

Air Distribution Equipment

Grilles, Diffusers &
External Louvres



Comprehensive Range

Exceptional Performance

High Quality, Aesthetic Design & Finish

Advanced Air

Operating since 1975, and one of the first HVAC companies in the UK to be registered to BS5750, we have a proven track record in providing the air conditioning and construction industries with practical, no-nonsense and high quality solutions which are often unique and always effective.



Advanced Air manufactures Fire, Smoke and Volume Control Dampers, VAV Terminal Units, Fan Coil Units and Air Distribution Products which are tested to the relevant European and/or International Standards.



We are part of the successful Nailor Industries International Group, which began operating in Toronto in 1971. Today there are factories in Houston, Las Vegas and Florida in the USA, Toronto and Calgary in Canada and Advanced Air in Thetford, in the U.K. The group's extensive research and development facilities are located at the headquarters in Houston.

We see customer service as a vital function of our day to day business operations, with a top priority being placed on understanding and responding to customer requirements promptly and cost effectively.

Through an extensive policy of continuous improvement and by focusing on simplicity in design, fitness-for-purpose and high quality / low cost production processes, Advanced Air provides one of the best value for money offerings on today's market.

Contact Us

Advanced Air (U.K.) Ltd
PO Box 153, Burrell Way, Thetford, Norfolk, IP24 3WB, England
Tel: +44 (0) 1842 753624
Fax: +44 (0) 1842 762032
email: sales@advancedair.co.uk
website: www.advancedair.co.uk



International and United States Headquarters, Sales, Manufacturing, Research and Development and Test Laboratory

Nailor Industries of Texas Inc.
4714, Winfield Rd, Houston, Texas, 77039, USA
Tel: (281) 590 1172
Fax: (281) 590 3086
email: info@nailor.com
website: www.nailor.com

Canadian Headquarters, Sales and Manufacturing

Nailor Industries Inc.
98 Toryork Road, Toronto, Ontario, M9L 1X6, Canada
Tel: (416) 744 3300
Fax: (416) 744 3360
website: www.nailor.com

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Advanced Air pursues a policy of continuous product development and we therefore reserve the right to change any of the information in this publication without notice.
Please consult your local Advanced Air Representative to verify current information.

General Product Overview

Linear Slot Diffusers and Linear Bar Grilles

Linear type diffusers and grilles have been developed to satisfy architectural and engineering applications that require a continuous length appearance, aesthetically pleasing design and high engineering performance with premium quality aluminium products.

Installations can be equally effective where lengths are literally continuous around the periphery of a wall, floor or ceiling space and certain sections of the unit are active with regard to airflow, satisfying mechanical and architectural requirements. Individual finite lengths may be separately installed at reduced cost and offer the same engineering performance.

The proposed application and installed location will usually dictate whether a slot, bar or louvred type product is the most suitable choice. When the ideal product type has been chosen, the airflow and performance requirements will dictate the style and sizing selections from a comprehensive range of available sizes and capacities.

“Flowline” Linear Slot Diffuser

Page 7

FlowLine™ is a custom architectural linear diffuser system designed to integrate and blend supply and return air openings harmoniously into interior commercial building designs. The flexibility of FlowLine™ provides design and application possibilities that are limited only by your imagination. FlowLine™ can blend or contrast as you integrate it into either ceiling or sidewall applications. FlowLine™ linear may be used to either inconspicuously hide the air distribution system or conversely it may be used as a contrasting, architectural design element, using straight lines and/or curves to enhance the interior of a building.

Whether you require straight lines, mitred angles or smooth curves, Advanced Air can custom fabricate FlowLine™ to meet your most demanding architectural and engineering performance requirements. FlowLine™ can be custom curved in any plane to suit architectural requirements. Flat face radiuses for ceilings and concave or convex curving for sidewall applications are available to special order. FlowLine™ is fabricated using sturdy heavy wall aluminium extrusions. A variety of frame/border styles and associated mounting hardware allows FlowLine™ to be installed either during or after ceiling installation. In acoustical suspension ceiling systems using continuous runs, the FlowLine™ system is installed at the same time as the ceiling grid and becomes an integral part of the ceiling assembly.

FlowLine™ linear is available in five slot widths providing a much higher air volume capability than conventional multiple slot linear designs, which are more visible. A two slot option is also available for even higher capacities. Engineered for outstanding performance, FlowLine™ can provide higher airflows at lower noise levels than traditional linear slot designs, making it an ideal solution for high profile architectural projects.

FlowLine™ is available in two air pattern controller designs. The FLH Series features adjustable horizontal high throw pattern controllers for ceiling applications. The FLV Series features adjustable vertical jet pattern controllers for high ceiling and sidewall applications.

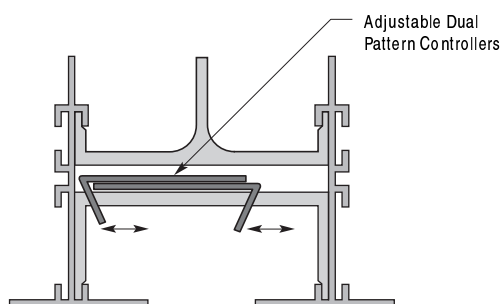


Flowline Key Features:

- High capacity single slot linear diffuser available in five slot widths, offering an attractive alternative to traditional multi-slot designs. Available slot widths are 25mm, 38mm, 51mm, 64mm and 76mm. A two slot option is also available.
- Comprehensive selection of frame/border styles and mounting hardware to suit any installation.
- Choice of FLH Series Horizontal or FLV Series Vertical Pattern Controllers. May be combined within a single system.
- Custom curving availability to meet specific design requirements, provides architectural appeal.
- Heavy wall extruded aluminium construction permits support and full integration with ceiling system.
- Mitred end borders are available which maximise aesthetic appeal.
- Available in single sections up to 1800mm in length. Longer lengths are supplied in multiple sections with alignment strips for on-site assembly.
- High performance design is ideally suited to VAV systems, both heating and cooling.
- Custom colours are available.

FLH Series:

Designed primarily for continuous linear slot ceiling applications requiring horizontal air patterns. Tight, high induction air pattern maximises coanda effect under a wide range of airflow volumes for maximum occupant comfort. Typical applications would include open office perimeter zones, entrance foyers and lobbies, office entrance atriums and conference meeting rooms.



Horizontal High Throw Series:

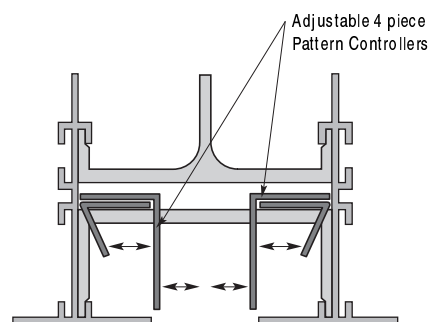
Pattern controllers provide 180° directional control; left or right horizontal throw, angular discharge, volume control and shut-off capability.

FLV Series:

Designed primarily for continuous linear slot ceiling applications requiring an adjustable extended throw vertical air pattern. Typical applications would include perimeter glass curtain walls and high bays for heated and/or cooled

air, which may be directed downwards, terminating at the floor at a comfortable velocity. Also suitable for interior zones with high ceilings, such as entrance foyers and lobbies, office entrance atriums and theatres.

This model may also be used in high sidewall applications with long throw requirements.



Vertical Jet Throw Series:

Versatile pattern controllers provide for an adjustable perpendicular discharge.

FLP(I) Series:

Advanced Air offers factory built supply air plenums in various lengths to suit the application in both uninsulated and insulated versions. Advanced Air engineered plenums save on costly site labour and ensure a sure-fit trouble free installation.

FT Series:

The FlowLine™ Series is available in modular lengths for lay-in T-Bar applications, utilizing either the horizontal high throw or vertical jet throw pattern controllers. Units are supplied with factory installed engineered plenums in uninsulated or insulated versions.

5000 Series Linear Slot Diffuser Page 34

The **Advanced Air 5000 Series** provides architectural excellence and outstanding performance flexibility.

Available in three slot widths, a range of 1 to 8 slots and a wide choice of border/frame styles that co-ordinate with ceiling and installation details. They feature 'ice tong' style individual pattern controllers in each slot that not only offer a 180° air pattern adjustment, but can also be used to dampen airflow.

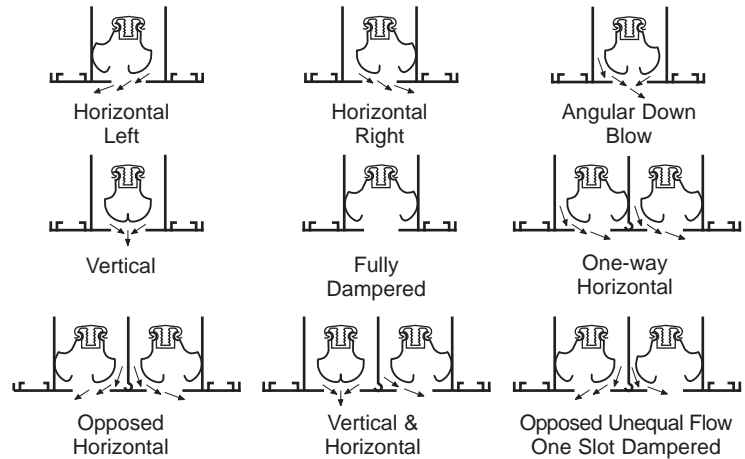
Designed primarily for ceiling and high sidewall installation, they are eminently suited to, and recommended for, VAV applications. They maintain a tight and stable horizontal air pattern over a wide range of air volumes by utilizing the maximum ceiling coanda effect.

Also commonly used in overhead heating applications, the versatile pattern controllers allow vertical projection of heated air to meet almost any perimeter condition.

**Model
5075**



The utmost air pattern control flexibility.



4900 Series Linear Bar Grille Page 48

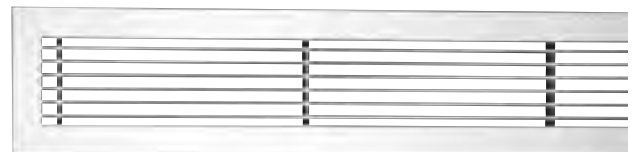
The **Advanced Air 4900 Series** provides an extruded aluminium bar grille that offers beautiful styling and efficient performance.

Linear bar grilles offer a choice of fixed air patterns with 0°, 15° or 30° air deflection, a choice of bar widths and spacing and a wide choice of border/frame style combinations to suit most types of installation. They are available with an optional opposed blade damper for volume control. Linear bar grilles are recommended for supply air applications in floors, window sills, and high sidewall locations. They are not generally suited to ceiling mounted supply applications (other than for directional spot heating or cooling as an air curtain) as they are not designed for horizontal projection from the face.

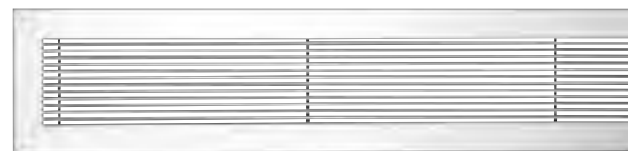
**Model
49-240**



**Model
49-280**



**Model
49-480**

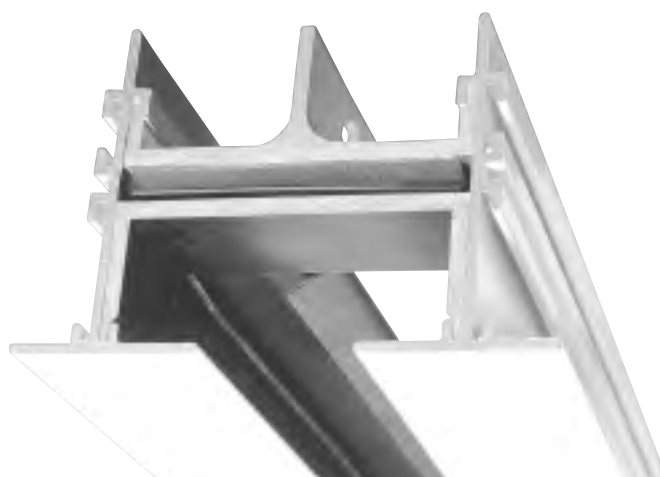


"Flowline" High Capacity Linear Slot Diffusers FLH Series

- Horizontal High Throw Pattern Controllers
- Continuous Custom Linear Diffuser

Models:

FLH10	25mm Slot
FLH15	38mm Slot
FLH20	51mm Slot
FLH25	64mm Slot
FLH30	76mm Slot



The FlowLine™ FLH Series continuous slot diffuser is designed primarily for ceiling applications. The adjustable pattern controllers, which are easily adjusted from the face, allow the discharge air to be directed to the left or right as well as downward. When positioned for horizontal discharge, a tight horizontal air pattern is produced that makes full use of the ceiling (coanda) effect, even at reduced air volumes. High induction characteristics maximise room air movement and mixing, making FlowLine™ FLH Series eminently suitable for variable air volume systems.

Standard Features:

- Heavy wall extruded aluminium construction with galvanised steel pattern controllers.
- Sliding pattern controller design provides easy adjustment for horizontal or vertical directional control as well as a volume control or shut-off capability.
- Dual blade pattern controllers are constructed on 600mm max centres as standard for maximum flexibility.
- Five slot widths in a one or two slot configuration provide a high air volume capability.
- Single section lengths up to 1800mm reduce the number of joints in continuous runs.
- Multiple section assemblies are divided into equal length single sections and are supplied with alignment strips.
- Mitred end borders on standard frame Type AA provide a superior architectural finish not available from several competitors.
- FlowLine™ can be custom curved in any plane - concave, convex or flat radius.

Frame/Border Styles:

- FlowLine™ FLH Series is designed for continuous length installation in both hard drywall or acoustical suspension (T-Bar) ceiling systems. Optional mounting hardware is available to suit the installation method.
- Available in two standard and various special frame/border designs to suit any installation requirement.
- Various end border options are available to suit installation.

- Mitred corner and transition sections are available.

Supply Air Plenums:

- Model Series FLP(I) factory engineered plenums are available, which ensure both a trouble free installation and that catalogue performance is met.

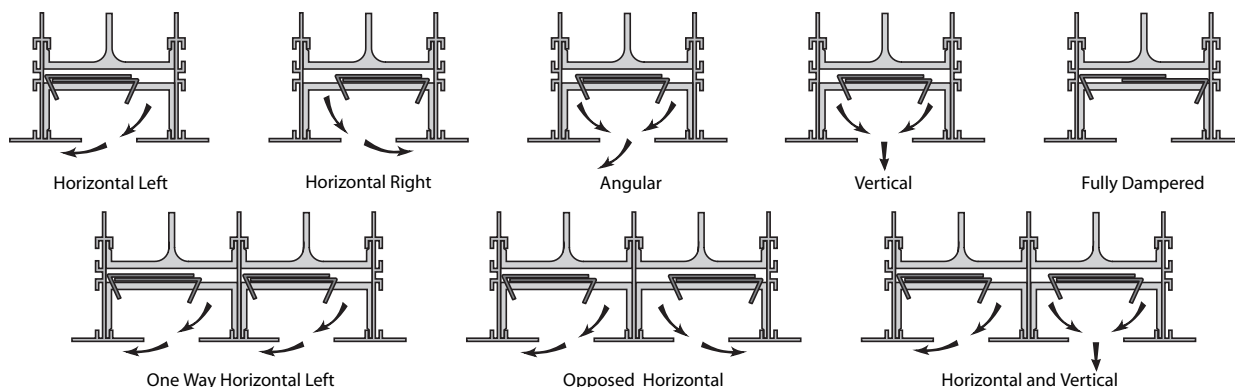
Finish:

- AW Appliance White polyester powder finish RAL 9010 semi-gloss with black pattern controllers as standard.
- Custom colour powder coat finishes are available to suit architectural requirements.

Performance:

- See pages 28-33

FLH Series Pattern Controller Adjustment



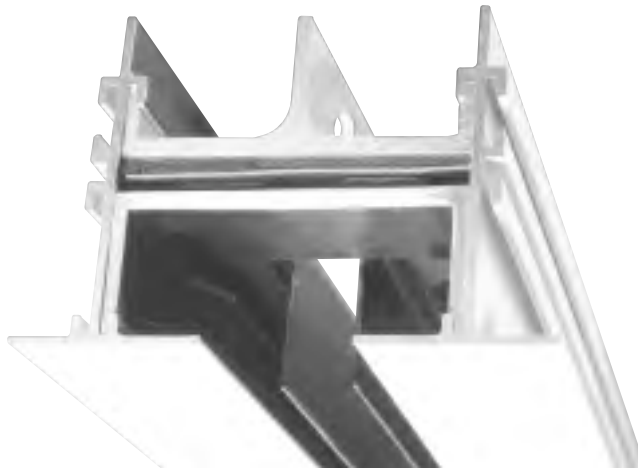
"Flowline" High Capacity Linear Slot Diffusers

FLV Series

- Vertical Jet Throw Pattern Controllers
- Continuous Custom Linear Diffuser

Models:

FLV10	25mm Slot
FLV15	38mm Slot
FLV20	51mm Slot
FLV25	64mm Slot
FLV30	76mm Slot



The FlowLine™ FLV Series continuous slot diffuser is designed for both ceiling and high sidewall applications and provides total air pattern control flexibility. Similar in appearance to the FLH Series, the FLV Series features adjustable pattern controllers that direct the airstream perpendicular to the face, providing a strong vertical projection when installed in a ceiling and horizontally when installed in a sidewall application. The pattern controllers permit angular discharge, allowing the airstream to be directed left or right in a ceiling application and up or down in a sidewall application. The pattern controllers also provide a variable aperture capability to adjust performance to specific applications.

Standard Features:

- Heavy wall extruded aluminium construction with galvanised steel pattern controllers.
- Sliding pattern controller design provides easy adjustment for vertical directional control as well as a volume control capability.
- Dual blade pattern controllers are constructed on 600mm max centres as standard for maximum flexibility.
- Five slot widths in a one or two slot configuration provide a high air volume capability.
- Single section lengths up to 1800mm reduce the number of joints in continuous runs.
- Multiple section assemblies are divided into equal length single sections and are supplied with alignment strips.

- Mitred end borders on standard frame Type AA provide a superior architectural finish not available from several competitors.
- FlowLine™ can be custom curved in any plane - concave, convex or flat radius.

Frame/Border Styles:

- FlowLine™ FLV Series is designed for continuous length installation in both hard drywall or acoustical suspension (T-Bar) ceiling systems. Optional mounting hardware is available to suit the installation method.
- Available in two standard and various special frame/border designs to suit any installation requirement.
- Various end border options are available to suit installation.

- Mitred corner and transition sections are available.

Supply Air Plenums:

- Model Series FLP(I) factory engineered plenums are available, which ensure both a trouble free installation and that catalogue performance is met.

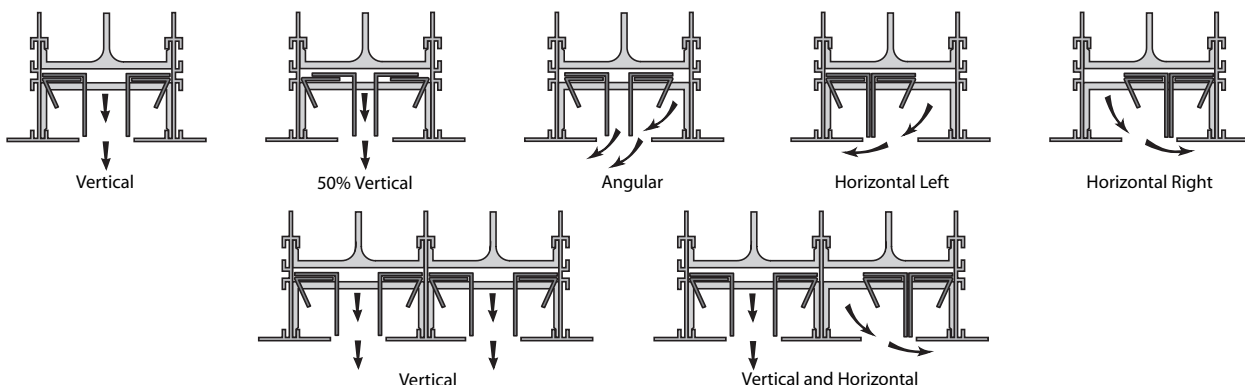
Finish:

- AW Appliance White polyester powder finish RAL 9010 semi-gloss with black pattern controllers as standard.
- Custom colour powder coat finishes are available to suit architectural requirements.

Performance:

- See pages 28-33

FLV Series Pattern Controller Adjustment



Standard Frame/Border Styles

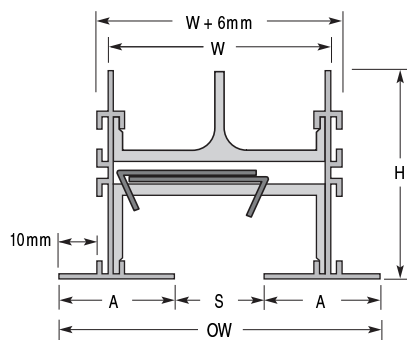
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

These frame/border styles require installation of the FlowLine™ diffuser prior to installation of the drywall. The ceiling opening should be framed and the diffuser attached with optional mounting clips or suspended from the building structure with hanger wire using the integral hanger brackets supplied with the diffuser.

One Slot

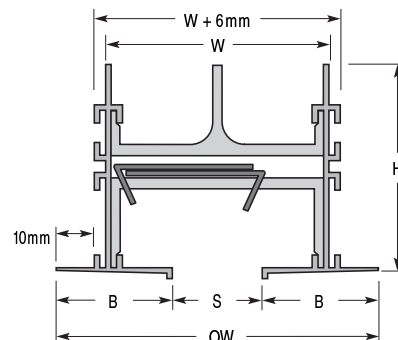
Type AA Exposed Flange Frame

- Drywall (ceiling, wall), T-Bar



Type BB Concealed Tapered Frame

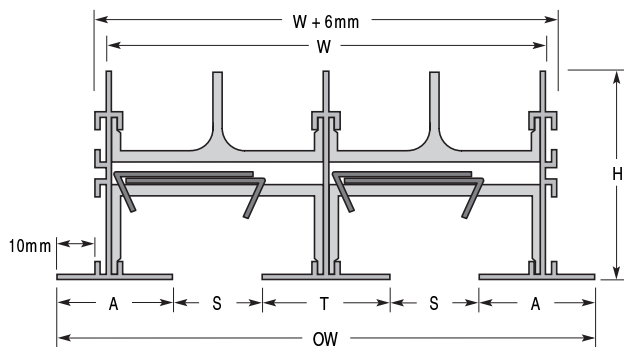
- Drywall (ceiling, wall)
- Tape and Plaster Edge



Two Slot

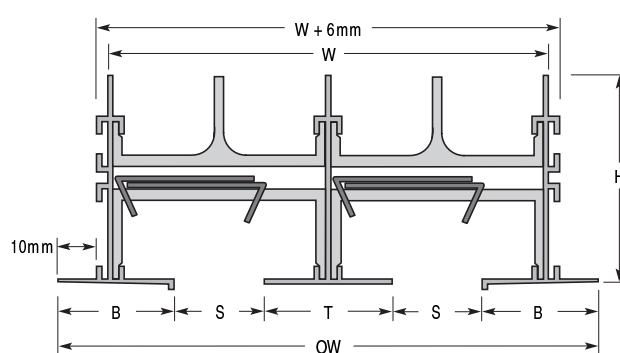
Type AA Exposed Flange Frame

- Drywall (ceiling, wall), T-Bar



Type BB Concealed Tapered Side Frame

- Drywall (ceiling, wall)
- Tape and Plaster Edge



Dimensional Data (mm)

Model	S Slot Width	1 Slot		2 Slot		A, B Border Width	H Height	T 2 Slot
		W	OW	W	OW			
FL(HorV)10	25	64	90	125	152	33	60	37
FL(HorV)15	38	89	116	176	203	39	67	49
FL(HorV)20	51	114	141	227	254	45	73	62
FL(HorV)25	64	140	167	278	305	52	79	75
FL(HorV)30	76	165	192	329	356	58	86	87

Standard Frame/Border Styles with Concealed Mounting Bracket

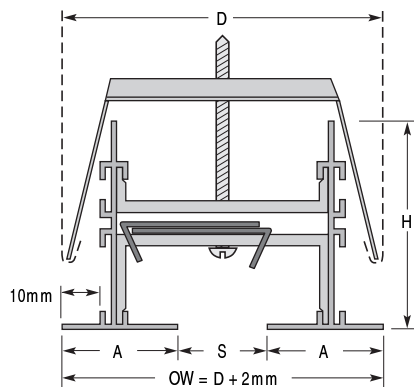
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

The concealed mounting bracket option permits surface mounting of the FlowLine™ diffuser after the ceiling installation. The diffuser simply pushes up into the ceiling opening until the legs of the factory supplied mounting brackets locate into a hemmed duct plenum or onto the topside of the drywall. Factory supplied levelling screws then draw the diffuser up until it is tight and snug with the ceiling.

One Slot

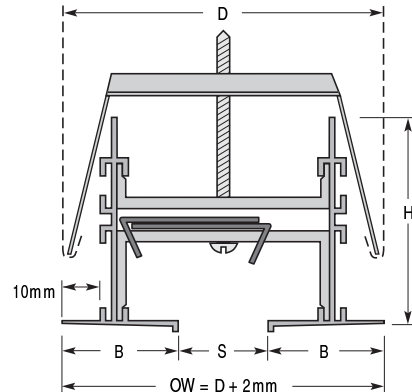
Type AAC Exposed Flange Frame

- Drywall (ceiling)



Type BBC Concealed Tapered Frame

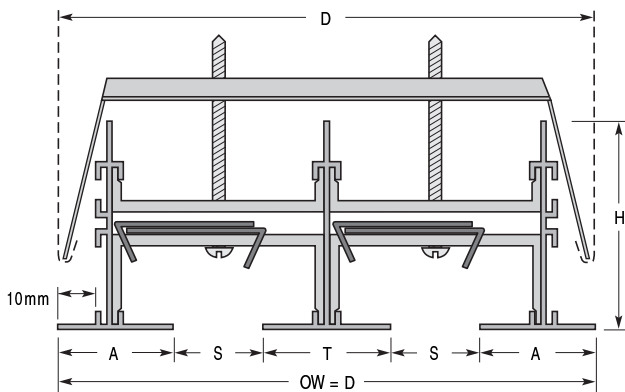
- Drywall (ceiling)
- Tape and Plaster Edge



Two Slot

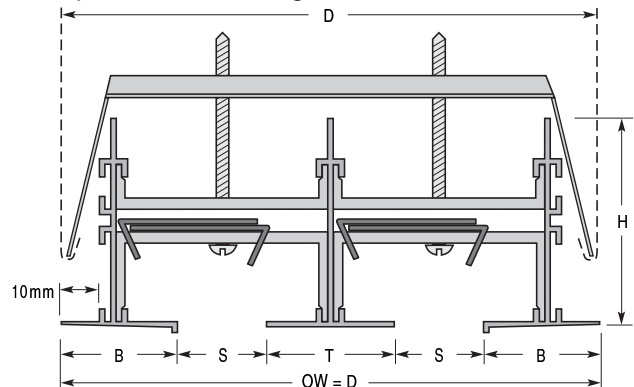
Type AAC Exposed Flange Frame

- Drywall (ceiling)



Type BBC Concealed Tapered Side Frame

- Drywall (ceiling)
- Tape and Plaster Edge



Dimensional Data (mm)

Model	S Slot Width	D Duct Width		A, B Border Width	H Height	T 2 Slot	Ceiling Opening Width	
		1 Slot	2 Slot				1 Slot	2 Slot
FL(H or V)10	25	89	152	33	60	37	76	140
FL(H or V)15	38	114	203	39	67	49	102	191
FL(H or V)20	51	140	254	45	73	62	127	241
FL(H or V)25	64	165	305	52	79	75	152	292
FL(H or V)30	76	191	356	58	86	87	178	343

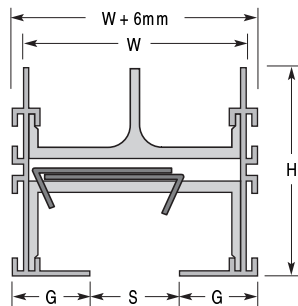
Special Frame/Border Styles

(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).
These frame/border styles require installation of the FlowLine™ diffuser prior to installation of the drywall. The ceiling opening should be framed and the diffuser attached with optional mounting clips or suspended from the building structure with hanger wire using the integral hanger brackets supplied with the diffuser.

One Slot

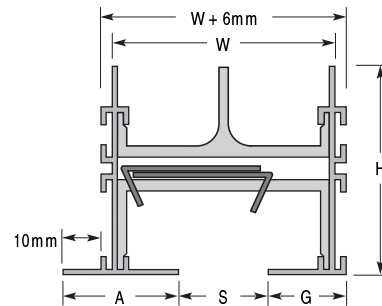
Type GG Flangeless Frame

- Drywall (ceiling, wall)



Type AG Flange / Flangeless Frame

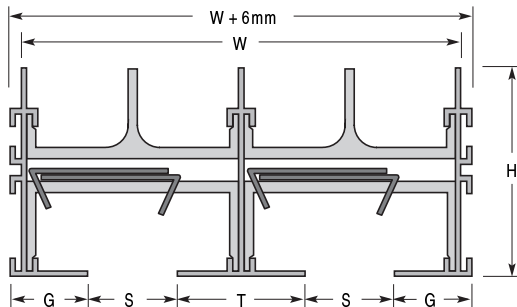
- Drywall (ceiling, wall)



Two Slot

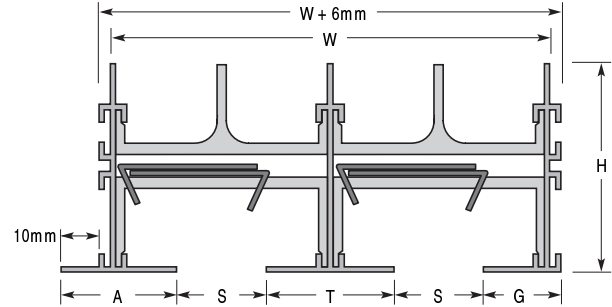
Type GG Flangeless Frame

- Drywall (ceiling, wall)



Type AG Flange / Flangeless Frame

- Drywall (ceiling, wall)



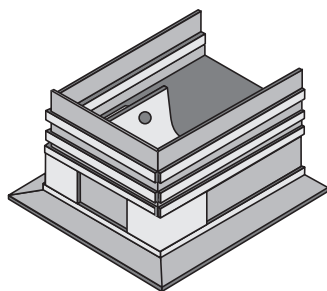
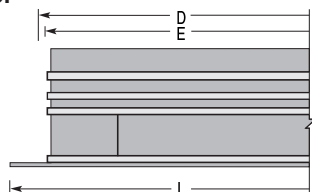
Dimensional Data (mm)

Model	S Slot Width	1 Slot W	2 Slot W	A Border Width	G Border Width	H Height	T 2 Slot
FL(HorV)10	25	64	125	33	22	60	37
FL(HorV)15	38	89	176	39	29	67	49
FL(HorV)20	51	114	227	45	35	73	62--
FL(HorV)25	64	140	278	52	41	79	75
FL(HorV)30	76	165	329	58	48	86	87

End Border Configurations for Various Mountings

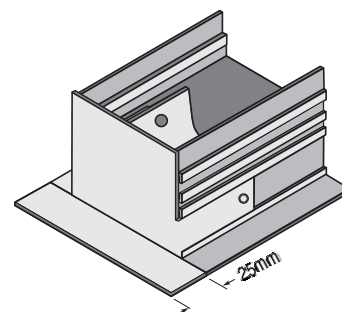
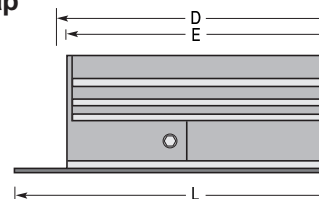
M Mitred End Border

- Architecturally superior look for Type A Frame/Border with Exposed Flange.
- Factory mounted.

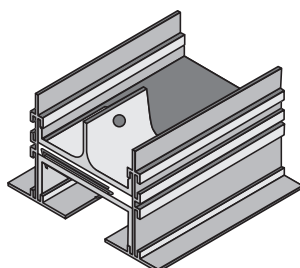
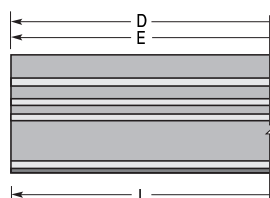


F Flanged End Cap

- Removable for site end trim or stocking.

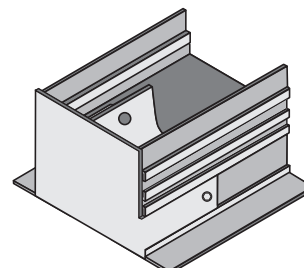
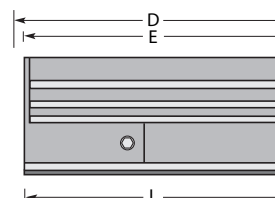


O Open End



C Flat End Cap

- Removable for site end trim or stocking.












Overall Length Dimensions and End Cap Position

D = Duct Length

E = End Cap Position

L = Overall Length

Frame Type										
	M	M	M	O	M	C	O	O	O	C
	E	L	E	L	E	L	E	L	E	L
AA, AAC	D - 6	D + 14	D - 3	D + 7	D - 2	D + 9	D	D	D - 2	D - 2
BB, BBC	D - 6	D + 14	D - 3	D + 7	D - 2	D + 9	D	D	D - 2	D - 2
GG, AG	N/A	N/A	N/A	N/A	N/A	N/A	D	D	D - 2	D - 2

Frame Type								
	C	C	F	F	F	O	F	C
	E	L	E	L	E	L	E	L
AA, AAC	D - 3	D - 3	D - 6	D + 41	D - 3	D + 21	D - 2	D + 22
BB, BBC	D - 3	D - 3	N/A	N/A	N/A	N/A	N/A	N/A
GG, AG	D - 3	D - 3	D - 6	D + 41	D - 3	D + 21	D - 2	D + 22

Options and Accessories

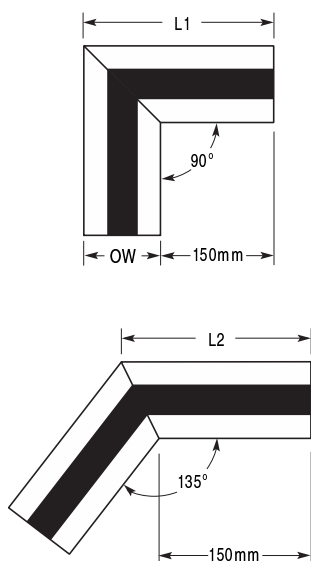
Mitred Corners

FLMC10 • 25mm Slot
FLMC15 • 38mm Slot
FLMC20 • 51mm Slot
FLMC25 • 64mm Slot
FLMC30 • 76mm Slot

The standard mitred corners are 90° and 135°. Units are factory welded with precision to match and align with the associated straight leg.

Units are supplied with factory installed blank-offs in the slot (painted black) and are inactive. Other angles are available.

For compound angles, contact your Advanced Air Representative.



No. of Slots	Slot Width	Border AA, BB		Border GG	
		L1	L2	L1	L2
1	25	241	188	219	178
	38	266	198	244	189
	51	292	209	270	200
	64	317	219	295	210
	76	342	230	320	220
2	25	302	213	280	204
	38	353	235	331	224
	51	404	255	381	246
	64	454	277	432	266
	76	505	297	483	288

Transitions

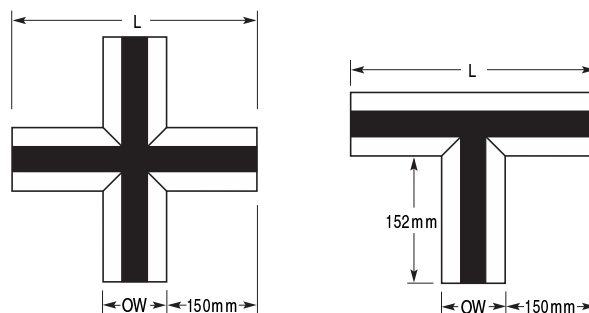
Type C Cross

FLC10 • 25mm Slot
FLC15 • 38mm Slot
FLC20 • 51mm Slot
FLC25 • 64mm Slot
FLC30 • 76mm Slot

Type T Tee

FLT10 • 25mm Slot
FLT15 • 38mm Slot
FLT20 • 51mm Slot
FLT25 • 64mm Slot
FLT30 • 76mm Slot

Transitions are inactive. Blank-offs installed at factory. Not available in 2 slot version.

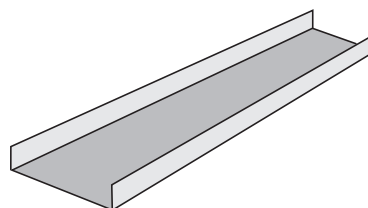


No. of Slots	Slot Width	Border AA, BB		Border GG	
		OW	L	OW	L
1	25	90	391	70	369
	38	116	417	95	394
	51	141	442	121	420
	64	167	467	146	445
	76	192	493	171	471

Blank-Offs

FLBO10 • 25mm Slot
FLBO15 • 38mm Slot
FLBO20 • 51mm Slot
FLBO25 • 64mm Slot
FLBO30 • 76mm Slot

Corrosion resistant steel, painted black. Fit in neck of diffuser. Provided in 1200mm lengths. On-site cut to length.



Options and Accessories

Return Hood/Sight Shield

Uninsulated:

FLR10 • 25mm Slot

FLR15 • 38mm Slot

FLR20 • 51mm Slot

FLR25 • 64mm Slot

FLR30 • 76mm Slot

51% free area perforated corrosion resistant steel, painted flat black. Provided in 1200mm lengths for cutting to length on-site.

Insulated:

FLRI10 • 25mm Slot

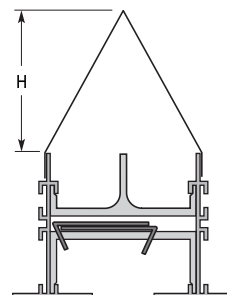
FLRI15 • 38mm Slot

FLRI20 • 51mm Slot

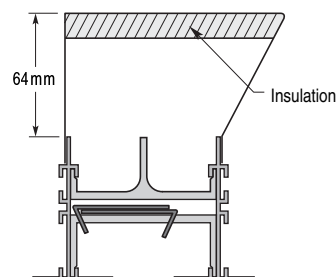
FLRI25 • 64mm Slot

FLRI30 • 76mm Slot

Uninsulated

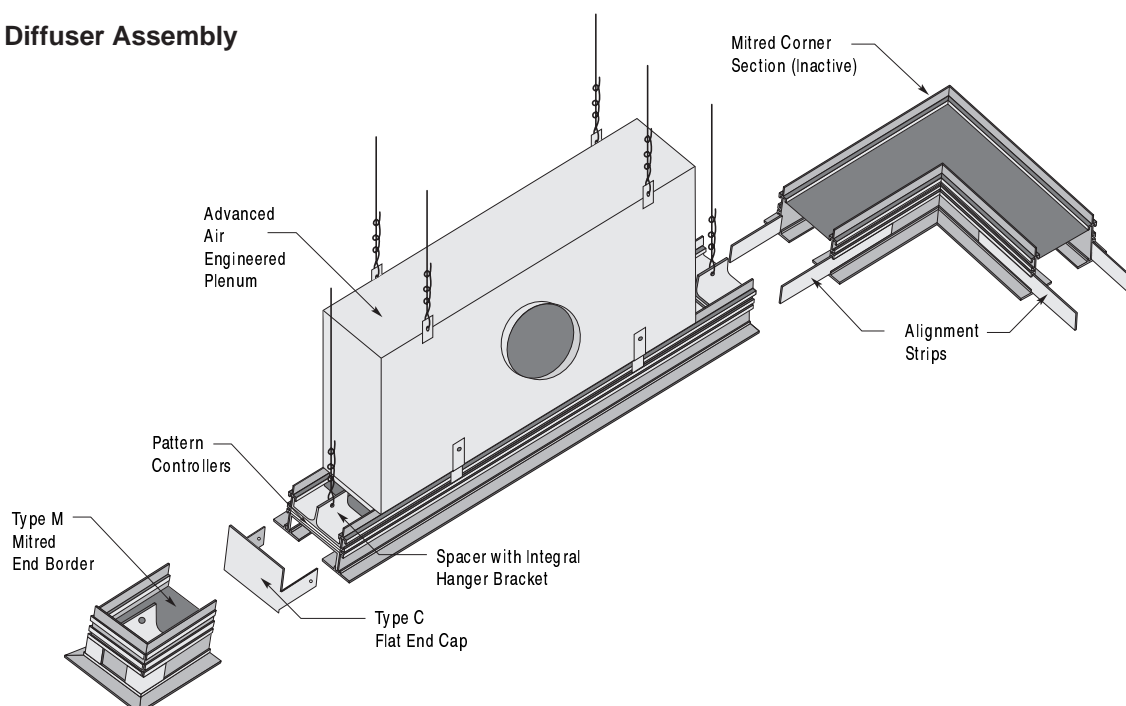


Insulated



No. of Slots	Slot Width	H (Height)
1	25	86
	38	86
	51	86
	64	86
	76	86
2	25	54
	38	79
	51	105
	64	130
	76	156

Typical Diffuser Assembly



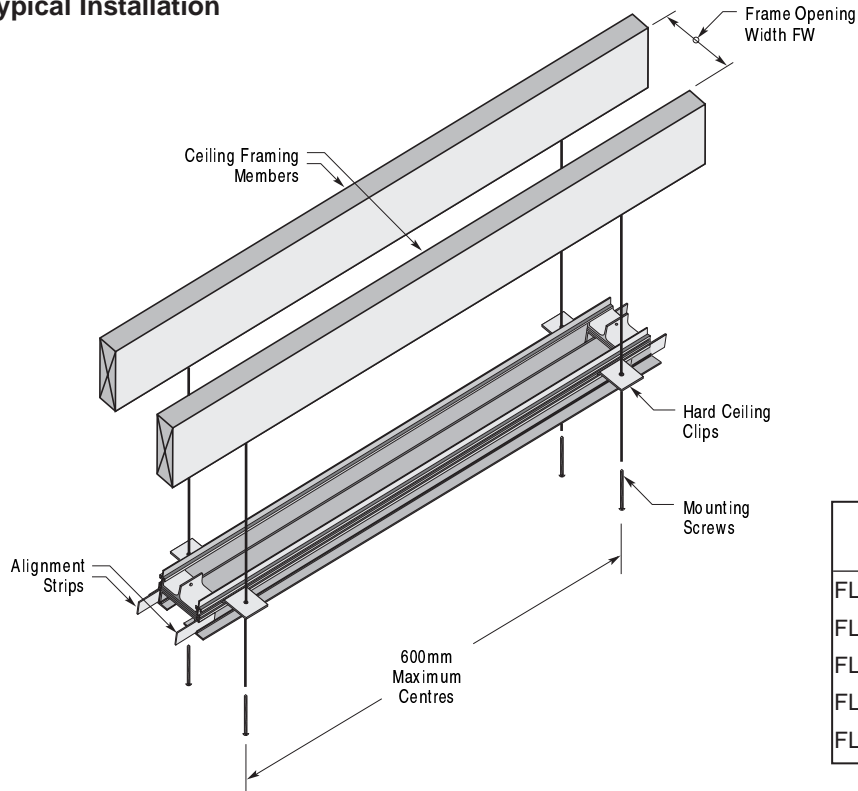
- Diffuser sections can be joined end to end for long continuous runs.
- Type M Mitred End Borders provide a superior architectural finish. Type C End Caps close off the ends of the diffuser when terminating at a wall or other stop. Type C may be site installed.
- Alignment strips are factory supplied as standard on all multiple section assemblies to ensure close and

positive alignment between sections.

- Advanced Air's optional engineered plenums ensure catalogue performance and a trouble free sure fit installation.
- Unique integral hanger brackets provide independent hanging points and eliminate the need for on-site add-on hanger clips.

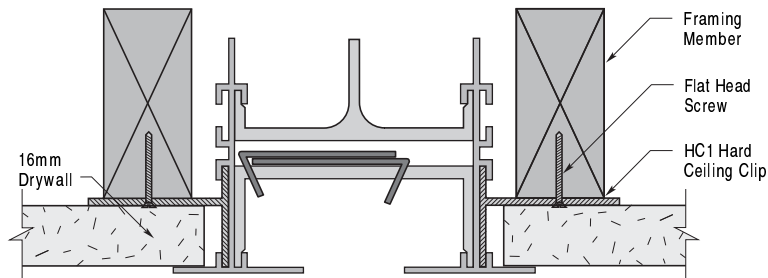
Hard Ceiling Application and Installation Methods

Typical Installation

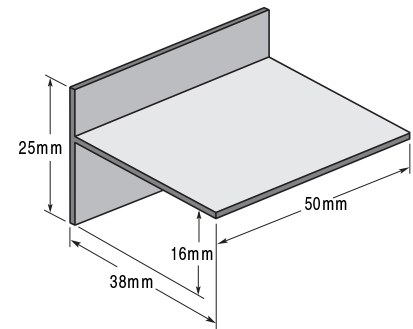


Model	Frame Opening Width FW	
	1 slot	2 slot
FL(HorV)10	83	146
FL(HorV)15	108	197
FL(HorV)20	133	248
FL(HorV)25	159	298
FL(HorV)30	184	349

Exposed Flange Frame Type AA

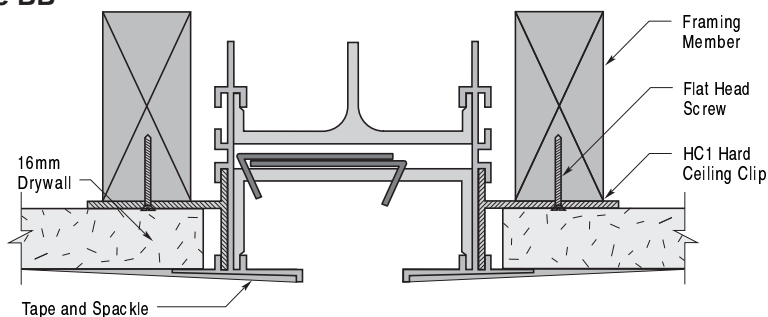


HC1 Hard Ceiling Clip



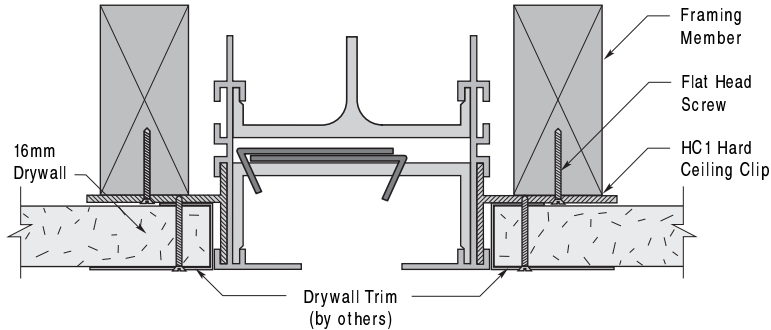
The HC1 Hard Ceiling Clip can be used to mount the FlowLine™ assembly with Frame/Border Types AA or BB, where standard 16mm gypsum wallboard (drywall) is used.

Concealed Frame Type BB

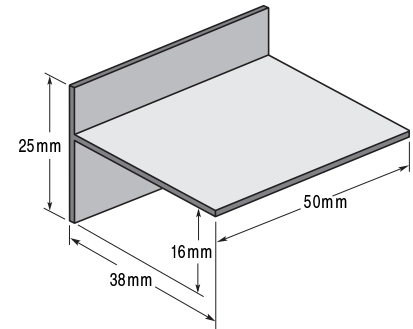


Hard Ceiling Application and Installation Methods

Flangeless Flush Frame Type GG

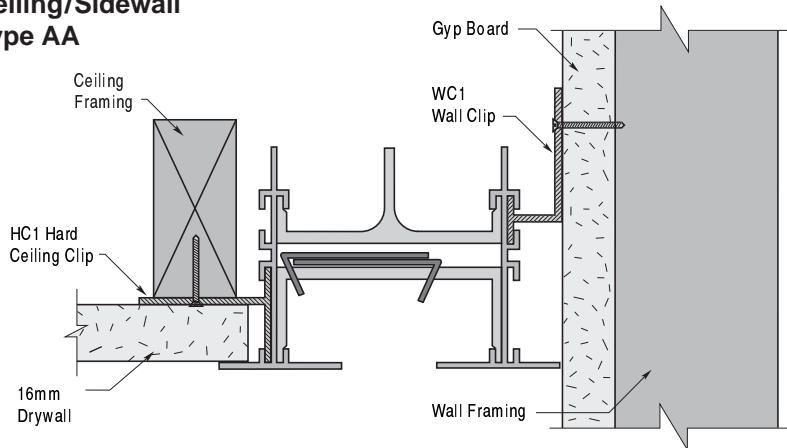


HC1 Hard Ceiling Clip

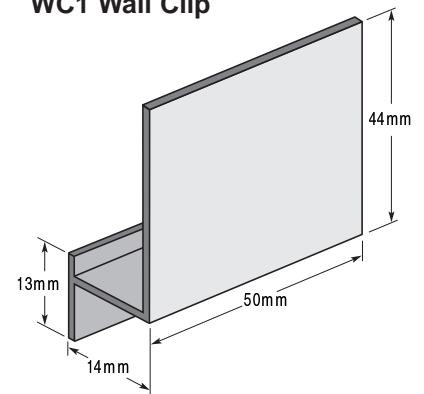


The HC1 Hard Ceiling Clip can be used to mount the FlowLine™ assembly with Frame/Border Type GG, where standard 16mm gypsum wallboard (drywall) is used.

Ceiling/Sidewall Type AA



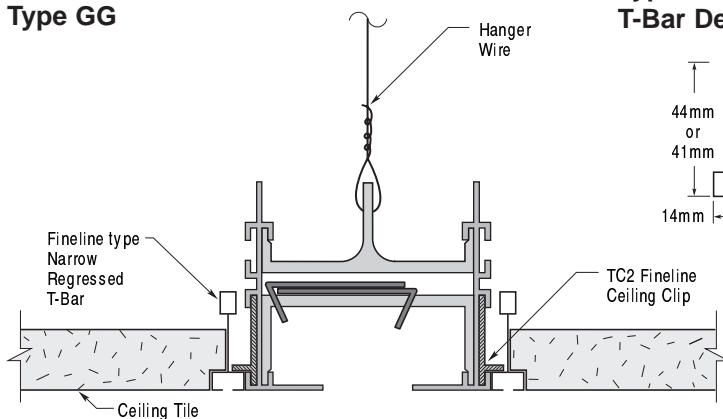
WC1 Wall Clip



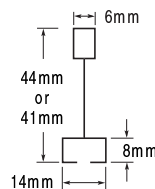
The WC1 Wall Clip is used to mount the FlowLine™ assembly with Frame/Border Type AA flush to a wall.

