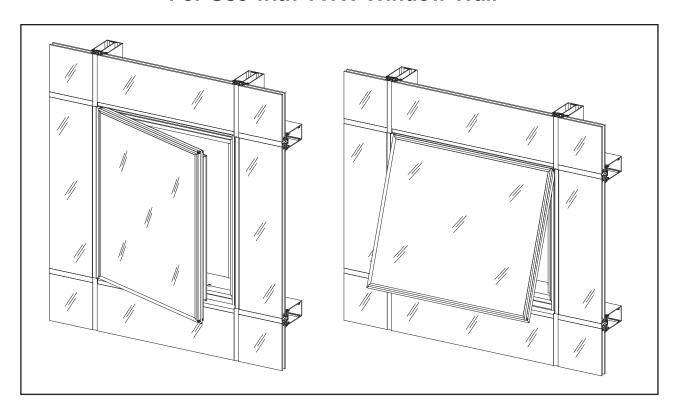


Installation Manual For Use with YWW Window Wall



YOV SSG VENT SYSTEM DESCRIPTION

- 3-5/8" Overall Depth
- Flat Frame
- Variations: Casement Outswing, Projected Outswing
- Window Wall Systems: YWW 45 T/TU/FI, YWW 50 T & YWW 50/60 TU
- 1" Glazing for YOV SSG, Tinted Glass Recommended
- Optional Screens
- Construction:

Vents – Mitered, Keyed, & Sealed Frame – Square Cut, Coped & Sealed, Both Use Screw Spline Construction

YOV SSG VENT PERFORMANCE FEATURES

- AAMA/WDMA/CSA 101/I.S.2 A440
 - AW-PG70-C for Casement Out
 - AW-PG70-AP for Project Out



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INSTALLATION NOTES

- 1. Do not drop, roll or drag boxes of aluminum framing. Move and stack boxes with proper support to prevent distortion. If fork lifts are used, be especially careful about striking the boxes when lifting or moving.
- 2. Store in a dry, out of the way area. If rain exposure, condensation or any water contact is likely, then all packaging material should be removed. Wet packaging materials will discolor and may stain aluminum finishes and paints.
- 3. All materials should be checked for quantity and quality upon receipt, YKK AP must be notified immediately of any discrepancies in shipment. Check to make sure that you have the required shims, sealants, supplies, and tools necessary for the installation.
- 4. Carefully check the openings and surrounding conditions that will receive your material. Remember, if the construction is not per the construction documents, it is your responsibility to notify the general contractor in writing. Any discrepancies must be brought to the general contractor's attention before you proceed with the installation.
- 5. Collect your shop drawings, materials, packing list, and this installation manual. Carefully review parts location, the sequence of installation, when you glaze it, and how you seal it. Installation instructions are of a general nature and may not cover every condition you will encounter. The shop drawings and/or installation manuals were prepared specifically for the product.
- 6. Any material substitutions must be of equal or greater quality.
- 7. Make certain that material samples have been sent for compatibility testing for all manufacturer's sealants involved. Make certain that sealants have been installed in strict accordance with the manufacturer's recommendations and specifications.
- 8. All insulating units must be designed for <u>Silicone Glazing</u>. Only neutral curing silicones may be used.
- 9. Remember to isolate, in a approved manner, all aluminum from uncured masonry or other incompatible materials.
- 10. System-to-structure fasteners are not supplied by YKK AP. Fasteners called out on shop drawings are to indicate minimum sizes for design loading.
- 11. If any questions arise concerning YKK AP products or their installation, contact YKK AP for clarification before proceeding.



INSTALLATION NOTES

- 12. YKK AP window installation is typically completed before drywall, flooring and other products which may still be in process. Take the extra time to wrap and protect the installed material.
- 13. Cutting tolerances are plus or minus one thirty second unless otherwise specified.
- 14. YKK AP Model YOV SSG windows are pre finished, pre-fabricated, and pre-assembled products, and must be protected against damage.
- 15. Concrete, mortar, plaster, muriatic acid and other alkaline and acid based construction and cleaning materials may be very harmful to window finishes and should be removed with water and mild soap immediately or permanent damage or staining of the finishes will occur. A spot test is recommended before any cleaning agent is used, and abrasive type cleaners must never be used.
- 16. Windows are never to be used as ladders, step stools, scaffolds or scaffold supports.
- 17. All work must start from, and be referenced to benchmarks, offset lines and/or column center lines established by the architectural drawings and the general contractor.
- 18. All windows must be installed plumb, square, level and true, and in accordance with approved shop drawings and these installation instructions.
- 19. Glass and glazing building codes governing the design and use of products vary widely. YKK AP America Inc. does not control the selection of products, product configurations, operating hardware and function, or glazing materials, and YKK AP assumes no responsibility for these design considerations. It is the responsibility of the design professional, owner, architect, specifier, general contractor, and the installer to make these selections in strict accordance with all applicable codes.
- 20. Check our website, www.ykkap.com, for the latest installation manual update prior to commencing work.



Important Notice for YOV SSG Vent Window System:

In order to properly perform and to maintain structural integrity, in addition to all other installation requirements, structurally glazed window systems rely specifically upon effective and appropriate structural sealant selection and installation.

It is the responsibility of the glazing contractor to take all steps to ensure the installed structural sealant is capable of meeting all applicable project requirements in accordance with industry standards. Such steps on each project may include, but are not limited to, design reviews, formal adhesion testing, project specification compliance, validating applications, field testing, auditing, sealant design strength analysis, and the quality control review of the installation and surrounding conditions.

