

**Unit Features**

Elevate Double Hung Insert: ELDHIN

Elevate Double Hung Insert Picture: ELDHINP

Elevate Double Hung Insert Transom: ELDHINT

**ATTACHMENT 4**

For applicable certification and code information, refer to the Introduction and Product Performance chapter.

**Frame and Sash:**

- The frame and sash exteriors are made of Ultrex®.
- Exterior colors: Stone White, Pebble Gray, Bronze, Evergreen, Cashmere, or Ebony. Frame and sash color may be selected independently.
- The interior is non finger-jointed pine, kiln dried to a moisture content of 6-12% at time of fabrication. Water-repellent, preservative treated.
- Interior wood is available as Pine bare wood or factory-applied white, clear, or designer black finishes. Frame and sash color may be selected independently.

**Frame:**

- Composite frame thickness is 1 13/16", (46). Frame width is 3 1/4", (83). Sloped sill with 8 degree bevel. Non finger-jointed pine interior frame liner is applied to all units. Ultrex is .075" (2) thick. Sloped sill with 8 degree bevel.

**Sash:**

- Composite sash thickness is 1 17/32" (39). Ultrex is .070" (2) thick. Sash can be replaced but cannot be re-glazed.

**Hardware:**

- The balance system is a coil spring block and tackle system, with nylon cord and zinc locking clutch.
- Both sash tilt into the room for cleaning or removal for painting without removing the screen.
- High-pressure zinc die cast check rail lock and keeper.
- Lock employs a cam-lock mechanism.
  - Color: Almond Frost, White, or Matte Black. Optional Bright Brass, Oil Rubbed Bronze, and Satin Nickel.
- Each sash employs spring loaded tilt latches to allow for easy tilting or sash.
- On units 42 3/32" (1069) and wider, two locks are mounted.
- Optional factory applied Window Opening Control Device is available on all sizes. A system consisting of an acetal lever housed in an acetal shell on each stile of the top sash. This device works in accordance to ASTM F2090-17 standard specification for window fall prevention devices with emergency escape.
  - Color: White, Beige, or Black.
- Optional field-applied flush-mounted, die-cast sash lift.
  - Available Colors: Almond Frost, White, Bright Brass, Satin Nickel, Oil Rubbed Bronze, and Matte Black finishes.

**Installation:**

- Operator
  - Secure the jambs with minimum of two #8 x 3" pan head screws.
  - Maximum spacing of jambs not to exceed 3/16".
  - Secure the head jamb with either zero or two #8 x 3" pan head screws.
- Picture:
  - Secure the jambs with minimum of two #8 x 3" pan head screws.
  - Maximum spacing of jambs not to exceed 3/16".
  - Secure the head jamb with two #8 x 3" pan head screws.

**Glazing:**

- All units are manufactured with an 11/16" (17) IG with Low E1, E2, E3, or E3/ERS coatings including argon gas or air fill. Clear (uncoated) glass available with air fill only.
  - Tripane not available.
- Tempered glass and/or obscure glass, and California Fire glass (annealed exterior and tempered interior glazing configuration) are available as an option.
- The glazing seal is a silicone bedding on both interior and exterior surfaces utilized in a sandwich style sash.
- STC/OITC values are available for 3.1 mm glass thickness.
  - Optional 3.1/4.7 STC/OITC Upgrade glass is available. See the Product Performance chapter for STC and OITC ratings.
- Decorative glass options include glue chip, rain, reed, narrow reed, frost, and tinted (bronze, gray or green). Decorative glass is not available with Low E1, Low E3/ERS, or STC/OITC Upgrade options.

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**Unit Features Continued****Weather Strip:**

- All units are dual weather stripped.
- All weather strip is beige, black, or white in color.
- Jamb weather strip is a robust fabric covered foam weather strip that is inserted into a rigid vinyl jamb carrier and used to seal sash to jambs. An additional jamb weather strip is inserted into Ultrex/wood and seals bottom sash to jamb.
- Parting stop is vinyl with a flexible leaf seal to seal between the header and the upper sash.
- Check rail weather strip is a hollow bulb.
- Bottom rail extension has a hollow bulb weather strip that interfaces against the Ultrex sill and jamb weather strip.
- Picture and transom units is a hollow bulb weather strip that is inserted into rigid vinyl jamb carrier and head jamb carrier to seal sash.

**Screen:**

- Full screen is standard. Half-screen option is available.
- Roll formed aluminum frame with corner key construction
  - Color to match exterior frame color
- Charcoal color fiberglass (non-corrosive) screen cloth.
- Spring loaded pins for installation.

