
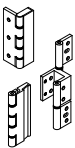
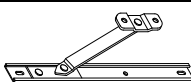
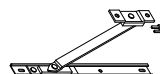




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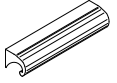
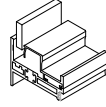
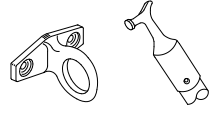
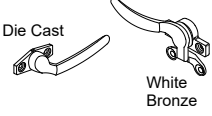
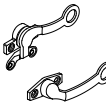
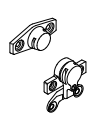
Projected and Casement

COMPONENT	MATERIAL	FINISH	WINDOW SERIES											FEATURES
			2-3-4250I Invent™	All -XLT Invent	All Invent Retro™	3-4250I-HP Hurr. Imp	2250XP InventPLUS	4250I Sim. Dbl. Hung	2-3-4250I-BHM Blast	4000I-DT Behavioral	3250-Z ZSL	4250-Z Multi-lock	TD-4250I Terrace	
Four-Bar Hinges 10" 12" 16" 24" 28" 	Stainless Steel	Uncoated	●	●	●	●	●	●	●	●	●	●		Our most popular hinge selection. High-performance concealed hinges with friction adjustment. Recommended casement vent weight limit is 115 lbs. Projected weight limits vary, please consult with Wausau on projected vents over 15 sq ft.
Butt Hinges Half-Mortise Concealed Surface Mounted 	Aluminum	Exposed Surfaces Match Window	○	○	○		○	○	○	●	○		●	High-strength extruded aluminum hinges with coated stainless steel pins, nylon separators and end caps. Recommended for egress or large vent size. Always used in conjunction with friction adjusters.
Friction Adjuster 	Stainless Steel	Uncoated	○	○	○		○	○	○	●	○		*	Limits casement swing to 85°. Adjusting set screw applies friction for smooth operation. Always use with butt hinges. * Terrace doors must be fitted with closers.
Limited Opening Device 			○	○	○	○	○	○	○	○	○	○	*	Limits opening for low sills, child safety, buffeting wind, limited projection or emergency ventilation. Keyed release to extend opening. * Terrace doors must be fitted with closers.
Keyed Support Arm 			○	○	○		○	○						Used on top-hinged-inswing vents if height exceeds 25" or if weight is a concern. First setting locks at 1 ½" extension; key release for extended opening. Consult Wausau for recommended usage on awnings.
Limited Opening Stop Block 	Aluminum	Mill	○	○	○	○	○	○	○		○	○		Installed in track of four-bar hinge to limit opening, as an alternate to (a) separate limited opening device(s).

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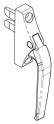
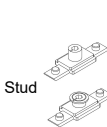



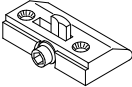
Projected and Casement (continued)

COMPONENT		MATERIAL	FINISH	WINDOW SERIES											FEATURES
				2-3-4250i Invent™	All -XLT Invent	All Invent Retro™	3-4250i-HP Hurr. Imp	2250iXP InventPLUS	4250i Sim. Dbl. Hung	2-3-4250i-BHM Blast	4000i-DT Behavioral	3250-Z ZSL	4250-Z Multi-Lock	TD-4250i Terrace	
Waterfall Pull		Aluminum	To Match Window	○	○	○	○	○	○	○	○	○	○		Applied to hand-operated project-out casement and awning vents when keeper locks are employed.
Pull Bead		Aluminum	To Match Window	○	○			○	○						Pull handle extruded into profile of glazing beads on to hand-operated project-out casement and awning vents.
Pole Ring		White Bronze	Clear E-Coat	○	○	○	○	○	○	○		○	○		Used when vents are out of reach. Most common on hopper vents. Available for awnings. Extruded aluminum pole operator and eye hook provided.
Cam Handles LH or RH Project-in or Project-out		Zinc Die Cast	Brushed Copper Nickel, Standard Painted Colors	●	●	●	●	●	●	●		●	○	*	Die cast handles are a contemporary, economical alternative to the rich, smooth, retro appearance of white bronze.
Ring Cams		or	or	○	○	○	○	○	○	○		○	○		Used when vents are out of reach. Most common on hopper vents. Available for awnings. Extruded aluminum pole operator and eye hook provided.
Handle-less Cam with Removable Key		White Bronze	Clear E-Coat	○	○	○	○	○	○	○		○	○		Used for custodial operation of casements, hoppers and awnings.

