

# Clad Tilt Pacs

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## Clad Tilt Pacs

### Unit Features

Clad Tilt Pac: CTP

Clad Magnum Tilt Pac: CMTMP

#### Sash:

- Double Hung Tilt Pac
  - Sash thickness: 1 5/16" (33)
  - Top rail width: 2 15/32" (63)
  - Bottom rail width: 3 3/4" (95)
  - Stile width: 1 25/32" (45)
- Magnum Double Hung Tilt Pac
  - Sash thickness: 1 3/4" (44)
  - Top rail width: 2 1/4" (57)
  - Bottom rail width: 3 7/8" (98)
  - Stile width: 2 1/4" (57)
  - Bottom rail bevel 14 degrees
- Removable exterior glazing stops

#### Hardware:

- Lock: high pressure zinc die-cast cam lock and keeper
  - Optional keyed lock
  - Two locks on glass sizes of 36" (914) and wider
  - Color: Satin Taupe
    - Optional: Bronze, White, Plated Brass, Antique Brass, Satin Chrome, Oil Rubbed Bronze, Satin Nickel, Polished Chrome
- Double Hung Tilt Pac Balance System: coil spring block and tackle with nylon cord and fiber filled nylon clutch
- Double Hung Magnum Tilt Pac: double coil spring block and tackle with nylon cord and fiber filled nylon clutch
- Jamb track: vinyl extrusion, foam backing
  - Color: Beige or White
- Sash retainer plate: standard for magnum units, optional for double hung - polycarbonate theroplastic
  - Color: Bronze or White
- Optional sash lifts: high pressure zinc die-cast
  - Color: Satin Taupe
  - Optional color: Bronze, White or Brass

#### Weather Strip:

- Double Hung weather strip: Dual durometer double leaf at check rail; bulb type dual durometer weather strip at bottom rail
- Double Hung Magnum weather strip: Continuous leaf weather strip at head jamb parting stop which seals against top sash; dual durometer double leaf at check rail; bulb type dual durometer weather strip at bottom rail
- Color: beige for both product types

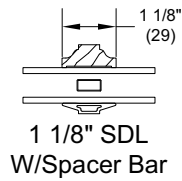
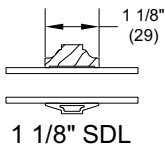
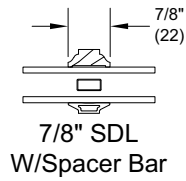
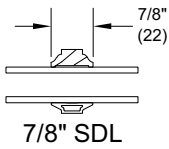
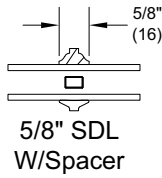
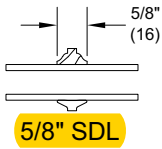
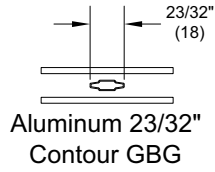
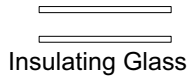
#### Insect Screens:

- Full sized extruded aluminum screen is standard
  - Optional half screen
  - Aluminum surround to match the exterior cladding
  - All screens are shipped loose
- Screen Mesh: Charcoal fiberglass
  - Optional Screen Mesh: Charcoal Aluminum Wire, Black Aluminum Wire, Bright Aluminum Wire, Bright Bronze Wire or Charcoal High Transparency (CH Hi-Tran) fiberglass

#### Glass and Glazing:

- Glazing method: single glaze, single glazed with energy panel or hermetically sealed insulated glass
- Glazing seal: silicone glazed
- Standard glass is insulating Low E2 Argon or Air
- Optional glass types: Low E1 Argon or without Argon, Low E3 Argon or without Argon, clear, tints, tempered, obscure and decorative glass options
- Insulated glass will be altitude adjusted for higher elevations, Argon gas not included

**Divided Lite**



**Min and Max Glass Size**

Clad Unit Type		Min Glass Size				Max Glass Size				Max Glass Size	
		Width		Height		Width		Height			
		in	mm	in	mm	in	mm	in	mm	Sq. Feet	Sq. Meters
Double Hung Tilt Pac	Insulating Glass	8	(203)	8	(203)	44	(1118)	48	(1219)	10	0.929
Double Hung Tilt Pac	Single Glaze	8	(203)	8	(203)	44	(1118)	48	(1219)	12	1.115
Magnum Double Hung Tilt Pac	Insulating Glass	12	(305)	12	(305)	60	(1524)	60	(1524)	18.5	1.719

