



MANUAL – INSTALLATION + SERVICE

High Capacity Architectural Linear Diffuser

Custom Flow Series

v100 – Issue Date: 02/02/22

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PRICE[®]

CUSTOM FLOW

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CUSTOM FLOW

PRODUCT OVERVIEW

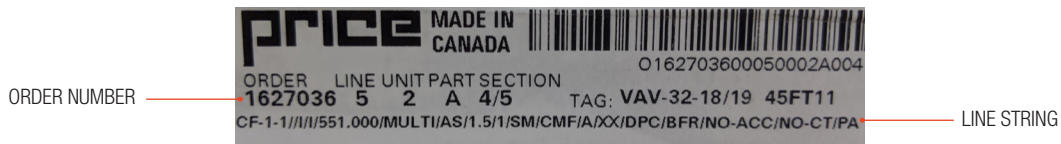
Product Overview

CF: High capacity architectural linear slot air diffuser. Recommended for use in ceiling applications. Also available to be used in sidewall applications.

CFP: Corresponding engineered plenum for CF diffuser.

UP/UPL: Universal plenum available for CF diffusers (low profile option available)

The diffuser/plenum will have one sticker located on the outside of the frame. For ease of troubleshooting assistance, replacement parts, and general factory assistance, it is recommended that the order number and model line string be available for reference. This information can be found on the Factory Label.



Before You Start

Inspect all cartons and boxes for flaws and shipping damage. If anything is discovered to be damaged, contact the shipping company and file a freight claim.

Getting Started

STEP 1: Remove CF linear diffuser from shipping carton and inspect for any damage.

STEP 2: Refer to Factory Label to determine the application of the diffuser. For surface mount applications (SM), proceed to STEP 3. For tee bar lay-in applications (LI), proceed to page 10.

Sample line string: CF-1-1//1/48.000/SINGLE/AS/1.0/1/SM/CMF/C/XX/DPC/BFR/NO-ACC/NO-CT/PA

STEP 3: Refer to Factory Label to determine the diffuser's mounting option. Use the following table for appropriate reference page for the particular mounting option.

Sample line string: CF-1-1//1/48.000/SINGLE/AS/1.0/1/SM/CMF/C/XX/DPC/BFR/NO-ACC/NO-CT/PA

Mounting Type	Line String Sample	Page Number
Concealed Mounting Bracket	C	2
Drywall Mounting Clip	MP-DR, MP-D625	5
Countersunk Holes	A	7

NOTE: Pattern controllers may be adjusted before, during or after installation. For mud-in applications, it is recommended to adjust pattern controllers prior to finishing of drywall. See page 14 & 15 for adjustment details.

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INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

This section applies to Custom Flow linear diffusers (model CF) for installation in surface mount drywall applications (SM application) in both ceilings and sidewalls.

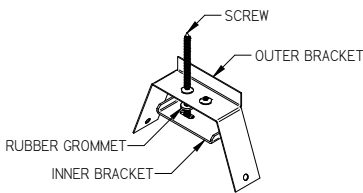
Sample line string: CF-1-1//I//48.000/SINGLE/AS/1.0/1/SM/CMF/C/XX/DPC/BFR/NO-ACC/NO-CT/PA

Type C Mounting (Concealed Mounting Bracket)

Available frame styles: EF, CMF

Sample line string: CF-1-1//I//48.000/SINGLE/AS/1.0/1/SM/CMF/C/XX/DPC/BFR/NO-ACC/NO-CT/PA

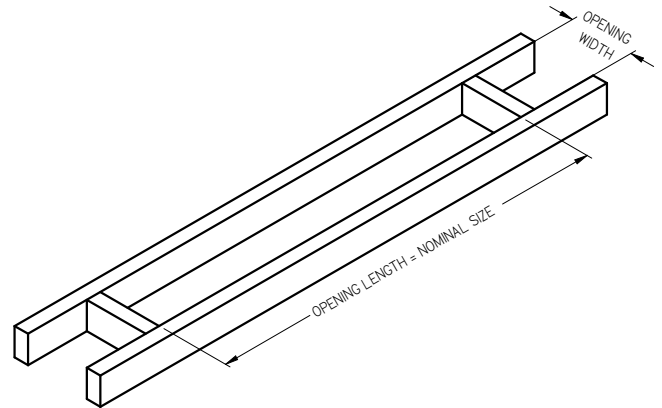
STEP 1: Ensure that the correct number of concealed mounting bracket kits has been shipped using the following table as reference.



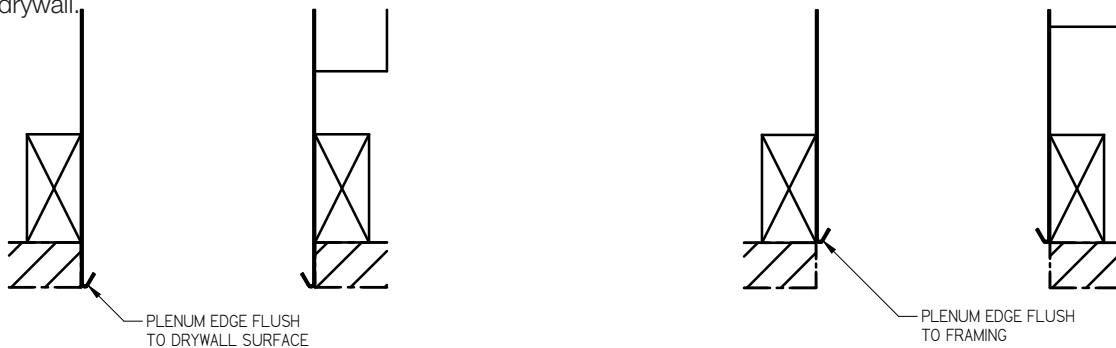
Diffuser Section Length	Kit QTY.
Nom. Length ≤ 24"	2
24" < Nom. Length ≤ 48"	2
48" < Nom. Length ≤ 72"	3
72" < Nom. Length ≤ 96"	3
96" < Nom. Length ≤ 120"	4

STEP 2: Frame opening. Refer to chart for recommended opening width dimension. If no plenum is used, opening width may be additionally reduced by up to 1/4" (6 mm). Framing must be rigid around the opening to prevent any movement of the drywall/diffuser assembly.

