MODEL: RAD604 (4 WAY RETURN SQUARE DIFFUSER)
SAD604 (4 WAY SUPPLY SQUARE DIFFUSER WITH OPPOSED BLADE VCD)

SALIENT FEATURES OF GEO GLOBAL CEILING DIFFUSERS

- Square diffusers supply large volumes of conditioned air at reasonable pressure drop and satisfactory sound levels.
- Square diffusers are popularly used when overall dimensions are limited or some times architectural design considerations and by the choice of the client .
- Square diffusers have pleasing appearance and synchronize with the ceiling.
- In square diffusers, the uniform horizontal jet from outer core guides effective air distribution for wide range of air volumes.
- A range of square ceiling diffusers designed to produce 4 way directional air pattern.

MATERIAL AND CONSTRUCTION:

- Outer frame is extruded aluminium section(6063 alloy-T6 temper) cut to length and joined at corners.
- Core is multiframe aluminium sections assembled on aluminium pipe reinforcement.
- Core is assembled in outer frame with two diffuser springs for easy removal.
- Easy removal of core is necessary to adjust opposed blade damper operation by screw.
- Square diffusers sizes are designated by the duct size where they are to be fixed.
- Duct size may be 5 mm more than the neck size of diffuser.
- Opening size in the ceiling shall be as per column(6) of table given below.
- Popular sizes of square diffusers, duct size, neck size and opening size on ceiling are given below for reference.

SQUARE DIFFUSER				DUCT SIZE	CEILING OPENING SIZE
NOMINAL SIZE		NECK SIZE	OUTER SIZE		
Ds mm (1)	Ds inch (2)	Dn mm (3)	Do mm (4)	Ds mm (5)	Co mm (6)
150x150	6"x6"	145x145	293x293	150x150	233x233
225x225	9"x9"	220x220	368x368	225x225	308x308
300x300	12"x12"	295x295	443x443	300x300	383x383
375x375	15"x15"	370x370	518x518	375x375	458x458
450x450	18"x18"	445x445	593x593	450x450	533x533
525x525	21"x21"	520x520	668x668	525x525	608x608
600x600	24"x24"	595x595	743x743	600x600	683x683

Though above sizes are popular and widely used in U A E and GCC countries, other sizes may be manufactured upon customer request.

TOLERANCES

Following tolerances are recommended to have trouble free assembly and fixing of diffusers.

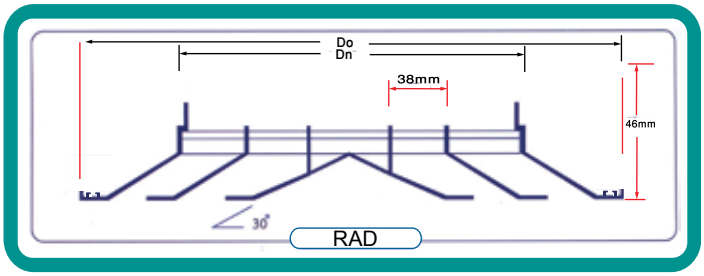
Diffuser neck size - 5, + 0

Duct size - 3, + 3

Ceiling opening - 0, + 5

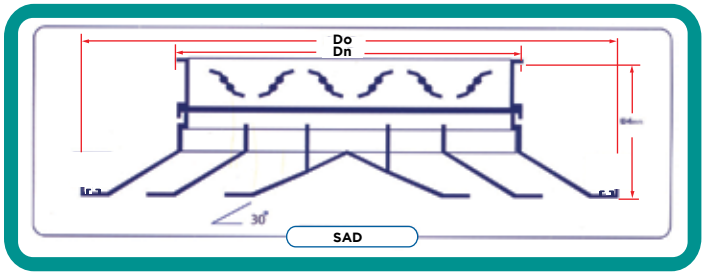
GEO GLOBAL RETURN AIR DIFFUSER (EXTRACT AIR DIFFUSER) - RAD

It is the tendency of air stream to follow the plane it hits when the air jet hits at an angle less than 40°.