Narrow Regressed T-Bar Ceiling Suspension System (Commonly referred to as Threadline, Fineline® T-Bar or Bolt Slot)

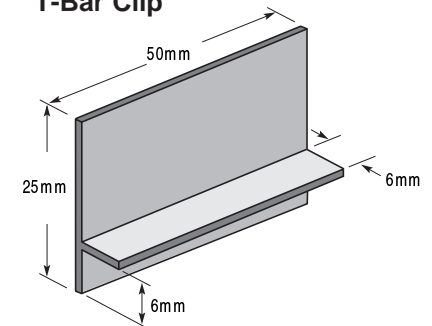
Flangeless Frame Type GG



Typical Regressed T-Bar Detail



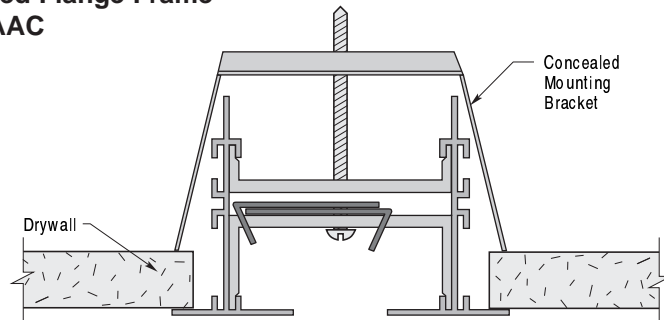
TC2 Threadline/Fineline® T-Bar Clip



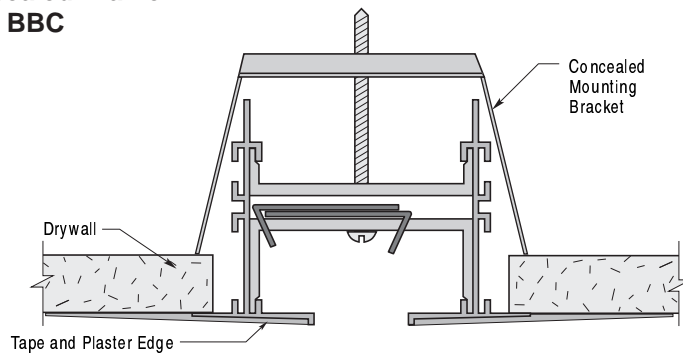
The TC2 Threadline/Fineline® T-Bar Clips are used to support and level the FlowLine™ assembly in Bolt-Slot (Threadline/Fineline® Type) suspension systems.

Hard Ceiling Application and Installation Methods

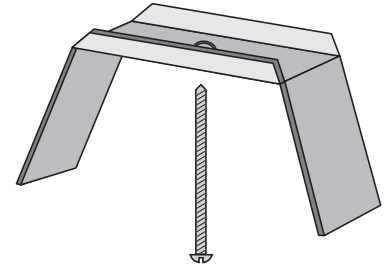
**Exposed Flange Frame
Type AAC**



**Concealed Frame
Type BBC**



**FLCMB Concealed Mounting
Bracket**



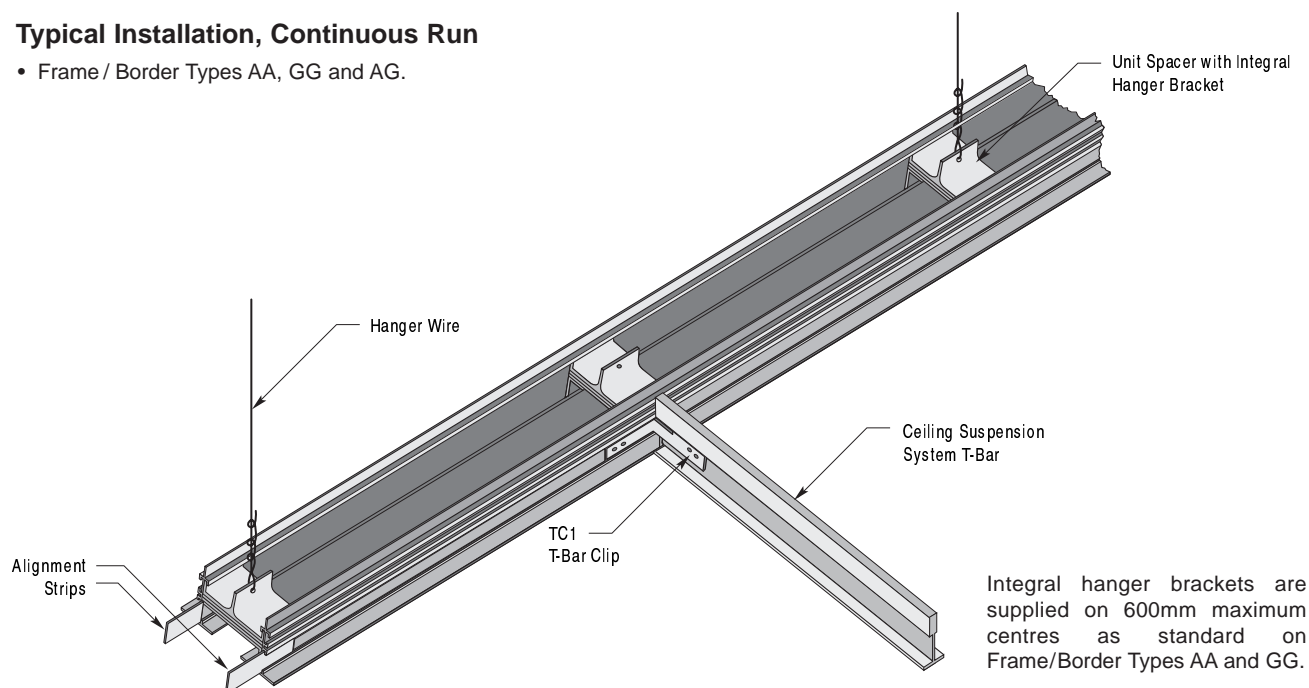
Supplied as standard with Frame/
Border Types AAC and BBC.



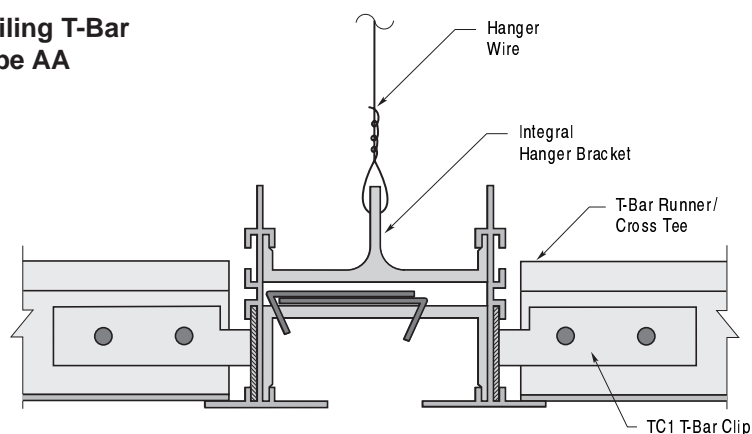
T-Bar Ceiling Suspension System Application and Installation Methods

Typical Installation, Continuous Run

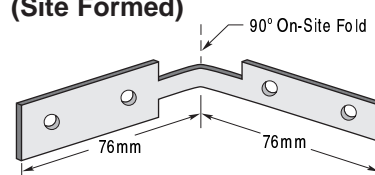
- Frame / Border Types AA, GG and AG.



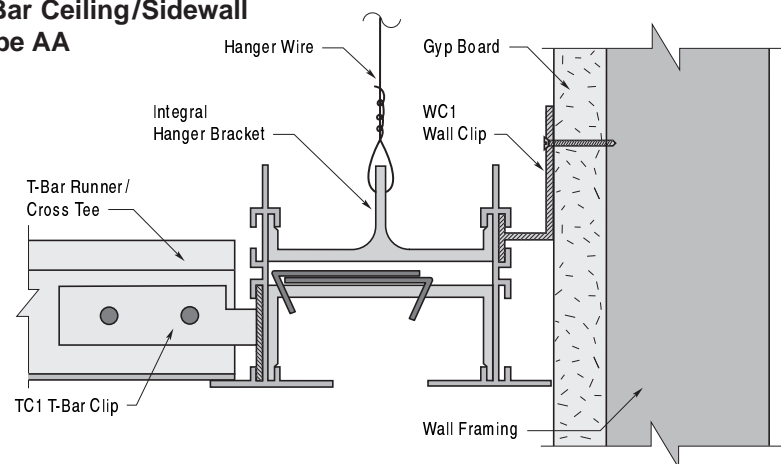
Ceiling T-Bar Type AA



TC1 T-Bar Clip (Site Formed)



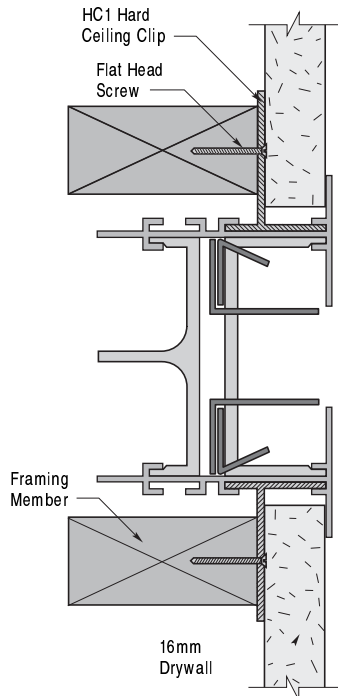
T-Bar Ceiling/Sidewall Type AA



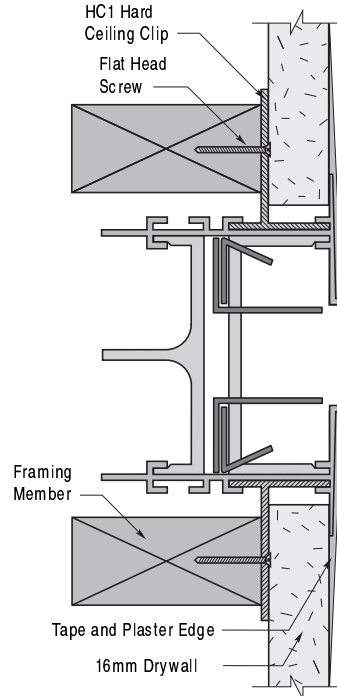
The TC1 T-Bar Clip is used to attach drop tees to the FlowLine™ assembly.

Sidewall Application and Installation Methods

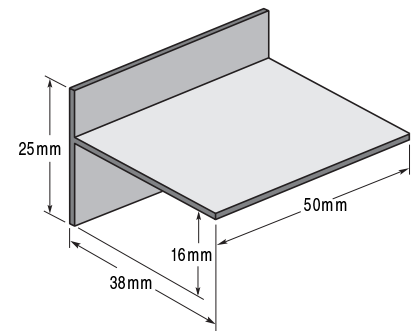
Exposed Flange Frame Type AA



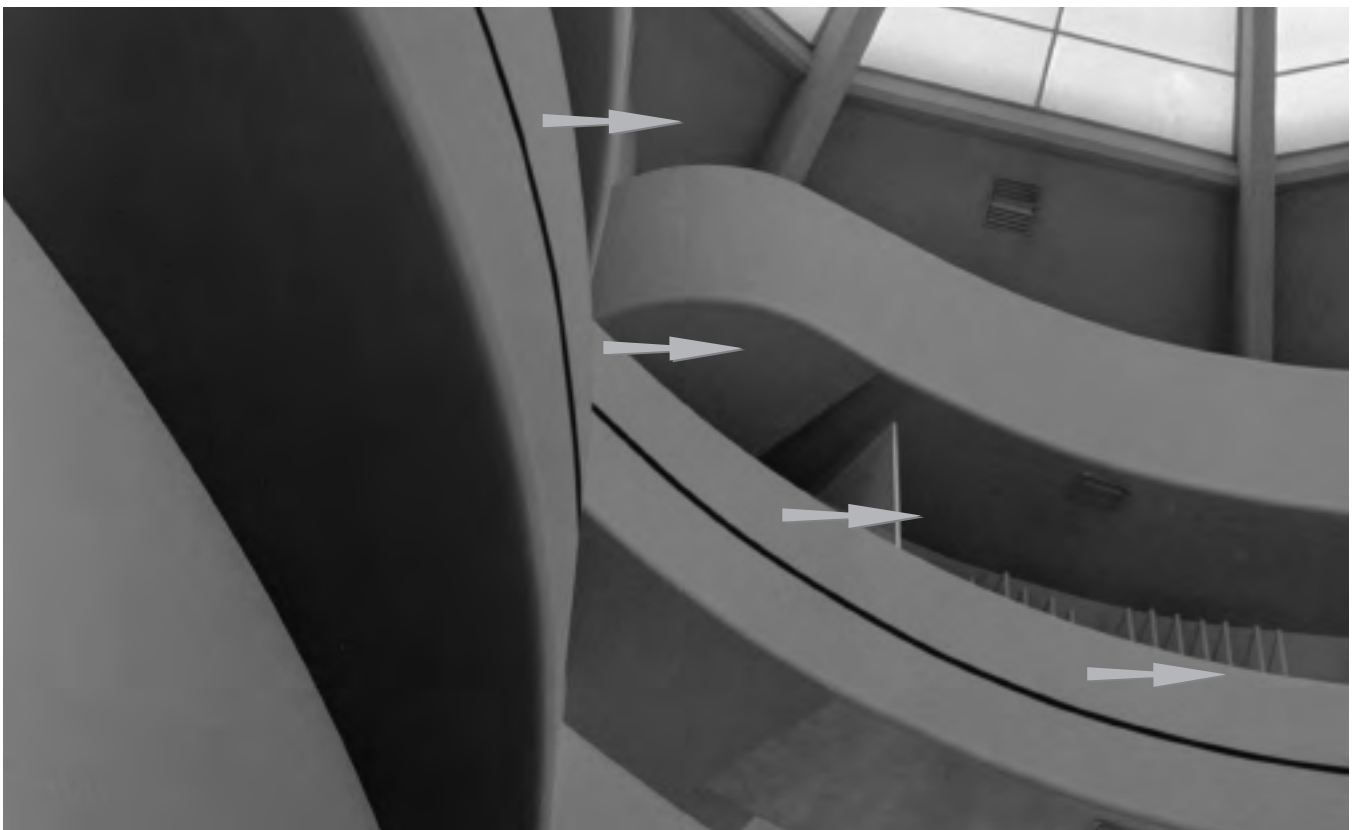
Concealed Frame Type BB



HC1 Hard Ceiling Clip



The HC1 Hard Ceiling Clip can be used to mount the FlowLine™ assembly with Frame/Border Types AA or BB, where standard 16mm gypsum wallboard (drywall) is used.



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Continuous FlowLine™ Linear Diffusers • FLH and FLV Series

FLH20 - 1200 x 1 Slot - AA - AW - MM - HC1 - HC1 - —				
Models			Angle Cut *	
Horizontal High Throw	FLH		None (default)	—
Vertical Jet Throw	FLV		One End	AC1
			Both Ends	AC2
Slot Width			Accessory 2	
25mm	10		(Right hand mounting hardware)	
38mm	15		None (default)	—
51mm	20		Hard Ceiling Clip	HC1
64mm	25		Wall Clip	WC1
76mm	30		T-Bar Clip	TC1
			Threadline/Finline® T-Bar Clip	TC2
Nominal Length			Accessory 1	
mm			(Left hand mounting hardware)	
No. Of Slots			None (default)	—
One	1		Hard Ceiling Clip	HC1
Two	2		Wall Clip	WC1
			T-Bar Clip	TC1
			Threadline/Finline® T-Bar Clip	TC2
Frame/Border Type			End Border Configuration	
Exposed Flange Frame	AA		Frame/Border Types AA, AAC, BB and BBC only	
Exposed Flange Frame with concealed mtg. brkts.	AAC		Mitred Mitred (default)	MM
Concealed Tapered Frame	BB		Mitred Open	MO
Concealed Tapered Frame with concealed mtg. brkts.	BBC		Mitred Flat Cap	MC
Flangeless Frame	GG		Frame/Border Types AA, AAC, GG and AG only	
Flange/Flangeless Frame	AG		Flanged Flanged	FF
			Flanged Open	FO
			Flanged Flat Cap	FC
Finish			All Frame/Border Types	
Appliance White (default) (on frames A and G)	AW		Open Open	OO
Aluminium	AL		Open Flat Cap	OC
Mill (default on frame B)	MI		Flat Cap Flat Cap	CC
Special Custom Colour	SP			

Performance:

For performance data see pages 28 - 33

Notes:

- Maximum single section length is 1800mm.
- Border Types BB and BBC (concealed frame) are supplied mill finish (MI). No options (2 slot model has AW centre tee). All models are supplied with black pattern controllers.
- All models except Frame/Border Types AAC and BBC (supplied with concealed mounting brackets) include integral hanger brackets on 600mm maximum centres as standard.
- Hard ceiling clips are shipped in quantities based on 250mm spacing, Wall clips on 450mm spacing and T-Bar clips on 600mm spacing. Left and right hand clips are identical.
- *Specify AC Angle cut(s) and attach drawing. Angle cuts require an open end border.

“Flowline” High Capacity Linear Slot Diffuser Plenums FLP Series

- Supply Air Engineered Plenums For Flowline™ Linear Slot Diffusers



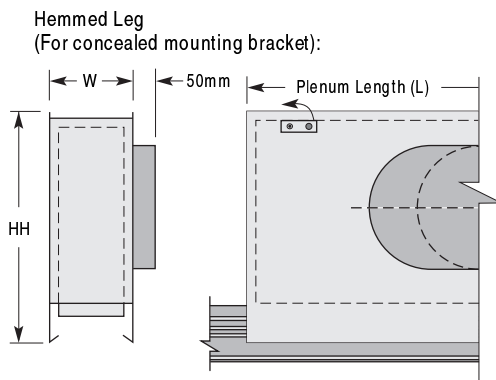
Models:

FLP(I)10	25mm Slot
FLP(I)15	38mm Slot
FLP(I)20	51mm Slot
FLP(I)25	64mm Slot
FLP(I)30	76mm Slot

(I) Adds Internal Insulation.

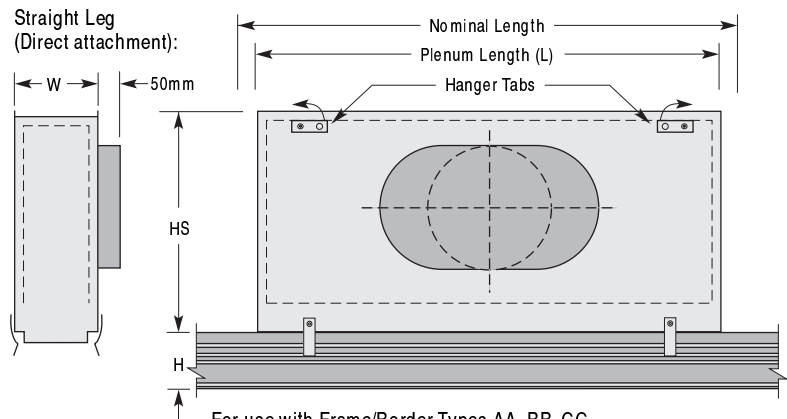
The Advanced Air FLP Series engineered plenum boots are designed specifically for the FLH and FLV Series FlowLine™ Linear diffuser. These plenums are factory fabricated and tested to provide the engineer with proven catalogue performance and the installing contractor with a labour saving, cost effective unit that provides for a fast correct fit and easy on-site installation. FLP Series plenums are shipped loose from the factory. Uninsulated and insulated versions are available.

FLP Series plenums are available in two basic styles to suit the installation method. A straight leg version with spring clips is supplied for direct attachment to the FlowLine™ diffuser neck. The diffuser and plenum are installed and attached directly to the ceiling structure prior to installation of the drywall or acoustic suspension ceiling and tiles. Plenums are supplied as standard with hanger tabs. A hemmed leg version is available when it is desired to install the FlowLine™ diffuser after the hard gypsum board/drywall ceiling. The diffuser requires a frame/border style which includes a factory supplied concealed mounting bracket. The diffuser simply slides up through the ceiling opening until the mounting straps locate in the hem and is then secured through the slot face using the fastening screws supplied.



For use with Frame/Border Types AAC, BBC

Plenum Height (HH): One Slot 300mm, Two Slot 450mm



For use with Frame/Border Types AA, BB, GG

Plenum Height (HS): One Slot 250mm, Two Slot 400mm

Dimensional Data (mm)

Nominal Length	Actual Plenum Length (L) For Frame / Border Type		Available Inlet Sizes		Plenum Model	Width (W) for Frame / Border Type Noted			
	AA, BB, GG	AAC, BBC	1 Slot	2 Slot		AA, BB, GG		AAC, BBC	
						1 Slot	2 Slot	1 Slot	2 Slot
600	517	600	150, 200 Round 250, 300, 350 Flat Oval*	150, 200, 250, 300, 350 Round	FLP(I)10	70	133	89	152
750	667	750			FLP(I)15	95	184	114	203
900	818	900			FLP(I)20	121	235	140	254
1200	1118	1200			FLP(I)25	146	286	165	305
1500	1417	1500			FLP(I)30	171	337	191	356

* Equivalent Oval: 250mm = 275mm x 200mm; 300mm = 375mm x 200mm; 355mm = 435mm x 200mm.

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

FlowLine™ Linear Diffuser Plenums • FLP Series

FLP10 - 1200 x 1 Slot - 200 - AA - —			
Models		Accessories	
Standard Plenum	FLP	None (default)	—
Insulated Plenum	FLPI	Inlet Damper	ID
Slot Width		Flowline™ Diffuser Frame/Border Type	
25mm	10	Exposed Flange Frame	AA
38mm	15	Exposed Flange Frame with concealed mtg. brkts.	AAC
51mm	20	Concealed Tapered Frame	BB
64mm	25	Concealed Tapered Frame with concealed mtg. brkts.	BBC
76mm	30	Flangeless Frame	GG
Nominal Length		Flange/Flangeless Frame	
mm		AG	
500, 600, 750, 900, 1200, 1500		Plenum Inlet Size	
No. Of Slots		One Slot	
One	1	Ø150 Circular	150
Two	2	Ø200 Circular	200
		250 Flat Oval	250
		300 Flat Oval	300
		350 Flat Oval	350
		Two Slot	
		Ø150 Circular	150
		Ø200 Circular	200
		Ø250 Circular	250
		Ø300 Circular	300
		Ø350 Circular	350

Notes:

1. Plenums are shipped loose as standard for on-site installation.
2. Plenums for Frame/Border Types AA, BB, GG and AG are for direct attachment to diffuser neck.
3. Plenums for Frame Types AAC and BBC are hemmed for on-site attachment by use of concealed mounting brackets.

Lay In "Flowline" High Capacity Linear Slot Diffuser with Plenums

FT Series

- Lay-In Units For T-Bar Suspension Ceiling Systems
- Complete With Engineered Plenum
- Choice Of Horizontal Or Vertical Pattern Controllers

Horizontal High Throw Models:

Standard 24mm or 15mm Flat T-Bar

FTH(I)10	25mm Slot
FTH(I)15	38mm Slot
FTH(I)20	51mm Slot

Bolt-Slot (Threadline Type) T-Bar

FTBH(I)10	25mm Slot
FTBH(I)15	38mm Slot
FTBH(I)20	51mm Slot

Vertical Jet Throw Models:

Standard 24mm or 15mm Flat T-Bar

FTV(I)10	25mm Slot
FTV(I)15	38mm Slot
FTV(I)20	51mm Slot

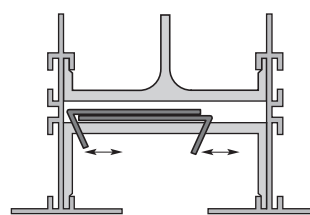
Bolt-Slot (Threadline Type) T-Bar

FTBV(I)10	25mm Slot
FTBV(I)15	38mm Slot
FTBV(I)20	51mm Slot

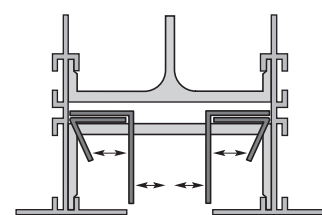
(I) Adds internal insulation.



Pattern Controller Options



FTH Series
Horizontal High Throw Design



FTV Series
Vertical Jet Throw Design

The FT Series is a modular version of Advanced Air's FlowLine™ Linear Diffuser System. The FT Series is available in various finite lengths for installation in lay-in type suspended ceiling grid systems. They are available for both Metric and Imperial ceiling grids. These diffusers are manufactured to fit standard ceiling grid modules and provide quick and easy installation. The units are supplied with factory mounted engineered plenums and are normally individually suspended by either integral hanger brackets at each end of the diffuser and/or hanger straps on the plenum. Relocation is easy for office layout and tenant improvement changes.

The high induction characteristics of the FTH Series Horizontal High Throw pattern controller option make it an excellent choice for variable air volume systems. The FTV Series Vertical Jet Throw option is ideally suited to perimeter glass curtain wall applications.

These units are also suitable for return air applications. Return models are available and supplied without plenum (Models FTHR and FTBHR). Supplied with horizontal type dual pattern controllers for system balancing.

Standard Features:

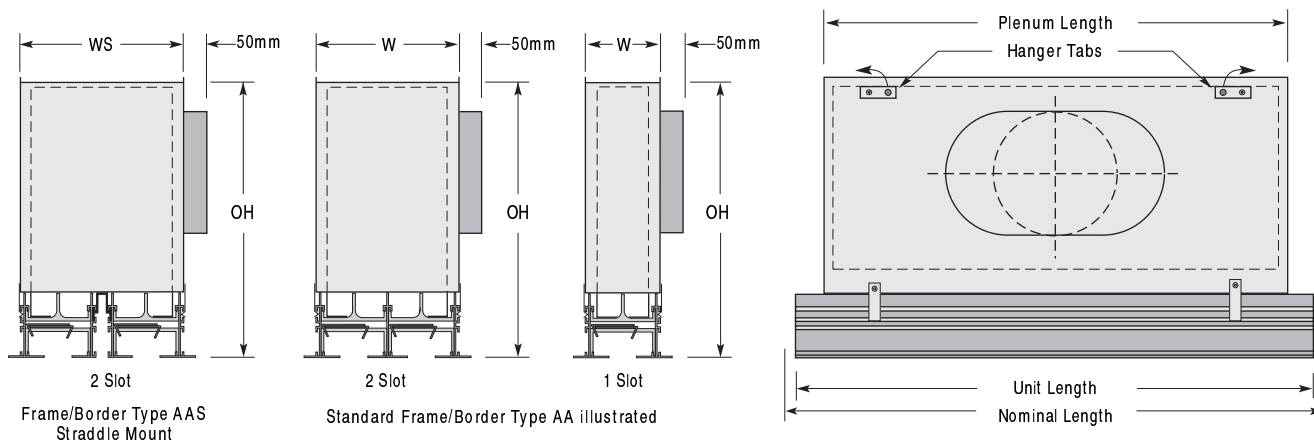
- Available in 600mm, 1200mm and 1500mm nominal lengths for Suspension Ceiling Systems.
- Standard slot widths are 25mm, 38mm and 51mm.
- Heavy wall extruded aluminium construction with galvanised steel pattern controllers.
- Horizontal or vertical throw pattern controller options.
- Supply models are complete with an integral engineered plenum. Optional internal insulation is available.
- Various Frame/Border styles are available to integrate with most ceiling systems.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss with black pattern controllers is standard.

Performance:

- See pages 28-33

FT Series • 15mm or 24mm Flat T-Bar

(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).



Dimensional Data (mm)

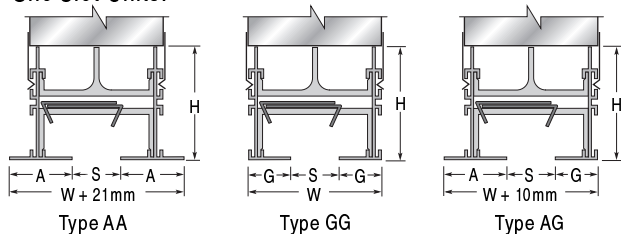
Nominal Length	Unit Length	Plenum Length	Available Inlet Sizes	
			1 Slot	2 Slot
600	594	517	150, 200 Round	15, 200,
1200	1194	1117	250, 300,	250, 300,
1500	1494	1417	350 Flat Oval*	350 Round

FT Series Model	1 Slot		2 Slot		
	W	OH	W	WS	OH
FT(HorV)(I)10	70	314	133	141	467
FT(HorV)(I)15	95	321	184	192	473
FT(HorV)(I)20	121	327	235	243	479

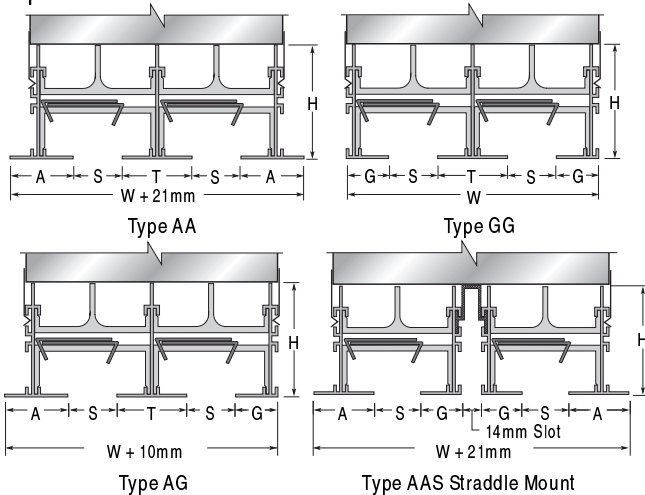
* Equivalent Oval: 250 = 275mm x 200mm; 300 = 375mm x 200mm; 350 = 435mm x 200mm.

Available FT Series Border Types

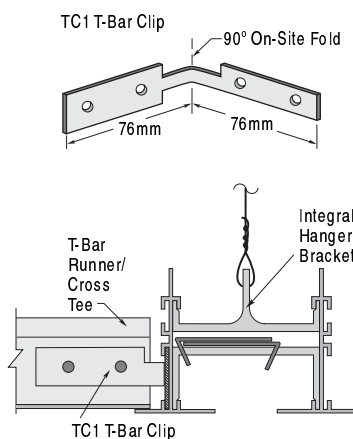
One Slot Units:



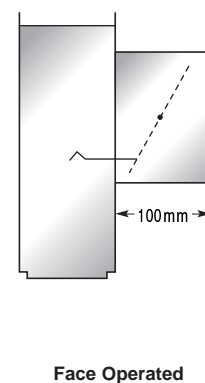
Optional Two Slot Units:



Optional Mounting Hardware



Optional ID Inlet Damper

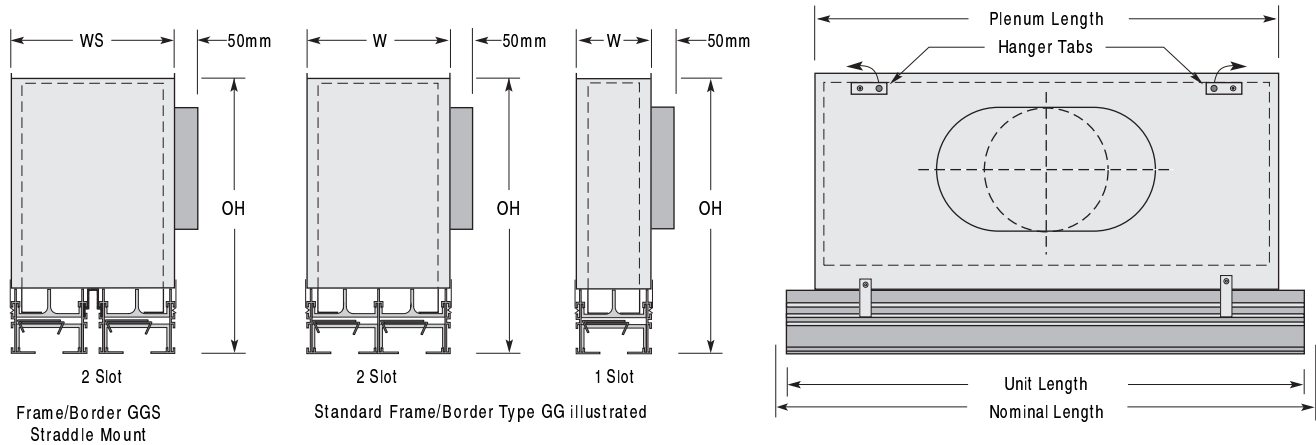


Dimensional Data (mm)

FT Series Model	S Slot Width	A Border Width	G Border Width	H Height	T 2 Slot
FT(HorV)(I)10	25	33	22	60	37
FT(HorV)(I)15	38	39	29	67	49
FT(HorV)(I)20	51	45	35	73	62

FTB Series • Bolt-Slot (Threadline/Fineline® Type) T-Bar

(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).



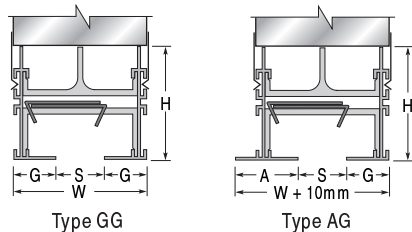
Dimensional Data (mm)

Nominal Length	Unit Length	Plenum Length	Available Inlet Sizes		FTB Series Model	1 Slot		2 Slot		
			1 Slot	2 Slot		W	OH	W	WS	OH
600	584	508	150, 200 Round	150, 200	FTB(Hor V)(I)10	70	314	133	148	467
1200	1184	1108	250, 300,	250, 300,	FTB(Hor V)(I)15	95	321	184	198	473
			350 Flat Oval*	350 Round	FTB(Hor V)(I)20	121	327	235	249	479

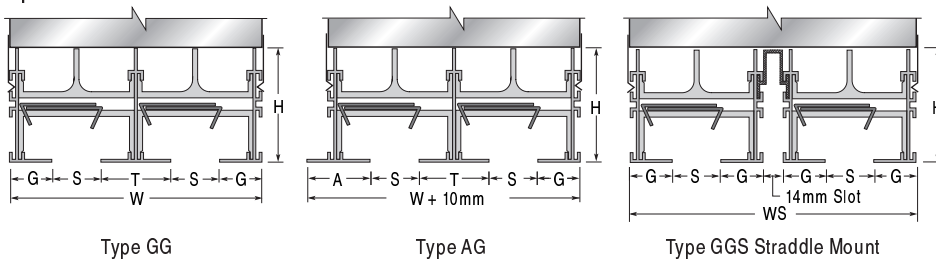
* Equivalent Oval: 250 = 275mm x 200mm; 300mm = 375mm x 200mm; 350 = 435mm x 200mm.

Available FTB Series Border Types

One Slot Units:



Optional Two Slot Units:

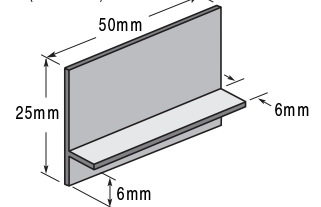


Dimensional Data (mm)

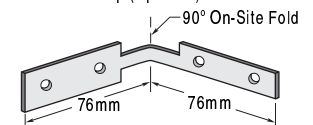
FTB Series Model	S Slot Width	A Border Width	G Border Width	H Height	T 2 Slot
FTB(Hor V)(I)10	25	33	22	60	37
FTB(Hor V)(I)15	38	39	29	67	49
FTB(Hor V)(I)20	51	45	35	73	62

Mounting Hardware

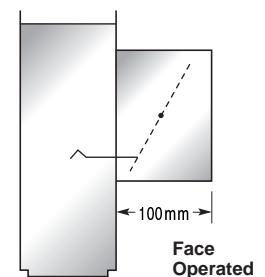
TC2 Threadline/Fineline® T-Bar Clip (Standard)



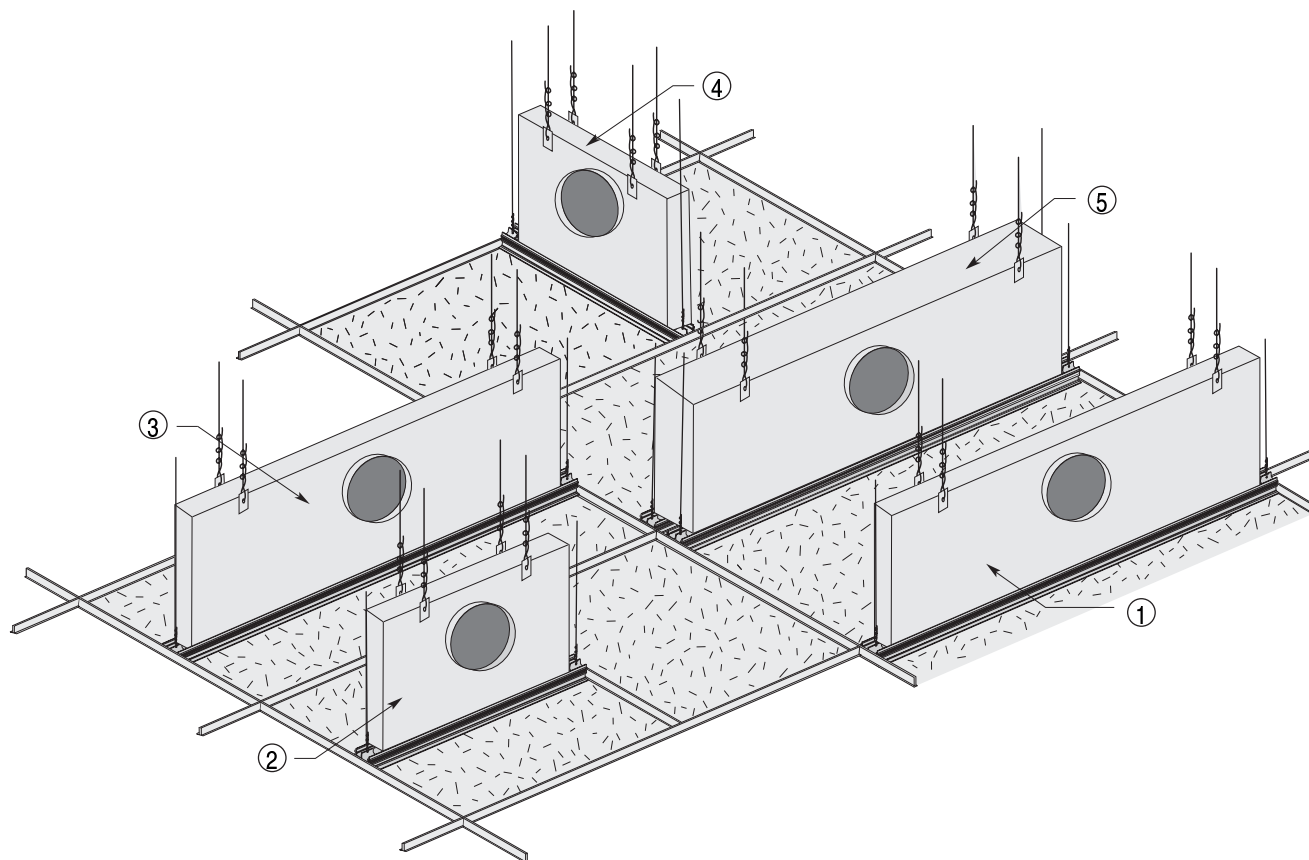
TC1 T-Bar Clip (Optional)



Optional ID Inlet Damper



Typical FT Series Application • T-Bar Ceiling Suspension Systems



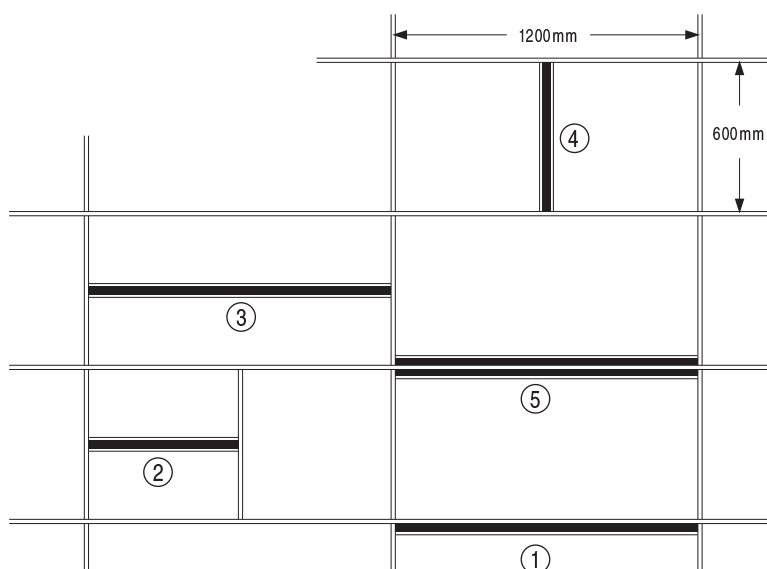
DESCRIPTION:

1. Nominal 1200mm unit installed alongside a main runner.
2. 600mm unit installed parallel to and mid-way between main runners.
3. Nominal 1200mm unit installed mid-way between main runners.
4. 600mm unit installed perpendicular to main runners.
5. Nominal 1200mm two slot unit straddling a main runner.

Notes:

Frame/Border style should be carefully selected to ensure compatibility with specific ceiling grid suspension system and desired visual appearance. Type A Flange Border can lie on flat T-Bar or support cut ceiling tile. Type G Flangeless Border requires a supplementary cross tee for support in 24mm or 15mm flat T-Bar applications. In Bolt Slot (Threadline/Finline® Type) applications, utilizing Type G Flangeless Border, optional TC2 Threadline/Finline® T-Bar Clips are recommended to support and level the unit. Bolt slot ceiling system grids are usually 600mm x 600mm modules. Cross notches on 1200mm units are not available. Modification of ceiling grid and site cutting of ceiling tiles will be required.

Reflected Ceiling Plan 600mm x 1200mm T-Bar Grid



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Lay-in FlowLine™ Linear Diffusers • FT Series

FTH 10 - 1200 x 1 Slot - 200 - AA - AW - - - - -				
Models			Accessory 3	
Supply:			None (default)	—
Horizontal High Throw:			Inlet Damper	ID
Flat T-Bar	FTH(I)		Accessory 2	
Blot-Slot T-Bar	FTBH(I)		(Right hand mounting hardware)	
Vertical Jet Throw:			None (default)	—
Flat T-Bar	FTV(I)		T-Bar Clip	TC1
Blot-Slot T-Bar	FTBV(I)		Threadline/Finline® T-Bar Clip	TC2
(I) Adds Internal Insulation			Accessory 1	
Return:			(Left hand mounting hardware)	
Flat T-Bar	FTHR		None (default)	—
Blot-Slot T-Bar	FTBHR		T-Bar Clip	TC1
			Threadline/Finline® T-Bar Clip	TC2
Slot Width			Finish	
25mm	10		Appliance White (default)	AW
38mm	15		Off-White	WH
51mm	20		Special Custom Colour	SP
Nominal Length*			Frame/Border Type *	
mm			One or Two Slot:	
600, 1200, 1500			Flange Frame	AA
			Flangeless Frame	GG
			Flange/Flangeless Frame	AG
No. Of Slots			Two Slot only:	
One	1		Flange Frame (Straddle mt.)	AAS
Two	2		Flangeless Frame (Straddle mt.)	GS
			Plenum Inlet Size	
			One Slot	
			Ø150 Circular	150
			Ø200 Circular	200
			250 Flat Oval	250
			300 Flat Oval	300
			350 Flat Oval	350
			Two Slot	
			Ø150 Circular	150
			Ø200 Circular	200
			Ø250 Circular	250
			Ø300 Circular	300
			Ø350 Circular	350

Notes:

1. All models include an integral hanger bracket at each end of unit as standard.
2. * Bolt Slot Models (FTB) are available in 600mm and 1200mm modules only and only with Frame/Border Types GG, AG and GGS. TC2 Threadline/Finline® T-Bar Clips are recommended for support and leveling.
3. FT Series models are supplied with Type CC Flat End Caps.
4. Return models are supplied with horizontal type dual pattern controllers for dampering (system balancing) and without plenum. If plenums are required on return air units, use supply model.

Linear Slot Diffusers

5000 Series

- Aluminium Construction
- 'Ice Tong' Pattern Controllers

Supply Models:

5050	13mm Slot
5075	19mm Slot
5010	25mm Slot

Return Models:

5050R	13mm Slot
5075R	19mm Slot
5010R	25mm Slot



The Series 5000 Linear Slot Ceiling Diffuser has been specially designed to provide both the unobtrusive appearance required for architectural excellence, and the full 180° pattern controller adjustment at minimum NC levels required for high engineering performance.

The Series 5000 Diffuser provides stable diffusion under large amounts of air with both constant and changing load conditions. This is particularly suitable for variable air volume systems.

The Series 5000 Diffusers are available to suit many applications with several choices of mounting frames. Standard finish is a high quality, powder coated finish for long life and easy cleaning.

The diffusers are available with mitred corner end caps and feature die-formed components to provide consistent quality and performance.

Features:

- The volume and direction of the discharge air can be adjusted by moving the pattern controllers.
- Available with 1 to 8 slots.
- Choice of three slot widths to suit capacity requirements.
- The maximum length of the pattern controller is 900mm. Diffusers longer than 900mm are provided with multiple pattern controller sections.
- Selections of frames and mounting sub-frames for various types of installations.

- Diffusers are supplied in lengths of up to 1800mm in a single section.
- Ideal for continuous length applications.
- Multiple-sections are supplied with alignment strips on the frames and sub-frames to provide superior, positive on-site alignment.
- Model 5000R returns and the Model 5000 supply diffusers are identical except for the omission of pattern controllers.

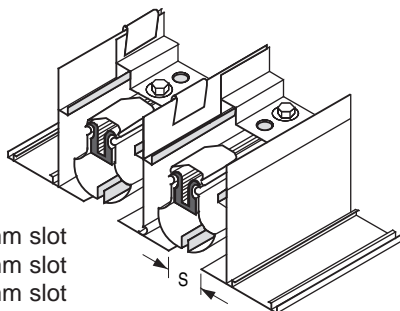
- Mounting sub-frames are cut to length for assembly on-site.

Material: Extruded aluminium frame with corrosion-resistant steel pattern controllers.

Finish: AW Appliance White polyester powder finish RAL 9010 semi-gloss with black pattern controllers as standard. Other finishes are available.

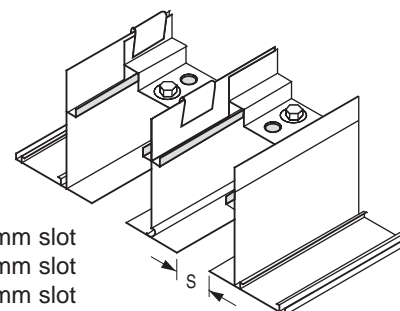
Supply Model

5050	S = 13mm slot
5075	S = 19mm slot
5010	S = 25mm slot



Return Model

5050R	S = 13mm slot
5075R	S = 19mm slot
5010R	S = 25mm slot



Frame Types and Mounting Sub-Frame Combinations for Hard Ceilings.

D = Duct Size

S = Slot Width

W = Overall Face Width

Standard Frames are the most commonly
specified and readily available from stock.

Dimensions are in mm.

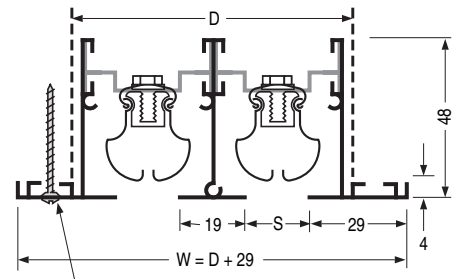
Standard Frame

Type A

- Flange Frame
- Screw Mounting

Type B

- Flange Frame
- Duct Mounting,
less screw holes

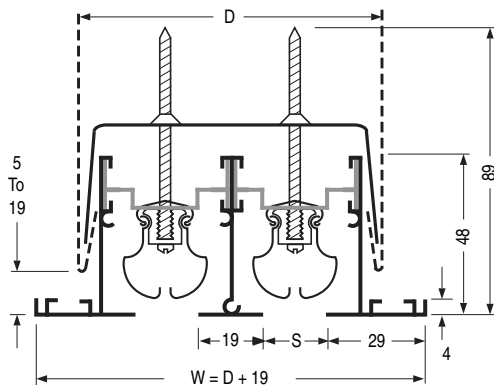


COUNTERSUNK SCREW HOLES FOR No.8 SCREWS, 10mm FROM EDGE

Standard Frame

Type C

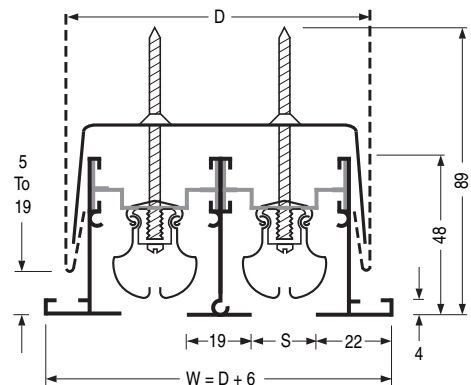
- Flange Frame
- Concealed Mounting



Standard Frame

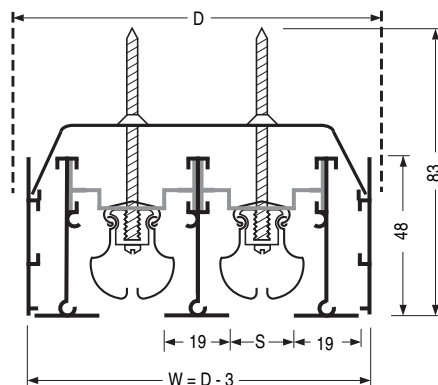
Type D

- Flange Frame, Narrow Margin
- Concealed Mounting



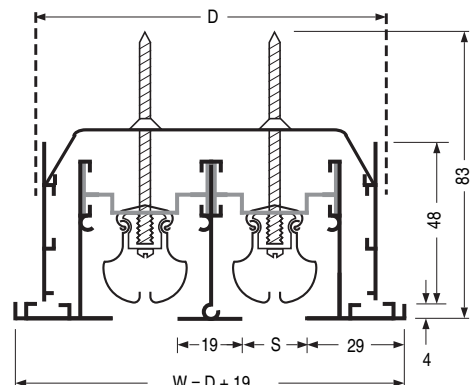
Type E

- Flush Frame and Sub-Frame
- Concealed Mounting



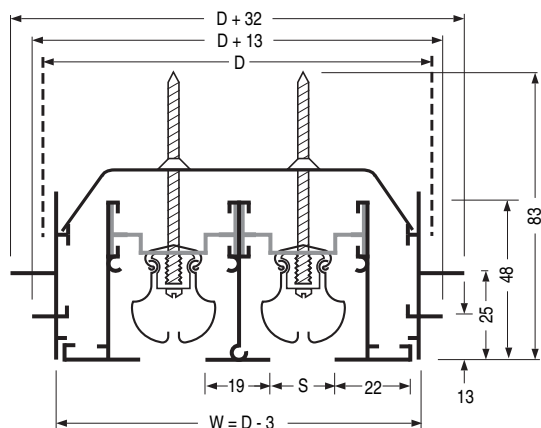
Type F

- Flange Frame and Sub-Frame
- Concealed Mounting



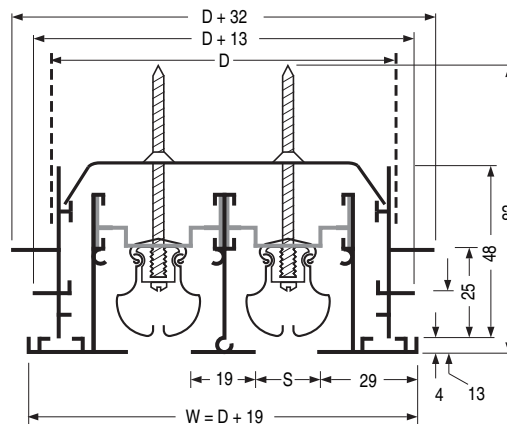
Type G

- Flush Frame with Plaster and Tile Sub-Frame
- Concealed Mounting



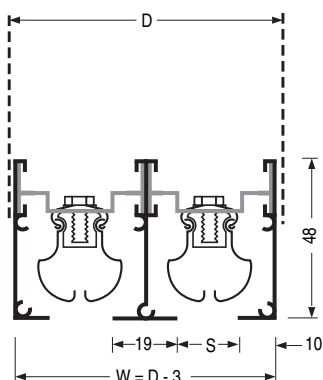
Type H

- Flange Frame with Plaster and Tile Sub-Frame
- Concealed Mounting



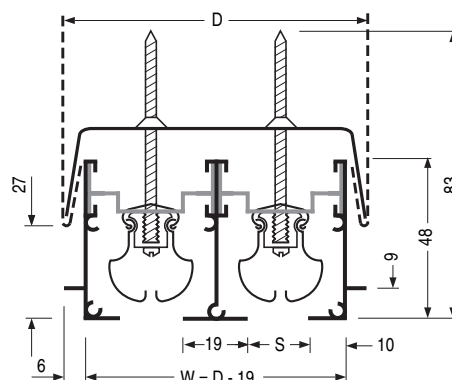
Type M

- Flush Frame
- Duct Mounting
- Flangeless Frame



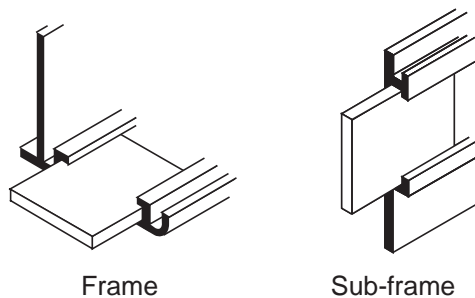
Type N

- Spline Frame Ceiling
- Concealed Mounting



Alignment Strips

Alignment strips on the frames and sub-frames provide superior, positive alignment on multiple section assemblies.



