

SDV Vane Swirl Diffusers

SDVSA Square plate vane swirl diffuser (angled slot)

SDVCA Circular plate vane swirl diffuser (angled slot)

SDVSB Square plate vane swirl diffuser (normal slot)

SDVCB Circular plate vane swirl diffuser (normal slot)



SDVS



SDVC

Vane Swirl Diffusers

SDVS / SDVC

Introduction

The Waterloo Vane Swirl Diffusers are designed for areas where rapid mixing of supply air is required in rooms of ceiling height between 2.6m and 4m.

Product Description

SDVSA	Square plate vane swirl diffuser with radial pattern (angled slot)
SDVCA	Circular plate vane swirl diffuser with radial pattern (angled slot)
SDVSB	Square plate vane swirl diffuser with radial pattern (normal slot)
SDVCB	Circular plate vane swirl diffuser with radial pattern (normal slot)
S	Side entry plenum
V	Top entry plenum
ADJ	Room adjustable vanes
E	Lay-in, T8 / T16 tegular

Note: For available blanking options please contact the head office.

Features

- High air volume capacity
- Standard top entry neck, or side entry with plenum box
- Adjustable polymer deflectors enabling different discharge directions
- Optional room adjustable vanes
- Flat or ribbed blade appearance
- Attractive lightweight design
- Side or top entry plenums available
- In order to keep the same appearance the same design is used for supply and extract diffusers. There is no requirement to identify this on the order
- Lay in tegular options

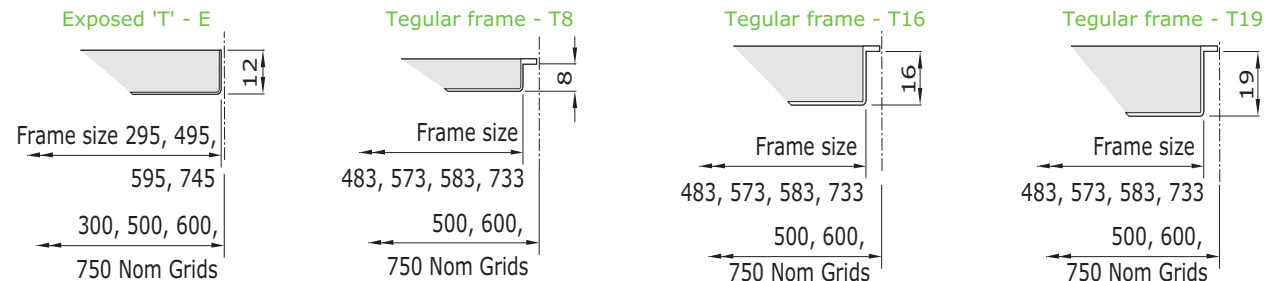
Finishes

Black or white deflectors (to be specified on order)
 PPG9010 (RAL 9010 Gloss - 80% Gloss White)
 PPM9010 (RAL 9010 Matt - 20% Gloss White)
 PPM9006 (RAL 9006 Matt - 30% Gloss Silver)
 Other colours available on request

Advantages

- Suitable for high ceilings (relative to other diffusers)
- Rapid induction of supply air

