Fixed Blade Swirl Diffusers



Description

For supply or extract air, unique fixed curved blade swirl diffuser offering excellent performance at low to medium air volumes. The rapid reduction in both air velocity and temperature differential lead to very comfortable conditions within the occupied zone. Suitable for ceiling or duct mounting.

Construction

From 0.8mm thick pressed sheet steel with 0.8mm thick rear collar.

Size and Weight

Available in 595 x 595mm for lay-in ceiling tile replacer or 500 Ø neck size.

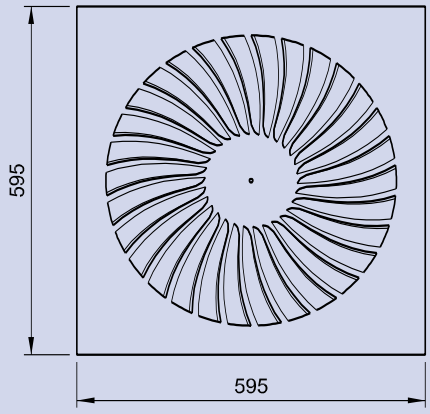
How to Specify

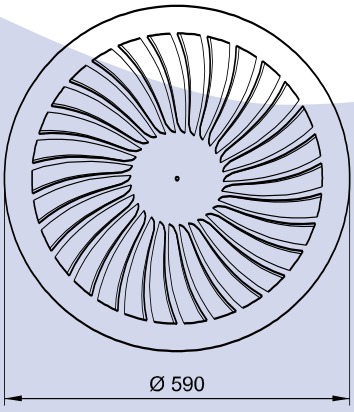
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. 8252K+6C 595 x 595.

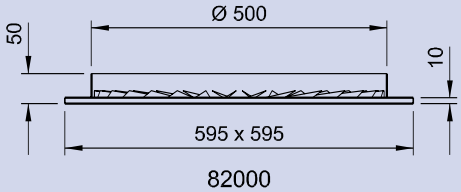
Frame Style	Options	Options	Accessories
82 Square Face Swirl	0 None	0 None	0 None
83 Circular Face Swirl	5 Plenum / Duct Fixing Bar	1 Top Inlet Plenum	K Perforated Flat Plate Damper
		2 Side Inlet Plenum	

+

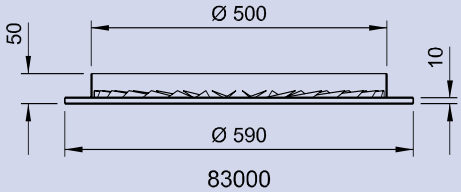
Fixings	Finish
2 Neck Fixings	C PPC BS / RAL Colour
4 External Drop Rod Lugs	
5 Clip-in T-Bar	
6 Lay-in Tile Replacer	