GEO GLOBAL model RAD is used as Return Air Diffuser
Product is available in mill finish and all RAL colours

GEO GLOBAL SUPPLY AIR DIFFUSER - SAD



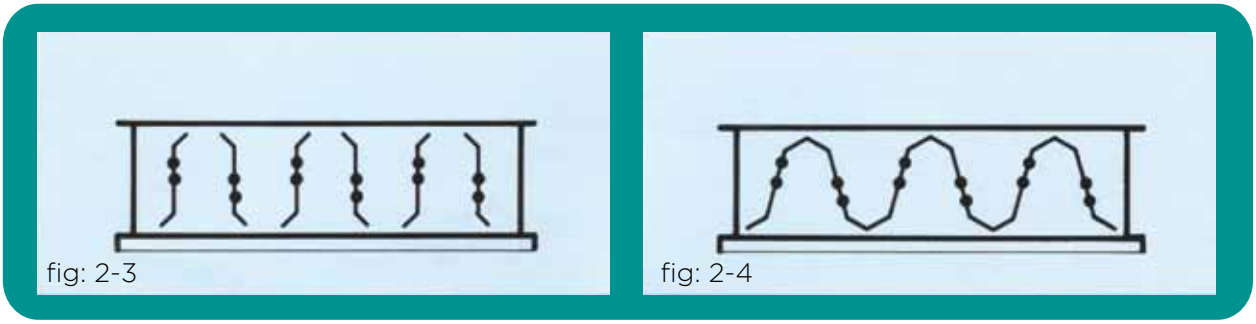
GEO GLOBAL model supply air diffuser comes with a screw operated opposite blade damper.

Diffuser is available in mill finish and all RAL colours.
Damper is available in mill finish or black matt colour(RAL 9005).

ACCESSORIES FOR USE WITH GEO GLOBAL SQUARE DIFFUSERS

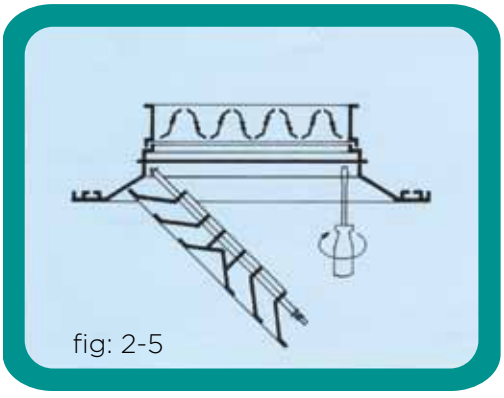
OPPOSITE BLADE VOLUME CONTROL DAMPER

- Air volume control damper with opposite blades is available in all sizes for use with GEO GLOBAL square diffusers.
- Damper design is such that blade arrangement ensures uniform distribution of air flow through diffuser throat.
- It also provides perfect control of air volume from complete open position to complete closed position of blades as shown in figure. 2-3 and 2-4.
- Opposite blades may be opened or closed by operating a lever with screw driver. Screw operation is illustrated in figure. 2-5.
- This damper is assembled to the diffuser either by aluminium rivets or sheet metal screws or by spring clips.



Opposite blade damper - Blades open position

Opposite blade damper - Blades closed position



Adjustment of damper blades position with screw driver

ALUMINIUM AIR FILTER

GEO GLOBAL Square diffusers are available with designed aluminium filter fixed .

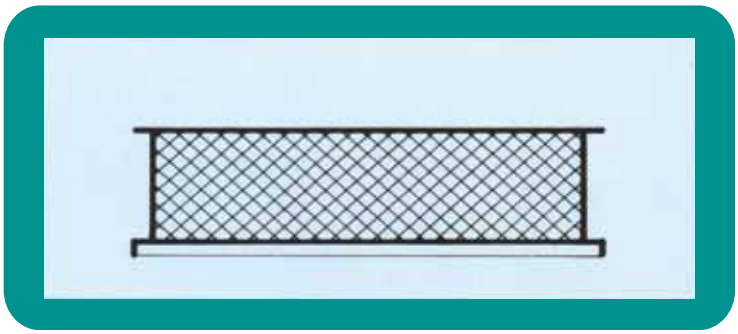
Aluminium filters are available in varying thickness from 20mm to 100mm as per customer requirement.

Efficiency rating of filter	
Particles size	Efficiency %
150 - 700	90
75 - 150	60

APPLICATION OF THESE DIFFUSERS WITH AIR FILTER

Submicroscopic clean areas such as in the electronic, computer, pharmaceutical industry or similar application where hygiene is priority.