Slot Size	Slot QTY.	Opening Width
1" (25 mm)	1	3 3/8" (86 mm)
	2	5 11/16" (144 mm)
1 1/2" (38 mm)	1	4 3/8" (111 mm)
	2	7 11/16" (195 mm)
2" (51 mm)	1	5 3/8" (137 mm)
	2	9 11/16" (246 mm)
2 1/2" (64 mm)	1	6 3/8" (162 mm)
	2	11 11/16" (297 mm)
3" (76 mm)	1	7 3/8" (187 mm)
	2	13 11/16" (348 mm)



STEP 3: Install plenum (if required). Use Price model CFP, UP, UPL, or field built plenum with hemmed edges. Secure plenum to framing or hang from structure as required by local building code. Plenum may be installed flush to framing, or located to be flush with finished drywall.

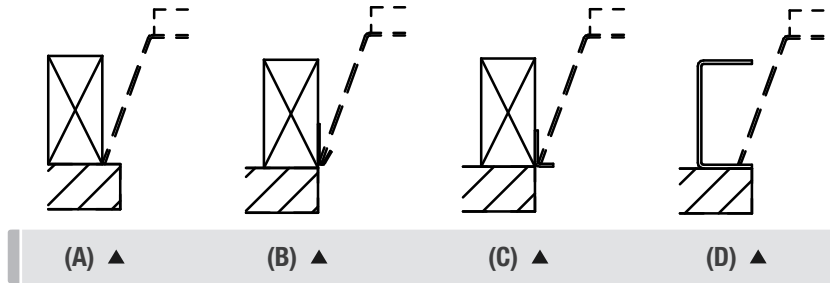


CUSTOM FLOW

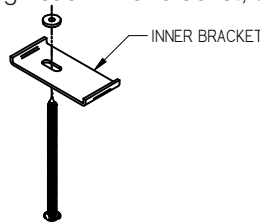
INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

STEP 4: Install drywall. If using frame style EF, finish drywall and paint. If using frame style CMF, do not finish drywall until after installing diffuser. Additional support of drywall is recommended along the framing opening. Every 12", use drywall screws to attach drywall to framing member beside the diffuser flange.

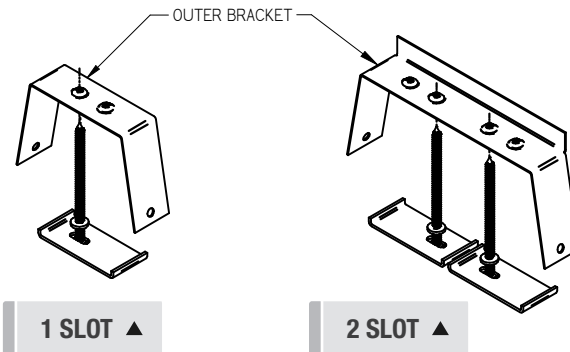
If no plenum is being used, a ledge may be added for installing bracket. This may be formed by the drywall (A), a sheet metal hem (B) or angle (C), or metal stud framing (D). If no ledge is installed, bracket may also be screwed in place.



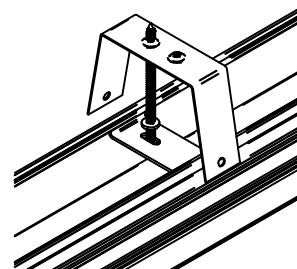
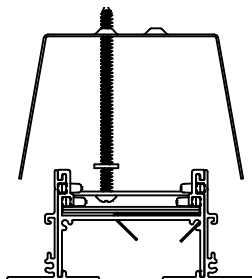
STEP 5: Prepare brackets by inserting one screw through each inner bracket, and pushing rubber grommet down shaft of screw.



STEP 6: Thread outer brackets about 1/4" (6 mm) onto screws.



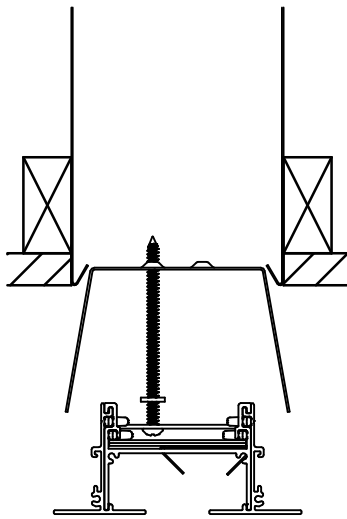
STEP 7: Install brackets onto diffuser. Deflect side frames and snap brackets under diffuser frame. Brackets are required approximately every 36" (914 mm) to 48" (1219 mm), with one on each end. Ensure that pattern controllers are positioned to the side so that screw may be accessed through diffuser slot.



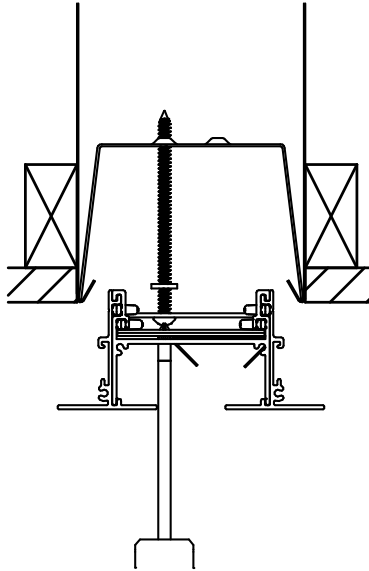
CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

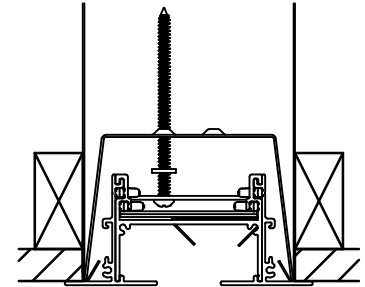
STEP 8: Position diffuser in opening. Using a screwdriver, push upward on screw until bracket snaps into place. If diffuser is multiple sections in length, align sections using Y-end splice plates. Tighten screws until frame is flush with drywall.



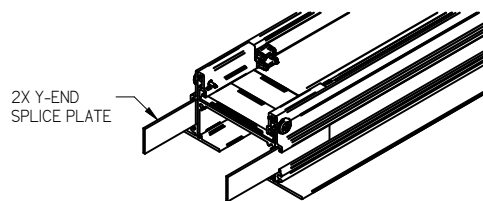
ALIGN DIFFUSER WITH OPENING ▲



PUSH UPWARD UNTIL BRACKET SNAPS INTO PLACE ▲



TIGHTEN UNTIL FRAME IS FLUSH WITH DRYWALL ▲



2X Y-END SPLICE PLATE

STEP 9: Adjust pattern controllers for desired air pattern as per page 14 & 15.