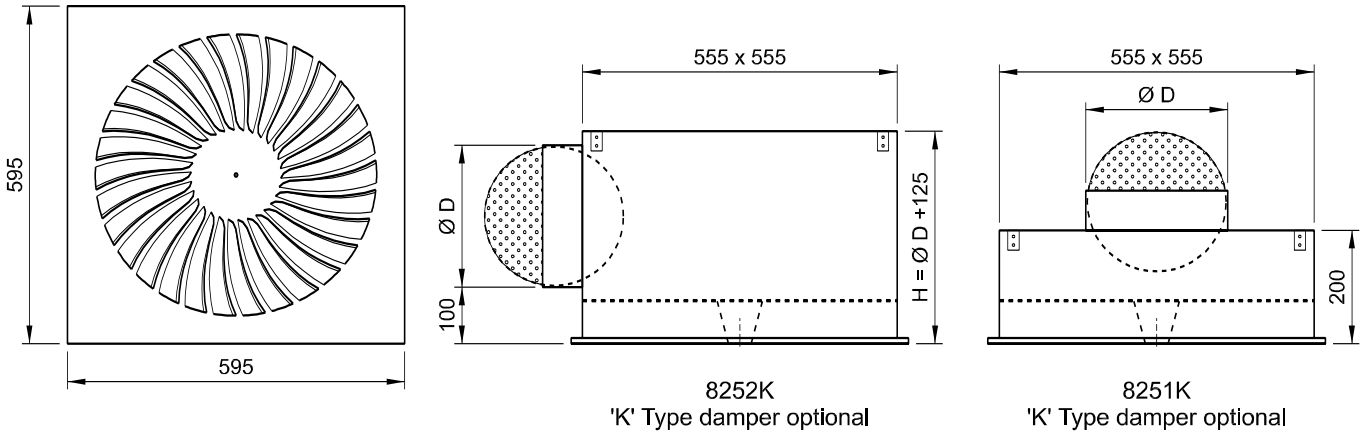
82000



83000

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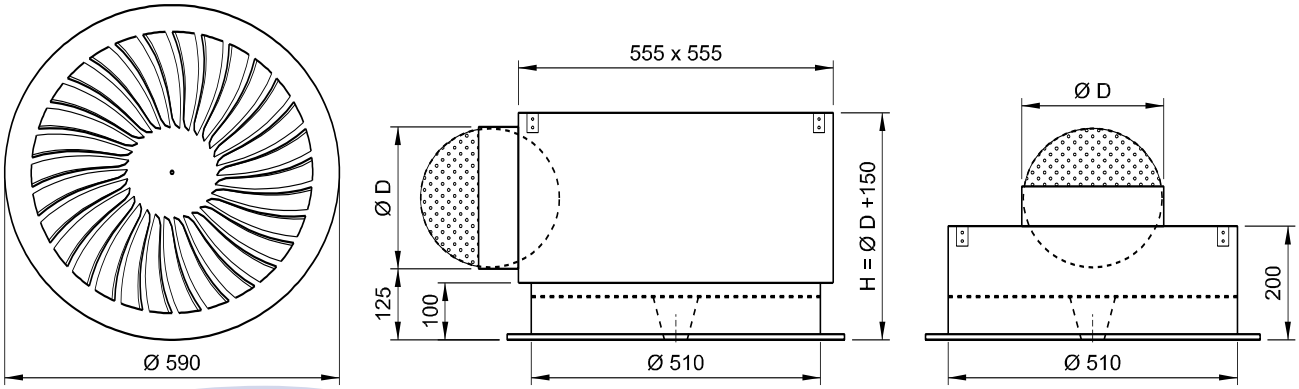
Fixed Blade Swirl Diffusers



8252K
'K' Type damper optional

8251K
'K' Type damper optional

82 Square Face Swirl



8352K
'K' Type damper optional

8352K
'K' Type damper optional

83 Circular Face Swirl

Selection Data. Swirl Types 82000 and 83000

q (l/s)	75	100	125	150	175	200	250	250
Lt (m) 0.25	0.8	1.0	1.2	1.6	1.9	2.1	2.6	3.3
NC	-	-	22	24	26	29	36	43
Pt (Pascals)	4	6	8	14	20	24	32	56

Data is based upon the Ø 500 neck model (types 82000 & 83000) ceiling mounted 2.7 metres high supplying cool air -10° below room temperature.
Throws are based on maximum velocities measured at 1.8m from floor level

Swirl Diffusers

Description

For supply air, having fully adjustable air pattern blades. Whilst maintaining the air distribution benefits of a swirl diffuser, its adjustable vanes offer the flexibility required to overcome problems with the supply of warm and cool air into a modern office application.

Construction

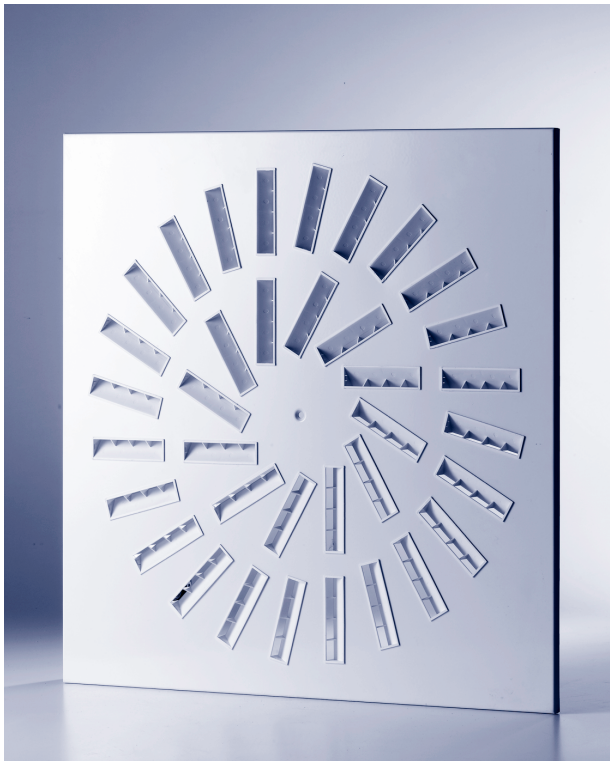
From pressed sheet steel with adjustable aluminium vanes supplied either black as standard or optional RAL 9010.

Size and Weight

Available in sizes 395 x 395mm overall to 820 x 820mm overall. The most common being the 595 x 595mm overall to suit a standard lay-in ceiling grid.

How to Specify

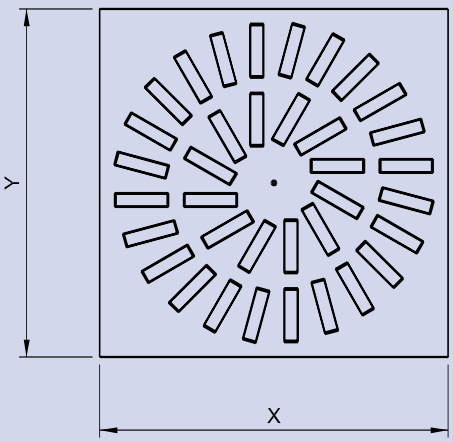
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. 87C2K+6B 595 x 595mm overall.



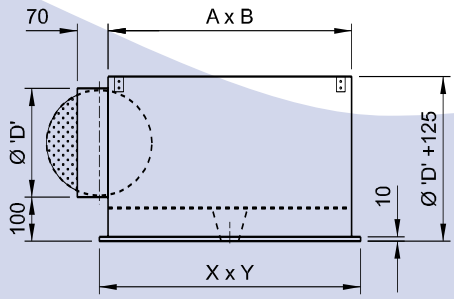
Frame Style	Size Code	Options	Accessories
87 Circular Swirl Diffuser	A > E	2 Side Inlet Plenum	0 None
		1 Top Inlet Plenum	K Perforated Flat Plate Damper
		0 None	

+

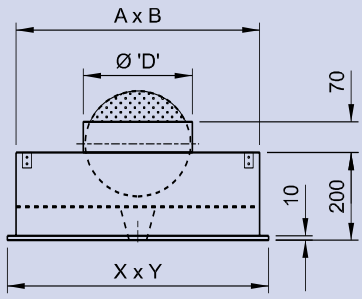
Fixings	Finish
4 External Drop Rod Lugs	B PPC RAL 9010 White
6 Lay-in Tile Replacer	C PPC BS/RAL Colour