GEO GLOBAL Aluminium air filter

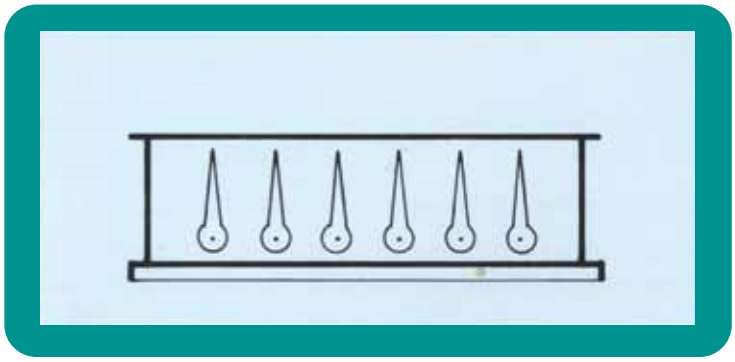


EQUALISING GRID

Equalising grid is made of extruded aluminium frame assembled with individually adjustable louvres,secured in nylon bushes to hold their set position and provide rattle free performance. This accessory equalizes flow of air into neck of diffuser or duct. It also gives directional control of air flow with minimum noise and turbulence.

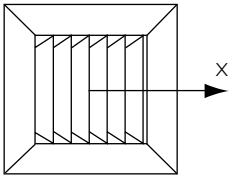
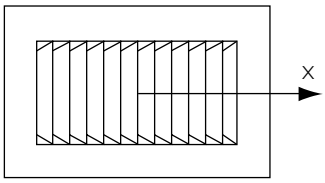
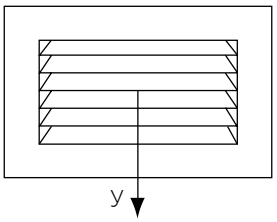
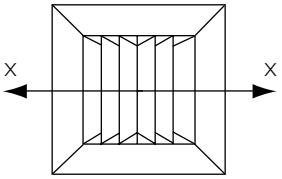
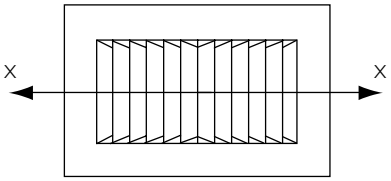
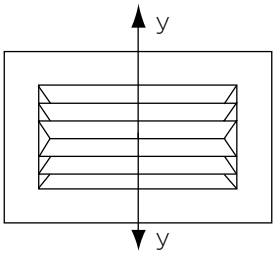
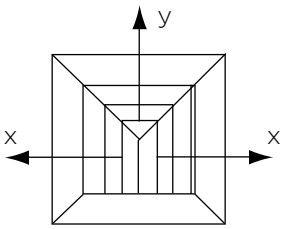
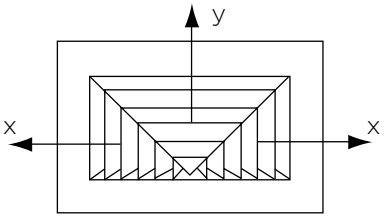
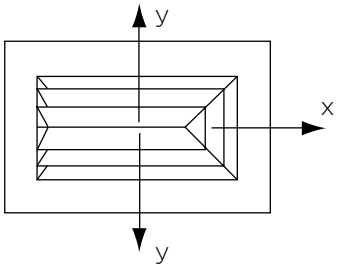
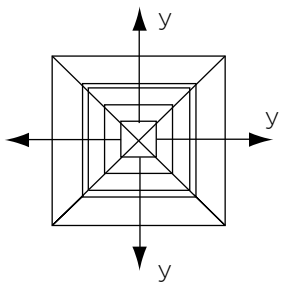
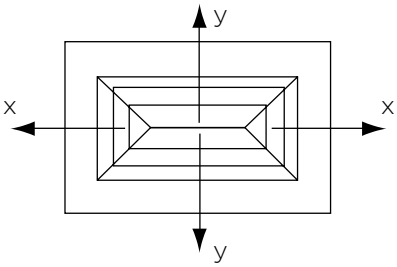
This accessory can be supplied in all sizes. GEO GLOBAL Equalizing grids are available in mill finish and black matt finish frame.

GEO GLOBAL Equalizing grid



FOR MORE TECHNICAL DETAILS AND SELECTION OF PRODUCTS GEO GLOBAL TECHNICAL DEPARTMENT MAY BE CONT ACTED.