For the availability of other frames and supporting methods, contact Advanced Air direct.

For duct dimensions D see next page.

Dimensions are in mm.

Duct Width D Dimension for Available Frames

Units: mm

Frame Type	No. of Slots	5050 5050R S=13	5075 5075R S=19	5010 5010R S=25
A B	1	41	48	54
	2	73	86	98
	3	105	124	143
	4	137	162	187
	5	168	200	232
	6	200	238	276
	7	232	276	321
	8	264	314	365

Frame Type	No. of Slots	5050 5050R S=13	5075 5075R S=19	5010 5010R S=25
C D	1	51	57	64
	2	83	95	108
	3	114	133	152
	4	146	171	197
	5	178	210	241
	6	210	248	286
	7	241	286	330
	8	273	324	375

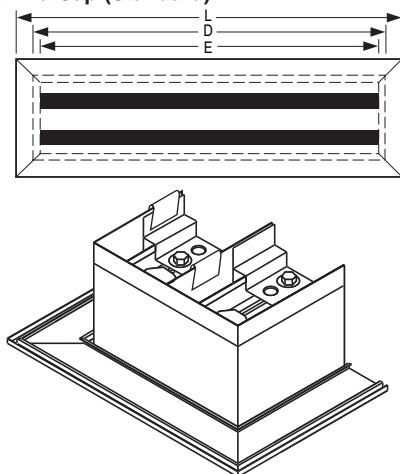
Frame Type	No. of Slots	5050 5050R S=13	5075 5075R S=19	5010 5010R S=25
E	1	57	64	70
	2	89	102	115
	3	121	140	159
	4	152	178	203
	5	184	216	248
	6	216	254	292
	7	248	292	337
	8	279	330	381

Frame Type	No. of Slots	5050 5050R S=13	5075 5075R S=19	5010 5010R S=25
F H N	1	51	57	64
	2	83	95	108
	3	115	133	152
	4	146	171	197
	5	178	210	241
	6	210	248	286
	7	241	286	330
	8	273	324	375

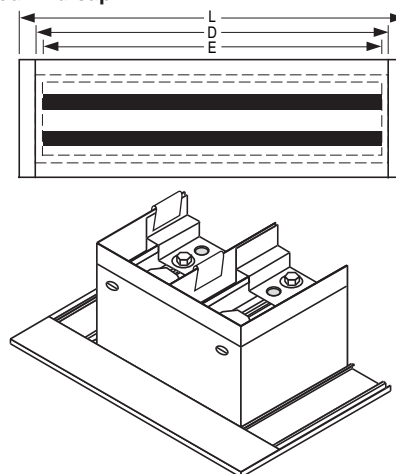
Frame Type	No. of Slots	5050 5050R S=13	5075 5075R S=19	5010 5010R S=25
G	1	64	70	76
	2	95	108	121
	3	127	146	165
	4	159	184	210
	5	191	222	254
	6	222	260	298
	7	254	298	343
	8	286	337	387

Frame Type	No. of Slots	5050 5050R S=13	5075 5075R S=19	5010 5010R S=25
M	1	35	41	48
	2	67	79	92
	3	98	117	137
	4	130	156	181
	5	162	194	225
	6	194	232	270
	7	225	270	314
	8	257	308	359

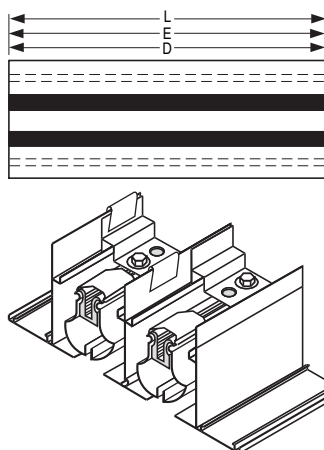
M - Mitred End Cap (Standard)



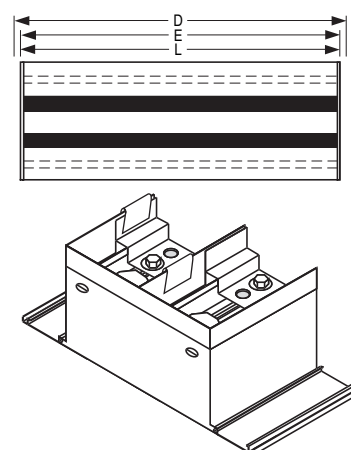
F - Flanged End cap



O - Open End



C - Flat End cap



Overall Length Dimensions and End Cap Position

D = Duct Length

E = End Cap Position

L = Overall Length

Frame Type														
	M	M	F	F	M	O	M	C	O	O	O	C	C	C
	E	L	E	L	E	L †	E	L	E	L	E	L	E	L
A, B	D-13	D+25	D-13	D+38	D-6	D+13	D-5	D+14	D	D	D-2	D-2	D-3	D-3
C	D-13	D+25	D-13	D+38	D-6	D+13	D-5	D+14	D	D	D-2	D-2	D-3	D-3
D	D-13	D+13	D-13	D+25	D-6	D+6	D-5	D+11	D	D	D-2	D-2	D-3	D-3
E	D-22	D	—	—	D-11	D	D-10	D+2	D	D	D-2	D-2	D-3	D-3
F, H	D-19	D+19	D-19	D+19	D-10	D+10	D-8	D+11	D	D	D-2	D-2	D-3	D-3
G	D-3	D	D-3	D	D-14	D	D-13	D+2	D	D	D-2	D-2	D-3	D-3
M*, N*	D-2	D-2	—	—	D-1	D-1	D-2	D-2	D	D	D-2	D-2	D-3	D-3

† Configurations **FO** and **FC**: Add 6mm for frame types A, B, C, D, F, G and H.
Not available on frame types E, M and N.

* These types have a flangeless mitred end cap which is the same extrusion profile as the frame.

Standard Lay-in T-Bar Application

Designed and fabricated specifically to integrate with standard exposed grid T-Bar Ceiling Systems.

Available in nominal lengths to suit metric ceiling grid modules.

Metric module lengths: 500, 600, 1200 and 1500 mm.

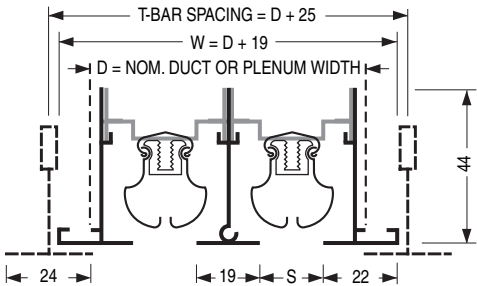
Also available in custom lengths for special applications and in multiple-section assemblies for continuous paired T-Bar ceilings.

Duct Width D Dimension (Frames T and FL)

No. of Slots	Metric Units mm		
	5050 (R) S = 13	5075 (R) S = 19	5010 (R) S = 25
1	38	44	51
2	70	83	95
3	102	121	140
4	133	159	184
5	165	197	229
6	197	235	273
7	229	273	318
8	260	311	362

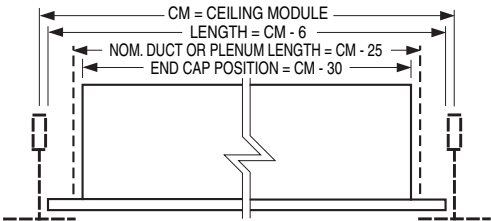
Type T Frame

- For standard 24mm or 14mm face lay-in T-Bar



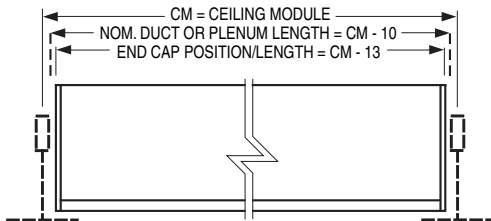
Type MM

- Mitred End Caps (standard)



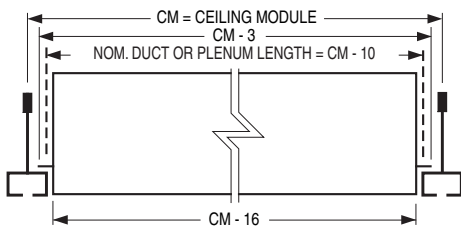
Type CC

- Flat End Caps



End Cap Configuration

- Type FL Frame



Options and Accessories

90° Mitred Corners

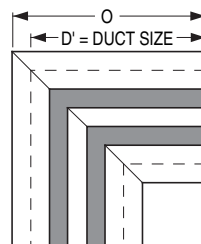
5050MC • 13mm Slot

5075MC • 19mm Slot

5010MC • 25mm Slot

The standard mitred corner is 90°. Units are factory welded with precision to match and align with the associated straight leg.

Units are supplied with factory installed blank-offs in the slot (painted black) and are inactive. For compound angles, contact the sales office.



D' = Duct Size	
No. of Slots	D'
1 to 4	300
5 to 8	600

90° Mitred Corner Dimension 'O'

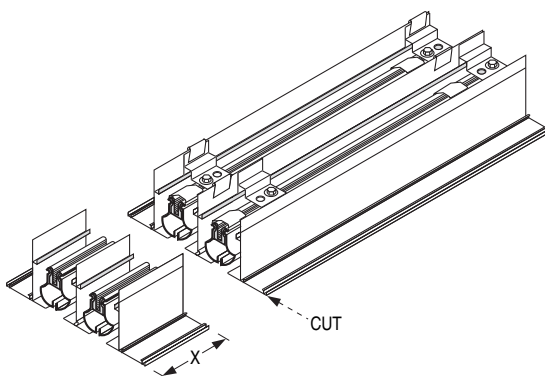
No. of Slots	Frame Type				
	A, B	C, F, H	D	E, G, J	M, N
1 – 4	313	308	302	296	299
5 – 8	613	608	602	596	599

Dimensions are in mm.

On Site Trimming of Diffusers

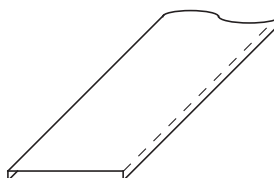
If "X" is less than 75mm at either end (150mm total), standard **Model 5000** or **5000R** can be site-cut.

- Factory-Cut Diffusers **Model 5000** or **5000R** are ordered for a specific length from the factory, but can be trimmed as much as 150mm in length, (75mm from each end) with a fine tooth, high speed carbon steel metal cutting blade.



BO Blanking Plates

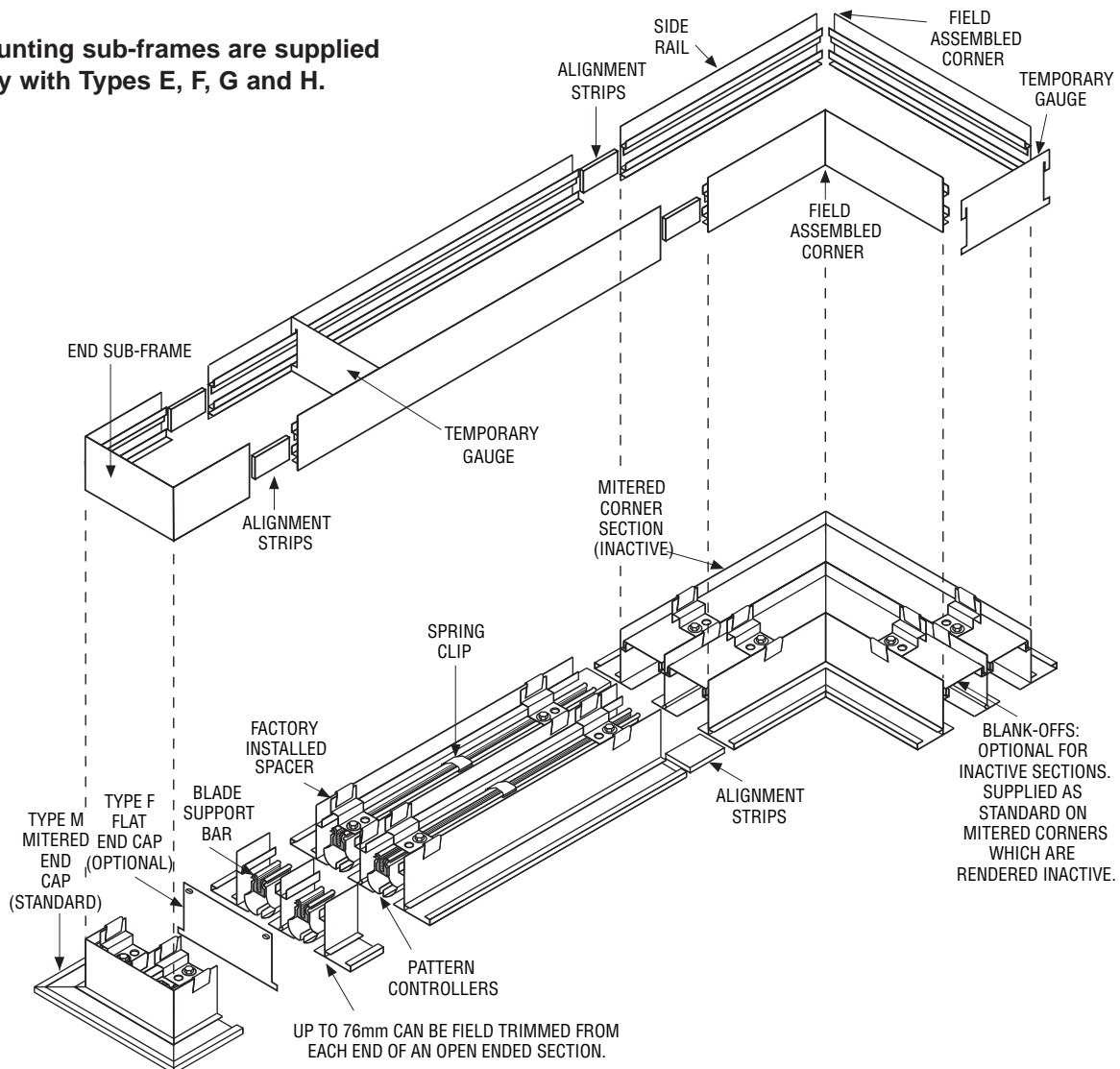
- Cold-Rolled Steel
- Fits over Neck
- Black Finish



Shipped in 1800mm lengths to be site-cut.

Typical Diffuser and Sub-Frame Assembly

Mounting sub-frames are supplied only with Types E, F, G and H.



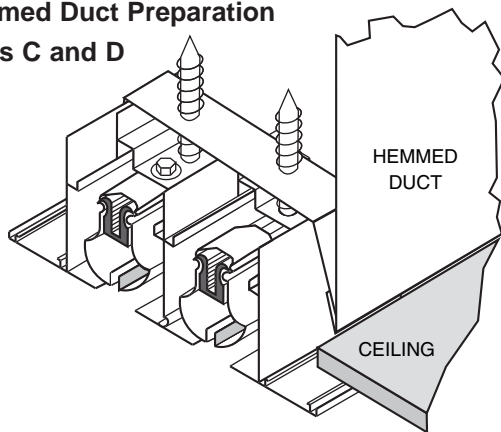
Diffuser Assembly Features:

- Diffusers can be joined together end to end to form long continuous slots.
- The standard Type M end cap is mitred and offers a superior architectural finish on the visible surface.
- The optional Type F end cap can be installed on-site.
- The optional Type C flat end cap may be used where the diffuser ends at a wall or other stopping point.
- The standard 90° mitred corner section is factory welded and fully assembled to ensure a smooth professional finish. They are inactive.
- Alignment strips are factory supplied as standard on all multiple-section frame and sub-frame assemblies and ensure close and positive alignment between sections.

Sub-Frame Features:

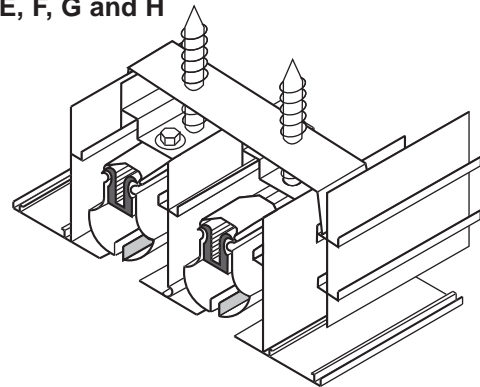
- Supplied with Frame Types E, F, G and H.
- Assures a clean, accurately dimensioned opening to receive the diffuser.
- Allows the diffuser to be installed at the end of the job, minimizing risk of damage or contamination from paint or plaster.
- Diffuser can be simply removed and replaced without damage to architectural ceiling finishes.
- Types E, F, G and H are ideal as a wet plaster ground. In this case they should be installed sufficiently proud to allow for the finished ceiling thickness.
- Types E and G are designed to leave a diffuser totally flush with the finished ceiling.
- Types F and H are designed to leave a surface mount diffuser appearance.
- Type E may also be used where a diffuser runs flush along a wall.

Hemmed Duct Preparation Types C and D



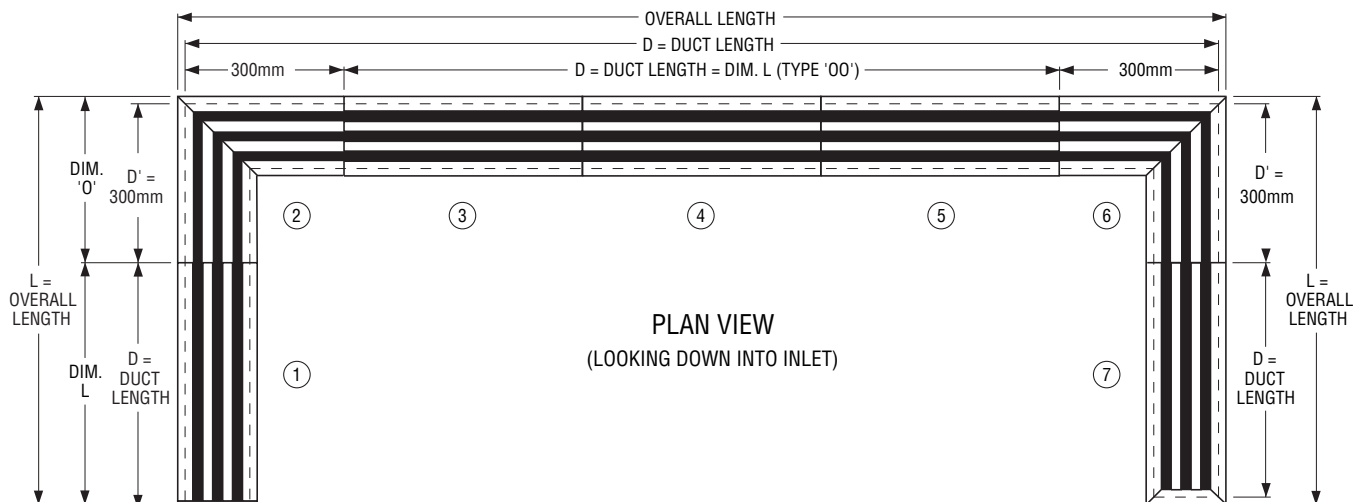
- Far and away the most popular type of installation. Simple and quick.
- Diffuser simply pushes up into duct until the legs of the factory supplied mounting straps locate into the hems of the duct.
- Factory supplied levelling screws then draw the diffuser up until it is tight and snug with the ceiling.
- Duct should be fabricated with a 13mm hem on both long sides and opened approximately 3mm.

Auxiliary Sub-Frame Preparation Types E, F, G and H



- Sub-frame should be attached to inside of duct and/or a framed ceiling opening as deemed necessary.
- Factory supplied mounting straps locate into an extrusion slot in the sub-frame. Installation of diffuser is similar to the hemmed duct method shown to the left.

Continuous Run Dimensions



The above example illustrates a typical 3 slot installation with two 90° mitred corner sections.

- ① Type 'CO' End Cap configuration.
- ② and ⑥ 'MC' Mitred Corner Section.
- ③, ④ and ⑤ Type 'OO' End Cap configuration.
- ⑦ Type 'MO' End Cap configuration.

Each straight section, regardless of total duct length may be ordered as a single section.

Example:

- ① and ⑦ Each section may be ordered as a single item, regardless of total length.
- ③, ④ and ⑤ One section may be ordered, regardless of total length.

Multiple-sections are sub-divided by the factory into equal length sections at the factories' discretion.

Note:

It is extremely difficult to achieve a perfect installation where compound mitres are involved such as above when all sections are ordered from the factory fabricated to suit finished duct dimensions. This is due to on-site tolerance variations which may prevent proper alignment and butting together of individual sections due to insufficient material. It is recommended that section ③, ④ or ⑤ is ordered oversize by 75mm and cut to suit site conditions. 'OO' configuration lengths can be trimmed by up to 150mm. 75mm from each end.

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Extruded Aluminium Linear Slot Diffuser — Model Series 5000

5075 – 900 x 2 Slot - C - AW - MM - BO						
Model			Accessories			
- Linear Slot Diffuser			50		- Angle Cut One End AC1	
					- Angle Cut Both Ends AC2	
Slot Width / Fabrication			End Cap Configuration			
- Supply			13mm 50		- Mitred Mitred (default) MM	
			19mm 75		- Mitred Open MO	
			25mm 10		- Mitred Flat MC	
- Return			13mm 50R		- Open Open OO	
			19mm 75R		- Open Flat OC	
			25mm 10R		- Flat Flat CC	
- Mitred Corner			13mm 50MC		- Flanged Flanged FF	
			19mm 75MC		- Flanged Open FO	
			25mm 10MC		- Flanged Flat FC	
- Blank-offs			13mm 50BO		Finish	
			19mm 75BO			- Appliance White (default) AW
			25mm 10BO			- Aluminium AL
Nom. Length (mm)						- Mill MI
No. Of Slots						- Special SP
- 1 to 8						Frame or Frame/Sub-Frame Combination
						- Flange Frame, Screw Holes A
						- Flange Frame, No Screw Holes B
						- Flange Frame, Concealed Mounting C
						- Flange Frame, Concealed Mounting D
						- Flush Frame/Sub-frame E
						- Flange Frame/Sub-frame F
						- Flush Frame/Plaster Sub-frame G
						- Flange Frame/Plaster Sub-frame H
						- Flangeless Frame M
						- Spline Frame, Concealed Mounting N
						- Flange Frame, T-Bar Lay-in T
						- Threadline/Finline® Frame FL

Notes:

1. Flanged end caps (FF) may be shipped loose upon request for on-site attachment and are intended for use with site cut sections or for use by stocking representatives.
2. It is helpful to include a sketch for multiple units with mitred corners and angle cuts. Specify exact outside length of duct run and angles.
3. For lay-in T-Bar installations, specify nominal T-Bar opening length.

Performance Data

Plenum Supply

Model 5075 • 19mm Slot

No. of Slots	Pressure Drop	H	1	3	12	19	26	36	47
		V	1	3	8	15	17	25	32
1	Flowrate per length (l/s/m)		8	15	31	39	46	54	62
	Throw (m)	H	0.3 - 0.6	0.6 - 1.8	1.2 - 2.1	1.8 - 2.7	2.1 - 3.0	2.1 - 3.0	2.4 - 3.4
		V	0.6	1.8	3.0	3.7	4.0	4.3	4.6
	NC Level		—	—	16	21	26	30	33
2	Flowrate per Length(l/s/m)		15	31	62	77	93	108	124
	Throw (m)	H	0.3 - 0.9	0.9 - 2.7	2.1 - 3.0	2.7 - 3.7	3.0 - 4.3	3.0 - 4.6	3.4 - 5.8
		V	0.9	2.4	3.4	4.6	5.5	6.1	6.4
	NC Level		—	—	19	24	29	33	36
3	Flowrate per Length(l/s/m)		23	46	93	116	139	163	186
	Throw (m)	H	0.3 - 1.5	1.5 - 3.0	2.4 - 4.0	3.0 - 4.6	3.7 - 6.1	4.0 - 6.4	4.3 - 7.0
		V	1.8	3.0	4.6	5.8	6.1	7.3	7.6
	NC Level		—	11	21	26	31	35	38
4	Flowrate per Length(l/s/m)		31	62	124	155	186	217	248
	Throw (m)	H	0.3 - 2.1	2.1 - 3.7	3.0 - 4.6	3.7 - 6.1	4.3 - 7.0	4.6 - 7.3	5.8 - 7.9
		V	1.5	3.4	5.5	6.4	7.6	8.2	9.1
	NC Level		—	12	22	27	32	36	39
5	Flowrate per Length(l/s/m)		39	77	155	194	232	271	310
	Throw (m)	H	0.6 - 2.1	2.1 - 4.3	3.0 - 6.1	4.3 - 7.0	4.9 - 7.6	6.1 - 8.2	6.4 - 8.8
		V	1.8	3.7	5.5	7.6	8.5	9.1	10.4
	NC Level		—	13	23	28	33	37	40
6	Flowrate per Length(l/s/m)		46	93	186	232	279	325	372
	Throw (m)	H	0.9 - 2.4	2.4 - 4.6	3.7 - 6.4	4.6 - 7.3	6.1 - 8.2	6.4 - 9.1	7.0 - 9.8
		V	2.1	4.0	6.4	7.6	9.1	9.8	11.0
	NC Level		—	14	24	29	34	38	41
7	Flowrate per Length(l/s/m)		54	108	217	271	325	379	434
	Throw (m)	H	1.2 - 2.4	2.7 - 5.8	4.0 - 7.0	5.8 - 7.9	6.4 - 8.8	7.0 - 9.8	7.6 - 10.7
		V	2.4	4.9	6.7	8.8	10.1	10.7	12.2
	NC Level		—	14	24	29	34	38	41
8	Flowrate per Length(l/s/m)		62	124	248	310	372	434	495
	Throw (m)	H	1.5 - 2.7	2.7 - 6.1	4.3 - 7.3	6.1 - 8.5	7.0 - 9.8	7.6 - 10.4	7.9 - 11.3
		V	2.4	5.2	6.4	9.1	10.7	12.2	12.8
	NC Level		—	15	25	30	35	39	42

NC Correction Factors for Various Lengths

Length (m)	0.6	1.2	1.8	2.4	2.7	3.0	4.6	6.1	7.6	9.1
Supply	- 3	0	+ 2	+ 3	+ 4	+ 5	+ 8	+ 10	+ 11	+ 13
Return	0	+ 3	+ 4	+ 6	+ 7	+ 8	+ 10	+ 11	+ 12	+ 13

Throw Correction Factors for Various Lengths

Length (m)	0.6	1.2	1.8	2.4	3.0	3.7
Multiplier	0.70	1.0	1.25	1.40	1.55	1.70

Plenum Correction

	NR	Δ(PPa)
Top Entry	+5dBA	X1.5
Side Entry	+10dBA	X2

Guidance Sizing for Spigots

Spigot Velocity m/s	2	2.5	3.0	3.5	4.0
Guide NR Level	20	25	30	35	40

H - Horizontal Installation

V - Vertical Installation

Performance Notes:

1. Horizontal throws are based on the same direction of all slots.
2. Horizontal throws are given at 0.5 and 0.25m/s terminal velocities.
3. Vertical throws are given at 0.25 m/s terminal velocity.
4. Throw values are based on a 1.2m section. For other lengths, use the

correction factor table above.

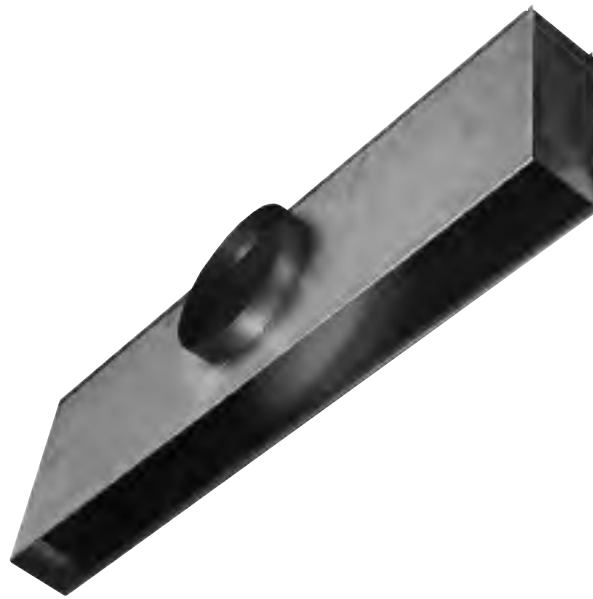
5. NC values are based on a 1.2m section, horizontal throw. For other lengths, use the correction factor table above. For vertical throw, deduct 10 dB.
6. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Linear Slot Diffuser Plenums

For 5000 Series
Linear Slot Diffusers

Standard Models:

5050P	13mm Slot
5075P	19mm Slot
5010P	25mm Slot



The **Advanced Air 5000 Series Diffuser Plenums** are designed specifically to fit the **Series 5000 'Ice Tong' Linear Slot Diffusers**.

They have been designed for flexible duct connection with a model to suit each of the various frame/sub-frame **5000 Series** combinations available. For drywall ceiling mounted applications the plenums are shipped separately. Unless there is access to the ceiling space, the plenum is intended to be installed during the drywall installation. Most applications of this type utilise concealed "Goal Post" brackets on the **5000 Series**. The plenums may be supplied with a hemmed leg into which the mounting straps snap or they locate in extrusion slots on sub-frames as the linear is drawn up to the plenum from below the ceiling. For lay-in T-Bar applications, the plenums are directly attached to the linear section and are shipped factory mounted as standard, saving on handling and site installation time.

The **Series 5000 Plenums** save on-site fabrication and site labour. When room lay-out changes occur, the plenums can be simply relocated to satisfy the re-arrangement of air distribution requirements.

The **Series 5000 Plenums** maximise the **Series 5000's** performance. The airflow discharge maintains a horizontal pattern that is close and tight to the ceiling throughout the full range of cataloged air volumes. Excellent for variable air volume applications.

Features:

- Standard nominal lengths are 600, 900, 1000, 1200, 1500 and 1800.
- Widths available to fit **Model Series 5000** with 1, 2, 3, 4, 5, 6, 7 or 8 slots.
- Easily installed with flexible duct.

Options:

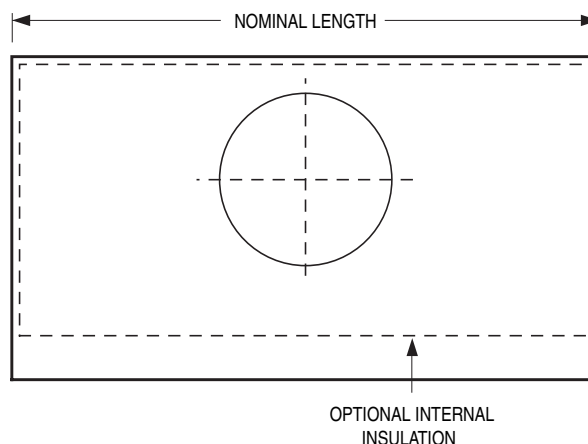
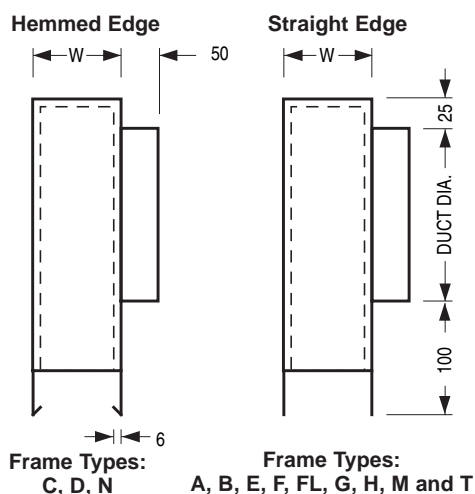
- Optional internal insulation. **Model Series 5000PI**
- ID Inlet dampers are available.

Material:

Galvanised Mild Steel.

Dimensional Data

Model Series 5000P Plenum for Series 5000 and 5000R Linear Slot Diffusers



Plenum Width Dimension (W)

Model	No. of Slots	Plenum Width (W) For Various Frame types mm	
		A, B, FL, M, T	C, D, F, H, N
5350 5375 5310	1	38 44 51	51 57 64
5350 5375 5310	2	70 83 95	83 95 108
5350 5375 5310	3	102 121 140	114 133 152
5350 5375 5310	4	133 159 184	146 171 197
5350 5375 5310	5	165 197 229	178 210 242
5350 5375 5310	6	197 235 273	210 248 286
5350 5375 5310	7	229 273 318	242 286 331
5350 5375 5310	8	260 311 362	273 324 375

Plenum available in Lengths (N) of 600, 900, 1000, 1200, 1500 & 1800mm.

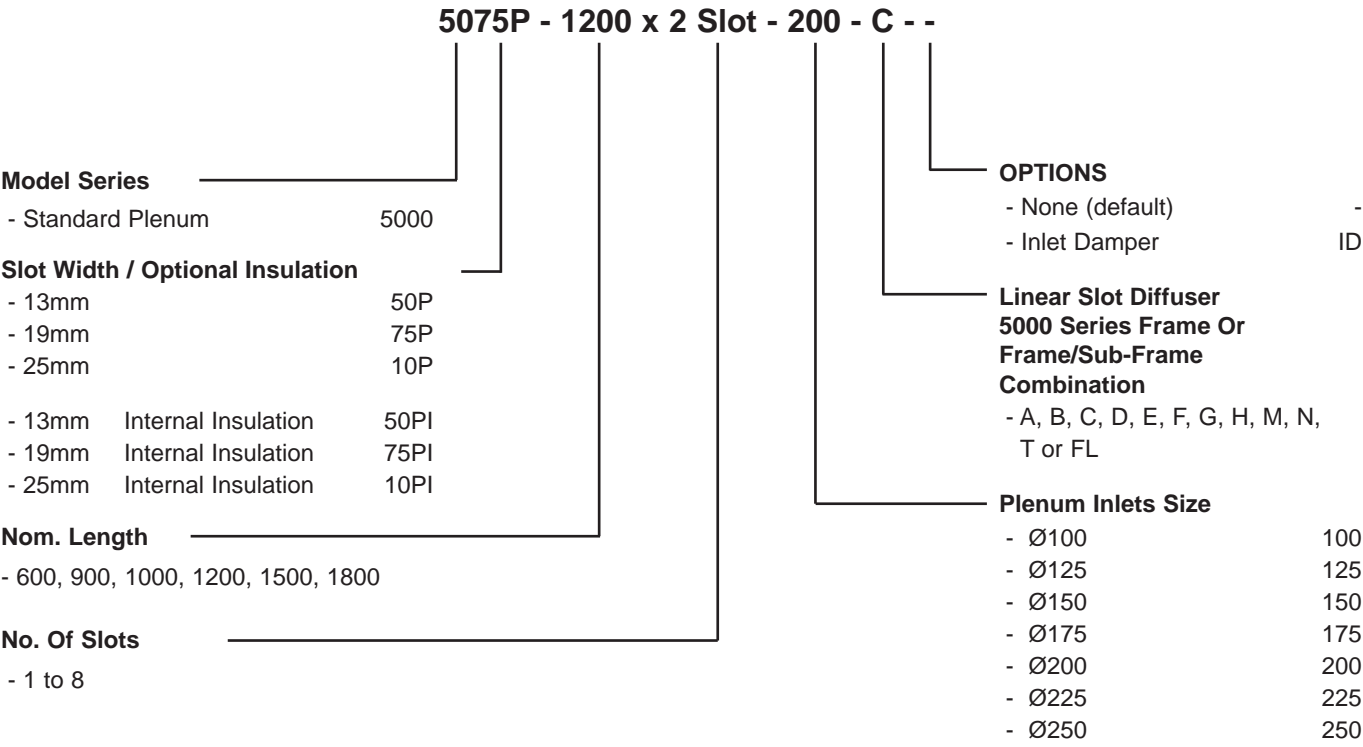
Standard Plenum Duct Diameters are offered. For Non-standard sizes, please contact Advanced Air.

Standard Duct Diameters: 100, 125, 150, 175, 200, 225 & 250mm

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Linear Slot Diffuser Plenums — Model Series 5000



Notes:

1. Plenums are shipped loose as standard for site installation.
2. Plenums for frame/sub-frame types A, B, E, F, G, H, M and N are for direct attachment to diffuser neck or sub-frame.
3. Plenums for frame types C and D are hemmed for site attachment by use of concealed mounting straps.
4. For lay-in T-Bar installations, specify nominal T-Bar opening length.

Linear Bar Grilles

4900 Series

- Fixed Bars
- Aluminium Construction

Models:

13mm Bar Spacing

49-240 • 6mm Bars • 0° Deflection • Pencil-Proof

49-241 • 6mm Bars • 15° Deflection • Pencil-Proof

49-243 • 6mm Bars • 30° Deflection • Pencil-Proof

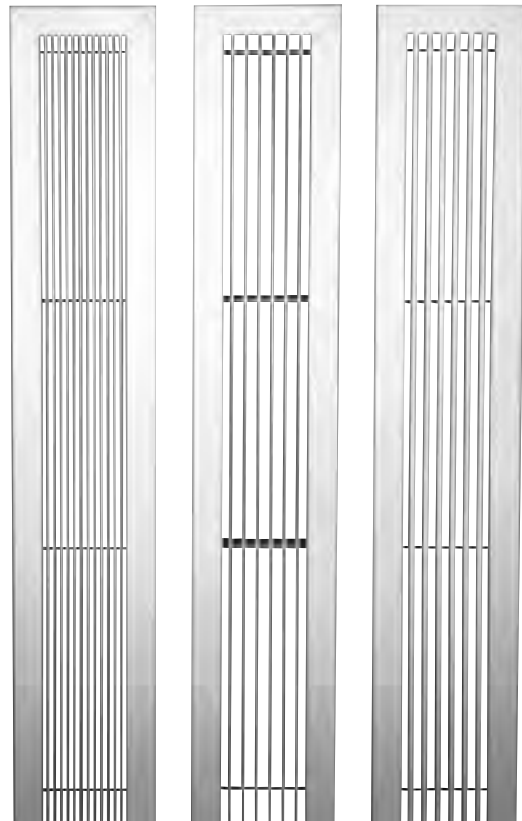
49-280 • 3mm Bars • 0° Deflection

49-281 • 3mm Bars • 15° Deflection

6mm Bar Spacing

49-480 • 3mm Bars • 0° Deflection

49-481 • 3mm Bars • 15° Deflection



The **Model Series 4900 Linear Bar Grilles** have been specially designed to provide the precision quality appearance required for architectural excellence with crisply sculptured styling, careful workmanship and effective air distribution.

The **Series 4900 Linear Bar Grilles** are designed for heating and cooling applications, supply and return.

The grilles are manufactured with precision mitred corners to maximise quality.

Features:

- Deflection bars are fixed and are parallel to the long dimension.
- Available in 7 core styles and a variety of frame and sub-frame options.
- Diffusers are supplied in lengths of up to 1800mm in a single section.
- Standard incremental units of length are 300, 600, 900, 1200, 1500 and 1800. However, the 4900 Series is available in any nominal length to suit engineering and architectural requirements.
- Ideal for continuous length applications.
- Multiple-sections are supplied with alignment strips on the frame and sub-frame to provide superior, positive site alignment.
- End caps are staked and mitred for a superior quality appearance.
- Standard duty models are available for ceiling, wall or sill installations. Heavy duty models are designed specifically for use in floor installations.

Options:

- Aluminium opposed blade damper (add suffix 'OA').
- DV Rear directional control vanes.
- MC Mitred Corner Sections.
- AD Access Doors.
- BO Blanking Plates

Material: Extruded aluminium.

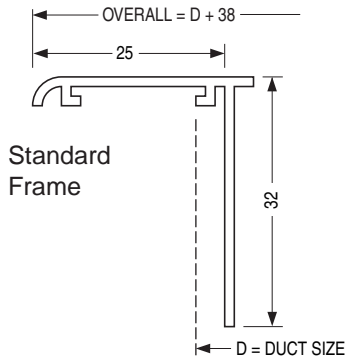
Finish: AW Appliance White polyester powder finish RAL 9010 semi-gloss.

Other finishes are available.

Available Frame Types and Dimensional Data

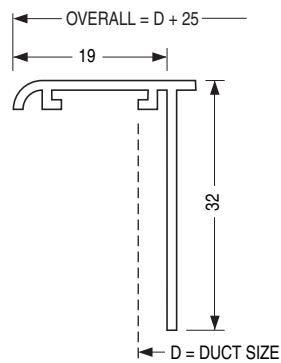
Type A

- 25mm Border



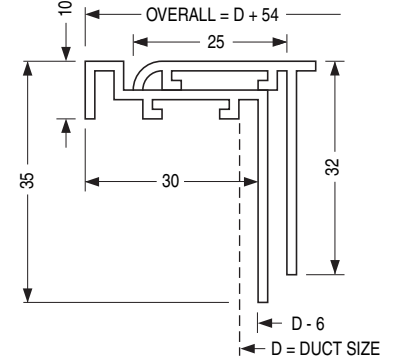
Type B

- 19mm Reduced Border



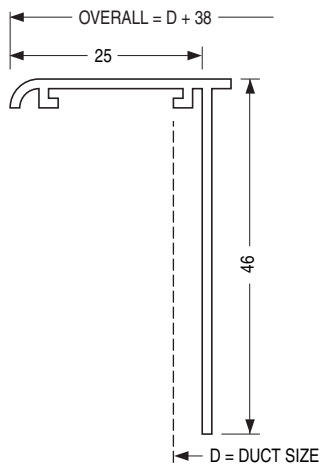
Type C

- 25mm Border and Sub-Frame



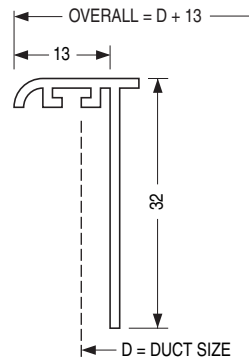
Type D

- 25mm Border
- Deep Stack (permits DV option)



Type E

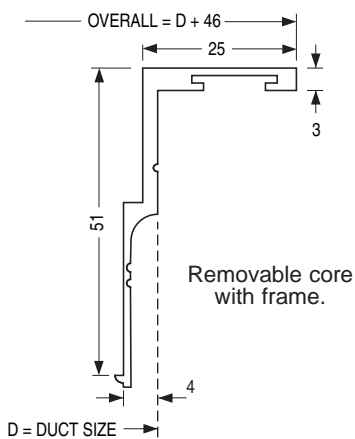
- 13mm Narrow Border



Heavy Duty Mounting Frames for Floor Installations

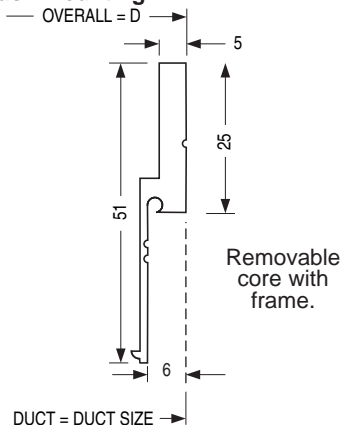
Type F

- 25mm Border Flange



Type G

- No Flange
- Flush Mounting

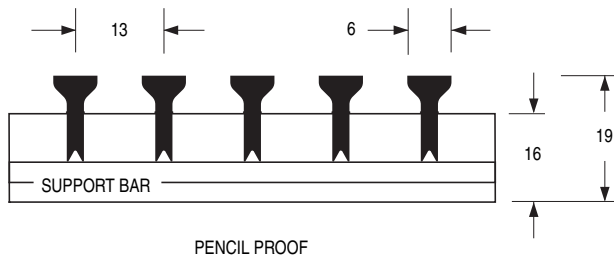


Available Core Styles

Pencil Proof

13mm Spacing, 6mm Bars

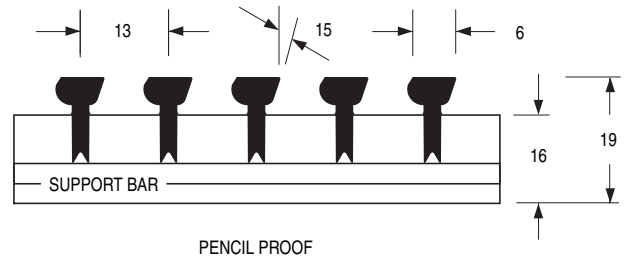
Model 49-240 • 0° Deflection



Pencil Proof

13mm Spacing, 6mm Bars

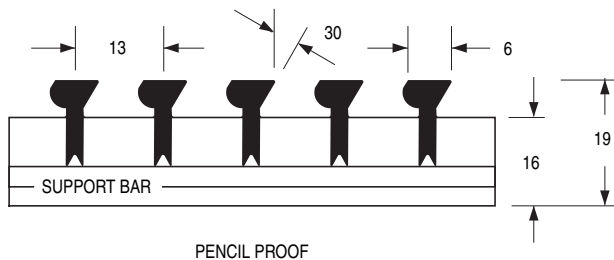
Model 49-241 • 15° Deflection



Pencil Proof

13mm Spacing, 6mm Bars

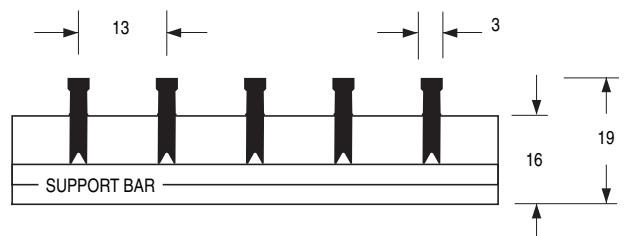
Model 49-243 • 30° Deflection



13mm Spacing

3mm Bars

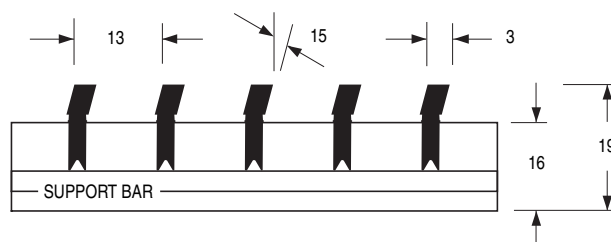
Model 49-280 • 0° Deflection



13mm Spacing

3mm Bars

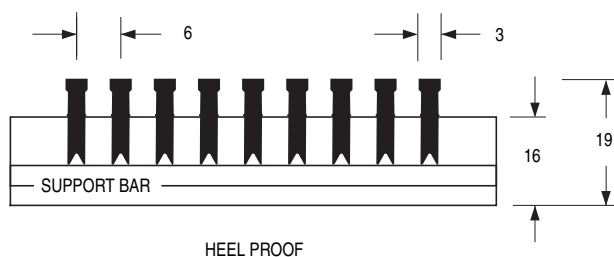
Model 49-281 • 15° Deflection



Heel Proof

6mm Spacing, 3mm Bars

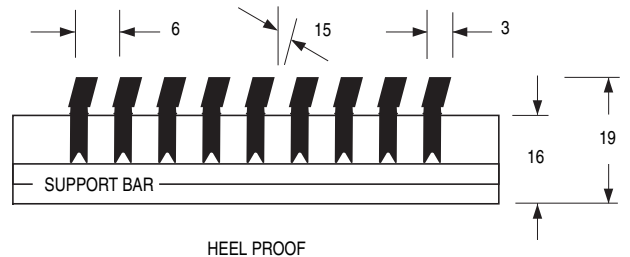
Model 49-480 • 0° Deflection



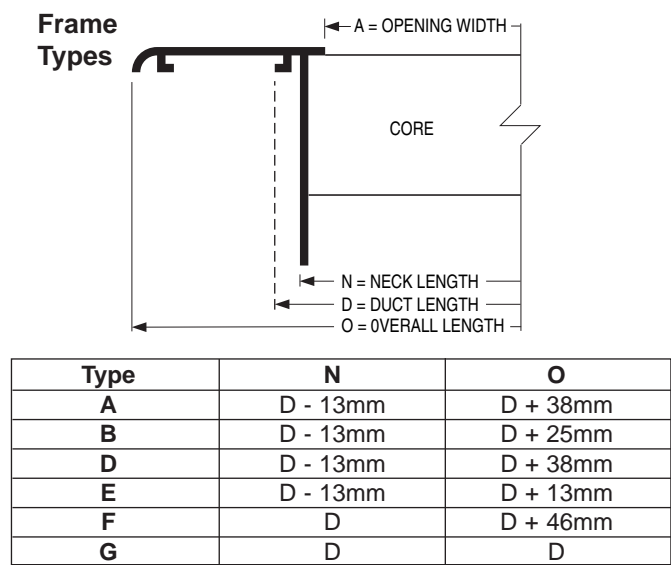
Heel Proof

6mm Spacing, 3mm Bars

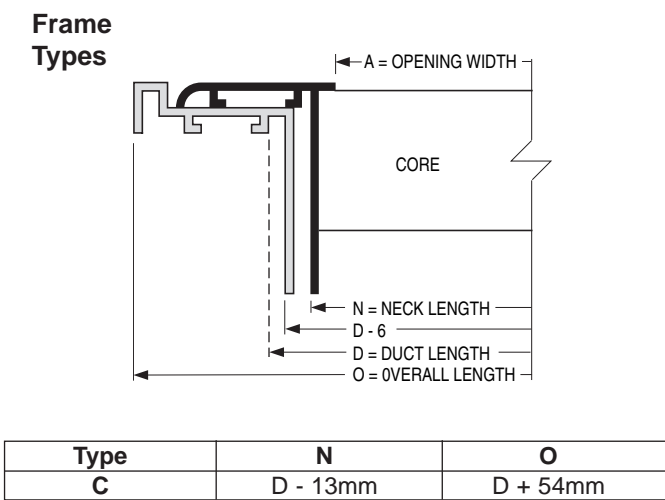
Model 49-481 • 15° Deflection



Overall Length and Width Dimensional Data



Dimensions are for length or width.



Dimensions are for length or width.

Standard Widths and Core Dimensional Data

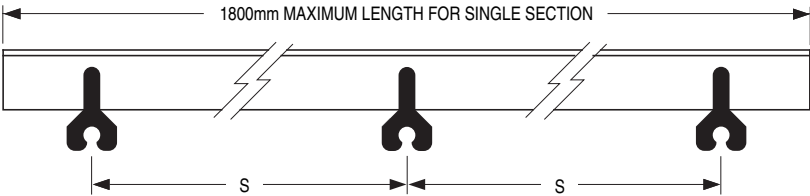
Duct Width D	6mm Spacing	
	Opening Width A	Number of Bars
38	19	2
50	31	4
65	45	6
75	56	8
90	71	10
100	81	12
125	106	16
150	131	20

For frames types F and G increase the number of bars by two.
Dimensions are in mm.

Duct Width D	13mm Spacing	
	Opening Width A	Number of Bars
38	19	1
50	31	2
65	45	3
75	56	4
90	71	5
100	81	6
125	106	8
150	131	10

For frames types F and G increase the numbers of bars by one.

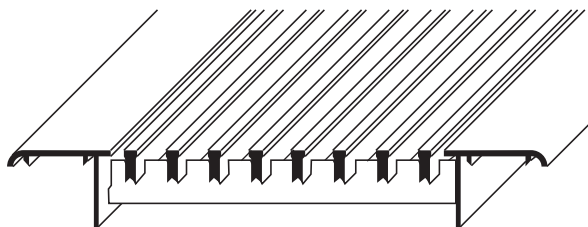
Cross-Bar Spacing



Standard Core: S = 300mm maximum support bar spacing. Frame Types A, B, C, D and E.
Optional HC Heavy Duty Core: S = 200mm maximum.
Standard for floor models with frame types F and G, which also include secondary reinforcing support bars.