STEP 10: If using frame style CMF, finish drywall as per page 9.

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INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

Type MP-DR and MP-D625 (Drywall Mounting Clip)

Available frame styles: EF, CMF, FM

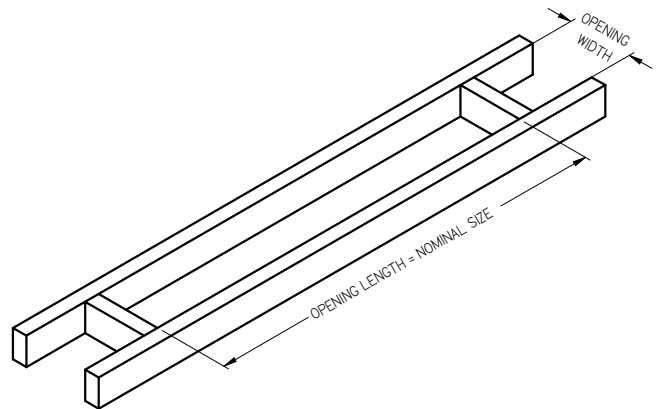
Sample line string: CF-1-1//1/48.000/SINGLE/AS/1.0/1/SM/CMF/MP-DR/XX/DPC/BFR/NO-ACC/NO-CT/PA

STEP 1: Ensure that the correct number of drywall mounting clips has been shipped using the following table as reference.

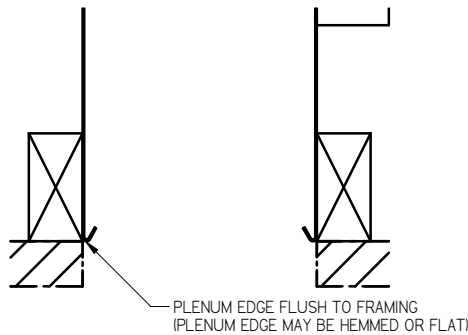
Diffuser Section Length	Clip QTY.
Nom. Length ≤ 24"	4
24" < Nom. Length ≤ 48"	6
48" < Nom. Length ≤ 72"	8
72" < Nom. Length ≤ 96"	10
96" < Nom. Length ≤ 120"	12

STEP 2: Frame opening. Refer to chart for recommended opening width dimension. If no plenum is used, opening width may be additionally reduced by up to 1/4" (6 mm). Framing must be rigid around the opening to prevent any movement of the drywall/diffuser assembly.

Slot Size	Slot QTY.	Opening Width
1" (25 mm)	1	3 3/8" (86 mm)
	2	5 11/16" (144 mm)
1 1/2" (38 mm)	1	4 3/8" (111 mm)
	2	7 11/16" (195 mm)
2" (51 mm)	1	5 3/8" (137 mm)
	2	9 11/16" (246 mm)
2 1/2" (64 mm)	1	6 3/8" (162 mm)
	2	11 11/16" (297 mm)
3" (76 mm)	1	7 3/8" (187 mm)
	2	13 11/16" (348 mm)



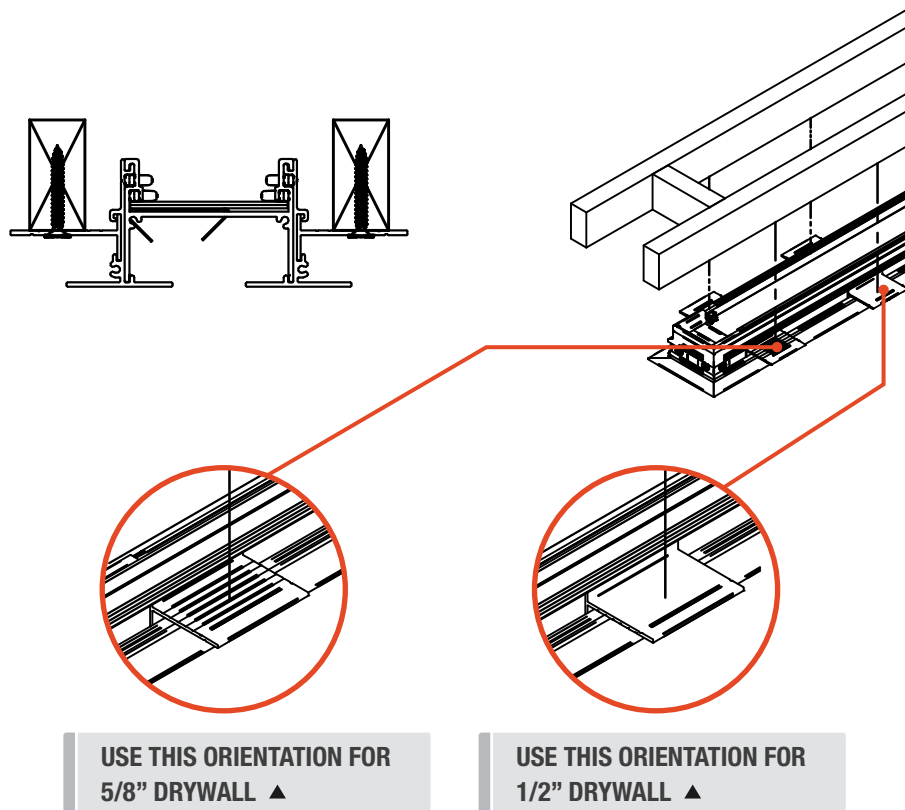
STEP 3: Install plenum (if required). Use Price model CFP, UP, UPL, or field built plenum. Secure plenum to framing or hang from structure as required by local building code. Plenum must be installed flush to framing.



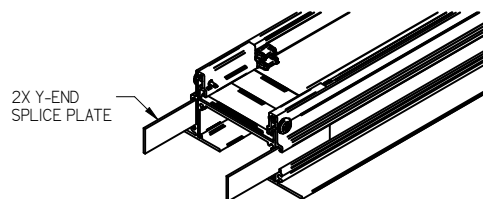
CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

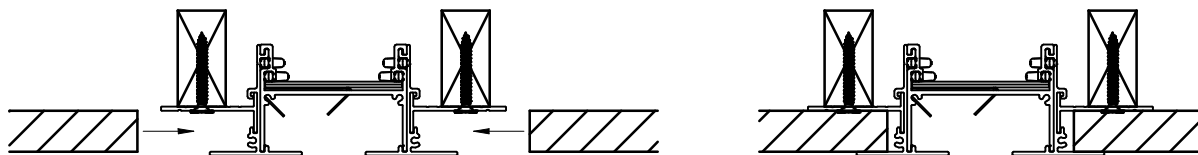
STEP 4: Screw drywall mounting clips to framing. Mounting clips should be located at least every 24" (610 mm). If MP-DR clips have been ordered, clips may be reversed to allow for either 5/8" (16 mm) or 1/2" (13 mm) drywall.