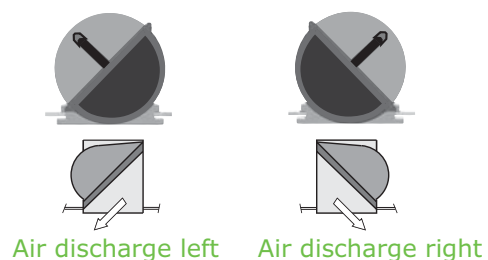
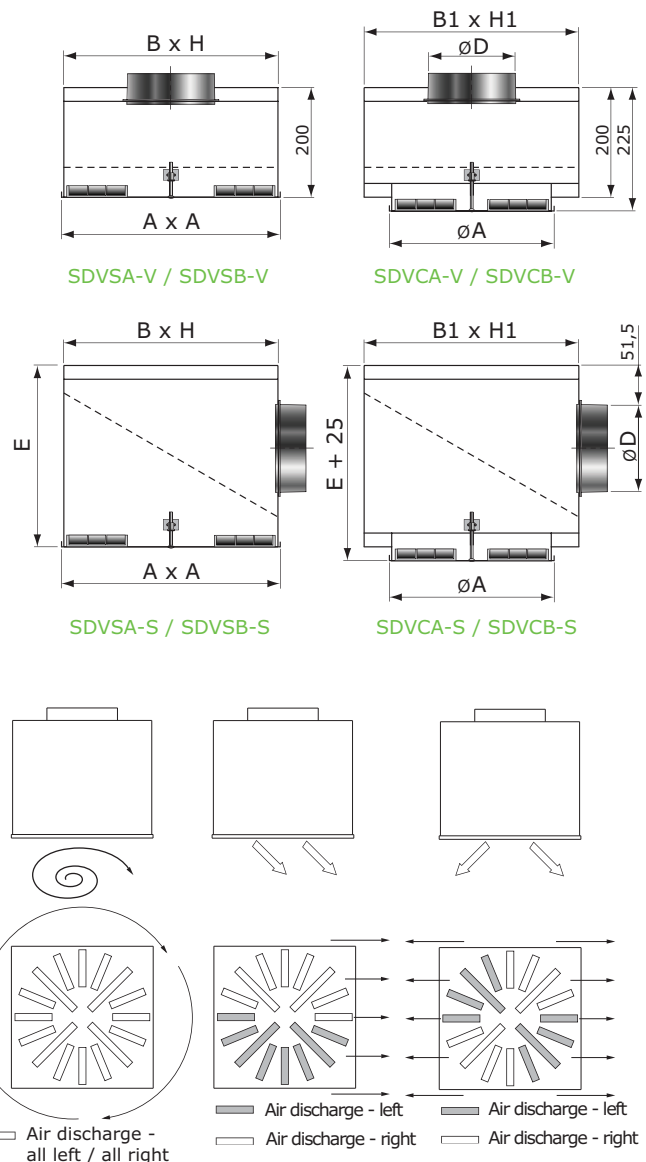
Frame Styles and Grid Sizes



ORDER EXAMPLE

SDVSA/600/E/48/595/ADJ/WH/9010-Matt

Type _____
 Grid size _____
 Lay-in _____
 Vanes _____
 Frame size _____
 Room adjustable vanes _____
 Vanes colour _____
 Finish _____



Vane Swirl Diffusers

SDVS / SDVC

Sizes

SDVS SDVC	Number of vanes	A x A	Ø A	B x H	B1 x H1	Nom. Ø D	E
300	8	295x295	300	290x290	390x390	160	290
400	16	395x395	400	390x390	490x490	200	330
500	16 / 24	495x495	500	490x490	590x590	200	330
600	16	595x595	600	590x590	690x690	200	330
600	24/40/48	595x595	600	590x590	690x690	250	380
625	16	620x620	625	615x615	690x690	200	330
625	24/40/48	620x620	625	615x615	690x690	250	380
800	64/72	795x795	800	790x790	890x890	315	450
825	64/72	820x820	825	815x815	890x890	315	450

Performance Table

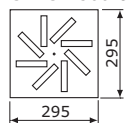
SDVSB / SDVCB			Supply				
m³/h	l/s		300 - 8	400-16 500-16 600-16 625-16	500 - 24 600 - 24	600-40 625-40	800-64 825-64
90	25	T	0.9				
		P _s	6				
		L _w	-				
108	30	T	1.0				
		P _s	8				
		L _w	-				
144	40	T	1.2				
		P _s	12				
		L _w	30				
180	50	T	1.4	1.2			
		P _s	21	17			
		L _w	36	32			
216	60	T	1.6	1.4	1.0		
		P _s	30	24	7		
		L _w	41	36	-		
252	70	T	1.8	1.6	1.1		
		P _s	41	30	9		
		L _w	46	41	27		
288	80	T	2.2	1.9	1.3		
		P _s	54	40	11		
		L _w	50	45	31		
360	100	T		2.3	1.5	1.0	
		P _s		62	17	6	
		L _w		50	37	27	
450	125	T			1.8	1.5	0.9
		P _s			26	11	1
		L _w			44	32	-
540	150	T			2.1	1.6	1.1
		P _s			38	19	7
		L _w			48	37	26
720	200	T				2.1	1.5
		P _s				34	14
		L _w				45	34
900	250	T				2.5	1.8
		P _s				56	22
		L _w				51	40
1080	300	T					2.2
		P _s					31
		L _w					44
1260	350	T					2.5
		P _s					43
		L _w					49

