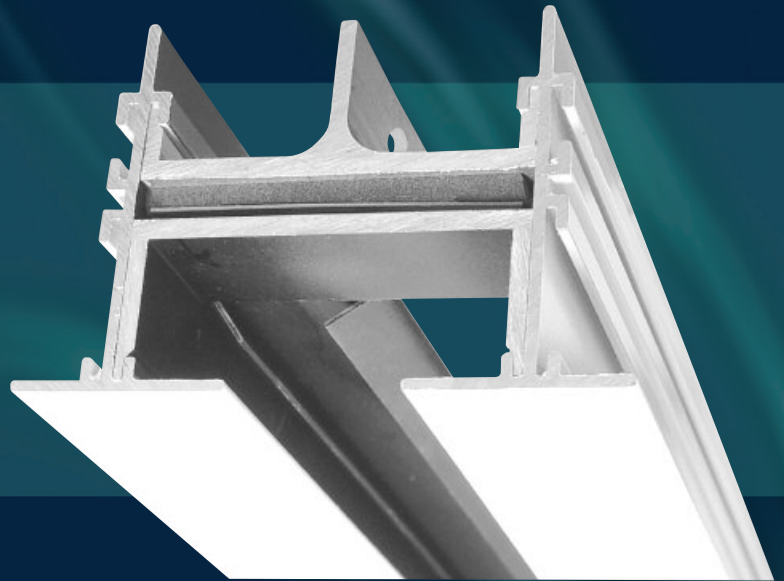


# “Flowline” High Capacity Linear Slot Diffusers

FLH & FLV Series



Horizontal High Throw Pattern Controllers

Vertical Jet Throw Pattern Controllers

Continuous Custom Linear Diffuser

### General Product Overview “Flowline” Linear Slot Diffusers

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.

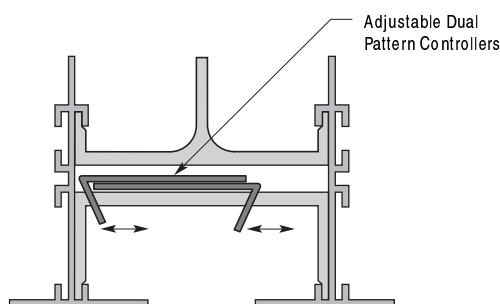


### Flowline Key Features:

- 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:

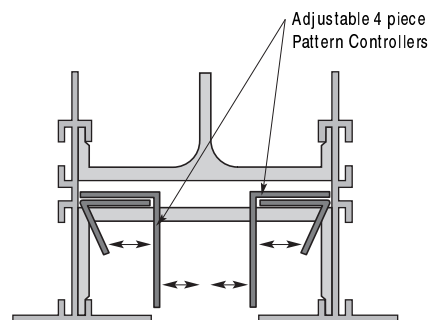
Pattern controllers provide 180° directional control; left or right horizontal throw, angular discharge, volume control and shut-off capability.

### 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.

### “Flowline” High Capacity Linear Slot Diffusers

#### FLH Series

- Horizontal High Throw Pattern Controllers
- Continuous Custom Linear Diffuser

#### Models:

<b>FLH10</b>	<b>25mm Slot</b>
<b>FLH15</b>	<b>38mm Slot</b>
<b>FLH20</b>	<b>51mm Slot</b>
<b>FLH25</b>	<b>64mm Slot</b>
<b>FLH30</b>	<b>76mm Slot</b>



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.
- Mitred corner and transition sections are available.

#### 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.

#### 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.

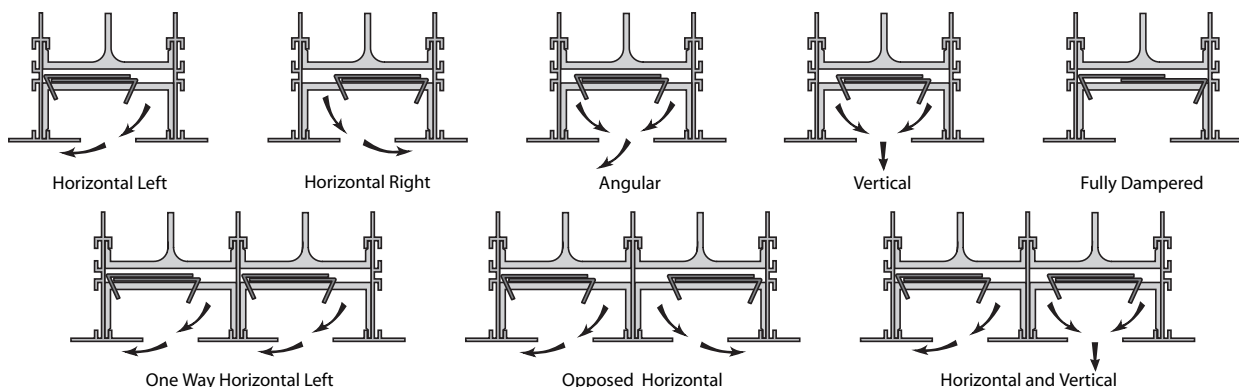
#### Finish:

- 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 18-23

#### FLH Series Pattern Controller Adjustment





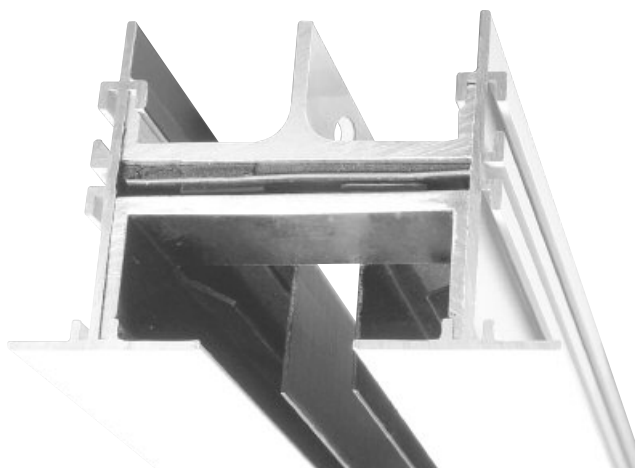
## “Flowline” High Capacity Linear Slot Diffusers