## Measurement Conversions

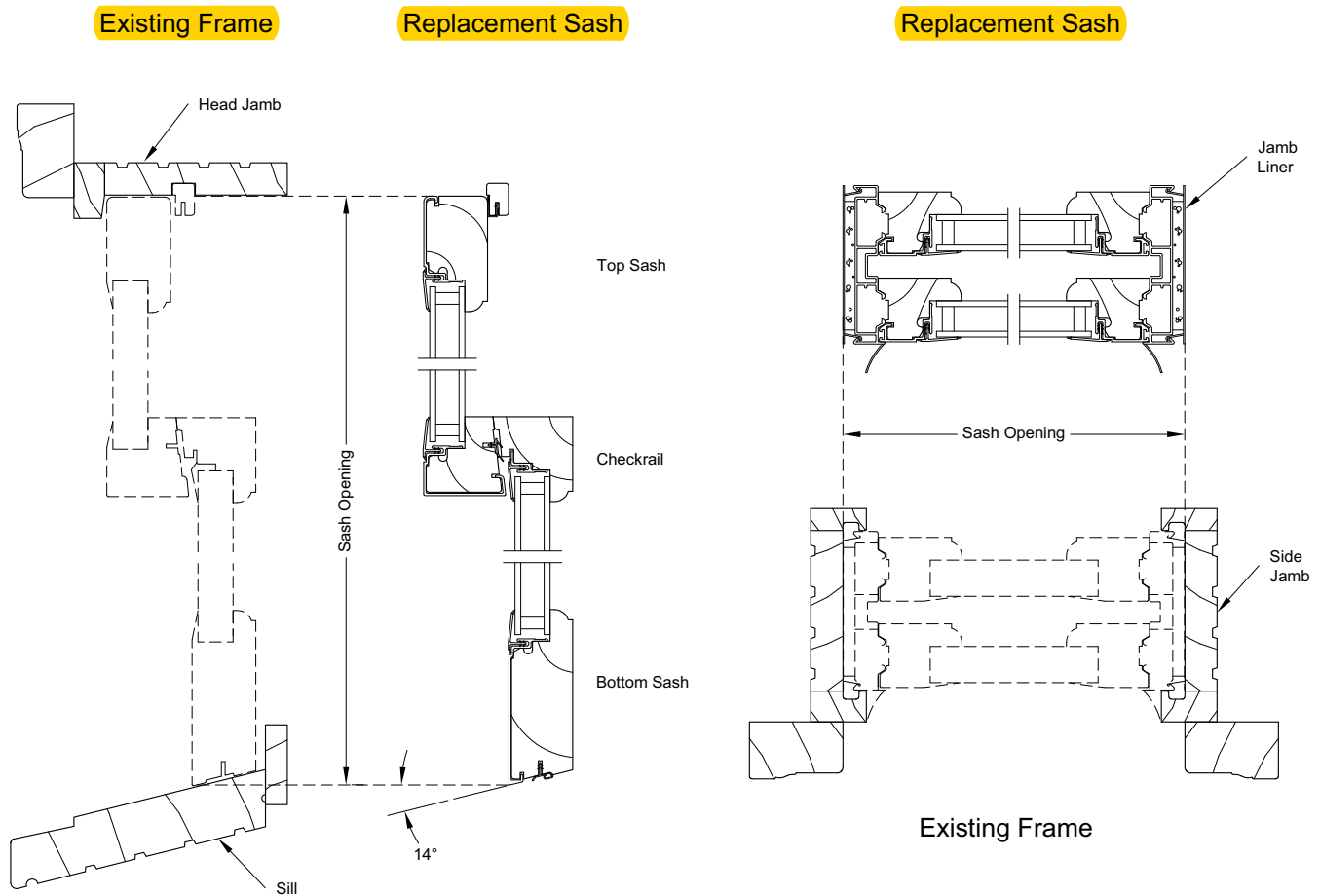
Double Hung Tilt Pac						
Unit Measurements		Width		Height		
From	To					
Glass Size:		in	mm		in	mm
Glass size	Daylite Opening	+ 1 1/16	(27)		+ 1 1/16	(27)
Glass size	Sash Opening	+ 4	(102)	x 2	+ 6	(152)
Glass size	Outside Measurement Bottom Sash	+ 2 1/2	(64)		+ 4 1/2	(114)
Glass size	Outside Measurement Top Sash	+ 2 1/2	(64)		+ 3 3/32	(79)
Daylight Opening		in	mm		in	mm
Daylight Opening	Sash Opening	+ 5 1/16	(129)	x 2	+ 8 1/8	(206)
Daylight Opening	Outside Measurement Bottom Sash	+ 3 9/16	(90)		+ 5 9/16	(141)
Daylight Opening	Outside Measurement Top Sash	+ 3 9/16	(91)		+ 4 5/32	(106)
Outside Measurement		in	mm		in	mm
Outside Measurement Top Sash	Sash Opening	+ 1 1/2	(38)	x 2	-3/16	(05)
Outside Measurement Bottom Sash	Sash Opening	+ 1 1/2	(38)	x 2	-3	(76)

