

# Modern Casement and Awning

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## Unit Features

### Modern Abbreviations

Casement Crank-out: MNCA-C

Casement Push-out: MNCA-P

Awning Crank-out: MNAW-C

Awning Push-out: MNAW-P

(Operating Products only)

### Frame:

- High-Density Fiberglass exterior with aluminum interior covers
- Jamb Depth: 4 1/2" (114)
- Frame Thickness: 1 7/16" (37)
- Vinyl Nailing Fin: 2" (51)
- Optional Frame Filler

### Glass and Glazing:

- All glass is of select quality complying with commercial industry standards.
- Glazing seal: Black silicone beading.
- Black Stainless Steel Spacer
- Dual-pane insulating glass thickness: 15/16" (23).
- Triple-pane insulating glass thickness: 1 1/4" (32).
- Insulating Glass Coatings: Low E1, Low E2, Low E3, Low ERS, Low ELR
- Gas Fill: Air, Argon, Argon-Krypton
- Other Glass Types: Gray or Bronze Tint, Obscure, Frost
- Glass panes are based on overall unit size and may be 3.1, 3.9, 4.7, and 5.7 mm thicknesses
  - Low ELR units to 5.7mm sizes and below
  - Tint limited to 5.7mm pane thickness and 15/16" glass make-up.
  - Frost is limited to 5.7mm and 3.9mm pane thicknesses
  - Obscure (Pattern 62) glass is limited to 4.7mm pane thickness and below

### Mulling:

For mull performance, refer to the [General Mulling chapter of the ADM](#).

## Unit Features Continued

### CRANK-OUT HARDWARE

#### Casement and Awning Hardware:

- Folding handles
  - Color: Matte Black, Matte Bronze, Silver, Satin Nickel, Stone White
- Lever(s) with concealed multi-point locks
- Aluminum pole crank (Optional)
  - Color: mill finish
  - Sizes: 60" (1524), 96" (2438), 138" (3505)

*NOTE: Aluminum pole crank intended to operate out of reach locks*

#### Casement Specific:

- Casement operator includes a crank hardware system that allows the window to open to a full 90 degrees with a minimal reduction of egress net clear opening
  - Operation force at handle is 5 lbs. (2 kg) or less
- Casement hinges allow the user the ability to slide the sash across the frame opening so the sash exterior will rotate toward the user for the easy wash-mode
  - Each unit includes one single arm operator
- Hinges are stainless steel
- Casement hinges are designed to support up to a 145 pound sash

#### Awning Specific:

- Operation force at handle is 5 lbs. (2 kg) or less
- Each unit includes one single arm operator
- Hinges are stainless steel
- Awning hinges are designed to support up to a 212 pound sash

### Custodial Sash Limiters

- Available with Casement and Awning.
- If Casement frame OM is larger than 36" (914) x 102" (2591), 40" (1016) x 96" (2438), or 44" (1118) x 72" (1829) custodial limiters will be applied, limiting travel
- If Awning frame OM is larger than 72" (1829) x 72" (1829) custodial limiters will be applied, limiting travel

### Lock Status Sensor (Optional):

- Available for all Casement and Awning operating units
- Refer to Lock Status Sensor Installation Instructions for requirements.
- Lock Status Sensor detects a locked or unlocked status. It allows easy integration with home automation systems using a wired or wireless connection.
  - For wired options, check with local codes on potential contractor requirements for low voltage networking connections.
  - Wireless option available. Requires purchase of secondary transmitter for operation. Marvin will prep for this.
- Wireless Lock Status sensor within the frame.
- Sensor Location
  - Casement - will be on locking side.
  - Awning - will be on both sides.
- For Wired or Wireless, Black or White Magnet Covers available only visible from secondary surfaces. Cover color dependent upon interior finish.
  - White: Stone White Painted Interior Finish
  - Black: All other finish options

**Unit Features Continued****PUSH-OUT HARDWARE****Casement and Awning Hardware:**

- Concealed handle and receiver
  - Color: Matte Black, Matte Bronze, Silver, Satin Nickel, Stone White
- Lever(s) with concealed multi-point locks.
- Stainless steel

**Casement Specific:**

- Casement hardware includes a friction limiter that allows the window to be opened and locked into several different positions.
- Casement hinges allow the user the ability to slide the sash across the frame opening so the sash exterior will rotate toward the user for the easy wash mode
- Hinges are stainless steel
- Casement hinges are designed to support up to a 145 pound sash

**Awning Specific:**

- Hinges are stainless steel
- Awning hinges are designed to support up to 130 pound sash