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Projected and Casement (continued)

		WINDOW SERIES											FEATURES
COMPONENT	MATERIAL	FINISH	2-3-4250i Invent™	All -XLT Invent	All Invent Retro™	3-4250i-HP Hurr. Imp	2250iXP InventPLUS	4250i Sim. Dbl. Hung	2-3-4250i-BHM Blast	4000i-DT Behavioral	3250-Z ZSL	4250-Z Multi-lock	
Linear Operator 	Zinc Die Cast	Satin Nickel or Chrome, Standard Painted Colors	●	●	●	●	●	●	●		○	●	Linear operators activate Euro-style drive tracks to engage multiple locking points, and are available with or without detent stops for accessibility.
Multi-Locking Points  	Stainless Steel	Black High Lubricity Coating (Strikes Only)	●	●	●	●	●	●	●		○	●	Multi-locking points operate from a single linear operator or Euro-style handle, and are compression-adjustable. Captive locking heads and strikes are used in blast or hurricane impact applications, or when foreshortening under load is a concern.
Single Point or Two Point Keeper (Three Point Keeper also available)  	Zinc Die Cast	Brushed Copper Nickel, Standard Painted Colors	○	○	○		○	○			○	○	Die cast handles are an economical alternative to the rich, smooth appearance of white bronze. Also available handle-less for custodial operation.
	White Bronze	Clear E-Coat	○	○	○		○	○			○	○	Two- and three-point keepers allow single handle operation of taller vents, while avoiding the need for wicket or hinged screens.
Concealed Lock 	Zinc Die Cast Lock with Nylon Housing	Uncoated									○		Concealed flush-mount hex-keyed lock for custodial operation.
Tamper Resistant Concealed Lock										●	○		Tamper resistant hex keys require a special pin feature for lock release.

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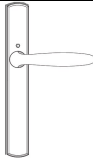



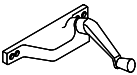








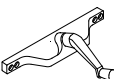










● Standard ○ Optional Not Available

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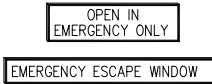
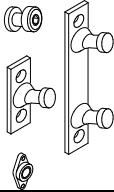
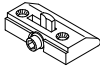
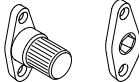
Projected and Casement (continued)

WINDOW SERIES																
COMPONENT		MATERIAL	FINISH	2-3-4250i INvent™	All -XLT INvent	All INvent Retro™	3-4250i-HP Hurr. Imp	2250iXP INventPLUS	4250i Sim. Dbl. Hung	2-3-4250i-BHM Blast	4000i-DT Psych	3250-Z ZSL	4250-Z Multi-lock	TD-4250i Terrace	FEATURES	
Security Lock		Zinc Die Cast	Brushed Copper Nickel, Standard Painted Colors												Used for additional security on inswing casement and hopper windows. Used with an escutcheon, key is non-removable in the unlocked position.	
Euro Handle		Aluminum	Clear or Bronze Anodized, Standard Painted Colors												A popular modern option for selected project-in and project-out casements, as well as 4250-Z awnings. Single-handle operation, with concealed locking points and optional corner drive units for large vents. Removable handle available.	
Terrace Door Lock Set																Verona-style terrace door handle with manual compression lock feature. Interior and exterior operation. <small>* Terrace doors must be fitted with closers.</small>
Terrace Door Thumb Turn																Supplemental interior lock for added security on terrace doors. 90-degree thumb turn available for accessibility.
Roto Operator (Single Arm)		Zinc Die Cast	Brushed Copper Nickel, Standard Painted Colors												Single arm rotos used with outswing casement vents can avoid the need for wicket screens. Always use friction adjusters if rotos are used in conjunction with butt hinges.	
Roto Operator (Dual Arm)																Dual arm rotos used with awning vents can avoid the need for wicket screens. Do not use dual arm rotos in conjunction with butt hinges.