Double Hung Magnum Tilt Pac						
Unit Measurements		Width		Height		
From	To					
Glass Size:		in	mm		in	mm
Glass size	Daylite Opening	+ 1 1/16	(27)		+ 1 1/16	(27)
Glass size	Sash Opening	+ 5 3/4	(146)	x 2	+ 5 7/8	(149)
Glass size	Outside Measurement Bottom Sash	+ 3 7/16	(87)		+ 4 17/32	(115)
Glass size	Outside Measurement Top Sash	+ 3 7/16	(87)		+ 2 29/32	(74)
Daylight Opening		in	mm		in	mm
Daylight Opening	Sash Opening	+ 6 13/16	(173)	x 2	+ 8	(203)
Daylight Opening	Outside Measurement Bottom Sash	+ 4 1/2	(114)		+ 5 19/32	(142)
Daylight Opening	Outside Measurement Top Sash	+ 4 1/2	(114)		+ 3 31/32	(101)
Outside Measurement		in	mm		in	mm
Outside Measurement Top Sash	Sash Opening	+ 2 5/16	(59)	x 2	-1/16	(02)
Outside Measurement Bottom Sash	Sash Opening	+ 2 5/16	(59)	x 2	-3 3/16	(81)

# Clad Tilt Pacs

## Tilt Pac Measurements

Scale: 3" = 1'0"