STEP 5: If diffuser is multiple sections in length, continue installing sections while aligning sections using Y-end splice plates.



STEP 6: Install drywall by sliding behind diffuser face and fastening to framing. For easiest installation, slide tapered edge of sheet behind diffuser face. Additional support of drywall is recommended along the framing opening. Every 12", use drywall screws to attach drywall to framing member beside the diffuser flange.



STEP 7: Adjust pattern controllers for desired air pattern as per page 14 & 15.

STEP 8: Finish and paint drywall. If using frame style CMF, finish drywall as per page 9.

CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

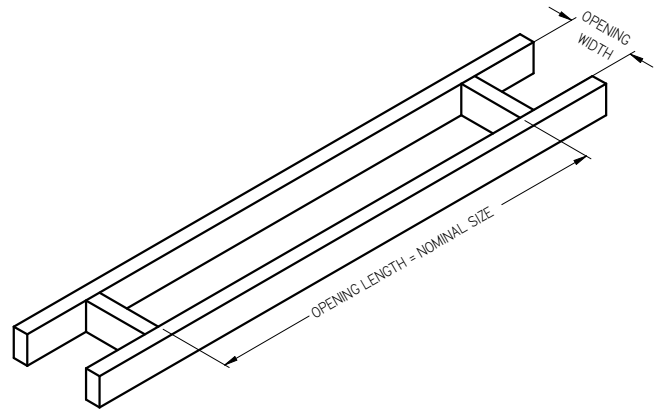
Type A Mouting (Countersunk Holes)

Available frame styles: CMF

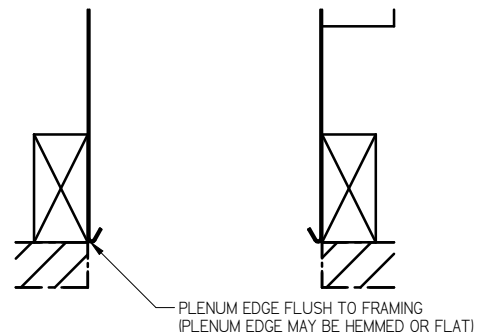
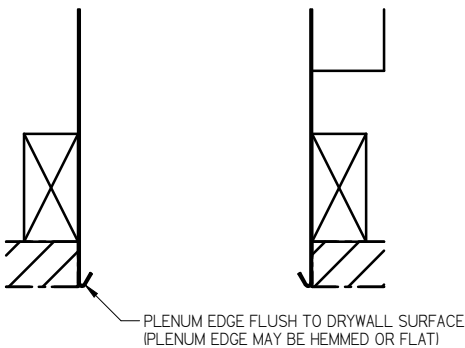
Sample line string: CF-1-1-111/48.000/SINGLE/AS/1.0/1/SM/CMF/A/XX/DPC/BFR/NO-ACC/NO-CT/PA

STEP 1: Frame ceiling opening. Refer to chart for recommended opening width dimension. If no plenum is used, opening width may be additionally reduced by up to 1/4" (6 mm). Framing must be rigid around the opening to prevent any movement of the drywall/diffuser assembly.

Slot Size	Slot QTY.	Opening Width
1" (25 mm)	1	3 3/8" (86 mm)
	2	5 11/16" (144 mm)
1 1/2" (38 mm)	1	4 3/8" (111 mm)
	2	7 11/16" (195 mm)
2" (51 mm)	1	5 3/8" (137 mm)
	2	9 11/16" (246 mm)
2 1/2" (64 mm)	1	6 3/8" (162 mm)
	2	11 11/16" (297 mm)
3" (76 mm)	1	7 3/8" (187 mm)
	2	13 11/16" (348 mm)

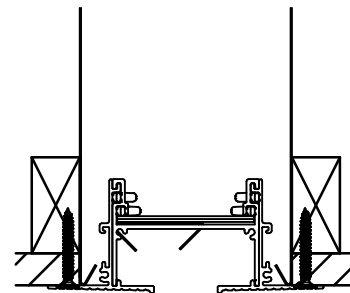
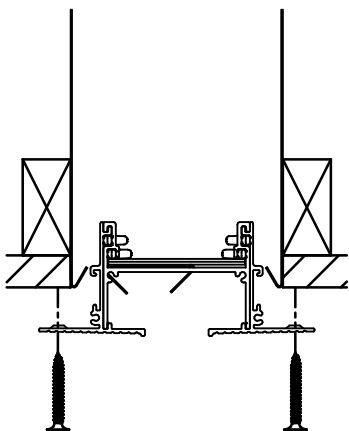


STEP 2: Install plenum (if required). Use price model CFP, UP, UPL, or field built plenum. Secure plenum to framing or hang from structure as required by local building code. Plenum may be installed flush to framing, or located to be flush with finished drywall.



STEP 3: Install drywall. For best finish, use tapered edges of drywall around opening. Do not finish drywall until after installing diffuser.

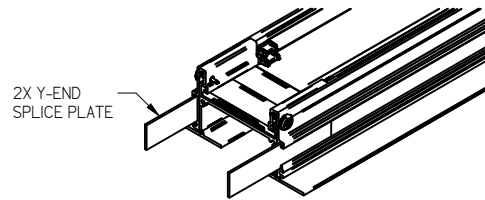
STEP 4: Install diffuser into opening using drywall screws.



CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

STEP 5: If diffuser is multiple sections in length, continue installing sections while aligning sections using Y-end splice plates.



STEP 6: Adjust pattern controllers for desired air pattern as per page 14 & 15.

STEP 7: Finish drywall as per page 9.

CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (SURFACE MOUNT DRYWALL APPLICATIONS)

Drywall Finishing for CMF Frame

Available frame styles: CMF

Sample line string: CF-1-1//1//48.000/SINGLE/AS/1.0/1/SM/CMF/A/XX/DPC/BFR/NO-ACC/NO-CT/PA

NOTE: Before finishing drywall, install CF diffuser. For installation of CF diffusers:

- See page 2 (C mounting)
- See page 5 (MP-DR, MP-D625 mounting)
- See page 7 (A mounting)
- Wood studs will naturally absorb moisture causing them to swell and warp. Use caution when using wood studs as this shifting may cause drywall mud to crack. It is recommended to condition the space after framing is complete to allow wood studs to reach their natural state.
- Avoid thermal shocks. Excessive temperature and moisture variations can cause premature drying of the drywall mud and make it more prone to cracking. Increasing heat to accelerate drywall mud curing may cause cracking.

