

**VWR-FCSA
(RAL9016)**

- Swirl diffusers
- Square
- Steel
- White, RAL 9016



Square swirl diffusers with fixed curved blades type VWR-FCSA (RAL9016)

Swirl ceiling diffusers with high induction rate, consisting of a square plate with multiple fixed curved 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

- Standard colour white, RAL 9016
- Other colours available upon request

Composition

- Front plate made of powder coated steel
- Central screw mounting

Mounting

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

Accessories

- Circular plenum box, type **RER-B**
- Square plenum box, type **REV-B**
- Insulated circular plenum box, type **RER-B ISO**
- Insulated square plenum box, type **REV-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 curved blades. They are made of a steel powdercoated frontplate in white finish RAL 9016. 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-FCSA + RER-A**

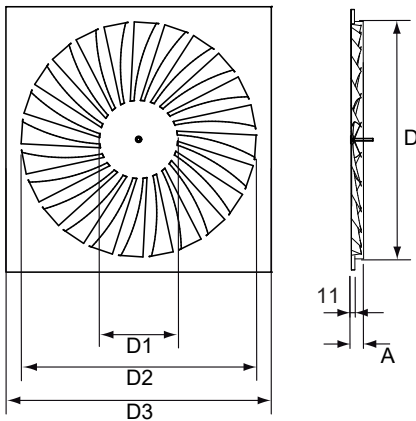
Order example

- **VWR-FCSA, 600 + RER-B 600 + CRC 250**

Explanation

VWR-FCSA = Diffuser type**600** = Diffuser size/swirl size

Accessories

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

	Dimensions					
	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	A	#Blades
VWR-FCSA 300	238	86	236	296	41	16
VWR-FCSA 400	338	140	336	396	41	22
VWR-FCSA 500	438	170	436	496	41	24
VWR-FCSA 600	538	170	536	596	22	24
VWR-FCSA 625*	538	170	536	621	22	24