CORE PATTERN FOR CEILING DIFFUSERS (SQUARE AND RECTANGULAR) ONE WAY, TWO WAY, THREE WAY, FOUR WAY

Air pattern	Square	Rectangular
One wa y	 Horizontal	 Horizontal  Vertical
Two wa y	 Horizontal	 Horizontal  Vertical
Three way		 
Four way		

MODEL: RAD604 OR SAD604
SELECTION TABLES FOR 4 WAY SQUARE CEILING DIFFUSER

SIZE mm	Neck area	Effective face area	Neck velocity	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
	m²	m²	m/s	LPS	CFM	Pascals	mm of water	0.75 m/s m	0.5 m/s m	0.25 m/s m	
150 x 150 (6" x 6")	0.023	0.009	1.0	23	49	6	06	1. 0	1.5	2.5	<15
			1.5	34	72	13	1. 3	1.9	2.1	3 .0	<15
			2.0	45	95	23	2.3	1.8	2.4	40	18
			2.5	56	11 9	36	3.7	2.1	3 .0	4.3	23
			3.0	68	144	53	5.4	24	3.4	46	29
			3.5	79	167	72	7.3	2.7	3.7	4.9	35
225 x 225 (9" x 9")	0.052	0.02	1.0	51	108	6	06	2.4	30	4.3	<15
			1.5	76	161	13	1. 3	2.9	3.7	5.2	<15
			2.0	101	214	23	2.3	3.4	4.3	6.0	18
			2.5	127	269	36	3.7	3.8	4.5	6.7	24
			3.0	152	322	53	5.4	44	5.2	7.6	29
			3.5	177	375	72	7.3	4.6	5.5	8.0	34
300 x 300 (12" x 12")	0.093	0.033	1.0	90	191	6	06	2.7	4.0	5.8	<15
			1.5	135	286	13	1. 3	4.3	5.0	7.0	<15
			2.0	180	381	23	2.3	4.9	6.1	8 .2	24
			2.5	225	477	36	3.7	5.2	6.4	9.4	31
			3.0	270	572	53	5.4	5.8	7.0	10.0	36
			3.5	315	667	72	7.3	6.1	7.6	11. 0	41
375X375 (15" x 15")	0.145	0.054	1.0	141	299	6	06	3.5	4.9	7.0	<15
			1.5	211	447	13	1. 3	4.9	6.1	8 .5	23
			2.0	281	595	23	2.3	5.6	7.0	98	31
			2.5	352	746	36	3.7	6.4	7.9	11. 3	37
			3.0	422	894	53	5.4	7.0	8.5	12.2	43
			3.5	492	1043	72	7.3	7.6	9.4	13.7	47
450 x 450 (18" x 18")	0.209	0.073	1.0	203	430	6	06	4.3	5.8	8.2	17
			1.5	304	644	13	1. 3	5.8	7.3	10.4	28
			2.0	405	858	23	2.3	7.0	8.5	11. 9	35
			2.5	506	1072	36	3.7	7.6	9.4	13.4	42
			3.0	607	1286	53	5.4	82	10.4	14.6	47
			3.5	908	1924	72	7.3	88	11 .0	15.8	52
525 x 525 (21" x 21")	0.209	0.073	1.0	276	585	6	06	4.6	6.7	9.8	19
			1.5	413	875	13	1. 3	6.7	8.5	11. 9	31
			2.0	551	1168	23	2.3	7.9	9.8	14.0	37
			2.5	689	1460	36	3.7	9.1	11 .0	15.5	44
			3.0	827	1752	53	5.4	98	11 .9	17.1	49
			3.5	965	2045	72	7.3	10.7	13.1	1 8.3	54
600 x 600 (24" x 24")	0.372	0.13	1.0	360	763	6	06	5.5	7.9	11 .3	22
			1.5	540	1144	13	1. 3	7.9	9.8	13.7	33
			2.0	720	1526	23	2.3	9.1	11 .3	15.8	40
			2.5	900	1907	36	3.7	10.4	12.8	18.0	46
			3.0	1080	2289	53	5.4	11. 3	13.7	18.8	51
			3.5	1260	2670	72	7.3	12.2	14.6	21. 0	56