Vane Swirl Diffusers

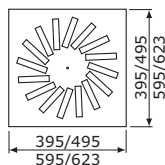
SDVS / SDVC

SDVSA

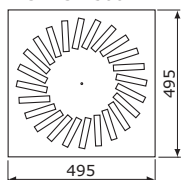
SDVSA-300-8



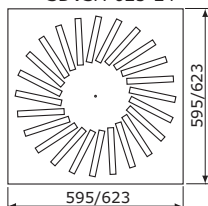
SDVSA-400-16
SDVSA-500-16
SDVSA-600-16
SDVSA-625-16



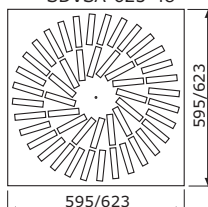
SDVSA-500-24



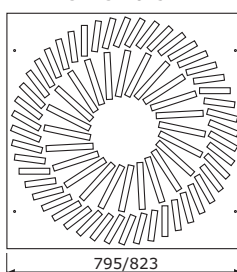
SDVSA-600-24
SDVSA-625-24



SDVSA-600-48
SDVSA-625-48



SDVSA-800-72
SDVSA-825-72



SDVCA

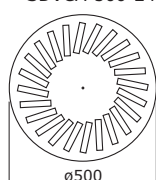
SDVCA-300-8



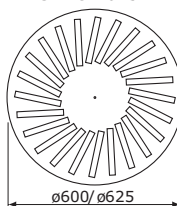
SDVCA-400-16
SDVCA-500-16
SDVCA-600-16
SDVCA-625-16



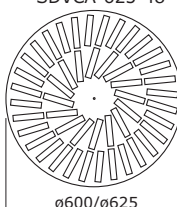
SDVCA-500-24



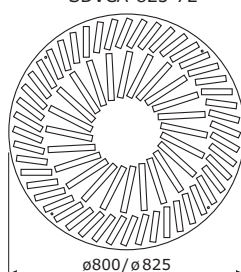
SDVCA-600-24
SDVCA-625-24



SDVCA-600-48
SDVCA-625-48

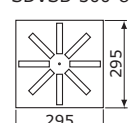


SDVCA-800-72
SDVCA-825-72

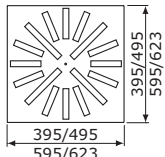


SDVSB

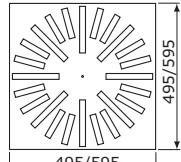
SDVSB-300-8



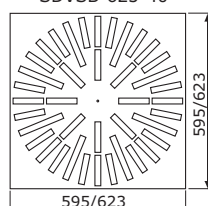
SDVSB-400-16
SDVSB-500-16
SDVSB-600-16
SDVSB-625-16



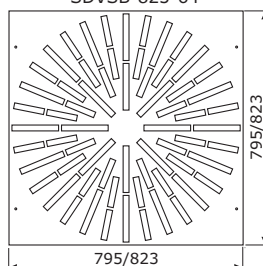
SDVSB-500-24
SDVSB-600-24



SDVSB-600-40
SDVSB-625-40



SDVSB-800-64
SDVSB-825-64



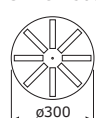
Fixing

Sizes 300 - 600
(inclusive) 1 central
screw

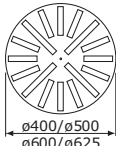
Sizes 625 - 825
(inclusive) 4 screws

SDVCB

SDVCB-300-8



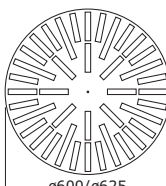
SDVCB-400-16
SDVCB-500-16
SDVCB-600-16
SDVCB-625-16



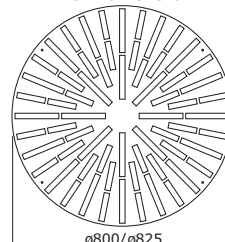
SDVCB-500-24
SDVCB-600-24



SDVCB-600-40
SDVCB-625-40



SDVCB-800-64
SDVCB-825-64



Vane Swirl Diffusers

SDVS / SDVC

Selection Criteria

Throw data is expressed in metres and is based on a terminal velocity of 0.5m/s and a 10°C cooling differential. For isothermal or 10°C heating conditions apply a factor of 1.15 or 1.32 respectively to the throws.

Noise levels are based on sound pressure levels with an assumed 8dB room absorption factor allowed.

