

CHAPTER 7

CLAD TILT PACS

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NOTE:

Specifications and technical data are subject to change without notice.

Allow 1/16" (2) tolerance on all measurements.

Metric measurements are shown in parenthesis.

For accessories dimensions and applications see the Accessories section of this manual.

For technical assistance about Marvin products you may call our Architectural Hotline 1-800-346-3363 or visit our website: www.Marvin.com.

CLAD TILT PACS

UNIT FEATURES

Sash:

- Interior: Pine wood interior standard. Optional white oak, cherry, mahogany, vertical grain Douglas fir
- Exterior: Extruded aluminum, .055" (1.4) thick
- Double hung Sash thickness: 1 5/16" (33 mm)
- Magnum sash thickness: 1 3/4" (44)
- Double hung Top rail width: 2 15/32" (63). Bottom rail width: 3 3/4" (95). Stile width: 1 25/32" (45)
- Magnum Double hung Top rail: 2 1/4" (57). Bottom rail width: 3 7/8" (98). Stile width: 2 1/4" (57)
- Bottom rail bevel: 14 degrees

Interior and exterior finish:

- Interior finish: Treated bare wood or white primed (pine only)
- Exterior finish: Two coat finish system using Kynar® or Hylar® resins, meets or exceeds AAMA 2605 requirements.
Standard Color: Stone White, Bahama Brown, Bronze, Pebble Gray, Evergreen. Select Color: Sierra White, Coconut Cream, French Vanilla, Cashmere, Desert Beige, Cumulus Gray, Cadet Gray, Ebony, Arctic White, Cascade Blue, Cobalt Blue, Hampton Sage, Sherwood Green and Wineberry. Contact your Marvin representative for details on custom colors.

Hardware:

- Lock: High pressure zinc die-cast cam lock and keeper. Optional keyed lock. Two locks on glass sizes of 36 inches (914 mm) and wider. Color: Satin Taupe. Optional: Bronze, White, Plated Brass
- Balance system: Double hung: Coil spring block and tackle with nylon cord and fiber filled nylon clutch
- Balance system: Magnum double hung: Double coil spring block and tackle with nylon cord and fiber filled nylon clutch
- Jamb track: Vinyl extrusion with foam backing. Color: Beige or White
- Sash retainer plates: Magnum Double hung. Polycarbonate thermoplastic. Color: Bronze or white. Optional on Double hung
- Sash lift: Optional High pressure zinc die-cast with finish matching lock

Weather Stripping:

- 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

Insect Screens:

- Aluminum screen: Full screen standard, half screen optional (both shipped loose). Aluminum surround. Standard Color: Stone White, Bahama Brown, Bronze, Pebble Gray, Evergreen. Select Color: Sierra White, Coconut Cream, French Vanilla, Cashmere, Desert Beige, Cumulus Gray, Cadet Gray, Ebony, Arctic White, Cascade Blue, Cobalt Blue, Hampton Sage, Sherwood Green and Wineberry. Contact your Marvin representative for details on custom colors.
- Screen mesh: 18 by 16 Charcoal fiberglass, optional screen mesh: Charcoal aluminum wire, Black aluminum wire, Bright aluminum wire, bright bronze wire

Combination Storm Sash and Screen:

- Frame: Exterior extruded aluminum 0.045 inch (1.1 mm) thick
- Two coat finish system using Kynar™ or Hylar™ resins, meets or exceeds AAMA 2605 requirements
- Hardware: Spring loaded locking pins to hold movable storm panel in position. Metal clips to lock upper and lower storm panels together
- Storm panel: Select quality glass in aluminum frame. Frame finish: Color: Stone White, Bahama Brown, Bronze, Pebble Gray or Evergreen.