Conditions: Noise criteria is based on 10dB room attenuation

MODEL: RAD601 OR SAD601
SELECTION TABLES FOR 1 WAY SQUARE CEILING DIFFUSER

SIZE mm	Neck area	Effective face area	Neck velocity	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
								0.75 m/s	0.5 m/s	0.25 m/s	
	m²	m²	m/s	LPS	CFM	Pascals	mm of water	m	m	m	
150 x 150 (6" x 6")	0.023	0.009	1.0	23	49	6	0.6	1. 5	2.0	3.5	<15
			1.5	34	72	13	1. 3	2.1	3.1	4.6	<15
			2.0	45	95	23	2.3	2.9	3.8	5.4	18
			2.5	56	11 9	36	3.7	3.6	4.3	6.4	23
			3.0	68	144	53	5.4	3.6	5.1	7 .5	29
			3.5	79	167	72	7.3	4.1	5.1	7 .9	35
225 x 225 (9" x 9")	0.052	0.02	1.0	51	108	6	0.6	2.9	3.8	5.8	<15
			1.5	76	161	13	1. 3	3.4	4.8	6.1	<15
			2.0	101	214	23	2.3	4.3	5.6	7.0	18
			2.5	127	269	36	3.7	4.9	6.0	6.9	24
			3.0	152	322	53	5.4	5.7	6.5	8.8	29
			3.5	177	375	72	7.3	5.7	6.4	9.3	34
300 x 300 (12" x 12")	0.093	0.033	1.0	90	191	6	0.6	3.5	5.0	6.4	<15
			1.5	135	286	13	1. 3	5.2	6.3	7.9	<15
			2.0	180	381	23	2.3	6.1	7.4	9.5	24
			2.5	225	477	36	3.7	6.5	7.8	10.8	31
			3.0	270	572	53	5.4	6.9	7.8	11. 6	36
			3.5	315	667	72	7.3	7.3	8.8	12.6	41
375 x 375 (15" x 15")	0.145	0.054	1.0	141	299	6	0.6	4.3	6.0	8.1	<15
			1.5	211	447	13	1. 3	6.0	7.5	9.6	23
			2.0	281	595	23	2.3	7.2	8.0	11. 0	31
			2.5	352	746	36	3.7	7.9	9.1	1 2.8	37
			3.0	422	894	53	5.4	8.2	9.8	13.7	43
			3.5	492	1043	72	7.3	8.8	10.2	15.2	47
450 x 450 (18" x 18")	0.209	0.073	1.0	203	430	6	0.6	5.1	6 .9	9.1	17
			1.5	304	644	13	1. 3	7.1	8.9	11. 8	28
			2.0	405	858	23	2.3	8.2	9.4	13.1	35
			2.5	506	1072	36	3.7	8.8	10.6	14.9	42
			3.0	607	1286	53	5.4	9.7	11 .4	16.1	47
			3.5	908	1924	72	7.3	10.2	12.9	18.0	52
525 x 525 (21" x 21")	0.209	0.073	1.0	276	585	6	0.6	5.9	8.0	12.0	19
			1.5	413	875	13	1. 3	8.2	10.0	14.5	31
			2.0	551	1168	23	2.3	9.6	11 .7	16.8	37
			2.5	689	1460	36	3.7	11. 0	13.1	1 7.9	44
			3.0	827	1752	53	5.4	11. 9	14.0	19.5	49
			3.5	965	2045	72	7.3	13.0	15.5	20.5	54
600 x 600 (24" x 24")	0.372	0.13	1.0	360	763	6	0.6	7.3	10.2	13.8	22
			1.5	540	1144	13	1. 3	10.2	11. 9	16.0	33
			2.0	720	1526	23	2.3	11. 2	14.5	18.0	40
			2.5	900	1907	36	3.7	12.8	15.0	20.1	46
			3.0	1080	2289	53	5.4	13.8	16.4	21.5	51
			3.5	1260	2670	72	7.3	14.6	17.1	24.0	56