Size Code	Dimensions (mm)		
	X x Y	A x B	Ø 'D'
A	395 x 395	355 x 355	Ø 198
B	495 x 495	355 x 355	Ø 198
C	595 x 595	555 x 555	Ø 248
D	620 x 620	555 x 555	Ø 248
E	820 x 820	790 x 790	Ø 313



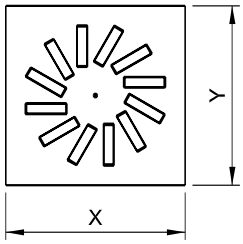
87C2K
'K' type damper optional

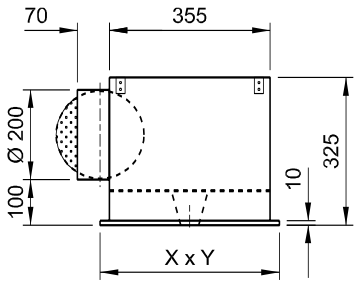


87C1K
'K' type damper optional

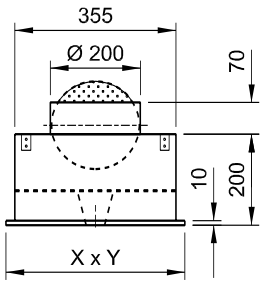
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Swirl Diffusers





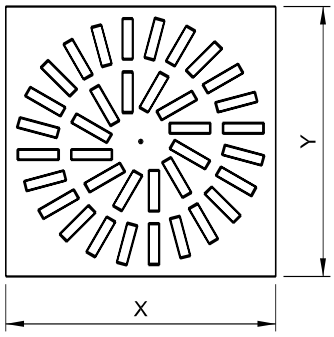
87A2K
'K' type damper optional

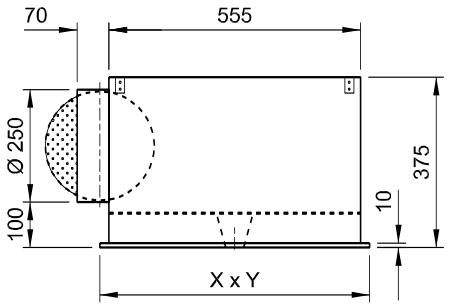


87A1K
'K' type damper optional

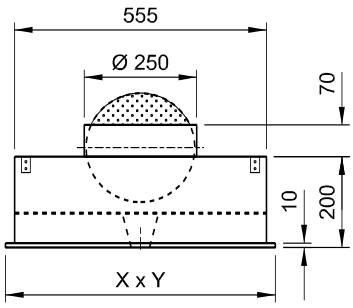
A X x Y = 395 x 395

B X x Y = 495 x 495





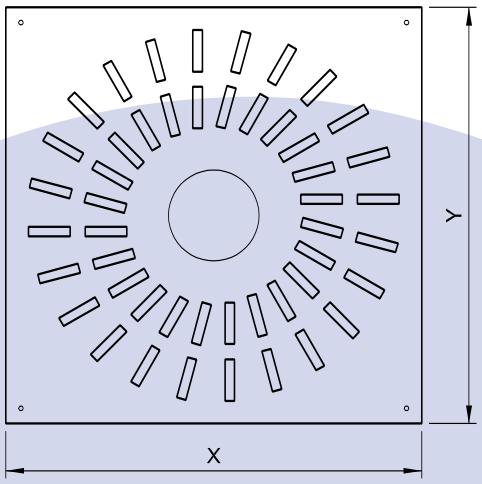
87C2K
'K' type damper optional



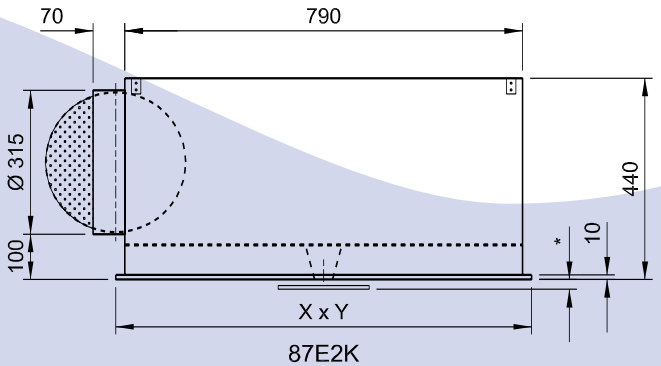
87C1K
'K' type damper optional

C X x Y = 595 x 595

D X x Y = 620 x 620



* Adjustable 30 > 50mm
(Central Air Outlet Slot)



87E2K
'K' type damper optional

E X x Y = 820 x 820

Size							
	Vk (m/s)	2.5	3.5	4.5	5.5	6.5	7.5
	Pt (Pascals)	9	16	26	40	55	77
A (395 x 395) **B** (495 x 495) **Ak(m•)** 0.0140	**q(l/s)**	**35**	**49**	**63**	**77**	**91**	**105**
	Lt (metres)	.3 - .5	.5 - .9	.6 - 1.0	.8 - 1.2	.9 - 1.4	1.0 - 1.6
	NC	-	19	24	28	31	34
C (595 x 595) **B** (620 x 620) **Ak(m•)** 0.0396	**q(l/s)**	**100**	**138**	**178**	**218**	**257**	**297**
	Lt (metres)	.6 - .9	.8 - 1.2	1.0 - 1.5	1.25 - 1.8	1.5 - 2.1	1.8 - 2.4
	NC	20	24	29	33	35	38
E (820 x 820) **Ak(m•)** 0.050	**q(l/s)**	**125**	**175**	**225**	**275**	**325**	**375**
	Lt (metres)	.7 - 1.0	.9 - 1.3	1.1 - 1.6	1.4 - 2.0	1.7 - 2.3	2.0 - 2.6
	NC	21	25	31	34	37	40

Swirl Diffusers

Description

For supply or extract air, fixed blade swirl diffuser mounted in square plate to assist installation in the ceiling. The recessed core diffuser is used for horizontal air distribution whilst the flush face style is more suitable for vertical air distribution when mounted at higher levels.

