

COLMAN

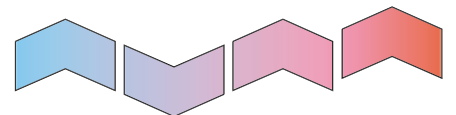
E N G I N E E R E D A I R D I S T R I B U T I O N

**LOUVRE FACE DIFFUSERS
S SERIES**



S

SERIES



LOUVRE FACE DIFFUSERS

QUALITY AND EFFICIENCY WITHOUT
COMPROMISE



Application

The S series range of aluminium louvre faced diffusers has been designed to give an attractive appearance combined with excellent air distribution characteristics. The range is available in a wide variety of styles and sizes and can be used for both supply and extract applications.

Description

Six standard sizes are produced with square neck connections and all sizes can accommodate adaptors to suit circular neck requirements.

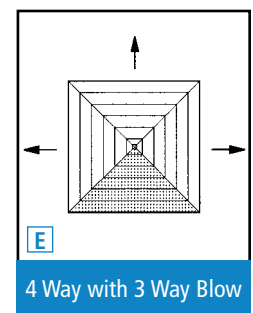
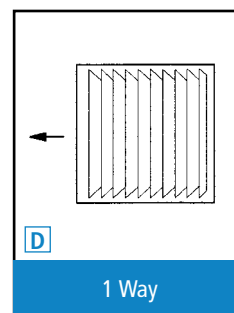
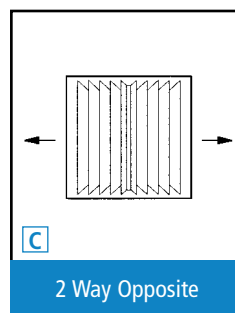
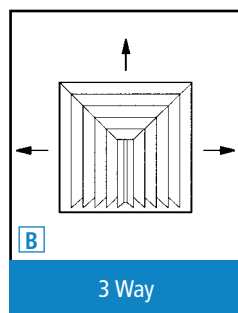
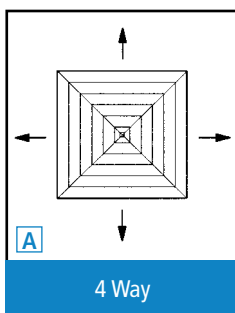
Each style of diffuser is manufactured to a high quality, with construction of mitred and welded corners providing maximum strength and rigidity.

Balancing dampers adjustable from the face of the diffuser are available for all sizes. Plenum boxes fitted with mono-blade balancing dampers can also be provided.

Core Styles are available for 1 way, 2 way opposite, 2 way corner, 3 way and 4 way air patterns as illustrated below. Although supported by a safety chain all cores are easily removed without the use of special tools. They can be interchanged between similar sized diffusers and re-arranged to suit new air pattern requirements. In addition, to maintain a uniform 4 way appearance, rear baffles can be supplied to give any combination of air pattern.

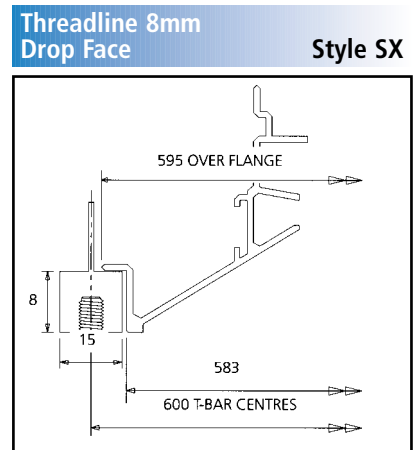
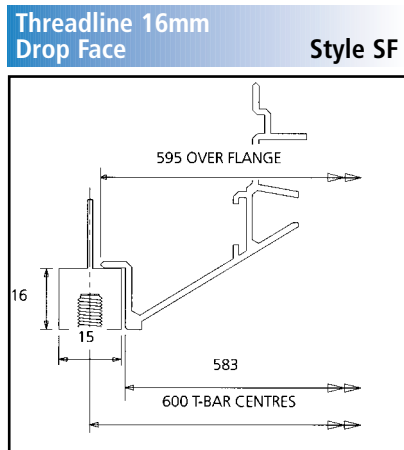
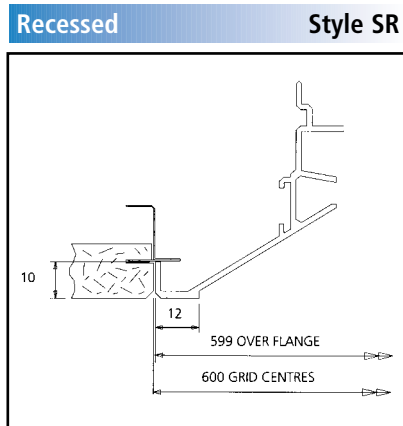
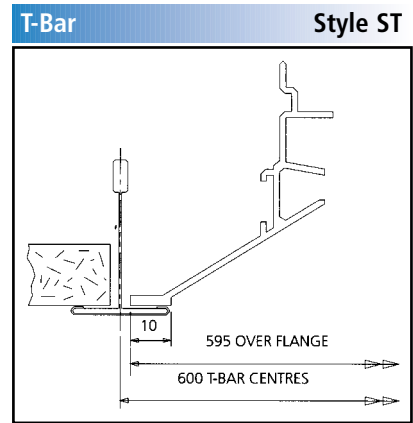
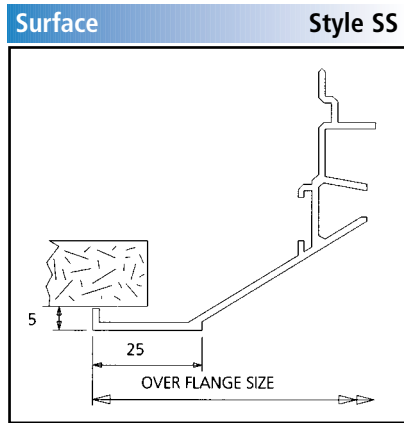


Louvre face diffusers in a typical installation



Fixings

The diffusers will integrate with most types of Ceiling Systems, with frame styles that cater for surface, recessed, T-Bar or threadline mounting.