### FLV Series

- Vertical Jet Throw Pattern Controllers
- Continuous Custom Linear Diffuser

#### Models:

<b>FLV10</b>	<b>25mm Slot</b>
<b>FLV15</b>	<b>38mm Slot</b>
<b>FLV20</b>	<b>51mm Slot</b>
<b>FLV25</b>	<b>64mm Slot</b>
<b>FLV30</b>	<b>76mm Slot</b>



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.
- Mitred corner and transition sections are available.

#### 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.

#### 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.

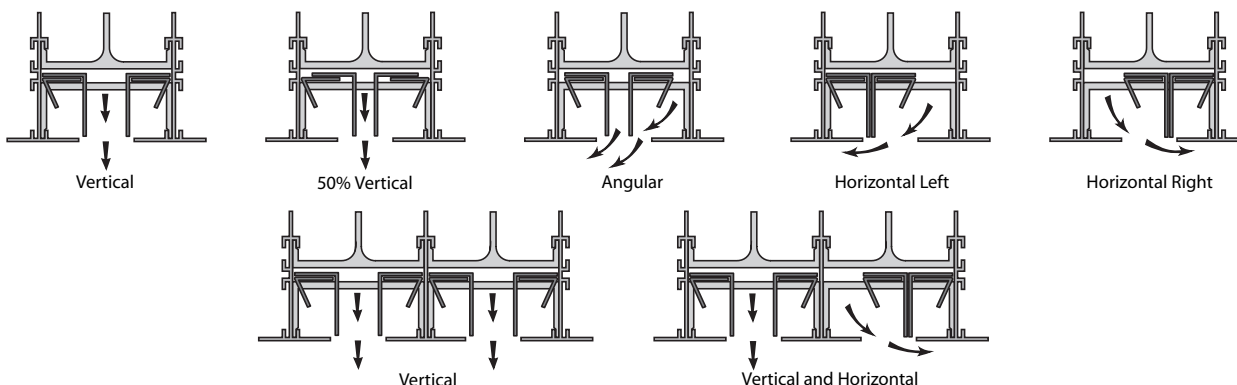
#### Finish:

- 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:

- Contact Advanced Air Sales

#### FLV Series Pattern Controller Adjustment



### Standard Frame/Border Styles

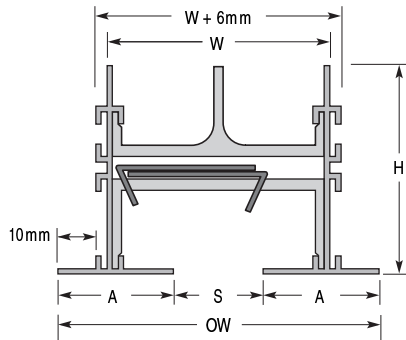
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

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

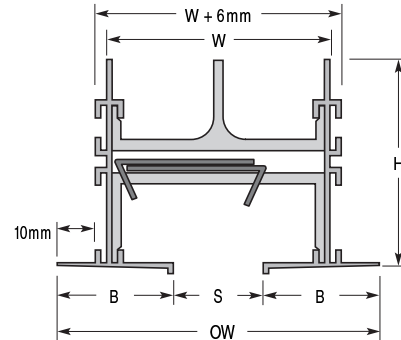
##### Type AA Exposed Flange Frame

- Drywall (ceiling, wall), T-Bar



##### Type BB Concealed Tapered Frame

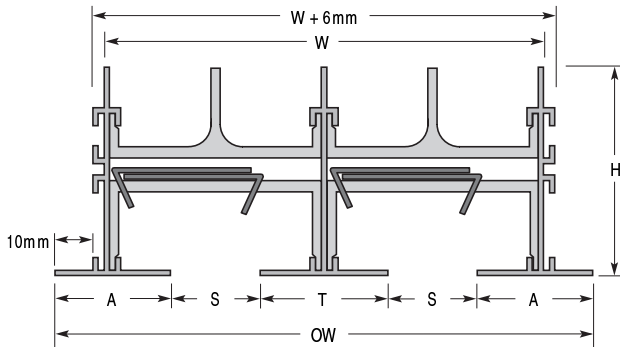
- Drywall (ceiling, wall)
- Tape and Plaster Edge



#### Two Slot

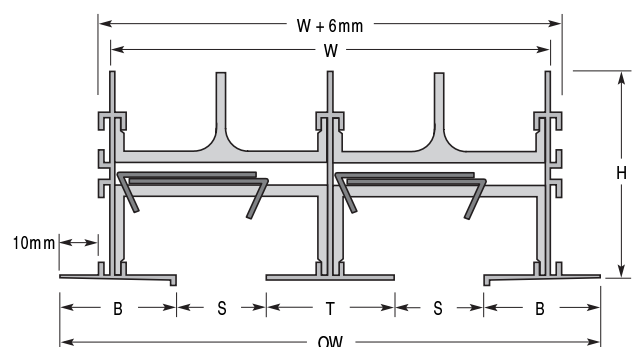
##### Type AA Exposed Flange Frame

- 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

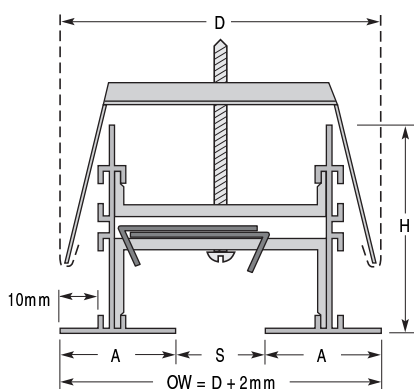
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