Removable Interior Grilles:

- Bar: Pine wood, 3/4" (19) or 1 1/8" (29) wide
- Pattern: Rectangular, custom lite layouts available, contact your Marvin representative

Interior / Exterior Simulated Divided Lite (SDL):

- Interior bar: 7/8" (22) or 1 1/8" (29) wide bars. Pine wood standard, optional white oak, cherry, mahogany or vertical grain Douglas fir. Finish to match interior
- Exterior bar: Extruded aluminum clad, 7/8" (22) or 1 1/8" (29) wide bars, finish to match exterior
- Pattern: Rectangular, custom lite layouts available, contact your Marvin representative
- Installation method: Factory applied with acrylic foam tape

Grilles-between-the-glass (GBG):

- 11/16" (17mm) white contoured aluminum bar. Optional flat aluminum spacer bar, contact your Marvin representative

Glass and Glazing:

- Glazing method: Insulated glass, hermetically sealed
- Glazing seal: Silicon glazed
- Glazing type: Clear glass, optional glass types: Low E II with argon, Laminated, Tempered, Obscure, Bronze tint, Gray tint, and Reflective Bronze
- Insulated glass will be altitude adjusted for higher elevations, argon gas not included

Accessories:

- Sash retainer plates: Polycarbonate thermoplastic. Color: Bronze or White.

NOTE:

Values shown in parenthesis represent metric equivalents.

For product specifications please refer to the CSI Product Specifications, contact your Marvin representative

Minimum and Maximum Measurements					
Glazing Type	Minimum Glass Width	Minimum Glass Height	Maximum Glass Width	Maximum Glass Height	Maximum Glass Square Feet
Clad Double Hung Tilt Pac					
Insulating Glass	8" (203)	8" (203)	44" (1117)	48" (1219)	10.0 Sq. Feet (0.93 Sq. Meters)
Single Glaze	8" (203)	8" (203)	44" (1117)	48" (1219)	12.0 Sq. Feet (1.11 Sq. Meters)
Maximum sash weight 42 lbs. per sash					
Clad Magnum Double Hung Tilt Pac					
Insulating Glass	12" (304)	12" (304)	60" (1524)	60" (1524)	18.5 Sq. Feet (1.72 Sq. Meters)
Maximum sash weight 70 lbs. per sash					

NOTE:

These minimum and maximum measurements are guidelines for configuring custom sized units, all measurements are specific to glass type. For assistance please contact our technical support hotline at 800-346-3363 or your Marvin representative.

CLAD TILT PACS

MEASUREMENT CONVERSIONS

Measurement Conversions - Double Hung Tilt Pac										
Size Referenced	Daylight Opening (DLO)		Glass Size (GS)		Outside Measurement Top Sash		Outside Measurement Bottom Sash		Sash Opening (SO)	
Daylight Opening each sash (DLO)	Dimension Needed									
			Width	+ 1 1/16" (27)	Width	+ 3 9/16" (90)	Width	+ 3 9/16" (90)	Width	+ 5 1/16" (129)
Glass Size (GS)			Height	+ 1 1/16" (27)	Height	+ 4 5/32" (106)	Height	+ 5 9/16" (141)	Height	DLO X 2 + 8 1/8" (206)
	Width	- 1 1/16" (27)			Width	+ 2 1/2" (64)	Width	+ 2 1/2" (64)	Width	+ 4" (102)
Outside Measurement Top Sash	Height	- 1 1/16" (27)			Height	+ 3 3/32" (7)	Height	+ 4 1/2" (114)	Height	GS X 2 + 6" (152)
	Width	- 3 9/16" (90)	Width	- 2 1/2" (64)			Width	0	Width	+ 1 1/2" (38)
Outside Measurement Bottom Sash	Height	- 4 5/32" (106)	Height	- 3 3/32" (79)			Height	+ 1 13/32" (36)	Height	Sash Height X 2 - 3/16" (5)
	Width	- 3 9/16" (90)	Width	- 2 1/2" (64)	Width	0			Width	+ 1 1/2" (38)
Sash Opening (SO)	Height	- 5 9/16" (141)	Height	- 4 1/2" (114)	Height	- 1 13/32" (36)			Height	Sash Height X 2 - 3" (76)
	Width	- 5 1/16" (129)	Width	- 4" (102)	Width	- 1 1/2" (38)	Width	- 1 1/2" (38)		
	Height	SO / 2 - 4 1/16" (103)	Height	SO / 2 - 3" (76)	Height	SO / 2 + 3/32" (2)	Height	SO / 2 + 1 1/2" (38)		