**Interior / Exterior Simulated Divided Lites (SDL):**

- Interior bar: 7/8" (22) wide bars
  - Pine non finger-jointed wood, factory-applied white, clear, and designer black finishes
- Exterior bar: 7/8" (22) wide bars Ultrex, finish to match exterior
  - Patterns available: Rectangle, Cottage style cut, 9 lite Prairie cut or 6 lite Prairie for top sash, bottom sash, or both.
- Available with or without aluminum interior spacer bar in airspace.
- ITDHP Only: Simulated check rail option: 2 11/32" (60).
  - Patterns available: simulated rail in standard center or customer specified location with 7/8" (22) patterns above, below or both in patterns of rectangular equal lite or prairie lite cut.
- SDL spacer bars are available.
- Not available with rain, reed and narrow reed decorative glass patterns. Glue chip pattern requires tempered glass. Tinted glass available without spacer bar only.

**Grilles-Between-The-Glass (GBG):**

- 23/32" (18) contoured aluminum bar placed between two panes of glass
- Pattern: Standard rectangular pattern, 6 or 9 lite Prairie cut, or Cottage style cut
  - Exterior colors: Stone White, Pebble Gray, Bronze, Evergreen, Cashmere, or Ebony
  - Interior Colors: White, Bronze, or Black.
- Not available with tinted glass.

*NOTE: NFRC values are now located on [www.marvin.com](http://www.marvin.com).*

**Minimum and Maximum Guidelines**

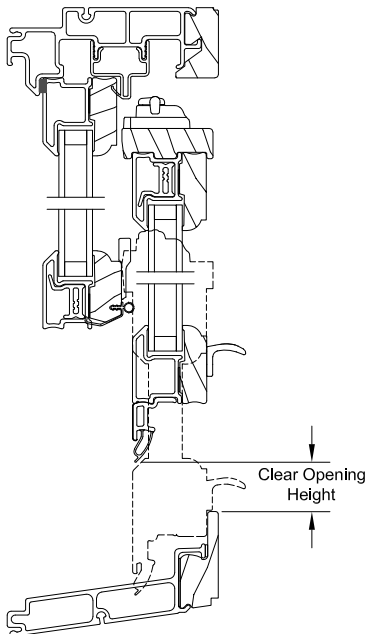
Unit Type		Min IO Width		Min IO Height		Max IO Width		Max IO Height		Glass Size	
		in	mm	in	mm	in	mm	in	mm	Sq. Feet	Sq. Meters
ELDHIN	Insulating Glass	18 3/8	(467)	28 1/8	(714)	54 3/8	(1381)	84 1/4	(2140)	26 3/64	2.420
ELDHIN TR	Insulating Glass	18 3/8	(467)	16 1/8	(410)	62 3/8	(1584)	24 1/4	(616)	7 3/16	0.668
ELDHIN P	Insulating Glass	18 3/8	(467)	23 5/8	(600)	58 3/8	(1483)	84 1/4	(2140)	28 41/64	2.661
ELDHIN P	Insulating Glass	18 3/8	(467)	23 5/8	(600)	62 3/8	(1584)	80 1/4	(2038)	29 1/4	2.717
ELDHIN-C*	Insulating Glass	18 3/8	(467)	36 1/8	(918)	54 3/8	(1381)	68 1/4	(1734)	23 11/32	2.169
ELDHIN-RC**	Insulating Glass	18 3/8	(467)	36 1/8	(918)	54 3/8	(1381)	68 1/4	(1734)	23 11/32	2.169

*NOTE: Special Size Cottage and Reverse Cottage Style ELDHIN units are available in frame sizes; width of 18 to 54 and height of 36.5 to 68.5. The Height Ratio being .402/.598 (\*Cottage Style) or .598/.402 (\*\*Reverse Cottage Style).*

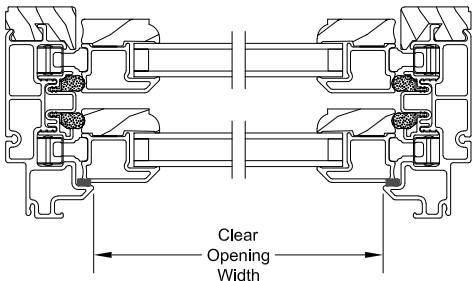
*NOTE: Special Sizes are available in 1/64" (0.4) increments, not to exceed the frame size measurement maximum or minimum in the table above.*

