





Graber Composite Shutters English/US Price Guide

COMPOSITE SHUTTERS

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General Information

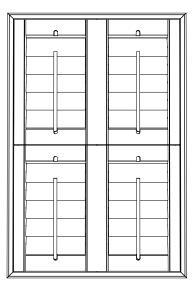
Definitions	
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Features

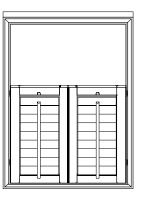
Shutter Styles



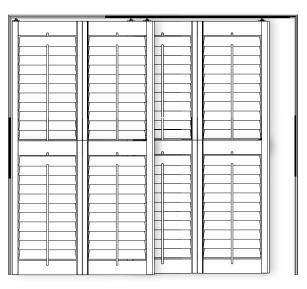
Standard Panel: A rectangular-shaped panel that can be installed using any frame style. Panel covers the entire window opening.



Double Hung: Versatile style in which panels are mounted separately on top of each other, allowing the top and bottom to be opened independently. **Not recommended in composite; tops are not finished.**



Café: Classic style covers the bottom part of the window, allowing light to enter while protecting your privacy. **Not recommended in composite; tops are not finished.**

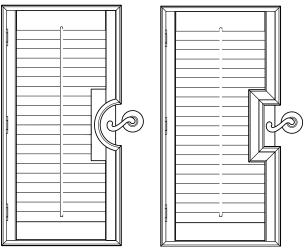


Bypass Track System: Shutter panels slide on double top tracks to open and close. The track system can be ordered with a box-out (side frame) or with the header mounted directly to a window casing or the ceiling. Ideal for patios or closet doors. Louvers must be closed to pass.

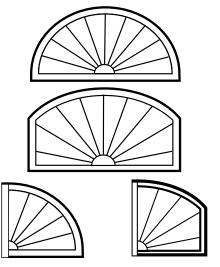
NOTE: Shutters do not block all light from entering the room. All shutters have moving parts. These parts have tolerance gaps that will allow some light to filter through the shutter.

Features

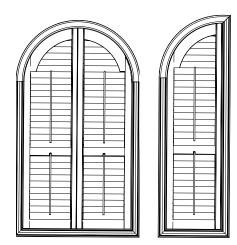
Shutter Styles



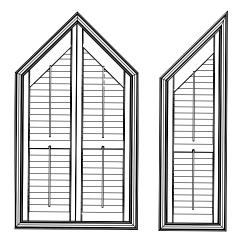
French Doors: Add the beauty of shutters to French doors. Curved or rectangular cut-out options complement contemporary door handles or traditional door knobs.



Sunburst Arches: Sunburst patterned louvers cover unique window silhouettes, such as eyebrow and elongated arches. Also available as ¹/₄ arches.

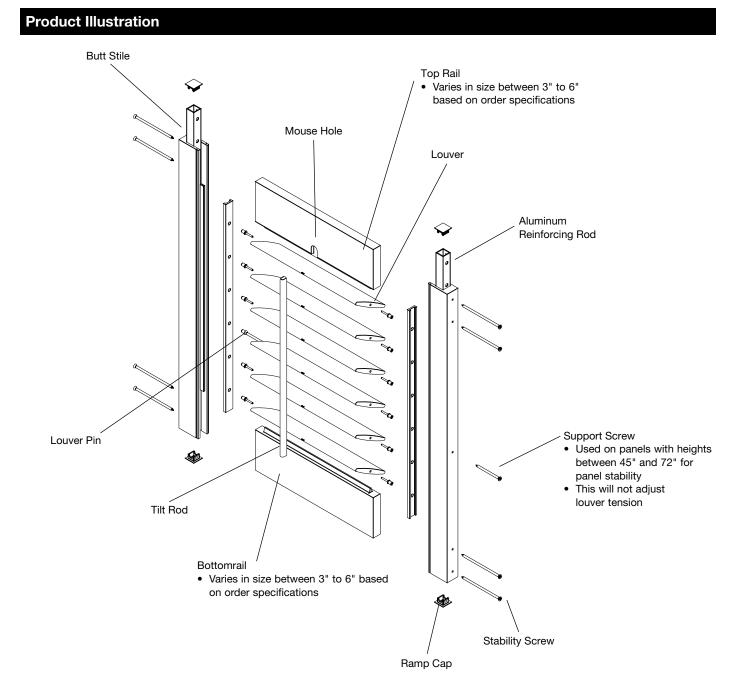


Arched Panels: Provide whole window solutions that fit the rounded shape of full arch windows perfectly. Available in full arch panel or 1/4 arch panel.



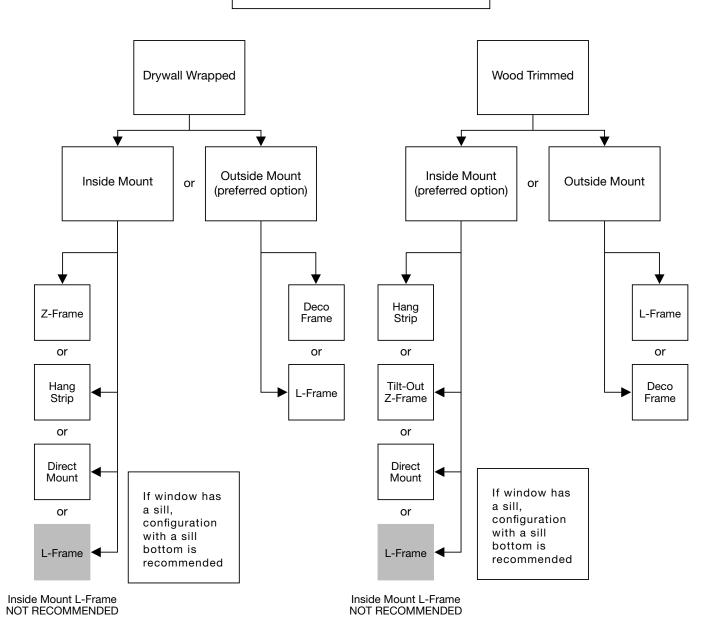
Angled Top Panels: Provide whole window solutions that accommodate slanted windows. Available in full angle panel or ½ angle panel.

Features



Frame Type Decision Tree

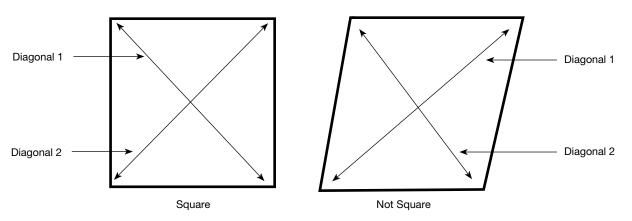
Review window and the area around the window. Choose from the options below.



Measuring Standard Composite Shutters

Confirm that the window is square.

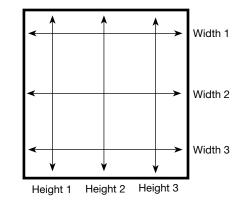
Measure the diagonals. If the difference between the two diagonal measurements in the same window is greater than 1/4", an outside mount shutter is required.



Window Opening Measurement Inside Mount with Hang Strips, Direct Mount, Z-Frame, Tilt-Out Z-Frame

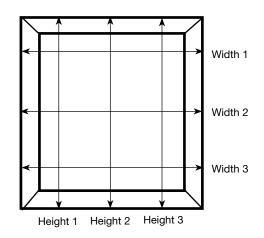
- Measure the width at three points and the height at three points
- Use the **SMALLEST** width and height measurements

NOTE: Factory makes no allowances/deductions for tilt-out Z-frame.



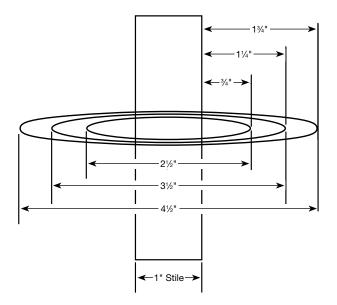
Frame-to-Frame Measurement Required for L-Frame and Traditional Deco Frame

- Place a sample of the L-frame or traditional deco frame on the window frame or wall to determine frame-to-frame placement
- Measure frame-to-frame width at three points and frame-to-frame height at three points
- Use the LARGEST width and height measurements



HELPFUL HINT: If shutters are in the same room and/or side by side, shutters must be ordered at the same height to ensure that rail height, divider rail location, louver count, and hinge quantity will match.

Louver Options



Minimum Clearance Needed from Back Panel Surface							
Louver Size Standard Tilt Hide-A-Tilt™ (inches) (inches) (inches)							
21⁄2	3⁄4	11/8					
31⁄2	11⁄4	1 5⁄/8					
41⁄2	1¾	21/8					

NOTE: Hide-A-Tilt requires an additional 3/8" window clearance.

Minimum Clearance Needed by Louver Size and Frame Type Standard Tilt (Hide-A-Tilt)								
Louver Size (inches)Direct Mount (inches)Hang Strip (inches)Standard Z- 								
21/2	1¾ (21/8)	2 ⁵ /16 (2 ¹¹ /16)	1¾ (1¾)	1 ⁵ ⁄16 (1 ¹¹ ⁄16)	0 (%)	1/4 (5/8)		
31⁄2	21⁄4 (25⁄8)	2 ⁵ /16 (2 ¹¹ /16)	11⁄8 (21⁄4)	1 ¹³ ⁄16 (2 ³ ⁄16)	1/2 (7/8)	³ ⁄4 (1 ¹ ⁄8)		
41⁄2	2¾ (31/8)	2¾ (31/8)	23/8 (23/4)	2 ⁵ ⁄ ₁₆ (2 ¹¹ ⁄ ₁₆)	1 (1¾)	1¼ (1%)		

21/2" Louver

- Traditional in style
- Minimal window depth needed
- Shutters are focal point of the room

31/2" Louver

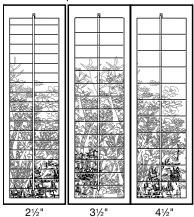
- Most popular louver size
- Offers more visibility and light control than $2\frac{1}{2}$ " louver

41/2" Louver

- · Provides the greatest visibility through the open louvers
- Looks most proportionate in a larger window; view beyond the window becomes more important
- Louvers almost disappear when open

NOTE: Shutters ordered with panels over 30" wide have reinforced louvers.

Composite Louver Sizes



Color Options: Refer to Price List

Hardware Options

Select the hardware color that best fits your décor.

Hinge Colors

- Antique Brass
- Off White
- Oil Rubbed Bronze
- Satin Nickel
- Stainless Steel*
- White

*Surcharge, see price charts

Hide-A-Tilt[™] Colors

(see color coordination chart in "Tilt Options: Hide-A-Tilt" section)

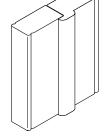
- Steel Grey
- White

NOTES:

- 1. Hide-A-Tilt color will default based on shutter color but can be changed at time of order. For specialty shutters, Hide-A-Tilt color will default based on shutter color, either white or off-white, and cannot be changed at time of order.
- 2. Bifold hinges are seen from the street side. The bifold hinge color will default to White or Off White to coordinate with composite color regardless of hardware color ordered.