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

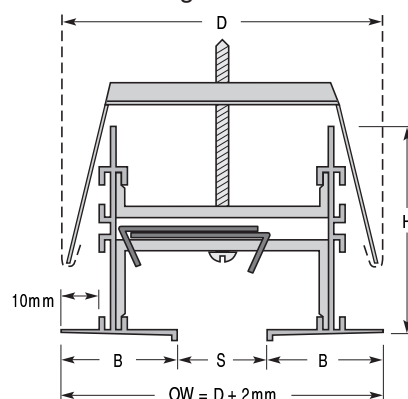
##### Type AAC Exposed Flange Frame

- Drywall (ceiling)



##### Type BBC Concealed Tapered Frame

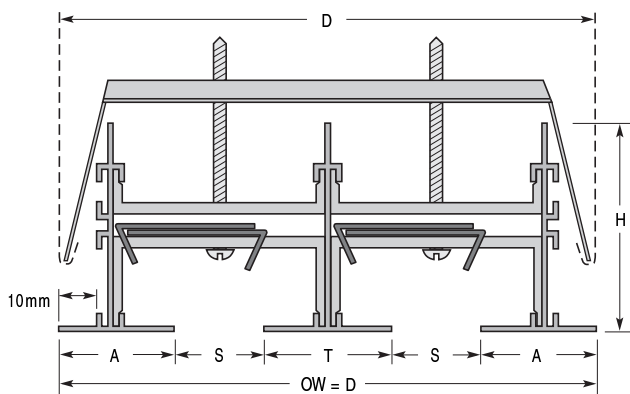
- Drywall (ceiling)
- Tape and Plaster Edge



#### Two Slot

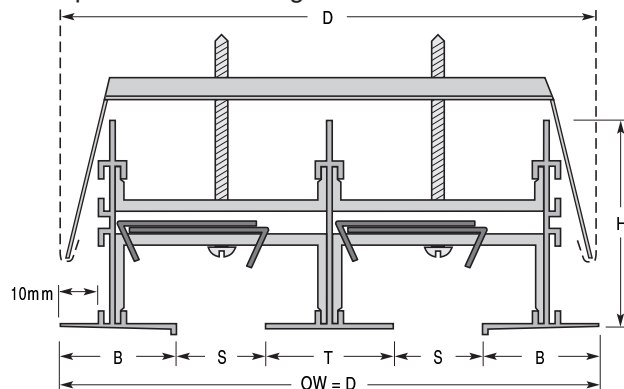
##### Type AAC Exposed Flange Frame

- 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

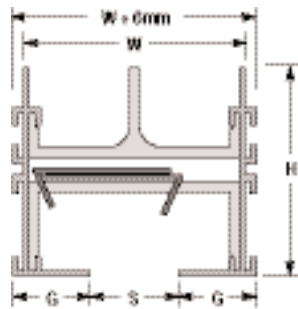
(Type H Horizontal pattern controllers illustrated. Also available with Type V Vertical).

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

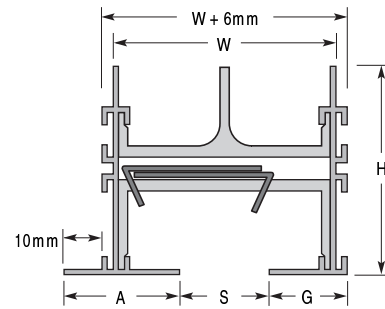
##### Type GG Flangeless Frame

- Drywall (ceiling, wall)



##### Type AG Flange / Flangeless Frame

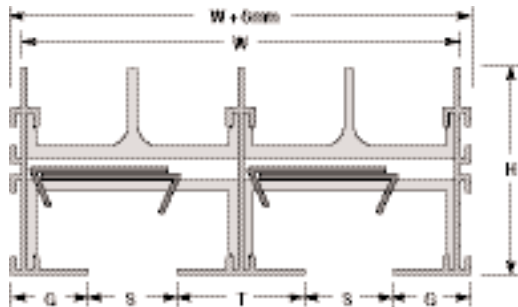
- Drywall (ceiling, wall)



#### Two Slot

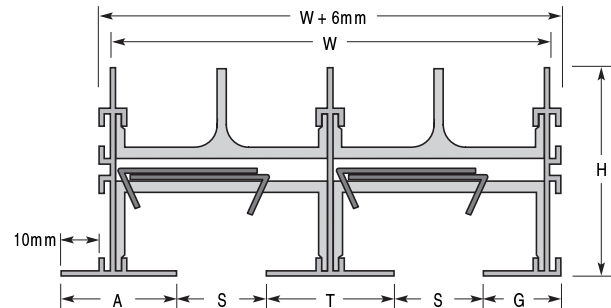
##### Type GG Flangeless Frame

- Drywall (ceiling, wall)



##### Type AG Flange / Flangeless Frame

- Drywall (ceiling, wall)



#### Dimensional Data (mm)

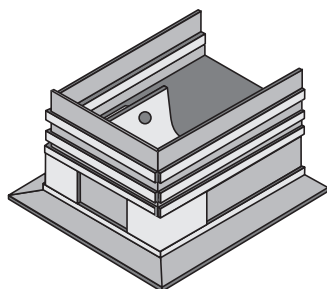
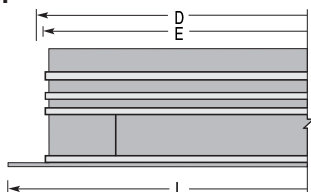
Model	S Slot Width	1 Slot W	2 Slot W	A Border Width	G Border Width	H Height	T 2 Slot
FL(HorV)10	25	64	125	33	22	60	37
FL(HorV)15	38	89	176	39	29	67	49
FL(HorV)20	51	114	227	45	35	73	62
FL(HorV)25	64	140	278	52	41	79	75
FL(HorV)30	76	165	329	58	48	86	87