600 Face only

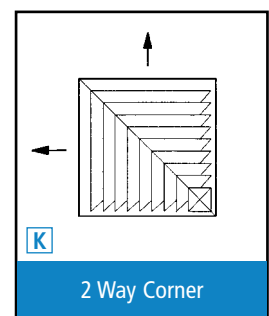
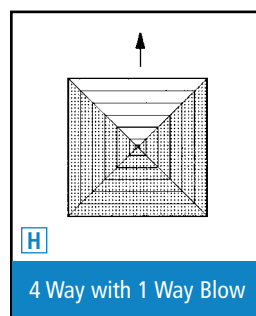
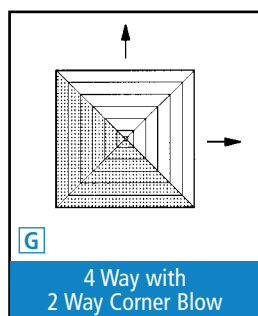
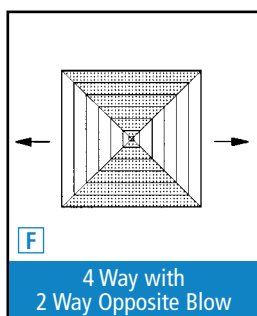
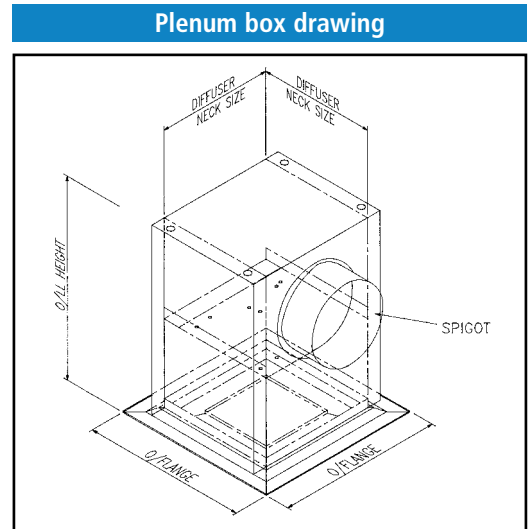
600 Face only

Plenum Boxes

SN Plenum boxes are specifically designed for use with all square neck styles of 'S' Series diffuser to ensure even distribution of the air over the rear of the diffuser.

When balancing is a requirement and no damper is fitted to the diffuser, this is achieved through a mono-blade damper (on inlet spigots up to Ø400) fitted into the plenum spigot (ref A00M) and operated from the face of the diffuser via a cord.

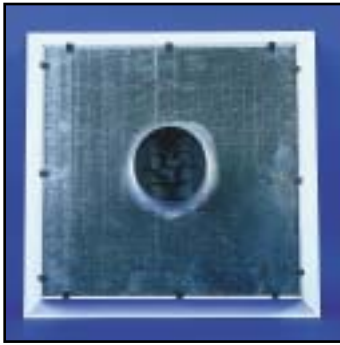
On spigots larger than Ø400, balancing is by a key operated damper (ref A00V) fitted to the rear of the diffuser. A circular side entry spigot is standard, a top inlet is available as an option. Plenum boxes are manufactured from galvanised steel as standard.



Dampers

A variety of dampers are available including opposed blade dampers and flap type dampers. A00F, A00V and A00L styles illustrated are fitted to the diffuser. A00M are fitted to the plenum.

A00F Key Operated Flap Type Volume Control Damper



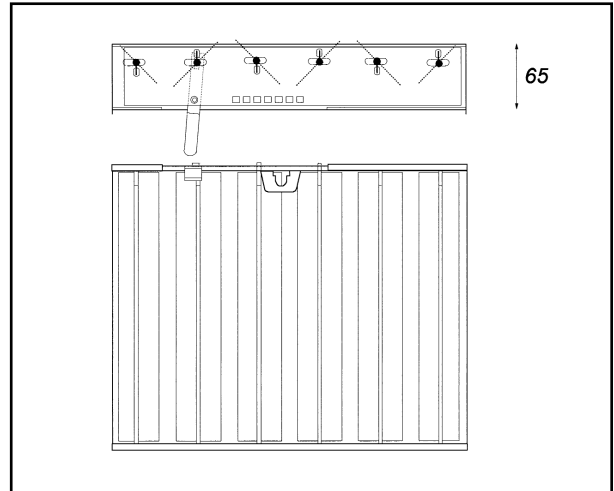
Rear view of Round Neck Diffuser with A00F flap damper

A00V Key Operated Opposed Blade Volume Control Damper

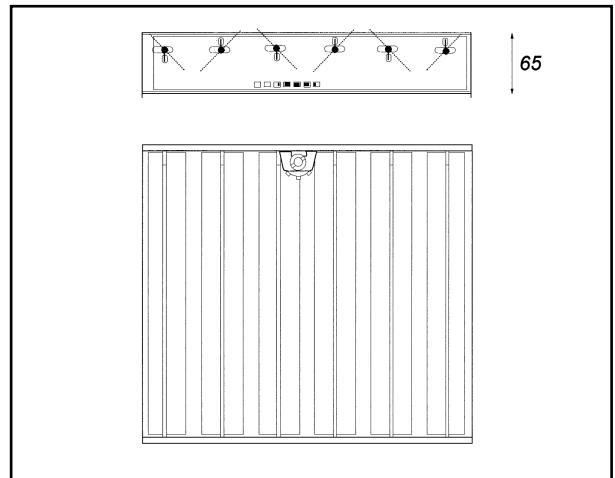
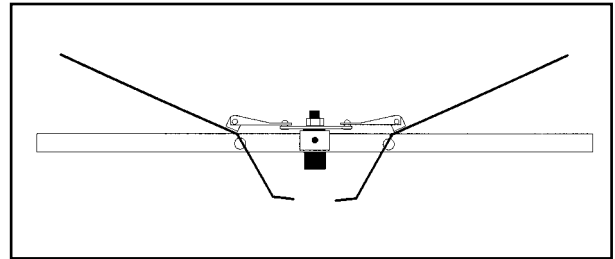