Subject to project specific design pressures, requirements, and/or specifications, the structural sealant that is used between the glass and framing system must be capable of withstanding tensile and shear stresses imposed by the window without failing adhesively or cohesively.

The structural sealant's capability to withstand these stresses are dependent on several factors including, but not limited to, type of structural sealant, method of application (i.e. cleaning, primer), construction of glazing material (i.e. insulating glass unit (IGU), other infill, and finish of framing (i.e. anodizing, paint).

- Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
- Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant-to-substrate bond strength exceeds sealant's internal strength.

The IGU and/or other infill must be constructed for installation into the structurally sealant glazed window system. Notify the manufacturer or fabricator of the IGU and/or infill and advise of the product's application into 4-sided structurally sealant glazed windows along with the project's design requirements so that appropriate fabrication steps are taken.



Hardware & Accessories

DETAIL	PART	DESCRIPTION	MATERIAL
	4K-14207 4K-14208 E1-1986	Std. 12" 4-Bar Hinge Std. 16" 4-Bar Hinge (Casement Outwing Only.) Std. 12" 4-Bar Hinge w/ Limit Stop	STAINLESS STEEL
	E1-1957 5K-15284	Std. 12" Egress 4-Bar Hinge Std. 16" Egress 4-Bar Hinge (Project Out Only).	Aluminum US28
	E1-1995 10" E1-1996 12" E1-1997 16" E1-1998 20"	Accessible Loose Rivet 4-bar Hinge	STAINLESS STEEL Aluminum
	E1-1999 24"		US28
	E1-1987 LH 8" E1-1988 RH 8" E1-1989 LH 14" E1-1990 RH 14"	Standard / Accessible Single Arm Operator (Casement Vent Only)	Powder Coated or Plated
	E1-1991 - 5½" E1-1992 - 11" E1-2012 - 7" E1-2013 - 9"	Standard / Accessible Dual ARM Roto-Operator Project Vent Only	Die Cast Coated Steel Nylon Guides
	E1-9932	Standard Crank Handle	Die Cast / Hardened Steel Powder / Plated
	E1-1983	Accessible Large Crank Handle	Powder Coated or Plated
	E1-1577 E1-1578	Cam Handle (R) Cam Handle (L)	White Bronze US25D
	E1-1579	Keeper	WHITE BRONZE
	K-18522	Guide Roller (For Casement)	SUS304 SUSXM7 POM
	E1-1525	Guide Roller Base (Factory Installed)	Aluminum



Hardware & Accessories (Continued)

DETAIL	PART	DESCRIPTION	MATERIAL
	E2-0761 PC	Setting Block	Black EPDM Silicone Compatible
	E2-7011 PC	1/8" x 4"Setting Block	Black EPDM Silicone Compatible
	E2-0110	Glazing Spacer Tape	Black Polyurethane Foam
GD.	E2-0625	Airtight Bulb Gasket	Black Santoprene
	E3-1103	Snubber / Lift Up Ramp (Factory Installed)	Nylon
	E1-1936	-Default- Limit device meeting the fall prevention requirements (and approved for New York City, with size restrictions.) Note: This hardware may be used in locations outside New York City.	Stainless Steel
	E1-1975	Optional / Accessible 4" Keyed Limit Device (Approved for NYC)	Stainless Steel
	H-1901	HP Snubber Set (Factory Installed)	Aluminum Black
	H-1902 H-1903 H-1905	Connector Assembly Vent Multi-lock Handle Assembly (RH) Vent Multi-lock Handle Assembly (LH)	Satin Nickel, Satin Chrome, White & Black Powder coat
	E3-1201-01	Connecting Bar	Black
	E1-1966	Standard / Accessible Frame Multi-Locks with 4" handles	Die Cast / Painted Steel



Hardware & Accessories (Continued)

DETAIL	PART	DESCRIPTION	MATERIAL
EU CO	E1-1994	Standared / Accessible Frame Multi-Locks with 8" handles	Die Cast / Painted Steel
	E1-1505 (Optional)	Provides for locking and unlocking of casement or project out vents using single actuator handle with concealed locking points or project out windows with locking handle	White Bronze
	E1-1981	Standard Amesbury-Truth Pull	Die Cast
	E1-1508 (Optional)	White bronze pull handles are used for casement outswing or project out vents with E1-1505 locking handle.	White Bronze
	E1-1954-xxxx	Lock Bar 5-1/4" to 48" 1 to 3 Points	Aluminum / Stainless Steel
	E1-1955-xxxx	Lock Bar Extension 6" to 22" 1 Point	Aluminum / Stainless Steel
	E1-2001-xxxx	Accessible Lock Bar Base 5-1/4" to 48" 1 to 3 Points	Aluminum / Stainless Steel
	E1-2002-xxxx	Accessible Lock Bar Extension 6" to 22" 1 Point	Aluminum / Stainless Steel
	E1-1952	Interlock Keeper	Stainless Steel



Accessible Window Hardware

DETAIL	PART	DESCRIPTION	MATERIAL
	E1-1953	1/8" Keeper Shim	Molded Plastic
	E3-1141	Spacer Shim	ABS
	4K-18584	Keeper (For Accessible)	Stainless Steel
	E1-1751	Keeper Screw (For 4K-18584)	Stainless Steel
	E2-0263	Window Wall adaptor for YWW 50/60 TU SSG verticals	Composite Black
	E2-0264	Window Wall adaptor for YWW 50/60 TU SSG horizontals and for YWW 45 T/TU/FI and YWW 50 T verticals.	Rigid PVC Black
{	PF-1016-SS	#10 x 1" PHTCS-SS Used for fastening the E2-0264 adaptor to YWW 45 SSG or YWW 50 T mullion	Stainless Steel
	PM-1004-SS	#10-24 x 1/4" PHMS-SS Used for fastening the E2-0263 adaptor to YWW 50/60 TU SSG mul- lion	Stainless Steel