Panel Overlap Options

- **Rabbet Stile Panel Overlap** · Factory standard
- · Right over left overlap only
- · Left over right overlap not available

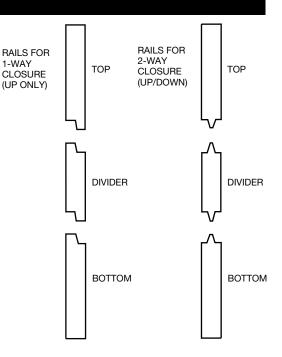


Astragal Stile Panel Overlap

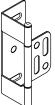
- No charge option
- Right over left overlap standard
- · Left over right overlap optional
- Astragal will automatically be used between bifold panels

Tilt Type Options: Overview

- We offer four tilt type options two with 1-way louver closure (up only) and two with 2-way louver closure (up and down).
 - 1. Front Tilt 1-Way Closure (Up Only)
 - 2. Front Tilt 2-Way Closure (Up/Down)
 - 3. Hidden Tilt 1-Way Closure (Up Only)
 - 4. Hidden Tilt 2-Way Closure (Up/Down)
- · Different rails are used for 1-way closure vs. 2-way closure, as shown to the right.
- · Shutter panels made with 1-way closure (up only) will have the tightest louver to louver closure.









Hang Strip Hinge

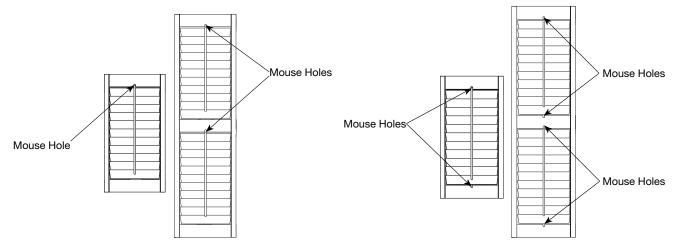
Bifold Hinge

Frame Hinge

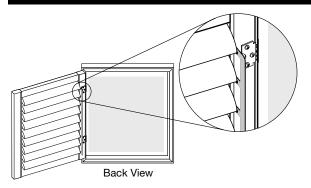
Tilt Options: Front Tilt

A traditional tilt bar is located on the front center of the panel and is connected to the edge of the louvers with staples. **Important:** The purpose of the tilt bar is to provide louver alignment, not for changing louver position or opening the shutter panel. Louvers should be opened/closed by grabbing onto one louver directly and the remaining louvers will follow.

- 1-Way Closure (Up Only) Panels have a mouse hole on the rails above each louver section
- Panels with 1-way louver closure will have the tightest louver to louver closure, but in the upwards direction only
- 2-Way Closure (Up/Down) Panels have mouse holes on the rails above and below each louver section
- Shutters with 2-way louver closure will allow the louvers to be closed up and down; however, louver to louver light gaps will be larger
- Shutters with 2-way louver closure will have better closure when louvers are in the upwards position vs. downwards position



Tilt Options: Hide-A-Tilt™





Front View

- Available as 1-Way Closure (Up Only) and 2-Way Closure (Up/Down)
- Shutters with 1-way louver closure will have the tightest louver to louver closure, but in the upwards direction only
- Shutters with 2-way louver closure will allow the louvers to be closed up and down; however, louver to louver light gaps will be larger
- Shutters with 2-way louver closure will have better closure when louvers are in the upwards position vs. downwards position

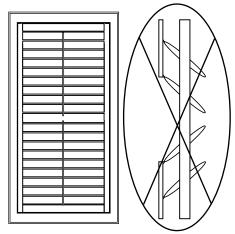
Hide-A-Tilt option offers the tilt mechanism in the back of the shutter panel, eliminating the traditional tilt bar and creating an unobstructed view, as well as a clean linear appearance. A thin steel tilt bar is attached to the louvers in the rear of the panel. Operation of the shutter is as simple as moving one louver into position; all of the other louvers will follow.

- Hide-A-Tilt is mounted on hinge side for standard shutters and attached with screws
- No mouse hole in the panel
- Hide-A-Tilt bar color will default based on shutter color (see chart below) but can be manually changed at time of order
- Hide-A-Tilt requires an additional 3/8" window clearance

Color Coordination Chart						
Shutter Color Default Hide-A-Tilt Color						
Base White (2051)	White					
Creamy White (2729)	Steel Grey					
Silk White (2922)	White					

NOTE: For specialty shapes; Hide-A-Tilt[™] bar will be matched to the shutter color, either white or gray. When panels exceed 52" in height, Hide-A-Tilt[™] will need to be split.

Tilt Options: Split Tilt



NOTE: Upper and lower louvers cannot be positioned at opposing angles because the edges of the louvers will touch.

Top and bottomrails may vary or be unequal due to requested locations and louver spacing.

Split Tilt

Splits one large louver set into two individually operated louver sets by attaching two separate tilt bars.

To measure split tilt, use bottom of frame reference point to desired split location. See measuring instructions in "Measuring Divider Rail or Split Tilt Location" section.

Split Tilt-Front Tilt Bar, No Divider Rail

- Split tilt can be requested centered or ordered location
- 31/2" louver exact to ordered location
- 41/2" louver may have up to 2" tolerance to ordered location
- 21/2" louver not available (the front tilt will not allow the louvers to function properly)

Split Tilt-Hide-A-Tilt Bar, No Divider Rail

- Split tilt can be requested centered or ordered location
- 21/2" and 31/2" louver exact to ordered location
- 41/2" louver may have up to 2" tolerance to ordered location

Split Tilt-Front Tilt Bar AND Divider Rail

- 3¹/₂" louver may cause split tilt to have up to 2" tolerance to ordered location when combined with a divider rail; divider rail location will be exact
- 4½" louver may cause split tilt AND divider rail to have up to 2" tolerance to ordered location
- Split tilt can only be requested above OR below divider rail, not both
- Split tilt can be requested centered or ordered location
- 21/2" louver not available (the front tilt will not allow the louvers to function properly)

Split Tilt-Hide-A-Tilt Bar AND Divider Rail

- 2½" and 3½" may cause split tilt to have up to 2" tolerance to ordered location when combined with a divider rail; divider rail location will be exact
- 4¹/₂" louver may cause split tilt AND divider rail to have up to 2" tolerance to ordered location
- Split tilt can only be requested above OR below divider rail, not both
- Split tilt can be requested centered or ordered location

Divider Rail Requirements

Splits one large louver set into two individually operated louver sets by adding a horizontal rail. It is used to add strength to tall panels or add a decorative element.

- Divider rails are required over 72" height for added strength
- Divider rail can be requested (when not required) for design purposes
- · A 3" divider rail is used with all louver sizes
- · Minimum louver set between rails is two louvers
- Maximum one divider rail is available per shutter
- Divider rails for 2½" and 3½" louvers are exact to ordered location
- Divider rails for 41/2" louvers may have up to 2" tolerance to ordered location to achieve uniform louver spacing
- All arch/angle panels may have up to 2" tolerance to ordered location

IMPORTANT INFORMATION: Top and bottom rail sizes may vary and/or be unequal in size due to a specified divider rail location. Rail sizes will vary from 3" to 6" based on order specifications. If shutters are in the same room and/or side by side, it is critical to order them at the same exact height to ensure divider rail locations and rail heights match. Please reference the Louver Count/Rail Height Calculator on Graberdirect.com to ensure satisfaction before order is placed.

Measuring Divider Rail or Split Tilt Location

Always start from the bottom point of measure to center of the desired divider rail or split tilt location.

To measure frame-to-frame, measure from the bottom of the shutter frame up to the center of the desired rail or split tilt location.

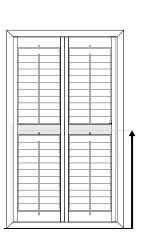
To measure window opening, measure from the sill or bottom of the window opening to the center of the desired rail or split tilt location.

IMPORTANT CONSIDERATIONS

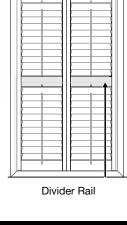
Rail sizes - Top and bottom rail sizes may vary in the same shutter due to requested location of the divider rail/split tilt and louver spacing.

Same room shutters – If shutters are in the same room, they should be ordered with the same height and options to ensure rail sizes match. Varying heights will result in inconsistent rail sizes and/or louver counts.

 If ordering direct mount or hang strip, you may request to align uneven shutters at time of order.



Frame-to-Frame





NOTE: Divider rail/split tilt locations may fluctuate if ordering rail alignment.

Measuring T-Post Locations

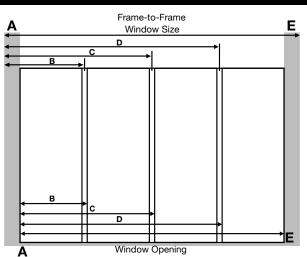
Always start from the left point of measure type to the center of the desired T-post location.

To measure frame-to-frame, measure from the left of the shutter frame to the center of the desired T-post location.

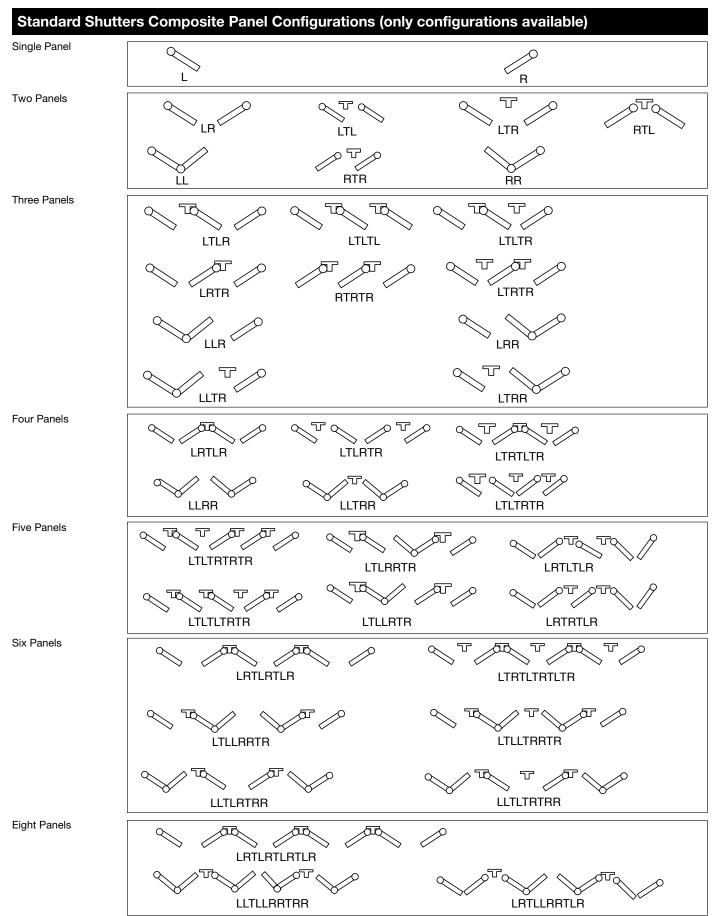
To measure window opening, measure from the left inside of the window opening to the center of the desired T-post location.