Rear view of Square Neck Diffuser and A00V opposed blade damper

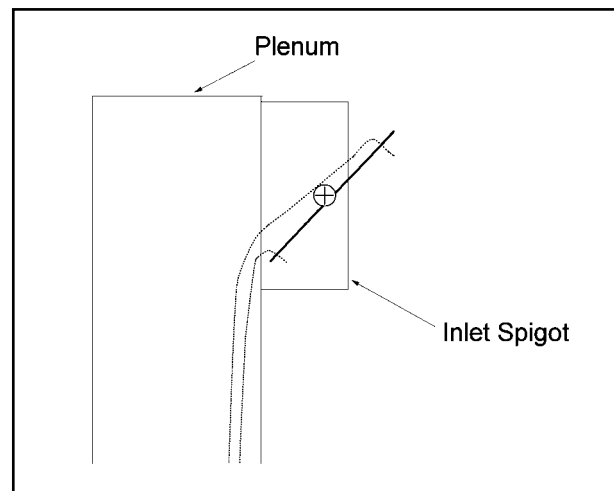
A00L Lever Operated Opposed Blade Volume Control Damper



Sizes: 1522, 2230, 3037, 3745, 4552, 5260 only.

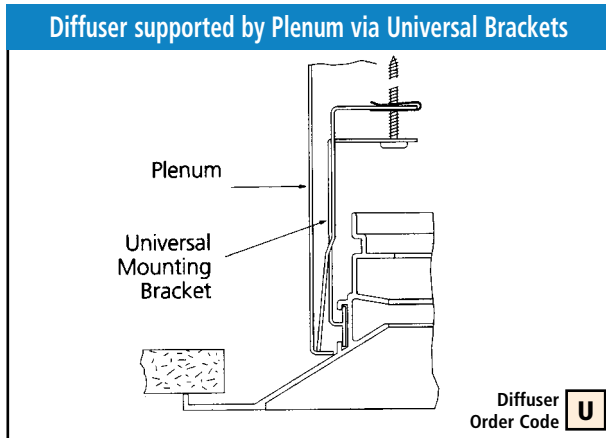


A00M Cord Operated Mono Blade Volume Control Damper

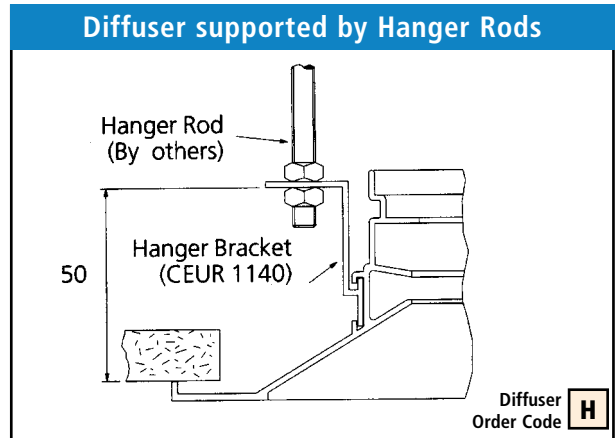
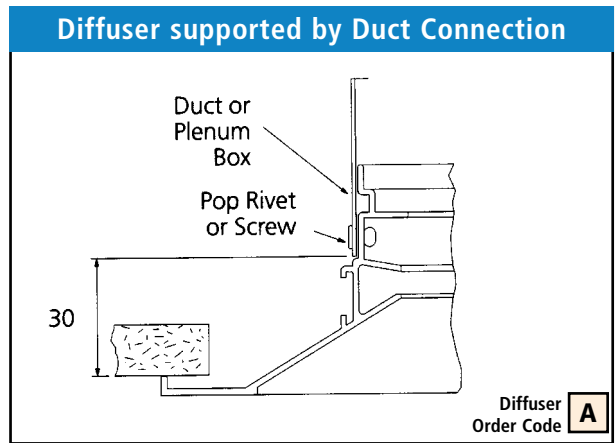


Installation Details

Installation can be via three different methods, supported from the supply duct, plenum supported by drop rods connecting to hanger brackets or supported via universal brackets by the plenum.



Sizes: 1522, 2230, 3037, 3745, 4552, 5260 only.



Diffuser Sizes

Louvre face diffusers are sold in 6 standard sizes with size codes given by nominal face and neck dimensions. The table below gives the code for each size and the actual dimensions are shown on the back page.

Size Table

Size Code	Square Neck Dimension	Nominal Face Dimension
1522	150	225
2230	225	300
3037	300	375
3745	375	450
4552	450	525
5260	525	600

Where the diffuser is fitted with a plenum or neck conversion the size code is modified to suit.

For example:

Size 3060 - 300 square Neck conversion or plenum fitted to 600 face size diffuser.

Special Shapes

Colman have manufactured a wide range of rectangular and other shapes of louvre face diffusers. The design is inherently flexible, please contact your local sales office for details.

