

Air Diffusion

Louvre Face Ceiling Diffuser Model SA



Standard 4 Way Air Pattern



4 Way Diffuser with Sheet Metal
Plenum Box having Side Entry Spigot

Application

The Model SA louvre face ceiling diffuser incorporates a low profile design, which results in an ultra slim diffuser depth of just 47mm. A pleasing aesthetic appearance blends with most ceilings especially modular systems. The ultra slim depth makes the diffuser ideal for installations with a limited ceiling void height.

All diffusers are manufactured from high quality extruded aluminium sections featuring a welded frame and core construction.

A choice of 5 different square 4 way diffuser air patterns are available for supply air applications and matching return air. An angular style inner core assembly provides a fixed horizontal air pattern, capable of handling a sizeable quantity of air at a given pressure drop and noise level.

Inner cores are easily removable allowing on site access. A retention cord is fitted to each inner core.

The standard 32mm wide flange is designed for surface mount or tee bar installation.

Each diffuser can be fitted with an optional opposed blade damper. The damper is designed as an air trimming device and is operated via a screw cam through the diffuser neck with the core removed.

Purpose designed and correctly selected plenum boxes, in sheet metal, are available to ensure the performance and characteristics of the diffuser.

For uniform air distribution it is recommended that plenum boxes are supplied with an equalising grid.

To speed up on site installation time, the plenum box and diffuser can be factory fitted together then delivered as a complete assembly to be simply installed as one unit.

As standard the Model SA diffuser is applied with a polyester powder white finish to RAL9010 (20% gloss).

Diffuser Specification

Material

Complete assembly from extruded aluminium sections.

Construction

Outer frame and inner core sections mitred and welded. Inner core located into outer frame using spring and bar with a retention cord fitted to each unit.

Standard Installation Method

Standard is plain flange for surface mount by screw fixing through neck or lay in tee bar installation (Type F0 fixing). Access for installation is with the core removed.

If a plenum box is required, the diffuser can be supplied already fixed to the box as a prefabricated assembly. The box/diffuser assembly is then supported with on site fixings (by others).

Accessories

Opposed Blade Damper, (either with or without plenum box) operated by screw cam with the core removed.

Matching Plenum Box side circular, spigots available. (See standard size range).

Finish

Standard is White Polyester Powder Coat to RAL9010 (20% gloss).

Standard Model Types

4 Way Air Pattern

SA 4G = Square 4 Way air pattern, diffuser only.

If an opposed blade damper is required the code reference letter G is replaced by R to denote that a damper is to be fitted (i.e. SA 4R = 4 Way air pattern diffuser with OBD fitted).

Square Size Range

Standard 32mm : Flat Flange

Size Range Square (Standard Sizes)

Nom Neck Size	Actual Neck Size	Min Cut Out Size	Overall Size
150 x 150	147 x 147	223 x 223	298 x 298
225 x 225	222 x 222	298 x 298	373 x 373
300 x 300	297 x 297	373 x 373	448 x 448
447 x 447	444 x 444	520 x 520	595 x 595
450 x 450	447 x 447	523 x 523	598 x 598

Selection Guide

Performance Notes

Throw is based on a temperature differential of 10°C cooling to a terminal velocity of 0.5m/s to give average room velocity of 0.18m/s with a room height of 2.7m when mounted flush with an unobstructed flat ceiling. Sound power and pressure levels are based on supply with dampers open.

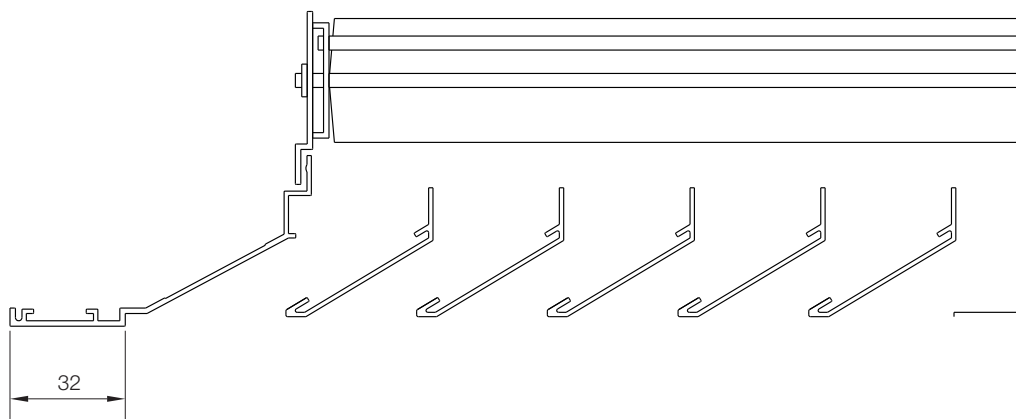
Throw Details

When SA diffusers are used in installation where there is no ceiling effect, the throw would be reduced by approximately 40%. This would also produce a deeper air stream from the horizontal.