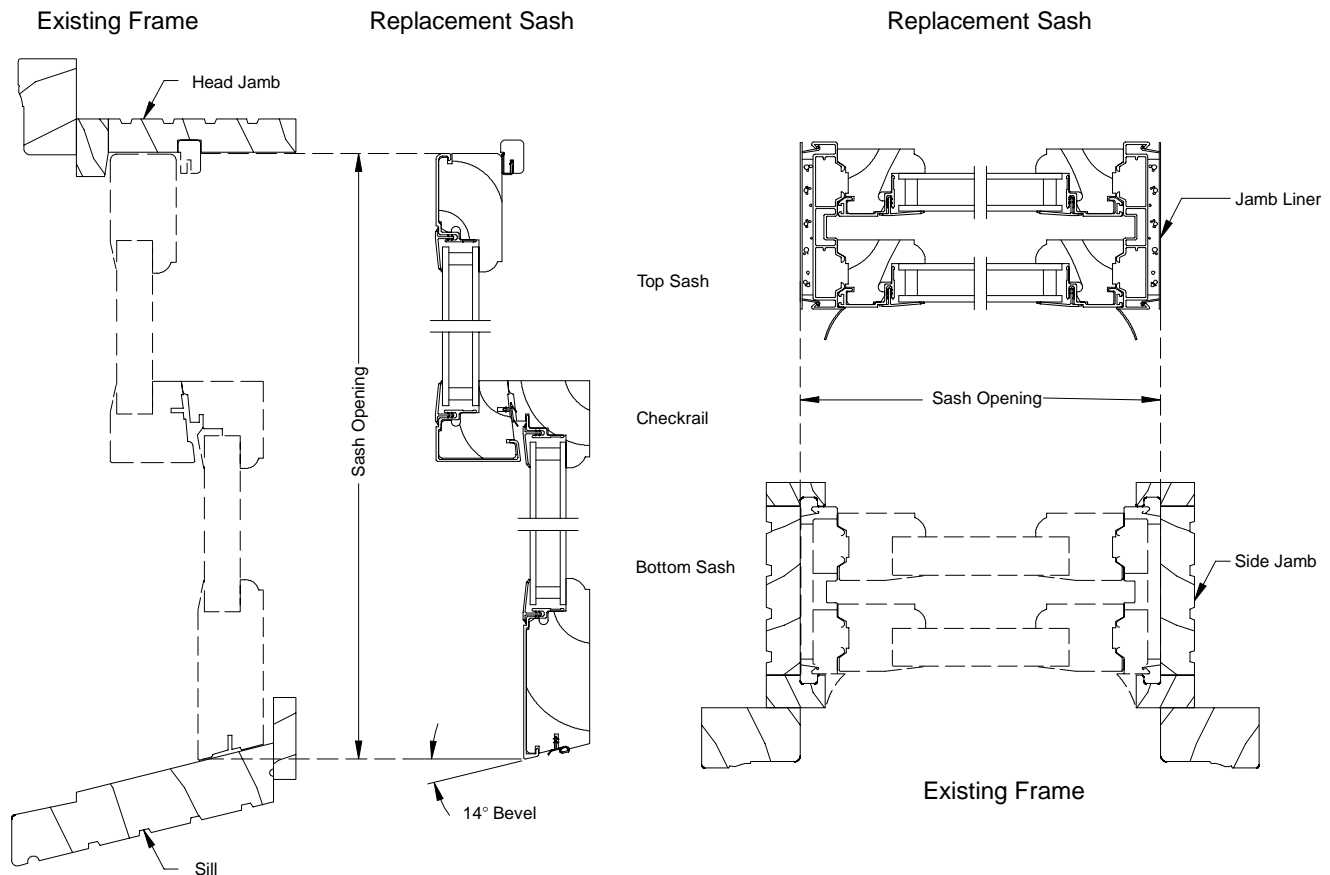
Measurement Conversions - Magnum Double Hung Tilt Pac										
Size Referenced	Daylight Opening (DLO)		Glass Size (GS)		Outside Measurement Top Sash		Outside Measurement Bottom Sash		Sash Opening (SO)	
Daylight Opening each sash (DLO)	Dimension Needed									
			Width	+ 1 1/16" (27)	Width	+ 4 1/2" (114)	Width	+ 4 1/2" (114)	Width	+ 6 13/16" (173)
Glass Size (GS)			Height	+ 1 1/16" (27)	Height	+ 3 31/32" (101)	Height	+ 5 19/32" (142)	Height	DLO X 2 + 8" (203)
	Width	- 1 1/16" (27)			Width	+ 3 7/16" (87)	Width	+ 3 7/16" (87)	Width	+ 5 3/4" (146)
Outside Measurement Top Sash	Height	- 1 1/16" (27)			Height	+ 2 29/32" (74)	Height	+ 4 17/32" (115)	Height	GS X 2 + 5 7/8" (149)
	Width	- 4 1/2" (114)	Width	- 3 7/16" (87)			Width	0	Width	+ 2 5/16" (59)
Outside Measurement Bottom Sash	Height	- 3 31/32" (101)	Height	- 2 29/32" (74)			Height	+ 1 5/8" (41)	Height	SO X 2 + 1/16" (2)
	Width	- 4 1/2" (114)	Width	- 3 7/16" (87)	Width	0			Width	+ 2 5/16" (59)
Sash Opening (SO)	Height	- 5 19/32" (142)	Height	- 4 17/32" (115)	Height	- 1 5/8" (41)			Height	SO X 2 - 3 3/16" (81)
	Width	- 6 13/16" (173)	Width	- 5 3/4" (146)	Width	- 2 5/16" (59)	Width	- 2 5/16" (59)		
	Height	SO ÷ 2 - 4" (102)	Height	SO ÷ 2 - 2 15/16" (75)	Height	SO ÷ 2 - 1/32" (1)	Height	SO ÷ 2 + 1 19/32" (40)		

