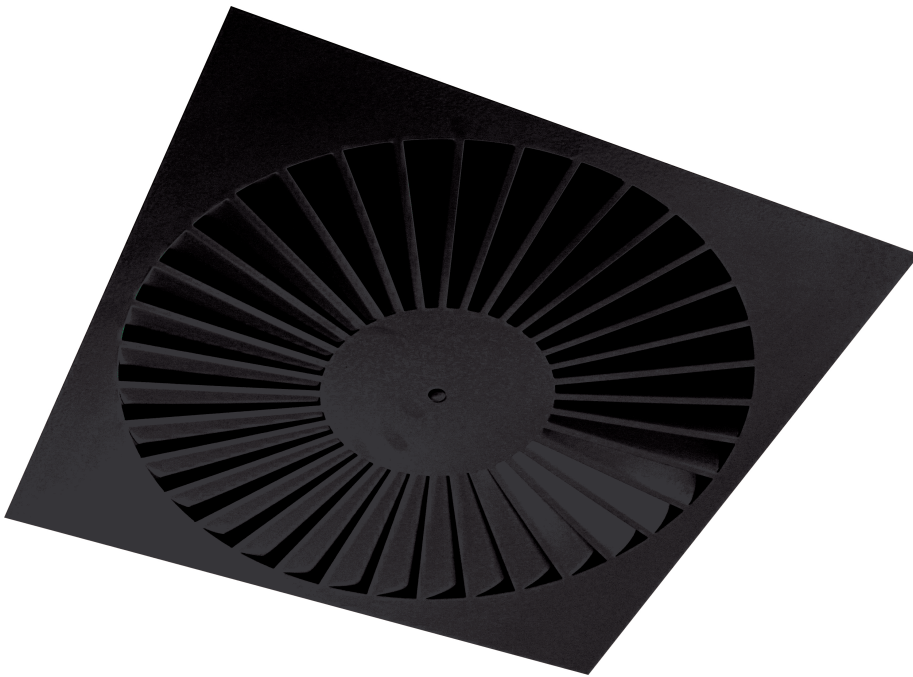


**VWR-FSA  
(RAL9005)**

- Swirl diffusers
- Square
- Steel
- Black, RAL 9005



## Black square swirl diffusers with fixed blades type VWR-FSA (RAL9005)

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

### Brand

- Cairox

### Application

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

### Material

- Steel

### Colour

- Black, RAL 9005
- Other colours available upon request

### Composition

- Frontplate made of powder coated steel
- Central screw mounting

### Mounting

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

### Accessories

- Square plenum box, type **REV-B**
- Square insulated plenum box, type **REV-B ISO**
- Circular plenum box, type **RER-B**
- Insulated circular plenum box, type **RER-B ISO**
- Regulating valve for plenum box, type **CRC**
- Polystyrene plenum box, type **PPS-P** with duct connection **PPS-APD** and mounting bar **PPS-MB**

**Text for tender**

- The air supply ceiling diffusers are square with a circular arranged swirl with fixed blades. They are made of a steel powdercoated frontplate in white finish RAL 9005. The diffusers are standard delivered with galvanized steel plenumbox equipped with perforated plate and damper in the side entry spigot. The diffuser is centrally screw mounted.
- Cairox type **VWR-FSA + RER-A**

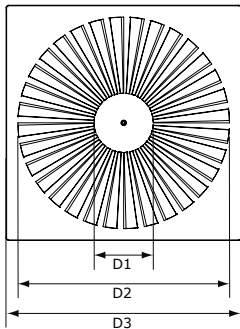
**Order example**

- **VWR-FSA (RAL 9005), 600/540 + RER-B 600 + CRC 250**

Explanation

**VWR-FSA** = Diffuser type**600/540** = Diffuser size/swirl size

Accessories

**RER-B** = Plenum box type**600** = Size plenum box**CRC** = Regulating valve for plenum box**250** = Plenum box connection diameter 250

Dimensions						
	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	A	#Blades
VWR-FSA 300	238	100	236	298	41	28
VWR-FSA 400	338	150	336	398	41	30
VWR-FSA 500	438	150	436	498	41	32
VWR-FSA 600	538	150	536	596	22	32
VWR-FSA 625*	538	150	536	623	22	32