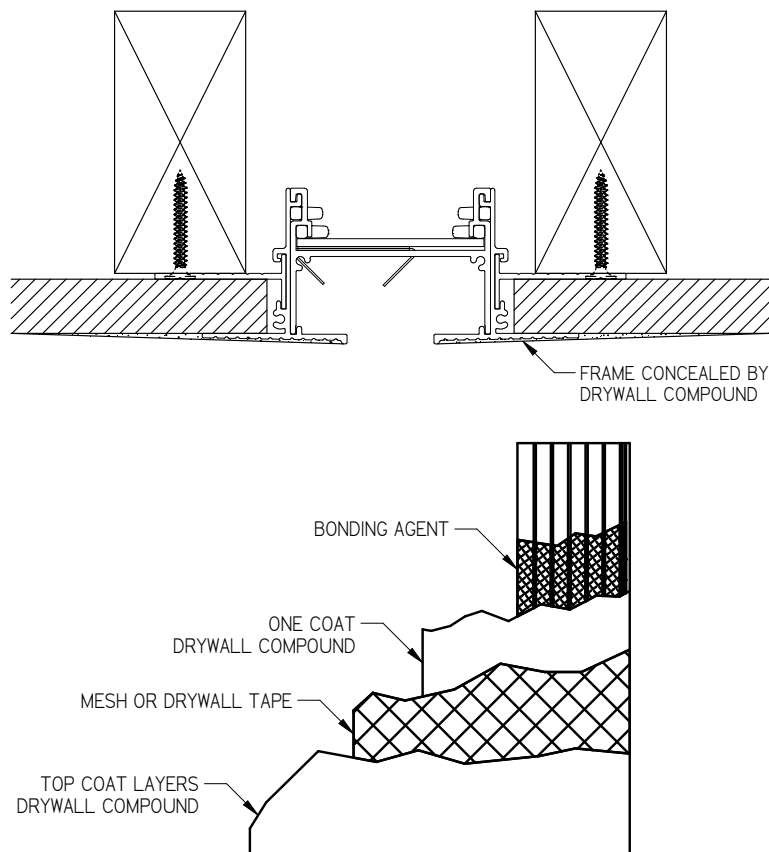
STEP 1: Thoroughly clean diffuser flanges to remove any oils or residue from surface.

STEP 2: Apply one coat of bonding agent over entire surface of flange, and allow to dry as per manufacturer's instructions.

STEP 3: Apply one coat of drywall compound on diffuser flanges and approximately 3" (76 mm) onto drywall beyond flange.

STEP 4: Apply a 4" (102 mm) wide mesh or paper tape to joint compound. Be sure to smooth out and remove air pockets. Mesh or tape should cover diffuser flange, but not extend onto inside vertical edge of diffuser frame. Apply second coat of drywall compound over tape and smooth. Allow to dry.

STEP 5: Apply at least two coats of finishing compound. Allow to dry. Afterwards, sand smooth, prime, and paint surface.



CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (TEE BAR LAY-IN APPLICATIONS)

This section applies to Custom Flow linear diffusers (model CF) for installation in continuous runs in suspended tee bar ceiling applications (LI application).

Sample line string: CF-1-1//1//48.000/SINGLE/AS/1.0/1/LI/EF/NO-MOUNT/XX/DPC/BFR/NO-ACC/NO-CT/B12

General Installation

STEP 1: Refer to Factory Label to determine the diffuser has been ordered with the hanger bracket option.

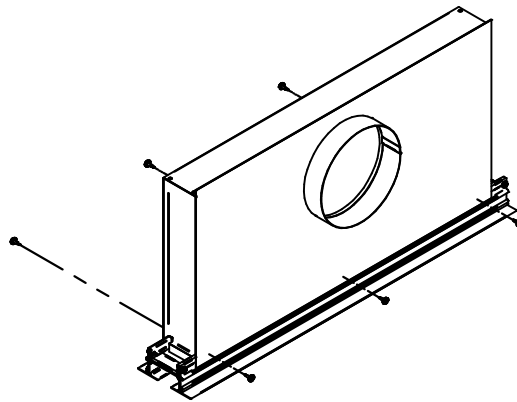
Sample line string: CF-1-1//1//48.000/SINGLE/AS/1.0/1/LI/EF/**HB**/XX/DPC/BFR/NO-ACC/NO-CT/B12

If hanger bracket option has been ordered, ensure that the correct number of hanger has been shipped using the following table as reference.

Diffuser Section Length	Kit QTY.
Nom. Length \leq 24"	2
24" < Nom. Length \leq 48"	2
48" < Nom. Length \leq 72"	3
72" < Nom. Length \leq 96"	3
96" < Nom. Length \leq 120"	4

STEP 2: Install perimeter wall angle for ceiling system. Main and cross tee installation may also proceed, except for any cross tees that will rest on the back of diffuser face.

STEP 3: Install plenum (if required) to diffuser using sheet metal screws and the pre-punched holes as shown.