### End Border Configurations for Various Mountings

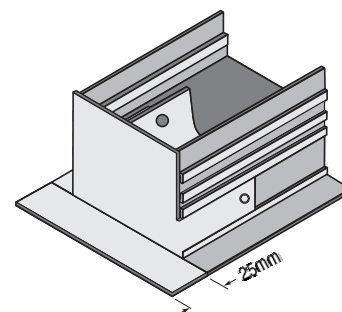
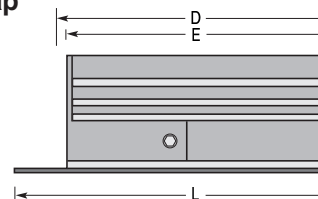
#### M Mitred End Border

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

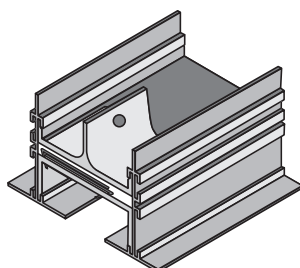
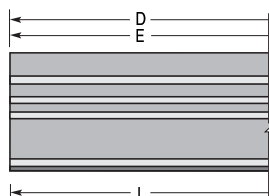


#### F Flanged End Cap

- Removable for site end trim or stocking.

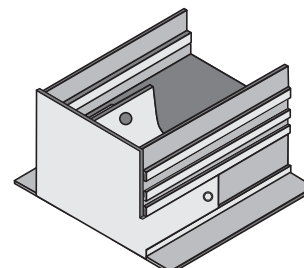
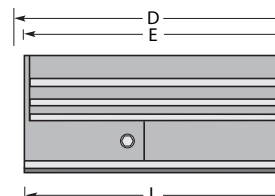


#### O Open End



#### 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

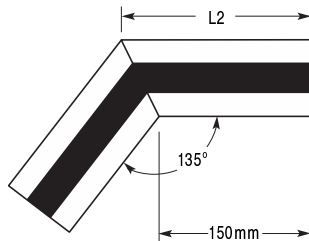
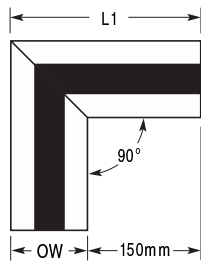
#### Mitred Corners

- 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

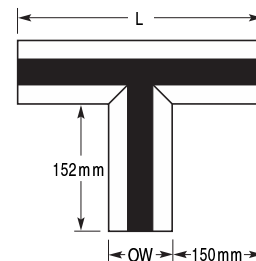
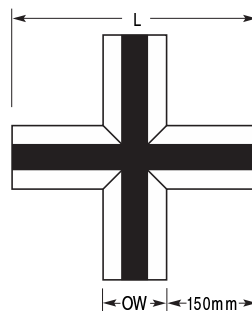
##### Type C Cross

- 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.

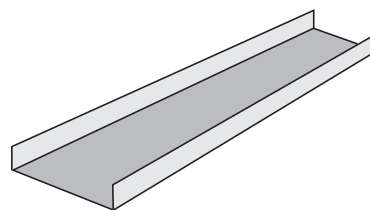


No. of Slots	Slot Width	Border AA, BB		Border GG	
		OW	L	OW	L
1	25	90	391	70	369
	38	116	417	95	394
	51	141	442	121	420
	64	167	467	146	445
	76	192	493	171	471

#### 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:

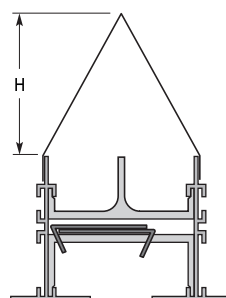
- FLR10 • 25mm Slot
- FLR15 • 38mm Slot
- FLR20 • 51mm Slot
- FLR25 • 64mm Slot
- FLR30 • 76mm Slot

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

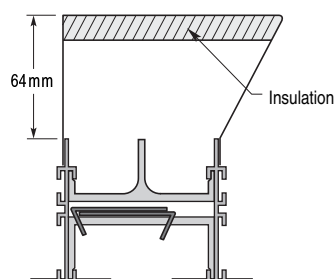
#### Insulated:

- FLRI10 • 25mm Slot
- FLRI15 • 38mm Slot
- FLRI20 • 51mm Slot
- FLRI25 • 64mm Slot
- FLRI30 • 76mm Slot