GENERAL INFORMATION: 4-SIDED SSG WINDOW WALL (YWW 50/60 TU)

1-7/8"

2-1/8"

1/8" Shim

1/2"

Frame Size Limitations

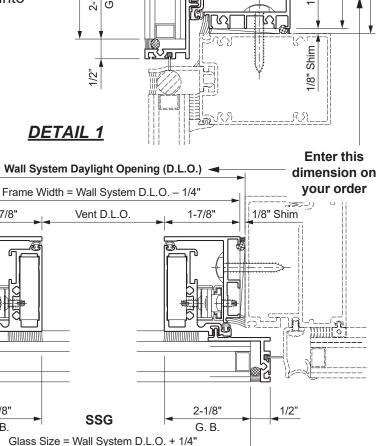
WINDOW	MINIMUM	MAXIMUM	
Project	14-3/4" x 15"	60-1/2" x 36"	
Casement	15" x 14-3/4"	36" x 60-1/2"	

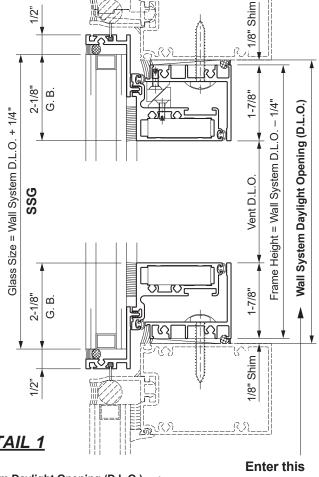
Note: All locking options & limit devices may not be available on minimum sizes.

STEP 1 **DETERMINE FRAME, VENT TYPE, & GLASS** SIZE

- -To enter an order, carefully measure the wall system daylight opening of the surrounding framing system at several places along the frame opening, both width and height. Select the smallest dimension and enter this number into the order.
- -Glass size is equal to the wall system daylight opening dimensions (D.L.O.) plus (+) 1/4".

See Detail 1.



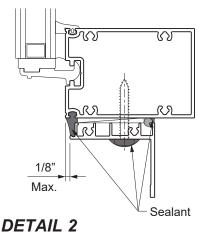




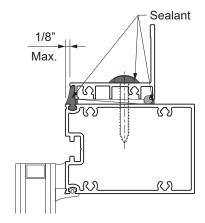
STEP 2 INSTALL YOV SSG WINDOW

The installation of the YOV SSG Vent can occur in the shop or field. Note that it might be necessary to remove the vent from the frame to install it into the host window wall.

- -Place the frame into the window wall such that the face of the frame is 1/8" maximum inward from the face of the window wall glazing pocket.
- -Fasten the frame to the window wall using fasteners as specified by the approved shop drawings or P.E. calculations.
- -Apply and tool sealant to the perimeter joint at both the exterior and interior of the YOV frame as shown in **Detail 2**.



Vent Removed for Clarity





STEP 3 (Continued) FABRICATE / INSTALL VENT ADAPTORS

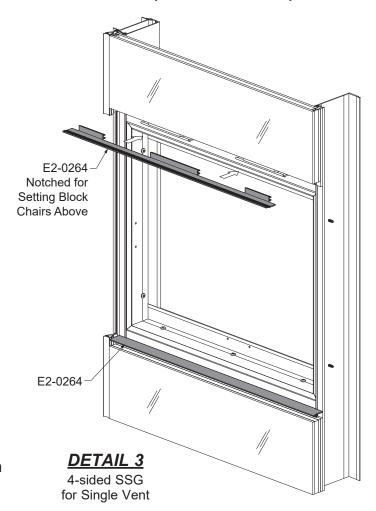
The installation of the YOV SSG Vent E2-0264 horizontal adaptors occurs either in the shop or in the field.

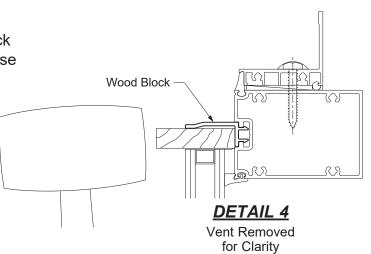
-Cut the vertical adaptors to the window wall Daylight Opening Height plus (+) 1-5/8".

Note: When assembling the window wall unit, the rainscreen gasket will have to discontinue at this area so that it meets the vertical adaptor at the top and bottom.

- -The vertical adaptor will also require 0.213" diameter holes at 3" from each end and at 18" maximum on center.
- -Cut the top and bottom adaptor to curtain wall Daylight Opening Width plus (+) 1-3/4". Notch the snap legs of the adaptor by 15/16" on each end as shown in **Detail 5** on **Page 4**.
- -The top adaptor will require additional notching for the setting block chairs for the glazing above the vent. See **Detail 5** on **Page 4**. Refer to the approved shop drawings for the location of the setting block chairs.