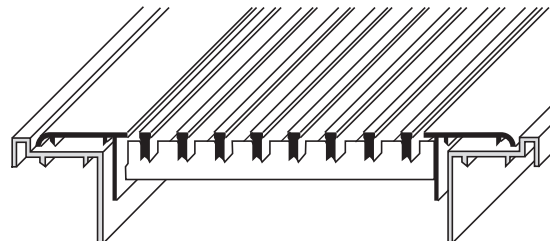
Typical Frame/Core Assemblies

Core with Frame



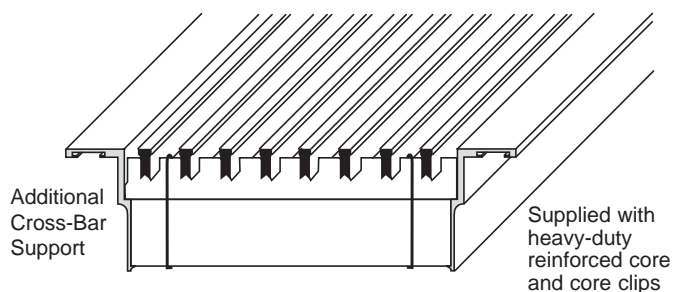
Type A Frame

Core with Frame & Sub-Frame



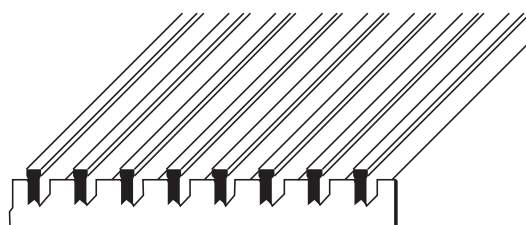
Type C Frame

Core with Heavy Duty Mounting Frame



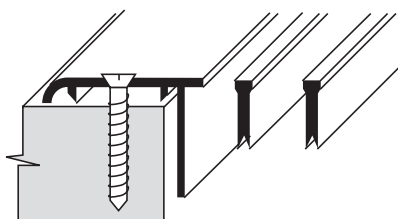
Type F Heavy Duty Mounting Frame

Core only



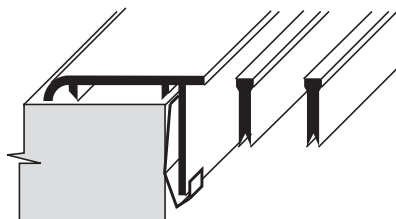
Fastenings

Type A • Countersunk Screw Holes



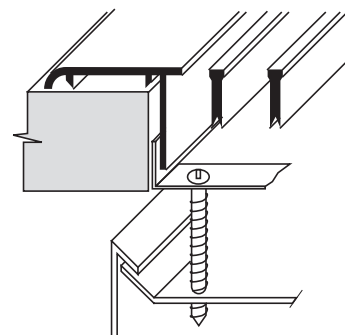
For ceiling, side wall, sill or floor.
Frame Types
A, B, C, D, F.

Type B • Friction Spring Clip



For sill installations.
Frame Types
A, B, D, E, F, G.

Type C • Concealed Mounting



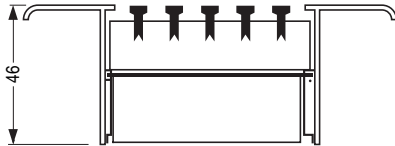
For ceiling, side wall, sill or floor.
Frame Types
A, B, C, D, E.
Not recommended for use with
cores with 6mm bar spacing.

Options and Accessories

Type DV Directional Vanes

For all available widths.

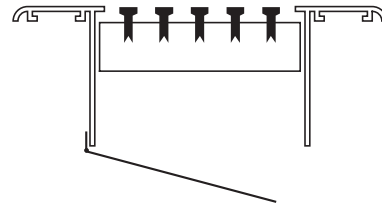
Fully adjustable extruded aluminium blades on 19mm centres perpendicular to length.



Requires Frame Type D (deep stack), F or G

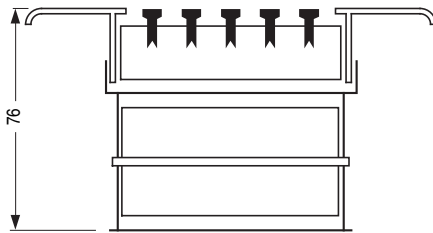
Single Blade Damper

Friction hinge on 38mm and 51mm widths.

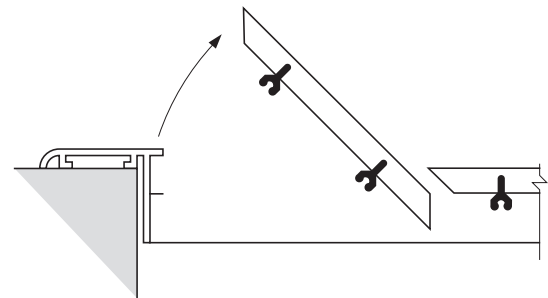


Opposed Blade Damper

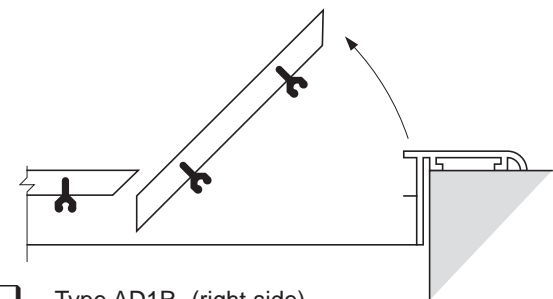
For linear bar grilles with a nominal duct width of 64mm and wider.



Access Doors



☐ Type AD1L (left side)



☐ Type AD1R (right side)

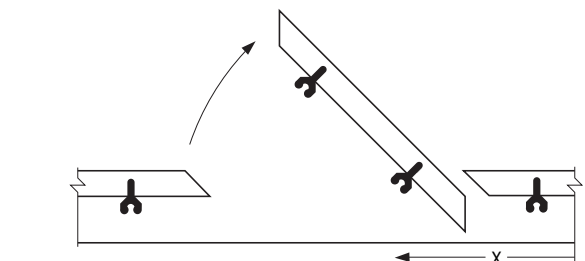
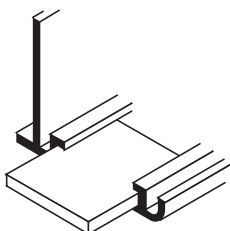
Type BO Steel Blank-Off

For all available widths. Supplied in 1829mm lengths for site cutting. Steel, painted black.



Alignment Strips

Supplied as standard on multiple-section assemblies to provide positive and accurate site alignment, except frame G which uses alignment pins.



Centre Section:

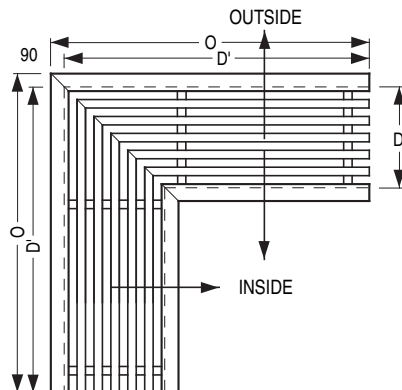
- ☐ Type AD3L ☐ Type AD3R (not shown)
- Specify 'X' dim. (distance from end of grille frame)
- Access door is a 152mm core section hinged on one side.
- When selected with a deflected core, specify deflection:
- | | | | |
|-------|---------------------------------------|------|-------------------------------|
| Sill/ | <input type="checkbox"/> To the front | Wall | <input type="checkbox"/> Up |
| Floor | <input type="checkbox"/> To the rear | | <input type="checkbox"/> Down |

Dimensional Data

Mitred Corner Sections

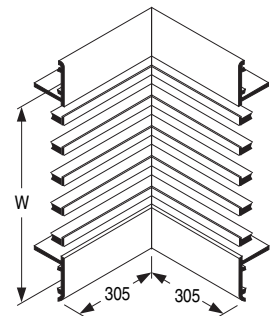
49-240MC **49-281MC**
49-241MC **49-480MC**
49-243MC **49-481MC**
49-280MC

Factory welded with precision to match and align with the associated straight leg.
 Standard mitred corner section for floor, ceiling or wall is 90 degrees.
 Other angles are available.

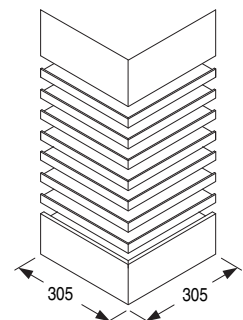


Floor, Ceiling or Sill
Type O • 0° deflection
Type A • Deflection inside
Type B • Deflection outside

Type C – Sidewall, inside



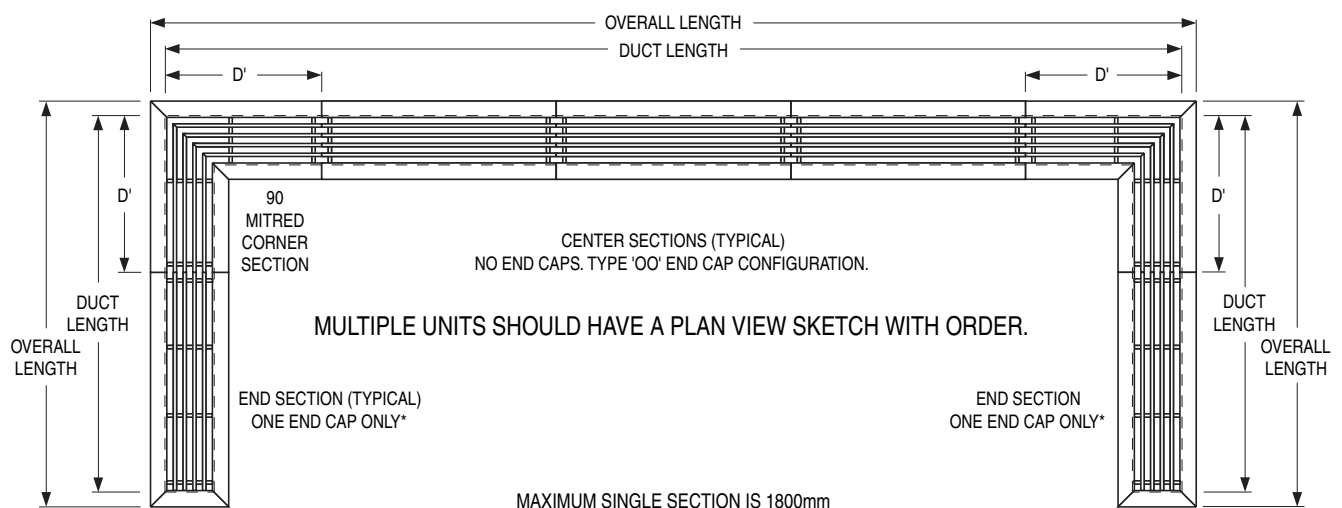
Type D – Sidewall, outside



90° Mitred Corner Dimension 'O'

Duct Width D	Duct Length D	Frame Type					
		A, D	B	C	E	F	G
38 – 100	300	319	313	327	306	320	300
101 – 300	450	468	462	605	598	602	449

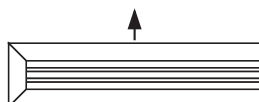
Continuous Run Dimensions



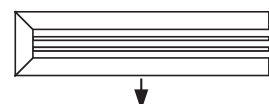
* End sections with single end caps and deflecting cores must be specified and ordered with the desired core deflection direction.
 End cap configurations (mitred end cap one end and open opposite end):

Type 'MO' = 0° deflection

Type 'MU' = (15° or 30°)



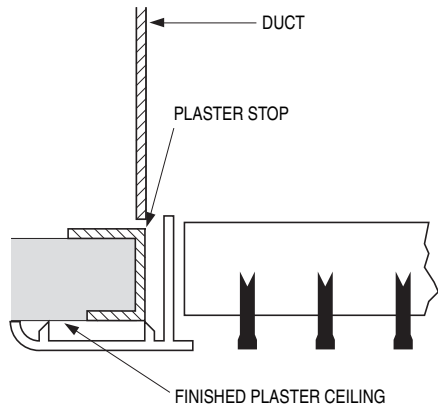
Type 'MD' = (15° or 30°)



Typical Opening Preparations

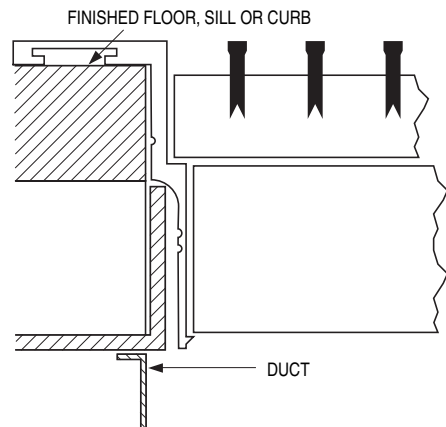
Ceiling 1

Frame Types A, B, D, or E



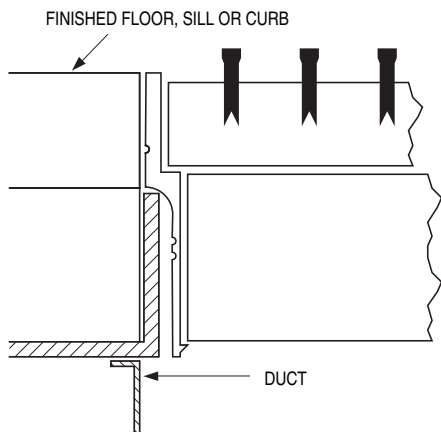
Floor or Sill 1

Frame Type F



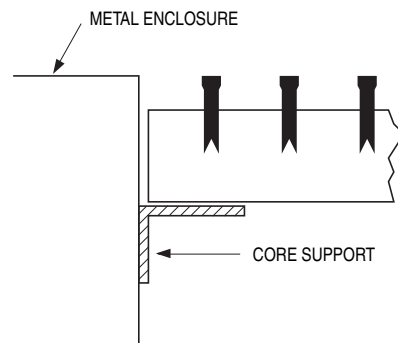
Floor or Sill 2

Frame Type G



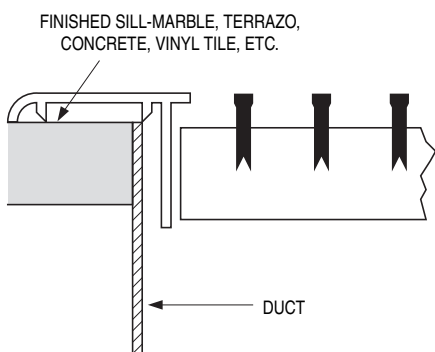
Raised Sill 1

Core Only



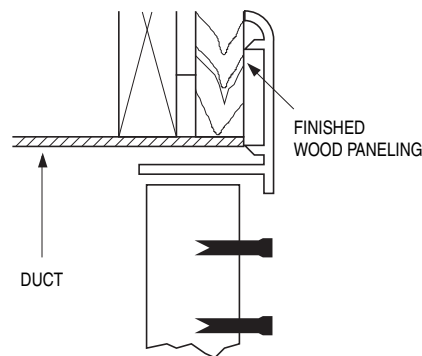
Raised Sill 2

Frame Types A, B, D, or E



Side Wall 1

Frame Types A, B, D, or E



(Show complete Model Number and Size, unless "Default" is desired)


49 - 2 4 0 - O - 1500 x 100 - B - AW - C - MM - AD

Accessories


- Blank-Offs BO
- Access Door AD
- Heavy Duty Core HC
- Deflector Vanes DV

End Cap Configuration

- Mitred Mitred (default) MM
- Open Open OO
- Mitred Open 0° MO
- Mitred Open 15°, 30° MU



- Mitred Open 15°, 30° MD



Fastening

- None (default) N
- Screw Holes A
- Spring Clips B
- Concealed Mounting C

Finish

- Appliance White (default) AW
- Aluminium AL
- Mill Finish MI
- Special SP

1. To use more than one "Accessory", list the items in order and specify description.
2. It is helpful to include a sketch for multiple units with mitred corners.

Performance Data

Model 49-240 • 13mm Spacing • 6mm Bars • 0° Deflection

Free Area (m ²) Per Metre Length	Nominal Duct Width (mm)	Pressure Drop (Pa)	2	5	10	15	22	30	39	49	61
0.01	50	Flowrate per Length (l/s/m)	28	42	56	70	84	98	111	125	139
		NC Level	—	—	12	18	23	29	33	36	39
		Throw (m) Sill or Floor	0.3 - 0.3	1.2 - 1.2	2.1 - 2.1	2.7 - 3.0	3.4 - 4.0	4.3 - 4.9	4.9 - 5.5	5.2 - 6.1	5.8 - 6.4
		Side Wall	1.5 - 2.1	2.7 - 3.7	3.4 - 4.9	4.3 - 6.1	5.2 - 7.0	5.8 - 7.9	6.4 - 8.5	6.7 - 9.1	7.6 - 10.1
0.03	75	Flowrate per Length (l/s/m)	54	82	108	136	164	190	218	245	273
		NC Level	—	—	15	21	27	32	36	39	42
		Throw (m) Sill or Floor	0.6 - 0.6	2.1 - 2.1	3.0 - 3.4	4.0 - 4.6	4.9 - 5.5	5.8 - 6.4	6.7 - 7.3	7.3 - 7.6	7.9 - 8.2
		Side Wall	2.1 - 3.0	3.4 - 4.6	4.3 - 5.8	5.2 - 7.0	6.4 - 8.2	7.3 - 9.4	8.2 - 10.4	9.4 - 11.9	10.4 - 12.5
0.04	100	Flowrate per Length (l/s/m)	82	124	164	206	248	288	330	370	412
		NC Level	—	—	17	23	29	34	38	41	44
		Throw (m) Sill or Floor	0.9 - 0.9	2.7 - 2.7	4.0 - 4.0	4.9 - 5.2	6.1 - 6.4	7.0 - 7.3	7.6 - 7.9	8.5 - 8.5	9.4 - 9.4
		Side Wall	2.3 - 3.4	4.0 - 5.2	5.2 - 6.4	6.4 - 7.9	7.6 - 9.1	8.5 - 10.4	9.1 - 11.3	10.6 - 12.5	11.6 - 13.7
0.05	125	Flowrate per Length (l/s/m)	110	164	220	274	328	384	438	492	548
		NC Level	—	10	18	24	30	35	39	42	45
		Throw (m) Sill or Floor	1.2 - 1.2	3.0 - 3.0	4.6 - 4.6	5.5 - 5.5	6.7 - 7.0	7.6 - 7.6	8.2 - 8.5	9.1 - 9.1	10.4 - 10.4
		Side Wall	3.0 - 4.0	4.3 - 5.5	5.8 - 7.0	6.7 - 8.2	8.2 - 9.8	9.4 - 11.3	10.1 - 11.9	11.3 - 13.1	12.5 - 14.3
0.07	150	Flowrate per Length (l/s/m)	138	206	276	344	412	480	550	619	687
		NC Level	—	11	20	25	31	36	40	43	46
		Throw (m) Sill or Floor	1.5 - 1.5	3.0 - 3.0	4.6 - 4.6	5.8 - 5.8	7.0 - 7.0	7.6 - 7.6	8.8 - 8.8	9.4 - 9.4	11.0 - 11.0
		Side Wall	3.4 - 4.3	4.8 - 6.1	6.1 - 7.3	7.3 - 8.8	8.8 - 10.4	10.1 - 11.9	10.6 - 12.2	12.2 - 13.7	13.4 - 14.9

Model 49-243 • 13mm Spacing • 6mm Bars • 30° Deflection

Free Area (m ²) Per Metre Length	Nominal Duct Width (mm)	Pressure Drop (Pa)	3	6	12	18	26	35	47	59	73
0.01	50	Flowrate per Length (l/s/m)	29	45	59	74	90	104	119	133	149
		NC Level	—	12	20	27	32	37	41	44	47
		Throw (m) Sill or Floor	0.3 - 0.3	1.2 - 1.2	2.1 - 2.1	2.7 - 3.0	3.7 - 4.0	4.3 - 4.6	4.9 - 5.5	5.5 - 6.1	5.8 - 6.7
		Side Wall	1.5 - 2.1	2.4 - 3.7	3.4 - 4.9	4.3 - 6.1	5.2 - 7.3	5.8 - 7.9	6.7 - 8.8	7.0 - 9.4	7.6 - 10.4
0.03	75	Flowrate per Length (l/s/m)	53	81	107	133	159	186	214	240	266
		NC Level	—	12	20	27	32	37	41	44	47
		Throw (m) Sill or Floor	0.6 - 0.6	1.8 - 1.8	3.0 - 3.4	4.0 - 4.3	4.9 - 5.5	5.8 - 6.1	6.4 - 7.0	7.3 - 7.6	7.6 - 7.6
		Side Wall	1.8 - 2.7	3.4 - 4.6	4.3 - 5.8	5.5 - 7.0	6.4 - 8.2	7.3 - 9.4	8.5 - 10.7	9.1 - 11.6	10.4 - 12.5
0.04	100	Flowrate per Length (l/s/m)	79	118	158	197	235	276	314	353	393
		NC Level	—	13	21	29	34	39	43	46	49
		Throw (m) Sill or Floor	0.9 - 0.9	2.7 - 2.7	4.0 - 4.0	4.9 - 5.2	6.1 - 6.4	6.7 - 7.0	7.6 - 7.9	8.2 - 8.2	9.1 - 9.1
		Side Wall	2.7 - 3.7	4.0 - 5.2	5.2 - 6.7	6.1 - 7.6	7.3 - 9.1	8.5 - 10.4	9.4 - 11.6	11.0 - 12.5	11.3 - 13.4
0.05	125	Flowrate per Length (l/s/m)	104	155	207	259	310	362	413	466	517
		NC Level	—	13	21	29	34	39	43	46	49
		Throw (m) Sill or Floor	1.2 - 1.2	3.0 - 3.0	4.3 - 4.3	5.5 - 5.5	6.4 - 6.7	7.3 - 7.6	8.2 - 8.5	9.1 - 9.1	9.8 - 9.8
		Side Wall	3.4 - 4.3	4.6 - 5.8	5.8 - 7.3	7.0 - 8.5	7.9 - 9.8	9.1 - 11.0	9.8 - 11.9	11.0 - 12.8	11.9 - 14.0
0.06	150	Flowrate per Length (l/s/m)	130	195	260	325	390	455	520	585	650
		NC Level	—	15	23	31	36	41	45	48	51
		Throw (m) Sill or Floor	1.5 - 1.5	3.0 - 3.0	4.6 - 4.6	5.8 - 5.8	7.0 - 7.0	7.6 - 7.6	8.5 - 8.8	9.4 - 9.4	10.7 - 10.7
		Side Wall	3.7 - 4.6	5.2 - 6.4	6.4 - 7.6	7.3 - 8.8	8.8 - 10.4	9.8 - 11.6	10.7 - 12.2	11.6 - 13.1	12.8 - 14.3

Performance Data

Model 49-280 • 13mm Spacing • 3mm Bars • 0° Deflection

Free Area (m ²) Per metre Length	Nominal Duct Width (mm)	Pressure Drop (Pa)	2	5	9	14	19	27	35	44	55
0.02	50	Flowrate per Length (l/s/m)	34	51	68	85	102	119	136	153	170
		NC Level	—	—	12	18	23	28	32	35	38
		Throw (m) Sill or Floor Side Wall	0.3 - 0.3 1.5 - 2.1	1.2 - 1.2 2.4 - 3.7	2.1 - 2.1 3.4 - 4.9	2.7 - 3.0 4.3 - 6.1	3.4 - 3.7 5.2 - 7.0	4.3 - 4.9 5.8 - 7.9	4.9 - 5.5 6.4 - 8.5	5.2 - 6.1 6.7 - 9.1	5.8 - 6.4 7.6 - 10.1
0.03	75	Flowrate per Length (l/s/m)	59	90	119	149	178	207	238	268	297
		NC Level	—	—	11	17	22	27	31	34	37
		Throw (m) Sill or Floor Side Wall	0.6 - 0.6 2.1 - 3.0	2.1 - 2.1 3.0 - 4.3	3.0 - 3.4 4.3 - 5.8	4.0 - 4.3 5.2 - 7.0	4.9 - 5.2 6.1 - 7.9	5.8 - 6.1 7.3 - 9.1	6.4 - 7.0 8.2 - 10.4	7.3 - 7.6 9.1 - 11.6	7.6 - 7.9 10.1 - 12.5
0.04	100	Flowrate per Length (l/s/m)	87	129	172	215	259	302	344	387	430
		NC Level	—	—	12	18	23	28	32	35	38
		Throw (m) Sill or Floor Side Wall	0.9 - 0.9 2.4 - 3.4	2.7 - 2.7 4.0 - 5.2	4.0 - 4.0 5.2 - 6.4	4.9 - 5.2 6.1 - 7.6	6.1 - 6.4 7.6 - 9.1	7.0 - 7.3 8.5 - 10.4	7.6 - 7.9 9.1 - 11.3	8.2 - 8.2 10.7 - 12.5	9.1 - 9.1 11.6 - 13.4
0.05	125	Flowrate per Length (l/s/m)	111	166	221	277	333	387	443	499	554
		NC Level	—	—	12	18	23	28	32	35	38
		Throw (m) Sill or Floor Side Wall	1.2 - 1.2 3.0 - 4.0	3.0 - 3.0 4.3 - 5.5	4.3 - 4.3 5.8 - 7.0	5.5 - 5.5 6.7 - 8.2	6.7 - 7.0 8.2 - 9.8	7.3 - 7.3 9.1 - 11.0	8.2 - 8.5 10.1 - 11.9	9.1 - 9.4 11.3 - 13.1	9.8 - 9.8 12.5 - 14.3
0.07	150	Flowrate per Length (l/s/m)	136	206	274	342	410	480	548	616	684
		NC Level	—	—	14	20	24	29	33	36	39
		Throw (m) Sill or Floor Side Wall	1.5 - 1.5 3.7 - 4.6	3.0 - 3.0 4.9 - 6.1	4.6 - 4.6 6.1 - 7.3	5.5 - 5.5 7.3 - 8.8	7.0 - 7.0 8.8 - 10.4	7.6 - 7.6 10.1 - 11.9	8.5 - 8.5 10.7 - 12.2	9.4 - 9.4 12.2 - 13.7	9.8 - 9.8 13.4 - 14.9

Model 49-281 • 13mm Spacing • 3mm Bars • 15° Deflection

Free Area (m ²) Per Metre Length	Nominal Duct Width (mm)	Pressure Drop (Pa)	2	5	9	14	19	27	35	44	55
0.02	50	Flowrate per Length (l/s/m)	34	53	70	87	104	121	139	156	173
		NC Level	—	12	20	26	31	36	40	44	47
		Throw (m) Sill or Floor Side Wall	0.3 - 0.3 1.5 - 2.1	1.2 - 1.2 2.4 - 3.7	2.1 - 2.1 3.4 - 4.9	2.7 - 3.0 4.3 - 6.1	3.7 - 4.0 5.2 - 7.0	4.3 - 4.9 5.5 - 7.6	4.9 - 5.5 6.1 - 8.2	5.2 - 6.1 6.7 - 9.1	5.8 - 6.4 7.9 - 10.4
0.03	75	Flowrate per Length (l/s/m)	57	87	115	144	173	201	231	259	288
		NC Level	—	—	17	23	29	34	38	42	45
		Throw (m) Sill or Floor Side Wall	0.6 - 0.6 1.8 - 2.7	1.8 - 1.8 3.0 - 4.3	3.0 - 3.0 4.0 - 5.5	3.7 - 4.0 5.2 - 6.7	4.9 - 5.2 6.1 - 7.9	5.8 - 6.1 7.3 - 9.1	6.4 - 7.0 7.9 - 10.1	7.0 - 7.3 9.1 - 11.3	7.6 - 7.6 9.8 - 11.9
0.04	100	Flowrate per Length (l/s/m)	82	124	164	206	248	288	328	370	412
		NC Level	—	10	18	24	30	35	39	43	46
		Throw (m) Sill or Floor Side Wall	0.9 - 0.9 2.4 - 3.4	2.4 - 2.7 3.7 - 4.9	4.0 - 4.0 5.2 - 6.4	4.6 - 4.9 5.8 - 6.4	5.8 - 6.1 7.3 - 8.8	6.7 - 7.0 8.2 - 10.1	7.3 - 7.6 9.1 - 11.0	7.9 - 8.2 10.1 - 11.9	9.1 - 9.1 11.3 - 13.1
0.05	125	Flowrate per Length (l/s/m)	107	161	214	268	322	375	429	483	536
		NC Level	—	10	18	24	30	35	39	43	46
		Throw (m) Sill or Floor Side Wall	1.2 - 1.2 3.0 - 4.0	2.7 - 2.7 4.3 - 5.5	4.3 - 4.3 5.8 - 7.0	5.2 - 5.2 6.4 - 7.9	6.4 - 6.7 7.6 - 9.4	7.3 - 7.3 8.8 - 10.7	7.9 - 8.2 10.1 - 11.6	8.8 - 8.8 10.7 - 12.5	9.8 - 9.8 11.9 - 13.7
0.06	150	Flowrate per Length (l/s/m)	132	197	263	328	393	458	525	591	657
		NC Level	—	10	18	24	30	35	39	43	46
		Throw (m) Sill or Floor Side Wall	1.5 - 1.5 3.4 - 4.3	3.0 - 3.0 4.9 - 6.1	4.6 - 4.6 6.1 - 7.3	5.5 - 5.5 7.3 - 8.5	7.0 - 7.0 8.2 - 9.8	7.6 - 7.6 9.1 - 11.0	8.5 - 8.5 10.1 - 11.9	9.1 - 9.1 11.3 - 12.8	10.4 - 10.4 12.5 - 14.0

Performance Data

Model 49-480 • 6mm Spacing • 3mm Bars • 0° Deflection

Free Area (m ²) Per Metre Length	Nominal Duct Width (mm)	Pressure Drop (Pa)	3	6	11	17	24	32	43	54	67
0.01	50	Flowrate per Length (l/s/m)	29	43	57	73	87	102	116	130	146
		NC Level	—	—	12	18	23	29	32	36	39
		Throw (m) Sill or Floor	0.3 - 0.3	1.2 - 1.2	1.8 - 1.8	2.7 - 2.7	3.4 - 3.7	4.0 - 4.6	4.6 - 5.2	5.2 - 5.8	5.5 - 6.1
		Side Wall	1.5 - 2.1	2.4 - 3.4	3.4 - 4.6	4.3 - 5.8	4.9 - 6.7	5.5 - 7.6	6.1 - 8.2	6.7 - 8.8	7.3 - 9.8
0.03	75	Flowrate per Length (l/s/m)	51	77	102	129	155	180	206	231	257
		NC Level	—	—	14	20	26	31	35	38	41
		Throw (m) Sill or Floor	0.6 - 0.6	1.8 - 1.8	2.7 - 3.0	3.7 - 4.0	4.9 - 5.2	5.8 - 6.1	6.4 - 6.7	7.0 - 7.0	7.6 - 7.6
		Side Wall	1.8 - 2.7	3.0 - 4.3	4.0 - 5.5	5.2 - 6.7	6.1 - 7.6	7.0 - 8.8	7.9 - 10.1	9.1 - 11.3	9.8 - 11.9
0.04	100	Flowrate per Length (l/s/m)	76	113	152	189	226	265	302	341	378
		NC Level	—	—	16	22	29	33	37	40	43
		Throw (m) Sill or Floor	0.9 - 0.9	2.4 - 2.4	3.7 - 4.0	4.6 - 4.9	5.8 - 6.4	6.4 - 7.0	7.3 - 7.6	7.9 - 8.2	8.8 - 9.1
		Side Wall	2.4 - 3.4	3.7 - 4.9	4.9 - 6.1	6.1 - 7.6	7.3 - 8.8	7.9 - 9.8	9.1 - 11.0	10.1 - 11.9	11.3 - 14.0
0.05	125	Flowrate per Length (l/s/m)	98	146	194	243	291	341	389	437	486
		NC Level	—	—	16	22	28	33	37	40	43
		Throw (m) Sill or Floor	1.2 - 1.2	2.7 - 2.7	4.3 - 4.3	5.2 - 5.2	6.4 - 6.7	7.3 - 7.3	8.2 - 8.2	8.8 - 8.8	9.8 - 9.8
		Side Wall	2.7 - 3.7	4.3 - 5.5	5.5 - 6.7	6.4 - 7.9	7.9 - 9.4	8.8 - 10.7	10.1 - 11.9	11.0 - 12.8	12.2 - 14.0
0.06	150	Flowrate per Length (l/s/m)	121	180	240	300	361	421	480	540	601
		NC Level	—	10	18	24	30	35	38	42	43
		Throw (m) Sill or Floor	1.5 - 1.5	3.0 - 3.0	4.6 - 4.6	5.5 - 5.5	7.0 - 7.0	7.6 - 7.6	8.5 - 8.8	9.4 - 9.4	10.4 - 10.4
		Side Wall	3.0 - 4.0	4.6 - 5.8	5.8 - 7.0	7.3 - 8.5	8.2 - 9.8	9.4 - 11.3	10.4 - 11.9	11.9 - 13.4	13.1 - 14.6

Model 49-481 • 6mm Spacing • 3mm Bars • 15° Deflection

Free Area (m ²) Per Metre Length	Nominal Duct Width (mm)	Pressure Drop (Pa)	3	6	12	19	27	37	49	62	76
0.01	50	Flowrate per Length (l/s/m)	31	45	60	76	91	107	121	136	152
		NC Level	—	12	20	27	32	37	41	44	47
		Throw (m) Sill or Floor	0.3 - 0.3	1.2 - 1.2	1.8 - 1.8	2.7 - 2.7	3.4 - 3.7	4.0 - 4.6	4.9 - 5.5	5.2 - 5.8	5.5 - 6.1
		Side Wall	1.5 - 2.1	2.4 - 3.4	3.4 - 4.6	4.3 - 5.8	4.9 - 6.7	5.5 - 7.6	6.1 - 8.2	6.7 - 8.8	7.3 - 9.8
0.02	75	Flowrate per Length (l/s/m)	51	76	102	127	152	178	203	229	254
		NC Level	—	12	20	27	32	37	41	44	47
		Throw (m) Sill or Floor	0.6 - 0.6	1.8 - 1.8	2.7 - 2.7	3.7 - 4.0	4.6 - 4.9	5.5 - 5.8	6.4 - 6.7	6.7 - 7.0	7.0 - 7.3
		Side Wall	1.8 - 2.7	3.0 - 4.0	4.0 - 5.2	4.9 - 6.4	6.1 - 7.6	6.7 - 8.5	7.9 - 9.8	8.5 - 10.7	9.4 - 11.9
0.04	100	Flowrate per Length (l/s/m)	73	108	146	181	217	254	290	341	362
		NC Level	—	13	21	28	34	38	42	45	48
		Throw (m) Sill or Floor	0.9 - 0.9	2.7 - 2.7	3.7 - 3.7	4.6 - 4.6	5.8 - 6.1	6.4 - 6.7	7.3 - 7.6	7.6 - 7.9	8.5 - 8.5
		Side Wall	2.1 - 3.0	3.7 - 4.6	4.9 - 6.1	5.8 - 7.3	7.0 - 8.5	7.9 - 9.8	8.8 - 10.7	9.8 - 11.9	11.0 - 12.8
0.05	125	Flowrate per Length (l/s/m)	94	141	187	235	282	328	376	424	471
		NC Level	—	14	22	29	34	39	43	46	49
		Throw (m) Sill or Floor	0.9 - 0.9	2.7 - 2.7	4.0 - 4.0	4.9 - 5.2	6.1 - 6.4	7.0 - 7.3	7.6 - 7.9	8.5 - 8.5	9.4 - 9.4
		Side Wall	2.7 - 3.7	4.0 - 5.2	5.5 - 6.7	6.4 - 7.9	7.6 - 9.1	8.5 - 10.4	9.4 - 11.3	10.4 - 12.2	11.6 - 13.4
0.06	150	Flowrate per Length (l/s/m)	115	172	231	288	345	403	461	519	576
		NC Level	—	14	22	30	35	40	43	47	50
		Throw (m) Sill or Floor	1.2 - 1.2	3.0 - 3.0	4.3 - 4.3	5.5 - 5.5	6.7 - 6.7	7.6 - 7.6	8.5 - 8.5	9.1 - 9.1	9.8 - 9.8
		Side Wall	3.0 - 4.0	4.3 - 5.5	5.8 - 7.0	7.0 - 8.2	8.2 - 9.4	9.1 - 10.7	10.1 - 11.9	11.3 - 12.8	12.2 - 13.7

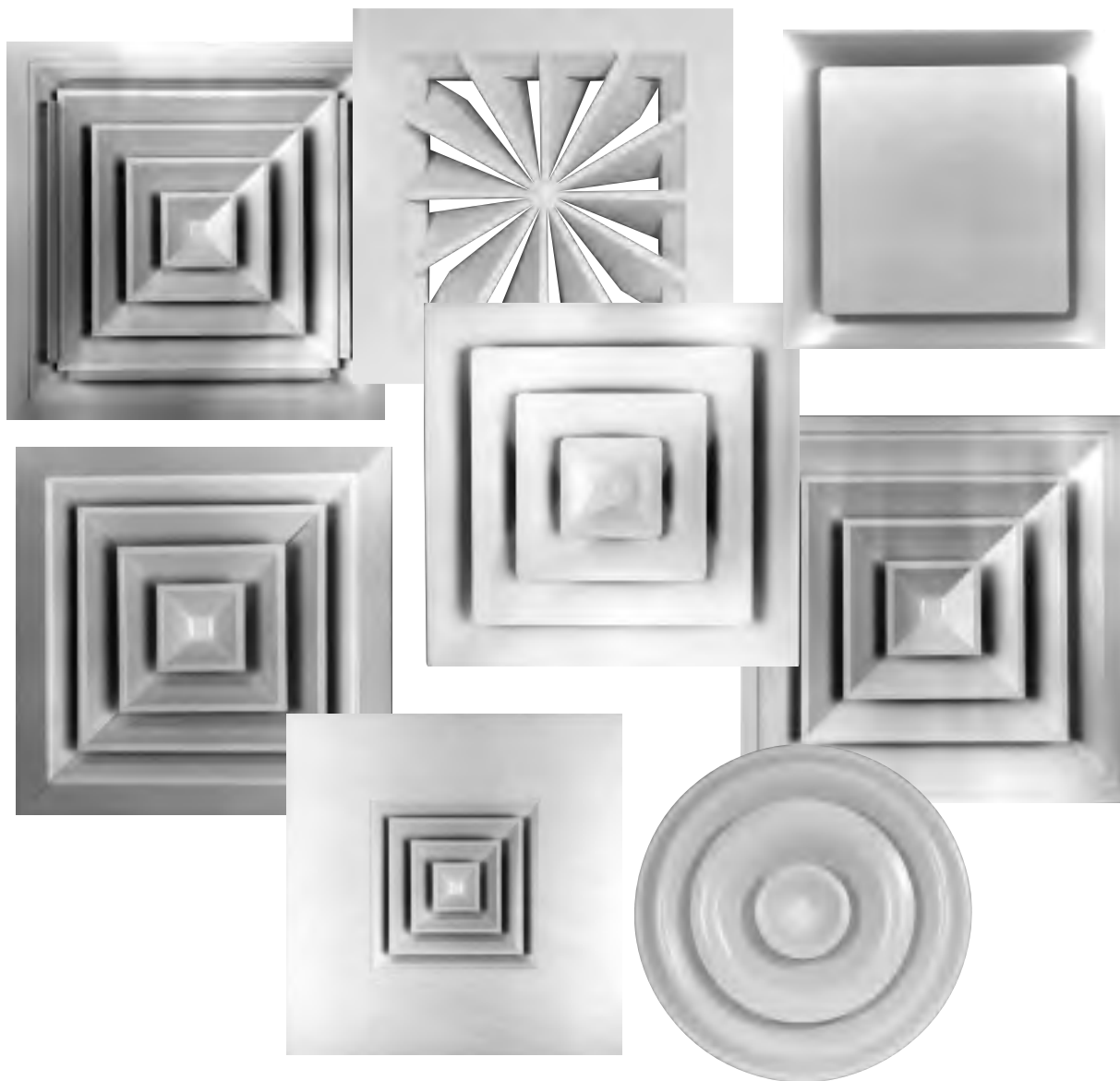
General Product Overview

Ceiling Diffusers

Quality Assured Products, unobtrusive clean lines for appearance, careful engineering and professional workmanship with the backing of an industry leader – these add up to true value; prime reasons for specifying **Advanced Air** Ceiling Diffusers.

Architectural excellence and engineering selections demand high quality products and shipping schedules demand service; all part of the package.

- Comprehensive range of models and styles to choose from.
- Versatile selection and sizing ensures the correct product for any specific application.
- Premium quality aluminium or corrosion resistant steel.
- Various border/frame types, combinations and mounting options.
- Balancing accessories.
- Superior finishes.
- Performance data in accordance with current international test standards and the back-up of one of the finest 'in-house' testing laboratories in North America.



Square and Rectangular Pattern Ceiling Diffusers

- Louvred Face
- High Capacity
- Square, Rectangular or Round Necks

Models:

6500 Fixed Pattern

6550 Adjustable Pattern

(Suffix 'OA' adds opposed blade damper)



The **Advanced Air Model Series 6500 Pattern Ceiling Diffusers** have been specially designed to provide a high capacity louvred face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. An engineered blade design with a 6mm horizontal lip on all angular discharge louvres creates a stable horizontal air pattern that is tight to the ceiling. Ideal for applications in VAV systems, these diffusers create a strong ceiling coanda effect at typical maximum and minimum airflow rates and ensure draft free air distribution.

Available with a wide variety of core styles and neck sizes, a combination can be selected to suit a specified air pattern and deliver the desired volume of air to suit any particular requirement. Many frame types are also available to suit almost any mounting condition including surface mount (flat, beveled or deep drop face) and T-Bar panel types (Standard 25mm, Threadline, Fineline, Spline, Tegular or Metal Snap-in). These models therefore offer a great degree of design flexibility.

The **Advanced Air Model Series 6550 Adjustable Pattern Ceiling Diffusers** offer the same features as the 6500 Series, however, they feature four hinged, individually adjustable deflecting vanes. These vanes allow air pattern adjustment from horizontal to vertical and further enhance the flexibility of the diffuser. Ideal for applications with higher ceiling heights or for heating applications to minimise stratification.

Features:

- Spring loaded core. Removable without the use of tools.
- Core attached by cord for safe removal.
- High neck collars for solid connection.
- Secure core attachment.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular ceilings systems.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way blow in a wide selection of square and rectangular neck sizes.

- Clean lines with no unsightly visible screws.
- Square-to-round transition adaptors are available (SQR option).
- Optional opposed blade damper with screwdriver slot operator.

Material:

Extruded aluminium.

Finish:

AW Appliance White polyester powder finish RAL 9010 semi-gloss.
Other finishes are available.

Available Sizes:

Unit size is determined by duct dimensions. Diffuser necks are undersized to suit ductwork.

Duct Sizes are available in 75mm increments.

Minimum size:

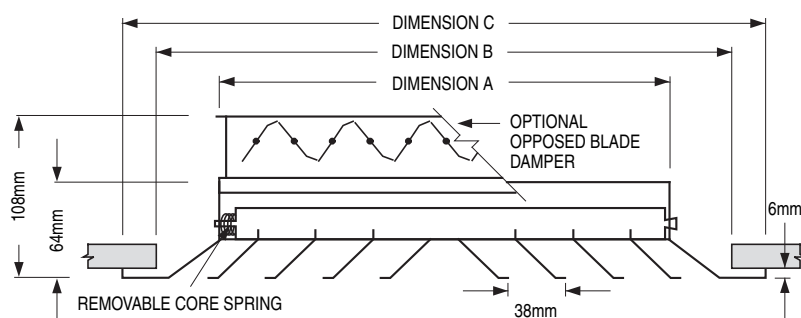
150mm x 150mm square neck. 225mm x 150mm rectangular neck (most core styles).

Maximum size:

Type S, B and D: 900mm x 900mm.

Types L, SP, TL, M and F

Model Series 6500 Diffusers • Dimensions • Frame Types

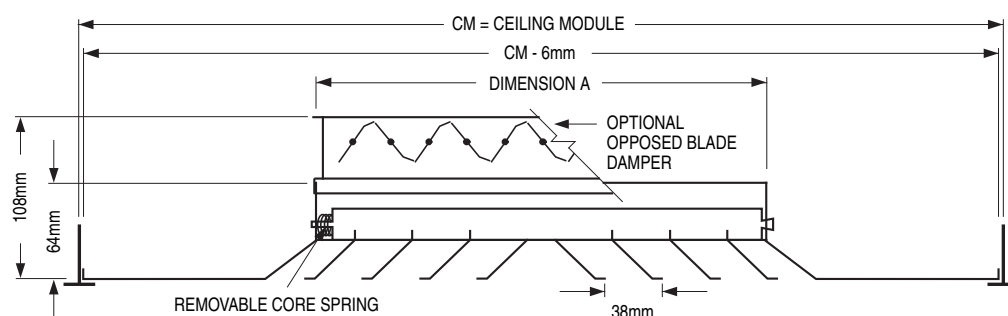


Type S - Surface Mount Frame

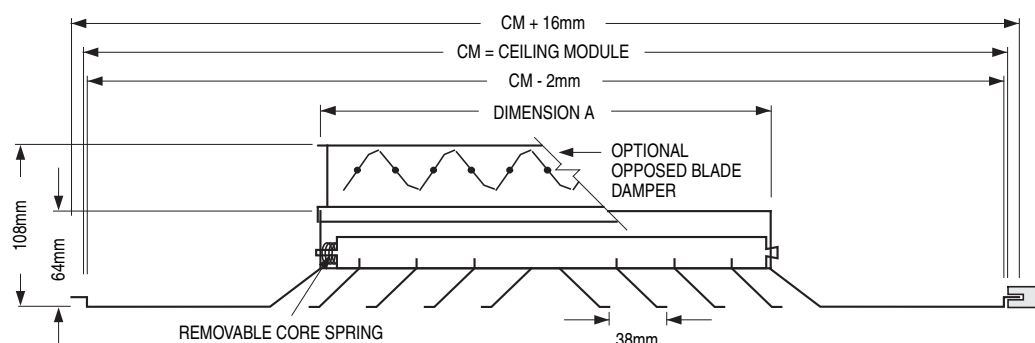
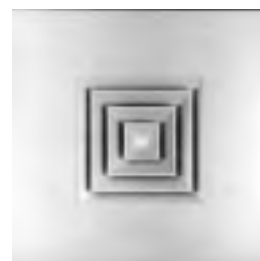


Dimensions			
Nominal Unit Size	Actual Neck Dimension 'A'	Minimum Opening Dimension 'B'	Overall Flanges Dimension 'C'
150 x 150	146 x 146	228 x 288	290 x 290
225 x 225	223 x 223	305 x 305	367 x 367
300 x 300	299 x 299	381 x 381	443 x 443
375 x 375	375 x 375	457 x 457	519 x 519
450 x 450	451 x 451	533 x 533	595 x 595

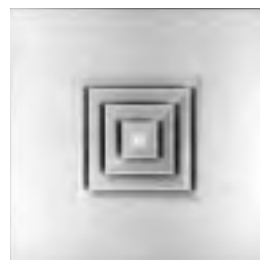
Dimensions are in mm.



Type L - Lay-In T-Bar Frame



Type SP - Spline Frame

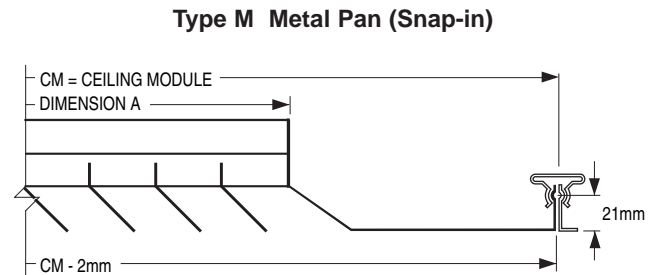
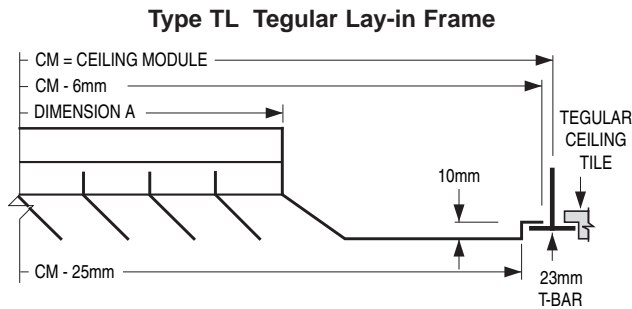


SPLINE TYPE DIFFUSER FOR ONE-DIRECTIONAL EXPOSED T-BAR LAY-IN GRID OR FOR CONCEALED T-BAR GRID.
(SPLINES ON TWO OPPOSITE SIDES. STEEL LIFT BRACKETS ON THE OTHER TWO SIDES).

Extended Panel Diffusers Frame Types L, SP, and TL

If the ceiling module is more than 75mm larger than the neck size of the diffuser in either or both dimensions, a module-sized extended panel will be added.

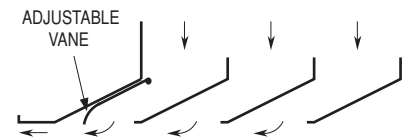
Models 6500 • Frame Types



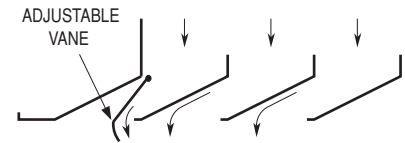
Models 6550• Adjustable Discharge Pattern



Horizontal Pattern
Adjustable Vane
Open Position



Vertical Pattern
Adjustable Vane
Closed Position



Models 6550 Adjustable Diffusers provide continuous adjustment – from horizontal to vertical – on each face of the diffuser. They feature four hinged, independently adjustable control vanes attached to the outer cone.

Features:

- Unit size is determined by duct dimensions. Diffuser necks are under sized to suit ductwork.
- Square or rectangular 1, 2, 3 or 4-way core style diffusers up to and including 600mm x 600mm neck size.
- Square duct sizes are recommended.
- Discharge patterns on all sides are independently adjustable.
- No tools required to adjust pattern.
- Can be adjusted from diffuser face without removing core.

Installation

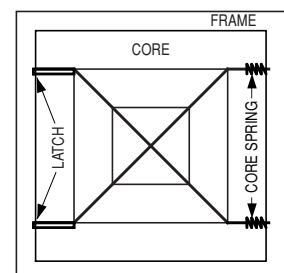
Remove transportation clips once diffuser has been installed.

Removable Core

- Standard feature of **Models 6500, 6550**.
- Engineered design allows easy removal without the need for tools, yet remains securely in place.

How To Remove "Removable" Core













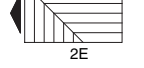



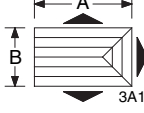
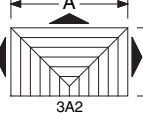
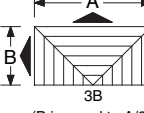
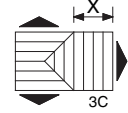
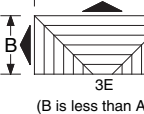



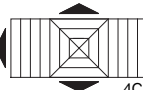

To remove diffuser core, lift the complete core assembly to disengage the latch, push the core against the core spring, pull down the core slightly and remove. Reverse procedure to re-install.



Model Series 6500 • Standard Core Styles

Contact factory for special core configurations.