#### Uninsulated

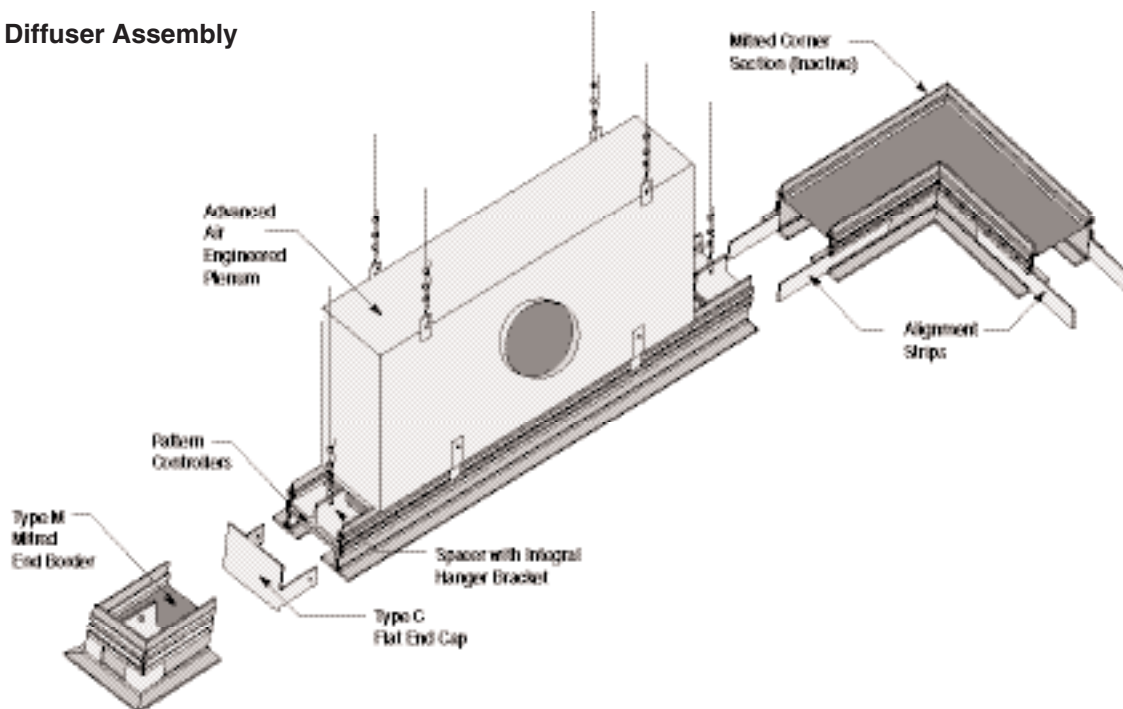


#### Insulated



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

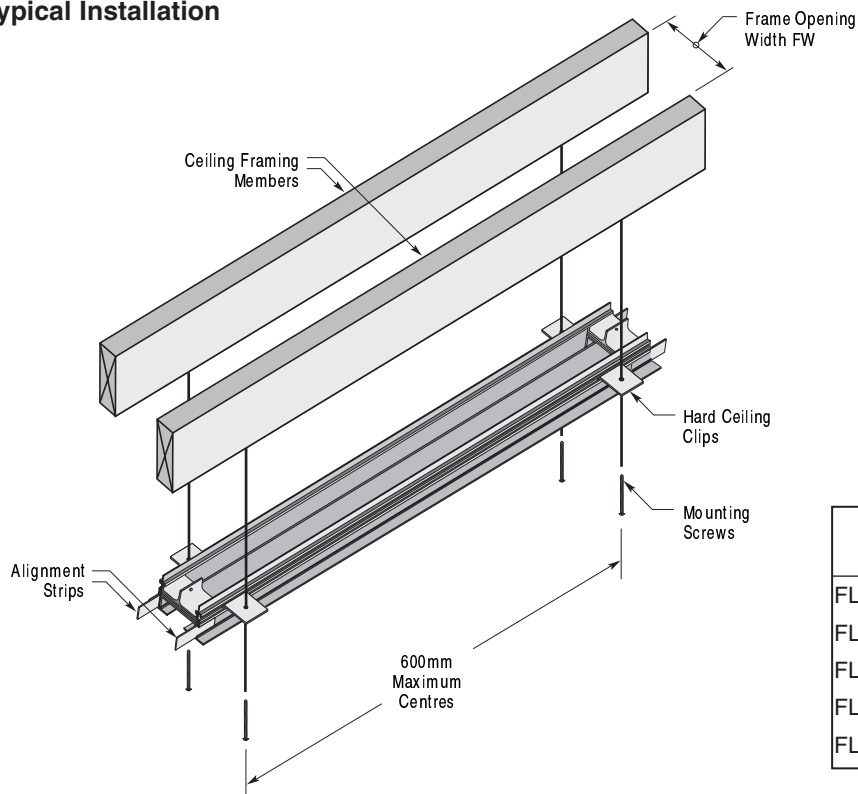
### Typical Diffuser Assembly



- 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.

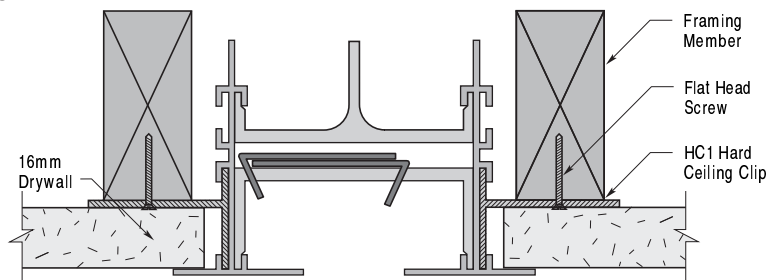
### Hard Ceiling Application and Installation Methods

#### Typical Installation

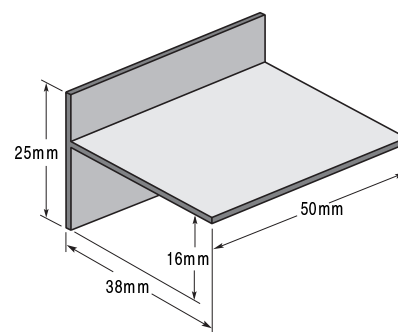


Model	Frame Opening Width FW	
	1 slot	2 slot
FL(HorV)10	83	146
FL(HorV)15	108	197
FL(HorV)20	133	248
FL(HorV)25	159	298
FL(HorV)30	184	349