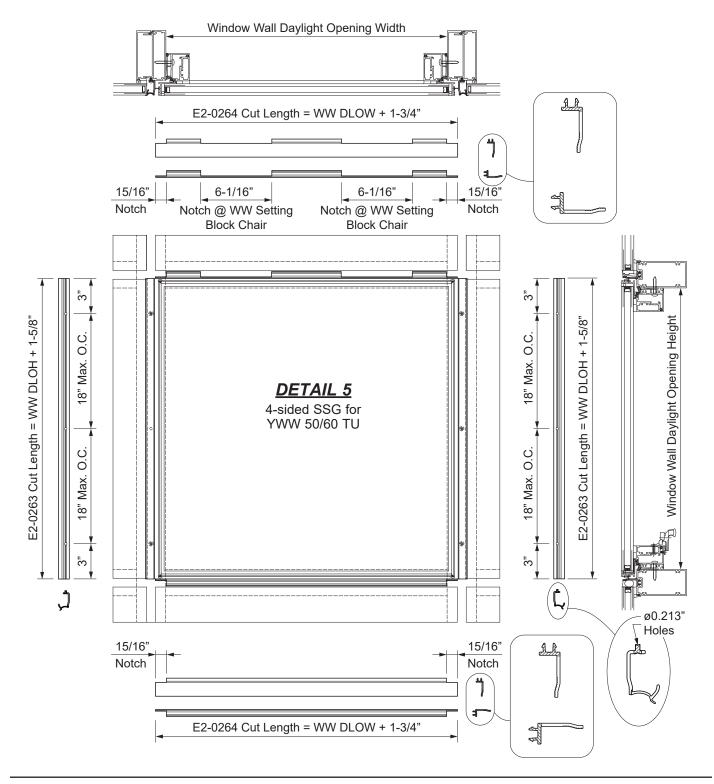
Note: For all field glazed adaptors, use a block of wood no thicker than 1/2" placed on the base of the adaptor, and tap in with a mallet or hammer. See **Detail 4**.







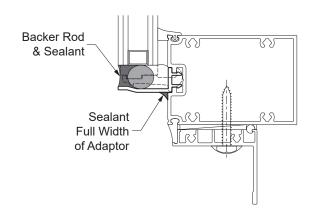
STEP 3 (Continued)
FABRICATE / INSTALL VENT ADAPTORS



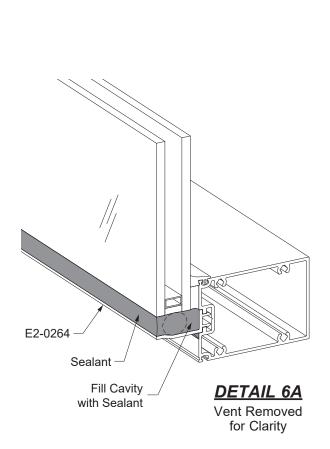


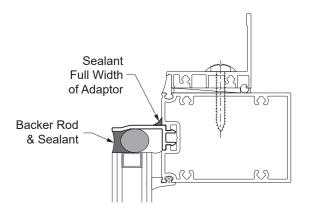
STEP 3 (Continued) FABRICATE / INSTALL VENT ADAPTORS

- -Insert a backer rod and apply and tool sealant between the horizontal adaptor and the glass of the window wall framing.
- -Also apply and tool a continuous bead of sealant along the heel of the adaptor, full width of the adaptor. See **Detail 6**.
- -Ensure the sealant is applied to the edge of the adaptor on each side and fills the cavity to the base of the adaptor as shown in **Detail 6A**.



DETAIL 6Vent Removed for Clarity

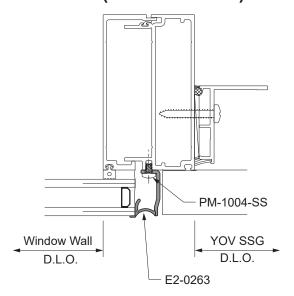




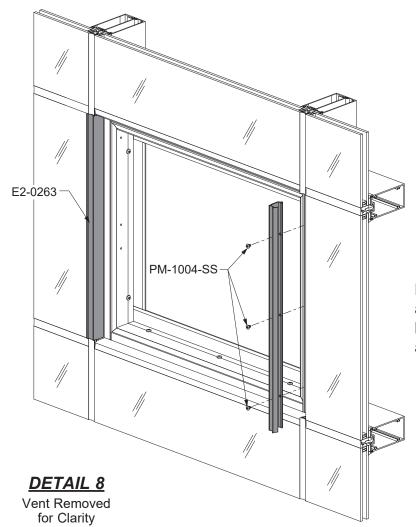


STEP 3 (Continued) FABRICATE/INSTALL VENT ADAPTORS

- -Place the vertical adaptors E2-0263 to the face of the window wall mullion, centered vertically on the Daylight Opening, with the rigid side of the adaptor facing the YOV SSG Daylight Opening and the soft gasket side against the edge of the Window Wall glass. Fasten the adaptors with PM-1004-SS fasteners. See **Details 7 & 8**.
- -To reinstall the YOV vent, see STEP 7 on Page 20.



DETAIL 7Vent Removed for Clarity



Note: The rainscreen gasket above and below the vertical adaptor should butt against the adaptor at the top and bottom



Frame Size Limitations:

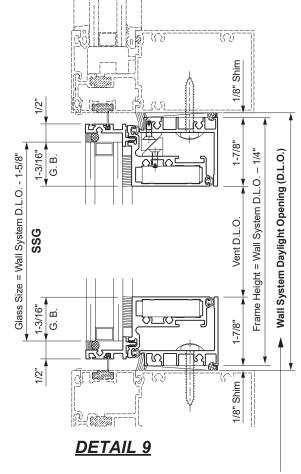
WINDOW	MINIMUM	MAXIMUM	
Project	14-3/4" x 15"	60-1/2" x 36"	
Casement	15" x 14-3/4"	36" x 60-1/2"	

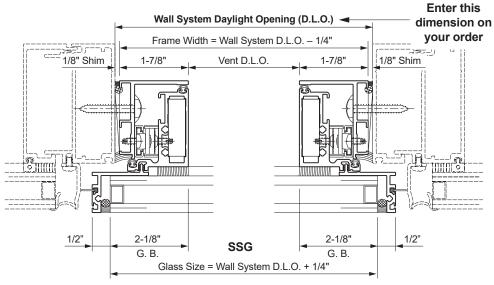
Note: All locking options & limit devices may not be available on minimum sizes.