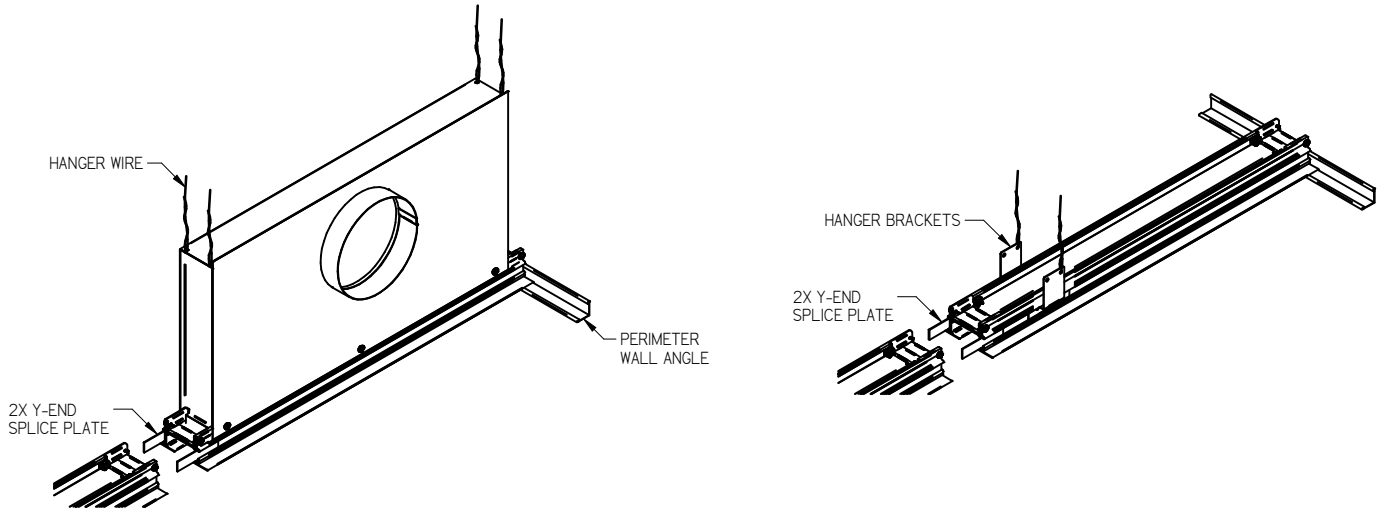


STEP 4: Determine preferred type of installation. Diffuser may be installed by suspending from ceiling structure using hanger wire or by resting on top of T-bar. For suspended ceiling installation, proceed to STEP 5A. For resting on top of T-bar, proceed to STEP 5B.

CUSTOM FLOW

INSTALLATION & MOUNTING INSTRUCTIONS (TEE BAR LAY-IN APPLICATIONS)

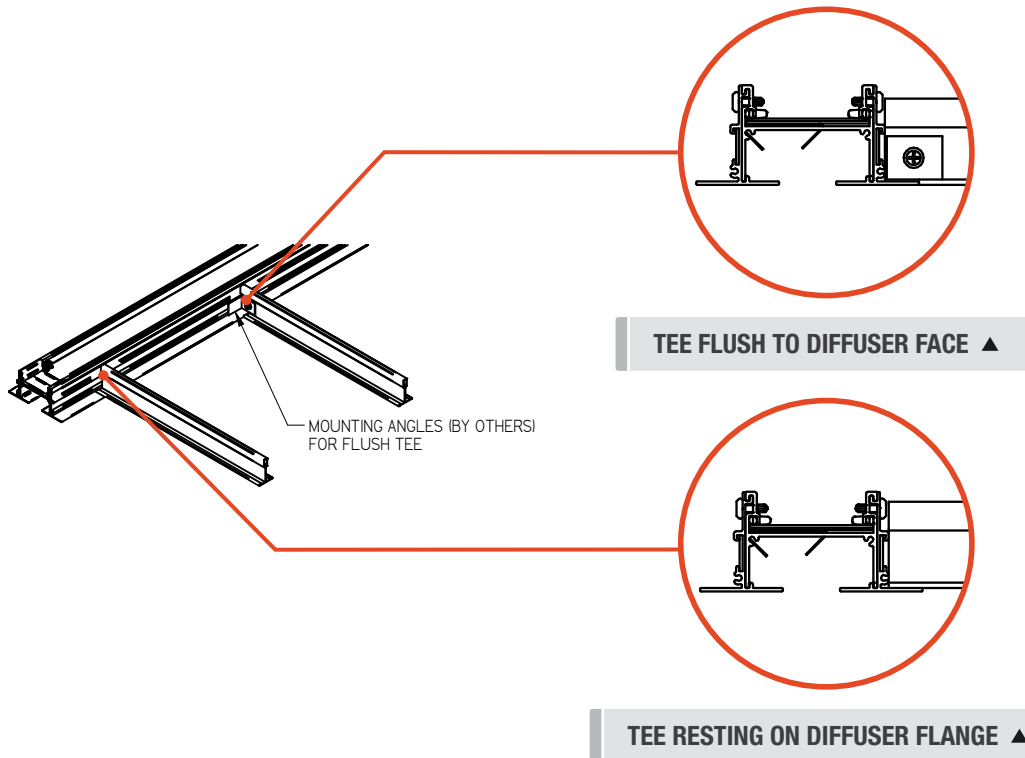
STEP 5A: Suspend diffuser/plenum sections using hanger wire through hanger brackets or through hanger holes on top of plenum. Alternatively, if no hanger brackets have been ordered, sheet metal screws may be drilled into diffuser side frame. Hanger brackets/screws should be located at least every 24" (610 mm). Screw hanger brackets in place using sheet metal screws in order to prevent shifting. If diffuser is multiple sections in length, continue installing sections while aligning sections using Y-end splice plates. Ensure to adjust hanger wires to make diffusers hang level.



STEP 5B: Install two main tees to run along either side of diffuser and drop diffuser in place.

STEP 6: Hang or secure plenum to structure as required by local building codes.

STEP 7: Complete T-bar installation. Cross tees may rest on diffuser flange, or cut flush and attached using sheet metal angles, as shown.



STEP 8: Install ceiling tiles.

STEP 9: Adjust pattern controllers for desired air pattern as per page 14 & 15.

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FIELD TRIMMING

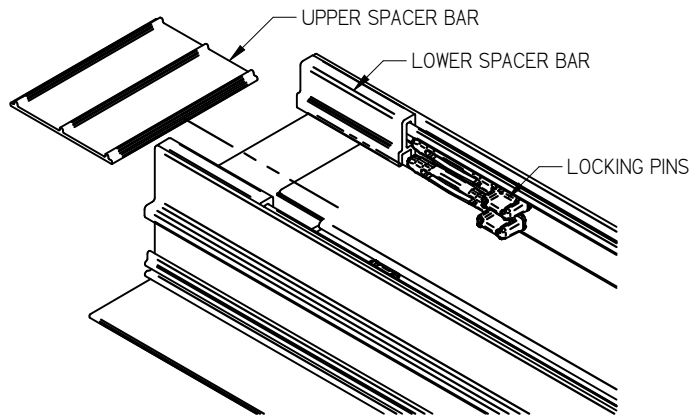
Available end conditions: W, Y, Z

Sample line string: CF-1-1//1//48.000/SINGLE/AS/1.0/1/SM/EF/MP-DR/WW/DPC/BFR/NO-ACC/NO-CT/B12

NOTE: Trimming of XX (mitered) end conditions is not recommended. Field trimming on multiple section units with mitered ends may be accomplished by trimming open end.