**Custodial Sash Limiters:**

- Available with Casement and Awning.
- If Casement frame OM is larger than 36" (914) x 102" (2591), 40" (1016) x 96" (2438), or 44" (1118) x 72" (1829) custodial limiters will be applied, limiting travel
- If Awning frame OM is larger than 72" (1829) x 72" (1829) custodial limiters will be applied, limiting travel

**Lock Status Sensor (Optional):**

- Available for All casement and awning operating units
- Refer to Lock Status Sensor Installation Instructions for requirements.
- Lock Status Sensor detects a locked or unlocked status. It allows easy integration with home automation systems using a wired or wireless connection.
  - For wired options, check with local codes on potential contractor requirements for low voltage networking connections.
  - Wireless option available. Requires purchase of secondary transmitter for operation. Marvin will prep for this.
- Wireless Lock Status sensor within the frame.
- Sensor Location
  - Casement - will be on locking side.
  - Awning - will be on both sides.
- For Wired or Wireless, Black or White Magnet Covers available only visible from secondary surfaces. Cover color dependent upon interior finish.
  - White: Stone White Painted Interior Finish
  - Black: All other finish options

Measurement Conversions

Unit Measurements		Width		Height	
From	To	in	mm	in	mm
<b>Rough Opening</b>		in	mm	in	mm
Masonry Opening	Rough Opening	+ 1	(38)	+ 1/2	(19)
OM of Frame	Rough Opening	+ 1 1/2	(38)	+ 3/4	(19)
Daylight Opening	Rough Opening	+ 7 3/64	(179)	+ 6 19/64	(160)
<b>Frame</b>		in	mm	in	mm
Daylight Opening	OM of Frame	+ 5 35/64	(141)	+ 5 35/64	(141)
<b>Sash</b>		in	mm	in	mm
OM of Frame	OM of Sash	-1 35/64	-(39)	-1 35/64	-(39)
<b>Glass</b>		in	mm	in	mm
OM of Frame	Glass	-4 5/64	-(103)	-4 5/64	-(103)
Daylight Opening	Glass	+ 1 31/64	(38)	+ 1 31/64	(38)
<b>Screen</b>		in	mm	in	mm
OM of Frame	OM of Screen	-3 11/64	-(81)	-3 11/64	-(81)
<b>Net Clear Opening</b>		in	mm	in	mm
OM of Frame	NCO*	-7 9/16	-(192)	-4 45/64	-(119)

\* NCO is only applicable for Casement.

**Certified Sizes**

Product	Air Tested to PSF	Water Tested to psf	Design Pressure (DP)	Certification Rating	Max Overall Width		Max Overall Height	
					in	mm	in	mm
Casement Crank-out and Push-out	1.57	12.1	50	CW-PG50-FW	36	(914)	102	(2591)
Casement Crank-out and Push-out	1.57	12.1	50	CW-PG50-FW	40	(1016)	96	(2438)
Casement Crank-out and Push-Out	1.57	12.1	50	CW-PG50-FW	44	(1118)	92	(2337)
Awning Crank-out	1.57	12.1	50	CW-PG50-FW	64	(1626)	96	(2438)
Awning Crank-out	1.57	12.1	45	LC-PG45-FW	96	(2438)	64	(1626)
Awning Crank-out	1.57	12.1	50	CW-PG50-FW	72	(1829)	72	(1829)
Awning Push-out	1.57	12.1	50	CW-PG50-FW	89	(2261)	48	(1219)
* **Casement Mull (all products)	1.57	12.1	40	CW-PG40-FW	168	(4267)	96	(2438)
* **Casement Mull (all products)	1.57	12.1	40	CW-PG40-FW	96	(2438)	168	(4267)

\* 84" max tributary span

\*\* Includes Ribbon and Stacked Mulls. Does not include Multi-Wide/Multi-High configurations.