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

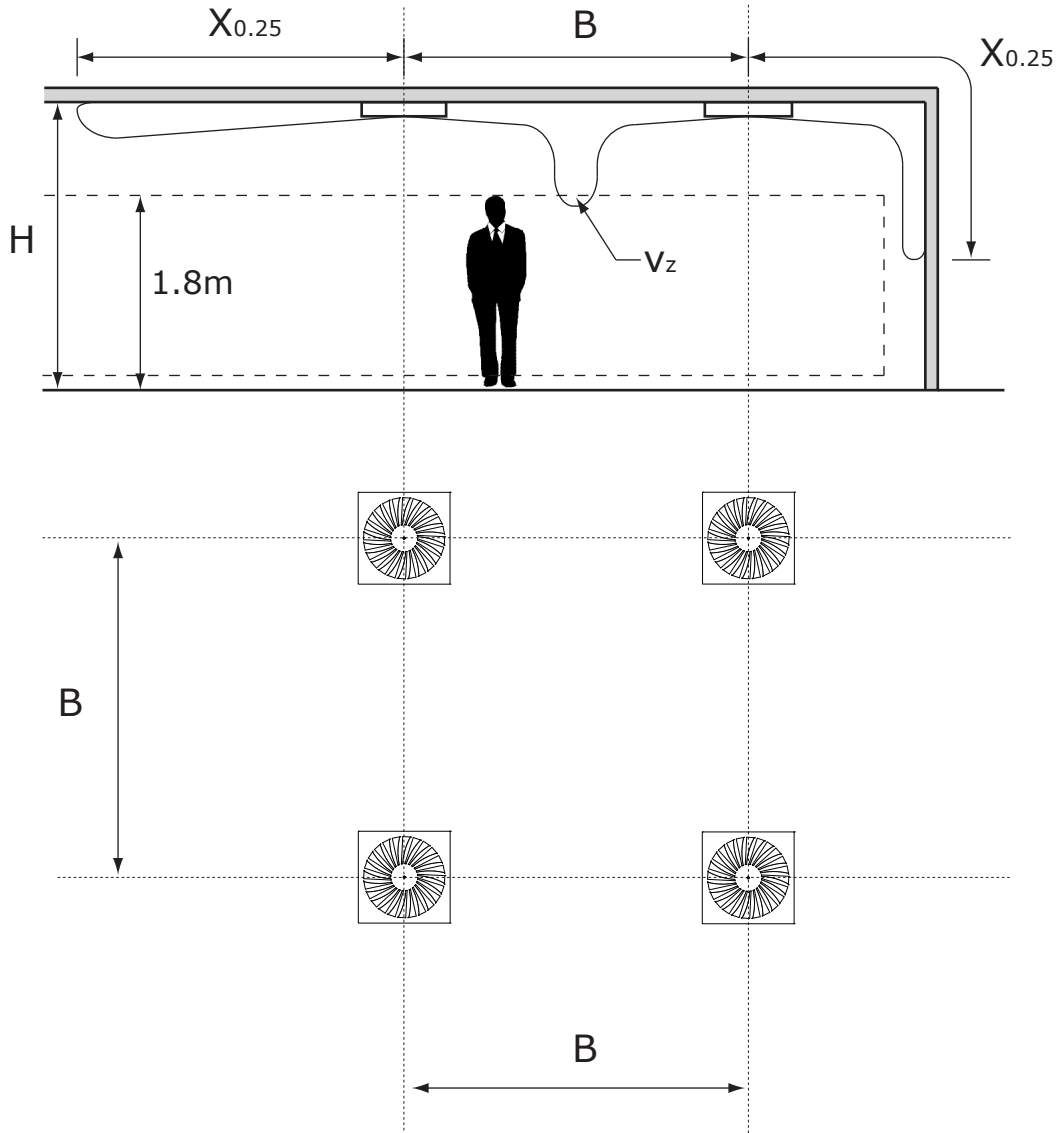
Quick selection																		
VWR-FCSA		300			400			500			600			625*				
Q	Ak	0.023			0.03			0.0465			0.07			0.07				
	B	1.2	2.4	3.6	1.2	2.4	3.6	1.2	2.4	3.6	1.2	2.4	3.6	1.2	2.4	3.6		
100	Vz	H= 2.7	0.17	0.13	0.11													
		H= 3.2	0.14	0.11	0.09													
		H= 3.8	0.11	0.09	0.08													
	Vk	1.2																
	X0,25	0.9																
	Ps	7																
	Lw(A)	<20																
150	Vz	H= 2.7	0.26	0.2	0.16	0.23	0.18	0.15										
		H= 3.2	0.2	0.17	0.14	0.18	0.15	0.13										
		H= 3.8	0.17	0.14	0.12	0.15	0.13	0.12										
	Vk	1.8					1.4											
	X0,25	1.6					1.3											
	Ps	17					5											
	Lw(A)	26					<20											
200	Vz	H= 2.7	0.34	0.26	0.21	0.29	0.23	0.2	0.21	0.17	0.14							
		H= 3.2	0.27	0.22	0.19	0.24	0.2	0.17	0.17	0.15	0.13							
		H= 3.8	0.22	0.19	0.16	0.2	0.17	0.15	0.15	0.13	0.12							
	Vk	2.4					1.9				1.2							
	X0,25	2.2					1.9				1.1							
	Ps	30					8				2							
	Lw(A)	34					<20				<20							
250	Vz	H= 2.7	0.43	0.33	0.27	0.36	0.29	0.24	0.25	0.2	0.17							
		H= 3.2	0.34	0.28	0.23	0.3	0.25	0.21	0.21	0.18	0.16							
		H= 3.8	0.28	0.23	0.2	0.25	0.21	0.19	0.18	0.16	0.14							
	Vk	3					2.3				1.5							
	X0,25	2.9					2.5				1.5							
	Ps	47					13				3							
	Lw(A)	41					24				<20							
300	Vz	H= 2.7	0.51	0.39	0.32	0.43	0.34	0.28	0.29	0.24	0.2	0.22	0.17	0.15	0.13	0.12	0.15	
		H= 3.2	0.41	0.33	0.28	0.35	0.29	0.25	0.25	0.21	0.18	0.18	0.15	0.13	0.12	0.15	0.13	
		H= 3.8	0.33	0.28	0.24	0.29	0.25	0.22	0.21	0.18	0.17	0.17	0.15	0.13	0.12	0.15	0.13	
	Vk	3.6					2.8				1.8						1.2	