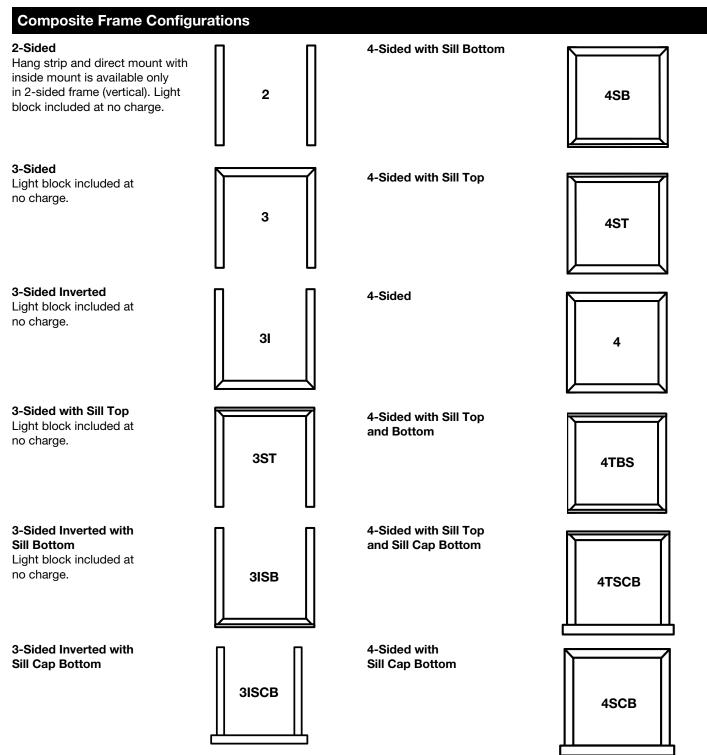
If there is more than one T-post, measure from the left of measure type to the center of first T-post location, then measure from the left of measure type over to the center of the second T-post location, etc. EXAMPLE: A-B, A-C, A-D

ALWAYS measure from the same point the frame was measured. EXAMPLE: If measuring for L-frame, frame-to-frame measure type, A is the outside edge of the L-frame.









NOTE: Direct mount includes four light blocks at no charge.

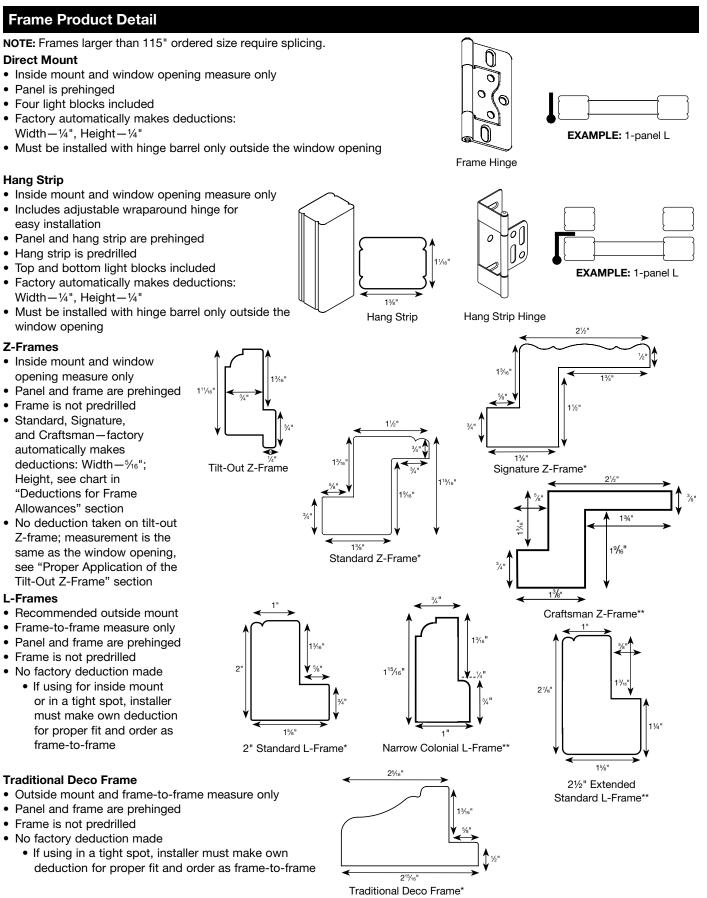
Installation Hardware

Included with order

- Hinge pins
- Hoffman keys
- Installation screws (hinge, mounting, etc.)
- T-post L-bracket (if required)

Available upon request-contact customer service

- Hinge shims
- · Extra louver pins
- Extra screws
- Screw caps (cover exposed screw heads)



*Frames for specialties differ slightly. See "Sunburst Arch with Frame" section for dimensional drawings. **Not available for Composite specialties

Frame Product Detail

NOTE: Frames larger than 115" ordered size require splicing.

Sill Cap

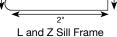
- · Available with all frames
- Available with following frame configurations: 3-sided inverted with sill cap bottom, 4-sided with sill cap bottom, 4-sided with sill frame top and sill cap bottom
- Buildout included (15/8" x 1/2") for inside mount frames
- Will be made in wood and painted to match shutter color ordered
- Not available on specialty shapes

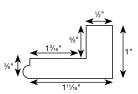
3¼"

21/4"

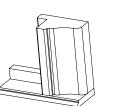


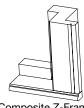
- Offered with L-, Z-, and traditional deco frame
- Not available with buildouts
- Sill frames are notched to accommodate side frames and joined with screws





Traditional Deco Sill Frame







Composite Traditional Deco Frame with Sill Composite Z-Frame with Sill

Composite L-Frame with Sill

Light Block

• Included with hang strip, direct mount, 2-sided, and 3-sided frame configurations

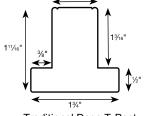


T-Post

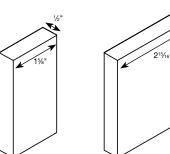
- · Post that divides the shutter into multiple sections
- Horizontal post is available on double hung shutters
- T-post predrilled by factory
- T-post L-bracket included on hang strip and direct mount

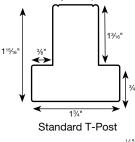
Buildout

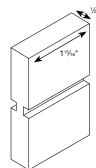
- Used with L-frames, deco frame, and Z-frames
- Available only in 1/2" thickness
- Maximum ¹/₂" (one piece) per shutter for bypass
- Maximum 1" (two pieces) per shutter for Z-frames
- Maximum 2" (four pieces) per shutter for L-frames and deco frame
- Z-frame build out will be wood



Traditional Deco T-Post







L-Frame/Sill Cap/ Bypass Buildout Traditional Deco Buildout

Z-Frame Buildout

Specifications

Proper Application of the Tilt-Out Z-Frame

Tilt-Out Z-Frame (inside mount)

Designed to be used with certain styles of window trim. Panel and frame are prehinged. Frame is not predrilled. Shipment includes self-tapping trim head screws.

Tilt-out Z-frame must be ordered as "Window Opening" (WO) size. NO factory deduction is made with this frame.

Factory Deductions: Width: 0" Height: 0"

NOTE: Installer MUST make own deductions for proper fit. If diagonal measurements exceed 1/8" out of square, use other outside mount frame style.



Tilt-Out Z-Frame with Sill Frame

Sill Cap Application

Ordering Options



Flush with Frame

1" Overlap Per Side



2" Overlap Per Side



Specified Cap Length

Three Available Frame Configuration Options

- 3-sided inverted with sill cap bottom
- 4-sided with sill cap bottom
- · 4-sided with sill frame top and sill cap bottom

Existing sill length on window will be required when ordering. This is to assure that sill cap option ordered will fit over the top of your existing window sill. A 1⁵/₈" buildout will be provided to take up the gap between the existing sill and any inside mount frame. This buildout will be butted up to the back edge of the sill cap to extend the depth. Sill cap cannot be used if existing window sill has apron.

The sill cap will sit flush against the wall for window sills protruding up to 1¹/₄" from the face of the wall. The sill cap can be used on deeper sills but there will be a gap between the wall and the sill cap.

No mounting hardware included. Adhesive should be used to attach sill cap to window sill.

NOTE: Not available on any composite specialties.

Deductions for Frame Allowances

Direct Mount

- Automatically taken at factory
- Width deduction—¼"
- Height deduction—¼"

Hang Strip

- Automatically taken at factory
- Width deduction-1/4"
- Height deduction-1/4"

Z-Frame (standard and signature only)

- Automatically taken at factory
- See chart below for width and height deductions

Z-Frame Configuration	Frame Width Deduction (inches)	Frame Height Deduction (inches)
2-Sided	- 5⁄16	No deduction*
3-Sided or 3-Sided Inverted	- 5⁄16	- 5⁄32*
3-Sided Sill Top or Bottom	- 5⁄16	- 1/16*
3-Sided Inverted with Sill Cap Bottom	- 5⁄16	- 1/16*
4-Sided	- 5⁄16	- 5⁄16
4-Sided Sill Top or Bottom	- 5⁄16	- 5/32
4-Sided Sill Top and Bottom	- 5⁄16	- 1⁄16
4-Sided Sill Top and Sill Cap Bottom	- 5/16	- 1⁄16
4-Sided Sill Cap Bottom	- 5⁄16	- 5/32

*Using this deduction, panel clearance on open ends of frame will automatically be $\frac{1}{8}$ ".

NOTE: Factory makes no deductions on tilt-out Z-frames; the measurement is the same as the window opening (see "Proper Application of the Tilt-Out Z-Frame" section). You must take your own deductions on tilt-out Z-frames.

L-Frame

- No deductions taken at factory
- If using for inside mount or in a tight spot, installer must make own deduction for proper fit and order as frame-to-frame

Traditional Deco Frame

- No deductions taken at factory
- If using in a tight spot, installer must make own deduction for proper fit and order as frame-to-frame

Size Considerations

All Louver Sizes: Minimum and Maximum (order width by panel configuration)