3 Way Diffuser



4 Way Diffuser



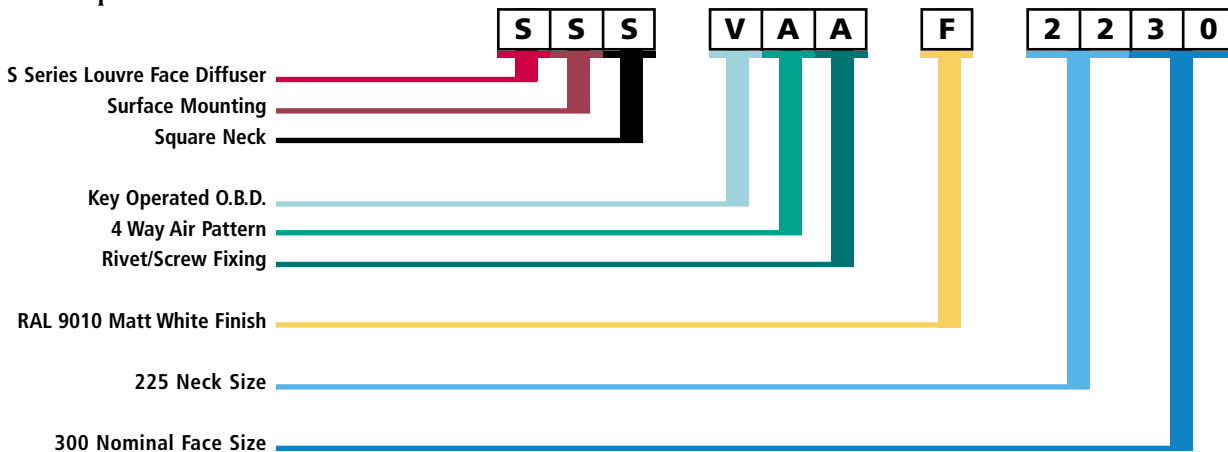
Options and Order Codes

Diffusers

1	2 FRAME	3 NECKS	4 ACCESSORIES	5 ARRANGEMENT	6 FIXING	7 FINISH
S	0 None F Threadline Mounting 16mm drop face R Recessed Mounting S Surface Mounting T Tee Bar Mounting X Threadline Mounting 8mm drop face 1 Special	0 None R Round Neck S Square Neck 1 Special	0 None F Key Operated Flap Damper (up to 300mm dia only) L Lever Operated Opposed Blade Damper V Key Operated Opposed Blade Damper 1 Special Note Option L certain sizes only - See page 4	A 4 way pattern B 3 way pattern C 2 way opposite pattern D 1 way pattern E 4 way appearance 3 way air pattern F 4 way appearance 2 way opposite air pattern G 4 way appearance 2 way corner air pattern H 4 way appearance 1 way air pattern K 2 Way Corner 1 Special	A Neck Fixing Pop Rivet or Screw H Hanger Brackets for drop rods U Universal Mounting Bracket X Extended Hanger Bracket D Extended Universal Bracket 1 Special Note Option U and D certain sizes only - see page 5	F RAL9010 Matt White Other standard colours available ; Mill Finish O BS00E55 Gloss White C BS00E55 Satin White H BS00E55 Matt White D RAL9010 Gloss White E RAL9010 Satin White G RAL9006 Aluminium 3 Special Colours available on request 1

Note: The items shown in red print above and below and in the order code example are the standard options for this product. Unless shown otherwise on any quotation or order the units will be supplied in this configuration.

Example of Order Codes



Plenum Boxes

1	2 LINING	3 INSTALLATION METHOD	4 ACCESSORIES	5 ARRANGEMENT	6 SPIGOT TYPE	7 SPIGOT SIZE (DIA or SQ - all in mm)
S	L Lined N Unlined 1 Special	0 Straight Edge U Universal Bracket 1 Special	0 None M Mono blade Cord Operated Damper 1 Special Note Max size mono blade Ø400 and 350 sq.	S Supply E Extract 1 Special	R Round - side entry S Square - side entry T Round - top entry W Round - flush with top of unit X Square - flush with top of unit Y Square - Top Entry 1 Special	A 100 B 125 C 150 D 200 E 250 F 300 G 350 H 400 J 450 K 500 L 160 M 180 N 315 O 355 1 Special All Standard Spigots are 75mm deep.

SPECIFICATION:

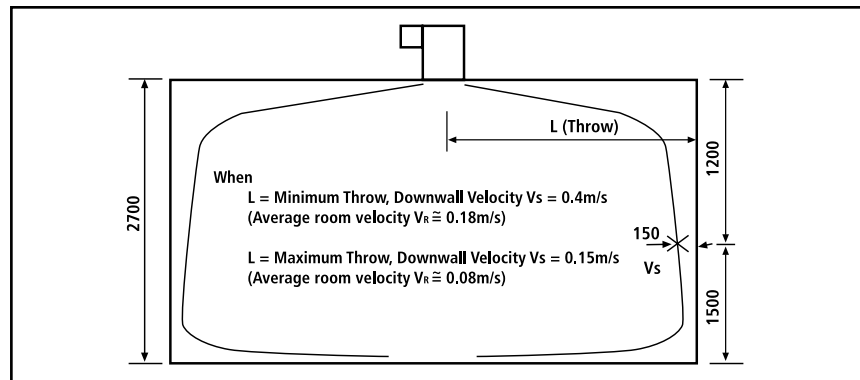
The S Series Louvre Face diffuser is manufactured from 1.5mm extruded aluminium to BS1474/6063T6. Outer frames are mitred and fully welded with a core manufactured from a pressed centre piece and remaining elements welded. Mounting shall be via hanger brackets or universal fixing brackets.

Selection Information

The following pages give details on how to correctly select the S Series Diffusers, together with a worked example. Please read the notes carefully and contact us should you have any queries.

Table 1: Spigot velocity against NR rating

Sound Rating NR	Spigot Velocity m/s
25	2.5
30	3
35	3.5
40	4.5



Throw

If two diffusers are to throw towards each other, select an air volume that gives a maximum throw equal to half the distance between the two.

Minimum throw should be used when discharging towards a wall or window.