	X0,25	3.7					3.2				1.9						1.2	
	Ps	67					19				5						2	
	Lw(A)	47					30				<20					<20		
400	Vz	H= 2.7				0.56	0.44	0.37	0.38	0.31	0.26	0.29	0.24	0.2	0.29	0.24	0.2	
		H= 3.2				0.46	0.38	0.33	0.32	0.27	0.24	0.24	0.24	0.2	0.18	0.24	0.2	
		H= 3.8				0.38	0.33	0.29	0.27	0.24	0.21	0.21	0.2	0.18	0.16	0.2	0.18	
	Vk						3.7				2.4						1.6	
	X0,25						4.7				2.9						1.9	
	Ps						33				9						4	
	Lw(A)						39			21						<20		
500	Vz	H= 2.7				0.69	0.54	0.46	0.46	0.38	0.32	0.37	0.3	0.25	0.37	0.3	0.25	
		H= 3.2				0.56	0.47	0.41	0.39	0.33	0.29	0.31	0.26	0.22	0.31	0.26	0.22	
		H= 3.8				0.47	0.41	0.36	0.33	0.29	0.26	0.26	0.22	0.2	0.26	0.22	0.2	
	Vk						4.6				3						2	
	X0,25						6.4				4						2.7	
	Ps						51				14						6	
	Lw(A)						45			28						<20		
600	Vz	H= 2.7							0.54	0.44	0.38	0.45	0.36	0.3	0.45	0.36	0.3	
		H= 3.2							0.45	0.39	0.34	0.37	0.31	0.27	0.37	0.31	0.27	
		H= 3.8							0.39	0.34	0.31	0.31	0.27	0.24	0.31	0.27	0.24	
	Vk						3.6				2.4						2.4	
	X0,25						5.2				3.6						3.6	
	Ps						20				9						9	
	Lw(A)						34			23						23		
800	Vz	H= 2.7							0.7	0.57	0.49	0.61	0.48	0.41	0.61	0.48	0.41	
		H= 3.2							0.59	0.5	0.44	0.5	0.42	0.36	0.5	0.42	0.36	
		H= 3.8							0.5	0.44	0.39	0.42	0.36	0.33	0.42	0.36	0.33	
	Vk						4.8				3.2						3.2	
	X0,25						7.9				5.6						5.6	
	Ps						35				15						15	
	Lw(A)						43			32						32		
1000	Vz	H= 2.7							0.76	0.61	0.52	0.76	0.61	0.52	0.76	0.61	0.52	
		H= 3.2							0.63	0.53	0.46	0.63	0.53	0.46	0.63	0.53	0.46	
		H= 3.8							0.53	0.46	0.41	0.53	0.46	0.41	0.53	0.46	0.41	
	Vk						4				4						4	
	X0,25						8				8						8	
	Ps						24				24						24	
	Lw(A)						39			39						39		