#### Exposed Flange Frame Type AA

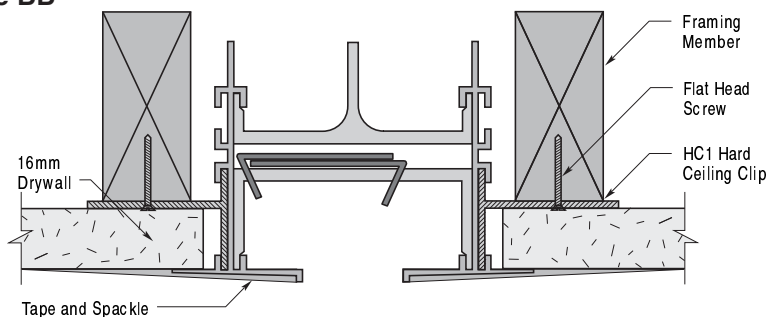


#### HC1 Hard Ceiling Clip



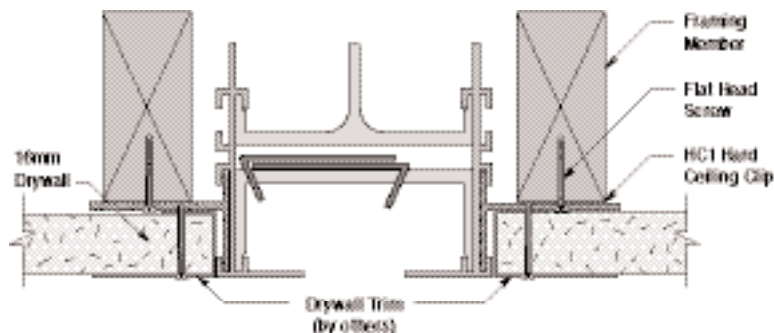
The HC1 Hard Ceiling Clip can be used to mount the FlowLine™ assembly with Frame/Border Types AA or BB, where standard 16mm gypsum wallboard (drywall) is used.

#### Concealed Frame Type BB

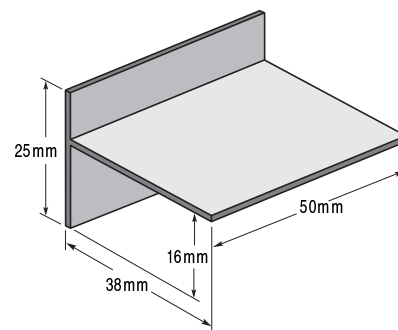


## Hard Ceiling Application and Installation Methods

### Flangeless Flush Frame Type GG

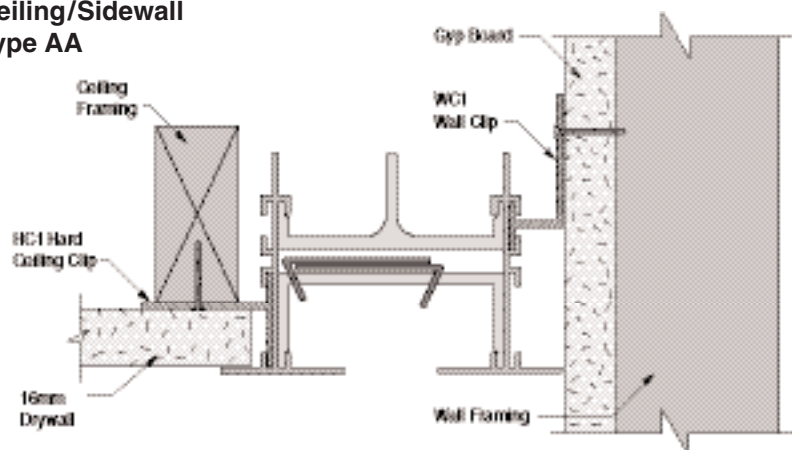


### HC1 Hard Ceiling Clip

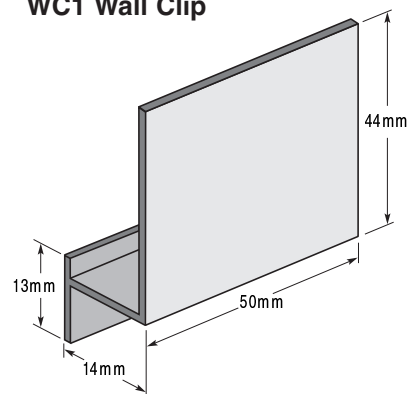


The HC1 Hard Ceiling Clip can be used to mount the FlowLine™ assembly with Frame/Border Type GG, where standard 16mm gypsum wallboard (drywall) is used.

### Ceiling/Sidewall Type AA



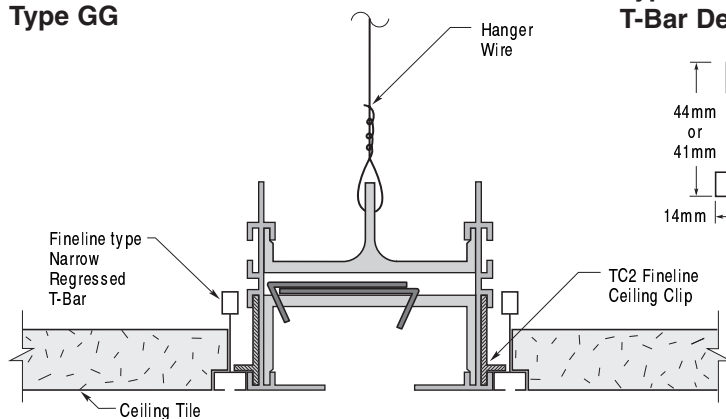
### WC1 Wall Clip



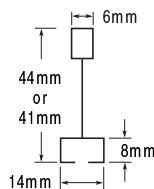
The WC1 Wall Clip is used to mount the FlowLine™ assembly with Frame/Border Type AA flush to a wall.