SIZES AVAILABLE

	SQUARE	RECTANGULAR	CORE	MINIMUM	MAXIMUM
 1-WAY	 1S	 1A  1B	1S	150 x 150	900 x 900
			1A	225 x 150	900 x 835
			1B	225 x 150	900 x 835
 2-WAY	 2S	 2A  2B	2S	150 x 150	900 x 900
			2A	225 x 150	900 x 835
			2B	225 x 150	900 x 835
 2-WAY CORNER	 2G	 2C  2D  2E  2F	2G	150 x 150	900 x 900
			2C	225 x 150	900 x 835
			2D	225 x 150	900 x 835
			2E	225 x 150	900 x 835
			2F	225 x 150	900 x 835
			2F	225 x 150	900 x 835
 3-WAY	 3A	 3A1 (A is greater than B)  3A2 (B is less than A but greater than A/2)  3B (B is equal to A/2)  3C  3E (B is less than A/2)	3A	150 x 150	900 x 900
			3A1	225 x 150	900 x 825
			3A2	225 x 150	900 x 825
			3B	300 x 150	900 x 450
			3C	225 x 150	900 x 825
			3E	375 x 150	900 x 375
 4-WAY	 4A	 4B  4C  4E	4A	150 x 150	900 x 900
			4B	225 x 150	900 x 825
			4C	300 x 150	900 x 750
			4E	375 x 150	900 x 675
			4E	375 x 150	900 x 675

Dimensions are in mm.

Notes:

1. Duct sizes are available in 75mm increments.
2. Unless otherwise specified, the "x" dimension on 3C and 4E patterns will be such that cataloged flow division is obtained.
3. Patterns are shown in plan view (looking down into inlet).

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Example: Pattern Ceiling Diffusers - Model Series 6500

6500 - OA - 300x300 - 600x600 - L - AW - 4A - SQR

Model

- Fixed Pattern

6500

- Adjustable Pattern

6550

Damper

- No Damper

—

- Aluminium Damper

OA

Neck Size (W x H)

Panel Size (Types L, SP, M, TL and F Only)

Metric mm

300 x 300

500 x 500

600 x 300

600 x 600

1200 x 600

Frame Type

- Surface Mount Flat

S

- T-Bar Lay-In

L

- Tegular (Drop Face)

TL

Accessories

- None (default)

—

- Square to Round Transition Collar (specify)

SQR

- Radial Sliding Blade Damper

4250

- Radial Opposed Blade Damper

4275

- Butterfly Damper

4675

Core Style

- See Below.

Finish

- Appliance White (default)

AW

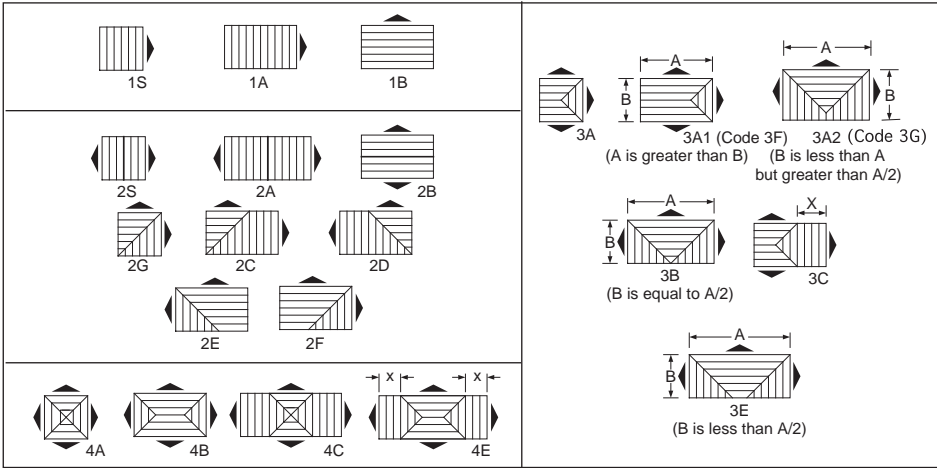
- Aluminium

AL

- Special

SP

Core Style Chart




























Note:
1. Consult text as to limitations of panel, neck size and core style combinations.

Suggested Specification:

Ceiling air diffusers shall be **Advanced Air Model Series 6500** of the sizes and capacities shown. Diffuser shall have a removable core complete with safety cord and shall be complete with a Polyester Powder finish. The frame and blades shall be mitred. Duct connection collars shall be not less than 38mm. Visible screws or mechanical fasteners for core attachment shall not be acceptable.

Performance Data

Models 6500 • Square Louvre Faced Diffuser

Nominal Neck Size	Blow Patterns	Neck Velocity m/s Discharge Velocity (m/s) Pressure Drop Pa	1 2 2	1.25 2.5 4	1.5 3 6	1.75 3.5 9	2 4 13	2.5 5 18	3 6 22	3.5 7 28	4 8 36
150 x 150	    	Flowrate L/S NC Level	22 <15	27.5 <15	33 <15	38.5 <15	44 <15	55 16	66 20	77 24	88 28
		Throw (m)	0.5 - 0.7 0.5 - 0.7 0.6 - 0.8 0.7 - 1.0 0.9 - 1.4	0.6 - 0.9 0.5 - 0.7 0.6 - 0.8 0.7 - 1.0 0.9 - 1.4	0.7 - 1.0 0.7 - 1.0 0.7 - 1.3 1.0 - 1.5 1.4 - 2.1	0.8 - 1.2 0.8 - 1.2 1.0 - 1.5 1.1 - 1.7 1.6 - 2.4	0.9 - 1.4 0.9 - 1.4 1.1 - 1.7 1.3 - 2.0 1.8 - 2.8	1.2 - 1.7 1.2 - 1.7 1.4 - 2.1 1.6 - 2.4 2.3 - 2.5	1.4 - 2.1 1.4 - 2.1 1.7 - 2.5 2.0 - 2.9 2.8 - 4.2	1.6 - 2.4 1.6 - 2.4 2.0 - 3.0 2.3 - 3.4 3.2 - 4.8	1.8 - 2.8 1.8 - 2.8 2.3 - 3.4 2.6 - 3.9 3.7 - 5.5
		Flowrate L/S NC Level	50 <15	62.5 <15	75 <15	87.5 <15	100 <15	125 20	150 25	175 30	200 35
		Throw (m)	0.7 - 1.0 0.7 - 1.0 0.9 - 1.3 1.0 - 1.5 1.4 - 2.1	0.9 - 1.3 0.9 - 1.3 1.1 - 1.6 1.2 - 1.8 1.7 - 2.6	1.0 - 1.6 1.0 - 1.6 1.3 - 1.9 1.2 - 2.2 2.1 - 3.1	1.2 - 1.8 1.2 - 1.8 1.5 - 2.2 1.7 - 2.6 2.4 - 3.7	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3
225 x 225	    	Flowrate L/S NC Level	90 <15	112.5 <15	135 <15	157.5 <15	180 17	225 23	270 28	315 33	360 36
		Throw (m)	0.9 - 1.4 0.9 - 1.4 1.1 - 1.7 1.3 - 2.0 1.9 - 2.8	1.2 - 1.8 1.2 - 1.8 1.4 - 2.1 1.7 - 2.5 2.3 - 3.5	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.6 - 2.5 1.6 - 2.5 2.0 - 3.0 2.3 - 3.5 3.3 - 4.9	1.9 - 2.8 1.9 - 2.8 2.3 - 3.4 2.6 - 4.0 3.7 - 5.6	2.3 - 3.5 2.3 - 3.5 2.9 - 4.3 3.3 - 5.0 4.7 - 7.0	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 4.0 - 5.9 5.6 - 8.4	3.3 - 4.9 3.3 - 4.9 4.0 - 6.0 4.6 - 6.9 6.5 - 9.8	3.7 - 5.6 3.7 - 5.6 4.6 - 6.9 5.3 - 7.9 7.5 - 11.2
		Flowrate L/S NC Level	140 <15	175 <15	210 <15	245 16	280 19	350 25	420 30	490 33	560 39
		Throw (m)	1.2 - 1.7 1.2 - 1.7 1.4 - 2.1 1.6 - 2.5 2.3 - 3.5	1.5 - 2.2 1.5 - 2.2 1.8 - 2.7 2.1 - 3.1 2.9 - 4.4	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.0 - 3.1 2.0 - 3.1 2.5 - 3.7 2.9 - 4.3 4.1 - 6.1	2.3 - 3.5 2.3 - 3.5 2.9 - 4.3 3.3 - 4.9 4.7 - 7.0	2.9 - 4.4 2.9 - 4.4 3.6 - 5.3 4.1 - 6.2 5.8 - 8.7	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.5	4.1 - 6.1 4.1 - 6.1 5.0 - 7.5 5.8 - 8.6 8.1 - 12.2	4.7 - 7.0 4.7 - 7.0 5.7 - 8.6 6.6 - 9.9 9.3 - 14.0
300 x 300	    	Flowrate L/S NC Level	200 <15	250 <15	300 <15	350 <15	400 21	500 27	600 31	700 36	800 39
		Throw (m)	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.4	4.2 - 6.3 4.2 - 6.3 5.1 - 7.7 5.9 - 8.9 8.3 - 12.5	4.9 - 7.3 4.9 - 7.3 6.0 - 8.9 6.9 - 10.3 9.7 - 14.6	5.6 - 8.3 5.6 - 8.3 6.8 - 10.2 7.9 - 11.8 11.1 - 16.7
		Flowrate L/S NC Level	200 <15	250 <15	300 <15	350 <15	400 21	500 27	600 31	700 36	800 39
		Throw (m)	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.4	4.2 - 6.3 4.2 - 6.3 5.1 - 7.7 5.9 - 8.9 8.3 - 12.5	4.9 - 7.3 4.9 - 7.3 6.0 - 8.9 6.9 - 10.3 9.7 - 14.6	5.6 - 8.3 5.6 - 8.3 6.8 - 10.2 7.9 - 11.8 11.1 - 16.7
375 x 375	    	Flowrate L/S NC Level	200 <15	250 <15	300 <15	350 <15	400 21	500 27	600 31	700 36	800 39
		Throw (m)	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.4	4.2 - 6.3 4.2 - 6.3 5.1 - 7.7 5.9 - 8.9 8.3 - 12.5	4.9 - 7.3 4.9 - 7.3 6.0 - 8.9 6.9 - 10.3 9.7 - 14.6	5.6 - 8.3 5.6 - 8.3 6.8 - 10.2 7.9 - 11.8 11.1 - 16.7
		Flowrate L/S NC Level	200 <15	250 <15	300 <15	350 <15	400 21	500 27	600 31	700 36	800 39
		Throw (m)	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.4	4.2 - 6.3 4.2 - 6.3 5.1 - 7.7 5.9 - 8.9 8.3 - 12.5	4.9 - 7.3 4.9 - 7.3 6.0 - 8.9 6.9 - 10.3 9.7 - 14.6	5.6 - 8.3 5.6 - 8.3 6.8 - 10.2 7.9 - 11.8 11.1 - 16.7
450 x 450	    	Flowrate L/S NC Level	200 <15	250 <15	300 <15	350 <15	400 21	500 27	600 31	700 36	800 39
		Throw (m)	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.4	4.2 - 6.3 4.2 - 6.3 5.1 - 7.7 5.9 - 8.9 8.3 - 12.5	4.9 - 7.3 4.9 - 7.3 6.0 - 8.9 6.9 - 10.3 9.7 - 14.6	5.6 - 8.3 5.6 - 8.3 6.8 - 10.2 7.9 - 11.8 11.1 - 16.7
		Flowrate L/S NC Level	200 <15	250 <15	300 <15	350 <15	400 21	500 27	600 31	700 36	800 39
		Throw (m)	1.4 - 2.1 1.4 - 2.1 1.7 - 2.6 2.0 - 3.0 2.8 - 4.2	1.7 - 2.6 1.7 - 2.6 2.1 - 3.2 2.5 - 3.7 3.5 - 5.2	2.1 - 3.1 2.1 - 3.1 2.6 - 3.8 3.0 - 4.4 4.2 - 6.3	2.4 - 3.7 2.4 - 3.7 3.0 - 4.5 3.4 - 5.2 4.9 - 7.3	2.8 - 4.2 2.8 - 4.2 3.4 - 5.1 3.9 - 5.9 5.6 - 8.3	3.5 - 5.2 3.5 - 5.2 4.3 - 6.4 4.9 - 7.4 7.0 - 10.4	4.2 - 6.3 4.2 - 6.3 5.1 - 7.7 5.9 - 8.9 8.3 - 12.5	4.9 - 7.3 4.9 - 7.3 6.0 - 8.9 6.9 - 10.3 9.7 - 14.6	5.6 - 8.3 5.6 - 8.3 6.8 - 10.2 7.9 - 11.8 11.1 - 16.7

Selection Guidelines

Throws are too terminal velocities of 0.75 and 0.5 m/s respectively
For comfort cooling use the following guidelines on terminal velocity.

Ceiling Height (m)	Recommended Terminal Velocity (m/s)
2.7 - 3.2	0.5
> 3.3	0.75

Corrections for side entry plenum (damper 100%open)

Factor
NC Level +10
Pressure Drop X2

Guidance on sizing of spigot (damper100% open)

Spigot Velocity m/s	2	2.5	3	3.5	4
	20	25	30	35	40

Return Factors

Use the scale factors below to determine the performance for extract applications.

Neck Size	Extract Pressure Drop (Pa)	NC Level
150 x 150	Supply Pressure Drop x 1.1	Supply NC + 1
225 x 225	Supply Pressure Drop x 1.2	Supply NC + 2
300 x 300	Supply Pressure Drop x 1.3	Supply NC + 4
375 x 375	Supply Pressure Drop x 1.8	Supply NC + 4
450 x 450	Supply Pressure Drop x 2.1	Supply NC + 6

Performance Notes:

1. Throw values are given for terminal velocities of 0.5m/s - 0.25m/s under isothermal conditions. Data applies to ceiling mounted units when the maximum coanda effect applies. When no ceiling is present (exposed duct), throws are reduced by approximately 35%

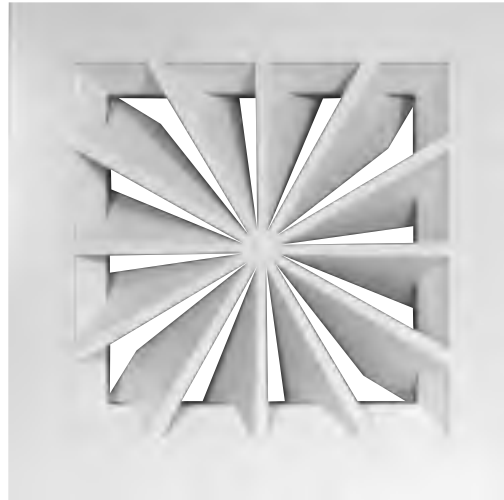
2. The sound pressure levels stated are based on a 10dB sound absorption with diffuser opposed blade damper in the fully open position.

"Twister" Ceiling Swirl Diffuser

- High Performance
- High Induction
- Round Neck

Model:

TWR Steel



The **Advanced Air Model Series TWR "Twister" Stamped Square Ceiling Diffuser** is a high performance ceiling diffuser that is ideal for VAV applications. The name "Twister" is given to this diffuser because of its tight horizontal 360° swirl air pattern. The contemporary architectural radial vane design produces an unmatched high induction swirl pattern engineered to optimize occupant comfort by minimizing stratification over a wide range of air volumes. The "Twister's" superior coanda effect air pattern eliminates dumping and is ideal for VAV applications.

The diffuser features the popular 600mm x 600mm module size and is available with frame/border styles to suit all ceiling systems. The round neck design includes a 50mm high collar for an easy, secure connection.

Features:

- Constructed from corrosion-resistant steel.
- Stamped face design allows for uniformity of the radial vanes.
- Superior coanda effect air pattern, eliminates dumping and is ideal for VAV applications.
- 600mm x 600mm ceiling module size available with frame/border types to suit all ceiling systems.
- Engineered 'swirl' air diffusion pattern.
- Designed for 28 – 350 l/s; available in five neck sizes 150mm – 350mm.
- High neck collars for solid connection.
- Removable plug for screwdriver adjustment of the optional damper from below the face.

Material:

Corrosion-resistant steel.

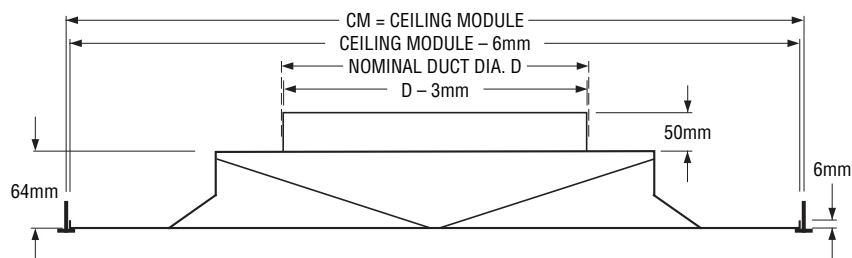
Finish:

AW Appliance White polyester powder finish RAL 9010 semi-gloss as standard. Other finishes are also available.

Dimensional Data and Frame Types

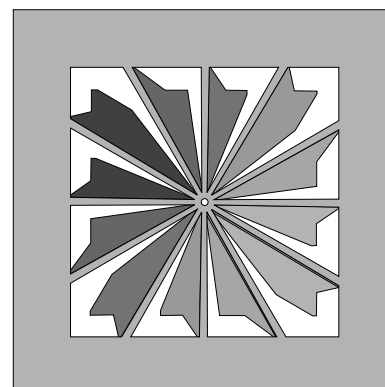
Model TWR

Type L Lay-in T-Bar Frame



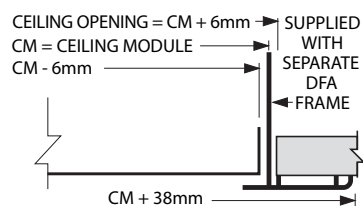
DIMENSIONAL DATA:

CEILING MODULE CM (mm)	NOMINAL DUCT SIZE (mm)
600 x 600	150, 200, 250, 300, 350



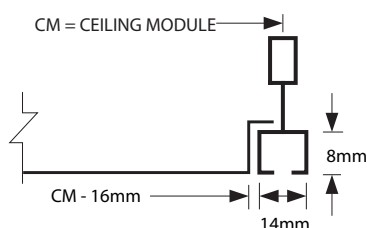
FACE VIEW

Type L Surface Mount with DFA

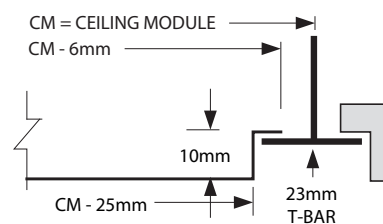


Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

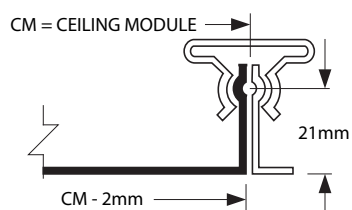
Type F Fineline®



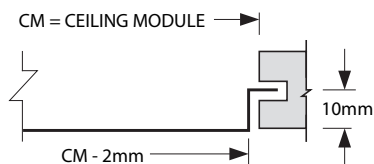
Type TL Tegular Lay-in



Type M Metal Pan (Snap-in)



Type SP Spline



For one directional exposed T-bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

"Twister" Square Ceiling Swirl Diffuser – Model TWR

TWR - 250 - 600 x 600 - L - AW - -			
Model		Accessories	
- Steel Construction	TWR	- None (default)	
Neck Size (mm)		Air Balancing Devices	
- 150, 200, 250, 300, 350		- Radial Sliding Blade Damper	4250
		- Radial Opposed Blade Damper	4275
		- Butterfly Damper	4675
		- Equalising Grid	EGR
		- Damper/Equalising Grid	DEGR
Ceiling Module Size (mm)		Finish	
- 600 x 600		- Appliance White (default)	AW
		- Aluminium	AL
		- Special Custom Colour	SP
Frame Style			
- T-Bar Lay-in	L		
- Spline	SP		
- Metal Pan Snap-In	M		
- Fineline®	F		
- Tegular	TL		

Suggested Specification:

Supply and install **Advanced Air Model TWR "Twister" Ceiling Swirl Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from heavy gauge corrosion-resistant steel. Radial induction vanes shall be one-piece stamped construction. The diffuser is to be sized to suit a 600mm x 600mm ceiling suspension system. The round duct connection collar shall be an integral part of the diffuser assembly, and be not less than 50mm high. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper. The finish shall be AW Appliance White polyester powder finish RAL9010 semi-gloss (optional finishes are available).

Model TWR "Twister" • 600 x 600 Module

Nominal Neck Size	Neck Velocity, (m/s)	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8
150 Dia.	Pressure Drop (Pa)	4	7	10	15	20	25	33	40	53	78	103
	Flowrate (l/s)	28	38	47	57	140	76	85	94	111	130	149
	Throw (m)	0.3 - 0.9	0.6 - 1.2	0.9 - 1.5	0.9 - 1.8	1.2 - 2.1	1.2 - 2.4	1.5 - 2.7	1.5 - 3	1.8 - 3.3	2.1 - 3.3	2.4 - 3.6
	NC Level	—	—	—	—	—	16	20	24	30	35	38
200 Dia.	Pressure Drop (Pa)	4	7	10	15	20	27	34	42	60	82	107
	Flowrate (l/s)	50	66	83	99	116	132	149	165	198	231	264
	Throw (m)	0.9 - 1.5	1.2 - 2.1	1.5 - 2.7	1.5 - 3.0	1.8 - 3.3	2.1 - 3.3	2.4 - 3.6	2.7 - 3.6	3.0 - 4.2	3.0 - 4.5	3.3 - 4.8
	NC Level	—	—	—	—	17	22	25	29	34	38	40
250 Dia.	Pressure Drop (Pa)	4	7	11	15	21	28	35	43	66	85	110
	Flowrate (l/s)	78	104	127	156	179	205	231	257	309	361	411
	Throw (m)	1.5 - 2.7	1.5 - 3.0	2.1 - 3.3	2.4 - 3.6	2.7 - 3.9	3.0 - 4.2	3.0 - 4.8	3.3 - 5.4	3.3 - 5.7	3.6 - 6.0	4.8 - 6.6
	NC Level	—	—	—	16	22	27	31	34	39	44	48
300 Dia.	Pressure Drop (Pa)	4	7	11	16	21	28	35	44	70	86	112
	Flowrate (l/s)	111	149	184	222	260	297	333	370	467	519	592
	Throw (m)	1.8 - 3.0	2.1 - 3.6	2.4 - 4.2	3.0 - 4.8	3.3 - 5.4	3.6 - 5.4	3.9 - 6.0	4.2 - 6.3	5.1 - 7.2	6.0 - 8.1	6.9 - 9.0
	NC Level	—	—	—	20	25	30	34	37	43	48	53
350 Dia.	Pressure Drop (Pa)	4	7	11	16	22	29	36	45	74	88	115
	Flowrate (l/s)	151	201	250	300	352	401	451	500	599	703	800
	Throw (m)	2.1 - 3.6	2.7 - 4.5	3.0 - 5.1	3.6 - 5.4	4.2 - 6.3	4.8 - 6.6	5.1 - 7.2	6.3 - 8.1	7.2 - 9.3	8.4 - 10.5	9.3 - 12.0
	NC Level	—	17	24	30	34	38	41	44	50	54	57

Performance Notes:

1. Throws are given at 0.5 and 0.25 m/s terminal velocities, under isothermal conditions.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

2. NC (Noise Criteria) values are based on 10 dB room absorption, re 10⁻¹² watts. Dash (-) in spaces indicates an NC level of less than 15.

Model TWS

Advanced Air's new range of high performance TWS ceiling swirl diffusers have been designed to deliver the high air change rates required to meet the demand of high loads. The circular pattern of deflection vanes, creates an effective swirl motion that has excellent entrainment and provides the highest level of occupancy comfort.

Features

- Available in 5 standard sizes.
- High air volume capability.
- Lightweight.
- Available with top or side entry plenum.
- Low noise level.
- Attractive appearance with a flat blade design.
- Special face sizes available on request.



Construction

All units are constructed from steel with PVC components and are available with a matching range of top or side entry plenum boxes. Volume control can be achieved with a damper mounted within the plenum inlet spigot.

Range & Air Patterns

Swirl diffusers are available in five standard ceiling module sizes (300, 400, 500 and 600) as per dimensional table. Custom sizes are also available. The blades have been designed so they can be removed and reset in the opposite position. This allows the air pattern to be changed for example if the diffuser is positioned close to a wall.

Plenum Boxes

The plenum boxes for supply diffusers are supplied with a perforated plate to ensure an even airflow across the diffuser blades. There is the option of top entry or side entry spigots which can be supplied with an optional volume control damper with a hand locking quadrant or cord operated that can be adjusted through the diffuser blades.

Finish

The standard diffuser finish is Polyester Powder White RAL 9010 semi-gloss with matt black deflection blades. Other panel colours are available on request as well as the option of white deflection blades.

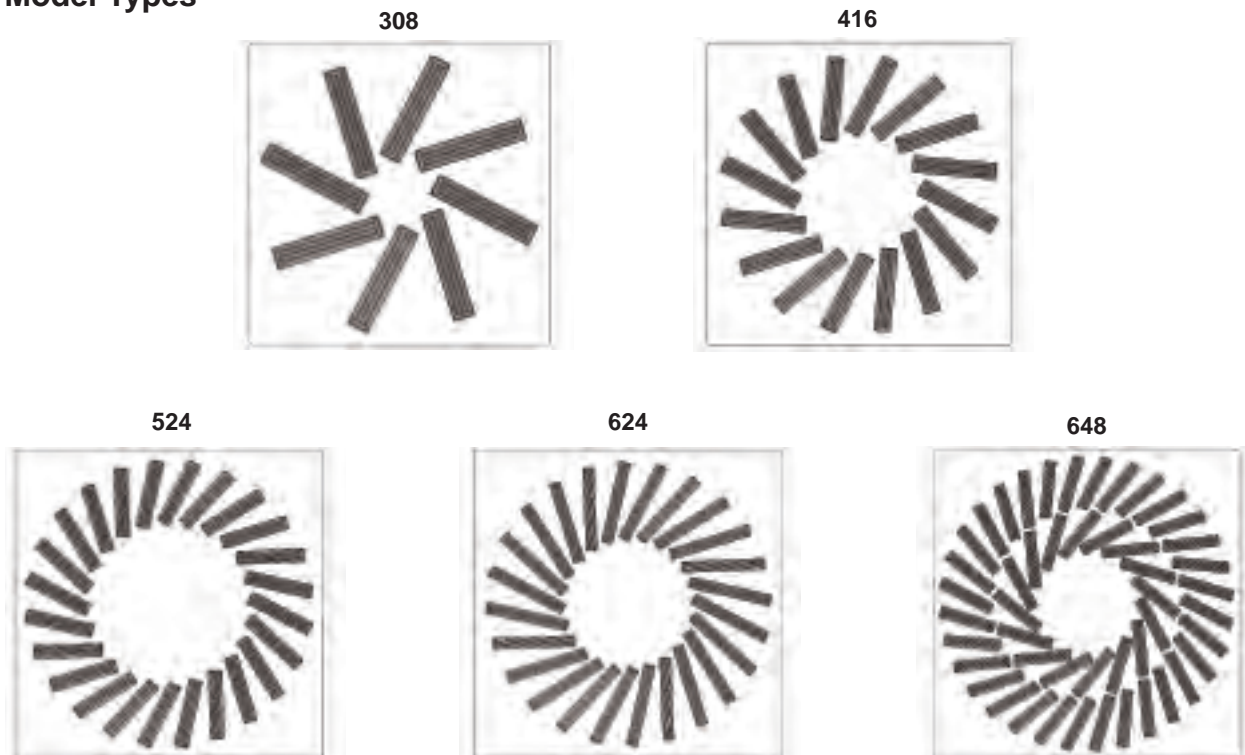
Performance

The tabulated performance data for each listed size of diffuser is based on cooling and heating applications. Pressure drop is stated in Pascal's (N/m²). Throws stated are to a terminal velocity of 0.5m/s and used as a maximum value will give a velocity of less than 0.25m/s within the occupied space. Noise Levels are based on the peak values on NR curves.

Face Models & Frame Types

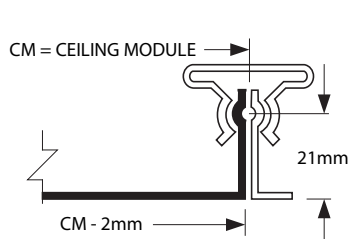
Model TWS

Face Model Types

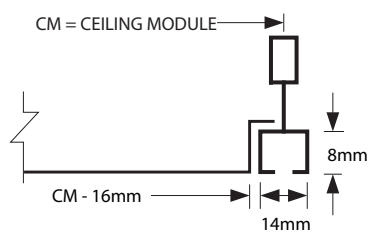


Frame Types

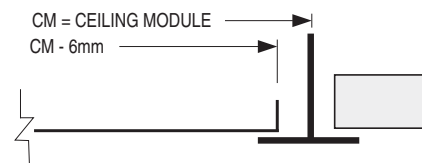
Type M Metal Pan (Snap-in)



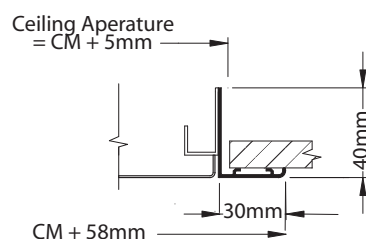
Type TL Tegular



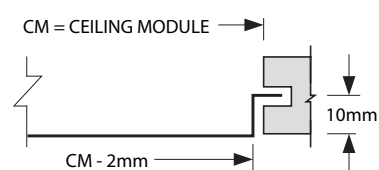
Type L Lay-in



Type S Surface Mount with Removable Face



Type SP Spline



For one directional exposed T-bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

Dimensional Data

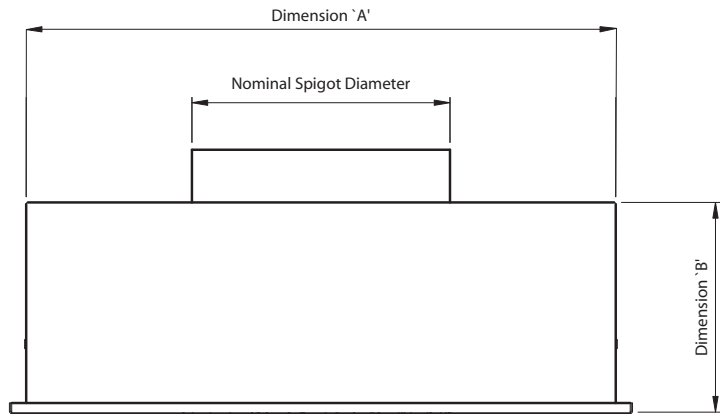
Model TWS

Dimensional Details

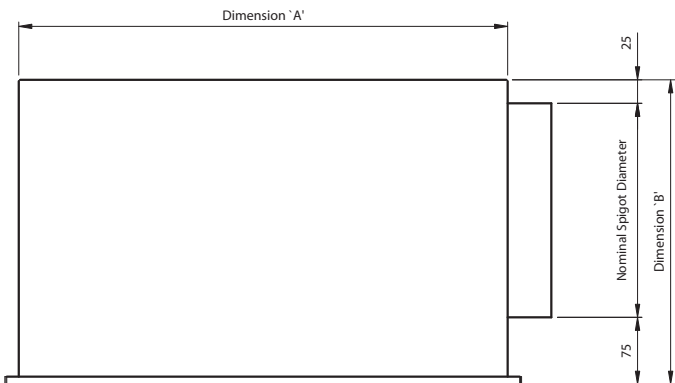
Diffuser Type	Ceiling Module Size	Dim 'A'	Dim 'B'	Dim 'A'	Dim 'B'	Spigot Dia mm
		Side Entry Plenum		Top Entry Plenum		
308	300 x 300	262	260	262	180	160
416	400 x 400	362	260	362	180	160
524	500 x 500	462	300	462	180	200
624	600 x 600	550	350	550	200	250
648	600 x 600	550	415	550	300	315

Alternative face sizes are available upon request

Top Entry Plenum Box



Side Entry Plenum Box



The plenum box has a flange complete with a neoprene seal that is fitted to the back of the diffuser. The diffuser is secured to the plenum by a screw through the centre to a support bar in the plenum. A plastic insert is fitted to the screw head to give an esthetically pleasing finish.

The diffuser has a 15mm return edge around the perimeter.

Other spigot sizes are available and to determine the height of the plenum box add 100mm to the spigot size.

The plenum box can be supplied with an opposed blade damper fitted within the neck of the spigot, this can be cord operated from the face of the diffuser. Alternatively it can be operated by a hand locking quadrant (HLQ), access to plenum via the ceiling void.

Performance Data

Model TWS

Quick Selection Chart

Diffuser Type	Minimum Airflow @ 1200 Centres			Maximum Airflow				Active Area m ²
	l/s	Guide NR	Discharge Velocity m/s	l/s	Guide NR	Centres	Discharge Velocity m/s	
308	16	<20	2.0 m/s	55	35	1200	6.9 m/s	0.008
416	32	<20	2.1 m/s	105	35	1800	7.0 m/s	0.015
524	46	<20	2.2 m/s	140	35	2400	6.7 m/s	0.021
624	75	<20	2.3 m/s	190	35	3000	5.9 m/s	0.032
648	100	<20	2.5 m/s	230	35	3600	5.8 m/s	0.040



The above chart is for guidance only and noise levels are based on a room absorption of 6db.

Diffuser Spacing Performance

Diffuser Type	Installation Type	Minimum Air Volume l/s	Centre Line Spacing Between Diffusers									
			1200 mm		1800 mm		2400 mm		3000 mm		3600 mm	
			l/s	P (Pa)	l/s	P (Pa)	l/s	P (Pa)	l/s	P (Pa)	l/s	P (Pa)
308	Single Row of diffusers	16	63	40	52	36	63	40	65	40	-	-
	Multiple rows		55	36	50	50	55	36	60	40	-	-
416	Single Row of diffusers	32	95	37	90	30	110	40	120	46	-	-
	Multiple rows		28	3	45	7	65	15	85	27	-	-
524	Single Row of diffusers	46	130	40	120	27	140	33	150	38	-	-
	Multiple rows		-	-	55	9	75	18	100	20	-	-
624	Single Row of diffusers	75	140	18	145	17	160	20	170	25	215	35
	Multiple rows		-	-	65	4	85	6	115	11	170	23
648	Single Row of diffusers	100	180	23	180	23	195	24	200	25	230	32
	Multiple rows		-	-	90	4	20	6	120	9	180	22

The maximum air volumes stated are those recommended for comfort cooling conditions.

Diffuser Throw

Air Vol l/s	Model				
	308	416	524	624	648
16	<0.7	-	-	-	-
20	<0.7	-	-	-	-
30	0.9 m	<0.7	-	-	-
40	1.2 m	<0.7	-	-	-
50	1.5 m	0.8 m	<0.7	-	-
60	2.0 m	0.9 m	0.7 m	<0.7	-
70	-	1.0 m	0.8 m	0.7 m	-
80	-	1.1 m	1.0 m	0.8 m	-
90	-	1.3 m	1.1 m	0.8 m	0.8 m
100	-	1.5 m	1.0 m	1.1 m	0.9 m
120	-	1.8 m	1.4 m	1.2 m	1.2 m
140	-	-	2.0 m	1.4 m	1.4 m
160	-	-	-	1.7 m	1.5 m
180	-	-	-	1.8 m	1.7 m
200	-	-	-	2.0 m	1.8 m
220	-	-	-	2.2 m	2.0 m
240	-	-	-	2.5 m	2.2 m
260	-	-	-	-	2.5 m
280	-	-	-	-	2.6 m
300	-	-	-	-	2.8 m

Throws are to a wall or colliding airstream to achieve comfort condition

Performance Notes.

The performance data is based on 12°C temperature differential on cooling and 10°C on heating with the maximum terminal velocity within the occupied zone off 0.25m/s.

NR levels are based on a normal office space having a 6 db room absorption.

Throws are based on a ceiling height of 2.7 to 3.3m ceiling.

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

"Twister" Square Ceiling Swirl Diffuser – Model TWS

TWS - 624 - S I - 250 - L - AW

Model

-TWS Multi Insert Blade

Diffuser Size

300mm Face, 8 Air Slots 308
400mm Face, 16 Air Slots 416
500mm Face, 24 Air Slots 524
600mm Face, 24 Air Slots 624
600mm Face, 48 Air Slots 648

Plenum Box Entry

Side Inlet SI
Top Inlet TI

Spigot Size

160, 200, 250, 315

Frame Style

- T-Bar Lay-in L
- Spline SP
- Metal Pan Snap-In M
- Surface Mount S
- Tegular TL

Accessories

- None (default) —

Air Balancing Devices

- Single Blade Damper Cord operated IDG
- Single Blade Damper Hand Locking Quadrant IDQ

Finish

- White RAL 9010 semi-gloss (default) AW
- Aluminium RAL 9006 AL
- Special Custom Colour SP

- Black Deflection Blades (default) BDB
- White Deflection Blades WDB

Other Face Sizes and Blade Patterns are available subject to technical evaluation.

Suggested Specification

Supply and install **Advanced Air Model TWS “Twister” Ceiling Swirl Diffuser** of the sizes and capacities on the drawings and air distribution schedules. The diffuser face to be manufactured from 1.2mm galvanised mild steel with plastic removable inserts. The diffusers are to be complete with plenum box manufactured from 0.8mm galvanised mild steel including a perforated baffle plate to ensure even airflow over the diffuser blades.

The diffuser overall face dimensions are to suit the project ceiling suspension system and shall have a white polyester powder finish RAL 9010 semi-gloss.

Round Ceiling Diffusers

- Adjustable
- Horizontal Discharge Pattern
- Louvred Face

Models:

RNR Steel

ARNR Aluminium



The **Advanced Air RNR Series Round Ceiling Diffusers** feature three concentric cones in all sizes to offer a balanced appearance where different sizes are used in the same area. The diffusers deliver the air in a true 360° radial horizontal pattern and produce excellent performance in variable air volume systems.

The **Models RNR** and **ARNR** feature infinite horizontal discharge patterns that allow the diffusers to accommodate different flow rate conditions. Position A (cones down) provides maximum capacity at minimum NC levels while Position B (cones up) provides higher induction and more air movement.

Features:

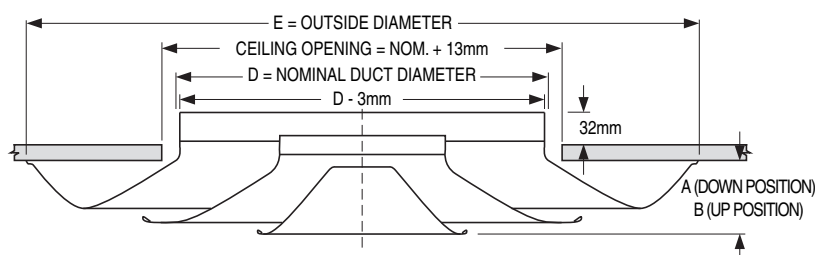
- Engineered 360° air diffusion pattern.
- High neck collars for solid connection.
- All sizes feature three cones for a uniform and balanced appearance.
- A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
- Discharge positions are easily site set by sliding the inner cone assembly up or down. The core is securely retained by a spring loaded friction arrangement.
- Designed for both heating and cooling applications.
- Screwdriver adjustment of the optional balancing damper through the cones.

Material:

Corrosion-resistant steel or aluminium.

Finish:

AW Appliance White polyester powder finish RAL 9010 semi-gloss as standard. Other finishes are also available.



Dimensional Data

Listed Size	Dimensions (mm)		
	A	B	E
152	44	29	295
203	54	38	365
254	73	54	456
305	79	60	549
356	86	67	641
406	102	83	737
457	121	98	851
508	149	124	946
610	197	168	1114

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Round Ceiling Diffusers – Models RNR and ARNR

RNR - 356 - AW - -		
Model		Accessories
Steel	RNR	- None (default) —
Aluminium	ARNR	- Safety Chain SC
		- Foam Gasket GK
Listed Neck Size (mm)		Air Balancing Devices
- 152		- Radial Sliding Blade Damper 4250
- 203		- Radial Opposed Blade Damper 4275
- 254		- Butterfly Damper 4675
- 305		- Equalising Grid EGR
- 356		- Damper/Equalising Grid DEGR
- 406		
- 457		Finish
- 508		- Appliance White (default) AW
- 610		- Aluminium AL
		- Special Custom Colour SP

Note:

1. If more than one accessory is required, list in order.

Suggested Specification:

Supply and install **Advanced Air Model** (select one) **RNR** (steel) or **ARNR** (aluminium) **Round Adjustable Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have three round, spun cones. The inner core assembly shall be removable and slide up or down to attain infinite horizontal discharge pattern adjustment. The diffuser shall have a removable plug, for screwdriver adjustment of the optional damper, without removing the inner core. The finish shall be AW Appliance White polyester powder finish RAL 9010 semi-gloss. (optional finishes are available).

Performance Data

Models RNR and ARNR

Nominal Neck Size	Neck Velocity (m/s)		2	2.5	3	3.5	4	4.5	5	5.5	6
Ø152mm	Pressure Drop (Pa)	Position A	6	10	14	19	24	31	38	46	55
		Position B	10	15	22	30	39	49	61	74	88
	Flowrate (l/s)		37	46	56	65	74	84	92	102	111
	Throw (m)	Position A	0.4 0.8	0.6 1.0	0.8 1.0	0.8 1.2	0.8 1.4	1.0 1.6	1.0 1.6	1.2 1.9	1.2 2.1
		Position B	0.6 1.0	0.8 1.2	1.0 1.2	1.0 1.4	1.0 1.6	1.2 1.9	1.2 1.9	1.4 2.1	1.4 2.5
	NC Level	Position A	-	-	-	-	24	28	31	34	37
		Position B	-	-	-	-	30	34	37	40	43
Ø203mm	Pressure Drop (Pa)	Position A	8	12	17	24	31	39	48	58	70
		Position B	12	19	28	38	50	63	77	94	111
	Flowrate (l/s)		66	83	99	115	132	148	165	181	198
	Throw (m)	Position A	0.6 1.2	0.8 1.4	1.0 1.6	1.0 1.9	1.2 2.1	1.4 2.3	1.6 2.5	1.9 2.7	1.9 2.9
		Position B	0.8 1.4	1.0 1.6	1.2 1.9	1.2 2.1	1.4 2.5	1.6 2.7	1.9 2.9	2.1 3.1	2.1 3.3
	NC Level	Position A	-	-	-	23	27	31	34	37	40
		Position B	-	-	-	29	33	37	40	43	46
Ø254mm	Pressure Drop (Pa)	Position A	7	10	15	20	26	33	40	49	58
		Position B	10	16	23	32	41	52	64	78	93
	Flowrate (l/s)		103	129	154	180	206	232	257	283	309
	Throw (m)	Position A	0.8 1.4	1.0 1.6	1.0 1.9	1.2 2.1	1.4 2.5	1.6 2.7	1.9 2.9	2.1 3.3	2.3 3.5
		Position B	1.0 1.9	1.2 2.1	1.2 2.3	1.4 2.5	1.9 2.9	2.1 3.1	2.3 3.3	2.5 3.7	2.7 3.9
	NC Level	Position A	-	-	-	22	26	30	33	36	39
		Position B	-	-	23	28	32	36	39	42	45
Ø305mm	Pressure Drop (Pa)	Position A	6	10	14	19	25	32	39	47	56
		Position B	10	16	23	31	40	51	63	76	90
	Flowrate (l/s)		148	185	222	260	296	334	370	408	445
	Throw (m)	Position A	1.2 1.9	1.2 2.1	1.4 2.3	1.6 2.7	1.6 2.9	2.1 3.3	2.3 3.7	2.5 3.9	2.7 4.3
		Position B	1.2 2.1	1.4 2.5	1.6 2.7	1.9 3.1	2.1 3.5	2.5 3.7	2.7 4.3	2.9 4.5	3.1 4.9
	NC Level	Position A	-	-	-	21	25	29	32	35	38
		Position B	-	-	22	27	31	35	38	41	44
Ø356mm	Pressure Drop (Pa)	Position A	9	13	19	26	34	43	54	65	77
		Position B	14	22	31	42	55	70	86	104	124
	Flowrate (l/s)		202	252	302	360	420	480	540	600	660
	Throw (m)	Position A	1.2 2.1	1.4 2.5	1.6 2.9	1.9 3.3	2.1 3.7	2.5 4.1	2.7 4.5	3.1 4.9	3.3 5.3
		Position B	1.4 2.3	1.6 2.9	1.9 3.3	2.1 3.7	2.3 4.1	2.7 4.5	3.1 5.1	3.5 5.6	3.7 6.2
	NC Level	Position A	-	-	22	27	31	35	38	41	44
		Position B	-	22	27	32	36	40	43	46	49
Ø406mm	Pressure Drop (Pa)	Position A	8	12	18	24	31	40	49	59	71
		Position B	13	20	28	39	50	64	79	95	113
	Flowrate (l/s)		264	329	395	461	527	593	659	725	791
	Throw (m)	Position A	1.4 2.5	1.6 2.9	1.9 3.3	2.3 3.7	2.5 4.1	2.7 4.5	2.9 4.9	3.3 5.3	3.5 6.4
		Position B	1.4 2.7	1.9 3.3	2.1 3.7	2.5 4.1	2.7 4.5	2.9 4.9	3.1 5.3	3.7 6.0	3.9 6.4
	NC Level	Position A	-	-	21	25	29	33	36	39	42
		Position B	-	19	24	29	33	37	40	43	46
Ø457mm	Pressure Drop (Pa)	Position A	7	11	16	22	29	36	45	54	64
		Position B	12	18	26	35	46	58	72	87	103
	Flowrate (l/s)		334	417	500	584	667	750	834	917	1001
	Throw (m)	Position A	1.4 2.7	1.9 3.3	2.3 3.7	2.5 4.1	2.9 4.7	3.1 5.1	3.5 5.6	3.7 6.0	4.1 6.4
		Position B	1.6 3.1	2.1 3.7	2.5 4.1	2.7 4.5	3.1 5.1	3.5 6.0	3.9 6.2	4.1 6.6	4.3 7.0
	NC Level	Position A	-	-	19	24	28	32	35	38	41
		Position B	-	-	22	27	31	35	38	41	44
Ø508mm	Pressure Drop (Pa)	Position A	7	11	16	22	31	36	44	53	63
		Position B	11	18	25	35	45	57	70	85	101
	Flowrate (l/s)		412	515	618	721	823	926	1030	1133	1235
	Throw (m)	Position A	1.9 3.1	2.1 3.7	2.5 4.1	2.9 4.7	3.1 5.3	3.5 5.8	3.9 6.2	4.3 6.8	4.7 7.2
		Position B	2.1 3.5	2.3 4.1	2.7 4.5	3.1 5.1	3.3 5.8	3.7 6.2	4.1 6.6	4.5 7.2	5.1 7.8
	NC Level	Position A	-	-	20	25	29	33	36	39	42
		Position B	-	18	23	28	32	36	38	42	45

Performance Data

Models RNR and ARNR

Nominal Neck Size	Neck Velocity (m/s)		2	2.5	3	3.5	4	4.5	5	5.5	6
Ø610mm	Pressure Drop (Pa)	Position A	6	10	14	19	25	31	39	47	56
		Position B	10	16	22	30	40	50	62	75	89
	Flowrate (l/s)		593	741	890	1038	1186	1334	1483	1631	1779
	Throw (m)	Position A	2.1 3.7	2.5 4.1	2.9 4.9	3.3 5.6	3.5 6.0	4.1 6.8	4.5 7.4	5.1 8.0	5.6 8.6
		Position B	2.3 3.9	2.7 4.5	3.3 5.3	3.7 6.0	3.9 6.4	4.5 7.2	4.9 8.0	5.6 8.6	6.2 9.5
	NC Level	Position A	-	-	21	26	30	34	37	40	41
		Position B	-	19	24	29	33	37	40	43	46

NC - Noise Criteria (values) based on 10 dB room absorption, re 10^{-12} watts.

Performance Notes:

1. Horizontal throws are given at 0.5 and 0.25 m/s terminal velocities under isothermal conditions.
2. Performance data as shown is for ceiling mounted diffusers. For exposed duct mounting, multiply the throw values by 0.70.
3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

Product Overview

Curved Blade Grilles

Supply

51C Series Aluminium

Models:

51C

One, Two, Three or Four-way
Discharge Pattern

51CD

One or Two-way Discharge
Pattern with Rear Directional
Vaness



The **Advanced Air Model Series 51C Curved Blade Grilles** are designed to meet the demand for top quality and competitive prices. The grilles are carefully constructed to be unobtrusive in appearance for architectural excellence. The grilles may be used in ceiling and also side wall applications. They are suitable for Variable Air Volume Systems.

The **Model Series 51CD** incorporate a set of rear vanes that are individually adjustable for complete directional control and flow equalization.

Features:

- Blades are formed to an engineered contoured cross-section. Both ends of each blade are mounted in friction pivots to allow individual blade adjustment without loosening or clattering.
- Adjustable Pattern - the grille blades are easily adjustable to provide a horizontal one-way, two-way, three-way or four-way air path from a ceiling location. A full down-blow position is also available as required.

- Optional opposed blade damper has a screwdriver slot operator for adjustment through the face of the grille.
- Screw holes in the frame are counter-sunk for neat appearance (standard). 38mm long oval-head screws, painted to match grille, are supplied.
- Concealed mountings are available (option).

Material:

Extruded aluminium

Finish:













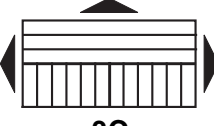

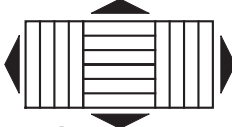
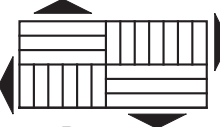
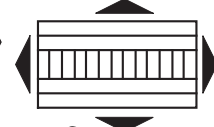
AW Appliance White polyester powder finish RAL 9010 semi-gloss.

Special finishes are available.

Curved Blade Ceiling Grilles

- The **51C Series Grilles** are available in any of the discharge patterns shown below. The blades are individually adjustable for each discharge direction, they can control both volume and angle discharge.

Available Discharge Patterns

BLOW	RECTANGULAR OR SQUARE		
 1-WAY	 1A	 1B	
 2-WAY	 2A	 2B	
 2-WAY CORNER	 2C	 2D	
 3-WAY	 3A	 3B	 3C
 4-WAY	 4A	 4B	 4C

Aluminium Curved Blade Grilles

Supply

Models:

**51C and 51CD
with One and Two-way
Discharge Pattern**

**(Suffix 'OA' adds opposed
blade damper)**



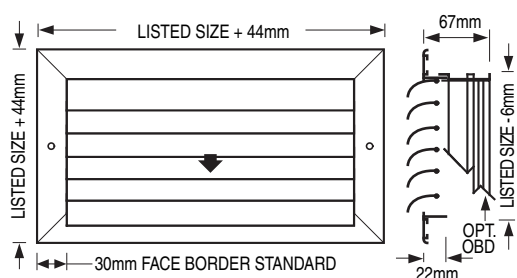
Models 51C and 51CD are supply grilles which incorporate individually adjustable curved blades. The blades can be positioned to provide one-way, two-way and two-way corner-blow discharge air patterns. They are commonly used in ceiling and/or side wall locations and are recommended for use in both heating and cooling applications.

Both one-way and two-way pattern grilles can be adjusted to full or partial down-blow position. The curved streamlined blades are adjusted to a uniform partially closed position to deflect the air path horizontally while retaining an effective area capacity of 35% of the neck area. In the full down-blow position grille effective area is increased to 75%.

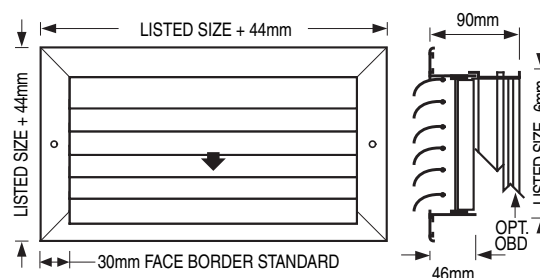
Features:

- High quality, extruded aluminium construction.
- 30mm wide face border with a 25mm overlap margin standard, supplied with countersunk screw holes and mounting screws. NF Narrow Frame with 25mm face border optional. Concealed mounting is optional.
- Extruded aluminium frames, mechanically interlocked with reinforced mitred corners.
- Extruded blades - curved streamlined aluminium blades on 25mm centres. Blades formed with tenons to fit snugly into the side margin, friction loaded to firmly hold deflection setting.
- Integral dampers - aluminium. Opposed blade design with a screwdriver slot operator.
- Adjustable pattern - grille blades easily adjustable to provide horizontal one-way or two-way air path from a ceiling location. Adjustable to a full down-blow position as required.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are also available.
- Standard sizes are available from 150mm x 100mm to 900mm x 900mm. Other sizes are available on request but are subject to manufacturing limitations.