Construction

From pressed sheet steel and welded inner vanes. Supplied in white RAL 9010 polyester powder paint as standard.

Size and Weight

Available in 160, 200, 250, 315 and 400mm Ø neck sizes.

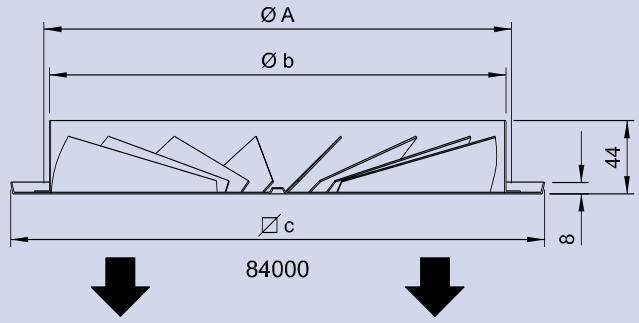
How to Specify

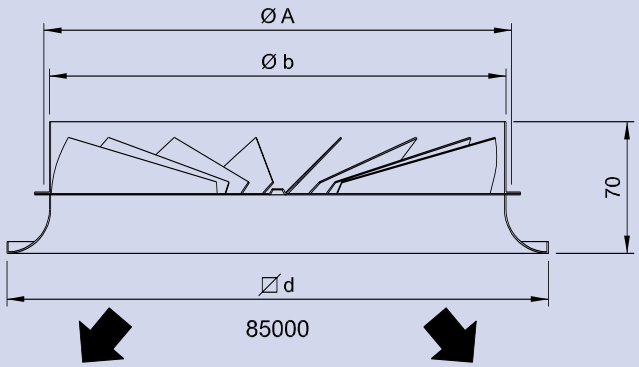
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. 8552K+4B 315 Ø.

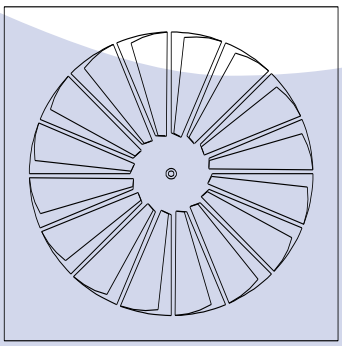


Frame Style	Options	Options	Accessories
84 Square Face Swirl	0 None	0 None	0 None
85 Square Face Swirl	5 Plenum / Duct Fixing Bar	5 Top Inlet Reducer	K Perforated Flat Plate Damper
		2 Side Inlet Plenum	

Fixings	Finish
2 Neck Fixings	B PPC RAL 9010 White
4 External Drop Rod Lugs	C PPC BS/RAL Colour







Size	Dimensions (mm)			
	Ø A	Ø b	⍁c	⍁d
Ø 160	160	158	198	248
Ø 200	200	198	248	248
Ø 250	250	248	298	298
Ø 315	315	312	398	398
Ø 400	400	398	594	594

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Swirl Diffusers

Description

For supply or extract air, fixed blade circular swirl diffuser. The recessed core diffuser is used for horizontal air distribution whilst the flush face style is more suitable for vertical air distribution when mounted at higher levels.

Construction

From pressed sheet steel and welded inner vanes. Supplied in white RAL 9010 polyester powder paint as standard.

Size and Weight

Available in 160, 200, 250, 315 and 400mm Ø neck sizes.

How to Specify

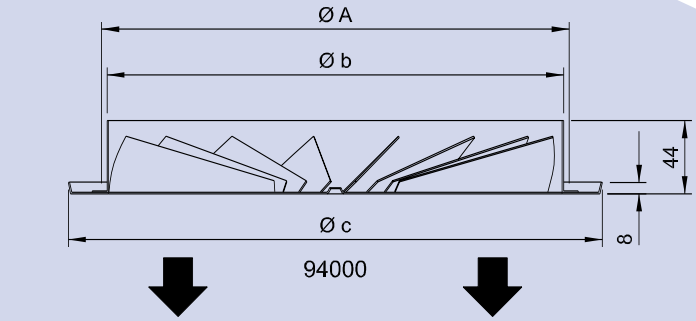
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. 95500+2B 315 Ø.