Condition: Noise criteria is based on 10dB room attenuation

MODEL: RAD602 OR SAD602
SELECTION TABLES FOR 2 WAY SQUARE CEILING DIFFUSER

SIZE mm	Neck area	Effective face area	Neck velocity	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
	m²	m²	m/s	LPS	CFM	Pascals	mm of water	0.75 m/s m	0.5 m/s m	0.25 m/s m	
150 x 150 (6" x 6")	0.023	0.009	1.0	23	49	6	06	1. 2	1.6	3.1	<15
			1.5	34	72	13	1. 3	2.0	2.8	3.6	<15
			2.0	45	95	23	2.3	2.3	3.2	4.5	18
			2.5	56	11 9	36	3.7	2.8	3.9	5.0	23
			3.0	68	144	53	5.4	3.2	4.1	5 .2	29
			3.5	79	167	72	7.3	3.5	4.1	5 .8	35
225 x 225 (9" x 9")	0.052	0.02	1.0	51	108	6	06	2.7	3.3	5.2	<15
			1.5	76	161	13	1. 3	3.2	4.5	5.8	<15
			2.0	101	214	23	2.3	4.0	5.2	6.6	18
			2.5	127	269	36	3.7	4.6	5.7	6.5	24
			3.0	152	322	53	5.4	5.4	6.4	8.4	29
			3.5	177	375	72	7.3	5.5	6.0	90	34
300 x 300 (12" x 12")	0.093	0.033	1.0	90	191	6	06	3.2	4.6	6.0	<15
			1.5	135	286	13	1. 3	4.9	5.9	7.6	<15
			2.0	180	381	23	2.3	5.8	7.0	91	24
			2.5	225	477	36	3.7	6.2	7.3	10.3	31
			3.0	270	572	53	5.4	6.7	7.6	11. 2	36
			3.5	315	667	72	7.3	7.0	8.5	12.2	41
375 x 375 (15" x 15")	0.145	0.054	1.0	141	299	6	06	4.0	56	7.8	<15
			1.5	211	447	13	1. 3	5.8	7.2	9.2	23
			2.0	281	595	23	2.3	6.9	7.8	10.7	31
			2.5	352	746	36	3.7	7.6	8.8	12.4	37
			3.0	422	894	53	5.4	7.9	9.4	13.4	43
			3.5	492	1043	72	7.3	8.5	9.9	14.8	47
450 x 450 (18" x 18")	0.209	0.073	1.0	203	430	6	06	4.8	6.6	8.6	17
			1.5	304	644	13	1. 3	6.8	8.2	11. 3	28
			2.0	405	858	23	2.3	7.9	9.1	1 2.8	35
			2.5	506	1072	36	3.7	8.5	10.2	14.5	42
			3.0	607	1286	53	5.4	9.1	10.9	15.7	47
			3.5	908	1924	72	7.3	9.7	12.2	16.9	52
525 x 525 (21" x 21")	0.209	0.073	1.0	276	585	6	06	5.2	7.4	10.6	19
			1.5	413	875	13	1. 3	7.6	9.1	13.0	31
			2.0	551	1168	23	2.3	8.8	10.6	15.0	37
			2.5	689	1460	36	3.7	10.0	11. 9	16.6	44
			3.0	827	1752	53	5.4	10.6	12.8	18.1	49
			3.5	965	2045	72	7.3	11. 6	14.0	19.4	54
600 x 600 (24" x 24")	0.372	0.13	1.0	360	763	6	06	6.1	8.6	12.1	22
			1.5	540	1144	13	1. 3	8.8	10.4	14.6	33
			2.0	720	1526	23	2.3	10.0	11. 9	16.6	40
			2.5	900	1907	36	3.7	11. 0	13.7	18.9	46
			3.0	1080	2289	53	5.4	11. 9	14.6	19.7	51
			3.5	1260	2670	72	7.3	12.9	15.5	22.6	56