Where diffusers are required with 4 way appearance and 3, 2 or 1 way flow, the required volume should be divided 0.75, 0.5 or 0.25 respectively, and selections made from the 4 way performance charts. Where there is no ceiling effect, throw is reduced by approximately 40%, and air will be discharged downward at an angle of approx 20° from the horizontal.

Plenums

Select the appropriate spigot velocity to match the NR rating required, as per table 1.

Pressure Drop

The pressure drop is given for the diffuser only. When used with a plenum box the following corrections are applied:

Supply Unit Ps x 2.2, NR + 5 Extract Unit Ps x 2, NR + 6

Connections and Dampers

Figures given are based on correctly aligned connections and good air approach conditions to the diffuser with fully open dampers. If connections are misaligned or dampers are used for purposes other than fine tuning, noise and pressure drop figures will increase greatly.

Typical Selection

Given: Zone Size of 5m x 5m x 2.7m high

Required NR level of 30

10 Air changes per Hour

1) Calculate Air Volume required:

Room Volume = Length - 5m x Width - 5m x Height - 2.7m = 67.5m³

Multiplied by the required number of air changes - 10 = 675m³/hr

Divided by the number of seconds per hour - 3600 = 0.188m³/s

2) Decide position of Diffuser:

Assuming the diffuser is positioned centrally in the zone, a 4 way throw of 2.5m would be required to fully distribute the air in the room.

3) Select Diffuser:

From the performance data given on page 8, a 300 x 300 diffuser with a volume of 180l/s would give a throw of between 1.3m and 3.8m, at NC 24, as selections should be based on mid range, this diffuser would be suitable in this instance.

4) Select Spigot Size:

Spigot Area = Total volume ÷ Maximum allowed velocity
 $0.188\text{m}^3/\text{s} \div 3\text{m/s} = 0.063\text{m}^2$

Area of 300mm Dia spigot = $\pi r^2 = 3.142 \times 0.15^2 = 0.071\text{m}^2$

Therefore the plenum would be fitted with a centrally positioned 300mm Dia spigot.

Note: Although the basic selection is now made the points shown on the right should be checked.

Check No. 1 - Ceiling Height

For ceiling heights greater than 2.7m, the throw is reduced by 5% for each additional 0.3m up to a maximum ceiling height of 4.3m.

Check No. 2 - NR Level

To ensure that the air velocity in the spigot does not cause excessive noise the figures given in Table 1 should be noted.

i.e. Total volume ÷ area of spigot = Velocity
 So - 0.188 ÷ 0.071 = 2.65m/s

From Table 1 this gives <NR 30, which is within the specified limit.

Check No. 3 - Plenum Height

If site conditions dictate a height limitation, the following calculation can be used to check the minimum recommended height for the plenums. If these are found to be too high please contact the sales office for advice on alternative plenum arrangements.

Calculation = Spigot dia + 180mm for diffusers with AOOV or AOOL
 or Spigot dia + 145mm for diffusers without dampers

Supply Performance Data

4 Way Core Square Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	5	10	18	28	40	55
150 x 150	Volume (l/s)			45	56	68	79
	Throw (m)			0.4 - 0.9	0.8 - 1.5	1.3 - 2.1	1.8 - 2.8
	NR			22	27	31	36
225 x 225	Volume (l/s)		76	101	127	152	177
	Throw (m)		0.4 - 1.1	0.8 - 1.6	1.2 - 2.2	1.8 - 3	2.4 - 4.2
	NR		17	23	29	34	38
300 x 300	Volumes(l/s)	90	135	180	225	270	315
	Throw(m)	0.3 - 1	0.6 - 2	1.3 - 3.8	2.9 - 5.6	4.6 - 7.3	6.3 - 9.1
	NR	-	18	25	31	37	41
375 x 375	Volume(l/s)	141	211	281	352	422	
	Throw(m)	0.5 - 1.5	0.9 - 2.7	1.9 - 5.1	4 - 8.2	7 - 11.5	
	NR	-	19	27	34	40	
450 x 450	Volume(l/s)	203	304	405	506		
	Throw(m)	0.7 - 2.1	1.2 - 3.3	2.1 - 6.3	5.1 - 10.2		
	NR	-	21	29	37		
525 x 525	Volume(l/s)	276	413	551	689		
	Throw(m)	0.9 - 2.4	1.5 - 3.6	2.4 - 6.6	5.4 - 11.4		
	NR	13	23	32	39		

3 Way Core Square Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	5	10	18	28	40	55
150 x 150	Volume (l/s)			45	56	68	79
	Throw (m)			0.4 - 0.9	0.8 - 1.5	1.3 - 2.1	1.8 - 2.8
	Tb			0.5 - 1	0.9 - 1.6	1.5 - 2.3	2.1 - 3.1
225 x 225	Volume (l/s)		76	101	127	152	177
	Throw (m)		0.4 - 1.1	0.8 - 1.6	1.2 - 2.2	1.8 - 3	2.4 - 4.2
	Tb		0.5 - 1.2	0.9 - 1.7	1.5 - 2.4	2.1 - 3.2	2.8 - 4.5
300 x 300	Volumes(l/s)	90	135	180	225	270	315
	Throw(m)	0.3 - 1	0.6 - 2	1.3 - 3.8	2.9 - 5.6	4.6 - 7.3	6.3 - 9.1
	Tb	0.5 - 1.2	0.8 - 3	1.4 - 4.7	3 - 6.5	4.7 - 8.3	6.5 - 10.1
375 x 375	Volume(l/s)	141	211	281	352	422	
	Throw(m)	0.5 - 1.5	0.9 - 2.7	1.9 - 5.1	4 - 8.2	7 - 11.5	
	Tb	0.7 - 1.7	1.2 - 3.3	2.2 - 5.9	4.2 - 8.5	7.2 - 12.5	
450 x 450	Volume(l/s)	203	304	405	506		
	Throw(m)	0.7 - 2.1	1.2 - 3.3	2.1 - 6.3	5.1 - 10.2		
	Tb	0.9 - 2.2	1.5 - 3.9	2.5 - 7.1	5.4 - 10.5		
525 x 525	Volume(l/s)	276	413	551	689		
	Throw(m)	0.9 - 2.4	1.5 - 3.6	2.4 - 6.6	5.4 - 11.4		
	Tb	1 - 2.5	1.7 - 4.1	2.7 - 7.3	5.7 - 12		
	NR	13	23	32	39		

1) Data is for flush mounted ceiling diffusers.