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Projected and Casement (continued)

COMPONENT	MATERIAL	FINISH	WINDOW SERIES											FEATURES
			2-3-4250I Invent™	All -XLT Invent	All Invent Retro™	3-4250I-HP Hurr. Imp	2250I-XP InventPLUS	4250I Sim. Dbl. Hung	2-3-4250I-BHM Blast	4000I-DT Behavioral	3250-Z ZSL	4250-Z Multi-lock	TD-4250I Terrace	
Egress Tags 	Aluminum	Painted (Red on White)	○	○	○	○	○	○	○		○	○		Applied to egress windows as required. Check local codes for specific requirements.
Window Washing Restraint and Tieback 	Cast Stainless Steel	Brushed or Painted to Match Window	○	○	○		○	○	○					Standard stabilizer, single post, double post or flush-mounted spring loaded. Check local codes for specific requirements, and consult with a window washing equipment specialist.
Access Door Lock 	Zinc Die Cast in Nylon Housing	Uncoated	○	○	○	○	○	○		●			○	Provides custodial access to concealed raise-lower cords, and for periodic cleaning. Access doors are also equipped with pin hinges as a standard - Lift-out optional.
Venetian Blind Tilt Control 	Nylon	Black	○	○	○	○	○	○		●			○	Occupant tilt, concealed custodial raise-lower. Available keyed, or with removable control knob.

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Projected and Casement (continued)

MINIMUM VENT DIMENSIONS

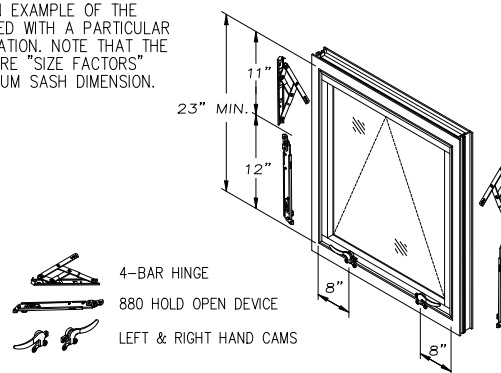
SIZE FACTOR TABLE

NOTE: *Not all combinations work together*

COMPONENT	MINIMUM SIZE FACTOR	NOTES
10" Four-Bar Hinge	11"	
Keeper or Linear Operator	8"	
Keeper (Two Point)	Inquire	
Butt Hinge	14"	
Cam Lock	8"	
Limit Stop	Inquire	Dimension Varies with Degree of Opening
Support Arm	12"	Dimension Varies with Degree of Opening
Friction Adjuster	20"	
Dual Arm Roto	30"	For 10" Clear Opening
Roto/Single Arm	15"	Increases to 22" when used with Four-Bar Hinge

DIAGRAM

THE FOLLOWING IS AN EXAMPLE OF THE LIMITATIONS PRESENTED WITH A PARTICULAR HARDWARE CONFIGURATION. NOTE THAT THE SUM OF THE HARDWARE "SIZE FACTORS" DETERMINE THE MINIMUM SASH DIMENSION.



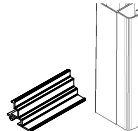


PHOTOGRAPH



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Hung and Rolling

COMPONENT	MATERIAL	FINISH	WINDOW SERIES and FEATURES	
			HX32-XLT Single-Hung SX45-XLT Single-Slide	<p><i>Refer to the Wausau brochure "Historically Influenced Window Replacement" for information regarding hardware used on Wausau's unique, patented 9250 Series SELF-BALANCING DOUBLE-HUNG WINDOWS.</i></p> <p><i>Refer to the product brochure for information regarding the many hardware options available on Wausau's unique CrossTrak™ CONVENTIONAL OR LIFT + SLIDE BALCONY DOORS.</i></p>
Block and Tackle 	Steel Housing	NA	○	Provides approximately 30% lifting and closing assistance, while helping to hold sash stationary. Sash weight limit 60 pounds. Sized to fit individual sash width and height. Requires periodic replacement in heavy use applications.
Caldwell Ultralift™ Balance 	Spring-assisted Spiral Balance	NA	●	Provides approximately 70% lifting and closing assistance, much more than block and tackle balances, while helping to hold sash stationary. Sash weight limit 115 pounds for side-load, 80 pounds for tilt. Sized to fit individual sash width and height. Requires periodic replacement in heavy use applications.
Pull and Lift Handles 	Aluminum	To Match Window	● ●	Handles can be extruded as part of glazing beads, sash and/or meeting rail members. Some pulls and lifts are fitted with spring-loaded sash latches.
Sliding Window Roller Set	Delrin™ Tires in Nylon Housing, SS Bearings	Natural	●	Ball bearing nylon rollers provide smooth, quiet operation. Rollers are non-adjustable. Shipping blocks prevent premature wear and damage.

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