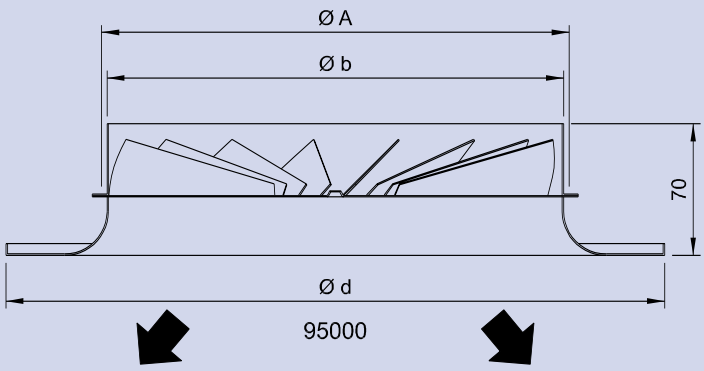


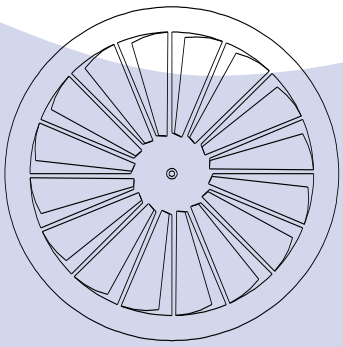
Frame Style	Options	Options	Accessories
94 Circular Face Swirl	0 None	0 None	0 None
95 Circular Face Swirl	5 Plenum / Duct Fixing Bar	5 Top Inlet Reducer	K Perforated Flat Plate Damper
		2 Side Inlet Plenum	

+

Fixings	Finish
2 Neck Fixings	B PPC RAL 9010 White
4 External Drop Rod Lugs	C PPC BS/RAL Colour



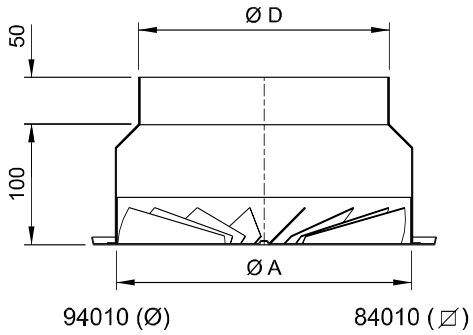




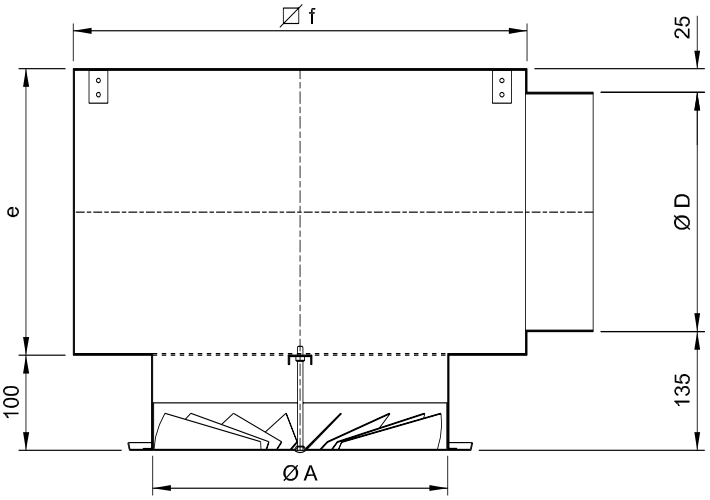
Size	Dimensions (mm)			
	Ø A	Ø b	Ø c	Ø d
Ø 160	160	158	198	250
Ø 200	200	198	248	300
Ø 250	250	248	298	350
Ø 315	315	312	363	450
Ø 400	400	398	600	570

Swirl Diffusers

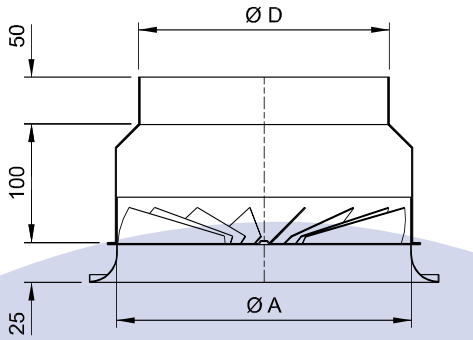
Size	Dimensions (mm)			
	Ø A	Ø D	e	⍁ f
Ø 160	160	123	185	325
Ø 200	200	158	220	375
Ø 250	250	198	260	475
Ø 315	315	248	310	500
Ø 400	400	313	375	600



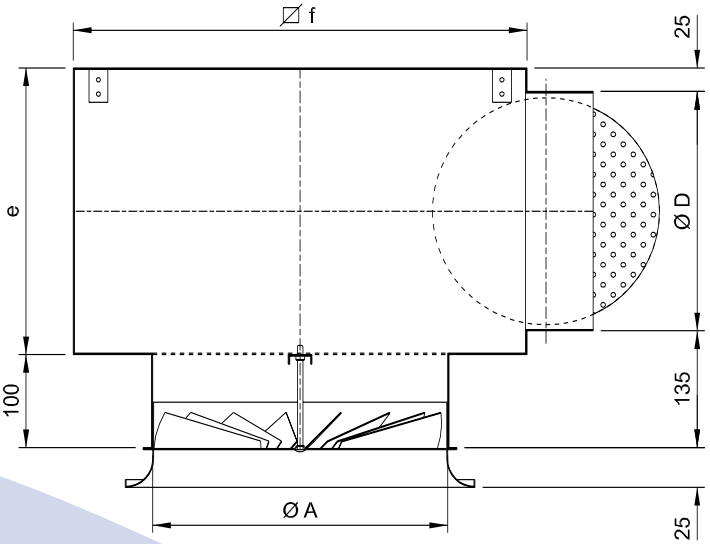
94010 (Ø) 84010 (⍁)



94520 (Ø) 84520 (⍁)



95010 (Ø) 85010 (⍁)



9552K (Ø) 8552K (⍁)