**Minimum and Maximum Guidelines**

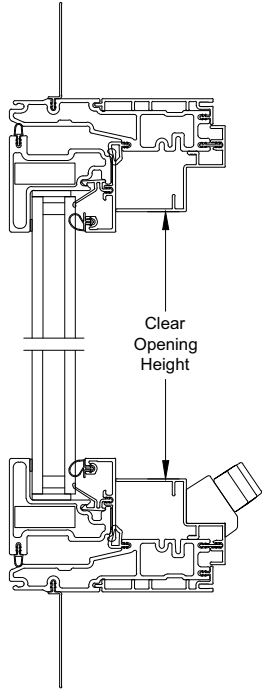
Unit Type		Frame Size Min Width		Frame Size Min Height		Frame Size Max Width		Frame Size Max Height		Glass Limit	
		in	mm	in	mm	in	mm	in	mm	ft2	Sq. Meters
Casement Crank-out (MNCA-C)	Insulating Glass	20	(512)	16	(410)	36	(922)	102	(2611)	24.2	2.25
						40	(1024)	96	(2458)	25.4	2.36
						44	(1126)	92	(2355)	26.8	2.49
Casement Crank-out (MNCA-C)	Lock Status Sensor	20	(512)	18.5	(474)	36	(922)	102	(2611)	24.2	2.25
						40	(1024)	96	(2458)	25.4	2.36
						44	(1126)	92	(2355)	26.8	2.49
Casement Push-out (MNCA-P)	Insulating Glass	20	(512)	24	(614)	36	(922)	102	(2611)	24.2	2.25
						40	(1024)	96	(2458)	25.4	2.36
						44	(1126)	92	(2355)	26.8	2.49
Casement Push-out (MNCA-P)	Lock Status Sensor	20	(512)	24	(614)	36	(922)	102	(2611)	24.2	2.25
						40	(1024)	96	(2458)	25.4	2.36
						44	(1126)	92	(2355)	26.8	2.49
Awning Crank-out (MNAW-C)	Insulating Glass	20	(512)	16	(410)	72	(1843)	72	(1843)	34.6	3.22
						64	(1638)	96	(2458)	41.2	3.82
						96	(2458)	64	(1638)	41.2	3.82
Awning Crank-out (MNAW-C)	Lock Status Sensor	20	(512)	18.5	(474)	72	(1843)	72	(1843)	34.6	3.22
						64	(1638)	96	(2458)	41.2	3.82
						96	(2458)	64	(1638)	41.2	3.82
Awning Push-out (MNAW-P)	Insulating Glass	20	(512)	16	(410)	89	(2278)	48	(1229)	28.4	2.64
Awning Push-out (MNAW-P)	Lock Status Sensor	20	(512)	18.5	(474)	89	(2278)	48	(1229)	28.4	2.64

Casement Custodial Sash Limiter Requirements		
Frame Size	Operation	
40X96	Unlimited	Units larger than what is shown in either dimension requires a custodial sash limiter. Ex: 44 X 73 requires custodial sash limiter.
36X102	Unlimited	
44X72	Unlimited	

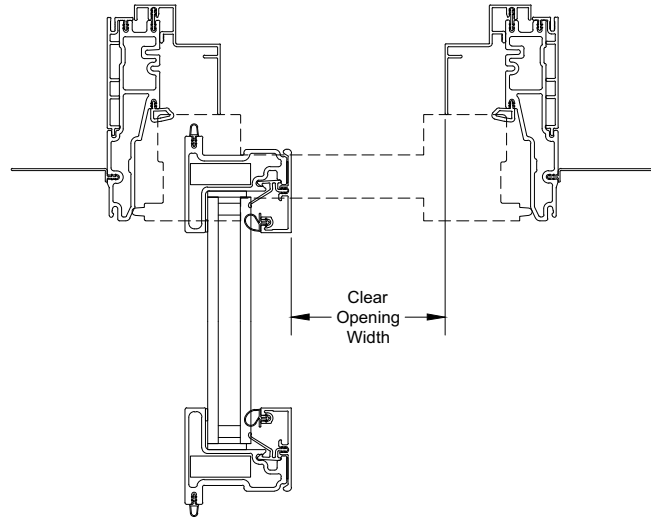
Awning Custodial Sash Limiter Requirements		
Frame Size	Operation	
72X72	Unlimited	Units that exceed 72 in height or width require custodial sash limiter.



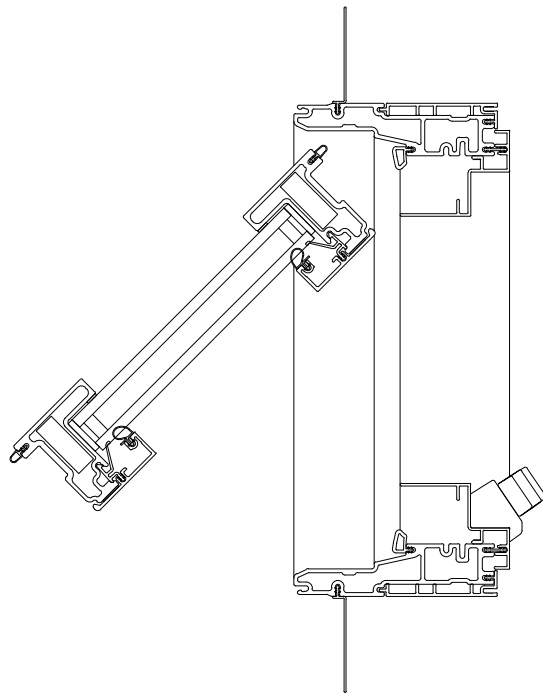
**Egress and Vent Opening Measurements**