		Hang St Tilt-	Direct Mount, Hang Strip, and Tilt-Out Z-Frame All Other Z-Frames (except Tilt-Out Z)		Standard L-Frames		Narrow Colonial L-Frame		Traditional Deco Frame		
		WO Size		WO Size		F-F Size		F-F Size		F-F Size	
Number of Panels	Panel Configurations	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)
1 Panel	L, R	9 ¾16	36¾	11	371/8	11 ¾6	38¼	10 ¹¹ / ₁₆	37 ¹¹ / ₁₆	147⁄8	407⁄8
	LR	181/16	72	197⁄8	73 ¹¹ / ₁₆	201/16	741/16	191/16	73%16	2411/16	76 ¹¹ / ₁₆
2 Panels	LTR, LTL, RTR, RTL	19¾	73%	21 ¾16	751/16	21¾	757/16	201/8	74%	261/16	78 ½6
	LL, RR	181/16	48½	197⁄8	49 ¹¹ / ₁₆	20 ¹ ⁄16	501/16	19%	53%16	24 ¹¹ / ₁₆	52 ¹¹ /16
	LLR, LRR	27 ¾16	72 ¾16	291/16	74	291⁄4	74¼	28¾	73¾	2411/16	76 ¹¹ ⁄ ₁₆
	LLTR, LTRR	28¼	85¾	301/16	867/8	30¼	87¼	29 ¾	90¾	357/8	89%
3 Panels	LTLR, LRTR	28¼	109¾6	301/16	1107/8	30¼	111¼	29¾	110¾	357⁄8	1137⁄8
	LTLTR, LTRTR, LTLTL, RTRTR	291/16	110%	31%	112	31%	1125/8	311/16	1121/16	37¼	115¼
	LLRR	365/16	95%	381/8	97 5⁄16	385⁄16	97 ¹ / ₁₆	37 ¹³ ⁄16	105 ¹³ ⁄16	445⁄16	100 ⁵ ⁄16
	LLTRR	371/8	97	38 ¹⁵ ⁄16	98 ¹ / ₁₆	391⁄8	99 1⁄16	38%	106%	45 ¹ 1⁄16	10111/16
4 Panels	LRTLR	371/8	145	38 ¹⁵ ⁄16	146 ¹¹ / ₁₆	39 1⁄8	1471/16	385/8	1465%	461/16	1501/16
	LTLRTR	387/16	146¾	40¼	1481/16	407⁄16	1487⁄16	39 ¹⁵ ⁄16	147 ¹⁵ ⁄16	471⁄16	1511/16
	LTRTLTR, LTLTRTR	39¾	147¾	41 %16	1497⁄16	41 ¾	149 ¹³ ⁄16	41 ¹ ⁄4	149¼	487/16	1527/16
	LTLRRTR, LTLLRTR	47%	146%	51¼	148¾	51 ⁵ ⁄ ₈	148¾	511/8	147%	61 ⁵⁄16	151
5 Panels	LTLTRTRTR, LTLTLTRTR	501/16	184 ¹⁵ ⁄16	51%	186%	521/16	187	50 ¹¹ / ₁₆	18811/16	605%	1895⁄8
	LRTLTLR, LRTRTLR	475/16	1825/16	50 ¹⁵ ⁄16	18515/16	51 ¾6	184 ¾16	537/16	1887⁄16	557/16	1877/16
	LLTLRTRR	56 ¾	170%	58	1721/16	58 ¾6	1727/16	57 ¹¹ / ₁₆	219 ¹ / ₁₆	671/16	1751/16
	LRTLRTLR	56¾	216	58	219 ¹ / ₁₆	58 ¾16	220 ¹ ⁄ ₁₆	57 ¹¹ ⁄16	219 ¹ ¹ / ₁₆	671/16	2231/16
6 Panels	LTLLRRTR	56 ¹¹ /16	172%	58½	172%	58 ¹ / ₁₆	174%	58 ¾16	180 ¾16	67 ¾16	175¾
	LTLLTRRTR, LLTLTRTRR	57½	171%	59%16	1731/16	59½	1731/16	59	181	681/16	1761/16
	LTRTLTRTLTR	60¼	2221/8	621/16	223 ¹³ / ₁₆	62¼	224 ³ ⁄16	61%	2235⁄8	70 ¹³ ⁄16	226 ¹³ ⁄16
	LRTLRTLRTLR	75¾	291 ¾	771/16	293%16	77¾	295	76¾	292¾	80¾	2283/8
8 Panels	LRTLLRRTLR	73 ¹⁵ ⁄16	241 ¹⁵ ⁄16	75¾	243¾	75 ¹⁵ ⁄16	243 ¹⁵ ⁄16	757/16	2517/16	79 ¾16	247 ¾16
	LLTLLRRTRR	73 ¹⁵ ⁄16	193 ¹⁵ ⁄16	75¾	195¾	75 ¹⁵ ⁄16	19515/16	757/16	2117/16	79 ¾6	198¾

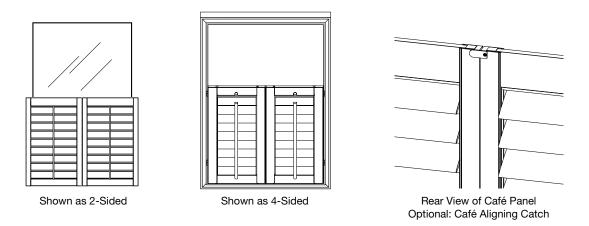
NOTE: Panel widths larger than 30" for 21/2" and 31/2" louvers and larger than 26" for 41/2" louvers will be made with reinforced louvers.

Size Considerations

Standard Shutters: Minimum and Maximum (order height by frame type and louver size)

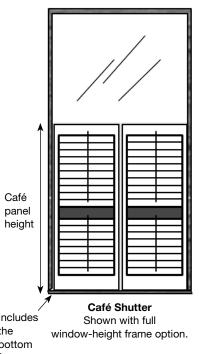
				Minimum (inches)		Maximum (inches)
				Louver Size		Louver Size
Measure Type	Frame Configurations	Frame Type	2 ½	3 ½	41⁄2	2 ½, 3 ½, 4 ½
	2-sided		10¼	12¼	14¼	96¼
	3-sided inverted with sill cap bottom	Direct mount/hang strip	10¾	12¾	14¾	96 ³ ⁄ ₄
	2-sided		10¼	12¼	14¼	96¼
	3-sided and 3-sided inverted		111/8	131⁄8	151⁄8	97 ½
	3-sided sill top or bottom		11½	13½	15½	97 ½6
	3-sided inverted with sill cap bottom		115%8	135%8	15%	96¾
	4-sided	Z-frames (except Tilt-Out Z)	12 ¹ ⁄ ₁₆	1 4¼16	16 ¹ ⁄ ₁₆	97 ¹⁵ ⁄16
	4-sided with sill top or bottom		11½	13½	151⁄%	97½
	4-sided with sill top and bottom		11	13	15	97
	4-sided with sill cap bottom		10¾	12 ³ ⁄4	14¾	97%
	4-sided with sill frame top and sill cap bottom		111%	131⁄%	15½	971/8
	2-sided		10 ¹ ⁄4	12 ¹ ⁄4	14¼	96¼
ē	3-sided and 3-sided inverted		10 ¹⁵ ⁄16	12 ¹⁵ ⁄16	1 4 ¹⁵ ⁄ ₁₆	96%
Deni	3-sided sill top or bottom		11 ⁵ ⁄16	13 ⁵ ⁄16	15 ⁵⁄16	96%
Window Opening	3-sided inverted with sill cap bottom		10¾	12 ³ ⁄4	14¾	96¾
vobr	4-sided	Tilt-out Z-frame	11 ⁹ ⁄16	13 ⁹ ⁄16	15%	96 ¹ /4
<u> </u>	4-sided with sill top or bottom		10%	121/16	14%	96¾
	4-sided with sill top and bottom		11	13	15	97
	4-sided with sill cap bottom		10¾	12¾	14¾	96¾
	4-sided with sill frame top and sill cap bottom		11 ¹ / ₈	12¼ 13¼	151%	97 ¹ /8
	2-sided		10¼	121⁄4	141⁄4	120¼
	3-sided and 3-sided inverted		11	13	15	121
	3-sided sill top or bottom		11 5%	135%	15%	121%
	3-sided inverted with sill cap bottom		10¾	12¾	14¾	120¾
	4-sided	Narrow colonial L-frame	11¾	13¾	15¾	121¾
	4-sided with sill top or bottom		11½	13½	15½	121½
	4-sided with sill top and bottom		11	13	15	121
	4-sided with sill cap bottom		11½	13½	15½	121½
	4-sided with sill frame top and sill cap bottom		11 ¹ / ₈	13 ¹ /8	1 5 ¹ ⁄8	1211/8
	2-sided		10¼	12¼	14¼	96¼
	3-sided and 3-sided inverted		11¼	13¼	15¼	97¼
	3-sided sill top or bottom		11 5⁄/8	13 ⁵ ⁄/ ₈	15⁵⁄≋	975/8
	3-sided inverted with sill cap bottom		11 ¾	13¾	15¾	96¾
	4-sided	Standard L-frames	12¼	14¼	16¼	98¼
	4-sided with sill top or bottom		11¾	13¾	15¾	975/8
ē	4-sided with sill top and bottom		11	13	15	97
Fran	4-sided with sill cap bottom		10¾	12¾	14¾	97¾
Frame-to-Frame	4-sided with sill frame top and sill cap bottom		111/8	131/8	15½	971/8
ame	2-sided		10 ¹ / ₄	12 ¹ /4	14 ¹ / ₄	96 ¹ / ₄
Ë	3-sided and 3-sided inverted		12 [%] 16	14% 1954	16%	98 ⁹ / ₁₆
	3-sided sill top or bottom		10 ⁵ %	12%	14 ⁵ %	96%
	3-sided inverted with sill cap bottom 4-sided	Traditional deco frame	13 ¹¹ / ₁₆ 14 ⁷ / ₈	15 ¹¹ ⁄16 16 ⁷ ⁄8	17 ¹¹ ⁄16 181⁄8	96¾ 1007⁄8
	4-sided 4-sided with sill top or bottom	nautional deco frame	14 ⁻ /8 12 ¹⁵ /16	16% 14 ¹⁵ /16	18% 16 ¹⁵ ⁄16	98 ¹⁵ ⁄16
	4-sided with sill top and bottom		12 /16	14 /16	15	97
	4-sided with sill cap bottom		10¾	13 12¾	13 14¾	99 ¹ ⁄16
	4-sided with sill frame top and sill cap bottom		1074 111/8	1274 131/8	1474 151/8	97 ¹ /8

Café Shutters



- Tops of composite panels are NOT finished and are not recommended for café shutters
- Café shutter panels cover the lower portion of the window
- Frame can be ordered to stop at panel height or can be ordered to fully frame the window
- · Pricing is based on width x café panel height
- Panels come standard with magnet on the base of each panel; aligning catch at the top panels is optional and must be requested at the time of order
- · Panel configurations ordered with a T-post will come with T-post cut to frame height, not café panel height

ORDER ENTRY TIP: When ordering frames to stop at panel height: 3-sided, 3-sided sill top, or 4-sided with or without sill configurations must be entered as standard shutters. 2-sided, 3-sided inverted, and 3-sided inverted sill bottom can be entered as café with panel and frame height the same size.



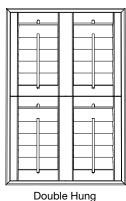
Café is available in a variety of frames, both inside and outside mount.

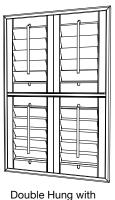
- Measure format depends on frame type selected
- · For direct mount, use "window opening" size (WO) and no frame is furnished **NOTE:** Panel will be ¹/₈" smaller than café panel height ordered for bottom swing clearance.
- For hang strip, use "window opening" size (WO) and hang strip will be the same height as café panel
 - NOTE: Panel will be 1/8" smaller than café panel height ordered for bottom swing clearance.
- For Z-frame, use "window opening" size (WO) and frame can be made at same height as café panel or be made at window height for "full-height frame"
 - **NOTE:** The café panel height ordered will include whatever frame configuration is ordered for the bottom. The café panel height is the height at which the panels will stop.
- For L-frame and traditional deco frame, use "frame-to-frame" size (F-F) and frame can be made the same height as café panel or be made at window height for "full-height frame" NOTE: The café panel height ordered will include whatever frame configuration is
 - ordered for the bottom. The café panel height is the height at which the panels will stop.

Includes the bottom frame or sill frame, if ordered

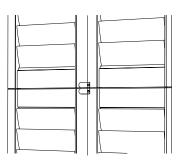
Double Hung Shutters

A specialty shutter style with one set of shutter panels over the top of another set of shutter panels in a continuous frame within a window. The panels are independent of each other, allowing each panel to operate separately.