NOTE: Conversions represent units without dividers. Contact Marvin's for additional conversions.

CLAD TILT PACS

TILT PAC MEASUREMENTS

SCALE: 3" = 1' 0"



Instructions:

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

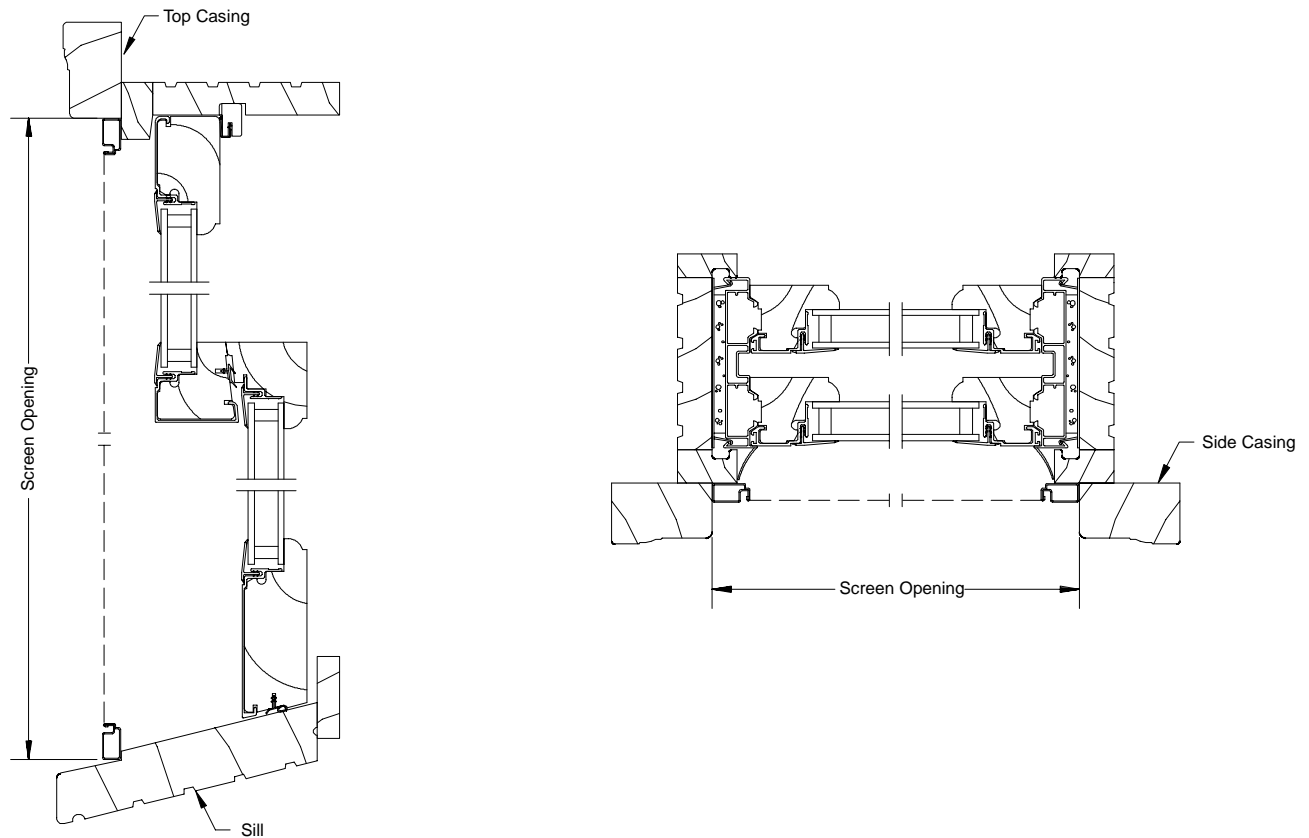
1. To find the sash opening height:
If the old window has wood blocks holding the top sash in place, remove them. Lower the top sash for measuring clearance, then measure the height of the window from where the top sash meets