Casement and Awning  
Head Jamb and Sill



Casement  
Jambs

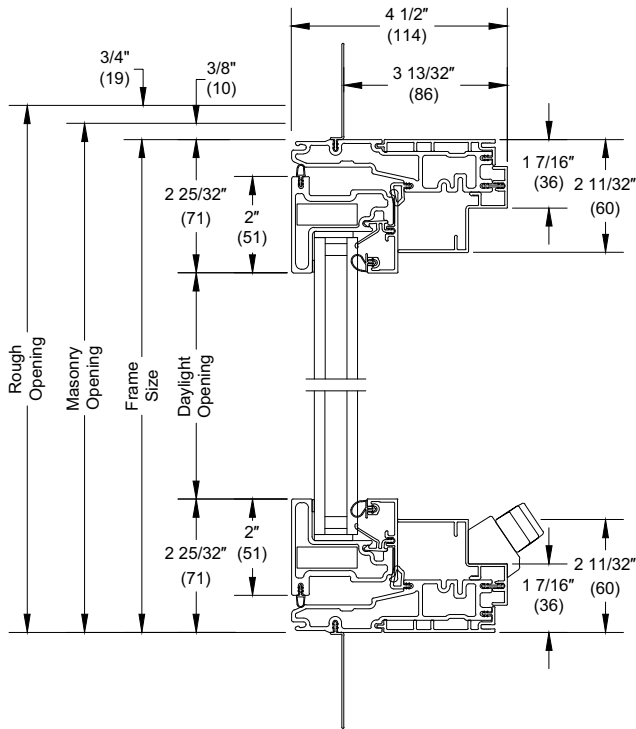


Awning  
Vent Opening

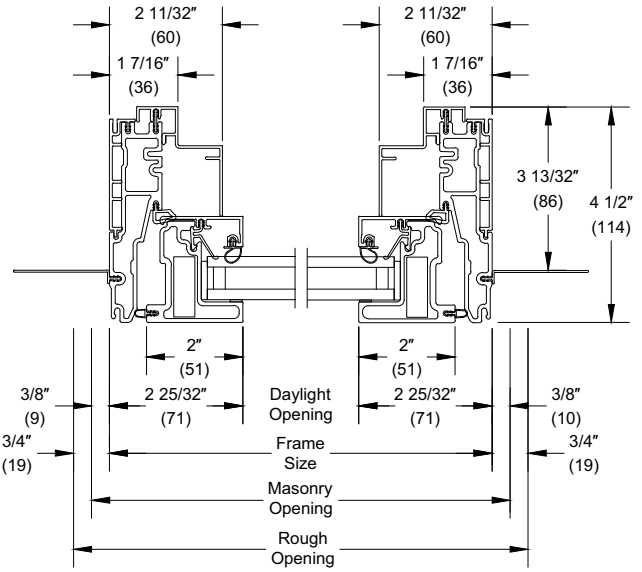
**Section Details: Operating Crank-out**

Scale: 3" = 1' 0"