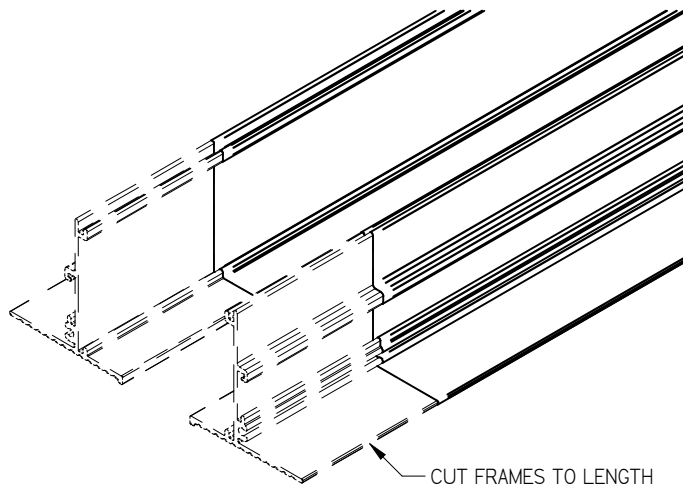
STEP 1: Remove endcap, if installed.

STEP 2: Pull out locking pins from slots of lower spacer bar. Slide out upper spacer bar.



STEP 3: Remove pattern controllers and lower spacer bar.

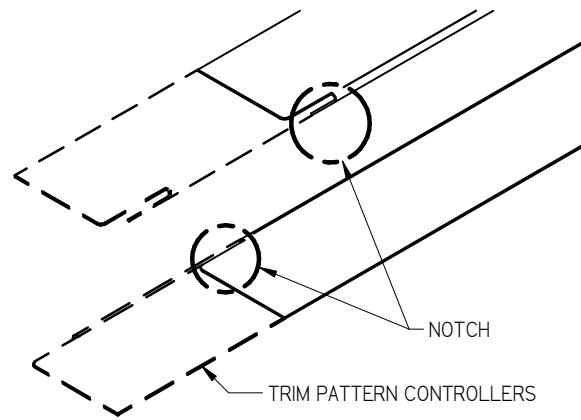
STEP 4: Cut frames to length, making sure cut is clean and square. Care should be taken not to chip paint when cutting. Spacer bars may be reinstalled to support frames while cutting.



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FIELD TRIMMING

STEP 5: Carefully trim pattern control blades to length using tin snips, and notch flanges 11/16" (17 mm), as shown.



STEP 6: Replace lower spacer bar and pattern controllers. Slide upper spacer bar on top of pattern controllers and re-insert locking pins into slots of lower spacer bar.

STEP 7: Reinstall endcaps, if necessary, and continue installation of diffuser as required.

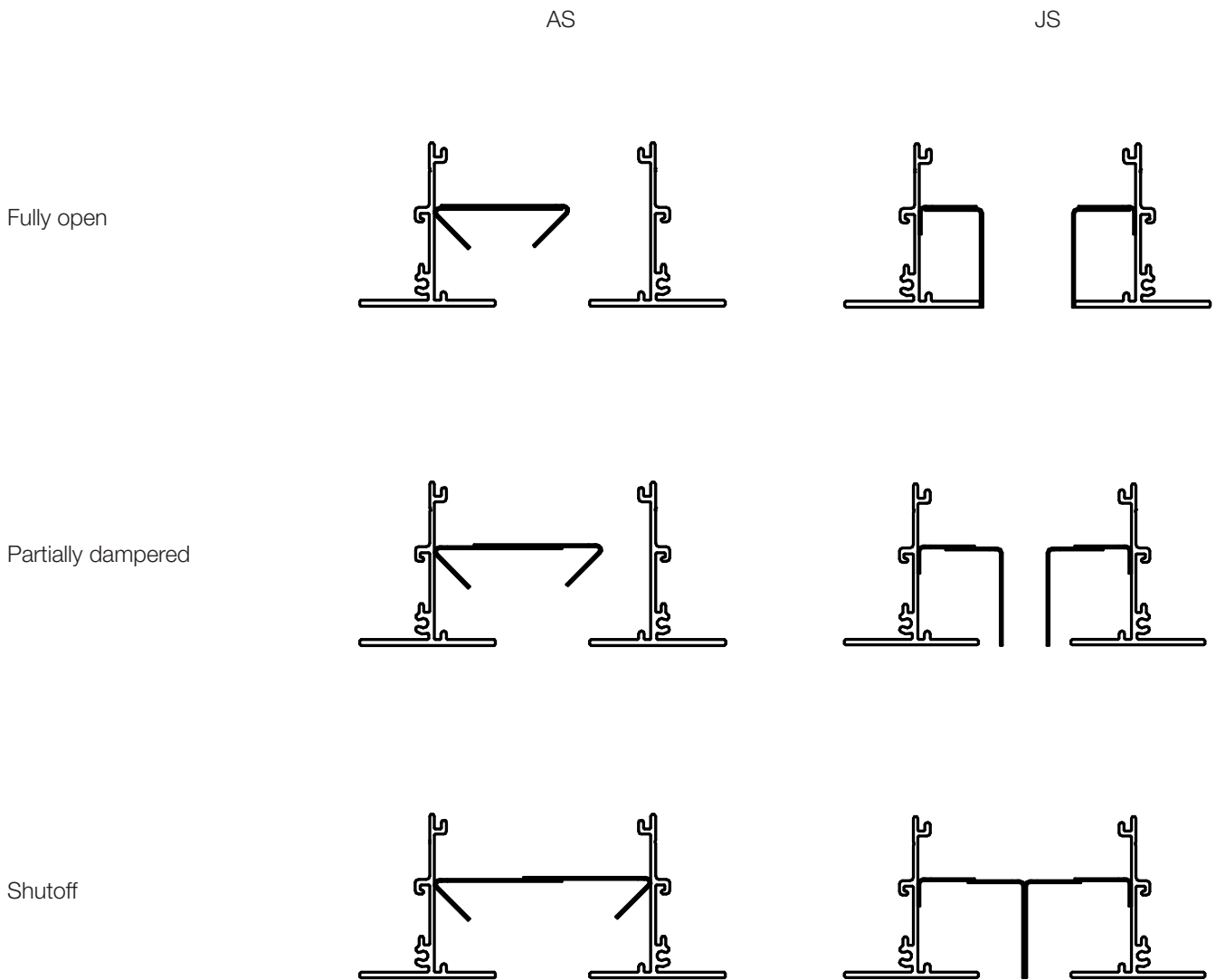
CUSTOM FLOW

PATTERN CONTROLLER ADJUSTMENT

In order to achieve desired pattern and volume adjustment, adjust pattern controllers accordingly. Pattern controllers may be adjusted before, during or after installation. For mud-in applications, it is recommended to adjust pattern controllers prior to finishing of drywall.