### Instructions:

Follow these steps to measure an opening for Tilt Pac Replacement Sash

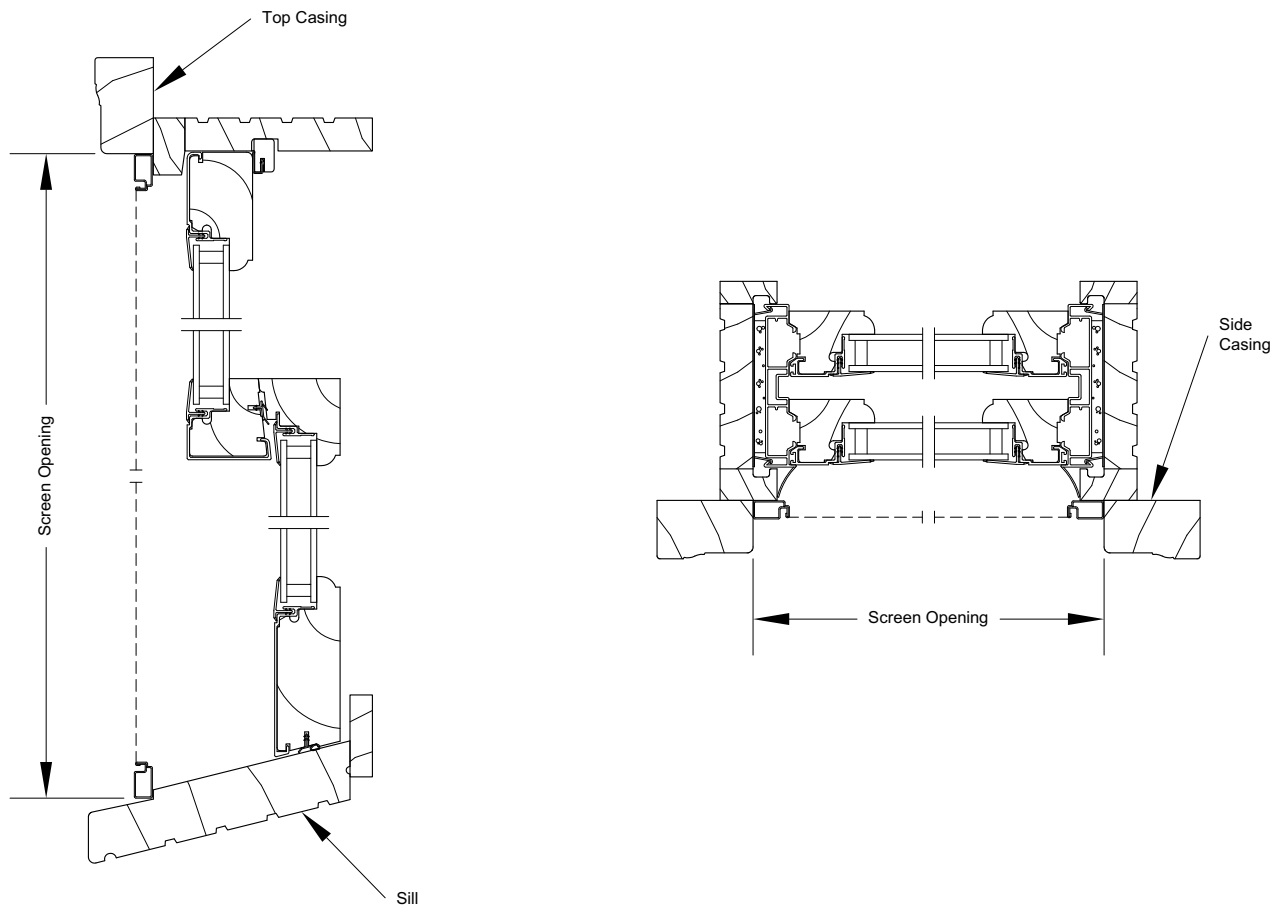
1. To find the sash opening height:  
If the old window has wood blocks holding the top sash in place, remove them. Lower the top sash for measuring clearance, then measure the height of the window from where the top sash meets the head jamb to where the bottom sash meets the sill when the bottom sash is fully closed.
2. To find the sash opening width:  
Take an inside measurement of the frame from jamb to jamb.
3. To find the sill angle:  
Raise the bottom sash and place a carpenter's protractor on the sill, the angle will register. Marvin's standard bottom rail angle is 14 degrees, other angles must be specified.

**NOTE:** Double Hung sash shown above. Instructions and measuring locations apply to Single Hung, Magnum Double / Single Hung sash.

## Clad Tilt Pacs

### Tilt Pac Full Screen Measurements

Scale: 3" = 1'0"



#### Instructions:

To insure a proper screen fit, it is recommended to order a screen after the Tilt Pac installation.

1. To find the screen opening height:  
Measure from the top casing to the edge of where the screen will rest at the sill, minus 3/32" (2) for the outside measurement (OSM) of the screen height.
2. To find the screen opening width:  
Measure from the inside edge of the side casing to the inside edge of the opposite side casing, minus 1/8" (3) for the outside measurement (OSM) of the screen width.

**NOTE:** Double Hung sash and screen are shown above. Instructions and measuring locations apply to Single Hung, Magnum Double / Single Hung sash. Screen measuring instructions also apply to combination storm / Screen measurements. standard angle on combination bottom rails is 14 degrees, other angles must be specified.