Horizontal T-Post



Rear View of Double Hung Panel with Aligning Catch

- Tops of composite panels are NOT finished and are not recommended for double hung shutters
- Maximum of up to four panel shutter configurations per set only, not including any bifold configurations
- Top and bottom panel sections must have identical panel configurations
- All frame configurations available
- Maximum height of bottom panel 72"
- Maximum height of top panel 48"
- Top rails in bottom set and bottomrails in top set will not exceed 3½" on 2½" and 3½" louvers
 4½" louvers may have rails larger than 3½"
- Divider rail not available
- Split tilt available as center only; cannot be specified
 Split tilt available as either top or bottom panel sets
- Split tilt available as either top or bottom panel sets or both top and bottom
 Astragal, Hide-A-Tilt[™] (1-way or 2-way closure), and
- Front Tilt (1-way or 2-way closure) are available
- Aligning catch automatically included in LR, LTLR, LRTR, LRTLR, and LTLRTR configurations
- Horizontal T-post option available
 - L-bracket automatically included with all horizontal T-post orders (see image to right)
 - If horizontal T-post is ordered with panel configuration including a T-post, the horizontal T-post will be split and the vertical T-post will be one piece



Double Hung Shutters: Minimum and Maximum Order Width (by panel configuration)

		Hang S Tilt			All Other Z-Frames (except Tilt-Out Z) Standard L-Fram		L-Frames	Narrow Colonial L-Frame		Traditional Deco Frame	
		wo	Size	wo	Size	F-F	Size	F-F	Size	F-F Size	
Number of Panels	Panel Configurations		Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)
1 Panel	L, R	9¼	36¾	111/16	37%	11¼	38¼	10¾	37¾	147⁄8	407⁄8
	LR	181/16	72	197⁄8	73 ¹¹ / ₁₆	201/16	741⁄16	191/16	731/16	2411/16	7611/16
2 Panels	LTR, LTL, RTR, RTL	19%	73%	21 ¾6	751/16	21%	757/16	201⁄8	74%	261/16	78 ½
	LTLR, LRTR	28¼	1093/16	30 ¹ ⁄ ₁₆	1107/8	30¼	111¼	29¾	110¾	357⁄8	1137⁄8
3 Panels	LTLTR, LTRTR, LTLTL, RTRTR	29%16	110%	31%	112	31%16	1125⁄8	311/16	1121/16	37¼	115¼
	LRTLR	371/8	145	3815/16	1 46 ¹¹ ⁄ ₁₆	39½	1471/16	38%	146%	461/16	1501/16
4 Panels	LTLRTR	387⁄16	146¾	40¼	1481/16	407⁄16	1487/16	39 ¹⁵ ⁄16	147 ¹⁵ ⁄16	471/16	1511/16
	LTRTLTR, LTLTRTR	39¾	147¾	41 % ₁₆	1497⁄16	41¾	149 ¹³ ⁄16	41¼	149¼	481/16	1521/16

Measuring Double Hung Split Location

Measure double hung split location exactly how you measure for divider rail and split tilt (see "Measuring Divider Rail or Split Tilt Location" section). Always start from the bottom point of measurement to center of the desired double hung split.

- Double hung split location will always be exact
- If ordering a horizontal T-post, ordered split location will be located at the center of the T-post

To measure frame-to-frame, measure from the bottom of the shutter frame up to the center of the desired double hung split location.

To measure window opening, measure from the sill or bottom of the window opening to the center of the desired double hung split location.

Double Hung Shutters: Minimum and Maximum Order Height (by frame type and louver size)

				Minimum (inches)		Maximum (inches)
			l	Louver Size		Louver Size
Measure Type	Frame Configuration	Frame Type	2 ½	3 ½	4 ½	2 ¹ ⁄ ₂ , 3 ¹ ⁄ ₂ , 4 ¹ ⁄ ₂
	2 side	Direct mount/hang strip	201/16	247/16	287/16	967/16
	Sill cap bottom	Direct mount nang strip	2015/16	24 ¹⁵ / ₁₆	28 ¹⁵ / ₁₆	96 ¹⁵ ⁄16
	2 side		207/16	247/16	287/16	967/16
	3 side and 3 side invert		21 ⁵⁄16	255/16	29 ⁵ ⁄16	97 ⁵ ⁄16
	3 side sill top or bottom		20 ¹³ ⁄16	24 ¹³ ⁄16	28 ¹³ ⁄16	96 ¹³ / ₁₆
	4 sided sill top or bottom		21 ¹ / ₁₆	25 ¹¹ /16	29 ¹ / ₁₆	97 ¹ / ₁₆
	4 sided sill top and bottom	Z-frames	21 ³ ⁄ ₁₆	25 ³ ⁄ ₁₆	29 ³ ⁄ ₁₆	97 ³ ⁄ ₁₆
	4 side		221⁄4	26¼	30¼	981⁄4
ning	3 sided invert sill cap bottom		2015/16	24 ¹⁵ ⁄16	28 ¹⁵ / ₁₆	96 ¹⁵ ⁄ ₁₆
Window Opening	4 sided sill cap bottom		21 ¹³ ⁄ ₁₆	25 ¹³ ⁄16	29 ¹³ ⁄16	97 ¹³ ⁄16
NO	4 sided sill cap bottom sill top		21 5⁄16	255/16	29 ⁵ ⁄ ₁₆	97 ⁵ ⁄16
Vinc	2 side		207/16	247/16	287/16	967/16
_	3 side and 3 side invert		207/16	247/16	287/16	96¾
	3 side sill top or bottom		20 ¹³ ⁄ ₁₆	24 ¹³ ⁄16	28 ¹³ ⁄16	96 ¹³ ⁄16
	4 sided sill top or bottom		20 ¹³ ⁄ ₁₆	24 ¹³ ⁄16	28 ¹³ ⁄16	96 ¹³ ⁄16
	4 sided sill top and bottom	Tilt-out Z-frame	21 ³ ⁄ ₁₆	25 ³ ⁄ ₁₆	29 ³ ⁄ ₁₆	97 ³ ⁄ ₁₆
	4 side		207/16	247/16	287/16	967⁄16
	3 sided invert sill cap bottom		20 ¹⁵ / ₁₆	24 ¹⁵ ⁄16	28 ¹⁵ ⁄16	96 ¹⁵ ⁄16
	4 sided sill cap bottom		201/16	247/16	287/16	967/16
	4 sided sill cap bottom sill top		20 ¹⁵ ⁄ ₁₆	24 ¹⁵ ⁄ ₁₆	28 ¹⁵ ⁄16	96 ¹⁵ ⁄ ₁₆
	2 side		207/16	247/16	287/16	967/16
	3 side and 3 side invert		217/16	257/16	29 ⁷ ⁄16	977/16
	3 side sill top or bottom		20 ¹³ ⁄16	24 ¹³ / ₁₆	28 ¹³ ⁄16	96 ¹³ ⁄16
	4 sided sill top or bottom		21 ¹³ ⁄16	25 ¹³ ⁄16	29 ¹³ ⁄16	97 ¹³ ⁄16
	4 sided sill top and bottom	L-frames/extended L	21 ³ ⁄16	253/16	29 ¾ ₁₆	97 ³ ⁄ ₁₆
	4 side		227/16	267/16	307/16	987/16
	3 sided invert sill cap bottom		20 ¹⁵ ⁄16	24 ¹⁵ ⁄16	28 ¹⁵ / ₁₆	96 ¹⁵ ⁄16
	4 sided sill cap bottom		21 ¹⁵ ⁄16	25 ¹⁵ ⁄16	29 ¹⁵ / ₁₆	97 ¹⁵ ⁄ ₁₆
	4 sided sill cap bottom sill top		20 ¹⁵ ⁄16	24 ¹⁵ ⁄16	28 ¹⁵ / ₁₆	96 ¹⁵ ⁄16
	2 side		201/16	247/16	287/16	967/16
	3 side and 3 side invert		217/16	257/16	29 ⁷ ⁄16	977/16
Φ	3 side sill top or bottom		20 ¹³ ⁄16	24 ¹³ ⁄16	28 ¹³ ⁄16	96 ¹³ ⁄16
ran	4 sided sill top or bottom		21 ¹³ ⁄16	25 ¹³ /16	29 ¹³ ⁄16	97%
Frame-to-Frame	4 sided sill top and bottom	Narrow L-frame	21 ³ ⁄ ₁₆	25 ³ ⁄16	29 ³ ⁄ ₁₆	97 ³ ⁄ ₁₆
e H	4 side		227/16	267/16	307/16	97 ¹⁵ ⁄ ₁₆
Fra	3 sided invert sill cap bottom		20 ¹⁵ ⁄16	24 ¹⁵ / ₁₆	28 ¹⁵ ⁄16	96 ¹⁵ ⁄16
	4 sided sill cap bottom		21 ¹⁵ / ₁₆	25 ¹⁵ /16	29 ¹⁵ ⁄16	97 ¹¹ / ₁₆
	4 sided sill cap bottom sill top		20 ¹⁵ /16	24 ¹⁵ /16	28 ¹⁵ /16	96 ¹⁵ ⁄ ₁₆
	2 side		207/16	247/16	287/16	967/16
	3 side and 3 side invert		223/4	26¾	3034	98¾
	3 side sill top or bottom		20 ¹³ /16	24 ¹³ /16	28 ¹³ /16	96 ¹³ /16
	4 sided sill top or bottom		20 /16 23 ¹³ /16	27 ¹³ / ₁₆	20 /16 29 ¹³ /16	97 ¹³ /16
	4 sided sill top and bottom	Traditional deco frame	23 /16 21 ³ /16	27 /16 25 ³ /16	29 ³ /16	97 ³ /16
	4 side		25 ¹ /16	29 ¹ / ₁₆	33 ¹ ⁄16	1011/16
	3 sided invert sill cap bottom		20 ¹⁵ /16	24 ¹⁵ /16	28 ¹⁵ ⁄16	96 ¹⁵ ⁄16
	4 sided sill cap bottom 4 sided sill cap bottom sill top		23¼ 215⁄16	27¼ 255⁄16	31¼ 295⁄16	991⁄4 97 ¹⁵ ⁄16
	4 Sided Sill Cap Dollotti Sill lop		21716	20716	23716	57 716

NOTE: Maximum height of top panel is 48". Maximum height of bottom panel is 72".

Sunburst Arch without Frame

Specialty Shape without Frame: Panel Only

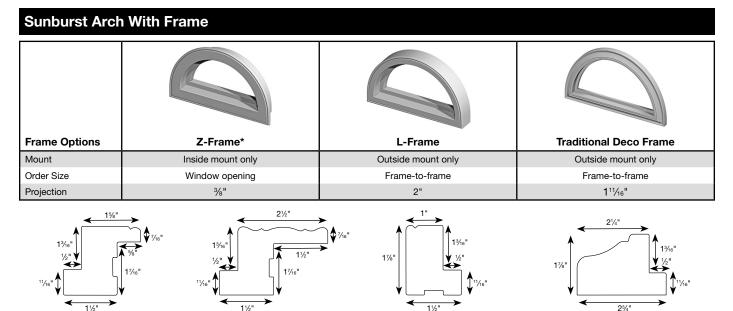
- Sunburst pattern-no horizontal louvers
- Rabbeted louvers for maximum light control
- · Louver sizes will vary based on height and width of arch
- Louver rotation will vary based on louver size and louvers will not open to a full 90 degrees
- The arch has no tilt bar; the louvers open individually and are spring loaded at the bottom pin
- Buildouts not available
- Panel is 1¹/₁₆" thick and may not match projection of other outside mount standard shutters
- Order arch as frame-to-frame finished size (factory takes no deductions)

NOTE: If mounting arch inside, take own deduction and order frame-to-frame. Template recommended.