Pt (Pascals) (Diffuser Only)		6	11	17	24	33	46
Pt (Pascals) (Diffuser + Neck Reducer)		8	14	23	36	48	67
Pt (Pascals) (Diffuser + Side Inlet Plenum)		10	18	35	45	62	80
Size	Vk (m/s)	2.5	3.5	4.5	5.5	6.5	7.5
Ø 160 Ak(m•) 0.0078	q(l/s)	-	27	35	43	50	58
	Lt (metres)	-	.5 - .75	.6 - 1.0	.75 - 1.2	.9 - 1.3	1.0 - 1.5
	NC	-	18	24	28	31	33
Ø 200 Ak(m•) 0.0126	q(l/s)	32	44	57	69	82	95
	Lt (metres)	.4 - .7	.6 - 1.0	.75 - 1.2	.9 - 1.4	1.2 - 1.75	1.4 - 2.0
	NC	-	20	26	31	33	36
Ø 250 Ak(m•) 0.0197	q(l/s)	49	69	89	108	128	148
	Lt (metres)	.5 - .8	.75 - 1.2	1.0 - 1.5	1.25 - 1.8	1.5 - 2.2	1.75 - 2.5
	NC	17	22	28	32	35	39
Ø 315 Ak(m•) 0.031	q(l/s)	78	109	140	171	203	234
	Lt (metres)	.75 - 1.0	1.0 - 1.4	1.25 - 2.0	1.6 - 2.4	2.0 - 2.9	2.5 - 3.5
	NC	22	27	32	36	41	48

Data is based upon the flush face model (types 94000 & 84000) ceiling mounted 2.7 metres high supplying cool air -10° below room temperature.

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Perforated Face Swirl Diffusers

Description

For supply or extract air, having special free area face plate and rear mounted swirl diffuser. The diffuser offers both discreet ceiling integration and excellent performance unique to swirl diffusers.

Construction

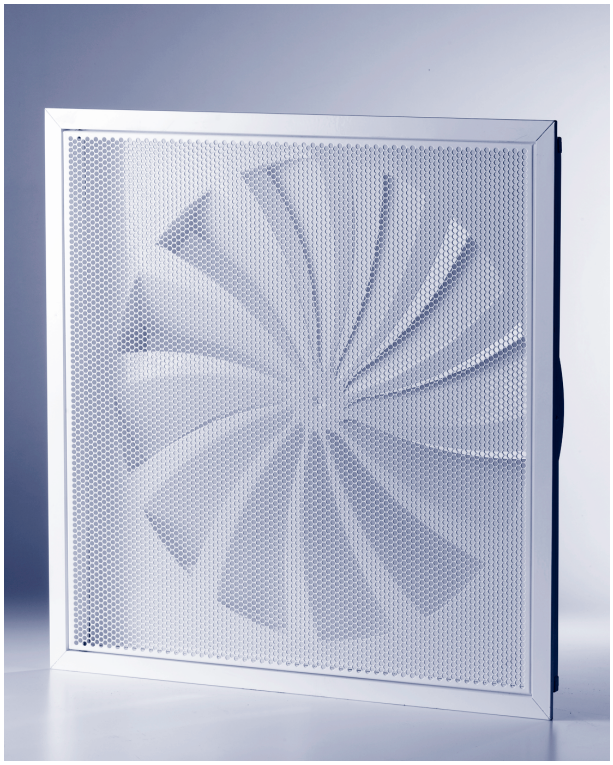
From 1.2mm thick pressed sheet steel with 1.2mm thick rear collar. Special free area perforated sheet steel face plate. Optional hinged core available with 1.6mm thick extruded aluminium frame.

Size and Weight

Available in 595 x 595 mm overall to suit lay-in ceiling grid or 617 x 617mm overall, for surface mounting.

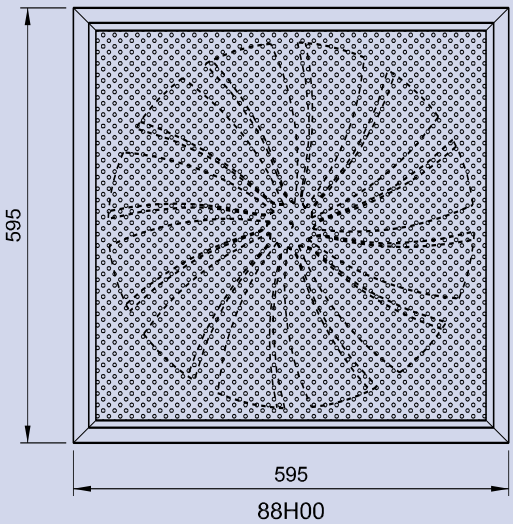
How to Specify

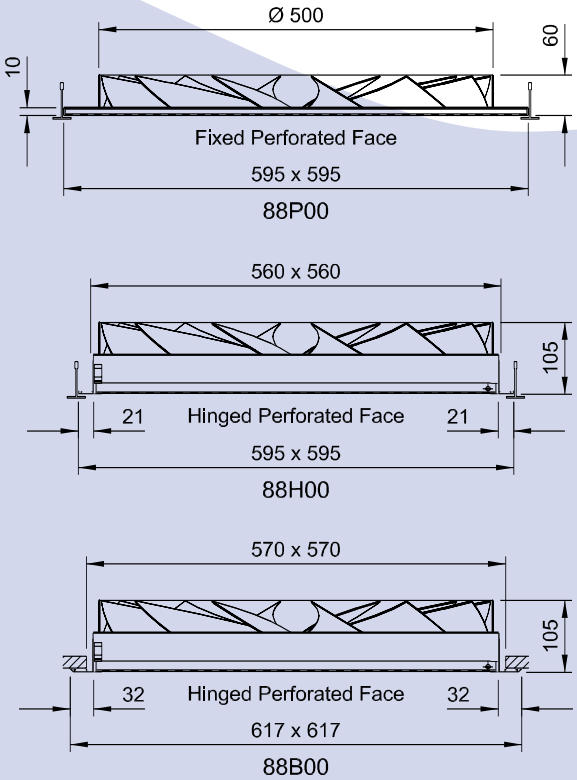
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. 88P2K+6C 595 X 595 overall.