the head jamb to where the bottom sash meets the sill when the bottom sash 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 – ALL

TILT PAC FULL SCREEN MEASUREMENTS



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.

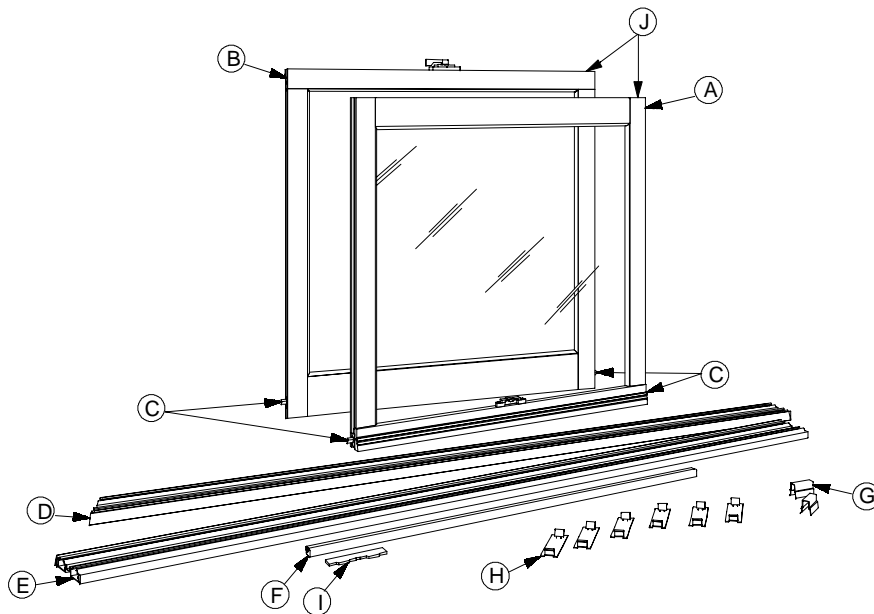
NOTE:

Double Hung sash and screen are shown above. Instructions and measuring locations apply to Single Hung, Magnum Double / Single Hung sash, and Magnum Historical 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.

