WA} \leq 50$ dB(A)	280 – 1490 l/s or 1008 – 5364 m ³ /h
Supply air to room air temperature difference	-12 to +15 K

HEATING

MODEL		425	600	775	1050
Flow	(m ³ /h)				
360	Lmax (m)	1,5			
	NR	20			
	P (Pa)	11			
540	Lmax (m)	2			
	NR	30			
	P (Pa)	20			
720	Lmax (m)	2,5			
	NR	35			
	P (Pa)	35			
900	Lmax (m)	3	2,5		
	NR	40	25		
	P (Pa)	60	17		
1260	Lmax (m)	5	2,9	2,5	
	NR	45	30	20	
	P (Pa)	80	25	8	
1800	Lmax (m)		3,5	3	
	NR		40	25	
	P (Pa)		70	12	
2520	Lmax (m)		4,8	4	2,5
	NR		50	35	25
	P (Pa)		1000	25	15
2880	Lmax (m)		7	4,5	3
	NR		55	40	30
	P (Pa)		170	35	20
3240	Lmax (m)			5	4
	NR			45	35
	P (Pa)			40	25
4680	Lmax (m)			6	4,5
	NR			50	40
	P (Pa)			70	35
7200	Lmax (m)				5,5
	NR				50
	P (Pa)				85

COOLING

MODEL		425	600	775	1050
Flow	(m ³ /h)				
540	Vt (m)	0,15<			
	NR	25			
	P (Pa)	20			
	A (m)	2			
720	Vt (m)	0,15<			
	NR	35<			
	P (Pa)	25			
	A (m)	2			
900	Vt (m)	0,15			
	NR	40<			
	P (Pa)	45			
	A (m)	3			
1260	Vt (m)	0,15<	0,15<		
	NR	50	25		
	P (Pa)	55	30		
	A (m)	3	3		
1800	Vt (m)		0,15	0,15	
	NR		40	25	
	P (Pa)		60	15	
	A (m)		3	3	
2520	Vt (m)		0,2	0,2	0,15<
	NR		50<	35<	25<
	P (Pa)		85	25	15
	A (m)		3	3	3
2880	Vt (m)		0,25	0,2	0,15<
	NR		50	40<	30<
	P (Pa)		90	40	20
	A (m)		3	3	3
3240	Vt (m)			0,25	0,15
	NR			40<	35<
	P (Pa)			40	25
	A (m)			3	3
4680	Vt (m)			0,2	0,2
	NR			50<	45<
	P (Pa)			60	60
	A (m)			4	3

SELECTION CRITERIAS

Heating:

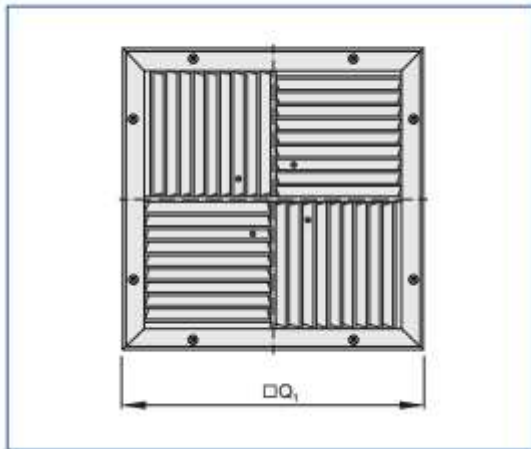
Throw angle : 60°
 T Temperature 10°C
 Ceiling height 6m

Cooling:

Ceiling height 6m

PRODUCT DETAILS

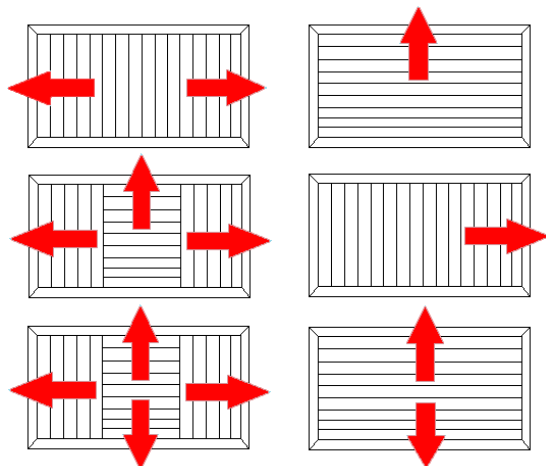
Diffuser face VD



VD

Nominal size	$\square Q_1$ mm	A_{eff} m^2	A_{eff} vertical air discharge m^2
425	425	0.0307	0.0781
600	595	0.0685	0.1819
775	763	0.1242	0.3405
1050	1043	0.2247	0.6358

AIR FLOW SCHEMATIC



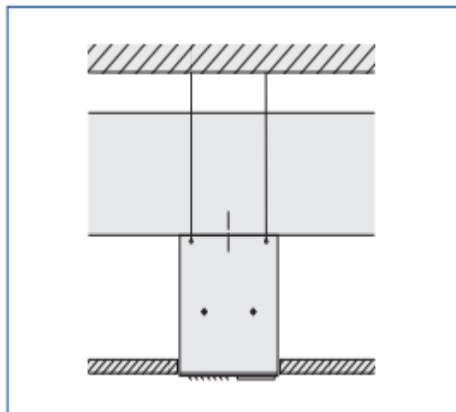
INSTALLATION:

Freely suspended installation



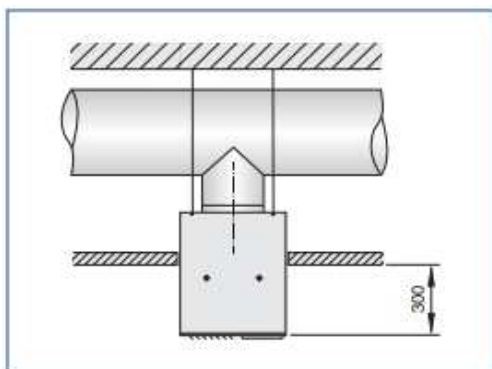


Flush ceiling installation



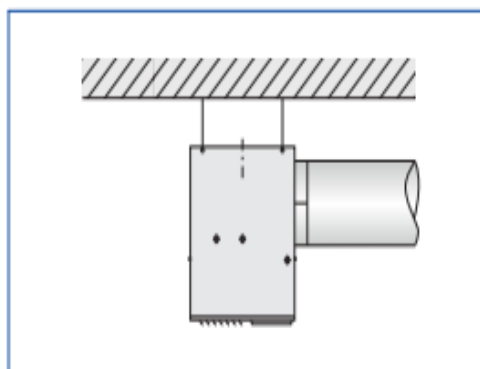
- Two discharge directions, horizontal and vertical
- Horizontal or vertical duct connection

Protruding installation



- Continuous adjustment of the discharge direction
- Vertical duct connection
- 300 mm minimum distance to the suspended ceiling

Freely suspended installation



- Continuous adjustment of the discharge direction
- Horizontal or vertical duct connection
- Preferably for industrial zones



ORDER CODES

VD	22	000	RAL9010	SM	F 600x600
VD: Fixed Blade					N: Neck Size
VD-S: Adjustable Blade					F: Frame Size
22: Frame=22mm					00: No Mounting
32: Frame=32mm					BF: Blind Frame
					SM: Screw Mounting
					CM: Clips Mounting
					00: Mill Finish (unpainted)
					EX: Eloxal Coating
					RAL-----: Powder Coating
000: Without Damper					