	Specialty Shape without Frame: Minimum and Maximum Sizes						
		Wi	dth	Hei	ight		
Frameless Full and ¼ Sunburs	t Arches—Panel Only	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)		
Height Width	Perfect Sunburst Arch (order as eyebrow) Height = 50% of width No template required	20	72	7	36		
Width	Eyebrow Sunburst Arch Height minimum = no less than 33% of width Height maximum = no greater than 66% of width Template required if height exceeds 54% of width	20	72	7	36		
H1 Width	Elongated Sunburst Arch Height minimum = no less than 33% of width Height maximum = no greater than 66% of width Template required if ordered height minus ordered leg height exceeds 54% of width	20	72	10	47½		
Leg Height	% Eyebrow Sunburst Arch Leg height minimum = 33% of width Leg height maximum = 108% of width	15	36	7	36		
Leg Height	½ Elongated Sunburst Arch Leg height minimum = 33% of width Leg height maximum = 132% of width	15	36	10	47½		

Allow sufficient wall space to mount. Panel-only arches are:

	Frameless Arch Base Width (inches)	Top Rail Size (inches)	Bottomrail Size (inches)
5	20 to less than 24	2	1
	24 to less than 45	3	2
ł	45 to less than 72	3	3



L-Frame

The above frame dimensions will be used for specialty shapes.

Signature Z-Frame

Standard Z-Frame

	Specialty Shape with Frame: Min	imum and Maximum	Sizes			
			Wi	dth	He	ight
Framed Full and ¼ Sunburst	Arches		Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)
		Z-frame	221/4	102¼	17¼	521/4
Height	Perfect Sunburst Arch (order as eyebrow)	Signature Z-frame	30	1021/4	17¼	52¼
	Height = 50% of width No template required	L-frame	221/4	102¼	17¼	52¼
← Width →	lidth ————————————————————————————————————		24¾	104¾	19¾	54¾
		Z-frame	221/4	1021/4	17¼	52¼
Height	Eyebrow Sunburst Arch Height minimum = no less than 33% of width	Signature Z-frame	30	102¼	17¼	52¼
	Height maximum = no greater than 66% of width Template required if height exceeds 54% of width	L-frame	221/4	102¼	17¼	52¼
← Width →	or width	Traditional deco frame	24¾	104¾	19¾	54¾
		Z-frame	221/4	1021/4	17¼	52¼
A Height	Elongated Sunburst Arch Height minimum = no less than 33% of width	Signature Z-frame	30	1021/4	17¼	52¼
	Height maximum = no greater than 66% of width Template required if ordered height minus ordered leg height exceeds 54% of width	L-frame	221/4	1021/4	17¼	52¼
← Width →	ordered leg height exceeds 3470 of width	Traditional deco frame	24¾	104¾	19¾	54¾
		Z-frame	17¼	52¼	17¼	52¼
Leg Height	1/4 Eyebrow Sunburst Arch	Signature Z-frame	30	52¼	17¼	52¼
	Leg height minimum = 33% of width Leg height maximum = 108% of width	L-frame	17¼	52¼	17¼	52¼
₩idth →		Traditional deco frame	19¾	54¾	19¾	54¾
			17¼	52¼	17¼	52¼
Leg Height	¹ / ₄ Elongated Sunburst Arch	Signature Z-frame	30	52¼	17¼	52¼
H2 Height	Leg height minimum = 33% of width Leg height maximum = 132% of width	L-frame	17¼	52¼	17¼	52¼
₩idth →		Traditional deco frame	19¾	54¾	19¾	54¾

NOTE: All frame types are available with sill bottom.

Framed arches not available with sill cap.

Buildouts are available on L-frame and traditional deco frame arches.

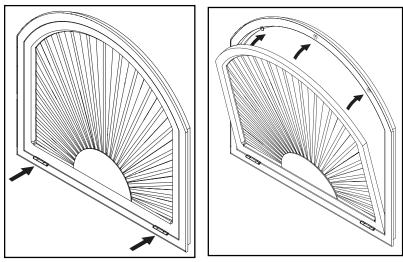
Buildouts are not available with sill bottom.

*Framed arches not available with tilt-out Z-frame, narrow colonial L-frame, craftsman Z-frame, or 2.5" extended standard L-frame.

Deco Frame

Framed Arch Installation Option

Arches arrive with the louvers installed.



Framed Arch—Installing Panel to Frame Framed arches install similar to standard shutters with the exception that they are hinged on the bottom.

Framed Arch Panel Width (inches)	Number of Hinges
Less than 44	2
Greater than or equal to 44	3
Greater than or equal to 72	4
Greater than or equal to 96	5

Frameless Arch Installation Option

Frameless arches to be installed using hinges and embedded magnets that will attach to a light block shaped to the panel profile. All necessary hardware and components will be included with shutter.

Arch and Angle Top Panel Shutters

Available Arch Options:

- $2^{1}\!\!/_{2}$ ", $3^{1}\!\!/_{2}$ ", and $4^{1}\!\!/_{2}$ " louvers
- Astragal, Hide-A-Tilt[™], split tilt, and 1 divider rail
 - Split tilt and divider rails will have +/- 2" tolerance
 - Divider rail required over 72" ordered height
 - Hidden tilt requires split tilt over 52" ordered height
- All panel configuration in standard shutters
- All frames, except tilt-out Z-frame, narrow colonial L-frame, craftsman Z-frame, and 2.5" extended standard L-frame
- Frame configurations: 3-sided, 4-sided, and 4-sided with sill bottom
- Buildouts available for L-frame and traditional deco frames without sill bottom

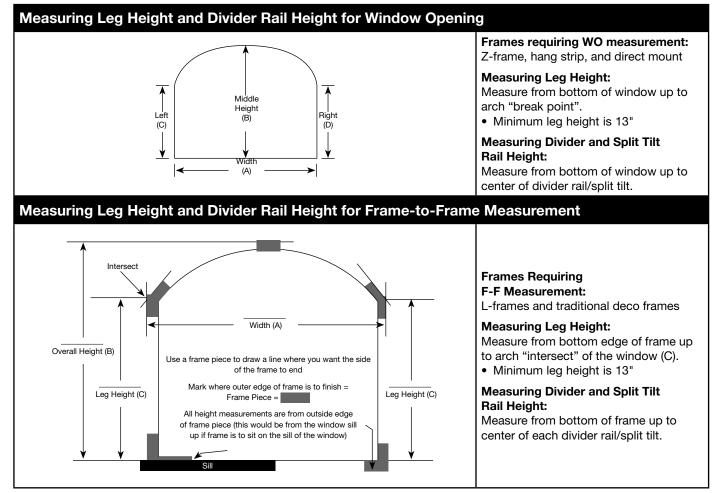
Not Available Arch Options:

- Double hung
- Split tilt AND divider rail together
- Multiple divider rails
- Sill cap
- 2-way closure

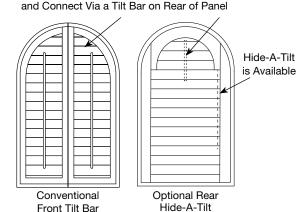
Arch Operation

- · Arch louvers only tilt/close in the upwards position
- Louver tilt is restricted up to 90° (degrees) due to the curvature (or slope) at the top of the panel; a divider rail can be used to separate the upper arch portion from the lower rectangular portion; this will allow for full louver rotation of the louvers below the divider rail

NOTE: Arch/angle top shutters ordered with a signature Z-frame cannot be under 30" in width.



NOTE: Divider rail requirements are the same as standard shutters. One divider rail available on arches/angles. Template required when the ordered height minus the leg height is over 54% of the width.



Upper Louvers may Tilt Independently

Arch and Angle Top Shutters: Minimum and Maximum (order width by panel configuration)

			Mount, Strip		idard ame		ature ame	2" Sta L-Fr	indard ame		nal Deco ime
		wo	Size	wo	Size	wo	Size	F-F	Size	F-F	Size
Number of Panels	Panel Configurations	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)	Minimum (inches)	Maximum (inches)
1 Panel	L,R	9¼	36¾6	11%16	38%	30	38¾	11¼	38¼	13¾	40¾
	LR	181/16	72	20%	74¾	30	74¾	201/16	741/16	247/16	76%
2 Panels	LTR, LTL, RTR, RTL	19%	73%	21 ¹ ¹ / ₁₆	75%	30	75%	21%	757/16	25 ¹⁵ ⁄16	77 ¹⁵ ⁄ ₁₆
	LL, RR	181/16	40½	20%	42 ³ ⁄16	30	42 ³ ⁄16	201/16	42 ¹ ⁄16	247/16	44%
	LLR, LRR	27 ¾16	76¼	29%	78%	30	78%	29 ¹ ⁄ ₄	78¼	247/16	80¾
	LLTR, LTRR	28¼	77¾	30%16	79%	30%16	79%	30¼	79¼	35%	81¾
3 Panels	LTLR, LRTR	281/4	109¾6	30%16	111%	30 %16	111%	30¼	1111⁄4	35%	113¾
	LTLTR, LTRTR, LTLTL, RTRTR	29%	110%6	31%	112½	31%	112½	31 %16	112%	37 1⁄8	1151⁄8
	LLRR	36 5⁄16	79%	385%8	81 ¹³ ⁄16	385%	81 ¹³ ⁄16	38 5⁄16	81 ¹¹ ⁄16	44¾	84¾
	LLTRR	371⁄8	81	397/16	82 ¹³ ⁄16	397/16	82 ¹³ ⁄16	391/8	831/16	45%	85 ¾6
4 Panels	LRTLR	371/8	145	397⁄16	1 47¾	397/16	147¾	39 1/8	147 ¹ ⁄16	45 ¹⁵ ⁄16	149 ¹⁵ ⁄16
	LTLRTR	371/16	146%	405%	148%	405%	148%	407/16	1487⁄16	46 ¹⁵ ⁄16	149 ¹⁵ ⁄16
	LTRTLTR, LTLTRTR	39¾	147¾	421/16	149 ¹⁵ / ₁₆	421/16	149 ¹⁵ ⁄16	41¾	149 ¹³ ⁄16	485/16	1525/16
	LTLRRTR, LTLLRTR	47%	134%	51¾	13811/16	51¾	13811/16	51%	138%	61 ¾16	140%
5 Panels	LTLTRTRTR, LTLTLTRTR	501/16	184 ¹⁵ ⁄18	52%	1871⁄8	52%	1871⁄8	52 ¹ ⁄16	187	60½	189½
	LRTLTLR, LRTRTLR	475⁄16	1825/16	511/16	1857⁄16	51 ½6	1857/16	51 ¾6	184¾	555/16	187 5⁄16
	LLTLRTRR	56 ¾6	154%	58½	156%	58½	156%	58 ¾6	156%	66 ¹⁵ ⁄16	15815/16
	LRTLRTLR	56 ¾6	216	58½	219 ¹¹ / ₁₆	58½	219 ¹¹ /16	58 ¾6	220 ¹ ⁄16	66 ¹⁵ ⁄16	222 ¹⁵ ⁄16
6 Panels	LTLLRRTR	56 ¹¹ / ₁₆	156%	59	1567/8	59	1567/8	58 ¹¹ /16	158%	671/16	1591/16
	LTLLTRRTR, LLTLTRTRR	57½	155%	601/16	157%	601/16	157%	59½	157%	67 ¹⁵ ⁄16	159 ¹⁵ ⁄16
	LTRTLTRTLTR	60¼	2221/8	621/16	224 5⁄16	62%	2245⁄16	62¼	224 ¾6	7011/16	226%
	LRTLRTLRTLR	75¾	291¾	77 ¹⁵ ⁄16	2941⁄16	77 ¹⁵ ⁄16	2941/16	78%	295	80¼	297¼
8 Panels	LRTLLRRTLR	73 ¹⁵ ⁄16	225 ¹⁵ ⁄16	76¼	228¼	76¼	228¼	77%	227 ¹⁵ ⁄16	791/16	2311/16
	LLTLLRRTRR	73 ¹⁵ ⁄16	161 ¹⁵ ⁄16	76¼	163¼	76¼	163¼	75 ¹⁵ ⁄16	163 ¹⁵ ⁄16	791/16	1661/16

NOTE: Panel widths larger than 22" will have reinforced louvers for all louver sizes.