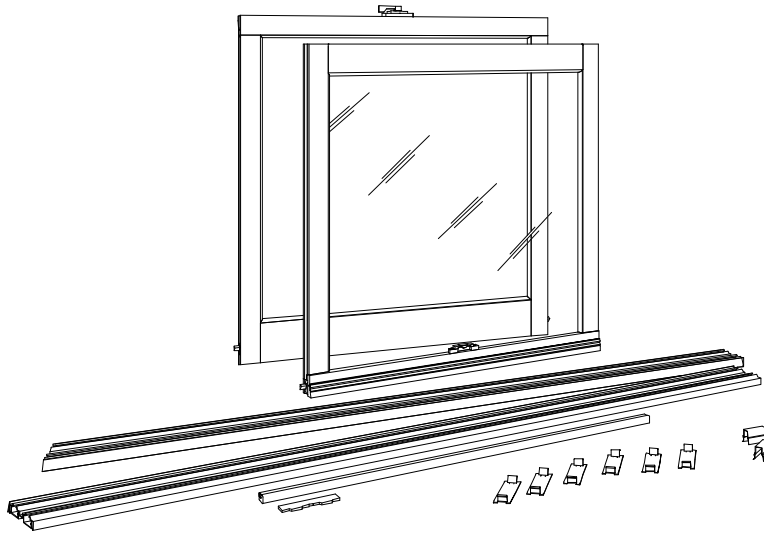
**Standard Unit Measurements**

Tilt Unit Measurements				
Width				
CN	Sash Opening		Daylight Opening Double Hung Tilt Pac	
	ft - in	mm	ft - in	mm
16	1-8	(508)	1-2 15/16	(379)
20	2-0	(610)	1-6 15/16	(481)
24	2-4	(711)	1-10 15/16	(583)
26	2-6	(762)	2-0 15/16	(633)
28	2-8	(813)	2-2 15/16	(684)
24	2-4	(711)	1-10 15/16	(583)
30	2-10	(864)	2-4 15/16	(735)
32	3-0	(914)	2-6 15/16	(786)
36	3-4	(1016)	2-10 15/16	(887)

Tilt Pac Unit Measurements				
Height				
CN	Sash Opening		Daylight Opening Double Hung Tilt Pac	
	ft - in	mm	ft - in	mm
12	2-6	(762)	0-10 15/16	(278)
14	2-10	(864)	1-0 15/16	(329)
16	3-2	(965)	1-2 15/16	(379)
18	3-6	(1067)	1-4 15/16	(430)
20	3-10	(1168)	1-6 15/16	(481)
22	4-2	(1270)	1-8 15/16	(532)
24	4-6	(1372)	1-10 15/16	(583)
26	4-10	(1473)	2-0 15/16	(633)
28	5-2	(1575)	2-2 15/16	(684)
30	5-6	(1676)	2-4 15/16	(735)
32	5-10	(1778)	2-6 15/16	(786)
34	6-2	(1880)	2-8 15/16	(837)
36	6-6	(1981)	2-10 15/16	(887)

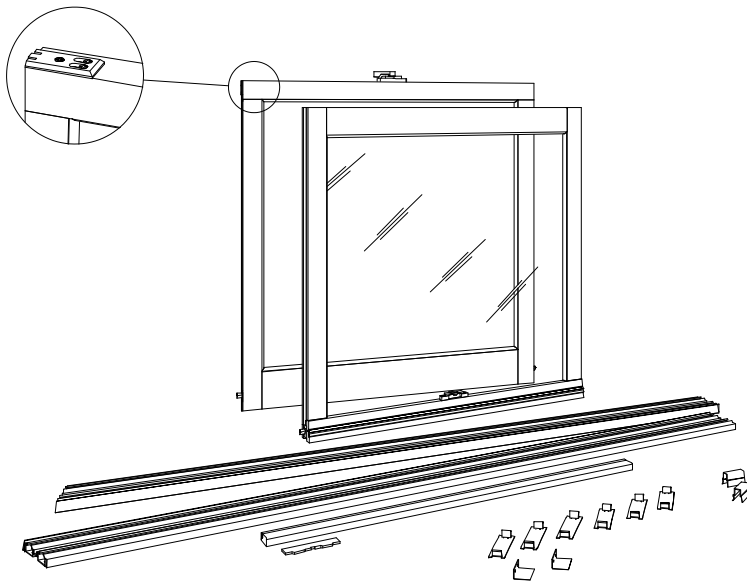
**Double Hung Tilt Pac Parts Lists**

Double Hung Tilt Pac



- A. Top Sash
- B. Bottom Sash
- C. Cam Pivots
- D. Left Vinyl Jamb Liner
- E. Right Vinyl Jamb Liner
- F. Head Jamb Part Stop
- G. Two Plastic Sash Stops
- H. Metal Brackets  
(Quantity varies)
- I. Two foam gaskets
- J. Extruded Aluminum Sash Exterior

Magnum Double Hung Tilt Pac



- A. Top Sash
- B. Bottom Sash
- C. Cam Pivots
- D. Left Vinyl Jamb Liner
- E. Right Vinyl Jamb Liner
- F. Head Jamb Part Stop
- G. Two Plastic Sash Stops
- H. Metal Brackets  
(Quantity varies)
- I. Two foam gaskets
- J. Two Top Sash Stays
- K. Two Sash Retainer Plates  
(NOTE: Only on Magnum Tilt Pacs)
- L. Extruded Aluminum Sash Exterior