**15/16" Dual Pane Glass**

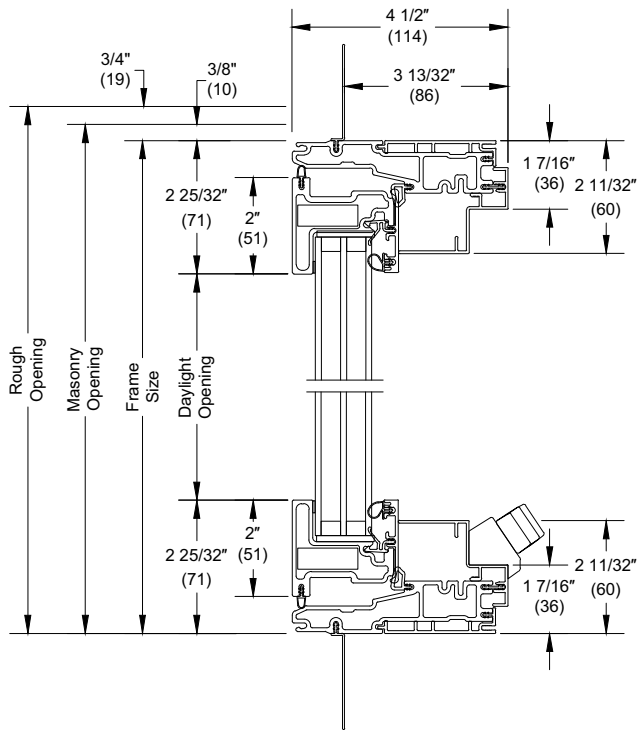


**Head Jamb and Sill**

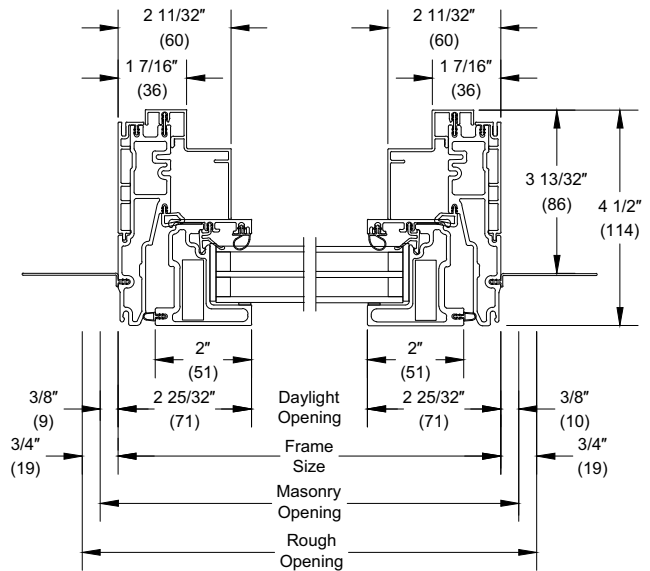


**Jambs**

**1 1/4" Tripane Glass**



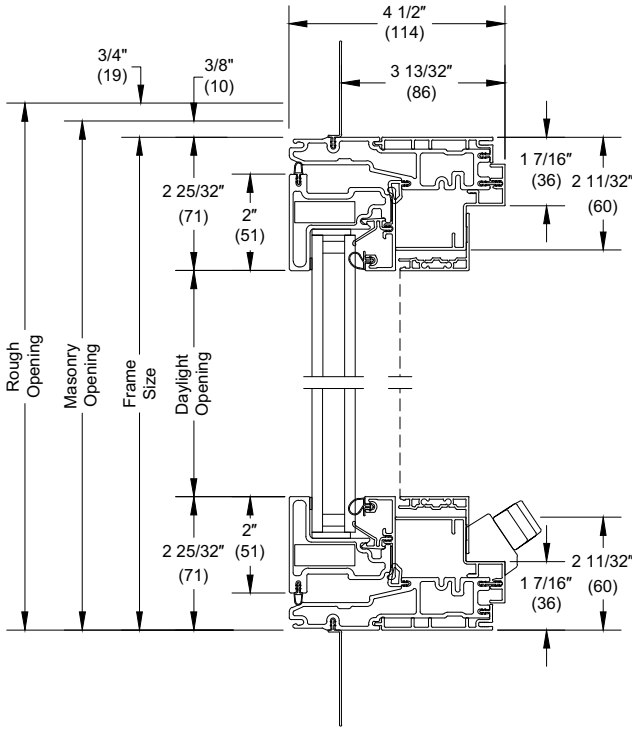
**Head Jamb and Sill**



**Jambs**

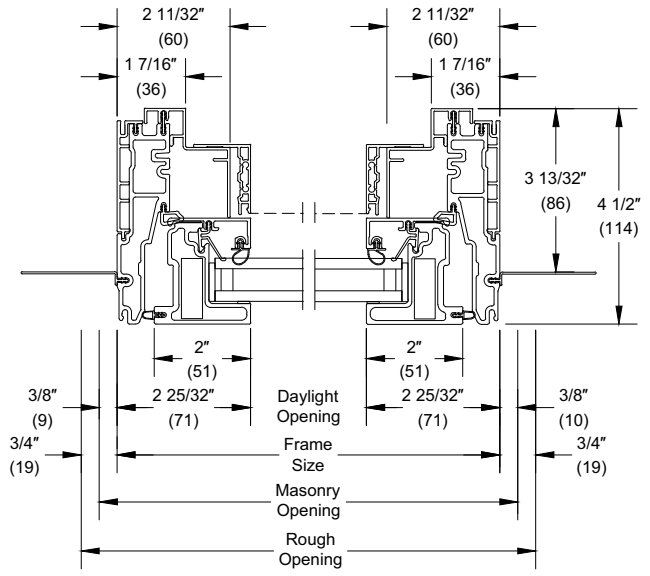
**Section Details: Operating Crank-out with Screen**

Scale: 3" = 1' 0"