Arch and Angle Top Panel Shutters Height Limitations

See size considerations for width minimums and maximums.

	Ordered Height Limitations for Arch and Angle Top Shutters						
			Minimum Louver Size (inches)	Maximum Louver Size (inches)			
	Frame Configuration	Frame Type	2 ¹ / ₂ , 3 ¹ / ₂ , 4 ¹ / ₂	2 ¹ / ₂ , 3 ¹ / ₂ , 4 ¹ / ₂			
	2-sided	Hang strip/direct mount	16¼	96¼			
Window Opening	3-sided	Z-frames (Standard & Signature)	16 ¹⁵ ⁄ ₁₆	97 ⁵ ⁄ ₁₆			
window Opening	4-sided	Z-frames (Standard & Signature)	17%16	987/16			
	4-sided with sill bottom	Z-frames (Standard & Signature)	16 ⁹ ⁄ ₁₆	97¾			
	3-sided	2" Standard L-frame	17¼	97¼			
	4-sided	2" Standard L-frame	18¼	971⁄4			
France to France	4-sided with sill bottom	2" Standard L-frame	17¾	96¼			
Frame-to-Frame	3-sided	Traditional deco frame	181/16	98½			
	4-sided	Traditional deco frame	201/8	100¾			
	4-sided with sill bottom	Traditional deco frame	181/8	987⁄8			

NOTE: Minimum leg height is 13" on arch top and angle top panels.

How To Make a Template

Template Requirements

Templates are only **required** for the following instances:

- Sunburst arches: if ordered height exceeds 54% of ordered width
- Arch top panels: if ordered height minus leg height is over 54% of ordered width

Templates are recommended for the following instances:

• Inside mount arches (direct mount, hang strip, frameless)

ALL OTHER ARCHES DO NOT NEED TEMPLATES.

Template Material

Acceptable material—Kraft paper, butcher paper, and light-weight poster paper that can be rolled without creasing. Nonacceptable material—Newspaper, wrapping paper, tissue paper, fabrics, wood, cardboard, and wax paper.

If material used to make template tears, stretches, will not lay flat, or cannot be rolled, Springs Window Fashions will refuse to use the template and require a new one.

If more than one piece of paper must be used, a strong packing tape must hold pieces together. Painter's tape or scotch tape will not be accepted; this allows the paper to move and measurements to become inaccurate.

Creating the Template

- 1. Using painter's tape, tape paper over window opening, allowing adequate overlap over window to include any framing needed.
 - If window opening frame is being ordered, draw an exact outline of the window opening; manufacturing will make proper deductions for fit; be careful not to press in or crease the paper of the template while tracing.
 - If frame-to-frame arch or frameless arch is being ordered, the template should be made to the exact size needed; manufacturing will not take any deductions or make any additions to the size submitted. Tracing arch should only be done with a pencil or pen that is no thicker than 1/16" thick to ensure correct arch size is ordered.
- 2. Remove the paper from the window and cut out the arch.
- 3. Fold template in half to verify template is symmetrical (mirror image). You may need to adjust size in field before shipping to Springs Window Fashions.
- 4. Once template is cut out, adjustments have been made, and template is symmetrical, place template back in window to ensure proper fit.
- 5. Mark template with the following:
 - Room side
 - SWF order number
 - Company name and account number
 - PO number
- 6. Attach a copy of the purchase order to the template.
- 7. Roll (DO NOT FOLD!) template and place in a shipping tube.
- Mail to: Springs Window Fashions, LLC Attn: Shutter Department 1500 Sycamore Road G5 Montoursville, PA 17754

NOTE: Use only tape that will not pull off paint or wallpaper.

Comment on purchase order if a template is being sent; otherwise order may begin to be processed without.

French Door Options

- 21/2" and 31/2" louvers
- Available with Front Tilt (1-way and 2-way closure), Hide-A-Tilt[™] 2-way closure, and Split Tilt
- · Single panels hinged on the same side as the door
- 2" Standard L-frame only
- Order frame-to-frame
- Outside mount only

- A divider rail is required for ordered height greater than 74"
- Button catches plus magnets are standard to provide for a secure closure
- Factory will automatically add and attach buildouts based on your louver size; see chart below
- Split tilt may have +/-2" tolerance from ordered location
- Hidden tilt requires split tilt over 52" ordered height

NOTE: All French door shutters for cut-out and no cut-out should be ordered at the same time to ensure rail sizes and louver counts will match.

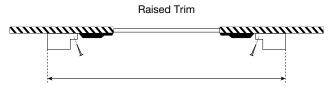
Projection Based on Louver Size (inches)	Frame	Buildout (inches)
21/2	2" L-Frame	0
31⁄2	2" L-Frame	1/2

French Door Sizes: Minimum and Maximum

	Minimum (inches)	Maximum (inches)
Width	14	29 ¹³ ⁄16
Height	341/8	86¼

French Door Shutters: Placement of L-Frame

L-frame always sits outside of the trim, never on the trim. If no raised trim, place the L-frame far enough beyond the glass to rest totally flat on the door and to avoid risk of breaking the glass when driving the mounting screws in place. Use caution when placing screws, as the glass often extends under the trim and could easily crack.

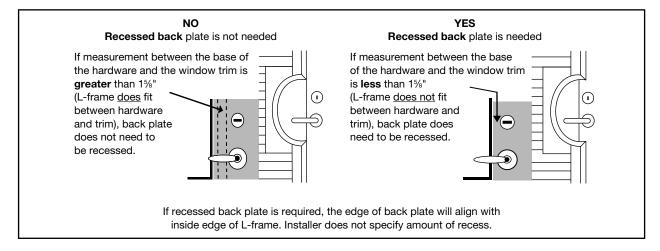


Always Use Frame-To-Frame Measure Format for French Doors

French Door Shutters: Recessed Back Plate

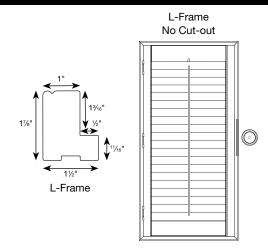
Always Use Frame-To-Frame Measure Format for French Doors

A recessed back plate is required when there is insufficient space between the base of the door hardware and the glass trim to place L-frame flat on the door surface.



Manufacturing will automatically add buildouts to your order according to the louver size. An additional ½" or 1" can also be requested if needed for louver clearance on larger trims. Factory will also make all adjustments to back plate elevation based on trim projection and extra buildout requested.

French Door Options: Cut-out

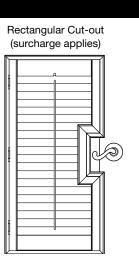


This should only be ordered when installed next to a French door with cut-out; otherwise order it as a standard shutter.

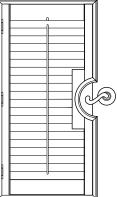
NOTE: If ordered as standard shutter, French door button catch can be added at time of order.

Order Rectangular Cut-out when:

- 1. Choose if the base of the door hardware is rectangular.
- 2. Must specify width and height of the cut-out. There are NO set standard sizes to conform to. There are NO templates to use.
- the door handle to pivot easily when determining your cut-out size.

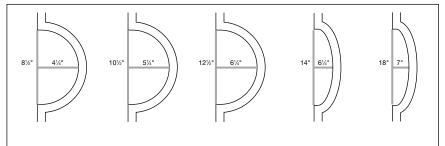




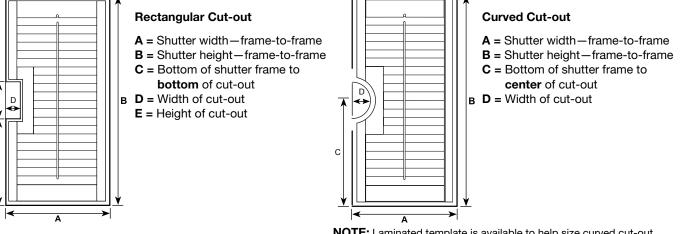


Order a Curved Cut-out when:

- 1. Choose a curved cut-out if the base of the door handle (or knob) is round.
- 2. Five (5) standard cut-out sizes are available: three (3) half-circles and two (2) half-ovals.
- 3. Other custom sizes of curved cut-outs are NOT available.
- 4. Be sure to make proper allowances for the door handle to pivot easily when determining your cut-out size.



This image is taken from the backside of the French door order form.



NOTE: Laminated template is available to help size curved cut-out (contact customer service to request).

3. Be sure to make proper allowances for

1

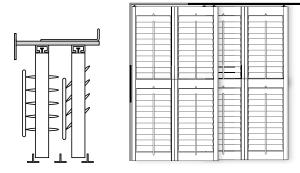
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Bypass Shutters

- Ideal solution for large windows and patio doors
- System consists of a double-top track and optional floor guides (no bottom track)
- Available in all louver sizes
- Available with Front Tilt (1-way and 2-way closure), Hide-A-Tilt[™] (1-way and 2-way closure), and Split Tilt
- See the minimum and maximum order sizes charts (factory to determine panel size based on width ordered and configuration)
- · Panels are composite
- Headers, box-out, and valance made of wood and painted to match shutter color ordered
- Divider rail on 21/2" and 31/2" louvers will be exact to ordered size; divider rail on 41/2" louvers will have a 2" tolerance
- Divider rail required if over 72" ordered height
- Tracks wider than 144" will be spliced
- Header and valance could be spliced over 96"
- ½" buildout is available
- Split tilt and divider rail not available together on same shutter

- Configuration options:
 - Outside mount—with or without box-out (box-out recommended)
 - Exact frame-to-frame with box-out
 - Inside mount-minimum window depth 53/8"
- All mounting options include:
 - Valances: two top treatment styles available:
 5" double beaded standard valance,
 4½" decorative valance (optional)
 - Track and header board: unit includes two tracks installed to header; header is 51/2" deep and 3/4" thick
 - Outside mount is available with stack back or custom header (see "Bypass Track System Stack Back Option" and "Custom Header" sections)



NOTE: Louvers must be closed in order for panels to pass each other.