2) Data is based on normal temperature differentials on cooling up to 11°C.

2 Way Core Square Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	5	10	18	28	40	55
150 x 150	Volume (l/s)		34	45	56	68	79
	Throw (m)		0.4 - 0.9	0.6 - 1.2	1 - 1.8	1.6 - 2.4	2.2 - 3.3
	NR		16	22	27	31	36
225 x 225	Volume (l/s)	51	76	101	127	152	177
	Throw (m)	0.4 - 0.9	0.6 - 1.4	1.2 - 2.1	1.8 - 3	2.4 - 3.8	3.4 - 8
	NR	-	17	23	29	34	38
300 x 300	Volumes(l/s)	90	135	180	225	270	315
	Throw(m)	0.6 - 1.3	0.9 - 3.3	2.6 - 5.3	4.9 - 7.4	7.1 - 9.5	9.3 - 11.5
	NR	-	18	25	31	37	41
375 x 375	Volume(l/s)	141	211	281	352	422	
	Throw(m)	0.8 - 1.8	1.2 - 3.8	2.7 - 6.5	5.1 - 9.2	8 - 12.2	
	NR	-	19	27	34	40	
450 x 450	Volume(l/s)	203	304	405	506		
	Throw(m)	1 - 2.3	1.6 - 4.4	2.7 - 8	6 - 12.5		
	NR	-	21	29	37		
525 x 525	Volume(l/s)	276	413	551	689		
	Throw(m)	1.2 - 2.7	1.8 - 4.7	3 - 8.3	6.5 - 13.6		
	NR	13	23	32	39		

1 Way Core Square Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	6	13	24	37	54	73
150 x 150	Volume (l/s)		34	45	56	68	79
	Throw (m)		0.6 - 1.2	0.9 - 1.5	1.2 - 2.1	1.8 - 3.0	2.4 - 3.6
	NR		18	24	29	34	39
225 x 225	Volume (l/s)	51	76	101	127	152	177
	Throw (m)	0.6 - 1.2	0.9 - 1.8	1.9 - 3.1	2.8 - 4.4	3.8 - 5.6	4.8 - 6.9
	NR	-	19	26	32	37	41
300 x 300	Volumes(l/s)	90	135	180	225	270	315
	Throw(m)	1.5 - 5.2	2.7 - 6.6	3.6 - 7.6	4.7 - 8.8	5.8 - 10	6.9 - 11.2
	NR	-	22	30	35	41	44
375 x 375	Volume(l/s)	141	211	281	352		
	Throw(m)	1.7 - 5.5	3.8 - 8.3	7 - 11.4	10.2 - 14		
	NR	14	24	32	37		
450 x 450	Volume(l/s)	203	304	405			
	Throw(m)	2 - 5.8	5.7 - 10	11.3 - 13.9			
	NR	16	26	34			
525 x 525	Volume(l/s)	276	413	551			
	Throw(m)	2.1 - 6	6 - 10.5	11.8 - 15			
	NR	18	28	36			

3) All NR ratings based on room absorption of 8dB, dampers fully open. Where no figure is given in the NR column the rating is <NR 20.

4 Way Core Round Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	1	3	5	7	10	14
125	Volume (l/s)			25	31	37	43
	Throw (m)			0.4 - 1.5	0.6 - 2.4	1.2 - 3.3	1.8 - 4.2
	NR			10	16	21	25
150	Volume (l/s)		27	35	44	53	62
	Throw (m)		0.3 - 1.0	0.5 - 1.8	0.8 - 2.7	1.4 - 3.6	2.1 - 4.5
	NR		-	12	18	23	27
200	Volumes(l/s)		47	63	79	94	110
	Throw(m)		0.4 - 1.2	0.6 - 2.1	1.0 - 3.0	1.6 - 3.9	2.4 - 4.8
	NR		-	14	20	24	29
250	Volume(l/s)	49	74	98	123	147	172
	Throw(m)	0.4 - 1.0	0.6 - 1.5	0.9 - 2.5	1.4 - 3.9	2.0 - 5.1	2.9 - 6.3
	NR	-	-	15	20	26	31
300	Volume(l/s)	71	106	141	177	212	247
	Throw(m)	0.5 - 1.2	0.8 - 1.8	1.2 - 3	1.8 - 4.8	2.4 - 6.3	3.3 - 7.8
	NR	-	-	15	22	28	33
400	Volume(l/s)	125	188	251	314	377	440
	Throw(m)	0.6 - 1.5	0.9 - 2.1	1.5 - 3.3	2.1 - 5.1	3.0 - 6.9	3.9 - 8.7
	NR	-	13	17	24	29	34
450	Volume(l/s)	159	238	318	398	477	557
	Throw(m)	0.8 - 1.8	1.1 - 2.4	1.8 - 3.6	2.4 - 5.4	3.5 - 7.5	4.5 - 9.6
	NR	-	14	18	25	30	35