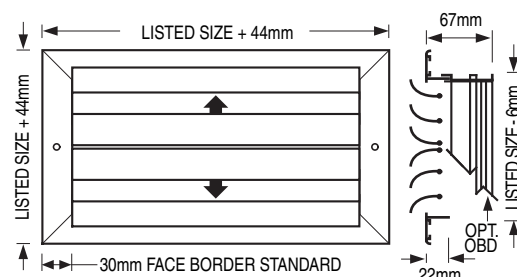
Model 51C One-way Blow (1A)



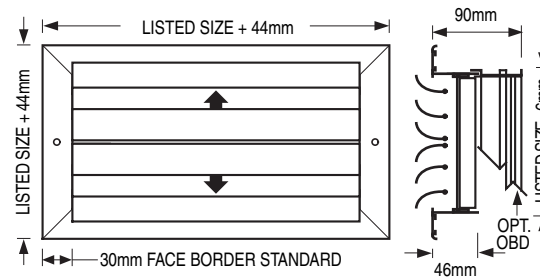
Model 51CD One-way Blow (1A) with Rear Directional Vanes



Model 51C Two-way Blow (2A)



Model 51CD Two-way Blow (2A) with Rear Directional Vanes



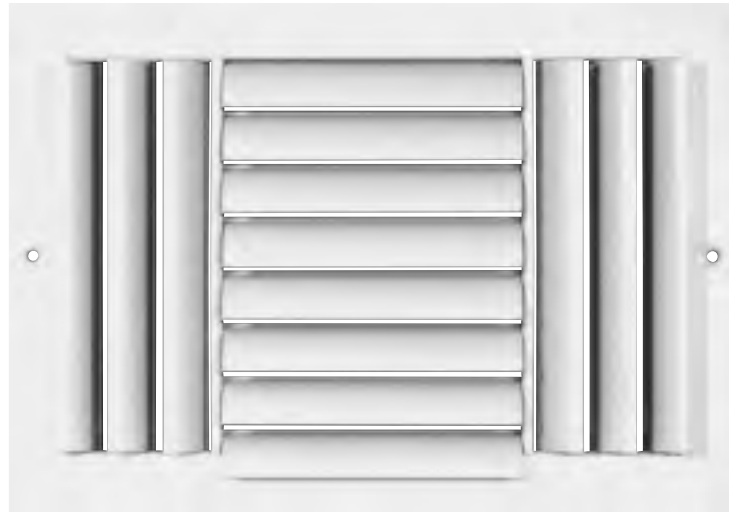
Aluminium Curved Blade Grilles

Supply

Model:

51C with Three and Four-way Discharge Pattern

(Suffix 'OA' adds opposed blade damper)



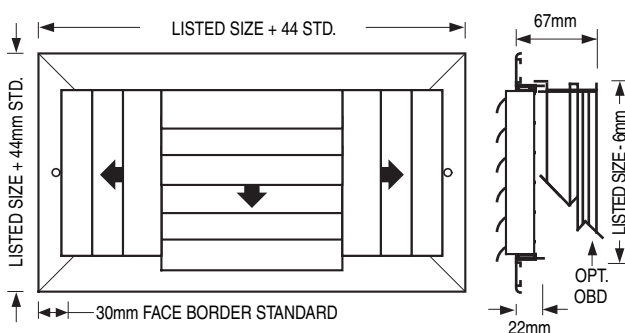
Model 51C Pattern 3A, 3B or 3C Supply Ceiling Grilles have individually adjustable curved blades arranged to provide a three-way ceiling air pattern. **Model 51C Pattern 4A, 4B or 4C Supply Ceiling Grilles** have individually adjustable curved blades arranged to provide a four-way ceiling air pattern. They are recommended for applications in ceiling locations for heating and cooling systems.

Both three-way and four-way pattern grilles can be adjusted to full or partial down-blow position. The curved streamlined blades are adjusted to a uniform partially closed position to deflect the air path horizontally while retaining an effective area capacity of 35% of the neck area. In the full down-blow position grille effective area is increased to 75%.

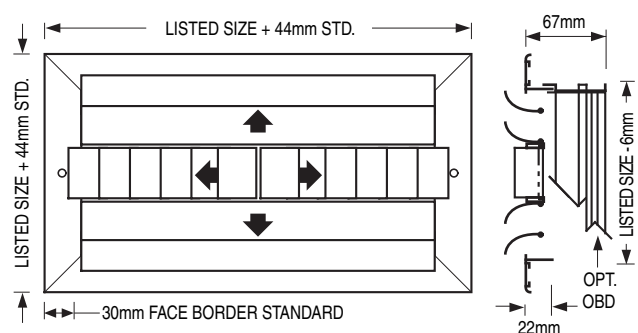
Features:

- High quality, extruded aluminium construction.
- 30mm wide face border with a 25mm overlap margin standard, supplied with countersunk screw holes and mounting screws.
- NF Narrow Frame with 25mm face border optional. Concealed mounting is optional.
- Extruded aluminium frames, mechanically interlocked with reinforced mitred corners.
- Extruded blades - curved streamlined aluminium blades on 25mm centres. Blades formed with tenons to fit snugly into the side margin, friction loaded to firmly hold deflection setting.
- Integral dampers - aluminium. Opposed blade design with a screwdriver slot operator.
- Adjustable pattern - grille blades easily adjustable to provide horizontal three-way or four-way air path from a ceiling location. Adjustable to a full down-blow position as required.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are available.
- Available from 150mm x 100mm to 900mm x 900mm.

Model 51C Three-way Blow (3A)



Model 51C Four-way Blow (4C)



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Aluminium Curved Blade Grilles - Model Series 51C.

51C - OA - 600 x 300 - S - AW - A - 4C - AB - PF

Model

- Aluminium 51C
- Aluminium w/rear vanes 51CD

Damper (OBD)

- Aluminium OA
- No Damper —

Width
mm

Height
mm

Frame/Border Type

Surface Mount:

- Standard 30mm (default) S
- Narrow 25mm NF
- Lay In L

Accessories

- None (default) —
- Foam Gasket GK

Front Blades

- Adjustable (default) AB

Blow Pattern











- 1-way long 1A
- 1-way short 1B
- 2-way long 2A
- 2-way short 2B
- 2-way corner 2C
- 2-way corner 2D
- 3-way short 3A
- 3-way long 3B
- 3-way long 3C
- 4-way long 4A
- 4-way equal 4B
- 4-way short 4C

Fastening
(only for frame/border types S, NF)

- Screw Holes (default) A
- Concealed Mounting Straps C
- None N

Finish

- Appliance White (default) AW
- Aluminium AL
- Mill MI
- Special custom colour SP

AVAILABLE DISCHARGE PATTERNS		
→ 1-WAY		
↕ 2-WAY		
↙↘ 2-WAY CORNER		
↕↔ 3-WAY		
↕↔↕ 4-WAY		

Note:

- 25mm NF narrow frame only available on **51C** Series.
- Model 51CD is only available with blow patterns 1-way and 2-way.

Performance Data

Curved Blade • Supply
Models: 51C, 51CD

Core Area (m ²)	Nominal Duct Size (mm)	Core Velocity (m/s)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
		Pressure Drop (Pa)	1	4	8	15	24	35	46	59
0.01	150x100	Flowrate (l/s)	5	12	17	24	28	33	40	45
		NC Level	—	—	—	14	20	23	27	30
		4-Way				2.1 - 3.4	2.4 - 4.0	3.1 - 4.9	3.7 - 5.5	4.0 - 6.1
		3-Way				2.1 - 3.7	1.8 - 4.3	3.4 - 4.9	3.7 - 5.8	4.3 - 6.7
		2-Way				2.4 - 4.0	3.1 - 4.9	3.7 - 5.5	4.3 - 6.4	4.9 - 7.3
0.01	200x100	1-Way				3.1 - 4.9	3.7 - 5.5	4.3 - 6.7	4.9 - 7.9	5.5 - 8.8
		Flowrate (l/s)	7	14	24	31	38	45	52	61
		NC Level	—	—	—	15	20	25	29	31
		4-Way			1.8 - 2.7	2.1 - 3.7	2.7 - 4.3	3.4 - 4.9	3.7 - 5.8	4.3 - 6.4
		3-Way			1.8 - 3.1	2.4 - 4.0	2.7 - 4.6	3.7 - 5.5	4.3 - 6.4	4.6 - 7.0
0.02	250x100 150x150	2-Way			2.1 - 3.4	2.7 - 4.3	3.4 - 4.9	4.0 - 6.1	4.6 - 7.0	4.9 - 7.9
		1-Way			3.1 - 4.9	3.4 - 4.9	4.0 - 6.1	4.9 - 7.3	5.2 - 8.5	5.8 - 9.5
		Flowrate (l/s)	9	19	28	38	47	57	66	76
		NC Level	—	—	—	15	21	26	29	32
		4-Way			1.8 - 2.7	2.4 - 4.0	2.7 - 4.6	3.4 - 5.2	4.0 - 6.1	4.6 - 7.0
0.02	300x100 200x150	3-Way		1.2 - 2.1	1.8 - 3.1	2.7 - 4.3	3.1 - 4.9	3.7 - 5.8	4.3 - 6.7	4.9 - 7.6
		2-Way		1.2 - 2.1	2.1 - 3.4	2.7 - 4.6	3.4 - 5.2	4.0 - 6.1	4.6 - 7.0	4.9 - 7.9
		1-Way		1.5 - 2.4	2.1 - 3.7	3.1 - 4.9	3.7 - 5.8	4.6 - 7.0	4.9 - 7.9	5.5 - 9.2
		Flowrate (l/s)	12	24	38	50	61	73	85	99
		NC Level	—	—	—	16	22	27	30	33
0.03	350x100	4-Way		1.2 - 2.1	1.8 - 3.1	2.7 - 4.3	3.1 - 4.9	3.7 - 5.8	4.3 - 6.7	4.9 - 7.6
		3-Way		1.2 - 2.1	2.1 - 3.4	2.7 - 4.6	3.4 - 5.2	4.0 - 6.1	4.6 - 7.0	4.9 - 7.9
		2-Way		1.5 - 2.4	2.1 - 3.7	3.1 - 4.9	3.7 - 5.8	4.6 - 7.0	4.9 - 7.9	5.5 - 9.2
		1-Way		1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.6 - 7.0	5.2 - 8.2	5.8 - 9.5	6.7 - 11.0
		Flowrate (l/s)	14	28	42	57	71	85	99	113
0.03	400x100 250x150 200x200	NC Level	—	—	—	17	22	27	31	34
		4-Way		1.2 - 2.1	2.1 - 3.4	2.7 - 4.6	3.4 - 5.2	4.0 - 6.1	4.9 - 7.3	5.2 - 8.2
		3-Way		1.5 - 2.4	2.1 - 3.7	2.7 - 4.6	3.7 - 5.5	4.3 - 6.7	4.9 - 7.6	5.5 - 8.8
		2-Way		1.8 - 2.7	2.4 - 4.0	3.4 - 4.9	4.0 - 6.1	4.9 - 7.3	5.2 - 8.5	6.1 - 9.8
		1-Way		1.8 - 3.1	3.1 - 4.9	4.0 - 6.1	4.9 - 7.3	5.5 - 8.8	6.4 - 10.4	7.3 - 11.9
0.04	450x100 300x150	Flowrate (l/s)	17	33	50	66	83	99	116	132
		NC Level	—	—	10	18	23	28	31	35
		4-Way		1.2 - 2.1	2.1 - 3.4	2.7 - 4.6	3.4 - 5.2	4.0 - 6.1	4.9 - 7.3	5.2 - 8.2
		3-Way		1.5 - 2.4	2.1 - 3.7	2.7 - 4.6	3.7 - 5.5	4.3 - 6.7	4.9 - 7.6	5.5 - 8.8
		2-Way		1.8 - 2.7	2.4 - 4.0	3.4 - 4.9	4.0 - 6.1	4.9 - 7.3	5.2 - 8.5	6.1 - 9.8
0.04	500x100 350x150 250x200	1-Way		1.8 - 3.1	3.1 - 4.9	4.0 - 6.1	4.9 - 7.3	5.5 - 8.8	6.4 - 10.4	7.3 - 11.9
		Flowrate (l/s)	19	38	57	76	94	113	132	151
		NC Level	—	—	12	19	24	29	32	35
		4-Way		1.5 - 2.4	2.1 - 3.4	2.7 - 4.6	3.7 - 5.5	4.3 - 6.4	4.9 - 7.6	5.2 - 8.5
		3-Way		1.5 - 2.4	2.1 - 3.7	3.1 - 4.9	3.7 - 5.8	4.6 - 7.0	4.9 - 7.9	5.5 - 9.2
0.05	600x100 400x150 300x200	2-Way		1.8 - 2.7	2.7 - 4.3	3.4 - 5.2	4.3 - 6.4	4.9 - 7.6	5.5 - 8.8	6.1 - 10.1
		1-Way		1.8 - 3.1	3.1 - 4.9	4.3 - 6.4	4.9 - 7.6	5.5 - 9.2	6.4 - 10.7	7.6 - 12.2
		Flowrate (l/s)	21	42	64	85	106	127	149	170
		NC Level	—	—	13	20	25	29	33	37
		4-Way	0.9 - 1.2	1.5 - 2.4	2.1 - 3.7	3.1 - 4.9	3.7 - 5.8	4.6 - 7.0	5.2 - 8.2	5.5 - 9.2
0.05	600x100 400x150 300x200	3-Way	0.9 - 1.5	1.8 - 2.7	2.4 - 4.0	3.4 - 5.2	4.3 - 6.4	4.9 - 7.6	5.5 - 8.8	6.1 - 9.8
		2-Way	0.9 - 1.5	1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.6 - 7.0	5.2 - 8.5	7.9 - 9.8	6.7 - 11.0
		1-Way	1.2 - 1.8	2.1 - 3.7	3.4 - 5.2	4.3 - 6.7	5.2 - 8.5	6.1 - 10.1	7.0 - 11.6	7.9 - 13.1

Performance Data

Curved Blade • Supply
Models: 51C, 51CD

Core Area (m ²)	Nominal Duct Size (mm)	Core Velocity (m/s)	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
		Pressure Drop (Pa)	1	4	8	15	24	35	46	59
0.06	450x150 250x250	Flowrate (l/s)	28	59	87	118	146	175	205	234
		NC Level	—	—	12	20	26	30	34	37
		Throw (m) 4-Way	0.9 - 1.2	1.8 - 2.7	2.4 - 4.0	3.4 - 4.9	4.0 - 6.1	4.9 - 7.3	5.2 - 8.2	5.8 - 6.4
		3-Way	0.9 - 1.5	1.8 - 2.7	2.7 - 4.3	3.4 - 5.2	4.3 - 6.4	4.9 - 7.9	5.5 - 9.2	6.1 - 10.1
		2-Way	0.9 - 1.5	1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.9 - 7.3	5.2 - 8.5	6.1 - 10.1	7.0 - 11.3
		1-Way	1.2 - 1.8	2.1 - 3.7	3.4 - 5.3	4.6 - 8.2	5.5 - 8.8	6.4 - 7.3	7.6 - 12.2	8.5 - 13.7
0.07	750x100 500x150 350x200 300x250	Flowrate (l/s)	33	66	99	132	165	198	231	264
		NC Level	—	—	14	20	26	30	34	38
		Throw (m) 4-Way	0.9 - 1.5	1.8 - 2.7	2.4 - 4.0	3.4 - 4.9	4.0 - 6.1	4.9 - 7.3	5.8 - 8.5	6.1 - 9.8
		3-Way	0.9 - 1.5	1.8 - 2.7	2.7 - 4.3	3.7 - 5.5	4.3 - 6.7	4.9 - 7.9	5.8 - 9.5	6.4 - 10.7
		2-Way	1.2 - 1.8	2.1 - 3.4	3.1 - 4.9	4.0 - 6.1	4.9 - 7.3	5.5 - 8.8	6.4 - 10.4	7.3 - 11.9
		1-Way	1.2 - 2.1	2.4 - 4.0	3.7 - 5.5	4.9 - 7.3	5.5 - 8.8	6.4 - 10.7	7.6 - 12.5	8.5 - 14.0
0.08	900x100 600x150 400x200 350x250	Flowrate (l/s)	38	76	116	153	191	229	267	307
		NC Level	—	—	15	21	27	31	35	38
		Throw (m) 4-Way	0.9 - 1.5	1.8 - 2.7	2.7 - 4.3	3.4 - 5.2	4.3 - 6.4	4.9 - 7.6	5.5 - 8.8	6.1 - 10.1
		3-Way	0.9 - 1.5	1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.9 - 7.6	5.2 - 8.2	6.1 - 9.8	6.7 - 11.0
		2-Way	1.2 - 1.8	2.1 - 3.4	3.1 - 4.9	4.3 - 6.4	4.9 - 7.6	5.5 - 9.2	6.4 - 10.7	7.6 - 12.2
		1-Way	1.2 - 2.1	2.4 - 4.0	3.7 - 5.5	4.9 - 7.6	5.8 - 9.5	7.0 - 11.3	7.9 - 13.1	9.2 - 14.6
0.08	450x200 300x300	Flowrate (l/s)	40	83	123	165	205	245	288	328
		NC Level	—	—	15	21	27	31	35	38
		Throw (m) 4-Way	0.9 - 1.5	1.8 - 2.7	2.7 - 4.3	3.7 - 5.5	4.3 - 6.7	4.9 - 7.9	5.5 - 9.2	6.4 - 10.4
		3-Way	1.2 - 1.8	1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.9 - 7.3	5.2 - 8.5	6.1 - 9.8	7.0 - 11.3
		2-Way	1.2 - 1.8	2.1 - 3.4	3.4 - 4.9	4.3 - 6.4	4.9 - 7.9	5.8 - 9.5	6.7 - 11.0	7.6 - 12.5
		1-Way	1.2 - 2.1	2.7 - 4.3	3.7 - 5.8	4.9 - 7.6	5.8 - 9.2	7.0 - 11.6	8.2 - 13.4	9.2 - 14.9
0.09	750x150 500x200 400x250 350x300	Flowrate (l/s)	47	97	144	194	241	288	337	385
		NC Level	—	—	15	22	28	32	36	39
		Throw (m) 4-Way	0.9 - 1.5	1.8 - 3.1	2.7 - 4.6	3.7 - 5.5	4.6 - 7.0	5.2 - 8.2	5.8 - 9.5	6.4 - 10.7
		3-Way	1.2 - 1.8	1.8 - 3.1	3.1 - 4.9	4.0 - 6.1	4.9 - 7.3	5.5 - 8.8	6.4 - 10.4	7.0 - 11.6
		2-Way	1.2 - 1.8	2.1 - 3.7	3.4 - 4.9	4.3 - 6.7	5.2 - 8.2	6.1 - 9.8	7.0 - 11.6	7.9 - 12.8
		1-Way	1.5 - 2.4	2.7 - 4.3	4.0 - 6.1	4.9 - 7.9	6.1 - 10.1	7.3 - 11.0	8.5 - 13.7	9.5 - 15.3
0.11	600x200 450x250 400x350	Flowrate (l/s)	54	109	163	217	271	326	380	434
		NC Level	—	—	16	23	29	32	36	40
		Throw (m) 4-Way	0.9 - 1.5	1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.9 - 7.3	5.2 - 8.5	6.1 - 9.8	7.0 - 11.3
		3-Way	1.2 - 1.8	2.1 - 3.4	3.1 - 4.9	4.0 - 6.1	4.9 - 7.6	5.5 - 9.2	6.4 - 10.7	7.6 - 12.2
		2-Way	1.2 - 1.8	2.1 - 3.7	3.4 - 5.2	4.3 - 6.7	5.2 - 8.5	6.1 - 10.1	7.3 - 11.9	8.2 - 13.4
		1-Way	1.5 - 2.4	2.7 - 4.6	4.3 - 6.4	5.2 - 8.2	6.4 - 10.4	7.6 - 12.2	8.5 - 14.0	10.1 - 16.2
0.12	900x100 500x250 350x350	Flowrate (l/s)	59	118	177	236	295	354	413	472
		NC Level	—	—	16	23	29	33	37	40
		Throw (m) 4-Way	1.2 - 1.8	1.8 - 3.1	2.7 - 4.6	3.7 - 5.8	4.9 - 7.3	5.2 - 8.5	6.1 - 10.1	7.0 - 11.3
		3-Way	1.2 - 1.8	2.1 - 3.4	3.1 - 4.9	4.3 - 6.4	4.9 - 8.5	5.8 - 9.5	6.7 - 11.0	7.6 - 12.2
		2-Way	1.2 - 2.1	2.1 - 3.7	3.4 - 5.2	4.6 - 7.0	5.5 - 8.8	6.4 - 10.4	7.6 - 12.2	8.5 - 13.7
		1-Way	1.5 - 2.4	2.7 - 4.6	4.3 - 6.1	5.2 - 8.5	6.4 - 10.4	7.6 - 12.2	8.8 - 14.3	10.1 - 16.2
0.13	400x350 450x300	Flowrate (l/s)	64	127	191	255	319	382	446	510
		NC Level	—	—	16	23	29	33	37	40
		Throw (m) 4-Way	1.2 - 1.8	1.8 - 3.1	3.1 - 4.9	4.0 - 6.1	4.9 - 7.3	5.5 - 8.8	6.4 - 10.4	7.0 - 11.6
		3-Way	1.2 - 1.8	2.1 - 3.4	3.4 - 4.9	4.3 - 6.4	4.9 - 8.5	5.8 - 9.5	6.7 - 11.0	7.6 - 12.5
		2-Way	1.2 - 2.1	2.4 - 4.0	3.7 - 5.5	4.9 - 7.3	5.5 - 8.8	6.4 - 10.7	7.6 - 12.5	8.5 - 14.0
		1-Way	1.5 - 2.4	2.7 - 4.6	4.3 - 6.7	5.2 - 8.5	6.4 - 10.7	7.9 - 12.8	9.2 - 14.9	10.4 - 16.5
0.14	750x200 600x250 500x300 450x350 400x400	Flowrate (l/s)	73	144	217	288	361	434	505	576
		NC Level	—	—	17	24	29	34	38	41
		Throw (m) 4-Way	1.2 - 1.8	2.1 - 3.4	3.1 - 4.9	4.0 - 6.1	4.9 - 7.6	5.5 - 9.2	6.4 - 10.7	7.3 - 11.9
		3-Way	1.2 - 1.8	2.1 - 3.7	3.4 - 4.9	4.3 - 6.4	5.2 - 8.2	6.1 - 9.8	7.0 - 11.6	7.9 - 13.1
		2-Way	1.2 - 2.1	2.4 - 4.0	3.7 - 5.5	4.9 - 7.3	5.8 - 9.5	6.7 - 11.0	7.9 - 12.8	8.8 - 14.0
		1-Way	1.5 - 2.4	3.1 - 4.9	4.3 - 6.7	5.5 - 8.8	6.7 - 11.0	7.9 - 13.1	9.5 - 14.9	10.7 - 14.9

General Product Overview

Grilles

Quality Assured Products, unobtrusive clean lines for appearance, careful engineering and professional workmanship with the backing of an industry leader – these add up to true value; prime reasons for specifying **Advanced Air** grilles.

Architectural excellence and engineering selections demand high quality products and shipping schedules demand service; all part of the package.

- Comprehensive range of models and styles to choose from.
- Versatile selection and sizing ensures the correct product for any specific application.
- Premium quality aluminium.
- Various border/frame types, combinations and mounting options.
- Balancing accessories.
- Superior finishes.
- Performance data in accordance with current international test standards and the back-up of one of the finest 'in-house' testing laboratories in North America.



General Product Overview

Grilles

Supply and Return 5100 Series Aluminium

Models:

51SV	Supply
51SH	Supply
51DV	Supply
51DH	Supply
51FV	Return
51FH	Return
5145V	Return
5145H	Return



The **Advanced Air Model Series 5100 Grilles** are designed to meet the demand for high quality at competitive prices. The grilles are carefully constructed to be unobtrusive in appearance for architectural excellence.

Features:

- Blades and frames are extruded to an engineered contoured cross-section. Both ends of each blade are mounted in friction pivots to allow individual blade adjustment without loosening or clattering.
- Adjustable blades in supply grilles.
- Fixed blade angles have 45° or 0° deflection in return grilles.

- Optional opposed blade damper has a screwdriver slot or a concealed lever operator for adjustment through the face of the grille.
- Screw holes in the frame are counter-sunk for neat appearance (standard). #8 x 38mm long screws, painted to match grille, are supplied.
- Concealed mountings are available (option, except for Type 5145).

Material:

Extruded aluminium.

Finish:

AW Appliance White polyester powder finish RAL 9010 semi-gloss.
Special finishes are available.

Aluminium Single Deflection Grilles

Supply

Models:

51SV and 51SH

(Suffix 'OA' adds opposed blade damper)



Model 51SH

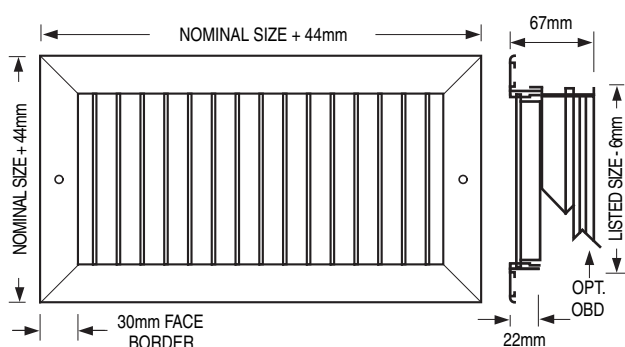
Models 51SV and 51SH Single Deflection Supply Grilles are recommended for applications requiring pattern adjustment in a single horizontal or vertical plane. They are generally used in a high side wall application where vertical blades will control the spread and throw distance of the air pattern to accommodate various layouts. Horizontal blades will control the rise and drop of the air pattern, typically directing warm air downwards or cool air upwards along the ceiling.

The combination of streamlined 'teardrop' shaped blades and 19mm spacing maintains a high effective free area average capacity of 75%, which minimises outlet velocity, reduces pressure drop and assures quiet operation.

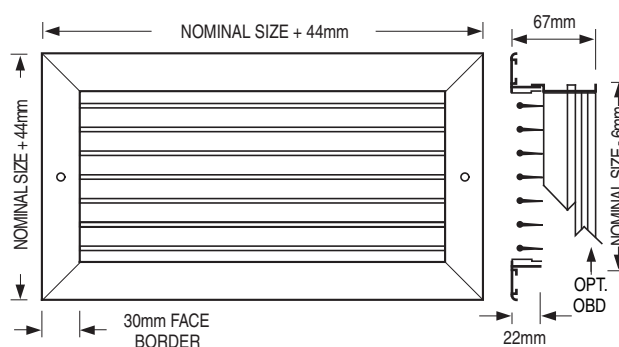
Features:

- High quality, extruded aluminium construction.
- 30mm wide face border with a 25mm overlap margin standard, supplied with countersunk screw holes and mounting screws. NF Narrow Frame with 25mm face border optional. Concealed mounting is optional.
- Rigid extruded aluminium frames with reinforced mitred corners.
- Streamlined shaped extruded blades on 19mm centres. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Integral dampers - aluminium. Opposed blade design with a screwdriver slot operator.
- Adjustable air pattern - Blades are friction pivoted and easily adjusted to provide desired spread or deflection.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are available.
- Standard sizes are available from 100mm x 100mm to 1200mm x 1200mm. Other sizes are available on request but are subject to manufacturing limitations.

Model 51SV Vertical Blades



Model 51SH Horizontal Blades



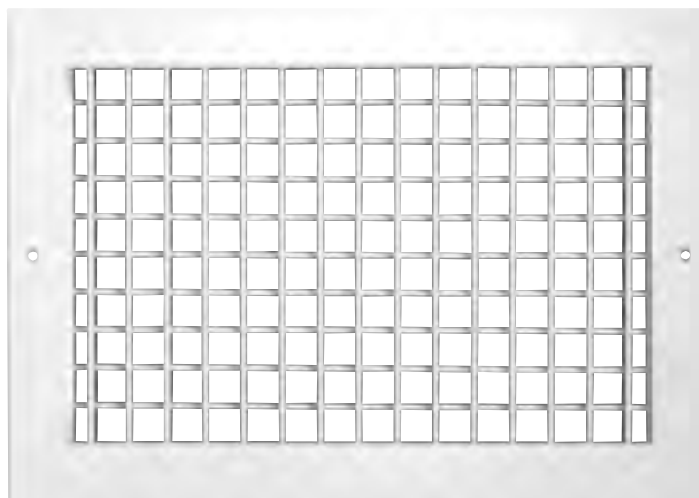
Aluminium Double Deflection Grilles

Supply

Models:

51DV and 51DH

(Suffix 'OA' adds opposed blade damper)



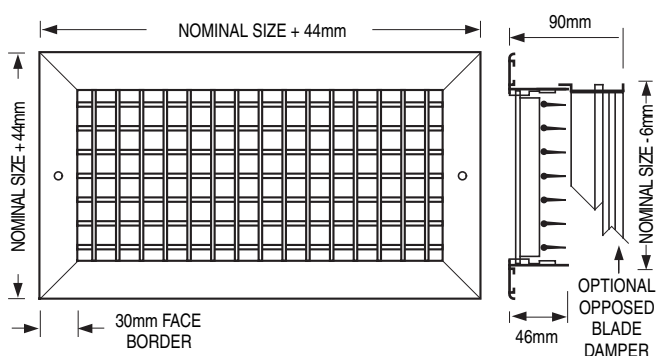
Model 51DH

Models 51DV and 51DH Double Deflection Grilles are recommended for application in systems requiring maximum flexibility. The front set of blades has the greatest effect on the air pattern and therefore should be selected based on particular requirements. Vertical front blades will control the spread and throw distance of the air pattern where as horizontal front blades will control the rise and drop of the air pattern, typically directing warm air downwards or cool air upwards along the ceiling. The combination of streamlined 'teardrop' shaped blades and 19mm spacing maintains a high effective free area average capacity of 75%, which minimises outlet velocity, reduces pressure drop and assures quiet operation.

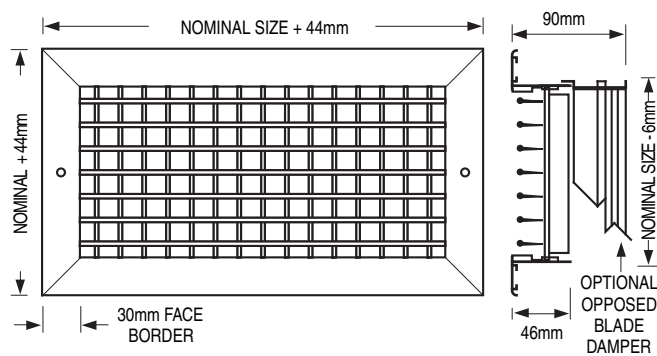
Features:

- High quality, extruded aluminium construction.
- 30mm wide face border with a 25mm overlap margin standard, supplied with countersunk screw holes and mounting screws. NF Narrow Frame with 25mm face border optional. Concealed mounting is optional.
- Rigid extruded aluminium frames with reinforced mitred corners.
- Streamlined shaped extruded blades on 19mm centres. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Integral dampers - aluminium. Opposed blade design with a screwdriver slot operator.
- Adjustable air pattern - Blades are friction pivoted and easily adjusted to provide desired spread or deflection.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are available.
- Standard sizes are available from 100mm x 100mm to 1200mm x 1200mm in single section construction. Other sizes, including multiple section assemblies, are available on request but are subject to manufacturing limitations.

Model 51DV Vertical Front Blades



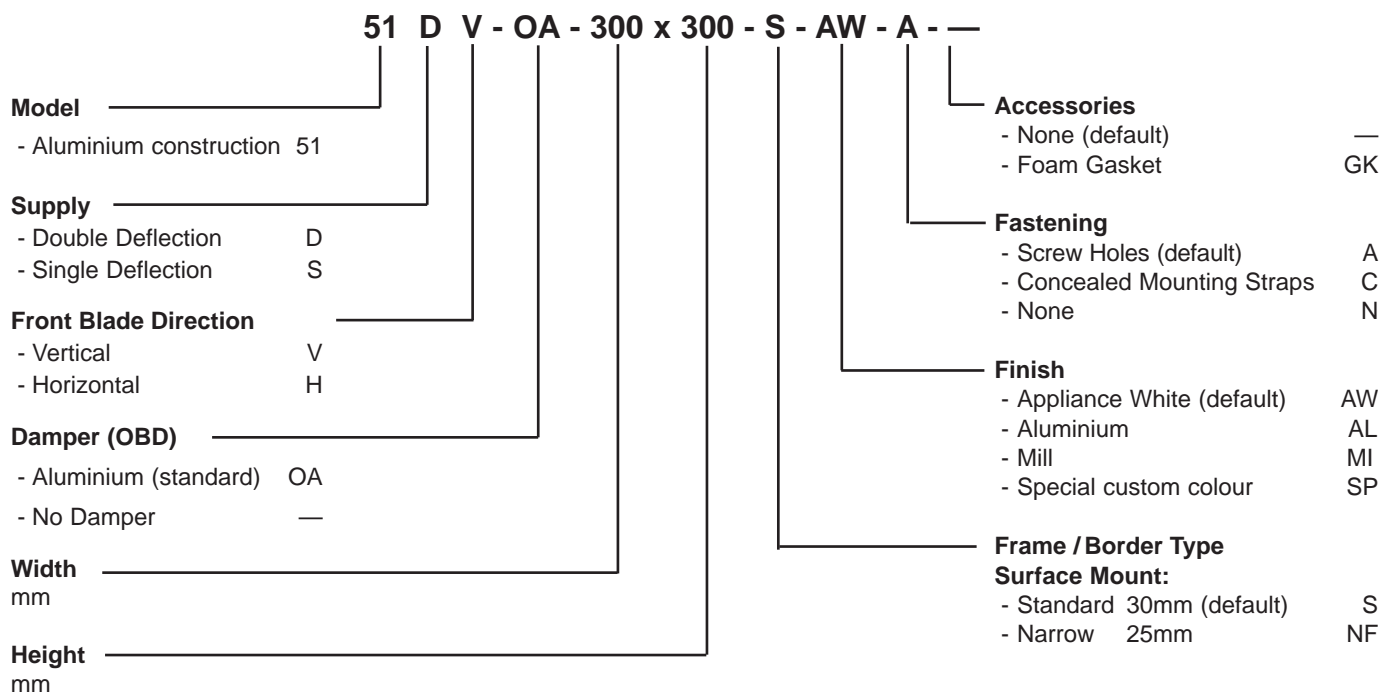
Model 51DH Horizontal Front Blades



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Aluminium Supply Grilles – Model Series 5100.



Notes:

1. For a standard grille with no special requirements, specification is only required as far as the damper selection. The “default” will automatically be selected. For example, an aluminium double deflection grille, front blades vertical and damper, is **Model 51DV-OA**. Unit will be supplied with screw holes and AW Appliance White polyester powder finish RAL 9010 semi-gloss.

Performance Notes for Supply Grilles

5100, Series

Throw, Spread and Drop

The isovel diagrams shown below, illustrate in plan view, the relationship of horizontal spread to throw for three standard vertical blade deflections and represent a typical high side wall supply outlet. The isovels (throw values) are for the cataloged terminal velocities (V_t) of 0.5 and 0.25 m/s.

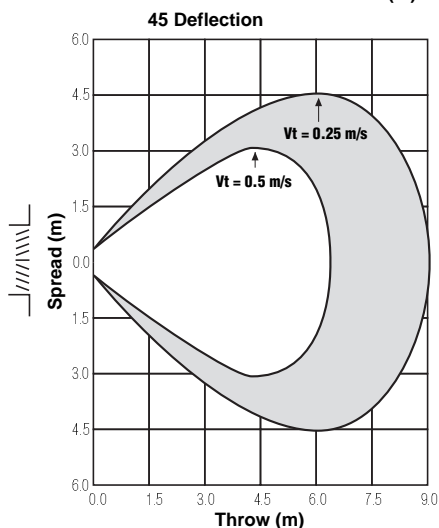
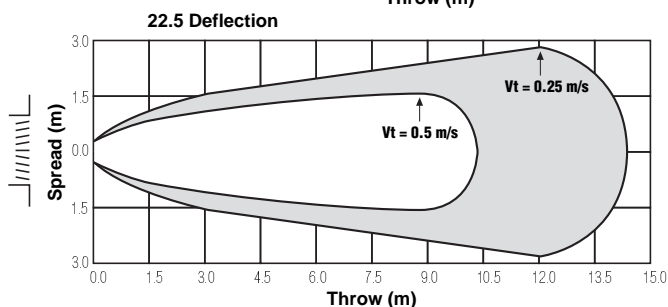
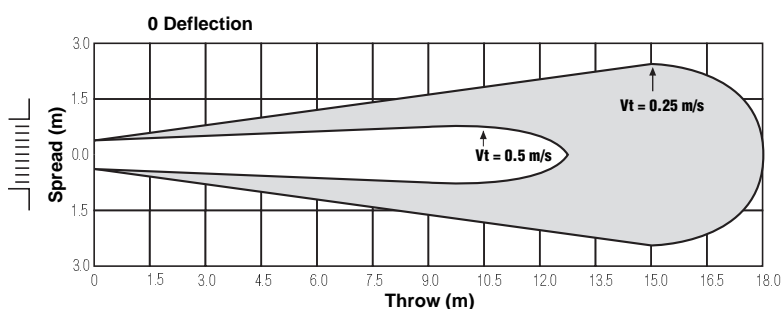
Cataloged data, in accordance with the test code, is with the grille mounted 229mm below the ceiling and benefiting from the ceiling coanda effect under isothermal conditions. Throw values without ceiling effect (greater than 610mm from a surface parallel to the airflow) may be approximated by multiplying the cataloged throw by $\times 0.7$.

In order to offset potential draft problems caused by premature drop, it is recommended to set the blades with an upward deflection setting of 15 - 20° in free space conditions. The angle

of spread and temperature differential between the supply air and room air (ΔT) also effects the drop of the airstream.

Under constant conditions of temperature, volume and core velocity, the wider the spread, the smaller the drop. Typical cold supply air ($-7^\circ\text{C } \Delta T$) reduces horizontal throw by approximately 30%. Warm air will increase throw by approximately 30% and reduce drop.

Spread Characteristics with Three Deflection Settings



NC Corrections for Blade Deflection (add)

Model Type	Damper	Blade Deflection		
		0°	22.5°	45°
Double Deflection	With	0	+ 2	+ 7
	Without	- 4	- 2	+ 3
Single Deflection	With	- 4	- 1	+ 4
	Without	- 8	- 6	+ 1

Note: Damper corrections are for wide open damper.

Pressure Drop Correction Factors for Grilles Without Damper (multiply)

Blade deflection	0°	22.5°	45°
Double Defl. Factor	$\times .80$	$\times .83$	$\times .89$
Single Defl. Factor	$\times .73$	$\times .76$	$\times .85$

NC Corrections for Throttling Damper (add)

Additional Pressure Drop (Pa)	12.5	38	62
Approx. Damper Opening	75%	67%	50%
NC add	+ 6	+ 11	+ 18

Performance Data

Supply Grilles • 5100 Series

Models: 51SH, 51SV, 51DH and 51DV

Listed Duct Size (mm)	Alternate Size (mm)	Core Area (m²)	Core Velocity (m/s)	1.5	2	2.5	3	3.5	4	5
			0° Pressure Drop (Pa) 22.5° 45°	4 4 7	7 8 12	10 12 18	15 17 26	20 23 36	27 31 47	41 48 72
150x150	200x100 250x100	0.02	Flowrate (l/s) NC Level	28 —	38 —	47 —	57 14	66 19	76 23	94 29
			Throw (m) 0° 22.5° 45°	1.1 - 3.0 0.8 - 2.0 0.2 - 1.1	1.7 - 3.9 1.1 - 3.0 0.5 - 1.4	2.7 - 4.5 2.0 - 3.3 0.8 - 1.7	3.3 - 5.1 2.4 - 3.9 1.1 - 2.0	3.6 - 5.4 2.7 - 4.2 1.4 - 2.4	3.9 - 6.0 3.0 - 4.5 1.4 - 2.7	4.5 - 6.6 3.3 - 5.1 1.7 - 3.0
200x150	250x125 300x100	0.03	Flowrate (l/s) NC Level	38 —	51 —	64 10	76 15	89 20	102 24	127 30
			Throw (m) 0° 22.5° 45°	1.4 - 3.6 0.8 - 2.7 0.2 - 1.4	2.7 - 4.5 2.0 - 3.3 0.8 - 1.7	3.3 - 5.1 2.4 - 3.9 1.1 - 2.0	3.9 - 6.0 3.0 - 4.5 1.4 - 2.7	4.5 - 6.6 3.3 - 5.1 1.7 - 3.0	4.8 - 7.2 3.6 - 5.7 2.0 - 3.3	5.4 - 8.1 4.2 - 6.3 2.4 - 3.6
250x150	300x125 400x100	0.03	Flowrate (l/s) NC Level	50 —	66 —	83 11	99 16	116 21	132 25	165 31
			Throw (m) 0° 22.5° 45°	1.7 - 4.5 1.1 - 3.3 0.5 - 1.7	3.0 - 5.4 2.0 - 4.2 1.1 - 2.4	3.9 - 6.3 3.0 - 4.8 1.4 - 2.7	4.8 - 6.9 3.6 - 5.4 2.0 - 3.0	5.1 - 7.5 3.9 - 5.7 2.0 - 3.3	5.4 - 8.1 4.2 - 6.3 2.4 - 3.6	6.0 - 9.1 4.5 - 6.9 2.7 - 4.2
200x200	350x125	0.04	Flowrate (l/s) NC Level	54 —	72 —	90 12	108 17	126 22	143 26	179 32
			Throw (m) 0° 22.5° 45°	1.7 - 4.8 1.1 - 3.6 0.5 - 2.0	3.3 - 5.7 2.4 - 4.5 1.1 - 2.4	3.9 - 6.6 3.0 - 5.1 1.4 - 3.0	4.8 - 7.2 3.6 - 5.7 2.0 - 3.3	5.4 - 7.8 4.2 - 6.0 2.4 - 3.6	5.7 - 7.8 4.5 - 6.9 2.4 - 3.9	6.3 - 9.4 4.8 - 7.2 2.7 - 4.2
300x150	450x100	0.04	Flowrate (l/s) NC Level	59 —	79 —	99 12	119 17	139 22	159 26	198 32
			Throw (m) 0° 22.5° 45°	1.7 - 5.8 1.1 - 4.6 0.5 - 3.0	3.3 - 5.7 2.4 - 4.5 1.1 - 2.4	3.9 - 6.6 3.0 - 5.1 1.4 - 3.0	4.8 - 7.2 3.6 - 5.7 2.0 - 3.3	5.4 - 8.1 4.2 - 6.3 2.4 - 3.6	5.7 - 8.8 4.5 - 6.9 2.4 - 3.9	6.3 - 9.4 4.8 - 7.2 2.7 - 4.2
350x150	250x200	0.05	Flowrate (l/s) NC Level	71 —	94 —	118 13	142 18	165 23	189 27	236 33
			Throw (m) 0° 22.5° 45°	2.4 - 5.1 1.7 - 3.9 0.8 - 2.0	3.6 - 6.0 2.7 - 4.5 1.4 - 2.7	4.5 - 6.6 3.3 - 5.1 1.7 - 3.0	5.1 - 7.5 3.9 - 5.7 2.0 - 3.3	5.7 - 8.4 4.5 - 6.6 2.4 - 3.9	6.0 - 9.1 4.5 - 6.9 2.7 - 4.2	6.6 - 10.0 5.1 - 7.8 3.0 - 4.5
300x200	400x150 600x100	0.05	Flowrate (l/s) NC Level	82 —	109 —	137 14	164 19	192 24	219 28	274 34
			Throw (m) 0° 22.5° 45°	2.4 - 5.4 1.7 - 4.2 0.8 - 2.4	3.6 - 6.3 2.7 - 4.8 1.4 - 2.7	4.8 - 7.2 3.6 - 5.7 2.0 - 3.3	5.4 - 8.1 4.2 - 6.3 2.4 - 3.6	6.0 - 8.8 4.5 - 6.9 2.7 - 3.9	6.3 - 9.4 4.8 - 7.2 2.7 - 4.2	7.2 - 10.6 5.7 - 8.1 3.3 - 4.8
250x250	350x175 650x100	0.06	Flowrate (l/s) NC Level	86 —	115 —	144 14	173 19	202 24	230 28	241 34
			Throw (m) 0° 22.5° 45°	2.4 - 5.4 1.7 - 4.2 0.8 - 2.4	3.9 - 6.3 3.0 - 4.8 1.4 - 2.7	4.8 - 7.5 3.6 - 5.7 2.0 - 3.3	5.4 - 8.1 4.2 - 6.3 2.4 - 3.6	6.0 - 8.8 4.5 - 6.9 2.7 - 3.9	6.3 - 9.7 4.8 - 7.5 2.7 - 4.5	7.5 - 10.9 5.7 - 8.4 3.3 - 5.1
300x250	500x150 600x125	0.07	Flowrate (l/s) NC Level	105 —	140 —	175 15	210 20	244 25	279 29	349 35
			Throw (m) 0° 22.5° 45°	3.0 - 6.3 2.0 - 4.8 1.1 - 2.7	4.2 - 7.2 3.3 - 5.7 1.7 - 3.3	5.4 - 8.4 4.3 - 6.6 2.4 - 3.9	6.3 - 9.1 4.8 - 6.9 2.7 - 4.2	6.9 - 10.0 5.4 - 7.8 3.0 - 4.5	7.2 - 10.9 5.7 - 8.4 3.3 - 5.1	8.4 - 12.1 6.6 - 9.4 3.9 - 5.7
550x150	400x200 700x125 900x100	0.07	Flowrate (l/s) NC Level	113 —	151 —	189 16	227 21	264 26	302 30	378 36
			Throw (m) 0° 22.5° 45°	3.0 - 6.6 2.0 - 5.1 1.1 - 3.0	4.5 - 7.5 3.3 - 5.7 1.7 - 3.3	5.7 - 8.8 4.5 - 6.9 2.4 - 3.9	6.6 - 9.7 5.1 - 7.5 3.0 - 4.5	7.2 - 10.6 5.7 - 8.1 3.3 - 5.4	7.5 - 11.5 5.7 - 9.1 3.3 - 5.4	8.8 - 12.7 6.9 - 10.0 3.9 - 6.0
300x300	350x250 450x200 600x150 950x100	0.08	Flowrate (l/s) NC Level	127 —	170 —	212 16	255 21	297 26	340 30	425 36
			Throw (m) 0° 22.5° 45°	3.3 - 6.9 2.4 - 5.4 1.1 - 3.0	4.5 - 7.8 3.3 - 6.0 1.7 - 3.6	6.0 - 9.1 4.5 - 6.9 2.7 - 4.2	6.9 - 10.0 5.4 - 7.8 3.0 - 4.5	7.2 - 10.9 5.7 - 8.4 3.3 - 5.1	7.8 - 11.8 6.0 - 9.4 3.6 - 5.4	9.1 - 13.3 6.9 - 10.6 4.2 - 6.3
450x250	750x150	0.10	Flowrate (l/s) NC Level	160 —	213 10	267 17	320 22	373 27	427 31	533 37
			Throw (m) 0° 22.5° 45°	3.6 - 7.8 2.7 - 6.0 1.4 - 3.6	5.1 - 9.1 3.9 - 6.9 2.0 - 4.2	6.6 - 10.0 5.1 - 7.8 3.0 - 4.5	7.8 - 11.2 6.0 - 8.8 3.6 - 5.1	8.1 - 12.1 6.3 - 9.4 3.6 - 5.7	9.1 - 13.0 6.9 - 10.3 4.2 - 6.0	10.0 - 14.5 7.8 - 11.5 4.5 - 6.9
350x350	400x300 500x250 600x200 850x150	0.12	Flowrate (l/s) NC Level	176 —	234 10	293 17	351 22	410 27	468 31	585 37
			Throw (m) 0° 22.5° 45°	4.5 - 9.1 3.3 - 6.9 1.7 - 4.2	6.6 - 10.9 5.1 - 8.4 3.0 - 5.1	7.8 - 11.8 6.0 - 9.4 3.6 - 5.4	9.1 - 13.3 6.9 - 10.6 4.2 - 6.3	10.0 - 14.5 7.8 - 11.5 4.5 - 6.9	10.9 - 15.5 8.4 - 12.1 5.1 - 7.2	11.8 - 17.3 9.4 - 13.6 5.4 - 8.1

Performance Data

Supply Grilles • 5100 Series

Models: 51SH, 51SV, 51DH and 51DV

Listed Duct Size (mm)	Alternate Size (mm)	Core Area (m ²)	Core Velocity (m/s)	1.5	2	2.5	3	3.5	4	5
			0°	4	7	10	15	20	27	41
			22.5°	4	8	12	17	23	31	48
			45°	7	12	18	26	36	47	72
450x300	400x350 550x250 700x200 950x150	0.13	Flowrate (l/s)	194	259	323	388	453	517	647
			NC Level	—	11	18	23	28	32	38
			Throw (m)	0° 22.5° 45°	4.5 - 9.1 3.3 - 6.9 1.7 - 4.2	6.6 - 10.9 5.1 - 8.4 3.0 - 5.1	8.1 - 12.1 6.3 - 9.4 3.6 - 5.7	9.1 - 13.3 6.9 - 10.6 4.2 - 6.3	10.0 - 14.5 7.8 - 11.5 4.5 - 6.9	12.1 - 17.6 9.4 - 13.9 5.7 - 8.4
600x254	500x300 750x200	0.14	Flowrate (l/s)	215	287	359	430	502	574	717
			NC Level	—	11	18	23	28	32	38
			Throw (m)	0° 22.5° 45°	4.8 - 9.7 3.6 - 7.5 2.0 - 4.5	6.6 - 11.5 5.1 - 9.1 3.0 - 5.4	8.8 - 12.7 6.9 - 10.0 3.9 - 6.0	9.7 - 14.2 7.5 - 11.2 4.5 - 6.6	10.6 - 15.2 8.1 - 11.8 4.8 - 7.2	11.5 - 16.4 9.1 - 13.0 5.4 - 7.8
400x400	450x350 550x300 750x200	0.15	Flowrate (l/s)	232	310	387	464	542	619	774
			NC Level	—	11	18	23	28	32	38
			Throw (m)	0° 22.5° 45°	5.1 - 10.6 3.9 - 8.1 2.0 - 4.8	6.9 - 11.8 5.4 - 9.4 3.0 - 5.4	8.8 - 13.3 6.9 - 10.6 3.9 - 6.3	10.3 - 14.5 8.1 - 11.5 4.8 - 6.9	11.2 - 16.1 8.8 - 12.7 5.1 - 7.5	11.8 - 17.0 9.4 - 13.3 5.4 - 8.1
600x300	450x400 550x300 750x250 900x200	0.17	Flowrate (l/s)	262	349	437	524	611	698	873
			NC Level	—	12	19	24	29	33	39
			Throw (m)	0° 22.5° 45°	5.1 - 10.6 3.9 - 8.1 2.0 - 4.8	7.2 - 12.4 5.7 - 9.7 3.3 - 5.7	9.1 - 13.6 6.9 - 10.6 4.2 - 6.3	10.6 - 15.5 8.1 - 12.1 4.8 - 7.2	11.2 - 16.7 8.8 - 13.0 5.1 - 7.8	12.4 - 17.9 9.7 - 14.2 5.7 - 8.4
450x450	500x400 600x350 700x300 800x250	0.20	Flowrate (l/s)	297	396	495	595	694	793	991
			NC Level	—	12	19	24	29	33	39
			Throw (m)	0° 22.5° 45°	5.4 - 11.2 4.2 - 8.8 2.4 - 5.1	7.8 - 13.3 6.0 - 10.6 3.6 - 6.3	10.0 - 14.8 7.8 - 11.8 4.5 - 6.9	11.2 - 16.4 8.8 - 13.0 5.1 - 7.8	12.1 - 17.9 9.4 - 14.2 5.7 - 8.4	13.3 - 19.1 10.6 - 15.2 6.3 - 9.1
750x300	500x450 550x400 650x350 900x250	0.22	Flowrate (l/s)	328	438	547	657	766	876	1095
			NC Level	—	13	20	25	30	34	40
			Throw (m)	0° 22.5° 45°	6.0 - 12.1 4.5 - 9.4 2.7 - 5.7	8.4 - 14.2 6.6 - 11.2 3.9 - 6.6	10.9 - 16.1 8.4 - 12.7 5.1 - 7.5	12.1 - 17.6 9.4 - 13.9 5.7 - 8.4	13.3 - 19.4 10.6 - 15.5 6.3 - 9.4	14.2 - 20.6 11.2 - 16.4 6.6 - 10.0
600x400	800x300	0.23	Flowrate (l/s)	354	472	590	708	826	944	1180
			NC Level	—	13	20	25	30	34	40
			Throw (m)	0° 22.5° 45°	6.3 - 12.7 4.8 - 10.0 2.7 - 6.0	8.8 - 14.8 6.9 - 11.8 3.9 - 6.9	11.2 - 16.7 8.8 - 13.0 5.1 - 7.8	12.7 - 18.5 10.0 - 14.5 6.0 - 8.8	13.9 - 19.7 10.9 - 15.5 6.6 - 9.4	14.8 - 21.6 11.8 - 17.0 6.9 - 10.3
500x500	550x450	0.24	Flowrate (l/s)	369	493	616	739	862	985	1232
			NC Level	—	13	20	25	30	34	40
			Throw (m)	0° 22.5° 45°	6.3 - 13.0 4.8 - 10.3 2.7 - 6.0	8.8 - 14.8 6.9 - 11.8 3.9 - 7.2	11.5 - 16.7 8.8 - 13.0 5.4 - 8.1	13.0 - 18.8 10.3 - 14.8 6.0 - 9.1	14.2 - 20.3 11.2 - 16.1 6.6 - 9.7	15.2 - 21.9 11.8 - 17.3 7.2 - 10.6
900x300	550x500 600x450 650x400 750x350	0.26	Flowrate (l/s)	395	527	658	790	922	1053	1317
			NC Level	—	13	20	25	30	34	40
			Throw (m)	0° 22.5° 45°	6.6 - 13.6 5.1 - 10.6 3.0 - 6.3	9.4 - 15.8 7.2 - 12.4 4.2 - 7.5	11.8 - 17.6 9.4 - 13.9 5.4 - 8.4	13.6 - 19.7 10.6 - 15.5 6.3 - 9.4	14.5 - 21.3 12.4 - 17.9 7.5 - 10.9	15.8 - 22.5 12.4 - 17.9 7.5 - 10.9
550x550	600x500 650x450 750x400 1000x300	0.29	Flowrate (l/s)	449	598	748	898	1047	1197	1496
			NC Level	—	14	21	26	31	35	41
			Throw (m)	0° 22.5° 45°	7.2 - 14.2 5.7 - 11.2 3.3 - 6.6	10.0 - 16.7 7.2 - 12.4 4.5 - 7.8	12.7 - 18.8 6.9 - 14.8 6.0 - 9.1	14.2 - 20.6 11.2 - 16.4 6.6 - 10.0	15.5 - 22.5 12.1 - 17.9 7.2 - 10.9	16.7 - 24.0 13.0 - 19.1 7.8 - 11.5
750x450	600x550 850x400 1000x350	0.33	Flowrate (l/s)	501	668	835	1002	1169	1336	1671
			NC Level	—	14	21	26	31	35	41
			Throw (m)	0° 22.5° 45°	7.5 - 15.2 5.7 - 11.8 3.3 - 7.2	10.3 - 17.6 8.1 - 13.9 4.8 - 8.4	13.3 - 20.0 10.6 - 15.8 6.3 - 9.7	15.2 - 21.9 11.8 - 17.3 7.2 - 10.6	16.4 - 23.7 13.0 - 18.8 7.8 - 11.5	17.6 - 25.2 13.9 - 20.0 8.4 - 12.1
600x600	650x550 700x500 800x450 650x400	0.35	Flowrate (l/s)	537	715	894	1073	1252	1431	1789
			NC Level	—	13	20	25	30	34	40
			Throw (m)	0° 22.5° 45°	7.8 - 15.8 6.0 - 12.4 3.6 - 7.5	10.9 - 17.9 8.4 - 14.2 5.1 - 8.4	13.6 - 20.3 10.6 - 16.1 6.3 - 9.7	15.8 - 22.5 12.4 - 17.9 7.5 - 10.9	17.0 - 24.3 13.3 - 19.1 8.1 - 11.8	17.9 - 26.1 14.2 - 20.6 8.4 - 12.7

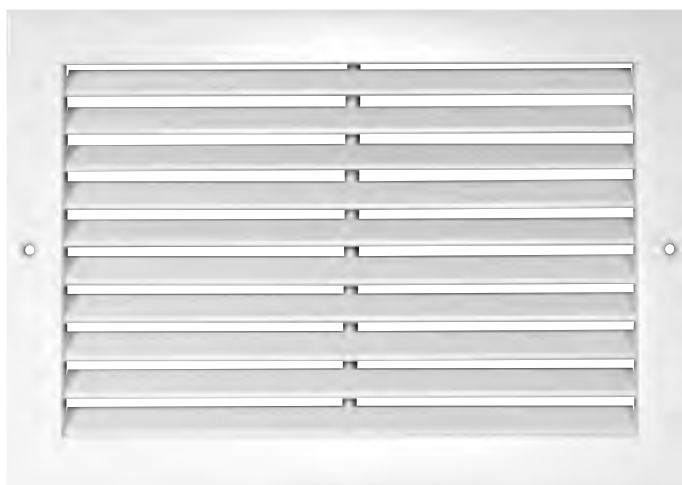
Aluminium Fixed Blade Return Grilles

- Fixed 45° or 0° Blade Deflection
- 19mm Spacing

Models:

5145H, 5145V, 51FH and 51FV

(Suffix 'OA' adds opposed blade damper)



Model 5145H

Models 5145H and 51FH Return Grilles have fixed horizontal blades (parallel to width/first specified dim.) spaced on 19mm centres with 45° or 0° straight face deflection.