Conditions: Noise criteria is based on 10dB room attenuation

MODEL: RAD603 OR SAD603
SELECTION TABLES FOR 3 WAY SQUARE CEILING DIFFUSER

SIZE mm	Neck area	Effective face area	Neck velocity	Air volume		Total pressure		Throw at terminal velocity of			Noise criteria
								0.75 m/s	0.5 m/s	0.25 m/s	
	m²	m²	m/s	LPS	CFM	Pascals	mm of water	m	m	m	
150 x 150 (6" x 6")	0.023	0.009	1.0	23	49	6	0.6	1. 5	2.0	3.5	<15
			1.5	34	72	13	1. 3	2.1	3.1	4 .6	<15
			2.0	45	95	23	2.3	2.9	3.8	5.4	18
			2.5	56	11 9	36	3.7	3.6	4.3	6.4	23
			3.0	68	144	53	5.4	3.6	5.1	7 .5	29
			3.5	79	167	72	7.3	4.1	5.1	7 .9	35
225 x 225 (9" x 9")	0.052	0.02	1.0	51	108	6	0.6	2.9	3.8	5.8	<15
			1.5	76	161	13	1. 3	3.4	4.8	6.1	<15
			2.0	101	214	23	2.3	4.3	5.6	7.0	18
			2.5	127	269	36	3.7	4.9	6.0	6.9	24
			3.0	152	322	53	5.4	5.7	6.5	8.8	29
			3.5	177	375	72	7.3	5.7	6.4	9.3	34
300 x 300 (12" x 12")	0.093	0.033	1.0	90	191	6	0.6	3.5	5.0	6.4	<15
			1.5	135	286	13	1. 3	5.2	6.3	7.9	<1 5
			2.0	180	381	23	2.3	6.1	7.4	9.5	24
			2.5	225	477	36	3.7	6.5	7.8	10.8	31
			3.0	270	572	53	5.4	6.9	7.8	11. 6	36
			3.5	315	667	72	7.3	7.3	8.8	12.6	41
375 x 375 (15" x 15")	0.145	0.054	1.0	141	299	6	0.6	4.3	6.0	8.1	<15
			1.5	211	447	13	1. 3	6.0	7.5	9.6	23
			2.0	281	595	23	2.3	7.2	8.0	11. 0	31
			2.5	352	746	36	3.7	7.9	9.1	1 2.8	37
			3.0	422	894	53	5.4	8.2	9.8	13.7	43
			3.5	492	1043	72	7.3	8.8	10.2	15.2	47
450 x 450 (18" x 18")	0.209	0.073	1.0	203	430	6	0.6	5.1	6 .9	9.1	17
			1.5	304	644	13	1. 3	7.1	8.9	11. 8	28
			2.0	405	858	23	2.3	8.2	9.4	13.1	35
			2.5	506	1072	36	3.7	8.8	10.6	14.9	42
			3.0	607	1286	53	5.4	9.7	11 .4	16.1	47
			3.5	908	1924	72	7.3	10.2	12.9	18.0	52
525 x 525 (21" x 21")	0.209	0.073	1.0	276	585	6	0.6	5.9	8.0	12.0	19
			1.5	413	875	13	1. 3	8.2	10.0	14.5	31
			2.0	551	1168	23	2.3	9.6	11 .7	16.8	37
			2.5	689	1460	36	3.7	11. 0	13.1	1 7.9	44
			3.0	827	1752	53	5.4	11. 9	14.0	19.5	49
			3.5	965	2045	72	7.3	13.0	15.5	20.5	54
600 x 600 (24" x 24")	0.372	0.13	1.0	360	763	6	0.6	7.3	10.2	13.8	22
			1.5	540	1144	13	1. 3	10.2	11. 9	16.0	33
			2.0	720	1526	23	2.3	11. 2	14.5	18.0	40
			2.5	900	1907	36	3.7	12.8	15.0	20.1	46
			3.0	1080	2289	53	5.4	13.8	16.4	21.5	51
			3.5	1260	2670	72	7.3	14.6	17.1	2 4.0	56

Condition: Noise criteria is based on 10dB room attenuation

TABLE RD1 SELECTION TABLES FOR RECTANGULAR CEILING DIFFUSERS

Size			Neck Area	Effective Face area				Neck velocity in meters / second																	
								1			1.5			2			2.5			3			3.5		
mm	x	mm	m²	m²																					
					Terminal velocity		m/s	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25
225	X	150	0.03375			Air volume	litres/ sec	32			47			66			85			94			11 2		
						Total pressure	pascals	6			1 3			23			36			53			72		
				0.01	Throw	One way	Meters	1. 4	2.1	5	2.1	4.0	5.5	4.0	5.1	6.2	4.1	4.9	7.0	5.0	5.8	7.6	5.2	6.1	8 .2
				0.01		Two way	Meters	1. 1	1 .8	4.6	1.8	3.7	4.9	3.4	4.5	5.9	3.6	4.3	6.8	4.4	4.9	7.2	4.5	5.8	7.9
				0.09		Three way-V	Meters	1. 0	1.6	3.5	1.9	3.6	4.4	3.1	4 .1	5.5	3.3	4.2	6.6	4.1	4 .6	7.0	4.3	5.4	7.5
				0.09		Three way-H	Meters	1. 0	1.5	2.5	1.9	2.1	3 .0	1. 8	2.4	4.4	2.1	3.0	4.3	2.4	3.4	4.6	2.7	3.7	4.9
				0.09		Four way-V	Meters	0.9	1.4	3.2	1 .3	3.4	3.9	3.0	3.9	5.2	3 .1	4.0	6.4	4.0	4.3	6.8	4.1	5.0	7.2
				0.09		Four way-H	Meters	1. 0	1.5	2.5	1.9	2.1	3 .0	1. 8	2.4	4.0	2.1	3.0	4.3	2.4	3.4	4.6	2.7	3.7	4.9
						Noise Criteria		<15			<15			<15			19			24			29		
300	X	150	0.045			Air volume	litres/ sec	43			64			90			11 2			1 32			15 2		
						Total pressure	pascals	6			1 3			23			36			53			72		
				0.014	Throw	One way	Meters	2.2	3.0	5.9	2.9	4.8	6.4	4.1	5 .5	7.0	4.4	5.4	8.0	4.8	5.5	8.3	5.1	6.5	9.0
				0.014		Two way	Meters	1. 8	2.4	5.4	2.4	4.3	5.8	3.9	4.9	6.7	4.1	4.9	7.6	4.6	5.2	7.9	4.9	6.1	8 .4
				0.013		Three way-V	Meters	1. 0	1.6	3.5	1.9	3.6	4.4	3.1	4 .1	5.5	3.3	4.2	6.6	4.1	4 .6	7.0	4.3	5.4	7.5
				0.013		Three way-H	Meters	1. 0	1.5	2.5	1.9	2.1	3 .0	1. 8	2.4	4.0	2.1	3.0	4.3	2.4	3.4	4.6	2.7	3.7	4.9
				0.012		Four way-V	Meters	1. 2	2.0	4.9	1.7	3.2	5.0	3.0	3.9	6.0	3.4	4.1	6 .9	4.0	4.9	7.2	4.2	5.5	8.0
				0.012		Four way-H	Meters	1. 0	1.5	2.5	1.9	2.1	3 .0	1. 8	2.4	4.4	2.1	3.0	4.3	2.4	3.4	4.6	2.7	3.7	4.9
						Noise Criteria		<15			<15			<15			19			24			29		