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

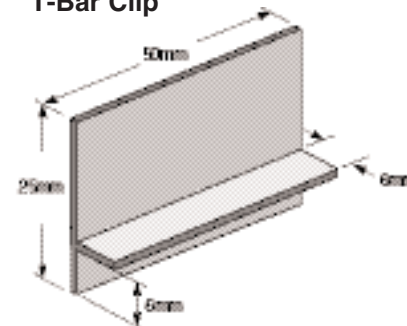
### Flangeless Frame Type GG



### Typical Regressed T-Bar Detail



### TC2 Threadline/Fineline® T-Bar Clip

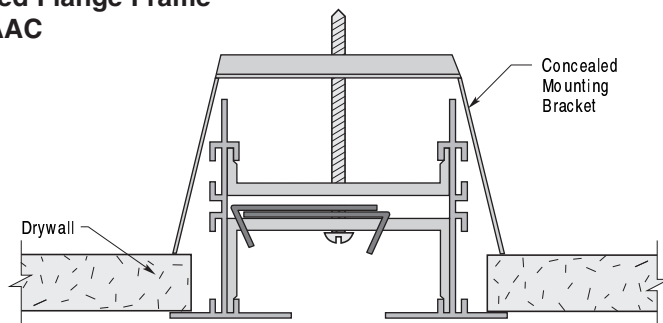


The TC2 Threadline/Fineline® T-Bar Clips are used to support and level the FlowLine™ assembly in Bolt-Slot (Threadline/Fineline® Type) suspension systems.

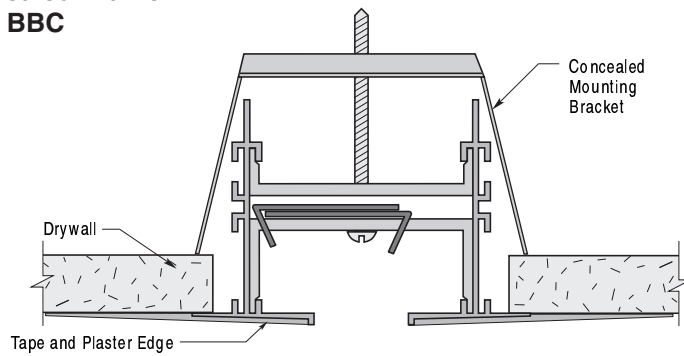


### Hard Ceiling Application and Installation Methods

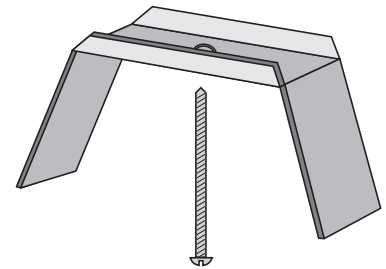
**Exposed Flange Frame  
Type AAC**



**Concealed Frame  
Type BBC**



**FLCMB Concealed Mounting Bracket**



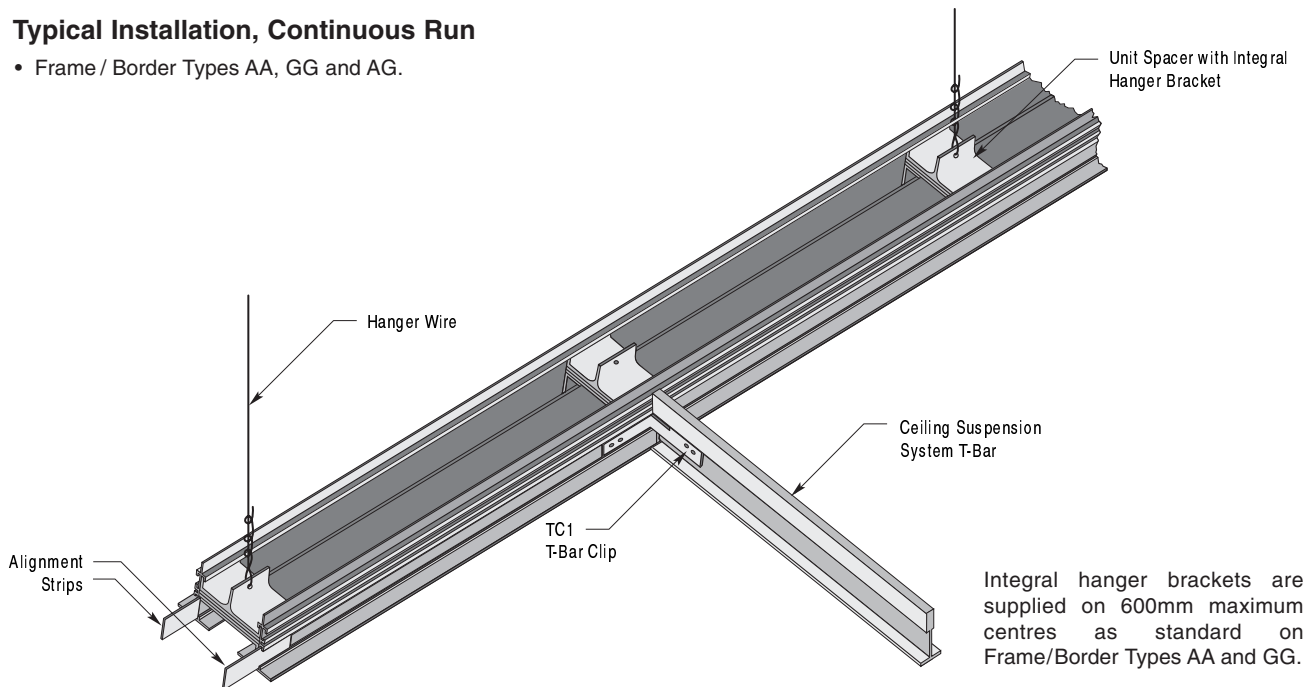
Supplied as standard with Frame/  
Border Types AAC and BBC.