Pressure loss data is shown in terms of static pressure loss (Pa) based on a diffuser fitted with a side entry plenum

Selection Example

SDVSA-600-24

Supply airflow 80 l/s

Horizontal diffusion 1.5 m from centre

Static Pressure loss 4 Pa

Regenerated Noise 7 dBA

Performance Table

SDVSA SDVCA			Supply						Exhaust with side entry plenum						Exhaust with top entry plenum					
m³/h	l/s		300 8	400-16 500-16 600-16 625-16	500 24	600-24 625-24	600-48 625-48	800-72 825-72	300 8	400-16 500-16 600-16 625-16	500 24	600-24 625-24	600-48 625-48	800-72 825-72	300 8	400-16 500-16 600-16 625-16	500 24	600-24 625-24	600-48 625-48	800-72 825-72
90	25	T	1.1																	
		P _s	9																	
		L _w	15																	
108	30	T	1.3	1.1																
		P _s	12	3											4					
		L _w	20	-											-					
144	40	T	1.6	1.3	1.1															
		P _s	22	6	3										7					
		L _w	27	-	-										-					
180	50	T	1.9	1.4	1.3															
		P _s	34	9	4				16						12					
		L _w	33	18	-				14						12					
216	60	T	2.1	1.6	1.4	1.3														
		P _s	50	14	6	2			24						17					
		L _w	38	22	17	-			20						18					
252	70	T	2.4	1.7	1.6	1.4														
		P _s	68	18	8	3			32						23					
		L _w	42	26	21	-			24						23					
288	80	T	2.6	1.8	1.7	1.5														
		P _s	88	24	11	4			42	14					30	11				
		L _w	45	30	24	12			28	14					27	14				
360	100	T		2.0	2.0	1.7	1.8													
		P _s		38	17	7	5		66	21	13				47	17	12			
		L _w		36	30	18	-		35	21	14				33	21	13			
450	125	T		2.3	2.3	1.9	1.9													
		P _s		59	26	11	7		103	33	20				73	26	19	8		
		L _w		42	36	24	18		42	28	20				40	27	19	11		
540	150	T			2.6	2.1	2.0	1.9												
		P _s			38	15	10	3		48	29	13				38	27	12	10	
		L _w			40	28	23	-		31	26	15				33	25	17	11	
720	200	T				2.5	2.2	2.1												
		P _s				27	18	6		85	52	23	18	7		67	48	21	18	
		L _w				36	31	20		42	35	24	20	13		42	34	25	20	
900	250	T				2.8	2.4	2.3												
		P _s				42	28	9			82	36	29	11			75	34	28	11
		L _w				42	36	26			42	31	26	20			41	32	27	15
1080	300	T					2.5	2.5												
		P _s					41	13			118	51	41	16			108	48	40	16
		L _w					41	30			47	36	32	26			46	38	32	21
1260	350	T						2.6												
		P _s						17				70	56	22				66	55	22
		L _w						34				41	37	30				42	37	26
1440	400	T						2.8												
		P _s						23				91	73	28				86	72	29
		L _w						38				45	41	34				46	41	30
1620	450	T						2.9												
		P _s						29					93	36					91	37
		L _w						41					44	38					45	33
1800	500	T						3.0												
		P _s						35						45						45
		L _w						44						41						37
2160	600	T																		
		P _s																		65
		L _w																		42

Plenum Box to suit SDV Vane Swirl Diffusers

SDVP

Introduction

Plenum boxes for our SDVP vane swirl diffusers are designed to guarantee a good mixing of the air prior to diffusion through the terminals. Available with Side or Top Entry connections to customer-specific diameters, these can be fitted with Spigot Flap Dampers,

cord- /quadrant-operated, as well as 6mm acoustic lining (optional) reaction to fire class C-s3-d0 to EN 13501-1: 2007 to avoid noise generation.

The Supply air plenum box includes an internal baffle plate to evenly distribute the airflow over the swirl area.