3 Way Core Round Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	1	3	5	7	10	14
125	Volume (l/s)			25	31	37	43
	Throw (m)			0.4 - 1.5	0.6 - 2.4	1.2 - 3.3	1.8 - 4.2
	Tb			0.5 - 1.7	0.7 - 2.6	1.4 - 3.6	2.0 - 4.5
	NR			10	16	21	25
150	Volume (l/s)		27	35	44	53	62
	Throw (m)		0.3 - 1.0	0.5 - 1.8	0.8 - 2.7	1.4 - 3.6	2.1 - 4.5
	Tb		0.4 - 1.2	0.6 - 2.0	0.9 - 3.0	1.6 - 3.9	2.3 - 4.8
	NR		-	12	18	23	27
200	Volumes(l/s)		47	63	79	94	110
	Throw(m)		0.4 - 1.2	0.6 - 2.1	1.0 - 3.0	1.6 - 3.9	2.4 - 4.8
	Tb		0.5 - 1.5	0.8 - 2.4	1.2 - 3.3	1.8 - 4.2	2.6 - 5.1
	NR		-	14	20	24	29
250	Volume(l/s)	49	74	98	123	147	172
	Throw(m)	0.4 - 1.0	0.6 - 1.5	0.9 - 2.5	1.4 - 3.9	2.0 - 5.1	2.9 - 6.3
	Tb	0.5 - 1.2	0.7 - 1.8	1.1 - 2.9	1.6 - 4.2	2.2 - 5.4	3.1 - 6.6
	NR	-	-	15	20	26	31
300	Volume(l/s)	71	106	141	177	212	247
	Throw(m)	0.5 - 1.2	0.8 - 1.8	1.2 - 3.0	1.8 - 4.8	2.4 - 6.3	3.3 - 7.8
	Tb	0.6 - 1.5	0.9 - 2.1	1.4 - 3.3	2.0 - 5.1	2.7 - 6.6	3.6 - 8.1
	NR	-	-	15	22	28	33
400	Volume(l/s)	125	188	251	314	377	440
	Throw(m)	0.6 - 1.5	0.9 - 2.1	1.5 - 3.3	2.1 - 5.1	3.0 - 6.9	3.9 - 8.7
	Tb	0.7 - 1.6	1.0 - 2.3	1.6 - 3.6	2.4 - 5.4	3.6 - 7.5	4.5 - 9.3
	NR	-	13	17	24	29	34
450	Volume(l/s)	159	238	318	398	477	557
	Throw(m)	0.8 - 1.8	1.1 - 2.4	1.8 - 3.6	2.4 - 5.4	3.5 - 7.5	4.5 - 9.6
	Tb	0.9 - 1.9	1.2 - 2.6	1.9 - 3.9	2.6 - 5.7	3.8 - 8.1	5.1 - 10.2
	NR	-	14	18	25	30	35

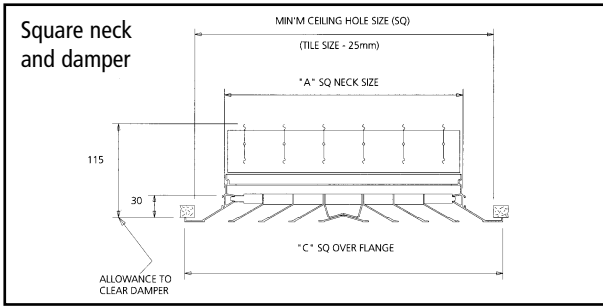
2 Way Core Round Neck

Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	1	3	5	7	10	14
125	Volume (l/s)		19	25	31	37	43
	Throw (m)		0.4 - 1.0	0.6 - 1.8	0.9 - 2.9	1.6 - 3.9	2.2 - 4.8
	NR		-	10	16	21	25
150	Volume (l/s)	18	27	35	44	53	62
	Throw (m)	0.4 - 1.0	0.6 - 1.4	0.8 - 2.3	1.2 - 3.2	1.8 - 4.1	2.5 - 5.1
	NR	-	-	12	18	23	27
200	Volumes(l/s)	31	47	63	79	94	110
	Throw(m)	0.5 - 1.2	0.7 - 1.6	0.9 - 2.6	1.4 - 3.4	2.0 - 4.4	2.8 - 5.3
	NR	-	-	14	20	24	29
250	Volume(l/s)	49	74	98	123	147	172
	Throw(m)	0.6 - 1.4	0.9 - 1.9	1.2 - 3.0	1.7 - 4.4	2.5 - 5.6	3.3 - 6.9
	NR	-	-	15	20	26	31
300	Volume(l/s)	71	106	141	177	212	247
	Throw(m)	0.7 - 1.6	1.0 - 2.3	1.5 - 3.5	2.1 - 5.4	3.0 - 6.9	3.9 - 8.4
	NR	-	-	15	22	28	33
400	Volume(l/s)	125	188	251	314	377	440
	Throw(m)	0.8 - 1.7	1.2 - 2.5	1.8 - 3.9	2.7 - 5.7	3.9 - 7.8	4.8 - 9.8
	NR	-	13	17	24	29	34
450	Volume(l/s)	159	238	318	398	477	557
	Throw(m)	1.0 - 2.1	1.4 - 2.8	2.1 - 4.2	3.0 - 6.0	4.1 - 8.4	5.4 - 10.5
	NR	-	14	18	25	30	35