Models 5145V and 51FV Return Grilles have fixed vertical blades (parallel to height/second specified dim.) spaced on 19mm centres with 45° or 0° straight face deflection. Their appearance compliments the supply grilles in the 5100 Series.

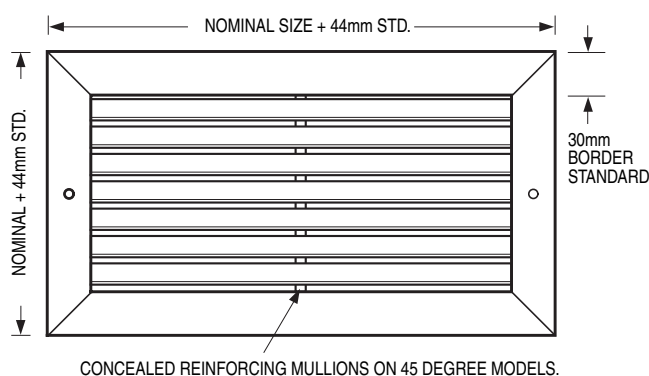
The streamlined blades and open spacing maintain an effective free area average capacity of over 50% for 45° and 75% for 0°, which minimises intake velocity, reduces inlet pressure and provides quiet operation. The smooth blade shapes do not accumulate lint and plug up. Deflected blade grilles installed in a low or high side wall location are vision-proof with the grille deflection facing away from the line of sight.

The design features a concealed rear reinforcing blade support mullion on 45° models. The grille therefore has a continuous louvred blade appearance with no visible face mullions on all single section sizes, thereby offering superior architectural appearance.

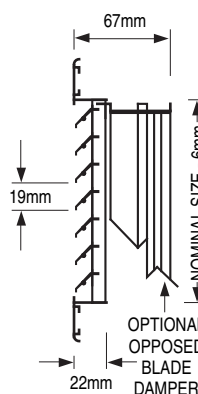
Features:

- High quality, extruded aluminium construction.
- 30mm wide face border with a 25mm overlap margin standard, supplied with countersunk screw holes and mounting screws. NF Narrow Frame with 25mm face border optional. Concealed mounting is optional for type 51F.
- Rigid extruded aluminium frames with reinforced mitred corners.
- Streamlined shaped extruded blades on 19mm centres. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Integral dampers - aluminium. Opposed blade design with screwdriver slot operator or lever operator for 45° grilles.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are available.
- Standard sizes are available from 100mm x 100mm to 1200mm x 1200mm in single section construction. Other sizes, including multiple section assemblies, are available on request but are subject to manufacturing limitations.

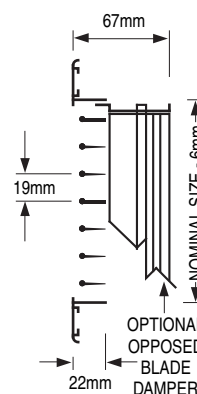
Model 5145H



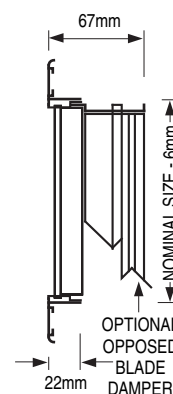
Model 5145H



Model 51FH



Model 51FV



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Aluminium Return Grilles – Model Series 5100.

		51 45 H - OA - 600 x 300 - S - OO - AW - A - —			
Model				Accessories	
- Aluminium construction 51				- Standard (default) None	—
Return				- Foam Gasket	GK
- Fixed 0° Deflection	F			Fastening	
19mm spacing				- Screw Holes (default)	A
- Fixed 45° Deflection	45			- Concealed Mounting Straps	C
19mm spacing				- None	N
Blade Direction				Finish	
- Horizontal / Long dim.	H			- Appliance White (default)	AW
- Vertical / Short dim.	V			- Aluminium	AL
Damper (OBD)				- Mill Finish	MI
- Aluminium	OA			- Special Custom Colour	SP
- No Damper	—			Ceiling Module Size	
Width				- None (default)	OO
mm					
Height					
mm					
For Type S, NF, W x H = Duct Size					
FRAME/BORDER TYPE					
Surface Mount:					
- Standard 30mm (default)	S				
- Narrow 25mm	NF				

Notes:

For a standard grille with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, an aluminium 45° deflection grille, 19mm blade spacing, horizontal orientation and damper, is **Model 5145H-OA**. Unit will be supplied with screw holes and AW Appliance White polyester powder finish RAL 9010 semi-gloss.

Concealed fastening ("C") is not available on Model 5145.

Performance Data

Fixed Blade Return Grilles

Model Series: 5145H & 5145V

Listed Duct Size (mm)	Alternate Size (mm)	Core Area (m ²)	Core Velocity (m/s) Pressure Drop (Pa)	0.5 1	1.0 5	1.5 10	2.0 17	2.5 26	3.0 37	3.5 50	4.0 65	4.5 83
150 x 150	200 x 100 250 x 100	0.02	Flowrate (l/s) NC Level	9 —	19 —	28 —	38 —	47 —	57 19	66 24	76 28	85 32
200 x 150	250 x 125 300 x 100	0.03	Flowrate (l/s) NC Level	13 —	26 —	40 —	53 —	66 15	79 20	92 25	106 29	119 33
250 x 150	300 x 125 400 x 100	0.03	Flowrate (l/s) NC Level	17 —	33 —	50 —	66 —	83 16	99 21	116 26	132 30	149 34
200 x 200	350 x 125	0.04	Flowrate (l/s) NC Level	18 —	35 —	54 —	72 —	90 17	108 22	126 27	143 31	161 35
300 x 150	450 x 100	0.04	Flowrate (l/s) NC Level	20 —	40 —	59 —	79 —	99 18	119 23	139 27	159 32	178 36
300 x 200	400 x 150 600 x 100	0.05	Flowrate (l/s) NC Level	27 —	55 —	82 —	109 —	137 19	164 24	192 28	219 33	246 37
250 x 250	350 x 175 650 x 100	0.06	Flowrate (l/s) NC Level	29 —	58 —	86 —	115 —	144 19	173 24	202 29	230 34	259 37
450 x 150	350 x 200 700 x 100	0.06	Flowrate (l/s) NC Level	31 —	61 —	92 —	123 15	153 20	184 25	215 30	245 34	276 38
300 x 250	400 x 200 600 x 125	0.07	Flowrate (l/s) NC Level	35 —	70 —	105 —	140 15	175 20	210 25	244 30	279 35	314 39
300 x 300	350 x 250 450 x 200	0.08	Flowrate (l/s) NC Level	42 —	85 —	127 —	170 16	212 21	255 26	297 31	340 36	382 39
350 x 350	400 x 300 500 x 250	0.12	Flowrate (l/s) NC Level	59 —	117 —	176 —	234 16	293 21	351 26	410 31	468 36	527 40
450 x 300	400 x 350 550 x 250	0.13	Flowrate (l/s) NC Level	65 —	129 —	194 —	259 17	323 22	388 27	453 32	517 37	582 40
600 x 250	500 x 300 750 x 200	0.14	Flowrate (l/s) NC Level	72 —	143 —	215 —	287 17	359 22	430 27	502 32	574 38	646 41
400 x 400	450 x 350 550 x 300	0.15	Flowrate (l/s) NC Level	77 —	155 —	232 —	310 18	387 23	464 28	542 33	619 38	697 41
600 x 300	450 x 400 500 x 350	0.17	Flowrate (l/s) NC Level	87 —	175 —	262 —	349 18	437 23	524 28	611 33	698 38	786 41
450 x 450	500 x 400 600 x 350	0.20	Flowrate (l/s) NC Level	99 —	198 —	297 —	396 18	495 23	595 29	694 34	793 39	892 42
750 x 300	500 x 450 550 x 400	0.22	Flowrate (l/s) NC Level	109 —	219 —	328 —	438 19	547 24	657 29	766 34	876 39	985 42
500 x 500	600 x 450 650 x 400	0.24	Flowrate (l/s) NC Level	123 —	246 —	228 —	493 19	616 24	739 30	862 35	985 40	1108 43
550 x 550	600 x 500 650 x 450	0.29	Flowrate (l/s) NC Level	150 —	299 —	449 —	598 20	748 25	898 31	1047 35	1197 40	1346 43
750 x 450	600 x 550 850 x 400	0.33	Flowrate (l/s) NC Level	167 —	334 —	501 —	668 20	835 25	1001 31	1169 36	1336 41	1503 44
600 x 600	650 x 550 700 x 500	0.35	Flowrate (l/s) NC Level	179 —	358 —	537 —	715 20	894 25	1073 31	1252 36	1431 41	1610 44
900 x 450	800 x 500 1000 x 400	0.40	Flowrate (l/s) NC Level	202 —	403 —	605 —	806 21	1008 26	1252 32	1411 37	1612 42	1814 45
650 x 650	700 x 600 1200 x 350	0.42	Flowrate (l/s) NC Level	211 —	422 —	633 —	844 21	1055 26	1266 32	1477 37	1688 42	1898 45
750 x 600	700 x 650 800 x 550	0.44	Flowrate (l/s) NC Level	225 —	450 —	675 15	900 22	1125 27	1351 33	1576 38	1801 42	2026 46
700 x 700	750 x 650 900 x 550	0.48	Flowrate (l/s) NC Level	245 —	491 —	736 15	982 22	1227 27	1472 33	1718 38	1936 43	2208 46
900 x 600	750 x 700 1000 x 550	0.53	Flowrate (l/s) NC Level	271 —	542 —	813 15	1083 22	1354 28	1625 34	1896 38	2167 43	2438 47
750 x 750	850 x 650 950 x 600	0.56	Flowrate (l/s) NC Level	283 —	565 —	848 15	1131 22	1413 28	1696 34	1979 39	2261 43	2544 47

Product Overview

Eggcrate Return Grilles

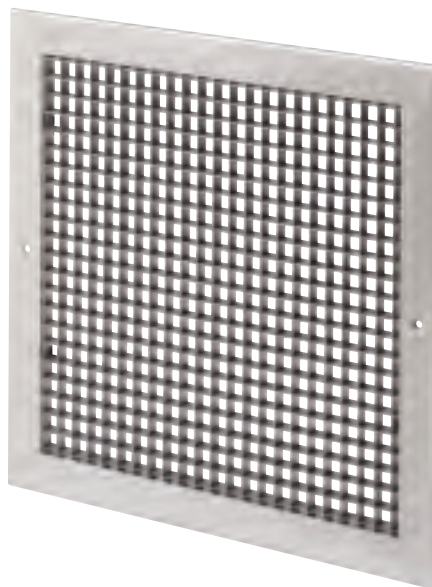
51EC Series Aluminium Frame

Models:

51EC Return

Aluminium Eggcrate/Lattice

Cores



The **Nailor Model Series 51EC Eggcrate Return Grilles** are high capacity return or exhaust outlets with the highest free area available (approximately 90%). They therefore have the lowest pressure drop and sound levels available for a return air inlet.

The aluminium cube cores are constructed of thin, interlocked aluminium strips assembled in a square grid fashion and match in appearance the grid louvres on parabolic light fixtures. They are most suitable for use as ceiling returns. They are not recommended for low side wall applications due to potential core damage.

The **51EC Series** are available with various frame/border styles to suit both lay-in type and hard ceilings.

Features:

- Optional opposed blade damper has a screwdriver slot operator for adjustment through the face of the grille.
- Screw holes in the frame are countersunk for neat appearance (standard). painted to match grille, are supplied.
- Concealed mountings are available (option).

Material:

Extruded aluminium frame.

Aluminium grid core - 13 x 13 x 13mm standard.

Finish:

AW Appliance White polyester powder finish RAL 9010 semi-gloss as standard. Special finishes are available.

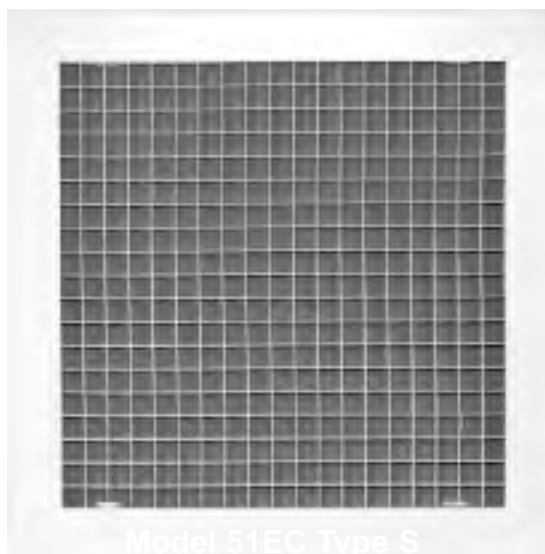
Aluminium Eggcrate Return Grilles

Exhaust and Return

Model:

51EC

(Suffix 'OA' adds opposed
blade damper)



Model 51EC Grilles have grid cores capable of transferring or returning high air volumes at minimum pressure requirements. They match in appearance the grid louvres on parabolic light fixtures and are available to suit both lay-in T-Bar openings in suspended grid ceilings and overlap openings in hard ceilings and walls.

Model 51EC Type S Surface mount, flanged frame. This model has a flanged frame with an overall face dimension that is 44mm larger than the listed duct size. It is supplied as standard with countersunk screw holes and mounting screws. Available with optional opposed blade damper.

Model 51EC Type L Lay-in T-Bar, aluminium frame/border. This model is similar to above, but is sized on the overall face dimension to suit standard lay-in T-Bar ceiling modules and is supplied without screw holes. It is the model of choice for ducted return air applications. The nominal duct size is 50mm smaller than the ceiling module. When installed, the frame/border is partially visible within the perimeter of the ceiling opening and provides a visually appealing architectural finish. Available with optional opposed blade damper.

Model 51EC Type A Lay-in T-Bar, concealed angle frame/border. This model has a narrow corrosion-resistant steel frame that surrounds the eggcrate core and which is invisible when installed in standard lay-in T-Bar ceilings. It is suited to non-ducted plenum return air applications. The angle frame provides a finished edge to the eggcrate core which may be desirable if it is to be handled on a frequent basis. It also permits the attachment of an optional opposed blade damper.

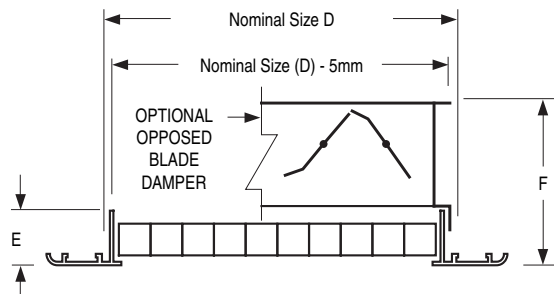
Model 51EC Type C Lay-in T-Bar, core only. The most cost effective return air grille for T-Bar ceilings. The ceiling grid conceals the raw edges of the eggcrate when installed. Suitable for use only in non-ducted plenum return air applications. This model is not available with a damper.

Features:

- Model **51EC Type S** has a 30mm face border with a 25mm overlap margin, supplied with countersunk screw holes and mounting screws. Type NF Narrow frame with 25mm face border optional. Concealed mounting is optional.
- Aluminium construction - Extruded aluminium frames mechanically interlocked with reinforced mitred corners.
- Grid cores are aluminium. Standard core size is 13 x 13 x 13mm with mechanically locked-in margins, or available as core only.
- Integral dampers - aluminium, Opposed blade design with a screwdriver slot operator.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are available.
- Standard sizes are available in most models from 100mm x 100mm to 1200mm x 1200mm in single section construction. Other sizes, including multiple section assemblies, are available on request but are subject to manufacturing limitations.

Dimensional Data

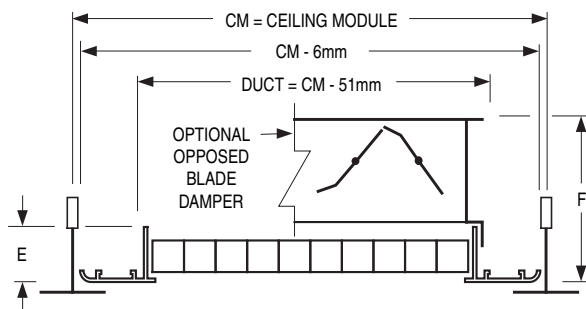
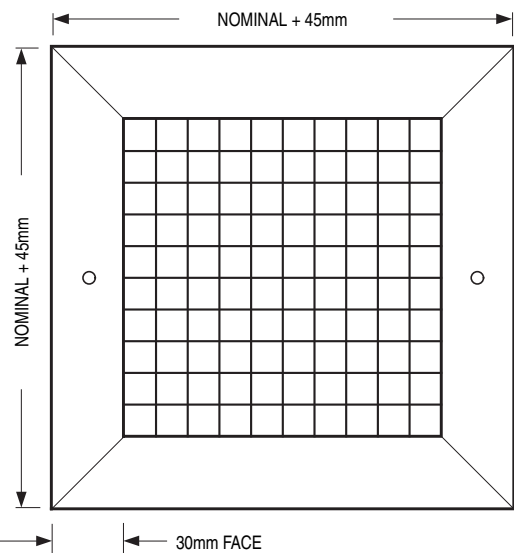
51EC Series Eggcrate Return



Model 51EC Type S - Surface mount

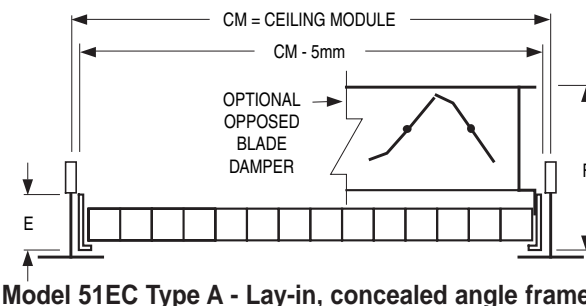
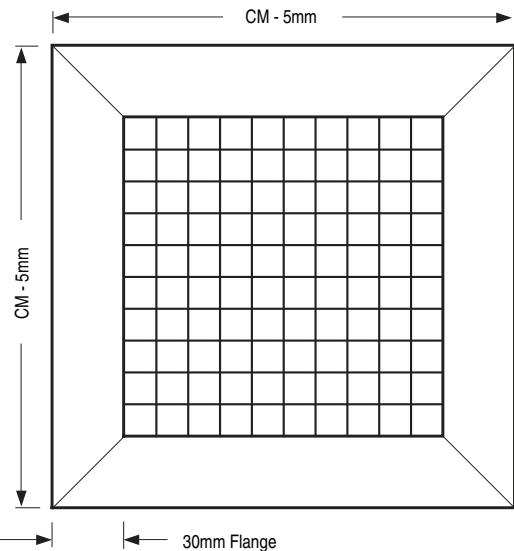
DIMENSION	STANDARD FRAME	OPTIONAL NF FRAME
E	23mm	32mm
F	68mm	76mm

*Optional Type NF Narrow Frame has a 25mm face border.
Overall flange to flange dimension = listed size + 32mm.

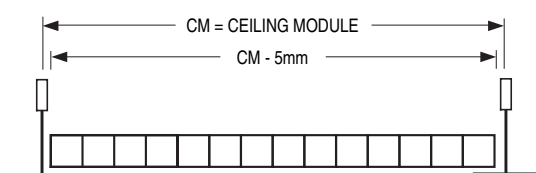


Model 51EC Type L - Lay-in

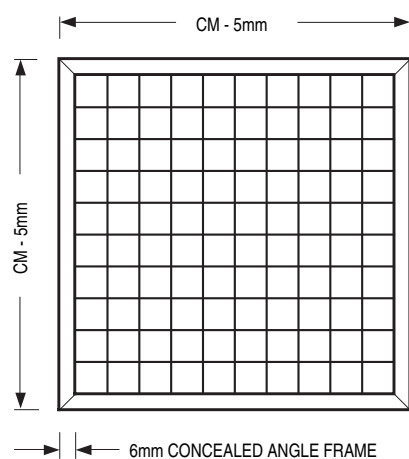
DIMENSION	STANDARD FRAME	OPTIONAL NF FRAME
E	23mm	32mm
F	68mm	76mm



Model 51EC Type A - Lay-in, concealed angle frame



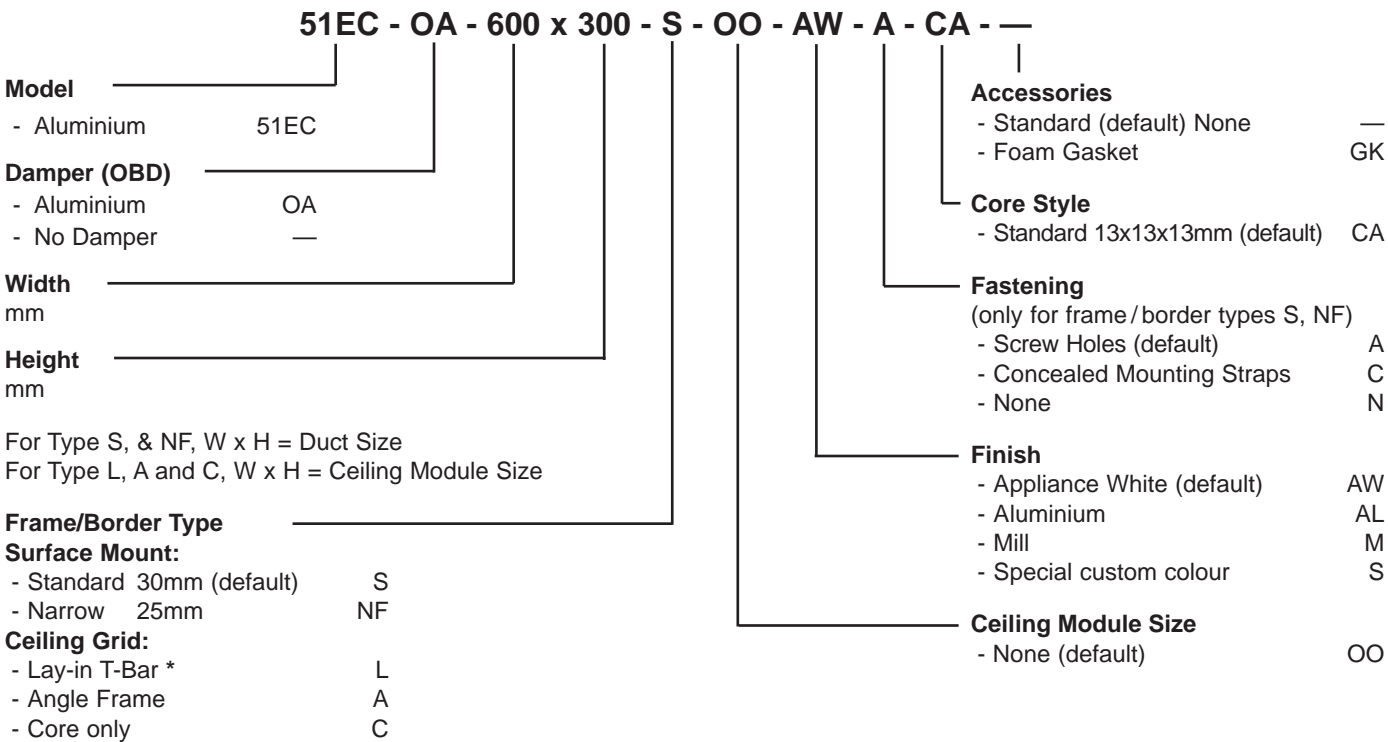
Model 51EC Type C - Core only



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Aluminium Eggcrate Return and Exhaust Grilles - Model Series 51EC.



Notes:

1. For a standard grille with no special requirements, specification is only required as far as the damper selection.
The "default" will automatically be selected. For example, an aluminium grille, eggcrate core, surface mount with damper, is Model **51EC–OA**. Unit will be supplied with screw holes and AW Appliance White, polyester powder finish RAL 9010 semi-gloss.
2. * For Type L Lay-in, grille neck size is ceiling module size – 50mm.

Performance Data

Eggcrate Return Grilles

Model Series: 51EC

Listed Duct Size (mm)	Alternative Size (mm)	Core Area (m ²)	Core Velocity (m/s) Pressure Drop (Pa)	1.5 5	2.0 8	2.5 12	3.0 17	3.5 23	4.0 30	4.5 38	5.0 46	6.0 66
150x150	200x100	0.020	Flowrate (l/s)	28	38	47	57	66	76	85	94	113
	250x100		NC Level	–	–	–	13	18	22	27	30	36
200x150	250x125	0.027	Flowrate (l/s)	38	51	64	76	89	102	115	127	153
	300x100		NC Level	–	–	–	14	19	24	28	31	37
250x150	300x125	0.035	Flowrate (l/s)	50	66	83	99	116	132	149	165	198
	400x100		NC Level	–	–	–	15	21	25	29	32	38
200x200	350x125	0.038	Flowrate (l/s)	54	72	90	108	126	143	161	179	215
			NC Level	–	–	–	16	22	25	30	33	39
300x150	450x100	0.042	Flowrate (l/s)	59	79	99	119	139	159	178	198	238
			NC Level	–	–	10	16	22	26	30	33	39
300x200	400x150	0.058	Flowrate (l/s)	82	109	137	164	192	219	246	274	328
	600x100		NC Level	–	–	11	18	24	27	31	34	40
250x250	350x175	0.061	Flowrate (l/s)	86	115	144	173	202	230	259	288	345
	650x100		NC Level	–	–	12	18	24	27	32	35	41
450x150	350x200	0.065	Flowrate (l/s)	92	123	153	184	215	245	276	307	368
	700x100		NC Level	–	–	12	18	24	28	32	35	41
300x250	400x200	0.074	Flowrate (l/s)	105	140	175	210	244	279	314	349	419
	600x125		NC Level	–	–	13	19	25	28	32	36	42
300x300	350x250	0.090	Flowrate (l/s)	127	170	212	255	297	340	382	425	510
	450x200		NC Level	–	–	14	20	25	29	33	37	43
350x350	400x300	0.124	Flowrate (l/s)	176	234	293	351	410	468	527	585	702
	500x250		NC Level	–	–	15	21	26	30	34	38	44
450x300	400x350	0.137	Flowrate (l/s)	194	259	323	388	453	517	582	647	776
	550x250		NC Level	–	–	16	21	27	31	34	38	44
600x250	500x300	0.152	Flowrate (l/s)	215	287	359	430	502	574	646	717	861
	750x200		NC Level	–	–	16	22	27	31	35	39	45
400x400	450x350	0.164	Flowrate (l/s)	232	310	387	464	542	619	697	774	929
	550x300		NC Level	–	–	16	22	27	31	35	39	45
600x300	450x400	0.185	Flowrate (l/s)	262	349	437	524	611	698	786	873	1048
	500x350		NC Level	–	–	16	22	27	31	35	39	45
450x450	500x400	0.210	Flowrate (l/s)	297	396	495	595	694	793	892	991	1189
	600x350		NC Level	–	–	16	22	27	32	35	39	45
750x300	500x450	0.232	Flowrate (l/s)	328	438	547	657	766	876	985	1095	1314
	550x400		NC Level	–	–	16	23	27	33	36	40	46
500x500	600x450	0.261	Flowrate (l/s)	369	493	616	739	862	985	1108	1232	1478
	650x400		NC Level	–	–	17	23	27	33	36	40	46
550x550	600x500	0.317	Flowrate (l/s)	449	598	748	898	1047	1197	1346	1496	1795
	650x450		NC Level	–	–	17	24	28	33	37	41	47
750x450	600x550	0.354	Flowrate (l/s)	501	668	835	1002	1169	1336	1503	1671	2005
	850x400		NC Level	–	–	18	24	29	33	37	41	47
600x600	650x550	0.379	Flowrate (l/s)	537	715	894	1073	1252	1431	1610	1789	2146
	700x500		NC Level	–	11	18	25	30	34	38	42	48
900x450	800x500	0.429	Flowrate (l/s)	607	810	1012	1215	1417	1620	1822	2024	2429
	1000x400		NC Level	–	11	18	25	30	34	38	42	48
650x650	700x600	0.447	Flowrate (l/s)	633	844	1055	1266	1477	1688	1898	2109	2531
	1200x350		NC Level	–	12	19	26	31	35	39	43	49
750x600	700x650	0.477	Flowrate (l/s)	675	900	1125	1351	1576	1801	2026	2251	2701
	800x550		NC Level	–	12	20	26	31	35	39	43	49
700x700	750x650	0.520	Flowrate (l/s)	736	982	1227	1472	1718	1963	2208	2454	2945
	1000x500		NC Level	–	13	20	26	31	36	39	43	49
900x600	750x700	0.574	Flowrate (l/s)	813	1083	1354	1625	1896	2167	2438	2709	3250
	1000x550		NC Level	–	13	21	27	32	36	40	43	50
750x750	850x650	0.599	Flowrate (l/s)	848	1131	1413	1696	1979	2261	2544	2827	3392
	950x600		NC Level	–	14	21	27	32	36	40	44	50

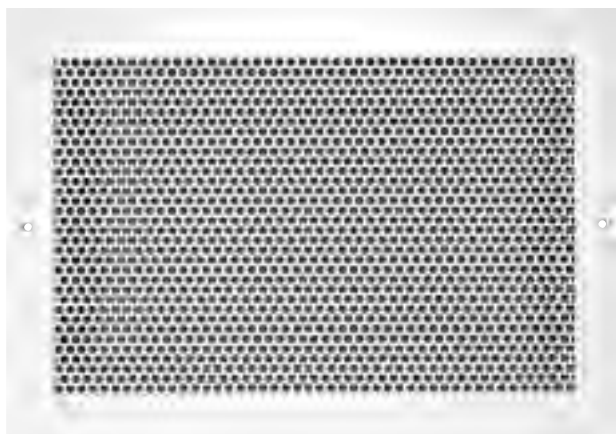
Perforated Return Grilles

51PR Series Aluminium

Model:

51PR Surface Mount

(Suffix 'OA' adds opposed blade damper)



The Advanced Air Model Series 51PR Perforated Return Grilles are medium capacity return or exhaust outlets. The perforated cores have 5mm diameter staggered holes on 6mm centres, providing 51% free area. Their design is clean and unobtrusive, providing the uncluttered appearance preferred by many architects and a face that is easy to maintain and clean. Models are available to suit both lay-in T-Bar openings in suspended ceiling systems and overlap openings in hard walls and ceilings.

Frame/Border Type S Surface Mount – This style has a flanged frame with an overall face dimension that is 44mm larger than the listed duct size. It is supplied as standard with countersunk screw holes and mounting screws.

Frame/Border Type L Lay-in T-Bar – This style is similar to above, but is sized on the overall face dimension to suit standard lay-in T-Bar ceiling modules and is supplied less screw holes. It is the model of choice for ducted return air applications. The nominal duct size is 50mm smaller than the ceiling module. When installed, the frame/border is partially visible within the perimeter of the ceiling opening and provides a visually appealing architectural finish.

Features:

- Available in aluminium construction with extruded frames.
- 30mm face border with a 25mm overlap margin as standard, supplied with countersunk screw holes and mounting screws.
- Frames are staked and mechanically interlocked to provide reinforced mitred corners.
- Integral dampers – aluminium, Opposed blade design with a screwdriver slot operator.
- AW Appliance White polyester powder finish RAL 9010 semi-gloss is standard. Other finishes are available.
- Available in sizes from 150mm x 100mm to 1200mm x 600mm.

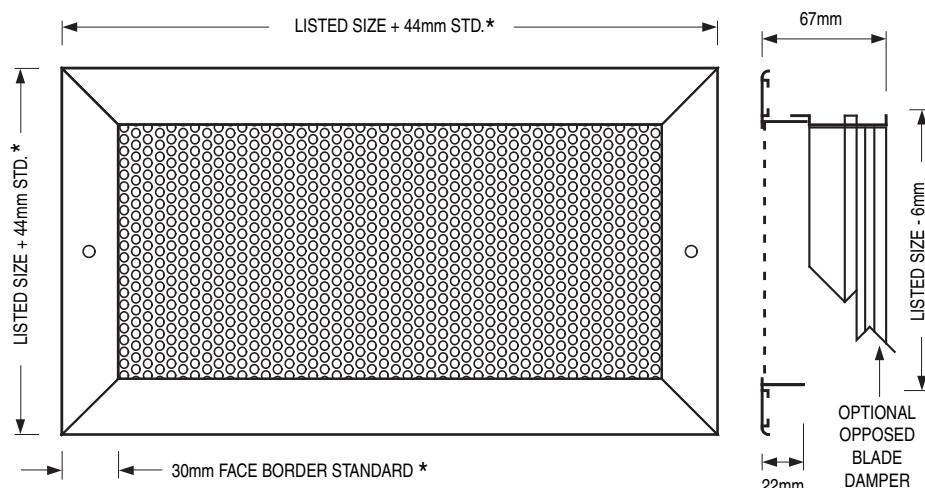
Models 51PR

Surface Mount, flanged frame

*Aluminium **Model 51PR** is available with an optional Type NF Narrow frame.

It has a 25mm face border with a 19mm overlap margin.

Overall flange-to-flange dimension = listed size + 32mm.



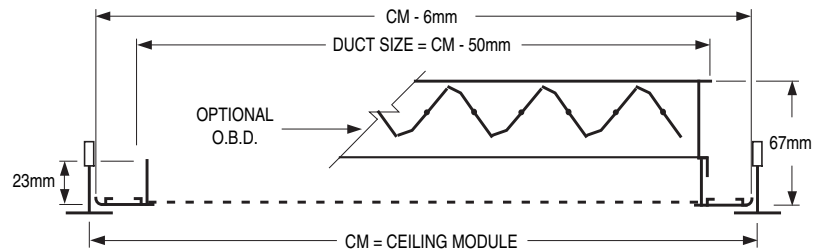
Dimensional Data

Perforated Return Grilles

Models 51PR, Lay-in T-Bar

For unlisted T-Bar sizes, specify or order a Model 51PR that has a neck dimension that is 50mm smaller in each dimension than the ceiling module and specify Type N fastening - without screw holes.

Overall flange-to-flange dimension = CM - 6mm.



METRIC CEILING MODULES CM					
METRIC UNITS (mm)					
Ceiling Module Size	300 x 300	600 x 300	500 x 500	600 x 600	1200 x 600
Nominal Duct Size	250 x 250	550 x 250	450 x 450	550 x 550	1150 x 550

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Aluminium Perforated Return Grilles - Model Series 51PR.

51PR - OA - 600 x 300 - S - OO - AW - A - —

<p>Model</p> <p>- Aluminium construction 51PR</p> <p>Damper (OBD)</p> <p>- Aluminium OA</p> <p>- No Damper —</p> <p>Width</p> <p>mm</p> <p>Height</p> <p>mm</p> <p>For Type S, NF, W x H = Duct Size For Type L, W x H = Ceiling Module Size</p> <p>Frame/Border Type</p> <p>Surface Mount:</p> <p>- Standard 30mm (default) S</p> <p>- Narrow 25mm NF</p> <p>Ceiling Grid:</p> <p>- Lay-in T-Bar * L</p>	<p>Accessories</p> <p>- Standard (default) None —</p> <p>- Foam Gasket GK</p> <p>Fastening</p> <p>(only for frame/border types S, NF)</p> <p>- Screw Holes (default) A</p> <p>- None N</p> <p>Finish</p> <p>- Appliance White (default) AW</p> <p>- Aluminium AL</p> <p>- Mill M</p> <p>- Special Custom Colour S</p> <p>Ceiling Module Size</p> <p>- None (default) OO</p>
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Notes:

- For a standard grille with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, an aluminium grille, surface mount with damper, is Model **51PR-OA**. Unit will be supplied with screw holes and AW Appliance White polyester powder finish RAL 9010 semi-gloss.
- *For Type L Lay-in, grille neck size is ceiling module size – 50mm.

Performance Data

Perforated Return Grilles Model Series: 51PR.

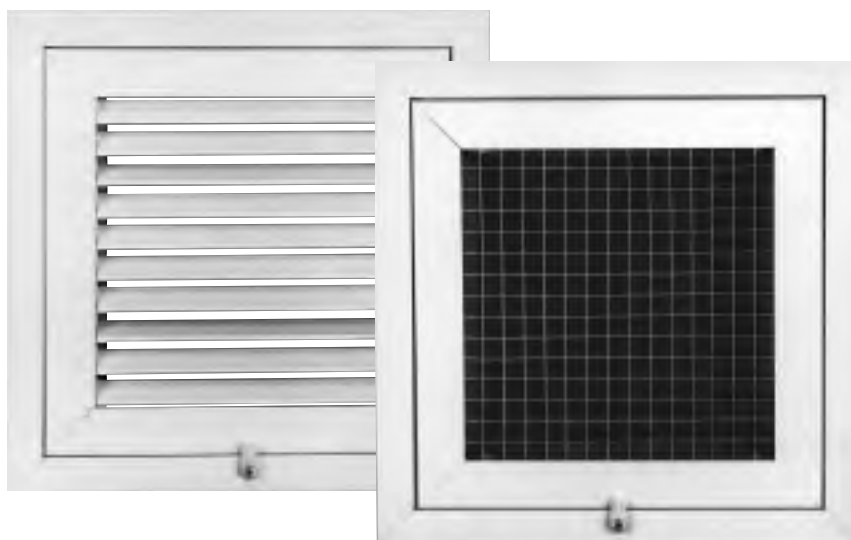
Listed Duct Size (mm)	Alternate Size (mm)	Core Area (m ²)	Core Velocity (m/s) Pressure Drop (Pa)	1.5 8	2.0 14	2.5 21	3.0 30	3.5 41	4.0 53	4.5 67	5.0 83
150x150	200x100 250x100	0.02	Flowrate (l/s) NC Level	28 —	38 —	47 —	57 15	66 21	76 26	85 32	94 37
200x150	250x125 300x100	0.03	Flowrate (l/s) NC Level	38 —	51 —	64 —	76 16	89 22	102 28	115 33	127 38
250x150	300x125 400x100	0.03	Flowrate (l/s) NC Level	50 —	66 —	83 10	99 17	116 24	132 29	149 34	165 39
200x200	350x125	0.04	Flowrate (l/s) NC Level	54 —	72 —	90 11	108 18	126 25	143 29	161 35	179 40
300x150	450x100	0.04	Flowrate (l/s) NC Level	59 —	79 —	99 11	119 18	139 25	159 30	178 35	198 40
300x200	400x150 600x100	0.05	Flowrate (l/s) NC Level	82 —	109 —	137 12	164 20	192 27	219 31	246 36	274 41
250x250	350x175	0.06	Flowrate (l/s) NC Level	86 —	115 —	144 13	173 20	202 27	230 31	259 37	288 42
450x150	350x200 700x100	0.06	Flowrate (l/s) NC Level	92 —	123 —	153 13	184 20	215 27	245 32	276 37	307 42
300x250	400x200 500x150	0.07	Flowrate (l/s) NC Level	105 —	140 —	175 14	210 21	244 28	279 32	314 37	349 43
300x300	350x250 450x200	0.08	Flowrate (l/s) NC Level	127 —	170 —	212 15	255 22	297 28	340 33	382 38	425 44
350x350	400x300 500x250	0.12	Flowrate (l/s) NC Level	176 —	234 —	293 16	351 23	410 29	468 34	527 39	585 45
450x300	400x350 550x250	0.13	Flowrate (l/s) NC Level	193 —	259 —	323 17	388 23	453 30	517 35	582 39	647 45
600x250	500x300 750x200	0.14	Flowrate (l/s) NC Level	215 —	287 —	359 17	430 24	502 30	574 35	646 40	717 46
400x400	450x350 550x300	0.15	Flowrate (l/s) NC Level	232 —	310 —	387 17	464 24	542 30	619 35	697 40	774 46
600x300	450x400 500x350	0.17	Flowrate (l/s) NC Level	262 —	349 —	437 17	524 24	611 30	698 35	786 40	873 46
450x450	500x400 600x350	0.20	Flowrate (l/s) NC Level	297 —	396 —	495 17	595 24	694 30	793 36	892 40	991 46
750x300	500x450 900x250	0.22	Flowrate (l/s) NC Level	328 —	438 —	547 17	657 25	766 30	876 37	985 41	1095 47
500x500	600x450 900x300	0.24	Flowrate (l/s) NC Level	369 —	493 11	616 18	739 25	862 30	985 37	1108 41	1232 47
550x550	600x500 750x400	0.29	Flowrate (l/s) NC Level	449 —	598 11	748 18	898 26	1047 31	1197 37	1346 42	1496 48
750x450	600x550 850x400	0.33	Flowrate (l/s) NC Level	501 —	668 12	835 19	1002 26	1169 32	1336 37	1503 42	1671 48
600x600	900x400 700x500	0.35	Flowrate (l/s) NC Level	537 —	715 12	894 19	1073 27	1252 33	1431 38	1610 43	1789 49
900x450	800x500 1000x400	0.40	Flowrate (l/s) NC Level	607 —	810 12	1012 19	1215 27	1417 33	1620 38	1822 43	2024 49
650x650	700x600 1200x350	0.42	Flowrate (l/s) NC Level	633 —	844 13	1055 20	1266 28	1477 34	1688 39	1899 44	2109 50
750x600	900x500 1000x450	0.44	Flowrate (l/s) NC Level	675 —	900 13	1125 21	1351 28	1576 34	1801 39	2026 44	2251 50
700x700	1000x500 900x550	0.48	Flowrate (l/s) NC Level	736 —	982 14	1227 21	1472 28	1718 34	1963 40	2208 44	2454 50
900x600	750x700 1000x550	0.53	Flowrate (l/s) NC Level	813 —	1083 14	1354 22	1625 29	1896 35	2167 40	2438 45	2709 50
750x750	850x650 950x600	0.56	Flowrate (l/s) NC Level	848 —	1131 15	1413 22	1696 29	1979 35	2261 40	2544 45	2827 51

Filter Return Grilles

51F Series Aluminium

Accommodates 25mm standard filter.

Available with fixed blade, eggcrate or perforated core styles.



Models 51FBS45 and 51FES

The **Advanced Air Model Series 51F Filter Return Grilles** are a convenient and economical means of filtering primary return air locally. They are especially suited to recirculating air systems such as fan powered terminal units, fan coils and heat pumps. They have been designed to match and compliment their respective base models in appearance.

Selection Guide:

51FBS45	Fixed 45° Deflection, 19mm Spacing,	Surface Mount
51FBL45	Fixed 45° Deflection, 19mm Spacing,	Lay-in T-bar
51FBSS	Fixed 0° Deflection, 19mm Spacing,	Surface Mount
51FBLS	Fixed 0° Deflection, 19mm Spacing,	Lay-in T-bar
51FES	Eggcrate Grid Core,	Surface Mount
51FEL	Eggcrate Grid Core,	Lay-in T-bar
51FPS	Perforated Face Core,	Surface Mount
51FPL	Perforated Face Core,	Lay-in T-bar

Performance Data:

Refer to the appropriate base model and add pressure drop for the installed filter.

Fixed Blade page 92. Eggcrate Grid Core page 97. Perforated Face page 100.

Features:

- Type S Surface Mount.
Installed with colour matched Ø38mm screws or sheet metal screws (or similar by others) through the neck of the outer frame. Provides an aesthetically clean visual appearance. Type A countersunk screw holes are an available option.
- Type L Lay-in T-Bar.
- Frames and sub-frames are mechanically interlocked with reinforced mitred corners.
- Inner core is hinged on one side and secured on the opposite side with convenient 1/4 turn fasteners.
- Accepts standard 25mm thick, throw-away type filters (by others).

Material:

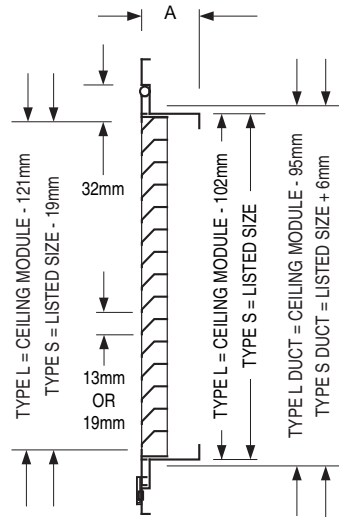
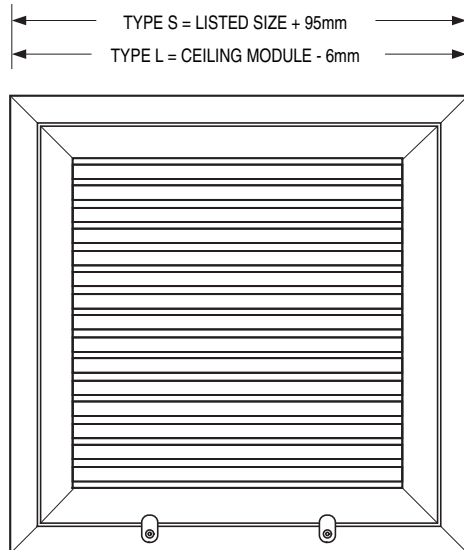
Extruded aluminium

Finish:

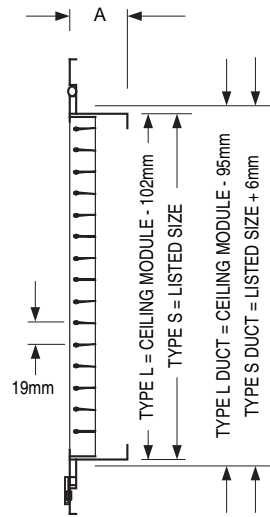
AW Appliance White polyester powder finish RAL9010 semi-gloss is standard. Other finishes are available.

Dimensional Data

Filter Return Grilles



A = 51mm for 25mm filter. Standard.