Product Description

SDVP	Plenum box to suit SDV Vane Swirl Diffusers
SE	Side Entry spigot
TE	Top Entry spigot
FDC	Cord-operated Flap Damper (optional)
FDQ	Quadrant-operated Flap Damper (optional)
LINED	6mm acoustic lining (optional) reaction to fire class C-s3-d0 to EN 13501-1: 2007
BLACK	Plenum painted black to prevent through vision (optional)

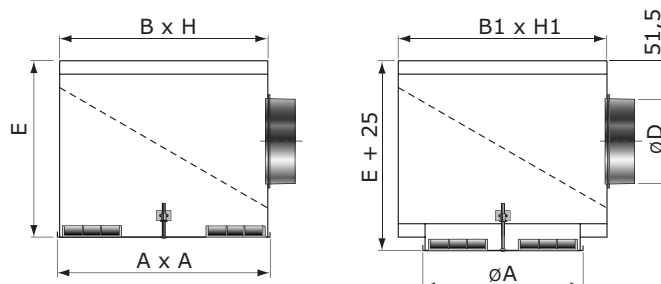
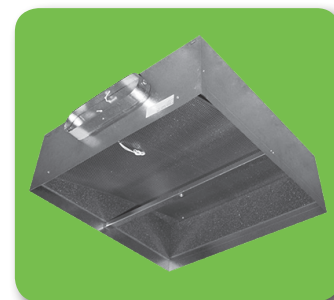
Features

- Galvanised steel, stitch fixed
- Side or Top Entry spigot with optional airflow control damper
- Oblong holes on top plate for easy drop rod installation
- Internal baffle plate for Supply air diffuser

Finish

SDVP Galvanised sheet steel

Note: The connection between the diffuser and plenum is adequately sealed for most installations, although secondary additional sealing may be required at the discretion of the installers, if the leakage rate required is particularly low.



SDVS SDVC	Number of vanes	A x A	Ø A	B x H	B1 x H1	Nom. Ø D	E
300	8	295x295	300	290x290	390x390	160	290
400	16	395x395	400	390x390	490x490	200	330
500	16 / 24	495x495	500	490x490	590x590	200	330
600	16	595x595	600	590x590	690x690	200	330
600	24/40/48	595x595	600	590x590	690x690	250	380
625	16	620x620	625	615x615	690x690	200	330
625	24/40/48	620x620	625	615x615	690x690	250	380
800	64/72	795x795	800	790x790	890x890	315	450
825	64/72	820x820	825	815x815	890x890	315	450

ORDER EXAMPLE

SDVPC-600/TE/1CC/122dia/FDC/Lined 6mm/BFL

Type	_____
Size	_____
Spigot position	_____
Spigot type	_____
Spigot size	_____
Spigot damper	_____
Acoustic lining	_____
Baffle	_____

FD Spigot Control Dampers

Introduction

Designed as a cost-effective, efficient way to adjust the airflow supplied through plenum boxes or neck reducers, the FD Flap Dampers can be fitted to any of our spigots - circular, rectangular or flat oval.

They can be adjusted with a cord, fed through the air terminal device and ready for commissioning, or with an external quadrant accessible from outside the duct, allowing for the damper to be locked into position.

Product Description

FDC Flap Spigot Damper, Cord operated

FDQ Flap Spigot Damper, Quadrant operated

Features

- Cost-effective airflow regulation
- Suitable for any size / shape spigot
- Choice of adjustment devices – Cord for commissioning flexibility or Quadrant for position control

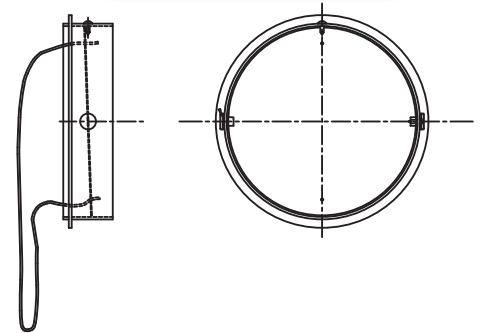
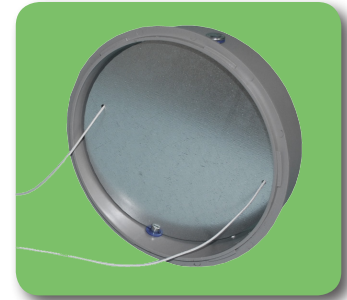
Finish

FD Galvanised steel blades

Dimensions

Any, to match spigot sizes

Note – the FD can only be selected with the relevant Plenum Box or Neck Reducer and trimming damper not suitable for use with a spigot velocity greater than 3.0m/s