STEP 1A DETERMINE FRAME, VENT TYPE, & GLASS SIZE

- **-To enter an order**, carefully measure the **wall system daylight opening** of the surrounding framing system at several places along the frame opening, both width and height. Select the smallest dimension and enter this number into the order.
- -Glass size is equal to the wall system daylight opening dimensions (D.L.O.) minus (–) 1-5/8" for captured, daylight opening plus (+) 1/4" for SSG.

See Detail 15.







STEP 2A INSTALL YOV SSG WINDOW

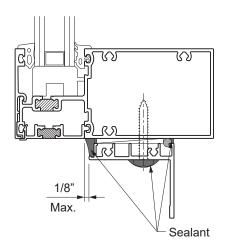
The installation of the YOV SSG Vent can occur in the shop or field. Note that it might be necessary to remove the vent from the frame to install it into the host window wall

- -Place the frame into the window wall such that the face of the frame is 1/8" maximum inward from the face of the window wall glazing pocket.
- -Fasten the frame to the window wall using fasteners as specified by the approved shop drawings or P.E. calculations.
- -Apply and tool sealant to the perimeter joint at both the exterior and interior of the YOV frame as shown in **Detail 10**.

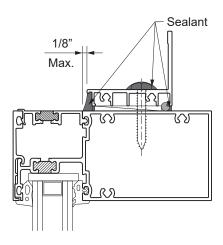
STEP 3A FABRICATE / INSTALL VENT ADAPTORS

The installation of the YOV SSG Vent E2-0264 horizontal adaptors occurs either in the shop or in the field.

- -Cut the vertical adaptors to the window wall Daylight Opening Height minus (-) 1/16".
- -The vertical adaptor will also require 0.213" diameter holes at 3" from each end and at 18" maximum on center.



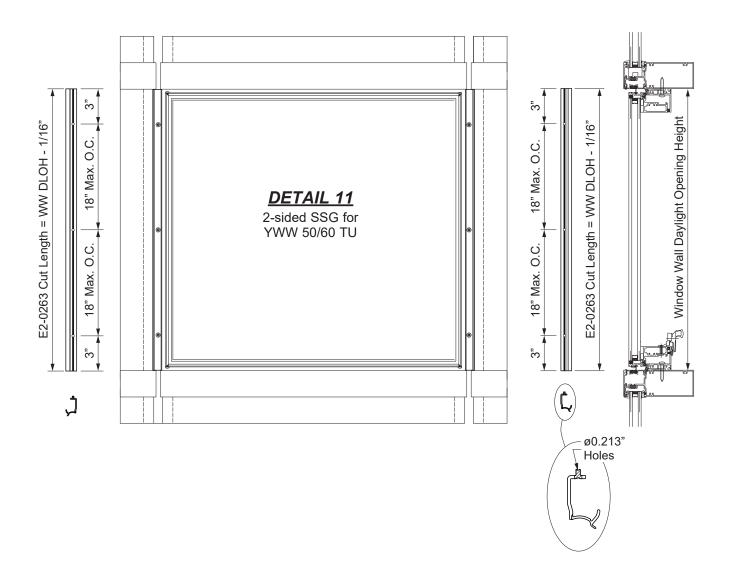
DETAIL 10





STEP 3A (Continued)
FABRICATE / INSTALL VENT ADAPTORS

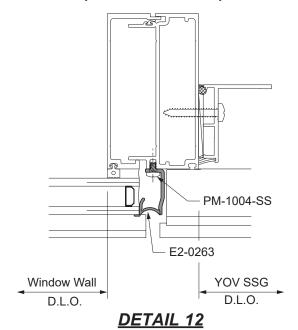




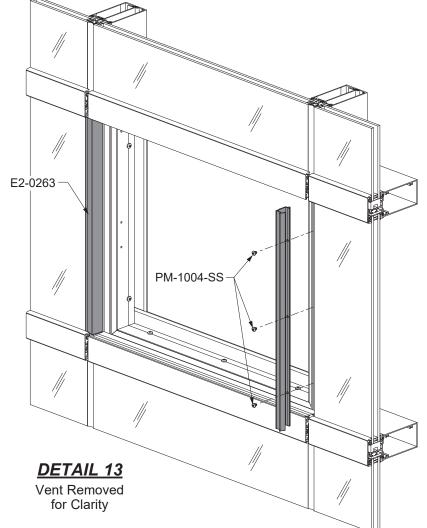


STEP 3A (Continued) FABRICATE/INSTALL VENT ADAPTORS

- -Place the vertical adaptors E2-0263 to the face of the window wall mullion, centered on the vertical Daylight Opening, with the rigid side of the adaptor facing the YOV SSG Daylight Opening and the soft gasket side against the edge of the Window Wall glass. Fasten the adaptors with PM-1004-SS fasteners. See **Details 12 & 13**.
- -To reinstall the YOV vent, see STEP 7 on Page 20.