Frame Style	Options	Options	Accessories
88 Square Face Swirl	P Fixed Perforated Face	0 None	0 None
	H Hinged Perforated Face 21mm Border	1 Top Inlet Plenum	K Perforated Flat Plate Damper
	B Hinged Perforated Face 32mm Border	2 Side Inlet Plenum	

Fixings	Finish
2 Neck Fixings	C PPC BS / RAL Colour
4 External Drop Rod Lugs	
6 Lay-in Tile Replacer	





High Capacity Swirl Diffusers

Description

For supply or extract air, unique fixed curved blade swirl diffuser offering exceptional performance at both high and low air volumes. Rapid air velocity and temperature differential reduction allows high air changes whilst maintaining comfort criteria in the occupied zone. Suitable for ceiling or duct mounting.

Construction

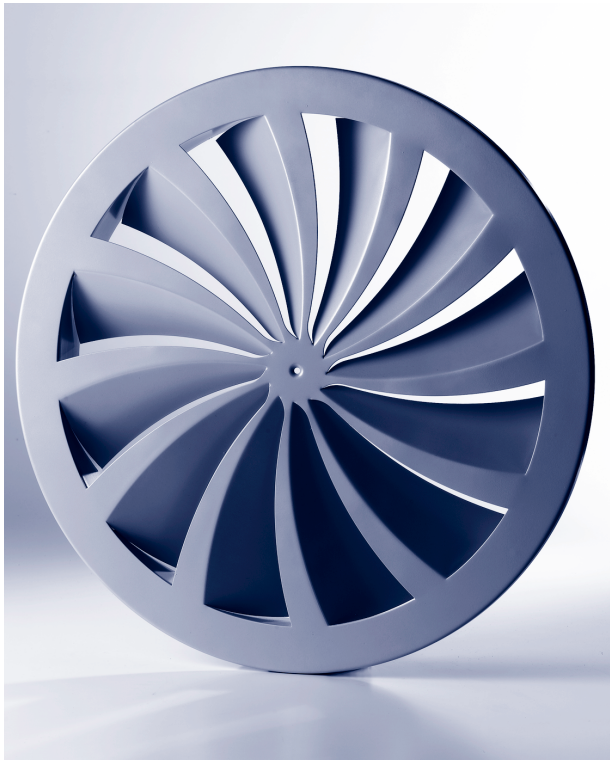
From 1.2mm thick pressed sheet steel with 1.2mm thick rear collar.

Size and Weight

Available in 595 x 595mm for lay-in ceiling tile replacer or 350mm and 500mm Ø neck sizes.

How to Specify

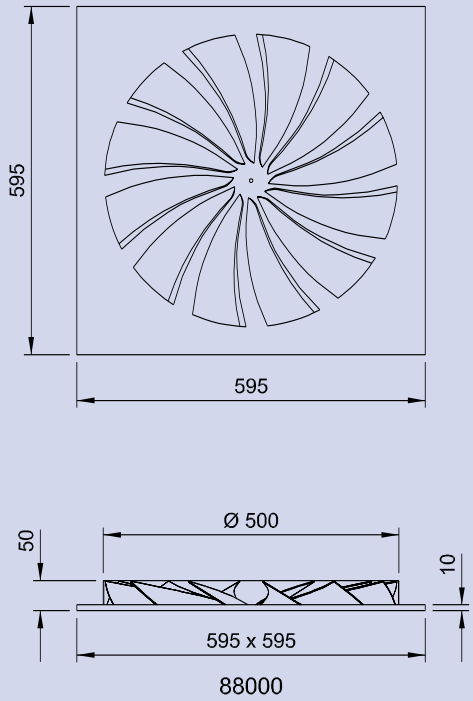
STATE QUANTITY, THE PRODUCT CODING AND THE SIZE WIDTH X HEIGHT
e.g. 10 Qty. 8951K+2C 500 Ø.



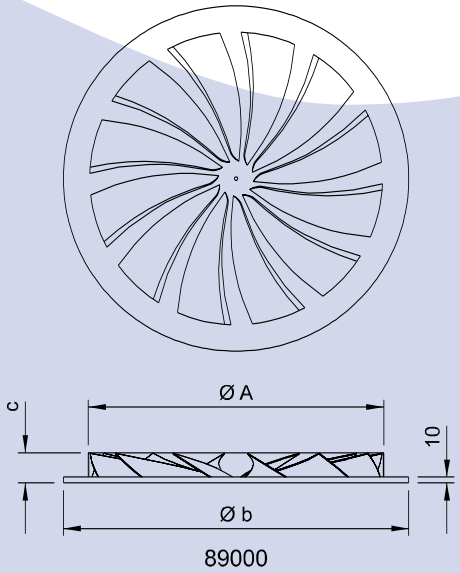
Frame Style	Options	Options	Accessories
88 Square Face Swirl	0 None	0 None	0 None
89 Circular Face Swirl	5 Plenum / Duct Fixing Bar	1 Top Inlet Plenum	K Perforated Flat Plate Damper
		2 Side Inlet Plenum	

+

Fixings	Finish
2 Neck Fixings	C PPC BS / RAL Colour
4 External Drop Rod Lugs	
5 Clip-in T -Bar	
6 Lay-in Tile Replacer	