Flange Styles

Standard Fixings - FO

Standard 32W

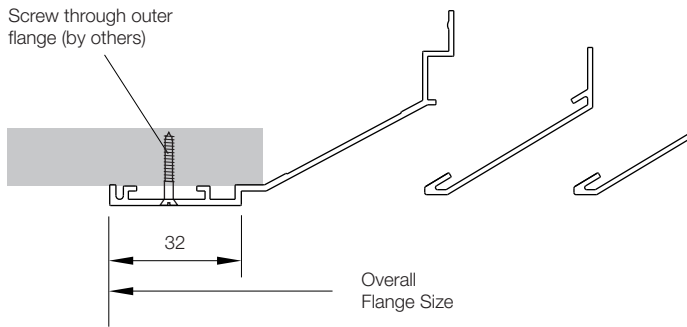


Louvre Face Ceiling Diffuser Performance Tables

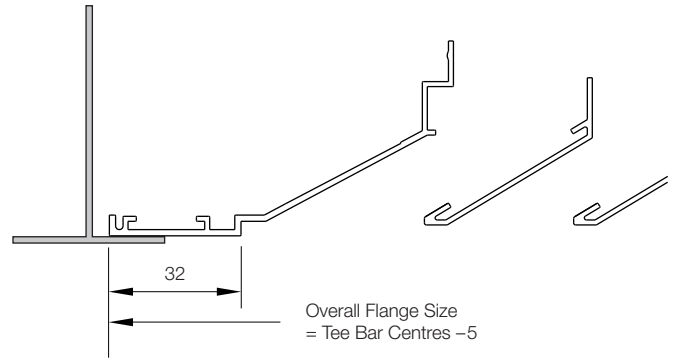
Square Size mm	Neck Velocity M/s:	1	1.25	1.5	1.75	2	2.5	3	3.5	4	4.5
	Total Pressure Pa:	3.5	5.3	7.5	10	13	21	30	40	53	67
150	Volume l/s	23	28	34	39	45	56	68	79	90	101
	Sound Power NRLW	-	11	17	21	26	31	35	42	47	52
	4 Way Throw	0.6	0.9	1.2	1.5	1.8	2.1	2.4	3.0	3.4	4.0
225	Volume l/s	50	63	76	89	100	127	177	187	202	228
	Sound Power NRLW	-	12	18	22	26	32	38	43	47	52
	4 Way Throw	1.2	1.5	1.8	2.1	2.4	3.0	3.4	4.0	4.6	5.2
300	Volume l/s	90	112	135	158	180	225	270	315	360	405
	Sound Power NRLW	-	13	18	23	27	33	40	44	48	53
	4 Way Throw	1.5	1.8	2.1	2.4	3.0	3.7	4.3	5.2	5.5	6.1
450	Volume l/s	202	253	303	354	405	506	607	709	810	911
	Sound Power NRLW	10	16	22	28	33	38	42	46	51	57
	4 Way Throw	2.1	2.4	3.0	3.7	4.0	4.9	5.5	6.1	7.0	7.4

Installation Guide

32W Surface (Standard fixing - FO)



32W Tee Bar

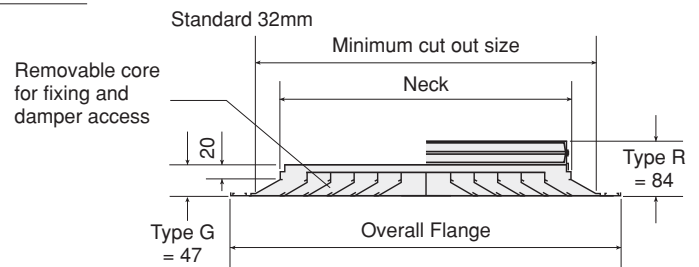
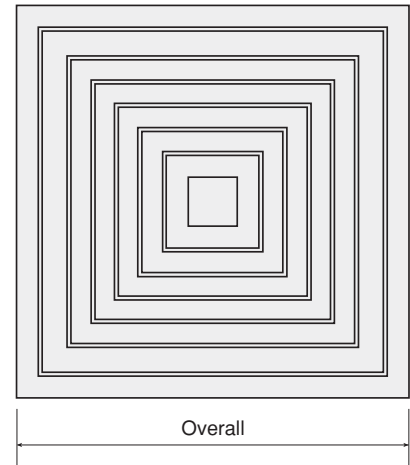


Dimensions

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All Model SA air patterns are viewed from the diffuser face.

Ordering Information

Example

Flange Style	Model	Damper	Fixing	Finish	Size
32W	SA4	R	FO	83	
32W – 32mm wide flat flange (Standard).	SA4 – Square or Rectangular Louvre Face Diffuser, 4 way air pattern.	G – Diffuser only. R – Diffuser with OBD fitted.	FO – No fixing.		See Page 2

Important Note: All orders must be addressed to Air Diffusion, Ruskin Air Management Limited.

Air Diffusion
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