Vent Removed for Clarity





GENERAL INFORMATION: 2-SIDED SSG WINDOW WALL (YWW 45 T/TU/FI & YWW 50 T)

Frame Size Limitations:

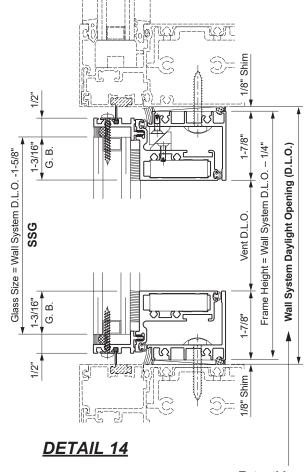
WINDOW	MINIMUM	MAXIMUM	
Project	14-3/4" x 15"	60-1/2" x 36"	
Casement	15" x 14-3/4"	36" x 60-1/2"	

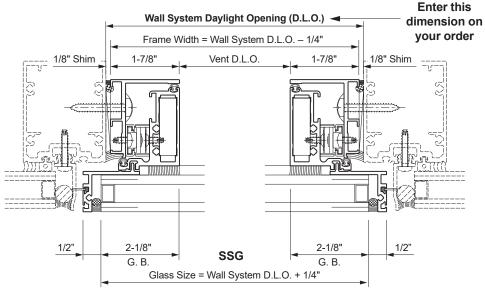
Note: All locking options & limit devices may not be available on minimum sizes.

STEP 1B (Cont'd) DETERMINE FRAME, VENT TYPE, & GLASS SIZE

- **-To enter an order**, carefully measure the **wall system daylight opening** of the surrounding framing system at several places along the frame opening, both width and height. Select the smallest dimension and enter this number into the order.
- -Glass size is equal to the wall system daylight opening dimensions (D.L.O.) minus (–) 1-5/8" for captured, daylight opening plus (+) 1/4" for SSG.

See Detail 14.







WINDOW WALL INSTALLATION: 2-SIDED SSG (YWW 45 T/TU/FI & YWW 50 T)

STEP 2B **INSTALL YOV SSG WINDOW**

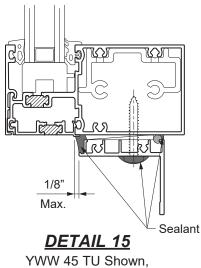
The installation of the YOV SSG Vent can occur in the shop or field. Note that it might be necessary to remove the vent from the frame to install it into the host window wall

- -Place the frame into the window wall such that the face of the frame is 1/8" maximum inward from the face of the window wall glazing pocket.
- -Fasten the frame to the window wall using fasteners as specified by the approved shop drawings or P.E. calculations.
- -Apply and tool sealant to the perimeter joint at both the exterior and interior of the YOV frame as shown in **Detail 2**

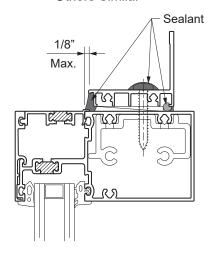
STEP 3B FABRICATE / INSTALL VENT ADAPTORS

The installation of the YOV SSG Vent E2-0264 horizontal adaptors occurs either in the shop or in the field.

- -Cut the vertical adaptors to the window wall Daylight Opening Height minus (-) 1/16".
- -The vertical adaptor will also require 0.213" diameter holes at 3" from each end and at 18" maximum on center.



Others Similar

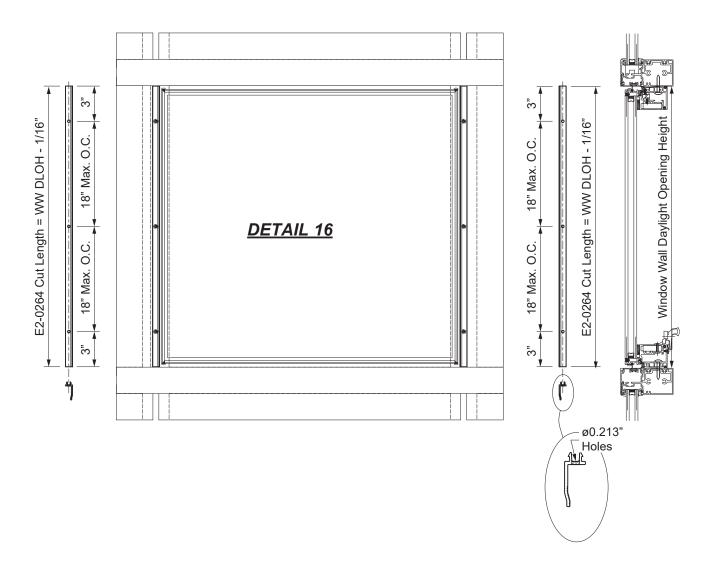




WINDOW WALL INSTALLATION: 2-SIDED SSG (YWW 45 T/TU/FI & YWW 50 T)

STEP 3B (Continued)
FABRICATE / INSTALL VENT ADAPTORS



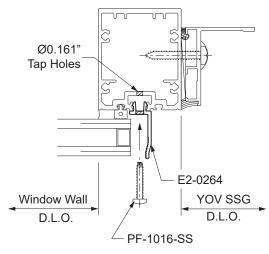




WINDOW WALL INSTALLATION: 2-SIDED SSG (YWW 45 T/TU/FI & YWW 50 T)