\* niet meer verkrijgbaar / n'est plus disponible / no longer available

Quick selection																	
VWR-FSA		300			400			500			600			625*			
Q	Ak	1.2	2.4	3.6	1.2	2.4	3.6	1.2	2.4	3.6	1.2	2.4	3.6	1.2	2.4	3.6	
100	Vz	H= 2.7	0.2	0.15	0.12	0.15	0.11	0.09									
		H= 3.2	0.15	0.12	0.1	0.11	0.09	0.07									
		H= 3.8	0.12	0.1	0.08	0.09	0.07	0.06									
	Vk	2.8			1.7												
	X0.25	1.2			0.8												
	Ps	3			2												
	Lw(A)	<20			<20												
150	Vz	H= 2.7	0.3	0.22	0.17	0.22	0.17	0.13	0.16	0.12	0.1						
		H= 3.2	0.23	0.18	0.15	0.17	0.14	0.11	0.13	0.1	0.08						
		H= 3.8	0.18	0.15	0.13	0.14	0.11	0.1	0.1	0.08	0.07						
	Vk	4.2			2.6			1.3									
	X0.25	1.8			1.3			0.9									
	Ps	8			5			3									
	Lw(A)	30			21			<20									
200	Vz	H= 2.7			0.3	0.22	0.18	0.21	0.16	0.13	0.14	0.1	0.08	0.14	0.1	0.08	
		H= 3.2			0.23	0.18	0.15	0.16	0.13	0.11	0.11	0.09	0.07	0.11	0.09	0.07	
		H= 3.8			0.18	0.15	0.13	0.13	0.11	0.09	0.09	0.07	0.06	0.09	0.07	0.06	
	Vk				3.5			1.7			1.1			1.1			
	X0.25				1.9			1.2			0.7			0.7			
	Ps				9			4			2			2			
	Lw(A)				28			<20			<20			<20			
250	Vz	H= 2.7			0.37	0.27	0.22	0.26	0.2	0.16	0.18	0.13	0.11	0.18	0.13	0.11	
		H= 3.2			0.29	0.23	0.19	0.2	0.16	0.14	0.14	0.11	0.09	0.14	0.11	0.09	
		H= 3.8			0.23	0.19	0.16	0.16	0.14	0.12	0.11	0.09	0.08	0.11	0.09	0.08	
	Vk				4.3			2.1			1.4			1.4			
	X0.25				2.3			1.6			1			1			
	Ps				13			7			3			3			
	Lw(A)				33			22			<20			<20			
300	Vz	H= 2.7			0.31	0.23	0.19	0.21	0.16	0.13	0.21	0.16	0.13	0.21	0.16	0.13	
		H= 3.2			0.24	0.19	0.16	0.17	0.14	0.11	0.17	0.14	0.11	0.17	0.14	0.11	
		H= 3.8			0.19	0.16	0.14	0.14	0.11	0.1	0.14	0.11	0.1	0.14	0.11	0.1	
	Vk				2.5			1.7			1.7			1.7			
	X0.25				1.9			1.2			1.2			1.2			
	Ps				10			4			4			4			
	Lw(A)				27			<20			<20			<20			
400	Vz	H= 2.7			0.42	0.32	0.25	0.29	0.22	0.18	0.29	0.22	0.18	0.29	0.22	0.18	
		H= 3.2			0.33	0.26	0.22	0.23	0.18	0.15	0.23	0.18	0.15	0.23	0.18	0.15	
		H= 3.8			0.26	0.22	0.19	0.18	0.15	0.13	0.18	0.15	0.13	0.18	0.15	0.13	
	Vk				3.4			2.3			2.3			2.3			
	X0.25				2.7			1.8			1.8			1.8			
	Ps				18			8			8			8			
	Lw(A)				35			26			26			26			
500	Vz	H= 2.7			0.52	0.39	0.31	0.35	0.27	0.22	0.35	0.27	0.22	0.35	0.27	0.22	
		H= 3.2			0.41	0.32	0.27	0.28	0.22	0.19	0.28	0.22	0.19	0.28	0.22	0.19	
		H= 3.8			0.32	0.27	0.23	0.22	0.19	0.16	0.22	0.19	0.16	0.22	0.19	0.16	
	Vk				4.2			2.8			2.8			2.8			
	X0.25				3.5			2.3			2.3			2.3			
	Ps				27			12			12			12			
	Lw(A)				40			31			31			31			
600	Vz	H= 2.7			0.43	0.32	0.26	0.34	0.27	0.23	0.43	0.32	0.26	0.43	0.32	0.26	
		H= 3.2			0.34	0.27	0.23	0.27	0.23	0.2	0.34	0.27	0.23	0.34	0.27	0.23	
		H= 3.8			0.27	0.23	0.2	0.27	0.23	0.2	0.27	0.23	0.2	0.27	0.23	0.2	
	Vk				3.4			2.9			2.9			2.9			
	X0.25				17			17			17			17			
	Ps				37			37			37			37			
	Lw(A)				37			37			37			37			
700	Vz	H= 2.7			0.5	0.38	0.31	0.4	0.32	0.27	0.5	0.38	0.31	0.4	0.32	0.27	
		H= 3.2			0.4	0.32	0.27	0.4	0.32	0.27	0.4	0.32	0.27	0.4	0.32	0.27	
		H= 3.8			0.32	0.27	0.23	0.32	0.27	0.23	0.32	0.27	0.23	0.32	0.27	0.23	
	Vk				4			4			4			4			
	X0.25				3.5			3.5			3.5			3.5			
	Ps				24			24			24			24			
	Lw(A)				41			41			41			41			

**Symbols and specifications**

- Q = Air volume in m³/h
  - Ak = Effective surface (free area) in m²
  - B = Distance between the diffusers in m
  - H = Installation height of the diffusers in m
  - Vz = Maximum velocity at the occupied zone according to distance between the diffusers and installation height in m/s
  - Vk = Average effective velocity through the diffuser in m/s
  - X0.25 = Throw length in m at an end velocity Vt of 0,25m/s
  - Ps = Static pressure loss given in Pa
  - Lw(A) = Acoustic power in dB(A)
- The throw X0.25 is given at an end velocity of 0.25m/s for a smooth ceiling without any obstacles.
  - The values are given for isothermal supply air. Throw distances for cooling conditions at -11K can be calculated by dividing the X0.25 values with factor 1.1. For heating purposes at Dt of +11K a multiplier of 1.1 should be applied to the given X0.25 value.
  - In order to achieve a high comfort level, selections can be made according to the maximal velocity at the occupied zone Vz. These values are given at distances between diffusers B and installation heights H. Velocities Vz lower than, or equal to 0,25m/s at the occupied zone are advised.
  - The pressure losses Ps are given for diffusers without damper or with fully opened damper.
  - The acoustic power values Lw(A) are given for diffusers without damper or with fully opened damper without room attenuation. Acoustic powers below 20dB(A) are mentioned as "<20" in the tables.
  - For all special requirements, please contact our engineering office.

## Placement instruction