NOTE: Pattern controllers must be dampered slightly in order to achieve opposed horizontal pattern in 2 slot configurations. Pattern controllers must be dampered slightly in order to achieve horizontal pattern for lengths less than 24”.

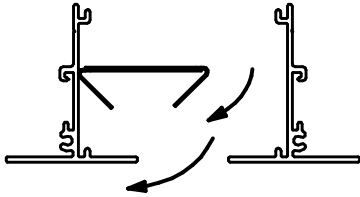
Volume Adjustment



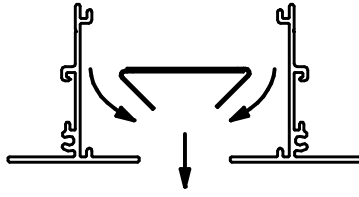
CUSTOM FLOW

PATTERN CONTROLLER ADJUSTMENT

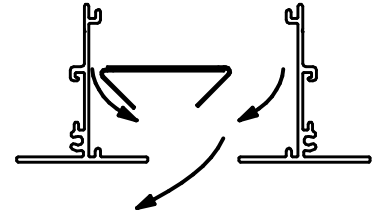
ADJUSTA-SLOT (AS) PATTERN ADJUSTMENT



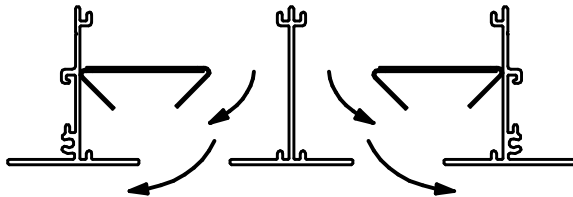
HORIZONTAL ▲



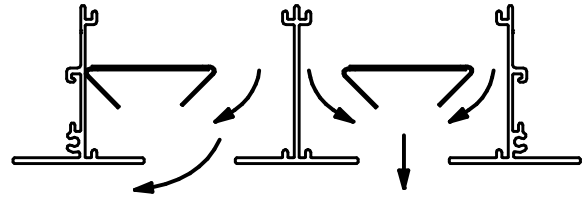
VERTICAL ▲



ANGULAR ▲

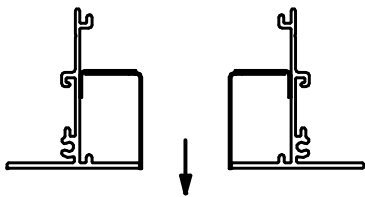


OPPOSED HORIZONTAL ▲

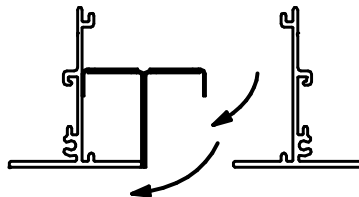


HORIZONTAL & VERTICAL ▲

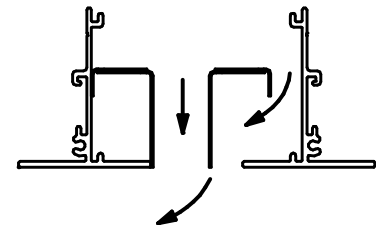
JET-SLOT (JS) PATTERN ADJUSTMENT



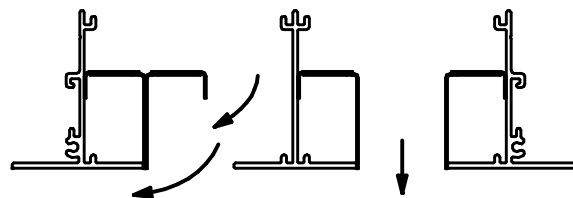
VERTICAL ▲



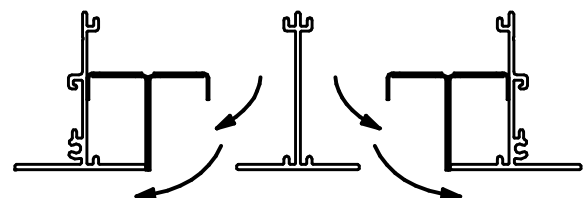
HORIZONTAL ▲



ANGULAR ▲



HORIZONTAL & VERTICAL ▲



OPPOSED HORIZONTAL ▲

CUSTOM FLOW

PARTS LIST

Type C Mounting

Description	Slot QTY.	Slot Width	Part Number
Type C mounting bracket kit	1	1.0"	505737-001
		1.5"	505737-002
		2.0"	505737-003
		2.5"	505737-004
		3.0"	505737-005
	2	1.0"	505737-101
		1.5"	505737-102
		2.0"	505737-103
		2.5"	505737-104
		3.0"	505737-105
Inner bracket	ALL	1.0"	267950-001
		1.5"	267950-002
		2.0"	267950-003
		2.5"	267950-004
		3.0"	267950-005
Outer bracket	1	1.0"	267951-001
		1.5"	267951-002
		2.0"	267951-003
		2.5"	267951-004
		3.0"	267951-005
	2	1.0"	269174-001
		1.5"	269174-002
		2.0"	269174-003
		2.5"	269174-004
		3.0"	269174-005
Rubber grommet	ALL	ALL	033363-001
#8 x 3" sheet metal screw	ALL	ALL	031724-001

Each type C mounting bracket kit includes:

Slot Size	Slot QTY.	Slot Width
Inner bracket	1	1
	2	2
Outer bracket	1 or 2	1
Rubber grommet	1	1
	2	2
#8 x 3" sheet metal screw	1	1
	2	2

CUSTOM FLOW

PARTS LIST

Type MP-DR and MP-D625 Mounting

Description	Part Number
Reversible drywall mounting clip	255149-001
Non-reversible 5/8" drywall mounting clip	270199-001

Accessories

Description	Part Number
Y-end splice plate	255152-001

Field Cut Pack

Loose parts such as drywall mounting clips, hanger brackets, concealed mounting brackets, endcaps, splice plates, spacer bars, plastic locking pins, and screws for the CF model can be ordered through the CFK model (Custom Flow Field Cut Pack).

CUSTOM FLOW

NOTES

Two columns of horizontal lines for taking notes.

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