MODELS:
51FBS45, 51FBL45,
51FBS55 & 51FBL55

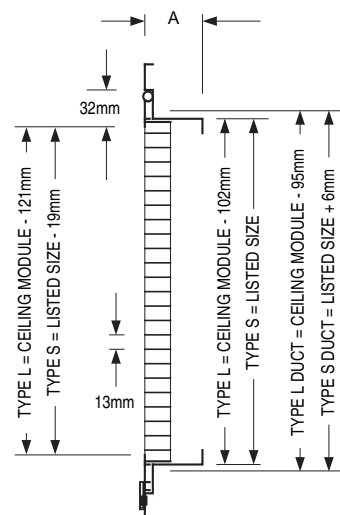
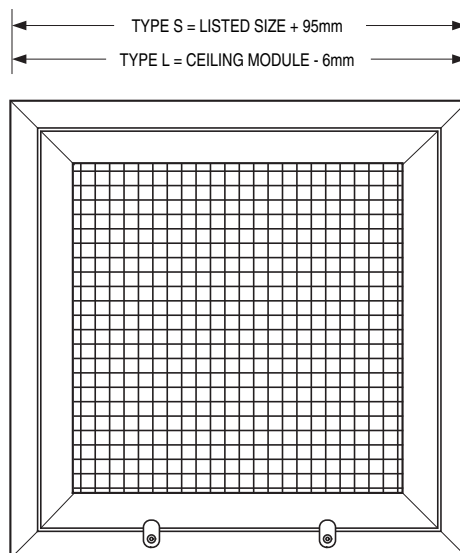
MODELS:
51FBSS & 51FBL5

Fixed blade deflection

Type S (surface mount) is available in nominal sizes 150mm x 100mm to 1200mm x 900mm in 25mm increments. Core is hinged on width dimension at top as standard (HT).

For other hinging requirements, specify HB Hinged bottom, HL Hinged left, HR Hinged right.

Type L (lay-in mount) is available in ceiling modules sizes: 300mm x 300mm, 600mm x 300, 600mm x 600mm, 900mm x 300mm, 900mm x 600mm and 1200mm x 600mm.



A = 51mm for 25mm filter. Standard.

MODELS:
51FES & 51FEL

Eggcrate Core • 12mm x 12mm x 12mm Aluminium Core

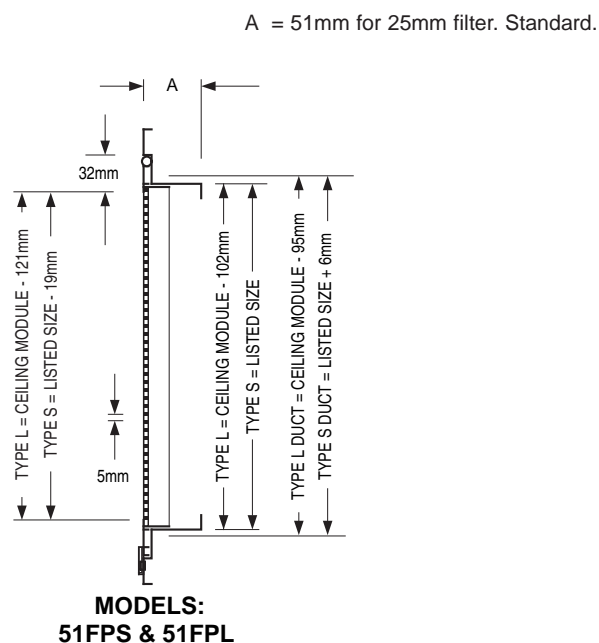
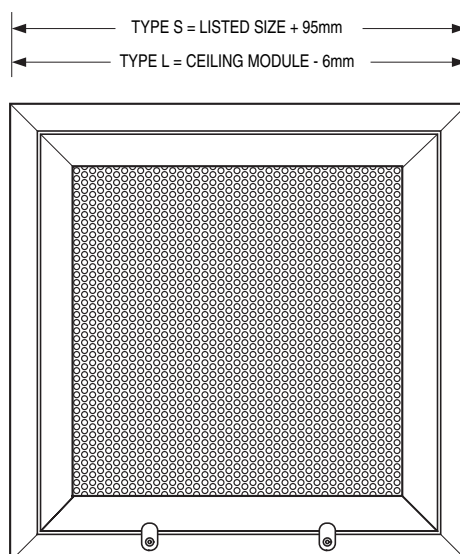
Type S (surface mount) is available in nominal sizes 150mm x 100mm to 1200mm x 900mm in 25mm increments. Core is hinged on width dimension at top as standard (HT).

For other hinging requirements, specify HB Hinged bottom, HL Hinged left, HR Hinged right.

Type L (lay-in mount) is available in ceiling modules sizes: 300mm x 300mm, 600mm x 300mm, 600mm x 600mm, 900mm x 300mm, 900mm x 600mm and 1200mm x 600mm.

Dimensional Data

Filter Return Grilles



Perforated Face • 5mm dia. holes on 6mm centres

Type S (surface mount) is available in nominal sizes 150mm x 100mm to 1200mm x 900mm in 25mm increments.

Core is hinged on width dimension at top as standard (HT).

For other hinging requirements, specify HB Hinged bottom, HL Hinged left, HR Hinged right.

Type L (lay-in mount) is available in ceiling modules sizes: 300mm x 300mm, 600mm x 300mm, 600mm x 600mm, 900mm x 300mm, 900mm x 600mm and 1200mm x 600mm.

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Example: Filter Return Grilles - Model Series 51F.

51F B 45 - 400 x 400 - S - AW - N - HT - —									
Model			Accessories						
- Aluminium			- Standard (default) None						
			- Foam Gasket						
Core			Options						
- Fixed Blades			Core Fastening:						
- Eggcrate			- Knurled Knob						
- Perforated			- 1/4 Turn Slotted						
Blade Deflection			Hinge						
(Core B only)			- Standard (default)						
								Top	HT
								Bottom	HB
								Left	HL
								Right	HR
			Fastening						
			(only for frame / border type S)						
			- Standard (default) None						
			- Screw Holes in Outer Frame						
			Finish						
			- Appliance White (default)						
			- Aluminium						
			- Mill						
			- Special custom colour						
			Frame/Border Type						
			- Surface Mount						
			- Lay-in T-Bar						

Notes:

- 1. For Type S, duct size is listed size + 6mm.
- 2. For Type L, duct size is ceiling module size - 95mm.
- 3. Core Fastening: Standard Core is hinged and secured with 1/4 turn latches.

Aluminium Door Transfer/Non-Vision Grilles

Sight Proof



The **Advanced Air Model Series 51DG Door Transfer/Non-Vision Grilles** are designed to meet the demand for top quality and competitive prices. The grilles are carefully constructed to be unobtrusive in appearance for architectural excellence.

Model Series **51DG** offers the largest free area possible (average > 50%) with a completely sight-proof design, utilizing an inverted 'V' shaped louvre on 20mm centres. Widely used, not only in doors and partitions, but also in place of conventional exhaust and return grilles where it is important that the interior of the plenum or duct be concealed. The inverted-V blades not only block vision, but also provide strength. When mounted in the lower portion of a door, a door grille is naturally subjected to bumps and kicks. The **51DG** durability assures good looks and long service. Screw holes in the frame are countersunk for smooth appearance after installation.

Available sizes 100mm x 100mm to 600mm x 1200mm in 50mm increments. Other sizes are available on request but are subject to manufacturing limitations.

Material:

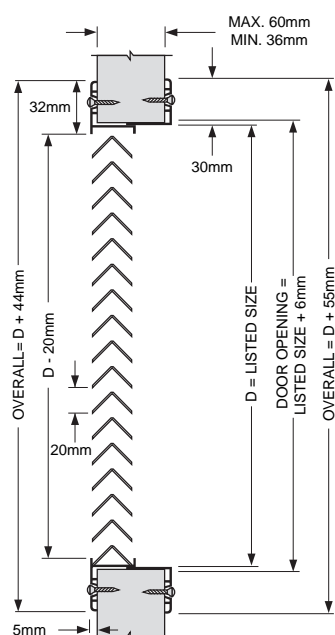
Extruded aluminium.

Finish:

AW Appliance White polyester powder finish RAL9010 semi-gloss is standard. Other finishes are available.

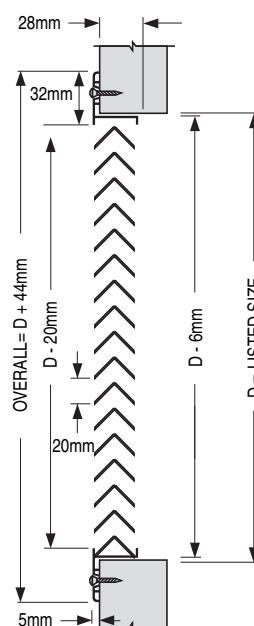
Model 51DGD

Auxiliary Frame Assembly



Model 51DGS

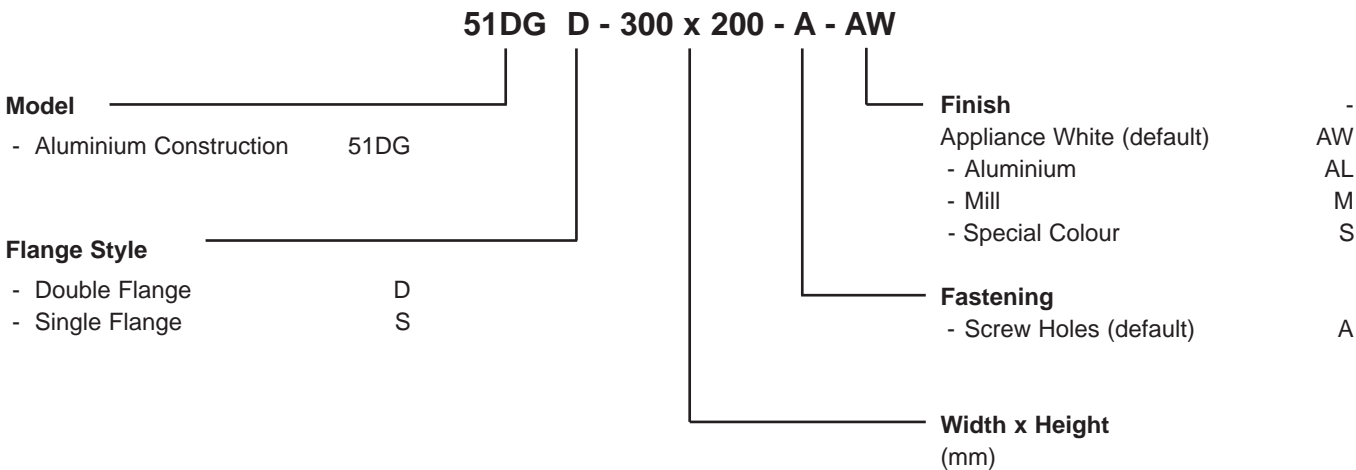
Flange Frame Assembly



How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Aluminium Door Transfer/Non-Vision Grille – Model Series 51DG



Notes:

1. For a standard grille with no special requirements, the "default" will automatically be selected. For example, an aluminium door grille with a double flange, is Model 51DGD. Unit will be supplied with screw holes and AW Appliance White polyester powder finish RAL9010 semi-gloss.
2. Heights available in 50mm increments only.

Suggested Specification:

Supply and install **Advanced Air Model** (specify) **51DGD** or **51DGS Door/Transfer Grilles** of the type and size as shown on the plans and air distribution schedules. The grille shall have extruded aluminium inverted ‘V’ shaped blades and an extruded aluminium frame. The door grille is to be sight-proof. The finish shall be AW Appliance White polyester powder finish RAL9010 semi-gloss as standard (optional finishes are available).

Performance Data

Door Transfer/Non-Vision Grilles • 5100 Series

Model: 51DG

Nominal Size (mm)	Alternate Size (mm)	Core Area (m ²)	Core Velocity (m/s) Pressure Drop (Pa)	0.5 2	0.75 3	1.0 6	1.25 9	1.5 13	1.75 18	2.0 24	2.25 30
150 x 150	200 x 100 250 x 100	0.02	Flowrate (l/s) NC Level	8 —	13 —	17 13	21 18	25 22	30 25	34 28	38 30
200 x 150	300 x 100	0.02	Flowrate (l/s) NC Level	12 —	18 —	24 14	30 19	35 23	42 26	47 29	43 31
250 x 150	400 x 100	0.03	Flowrate (l/s) NC Level	15 —	23 —	30 15	38 20	45 24	53 27	60 30	68 33
200 x 200		0.03	Flowrate (l/s) NC Level	17 —	25 —	33 15	42 20	50 24	58 27	66 30	75 32
300 x 150	450 x 100	0.04	Flowrate (l/s) NC Level	19 —	28 10	38 16	47 21	57 25	66 28	76 31	85 33
300 x 200	400 x 150 600 x 100	0.05	Flowrate (l/s) NC Level	26 —	39 11	52 17	65 22	78 26	91 29	104 32	117 34
250 x 250	650 x 100	0.05	Flowrate (l/s) NC Level	27 —	41 11	55 17	68 22	82 26	96 29	109 32	123 35
300 x 250	400 x 200 500 x 150	0.07	Flowrate (l/s) NC Level	33 —	50 13	66 19	83 23	99 27	116 30	132 33	149 36
300 x 300	350 x 250 600 x 150 450 x 200	0.08	Flowrate (l/s) NC Level	41 —	61 14	81 20	101 24	122 28	142 31	162 34	183 36
350 x 350	400 x 300 600 x 200 500 x 250 850 x 150	0.11	Flowrate (l/s) NC Level	57 —	85 15	113 21	142 25	198 29	212 32	227 35	255 37
450 x 300	400 x 350 700 x 200 550 x 250	0.12	Flowrate (l/s) NC Level	62 —	93 16	125 22	156 26	187 30	218 33	249 36	280 38
400 x 400	450 x 350 750 x 200 550 x 300	0.15	Flowrate (l/s) NC Level	75 —	113 16	150 22	188 27	225 32	263 34	300 36	338 39
600 x 300	450 x 400 750 x 250 500 x 350	0.17	Flowrate (l/s) NC Level	84 —	127 17	169 23	211 28	253 33	296 35	338 37	380 40
450 x 450	500 x 400 700 x 300 600 x 350 800 x 250	0.19	Flowrate (l/s) NC Level	96 10	144 18	193 24	241 29	289 34	337 36	385 38	433 41
750 x 300	500 x 450 650 x 350 550 x 400 900 x 250	0.21	Flowrate (l/s) NC Level	106 10	160 18	212 24	266 29	319 34	372 36	425 38	478 41
500 x 500	600 x 450 750 x 350 650 x 400 900 x 300	0.24	Flowrate (l/s) NC Level	120 11	180 19	240 25	300 30	361 35	420 37	479 39	539 42
550 x 550	600 x 500 750 x 400 650 x 450 900 x 350	0.29	Flowrate (l/s) NC Level	146 11	219 19	293 25	366 30	439 35	512 38	585 40	658 43
750 x 450	600 x 550 1000 x 350 850 x 400	0.32	Flowrate (l/s) NC Level	163 11	245 20	327 26	408 30	490 35	572 38	653 40	735 43
600 x 600	650 x 550 800 x 450 700 x 500 900 x 400	0.34	Flowrate (l/s) NC Level	175 11	263 20	350 26	438 30	525 35	613 38	700 41	788 44
900 x 450	800 x 500	0.39	Flowrate (l/s) NC Level	197 11	296 20	395 26	493 30	592 35	690 39	789 41	888 44
650 x 650	700 x 600	0.41	Flowrate (l/s) NC level	207 12	310 20	413 27	517 31	620 36	723 39	827 41	930 44
750 x 600	700 x 650 900 x 500 800 x 550	0.43	Flowrate (l/s) NC Level	221 12	331 21	443 27	552 31	663 36	775 39	883 41	994 44
700 x 700	750 x 650 900 x 550	0.47	Flowrate (l/s) NC level	241 12	362 21	482 28	603 32	723 37	844 40	965 42	1085 45
900 x 600	750 x 700	0.52	Flowrate (l/s) NC Level	266 13	399 22	532 28	665 32	799 37	932 40	1065 42	1198 45
750 x 750	850 x 650	0.55	Flowrate (l/s) NC Level	278 13	417 22	556 28	695 32	834 37	973 40	1112 42	1251 45

Air Balancing Devices

Opposed Blade Dampers

Advanced Air Opposed Blade Dampers are manufactured from extruded aluminium blades and frame with miscellaneous steel components.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 25mm centres.

The Opposed Blade Damper mounts directly on the neck of the grille and fits most **Advanced Air** grilles. Steel barbed S-clips are used for easy site mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL) on supply grilles and a screwdriver pivot lever operator (Type PL) on fixed, angled deflection return grille. Type SL operator is standard if damper is ordered separately from grille.

Can be specified as an integral part of the grille by adding a OA suffix to the grille model.

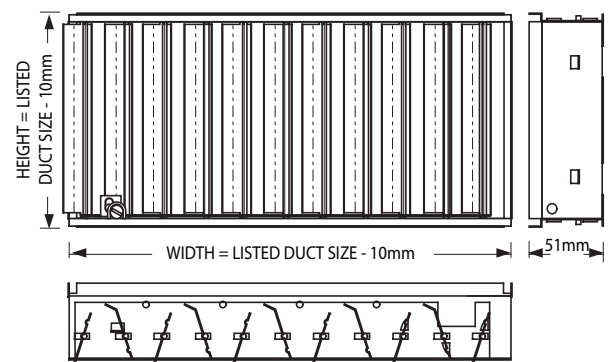
Min. Size = 100mm x 64mm Max. Size = 600 x 600mm

Type SL Operator

The SL Operator incorporates a screwdriver slot, which adjusts from the face of the grille. This operator is the standard supplied with supply air grilles such as the single and double deflection adjustable blade.

Model OBD Type SL (Screwdriver Slot)

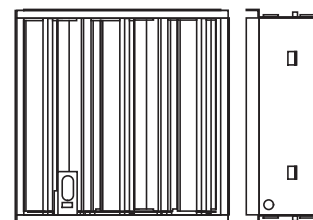
Grille Mount – Face Operator



Type PL Operator

The PL Operator is a concealed pivot lever, which is adjusted from the face of the grille using a screwdriver. This operator is for use only on fixed blade, angled deflection, return air grilles. When specifying, the blade orientation of the damper must be opposite of the grille.

Type PL (Pivot Lever)



Plenums

For Grilles and Diffusers

- Rectangular, Circular or Flat Oval Duct Connections
- Flanges & Fixing Angles Available
- Thermal/Acoustic Lining Option
- Variety of Finishes Available

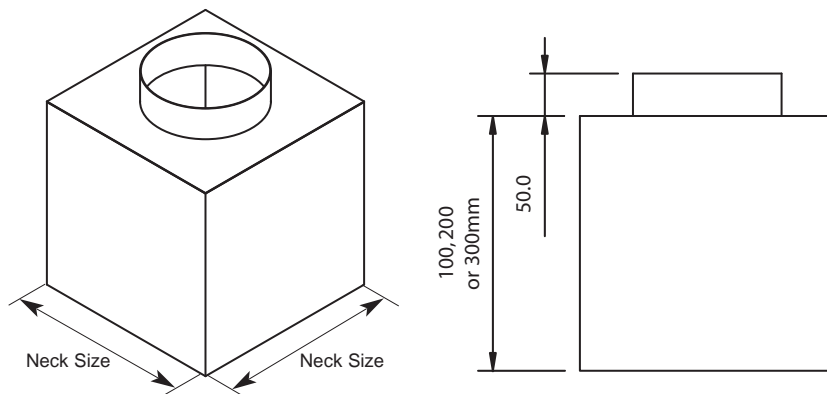
The 57 Series plenum boxes are designed to give even airflow across the Advanced Air range of grilles and diffusers.

Manufactured from 0.6 to 0.8mm galvanised mild steel, the plenum boxes come with a range of spigots suitable for rectangular, circular or flat oval duct connections in either side or top entry applications. Plenums are supplied flangeless as standard. Flanges and fixing angles for drop rod/hanging support are optional extras. Concealed fixed plenums are also available on certain products, please contact Advanced Air sales for further details.

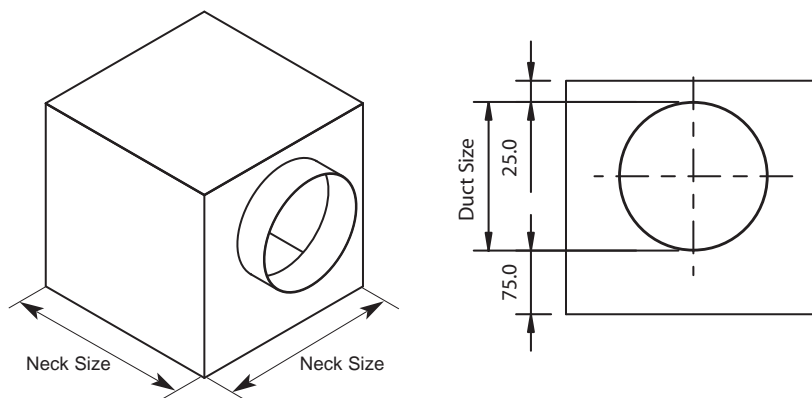
Plenums can also be supplied with optional balancing devices and thermal/acoustic lining where required. Plenum internals are natural finish as standard but optional matt black internal finish is available.

Please contact Advanced Air Sales for further details, or for bespoke solutions.

Top Entry



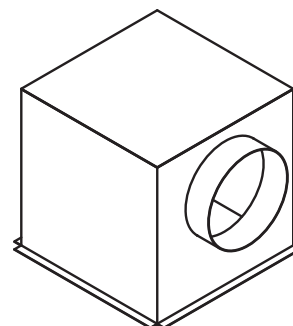
Side Entry



Note: As standard side entry plenum height is determined by specified spigot size, alternatively, overall height can be specified. Please contact Advanced Air sales for more details.

Flanges

15mm wide flanges are available.



General Product Overview

External Louvres

- **Standard Blade Style**
- **Weather Resistant**
- **Clean Architectural Appearance**
- **Extruded Aluminium**



Advanced Air External Louvres feature an architecturally appealing straight blade design with smooth, clean lines that visually compliment any structure's exterior styling. Available in flanged or optional recessed frame, the frame installs easily in most common wall configurations. Suitable for use in exhaust and low to medium velocity intake applications, the blade design features a rear water baffle and provides reasonable protection against general weather conditions. The models exhibit low pressure drop characteristics and a high free area. Reinforcing bosses run the full length of each blade for superior strength. Advanced Air External Louvres are engineered to be architecturally appealing as well as mechanically enduring.

Features & Benefits of Advanced Air Louvres:

- Extruded aluminium blades and frames for high durability and quality fit and finish.
- Reinforcing bosses run the full length of each blade for superior strength.
- Low pressure drop characteristics require less fan energy and contribute to efficient system operation.
- Selection of finishes.
- Bird Mesh fitted as standard, Insect mesh optional.
- Flange frame and recessed frame options.
- Available in multi section modules for site assembly giving continuous blade appearance.

External Louvres

1600 Series Standard Blade Type

Models:

1638	38mm Blade Pitch 40mm Deep
1650	50mm Blade Pitch 80mm Deep
1675	75mm Blade Pitch 108mm Deep



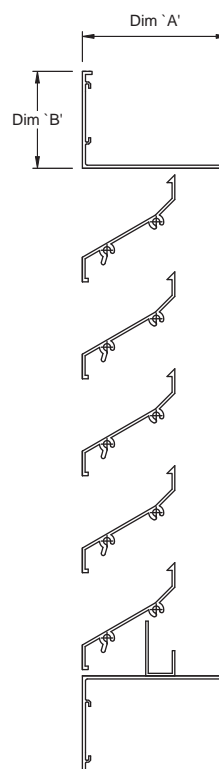
1600 Series

The Advanced Air 1600 Series is an architecturally styled louver designed with smooth, clean lines that visually compliment any structure's exterior styling. It is ideal for use in both standard and thin wall applications or a/c units. Suitable for use in exhaust and low to medium velocity intake applications, the J-style blade design features a rear water baffle and provides good protection against general weather conditions, with low pressure drop characteristics. Reinforcing bosses run the full length of each blade for superior strength. Available with flanged or recessed frames, the 1600 series design is styled to please and engineered to perform.

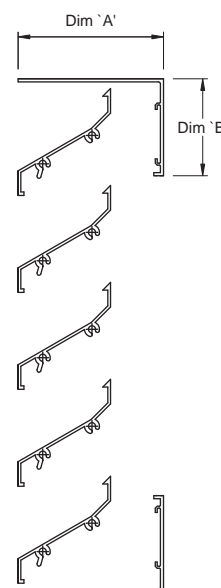
1600 Series Construction:

Frame:	Type 6063-T6 extruded aluminium.
Nominal wall thickness	Model 1638: 1.3mm Model 1650: 1.6mm Model 1675: 1.8mm
Blades:	Type 6063-T6 extruded aluminium.
Nominal wall thickness	Model 1638: 1.3mm Model 1650: 1.4mm Model 1675: 1.6mm
Effective Blade Angle:	45 degrees.
Blade Spacing:	Model 1638: 38mm Model 1650: 50mm Model 1675: 75mm
Blade Support Brackets:	On models 1650 and 1675 only, Concealed type, factory installed on rear of louver on maximum 1000mm centres. Reinforced with extruded mullion.
Mullions:	Concealed architectural type.
Screen:	13mm x 13mm x 1.0mm ga. galvanised bird screen.
Finish:	Mill. Special Finishes are available.
Minimum Size:	Model 1638: 100mm wide x 100mm high Model 1650,1675: 200mm wide x 200mm high.
Maximum Size:	Model 1638: 1200mm wide x 1200mm High Model 1650, 1675: 2000mm wide x 2000mm high. Larger sizes will be manufactured in sections with hidden architectural style rear mullions for assembly in the site.

Standard Flanged Frame



Optional Recessed Frame



Model	Dim A	Dim B
1638	40mm	30mm
1650	80mm	50mm
1675	108mm	50mm

Performance Data

Models: 1638SB, 1650SB & 1675SB

Free Area (m²)

Model: 1638SB

		Width (m)									
		0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
Height (m)	0.20	0.02	0.05	0.08	0.10	0.13	0.16	0.18	0.21	0.23	0.26
	0.40	0.06	0.11	0.17	0.23	0.29	0.35	0.41	0.47	0.53	0.59
	0.60	0.09	0.18	0.27	0.37	0.46	0.55	0.65	0.74	0.83	0.92
	0.80	0.12	0.25	0.37	0.50	0.63	0.75	0.88	1.01	1.13	1.26
	1.00	0.15	0.31	0.47	0.63	0.79	0.95	1.11	1.27	1.43	1.59
	1.20	0.18	0.38	0.57	0.76	0.96	1.15	1.34	1.54	1.73	1.93
	1.40	0.21	0.44	0.67	0.90	1.13	1.35	1.58	1.81	2.04	2.26
	1.60	0.25	0.51	0.77	1.03	1.29	1.55	1.81	2.07	2.33	2.59
	1.80	0.28	0.57	0.87	1.16	1.46	1.75	2.04	2.34	2.63	2.93
	2.00	0.31	0.64	0.97	1.30	1.62	1.95	2.28	2.61	2.94	3.27

Model: 1650SB

		Width (m)									
		0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
Height (m)	0.20	0.02	0.04	0.07	0.09	0.12	0.14	0.17	0.19	0.21	0.24
	0.40	0.04	0.11	0.17	0.24	0.30	0.37	0.43	0.50	0.56	0.63
	0.60	0.07	0.17	0.28	0.38	0.49	0.59	0.70	0.80	0.91	1.01
	0.80	0.10	0.24	0.38	0.53	0.67	0.82	0.96	1.11	1.25	1.40
	1.00	0.12	0.31	0.49	0.68	0.86	1.04	1.23	1.41	1.60	1.78
	1.20	0.15	0.37	0.60	0.82	1.05	1.27	1.50	1.72	1.94	2.17
	1.40	0.17	0.44	0.70	0.97	1.23	1.50	1.76	2.03	2.29	2.56
	1.60	0.20	0.50	0.81	1.11	1.42	1.72	2.03	2.33	2.64	2.94
	1.80	0.23	0.57	0.92	1.26	1.60	1.95	2.29	2.64	2.98	3.33
	2.00	0.25	0.64	1.02	1.41	1.79	2.18	2.56	2.94	3.33	3.71

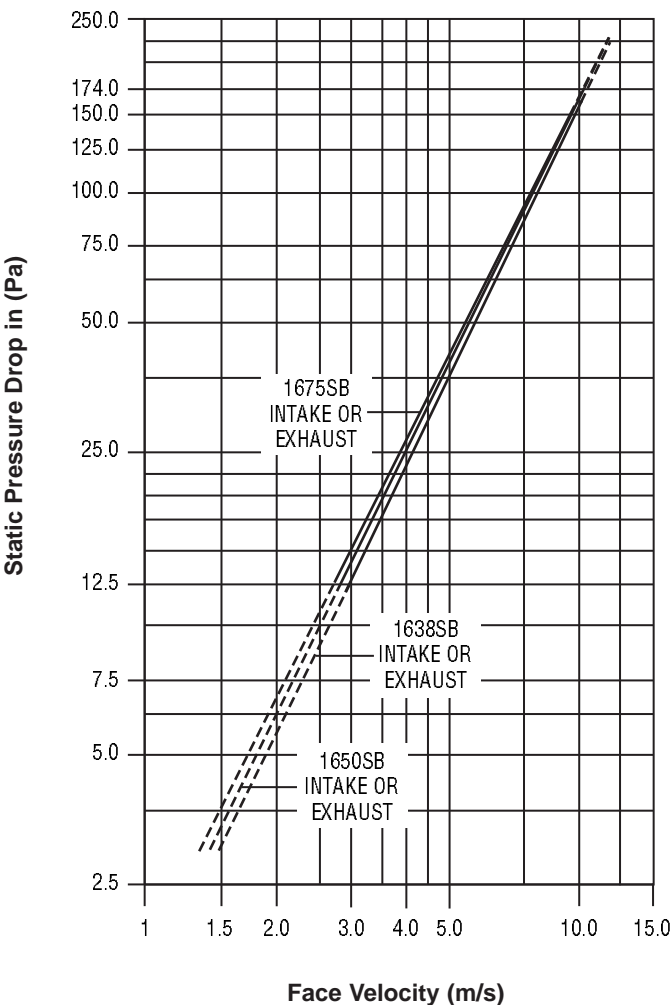
Model: 1675SB

		Width (m)									
		0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00
Height (m)	0.20	0.01	0.03	0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16
	0.40	0.04	0.09	0.14	0.19	0.24	0.29	0.34	0.39	0.44	0.49
	0.60	0.07	0.15	0.23	0.31	0.40	0.48	0.56	0.64	0.72	0.80
	0.80	0.10	0.21	0.32	0.44	0.55	0.66	0.77	0.88	1.00	1.11
	1.00	0.13	0.28	0.42	0.57	0.71	0.86	1.01	1.15	1.30	1.44
	1.20	0.16	0.33	0.51	0.69	0.87	1.04	1.22	1.40	1.57	1.75
	1.40	0.19	0.39	0.60	0.81	1.02	1.22	1.43	1.64	1.85	2.06
	1.60	0.22	0.46	0.70	0.94	1.18	1.43	1.67	1.91	2.15	2.39
	1.80	0.24	0.52	0.79	1.06	1.33	1.61	1.88	2.15	2.43	2.70
	2.00	0.27	0.57	0.88	1.18	1.49	1.79	2.09	2.40	2.70	3.01

Performance Data

Models: 1638SB, 1650SB & 1675SB

Pressure Drop



Louvre test size: 1220mm x 1220 mm.
Standard air density @ 1.20 kg/m³.

How To Specify or To Order

(Show complete Model Number and Size, unless "Default" is desired)

Extruded Aluminium Louvres - Models 1638SB, 1650SB, 1675SB

1638SB - 1200 x 900 - FL - BSG - MI - CM - -			
Model		Other Options	
- 1638SB		- None (default)	—
- 1650SB		Mullion Type	
- 1675SB		- Concealed (default)	CM
Nominal Width		Finish	
mm		- Mill Finish (default)	MI
Nominal Height		- Polyester Powder	PP
mm		- Special	SPL
Frame		Screen	
- Flanged (default)	FL	Galvanised Bird Screen (default)	-
- Recessed	RE	- Aluminium Insect Screen	BSG
		- No Screen Required	ISA
			NSR

Additional Products

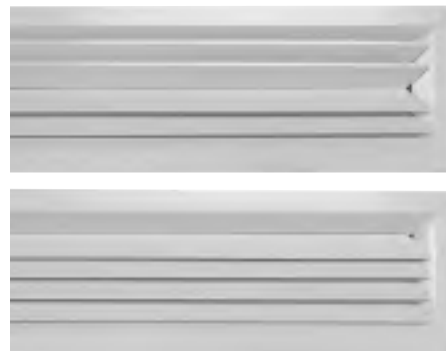
The following are additional products that can be supplied by Advanced Air. For more information, please contact Advanced Air Sales.

Linear Louvre Diffusers

48LL Series

- Extruded Aluminium
- Architectural
- High Capacity
- Square or Rectangular Necks

The **Advanced Air 48LL Series Linear Louvre (Vane) Diffusers** feature architectural linear styling for high capacity supply and return air applications in hard ceilings or sidewalls. They are designed for duct mounted installation. Standard finish is a high quality, polyester powder finish for long life and easy cleaning. Designed for use in finite lengths, the fixed louvres provide a tight horizontal discharge pattern over a wide range of airflow rates and are an excellent choice for VAV systems.

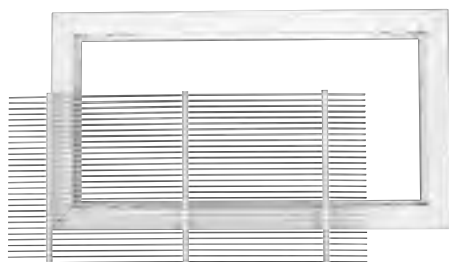


Aluminium Reversible Core Grilles

51RC

51RCD

The **Advanced Air Models 51RC and 51RCD Reversible Core ‘Linear Style’ Grilles** are designed to combine rugged aluminium construction, pleasing architectural design and flexible air pattern versatility. The blade core is removable and may be rotated or reversed to achieve any one of four air deflection patterns. The **Model 51RCD** incorporates a set of rear directional vanes that are individually adjustable for additional air pattern control in supply applications.



Aluminium Heavy Duty Bar Return Grilles

5100-HD Series

The **Advanced Air Model Series 5100-HD Heavy Duty Return Grilles** are designed to combine heavy duty aluminium construction and pleasing architectural design. They are constructed to offer the strength and durability required to withstand abuse in applications such as schools, gymnasiums, stairwells, hotels and other locations requiring strong impact resistance.

The heavy duty extruded aluminium frame is staked and welded for maximum strength. Fixed front bars are reinforced and supported by a deep profile cross-bar on maximum 200mm centres.





Aluminium Heavy Duty Bar Grilles 51D00-HD Series

- **Moveable Rear Direction Vanes**

The **Advanced Air Model Series 51D00-HD Heavy Duty Supply Grilles** are designed to combine aluminium construction, pleasing architectural design and flexible air pattern versatility. They are constructed to offer the strength and durability required to withstand abuse in applications such as schools, stairwells, hotels and other locations requiring strong impact resistance.

The heavy duty extruded aluminium frame is staked and welded for maximum strength. Fixed front bars are reinforced and supported by a deep profile cross-bar on maximum 200mm centres. All models are supplied with a set of friction pivoted rear vanes on 19mm centres that are individually adjustable for directional control and air pattern spread.

Square Ceiling Diffusers RNS Series

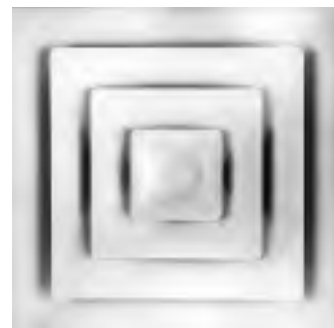
- **Fixed Air Pattern**
- **High Performance**
- **Square Face**
- **Round Neck**

The **Advanced Air RNS Series Square Ceiling Air Diffusers** have been specially designed to provide an extremely cost effective, value engineered product. They offer both the unobtrusive appearance required for architectural excellence and the 360 degree diffusion pattern at minimum NC levels required for high engineering performance. For these reasons the **RNS Series** diffuser is the most popular choice for general applications.

The stamped one-piece cones eliminate mitred corners and the die-formed curves provide consistent quality and performance. The stepped down core design increases capacity and minimises streaking and smudging of the ceiling.

The diffusers provide stable diffusion and mixing patterns under constant and changing load conditions and are particularly suitable for variable air volume systems.

The diffusers are available with various frame/border designs to suit many ceiling systems including surface mount, T-Bar lay-in, and panel applications. Standard finish is a high quality, hard Polyester Powder finish for long life and easy cleaning. A variety of neck sizes are available to suit your system design. The collar is a full 32mm in height for easy, secure connection. Steel models are available in all size and frame type combinations. Aluminium models are available in a 600mm x 600mm full face Type L frame module only and 300mm x 300mm modules with a full face Type L or Type S frame.



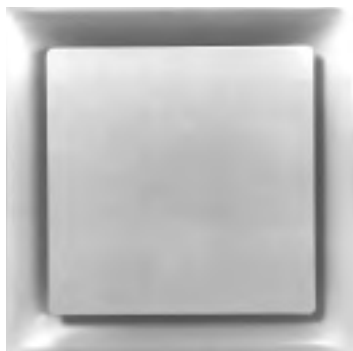
Architectural Ceiling Diffusers UNI Series

- **High Performance**
- **Square Face**
- **Round Neck**

The **Advanced Air 'UNI' Series Square Ceiling Air Diffuser** has been specially designed to provide both the unobtrusive appearance required for architectural excellence and the 360 degree diffusion pattern at minimum NC levels required for high engineering performance. The stamped one-piece outer-cone eliminates mitred corners and the die-formed curves provide consistent quality and performance.

The **UNI** diffuser compliments any decor, blending beautifully with virtually any architectural style or requirement. The **UNI** diffuser provides stable diffusion and mixing patterns under constant and changing load conditions and is particularly suitable for variable air volume systems.

The **UNI** diffusers are available to suit many situations including surface mount, T-Bar lay-in and panel applications. Standard finish is a high quality, hard Polyester Powder finish for long life and easy cleaning. A variety of neck sizes are available to suit your system design. The collar is a full 32mm in height for easy, secure connection.

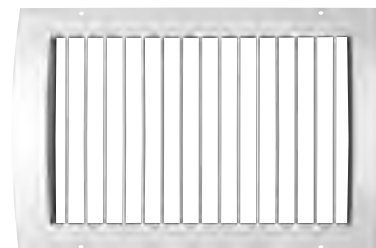


Curved Spiral Duct Grilles

- True Full Radius Design
- Single Deflection
- Supply

Models 61SVC and 61SHC Curved Spiral Duct Supply Grilles are for use in exposed spiral duct applications requiring adjustment in a single horizontal or vertical plane. The vertical blades will control the spread and throw distance of the air pattern to accommodate various layouts. Horizontal blades will control the rise and drop of the air pattern, typically directing warm air downwards or cool air upwards.

The innovative design incorporates a unique one piece frame, rolled to match the required duct radius, which eliminates any visible lines in the corners of the grille, enhancing the appearance. The grille frame mounts flush with the spiral duct and thus reduces the labour and installation cost by eliminating the need to fabricate stand-off saddles.

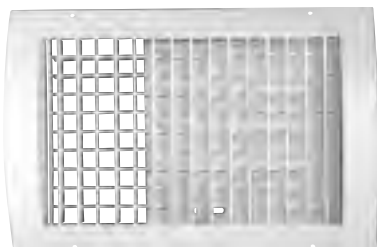


Curved Spiral Duct Grilles

- True Full Radius Design
- Double Deflection
- Supply

Models 61DVC and 61DHC Curved Spiral Duct Supply Grilles are for use in exposed spiral duct applications requiring maximum flexibility. The front set of blades has the greatest effect on the air pattern, therefore should be selected based on particular requirements. Vertical front blades will control the spread and throw distance of the air pattern where as horizontal front blades will control the rise and drop of the air pattern, typically directing warm air downwards or cool air upwards.

The innovative design incorporates a unique one piece frame, rolled to match the required duct radius, which eliminates any visible lines in the corners of the grille, enhancing the appearance. The grille frame mounts flush with the spiral duct and thus reduces the labour and installation cost by eliminating the need to fabricate stand-off saddles.



Drum Louvres

45DL Series

- High Capacity
- Long Throw
- Aluminium Construction

Series 45DL Drum Louvres are supply air outlets engineered for use in cooling, heating, and ventilating applications requiring long throws and accurate directional control of conditioned air in large enclosed spaces where ductwork cannot be brought close to the occupants. Typically, they are used in sport arenas, exhibition halls, manufacturing and industrial plants, office building entrances, lobbies, shopping malls and atriums.

Series 45DL Drum Louvres are designed to provide jet or diffused air patterns in ceiling, sidewall and exposed duct applications. In sidewall and exposed duct installations, the **Model Series 45DL** can be mounted vertically or horizontally.

Series 45DL are ideal for vertical spot cooling or heating when mounted in the ceiling or on the underside of exposed ductwork. They are capable of supplying straight flow primary air jet streams at 0° deflection for long throws, and a diffused pattern of primary air at 15° and 30° deflections for shorter throws and greater spread. There is a difference of approximately 35 percent in throw between jet and diffused air patterns. The cylindrical drum enables primary air to be directed horizontally or vertically within a 60° arc, and when coupled with the adjustable louvres provides accurate directional control of primary air for people, plant or product.

Model 45DL2 features a split-vane option. The individual vanes are separated by a central divider and may be adjusted in opposite directions to produce a 'counter flow' air pattern. This creates more rapid mixing of primary and room air and a further reduction in the length of throw. With this option you therefore have the utmost versatility for all applications.





Radial Pattern Diffusers

92RDP Series

- Unique Design
- High Capacity
- Hinged Face
- Aluminium or Stainless Steel Construction

The **Model 92RPD Series Aluminium Radial Pattern Diffusers** have been designed to provide low aspiration and high ventilation rates especially for clean room applications such as research laboratories, food processing, hospital rooms and computer rooms. The unique design of solid baffles in an intrusive perforated face can handle large volumes of air with low initial face velocities.

The **92RPD-2** model introduces air in a semi-cylindrical 180° radial flow pattern, flushing a room with large volumes of clean conditioned air, minimizing entrainment and hence mixing with contaminated air, while still allowing low room air velocities. The **92RPD-1** model introduces air in a 90° radial flow pattern for perimeter applications.

The **Model 92RPD Series Stainless Steel Radial Pattern Diffusers** have been designed to provide low aspiration and high ventilation rates especially for clean room applications such as research laboratories, bio-technology facilities, animal labs, food processing, semi-conductor manufacturing, hospital rooms and computer rooms. The unique design of solid baffles in an intrusive perforated face can handle large volumes of air with low initial face velocities.

The **92RPD-2SS** model introduces air in a semi-cylindrical 180° radial flow pattern, flushing a room with large volumes of clean conditioned air, minimizing entrainment and hence mixing with contaminated air, while still allowing low room air velocities. The **92RPD-1SS** model introduces air in a 90° radial flow pattern for perimeter applications.

Radial Pattern Diffusers with Filters

92RPDF Series

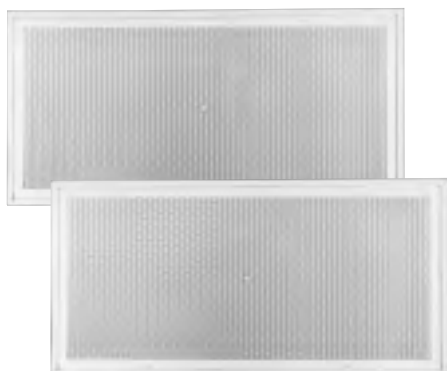
- Unique Design
- HEPA or ULPA Filters
- Hinged Face
- Stainless Steel

The **Model 92RPDF Series Radial Pattern Diffusers with Filters** have been designed to provide low aspiration and high ventilation rates especially for clean room applications such as research laboratories, bio-technology facilities, semi-conductor manufacturing, food processing, hospital rooms and computer rooms. The unique design of solid baffles in an intrusive perforated face can handle large volumes of air with low initial face velocities. They are designed with an integral 'knife-edge' frame to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit. These high quality filters incorporate a separatorless 50mm deep media, integral test port and an anodised aluminium gel seal frame.

The **92RPDF-2SS** model introduces air in a semi-cylindrical 180° radial flow pattern, flushing a room with large volumes of clean conditioned air, minimizing entrainment and hence mixing with contaminated air, while still allowing low room air velocities. The **92RPDF-1SS** model introduces air in a 90° radial flow pattern for perimeter applications.



Laminar Flow Diffusers 92LFD Series



- Proven Technology
- Removable Perforated Face
- Integral Volume Damper
- Aluminium, Steel or Stainless Steel Options

The **Model 92LFD Series Laminar Flow Diffusers** utilise the well-proven and time-tested concept of vertical air mass 'laminar flow' technology. The **92LFD Series** produce a non-aspirating, low velocity, uniformly distributed downward moving 'piston' of conditioned air.

They may be used individually, or as in the case of hospital operating rooms, several units may be banked together to sufficiently cover the area and produce one large combined laminar mass. Installed in an operating room above the operating table,

the clean conditioned air flows over and blankets the operating table, helping to protect and effectively isolate the patient from contaminated air. The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table. The patient is therefore bathed in 'clean air' and effectively isolated from secondary room air and any airborne contaminants.

The advantages of 'Laminar Flow' technology provide similar benefits in other 'clean room' applications such as research laboratories, animal laboratories, food processing plants and pharmaceutical laboratories.

The ability of the **92LFD Series** to maintain a sterile environment directly below is enhanced by the use of low level exhaust grilles located around the room periphery which remove the contaminated air before it can react with the boundary layer of the laminar flow mass.

A more recent application has been their use in computer rooms, where localized heavy cooling loads present a problem. The **92LFD Series**, when installed overhead, cools the load source directly, without creating objectionable high velocities in the occupied zone.

Laminar Flow Diffusers with Filters 92LFDF Series

- Proven Technology
- HEPA or ULPA Filters
- Removable Perforated Face
- Integral Volume Damper
- Unidirectional Airflow
- Aluminium or Stainless Steel Construction



The **92LFDF Series Laminar Flow Diffusers with Filters** utilise the well-proven and time-tested concept of vertical air mass 'laminar flow' technology. The **92LFDF Series** produce a non-aspirating, low velocity, uniformly distributed downward moving 'piston' of conditioned air. They are designed with an integral 'knife-edge' frame to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit. These high quality filters incorporate a separatorless 50mm deep media, integral test port and an anodised aluminium gel seal frame.

They may be used individually, or as in the case of hospital operating rooms, several units may be banked together to sufficiently cover the area and produce one large combined laminar mass. Installed in an operating room above the operating table, the clean conditioned air flows over and blankets the operating table, helping to protect and effectively isolate the patient from contaminated air. The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table. The patient is therefore bathed in 'clean air' and effectively isolated from secondary room air and any airborne contaminants.

The advantages of 'Laminar Flow' technology provide similar benefits in other 'clean room' applications such as research laboratories, bio-technology facilities, animal laboratories, food processing plants, semi-conductor manufacturing, pharmaceutical laboratories and protective environment rooms.

The ability of the **92LFDF Series** to maintain a sterile environment directly below is enhanced by the use of low level exhaust grilles located around the room periphery which remove the contaminated air before it can react with the boundary layer of the laminar flow mass.

Floor "Swirl" Diffuser



- Fixed Helical Pattern
- Round, Floor Mounted
- High Performance

The **Advanced Air Model NFD Floor "Swirl" Diffuser** is designed for use in raised access floor air distribution systems, where the floor cavity is used as a pressurized supply air plenum. The specially designed NFD core produces a low velocity helical air pattern. This design achieves high induction rates of room air, which optimizes circulation and therefore comfort conditions.

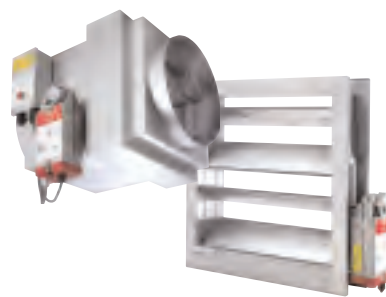
An architecturally appealing face design compliments any contemporary decor and is available as standard in a gray or black finish as well as a wide variety of custom colors. Allowing extreme flexibility in space planning, the diffuser, once installed in the access floor panel, can be quickly relocated to accommodate changing conditions and floor layouts.

Other Products From Advanced Air

Air Control Products

We offer a range of Low leakage fire smoke dampers, tested to BS ISO 10294, which are used to prevent the spread of fire and smoke in a ventilation system. Our range also includes smoke and high temperature smoke dampers, which can be used up to 300°C for 120 minutes. The Advanced Air curtain fire dampers provide a wide range of models suitable for most applications.

A variety of control dampers from value solutions to a low leakage, low pressure drop, airfoil blade type can be supplied with a variety of control options, including motorised and manual control.



Control Panels

Controlling the spread of smoke is vital to both occupants and the building itself, and Advanced Air's range of fire smoke damper control panels are available to provide solutions to suit all requirements. From addressable systems, to hard-wired panels, the range also includes the option of bespoke units, which can be manufactured to suit specific customer requirements.

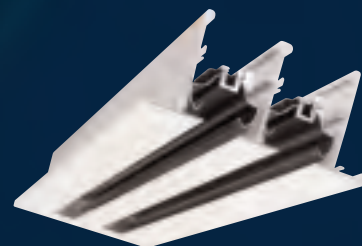
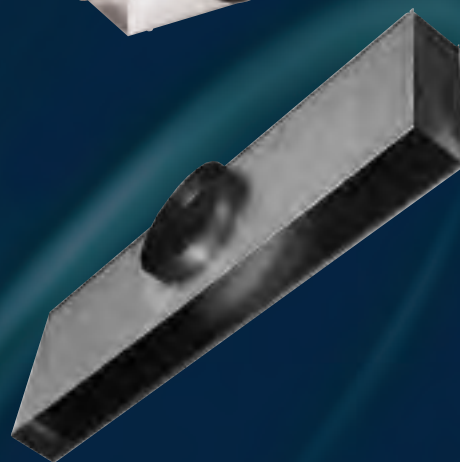
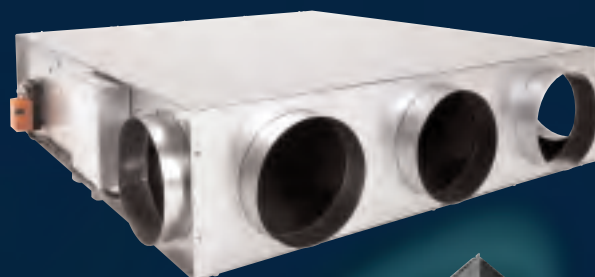
Fan Coil Units

Our range of Airside and Waterside fan coil units can meet almost any building design requirements for air volume and output. Bespoke units can also be manufactured to include standard AC motor or energy efficient DC motors that can produce more than 50% in energy savings.



VAV Terminal Units

Advanced Air offers a variety of Single Duct and Dual Duct units for different types of variable air volume systems. We also manufacture Fan Powered VAV units that use advance brush-less dc motors to give lower energy consumption and simpler commissioning.



System Solutions

With our comprehensive range of quality products we can offer complete solutions for air distribution and air control systems. Our objective is to offer customers value engineered products that meet specification requirements. Further more, with the development of more energy efficient products and methods we ensure customers are offered the best products to meet new legislations.

For more information please contact our sales office.

The information contained in this publication is correct at the time of printing. Continuous product development means that from time to time product specifications and other information will change. The company therefore reserve the right to modify or withdraw any of the products described without prior notice.

Advanced Air 

Air Control Products - Damper Control Panels - Air Distribution Equipment
VAV Terminal Units - Fan Coil Units - Electric Duct Heaters - Access Doors

PO Box 153, Burrell Way, Thetford, Norfolk, IP24 3WB, England

Tel: +44 (0) 1842 753624
email: sales@advancedair.co.uk

Fax: +44 (0) 1842 762032
website: www.advancedair.co.uk