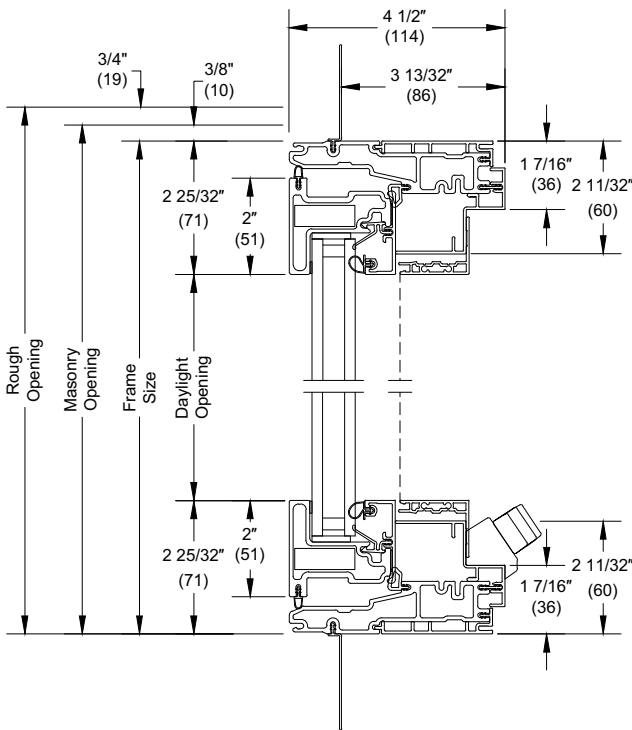


Head Jamb and Sill

Casement

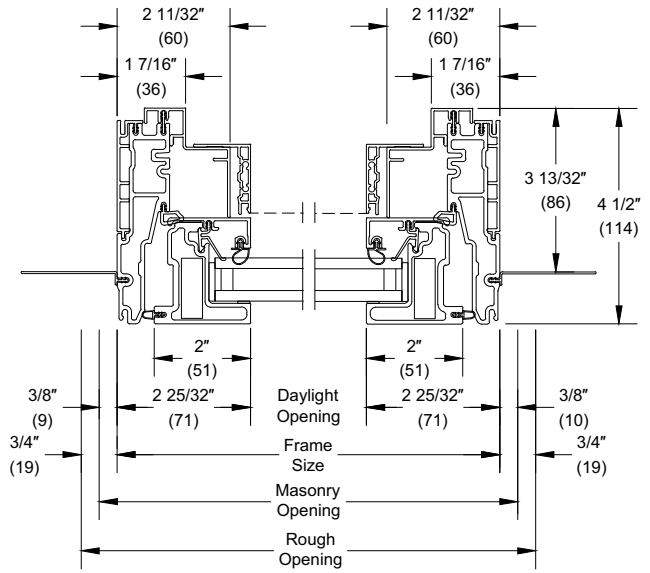


Jamb



Head Jamb and Sill

Awning

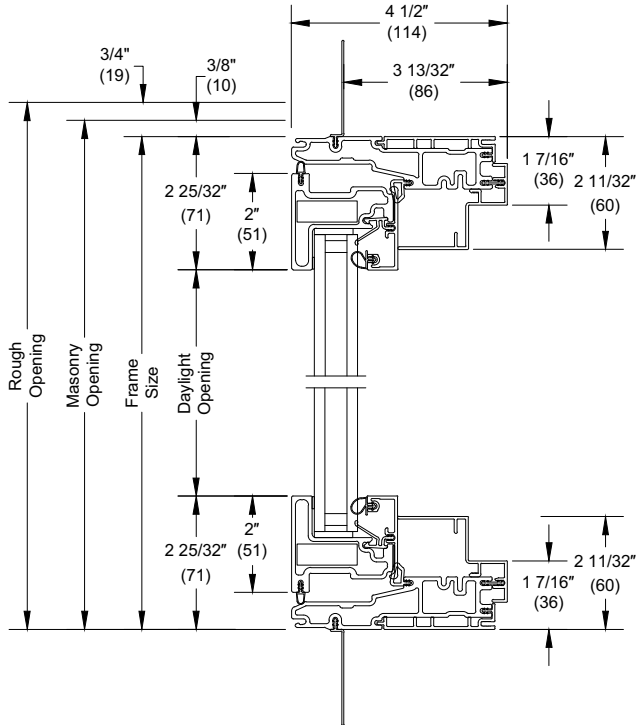


Jamb

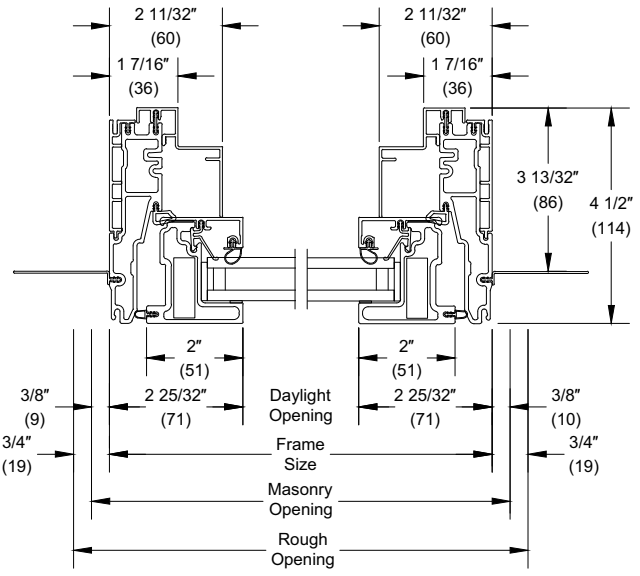
**Section Details: Operating Push-out**

Scale: 3" = 1' 0"