STEP 3B (Continued) FABRICATE/INSTALL VENT ADAPTORS

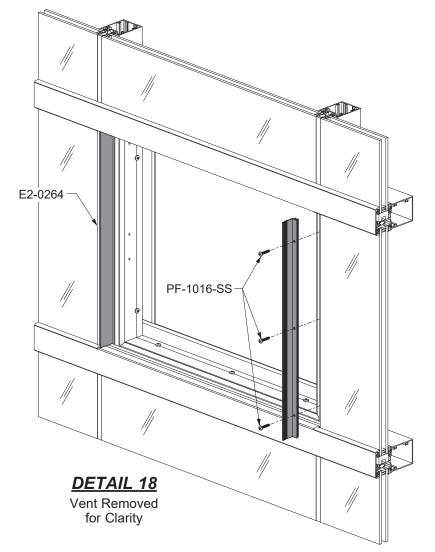
- -Place the vertical adaptors E2-0264 to the face of the window wall mullion, centered on the vertical Daylight Opening, with the rigid side of the adaptor facing the YOV SSG Daylight Opening and the soft gasket side against the edge of the Window Wall glass. Fasten the adaptors with PF-1016-SS fasteners. See **Details 17 & 18**.
- -To reinstall the YOV vent, see STEP 7 on Page 20.

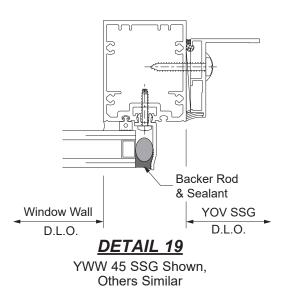


DETAIL 17
YWW 45 SSG Shown,
Others Similar

-Insert a backer rod the full height of the Daylight Opening and apply and tool sealant to the joint between the vertical adaptor and the glass on the window wall.

See Detail 19.







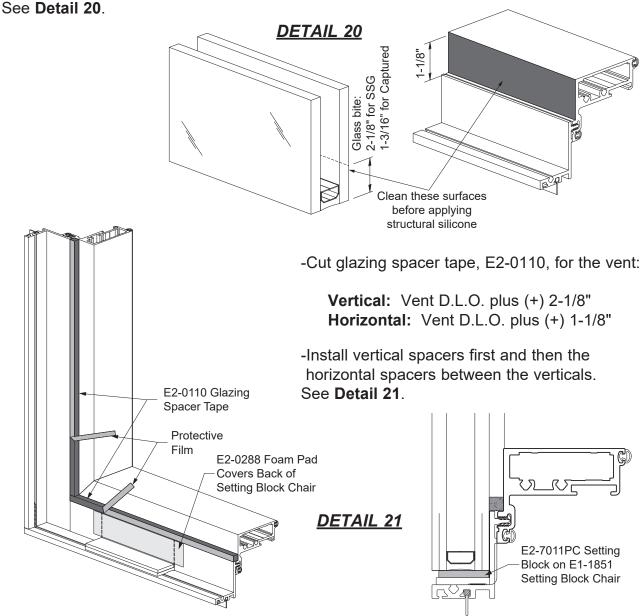
STEP 4 GLAZING

YOV SSG Vents are delivered factory glazed, or open for field glazing.

NOTE: For shop glazing, installer must follow GANA Structural Silicone Glazing guidelines and use an approved supplier of insulating glass as established by IGMA (Insulating Glass Manufacturer Alliance), and follow all subsequent ASTM testing methods as specified by GANA.

Shop Glazing:

- -Remove the vent from the frame leaving the four bar hinge attached to the vent.
- -Using an approved cleaner, clean the surfaces of the glass and vent that will come into contact with the structural silicone, using the two-cloth method.





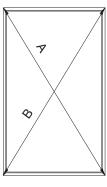
STEP 4 (Continued) **GLAZING**

-Check the vent to ensure that it is square by measuring the diagonals (corner to corner). The measured A/B difference should not exceed 1/16": A = B (+/- 1/16").

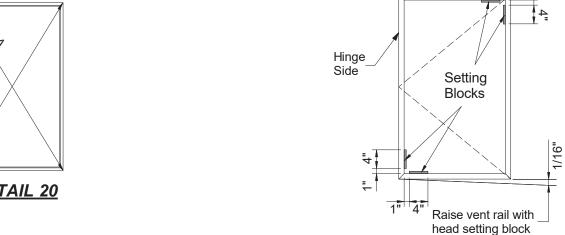
See Detail 22.

- -Install setting blocks at locations as shown for casement vents.
- -Install setting blocks and side blocks for projected vents as shown below.

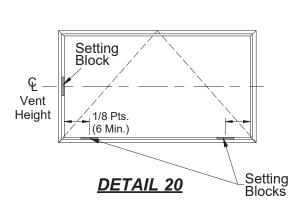
See Detail 23.



DETAIL 20



- -Set the vent down onto the glass, interior side up.
- -Check to make sure that the glass is centered in the vent and that it is in full contact with the setting/ corner blocks.
- -Shim as required.