Symbols and specifications

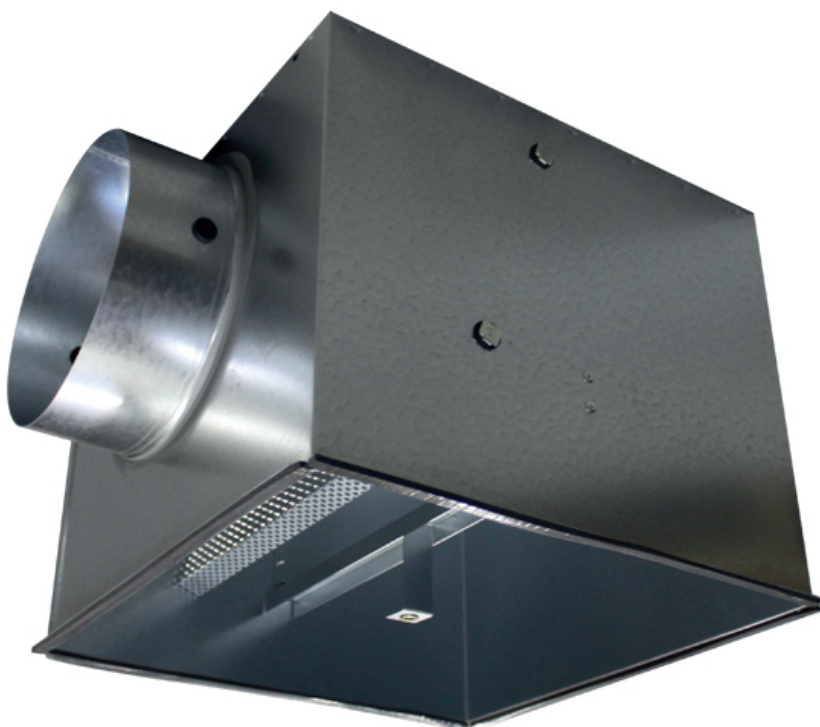
- Q = Air Volume in m³/h
 - Ak = Effective surface (free area) in m²
 - B = Distance between diffusers in m
 - H = Installation height of the diffusers in m
 - Vz = Maximum velocity at the occupied zone regarding distance between diffusers and installation height in m/s
 - Vk = Average effective velocity through the grill in m/s
 - X0.20 = Throw length in m at an endvelocity Vt of 0,20m/s
 - Ps = Static pressure loss given in Pa
 - Lw(A) = Acoustic power in dB(A)
- The throw X0.20 is given at an end velocity of 0.20m/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 deviding the X0.20 values with factor 1.1. For heating purposes at Dt of +11K a multiplier of 1.1 should be applied to the given X0.20 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 grilles without damper or with fully opened damper.

- The acoustic power $L_w(A)$ are given for grilles 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



- Plenum boxes
- Square
- Steel



Square plenum boxes type REV-B

Universal plenum boxes with perforated plate in galvanized steel

Brand

- Cairox

Material

- Galvanized steel

Composition

- Rectangular body in plain galvanized steel plate
- Crossbar for central mounting with M6 screw of diffuser
- Perforated equalizing plate for equal air diffusion inside the box
- Seal for airtight connection with the diffuser