CLAD DOUBLE HUNG TILT PACS

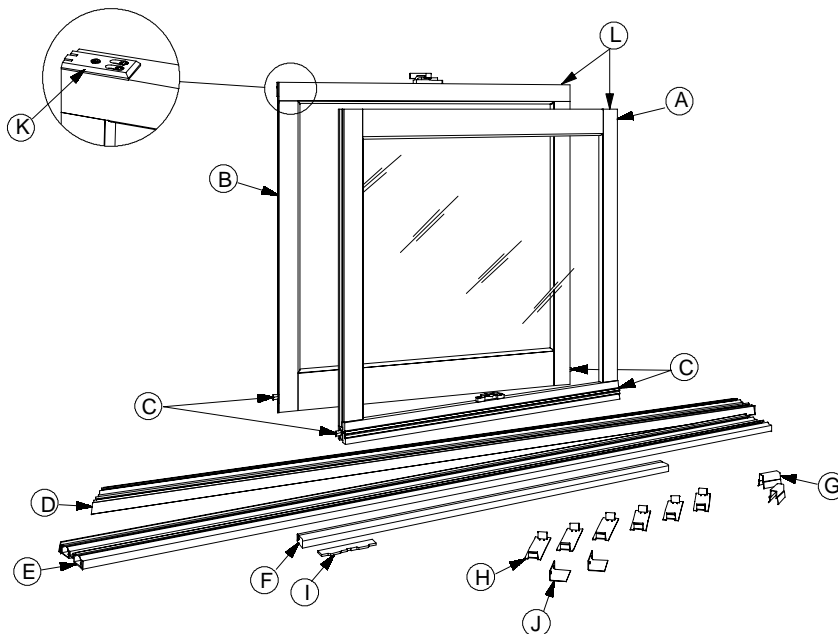
PARTS LIST

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

CLAD DOUBLE HUNG TILT PACS

STANDARD SIZES

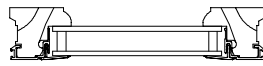
Standard Sizes and Lite Patterns											
Call #. (Glass size)	Sash Opening	3/4" Grille 7/8" SDL (IG Only)	1 1/8" Grille 1 1/8" SDL (IG Only)	Call # (Glass size)	Sash Opening	3/4" Grille 7/8" SDL (IG Only)	1 1/8" Grille 1 1/8" SDL (IG Only)	Call # (Glass size)	Sash Opening	3/4" Grille 7/8" SDL (IG Only)	1 1/8" Grille 1 1/8" SDL (IG Only)
CDHTP1612	1-8 X 2-6	2W2H	2W1H	CDHTP2812	2-8 X 2-6	3W2H	3W1H	CDHTP4012	3-8 X 2-6	4W2H	4W1H
CDHTP1614	1-8 X 2-10	2W2H	2W1H	CDHTP2814	2-8 X 2-10	3W2H	3W1H	CDHTP4014	3-8 X 2-10	4W2H	4W1H
CDHTP1616	1-8 X 3-2	2W2H	2W1H	CDHTP2816	2-8 X 3-2	3W2H	3W1H	CDHTP4016	3-8 X 3-2	4W2H	4W1H
CDHTP1618	1-8 X 3-6	2W2H	2W2H	CDHTP2818	2-8 X 3-6	3W2H	3W2H	CDHTP4018	3-8 X 3-6	4W2H	4W2H
CDHTP1620	1-8 X 3-10	2W2H	2W2H	CDHTP2820	2-8 X 3-10	3W2H	3W2H	CDHTP4020	3-8 X 3-10	4W2H	4W2H
CDHTP1622	1-8 X 4-2	2W2H	2W2H	CDHTP2822	2-8 X 4-2	3W2H	3W2H	CDHTP4022	3-8 X 4-2	4W2H	4W2H
CDHTP1624	1-8 X 4-6	2W2H	2W2H	CDHTP2824	2-8 X 4-6	3W2H	3W2H	CDHTP4024	3-8 X 4-6	4W2H	4W2H
CDHTP1626	1-8 X 4-10	2W2H	2W2H	CDHTP2826	2-8 X 4-10	3W2H	3W2H	CDHTP4026	3-8 X 4-10	4W2H	4W2H
CDHTP1628	1-8 X 5-2	2W2H	2W2H	CDHTP2828	2-8 X 5-2	3W2H	3W2H	CDHTP4028	3-8 X 5-2	4W2H	4W2H
CDHTP1630	1-8 X 5-6	2W2H	2W2H	CDHTP2830	2-8 X 5-6	3W2H	3W2H	CDHTP4030	3-8 X 5-6	4W2H	4W2H
CDHTP1632	1-8 X 5-10	2W3H	2W3H	CDHTP2832	2-8 X 5-10	3W3H	3W3H	CDHTP4032	3-8 X 5-10	4W3H	4W3H
CDHTP1634	1-8 X 6-2	2W3H	2W3H	CDHTP2834	2-8 X 6-2	3W3H	3W3H	CDHTP4034	3-8 X 6-2	4W3H	4W3H
CDHTP1636	1-8 X 6-6	2W3H	2W3H	CDHTP2836	2-8 X 6-6	3W3H	3W3H	CDHTP4036	3-8 X 6-6	4W3H	4W3H
CDHTP2012	2-0 X 2-6	3W2H	2W1H	CDHTP3012	2-10 X 2-6	3W2H	3W1H				
CDHTP2014	2-0 X 2-10	3W2H	2W1H	CDHTP3014	2-10 X 2-10	3W2H	3W1H				