Egress Formulas

Elevate Double Hung Insert Egress Unit Minimum Opening Conversion From Frame Size		
Minimum Value for Net Clear Opening	Desired Dimension	Formula
20 Inches	Egress Opening Width (Inches)	= Frame OM Width – 3.656
24 Inches	Egress Opening Height (Inches)	= (Frame OM Height/2) – 5.488
5.7 Square Feet	Egress Opening Area (SQFT)	= (Egress Width x Egress Height) / 144



Head Jamb and Sill



Jamb

## Measurement Conversions

Elevate Double Hung Insert						
Unit Measurements		Width			Height	
From	To					
Daylight Opening		in	mm		in	mm
Daylight Opening	Bottom Sash OM	+ 3 1/4	(83)		+ 3 1/4	(83)
Daylight Opening	Top Sash OM	+ 3 1/4	(83)		+ 3 1/4	(83)
Daylight Opening	Glass OM	+ 1 1/16	(27)		+ 1 1/16	(27)
Daylight Opening	Full Screen OM	+ 3 13/16	(97)	X 2	+ 7 9/32	(185)
Daylight Opening Bottom Sash	Half Screen OM	+ 3 13/16	(97)		+ 4 1/32	(102)
Daylight Opening	Frame OM @ Exterior	+ 6 23/64	(161)	X 2	+ 9 1/8	(232)
Inside Opening		in	mm		in	mm
Inside Opening	Bottom Sash OM	-3 15/32	(88)	÷ 2	-1 1/8	(29)
Inside Opening	Top Sash OM	-3 15/32	(88)	÷ 2	-1 1/8	(29)
Inside Opening	Daylight Opening	-6 47/64	(171)	÷ 2	-4 3/8	(111)
Inside Opening	Glass OM	-5 43/64	(144)	÷ 2	-3 5/16	(84)
Inside Opening	Full Screen OM	-2 29/32	(74)		-1 15/32	(37)
Inside Opening	Half Screen OM	-2 29/32	(74)	÷ 2	-11/32	(09)
Inside Opening	Frame OM @ Interior	-3/8	(10)		-1/4	(06)
Inside Opening	Frame OM @ Exterior	-3/8	(10)		+ 3/8	(10)

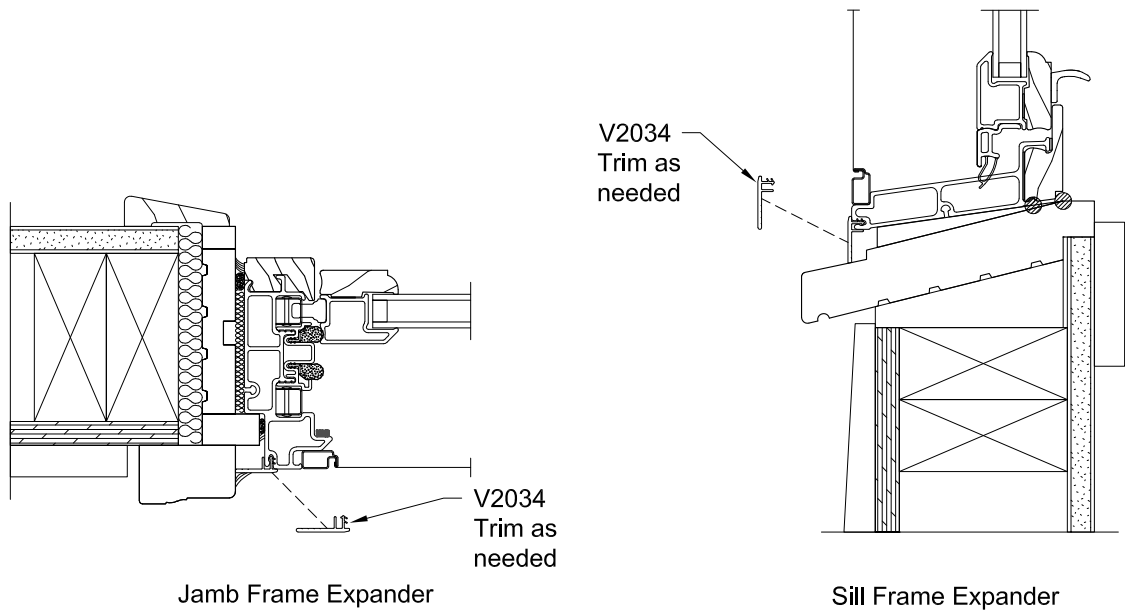
Elevate Double Hung Insert Transom					
Unit Measurements		Width		Height	
From	To				
Daylight Opening		in	mm	in	mm
Daylight Opening	Sash OM	+ 3 1/4	(83)	+ 3 1/4	(83)
Daylight Opening	Glass OM	+ 1 1/16	(27)	+ 1 1/16	(27)
Daylight Opening	Frame OM @ Exterior	+ 6 11/32	(161)	+ 6 13/16	(173)
Inside Opening		in	mm	in	mm
Inside Opening	Sash OM	-3 15/32	(88)	-3 3/16	(81)
Inside Opening	Daylight Opening	-6 23/32	(171)	-6 7/16	(163)
Inside Opening	Glass OM	-5 21/32	(144)	-5 3/8	(137)
Inside Opening	Frame OM @ Interior	-3/8	(10)	-1/4	(06)
Inside Opening	Frame OM @ Exterior	-3/8	(10)	+ 3/8	(10)