88000

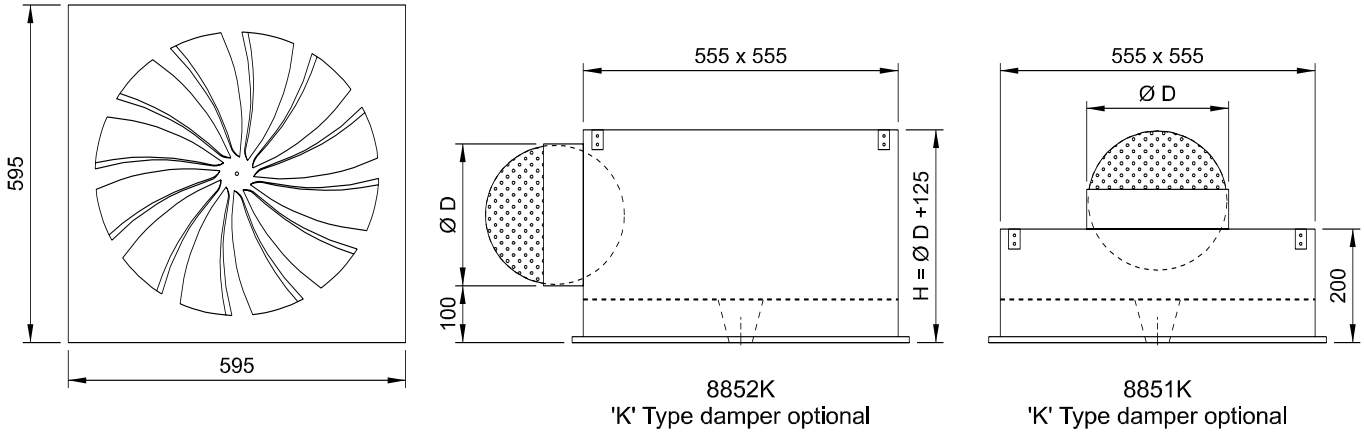


89000

Type 89000 Dimensions (mm)			
Size	Ø A	Ø b	c
Ø 350	350	390	50
Ø 500	500	590	50

GDL Air Systems Ltd, Woolley Bridge Road, Hadfield, Derbyshire SK13 1AB. Tel: 01457 861538 Fax: 01457 866010 Email: sales@grille.co.uk

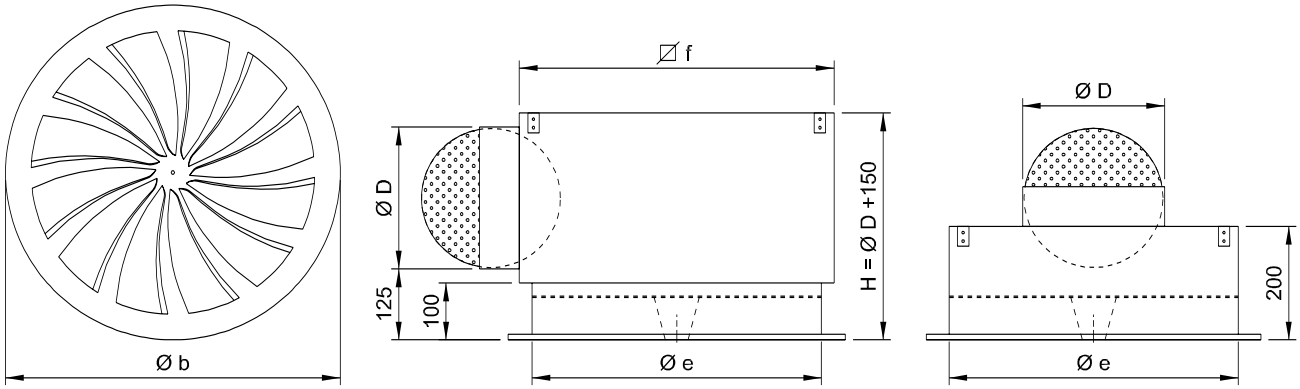
High Capacity Swirl Diffusers



8852K
'K' Type damper optional

8851K
'K' Type damper optional

88 Square Face Swirl



8952K
'K' Type damper optional

8952K
'K' Type damper optional

89000 Dimensions (mm)			
Size	**Ø b**	**Ø e**	**⍁ f**
Ø 350	390	355	405
Ø 500	590	510	555

89 Circular Face Swirl

Spigot Ø D	q (l/s)	50	75	100	125	150	175	200	225	250	275	300	325	350
Ø 200	Lt (m) 0.25	1.0	1.5	2.0	2.5	3.0								
	Lt (m) 0.50	0.5	0.7	1.0	1.3	2.0								
	NC	15	20	25	29	37								
	Pt (Pascals)	5	6	7	8	9								
Ø 250	Lt (m) 0.25			1.8	2.4	3.0	3.3	4.0						
	Lt (m) 0.50			0.7	1.1	1.8	2.0	2.4						
	NC			17	21	25	28	37						
	Pt (Pascals)			4	6	7	12	16						
Ø 300	Lt (m) 0.25					2.4	2.5	2.8	3.0	3.2	3.3	3.5	3.6	4.0
	Lt (m) 0.50					1.4	1.6	1.8	1.9	2.3	2.3	2.5	2.7	2.9
	NC					19	22	24	27	30	33	35	39	45
	Pt (Pascals)					6	10	12	14	16	21	24	28	33

Data is based upon the Ø 500 neck model (types 88000 & 89000) ceiling mounted 2.7 metres high supplying cool air -10° below room temperature.
Throws are based on maximum velocities measured at 1.8m from floor level