CDHTP2016	2-0 X 3-2	3W2H	2W1H	CDHTP3016	2-10 X 3-2	3W2H	3W1H				
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CDHTP2024	2-0 X 4-6	3W2H	2W2H	CDHTP3024	2-10 X 4-6	3W2H	3W2H				
CDHTP2026	2-0 X 4-10	3W2H	2W2H	CDHTP3026	2-10 X 4-10	3W2H	3W2H				
CDHTP2028	2-0 X 5-2	3W2H	2W2H	CDHTP3028	2-10 X 5-2	3W2H	3W2H				
CDHTP2030	2-0 X 5-6	3W2H	2W2H	CDHTP3030	2-10 X 5-6	3W2H	3W2H				
CDHTP2032	2-0 X 5-10	3W3H	2W3H	CDHTP3032	2-10 X 5-10	3W3H	3W3H				
CDHTP2034	2-0 X 6-2	3W3H	2W3H	CDHTP3034	2-10 X 6-2	3W3H	3W3H				
CDHTP2036	2-0 X 6-6	3W3H	2W3H	CDHTP3036	2-10 X 6-6	3W3H	3W3H				
CDHTP2412	2-4 X 2-6	3W2H	3W1H	CDHTP3212	3-0 X 2-6	4W2H	3W1H				
CDHTP2414	2-4 X 2-10	3W2H	3W1H	CDHTP3214	3-0 X 2-10	4W2H	3W1H				
CDHTP2416	2-4 X 3-2	3W2H	3W1H	CDHTP3216	3-0 X 3-2	4W2H	3W1H				
CDHTP2418	2-4 X 3-6	3W2H	3W2H	CDHTP3218	3-0 X 3-6	4W2H	3W2H				
CDHTP2420	2-4 X 3-10	3W2H	3W2H	CDHTP3220	3-0 X 3-10	4W2H	3W2H				
CDHTP2422	2-4 X 4-2	3W2H	3W2H	CDHTP3222	3-0 X 4-2	4W2H	3W2H				
CDHTP2424	2-4 X 4-6	3W2H	3W2H	CDHTP3224	3-0 X 4-6	4W2H	3W2H				
CDHTP2426	2-4 X 4-10	3W2H	3W2H	CDHTP3226	3-0 X 4-10	4W2H	3W2H				
CDHTP2428	2-4 X 5-2	3W2H	3W2H	CDHTP3228	3-0 X 5-2	4W2H	3W2H				
CDHTP2430	2-4 X 5-6	3W2H	3W2H	CDHTP3230	3-0 X 5-6	4W2H	3W2H				
CDHTP2432	2-4 X 5-10	3W3H	3W3H	CDHTP3232	3-0 X 5-10	4W3H	3W3H				
CDHTP2434	2-4 X 6-2	3W3H	3W3H	CDHTP3234	3-0 X 6-2	4W3H	3W3H				
CDHTP2436	2-4 X 6-6	3W3H	3W3H	CDHTP3236	3-0 X 6-6	4W3H	3W3H				
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CDHTP2624	2-6 X 4-6	3W2H	3W2H	CDHTP3624	3-4 X 4-6	4W2H	3W2H				
CDHTP2626	2-6 X 4-10	3W2H	3W2H	CDHTP3626	3-4 X 4-10	4W2H	3W2H				
CDHTP2628	2-6 X 5-2	3W2H	3W2H	CDHTP3628	3-4 X 5-2	4W2H	3W2H				
CDHTP2630	2-6 X 5-6	3W2H	3W2H	CDHTP3630	3-4 X 5-6	4W2H	3W2H				
CDHTP2632	2-6 X 5-10	3W3H	3W3H	CDHTP3632	3-4 X 5-10	4W3H	3W3H				
CDHTP2634	2-6 X 6-2	3W3H	3W3H	CDHTP3634	3-4 X 6-2	4W3H	3W3H				
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CLAD TILT PACS