Accessories

- Circular regulating valve, type **CRC**

Order example

- **REV-B 600 + CRC 250**

Explanation

REV-B = Plenum box type

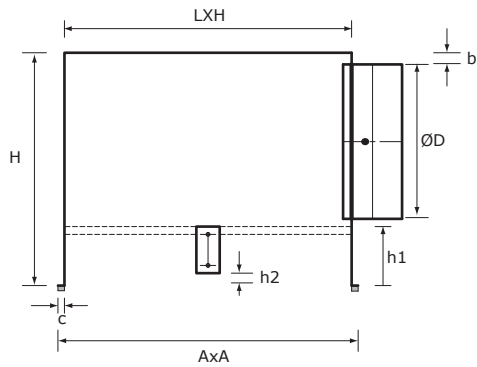
600 = Size type

Accessory

CRC 250 = Regulating valve for plenum box connection Ø250

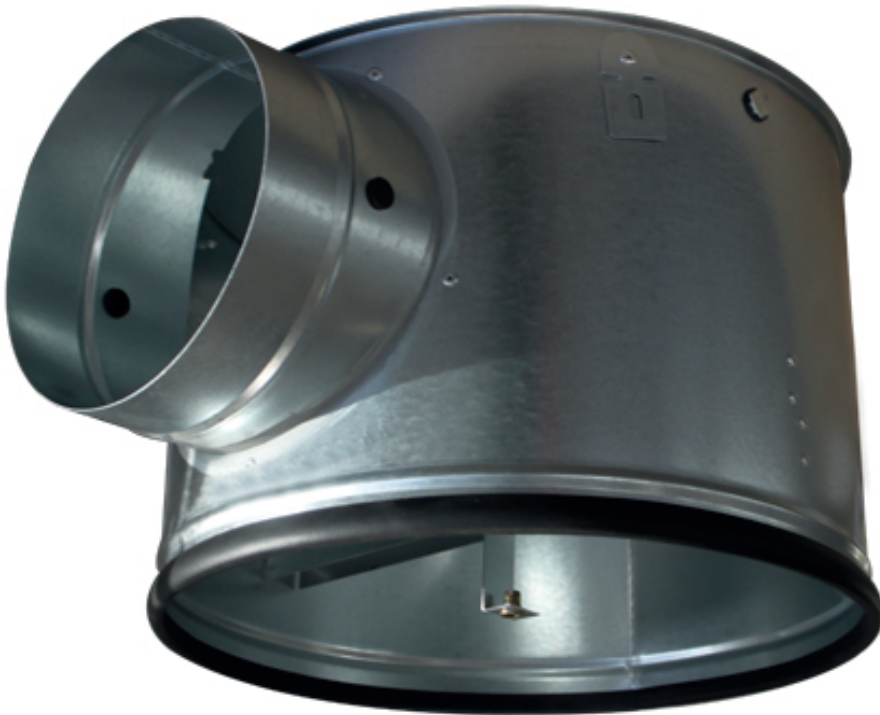
Other available products

- Insulated plenumbox type **REV-B ISO**



Dimensions								
REV-B	L X H [mm]	A X A [mm]	ØD [mm]	H [mm]	b [mm]	c [mm]	h1 [mm]	h2 [mm]
300	270 X 270	288 X 288	160	250	15	9	65	10
400	370 X 370	388 X 388	200	300	15	9	65	10
500	470 X 470	488 X 488	200	300	15	9	65	10
600	570 X 570	588 X 588	250	350	15	9	65	10

- Plenum boxes
- Circular
- Steel



Circular plenum box type RER-B

Universal circular plenum boxes with perforated plate in galvanized steel

Brand

- Cairox

Composition

- Circular body in plain steel plate
- Crossbar for central mounting with M6 screw of diffuser
- Perforated equalizing plate for equal air diffusion inside the box
- Circular connection spigot
- Seal for airtight connection with the diffuser

Accessories

- Circular valve control damper , type **CRC**

Order example

- **RER-B 600 + CRC 250**

Explanation

RER-B = Plenum box type

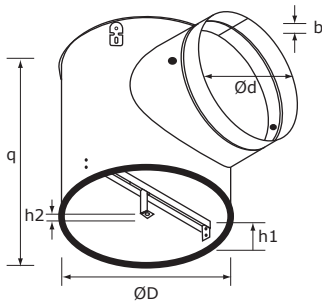
600 = Size type

Accessory

CRC 250 = Regulating valve for plenum box connection Ø250

Other available products

- Insulated plenumboxes type **RER-B ISO**



RER-B	Dimensions					
	ØD [mm]	q [mm]	Ød [mm]	b [mm]	$h1$ [mm]	$h2$ [mm]
300	275	230	160	15	65	10
400	375	270	200	15	65	10
500	476	270	200	15	65	10
600	576	320	250	15	65	10