**15/16" Dual Pane Glass**

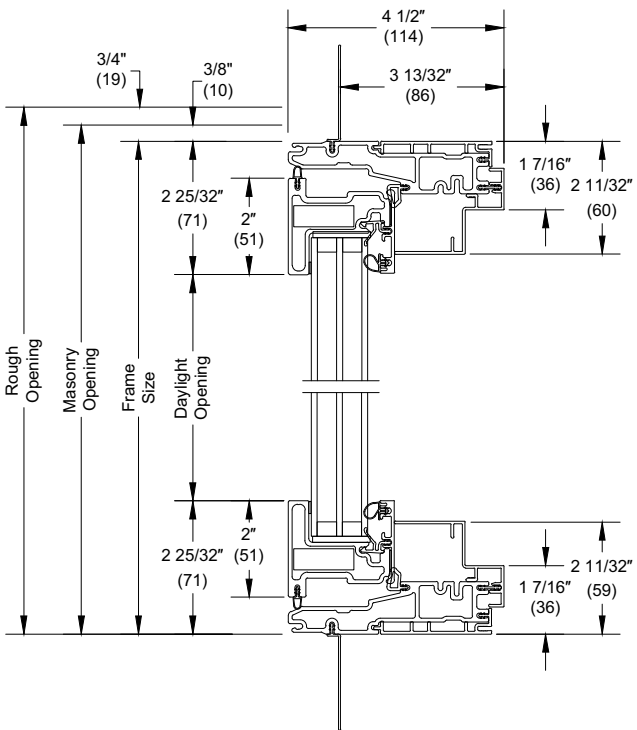


**Head Jamb and Sill**

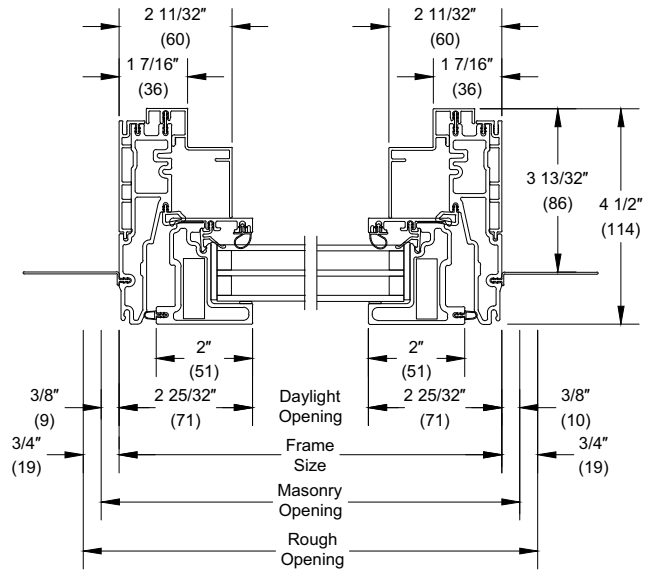


**Jambs**

**1 1/4" Tripane Glass**



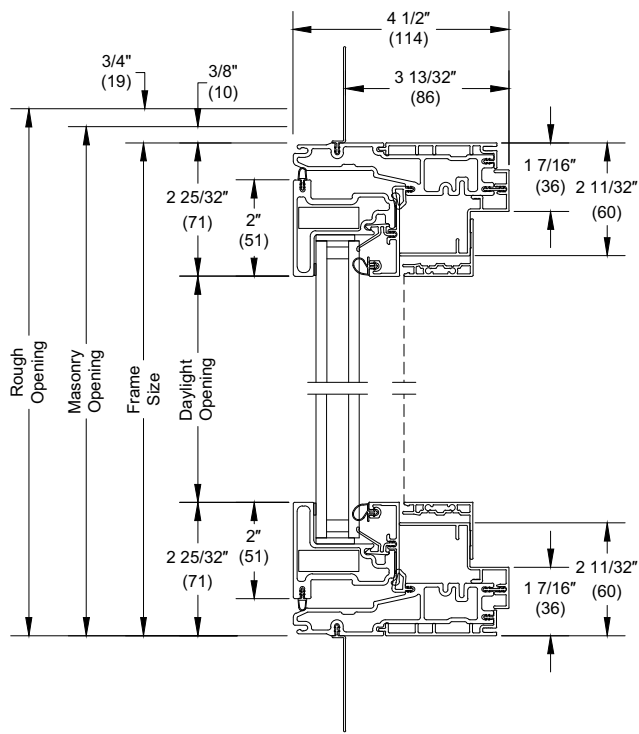
**Head Jamb and Sill**



**Jambs**

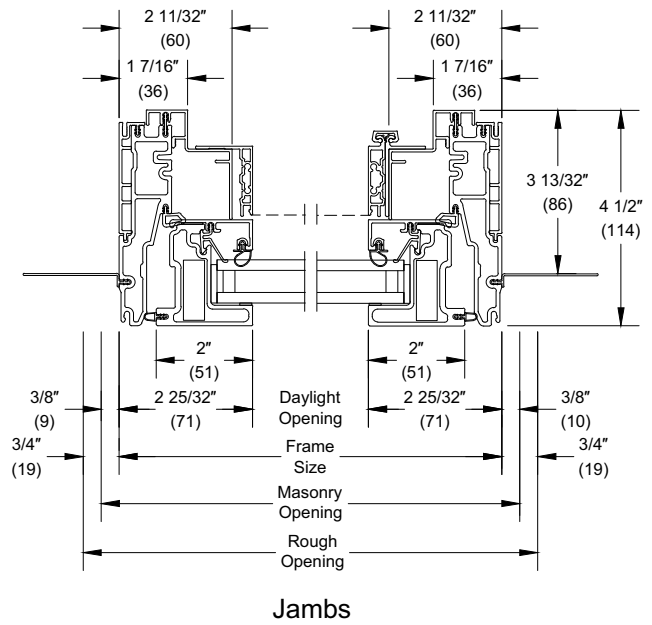