Elevate Double Hung Insert		
IO to Frame Size Height		
Existing Sill Angle	Conversions	
8° and greater	3/8	(10)
7°	5/16	(8)
6°	3/16	(5)
5°	1/8	(3)
4°	1/16	(2)
3°	0	(0)
2°	-1/8	(3)
1°	-3/16	(5)
0°	-1/4	(6)

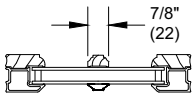
NOTE: All conversions are based off of an existing 8+ degree sill. Please refer to the chart on the right for additional existing angle inside opening to frame size height conversions.

Section Details: Frame Expander

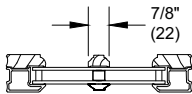
Scale: 3" = 1' 0"



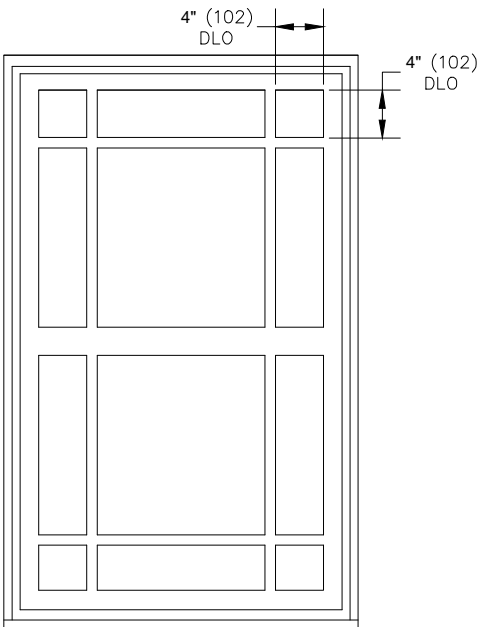
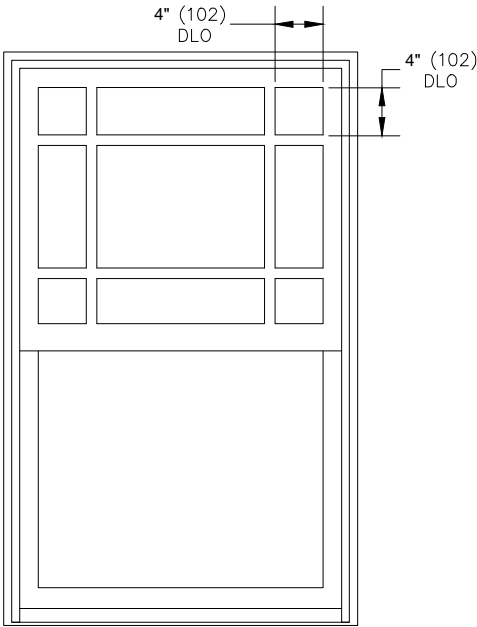
Divided Lite Options (Not to scale)