1 Way Core Round Neck

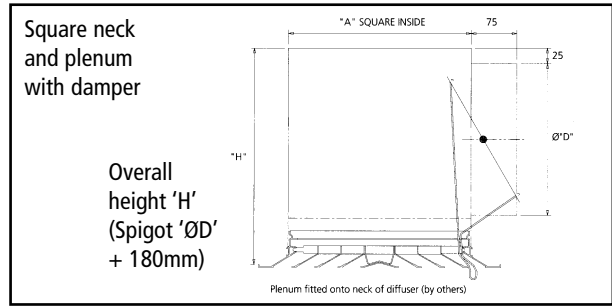
Neck Size	Neck Velocity (m/s)	1.0	1.5	2.0	2.5	3.0	3.5
	Static Pressure Drop (Pa)	1	3	5	7	10	14
125	Volume (l/s)	12	19	25	31	37	43
	Throw (m)	0.4 - 1.0	0.5 - 1.4	0.8 - 2.3	1.2 - 3.1	1.8 - 4.2	2.5 - 5.1
	NR	-	-	10	16	21	25
150	Volume (l/s)	18	27	35	44	53	62
	Throw (m)	0.5 - 1.2	0.7 - 1.6	1.0 - 2.6	1.4 - 3.4	2.0 - 4.5	2.7 - 5.5
	NR	-	-	12	18	23	27
200	Volumes(l/s)	31	47	63	79	94	110
	Throw(m)	0.6 - 1.4	0.9 - 1.8	1.2 - 2.9	1.8 - 3.6	2.4 - 4.8	3.0 - 5.7
	NR	-	-	14	20	24	29
250	Volume(l/s)	49	74	98	123	147	172
	Throw(m)	0.7 - 1.6	1.0 - 2.3	1.5 - 3.4	2.1 - 4.8	2.7 - 6.1	3.7 - 7.5
	NR	-	-	15	20	26	31
300	Volume(l/s)	71	106	141	177	212	247
	Throw(m)	0.8 - 1.8	1.2 - 2.7	1.8 - 3.9	2.4 - 6.0	3.3 - 7.5	4.5 - 9.0
	NR	-	-	15	22	28	33
400	Volume(l/s)	125	188	251	314	377	
	Throw(m)	0.9 - 2.1	1.5 - 4.2	2.7 - 6.3	5.1 - 8.4	7.5 - 10.5	
	NR	-	13	17	24	29	
450	Volume(l/s)	159	238	318	398		
	Throw(m)	1.1 - 2.4	1.8 - 4.6	3.0 - 6.7	5.4 - 9.0		
	NR	-	14	18	25		

Diffuser type SSS V



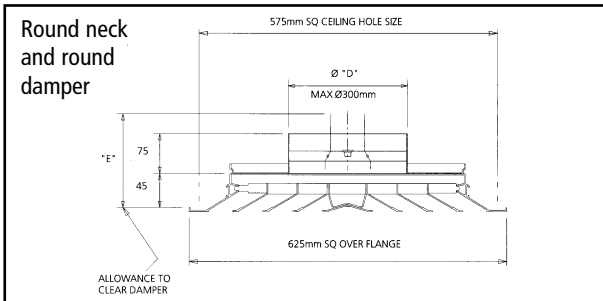
Diffuser Size Code	"A"	"C"	Ceiling Hole Size
1522	150	250	200
2230	225	325	275
3037	300	400	350
3745	375	475	425
4552	450	550	500
5260	525	625	575

Diffuser type SSS O



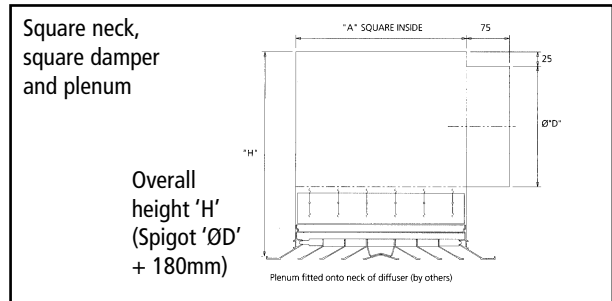
Diffuser Size Code	"A"	Ø"D" nom	"H"	Ceiling Hole Size
1522	150	125	305	200
2230	225	200	380	275
3037	300	250	430	350
3745	375	300	480	425

Diffuser type SSR F



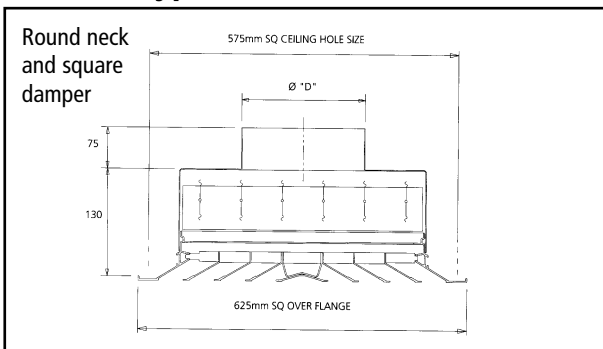
Diffuser Size Code	Ø "D" Actual	"E"	Ceiling Hole Size
1260	122	112	575
1560	147	125	575
2060	197	150	575
2560	247	175	575
3060	297	200	575

Diffuser type SSS V



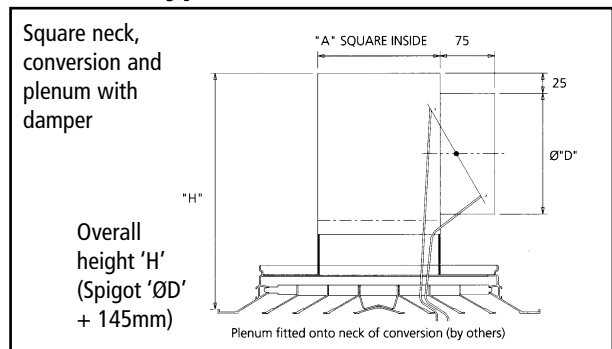
Diffuser Size Code	"A"	Ø"D" nom	"H"	Ceiling Hole Size
4552	450	400	580	500
5260	525	400	580	575

Diffuser type SSR V



Diffuser Size Code	Ø "D" Actual	Ceiling Hole size
3560	347	575
4060	397	575
4560	447	575

Diffuser type SSS O



Diffuser Size Code	"A"	Ø"D" nom	"H"	Ceiling Hole Size
1560	150	125	270	575
2260	225	200	345	575
3060	300	250	395	575
3760	375	300	445	575
4560	450	400	545	575

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