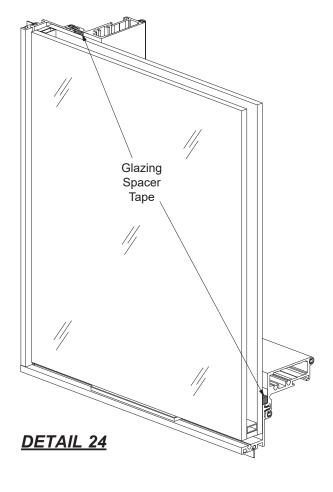




STEP 4 (Continued) GLAZING

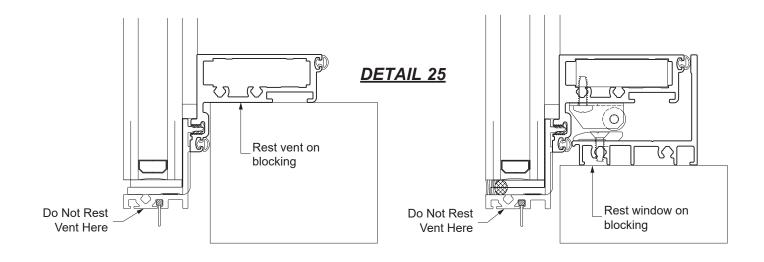
- -Carefully lift the vent up and remove the protective film from the top of the glazing spacer tape.
- -Press firmly to obtain full adhesion with the glazing spacer.

See Detail 24.



Handling & Storage Note: Do not allow the vent to rest on vinyl vent adaptors.

See Detail 25.



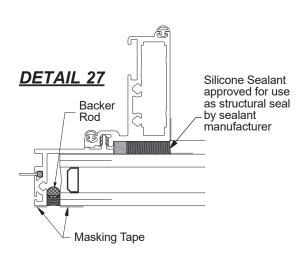


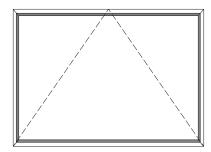
STEP 5 APPLY STRUCTURAL SILICONE SEALANT

- -Apply masking tape to the glass and vent.
- -Apply structural silicone sealant using positive pressure to completely fill the cavity between the glass and vent.
- -Immediately tool the silicone sealant using positive pressure to ensure that the silicone sealant makes full contact with both the glass and vent.
- -Immediately remove the masking tape after tooling, before the silicone sealant skins over.
- -Prior to moving the glazed vent, permit the structural silicone to fully cure, as recommended by the sealant manufacturer.

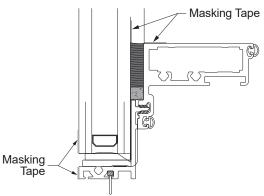
See Detail 26.

Caution: Verify silicone sealant compatibility with seal on the insulating glass unit.









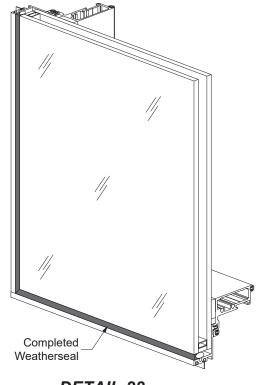
- -Apply silicone weather seal on the exterior of the vent to protect the integrity of the insulating unit.
- -Lift up glazed vent, carefully turning the vent over, so that the exterior is facing up.
- -Install an approved backer rod between the glass and vent.
- -Apply masking tape to the glass and vent.
- -Apply sealant to the joint and immediately tool the sealant using positive pressure to ensure that the silicone sealant makes full contact with both the glass and vent.
- -Immediately remove the masking tape after tooling. Do not let the sealant cure completely.

See Details 27 & 28.



INSTALLATION

STEP 5 (Continued) APPLY STRUCTURAL SILICONE SEALANT



DETAIL 28

STEP 6 **ACCESSIBLE WINDOW INSTALLATION**

- -Accessible Windows require additional care during installation and must be installed plumb, square, and level without twisting, bowing, or racking.
- -Final adjustments may be required. Refer to the Window Products Maintenance Manual for adustment directions.

Caution: Never use a power screw driver to adjust and/or replace hardware components.

Refer to the Americans with Disabilities Act and Fair Housing Act for more information regarding compliance requirements.



INSTALLATION

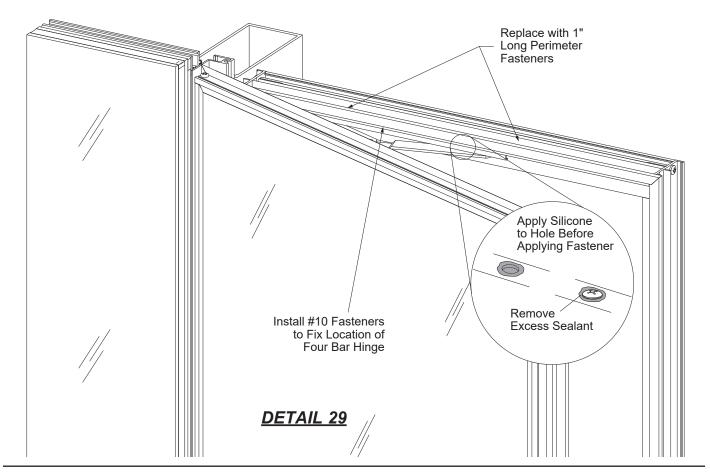
STEP 7 INSTALL VENT

- -Carefully set the vent into the window frame and reattach the four bar hinges.
- -Loosen the two fasteners that attach each four bar hinge to the vent and adjust the vent so that it operates properly.
- -Once adjustments are completed, tighten the two fasteners of each hinge by hand using a screwdriver.

Note: Aggressive over-tightening can strip the fasteners.

- -Install fasteners that will fix the location of the four bar hinge:
 - -Drill a 0.161" diameter (#20 drill bit) hole through the round holes in the four bar hinge at the frame, apply silicone sealant to the hole, and install the #10 stainless steel fasteners provided.
- -Remove excess sealant so as to not interfere with operation of four bar hinge.
- -Replace the fasteners at each end of the four bar hinge with stainless steel fasteners that are 1" long, to help anchor the window to the surrounding storefront framing.

See Detail 29.



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