Bypass Valance Options



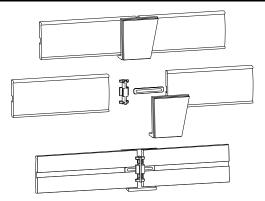
41/2" Decorative Valance



5" Standard Valance

Valance Keystones

- Decorative keystones are automatically provided on wood valances that require splicing
- Keystones are centered/equally spaced unless special splice location is requested at time of order
- Optional keystones can be ordered with single piece valances under 96"; for surcharge, see price charts
- Maximum number of keystones per valance is three
- · Keystones are painted to match shutter color ordered
- Measuring instructions:
 - For inside/outside/exact ordering—indicate keystone measurement from left of window opening to center of keystone; manufacturing will calculate valance and keystone location to ensure correct location when installed in window
 - For special valance width ordering—provide exact valance backside measurement needed; measure using inside measurement from inside corner of miter to center of keystone; keystone locations will be exact



Bypass Shutters: Mounting Options

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OUTSIDE MOUNT-WITH FACTORY ADDITIONS

Width Measure (with box-out): If no window trim: measure window opening size. If window trim: measure outside edge of trim to outside edge of trim and record as window opening size. Regardless of ordered size, factory will add 3¹/₄" to your overall ordered width.

NOTE: When measuring, add more for bullnose drywall so that the frames mount completely on flat surface.

Width Measure (without box-out): If no window trim: measure window opening size. If window trim: measure outside edge of trim to outside edge of trim and record as window opening size. Regardless of ordered size, factory will add 11/4" to your overall ordered width.

NOTE: When measuring, add more to extend beyond window edge for more privacy.

Height Measure (with or without box-out): If no window trim: measure from floor surface to top of the window opening. If window trim: measure to top of window trim. Regardless of ordered size, factory will add 2⁵/⁹ to your overall ordered height.

Other Measuring Considerations: 1/2" buildout is available.

Valance Information: Valance returns are included and wrap around the outside of the box-out, if ordered. Returns are mitered (special valance width and return width available).

Box-Out Information: Optional side frames are 5¹/₂" deep and ³/₄" thick.

Stack Back Information: Optional to allow shutter panels to clear the window opening; factory will calculate based on ordered size. Custom/special header board size is also available if full stack back cannot be achieved.

OUTSIDE MOUNT-EXACT FRAME-TO-FRAME

Width and Height Measure: Factory will not add or deduct from ordered size — measure width and height as finished frame-to-frame size including the box-out. Only available with box-out.

Other Measuring Considerations: 1/2" buildout is available.

Valance Information: Valance returns are included and wrap around the outside of the box. Returns are mitered (special valance width and return width available).

Box-Out Information: Required box-out side frames are 5¹/₂" deep and ³/₄" thick.

Stack Back Information: Stack back is not available. Custom/special header board size is available.

INSIDE MOUNT-WITH FACTORY DEDUCTIONS

Width Measure: Order window opening width and factory will make a ½" deduction off the track for proper fit.

Height Measure: Order window opening height and factory will make a $\frac{1}{2}$ " deduction. The carriers are adjustable.

Other Measuring Information: Minimum window depth required for 5%". No buildouts available.

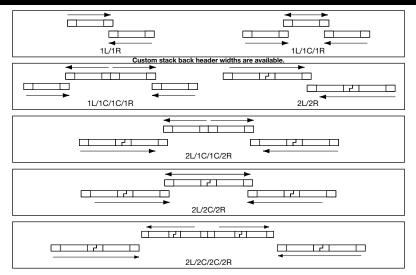
Valance Information: Special valance width available. Valance returns and special return width available.

Box-Out Information: Not available.

Stack Back Information: Stack back and custom/special header board size are not available.

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Bypass Track System Configuration Options (only configurations available)



Bypass Shutters: Minimum and Maximum Width (order size by panel configuration)

		Outside Mount with Additions		Inside Mount		Outside Mount-Exact	
		Order V	VO Size	Order WO Size		Exact Frame-to-Frame	
Panel Configuration	Example of Shutter Unit Configurations Using Various Panel Combinations	Minimum Width (inches)	Maximum Width (inches)	Minimum Width (inches)	Maximum Width (inches)	Minimum Width (inches)	Maximum Width (inches)
1L/1R		18	70	20	71	19¼	73¼
1L/1C/1R*		271/2	104	281/2	106½	27¾	108¾
1L/1C/1C/1R		37	141	38	142	36¼	144¼
2L/2R		37¾	141¾	38¾	142¾	36	145
2L/1C/1C/2R*		56	212	58½	213	54¼	215¼
2L/2C/2R*		571⁄8	2131/8	581⁄8	213¼	54¼"	215½
2L/2C/2C/2R		76½	284½	77½	285½	71 ¹³ ⁄16	287¾

*Window opening is 33% with these panel configurations. Stack back or custom header recommended.

NOTES:

- 1. Same minimum/maximum sizes apply if ordered with stack back options and with or without box-out.
- 2. Combinations with a 2C, 2L, or 2R will be rabbeted together and move as one unit. Panels to be connected during installation.

Setting Bracket Height

(for outside mount without side frames)

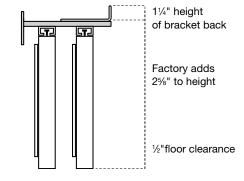
For wall mount bypass shutter system

Top of angle bracket to floor:

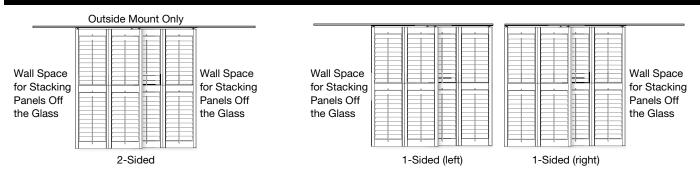
Top of bracket will be $3\frac{1}{6}$ " above ordered height. This includes $\frac{1}{2}$ " clearance off the floor.

NOTE: With optional box-out, side frames determine the mounting height. Bottom edge of side frame is meant to touch the floor surface.

Composite Bypass Height Minimum and Maximum					
Options Minimum (inches) Maximum (inches)					
Outside Mount	15¾	96%			
Inside Mount	17¼	99			
Exact	17¼	99			



Bypass Track System Stack Back Option



The stack back option allows for the shutter panels to clear the window opening, creating an unobstructed view. **Panels made to** cover window. Header/track made larger so panels stack off glass.

Measure only the window opening area for outside mount with stack back. Factory will calculate the correct stack back needed for full stack back. Custom header also available.

System consists of a double-top track and floor guides.

Calculating Approximate Stack Back: Factory will add additional width to ordered size for stack back. Amounts vary depending on the number of panels. See chart below for total (approximate) amount that will be added to the window opening size. This determines the approximate overall unit width.

% of Window Opening Size Added for Various Numbers of Panels					
2 3 4 6 8					
50%	66%	50%	66%	50%	

Custom Header

If wall space is not available for complete stack back, custom header size may be ordered. Give window opening size and custom header size.

- Panels will be built to cover the window opening size
- The track, header, and valance will be built to the custom size requested

ORDER ENTRY TIP: Enter the opening size as the ordered width. Choose "no" for stack back and then place desired finished size in the custom header field.

Definitions

Aligning Catch—Concealed magnet and catch plate on back top side of café panels. Used to provide a flush panel alignment.

Astragal—Covers clearance gap between two panels for the purpose of eliminating light gap. Integral to stile.

Bifold—Two panels are hinged together to lie flush against the window or wall.

Box-Out Frame—Track system frame option that creates an outside mount application consisting of a three-sided frame with or without a decorative valance.

Buildout—Used in conjunction with frames to move panels away from window, allowing additional clearance for louvers to open.

Bypass Track System—Two or more panels on two-overhead track that slide and pass each other.

Café Style Shutters—Cover the lower portion of an opening. They can be made to any height within product specifications.

Direct Mount—Mounting the shutter panels directly to the window casing.

Divider Rail—A rail that divides the shutter panel into two horizontal sections. It is used to add strength to a tall panel or add a decorative touch.

Double Hung—One set of panels installed over top of another set of panels within one framed window opening. Can be combined with a horizontal T-post if needed.

Guide—Component part used with bypass configurations to lead the panels so that they do not project into the room.

Hang Strip—The mounting frame that is used for inside mount shutter panels.

Inside Mount—A shutter that is mounted on the inside of an opening.

Light Block—Square rail that blocks light between the window sill and the shutter panel. Used with direct mount, hang strip, 2-sided frames, and 3-sided frames.

Louvers – The movable fins inside the shutter panel.

Mouse Hole—Recess in the top rail of the panel that the lift rod rests in when the louvers are completely closed. Standard is single mouse hole.

Outside Mount—A shutter that is mounted on the outside of an opening.

Panel—The part of the shutter that consists of a set of louvers, two rails, and two stiles.

Rabbet Stile – A special cut on the stiles that allows the panels to overlap. Helps control light penetration between the panels.

Rails—The top and bottom solid portions of a panel that frame the louvers.

Reinforced Louvers—Louvers which are strengthened by an aluminum support bar running through the center of the louver to prevent sag.

Sill Cap—Decorative wood sill used to cover existing sills that protrude from window.

Split Tilt—Divides louvers into two operable sections by attaching two separate tilt bars.

Square Window—Diagonal measurements must be within ¹/₄" difference. Windows that are not square will need to have the shutter mounted to the outside of the window opening.

Stack Back—Configuration that allows the panels of the bypass track system to completely slide beyond the window opening.

Stile—The vertical portion of the panel frame to which the louvers are anchored.

Tilt Bar—A vertically mounted bar located on the front of the shutter. Not used to tilt the louvers, but is attached so all louvers connect together and move in unison when a louver is moved.

T-Post—A vertical post that divides the shutter into multiple sections (used with wider shutters). Also used horizontally to separate panels on double hung shutters.

Two-Way Closure (Front Tilt)—Recess on the top and bottomrail allowing for the louvers to be completely closed in either direction. Close in upward position for optimal closure.

Window Depth—The distance from the surface of the wall to the closest part of the window (examples: latch, crank, frame, etc.).

Care Instructions

Occasional light vacuuming with a brush attachment should keep shutters clean. More severe soiling can be removed by using a soft cloth along with a mild detergent and water solution.

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Graber Composite Shutters

Designer US Price List — Effective January 2024

Composite Shutters Pricing

Frame Type		Price
Hang Strip, Direct Mount	\$60.00	per square foot
L-Frame, Deco Frame, Z-Frames, Tilt-Out Z-Frame	\$64.50	per square foot
Bypass Track System	\$66.50	per square foot

Composite Specialty Shutters Pricing (Made in Asia)		Price	
Arches Frameless	\$123.00	per square foot	
Arches Framed	\$137.00	per square foot	
Arch/Angle Top Panel Shutters	\$110.00	per square foot	
French Door without Cut-out	\$64.50	per square foot	
French Door with Cut-out (Base Price)*	\$64.50	per square foot	
French Door with Cut-out (Surcharge)*	\$450.00	per cut-out	

*Calculate the overall square footage of the French door shutter, multiply by the per square foot base price, then add the cutout surcharge. **NOTE:** Shipping damage must be reported to SWF within 12 calendar days of receipt.

Additional Surcharges	
Astragal	No charge
Bypass Box-Out**	15%
Bypass Decorative Valance	No charge
Bypass Stack Back**	5%
Café Aligning Catch	No charge
Café Shutter with 4-Sided Frame	10%
Double Hung	15%
Hide-A-Tilt™ Bar	10%
Stainless Steel Hinge	5%
Valance Keystones (when requested without a splice)	\$22
Wood Sill Cap	10%

** Calculate overall square footage of the bypass panels, multiply by the per square foot price based on frame type, and use that total to calculate the surcharge for the box-out and/or stack back.

Composite Shut	tters Colors				
Base White	2051	Creamy	White 2729	Silk White	2922