TABLE RD2 SELECTION TABLES FOR RECTANGULAR CEILING DIFFUSERS

Size			Neck Area	Effective Face area				Neck velocity in meters / second																	
								1			1.5			2			2.5			3			3.5		
mm	x	mm	m²	m²																					
						Terminal velocity	m/s	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25	0.75	0.5	0.25
300	X	225	0.0675			Air volume	litres/ sec	65			98			130			164			198			231		
						Total pressure	pascals	6			13			23			36			53			72		
				0.022	Throw	One way	Meters	2.5	3.8	6.0	3.3	5.1	7.0	45	5.8	8.0	50	6.5	8.6	5.5	6.8	8.9	5.9	7.1	9.3
				0.022		Two way	Meters	2.2	3.1	5.7	3.0	4.9	6.6	42	5.2	7.7	48	6.0	8.2	5.2	6.1	8.4	5.4	6.8	9.0
				0.017		Three way-V	Meters	2.4	3.4	5.4	3.1	4.5	6.0	36	4.9	7.0	44	5.8	7.0	46	5.7	8.0	5.1	8.2	8.9
				0.017		Three way-H	Meters	2.4	3.0	4.3	2.9	3.7	5.2	34	4.3	6.0	38	4.5	6.7	4.4	5.2	7.6	4.6	5.5	8.0
				0.016		Four way-V	Meters	2.4	3.6	4.9	3.2	4.1	5.9	37	4.7	6.6	41	5.2	6.9	4.7	5.6	8.0	5.0	8.1	8.7
				0.016		Four way-H	Meters	2.4	3.0	4.3	2.9	3.7	5.2	34	4.3	6.0	38	4.5	6.7	4.4	5.2	7.6	4.6	5.5	8.0
						Noise Criteria		18			20			28			35			40			44		
450	X	150	0.0675			Air volume	litres/ sec	65			98			130			164			198			231		
						Total pressure	pascals	6			13			23			36			53			72		
				0.022		One way	Meters	2.5	3.8	6.0	3.3	5.1	7.0	45	5.8	8.0	50	6.5	8.6	5.5	6.8	8.9	5.9	7.1	9.3
				0.022	Throw	Two way	Meters	2.2	3.1	5.7	3.0	4.9	6.6	42	5.2	7.7	46	6.0	8.2	5.2	6.0	82	5.4	6.8	9.0
				0.021		Three way-V	Meters	2	2.9	4.9	3.7	4.6	6.0	36	4.8	6.8	39	5.9	7.5	48	6.0	81	5.1	6.5	8.8
				0.021		Three way-H	Meters	1	1.5	2.5	1.9	2.1	3.0	1.8	2.4	4.0	21	3.0	4.3	2.4	3.4	46	2.7	3.7	4.9
				0.02		Four way-V	Meters	1.8	2.7	4.1	2.6	4.0	5.0	30	4.4	6.1	3.8	5.5	7.1	4.4	5.9	7.9	5.0	6.3	8.5
				0.02		Four way-H	Meters	1	1.5	2.5	1.9	2.1	3.0	1.8	2.4	4.0	21	3.0	4.3	2.4	3.4	46	2.7	3.7	4.9
						Noise Criteria		17			19			27			34			39			44		