ORDER EXAMPLE

PBD-DF/200/200/260/SE/1CC/157dia/FDC/Lined
 Type _____
 Plenum box length _____
 Plenum box width _____
 Plenum box height _____
 Spigot position _____
 Spigot type _____
 Spigot size _____
 Spigot damper _____
 Acoustic lining _____

PB / NR Spigot Selection Sheet

Circular Ductwork / Spigots										
Duct Size	Spigot Size	Velocity Per Spigot (m/s)							Spigot Area	Spigot Circumference
		3	2.75	2.5	2.25	2	1.75	1.5		
mm	mm	Air Flow Rate Per Spigot (l/s)							m²	mm
75	72	12	11	10	9	8	7	6	0.0041	226
100	97	22	20	18	17	15	13	11	0.0074	305
125	122	35	32	29	26	23	20	18	0.0117	383
150	147	51	47	42	38	34	30	25	0.0170	462
160	157	58	53	48	44	39	34	29	0.0194	493
175	172	70	64	58	52	46	41	35	0.0232	540
180	177	74	68	62	55	49	43	37	0.0246	556
200	197	91	84	76	69	61	53	46	0.0305	619
225	222	116	106	97	87	77	68	58	0.0387	697
250	247	144	132	120	108	96	84	72	0.0479	776
275	272	174	160	145	131	116	102	87	0.0581	855
300	297	208	191	173	156	139	121	104	0.0693	933
315	312	229	210	191	172	153	134	115	0.0765	980
325	322	244	224	204	183	163	143	122	0.0814	1,012
350	347	284	260	237	213	189	166	142	0.0946	1,090
375	372	326	299	272	245	217	190	163	0.1087	1,169
400	397	372	341	310	279	248	217	186	0.1238	1,247
425	422	420	385	350	315	280	245	210	0.1399	1,326
450	447	471	432	392	353	314	275	235	0.1569	1,404
475	472	525	481	438	394	350	306	263	0.1750	1,483
500	497	582	534	485	437	388	340	291	0.1940	1.561

PB / NR Spigot Selection Sheet

Flat Oval Spigots / Based on Area										
Duct Size	Spigot Size	Velocity Per Spigot (m/s)							Spigot Area	Spigot Circumference
		3	2.75	2.5	2.25	2	1.75	1.5		
mm	mm	Air Flow Rate Per Spigot (l/s)							m ²	mm
100 x 50	97 x 47	12	11	10	9	8	7	6	0.0041	248
170 x 50	167 x 47	22	20	18	17	15	13	11	0.0074	388
181 x 75	178 x 72	35	32	29	26	23	20	18	0.0117	438
255 x 75	252 x 72	51	47	43	38	34	30	26	0.0170	586
287 x 75	284 x 72	58	53	48	44	39	34	29	0.0193	650
264 x 100	261 x 97	70	64	58	52	47	41	35	0.0233	633
278 x 100	275 x 97	74	68	62	55	49	43	37	0.0247	661
338 x 100	335 x 97	91	84	76	69	61	53	46	0.0305	781
347 x 125	344 x 122	116	107	97	87	78	68	58	0.0388	827
422 x 125	419 x 122	144	132	120	108	96	84	72	0.0479	977
430 x 150	427 x 147	174	160	145	131	116	102	87	0.0581	1,022
506 x 150	503 x 147	208	191	173	156	139	121	104	0.0693	1,174
476 x 175	473 x 172	225	206	188	169	150	131	113	0.0750	1,142
514 x 175	511 x 172	245	224	204	183	163	143	122	0.0815	1,218
526 x 200	523 x 197	284	260	237	213	189	166	142	0.0947	1,271
597 x 200	594 x 197	326	299	272	245	217	190	163	0.1087	1,413
674 x 200	671 x 197	372	341	310	279	248	217	186	0.1239	1,567
681 x 200	678 x 222	420	385	350	315	280	245	210	0.1399	1,609
692 x 250	689 x 247	471	432	393	353	314	275	236	0.1571	1,660
765 x 250	762 x 247	525	482	438	394	350	306	263	0.1751	1,806
775 x 275	772 x 272	582	534	485	437	388	340	291	0.1941	1,855