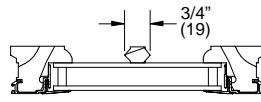
SECTION DETAILS: DIVIDED LITE OPTIONS

NOT TO SCALE

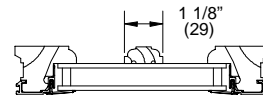
Double Hung Insulating Glass



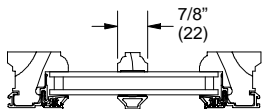
Insulating Glass



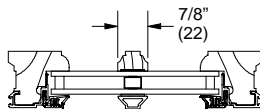
3/4" Grille



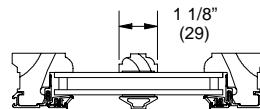
1 1/8" Grille



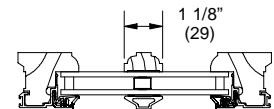
7/8" SDL



7/8" SDL
with Spacer Bar

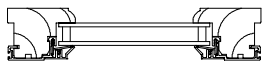


1 1/8" SDL

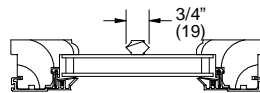


1 1/8" SDL
with Spacer Bar

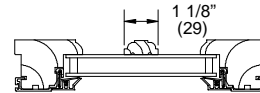
Clad Magnum Double Hung Insulating Glass



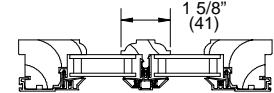
Insulating Glass



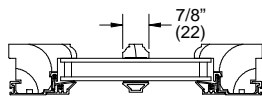
3/4" Grille



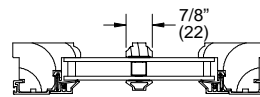
1 1/8" Grille



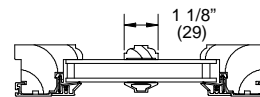
1 5/8" ADL



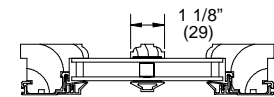
7/8" SDL



7/8" SDL
with Spacer Bar



1 1/8" SDL



1 1/8" SDL
with Spacer Bar

NOTE:

Grille = Removable interior divider

SDL = Simulated divided lite

ADL = Authentic divided lite