**Section Details: Operating Push-out with Screen**

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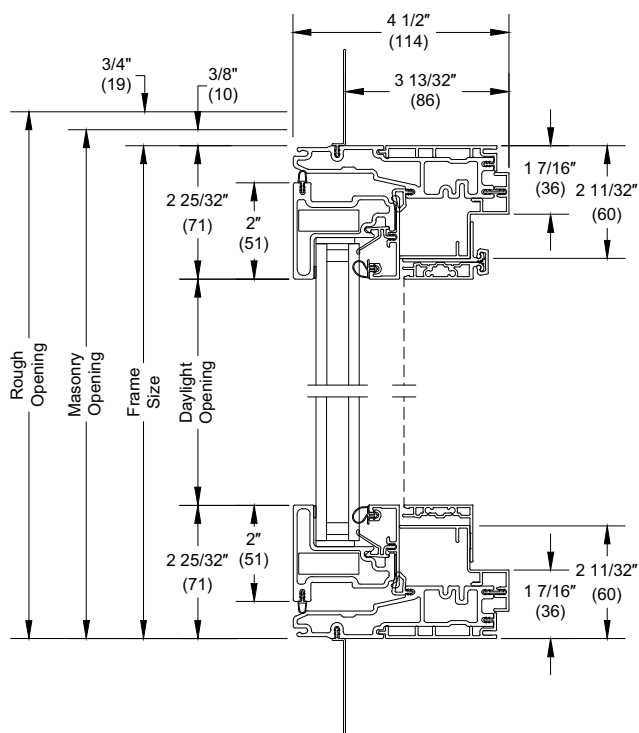


Head Jamb and Sill

**Casement**

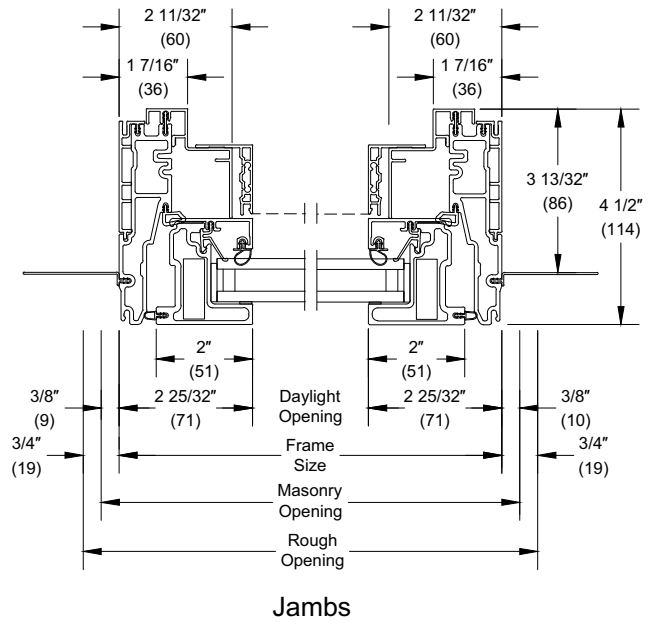


Jamb



Head Jamb and Sill

**Awning**



Jamb