Flat Oval Spigots / Spigot Circumference										
Duct Size	Spigot Size	Velocity Per Spigot (m/s)							Spigot Area	Spigot Circumference
		3	2.75	2.5	2.25	2	1.75	1.5		
mm	mm	Air Flow Rate Per Spigot (l/s)							m ²	mm
89 x 50	86 x 47	11	10	9	8	7	6	5	0.0036	226
129 x 50	126 x 47	16	15	14	12	11	10	8	0.0054	306
154 x 75	151 x 72	29	27	24	22	20	17	15	0.0098	384
193 x 75	190 x 72	38	35	31	28	25	22	19	0.0126	462
209 x 75	209 x 72	41	38	34	31	27	24	21	0.0137	494
218 x 100	215 x 97	57	52	47	42	38	33	28	0.0188	541
226 x 100	223 x 97	59	54	49	44	39	34	29	0.0196	557
257 x 100	254 x 97	68	62	57	51	45	40	34	0.0226	619
282 x 125	279 x 122	93	85	77	69	62	54	46	0.0308	697
321 x 125	318 x 122	107	98	89	80	71	62	53	0.0356	775
346 x 150	343 x 147	137	126	114	103	92	80	69	0.0458	854
386 x 150	383 x 147	155	142	129	116	103	90	78	0.0517	934
395 x 175	392 x 172	183	168	153	137	122	107	92	0.0611	980
411 x 175	408 x 172	192	176	160	144	128	112	96	0.0638	1,012
436 x 200	433 x 197	231	212	192	173	154	135	115	0.0770	1,091
475 x 200	472 x 197	254	233	212	191	169	148	127	0.0847	1,169
514 x 200	511 x 197	277	254	231	208	185	162	139	0.0923	1,247
539 x 200	536 x 222	325	298	271	244	217	190	163	0.1084	1,325
564 x 250	561 x 247	376	345	314	282	251	220	188	0.1255	1,404
603 x 250	600 x 247	405	372	338	304	270	236	203	0.1351	1,482
628 x 275	625 x 272	462	424	385	347	308	270	231	0.1541	1,561

Waterloo Product Range

GRILLES

A complete range of products suitable for all wall, ceiling and floor applications. Most grilles are made from aluminium and have a range of fixed or moveable blades designed to give performance whilst remaining aesthetically pleasing to the eye. Grilles are made to customer specified sizes and colours (PPM/G); standard colour PPM9010 (20% Gloss White). The range is complemented by the Aircell range of polymer Grilles.



DIFFUSERS

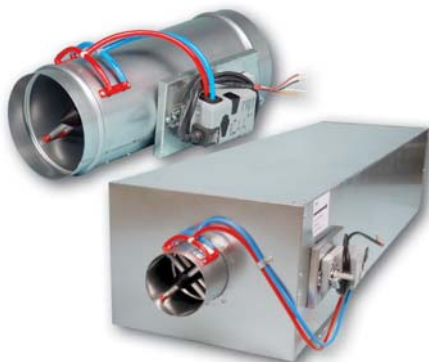
Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetical requirements. Most diffusers are made from aluminium and can be ordered with or without plenum boxes for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G); standard colour is PPM 9010 (20% Gloss White). This range is complemented by the Aircell range of polymer Diffusers.



ACTIVE AND PASSIVE CHILLED BEAMS

The finest quality range of high output active beams, used for ventilated heating and cooling applications. These units have 4 pipe coils to allow heating and cooling circuits to run simultaneously, giving constant and responsive control. The design allows a large optimum capacity and also allows the customer to specify the nozzle type and pitch for individual circumstances.

Active beams are made from steel to a large range of customer specified sizes and as such are suitable for various different ceiling systems. Standard finish is PPM 9010, however other (PPM/G) colours are available on request.



AIR VOLUME CONTROL DAMPERS

Pressure independent Variable Air Volume and Constant Air Volume dampers made from zintec plate. Most volume dampers are regulated with an electronic motor and sensors and are calibrated to customer specifications before delivery.

The Constant Air Volume damper requires no power source as it is controlled via a mechanical device and calibrated before delivery. All volume dampers can be ordered with a single or double (insulation) skin.



EXTERNAL LOUVRES

A quality range of products for external wall applications. Made from aluminium, with birdscreen or insect screen options. All louvres are made to customer specified sizes and (PPM/G) colours; standard colour is PPM 9006.



DISPLACEMENT

A full range of recessed, semi-recessed, floor, wall and corner units providing high ventilation efficiency and excellent comfort. The very low pressure involved also offer quiet installations. Displacement units are available as wall or floor mounted, or indeed integrated within the architectural design.



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