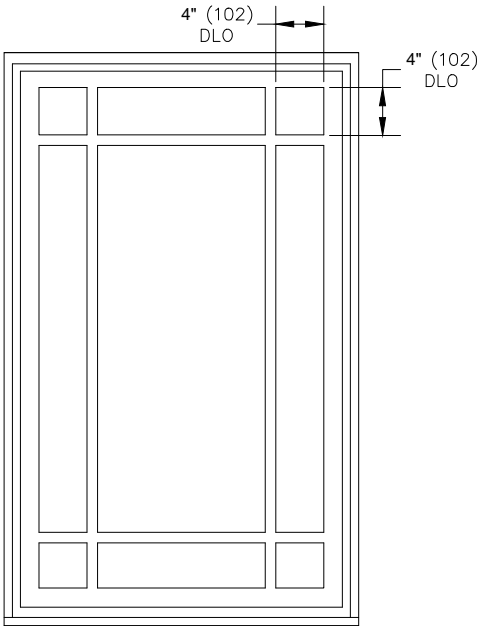
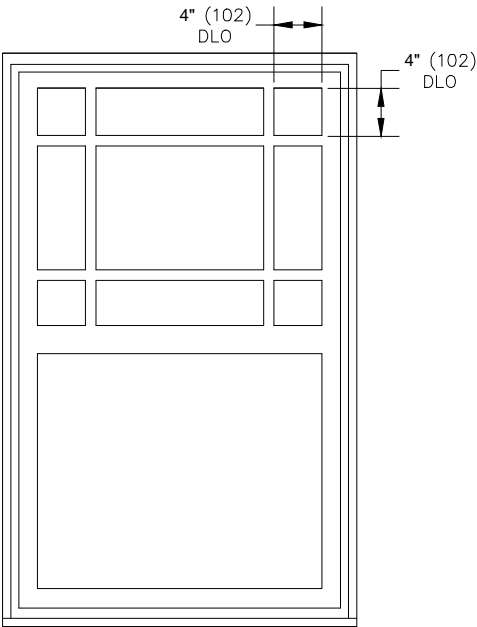
Wood SDL Without  
Spacer Bar



Wood SDL With  
Spacer Bar



\*Optional 6 lite Prairie cut for GBG or SDL



\*Optional 9 lite Prairie cut for GBG or SDL

NOTE: 4" (102) DLO lite cut minimum for 7/8" (22) pattern

## Divided Lite Options

Double Hung Insert SDL, GBG Equal Lite Cut						
Product	Width			Height		
	Frame Width		Lite Cut Pattern	Frame Height		Lite Cut Pattern
	in	mm		in	mm	
ELDHIN	18	(457)	2W	28 1/2	(724)	2H
	26 3/32	(663)	3W	72 1/2	(1842)	3H
	38 3/32	(968)	4W			
	50 3/32	(1272)	5W			
ELDHIN P	18	(457)	2W	16 1/2	(419)	1H
	26 3/32	(663)	3W	24 1/2	(622)	2H
	38 3/32	(968)	4W	28 1/2	(724)	4H
	50 3/32	(1272)	5W	72 1/2	(1842)	6H
ELDHIN-C*	18	(457)	2W	TOP SASH		2H
	26 3/32	(663)	3W			
	38 3/32	(968)	4W	BOTTOM SASH		3H
	50 3/32	(1272)	5W			
ELDHIN P-RC*	18	(457)	2W	TOP SASH		3H
	26 3/32	(663)	3W			
	38 3/32	(968)	4W	BOTTOM SASH		2H
	50 3/32	(1272)	5W			

\*ELDHIN-C (Cottage Style) and \*\*ELDHIN-RC (Reverse Cottage Style) units are available in frame heights of 36 1/2" to 68 1/2" only. Sash ratio is .402/.598 for Cottage Style units and .598/.402 for Reverse Cottage Style units.

### NOTES:

- When frame width or height are between two sizes, refer to the smaller size shown for the default lite cut pattern.
- Rectangle GBGs for special size units will default to the next smaller standard size lite pattern. Also available will be Prairie patterns, Cottage patterns, and customer specified equal rectangular lite patterns.
- Rectangular SDL for special size units will default to the next smaller standard size lite pattern. Also available will be Prairie patterns, Cottage patterns, and customer specified equal rectangular lite patterns.
- Prairie GBG and SDL available in 9 lite and 6 lite top, bottom, left, and right patterns.
- Cottage GBGs and SDL for special size units will default to the next smaller standard size lite pattern. Cottage GBGs and SDL are also available in customer selected lite patterns.
- Maximum number of lites wide and high for equal lite SDL option is 11 lites.
- Minimum DLO measurement for equal lite SDL option is 4" (102) and will be validated by OMS.
- Minimum DLO measurement for equal lite GBG option is 3" (76) and will be validated by OMS.
- Standard DLO measurement for Prairie GBG and SDL options is 4" (102). Special DLO corners are n/a.
- Standard DLO height measurement for Cottage SDL option is 10" (254). Minimum DLO height is 8" (203) for one high pattern. Minimum DLO height is 4" (102) for two high patterns.
- Standard DLO height measurement for Cottage GBG option is 10" (254). Minimum DLO height is 3" (76) for one and two high patterns.
- Simulated Rail: Rectangular, Prairie 6-Lite and 9-Lite SDL patterns are available with Simulated Rail.
- Simulated Rail: Custom ratio and specified DLO are available with Simulated Rail and will be validated by OMS.