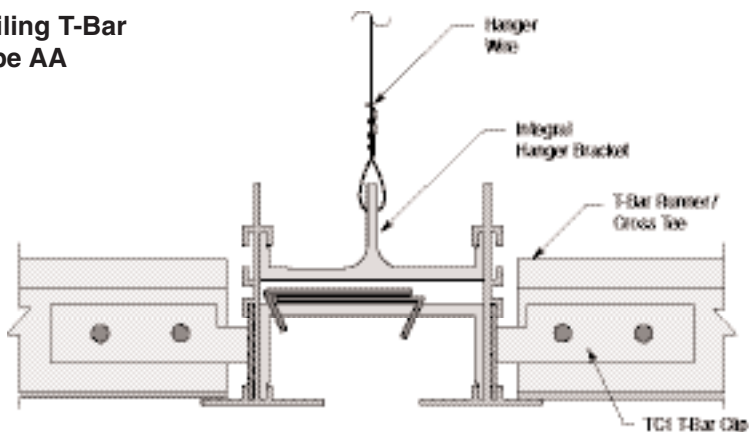
## T-Bar Ceiling Suspension System Application and Installation Methods

### Typical Installation, Continuous Run

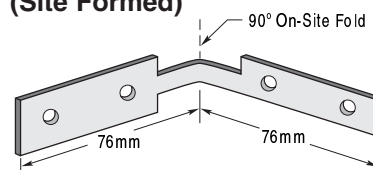
- Frame / Border Types AA, GG and AG.



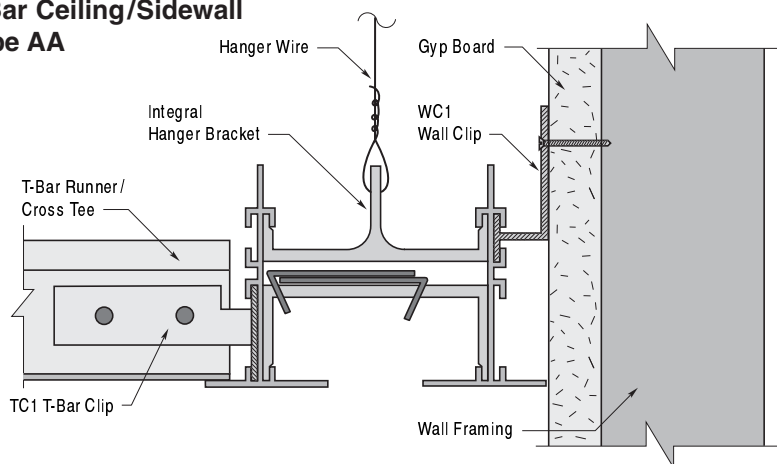
### Ceiling T-Bar Type AA



### TC1 T-Bar Clip (Site Formed)



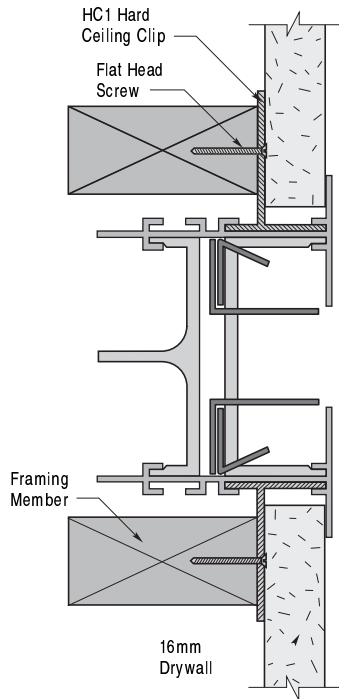
### T-Bar Ceiling/Sidewall Type AA



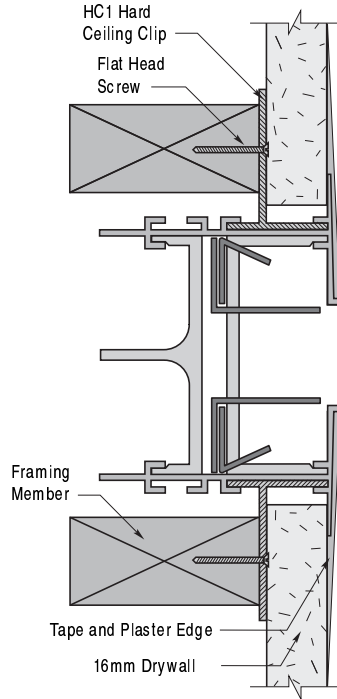
The TC1 T-Bar Clip is used to attach drop tees to the FlowLine™ assembly.

### Sidewall Application and Installation Methods

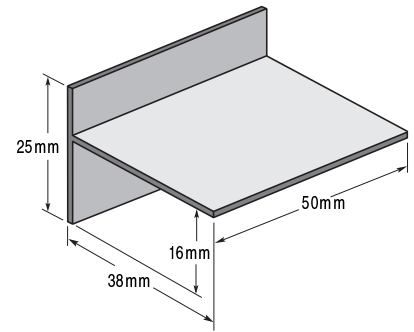
#### Exposed Flange Frame Type AA



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

#### Performance:

For performance data see pages 18 - 23

#### Notes:

1. Maximum single section length is 1800mm.
2. 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.
3. All models except Frame/Border Types AAC and BBC (supplied with concealed mounting brackets) include integral hanger brackets on 600mm maximum centres as standard.
4. 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.
5. \*Specify AC Angle cut(s) and attach drawing. Angle cuts require an open end border.